



## wwPDB EM Validation Summary Report ⓘ

Nov 15, 2023 – 02:57 pm GMT

PDB ID : 8OTZ  
EMDB ID : EMD-17187  
Title : 48-nm repeat of the native axonemal doublet microtubule from bovine sperm  
Authors : Leung, M.R.; Zeng, J.; Zhang, R.; Zeev-Ben-Mordehai, T.  
Deposited on : 2023-04-21  
Resolution : 3.60 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.dev70  
Mogul : 1.8.4, CSD as541be (2020)  
MolProbity : 4.02b-467  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.36





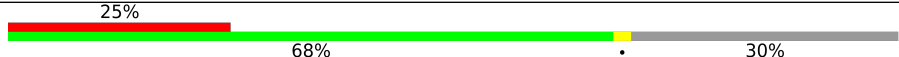
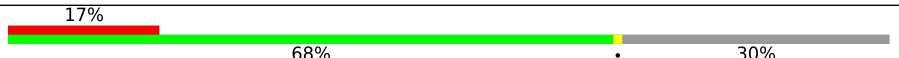
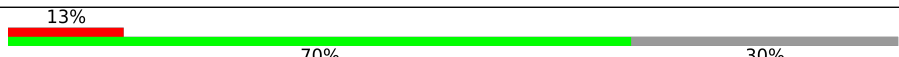
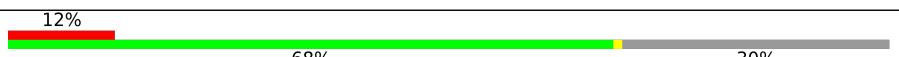
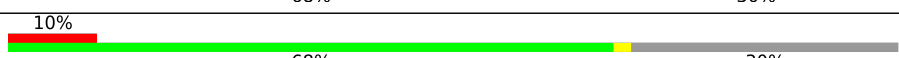


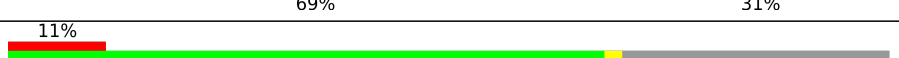
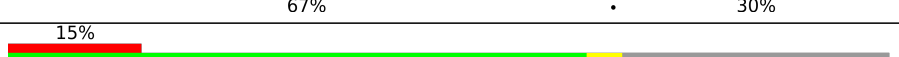
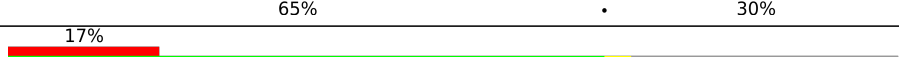
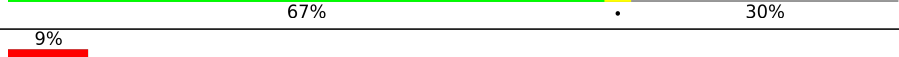
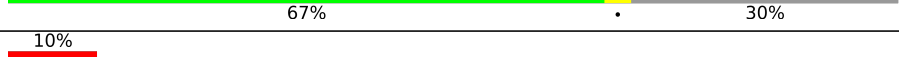

# 1 Overall quality at a glance

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

The reported resolution of this entry is 3.60 Å.

There are no overall percentile quality scores available for this entry.

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  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion  $< 40\%$ ). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	0	232	
1	V	232	
2	0A	224	
2	0C	224	
2	0E	224	
2	0G	224	
2	0W	224	
2	0Y	224	
2	0a	224	
2	0c	224	
2	0e	224	
2	0g	224	
2	0i	224	
2	0k	224	
2	CT	224	
2	CU	224	
2	CV	224	

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Mol	Chain	Length	Quality of chain
2	CX	224	7% 68% 30%
2	CY	224	16% 68% 30%
2	CZ	224	10% 68% 30%
2	Ca	224	10% 68% 30%
2	Cb	224	8% 67% 30%
2	Cc	224	9% 69% 30%
2	Cd	224	15% 67% 30%
2	Ce	224	26% 68% 31%
2	Cf	224	21% 68% 31%
2	Cg	224	15% 69% 30%
2	Ch	224	13% 69% 30%
2	Ci	224	12% 67% 30%
2	Cj	224	17% 68% 31%
2	Ck	224	23% 68% 30%
3	1	273	61% 78% 21%
3	2	273	74% 93% 5%
3	x	273	61% 93% 5%
4	3	275	19% 65% 35%
4	y	275	21% 64% 35%
4	z	275	19% 64% 35%
5	A	176	22% 78%
5	B	176	51% 48%
5	C	176	6% 51% 48%
6	A0	274	6% 46% 53%
6	BN	274	28% 71%

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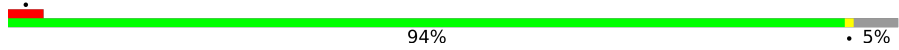
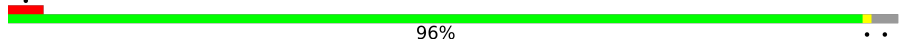
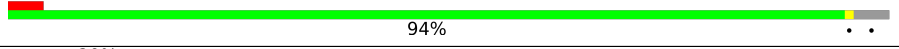
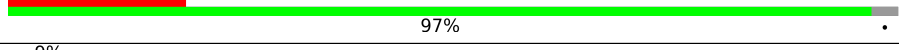
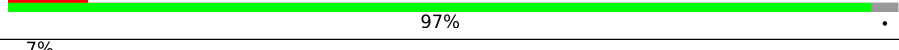
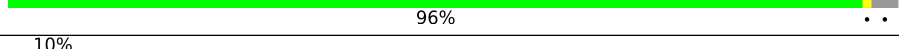
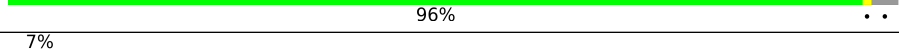
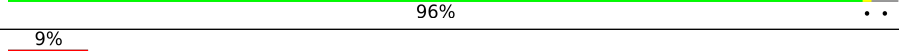
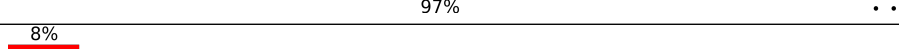
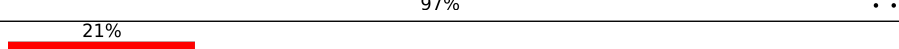
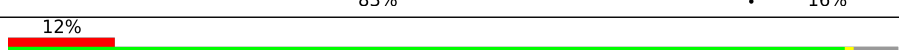
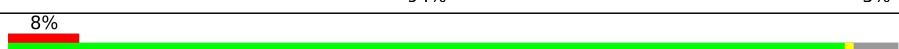
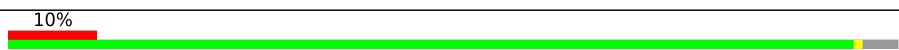
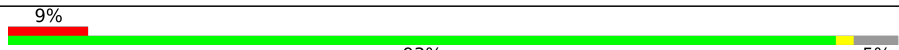
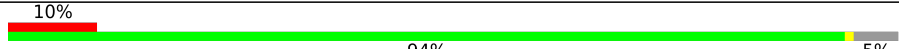
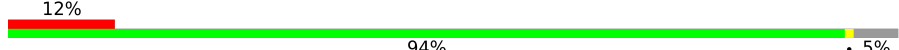
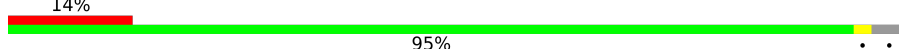
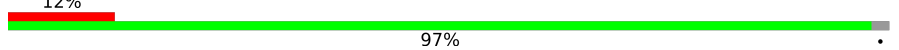
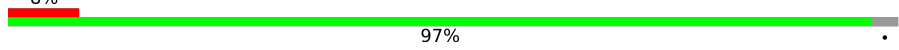
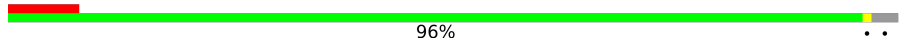
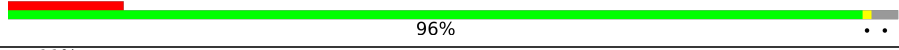
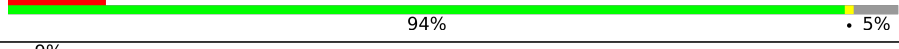
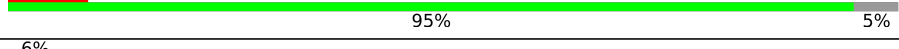
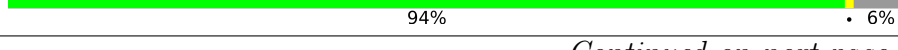

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Mol	Chain	Length	Quality of chain
7	A1	254	29% 92% 6%
7	A2	254	19% 81%
7	A3	254	27% 96%
7	A4	254	12% 44% 56%
7	A5	254	17% 61% 39%
7	A6	254	19% 81%
7	A7	254	11% 87% 11%
7	A8	254	9% 63% 33%
7	A9	254	8% 44% 56%
7	Au	254	26% 72%
7	Av	254	9% 57% 42%
7	Aw	254	9% 50% 49%
7	Ay	254	9% 70% 28%
7	Az	254	16% 83%
8	AA	450	96%
8	AC	450	97%
8	AE	450	98%
8	AG	450	97%
8	AI	450	97%
8	AK	450	96%
8	AM	450	96%
8	BA	450	95% 5%
8	BC	450	96%
8	BE	450	94%
8	BG	450	5% 97%

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Mol	Chain	Length	Quality of chain
8	BI	450	 94% . 5%
8	BK	450	 96% ..
8	BM	450	 94% ..
8	CA	450	 20% 97% .
8	CC	450	 9% 97% .
8	CE	450	 7% 96% ..
8	CG	450	 10% 96% ..
8	CI	450	 7% 96% ..
8	CK	450	 9% 97% ..
8	CM	450	 8% 97% ..
8	DA	450	 21% 83% . 16%
8	DC	450	 12% 94% . 5%
8	DE	450	 8% 94% . 5%
8	DG	450	 10% 95% ..
8	DI	450	 9% 93% . 5%
8	DK	450	 10% 94% . 5%
8	DM	450	 12% 94% . 5%
8	EC	450	 14% 95% ..
8	EE	450	 12% 97% .
8	EG	450	 8% 97% .
8	EI	450	 8% 96% ..
8	EK	450	 13% 96% ..
8	EM	450	 11% 94% . 5%
8	FC	450	 9% 95% 5%
8	FE	450	 6% 94% . 6%

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Mol	Chain	Length	Quality of chain
8	FG	450	5% 95% ..
8	FI	450	6% 93% .. 6%
8	FK	450	5% 94% .. 5%
8	FM	450	5% 94% .. 5%
8	GC	450	8% 98% .
8	GE	450	6% 95% ..
8	GG	450	7% 95% ..
8	GI	450	6% 96% ..
8	GK	450	. 95% ..
8	GM	450	7% 96% ..
8	HC	450	6% 95% .. 5%
8	HE	450	. 94% .. 5%
8	HG	450	6% 95% .
8	HI	450	7% 95% .
8	HK	450	. 95% ..
8	HM	450	6% 96% .
8	HO	450	7% 85% .. 14%
8	IC	450	. 95% ..
8	IE	450	. 94% ..
8	IG	450	. 96% ..
8	II	450	5% 95% ..
8	IK	450	. 94% ..
8	IM	450	. 97% .
8	IO	450	. 94% .. 5%
8	JC	450	6% 95% ..

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Mol	Chain	Length	Quality of chain
8	JE	450	95%
8	JG	450	95%
8	JI	450	94%
8	JK	450	97%
8	JM	450	95%
8	KC	450	96%
8	KE	450	95%
8	KG	450	95%
8	KI	450	95%
8	KK	450	94%
8	KM	450	96%
8	KO	450	91%
8	LC	450	96%
8	LE	450	98%
8	LG	450	97%
8	LI	450	99%
8	LK	450	97%
8	LM	450	96%
8	MC	450	98%
8	ME	450	94%
8	MG	450	96%
8	MI	450	95%
8	MK	450	97%
8	MM	450	96%
8	NA	450	94%

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Mol	Chain	Length	Quality of chain
8	NC	450	13% 94% 5%
8	NE	450	9% 95% .
8	NG	450	11% 95% .
8	NI	450	12% 94% . 5%
8	NK	450	16% 93% . 5%
8	OA	450	8% 95% 5%
8	OC	450	8% 95% 5%
8	OE	450	6% 96% .
8	OG	450	8% 95% . .
8	OI	450	10% 95% . .
8	OK	450	7% 94% . .
8	PA	450	9% 94% . .
8	PC	450	10% 96% .
8	PE	450	10% 95% . .
8	PG	450	13% 96% .
8	PI	450	8% 94% . 5%
8	PK	450	7% 94% . 5%
8	PM	450	9% 94% . .
8	QA	450	18% 94% . 5%
8	QC	450	17% 94% . 5%
8	QE	450	14% 95% . .
8	QG	450	16% 95% . .
8	QI	450	9% 93% . 5%
8	QK	450	16% 94% . .
8	QM	450	13% 94% . .

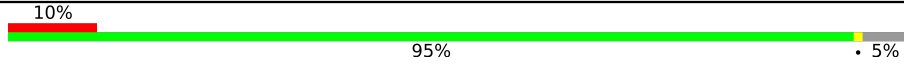
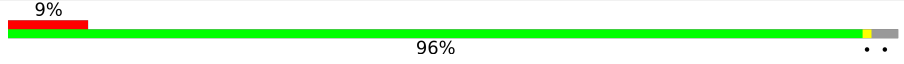
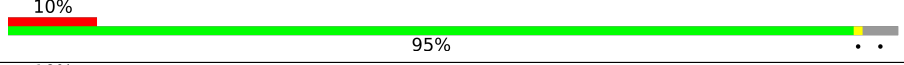
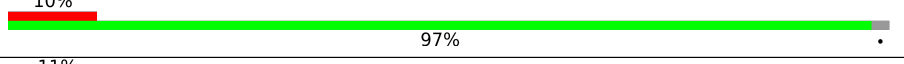
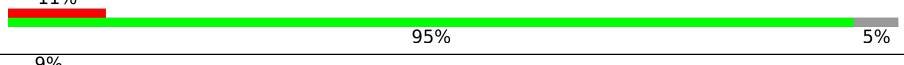
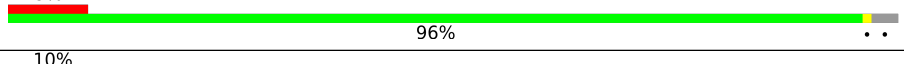
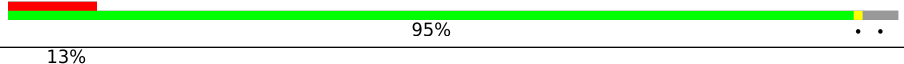
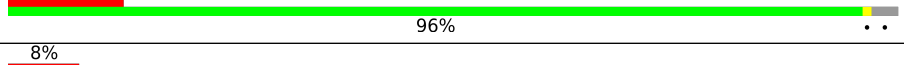
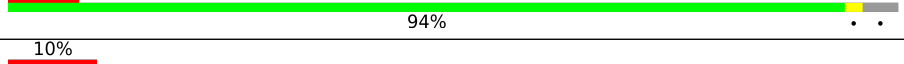
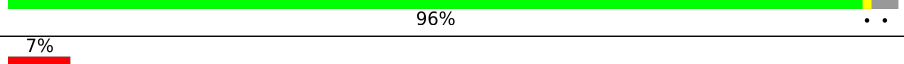
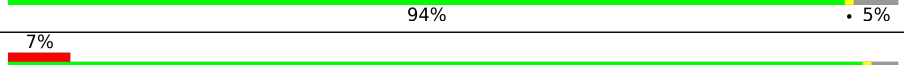
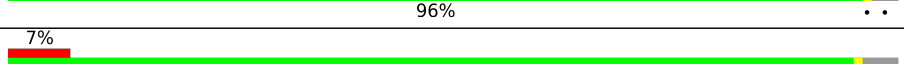
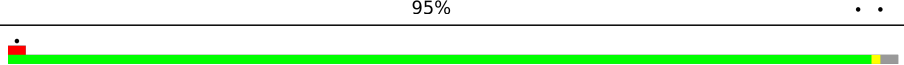
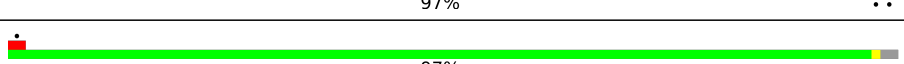
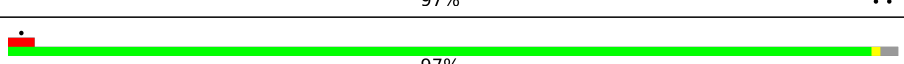
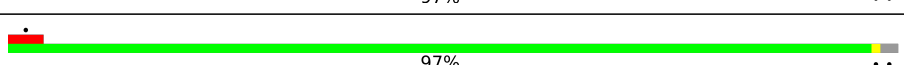
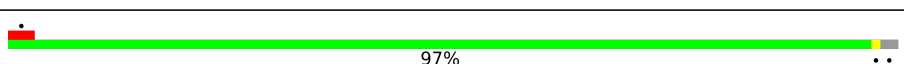
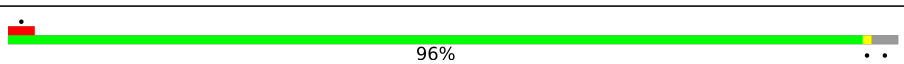
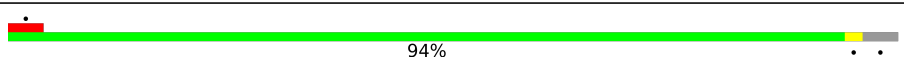
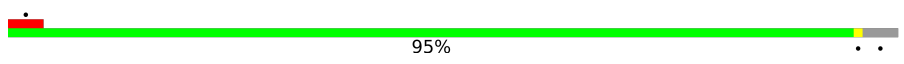
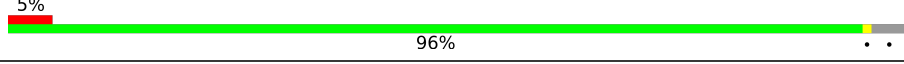
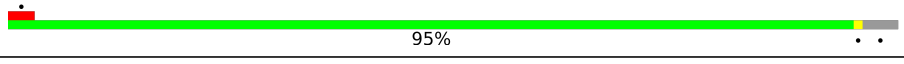
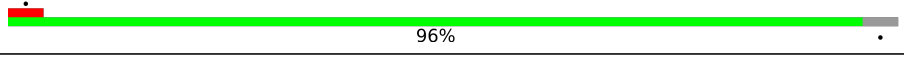
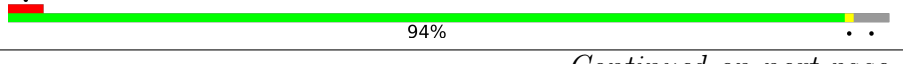

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Mol	Chain	Length	Quality of chain
8	RA	450	18% 94% 5%
8	RC	450	12% 94% 5%
8	RE	450	10% 94% 5%
8	RG	450	15% 95% 5%
8	RI	450	11% 94% 5%
8	RK	450	15% 95% 5%
8	RM	450	18% 94% 5%
8	SA	450	18% 94% 5%
8	SC	450	9% 95% 5%
8	SE	450	9% 94% 5%
8	SG	450	9% 94% 5%
8	SI	450	8% 94% 5%
8	SK	450	11% 95% 5%
8	SM	450	10% 95% 5%
8	TC	450	6% 94% 5%
8	TE	450	5% 95% 5%
8	TG	450	7% 95% 5%
8	TI	450	6% 94% 5%
8	TK	450	7% 95% 5%
8	TM	450	8% 95% 5%
8	UC	450	12% 95% 5%
8	UE	450	11% 95% 5%
8	UG	450	10% 95% 5%
8	UI	450	12% 95% 5%
8	UK	450	9% 95% 5%

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Mol	Chain	Length	Quality of chain
8	UM	450	 10% 95% 5%
8	VC	450	 9% 96%
8	VE	450	 10% 95%
8	VG	450	 10% 97%
8	VI	450	 11% 95% 5%
8	VK	450	 9% 96%
8	VM	450	 10% 95%
8	WC	450	 13% 96%
8	WE	450	 8% 94%
8	WG	450	 10% 96%
8	WI	450	 7% 94% 5%
8	WK	450	 7% 96%
8	WM	450	 7% 95%
9	AB	445	 97%
9	AD	445	 97%
9	AF	445	 97%
9	AH	445	 97%
9	AJ	445	 97%
9	AL	445	 96%
9	BB	445	 94%
9	BD	445	 95%
9	BF	445	 5% 96%
9	BH	445	 95%
9	BJ	445	 96%
9	BL	445	 94%

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Mol	Chain	Length	Quality of chain
9	CB	445	10% 95%
9	CD	445	9% 94%
9	CF	445	8% 95%
9	CH	445	10% 95%
9	CJ	445	6% 95%
9	CL	445	8% 95%
9	DB	445	18% 94%
9	DD	445	12% 94%
9	DF	445	7% 95%
9	DH	445	10% 95%
9	DJ	445	6% 94%
9	DL	445	8% 95%
9	DN	445	16% 86% 13%
9	EB	445	21% 95%
9	ED	445	12% 95%
9	EF	445	7% 95%
9	EH	445	11% 95%
9	EJ	445	9% 94%
9	EL	445	9% 94%
9	EN	445	15% 95%
9	FB	445	14% 94%
9	FD	445	7% 94%
9	FF	445	96%
9	FH	445	95%
9	FJ	445	94%

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Mol	Chain	Length	Quality of chain
9	FL	445	6% 95%
9	FN	445	9% 95%
9	GB	445	12% 96%
9	GD	445	8% 95%
9	GF	445	6% 95%
9	GH	445	6% 95%
9	GJ	445	5% 95%
9	GL	445	6% 95%
9	GN	445	9% 95%
9	HB	445	16% 95%
9	HD	445	. 95%
9	HF	445	5% 95%
9	HH	445	7% 96%
9	HJ	445	. 94%
9	HL	445	5% 95%
9	HN	445	7% 96%
9	IB	445	11% 81% 17%
9	ID	445	. 95%
9	IF	445	. 95%
9	IH	445	. 96%
9	IJ	445	. 95%
9	IL	445	6% 95%
9	IN	445	. 94%
9	JB	445	. 95%
9	JD	445	. 95%

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Mol	Chain	Length	Quality of chain
9	JF	445	96%
9	JH	445	95%
9	JJ	445	95%
9	JL	445	95%
9	JN	445	95%
9	KB	445	90%
9	KD	445	96%
9	KF	445	95%
9	KH	445	96%
9	KJ	445	95%
9	KL	445	96%
9	KN	445	96%
9	LB	445	98%
9	LD	445	95%
9	LF	445	98%
9	LH	445	96%
9	LJ	445	98%
9	LL	445	96%
9	LN	445	98%
9	MB	445	95%
9	MD	445	96%
9	MF	445	96%
9	MH	445	96%
9	MJ	445	95%
9	ML	445	95%

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Mol	Chain	Length	Quality of chain
9	MN	445	96%
9	NO	445	95%
9	NB	445	94%
9	ND	445	95%
9	NF	445	94%
9	NH	445	95%
9	NJ	445	95%
9	NL	445	95%
9	OO	445	87%
9	OB	445	96%
9	OD	445	95%
9	OF	445	95%
9	OH	445	95%
9	OJ	445	94%
9	OL	445	94%
9	PB	445	94%
9	PD	445	96%
9	PF	445	95%
9	PH	445	96%
9	PJ	445	95%
9	PL	445	94%
9	QB	445	95%
9	QD	445	95%
9	QF	445	95%
9	QH	445	95%

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Mol	Chain	Length	Quality of chain
9	QJ	445	11% 95%
9	QL	445	11% 95%
9	RB	445	10% 95%
9	RD	445	12% 94%
9	RF	445	13% 94%
9	RH	445	13% 95%
9	RJ	445	10% 94%
9	RL	445	12% 93%
9	SB	445	9% 95%
9	SD	445	9% 94%
9	SF	445	7% 95%
9	SH	445	6% 95%
9	SJ	445	7% 94%
9	SL	445	9% 95%
9	TB	445	11% 93%
9	TD	445	7% 95%
9	TF	445	5% 95%
9	TH	445	5% 95%
9	TJ	445	0% 96%
9	TL	445	6% 94%
9	UB	445	13% 93%
9	UD	445	12% 94%
9	UF	445	9% 95%
9	UH	445	11% 95%
9	UJ	445	8% 95%

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Mol	Chain	Length	Quality of chain
9	UL	445	12% 95%
9	UN	445	15% 95%
9	VB	445	12% 95%
9	VD	445	10% 95%
9	VF	445	6% 95%
9	VH	445	9% 95%
9	VJ	445	10% 94%
9	VL	445	9% 94%
9	VN	445	11% 95%
9	WB	445	13% 95%
9	WD	445	6% 95%
9	WF	445	6% 95%
9	WH	445	7% 94%
9	WJ	445	6% 95%
9	WL	445	7% 95%
9	WN	445	8% 95%
10	AP	196	60% 40%
10	AQ	196	59% 40%
10	AR	196	48% 52%
10	AS	196	60% 40%
11	AT	514	57% 42%
11	AU	514	42% 58%
12	AV	377	97%
12	AW	377	5% 98%
13	Aa	733	6% 79% 20%




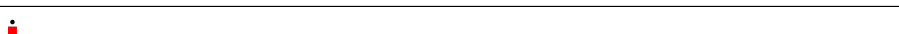
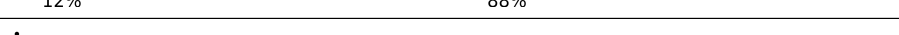




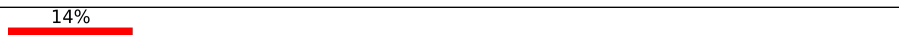
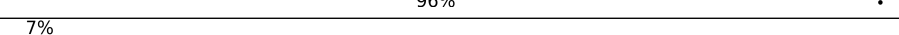

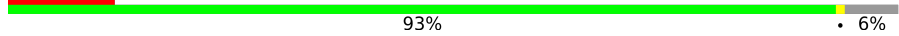


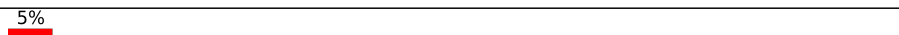







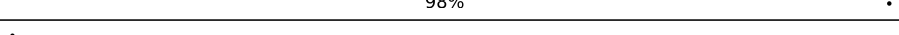


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Mol	Chain	Length	Quality of chain	
13	Ab	733	5%	80% 18%
13	Ac	733		81% 18%
13	Ad	733	5%	69% 30%
14	Al	320	13%	87%
14	Am	320	13%	87%
14	An	320	13%	87%
14	Ao	320	21%	79%
14	B7	320	27%	73%
14	BY	320	32%	67%
14	BZ	320	32%	67%
14	Ba	320	60%	40%
14	Bb	320	5%	59% 40%
14	Bc	320	5%	59% 41%
14	Bd	320	33%	67%
14	Be	320	33%	67%
14	CN	320	26%	74%
14	CO	320	27%	73%
15	Ap	201	64%	35%
15	Aq	201	44%	56%
15	Ar	201	74%	24%
16	At	303	8%	33% 67%
16	Ax	303	13%	39% 61%
17	B0	304	14%	85%
17	B1	304	12%	88%
17	B2	304	13%	87%

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Mol	Chain	Length	Quality of chain
17	B3	304	 9% 91%
17	B4	304	 13% 87%
17	B8	304	 13% 87%
17	B9	304	 12% 88%
17	CQ	304	 15% 85%
17	CR	304	 13% 87%
17	CS	304	 12% 88%
18	B5	259	 14% 93% 6%
18	B6	259	 7% 96%
18	By	259	 12% 61% 38%
18	Bz	259	 14% 93% 6%
19	BO	500	 8% 45% 55%
19	BP	500	 5% 83% 16%
19	BQ	500	 6% 73% 27%
19	BR	500	 5% 85% 15%
20	BS	428	 5% 35% 65%
20	BT	428	 5% 56% 44%
21	BU	377	 9% 90%
21	BV	377	 11% 98%
21	Bi	377	 5% 64% 34%
21	Bj </td <td>377</td> <td> 46% 54%</td>	377	 46% 54%
21	Bk	377	 5% 95%
22	BW	196	 25% 74%
22	BX	196	 45% 54%
23	Bf	136	 45% 54%

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Mol	Chain	Length	Quality of chain
23	Bg	136	84% 15%
24	Bh	120	80% 20%
25	Bl	477	27% 73%
25	Bm	477	27% 73%
25	Bn	477	29% 71%
25	Bo	477	30% 70%
25	Bp	477	34% 66%
26	Bq	338	29% 70%
26	Bu	338	43% 57%
27	Br	495	33% 67%
27	Bs	495	71% 28%
28	C0	490	21% 79%
28	C2	490	83% 17%
28	C3	490	83% 17%
28	C4	490	69% 30%
28	C5	490	45% 54%
28	C6	490	8% 92%
28	C7	490	87% 13%
28	C8	490	86% 13%
28	C9	490	77% 22%
28	DO	490	26% 74%
28	F2	490	84% 15%
28	F3	490	84% 15%
28	F4	490	78% 21%
28	F5	490	22% 78%

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Mol	Chain	Length	Quality of chain
28	F6	490	25% 74%
29	C1	489	67% 33%
29	Cz	489	7% 59% 39%
29	D0	489	13% 86%
29	D1	489	72% 27%
29	D2	489	79% 21%
29	D3	489	78% 21%
29	D4	489	5% 77% 21%
29	D5	489	5% 72% 26%
29	D6	489	30% 70%
29	D7	489	15% 85%
29	D8	489	78% 21%
29	D9	489	32% 67%
29	DP	489	41% 58%
29	DQ	489	5% 60% 40%
29	DR	489	15% 52% 47%
29	DS	489	8% 51% 47%
29	DT	489	33% 66%
29	DU	489	61% 39%
29	DV	489	6% 61% 38%
29	DW	489	6% 60% 38%
29	DX	489	12% 46% 53%
29	EA	489	81% 18%
29	EO	489	6% 81% 19%
29	EP	489	72% 26%

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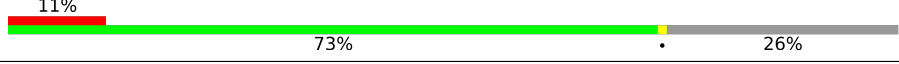
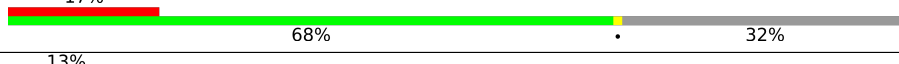


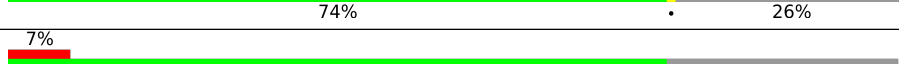
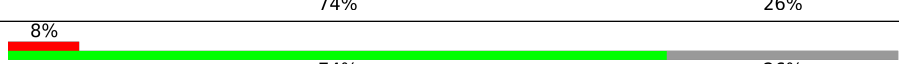
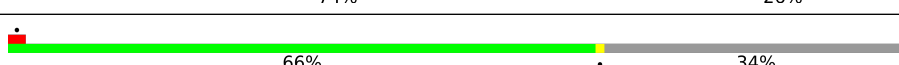


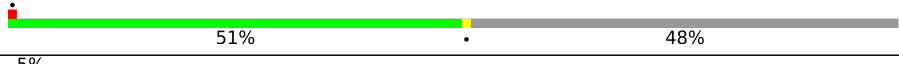
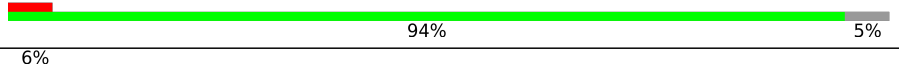
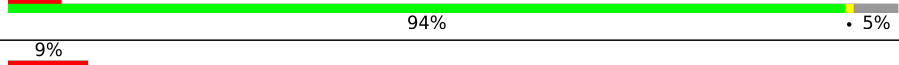
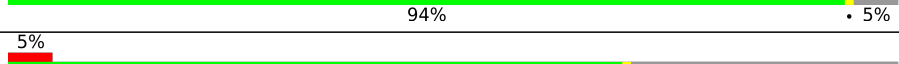
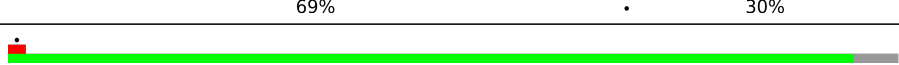
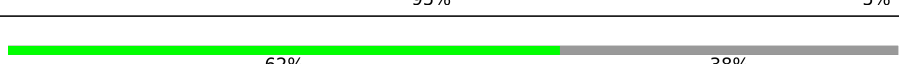

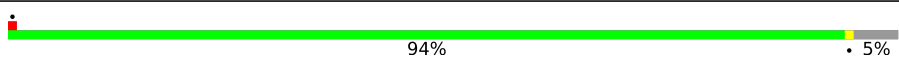

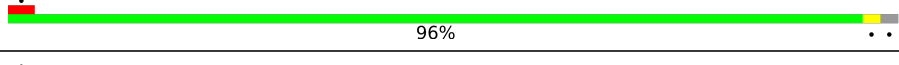

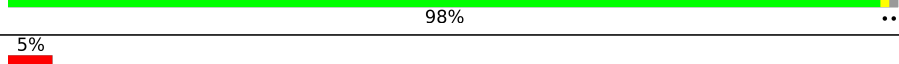
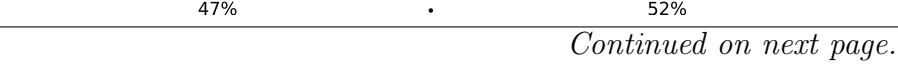




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Mol	Chain	Length	Quality of chain
29	EQ	489	35% 64%
29	ER	489	9% 91%
30	CW	484	34% 66%
31	Cl	440	29% 71%
32	Cm	418	94% 5%
32	Cn	418	95% 5%
32	Co	418	81% 17%
32	Cp	418	49% 50%
33	Cq	430	98%
33	Cr	430	96%
33	Cs	430	42% 57%
33	Ct	430	89% 10%
33	Cu	430	87% 13%
33	Cv	430	97%
33	Cw	430	97%
33	Cx	430	46% 54%
33	Cy	430	10% 90%
34	D	138	45% 55%
35	DY	216	17% 82%
35	DZ	216	23% 76%
35	Da	216	8% 62% 38%
35	Ee	216	21% 79%
36	Db	192	27% 73%
36	Dc	192	26% 73%
36	Dd	192	24% 76%



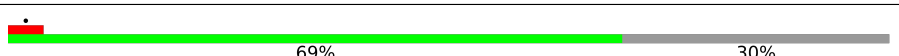
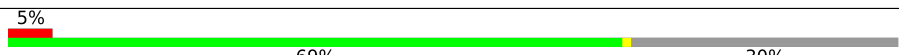
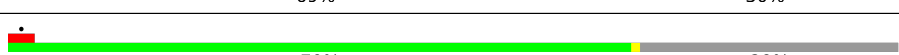


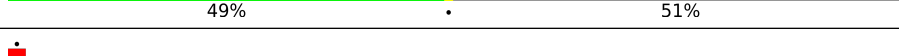




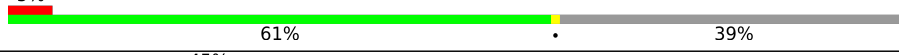
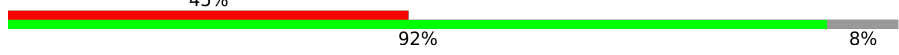


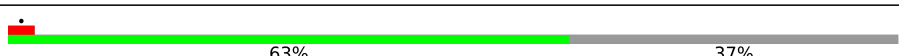
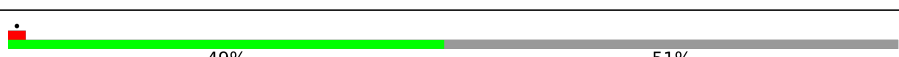
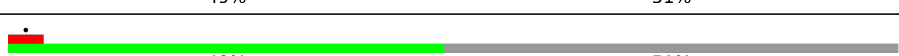

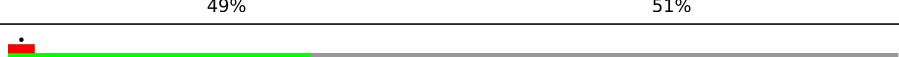


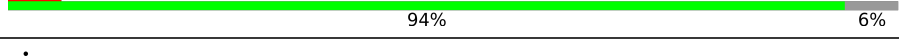
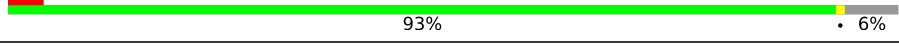
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Mol	Chain	Length	Quality of chain
37	De	272	
38	Df	180	
38	Dg	180	
38	Dh	180	
39	Di	133	
39	Dj	133	
39	Dk	133	
39	Dl	133	
40	Dm	131	
41	Dn	450	
42	E	877	
42	F	877	
43	E1	208	
43	E2	208	
43	E3	208	
43	E4	208	
44	ES	447	
44	ET	447	
44	EU	447	
44	EV	447	
44	EW	447	
44	EX	447	
44	EY	447	
44	EZ	447	
45	G	584	

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Mol	Chain	Length	Quality of chain
46	H	547	
46	o	547	
47	I	640	
47	X	640	
47	Y	640	
48	J	235	
48	K	235	
48	L	235	
48	M	235	
49	K1	135	
50	L1	147	
50	L2	147	
51	N	154	
51	O	154	
52	P	137	
53	Q	169	
54	R	284	
54	S	284	
54	T	284	
54	U	284	
55	W	309	
56	XG	193	
56	XH	193	
56	XI	193	
56	XJ	193	

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Mol	Chain	Length	Quality of chain
56	XK	193	5% 93% 6%
56	XL	193	5% 94% 6%
56	XM	193	8% 92% 7%
57	YG	257	50% 82% 18%
57	YH	257	6% 85% 15%
57	YI	257	5% 85% 15%
57	YJ	257	5% 84% 15%
57	YK	257	8% 85% 15%
57	YL	257	8% 82% 15%
58	Z	164	48% 71% 29%
58	p	164	24% 33% 67%
58	q	164	47% 59% 41%
59	a	549	6% 33% 66%
59	b	549	14% 58% 40%
59	c	549	12% 53% 46%
59	d	549	8% 36% 63%
60	e	623	5% 97% ..
60	f	623	5% 98% .
60	g	623	5% 97% .
61	h	101	8% 89% 10%
62	i	321	8% 79% 21%
62	j	321	8% 83% 17%
63	k	196	15% 80% 20%
63	l	196	23% 70% 30%
63	m	196	12% 81% 19%

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Mol	Chain	Length	Quality of chain
63	n	196	
64	ke	197	
65	r	170	
65	s	170	
65	t	170	
66	u	438	
66	v	438	
66	w	438	

## 2 Entry composition [i](#)

There are 69 unique types of molecules in this entry. The entry contains 1456841 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 Cilia- and flagella-associated protein 95.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	0	40	330	205	63	61	1	0	0
1	V	183	1487	932	258	288	9	0	0

- Molecule 2 is a protein called Sperm acrosome associated 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	0A	156	1252	782	224	236	10	0	0
2	0C	156	1252	782	224	236	10	0	0
2	0E	157	1260	787	225	237	11	0	0
2	0G	156	1252	782	224	236	10	0	0
2	0W	156	1252	782	224	236	10	0	0
2	0Y	156	1252	782	224	236	10	0	0
2	0a	156	1252	782	224	236	10	0	0
2	0c	156	1252	782	224	236	10	0	0
2	0e	155	1244	777	223	235	9	0	0
2	0g	156	1252	782	224	236	10	0	0
2	0i	156	1252	782	224	236	10	0	0
2	0k	156	1252	782	224	236	10	0	0
2	CT	157	1260	787	225	237	11	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
2	CU	155	Total	C	N	O	S	0	0
			1244	777	223	235	9		
2	CV	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	CX	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	CY	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	CZ	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Ca	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Cb	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Cc	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Cd	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Ce	155	Total	C	N	O	S	0	0
			1244	777	223	235	9		
2	Cf	155	Total	C	N	O	S	0	0
			1244	777	223	235	9		
2	Cg	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Ch	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Ci	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		
2	Cj	155	Total	C	N	O	S	0	0
			1244	777	223	235	9		
2	Ck	156	Total	C	N	O	S	0	0
			1252	782	224	236	10		

- Molecule 3 is a protein called Testis specific serine kinase 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	1	216	Total	C	N	O	S	0	0
			1700	1076	317	301	6		
3	2	258	Total	C	N	O	S	0	0
			2027	1292	370	357	8		
3	x	258	Total	C	N	O	S	0	0
			2027	1292	370	357	8		

- Molecule 4 is a protein called EF-hand domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	3	178	Total 1469	C 941	N 252	O 265	S 11	0	0
4	y	178	Total 1469	C 941	N 252	O 265	S 11	0	0
4	z	178	Total 1469	C 941	N 252	O 265	S 11	0	0

- Molecule 5 is a protein called ATP6V1F neighbor.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	A	39	Total 338	C 216	N 64	O 56	S 2	0	0
5	B	91	Total 751	C 486	N 129	O 132	S 4	0	0
5	C	91	Total 751	C 486	N 129	O 132	S 4	0	0

- Molecule 6 is a protein called Outer dense fiber of sperm tails 3 like 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	A0	130	Total 1017	C 656	N 177	O 175	S 9	0	0
6	BN	79	Total 614	C 386	N 121	O 103	S 4	0	0

- Molecule 7 is a protein called Outer dense fiber of sperm tails 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	A1	239	Total 1828	C 1173	N 321	O 324	S 10	0	0
7	A2	49	Total 385	C 252	N 72	O 60	S 1	0	0
7	A3	244	Total 1200	C 712	N 244	O 244		0	0
7	A4	111	Total 546	C 324	N 111	O 111		0	0
7	A5	155	Total 762	C 452	N 155	O 155		0	0
7	A6	49	Total 369	C 235	N 63	O 67	S 4	0	0
7	A7	226	Total 1726	C 1110	N 305	O 303	S 8	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
7	A8	169	Total	C	N	O	S	0	0
			1281	815	222	237	7		
7	A9	112	Total	C	N	O	S	0	0
			879	573	156	147	3		
7	Au	71	Total	C	N	O	S	0	0
			540	344	93	99	4		
7	Av	148	Total	C	N	O	S	0	0
			1126	717	195	207	7		
7	Aw	129	Total	C	N	O	S	0	0
			1009	652	182	172	3		
7	Ay	183	Total	C	N	O	S	0	0
			1412	909	250	248	5		
7	Az	42	Total	C	N	O	S	0	0
			313	201	53	56	3		

- Molecule 8 is a protein called Tubulin alpha-3 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AA	438	Total	C	N	O	S	0	0
			3413	2161	581	650	21		
8	AC	440	Total	C	N	O	S	0	0
			3428	2171	583	652	22		
8	AE	440	Total	C	N	O	S	0	0
			3428	2171	583	652	22		
8	AG	440	Total	C	N	O	S	0	0
			3428	2171	583	652	22		
8	AI	440	Total	C	N	O	S	0	0
			3428	2171	583	652	22		
8	AK	440	Total	C	N	O	S	0	0
			3428	2171	583	652	22		
8	AM	439	Total	C	N	O	S	0	0
			3421	2166	582	651	22		
8	BA	429	Total	C	N	O	S	0	0
			3355	2128	571	635	21		
8	BC	438	Total	C	N	O	S	0	0
			3415	2163	581	649	22		
8	BE	430	Total	C	N	O	S	0	0
			3363	2133	572	636	22		
8	BG	439	Total	C	N	O	S	0	0
			3421	2166	582	651	22		
8	BI	429	Total	C	N	O	S	0	0
			3357	2130	571	634	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
8	BK	437	Total	C	N	O	S	0	0
			3407	2159	580	646	22		
8	BM	430	Total	C	N	O	S	0	0
			3363	2133	572	636	22		
8	CA	437	Total	C	N	O	S	0	0
			3407	2158	580	648	21		
8	CC	438	Total	C	N	O	S	0	0
			3415	2163	581	649	22		
8	CE	438	Total	C	N	O	S	0	0
			3415	2163	581	649	22		
8	CG	436	Total	C	N	O	S	0	0
			3400	2154	579	645	22		
8	CI	438	Total	C	N	O	S	0	0
			3415	2163	581	649	22		
8	CK	438	Total	C	N	O	S	0	0
			3415	2163	581	649	22		
8	CM	438	Total	C	N	O	S	0	0
			3415	2163	581	649	22		
8	DA	380	Total	C	N	O	S	0	0
			2965	1881	509	556	19		
8	DC	428	Total	C	N	O	S	0	0
			3349	2126	570	631	22		
8	DE	428	Total	C	N	O	S	0	0
			3349	2126	570	631	22		
8	DG	431	Total	C	N	O	S	0	0
			3370	2138	573	637	22		
8	DI	428	Total	C	N	O	S	0	0
			3348	2124	570	632	22		
8	DK	427	Total	C	N	O	S	0	0
			3342	2121	569	630	22		
8	DM	427	Total	C	N	O	S	0	0
			3342	2121	569	630	22		
8	EC	434	Total	C	N	O	S	0	0
			3392	2150	577	643	22		
8	EE	439	Total	C	N	O	S	0	0
			3421	2166	582	651	22		
8	EG	437	Total	C	N	O	S	0	0
			3407	2159	580	646	22		
8	EI	436	Total	C	N	O	S	0	0
			3400	2154	579	645	22		
8	EK	437	Total	C	N	O	S	0	0
			3413	2162	580	649	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	EM	428	Total 3349	C 2126	N 570	O 631	S 22	0	0
8	FC	429	Total 3357	C 2130	N 571	O 634	S 22	0	0
8	FE	424	Total 3323	C 2110	N 566	O 625	S 22	0	0
8	FG	430	Total 3363	C 2133	N 572	O 636	S 22	0	0
8	FI	425	Total 3325	C 2109	N 567	O 627	S 22	0	0
8	FK	428	Total 3350	C 2125	N 570	O 633	S 22	0	0
8	FM	429	Total 3356	C 2128	N 571	O 635	S 22	0	0
8	GC	439	Total 3421	C 2166	N 582	O 651	S 22	0	0
8	GE	431	Total 3370	C 2138	N 573	O 637	S 22	0	0
8	GG	433	Total 3384	C 2145	N 575	O 642	S 22	0	0
8	GI	436	Total 3398	C 2154	N 578	O 644	S 22	0	0
8	GK	430	Total 3364	C 2132	N 572	O 638	S 22	0	0
8	GM	439	Total 3421	C 2166	N 582	O 651	S 22	0	0
8	HC	429	Total 3357	C 2130	N 571	O 634	S 22	0	0
8	HE	429	Total 3357	C 2130	N 571	O 634	S 22	0	0
8	HG	431	Total 3370	C 2138	N 573	O 637	S 22	0	0
8	HI	430	Total 3362	C 2134	N 572	O 634	S 22	0	0
8	HK	431	Total 3370	C 2138	N 573	O 637	S 22	0	0
8	HM	434	Total 3393	C 2150	N 577	O 644	S 22	0	0
8	HO	387	Total 3035	C 1925	N 518	O 571	S 21	0	0
8	IC	433	Total 3384	C 2145	N 575	O 642	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
8	IE	430	Total	C	N	O	S	0	0
			3363	2133	572	636	22		
8	IG	439	Total	C	N	O	S	0	0
			3421	2166	582	651	22		
8	II	431	Total	C	N	O	S	0	0
			3371	2137	573	639	22		
8	IK	436	Total	C	N	O	S	0	0
			3400	2154	579	645	22		
8	IM	437	Total	C	N	O	S	0	0
			3407	2159	580	646	22		
8	IO	428	Total	C	N	O	S	0	0
			3348	2124	570	632	22		
8	JC	433	Total	C	N	O	S	0	0
			3382	2144	575	641	22		
8	JE	430	Total	C	N	O	S	0	0
			3363	2133	572	636	22		
8	JG	428	Total	C	N	O	S	0	0
			3349	2126	570	631	22		
8	JI	429	Total	C	N	O	S	0	0
			3357	2130	571	634	22		
8	JK	438	Total	C	N	O	S	0	0
			3415	2163	581	649	22		
8	JM	430	Total	C	N	O	S	0	0
			3363	2133	572	636	22		
8	KC	434	Total	C	N	O	S	0	0
			3389	2146	576	645	22		
8	KE	431	Total	C	N	O	S	0	0
			3371	2137	573	639	22		
8	KG	430	Total	C	N	O	S	0	0
			3361	2132	572	635	22		
8	KI	428	Total	C	N	O	S	0	0
			3349	2126	570	631	22		
8	KK	431	Total	C	N	O	S	0	0
			3371	2137	573	639	22		
8	KM	434	Total	C	N	O	S	0	0
			3383	2143	576	642	22		
8	KO	411	Total	C	N	O	S	0	0
			3229	2048	548	611	22		
8	LC	440	Total	C	N	O	S	0	0
			3428	2171	583	652	22		
8	LE	445	Total	C	N	O	S	0	0
			3465	2192	588	663	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	LG	440	3428	2171	583	652	22	0	0
8	LI	445	3465	2192	588	663	22	0	0
8	LK	440	3428	2171	583	652	22	0	0
8	LM	436	3404	2157	578	647	22	0	0
8	MC	439	3421	2166	582	651	22	0	0
8	ME	429	3357	2130	571	634	22	0	0
8	MG	432	3377	2140	574	641	22	0	0
8	MI	431	3369	2136	573	638	22	0	0
8	MK	440	3428	2171	583	652	22	0	0
8	MM	437	3407	2158	580	648	21	0	0
8	NA	426	3333	2117	568	627	21	0	0
8	NC	427	3343	2123	569	629	22	0	0
8	NE	430	3363	2133	572	636	22	0	0
8	NG	430	3363	2133	572	636	22	0	0
8	NI	429	3357	2130	571	634	22	0	0
8	NK	429	3357	2130	571	634	22	0	0
8	OA	428	3349	2125	570	633	21	0	0
8	OC	429	3357	2130	571	634	22	0	0
8	OE	432	3378	2142	574	640	22	0	0
8	OG	432	3375	2139	574	640	22	0	0
8	OI	432	3378	2142	574	640	22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	OK	430	3365	2134	572	637	22	0	0
8	PA	430	3363	2132	572	638	21	0	0
8	PC	434	3385	2144	576	643	22	0	0
8	PE	431	3371	2137	573	639	22	0	0
8	PG	433	3384	2145	575	642	22	0	0
8	PI	427	3341	2121	569	630	21	0	0
8	PK	429	3355	2129	571	633	22	0	0
8	PM	431	3369	2136	573	638	22	0	0
8	QA	428	3347	2124	570	632	21	0	0
8	QC	428	3349	2126	570	631	22	0	0
8	QE	430	3363	2133	572	636	22	0	0
8	QG	431	3371	2137	573	639	22	0	0
8	QI	428	3349	2126	570	631	22	0	0
8	QK	430	3363	2133	572	636	22	0	0
8	QM	431	3369	2136	573	638	22	0	0
8	RA	429	3355	2128	571	635	21	0	0
8	RC	432	3378	2142	574	640	22	0	0
8	RE	429	3357	2130	571	634	22	0	0
8	RG	432	3376	2141	574	639	22	0	0
8	RI	432	3376	2141	574	639	22	0	0
8	RK	433	3384	2145	575	642	22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	RM	428	Total 3348	C 2124	N 570	O 632	S 22	0	0
8	SA	428	Total 3349	C 2125	N 570	O 633	S 21	0	0
8	SC	430	Total 3363	C 2133	N 572	O 636	S 22	0	0
8	SE	431	Total 3372	C 2138	N 573	O 639	S 22	0	0
8	SG	431	Total 3370	C 2138	N 573	O 637	S 22	0	0
8	SI	426	Total 3341	C 2121	N 567	O 631	S 22	0	0
8	SK	432	Total 3378	C 2142	N 574	O 640	S 22	0	0
8	SM	430	Total 3363	C 2133	N 572	O 636	S 22	0	0
8	TC	429	Total 3357	C 2130	N 571	O 634	S 22	0	0
8	TE	432	Total 3378	C 2142	N 574	O 640	S 22	0	0
8	TG	429	Total 3355	C 2129	N 571	O 633	S 22	0	0
8	TI	430	Total 3363	C 2133	N 572	O 636	S 22	0	0
8	TK	431	Total 3371	C 2137	N 573	O 639	S 22	0	0
8	TM	430	Total 3363	C 2133	N 572	O 636	S 22	0	0
8	UC	431	Total 3371	C 2137	N 573	O 639	S 22	0	0
8	UE	431	Total 3371	C 2137	N 573	O 639	S 22	0	0
8	UG	432	Total 3375	C 2139	N 574	O 640	S 22	0	0
8	UI	431	Total 3371	C 2137	N 573	O 639	S 22	0	0
8	UK	430	Total 3363	C 2133	N 572	O 636	S 22	0	0
8	UM	429	Total 3357	C 2130	N 571	O 634	S 22	0	0
8	VC	436	Total 3400	C 2154	N 579	O 645	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	VE	430	Total 3365	C 2134	N 573	O 636	S 22	0	0
8	VG	439	Total 3421	C 2166	N 582	O 651	S 22	0	0
8	VI	428	Total 3350	C 2125	N 570	O 633	S 22	0	0
8	VK	437	Total 3407	C 2159	N 580	O 646	S 22	0	0
8	VM	432	Total 3377	C 2140	N 574	O 641	S 22	0	0
8	WC	437	Total 3407	C 2159	N 580	O 646	S 22	0	0
8	WE	430	Total 3361	C 2132	N 572	O 635	S 22	0	0
8	WG	436	Total 3400	C 2154	N 579	O 645	S 22	0	0
8	WI	429	Total 3357	C 2130	N 571	O 634	S 22	0	0
8	WK	437	Total 3407	C 2159	N 580	O 646	S 22	0	0
8	WM	430	Total 3363	C 2133	N 572	O 636	S 22	0	0

- Molecule 9 is a protein called Tubulin beta-4B chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	AB	436	Total 3424	C 2150	N 584	O 664	S 26	0	0
9	AD	436	Total 3424	C 2150	N 584	O 664	S 26	0	0
9	AF	436	Total 3424	C 2150	N 584	O 664	S 26	0	0
9	AH	436	Total 3424	C 2150	N 584	O 664	S 26	0	0
9	AJ	436	Total 3424	C 2150	N 584	O 664	S 26	0	0
9	AL	431	Total 3383	C 2124	N 579	O 655	S 25	0	0
9	BB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	BD	426	Total 3348	C 2105	N 574	O 643	S 26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
9	BF	428	Total	C	N	O	S	0	0
			3361	2112	576	647	26		
9	BH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
9	BJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
9	BL	425	Total	C	N	O	S	0	0
			3340	2100	573	642	25		
9	CB	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	CD	425	Total	C	N	O	S	0	0
			3339	2100	572	641	26		
9	CF	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	CH	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	CJ	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	CL	425	Total	C	N	O	S	0	0
			3340	2100	573	642	25		
9	DB	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	DD	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	DF	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	DH	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	DJ	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	DL	425	Total	C	N	O	S	0	0
			3340	2100	573	642	25		
9	DN	387	Total	C	N	O	S	0	0
			3035	1911	519	582	23		
9	EB	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	ED	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	EF	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	EH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	EJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	EL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	EN	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	FF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FH	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	FJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	FN	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GB	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	GF	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GH	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GJ	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	GN	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	HB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	HD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	HF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	HH	427	Total 3356	C 2109	N 575	O 646	S 26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	HJ	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	HL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	HN	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	IB	368	Total 2892	C 1817	N 499	O 553	S 23	0	0
9	ID	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	IF	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	IH	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	IJ	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	IL	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	IN	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	JF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JH	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JL	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JN	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	KB	403	Total 3165	C 1989	N 539	O 613	S 24	0	0
9	KD	429	Total 3368	C 2116	N 577	O 649	S 26	0	0
9	KF	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	KH	429	Total 3368	C 2116	N 577	O 649	S 26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
9	KJ	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	KL	429	Total	C	N	O	S	0	0
			3368	2116	577	649	26		
9	KN	428	Total	C	N	O	S	0	0
			3361	2112	576	647	26		
9	LB	437	Total	C	N	O	S	0	0
			3433	2155	585	667	26		
9	LD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
9	LF	436	Total	C	N	O	S	0	0
			3424	2150	584	664	26		
9	LH	428	Total	C	N	O	S	0	0
			3361	2112	576	647	26		
9	LJ	437	Total	C	N	O	S	0	0
			3433	2155	585	667	26		
9	LL	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	LN	437	Total	C	N	O	S	0	0
			3433	2155	585	667	26		
9	MB	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	MD	429	Total	C	N	O	S	0	0
			3368	2116	577	649	26		
9	MF	429	Total	C	N	O	S	0	0
			3368	2116	577	649	26		
9	MH	429	Total	C	N	O	S	0	0
			3368	2116	577	649	26		
9	MJ	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	ML	429	Total	C	N	O	S	0	0
			3368	2116	577	649	26		
9	MN	429	Total	C	N	O	S	0	0
			3368	2116	577	649	26		
9	N0	425	Total	C	N	O	S	0	0
			3339	2100	572	641	26		
9	NB	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	ND	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
9	NF	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	NH	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	NJ	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	NL	425	Total 3339	C 2100	N 572	O 641	S 26	0	0
9	OO	391	Total 3078	C 1937	N 526	O 592	S 23	0	0
9	OB	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	OD	424	Total 3327	C 2091	N 571	O 639	S 26	0	0
9	OF	425	Total 3339	C 2100	N 572	O 641	S 26	0	0
9	OH	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	OJ	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	OL	424	Total 3327	C 2091	N 571	O 639	S 26	0	0
9	PB	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	PD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	PF	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	PH	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	PJ	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	PL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	QB	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	QD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	QF	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	QH	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	QJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	QL	426	3348	2105	574	643	26	0	0
9	RB	428	3361	2112	576	647	26	0	0
9	RD	427	3356	2109	575	646	26	0	0
9	RF	427	3356	2109	575	646	26	0	0
9	RH	428	3361	2112	576	647	26	0	0
9	RJ	428	3361	2112	576	647	26	0	0
9	RL	426	3348	2105	574	643	26	0	0
9	SB	428	3361	2112	576	647	26	0	0
9	SD	427	3356	2109	575	646	26	0	0
9	SF	428	3361	2112	576	647	26	0	0
9	SH	428	3361	2112	576	647	26	0	0
9	SJ	428	3361	2112	576	647	26	0	0
9	SL	426	3348	2105	574	643	26	0	0
9	TB	427	3356	2109	575	646	26	0	0
9	TD	427	3356	2109	575	646	26	0	0
9	TF	428	3361	2112	576	647	26	0	0
9	TH	428	3361	2112	576	647	26	0	0
9	TJ	428	3361	2112	576	647	26	0	0
9	TL	426	3348	2105	574	643	26	0	0
9	UB	426	3348	2105	574	643	26	0	0
9	UD	427	3356	2109	575	646	26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
9	UF	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	UH	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	UJ	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	UL	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	UN	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	VB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	VD	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	VF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	VH	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	VJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	VL	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	VN	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	WB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	WD	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	WF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	WH	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	WJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	WL	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	WN	426	Total 3348	C 2105	N 574	O 643	S 26	0	0

- Molecule 10 is a protein called Protein Flattop.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AP	117	Total	C	N	O	S	0	0
			920	586	168	164	2		
10	AQ	117	Total	C	N	O	S	0	0
			920	586	168	164	2		
10	AR	95	Total	C	N	O	S	0	0
			735	470	137	126	2		
10	AS	117	Total	C	N	O	S	0	0
			920	586	168	164	2		

- Molecule 11 is a protein called Cilia- and flagella-associated protein 53.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AT	297	Total	C	N	O	S	0	0
			2521	1541	478	489	13		
11	AU	217	Total	C	N	O	S	0	0
			1855	1127	350	364	14		

- Molecule 12 is a protein called Nucleoside diphosphate kinase 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AV	366	Total	C	N	O	S	0	0
			2901	1853	491	536	21		
12	AW	372	Total	C	N	O	S	0	0
			2947	1880	499	546	22		

- Molecule 13 is a protein called EF-hand domain-containing family member C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	Aa	585	Total	C	N	O	S	0	0
			4829	3100	812	892	25		
13	Ab	598	Total	C	N	O	S	0	0
			4935	3171	827	912	25		
13	Ac	600	Total	C	N	O	S	0	0
			4948	3179	831	913	25		
13	Ad	512	Total	C	N	O	S	0	0
			4235	2727	705	782	21		

- Molecule 14 is a protein called Family with sequence similarity 166 member A.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	Al	43	Total	C	N	O	S	0	0
			338	217	58	62	1		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	Am	43	Total 338	C 217	N 58	O 62	S 1	0	0
14	An	43	Total 338	C 217	N 58	O 62	S 1	0	0
14	Ao	67	Total 573	C 379	N 96	O 95	S 3	0	0
14	B7	86	Total 686	C 443	N 117	O 122	S 4	0	0
14	BY	106	Total 866	C 553	N 155	O 152	S 6	0	0
14	BZ	106	Total 866	C 553	N 155	O 152	S 6	0	0
14	Ba	191	Total 1587	C 1026	N 281	O 271	S 9	0	0
14	Bb	191	Total 1587	C 1026	N 281	O 271	S 9	0	0
14	Bc	190	Total 1575	C 1017	N 280	O 269	S 9	0	0
14	Bd	106	Total 866	C 553	N 155	O 152	S 6	0	0
14	Be	106	Total 866	C 553	N 155	O 152	S 6	0	0
14	CN	84	Total 670	C 431	N 115	O 120	S 4	0	0
14	CO	87	Total 697	C 449	N 121	O 123	S 4	0	0

- Molecule 15 is a protein called Protein FAM166C.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	Ap	130	Total 1101	C 710	N 202	O 187	S 2	0	0
15	Aq	88	Total 766	C 493	N 146	O 126	S 1	0	0
15	Ar	152	Total 1257	C 809	N 228	O 218	S 2	0	0

- Molecule 16 is a protein called Outer dense fiber of sperm tails 3B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	At	100	Total 772	C 495	N 138	O 135	S 4	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	Ax	119	914	590	179	142	3	0	0

- Molecule 17 is a protein called Spermatid-specific manchette-related protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	B0	45	367	240	59	68		0	0
17	B1	37	300	198	46	56		0	0
17	B2	41	307	190	56	55	6	0	0
17	B3	26	200	124	35	37	4	0	0
17	B4	39	305	188	57	54	6	0	0
17	B8	41	320	196	62	56	6	0	0
17	B9	38	307	202	47	58		0	0
17	CQ	45	367	240	59	68		0	0
17	CR	39	316	208	49	59		0	0
17	CS	38	307	202	47	58		0	0

- Molecule 18 is a protein called Enkurin.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	B5	244	2008	1283	348	369	8	0	0
18	B6	248	2040	1306	352	374	8	0	0
18	By	160	1316	833	228	250	5	0	0
18	Bz	244	2008	1283	348	369	8	0	0

- Molecule 19 is a protein called Coiled-coil domain-containing protein 105.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	BO	227	Total	C	N	O	S	1	0
			1817	1123	346	332	16		
19	BP	418	Total	C	N	O	S	1	0
			3394	2101	651	616	26		
19	BQ	367	Total	C	N	O	S	1	0
			2989	1843	580	545	21		
19	BR	427	Total	C	N	O	S	1	0
			3465	2147	665	627	26		

- Molecule 20 is a protein called Protein phosphatase 1 regulatory subunit 32.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	BS	151	Total	C	N	O	S	0	0
			1192	756	212	223	1		
20	BT	240	Total	C	N	O	S	0	0
			1886	1193	327	362	4		

- Molecule 21 is a protein called RIB43A-like with coiled-coils protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	BU	36	Total	C	N	O	S	0	0
			307	192	64	50	1		
21	BV	371	Total	C	N	O	S	0	0
			3087	1881	602	589	15		
21	Bi	43	Total	C	N	O	S	0	0
			352	214	68	67	3		
21	Bj	247	Total	C	N	O	S	0	0
			2029	1233	393	393	10		
21	Bk	174	Total	C	N	O	S	0	0
			1444	876	285	276	7		

- Molecule 22 is a protein called Cilia- and flagella-associated protein 107.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	BW	189	Total	C	N	O	S	0	0
			1586	1022	284	279	1		
22	BX	50	Total	C	N	O		0	0
			424	272	73	79			

- Molecule 23 is a protein called Piercer of microtubule wall 1 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Bf	62	Total	C	N	O	S	0	0
			508	324	87	93	4		
23	Bg	115	Total	C	N	O	S	0	0
			950	602	168	175	5		

- Molecule 24 is a protein called Piercer of microtubule wall 2 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Bh	96	Total	C	N	O	S	0	0
			775	496	130	142	7		

- Molecule 25 is a protein called Stabilizer of axonemal microtubules 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
25	Bl	127	Total	C	N	O	0	0
			635	381	127	127		
25	Bm	128	Total	C	N	O	0	0
			640	384	128	128		
25	Bn	138	Total	C	N	O	0	0
			690	414	138	138		
25	Bo	143	Total	C	N	O	0	0
			715	429	143	143		
25	Bp	163	Total	C	N	O	0	0
			815	489	163	163		

- Molecule 26 is a protein called Stabilizer of axonemal microtubules 3.

Mol	Chain	Residues	Atoms				AltConf	Trace	
26	Bq	100	Total	C	N	O	0	0	
			782	505	139	138			
26	Bu	147	Total	C	N	O	S	0	0
			1177	755	219	202	1		

- Molecule 27 is a protein called Meiosis-specific nuclear structural protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Br	165	Total	C	N	O	S	0	0
			1380	842	259	272	7		
27	Bs	355	Total	C	N	O	S	0	0
			3042	1886	556	583	17		

- Molecule 28 is a protein called Tektin-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	C0	105	Total	C	N	O	S	0	0
			851	527	155	166	3		
28	C2	407	Total	C	N	O	S	0	0
			3314	2044	605	649	16		
28	C3	407	Total	C	N	O	S	0	0
			3314	2044	605	649	16		
28	C4	342	Total	C	N	O	S	0	0
			2779	1715	505	545	14		
28	C5	226	Total	C	N	O	S	0	0
			1843	1145	331	354	13		
28	C6	41	Total	C	N	O	S	0	0
			352	218	65	68	1		
28	C7	425	Total	C	N	O	S	0	0
			3454	2128	630	678	18		
28	C8	424	Total	C	N	O	S	0	0
			3446	2124	629	675	18		
28	C9	381	Total	C	N	O	S	0	0
			3089	1897	568	609	15		
28	DO	127	Total	C	N	O	S	0	0
			1041	632	197	209	3		
28	F2	418	Total	C	N	O	S	0	0
			3411	2107	621	667	16		
28	F3	417	Total	C	N	O	S	0	0
			3400	2102	616	666	16		
28	F4	387	Total	C	N	O	S	0	0
			3141	1931	577	618	15		
28	F5	108	Total	C	N	O	S	0	0
			873	540	159	171	3		
28	F6	127	Total	C	N	O	S	0	0
			1047	643	194	208	2		

- Molecule 29 is a protein called Tektin-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	C1	330	Total	C	N	O	S	0	0
			2710	1677	498	513	22		
29	Cz	297	Total	C	N	O	S	0	0
			2435	1509	445	461	20		
29	D0	69	Total	C	N	O	S	0	0
			569	351	107	106	5		
29	D1	358	Total	C	N	O	S	0	0
			2933	1802	545	560	26		
29	D2	387	Total	C	N	O	S	0	0
			3169	1945	592	603	29		

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Mol	Chain	Residues	Atoms					AltConf	Trace
29	D3	386	Total	C	N	O	S	0	0
			3160	1939	590	602	29		
29	D4	385	Total	C	N	O	S	0	0
			3152	1936	587	601	28		
29	D5	362	Total	C	N	O	S	0	0
			2961	1818	552	564	27		
29	D6	148	Total	C	N	O	S	0	0
			1209	733	227	239	10		
29	D7	73	Total	C	N	O	S	0	0
			603	374	111	113	5		
29	D8	387	Total	C	N	O	S	0	0
			3169	1945	592	603	29		
29	D9	160	Total	C	N	O	S	0	0
			1305	789	247	258	11		
29	DP	204	Total	C	N	O	S	0	0
			1668	1010	317	327	14		
29	DQ	293	Total	C	N	O	S	0	0
			2411	1481	450	459	21		
29	DR	261	Total	C	N	O	S	0	0
			2151	1327	399	407	18		
29	DS	257	Total	C	N	O	S	0	0
			2118	1308	392	401	17		
29	DT	165	Total	C	N	O	S	0	0
			1373	874	240	249	10		
29	DU	300	Total	C	N	O	S	0	0
			2497	1547	463	466	21		
29	DV	301	Total	C	N	O	S	0	0
			2502	1550	464	467	21		
29	DW	301	Total	C	N	O	S	0	0
			2502	1550	464	467	21		
29	DX	229	Total	C	N	O	S	0	0
			1897	1171	354	357	15		
29	EA	399	Total	C	N	O	S	0	0
			3259	2006	604	618	31		
29	EO	398	Total	C	N	O	S	0	0
			3251	2000	603	617	31		
29	EP	360	Total	C	N	O	S	0	0
			2940	1805	544	563	28		
29	EQ	178	Total	C	N	O	S	0	0
			1458	909	265	270	14		
29	ER	44	Total	C	N	O	S	0	0
			358	217	68	68	5		

There are 26 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C1	245	ASP	GLU	variant	UNP Q2YDI7
Cz	245	ASP	GLU	variant	UNP Q2YDI7
D0	245	ASP	GLU	variant	UNP Q2YDI7
D1	245	ASP	GLU	variant	UNP Q2YDI7
D2	245	ASP	GLU	variant	UNP Q2YDI7
D3	245	ASP	GLU	variant	UNP Q2YDI7
D4	245	ASP	GLU	variant	UNP Q2YDI7
D5	245	ASP	GLU	variant	UNP Q2YDI7
D6	245	ASP	GLU	variant	UNP Q2YDI7
D7	245	ASP	GLU	variant	UNP Q2YDI7
D8	245	ASP	GLU	variant	UNP Q2YDI7
D9	245	ASP	GLU	variant	UNP Q2YDI7
DP	245	ASP	GLU	variant	UNP Q2YDI7
DQ	245	ASP	GLU	variant	UNP Q2YDI7
DR	245	ASP	GLU	variant	UNP Q2YDI7
DS	245	ASP	GLU	variant	UNP Q2YDI7
DT	245	ASP	GLU	variant	UNP Q2YDI7
DU	245	ASP	GLU	variant	UNP Q2YDI7
DV	245	ASP	GLU	variant	UNP Q2YDI7
DW	245	ASP	GLU	variant	UNP Q2YDI7
DX	245	ASP	GLU	variant	UNP Q2YDI7
EA	245	ASP	GLU	variant	UNP Q2YDI7
EO	245	ASP	GLU	variant	UNP Q2YDI7
EP	245	ASP	GLU	variant	UNP Q2YDI7
EQ	245	ASP	GLU	variant	UNP Q2YDI7
ER	245	ASP	GLU	variant	UNP Q2YDI7

- Molecule 30 is a protein called Sperm-associated antigen 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	CW	163	1319	827	236	249	7	0	0

- Molecule 31 is a protein called Spermatogenesis-associated protein 48.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	Cl	127	977	615	168	190	4	0	0

- Molecule 32 is a protein called Tektin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Cm	396	Total	C	N	O	S	0	0
			3264	2032	594	629	9		
32	Cn	399	Total	C	N	O	S	0	0
			3286	2047	598	632	9		
32	Co	345	Total	C	N	O	S	0	0
			2845	1776	512	549	8		
32	Cp	208	Total	C	N	O	S	0	0
			1690	1058	306	319	7		

- Molecule 33 is a protein called Tektin-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Cq	421	Total	C	N	O	S	0	0
			3427	2114	632	667	14		
33	Cr	415	Total	C	N	O	S	0	0
			3386	2087	626	659	14		
33	Cs	183	Total	C	N	O	S	0	0
			1496	915	282	293	6		
33	Ct	387	Total	C	N	O	S	0	0
			3147	1943	575	614	15		
33	Cu	376	Total	C	N	O	S	0	0
			3055	1887	556	598	14		
33	Cv	422	Total	C	N	O	S	0	0
			3436	2120	634	668	14		
33	Cw	422	Total	C	N	O	S	0	0
			3436	2120	634	668	14		
33	Cx	199	Total	C	N	O	S	0	0
			1611	987	302	316	6		
33	Cy	44	Total	C	N	O	S	0	0
			365	224	71	68	2		

- Molecule 34 is a protein called Uncharacterized protein C1orf100 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	D	62	Total	C	N	O	S	0	0
			537	344	94	98	1		

- Molecule 35 is a protein called TEPP protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	DY	38	Total	C	N	O	S	0	0
			308	187	53	63	5		

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Mol	Chain	Residues	Atoms					AltConf	Trace
35	DZ	51	Total	C	N	O	S	0	0
			416	250	82	79	5		
35	Da	134	Total	C	N	O	S	0	0
			1095	704	194	193	4		
35	Ee	45	Total	C	N	O	S	0	0
			386	248	71	66	1		

- Molecule 36 is a protein called Uncharacterized protein MGC137036.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Db	52	Total	C	N	O	S	0	0
			450	290	81	78	1		
36	Dc	51	Total	C	N	O	S	0	0
			442	284	80	77	1		
36	Dd	47	Total	C	N	O	S	0	0
			406	262	72	71	1		

- Molecule 37 is a protein called Testis expressed 33.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	De	66	Total	C	N	O	S	0	0
			545	343	97	101	4		

- Molecule 38 is a protein called Testis-expressed sequence 37 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Df	133	Total	C	N	O	S	0	0
			1060	685	176	196	3		
38	Dg	123	Total	C	N	O	S	0	0
			981	629	167	181	4		
38	Dh	109	Total	C	N	O	S	0	0
			873	561	143	166	3		

- Molecule 39 is a protein called Testis-expressed protein 43.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Di	78	Total	C	N	O	S	0	0
			632	405	120	102	5		
39	Dj	99	Total	C	N	O	S	0	0
			806	513	154	133	6		
39	Dk	99	Total	C	N	O	S	0	0
			806	513	154	133	6		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	Dl	99	806	513	154	133	6	0	0

- Molecule 40 is a protein called Testis expressed 49.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	Dm	87	725	458	136	127	4	0	0

- Molecule 41 is a protein called Theg spermatid protein like.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	Dn	56	468	289	97	81	1	0	0

- Molecule 42 is a protein called EF-hand domain-containing family member B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	E	148	1181	742	206	230	3	0	0
42	F	455	3679	2344	655	667	13	0	0

- Molecule 43 is a protein called Tektin bundle interacting protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	E1	197	1648	1052	300	292	4	1	0
43	E2	197	1648	1052	300	292	4	1	0
43	E3	197	1641	1047	299	291	4	0	0
43	E4	145	1221	782	222	214	3	1	0

- Molecule 44 is a protein called Tektin-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	ES	425	3483	2143	653	672	15	0	0
44	ET	278	2273	1404	416	445	8	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
44	EU	329	Total	C	N	O	S	0	0
			2692	1660	501	517	14		
44	EV	425	Total	C	N	O	S	0	0
			3483	2143	653	672	15		
44	EW	319	Total	C	N	O	S	0	0
			2601	1601	482	504	14		
44	EX	436	Total	C	N	O	S	0	0
			3560	2192	665	687	16		
44	EY	311	Total	C	N	O	S	0	0
			2552	1578	476	486	12		
44	EZ	443	Total	C	N	O	S	0	0
			3615	2228	673	698	16		

- Molecule 45 is a protein called Chromosome 7 open reading frame 31.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	G	282	Total	C	N	O	S	0	0
			2317	1475	409	427	6		

- Molecule 46 is a protein called Cilia- and flagella- associated protein 210.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	H	102	Total	C	N	O	S	0	0
			848	533	146	166	3		
46	o	397	Total	C	N	O	S	0	0
			3401	2106	640	644	11		

- Molecule 47 is a protein called EF-hand domain-containing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	I	447	Total	C	N	O	S	0	0
			3689	2376	623	676	14		
47	X	448	Total	C	N	O	S	0	0
			3692	2385	621	672	14		
47	Y	454	Total	C	N	O	S	0	0
			3743	2416	631	682	14		

- Molecule 48 is a protein called Uncharacterized protein C10orf82 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	J	116	Total	C	N	O	S	0	0
			951	599	178	165	9		

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Mol	Chain	Residues	Atoms					AltConf	Trace
48	K	116	Total	C	N	O	S	0	0
			951	599	178	165	9		
48	L	108	Total	C	N	O	S	0	0
			891	562	167	155	7		
48	M	89	Total	C	N	O	S	0	0
			728	459	135	127	7		

- Molecule 49 is a protein called Cilia- and flagella-associated protein 144.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	K1	116	Total	C	N	O	S	0	0
			992	627	186	177	2		

- Molecule 50 is a protein called Chromosome 20 C5orf49 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	L1	134	Total	C	N	O	S	0	0
			1090	685	208	195	2		
50	L2	90	Total	C	N	O	S	0	0
			743	467	137	137	2		

- Molecule 51 is a protein called Chromosome 19 C17orf98 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	N	142	Total	C	N	O	S	0	0
			1173	737	232	199	5		
51	O	137	Total	C	N	O	S	0	0
			1134	715	222	194	3		

- Molecule 52 is a protein called Chromosome 13 C20orf85 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	P	105	Total	C	N	O	S	0	0
			870	564	151	153	2		

- Molecule 53 is a protein called Cilia- and flagella-associated protein 68.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	Q	107	Total	C	N	O	S	0	0
			919	584	160	170	5		

- Molecule 54 is a protein called Cilia and flagella associated protein 77.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	R	140	Total	C	N	O	S	0	0
			1162	731	225	200	6		
54	S	140	Total	C	N	O	S	0	0
			1162	731	225	200	6		
54	T	140	Total	C	N	O	S	0	0
			1165	734	226	199	6		
54	U	97	Total	C	N	O	S	0	0
			818	518	155	141	4		

- Molecule 55 is a protein called UPF0602 protein C4orf47 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	W	124	Total	C	N	O	S	0	0
			990	626	176	185	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
W	199	PRO	THR	variant	UNP Q2T9M0

- Molecule 56 is a protein called Cilia- and flagella-associated protein 20.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	XG	182	Total	C	N	O	S	0	0
			1512	969	266	270	7		
56	XH	182	Total	C	N	O	S	0	0
			1512	969	266	270	7		
56	XI	182	Total	C	N	O	S	0	0
			1512	969	266	270	7		
56	XJ	182	Total	C	N	O	S	0	0
			1512	969	266	270	7		
56	XK	182	Total	C	N	O	S	0	0
			1512	969	266	270	7		
56	XL	181	Total	C	N	O	S	0	0
			1503	963	264	269	7		
56	XM	180	Total	C	N	O	S	0	0
			1494	958	262	267	7		

- Molecule 57 is a protein called Parkin coregulated gene protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	YG	210	Total	C	N	O	S	0	0
			1706	1108	288	301	9		

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Mol	Chain	Residues	Atoms					AltConf	Trace
57	YH	218	Total	C	N	O	S	0	0
			1759	1138	297	315	9		
57	YI	218	Total	C	N	O	S	0	0
			1759	1138	297	315	9		
57	YJ	218	Total	C	N	O	S	0	0
			1759	1138	297	315	9		
57	YK	218	Total	C	N	O	S	0	0
			1759	1138	297	315	9		
57	YL	218	Total	C	N	O	S	0	0
			1759	1138	297	315	9		

- Molecule 58 is a protein called CFAP97 domain containing 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	Z	117	Total	C	N	O	S	0	0
			1014	632	205	175	2		
58	p	54	Total	C	N	O	S	0	0
			459	294	88	76	1		
58	q	96	Total	C	N	O	S	0	0
			829	510	169	148	2		

- Molecule 59 is a protein called Cilia- and flagella-associated protein 45.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	a	185	Total	C	N	O	S	0	0
			1559	959	297	294	9		
59	b	327	Total	C	N	O	S	0	0
			2814	1700	563	539	12		
59	c	297	Total	C	N	O	S	0	0
			2525	1544	478	487	16		
59	d	203	Total	C	N	O	S	0	0
			1728	1048	349	326	5		

- Molecule 60 is a protein called Cilia- and flagella-associated protein 52.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	e	610	Total	C	N	O	S	0	0
			4722	2990	823	877	32		
60	f	609	Total	C	N	O	S	0	0
			4713	2985	822	874	32		
60	g	609	Total	C	N	O	S	0	0
			4713	2985	822	874	32		

- Molecule 61 is a protein called Cilia- and flagella-associated protein 141.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	h	91	Total	C	N	O	S	0	0
			785	495	151	133	6		

- Molecule 62 is a protein called Cilia- and flagella-associated protein 161.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	i	255	Total	C	N	O	S	0	0
			2055	1302	369	373	11		
62	j	268	Total	C	N	O	S	0	0
			2158	1367	386	394	11		

- Molecule 63 is a protein called Dual specificity phosphatase 21.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	k	157	Total	C	N	O	S	0	0
			1245	797	207	230	11		
63	l	137	Total	C	N	O	S	0	0
			1098	706	185	199	8		
63	m	159	Total	C	N	O	S	0	0
			1263	807	211	234	11		
63	n	114	Total	C	N	O	S	0	0
			908	587	147	167	7		

- Molecule 64 is a protein called Uncharacterized protein C4orf45 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	ke	97	Total	C	N	O	S	0	0
			796	516	138	141	1		

- Molecule 65 is a protein called Cilia- and flagella-associated protein 276.

Mol	Chain	Residues	Atoms				AltConf	Trace
65	r	77	Total	C	N	O	0	0
			615	386	113	116		
65	s	78	Total	C	N	O	0	0
			624	391	115	118		
65	t	78	Total	C	N	O	0	0
			624	391	115	118		

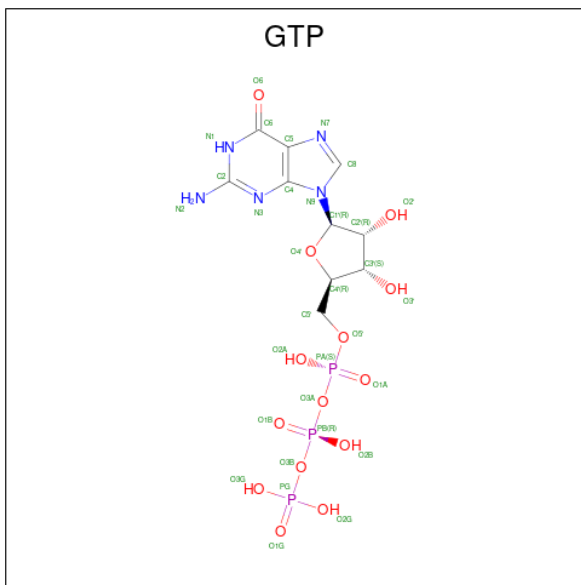
- Molecule 66 is a protein called EF-hand calcium-binding domain-containing protein 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	u	128	Total	C	N	O	S	0	0
			1081	697	188	192	4		
66	v	113	Total	C	N	O	S	0	0
			957	620	164	170	3		
66	w	128	Total	C	N	O	S	0	0
			1081	697	188	192	4		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
u	290	ALA	GLU	variant	UNP Q2T9P0
u	303	SER	THR	variant	UNP Q2T9P0
v	290	ALA	GLU	variant	UNP Q2T9P0
v	303	SER	THR	variant	UNP Q2T9P0
w	290	ALA	GLU	variant	UNP Q2T9P0
w	303	SER	THR	variant	UNP Q2T9P0

- Molecule 67 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula:  $C_{10}H_{16}N_5O_{14}P_3$ ).





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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
67	AG	1	Total 32	C 10	N 5	O 14	P 3	0
67	AH	1	Total 32	C 10	N 5	O 14	P 3	0
67	AK	1	Total 32	C 10	N 5	O 14	P 3	0
67	AM	1	Total 32	C 10	N 5	O 14	P 3	0
67	BA	1	Total 32	C 10	N 5	O 14	P 3	0
67	BC	1	Total 32	C 10	N 5	O 14	P 3	0
67	BE	1	Total 32	C 10	N 5	O 14	P 3	0
67	BG	1	Total 32	C 10	N 5	O 14	P 3	0
67	BI	1	Total 32	C 10	N 5	O 14	P 3	0
67	BK	1	Total 32	C 10	N 5	O 14	P 3	0
67	BM	1	Total 32	C 10	N 5	O 14	P 3	0
67	CA	1	Total 32	C 10	N 5	O 14	P 3	0
67	CB	1	Total 32	C 10	N 5	O 14	P 3	0
67	CD	1	Total 32	C 10	N 5	O 14	P 3	0
67	CG	1	Total 32	C 10	N 5	O 14	P 3	0
67	CH	1	Total 32	C 10	N 5	O 14	P 3	0
67	CJ	1	Total 32	C 10	N 5	O 14	P 3	0
67	CL	1	Total 32	C 10	N 5	O 14	P 3	0
67	DA	1	Total 32	C 10	N 5	O 14	P 3	0
67	DC	1	Total 32	C 10	N 5	O 14	P 3	0
67	DE	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	
67	DF	1	Total 32	C 10	N 5	O 14	P 3	0
67	DI	1	Total 32	C 10	N 5	O 14	P 3	0
67	DK	1	Total 32	C 10	N 5	O 14	P 3	0
67	DM	1	Total 32	C 10	N 5	O 14	P 3	0
67	EC	1	Total 32	C 10	N 5	O 14	P 3	0
67	EE	1	Total 32	C 10	N 5	O 14	P 3	0
67	EG	1	Total 32	C 10	N 5	O 14	P 3	0
67	EI	1	Total 32	C 10	N 5	O 14	P 3	0
67	EK	1	Total 32	C 10	N 5	O 14	P 3	0
67	EM	1	Total 32	C 10	N 5	O 14	P 3	0
67	FC	1	Total 32	C 10	N 5	O 14	P 3	0
67	FE	1	Total 32	C 10	N 5	O 14	P 3	0
67	FG	1	Total 32	C 10	N 5	O 14	P 3	0
67	FI	1	Total 32	C 10	N 5	O 14	P 3	0
67	FK	1	Total 32	C 10	N 5	O 14	P 3	0
67	FM	1	Total 32	C 10	N 5	O 14	P 3	0
67	GC	1	Total 32	C 10	N 5	O 14	P 3	0
67	GE	1	Total 32	C 10	N 5	O 14	P 3	0
67	GG	1	Total 32	C 10	N 5	O 14	P 3	0
67	GI	1	Total 32	C 10	N 5	O 14	P 3	0
67	GJ	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	
67	GM	1	Total 32	C 10	N 5	O 14	P 3	0
67	HC	1	Total 32	C 10	N 5	O 14	P 3	0
67	HE	1	Total 32	C 10	N 5	O 14	P 3	0
67	HG	1	Total 32	C 10	N 5	O 14	P 3	0
67	HI	1	Total 32	C 10	N 5	O 14	P 3	0
67	HK	1	Total 32	C 10	N 5	O 14	P 3	0
67	HL	1	Total 32	C 10	N 5	O 14	P 3	0
67	HN	1	Total 32	C 10	N 5	O 14	P 3	0
67	IC	1	Total 32	C 10	N 5	O 14	P 3	0
67	IE	1	Total 32	C 10	N 5	O 14	P 3	0
67	IG	1	Total 32	C 10	N 5	O 14	P 3	0
67	II	1	Total 32	C 10	N 5	O 14	P 3	0
67	IK	1	Total 32	C 10	N 5	O 14	P 3	0
67	IM	1	Total 32	C 10	N 5	O 14	P 3	0
67	IN	1	Total 32	C 10	N 5	O 14	P 3	0
67	JC	1	Total 32	C 10	N 5	O 14	P 3	0
67	JE	1	Total 32	C 10	N 5	O 14	P 3	0
67	JG	1	Total 32	C 10	N 5	O 14	P 3	0
67	JI	1	Total 32	C 10	N 5	O 14	P 3	0
67	JK	1	Total 32	C 10	N 5	O 14	P 3	0
67	JM	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	
67	KC	1	Total 32	C 10	N 5	O 14	P 3	0
67	KE	1	Total 32	C 10	N 5	O 14	P 3	0
67	KG	1	Total 32	C 10	N 5	O 14	P 3	0
67	KI	1	Total 32	C 10	N 5	O 14	P 3	0
67	KK	1	Total 32	C 10	N 5	O 14	P 3	0
67	KM	1	Total 32	C 10	N 5	O 14	P 3	0
67	KO	1	Total 32	C 10	N 5	O 14	P 3	0
67	LC	1	Total 32	C 10	N 5	O 14	P 3	0
67	LE	1	Total 32	C 10	N 5	O 14	P 3	0
67	LG	1	Total 32	C 10	N 5	O 14	P 3	0
67	LI	1	Total 32	C 10	N 5	O 14	P 3	0
67	LK	1	Total 32	C 10	N 5	O 14	P 3	0
67	LM	1	Total 32	C 10	N 5	O 14	P 3	0
67	MC	1	Total 32	C 10	N 5	O 14	P 3	0
67	ME	1	Total 32	C 10	N 5	O 14	P 3	0
67	MG	1	Total 32	C 10	N 5	O 14	P 3	0
67	MI	1	Total 32	C 10	N 5	O 14	P 3	0
67	MK	1	Total 32	C 10	N 5	O 14	P 3	0
67	MM	1	Total 32	C 10	N 5	O 14	P 3	0
67	NA	1	Total 32	C 10	N 5	O 14	P 3	0
67	NB	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	
67	NE	1	Total 32	C 10	N 5	O 14	P 3	0
67	NF	1	Total 32	C 10	N 5	O 14	P 3	0
67	NI	1	Total 32	C 10	N 5	O 14	P 3	0
67	NK	1	Total 32	C 10	N 5	O 14	P 3	0
67	O0	1	Total 32	C 10	N 5	O 14	P 3	0
67	OC	1	Total 32	C 10	N 5	O 14	P 3	0
67	OE	1	Total 32	C 10	N 5	O 14	P 3	0
67	OF	1	Total 32	C 10	N 5	O 14	P 3	0
67	OH	1	Total 32	C 10	N 5	O 14	P 3	0
67	OK	1	Total 32	C 10	N 5	O 14	P 3	0
67	PA	1	Total 32	C 10	N 5	O 14	P 3	0
67	PC	1	Total 32	C 10	N 5	O 14	P 3	0
67	PD	1	Total 32	C 10	N 5	O 14	P 3	0
67	PG	1	Total 32	C 10	N 5	O 14	P 3	0
67	PI	1	Total 32	C 10	N 5	O 14	P 3	0
67	PK	1	Total 32	C 10	N 5	O 14	P 3	0
67	PM	1	Total 32	C 10	N 5	O 14	P 3	0
67	QA	1	Total 32	C 10	N 5	O 14	P 3	0
67	QC	1	Total 32	C 10	N 5	O 14	P 3	0
67	QE	1	Total 32	C 10	N 5	O 14	P 3	0
67	QG	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	
67	QI	1	Total 32	C 10	N 5	O 14	P 3	0
67	QK	1	Total 32	C 10	N 5	O 14	P 3	0
67	QM	1	Total 32	C 10	N 5	O 14	P 3	0
67	RA	1	Total 32	C 10	N 5	O 14	P 3	0
67	RB	1	Total 32	C 10	N 5	O 14	P 3	0
67	RE	1	Total 32	C 10	N 5	O 14	P 3	0
67	RG	1	Total 32	C 10	N 5	O 14	P 3	0
67	RI	1	Total 32	C 10	N 5	O 14	P 3	0
67	RK	1	Total 32	C 10	N 5	O 14	P 3	0
67	RM	1	Total 32	C 10	N 5	O 14	P 3	0
67	SA	1	Total 32	C 10	N 5	O 14	P 3	0
67	SC	1	Total 32	C 10	N 5	O 14	P 3	0
67	SE	1	Total 32	C 10	N 5	O 14	P 3	0
67	SF	1	Total 32	C 10	N 5	O 14	P 3	0
67	SI	1	Total 32	C 10	N 5	O 14	P 3	0
67	SK	1	Total 32	C 10	N 5	O 14	P 3	0
67	SM	1	Total 32	C 10	N 5	O 14	P 3	0
67	TC	1	Total 32	C 10	N 5	O 14	P 3	0
67	TE	1	Total 32	C 10	N 5	O 14	P 3	0
67	TG	1	Total 32	C 10	N 5	O 14	P 3	0
67	TI	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	
67	TK	1	32	10	5	14	3	0
67	TM	1	32	10	5	14	3	0
67	UC	1	32	10	5	14	3	0
67	UE	1	32	10	5	14	3	0
67	UG	1	32	10	5	14	3	0
67	UI	1	32	10	5	14	3	0
67	UK	1	32	10	5	14	3	0
67	UM	1	32	10	5	14	3	0
67	VC	1	32	10	5	14	3	0
67	VE	1	32	10	5	14	3	0
67	VG	1	32	10	5	14	3	0
67	VI	1	32	10	5	14	3	0
67	VK	1	32	10	5	14	3	0
67	VL	1	32	10	5	14	3	0
67	WC	1	32	10	5	14	3	0
67	WE	1	32	10	5	14	3	0
67	WG	1	32	10	5	14	3	0
67	WI	1	32	10	5	14	3	0
67	WK	1	32	10	5	14	3	0
67	WM	1	32	10	5	14	3	0

- Molecule 68 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
68	AA	1	Total Mg 1 1	0
68	AC	1	Total Mg 1 1	0
68	AE	1	Total Mg 1 1	0
68	AG	1	Total Mg 1 1	0
68	AI	1	Total Mg 1 1	0
68	AK	1	Total Mg 1 1	0
68	AM	1	Total Mg 1 1	0
68	BA	1	Total Mg 1 1	0
68	BC	1	Total Mg 1 1	0
68	BE	1	Total Mg 1 1	0
68	BG	1	Total Mg 1 1	0
68	BI	1	Total Mg 1 1	0
68	BK	1	Total Mg 1 1	0
68	BM	1	Total Mg 1 1	0
68	CA	1	Total Mg 1 1	0
68	CC	1	Total Mg 1 1	0
68	CE	1	Total Mg 1 1	0
68	CG	1	Total Mg 1 1	0
68	CI	1	Total Mg 1 1	0
68	CK	1	Total Mg 1 1	0
68	CM	1	Total Mg 1 1	0
68	DA	1	Total Mg 1 1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
68	DC	1	1	1	0
68	DE	1	1	1	0
68	DG	1	1	1	0
68	DI	1	1	1	0
68	DK	1	1	1	0
68	DM	1	1	1	0
68	EC	1	1	1	0
68	EE	1	1	1	0
68	EG	1	1	1	0
68	EI	1	1	1	0
68	EJ	1	1	1	0
68	EM	1	1	1	0
68	FC	1	1	1	0
68	FE	1	1	1	0
68	FG	1	1	1	0
68	FI	1	1	1	0
68	FK	1	1	1	0
68	FM	1	1	1	0
68	GC	1	1	1	0
68	GE	1	1	1	0
68	GG	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
68	GI	1	1	1	0
68	GK	1	1	1	0
68	GM	1	1	1	0
68	HC	1	1	1	0
68	HE	1	1	1	0
68	HG	1	1	1	0
68	HI	1	1	1	0
68	HK	1	1	1	0
68	HM	1	1	1	0
68	HO	1	1	1	0
68	IC	1	1	1	0
68	IE	1	1	1	0
68	IG	1	1	1	0
68	II	1	1	1	0
68	IK	1	1	1	0
68	IM	1	1	1	0
68	IO	1	1	1	0
68	JC	1	1	1	0
68	JE	1	1	1	0
68	JG	1	1	1	0
68	JI	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
68	JK	1	1	1	0
68	JM	1	1	1	0
68	KC	1	1	1	0
68	KE	1	1	1	0
68	KG	1	1	1	0
68	KI	1	1	1	0
68	KK	1	1	1	0
68	KM	1	1	1	0
68	KN	1	1	1	0
68	LC	1	1	1	0
68	LE	1	1	1	0
68	LG	1	1	1	0
68	LI	1	1	1	0
68	LK	1	1	1	0
68	LL	1	1	1	0
68	MC	1	1	1	0
68	ME	1	1	1	0
68	MG	1	1	1	0
68	MI	1	1	1	0
68	MK	1	1	1	0
68	MM	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
68	NA	1	1	1	0
68	NC	1	1	1	0
68	NE	1	1	1	0
68	NG	1	1	1	0
68	NI	1	1	1	0
68	NK	1	1	1	0
68	OA	1	1	1	0
68	OC	1	1	1	0
68	OE	1	1	1	0
68	OG	1	1	1	0
68	OI	1	1	1	0
68	OK	1	1	1	0
68	PA	1	1	1	0
68	PC	1	1	1	0
68	PE	1	1	1	0
68	PG	1	1	1	0
68	PH	1	1	1	0
68	PK	1	1	1	0
68	PM	1	1	1	0
68	QA	1	1	1	0
68	QC	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
68	QE	1	1	1	0
68	QG	1	1	1	0
68	QI	1	1	1	0
68	QK	1	1	1	0
68	QM	1	1	1	0
68	RA	1	1	1	0
68	RC	1	1	1	0
68	RE	1	1	1	0
68	RG	1	1	1	0
68	RI	1	1	1	0
68	RK	1	1	1	0
68	RM	1	1	1	0
68	SA	1	1	1	0
68	SC	1	1	1	0
68	SE	1	1	1	0
68	SG	1	1	1	0
68	SI	1	1	1	0
68	SK	1	1	1	0
68	SM	1	1	1	0
68	TC	1	1	1	0
68	TE	1	1	1	0

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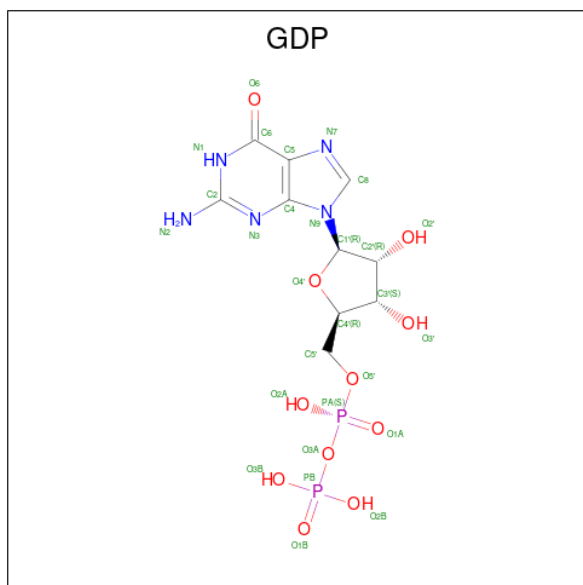
Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
68	TG	1	1	1	0
68	TH	1	1	1	0
68	TK	1	1	1	0
68	TM	1	1	1	0
68	UC	1	1	1	0
68	UE	1	1	1	0
68	UG	1	1	1	0
68	UI	1	1	1	0
68	UK	1	1	1	0
68	UM	1	1	1	0
68	VC	1	1	1	0
68	VE	1	1	1	0
68	VG	1	1	1	0
68	VI	1	1	1	0
68	VK	1	1	1	0
68	VM	1	1	1	0
68	WC	1	1	1	0
68	WE	1	1	1	0
68	WG	1	1	1	0
68	WI	1	1	1	0
68	WK	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
68	WM	1	1	1	0

- Molecule 69 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula:  $C_{10}H_{15}N_5O_{11}P_2$ ).



Mol	Chain	Residues	Atoms				AltConf	
			Total	C	N	O		P
69	AB	1	28	10	5	11	2	0
69	AD	1	28	10	5	11	2	0
69	AF	1	28	10	5	11	2	0
69	AH	1	28	10	5	11	2	0
69	AJ	1	28	10	5	11	2	0
69	AL	1	28	10	5	11	2	0
69	BB	1	28	10	5	11	2	0
69	BD	1	28	10	5	11	2	0
69	BF	1	28	10	5	11	2	0
69	BH	1	28	10	5	11	2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
69	BJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	BL	1	Total 28	C 10	N 5	O 11	P 2	0
69	CB	1	Total 28	C 10	N 5	O 11	P 2	0
69	CD	1	Total 28	C 10	N 5	O 11	P 2	0
69	CF	1	Total 28	C 10	N 5	O 11	P 2	0
69	CH	1	Total 28	C 10	N 5	O 11	P 2	0
69	CJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	CL	1	Total 28	C 10	N 5	O 11	P 2	0
69	DB	1	Total 28	C 10	N 5	O 11	P 2	0
69	DD	1	Total 28	C 10	N 5	O 11	P 2	0
69	DF	1	Total 28	C 10	N 5	O 11	P 2	0
69	DH	1	Total 28	C 10	N 5	O 11	P 2	0
69	DJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	DL	1	Total 28	C 10	N 5	O 11	P 2	0
69	DN	1	Total 28	C 10	N 5	O 11	P 2	0
69	EB	1	Total 28	C 10	N 5	O 11	P 2	0
69	ED	1	Total 28	C 10	N 5	O 11	P 2	0
69	EF	1	Total 28	C 10	N 5	O 11	P 2	0
69	EH	1	Total 28	C 10	N 5	O 11	P 2	0
69	EJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	EL	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	
69	EN	1	Total 28	C 10	N 5	O 11	P 2	0
69	FB	1	Total 28	C 10	N 5	O 11	P 2	0
69	FD	1	Total 28	C 10	N 5	O 11	P 2	0
69	FF	1	Total 28	C 10	N 5	O 11	P 2	0
69	FH	1	Total 28	C 10	N 5	O 11	P 2	0
69	FJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	FL	1	Total 28	C 10	N 5	O 11	P 2	0
69	FN	1	Total 28	C 10	N 5	O 11	P 2	0
69	GB	1	Total 28	C 10	N 5	O 11	P 2	0
69	GD	1	Total 28	C 10	N 5	O 11	P 2	0
69	GF	1	Total 28	C 10	N 5	O 11	P 2	0
69	GH	1	Total 28	C 10	N 5	O 11	P 2	0
69	GJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	GL	1	Total 28	C 10	N 5	O 11	P 2	0
69	GN	1	Total 28	C 10	N 5	O 11	P 2	0
69	HB	1	Total 28	C 10	N 5	O 11	P 2	0
69	HD	1	Total 28	C 10	N 5	O 11	P 2	0
69	HF	1	Total 28	C 10	N 5	O 11	P 2	0
69	HH	1	Total 28	C 10	N 5	O 11	P 2	0
69	HJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	HL	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	
69	HN	1	28	10	5	11	2	0
69	IB	1	28	10	5	11	2	0
69	ID	1	28	10	5	11	2	0
69	IF	1	28	10	5	11	2	0
69	IH	1	28	10	5	11	2	0
69	IJ	1	28	10	5	11	2	0
69	IL	1	28	10	5	11	2	0
69	IN	1	28	10	5	11	2	0
69	JB	1	28	10	5	11	2	0
69	JD	1	28	10	5	11	2	0
69	JF	1	28	10	5	11	2	0
69	JH	1	28	10	5	11	2	0
69	JJ	1	28	10	5	11	2	0
69	JL	1	28	10	5	11	2	0
69	JN	1	28	10	5	11	2	0
69	KB	1	28	10	5	11	2	0
69	KD	1	28	10	5	11	2	0
69	KF	1	28	10	5	11	2	0
69	KH	1	28	10	5	11	2	0
69	KJ	1	28	10	5	11	2	0
69	KL	1	28	10	5	11	2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
69	KN	1	Total 28	C 10	N 5	O 11	P 2	0
69	LB	1	Total 28	C 10	N 5	O 11	P 2	0
69	LD	1	Total 28	C 10	N 5	O 11	P 2	0
69	LF	1	Total 28	C 10	N 5	O 11	P 2	0
69	LH	1	Total 28	C 10	N 5	O 11	P 2	0
69	LJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	LL	1	Total 28	C 10	N 5	O 11	P 2	0
69	LN	1	Total 28	C 10	N 5	O 11	P 2	0
69	MB	1	Total 28	C 10	N 5	O 11	P 2	0
69	MD	1	Total 28	C 10	N 5	O 11	P 2	0
69	MF	1	Total 28	C 10	N 5	O 11	P 2	0
69	MH	1	Total 28	C 10	N 5	O 11	P 2	0
69	MJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	ML	1	Total 28	C 10	N 5	O 11	P 2	0
69	MN	1	Total 28	C 10	N 5	O 11	P 2	0
69	N0	1	Total 28	C 10	N 5	O 11	P 2	0
69	NB	1	Total 28	C 10	N 5	O 11	P 2	0
69	ND	1	Total 28	C 10	N 5	O 11	P 2	0
69	NF	1	Total 28	C 10	N 5	O 11	P 2	0
69	NH	1	Total 28	C 10	N 5	O 11	P 2	0
69	NJ	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	
69	NL	1	28	10	5	11	2	0
69	O0	1	28	10	5	11	2	0
69	OB	1	28	10	5	11	2	0
69	OD	1	28	10	5	11	2	0
69	OF	1	28	10	5	11	2	0
69	OH	1	28	10	5	11	2	0
69	OJ	1	28	10	5	11	2	0
69	OL	1	28	10	5	11	2	0
69	PB	1	28	10	5	11	2	0
69	PD	1	28	10	5	11	2	0
69	PF	1	28	10	5	11	2	0
69	PH	1	28	10	5	11	2	0
69	PJ	1	28	10	5	11	2	0
69	PL	1	28	10	5	11	2	0
69	QB	1	28	10	5	11	2	0
69	QD	1	28	10	5	11	2	0
69	QF	1	28	10	5	11	2	0
69	QH	1	28	10	5	11	2	0
69	QJ	1	28	10	5	11	2	0
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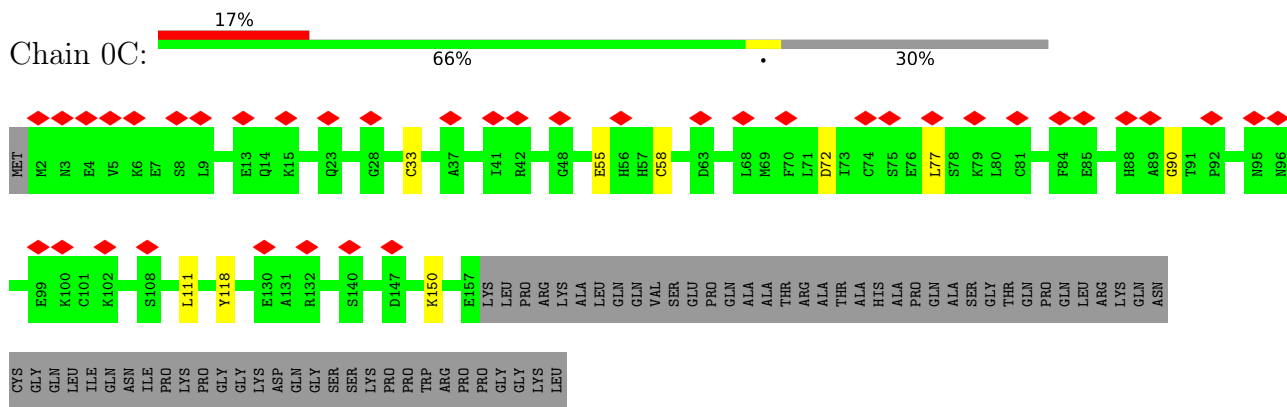
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69	RH	1	Total 28	C 10	N 5	O 11	P 2	0
69	RJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	RL	1	Total 28	C 10	N 5	O 11	P 2	0
69	SB	1	Total 28	C 10	N 5	O 11	P 2	0
69	SD	1	Total 28	C 10	N 5	O 11	P 2	0
69	SF	1	Total 28	C 10	N 5	O 11	P 2	0
69	SH	1	Total 28	C 10	N 5	O 11	P 2	0
69	SJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	SL	1	Total 28	C 10	N 5	O 11	P 2	0
69	TB	1	Total 28	C 10	N 5	O 11	P 2	0
69	TD	1	Total 28	C 10	N 5	O 11	P 2	0
69	TF	1	Total 28	C 10	N 5	O 11	P 2	0
69	TH	1	Total 28	C 10	N 5	O 11	P 2	0
69	TJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	TL	1	Total 28	C 10	N 5	O 11	P 2	0
69	UB	1	Total 28	C 10	N 5	O 11	P 2	0
69	UD	1	Total 28	C 10	N 5	O 11	P 2	0
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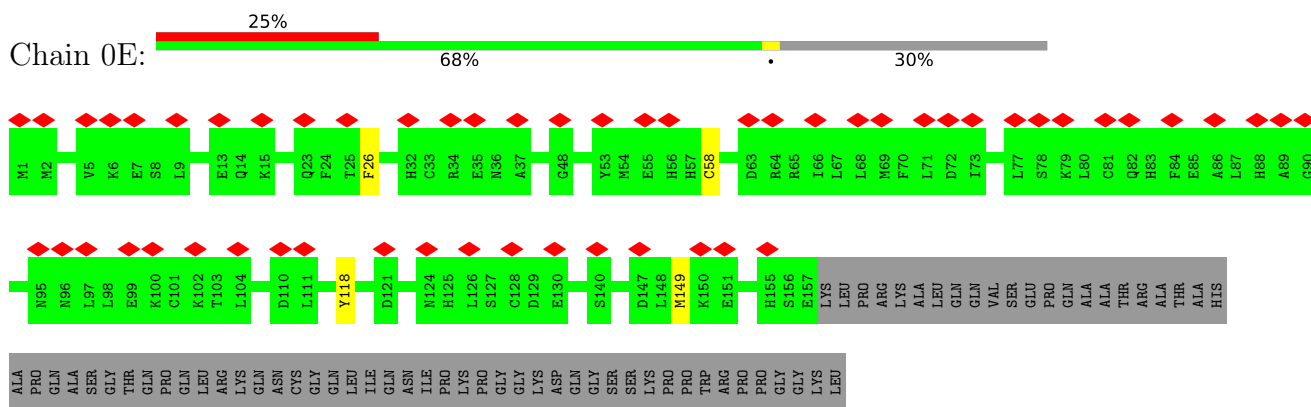
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Mol	Chain	Residues	Atoms					AltConf
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69	UL	1	Total 28	C 10	N 5	O 11	P 2	0
69	UN	1	Total 28	C 10	N 5	O 11	P 2	0
69	VB	1	Total 28	C 10	N 5	O 11	P 2	0
69	VD	1	Total 28	C 10	N 5	O 11	P 2	0
69	VF	1	Total 28	C 10	N 5	O 11	P 2	0
69	VH	1	Total 28	C 10	N 5	O 11	P 2	0
69	VJ	1	Total 28	C 10	N 5	O 11	P 2	0
69	VL	1	Total 28	C 10	N 5	O 11	P 2	0
69	VN	1	Total 28	C 10	N 5	O 11	P 2	0
69	WB	1	Total 28	C 10	N 5	O 11	P 2	0
69	WD	1	Total 28	C 10	N 5	O 11	P 2	0
69	WF	1	Total 28	C 10	N 5	O 11	P 2	0
69	WH	1	Total 28	C 10	N 5	O 11	P 2	0
69	WJ	1	Total 28	C 10	N 5	O 11	P 2	0
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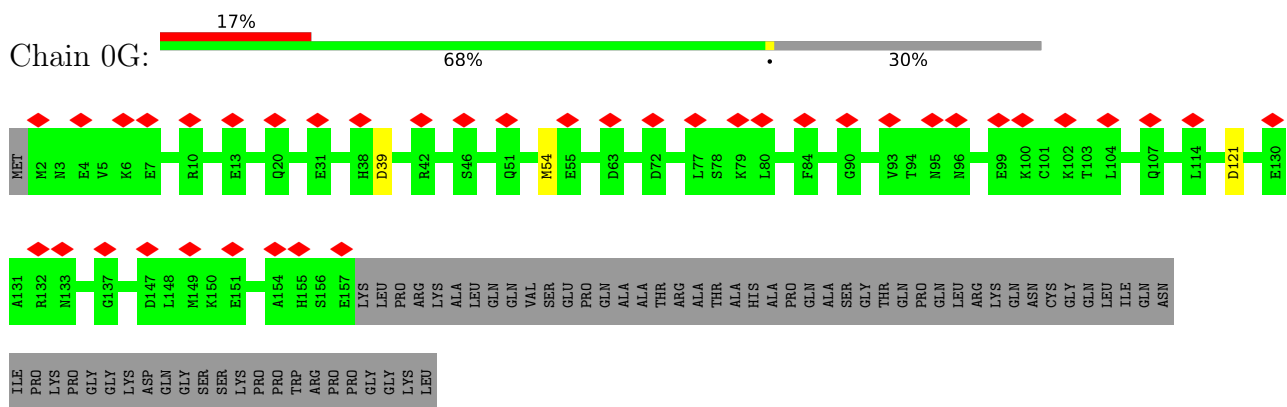




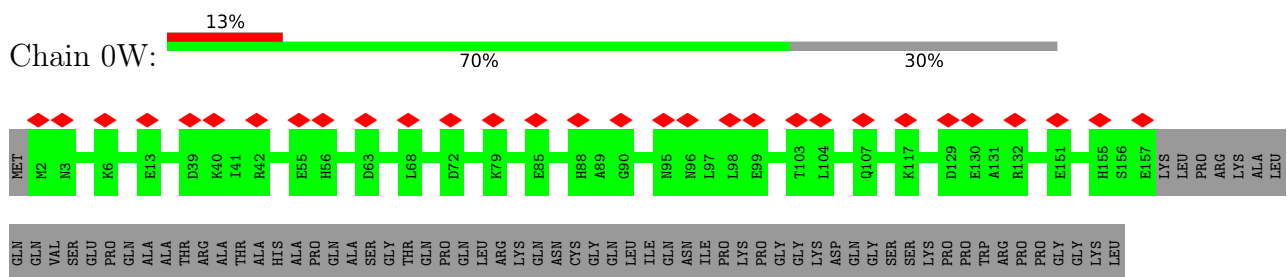
• Molecule 2: Sperm acrosome associated 9



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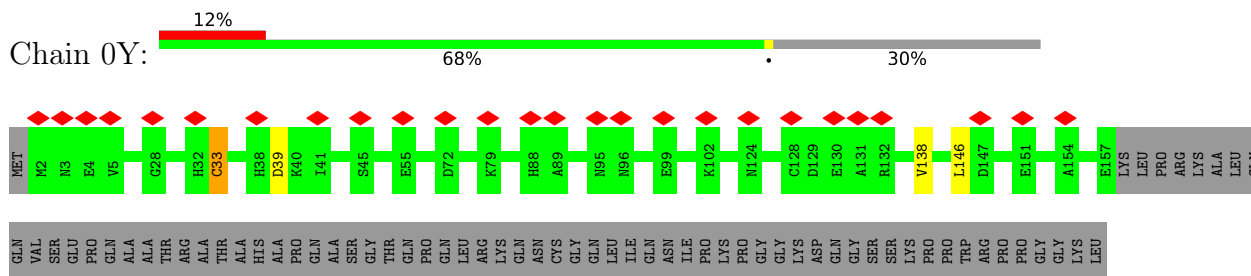


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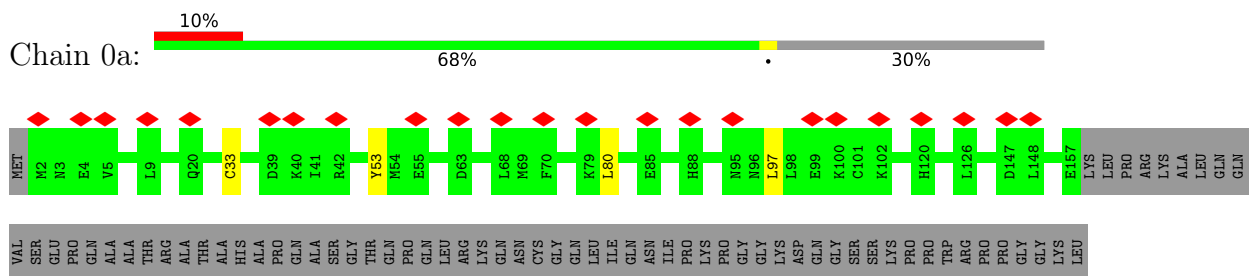


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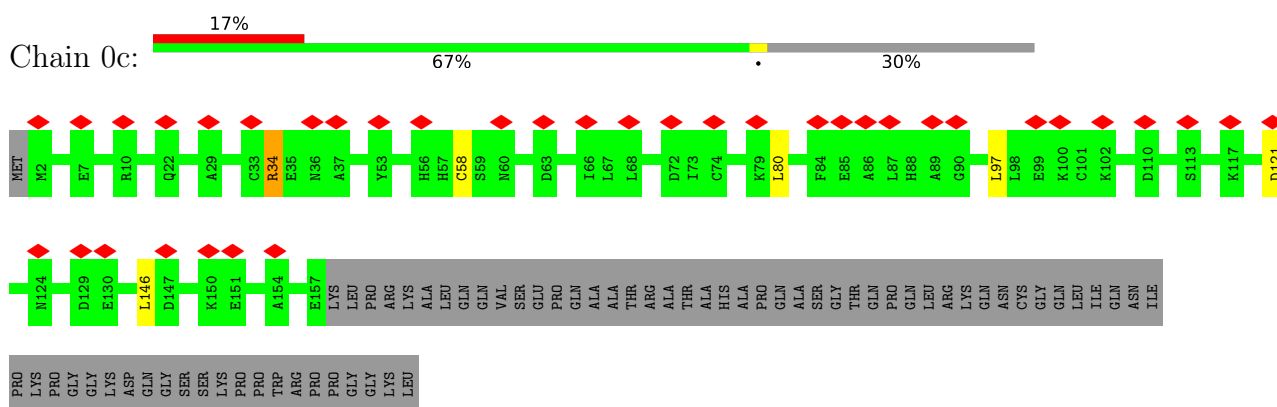




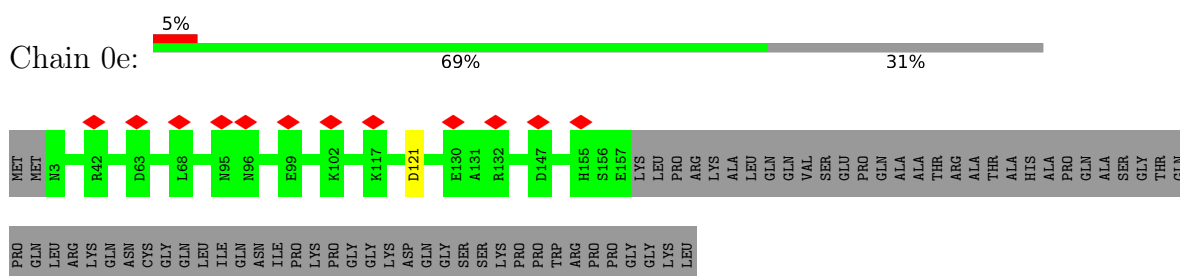
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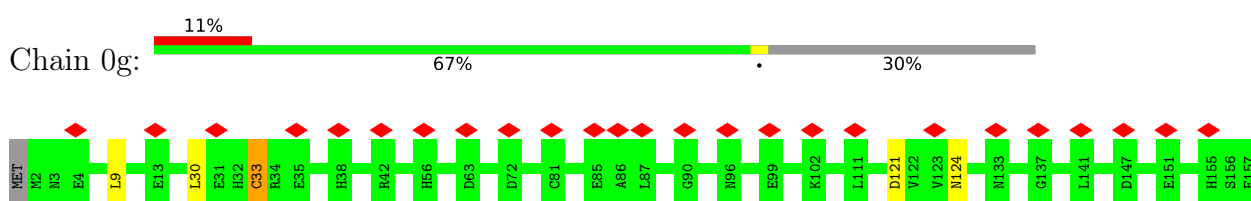
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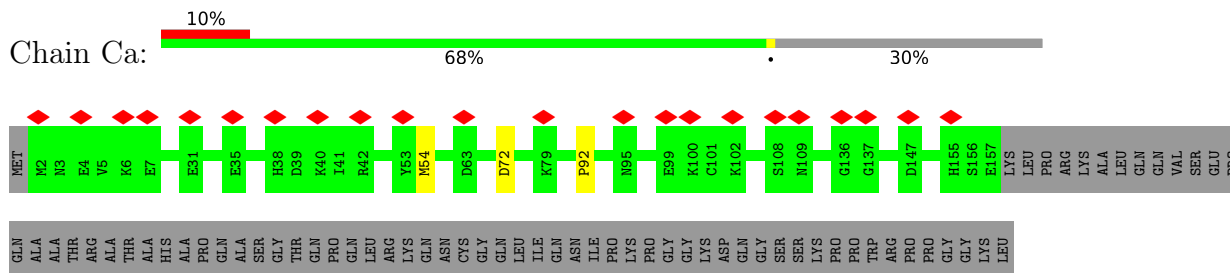
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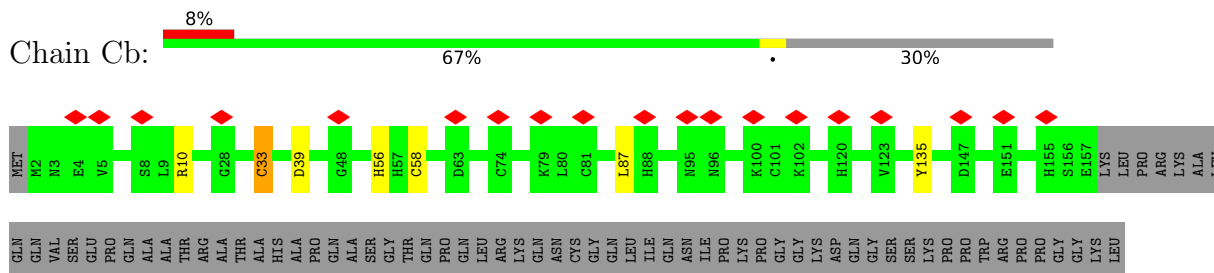




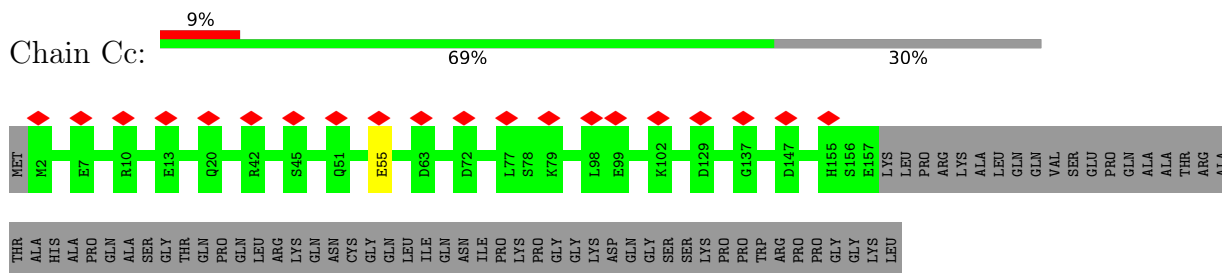
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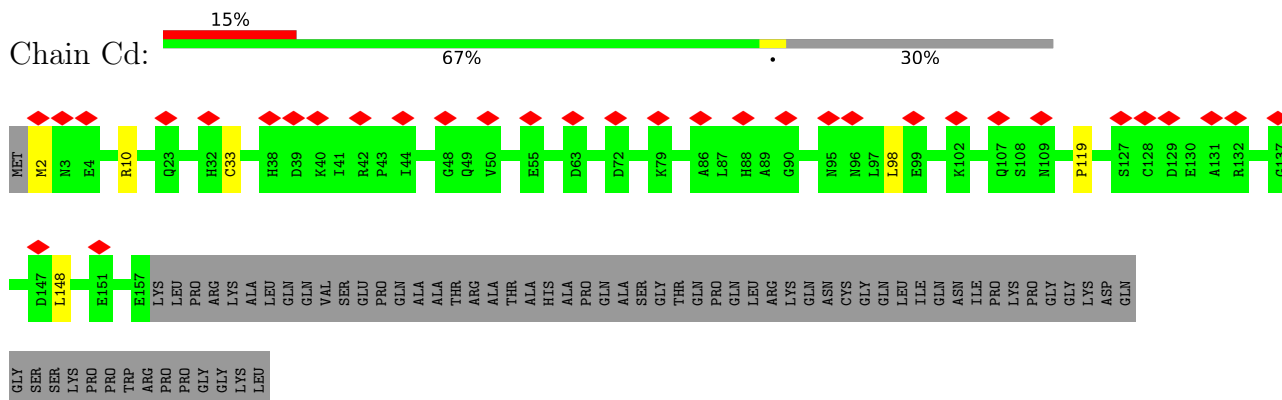
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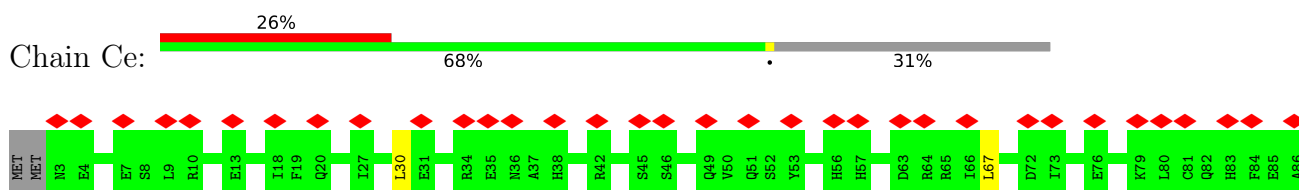
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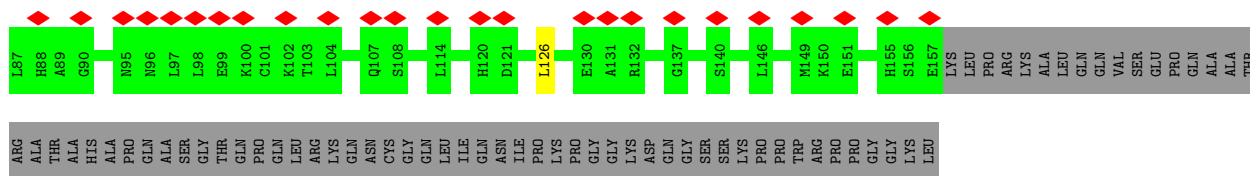


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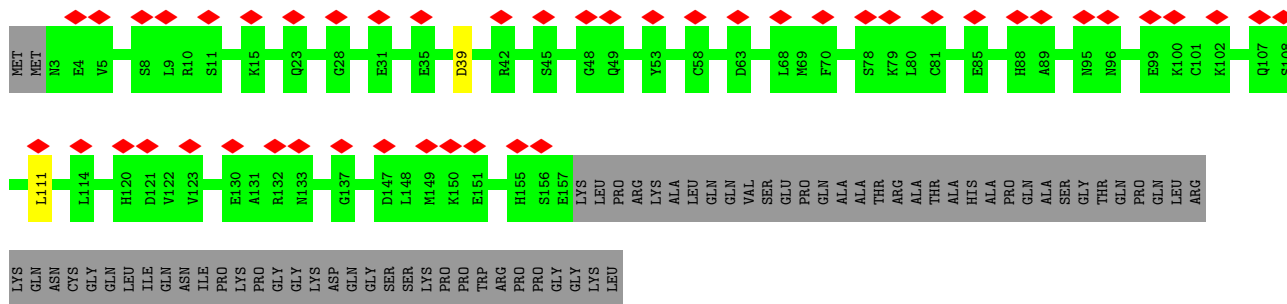


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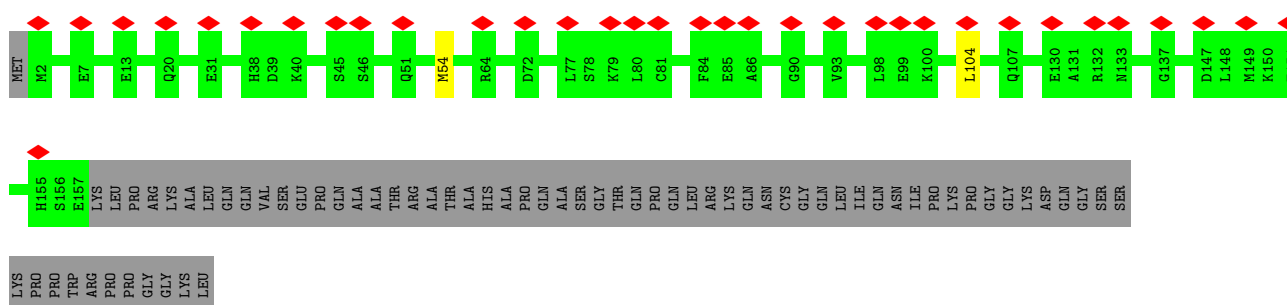




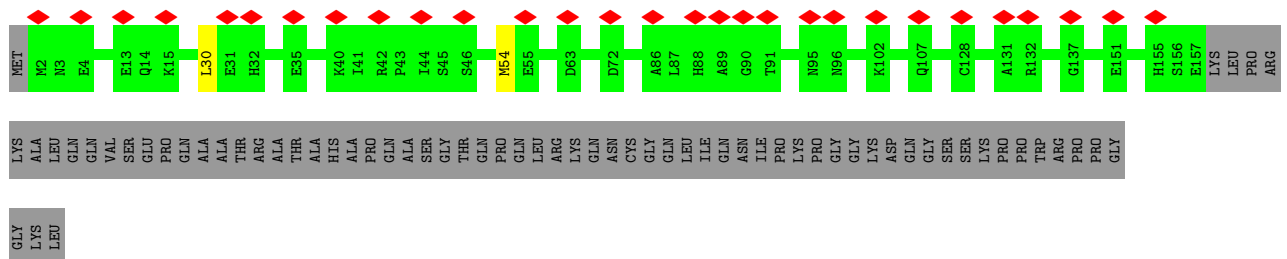
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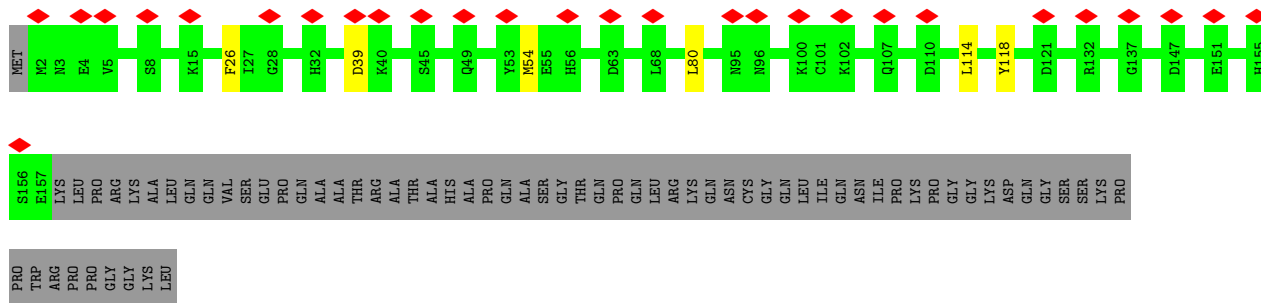


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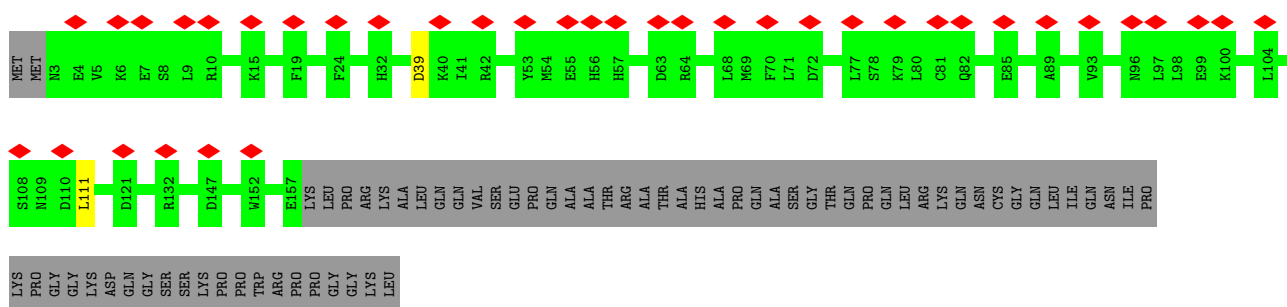


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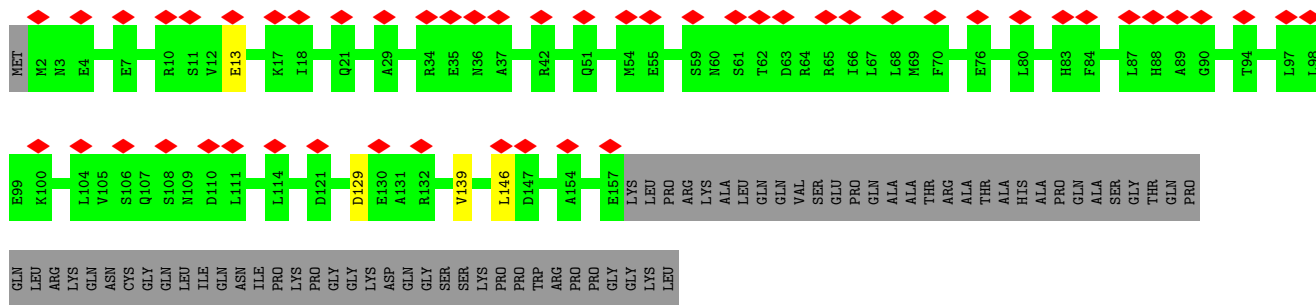




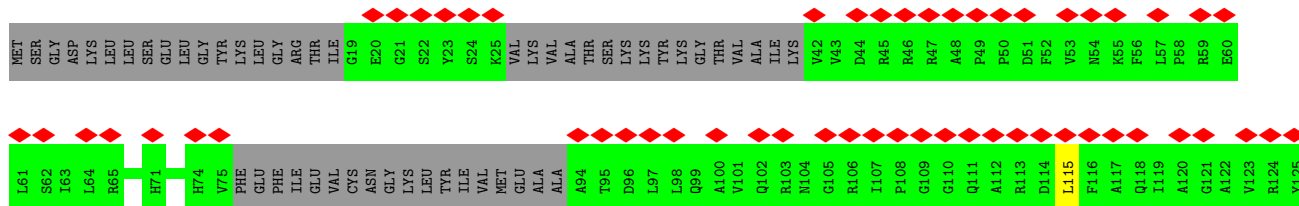
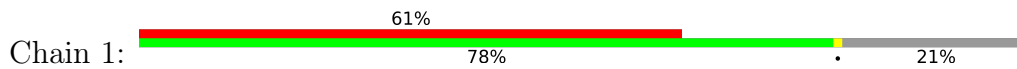
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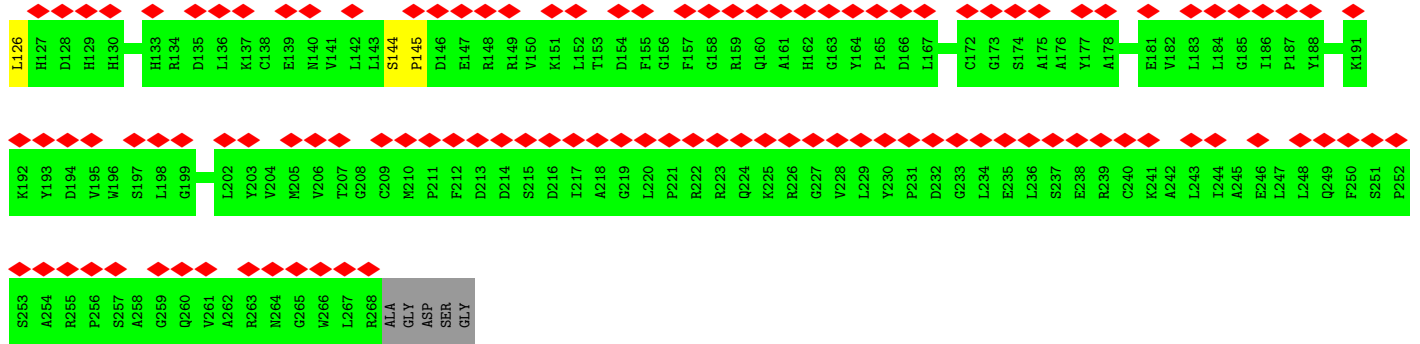


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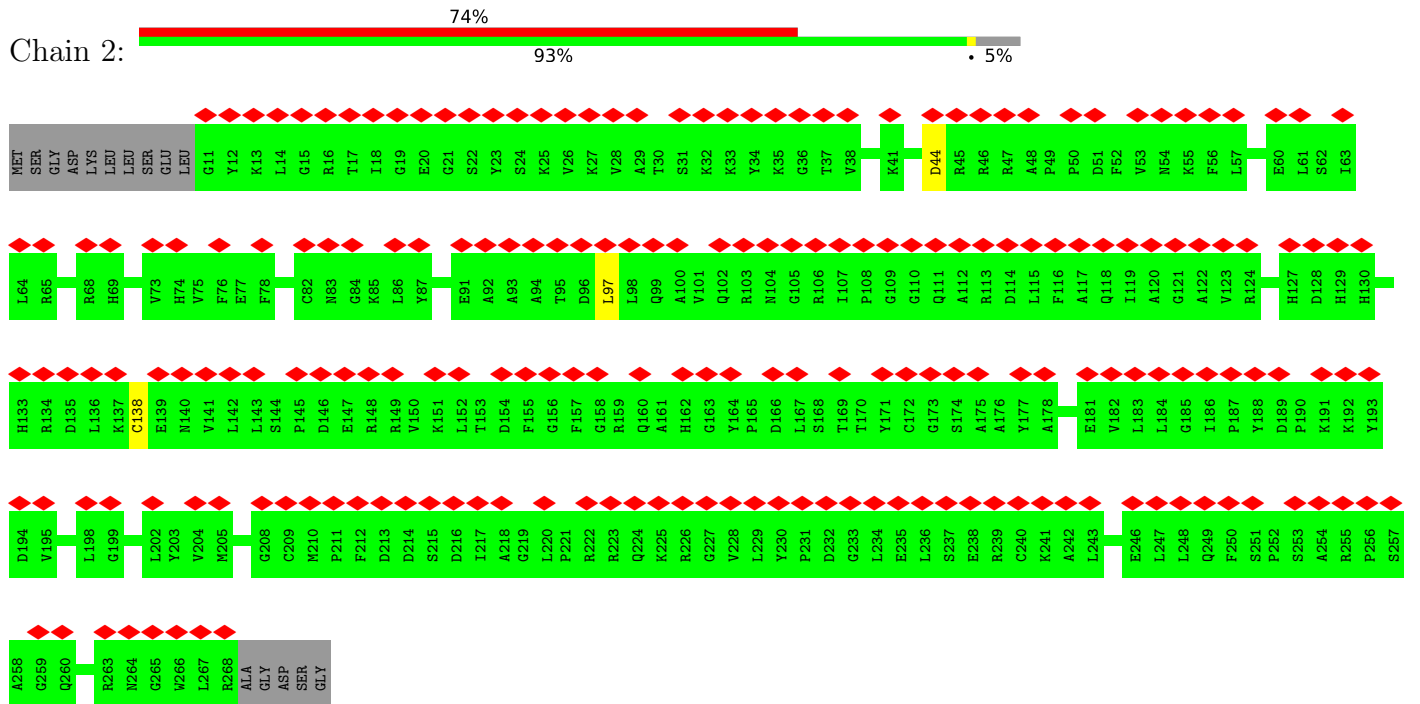


• Molecule 3: Testis specific serine kinase 6



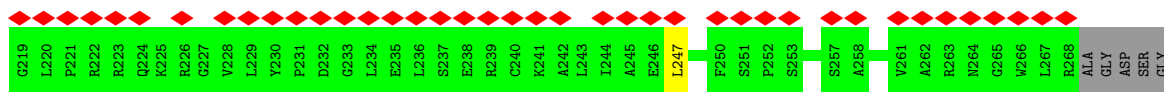


• Molecule 3: Testis specific serine kinase 6

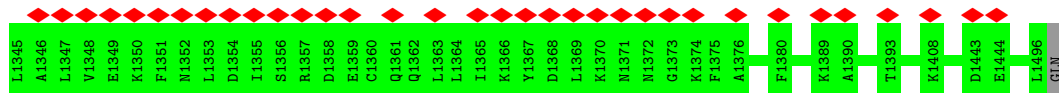
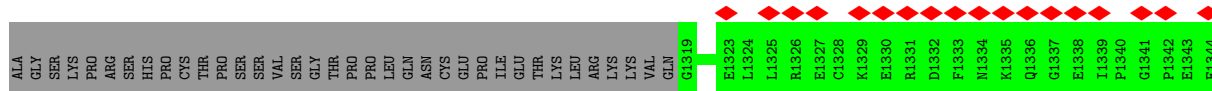


• Molecule 3: Testis specific serine kinase 6

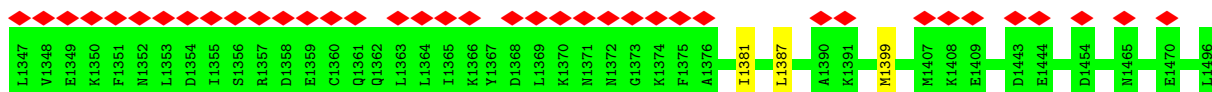
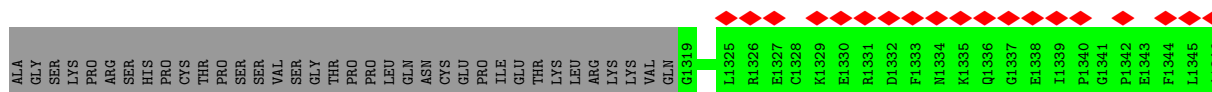




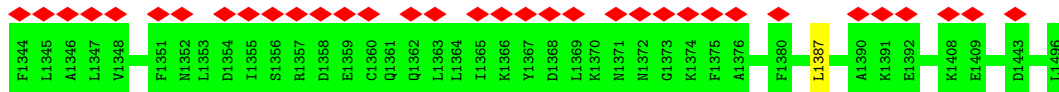
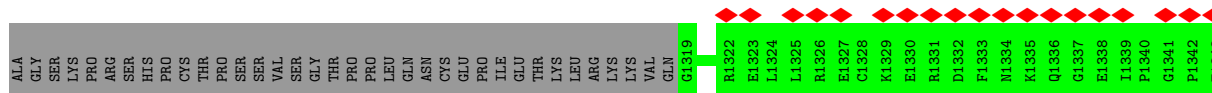
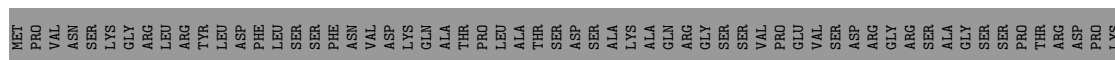
• Molecule 4: EF-hand domain-containing protein



• Molecule 4: EF-hand domain-containing protein



• Molecule 4: EF-hand domain-containing protein



• Molecule 5: ATP6V1F neighbor







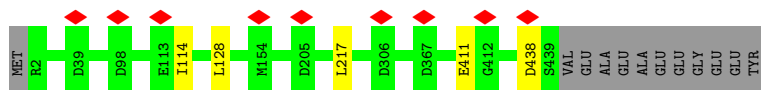






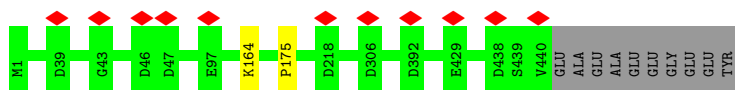


Chain AA:  96%



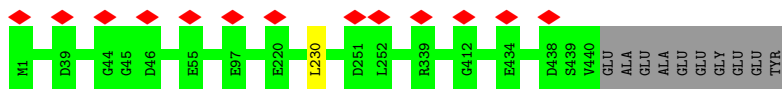
• Molecule 8: Tubulin alpha-3 chain

Chain AC:  97%



• Molecule 8: Tubulin alpha-3 chain

Chain AE:  98%



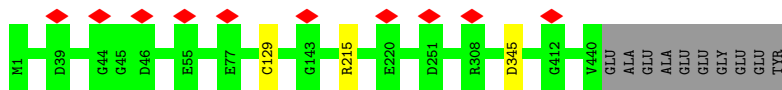
• Molecule 8: Tubulin alpha-3 chain

Chain AG:  97%



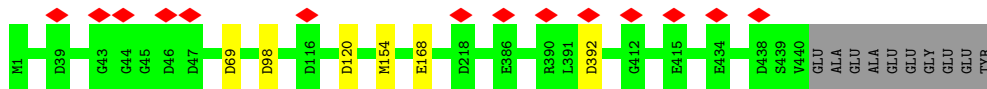
• Molecule 8: Tubulin alpha-3 chain

Chain AI:  97%



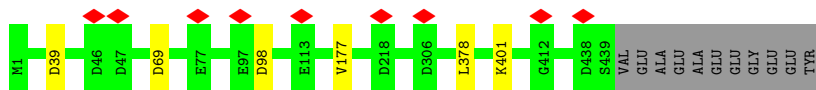
• Molecule 8: Tubulin alpha-3 chain

Chain AK:  96%

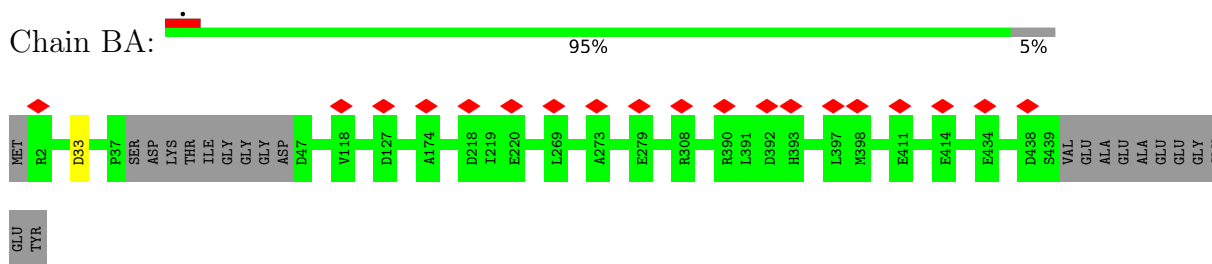


• Molecule 8: Tubulin alpha-3 chain

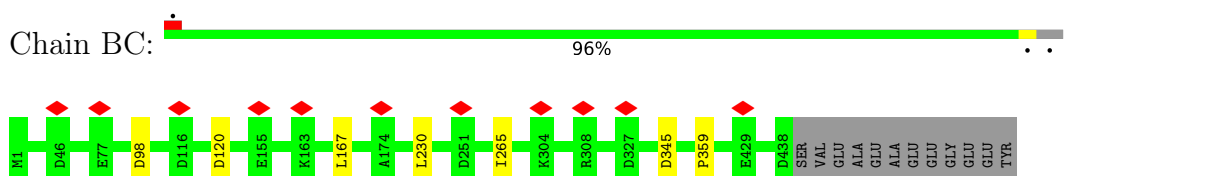
Chain AM:  96%



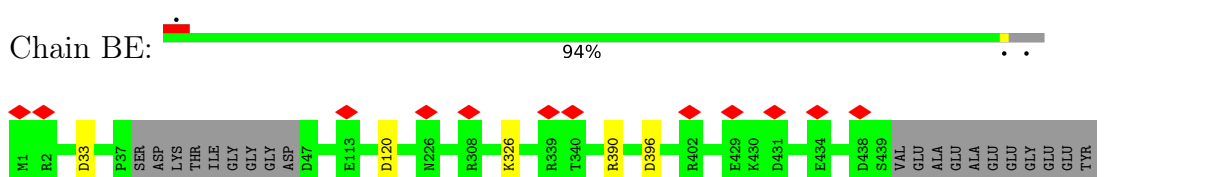
• Molecule 8: Tubulin alpha-3 chain



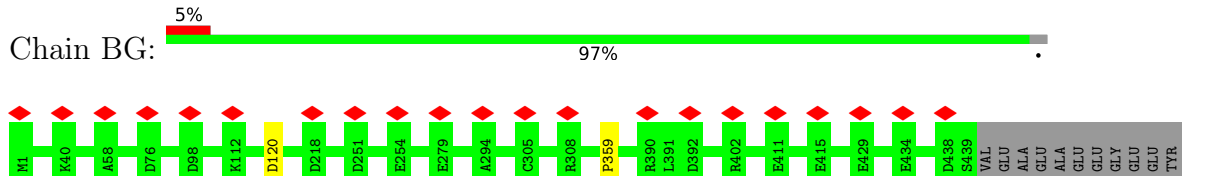
• Molecule 8: Tubulin alpha-3 chain



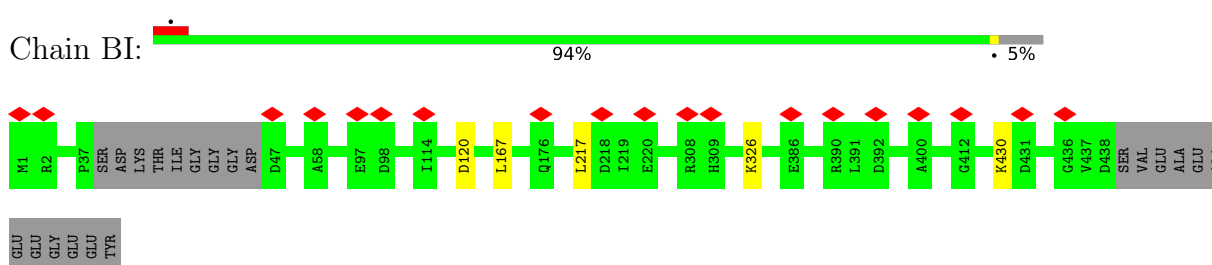
• Molecule 8: Tubulin alpha-3 chain



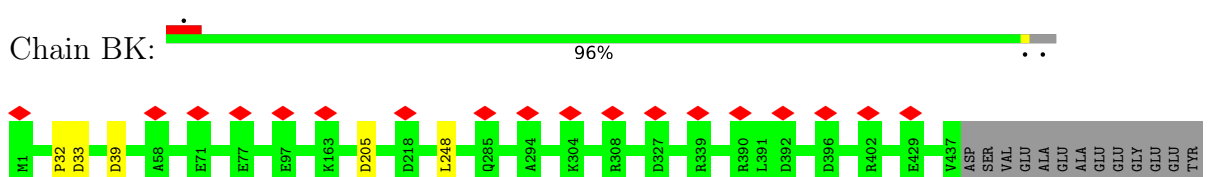
• Molecule 8: Tubulin alpha-3 chain



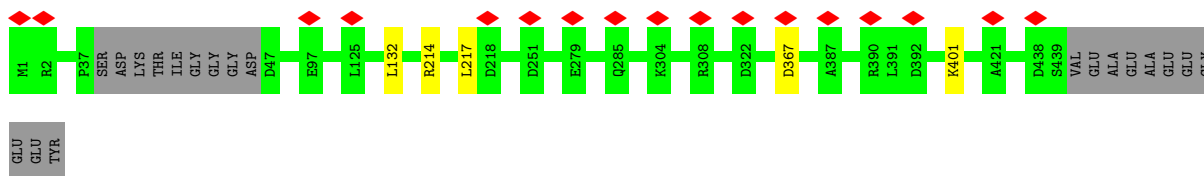
• Molecule 8: Tubulin alpha-3 chain



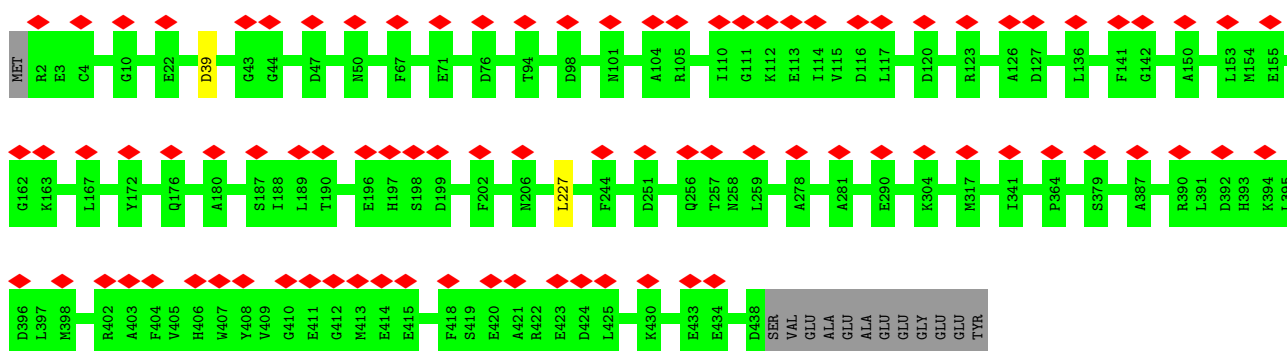
• Molecule 8: Tubulin alpha-3 chain



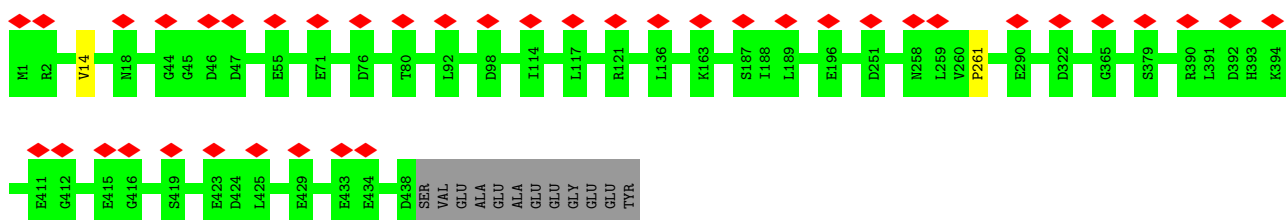
• Molecule 8: Tubulin alpha-3 chain



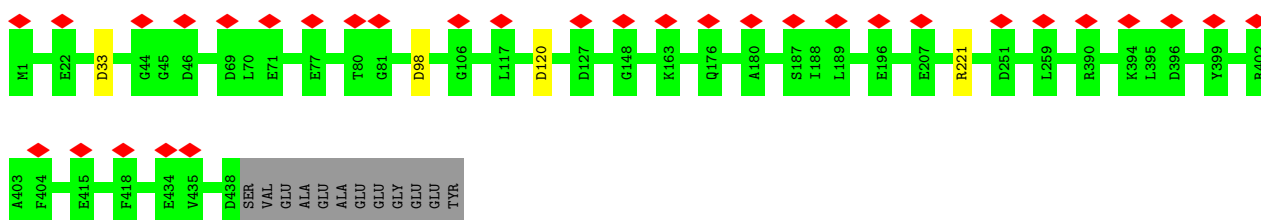
• Molecule 8: Tubulin alpha-3 chain



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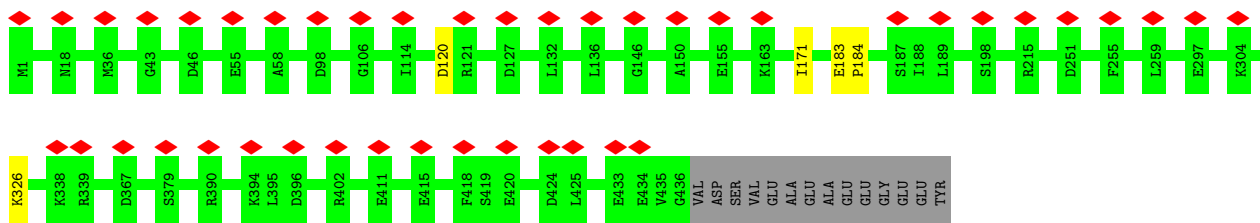
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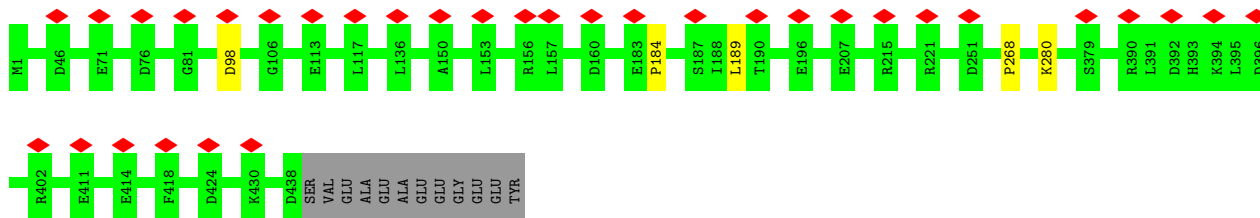
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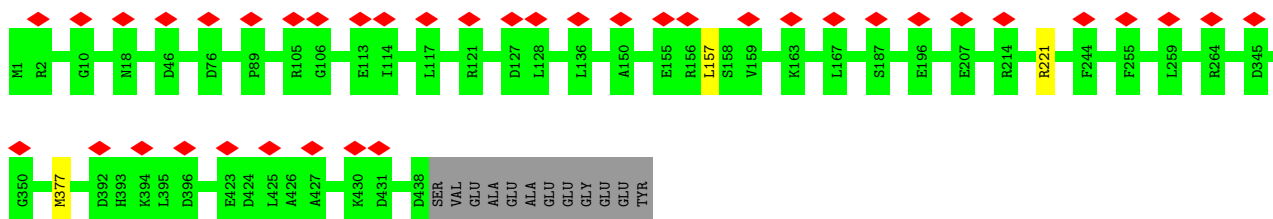




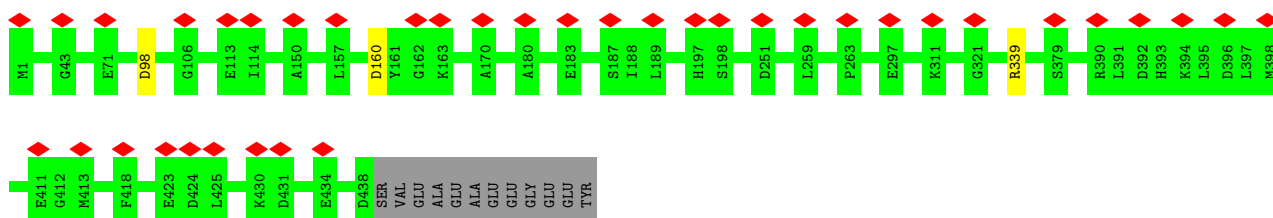
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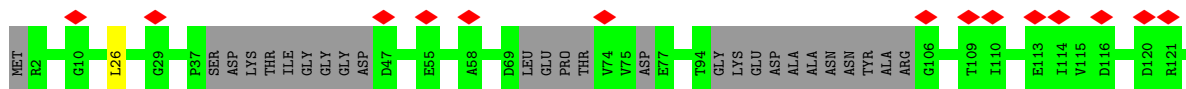
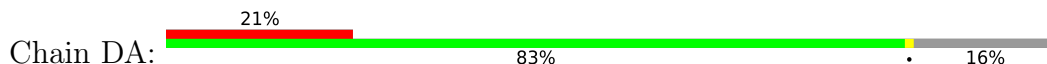
• Molecule 8: Tubulin alpha-3 chain

