



Full wwPDB EM Validation Report ⓘ

Nov 30, 2023 – 12:12 PM JST

PDB ID : 8I7R
EMDB ID : EMD-35230
Title : In situ structure of axonemal doublet microtubules in mouse sperm with 48-nm repeat
Authors : Zhu, Y.; Yin, G.L.; Tai, L.H.; Sun, F.
Deposited on : 2023-02-02
Resolution : 6.50 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

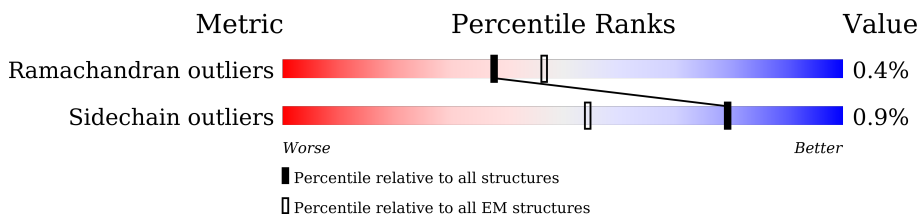
EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (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 6.50 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	A	491	
1	B	491	
2	A1	418	
2	A2	418	
2	A3	418	
2	A4	418	
3	AB	427	
3	AD	427	
3	AF	427	

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Mol	Chain	Length	Quality of chain
3	AH	427	7% 99%
3	AJ	427	6% 99%
3	AL	427	8% 100%
3	BB	427	9% 99%
3	BD	427	5% 98%
3	BF	427	6% 98%
3	BH	427	10% 99%
3	BJ	427	8% 98%
3	BL	427	9% 99%
3	CB	427	13% 99%
3	CD	427	9% 99%
3	CF	427	8% 99%
3	CH	427	13% 98%
3	CJ	427	7% 99%
3	CL	427	14% 99%
3	DB	427	13% 99%
3	DD	427	8% 99%
3	DF	427	13% 99%
3	DH	427	9% 99%
3	DJ	427	17% 99%
3	DL	427	12% 99%
3	EB	427	18% 99%
3	ED	427	10% 99%
3	EF	427	19% 99%
3	EH	427	12% 99%

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Mol	Chain	Length	Quality of chain
3	EJ	427	25% 99%
3	EL	427	21% 99%
3	FB	427	21% 99%
3	FD	427	14% 100%
3	FF	427	23% 100%
3	FH	427	16% 99%
3	FJ	427	21% 99%
3	FL	427	22% 99%
3	GB	427	22% 99%
3	GD	427	19% 99%
3	GF	427	26% 99%
3	GH	427	22% 100%
3	GJ	427	22% 99%
3	GL	427	27% 99%
3	HB	427	28% 99%
3	HD	427	20% 99%
3	HF	427	27% 99%
3	HH	427	21% 99%
3	HJ	427	25% 99%
3	HL	427	27% 99%
3	IB	427	19% 99%
3	ID	427	18% 99%
3	IF	427	20% 99%
3	IH	427	17% 99%
3	IJ	427	16% 99%

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Mol	Chain	Length	Quality of chain
3	IL	427	21% 99%
3	JB	427	12% 99%
3	JD	427	10% 99%
3	JF	427	16% 99%
3	JH	427	9% 99%
3	JJ	427	15% 99%
3	JL	427	16% 99%
3	KB	427	12% 99%
3	KD	427	7% 99%
3	KF	427	9% 99%
3	KH	427	6% 100%
3	KJ	427	. 99%
3	KL	427	16% 99%
3	LB	427	14% 99%
3	LD	427	6% 99%
3	LF	427	5% 99%
3	LH	427	5% 99%
3	LJ	427	. 99%
3	LL	427	11% 99%
3	MB	427	13% 99%
3	MD	427	. 99%
3	MF	427	. 99%
3	MH	427	. 99%
3	MJ	427	5% 99%
3	ML	427	7% 99%

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Mol	Chain	Length	Quality of chain
3	NB	427	38% 99%
3	ND	427	25% 99%
3	NF	427	31% 99%
3	NH	427	24% 99%
3	NJ	427	37% 99%
3	NL	427	35% 99%
3	OB	427	64% 99%
3	OD	427	53% 99%
3	OF	427	53% 99%
3	OH	427	48% 99%
3	OJ	427	57% 99%
3	OL	427	59% 99%
3	PB	427	64% 98%
3	PD	427	54% 99%
3	PF	427	54% 99%
3	PH	427	56% 99%
3	PJ	427	53% 99%
3	PL	427	67% 99%
3	QB	427	70% 99%
3	QD	427	56% 99%
3	QF	427	54% 99%
3	QH	427	59% 99%
3	QJ	427	58% 99%
3	QL	427	70% 99%
3	RB	427	74% 99%

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Mol	Chain	Length	Quality of chain
3	RD	427	67% 99%
3	RF	427	55% 99%
3	RH	427	64% 99%
3	RJ	427	59% 99%
3	RL	427	72% 99%
3	SB	427	68% 99%
3	SD	427	60% 99%
3	SF	427	43% 99%
3	SH	427	60% 99%
3	SJ	427	53% 99%
3	SL	427	70% 99%
3	TB	427	68% 99%
3	TD	427	60% 99%
3	TF	427	40% 99%
3	TH	427	57% 99%
3	TJ	427	46% 99%
3	TL	427	57% 99%
3	TN	427	67% 99%
3	UB	427	53% 99%
3	UD	427	28% 99%
3	UF	427	40% 99%
3	UH	427	35% 99%
3	UJ	427	49% 99%
3	UL	427	52% 99%
3	VB	427	35% 99%

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Mol	Chain	Length	Quality of chain
3	VD	427	19% 98%
3	VF	427	25% 99%
3	VH	427	23% 99%
3	VJ	427	30% 99%
3	VL	427	40% 99%
3	WB	427	20% 99%
3	WD	427	16% 99%
3	WF	427	15% 99%
3	WH	427	15% 99%
3	WJ	427	16% 99%
3	WL	427	23% 99%
4	AC	438	7% 99%
4	AE	438	5% 99%
4	AG	438	11% 98%
4	AI	438	7% 98%
4	AK	438	8% 98%
4	AM	438	11% 99%
4	BC	438	9% 99%
4	BE	438	6% 99%
4	BG	438	15% 99%
4	BI	438	8% 99%
4	BK	438	10% 98%
4	BM	438	12% 98%
4	CC	438	13% 99%
4	CE	438	13% 99%

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Mol	Chain	Length	Quality of chain
4	CG	438	18% 99%
4	CI	438	13% 99%
4	CK	438	14% 99%
4	CM	438	16% 99%
4	DA	438	20% 99%
4	DC	438	12% 99%
4	DE	438	17% 99%
4	DG	438	17% 99%
4	DI	438	15% 98%
4	DK	438	19% 98%
4	EA	438	21% 99%
4	EC	438	16% 98%
4	EE	438	19% 99%
4	EG	438	21% 98%
4	EI	438	14% 99%
4	EK	438	25% 99%
4	FA	438	31% 99%
4	FC	438	20% 98%
4	FE	438	18% 99%
4	FG	438	27% 99%
4	FI	438	16% 99%
4	FK	438	27% 99%
4	GA	438	32% 98%
4	GC	438	26% 99%
4	GE	438	21% 99%

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Mol	Chain	Length	Quality of chain
4	GG	438	32% 99%
4	GI	438	17% 98%
4	GK	438	36% 99%
4	HA	438	35% 99%
4	HC	438	34% 98%
4	HE	438	23% 99%
4	HG	438	33% 99%
4	HI	438	17% 99%
4	HK	438	41% 98%
4	IA	438	30% 99%
4	IC	438	25% 99%
4	IE	438	18% 98%
4	IG	438	28% 98%
4	II	438	16% 99%
4	IK	438	27% 99%
4	IM	438	24% 99%
4	JA	438	20% 99%
4	JC	438	13% 99%
4	JE	438	16% 99%
4	JG	438	17% 99%
4	JI	438	13% 99%
4	JK	438	24% 99%
4	KA	438	18% 99%
4	KC	438	9% 99%
4	KE	438	8% 99%

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Mol	Chain	Length	Quality of chain
4	KG	438	12% 99%
4	KI	438	10% 99%
4	KK	438	16% 99%
4	LA	438	14% 98%
4	LC	438	8% 98%
4	LE	438	7% 99%
4	LG	438	10% 98%
4	LI	438	9% 99%
4	LK	438	12% 99%
4	MC	438	10% 98%
4	ME	438	7% 99%
4	MG	438	7% 99%
4	MI	438	8% 99%
4	MK	438	7% 99%
4	MM	438	14% 99%
4	NA	438	44% 99%
4	NC	438	38% 99%
4	NE	438	31% 99%
4	NG	438	34% 99%
4	NI	438	28% 98%
4	NK	438	41% 99%
4	OA	438	72% 99%
4	OC	438	66% 98%
4	OE	438	50% 99%
4	OG	438	56% 99%

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Mol	Chain	Length	Quality of chain
4	OI	438	47% 99%
4	OK	438	62% 98%
4	PA	438	71% 99%
4	PC	438	67% 99%
4	PE	438	46% 99%
4	PG	438	58% 98%
4	PI	438	53% 99%
4	PK	438	71% 99%
4	PM	438	68% 98%
4	QC	438	67% 99%
4	QE	438	48% 99%
4	QG	438	57% 98%
4	QI	438	53% 99%
4	QK	438	64% 99%
4	QM	438	71% 99%
4	RC	438	76% 99%
4	RE	438	54% 99%
4	RG	438	66% 99%
4	RI	438	60% 98%
4	RK	438	63% 99%
4	RM	438	79% 99%
4	SC	438	69% 99%
4	SE	438	47% 99%
4	SG	438	59% 99%
4	SI	438	54% 99%

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Mol	Chain	Length	Quality of chain
4	SK	438	49% 99%
4	SM	438	73% 99%
4	TC	438	69% 99%
4	TE	438	48% 99%
4	TG	438	51% 99%
4	TI	438	59% 99%
4	TK	438	49% 99%
4	TM	438	69% 99%
4	UA	438	56% 99%
4	UC	438	37% 99%
4	UE	438	41% 99%
4	UG	438	45% 99%
4	UI	438	41% 99%
4	UK	438	59% 99%
4	VA	438	42% 99%
4	VC	438	32% 99%
4	VE	438	24% 99%
4	VG	438	35% 99%
4	VI	438	26% 99%
4	VK	438	41% 98%
4	WA	438	29% 99%
4	WC	438	24% 99%
4	WE	438	19% 98%
4	WG	438	23% 99%
4	WI	438	24% 98%



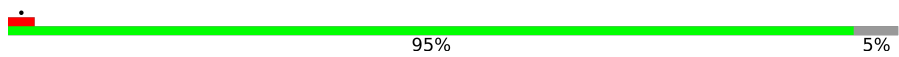
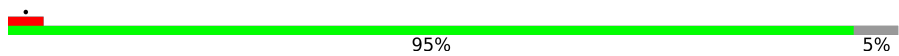









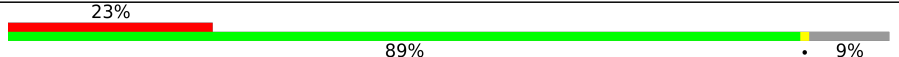
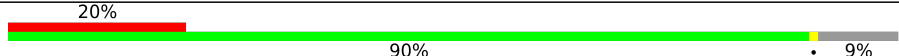
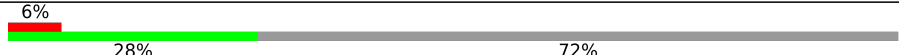
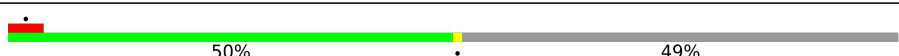
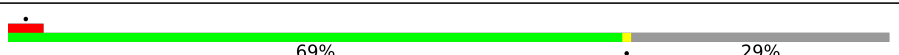
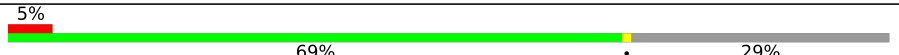





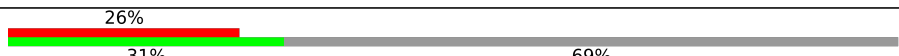
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Mol	Chain	Length	Quality of chain
4	WK	438	30% 98%
5	B1	430	55% 45%
5	B2	430	96%
5	B3	430	96%
5	B4	430	72% 27%
5	B5	430	11% 89%
5	B6	430	83% 16%
5	B7	430	93% 6%
5	B8	430	92% 7%
5	B9	430	27% 73%
6	C	395	19% 93% 6% 6%
6	D	395	28% 92% 6% 6%
7	C1	490	20% 80%
7	C2	490	78% 21%
7	C3	490	79% 21%
7	C4	490	73% 26%
7	C5	490	13% 87%
7	C6	490	41% 59%
7	C7	490	80% 20%
7	C8	490	79% 20%
7	C9	490	60% 39%
7	Ca	490	44% 55%
7	Cb	490	78% 21%
7	Cc	490	79% 21%
7	Cd	490	53% 46%

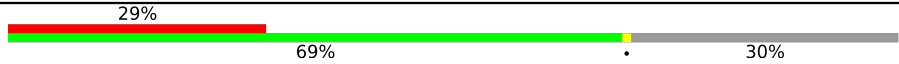
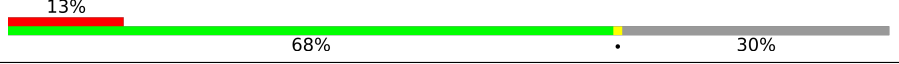
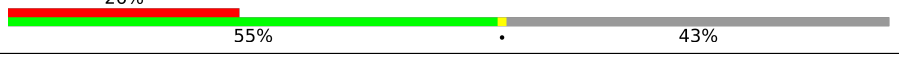
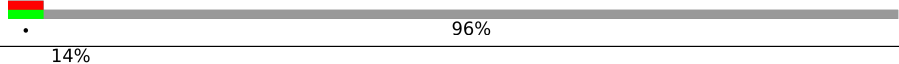

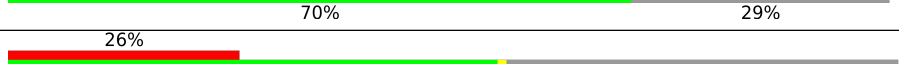

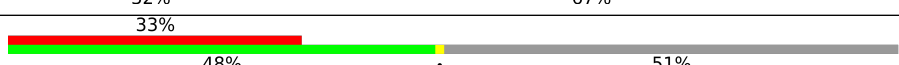
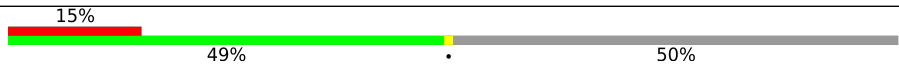


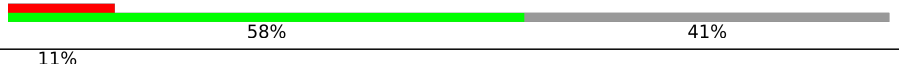

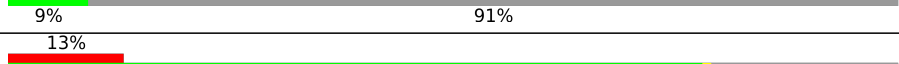
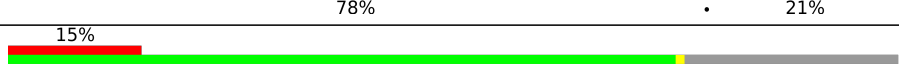

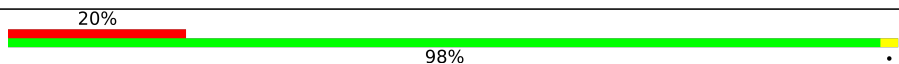
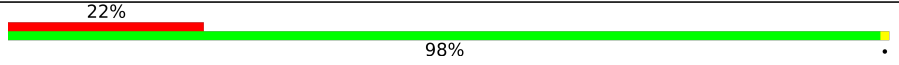
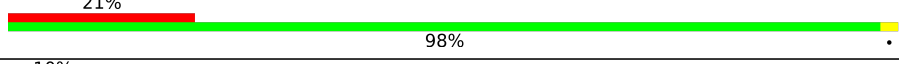






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Mol	Chain	Length	Quality of chain
8	D1	447	 13% 87%
8	D2	447	 5% 81% 18%
8	D3	447	 5% 95%
8	D4	447	 5% 95%
8	D5	447	 5% 29% 71%
8	D6	447	 5% 16% 83%
8	D7	447	 5% 81% 17%
8	D8	447	 5% 88% 11%
8	D9	447	 5% 87% 12%
8	Da	447	 5% 13% 87%
9	E	853	 7% 30% 69%
9	F	853	 5% 17% 83%
10	E1	206	 20% 89% 9%
10	E2	206	 23% 89% 9%
10	E3	206	 20% 90% 9%
10	E4	206	 6% 28% 72%
11	F1	557	 5% 50% 49%
11	F2	557	 5% 69% 29%
11	F3	557	 5% 69% 29%
11	F4	557	 5% 37% 62%
11	F5	557	 16% 45% 54%
11	F6	557	 23% 69% 30%
11	F7	557	 10% 69% 30%
11	F8	557	 6% 41% 59%
11	F9	557	 26% 31% 69%

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Mol	Chain	Length	Quality of chain
11	Fa	557	
11	Fb	557	
11	Fc	557	
11	Fd	557	
11	Fe	557	
11	Ff	557	
11	Fg	557	
11	Fh	557	
11	Fi	557	
11	Fj	557	
11	Fk	557	
11	Fl	557	
11	Fm	557	
12	G	514	
12	H	514	
13	G1	648	
13	G2	648	
13	G3	648	
14	G4	750	
14	G5	750	
14	G6	750	
15	H1	319	
15	H2	319	
15	H3	319	
15	H4	319	

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Mol	Chain	Length	Quality of chain
15	H5	319	8% 42% 56%
15	H6	319	10% 41% 57%
16	I	228	13% 42% 58%
17	I1	200	19% 81%
17	I2	200	19% 81%
17	I3	200	19% 81%
18	J	196	17% 79% 19%
19	J1	189	29% 88% 10%
19	J2	189	20% 88% 10%
19	J3	189	20% 89% 10%
20	K	303	18% 89% 11%
20	L	303	19% 89% 11%
21	K1	499	20% 79%
21	K2	499	7% 81% 16%
21	K3	499	5% 82% 14%
21	K4	499	6% 76% 21%
21	K5	499	9% 90%
22	L1	255	22% 80% 18%
22	L2	255	15% 90% 7%
22	L3	255	17% 89% 7%
22	L4	255	14% 29% 71%
23	M	167	35% 69% 31%
24	M1	141	11% 44% 56%
24	M2	141	5% 44% 56%
24	M3	141	7% 44% 56%

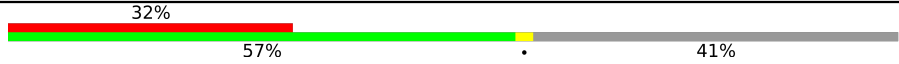

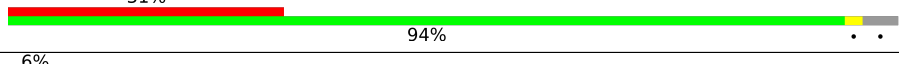
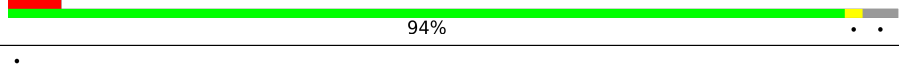
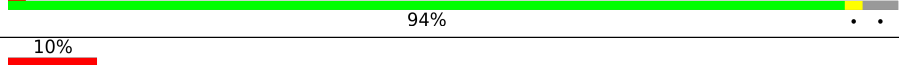
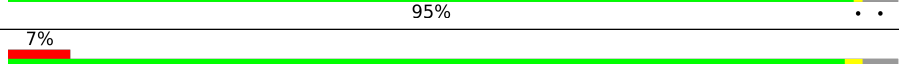
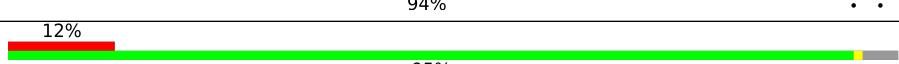
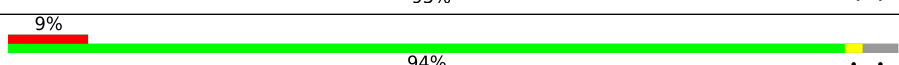
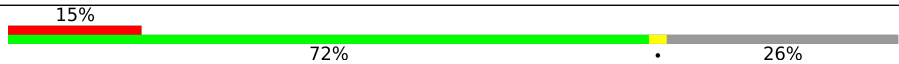

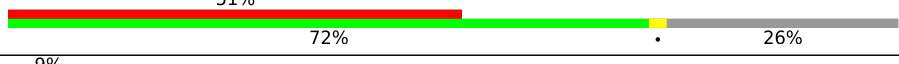
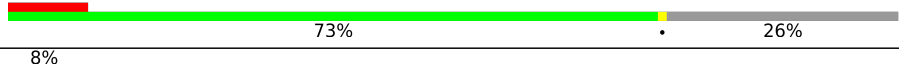
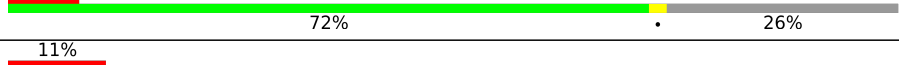

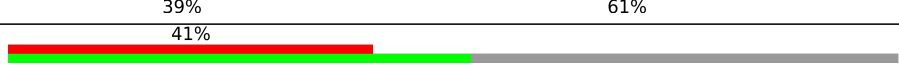
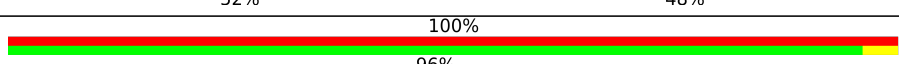
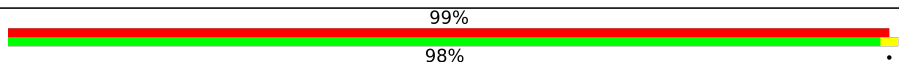
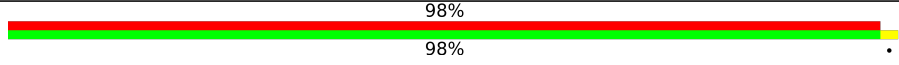
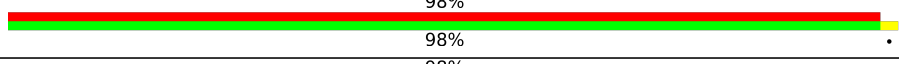
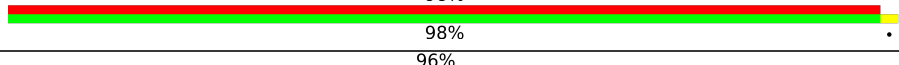
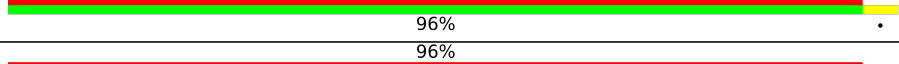
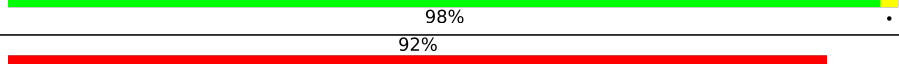
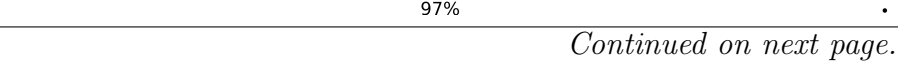


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Mol	Chain	Length	Quality of chain
25	N	122	34% 61% 39%
26	N1	168	16% 40% 60%
26	N2	168	8% 40% 60%
26	N3	168	8% 39% 60%
26	N4	168	12% 39% 60%
27	O	377	13% 87%
27	P	377	6% 83% 16%
27	Q	377	48% 51%
27	R	377	6% 59% 40%
28	O1	189	10% 53% 44%
28	O2	189	10% 53% 44%
28	O3	189	16% 54% 44%
29	P1	620	35% 98%
29	P2	620	37% 97%
29	P3	620	52% 98%
30	Q1	1516	8% 11% 88%
30	Q2	1516	7% 11% 88%
30	Q3	1516	9% 11% 88%
31	R1	283	25% 74%
31	R2	283	25% 74%
31	R3	283	7% 25% 74%
32	S	470	6% 15% 85%
32	T	470	9% 23% 77%
33	U	551	52% 64% 34%
33	V	551	11% 11% 89%

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Mol	Chain	Length	Quality of chain
33	W	551	
33	X	551	
34	XA	193	
34	XB	193	
34	XC	193	
34	XD	193	
34	XE	193	
34	XF	193	
34	XG	193	
35	XH	241	
35	XI	241	
35	XJ	241	
35	XK	241	
35	XL	241	
35	XM	241	
36	Y	547	
36	Z	547	
37	YA	168	
37	YB	168	
37	YC	168	
37	YD	168	
37	YE	168	
37	YF	168	
37	YG	168	
37	YH	168	

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Mol	Chain	Length	Quality of chain
37	YI	168	99% 97% .
37	YJ	168	100% 97% .
37	YK	168	99% 98% .
37	YL	168	99% 96% .
37	YM	168	98% 96% .
37	YN	168	81% 98% .
37	YO	168	100% 98% .
37	YP	168	97% 98% .
37	YQ	168	96% 98% .
37	YR	168	100% 98% .
37	YS	168	100% 96% .
37	YT	168	99% 97% .
37	YU	168	100% 97% .
37	YV	168	100% 98% .
37	YW	168	100% 98% .
38	a	101	 89% 10% .

2 Entry composition [i](#)

There are 39 unique types of molecules in this entry. The entry contains 1283344 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 Meiosis-specific nuclear structural protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	315	Total	C	N	O	S	0	0
			2736	1673	516	534	13		
1	B	196	Total	C	N	O	S	0	0
			1673	1036	310	319	8		

- Molecule 2 is a protein called Tektin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	A1	315	Total	C	N	O	S	0	0
			2578	1598	464	507	9		
2	A2	396	Total	C	N	O	S	0	0
			3251	2013	588	640	10		
2	A3	396	Total	C	N	O	S	0	0
			3251	2013	588	640	10		
2	A4	188	Total	C	N	O	S	0	0
			1563	971	277	314	1		

- Molecule 3 is a protein called Tubulin beta-4B chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	AB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	AD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	AF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	AH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	AJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	AL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	BB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	BD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	BF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	BH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	BJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	BL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	CB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	CD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	CF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	CH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	CJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	CL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	DB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	DD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	DF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	DH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	DJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	DL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	EB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	ED	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	EF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	EH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	EJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	EL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	IB	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		
3	ID	427	3356	2109	575	646	26	0	0
3	IF	427	3356	2109	575	646	26	0	0
3	IH	427	3356	2109	575	646	26	0	0
3	IJ	427	3356	2109	575	646	26	0	0
3	IL	427	3356	2109	575	646	26	0	0
3	JB	427	3356	2109	575	646	26	0	0
3	JD	427	3356	2109	575	646	26	0	0
3	JF	427	3356	2109	575	646	26	0	0
3	JH	427	3356	2109	575	646	26	0	0
3	JJ	427	3356	2109	575	646	26	0	0
3	JL	427	3356	2109	575	646	26	0	0
3	KB	427	3356	2109	575	646	26	0	0
3	KD	427	3356	2109	575	646	26	0	0
3	KF	427	3356	2109	575	646	26	0	0
3	KH	427	3356	2109	575	646	26	0	0
3	KJ	427	3356	2109	575	646	26	0	0
3	KL	427	3356	2109	575	646	26	0	0
3	LB	427	3356	2109	575	646	26	0	0
3	LD	427	3356	2109	575	646	26	0	0
3	LF	427	3356	2109	575	646	26	0	0
3	LH	427	3356	2109	575	646	26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	LJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	LL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	MB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	MD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	MF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	MH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	MJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	ML	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	NB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	ND	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	NF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	NH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	NJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	NL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	OB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	OD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	OF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	OH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	OJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	OL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	PB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	PD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	PF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	PH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	PJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	PL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	QB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	QD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	QF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	QH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	QJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	QL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	RB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	RD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	RF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	RH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	RJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	RL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	SB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	SD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	SF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	SH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	SJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	SL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	TB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	TD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	TF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	TH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	TJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	TL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	TN	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	UB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	UD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	UF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	UH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	UJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	UL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	VB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	VD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	VF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	VH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	VJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	VL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	WB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	WD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	WF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	WH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	WJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	WL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

- Molecule 4 is a protein called Detyrosinated tubulin alpha-3 chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	AC	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	AE	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	AG	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	AI	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	AK	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	AM	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	BC	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	BE	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	BG	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	BI	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	BK	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	BM	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		
4	CC	438	Total	C	N	O	S	0	0
			3418	2166	581	649	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
4	CE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	CG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	CI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	CK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	CM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	DA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	DC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	DE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	DG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	DI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	DK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	EA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	EC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	EE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	EG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	EI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	EK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	FA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	FC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	FE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	FG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
4	FI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	FK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	GA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	GC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	GE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	GG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	GI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	GK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	HA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	HC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	HE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	HG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	HI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	HK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	IA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	IC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	IE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	IG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	II	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	IK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	IM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
4	JA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	JC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	JE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	JG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	JI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	JK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	KA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	KC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	KE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	KG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	KI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	KK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	LA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	LC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	LE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	LG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	LI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	LK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	MC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	ME	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	MG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
4	MI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	MK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	MM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	NA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	NC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	NE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	NG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	NI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	NK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	OA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	OC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	OE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	OG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	OI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	OK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	PA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	PC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	PE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	PG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	PI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	PK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
4	PM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	QC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	QE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	QG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	QI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	QK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	QM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	RC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	RE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	RG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	RI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	RK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	RM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	SC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	SE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	SG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	SI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	SK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	SM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	TC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	TE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
4	TG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	TI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	TK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	TM	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	UA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	UC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	UE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	UG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	UI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	UK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	VA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	VC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	VE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	VG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	VI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	VK	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	WA	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	WC	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	WE	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	WG	438	Total 3418	C 2166	N 581	O 649	S 22	0	0
4	WI	438	Total 3418	C 2166	N 581	O 649	S 22	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	WK	438	3418	2166	581	649	22	0	0

- Molecule 5 is a protein called Tektin-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	B1	238	1941	1202	352	378	9	0	0
5	B2	416	3417	2102	632	669	14	0	0
5	B3	416	3417	2102	632	669	14	0	0
5	B4	312	2553	1566	473	504	10	0	0
5	B5	48	406	246	82	78		0	0
5	B6	363	2977	1834	548	584	11	0	0
5	B7	405	3324	2047	613	650	14	0	0
5	B8	398	3271	2011	605	641	14	0	0
5	B9	115	952	587	175	184	6	0	0

- Molecule 6 is a protein called Nucleoside diphosphate kinase 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	C	372	2945	1866	511	548	20	0	0
6	D	372	2945	1866	511	548	20	0	0

- Molecule 7 is a protein called Tektin-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	C1	98	803	485	157	160	1	0	0
7	C2	388	3169	1942	586	627	14	0	0
7	C3	388	3169	1942	586	627	14	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
7	C4	361	Total	C	N	O	S	0	0
			2934	1801	540	579	14		
7	C5	63	Total	C	N	O	S	0	0
			523	322	99	100	2		
7	C6	200	Total	C	N	O	S	0	0
			1633	990	311	328	4		
7	C7	394	Total	C	N	O	S	0	0
			3216	1972	595	635	14		
7	C8	394	Total	C	N	O	S	0	0
			3216	1972	595	635	14		
7	C9	298	Total	C	N	O	S	0	0
			2426	1496	440	477	13		
7	Ca	219	Total	C	N	O	S	0	0
			1797	1111	327	347	12		
7	Cb	388	Total	C	N	O	S	0	0
			3169	1942	586	627	14		
7	Cc	388	Total	C	N	O	S	0	0
			3169	1942	586	627	14		
7	Cd	264	Total	C	N	O	S	0	0
			2154	1314	402	430	8		

- Molecule 8 is a protein called Tektin-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	D1	56	Total	C	N	O	S	0	0
			467	290	87	89	1		
8	D2	365	Total	C	N	O	S	0	0
			2997	1834	552	596	15		
8	D3	425	Total	C	N	O	S	0	0
			3488	2138	648	685	17		
8	D4	425	Total	C	N	O	S	0	0
			3488	2138	648	685	17		
8	D5	130	Total	C	N	O	S	0	0
			1063	652	199	206	6		
8	D6	75	Total	C	N	O	S	0	0
			612	376	116	118	2		
8	D7	369	Total	C	N	O	S	0	0
			3031	1852	566	597	16		
8	D8	398	Total	C	N	O	S	0	0
			3291	2017	613	645	16		
8	D9	394	Total	C	N	O	S	0	0
			3260	1998	608	638	16		

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Mol	Chain	Residues	Atoms				AltConf	Trace
8	Da	58	Total	C	N	O	0	0
			490	300	96	94		

- Molecule 9 is a protein called EF-hand domain-containing family member B.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	E	265	Total	C	N	O	S	0	0
			2160	1360	390	405	5		
9	F	149	Total	C	N	O	S	0	0
			1182	762	209	206	5		

- Molecule 10 is a protein called Tektin bundle-interacting protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	E1	187	Total	C	N	O	S	0	0
			1558	992	295	265	6		
10	E2	187	Total	C	N	O	S	0	0
			1558	992	295	265	6		
10	E3	187	Total	C	N	O	S	0	0
			1558	992	295	265	6		
10	E4	57	Total	C	N	O	S	0	0
			472	306	87	78	1		

- Molecule 11 is a protein called Tektin-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	F1	284	Total	C	N	O	S	0	0
			2335	1443	428	444	20		
11	F2	393	Total	C	N	O	S	0	0
			3224	1994	590	616	24		
11	F3	393	Total	C	N	O	S	0	0
			3224	1994	590	616	24		
11	F4	212	Total	C	N	O	S	0	0
			1745	1064	326	343	12		
11	F5	256	Total	C	N	O	S	0	0
			2116	1296	396	411	13		
11	F6	389	Total	C	N	O	S	0	0
			3194	1973	586	612	23		
11	F7	389	Total	C	N	O	S	0	0
			3194	1973	586	612	23		
11	F8	229	Total	C	N	O	S	0	0
			1877	1170	340	350	17		

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Mol	Chain	Residues	Atoms					AltConf	Trace
11	F9	173	Total	C	N	O	S	0	0
			1412	885	254	262	11		
11	Fa	389	Total	C	N	O	S	0	0
			3194	1973	586	612	23		
11	Fb	389	Total	C	N	O	S	0	0
			3194	1973	586	612	23		
11	Fc	315	Total	C	N	O	S	0	0
			2585	1591	476	500	18		
11	Fd	23	Total	C	N	O		0	0
			199	119	42	38			
11	Fe	237	Total	C	N	O	S	0	0
			1946	1201	354	375	16		
11	Ff	393	Total	C	N	O	S	0	0
			3224	1994	590	616	24		
11	Fg	311	Total	C	N	O	S	0	0
			2561	1587	465	488	21		
11	Fh	183	Total	C	N	O	S	0	0
			1495	941	266	275	13		
11	Fi	272	Total	C	N	O	S	0	0
			2235	1383	406	429	17		
11	Fj	277	Total	C	N	O	S	0	0
			2272	1406	409	441	16		
11	Fk	332	Total	C	N	O	S	0	0
			2721	1685	493	523	20		
11	Fl	332	Total	C	N	O	S	0	0
			2721	1685	493	523	20		
11	Fm	327	Total	C	N	O	S	0	0
			2677	1656	484	517	20		

- Molecule 12 is a protein called Cilia- and flagella-associated protein 53.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	G	448	Total	C	N	O	S	0	0
			3804	2315	737	736	16		
12	H	47	Total	C	N	O	S	0	0
			387	234	74	77	2		

- Molecule 13 is a protein called EF-hand domain-containing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	G1	510	Total	C	N	O	S	0	0
			4192	2708	704	763	17		

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Mol	Chain	Residues	Atoms					AltConf	Trace
13	G2	495	Total	C	N	O	S	0	0
			4081	2634	687	743	17		
13	G3	511	Total	C	N	O	S	0	0
			4200	2712	706	765	17		

- Molecule 14 is a protein called EF-hand domain-containing family member C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	G4	748	Total	C	N	O	S	0	0
			6177	3989	1028	1131	29		
14	G5	747	Total	C	N	O	S	0	0
			6169	3983	1027	1130	29		
14	G6	747	Total	C	N	O	S	0	0
			6169	3983	1027	1130	29		

- Molecule 15 is a protein called Protein FAM166A.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	H1	139	Total	C	N	O	S	0	0
			1138	727	203	202	6		
15	H2	135	Total	C	N	O	S	0	0
			1107	708	196	198	5		
15	H3	139	Total	C	N	O	S	0	0
			1138	727	203	202	6		
15	H4	138	Total	C	N	O	S	0	0
			1127	721	199	201	6		
15	H5	139	Total	C	N	O	S	0	0
			1138	727	203	202	6		
15	H6	136	Total	C	N	O	S	0	0
			1118	714	200	199	5		

- Molecule 16 is a protein called Cilia- and flagella-associated protein 95.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	I	96	Total	C	N	O	S	0	0
			781	490	130	157	4		

- Molecule 17 is a protein called Protein FAM166C.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	I1	38	Total	C	N	O	S	0	0
			298	192	47	58	1		

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Mol	Chain	Residues	Atoms					AltConf	Trace
17	I2	38	Total	C	N	O	S	0	0
			298	192	47	58	1		
17	I3	38	Total	C	N	O	S	0	0
			298	192	47	58	1		

- Molecule 18 is a protein called Cilia- and flagella-associated protein 107.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	J	158	Total	C	N	O	S	0	0
			1323	851	236	231	5		

- Molecule 19 is a protein called Dual specificity phosphatase 21.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	J1	171	Total	C	N	O	S	0	0
			1378	886	230	253	9		
19	J2	171	Total	C	N	O	S	0	0
			1378	886	230	253	9		
19	J3	171	Total	C	N	O	S	0	0
			1378	886	230	253	9		

- Molecule 20 is a protein called Cilia- and flagella-associated protein 161.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	K	270	Total	C	N	O	S	0	0
			2154	1357	382	400	15		
20	L	270	Total	C	N	O	S	0	0
			2154	1357	382	400	15		

- Molecule 21 is a protein called Coiled-coil domain-containing protein 105.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	K1	103	Total	C	N	O	S	0	0
			847	527	168	144	8		
21	K2	421	Total	C	N	O	S	0	0
			3408	2110	663	609	26		
21	K3	428	Total	C	N	O	S	0	0
			3465	2147	674	618	26		
21	K4	394	Total	C	N	O	S	0	0
			3181	1971	614	571	25		
21	K5	50	Total	C	N	O	S	0	0
			400	251	80	65	4		

- Molecule 22 is a protein called Enkurin.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	L1	210	Total	C	N	O	S	0	0
			1728	1102	306	313	7		
22	L2	236	Total	C	N	O	S	0	0
			1929	1231	340	349	9		
22	L3	236	Total	C	N	O	S	0	0
			1929	1231	340	349	9		
22	L4	75	Total	C	N	O	S	0	0
			609	392	112	101	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
23	M	115	Total	C	N	O	S	0	0
			944	595	170	175	4		

- Molecule 24 is a protein called Testis-expressed protein 43.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	M1	62	Total	C	N	O	S	0	0
			510	327	89	89	5		
24	M2	62	Total	C	N	O	S	0	0
			510	327	89	89	5		
24	M3	62	Total	C	N	O	S	0	0
			510	327	89	89	5		

- Molecule 25 is a protein called Piercer of microtubule wall 2 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	N	74	Total	C	N	O	S	0	0
			583	379	94	104	6		

- Molecule 26 is a protein called Cilia- and flagella-associated protein 276.

Mol	Chain	Residues	Atoms				AltConf	Trace
26	N1	68	Total	C	N	O	0	0
			535	335	95	105		
26	N2	68	Total	C	N	O	0	0
			535	335	95	105		
26	N3	68	Total	C	N	O	0	0
			535	335	95	105		

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Mol	Chain	Residues	Atoms				AltConf	Trace
26	N4	68	Total	C	N	O	0	0
			535	335	95	105		

- Molecule 27 is a protein called RIB43A-like with coiled-coils protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	O	49	Total	C	N	O	S	0	0
			413	256	83	73	1		
27	P	317	Total	C	N	O	S	0	0
			2693	1649	537	494	13		
27	Q	183	Total	C	N	O	S	0	0
			1541	942	305	284	10		
27	R	226	Total	C	N	O	S	0	0
			1922	1173	381	361	7		

- Molecule 28 is a protein called Protein Flattop.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	O1	105	Total	C	N	O	S	0	0
			825	524	148	152	1		
28	O2	105	Total	C	N	O	S	0	0
			825	524	148	152	1		
28	O3	105	Total	C	N	O	S	0	0
			825	524	148	152	1		

- Molecule 29 is a protein called Cilia- and flagella-associated protein 52.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	P1	608	Total	C	N	O	S	0	0
			4696	2970	819	875	32		
29	P2	608	Total	C	N	O	S	0	0
			4696	2970	819	875	32		
29	P3	608	Total	C	N	O	S	0	0
			4696	2970	819	875	32		

- Molecule 30 is a protein called EF-hand calcium-binding domain-containing protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Q1	178	Total	C	N	O	S	0	0
			1473	941	254	268	10		
30	Q2	178	Total	C	N	O	S	0	0
			1473	941	254	268	10		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	Q3	178	1473	941	254	268	10	0	0

- Molecule 31 is a protein called Cilia and flagella-associated protein 77.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	R1	74	604	371	119	111	3	0	0
31	R2	74	604	371	119	111	3	0	0
31	R3	74	604	371	119	111	3	0	0

- Molecule 32 is a protein called Sperm-associated antigen 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	S	71	575	361	105	108	1	0	0
32	T	109	904	559	166	174	5	0	0

- Molecule 33 is a protein called Cilia- and flagella-associated protein 45.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	U	363	3125	1885	623	603	14	0	0
33	V	63	537	328	107	101	1	0	0
33	W	323	2733	1660	521	538	14	0	0
33	X	176	1506	913	307	284	2	0	0

- Molecule 34 is a protein called Cilia- and flagella-associated protein 20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	XA	185	1540	990	269	274	7	0	0
34	XB	185	1540	990	269	274	7	0	0
34	XC	185	1540	990	269	274	7	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
34	XD	185	Total	C	N	O	S	0	0
			1540	990	269	274	7		
34	XE	185	Total	C	N	O	S	0	0
			1540	990	269	274	7		
34	XF	185	Total	C	N	O	S	0	0
			1540	990	269	274	7		
34	XG	185	Total	C	N	O	S	0	0
			1540	990	269	274	7		

- Molecule 35 is a protein called Parkin coregulated gene protein homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	XH	178	Total	C	N	O	S	0	0
			1469	953	247	261	8		
35	XI	178	Total	C	N	O	S	0	0
			1469	953	247	261	8		
35	XJ	178	Total	C	N	O	S	0	0
			1469	953	247	261	8		
35	XK	178	Total	C	N	O	S	0	0
			1469	953	247	261	8		
35	XL	178	Total	C	N	O	S	0	0
			1469	953	247	261	8		
35	XM	178	Total	C	N	O	S	0	0
			1469	953	247	261	8		

- Molecule 36 is a protein called Cilia- and flagella-associated protein 210.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Y	214	Total	C	N	O	S	0	0
			1821	1124	345	346	6		
36	Z	283	Total	C	N	O	S	0	0
			2401	1487	429	476	9		

- Molecule 37 is a protein called Sperm acrosome-associated protein 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	YA	168	Total	C	N	O	S	0	0
			1365	856	244	254	11		
37	YB	168	Total	C	N	O	S	0	0
			1365	856	244	254	11		
37	YC	168	Total	C	N	O	S	0	0
			1365	856	244	254	11		

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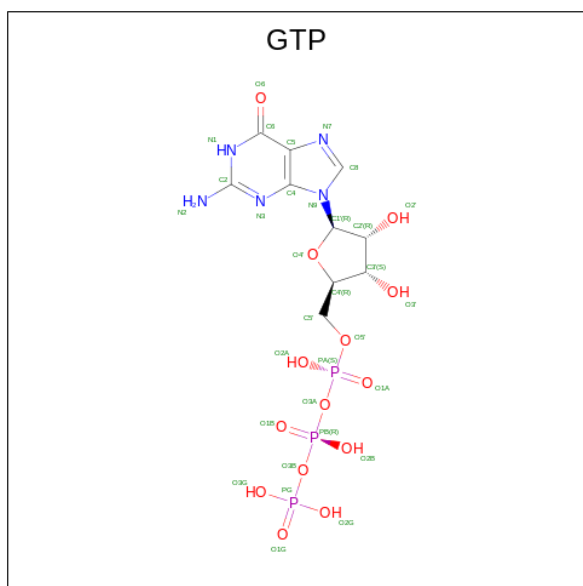
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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	YD	168	1365	856	244	254	11	0	0
37	YE	168	1365	856	244	254	11	0	0
37	YF	168	1365	856	244	254	11	0	0
37	YG	168	1365	856	244	254	11	0	0
37	YH	168	1365	856	244	254	11	0	0
37	YI	168	1365	856	244	254	11	0	0
37	YJ	168	1365	856	244	254	11	0	0
37	YK	168	1365	856	244	254	11	0	0
37	YL	168	1365	856	244	254	11	0	0
37	YM	168	1365	856	244	254	11	0	0
37	YN	168	1365	856	244	254	11	0	0
37	YO	168	1365	856	244	254	11	0	0
37	YP	168	1365	856	244	254	11	0	0
37	YQ	168	1365	856	244	254	11	0	0
37	YR	168	1365	856	244	254	11	0	0
37	YS	168	1365	856	244	254	11	0	0
37	YT	168	1365	856	244	254	11	0	0
37	YU	168	1365	856	244	254	11	0	0
37	YV	168	1365	856	244	254	11	0	0
37	YW	168	1365	856	244	254	11	0	0

- Molecule 38 is a protein called Cilia- and flagella-associated protein 141.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	a	91	782	492	146	140	4	0	0

- Molecule 39 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	AB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AK	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	AL	1	Total 32	C 10	N 5	O 14	P 3	0
39	AM	1	Total 32	C 10	N 5	O 14	P 3	0
39	BB	1	Total 32	C 10	N 5	O 14	P 3	0
39	BC	1	Total 32	C 10	N 5	O 14	P 3	0
39	BD	1	Total 32	C 10	N 5	O 14	P 3	0
39	BE	1	Total 32	C 10	N 5	O 14	P 3	0
39	BF	1	Total 32	C 10	N 5	O 14	P 3	0
39	BG	1	Total 32	C 10	N 5	O 14	P 3	0
39	BH	1	Total 32	C 10	N 5	O 14	P 3	0
39	BI	1	Total 32	C 10	N 5	O 14	P 3	0
39	BJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	BK	1	Total 32	C 10	N 5	O 14	P 3	0
39	BL	1	Total 32	C 10	N 5	O 14	P 3	0
39	BM	1	Total 32	C 10	N 5	O 14	P 3	0
39	CB	1	Total 32	C 10	N 5	O 14	P 3	0
39	CC	1	Total 32	C 10	N 5	O 14	P 3	0
39	CD	1	Total 32	C 10	N 5	O 14	P 3	0
39	CE	1	Total 32	C 10	N 5	O 14	P 3	0
39	CF	1	Total 32	C 10	N 5	O 14	P 3	0
39	CG	1	Total 32	C 10	N 5	O 14	P 3	0
39	CH	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	
39	CI	1	Total 32	C 10	N 5	O 14	P 3	0
39	CJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	CK	1	Total 32	C 10	N 5	O 14	P 3	0
39	CL	1	Total 32	C 10	N 5	O 14	P 3	0
39	CM	1	Total 32	C 10	N 5	O 14	P 3	0
39	DA	1	Total 32	C 10	N 5	O 14	P 3	0
39	DB	1	Total 32	C 10	N 5	O 14	P 3	0
39	DC	1	Total 32	C 10	N 5	O 14	P 3	0
39	DD	1	Total 32	C 10	N 5	O 14	P 3	0
39	DE	1	Total 32	C 10	N 5	O 14	P 3	0
39	DF	1	Total 32	C 10	N 5	O 14	P 3	0
39	DG	1	Total 32	C 10	N 5	O 14	P 3	0
39	DH	1	Total 32	C 10	N 5	O 14	P 3	0
39	DI	1	Total 32	C 10	N 5	O 14	P 3	0
39	DJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	DK	1	Total 32	C 10	N 5	O 14	P 3	0
39	DL	1	Total 32	C 10	N 5	O 14	P 3	0
39	EA	1	Total 32	C 10	N 5	O 14	P 3	0
39	EB	1	Total 32	C 10	N 5	O 14	P 3	0
39	EC	1	Total 32	C 10	N 5	O 14	P 3	0
39	ED	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	
39	EE	1	Total 32	C 10	N 5	O 14	P 3	0
39	EF	1	Total 32	C 10	N 5	O 14	P 3	0
39	EG	1	Total 32	C 10	N 5	O 14	P 3	0
39	EH	1	Total 32	C 10	N 5	O 14	P 3	0
39	EI	1	Total 32	C 10	N 5	O 14	P 3	0
39	EJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	EK	1	Total 32	C 10	N 5	O 14	P 3	0
39	EL	1	Total 32	C 10	N 5	O 14	P 3	0
39	FA	1	Total 32	C 10	N 5	O 14	P 3	0
39	FB	1	Total 32	C 10	N 5	O 14	P 3	0
39	FC	1	Total 32	C 10	N 5	O 14	P 3	0
39	FD	1	Total 32	C 10	N 5	O 14	P 3	0
39	FE	1	Total 32	C 10	N 5	O 14	P 3	0
39	FF	1	Total 32	C 10	N 5	O 14	P 3	0
39	FG	1	Total 32	C 10	N 5	O 14	P 3	0
39	FH	1	Total 32	C 10	N 5	O 14	P 3	0
39	FI	1	Total 32	C 10	N 5	O 14	P 3	0
39	FJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	FK	1	Total 32	C 10	N 5	O 14	P 3	0
39	FL	1	Total 32	C 10	N 5	O 14	P 3	0
39	GA	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	
39	GB	1	Total 32	C 10	N 5	O 14	P 3	0
39	GC	1	Total 32	C 10	N 5	O 14	P 3	0
39	GD	1	Total 32	C 10	N 5	O 14	P 3	0
39	GE	1	Total 32	C 10	N 5	O 14	P 3	0
39	GF	1	Total 32	C 10	N 5	O 14	P 3	0
39	GG	1	Total 32	C 10	N 5	O 14	P 3	0
39	GH	1	Total 32	C 10	N 5	O 14	P 3	0
39	GI	1	Total 32	C 10	N 5	O 14	P 3	0
39	GJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	GK	1	Total 32	C 10	N 5	O 14	P 3	0
39	GL	1	Total 32	C 10	N 5	O 14	P 3	0
39	HA	1	Total 32	C 10	N 5	O 14	P 3	0
39	HB	1	Total 32	C 10	N 5	O 14	P 3	0
39	HC	1	Total 32	C 10	N 5	O 14	P 3	0
39	HD	1	Total 32	C 10	N 5	O 14	P 3	0
39	HE	1	Total 32	C 10	N 5	O 14	P 3	0
39	HF	1	Total 32	C 10	N 5	O 14	P 3	0
39	HG	1	Total 32	C 10	N 5	O 14	P 3	0
39	HH	1	Total 32	C 10	N 5	O 14	P 3	0
39	HI	1	Total 32	C 10	N 5	O 14	P 3	0
39	HJ	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	
39	HK	1	Total 32	C 10	N 5	O 14	P 3	0
39	HL	1	Total 32	C 10	N 5	O 14	P 3	0
39	IA	1	Total 32	C 10	N 5	O 14	P 3	0
39	IB	1	Total 32	C 10	N 5	O 14	P 3	0
39	IC	1	Total 32	C 10	N 5	O 14	P 3	0
39	ID	1	Total 32	C 10	N 5	O 14	P 3	0
39	IE	1	Total 32	C 10	N 5	O 14	P 3	0
39	IF	1	Total 32	C 10	N 5	O 14	P 3	0
39	IG	1	Total 32	C 10	N 5	O 14	P 3	0
39	IH	1	Total 32	C 10	N 5	O 14	P 3	0
39	II	1	Total 32	C 10	N 5	O 14	P 3	0
39	IJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	IK	1	Total 32	C 10	N 5	O 14	P 3	0
39	IL	1	Total 32	C 10	N 5	O 14	P 3	0
39	IM	1	Total 32	C 10	N 5	O 14	P 3	0
39	JA	1	Total 32	C 10	N 5	O 14	P 3	0
39	JB	1	Total 32	C 10	N 5	O 14	P 3	0
39	JC	1	Total 32	C 10	N 5	O 14	P 3	0
39	JD	1	Total 32	C 10	N 5	O 14	P 3	0
39	JE	1	Total 32	C 10	N 5	O 14	P 3	0
39	JF	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	
39	JG	1	32	10	5	14	3	0
39	JH	1	32	10	5	14	3	0
39	JI	1	32	10	5	14	3	0
39	JJ	1	32	10	5	14	3	0
39	JK	1	32	10	5	14	3	0
39	JL	1	32	10	5	14	3	0
39	KA	1	32	10	5	14	3	0
39	KB	1	32	10	5	14	3	0
39	KC	1	32	10	5	14	3	0
39	KD	1	32	10	5	14	3	0
39	KE	1	32	10	5	14	3	0
39	KF	1	32	10	5	14	3	0
39	KG	1	32	10	5	14	3	0
39	KH	1	32	10	5	14	3	0
39	KI	1	32	10	5	14	3	0
39	KJ	1	32	10	5	14	3	0
39	KK	1	32	10	5	14	3	0
39	KL	1	32	10	5	14	3	0
39	LA	1	32	10	5	14	3	0
39	LB	1	32	10	5	14	3	0
39	LC	1	32	10	5	14	3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	LD	1	Total 32	C 10	N 5	O 14	P 3	0
39	LE	1	Total 32	C 10	N 5	O 14	P 3	0
39	LF	1	Total 32	C 10	N 5	O 14	P 3	0
39	LG	1	Total 32	C 10	N 5	O 14	P 3	0
39	LH	1	Total 32	C 10	N 5	O 14	P 3	0
39	LI	1	Total 32	C 10	N 5	O 14	P 3	0
39	LJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	LK	1	Total 32	C 10	N 5	O 14	P 3	0
39	LL	1	Total 32	C 10	N 5	O 14	P 3	0
39	MB	1	Total 32	C 10	N 5	O 14	P 3	0
39	MC	1	Total 32	C 10	N 5	O 14	P 3	0
39	MD	1	Total 32	C 10	N 5	O 14	P 3	0
39	MD	1	Total 32	C 10	N 5	O 14	P 3	0
39	MF	1	Total 32	C 10	N 5	O 14	P 3	0
39	MG	1	Total 32	C 10	N 5	O 14	P 3	0
39	MH	1	Total 32	C 10	N 5	O 14	P 3	0
39	MI	1	Total 32	C 10	N 5	O 14	P 3	0
39	MJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	MK	1	Total 32	C 10	N 5	O 14	P 3	0
39	ML	1	Total 32	C 10	N 5	O 14	P 3	0
39	MM	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	
39	NA	1	Total 32	C 10	N 5	O 14	P 3	0
39	NB	1	Total 32	C 10	N 5	O 14	P 3	0
39	NC	1	Total 32	C 10	N 5	O 14	P 3	0
39	ND	1	Total 32	C 10	N 5	O 14	P 3	0
39	NE	1	Total 32	C 10	N 5	O 14	P 3	0
39	NF	1	Total 32	C 10	N 5	O 14	P 3	0
39	NG	1	Total 32	C 10	N 5	O 14	P 3	0
39	NH	1	Total 32	C 10	N 5	O 14	P 3	0
39	NI	1	Total 32	C 10	N 5	O 14	P 3	0
39	NJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	NK	1	Total 32	C 10	N 5	O 14	P 3	0
39	NL	1	Total 32	C 10	N 5	O 14	P 3	0
39	OA	1	Total 32	C 10	N 5	O 14	P 3	0
39	OB	1	Total 32	C 10	N 5	O 14	P 3	0
39	OC	1	Total 32	C 10	N 5	O 14	P 3	0
39	OD	1	Total 32	C 10	N 5	O 14	P 3	0
39	OE	1	Total 32	C 10	N 5	O 14	P 3	0
39	OF	1	Total 32	C 10	N 5	O 14	P 3	0
39	OG	1	Total 32	C 10	N 5	O 14	P 3	0
39	OH	1	Total 32	C 10	N 5	O 14	P 3	0
39	OI	1	Total 32	C 10	N 5	O 14	P 3	0

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Mol	Chain	Residues	Atoms					AltConf
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39	OK	1	32	10	5	14	3	0
39	OL	1	32	10	5	14	3	0
39	PA	1	32	10	5	14	3	0
39	PB	1	32	10	5	14	3	0
39	PC	1	32	10	5	14	3	0
39	PD	1	32	10	5	14	3	0
39	PE	1	32	10	5	14	3	0
39	PF	1	32	10	5	14	3	0
39	PG	1	32	10	5	14	3	0
39	PH	1	32	10	5	14	3	0
39	PI	1	32	10	5	14	3	0
39	PJ	1	32	10	5	14	3	0
39	PK	1	32	10	5	14	3	0
39	PL	1	32	10	5	14	3	0
39	PM	1	32	10	5	14	3	0
39	QB	1	32	10	5	14	3	0
39	QC	1	32	10	5	14	3	0
39	QD	1	32	10	5	14	3	0
39	QD	1	32	10	5	14	3	0
39	QF	1	32	10	5	14	3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	QG	1	Total 32	C 10	N 5	O 14	P 3	0
39	QH	1	Total 32	C 10	N 5	O 14	P 3	0
39	QI	1	Total 32	C 10	N 5	O 14	P 3	0
39	QJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	QK	1	Total 32	C 10	N 5	O 14	P 3	0
39	QL	1	Total 32	C 10	N 5	O 14	P 3	0
39	QL	1	Total 32	C 10	N 5	O 14	P 3	0
39	RB	1	Total 32	C 10	N 5	O 14	P 3	0
39	RC	1	Total 32	C 10	N 5	O 14	P 3	0
39	RD	1	Total 32	C 10	N 5	O 14	P 3	0
39	RE	1	Total 32	C 10	N 5	O 14	P 3	0
39	RF	1	Total 32	C 10	N 5	O 14	P 3	0
39	RG	1	Total 32	C 10	N 5	O 14	P 3	0
39	RH	1	Total 32	C 10	N 5	O 14	P 3	0
39	RI	1	Total 32	C 10	N 5	O 14	P 3	0
39	RJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	RK	1	Total 32	C 10	N 5	O 14	P 3	0
39	RL	1	Total 32	C 10	N 5	O 14	P 3	0
39	RM	1	Total 32	C 10	N 5	O 14	P 3	0
39	SB	1	Total 32	C 10	N 5	O 14	P 3	0
39	SC	1	Total 32	C 10	N 5	O 14	P 3	0

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Mol	Chain	Residues	Atoms					AltConf
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39	SE	1	Total 32	C 10	N 5	O 14	P 3	0
39	SF	1	Total 32	C 10	N 5	O 14	P 3	0
39	SG	1	Total 32	C 10	N 5	O 14	P 3	0
39	SH	1	Total 32	C 10	N 5	O 14	P 3	0
39	SI	1	Total 32	C 10	N 5	O 14	P 3	0
39	SJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	SK	1	Total 32	C 10	N 5	O 14	P 3	0
39	SL	1	Total 32	C 10	N 5	O 14	P 3	0
39	SM	1	Total 32	C 10	N 5	O 14	P 3	0
39	TB	1	Total 32	C 10	N 5	O 14	P 3	0
39	TC	1	Total 32	C 10	N 5	O 14	P 3	0
39	TD	1	Total 32	C 10	N 5	O 14	P 3	0
39	TE	1	Total 32	C 10	N 5	O 14	P 3	0
39	TF	1	Total 32	C 10	N 5	O 14	P 3	0
39	TG	1	Total 32	C 10	N 5	O 14	P 3	0
39	TH	1	Total 32	C 10	N 5	O 14	P 3	0
39	TI	1	Total 32	C 10	N 5	O 14	P 3	0
39	TJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	TK	1	Total 32	C 10	N 5	O 14	P 3	0
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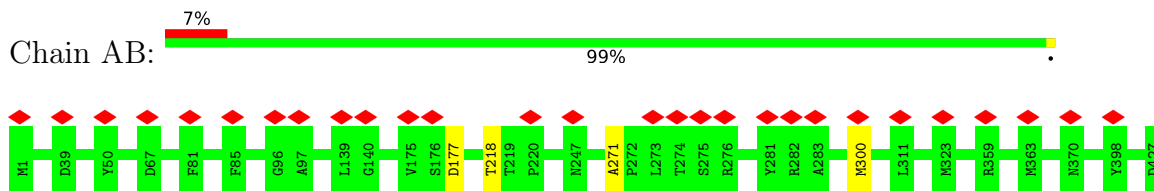
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39	UA	1	Total 32	C 10	N 5	O 14	P 3	0
39	UB	1	Total 32	C 10	N 5	O 14	P 3	0
39	UC	1	Total 32	C 10	N 5	O 14	P 3	0
39	UD	1	Total 32	C 10	N 5	O 14	P 3	0
39	UE	1	Total 32	C 10	N 5	O 14	P 3	0
39	UF	1	Total 32	C 10	N 5	O 14	P 3	0
39	UG	1	Total 32	C 10	N 5	O 14	P 3	0
39	UH	1	Total 32	C 10	N 5	O 14	P 3	0
39	UI	1	Total 32	C 10	N 5	O 14	P 3	0
39	UJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	UK	1	Total 32	C 10	N 5	O 14	P 3	0
39	UL	1	Total 32	C 10	N 5	O 14	P 3	0
39	VA	1	Total 32	C 10	N 5	O 14	P 3	0
39	VB	1	Total 32	C 10	N 5	O 14	P 3	0
39	VC	1	Total 32	C 10	N 5	O 14	P 3	0
39	VD	1	Total 32	C 10	N 5	O 14	P 3	0
39	VE	1	Total 32	C 10	N 5	O 14	P 3	0
39	VF	1	Total 32	C 10	N 5	O 14	P 3	0
39	VG	1	Total 32	C 10	N 5	O 14	P 3	0

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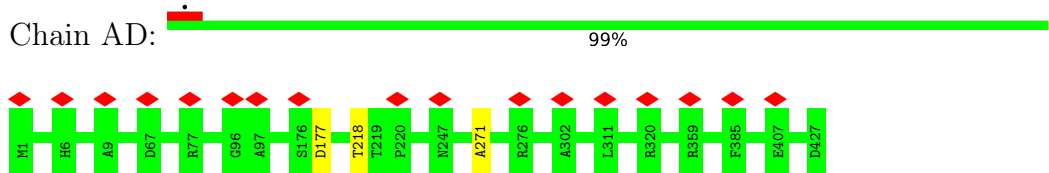
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Mol	Chain	Residues	Atoms					AltConf
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39	VI	1	Total 32	C 10	N 5	O 14	P 3	0
39	VJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	VK	1	Total 32	C 10	N 5	O 14	P 3	0
39	VL	1	Total 32	C 10	N 5	O 14	P 3	0
39	WA	1	Total 32	C 10	N 5	O 14	P 3	0
39	WB	1	Total 32	C 10	N 5	O 14	P 3	0
39	WC	1	Total 32	C 10	N 5	O 14	P 3	0
39	WD	1	Total 32	C 10	N 5	O 14	P 3	0
39	WE	1	Total 32	C 10	N 5	O 14	P 3	0
39	WF	1	Total 32	C 10	N 5	O 14	P 3	0
39	WG	1	Total 32	C 10	N 5	O 14	P 3	0
39	WH	1	Total 32	C 10	N 5	O 14	P 3	0
39	WI	1	Total 32	C 10	N 5	O 14	P 3	0
39	WJ	1	Total 32	C 10	N 5	O 14	P 3	0
39	WK	1	Total 32	C 10	N 5	O 14	P 3	0
39	WL	1	Total 32	C 10	N 5	O 14	P 3	0

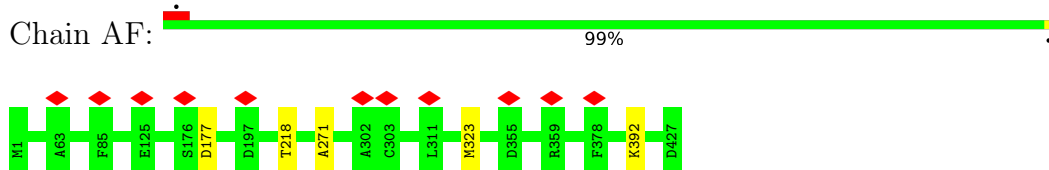
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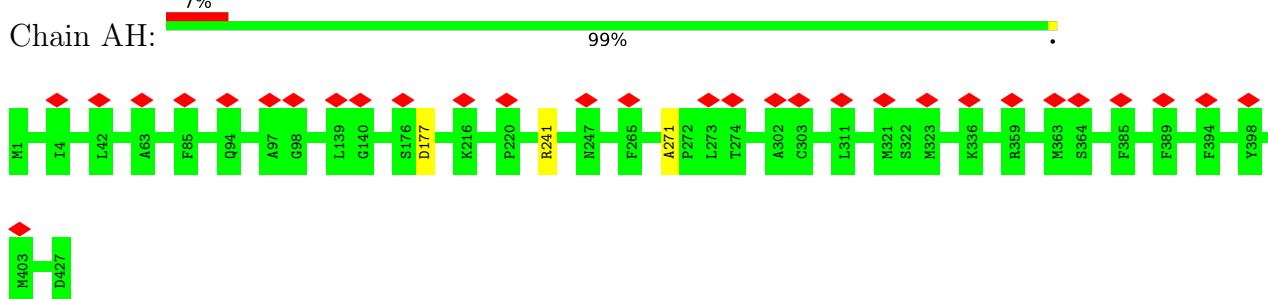
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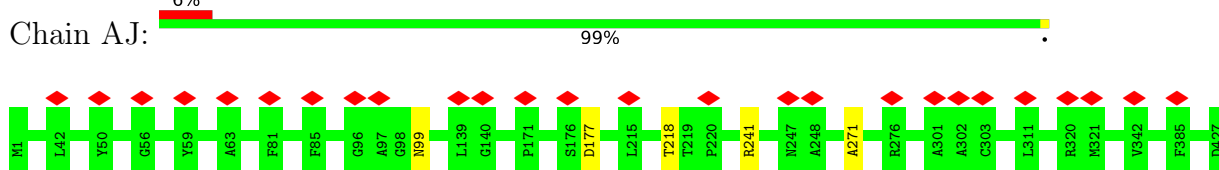
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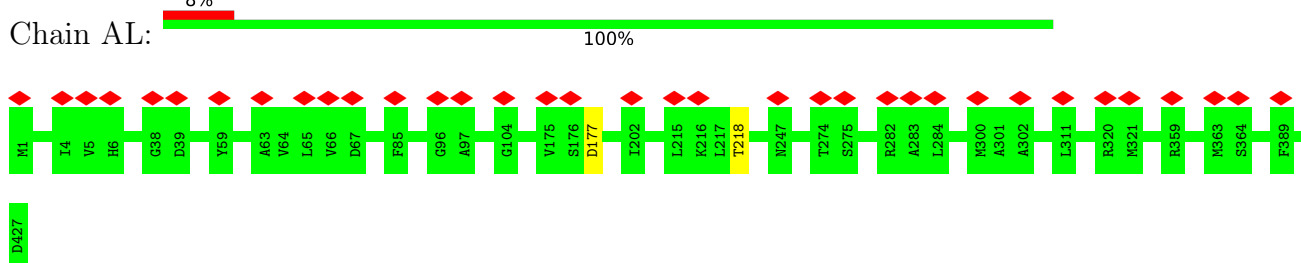
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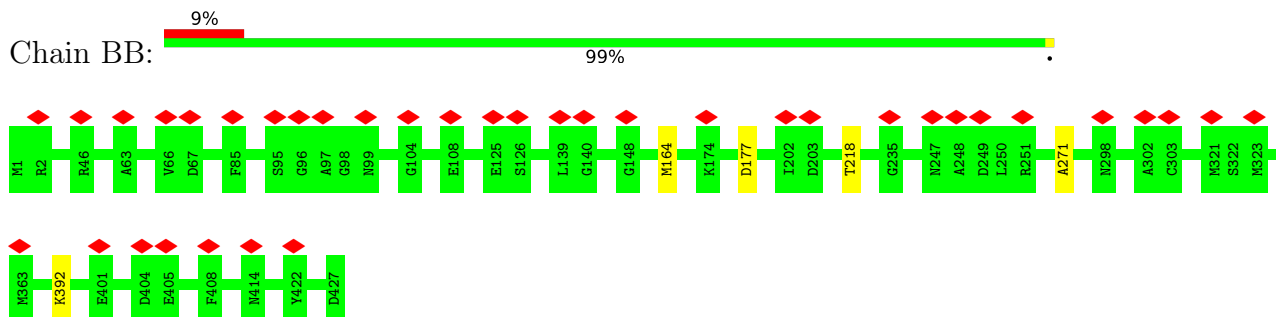
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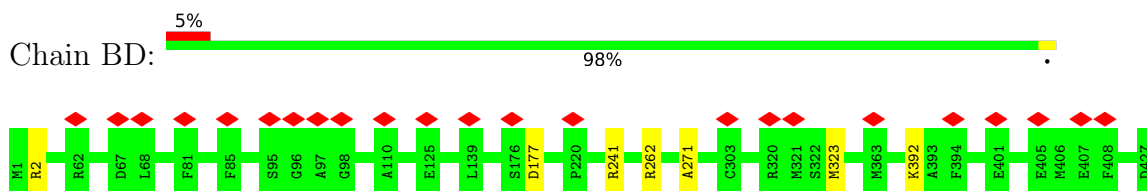
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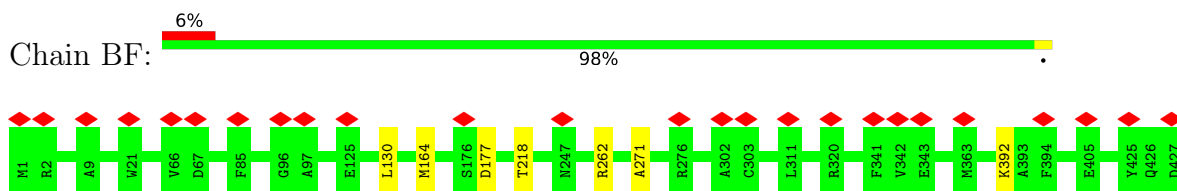
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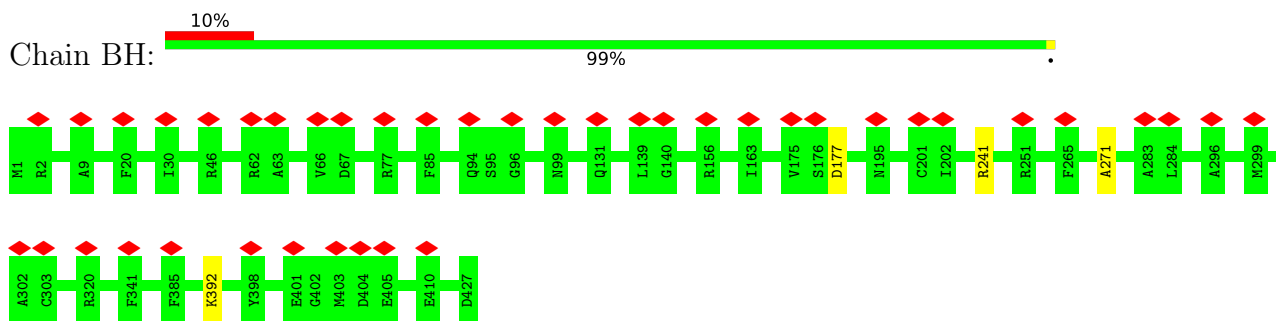
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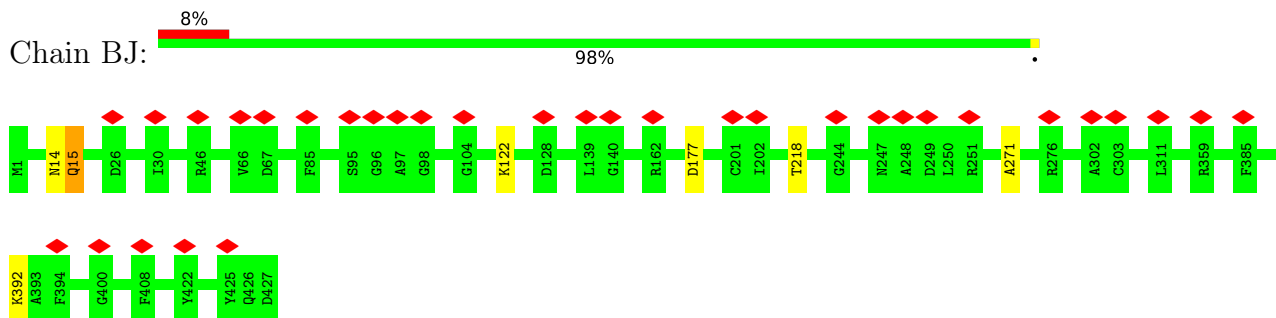
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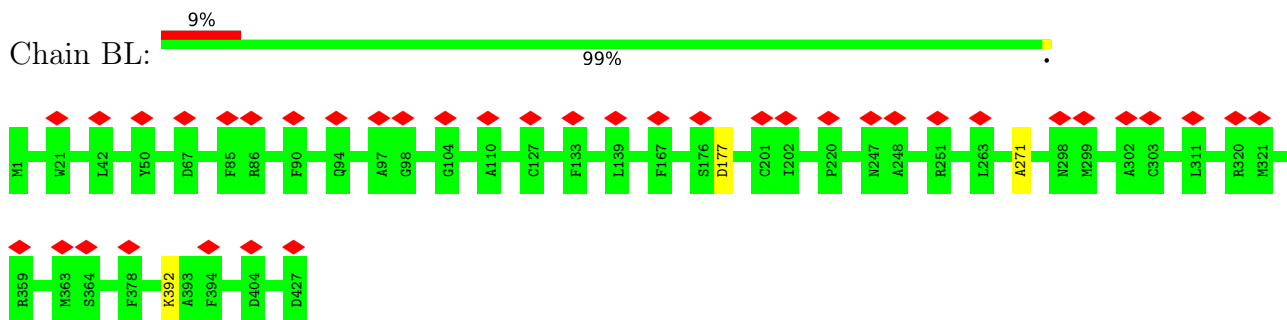
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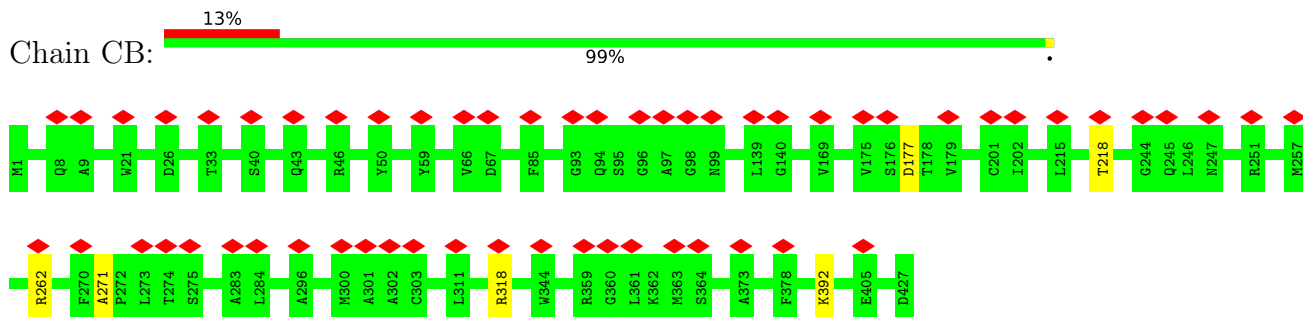
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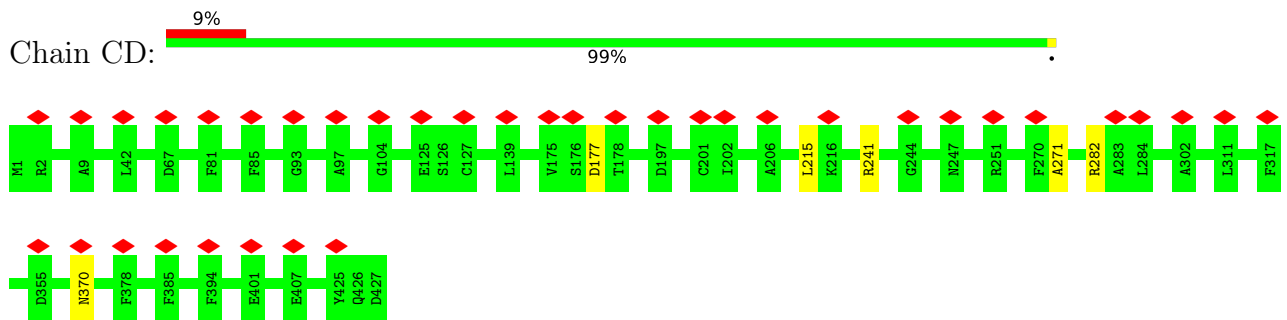
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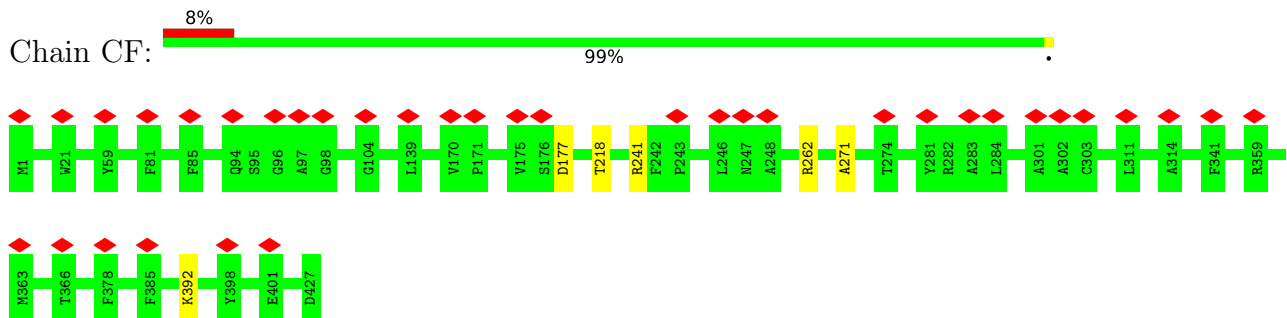
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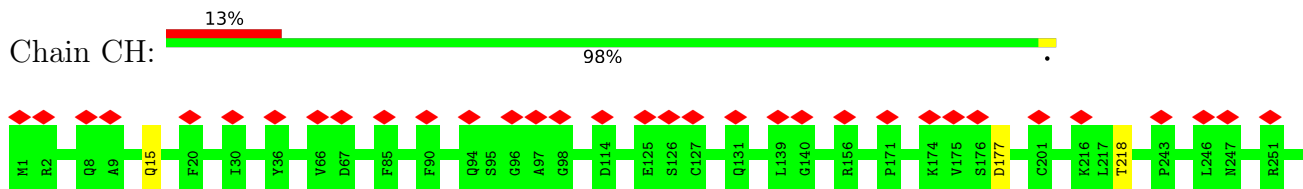
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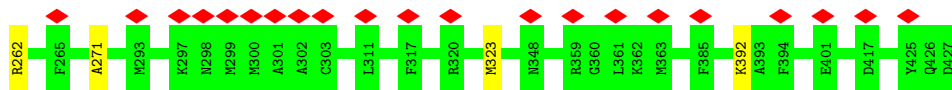


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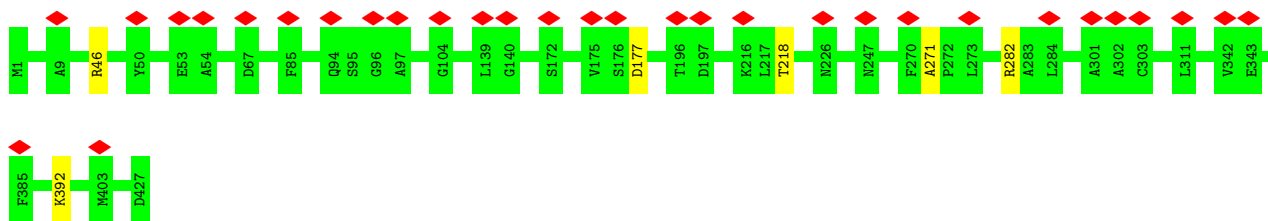


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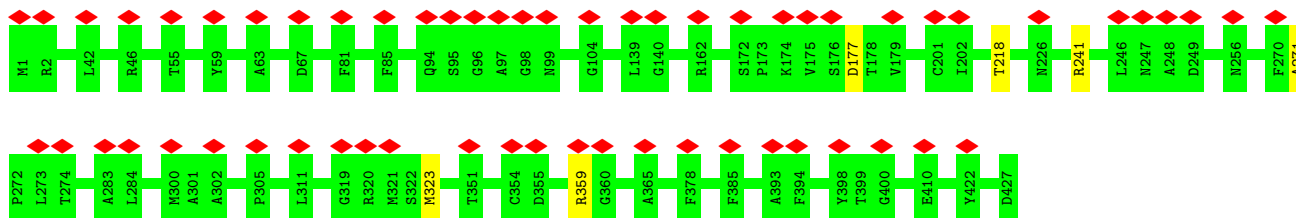




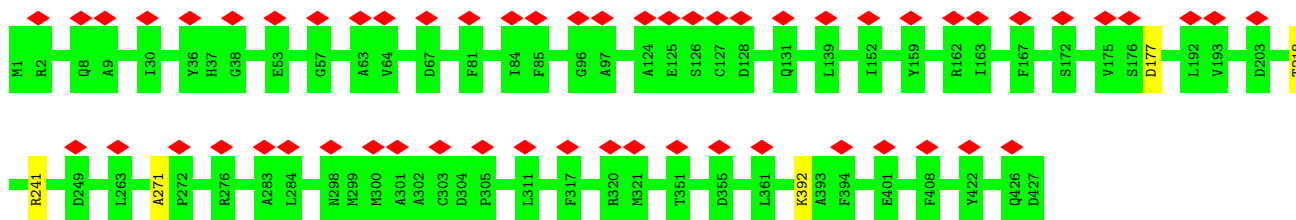
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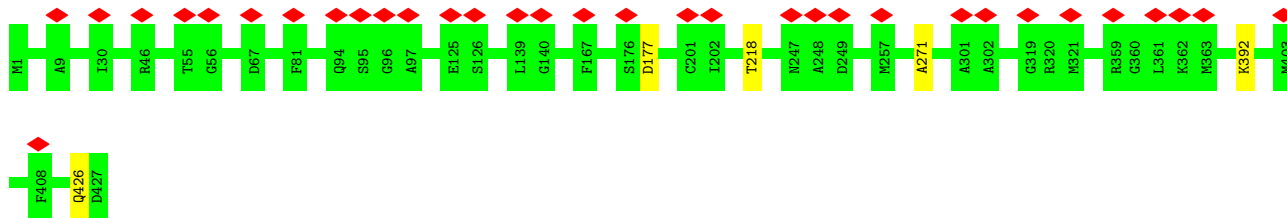
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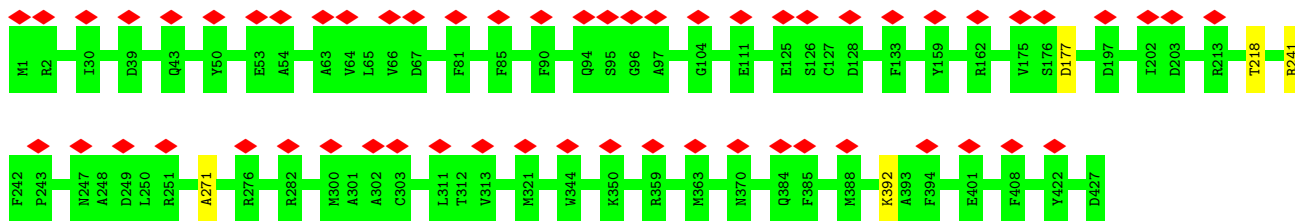
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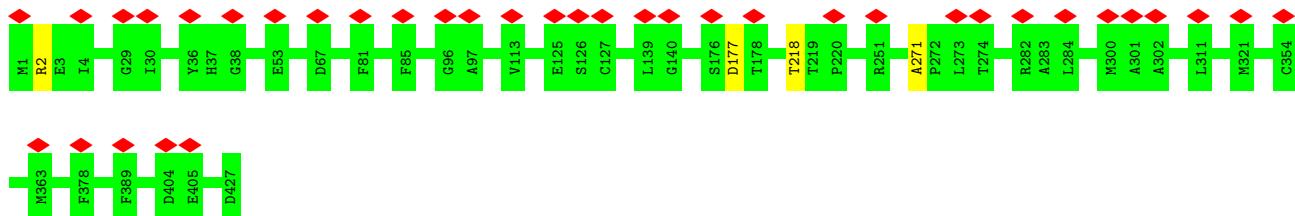
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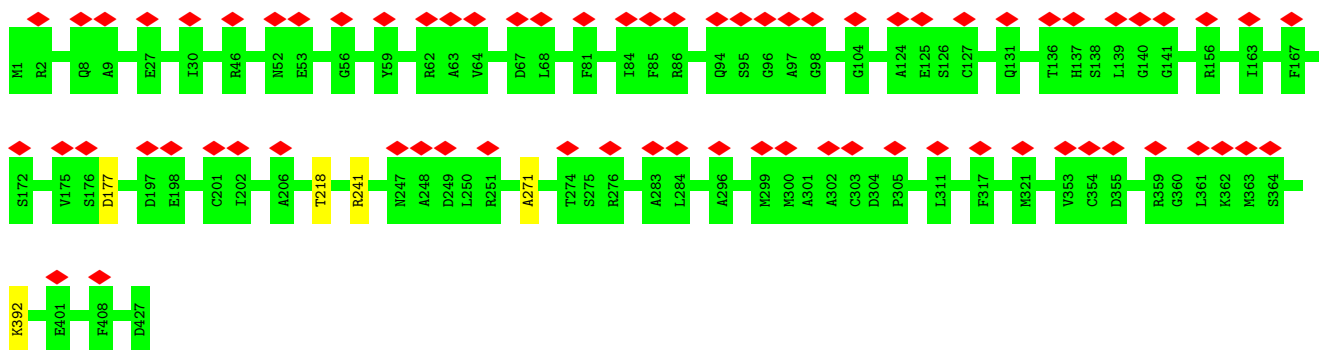
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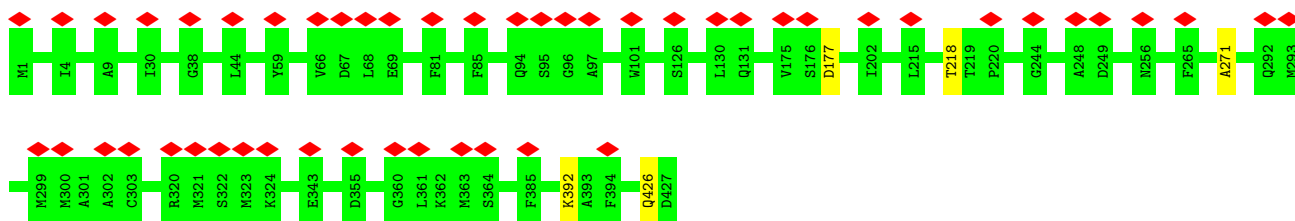
• Molecule 3: Tubulin beta-4B chain



• Molecule 3: Tubulin beta-4B chain

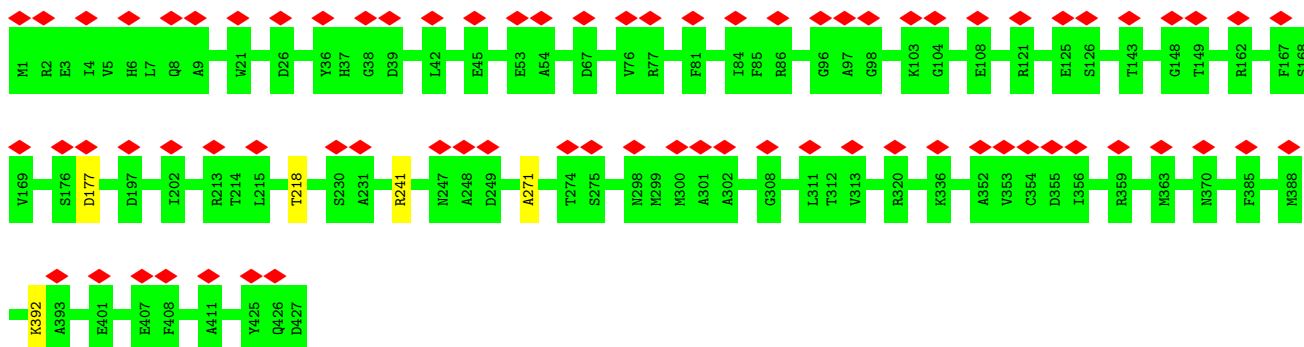


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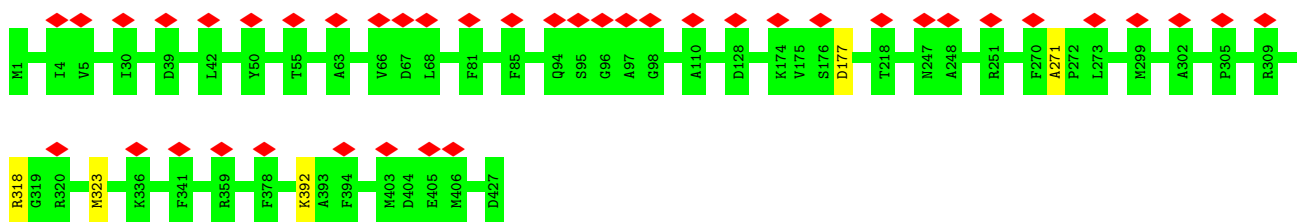


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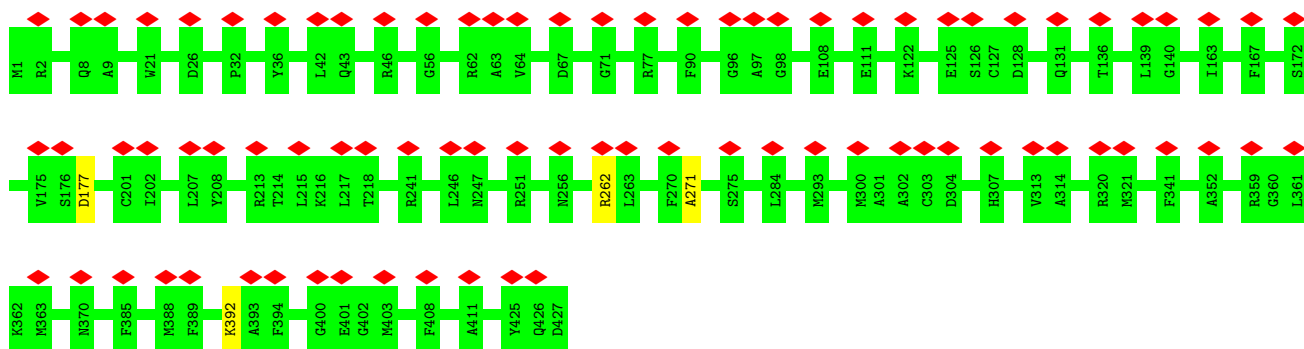




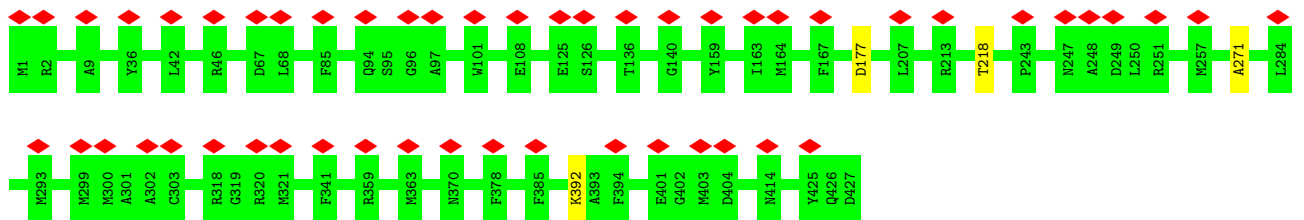
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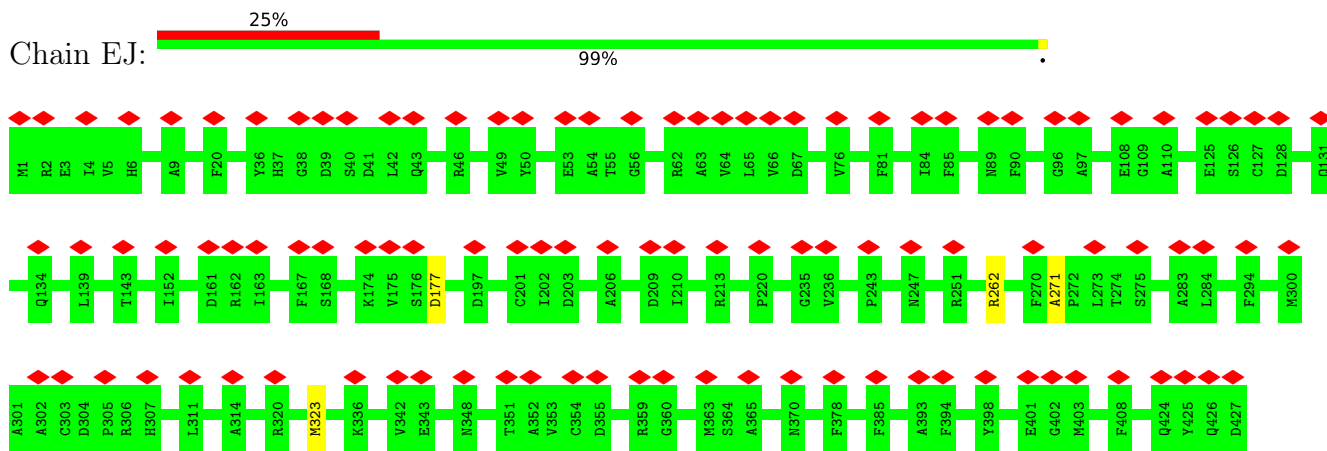
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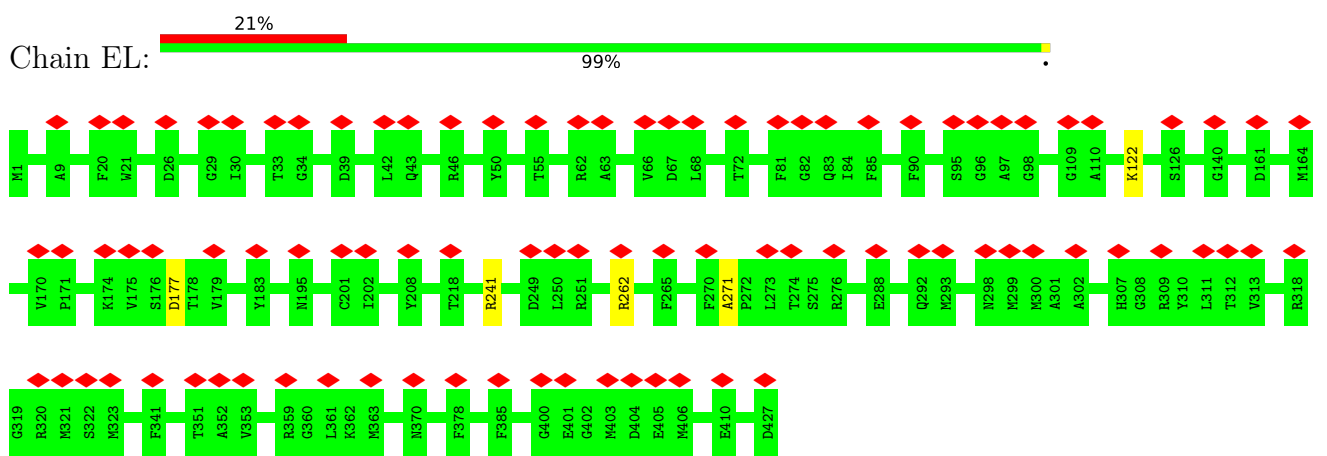
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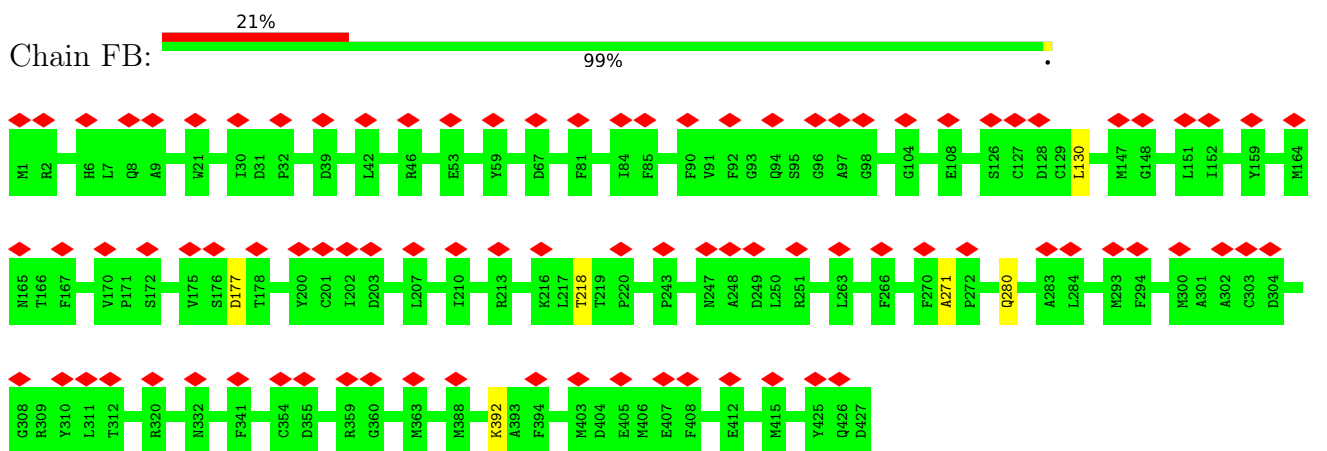
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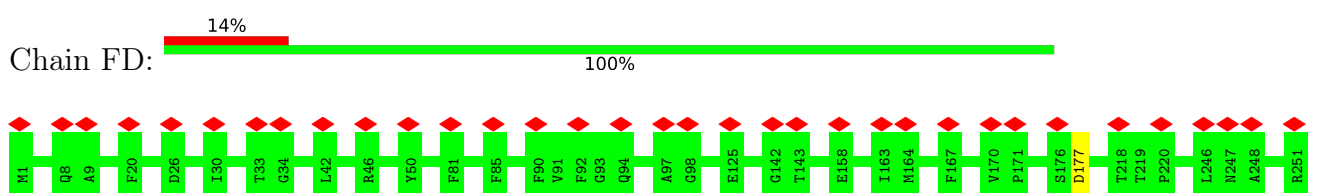
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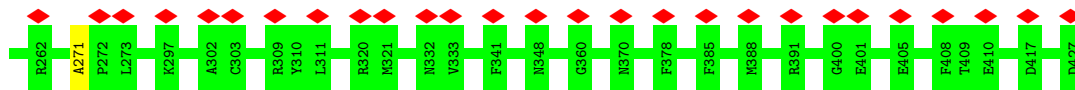