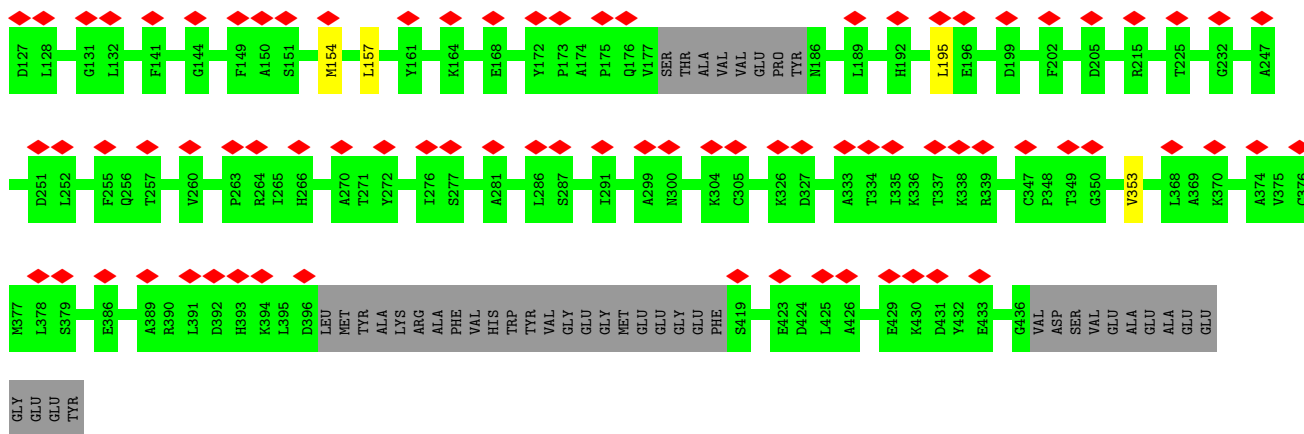


• Molecule 8: Tubulin alpha-3 chain

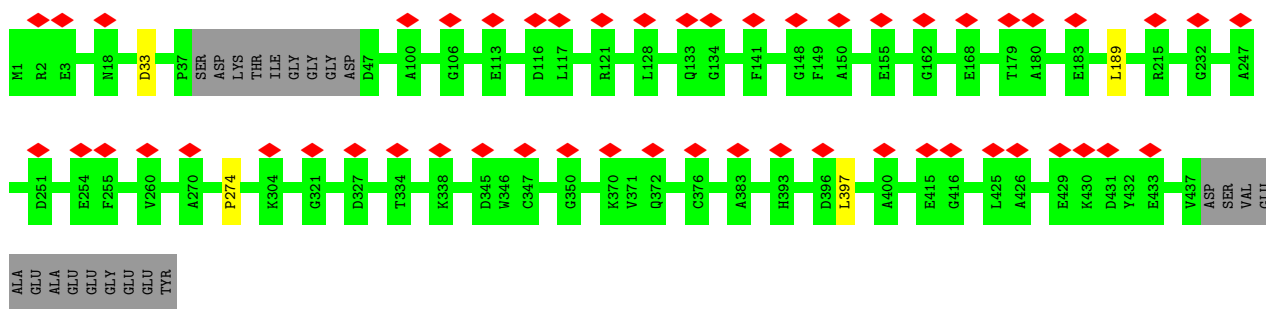


• Molecule 8: Tubulin alpha-3 chain

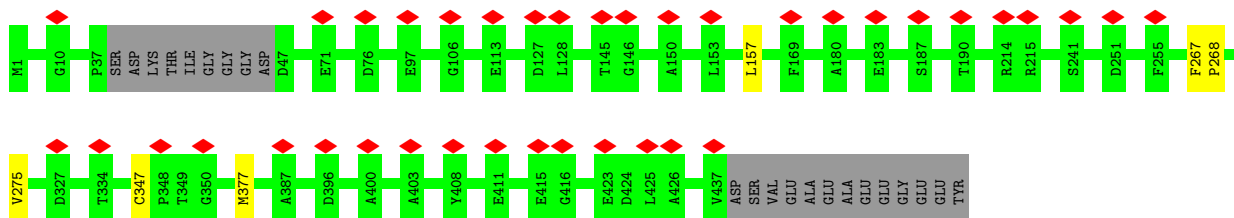




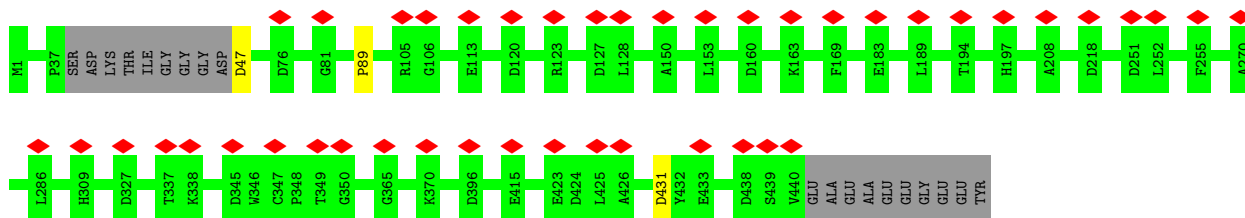
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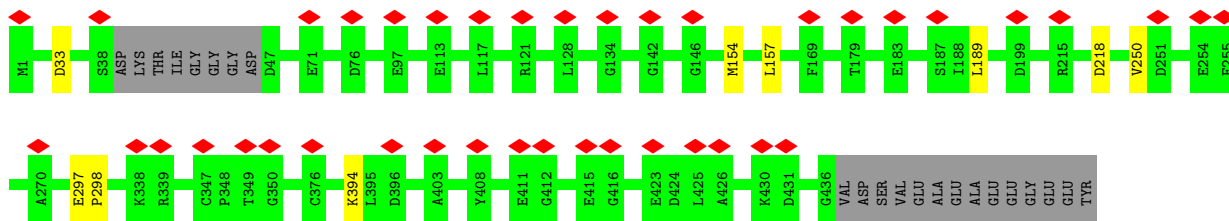
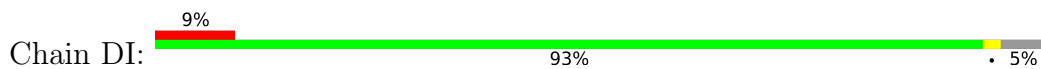
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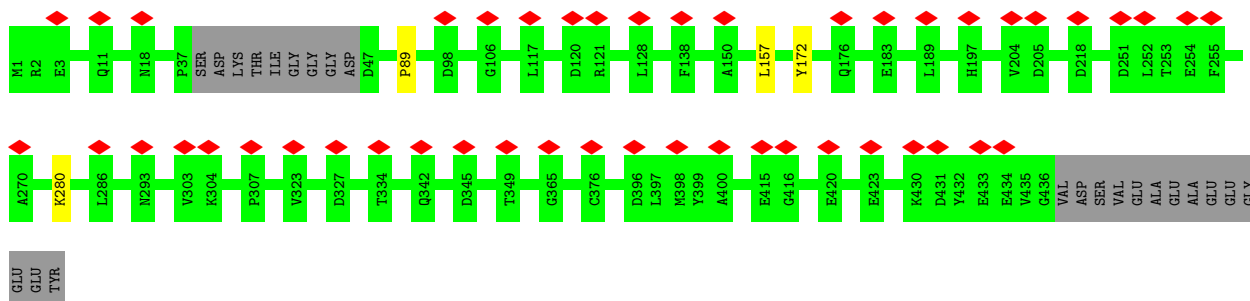
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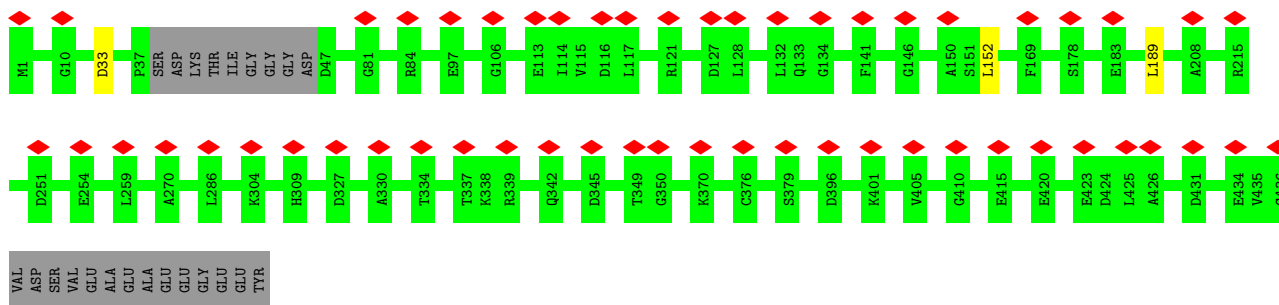
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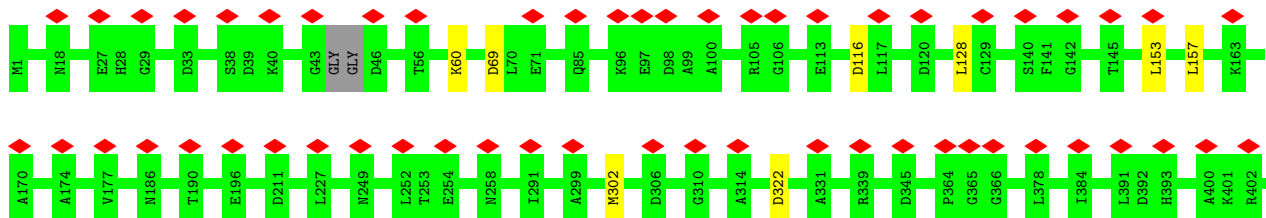
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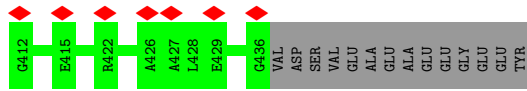


• Molecule 8: Tubulin alpha-3 chain

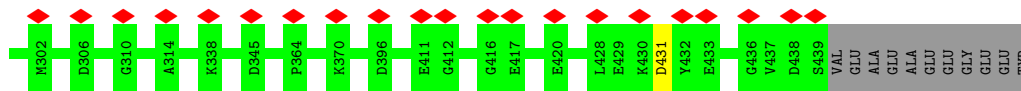
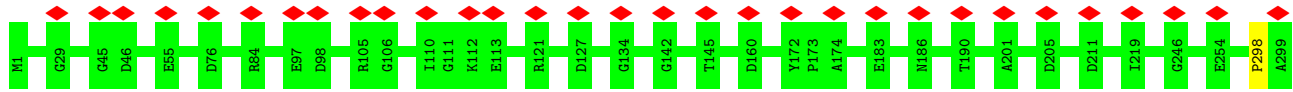


• Molecule 8: Tubulin alpha-3 chain

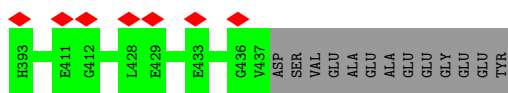
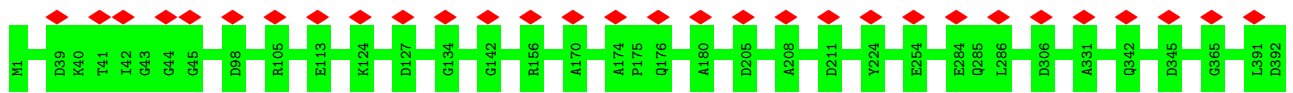




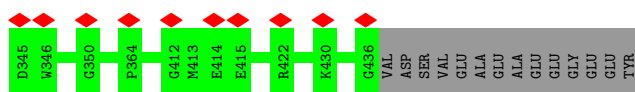
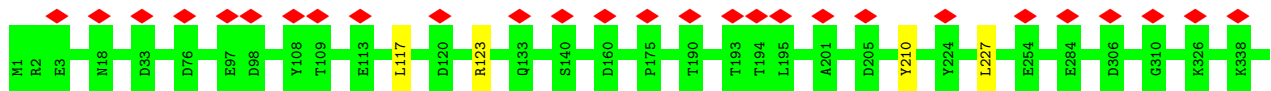
• Molecule 8: Tubulin alpha-3 chain



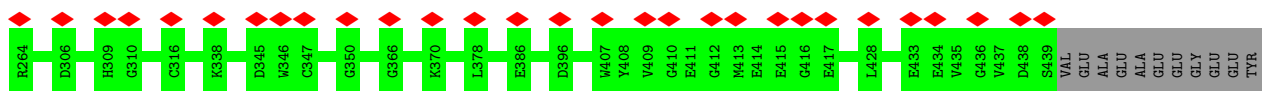
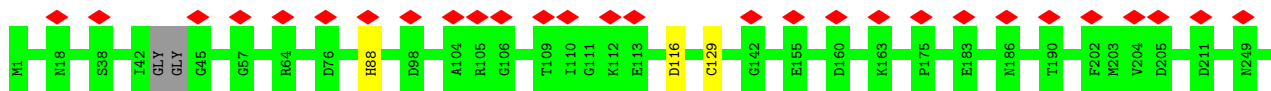
• Molecule 8: Tubulin alpha-3 chain



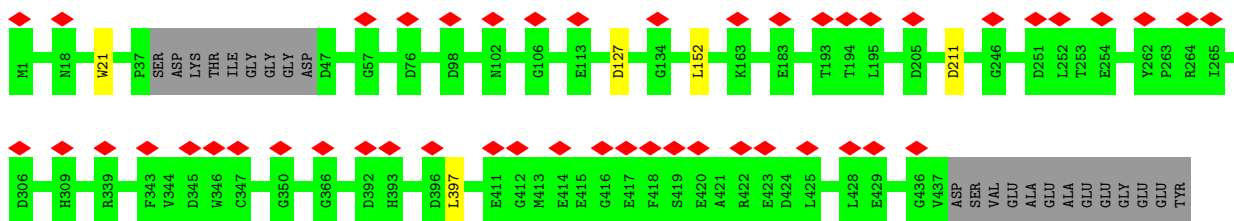
• Molecule 8: Tubulin alpha-3 chain



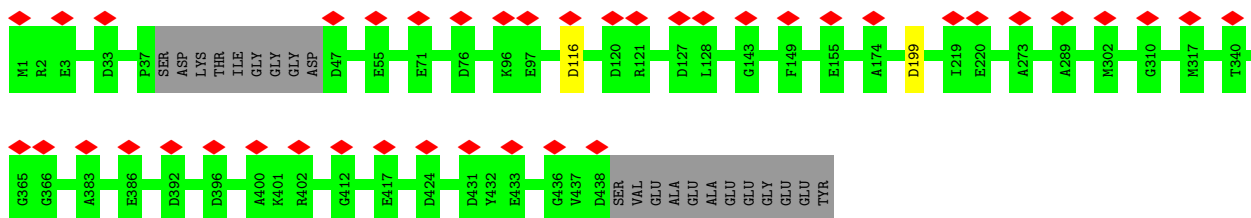
• Molecule 8: Tubulin alpha-3 chain



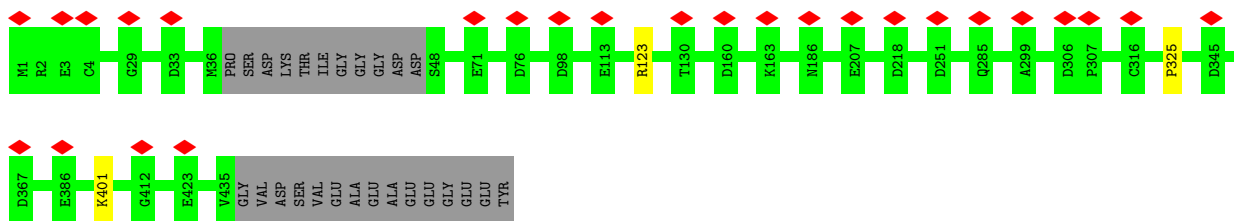
• Molecule 8: Tubulin alpha-3 chain



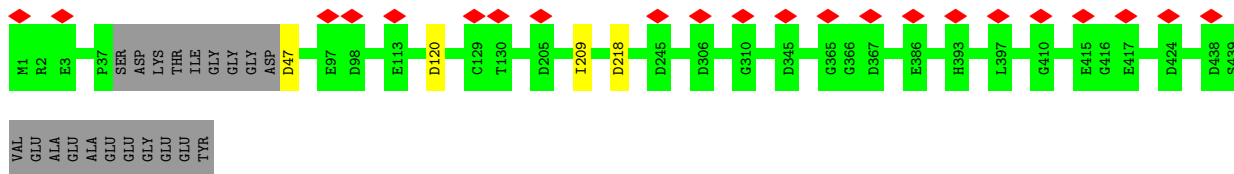
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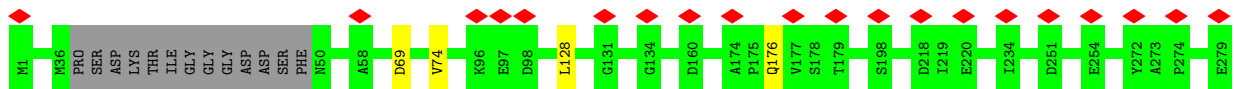
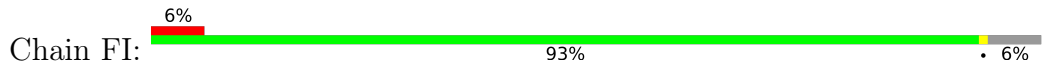
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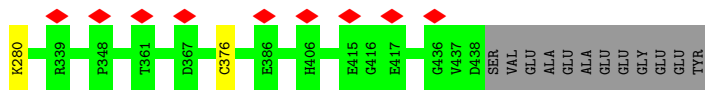


• Molecule 8: Tubulin alpha-3 chain

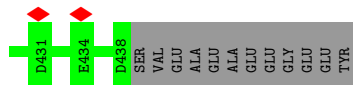
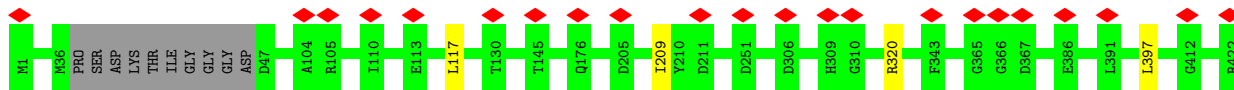


• Molecule 8: Tubulin alpha-3 chain

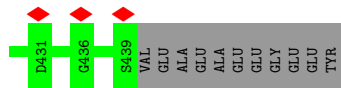
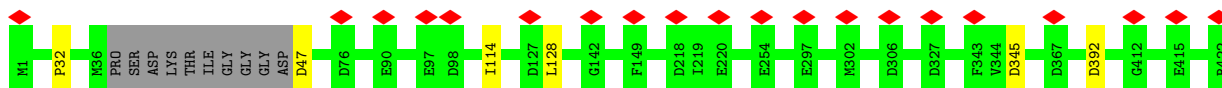




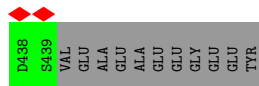
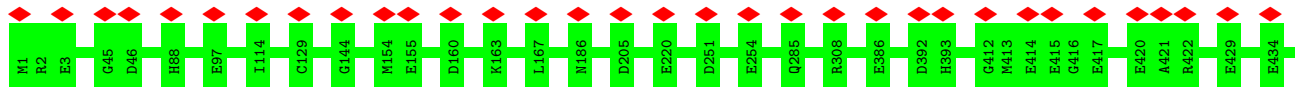
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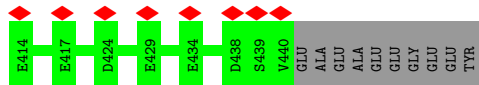
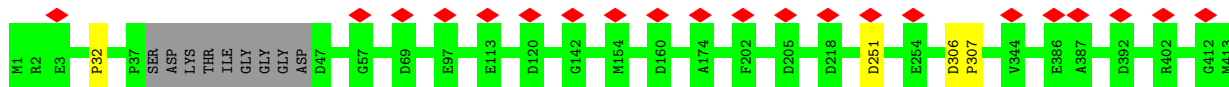
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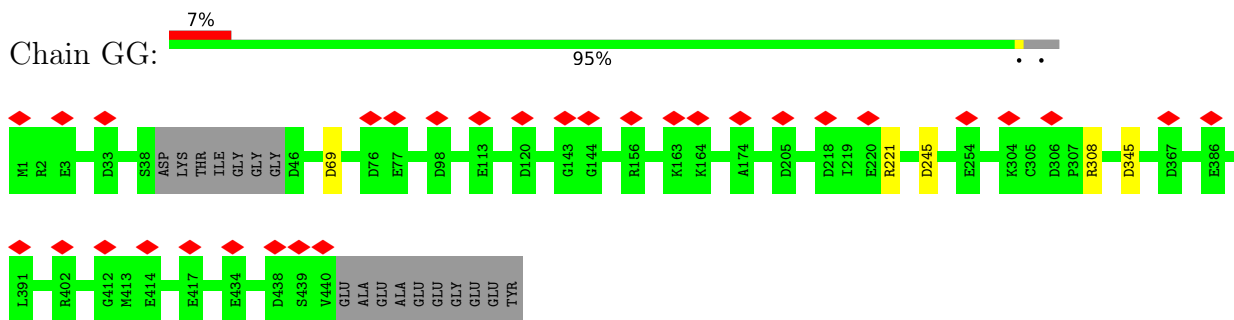
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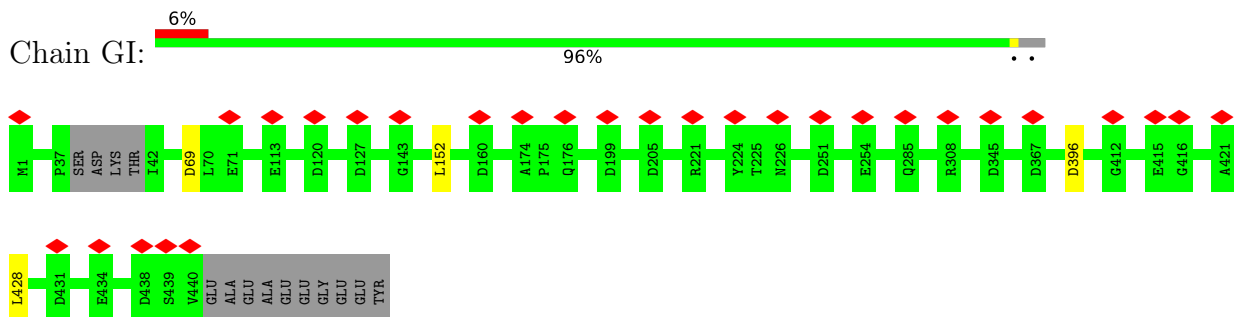
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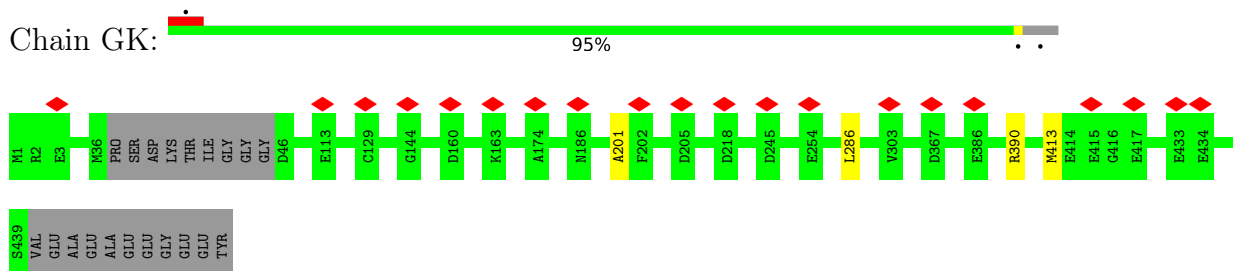
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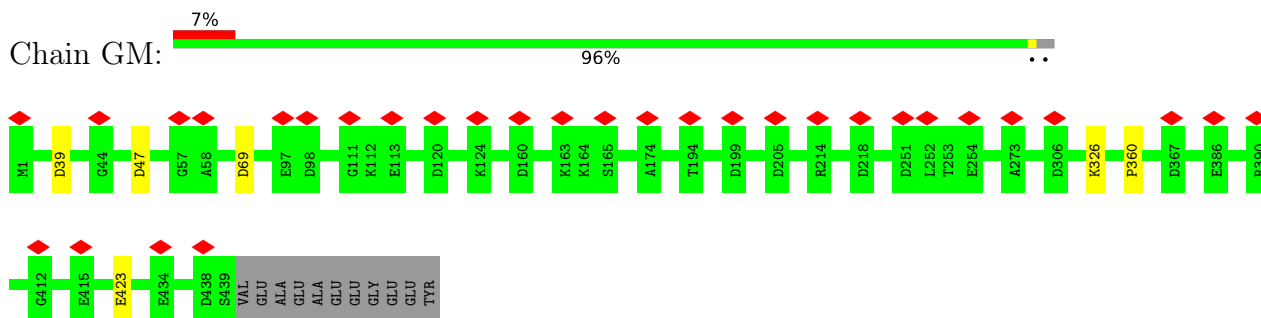
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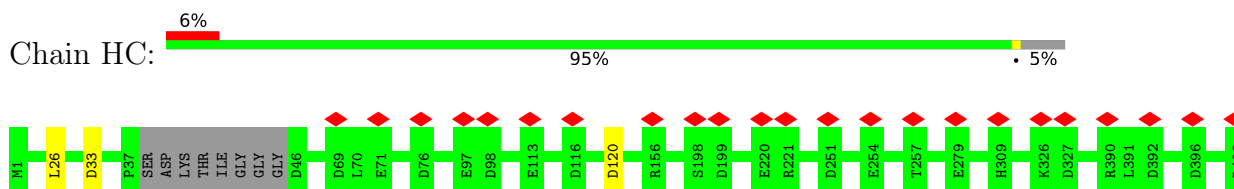
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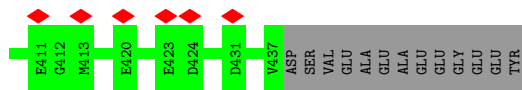


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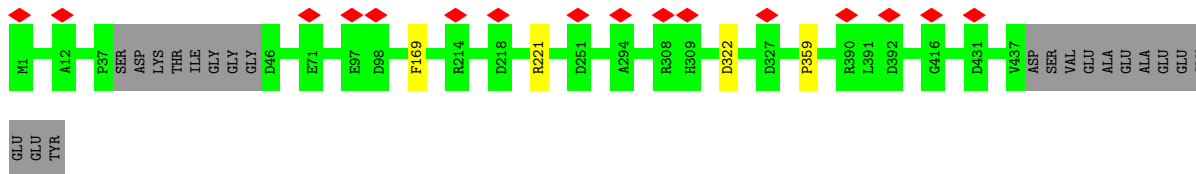


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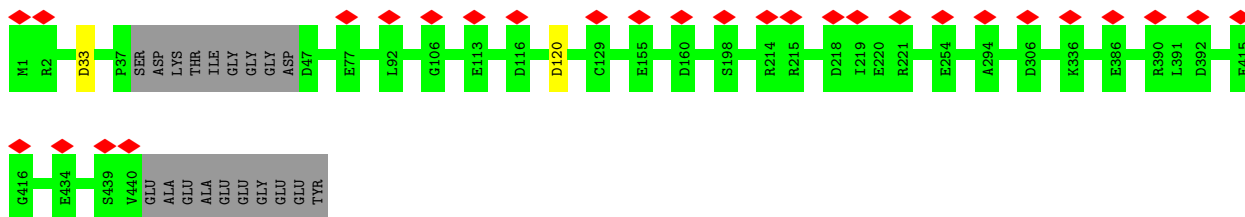




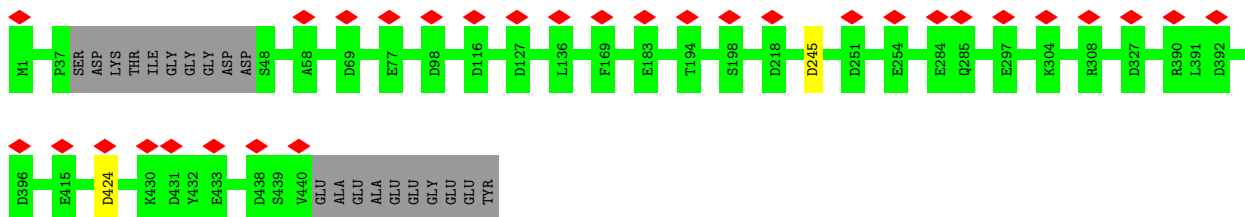
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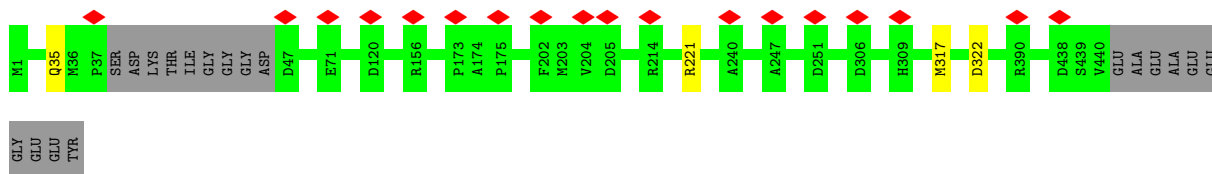
• Molecule 8: Tubulin alpha-3 chain



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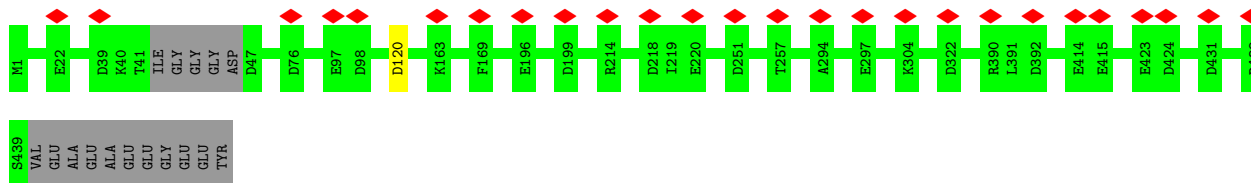
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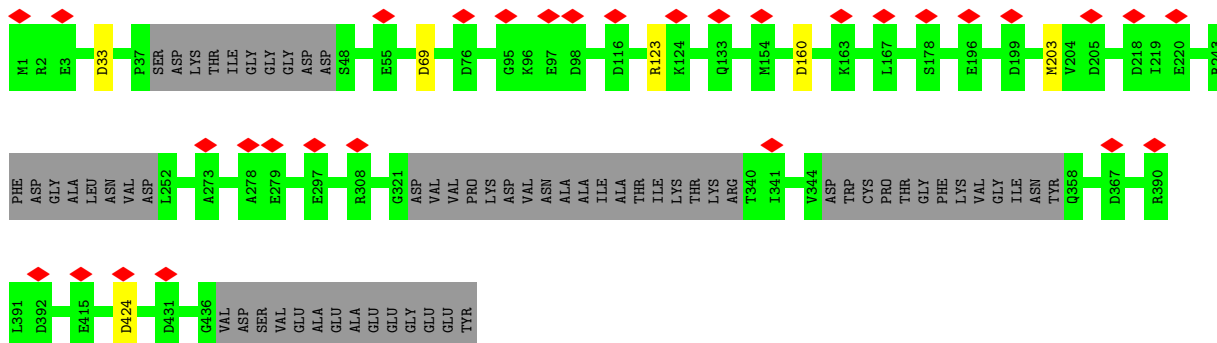
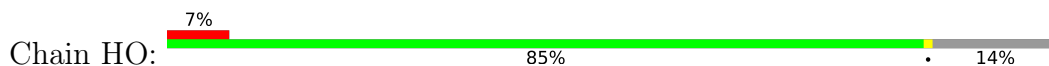
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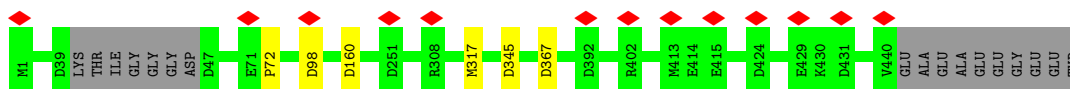




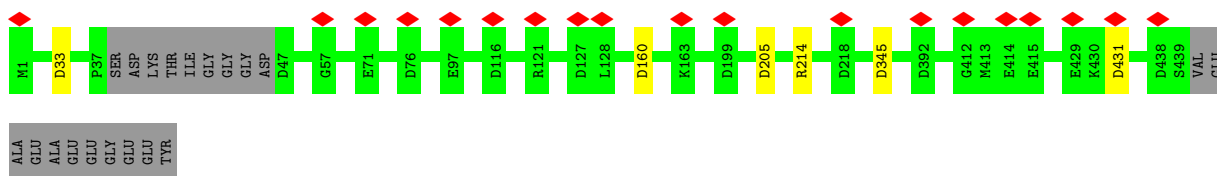
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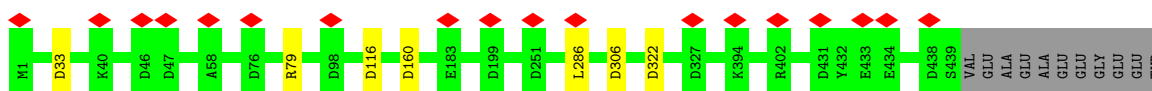
• Molecule 8: Tubulin alpha-3 chain



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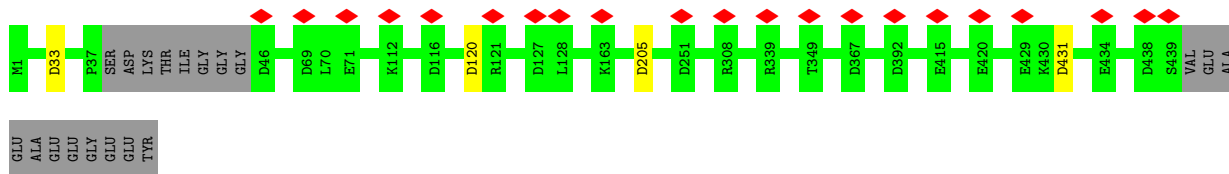


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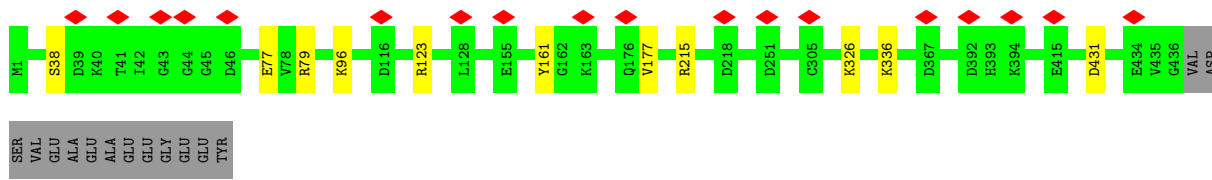


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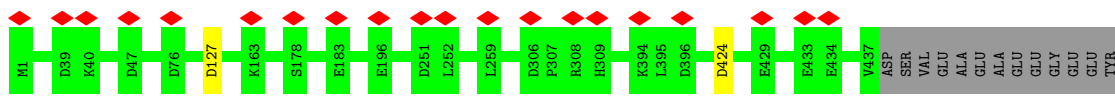




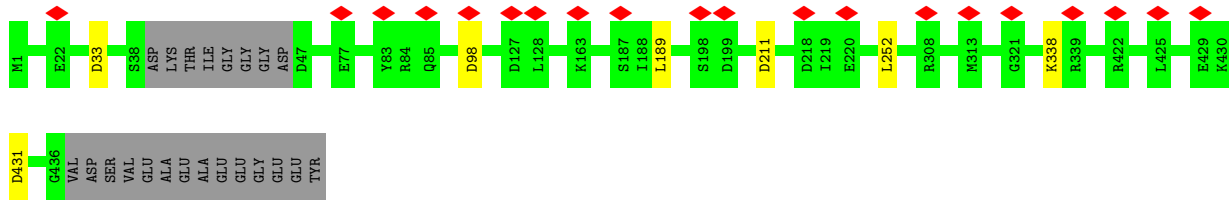
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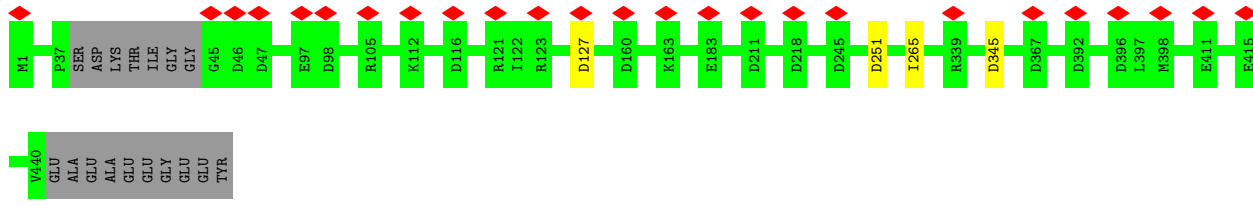
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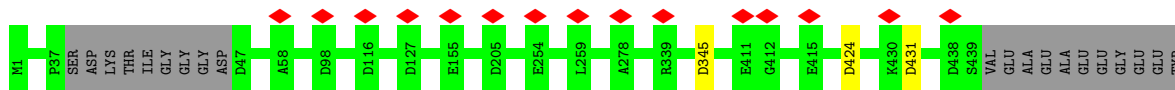


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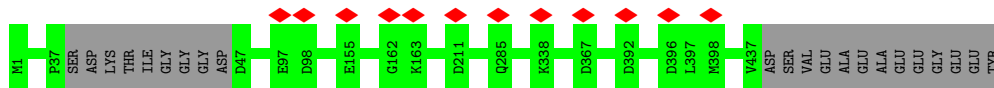


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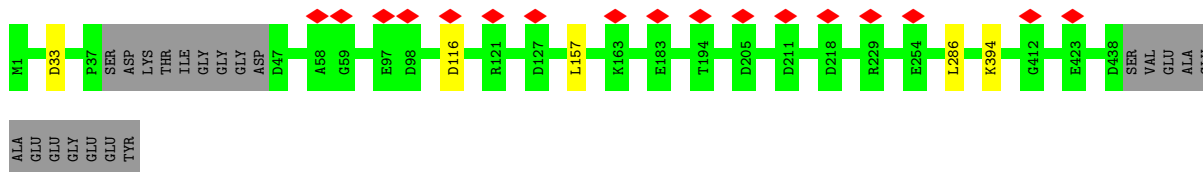




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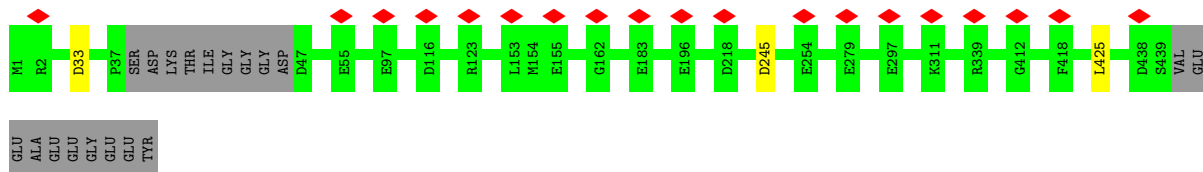
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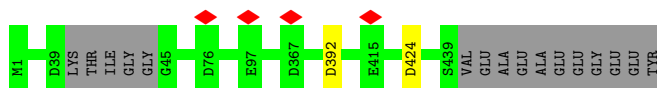
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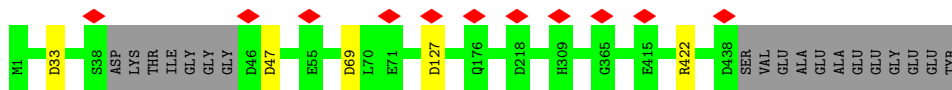


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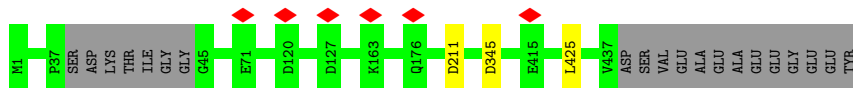


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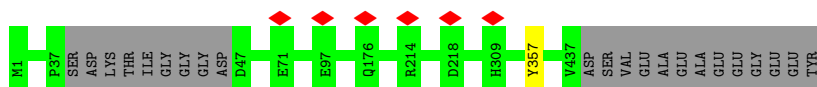




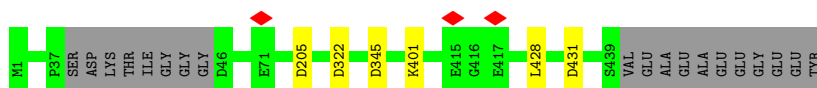
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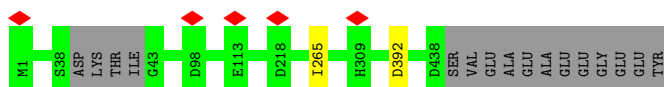
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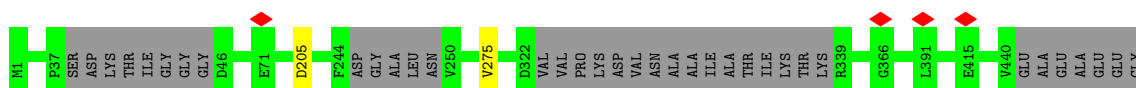
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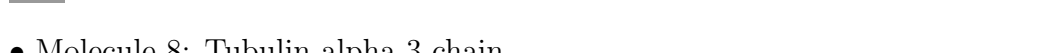
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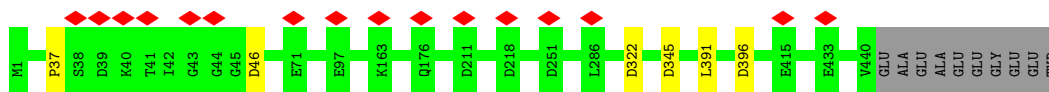


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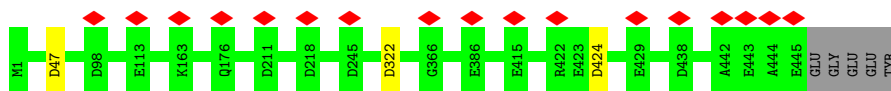
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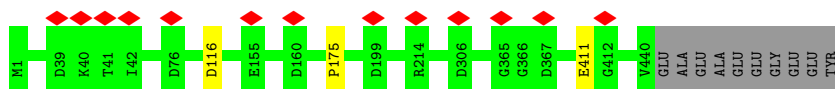
- Molecule 8: Tubulin alpha-3 chain

Chain LE: 98%



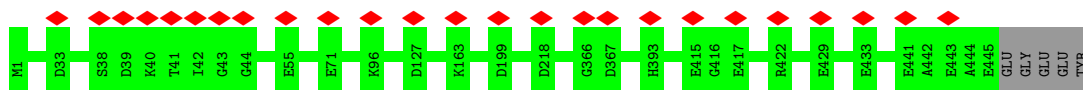
- Molecule 8: Tubulin alpha-3 chain

Chain LG: 97%



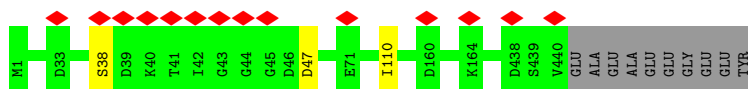
- Molecule 8: Tubulin alpha-3 chain

Chain LI: 99%



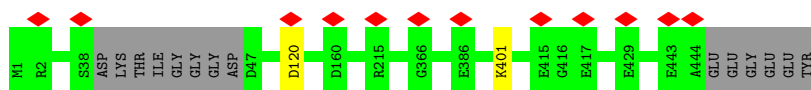
- Molecule 8: Tubulin alpha-3 chain

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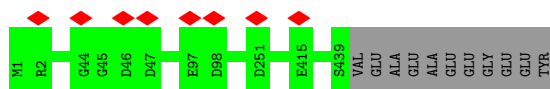
- Molecule 8: Tubulin alpha-3 chain

Chain LM: 96%



- Molecule 8: Tubulin alpha-3 chain

Chain MC: 98%



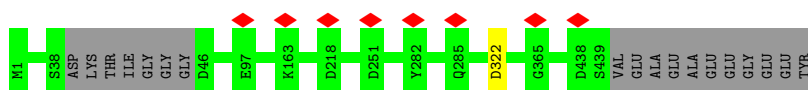
- Molecule 8: Tubulin alpha-3 chain

Chain ME:  94% 5%



- Molecule 8: Tubulin alpha-3 chain

Chain MG:  96%



- Molecule 8: Tubulin alpha-3 chain

Chain MI:  95%



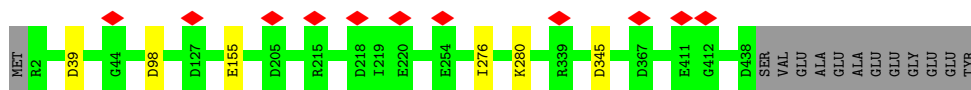
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Chain MK:  97%

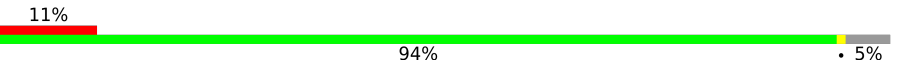


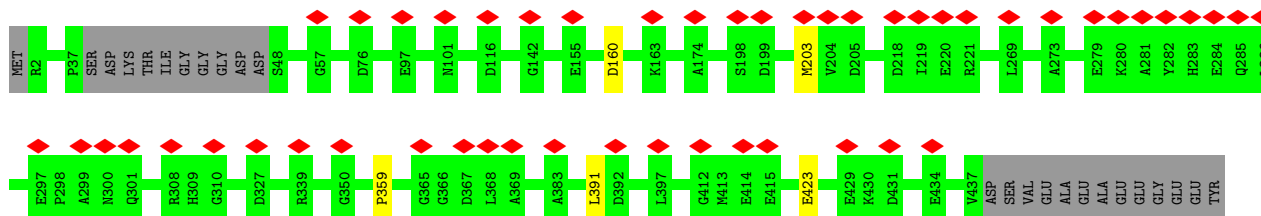
- Molecule 8: Tubulin alpha-3 chain

Chain MM:  96%



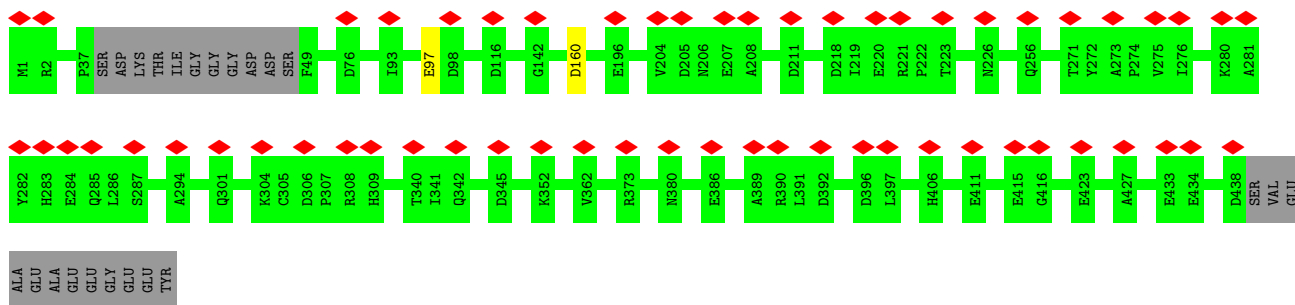
- Molecule 8: Tubulin alpha-3 chain

Chain NA:  11% 94% 5%

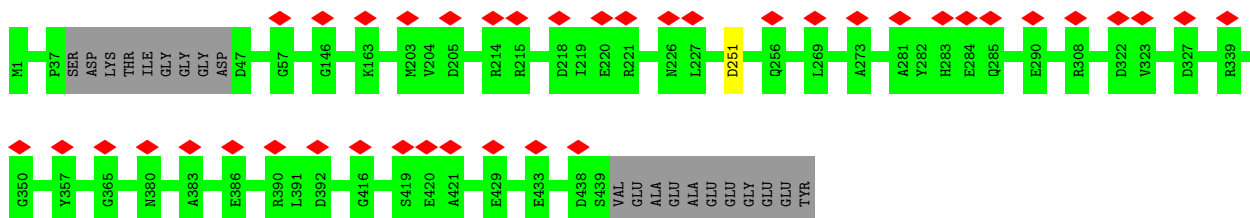


- Molecule 8: Tubulin alpha-3 chain

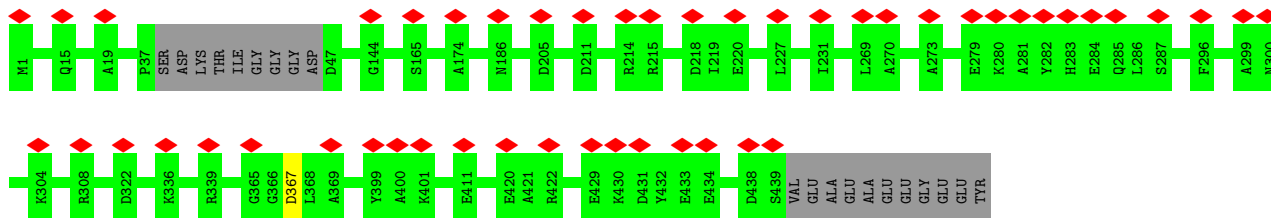
Chain NC:  13% 94% 5%



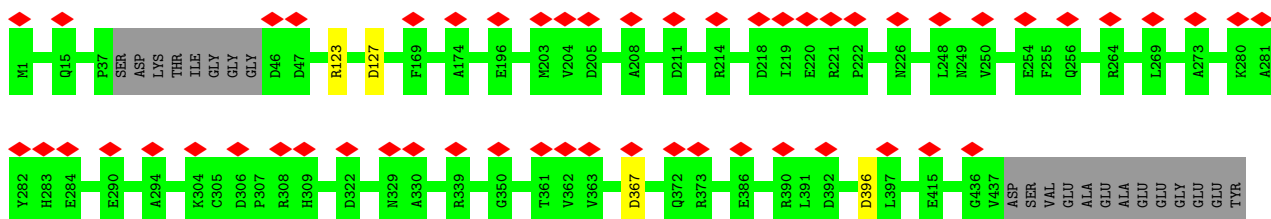
• Molecule 8: Tubulin alpha-3 chain



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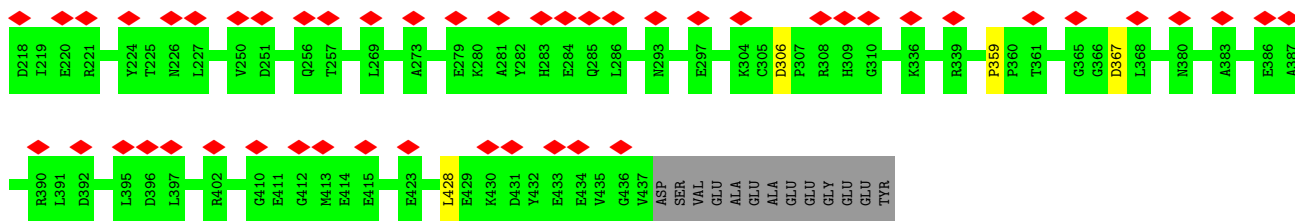


• Molecule 8: Tubulin alpha-3 chain



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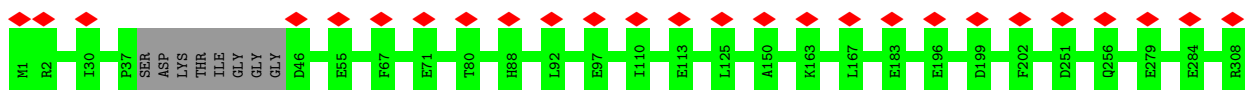




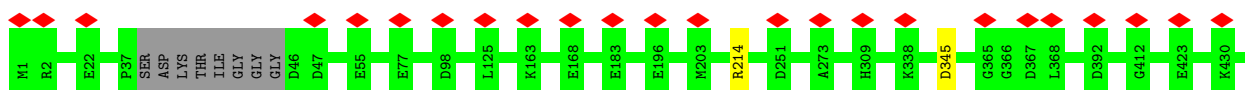
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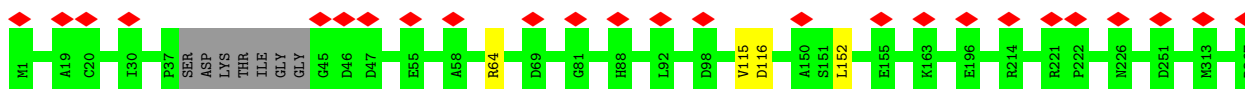
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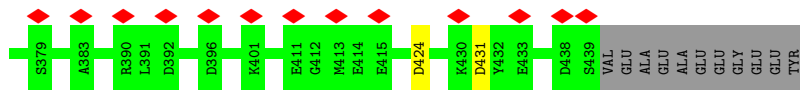
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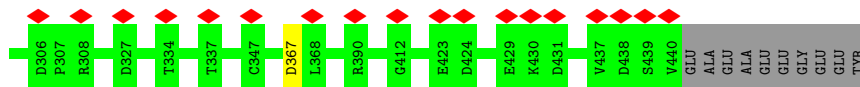
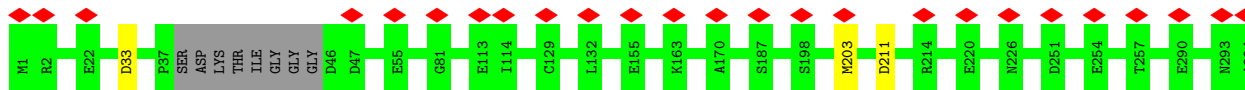
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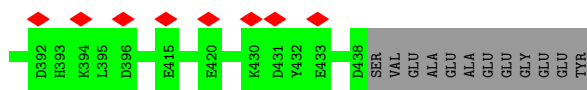
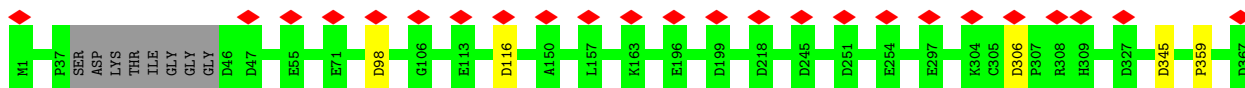




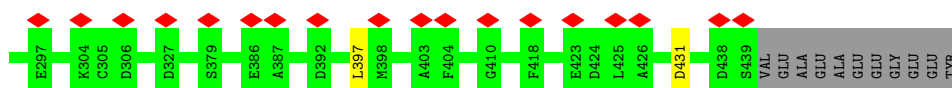
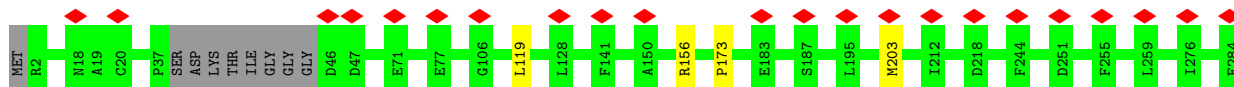
• Molecule 8: Tubulin alpha-3 chain



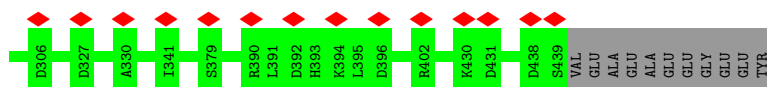
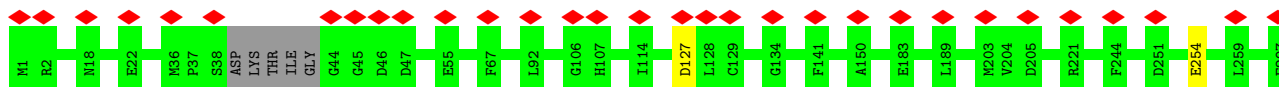
• Molecule 8: Tubulin alpha-3 chain



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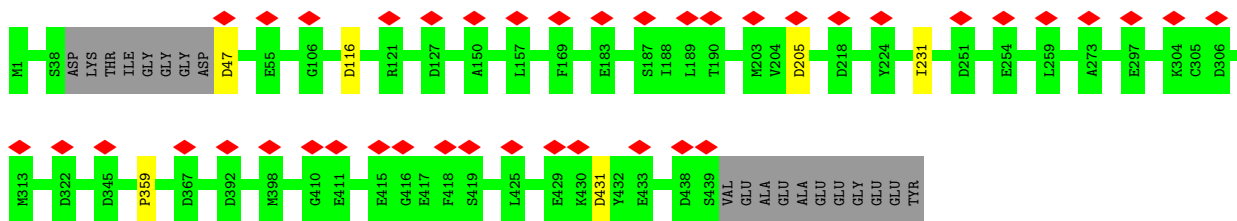


• Molecule 8: Tubulin alpha-3 chain

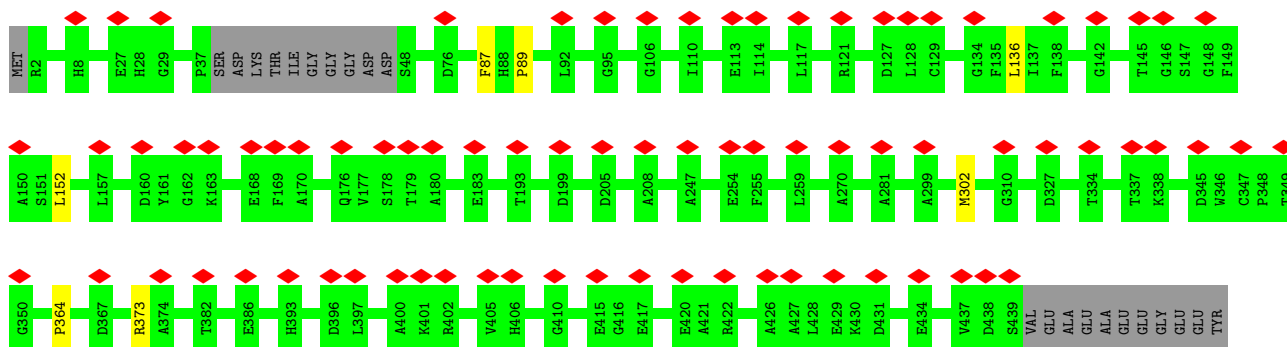


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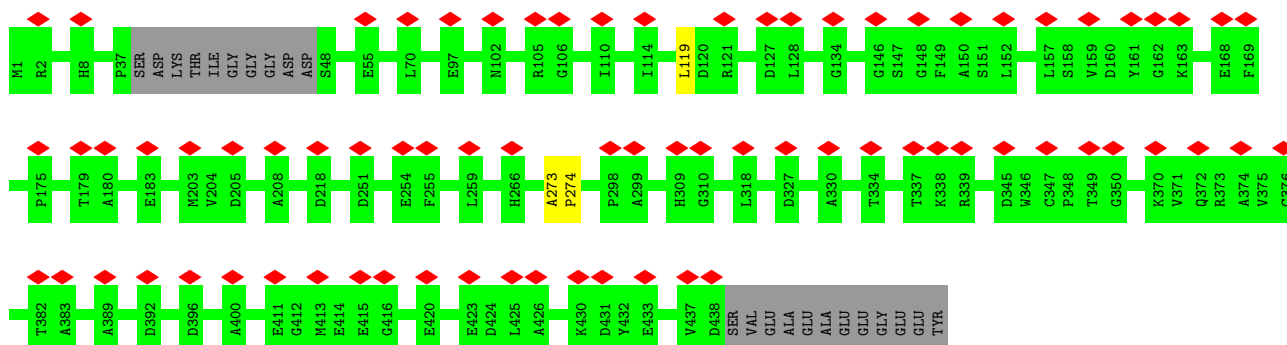




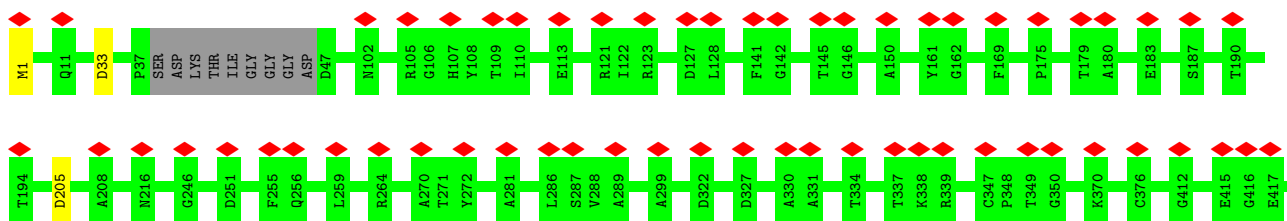
- Molecule 8: Tubulin alpha-3 chain

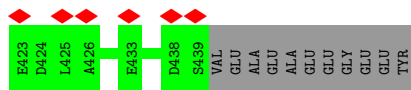


- Molecule 8: Tubulin alpha-3 chain

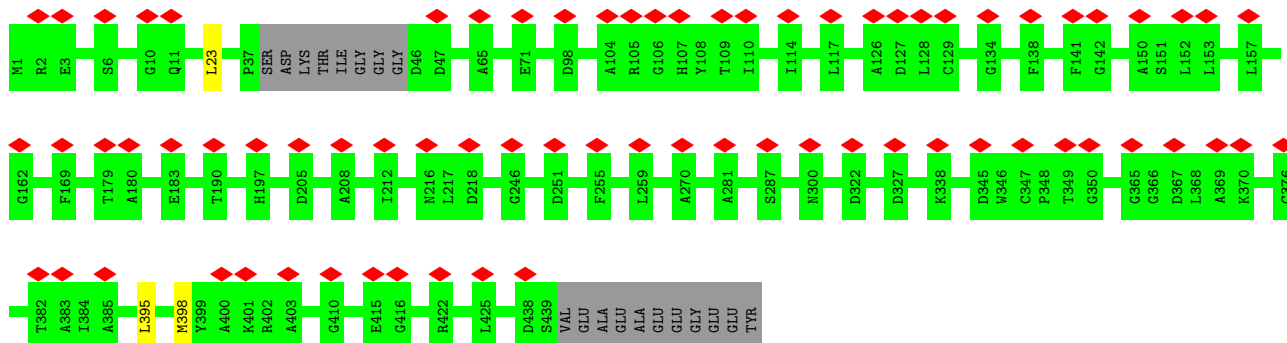


- Molecule 8: Tubulin alpha-3 chain

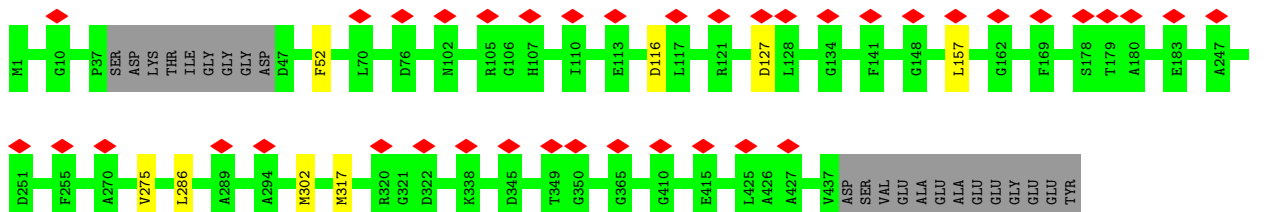
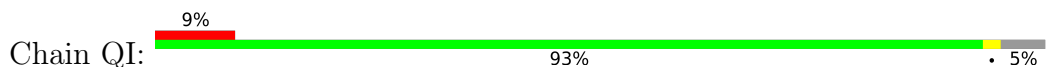




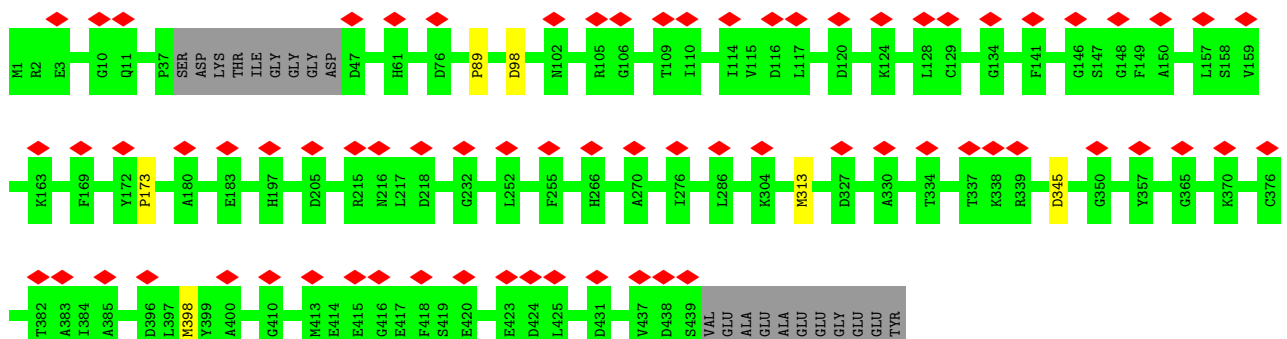
• Molecule 8: Tubulin alpha-3 chain



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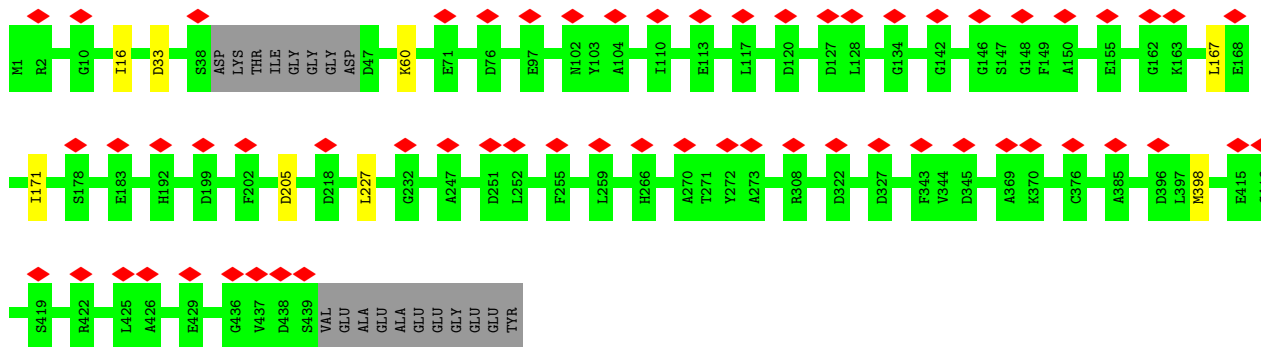


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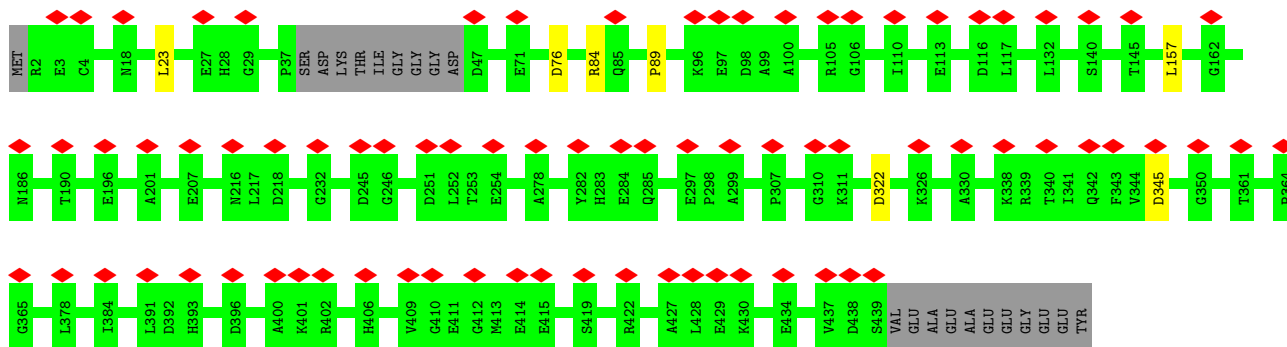


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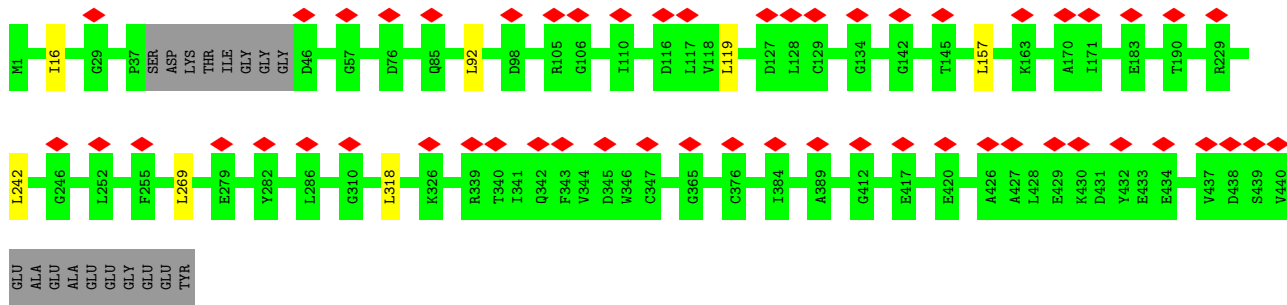




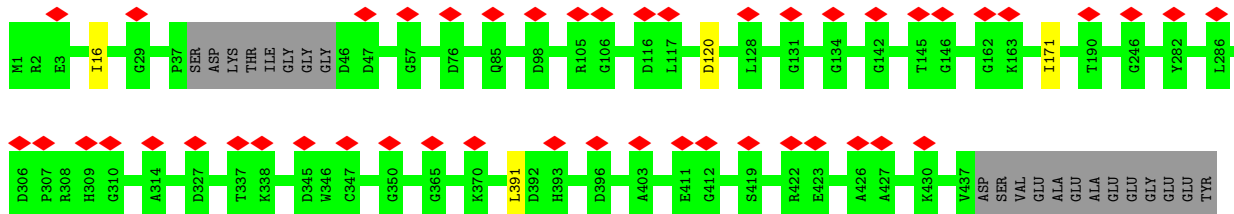
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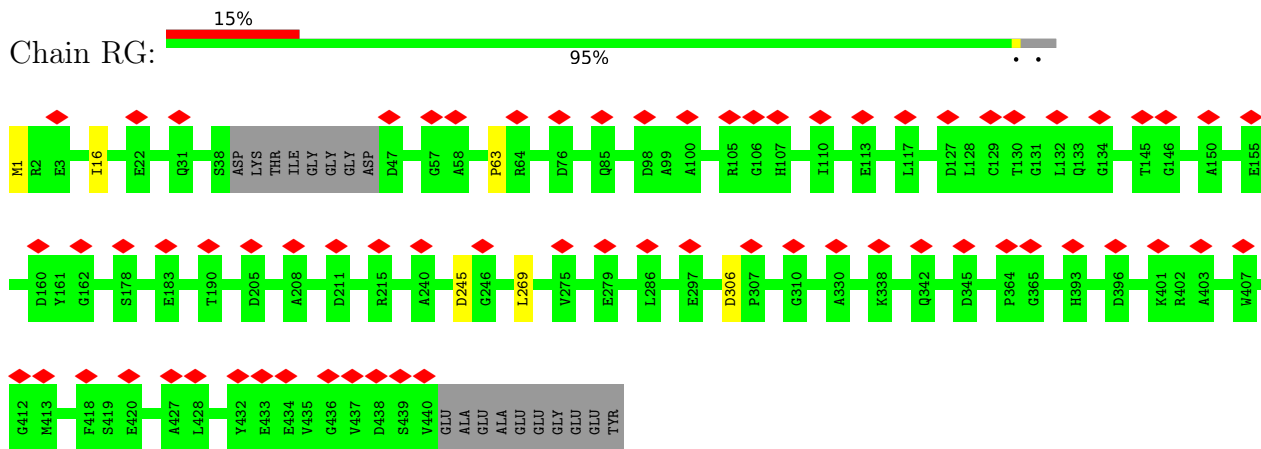
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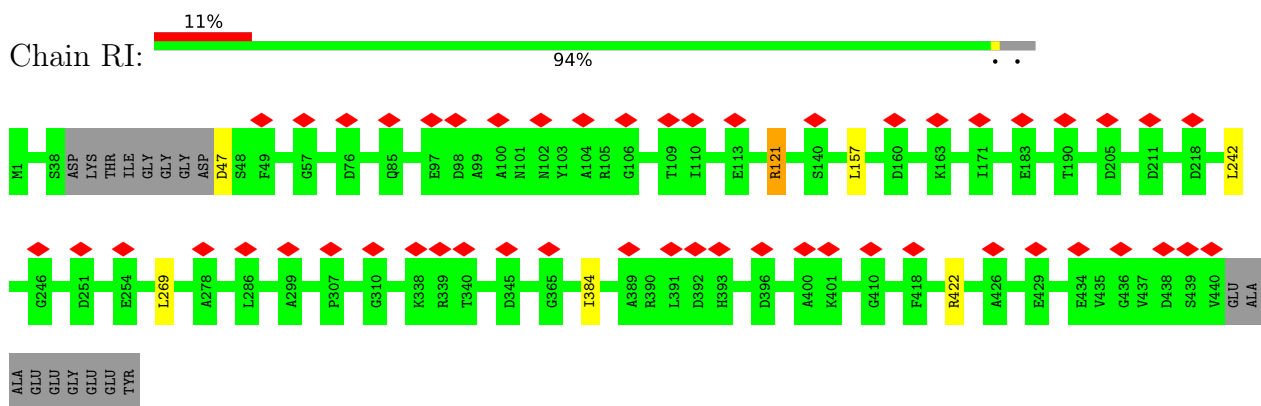
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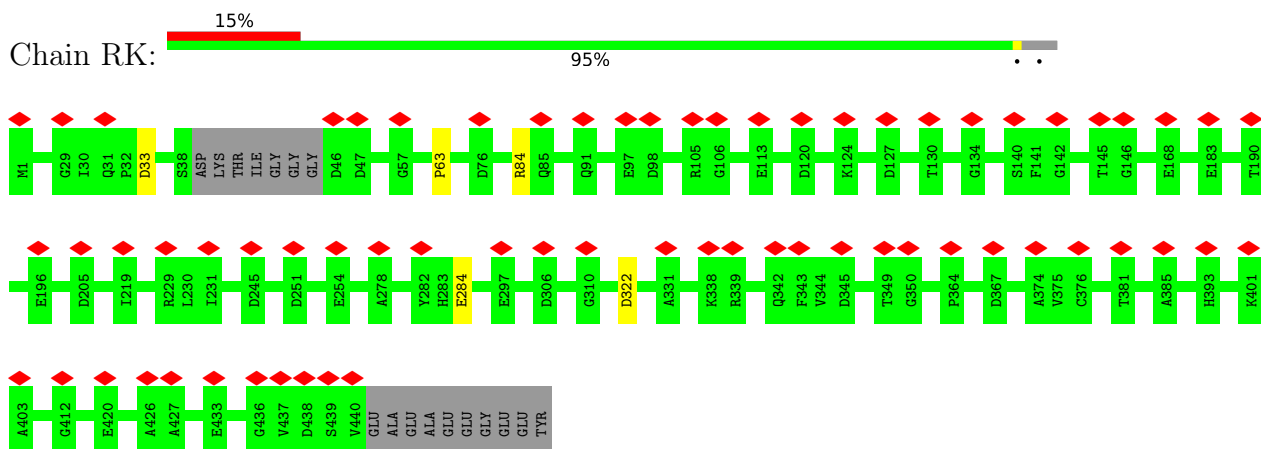
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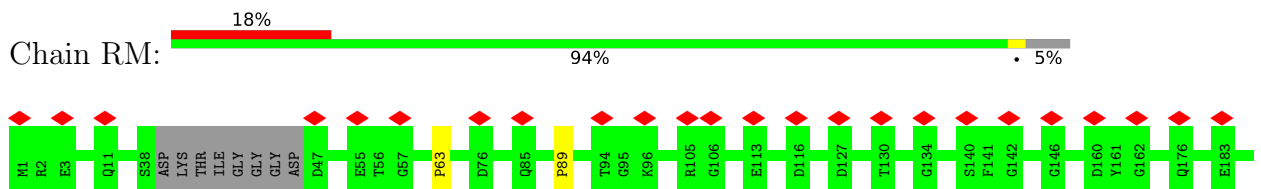
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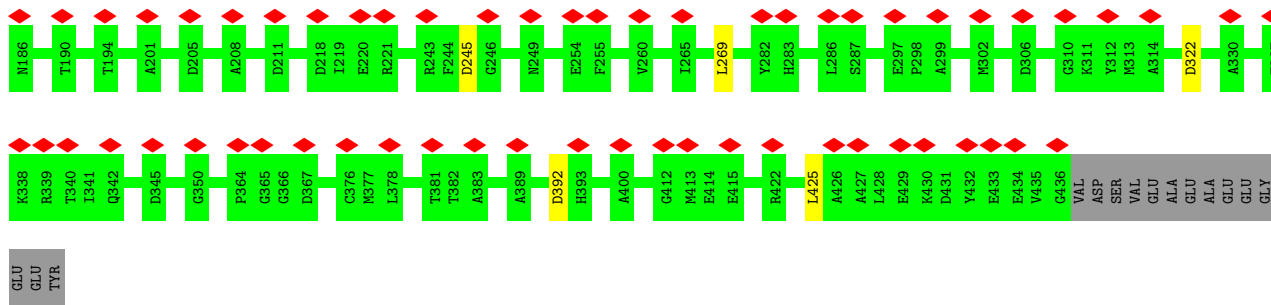


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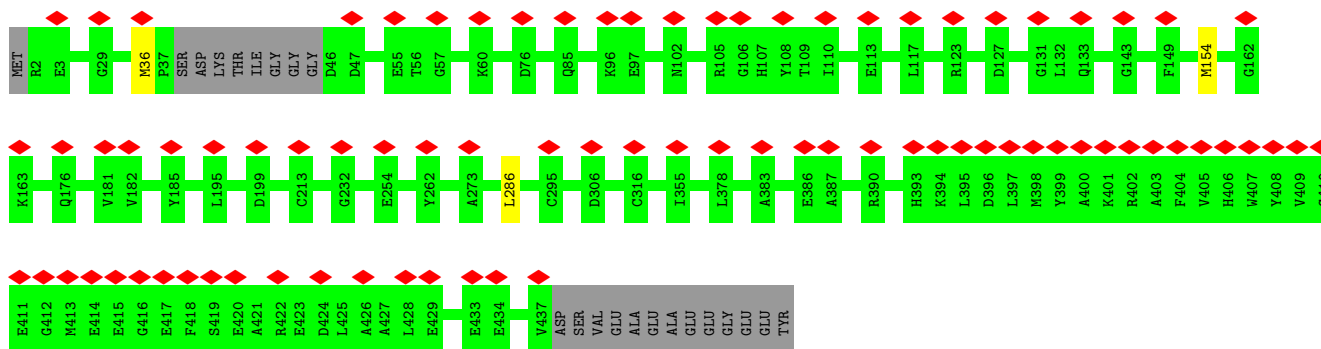


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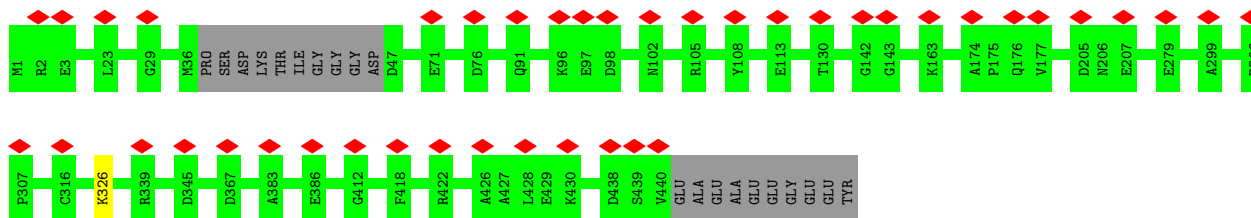




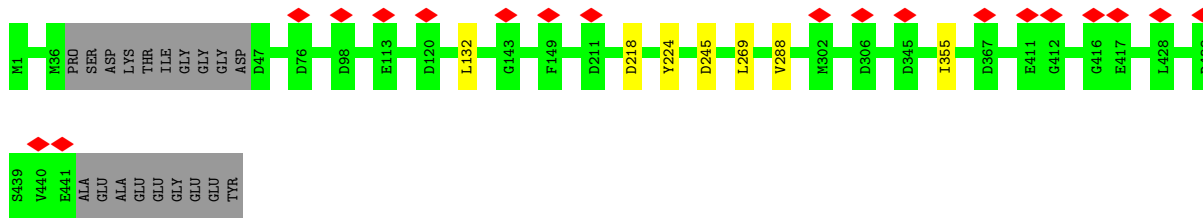
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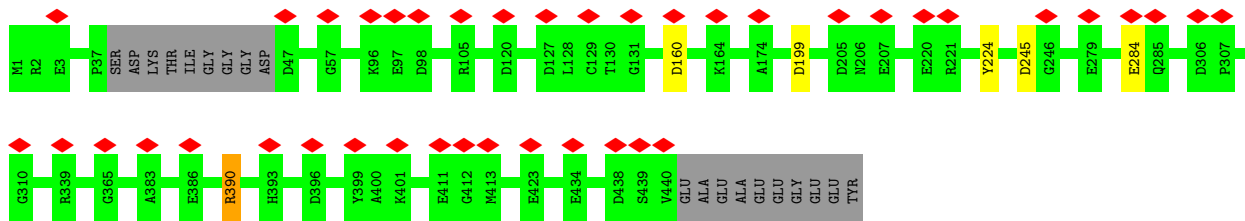


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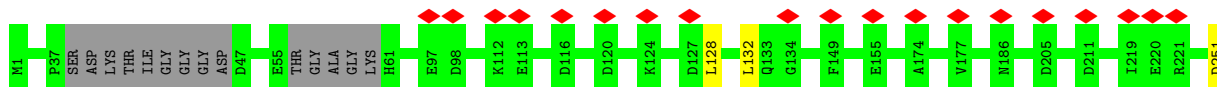
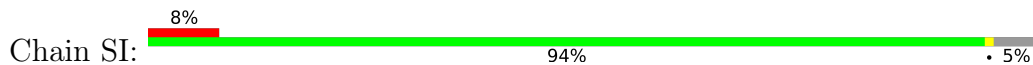


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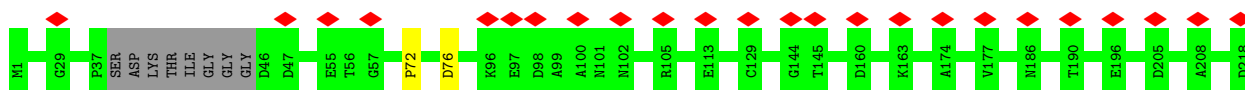




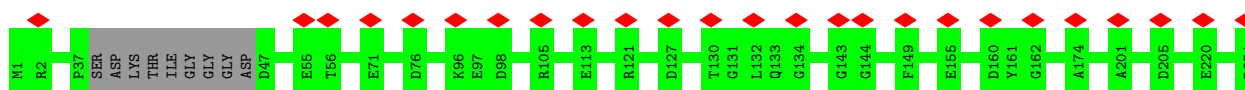
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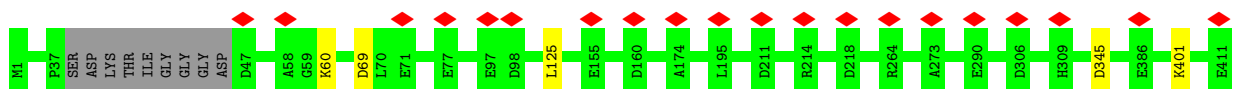
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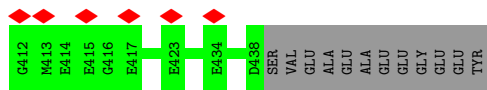
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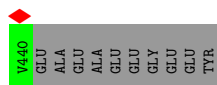
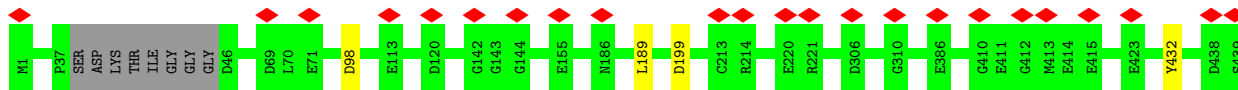
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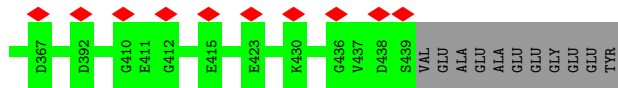




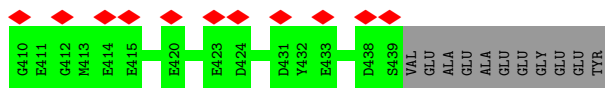
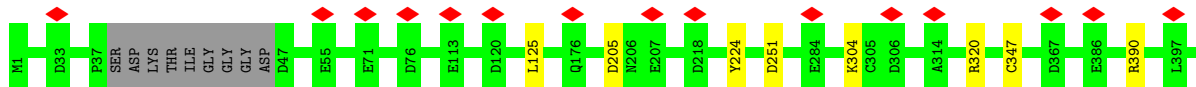
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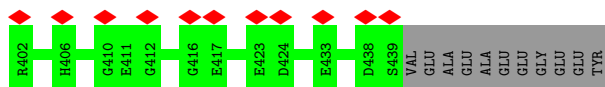
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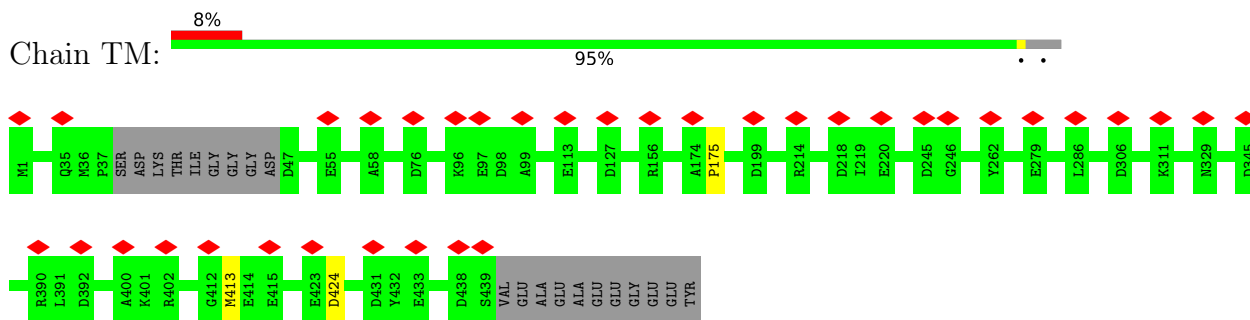
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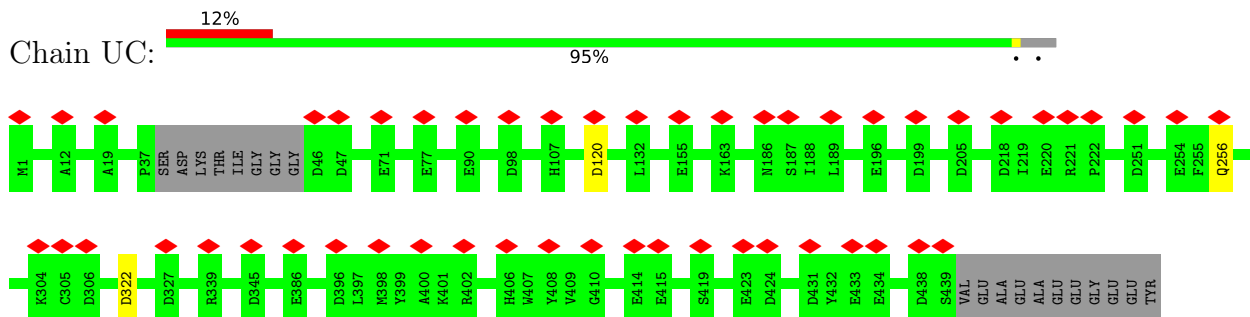
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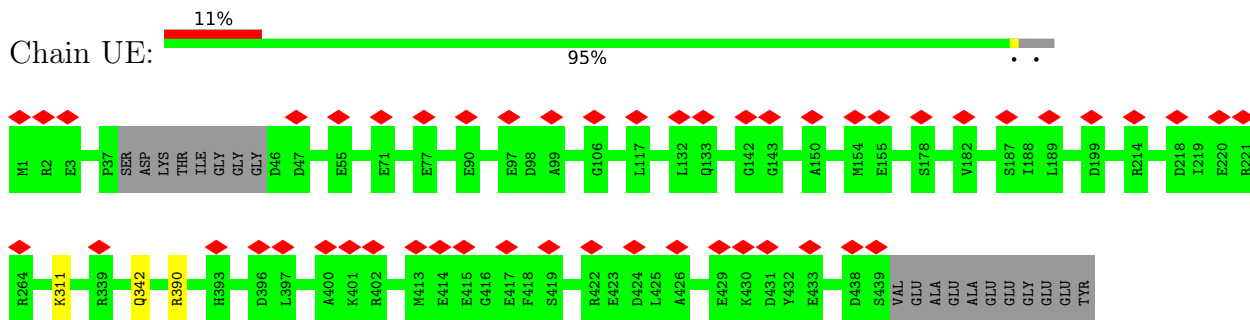
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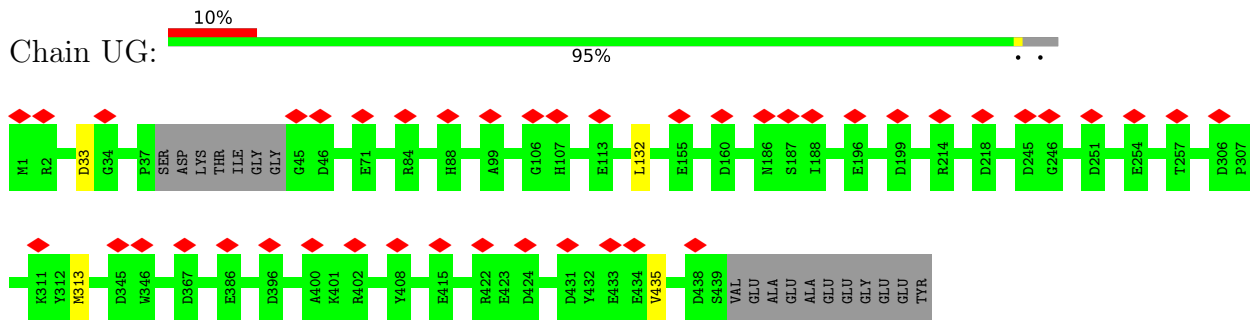
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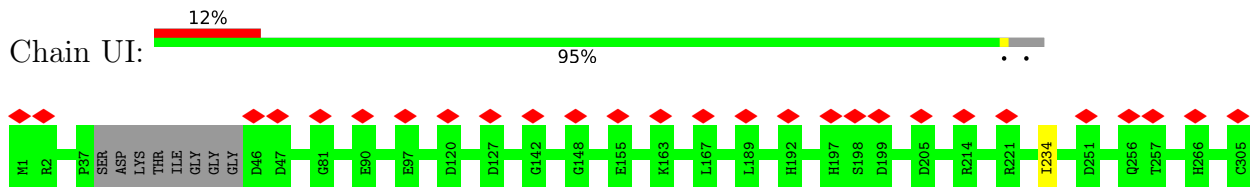
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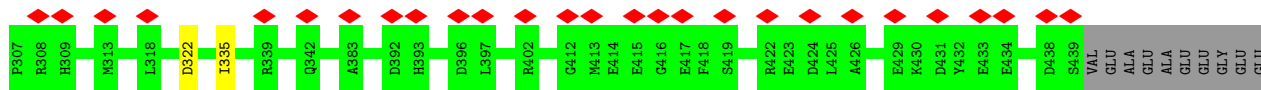


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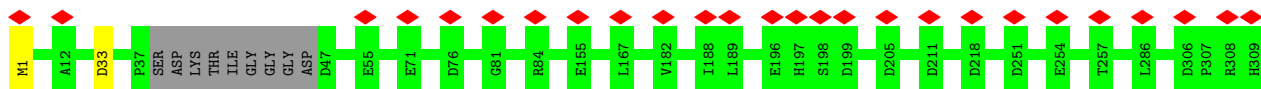
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TYR

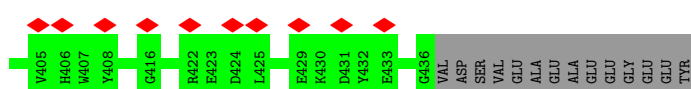
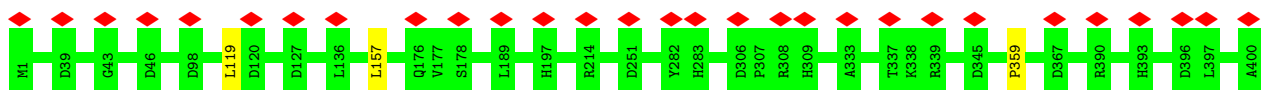
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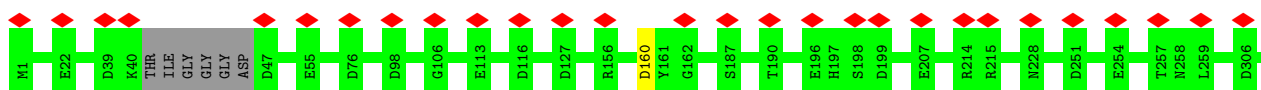
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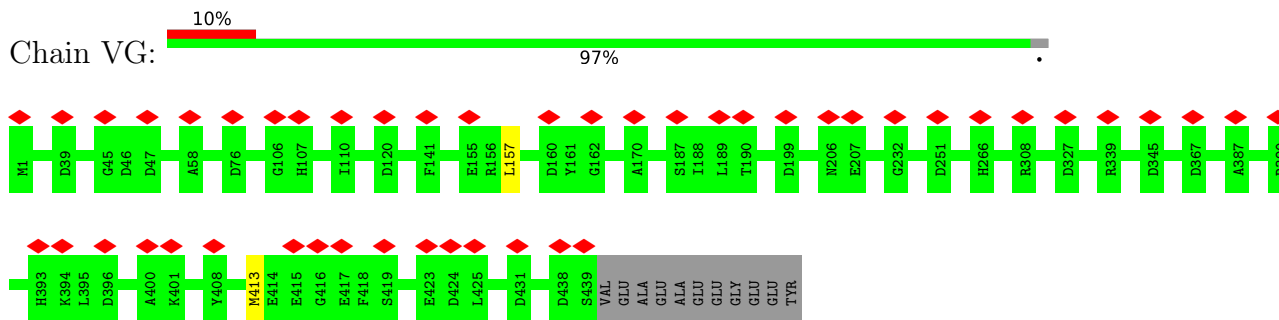
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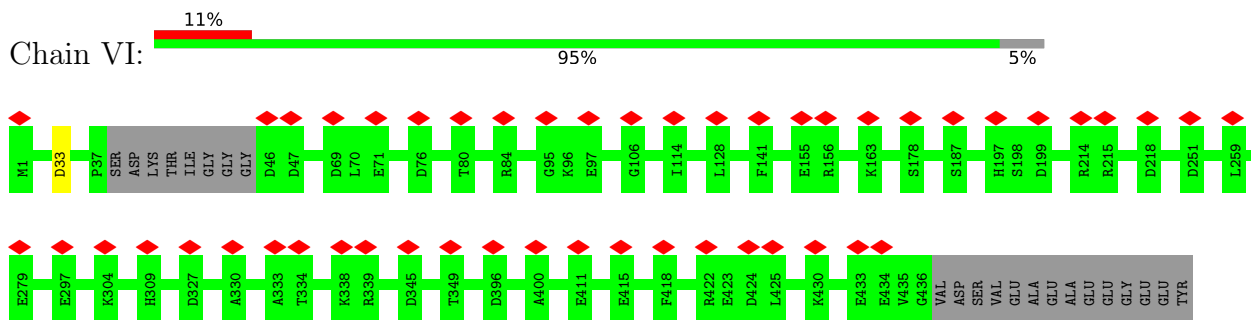
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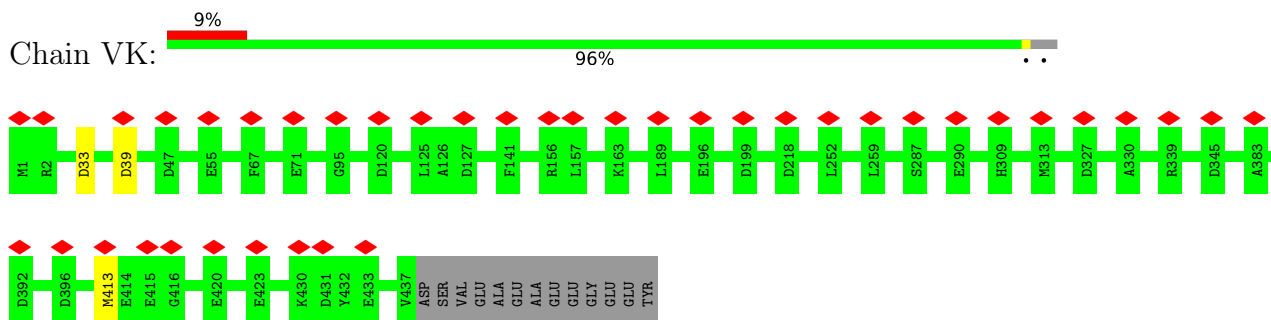
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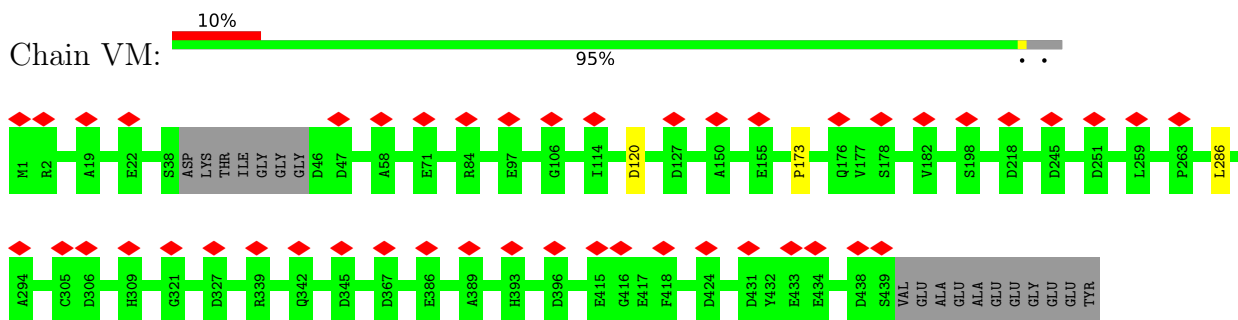
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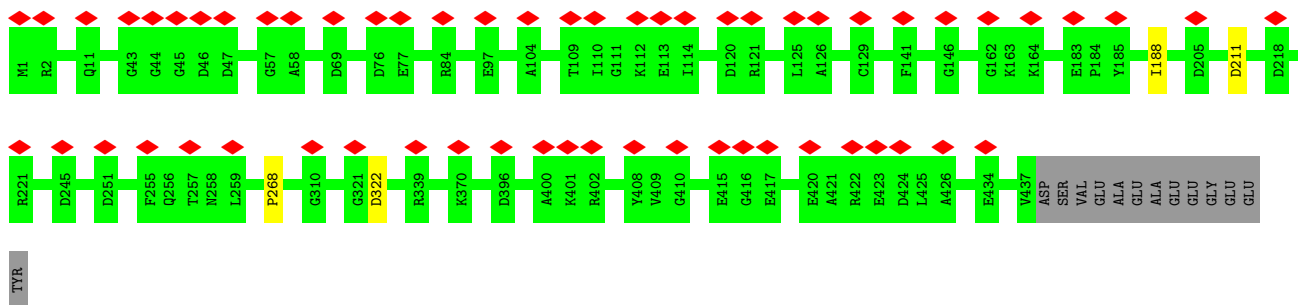


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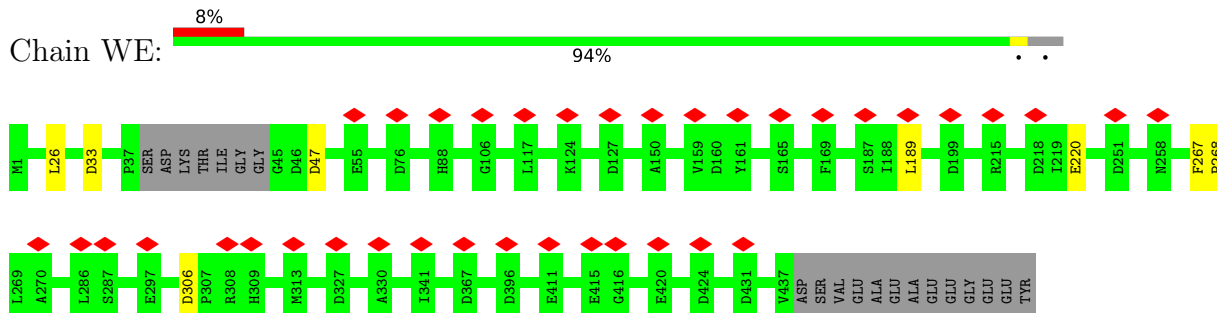


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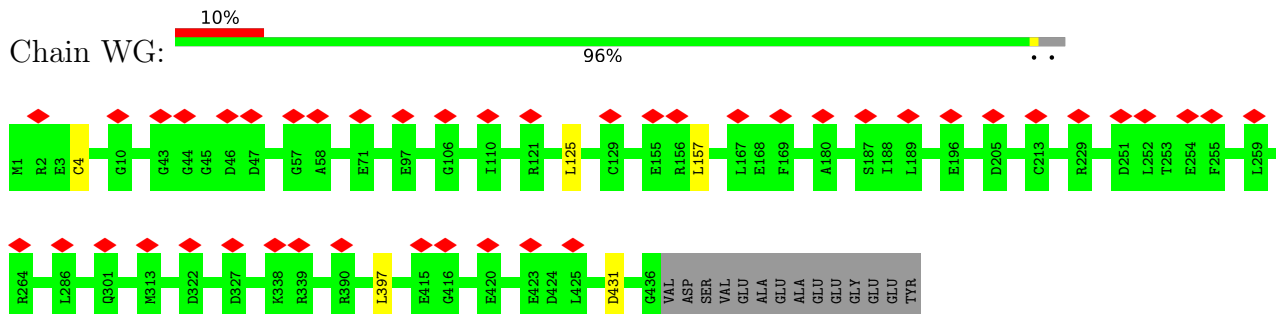




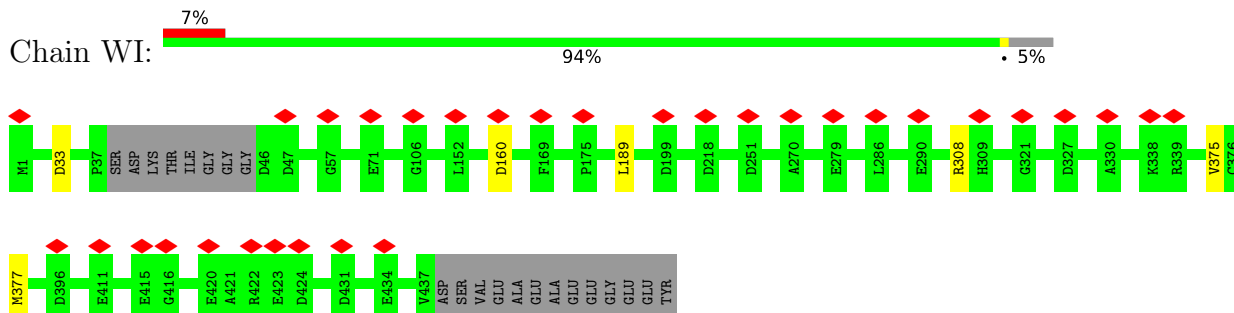
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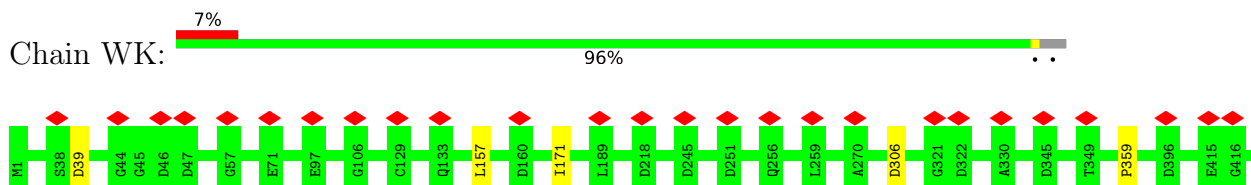
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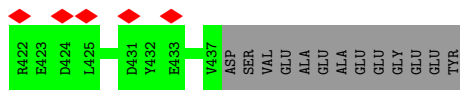


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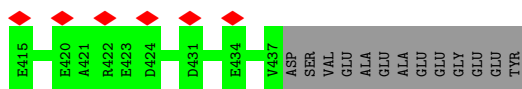
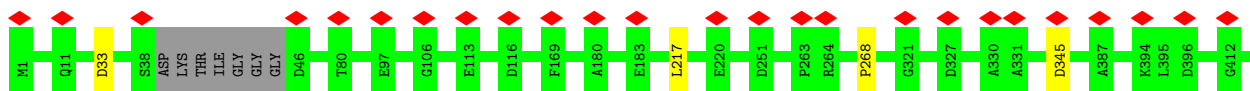


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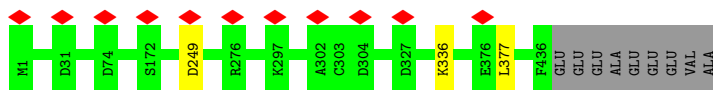
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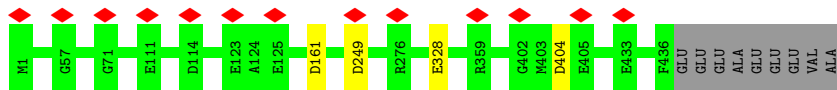
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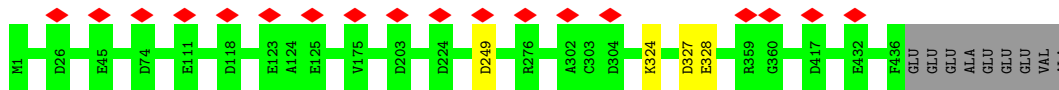
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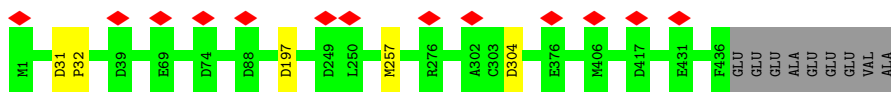


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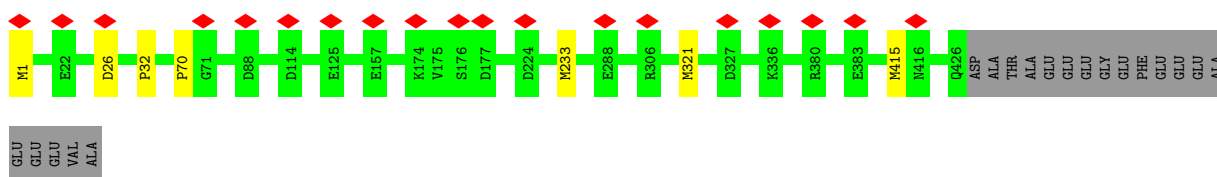




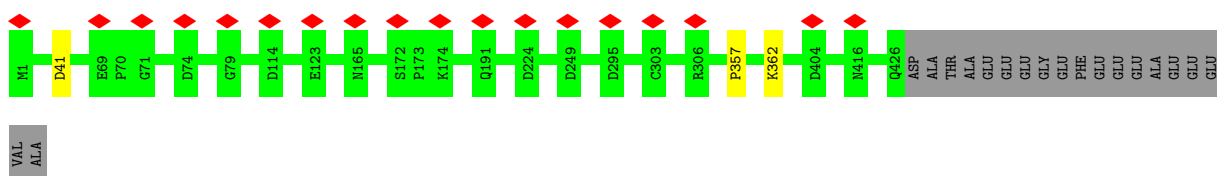
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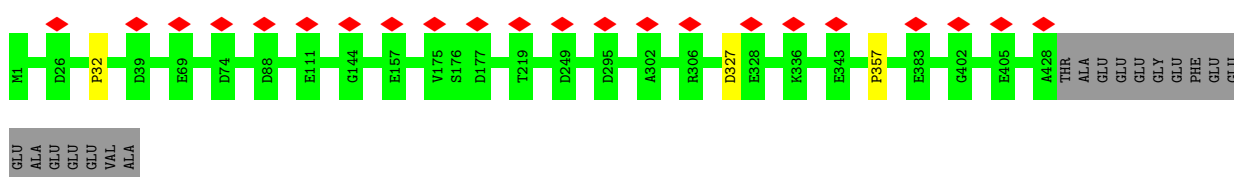
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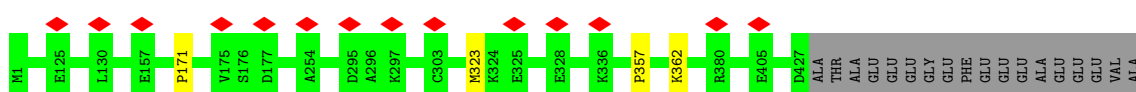
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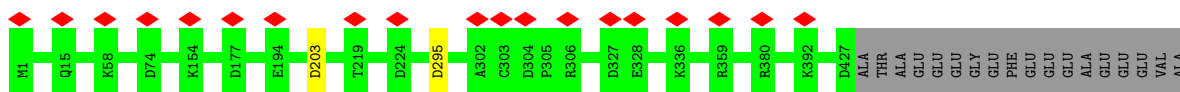


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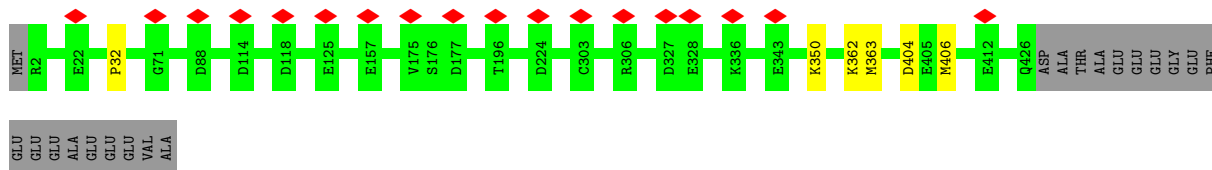
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Chain BJ:  96%



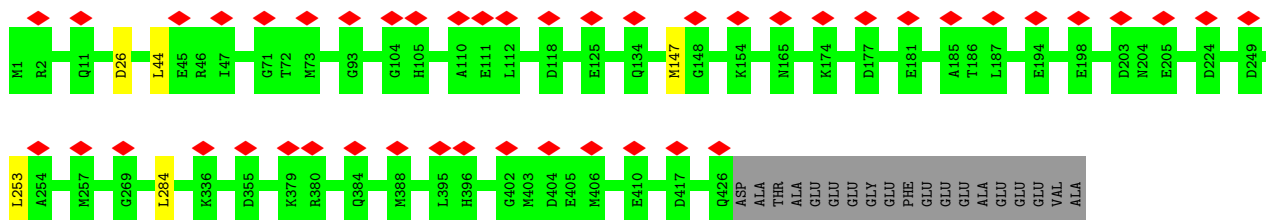
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Chain BL:  94%



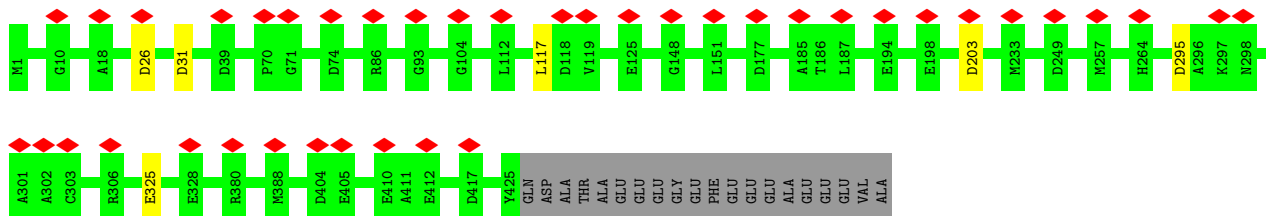
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Chain CB:  95%



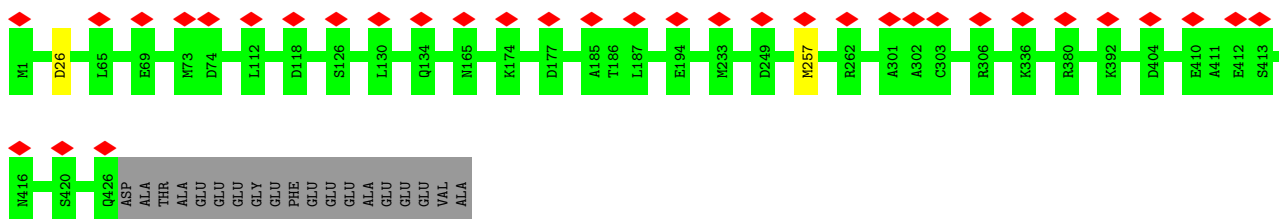
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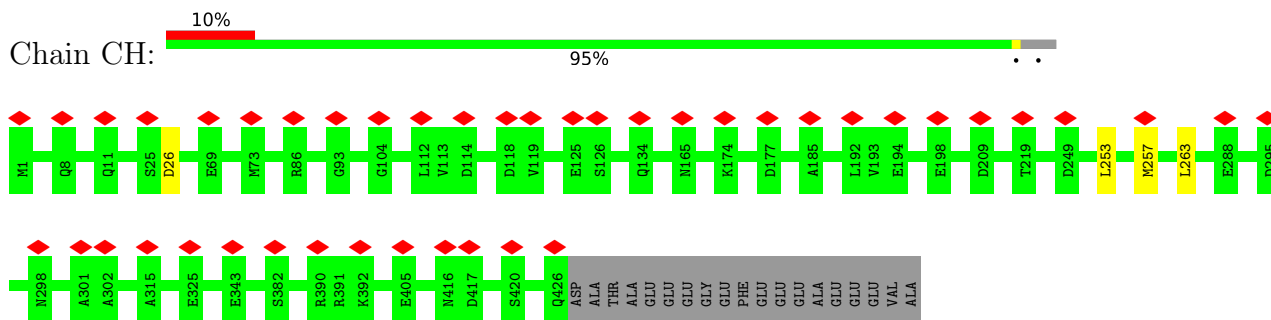
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Chain CF:  95%

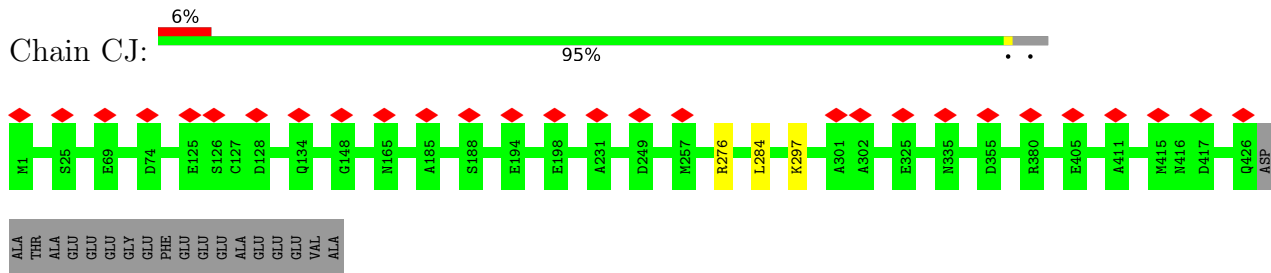


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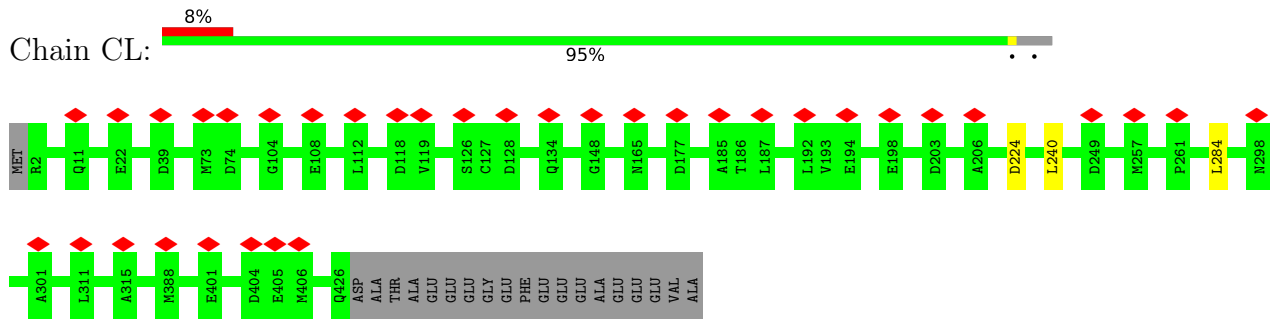




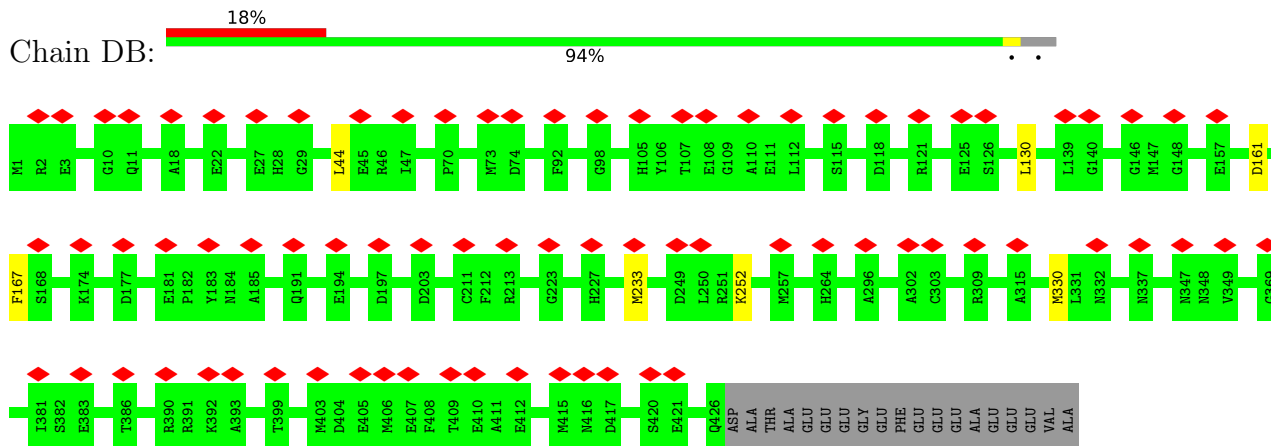
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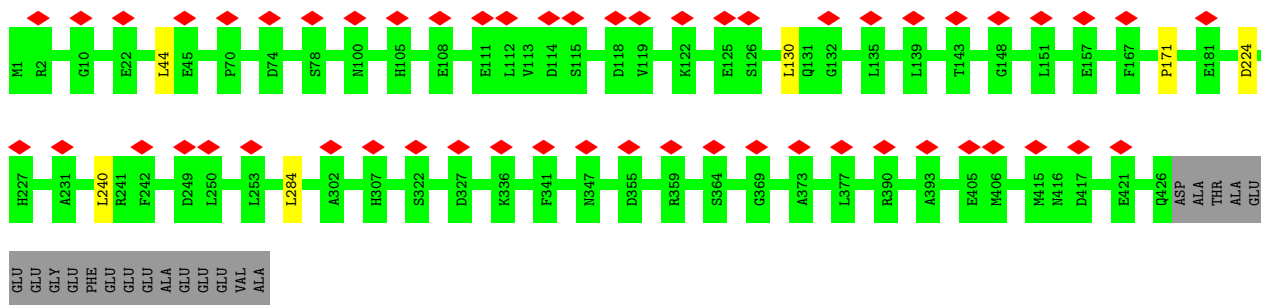


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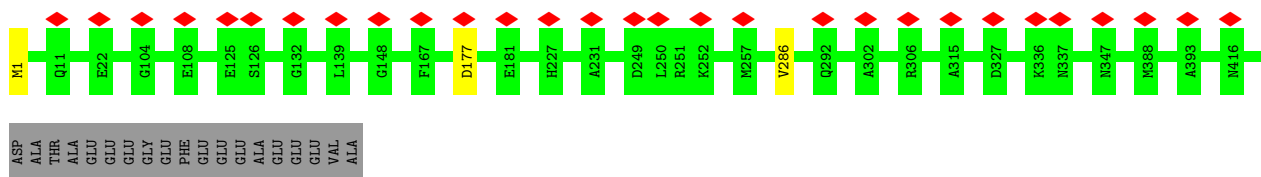


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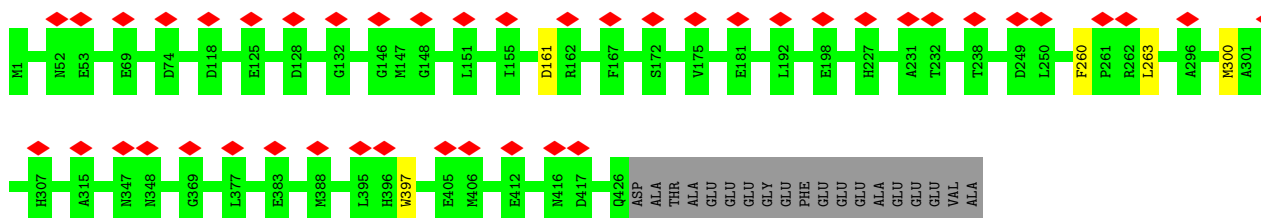




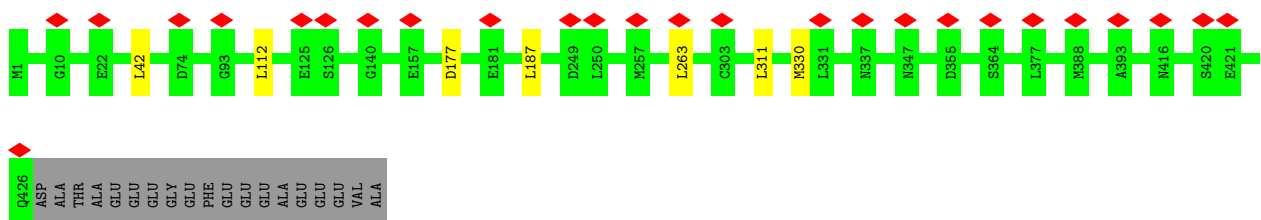
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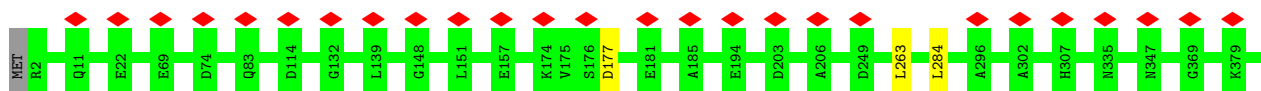
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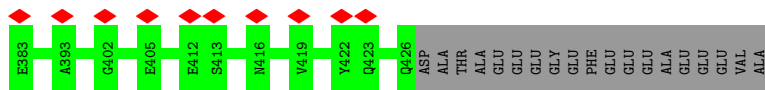


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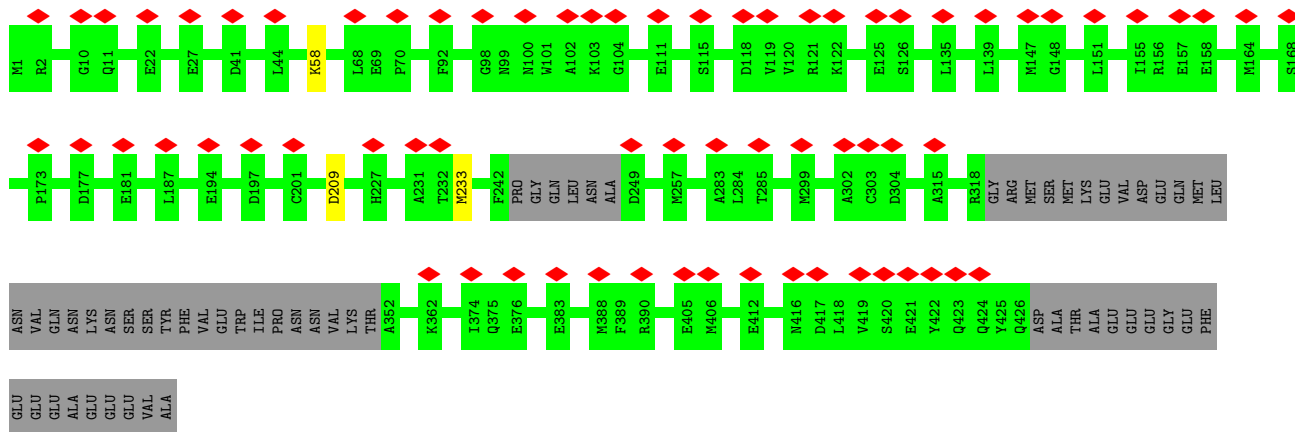
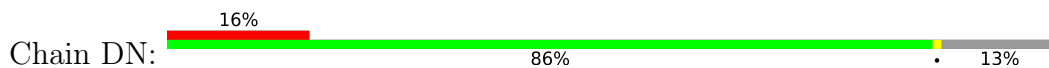


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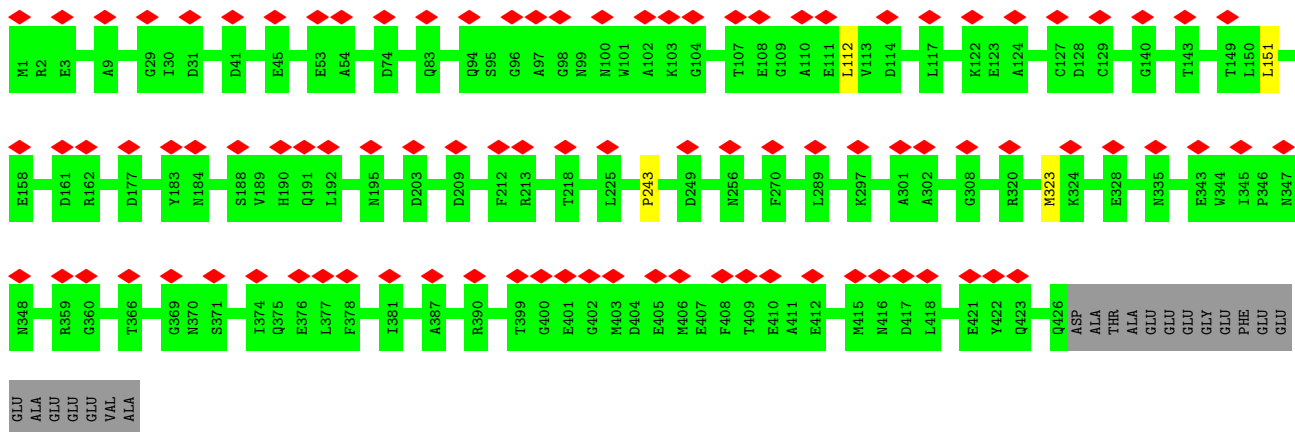




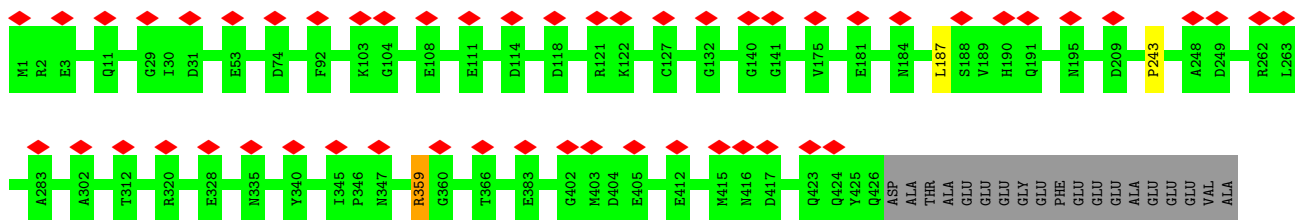
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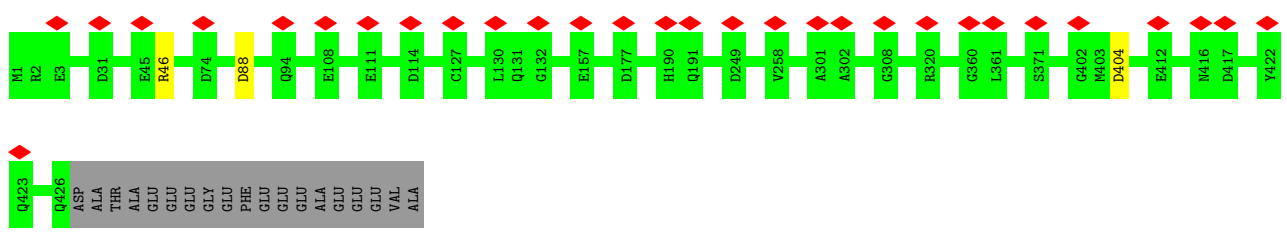
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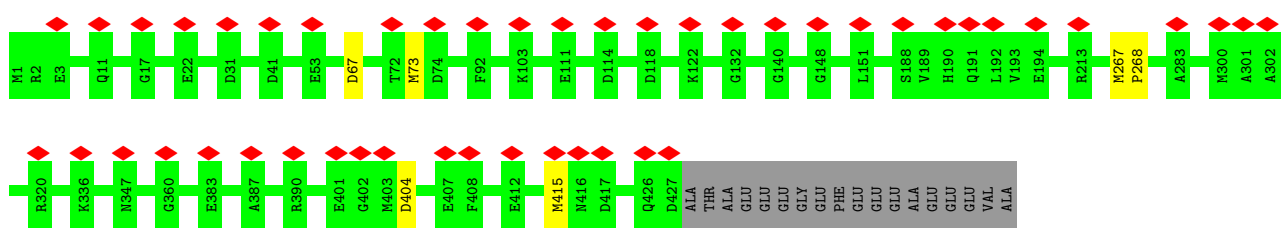
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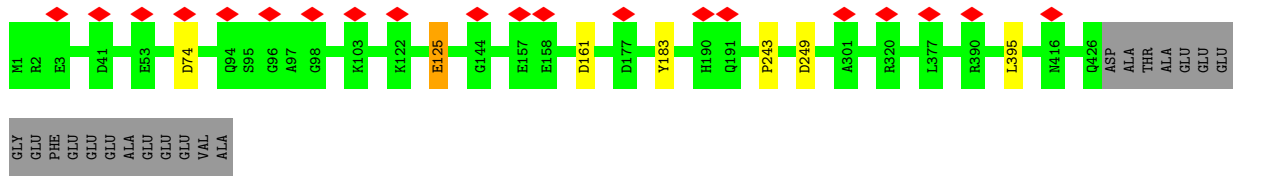
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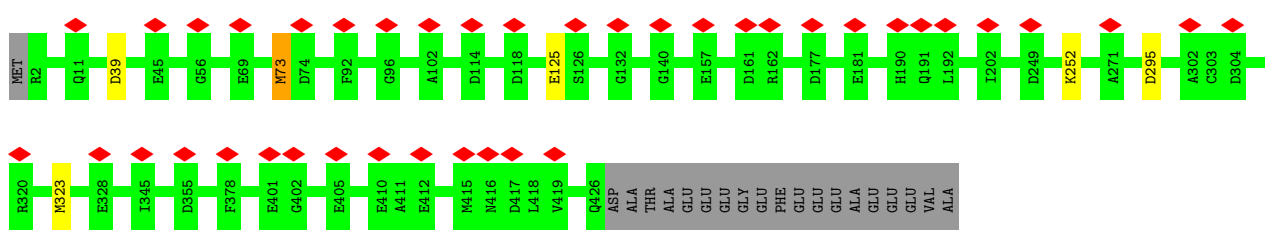
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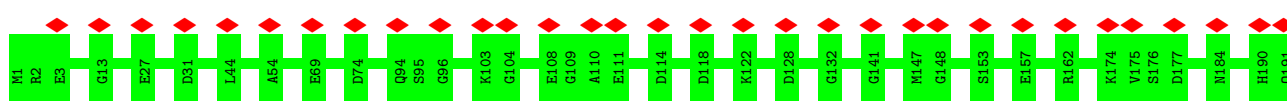
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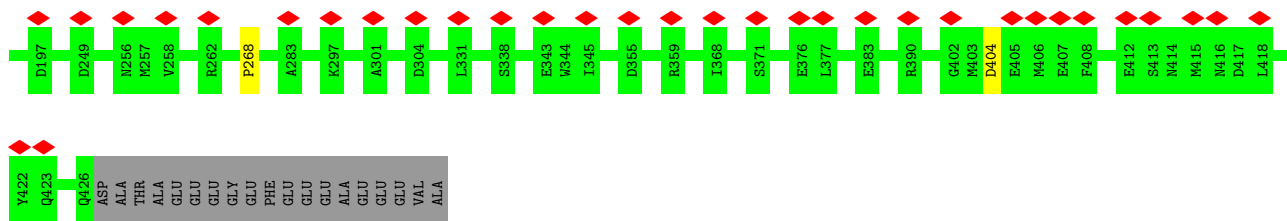


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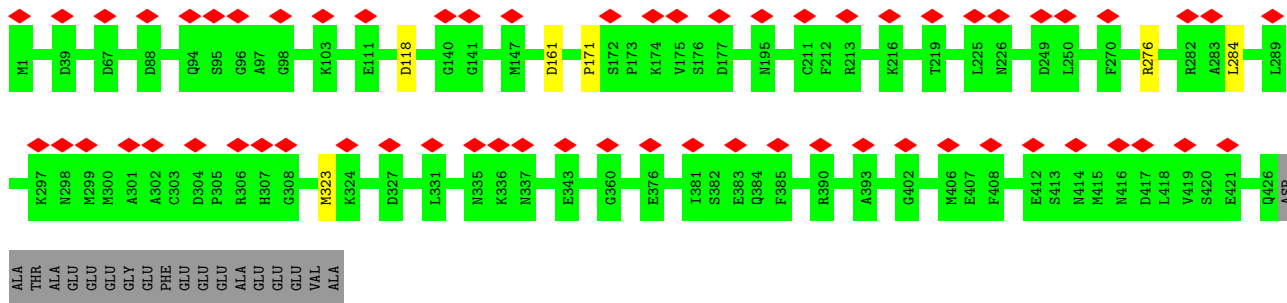


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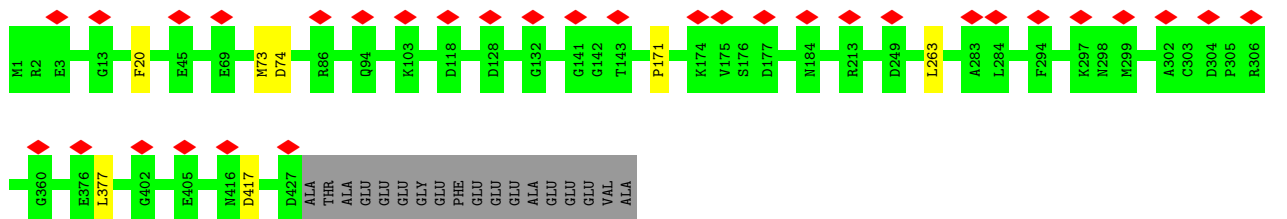




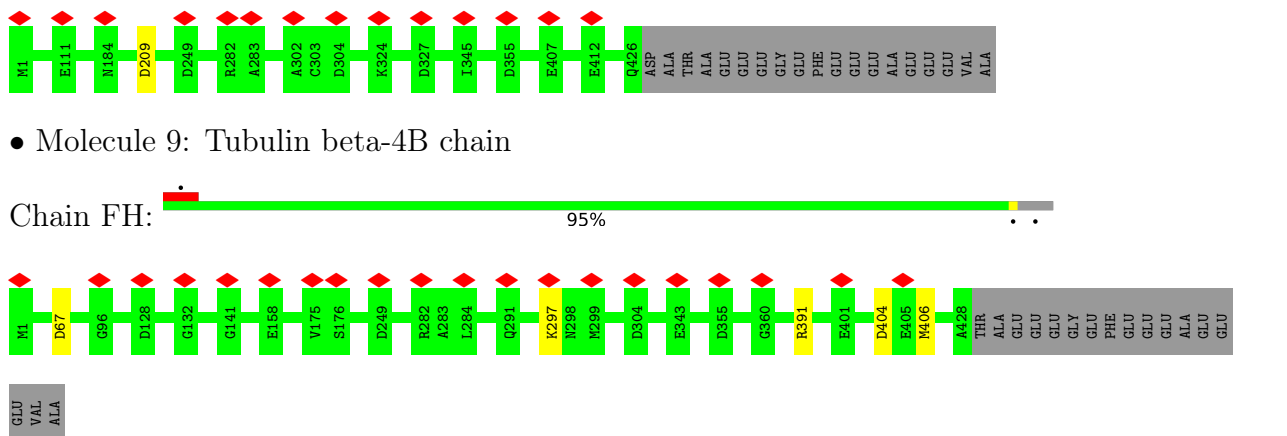
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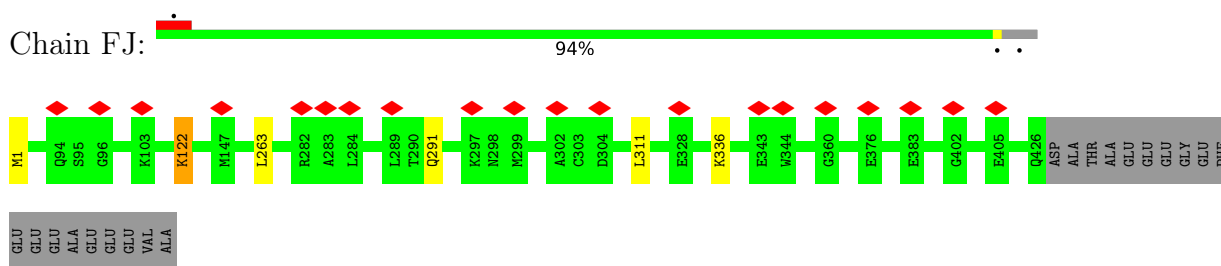


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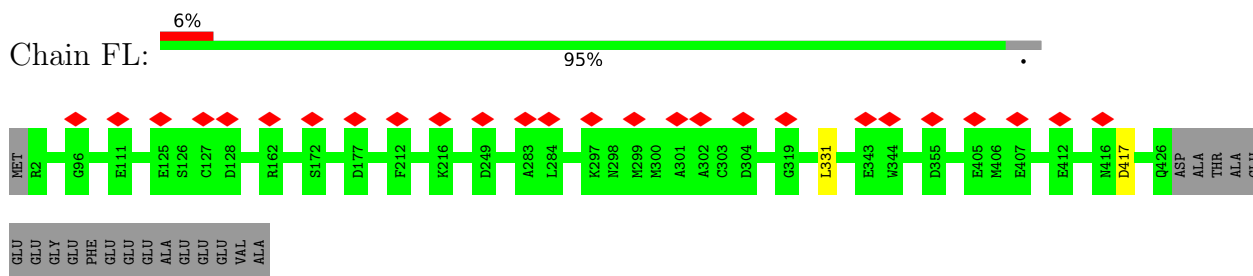


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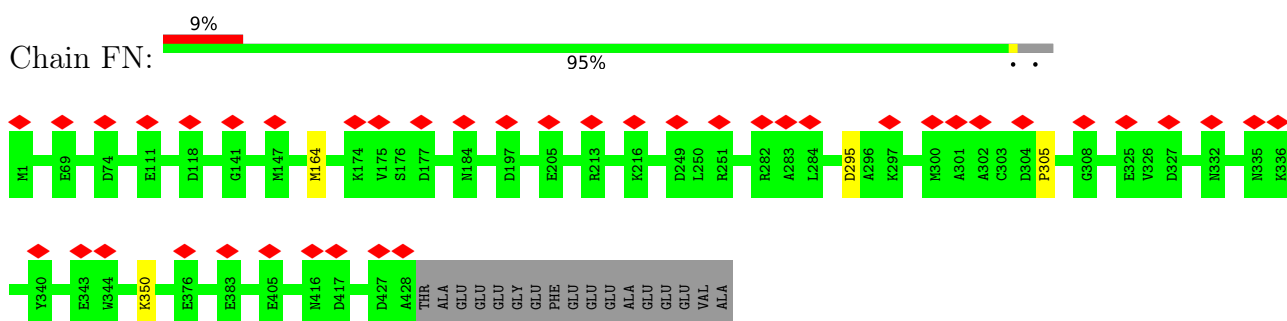




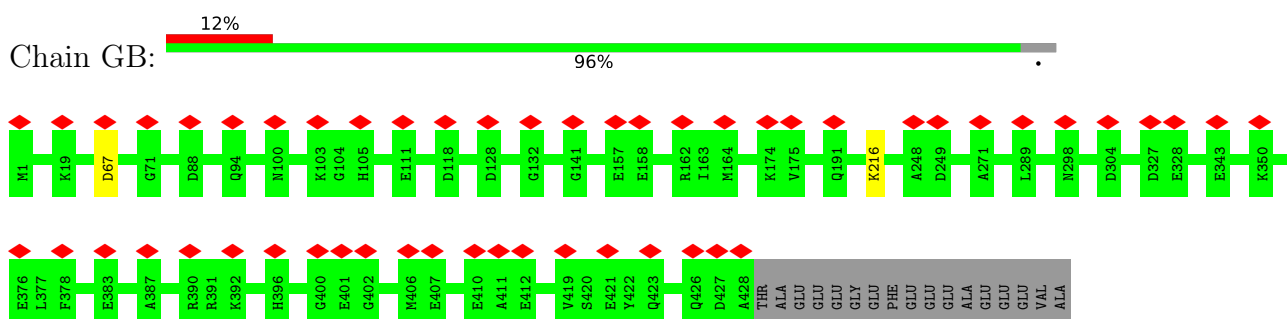
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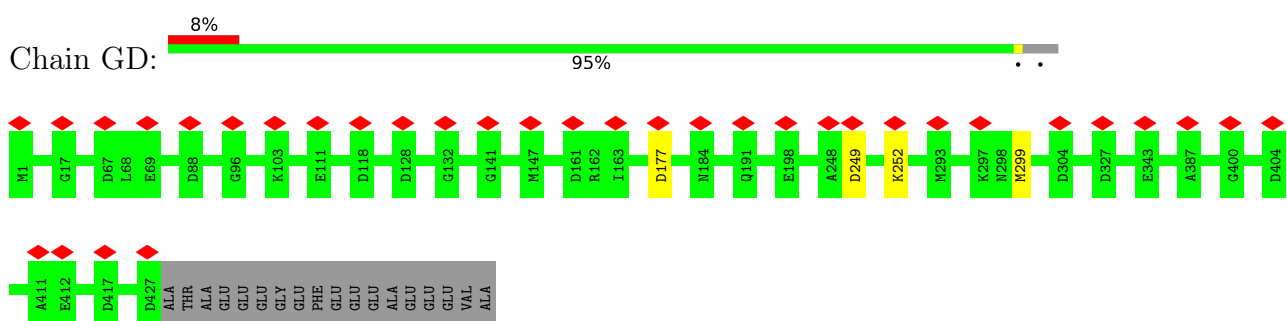
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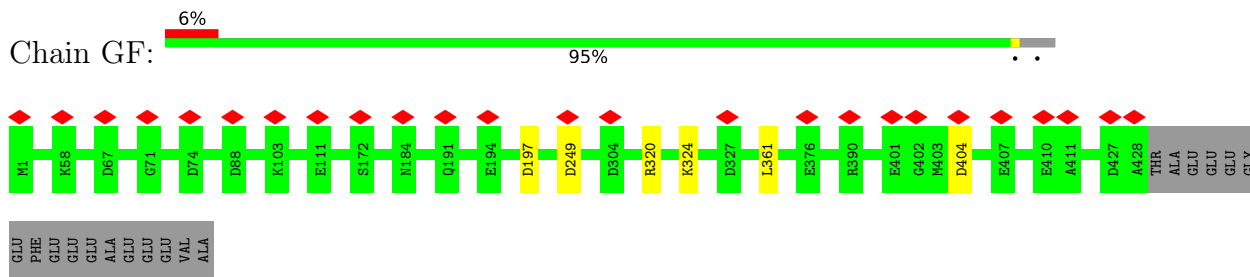
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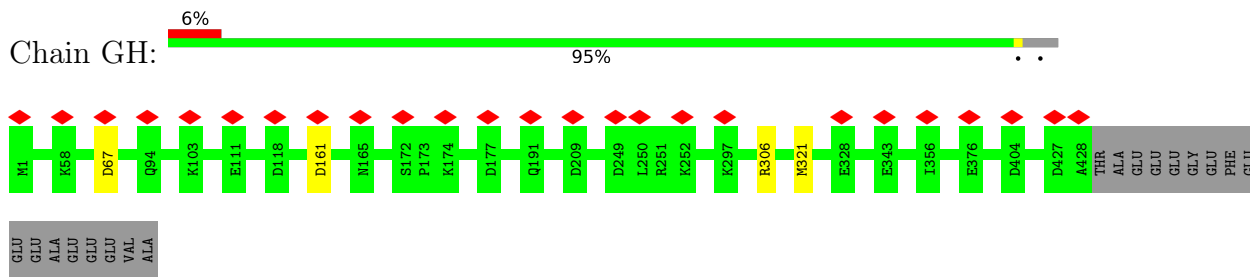
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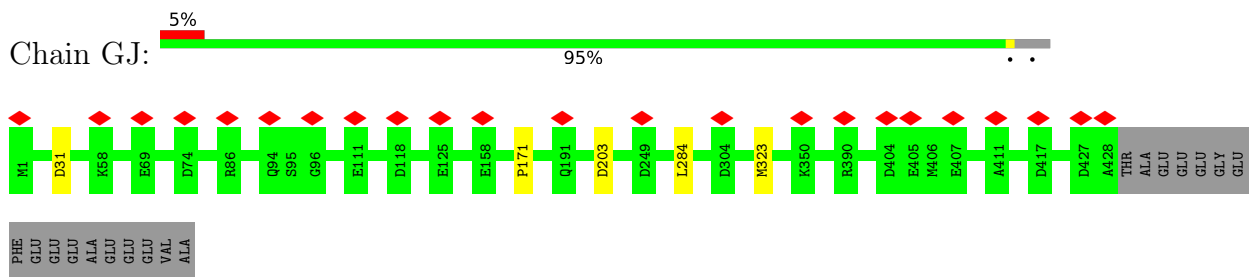
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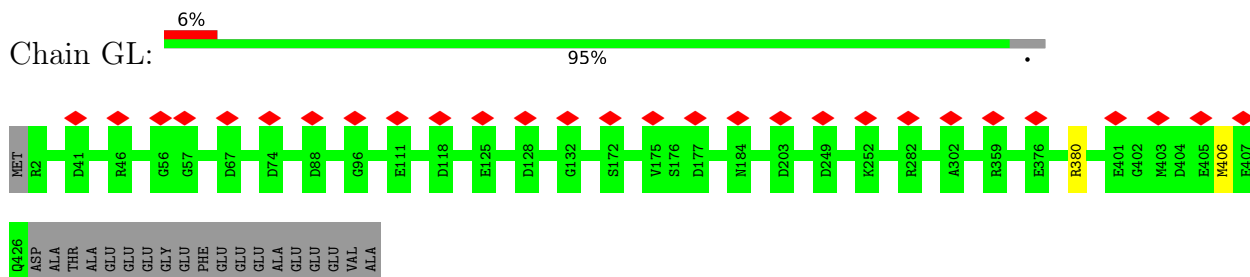
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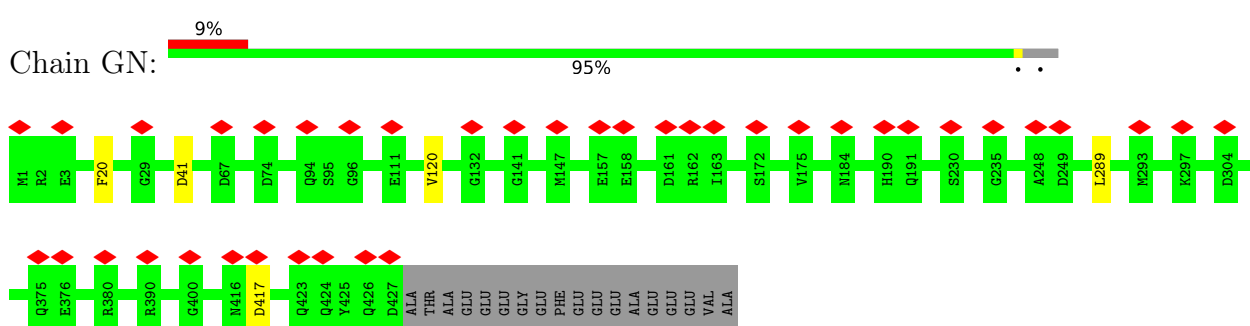
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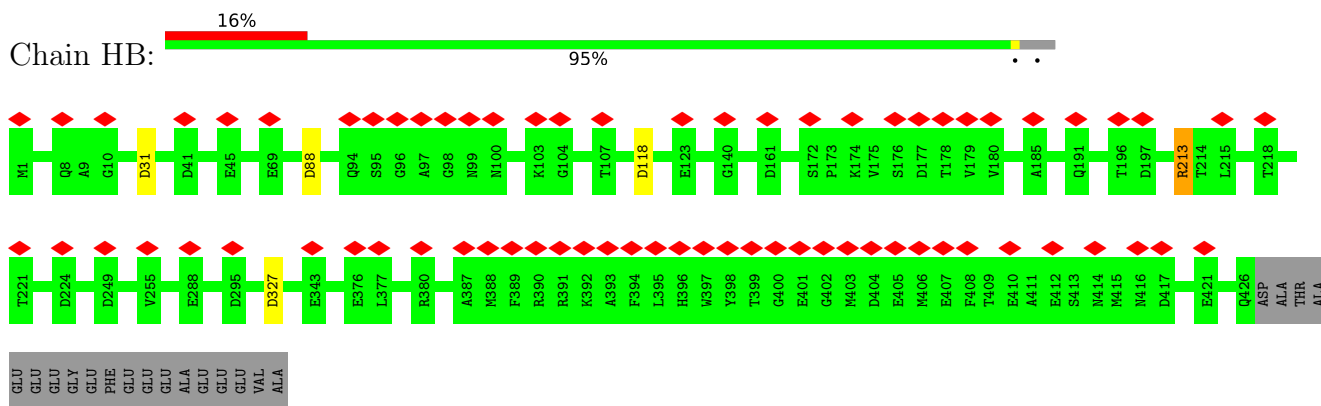
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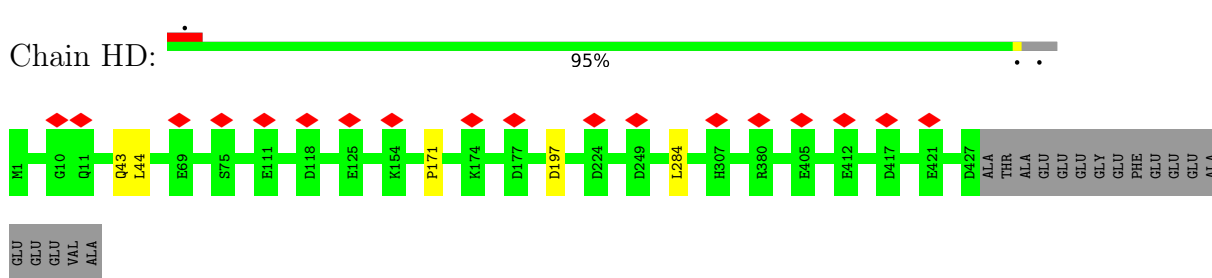
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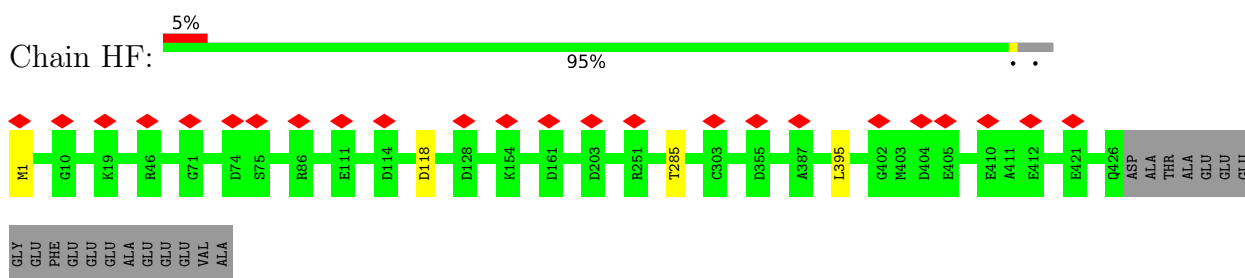
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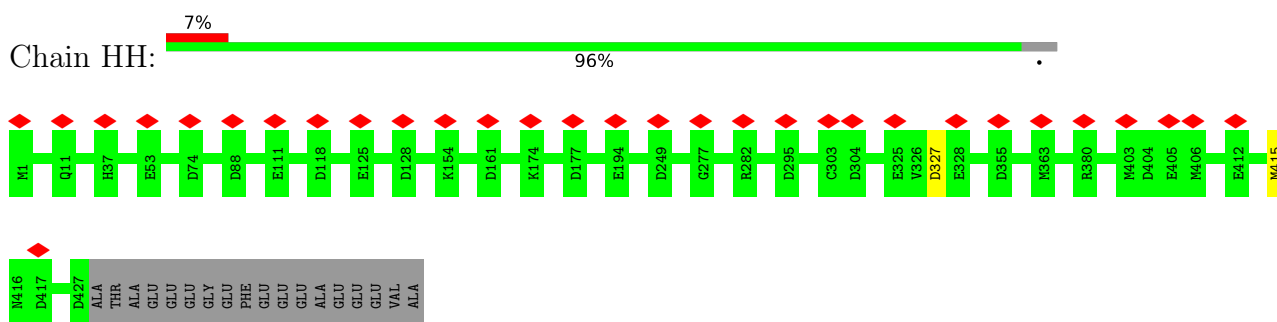
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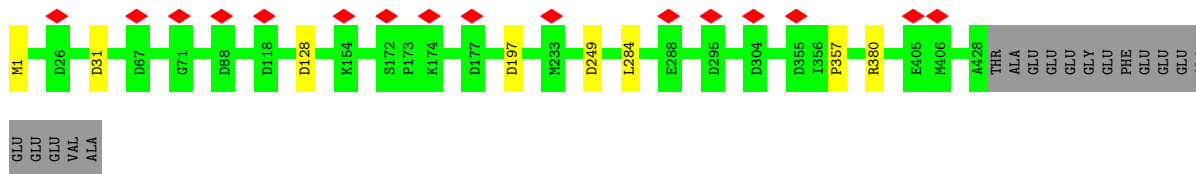
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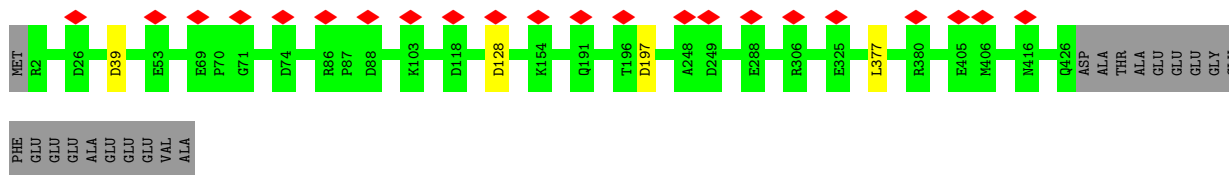
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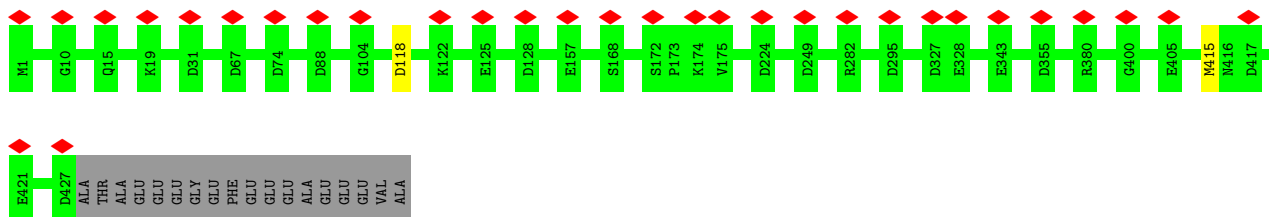