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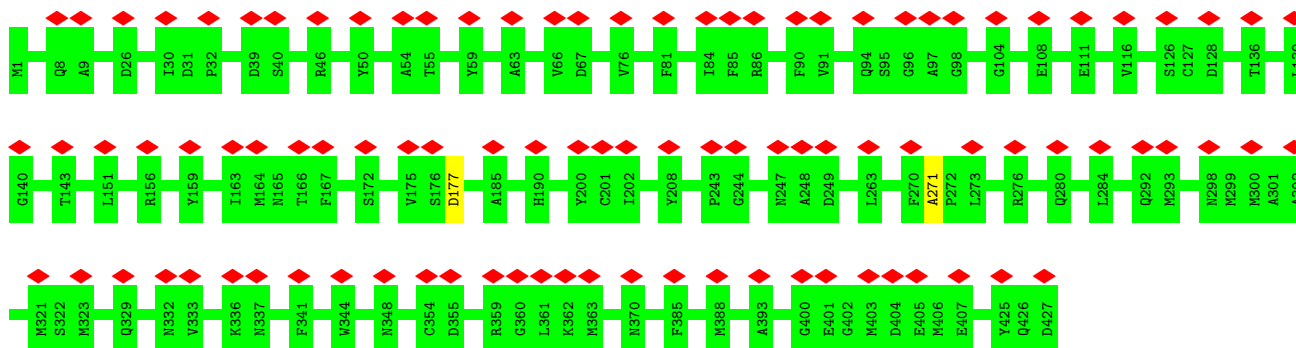


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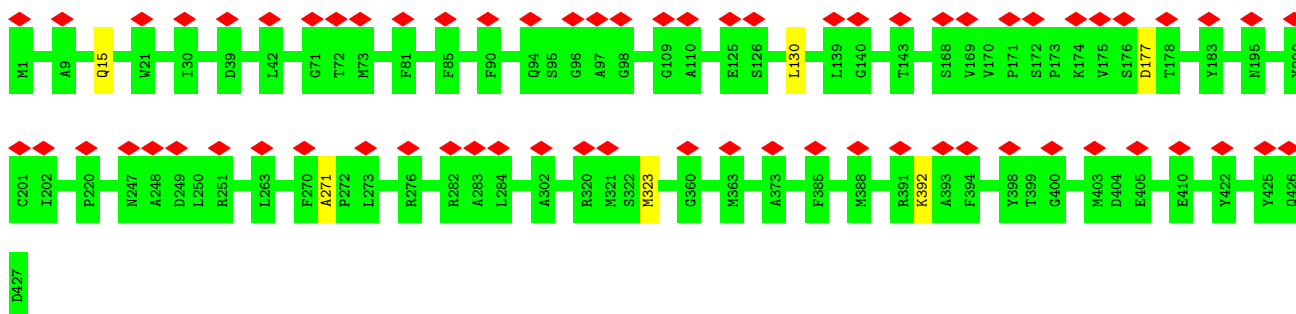




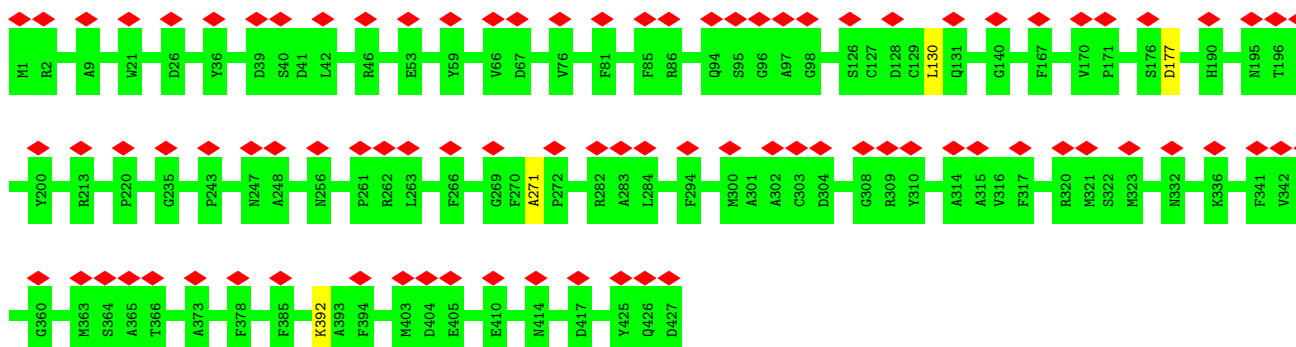
• Molecule 3: Tubulin beta-4B chain



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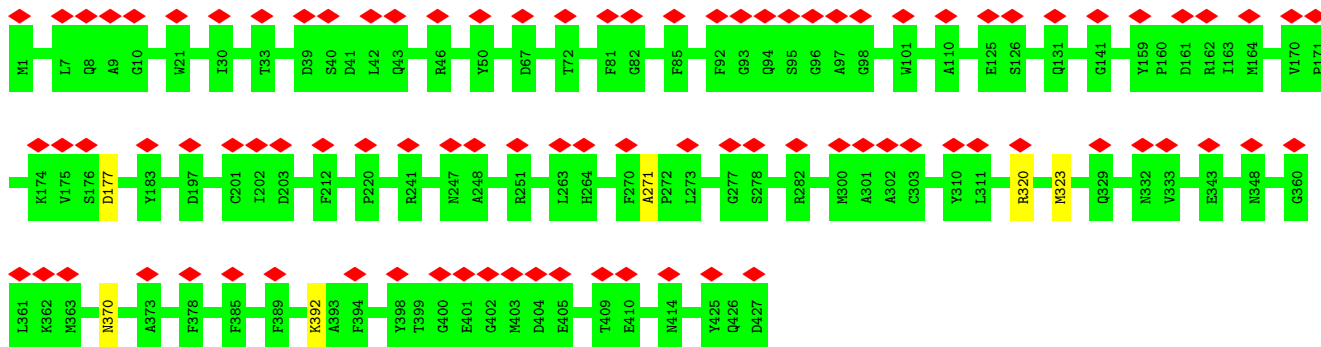


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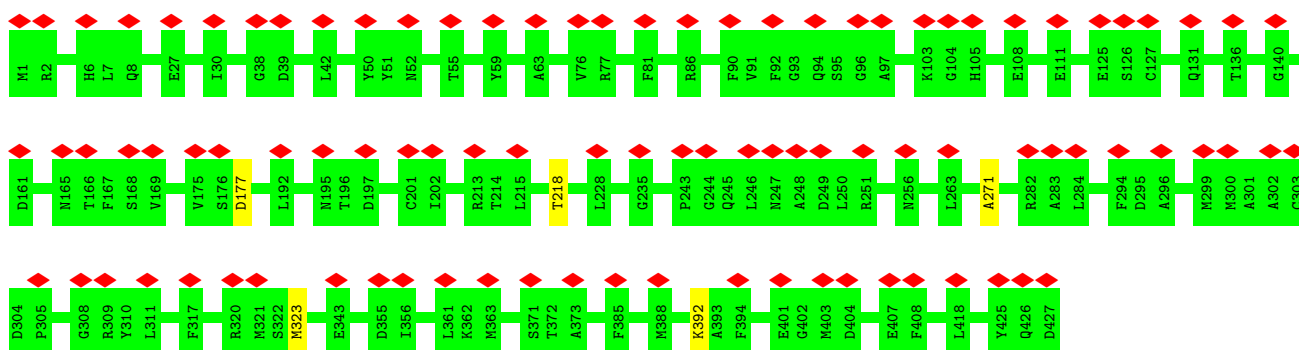


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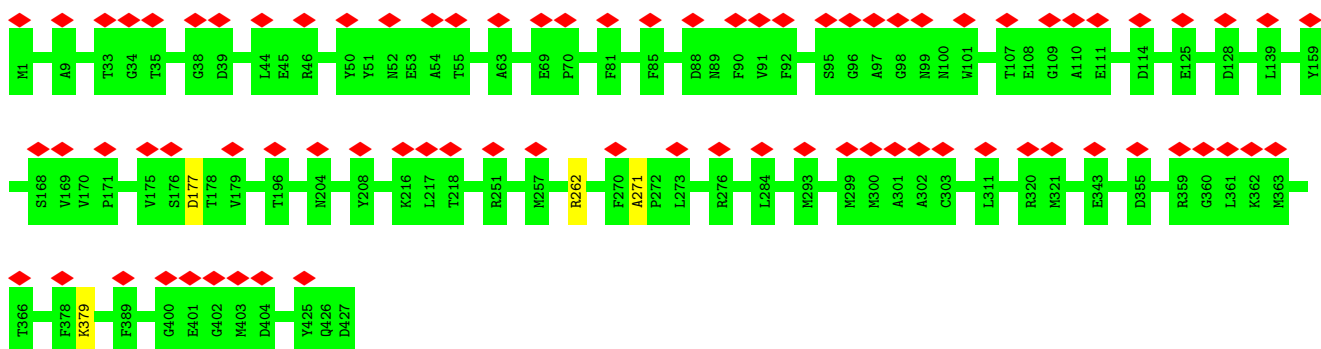




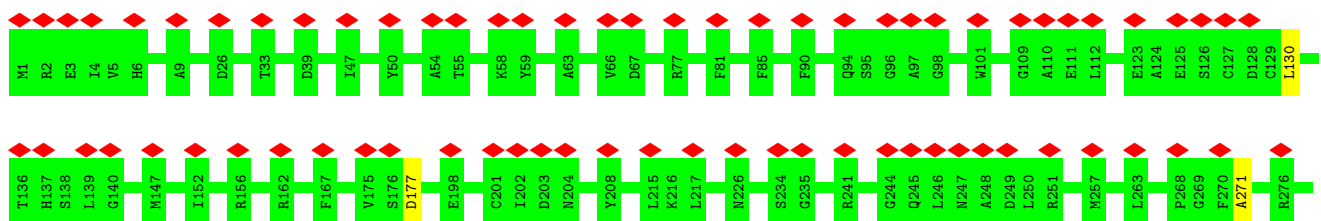
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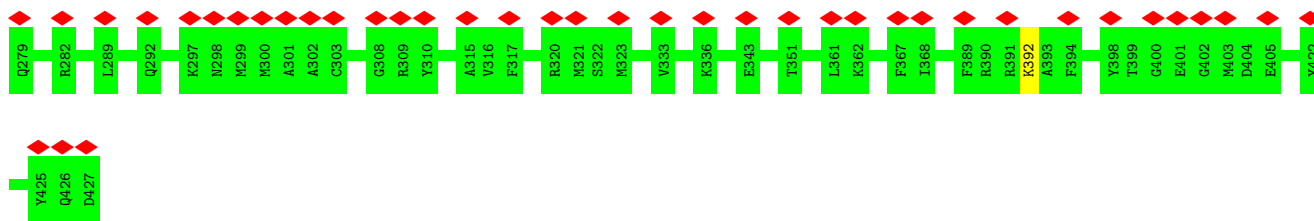


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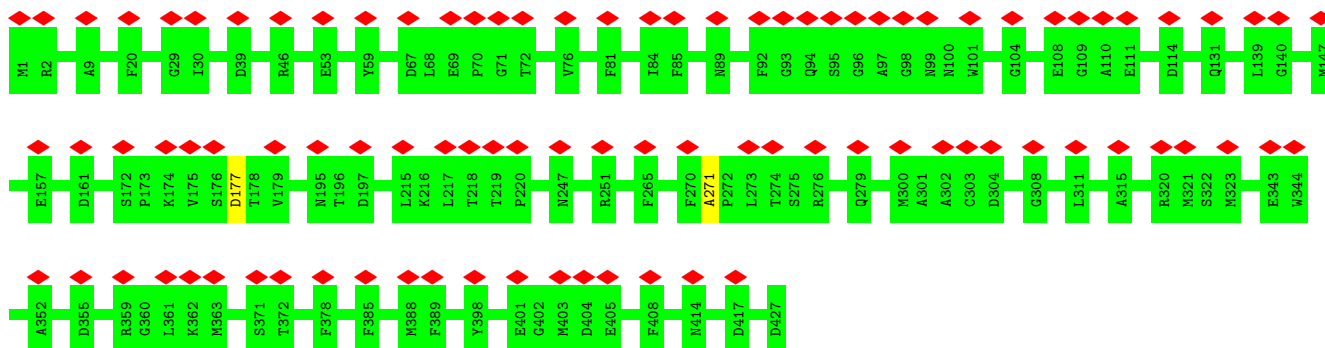


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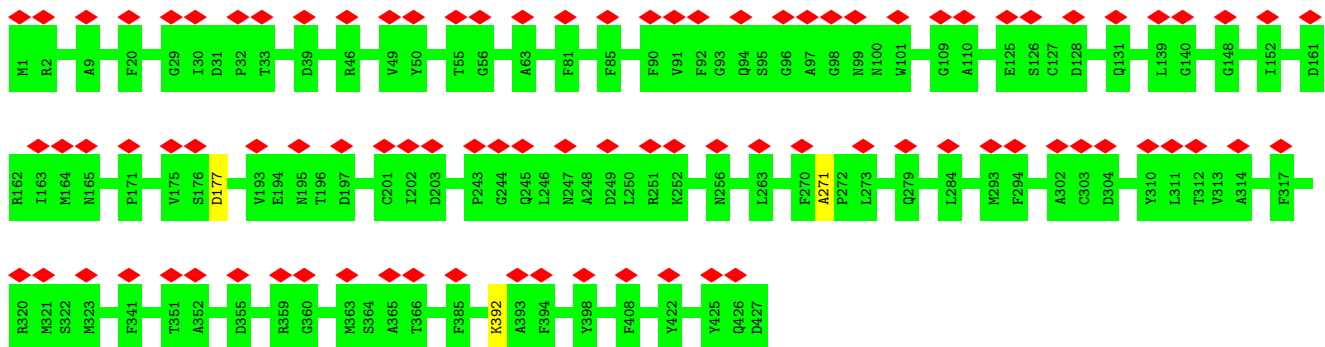




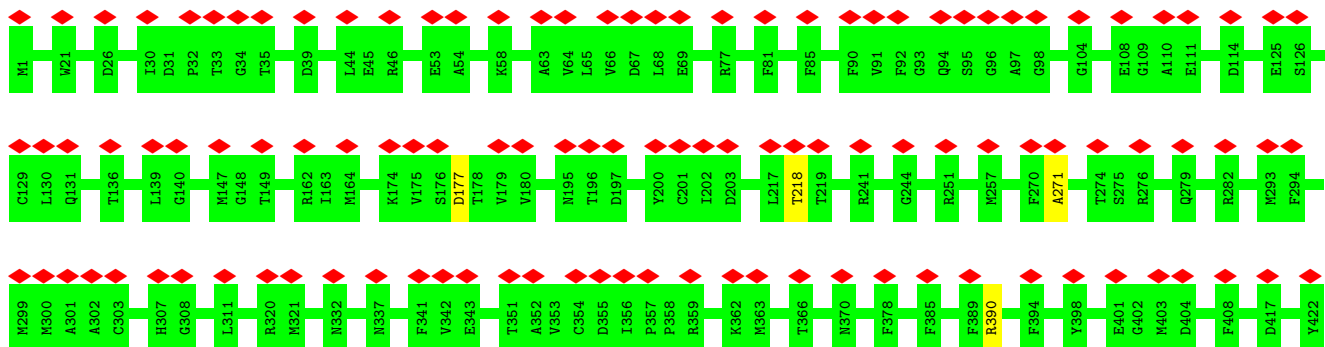
- Molecule 3: Tubulin beta-4B chain



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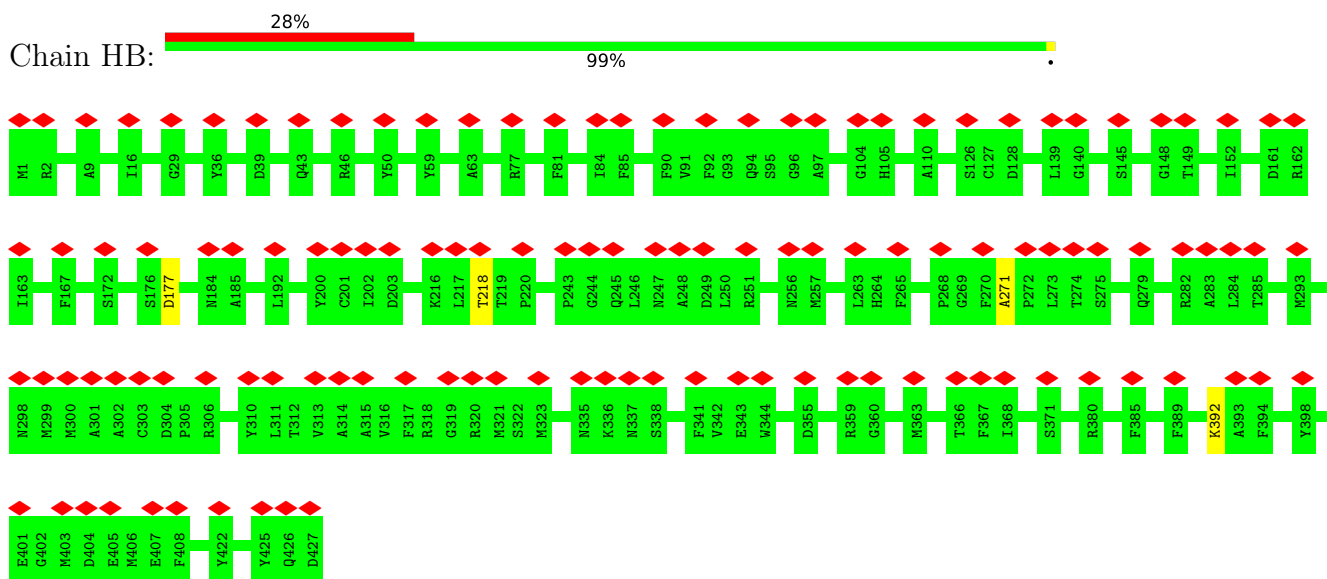


- Molecule 3: Tubulin beta-4B chain

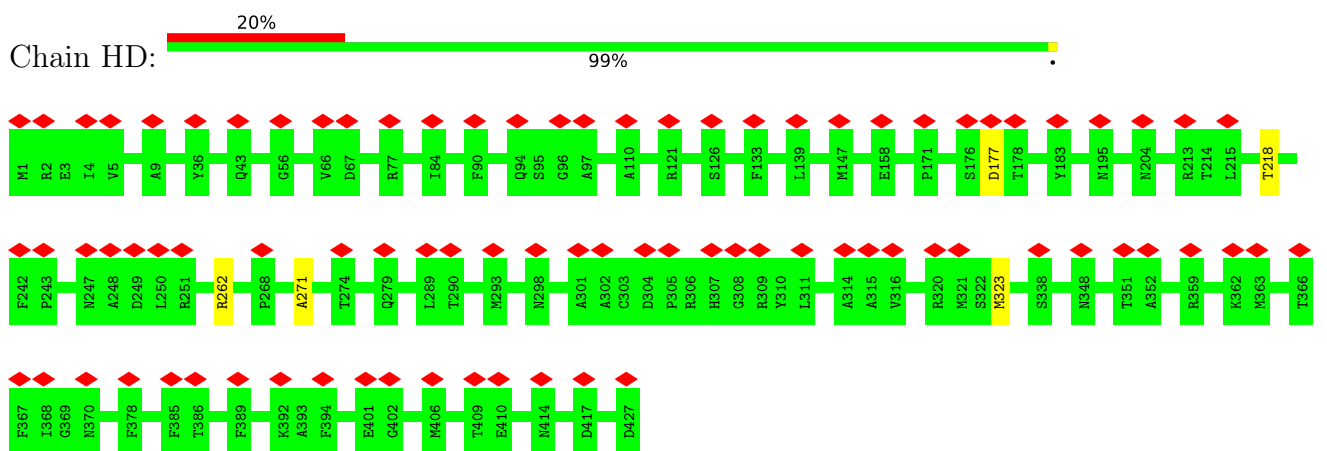




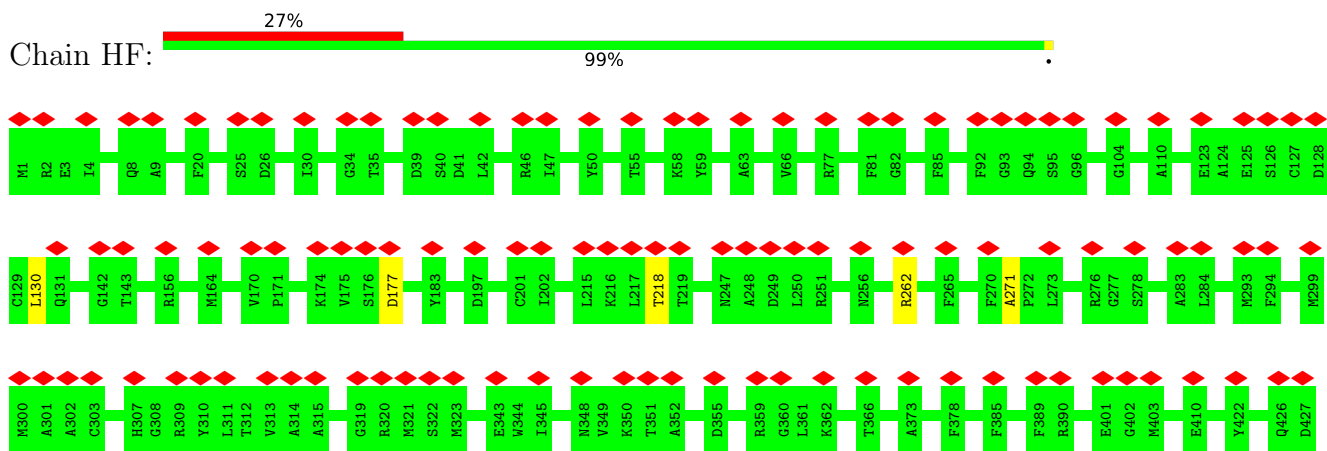
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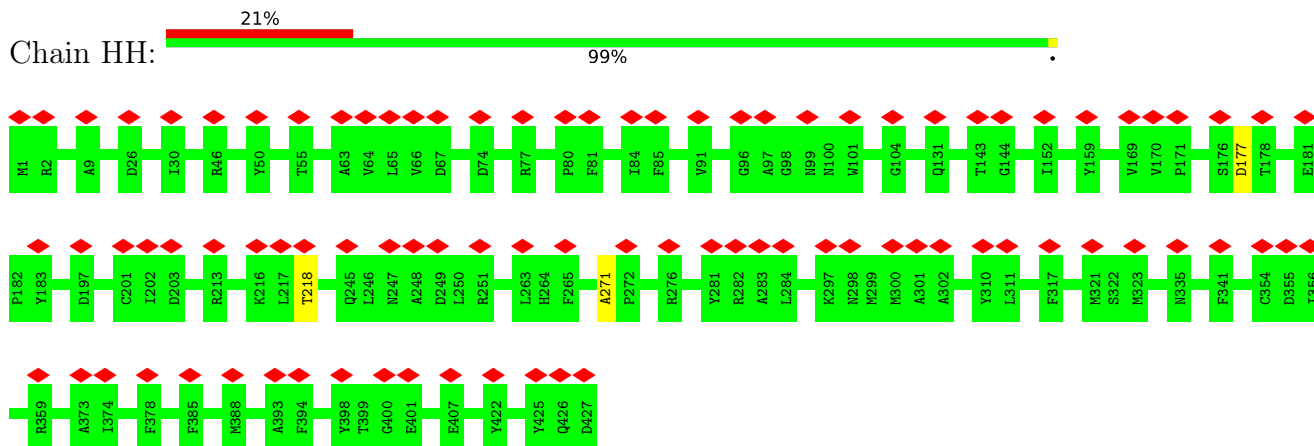
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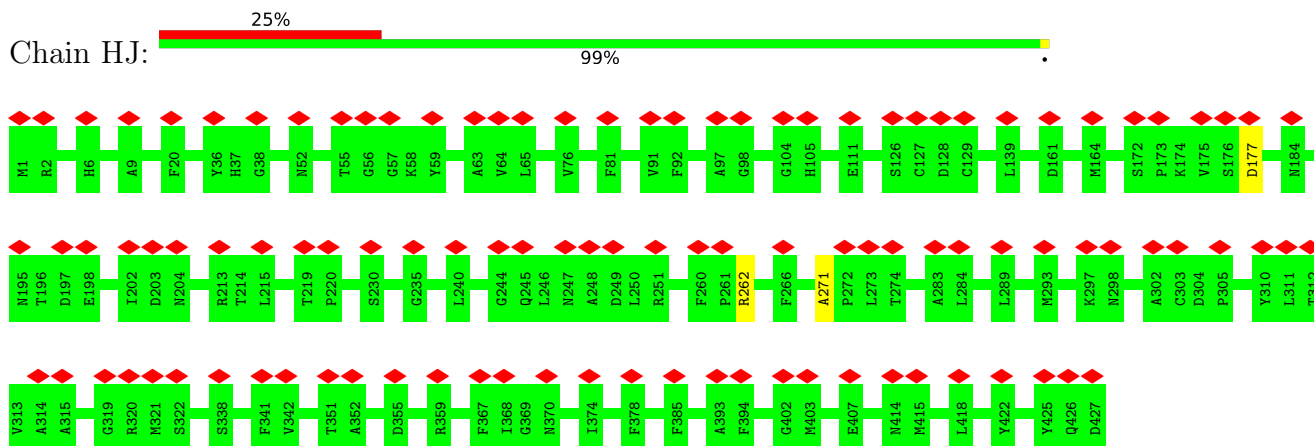
• Molecule 3: Tubulin beta-4B chain



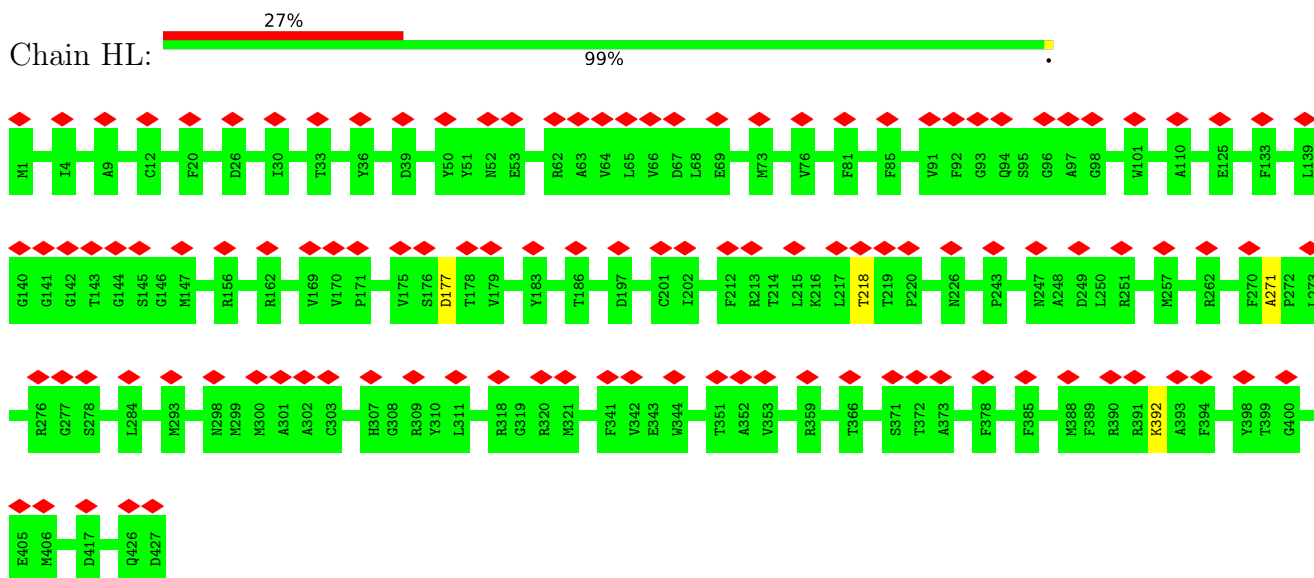
- Molecule 3: Tubulin beta-4B chain



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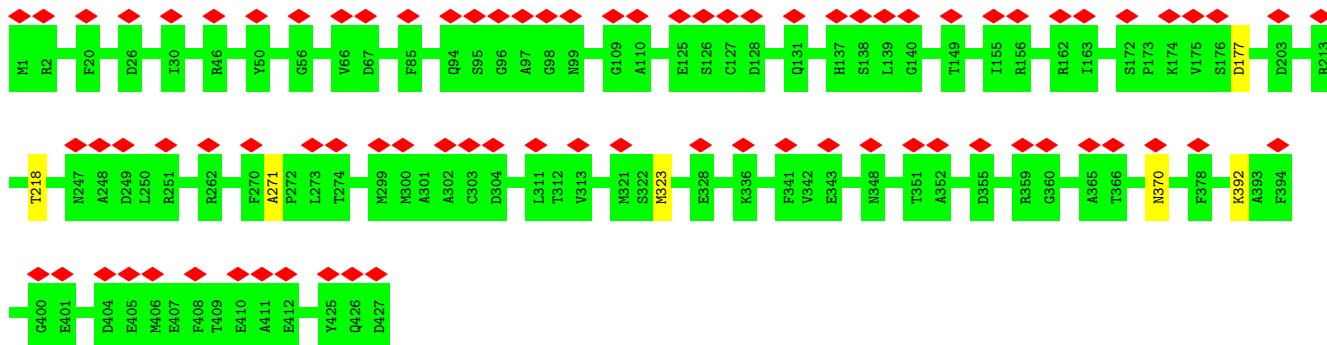


- Molecule 3: Tubulin beta-4B chain

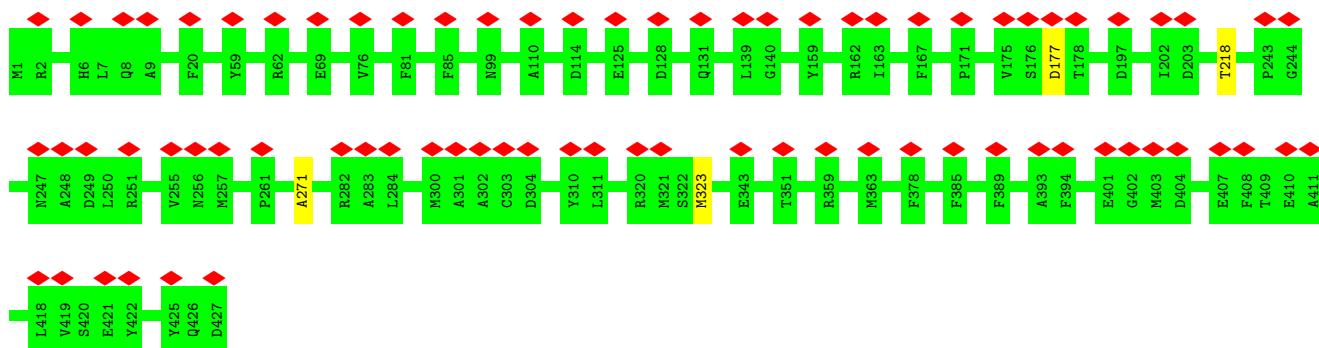


- Molecule 3: Tubulin beta-4B chain

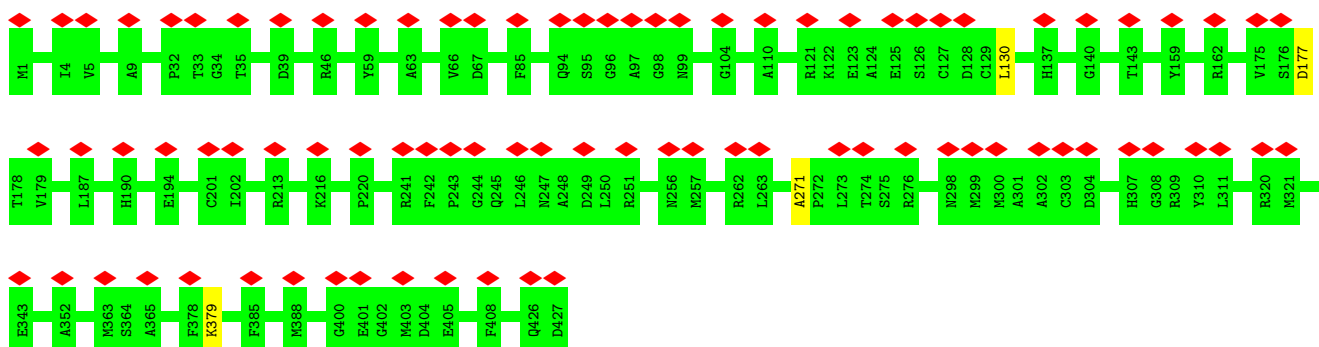




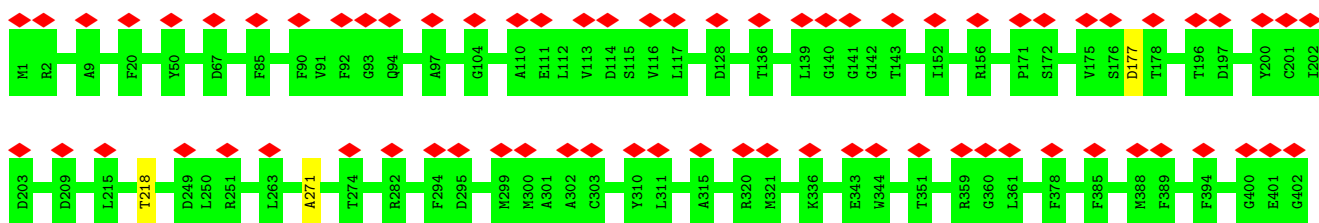
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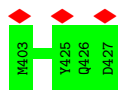


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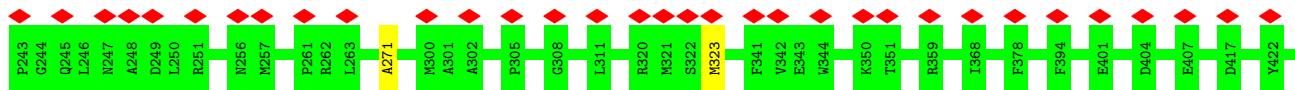
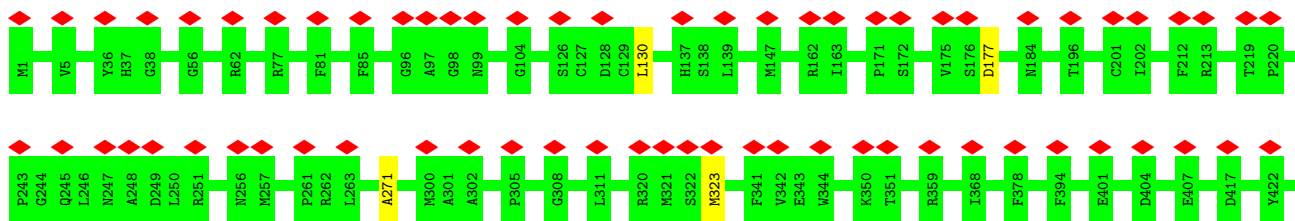


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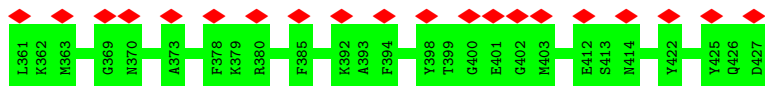
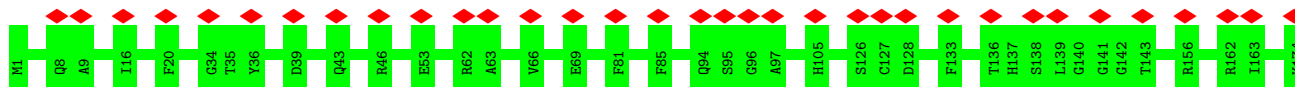




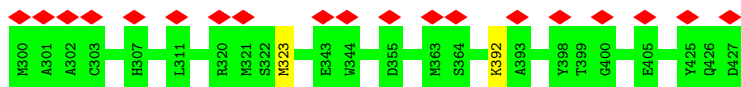
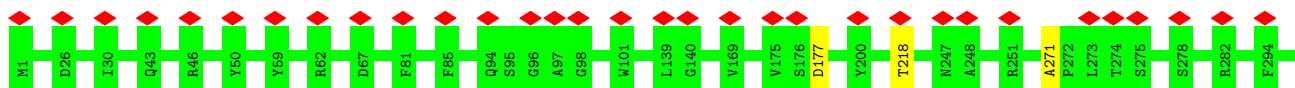
- Molecule 3: Tubulin beta-4B chain



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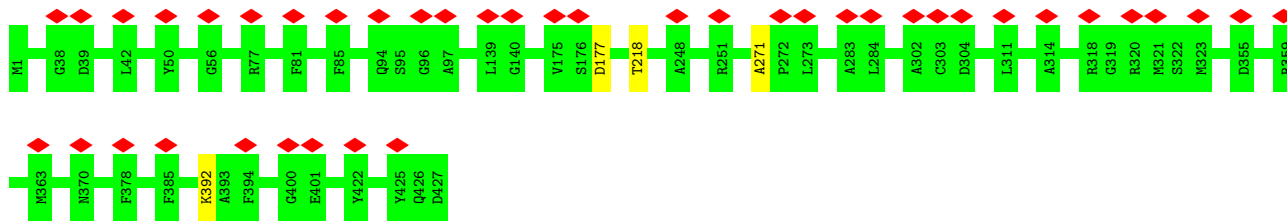


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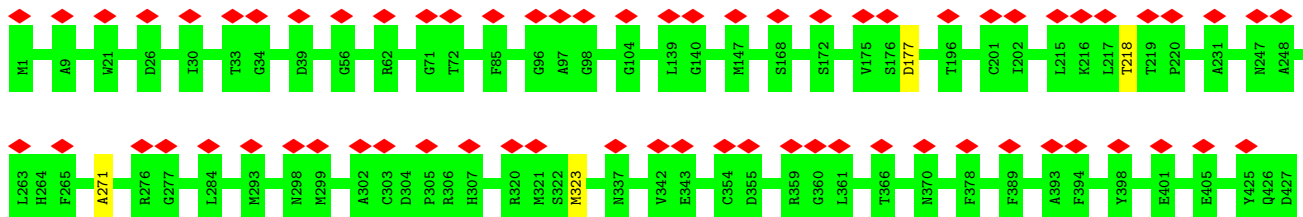


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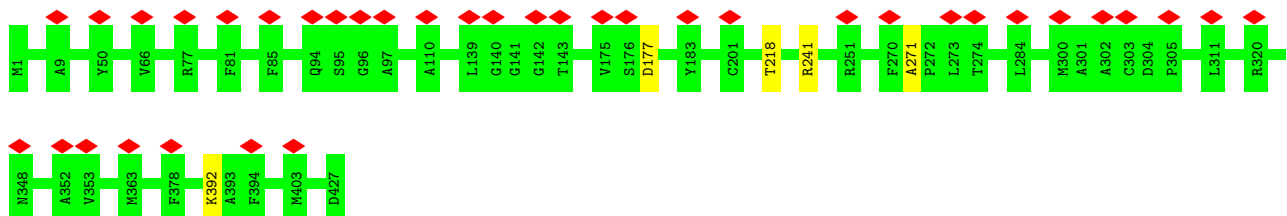




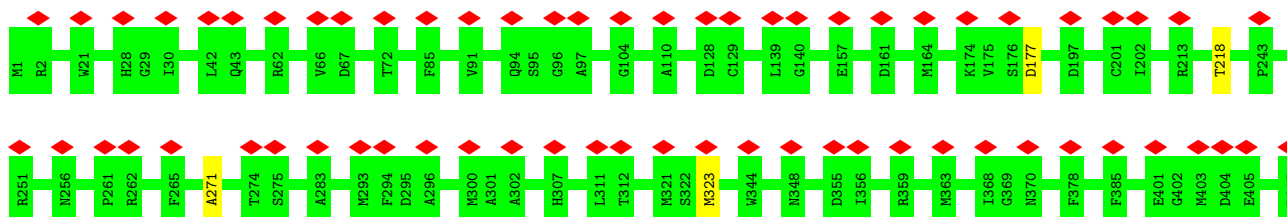
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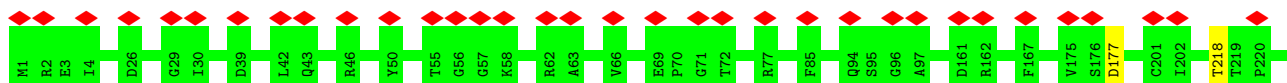
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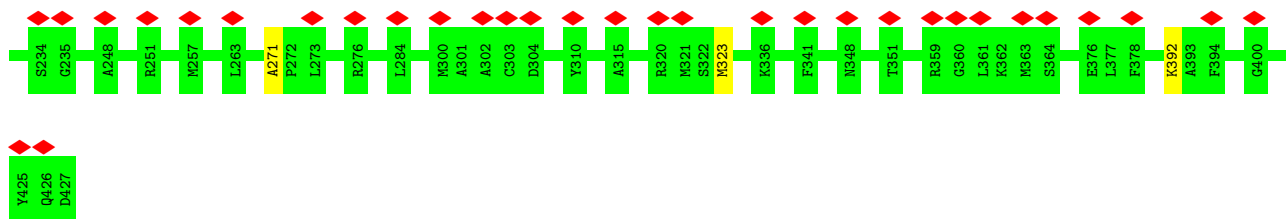


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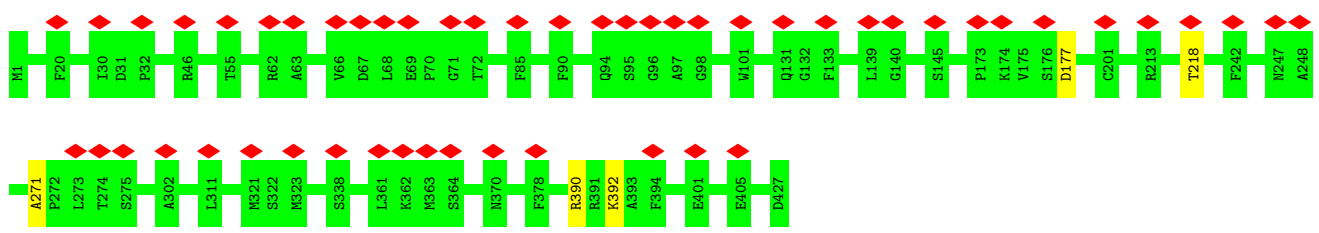


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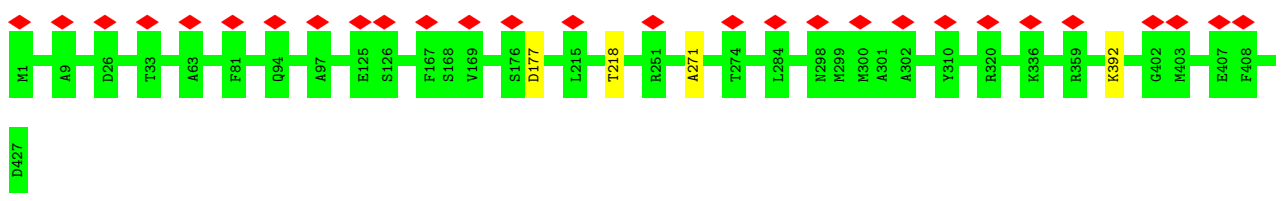




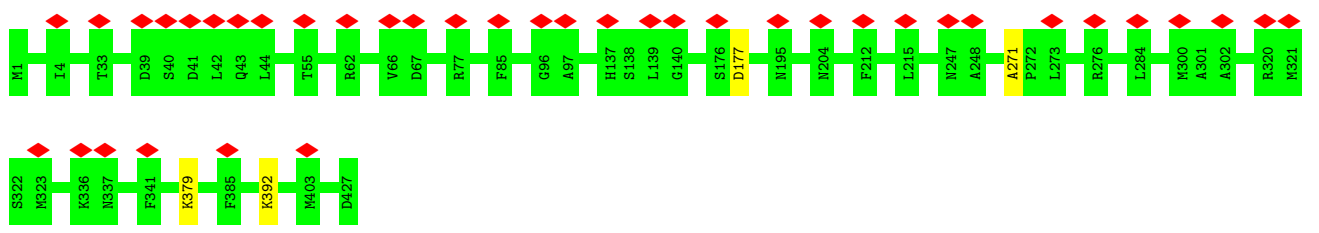
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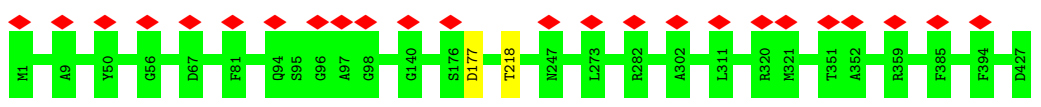
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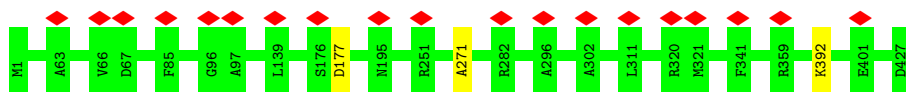


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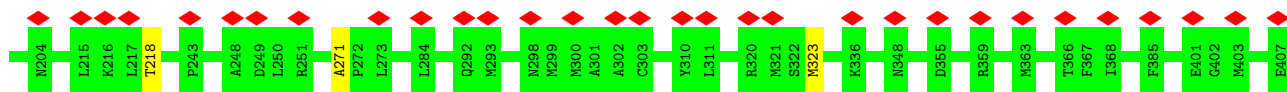
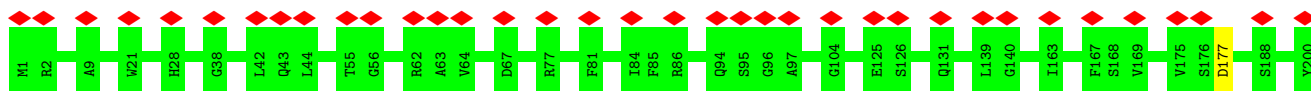


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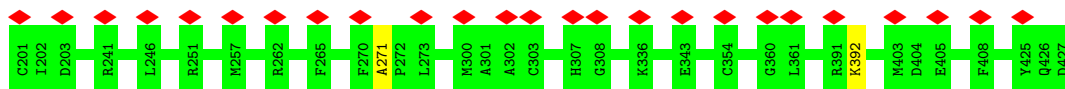
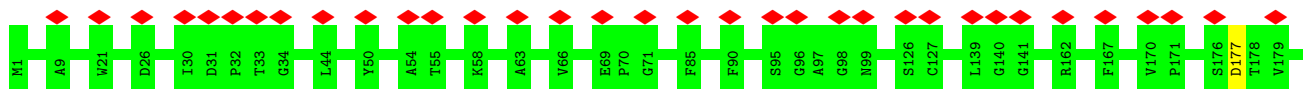




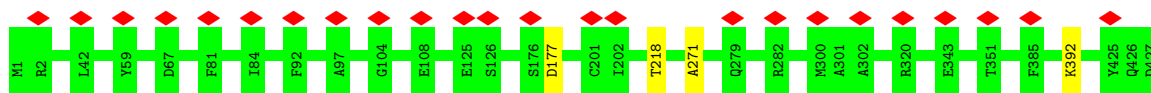
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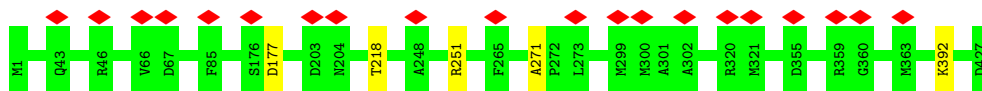
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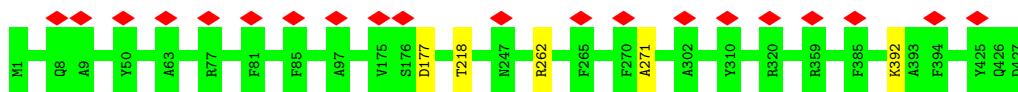


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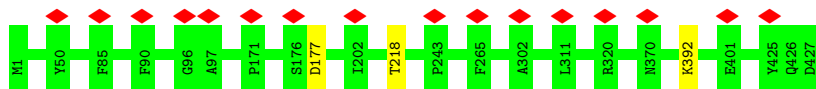


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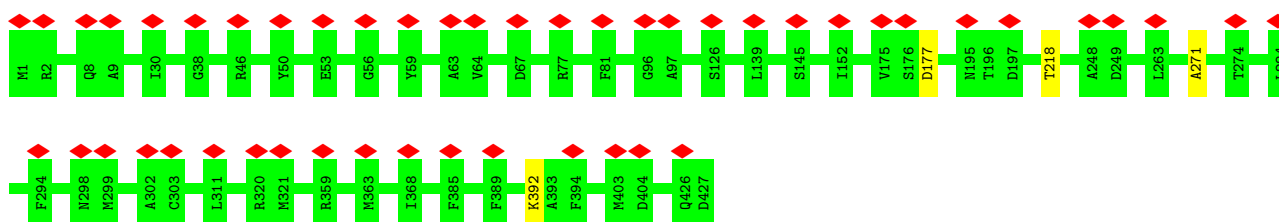




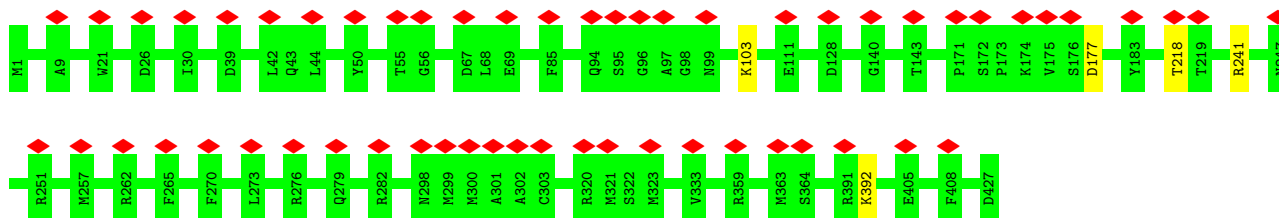
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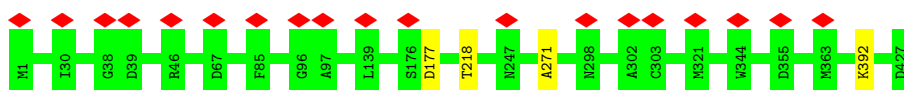
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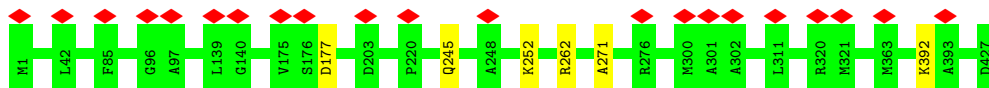
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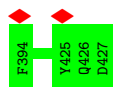
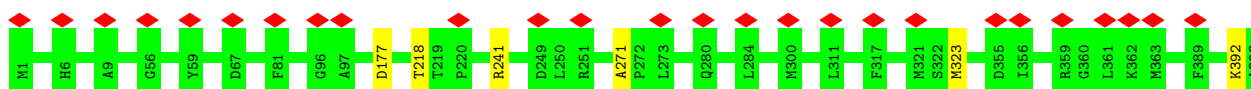
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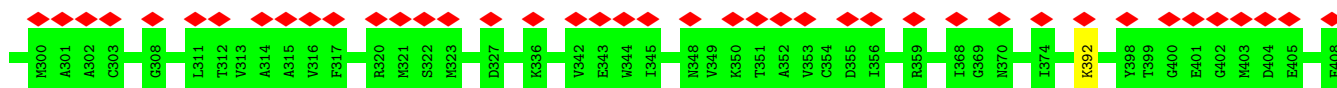
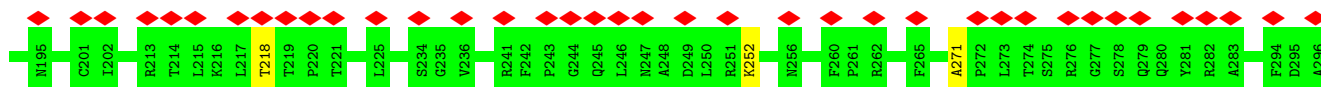
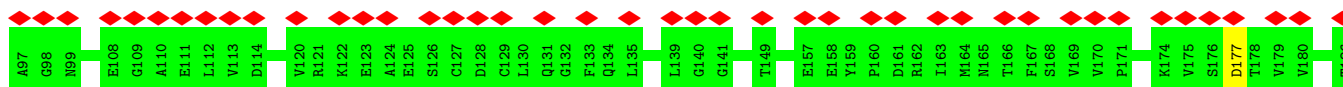
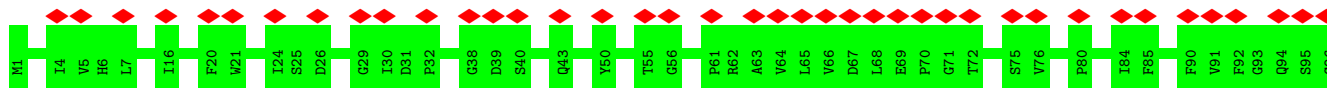
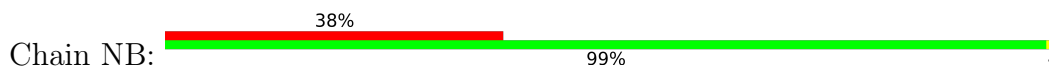
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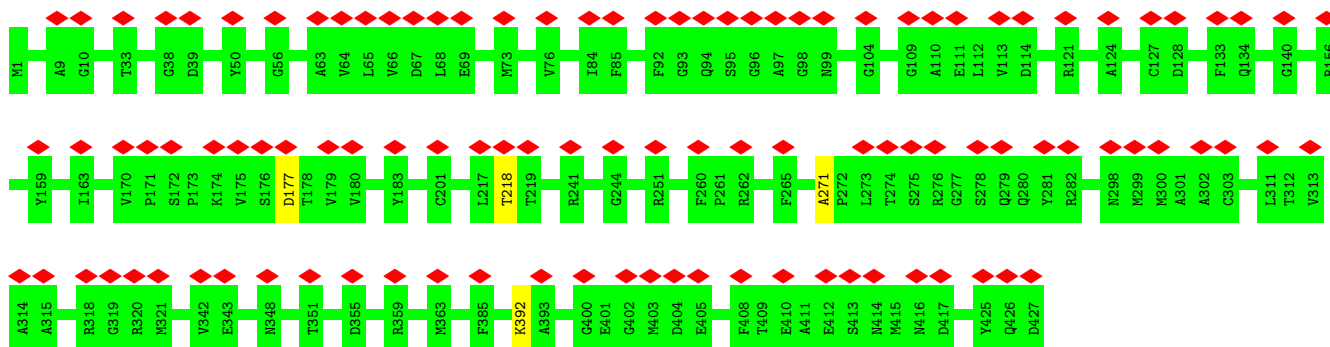


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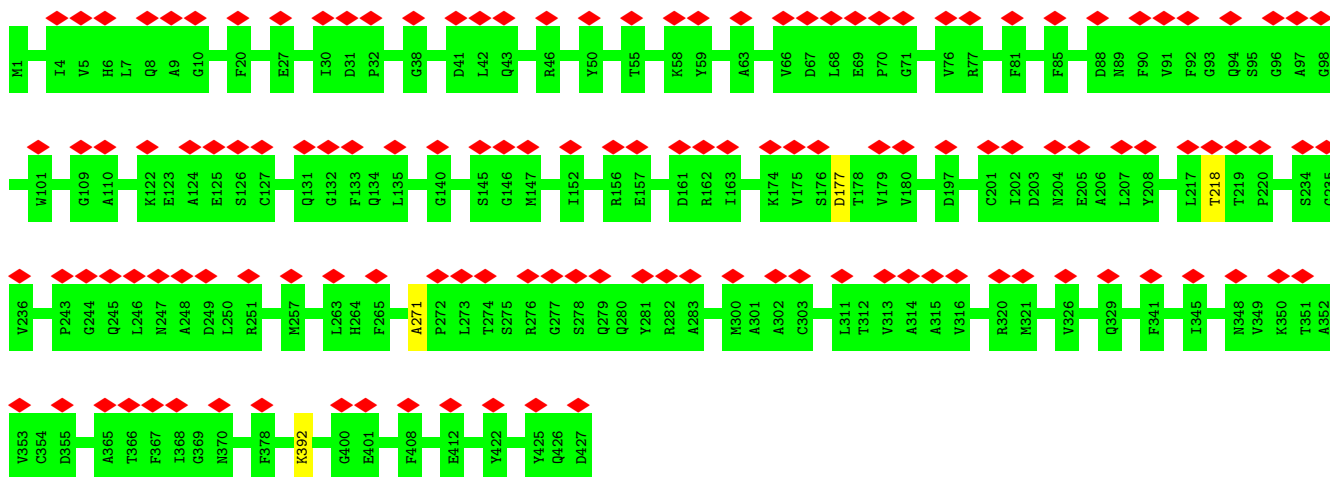


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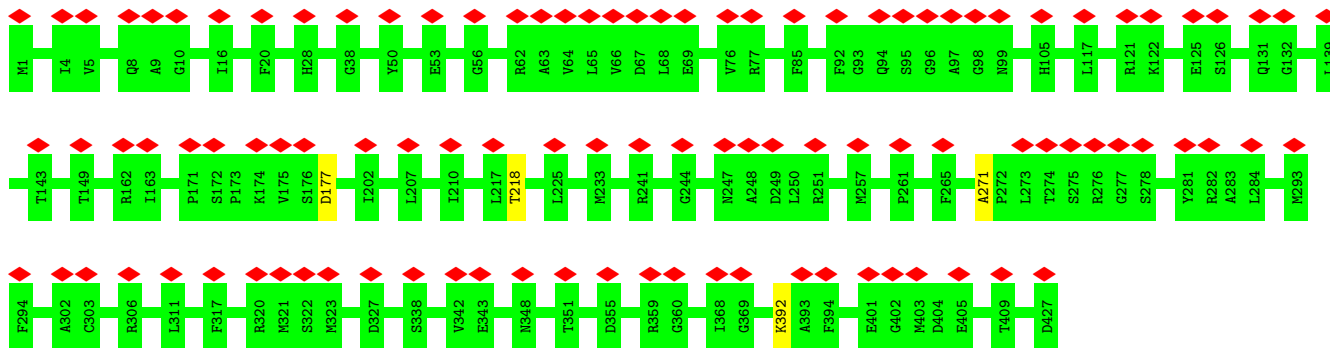




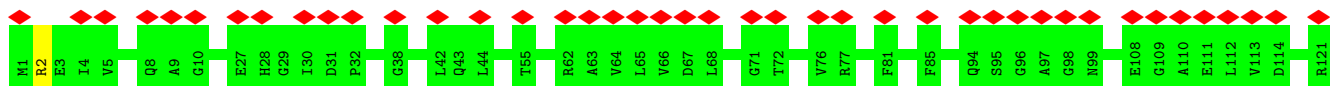
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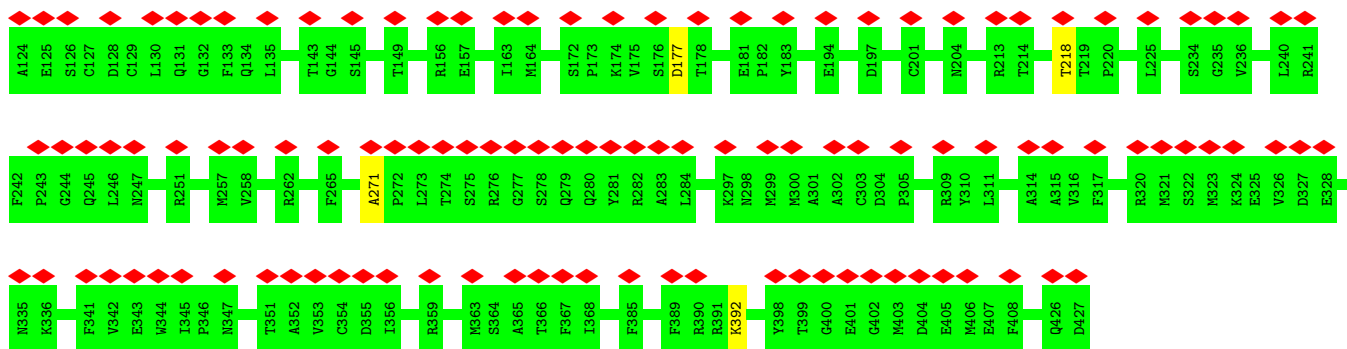


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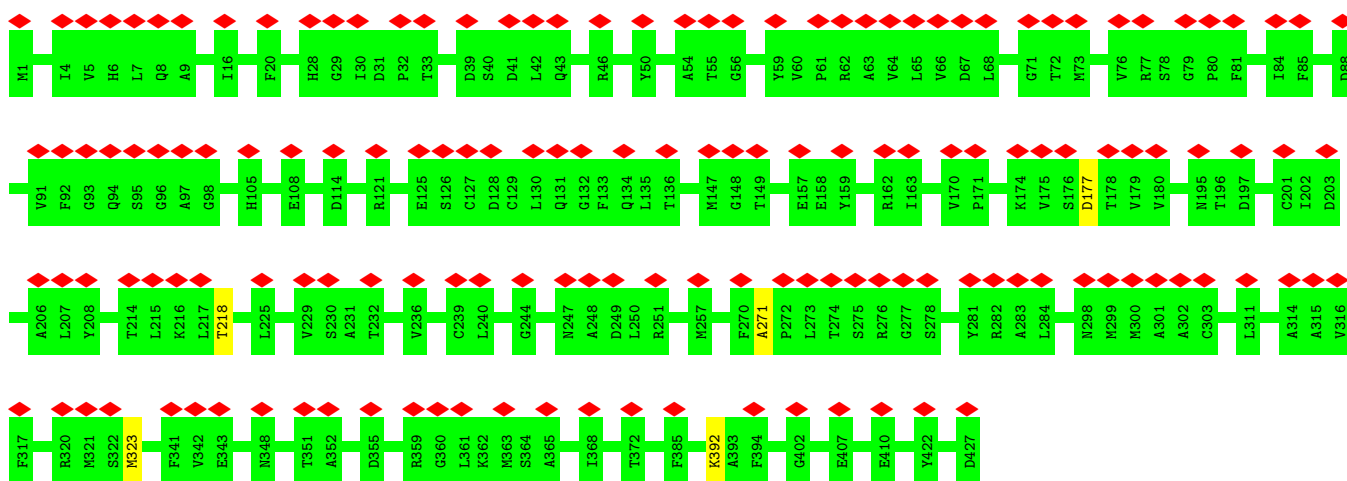


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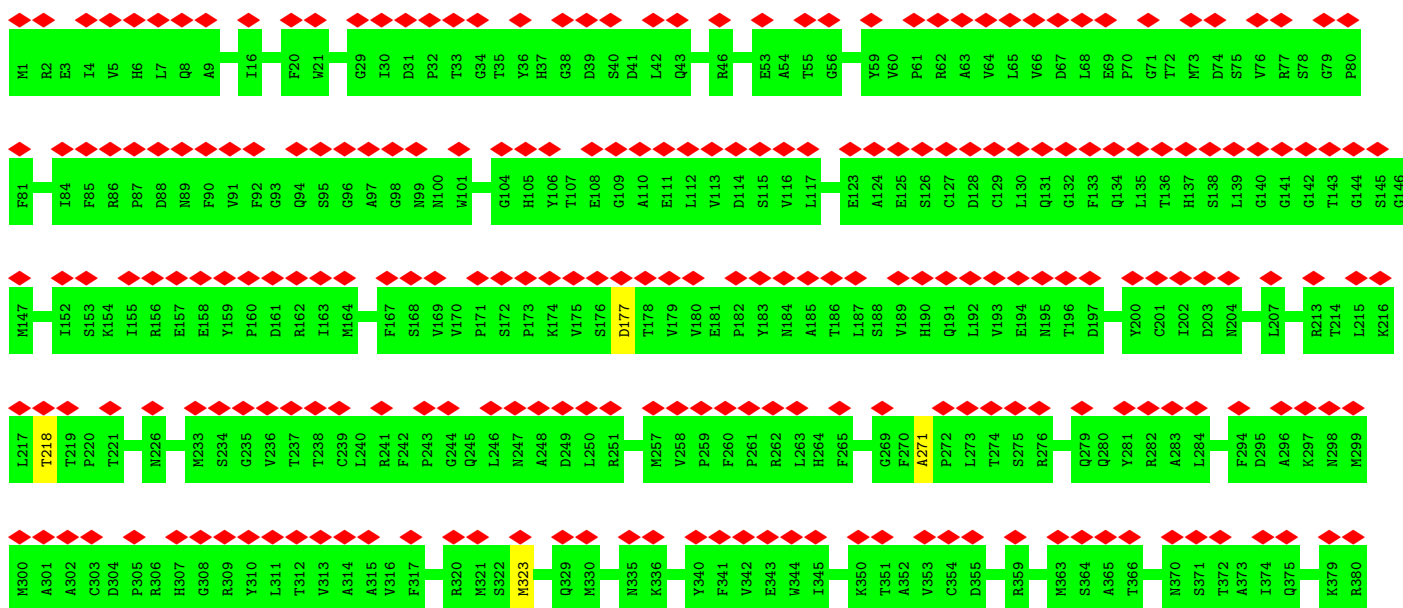


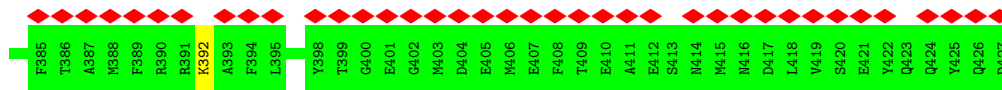


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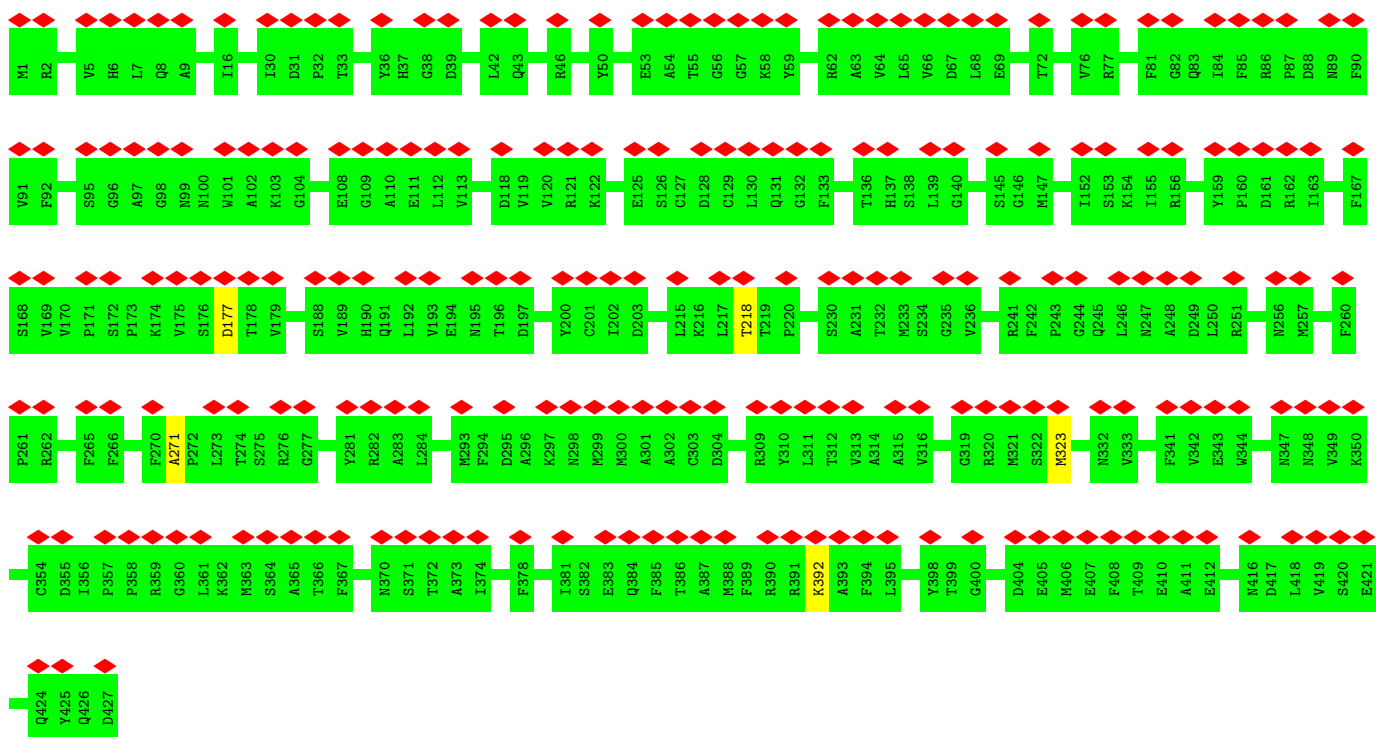




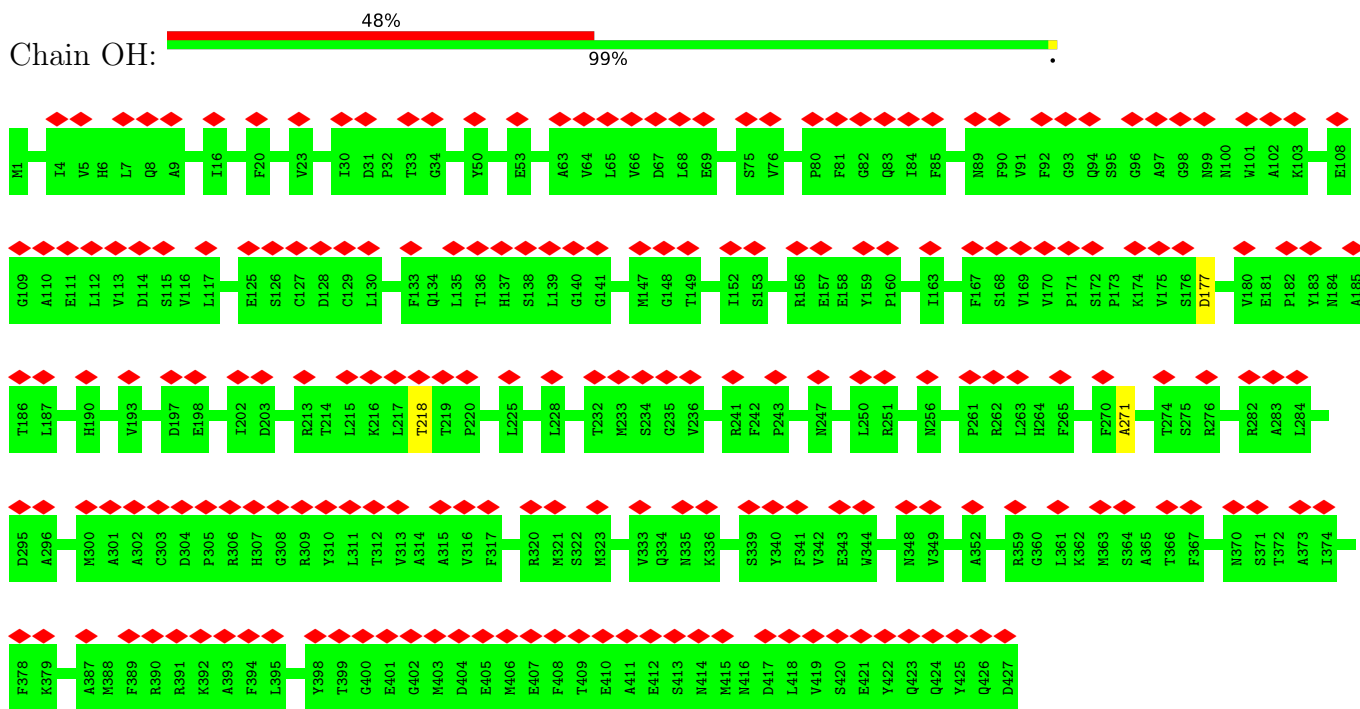
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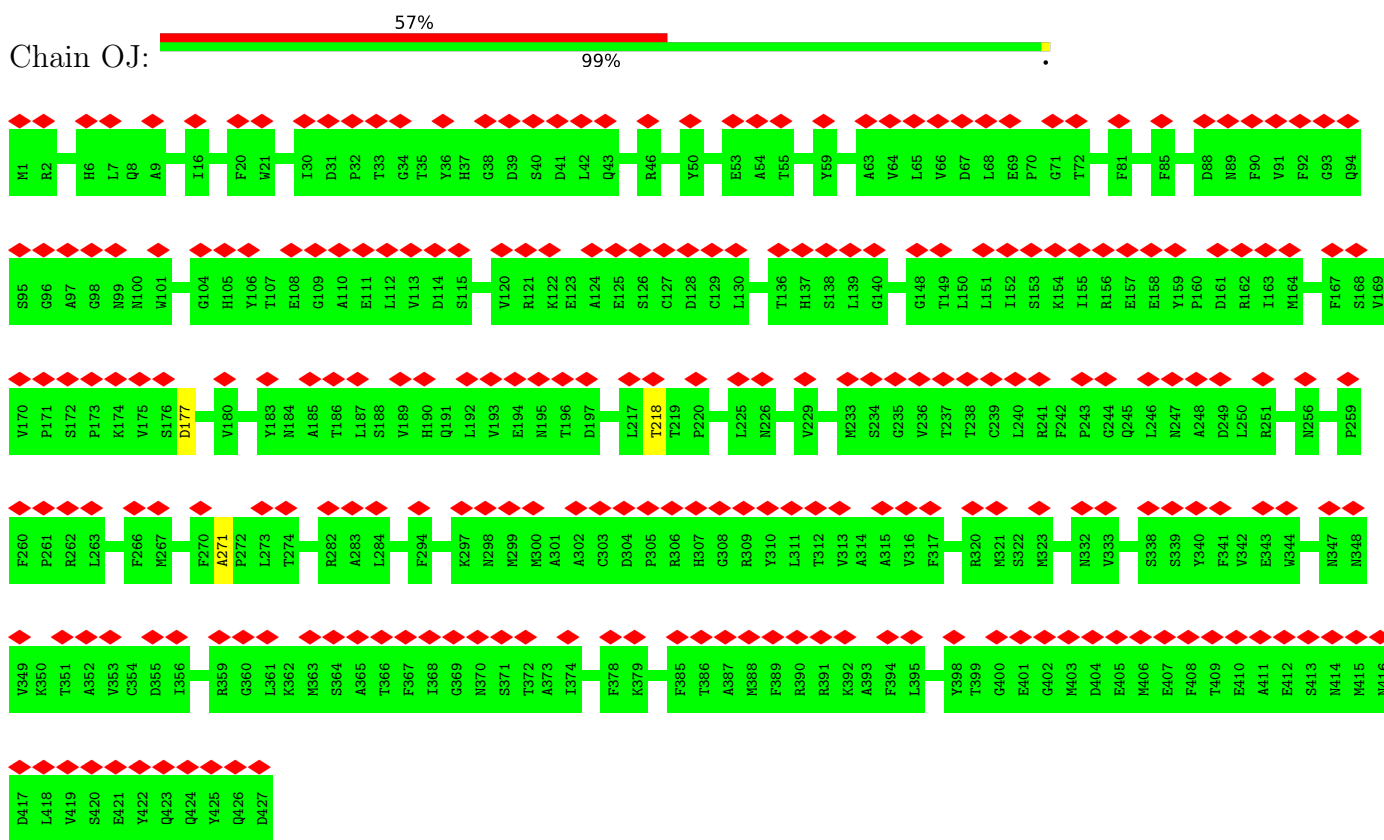
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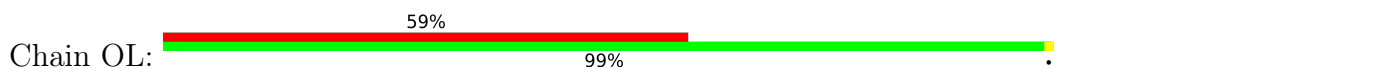
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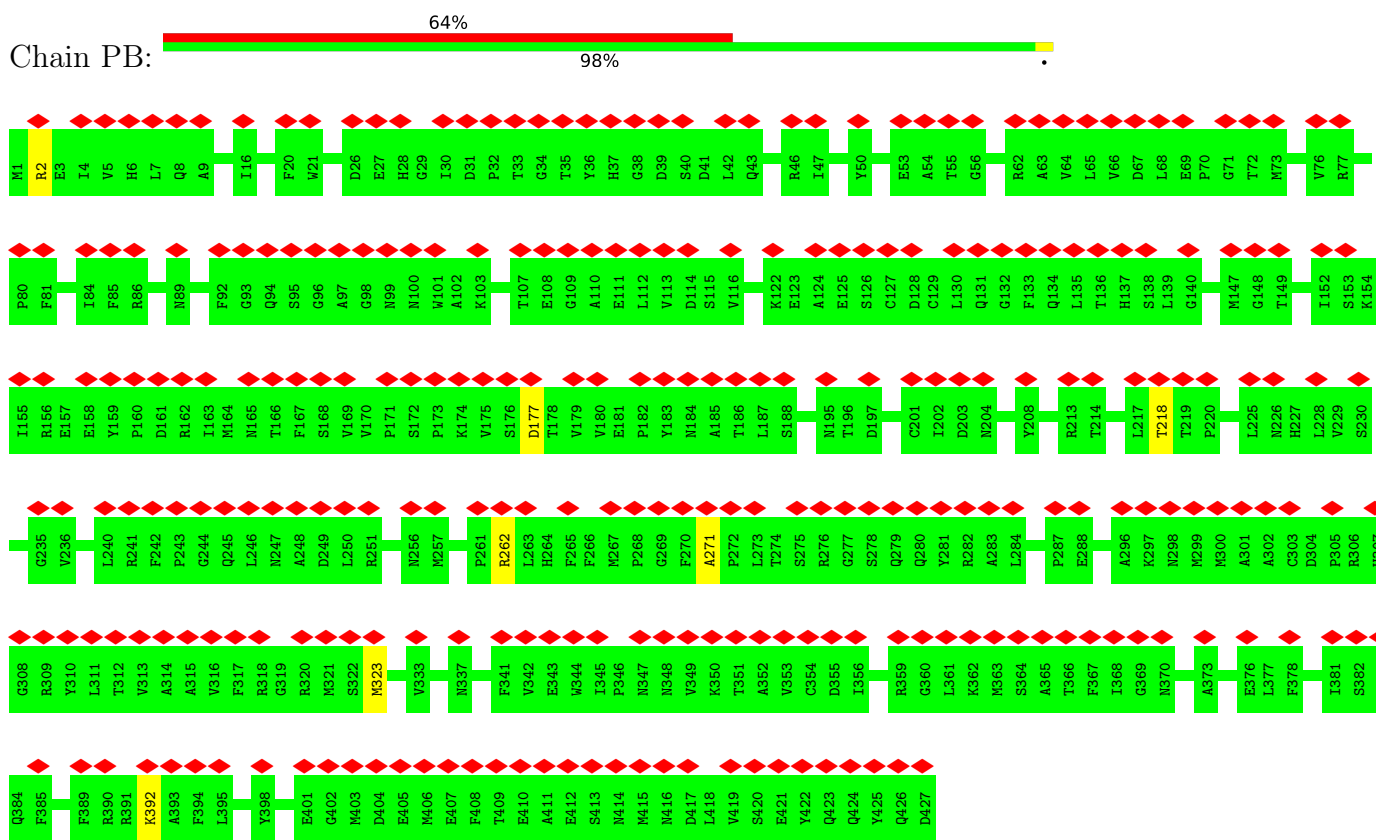


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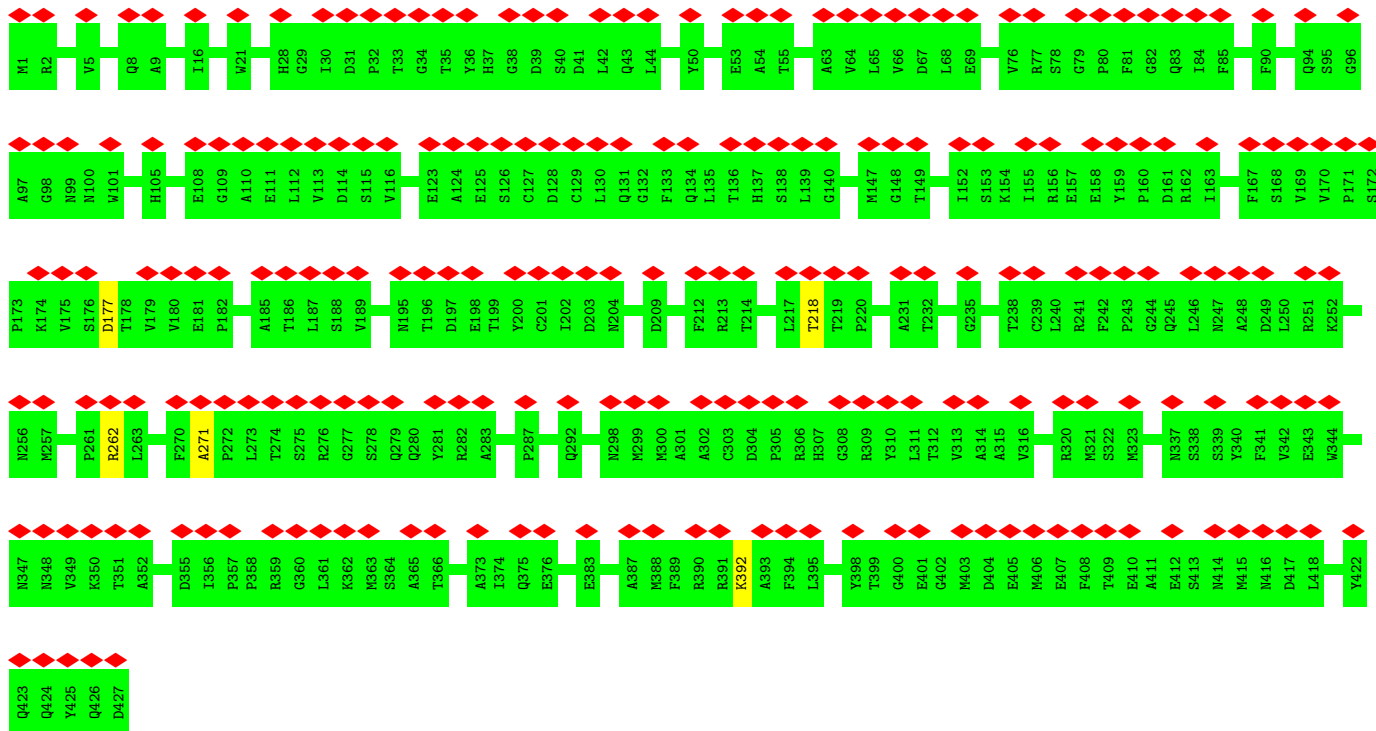
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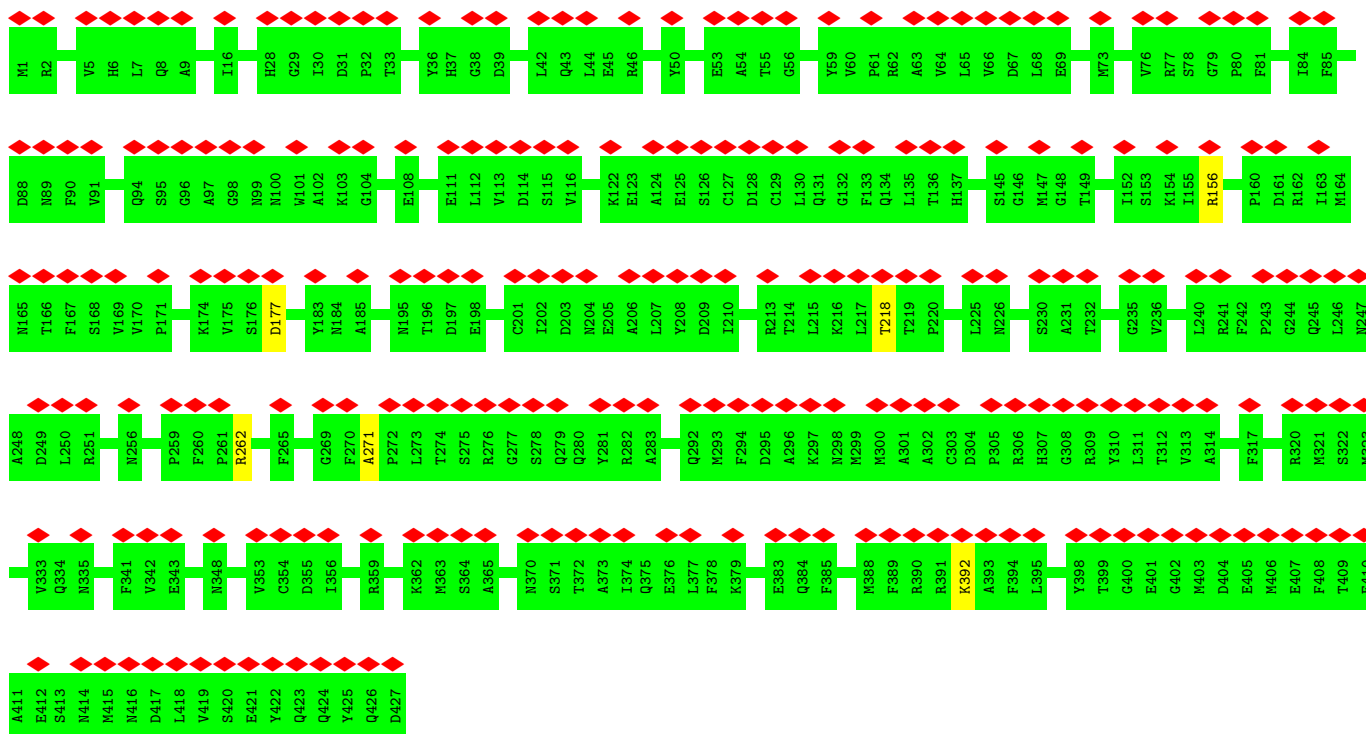


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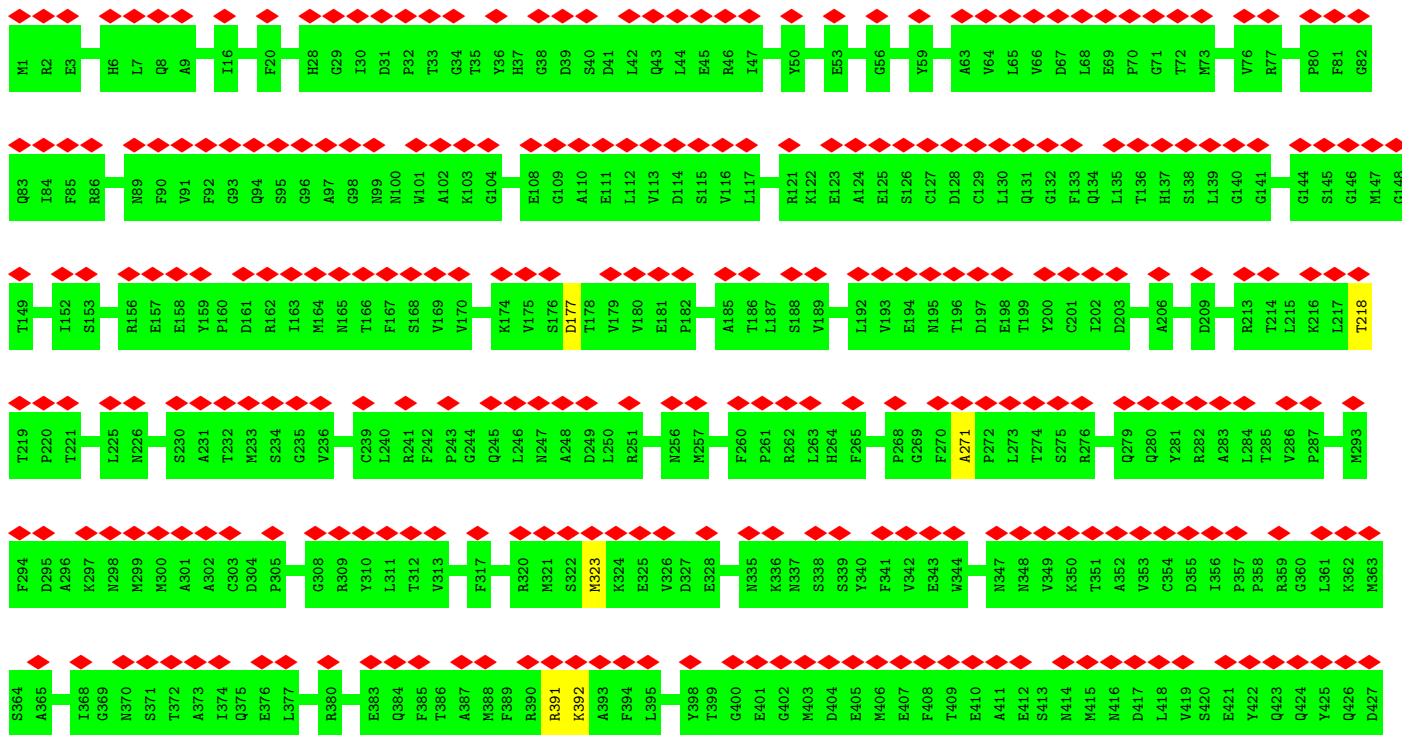


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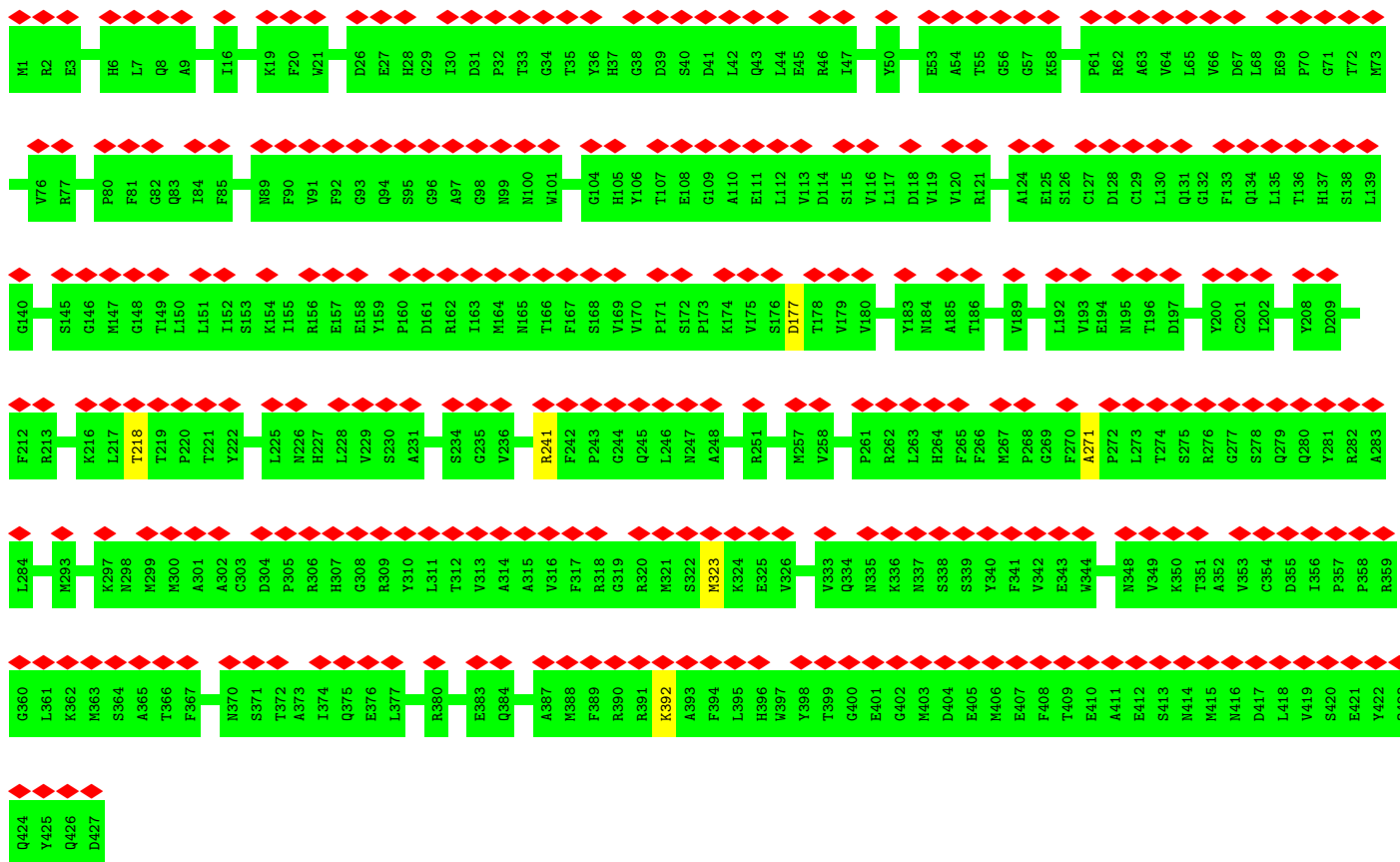
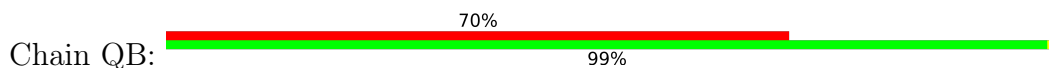


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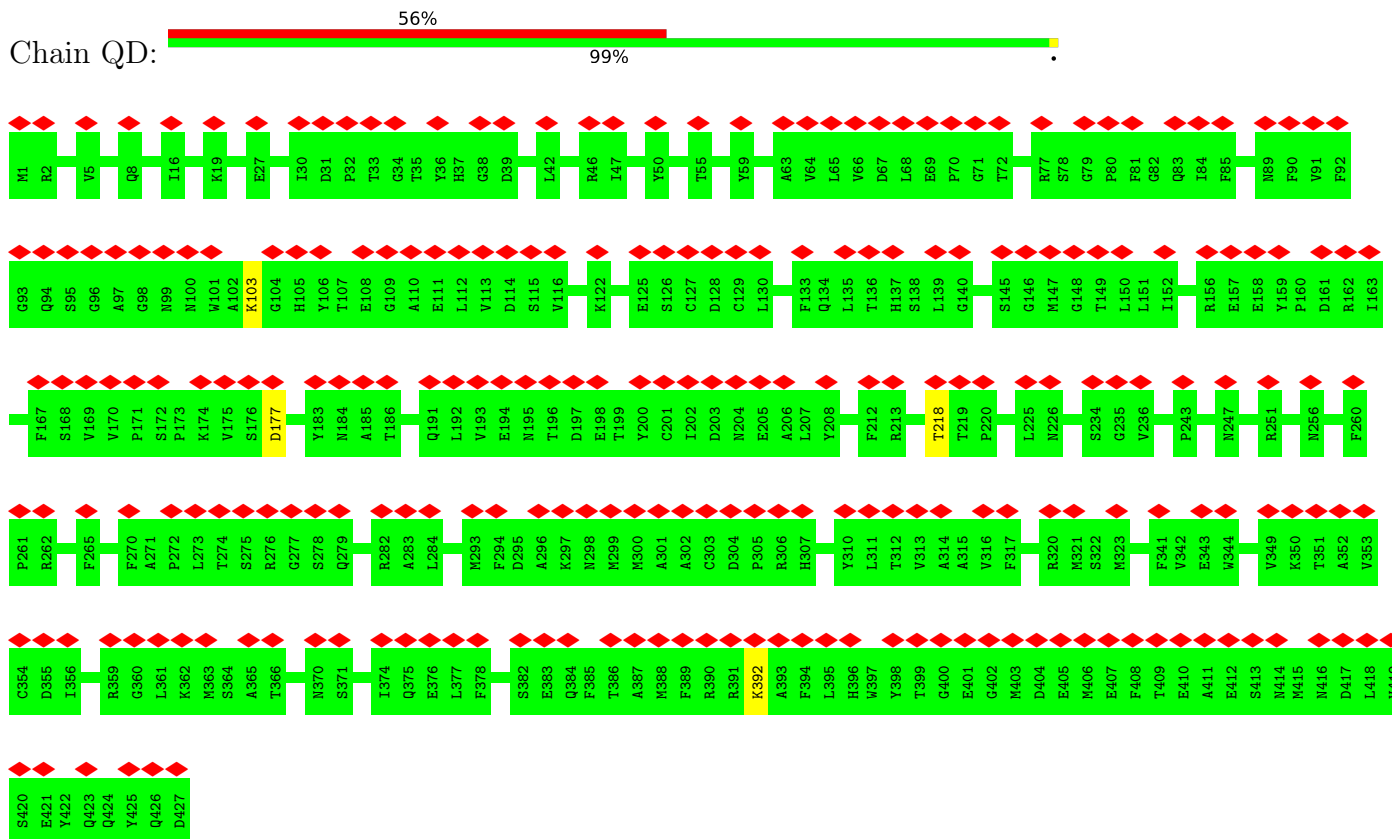




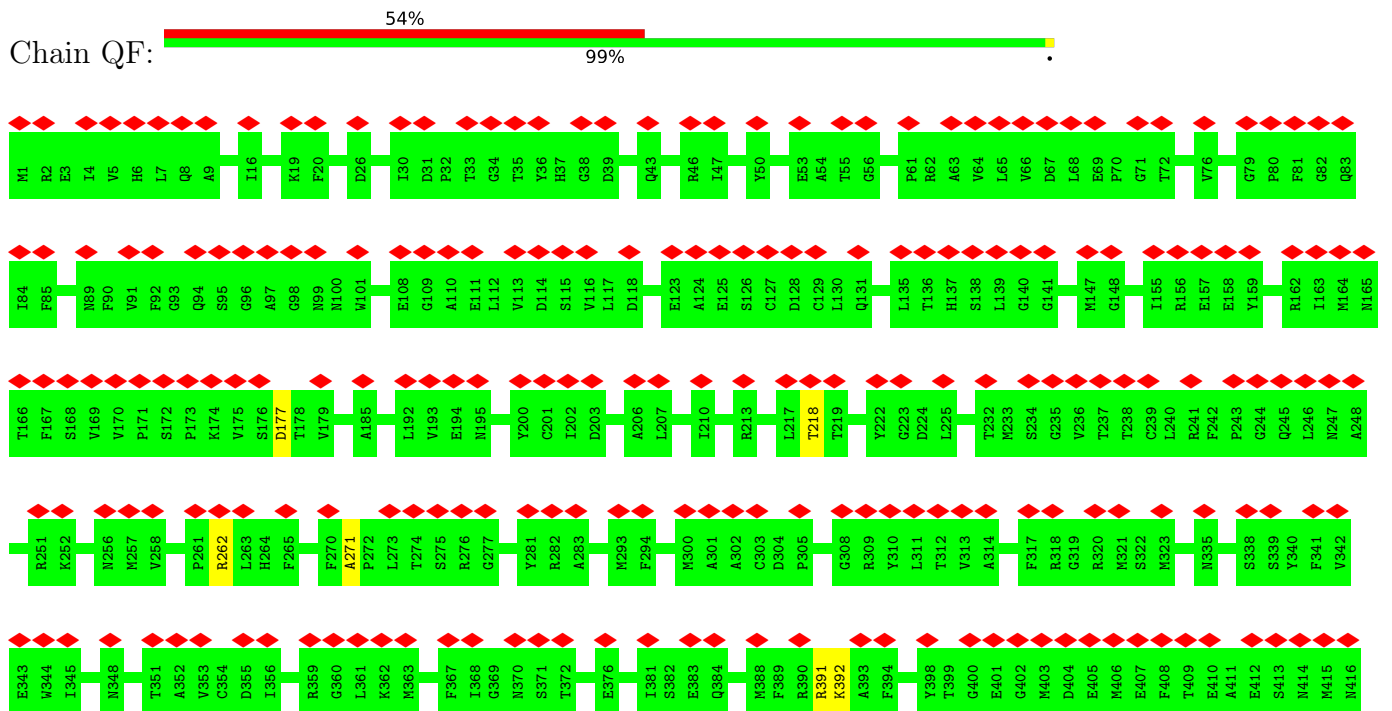
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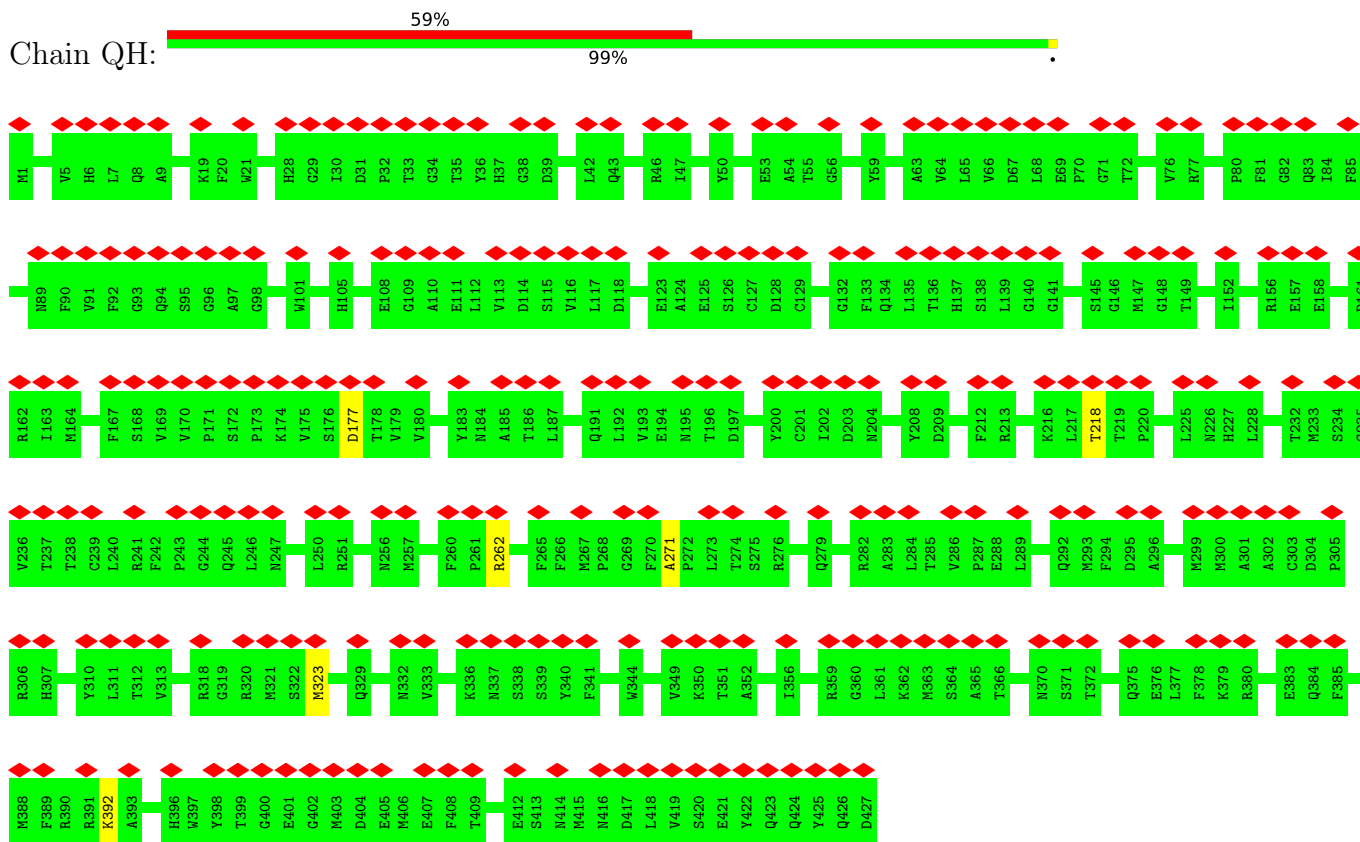


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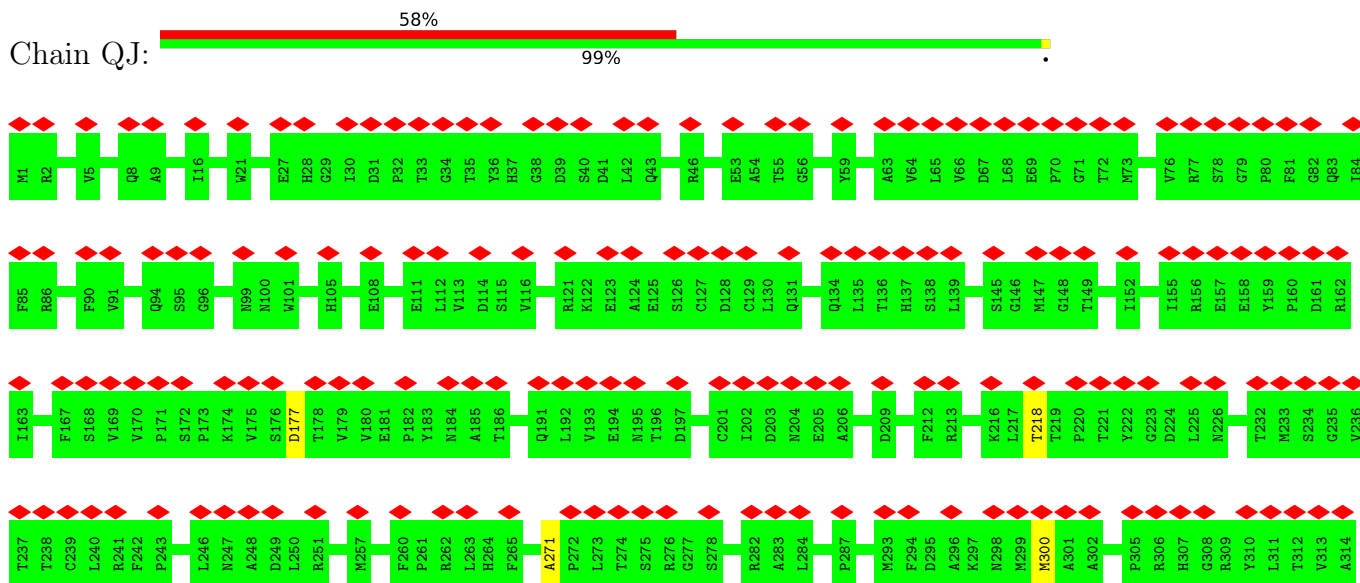


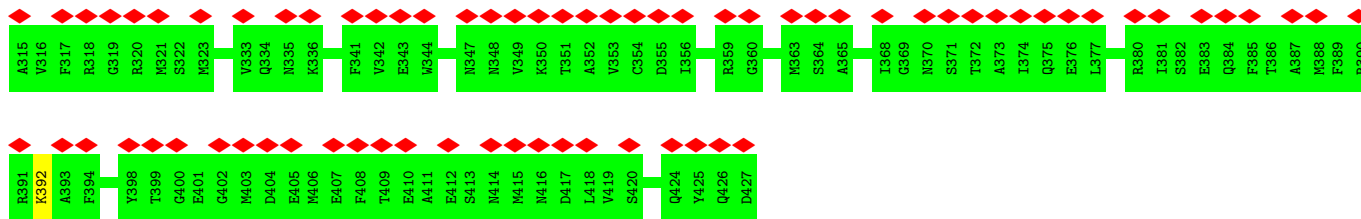
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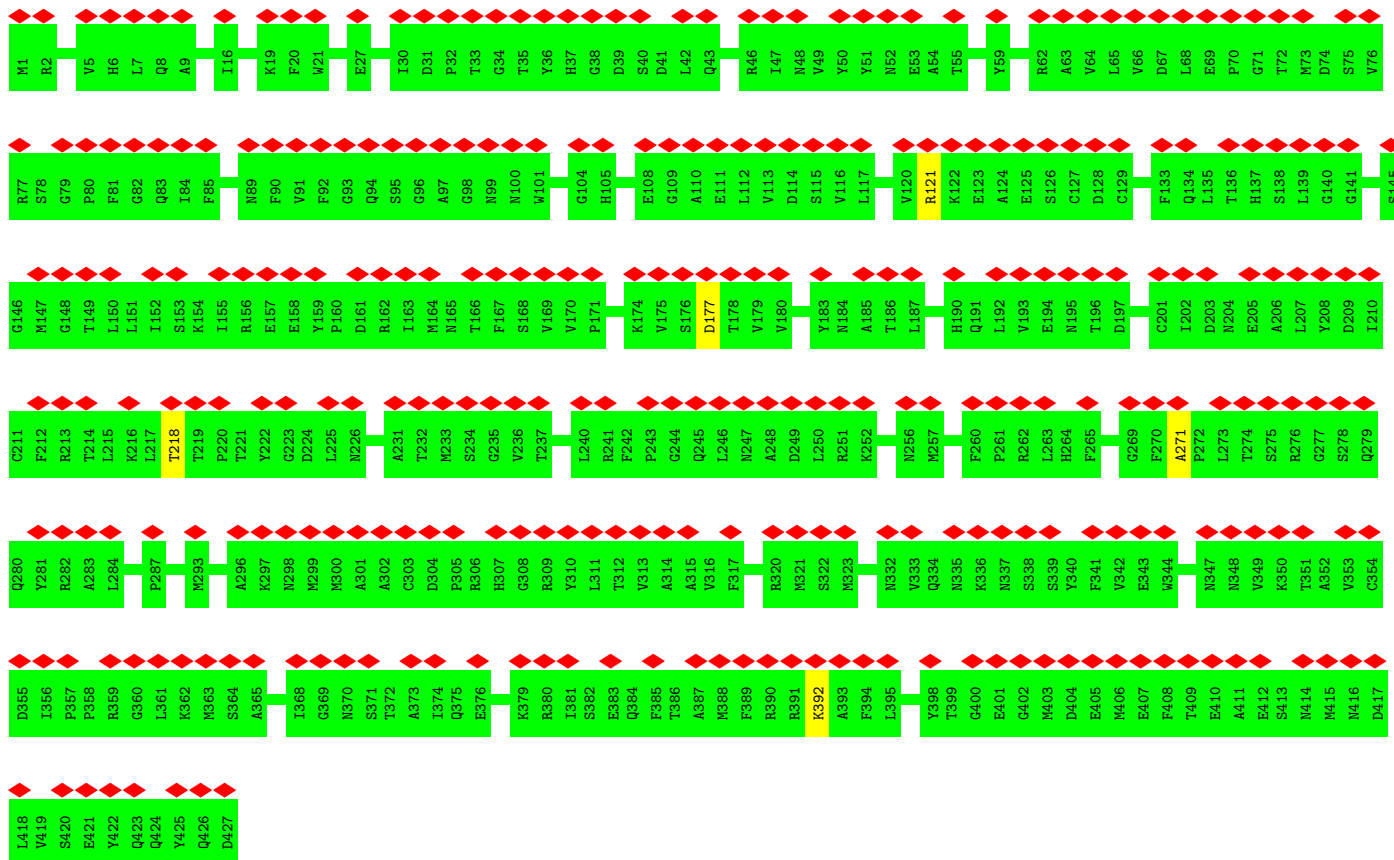


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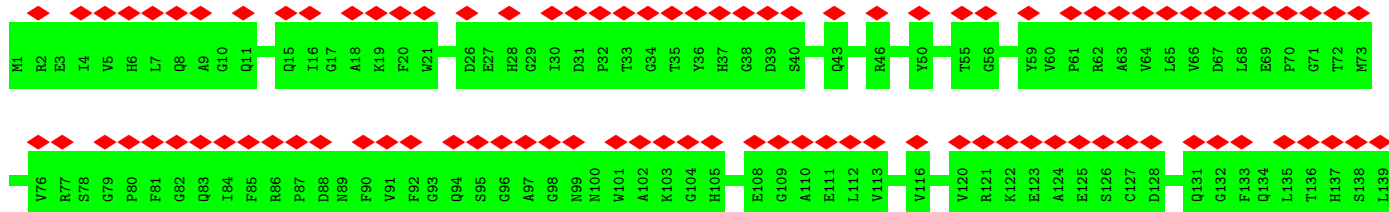
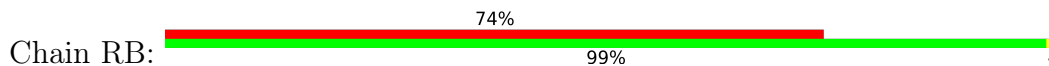


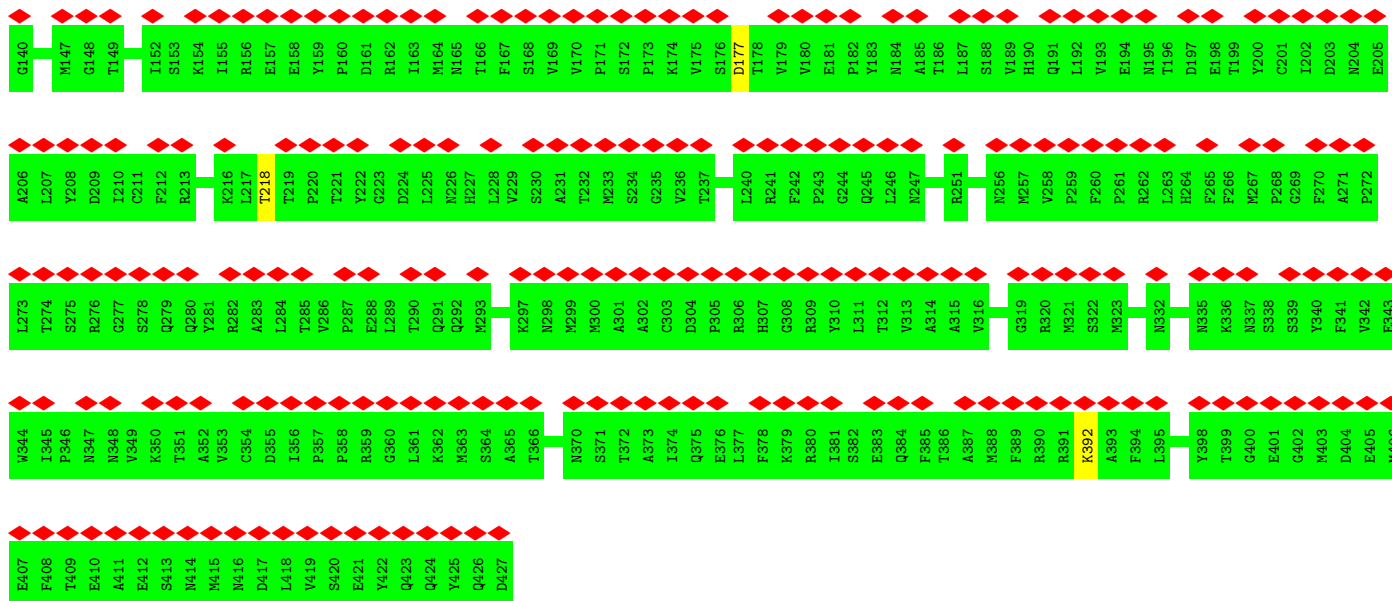


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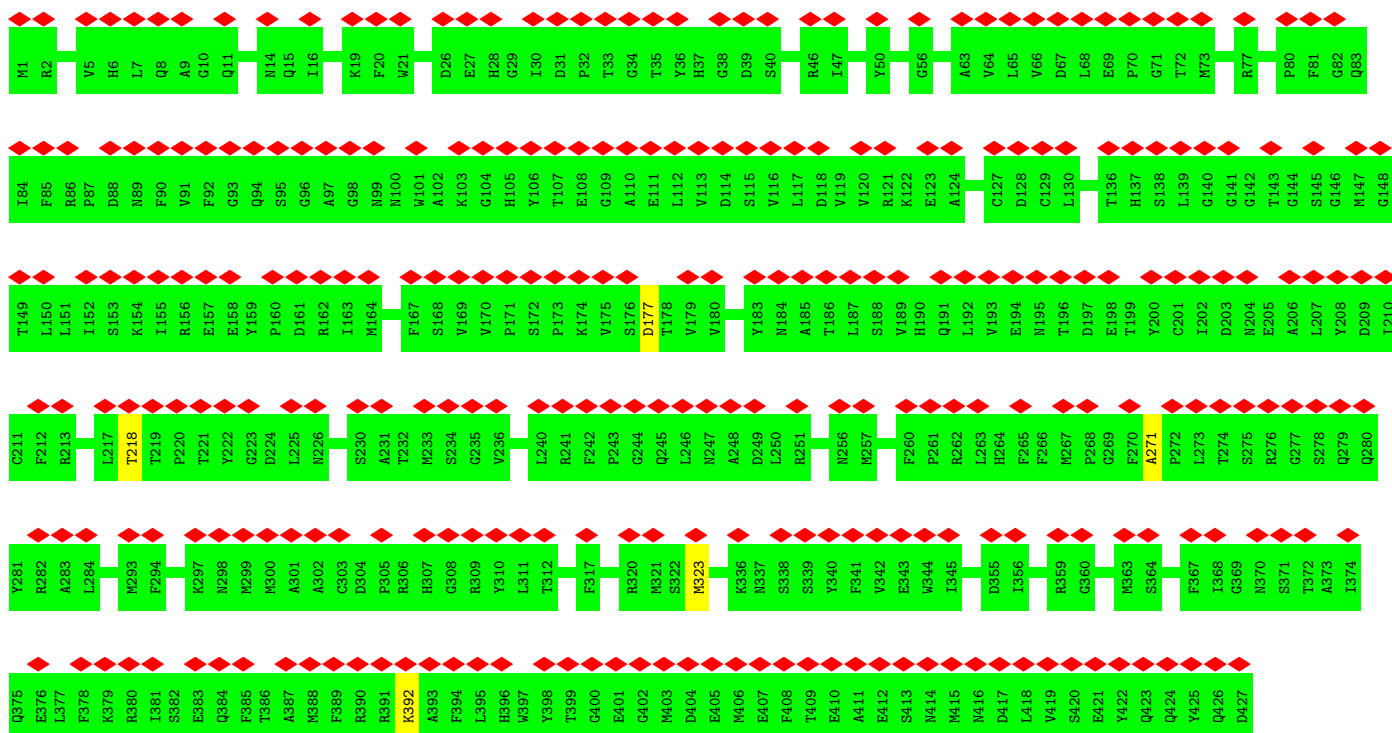


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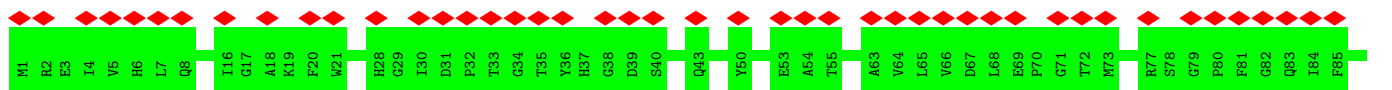


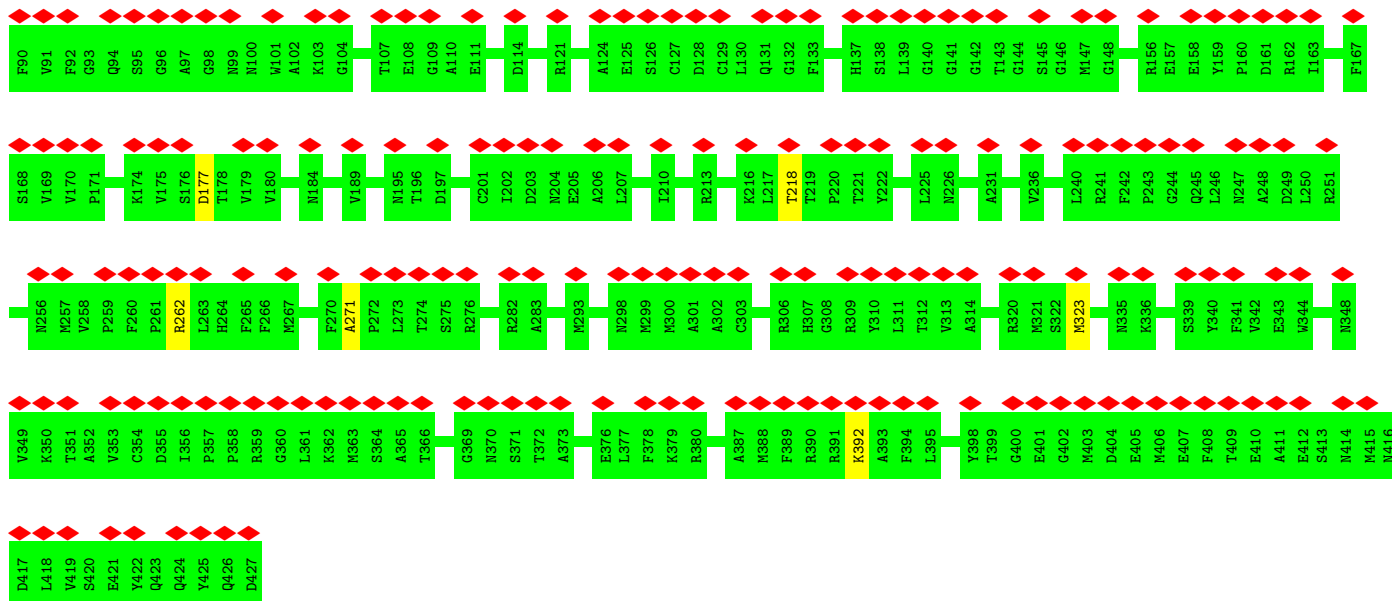


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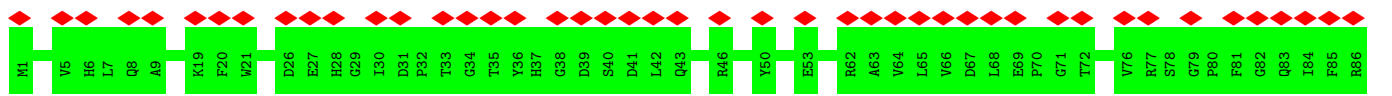
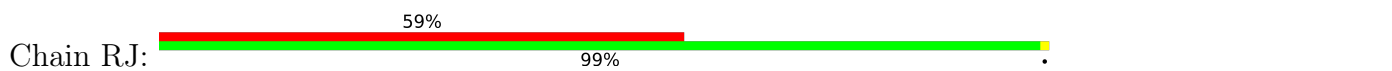


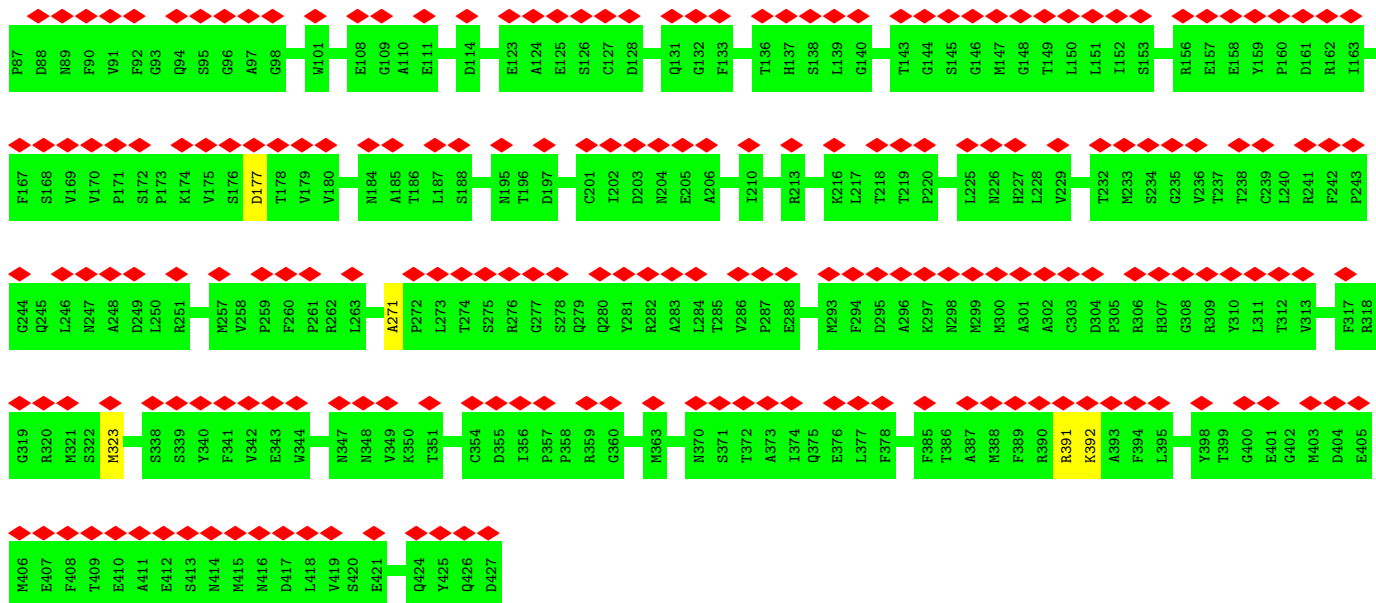


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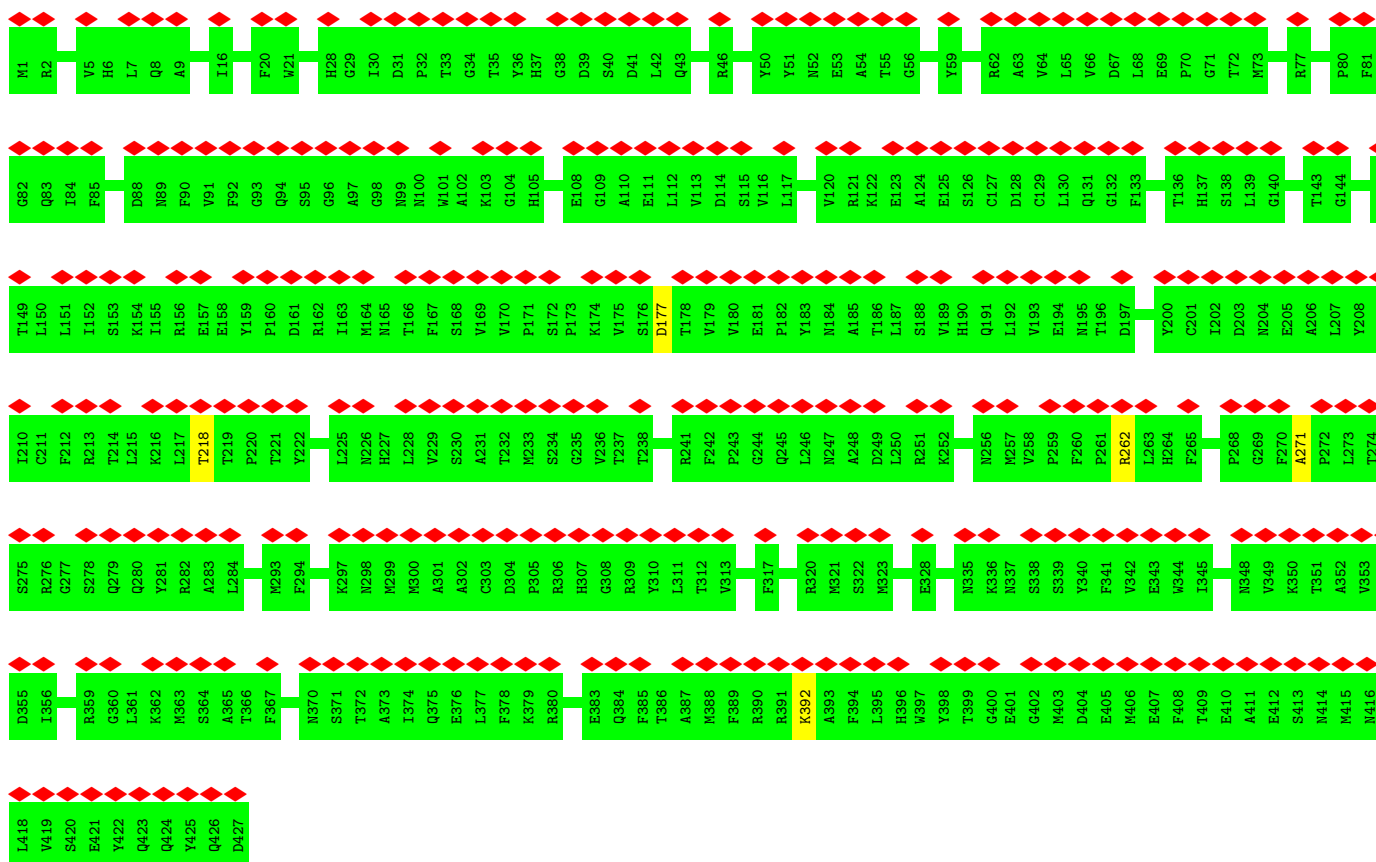
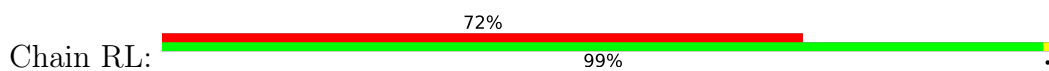


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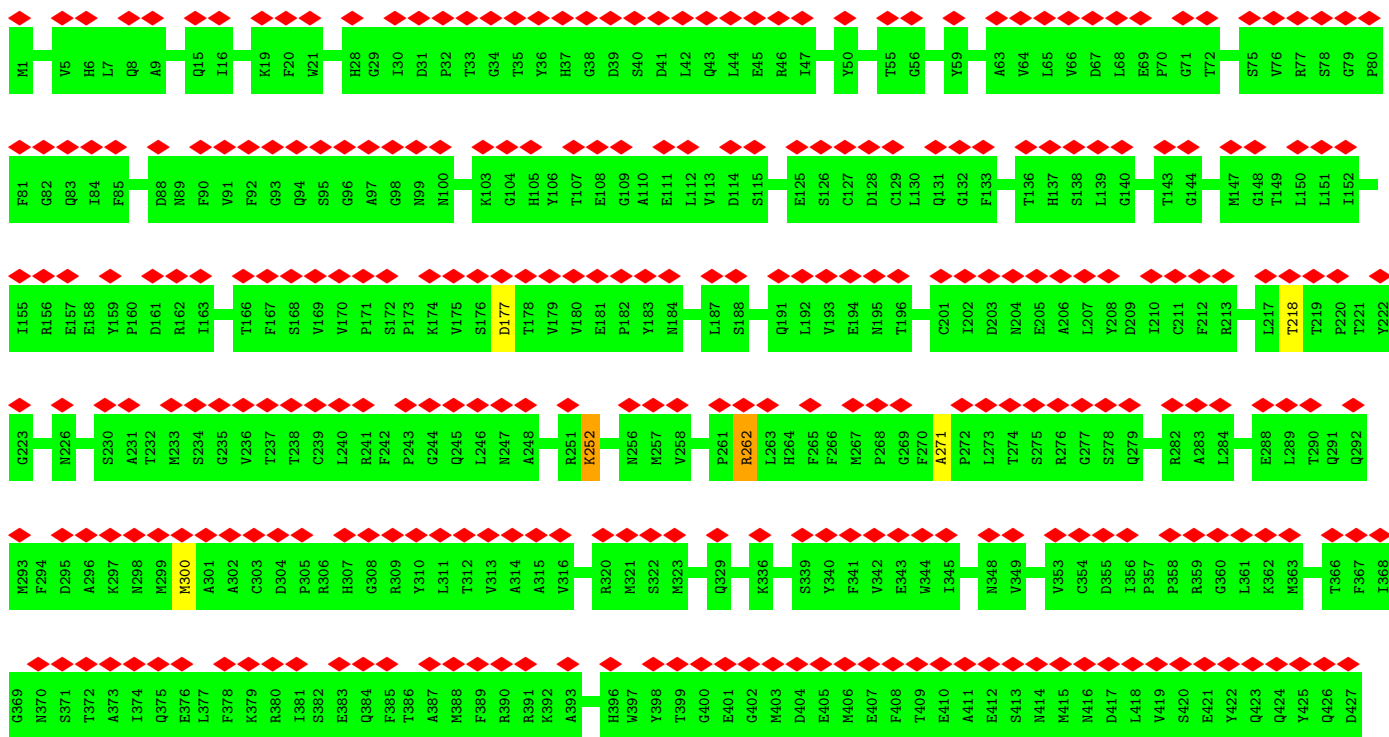


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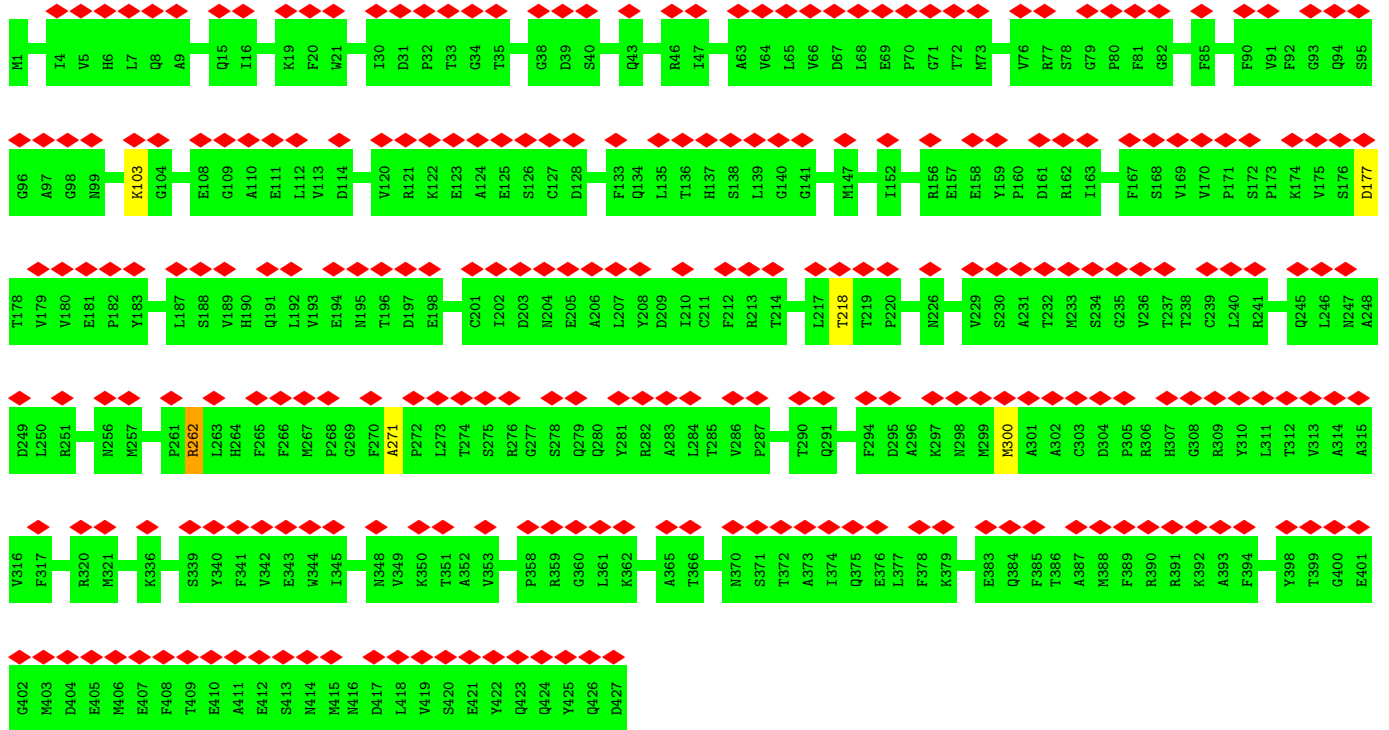


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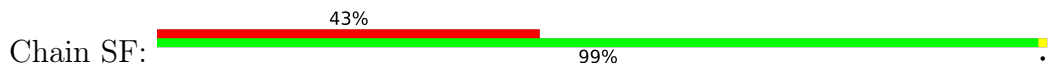


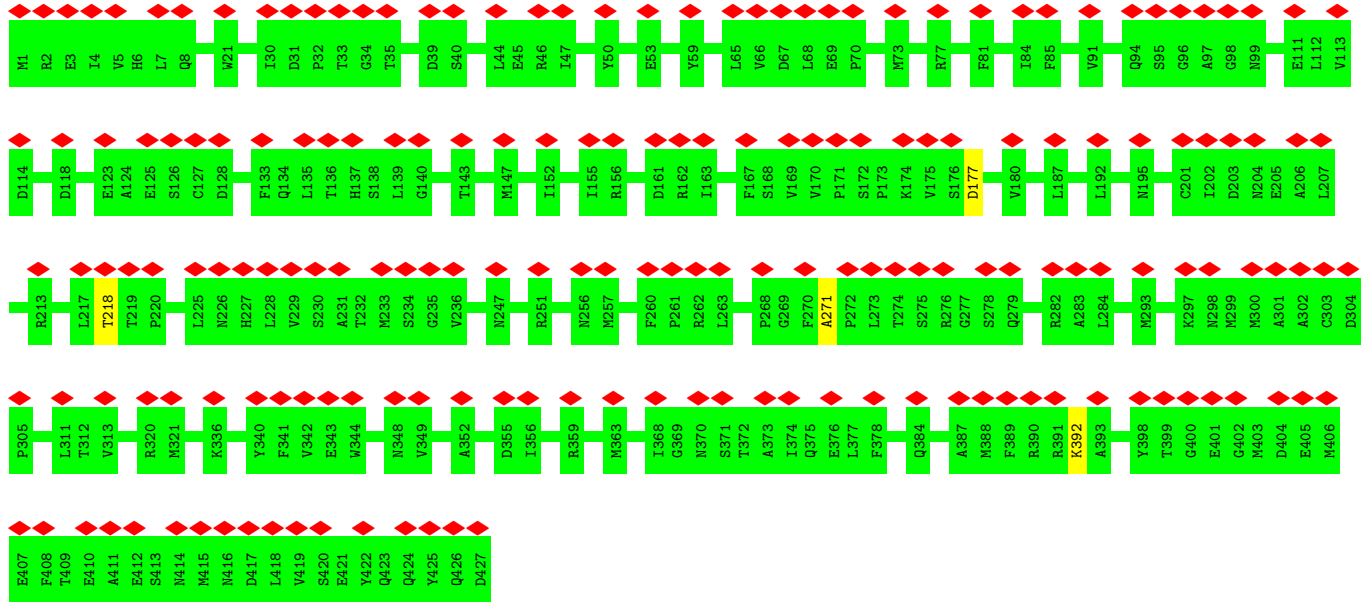


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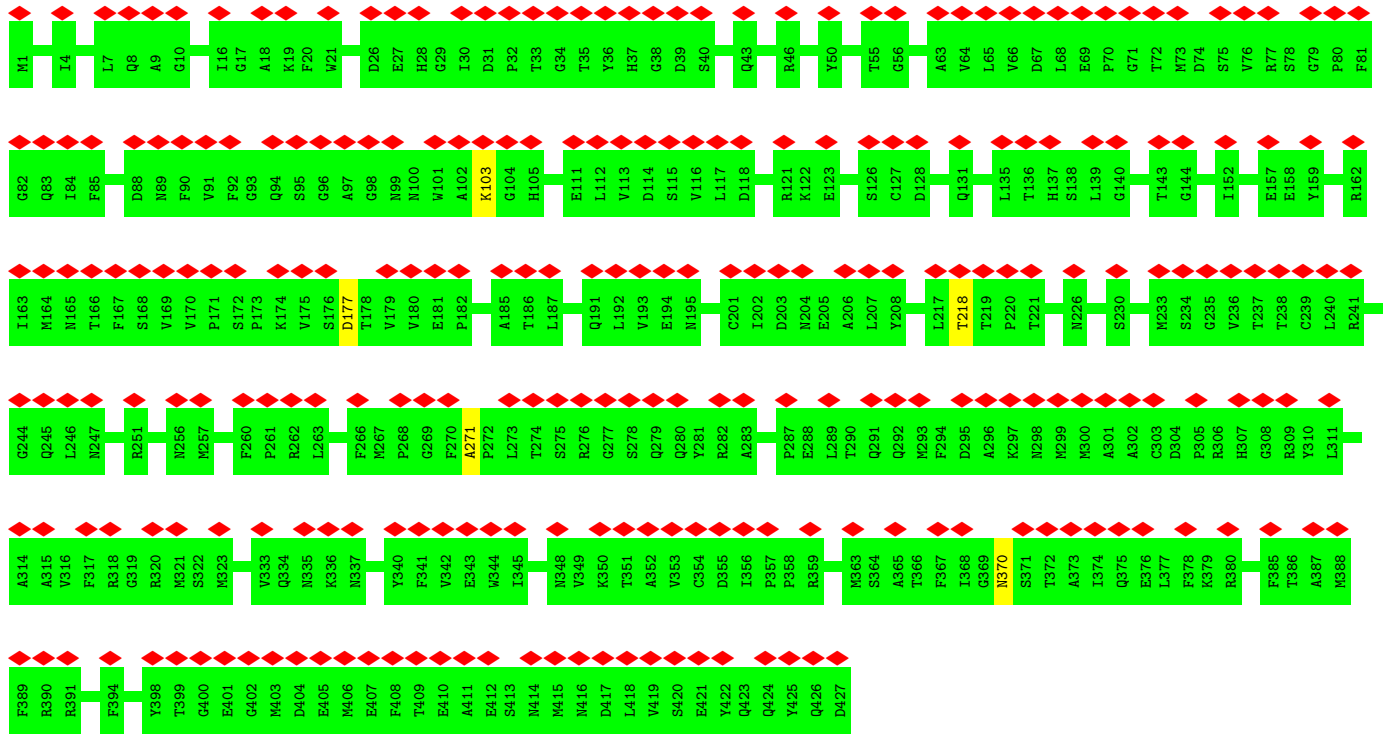


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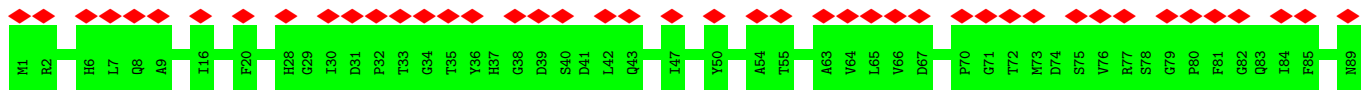


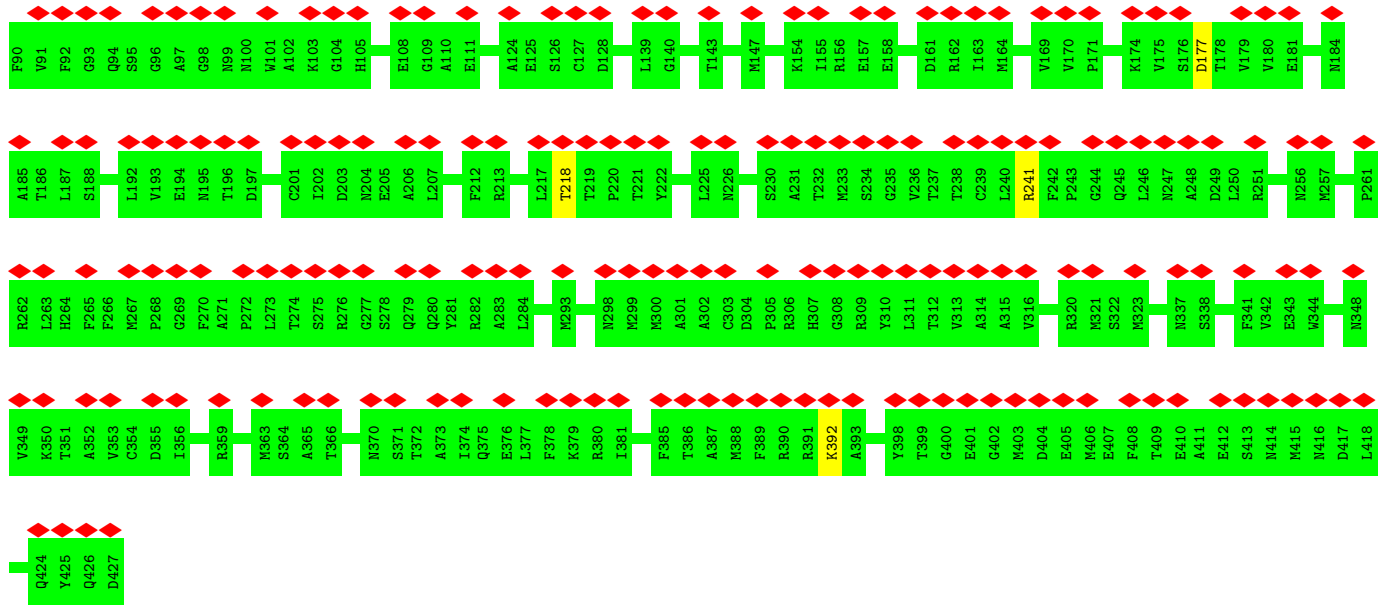


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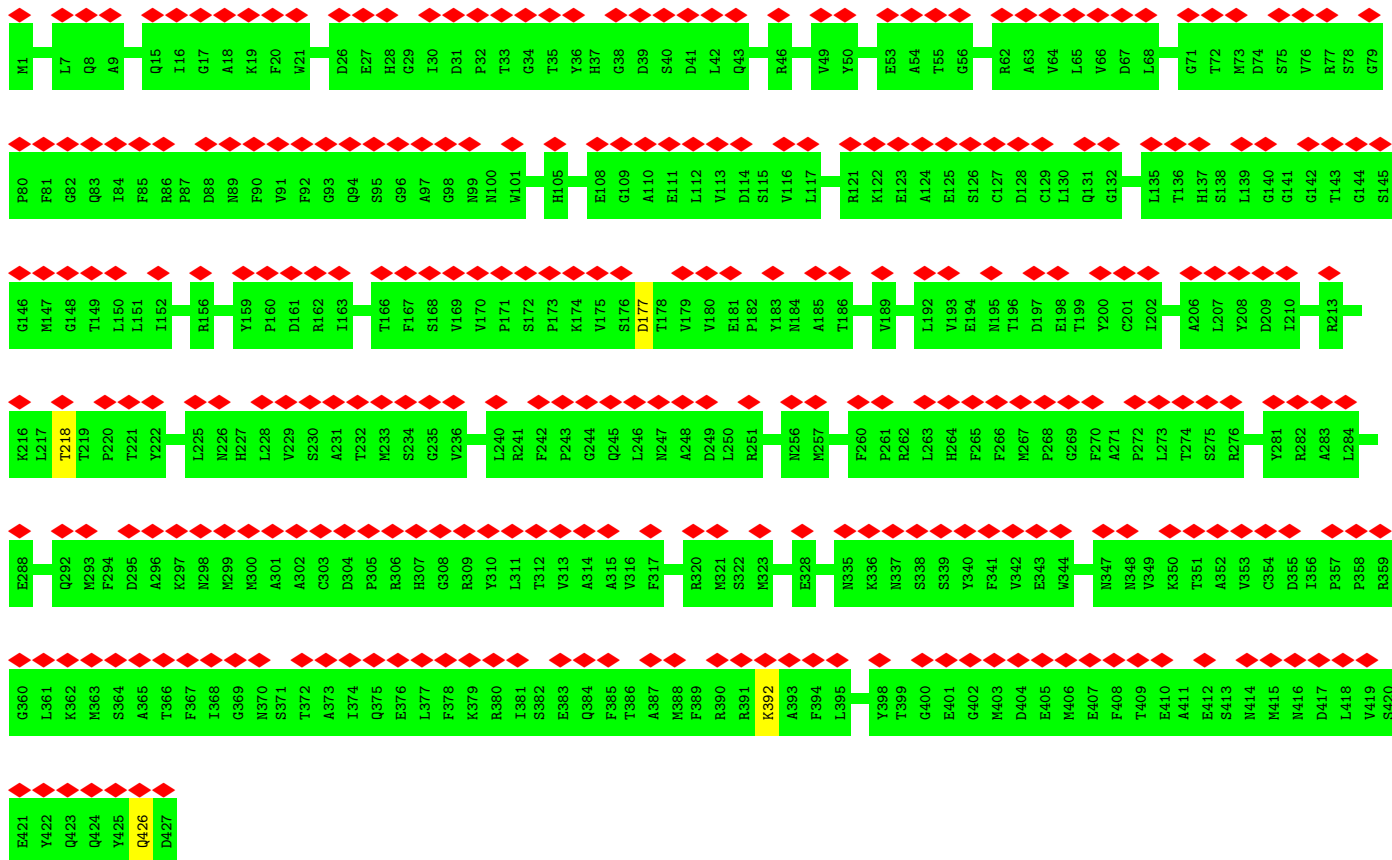


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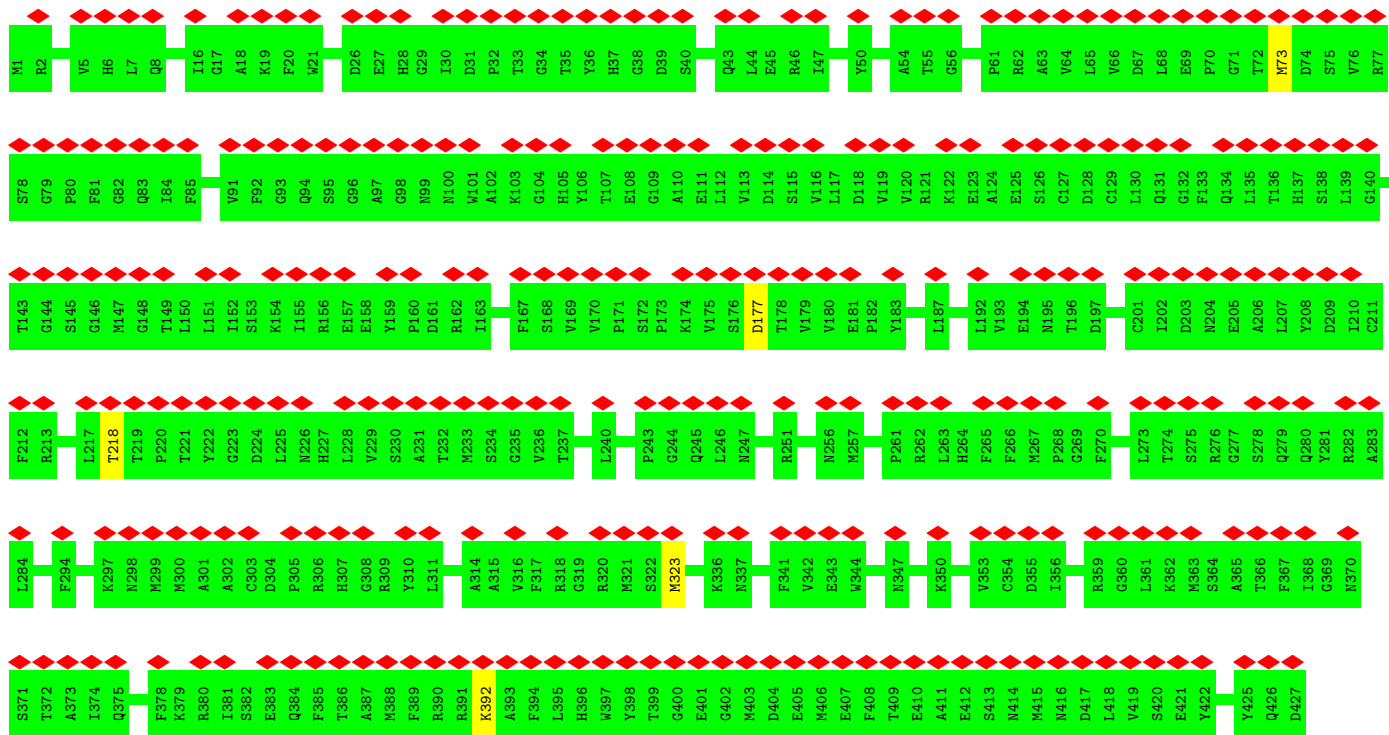


• Molecule 3: Tubulin beta-4B chain



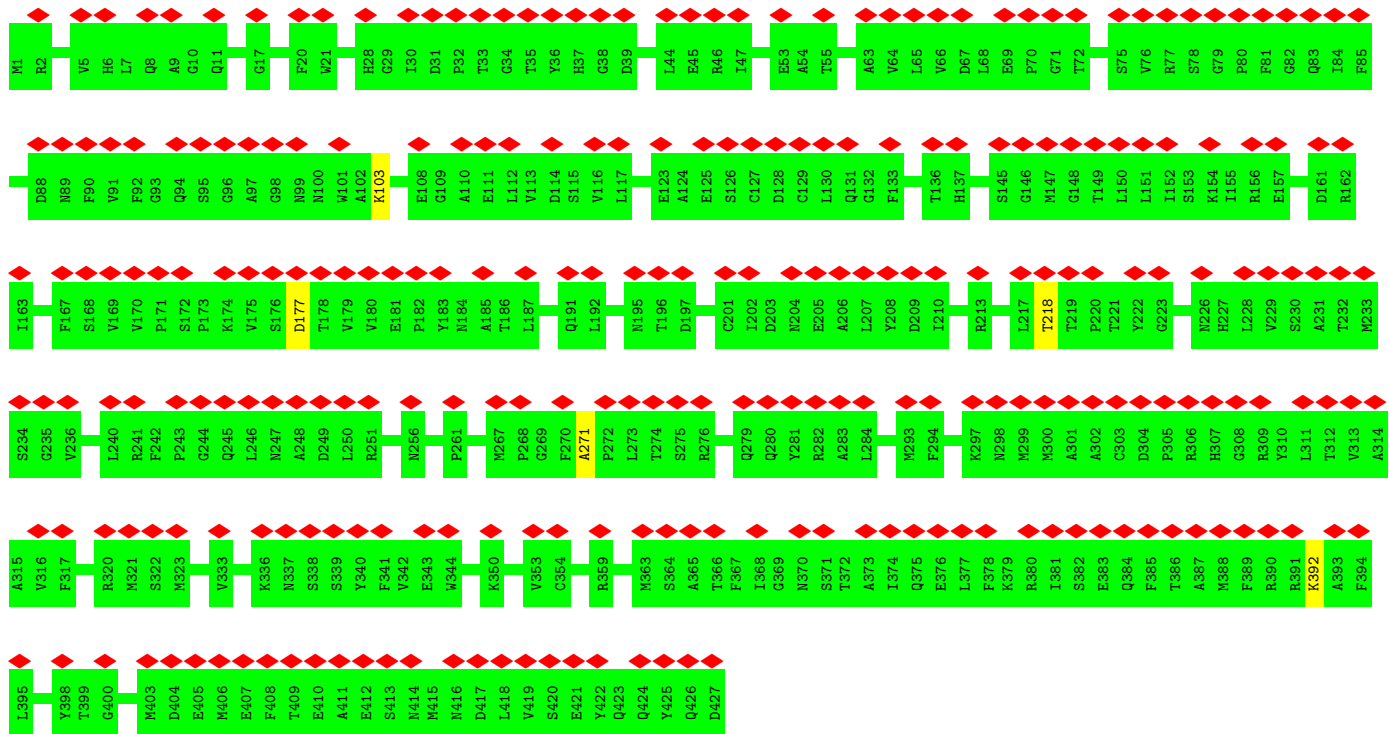
• Molecule 3: Tubulin beta-4B chain





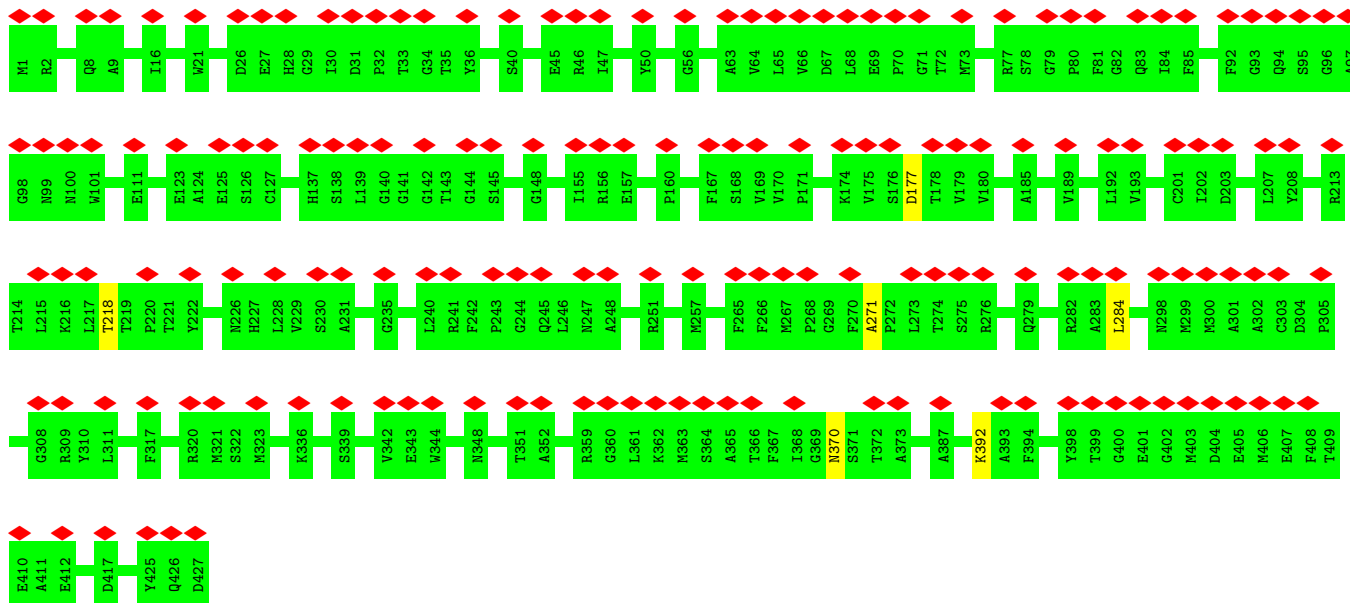
• Molecule 3: Tubulin beta-4B chain

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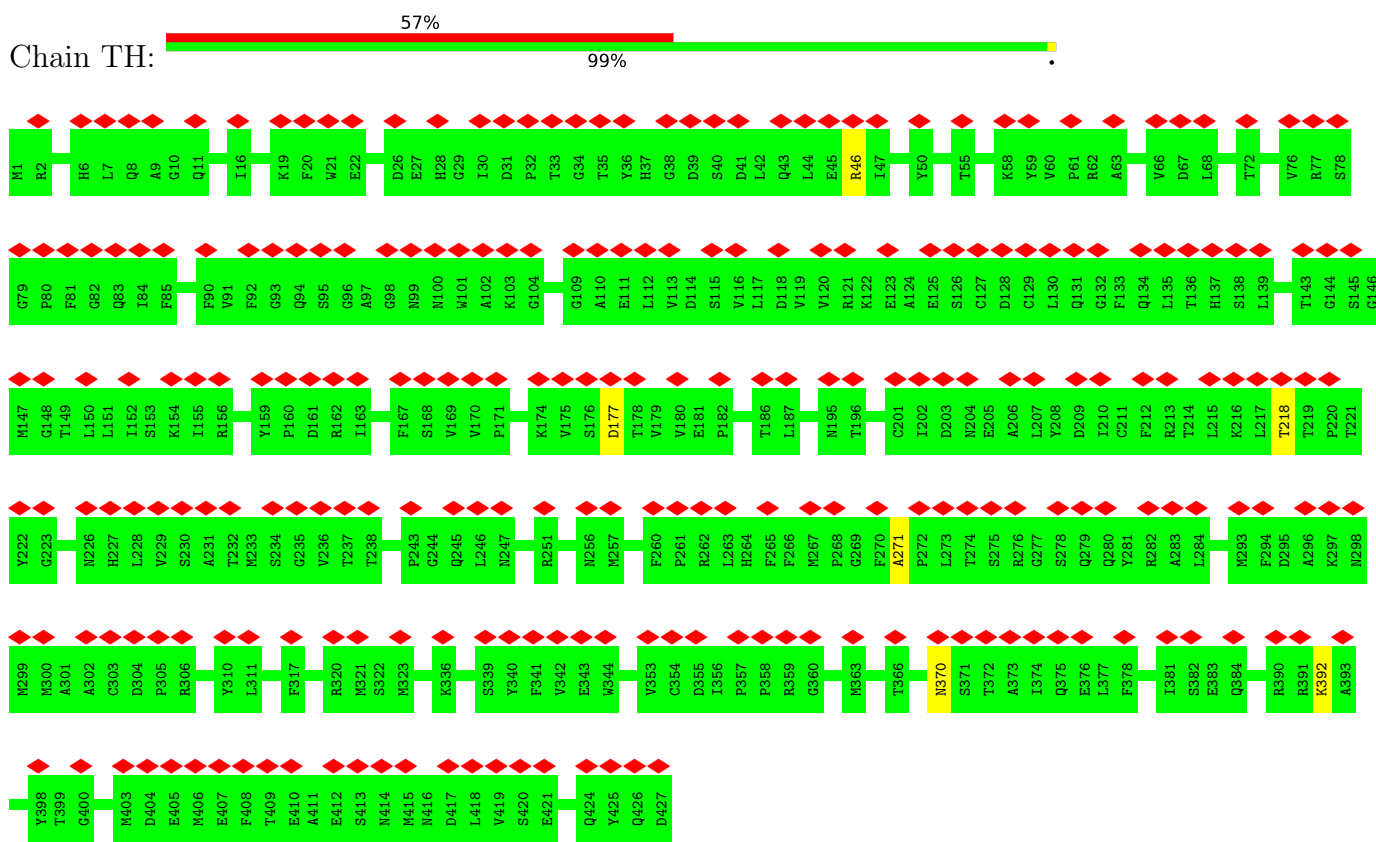


• Molecule 3: Tubulin beta-4B chain

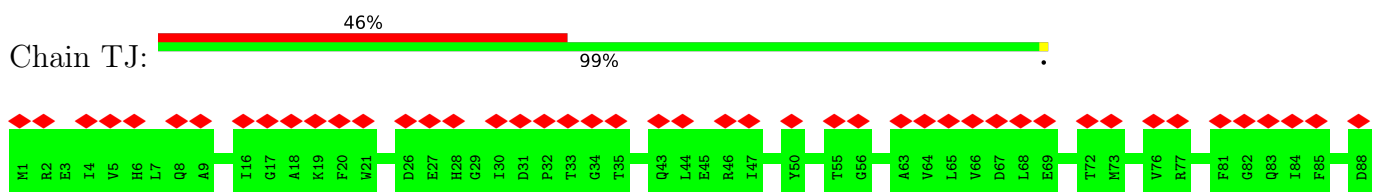
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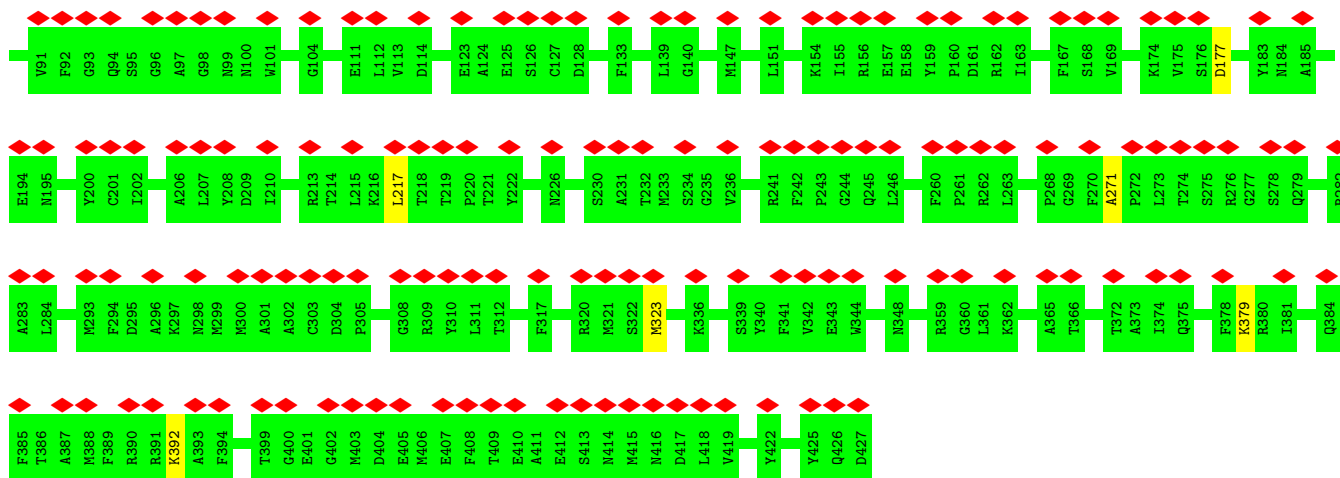


• Molecule 3: Tubulin beta-4B chain

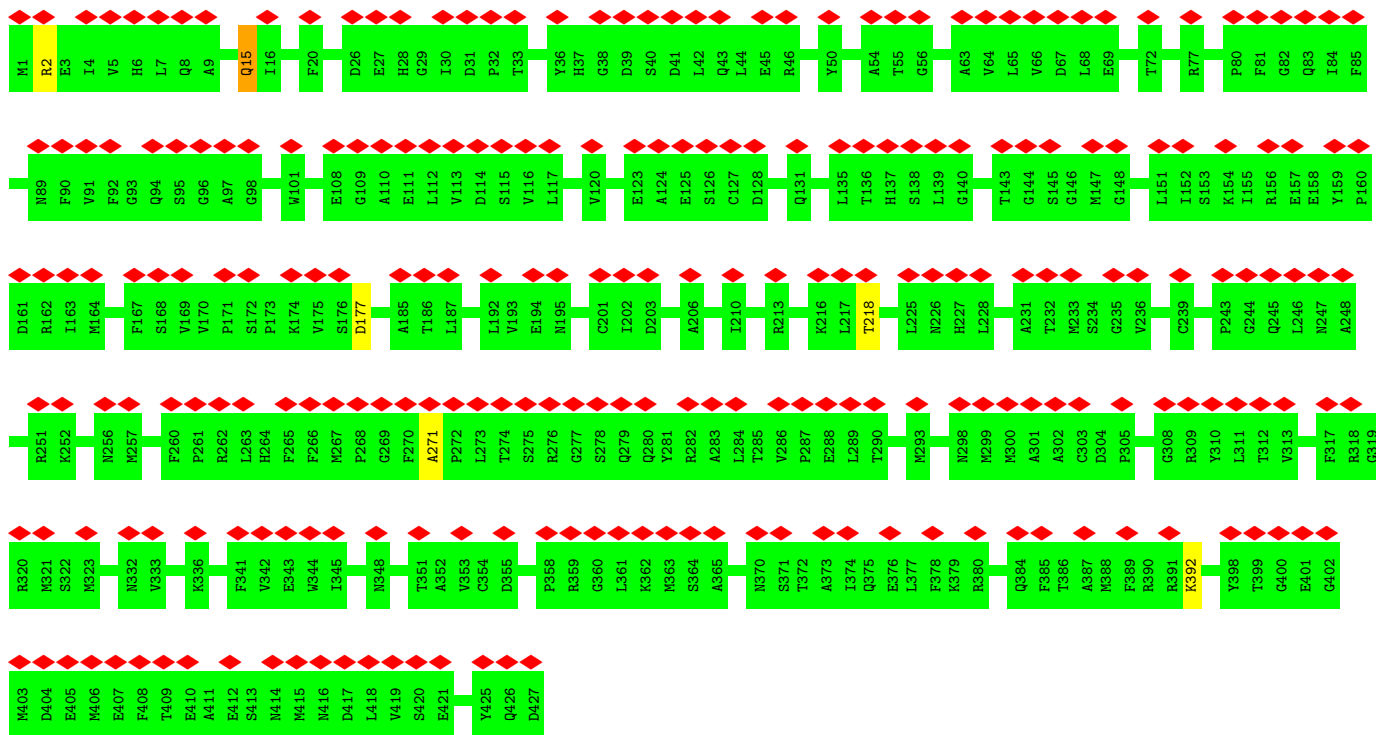


• Molecule 3: Tubulin beta-4B chain

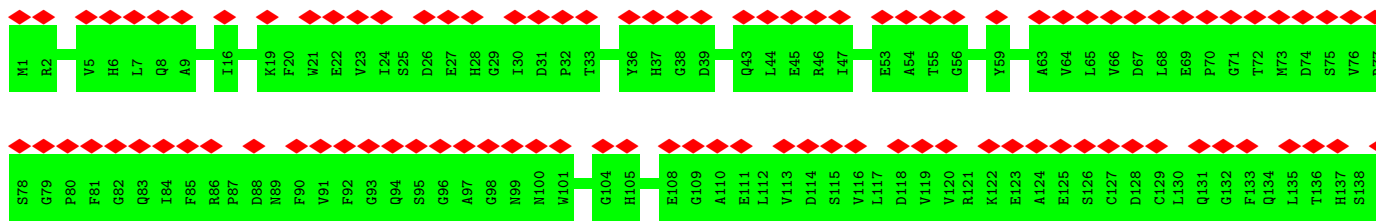


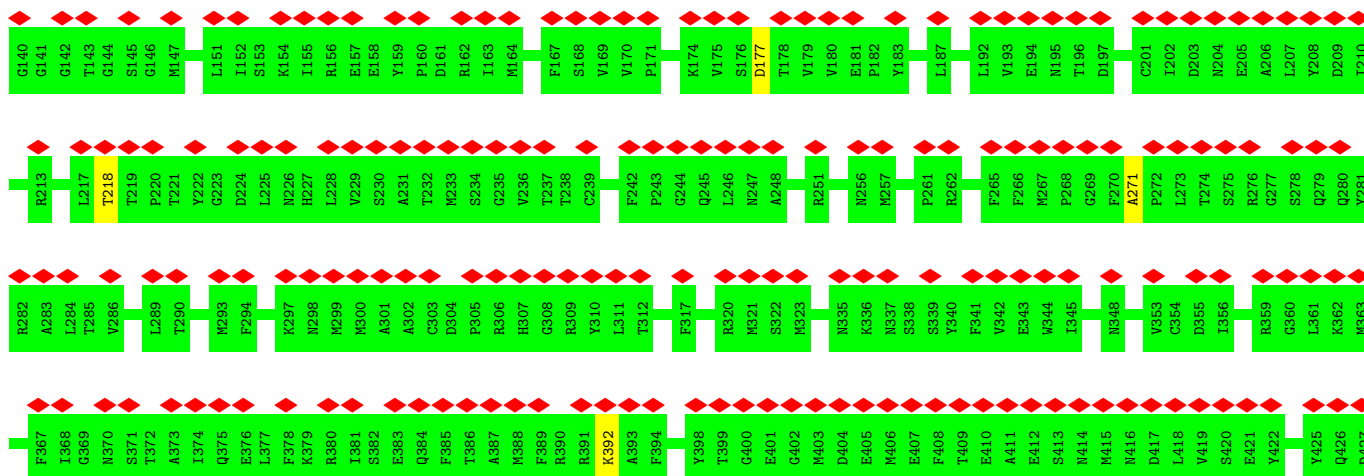


• Molecule 3: Tubulin beta-4B chain

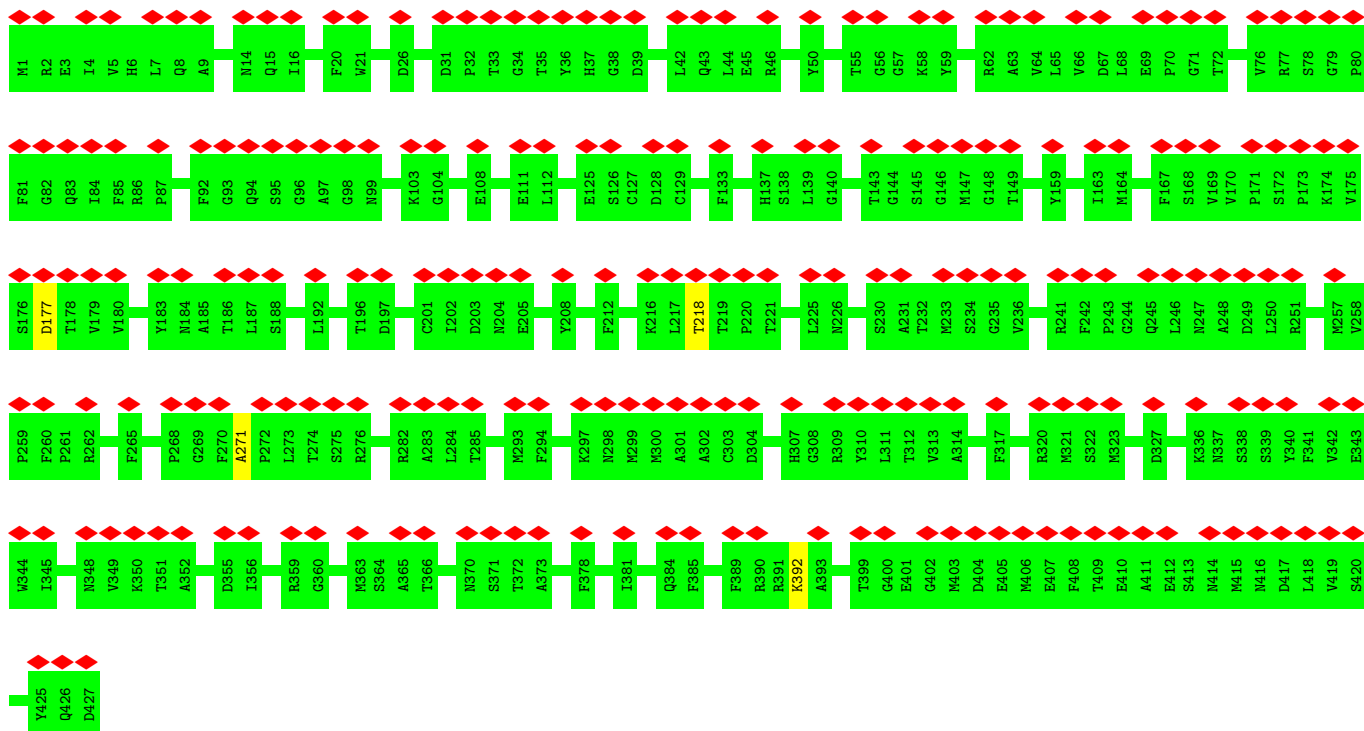


• Molecule 3: Tubulin beta-4B chain

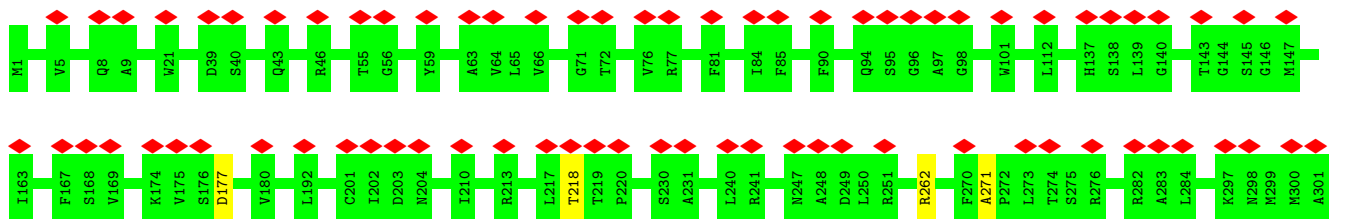


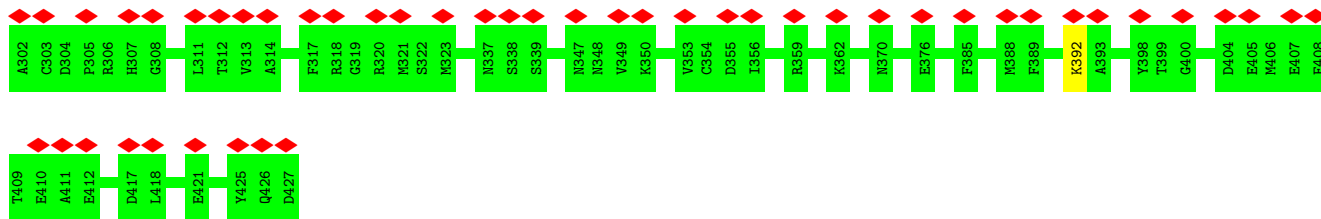


• Molecule 3: Tubulin beta-4B chain

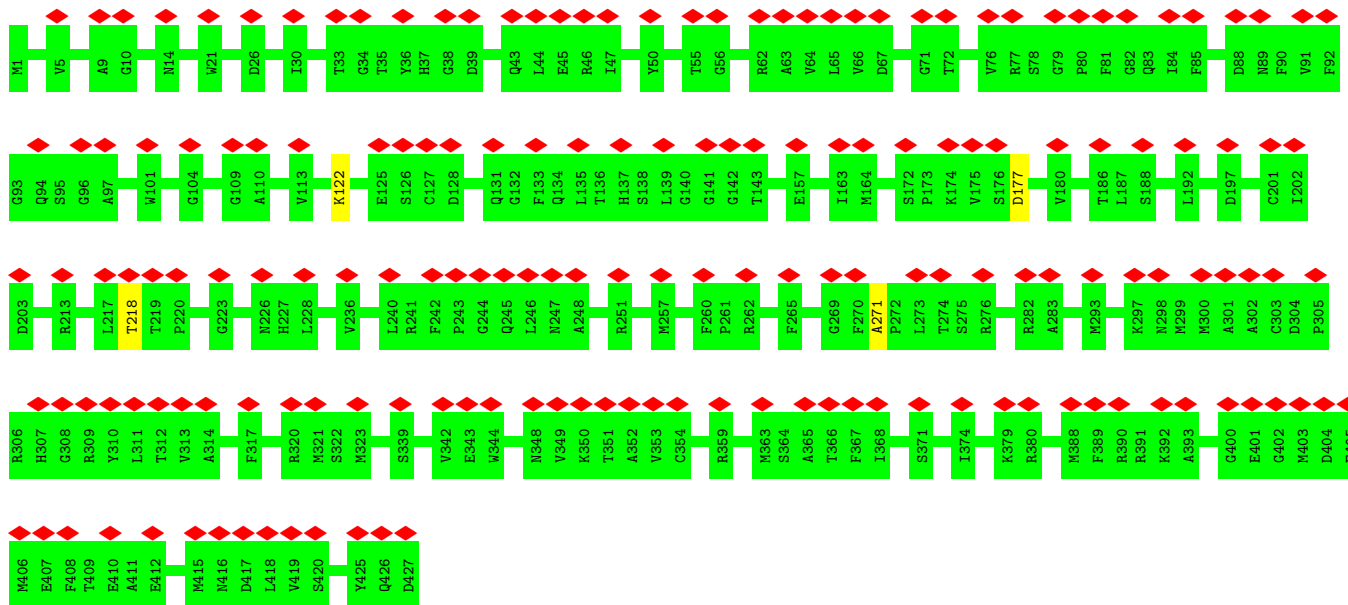
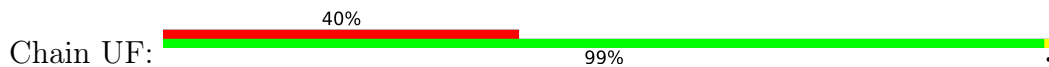


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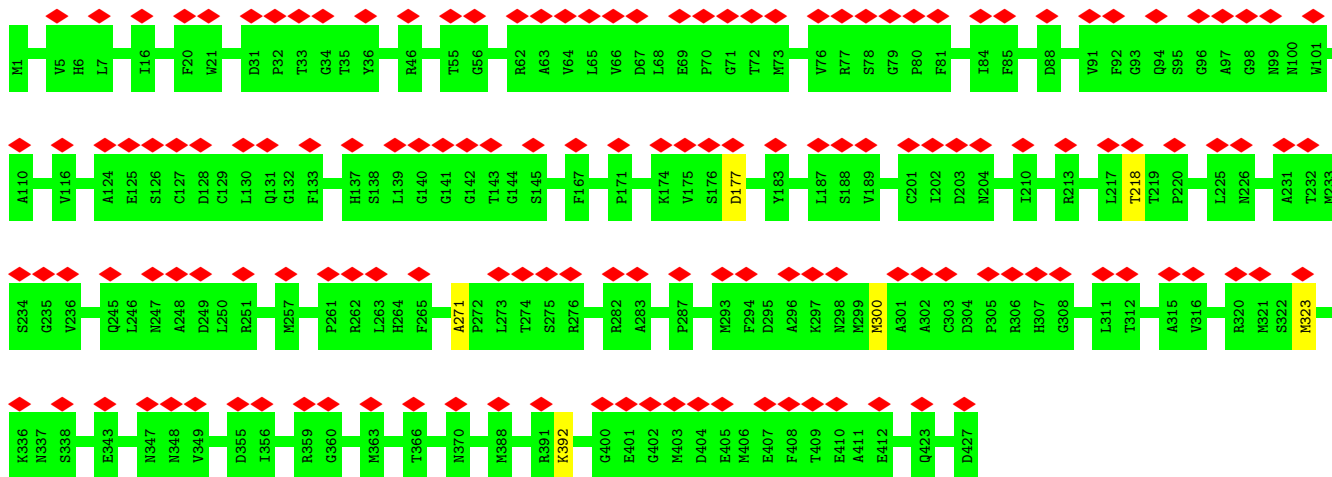




• Molecule 3: Tubulin beta-4B chain

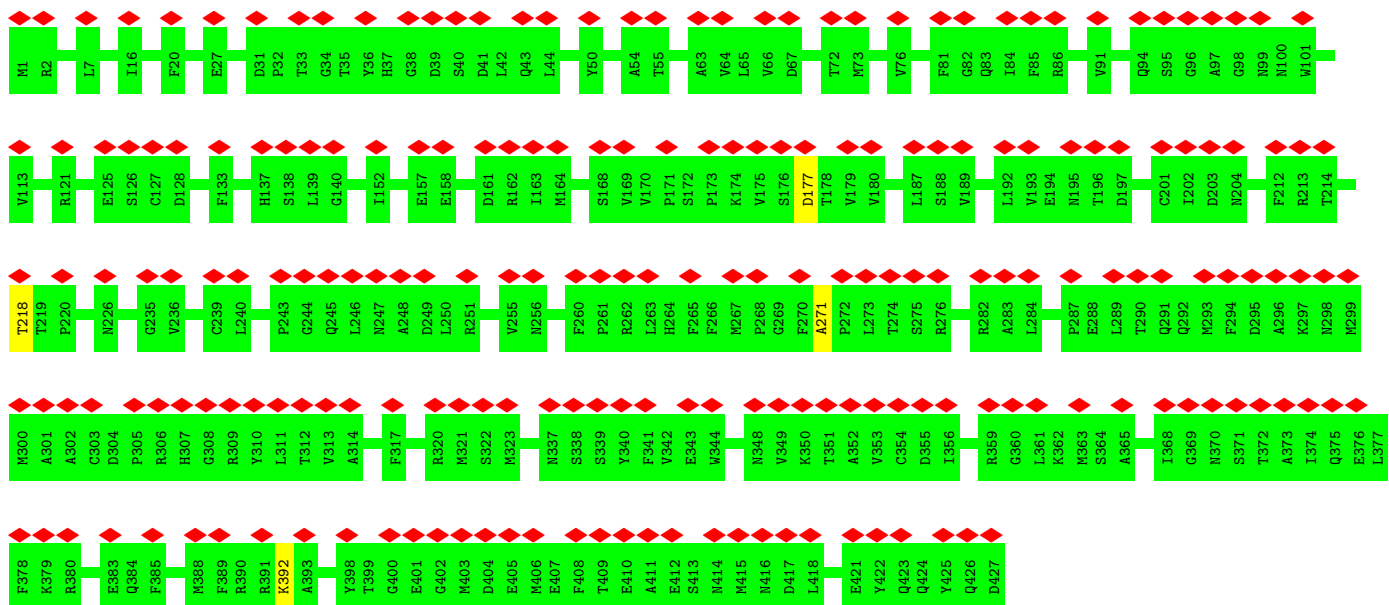


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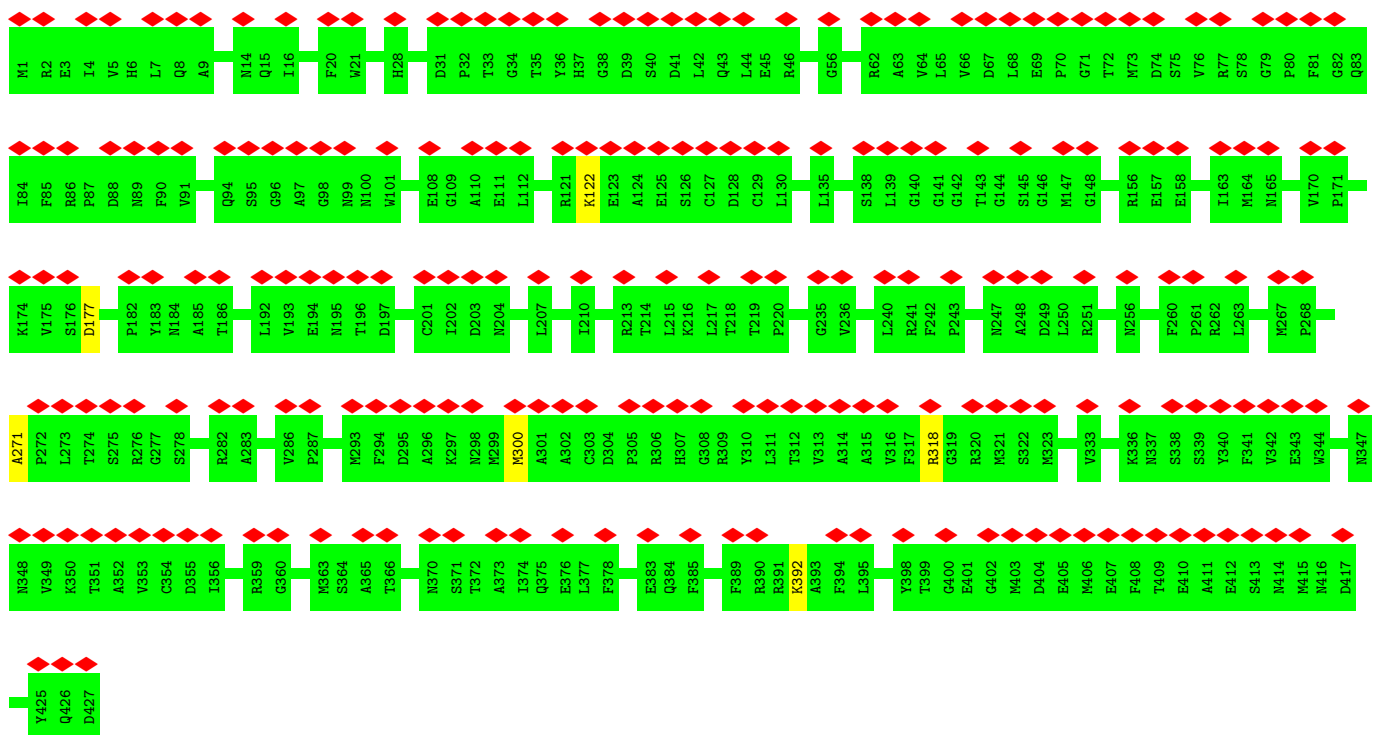


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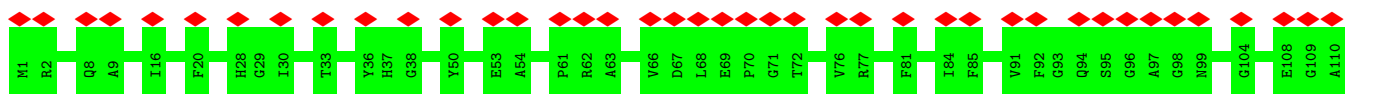


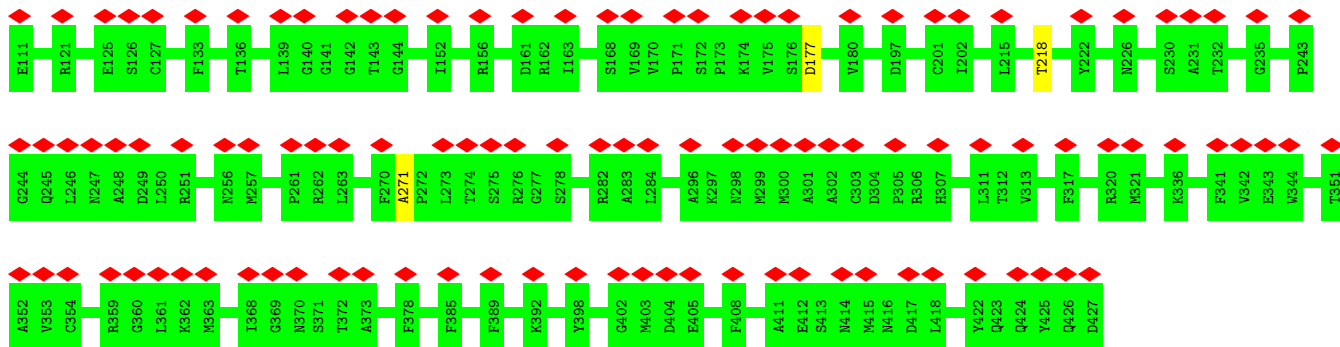


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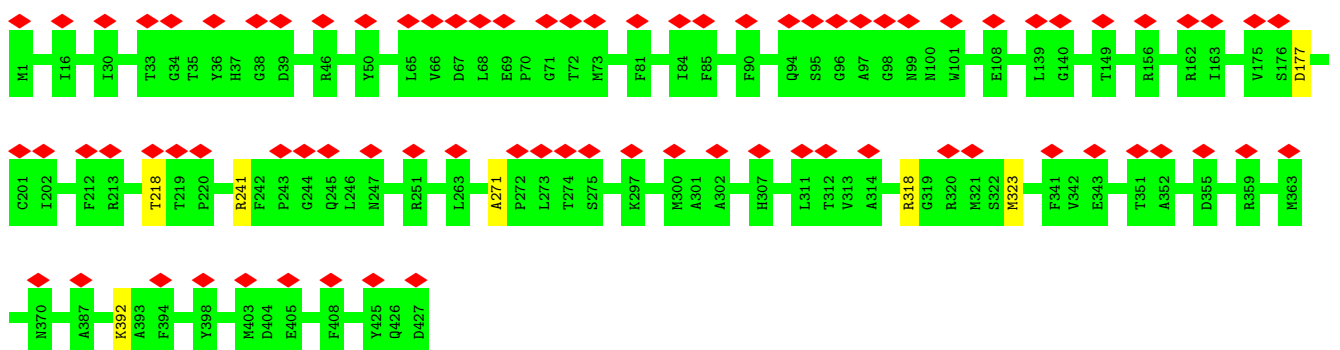


• Molecule 3: Tubulin beta-4B chain

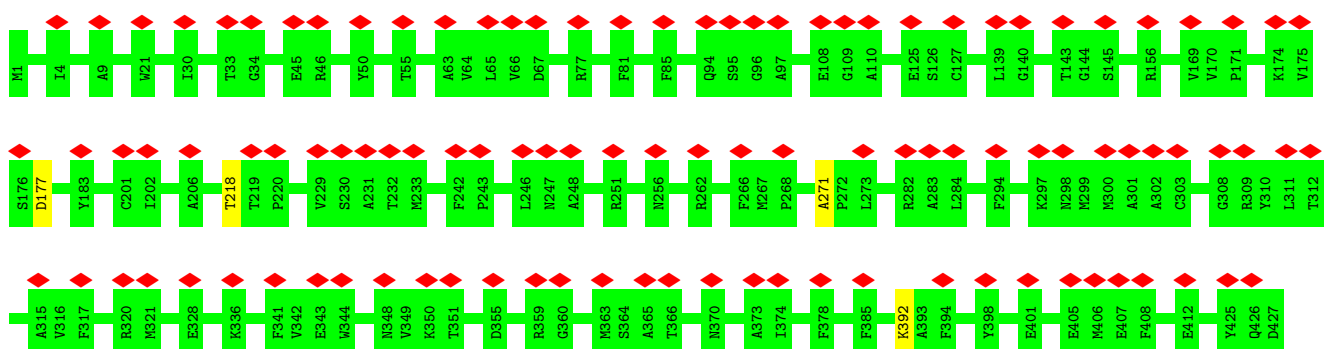




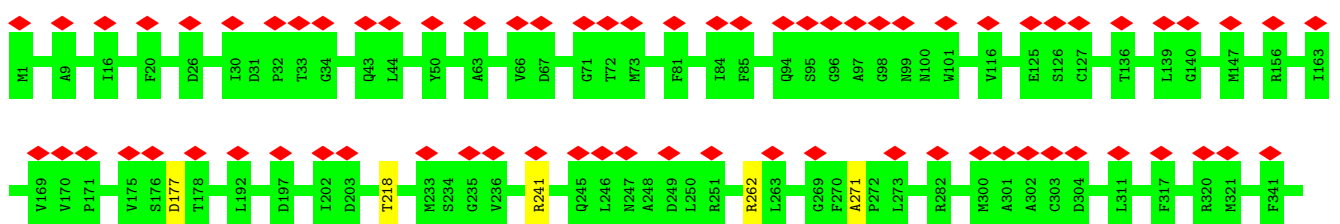
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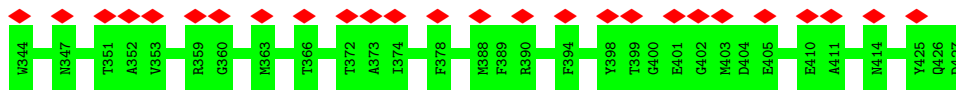