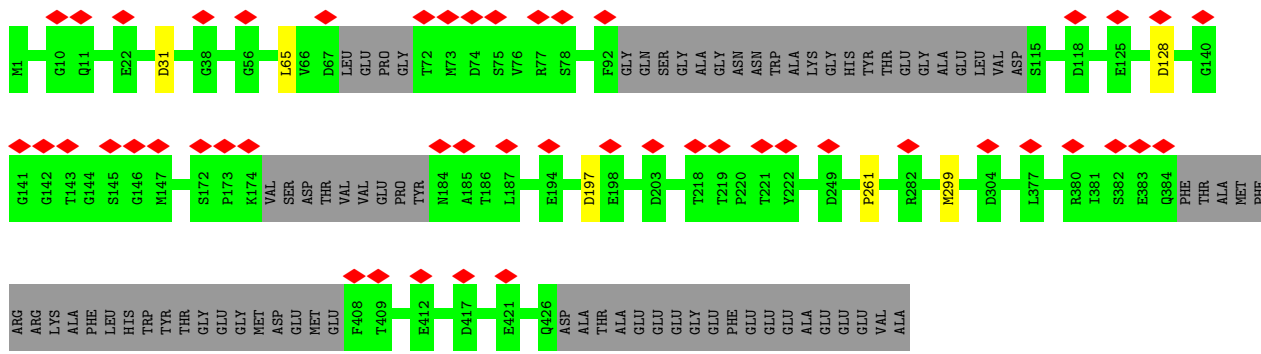
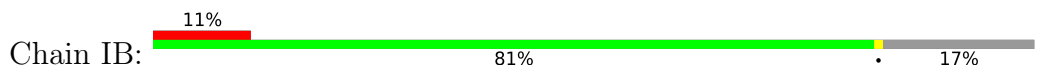
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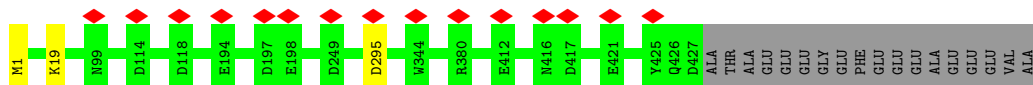
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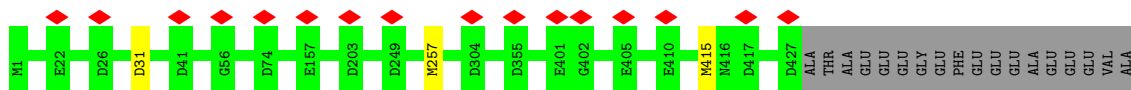


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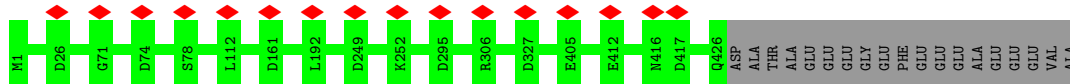
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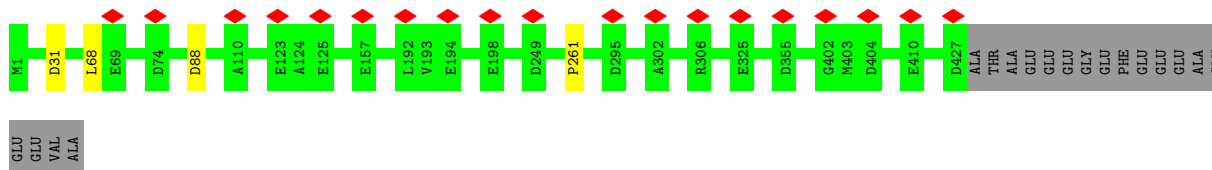
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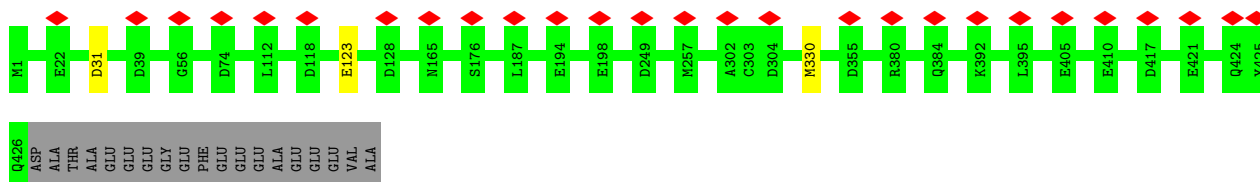
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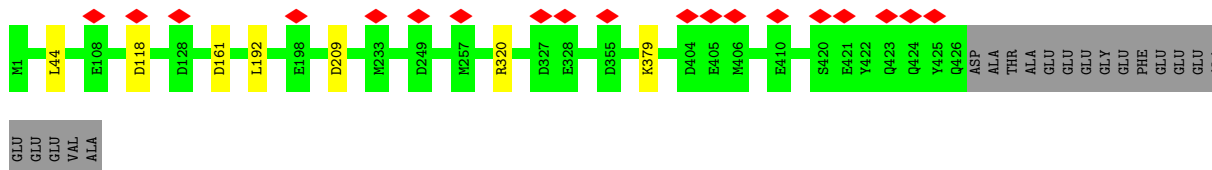
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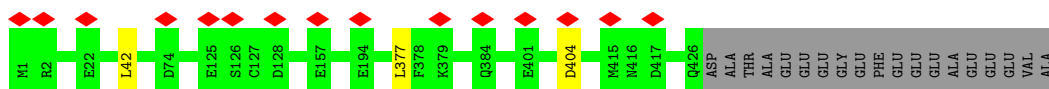
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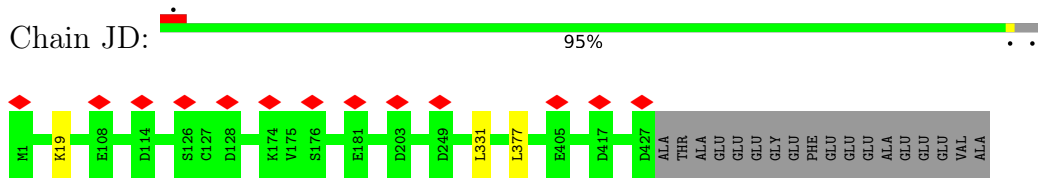


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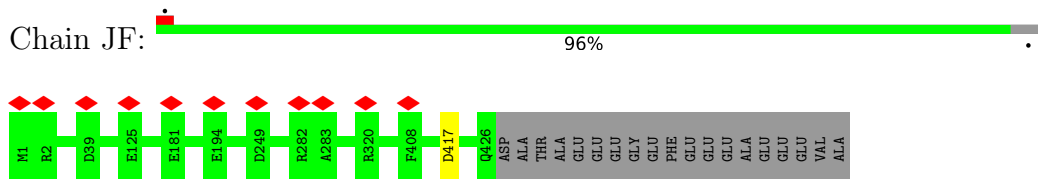
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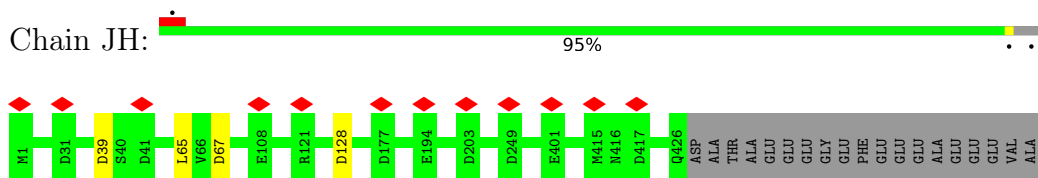
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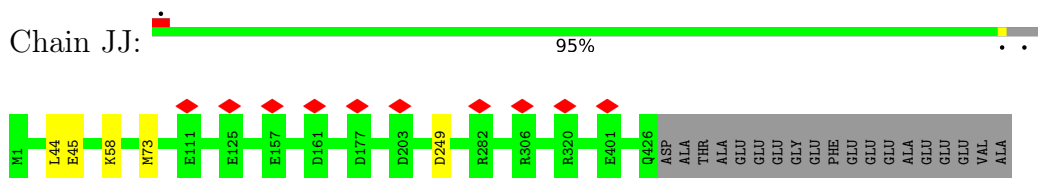
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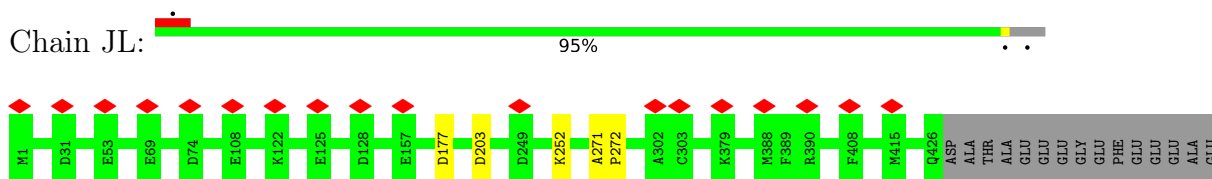
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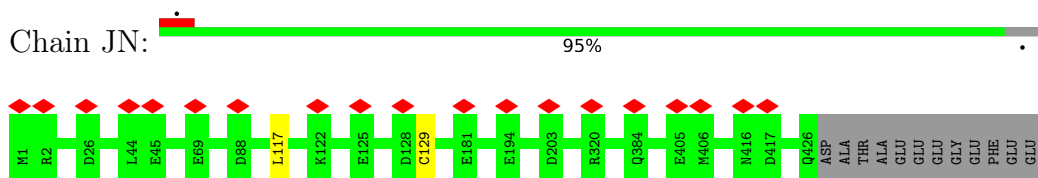


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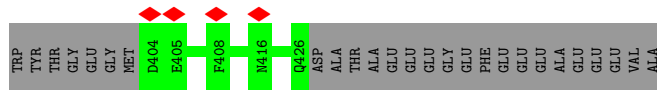
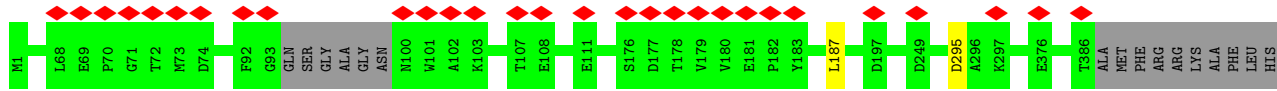
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GLU  
VAL  
ALA

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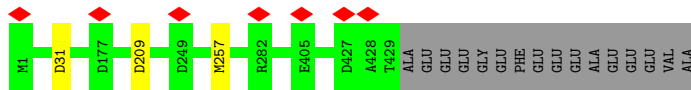


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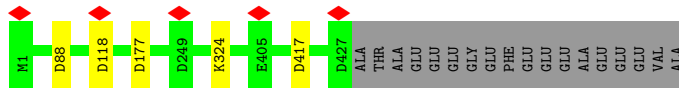




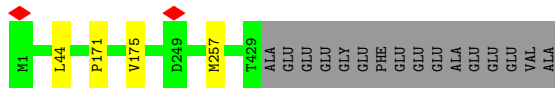
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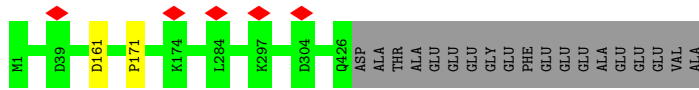
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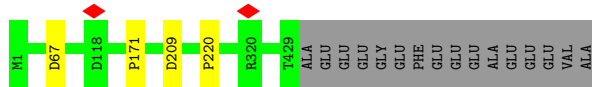
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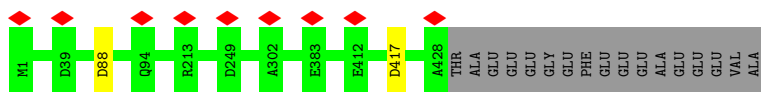


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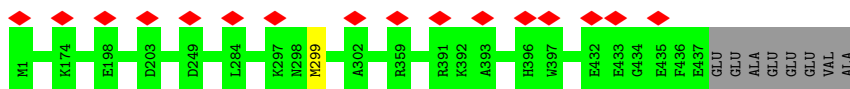


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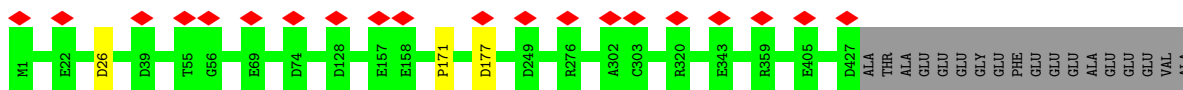




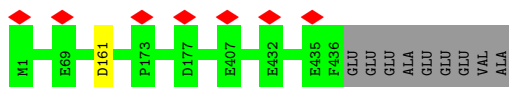
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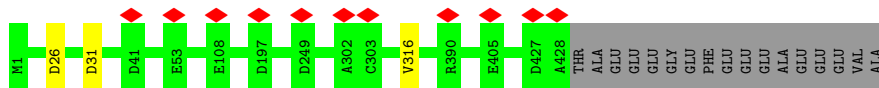
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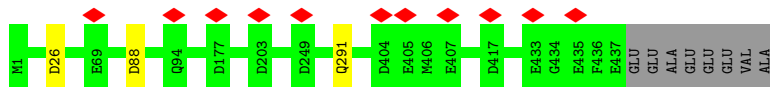
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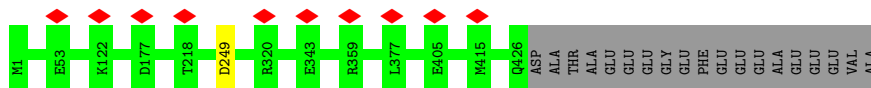
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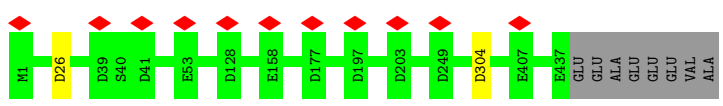
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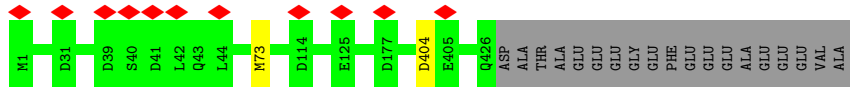
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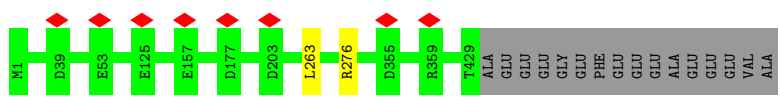
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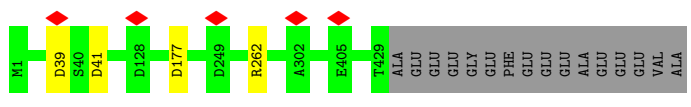
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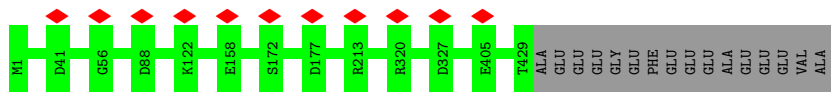
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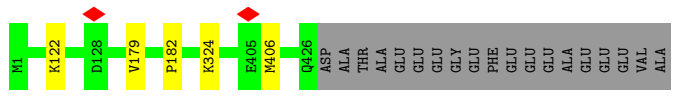
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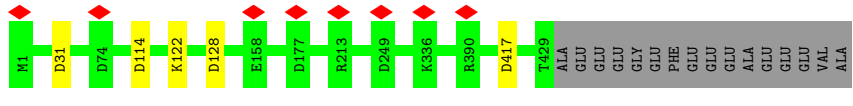
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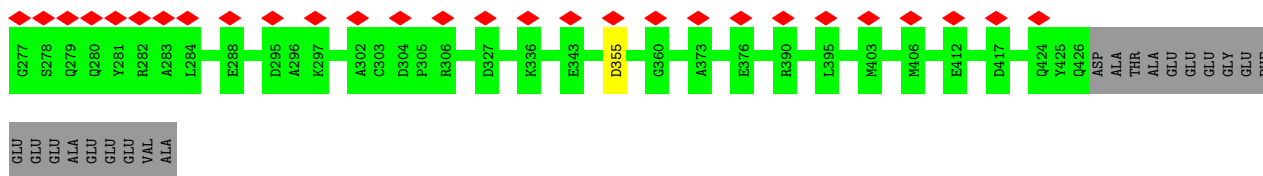
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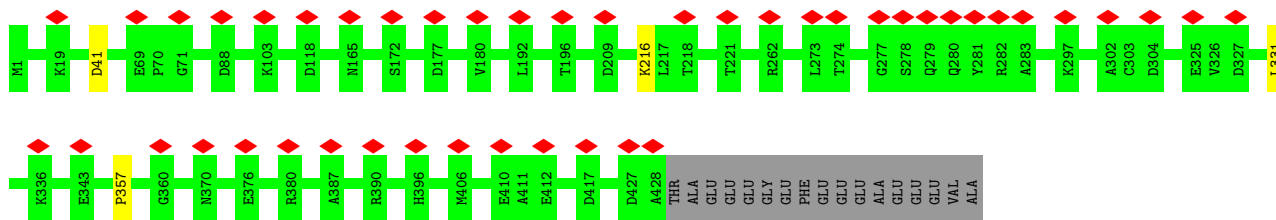
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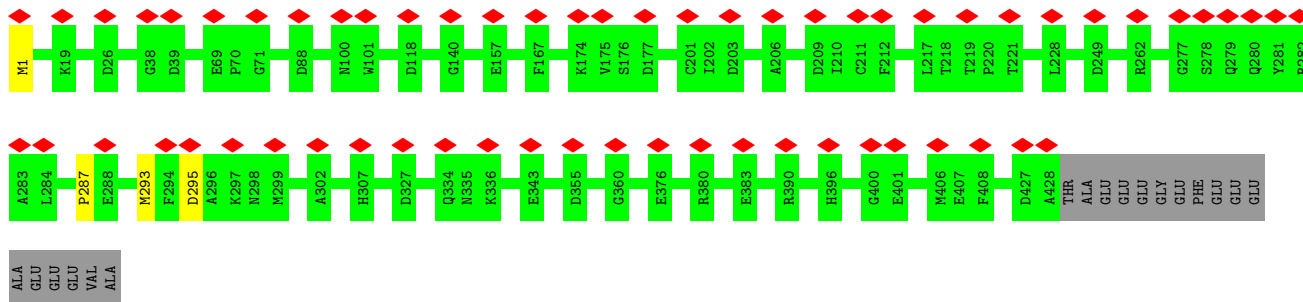




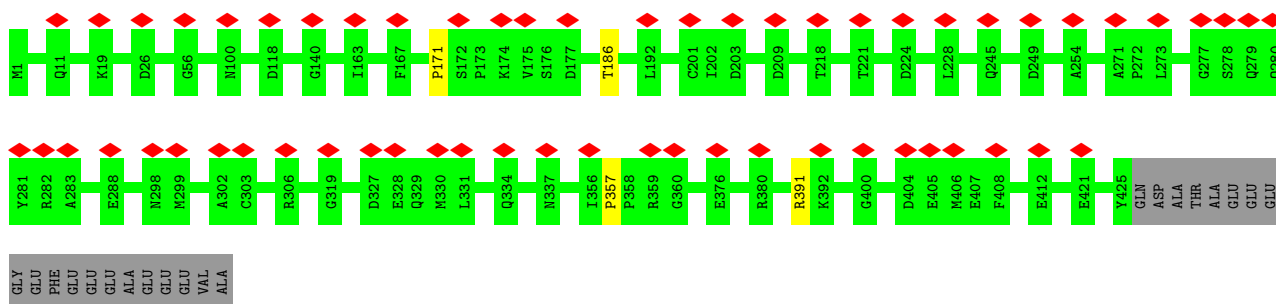
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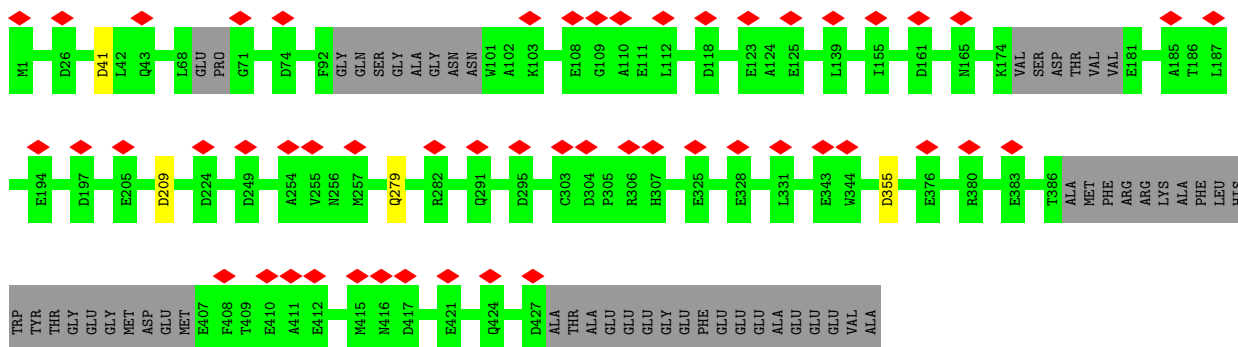
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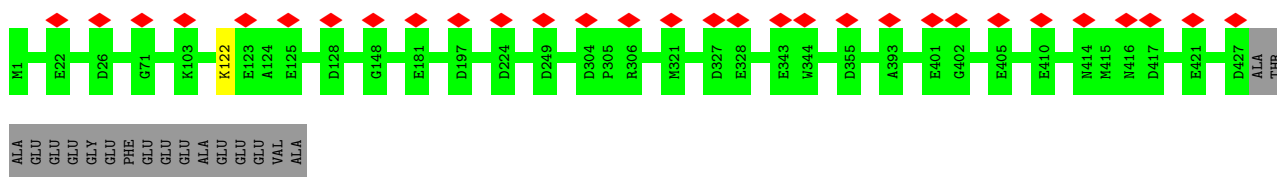
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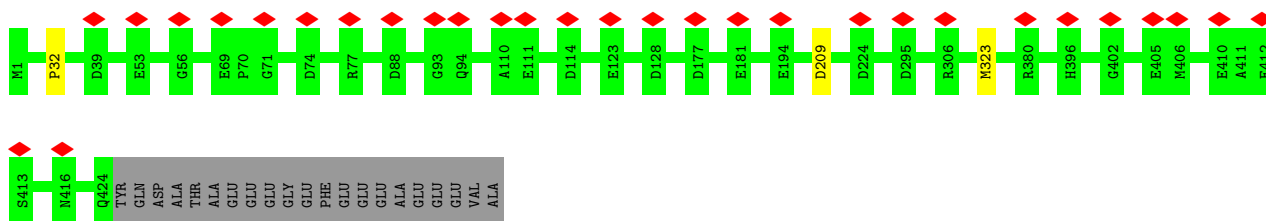




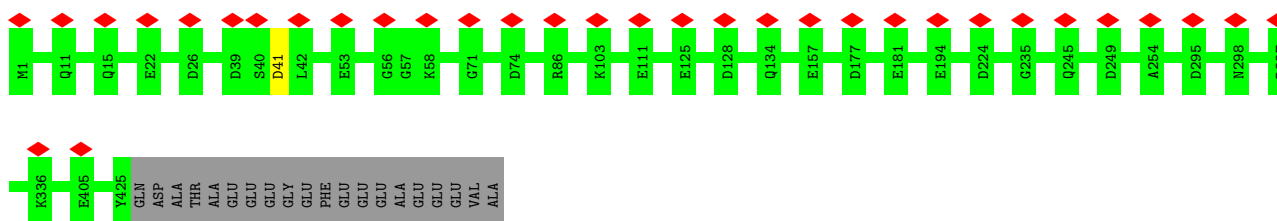
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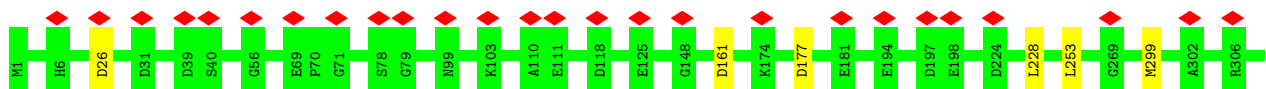
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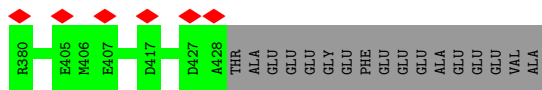


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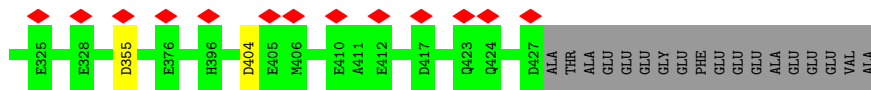
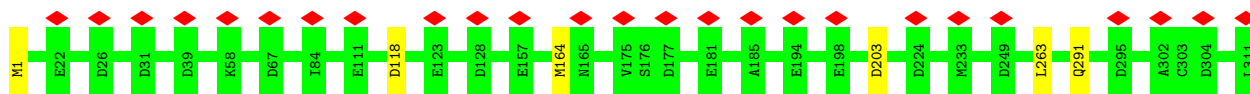


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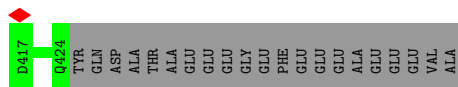
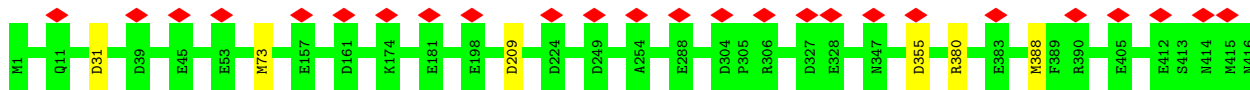




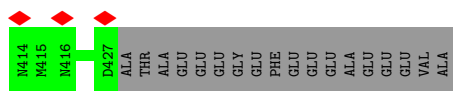
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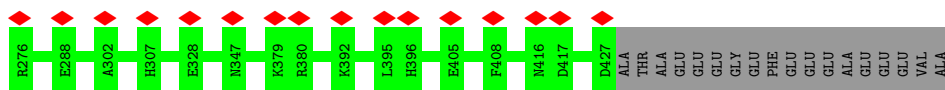
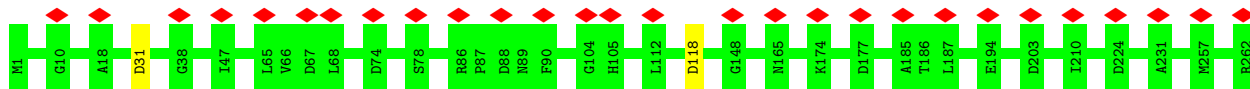
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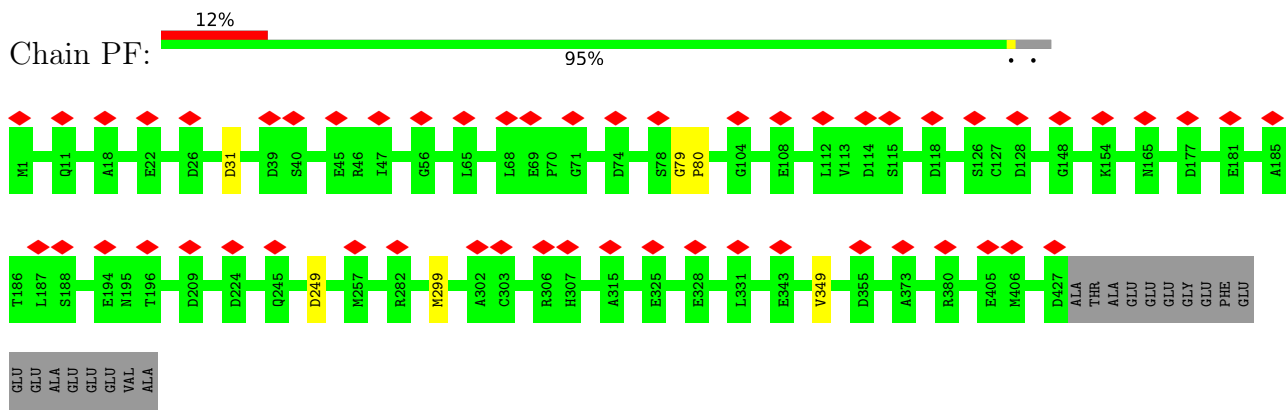
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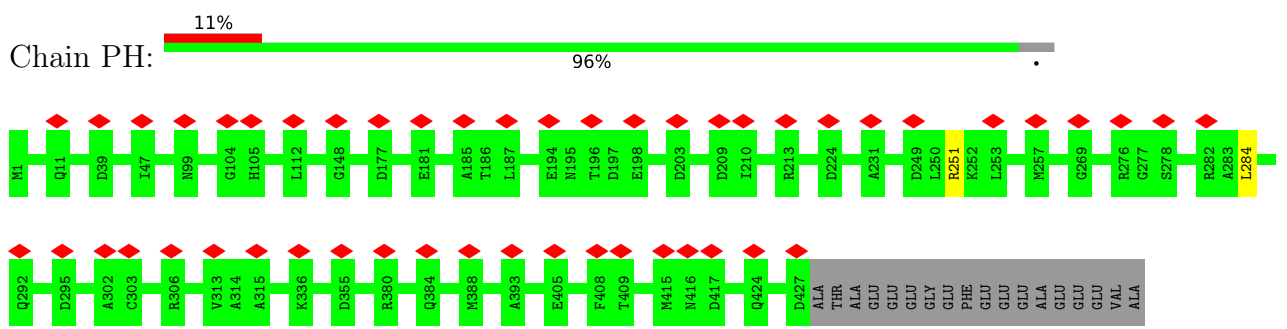
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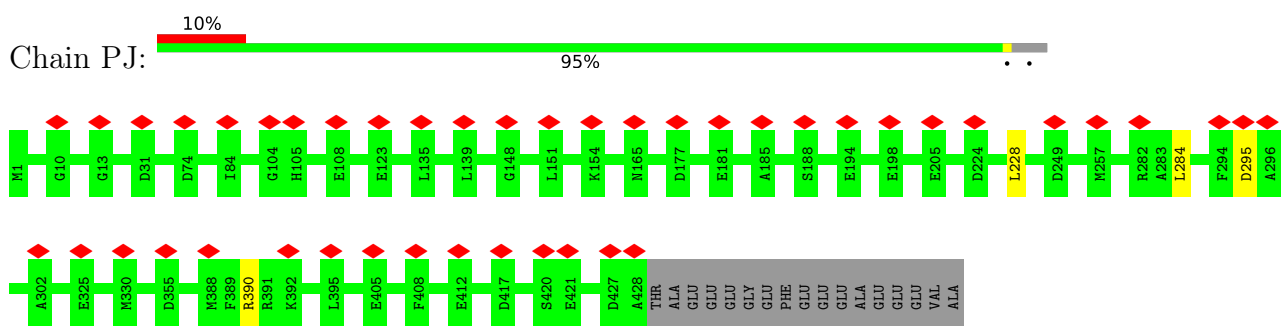
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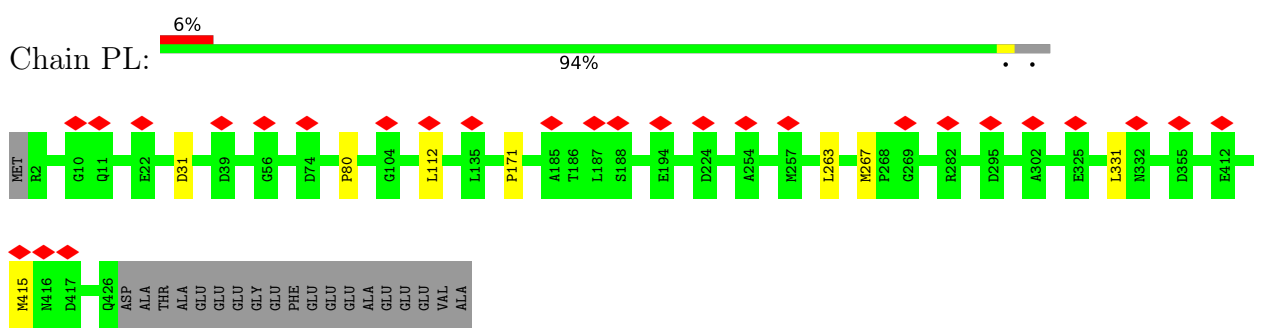
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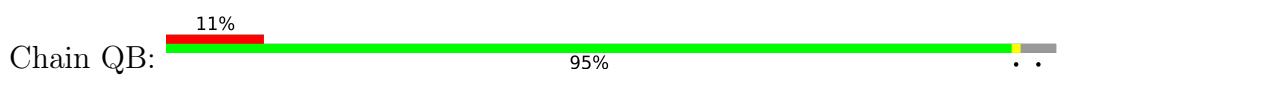
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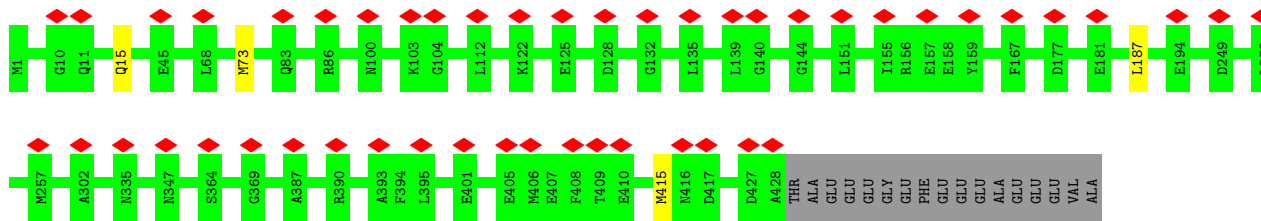


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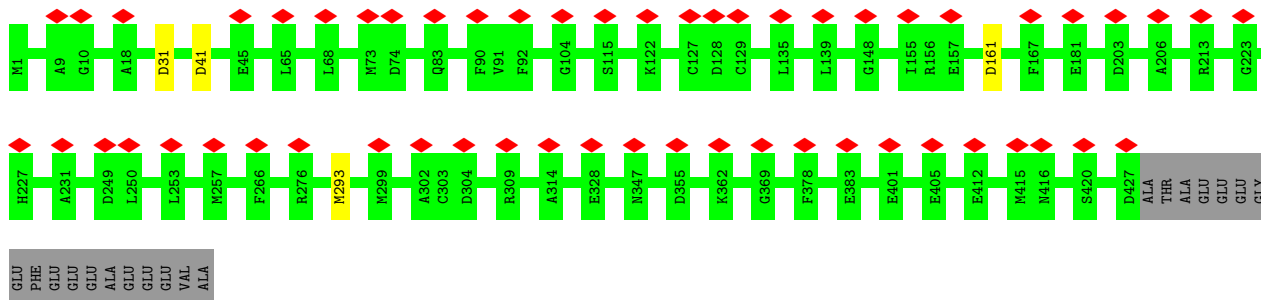


• Molecule 9: Tubulin beta-4B chain

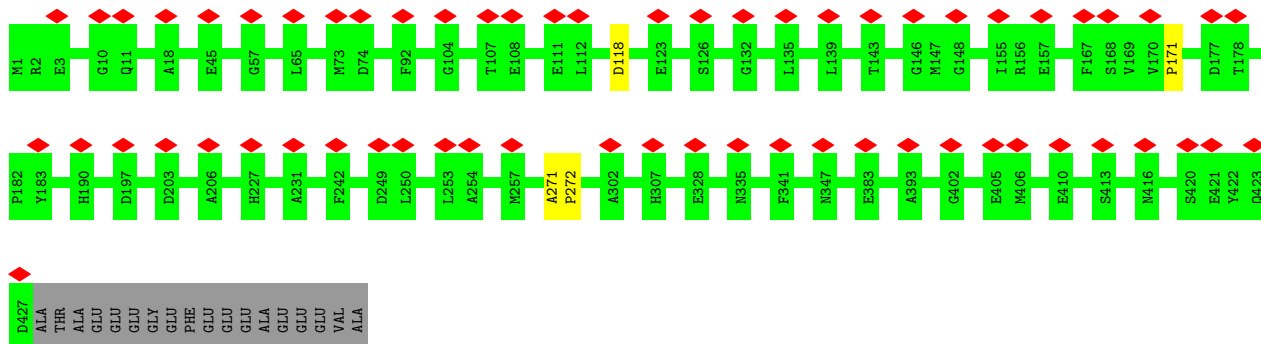




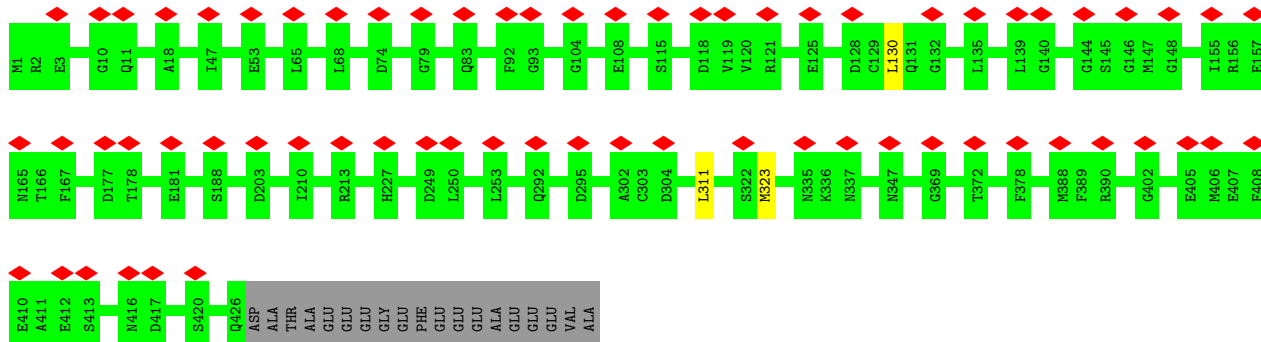
• Molecule 9: Tubulin beta-4B chain



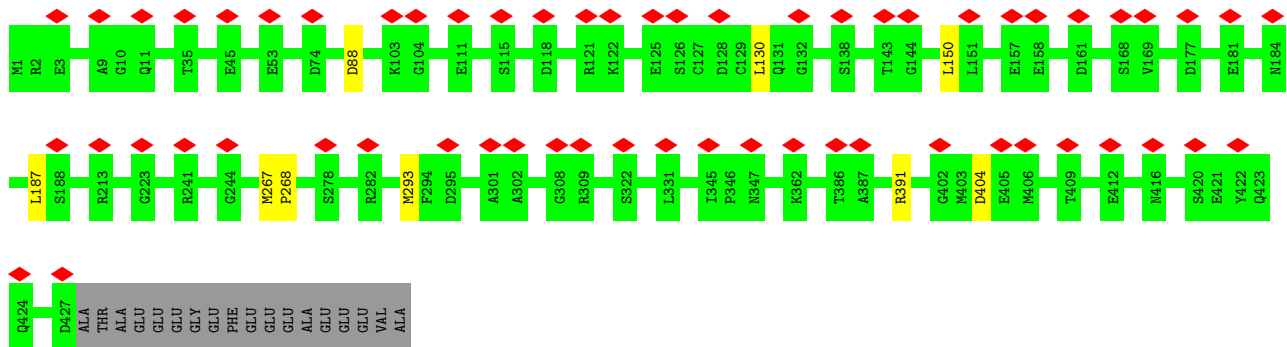
• Molecule 9: Tubulin beta-4B chain



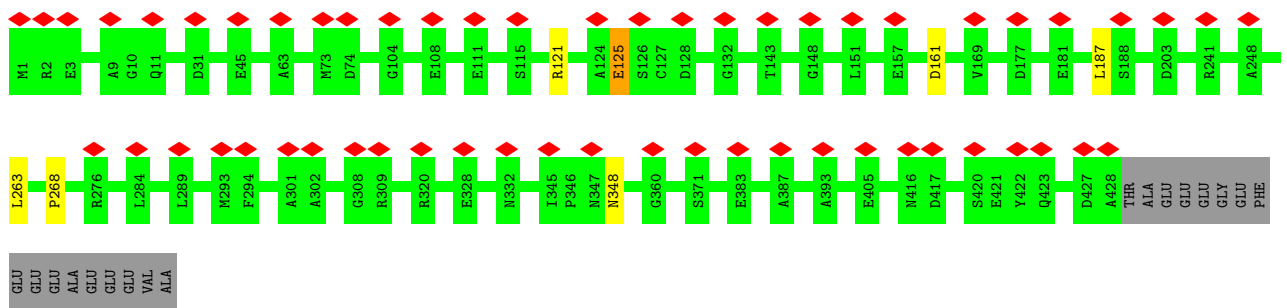
• Molecule 9: Tubulin beta-4B chain



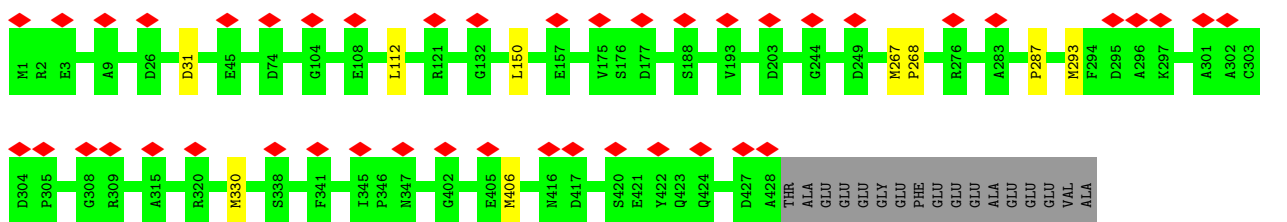




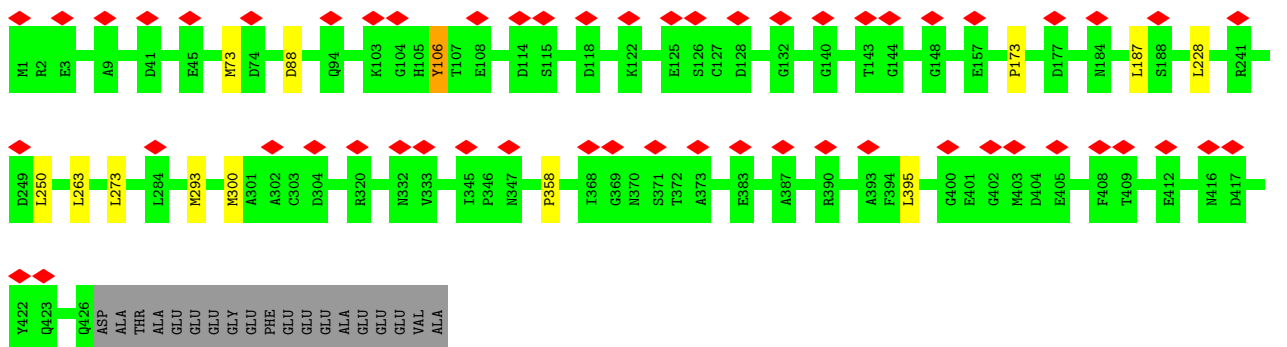
• Molecule 9: Tubulin beta-4B chain



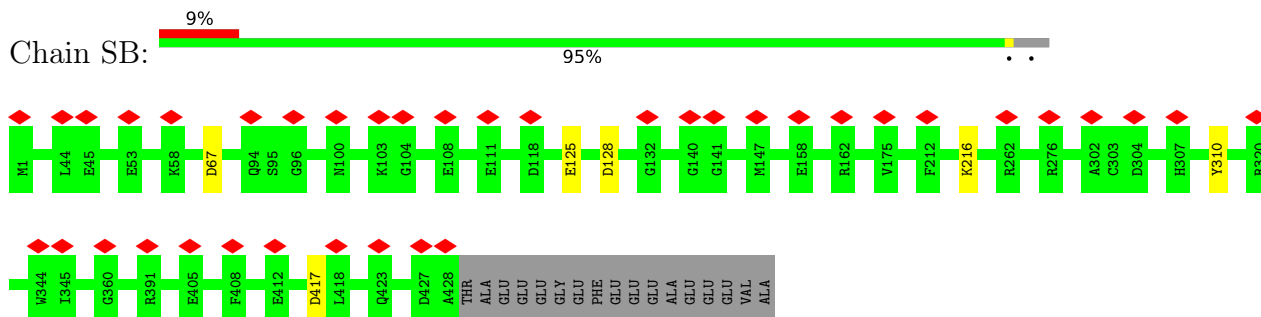
• Molecule 9: Tubulin beta-4B chain



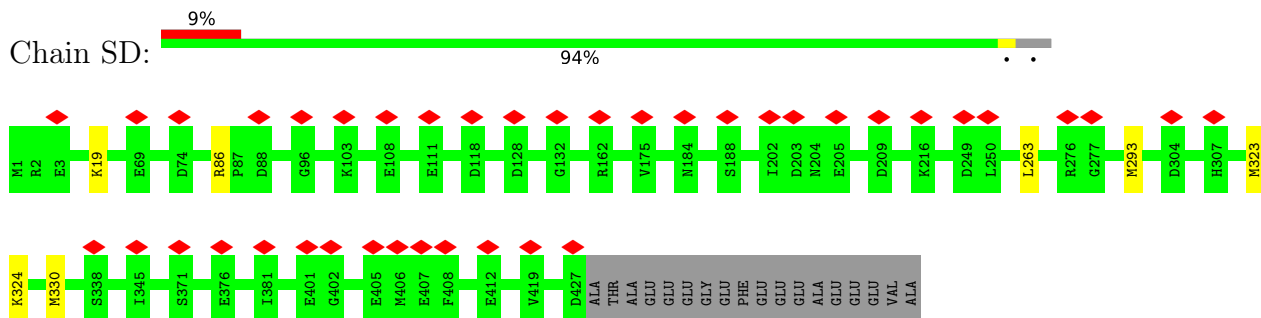
• Molecule 9: Tubulin beta-4B chain



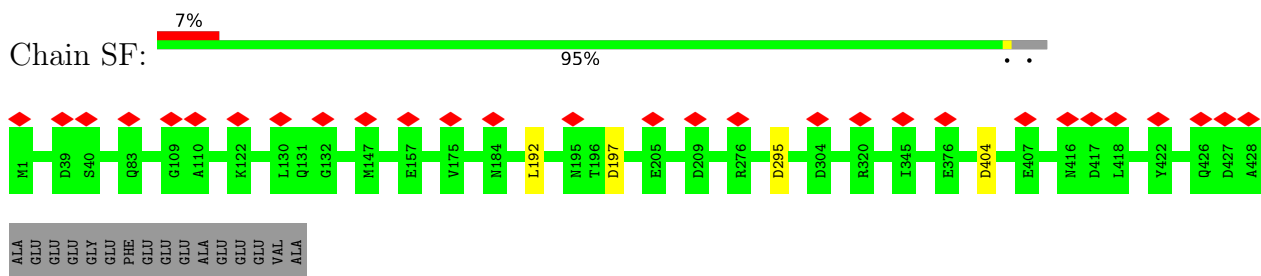
• Molecule 9: Tubulin beta-4B chain



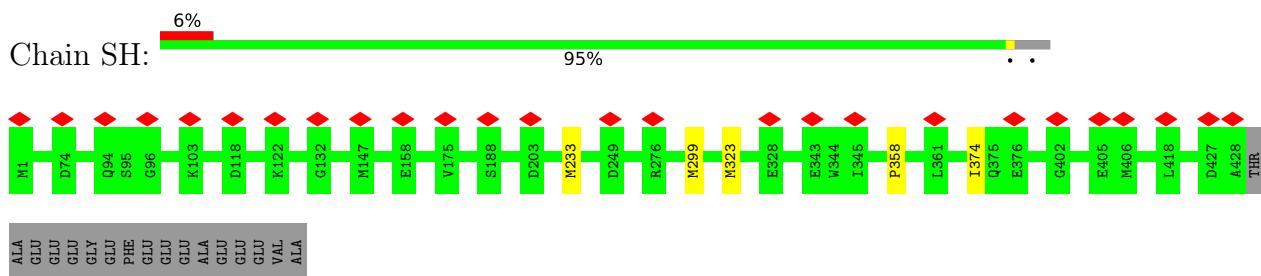
• Molecule 9: Tubulin beta-4B chain



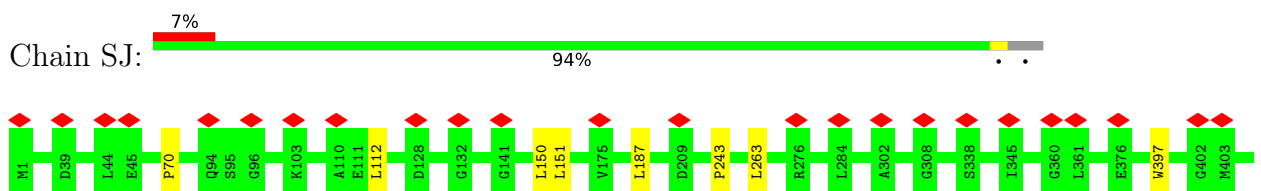
• Molecule 9: Tubulin beta-4B chain

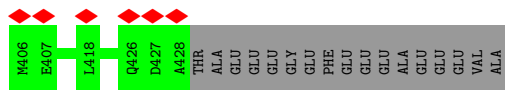


• Molecule 9: Tubulin beta-4B chain

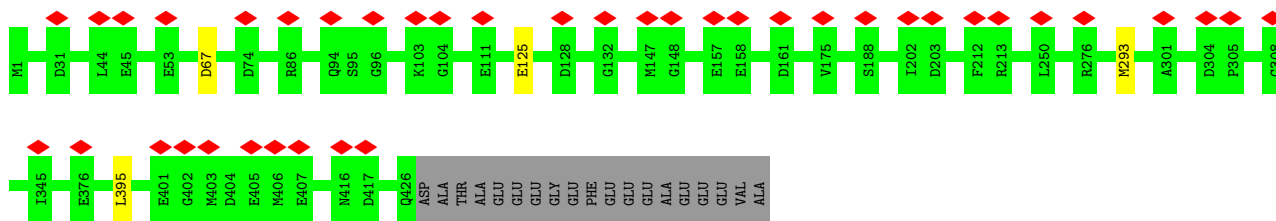


• Molecule 9: Tubulin beta-4B chain

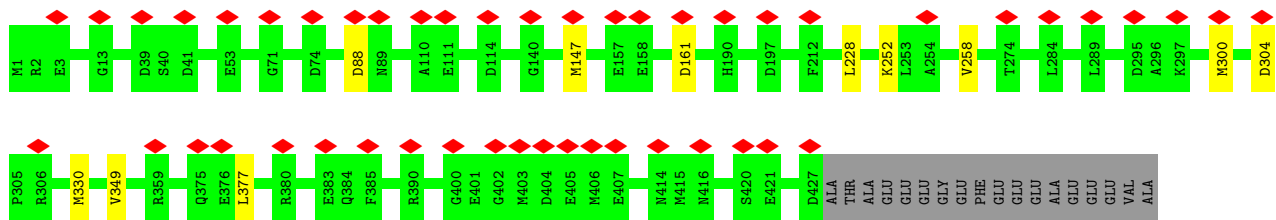




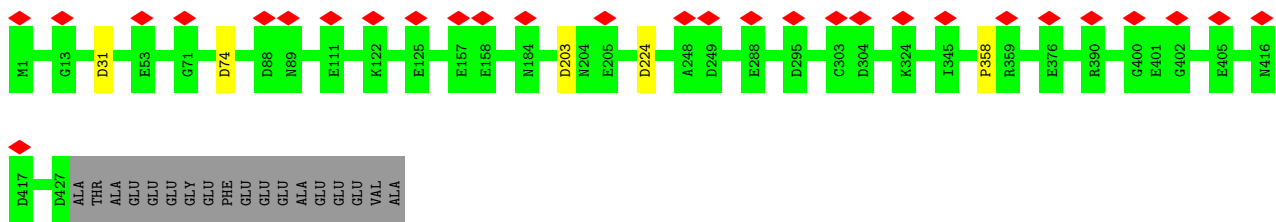
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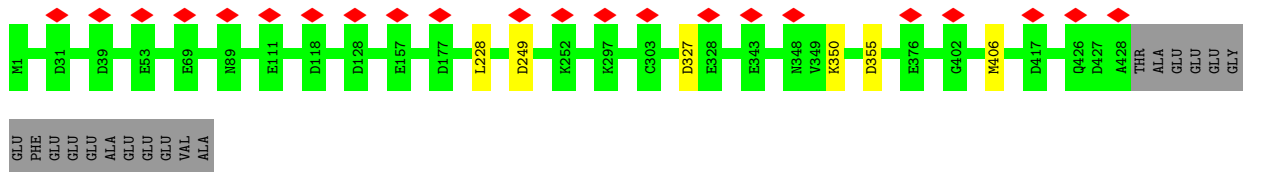
• Molecule 9: Tubulin beta-4B chain



• Molecule 9: Tubulin beta-4B chain



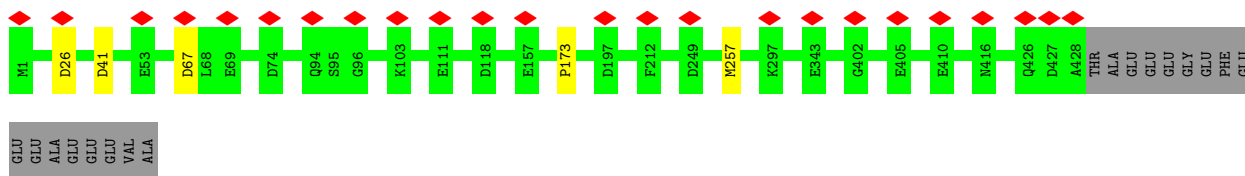
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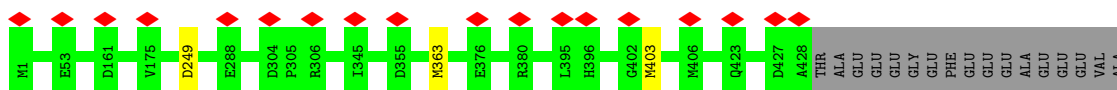
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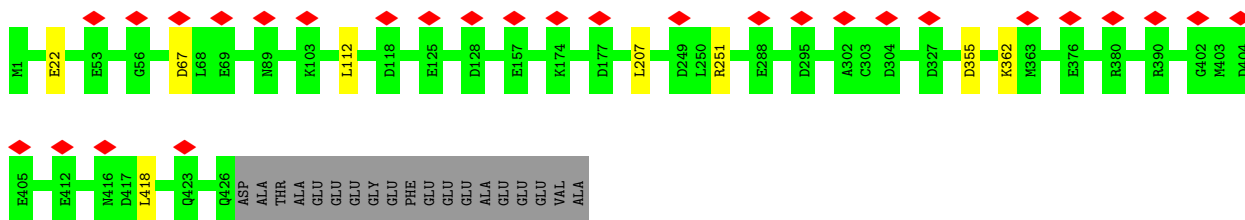




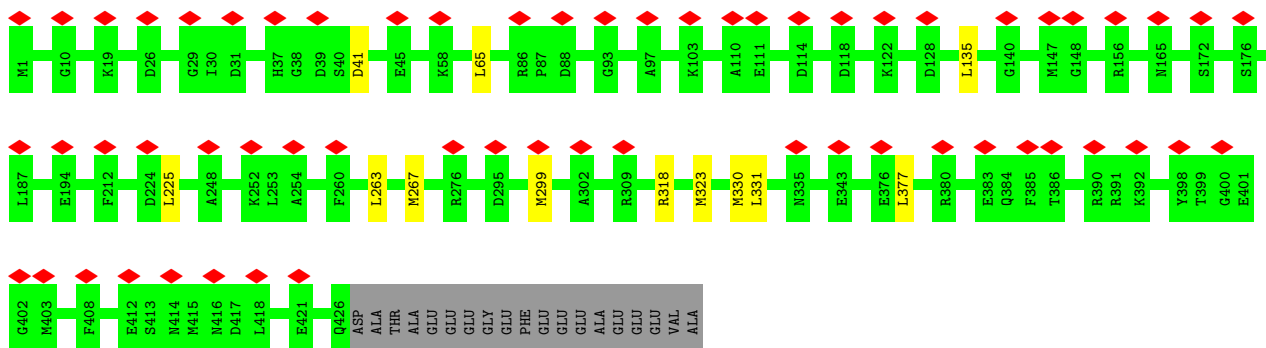
• Molecule 9: Tubulin beta-4B chain



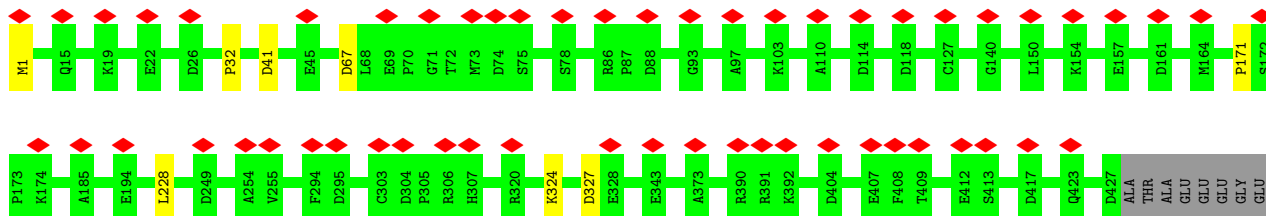
• Molecule 9: Tubulin beta-4B chain



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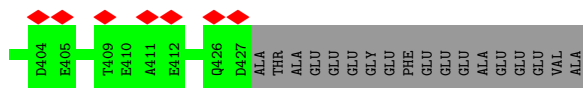


• Molecule 9: Tubulin beta-4B chain

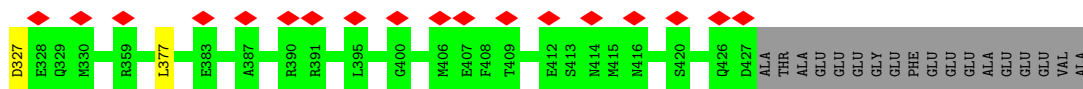
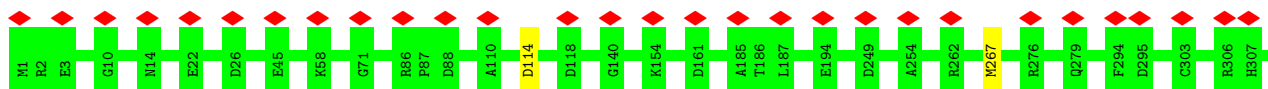


PHE  
GLU  
GLU  
GLU  
ALA  
ALA  
GLU  
GLU  
VAL  
ALA

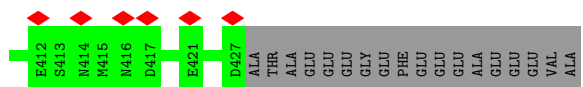
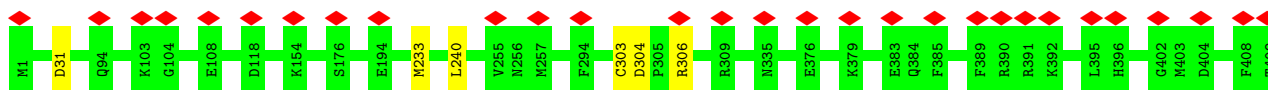
• Molecule 9: Tubulin beta-4B chain



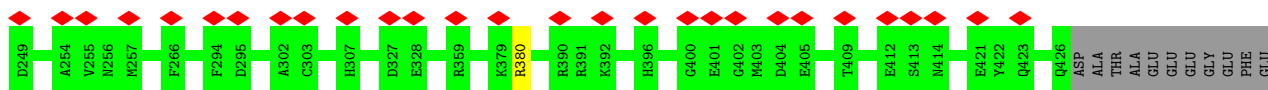
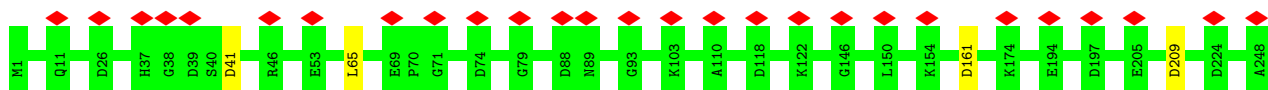
• Molecule 9: Tubulin beta-4B chain



• Molecule 9: Tubulin beta-4B chain



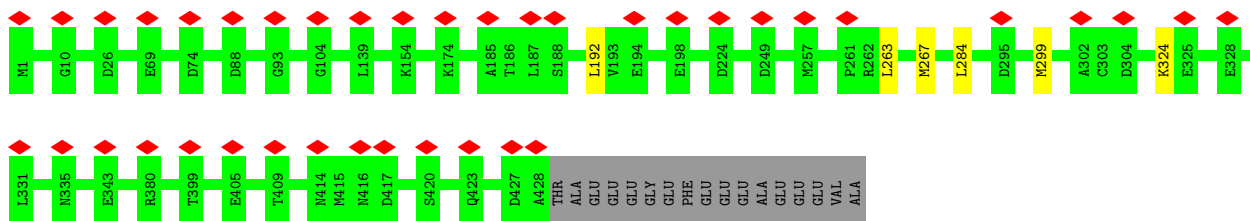
• Molecule 9: Tubulin beta-4B chain



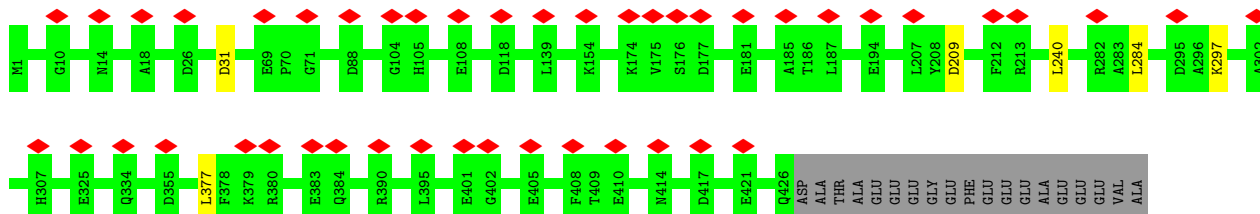
GLU  
GLU  
ALA  
GLU  
GLU  
VAL  
ALA

• Molecule 9: Tubulin beta-4B chain

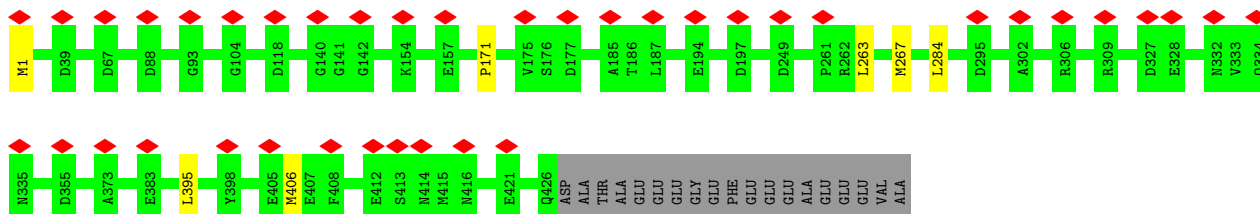




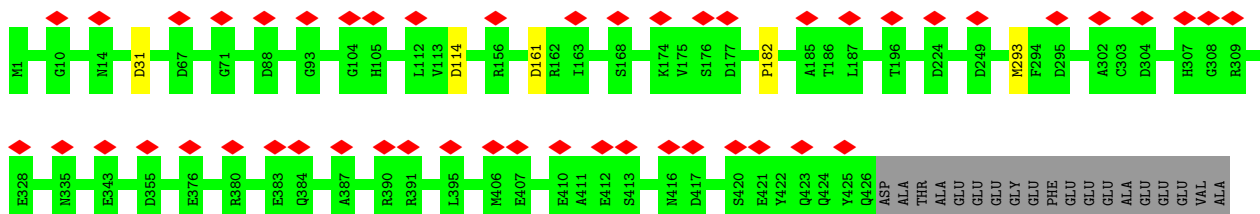
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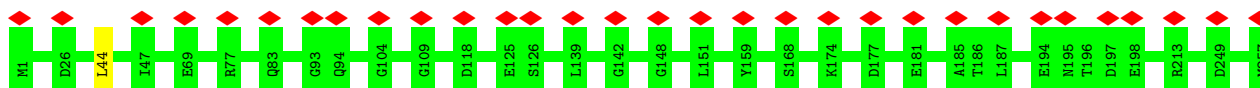
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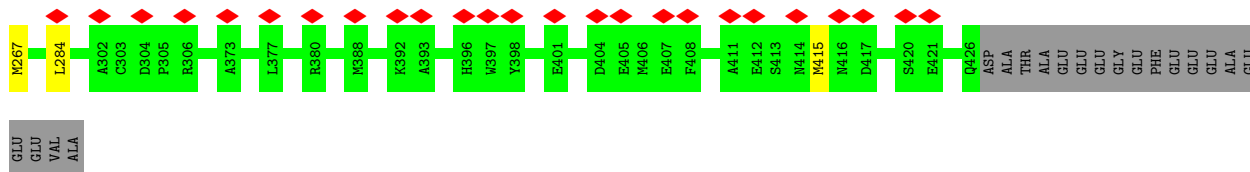


• Molecule 9: Tubulin beta-4B chain

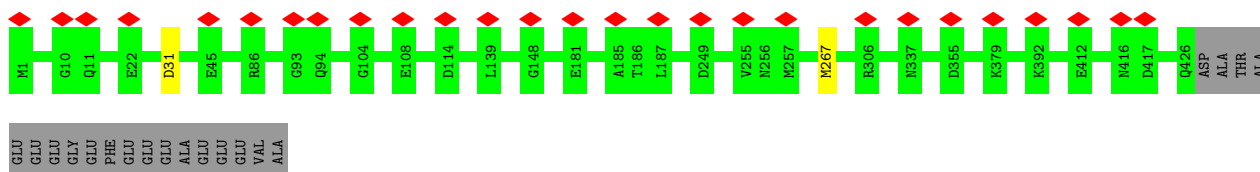


• Molecule 9: Tubulin beta-4B chain

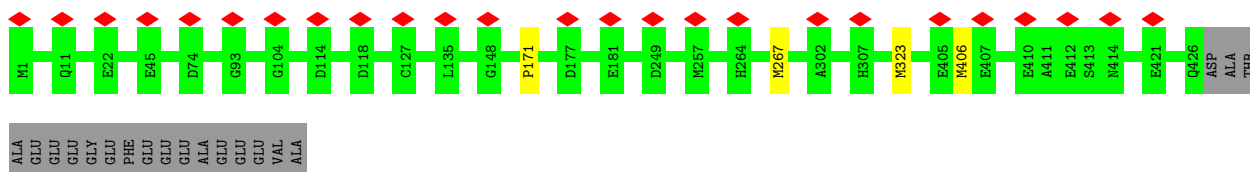




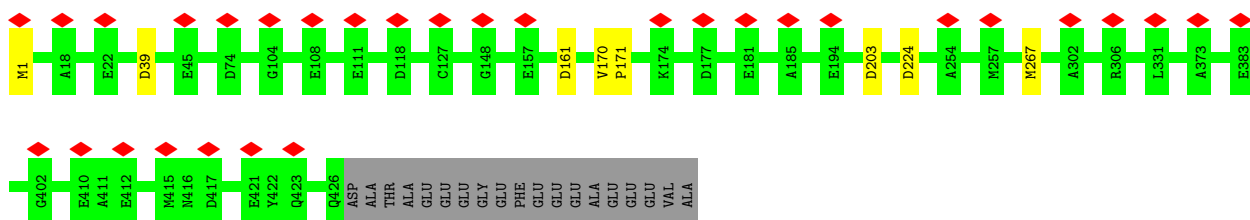
● Molecule 9: Tubulin beta-4B chain



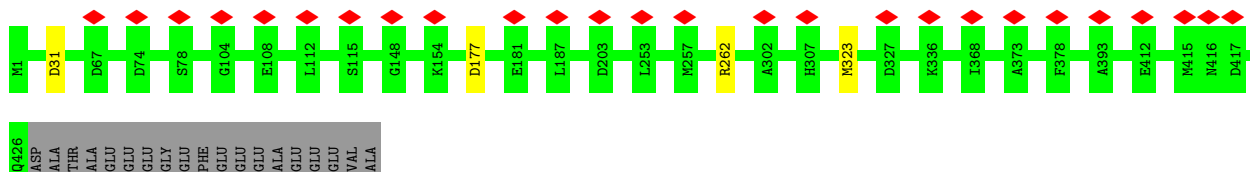
● Molecule 9: Tubulin beta-4B chain



● Molecule 9: Tubulin beta-4B chain



● Molecule 9: Tubulin beta-4B chain

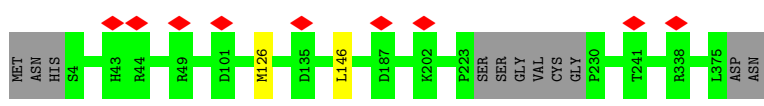


● Molecule 9: Tubulin beta-4B chain

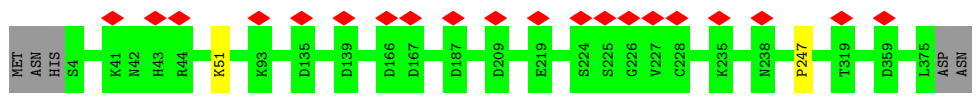




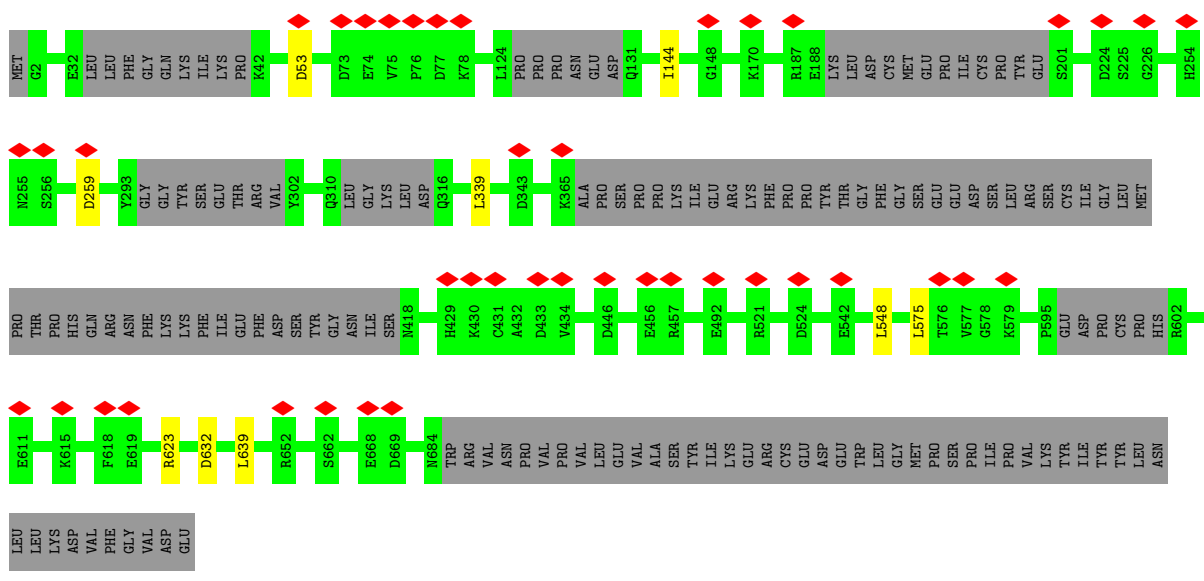
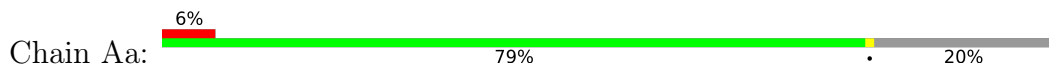




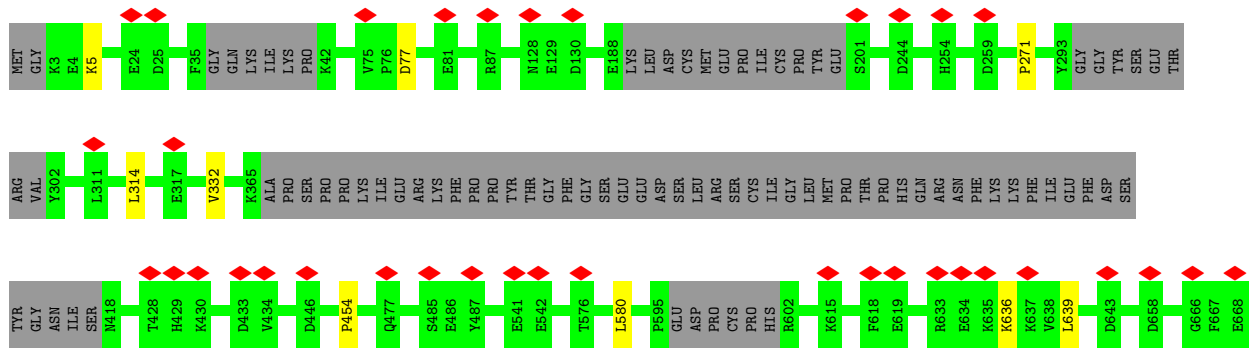
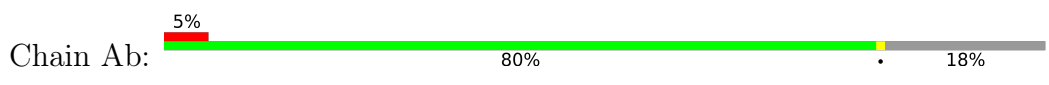
- Molecule 12: Nucleoside diphosphate kinase 7



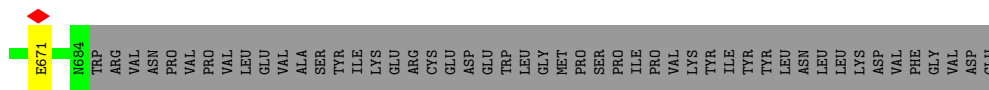
- Molecule 13: EF-hand domain-containing family member C2



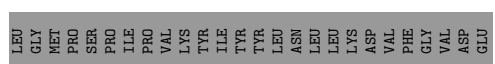
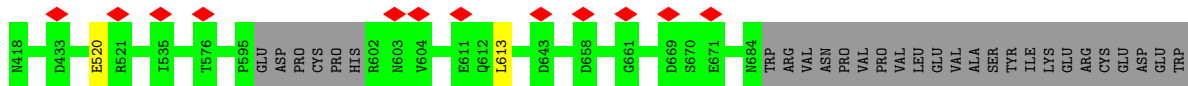
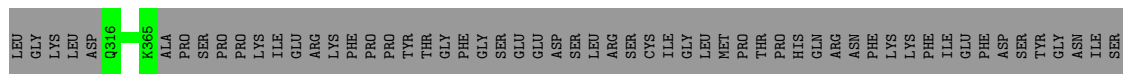
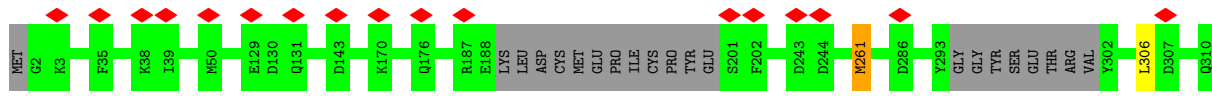
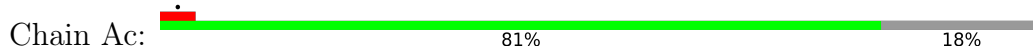
- Molecule 13: EF-hand domain-containing family member C2



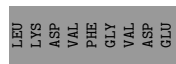
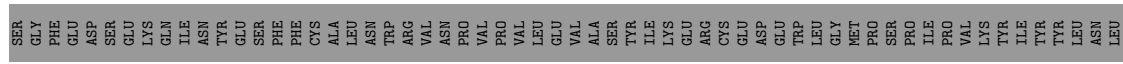
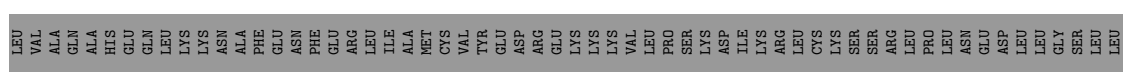
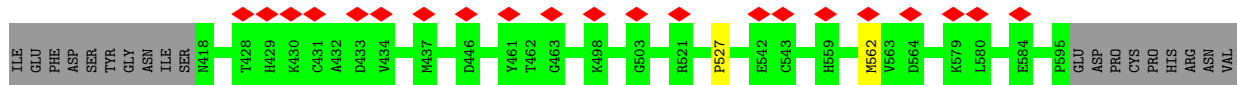
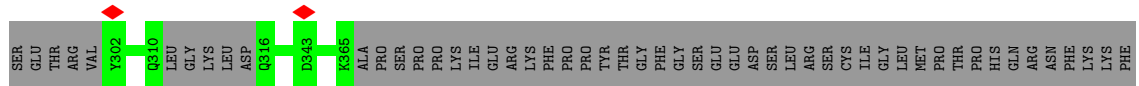
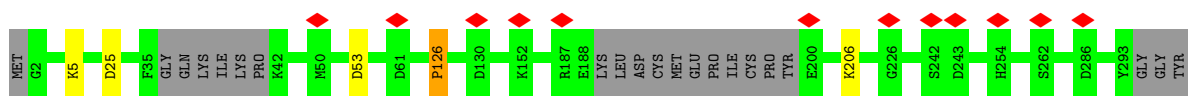




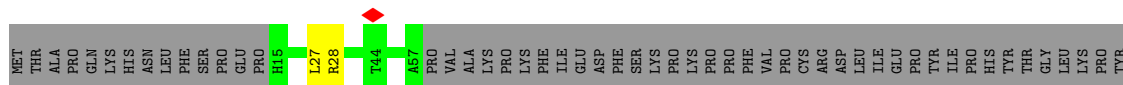
• Molecule 13: EF-hand domain-containing family member C2



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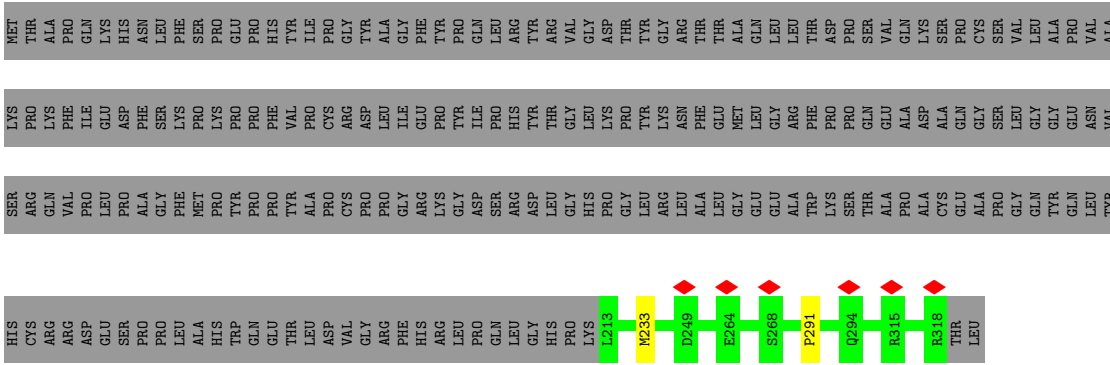


• Molecule 14: Family with sequence similarity 166 member A

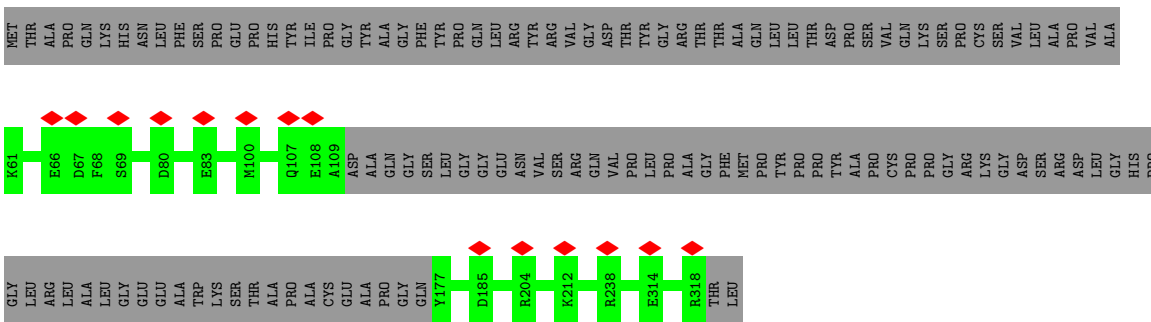




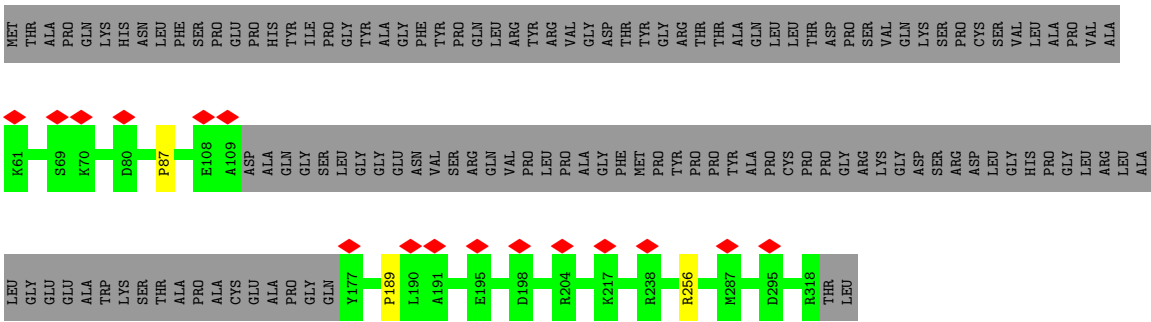




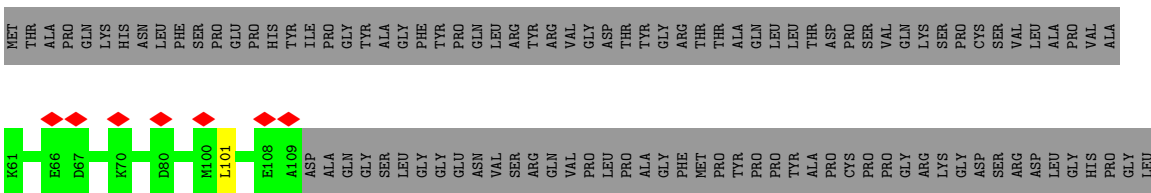
- Molecule 14: Family with sequence similarity 166 member A



- Molecule 14: Family with sequence similarity 166 member A



- Molecule 14: Family with sequence similarity 166 member A









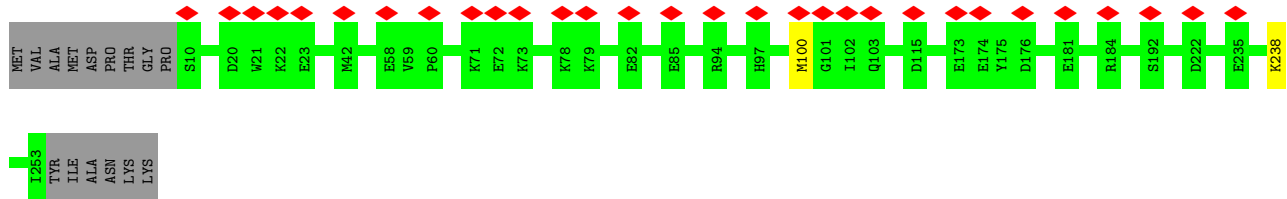




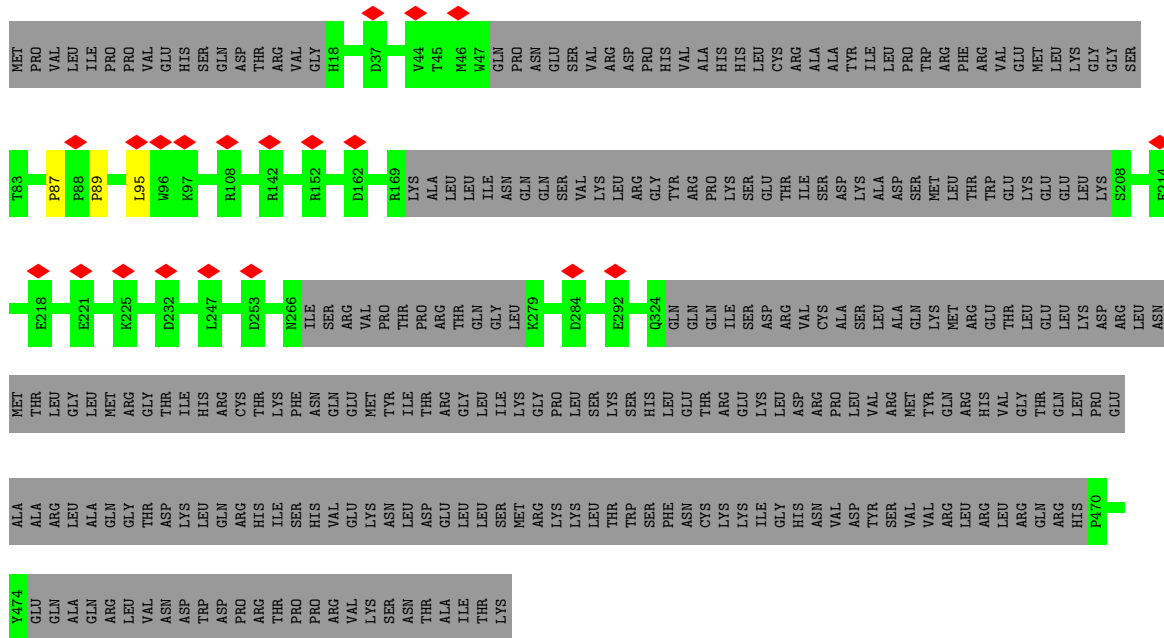




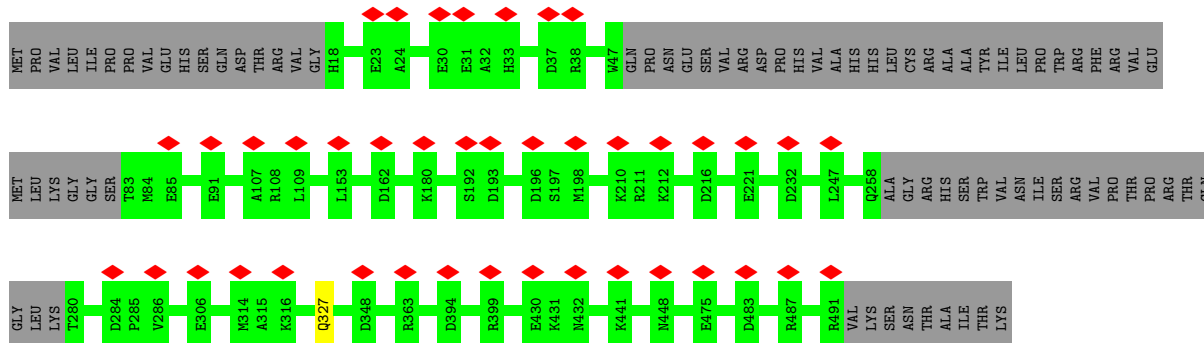
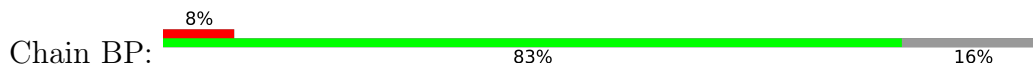




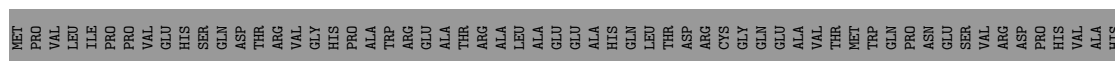
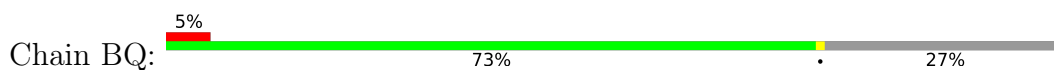
• Molecule 19: Coiled-coil domain-containing protein 105



• Molecule 19: Coiled-coil domain-containing protein 105



• Molecule 19: Coiled-coil domain-containing protein 105





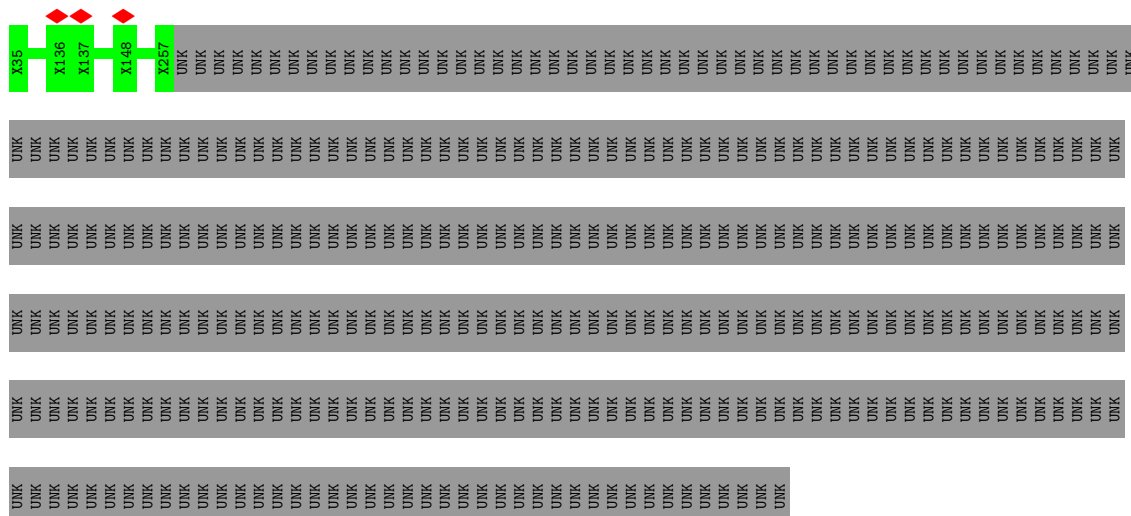




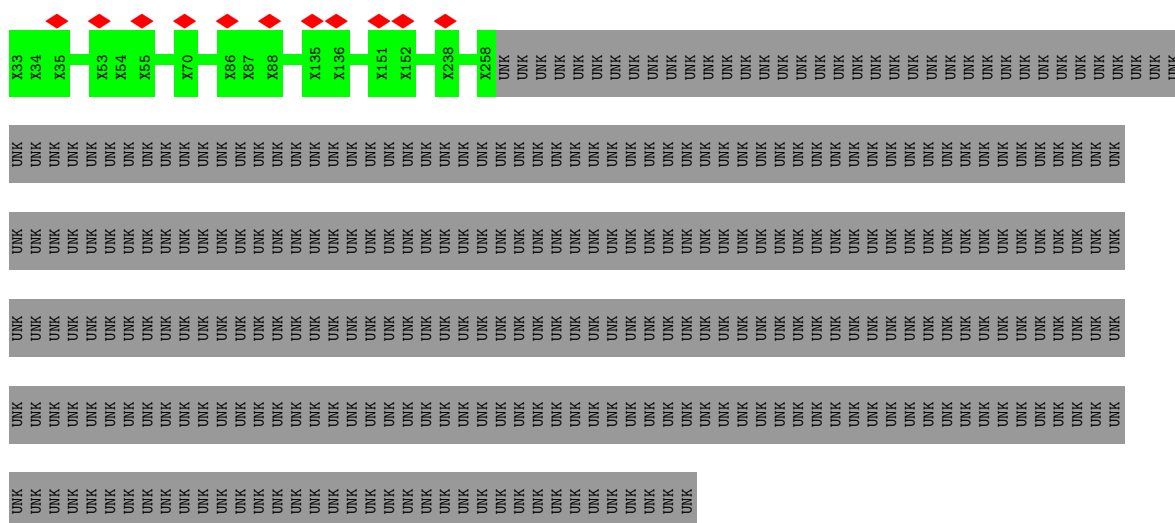




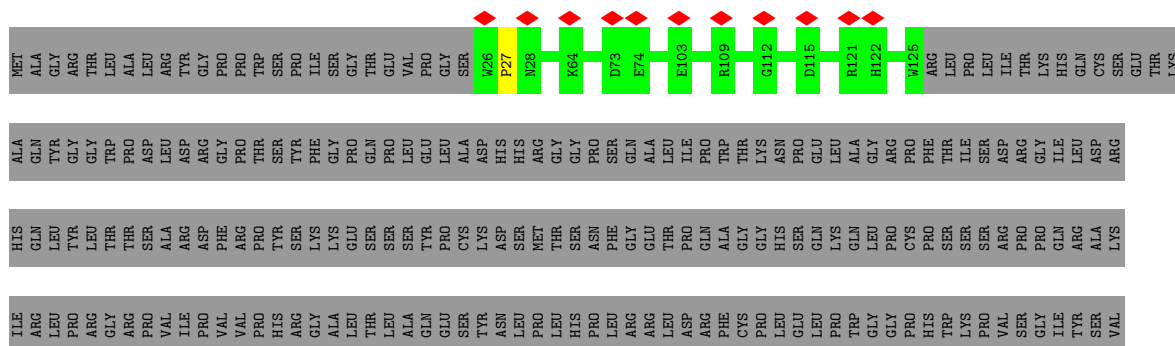




• Molecule 25: Stabilizer of axonemal microtubules 1



• Molecule 26: Stabilizer of axonemal microtubules 3







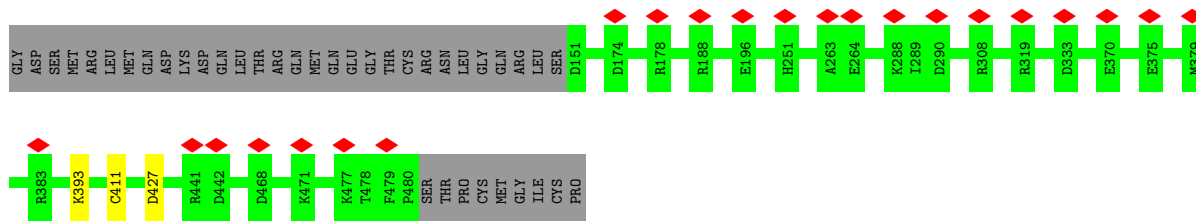




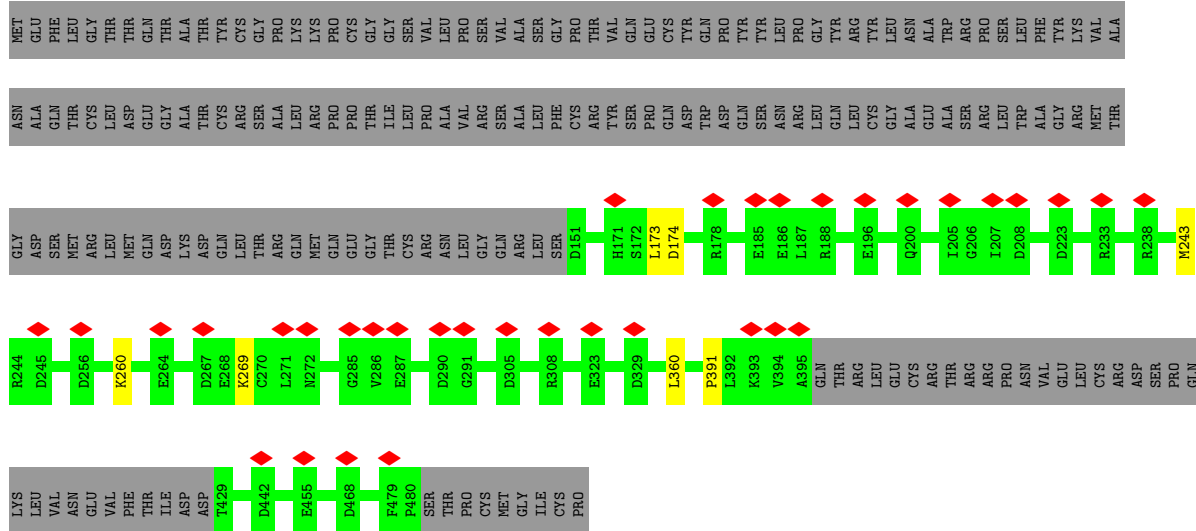




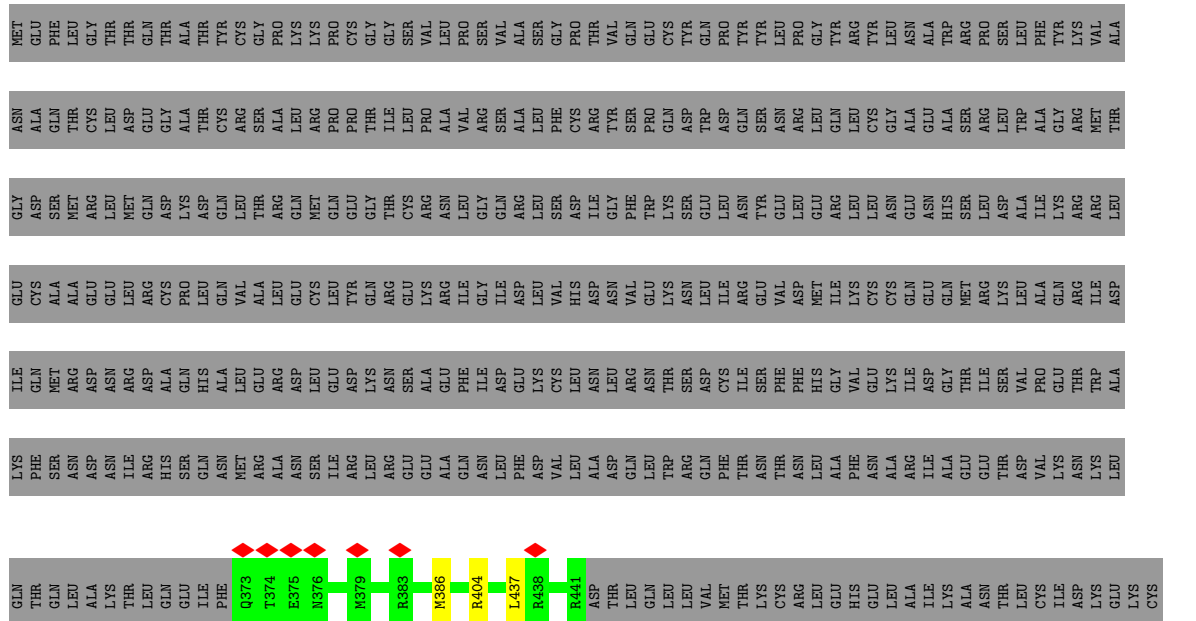




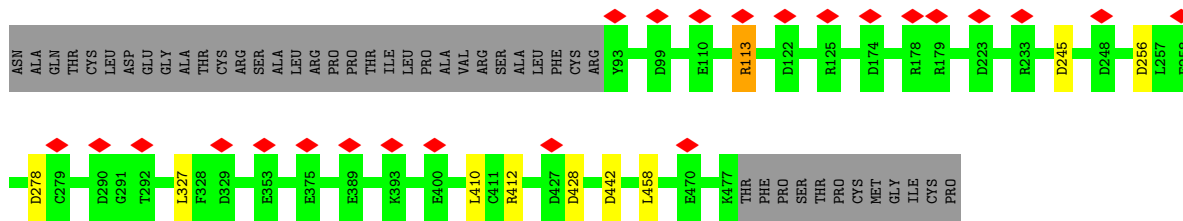
• Molecule 29: Tektin-5



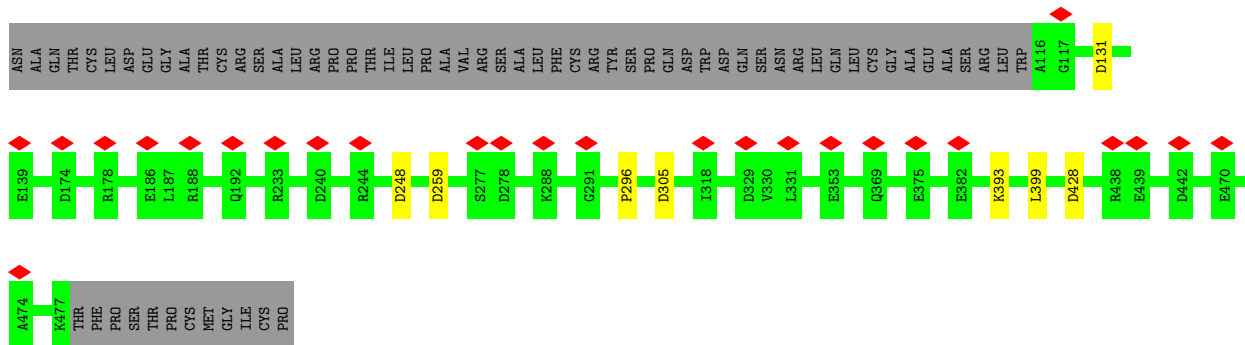
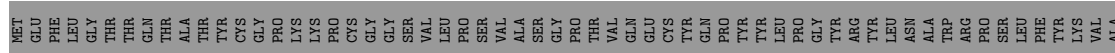
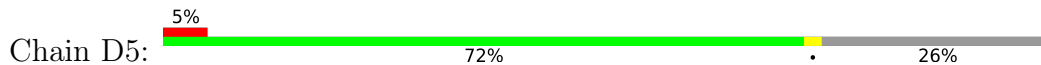
• Molecule 29: Tektin-5



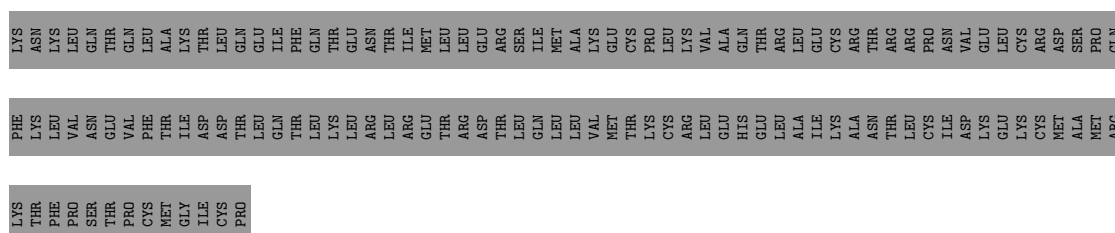
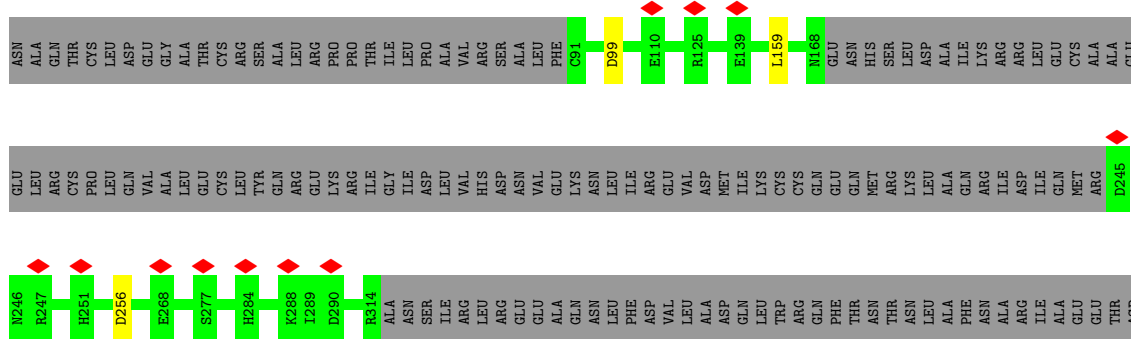
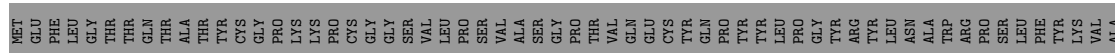




• Molecule 29: Tektin-5



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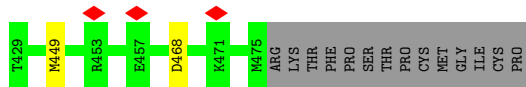


• Molecule 29: Tektin-5

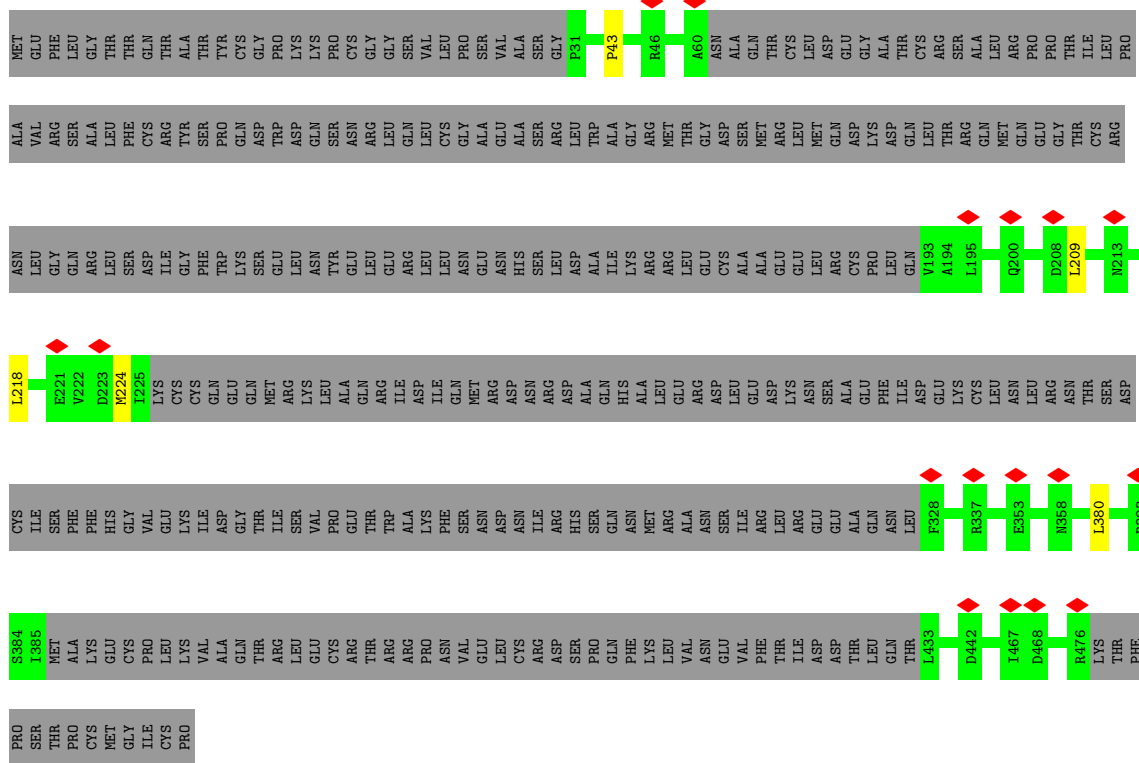




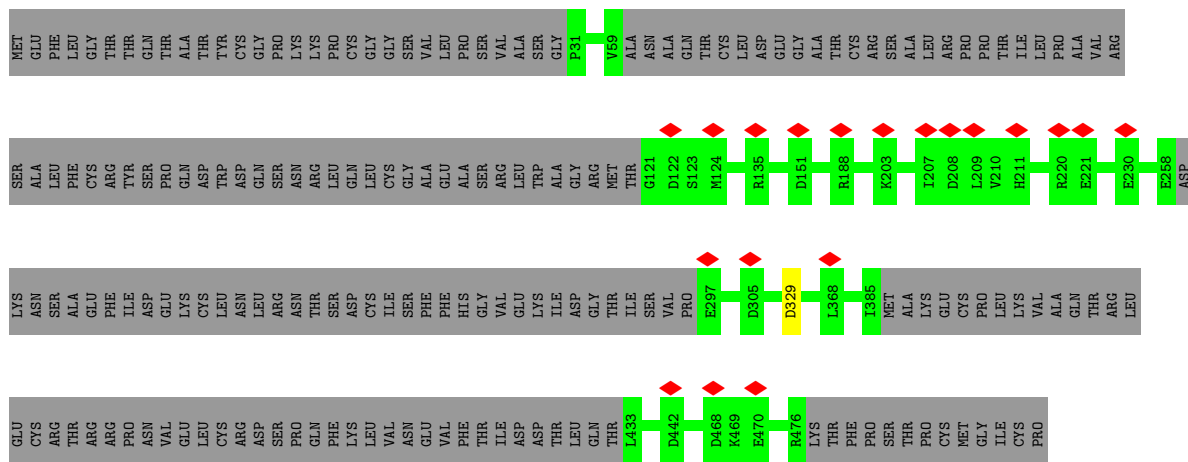




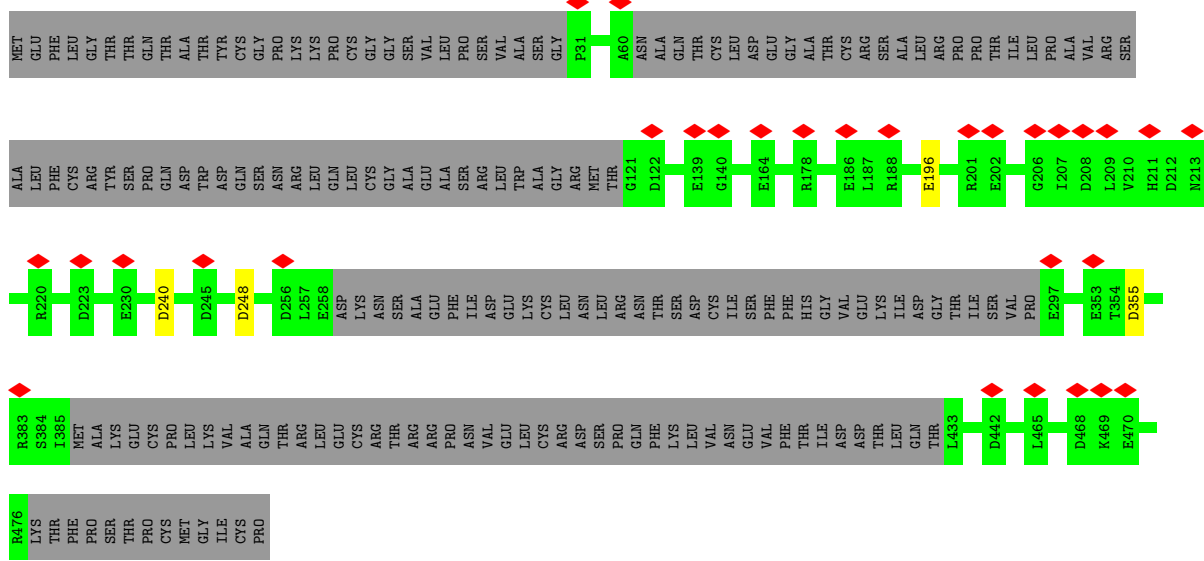
• Molecule 29: Tektin-5



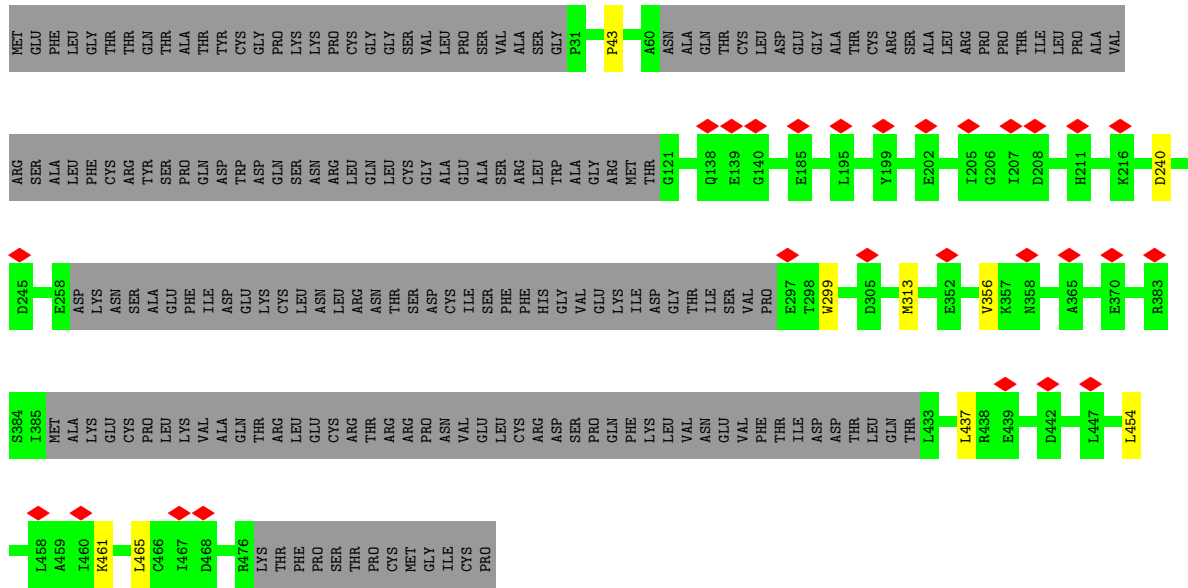
• Molecule 29: Tektin-5



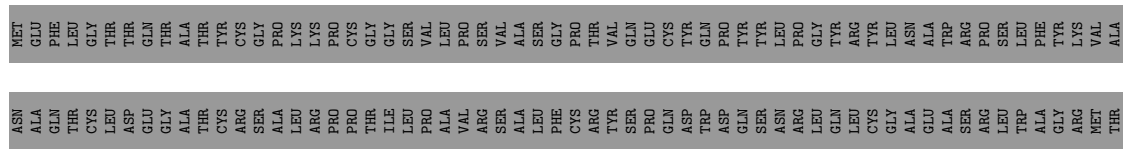
• Molecule 29: Tektin-5



• Molecule 29: Tektin-5



• Molecule 29: Tektin-5















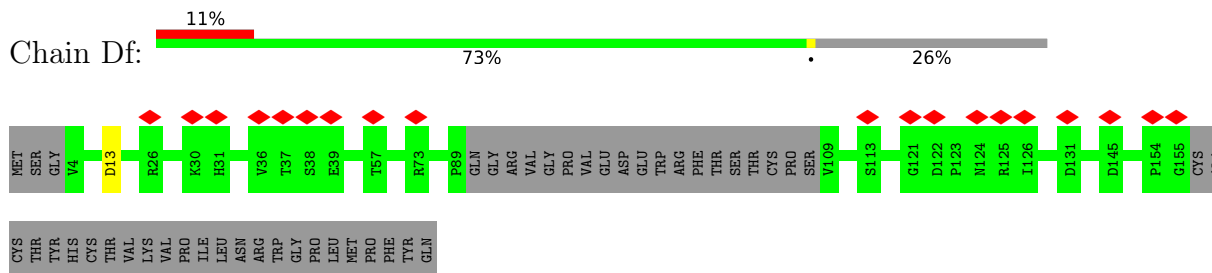




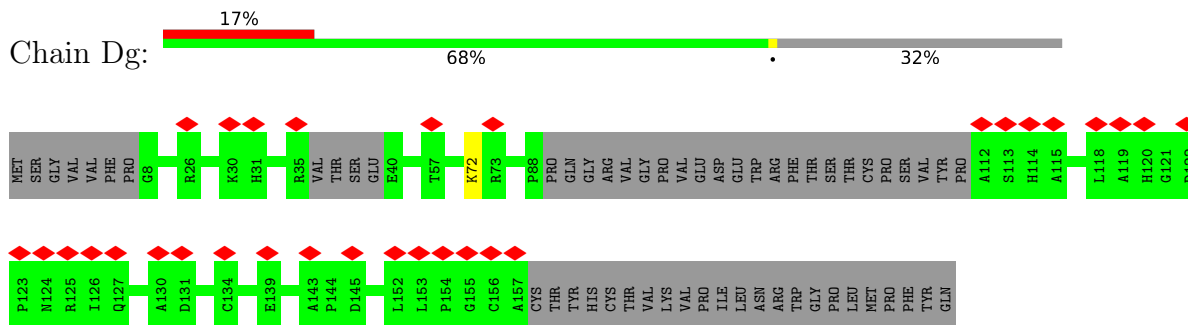




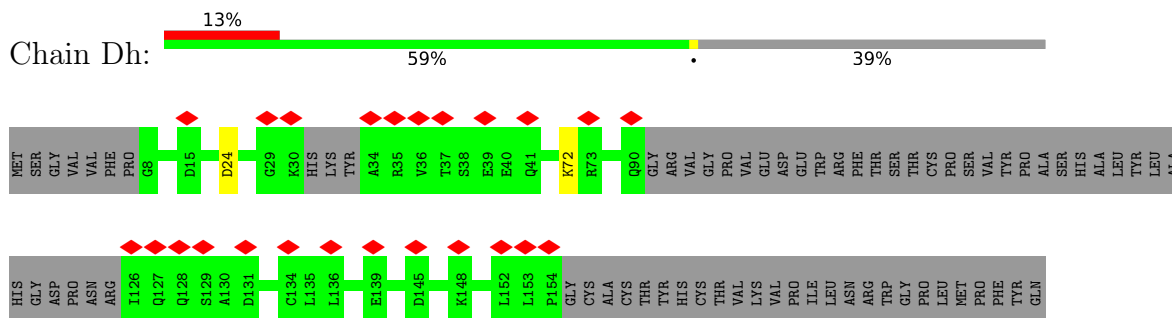
• Molecule 38: Testis-expressed sequence 37 protein



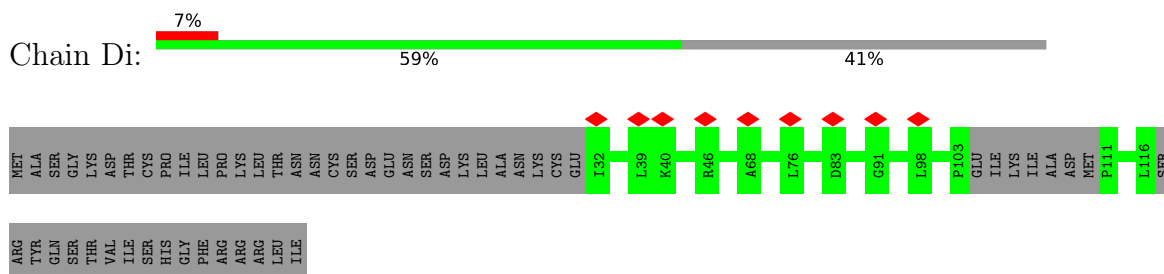
• Molecule 38: Testis-expressed sequence 37 protein



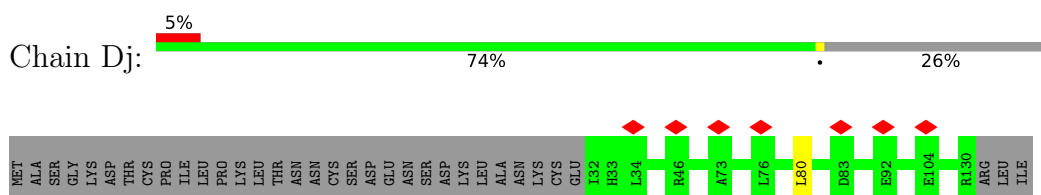
• Molecule 38: Testis-expressed sequence 37 protein



• Molecule 39: Testis-expressed protein 43

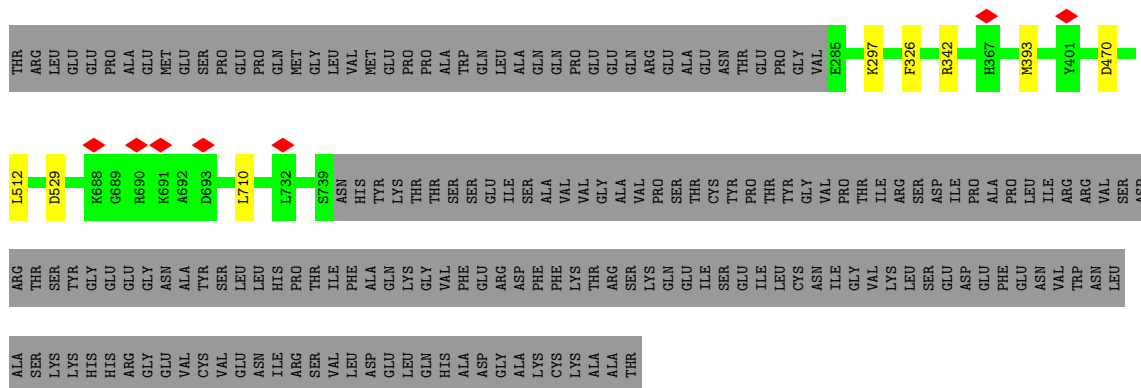


• Molecule 39: Testis-expressed protein 43

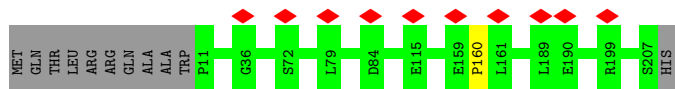




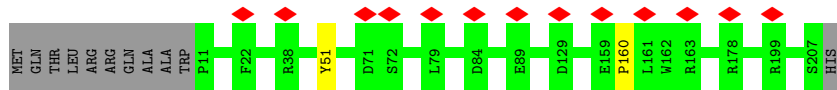




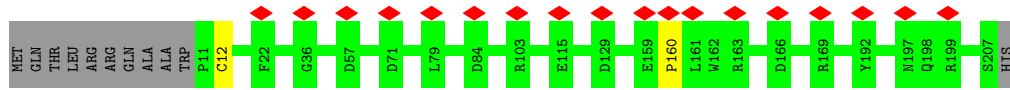
• Molecule 43: Tektin bundle interacting protein 1



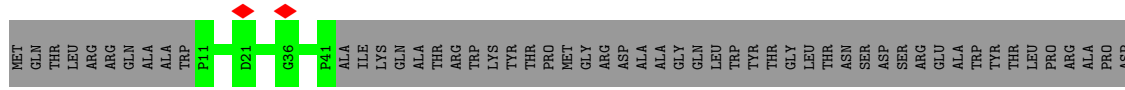
• Molecule 43: Tektin bundle interacting protein 1



• Molecule 43: Tektin bundle interacting protein 1

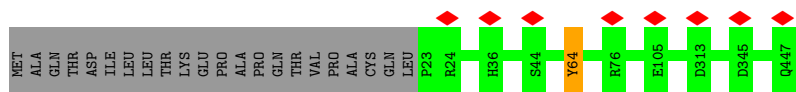


• Molecule 43: Tektin bundle interacting protein 1

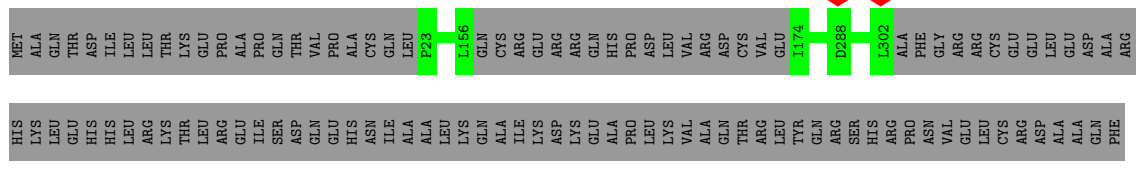


• Molecule 44: Tektin-4

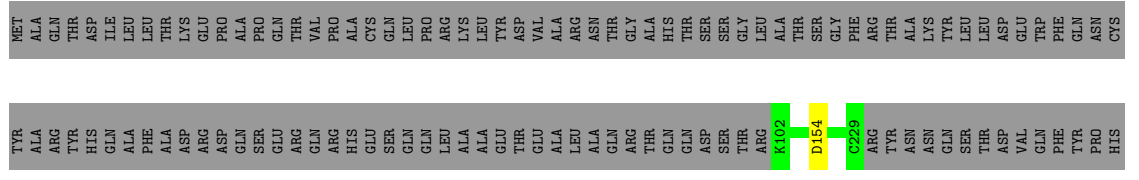
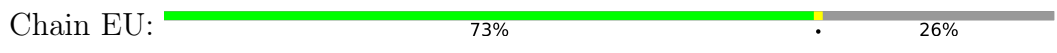




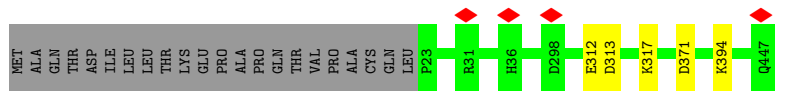
• Molecule 44: Tektin-4



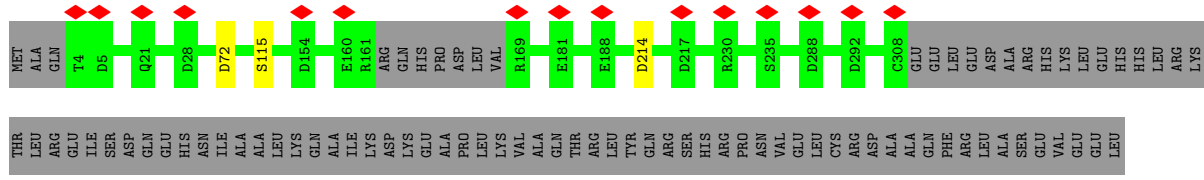
• Molecule 44: Tektin-4



• Molecule 44: Tektin-4



• Molecule 44: Tektin-4



• Molecule 44: Tektin-4



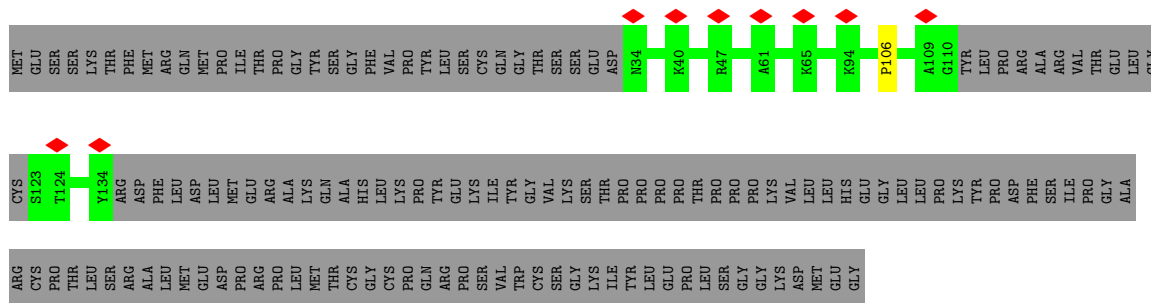




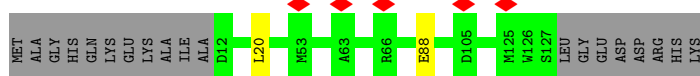
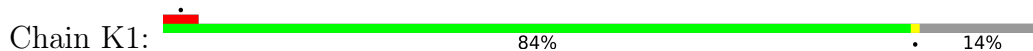




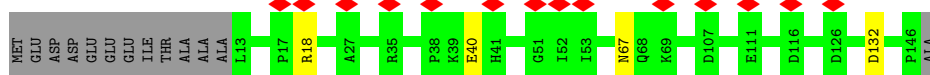
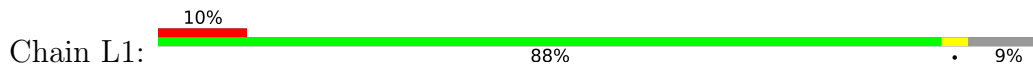




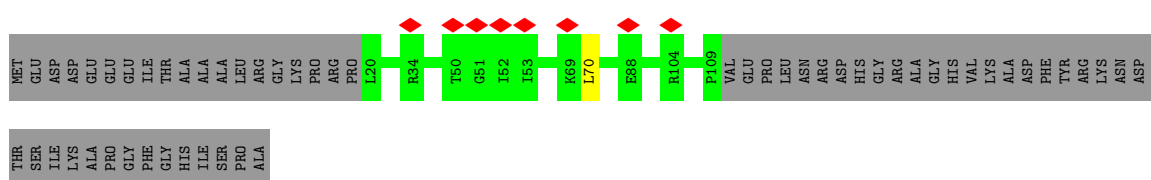
• Molecule 49: Cilia- and flagella-associated protein 144



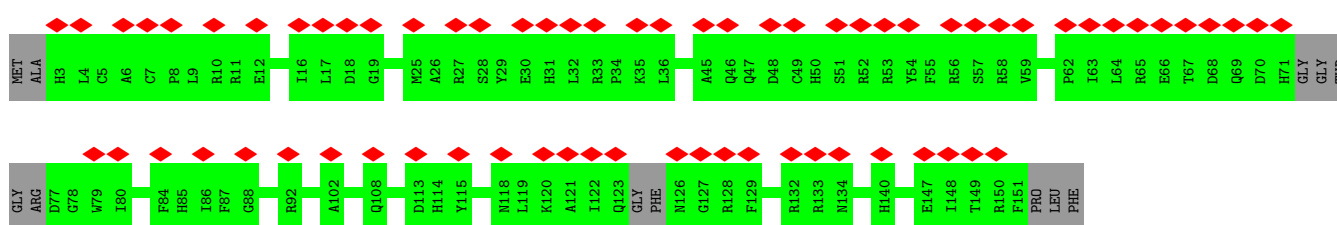
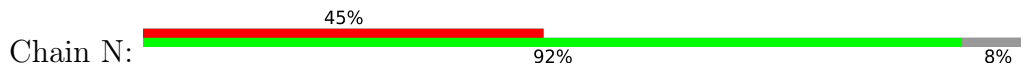
• Molecule 50: Chromosome 20 C5orf49 homolog



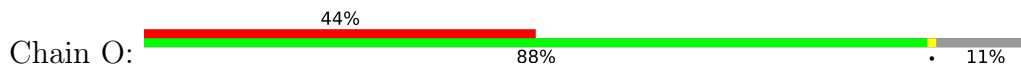
• Molecule 50: Chromosome 20 C5orf49 homolog

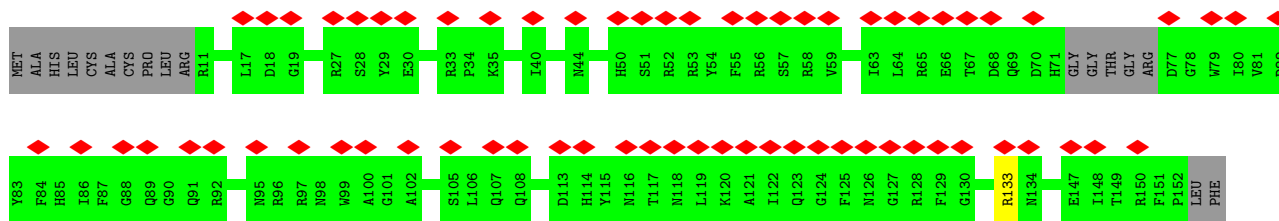


• Molecule 51: Chromosome 19 C17orf98 homolog

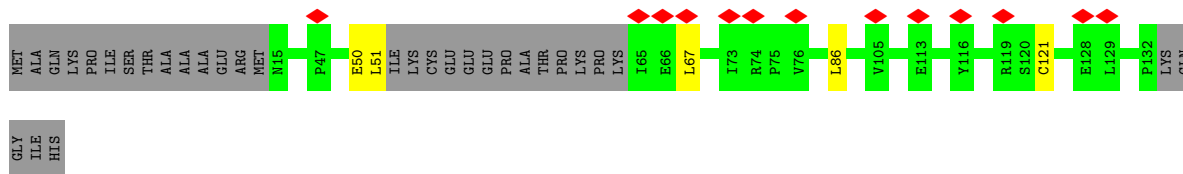
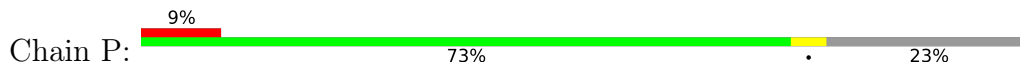


• Molecule 51: Chromosome 19 C17orf98 homolog

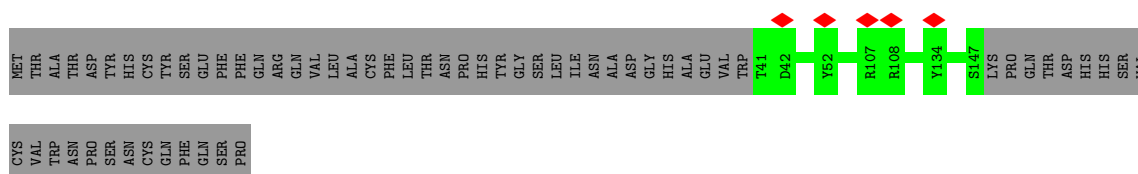




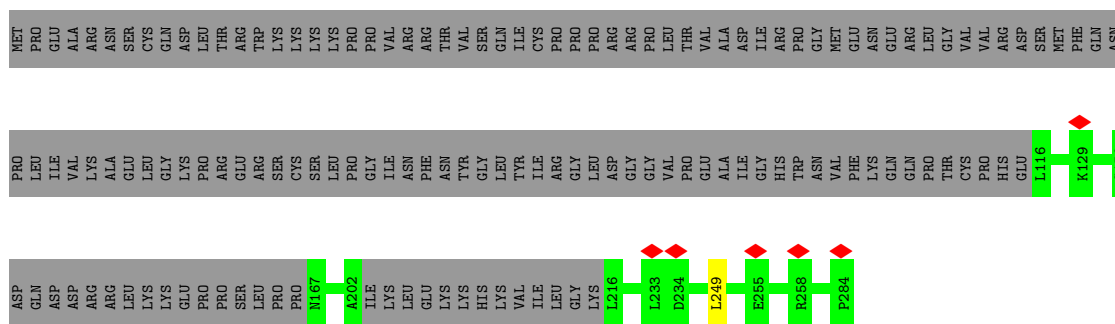
• Molecule 52: Chromosome 13 C20orf85 homolog



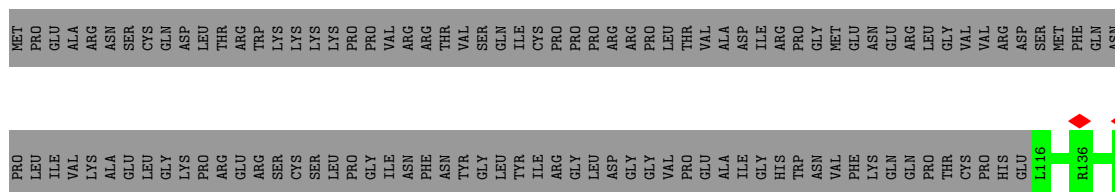
• Molecule 53: Cilia- and flagella-associated protein 68



• Molecule 54: Cilia and flagella associated protein 77

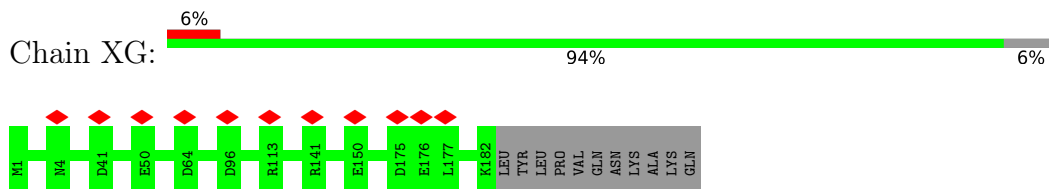


• Molecule 54: Cilia and flagella associated protein 77

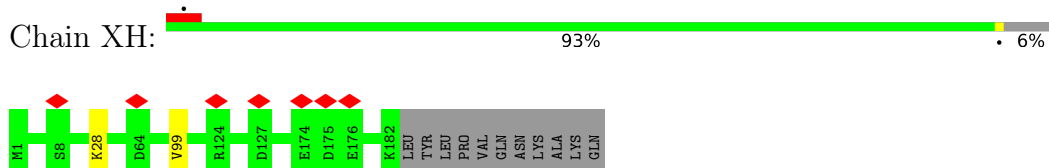




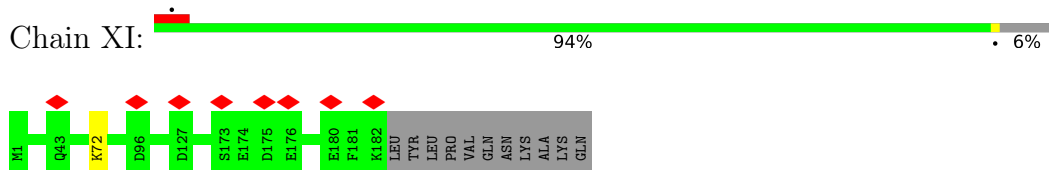
• Molecule 56: Cilia- and flagella-associated protein 20



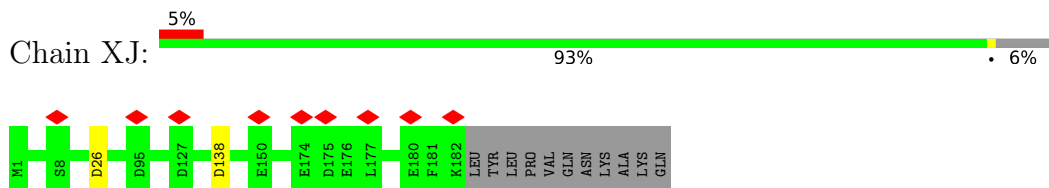
• Molecule 56: Cilia- and flagella-associated protein 20



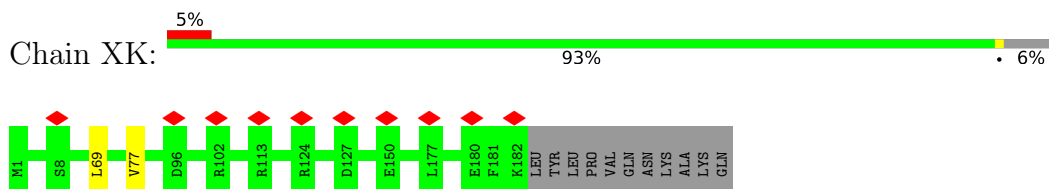
• Molecule 56: Cilia- and flagella-associated protein 20



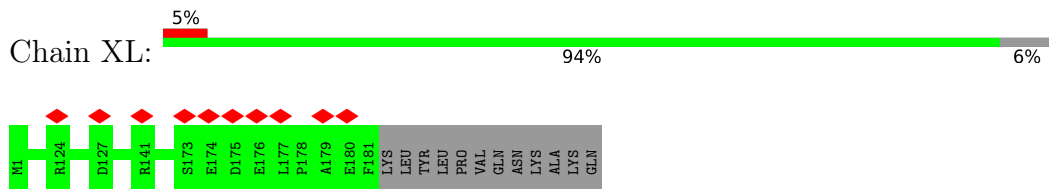
• Molecule 56: Cilia- and flagella-associated protein 20



• Molecule 56: Cilia- and flagella-associated protein 20

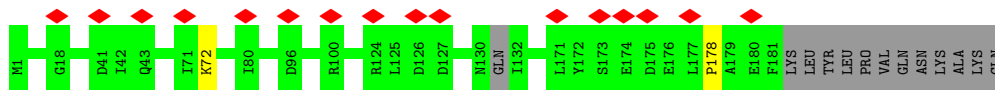


• Molecule 56: Cilia- and flagella-associated protein 20

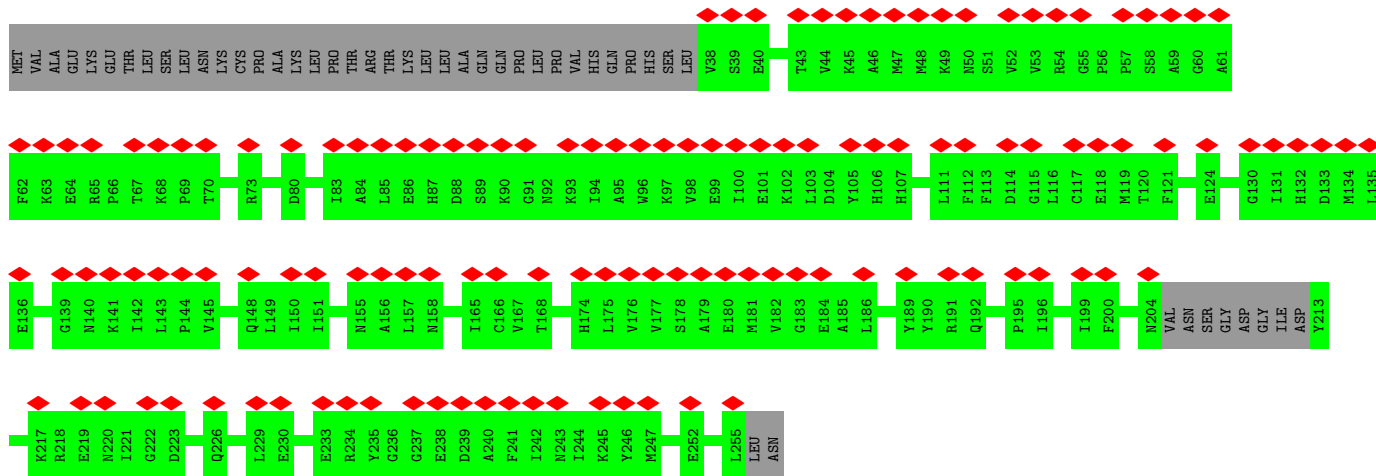
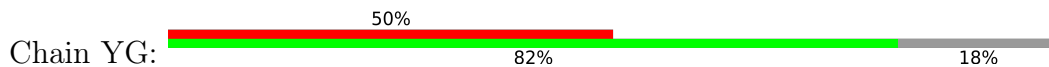


• Molecule 56: Cilia- and flagella-associated protein 20

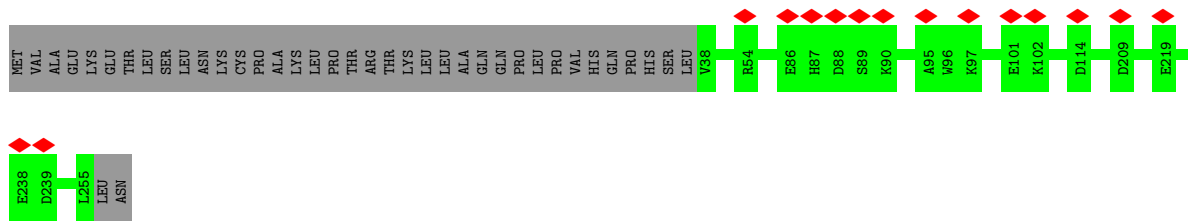
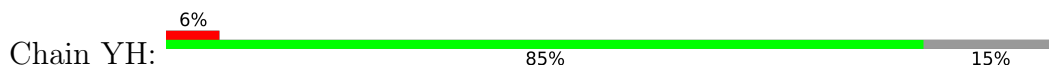




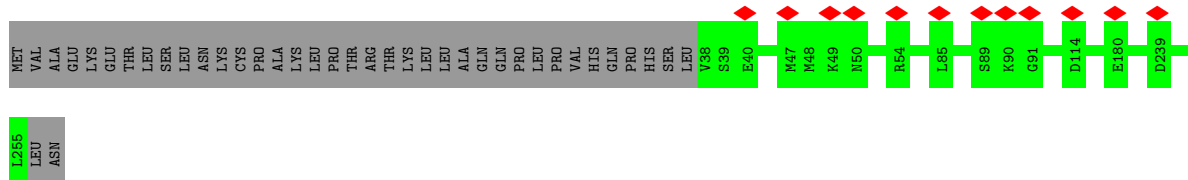
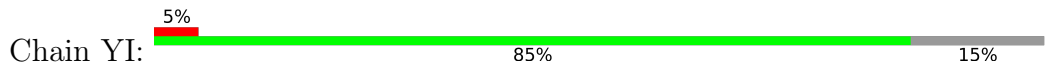
• Molecule 57: Parkin coregulated gene protein



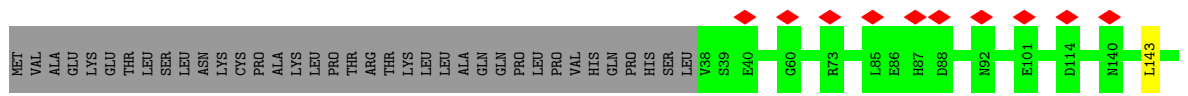
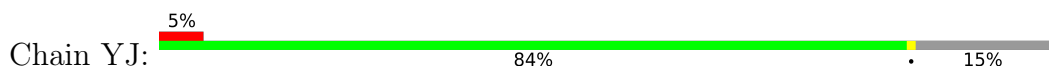
• Molecule 57: Parkin coregulated gene protein

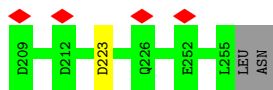


• Molecule 57: Parkin coregulated gene protein

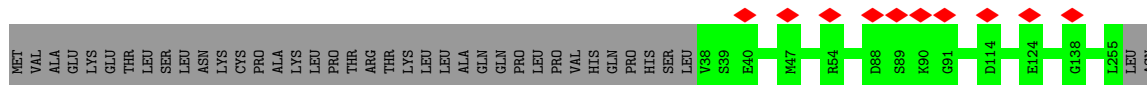
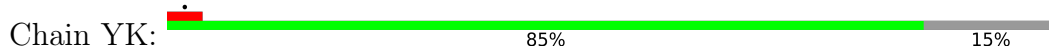


• Molecule 57: Parkin coregulated gene protein

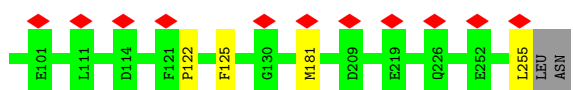
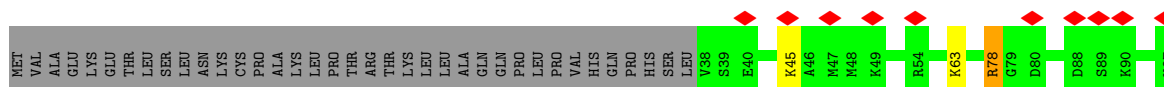
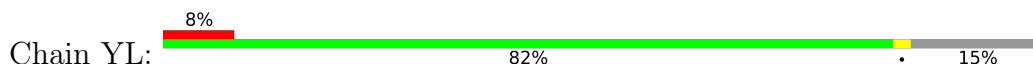




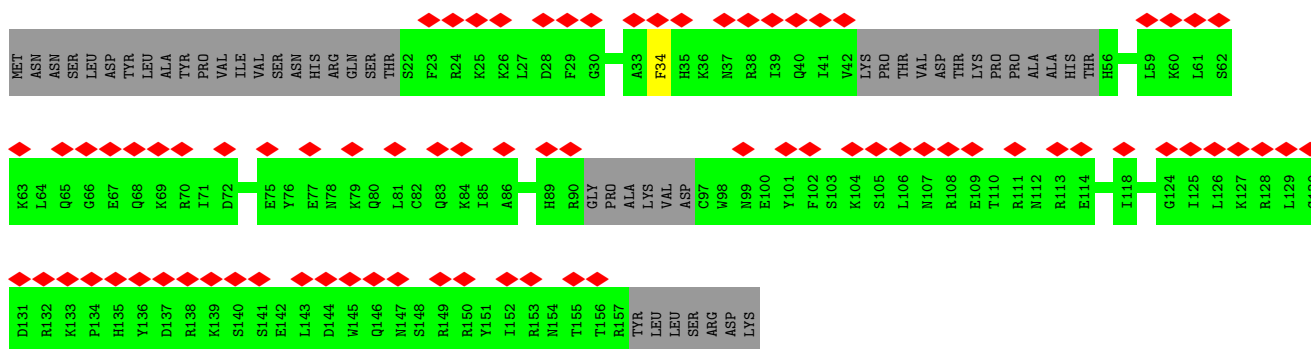
• Molecule 57: Parkin coregulated gene protein



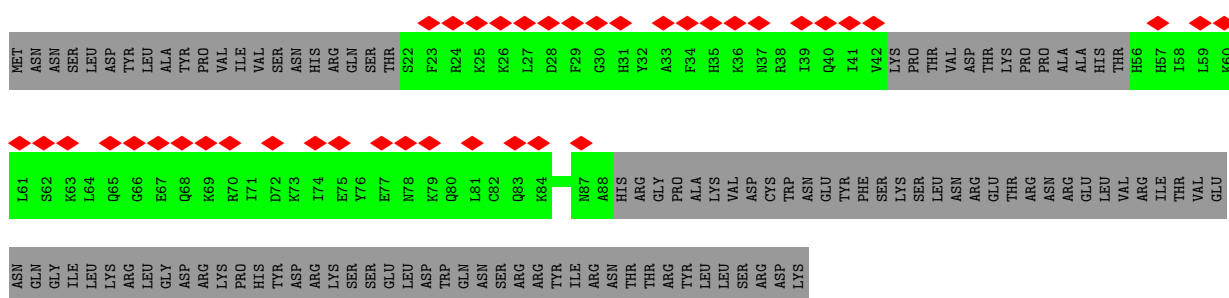
• Molecule 57: Parkin coregulated gene protein



• Molecule 58: CFAP97 domain containing 1

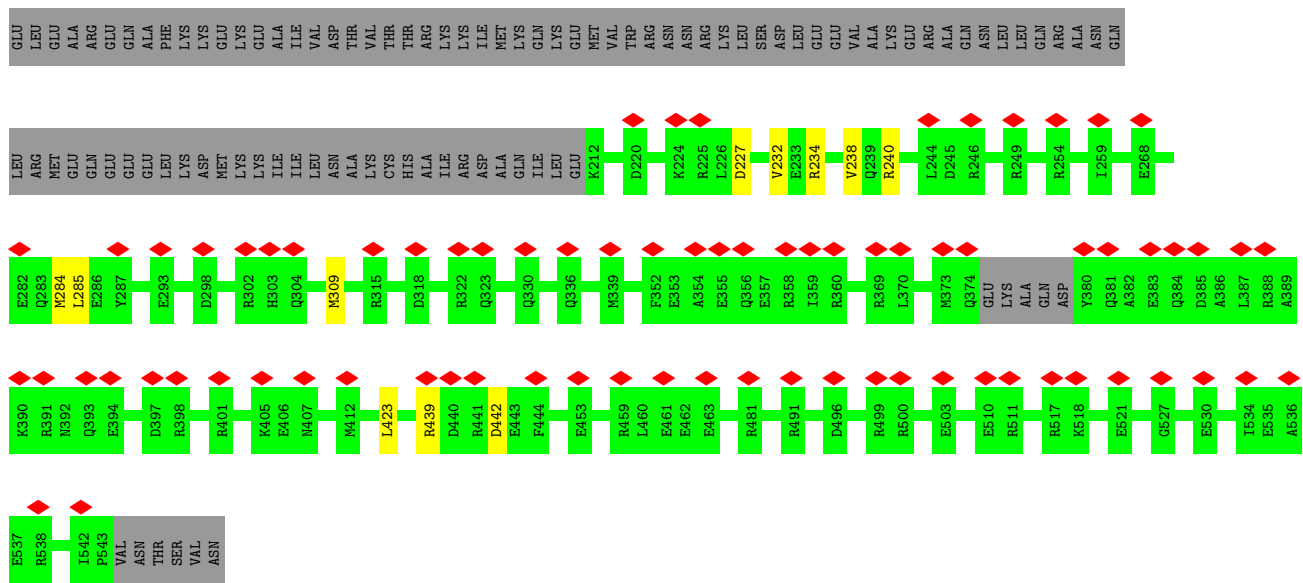


• Molecule 58: CFAP97 domain containing 1

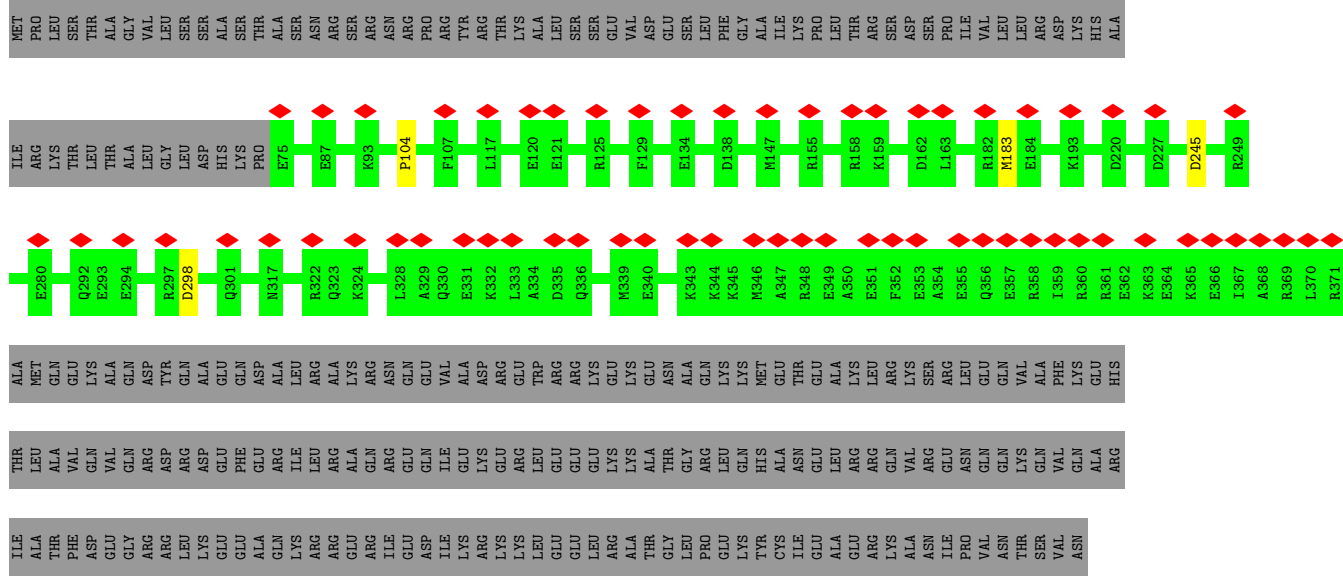




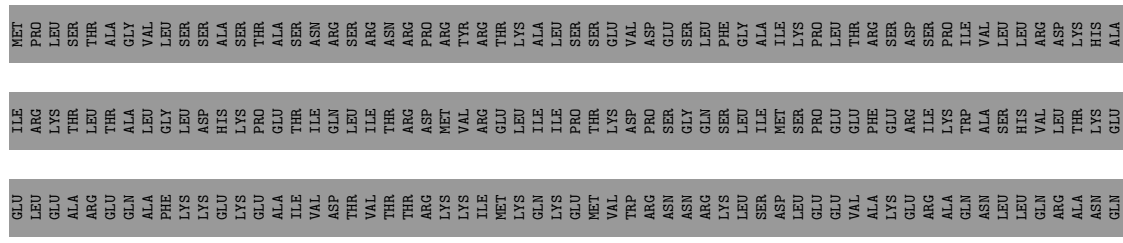


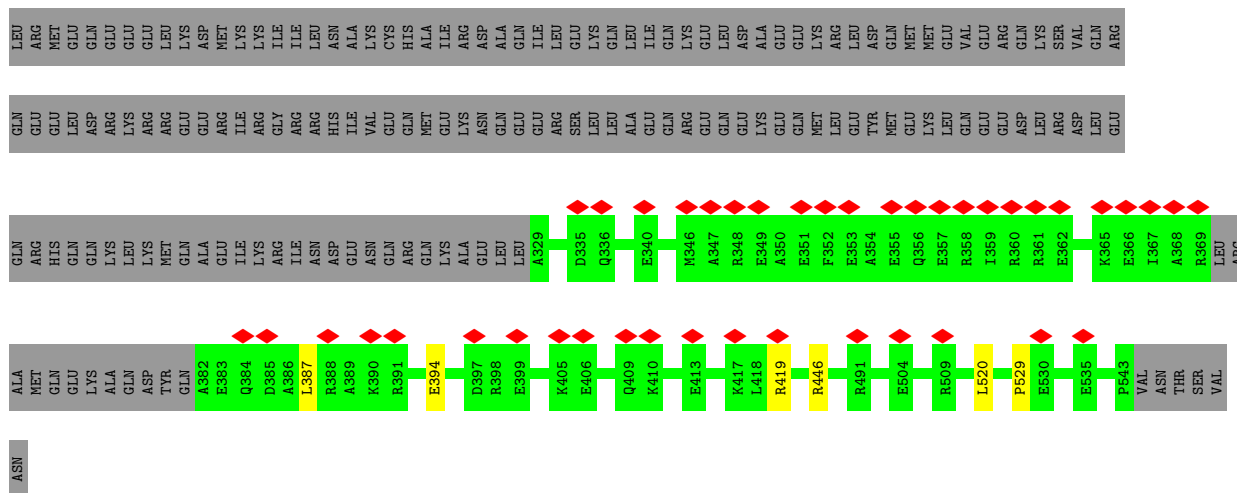


• Molecule 59: Cilia- and flagella-associated protein 45

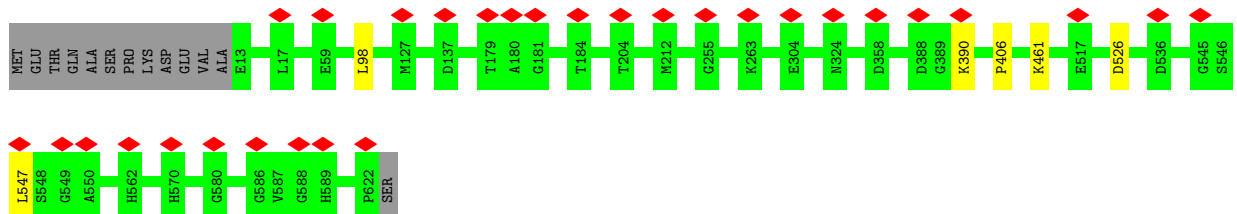


• Molecule 59: Cilia- and flagella-associated protein 45

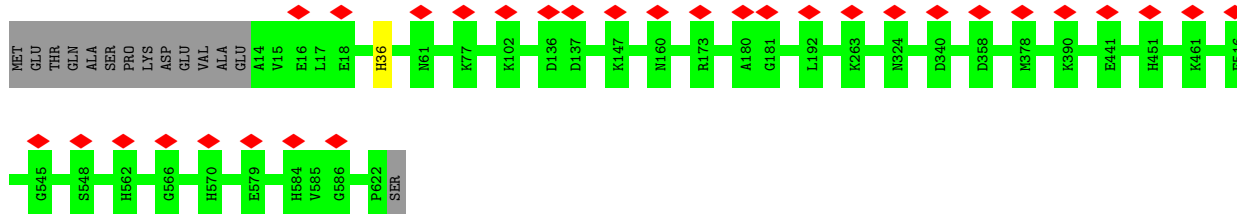




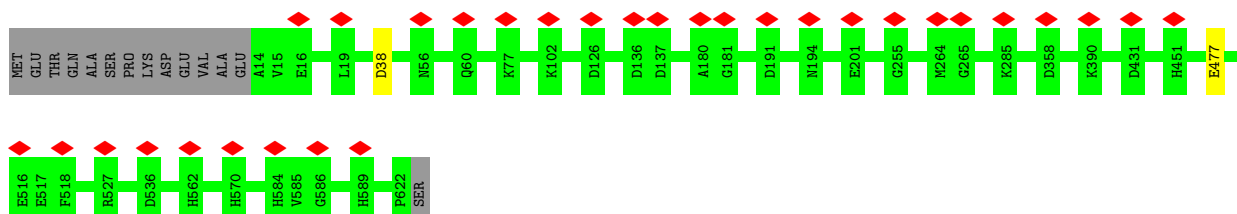
- Molecule 60: Cilia- and flagella-associated protein 52



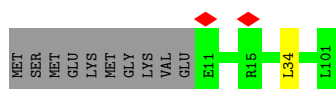
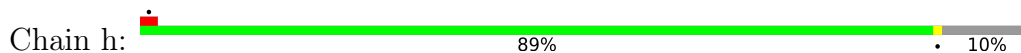
- Molecule 60: Cilia- and flagella-associated protein 52