• Molecule 3: Tubulin beta-4B chain

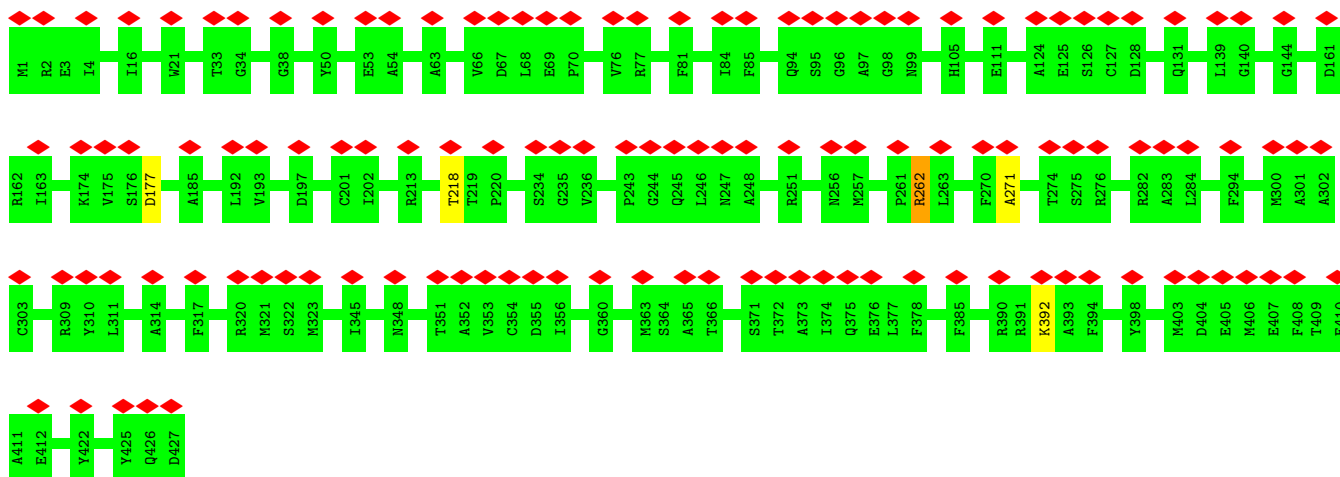


• Molecule 3: Tubulin beta-4B chain

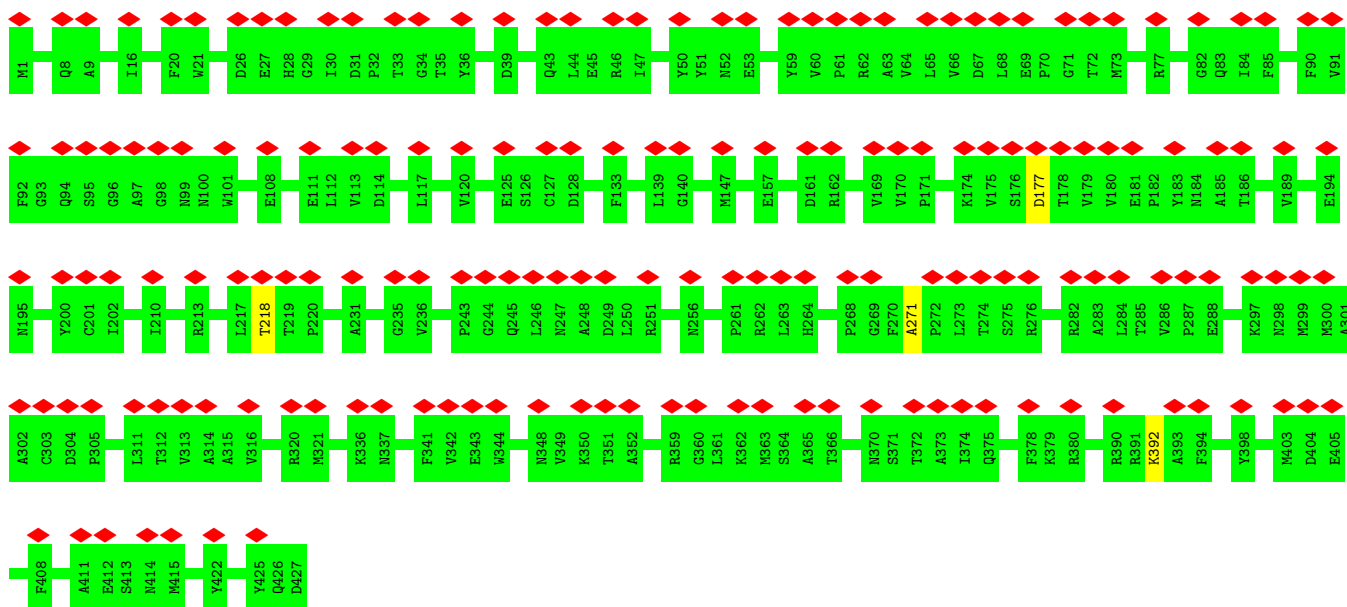
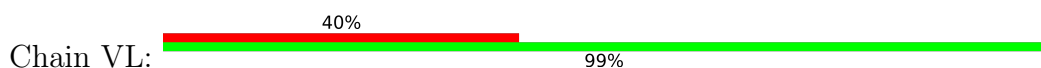




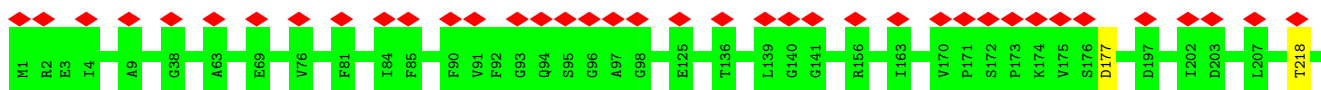
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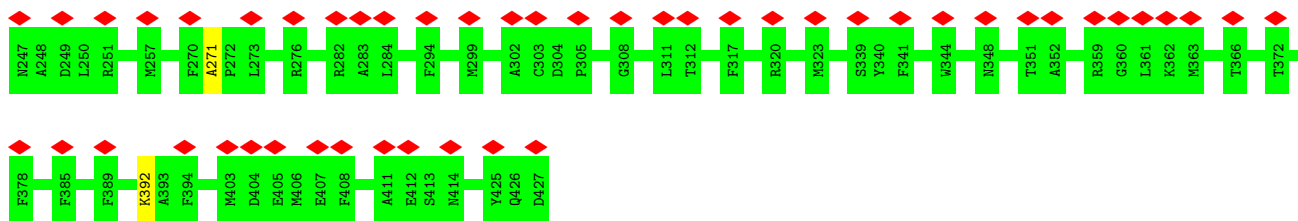


• Molecule 3: Tubulin beta-4B chain

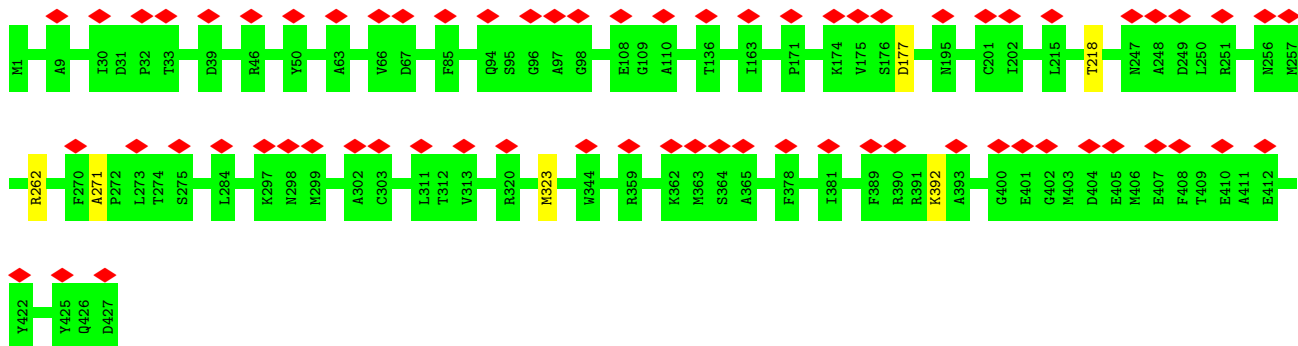


• Molecule 3: Tubulin beta-4B chain

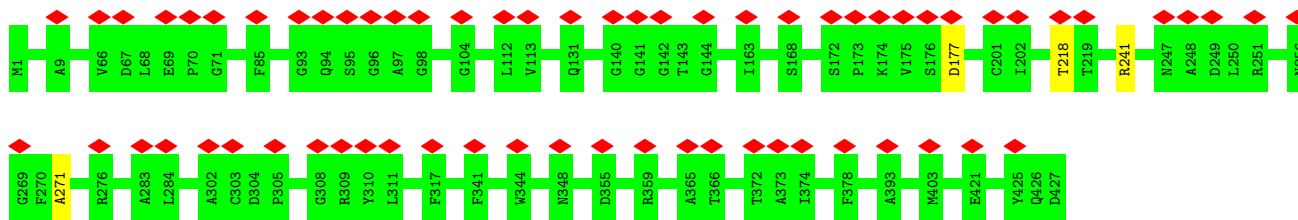




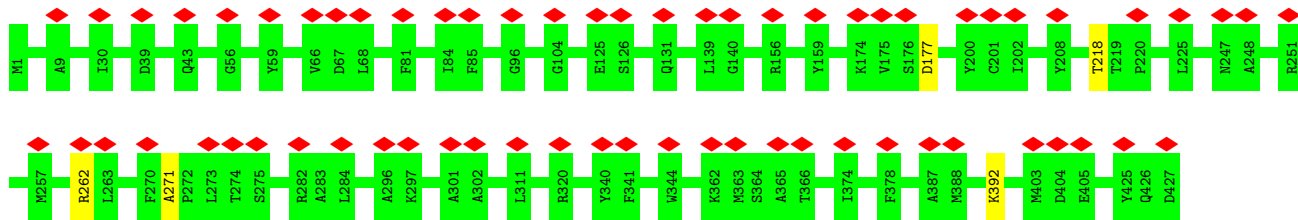
• Molecule 3: Tubulin beta-4B chain



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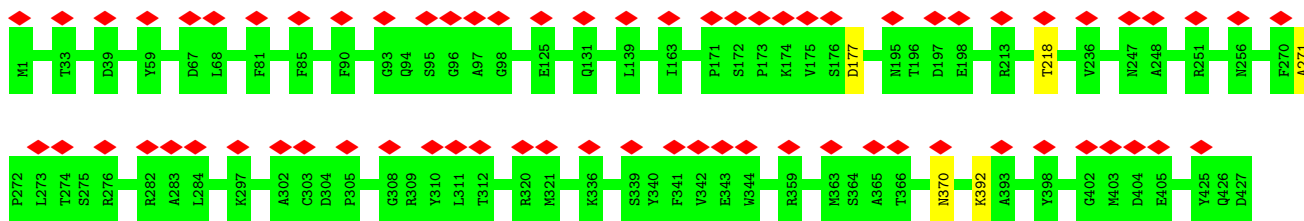


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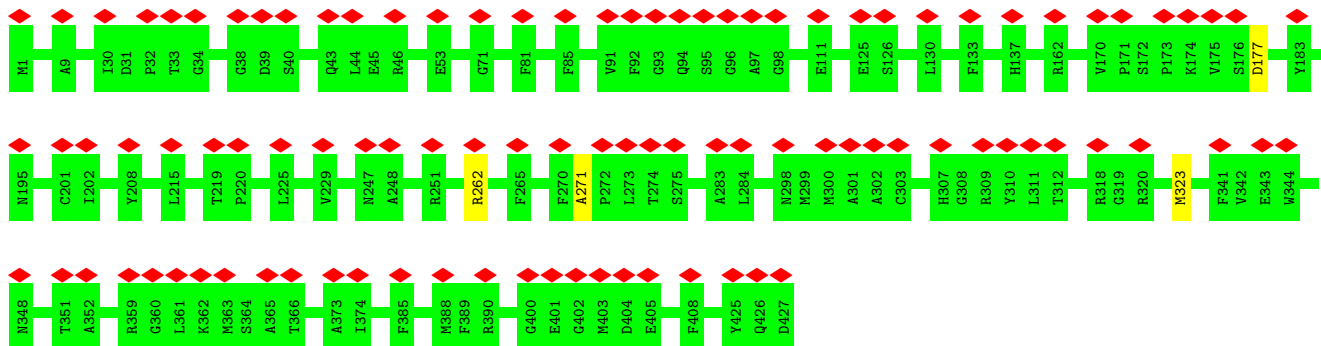


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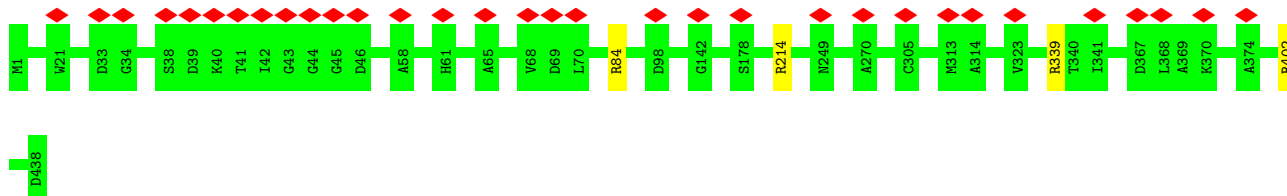




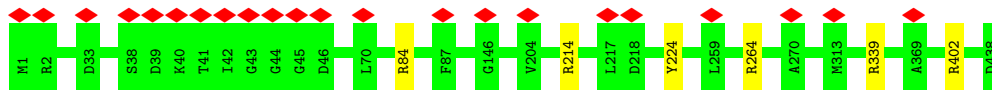
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• Molecule 4: Detyrosinated tubulin alpha-3 chain

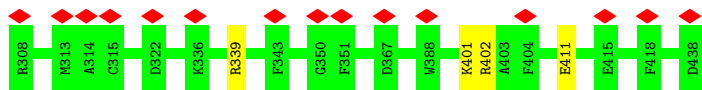


• Molecule 4: Detyrosinated tubulin alpha-3 chain

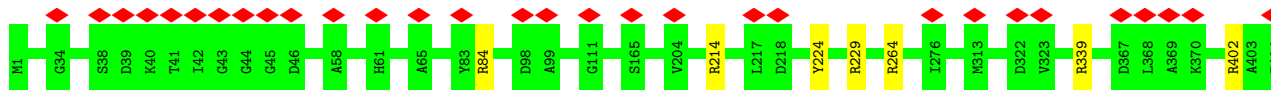


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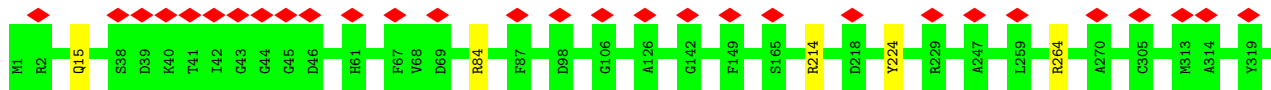




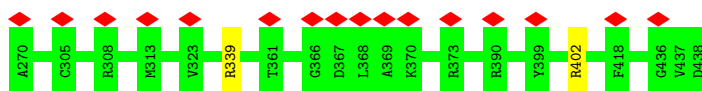
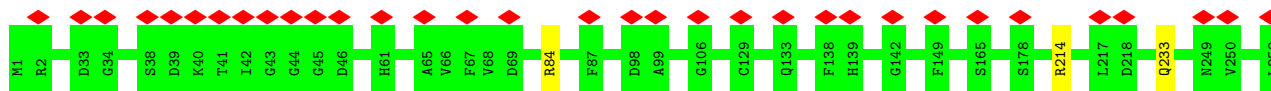
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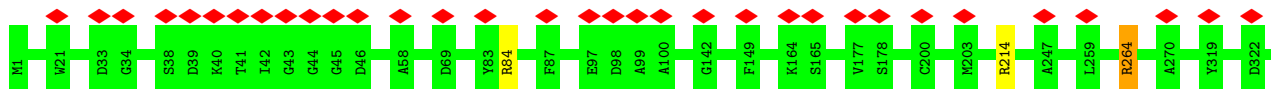
• Molecule 4: Detyrosinated tubulin alpha-3 chain



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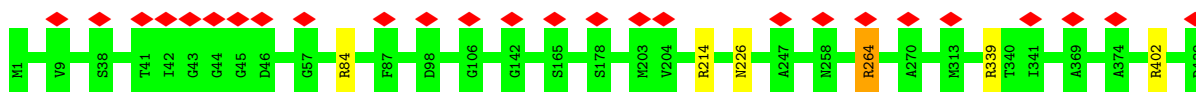


• Molecule 4: Detyrosinated tubulin alpha-3 chain



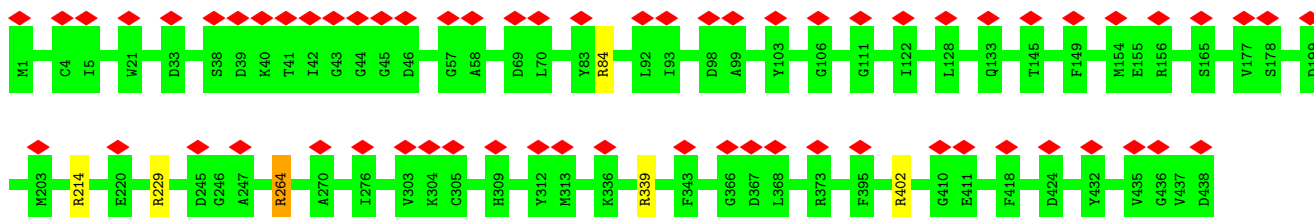
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BE: 



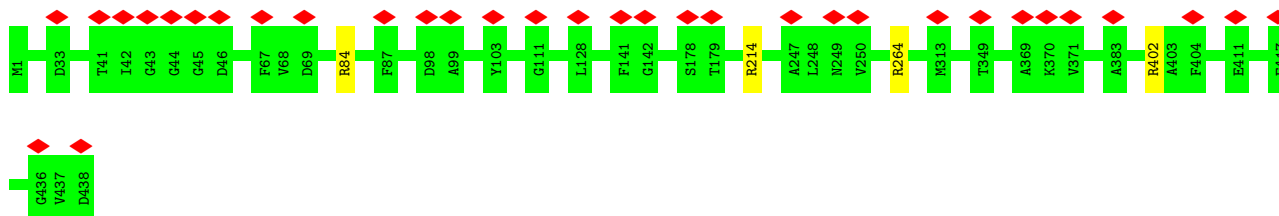
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Chain BG: 



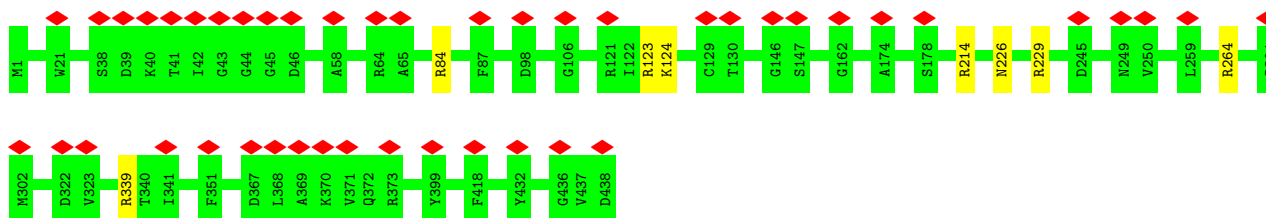
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BI: 



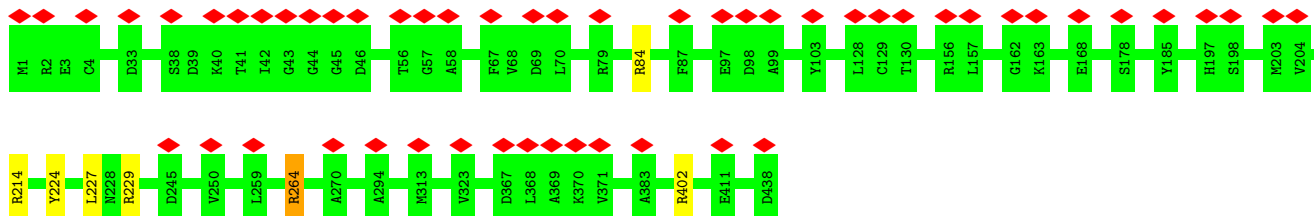
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BK: 

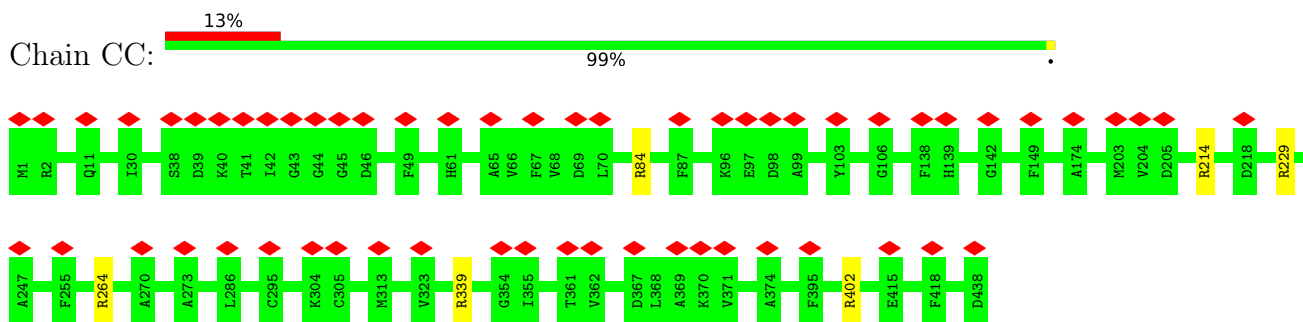


- Molecule 4: Detyrosinated tubulin alpha-3 chain

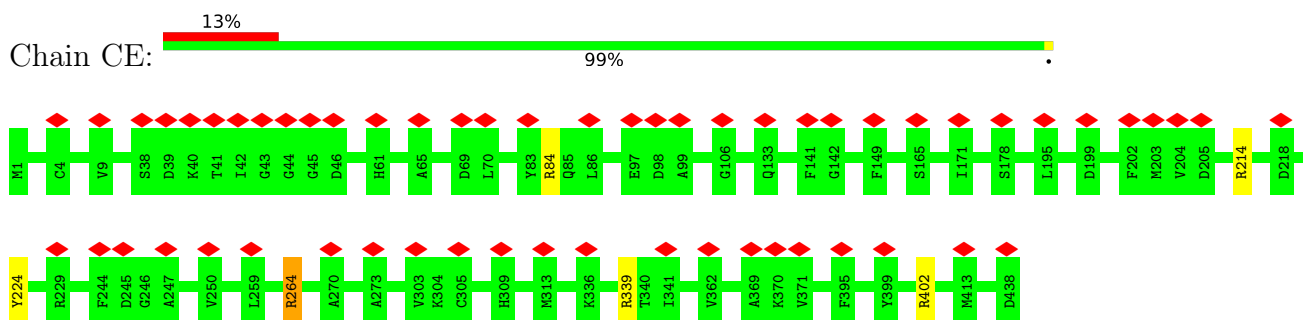
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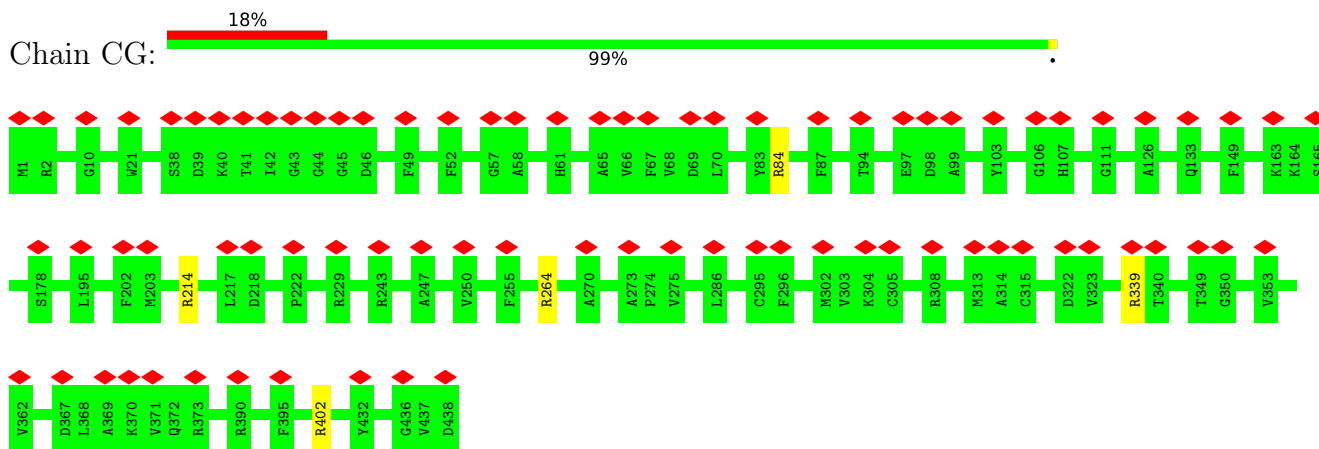
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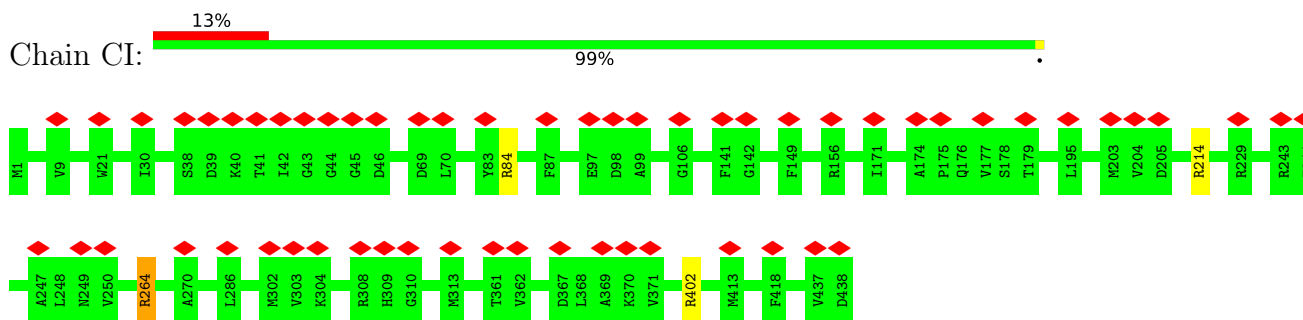
- Molecule 4: Detyrosinated tubulin alpha-3 chain



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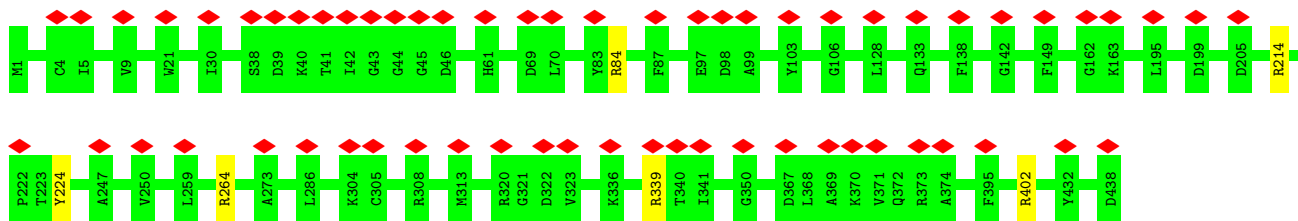


- Molecule 4: Detyrosinated tubulin alpha-3 chain



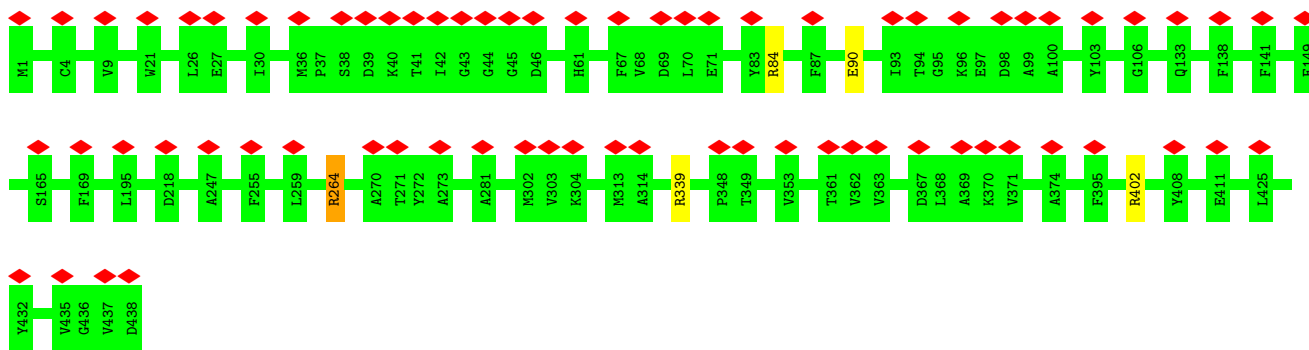
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CK:  14% 99%



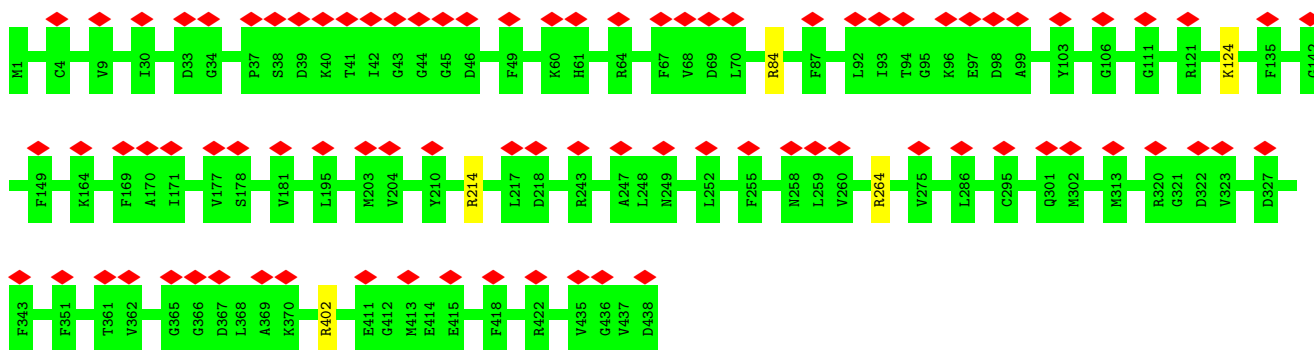
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CM:  16% 99%



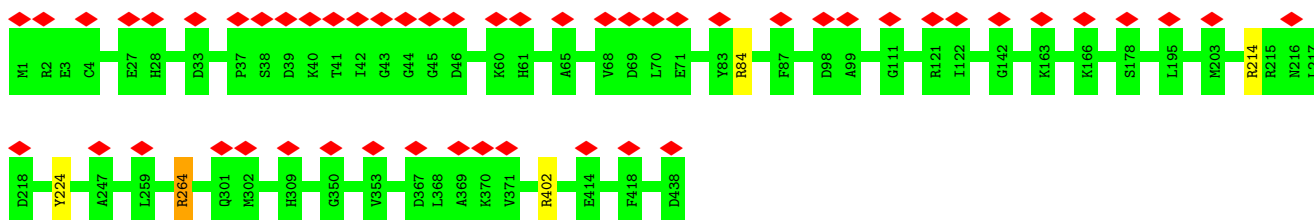
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain DA:  20% 99%

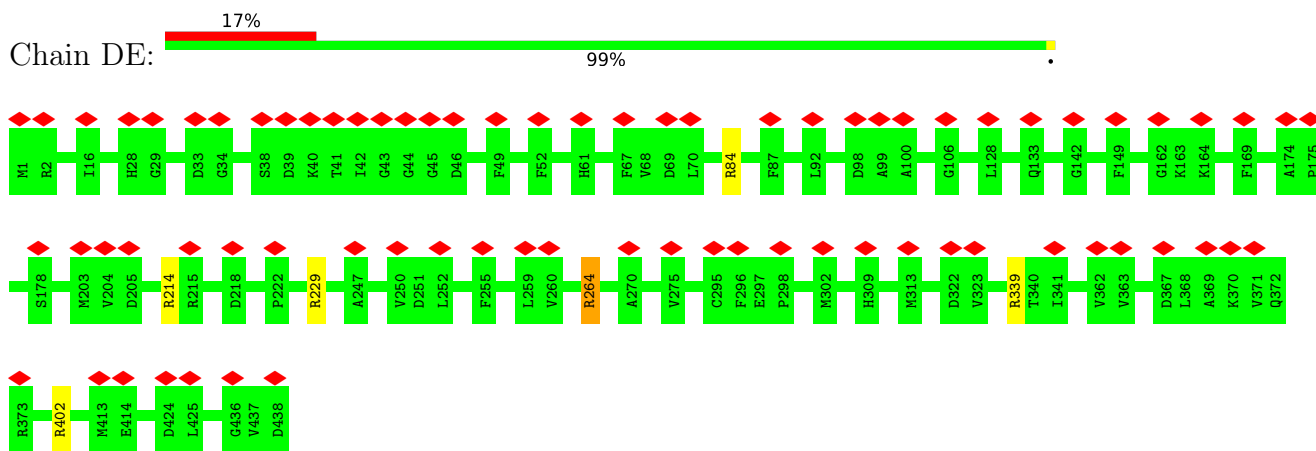


• Molecule 4: Detyrosinated tubulin alpha-3 chain

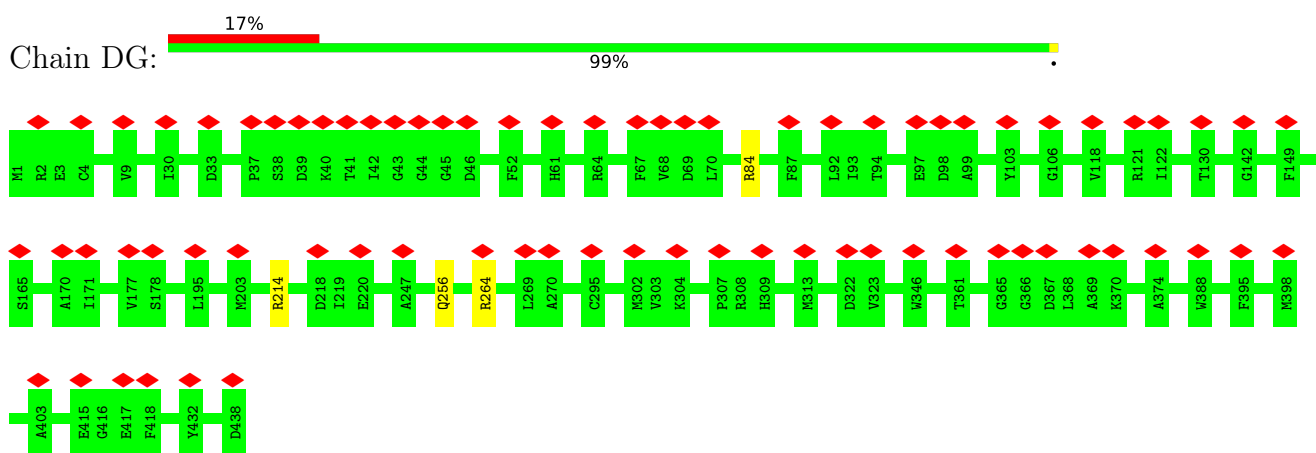
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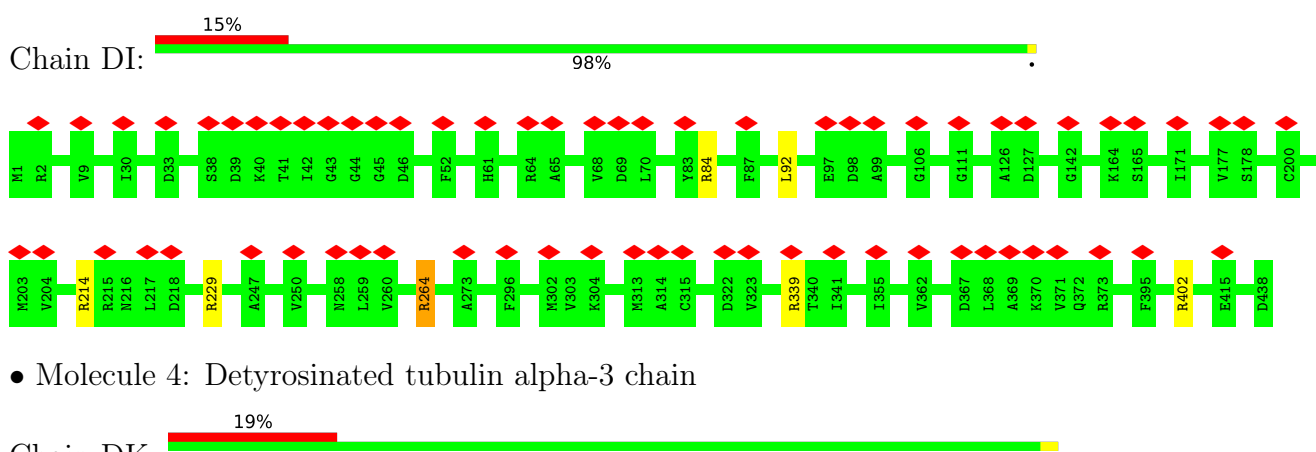
• Molecule 4: Detyrosinated tubulin alpha-3 chain



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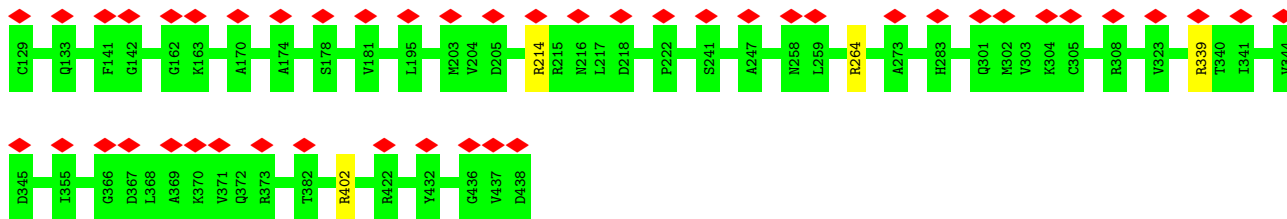


• Molecule 4: Detyrosinated tubulin alpha-3 chain

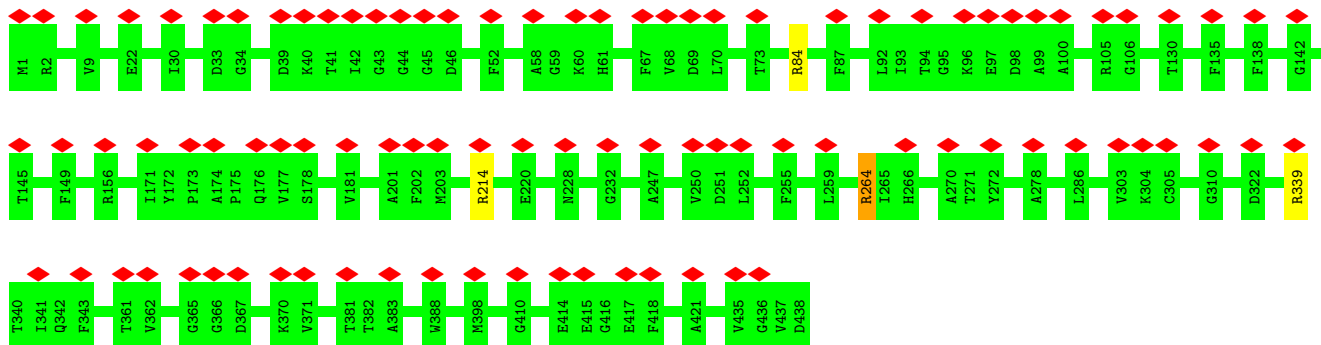


• Molecule 4: Detyrosinated tubulin alpha-3 chain

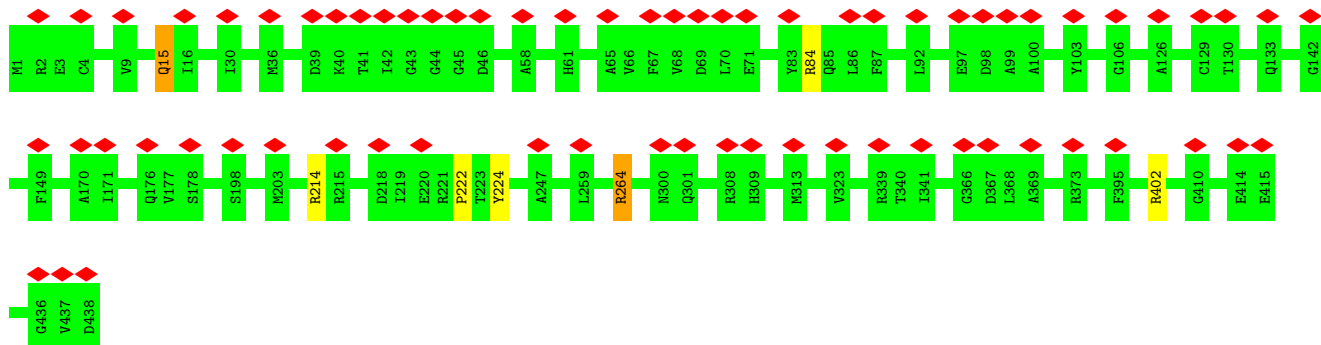




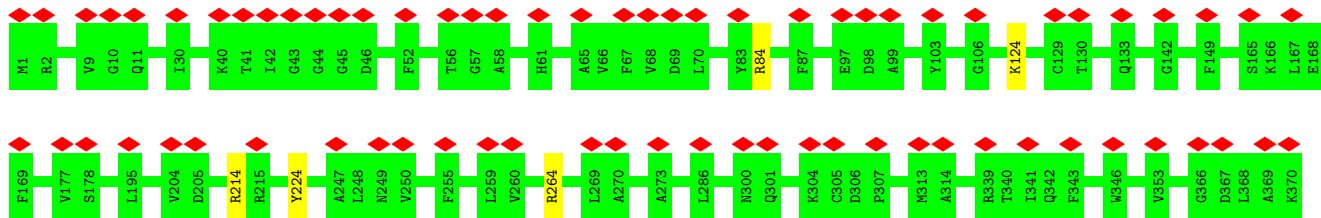
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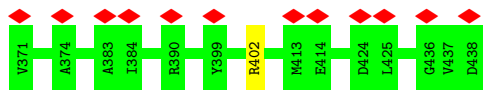


• Molecule 4: Detyrosinated tubulin alpha-3 chain

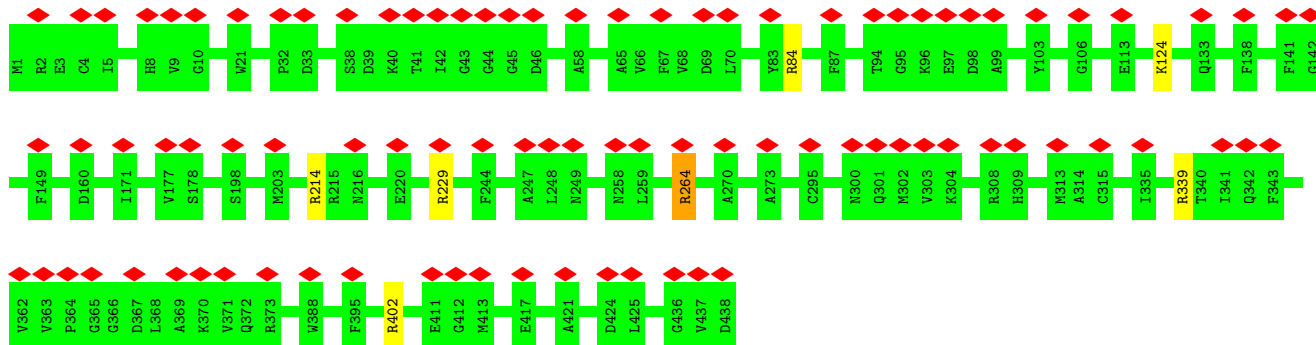


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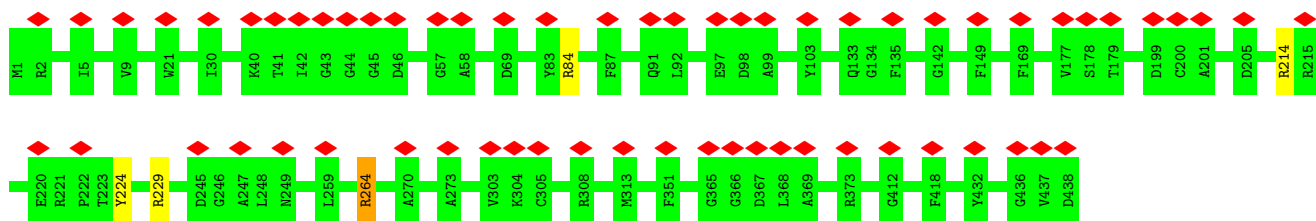




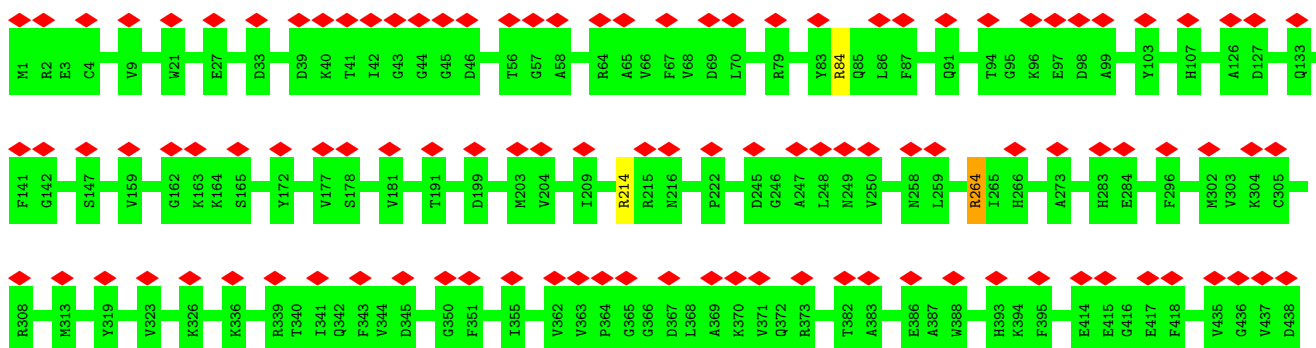
• Molecule 4: Detyrosinated tubulin alpha-3 chain



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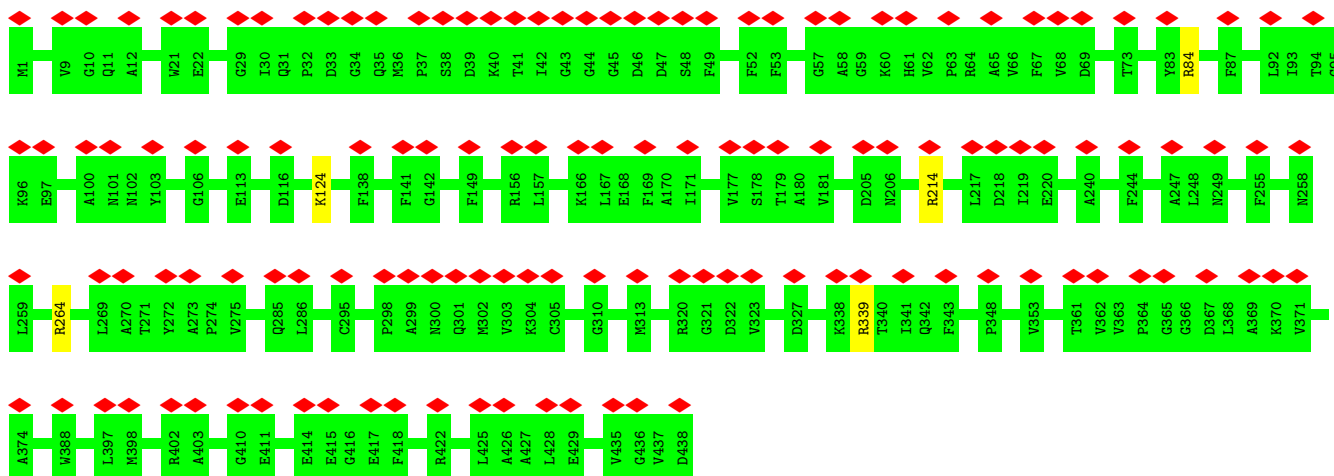


• Molecule 4: Detyrosinated tubulin alpha-3 chain

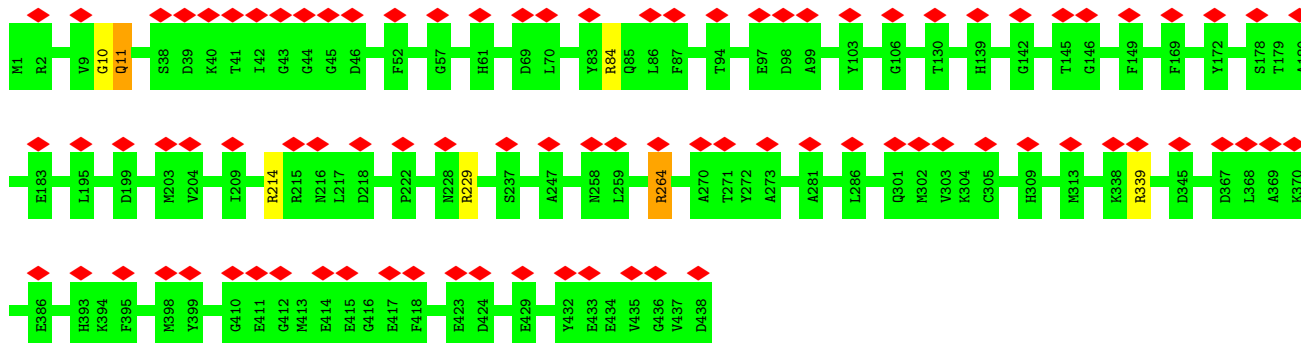


• Molecule 4: Detyrosinated tubulin alpha-3 chain

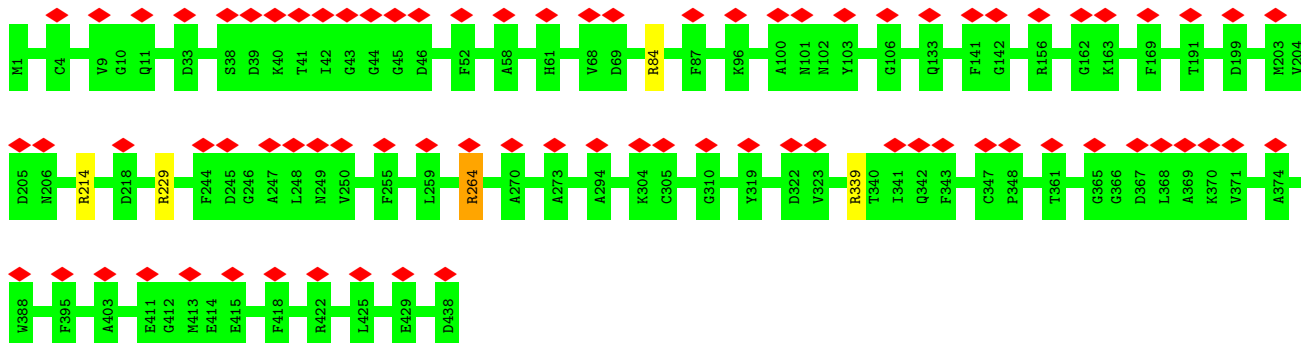




- Molecule 4: Detyrosinated tubulin alpha-3 chain

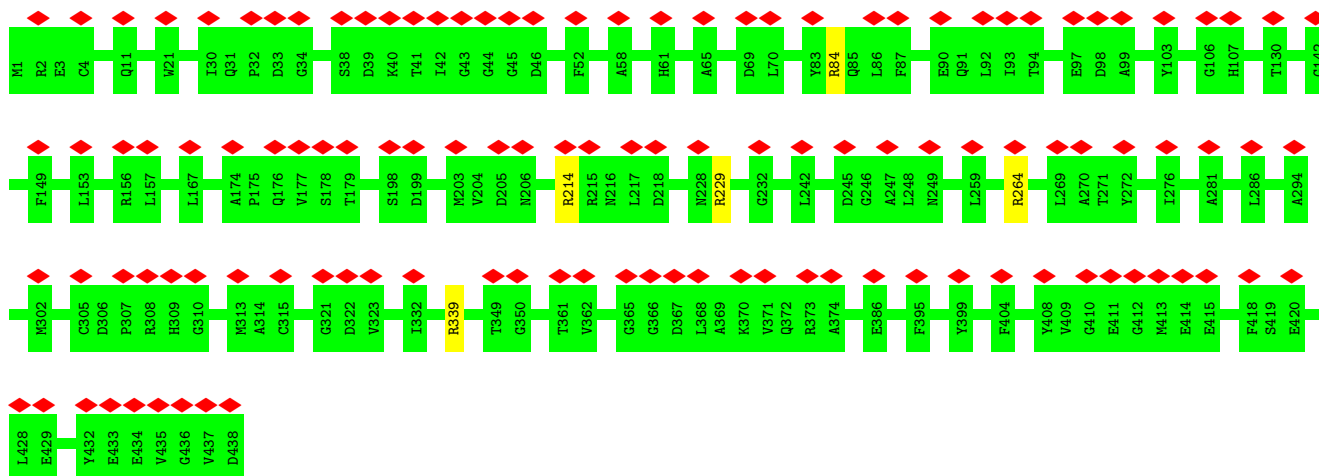


- Molecule 4: Detyrosinated tubulin alpha-3 chain

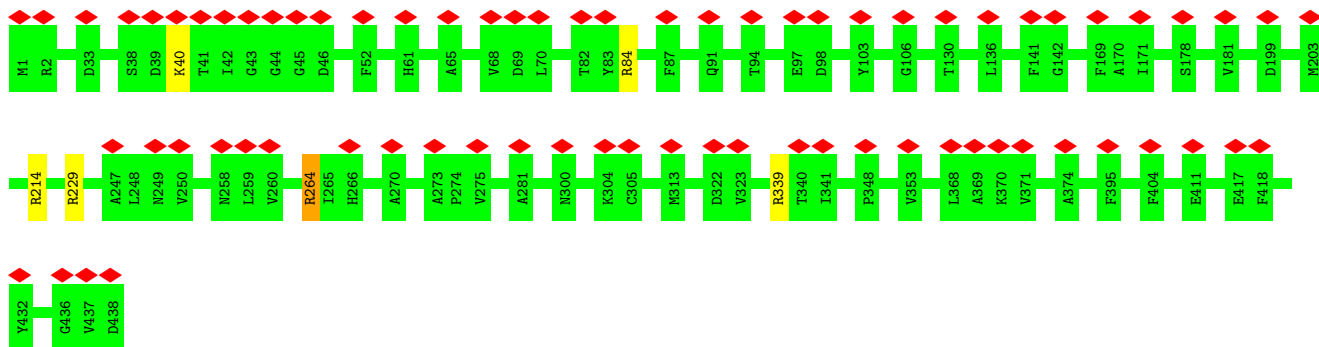


- Molecule 4: Detyrosinated tubulin alpha-3 chain

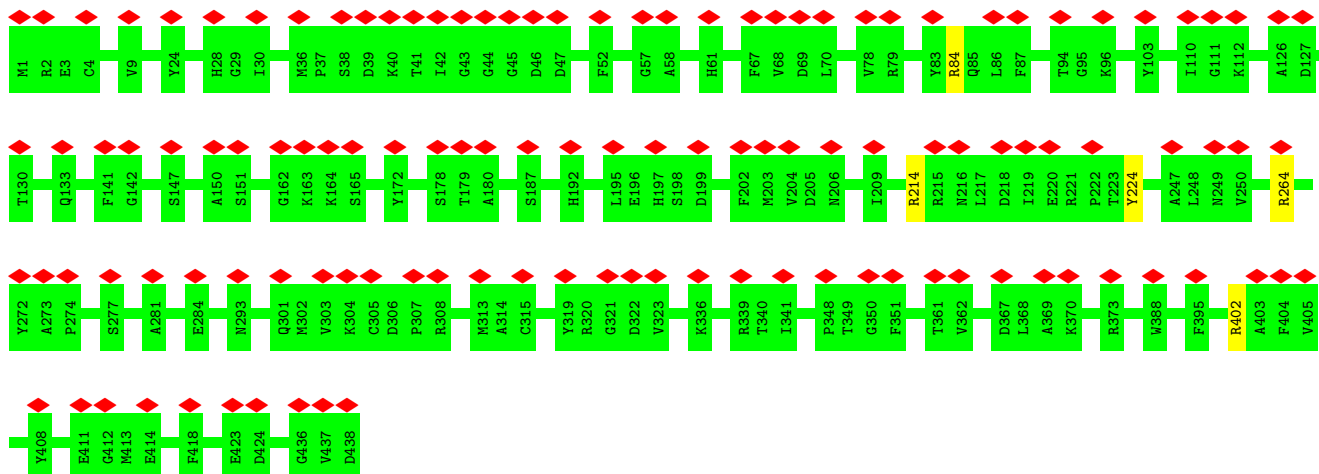




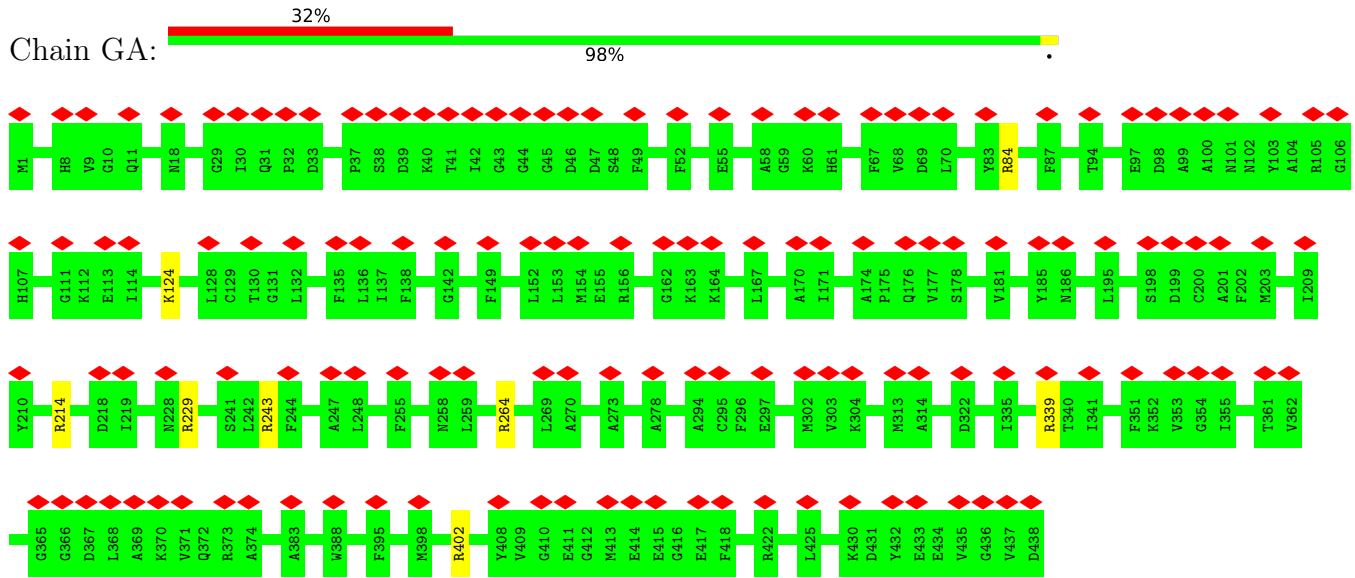
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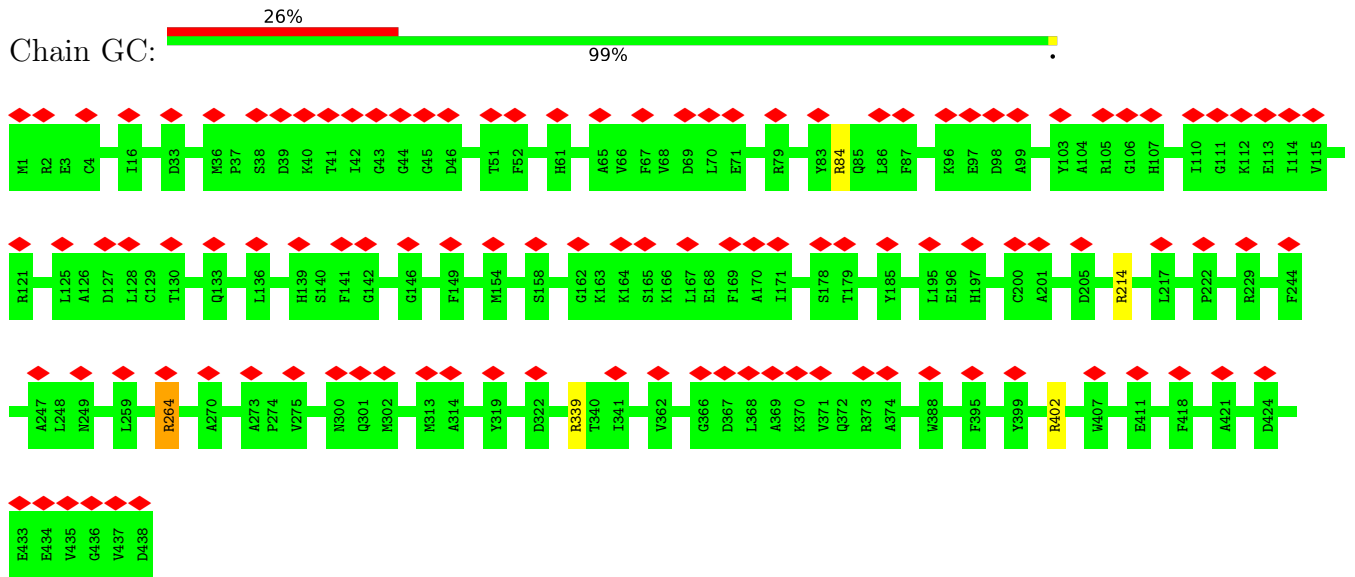
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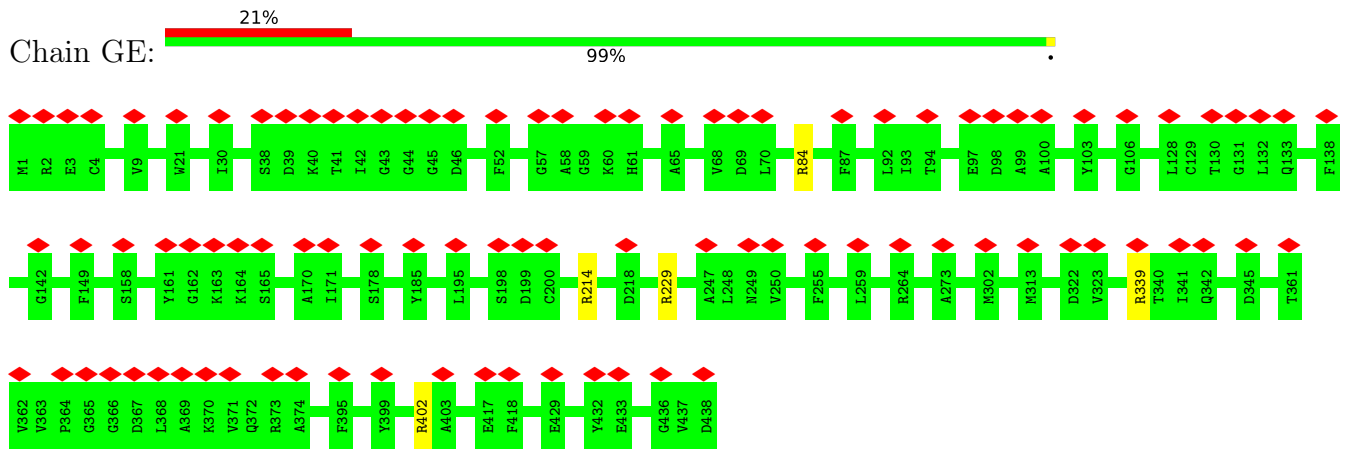
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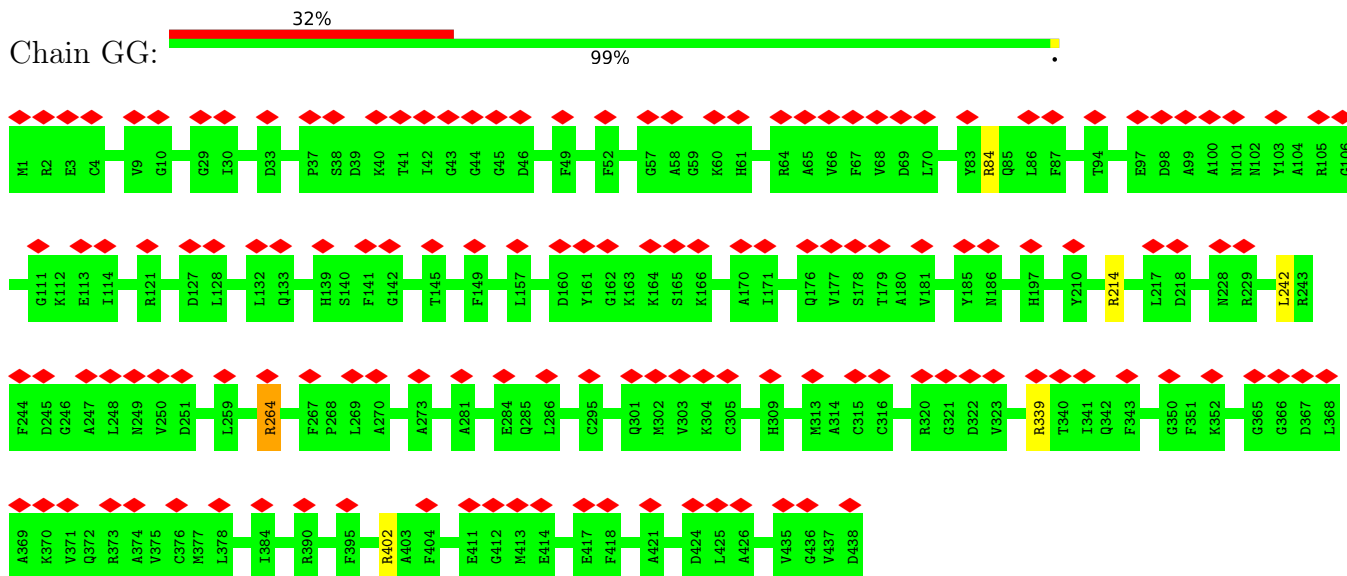
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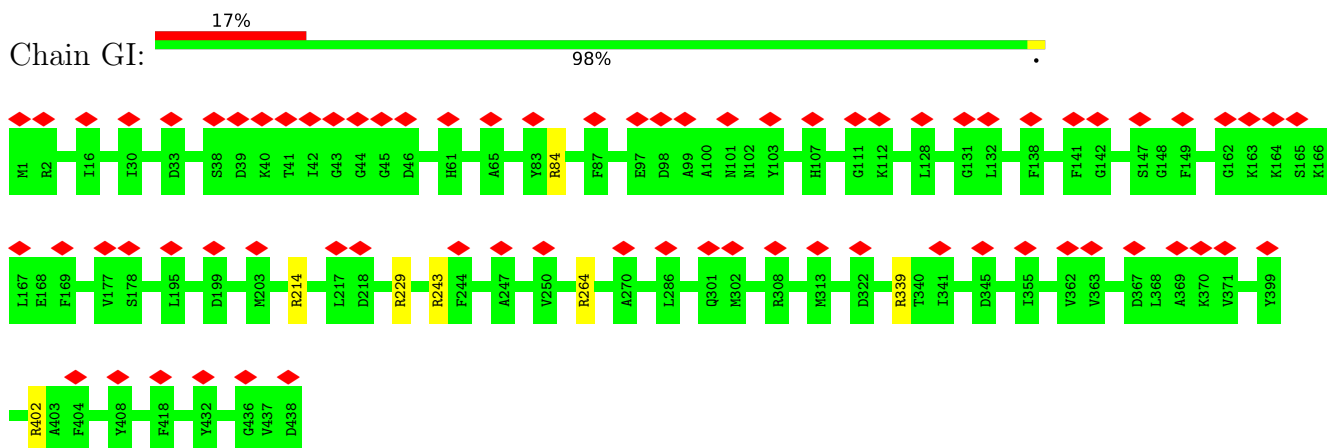
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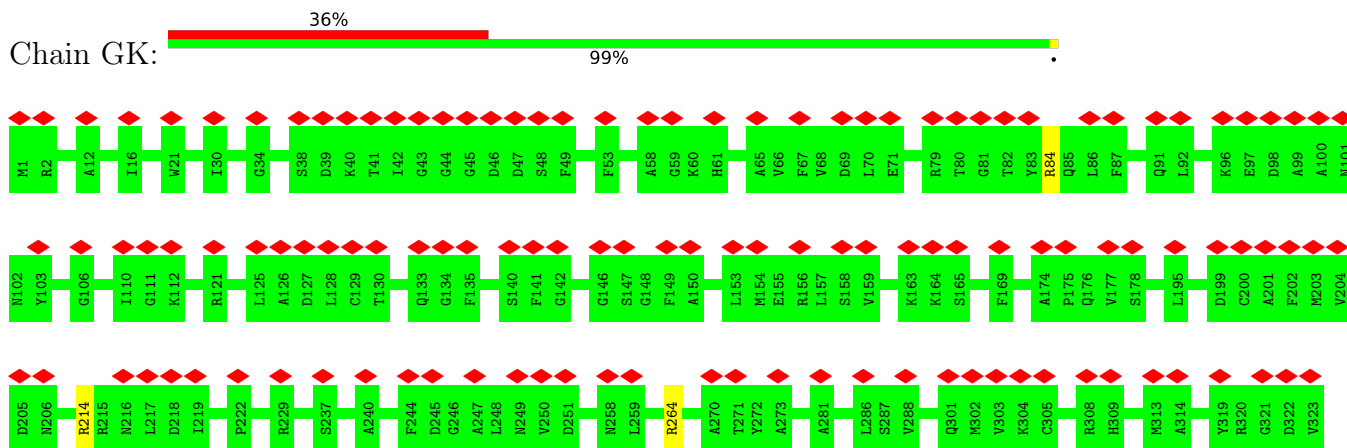
- Molecule 4: Detyrosinated tubulin alpha-3 chain

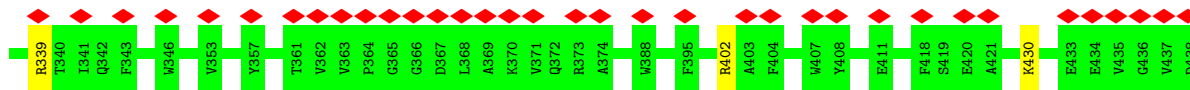


- Molecule 4: Detyrosinated tubulin alpha-3 chain

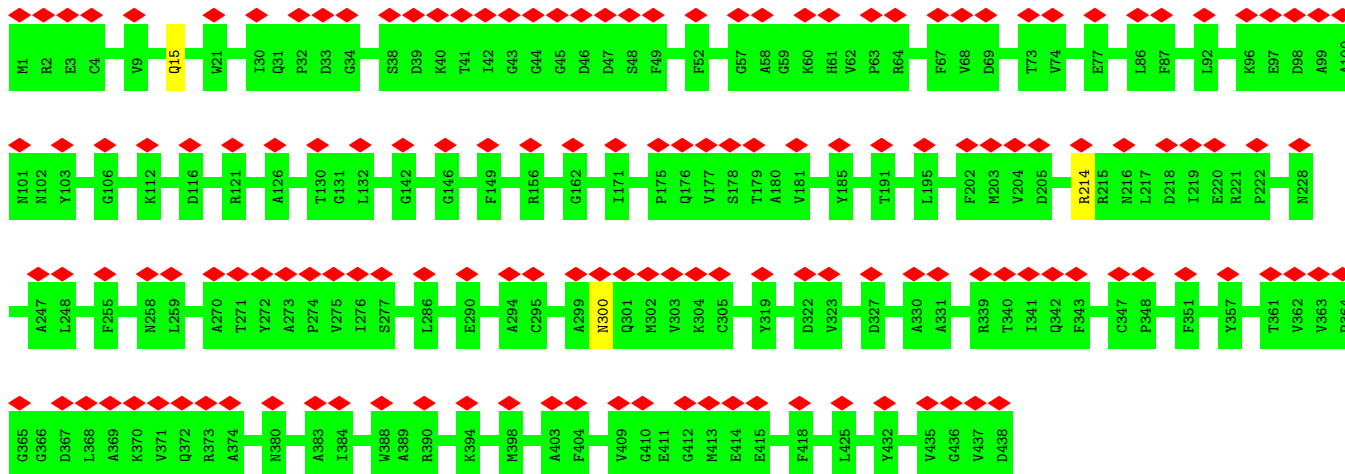


- Molecule 4: Detyrosinated tubulin alpha-3 chain

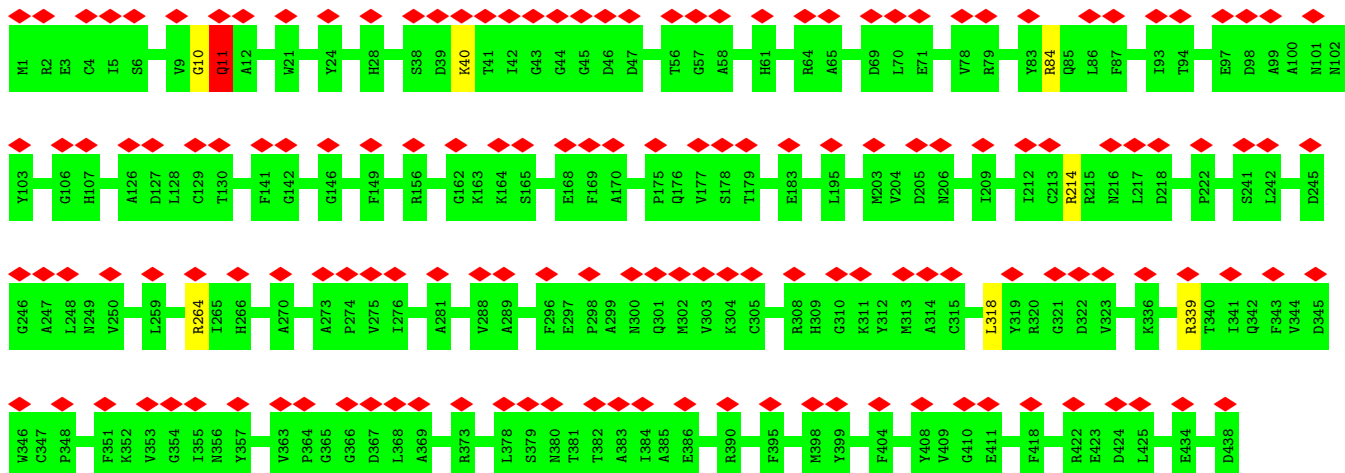




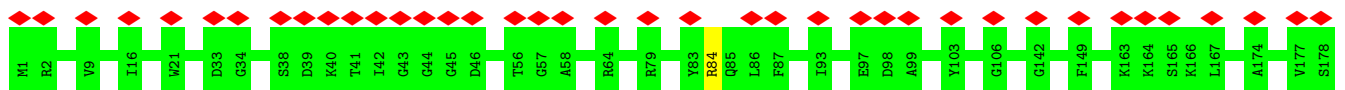
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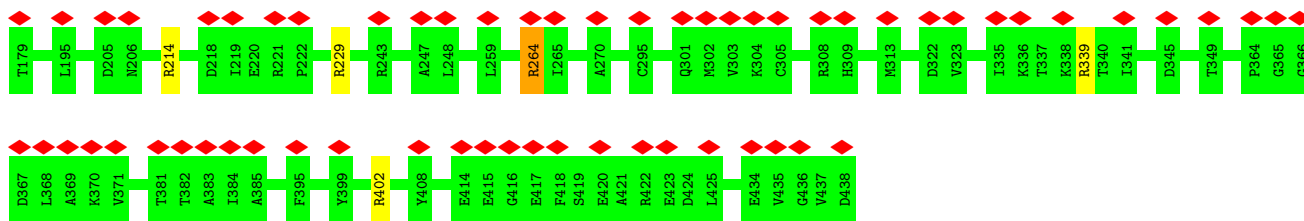


• Molecule 4: Detyrosinated tubulin alpha-3 chain

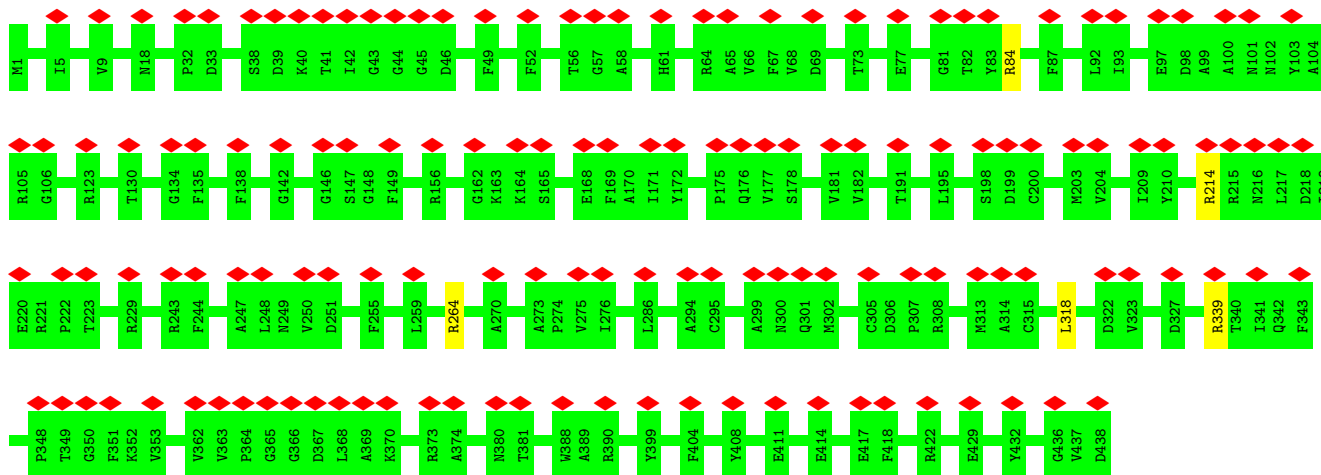


• Molecule 4: Detyrosinated tubulin alpha-3 chain

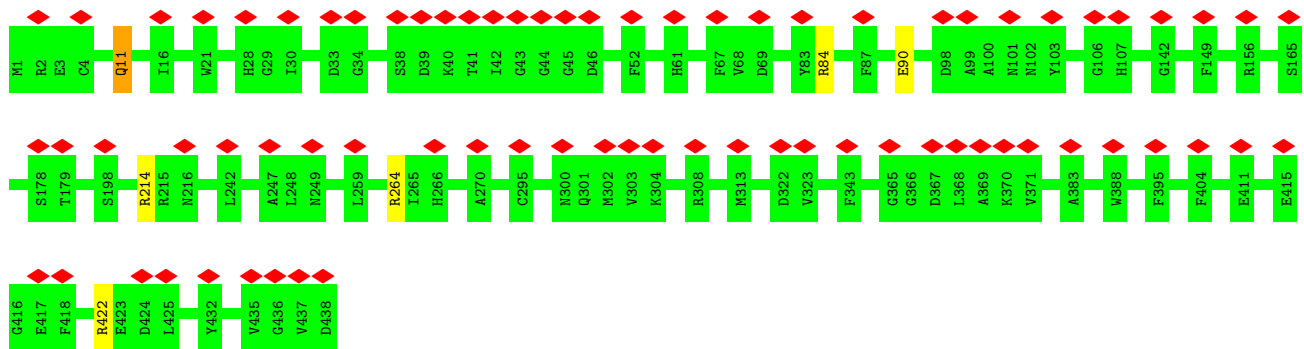




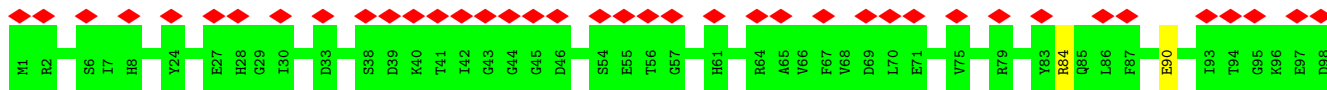
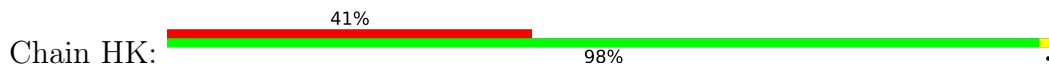
• Molecule 4: Detyrosinated tubulin alpha-3 chain

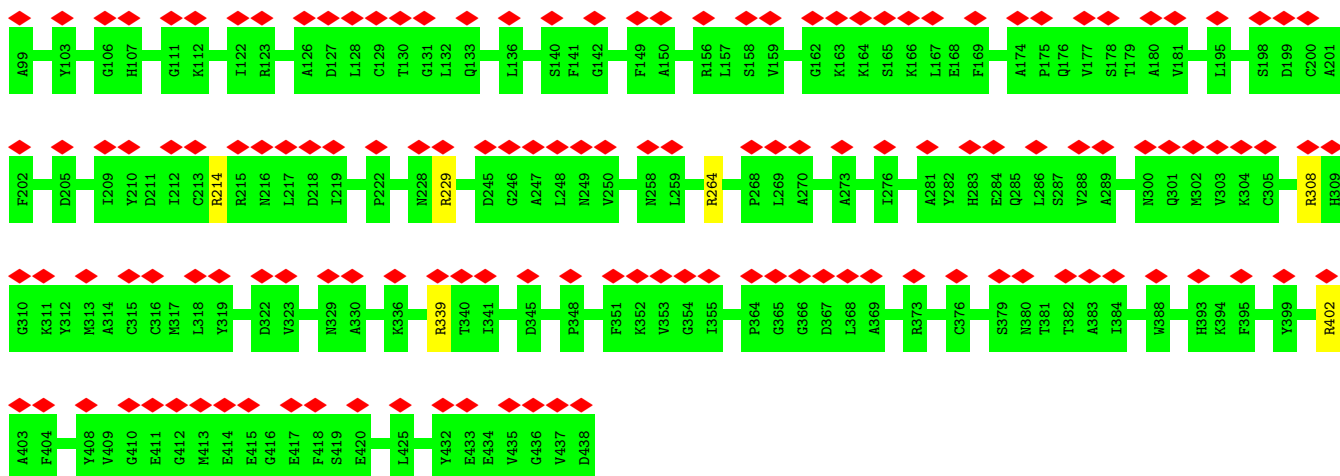


• Molecule 4: Detyrosinated tubulin alpha-3 chain



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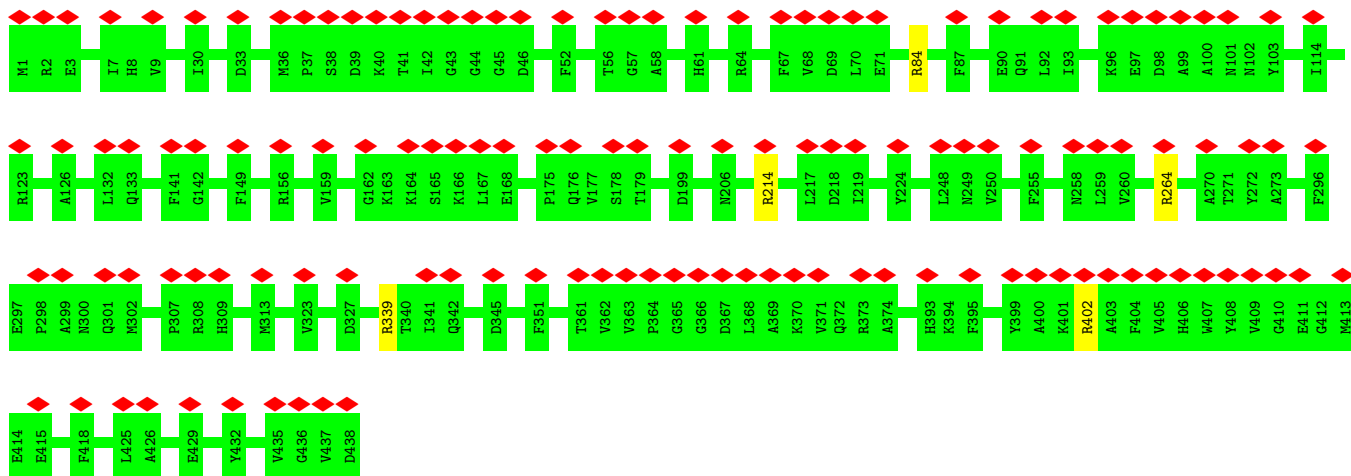




• Molecule 4: Detyrosinated tubulin alpha-3 chain



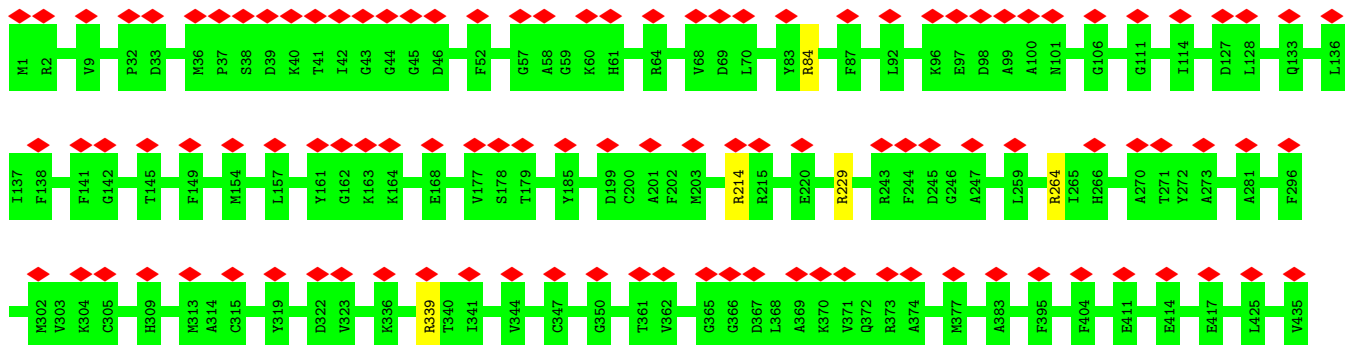
Chain IA:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

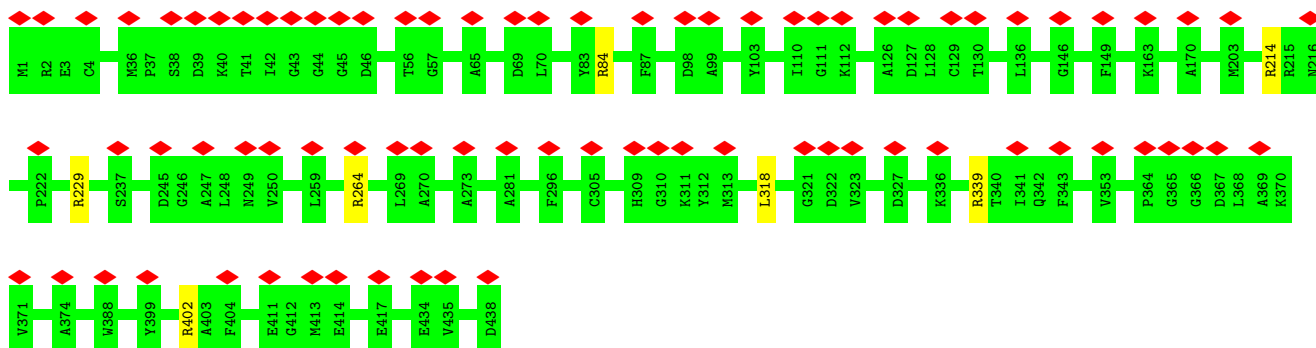


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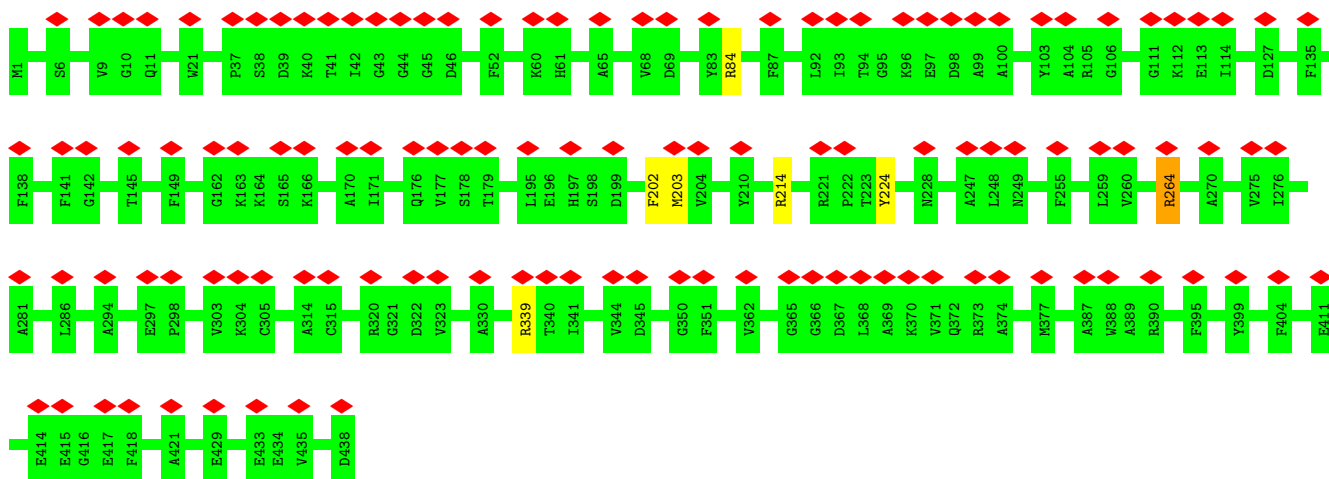




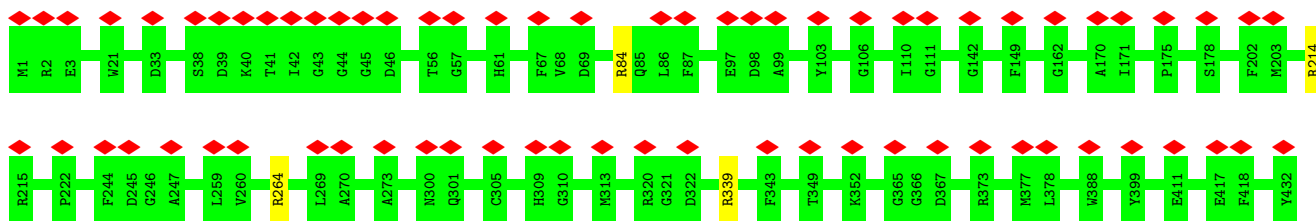
• Molecule 4: Detyrosinated tubulin alpha-3 chain

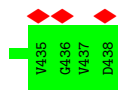


• Molecule 4: Detyrosinated tubulin alpha-3 chain

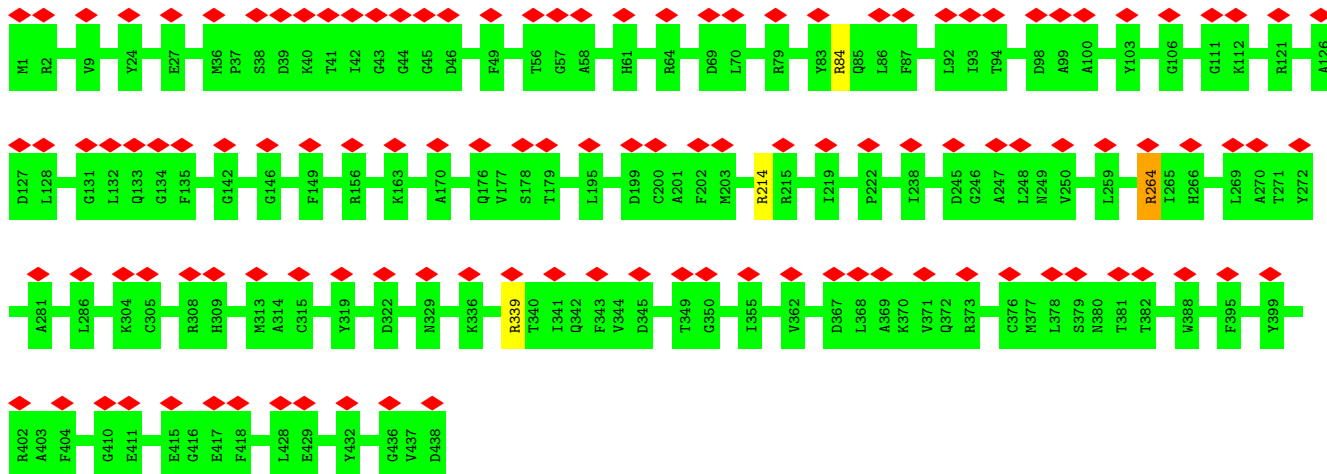


• Molecule 4: Detyrosinated tubulin alpha-3 chain

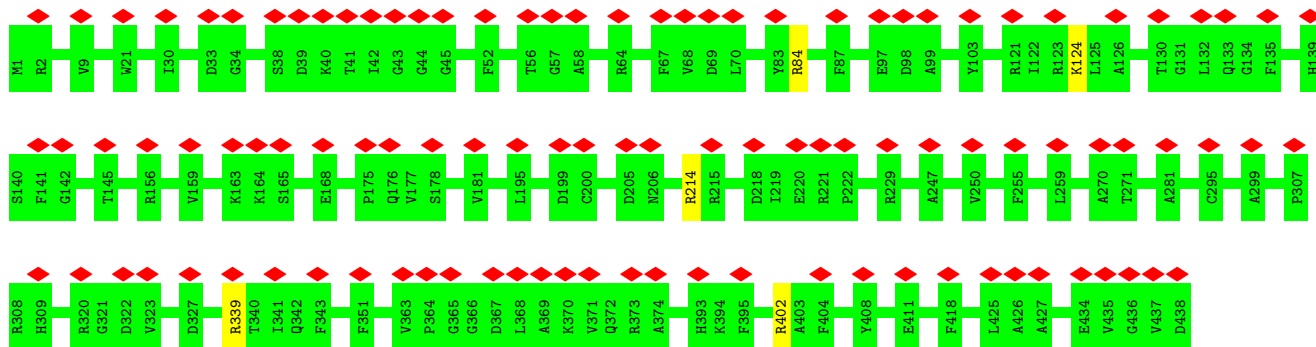




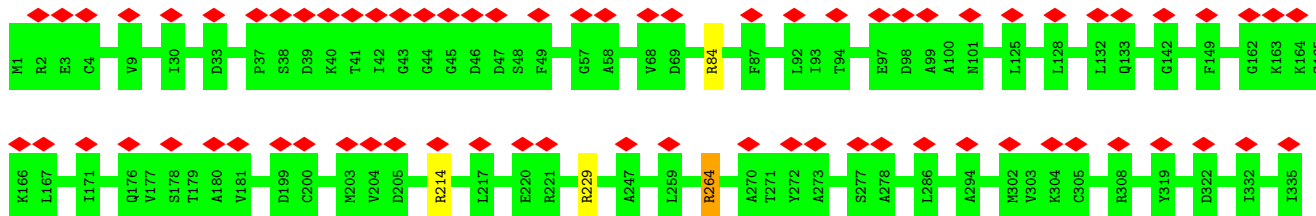
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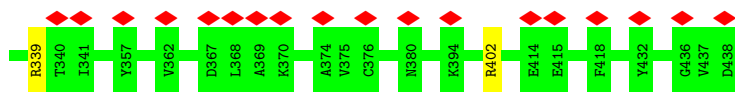


• Molecule 4: Detyrosinated tubulin alpha-3 chain

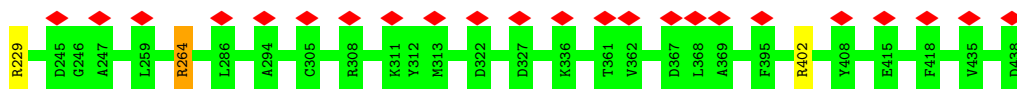
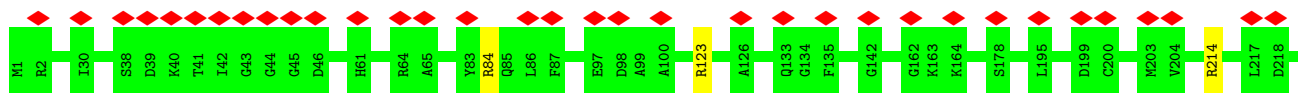


• Molecule 4: Detyrosinated tubulin alpha-3 chain

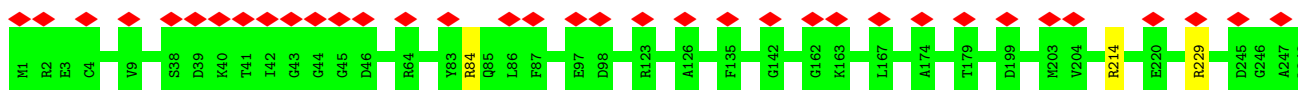




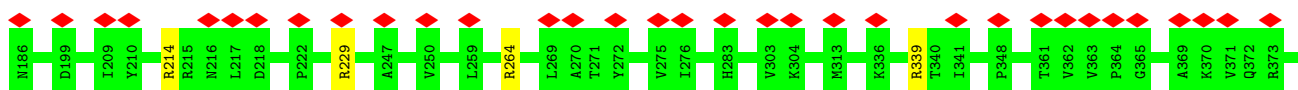
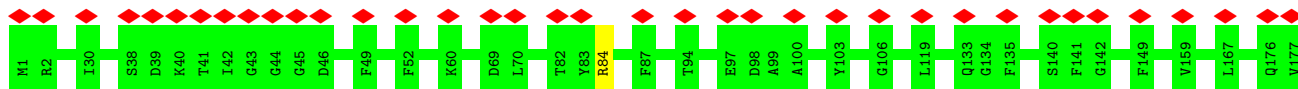
- Molecule 4: Detyrosinated tubulin alpha-3 chain



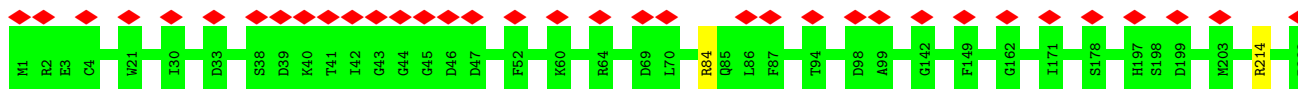
- Molecule 4: Detyrosinated tubulin alpha-3 chain

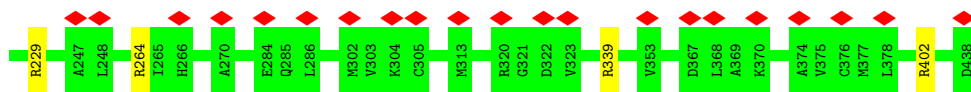


- Molecule 4: Detyrosinated tubulin alpha-3 chain

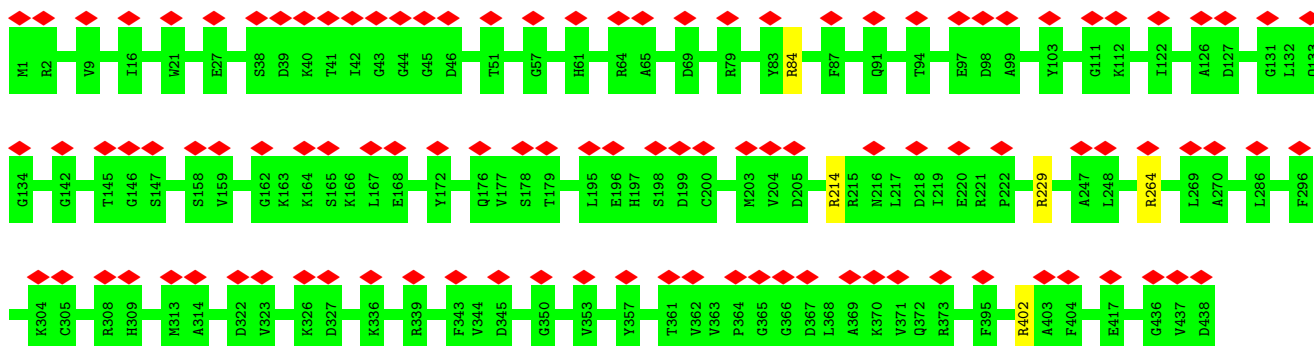


- Molecule 4: Detyrosinated tubulin alpha-3 chain

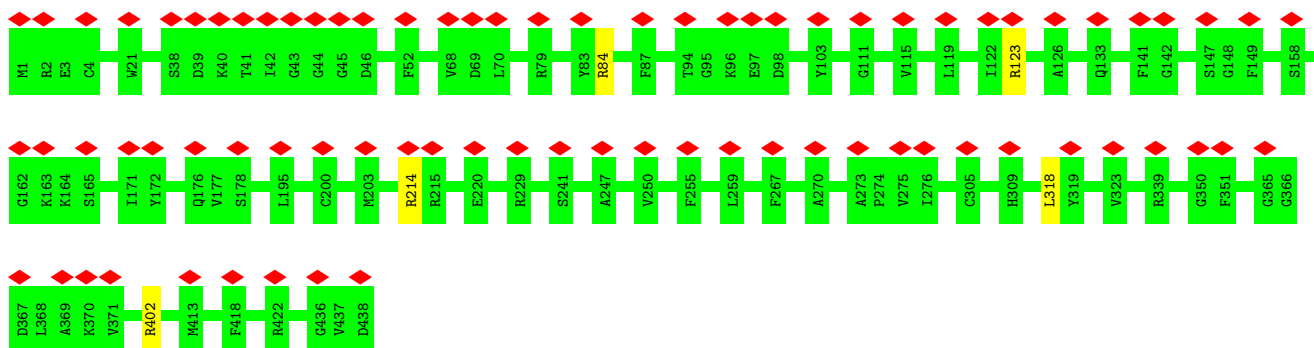




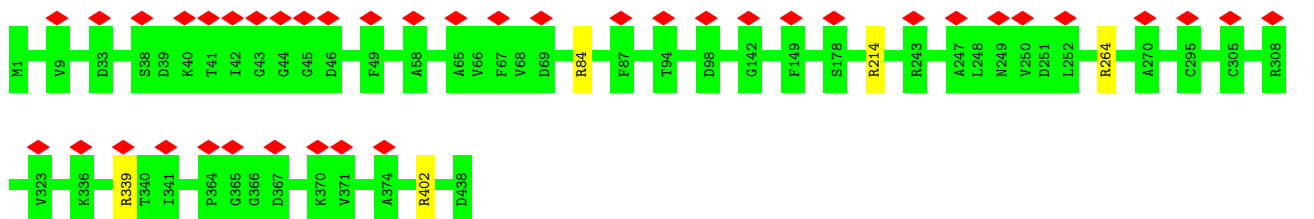
- Molecule 4: Detyrosinated tubulin alpha-3 chain



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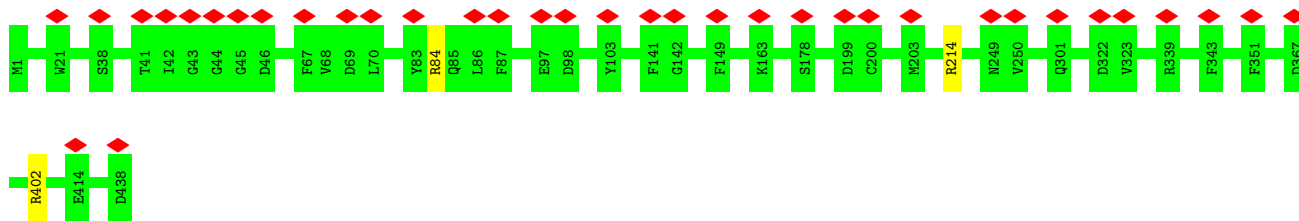


- Molecule 4: Detyrosinated tubulin alpha-3 chain

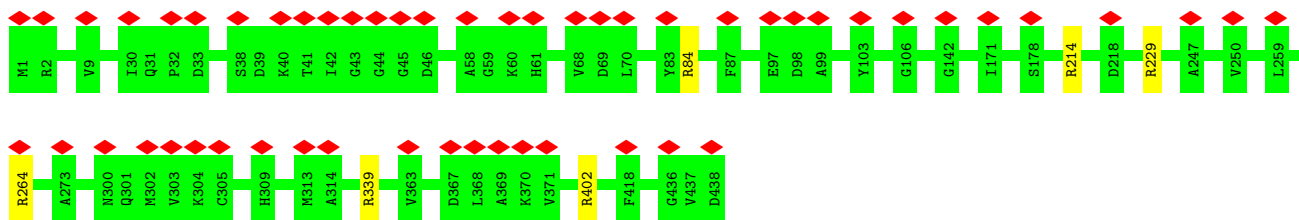


- Molecule 4: Detyrosinated tubulin alpha-3 chain

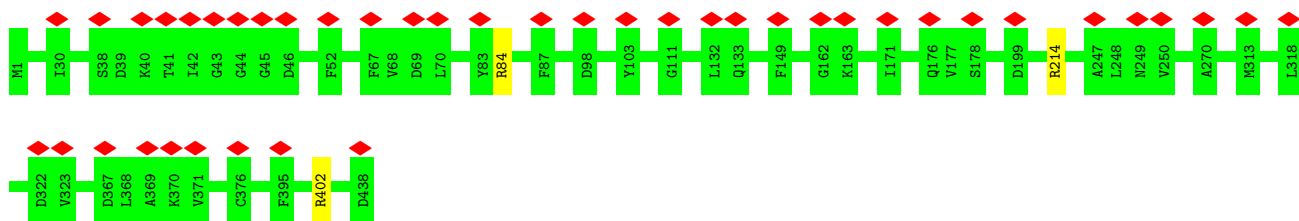




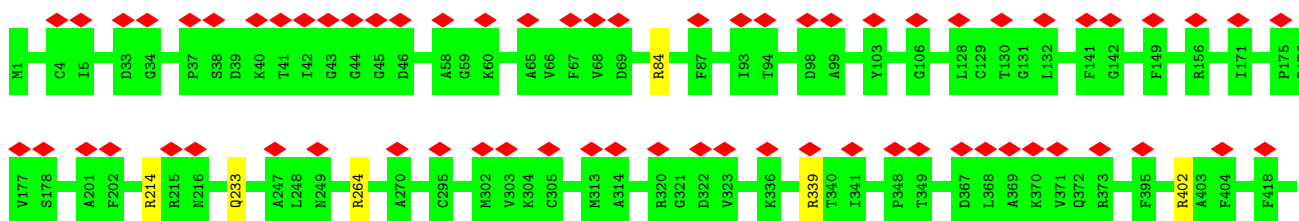
• Molecule 4: Detyrosinated tubulin alpha-3 chain



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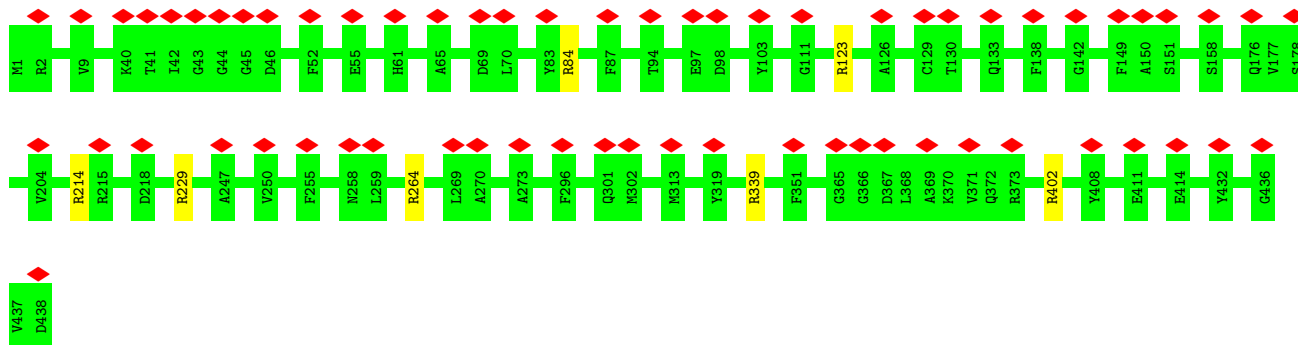


• Molecule 4: Detyrosinated tubulin alpha-3 chain



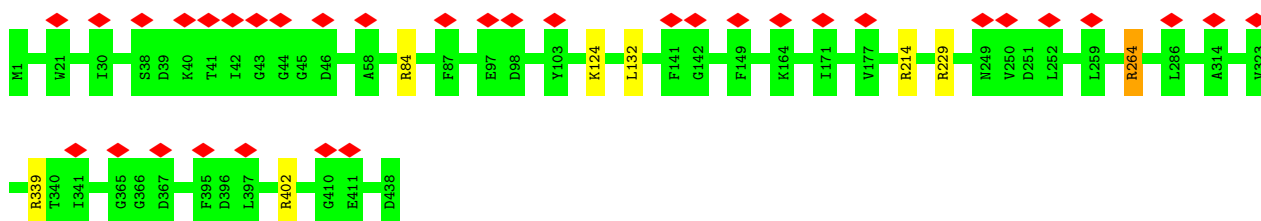
• Molecule 4: Detyrosinated tubulin alpha-3 chain





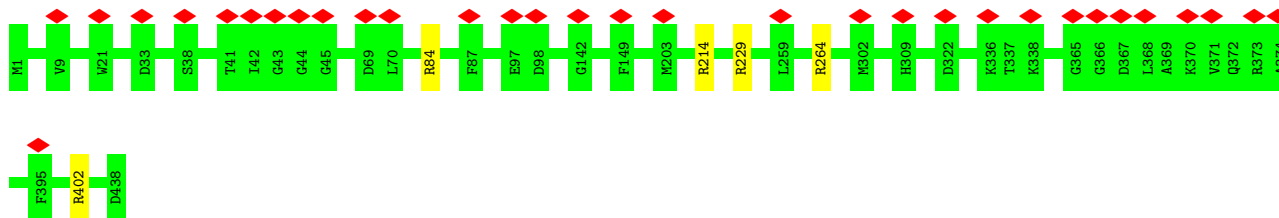
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain LC: 8% 98%



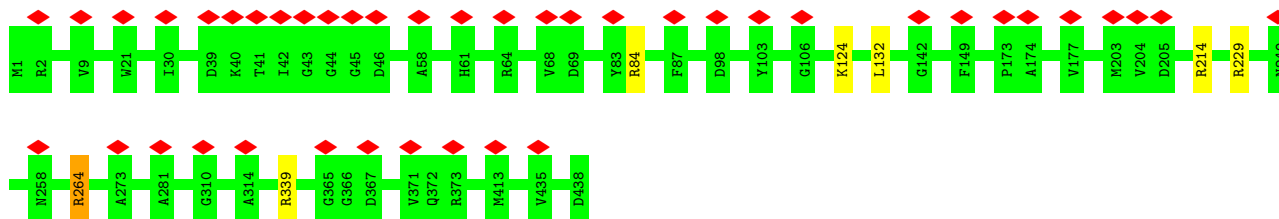
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain LE: 7% 99%



- Molecule 4: Detyrosinated tubulin alpha-3 chain

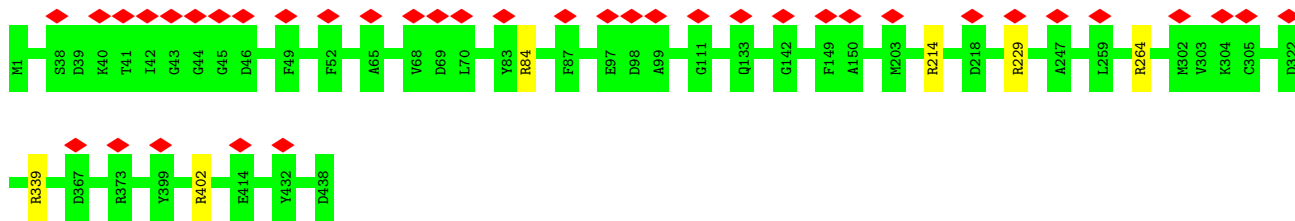
Chain LG: 10% 98%



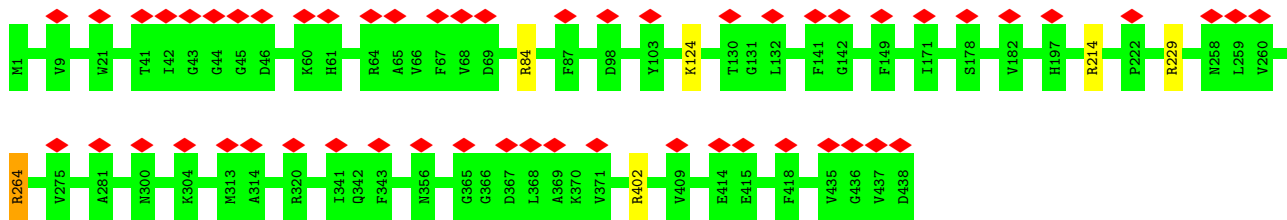
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain LI: 9% 99%

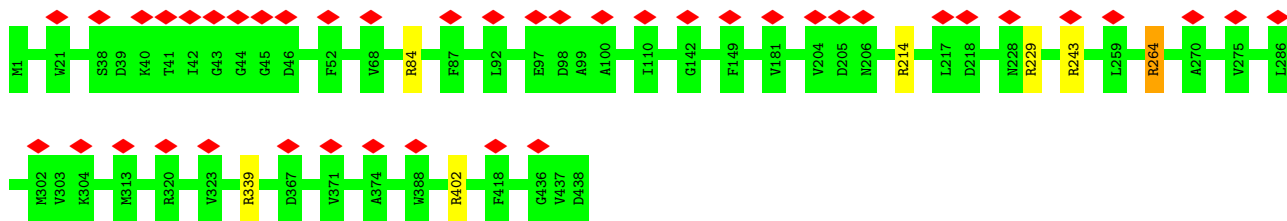




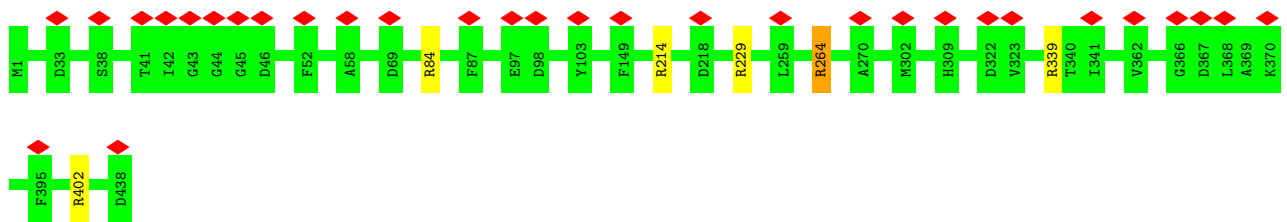
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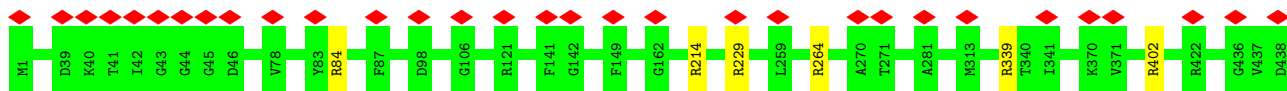
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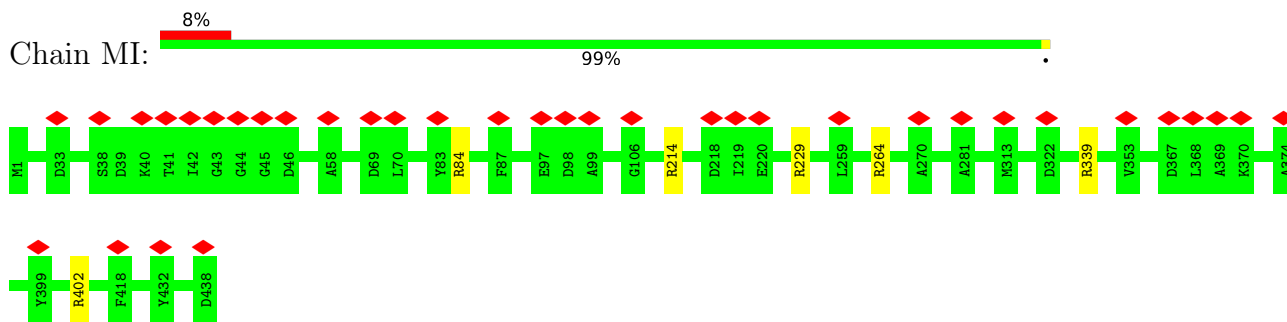
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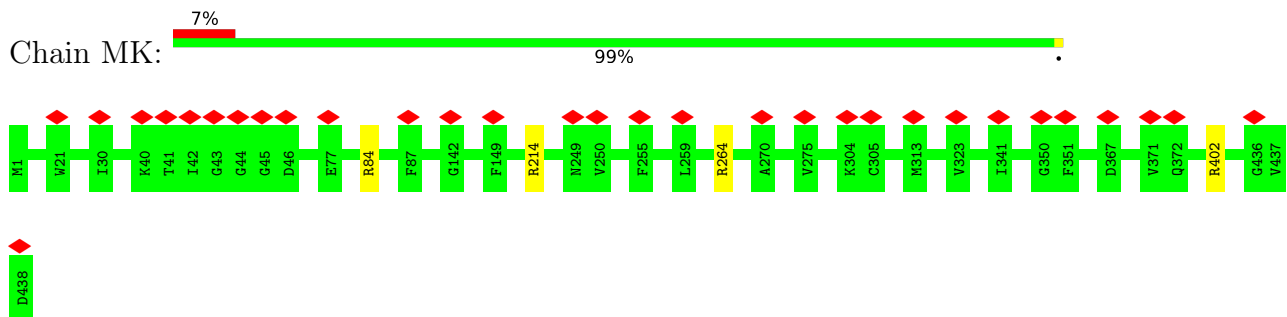
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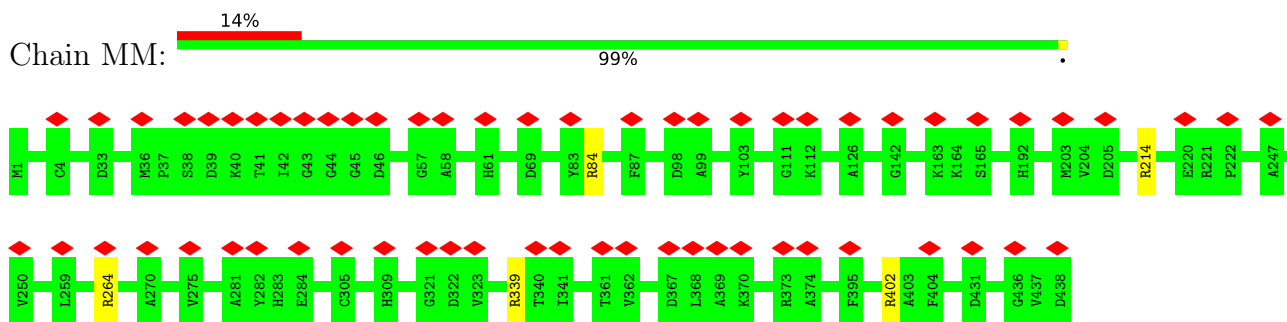
• Molecule 4: Detyrosinated tubulin alpha-3 chain



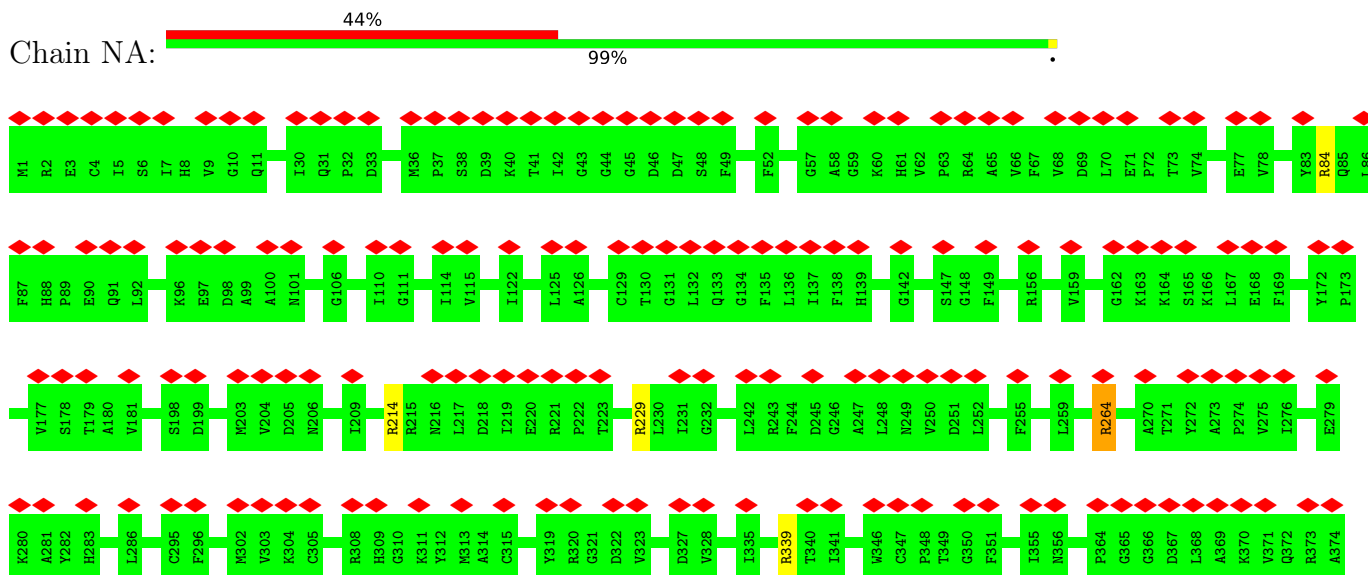
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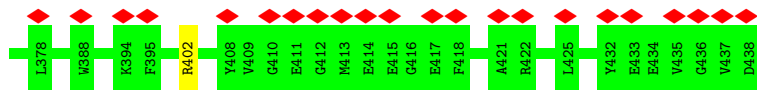


• Molecule 4: Detyrosinated tubulin alpha-3 chain

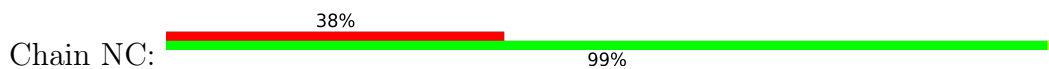


• Molecule 4: Detyrosinated tubulin alpha-3 chain

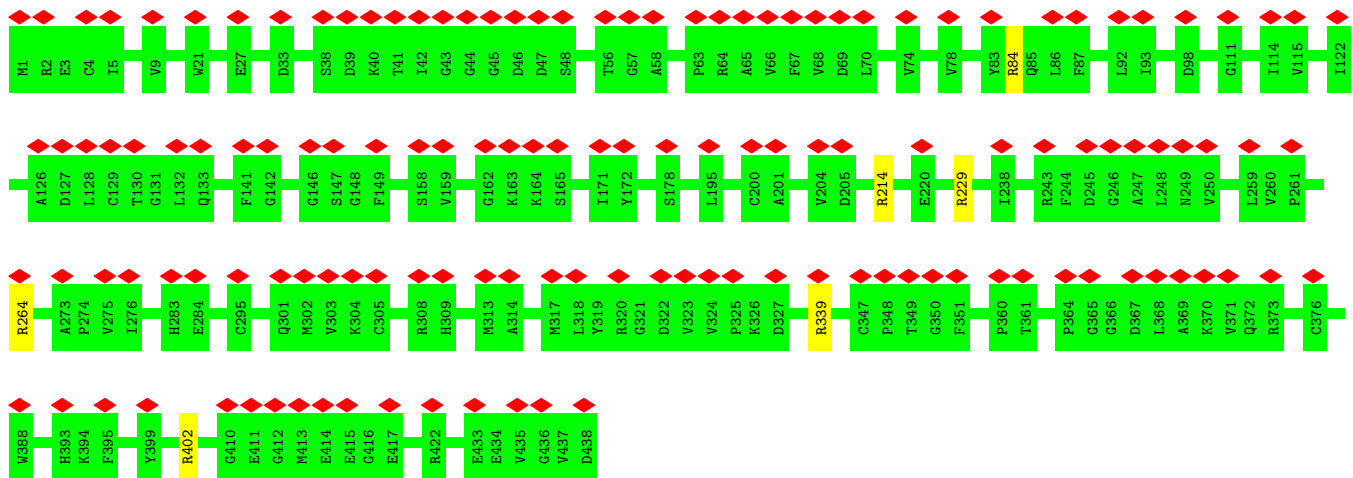




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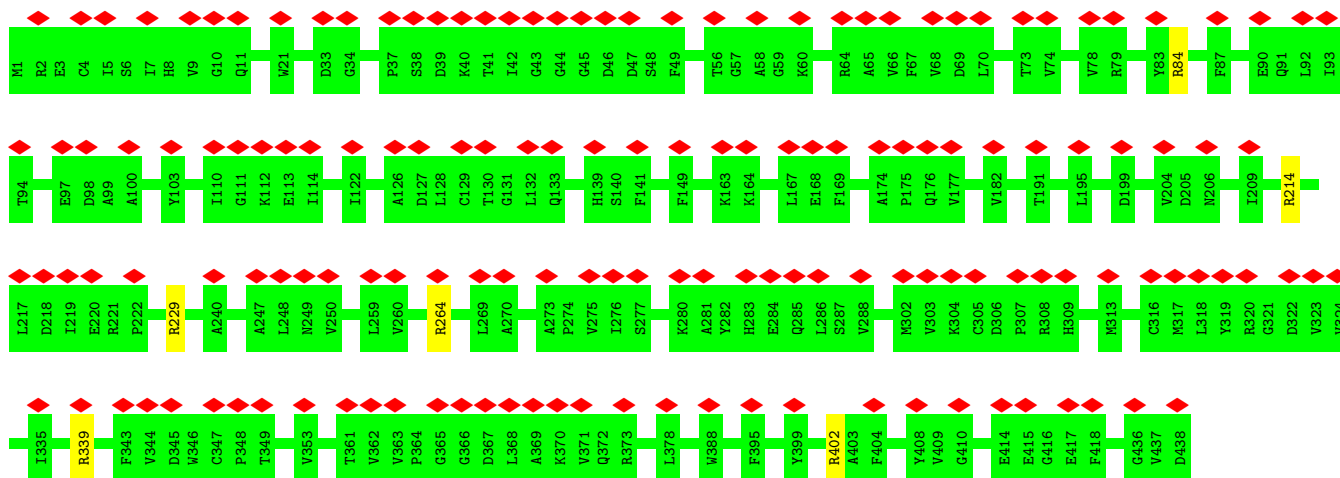


• Molecule 4: Detyrosinated tubulin alpha-3 chain

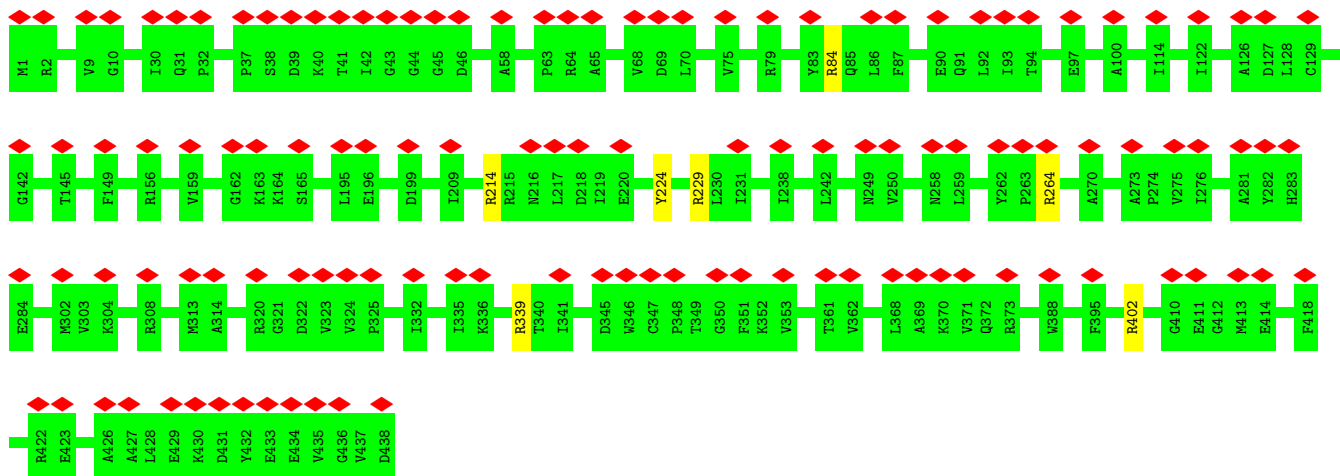


• Molecule 4: Detyrosinated tubulin alpha-3 chain

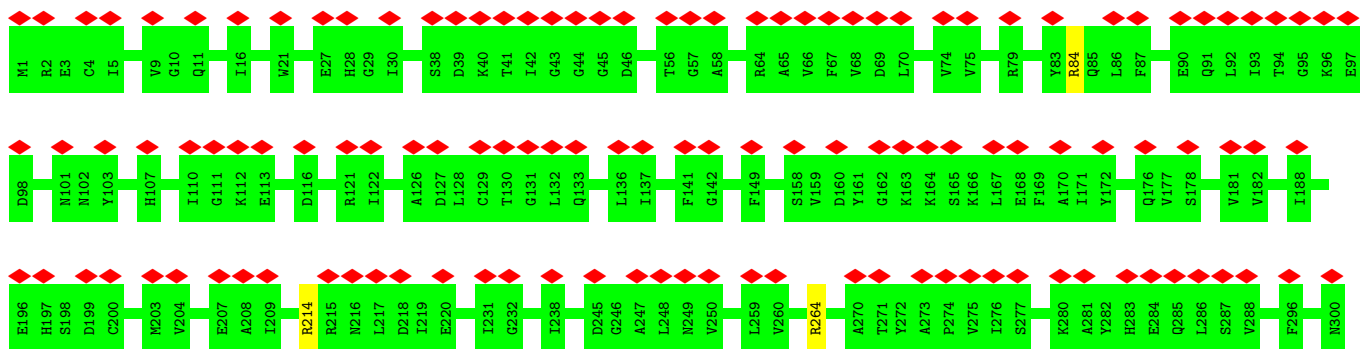
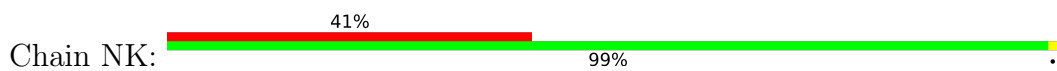


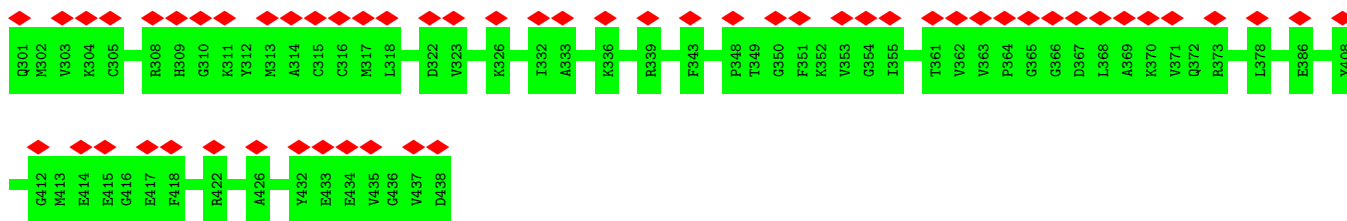


• Molecule 4: Detyrosinated tubulin alpha-3 chain

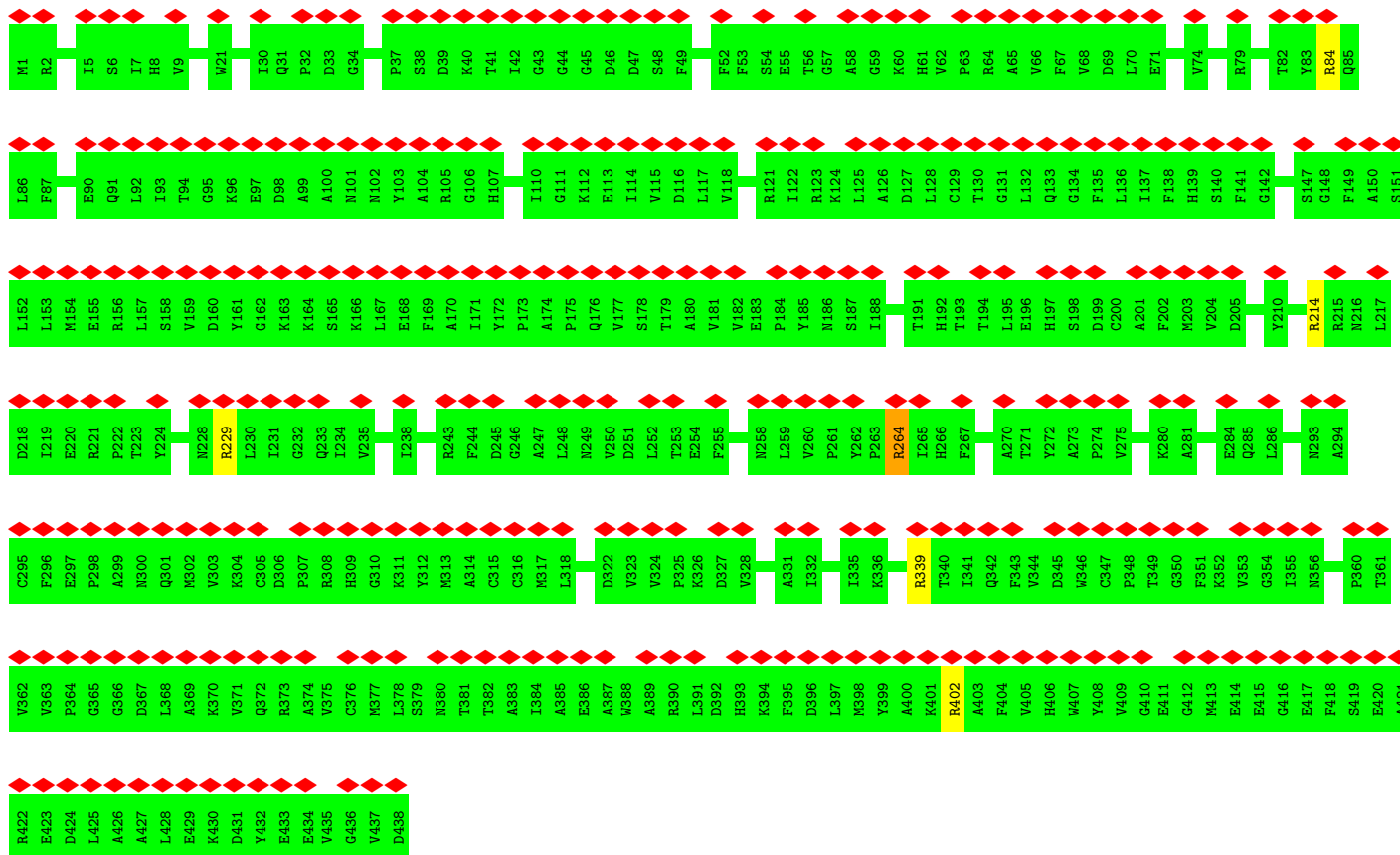
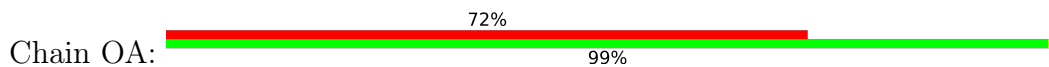


• Molecule 4: Detyrosinated tubulin alpha-3 chain

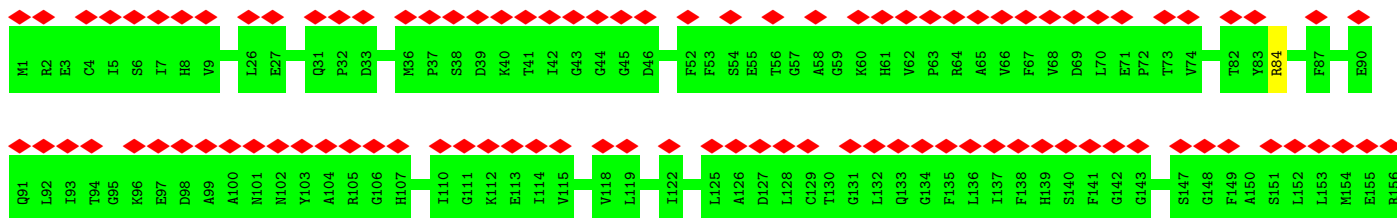


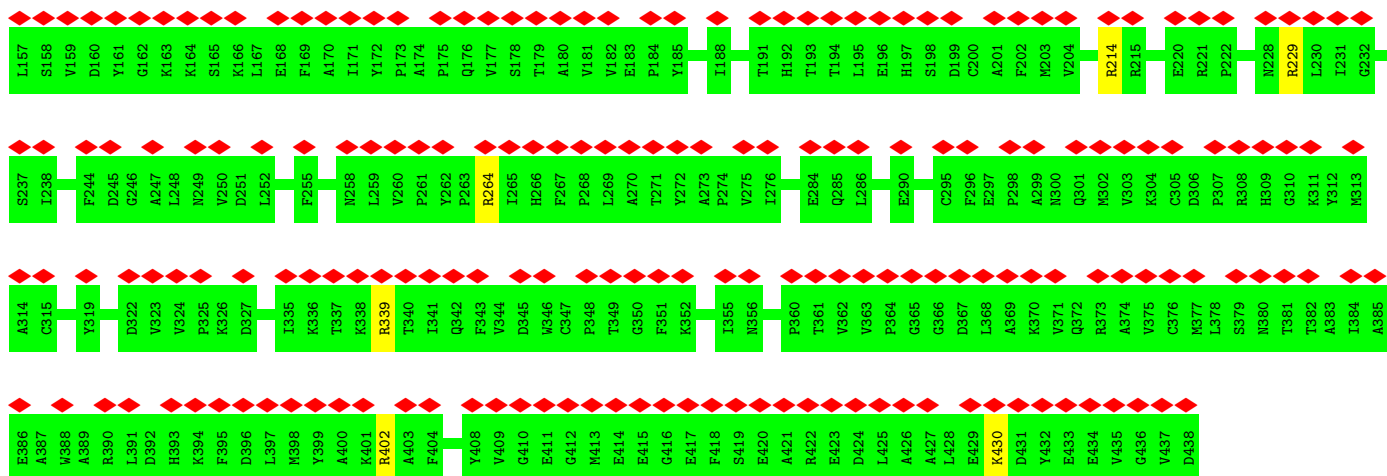


• Molecule 4: Detyrosinated tubulin alpha-3 chain

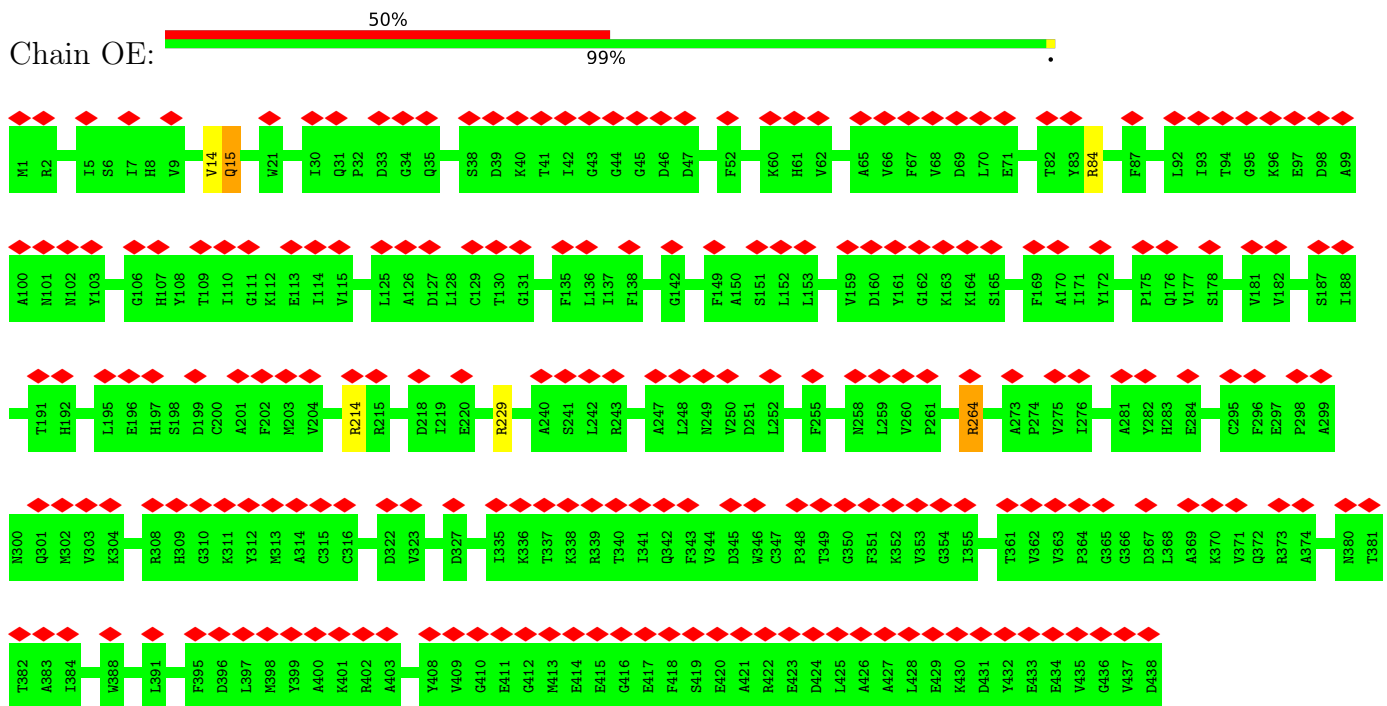


• Molecule 4: Detyrosinated tubulin alpha-3 chain

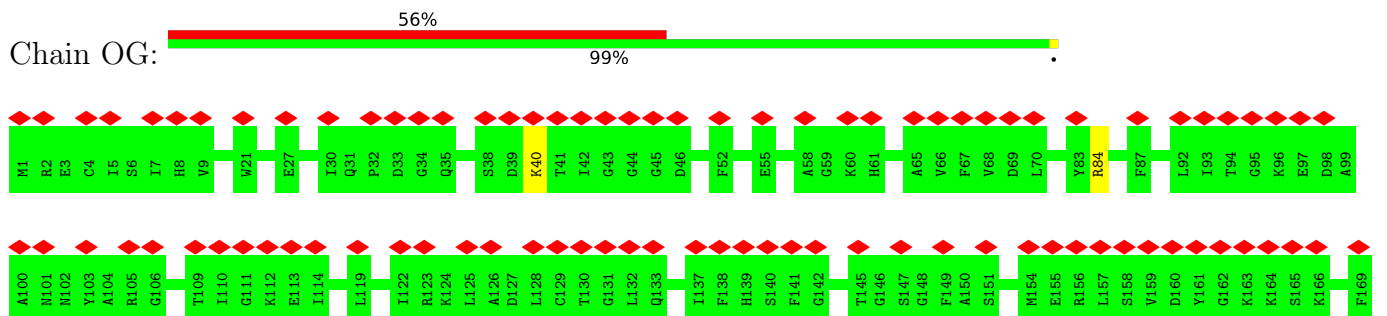


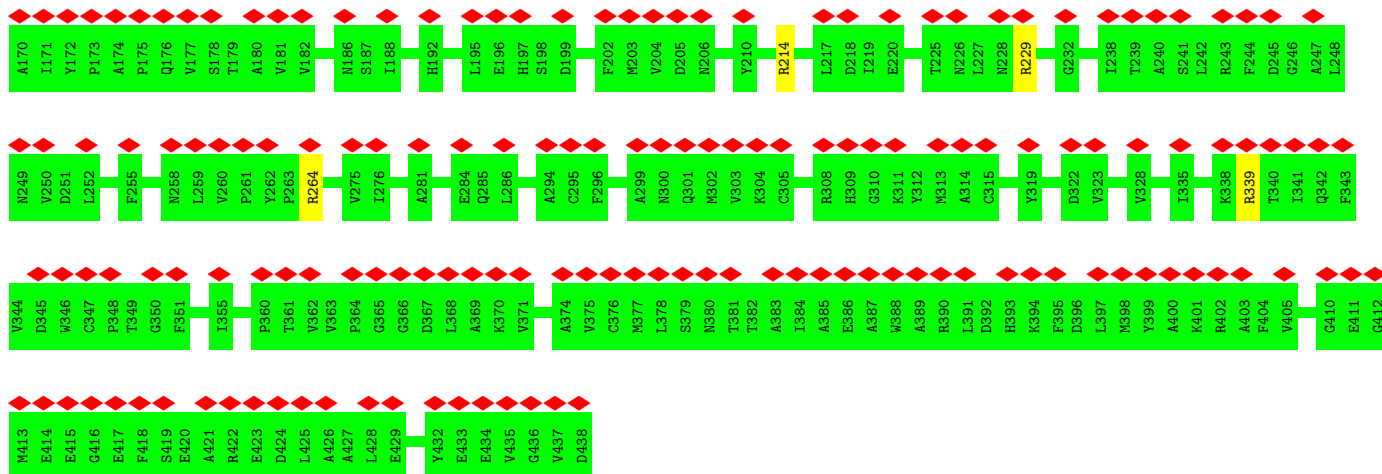


- Molecule 4: Detyrosinated tubulin alpha-3 chain

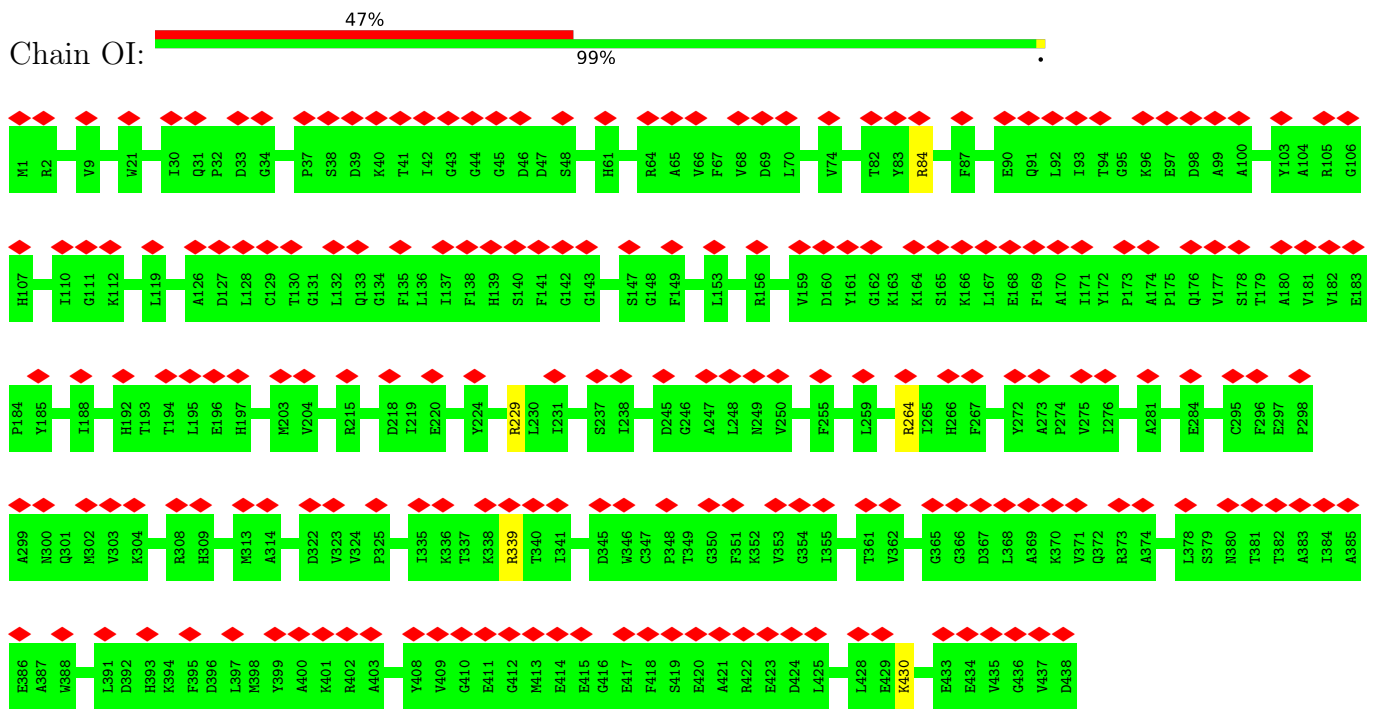


- Molecule 4: Detyrosinated tubulin alpha-3 chain

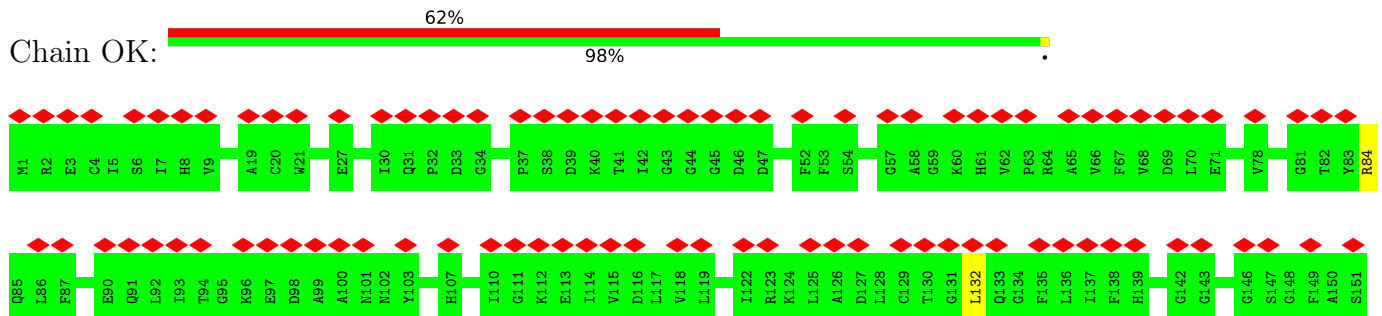


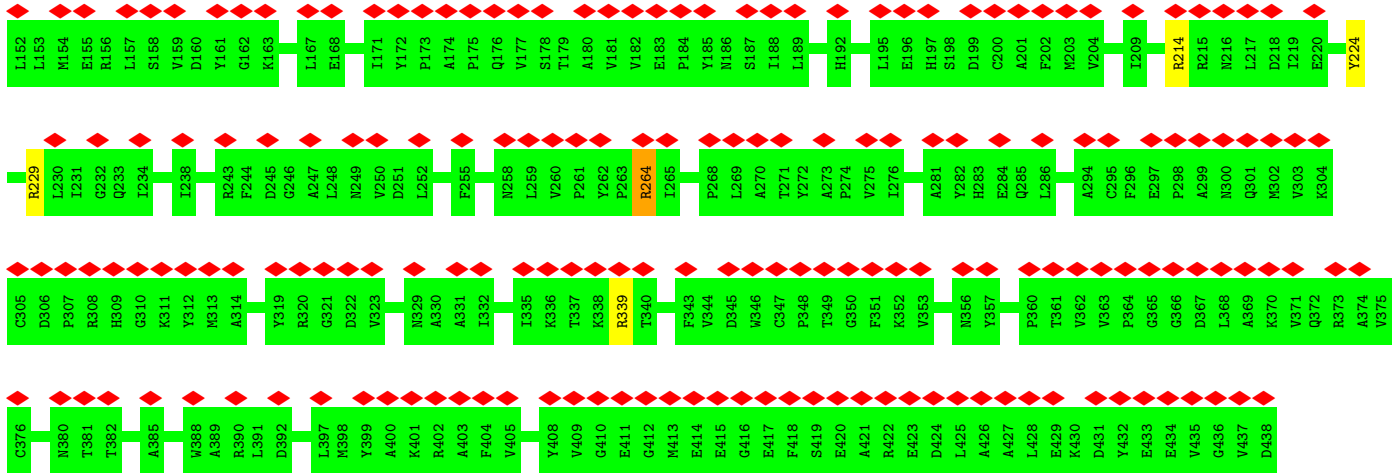


• Molecule 4: Detyrosinated tubulin alpha-3 chain

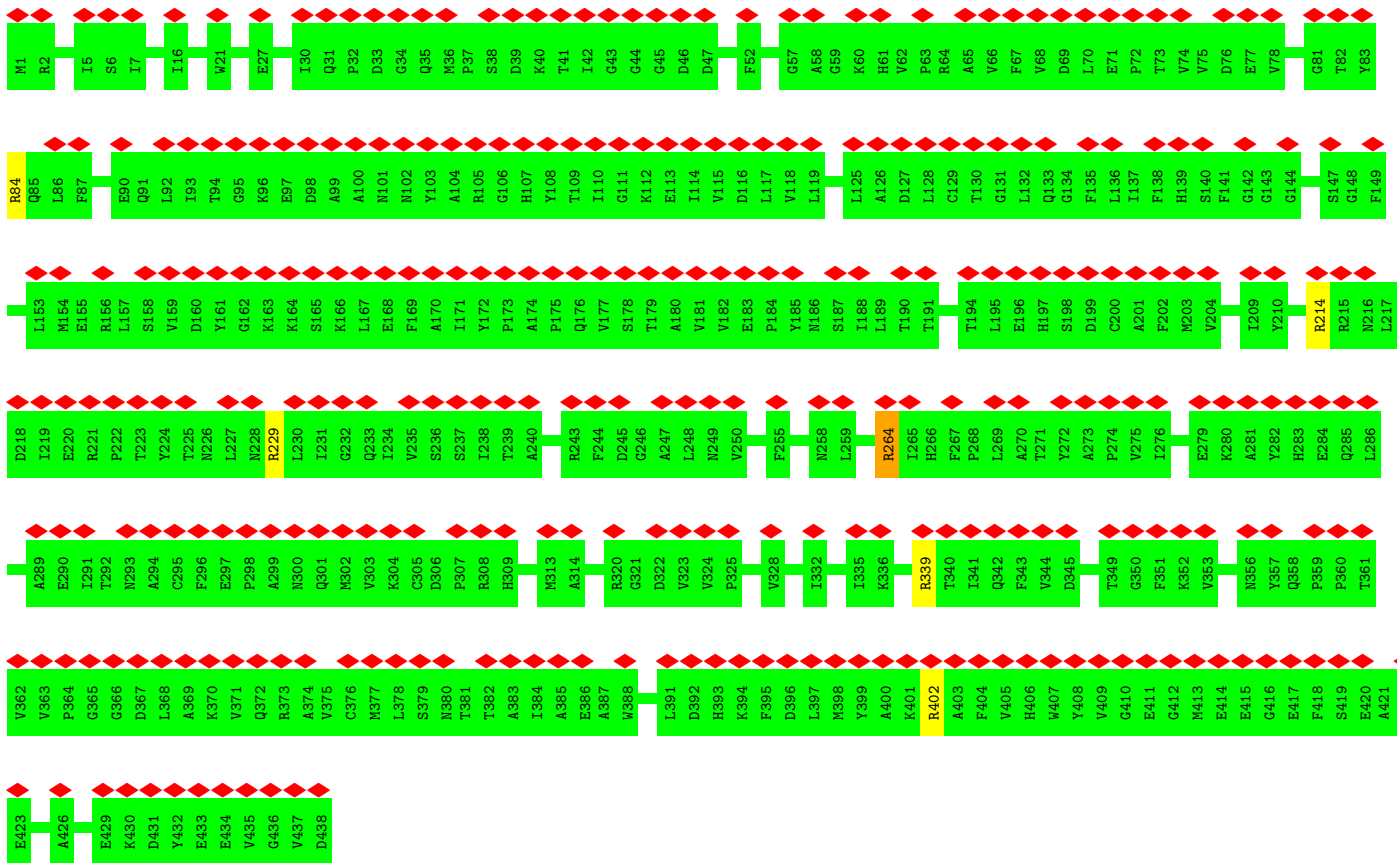
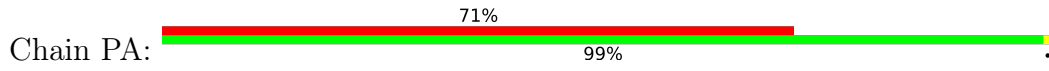


• Molecule 4: Detyrosinated tubulin alpha-3 chain



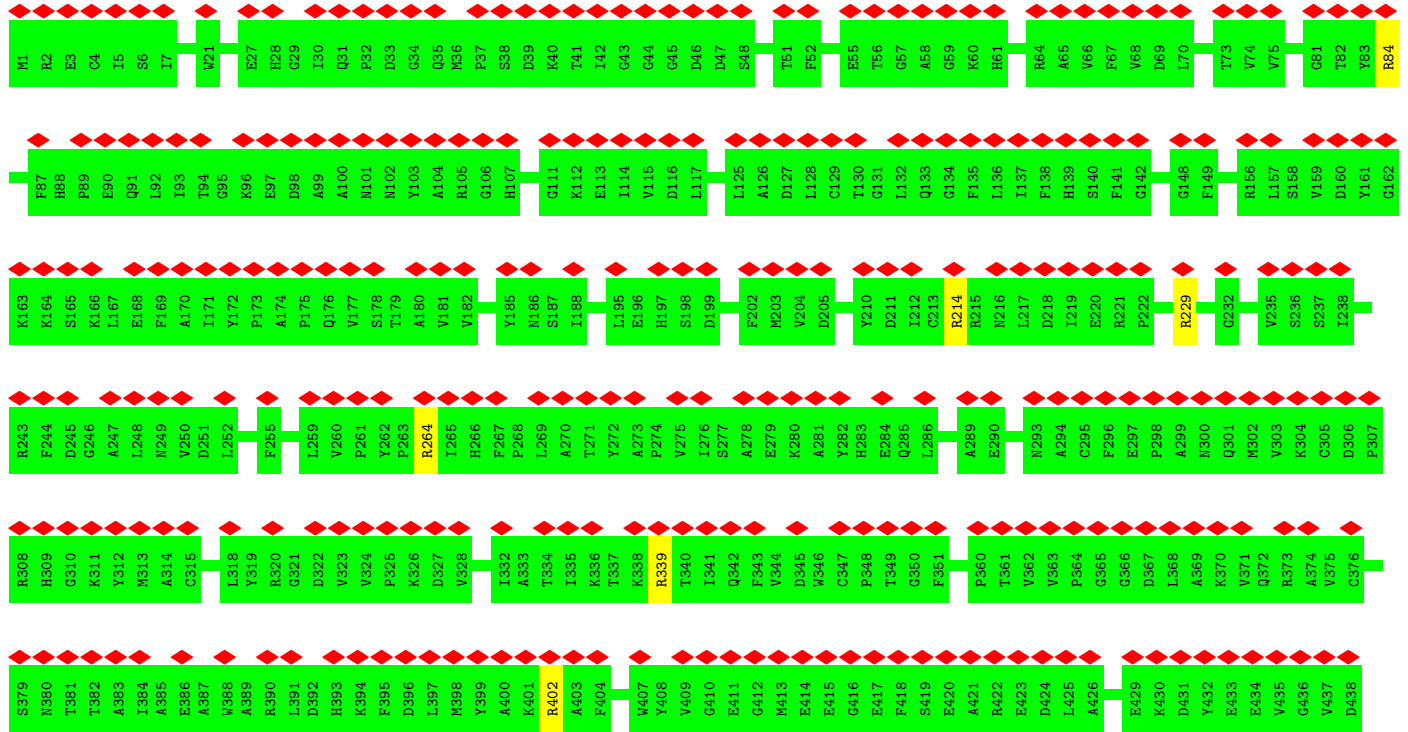


- Molecule 4: Detyrosinated tubulin alpha-3 chain



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● Molecule 4: Detyrosinated tubulin alpha-3 chain

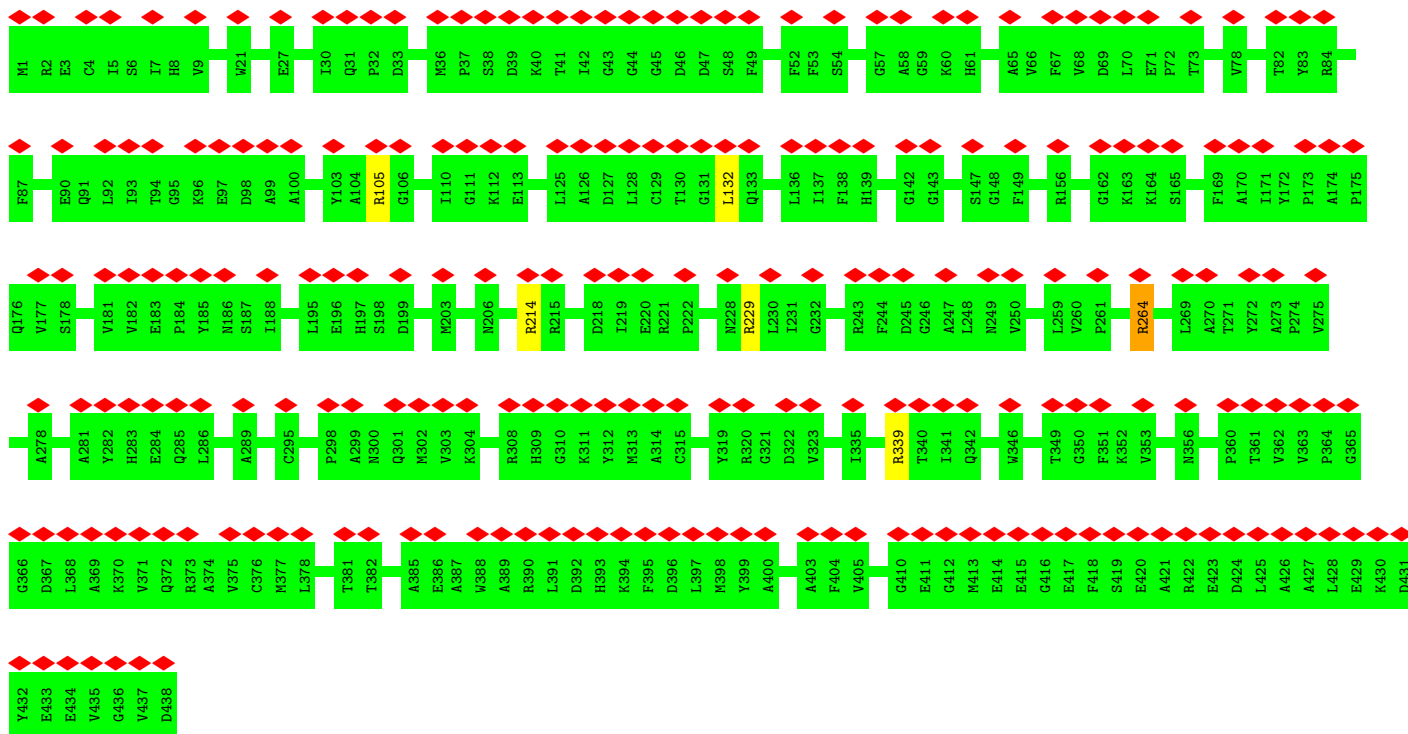


● Molecule 4: Detyrosinated tubulin alpha-3 chain

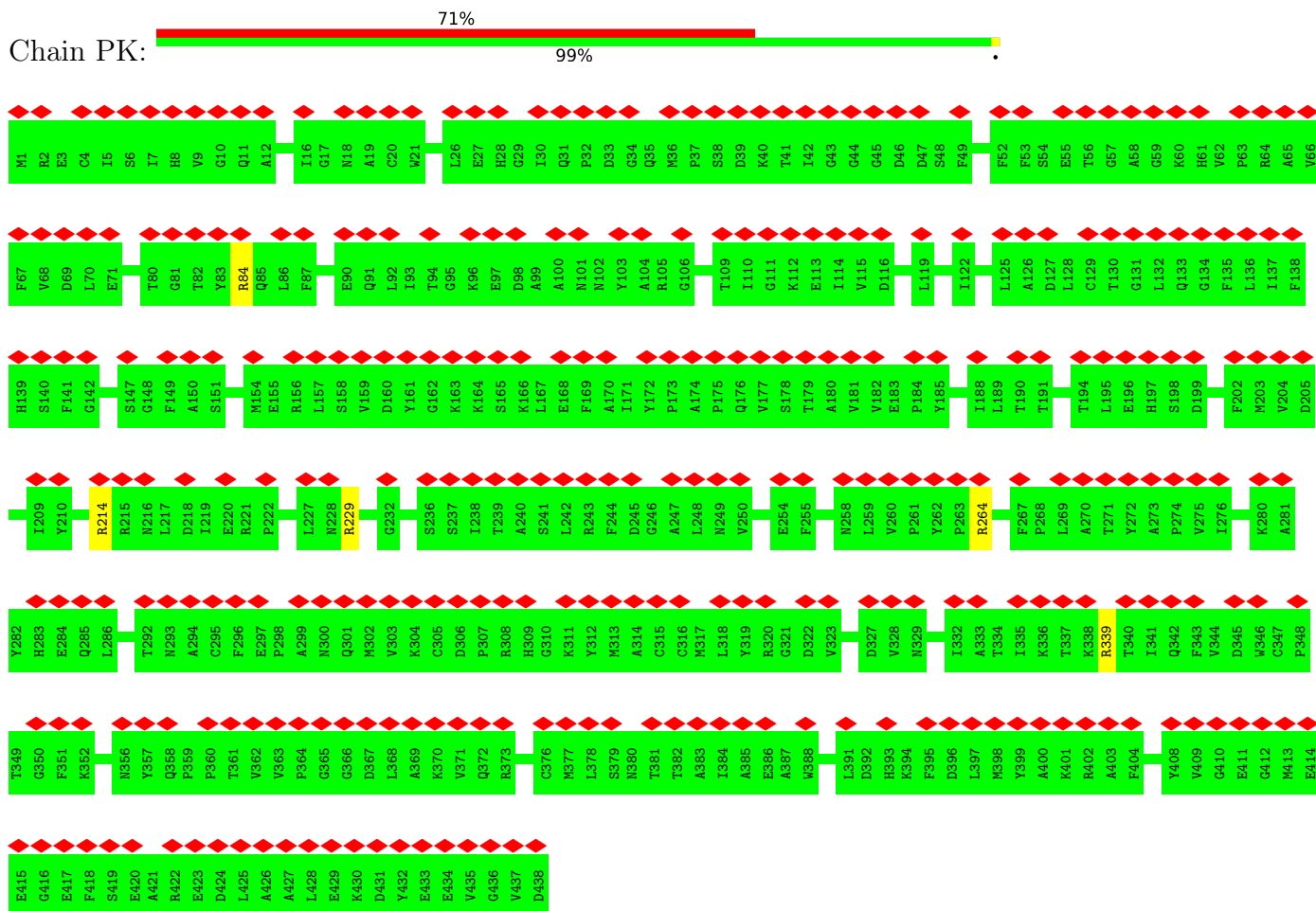




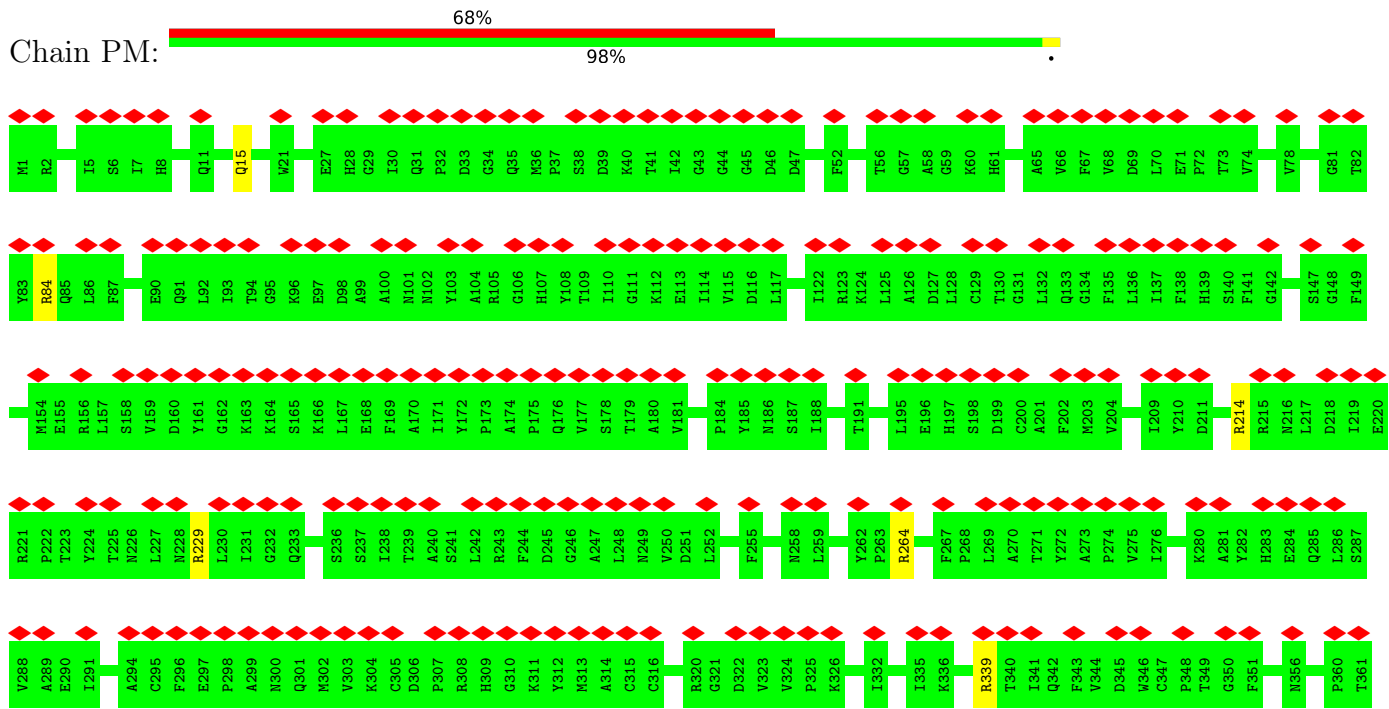
• Molecule 4: Detyrosinated tubulin alpha-3 chain

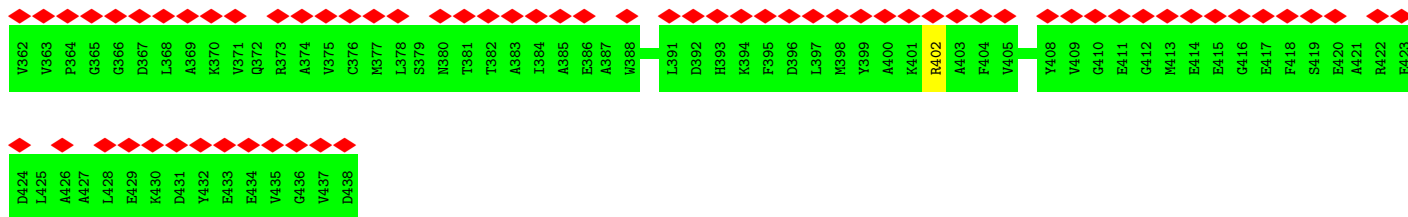


• Molecule 4: Detyrosinated tubulin alpha-3 chain

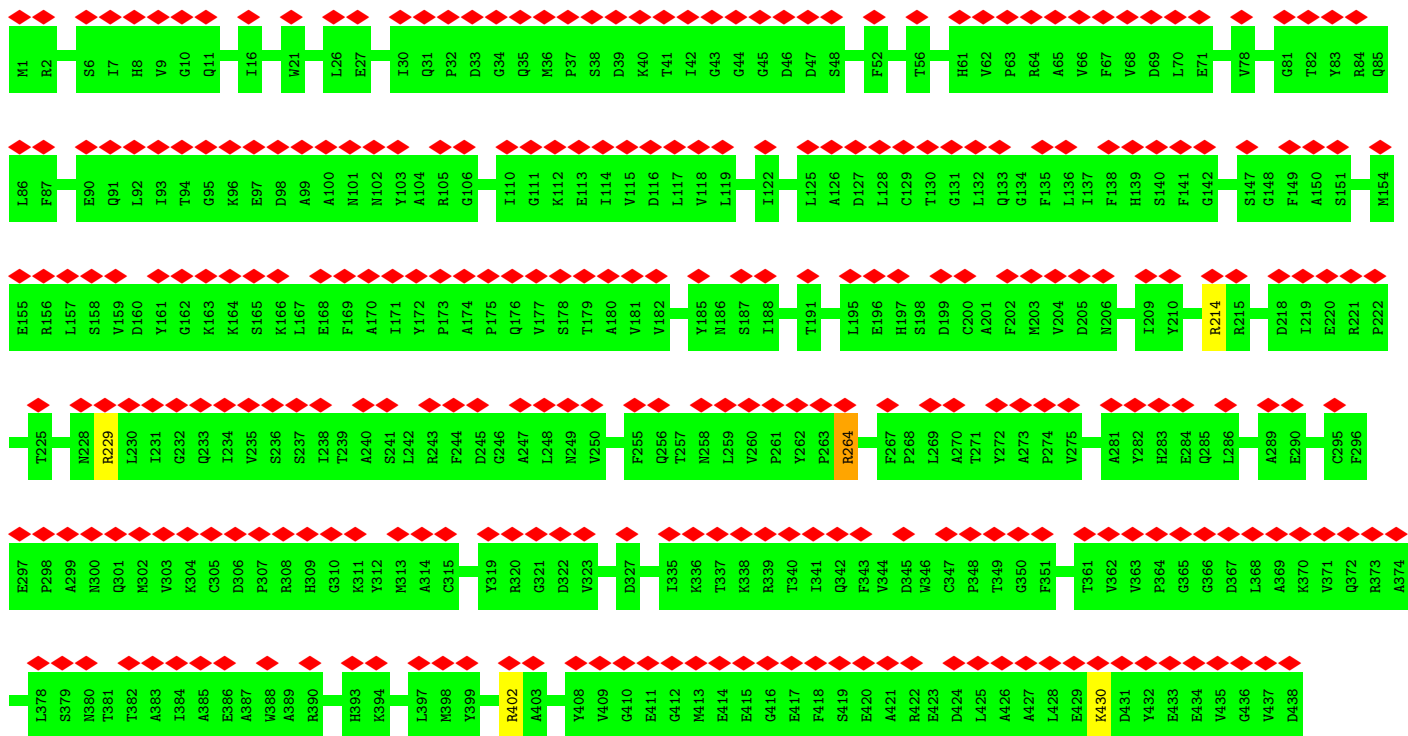


• Molecule 4: Detyrosinated tubulin alpha-3 chain

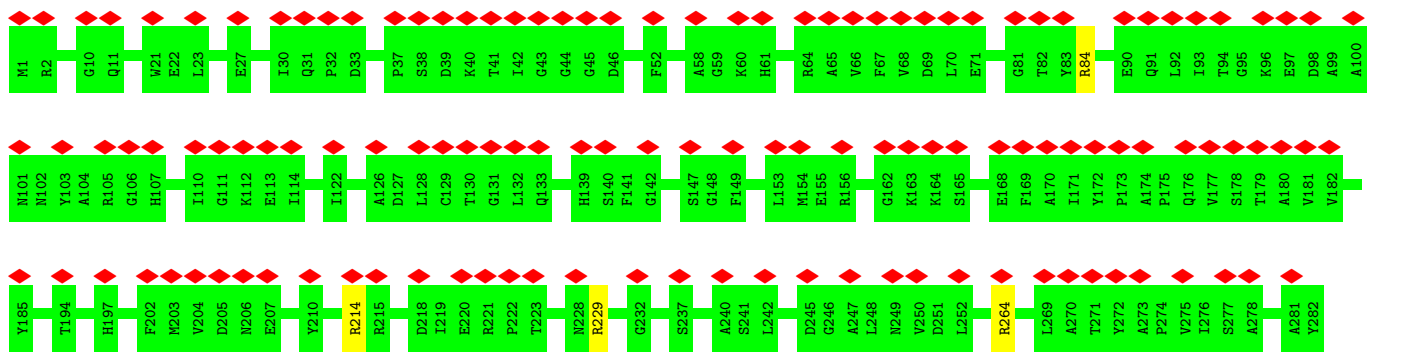


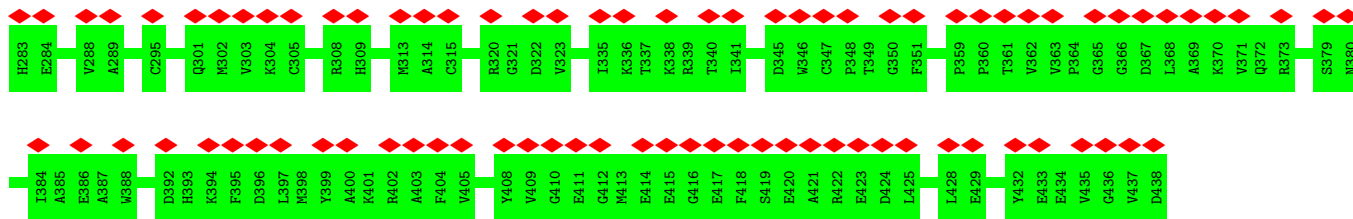


• Molecule 4: Detyrosinated tubulin alpha-3 chain

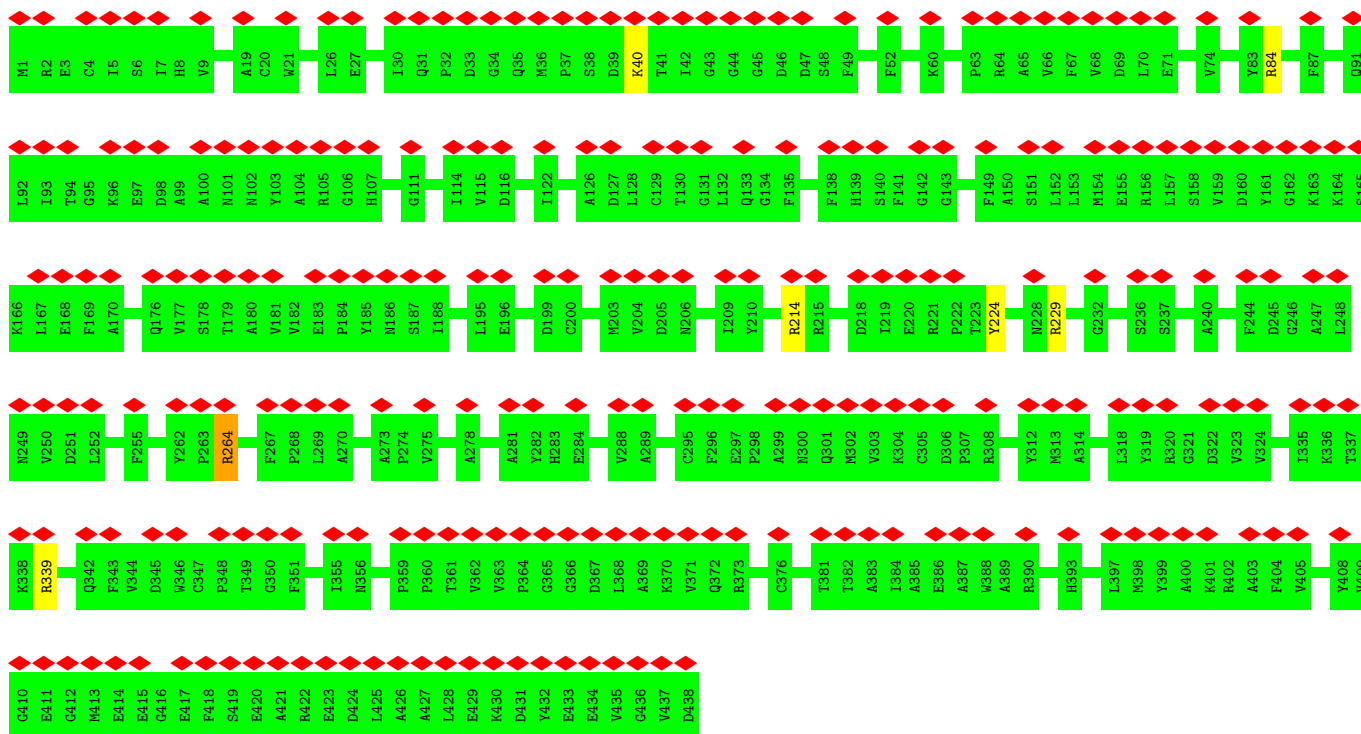


• Molecule 4: Detyrosinated tubulin alpha-3 chain

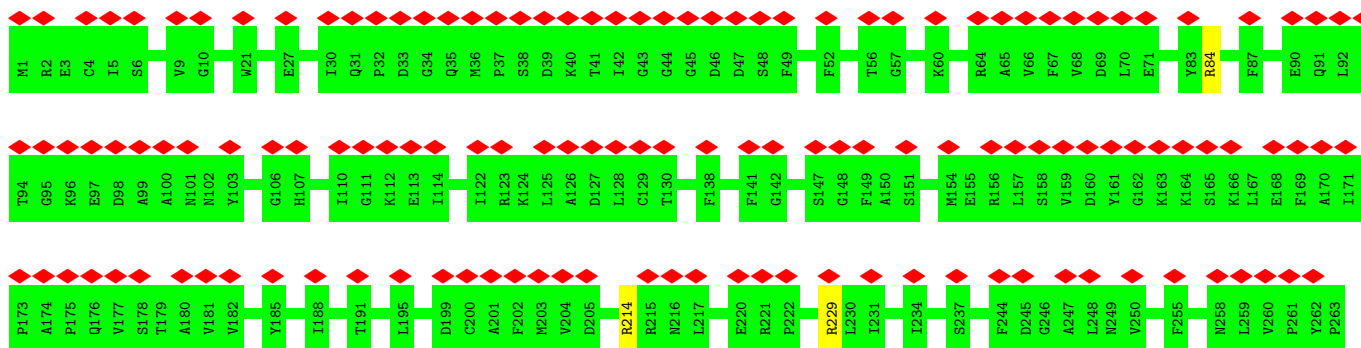


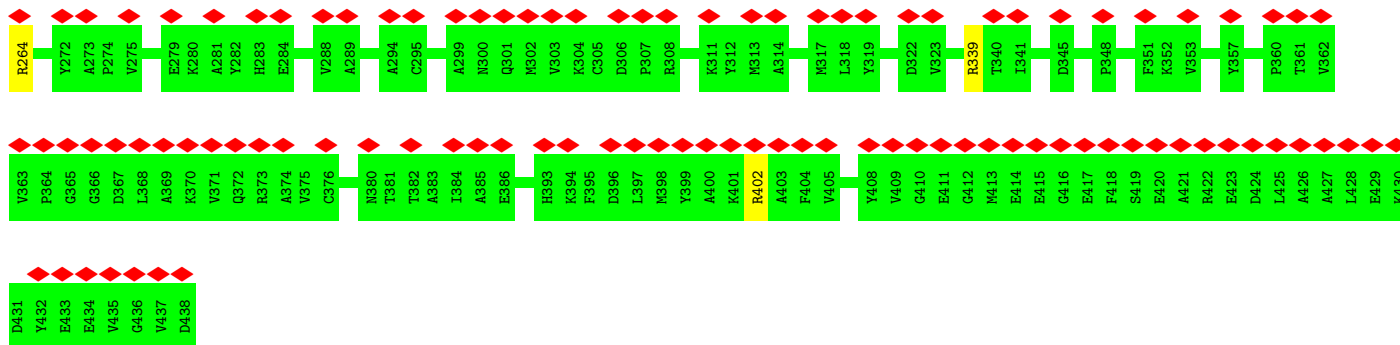


• Molecule 4: Detyrosinated tubulin alpha-3 chain

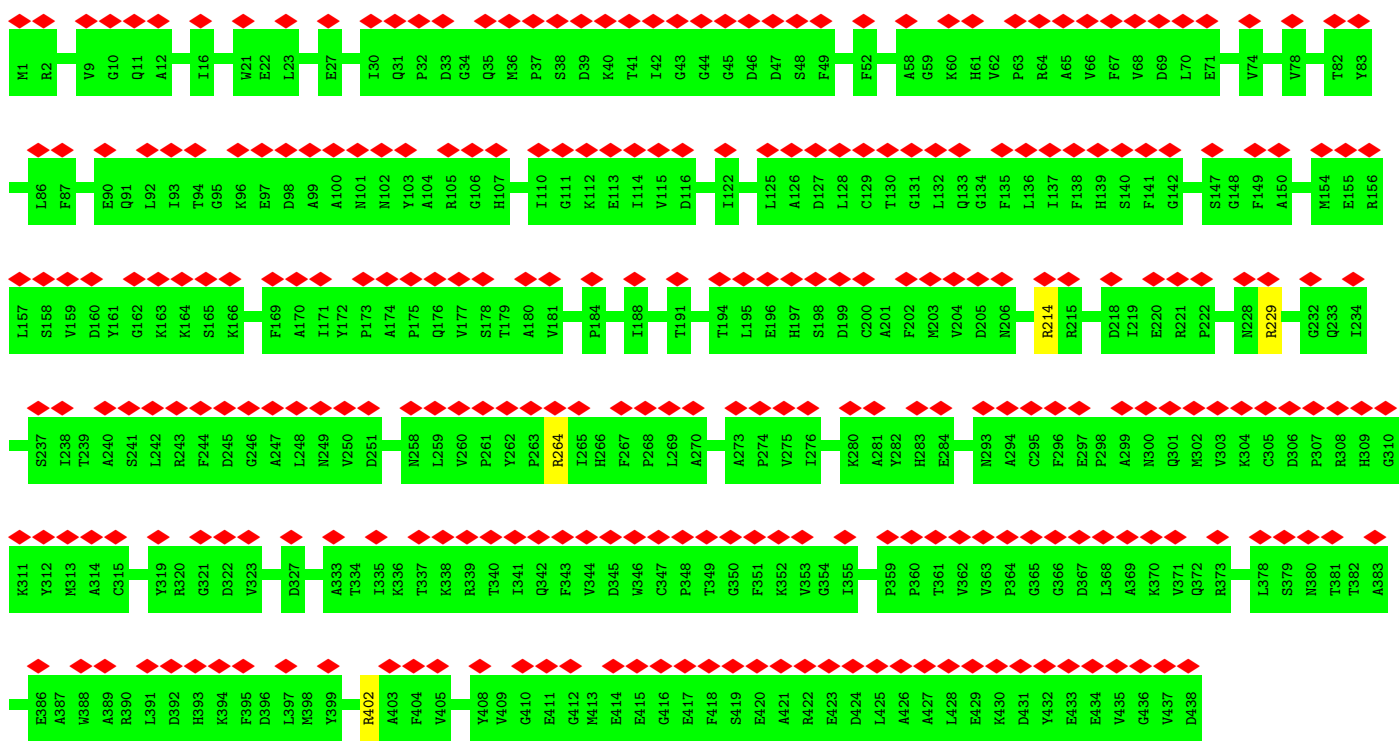


• Molecule 4: Detyrosinated tubulin alpha-3 chain

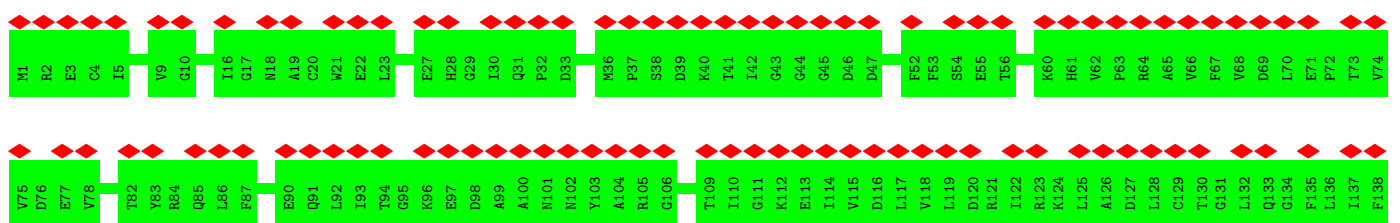
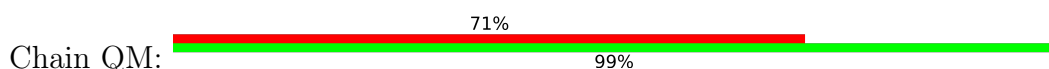


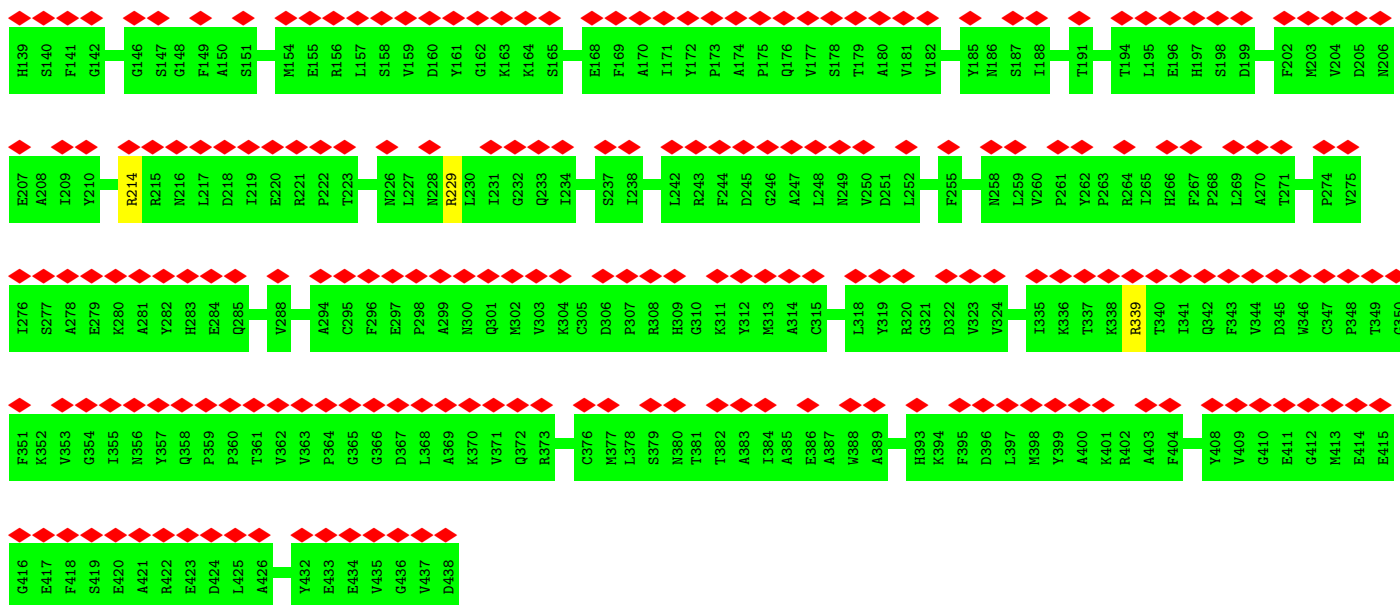


• Molecule 4: Detyrosinated tubulin alpha-3 chain

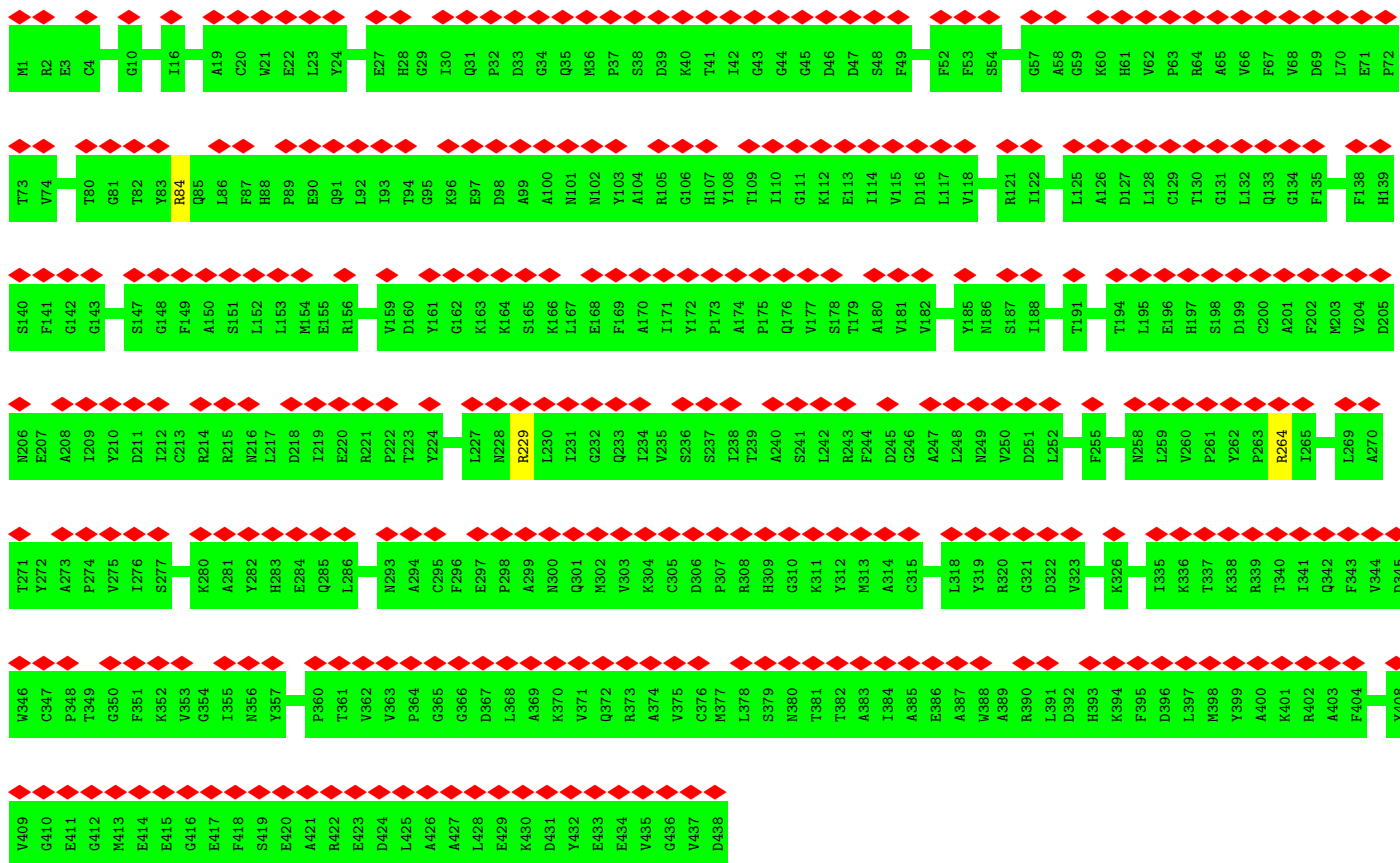
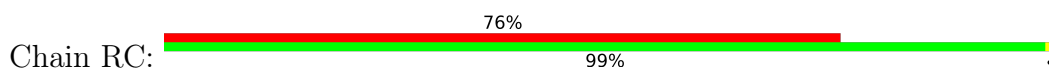