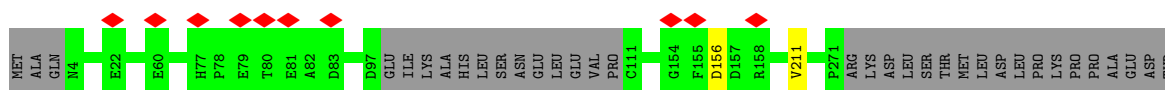
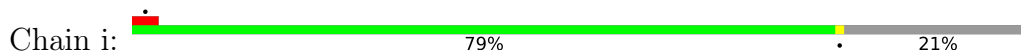
- Molecule 60: Cilia- and flagella-associated protein 52



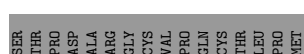
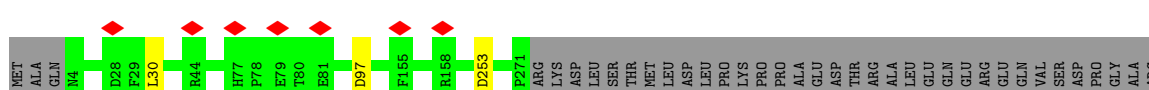
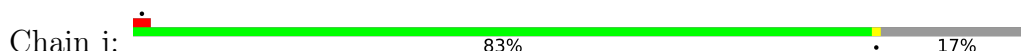
- Molecule 61: Cilia- and flagella-associated protein 141



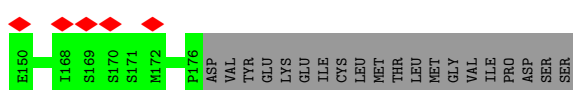
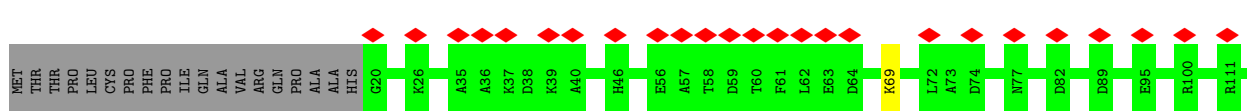
• Molecule 62: Cilia- and flagella-associated protein 161



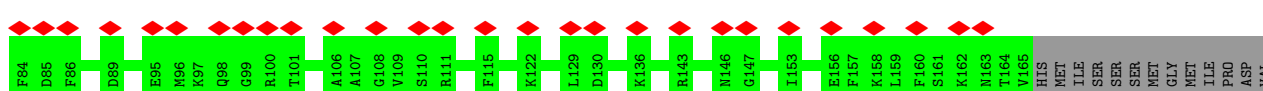
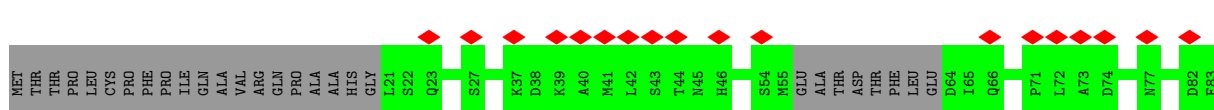
• Molecule 62: Cilia- and flagella-associated protein 161



• Molecule 63: Dual specificity phosphatase 21



• Molecule 63: Dual specificity phosphatase 21









## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	34083	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	50	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	2.294	Depositor
Minimum map value	0.000	Depositor
Average map value	0.014	Depositor
Map value standard deviation	0.078	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	699.552, 699.552, 699.552	wwPDB
Map dimensions	672, 672, 672	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.041, 1.041, 1.041	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: GTP, GDP, MG

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	0	0.29	0/337	0.56	0/452
1	V	0.42	0/1525	0.74	4/2064 (0.2%)
2	0A	0.41	0/1276	0.71	2/1721 (0.1%)
2	0C	0.36	0/1276	0.78	6/1721 (0.3%)
2	0E	0.40	0/1284	0.71	2/1731 (0.1%)
2	0G	0.34	0/1276	0.62	3/1721 (0.2%)
2	0W	0.32	0/1276	0.57	0/1721
2	0Y	0.36	0/1276	0.72	4/1721 (0.2%)
2	0a	0.43	1/1276 (0.1%)	0.76	2/1721 (0.1%)
2	0c	0.47	0/1276	0.89	6/1721 (0.3%)
2	0e	0.32	0/1268	0.57	1/1711 (0.1%)
2	0g	0.37	0/1276	0.83	5/1721 (0.3%)
2	0i	0.52	2/1276 (0.2%)	1.01	13/1721 (0.8%)
2	0k	0.39	1/1276 (0.1%)	0.84	6/1721 (0.3%)
2	CT	0.44	0/1284	0.84	6/1731 (0.3%)
2	CU	0.39	1/1268 (0.1%)	0.77	4/1711 (0.2%)
2	CV	0.41	0/1276	0.84	8/1721 (0.5%)
2	CX	0.39	0/1276	0.83	4/1721 (0.2%)
2	CY	0.38	0/1276	0.74	3/1721 (0.2%)
2	CZ	0.35	0/1276	0.68	3/1721 (0.2%)
2	Ca	0.40	0/1276	0.77	3/1721 (0.2%)
2	Cb	0.44	1/1276 (0.1%)	0.79	4/1721 (0.2%)
2	Cc	0.36	0/1276	0.68	1/1721 (0.1%)
2	Cd	0.54	1/1276 (0.1%)	0.92	8/1721 (0.5%)
2	Ce	0.29	0/1268	0.63	3/1711 (0.2%)
2	Cf	0.32	0/1268	0.67	3/1711 (0.2%)
2	Cg	0.32	0/1276	0.68	2/1721 (0.1%)
2	Ch	0.38	0/1276	0.68	3/1721 (0.2%)
2	Ci	0.39	0/1276	0.72	5/1721 (0.3%)
2	Cj	0.37	0/1268	0.74	3/1711 (0.2%)
2	Ck	0.40	0/1276	0.77	5/1721 (0.3%)
3	1	0.37	1/1740 (0.1%)	0.80	5/2356 (0.2%)



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
3	2	0.31	0/2074	0.67	3/2806 (0.1%)
3	x	0.33	0/2074	0.69	3/2806 (0.1%)
4	3	0.35	0/1498	0.62	0/2007
4	y	0.34	0/1498	0.66	4/2007 (0.2%)
4	z	0.31	0/1498	0.66	1/2007 (0.0%)
5	A	0.48	1/346 (0.3%)	0.76	0/460
5	B	0.40	0/773	0.78	2/1046 (0.2%)
5	C	0.33	0/773	0.71	2/1046 (0.2%)
6	A0	0.40	0/1054	0.88	4/1436 (0.3%)
6	BN	0.36	0/638	0.87	2/871 (0.2%)
7	A1	0.68	3/1891 (0.2%)	0.94	8/2580 (0.3%)
7	A2	0.36	0/402	0.81	1/549 (0.2%)
7	A3	0.27	0/1199	0.55	0/1665
7	A4	0.30	0/542	0.60	0/747
7	A5	0.29	0/761	0.58	0/1056
7	A6	0.33	0/380	0.72	0/518
7	A7	0.45	0/1786	0.85	4/2434 (0.2%)
7	A8	0.46	2/1322 (0.2%)	0.85	4/1799 (0.2%)
7	A9	0.38	0/914	0.69	0/1249
7	Au	0.36	0/555	0.92	6/757 (0.8%)
7	Av	0.39	0/1161	0.79	2/1578 (0.1%)
7	Aw	0.32	0/1047	0.66	1/1429 (0.1%)
7	Ay	0.61	2/1462 (0.1%)	0.92	7/1986 (0.4%)
7	Az	0.41	0/322	0.80	1/439 (0.2%)
8	AA	0.36	1/3490 (0.0%)	0.65	5/4740 (0.1%)
8	AC	0.33	0/3505	0.63	2/4760 (0.0%)
8	AE	0.34	0/3505	0.60	1/4760 (0.0%)
8	AG	0.35	0/3505	0.62	1/4760 (0.0%)
8	AI	0.34	1/3505 (0.0%)	0.63	2/4760 (0.0%)
8	AK	0.36	1/3505 (0.0%)	0.63	5/4760 (0.1%)
8	AM	0.38	0/3498	0.66	7/4750 (0.1%)
8	BA	0.34	0/3431	0.64	1/4660 (0.0%)
8	BC	0.37	0/3492	0.68	7/4742 (0.1%)
8	BE	0.34	0/3439	0.65	4/4670 (0.1%)
8	BG	0.37	1/3498 (0.0%)	0.66	4/4750 (0.1%)
8	BI	0.38	0/3433	0.69	5/4662 (0.1%)
8	BK	0.45	2/3484 (0.1%)	0.71	7/4731 (0.1%)
8	BM	0.36	0/3439	0.67	5/4670 (0.1%)
8	CA	0.32	0/3484	0.63	2/4732 (0.0%)
8	CC	0.34	1/3492 (0.0%)	0.61	1/4742 (0.0%)
8	CE	0.31	0/3492	0.63	5/4742 (0.1%)
8	CG	0.65	5/3477 (0.1%)	0.81	9/4721 (0.2%)
8	CI	0.46	3/3492 (0.1%)	0.75	7/4742 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
8	CK	0.32	0/3492	0.61	2/4742 (0.0%)
8	CM	0.32	0/3492	0.64	3/4742 (0.1%)
8	DA	0.35	0/3025	0.68	5/4100 (0.1%)
8	DC	0.35	0/3425	0.66	4/4651 (0.1%)
8	DE	0.53	3/3425 (0.1%)	0.84	9/4651 (0.2%)
8	DG	0.34	0/3446	0.67	4/4680 (0.1%)
8	DI	0.64	3/3424 (0.1%)	0.90	13/4649 (0.3%)
8	DK	0.36	0/3418	0.66	4/4641 (0.1%)
8	DM	0.33	0/3418	0.67	3/4641 (0.1%)
8	EC	0.38	0/3468	0.72	9/4708 (0.2%)
8	EE	0.33	0/3498	0.63	2/4750 (0.0%)
8	EG	0.33	0/3484	0.64	0/4731
8	EI	0.36	1/3477 (0.0%)	0.64	2/4721 (0.0%)
8	EK	0.34	1/3489 (0.0%)	0.64	2/4737 (0.0%)
8	EM	0.36	1/3425 (0.0%)	0.64	4/4651 (0.1%)
8	FC	0.35	0/3433	0.64	2/4662 (0.0%)
8	FE	0.38	1/3398 (0.0%)	0.64	1/4613 (0.0%)
8	FG	0.36	0/3439	0.66	4/4670 (0.1%)
8	FI	0.37	1/3399 (0.0%)	0.70	5/4615 (0.1%)
8	FK	0.34	0/3425	0.62	3/4650 (0.1%)
8	FM	0.35	0/3431	0.70	6/4658 (0.1%)
8	GC	0.37	0/3498	0.65	0/4750
8	GE	0.38	2/3446 (0.1%)	0.69	7/4680 (0.1%)
8	GG	0.38	0/3460	0.68	5/4699 (0.1%)
8	GI	0.36	0/3474	0.66	4/4717 (0.1%)
8	GK	0.33	0/3439	0.60	2/4669 (0.0%)
8	GM	0.37	1/3498 (0.0%)	0.65	6/4750 (0.1%)
8	HC	0.33	0/3433	0.64	3/4662 (0.1%)
8	HE	0.36	1/3433 (0.0%)	0.65	4/4662 (0.1%)
8	HG	0.36	0/3446	0.63	2/4680 (0.0%)
8	HI	0.32	0/3438	0.62	2/4669 (0.0%)
8	HK	0.38	0/3446	0.67	4/4680 (0.1%)
8	HM	0.33	0/3469	0.60	1/4710 (0.0%)
8	HO	0.36	0/3101	0.69	5/4203 (0.1%)
8	IC	0.34	0/3460	0.67	5/4699 (0.1%)
8	IE	0.33	0/3439	0.66	5/4670 (0.1%)
8	IG	0.34	0/3498	0.65	6/4750 (0.1%)
8	II	0.35	0/3447	0.67	4/4681 (0.1%)
8	IK	0.44	4/3477 (0.1%)	0.70	8/4721 (0.2%)
8	IM	0.35	0/3484	0.65	4/4731 (0.1%)
8	IO	0.37	1/3424 (0.0%)	0.68	6/4649 (0.1%)
8	JC	0.32	0/3458	0.61	4/4696 (0.1%)
8	JE	0.33	0/3439	0.63	3/4670 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
8	JG	0.33	0/3425	0.58	0/4651
8	JI	0.33	1/3433 (0.0%)	0.63	4/4662 (0.1%)
8	JK	0.33	0/3492	0.60	2/4742 (0.0%)
8	JM	0.32	0/3439	0.61	4/4670 (0.1%)
8	KC	0.32	0/3465	0.60	2/4705 (0.0%)
8	KE	0.33	0/3447	0.62	4/4681 (0.1%)
8	KG	0.33	0/3437	0.62	4/4667 (0.1%)
8	KI	0.33	0/3425	0.57	0/4651
8	KK	0.34	0/3447	0.64	6/4681 (0.1%)
8	KM	0.32	0/3459	0.59	2/4696 (0.0%)
8	KO	0.32	0/3302	0.60	2/4480 (0.0%)
8	LC	0.33	0/3505	0.65	6/4760 (0.1%)
8	LE	0.33	0/3542	0.62	3/4810 (0.1%)
8	LG	0.35	0/3505	0.62	3/4760 (0.1%)
8	LI	0.32	0/3542	0.57	0/4810
8	LK	0.33	0/3505	0.61	3/4760 (0.1%)
8	LM	0.31	0/3480	0.57	2/4726 (0.0%)
8	MC	0.32	0/3498	0.59	0/4750
8	ME	0.34	0/3433	0.65	7/4662 (0.2%)
8	MG	0.32	0/3453	0.63	1/4689 (0.0%)
8	MI	0.34	0/3445	0.63	2/4678 (0.0%)
8	MK	0.39	1/3505 (0.0%)	0.63	3/4760 (0.1%)
8	MM	0.37	1/3484 (0.0%)	0.64	5/4732 (0.1%)
8	NA	0.37	1/3409 (0.0%)	0.67	4/4630 (0.1%)
8	NC	0.34	0/3419	0.63	1/4643 (0.0%)
8	NE	0.34	0/3439	0.62	1/4670 (0.0%)
8	NG	0.31	0/3439	0.61	1/4670 (0.0%)
8	NI	0.34	0/3433	0.66	5/4662 (0.1%)
8	NK	0.37	0/3433	0.70	9/4662 (0.2%)
8	OA	0.33	0/3425	0.62	2/4652 (0.0%)
8	OC	0.34	0/3433	0.63	2/4662 (0.0%)
8	OE	0.34	0/3454	0.64	2/4691 (0.0%)
8	OG	0.37	0/3451	0.69	5/4686 (0.1%)
8	OI	0.33	0/3454	0.69	5/4691 (0.1%)
8	OK	0.34	0/3441	0.65	5/4673 (0.1%)
8	PA	0.36	0/3439	0.68	5/4671 (0.1%)
8	PC	0.35	0/3461	0.69	2/4699 (0.0%)
8	PE	0.62	2/3447 (0.1%)	0.88	9/4681 (0.2%)
8	PG	0.33	0/3460	0.65	2/4699 (0.0%)
8	PI	0.35	0/3417	0.67	7/4641 (0.2%)
8	PK	0.33	0/3431	0.64	4/4659 (0.1%)
8	PM	0.36	0/3445	0.72	6/4678 (0.1%)
8	QA	0.52	2/3423 (0.1%)	0.78	9/4649 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
8	QC	0.63	5/3425 (0.1%)	0.79	7/4651 (0.2%)
8	QE	0.36	0/3439	0.67	3/4670 (0.1%)
8	QG	0.35	0/3447	0.69	4/4681 (0.1%)
8	QI	0.40	1/3425 (0.0%)	0.72	8/4651 (0.2%)
8	QK	0.43	2/3439 (0.1%)	0.76	9/4670 (0.2%)
8	QM	0.35	0/3445	0.70	8/4678 (0.2%)
8	RA	0.34	0/3431	0.72	7/4660 (0.2%)
8	RC	0.35	0/3454	0.65	7/4691 (0.1%)
8	RE	0.38	0/3433	0.69	4/4662 (0.1%)
8	RG	0.35	0/3452	0.69	6/4688 (0.1%)
8	RI	0.40	0/3452	0.74	7/4688 (0.1%)
8	RK	0.55	2/3460 (0.1%)	0.78	6/4699 (0.1%)
8	RM	0.56	2/3424 (0.1%)	0.83	9/4649 (0.2%)
8	SA	0.33	0/3425	0.67	3/4652 (0.1%)
8	SC	0.39	0/3438	0.69	1/4668 (0.0%)
8	SE	0.41	2/3447 (0.1%)	0.70	5/4680 (0.1%)
8	SG	0.40	1/3446 (0.0%)	0.67	4/4680 (0.1%)
8	SI	0.42	0/3416	0.73	5/4639 (0.1%)
8	SK	0.37	1/3454 (0.0%)	0.64	1/4691 (0.0%)
8	SM	0.35	0/3439	0.67	2/4670 (0.0%)
8	TC	0.35	0/3433	0.68	5/4662 (0.1%)
8	TE	0.40	1/3454 (0.0%)	0.70	4/4691 (0.1%)
8	TG	0.36	0/3431	0.66	2/4659 (0.0%)
8	TI	0.41	2/3439 (0.1%)	0.70	6/4670 (0.1%)
8	TK	0.37	0/3447	0.69	4/4681 (0.1%)
8	TM	0.35	0/3439	0.68	3/4670 (0.1%)
8	UC	0.36	0/3447	0.68	3/4681 (0.1%)
8	UE	0.35	1/3447 (0.0%)	0.63	1/4681 (0.0%)
8	UG	0.40	1/3451 (0.0%)	0.65	3/4686 (0.1%)
8	UI	0.36	0/3447	0.64	3/4681 (0.1%)
8	UK	0.32	0/3439	0.63	3/4670 (0.1%)
8	UM	0.33	0/3433	0.64	3/4662 (0.1%)
8	VC	0.36	0/3477	0.69	3/4721 (0.1%)
8	VE	0.32	0/3441	0.64	3/4671 (0.1%)
8	VG	0.35	0/3498	0.64	3/4750 (0.1%)
8	VI	0.32	0/3426	0.61	1/4652 (0.0%)
8	VK	0.36	0/3484	0.65	3/4731 (0.1%)
8	VM	0.34	0/3453	0.64	3/4689 (0.1%)
8	WC	0.64	2/3484 (0.1%)	0.87	8/4731 (0.2%)
8	WE	0.55	5/3437 (0.1%)	0.85	12/4667 (0.3%)
8	WG	0.34	0/3477	0.65	5/4721 (0.1%)
8	WI	0.34	1/3433 (0.0%)	0.70	7/4662 (0.2%)
8	WK	0.35	0/3484	0.66	5/4731 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
8	WM	0.36	0/3439	0.68	4/4670 (0.1%)
9	AB	0.35	0/3500	0.61	3/4742 (0.1%)
9	AD	0.33	0/3500	0.63	3/4742 (0.1%)
9	AF	0.35	1/3500 (0.0%)	0.63	4/4742 (0.1%)
9	AH	0.33	0/3500	0.64	4/4742 (0.1%)
9	AJ	0.33	0/3500	0.63	5/4742 (0.1%)
9	AL	0.33	0/3458	0.63	4/4687 (0.1%)
9	BB	0.37	0/3423	0.73	7/4638 (0.2%)
9	BD	0.34	0/3423	0.64	4/4638 (0.1%)
9	BF	0.40	2/3436 (0.1%)	0.70	6/4656 (0.1%)
9	BH	0.38	1/3431 (0.0%)	0.68	5/4649 (0.1%)
9	BJ	0.35	0/3431	0.65	3/4649 (0.1%)
9	BL	0.37	0/3415	0.69	6/4628 (0.1%)
9	CB	0.34	0/3423	0.67	5/4638 (0.1%)
9	CD	0.36	1/3414 (0.0%)	0.71	6/4626 (0.1%)
9	CF	0.33	0/3423	0.66	3/4638 (0.1%)
9	CH	0.34	0/3423	0.65	5/4638 (0.1%)
9	CJ	0.33	0/3423	0.66	3/4638 (0.1%)
9	CL	0.31	0/3415	0.64	3/4628 (0.1%)
9	DB	0.33	1/3423 (0.0%)	0.67	6/4638 (0.1%)
9	DD	0.35	1/3423 (0.0%)	0.71	8/4638 (0.2%)
9	DF	0.34	0/3423	0.66	3/4638 (0.1%)
9	DH	0.36	1/3423 (0.0%)	0.67	3/4638 (0.1%)
9	DJ	0.36	0/3423	0.74	8/4638 (0.2%)
9	DL	0.32	0/3415	0.64	3/4628 (0.1%)
9	DN	0.38	1/3102 (0.0%)	0.67	3/4201 (0.1%)
9	EB	0.37	2/3423 (0.1%)	0.71	5/4638 (0.1%)
9	ED	0.35	0/3423	0.67	4/4638 (0.1%)
9	EF	0.33	0/3423	0.67	3/4638 (0.1%)
9	EH	0.68	3/3431 (0.1%)	0.82	10/4649 (0.2%)
9	EJ	0.41	3/3423 (0.1%)	0.70	6/4638 (0.1%)
9	EL	0.34	1/3415 (0.0%)	0.64	4/4628 (0.1%)
9	EN	0.33	0/3423	0.65	2/4638 (0.0%)
9	FB	0.40	2/3423 (0.1%)	0.72	6/4638 (0.1%)
9	FD	0.33	0/3431	0.66	7/4649 (0.2%)
9	FF	0.37	0/3423	0.61	1/4638 (0.0%)
9	FH	0.37	0/3436	0.68	4/4656 (0.1%)
9	FJ	0.38	0/3423	0.70	6/4638 (0.1%)
9	FL	0.32	0/3415	0.62	2/4628 (0.0%)
9	FN	0.33	0/3436	0.66	4/4656 (0.1%)
9	GB	0.31	0/3436	0.62	2/4656 (0.0%)
9	GD	0.34	0/3431	0.65	3/4649 (0.1%)
9	GF	0.33	0/3436	0.67	4/4656 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
9	GH	0.33	0/3436	0.61	3/4656 (0.1%)
9	GJ	0.33	0/3436	0.65	4/4656 (0.1%)
9	GL	0.37	0/3415	0.67	2/4628 (0.0%)
9	GN	0.34	0/3431	0.66	6/4649 (0.1%)
9	HB	0.32	0/3423	0.66	5/4638 (0.1%)
9	HD	0.37	1/3431 (0.0%)	0.68	5/4649 (0.1%)
9	HF	0.36	0/3423	0.67	4/4638 (0.1%)
9	HH	0.33	0/3431	0.61	2/4649 (0.0%)
9	HJ	0.36	0/3436	0.70	8/4656 (0.2%)
9	HL	0.32	0/3415	0.65	4/4628 (0.1%)
9	HN	0.34	0/3431	0.64	2/4649 (0.0%)
9	IB	0.41	0/2949	0.79	9/3989 (0.2%)
9	ID	0.32	0/3431	0.63	5/4649 (0.1%)
9	IF	0.34	0/3431	0.65	3/4649 (0.1%)
9	IH	0.34	0/3423	0.62	0/4638
9	IJ	0.35	0/3431	0.67	4/4649 (0.1%)
9	IL	0.36	1/3423 (0.0%)	0.65	2/4638 (0.0%)
9	IN	0.34	0/3423	0.69	6/4638 (0.1%)
9	JB	0.34	0/3423	0.64	3/4638 (0.1%)
9	JD	0.33	0/3431	0.61	3/4649 (0.1%)
9	JF	0.33	0/3423	0.60	1/4638 (0.0%)
9	JH	0.33	0/3423	0.64	4/4638 (0.1%)
9	JJ	0.34	0/3423	0.62	5/4638 (0.1%)
9	JL	0.36	1/3423 (0.0%)	0.67	4/4638 (0.1%)
9	JN	0.31	0/3423	0.58	2/4638 (0.0%)
9	KB	0.33	0/3232	0.62	2/4380 (0.0%)
9	KD	0.32	0/3443	0.62	3/4666 (0.1%)
9	KF	0.33	0/3431	0.64	5/4649 (0.1%)
9	KH	0.37	1/3443 (0.0%)	0.62	3/4666 (0.1%)
9	KJ	0.33	0/3423	0.61	2/4638 (0.0%)
9	KL	0.51	1/3443 (0.0%)	0.86	6/4666 (0.1%)
9	KN	0.33	0/3436	0.62	2/4656 (0.0%)
9	LB	0.31	0/3509	0.60	1/4754 (0.0%)
9	LD	0.35	0/3431	0.61	3/4649 (0.1%)
9	LF	0.34	0/3500	0.60	1/4742 (0.0%)
9	LH	0.31	0/3436	0.61	4/4656 (0.1%)
9	LJ	0.33	0/3509	0.61	3/4754 (0.1%)
9	LL	0.31	0/3423	0.56	1/4638 (0.0%)
9	LN	0.30	0/3509	0.57	2/4754 (0.0%)
9	MB	0.32	0/3423	0.61	2/4638 (0.0%)
9	MD	0.34	0/3443	0.58	1/4666 (0.0%)
9	MF	0.32	0/3443	0.64	3/4666 (0.1%)
9	MH	0.31	0/3443	0.57	0/4666

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
9	MJ	0.34	1/3423 (0.0%)	0.66	5/4638 (0.1%)
9	ML	0.34	1/3443 (0.0%)	0.63	4/4666 (0.1%)
9	MN	0.32	0/3443	0.58	0/4666
9	NO	0.32	0/3414	0.64	3/4626 (0.1%)
9	NB	0.39	2/3423 (0.1%)	0.72	9/4638 (0.2%)
9	ND	0.33	0/3431	0.69	4/4649 (0.1%)
9	NF	0.34	1/3423 (0.0%)	0.66	4/4638 (0.1%)
9	NH	0.42	2/3436 (0.1%)	0.72	7/4656 (0.2%)
9	NJ	0.34	0/3436	0.66	4/4656 (0.1%)
9	NL	0.35	0/3414	0.67	4/4626 (0.1%)
9	OO	0.36	0/3142	0.70	4/4253 (0.1%)
9	OB	0.34	0/3431	0.64	1/4649 (0.0%)
9	OD	0.35	0/3401	0.65	3/4608 (0.1%)
9	OF	0.36	0/3414	0.63	1/4626 (0.0%)
9	OH	0.33	0/3436	0.70	7/4656 (0.2%)
9	OJ	0.36	0/3431	0.70	9/4649 (0.2%)
9	OL	0.37	0/3401	0.71	8/4608 (0.2%)
9	PB	0.33	0/3431	0.69	8/4649 (0.2%)
9	PD	0.36	0/3431	0.69	2/4649 (0.0%)
9	PF	0.69	5/3431 (0.1%)	0.88	10/4649 (0.2%)
9	PH	0.33	0/3431	0.64	1/4649 (0.0%)
9	PJ	0.32	0/3436	0.64	2/4656 (0.0%)
9	PL	0.37	0/3415	0.75	10/4628 (0.2%)
9	QB	0.33	0/3436	0.66	4/4656 (0.1%)
9	QD	0.34	0/3431	0.71	7/4649 (0.2%)
9	QF	0.63	4/3431 (0.1%)	0.98	11/4649 (0.2%)
9	QH	0.33	1/3423 (0.0%)	0.66	3/4638 (0.1%)
9	QJ	0.34	0/3423	0.72	5/4638 (0.1%)
9	QL	0.37	1/3423 (0.0%)	0.71	3/4638 (0.1%)
9	RB	0.38	0/3436	0.74	8/4656 (0.2%)
9	RD	0.57	3/3431 (0.1%)	0.85	12/4649 (0.3%)
9	RF	0.55	3/3431 (0.1%)	0.87	13/4649 (0.3%)
9	RH	0.71	5/3436 (0.1%)	0.80	11/4656 (0.2%)
9	RJ	0.67	4/3436 (0.1%)	0.84	13/4656 (0.3%)
9	RL	0.57	4/3423 (0.1%)	0.88	18/4638 (0.4%)
9	SB	0.51	3/3436 (0.1%)	0.73	4/4656 (0.1%)
9	SD	0.35	0/3431	0.71	6/4649 (0.1%)
9	SF	0.36	0/3436	0.74	6/4656 (0.1%)
9	SH	0.45	3/3436 (0.1%)	0.74	6/4656 (0.1%)
9	SJ	0.38	3/3436 (0.1%)	0.73	8/4656 (0.2%)
9	SL	0.34	2/3423 (0.1%)	0.67	4/4638 (0.1%)
9	TB	0.40	0/3431	0.76	12/4649 (0.3%)
9	TD	0.36	0/3431	0.69	5/4649 (0.1%)



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
9	TF	0.36	0/3436	0.69	6/4656 (0.1%)
9	TH	0.38	0/3436	0.70	6/4656 (0.1%)
9	TJ	0.37	0/3436	0.68	3/4656 (0.1%)
9	TL	0.37	0/3423	0.74	8/4638 (0.2%)
9	UB	0.37	0/3423	0.77	13/4638 (0.3%)
9	UD	0.39	0/3431	0.77	9/4649 (0.2%)
9	UF	0.34	0/3431	0.66	4/4649 (0.1%)
9	UH	0.34	0/3431	0.68	6/4649 (0.1%)
9	UJ	0.43	1/3431 (0.0%)	0.73	5/4649 (0.1%)
9	UL	0.34	0/3423	0.68	4/4638 (0.1%)
9	UN	0.34	0/3431	0.71	6/4649 (0.1%)
9	VB	0.35	0/3423	0.68	4/4638 (0.1%)
9	VD	0.35	0/3423	0.70	4/4638 (0.1%)
9	VF	0.66	4/3423 (0.1%)	0.87	10/4638 (0.2%)
9	VH	0.37	0/3436	0.71	6/4656 (0.1%)
9	VJ	0.37	0/3423	0.72	8/4638 (0.2%)
9	VL	0.36	0/3423	0.68	8/4638 (0.2%)
9	VN	0.37	0/3423	0.71	5/4638 (0.1%)
9	WB	0.33	0/3423	0.67	4/4638 (0.1%)
9	WD	0.33	0/3423	0.64	2/4638 (0.0%)
9	WF	0.37	2/3423 (0.1%)	0.67	5/4638 (0.1%)
9	WH	0.36	0/3423	0.70	9/4638 (0.2%)
9	WJ	0.34	0/3423	0.68	5/4638 (0.1%)
9	WL	0.37	1/3423 (0.0%)	0.69	6/4638 (0.1%)
9	WN	0.36	0/3423	0.70	5/4638 (0.1%)
10	AP	0.31	0/949	0.58	0/1291
10	AQ	0.35	0/949	0.63	1/1291 (0.1%)
10	AR	0.32	0/756	0.63	0/1027
10	AS	0.30	0/949	0.60	0/1291
11	AT	0.42	0/2539	0.71	3/3368 (0.1%)
11	AU	0.43	0/1868	0.71	1/2471 (0.0%)
12	AV	0.35	0/2964	0.65	2/4002 (0.0%)
12	AW	0.37	0/3011	0.66	3/4065 (0.1%)
13	Aa	0.38	0/4935	0.70	9/6639 (0.1%)
13	Ab	0.41	2/5047 (0.0%)	0.72	12/6797 (0.2%)
13	Ac	0.34	0/5061	0.66	3/6815 (0.0%)
13	Ad	0.37	0/4337	0.71	9/5847 (0.2%)
14	Al	0.41	0/348	0.77	1/475 (0.2%)
14	Am	0.32	0/348	0.75	1/475 (0.2%)
14	An	0.41	0/348	0.66	1/475 (0.2%)
14	Ao	0.39	0/598	0.72	1/812 (0.1%)
14	B7	0.32	0/704	0.65	0/952
14	BY	0.33	0/889	0.75	3/1198 (0.3%)



Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
14	BZ	0.33	0/889	0.73	2/1198 (0.2%)
14	Ba	0.34	0/1641	0.66	0/2220
14	Bb	0.34	0/1641	0.70	2/2220 (0.1%)
14	Bc	0.36	0/1628	0.65	1/2202 (0.0%)
14	Bd	0.29	0/889	0.57	0/1198
14	Be	0.31	0/889	0.59	0/1198
14	CN	0.54	2/688 (0.3%)	0.69	0/930
14	CO	0.35	0/715	0.76	1/966 (0.1%)
15	Ap	0.33	0/1140	0.64	0/1547
15	Aq	0.33	0/794	0.60	0/1079
15	Ar	0.32	0/1300	0.66	2/1767 (0.1%)
16	At	0.38	0/800	0.73	1/1092 (0.1%)
16	Ax	0.38	0/956	0.74	1/1309 (0.1%)
17	B0	0.36	0/380	0.73	1/519 (0.2%)
17	B1	0.37	0/312	0.65	1/428 (0.2%)
17	B2	0.33	0/317	0.75	1/430 (0.2%)
17	B3	0.29	0/205	0.56	0/274
17	B4	0.30	0/313	0.64	0/422
17	B8	0.30	0/328	0.66	0/441
17	B9	0.31	0/319	0.52	0/438
17	CQ	0.32	0/380	0.60	0/519
17	CR	0.30	0/328	0.49	0/450
17	CS	0.37	0/319	0.64	0/438
18	B5	0.34	0/2053	0.68	3/2757 (0.1%)
18	B6	0.32	0/2087	0.56	0/2804
18	By	0.36	0/1338	0.68	2/1792 (0.1%)
18	Bz	0.40	1/2053 (0.0%)	0.67	1/2757 (0.0%)
19	BO	0.51	3/1848 (0.2%)	0.83	5/2489 (0.2%)
19	BP	0.37	0/3450	0.69	1/4641 (0.0%)
19	BQ	0.35	0/3030	0.71	3/4067 (0.1%)
19	BR	0.38	0/3524	0.72	2/4742 (0.0%)
20	BS	0.31	0/1229	0.72	3/1679 (0.2%)
20	BT	0.38	0/1941	0.75	2/2637 (0.1%)
21	BU	0.31	0/310	0.71	1/411 (0.2%)
21	BV	0.33	0/3125	0.57	1/4176 (0.0%)
21	Bi	0.26	0/356	0.48	0/475
21	Bj	0.42	1/2051 (0.0%)	0.66	4/2740 (0.1%)
21	Bk	0.40	0/1459	0.65	2/1949 (0.1%)
22	BW	0.34	0/1648	0.69	2/2254 (0.1%)
22	BX	0.39	0/436	0.81	1/589 (0.2%)
23	Bf	0.36	0/522	0.68	2/707 (0.3%)
23	Bg	0.37	0/981	0.72	1/1334 (0.1%)
24	Bh	0.32	0/802	0.62	0/1094

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
26	Bq	0.37	0/816	0.70	2/1125 (0.2%)
26	Bu	0.29	0/1219	0.62	1/1664 (0.1%)
27	Br	0.45	0/1386	0.71	1/1839 (0.1%)
27	Bs	0.44	1/3070 (0.0%)	0.72	5/4068 (0.1%)
28	C0	0.31	0/857	0.63	1/1154 (0.1%)
28	C2	0.33	0/3358	0.60	2/4529 (0.0%)
28	C3	0.34	0/3358	0.56	0/4529
28	C4	0.35	0/2819	0.61	2/3802 (0.1%)
28	C5	0.44	2/1860 (0.1%)	0.66	5/2502 (0.2%)
28	C6	0.30	0/361	0.58	0/490
28	C7	0.33	0/3501	0.59	1/4723 (0.0%)
28	C8	0.34	0/3493	0.60	2/4711 (0.0%)
28	C9	0.38	0/3125	0.59	4/4209 (0.1%)
28	DO	0.32	0/1061	0.64	1/1436 (0.1%)
28	F2	0.32	0/3462	0.58	3/4675 (0.1%)
28	F3	0.36	0/3452	0.65	7/4661 (0.2%)
28	F4	0.39	2/3178 (0.1%)	0.64	7/4281 (0.2%)
28	F5	0.30	0/879	0.52	0/1183
28	F6	0.37	0/1072	0.69	4/1456 (0.3%)
29	C1	0.43	2/2741 (0.1%)	0.67	2/3684 (0.1%)
29	Cz	0.51	1/2461 (0.0%)	0.82	10/3304 (0.3%)
29	D0	0.38	0/573	0.81	3/770 (0.4%)
29	D1	0.37	0/2962	0.71	7/3975 (0.2%)
29	D2	0.35	0/3204	0.63	2/4302 (0.0%)
29	D3	0.38	0/3195	0.69	5/4291 (0.1%)
29	D4	0.38	0/3187	0.75	9/4280 (0.2%)
29	D5	0.43	1/2990 (0.0%)	0.80	10/4011 (0.2%)
29	D6	0.39	0/1227	0.72	3/1646 (0.2%)
29	D7	0.35	0/608	0.73	0/818
29	D8	0.36	0/3204	0.65	6/4302 (0.1%)
29	D9	0.39	0/1324	0.75	4/1776 (0.2%)
29	DP	0.39	0/1688	0.70	2/2261 (0.1%)
29	DQ	0.37	0/2431	0.70	2/3258 (0.1%)
29	DR	0.37	0/2170	0.71	6/2910 (0.2%)
29	DS	0.37	0/2136	0.71	7/2864 (0.2%)
29	DT	0.41	1/1391 (0.1%)	0.81	6/1872 (0.3%)
29	DU	0.36	0/2526	0.65	1/3388 (0.0%)
29	DV	0.38	0/2531	0.72	4/3395 (0.1%)
29	DW	0.42	1/2531 (0.0%)	0.79	8/3395 (0.2%)
29	DX	0.38	0/1911	0.72	4/2561 (0.2%)
29	EA	0.37	0/3298	0.65	2/4431 (0.0%)
29	EO	0.35	0/3290	0.64	2/4420 (0.0%)
29	EP	0.47	1/2973 (0.0%)	0.78	10/3989 (0.3%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
29	EQ	0.42	0/1470	0.80	5/1976 (0.3%)
29	ER	0.30	0/364	0.57	0/487
30	CW	0.33	0/1354	0.62	0/1838
31	Cl	0.35	0/1003	0.72	2/1368 (0.1%)
32	Cm	0.38	0/3304	0.70	4/4451 (0.1%)
32	Cn	0.38	0/3326	0.60	2/4480 (0.0%)
32	Co	0.47	3/2878 (0.1%)	0.64	5/3873 (0.1%)
32	Cp	0.43	0/1708	0.68	2/2298 (0.1%)
33	Cq	0.36	0/3471	0.57	0/4682
33	Cr	0.38	0/3429	0.62	3/4623 (0.1%)
33	Cs	0.38	0/1517	0.63	1/2044 (0.0%)
33	Ct	0.37	1/3183 (0.0%)	0.62	3/4289 (0.1%)
33	Cu	0.35	0/3091	0.66	3/4165 (0.1%)
33	Cv	0.40	2/3480 (0.1%)	0.63	2/4693 (0.0%)
33	Cw	0.38	0/3480	0.68	5/4693 (0.1%)
33	Cx	0.38	0/1632	0.64	0/2200
33	Cy	0.40	0/369	0.74	1/497 (0.2%)
34	D	0.47	0/554	0.76	0/753
35	DY	0.35	0/313	0.67	1/420 (0.2%)
35	DZ	0.30	0/422	0.71	1/565 (0.2%)
35	Da	0.33	0/1129	0.60	1/1531 (0.1%)
35	Ee	0.29	0/400	0.58	0/543
36	Db	0.30	0/465	0.71	0/632
36	Dc	0.33	0/457	0.82	2/621 (0.3%)
36	Dd	0.31	0/420	0.61	0/572
37	De	0.42	0/558	0.71	1/749 (0.1%)
38	Df	0.32	0/1099	0.62	1/1500 (0.1%)
38	Dg	0.34	0/1014	0.62	1/1376 (0.1%)
38	Dh	0.42	0/901	0.77	3/1224 (0.2%)
39	Di	0.34	0/651	0.65	0/875
39	Dj	0.29	0/829	0.62	1/1115 (0.1%)
39	Dk	0.30	0/829	0.62	0/1115
39	Dl	0.29	0/829	0.63	0/1115
40	Dm	0.37	0/747	0.61	1/1012 (0.1%)
41	Dn	0.30	0/476	0.80	2/637 (0.3%)
42	E	0.89	3/1203 (0.2%)	1.22	14/1625 (0.9%)
42	F	0.37	0/3776	0.76	7/5106 (0.1%)
43	E1	0.32	0/1714	0.68	1/2351 (0.0%)
43	E2	0.30	0/1714	0.66	1/2351 (0.0%)
43	E3	0.35	0/1707	0.67	2/2340 (0.1%)
43	E4	0.37	0/1271	0.69	1/1744 (0.1%)
44	ES	0.38	0/3537	0.60	1/4765 (0.0%)
44	ET	0.34	0/2311	0.55	0/3120

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
44	EU	0.37	0/2725	0.65	5/3664 (0.1%)
44	EV	0.43	3/3537 (0.1%)	0.64	4/4765 (0.1%)
44	EW	0.38	0/2644	0.68	4/3569 (0.1%)
44	EX	0.38	0/3617	0.65	6/4879 (0.1%)
44	EY	0.38	0/2586	0.63	1/3481 (0.0%)
44	EZ	0.36	0/3672	0.64	4/4954 (0.1%)
45	G	0.39	0/2380	0.76	7/3223 (0.2%)
46	H	0.46	0/860	0.66	1/1149 (0.1%)
46	o	0.42	0/3439	0.81	13/4555 (0.3%)
47	I	0.31	0/3783	0.60	2/5118 (0.0%)
47	X	0.38	2/3788 (0.1%)	0.69	7/5125 (0.1%)
47	Y	0.58	3/3840 (0.1%)	0.73	8/5196 (0.2%)
48	J	0.35	0/974	0.70	1/1315 (0.1%)
48	K	0.31	0/974	0.67	2/1315 (0.2%)
48	L	0.88	2/914 (0.2%)	1.10	2/1235 (0.2%)
48	M	0.34	0/746	0.71	1/1007 (0.1%)
49	K1	0.39	0/1019	0.76	1/1379 (0.1%)
50	L1	0.45	1/1121 (0.1%)	0.77	0/1514
50	L2	0.32	0/763	0.74	1/1031 (0.1%)
51	N	0.32	0/1207	0.67	0/1631
51	O	0.33	0/1169	0.69	0/1581
52	P	0.41	0/897	0.89	5/1219 (0.4%)
53	Q	0.34	0/955	0.63	0/1300
54	R	0.30	0/1190	0.73	1/1603 (0.1%)
54	S	0.32	0/1190	0.66	0/1603
54	T	0.35	0/1193	0.75	1/1606 (0.1%)
54	U	0.31	0/843	0.73	1/1138 (0.1%)
55	W	0.35	0/1017	0.60	0/1365
56	XG	0.32	0/1544	0.65	0/2082
56	XH	0.32	0/1544	0.67	2/2082 (0.1%)
56	XI	0.33	0/1544	0.67	0/2082
56	XJ	0.30	0/1544	0.65	2/2082 (0.1%)
56	XK	0.36	0/1544	0.70	2/2082 (0.1%)
56	XL	0.29	0/1535	0.63	0/2071
56	XM	0.37	0/1525	0.88	4/2056 (0.2%)
57	YG	0.33	0/1748	0.65	0/2360
57	YH	0.34	0/1802	0.61	0/2435
57	YI	0.33	0/1802	0.60	0/2435
57	YJ	0.33	0/1802	0.64	3/2435 (0.1%)
57	YK	0.34	0/1802	0.65	0/2435
57	YL	0.46	1/1802 (0.1%)	0.78	7/2435 (0.3%)
58	Z	0.29	0/1031	0.61	1/1372 (0.1%)
58	p	0.36	0/466	0.60	0/616

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
58	q	0.27	0/841	0.65	0/1121
59	a	0.51	2/1570 (0.1%)	0.86	5/2088 (0.2%)
59	b	0.41	1/2828 (0.0%)	0.82	8/3738 (0.2%)
59	c	0.39	0/2540	0.77	4/3369 (0.1%)
59	d	0.46	1/1738 (0.1%)	0.75	3/2298 (0.1%)
60	e	0.34	0/4821	0.71	6/6527 (0.1%)
60	f	0.33	0/4812	0.66	0/6515
60	g	0.35	1/4812 (0.0%)	0.67	1/6515 (0.0%)
61	h	0.31	0/801	0.62	1/1073 (0.1%)
62	i	0.35	0/2105	0.65	2/2851 (0.1%)
62	j	0.34	0/2211	0.67	3/2997 (0.1%)
63	k	0.31	0/1275	0.60	1/1727 (0.1%)
63	l	0.32	0/1124	0.62	0/1522
63	m	0.29	0/1294	0.57	0/1753
63	n	0.35	0/928	0.67	1/1255 (0.1%)
64	ke	0.31	0/820	0.59	0/1109
65	r	0.32	0/630	0.67	0/849
65	s	0.35	0/639	0.62	1/861 (0.1%)
65	t	0.32	0/639	0.57	1/861 (0.1%)
66	u	0.31	0/1107	0.55	1/1491 (0.1%)
66	v	0.31	0/982	0.58	0/1327
66	w	0.30	0/1107	0.57	0/1491
All	All	0.38	216/1475221 (0.0%)	0.68	2018/1997530 (0.1%)

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
1	V	0	1
2	0C	0	3
2	0E	0	2
2	0Y	0	1
2	0a	0	1
2	0c	0	1
2	0g	0	2
2	0i	0	3
2	CT	0	2
2	CY	0	1
2	Cb	0	3
2	Ci	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
6	A0	0	2
7	A5	0	1
7	A7	0	3
7	A8	0	4
7	A9	0	1
7	Aw	0	1
7	Ay	0	2
8	AG	0	1
8	AI	0	1
8	BE	0	1
8	BM	0	1
8	CK	0	1
8	EI	0	1
8	EK	0	1
8	FE	0	1
8	FK	0	1
8	GG	0	1
8	GK	0	2
8	HO	0	1
8	IC	0	1
8	IE	0	1
8	IG	0	1
8	IK	0	2
8	KE	0	1
8	KI	0	1
8	LC	0	1
8	LK	0	1
8	ME	0	1
8	MK	0	1
8	NC	0	1
8	NI	0	1
8	NK	0	1
8	OE	0	1
8	OG	0	1
8	PA	0	1
8	PC	0	1
8	PI	0	1
8	QA	0	1
8	RA	0	1
8	RI	0	2
8	RK	0	1
8	SG	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
8	SK	0	1
8	TI	0	2
8	UE	0	1
8	WI	0	1
9	DH	0	1
9	ED	0	1
9	EJ	0	1
9	EL	0	2
9	FB	0	2
9	FH	0	1
9	FJ	0	1
9	GD	0	1
9	GF	0	2
9	GH	0	1
9	GJ	0	1
9	GL	0	1
9	HB	0	1
9	HD	0	1
9	HJ	0	1
9	IN	0	1
9	MD	0	1
9	MF	0	1
9	NF	0	1
9	NL	0	1
9	O0	0	1
9	OL	0	1
9	PH	0	1
9	PJ	0	2
9	RF	0	1
9	RH	0	3
9	RL	0	1
9	SD	0	1
9	TL	0	1
9	UJ	0	1
9	UL	0	1
9	VB	0	1
9	WJ	0	1
11	AT	0	1
13	Aa	0	1
13	Ab	0	1
13	Ac	0	2
13	Ad	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
14	Al	0	1
14	BY	0	1
14	Bb	0	1
15	Ap	0	1
15	Ar	0	1
18	Bz	0	1
19	BR	0	1
21	Bj	0	1
28	F2	0	1
28	F6	0	1
29	D4	0	2
29	DP	0	1
29	EP	0	1
32	Co	0	1
33	Ct	0	1
42	E	0	1
42	F	0	2
43	E2	0	1
43	E4	0	1
44	ES	0	1
44	EX	0	2
45	G	0	2
46	H	0	1
46	o	0	1
47	I	0	2
47	Y	0	1
48	J	0	1
49	K1	0	1
50	L1	0	3
51	O	0	1
56	XI	0	1
57	YL	0	1
59	a	0	2
59	b	0	3
59	d	0	2
60	f	0	1
65	s	0	1
All	All	0	172

The worst 5 of 216 bond length outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	PF	80	PRO	CG-CD	-31.31	0.47	1.50
8	WC	268	PRO	CG-CD	-29.44	0.53	1.50
9	EH	268	PRO	CG-CD	-28.52	0.56	1.50
9	RJ	268	PRO	CG-CD	-27.72	0.59	1.50
8	PE	261	PRO	CG-CD	-26.91	0.61	1.50

The worst 5 of 2018 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	KL	220	PRO	N-CD-CG	-34.16	51.96	103.20
9	PF	80	PRO	N-CD-CG	-32.94	53.79	103.20
9	QF	272	PRO	N-CD-CG	-32.79	54.01	103.20
8	WC	268	PRO	N-CD-CG	-32.30	54.76	103.20
8	DE	268	PRO	N-CD-CG	-28.57	60.35	103.20

There are no chirality outliers.

5 of 172 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	0C	118	TYR	Peptide
2	0C	33	CYS	Peptide
2	0C	55	GLU	Peptide
2	0E	118	TYR	Peptide
2	0E	58	CYS	Peptide

## 5.2 Too-close contacts [i](#)

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

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

There are no protein backbone outliers to report in this entry.

### 5.3.2 Protein sidechains [i](#)

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

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 451 ligands modelled in this entry, 149 are monoatomic - leaving 302 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
69	GDP	IL	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	UC	501	68	26,34,34	1.12	2 (7%)	32,54,54	1.62	7 (21%)
67	GTP	JM	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.50	7 (21%)
67	GTP	JI	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.74	7 (21%)
67	GTP	II	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
69	GDP	AF	501	9	24,30,30	0.93	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	OF	502	68,9	26,34,34	1.12	2 (7%)	32,54,54	1.56	8 (25%)
69	GDP	BJ	501	9	24,30,30	0.96	1 (4%)	30,47,47	1.24	4 (13%)
69	GDP	OB	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.23	5 (16%)
67	GTP	KM	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.54	8 (25%)
69	GDP	IJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.27	3 (10%)
69	GDP	MH	501	9	24,30,30	0.86	0	30,47,47	1.45	4 (13%)
67	GTP	AG	501	68,8	26,34,34	1.15	1 (3%)	32,54,54	1.73	9 (28%)
69	GDP	TD	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.29	5 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
69	GDP	EJ	501	9	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	GB	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.35	4 (13%)
69	GDP	EL	501	9	24,30,30	0.93	1 (4%)	30,47,47	1.38	4 (13%)
67	GTP	JK	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.68	7 (21%)
69	GDP	HD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.32	4 (13%)
69	GDP	AL	501	9	24,30,30	0.92	1 (4%)	30,47,47	1.28	4 (13%)
69	GDP	IN	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.31	4 (13%)
69	GDP	CJ	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	RL	501	-	24,30,30	0.90	1 (4%)	30,47,47	1.43	6 (20%)
67	GTP	BA	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.68	7 (21%)
67	GTP	WK	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.68	7 (21%)
67	GTP	DM	501	68	26,34,34	1.21	2 (7%)	32,54,54	1.67	7 (21%)
67	GTP	IN	502	68,9	26,34,34	1.13	2 (7%)	32,54,54	1.74	8 (25%)
67	GTP	PC	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.76	7 (21%)
67	GTP	LM	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.60	7 (21%)
67	GTP	AH	502	68,8,9	26,34,34	1.16	1 (3%)	32,54,54	1.70	10 (31%)
69	GDP	O0	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	OL	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.33	4 (13%)
67	GTP	GI	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.58	7 (21%)
67	GTP	NF	502	68,9	26,34,34	1.14	2 (7%)	32,54,54	1.52	7 (21%)
67	GTP	RE	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.72	7 (21%)
67	GTP	SM	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.64	7 (21%)
69	GDP	VB	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.30	4 (13%)
69	GDP	N0	501	9	24,30,30	0.93	1 (4%)	30,47,47	1.39	4 (13%)
67	GTP	GJ	502	68,9	26,34,34	1.14	2 (7%)	32,54,54	1.78	7 (21%)
69	GDP	GJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.29	5 (16%)
69	GDP	JL	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.34	4 (13%)
69	GDP	RD	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.41	5 (16%)
69	GDP	EN	501	9	24,30,30	0.94	1 (4%)	30,47,47	1.39	4 (13%)
67	GTP	RB	502	9	26,34,34	1.16	2 (7%)	32,54,54	1.69	7 (21%)
67	GTP	VE	501	-	26,34,34	1.13	1 (3%)	32,54,54	1.63	9 (28%)
69	GDP	GH	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.31	4 (13%)
69	GDP	KL	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.32	4 (13%)
69	GDP	VF	501	-	24,30,30	0.90	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	DI	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.68	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
67	GTP	DA	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.76	7 (21%)
67	GTP	SC	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.76	7 (21%)
69	GDP	VN	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.56	6 (20%)
69	GDP	RF	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.35	5 (16%)
69	GDP	PD	501	9	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	FI	501	68	26,34,34	1.12	2 (7%)	32,54,54	1.54	7 (21%)
69	GDP	FF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.24	4 (13%)
69	GDP	HF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)
67	GTP	WM	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
69	GDP	QJ	501	9	24,30,30	0.96	1 (4%)	30,47,47	1.46	5 (16%)
69	GDP	RH	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.37	4 (13%)
69	GDP	RJ	501	-	24,30,30	1.00	1 (4%)	30,47,47	1.37	2 (6%)
69	GDP	LF	501	9	24,30,30	0.87	0	30,47,47	1.43	4 (13%)
67	GTP	FE	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.73	7 (21%)
67	GTP	IM	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.61	7 (21%)
69	GDP	MJ	501	9	24,30,30	0.92	1 (4%)	30,47,47	1.34	4 (13%)
67	GTP	UG	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.71	7 (21%)
69	GDP	CB	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	DD	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.34	5 (16%)
69	GDP	KD	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.29	4 (13%)
69	GDP	WD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.28	4 (13%)
67	GTP	OE	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.72	7 (21%)
67	GTP	TG	501	68	26,34,34	1.26	2 (7%)	32,54,54	1.73	7 (21%)
69	GDP	AD	501	9	24,30,30	0.93	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	JF	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	UL	501	9	24,30,30	0.96	1 (4%)	30,47,47	1.14	4 (13%)
69	GDP	MF	501	9	24,30,30	0.78	0	30,47,47	1.70	6 (20%)
67	GTP	CA	501	-	26,34,34	1.18	1 (3%)	32,54,54	1.63	8 (25%)
67	GTP	FG	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.68	7 (21%)
69	GDP	BB	501	9	24,30,30	0.96	1 (4%)	30,47,47	1.23	4 (13%)
69	GDP	VH	501	-	24,30,30	0.98	1 (4%)	30,47,47	1.26	4 (13%)
67	GTP	QM	501	68	26,34,34	1.19	2 (7%)	32,54,54	1.81	7 (21%)
67	GTP	RK	501	-	26,34,34	1.19	1 (3%)	32,54,54	1.44	7 (21%)
67	GTP	DK	501	68,8	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
69	GDP	BD	501	9	24,30,30	1.05	1 (4%)	30,47,47	1.44	5 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
69	GDP	LL	501	9	24,30,30	0.90	1 (4%)	30,47,47	1.35	5 (16%)
67	GTP	OC	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.61	7 (21%)
67	GTP	MK	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.58	7 (21%)
67	GTP	WE	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.58	7 (21%)
69	GDP	GN	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.32	4 (13%)
67	GTP	ME	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.63	7 (21%)
69	GDP	MB	501	9	24,30,30	0.87	0	30,47,47	1.45	6 (20%)
69	GDP	VL	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.20	4 (13%)
69	GDP	DN	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.52	4 (13%)
67	GTP	MM	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.58	7 (21%)
69	GDP	FN	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.27	4 (13%)
69	GDP	VD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.22	5 (16%)
67	GTP	CH	502	68,9	26,34,34	1.10	2 (7%)	32,54,54	1.61	7 (21%)
67	GTP	PG	501	68,8	26,34,34	1.18	2 (7%)	32,54,54	1.56	7 (21%)
69	GDP	FD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.32	5 (16%)
69	GDP	JJ	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.36	3 (10%)
69	GDP	WJ	501	-	24,30,30	1.06	1 (4%)	30,47,47	1.31	4 (13%)
69	GDP	SD	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.35	4 (13%)
69	GDP	DJ	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.30	3 (10%)
67	GTP	AK	501	68,8,9	26,34,34	1.18	1 (3%)	32,54,54	1.59	9 (28%)
67	GTP	CJ	502	68,9	26,34,34	1.14	2 (7%)	32,54,54	1.58	8 (25%)
67	GTP	EK	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.68	7 (21%)
67	GTP	HC	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.79	8 (25%)
69	GDP	KN	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.27	5 (16%)
69	GDP	LN	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.23	4 (13%)
69	GDP	GD	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.30	4 (13%)
67	GTP	LE	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.72	7 (21%)
69	GDP	CF	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.31	4 (13%)
69	GDP	TB	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.37	4 (13%)
69	GDP	EH	501	9	24,30,30	0.92	1 (4%)	30,47,47	1.46	4 (13%)
67	GTP	OK	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.45	4 (12%)
67	GTP	HL	502	68,9	26,34,34	1.13	2 (7%)	32,54,54	1.60	7 (21%)
67	GTP	BK	501	68	26,34,34	1.12	2 (7%)	32,54,54	1.63	7 (21%)
67	GTP	TC	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.57	8 (25%)
69	GDP	BF	501	9	24,30,30	0.98	1 (4%)	30,47,47	1.13	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
69	GDP	SB	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.45	6 (20%)
67	GTP	EI	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.59	7 (21%)
67	GTP	KE	501	68	26,34,34	1.12	2 (7%)	32,54,54	1.52	6 (18%)
69	GDP	UF	501	9	24,30,30	0.95	1 (4%)	30,47,47	1.34	5 (16%)
69	GDP	WL	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.30	4 (13%)
67	GTP	LC	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
69	GDP	PH	501	9	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	PA	501	68	26,34,34	1.18	2 (7%)	32,54,54	1.67	7 (21%)
69	GDP	PF	501	9	24,30,30	0.93	1 (4%)	30,47,47	1.35	6 (20%)
67	GTP	CB	502	68,9	26,34,34	1.14	2 (7%)	32,54,54	1.63	7 (21%)
67	GTP	QC	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.69	7 (21%)
67	GTP	RI	501	68,8	26,34,34	1.20	1 (3%)	32,54,54	1.77	9 (28%)
69	GDP	CH	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.26	5 (16%)
69	GDP	MN	501	9	24,30,30	0.89	1 (4%)	30,47,47	1.41	5 (16%)
69	GDP	WH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
69	GDP	UB	501	9	24,30,30	0.92	1 (4%)	30,47,47	1.18	4 (13%)
69	GDP	UJ	501	9	24,30,30	0.91	1 (4%)	30,47,47	1.33	5 (16%)
69	GDP	DB	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	3 (10%)
69	GDP	LJ	501	9	24,30,30	0.86	0	30,47,47	1.42	4 (13%)
67	GTP	SK	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.60	8 (25%)
69	GDP	JB	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.35	4 (13%)
69	GDP	JH	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.34	4 (13%)
69	GDP	KJ	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.31	4 (13%)
69	GDP	NL	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.32	4 (13%)
69	GDP	OD	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.34	4 (13%)
69	GDP	VJ	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.32	4 (13%)
67	GTP	DC	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.56	6 (18%)
67	GTP	BM	501	68	26,34,34	1.12	2 (7%)	32,54,54	1.62	7 (21%)
67	GTP	CL	502	68,9	26,34,34	1.16	2 (7%)	32,54,54	1.60	7 (21%)
67	GTP	VC	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.77	6 (18%)
69	GDP	IH	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.28	4 (13%)
69	GDP	SJ	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	NJ	501	9	24,30,30	0.93	1 (4%)	30,47,47	1.35	4 (13%)
67	GTP	KC	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.75	7 (21%)
67	GTP	BG	501	68	26,34,34	1.13	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
69	GDP	UD	501	9	24,30,30	0.94	1 (4%)	30,47,47	1.32	5 (16%)
67	GTP	GE	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.66	7 (21%)
67	GTP	IE	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
69	GDP	NH	501	9	24,30,30	0.87	0	30,47,47	1.47	6 (20%)
67	GTP	NA	502	68	26,34,34	1.16	2 (7%)	32,54,54	1.68	8 (25%)
69	GDP	UN	501	9	24,30,30	0.91	1 (4%)	30,47,47	1.26	4 (13%)
67	GTP	BC	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.74	7 (21%)
67	GTP	FC	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.55	6 (18%)
67	GTP	RA	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.56	6 (18%)
69	GDP	JD	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.37	4 (13%)
67	GTP	IG	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.66	7 (21%)
67	GTP	RG	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.54	7 (21%)
69	GDP	OH	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	5 (16%)
69	GDP	OF	501	9	24,30,30	0.86	1 (4%)	30,47,47	1.64	6 (20%)
67	GTP	SA	501	68	26,34,34	1.23	2 (7%)	32,54,54	1.78	8 (25%)
69	GDP	HL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
67	GTP	KO	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
69	GDP	WN	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.26	4 (13%)
69	GDP	GF	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	UM	501	68	26,34,34	1.14	1 (3%)	32,54,54	1.72	7 (21%)
67	GTP	CD	502	68,9	26,34,34	1.15	2 (7%)	32,54,54	1.65	8 (25%)
69	GDP	SH	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.32	4 (13%)
69	GDP	WB	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
67	GTP	IC	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.71	7 (21%)
69	GDP	LH	501	9	24,30,30	0.80	0	30,47,47	1.84	7 (23%)
67	GTP	AM	501	68,8	26,34,34	1.15	2 (7%)	32,54,54	1.65	8 (25%)
67	GTP	EC	501	68	26,34,34	1.13	2 (7%)	32,54,54	1.76	7 (21%)
69	GDP	HN	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.38	4 (13%)
69	GDP	UH	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.29	4 (13%)
67	GTP	VK	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.47	8 (25%)
67	GTP	TK	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.54	7 (21%)
69	GDP	AB	501	9	24,30,30	0.93	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	QI	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
67	GTP	WC	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.67	7 (21%)
69	GDP	FH	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.37	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
69	GDP	BH	501	9	24,30,30	0.97	1 (4%)	30,47,47	1.19	4 (13%)
69	GDP	GL	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.35	4 (13%)
67	GTP	QE	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.69	6 (18%)
67	GTP	CG	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.77	7 (21%)
69	GDP	WF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.24	4 (13%)
67	GTP	OH	502	68,9	26,34,34	1.13	2 (7%)	32,54,54	1.64	7 (21%)
67	GTP	TM	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.56	7 (21%)
69	GDP	EF	501	9	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
69	GDP	IF	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.32	4 (13%)
69	GDP	PL	501	9	24,30,30	0.94	1 (4%)	30,47,47	1.23	4 (13%)
67	GTP	JC	501	68,8	26,34,34	1.14	2 (7%)	32,54,54	1.71	8 (25%)
69	GDP	SL	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.31	4 (13%)
69	GDP	IB	501	9	24,30,30	1.04	1 (4%)	30,47,47	1.50	5 (16%)
67	GTP	FM	501	68,8	26,34,34	1.12	2 (7%)	32,54,54	1.73	7 (21%)
69	GDP	KB	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.30	3 (10%)
67	GTP	KI	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.56	7 (21%)
67	GTP	TI	501	68	26,34,34	1.25	2 (7%)	32,54,54	1.61	7 (21%)
69	GDP	PJ	501	9	24,30,30	0.98	1 (4%)	30,47,47	1.35	7 (23%)
69	GDP	QL	501	9	24,30,30	0.99	1 (4%)	30,47,47	1.40	5 (16%)
67	GTP	MC	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.68	7 (21%)
69	GDP	ND	501	9	24,30,30	0.94	1 (4%)	30,47,47	1.25	3 (10%)
67	GTP	LI	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.57	7 (21%)
67	GTP	PI	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.77	7 (21%)
69	GDP	DF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	5 (16%)
69	GDP	HB	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.28	4 (13%)
69	GDP	ID	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.27	4 (13%)
69	GDP	MD	501	9	24,30,30	0.86	0	30,47,47	1.83	6 (20%)
69	GDP	TL	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.32	4 (13%)
69	GDP	JN	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.39	5 (16%)
69	GDP	SF	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.27	5 (16%)
69	GDP	FJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.22	4 (13%)
67	GTP	QG	501	-	26,34,34	1.23	2 (7%)	32,54,54	1.69	8 (25%)
69	GDP	KH	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.32	4 (13%)
67	GTP	QK	501	68	26,34,34	1.23	2 (7%)	32,54,54	1.58	8 (25%)
67	GTP	AA	501	68,8	26,34,34	1.17	2 (7%)	32,54,54	1.73	8 (25%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
67	GTP	IK	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.71	7 (21%)
67	GTP	JG	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.53	7 (21%)
67	GTP	GG	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.52	7 (21%)
67	GTP	PD	502	68,9	26,34,34	1.17	1 (3%)	32,54,54	1.46	7 (21%)
67	GTP	VL	502	68,9	26,34,34	1.14	2 (7%)	32,54,54	1.64	8 (25%)
69	GDP	QD	501	9	24,30,30	0.97	1 (4%)	30,47,47	1.30	5 (16%)
69	GDP	NB	501	9	24,30,30	0.83	0	30,47,47	1.85	7 (23%)
69	GDP	HJ	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.36	4 (13%)
69	GDP	CD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.29	4 (13%)
67	GTP	GC	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.74	7 (21%)
69	GDP	ED	501	9	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
67	GTP	UK	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.71	7 (21%)
67	GTP	MI	501	68,8	26,34,34	1.29	2 (7%)	32,54,54	2.06	10 (31%)
69	GDP	DL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	5 (16%)
67	GTP	WG	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.60	8 (25%)
69	GDP	PB	501	9	24,30,30	0.83	0	30,47,47	1.55	7 (23%)
69	GDP	HH	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.30	4 (13%)
67	GTP	HE	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.71	7 (21%)
67	GTP	QA	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.56	8 (25%)
67	GTP	PK	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.48	7 (21%)
67	GTP	UI	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.76	7 (21%)
69	GDP	AJ	501	9	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
67	GTP	SF	502	68,9	26,34,34	1.14	2 (7%)	32,54,54	1.73	9 (28%)
69	GDP	KF	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.27	5 (16%)
69	GDP	BL	501	9	24,30,30	0.97	1 (4%)	30,47,47	1.19	5 (16%)
67	GTP	NB	502	68,9	26,34,34	1.13	2 (7%)	32,54,54	1.57	7 (21%)
67	GTP	EE	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.53	6 (18%)
67	GTP	HN	502	68,9	26,34,34	1.13	2 (7%)	32,54,54	1.58	8 (25%)
67	GTP	KK	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
67	GTP	KG	501	68,8	26,34,34	1.18	2 (7%)	32,54,54	1.56	8 (25%)
69	GDP	CL	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.37	4 (13%)
67	GTP	GM	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.75	8 (25%)
67	GTP	EG	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.60	6 (18%)
67	GTP	HG	502	68	26,34,34	1.15	2 (7%)	32,54,54	1.69	7 (21%)
67	GTP	HK	501	68	26,34,34	1.18	2 (7%)	32,54,54	1.63	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
67	GTP	MG	501	68,8	26,34,34	1.13	1 (3%)	32,54,54	1.64	6 (18%)
67	GTP	O0	502	68,9	26,34,34	1.15	2 (7%)	32,54,54	1.59	7 (21%)
69	GDP	AH	501	9	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)
69	GDP	FL	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.41	4 (13%)
69	GDP	LD	501	9	24,30,30	0.90	1 (4%)	30,47,47	1.40	5 (16%)
69	GDP	DH	501	-	24,30,30	0.90	1 (4%)	30,47,47	1.46	5 (16%)
69	GDP	NF	501	9	24,30,30	0.90	0	30,47,47	1.37	4 (13%)
69	GDP	OJ	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.26	4 (13%)
67	GTP	TE	501	68	26,34,34	1.18	2 (7%)	32,54,54	1.61	7 (21%)
67	GTP	AD	502	68,8,9	26,34,34	1.14	1 (3%)	32,54,54	1.57	9 (28%)
67	GTP	RM	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.73	7 (21%)
67	GTP	BE	501	68	26,34,34	1.11	2 (7%)	32,54,54	1.62	6 (18%)
67	GTP	NI	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.67	7 (21%)
67	GTP	VG	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
69	GDP	TF	501	-	24,30,30	0.90	1 (4%)	30,47,47	1.31	4 (13%)
69	GDP	QF	501	9	24,30,30	0.97	1 (4%)	30,47,47	1.36	5 (16%)
67	GTP	EM	501	-	26,34,34	1.14	2 (7%)	32,54,54	1.64	7 (21%)
67	GTP	SE	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.80	7 (21%)
69	GDP	RB	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.38	4 (13%)
67	GTP	FK	501	68	26,34,34	1.17	2 (7%)	32,54,54	1.71	7 (21%)
67	GTP	DF	502	68,9	26,34,34	1.17	2 (7%)	32,54,54	1.70	7 (21%)
69	GDP	QB	501	9	24,30,30	0.96	1 (4%)	30,47,47	1.37	5 (16%)
67	GTP	VI	502	68	26,34,34	1.14	2 (7%)	32,54,54	1.72	6 (18%)
67	GTP	LK	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.58	7 (21%)
69	GDP	EB	501	9	24,30,30	0.94	1 (4%)	30,47,47	1.32	4 (13%)
69	GDP	QH	501	9	24,30,30	0.96	1 (4%)	30,47,47	1.31	4 (13%)
67	GTP	NK	501	68	26,34,34	1.12	2 (7%)	32,54,54	1.52	8 (25%)
69	GDP	TH	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.21	4 (13%)
67	GTP	DE	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
67	GTP	HI	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.68	7 (21%)
69	GDP	FB	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.38	4 (13%)
69	GDP	ML	501	9	24,30,30	0.90	1 (4%)	30,47,47	2.16	7 (23%)
67	GTP	AC	501	68,8,9	26,34,34	1.16	1 (3%)	32,54,54	1.55	10 (31%)
67	GTP	BI	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.68	7 (21%)
67	GTP	UE	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.68	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
67	GTP	LG	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
67	GTP	PM	501	68	26,34,34	1.16	2 (7%)	32,54,54	1.74	6 (18%)
69	GDP	LB	501	9	24,30,30	0.88	0	30,47,47	1.41	5 (16%)
67	GTP	WI	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.55	7 (21%)
67	GTP	NE	501	68	26,34,34	1.14	2 (7%)	32,54,54	1.68	7 (21%)
67	GTP	JE	501	68	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
67	GTP	SI	501	-	26,34,34	1.28	2 (7%)	32,54,54	1.82	8 (25%)
69	GDP	TJ	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.60	5 (16%)

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
69	GDP	IL	501	-	-	2/12/32/32	0/3/3/3
67	GTP	UC	501	68	-	6/18/38/38	0/3/3/3
67	GTP	JM	501	68	-	4/18/38/38	0/3/3/3
67	GTP	JI	501	68	-	3/18/38/38	0/3/3/3
67	GTP	II	501	68	-	5/18/38/38	0/3/3/3
69	GDP	AF	501	9	-	1/12/32/32	0/3/3/3
67	GTP	OF	502	68,9	-	9/18/38/38	0/3/3/3
69	GDP	BJ	501	9	-	6/12/32/32	0/3/3/3
69	GDP	OB	501	-	-	4/12/32/32	0/3/3/3
67	GTP	KM	501	68	-	5/18/38/38	0/3/3/3
69	GDP	IJ	501	-	-	2/12/32/32	0/3/3/3
69	GDP	MH	501	9	-	6/12/32/32	0/3/3/3
67	GTP	AG	501	68,8	-	4/18/38/38	0/3/3/3
69	GDP	TD	501	-	-	4/12/32/32	0/3/3/3
69	GDP	EJ	501	9	-	4/12/32/32	0/3/3/3
69	GDP	GB	501	-	-	3/12/32/32	0/3/3/3
69	GDP	EL	501	9	-	4/12/32/32	0/3/3/3
67	GTP	JK	501	-	-	3/18/38/38	0/3/3/3
69	GDP	HD	501	-	-	3/12/32/32	0/3/3/3
69	GDP	AL	501	9	-	1/12/32/32	0/3/3/3
69	GDP	IN	501	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	GDP	CJ	501	-	-	4/12/32/32	0/3/3/3
69	GDP	RL	501	-	-	2/12/32/32	0/3/3/3
67	GTP	BA	501	68	-	3/18/38/38	0/3/3/3
67	GTP	WK	501	68	-	6/18/38/38	0/3/3/3
67	GTP	DM	501	68	-	4/18/38/38	0/3/3/3
67	GTP	IN	502	68,9	-	2/18/38/38	0/3/3/3
67	GTP	PC	501	-	-	5/18/38/38	0/3/3/3
67	GTP	LM	501	68	-	6/18/38/38	0/3/3/3
67	GTP	AH	502	68,8,9	-	1/18/38/38	0/3/3/3
69	GDP	O0	501	-	-	5/12/32/32	0/3/3/3
69	GDP	OL	501	-	-	4/12/32/32	0/3/3/3
67	GTP	GI	501	68	-	5/18/38/38	0/3/3/3
67	GTP	NF	502	68,9	-	6/18/38/38	0/3/3/3
67	GTP	RE	501	-	-	4/18/38/38	0/3/3/3
67	GTP	SM	501	68	-	7/18/38/38	0/3/3/3
69	GDP	VB	501	-	-	2/12/32/32	0/3/3/3
69	GDP	N0	501	9	-	2/12/32/32	0/3/3/3
67	GTP	GJ	502	68,9	-	8/18/38/38	0/3/3/3
69	GDP	GJ	501	-	-	4/12/32/32	0/3/3/3
69	GDP	JL	501	-	-	4/12/32/32	0/3/3/3
69	GDP	RD	501	-	-	3/12/32/32	0/3/3/3
69	GDP	EN	501	9	-	4/12/32/32	0/3/3/3
67	GTP	RB	502	9	-	3/18/38/38	0/3/3/3
67	GTP	VE	501	-	-	4/18/38/38	0/3/3/3
69	GDP	GH	501	-	-	3/12/32/32	0/3/3/3
69	GDP	KL	501	-	-	2/12/32/32	0/3/3/3
69	GDP	VF	501	-	-	5/12/32/32	0/3/3/3
67	GTP	DI	501	68	-	4/18/38/38	0/3/3/3
67	GTP	DA	501	68	-	2/18/38/38	0/3/3/3
67	GTP	SC	501	68	-	6/18/38/38	0/3/3/3
69	GDP	VN	501	-	-	2/12/32/32	0/3/3/3
69	GDP	RF	501	-	-	2/12/32/32	0/3/3/3
69	GDP	PD	501	9	-	2/12/32/32	0/3/3/3
67	GTP	FI	501	68	-	4/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	GDP	FF	501	-	-	4/12/32/32	0/3/3/3
69	GDP	HF	501	-	-	4/12/32/32	0/3/3/3
67	GTP	WM	501	68	-	3/18/38/38	0/3/3/3
69	GDP	QJ	501	9	-	0/12/32/32	0/3/3/3
69	GDP	RH	501	-	-	1/12/32/32	0/3/3/3
69	GDP	RJ	501	-	-	2/12/32/32	0/3/3/3
69	GDP	LF	501	9	-	3/12/32/32	0/3/3/3
67	GTP	FE	501	68	-	5/18/38/38	0/3/3/3
67	GTP	IM	501	68	-	3/18/38/38	0/3/3/3
69	GDP	MJ	501	9	-	5/12/32/32	0/3/3/3
67	GTP	UG	501	68	-	3/18/38/38	0/3/3/3
69	GDP	CB	501	-	-	2/12/32/32	0/3/3/3
69	GDP	DD	501	-	-	4/12/32/32	0/3/3/3
69	GDP	KD	501	-	-	3/12/32/32	0/3/3/3
69	GDP	WD	501	-	-	4/12/32/32	0/3/3/3
67	GTP	OE	501	68	-	3/18/38/38	0/3/3/3
67	GTP	TG	501	68	-	5/18/38/38	0/3/3/3
69	GDP	AD	501	9	-	1/12/32/32	0/3/3/3
69	GDP	JF	501	-	-	4/12/32/32	0/3/3/3
69	GDP	UL	501	9	-	3/12/32/32	0/3/3/3
69	GDP	MF	501	9	-	4/12/32/32	0/3/3/3
67	GTP	CA	501	-	-	2/18/38/38	0/3/3/3
67	GTP	FG	501	68	-	1/18/38/38	0/3/3/3
69	GDP	BB	501	9	-	5/12/32/32	0/3/3/3
69	GDP	VH	501	-	-	2/12/32/32	0/3/3/3
67	GTP	QM	501	68	-	3/18/38/38	0/3/3/3
67	GTP	RK	501	-	-	3/18/38/38	0/3/3/3
67	GTP	DK	501	68,8	-	3/18/38/38	0/3/3/3
69	GDP	BD	501	9	-	0/12/32/32	0/3/3/3
69	GDP	LL	501	9	-	2/12/32/32	0/3/3/3
67	GTP	OC	501	68	-	7/18/38/38	0/3/3/3
67	GTP	MK	501	68	-	5/18/38/38	0/3/3/3
67	GTP	WE	501	68	-	4/18/38/38	0/3/3/3
69	GDP	GN	501	-	-	4/12/32/32	0/3/3/3
67	GTP	ME	501	68	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	GDP	MB	501	9	-	6/12/32/32	0/3/3/3
69	GDP	VL	501	-	-	3/12/32/32	0/3/3/3
69	GDP	DN	501	-	-	0/12/32/32	0/3/3/3
67	GTP	MM	501	68	-	7/18/38/38	0/3/3/3
69	GDP	FN	501	-	-	2/12/32/32	0/3/3/3
69	GDP	VD	501	-	-	0/12/32/32	0/3/3/3
67	GTP	CH	502	68,9	-	3/18/38/38	0/3/3/3
67	GTP	PG	501	68,8	-	2/18/38/38	0/3/3/3
69	GDP	FD	501	-	-	3/12/32/32	0/3/3/3
69	GDP	JJ	501	-	-	4/12/32/32	0/3/3/3
69	GDP	WJ	501	-	-	3/12/32/32	0/3/3/3
69	GDP	SD	501	-	-	5/12/32/32	0/3/3/3
69	GDP	DJ	501	-	-	3/12/32/32	0/3/3/3
67	GTP	AK	501	68,8,9	-	4/18/38/38	0/3/3/3
67	GTP	CJ	502	68,9	-	5/18/38/38	0/3/3/3
67	GTP	EK	501	68	-	4/18/38/38	0/3/3/3
67	GTP	HC	501	68	-	5/18/38/38	0/3/3/3
69	GDP	KN	501	-	-	7/12/32/32	0/3/3/3
69	GDP	LN	501	-	-	3/12/32/32	0/3/3/3
69	GDP	GD	501	-	-	2/12/32/32	0/3/3/3
67	GTP	LE	501	68	-	7/18/38/38	0/3/3/3
69	GDP	CF	501	-	-	3/12/32/32	0/3/3/3
69	GDP	TB	501	-	-	4/12/32/32	0/3/3/3
69	GDP	EH	501	9	-	3/12/32/32	0/3/3/3
67	GTP	OK	501	68	-	6/18/38/38	0/3/3/3
67	GTP	HL	502	68,9	-	2/18/38/38	0/3/3/3
67	GTP	BK	501	68	-	4/18/38/38	0/3/3/3
67	GTP	TC	501	68	-	5/18/38/38	0/3/3/3
69	GDP	BF	501	9	-	4/12/32/32	0/3/3/3
69	GDP	SB	501	-	-	5/12/32/32	0/3/3/3
67	GTP	EI	501	68	-	8/18/38/38	0/3/3/3
67	GTP	KE	501	68	-	4/18/38/38	0/3/3/3
69	GDP	UF	501	9	-	2/12/32/32	0/3/3/3
69	GDP	WL	501	-	-	6/12/32/32	0/3/3/3
67	GTP	LC	501	68	-	0/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	GDP	PH	501	9	-	3/12/32/32	0/3/3/3
67	GTP	PA	501	68	-	3/18/38/38	0/3/3/3
69	GDP	PF	501	9	-	2/12/32/32	0/3/3/3
67	GTP	CB	502	68,9	-	3/18/38/38	0/3/3/3
67	GTP	QC	501	68	-	5/18/38/38	0/3/3/3
67	GTP	RI	501	68,8	-	6/18/38/38	0/3/3/3
69	GDP	CH	501	-	-	7/12/32/32	0/3/3/3
69	GDP	MN	501	9	-	3/12/32/32	0/3/3/3
69	GDP	WH	501	-	-	5/12/32/32	0/3/3/3
69	GDP	UB	501	9	-	2/12/32/32	0/3/3/3
69	GDP	UJ	501	9	-	1/12/32/32	0/3/3/3
69	GDP	DB	501	-	-	4/12/32/32	0/3/3/3
69	GDP	LJ	501	9	-	3/12/32/32	0/3/3/3
67	GTP	SK	501	68	-	5/18/38/38	0/3/3/3
69	GDP	JB	501	-	-	5/12/32/32	0/3/3/3
69	GDP	JH	501	-	-	6/12/32/32	0/3/3/3
69	GDP	KJ	501	-	-	3/12/32/32	0/3/3/3
69	GDP	NL	501	-	-	2/12/32/32	0/3/3/3
69	GDP	OD	501	-	-	3/12/32/32	0/3/3/3
69	GDP	VJ	501	-	-	2/12/32/32	0/3/3/3
67	GTP	DC	501	-	-	7/18/38/38	0/3/3/3
67	GTP	BM	501	68	-	7/18/38/38	0/3/3/3
67	GTP	CL	502	68,9	-	1/18/38/38	0/3/3/3
67	GTP	VC	501	68	-	3/18/38/38	0/3/3/3
69	GDP	IH	501	-	-	4/12/32/32	0/3/3/3
69	GDP	SJ	501	-	-	2/12/32/32	0/3/3/3
69	GDP	NJ	501	9	-	3/12/32/32	0/3/3/3
67	GTP	KC	501	68	-	7/18/38/38	0/3/3/3
67	GTP	BG	501	68	-	6/18/38/38	0/3/3/3
69	GDP	UD	501	9	-	5/12/32/32	0/3/3/3
67	GTP	GE	501	68	-	4/18/38/38	0/3/3/3
67	GTP	IE	501	68	-	3/18/38/38	0/3/3/3
69	GDP	NH	501	9	-	2/12/32/32	0/3/3/3
67	GTP	NA	502	68	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	GDP	UN	501	9	-	2/12/32/32	0/3/3/3
67	GTP	BC	501	-	-	7/18/38/38	0/3/3/3
67	GTP	FC	501	-	-	3/18/38/38	0/3/3/3
67	GTP	RA	501	68	-	8/18/38/38	0/3/3/3
69	GDP	JD	501	-	-	4/12/32/32	0/3/3/3
67	GTP	IG	501	68	-	4/18/38/38	0/3/3/3
67	GTP	RG	501	68	-	2/18/38/38	0/3/3/3
69	GDP	OH	501	-	-	2/12/32/32	0/3/3/3
69	GDP	OF	501	9	-	3/12/32/32	0/3/3/3
67	GTP	SA	501	68	-	5/18/38/38	0/3/3/3
69	GDP	HL	501	-	-	3/12/32/32	0/3/3/3
67	GTP	KO	501	68	-	6/18/38/38	0/3/3/3
69	GDP	WN	501	-	-	2/12/32/32	0/3/3/3
69	GDP	GF	501	-	-	3/12/32/32	0/3/3/3
67	GTP	UM	501	68	-	5/18/38/38	0/3/3/3
67	GTP	CD	502	68,9	-	3/18/38/38	0/3/3/3
69	GDP	SH	501	-	-	0/12/32/32	0/3/3/3
69	GDP	WB	501	-	-	1/12/32/32	0/3/3/3
67	GTP	IC	501	68	-	5/18/38/38	0/3/3/3
69	GDP	LH	501	9	-	3/12/32/32	0/3/3/3
67	GTP	AM	501	68,8	-	2/18/38/38	0/3/3/3
67	GTP	EC	501	68	-	8/18/38/38	0/3/3/3
69	GDP	HN	501	-	-	3/12/32/32	0/3/3/3
69	GDP	UH	501	-	-	0/12/32/32	0/3/3/3
67	GTP	VK	501	68	-	8/18/38/38	0/3/3/3
67	GTP	TK	501	68	-	3/18/38/38	0/3/3/3
69	GDP	AB	501	9	-	1/12/32/32	0/3/3/3
67	GTP	QI	501	-	-	1/18/38/38	0/3/3/3
67	GTP	WC	501	68	-	3/18/38/38	0/3/3/3
69	GDP	FH	501	-	-	3/12/32/32	0/3/3/3
69	GDP	BH	501	9	-	4/12/32/32	0/3/3/3
69	GDP	GL	501	-	-	2/12/32/32	0/3/3/3
67	GTP	QE	501	68	-	3/18/38/38	0/3/3/3
67	GTP	CG	501	68	-	5/18/38/38	0/3/3/3
69	GDP	WF	501	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
67	GTP	OH	502	68,9	-	5/18/38/38	0/3/3/3
67	GTP	TM	501	68	-	4/18/38/38	0/3/3/3
69	GDP	EF	501	9	-	4/12/32/32	0/3/3/3
69	GDP	IF	501	-	-	1/12/32/32	0/3/3/3
69	GDP	PL	501	9	-	3/12/32/32	0/3/3/3
67	GTP	JC	501	68,8	-	2/18/38/38	0/3/3/3
69	GDP	SL	501	-	-	2/12/32/32	0/3/3/3
69	GDP	IB	501	9	-	3/12/32/32	0/3/3/3
67	GTP	FM	501	68,8	-	4/18/38/38	0/3/3/3
69	GDP	KB	501	-	-	7/12/32/32	0/3/3/3
67	GTP	KI	501	68	-	9/18/38/38	0/3/3/3
67	GTP	TI	501	68	-	5/18/38/38	0/3/3/3
69	GDP	PJ	501	9	-	1/12/32/32	0/3/3/3
69	GDP	QL	501	9	-	0/12/32/32	0/3/3/3
67	GTP	MC	501	68	-	6/18/38/38	0/3/3/3
69	GDP	ND	501	9	-	3/12/32/32	0/3/3/3
67	GTP	LI	501	68	-	8/18/38/38	0/3/3/3
67	GTP	PI	501	68	-	4/18/38/38	0/3/3/3
69	GDP	DF	501	-	-	4/12/32/32	0/3/3/3
69	GDP	HB	501	-	-	3/12/32/32	0/3/3/3
69	GDP	ID	501	-	-	3/12/32/32	0/3/3/3
69	GDP	MD	501	9	-	6/12/32/32	0/3/3/3
69	GDP	TL	501	-	-	3/12/32/32	0/3/3/3
69	GDP	JN	501	-	-	3/12/32/32	0/3/3/3
69	GDP	SF	501	-	-	3/12/32/32	0/3/3/3
69	GDP	FJ	501	-	-	2/12/32/32	0/3/3/3
67	GTP	QG	501	-	-	2/18/38/38	0/3/3/3
69	GDP	KH	501	-	-	4/12/32/32	0/3/3/3
67	GTP	QK	501	68	-	2/18/38/38	0/3/3/3
67	GTP	AA	501	68,8	-	8/18/38/38	0/3/3/3
67	GTP	IK	501	68	-	7/18/38/38	0/3/3/3
67	GTP	JG	501	68	-	2/18/38/38	0/3/3/3
67	GTP	GG	501	68	-	5/18/38/38	0/3/3/3
67	GTP	PD	502	68,9	-	6/18/38/38	0/3/3/3
67	GTP	VL	502	68,9	-	5/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	GDP	QD	501	9	-	0/12/32/32	0/3/3/3
69	GDP	NB	501	9	-	2/12/32/32	0/3/3/3
69	GDP	HJ	501	-	-	5/12/32/32	0/3/3/3
69	GDP	CD	501	-	-	5/12/32/32	0/3/3/3
67	GTP	GC	501	68	-	5/18/38/38	0/3/3/3
69	GDP	ED	501	9	-	4/12/32/32	0/3/3/3
67	GTP	UK	501	68	-	3/18/38/38	0/3/3/3
67	GTP	MI	501	68,8	-	5/18/38/38	0/3/3/3
69	GDP	DL	501	-	-	2/12/32/32	0/3/3/3
67	GTP	WG	501	-	-	6/18/38/38	0/3/3/3
69	GDP	PB	501	9	-	2/12/32/32	0/3/3/3
69	GDP	HH	501	-	-	3/12/32/32	0/3/3/3
67	GTP	HE	501	68	-	6/18/38/38	0/3/3/3
67	GTP	QA	501	68	-	4/18/38/38	0/3/3/3
67	GTP	PK	501	68	-	3/18/38/38	0/3/3/3
67	GTP	UI	501	68	-	5/18/38/38	0/3/3/3
69	GDP	AJ	501	9	-	2/12/32/32	0/3/3/3
67	GTP	SF	502	68,9	-	6/18/38/38	0/3/3/3
69	GDP	KF	501	-	-	4/12/32/32	0/3/3/3
69	GDP	BL	501	9	-	4/12/32/32	0/3/3/3
67	GTP	NB	502	68,9	-	7/18/38/38	0/3/3/3
67	GTP	EE	501	-	-	7/18/38/38	0/3/3/3
67	GTP	HN	502	68,9	-	4/18/38/38	0/3/3/3
67	GTP	KK	501	68	-	6/18/38/38	0/3/3/3
67	GTP	KG	501	68,8	-	5/18/38/38	0/3/3/3
69	GDP	CL	501	-	-	2/12/32/32	0/3/3/3
67	GTP	GM	501	68	-	4/18/38/38	0/3/3/3
67	GTP	EG	501	68	-	11/18/38/38	0/3/3/3
67	GTP	HG	502	68	-	2/18/38/38	0/3/3/3
67	GTP	HK	501	68	-	6/18/38/38	0/3/3/3
67	GTP	MG	501	68,8	-	4/18/38/38	0/3/3/3
67	GTP	O0	502	68,9	-	5/18/38/38	0/3/3/3
69	GDP	AH	501	9	-	1/12/32/32	0/3/3/3
69	GDP	FL	501	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
69	GDP	LD	501	9	-	4/12/32/32	0/3/3/3
69	GDP	DH	501	-	-	4/12/32/32	0/3/3/3
69	GDP	NF	501	9	-	2/12/32/32	0/3/3/3
69	GDP	OJ	501	-	-	3/12/32/32	0/3/3/3
67	GTP	TE	501	68	-	3/18/38/38	0/3/3/3
67	GTP	AD	502	68,8,9	-	4/18/38/38	0/3/3/3
67	GTP	RM	501	-	-	4/18/38/38	0/3/3/3
67	GTP	BE	501	68	-	4/18/38/38	0/3/3/3
67	GTP	NI	501	68	-	6/18/38/38	0/3/3/3
67	GTP	VG	501	68	-	6/18/38/38	0/3/3/3
69	GDP	TF	501	-	-	5/12/32/32	0/3/3/3
69	GDP	QF	501	9	-	2/12/32/32	0/3/3/3
67	GTP	EM	501	-	-	3/18/38/38	0/3/3/3
67	GTP	SE	501	68	-	3/18/38/38	0/3/3/3
69	GDP	RB	501	-	-	1/12/32/32	0/3/3/3
67	GTP	FK	501	68	-	2/18/38/38	0/3/3/3
67	GTP	DF	502	68,9	-	6/18/38/38	0/3/3/3
69	GDP	QB	501	9	-	5/12/32/32	0/3/3/3
67	GTP	VI	502	68	-	5/18/38/38	0/3/3/3
67	GTP	LK	501	68	-	6/18/38/38	0/3/3/3
69	GDP	EB	501	9	-	3/12/32/32	0/3/3/3
69	GDP	QH	501	9	-	1/12/32/32	0/3/3/3
67	GTP	NK	501	68	-	6/18/38/38	0/3/3/3
69	GDP	TH	501	-	-	2/12/32/32	0/3/3/3
67	GTP	DE	501	68	-	1/18/38/38	0/3/3/3
67	GTP	HI	501	68	-	6/18/38/38	0/3/3/3
69	GDP	FB	501	-	-	2/12/32/32	0/3/3/3
69	GDP	ML	501	9	-	6/12/32/32	0/3/3/3
67	GTP	AC	501	68,8,9	-	4/18/38/38	0/3/3/3
67	GTP	BI	501	68	-	8/18/38/38	0/3/3/3
67	GTP	UE	501	68	-	5/18/38/38	0/3/3/3
67	GTP	LG	501	68	-	9/18/38/38	0/3/3/3
67	GTP	PM	501	68	-	1/18/38/38	0/3/3/3
69	GDP	LB	501	9	-	3/12/32/32	0/3/3/3
67	GTP	WI	501	68	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
67	GTP	NE	501	68	-	2/18/38/38	0/3/3/3
67	GTP	JE	501	68	-	2/18/38/38	0/3/3/3
67	GTP	SI	501	-	-	4/18/38/38	0/3/3/3
69	GDP	TJ	501	-	-	3/12/32/32	0/3/3/3

The worst 5 of 427 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
67	TG	501	GTP	C5-C6	-4.63	1.38	1.47
67	QK	501	GTP	C5-C6	-4.57	1.38	1.47
67	PC	501	GTP	C5-C6	-4.50	1.38	1.47
67	CA	501	GTP	C5-C6	-4.47	1.38	1.47
67	TI	501	GTP	C5-C6	-4.47	1.38	1.47

The worst 5 of 1743 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
69	ML	501	GDP	N2-C2-N1	6.49	130.53	116.71
69	TJ	501	GDP	PA-O3A-PB	-5.47	114.05	132.83
69	DN	501	GDP	PA-O3A-PB	-5.24	114.84	132.83
69	ML	501	GDP	N2-C2-N3	-5.01	109.98	119.74
67	MI	501	GTP	N2-C2-N1	4.92	127.20	116.71

There are no chirality outliers.

5 of 1140 torsion outliers are listed below:

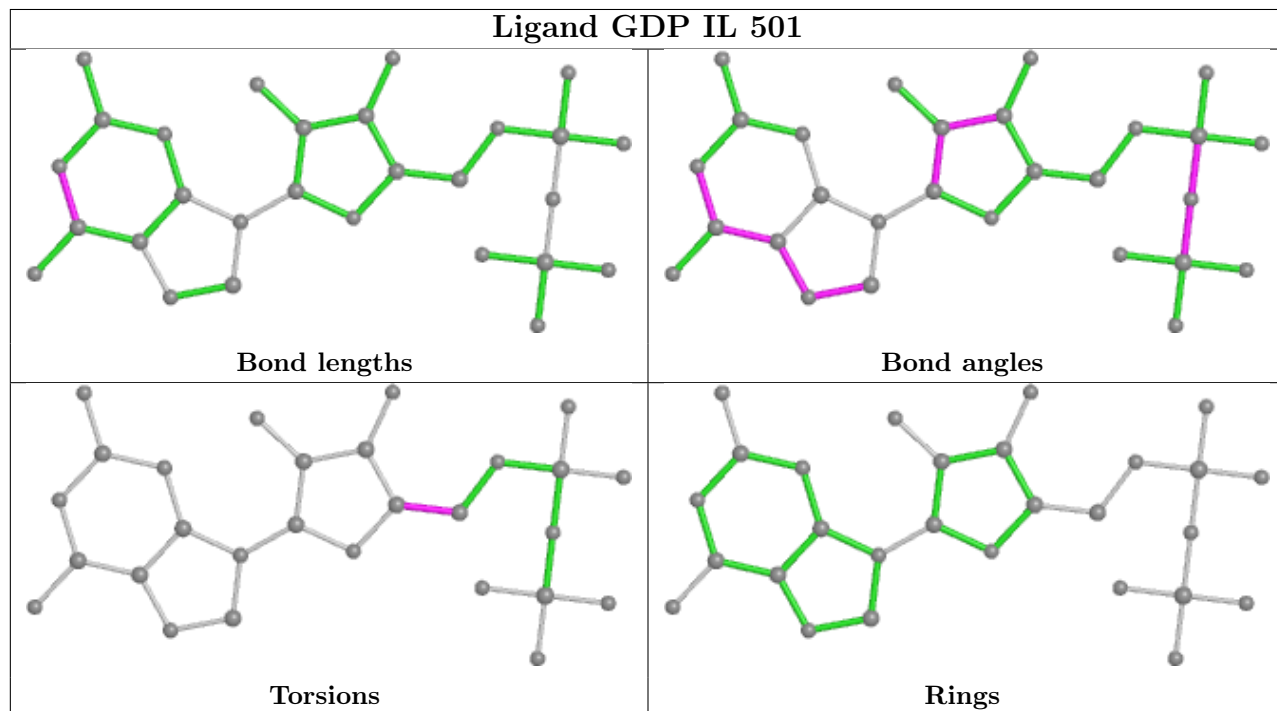
Mol	Chain	Res	Type	Atoms
67	AA	501	GTP	C5'-O5'-PA-O1A
67	AA	501	GTP	C5'-O5'-PA-O2A
67	AC	501	GTP	C5'-O5'-PA-O1A
67	AC	501	GTP	C5'-O5'-PA-O2A
67	AG	501	GTP	C5'-O5'-PA-O1A

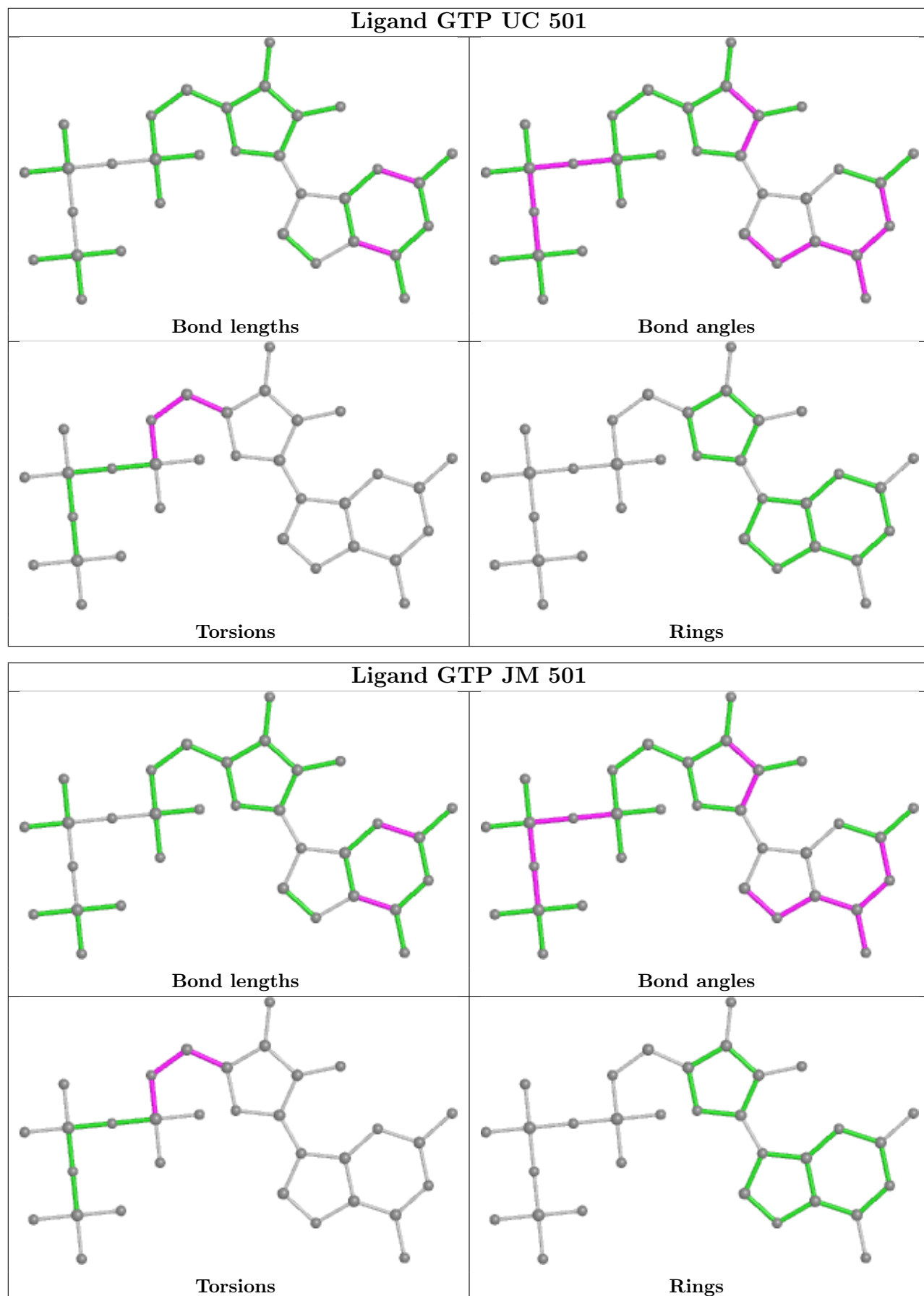
There are no ring outliers.

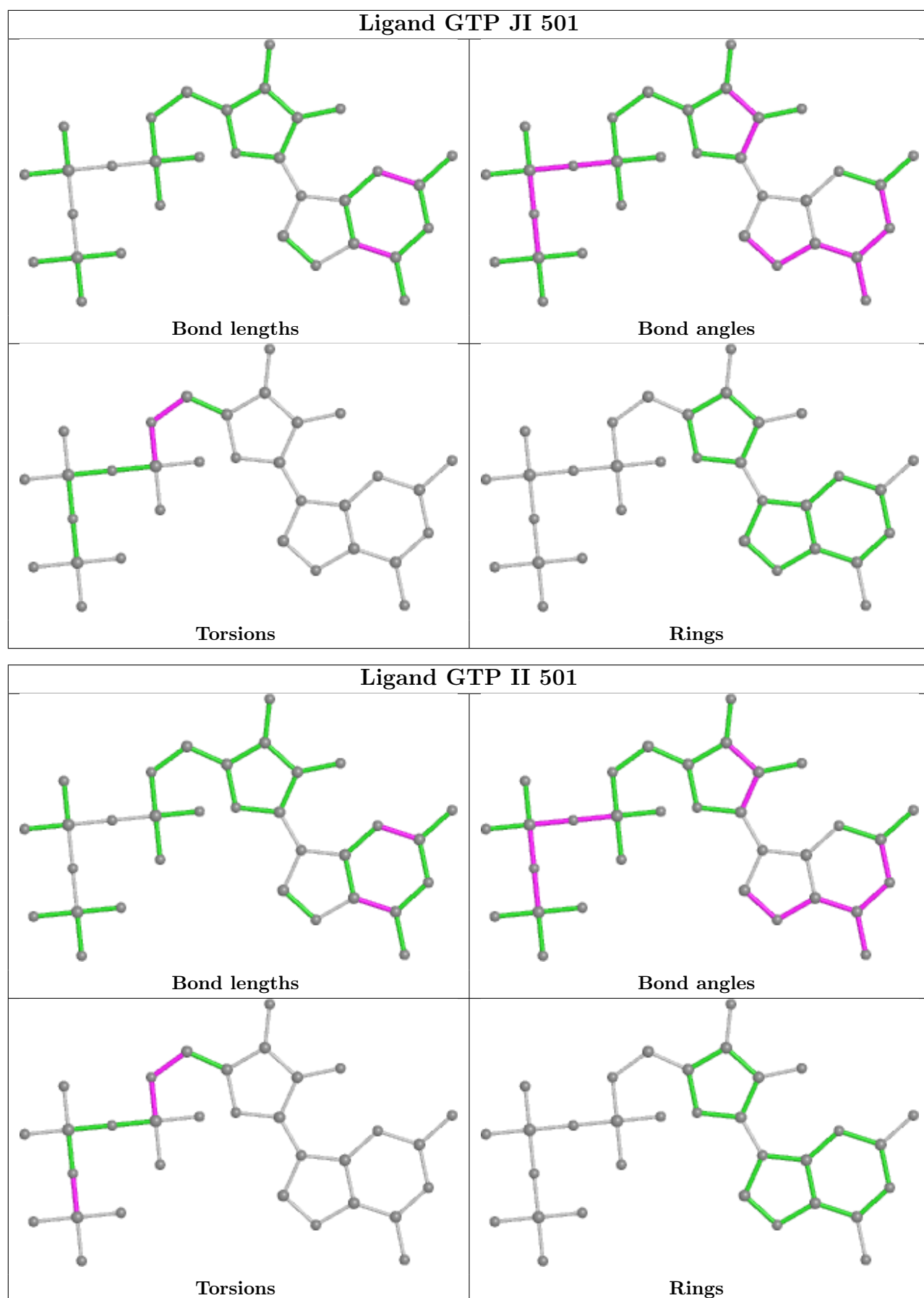
No monomer is involved in short contacts.

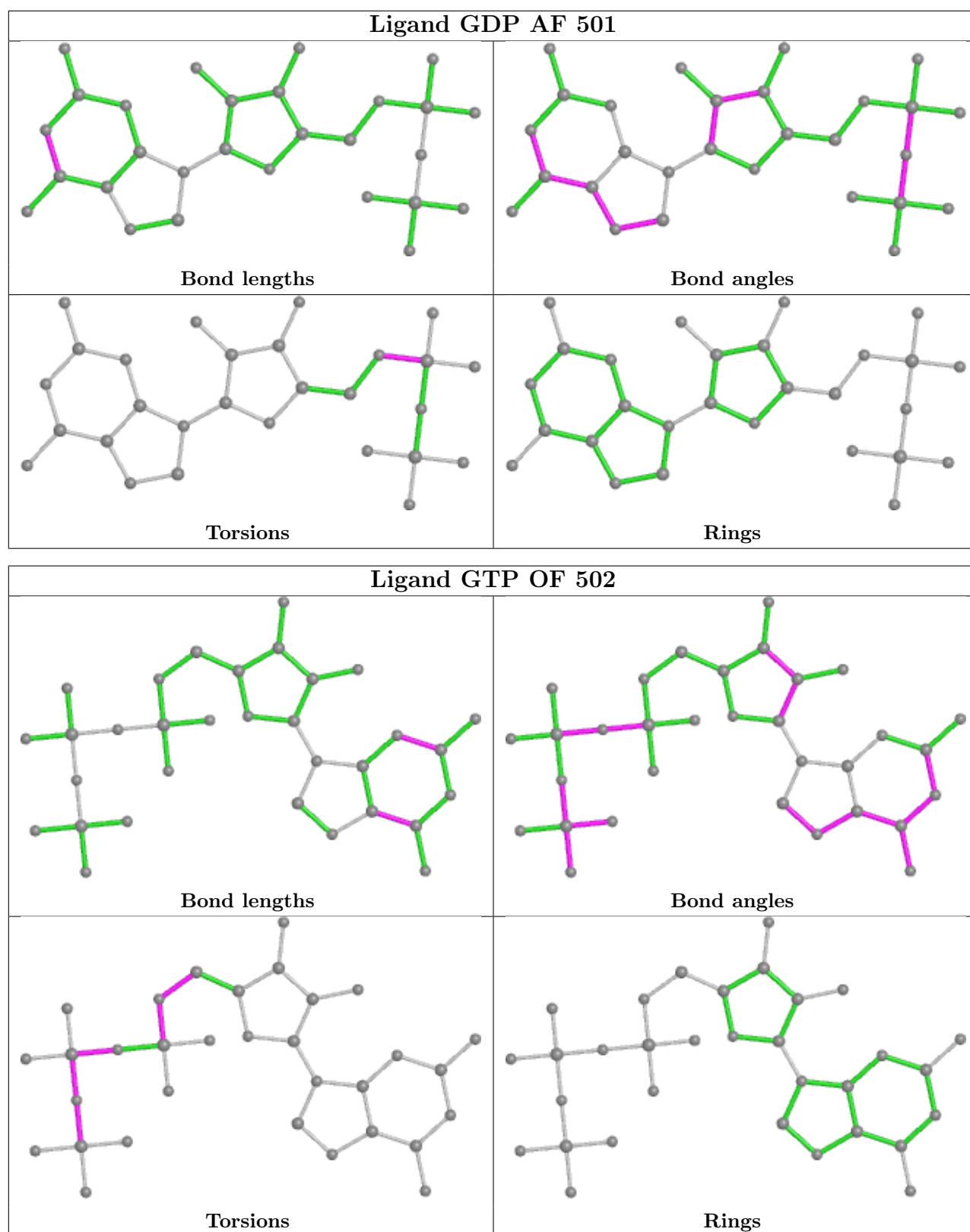
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

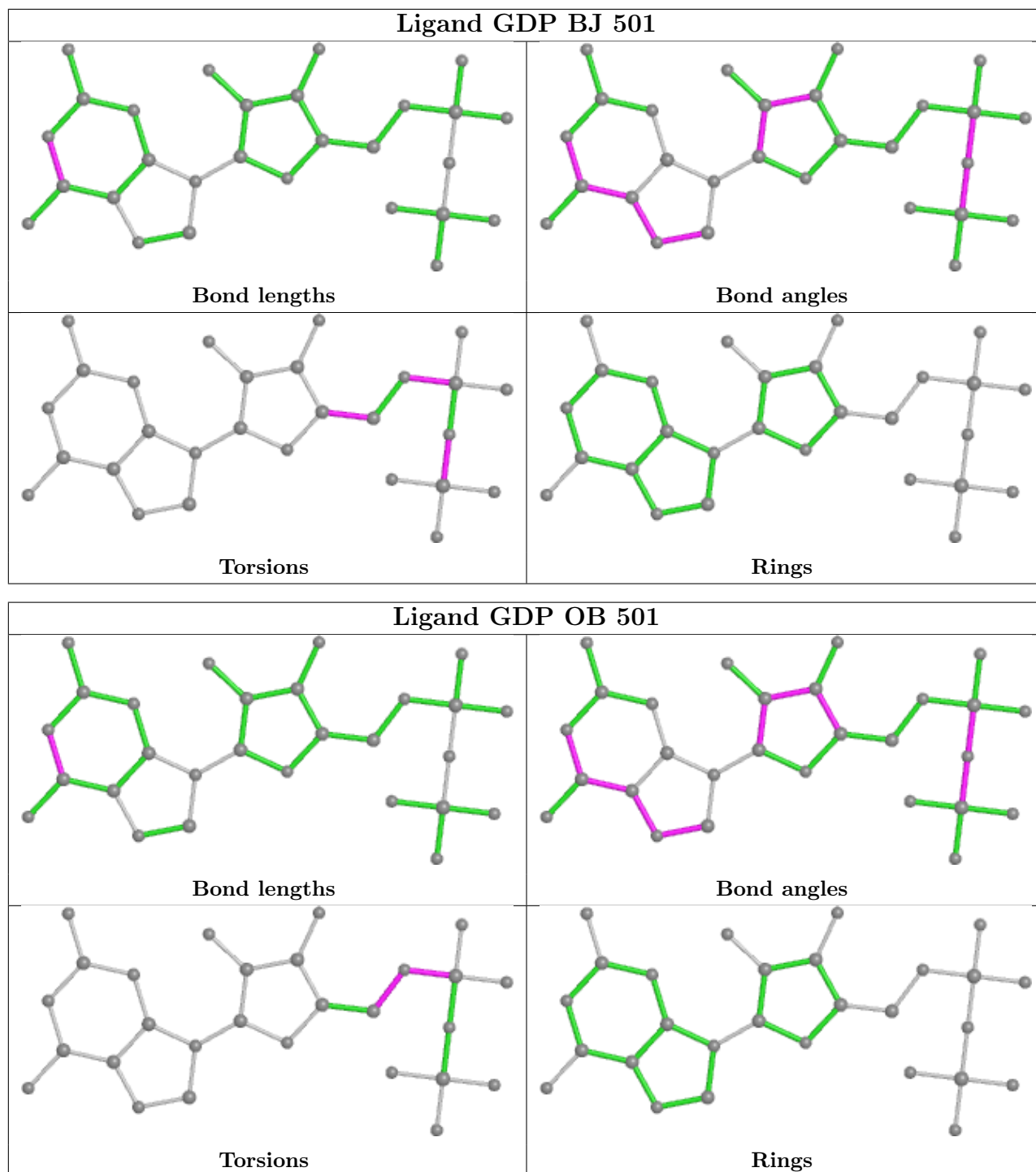


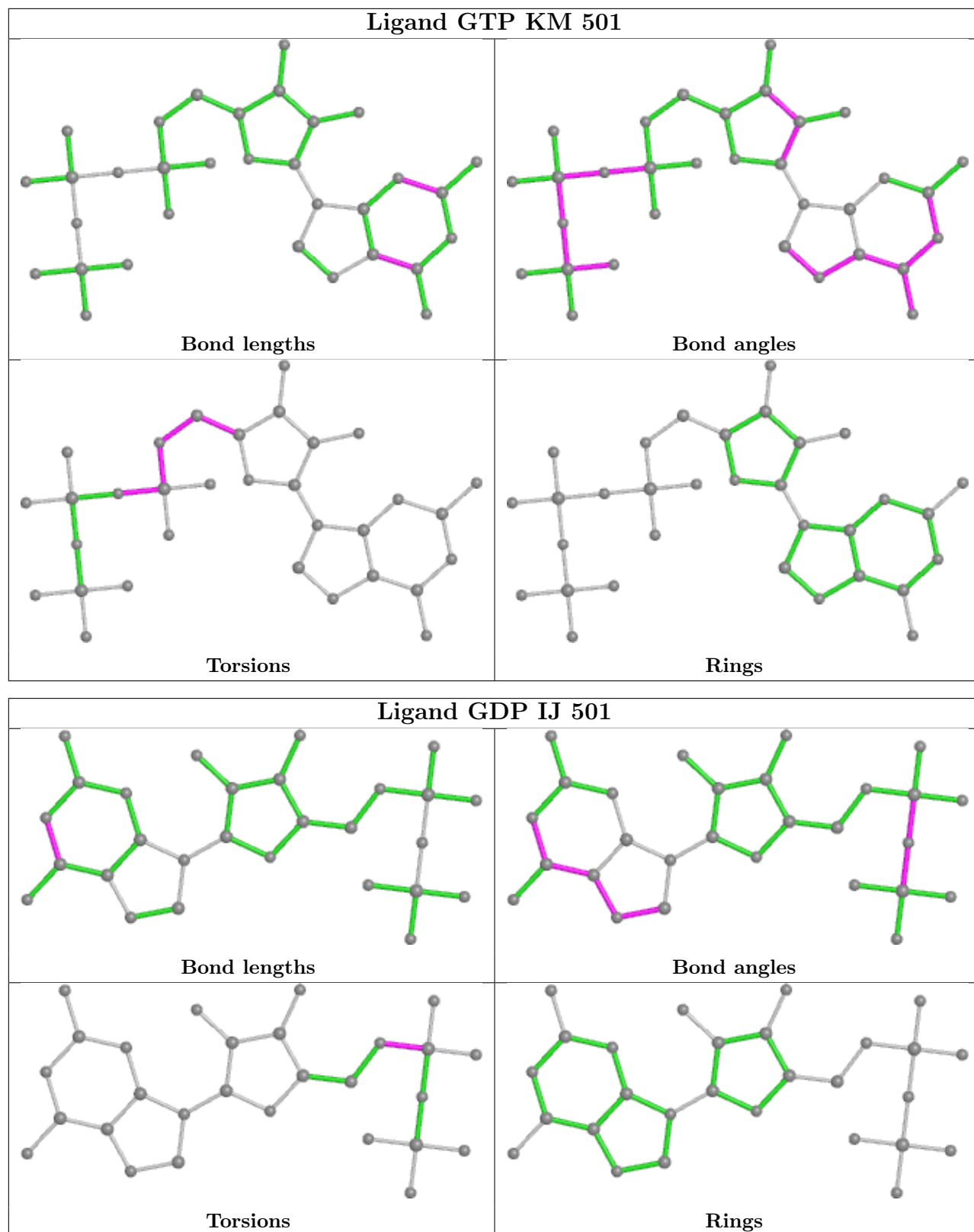


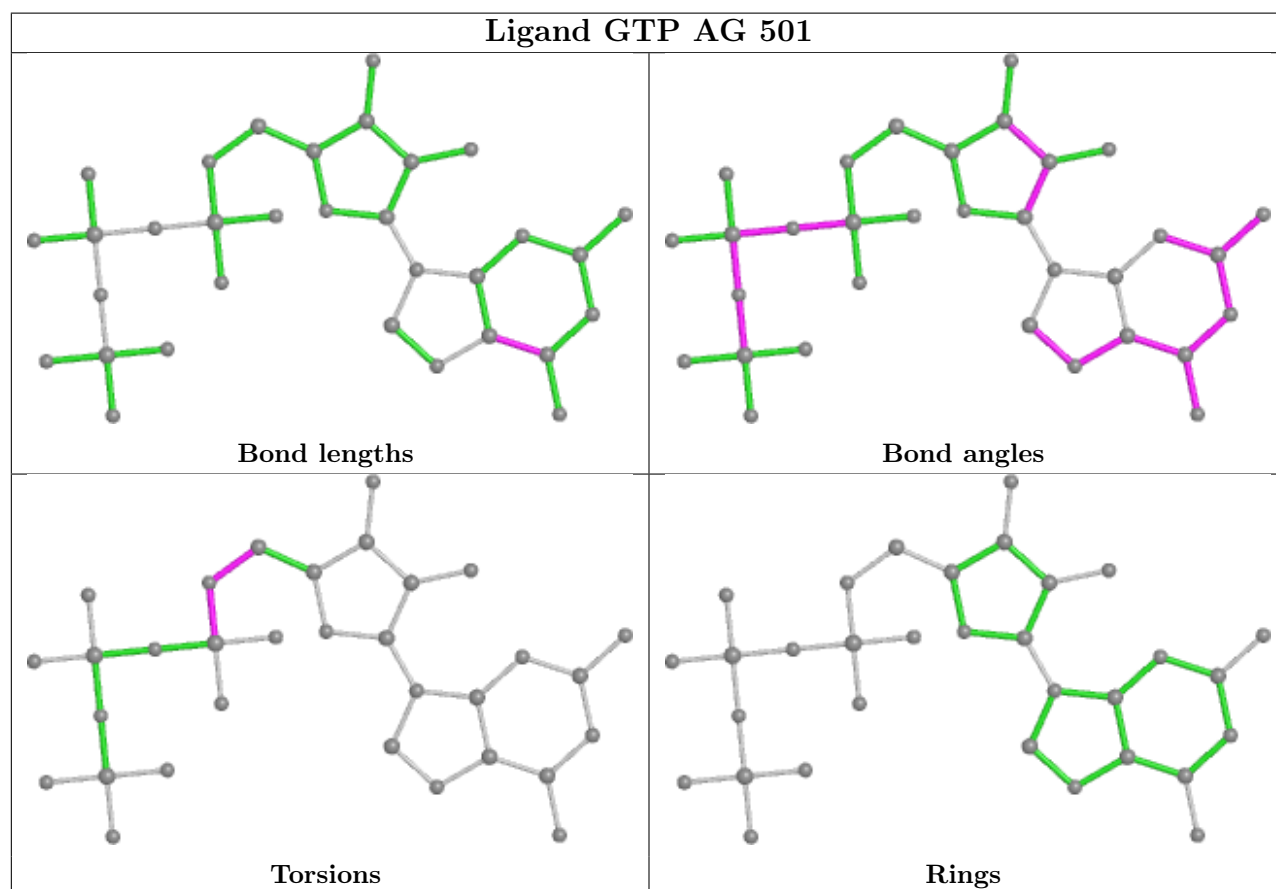
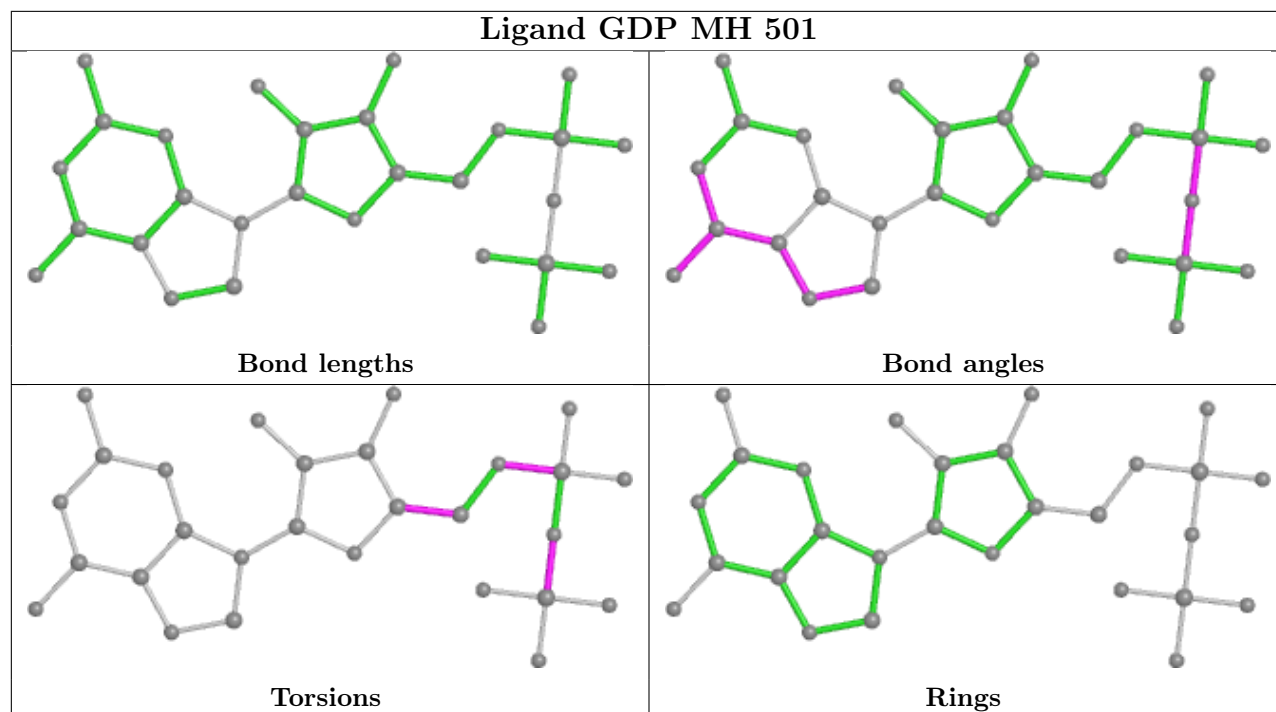


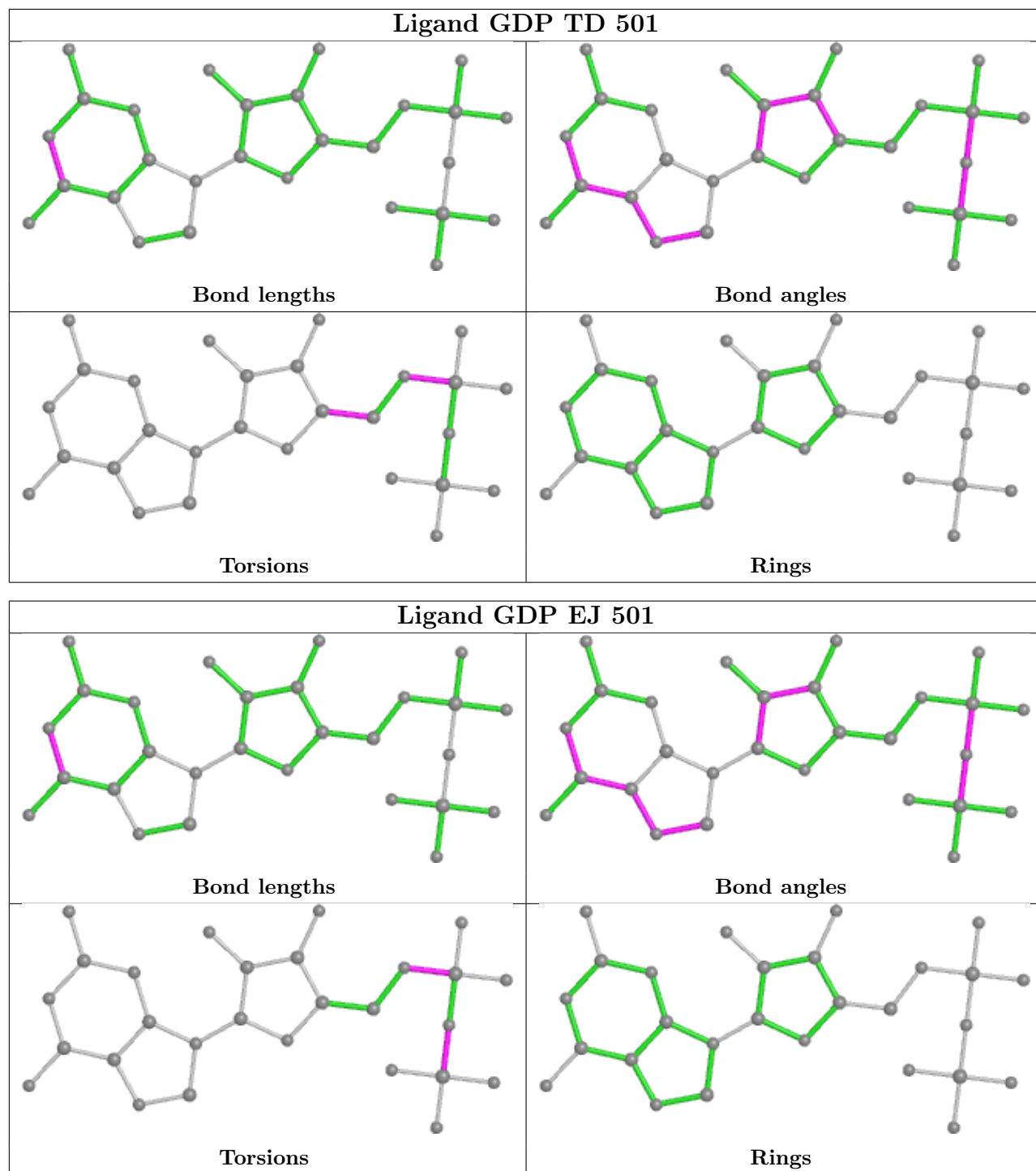


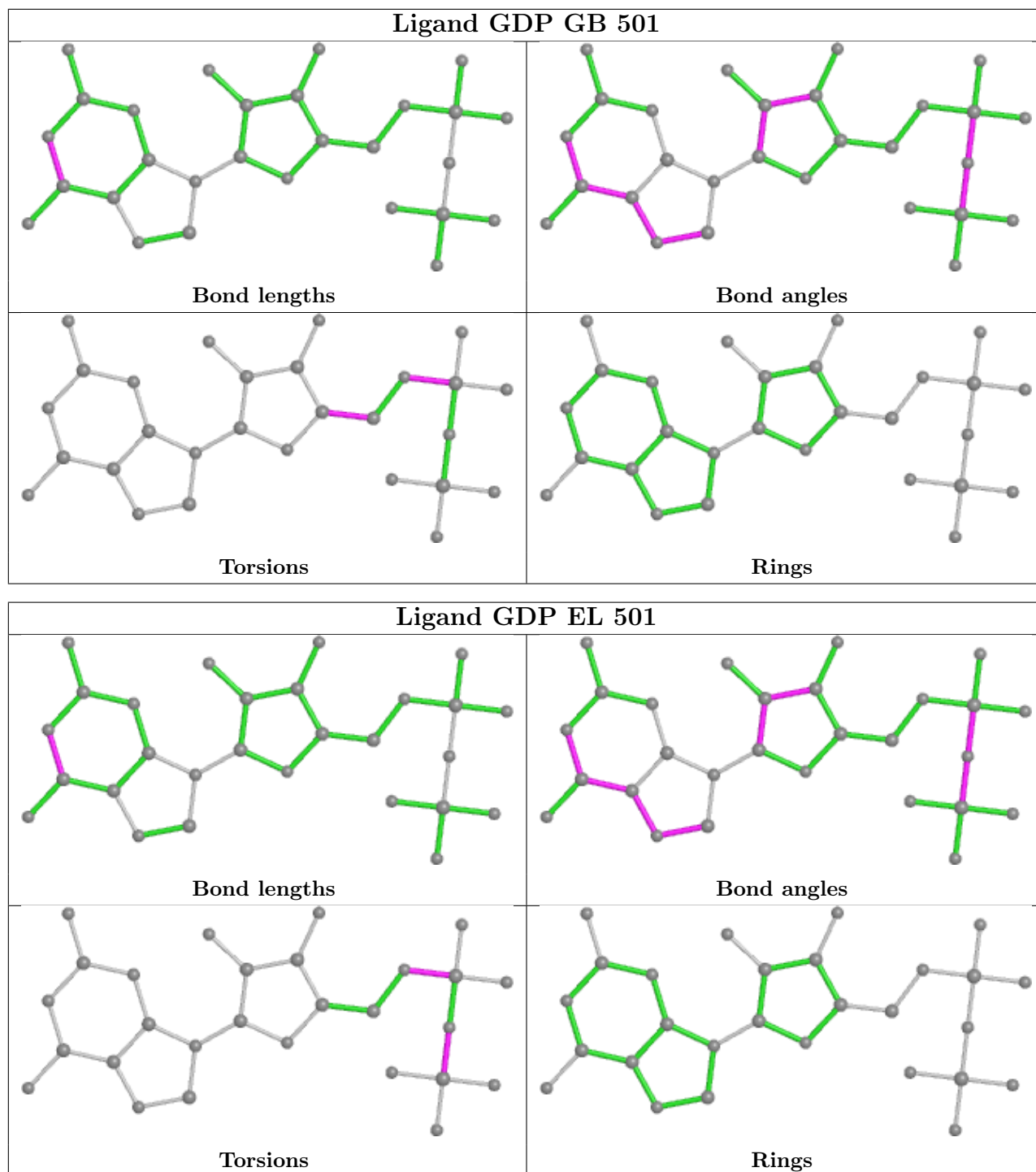


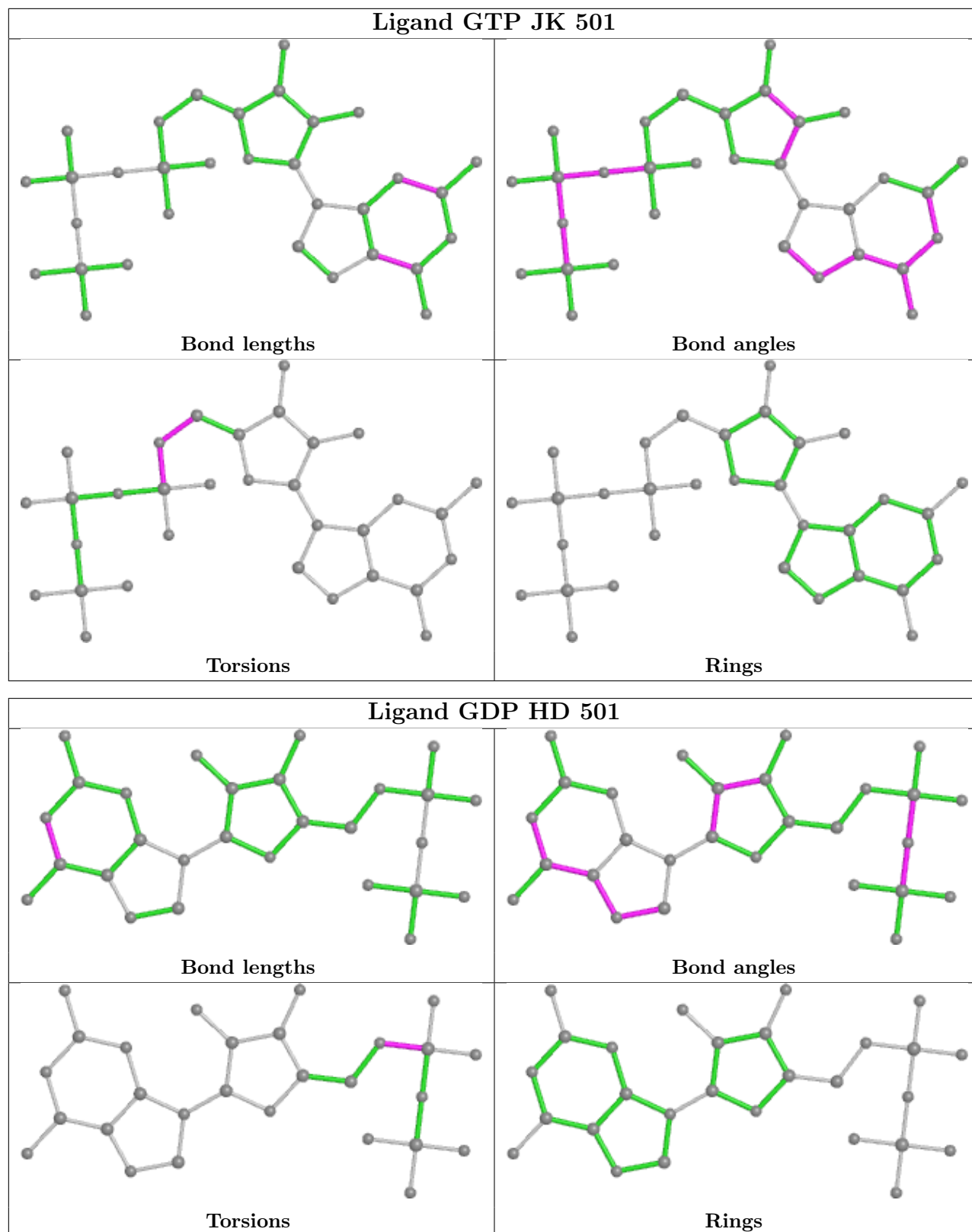


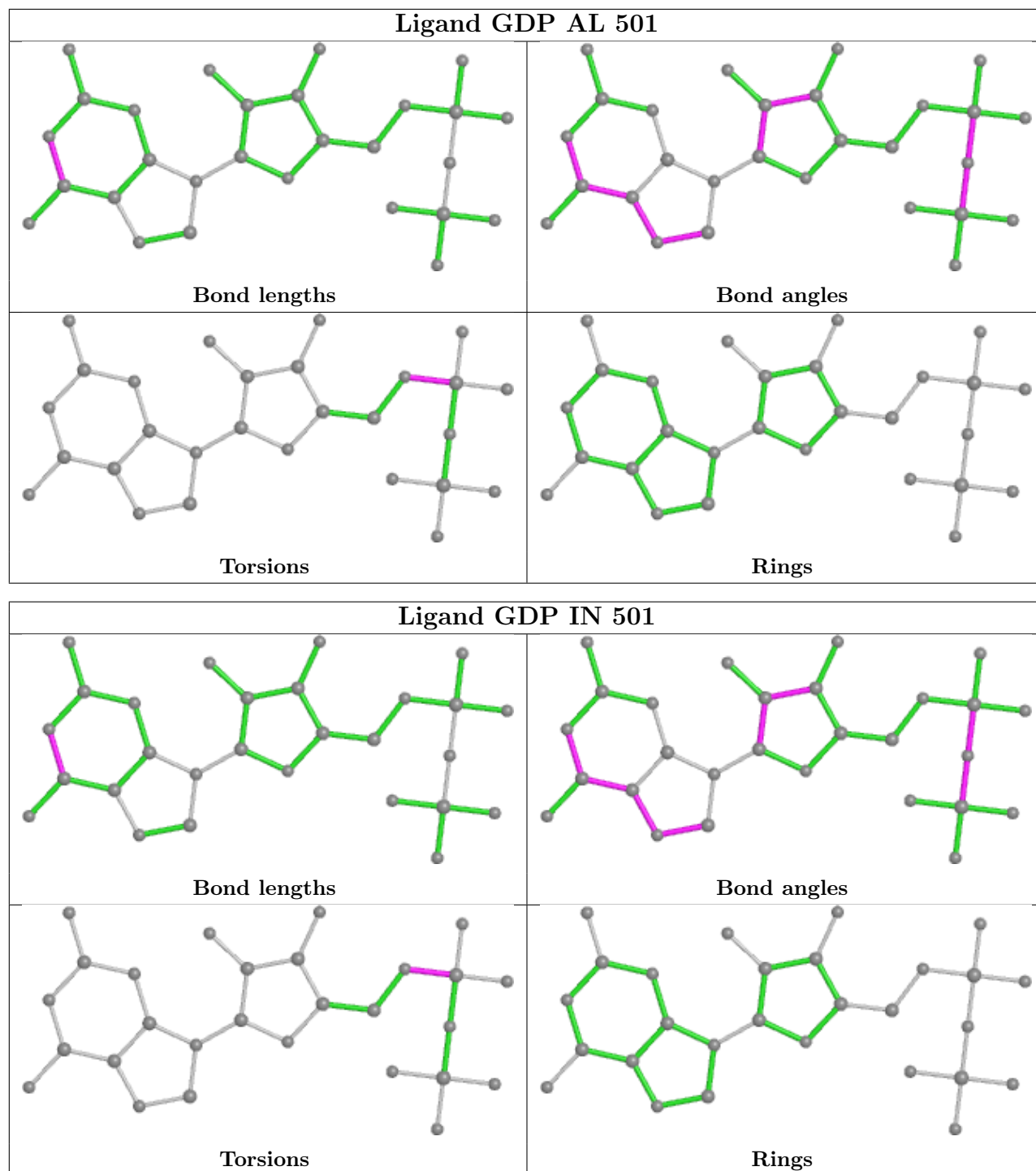


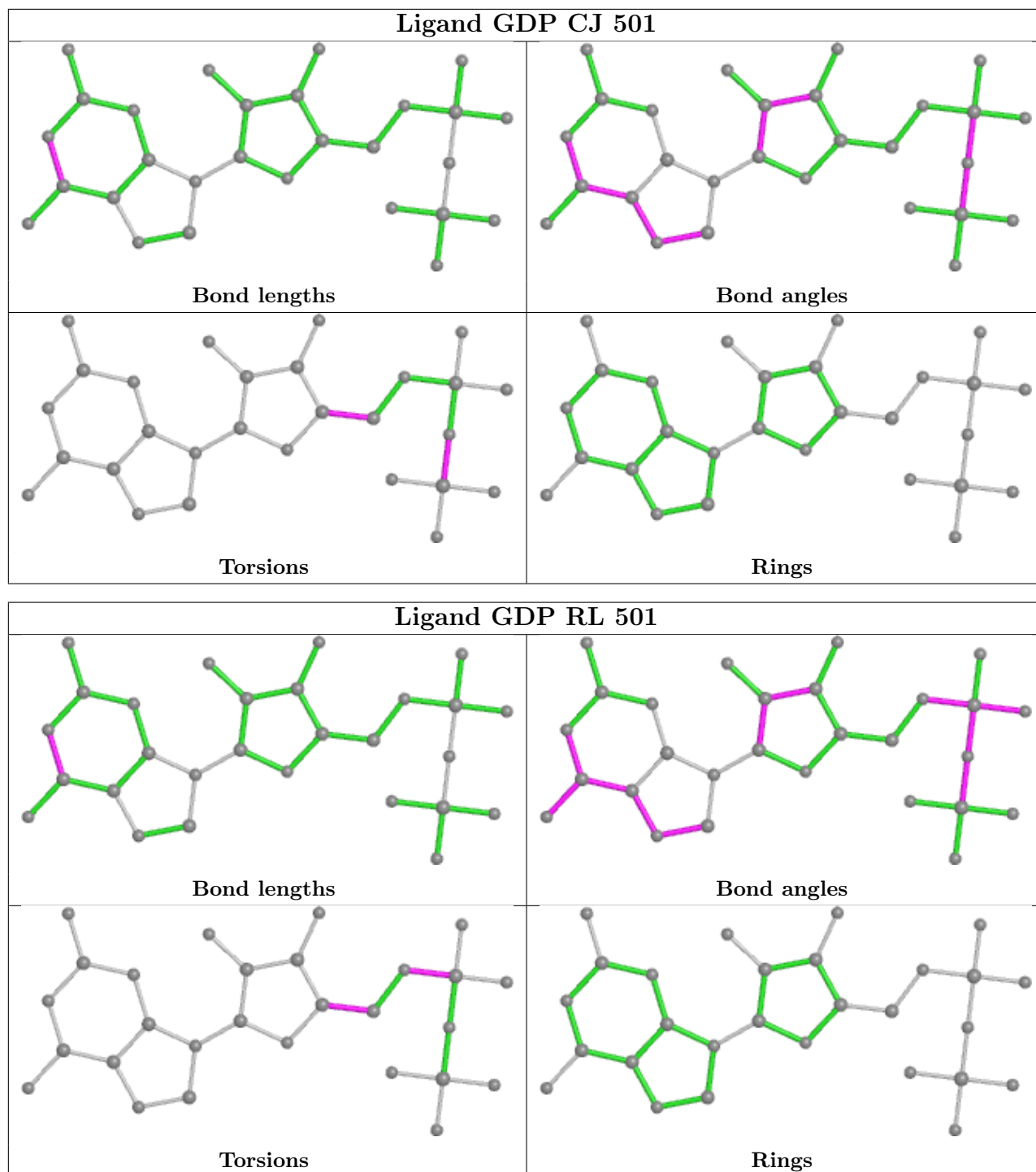




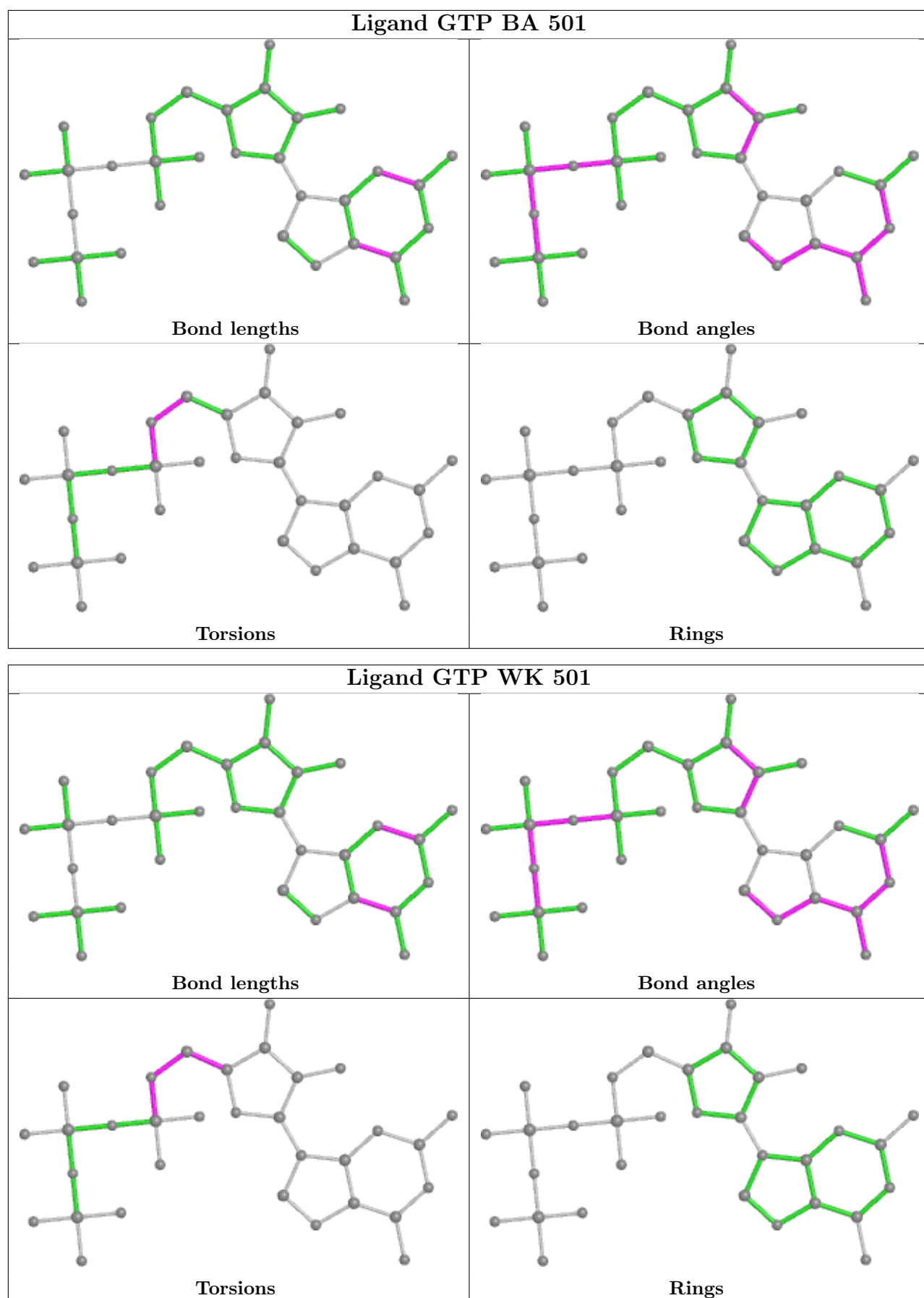


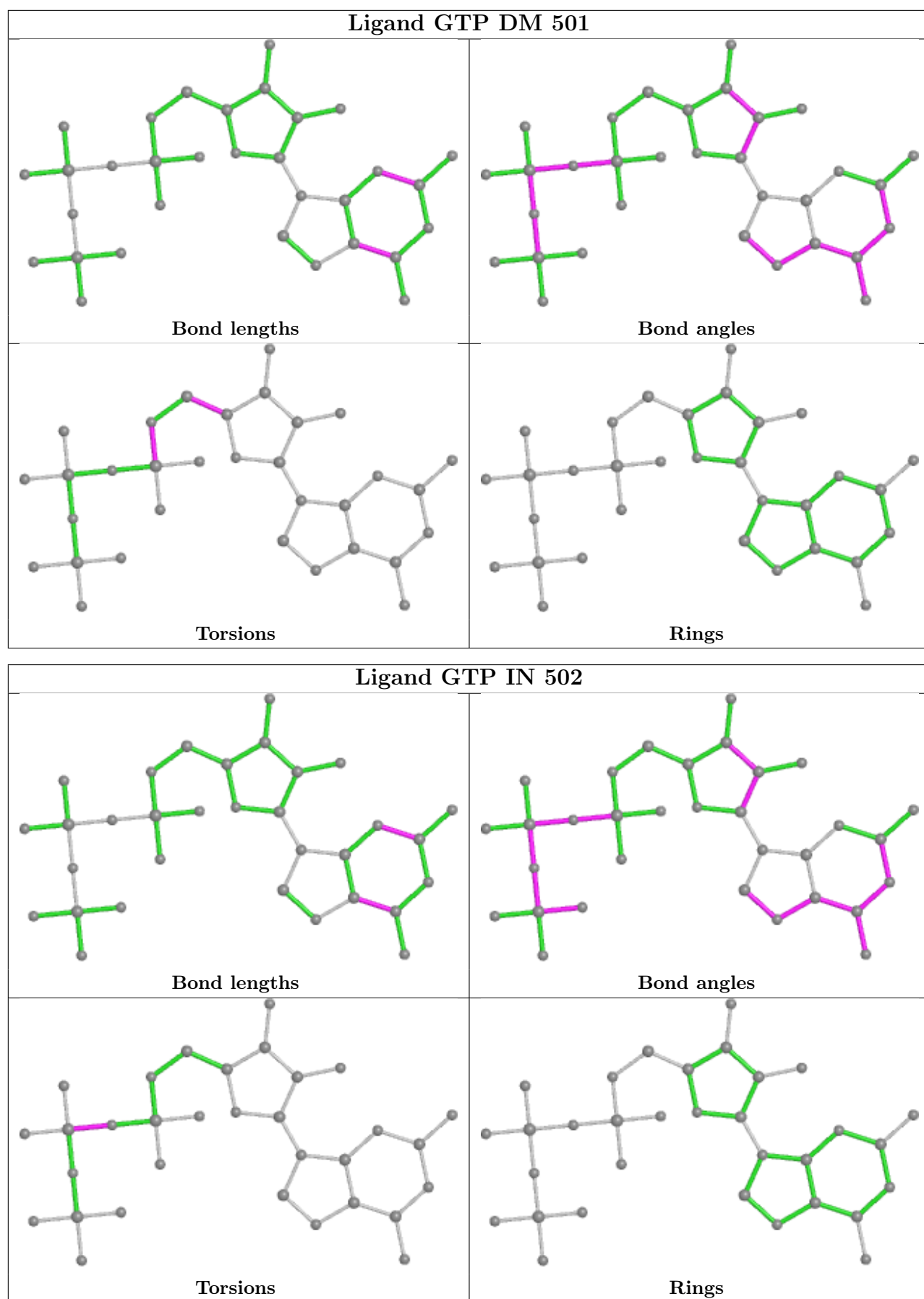


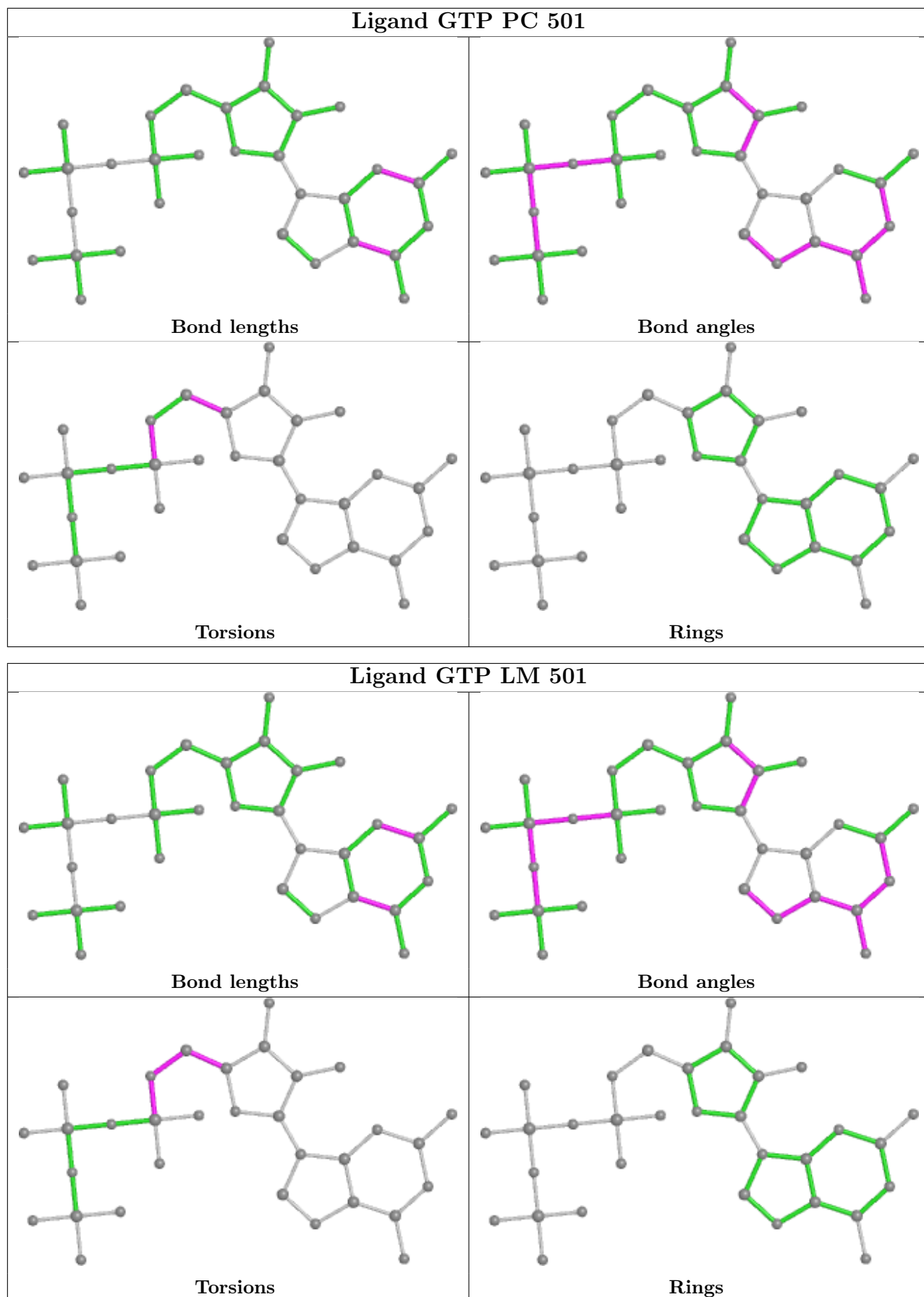


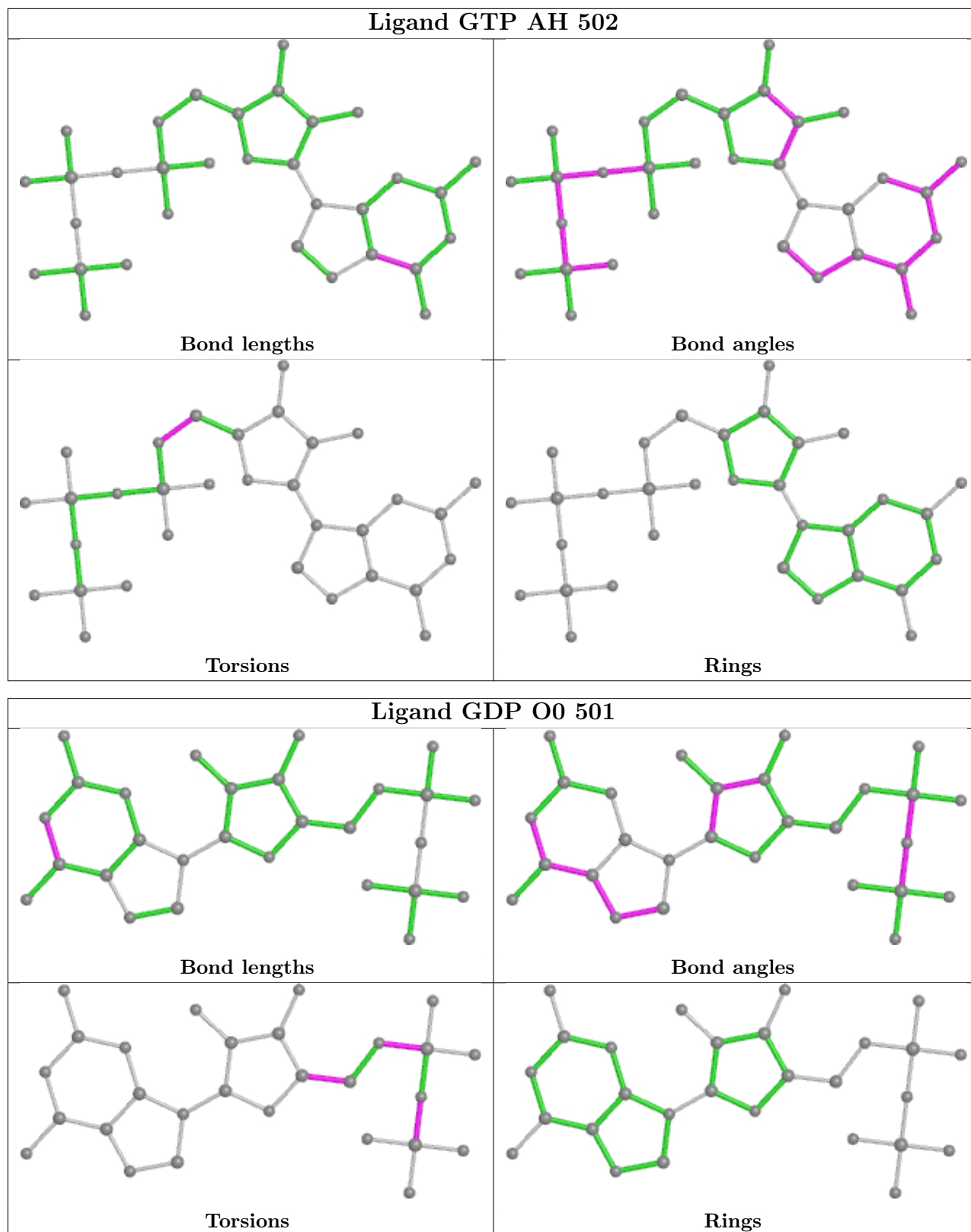


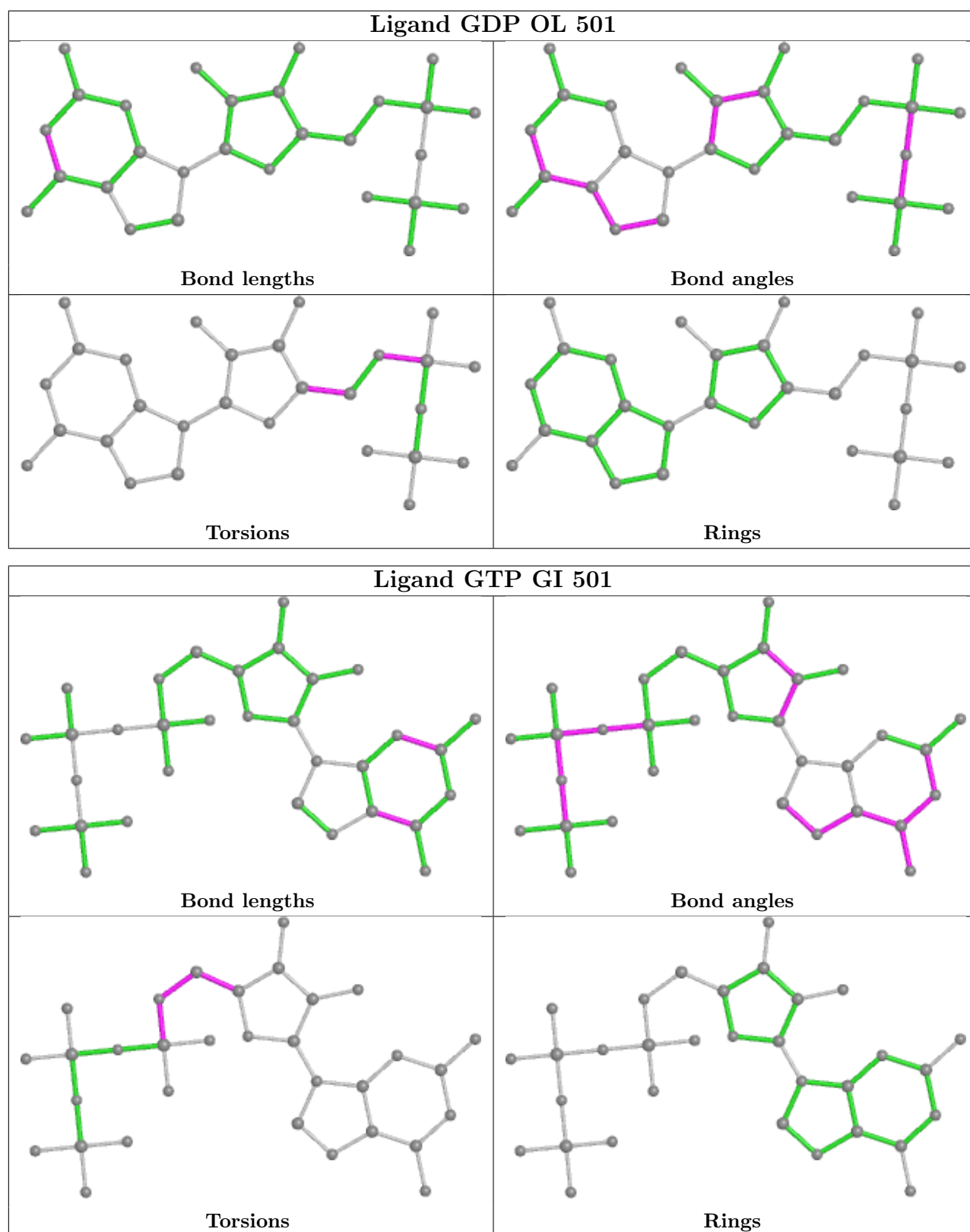


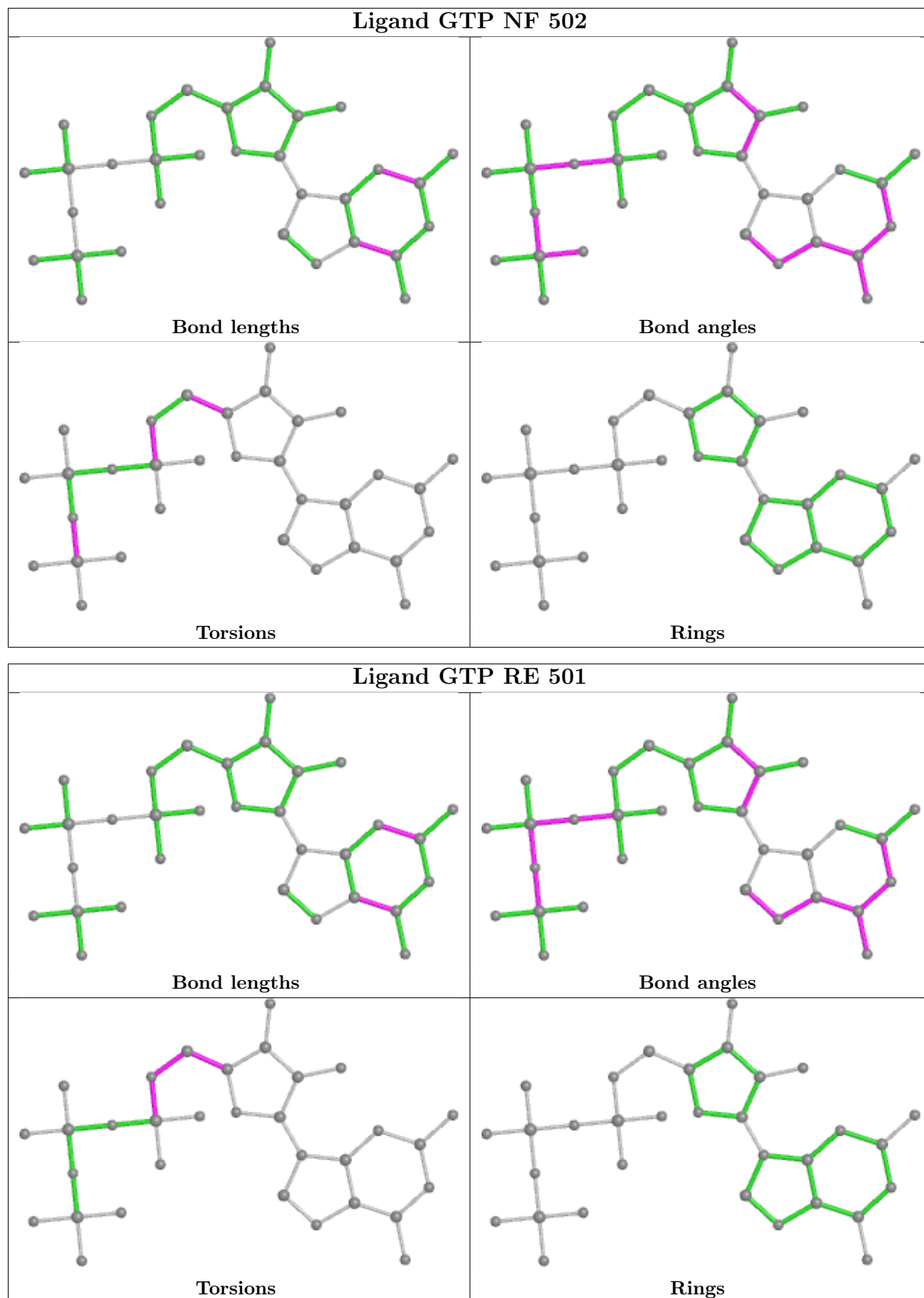


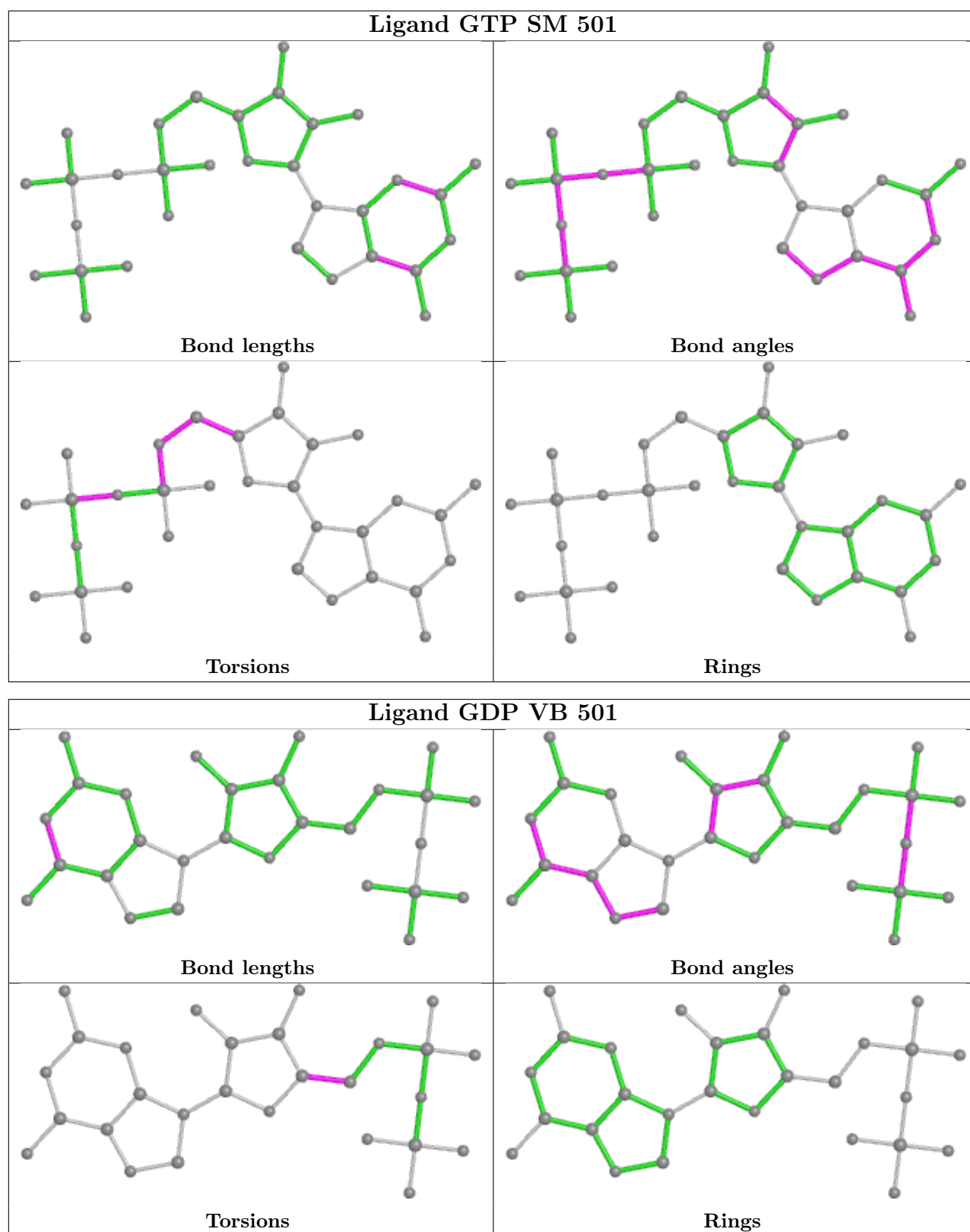


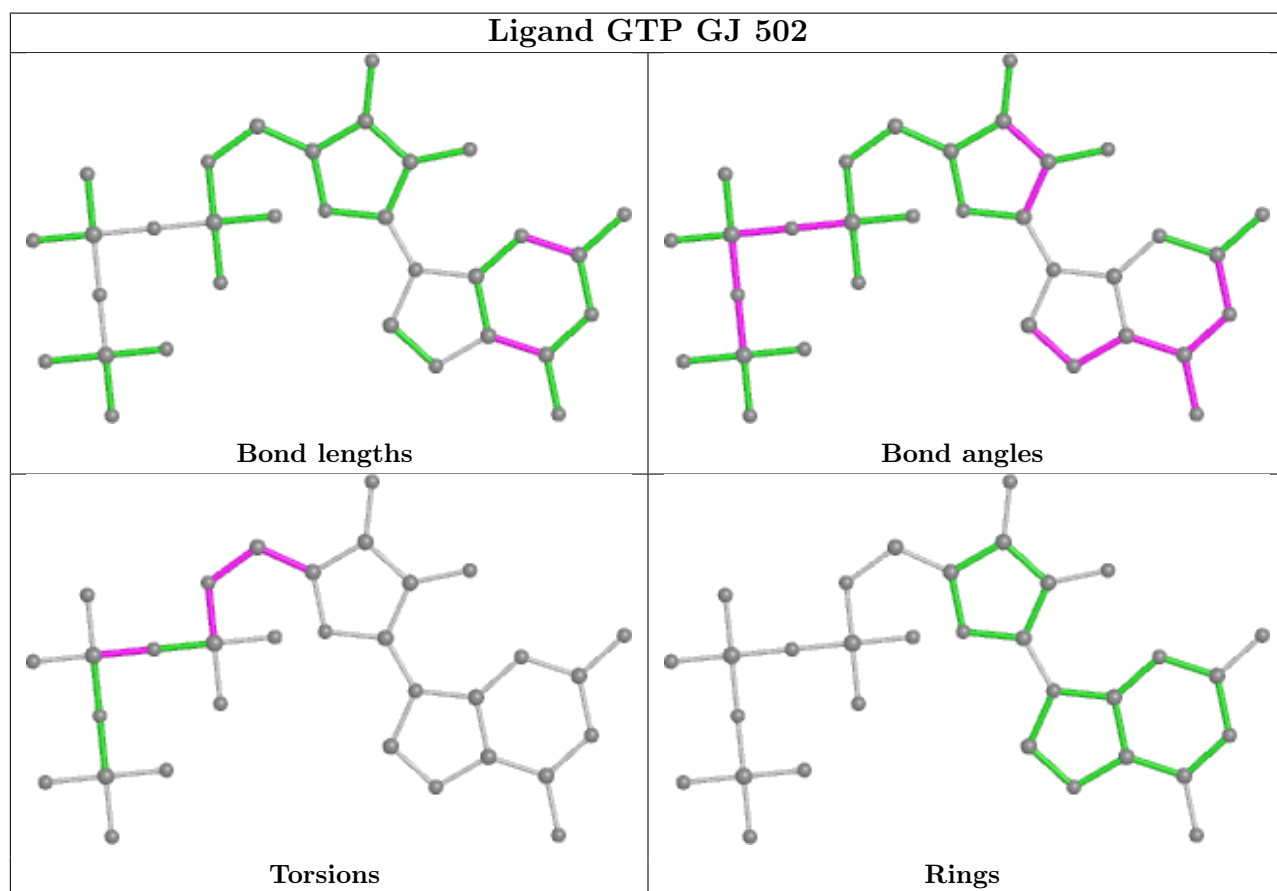
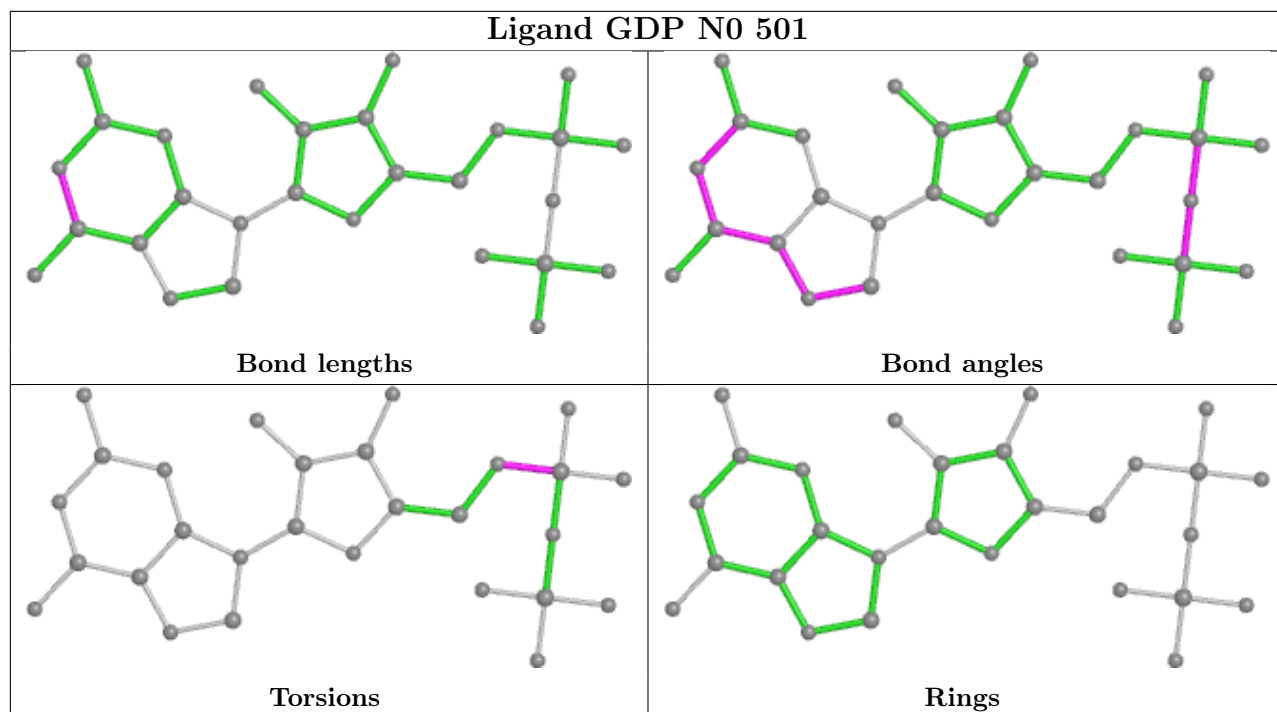