• Molecule 4: Detyrosinated tubulin alpha-3 chain





- Molecule 4: Detyrosinated tubulin alpha-3 chain



- Molecule 4: Detyrosinated tubulin alpha-3 chain

54%

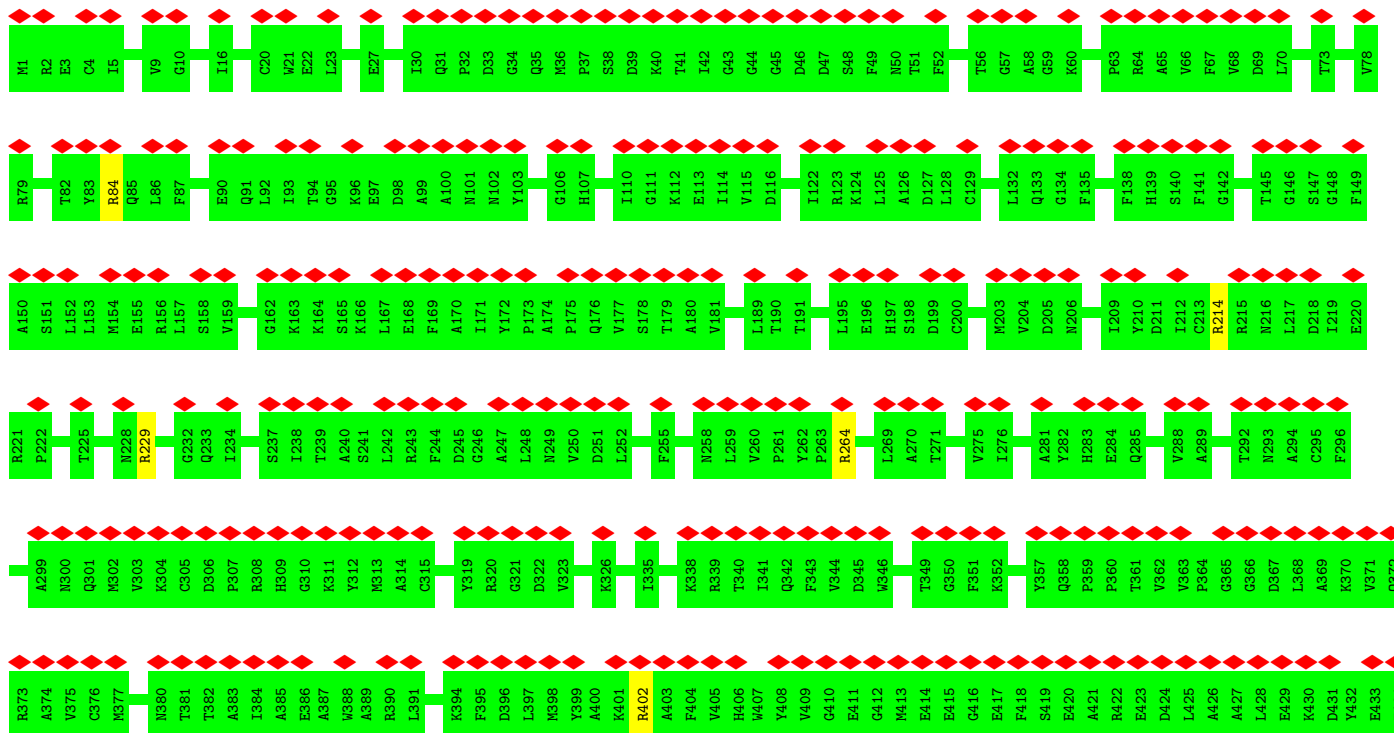
Chain RE:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

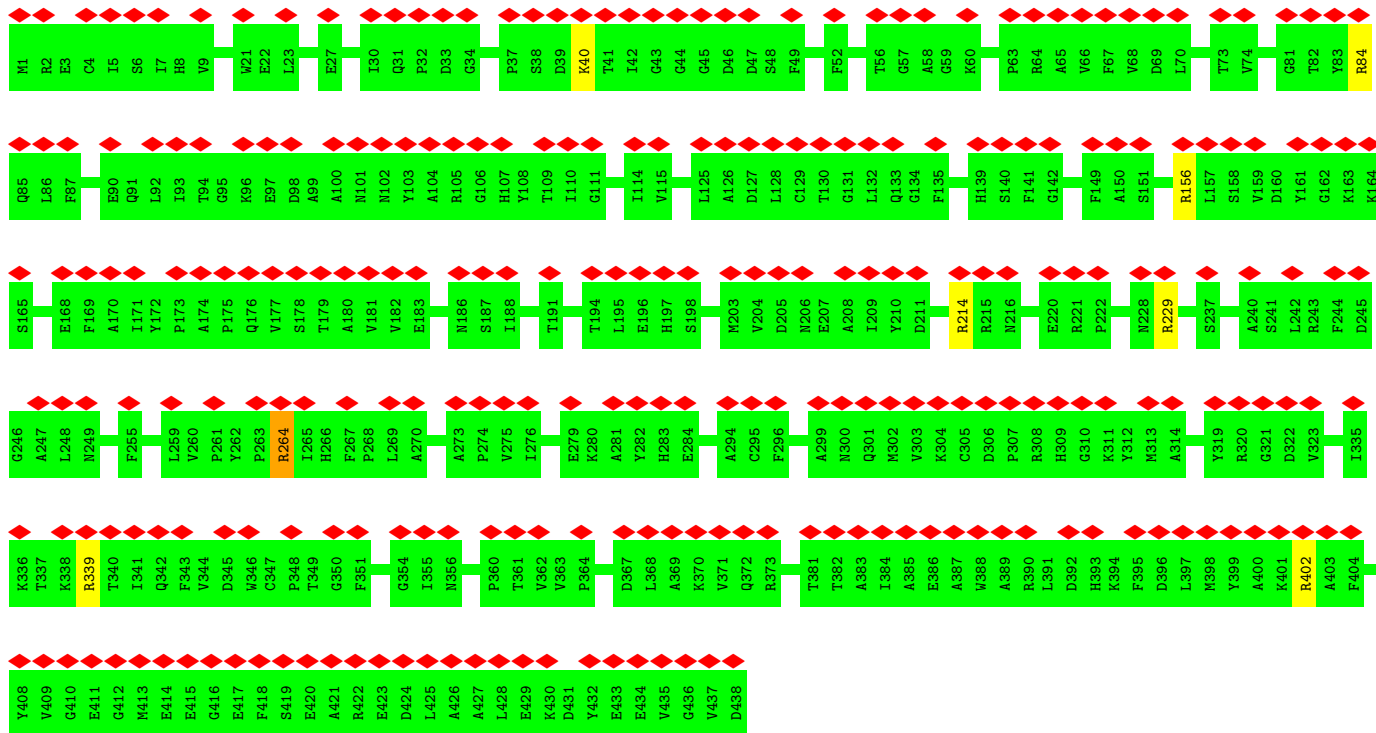
66%

Chain RG:

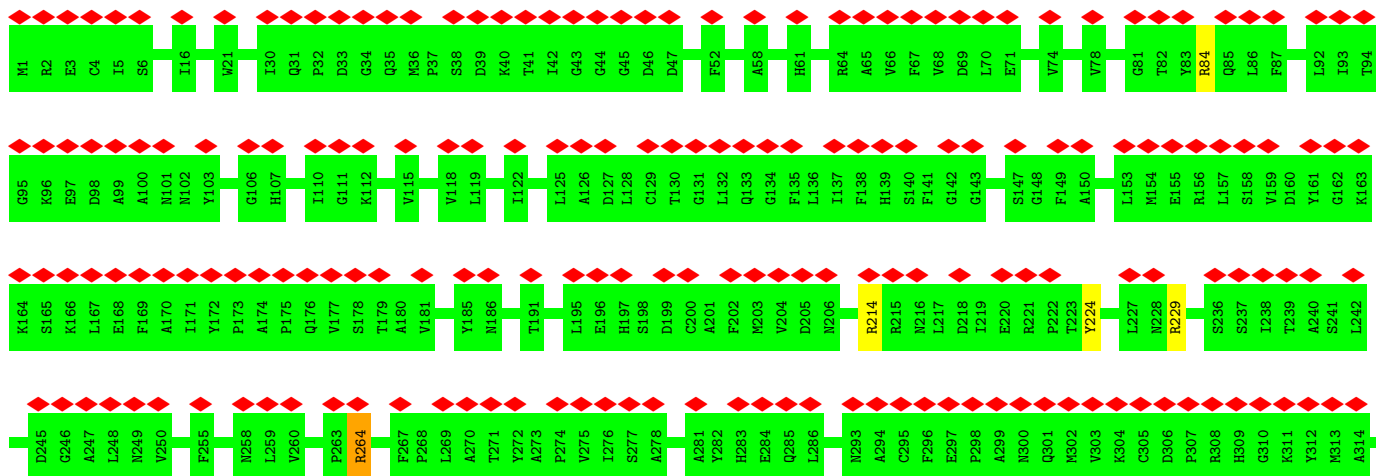


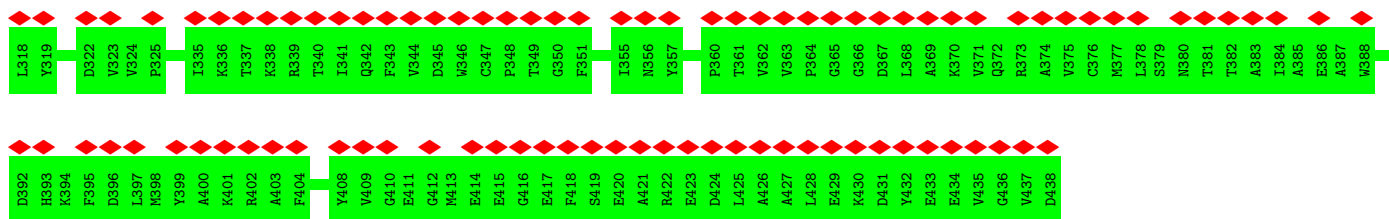
V435
G436
V437
D438

• Molecule 4: Detyrosinated tubulin alpha-3 chain

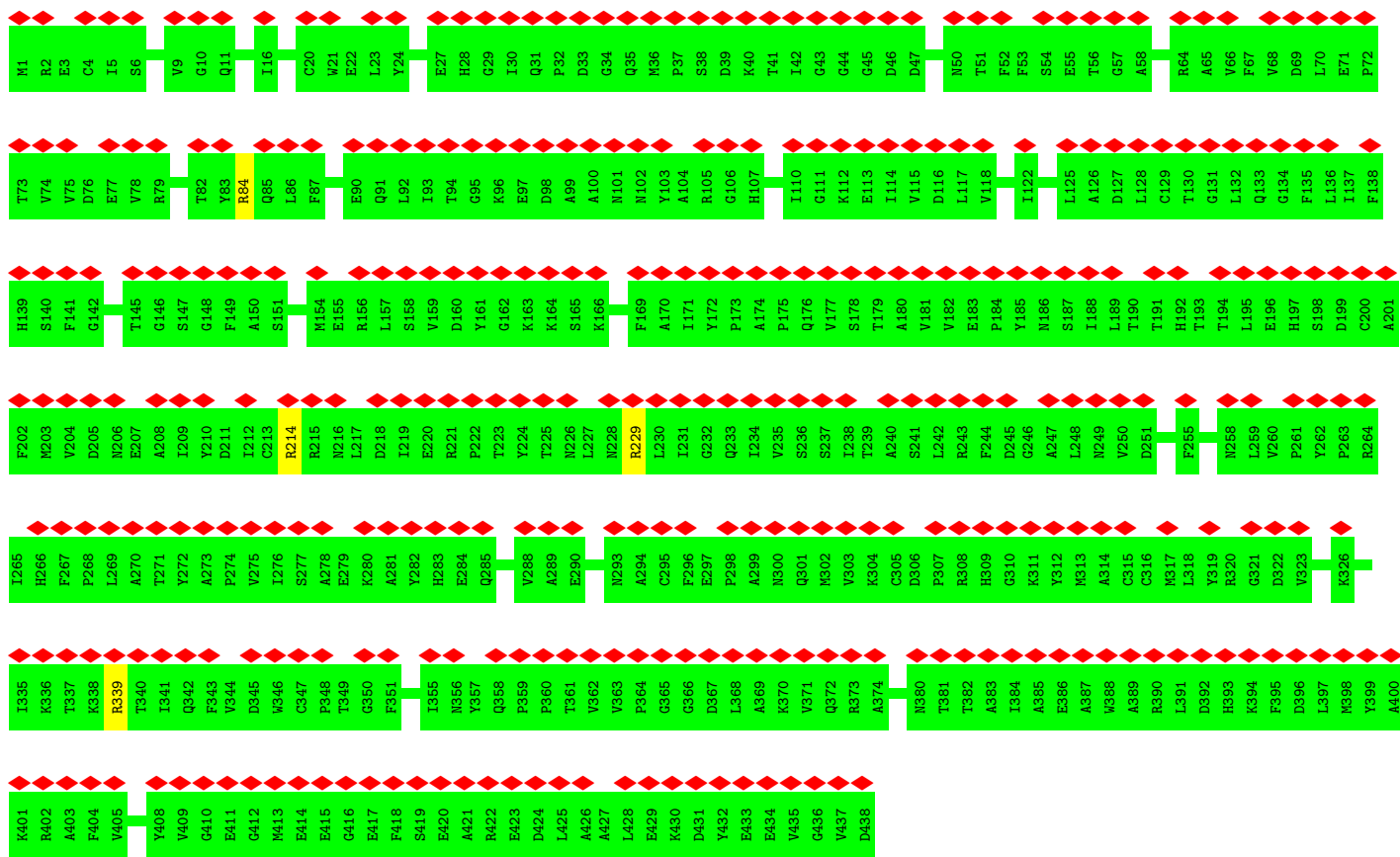
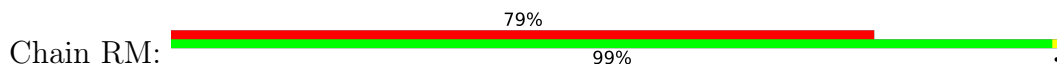


• Molecule 4: Detyrosinated tubulin alpha-3 chain

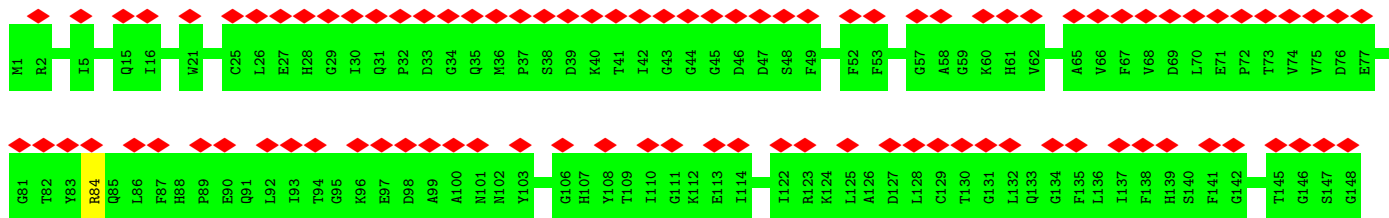


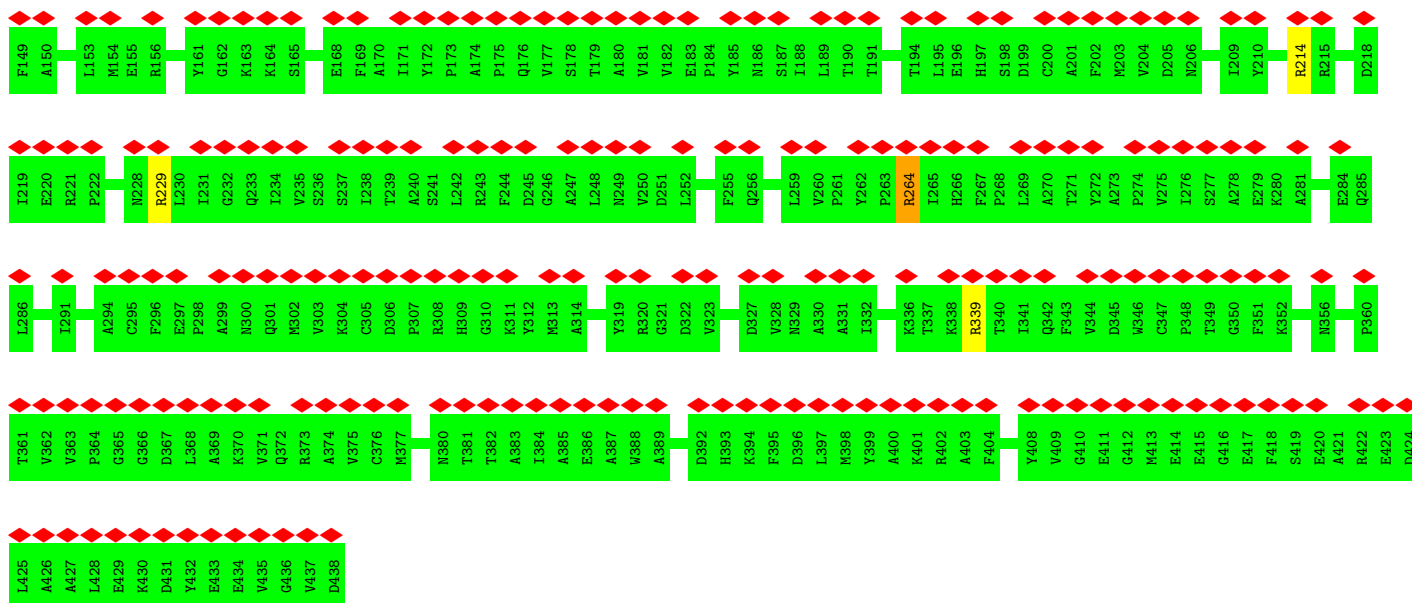


• Molecule 4: Detyrosinated tubulin alpha-3 chain



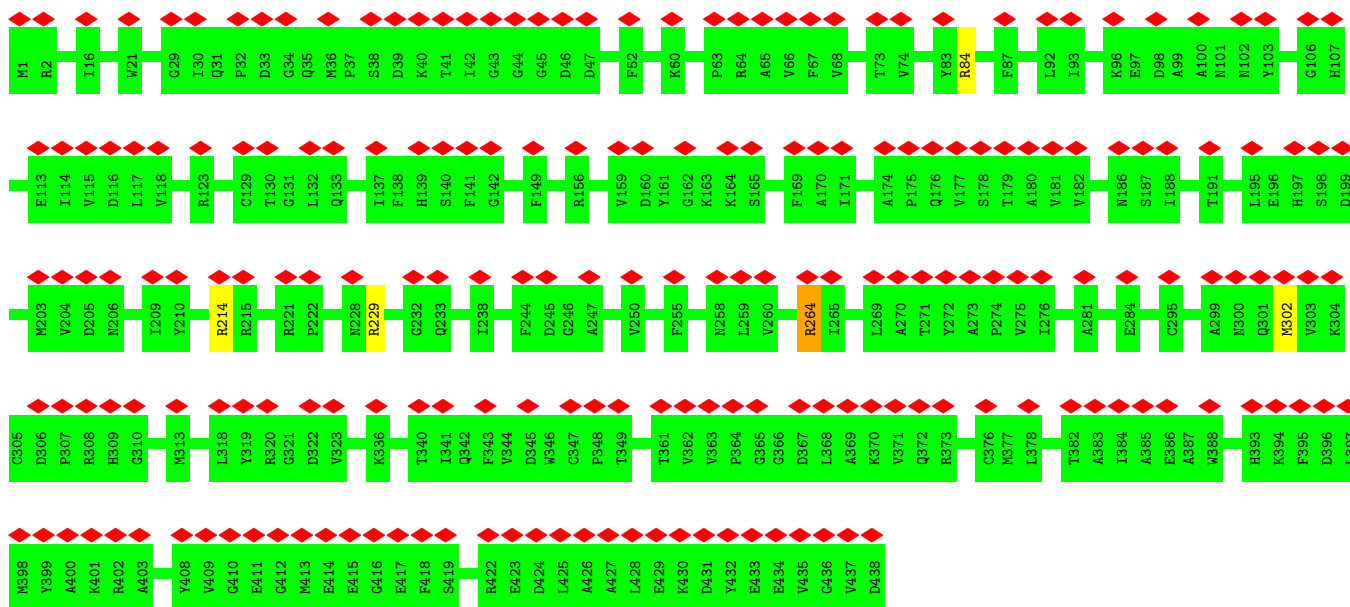
• Molecule 4: Detyrosinated tubulin alpha-3 chain





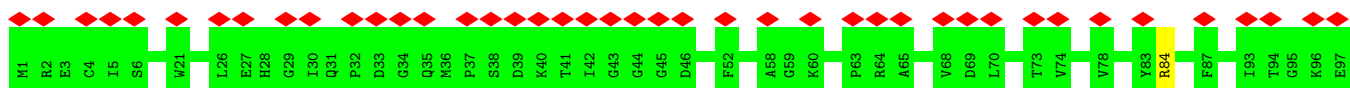
- Molecule 4: Detyrosinated tubulin alpha-3 chain

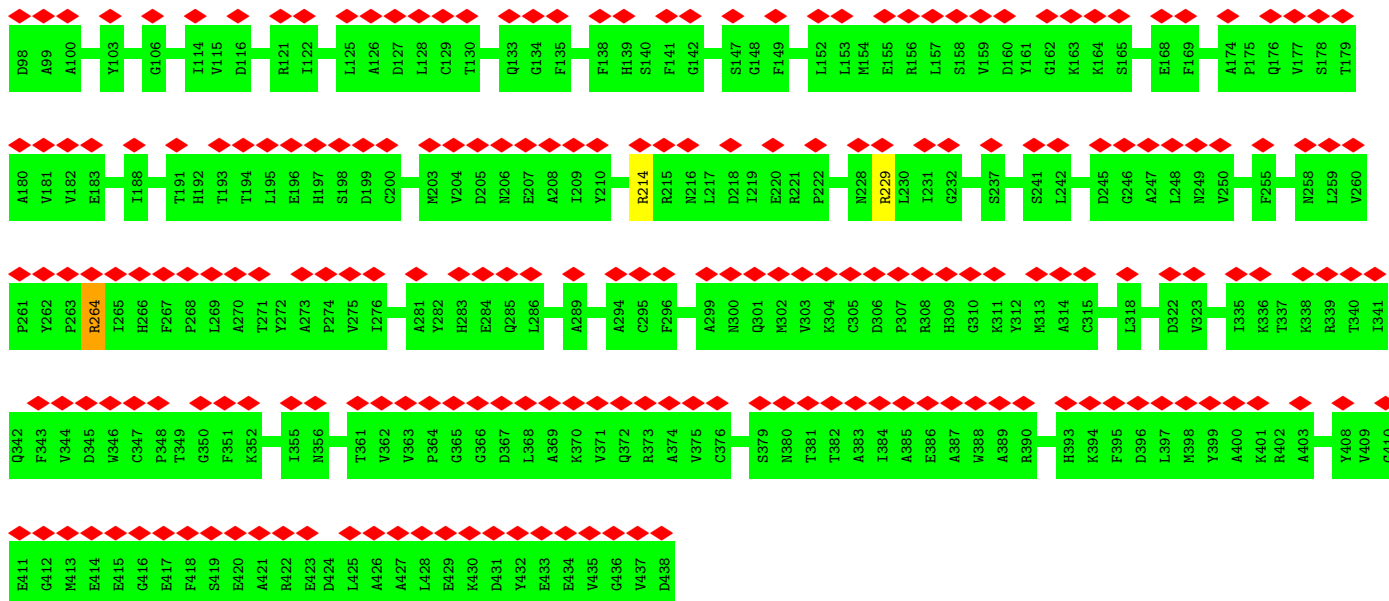
Chain SE: 47% 99%



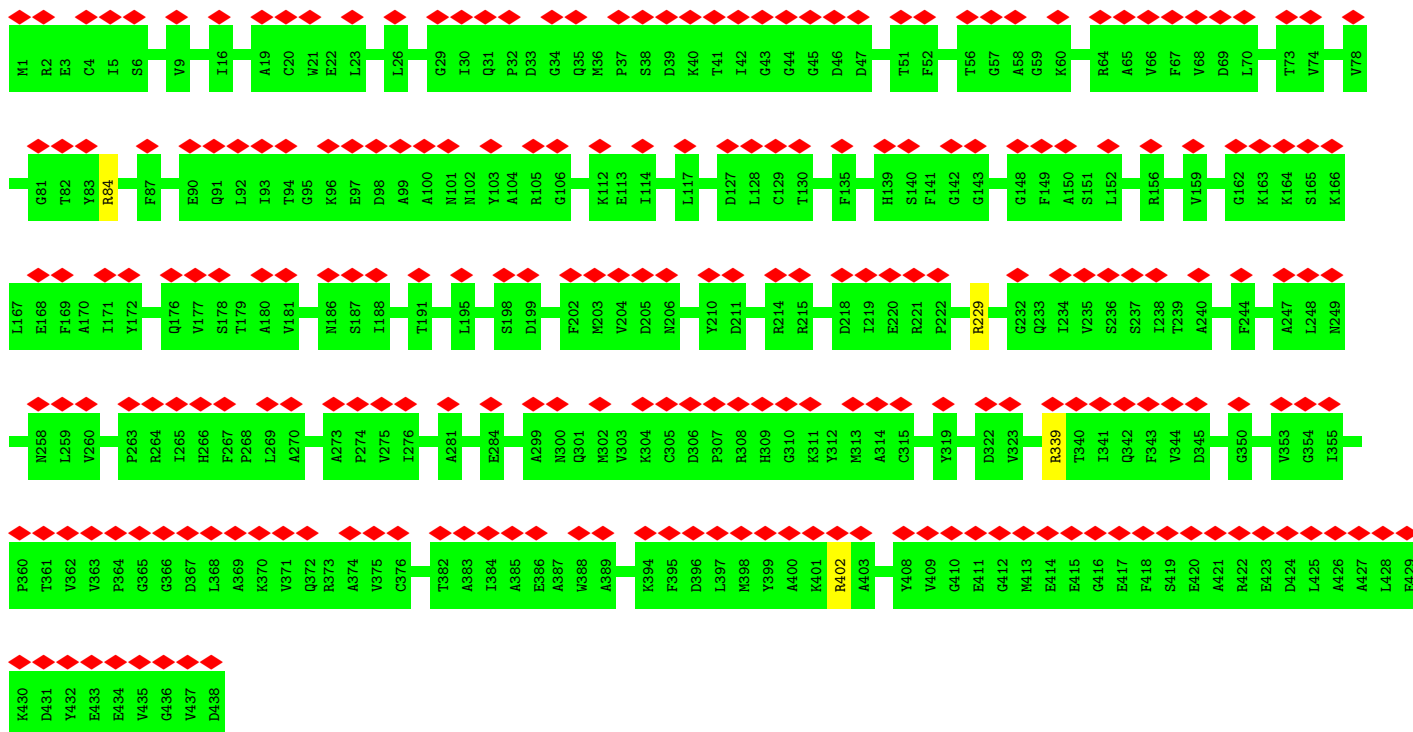
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain SG: 59% 99%



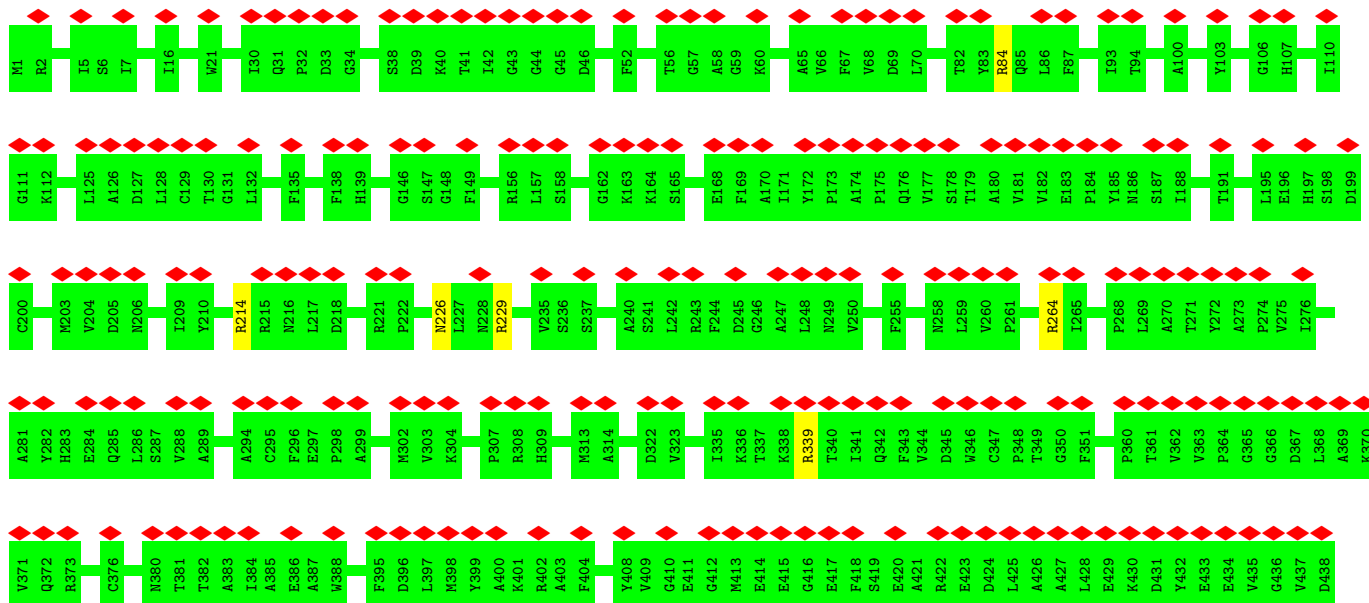


• Molecule 4: Detyrosinated tubulin alpha-3 chain

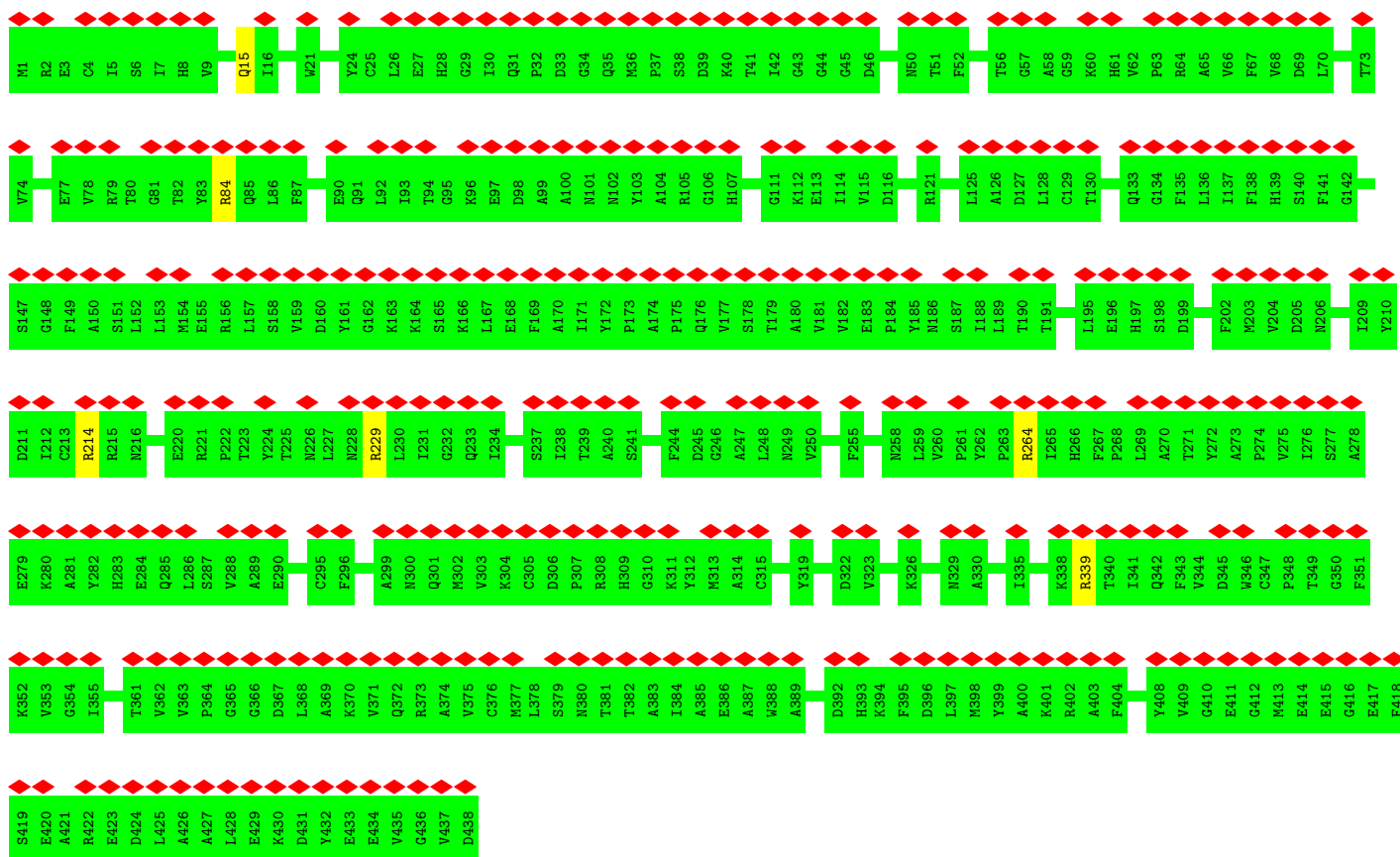
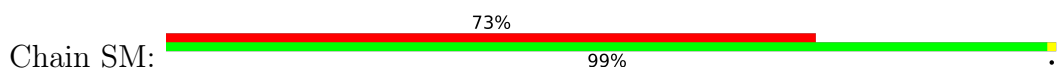


• Molecule 4: Detyrosinated tubulin alpha-3 chain

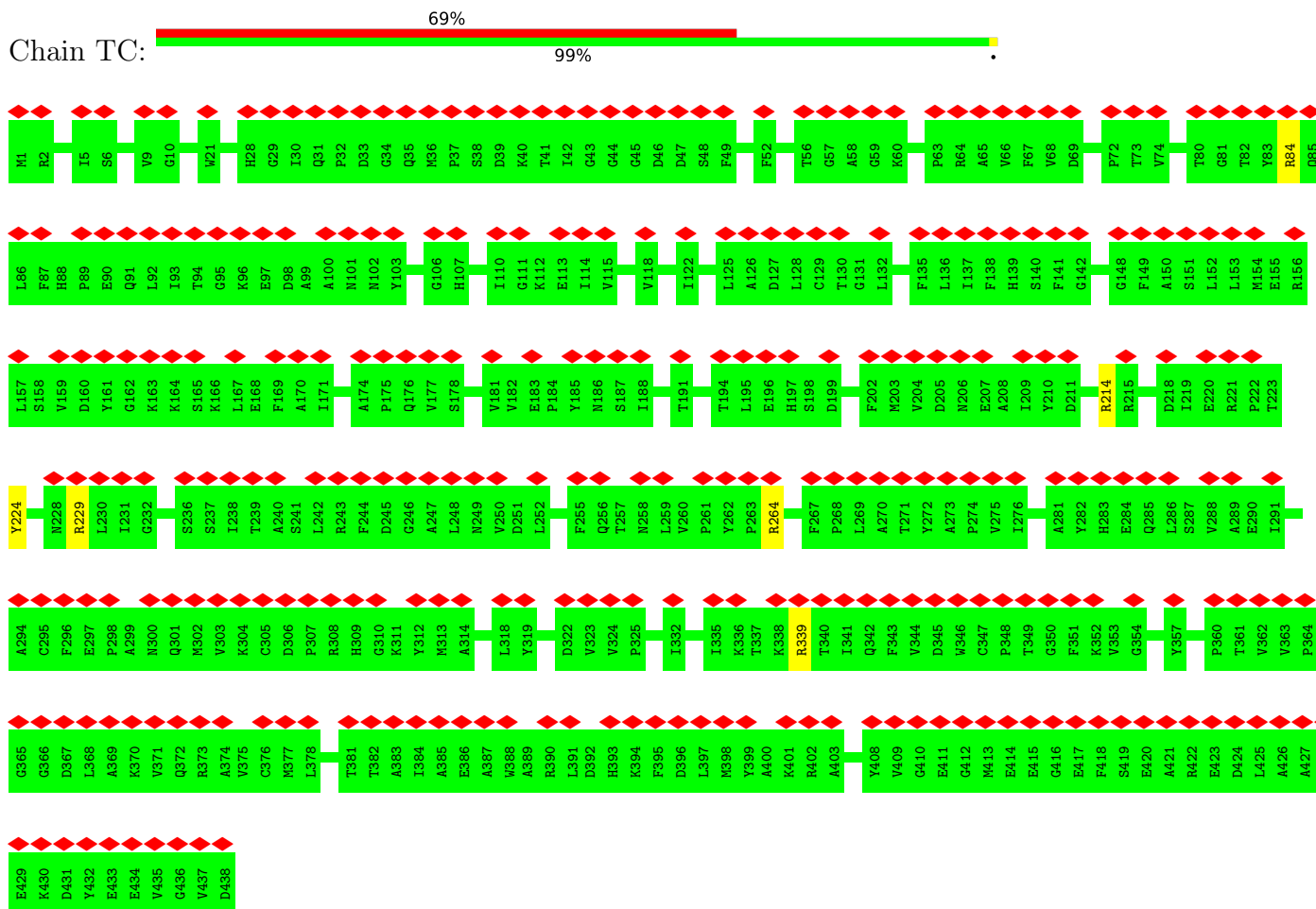




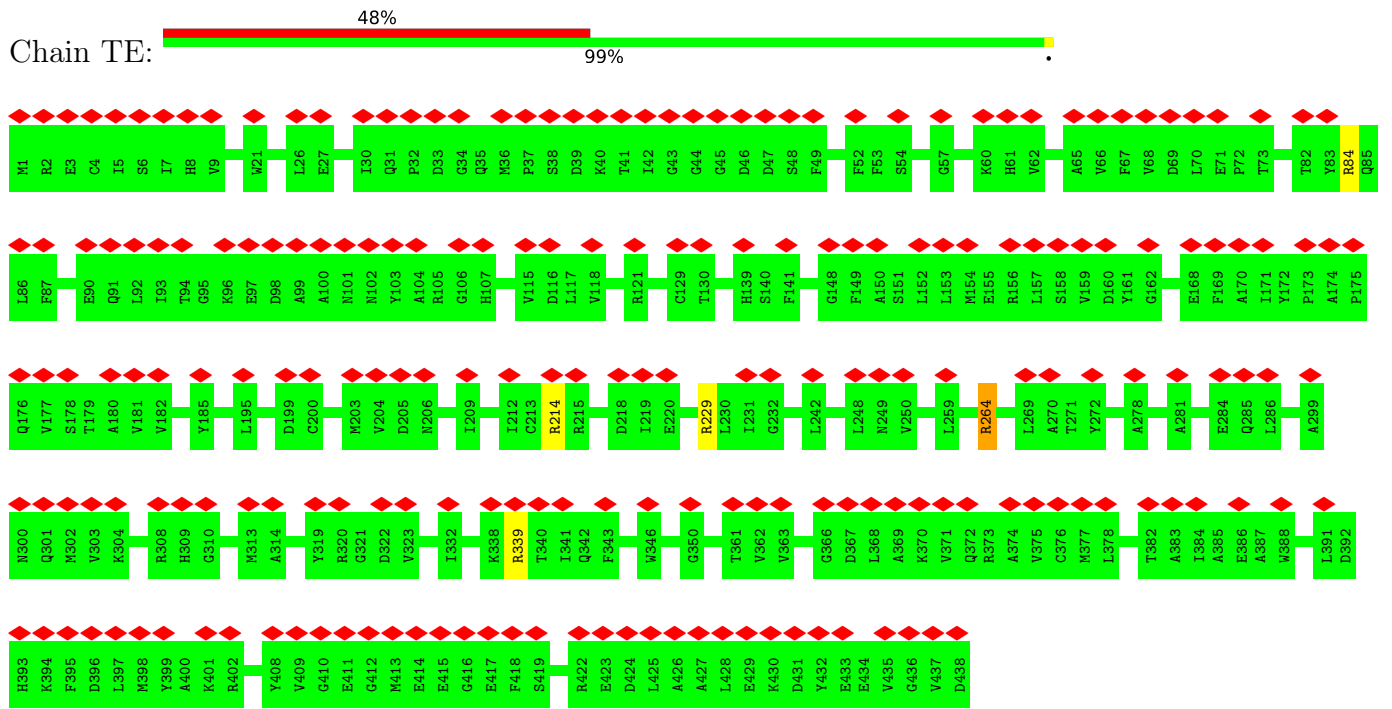
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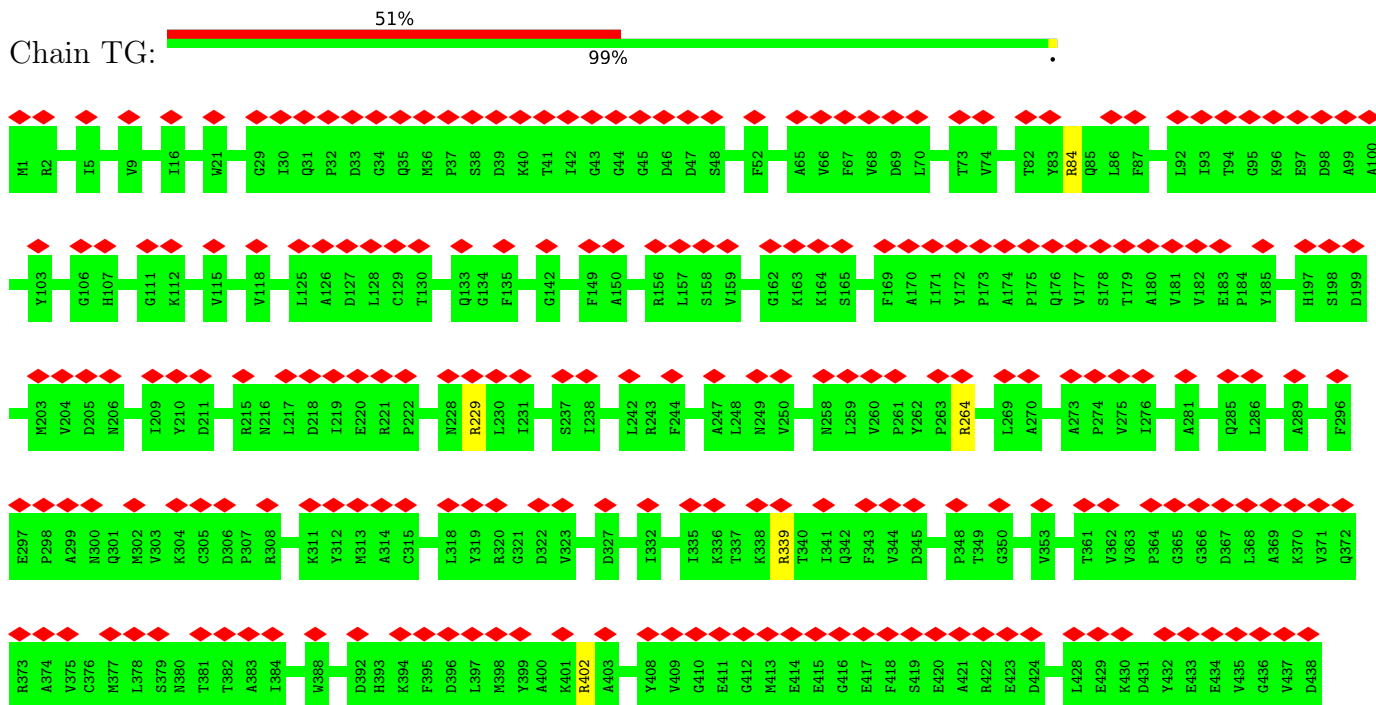
• Molecule 4: Detyrosinated tubulin alpha-3 chain



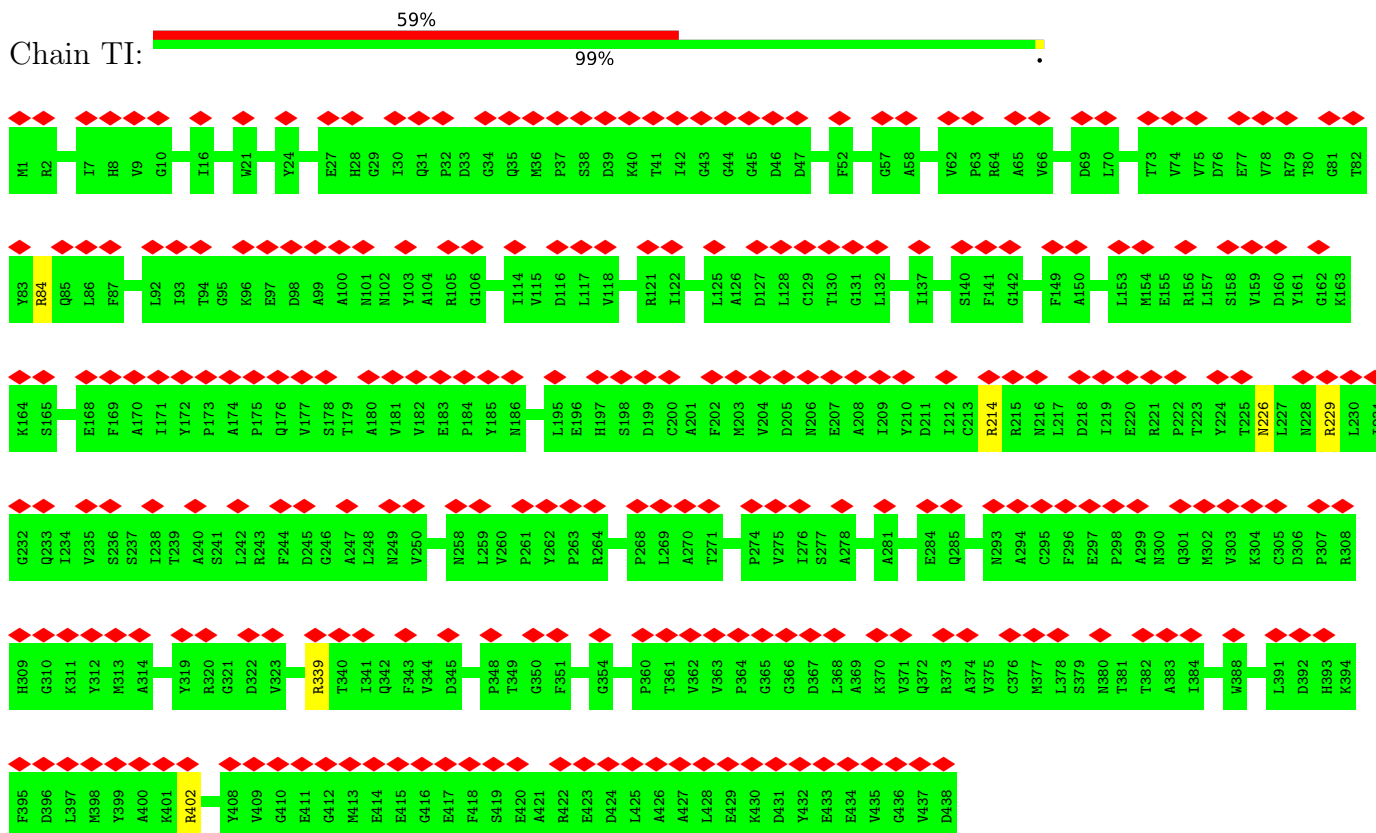
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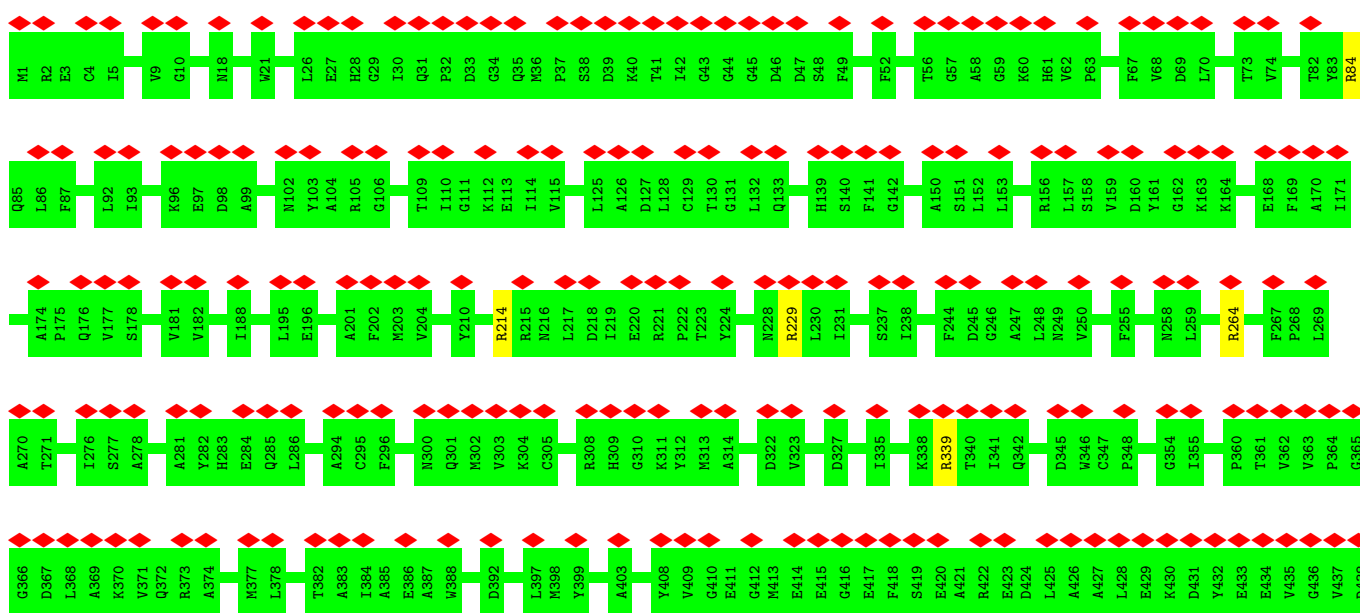
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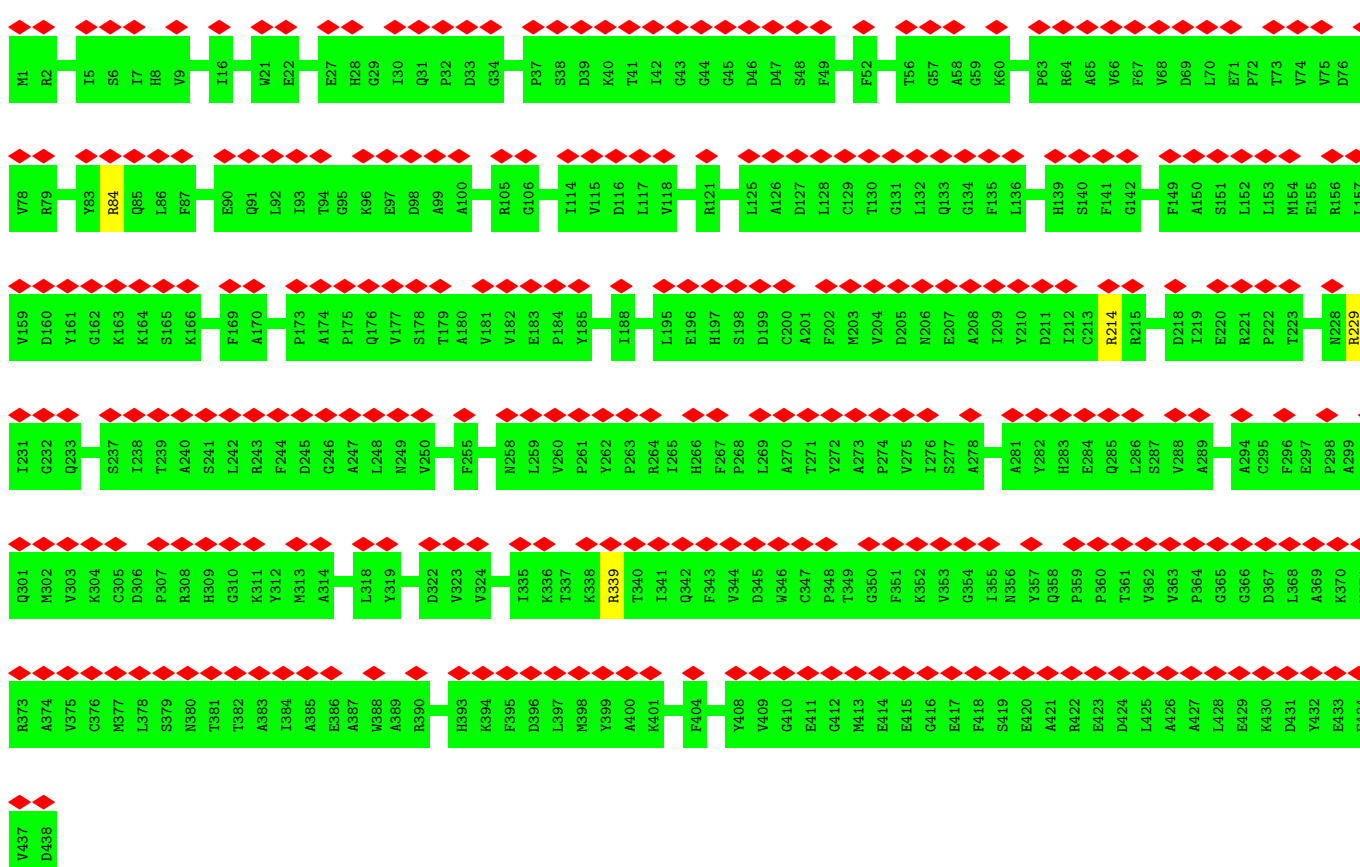
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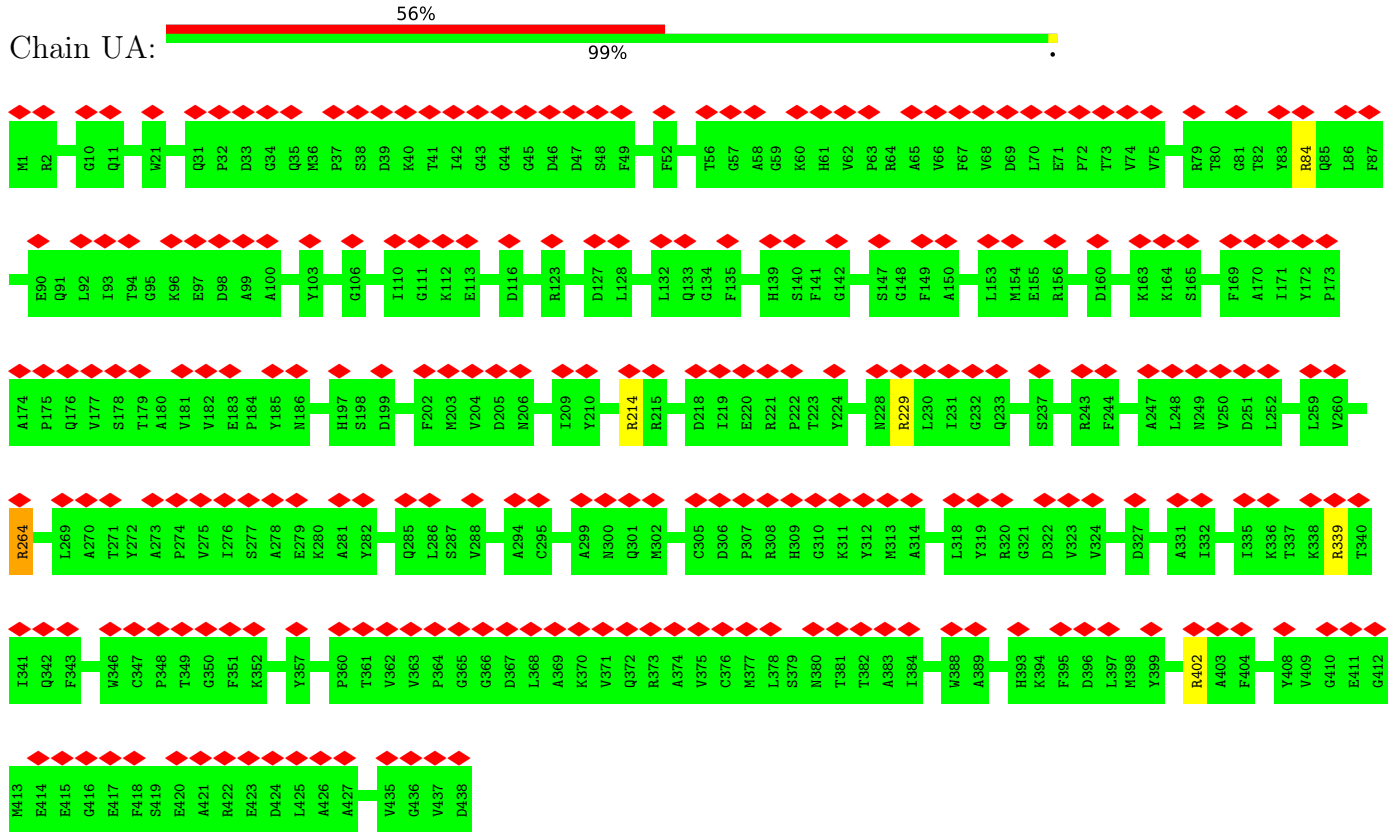
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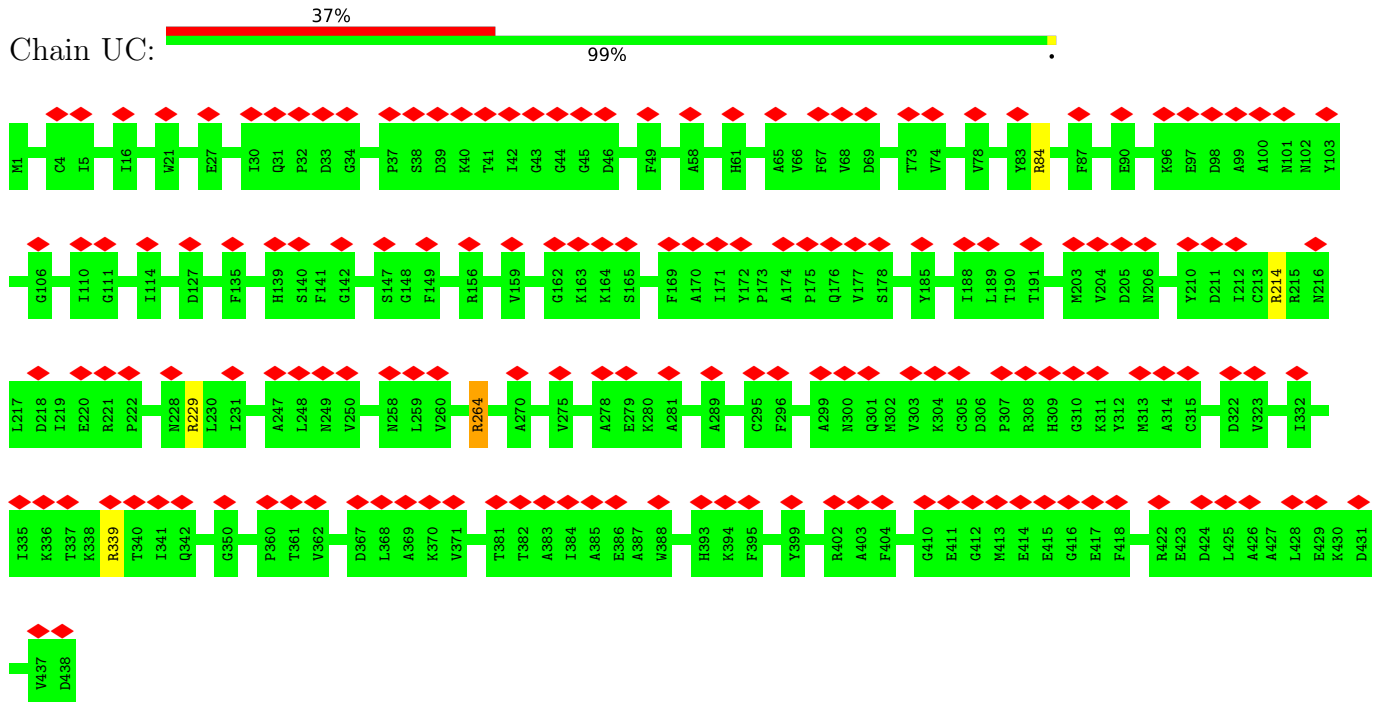
• Molecule 4: Detyrosinated tubulin alpha-3 chain



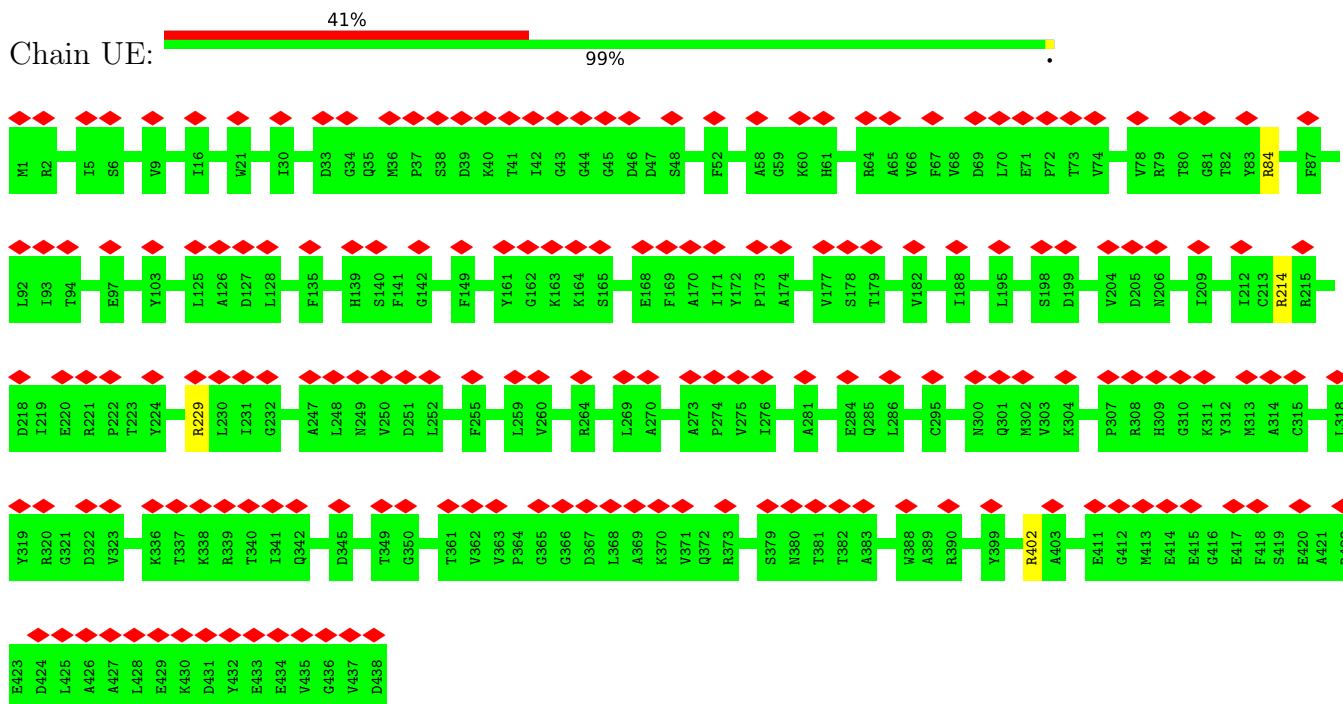
• Molecule 4: Detyrosinated tubulin alpha-3 chain



• Molecule 4: Detyrosinated tubulin alpha-3 chain



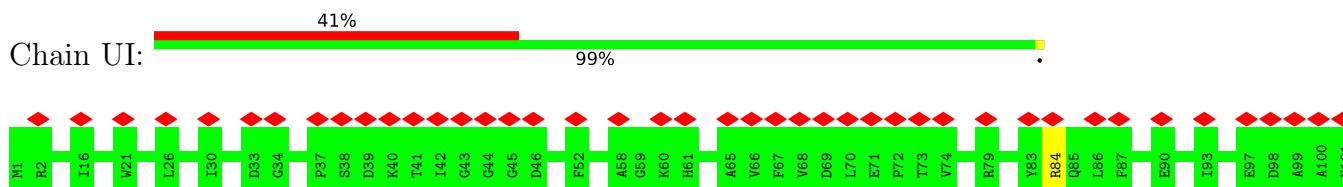
• Molecule 4: Detyrosinated tubulin alpha-3 chain

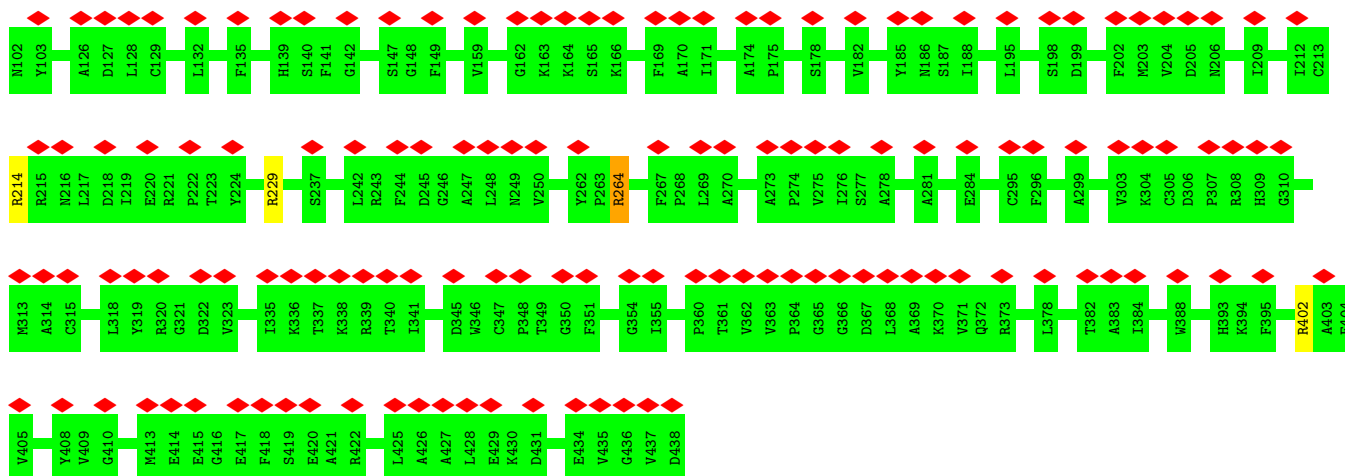


• Molecule 4: Detyrosinated tubulin alpha-3 chain

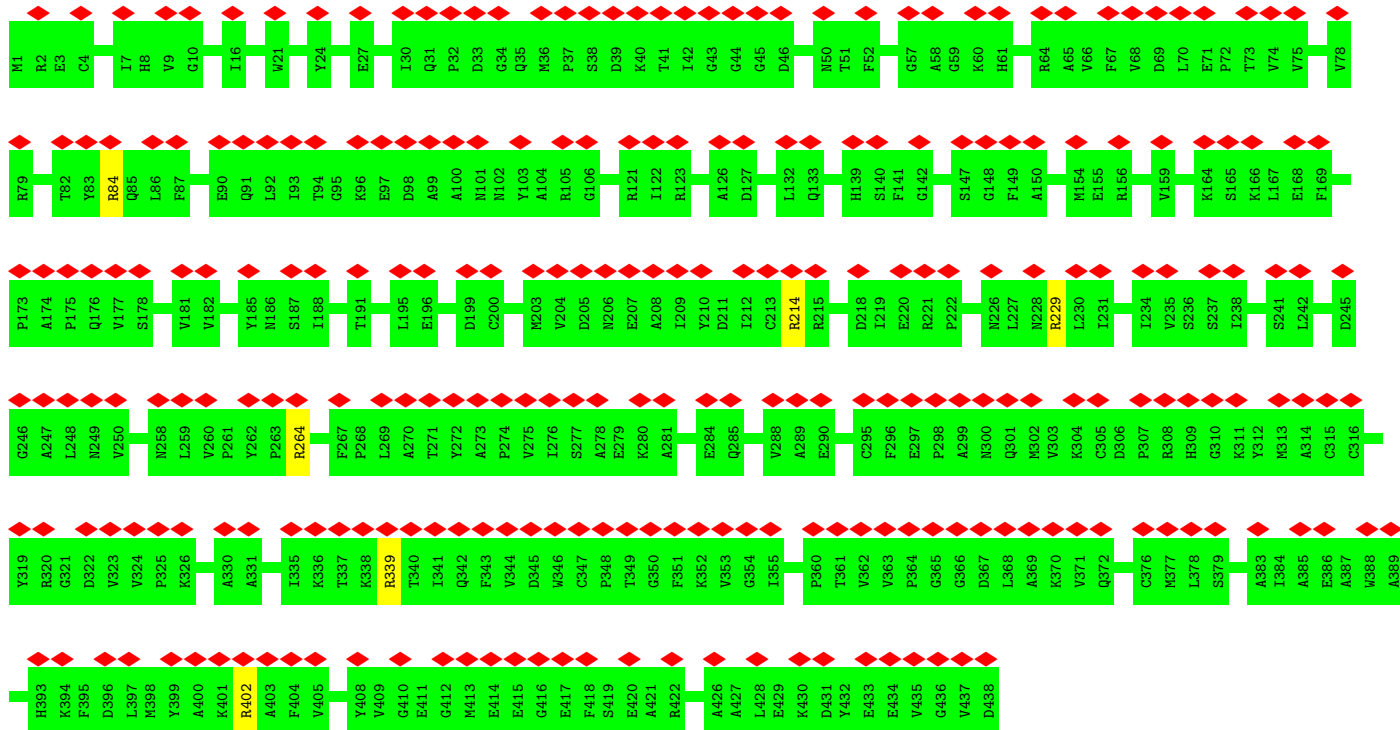


• Molecule 4: Detyrosinated tubulin alpha-3 chain

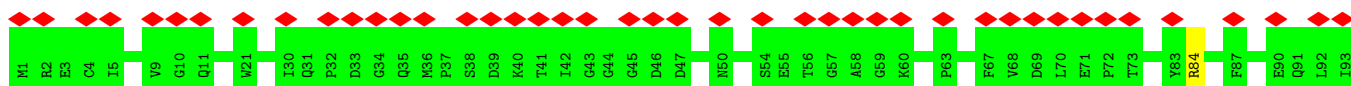
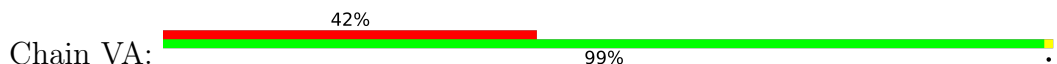


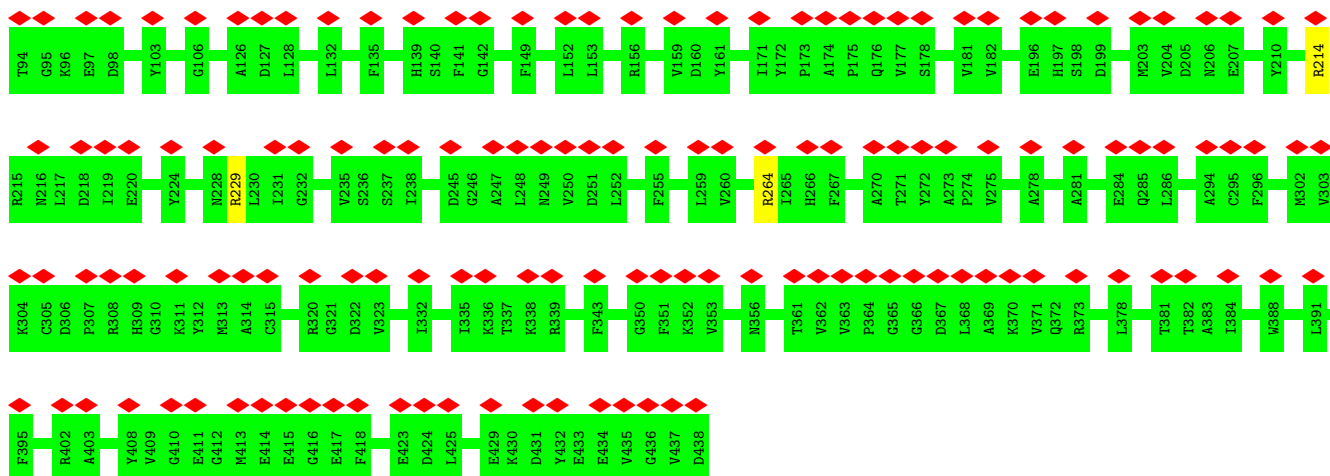


• Molecule 4: Detyrosinated tubulin alpha-3 chain



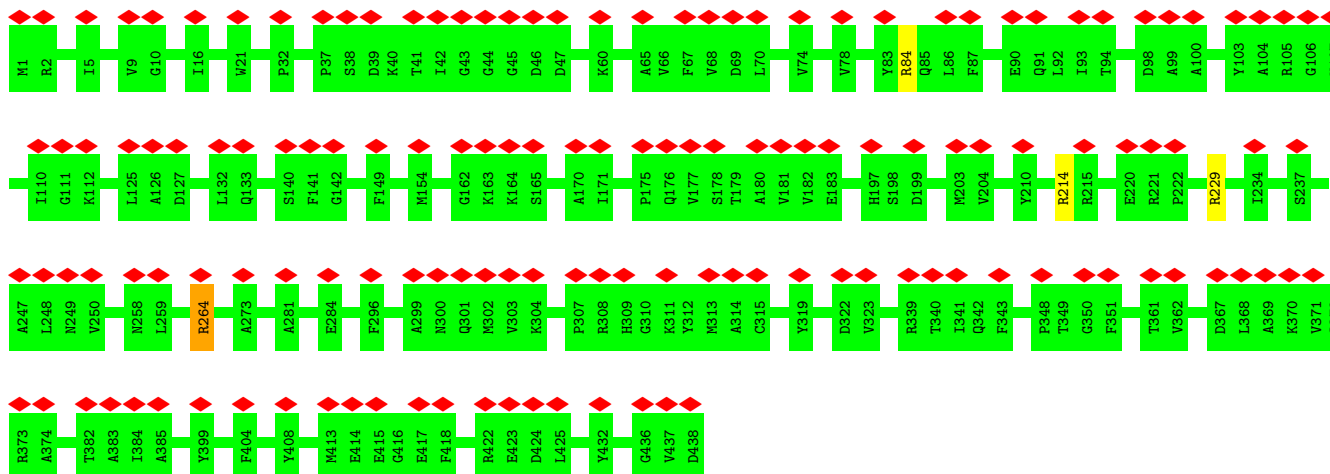
• Molecule 4: Detyrosinated tubulin alpha-3 chain





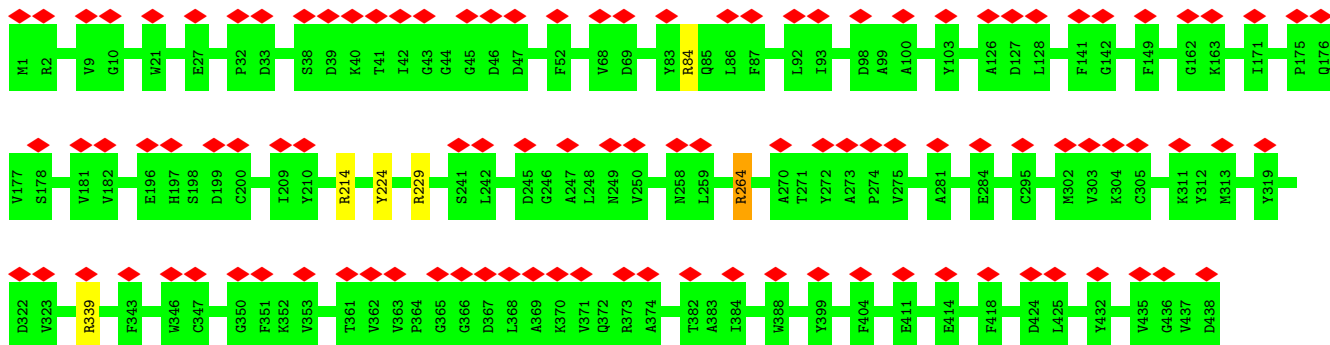
- Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain VC: 32% 99%

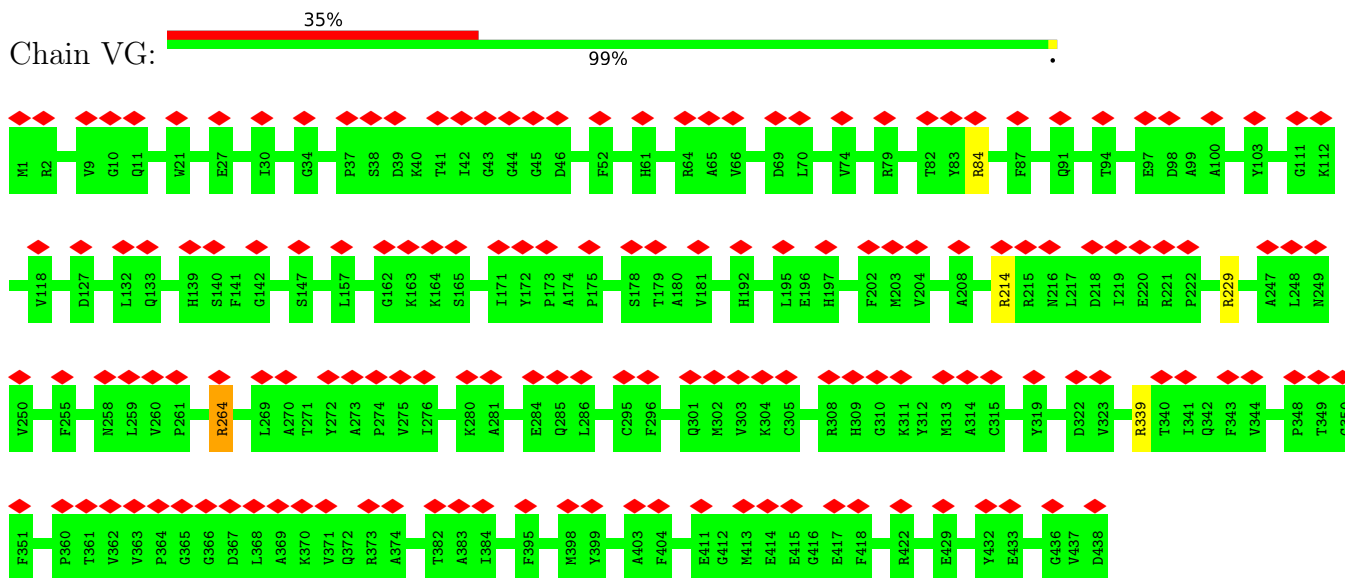


- Molecule 4: Detyrosinated tubulin alpha-3 chain

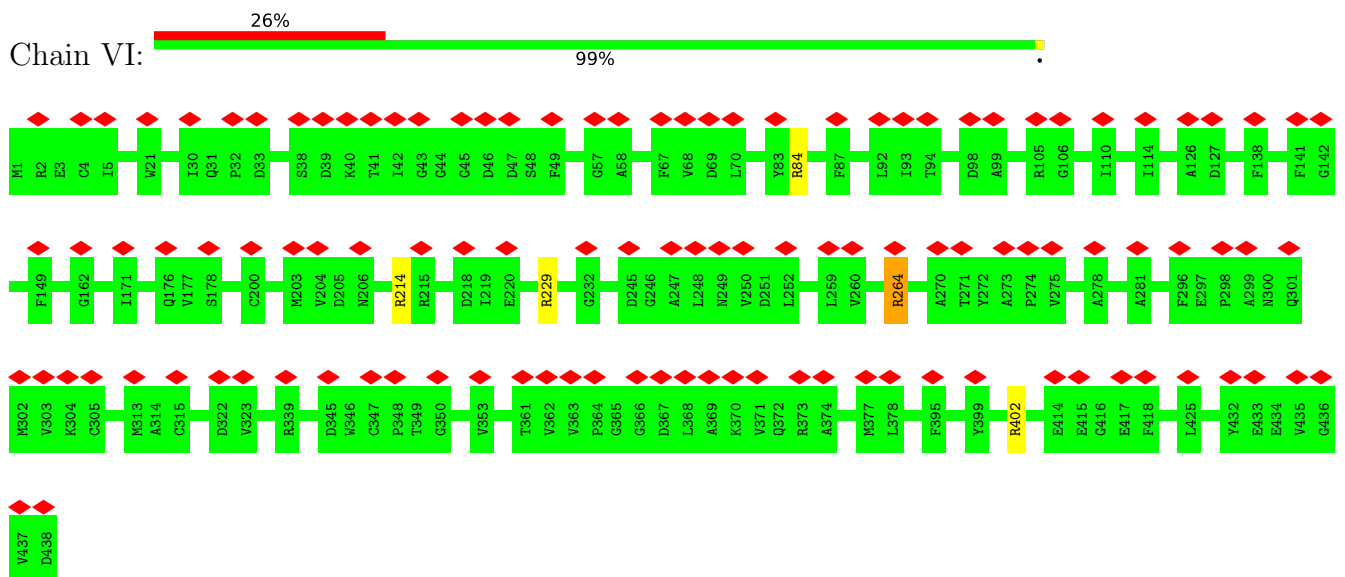
Chain VE: 24% 99%



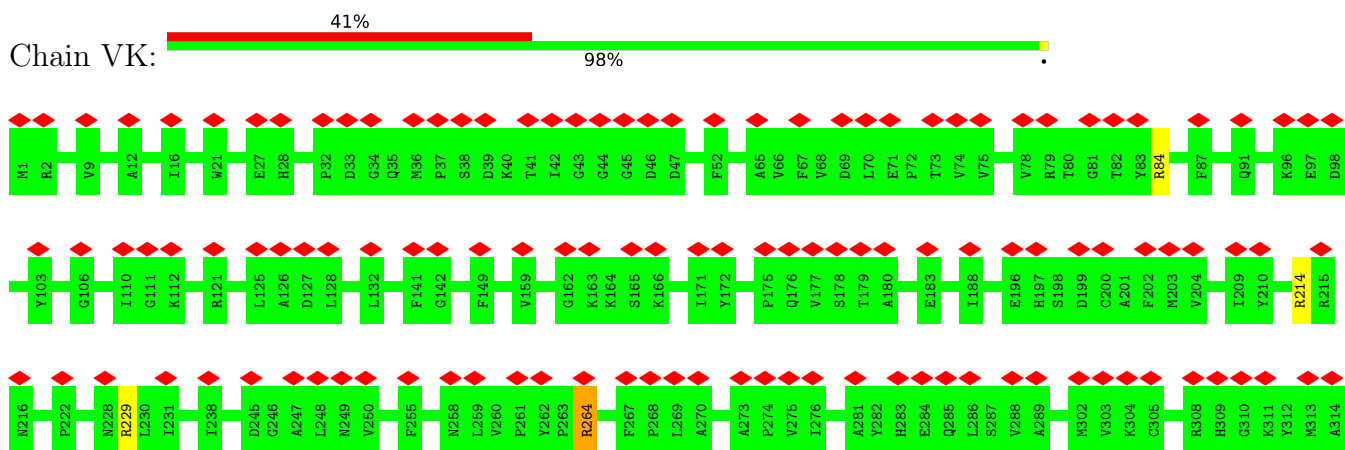
- Molecule 4: Detyrosinated tubulin alpha-3 chain

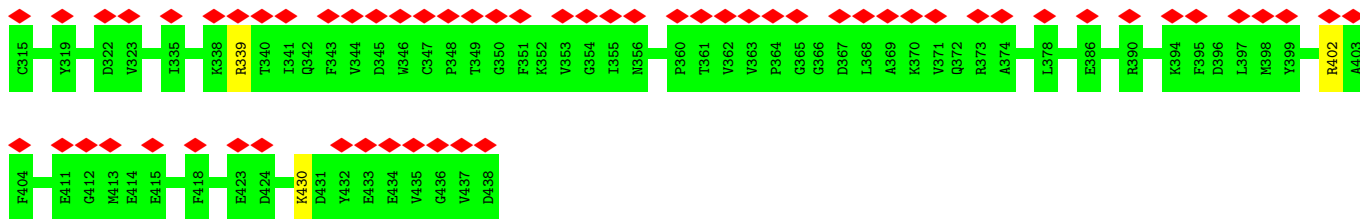


• Molecule 4: Detyrosinated tubulin alpha-3 chain

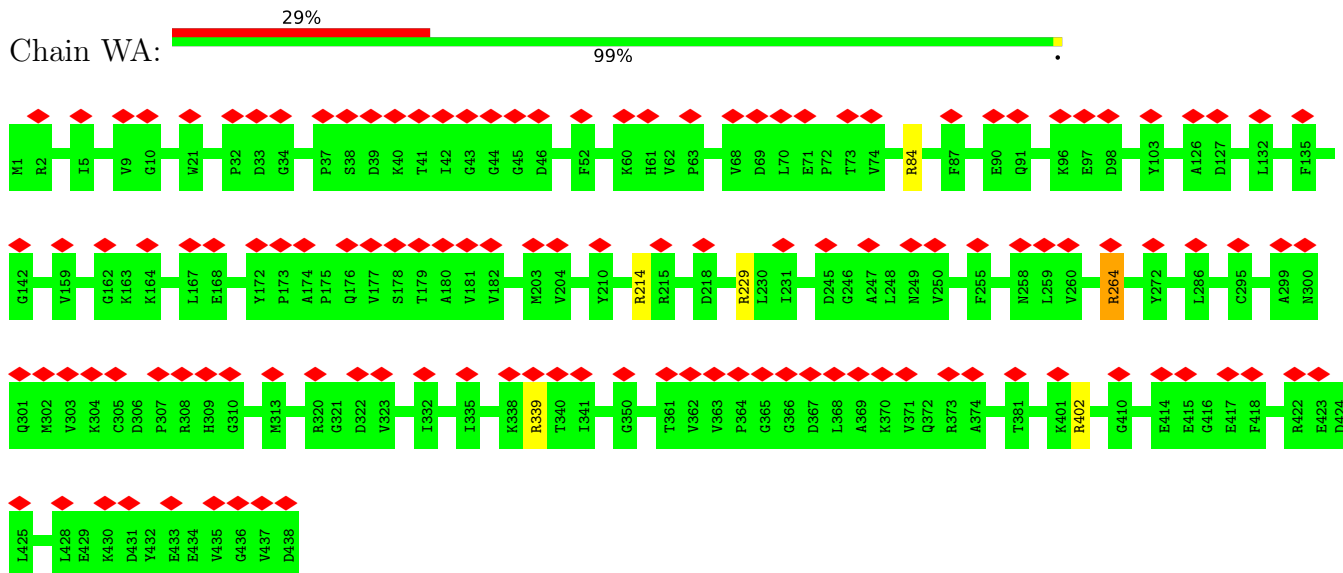


• Molecule 4: Detyrosinated tubulin alpha-3 chain

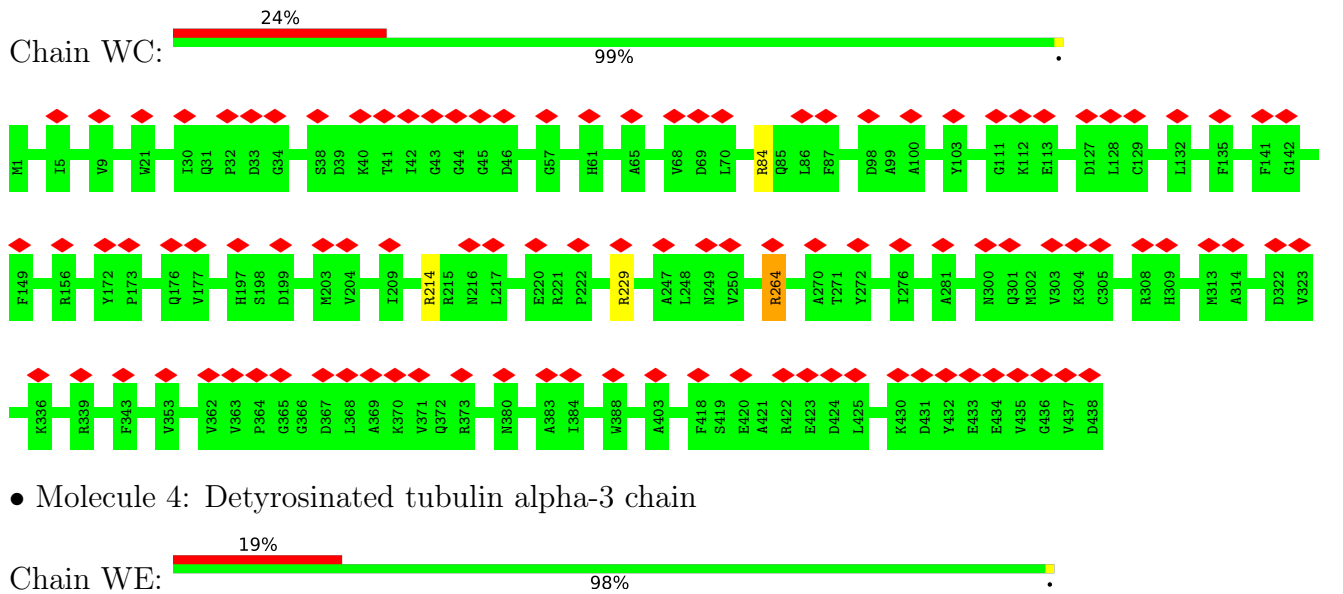




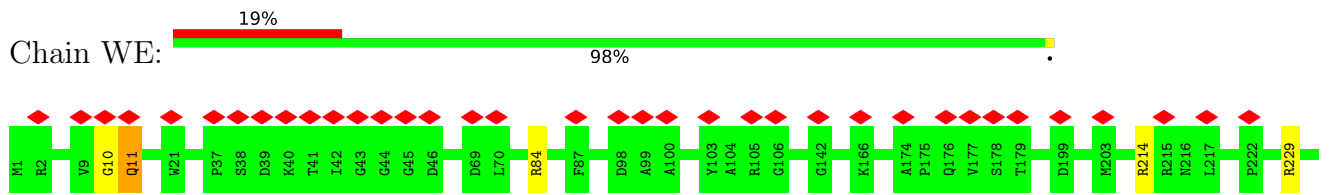
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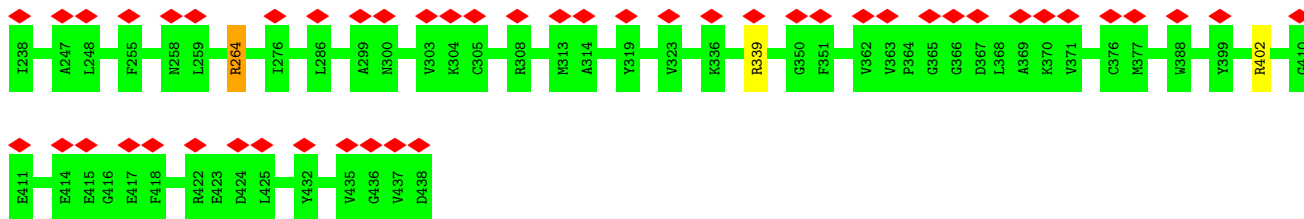


• Molecule 4: Detyrosinated tubulin alpha-3 chain

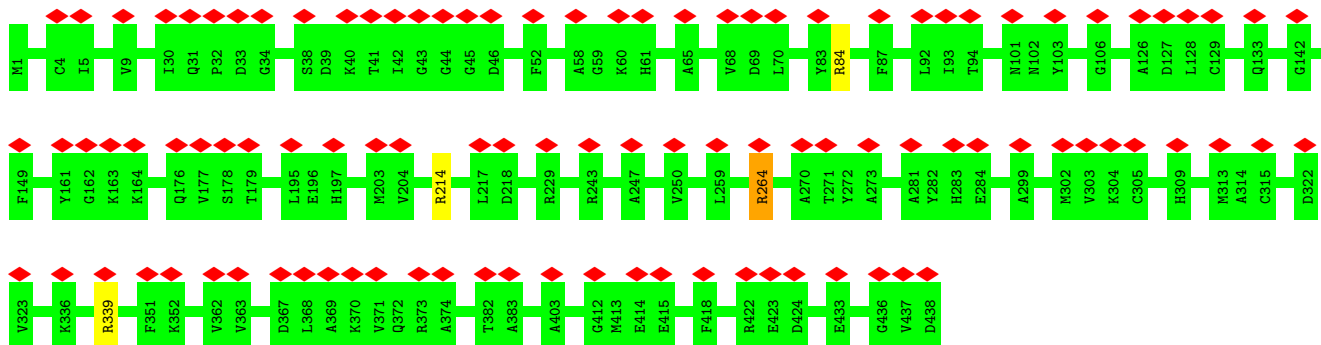


• Molecule 4: Detyrosinated tubulin alpha-3 chain

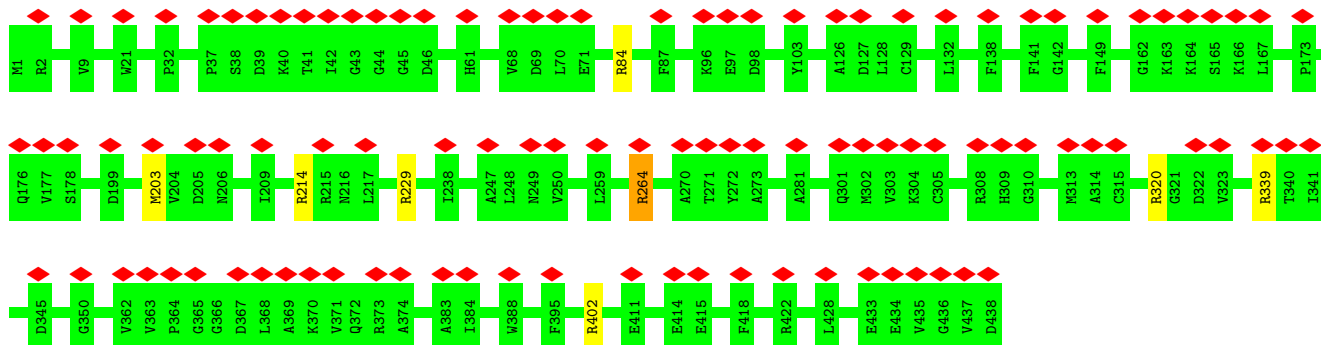




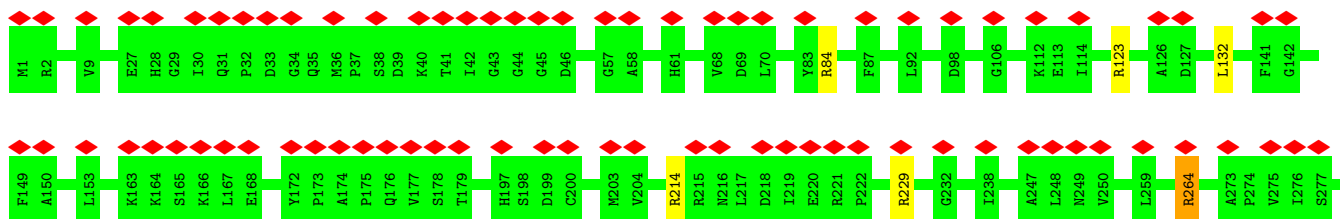
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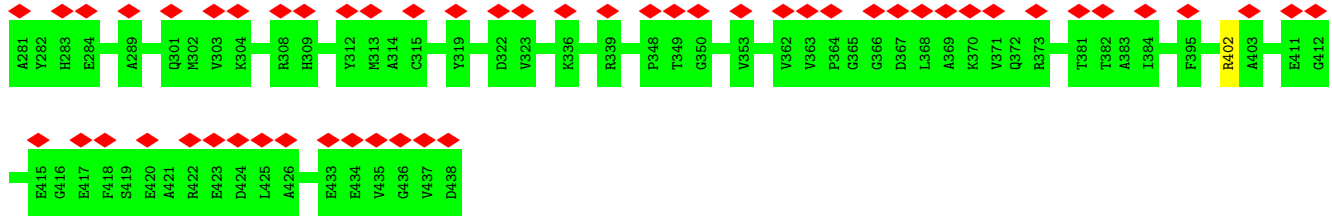