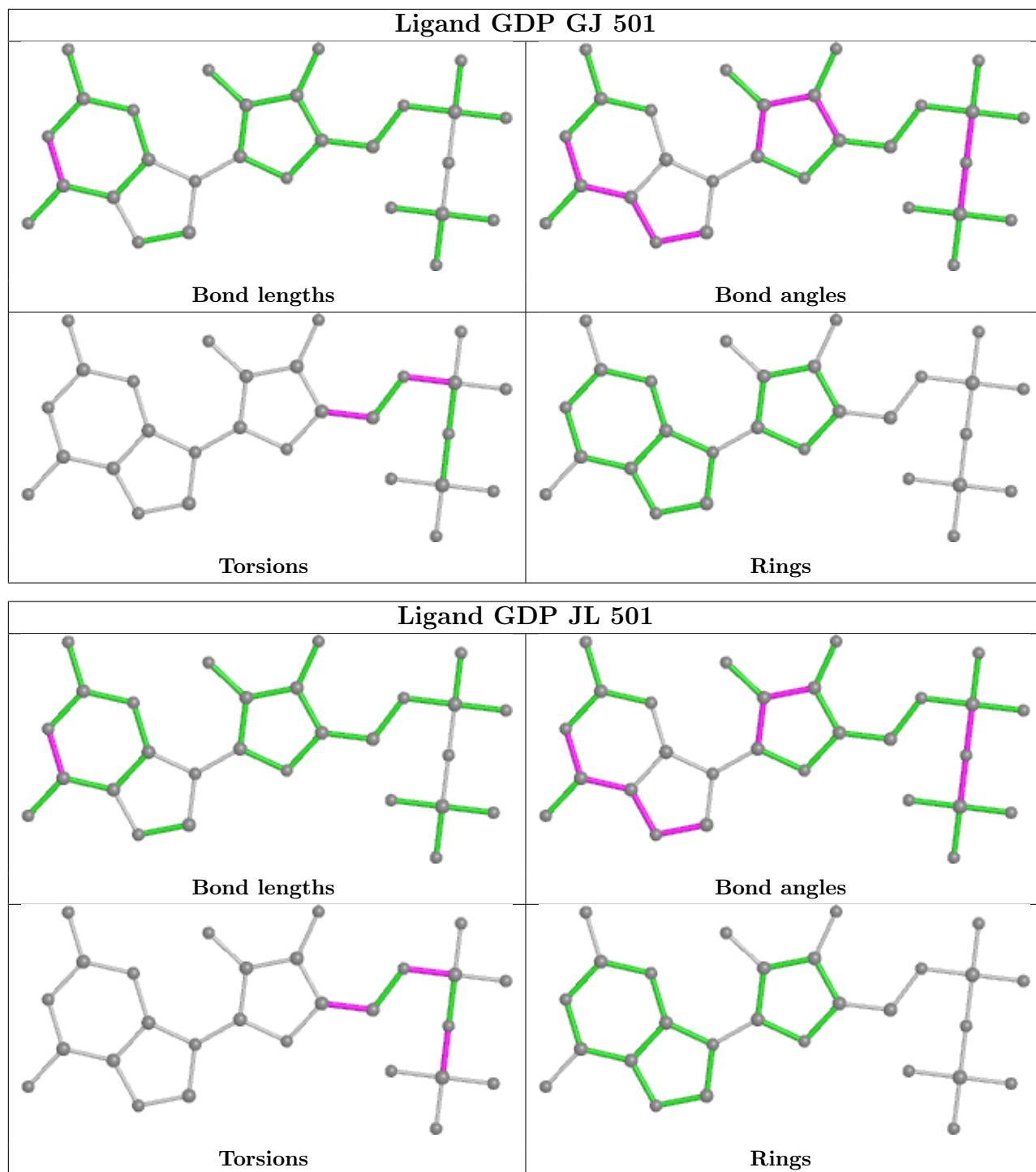


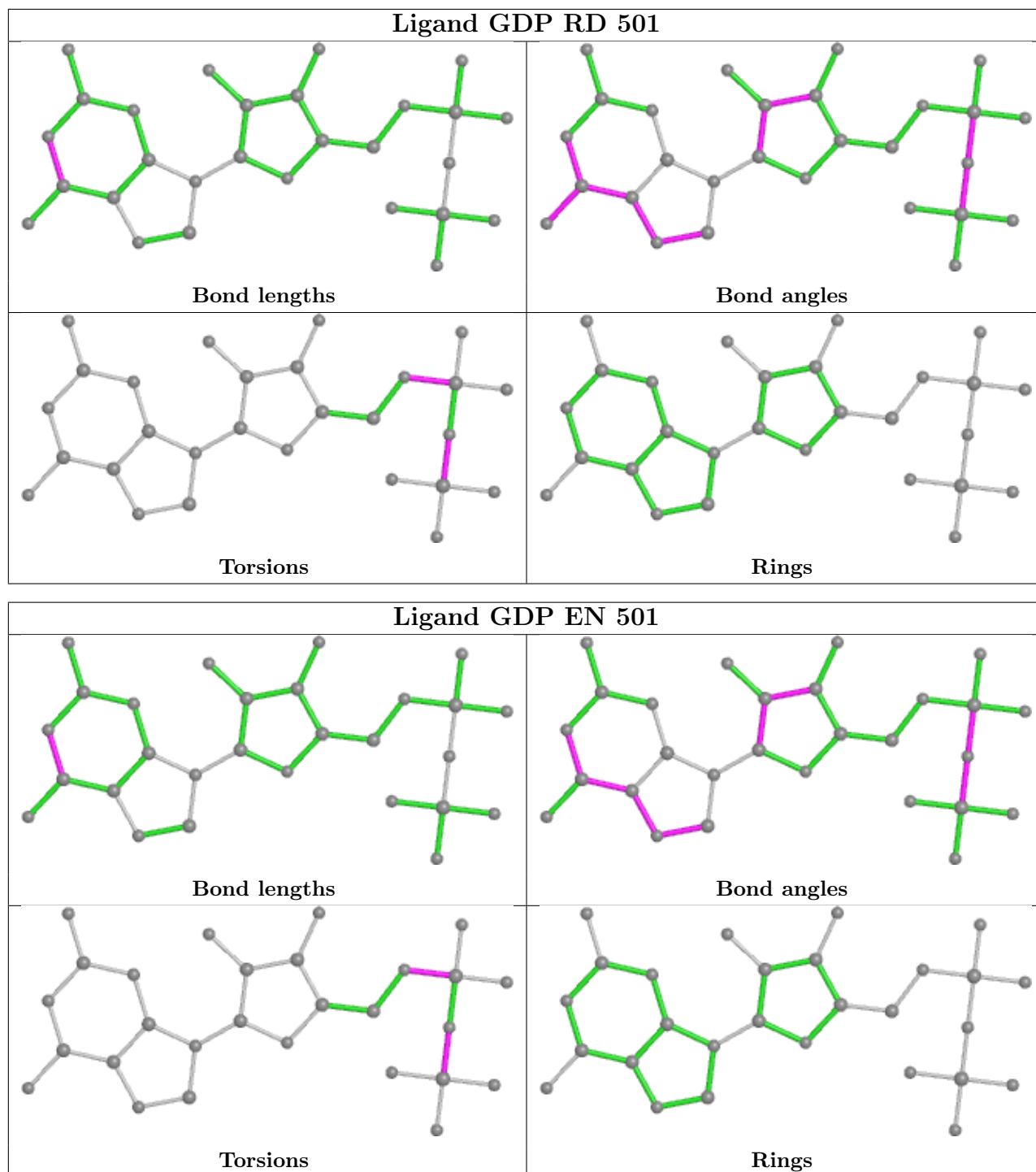


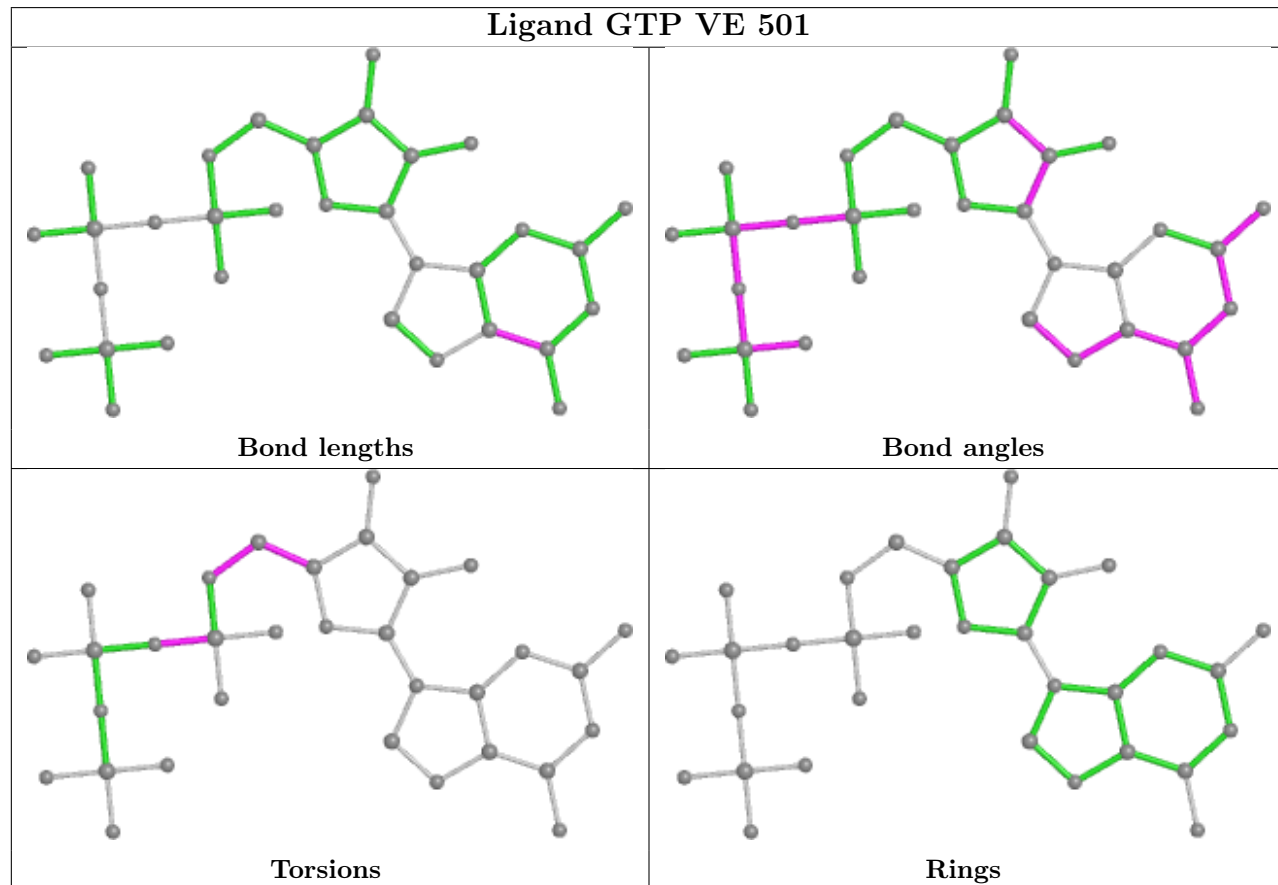
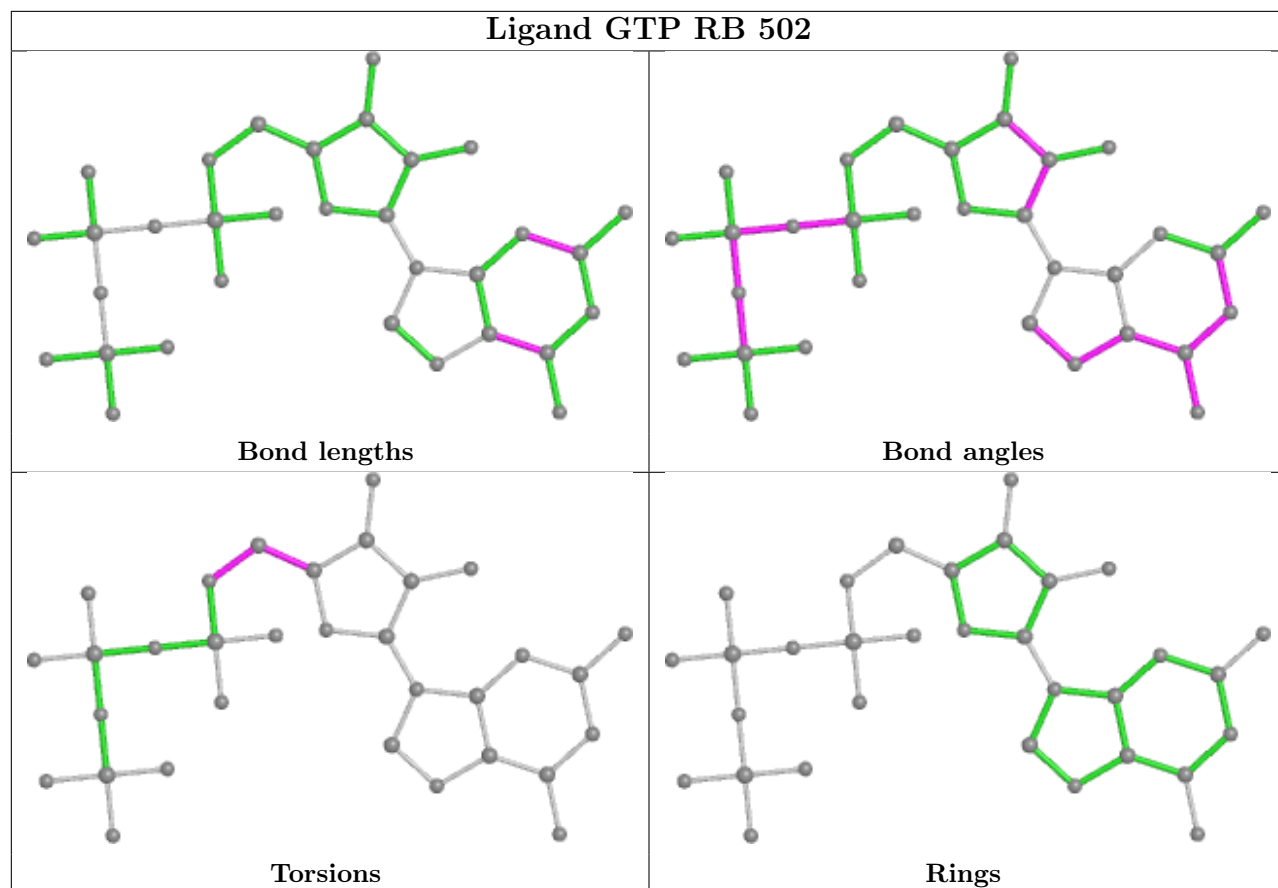


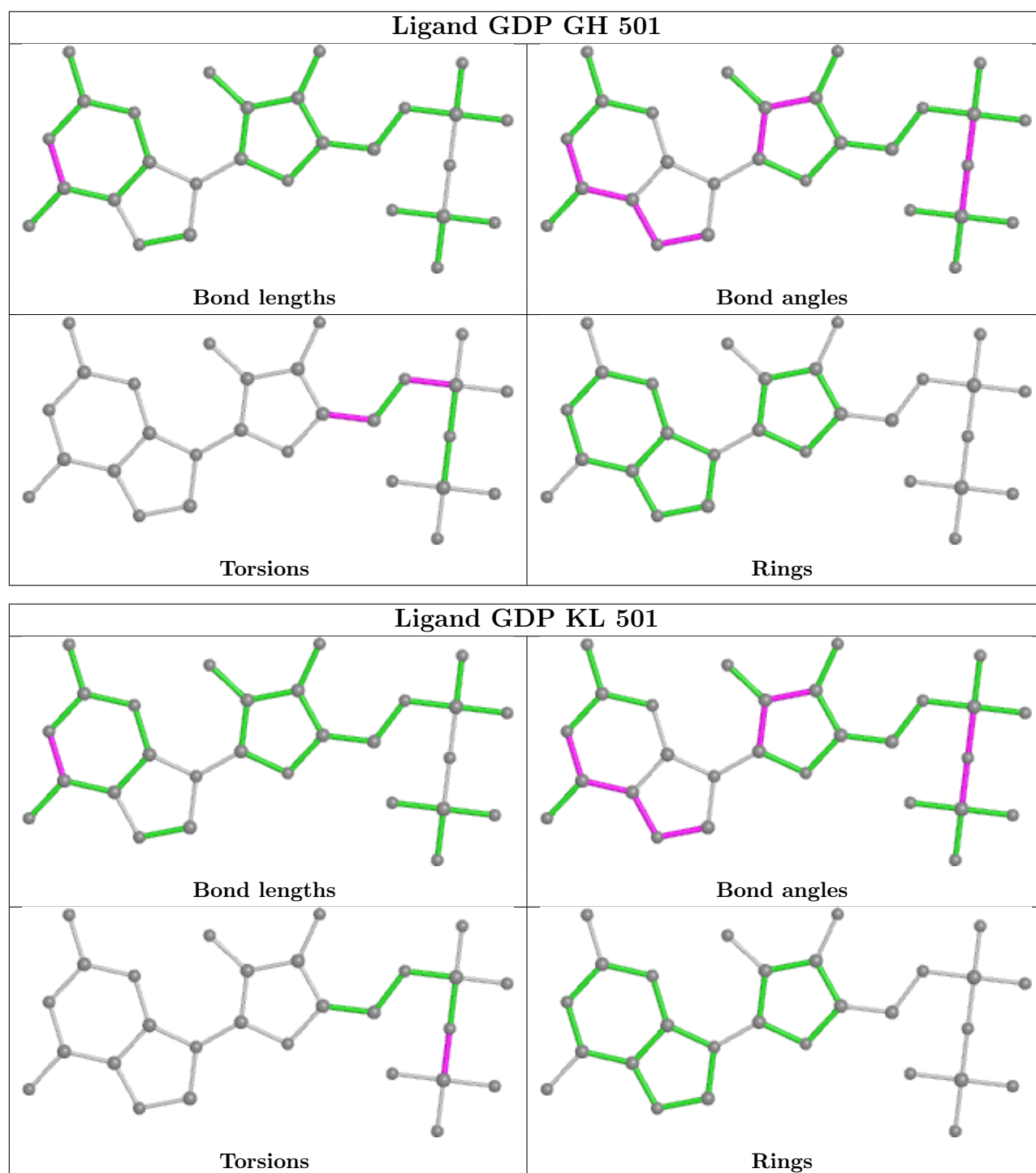


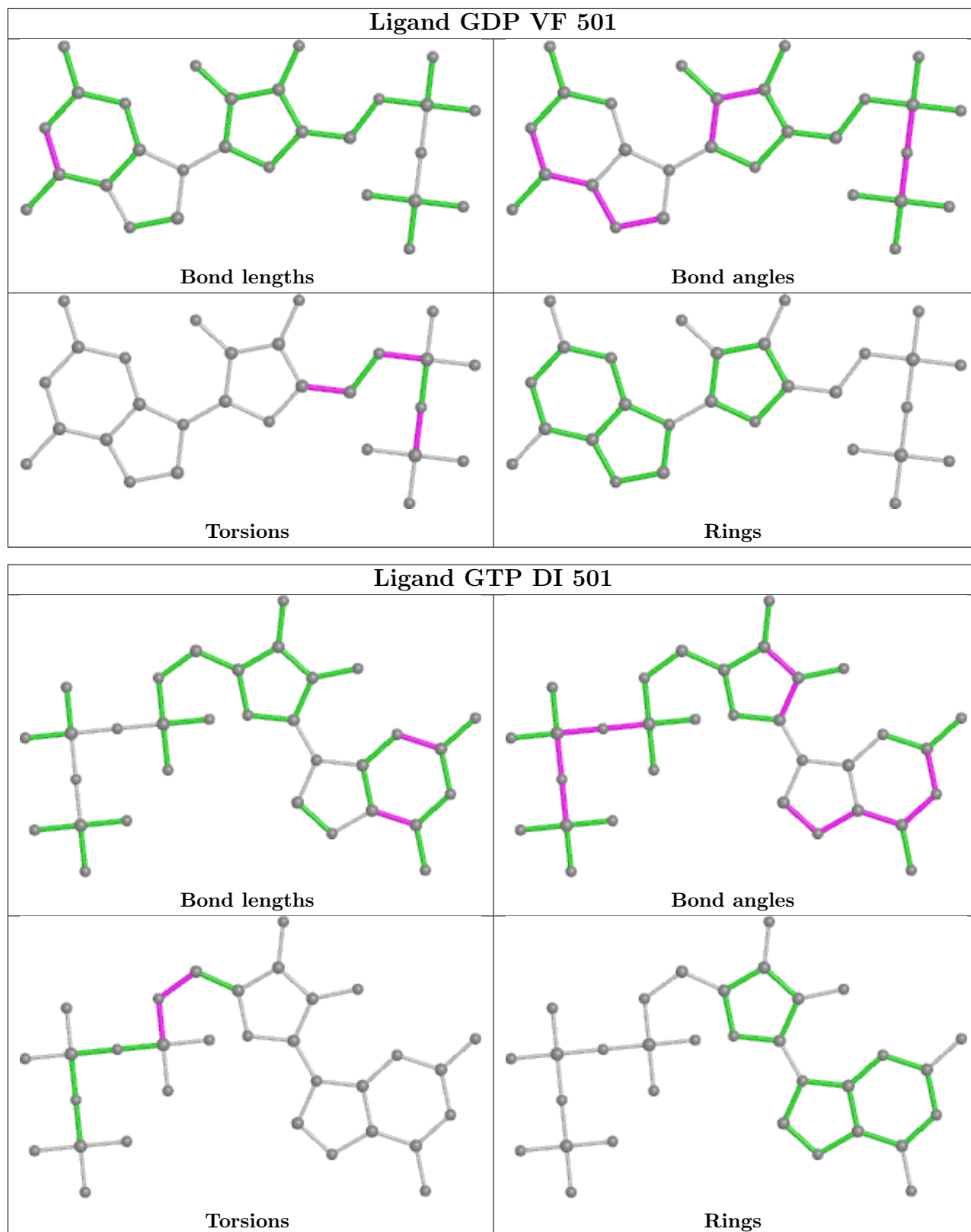


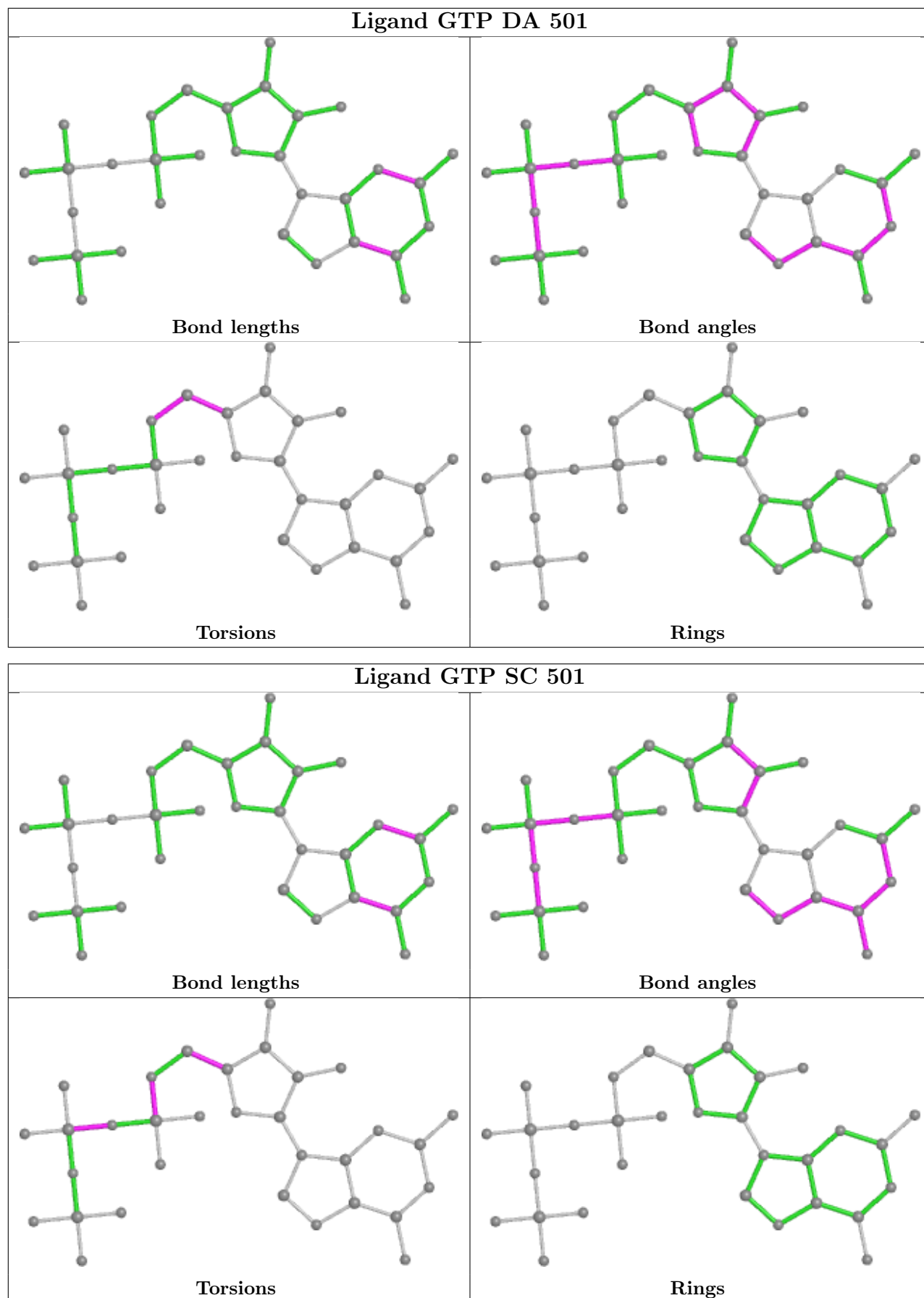


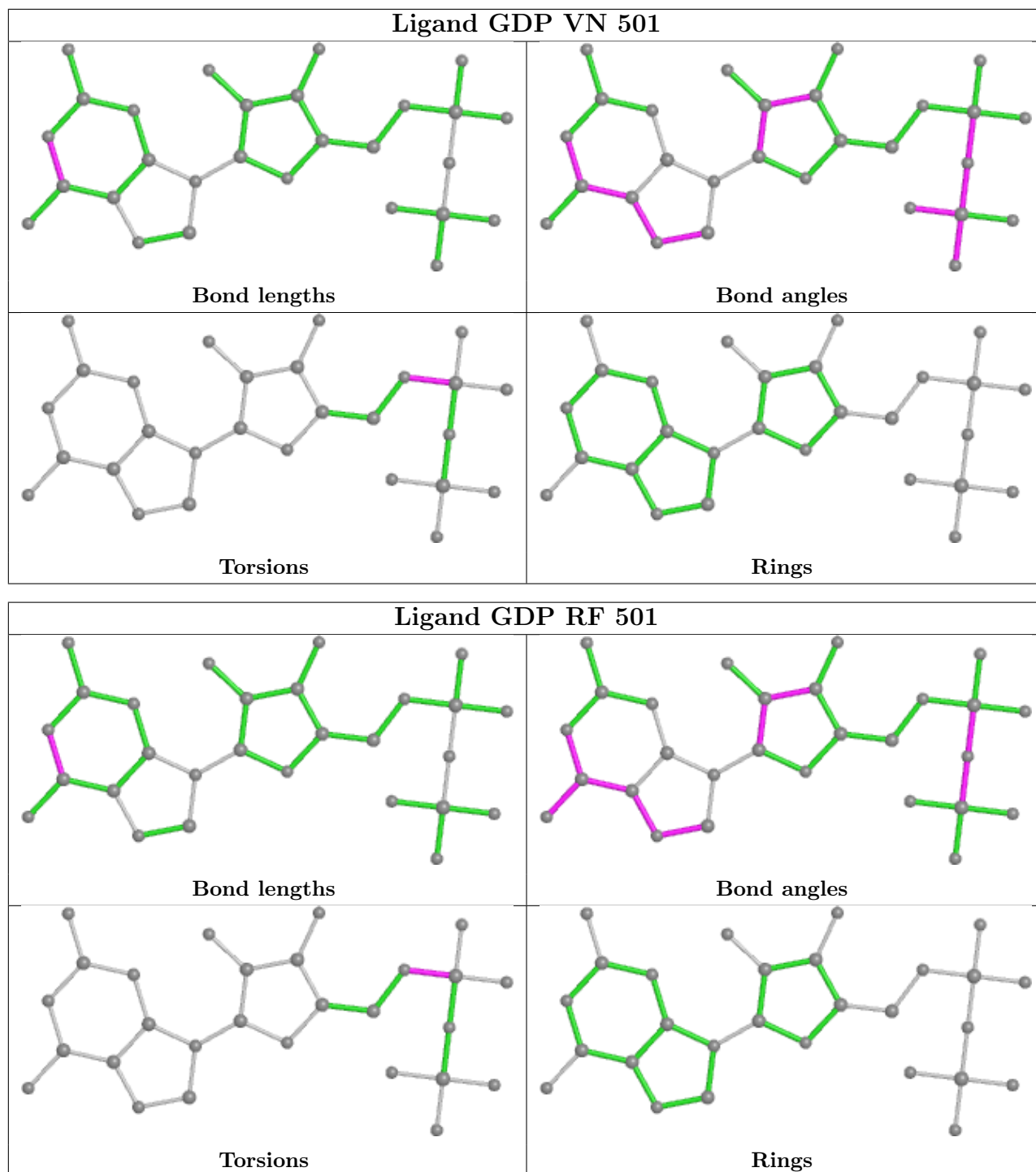


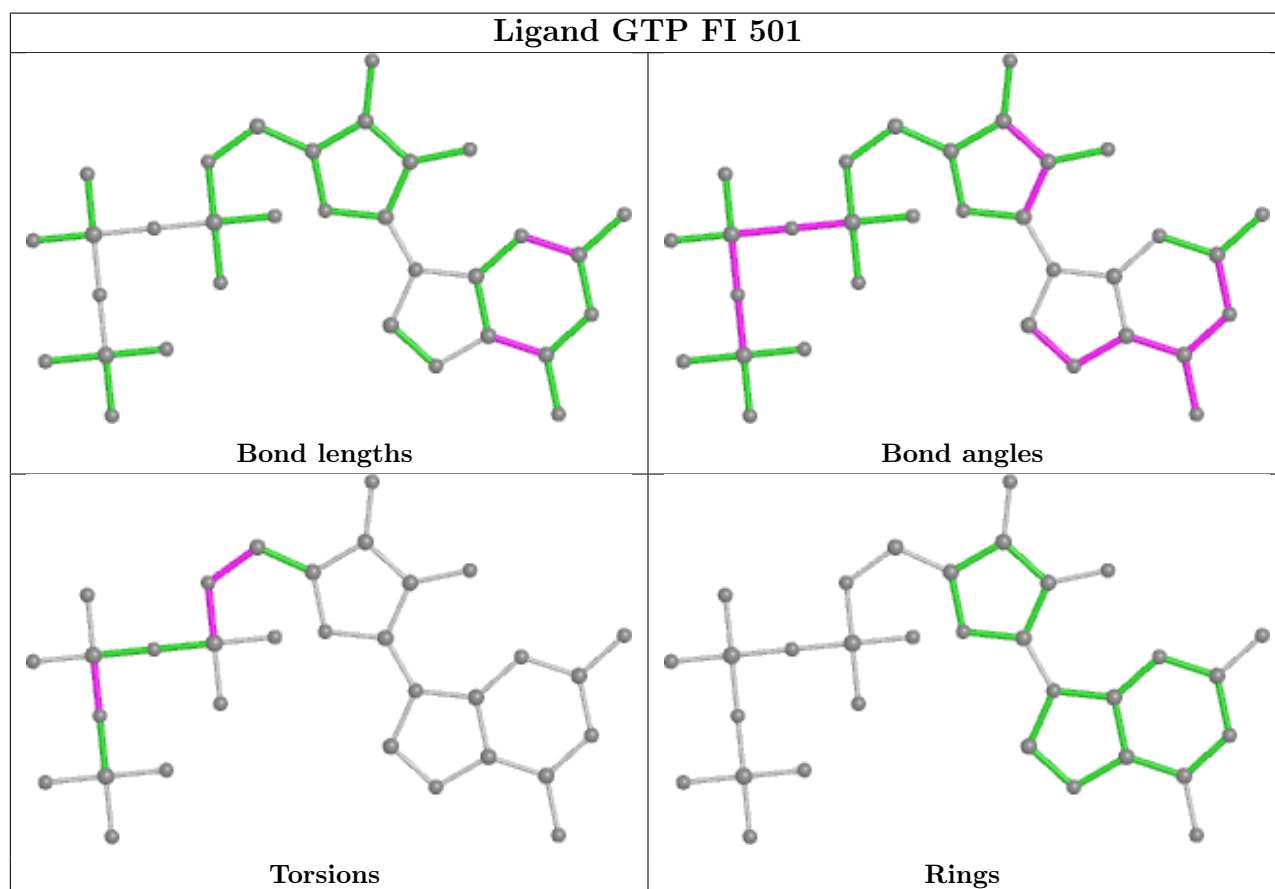
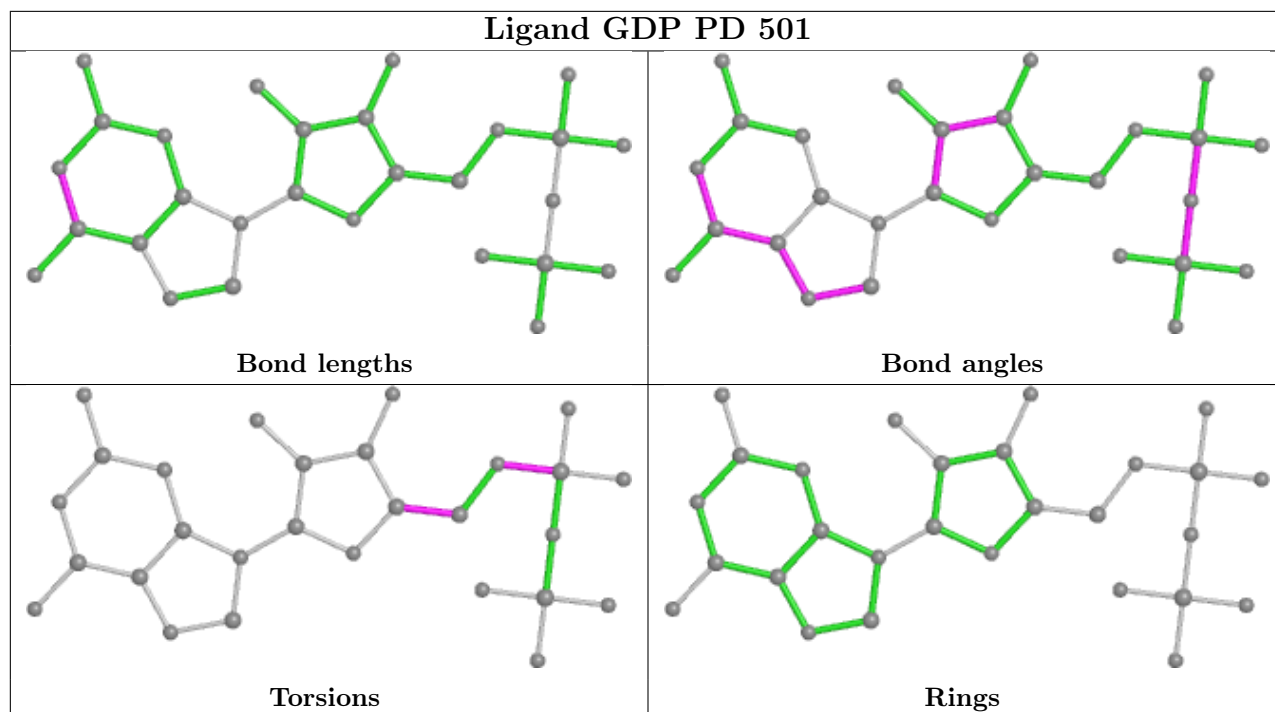




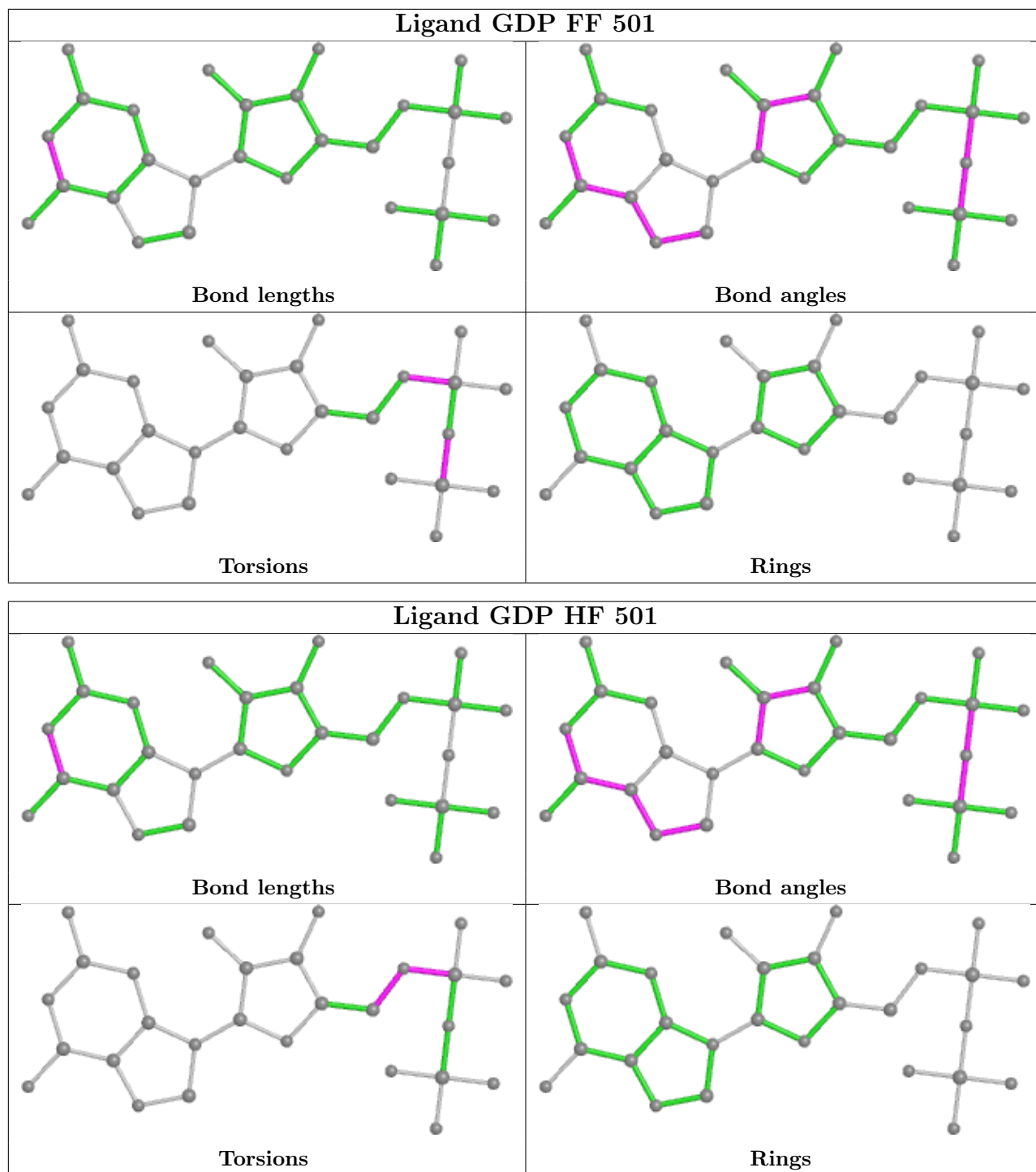


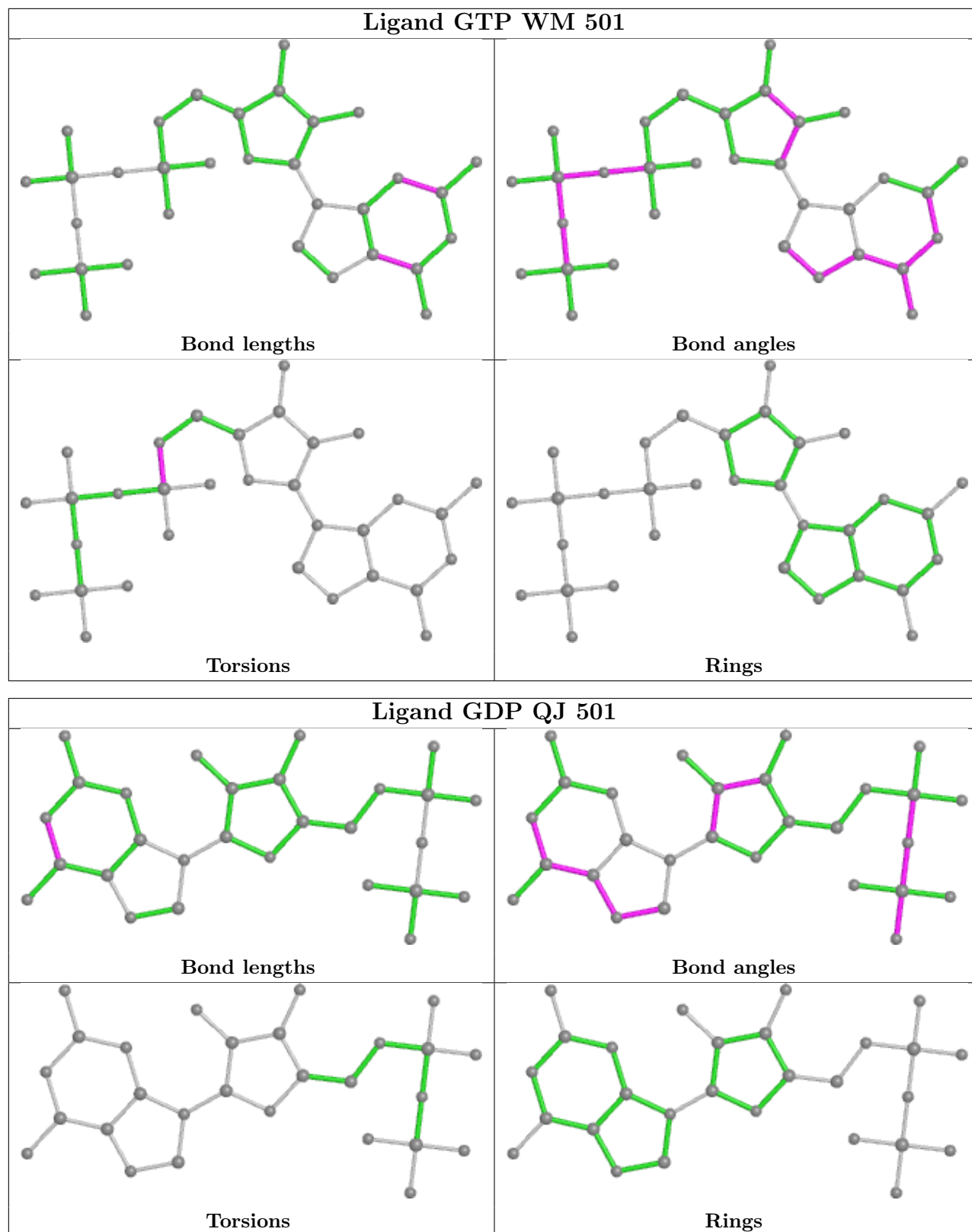


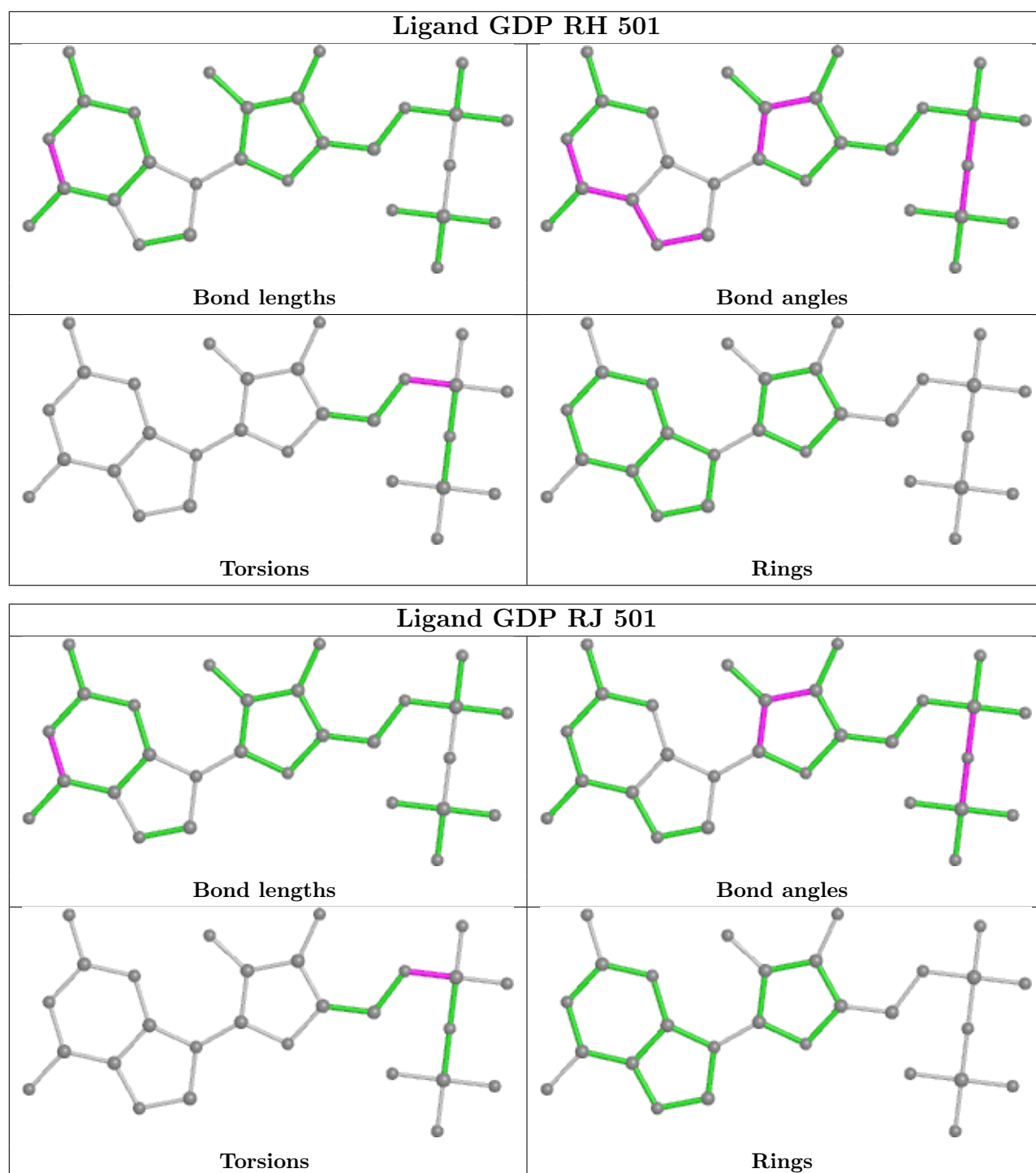


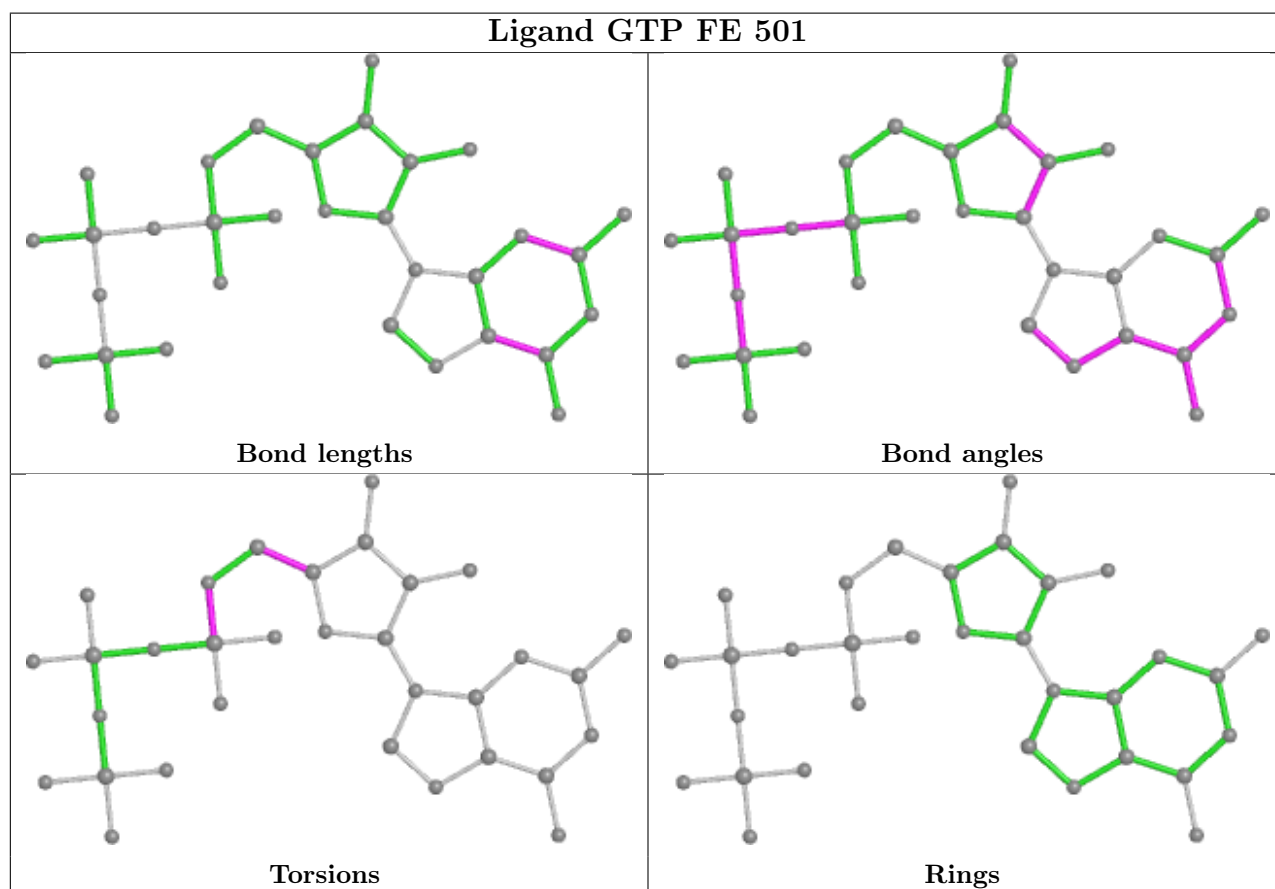
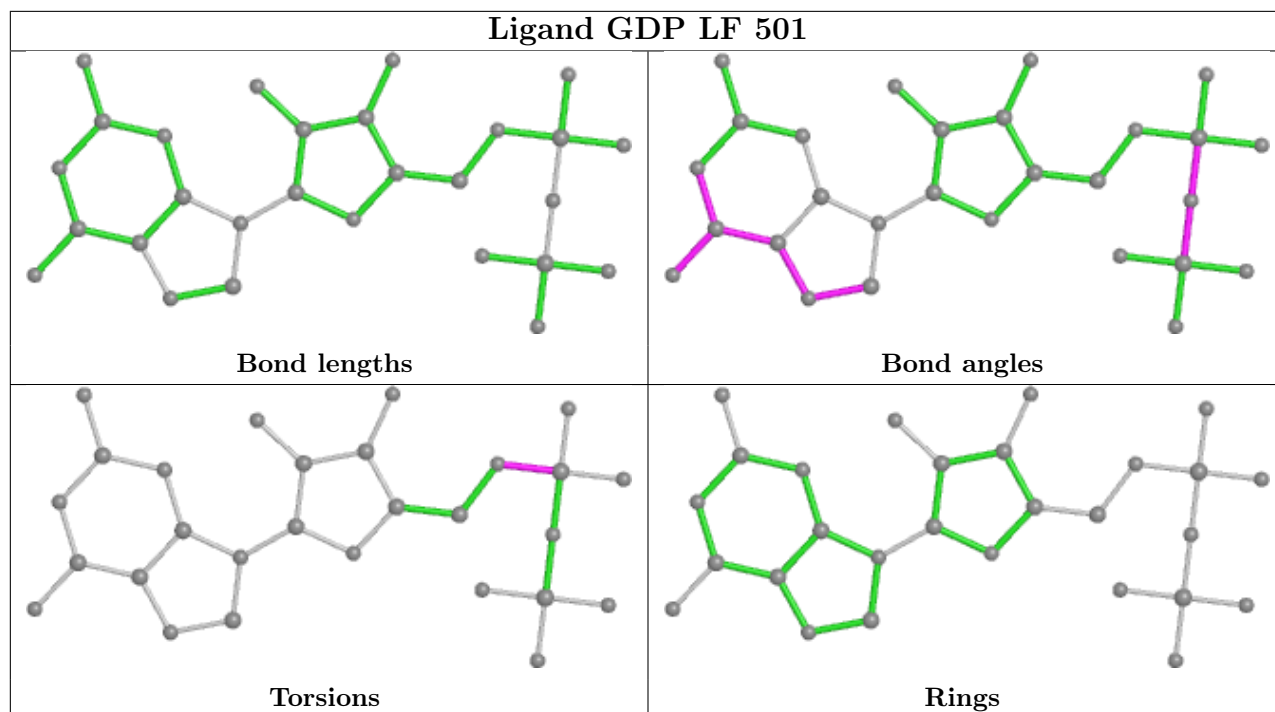


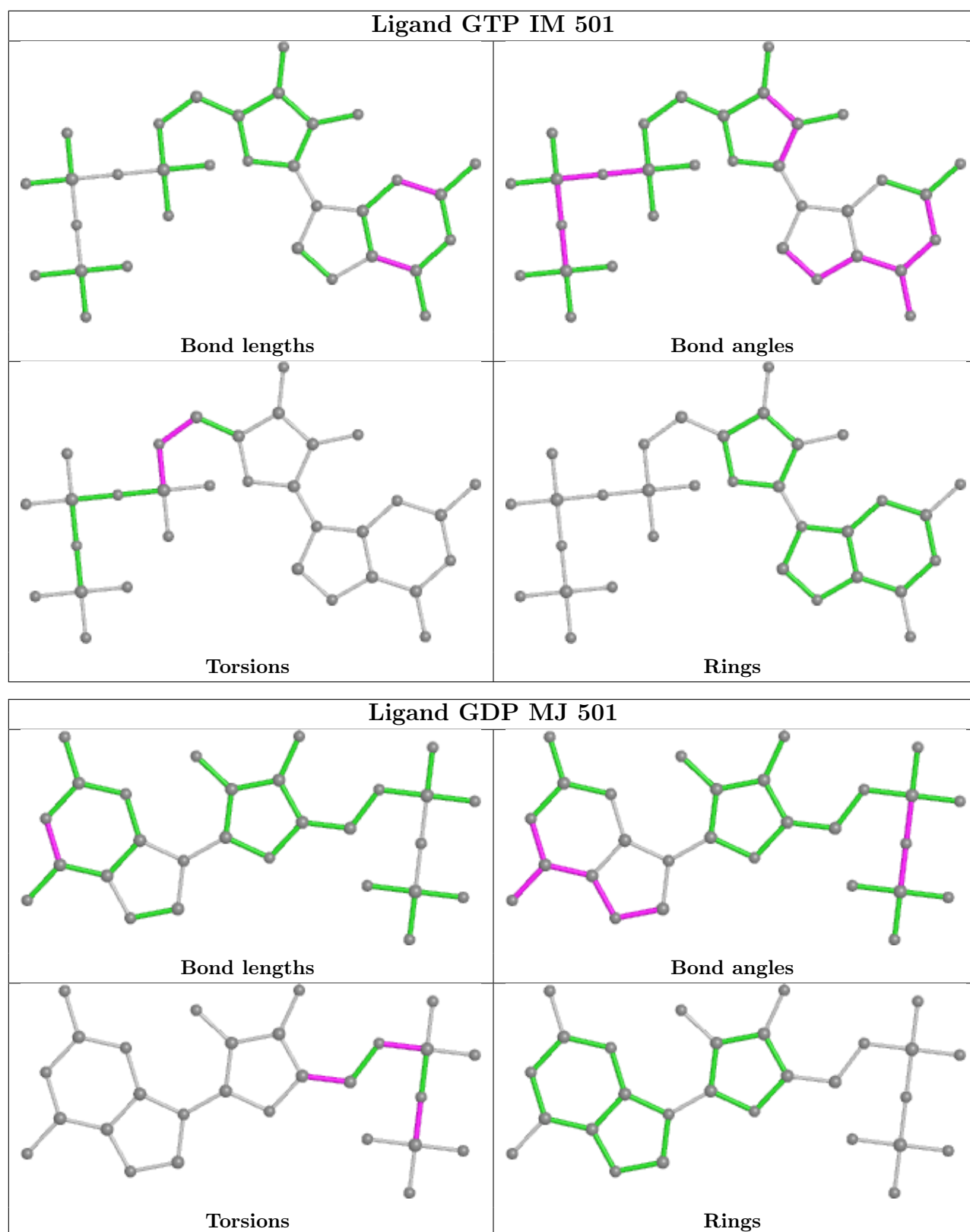


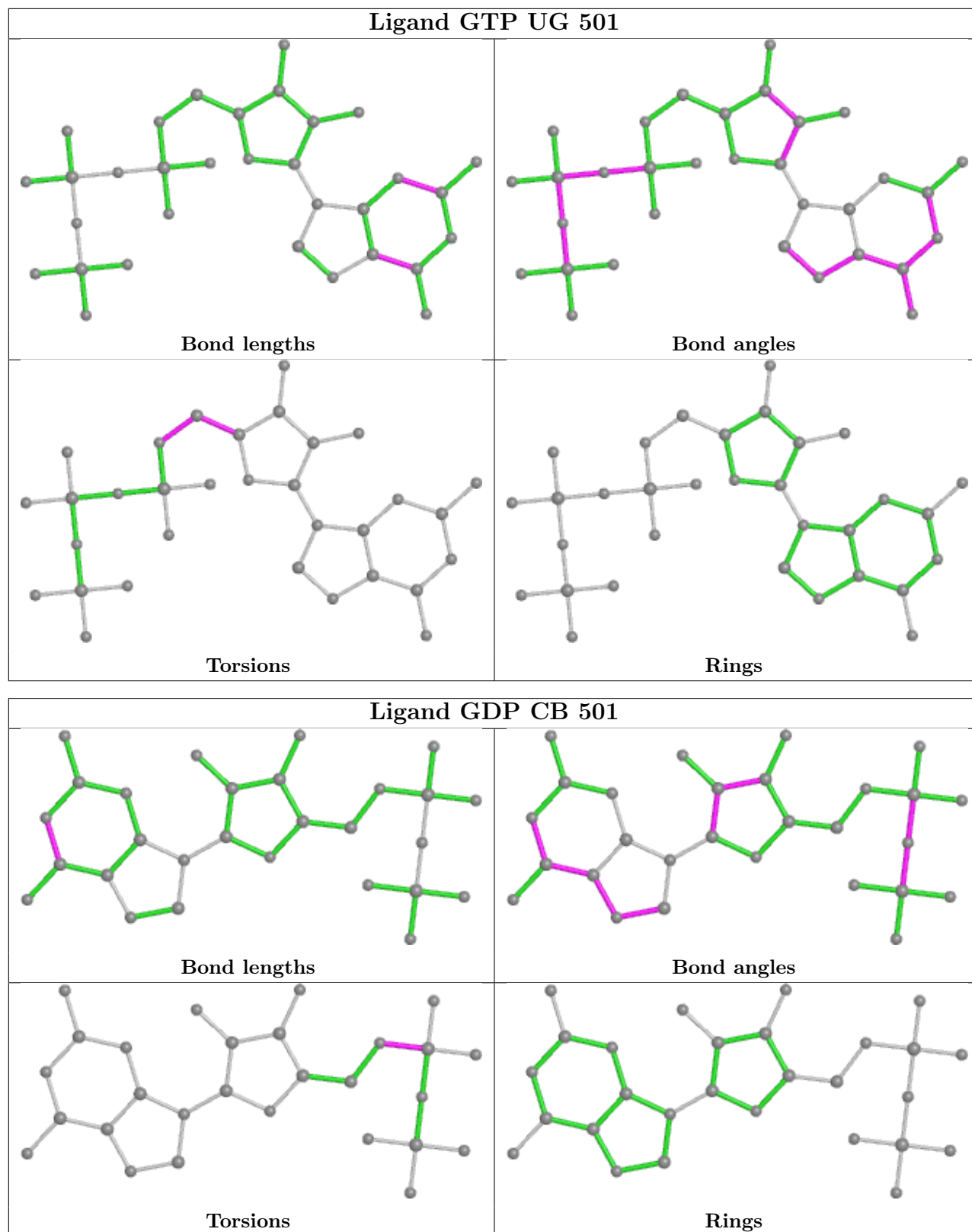


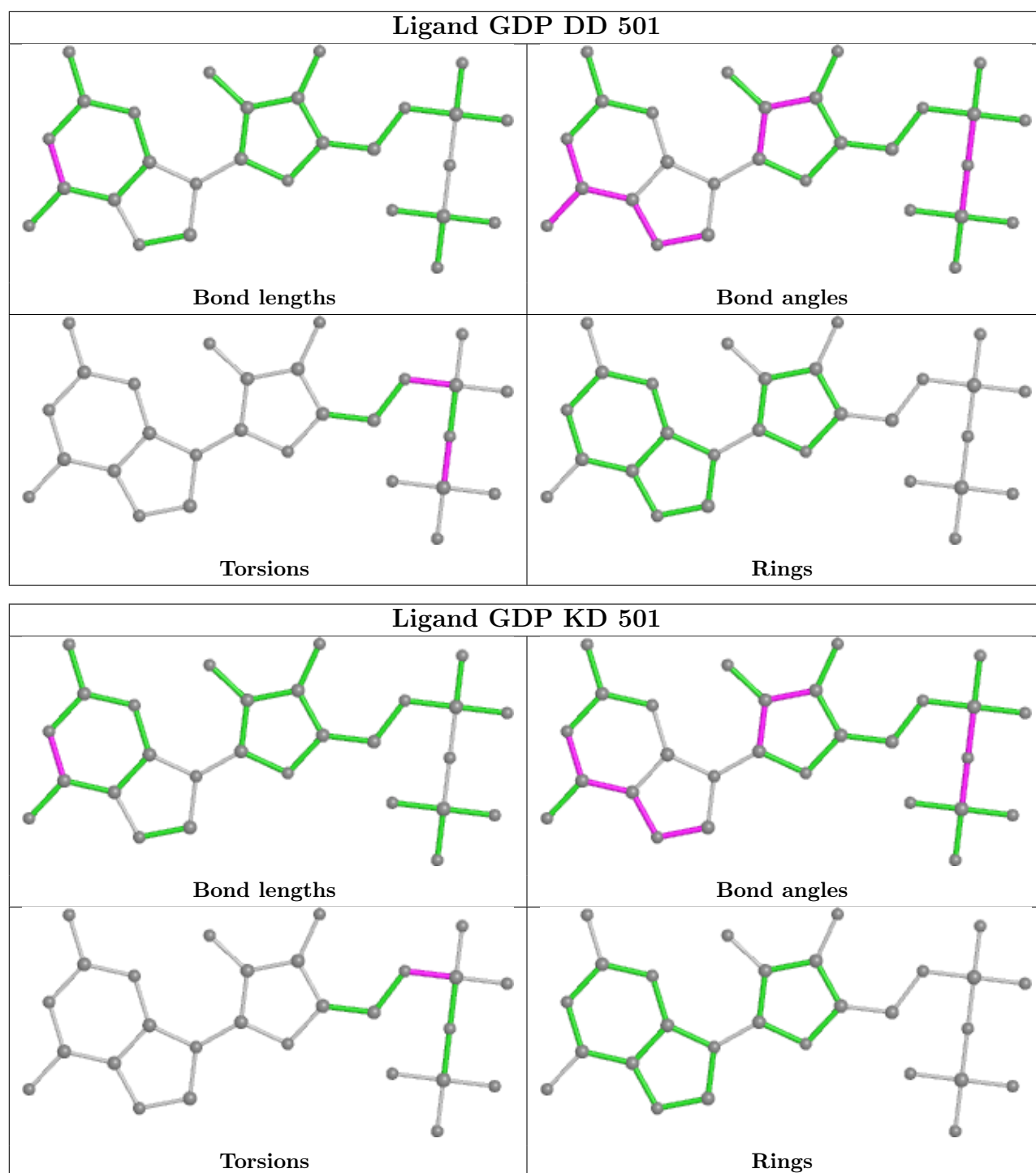


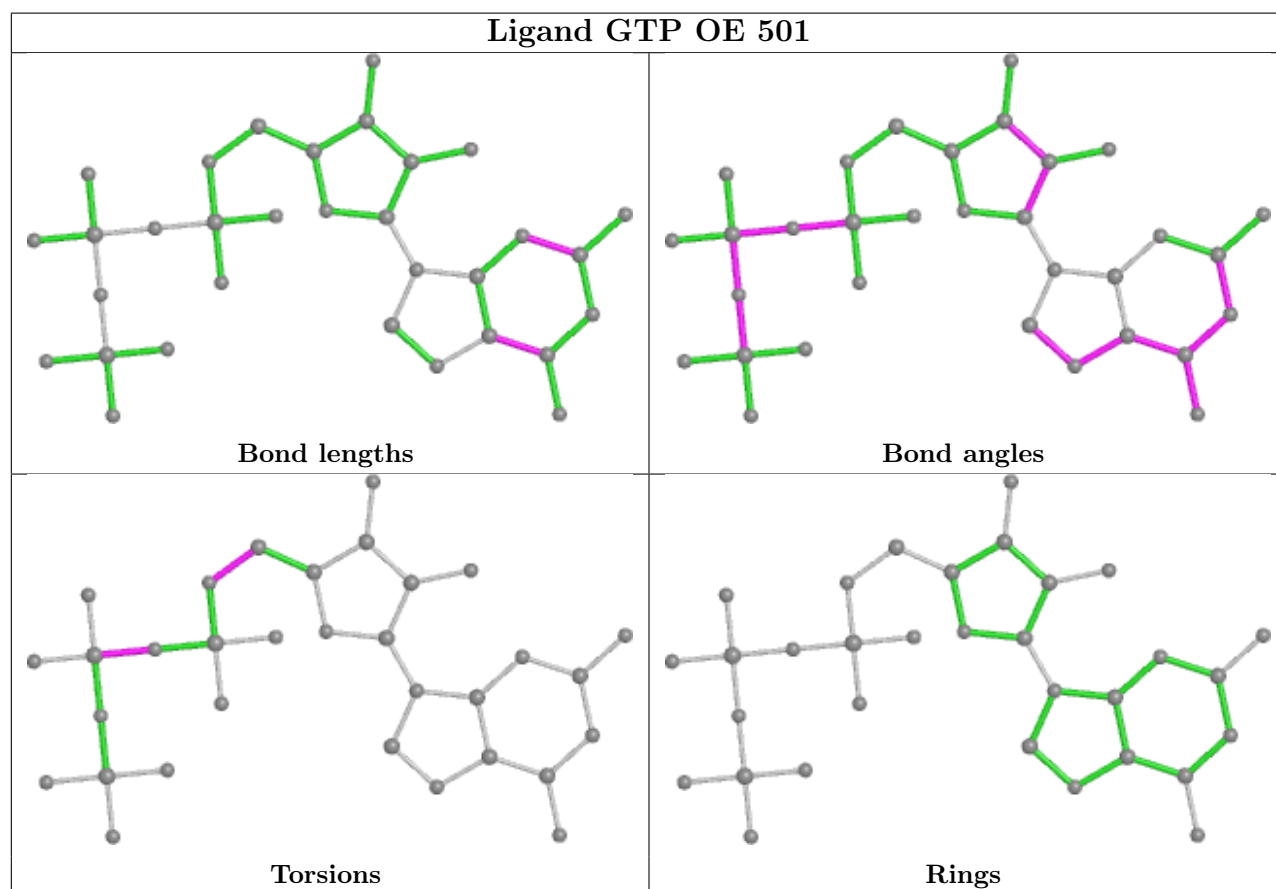
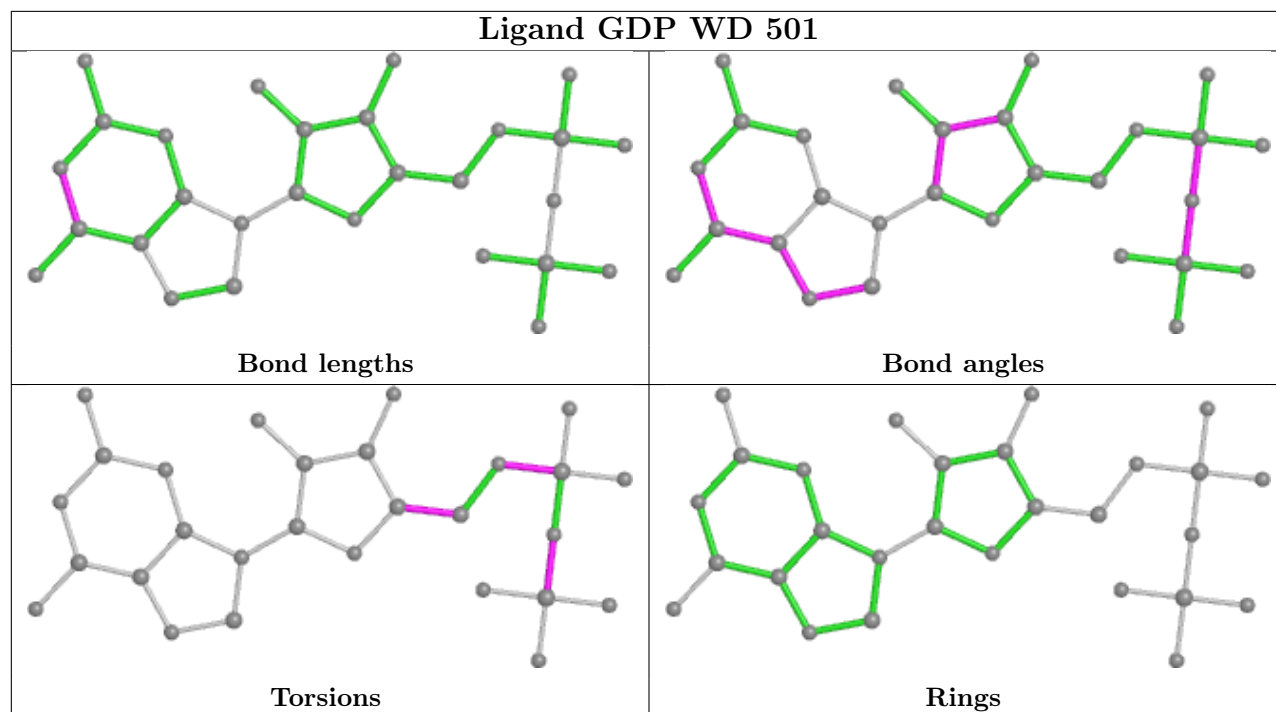




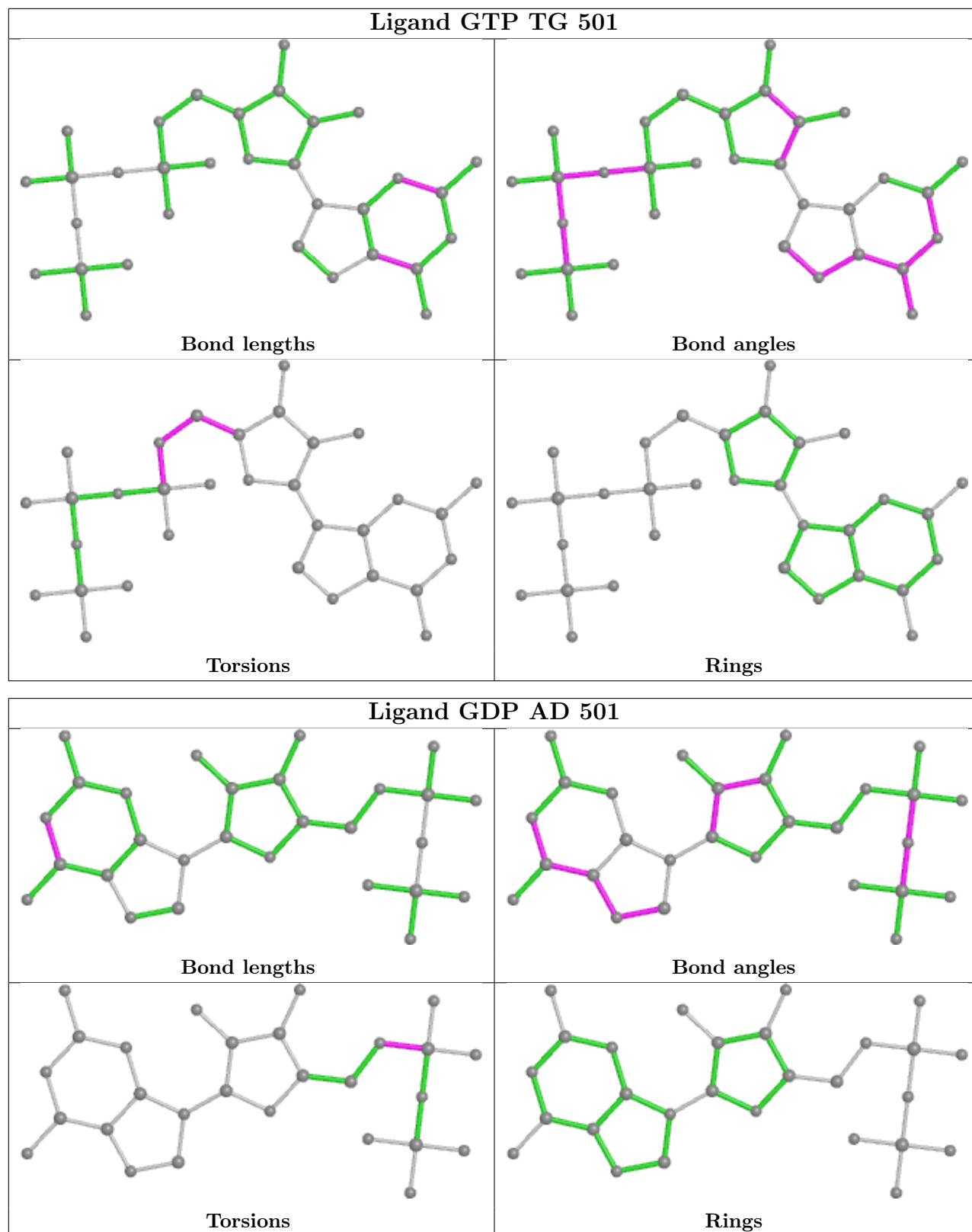


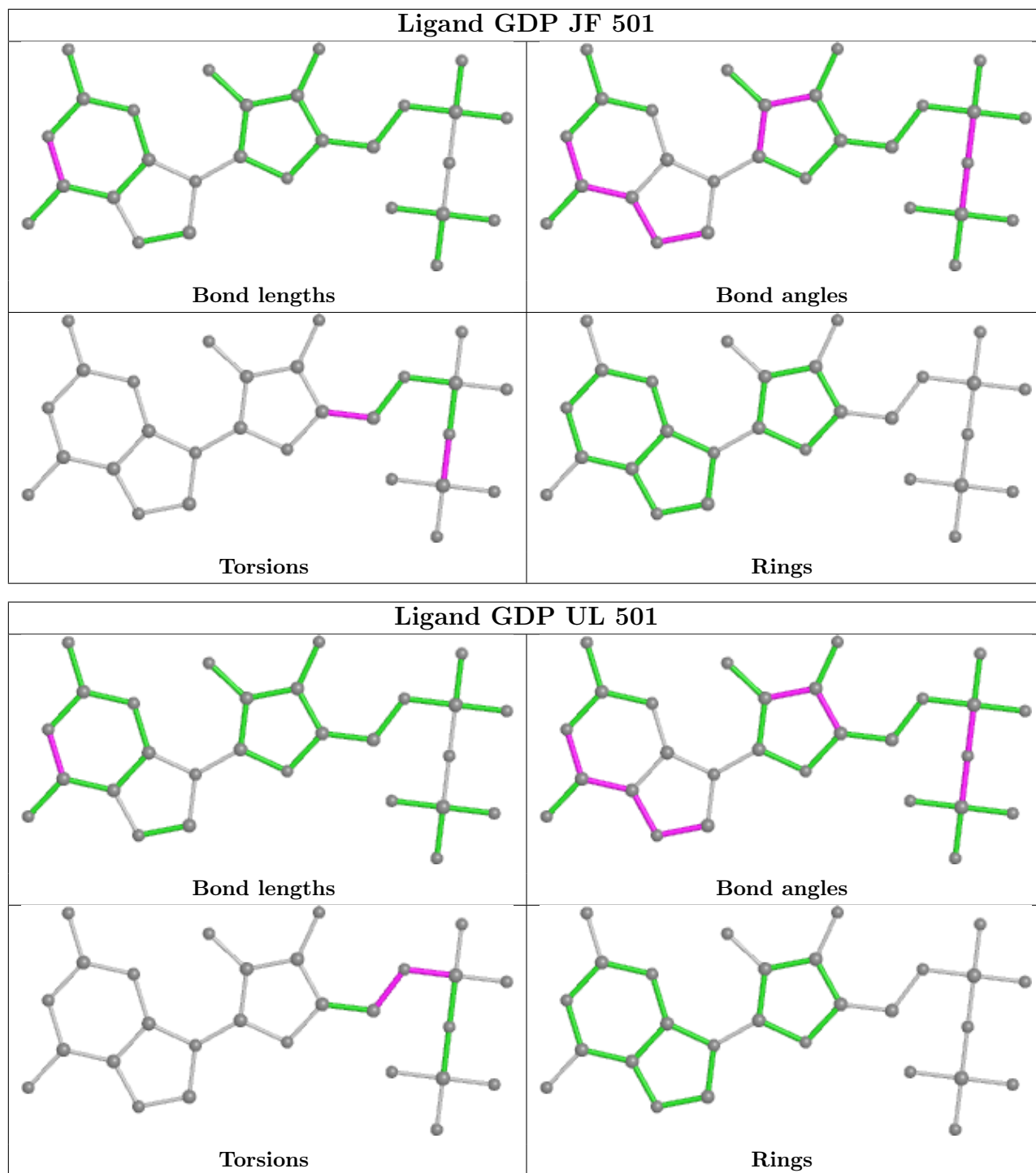


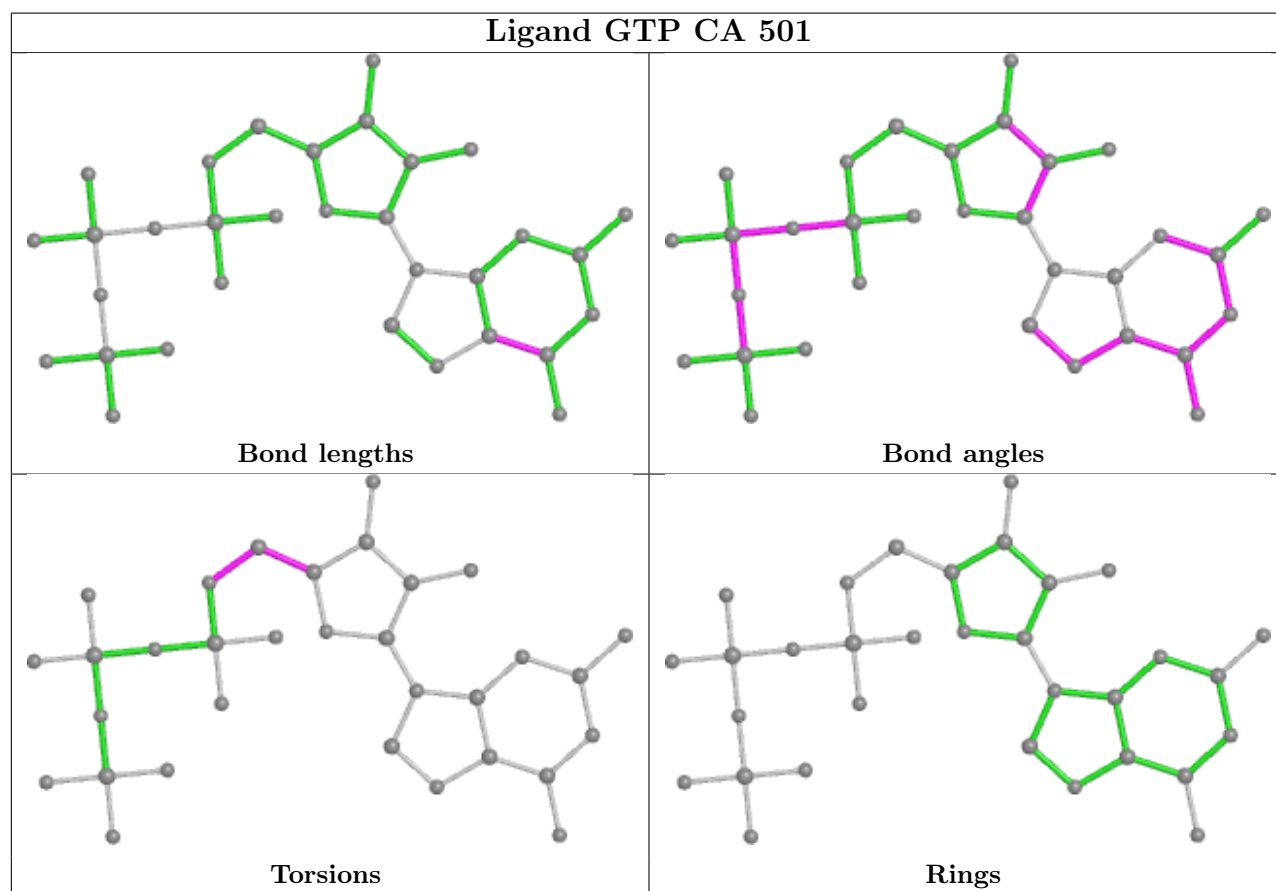
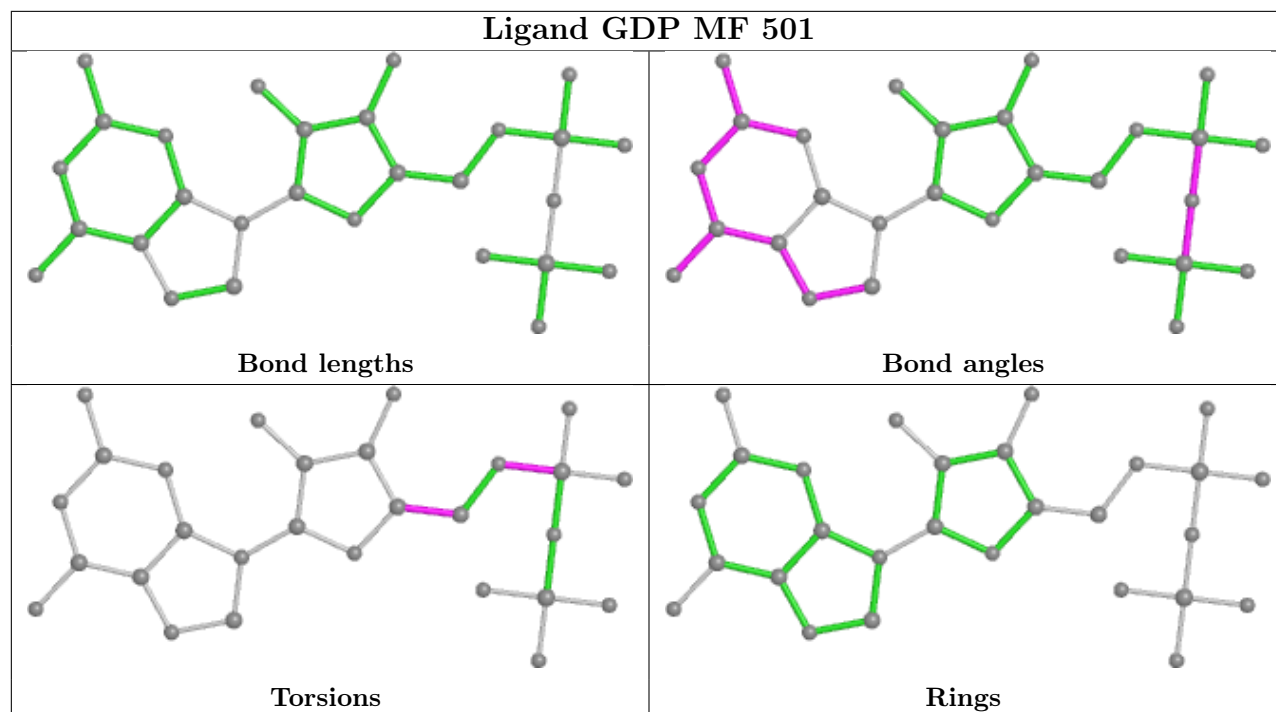


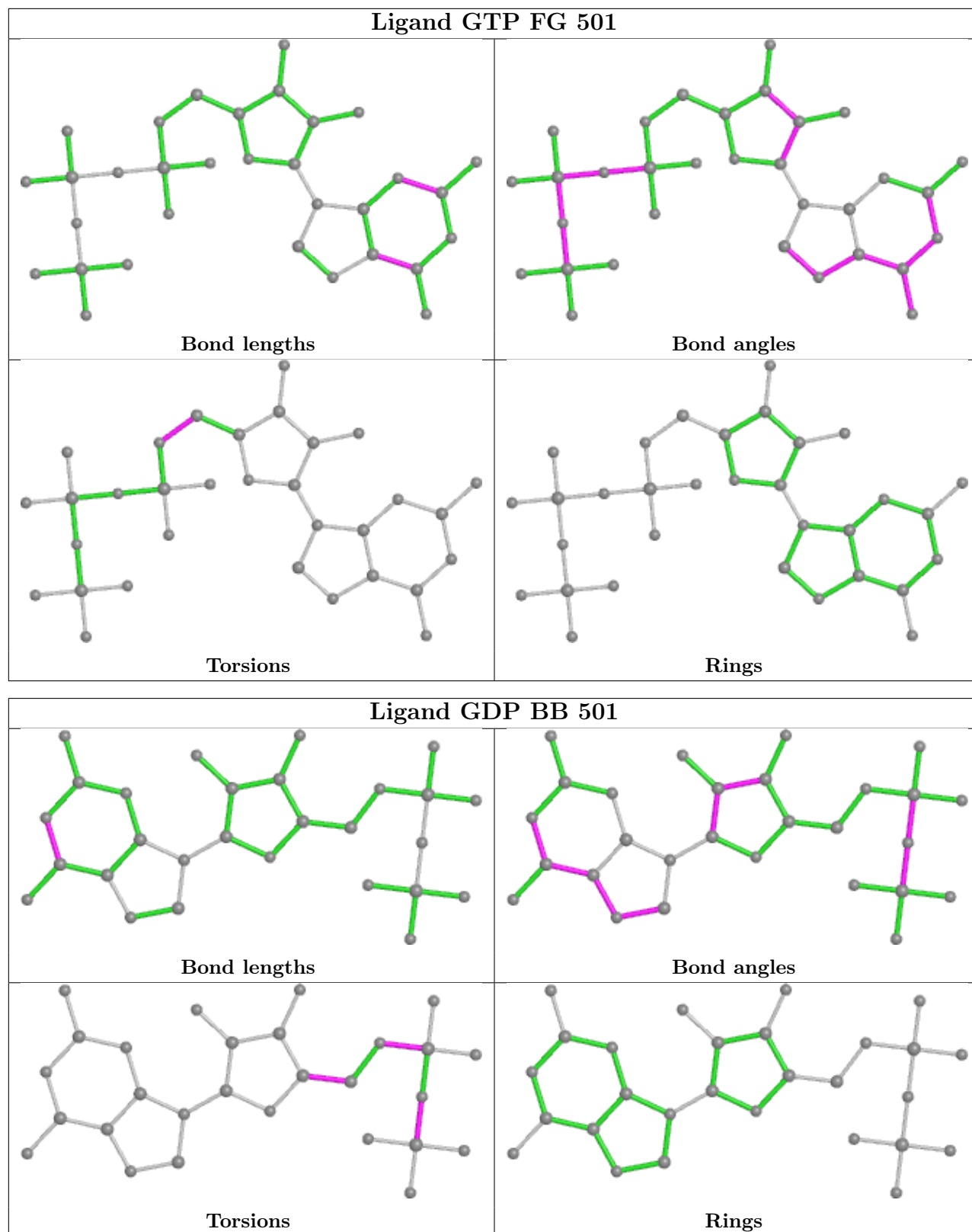


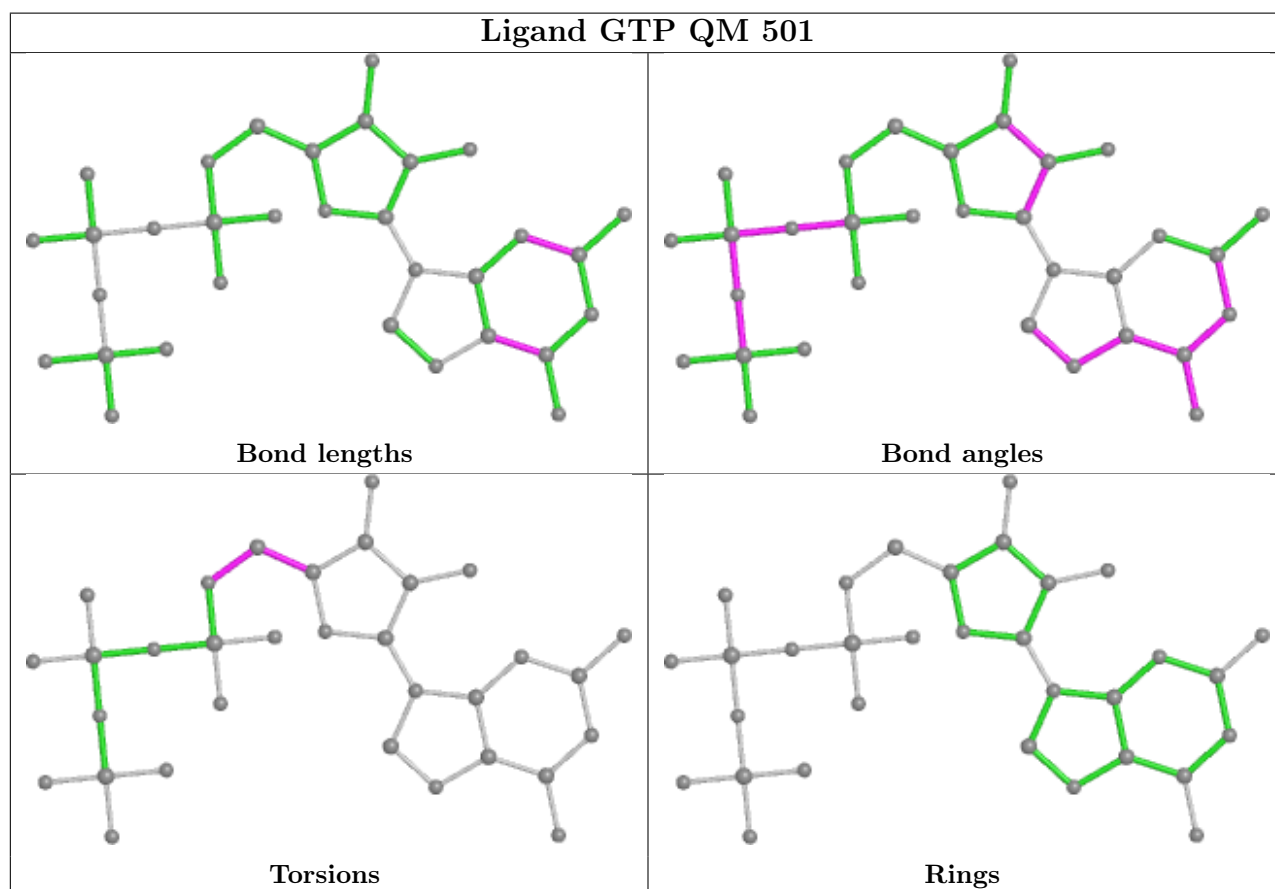
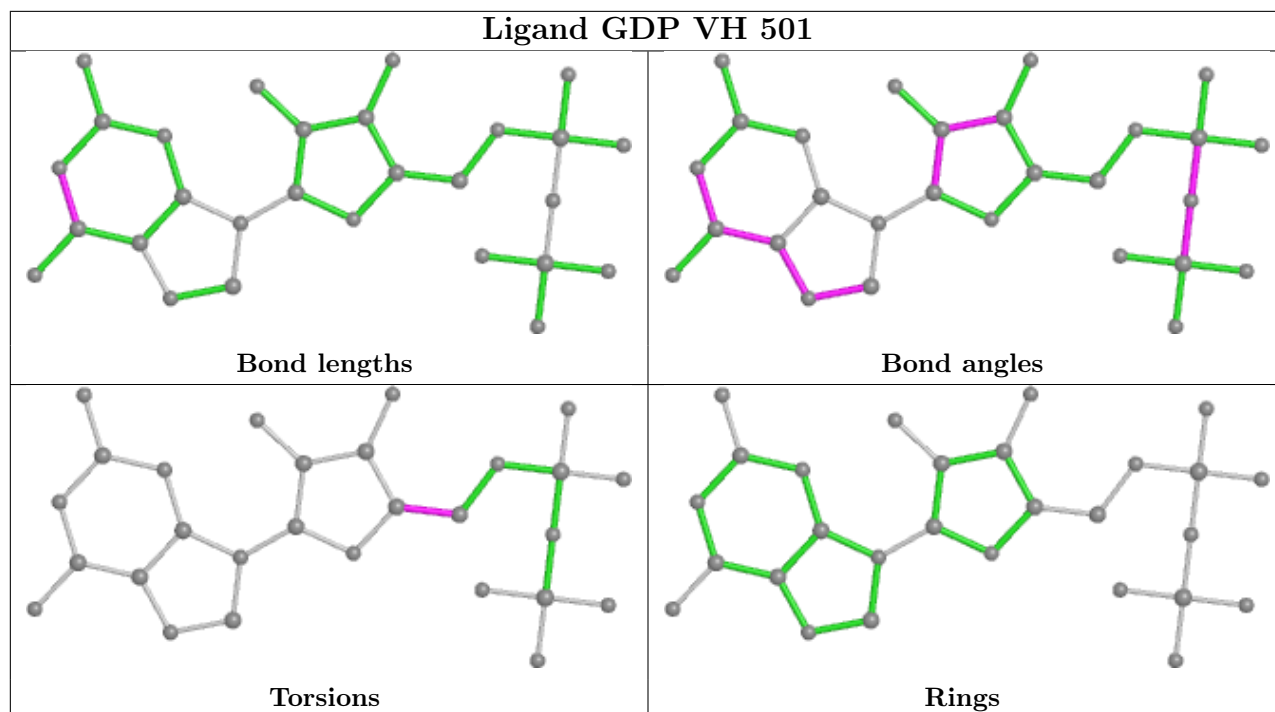


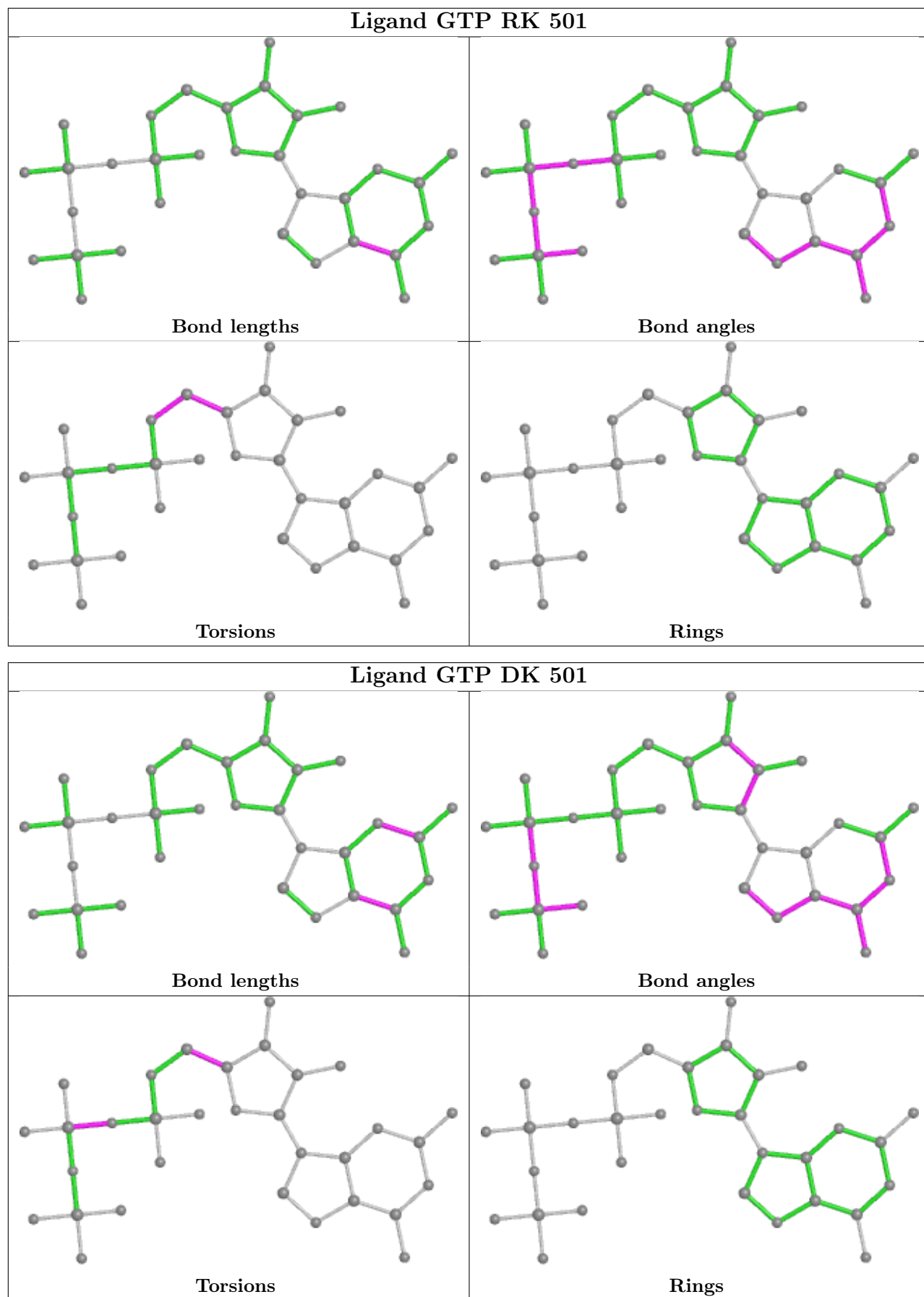


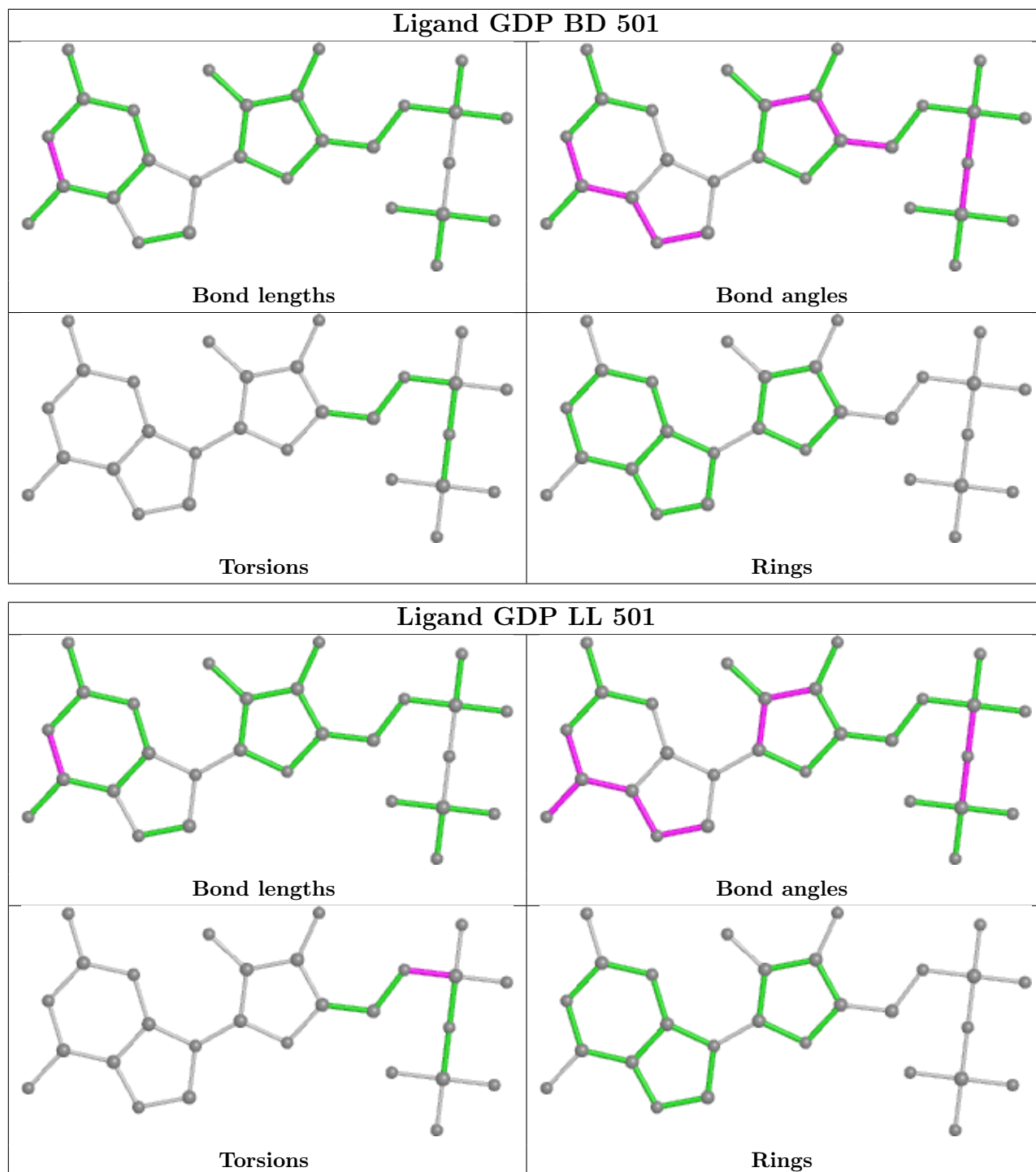


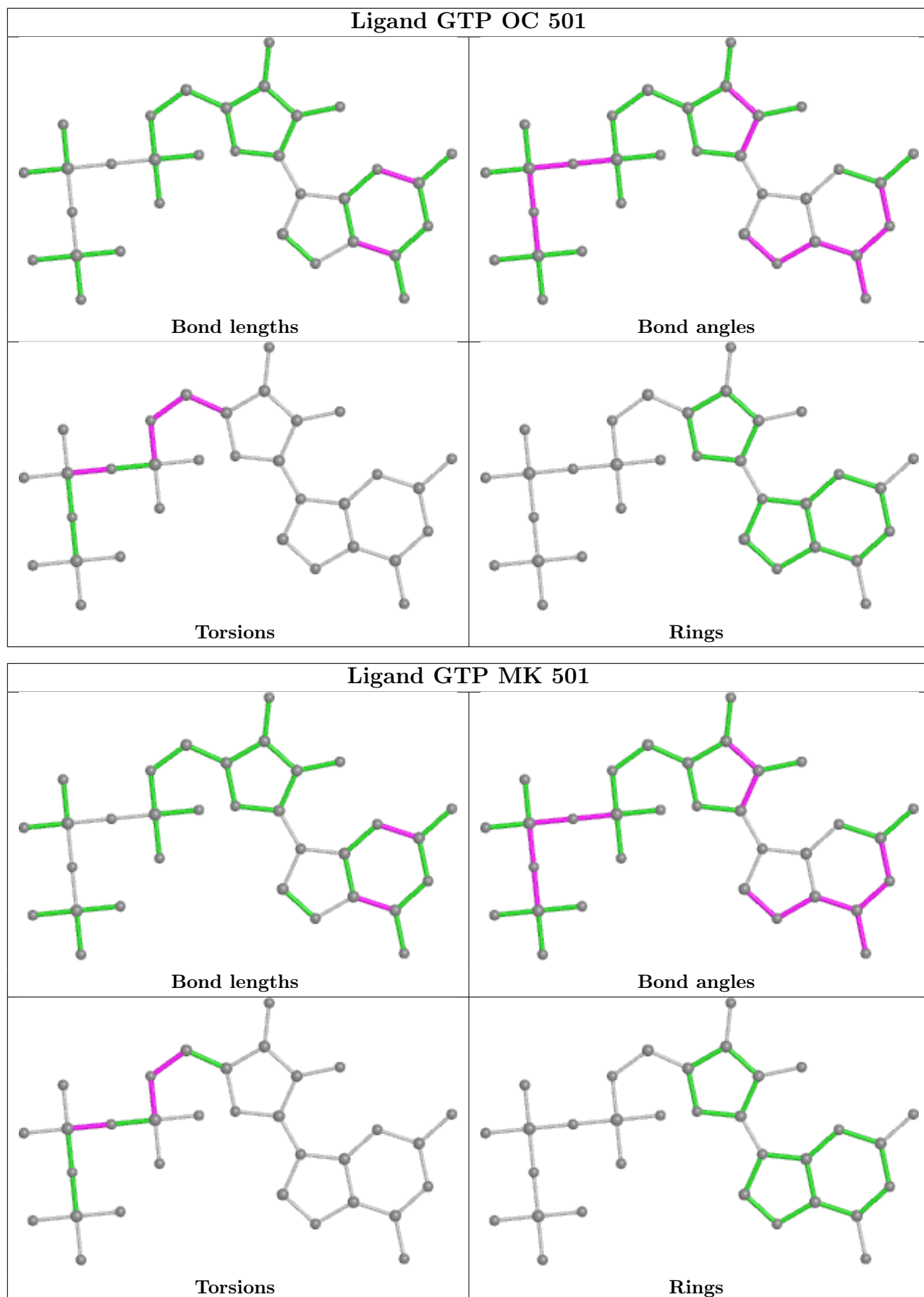




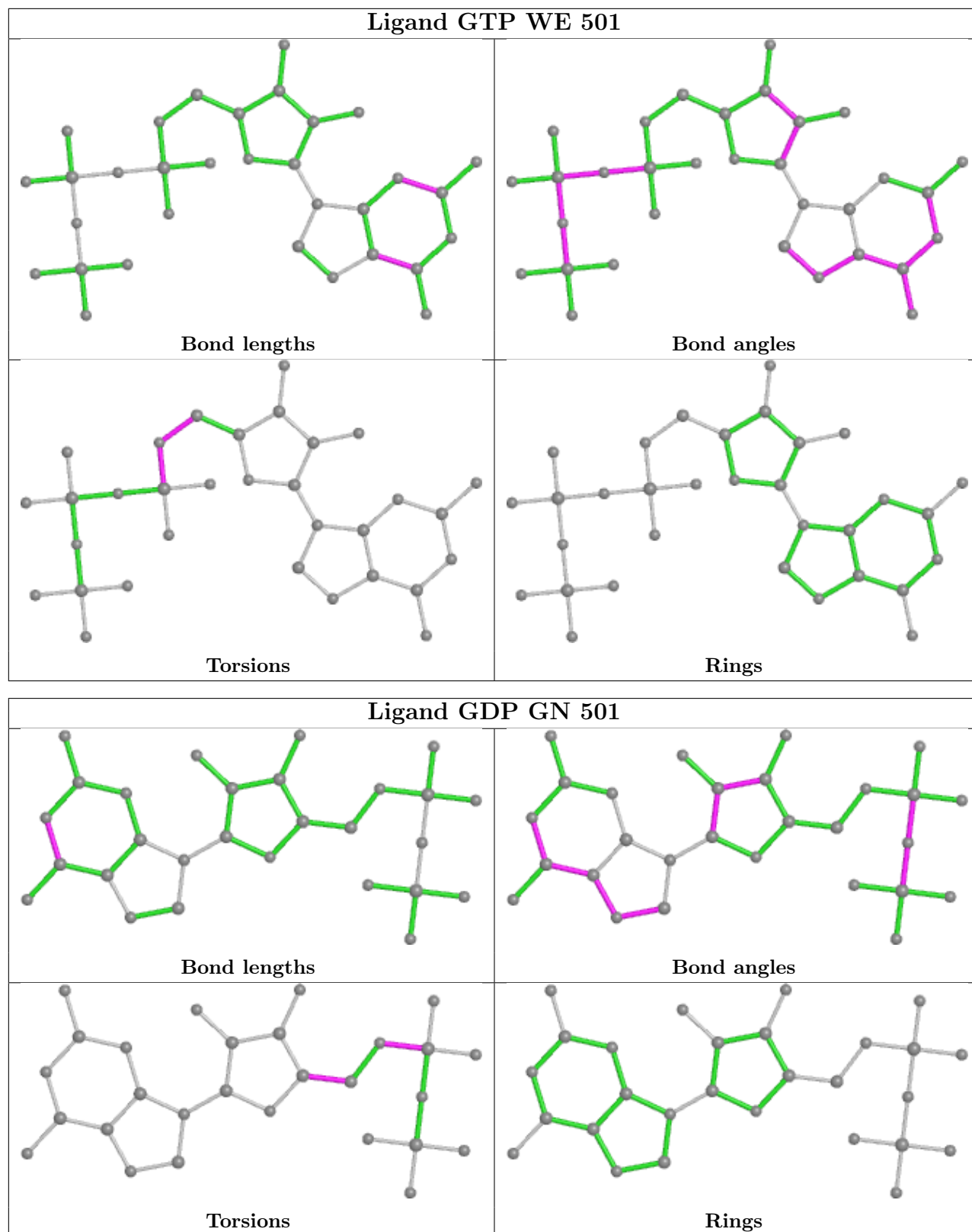


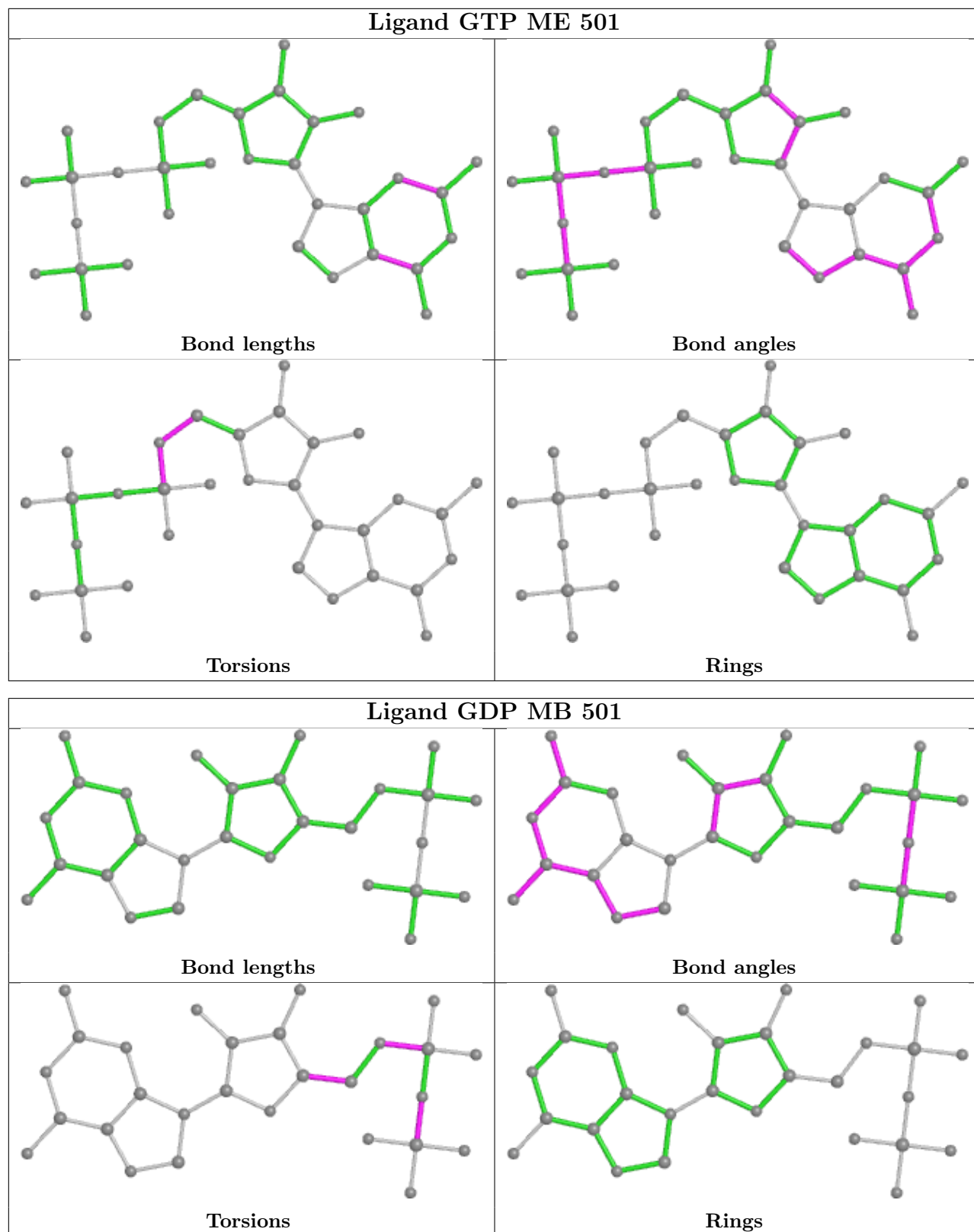


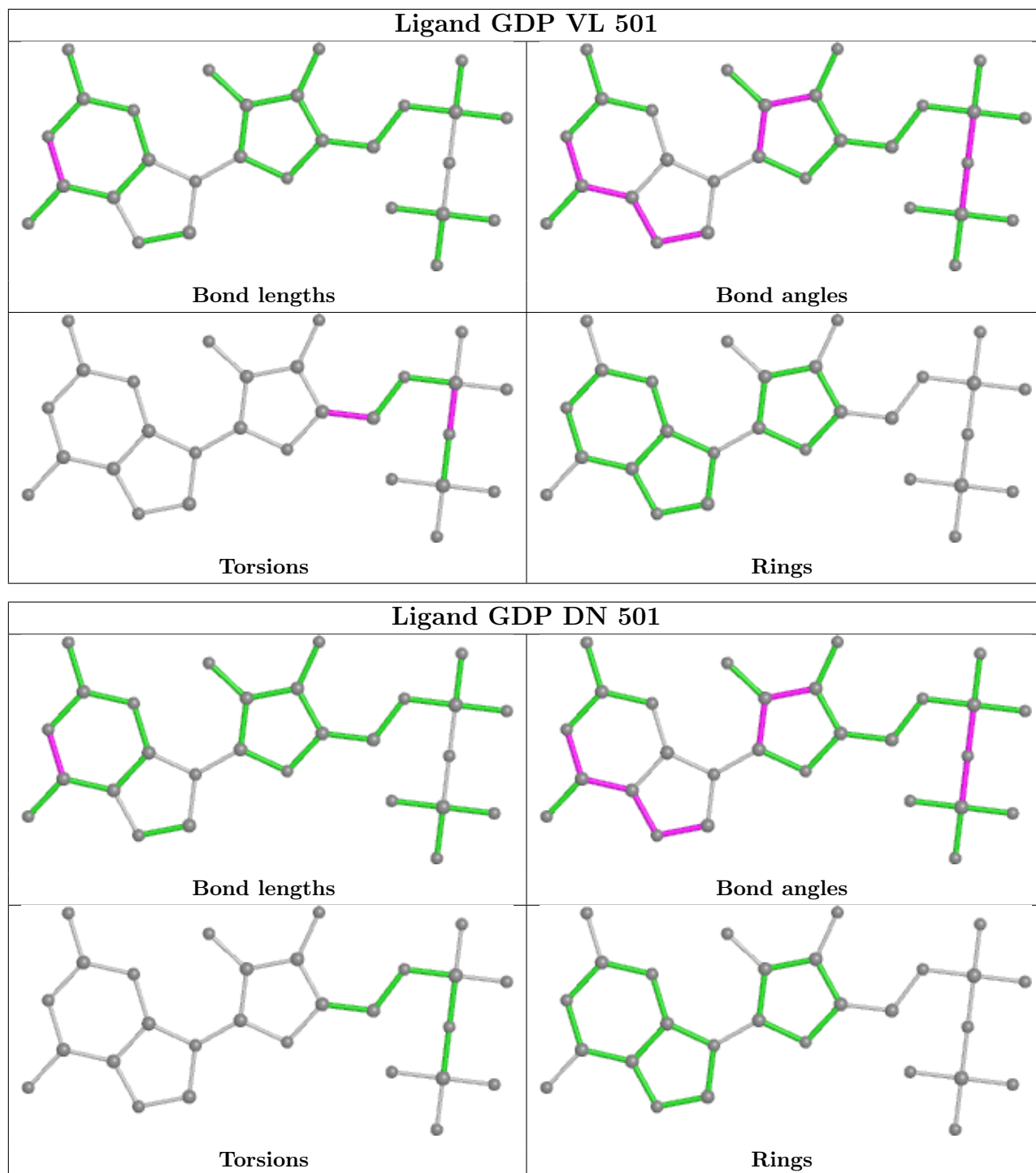


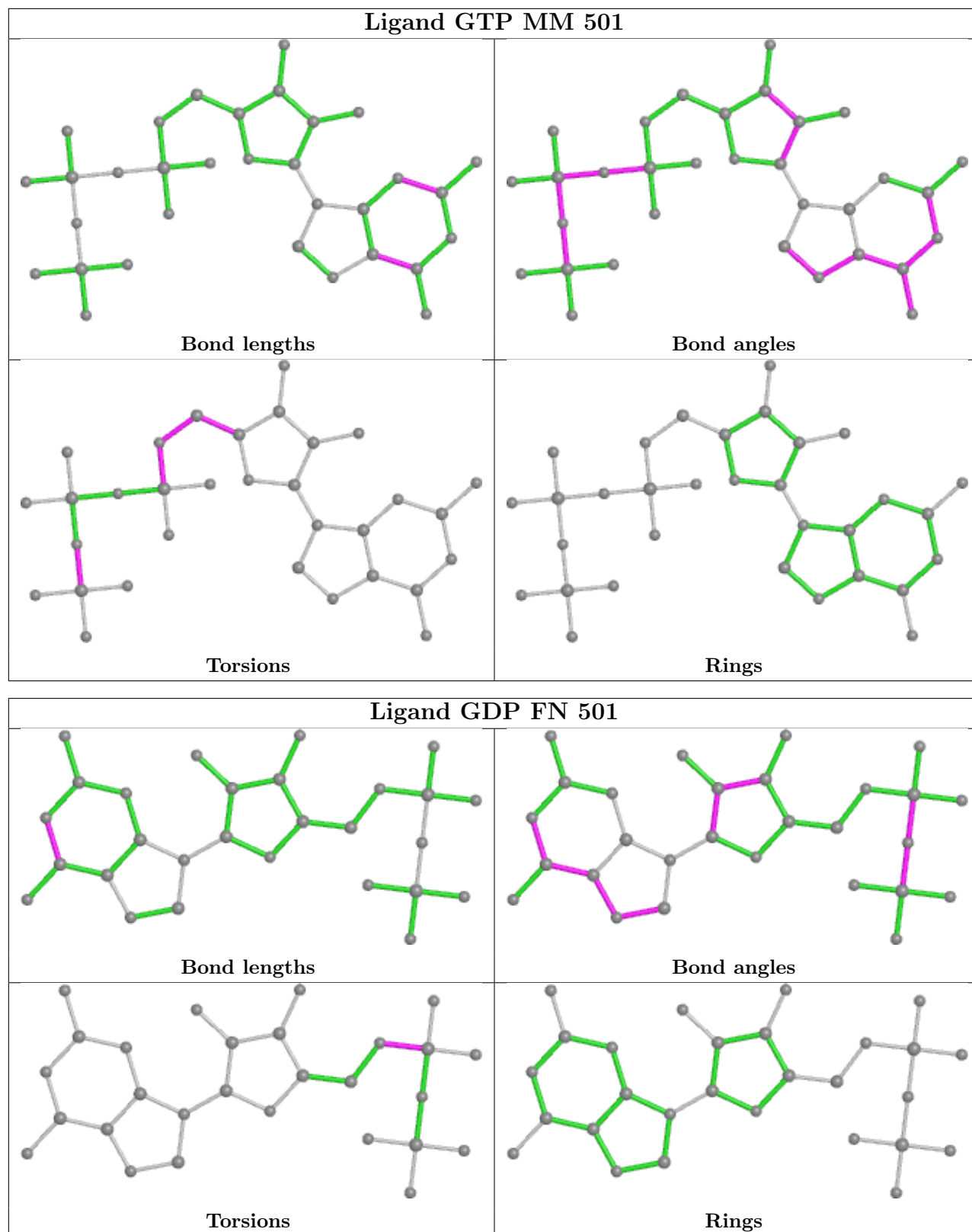


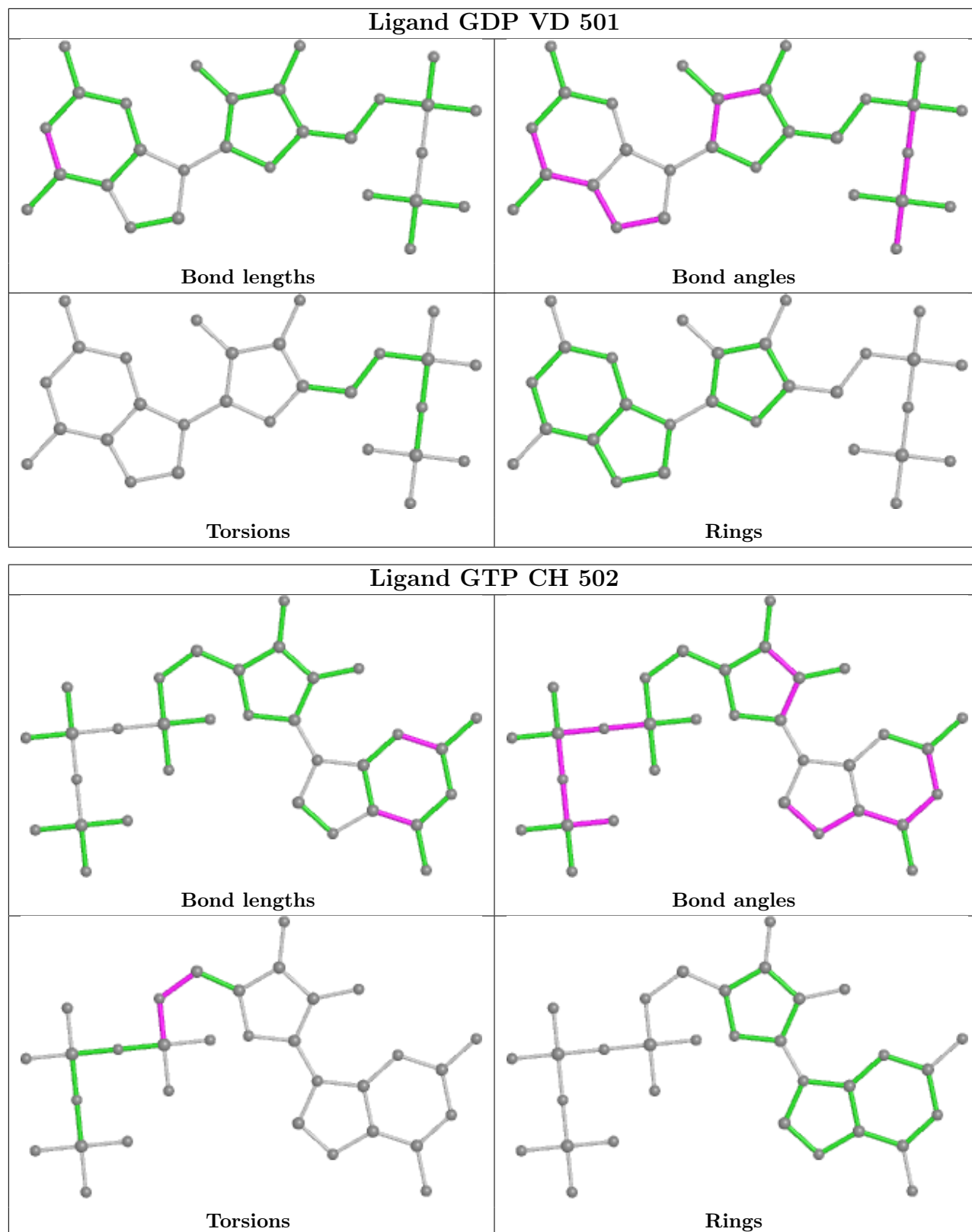


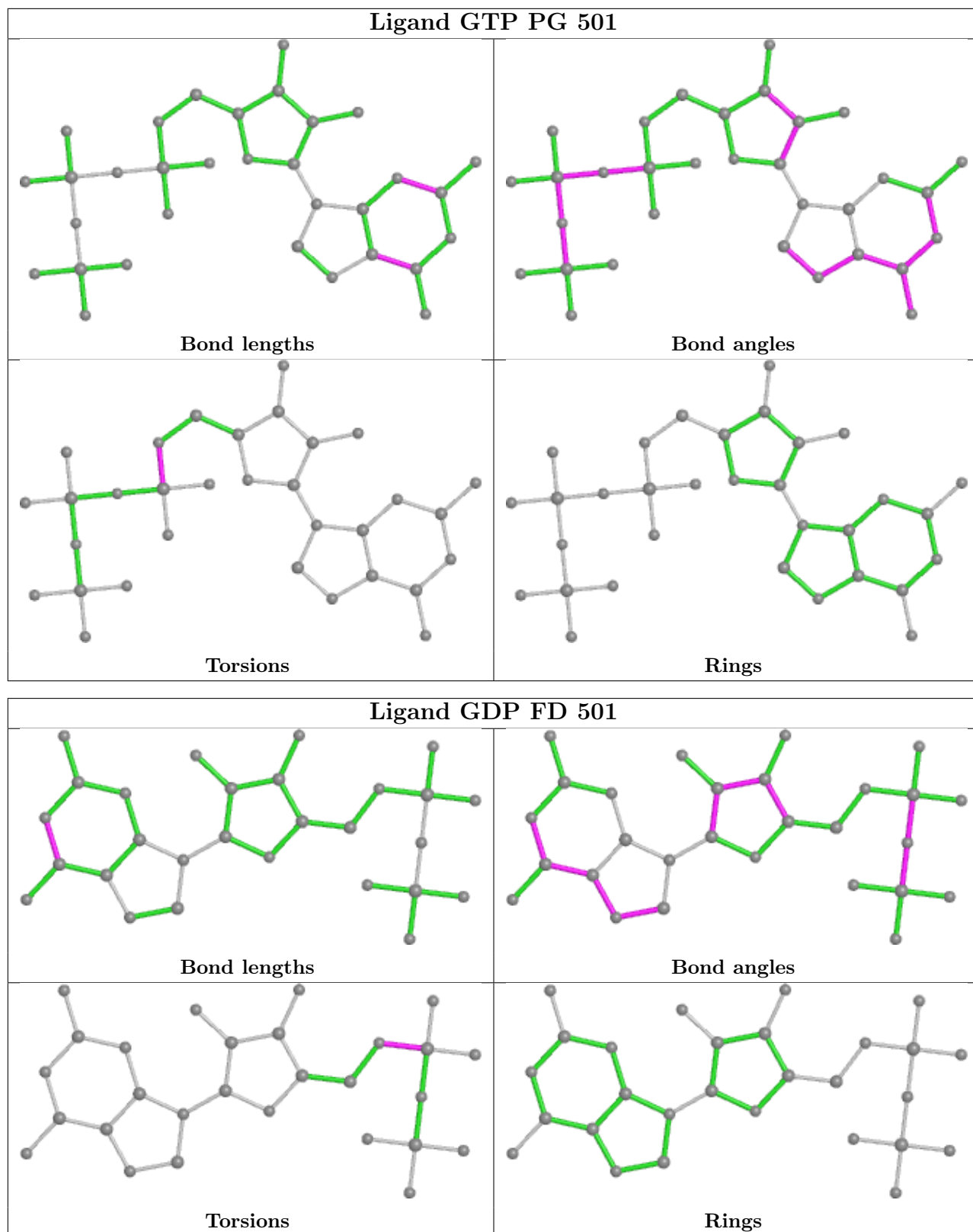


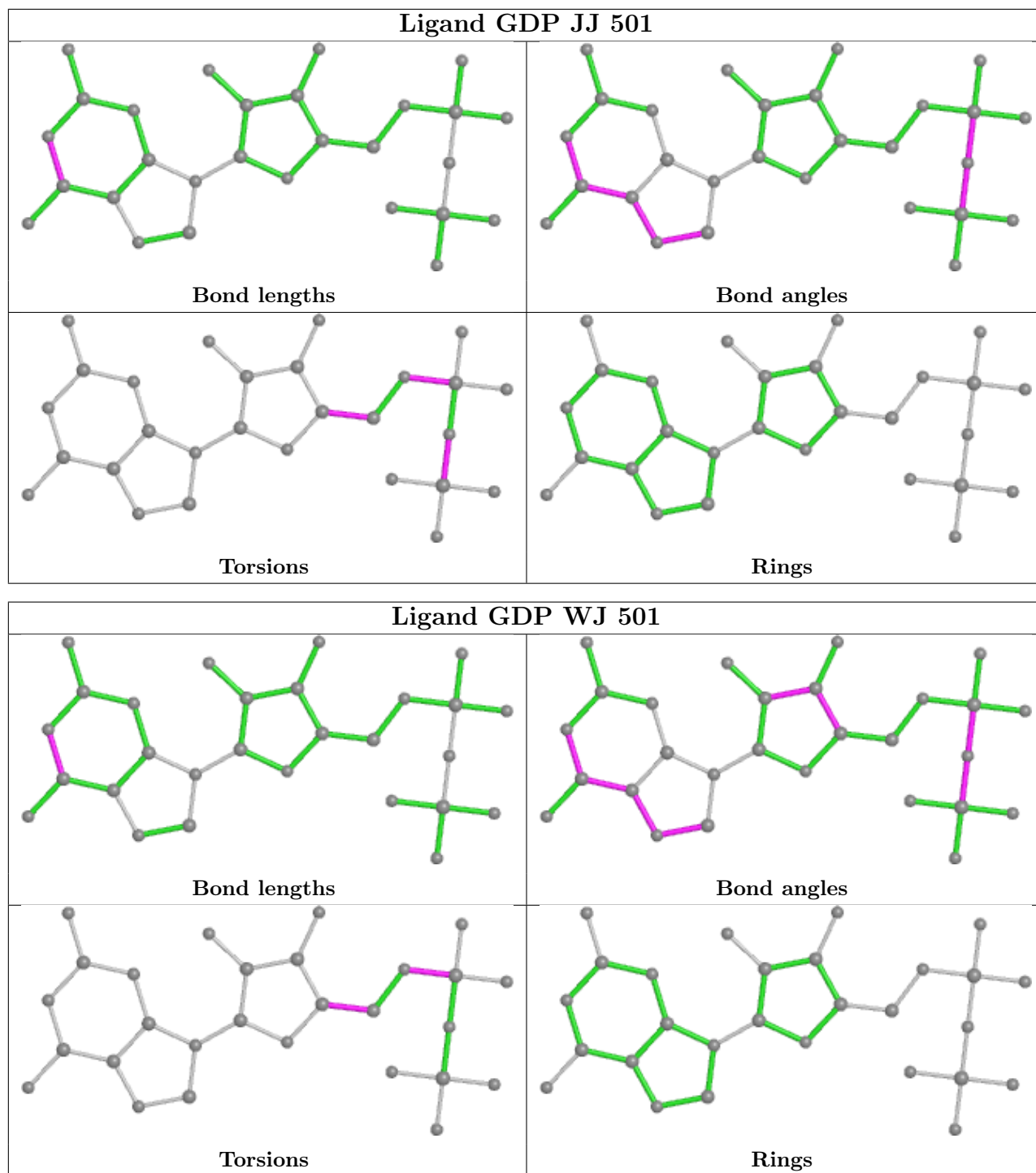


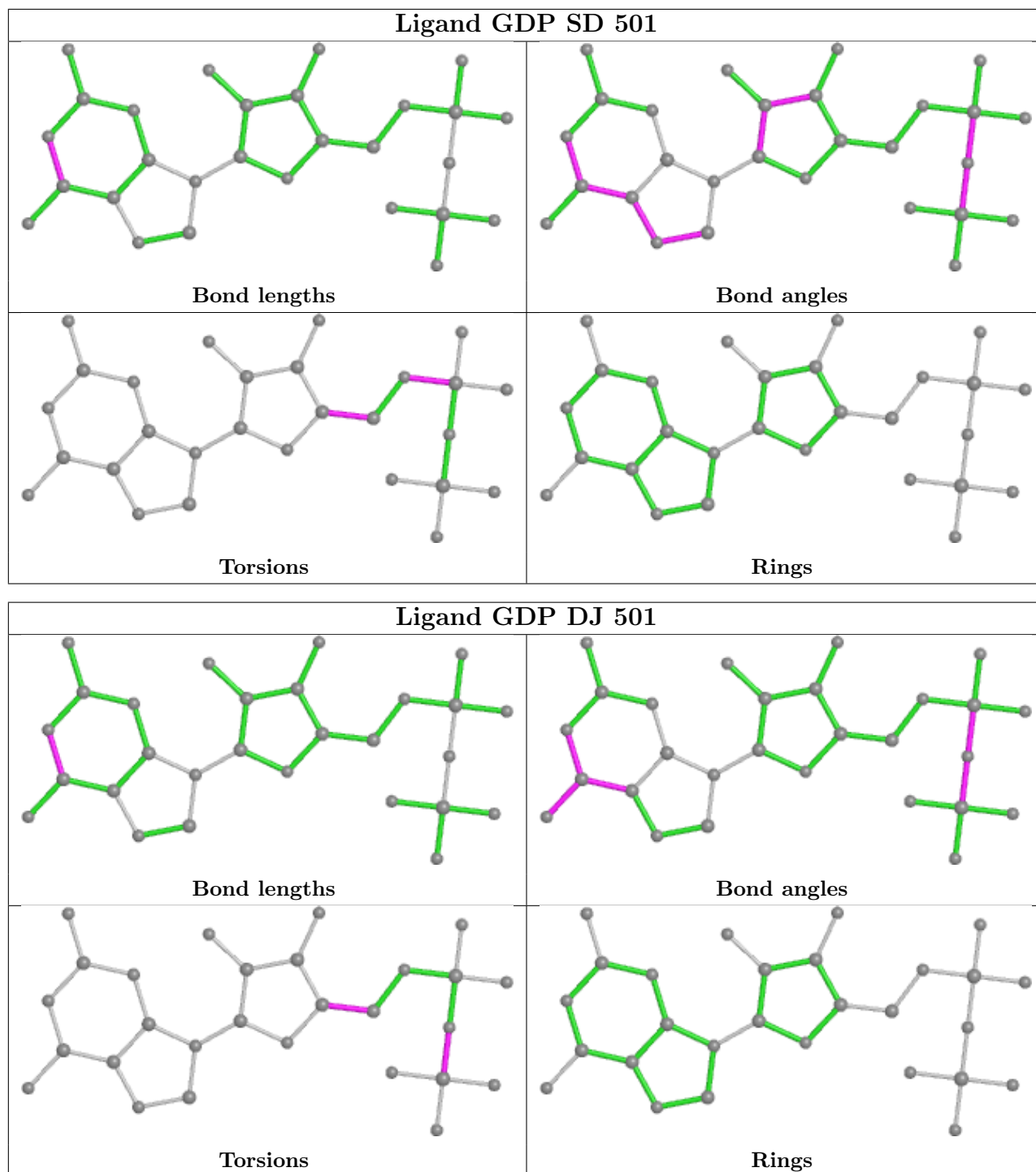




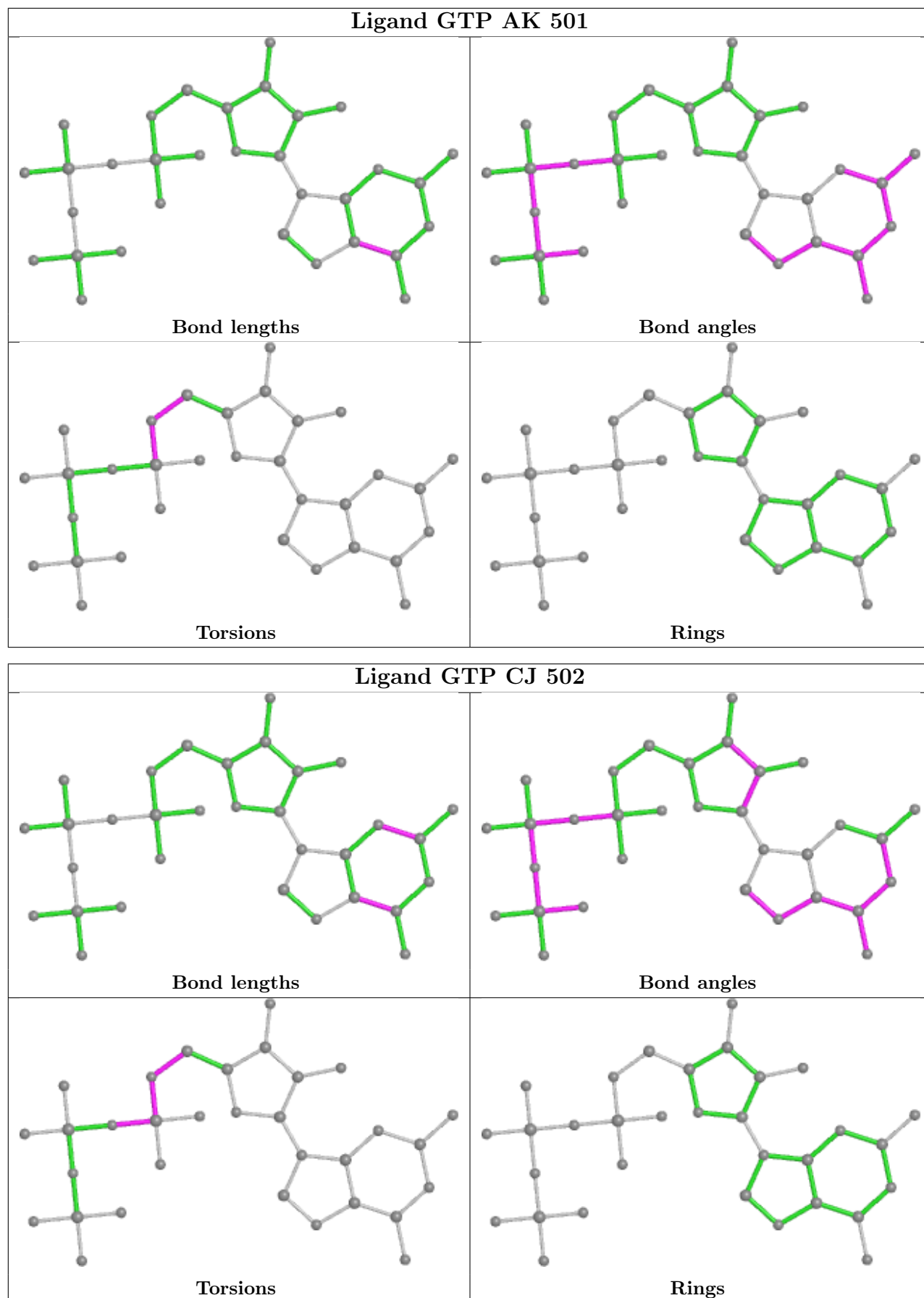


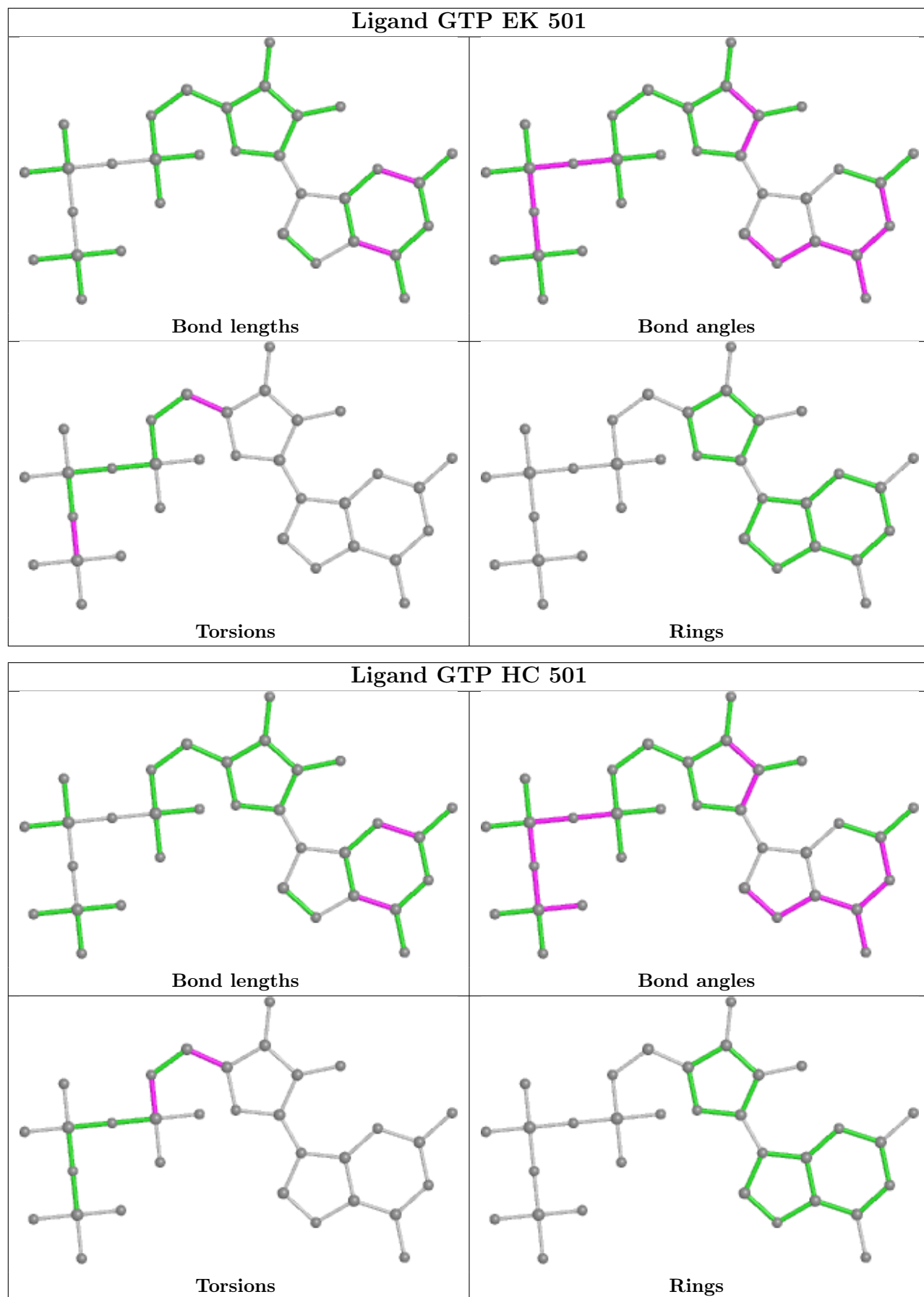


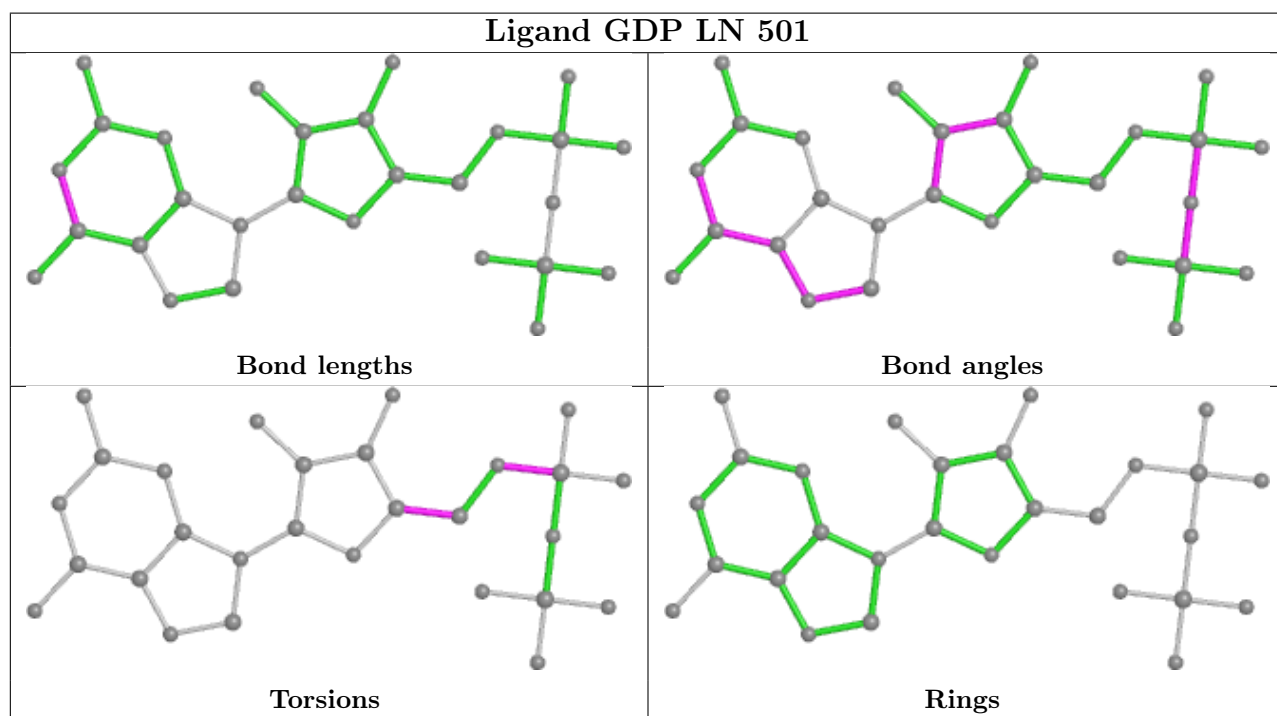
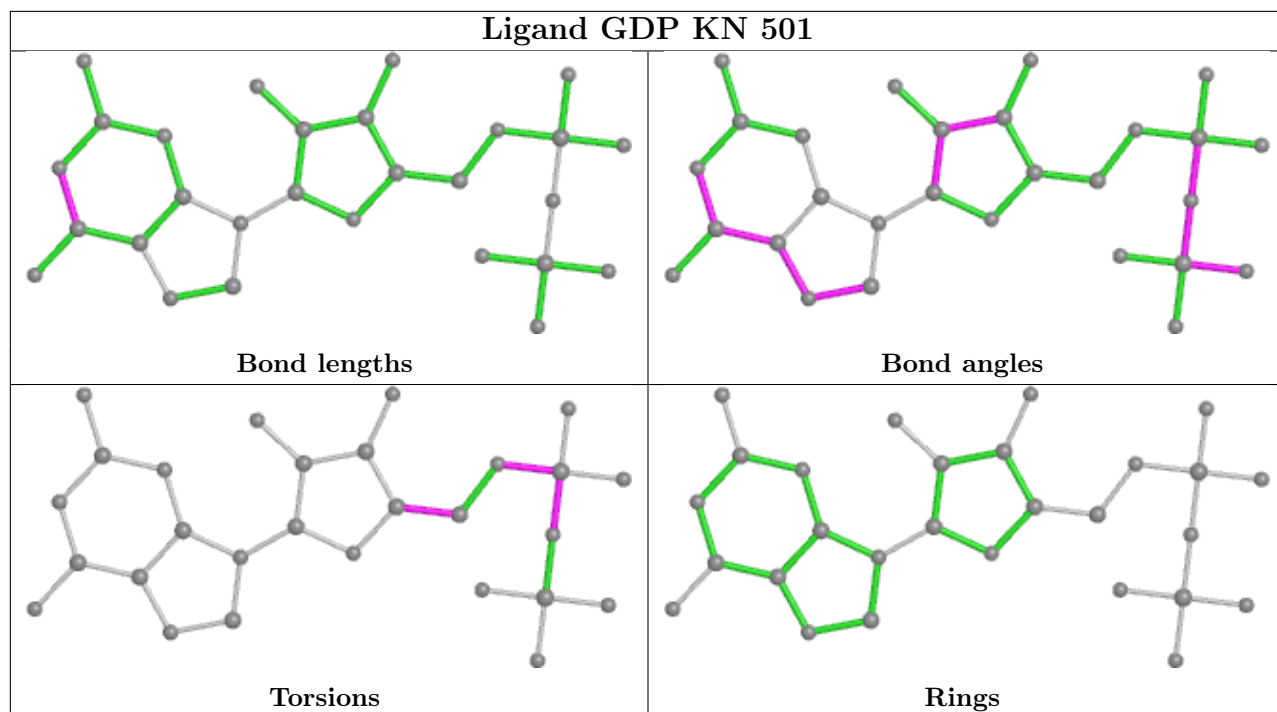


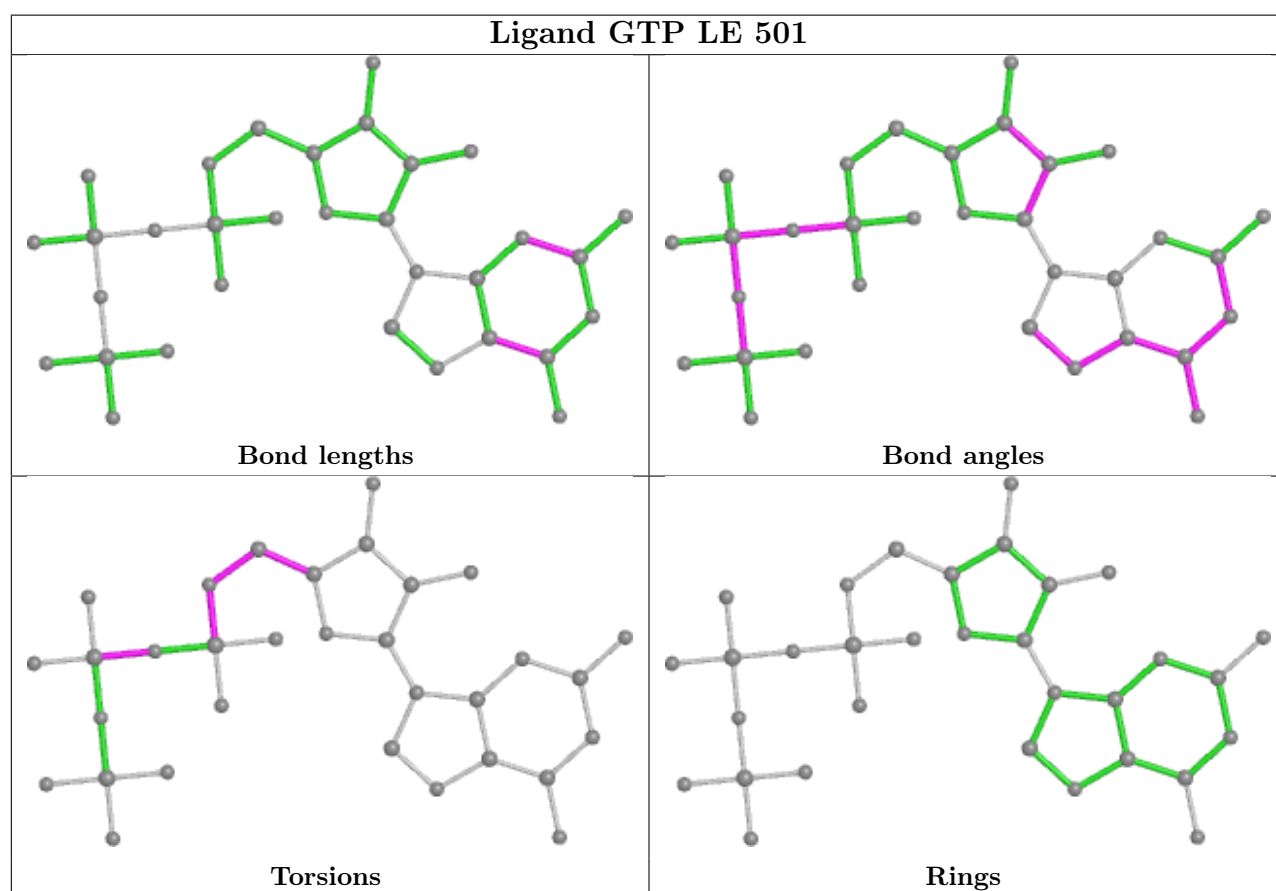
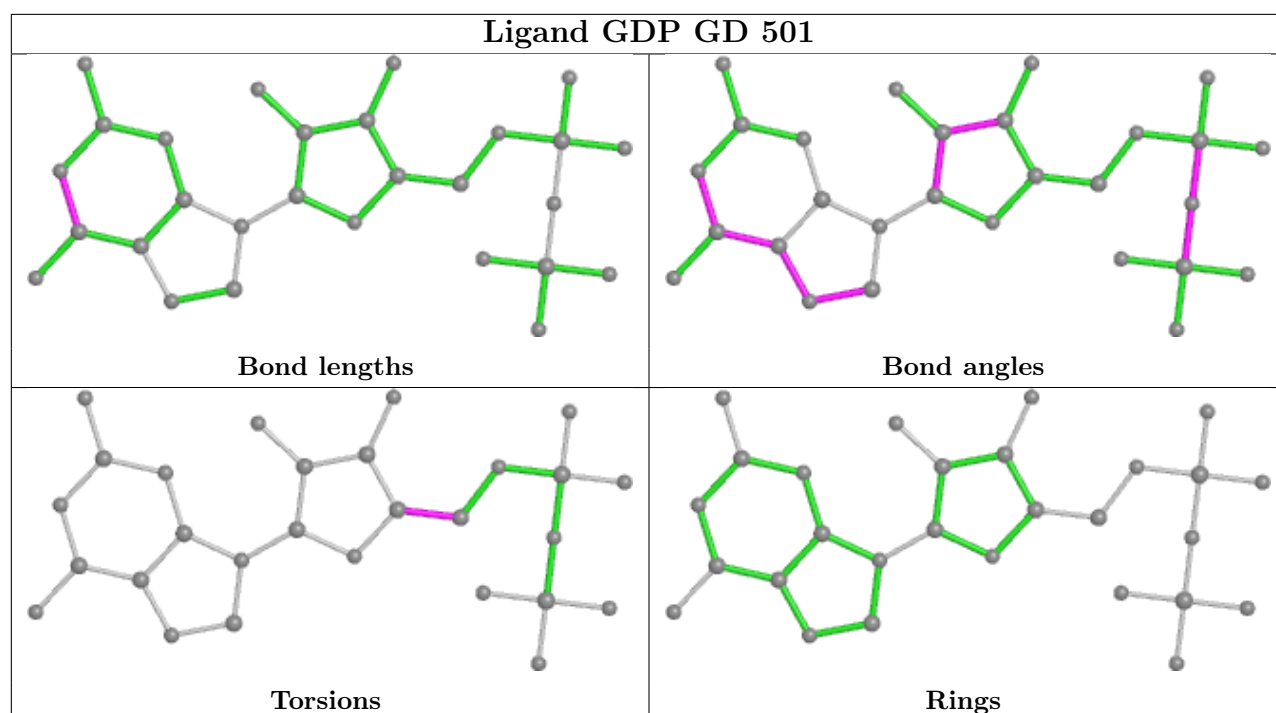


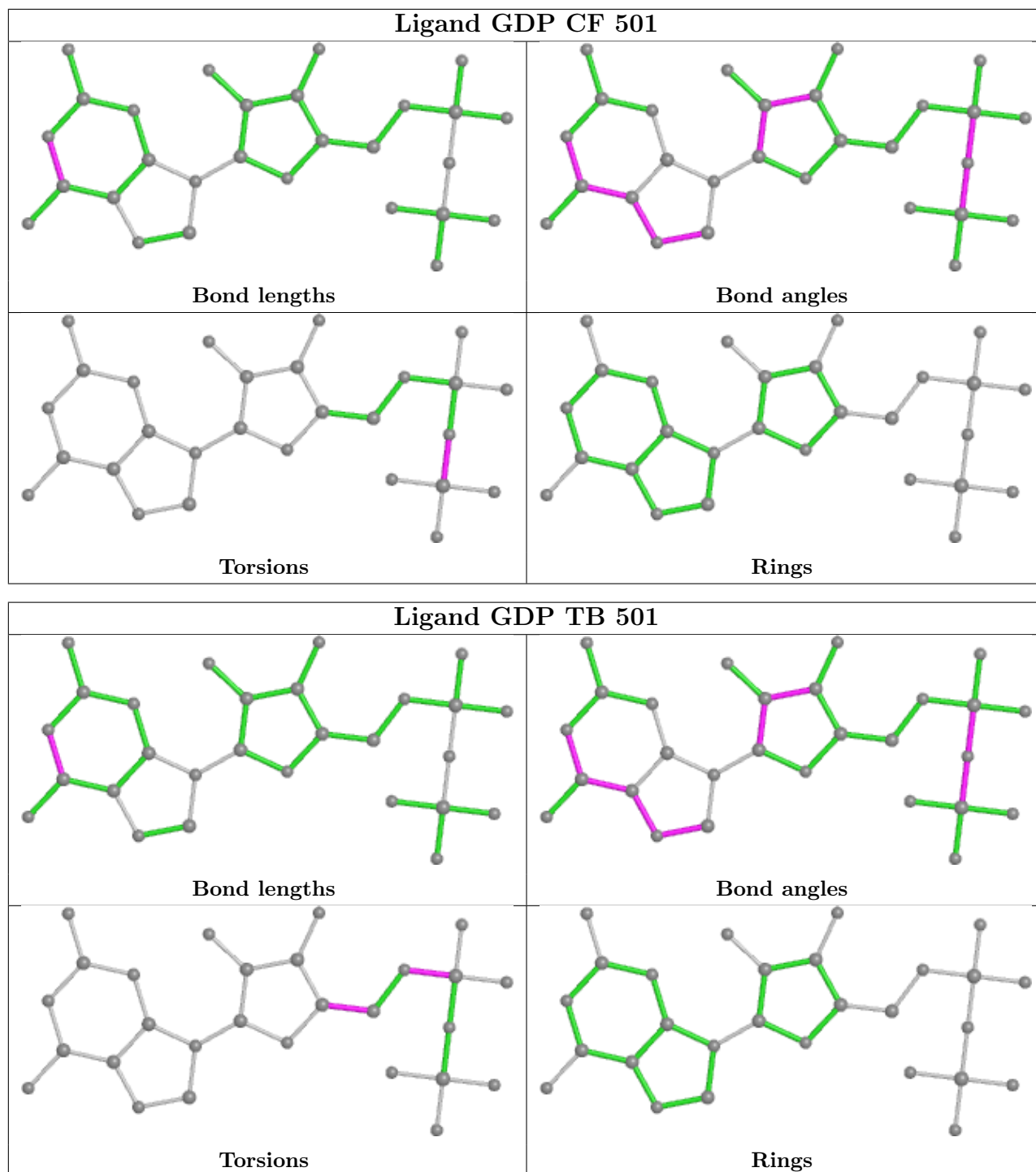


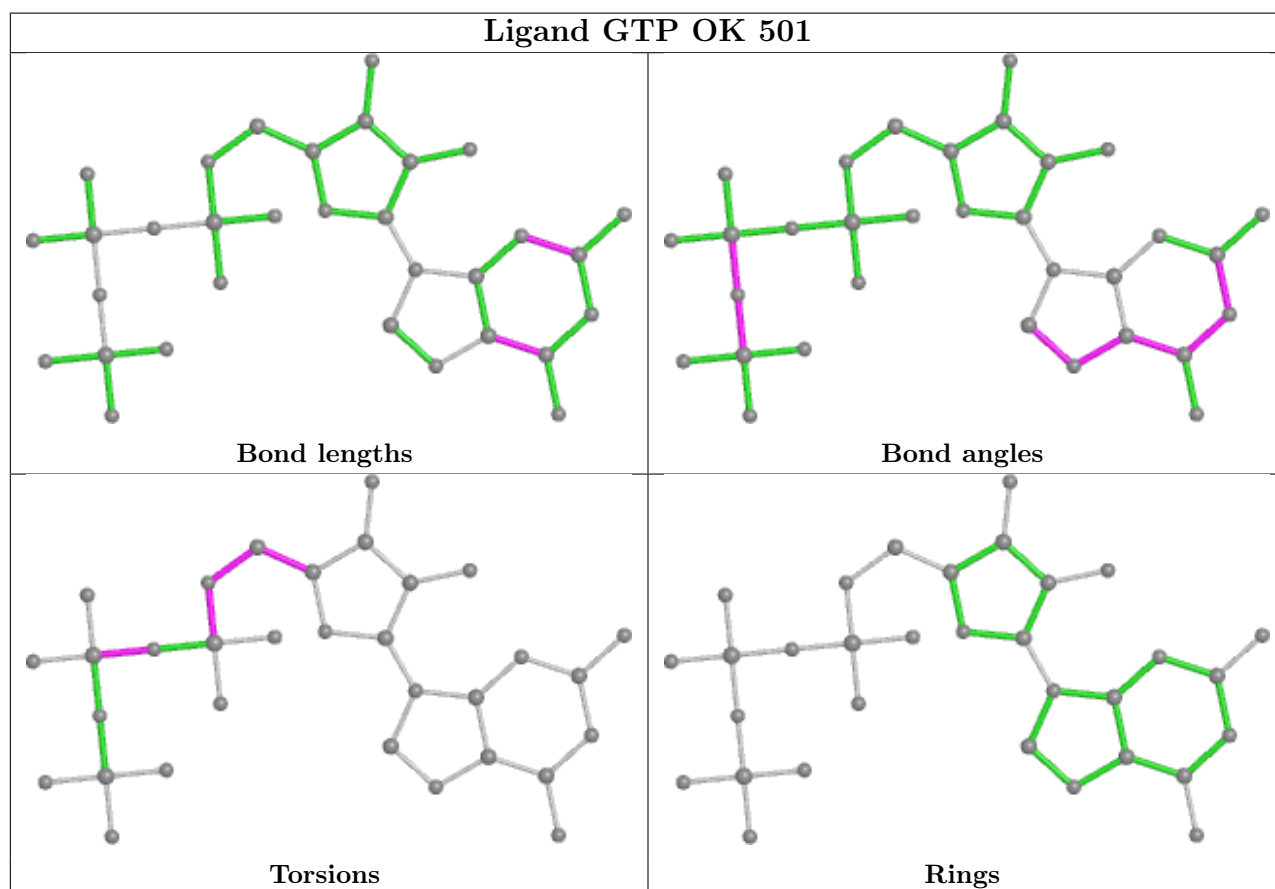
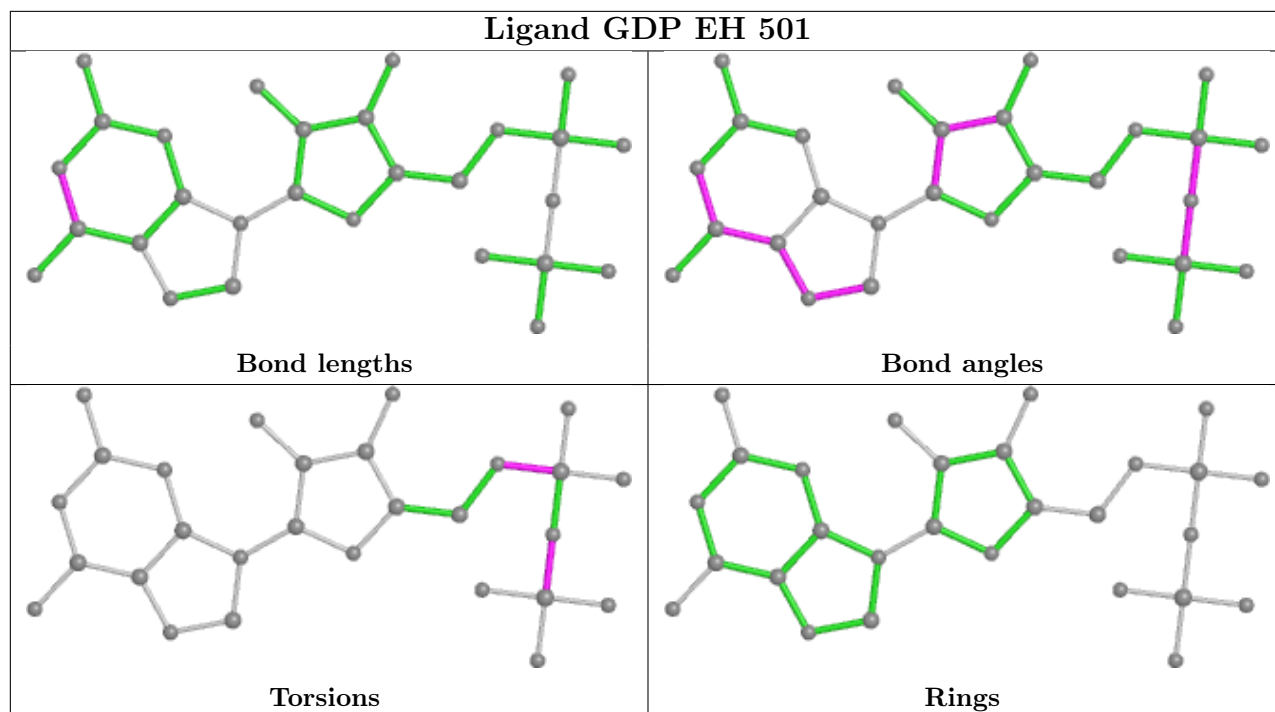


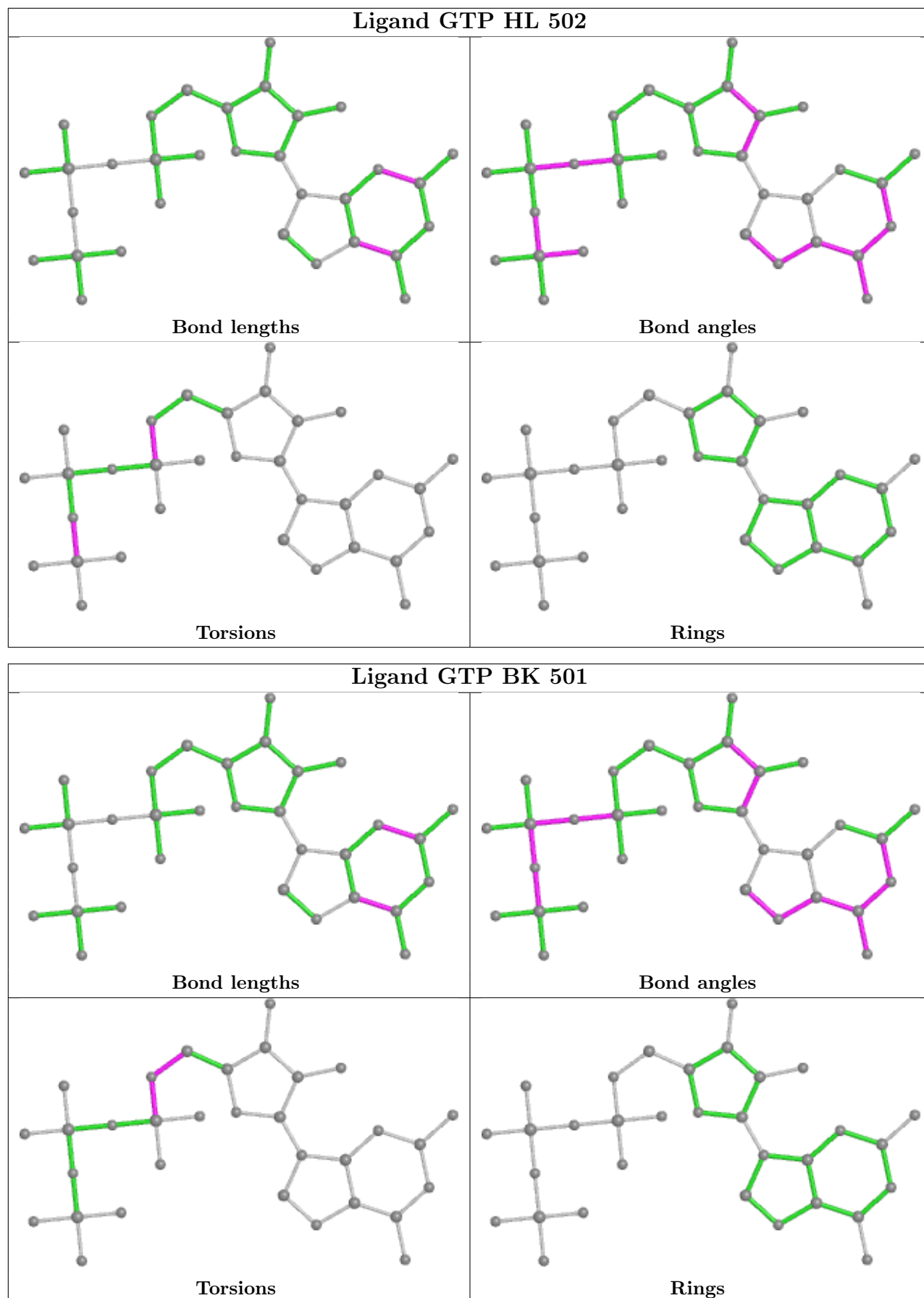


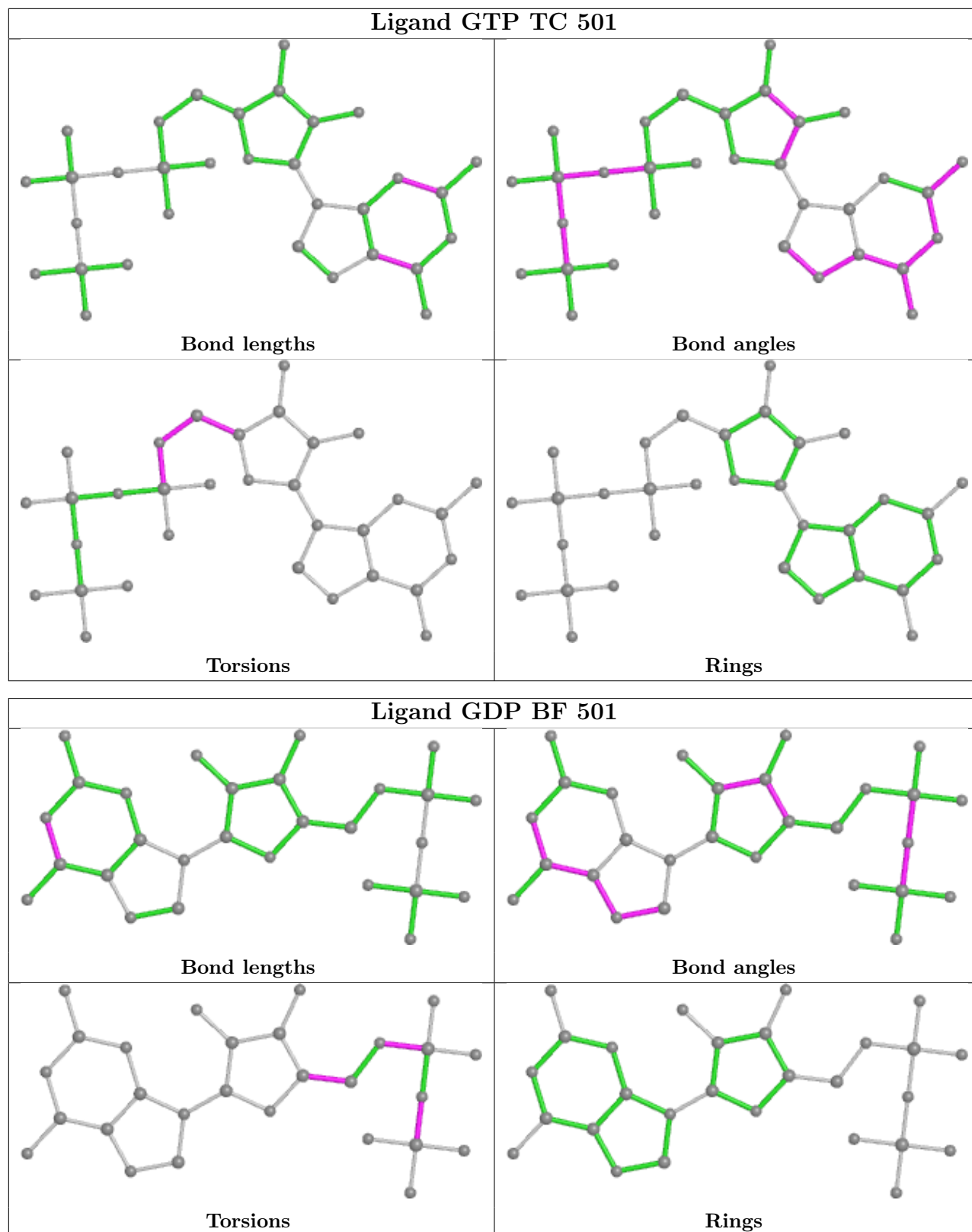




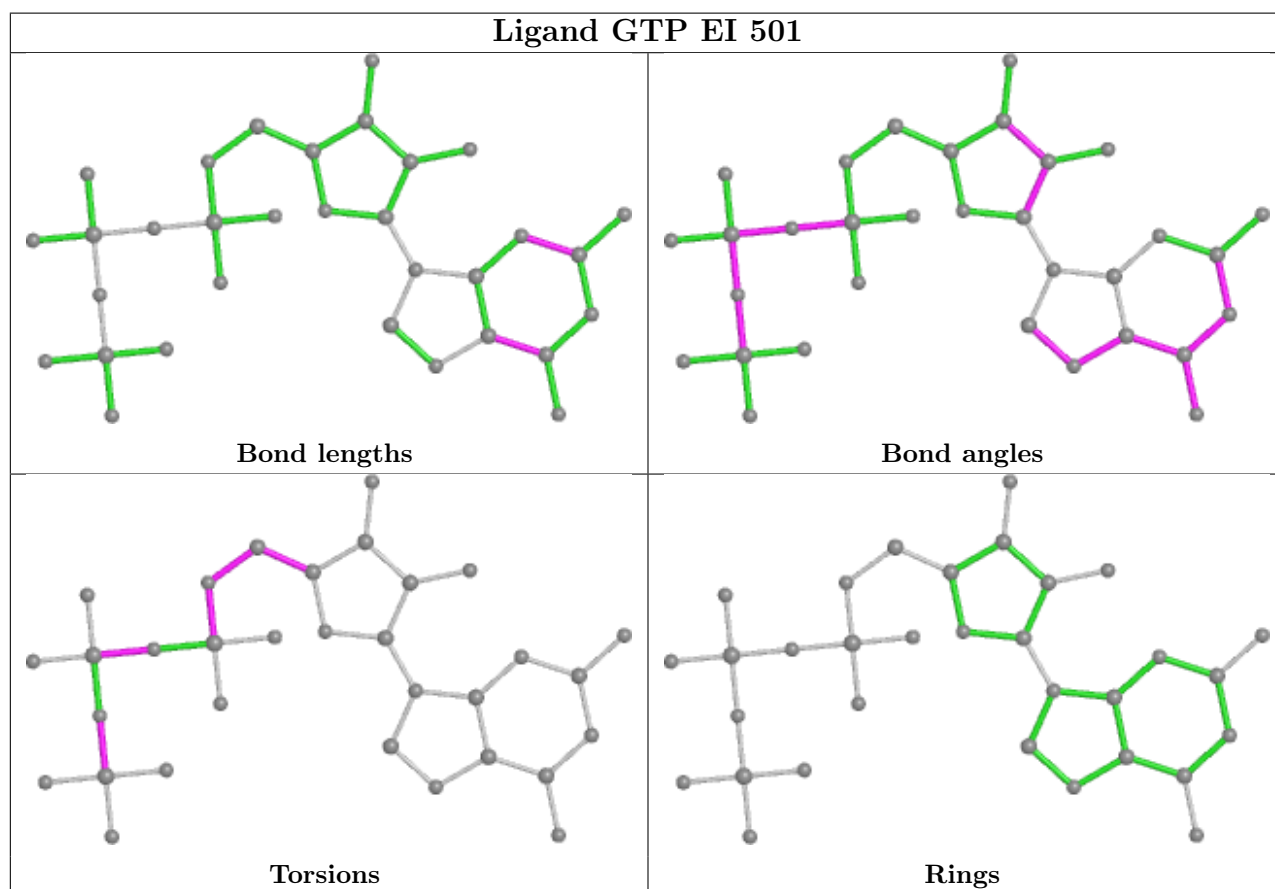
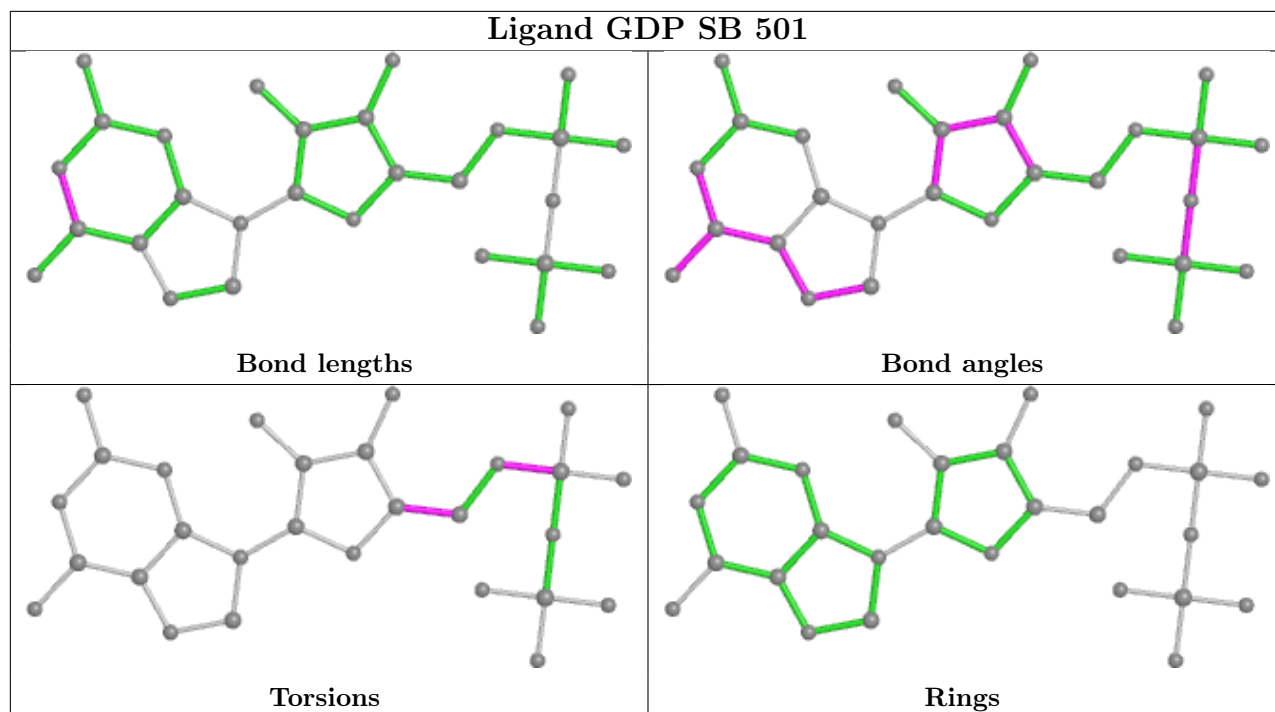


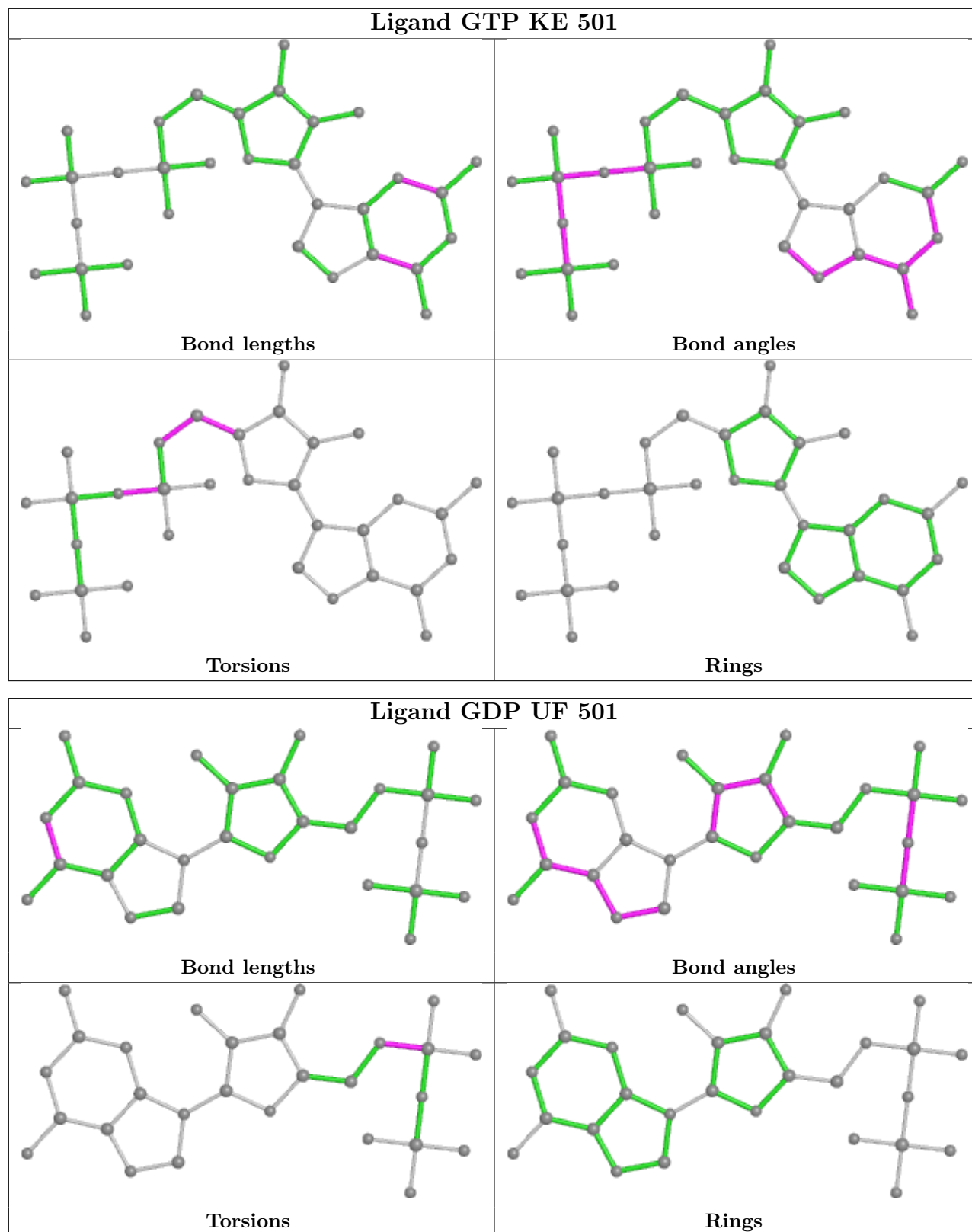


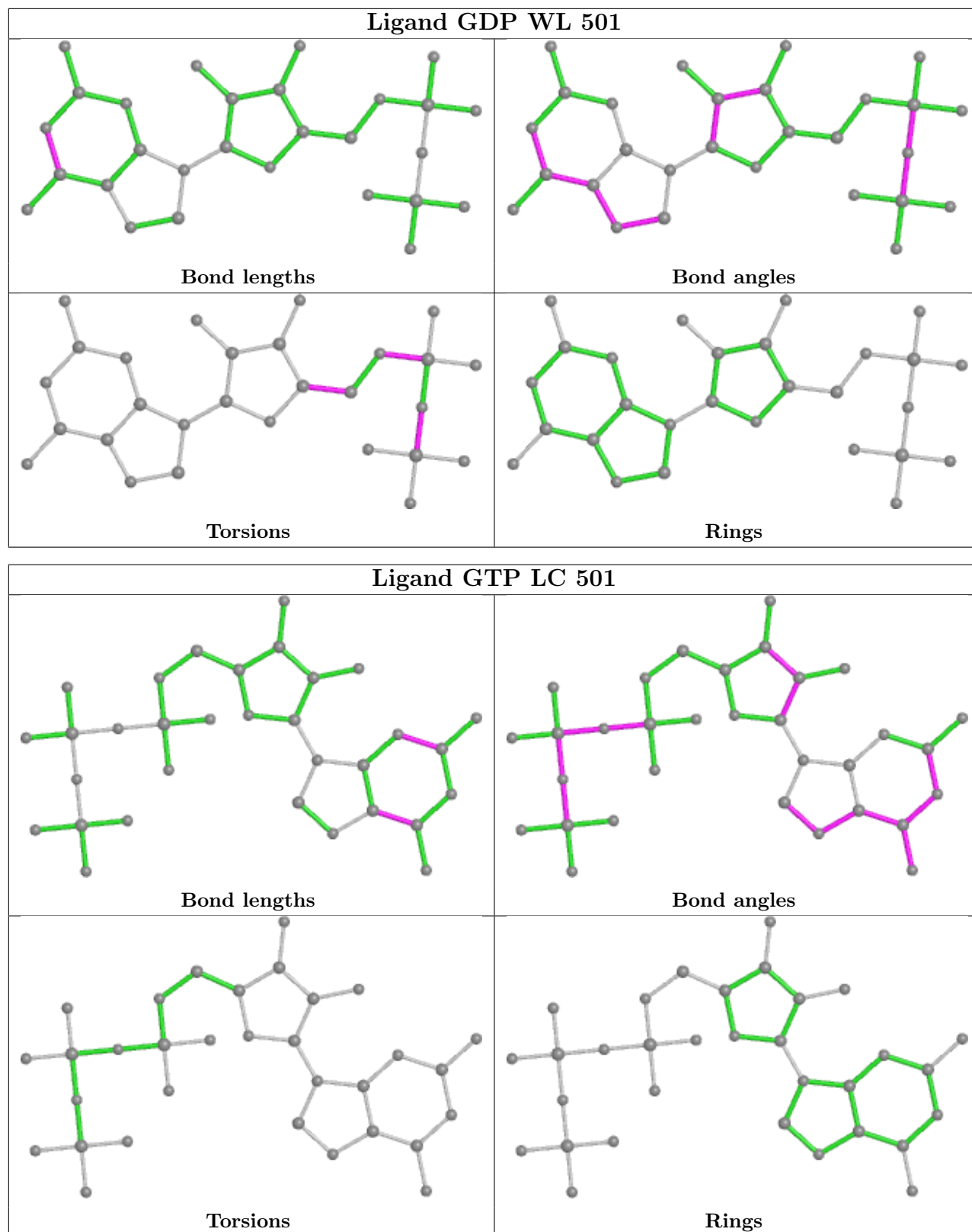


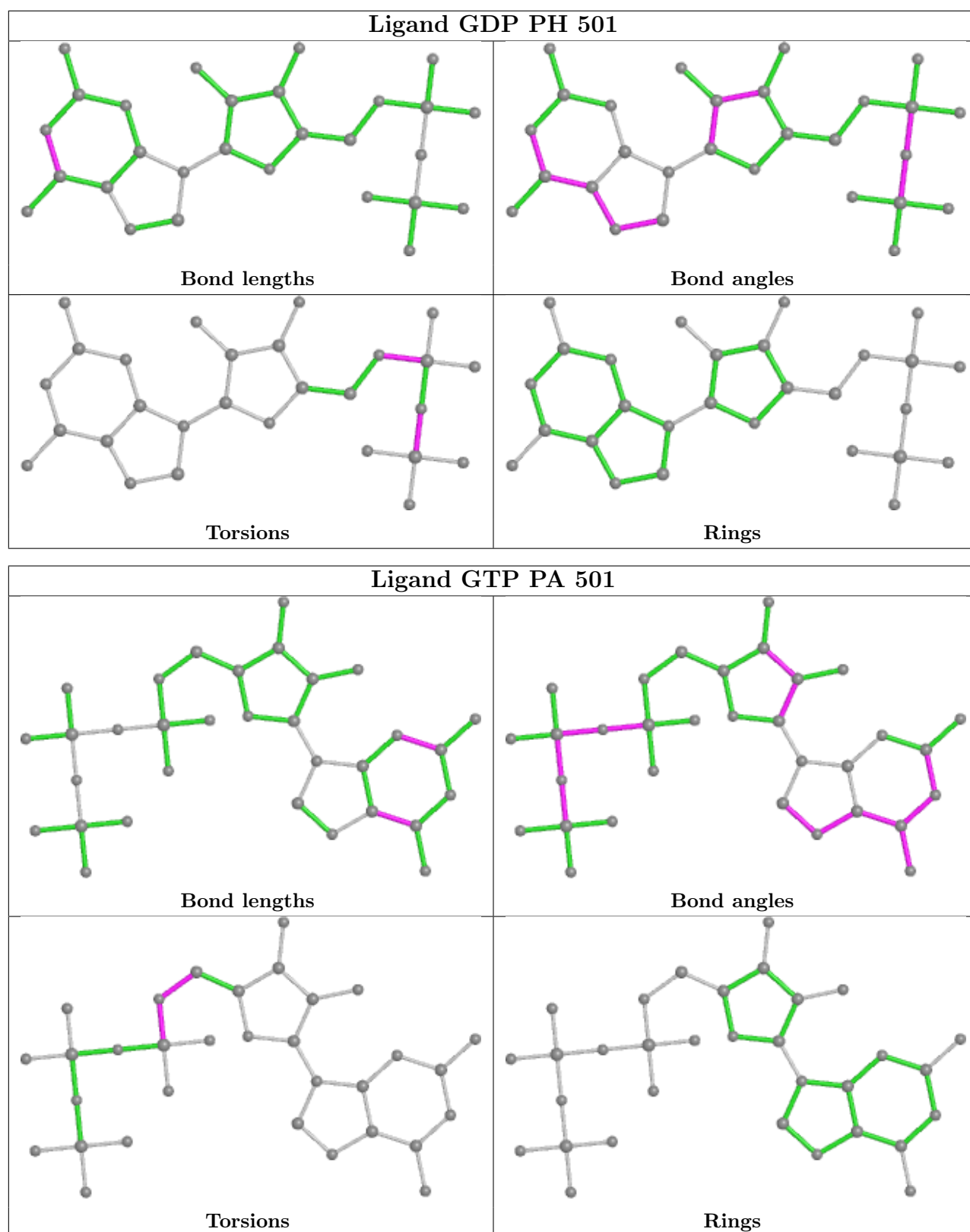


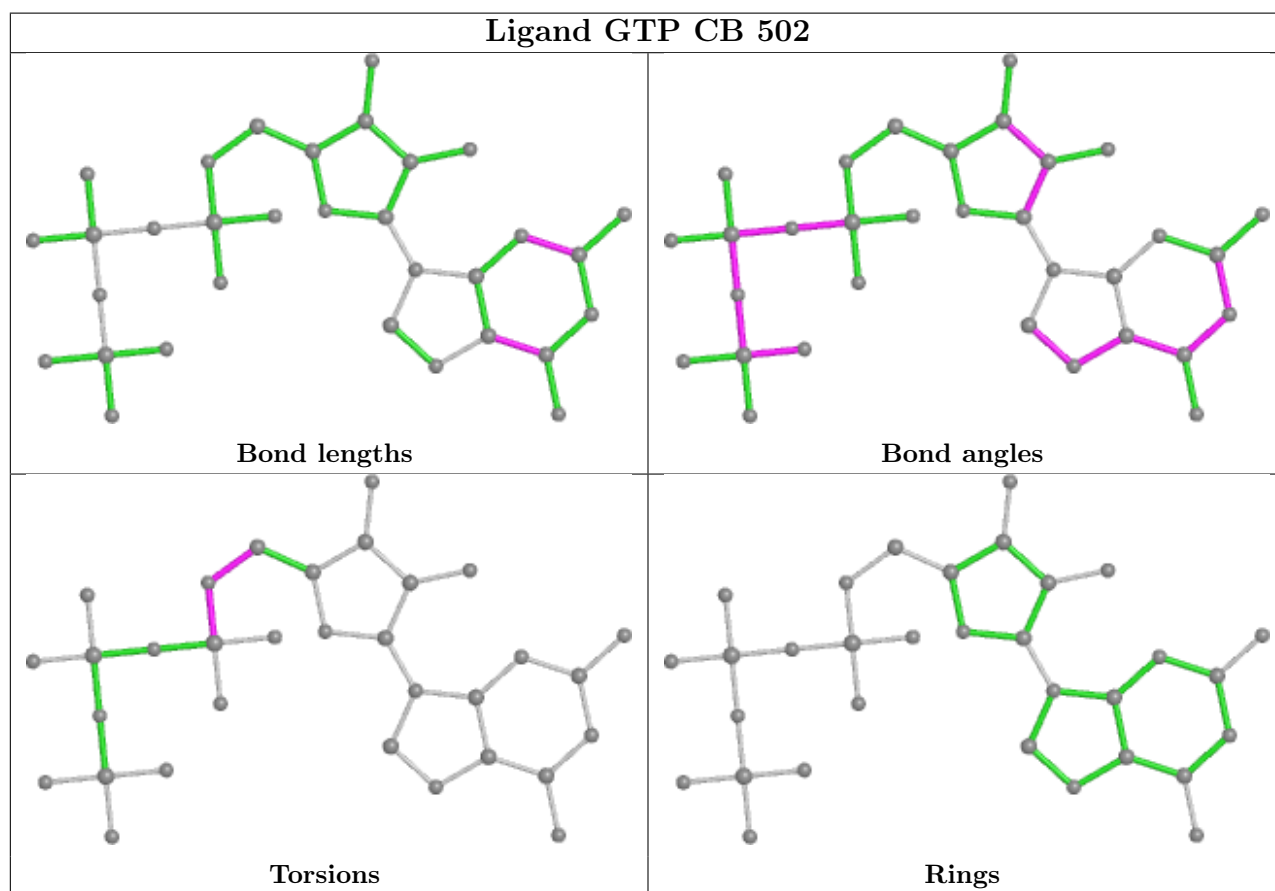
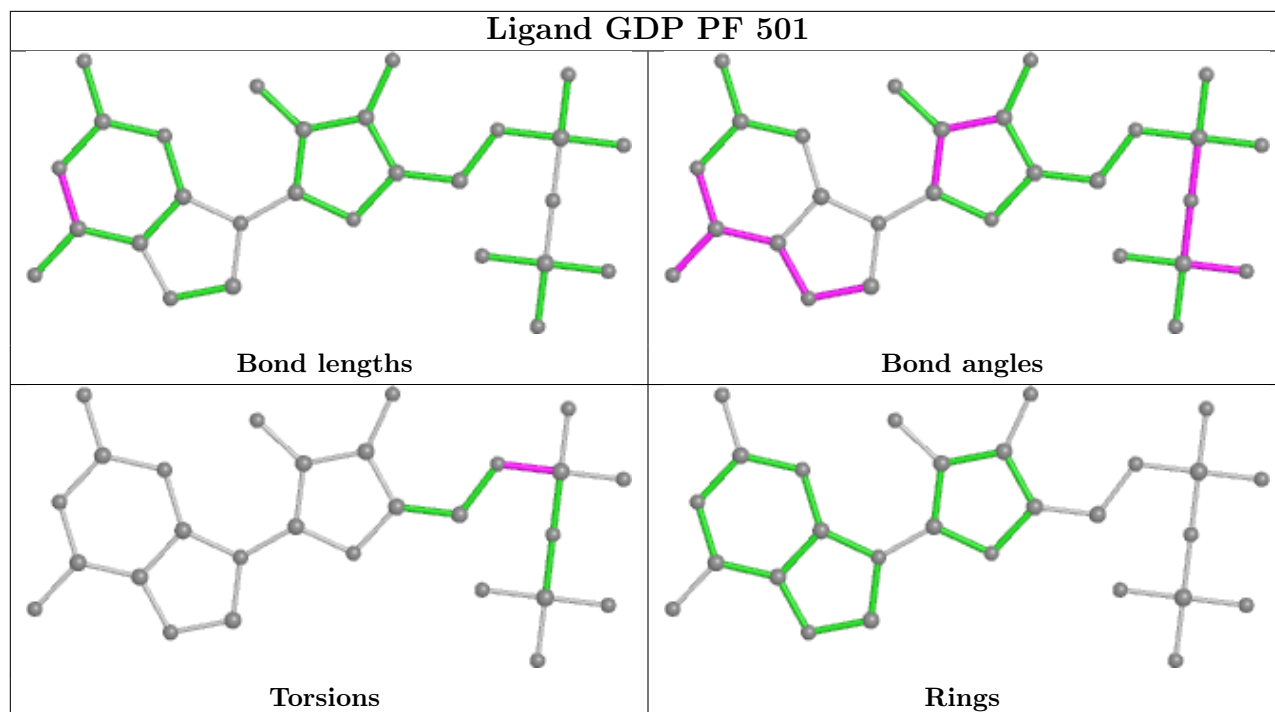


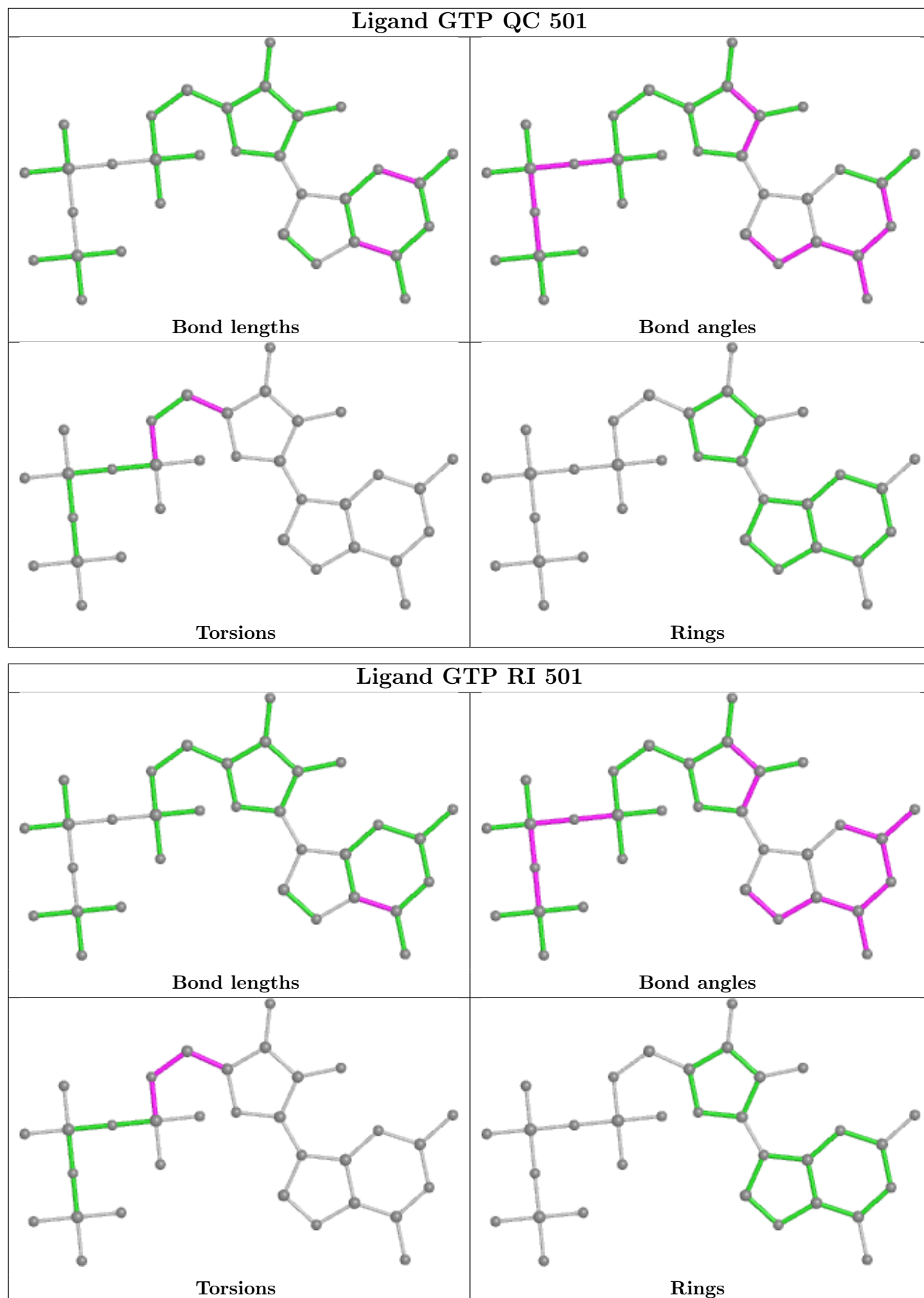


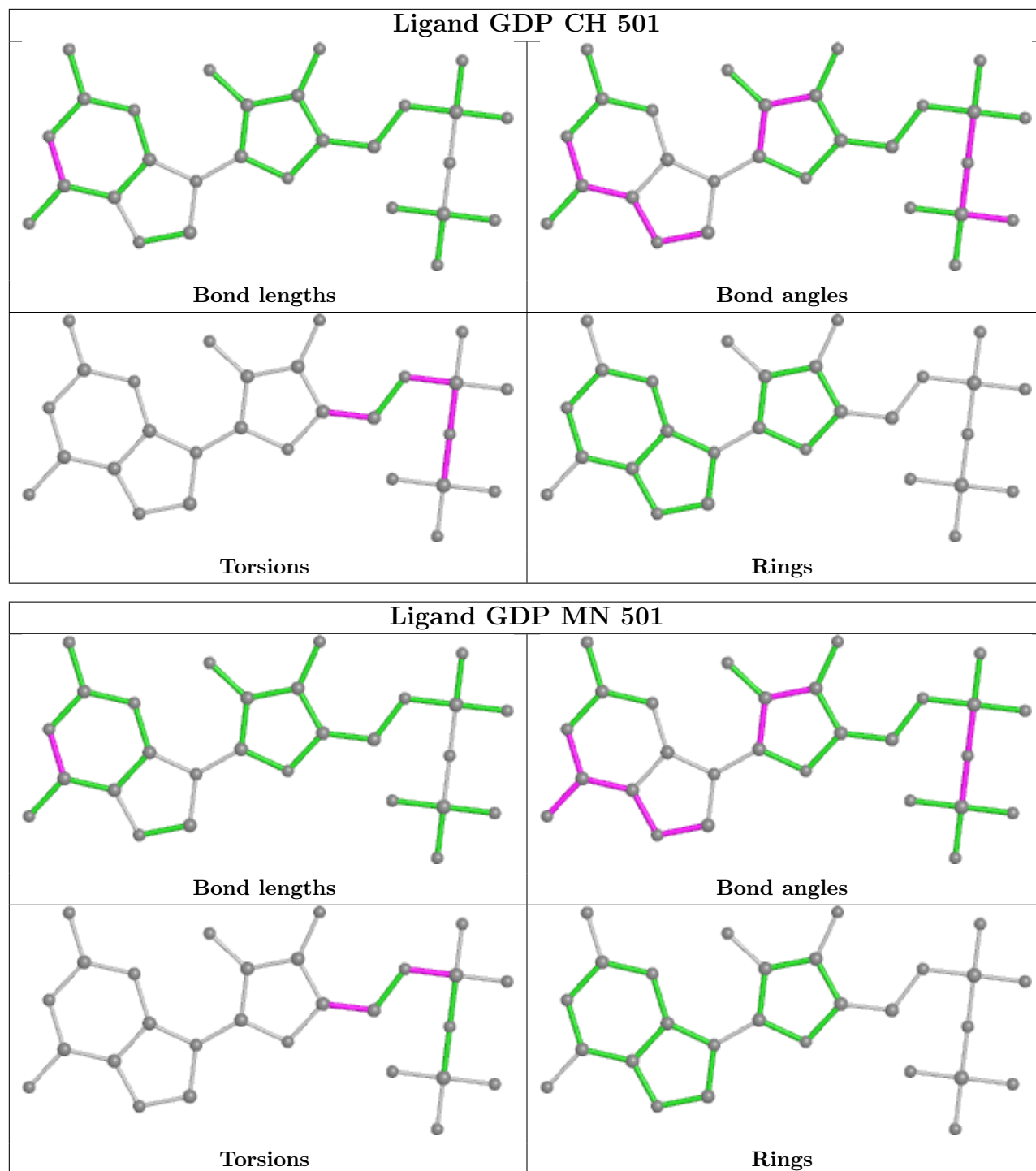


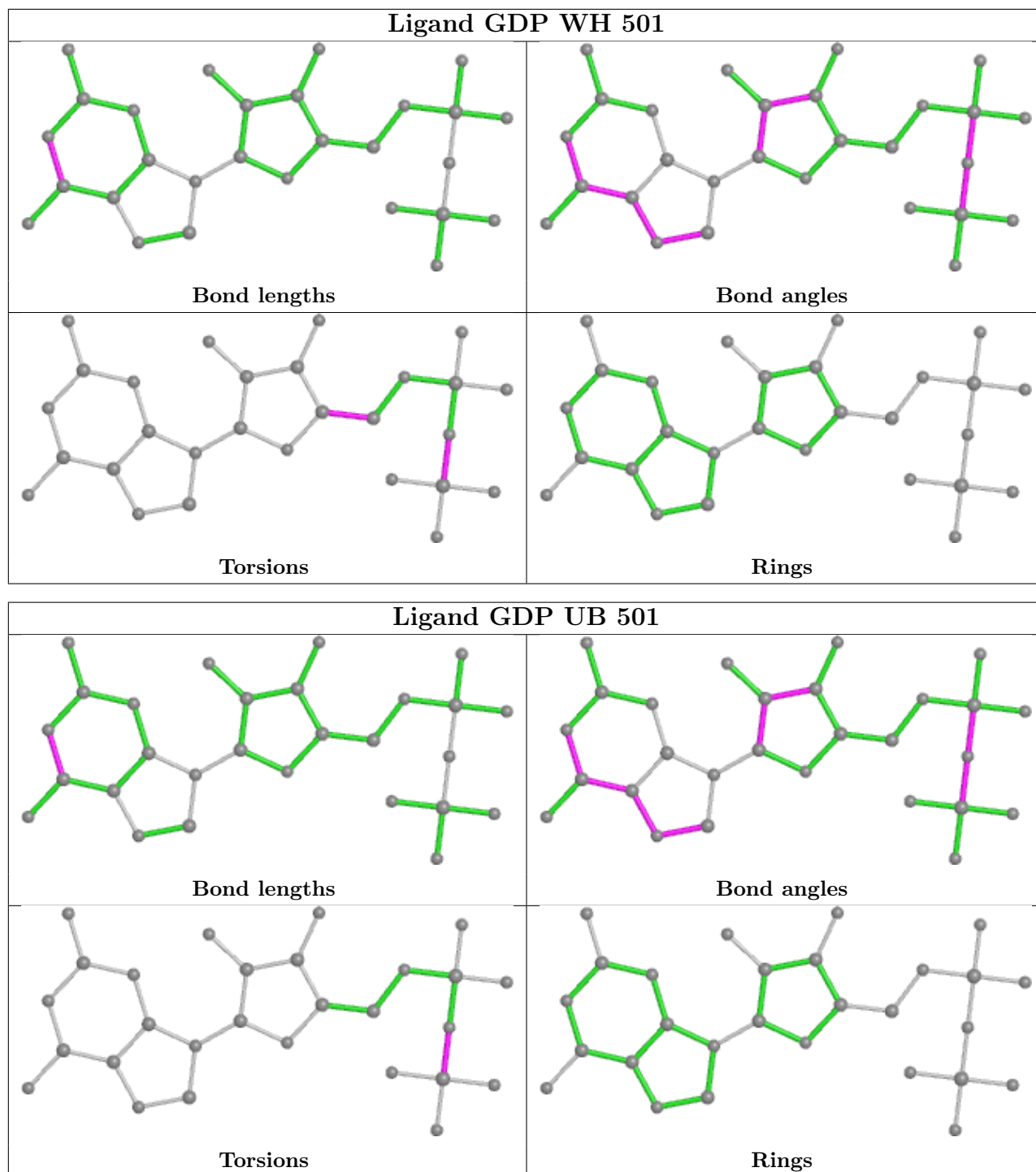




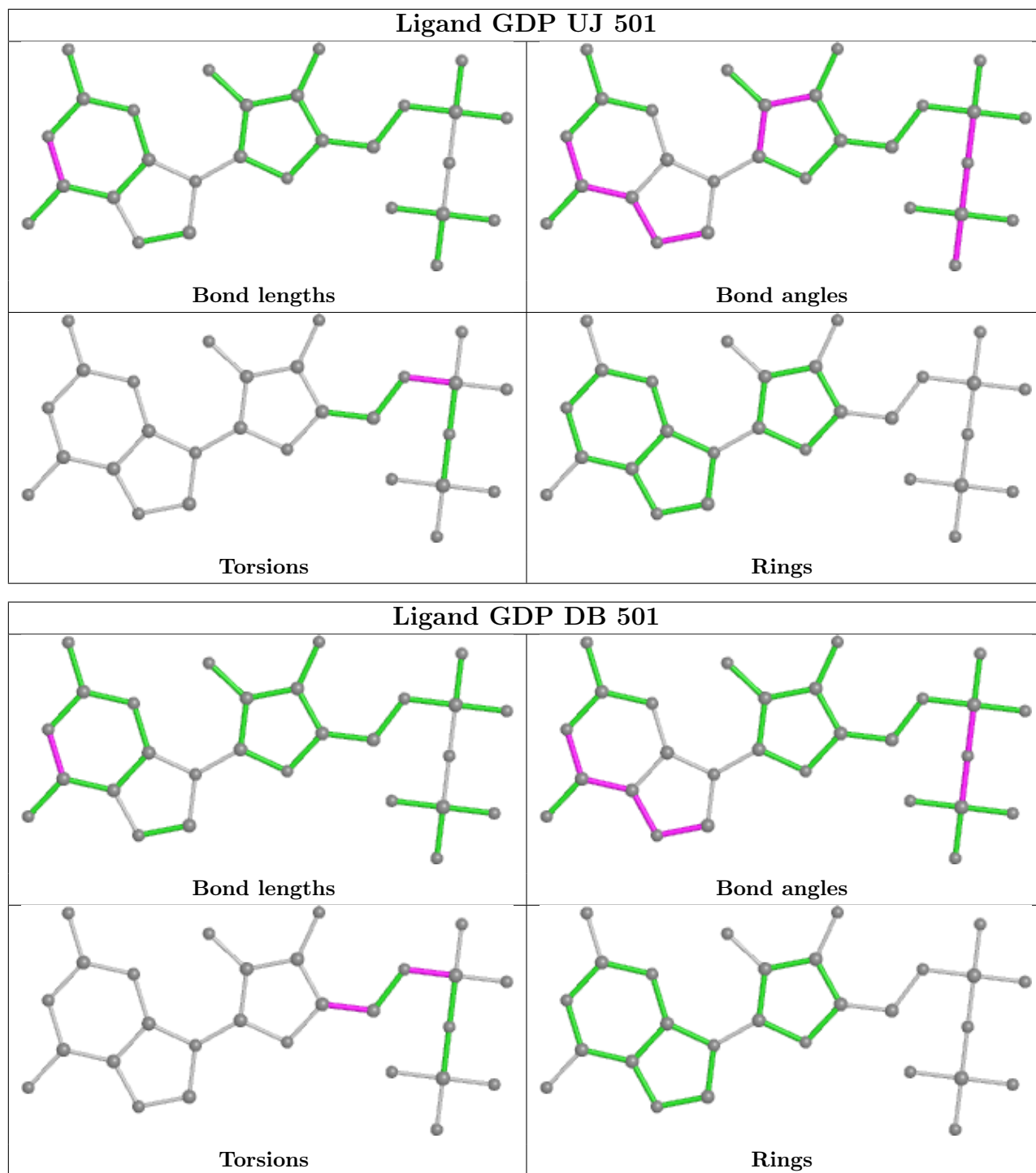


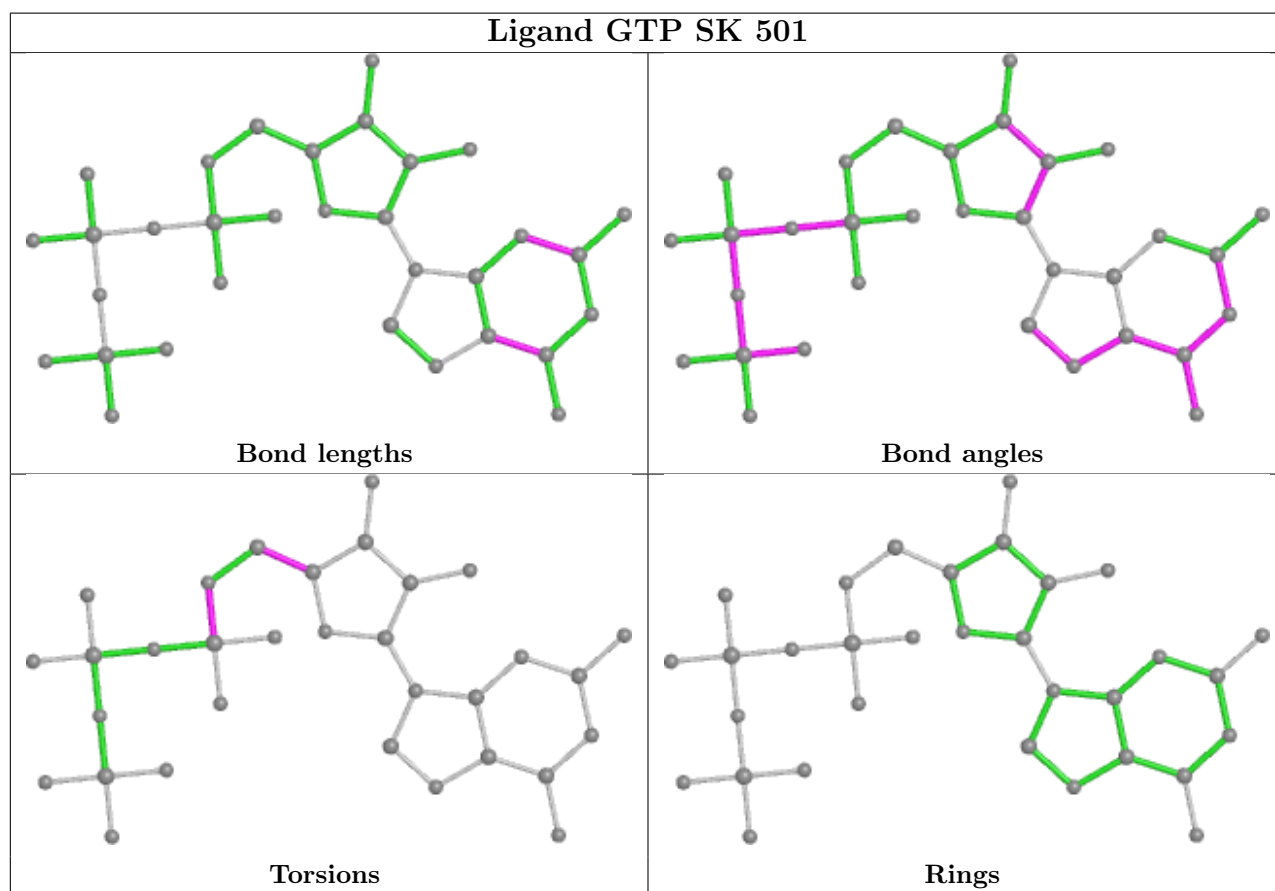
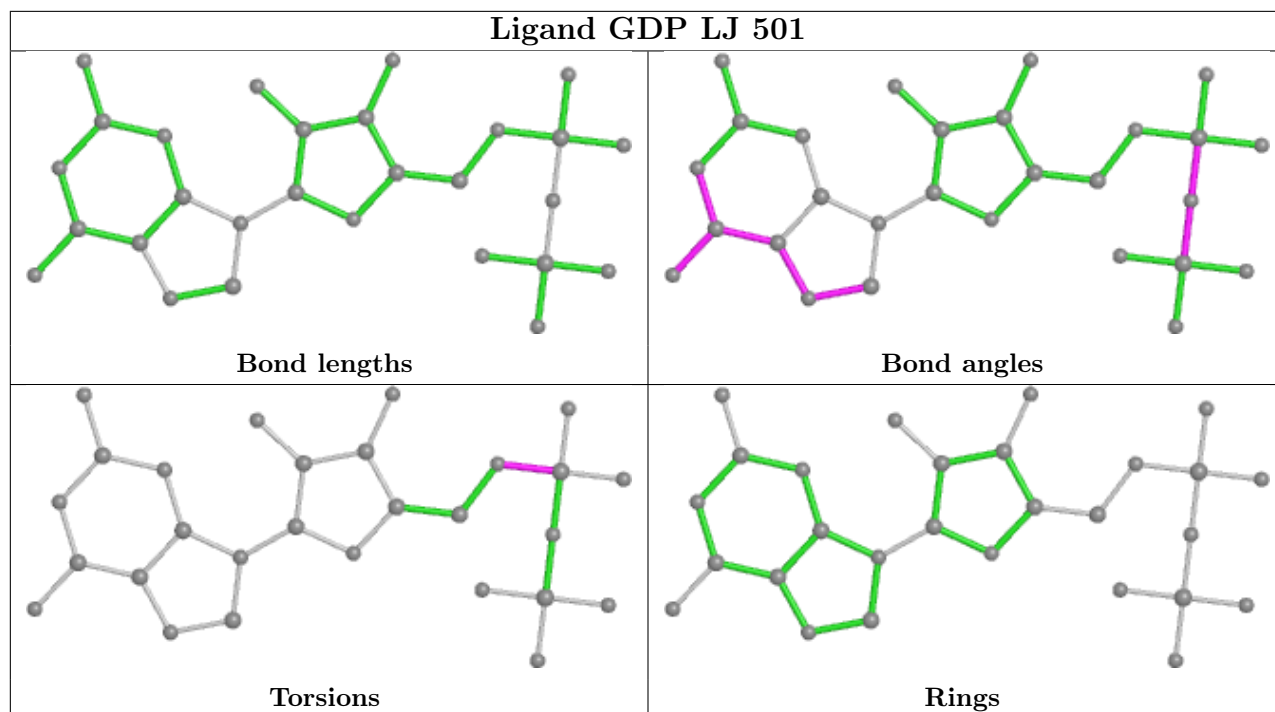


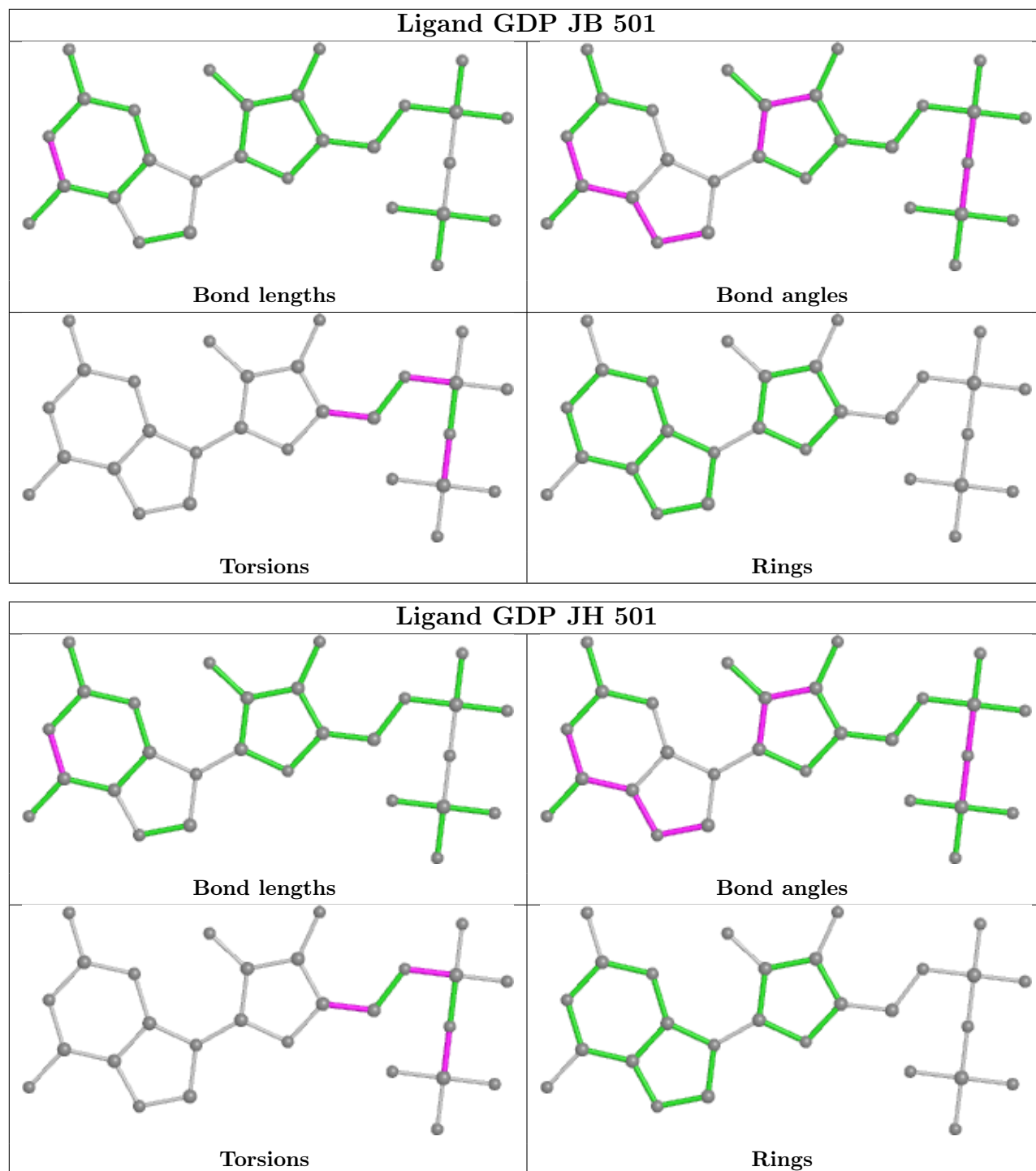


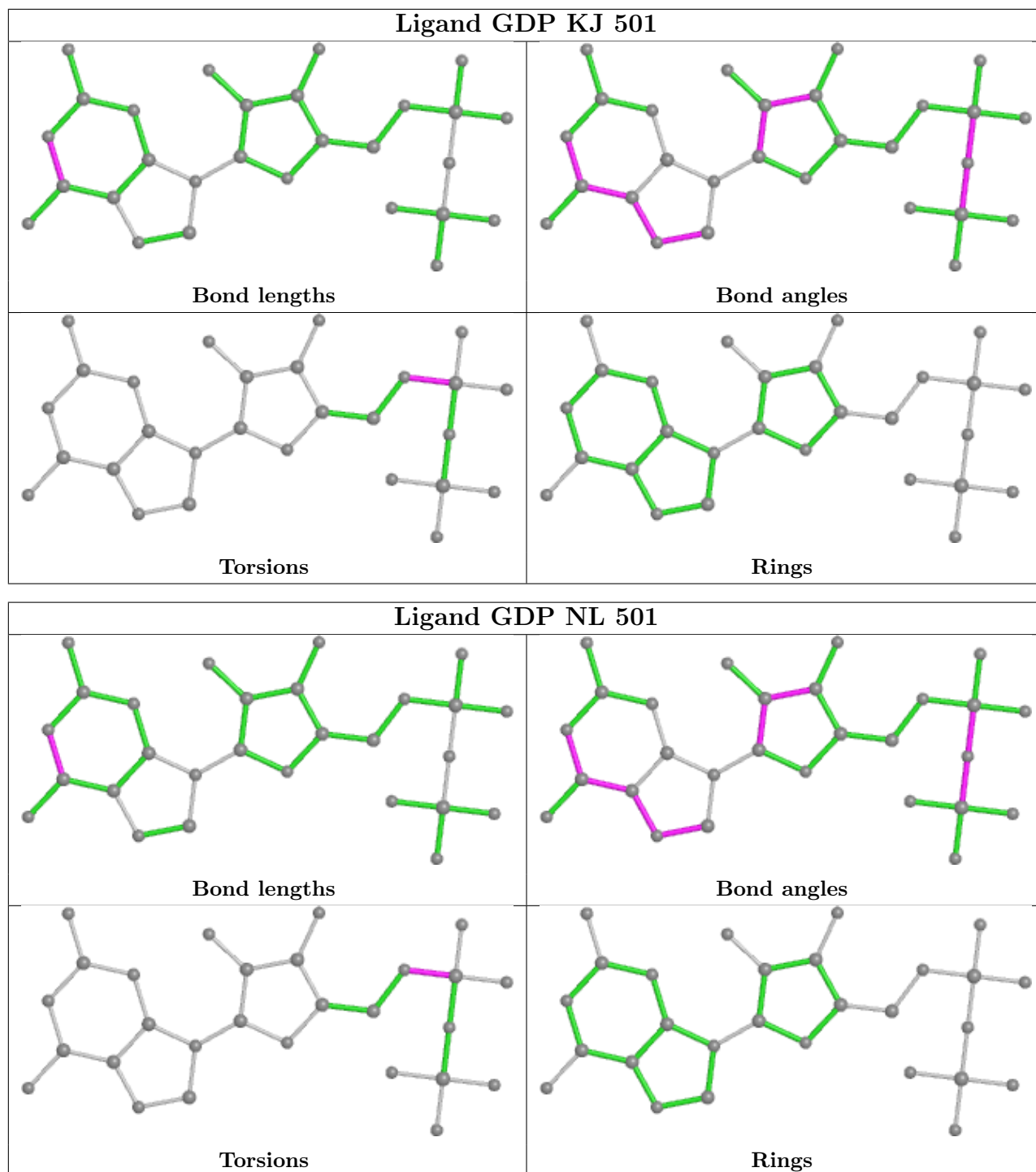


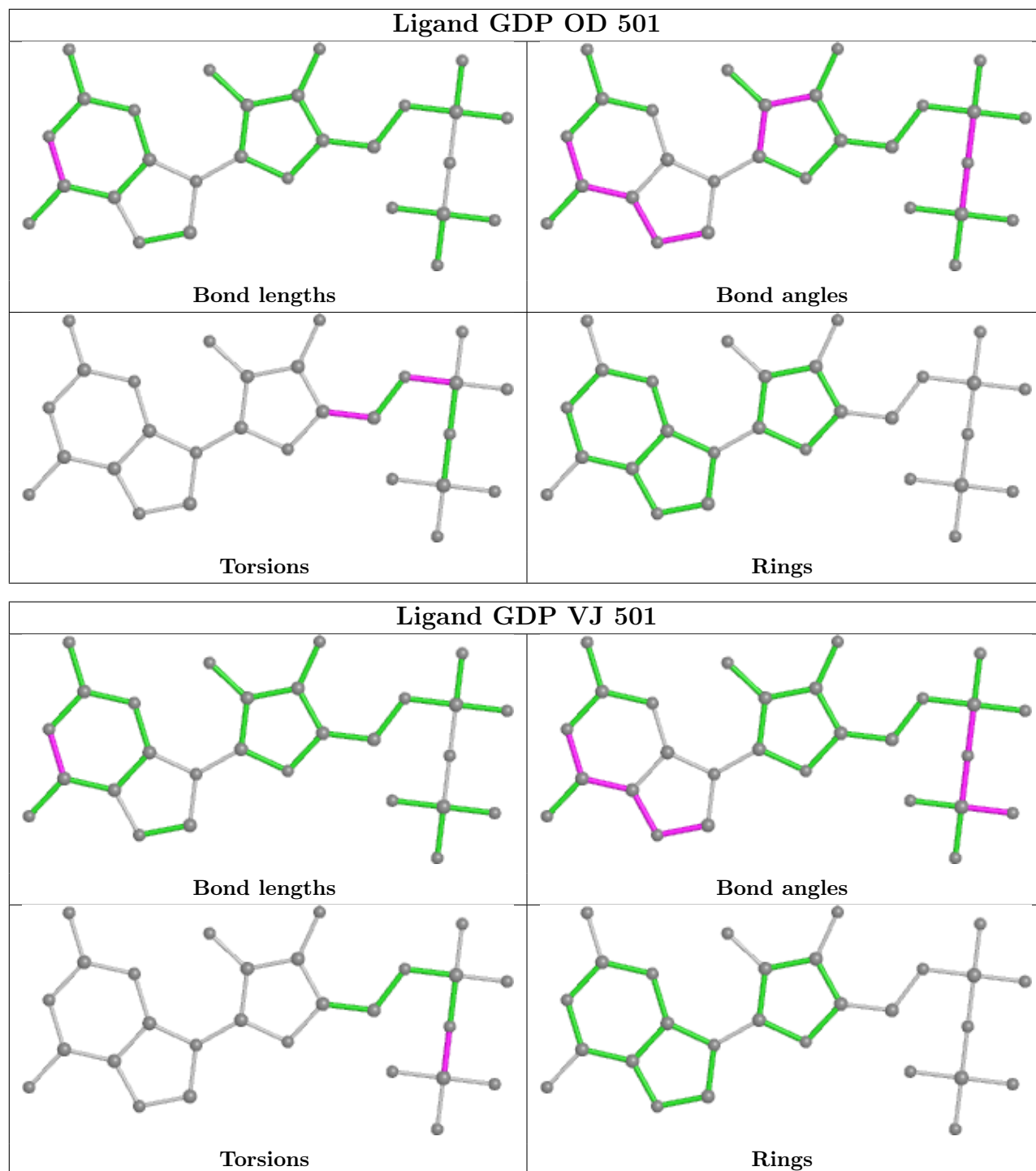


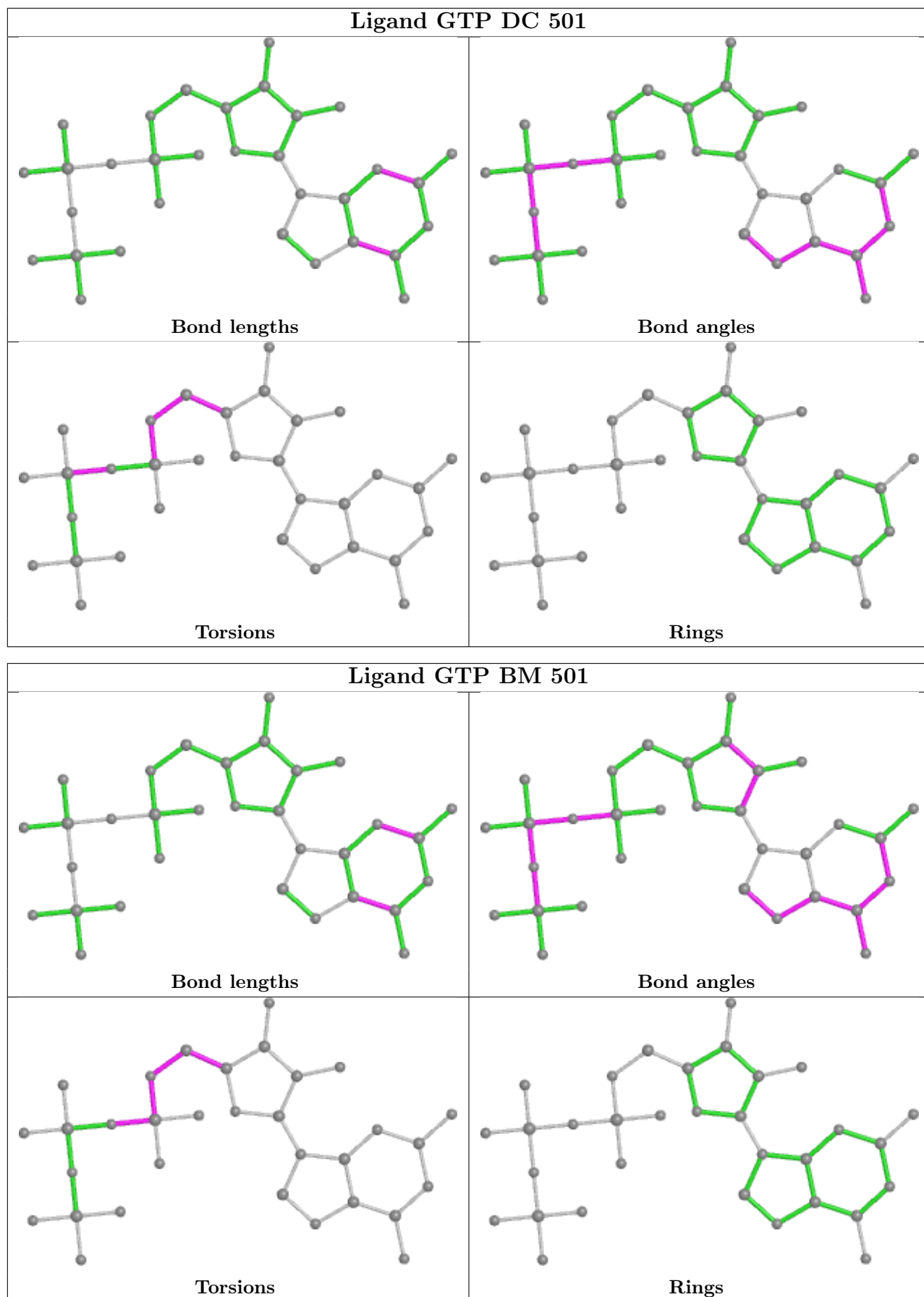


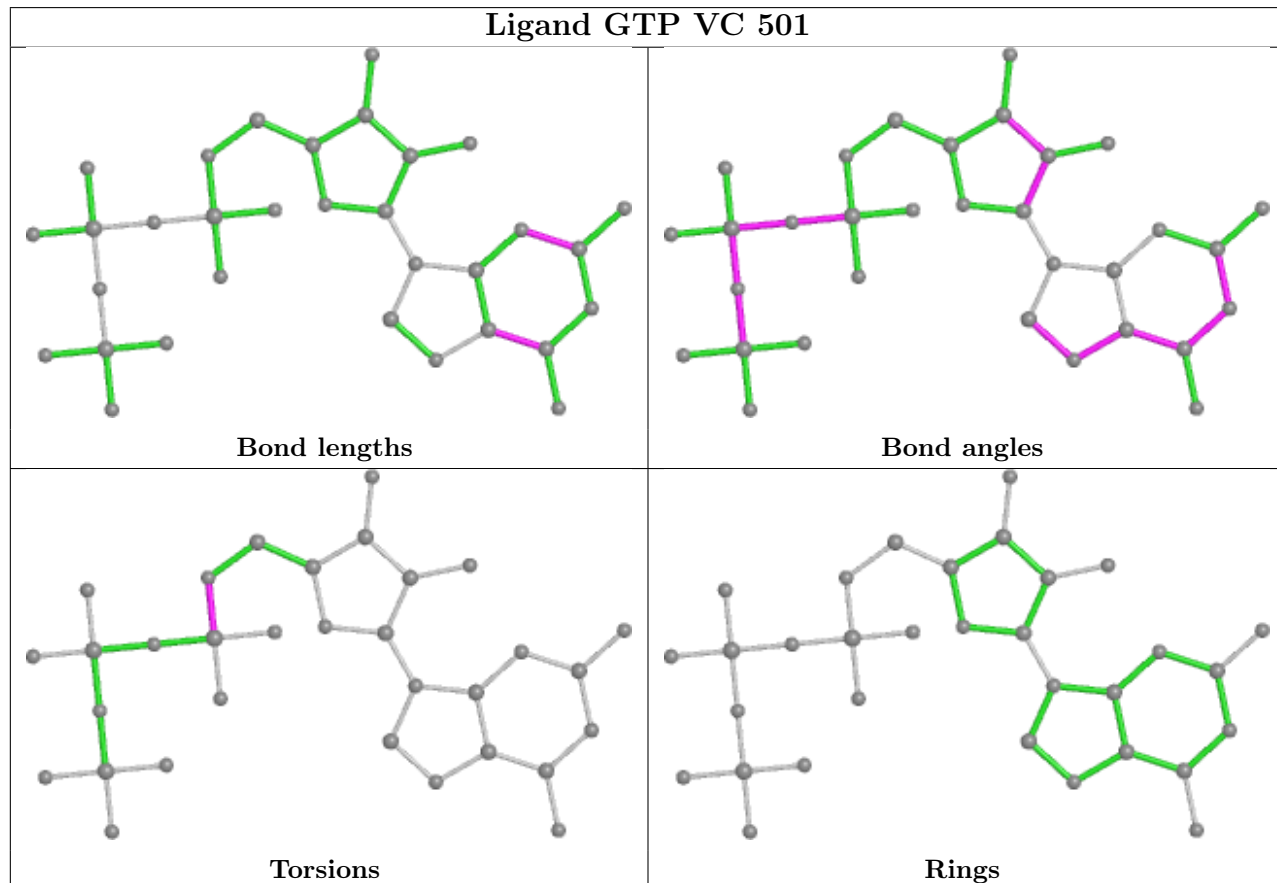
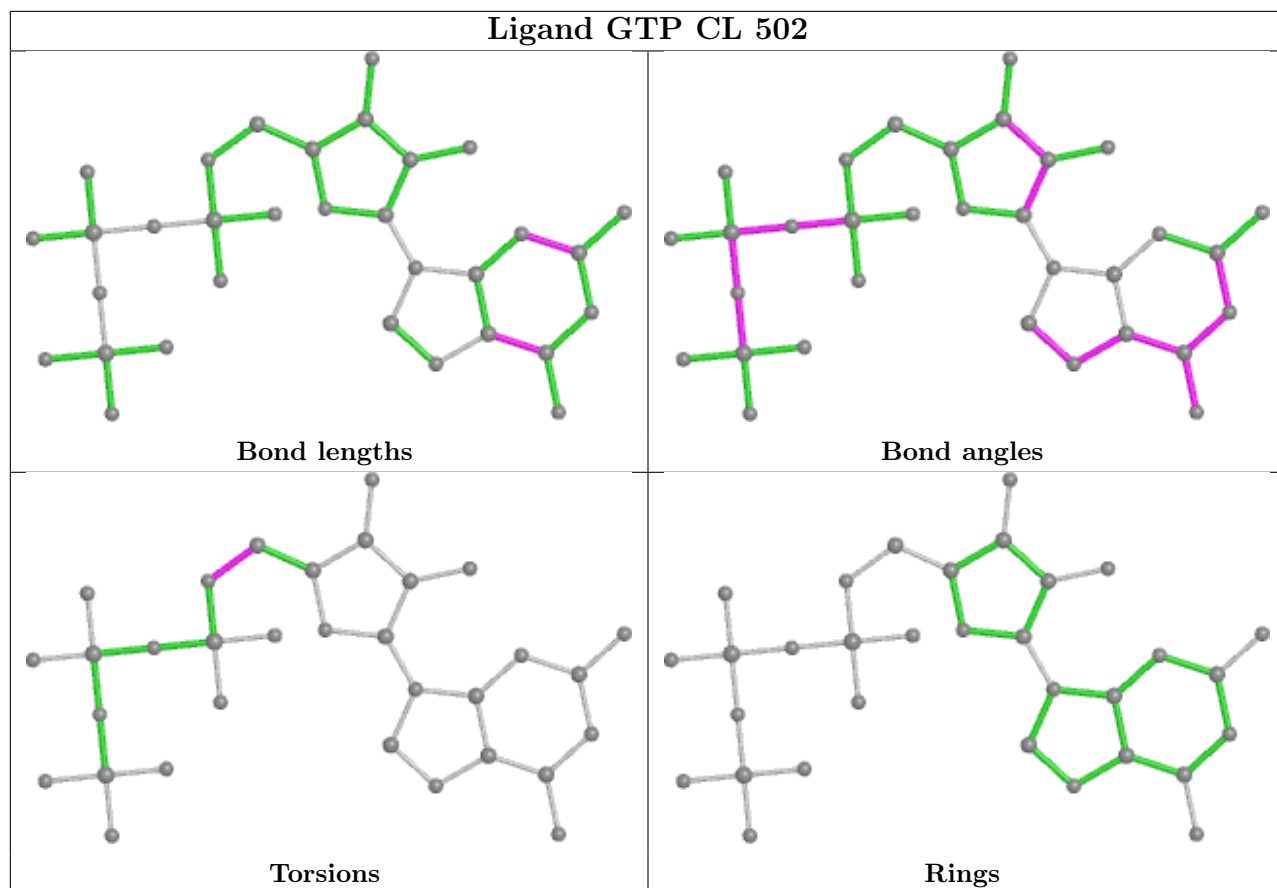


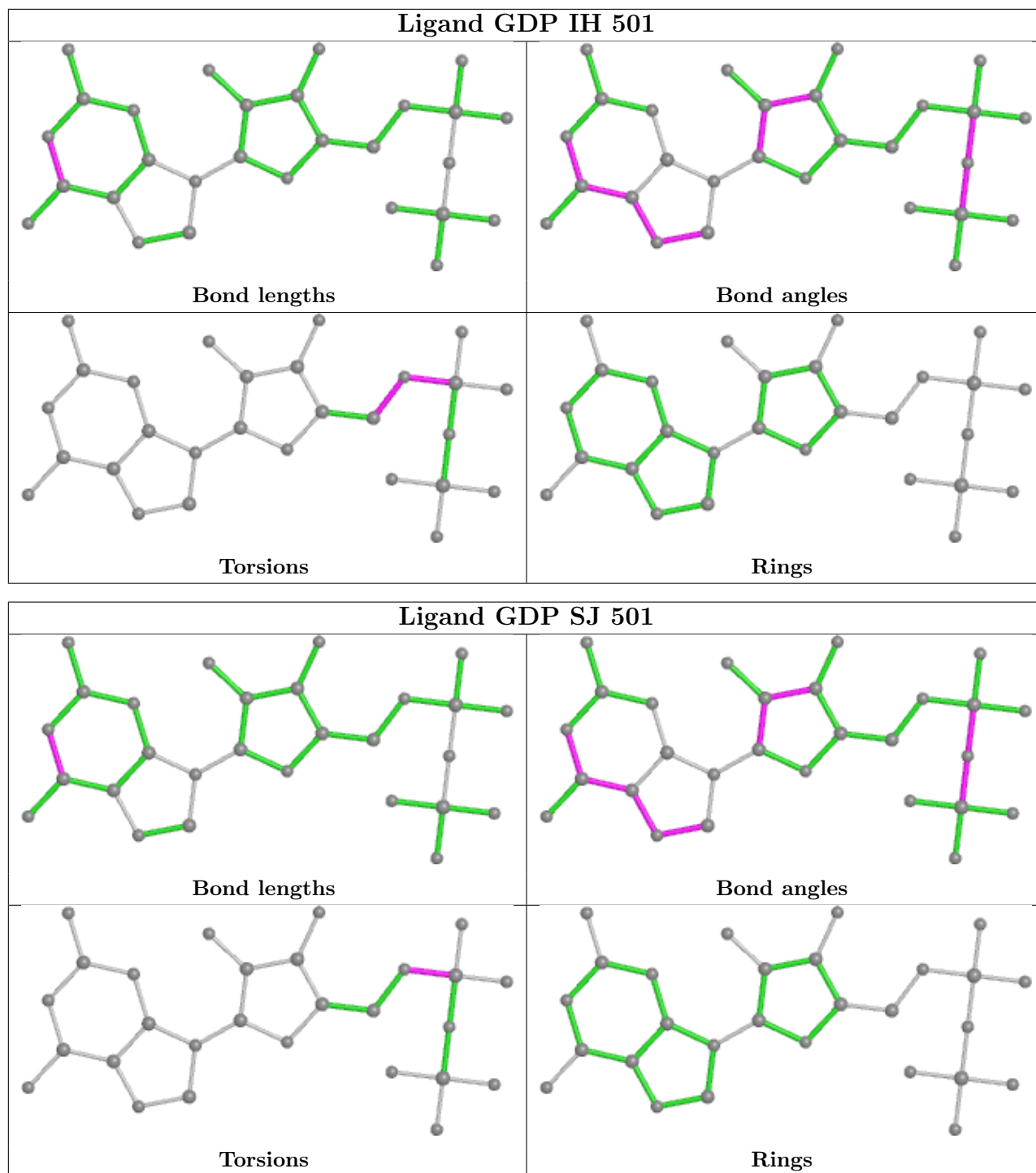




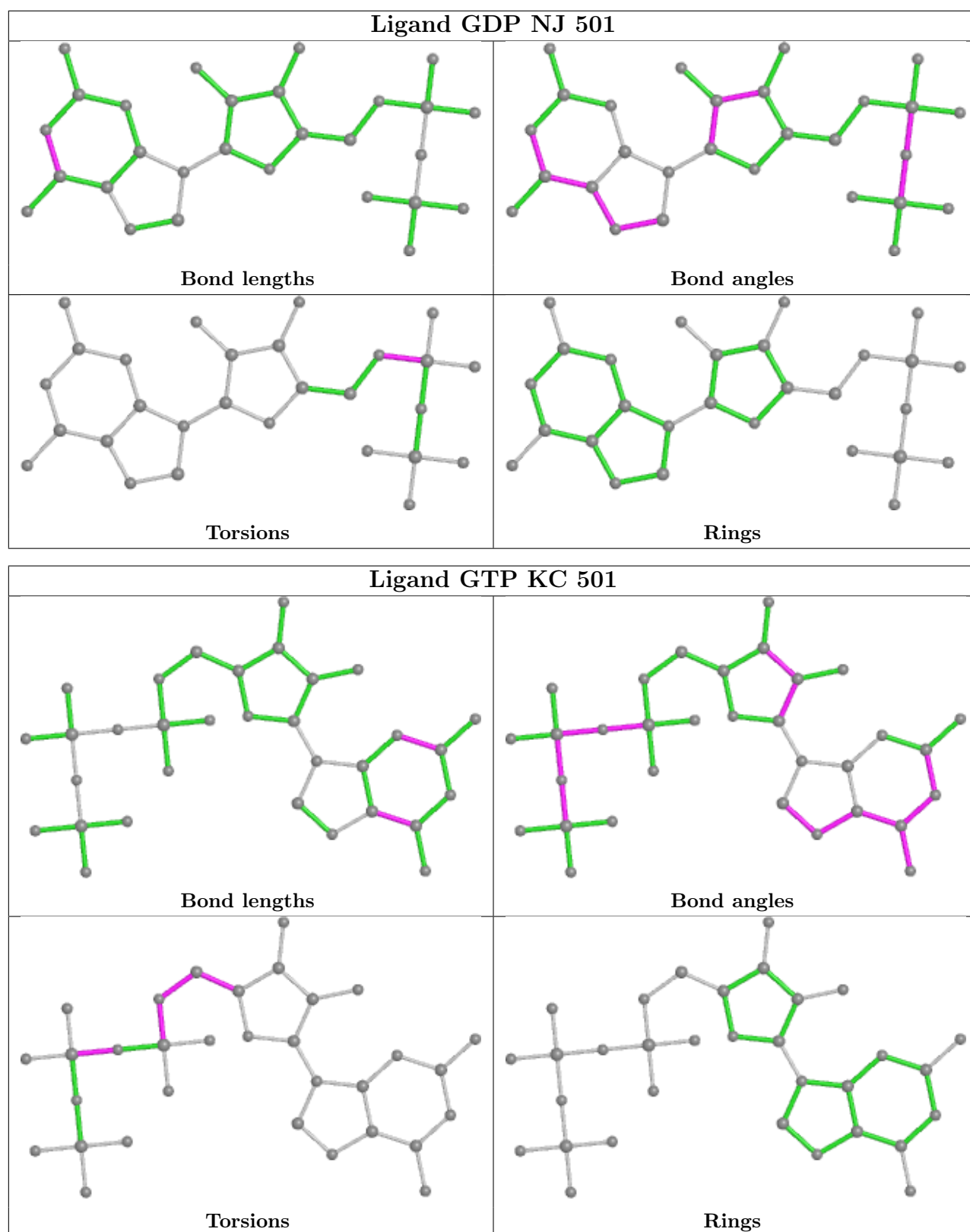


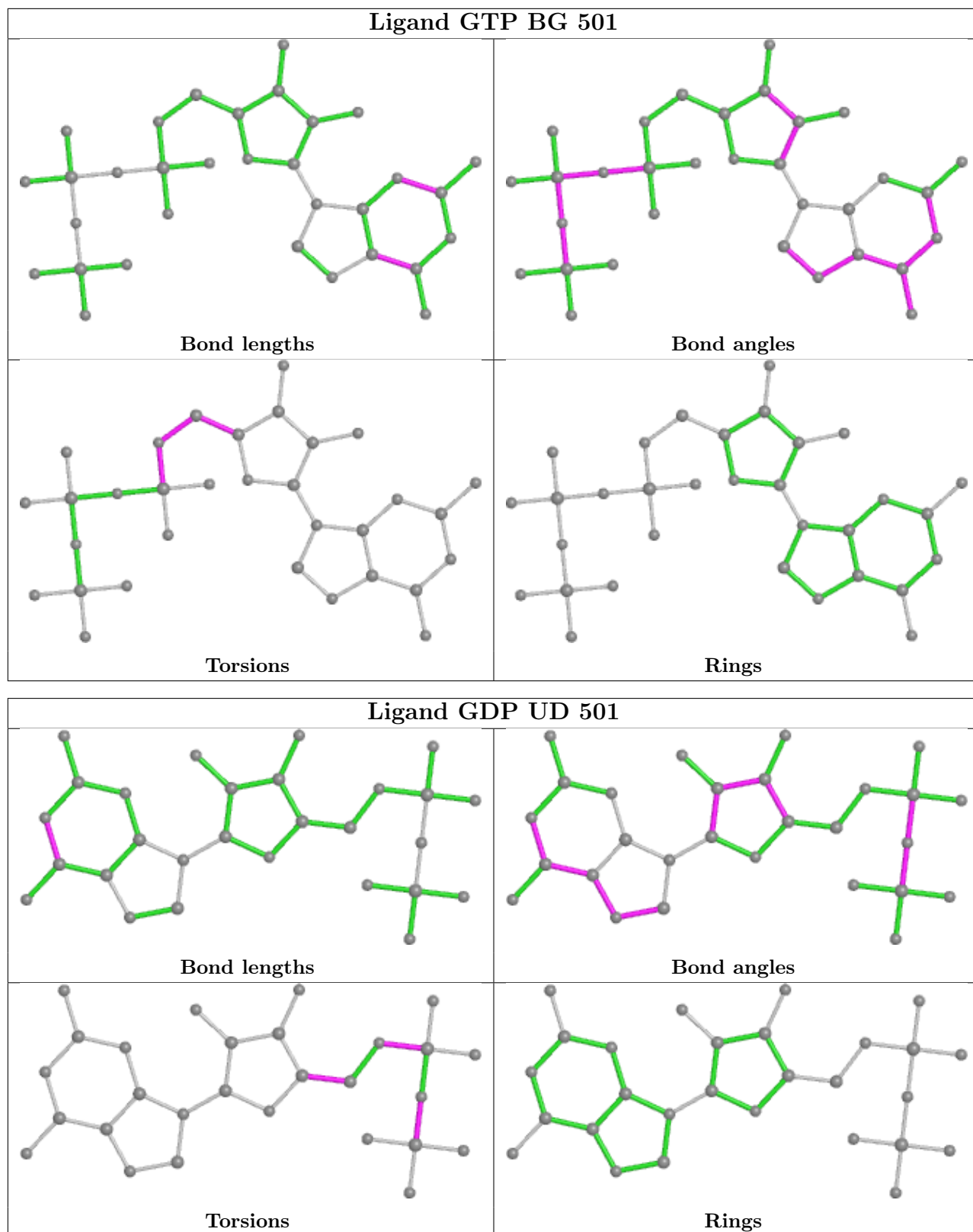


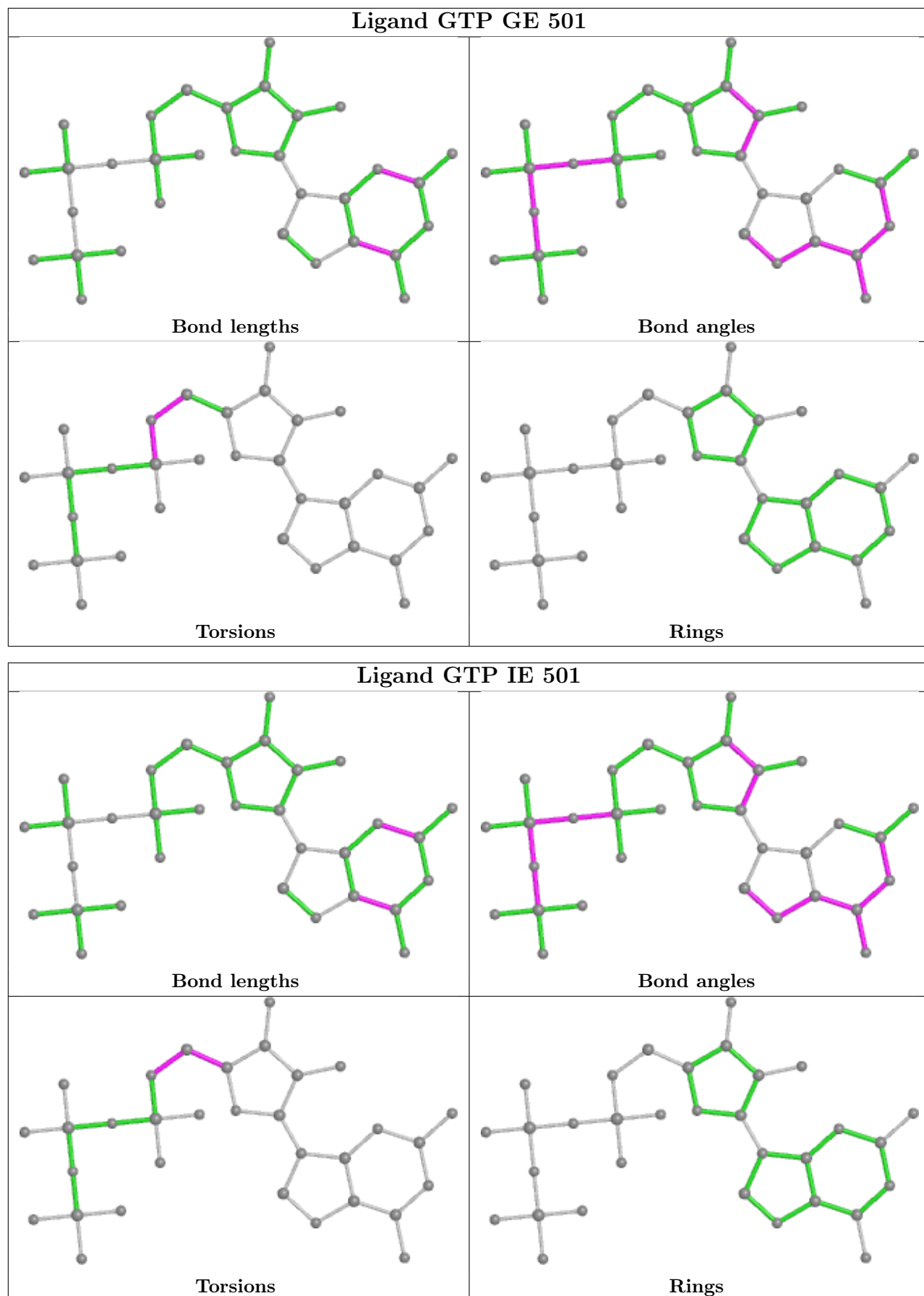


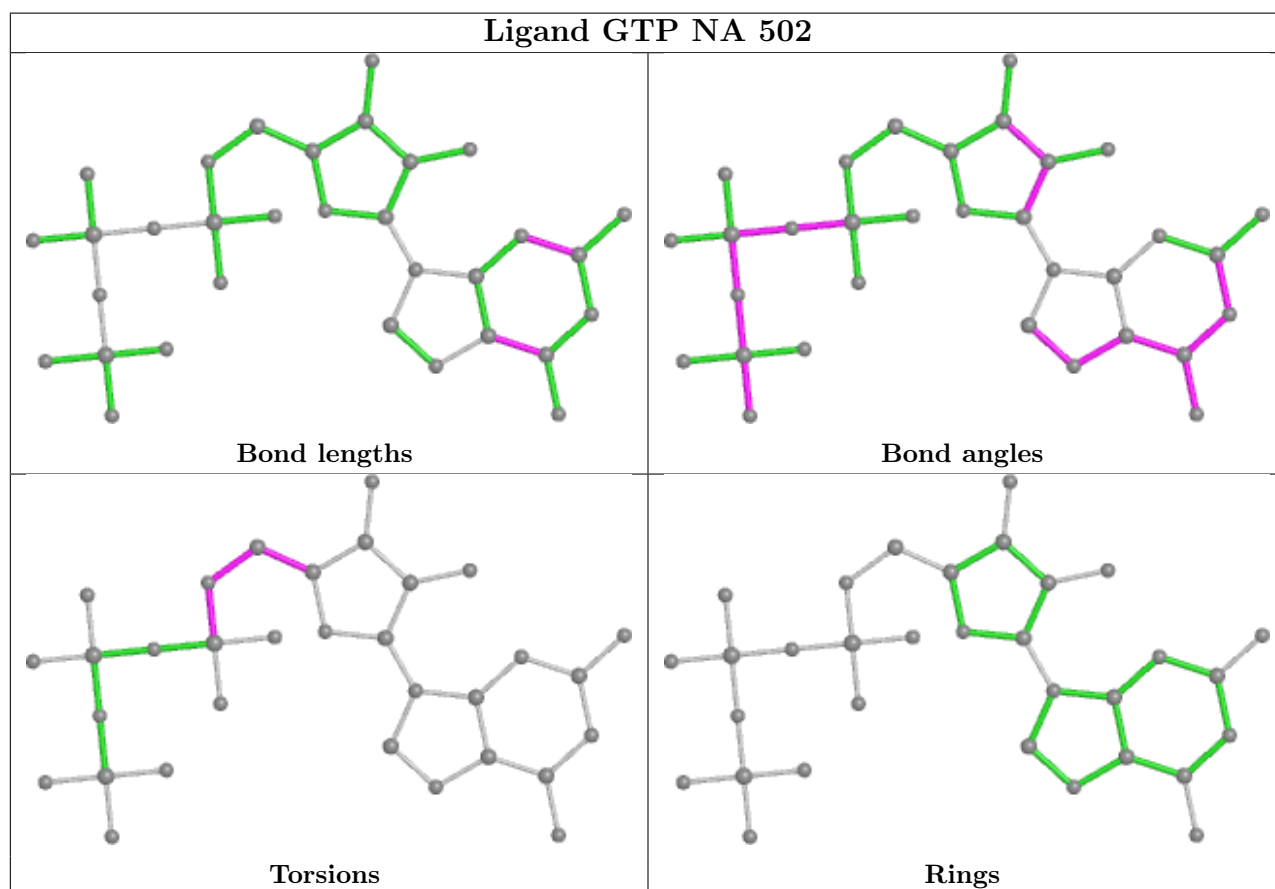
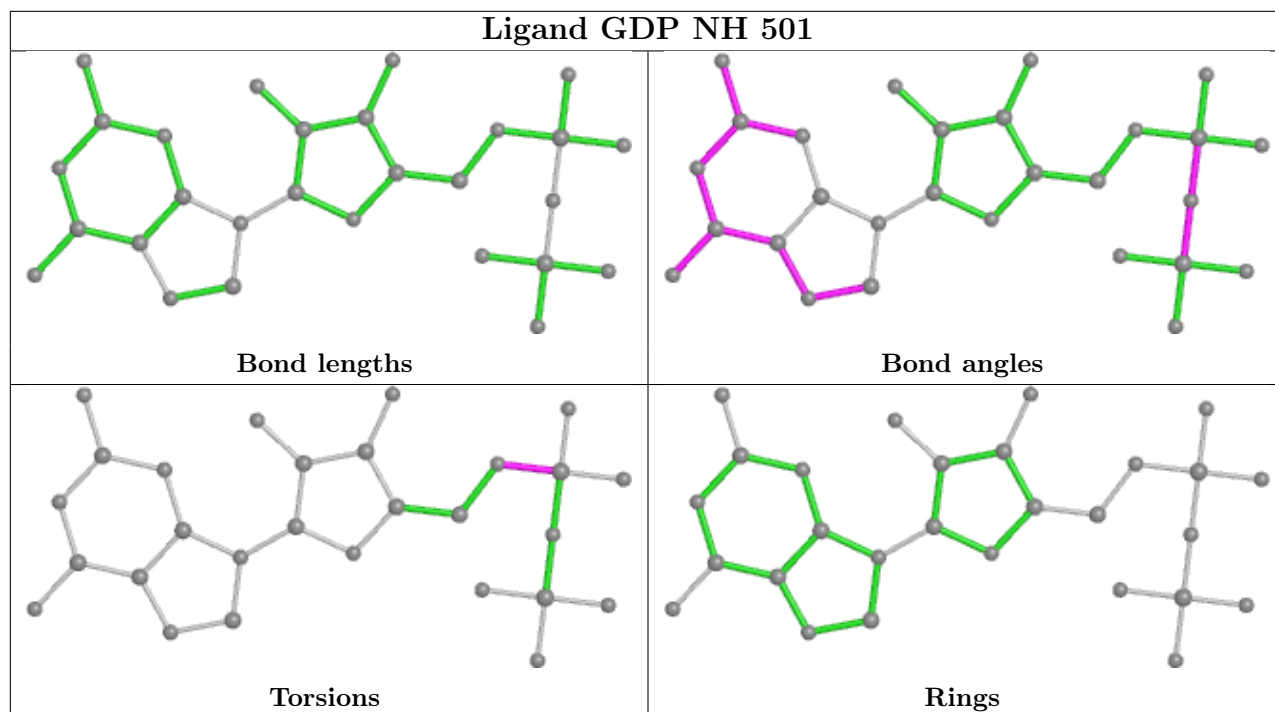


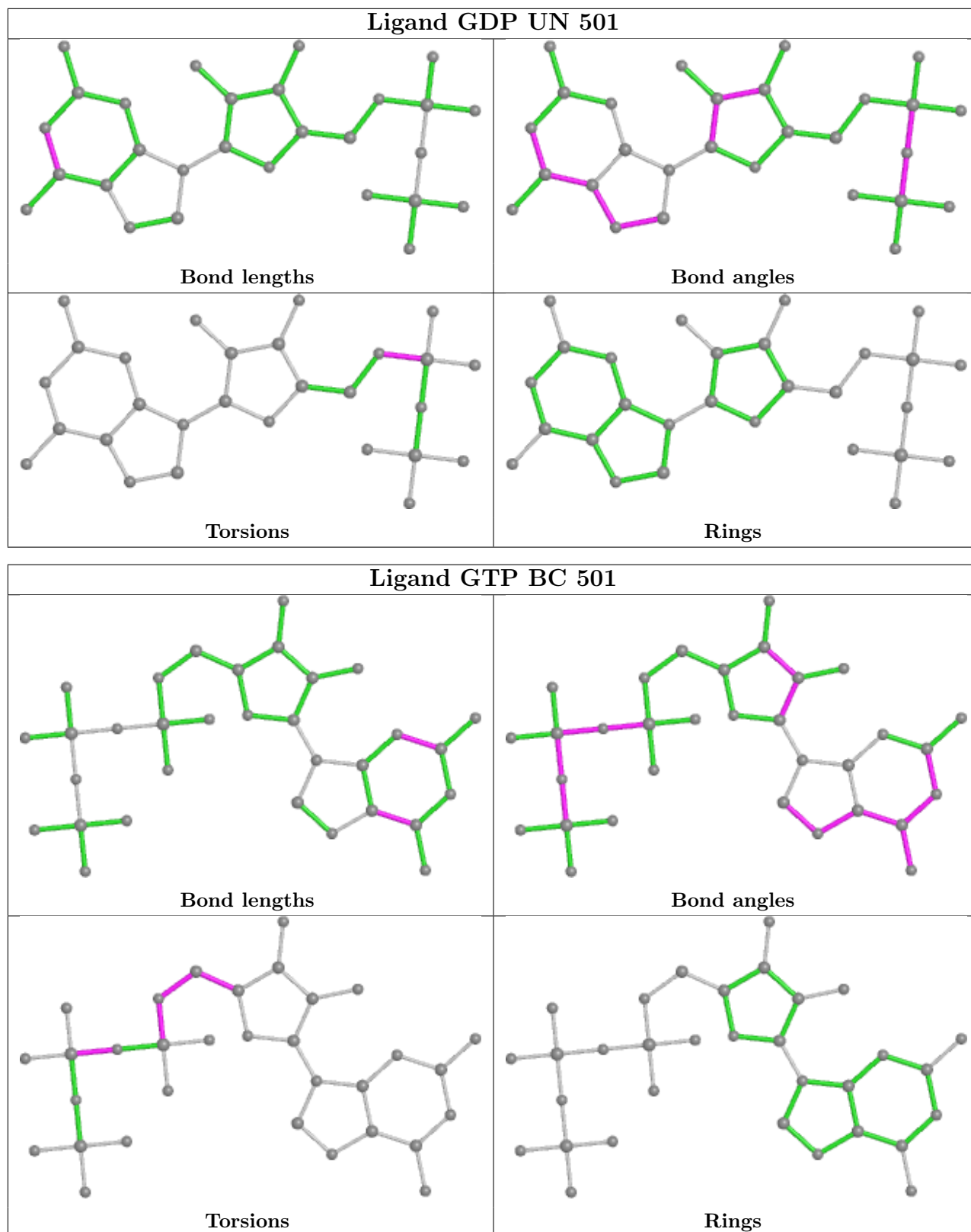


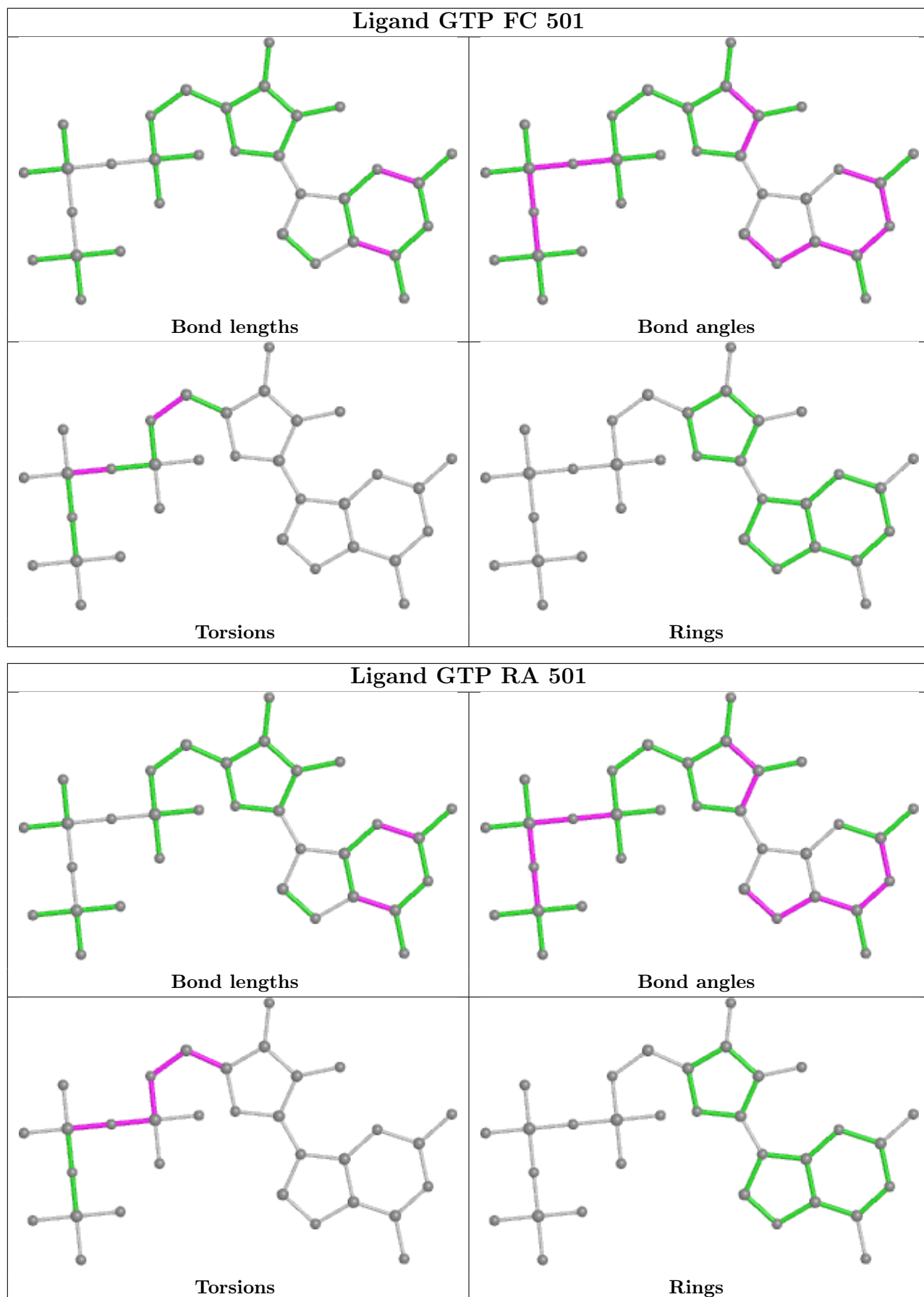


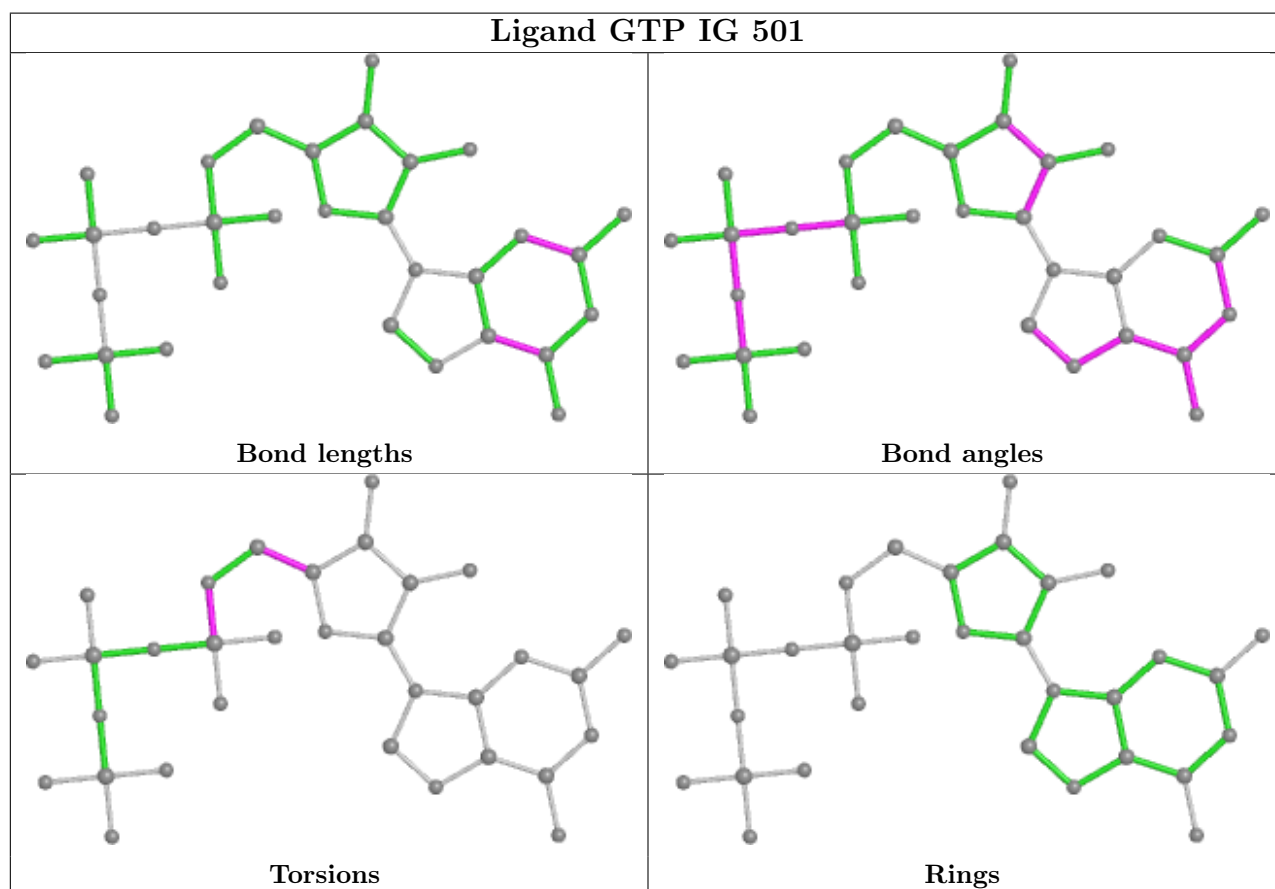
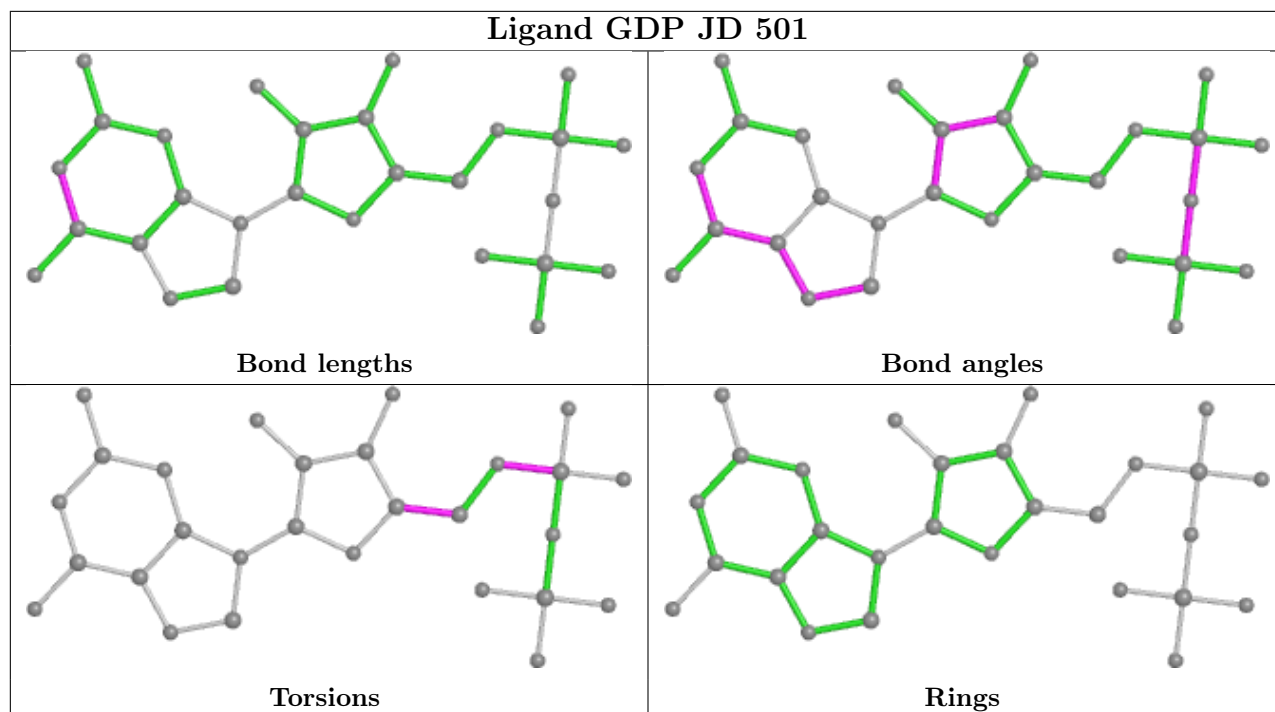


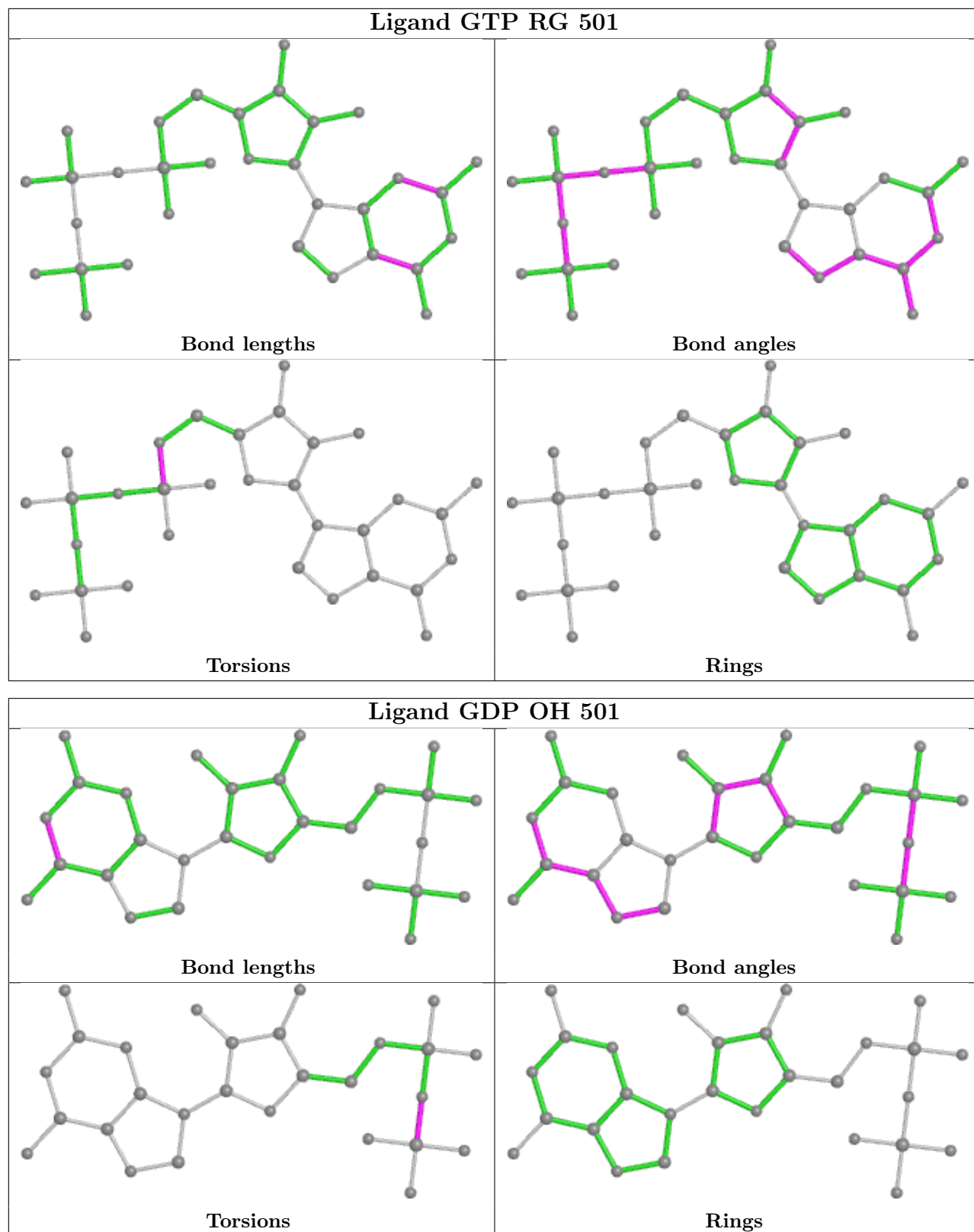




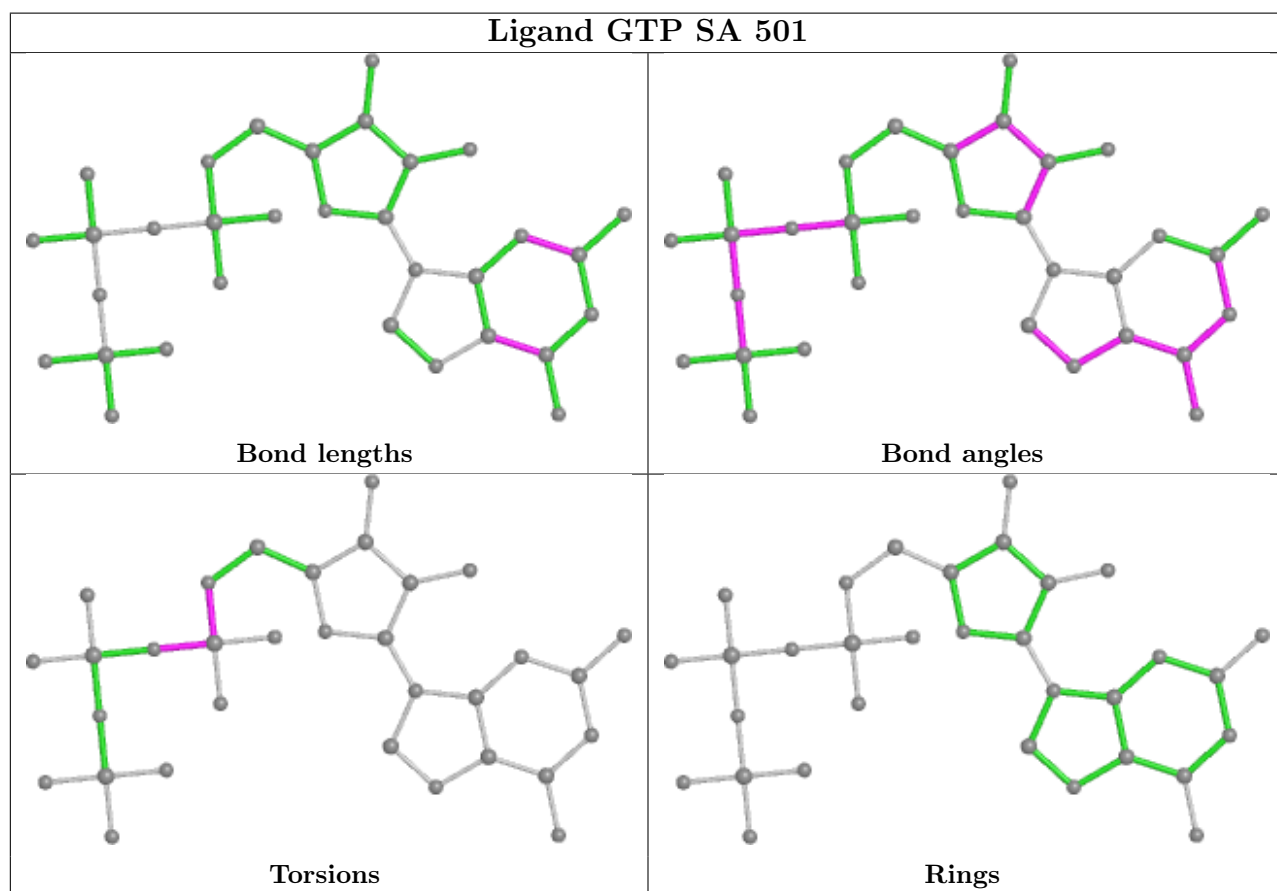
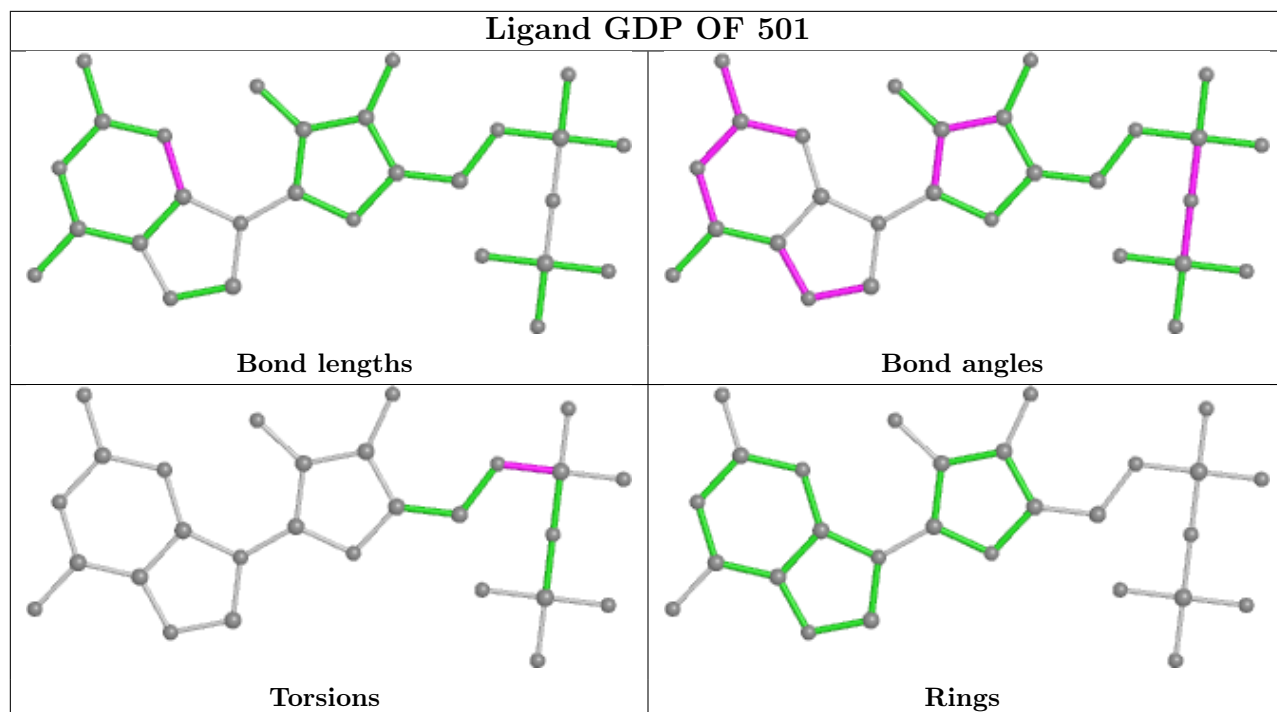