• Molecule 4: Detyrosinated tubulin alpha-3 chain

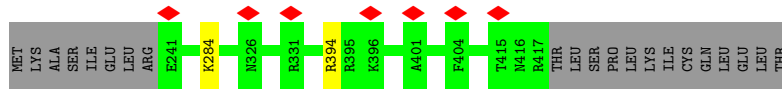
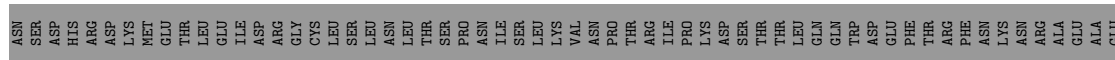
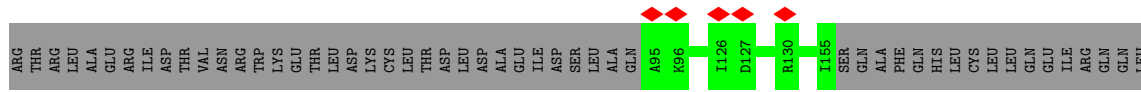
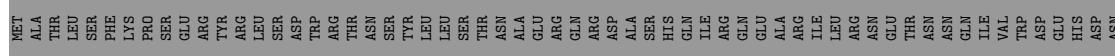


• Molecule 4: Detyrosinated tubulin alpha-3 chain

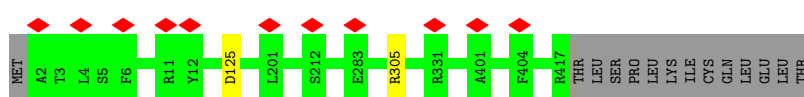




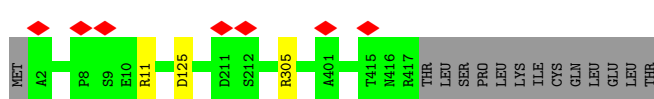
• Molecule 5: Tektin-2



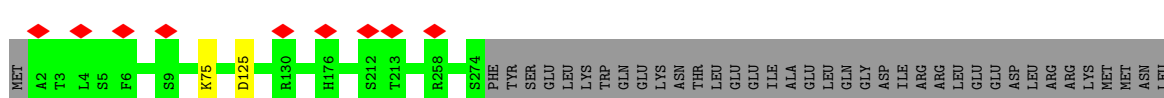
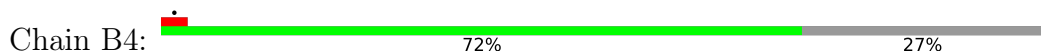
• Molecule 5: Tektin-2



• Molecule 5: Tektin-2



• Molecule 5: Tektin-2

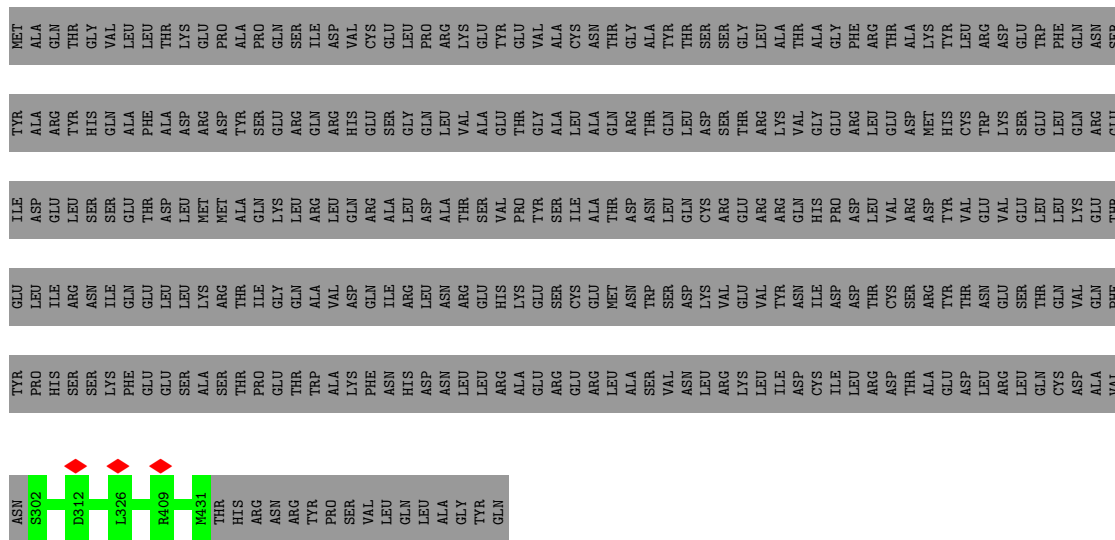


Chain D4: 95% 5%



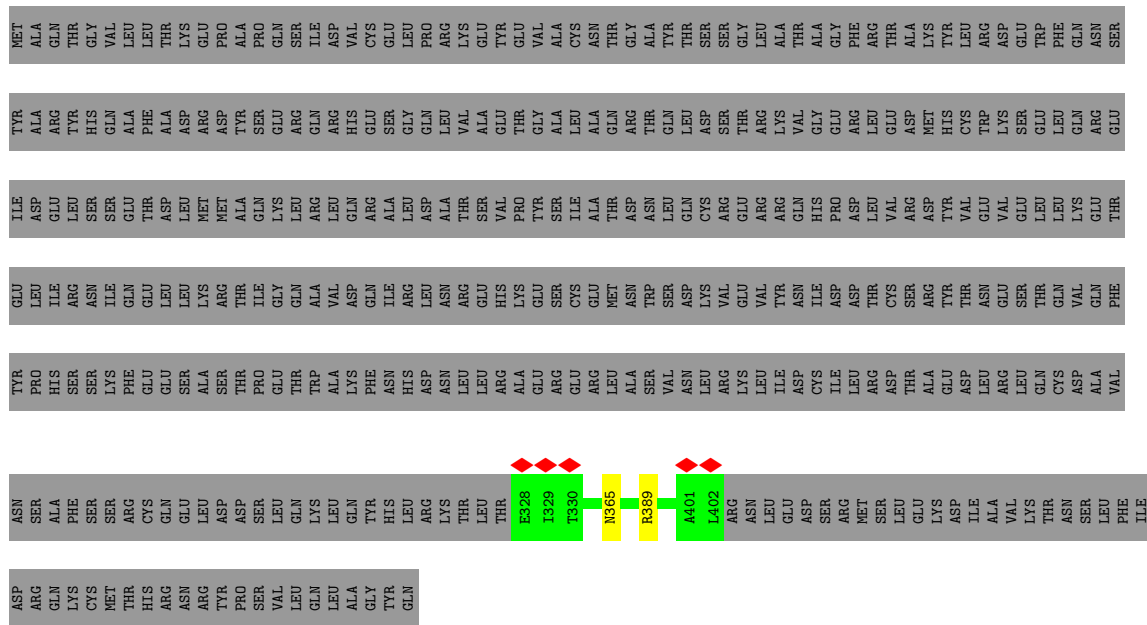
• Molecule 8: Tektin-4

Chain D5: 29% 71%



• Molecule 8: Tektin-4

Chain D6: 16% 83%



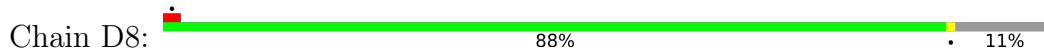
• Molecule 8: Tektin-4

Chain D7: 81% 17%

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

TYR ALA ARG TYR HIS GLN ALA PHE ALA ASP ARG ASP ASP Y73 R76 R94 R169 R184 Q237 F247 R360 L368 L443 GLN ALA ALA GLY TYR TYR GLN

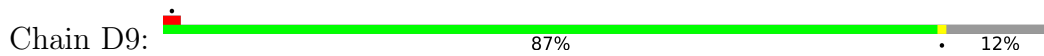
• Molecule 8: Tektin-4



MET ALA GLN THR THR VAL LEU LEU THR THR LYS GLU PRO PRO ALA PRO GLN GLN SER SER ILE ASP VAL CYS GLU PRO PRO LYS ARG LYS GLU TYR TYR VAL VAL ALA ALA CYS ASN THR THR GLY ALA ALA TYR THR THR SER SER GLY LEU LEU THR THR ALA ALA PHE ARG THR THR ALA ALA K50 A86 R94 R184 R230 E248

S252 L326 M365 R403 R436 L443 A444 Q447

• Molecule 8: Tektin-4



MET ALA GLN THR THR VAL LEU LEU THR THR LYS GLU PRO PRO ALA PRO GLN GLN SER SER ILE ASP VAL CYS GLU PRO PRO LYS ARG LYS GLU TYR TYR VAL VAL ALA ALA CYS ASN THR THR GLY ALA ALA TYR THR THR SER SER GLY LEU LEU THR THR ALA ALA PHE ARG THR THR ALA ALA K50 R94 V147 R159 V168 R169

R184 R230 R307 R360 R363 PRO ASN VAL VAL L368 R409 E413 L443 Q447

• Molecule 8: Tektin-4



MET ALA GLN THR THR VAL LEU LEU THR THR LYS GLU PRO PRO ALA PRO GLN GLN SER SER ILE ASP VAL CYS GLU TYR TYR VAL VAL ALA ALA CYS ASN THR THR GLY ALA ALA TYR THR THR SER SER GLY LEU LEU THR THR ALA ALA PHE ARG THR THR ALA ALA K50 W56 R94 R106 L107 GLU ASP MET

HIS CYS TRP LYS SER GLU LEU GLN ARG THR LYS GLU PRO PRO ALA PRO GLN GLN SER SER ILE ASP VAL CYS GLU TYR TYR VAL VAL ALA ALA CYS ASN THR THR GLY ALA ALA TYR THR THR SER SER GLY LEU LEU THR THR ALA ALA PHE ARG THR THR ALA ALA K50 W56 R94 R106 L107 GLU ASP MET

TYR VAL GLU VAL GLU LEU LEU LYS VAL THR THR LYS GLU PRO PRO ALA PRO GLN GLN SER SER ILE ASP VAL CYS GLU TYR TYR VAL VAL ALA ALA CYS ASN THR THR GLY ALA ALA TYR THR THR SER SER GLY LEU LEU THR THR ALA ALA PHE ARG THR THR ALA ALA K50 W56 R94 R106 L107 GLU ASP MET

TYR THR ASN GLU THR THR GLN VAL THR THR LYS GLU PRO PRO ALA PRO GLN GLN SER SER ILE ASP VAL CYS GLU TYR TYR VAL VAL ALA ALA CYS ASN THR THR GLY ALA ALA TYR THR THR SER SER GLY LEU LEU THR THR ALA ALA PHE ARG THR THR ALA ALA K50 W56 R94 R106 L107 GLU ASP MET

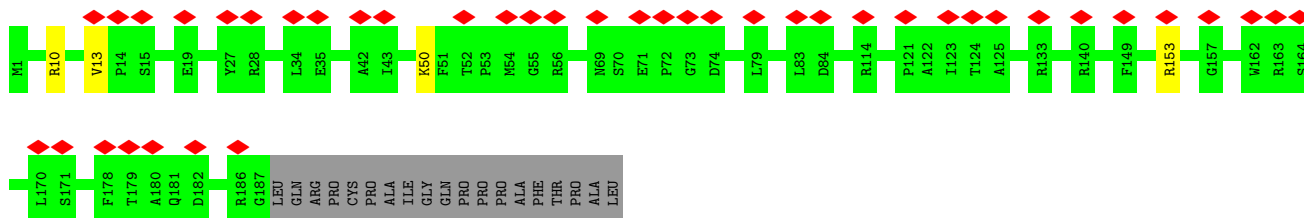
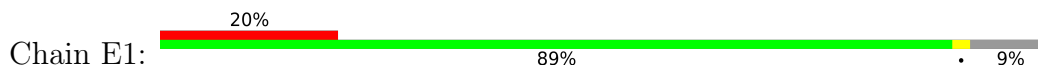
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ARG VAL ALA GLN THR ARG THR HIS SER PRO PRO ALA PRO GLN GLN SER SER ILE ASP VAL CYS GLU TYR TYR VAL VAL ALA ALA CYS ASN THR THR GLY ALA ALA TYR THR THR SER SER GLY LEU LEU THR THR ALA ALA PHE ARG THR THR ALA ALA K50 W56 R94 R106 L107 GLU ASP MET

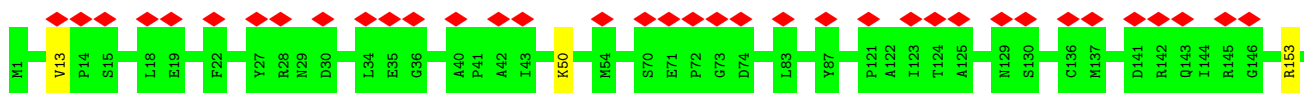
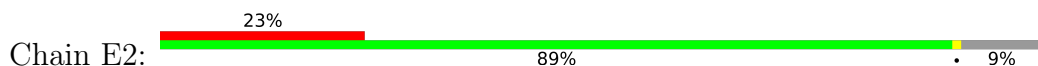
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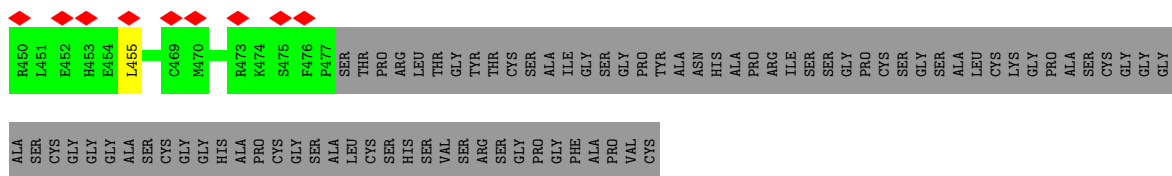


- Molecule 10: Tektin bundle-interacting protein 1

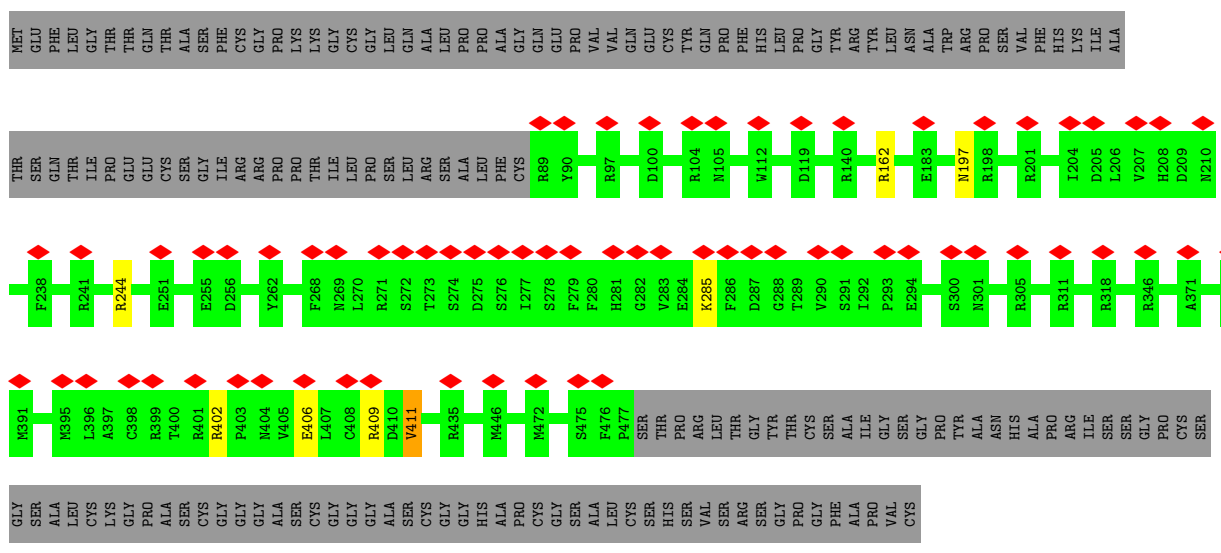


- Molecule 10: Tektin bundle-interacting protein 1

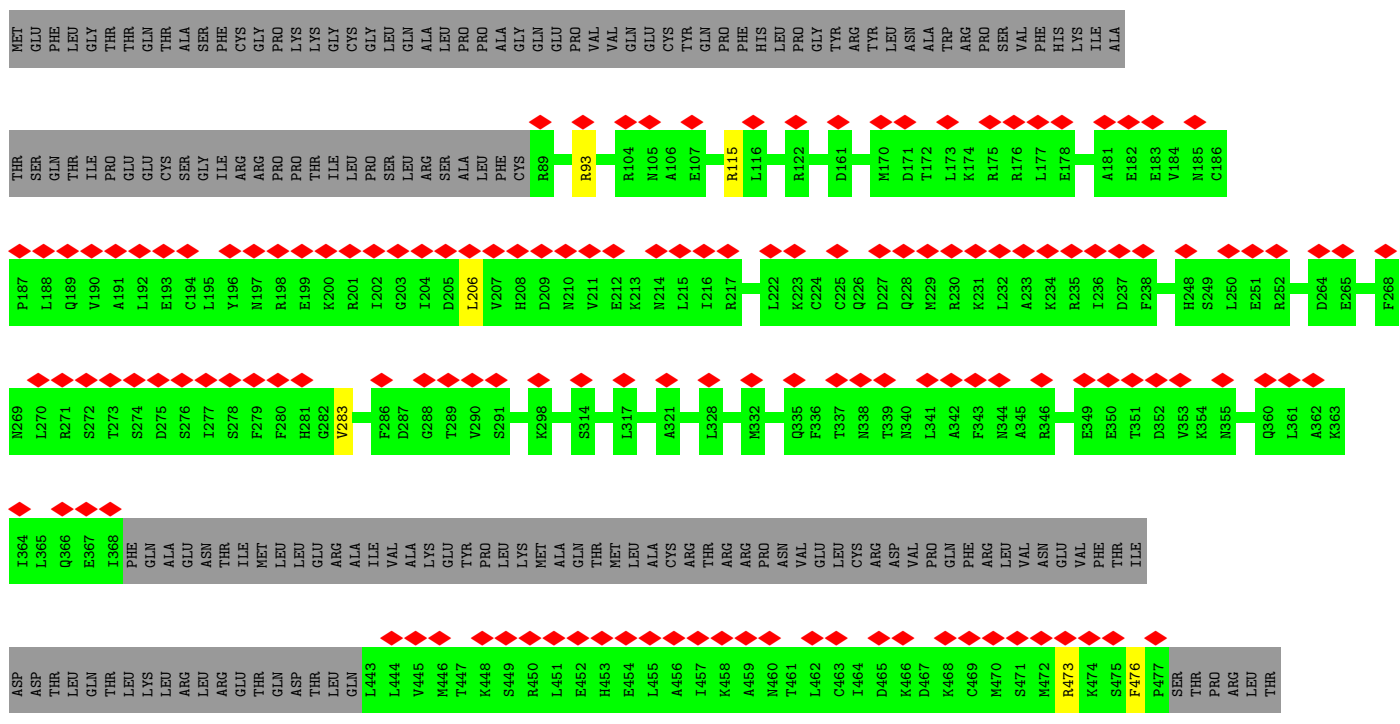


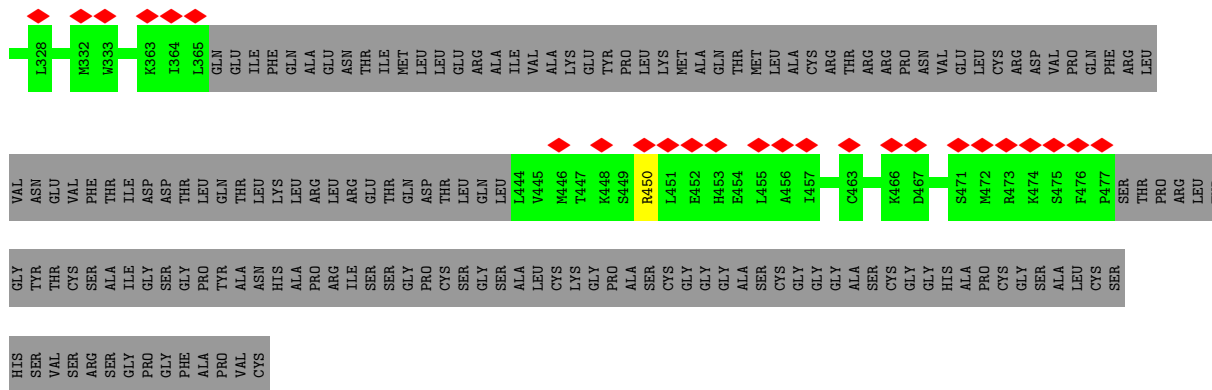


• Molecule 11: Tektin-5

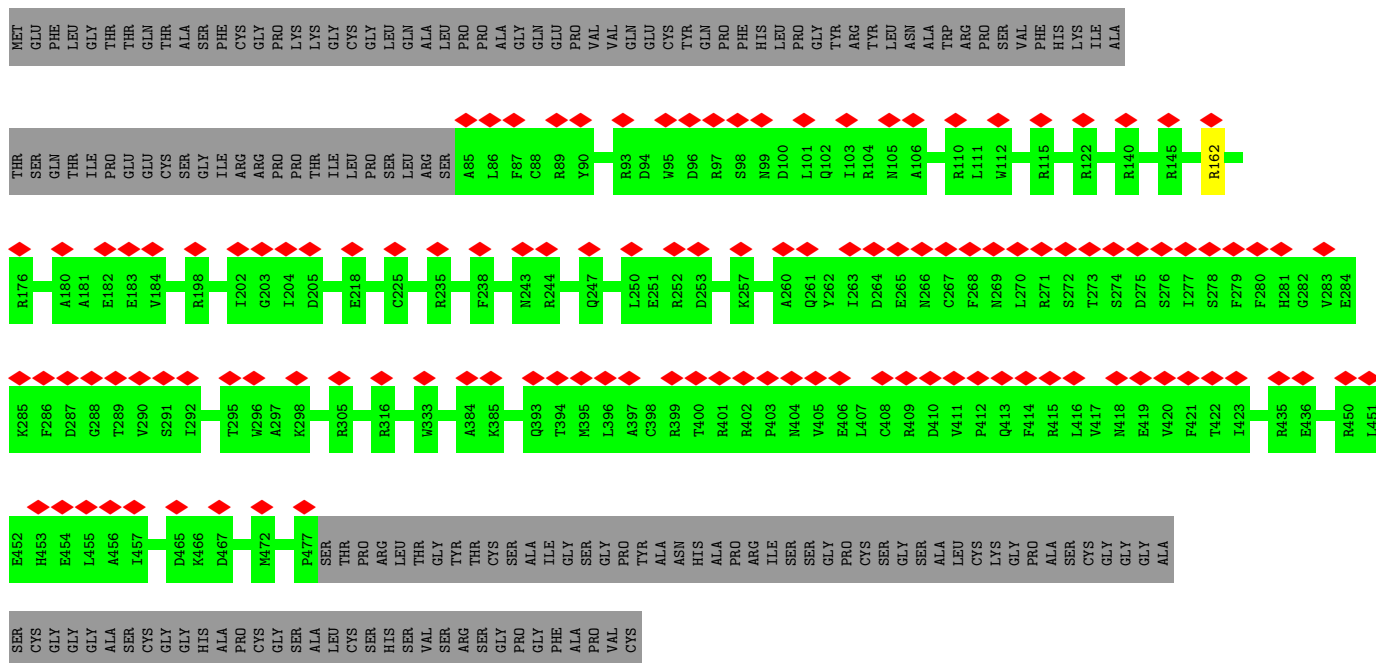
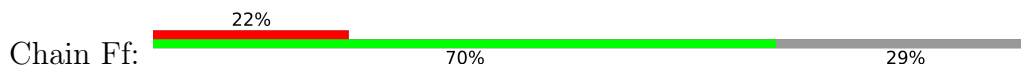


• Molecule 11: Tektin-5

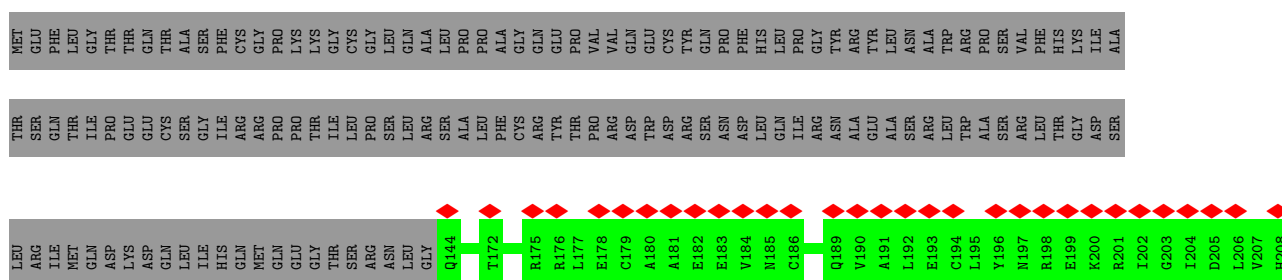


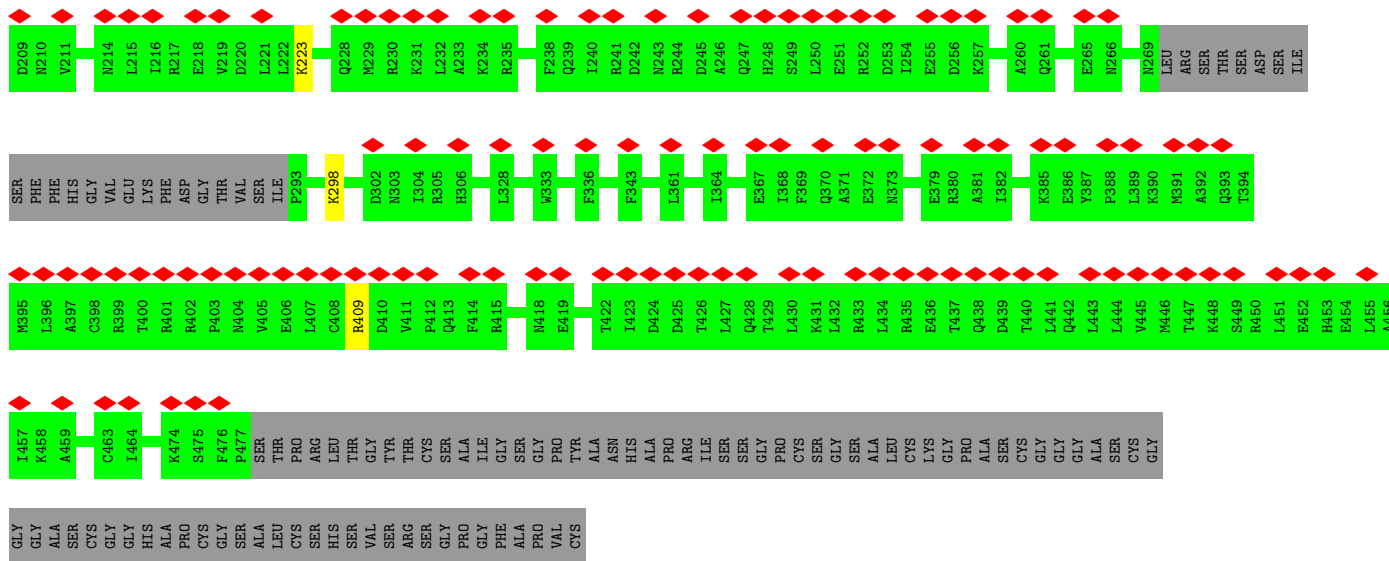


• Molecule 11: Tektin-5

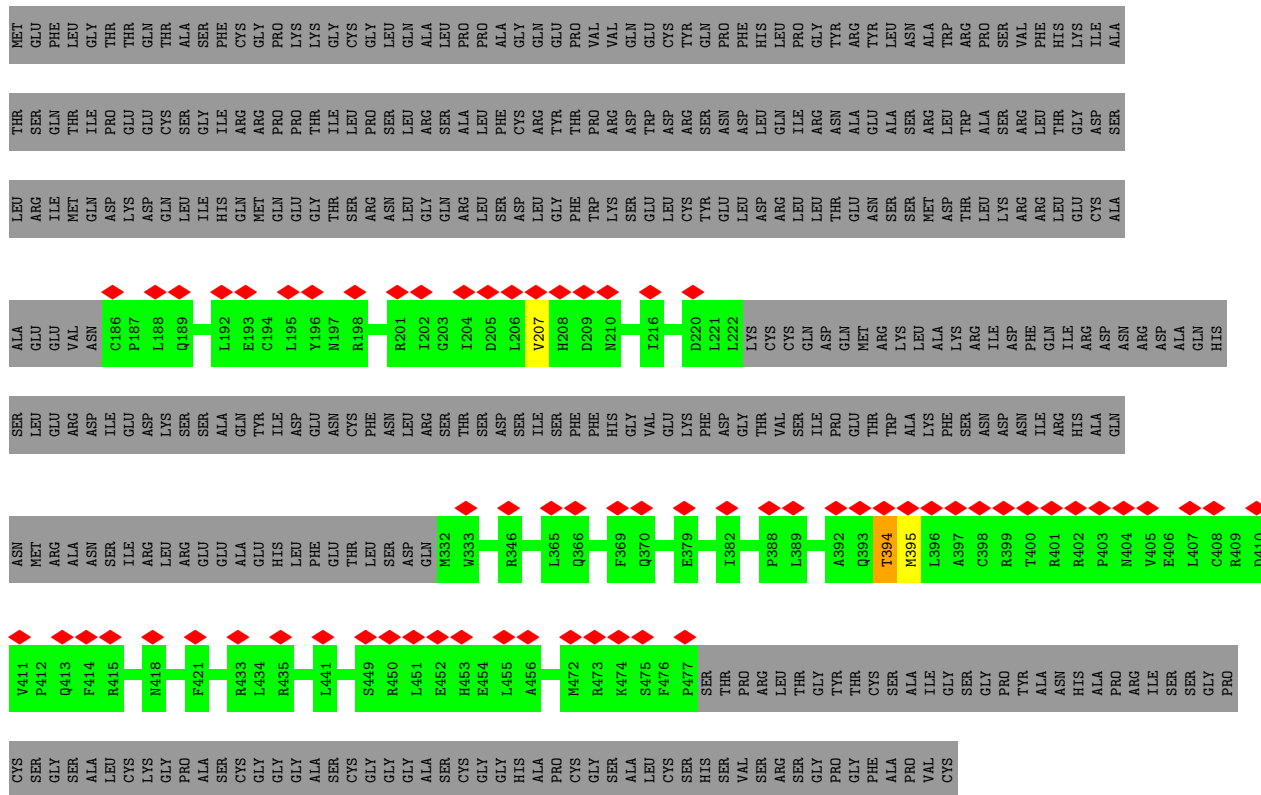


• Molecule 11: Tektin-5



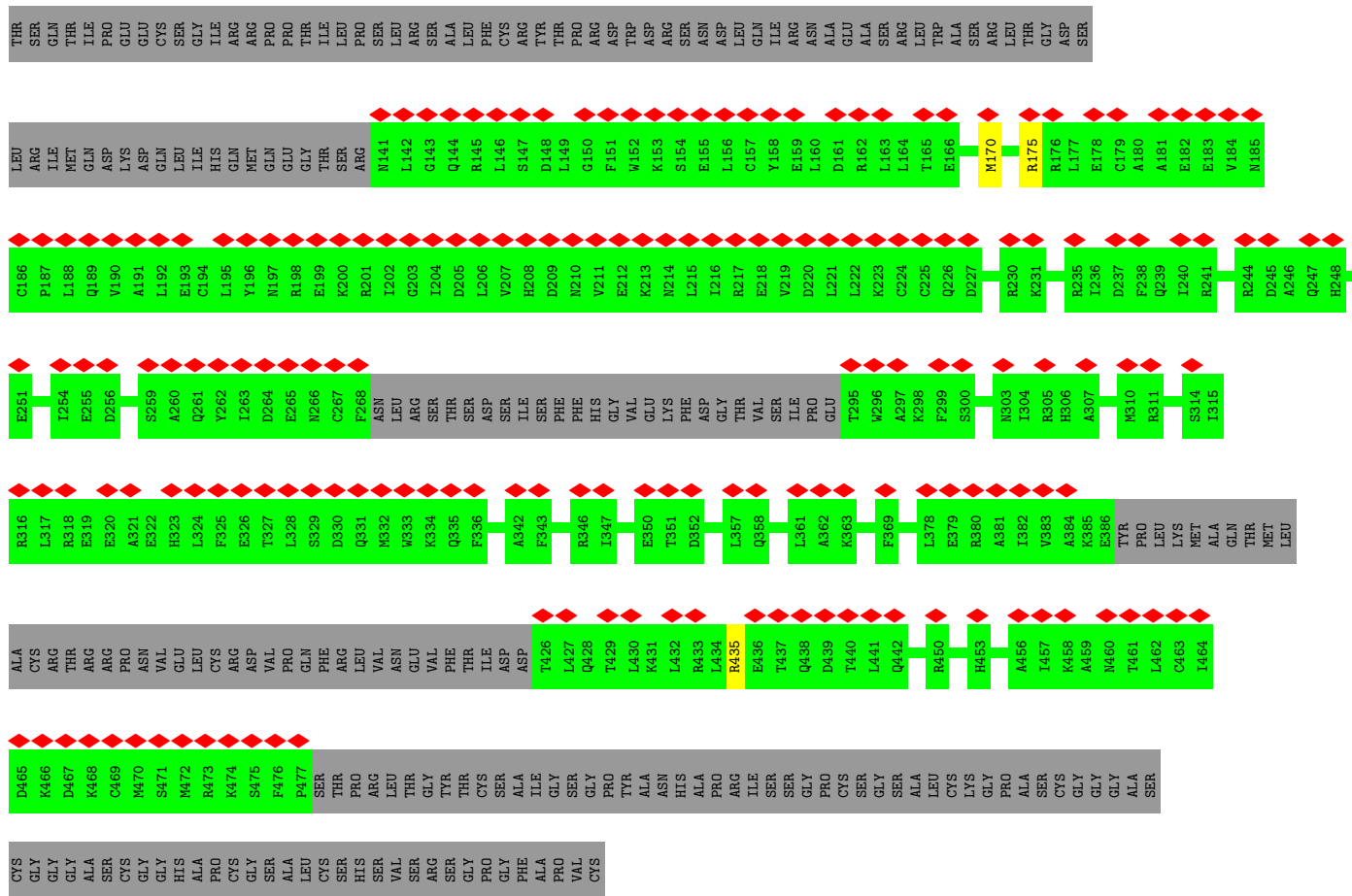


• Molecule 11: Tektin-5

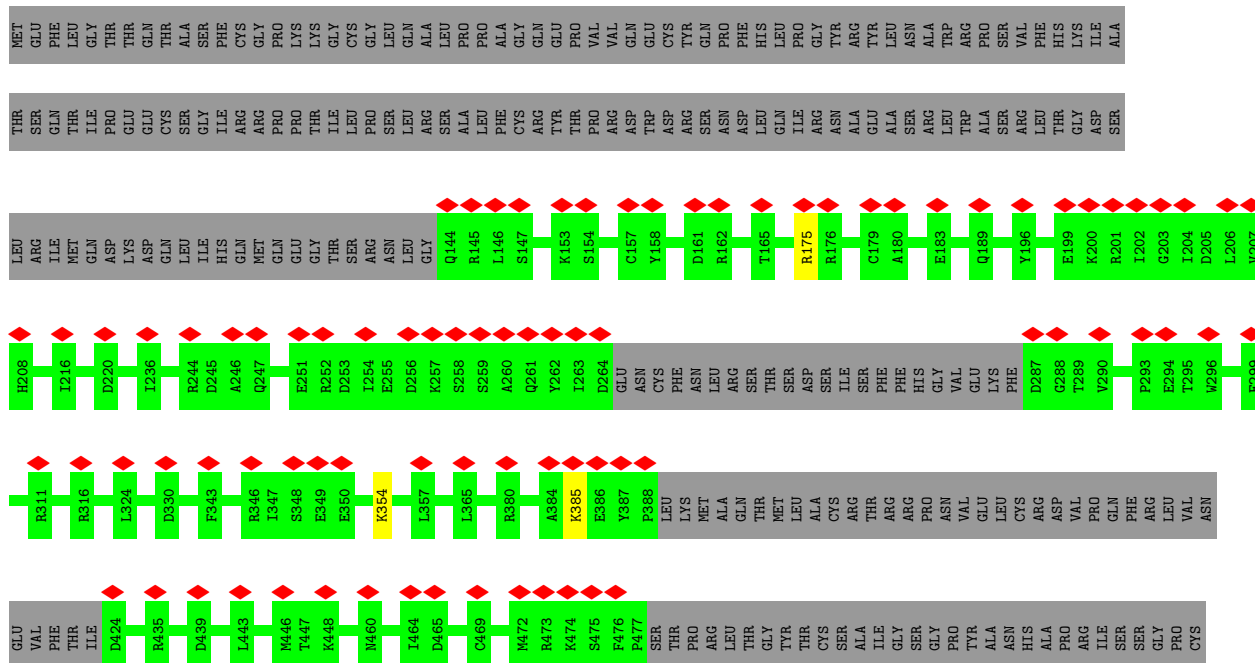


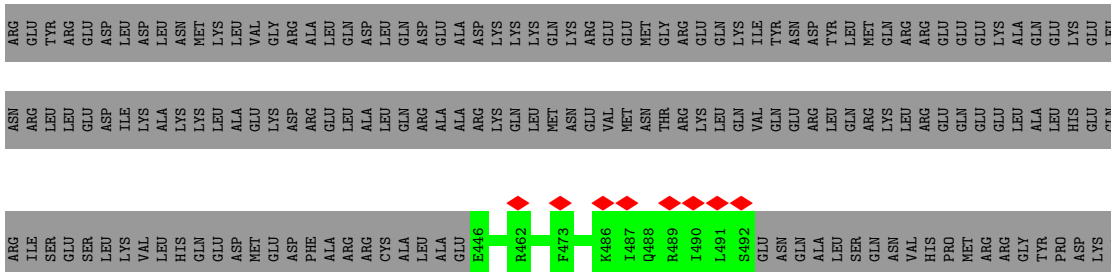
• Molecule 11: Tektin-5



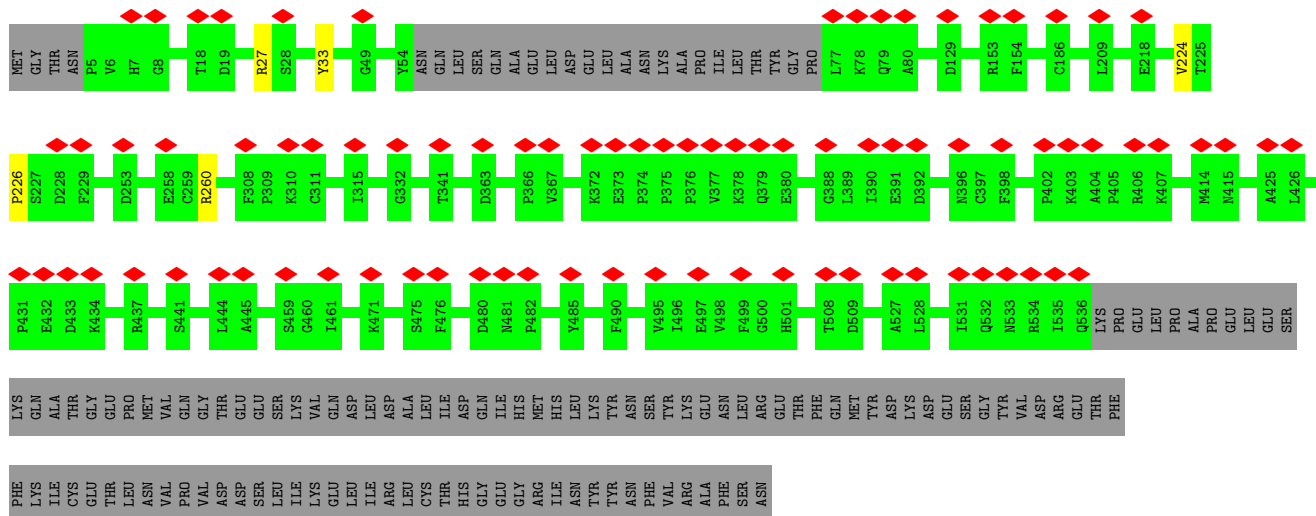
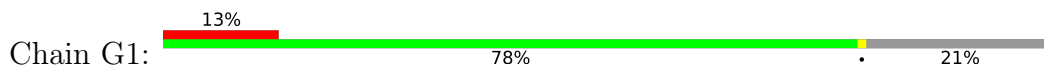


• Molecule 11: Tektin-5

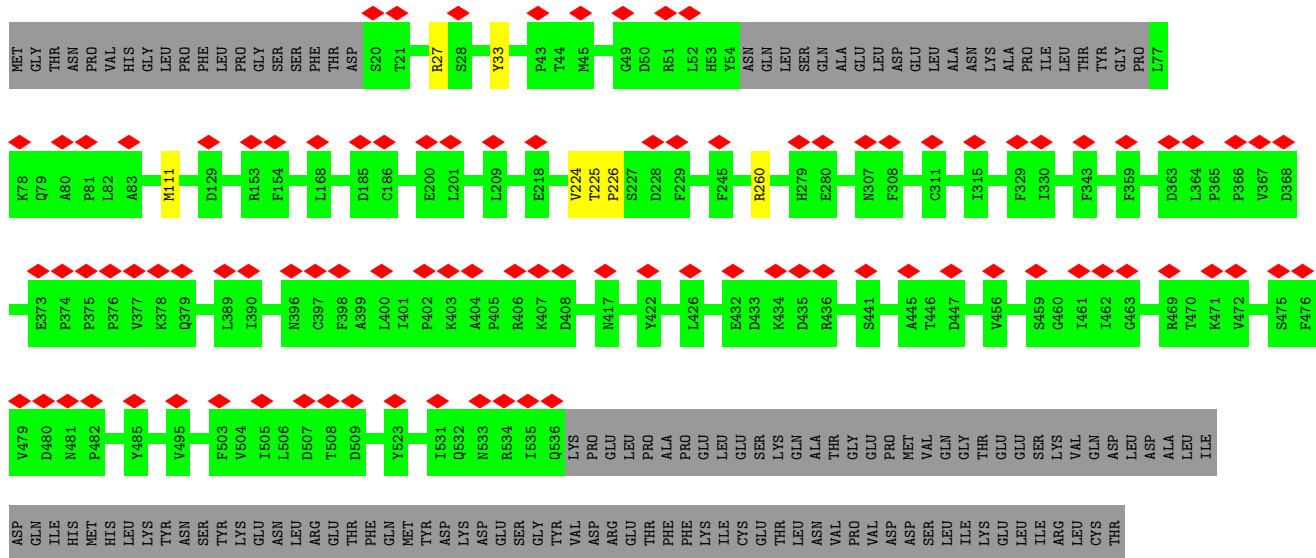
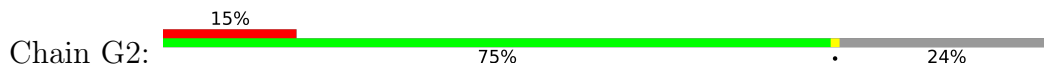




• Molecule 13: EF-hand domain-containing protein 1

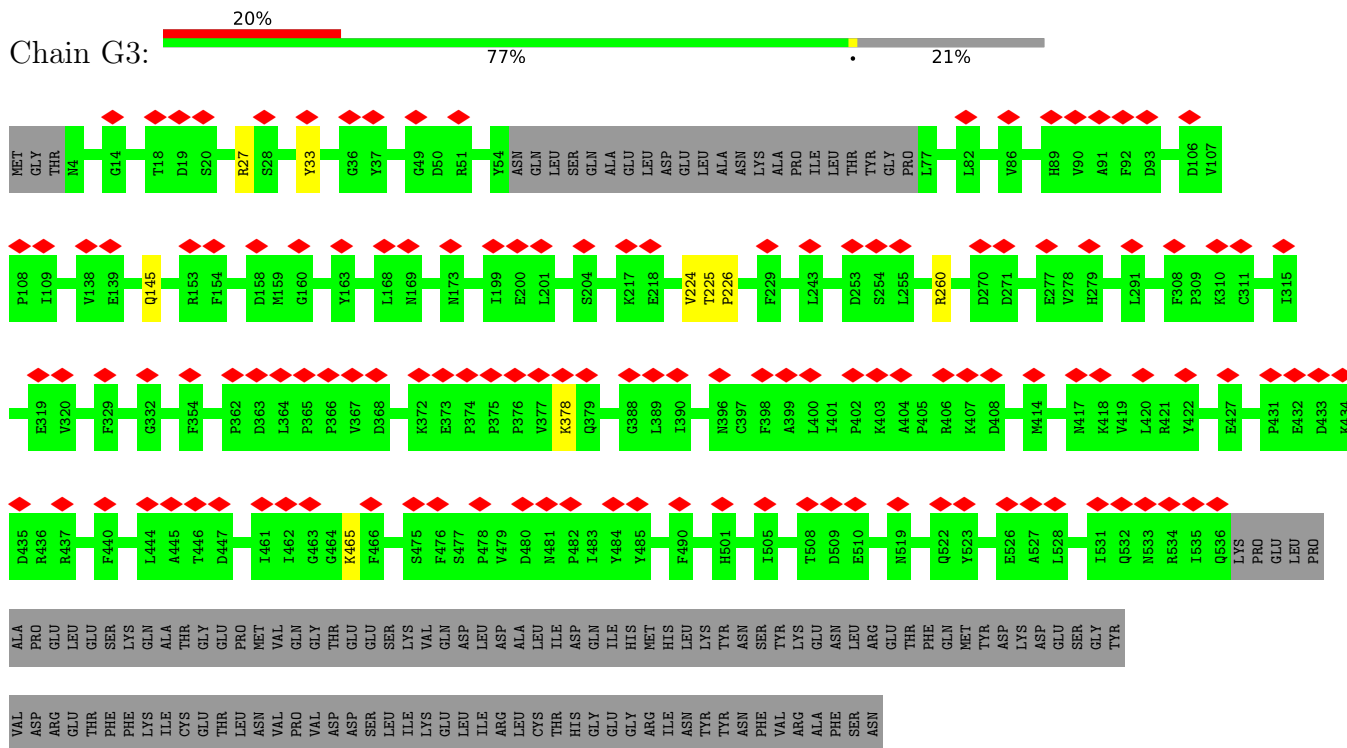


• Molecule 13: EF-hand domain-containing protein 1

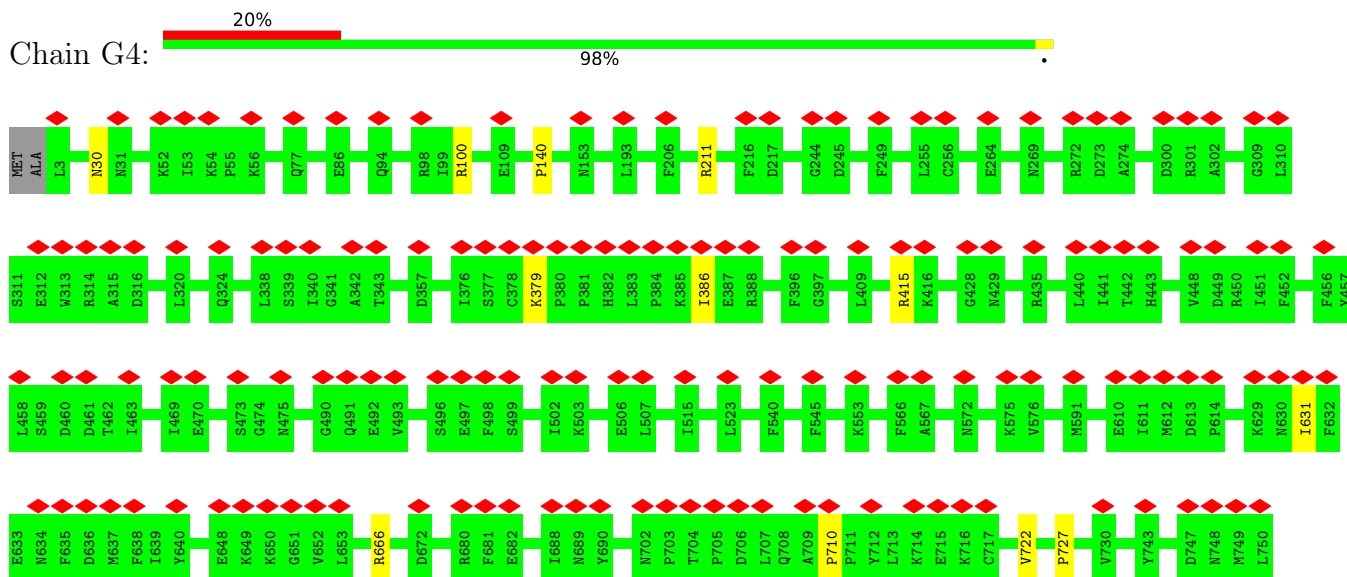


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• Molecule 13: EF-hand domain-containing protein 1

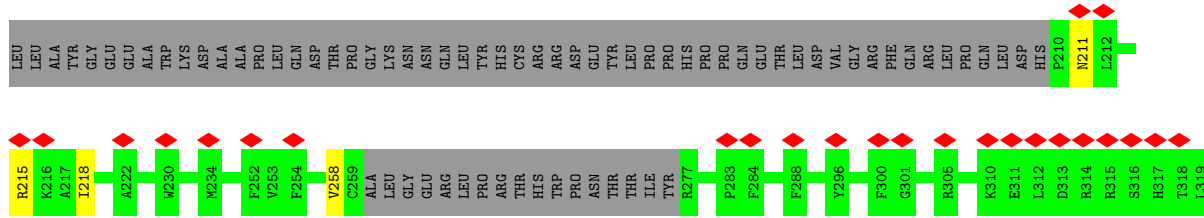


• Molecule 14: EF-hand domain-containing family member C2

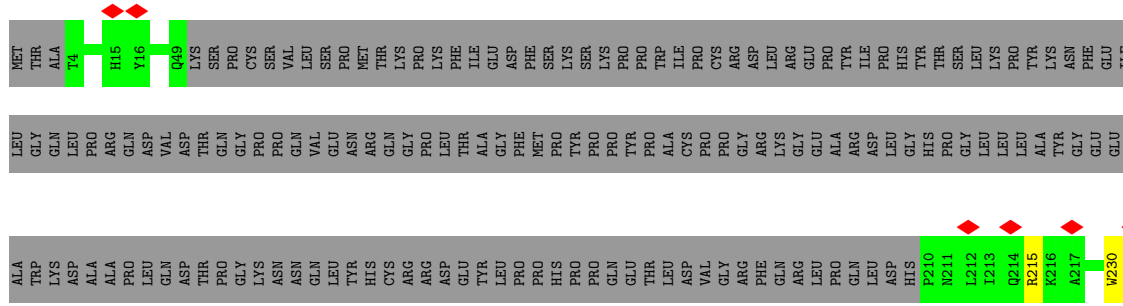
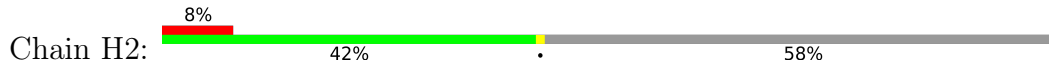


• Molecule 14: EF-hand domain-containing family member C2

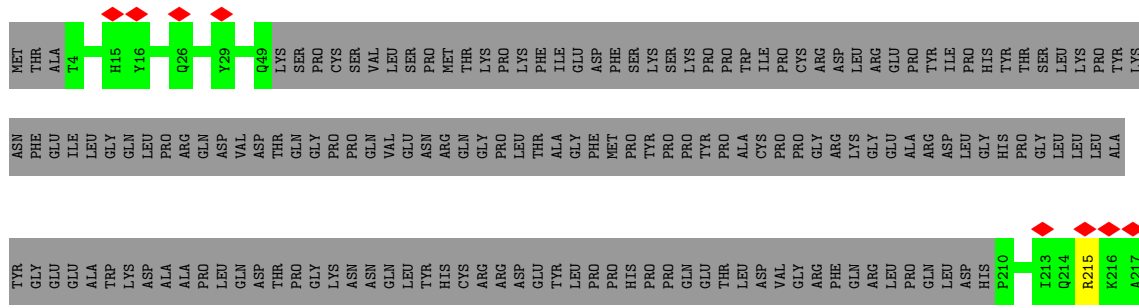
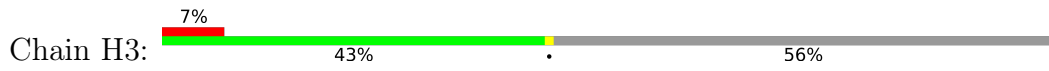




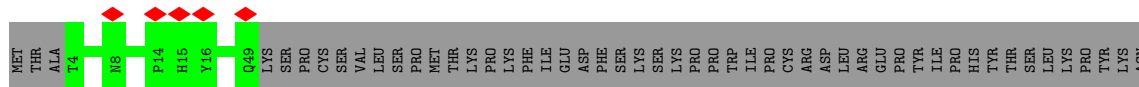
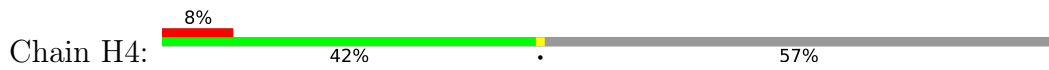
• Molecule 15: Protein FAM166A

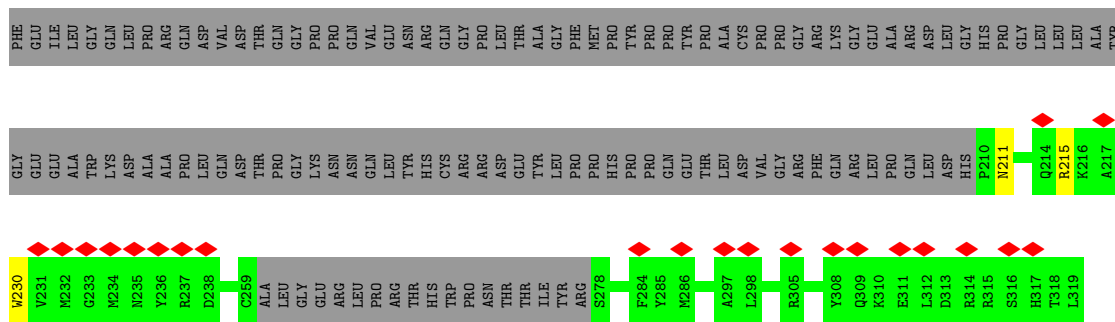


• Molecule 15: Protein FAM166A

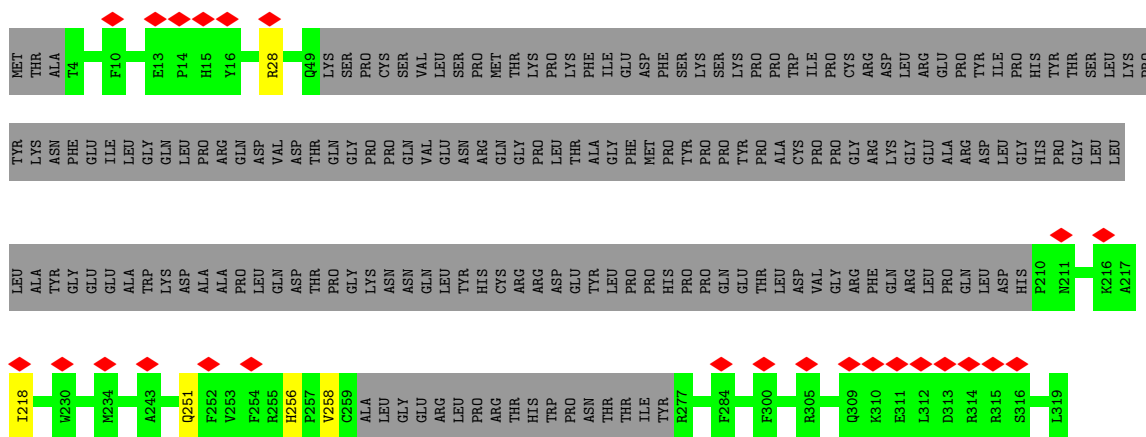


• Molecule 15: Protein FAM166A

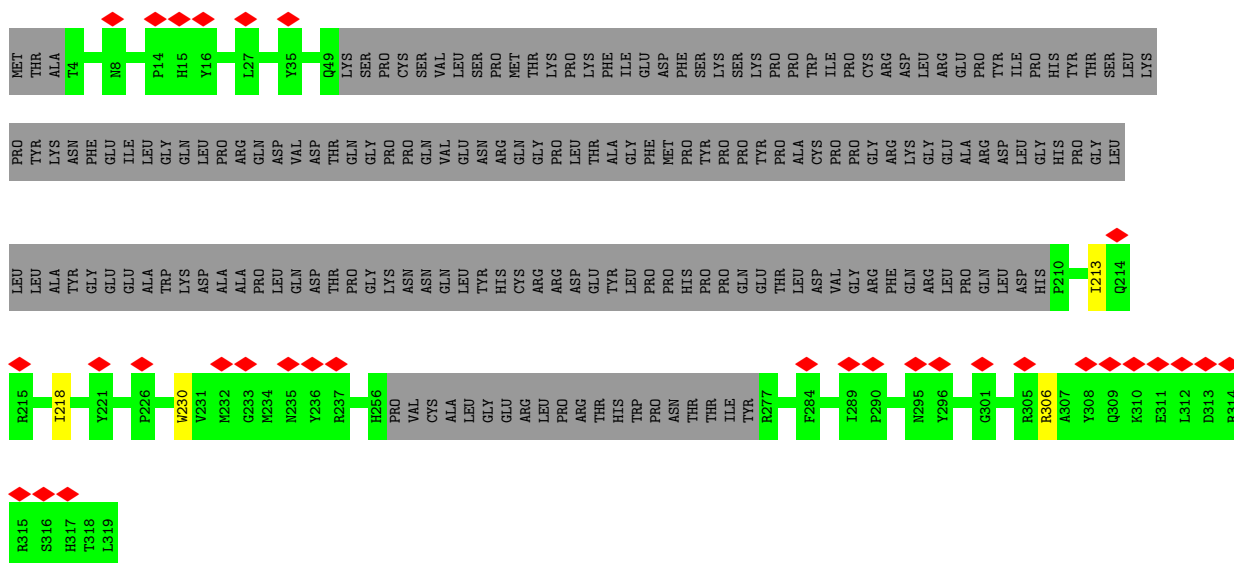




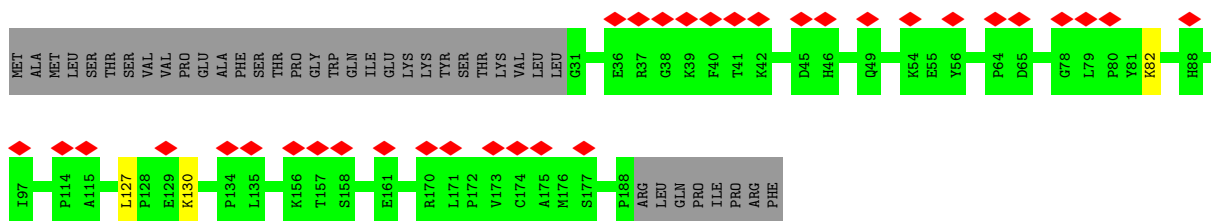
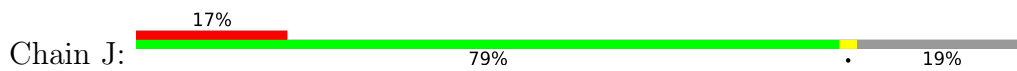
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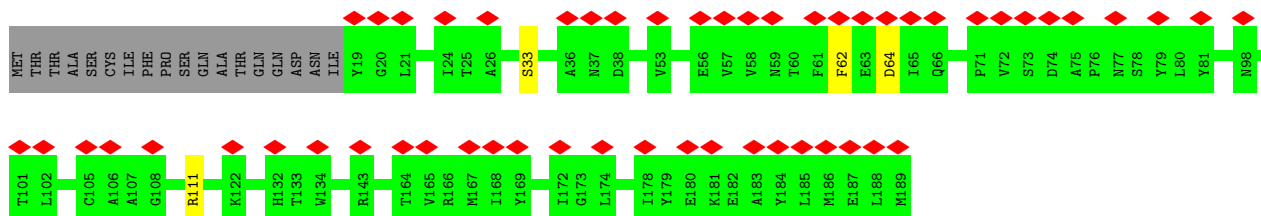
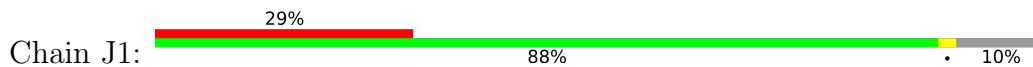
• Molecule 15: Protein FAM166A



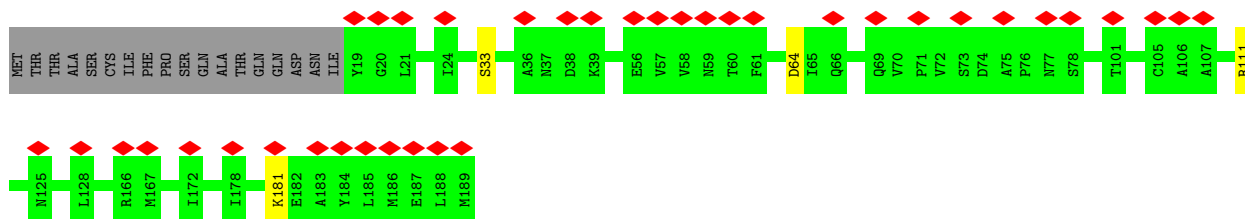
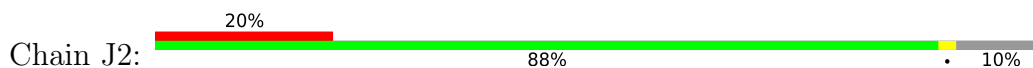
• Molecule 16: Cilia- and flagella-associated protein 95



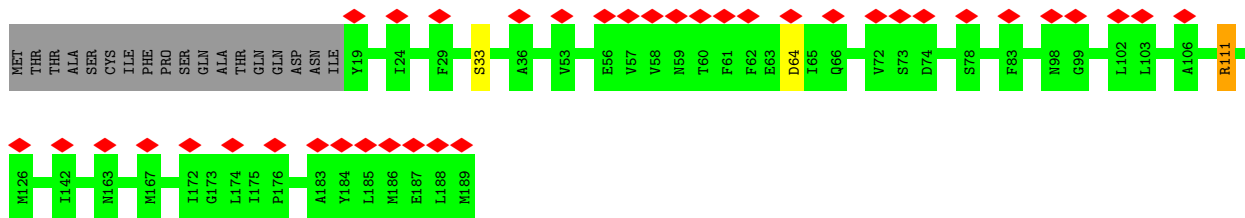
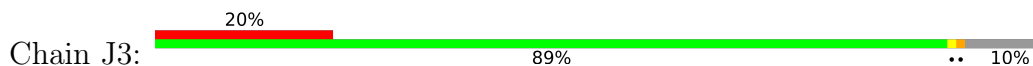
• Molecule 19: Dual specificity phosphatase 21



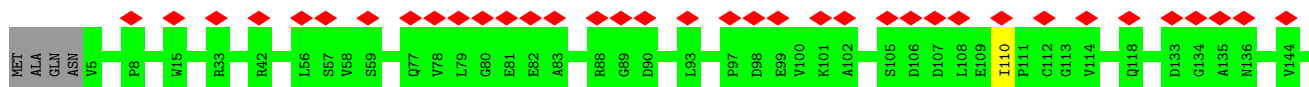
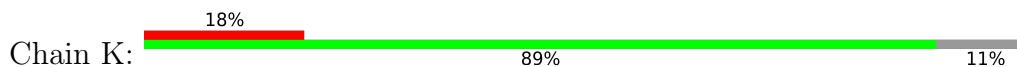
• Molecule 19: Dual specificity phosphatase 21

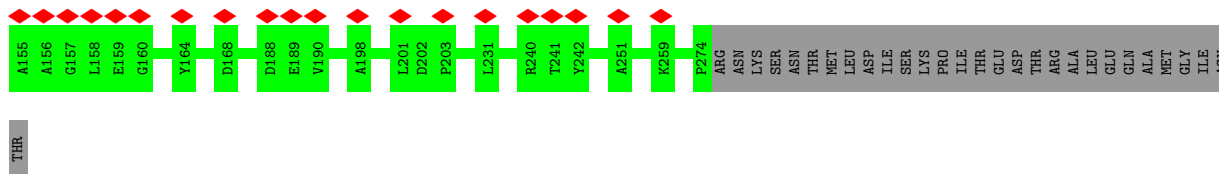


• Molecule 19: Dual specificity phosphatase 21

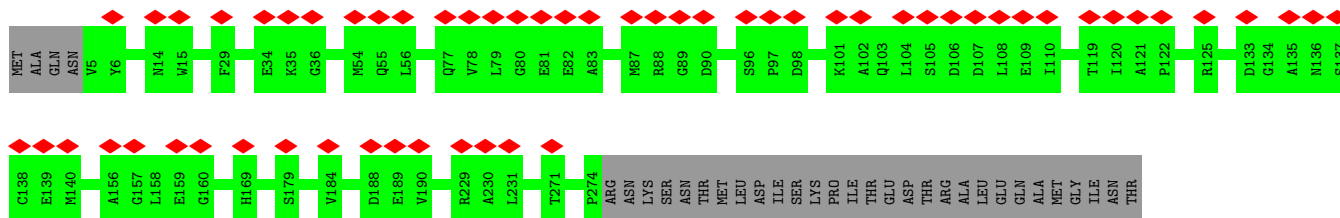
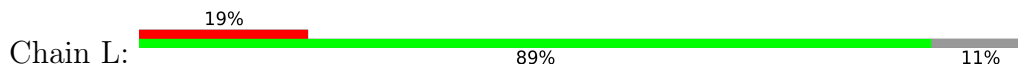


• Molecule 20: Cilia- and flagella-associated protein 161

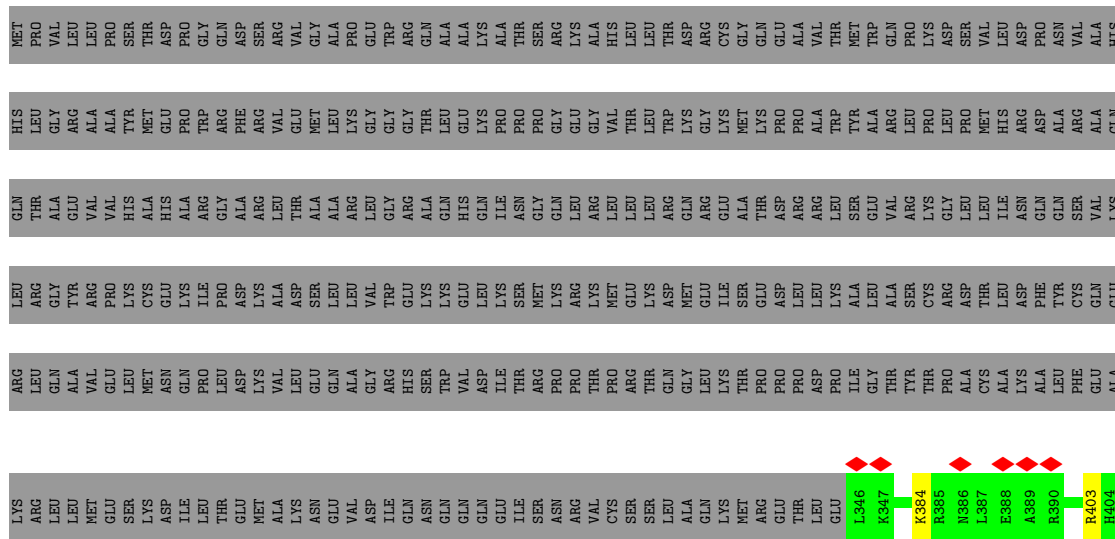




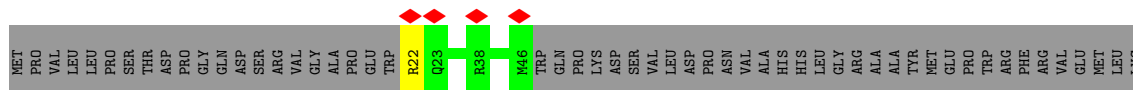
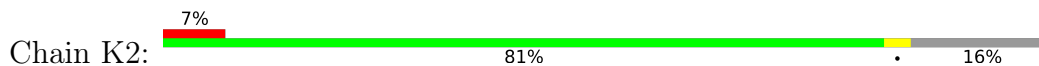
• Molecule 20: Cilia- and flagella-associated protein 161

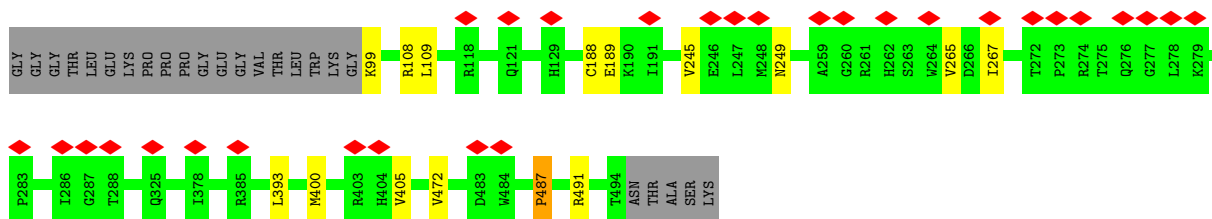


• Molecule 21: Coiled-coil domain-containing protein 105

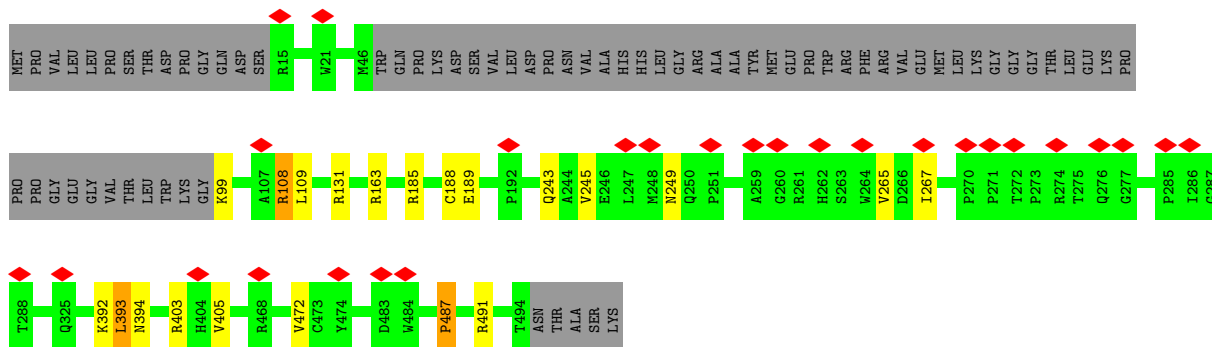
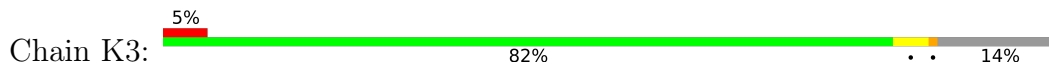


• Molecule 21: Coiled-coil domain-containing protein 105

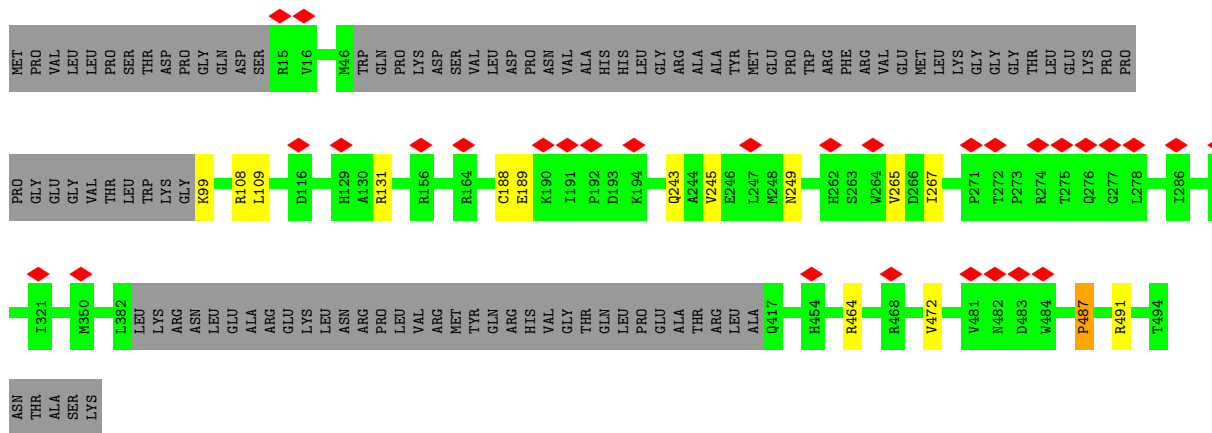
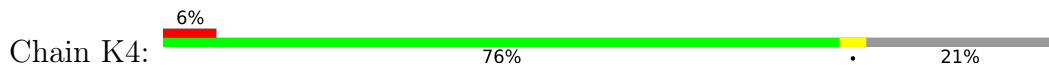




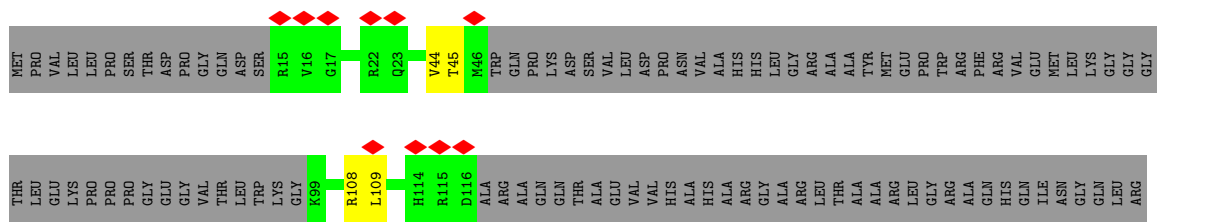
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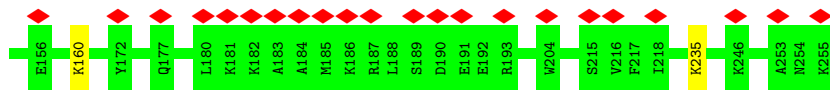


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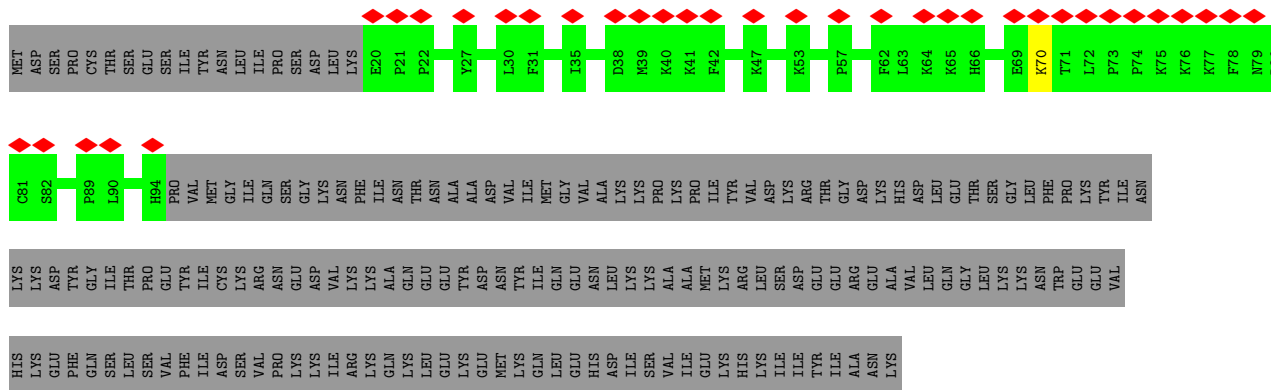


• Molecule 21: Coiled-coil domain-containing protein 105

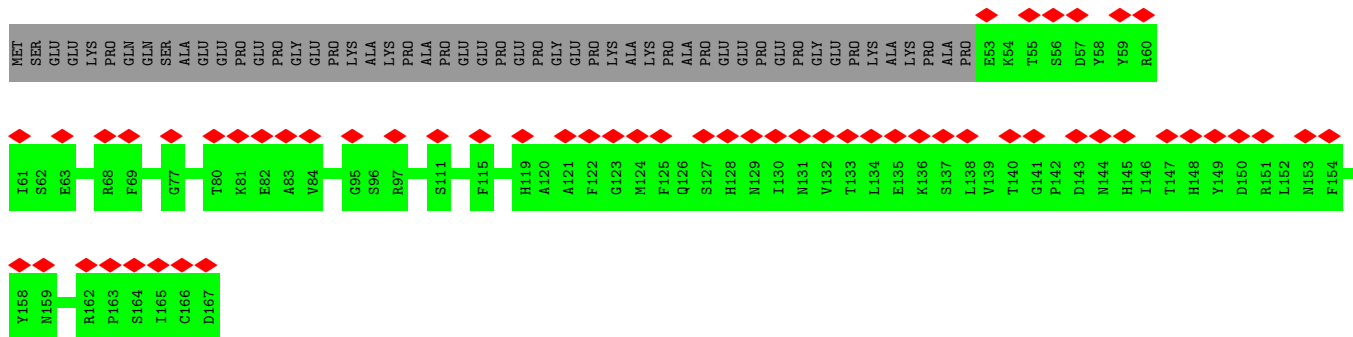




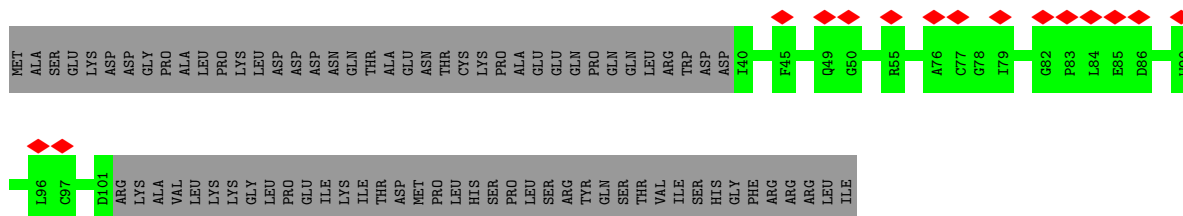
• Molecule 22: Enkurin



• Molecule 23: Piercer of microtubule wall 1 protein

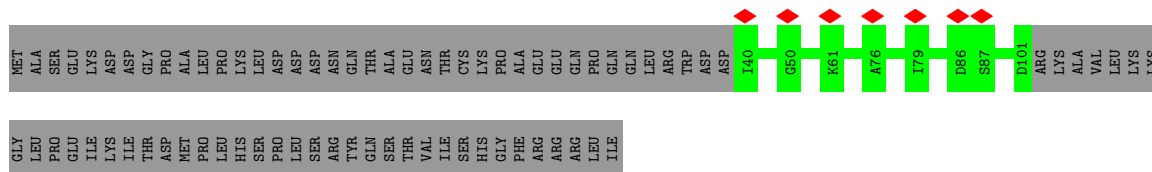


• Molecule 24: Testis-expressed protein 43

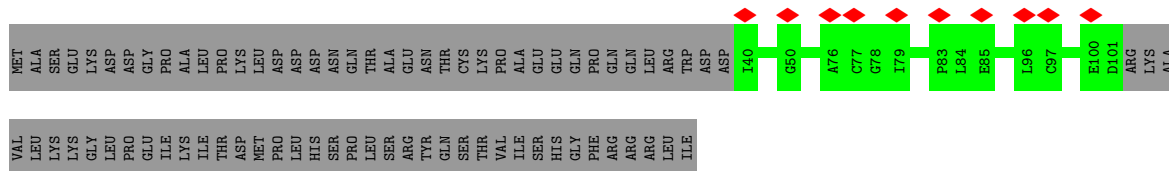


• Molecule 24: Testis-expressed protein 43

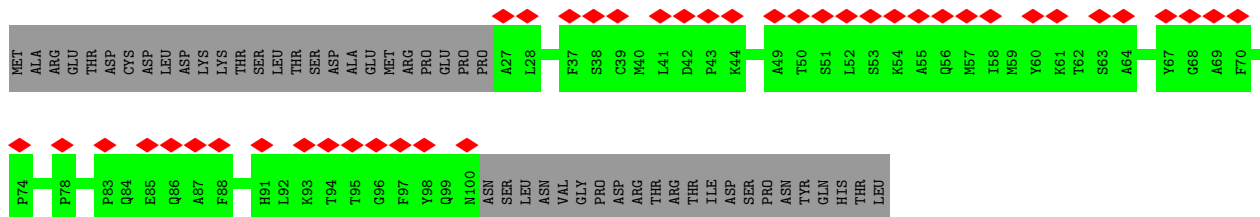




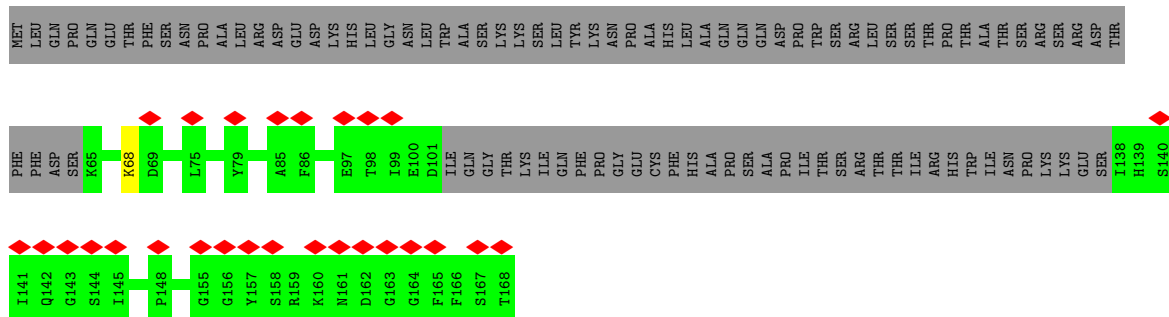
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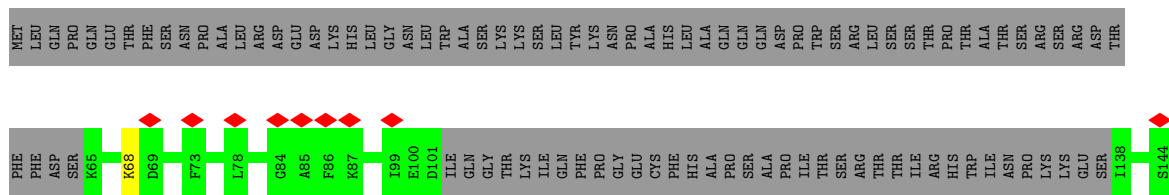
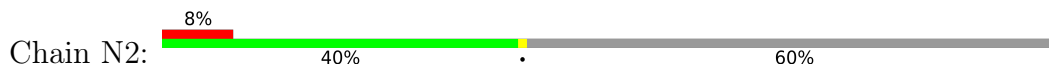
• Molecule 25: Piercer of microtubule wall 2 protein

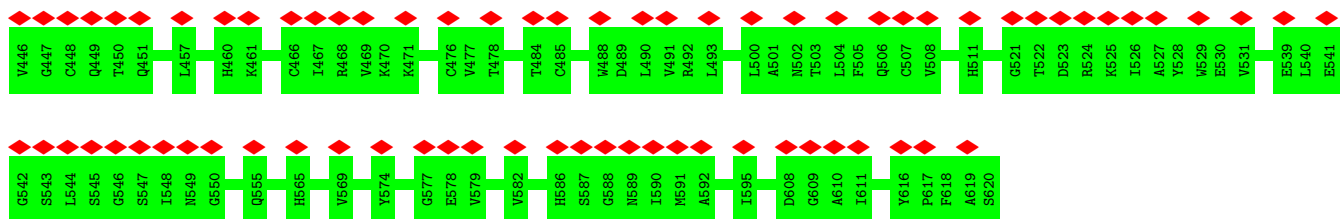


• Molecule 26: Cilia- and flagella-associated protein 276

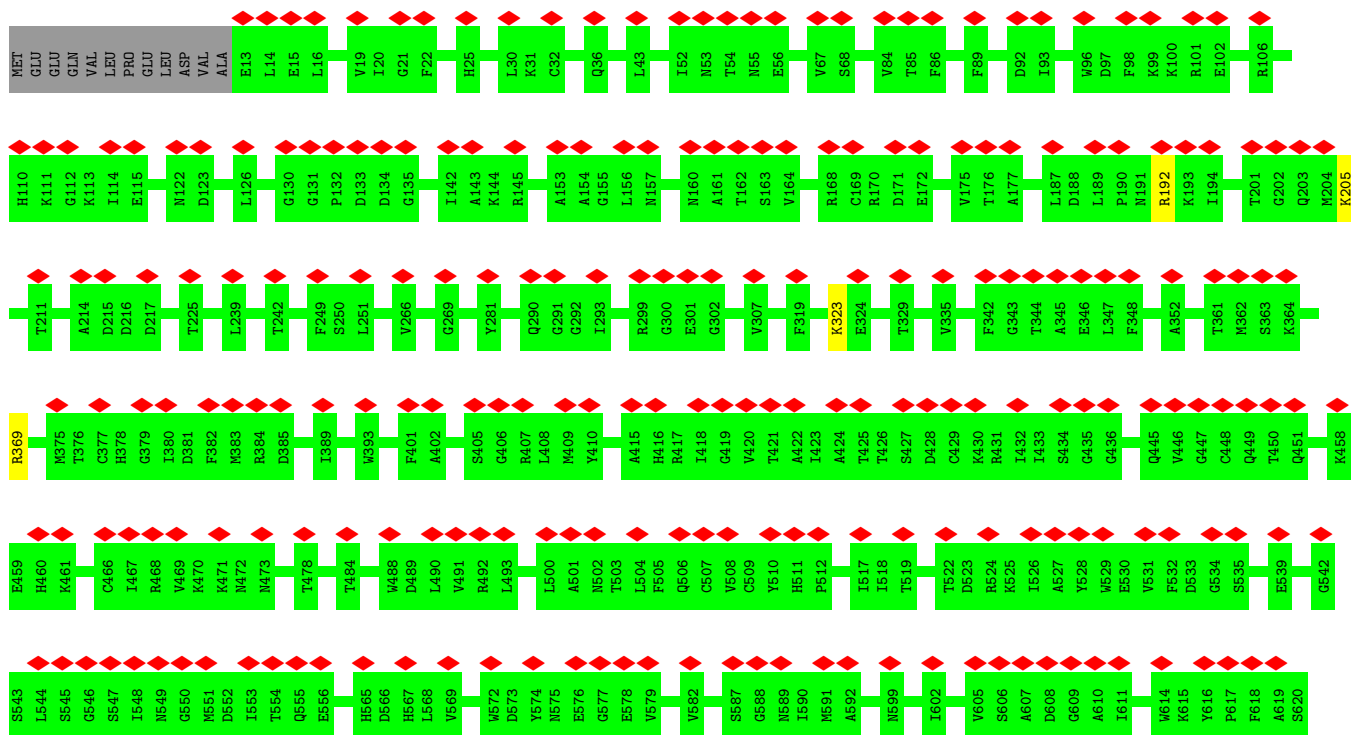


• Molecule 26: Cilia- and flagella-associated protein 276

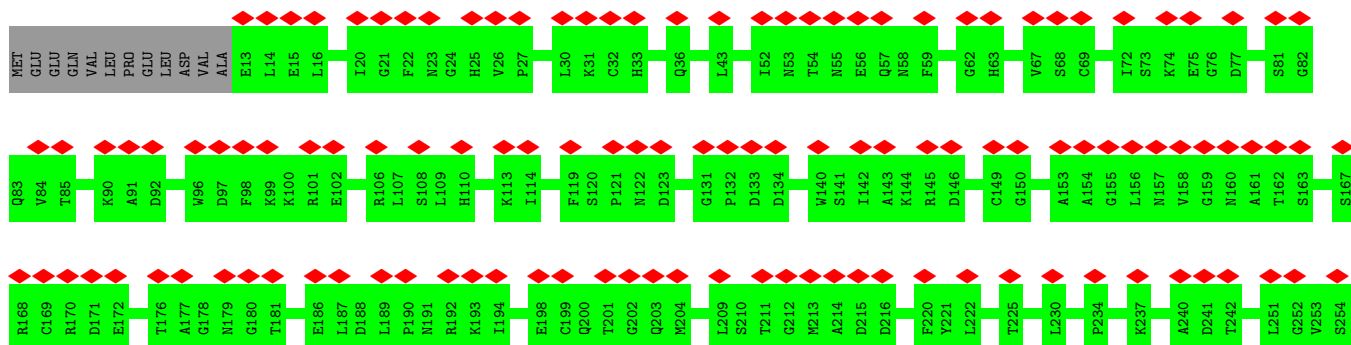


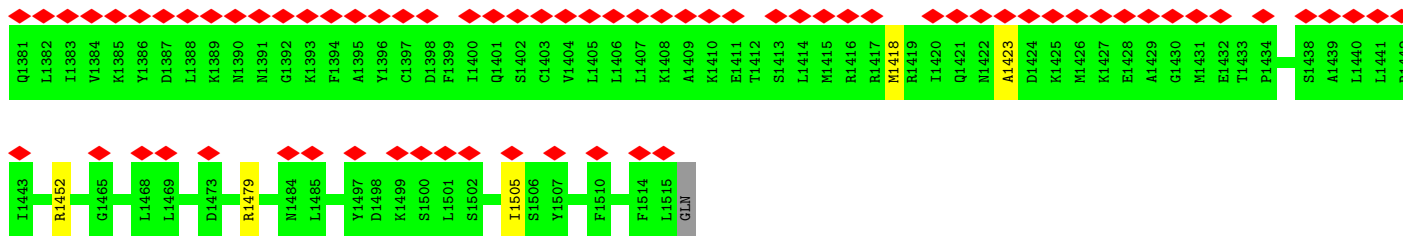


• Molecule 29: Cilia- and flagella-associated protein 52



• Molecule 29: Cilia- and flagella-associated protein 52

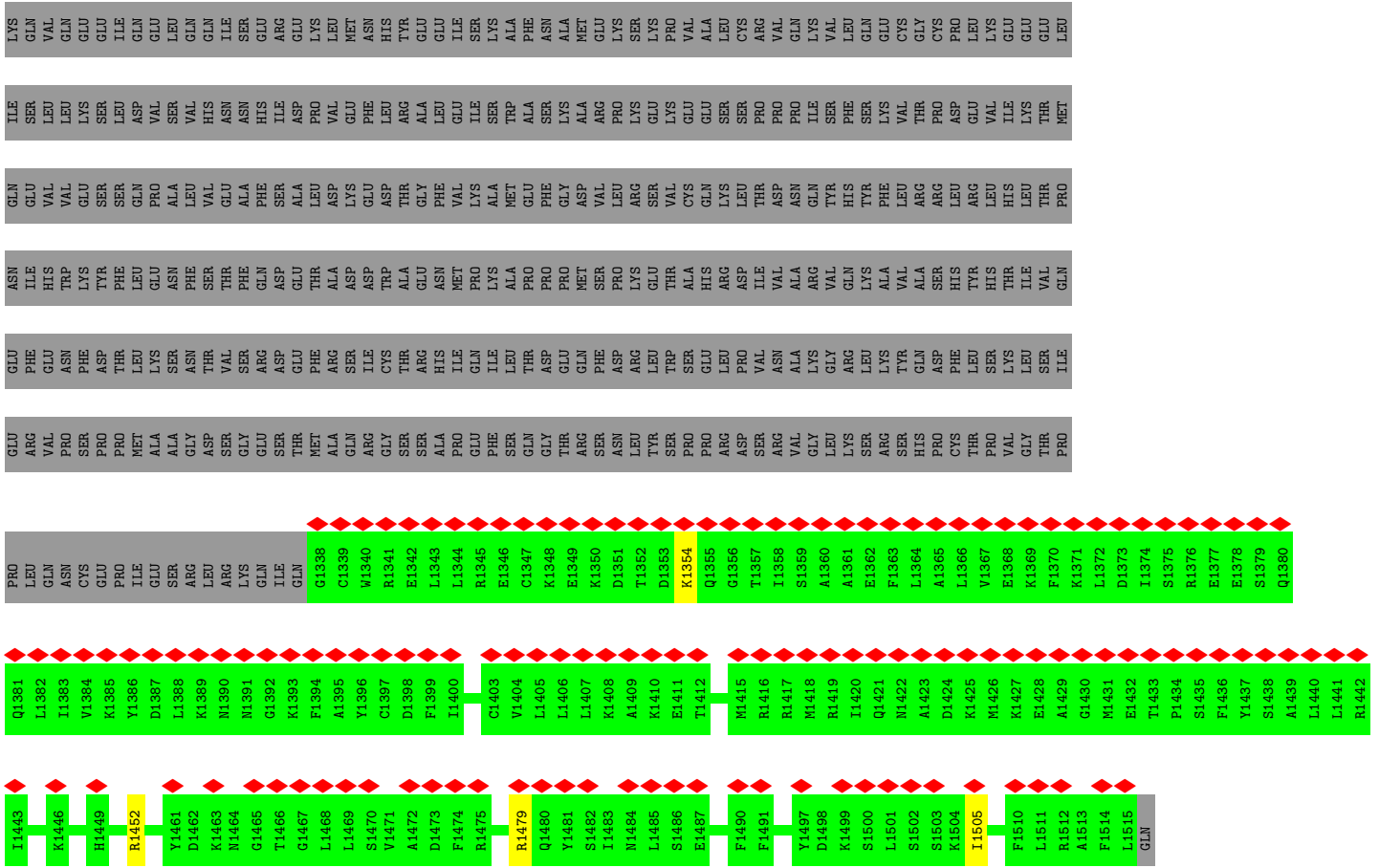




Molecule 30: EF-hand calcium-binding domain-containing protein 6



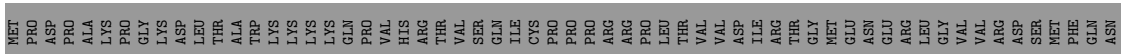
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THR	ILE	PHE	GLM	ASP	THR	LEU	CYS	ARG	LEU	ASN	PRO	PHE	LEU	ARG	ASP	PRO	PHE	LEU	THR	THR	ALA	LYS	VAL	LEU	GLN	ALA	LEU	ILE	GLU	ASP	GLY	ILE	ILE	ILE	ASP				
LEU	LYS	ARG	VAL	THR	LEU	THR	VAL	ALA	PHE	LEU	ASP	LEU	LEU	ALA	THR	LEU	LEU	THR	THR	LYS	ASP	LEU	LEU	ALA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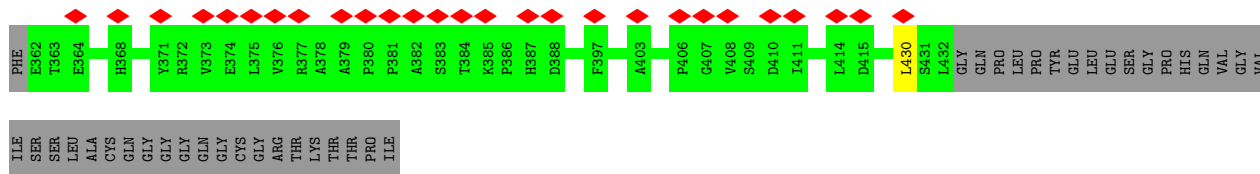