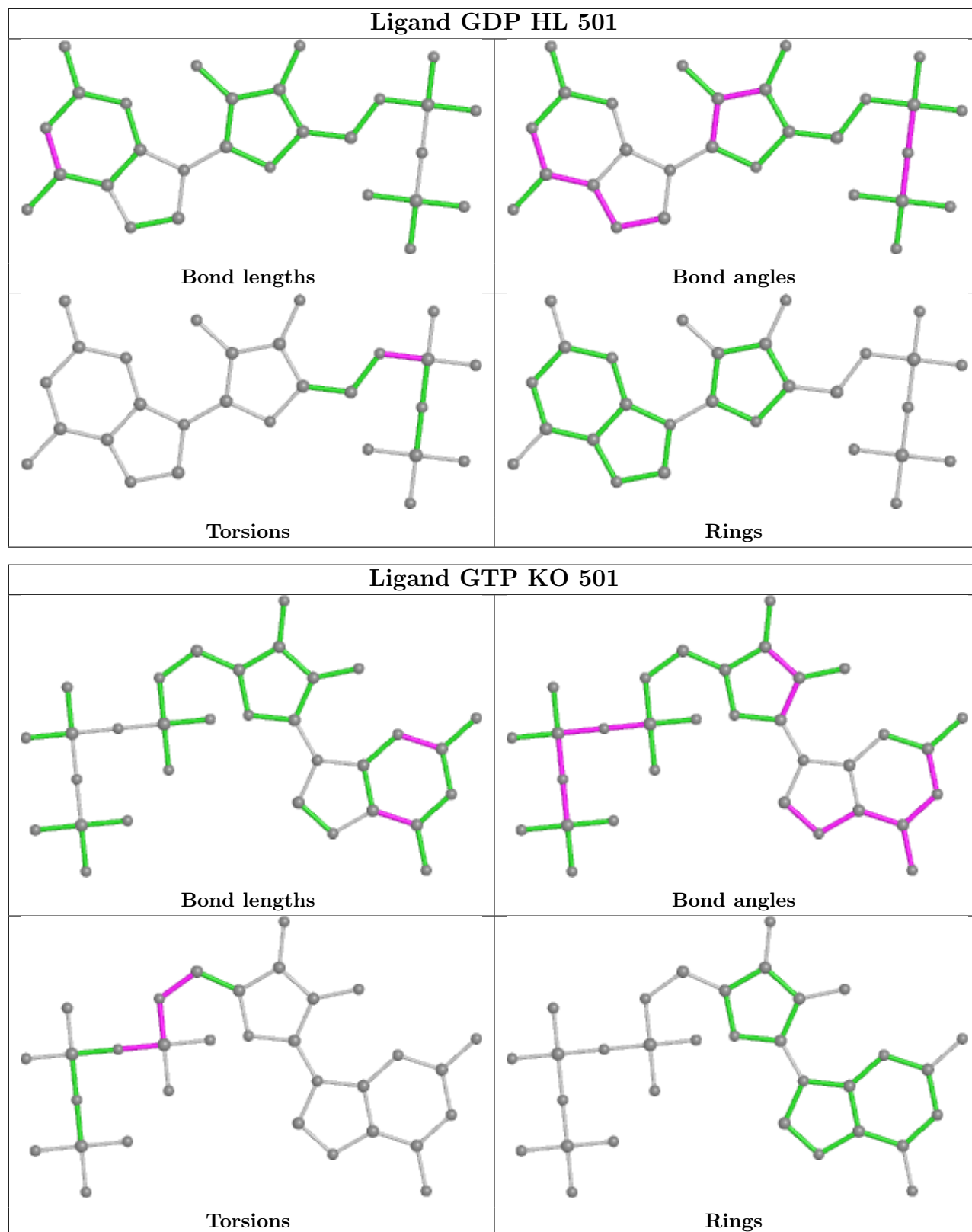


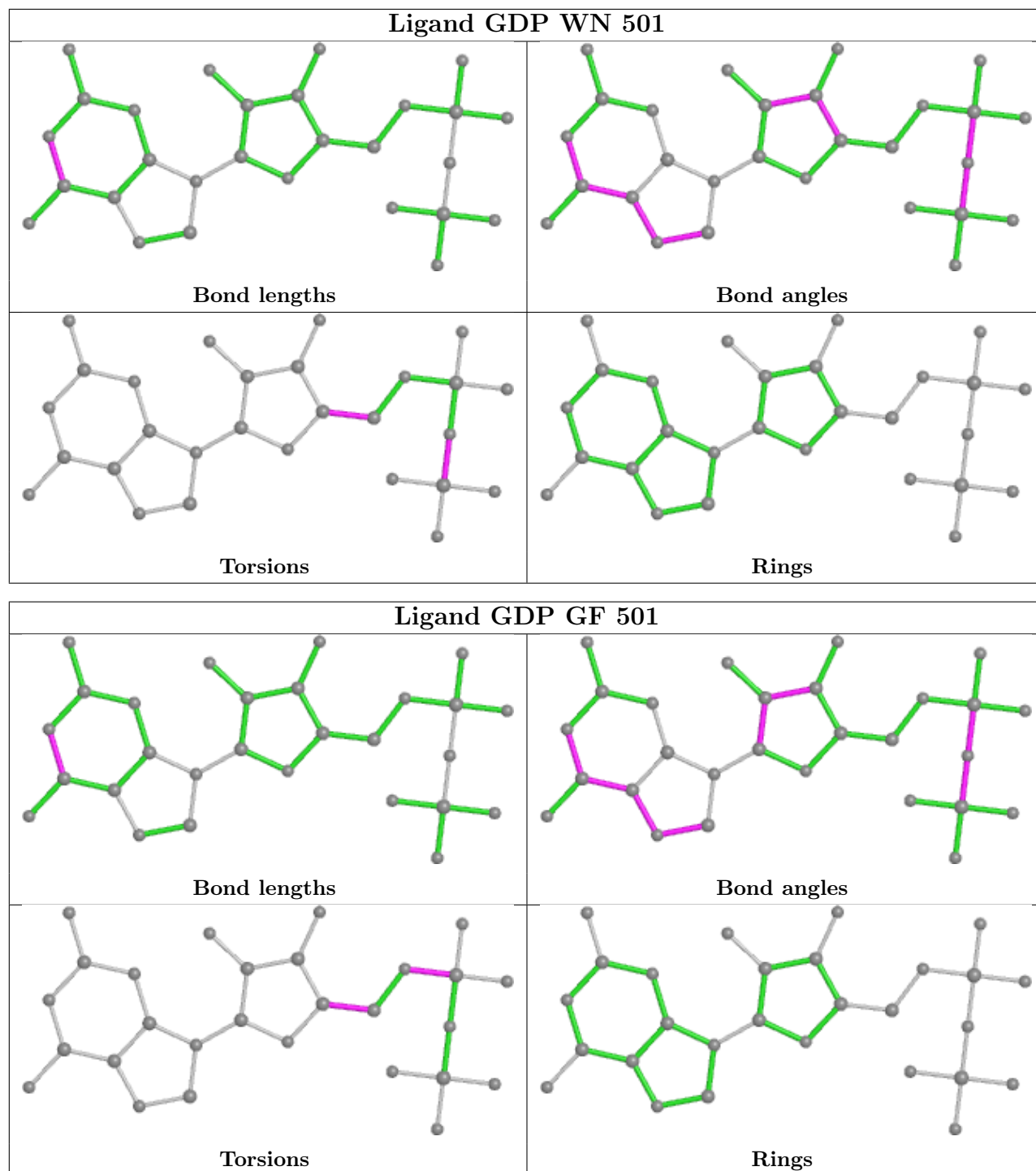


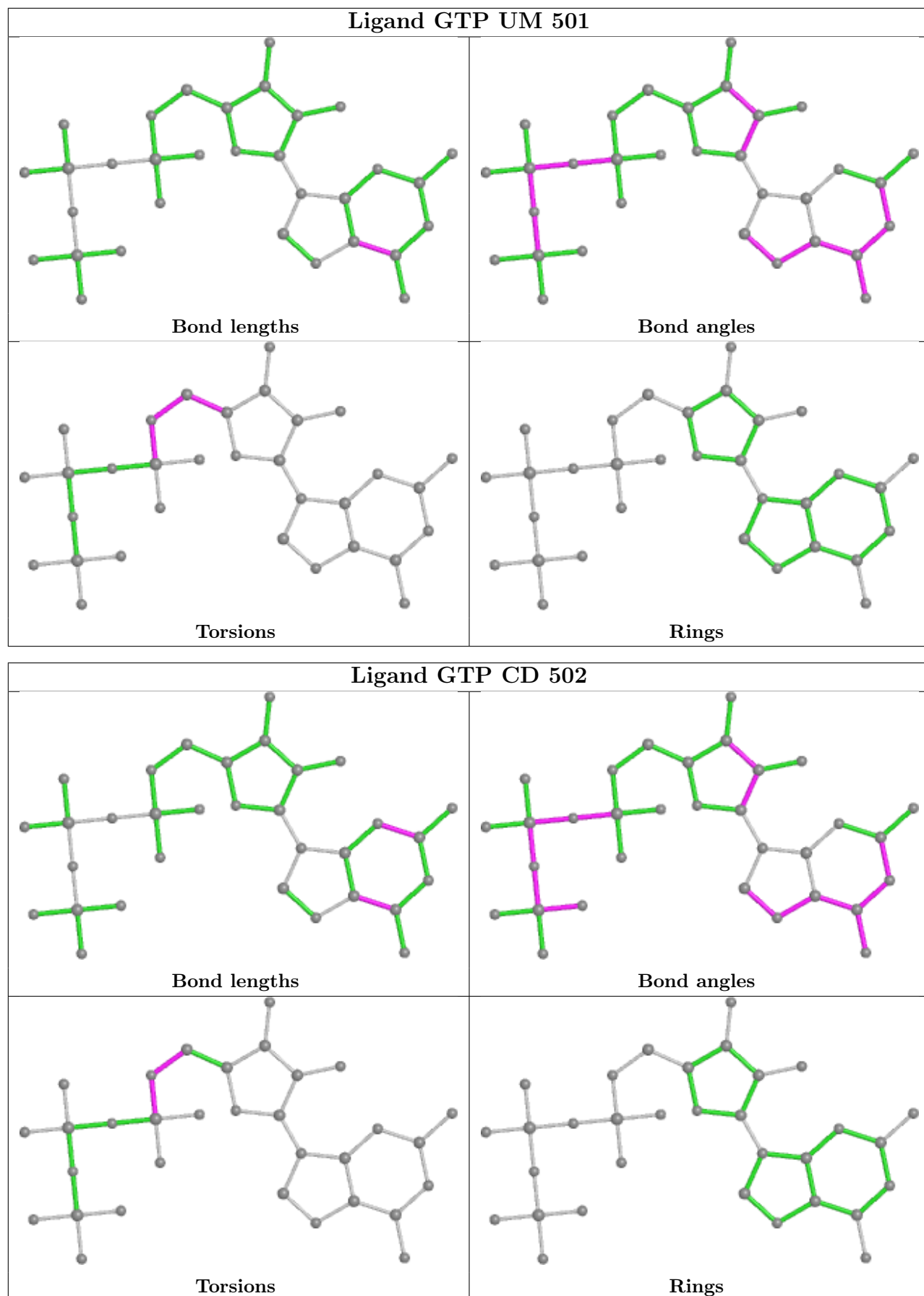


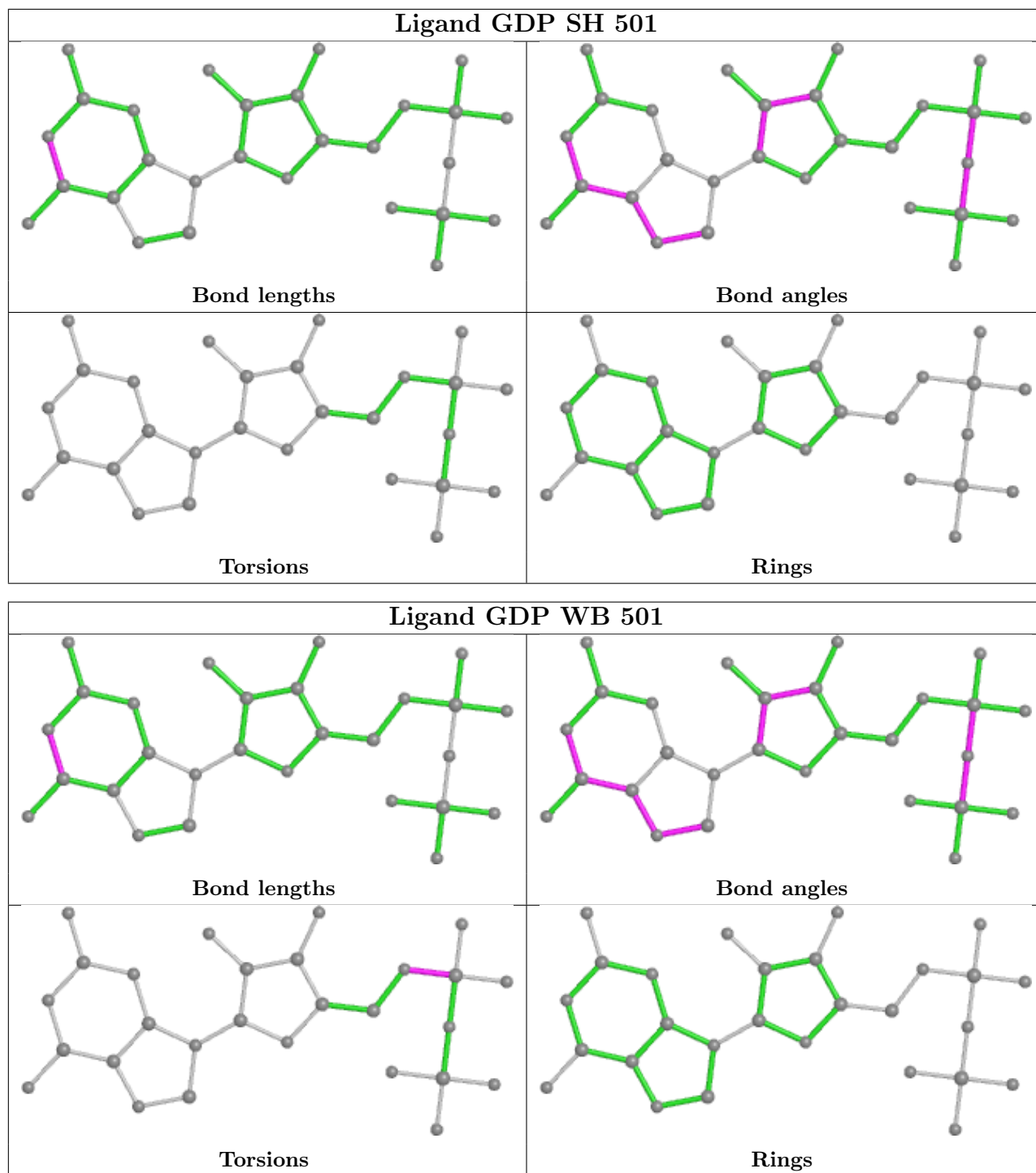


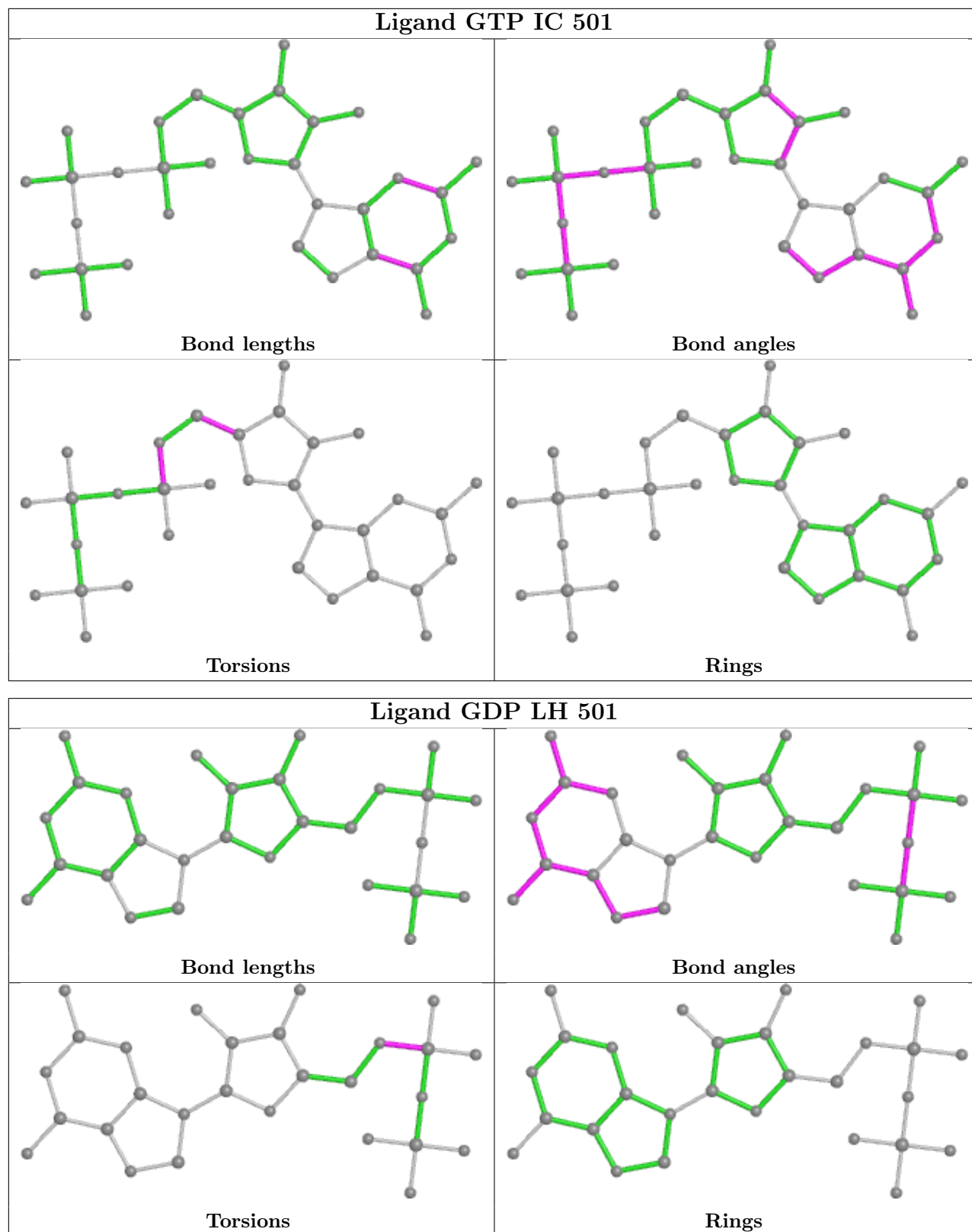


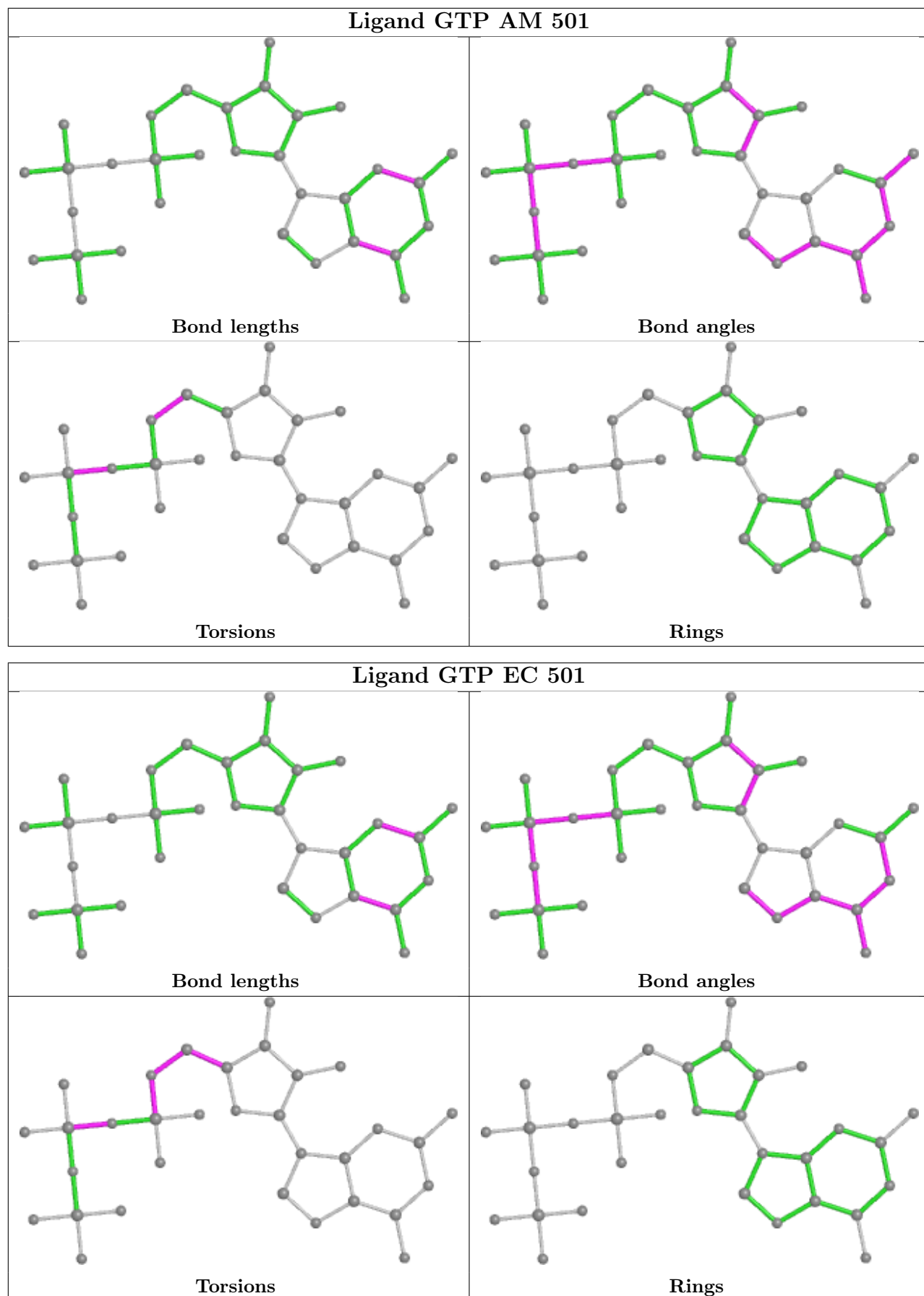


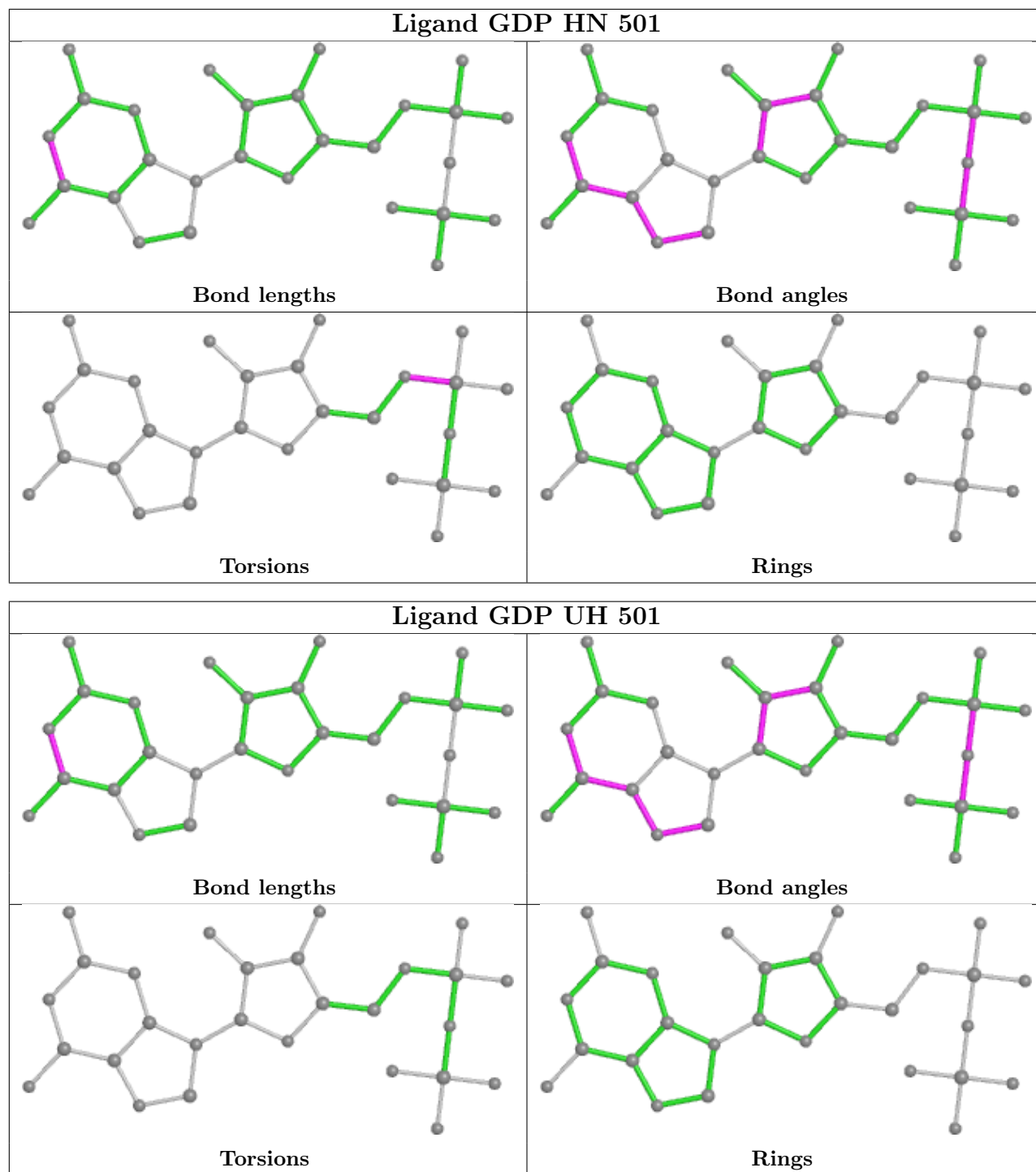




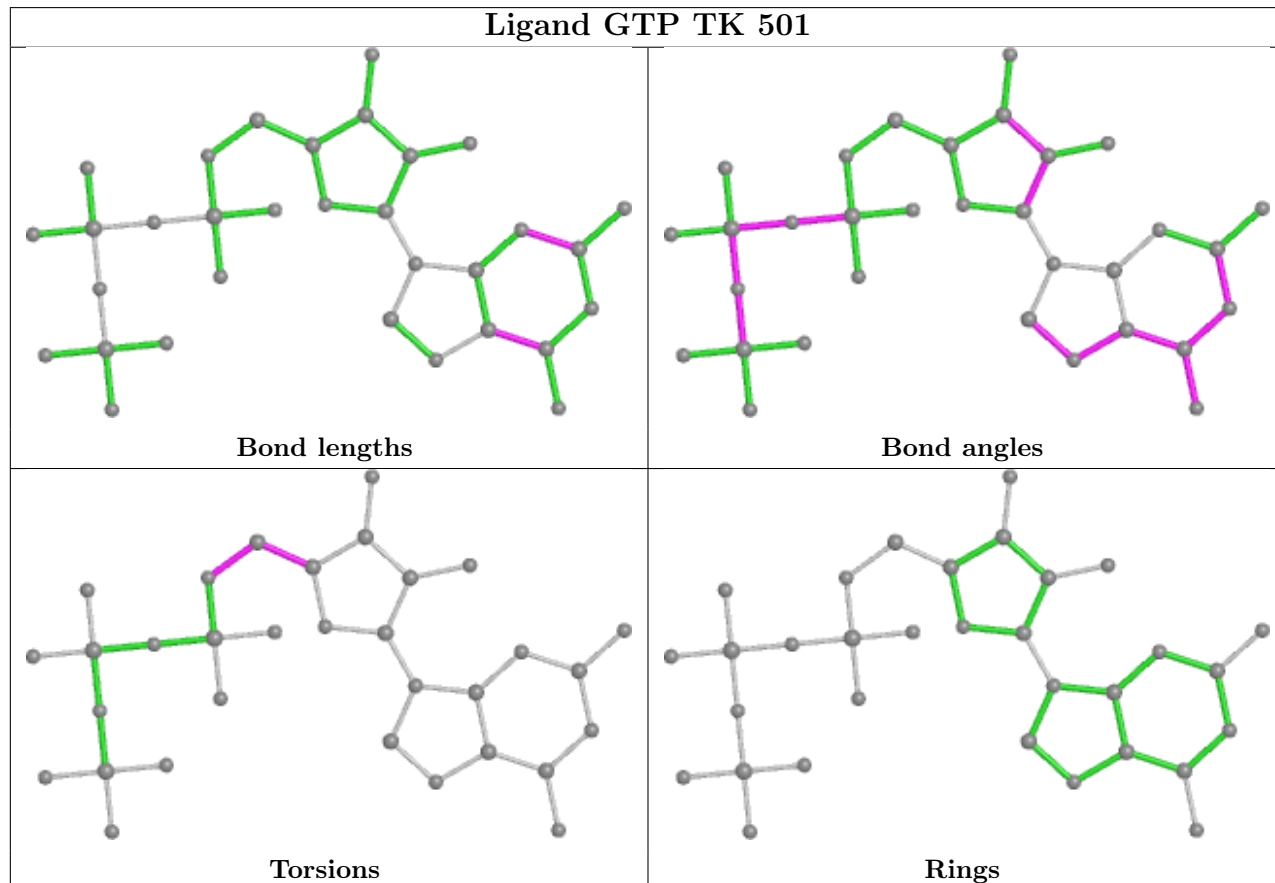
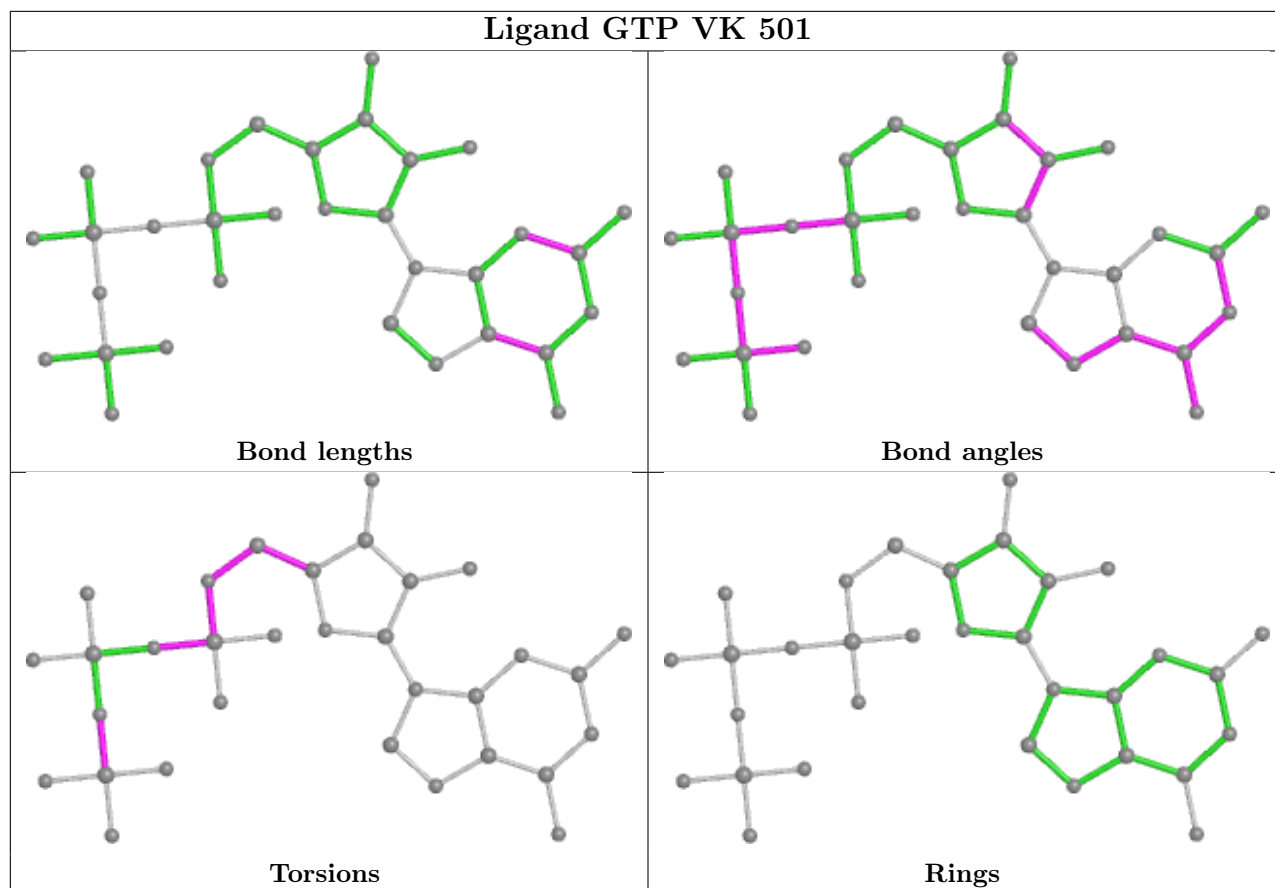


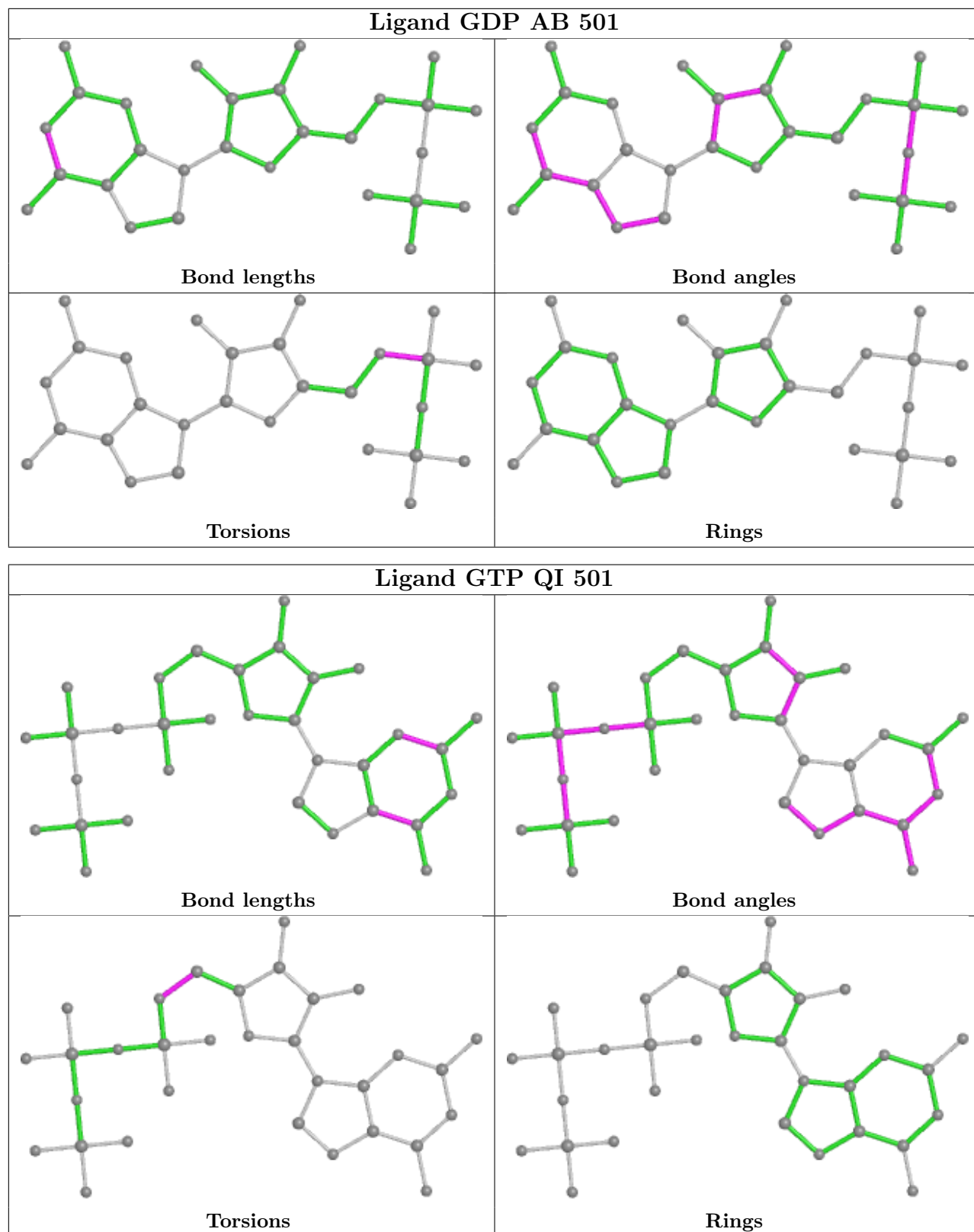


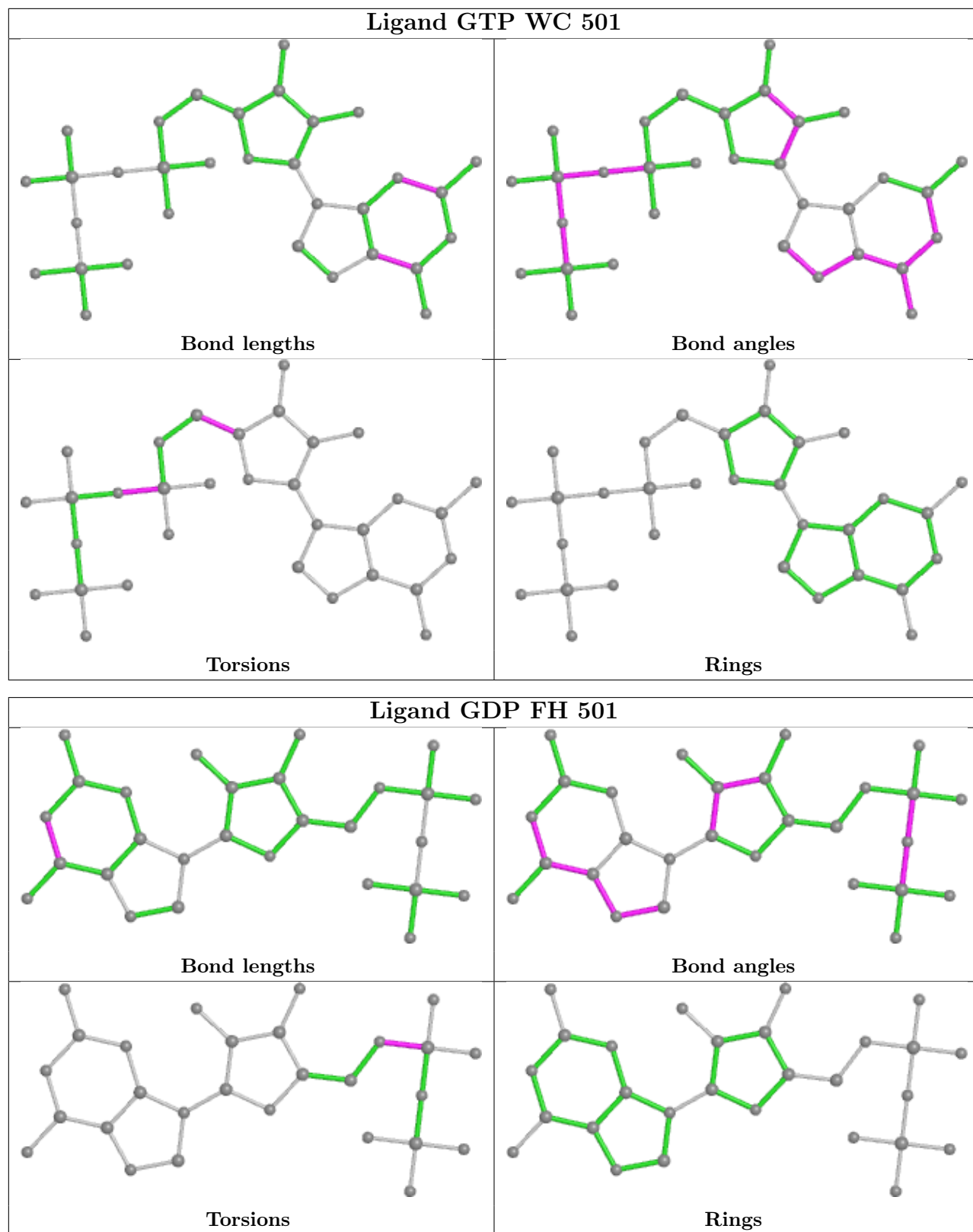


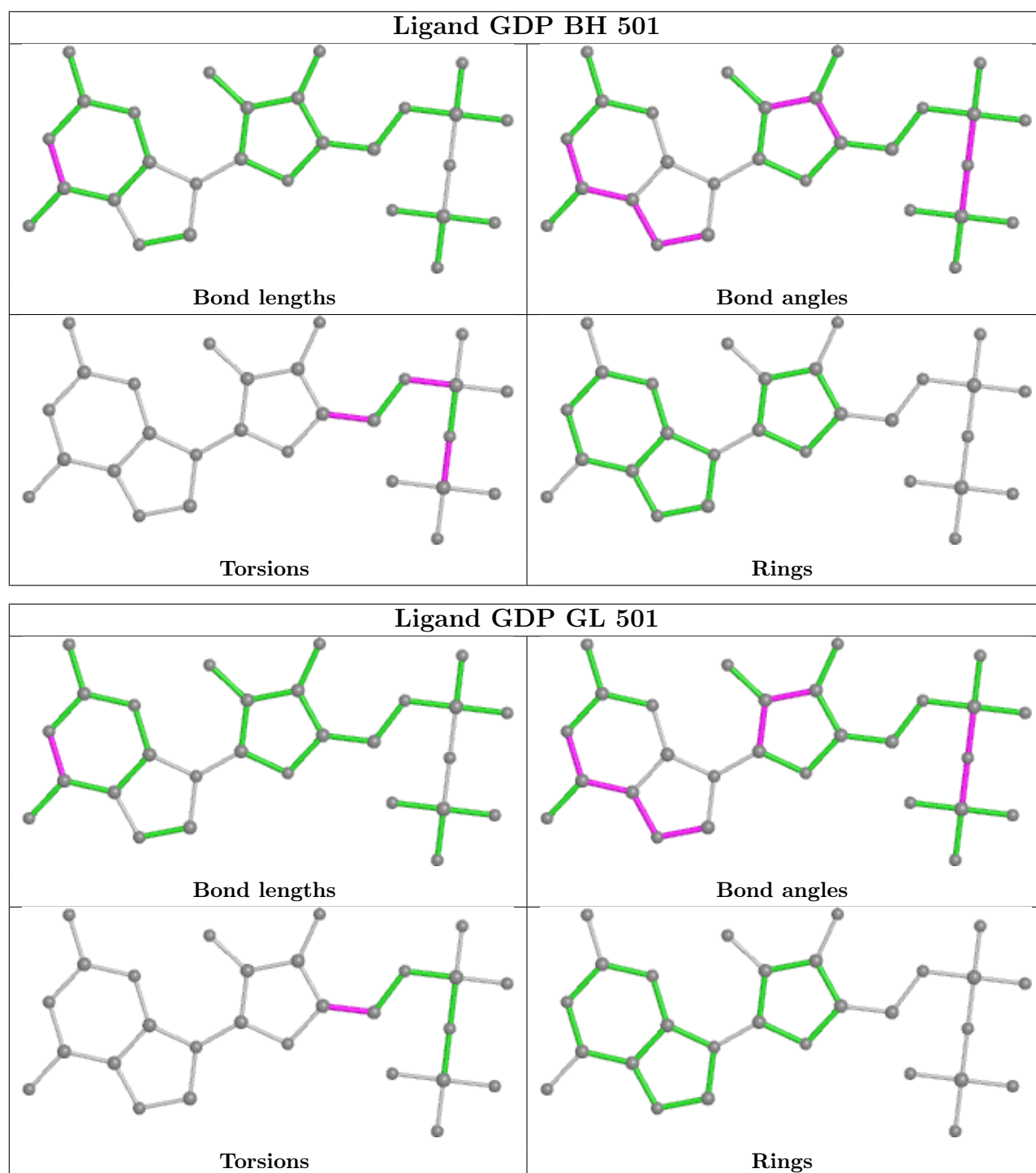


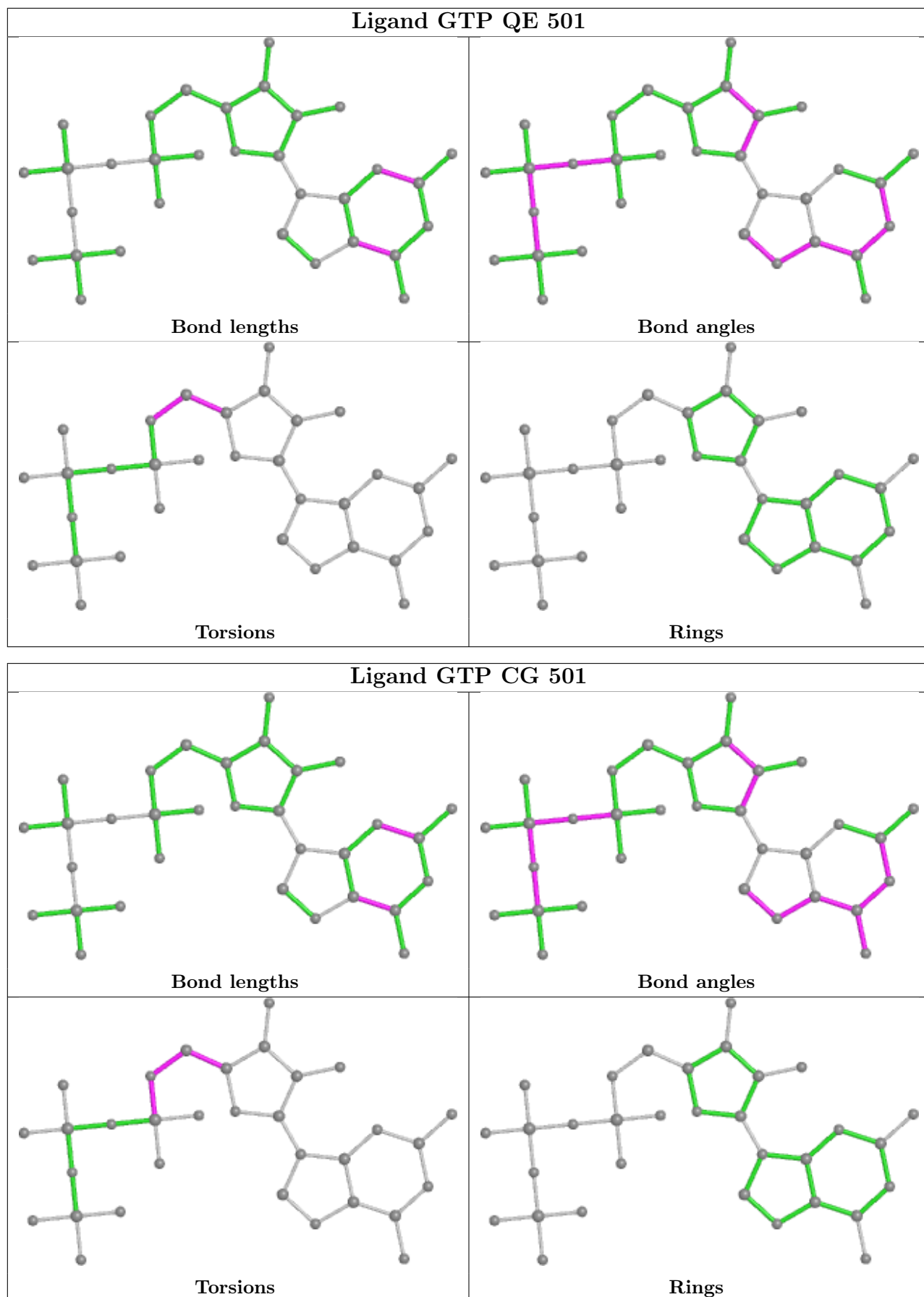


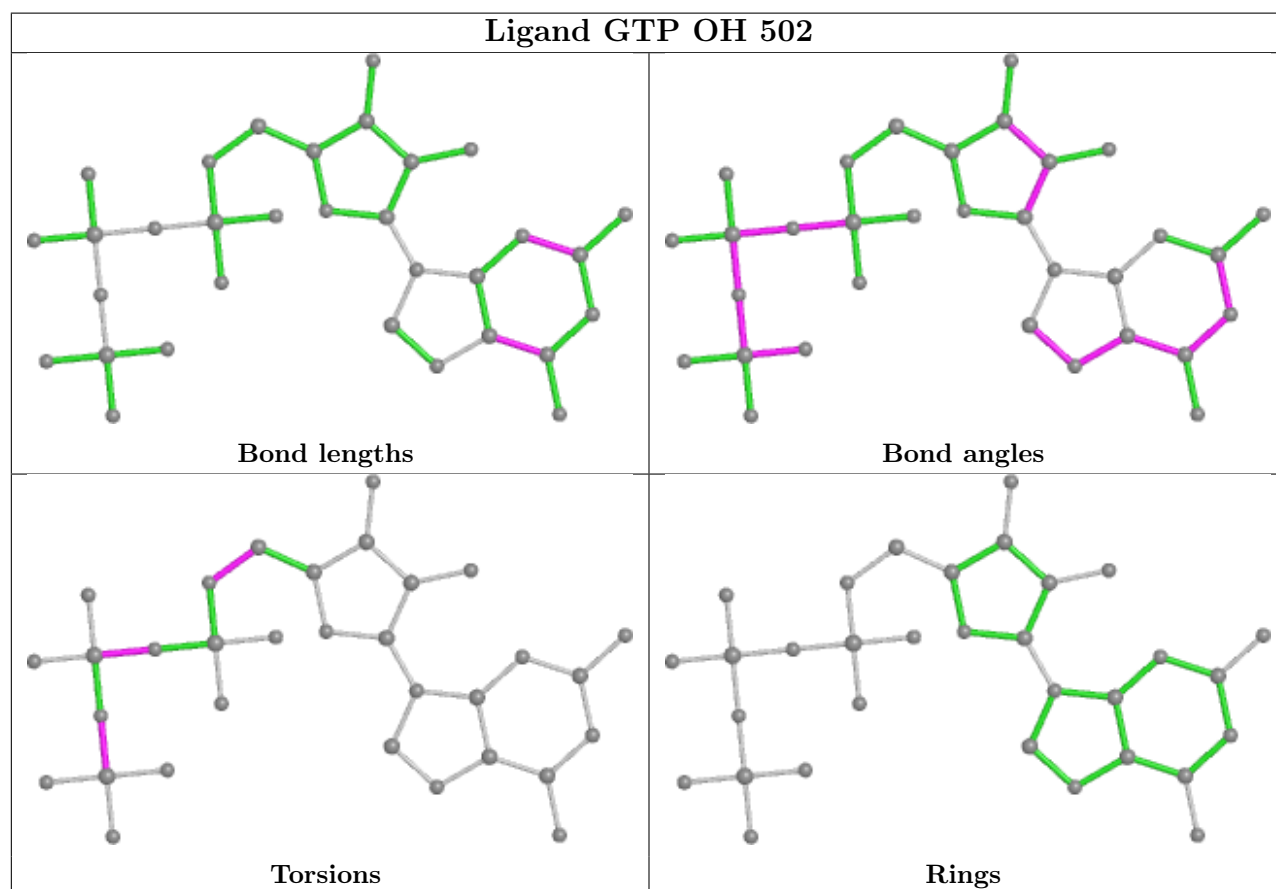
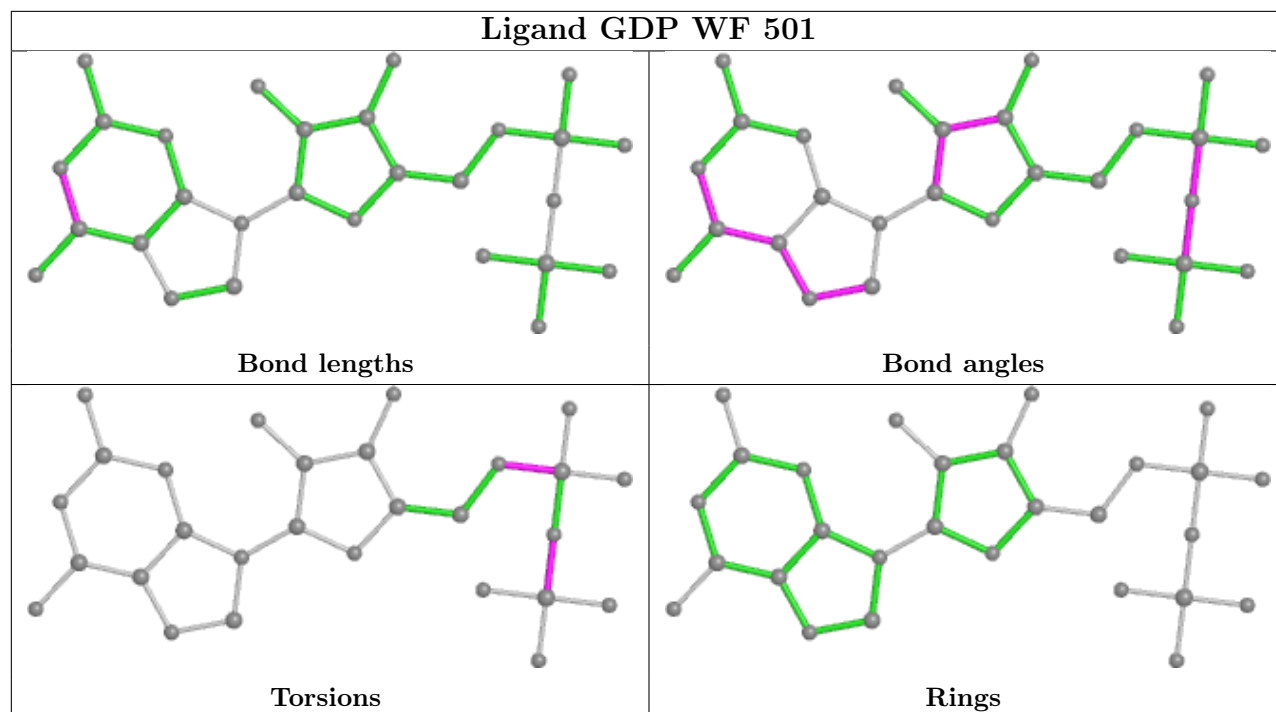


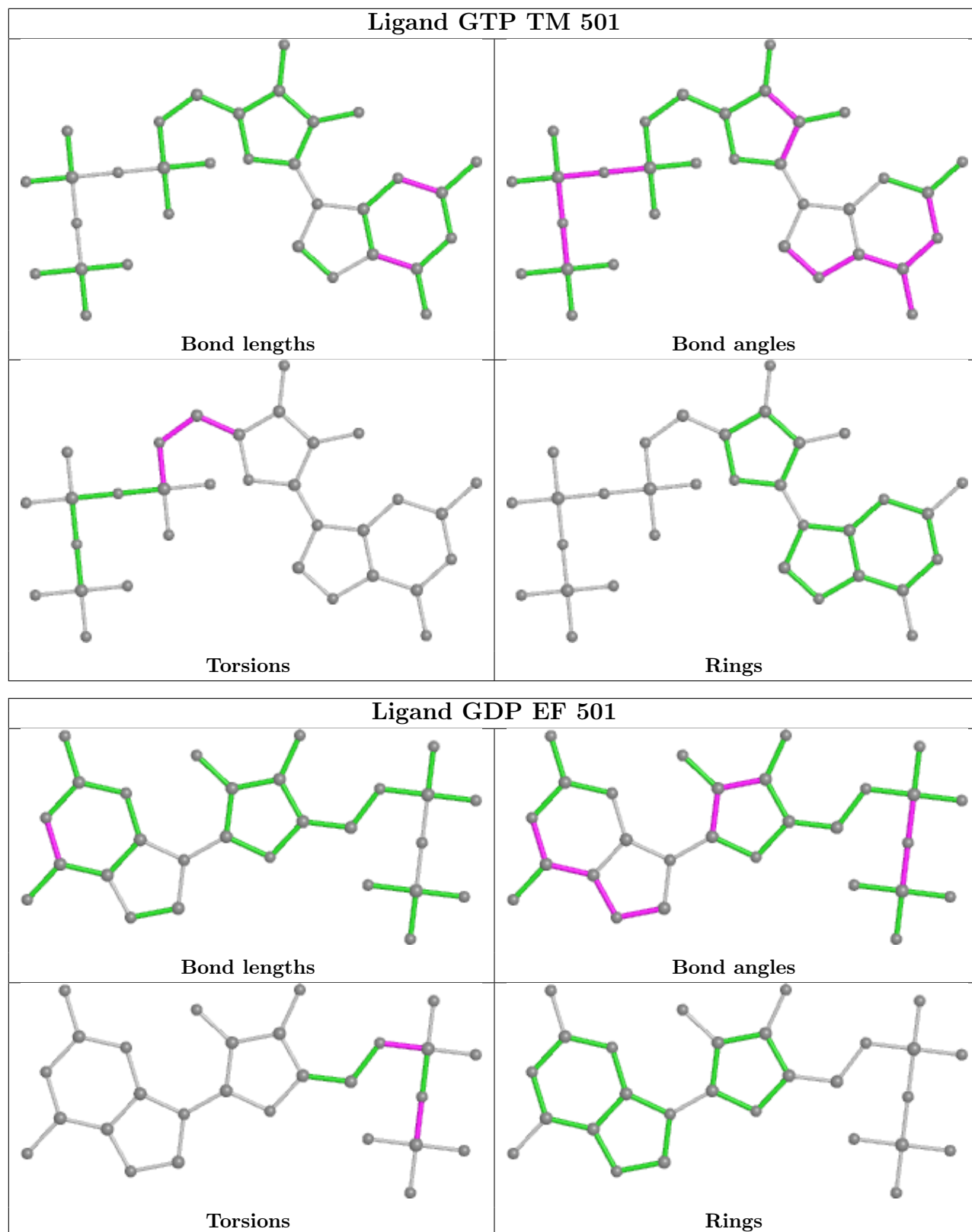


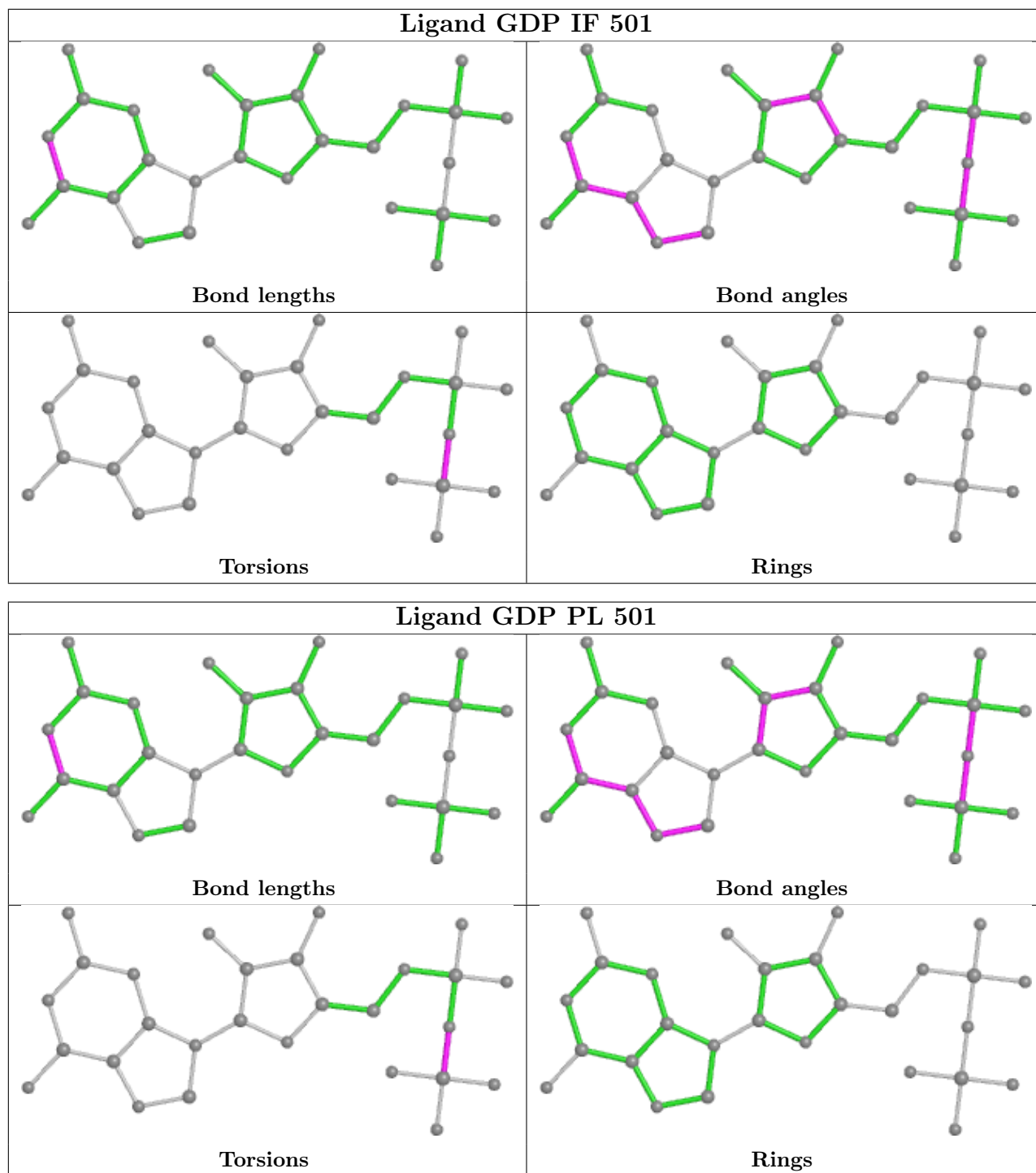




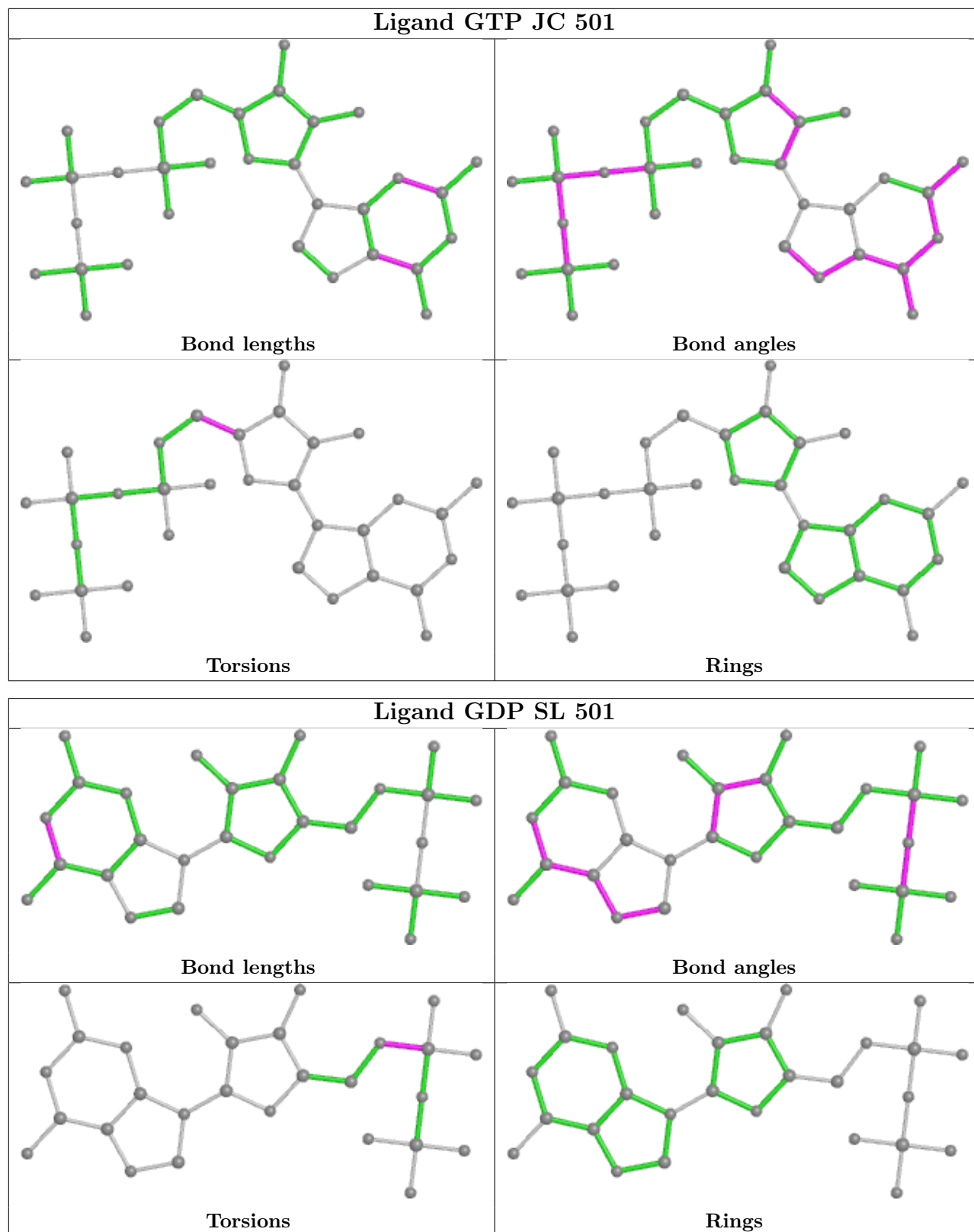


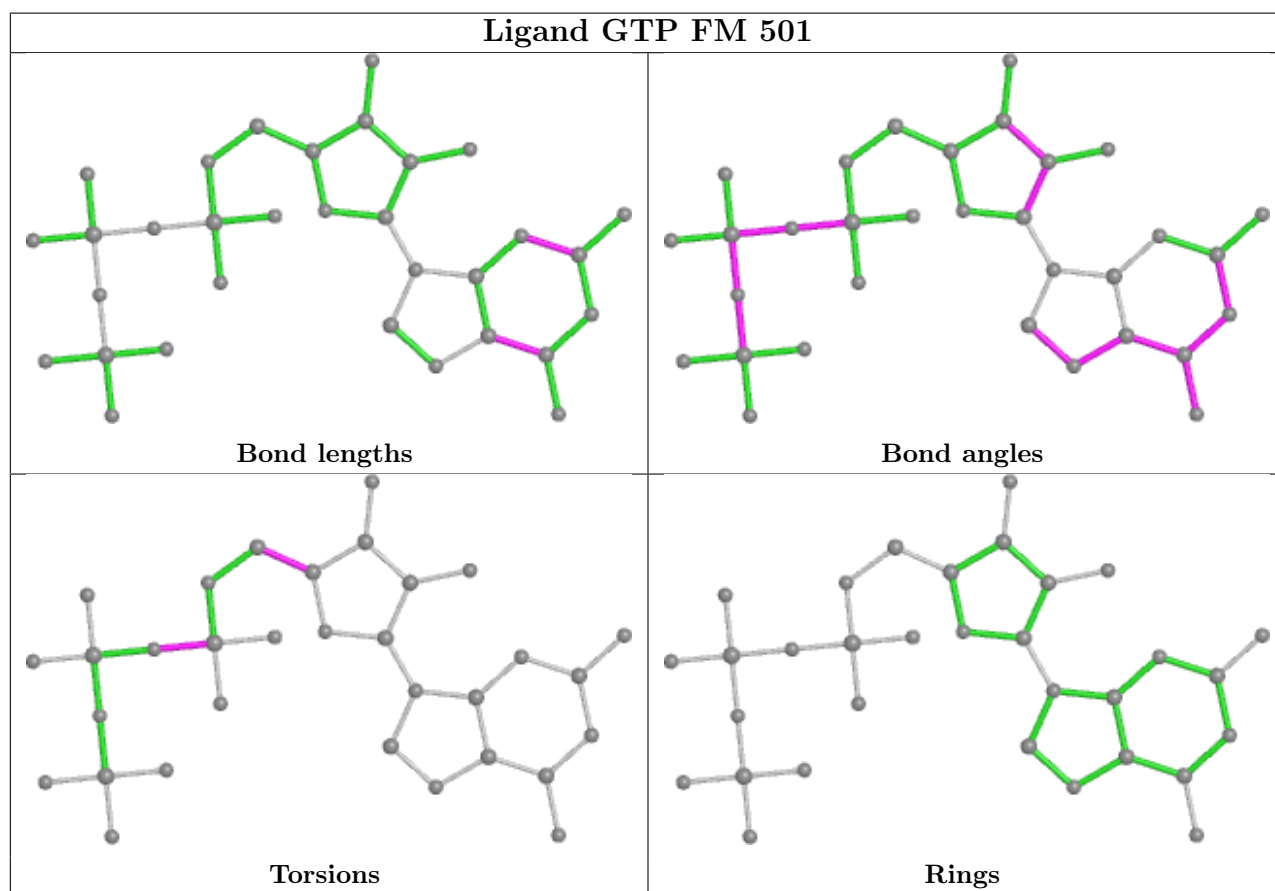
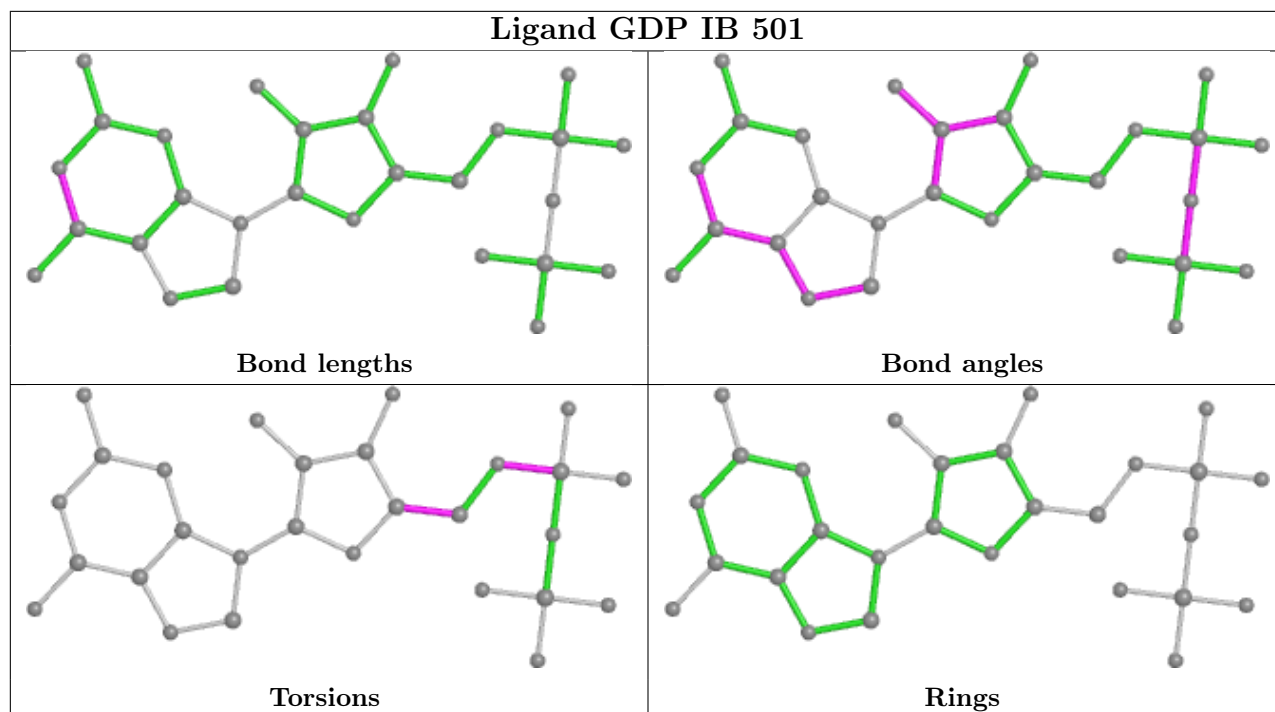


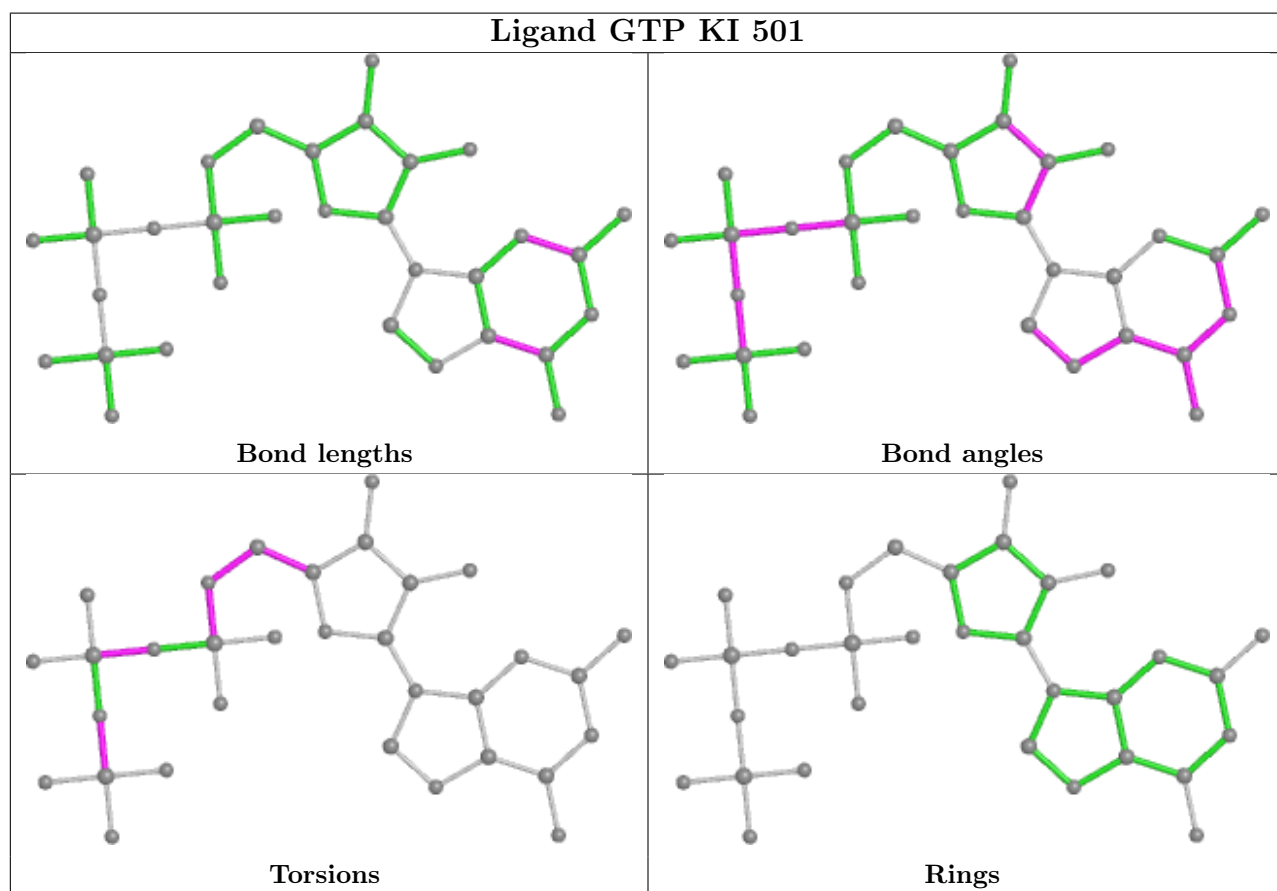
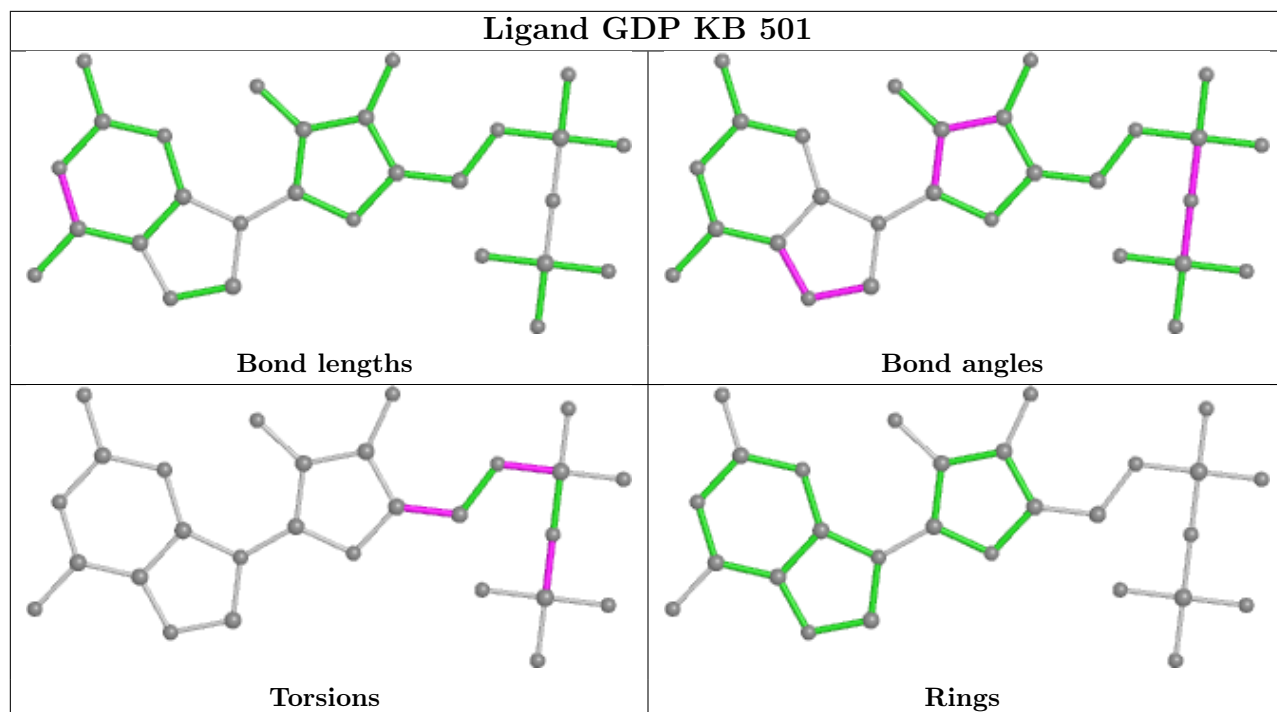


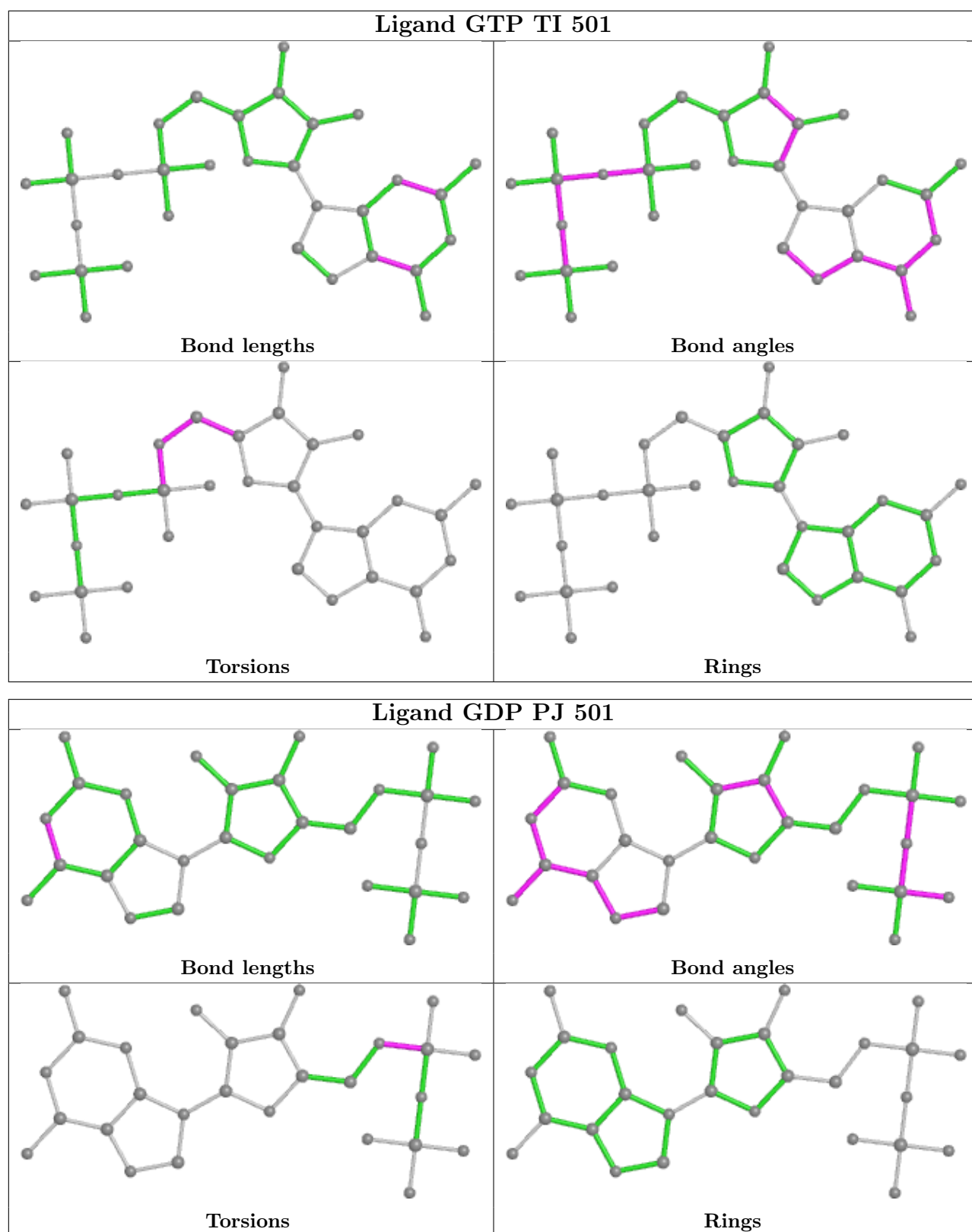


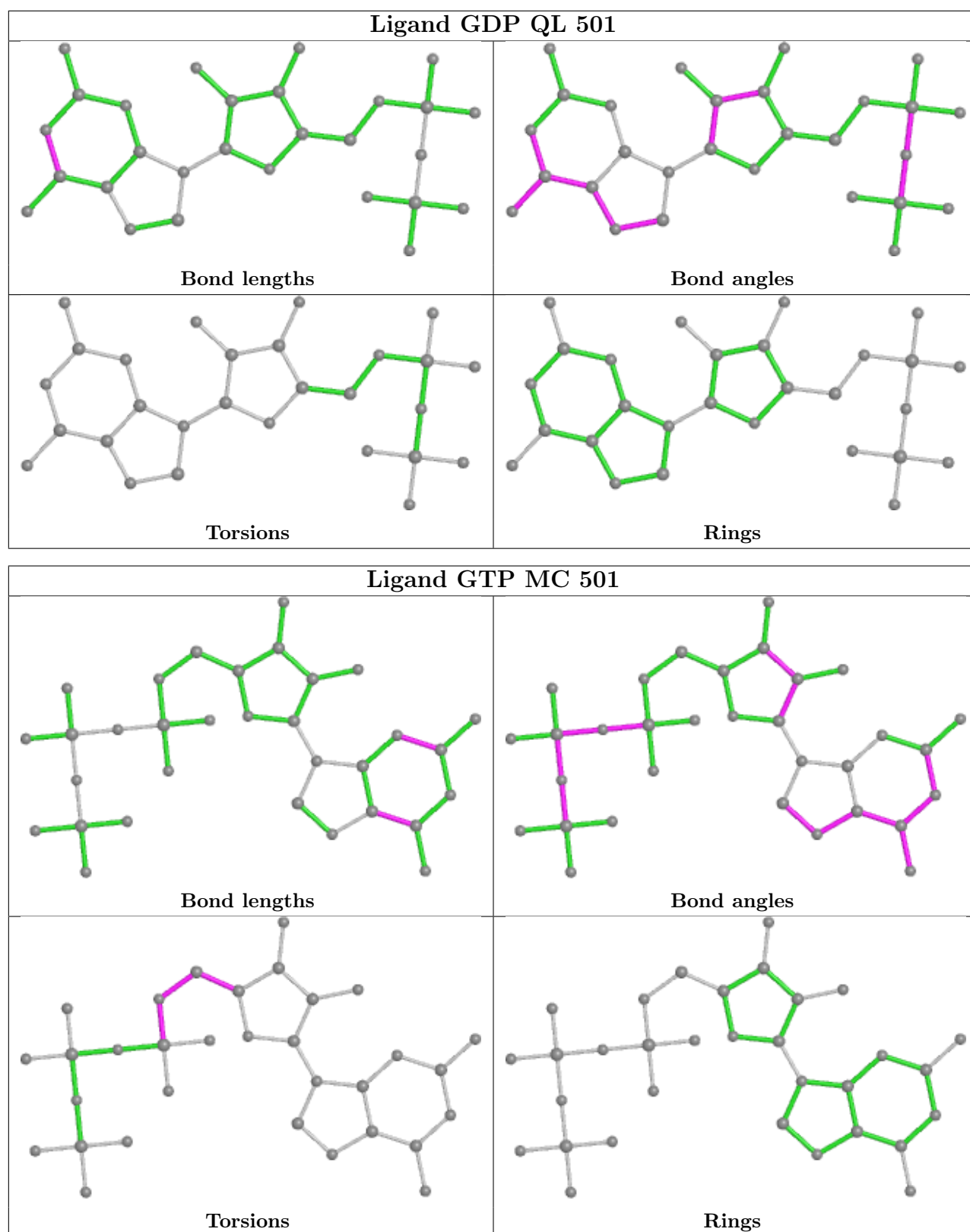


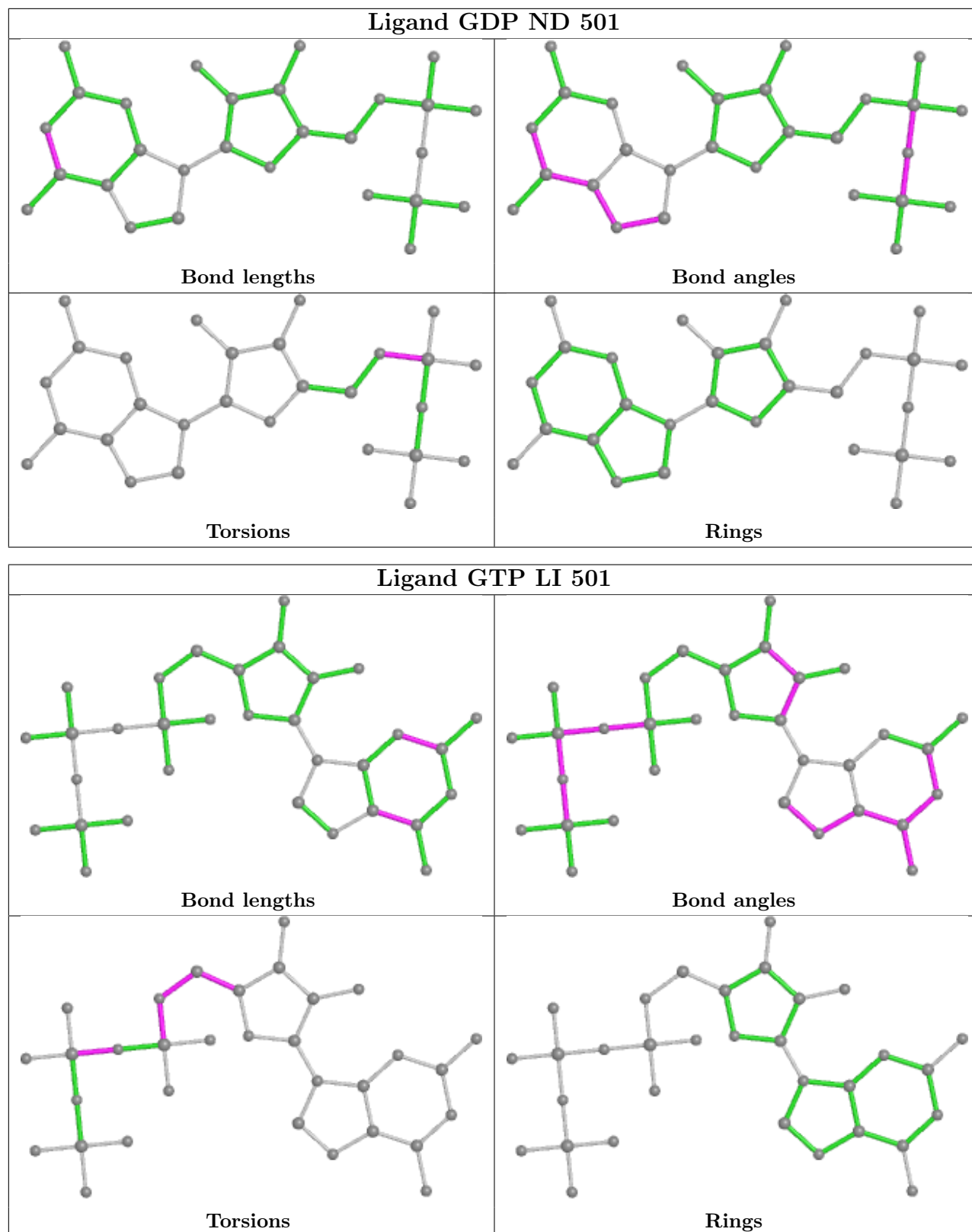


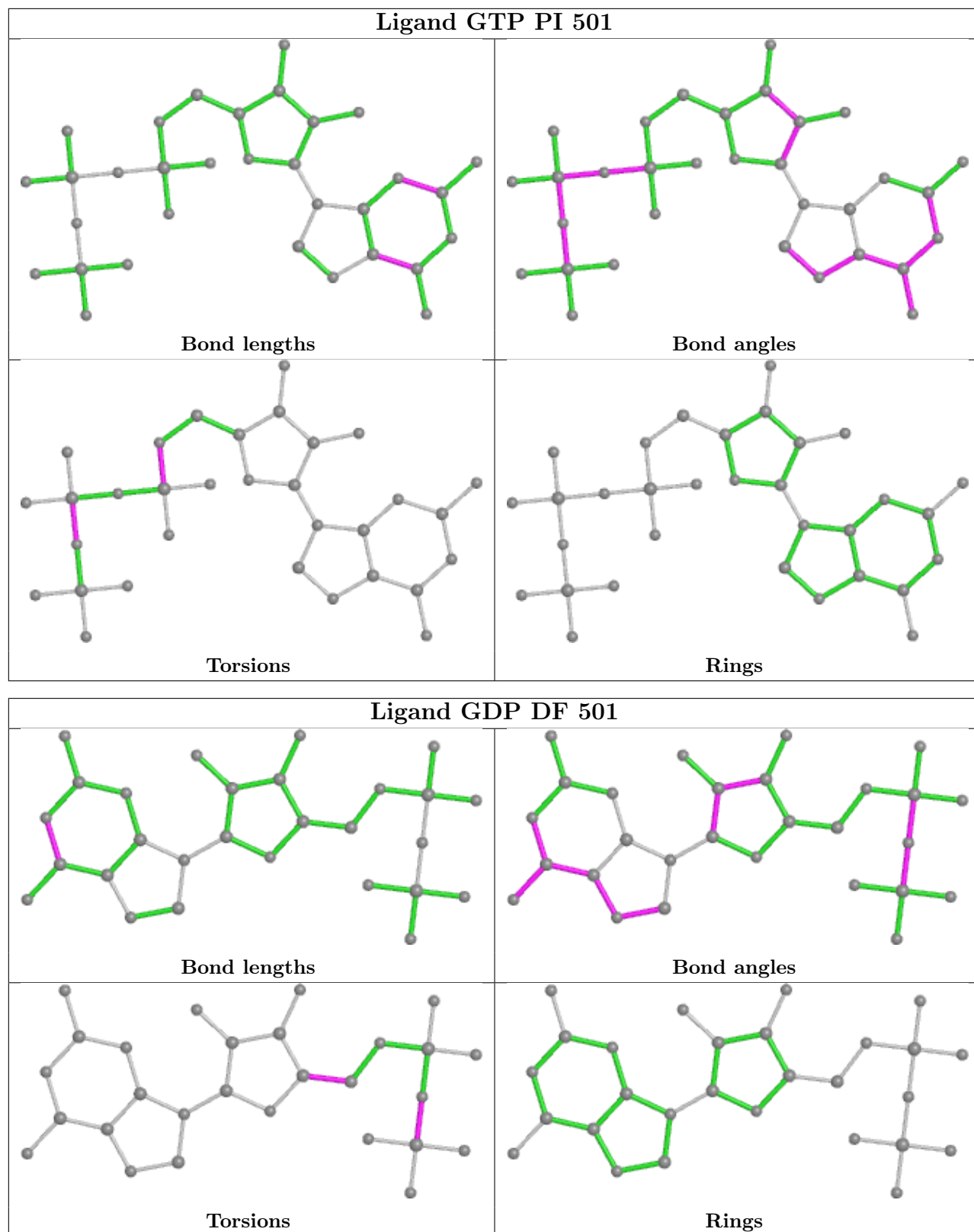


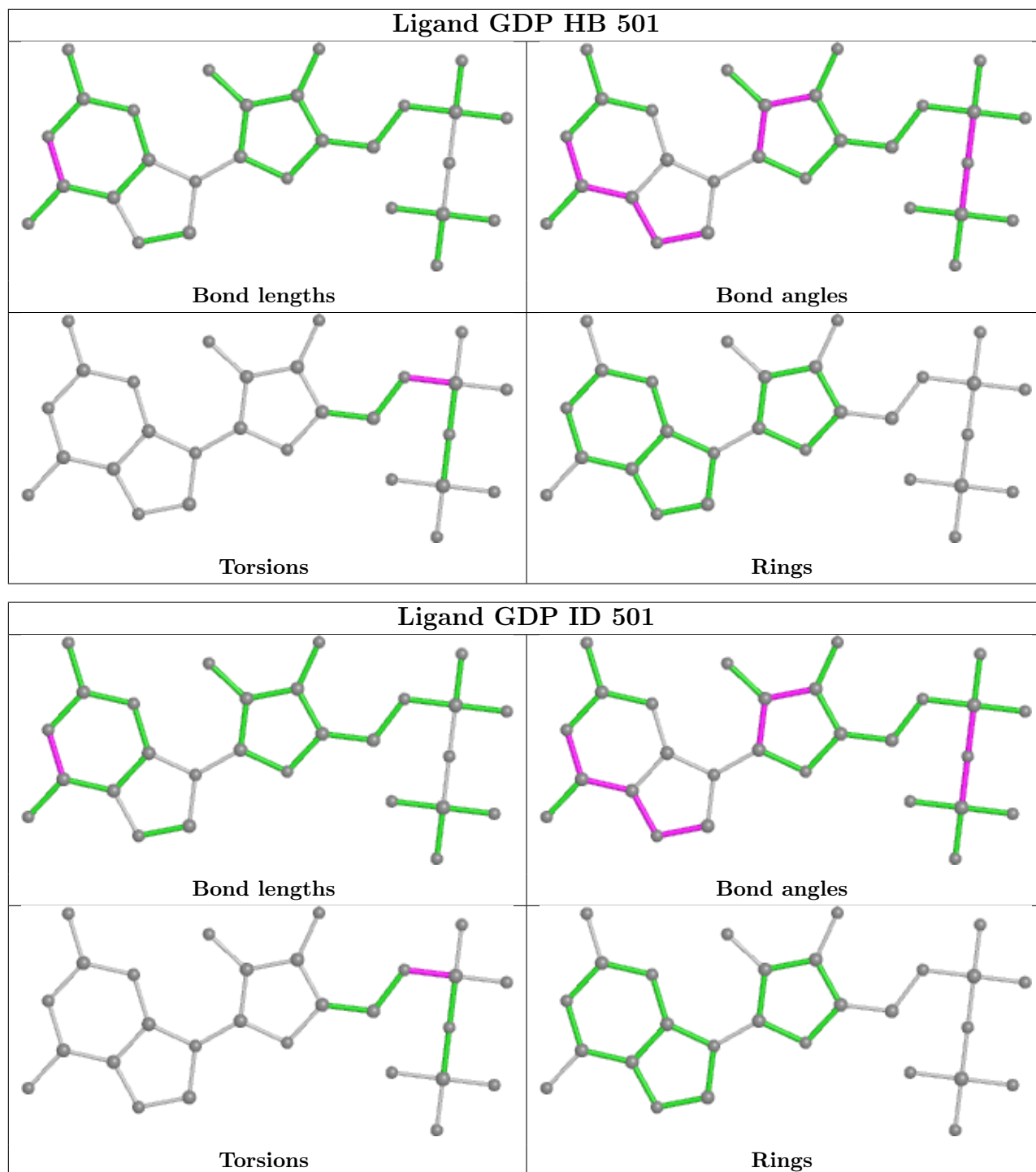




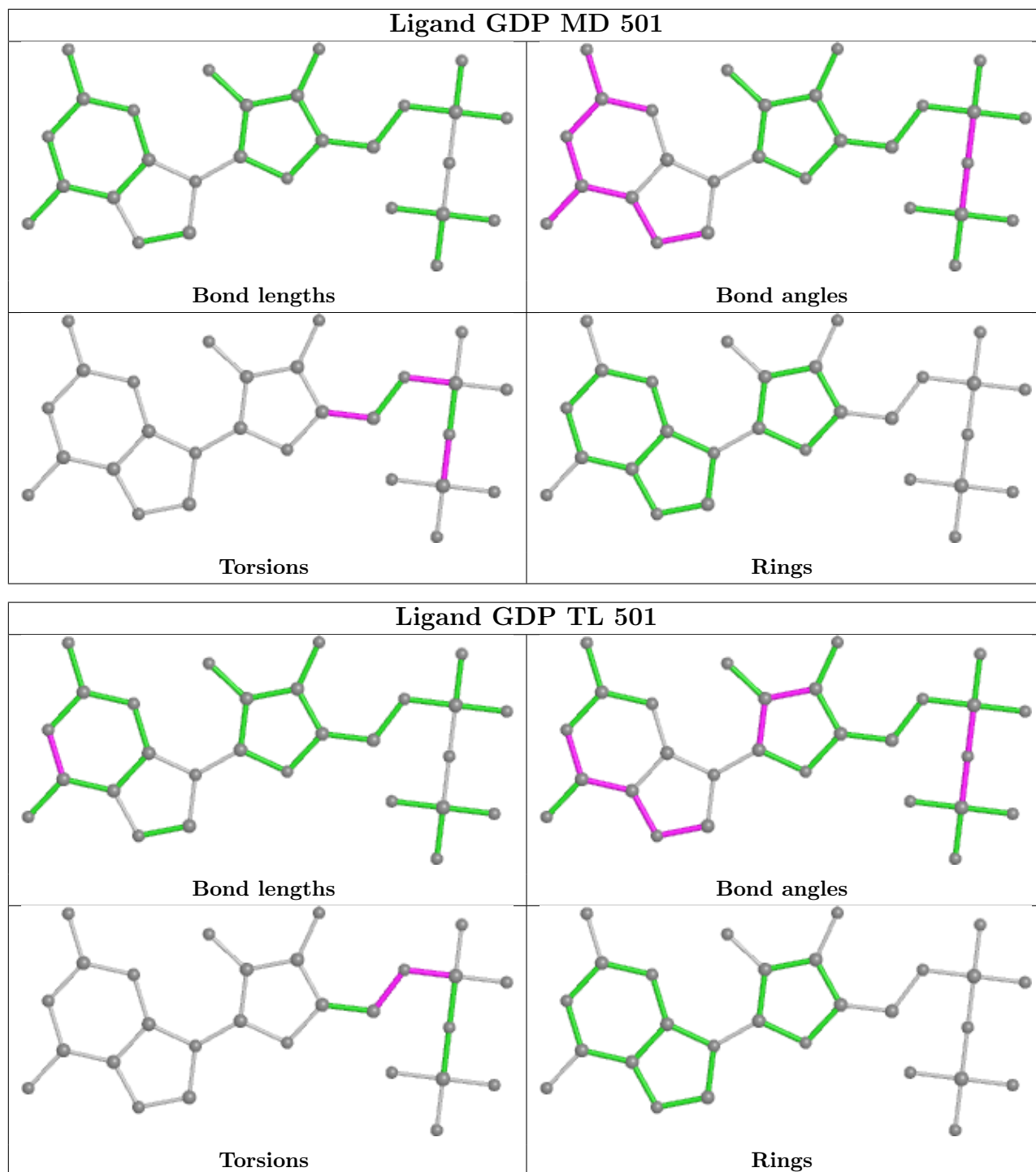


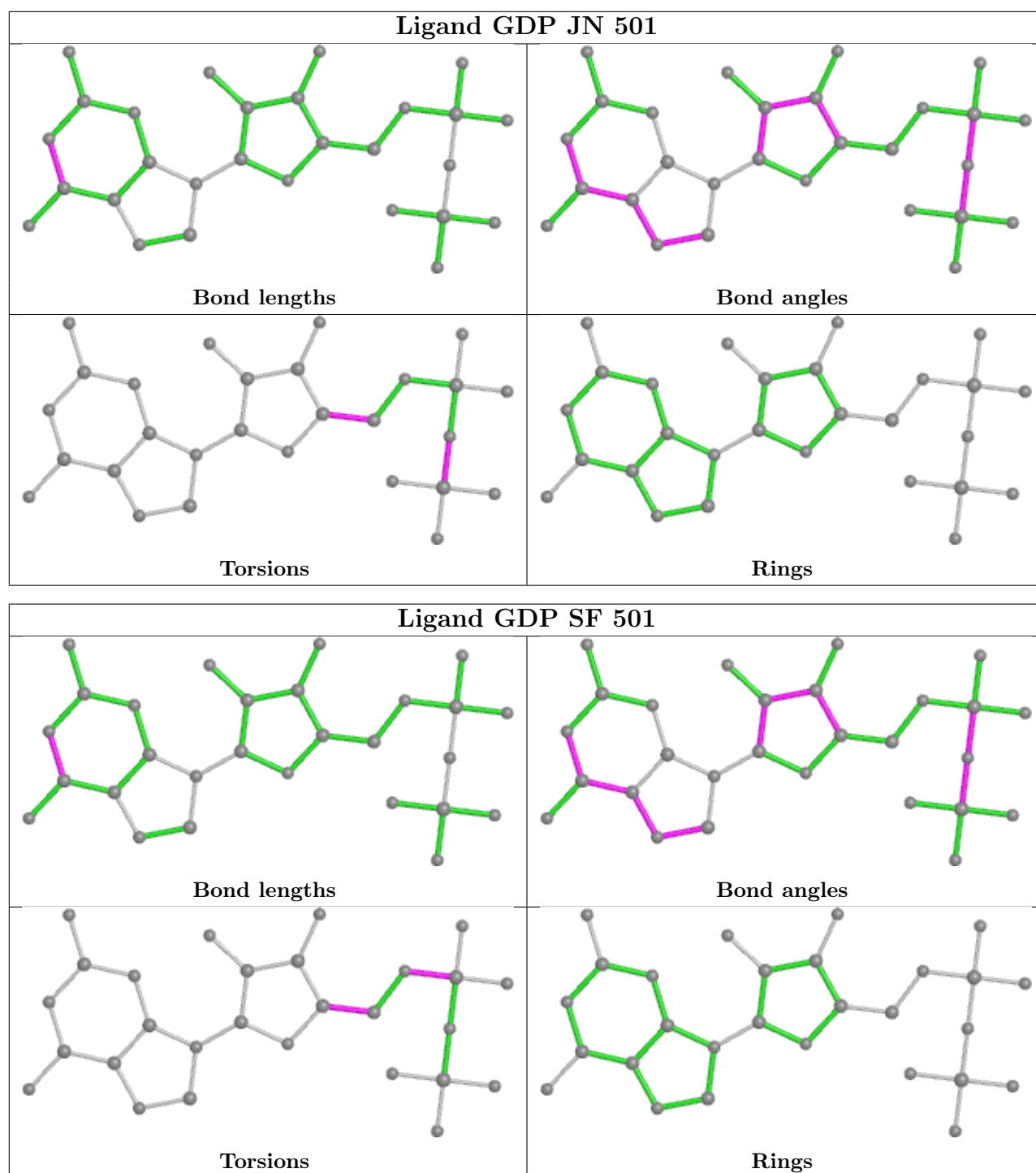


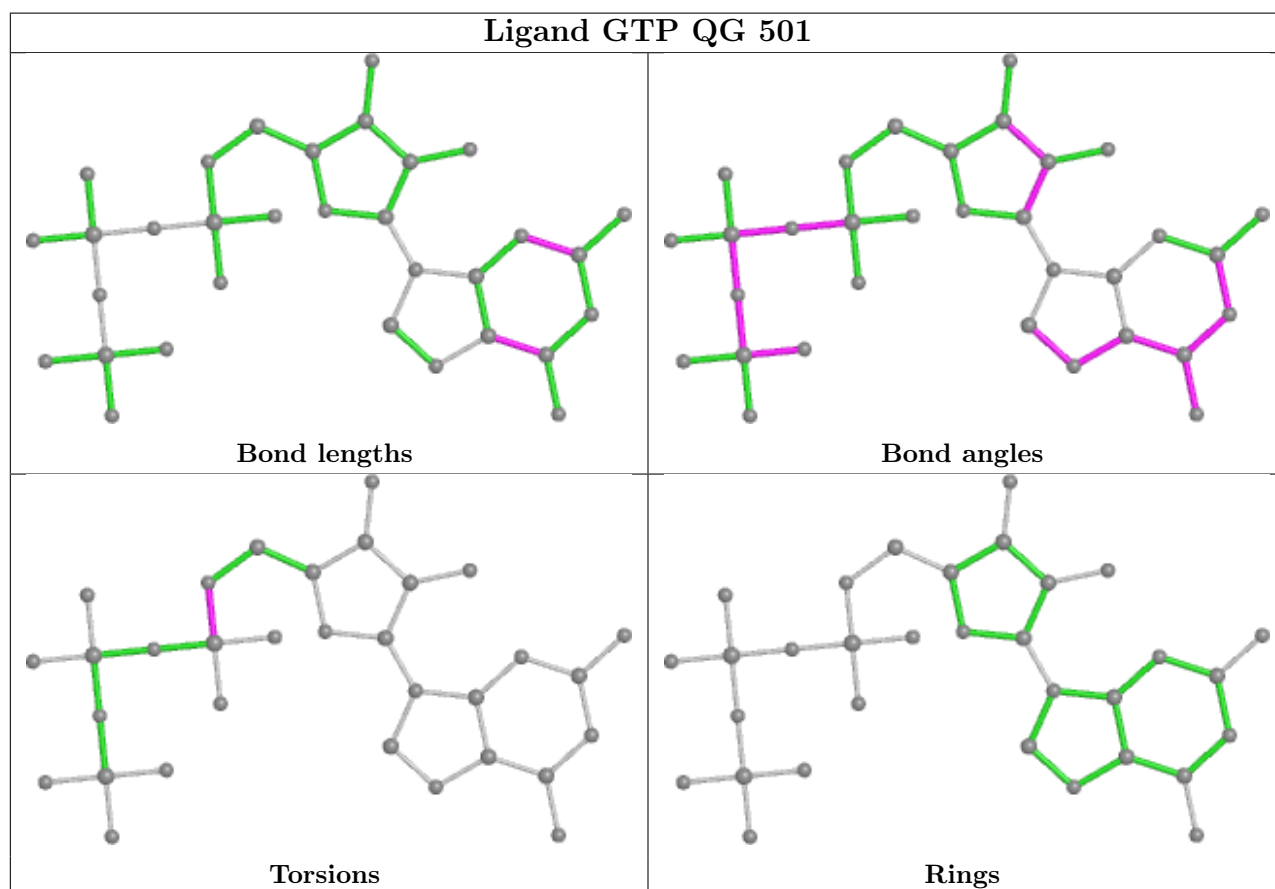
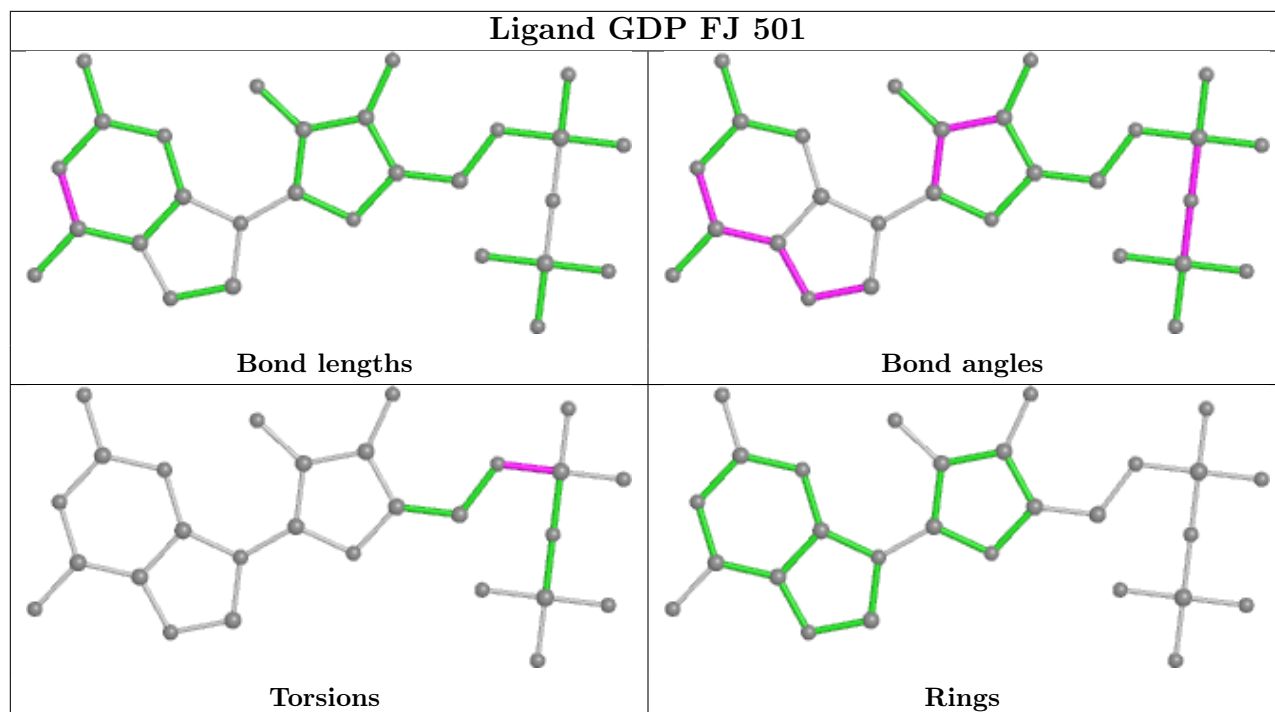


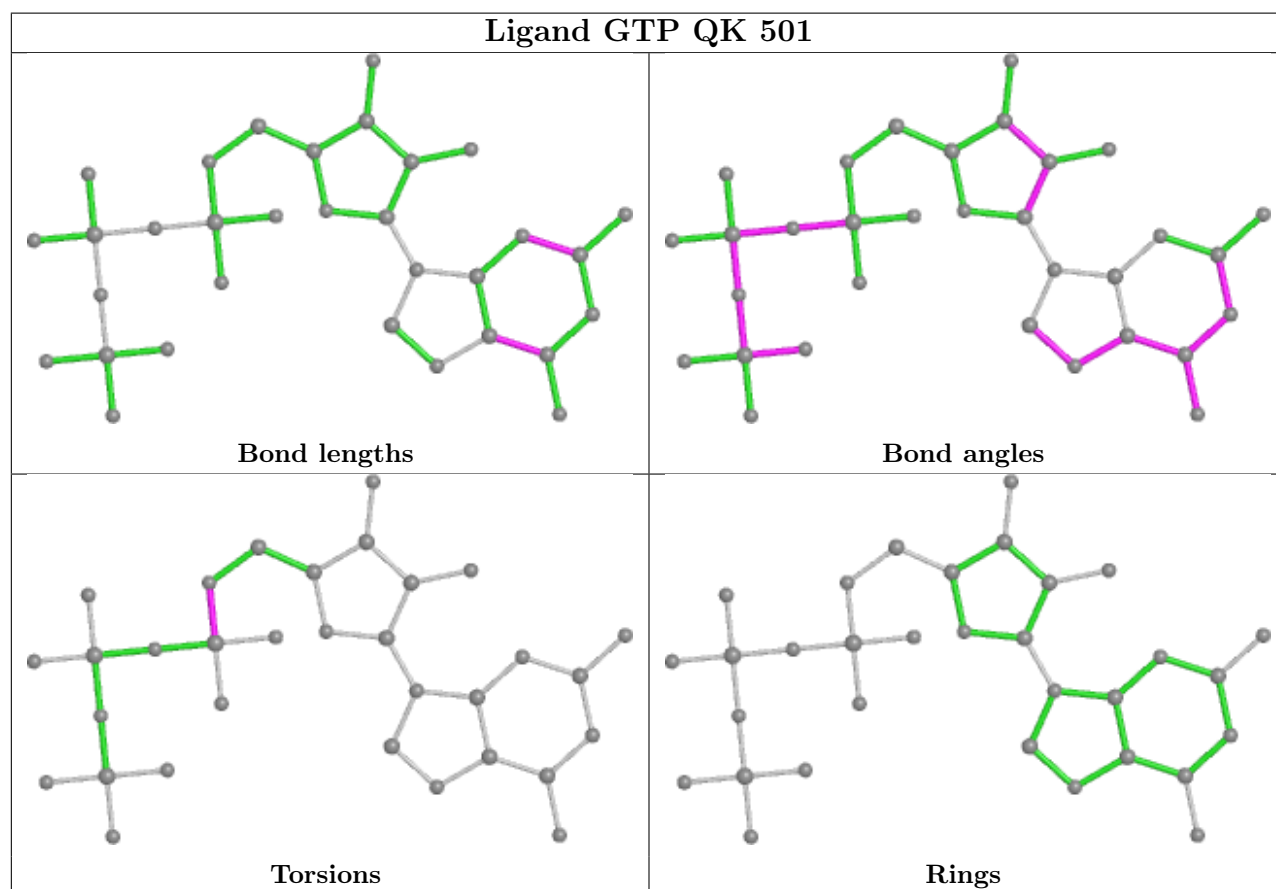
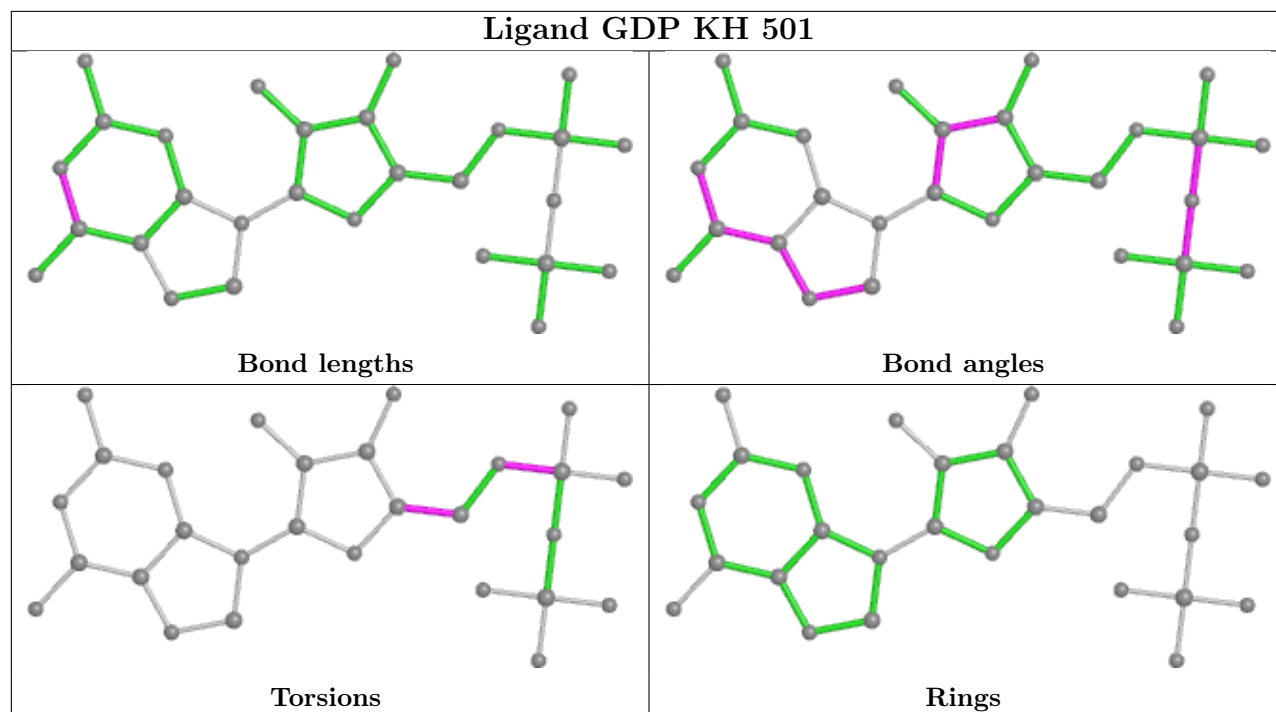


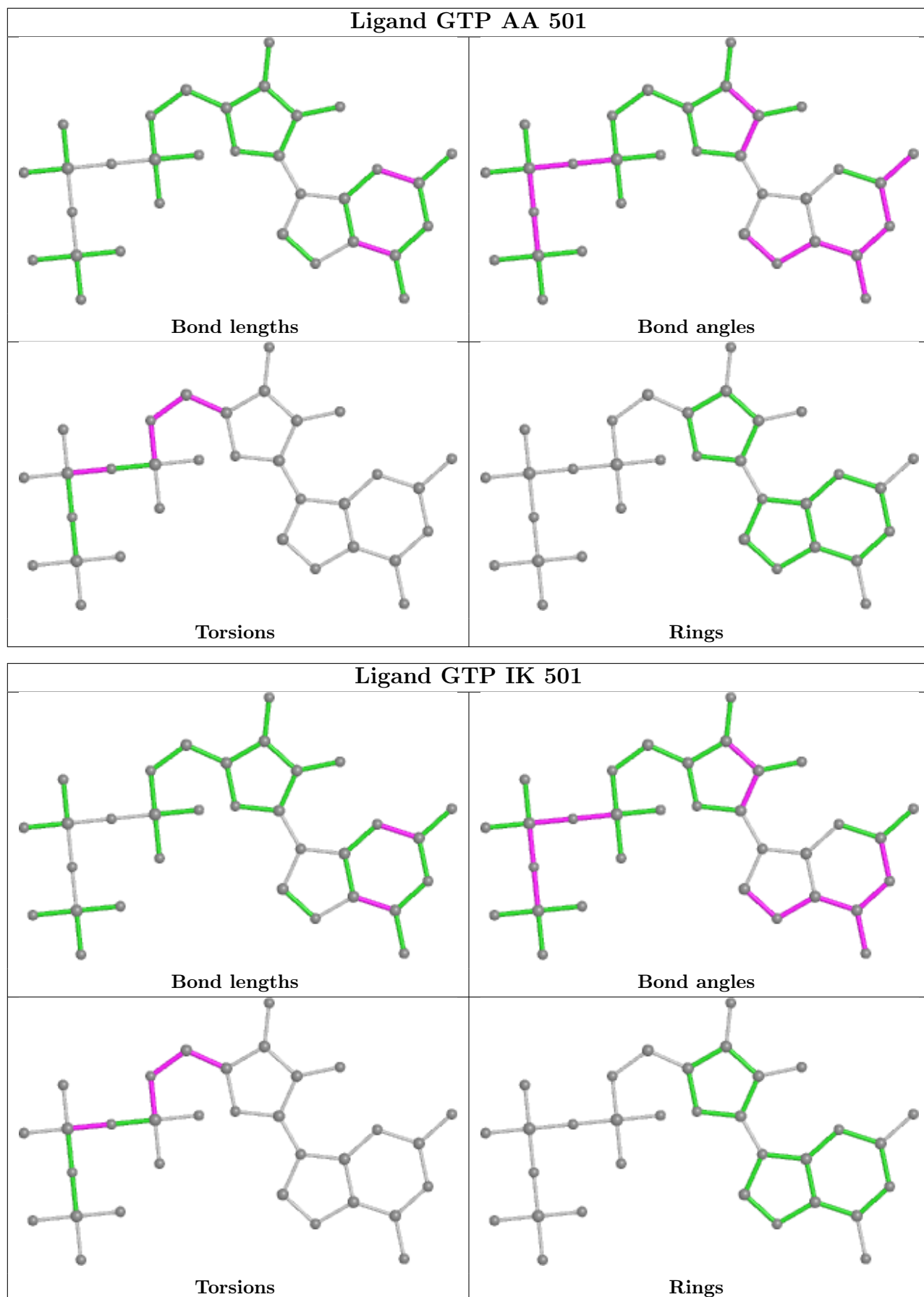


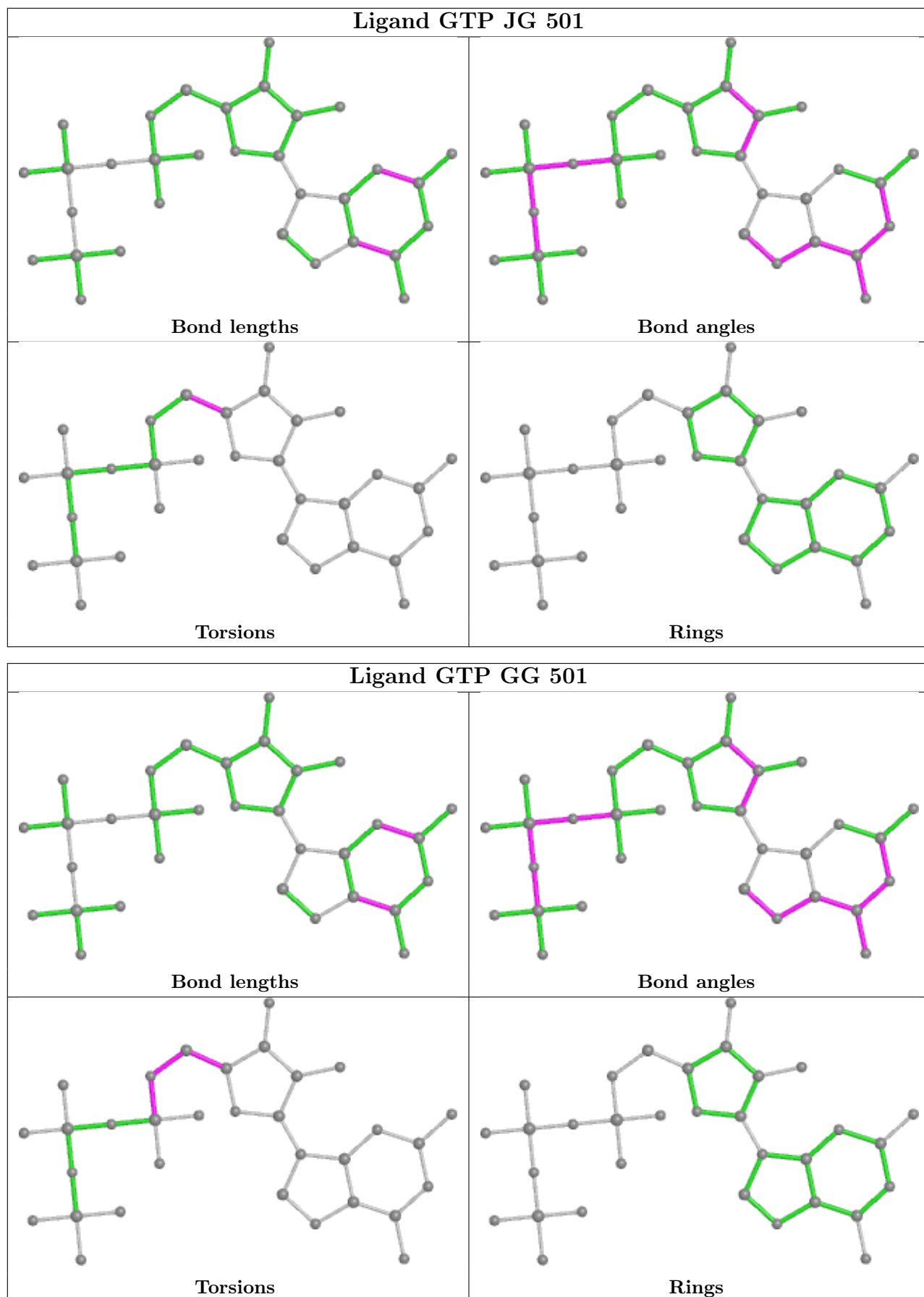


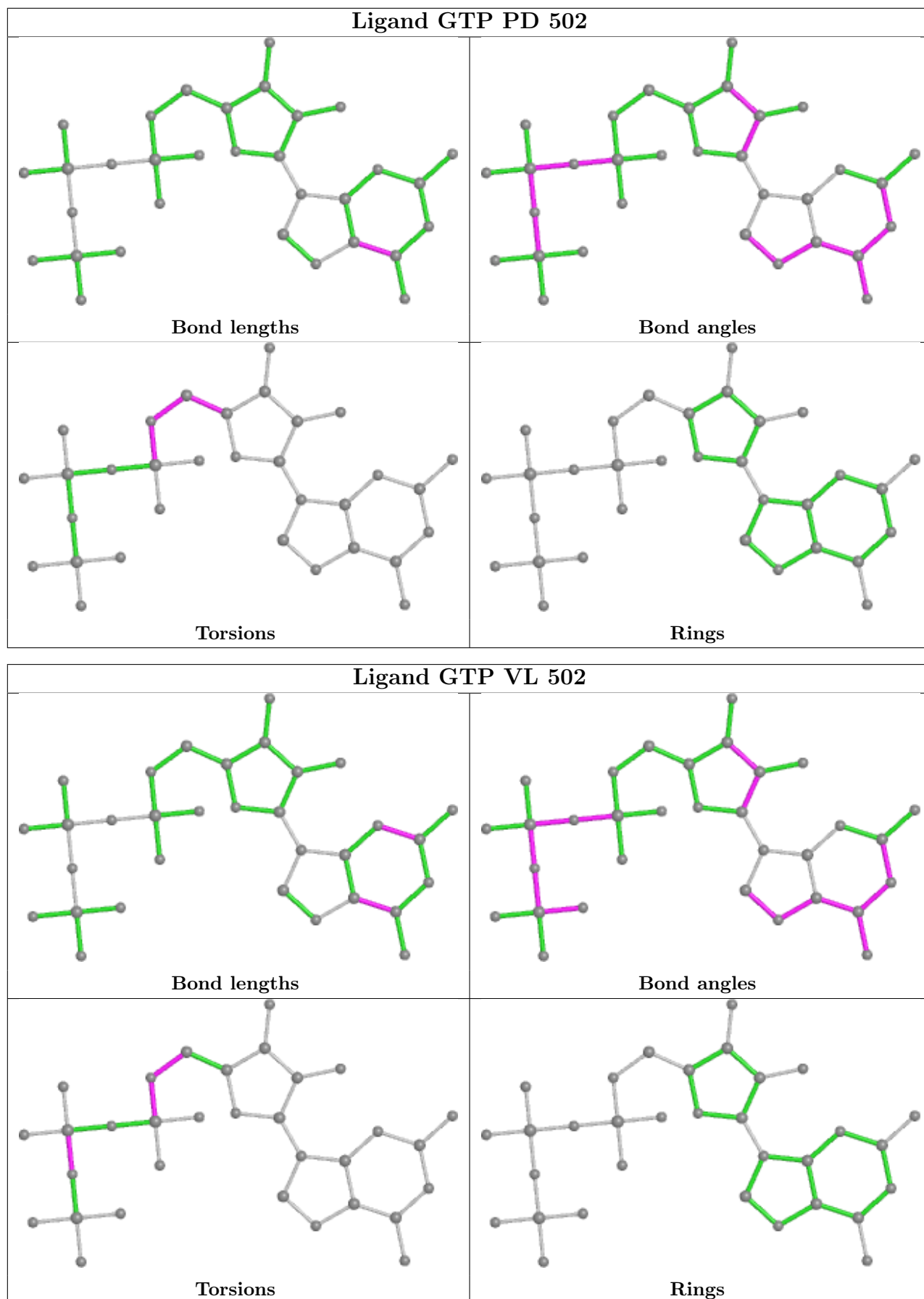


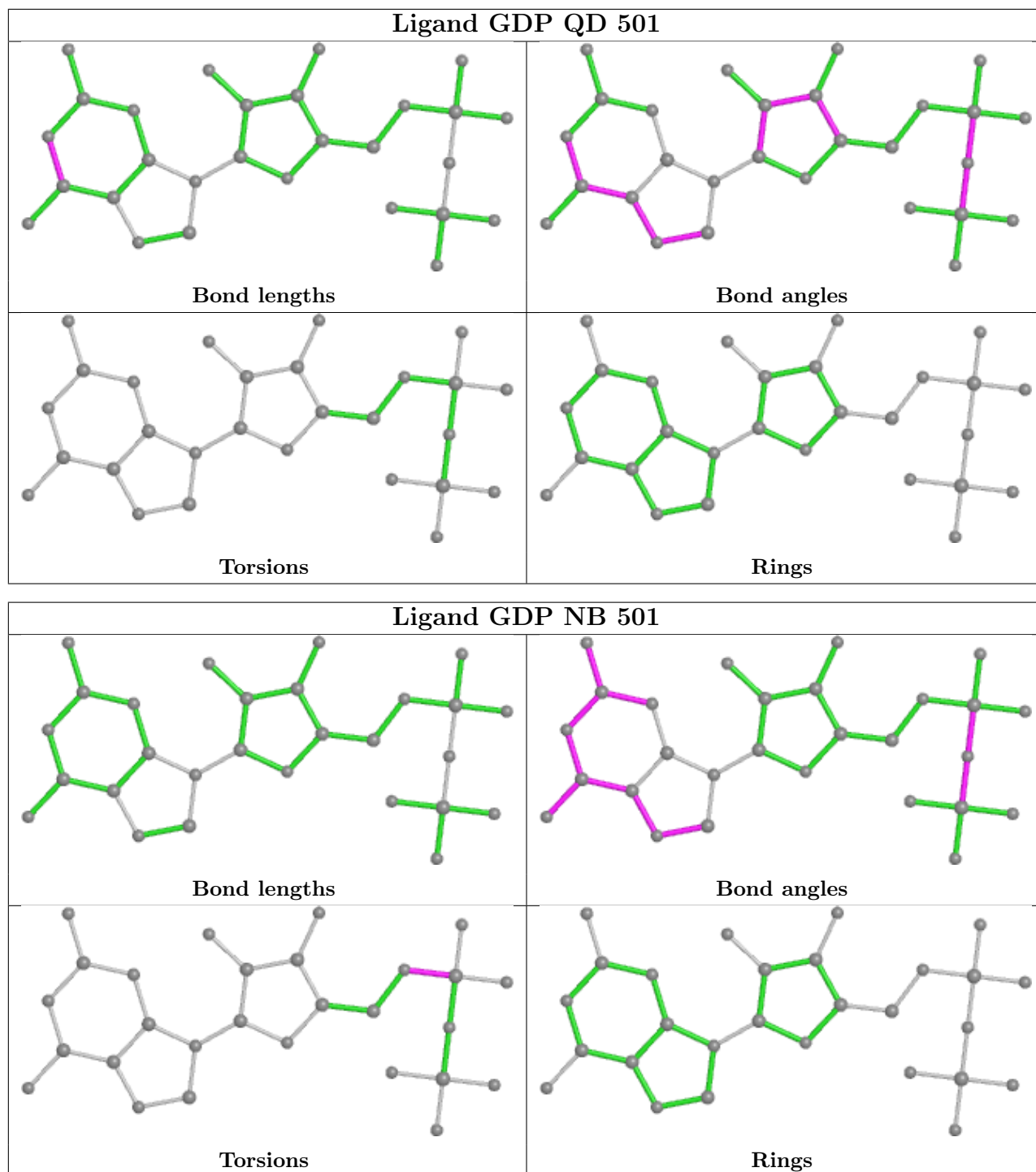




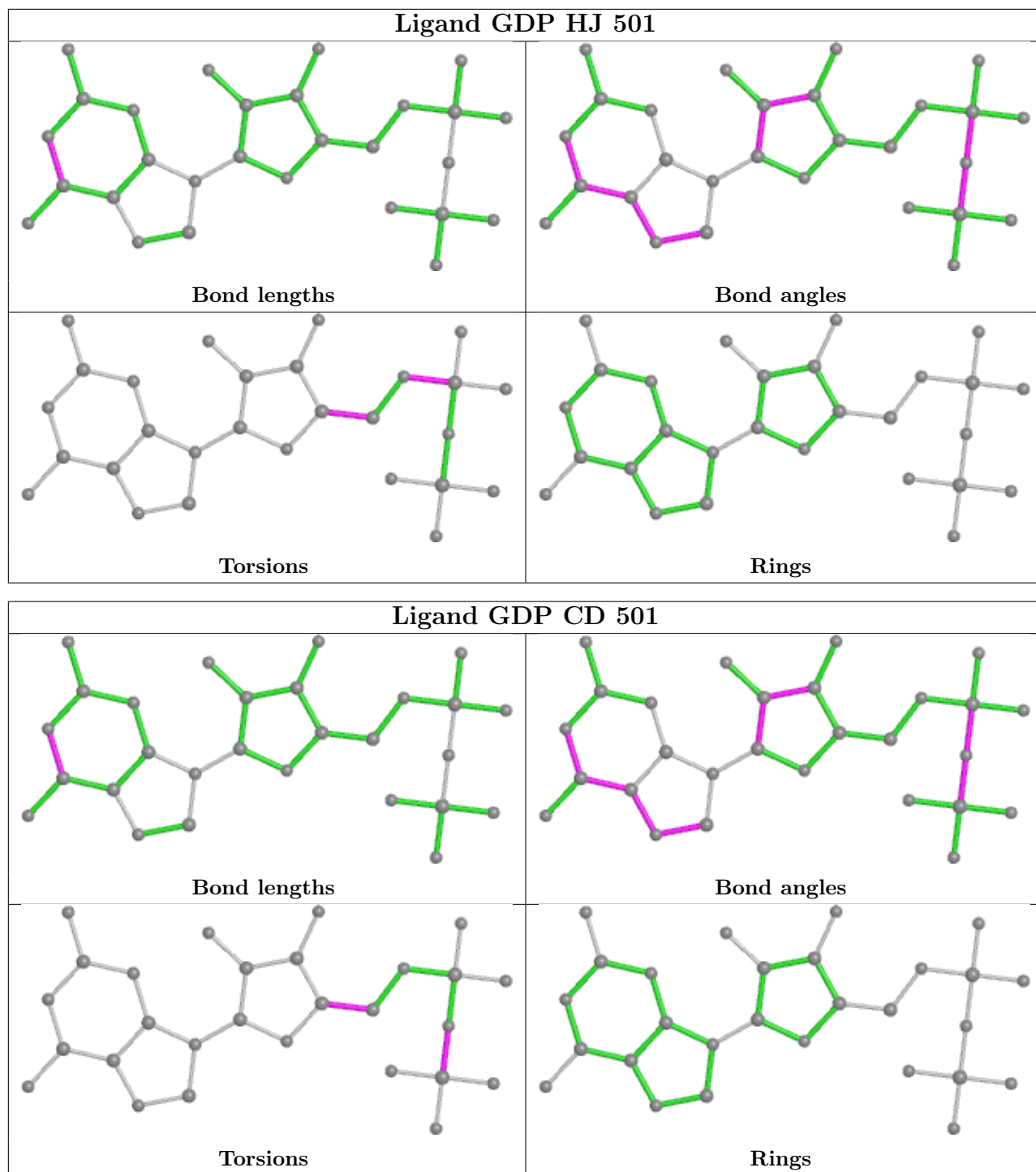


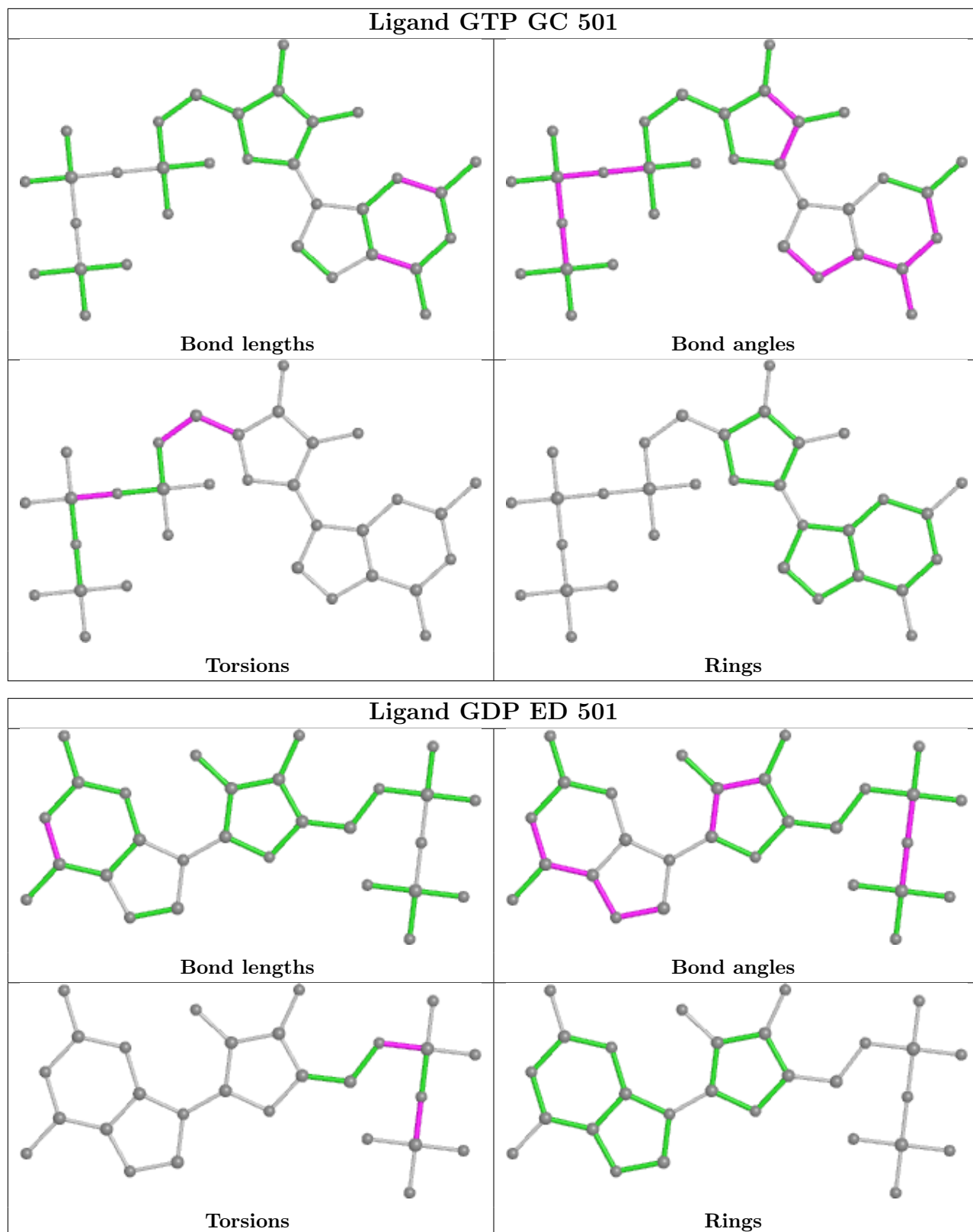


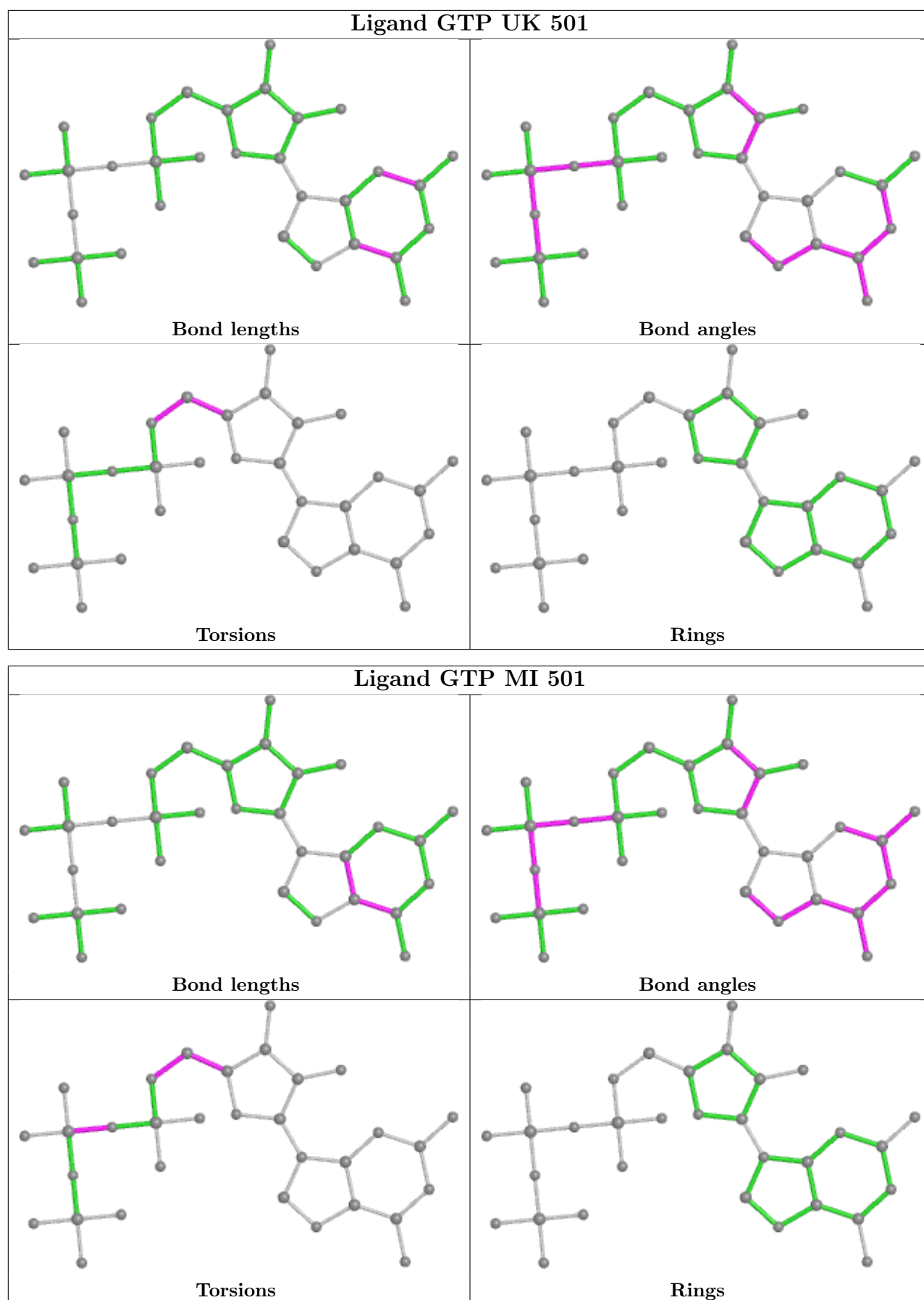


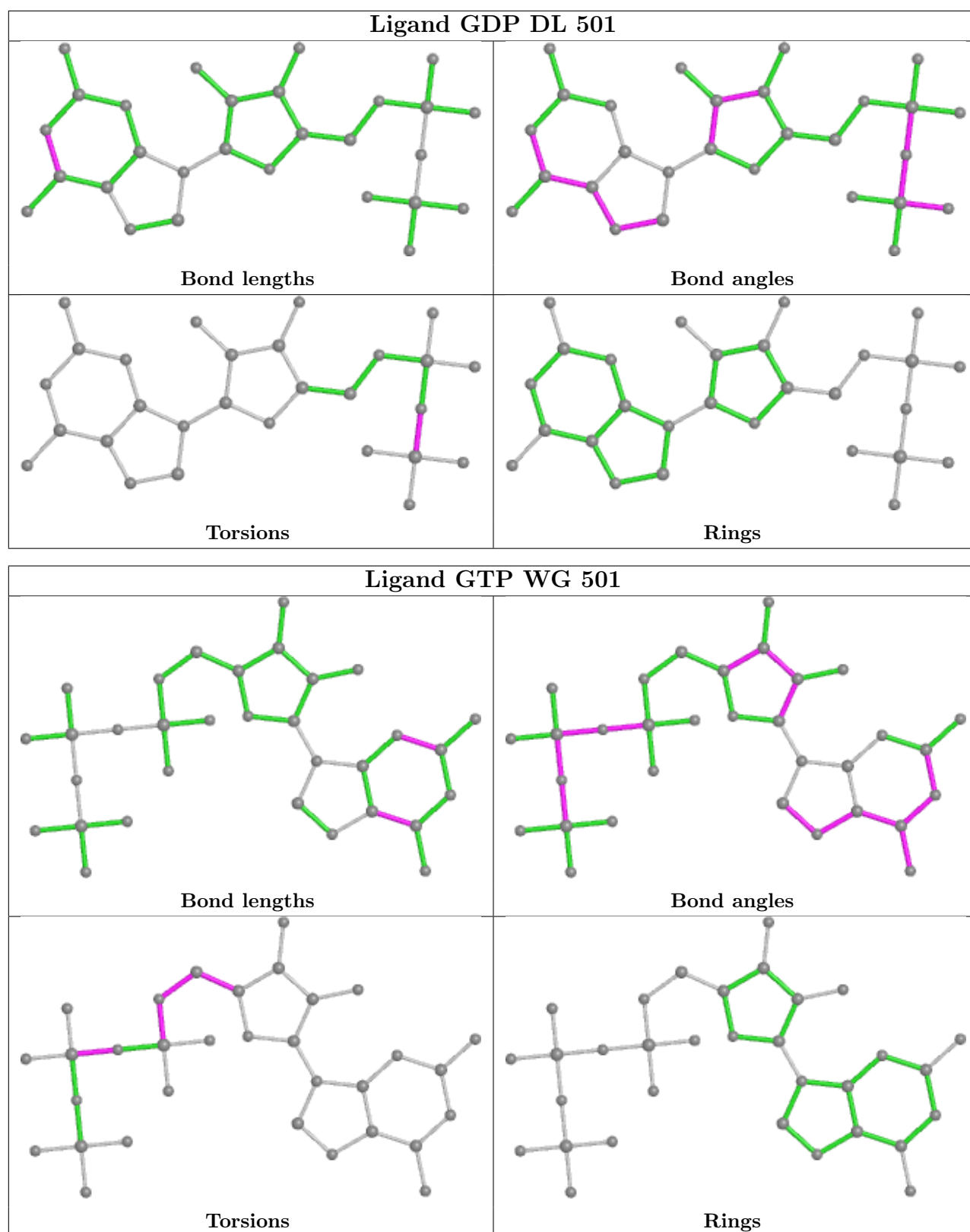


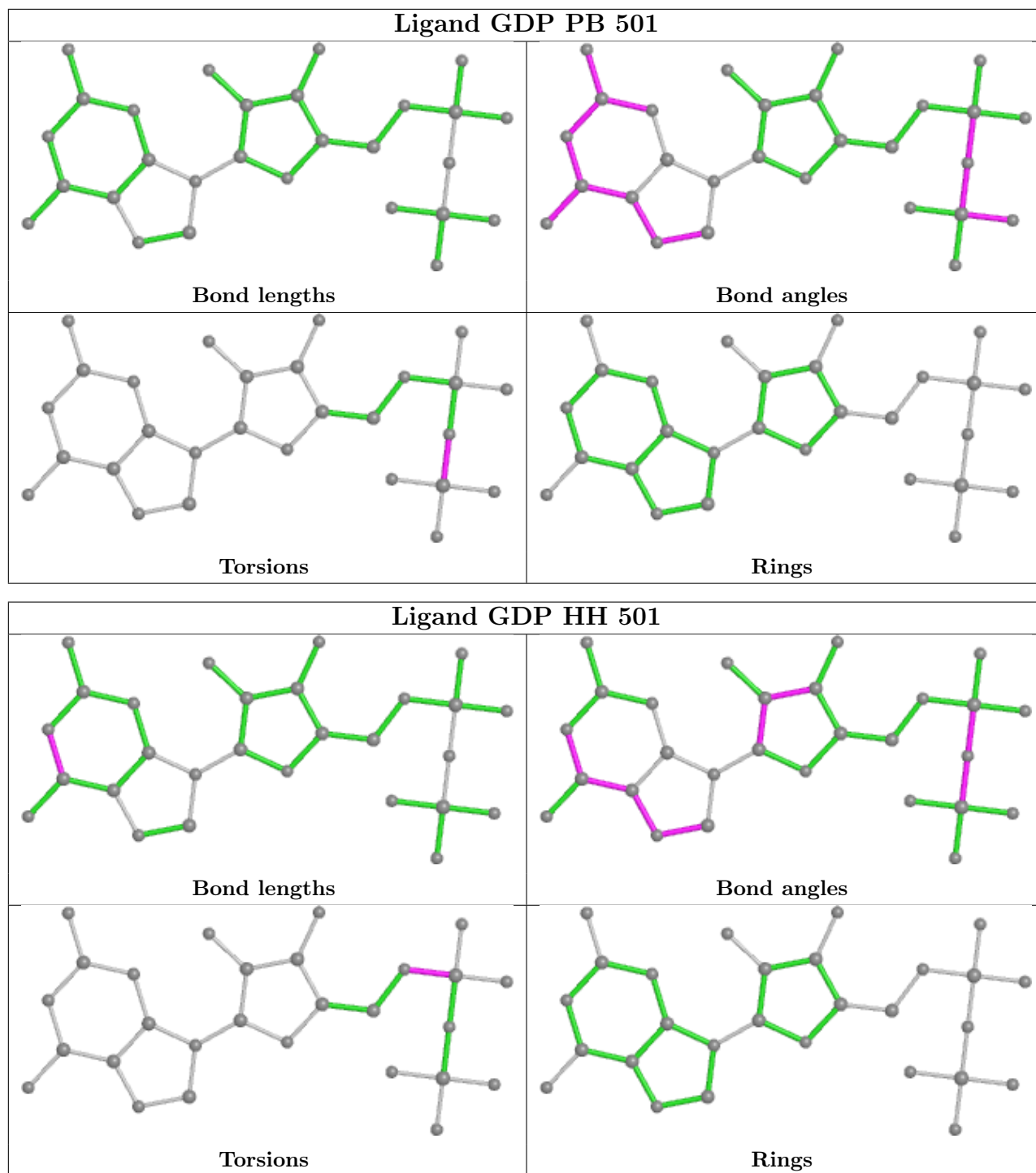


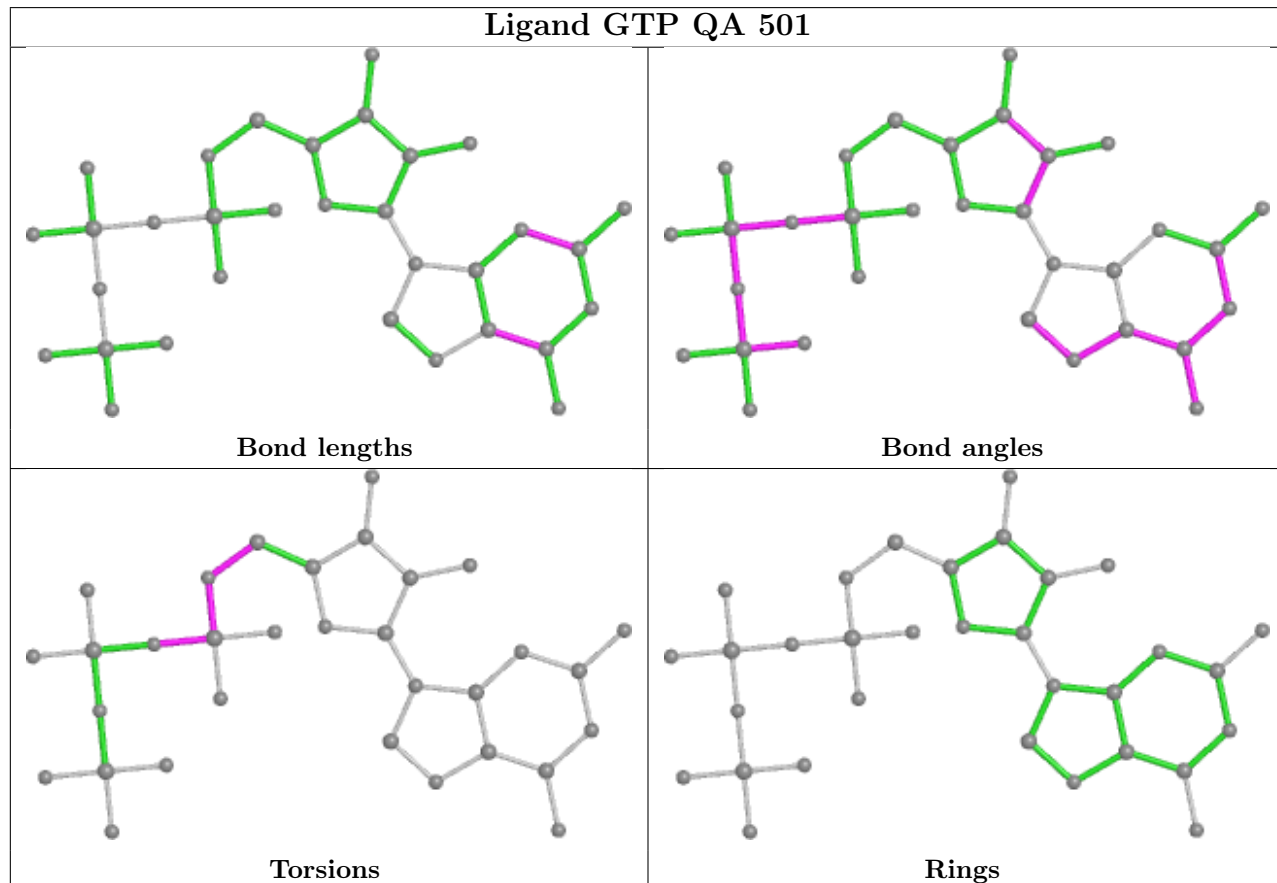
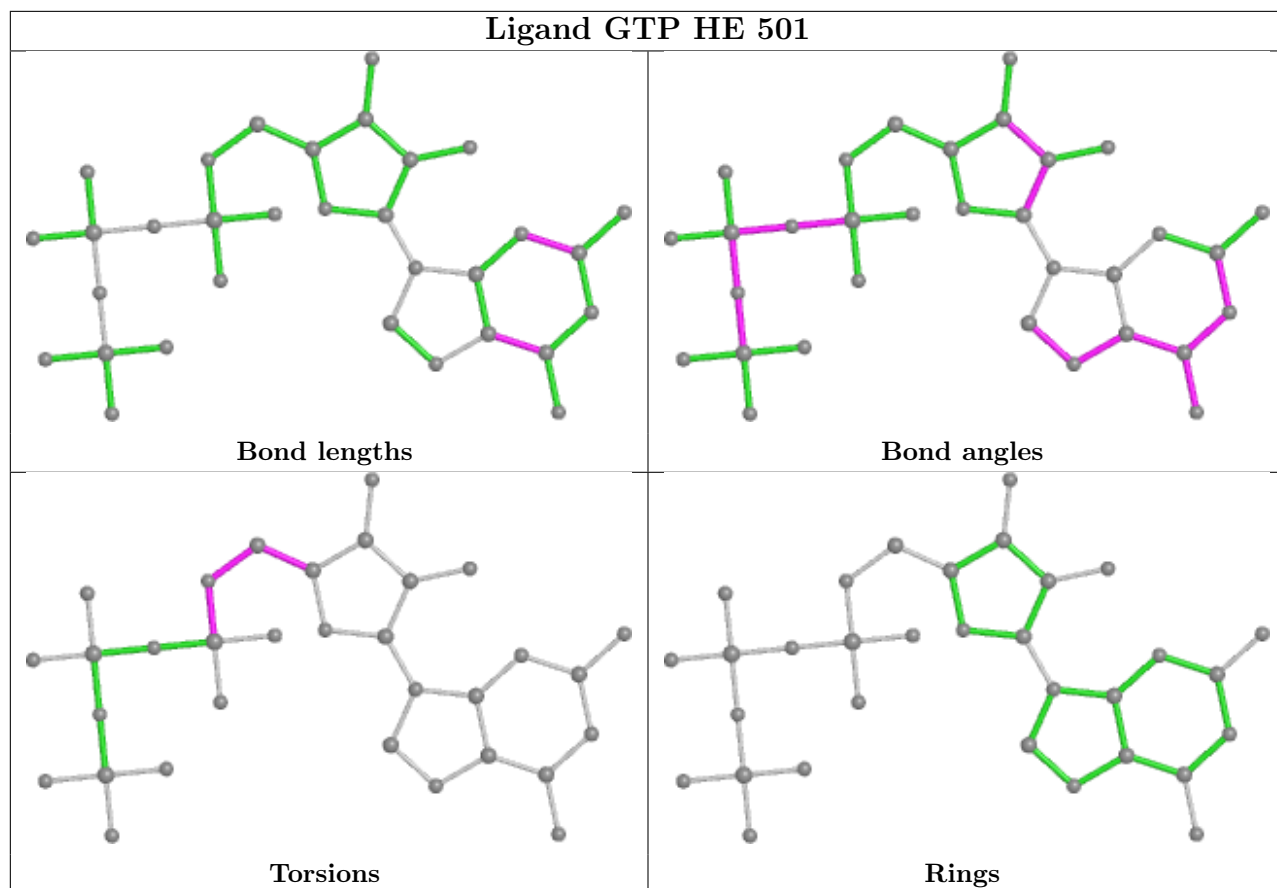


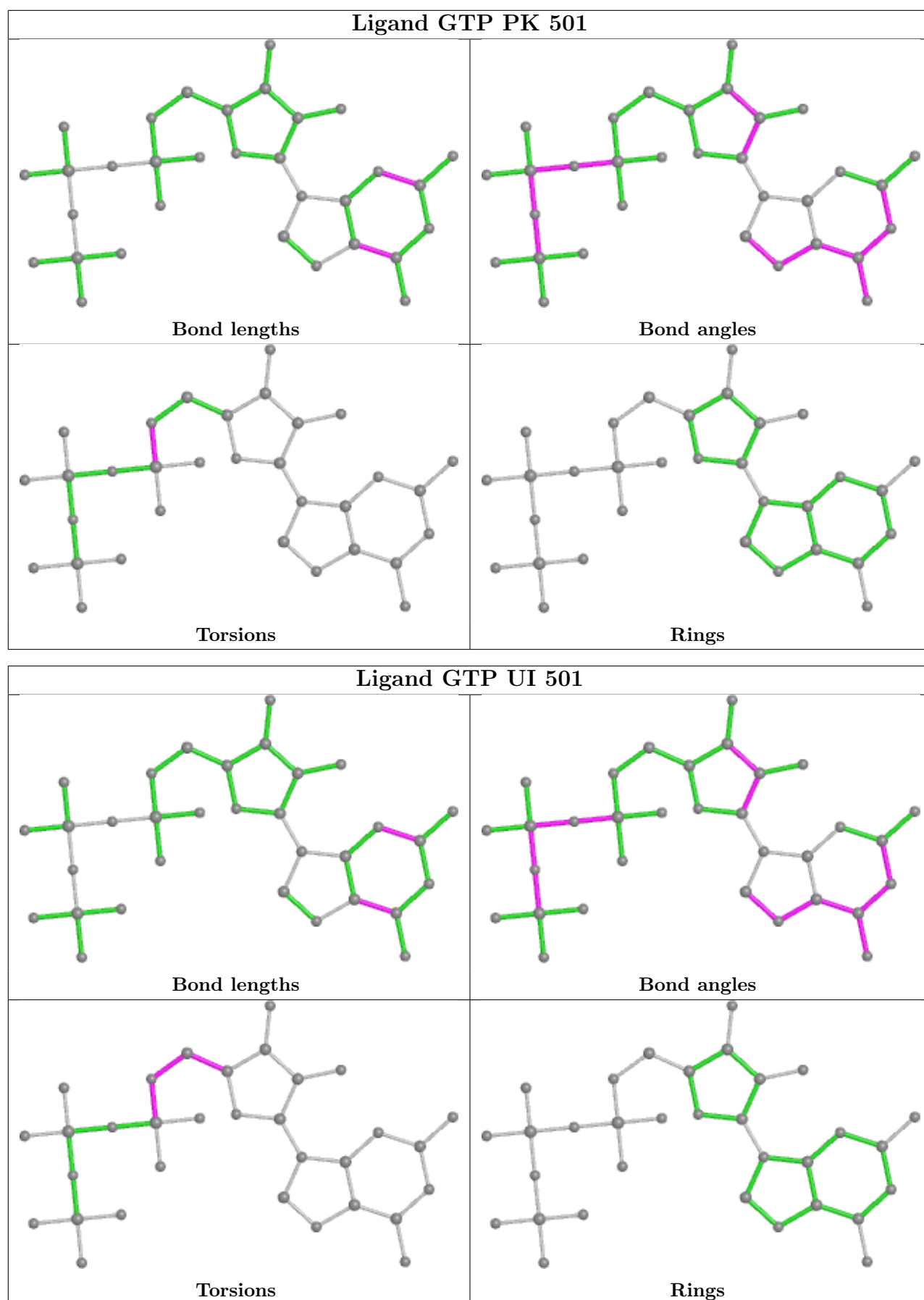


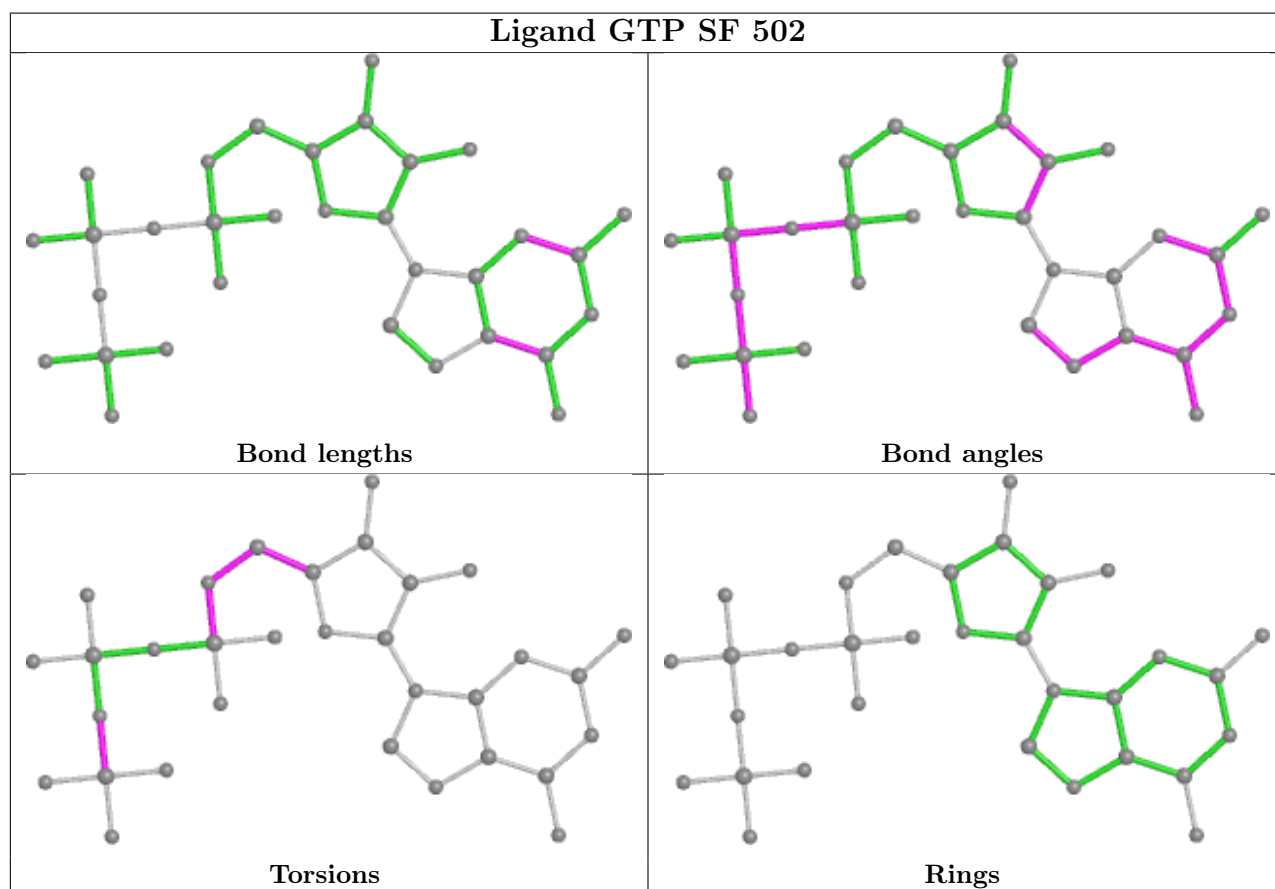
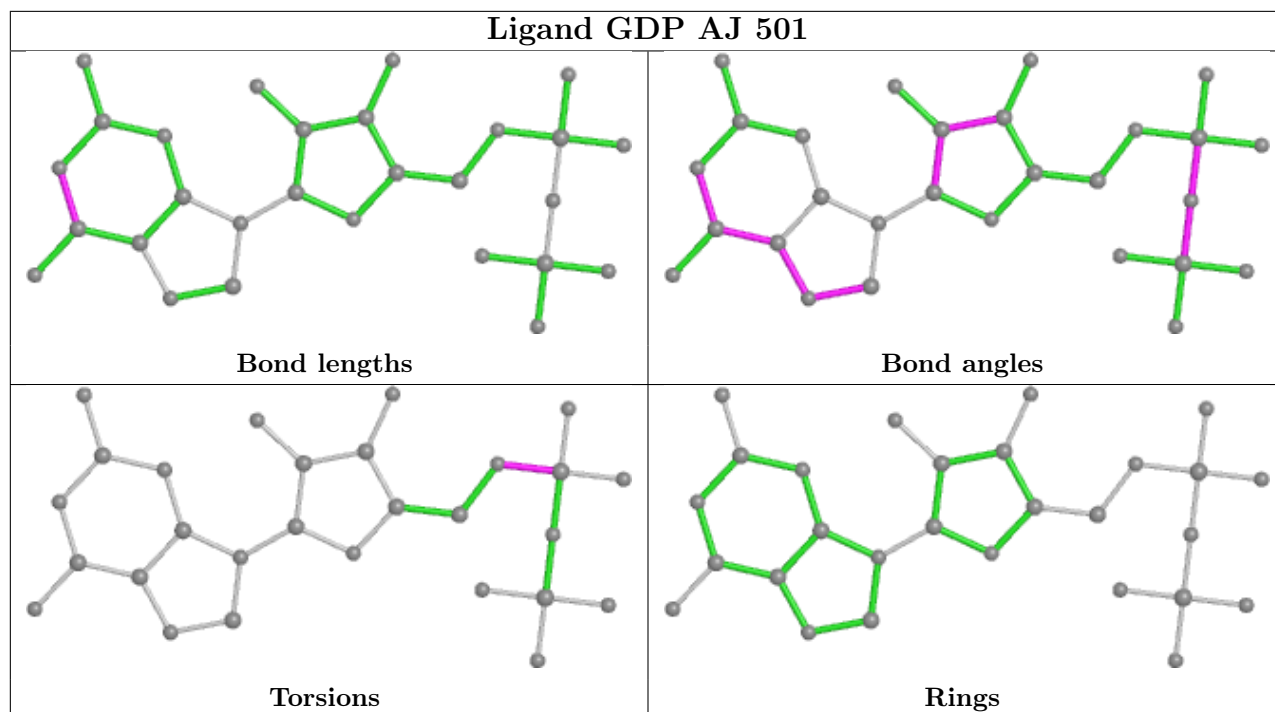




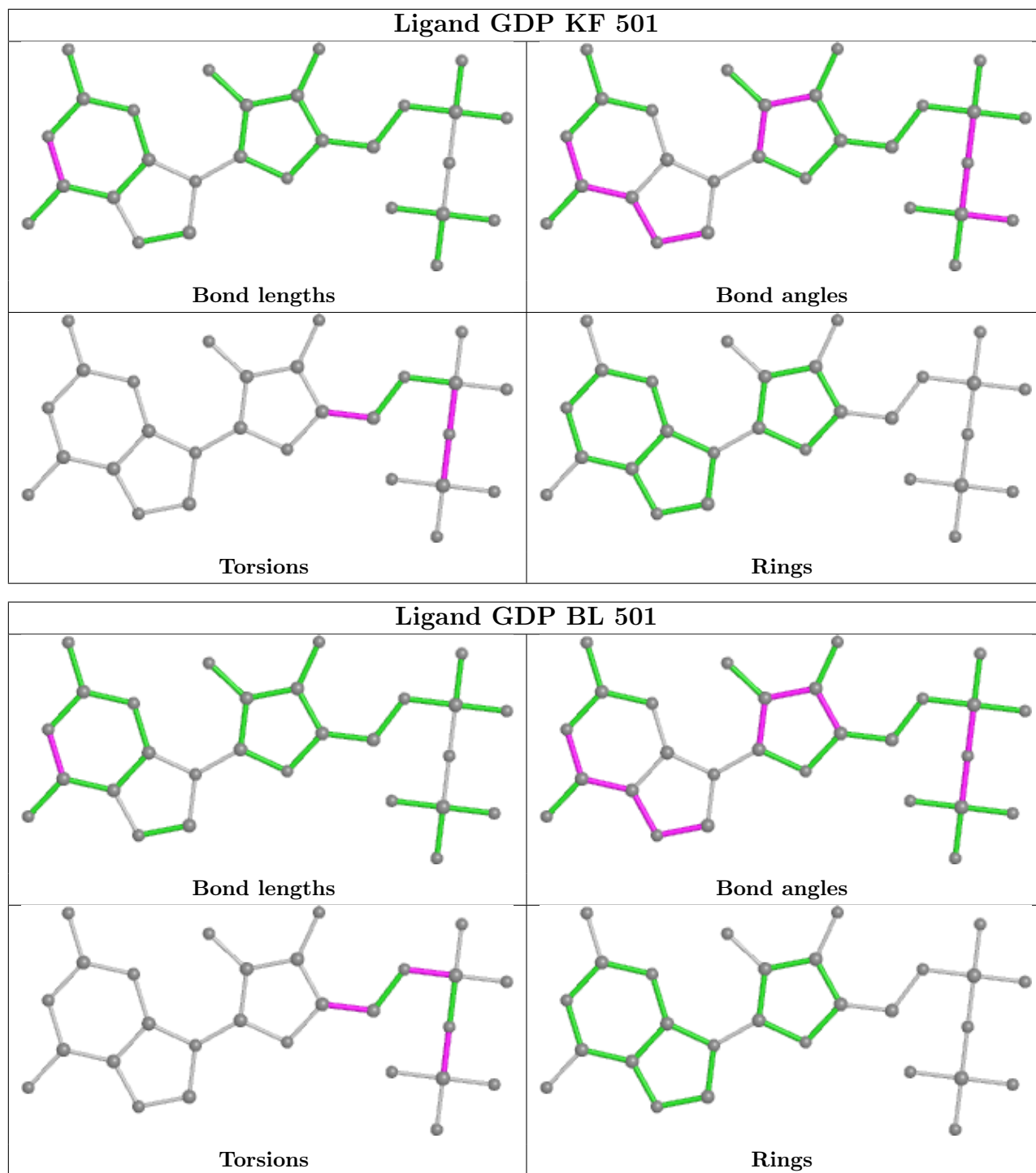


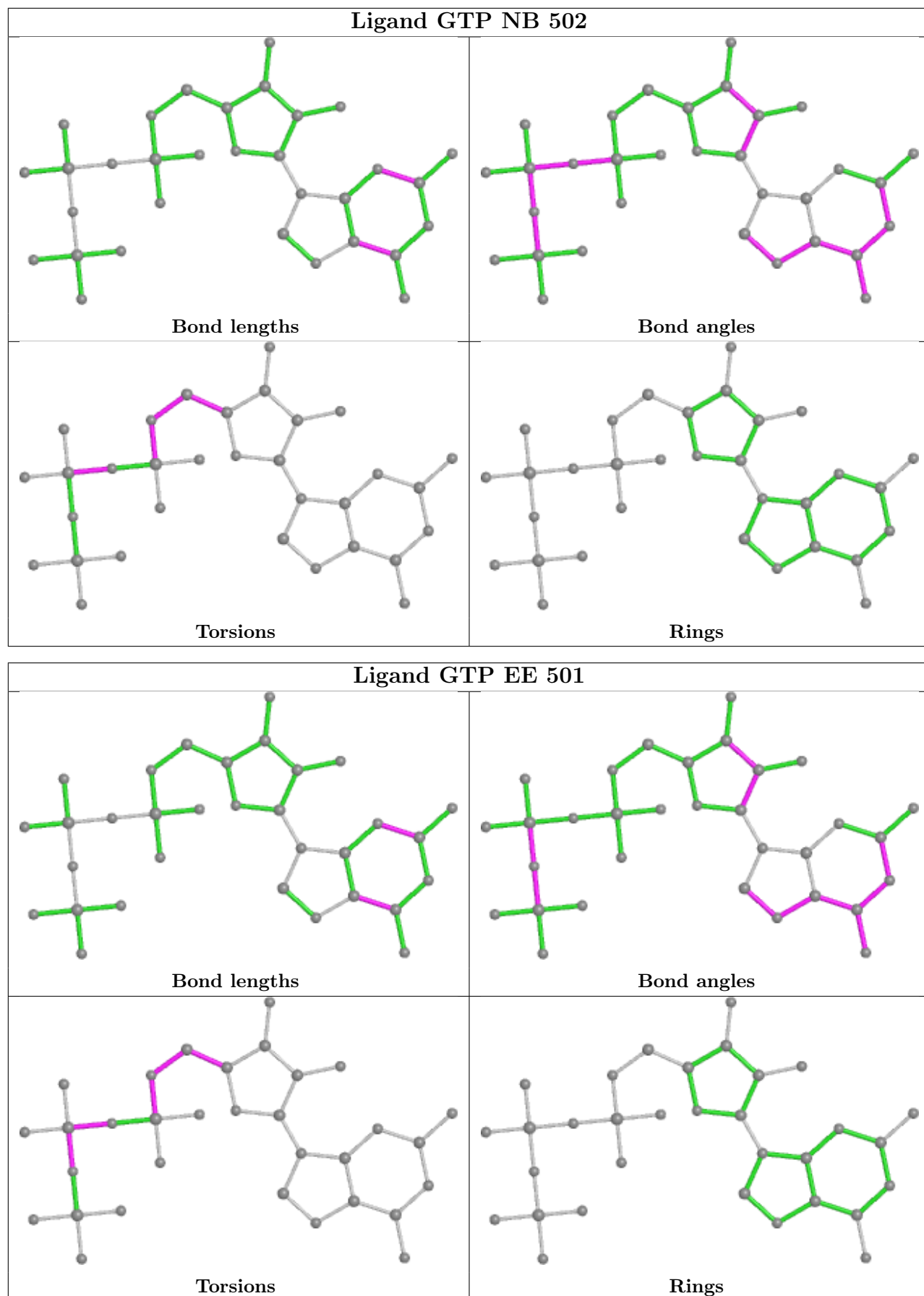


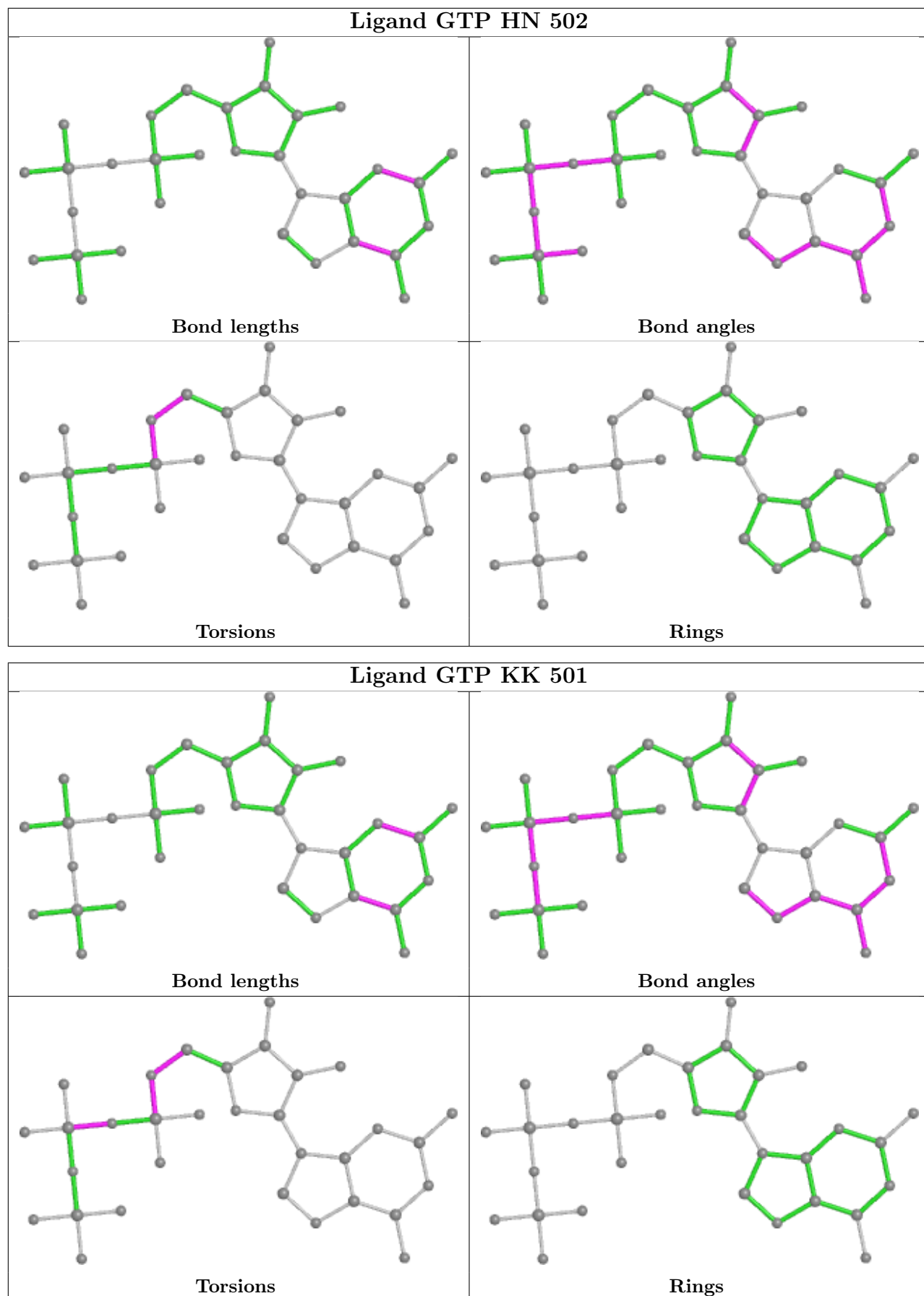


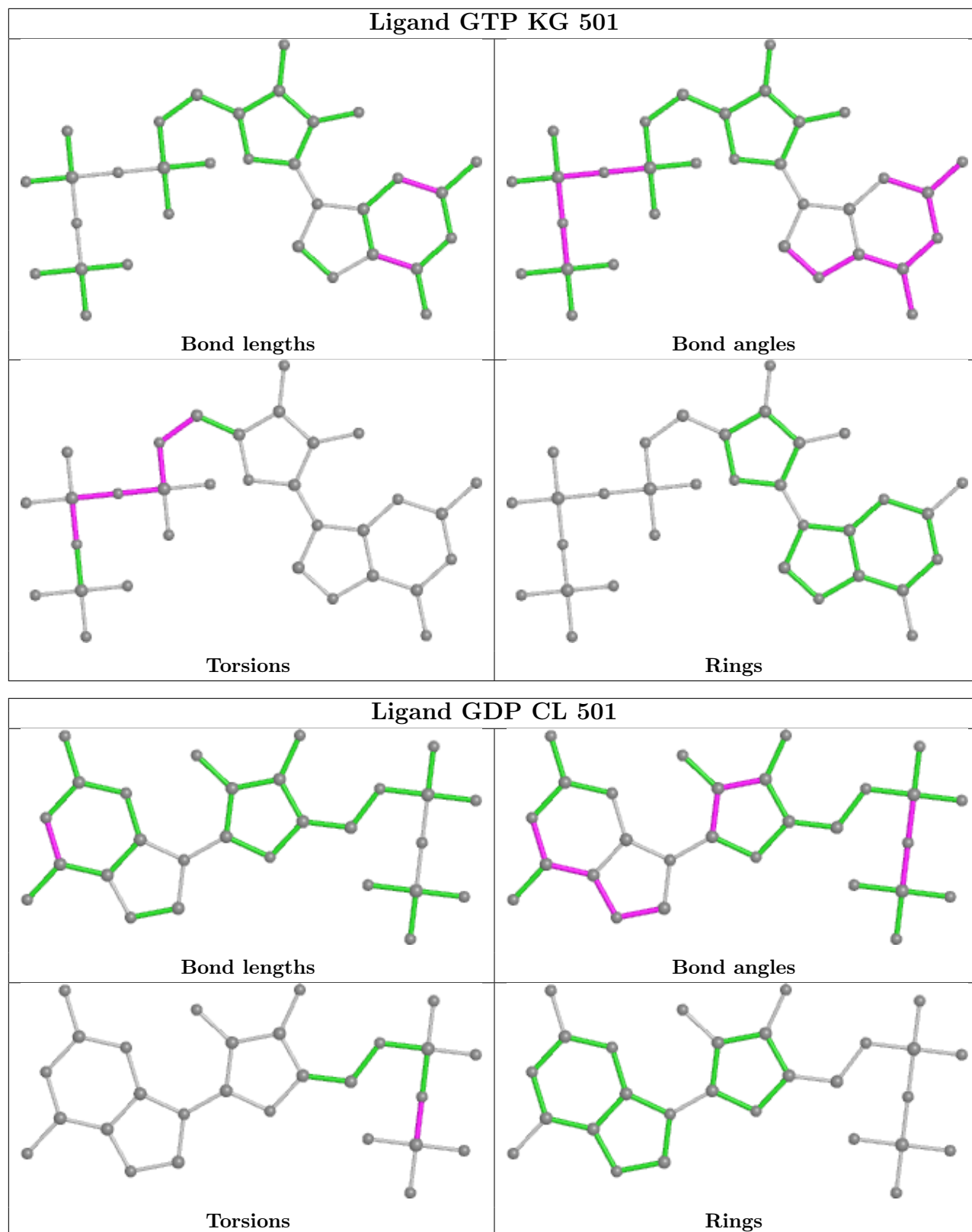


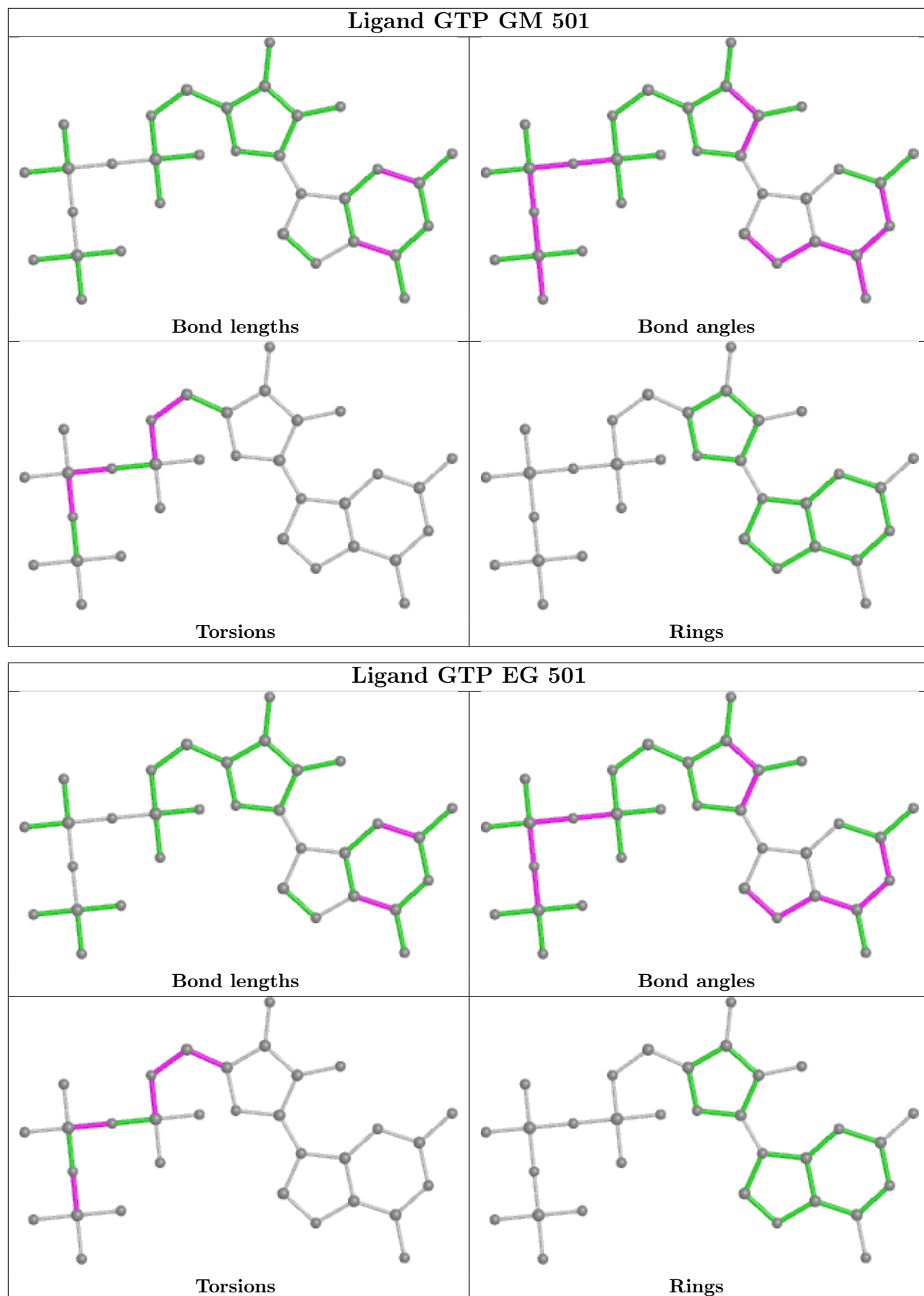


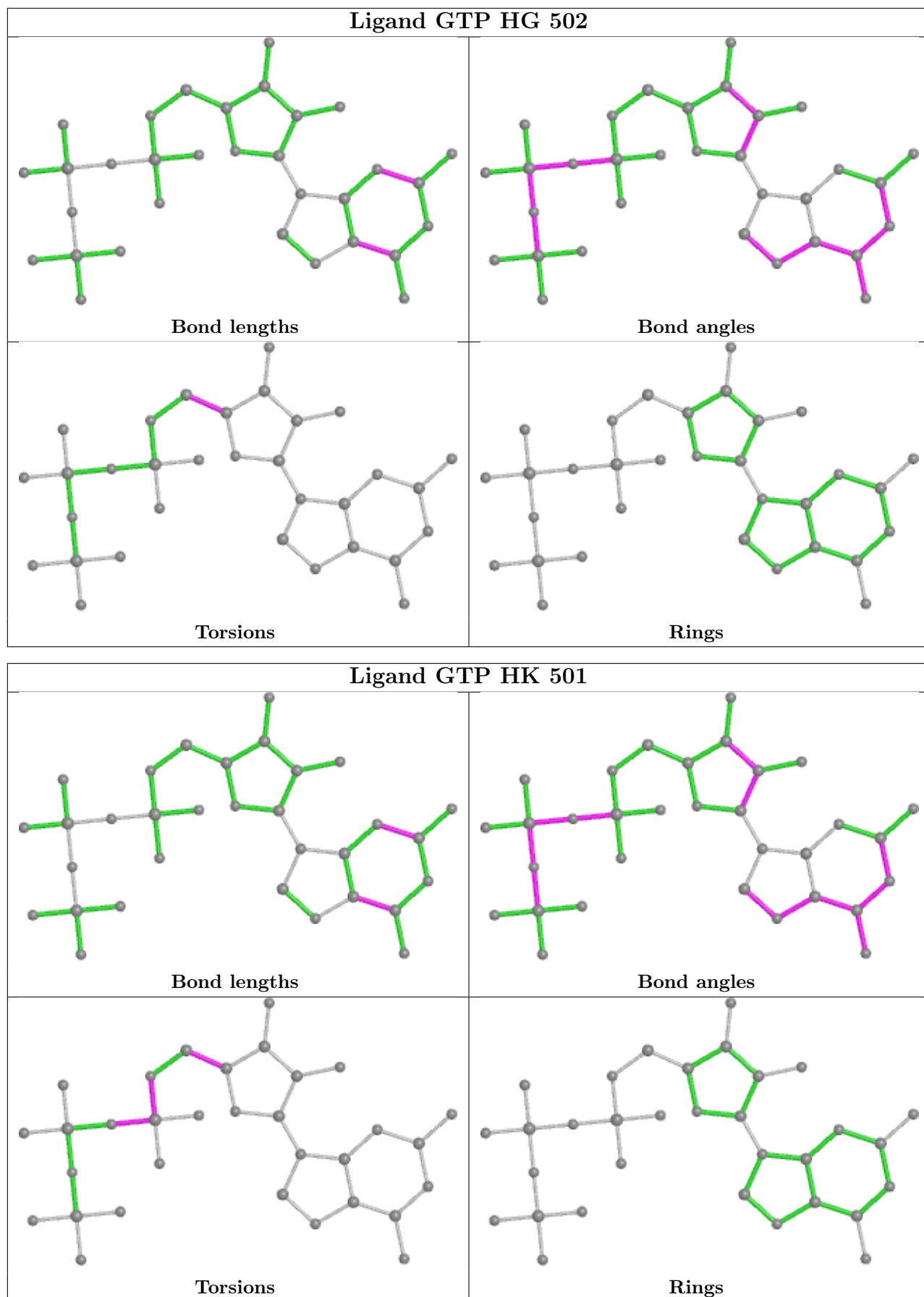


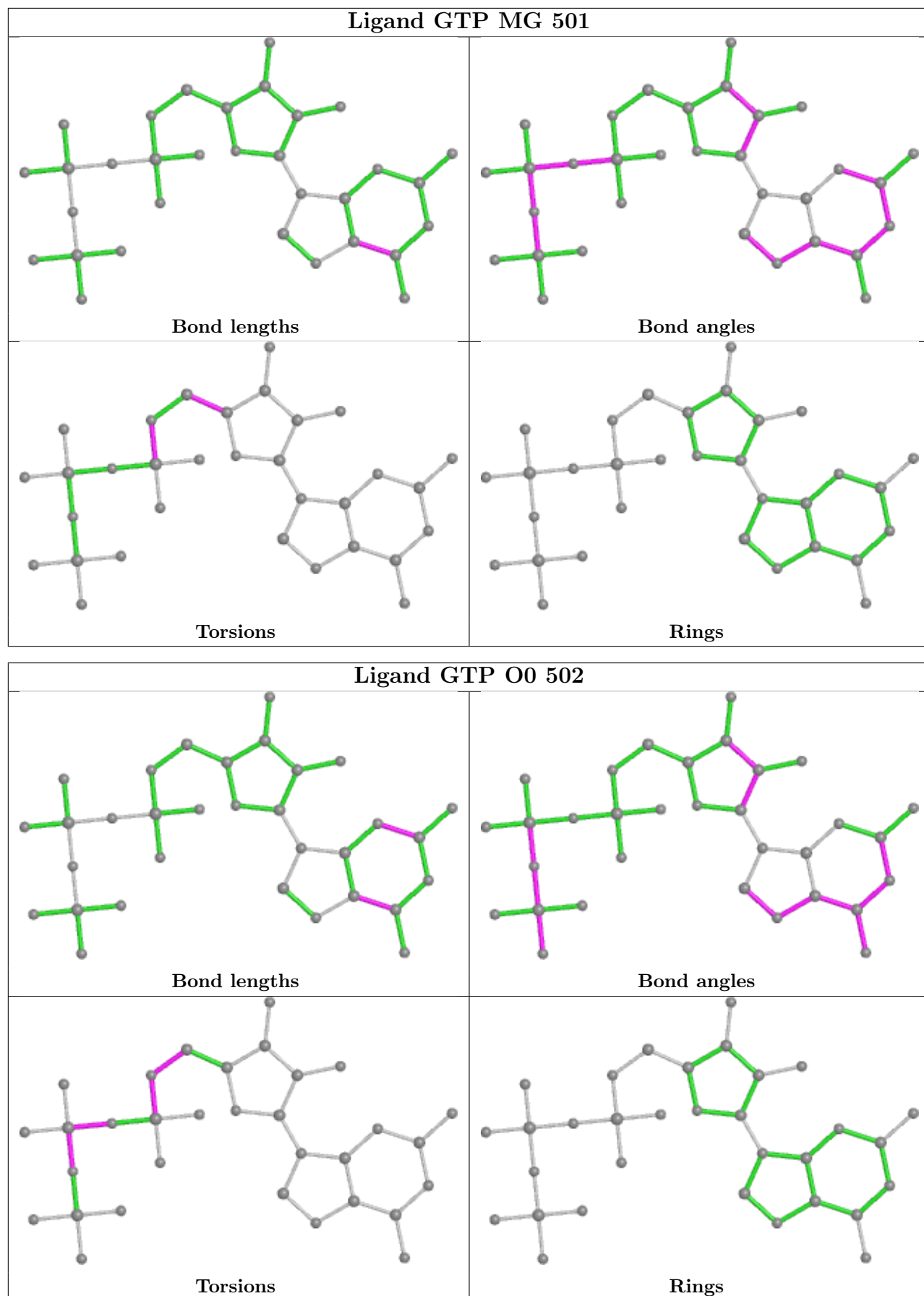


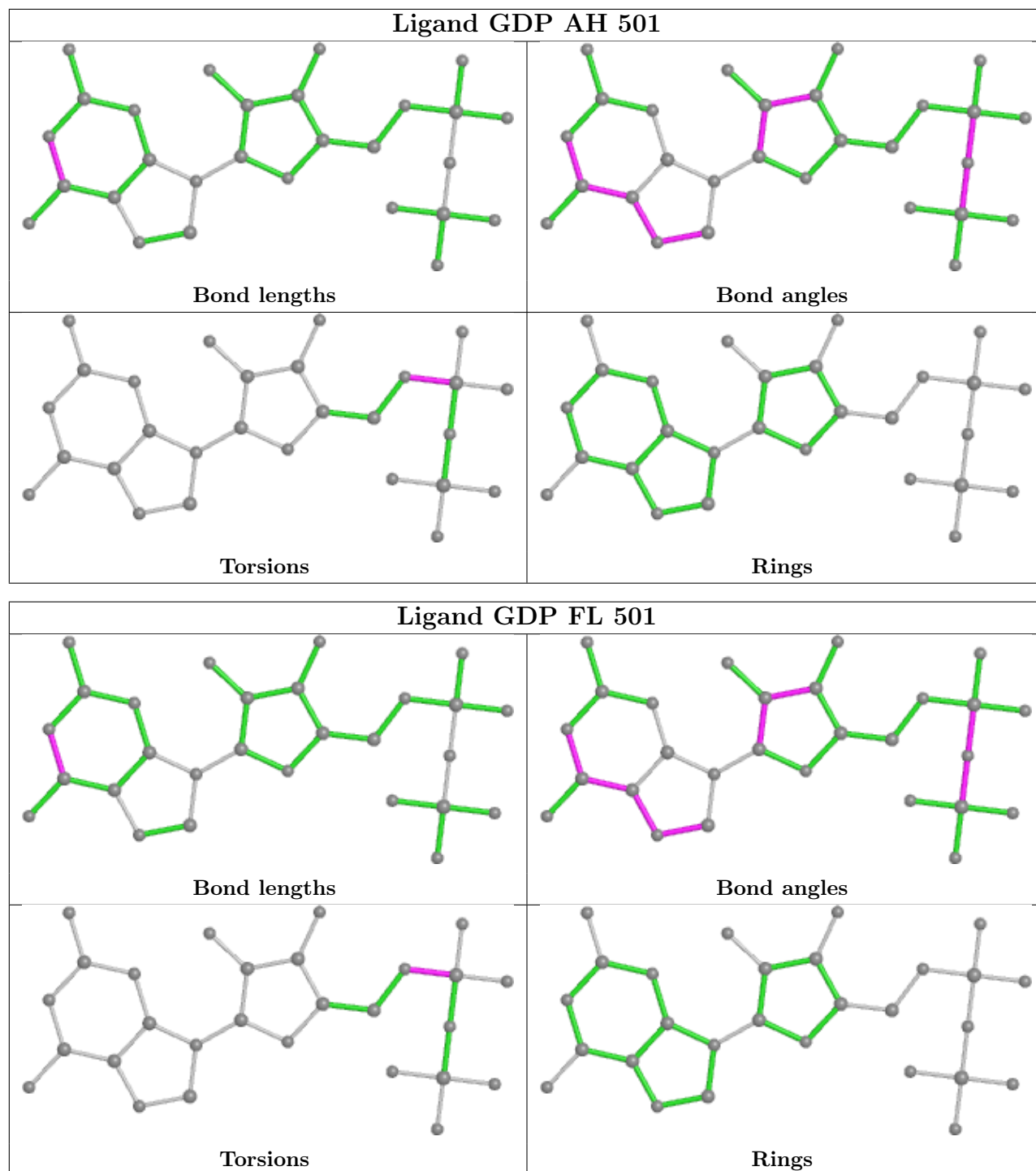




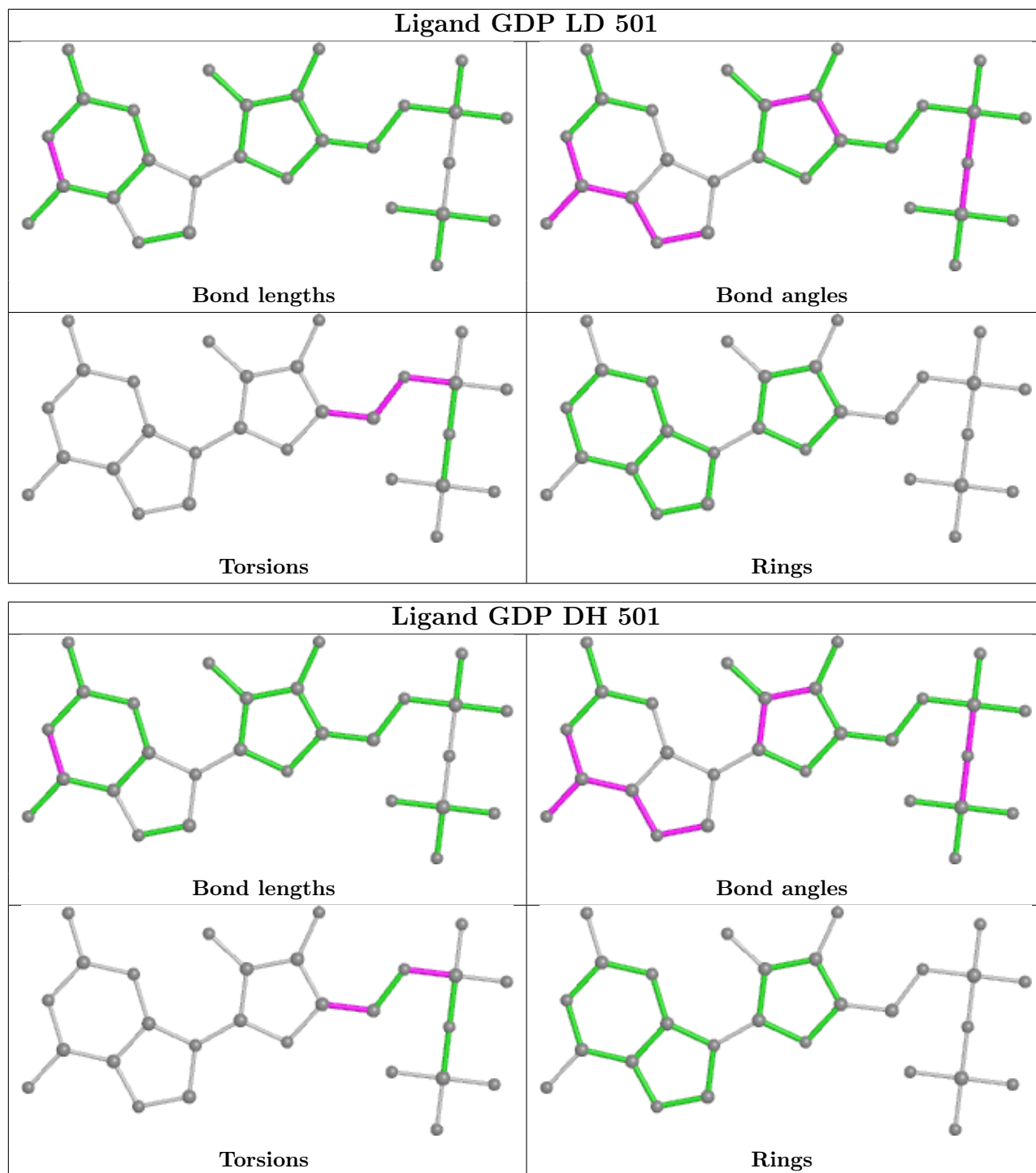


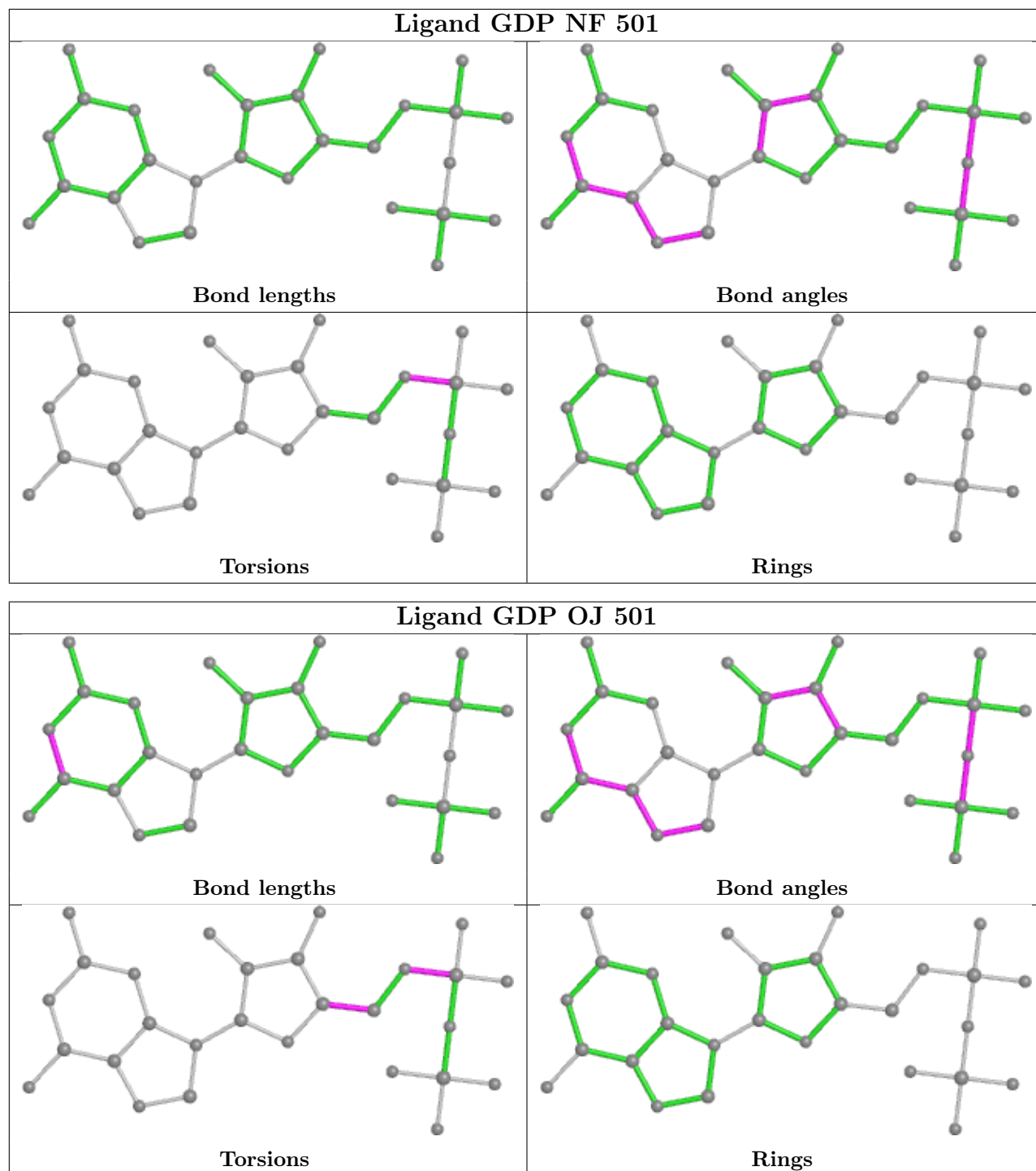


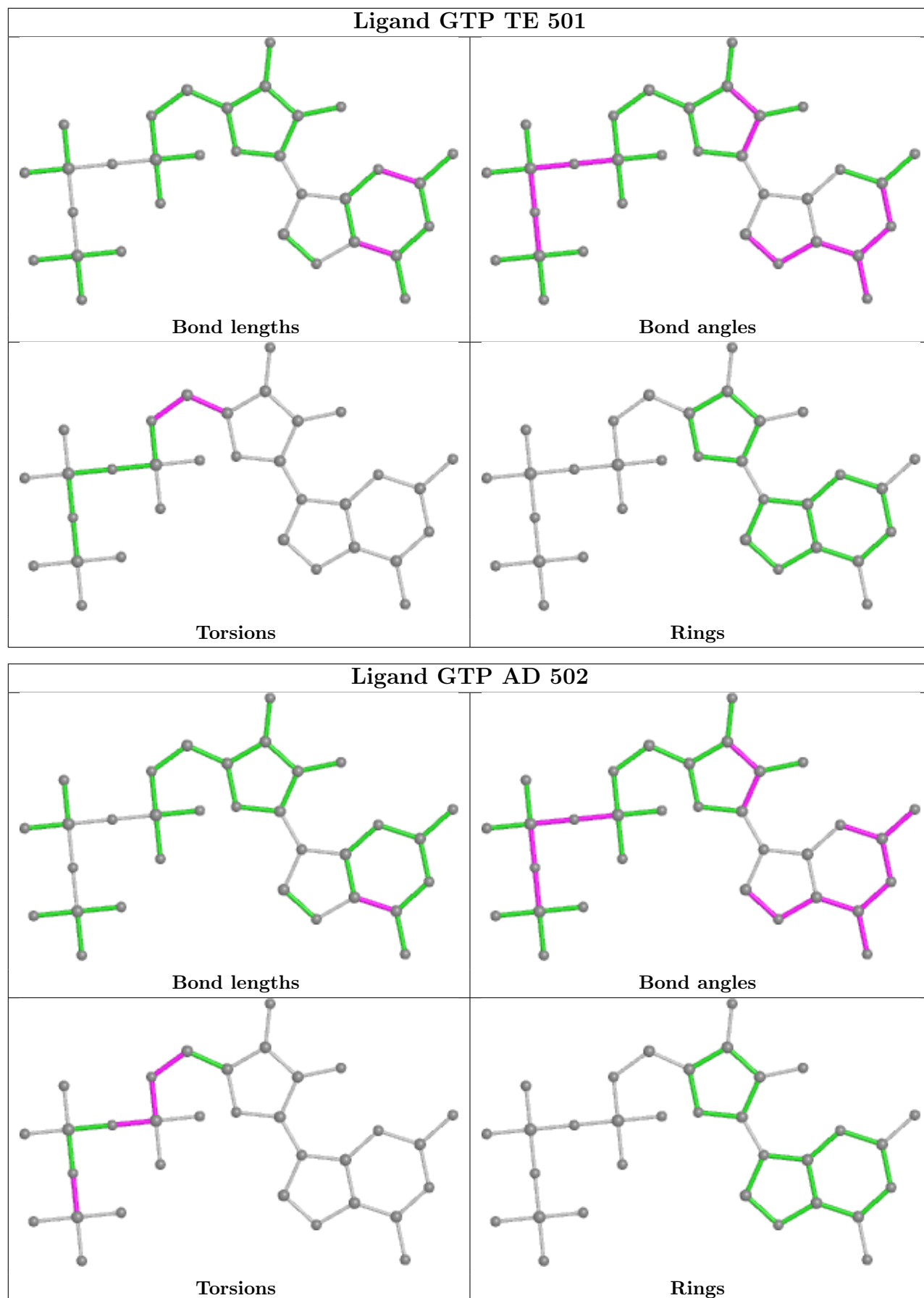


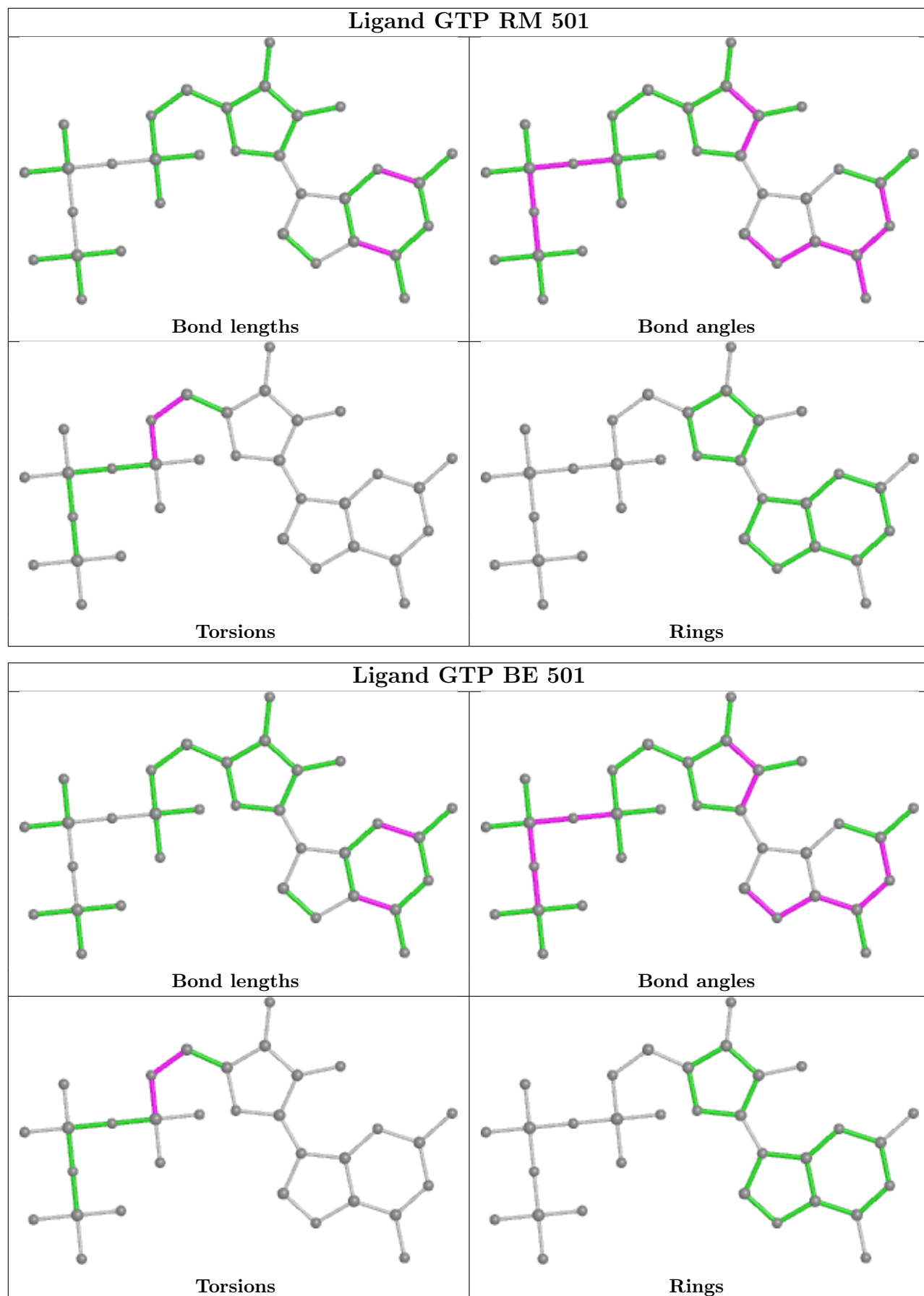


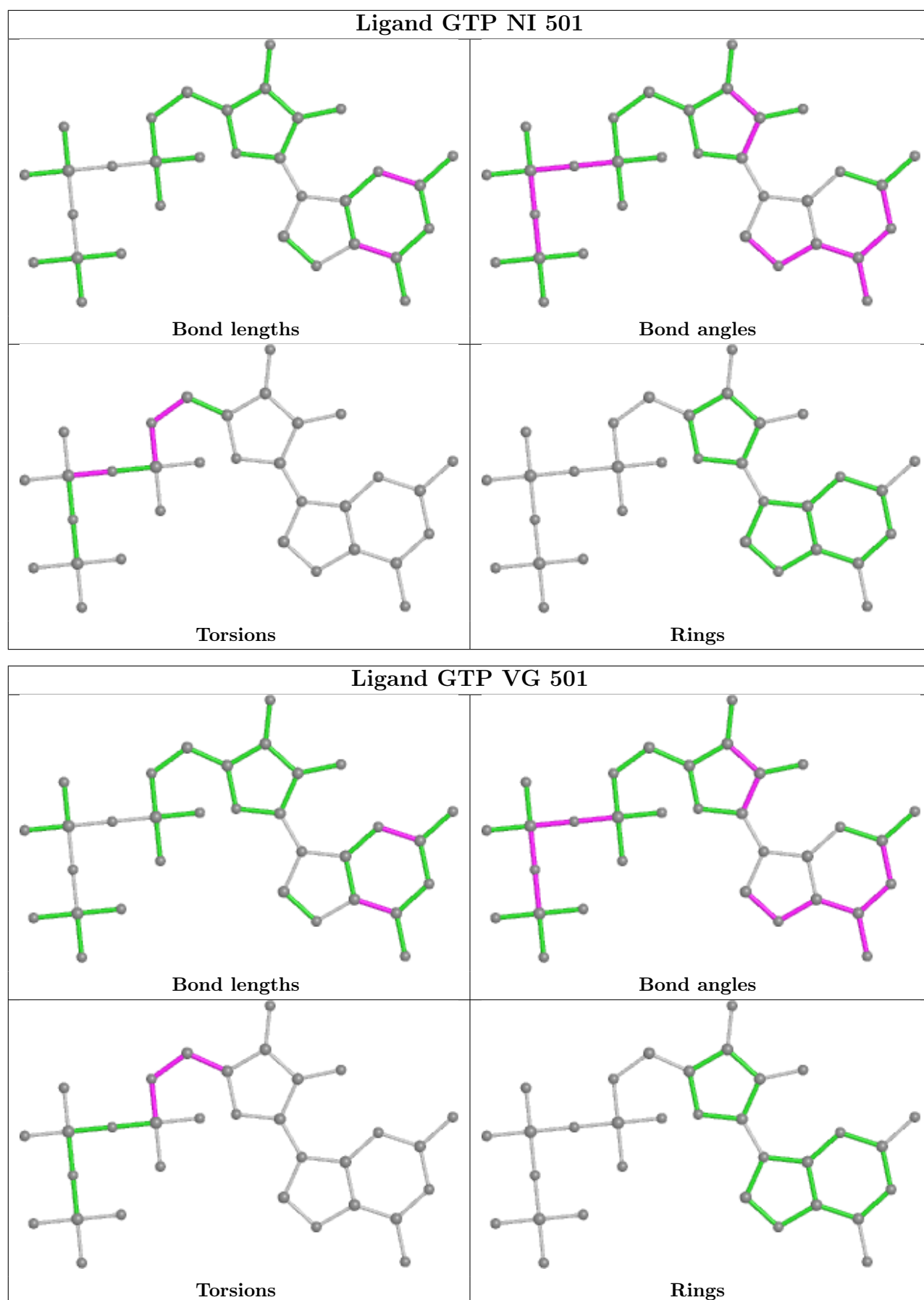


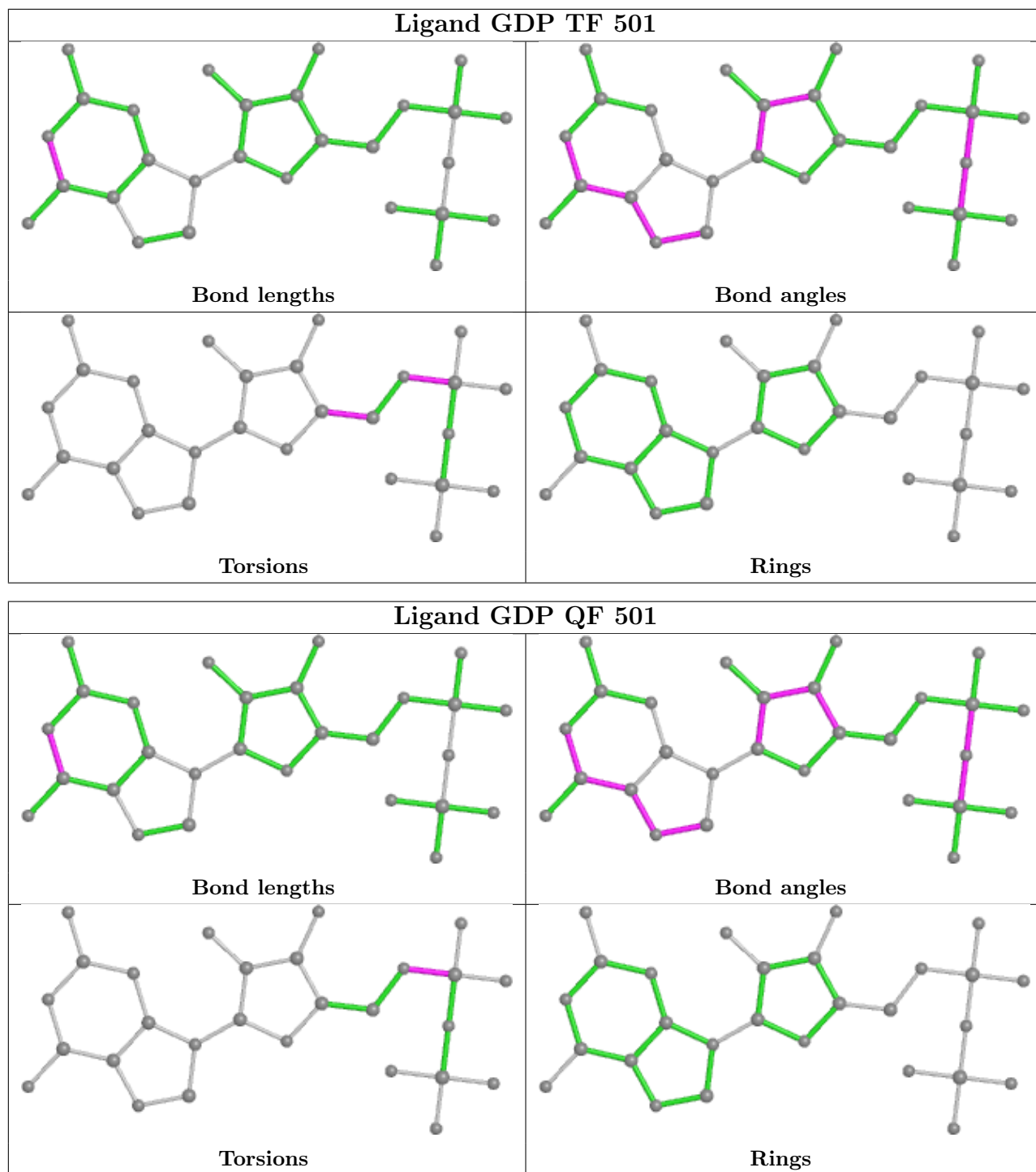


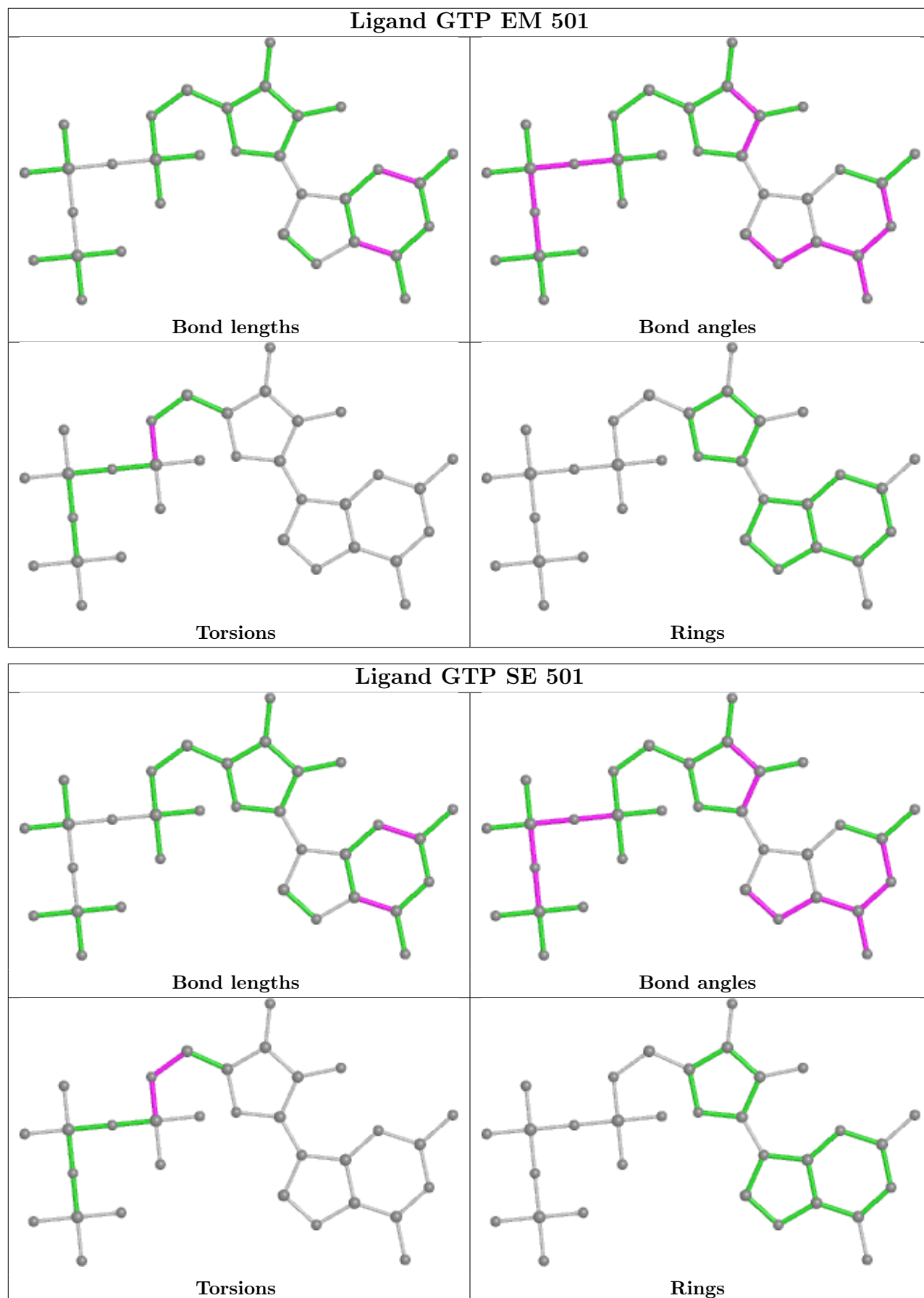


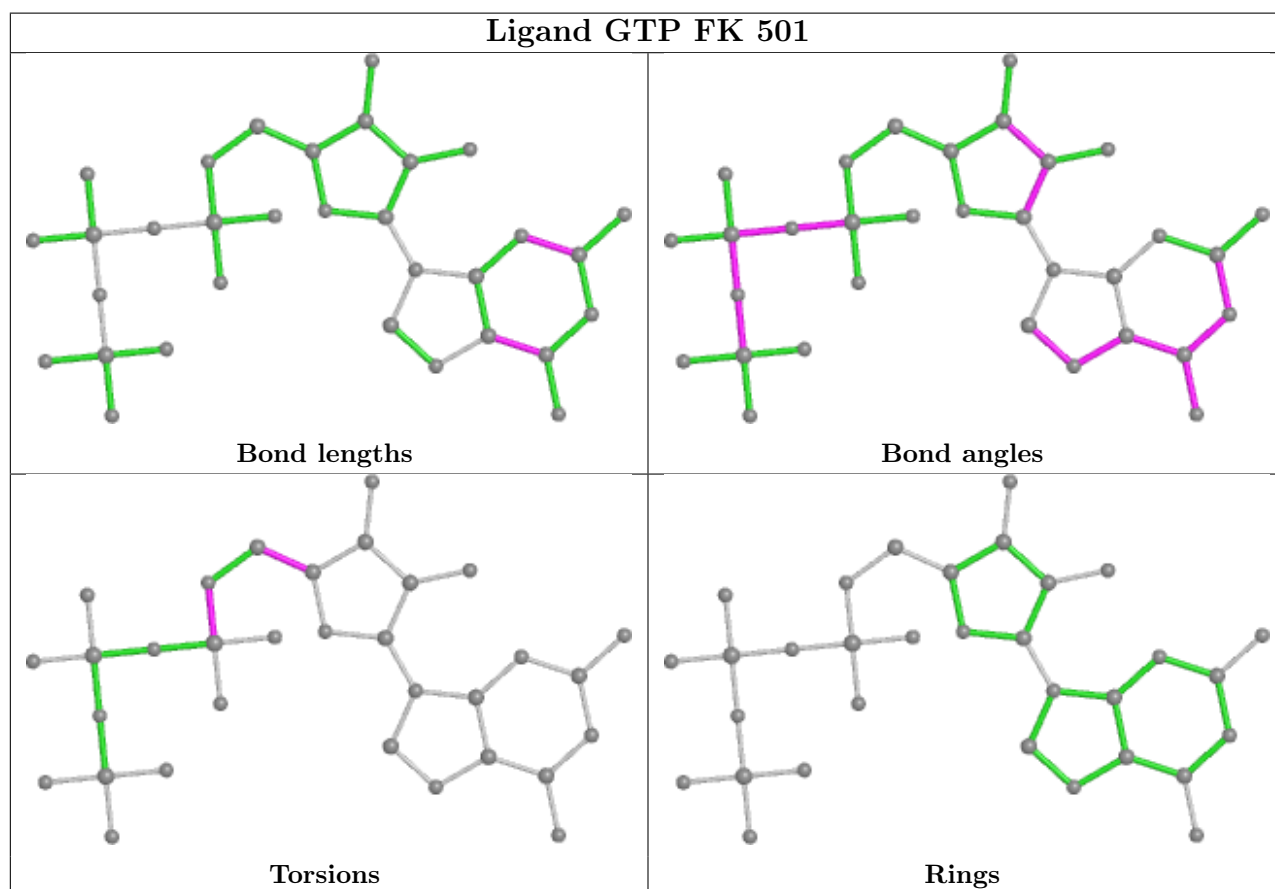
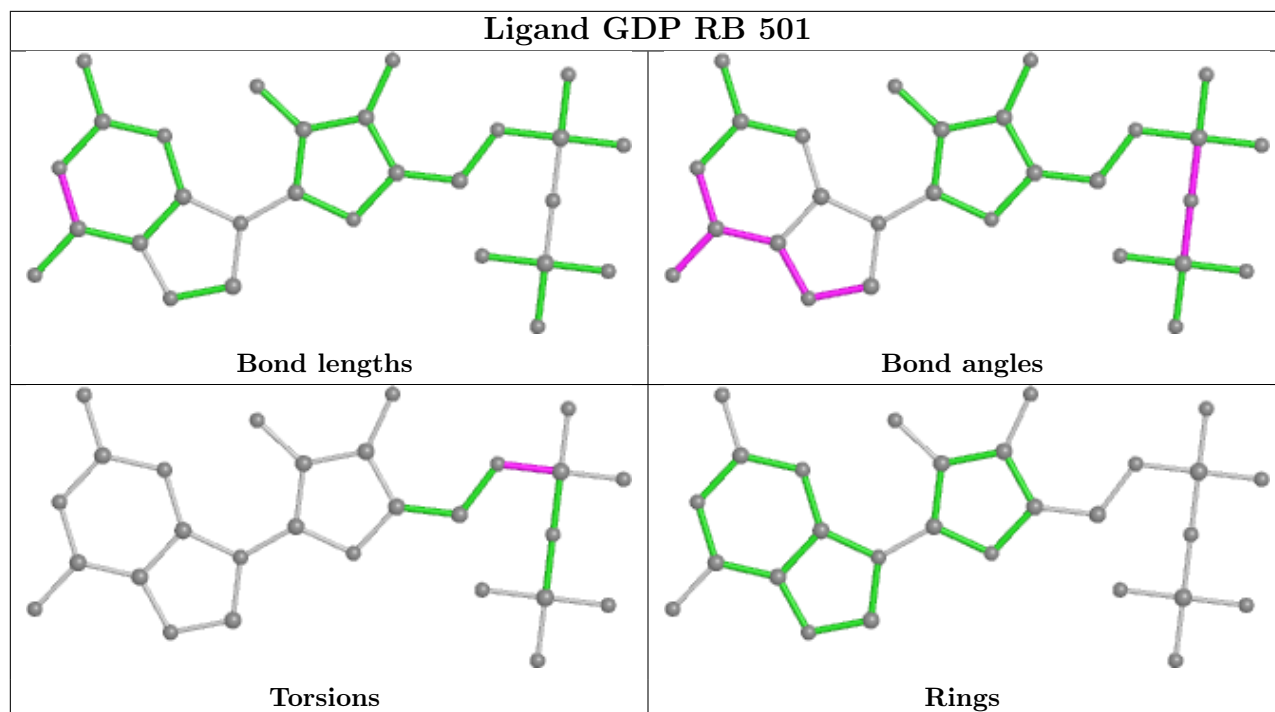




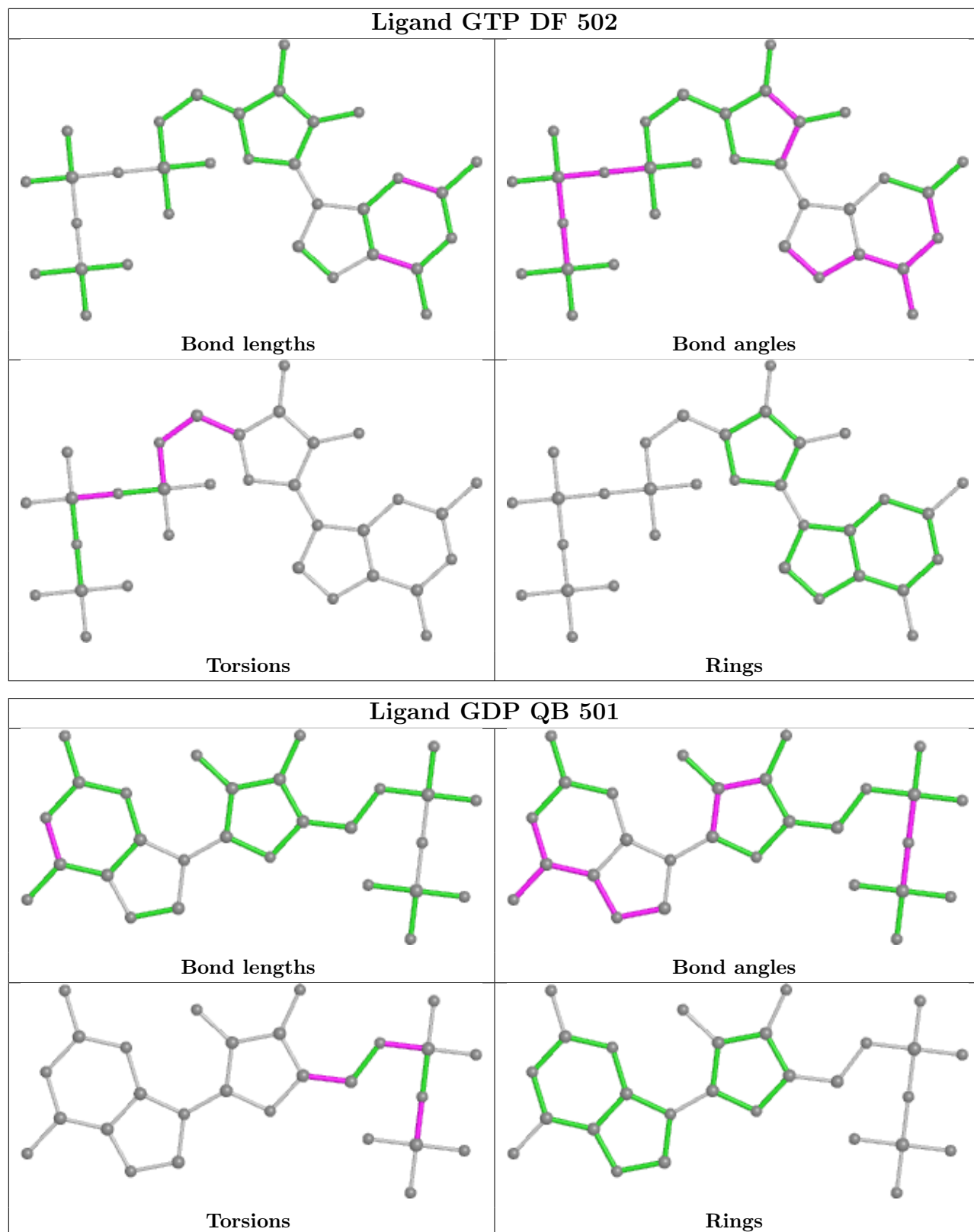


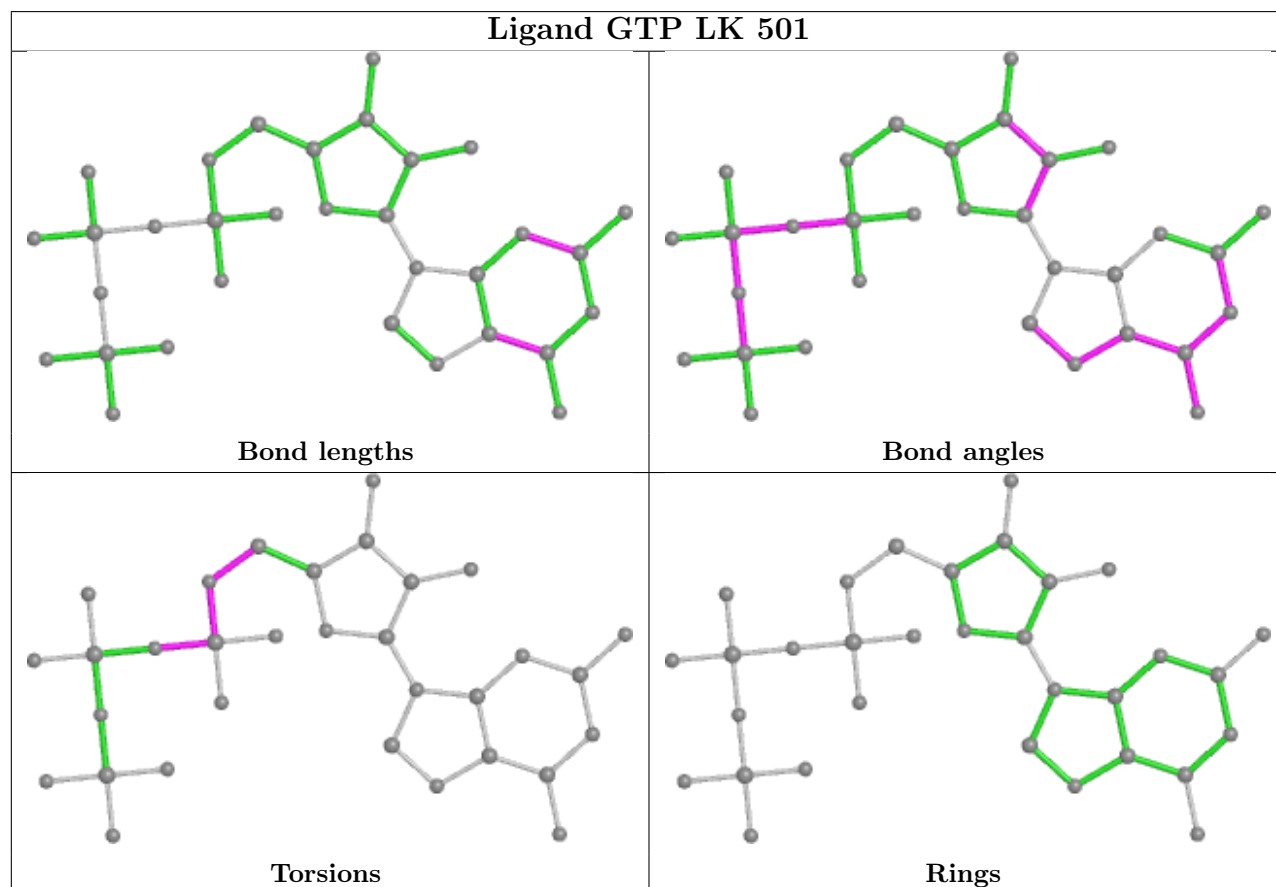
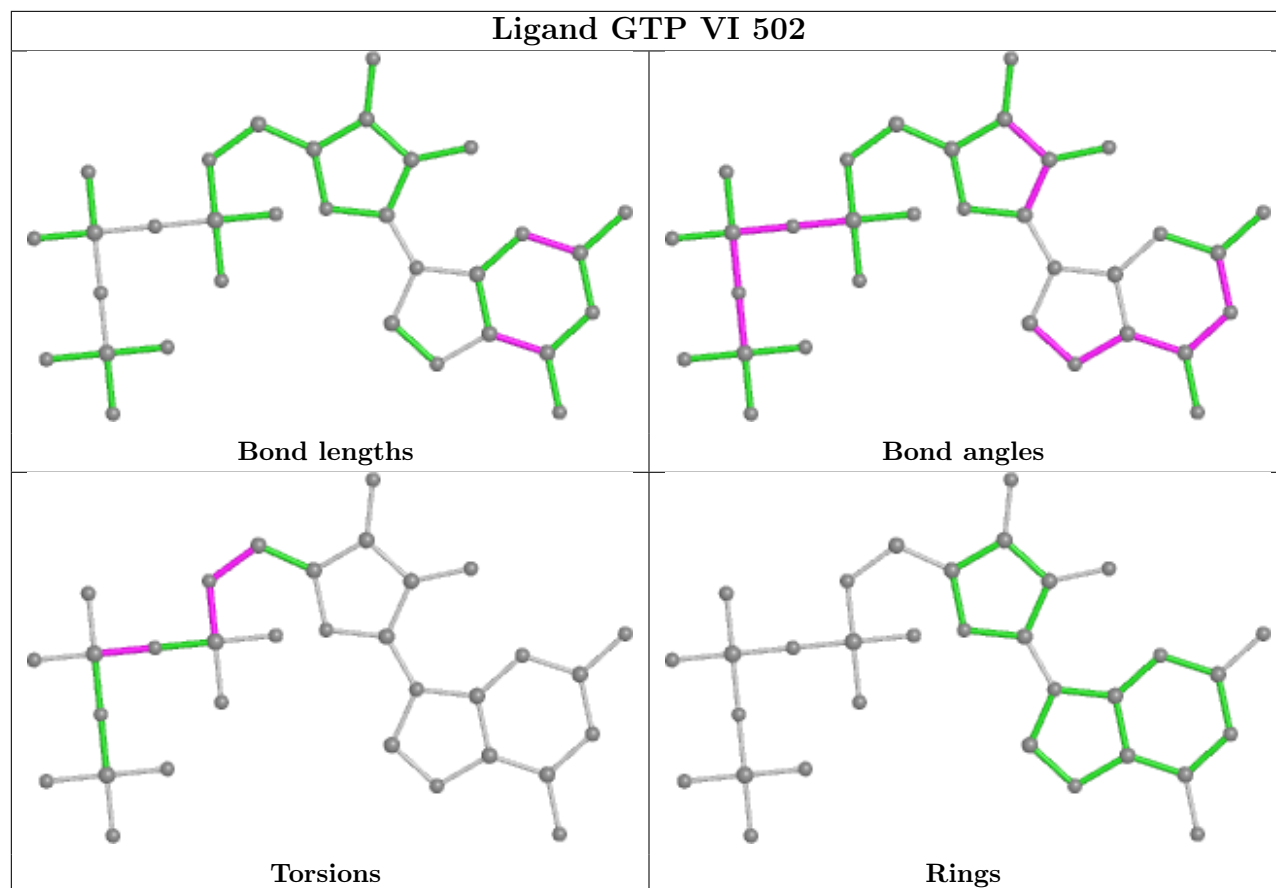


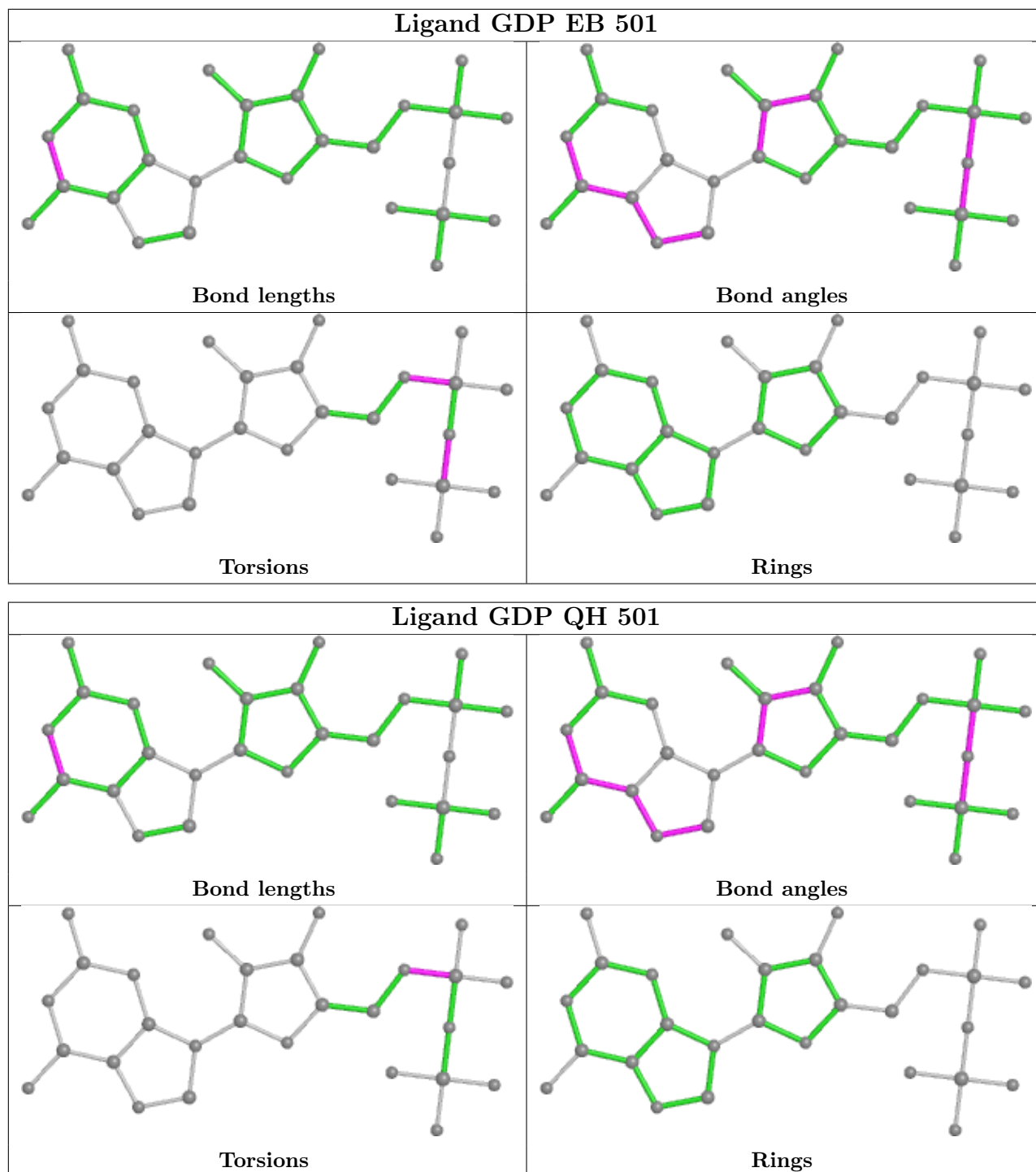


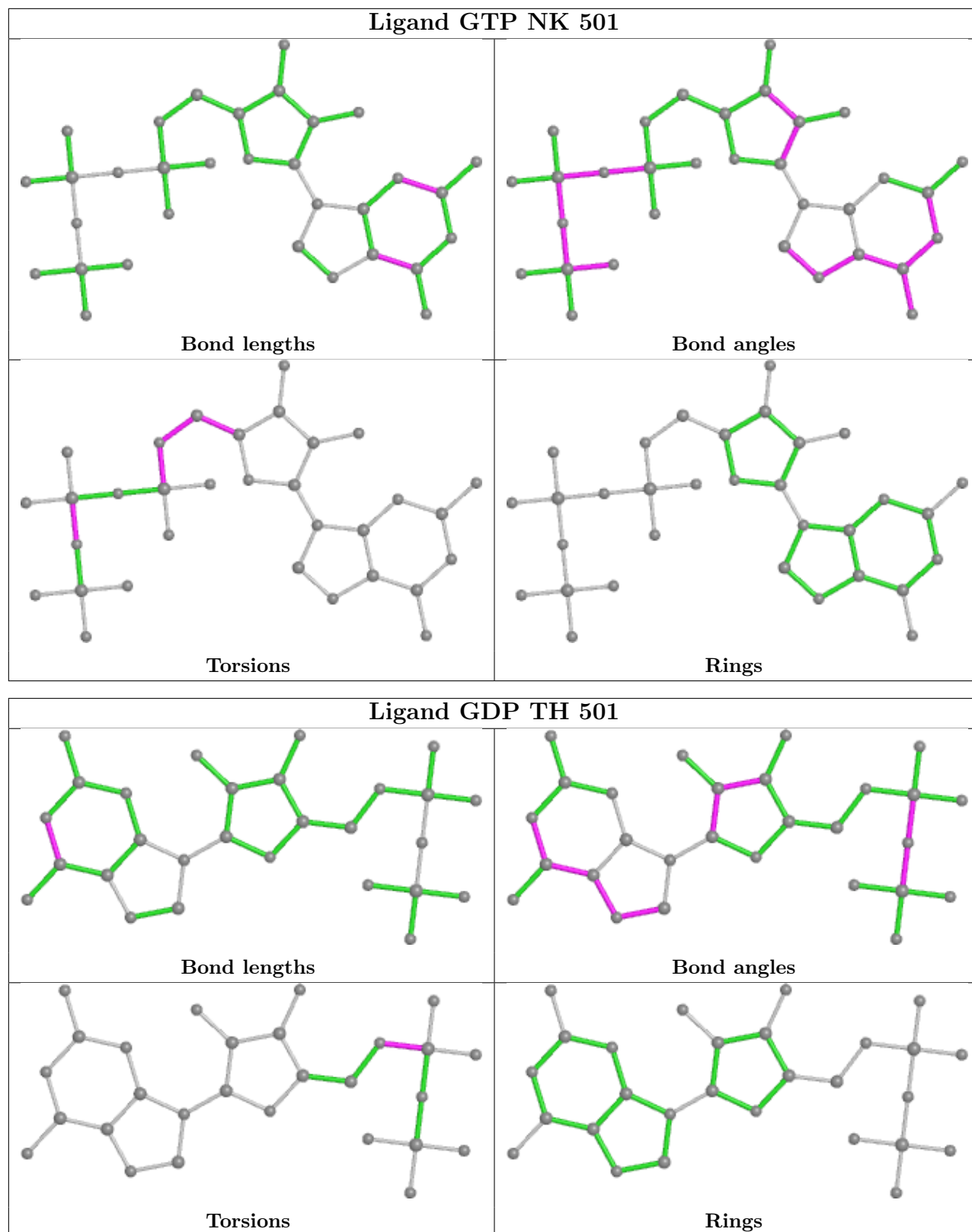


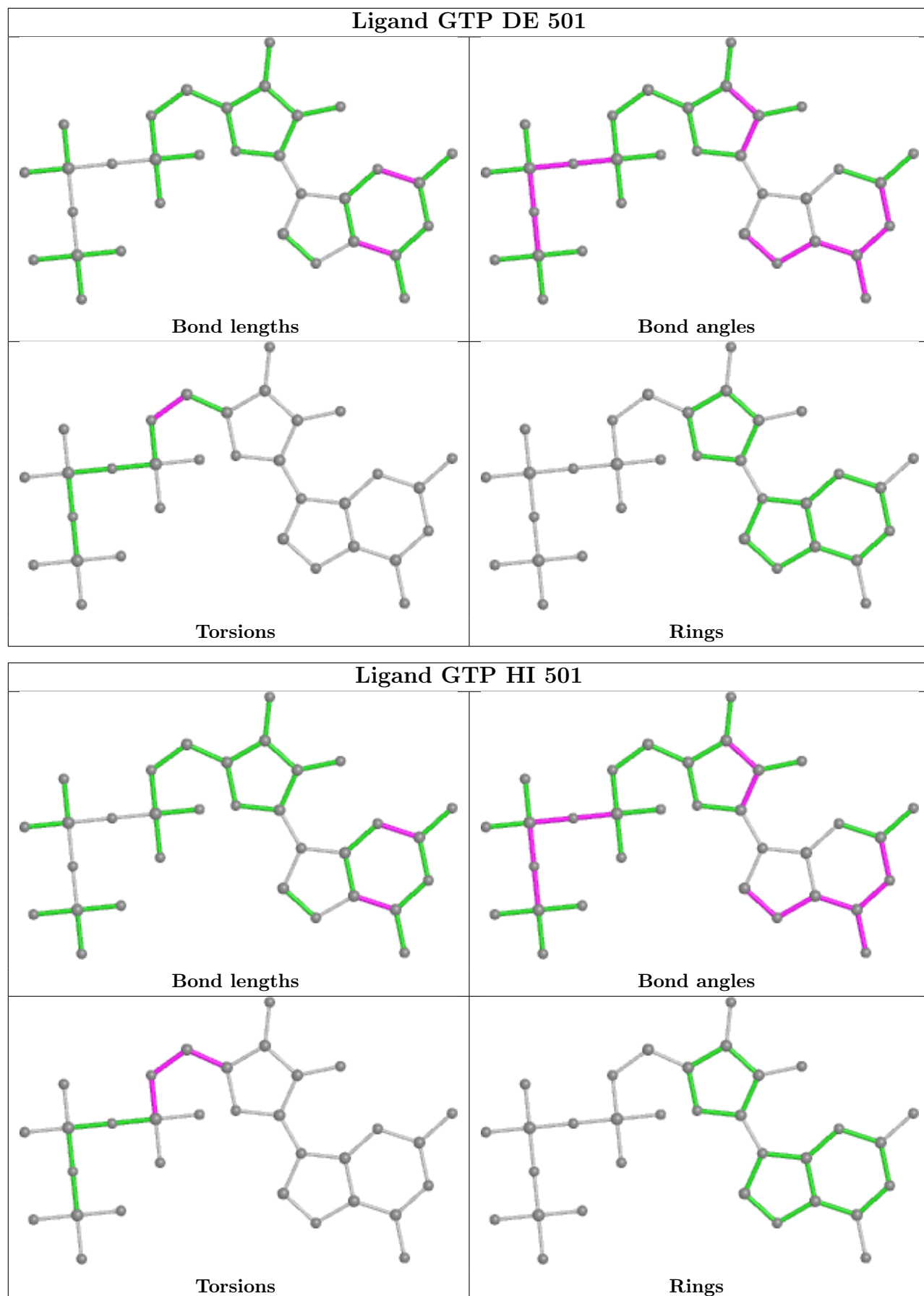


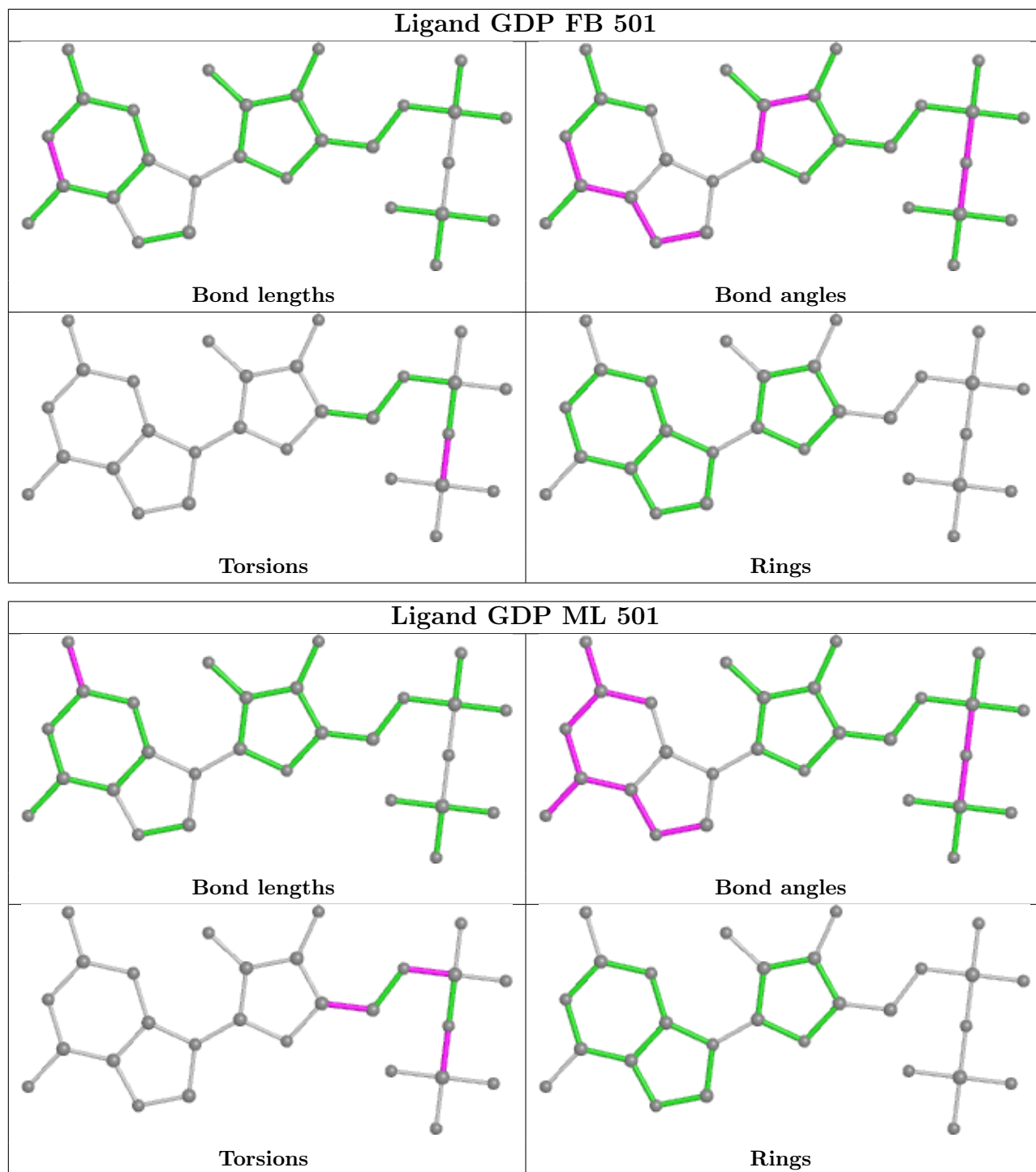


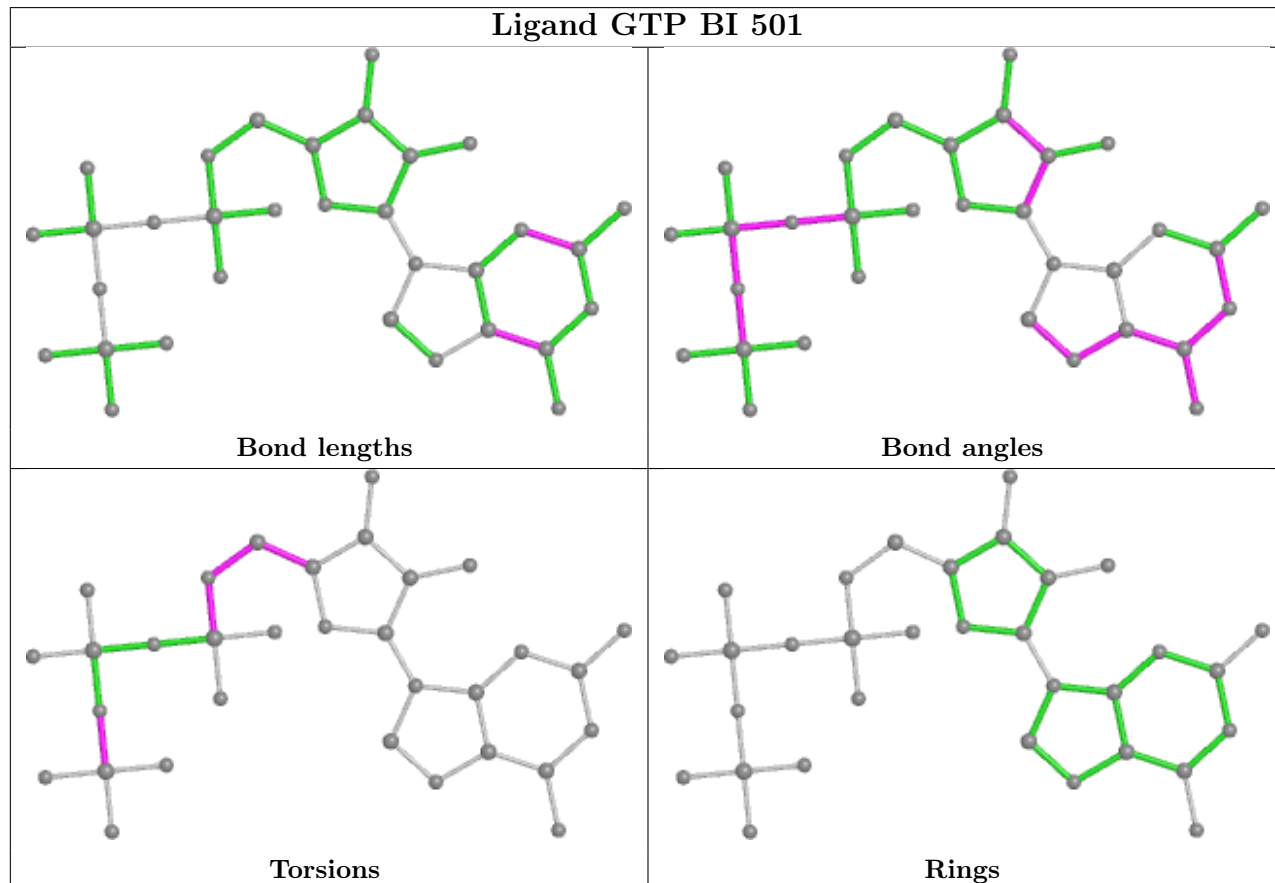
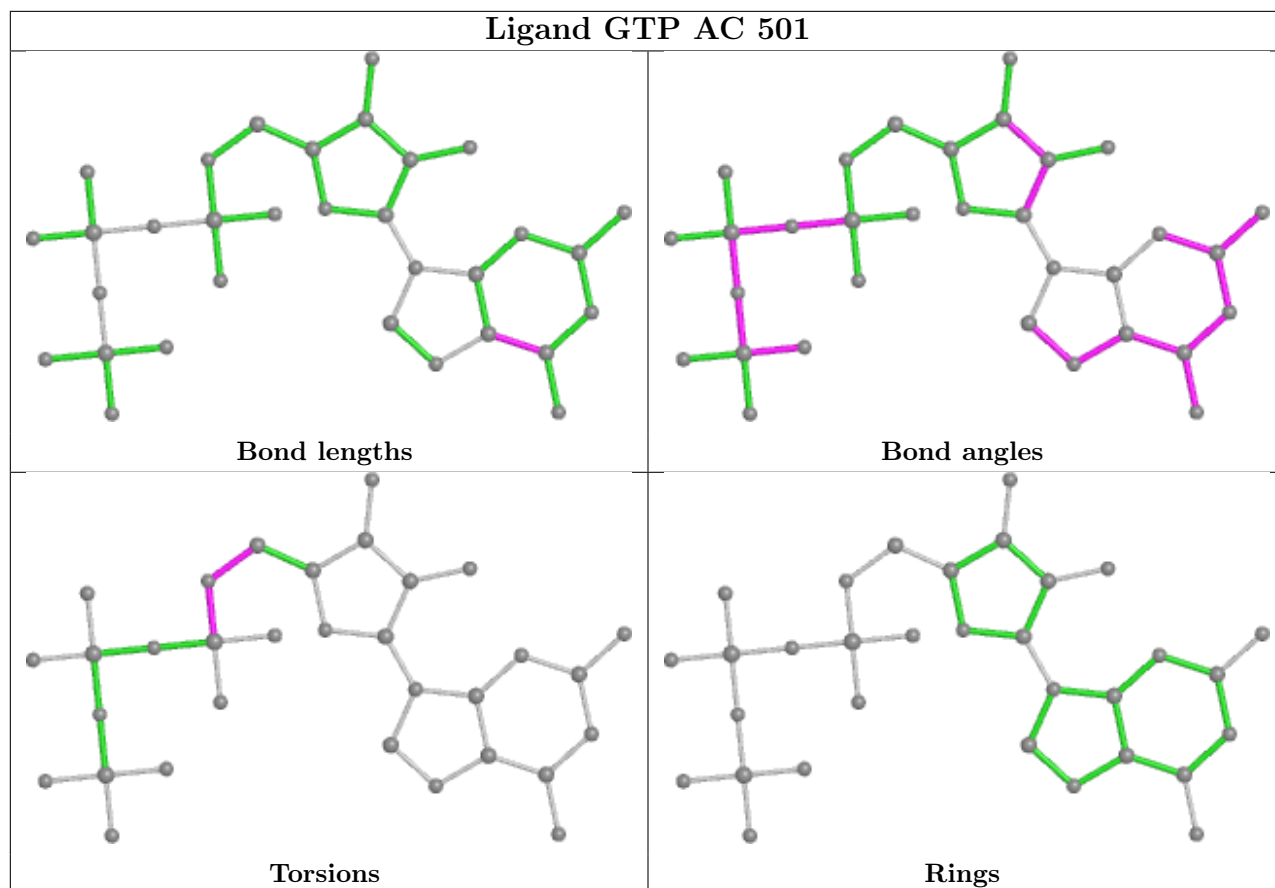


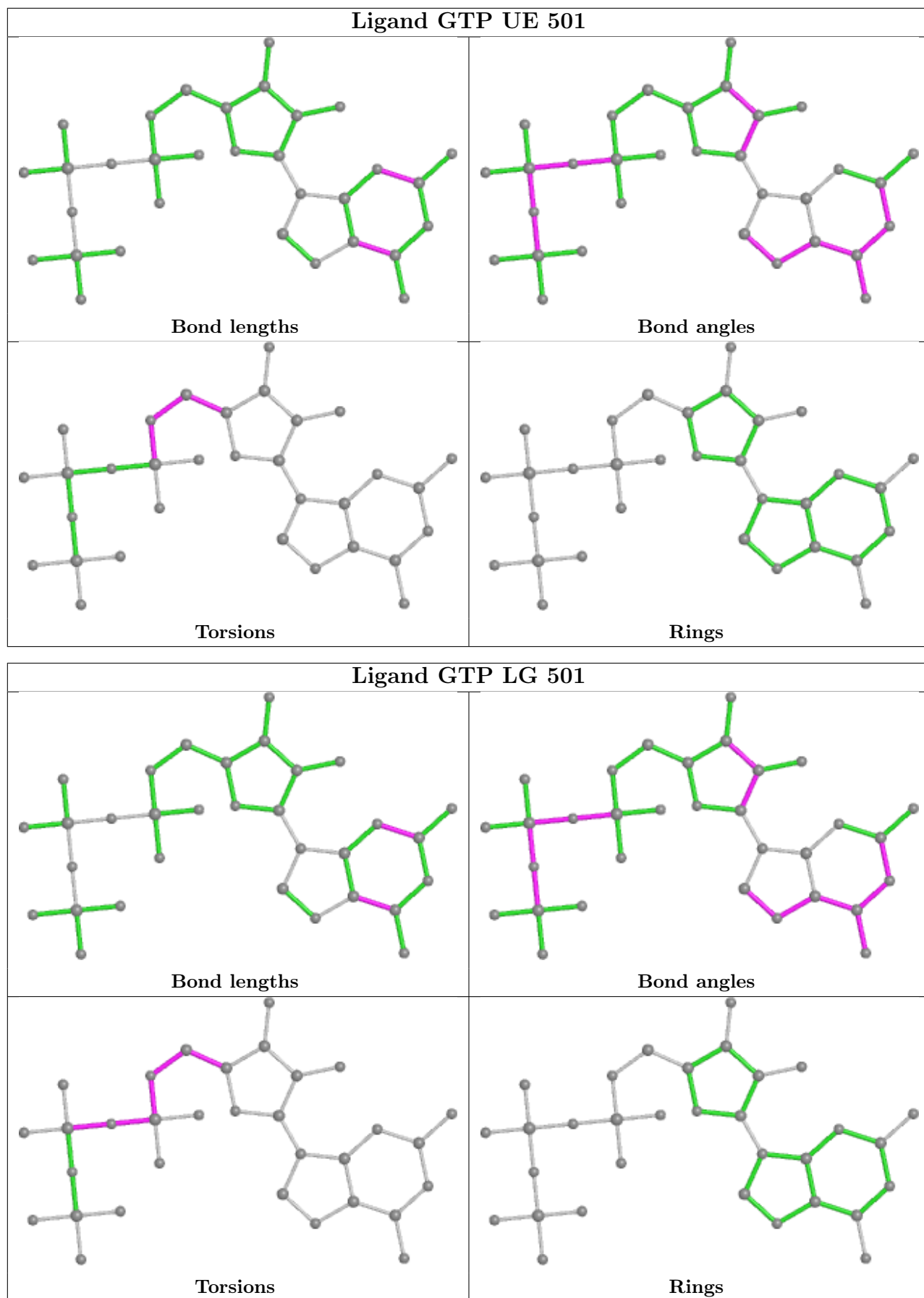




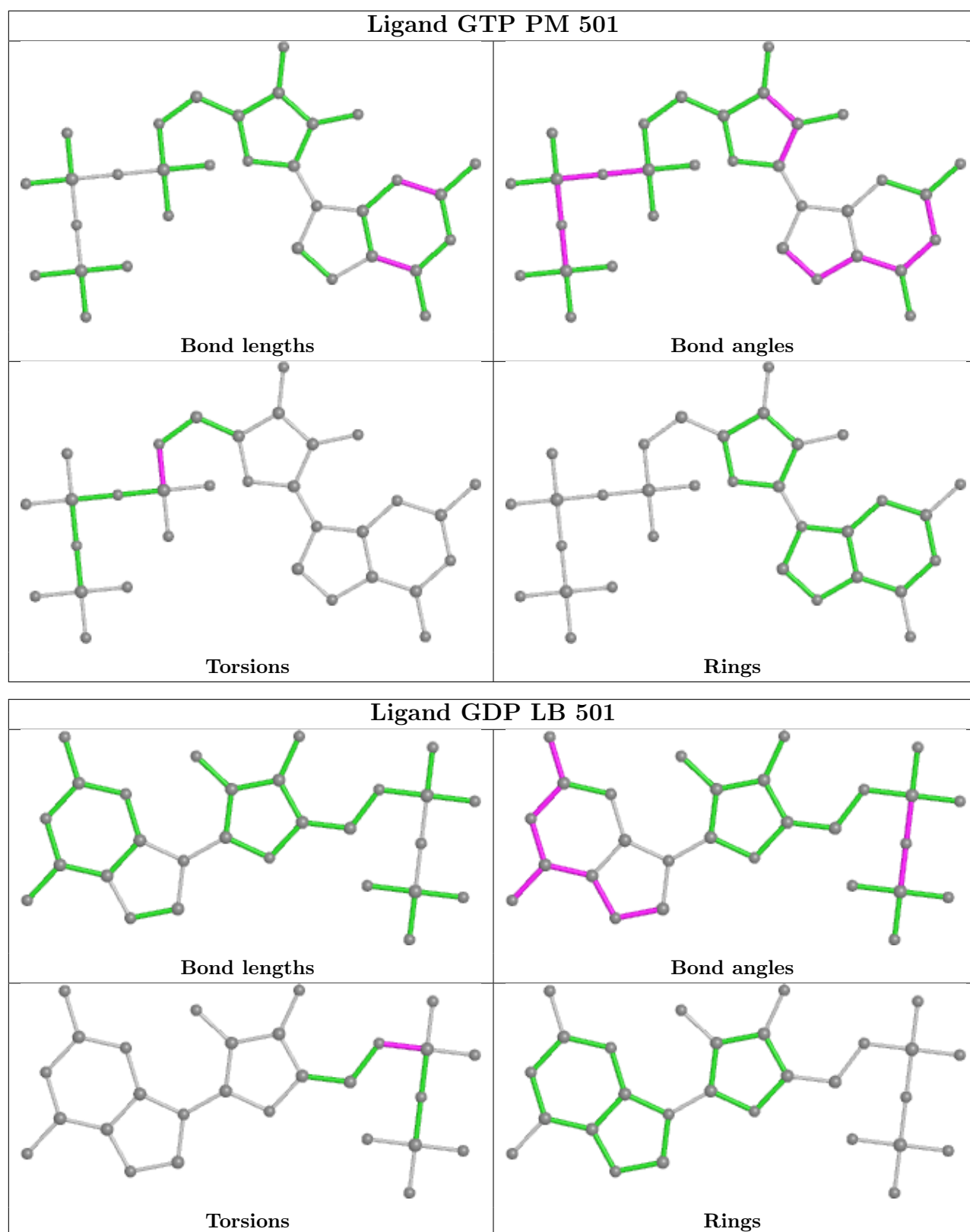


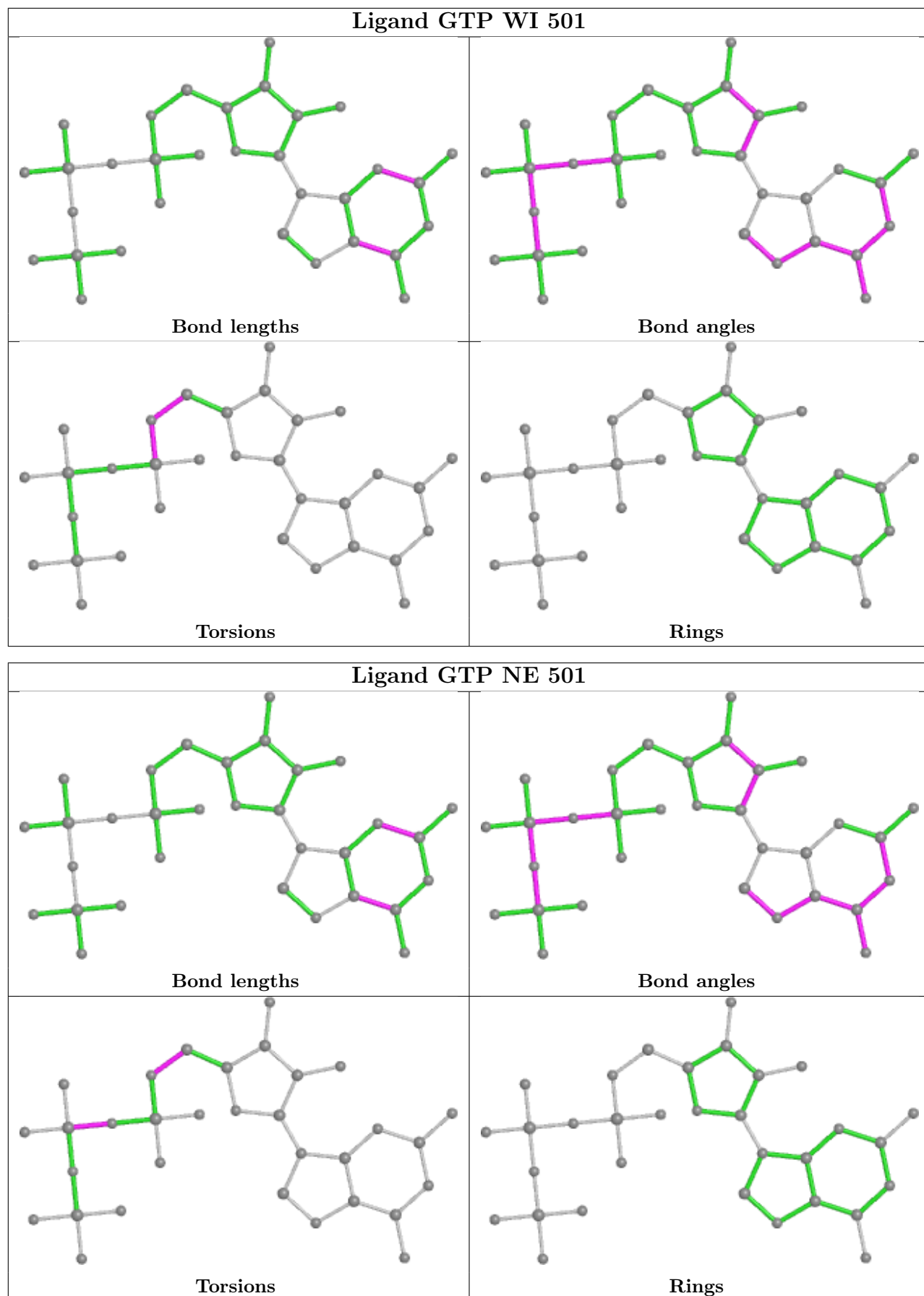


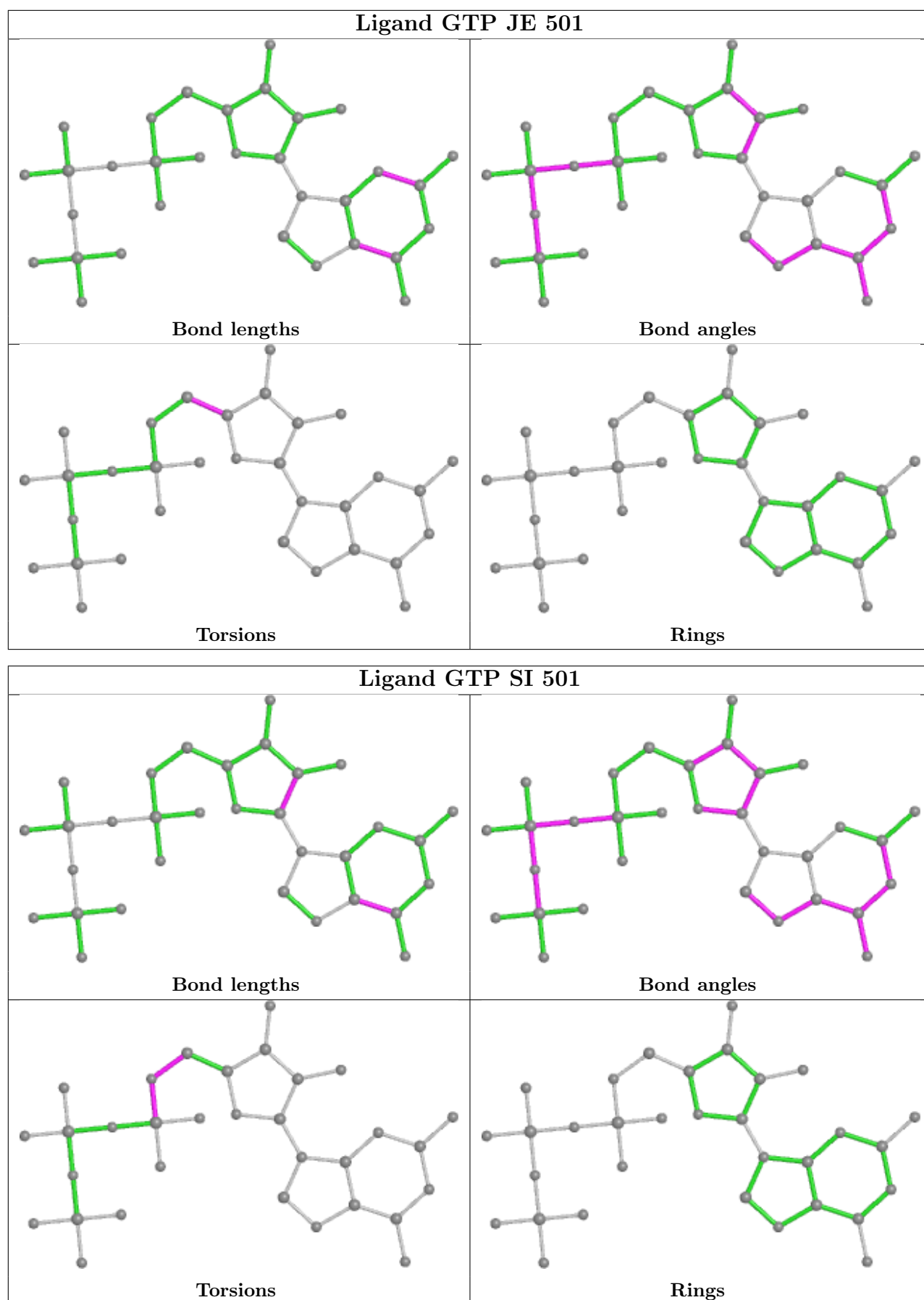


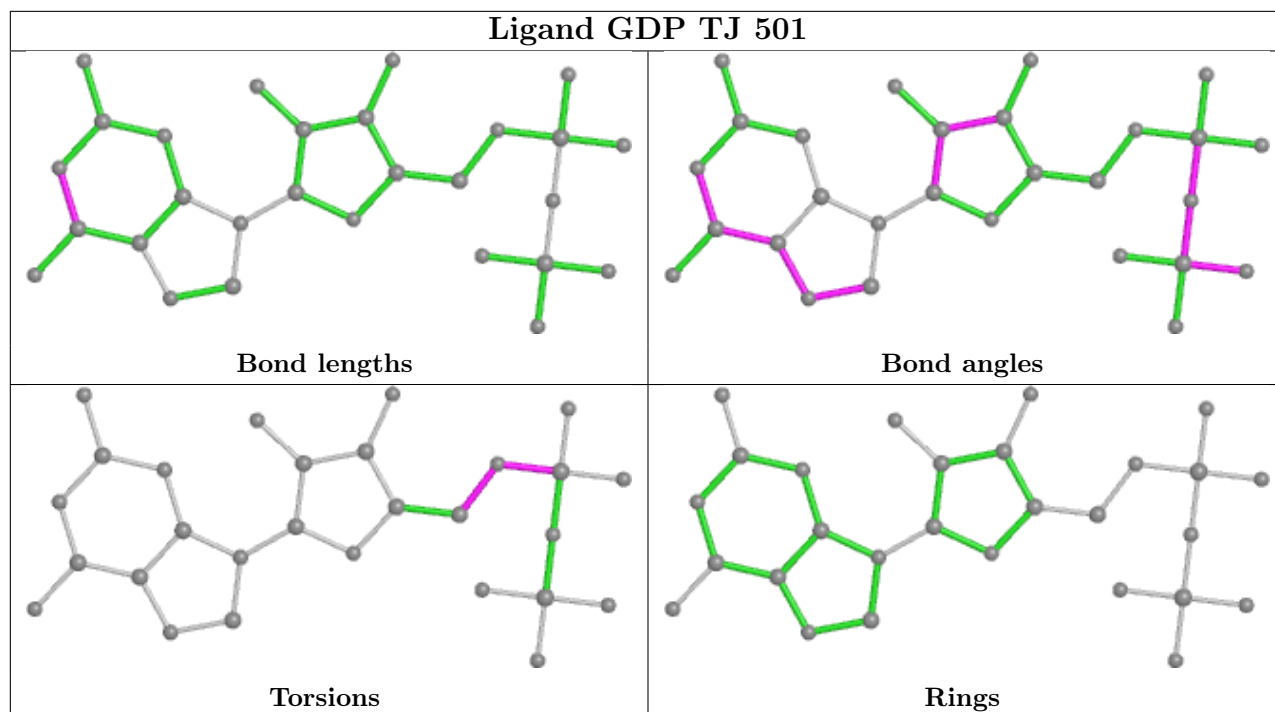












## 5.7 Other polymers [i](#)

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
25	B1	6
25	Bn	6
25	Bp	6
25	Bo	6
25	Bm	6

The worst 5 of 30 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B1	83:UNK	C	103:UNK	N	55.09
1	B1	151:UNK	C	171:UNK	N	54.90
1	Bn	151:UNK	C	171:UNK	N	54.16
1	Bp	116:UNK	C	135:UNK	N	50.17
1	Bp	218:UNK	C	236:UNK	N	49.54

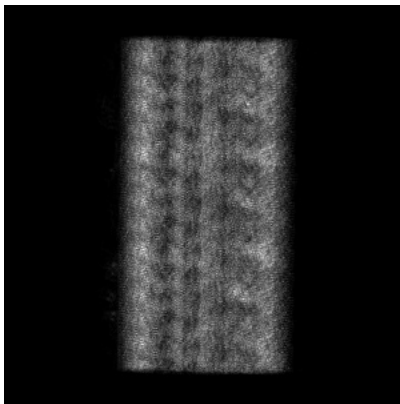
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-17187. These allow visual inspection of the internal detail of the map and identification of artifacts.

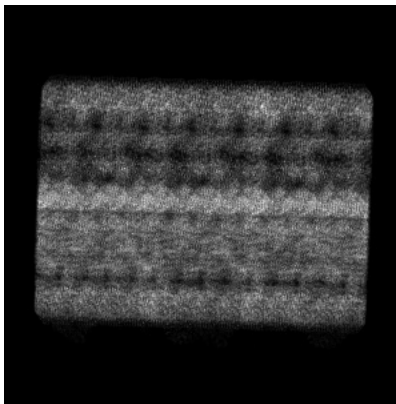
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

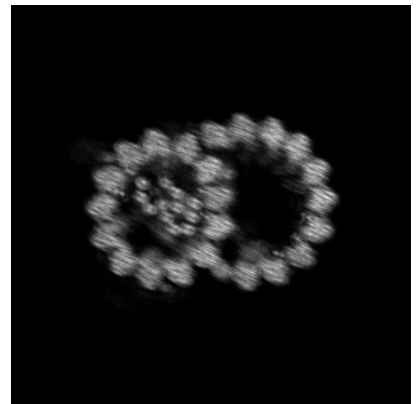
#### 6.1.1 Primary map



X

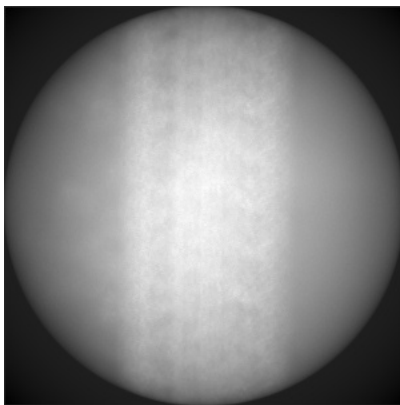


Y

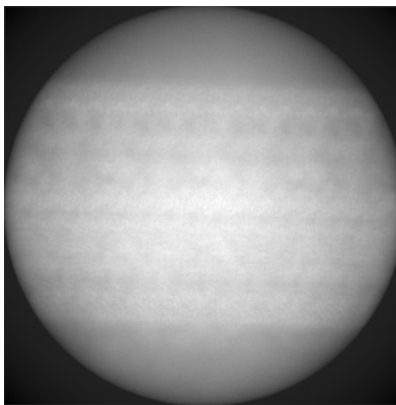


Z

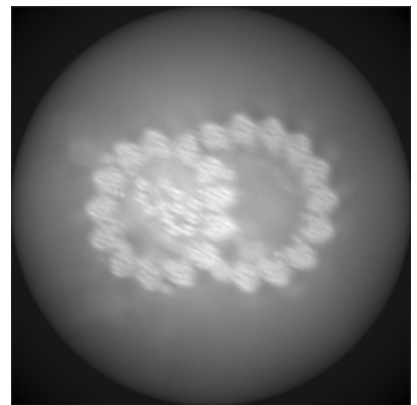
#### 6.1.2 Raw map



X



Y

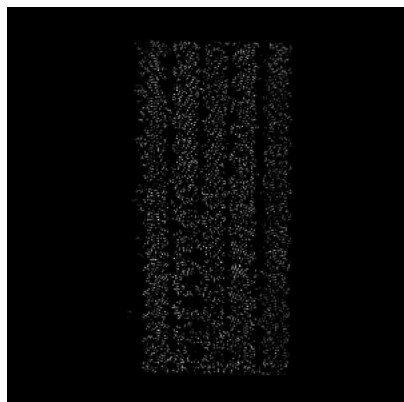


Z

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

## 6.2 Central slices [i](#)

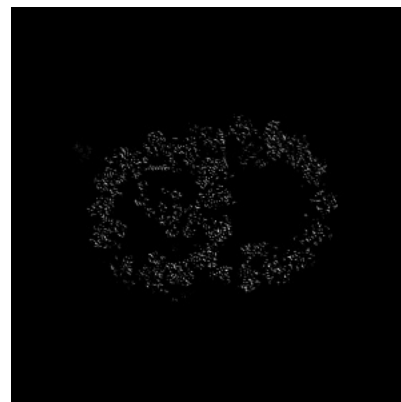
### 6.2.1 Primary map



X Index: 336

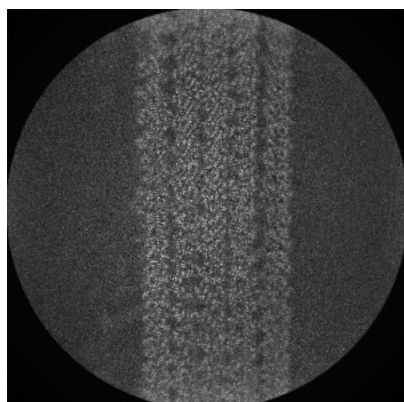


Y Index: 336

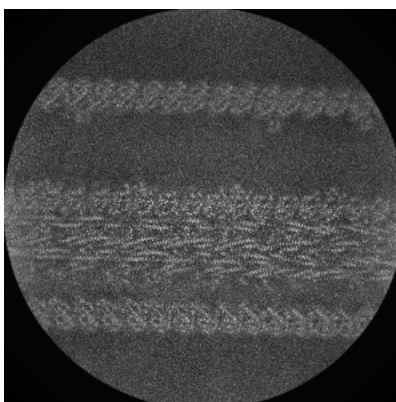


Z Index: 336

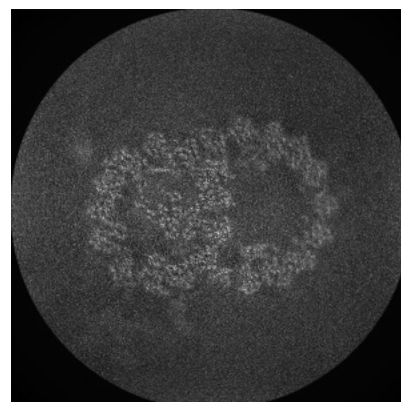
### 6.2.2 Raw map



X Index: 336



Y Index: 336

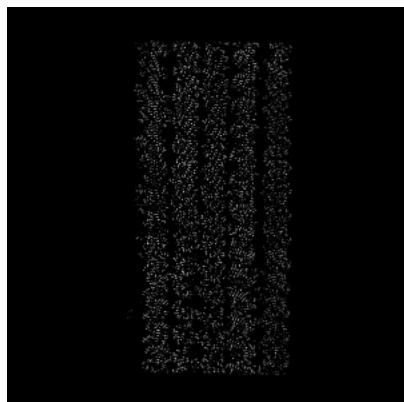


Z Index: 336

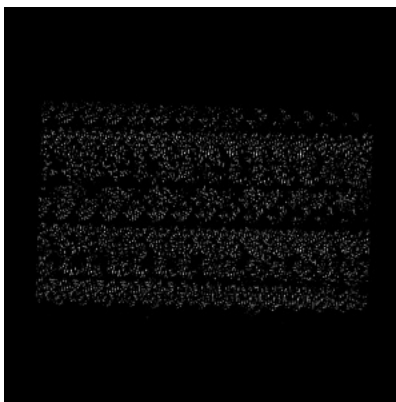
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

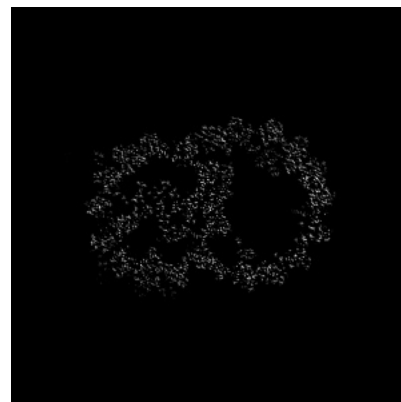
### 6.3.1 Primary map



X Index: 337

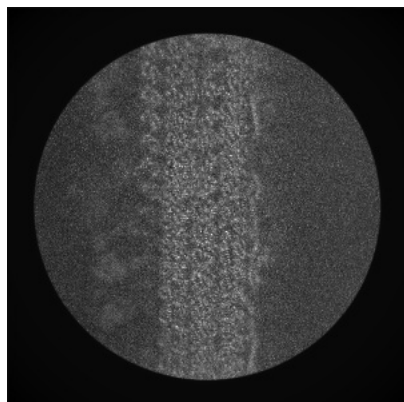


Y Index: 233

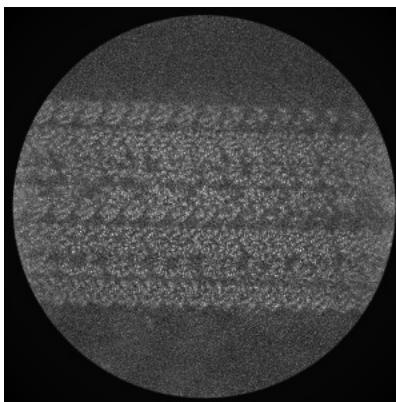


Z Index: 425

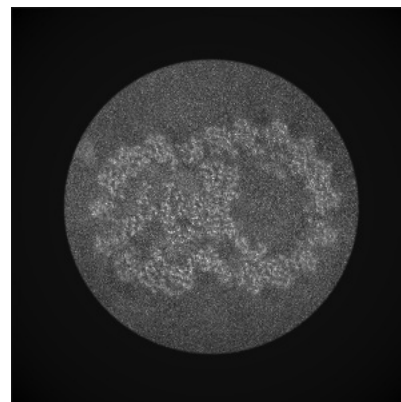
### 6.3.2 Raw map



X Index: 165



Y Index: 233



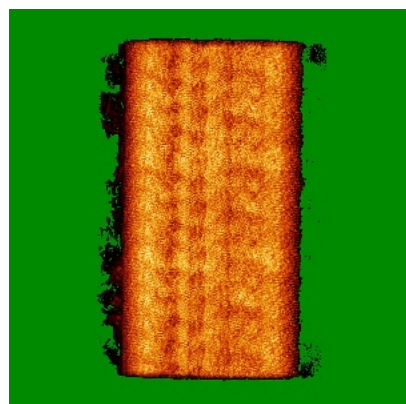
Z Index: 106

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

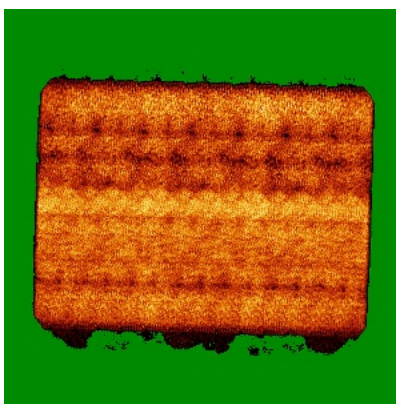


## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

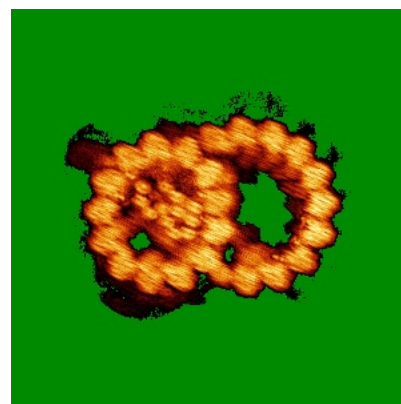
### 6.4.1 Primary map



X

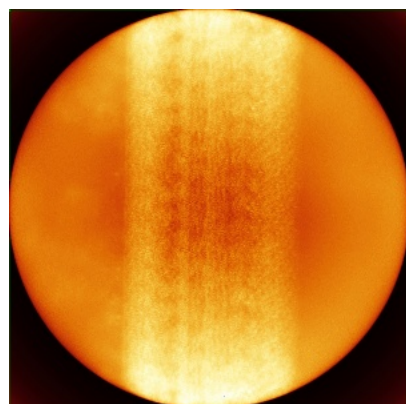


Y

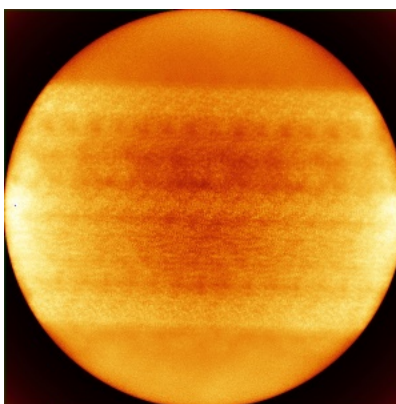


Z

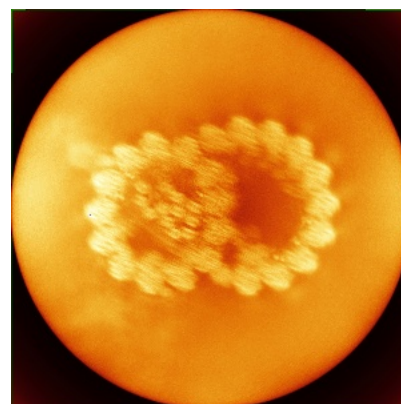
### 6.4.2 Raw map



X



Y



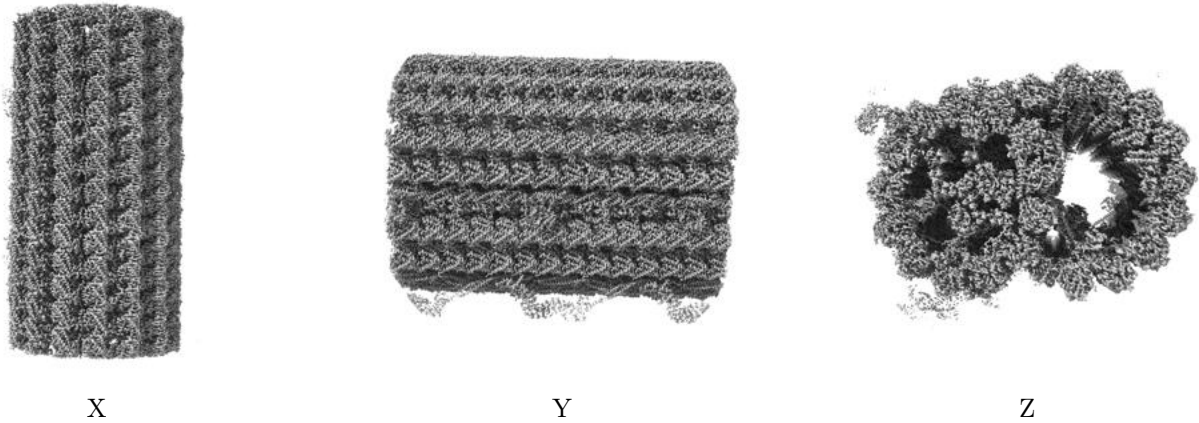
Z

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



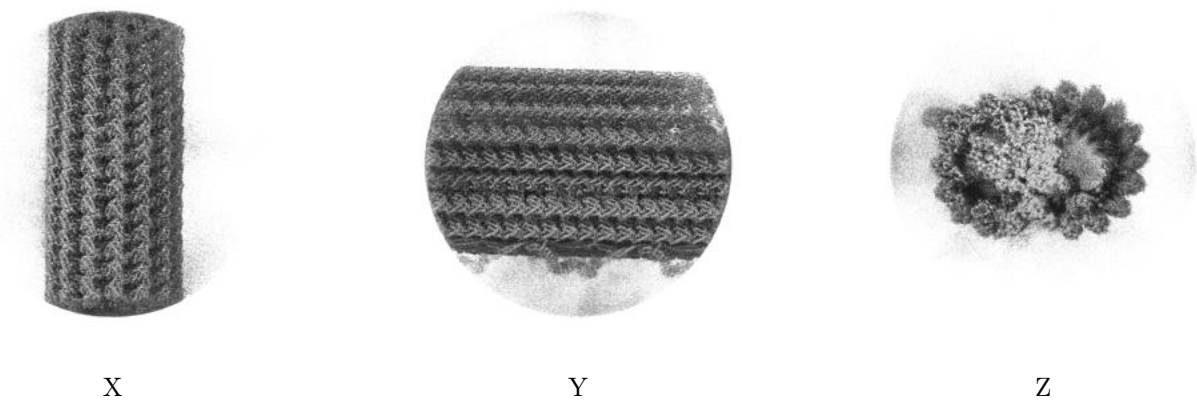
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.5.2 Raw map



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

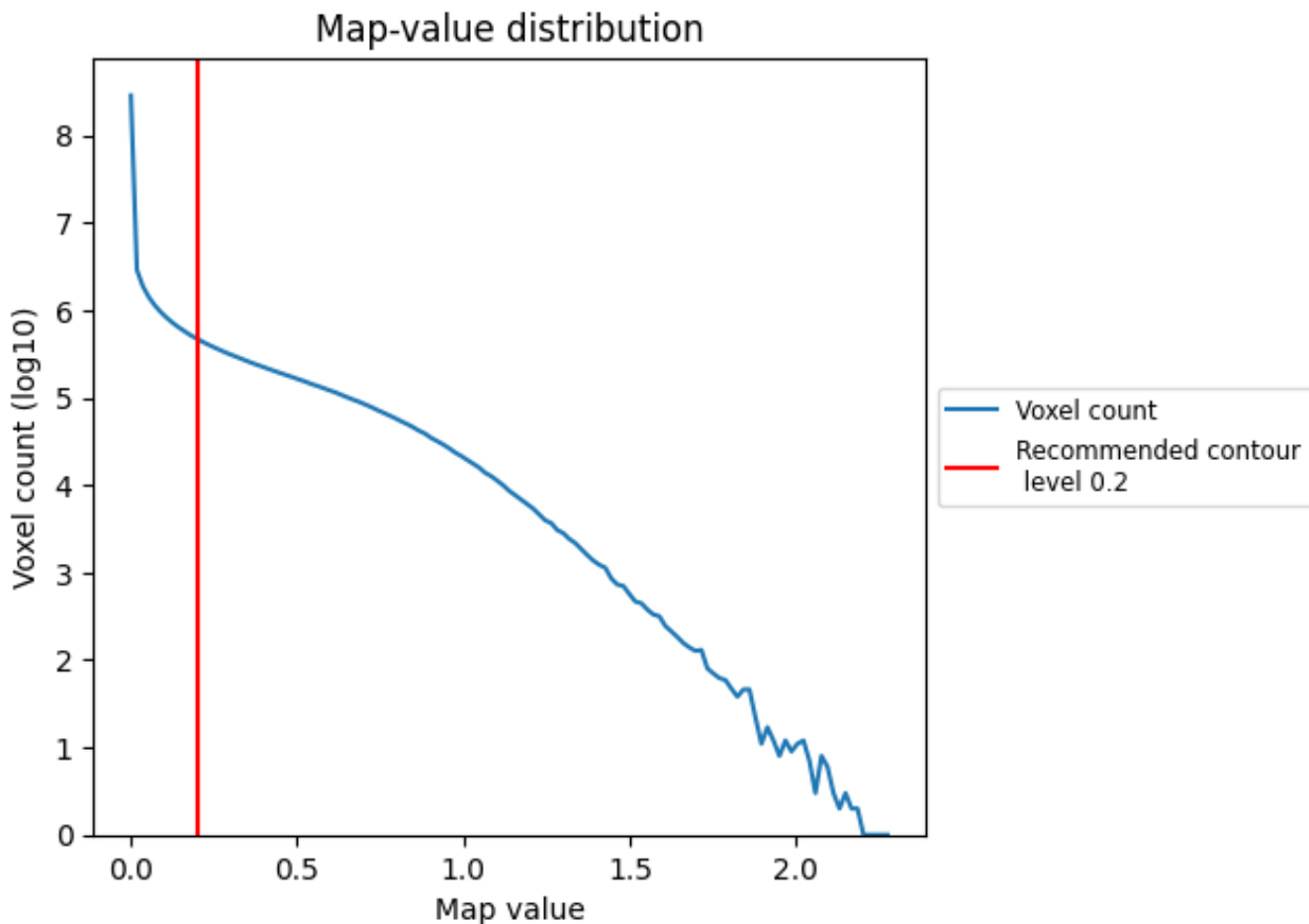
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

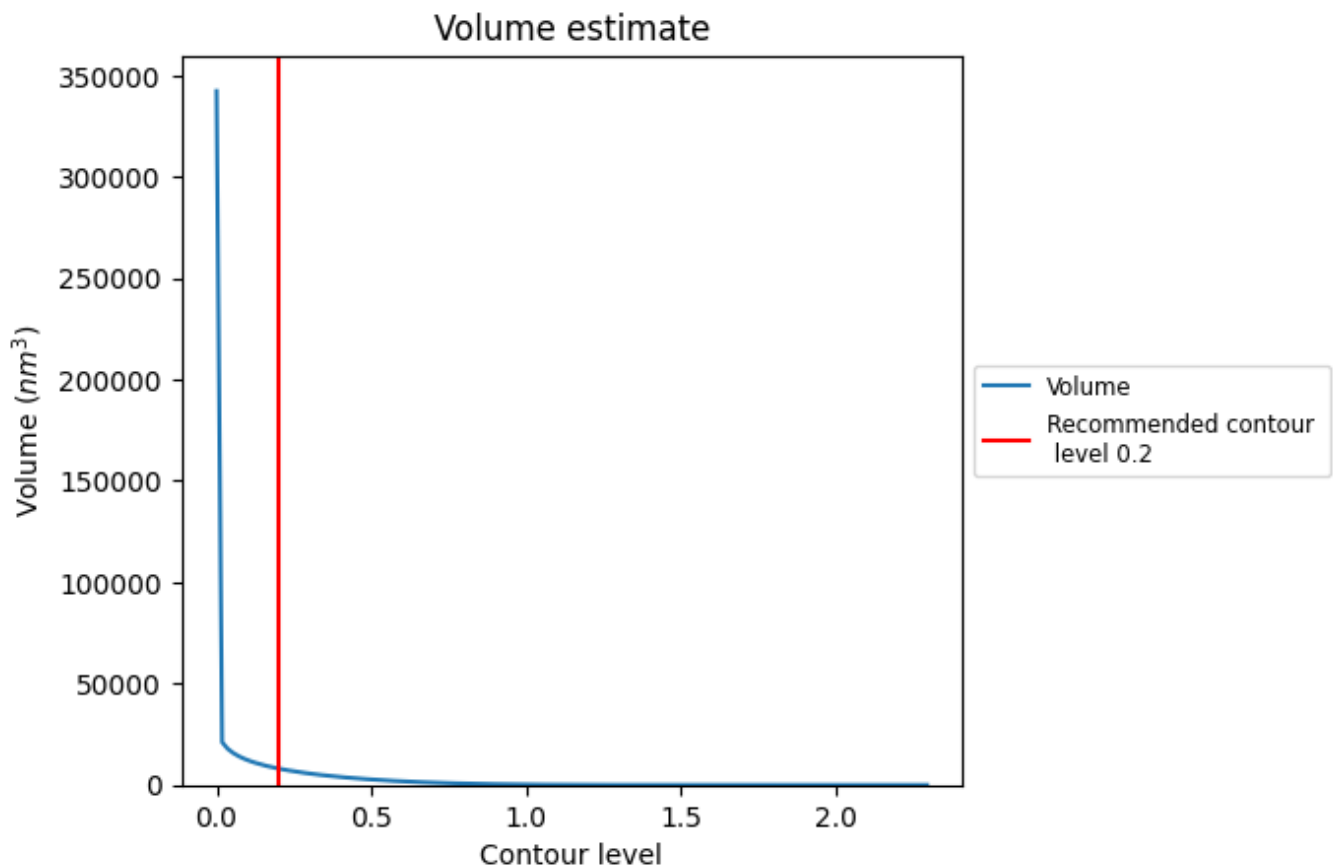
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

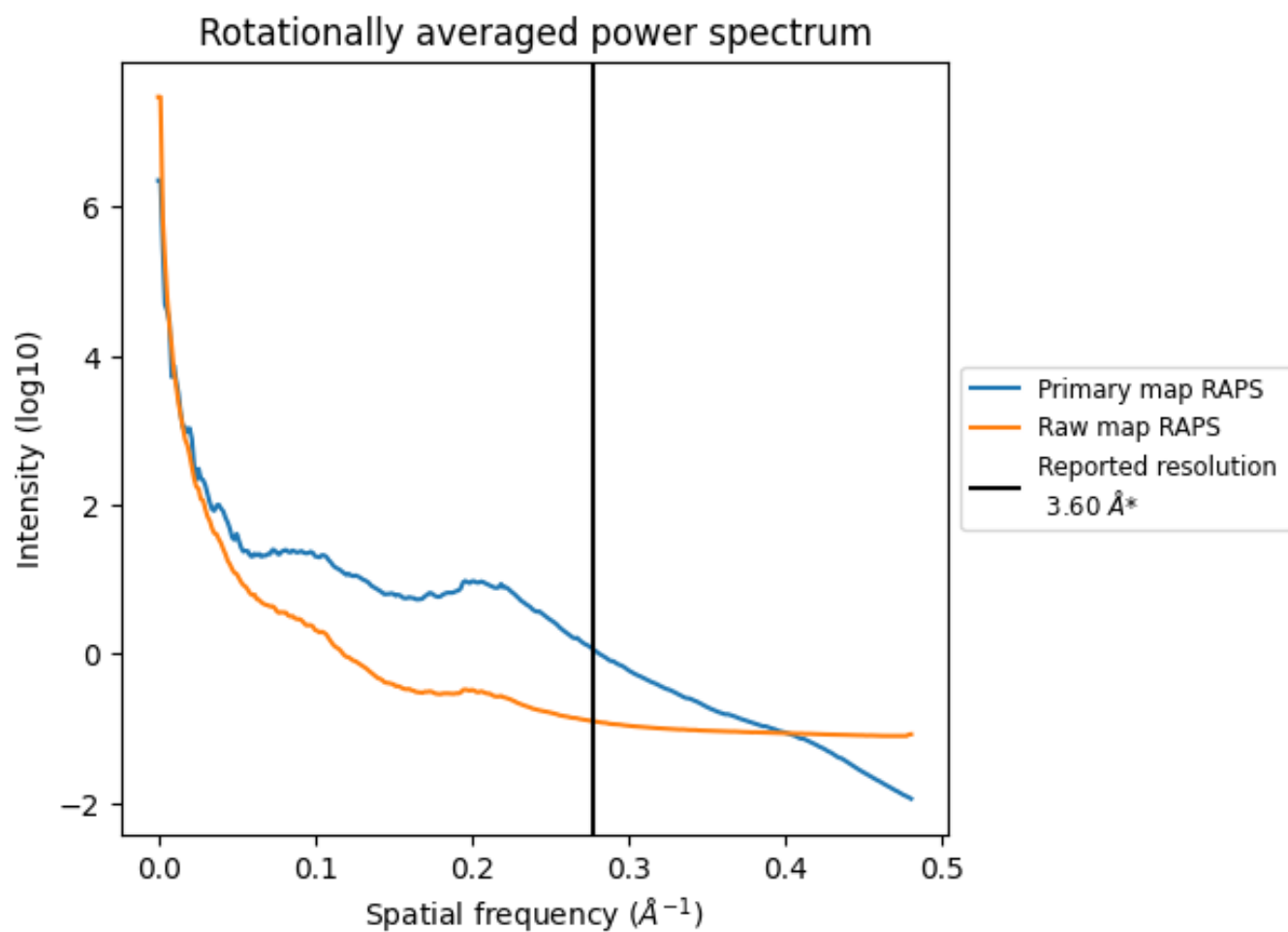
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 8092  $\text{nm}^3$ ; this corresponds to an approximate mass of 7310 kDa.

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

### 7.3 Rotationally averaged power spectrum i

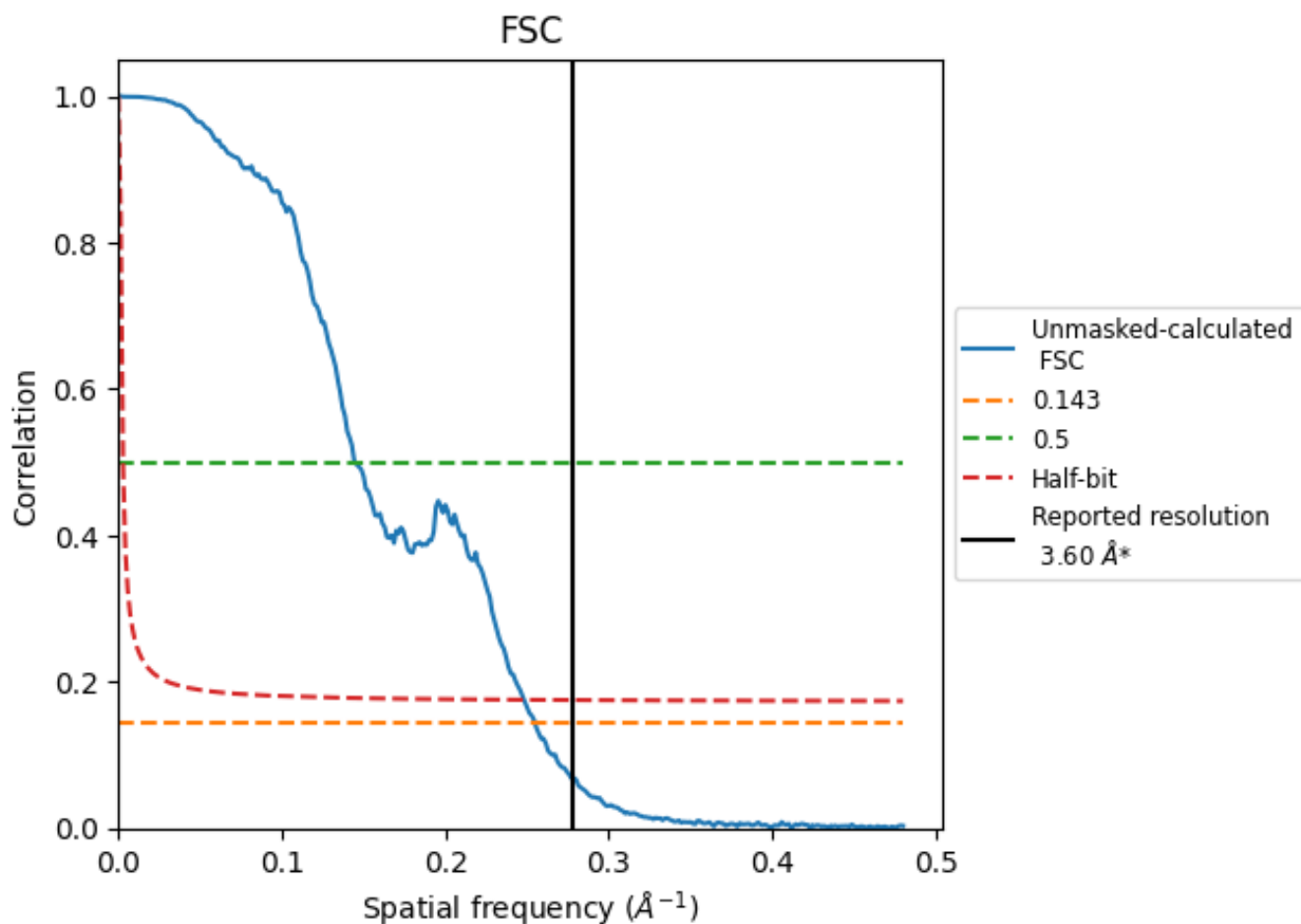


\*Reported resolution corresponds to spatial frequency of 0.278 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.278 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

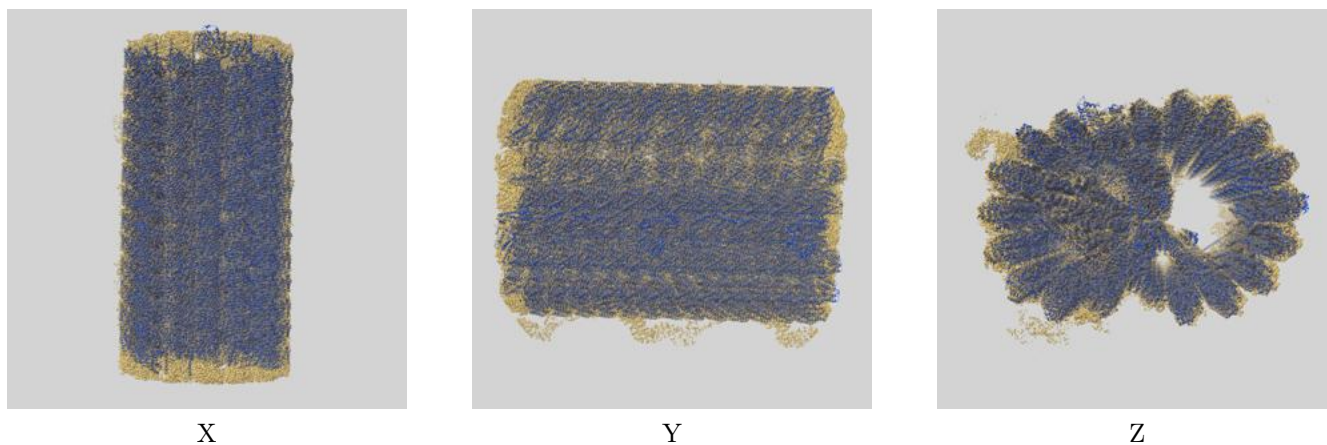
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.92	6.91	4.03

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-17187 and PDB model 8OTZ. Per-residue inclusion information can be found in section 3 on page 83.

### 9.1 Map-model overlay [i](#)

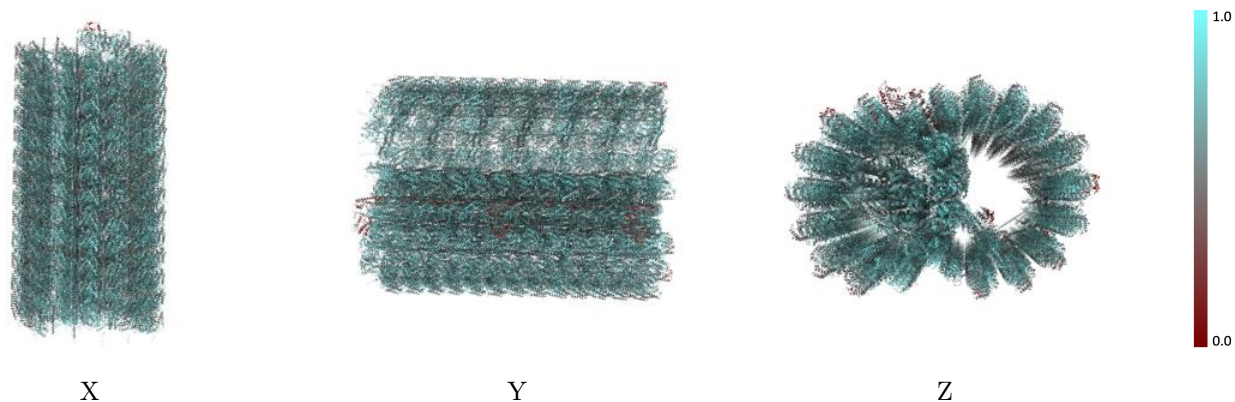


The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 9.2 Q-score mapped to coordinate model [i](#)

This section was not generated.

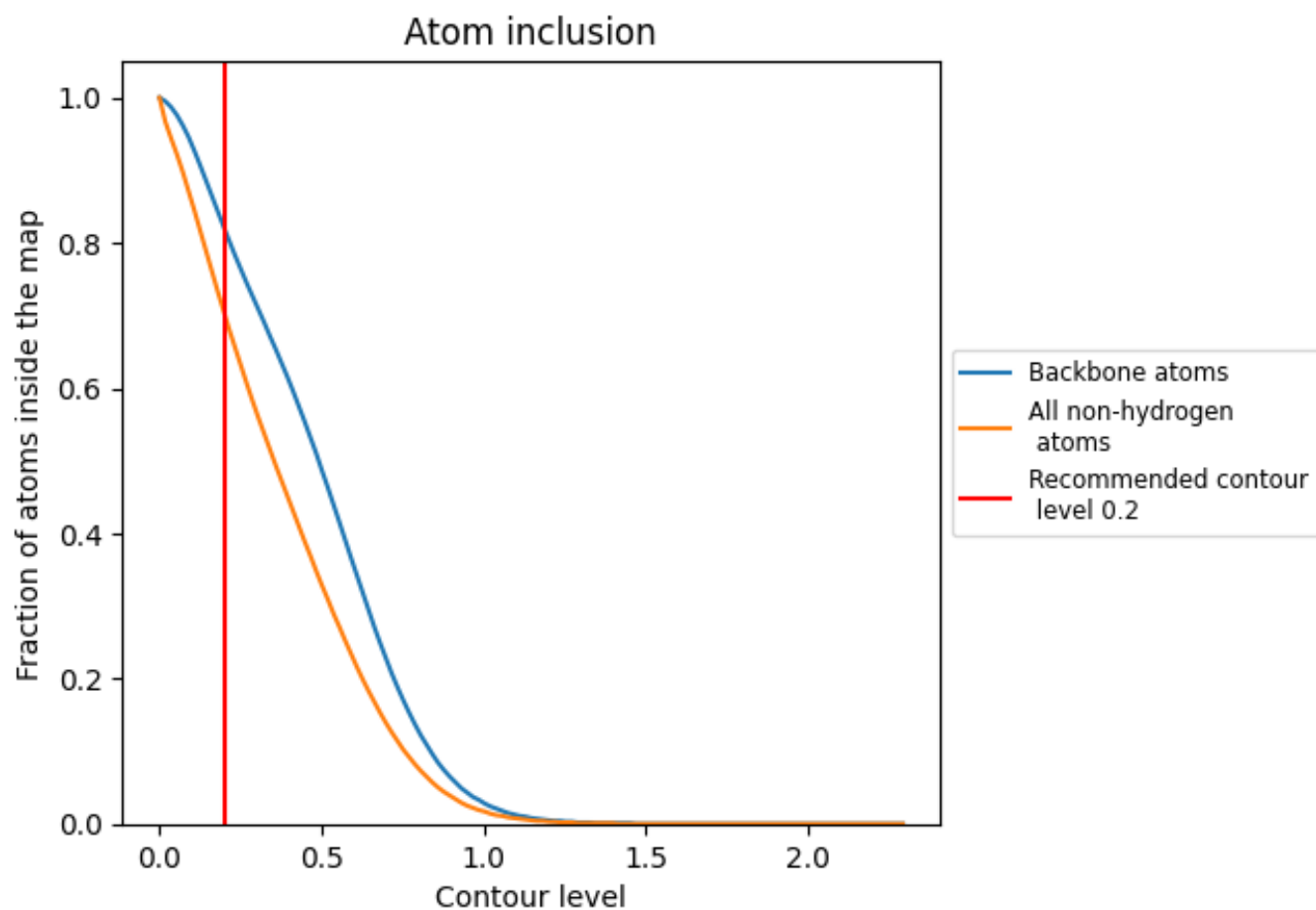
## 9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.2).



## 9.4 Atom inclusion [i](#)



At the recommended contour level, 82% of all backbone atoms, 70% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	0.7030
0	0.8150
0A	0.6410
0C	0.5730
0E	0.4740
0G	0.5510
0W	0.5900
0Y	0.6150
0a	0.5950
0c	0.5520
0e	0.6530
0g	0.6110
0i	0.6080
0k	0.5270
1	0.2550
2	0.2450
3	0.5620
A	0.6710
A0	0.6540
A1	0.5170
A2	0.6230
A3	0.6280
A4	0.6190
A5	0.6080
A6	0.7220
A7	0.6710
A8	0.6070
A9	0.6390
AA	0.7750
AB	0.7690
AC	0.7790
AD	0.7890
AE	0.7930
AF	0.7730
AG	0.7640



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Chain	Atom inclusion
AH	0.7610
AI	0.8080
AJ	0.7810
AK	0.7690
AL	0.7640
AM	0.7810
AP	0.7660
AQ	0.7610
AR	0.7270
AS	0.7560
AT	0.6560
AU	0.6920
AV	0.7510
AW	0.7550
Aa	0.7150
Ab	0.7380
Ac	0.7480
Ad	0.7240
Al	0.7860
Am	0.8170
An	0.8170
Ao	0.7250
Ap	0.7400
Aq	0.7850
Ar	0.7880
At	0.5650
Au	0.6890
Av	0.6330
Aw	0.6530
Ax	0.5070
Ay	0.6510
Az	0.5810
B	0.7070
B0	0.6560
B1	0.6420
B2	0.7800
B3	0.7510
B4	0.7260
B5	0.6420
B6	0.6260
B7	0.7760
B8	0.7080

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Chain	Atom inclusion
B9	0.7000
BA	0.7230
BB	0.7460
BC	0.7560
BD	0.7490
BE	0.7650
BF	0.7400
BG	0.7450
BH	0.7460
BI	0.7620
BJ	0.7490
BK	0.7490
BL	0.7550
BM	0.7470
BN	0.6720
BO	0.6700
BP	0.6750
BQ	0.6720
BR	0.6810
BS	0.6720
BT	0.6820
BU	0.6750
BV	0.7380
BW	0.7500
BX	0.7060
BY	0.7450
BZ	0.7580
Ba	0.7000
Bb	0.7180
Bc	0.7210
Bd	0.7700
Be	0.7600
Bf	0.6900
Bg	0.7580
Bh	0.7470
Bi	0.7350
Bj	0.6590
Bk	0.6440
Bl	0.7830
Bm	0.8160
Bn	0.8380
Bo	0.8620

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Chain	Atom inclusion
Bp	0.7890
Bq	0.6600
Br	0.7150
Bs	0.7020
Bu	0.6510
By	0.6280
Bz	0.6400
C	0.7270
C0	0.7520
C1	0.6770
C2	0.7370
C3	0.7540
C4	0.7450
C5	0.7580
C6	0.7880
C7	0.7590
C8	0.7640
C9	0.7480
CA	0.6110
CB	0.6670
CC	0.6920
CD	0.6730
CE	0.7130
CF	0.7010
CG	0.6810
CH	0.6850
CI	0.6950
CJ	0.7190
CK	0.6910
CL	0.6900
CM	0.6790
CN	0.7340
CO	0.7390
CQ	0.6680
CR	0.6080
CS	0.6830
CT	0.6620
CU	0.6240
CV	0.5200
CW	0.7280
CX	0.6590
CY	0.5480

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Chain	Atom inclusion
CZ	0.6160
Ca	0.6620
Cb	0.6670
Cc	0.6410
Cd	0.6030
Ce	0.4970
Cf	0.5210
Cg	0.5820
Ch	0.6270
Ci	0.6080
Cj	0.5470
Ck	0.5080
Cl	0.6730
Cm	0.7570
Cn	0.7590
Co	0.7660
Cp	0.7590
Cq	0.7710
Cr	0.7660
Cs	0.7570
Ct	0.7680
Cu	0.7190
Cv	0.7270
Cw	0.7100
Cx	0.7240
Cy	0.7200
Cz	0.6210
D	0.7330
D0	0.7110
D1	0.7090
D2	0.6980
D3	0.6940
D4	0.6710
D5	0.6790
D6	0.6810
D7	0.7110
D8	0.6960
D9	0.6900
DA	0.5710
DB	0.6320
DC	0.6680
DD	0.6770

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Chain	Atom inclusion
DE	0.6890
DF	0.7190
DG	0.6820
DH	0.6870
DI	0.6910
DJ	0.7390
DK	0.6770
DL	0.6980
DM	0.6770
DN	0.6280
DO	0.7950
DP	0.6630
DQ	0.6530
DR	0.5250
DS	0.5940
DT	0.6630
DU	0.6750
DV	0.6400
DW	0.6630
DX	0.5350
DY	0.7130
DZ	0.7440
Da	0.6720
Db	0.7250
Dc	0.7290
Dd	0.6540
De	0.6340
Df	0.6430
Dg	0.5960
Dh	0.5990
Di	0.6690
Dj	0.7030
Dk	0.6820
Dl	0.6730
Dm	0.7730
Dn	0.5110
E	0.7600
E1	0.7560
E2	0.7660
E3	0.7590
E4	0.7370
EA	0.6900

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Chain	Atom inclusion
EB	0.5950
EC	0.6500
ED	0.6650
EE	0.6780
EF	0.7100
EG	0.6860
EH	0.6790
EI	0.6950
EJ	0.7300
EK	0.6750
EL	0.6920
EM	0.6900
EN	0.6350
EO	0.6900
EP	0.7010
EQ	0.7040
ER	0.7300
ES	0.7790
ET	0.7740
EU	0.7650
EV	0.7630
EW	0.6960
EX	0.6990
EY	0.7040
EZ	0.7010
Ee	0.7840
F	0.7710
F2	0.7680
F3	0.7610
F4	0.7540
F5	0.7570
F6	0.7560
FB	0.6520
FC	0.6890
FD	0.6890
FE	0.7100
FF	0.7490
FG	0.7280
FH	0.7270
FI	0.7180
FJ	0.7390
FK	0.7190

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Chain	Atom inclusion
FL	0.7190
FM	0.7360
FN	0.6780
G	0.6850
GB	0.6690
GC	0.6960
GD	0.7100
GE	0.7130
GF	0.7450
GG	0.7100
GH	0.7200
GI	0.7120
GJ	0.7380
GK	0.7330
GL	0.7210
GM	0.7130
GN	0.6880
H	0.6550
HB	0.6190
HC	0.6920
HD	0.7150
HE	0.7180
HF	0.7170
HG	0.7050
HH	0.6960
HI	0.7090
HJ	0.7240
HK	0.7210
HL	0.7120
HM	0.7170
HN	0.6930
HO	0.6710
I	0.7400
IB	0.6610
IC	0.7430
ID	0.7430
IE	0.7410
IF	0.7360
IG	0.7460
IH	0.7440
II	0.7380
IJ	0.7380

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Chain	Atom inclusion
IK	 0.7570
IL	 0.7350
IM	 0.7330
IN	 0.7340
IO	 0.7320
J	 0.6790
JB	 0.7390
JC	 0.7390
JD	 0.7410
JE	 0.7400
JF	 0.7670
JG	 0.7470
JH	 0.7520
JI	 0.7470
JJ	 0.7740
JK	 0.7370
JL	 0.7400
JM	 0.7410
JN	 0.7390
K	 0.6970
K1	 0.7000
KB	 0.7380
KC	 0.8080
KD	 0.8100
KE	 0.7950
KF	 0.8010
KG	 0.8150
KH	 0.8090
KI	 0.8000
KJ	 0.7850
KK	 0.8290
KL	 0.7990
KM	 0.7990
KN	 0.7890
KO	 0.8160
L	 0.7310
L1	 0.6560
L2	 0.6800
LB	 0.7310
LC	 0.7550
LD	 0.7400
LE	 0.7310

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Chain	Atom inclusion
LF	0.7800
LG	0.7620
LH	0.7580
LI	0.7430
LJ	0.7660
LK	0.7670
LL	0.7590
LM	0.7370
LN	0.7580
M	0.6740
MB	0.7950
MC	0.7930
MD	0.7900
ME	0.7980
MF	0.8260
MG	0.7990
MH	0.7920
MI	0.7960
MJ	0.8110
MK	0.7830
ML	0.7960
MM	0.7960
MN	0.8070
N	0.4530
N0	0.6630
NA	0.6730
NB	0.6480
NC	0.6490
ND	0.7150
NE	0.6870
NF	0.6530
NG	0.6570
NH	0.6840
NI	0.6750
NJ	0.6530
NK	0.6470
NL	0.6520
O	0.4470
O0	0.6450
OA	0.7000
OB	0.6920
OC	0.6910

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Chain	Atom inclusion
OD	0.7100
OE	0.7250
OF	0.6950
OG	0.6810
OH	0.6910
OI	0.6990
OJ	0.6820
OK	0.7000
OL	0.6970
P	0.6710
PA	0.7010
PB	0.7180
PC	0.6960
PD	0.6990
PE	0.7070
PF	0.6820
PG	0.6590
PH	0.6820
PI	0.7190
PJ	0.7010
PK	0.7020
PL	0.7310
PM	0.7020
Q	0.7560
QA	0.6460
QB	0.6900
QC	0.6470
QD	0.6710
QE	0.6900
QF	0.6500
QG	0.6520
QH	0.6680
QI	0.7160
QJ	0.6810
QK	0.6530
QL	0.6920
QM	0.6650
R	0.7240
RA	0.6370
RB	0.6880
RC	0.6770
RD	0.6670

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Chain	Atom inclusion
RE	0.7180
RF	0.6790
RG	0.6390
RH	0.6760
RI	0.6980
RJ	0.6920
RK	0.6550
RL	0.6850
RM	0.6420
S	0.7110
SA	0.6160
SB	0.6940
SC	0.7040
SD	0.7080
SE	0.7540
SF	0.7220
SG	0.7020
SH	0.7100
SI	0.7180
SJ	0.7390
SK	0.7090
SL	0.7200
SM	0.7030
T	0.7220
TB	0.6780
TC	0.7190
TD	0.7120
TE	0.7420
TF	0.7450
TG	0.7060
TH	0.7230
TI	0.7320
TJ	0.7470
TK	0.7080
TL	0.7120
TM	0.6910
U	0.7090
UB	0.6240
UC	0.6590
UD	0.6510
UE	0.6690
UF	0.6890






































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Chain	Atom inclusion
UG	0.6700
UH	0.6550
UI	0.6520
UJ	0.6960
UK	0.6610
UL	0.6440
UM	0.6480
UN	0.6020
V	0.7140
VB	0.6540
VC	0.6740
VD	0.6960
VE	0.6660
VF	0.7120
VG	0.6670
VH	0.6970
VI	0.6760
VJ	0.7090
VK	0.6990
VL	0.6910
VM	0.6730
VN	0.6520
W	0.3360
WB	0.6400
WC	0.6500
WD	0.7070
WE	0.6740
WF	0.7200
WG	0.6600
WH	0.7030
WI	0.6880
WJ	0.7260
WK	0.6950
WL	0.6930
WM	0.6920
WN	0.6880
X	0.7360
XG	0.7160
XH	0.7320
XI	0.7550
XJ	0.7260
XK	0.7470

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Chain	Atom inclusion
XL	 0.7190
XM	 0.6850
Y	 0.7480
YG	 0.3440
YH	 0.7100
YI	 0.7030
YJ	 0.7020
YK	 0.7330
YL	 0.6830
Z	 0.2870
a	 0.5960
b	 0.5480
c	 0.5580
d	 0.5790
e	 0.7240
f	 0.7250
g	 0.7280
h	 0.7560
i	 0.7960
j	 0.7780
k	 0.6100
ke	 0.6190
l	 0.4820
m	 0.6620
n	 0.6470
o	 0.6230
p	 0.3170
q	 0.2590
r	 0.7380
s	 0.7270
t	 0.7270
u	 0.3280
v	 0.3030
w	 0.2890
x	 0.3250
y	 0.5650
z	 0.5620