• Molecule 31: Cilia and flagella-associated protein 77

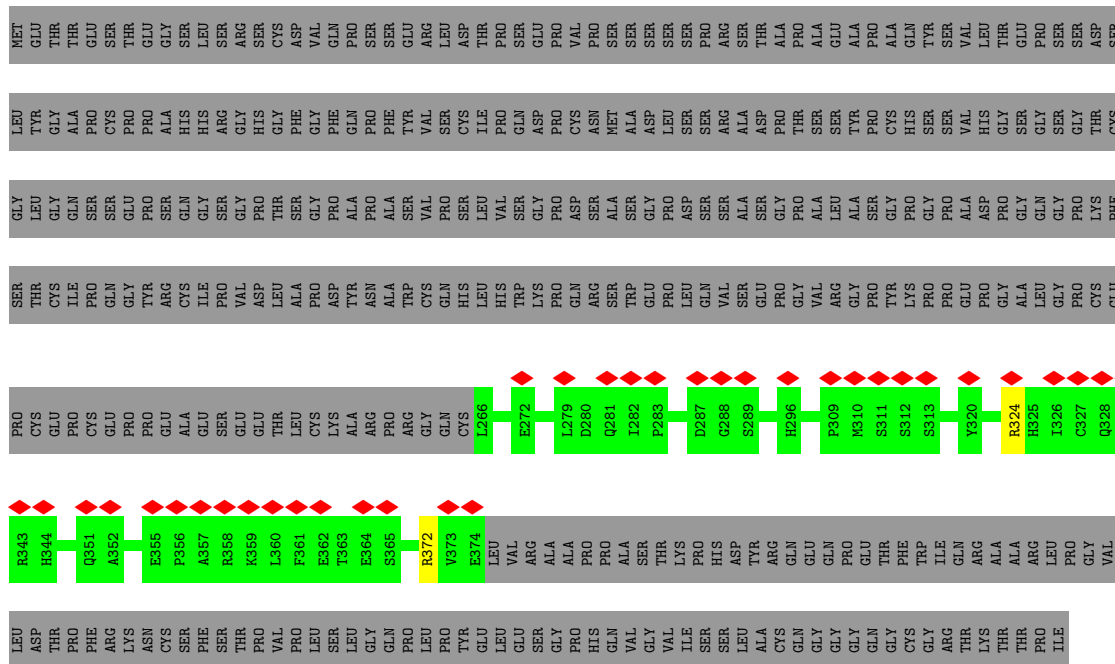


• Molecule 31: Cilia and flagella-associated protein 77

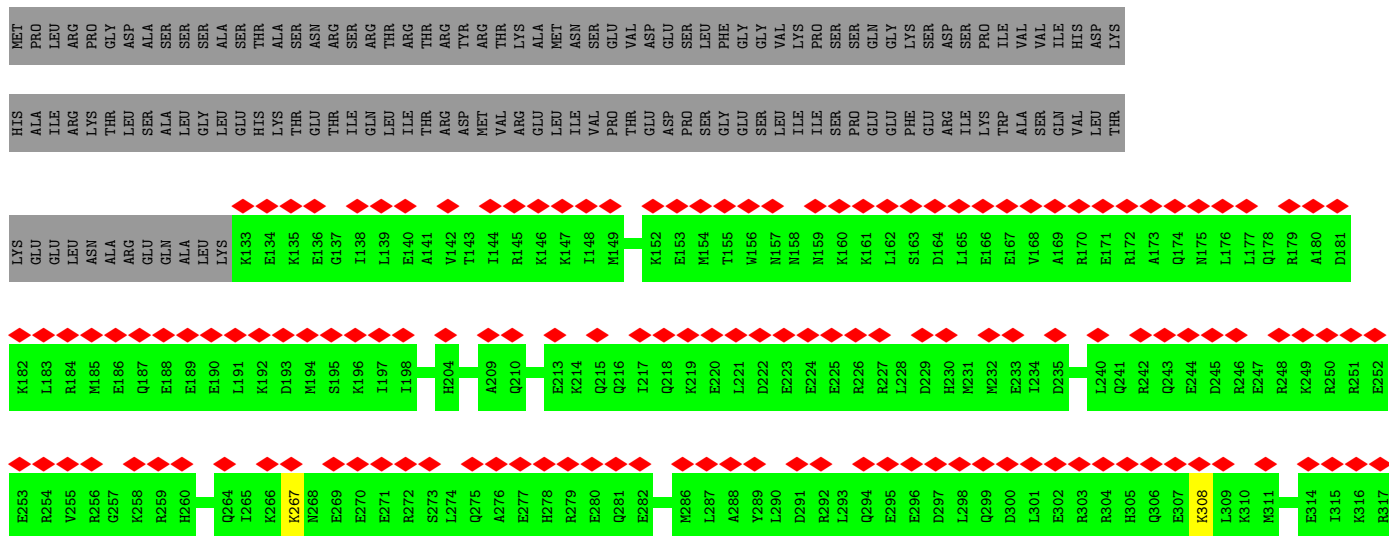


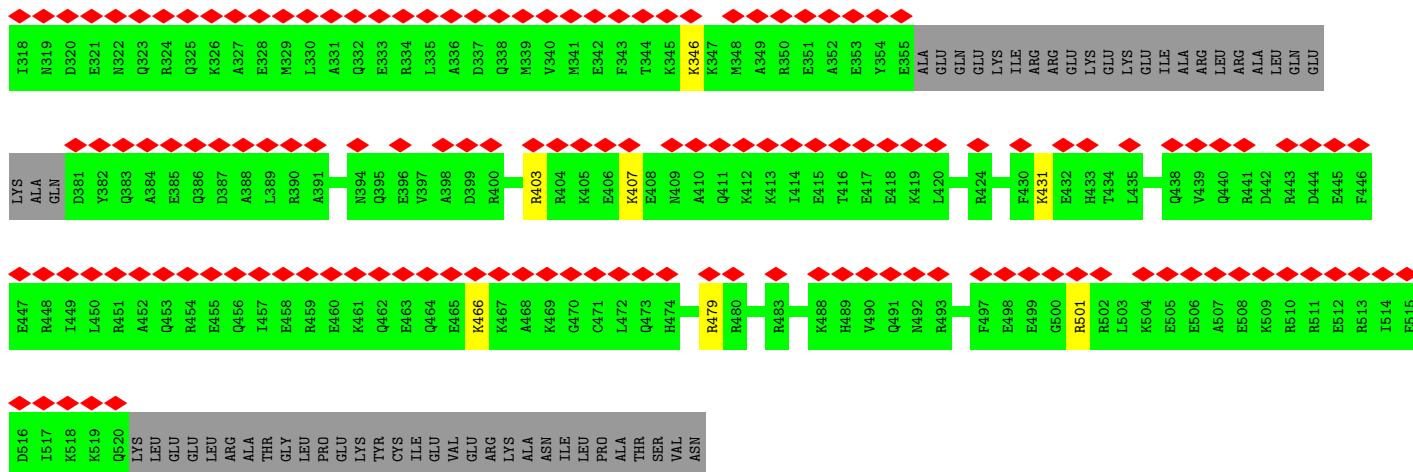


• Molecule 32: Sperm-associated antigen 8

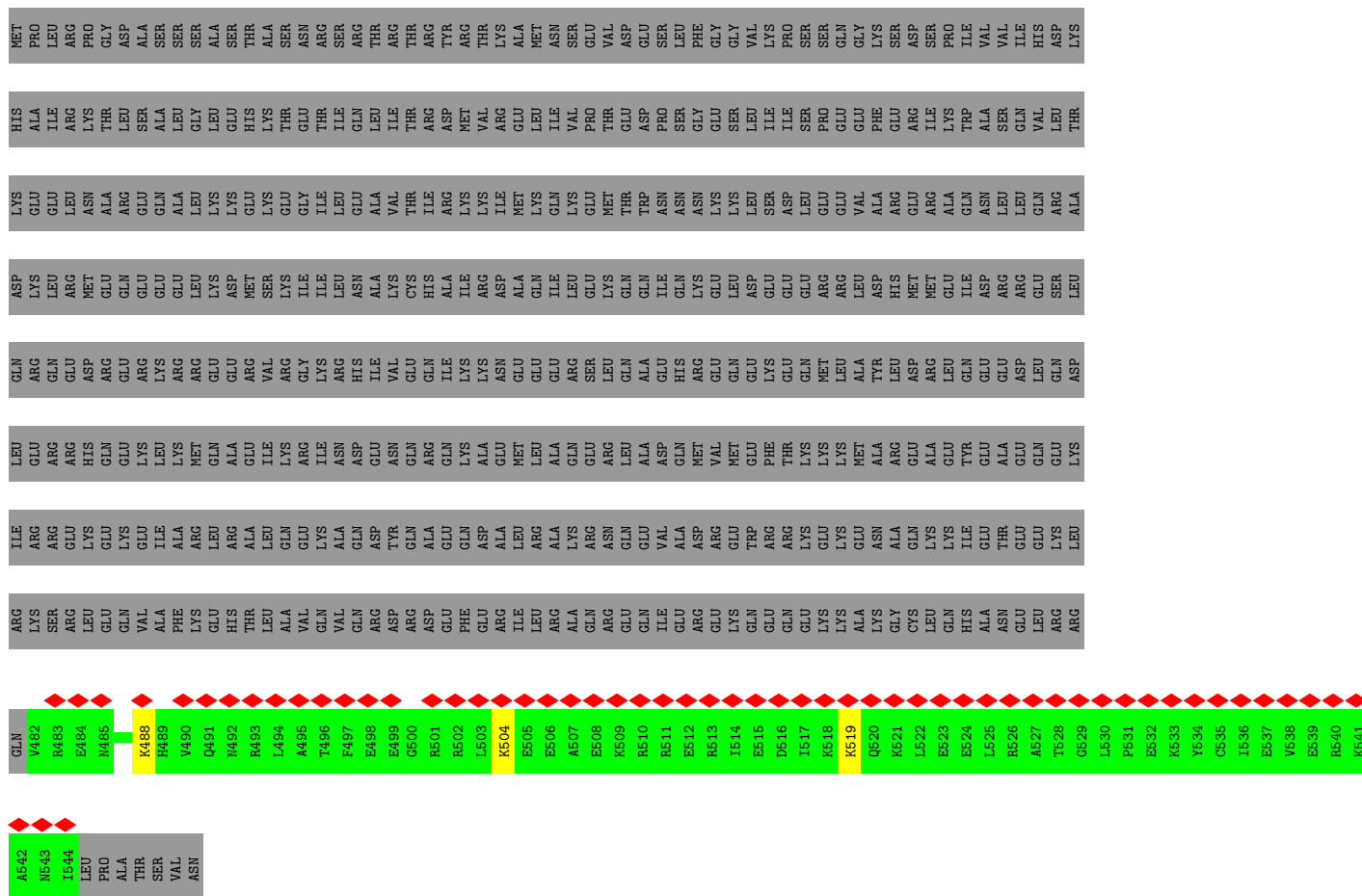


• Molecule 33: Cilia- and flagella-associated protein 45



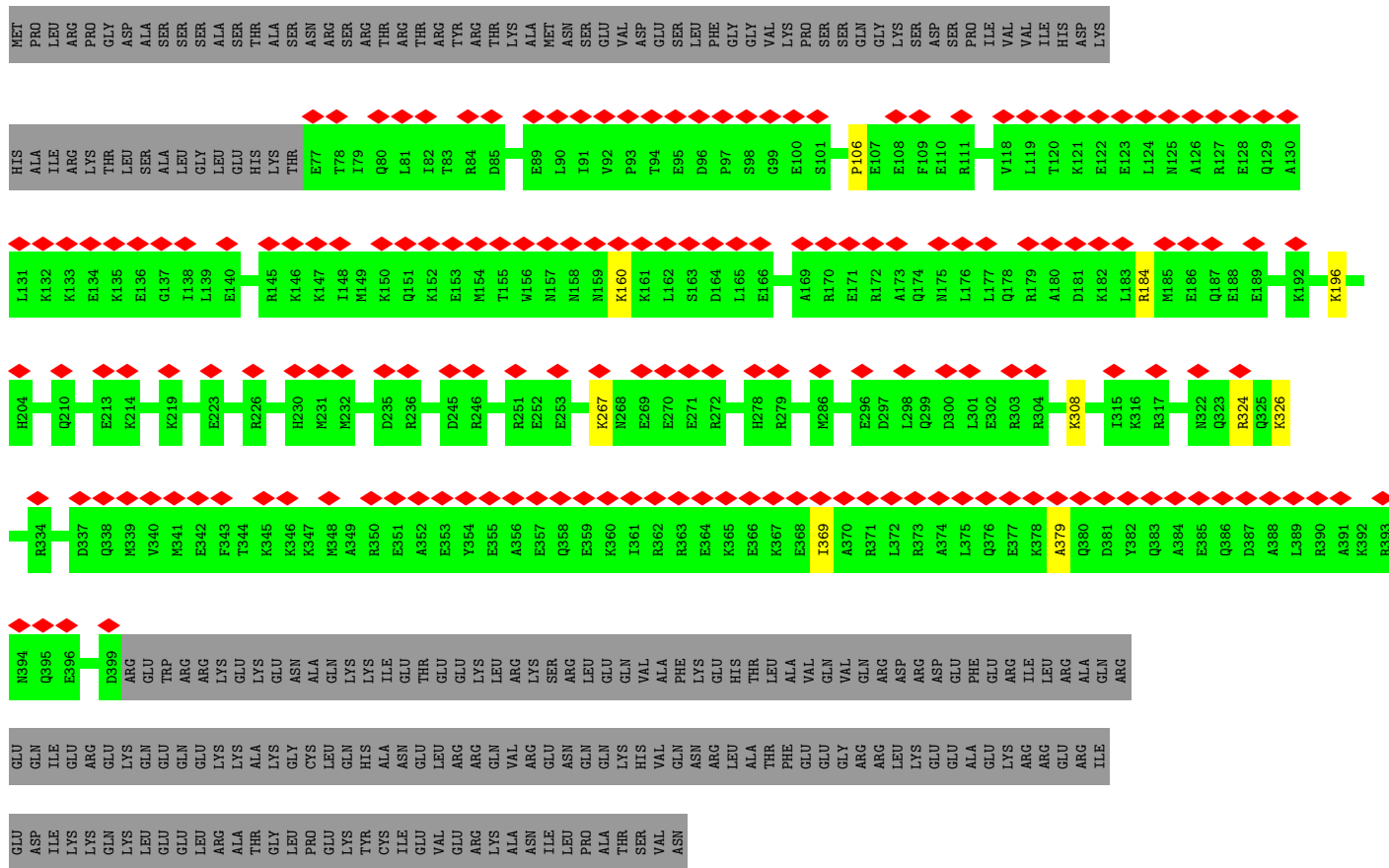


• Molecule 33: Cilia- and flagella-associated protein 45

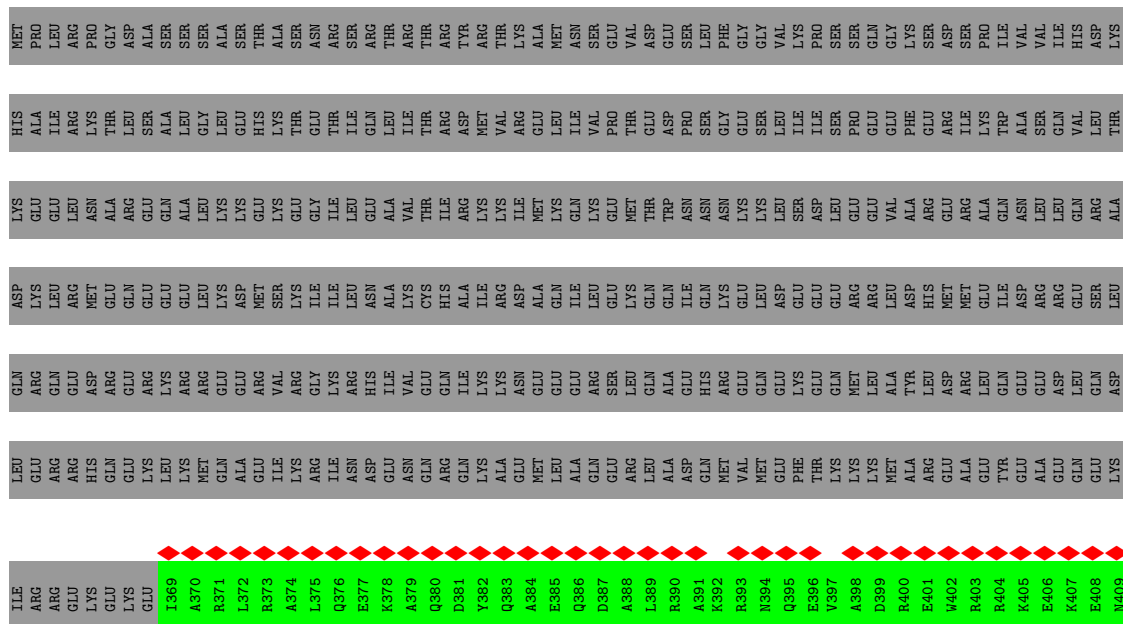


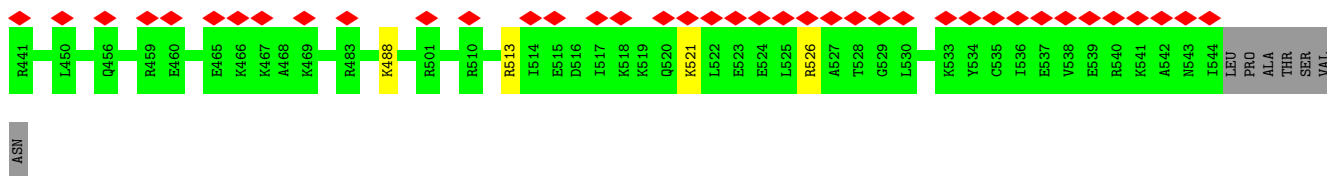
• Molecule 33: Cilia- and flagella-associated protein 45



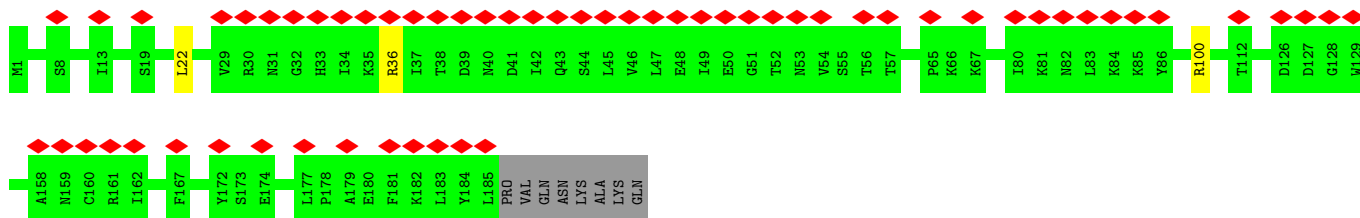


● Molecule 33: Cilia- and flagella-associated protein 45

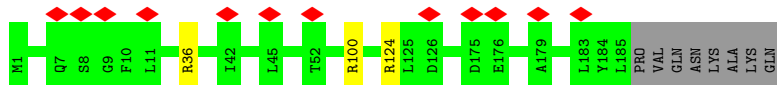




• Molecule 34: Cilia- and flagella-associated protein 20



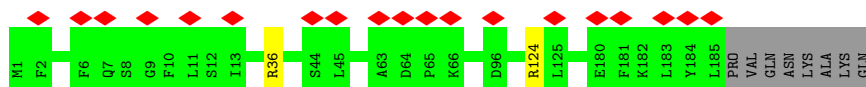
• Molecule 34: Cilia- and flagella-associated protein 20



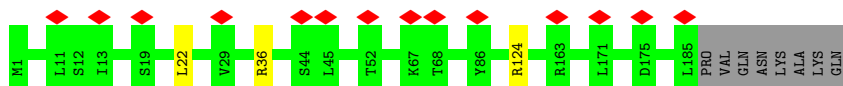
• Molecule 34: Cilia- and flagella-associated protein 20



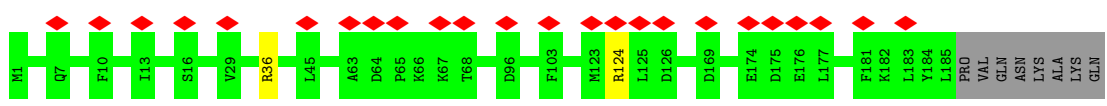
• Molecule 34: Cilia- and flagella-associated protein 20



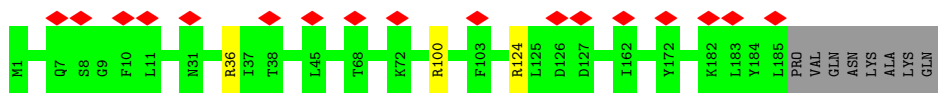
• Molecule 34: Cilia- and flagella-associated protein 20



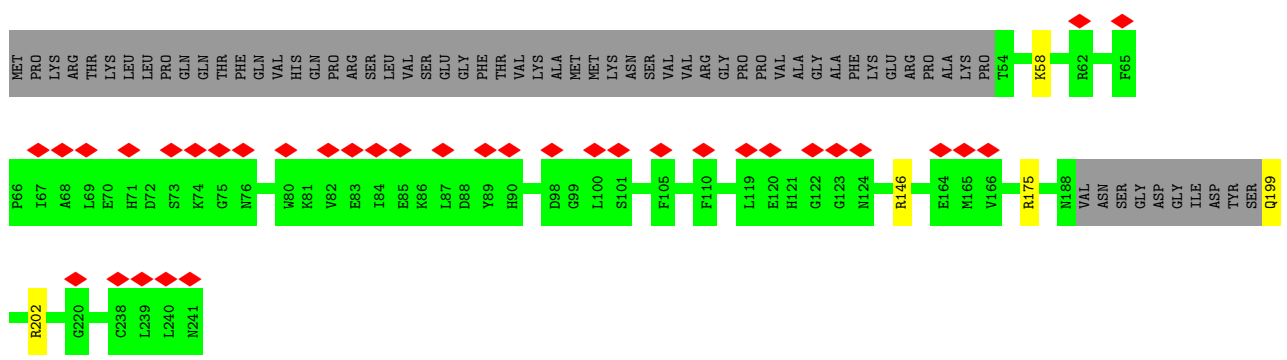
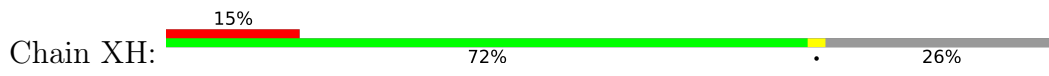
• Molecule 34: Cilia- and flagella-associated protein 20



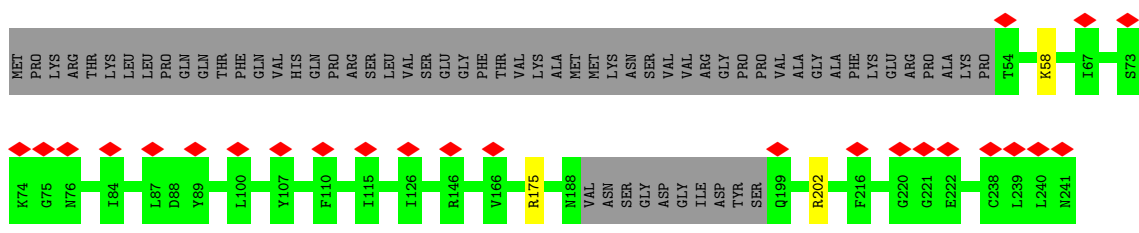
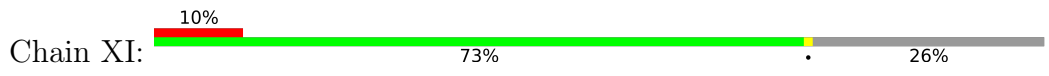
• Molecule 34: Cilia- and flagella-associated protein 20



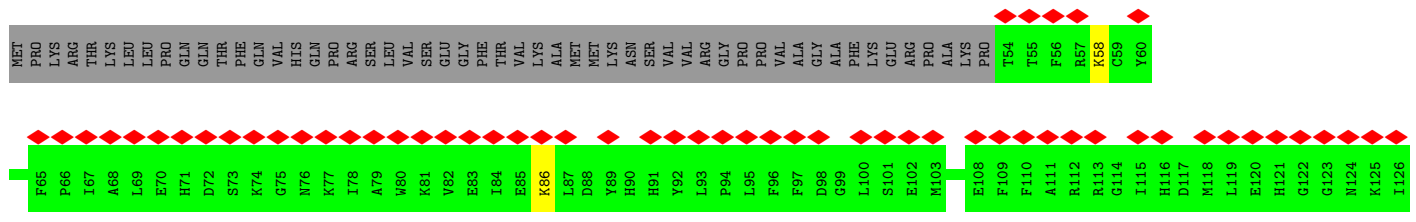
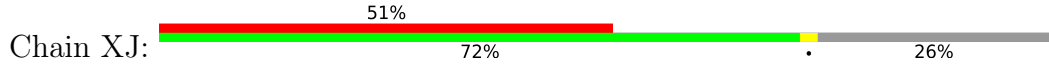
• Molecule 35: Parkin coregulated gene protein homolog

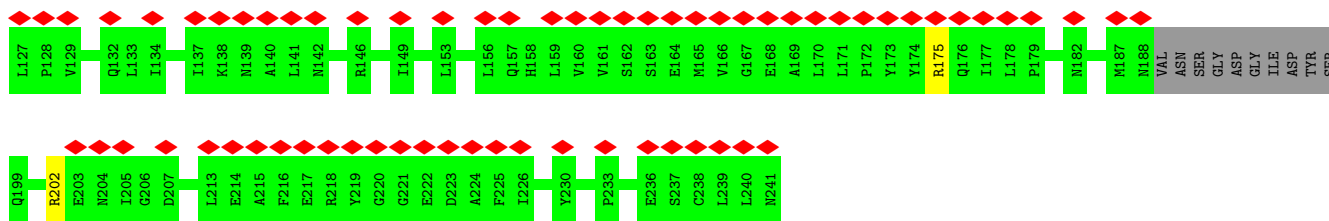


• Molecule 35: Parkin coregulated gene protein homolog

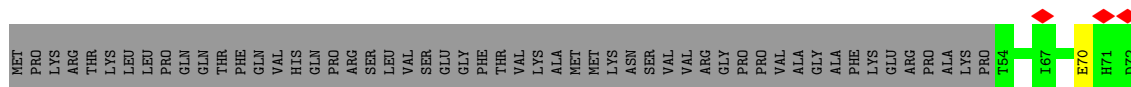
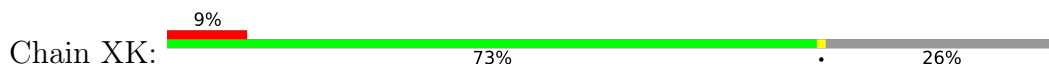


• Molecule 35: Parkin coregulated gene protein homolog

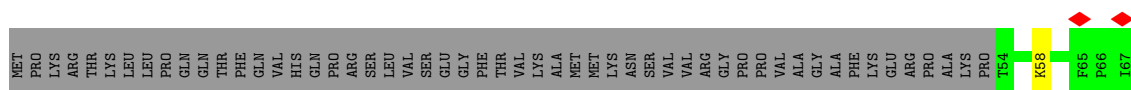
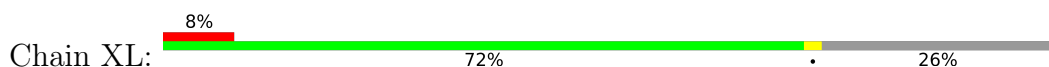




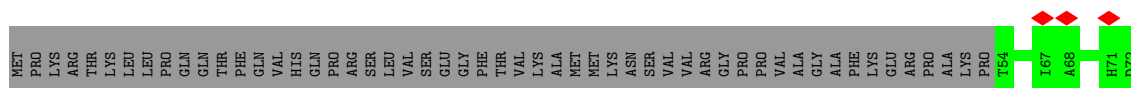
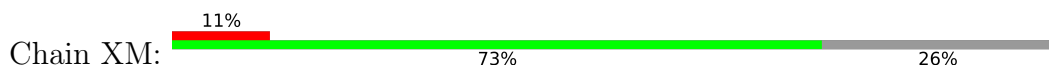
• Molecule 35: Parkin coregulated gene protein homolog



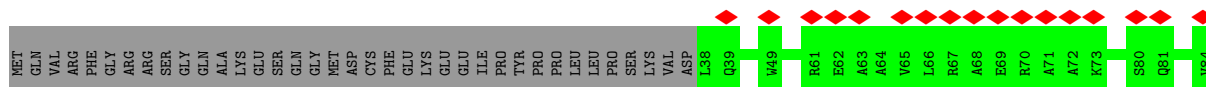
• Molecule 35: Parkin coregulated gene protein homolog

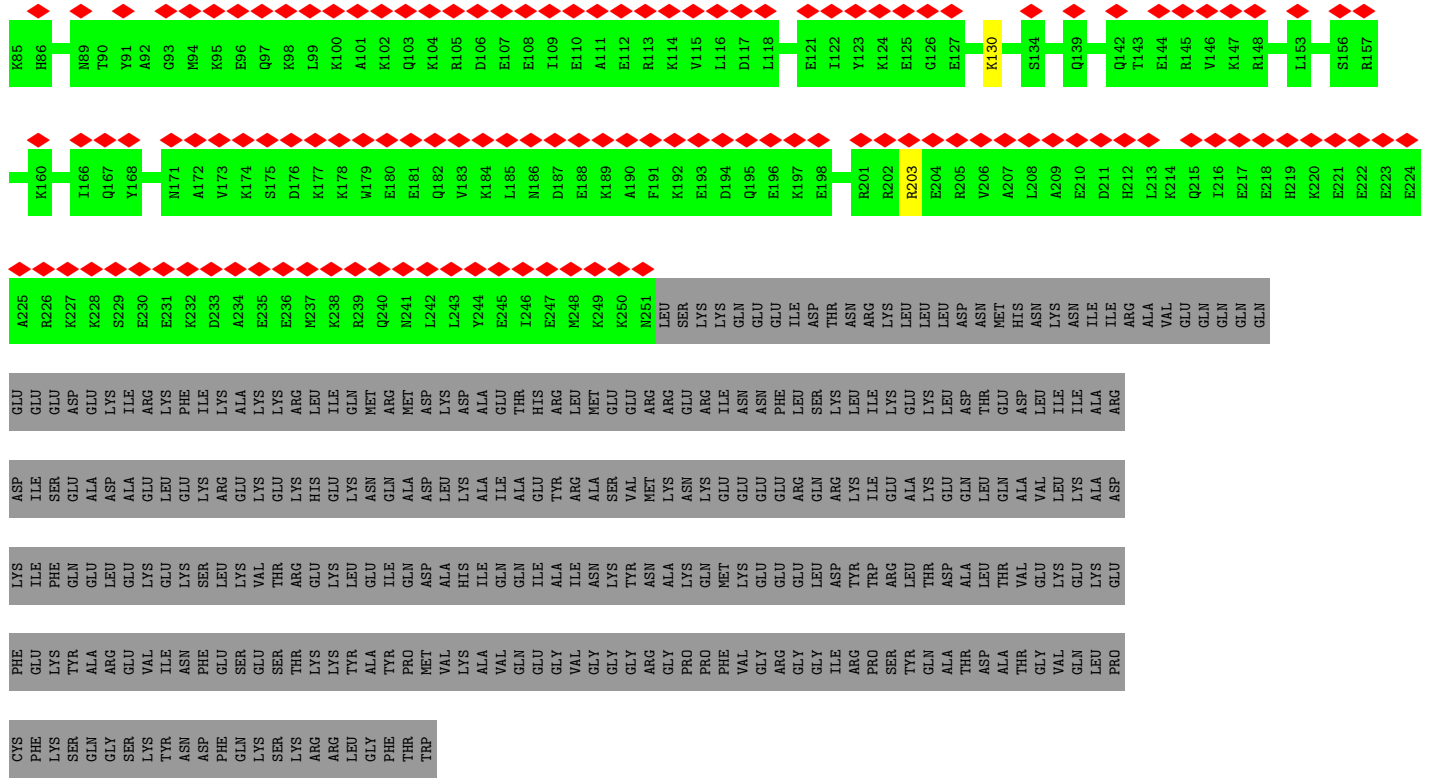


• Molecule 35: Parkin coregulated gene protein homolog

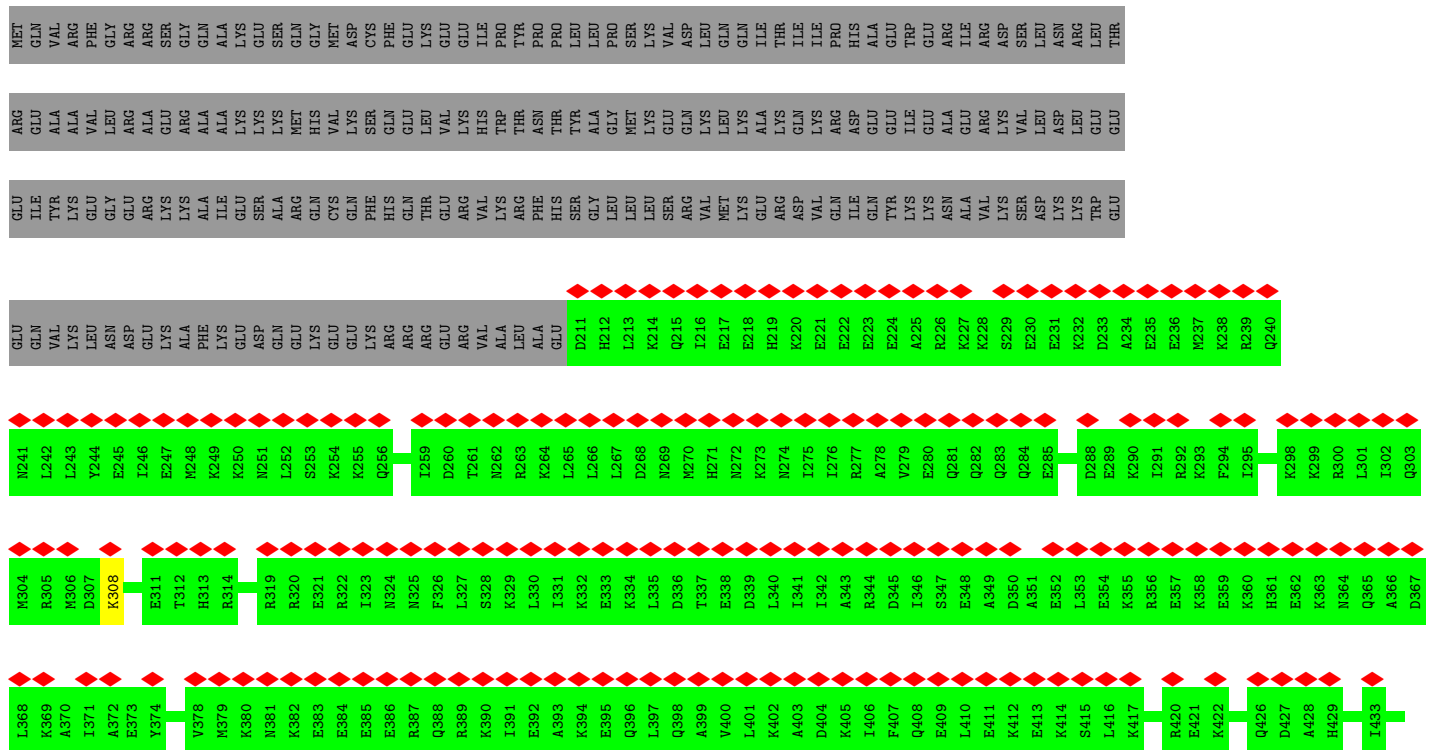
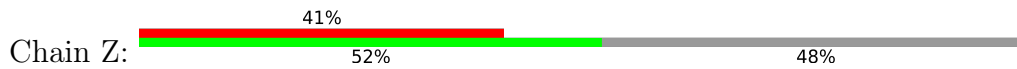


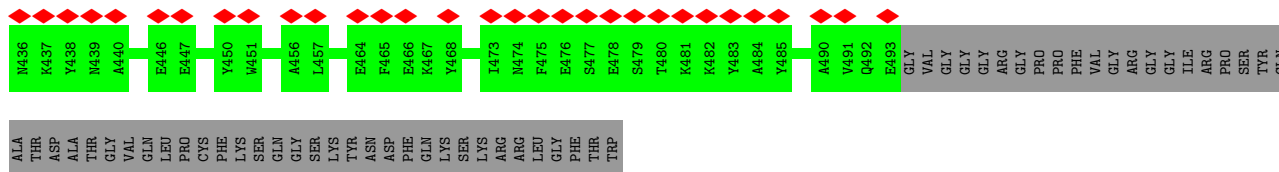
• Molecule 36: Cilia- and flagella-associated protein 210



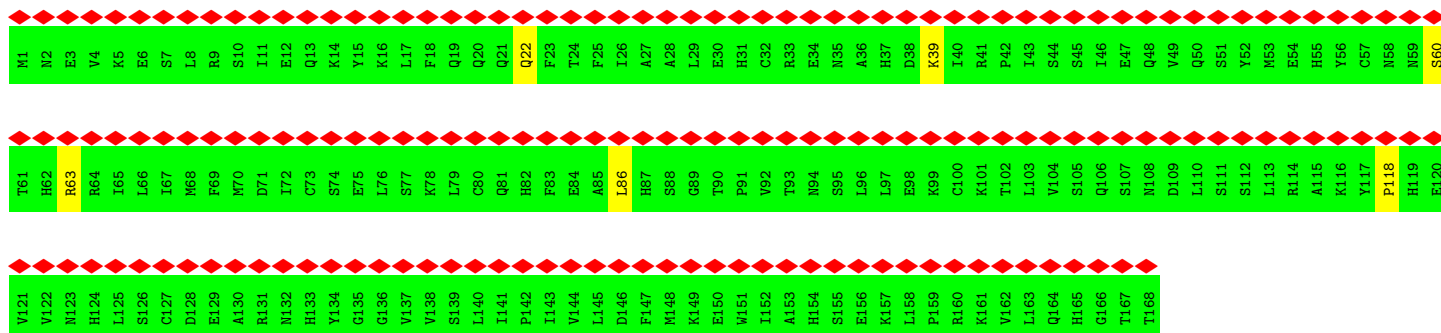


● Molecule 36: Cilia- and flagella-associated protein 210

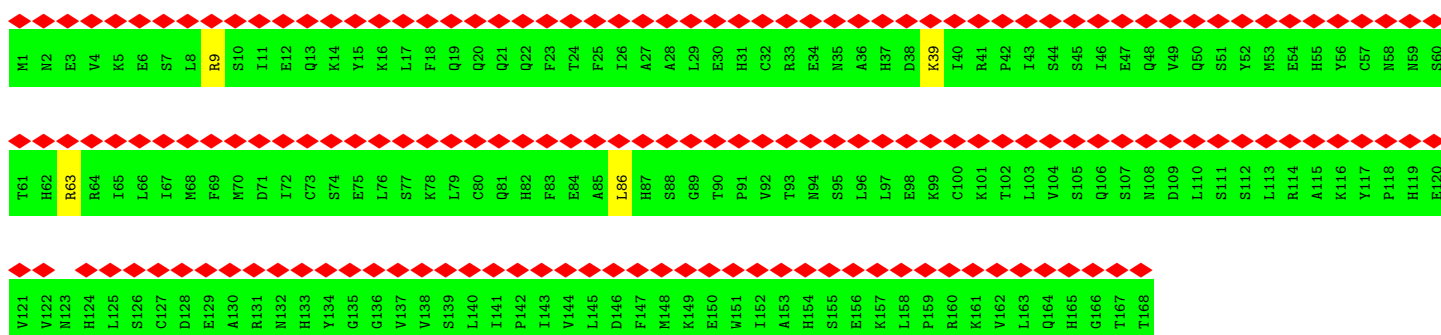




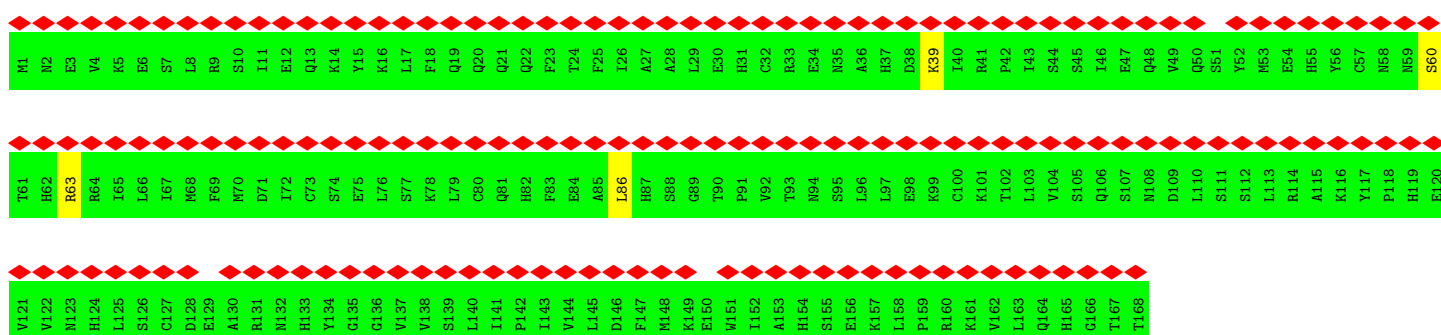
• Molecule 37: Sperm acrosome-associated protein 9



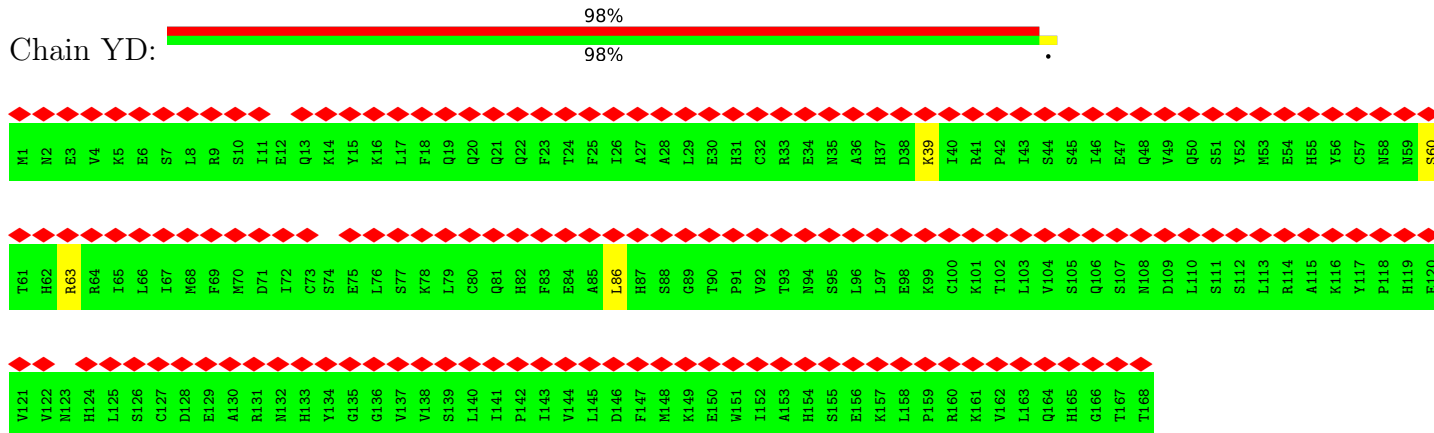
• Molecule 37: Sperm acrosome-associated protein 9



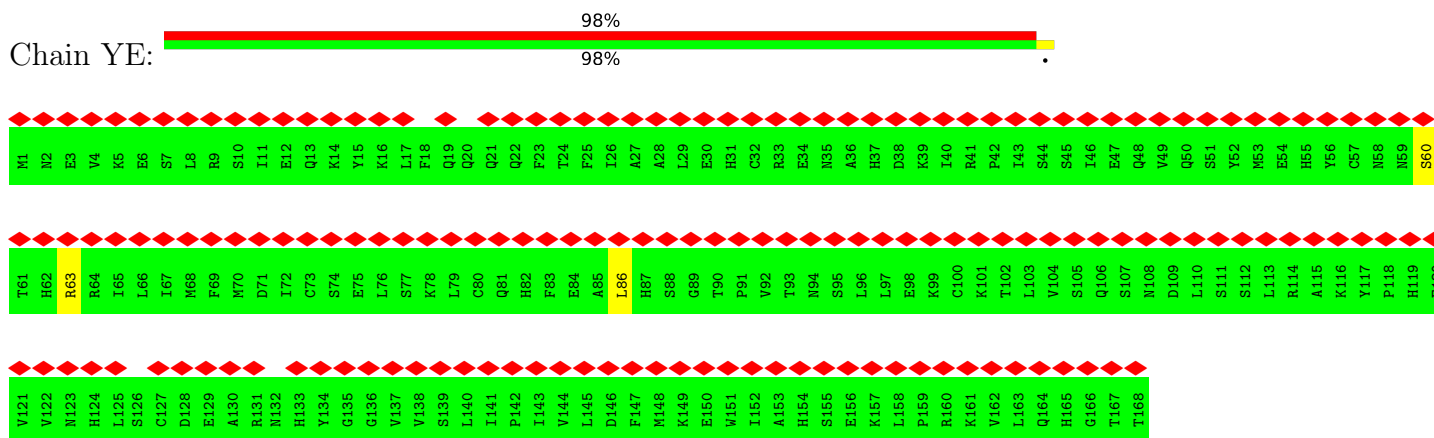
• Molecule 37: Sperm acrosome-associated protein 9



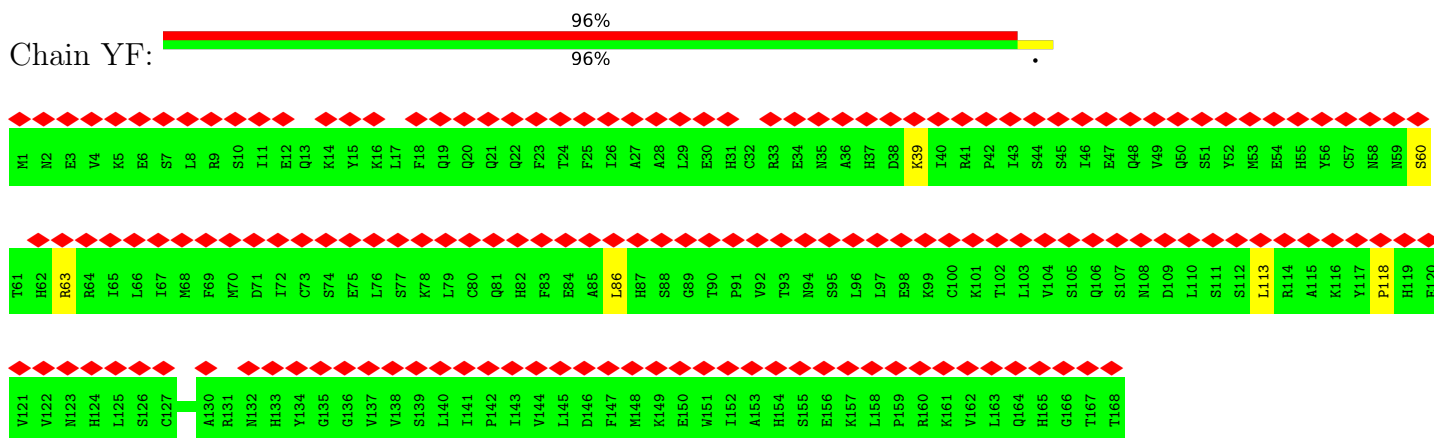
• Molecule 37: Sperm acrosome-associated protein 9



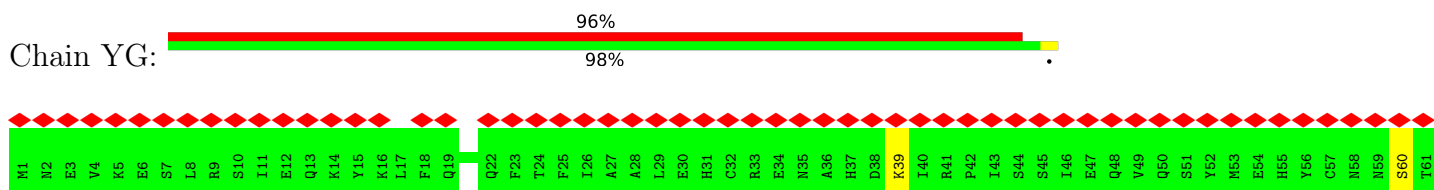
• Molecule 37: Sperm acrosome-associated protein 9

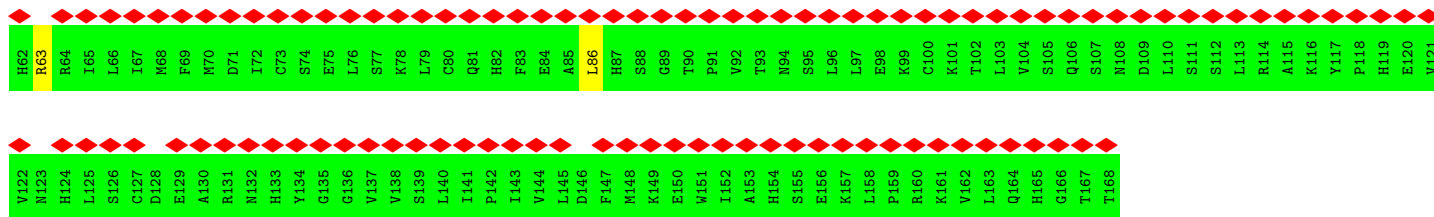


• Molecule 37: Sperm acrosome-associated protein 9

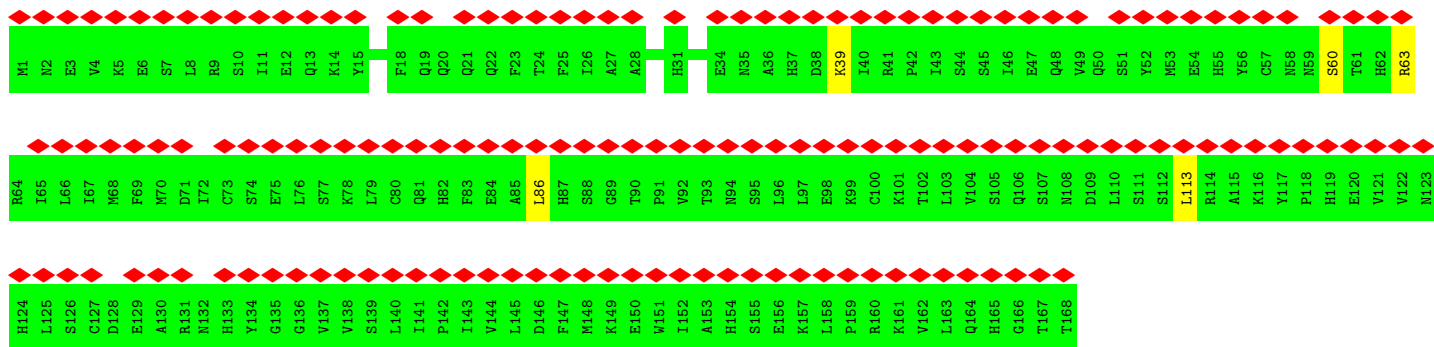


• Molecule 37: Sperm acrosome-associated protein 9

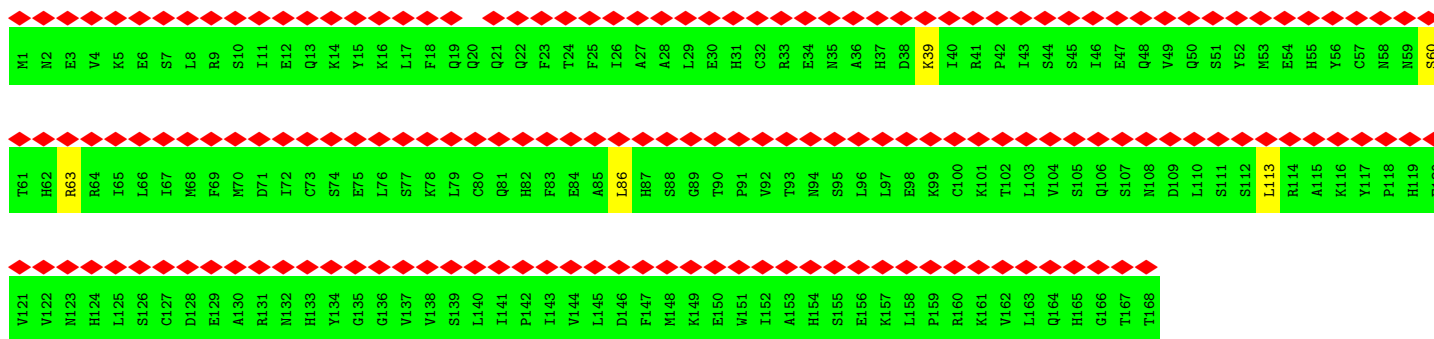




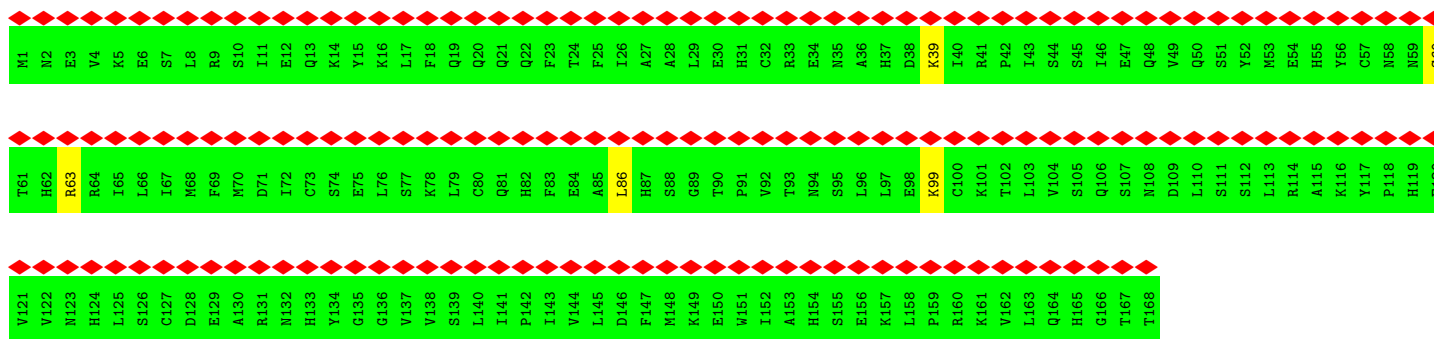
• Molecule 37: Sperm acrosome-associated protein 9



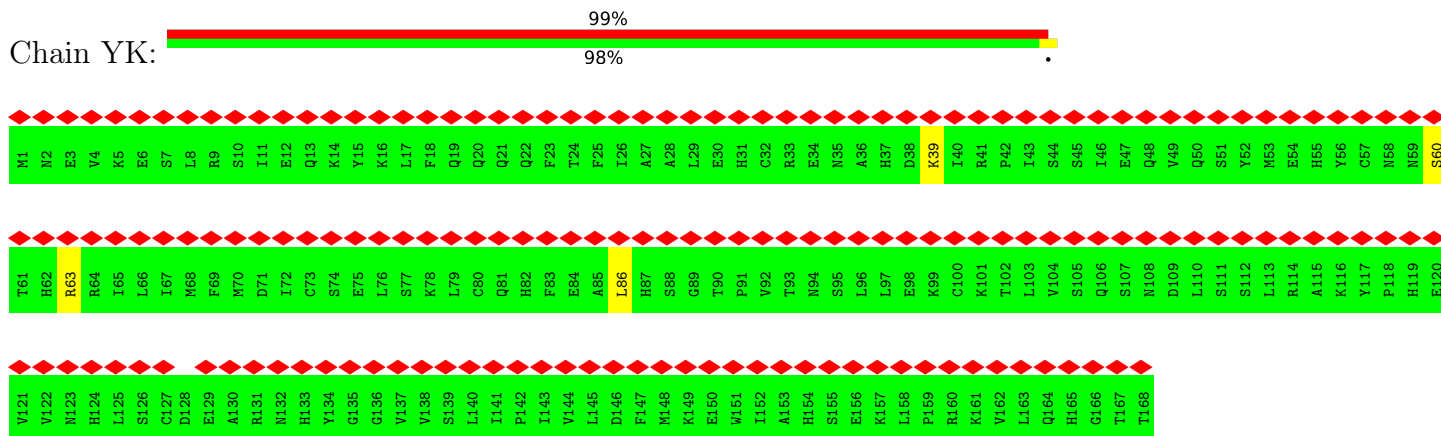
• Molecule 37: Sperm acrosome-associated protein 9



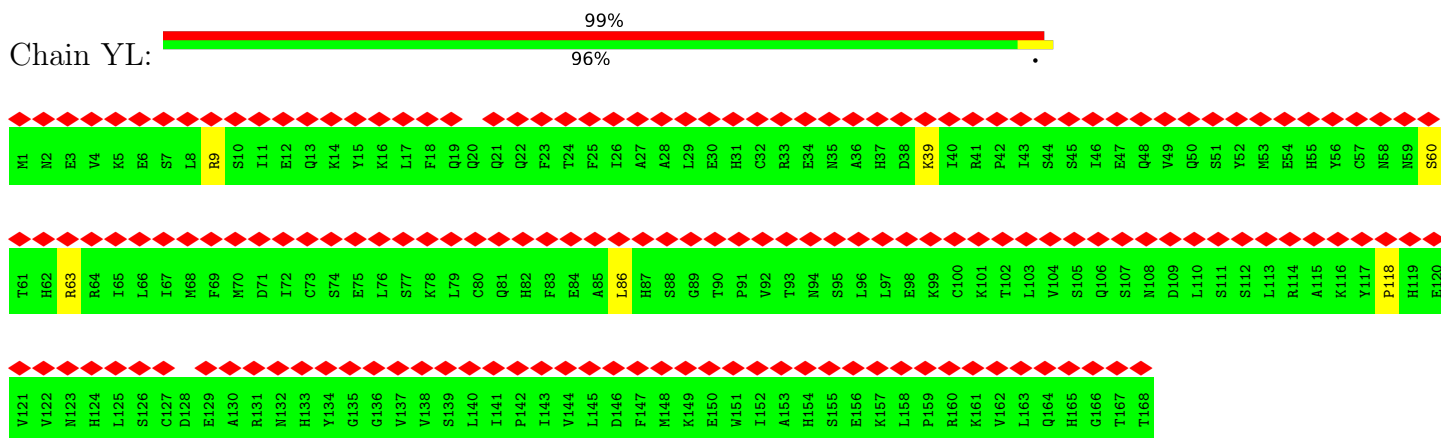
• Molecule 37: Sperm acrosome-associated protein 9



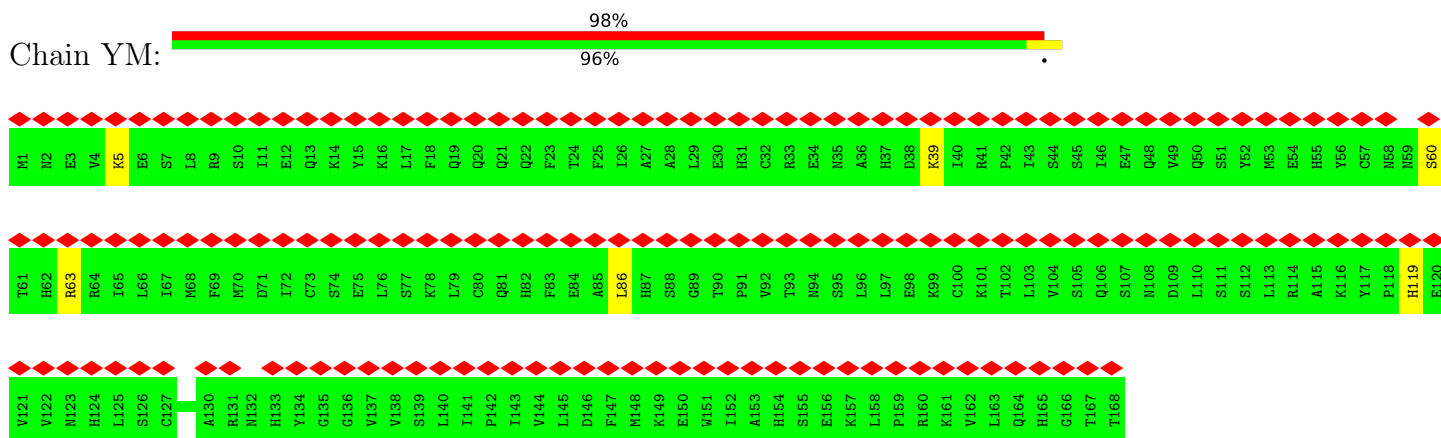
• Molecule 37: Sperm acrosome-associated protein 9



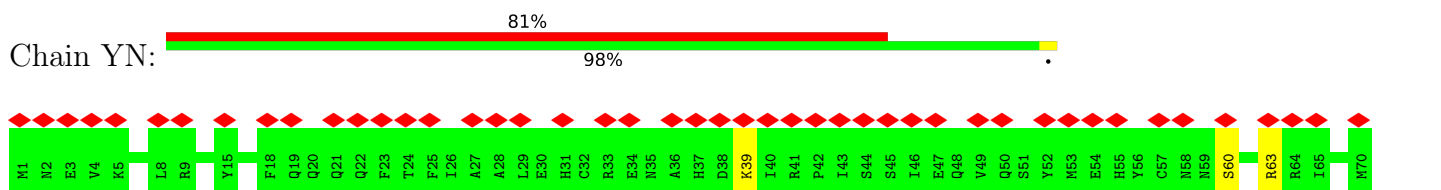
• Molecule 37: Sperm acrosome-associated protein 9

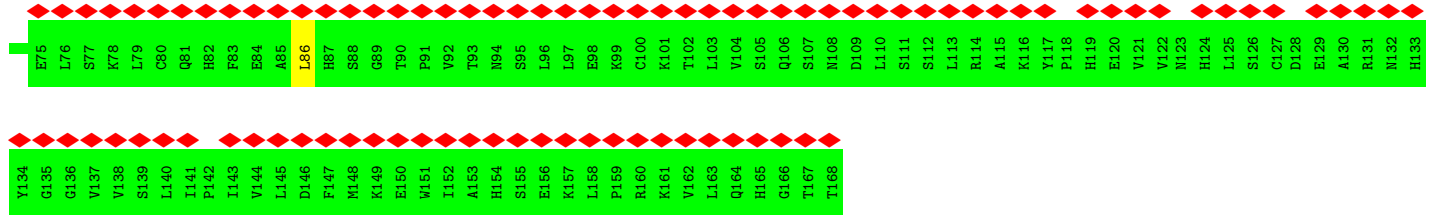


• Molecule 37: Sperm acrosome-associated protein 9

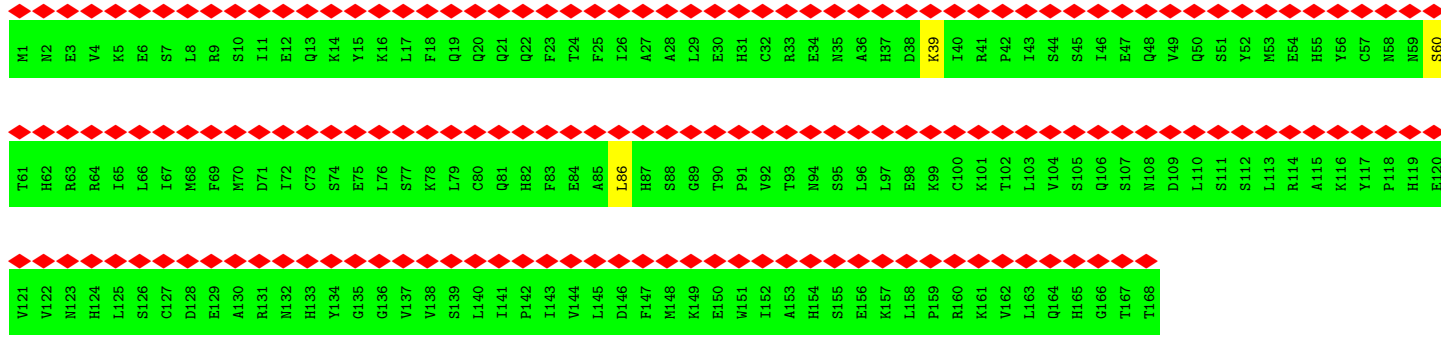


• Molecule 37: Sperm acrosome-associated protein 9

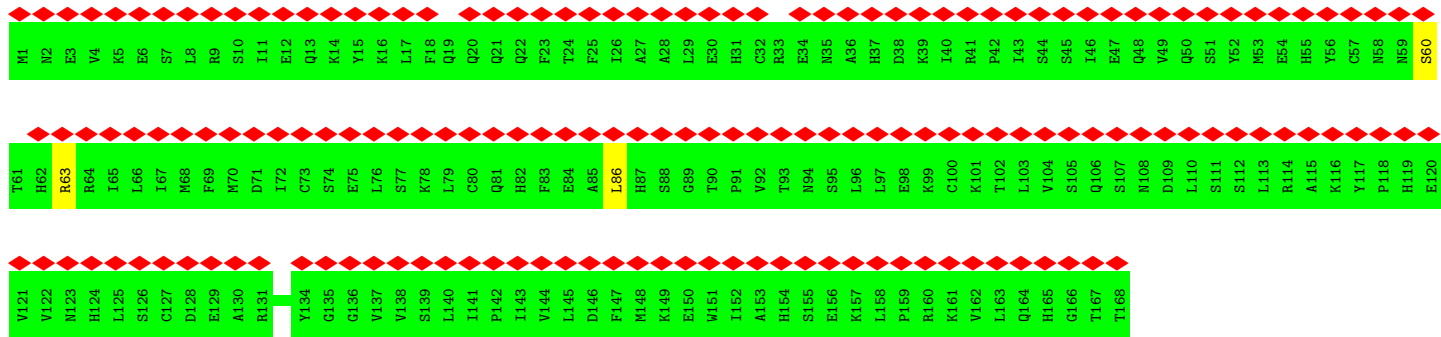




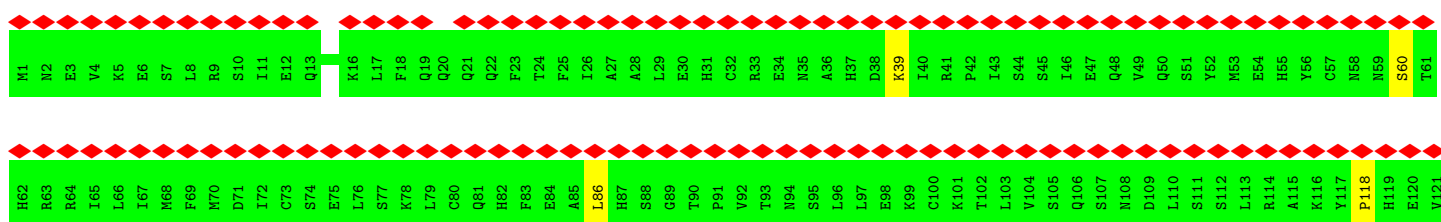
• Molecule 37: Sperm acrosome-associated protein 9

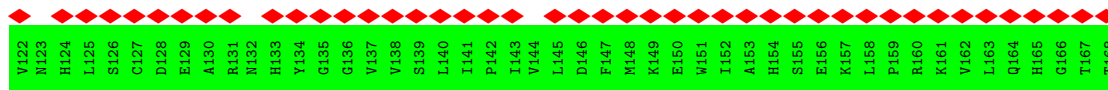


• Molecule 37: Sperm acrosome-associated protein 9

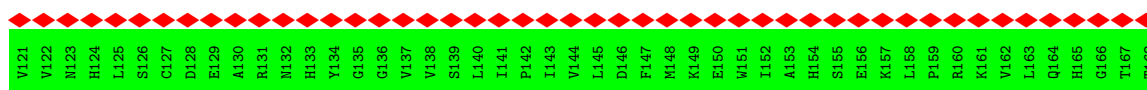
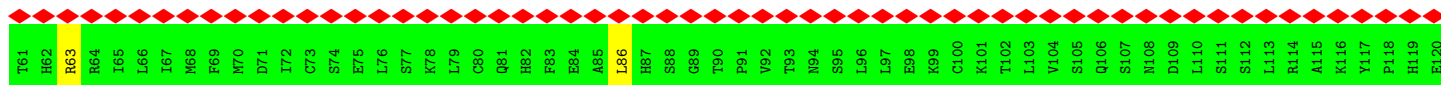
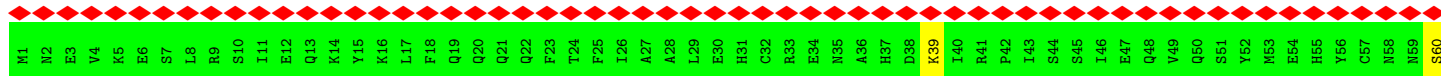


• Molecule 37: Sperm acrosome-associated protein 9

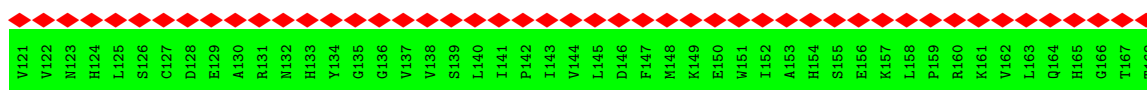
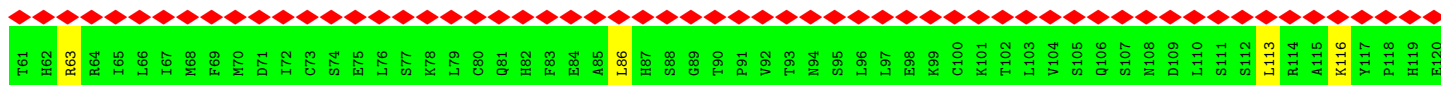
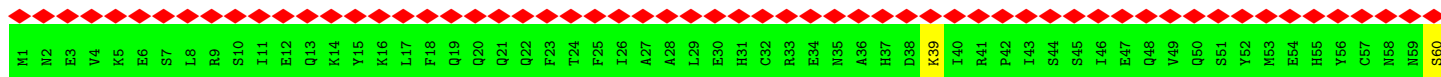




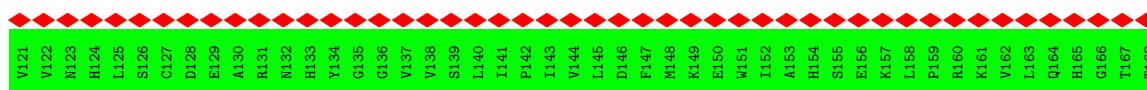
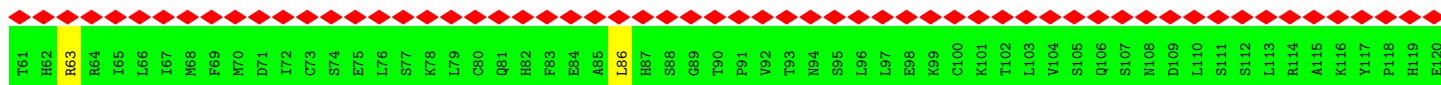
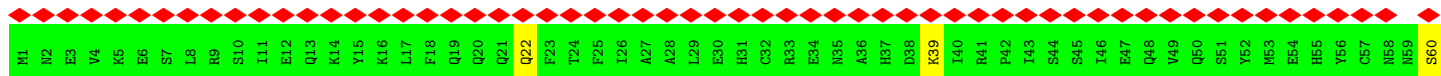
• Molecule 37: Sperm acrosome-associated protein 9



• Molecule 37: Sperm acrosome-associated protein 9

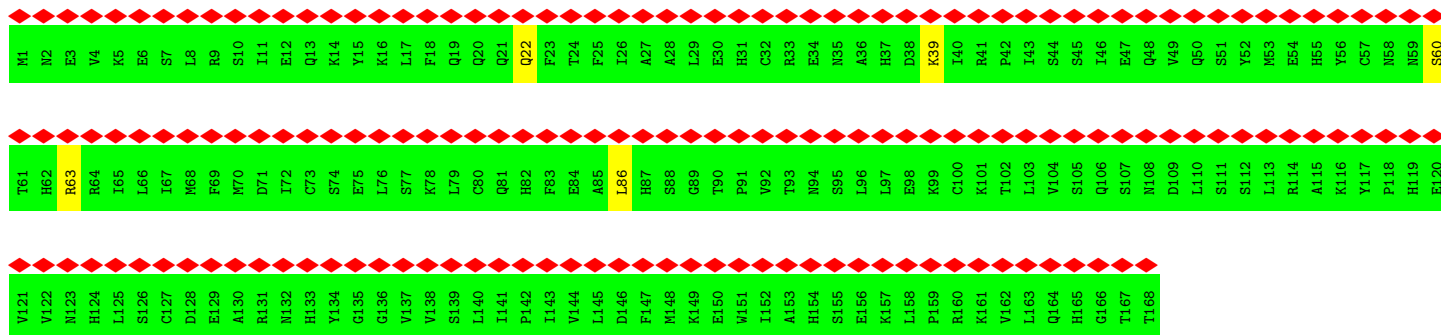


• Molecule 37: Sperm acrosome-associated protein 9

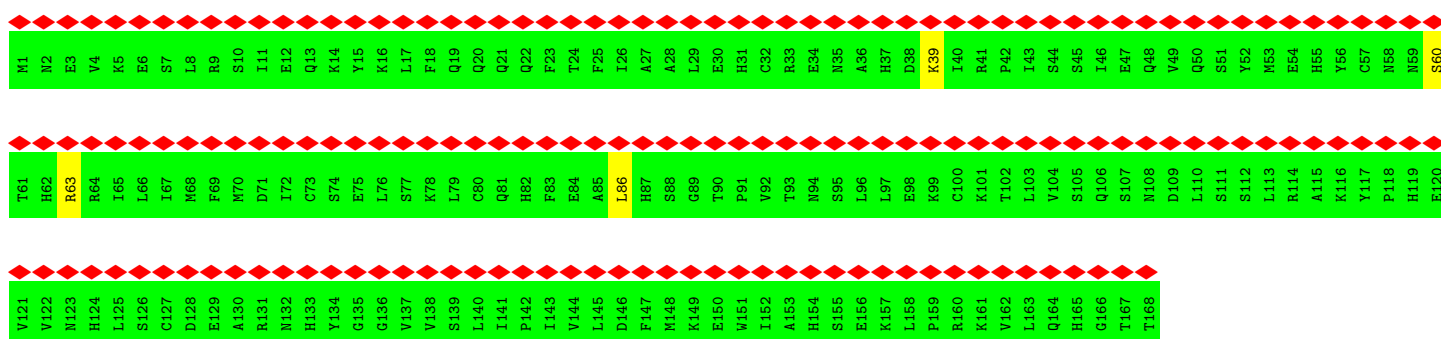


• Molecule 37: Sperm acrosome-associated protein 9

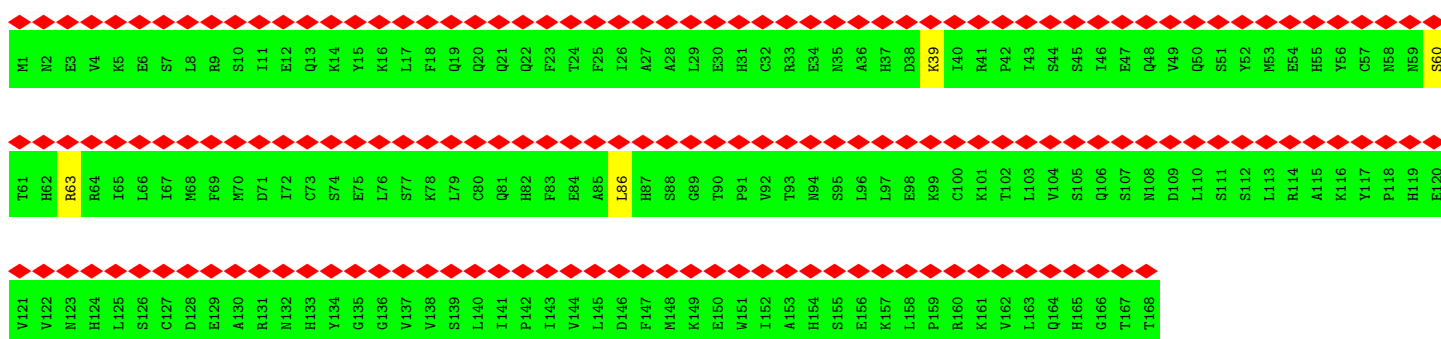




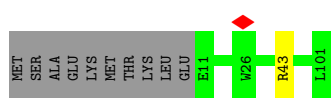
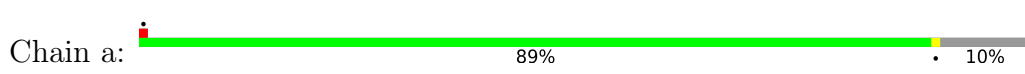
• Molecule 37: Sperm acrosome-associated protein 9



• Molecule 37: Sperm acrosome-associated protein 9



• Molecule 38: Cilia- and flagella-associated protein 141



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	17450	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	117	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.009	Depositor
Minimum map value	0.000	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.003	Depositor
Map size (Å)	563.2, 563.2, 563.2	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.76, 1.76, 1.76	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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.23	0/2754	0.52	0/3652
1	B	0.24	0/1684	0.57	0/2233
2	A1	0.31	0/2604	0.58	1/3506 (0.0%)
2	A2	0.33	0/3290	0.58	0/4433
2	A3	0.33	0/3290	0.58	0/4433
2	A4	0.30	0/1583	0.54	0/2133
3	AB	0.26	0/3431	0.53	0/4649
3	AD	0.26	0/3431	0.51	0/4649
3	AF	0.26	0/3431	0.52	0/4649
3	AH	0.26	0/3431	0.53	1/4649 (0.0%)
3	AJ	0.26	0/3431	0.53	1/4649 (0.0%)
3	AL	0.26	0/3431	0.53	0/4649
3	BB	0.26	0/3431	0.53	1/4649 (0.0%)
3	BD	0.26	0/3431	0.52	1/4649 (0.0%)
3	BF	0.26	0/3431	0.53	1/4649 (0.0%)
3	BH	0.26	0/3431	0.53	1/4649 (0.0%)
3	BJ	0.30	0/3431	0.56	1/4649 (0.0%)
3	BL	0.26	0/3431	0.52	0/4649
3	CB	0.26	0/3431	0.53	0/4649
3	CD	0.26	0/3431	0.53	2/4649 (0.0%)
3	CF	0.26	0/3431	0.54	1/4649 (0.0%)
3	CH	0.27	0/3431	0.54	1/4649 (0.0%)
3	CJ	0.26	0/3431	0.53	0/4649
3	CL	0.29	0/3431	0.54	1/4649 (0.0%)
3	DB	0.26	0/3431	0.52	1/4649 (0.0%)
3	DD	0.27	0/3431	0.53	0/4649
3	DF	0.27	0/3431	0.54	1/4649 (0.0%)
3	DH	0.26	0/3431	0.51	0/4649
3	DJ	0.26	0/3431	0.54	1/4649 (0.0%)
3	DL	0.27	0/3431	0.53	0/4649
3	EB	0.27	0/3431	0.53	1/4649 (0.0%)
3	ED	0.28	0/3431	0.54	0/4649

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
3	EF	0.26	0/3431	0.54	0/4649
3	EH	0.26	0/3431	0.52	0/4649
3	EJ	0.26	0/3431	0.52	0/4649
3	EL	0.27	0/3431	0.55	1/4649 (0.0%)
3	FB	0.26	0/3431	0.53	0/4649
3	FD	0.27	0/3431	0.54	0/4649
3	FF	0.26	0/3431	0.52	0/4649
3	FH	0.28	0/3431	0.56	2/4649 (0.0%)
3	FJ	0.27	0/3431	0.53	0/4649
3	FL	0.26	0/3431	0.53	0/4649
3	GB	0.27	0/3431	0.54	0/4649
3	GD	0.26	0/3431	0.54	0/4649
3	GF	0.27	0/3431	0.54	0/4649
3	GH	0.26	0/3431	0.53	0/4649
3	GJ	0.27	0/3431	0.54	0/4649
3	GL	0.27	0/3431	0.55	0/4649
3	HB	0.26	0/3431	0.53	0/4649
3	HD	0.27	0/3431	0.53	0/4649
3	HF	0.26	0/3431	0.53	0/4649
3	HH	0.26	0/3431	0.52	0/4649
3	HJ	0.26	0/3431	0.54	0/4649
3	HL	0.26	0/3431	0.52	0/4649
3	IB	0.27	0/3431	0.54	0/4649
3	ID	0.26	0/3431	0.53	0/4649
3	IF	0.26	0/3431	0.52	0/4649
3	IH	0.26	0/3431	0.52	0/4649
3	IJ	0.27	0/3431	0.53	0/4649
3	IL	0.26	0/3431	0.52	0/4649
3	JB	0.25	0/3431	0.51	0/4649
3	JD	0.26	0/3431	0.52	0/4649
3	JF	0.26	0/3431	0.51	0/4649
3	JH	0.26	0/3431	0.53	1/4649 (0.0%)
3	JJ	0.25	0/3431	0.51	0/4649
3	JL	0.25	0/3431	0.50	0/4649
3	KB	0.26	0/3431	0.52	0/4649
3	KD	0.26	0/3431	0.53	0/4649
3	KF	0.26	0/3431	0.51	0/4649
3	KH	0.26	0/3431	0.53	0/4649
3	KJ	0.26	0/3431	0.52	0/4649
3	KL	0.26	0/3431	0.54	0/4649
3	LB	0.26	0/3431	0.53	0/4649
3	LD	0.26	0/3431	0.53	0/4649
3	LF	0.27	0/3431	0.54	0/4649

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
3	LH	0.27	0/3431	0.53	0/4649
3	LJ	0.26	0/3431	0.52	0/4649
3	LL	0.26	0/3431	0.53	0/4649
3	MB	0.26	0/3431	0.53	0/4649
3	MD	0.27	0/3431	0.53	1/4649 (0.0%)
3	MF	0.26	0/3431	0.50	0/4649
3	MH	0.27	0/3431	0.53	0/4649
3	MJ	0.26	0/3431	0.54	2/4649 (0.0%)
3	ML	0.27	0/3431	0.53	1/4649 (0.0%)
3	NB	0.25	0/3431	0.52	1/4649 (0.0%)
3	ND	0.26	0/3431	0.52	0/4649
3	NF	0.25	0/3431	0.51	0/4649
3	NH	0.26	0/3431	0.53	0/4649
3	NJ	0.26	0/3431	0.53	0/4649
3	NL	0.25	0/3431	0.52	0/4649
3	OB	0.26	0/3431	0.53	0/4649
3	OD	0.26	0/3431	0.52	0/4649
3	OF	0.26	0/3431	0.52	0/4649
3	OH	0.26	0/3431	0.53	0/4649
3	OJ	0.26	0/3431	0.51	0/4649
3	OL	0.26	0/3431	0.52	0/4649
3	PB	0.25	0/3431	0.51	0/4649
3	PD	0.26	0/3431	0.54	0/4649
3	PF	0.26	0/3431	0.53	0/4649
3	PH	0.26	0/3431	0.53	0/4649
3	PJ	0.26	0/3431	0.51	0/4649
3	PL	0.26	0/3431	0.54	0/4649
3	QB	0.25	0/3431	0.52	0/4649
3	QD	0.25	0/3431	0.52	0/4649
3	QF	0.26	0/3431	0.53	0/4649
3	QH	0.25	0/3431	0.52	0/4649
3	QJ	0.26	0/3431	0.53	0/4649
3	QL	0.26	0/3431	0.52	0/4649
3	RB	0.26	0/3431	0.54	0/4649
3	RD	0.26	0/3431	0.52	0/4649
3	RF	0.26	0/3431	0.52	0/4649
3	RH	0.26	0/3431	0.52	0/4649
3	RJ	0.26	0/3431	0.52	0/4649
3	RL	0.26	0/3431	0.52	0/4649
3	SB	0.26	0/3431	0.52	0/4649
3	SD	0.25	0/3431	0.51	0/4649
3	SF	0.26	0/3431	0.52	0/4649
3	SH	0.26	0/3431	0.52	0/4649

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
3	SJ	0.26	0/3431	0.52	1/4649 (0.0%)
3	SL	0.25	0/3431	0.51	0/4649
3	TB	0.26	0/3431	0.53	0/4649
3	TD	0.26	0/3431	0.52	0/4649
3	TF	0.26	0/3431	0.52	1/4649 (0.0%)
3	TH	0.26	0/3431	0.52	0/4649
3	TJ	0.26	0/3431	0.53	1/4649 (0.0%)
3	TL	0.27	0/3431	0.56	3/4649 (0.1%)
3	TN	0.26	0/3431	0.52	0/4649
3	UB	0.26	0/3431	0.53	0/4649
3	UD	0.26	0/3431	0.51	0/4649
3	UF	0.26	0/3431	0.53	0/4649
3	UH	0.26	0/3431	0.52	0/4649
3	UJ	0.25	0/3431	0.51	0/4649
3	UL	0.26	0/3431	0.52	0/4649
3	VB	0.26	0/3431	0.51	0/4649
3	VD	0.26	0/3431	0.52	1/4649 (0.0%)
3	VF	0.26	0/3431	0.52	0/4649
3	VH	0.26	0/3431	0.52	1/4649 (0.0%)
3	VJ	0.26	0/3431	0.52	0/4649
3	VL	0.26	0/3431	0.52	0/4649
3	WB	0.26	0/3431	0.52	0/4649
3	WD	0.26	0/3431	0.51	0/4649
3	WF	0.26	0/3431	0.51	1/4649 (0.0%)
3	WH	0.26	0/3431	0.51	0/4649
3	WJ	0.25	0/3431	0.51	0/4649
3	WL	0.26	0/3431	0.52	0/4649
4	AC	0.26	0/3496	0.51	0/4747
4	AE	0.27	0/3496	0.53	2/4747 (0.0%)
4	AG	0.26	0/3496	0.52	0/4747
4	AI	0.26	0/3496	0.52	1/4747 (0.0%)
4	AK	0.28	0/3496	0.54	3/4747 (0.1%)
4	AM	0.27	0/3496	0.52	0/4747
4	BC	0.26	0/3496	0.50	0/4747
4	BE	0.27	0/3496	0.52	0/4747
4	BG	0.26	0/3496	0.51	0/4747
4	BI	0.26	0/3496	0.51	0/4747
4	BK	0.26	0/3496	0.52	0/4747
4	BM	0.29	0/3496	0.54	1/4747 (0.0%)
4	CC	0.26	0/3496	0.53	0/4747
4	CE	0.28	0/3496	0.53	2/4747 (0.0%)
4	CG	0.27	0/3496	0.55	0/4747
4	CI	0.27	0/3496	0.54	0/4747

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
4	CK	0.28	0/3496	0.55	2/4747 (0.0%)
4	CM	0.26	0/3496	0.54	0/4747
4	DA	0.26	0/3496	0.51	0/4747
4	DC	0.28	0/3496	0.54	1/4747 (0.0%)
4	DE	0.27	0/3496	0.53	0/4747
4	DG	0.26	0/3496	0.51	0/4747
4	DI	0.26	0/3496	0.52	1/4747 (0.0%)
4	DK	0.27	0/3496	0.55	1/4747 (0.0%)
4	EA	0.26	0/3496	0.52	0/4747
4	EC	0.29	0/3496	0.58	5/4747 (0.1%)
4	EE	0.29	0/3496	0.56	2/4747 (0.0%)
4	EG	0.27	0/3496	0.54	0/4747
4	EI	0.28	0/3496	0.54	2/4747 (0.0%)
4	EK	0.26	0/3496	0.52	0/4747
4	FA	0.27	0/3496	0.52	0/4747
4	FC	0.28	0/3496	0.54	1/4747 (0.0%)
4	FE	0.27	0/3496	0.53	0/4747
4	FG	0.27	0/3496	0.54	0/4747
4	FI	0.26	0/3496	0.52	0/4747
4	FK	0.28	0/3496	0.56	2/4747 (0.0%)
4	GA	0.27	0/3496	0.55	0/4747
4	GC	0.26	0/3496	0.52	0/4747
4	GE	0.27	0/3496	0.52	0/4747
4	GG	0.26	0/3496	0.53	1/4747 (0.0%)
4	GI	0.28	0/3496	0.54	0/4747
4	GK	0.26	0/3496	0.52	0/4747
4	HA	0.27	0/3496	0.53	1/4747 (0.0%)
4	HC	0.27	0/3496	0.56	2/4747 (0.0%)
4	HE	0.27	0/3496	0.53	0/4747
4	HG	0.28	0/3496	0.55	1/4747 (0.0%)
4	HI	0.28	0/3496	0.54	1/4747 (0.0%)
4	HK	0.26	0/3496	0.51	0/4747
4	IA	0.26	0/3496	0.51	0/4747
4	IC	0.26	0/3496	0.53	0/4747
4	IE	0.26	0/3496	0.53	1/4747 (0.0%)
4	IG	0.28	0/3496	0.54	2/4747 (0.0%)
4	II	0.26	0/3496	0.52	0/4747
4	IK	0.26	0/3496	0.51	0/4747
4	IM	0.26	0/3496	0.52	0/4747
4	JA	0.25	0/3496	0.51	0/4747
4	JC	0.25	0/3496	0.51	0/4747
4	JE	0.27	0/3496	0.52	0/4747
4	JG	0.26	0/3496	0.51	0/4747

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
4	JI	0.26	0/3496	0.51	0/4747
4	JK	0.26	0/3496	0.51	0/4747
4	KA	0.27	0/3496	0.54	1/4747 (0.0%)
4	KC	0.26	0/3496	0.52	0/4747
4	KE	0.27	0/3496	0.54	0/4747
4	KG	0.26	0/3496	0.51	0/4747
4	KI	0.26	0/3496	0.53	0/4747
4	KK	0.26	0/3496	0.52	0/4747
4	LA	0.27	0/3496	0.53	0/4747
4	LC	0.26	0/3496	0.52	1/4747 (0.0%)
4	LE	0.26	0/3496	0.52	0/4747
4	LG	0.27	0/3496	0.51	1/4747 (0.0%)
4	LI	0.27	0/3496	0.52	0/4747
4	LK	0.26	0/3496	0.53	0/4747
4	MC	0.27	0/3496	0.53	0/4747
4	ME	0.27	0/3496	0.52	0/4747
4	MG	0.27	0/3496	0.52	0/4747
4	MI	0.26	0/3496	0.51	0/4747
4	MK	0.27	0/3496	0.53	0/4747
4	MM	0.26	0/3496	0.51	0/4747
4	NA	0.25	0/3496	0.50	0/4747
4	NC	0.25	0/3496	0.50	0/4747
4	NE	0.25	0/3496	0.51	0/4747
4	NG	0.26	0/3496	0.51	0/4747
4	NI	0.27	0/3496	0.53	2/4747 (0.0%)
4	NK	0.25	0/3496	0.51	0/4747
4	OA	0.25	0/3496	0.51	0/4747
4	OC	0.25	0/3496	0.50	0/4747
4	OE	0.26	0/3496	0.53	1/4747 (0.0%)
4	OG	0.25	0/3496	0.52	0/4747
4	OI	0.26	0/3496	0.51	0/4747
4	OK	0.27	0/3496	0.52	2/4747 (0.0%)
4	PA	0.25	0/3496	0.51	0/4747
4	PC	0.25	0/3496	0.52	0/4747
4	PE	0.26	0/3496	0.53	0/4747
4	PG	0.26	0/3496	0.53	1/4747 (0.0%)
4	PI	0.26	0/3496	0.53	1/4747 (0.0%)
4	PK	0.25	0/3496	0.52	0/4747
4	PM	0.27	0/3496	0.54	1/4747 (0.0%)
4	QC	0.25	0/3496	0.52	0/4747
4	QE	0.26	0/3496	0.52	0/4747
4	QG	0.28	1/3496 (0.0%)	0.54	1/4747 (0.0%)
4	QI	0.26	0/3496	0.52	0/4747

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
4	QK	0.26	0/3496	0.52	0/4747
4	QM	0.25	0/3496	0.51	0/4747
4	RC	0.28	0/3496	0.52	0/4747
4	RE	0.25	0/3496	0.52	0/4747
4	RG	0.26	0/3496	0.51	0/4747
4	RI	0.26	0/3496	0.52	0/4747
4	RK	0.27	0/3496	0.54	2/4747 (0.0%)
4	RM	0.26	0/3496	0.51	0/4747
4	SC	0.25	0/3496	0.51	0/4747
4	SE	0.25	0/3496	0.52	1/4747 (0.0%)
4	SG	0.26	0/3496	0.53	0/4747
4	SI	0.26	0/3496	0.53	0/4747
4	SK	0.25	0/3496	0.51	0/4747
4	SM	0.26	0/3496	0.54	2/4747 (0.0%)
4	TC	0.26	0/3496	0.53	1/4747 (0.0%)
4	TE	0.26	0/3496	0.52	0/4747
4	TG	0.26	0/3496	0.51	0/4747
4	TI	0.25	0/3496	0.51	0/4747
4	TK	0.26	0/3496	0.52	0/4747
4	TM	0.26	0/3496	0.50	0/4747
4	UA	0.26	0/3496	0.51	0/4747
4	UC	0.26	0/3496	0.52	0/4747
4	UE	0.26	0/3496	0.52	0/4747
4	UG	0.26	0/3496	0.52	0/4747
4	UI	0.26	0/3496	0.53	0/4747
4	UK	0.26	0/3496	0.51	0/4747
4	VA	0.26	0/3496	0.52	0/4747
4	VC	0.26	0/3496	0.52	0/4747
4	VE	0.26	0/3496	0.53	2/4747 (0.0%)
4	VG	0.26	0/3496	0.53	0/4747
4	VI	0.26	0/3496	0.51	0/4747
4	VK	0.26	0/3496	0.52	0/4747
4	WA	0.25	0/3496	0.51	0/4747
4	WC	0.25	0/3496	0.51	0/4747
4	WE	0.28	0/3496	0.54	1/4747 (0.0%)
4	WG	0.26	0/3496	0.52	0/4747
4	WI	0.27	0/3496	0.54	1/4747 (0.0%)
4	WK	0.26	0/3496	0.53	1/4747 (0.0%)
5	B1	0.32	0/1957	0.60	0/2632
5	B2	0.33	0/3456	0.59	0/4659
5	B3	0.32	0/3456	0.59	0/4659
5	B4	0.31	0/2581	0.60	0/3482
5	B5	0.30	0/412	0.61	0/554

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
5	B6	0.33	0/3009	0.62	0/4054
5	B7	0.31	0/3362	0.59	0/4531
5	B8	0.33	0/3307	0.62	1/4456 (0.0%)
5	B9	0.32	0/961	0.67	0/1288
6	C	0.27	0/3007	0.55	0/4060
6	D	0.26	0/3007	0.53	1/4060 (0.0%)
7	C1	0.27	0/814	0.58	0/1097
7	C2	0.31	0/3208	0.60	1/4320 (0.0%)
7	C3	0.30	0/3208	0.58	0/4320
7	C4	0.32	0/2966	0.60	0/3992
7	C5	0.29	0/525	0.79	0/703
7	C6	0.24	0/1653	0.50	0/2224
7	C7	0.33	0/3256	0.62	0/4386
7	C8	0.34	0/3256	0.65	1/4386 (0.0%)
7	C9	0.29	0/2452	0.55	0/3298
7	Ca	0.29	0/1814	0.56	0/2437
7	Cb	0.33	0/3208	0.62	3/4320 (0.1%)
7	Cc	0.31	0/3208	0.60	1/4320 (0.0%)
7	Cd	0.24	0/2183	0.50	0/2942
8	D1	0.26	0/479	0.56	0/644
8	D2	0.32	0/3041	0.57	0/4095
8	D3	0.32	0/3538	0.58	0/4763
8	D4	0.32	0/3538	0.59	0/4763
8	D5	0.30	0/1072	0.58	0/1435
8	D6	0.29	0/617	0.57	0/828
8	D7	0.32	0/3068	0.59	0/4129
8	D8	0.33	0/3337	0.59	1/4491 (0.0%)
8	D9	0.31	0/3304	0.58	0/4443
8	Da	0.27	0/499	0.64	0/669
9	E	0.26	0/2209	0.53	0/2979
9	F	0.28	0/1218	0.59	0/1652
10	E1	0.27	0/1613	0.64	0/2194
10	E2	0.28	0/1613	0.64	0/2194
10	E3	0.27	0/1613	0.63	0/2194
10	E4	0.25	0/492	0.55	0/673
11	F1	0.31	0/2357	0.58	0/3163
11	F2	0.33	0/3267	0.65	2/4394 (0.0%)
11	F3	0.34	0/3267	0.67	2/4394 (0.0%)
11	F4	0.29	0/1770	0.58	0/2374
11	F5	0.32	0/2147	0.60	0/2885
11	F6	0.31	0/3236	0.59	0/4352
11	F7	0.32	0/3236	0.64	0/4352
11	F8	0.31	0/1894	0.63	0/2543

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
11	F9	0.27	0/1424	0.56	0/1913
11	Fa	0.30	0/3236	0.60	1/4352 (0.0%)
11	Fb	0.29	0/3236	0.64	2/4352 (0.0%)
11	Fc	0.31	0/2619	0.59	1/3516 (0.0%)
11	Fd	0.23	0/202	0.65	0/272
11	Fe	0.27	0/1968	0.52	0/2639
11	Ff	0.27	0/3267	0.53	0/4394
11	Fg	0.26	0/2591	0.55	0/3481
11	Fh	0.26	0/1510	0.53	0/2032
11	Fi	0.28	0/2257	0.55	1/3026 (0.0%)
11	Fj	0.28	0/2296	0.57	0/3083
11	Fk	0.25	0/2751	0.53	0/3693
11	Fl	0.26	0/2751	0.54	0/3693
11	Fm	0.25	0/2706	0.53	0/3633
12	G	0.24	0/3831	0.51	0/5084
12	H	0.26	0/389	0.64	0/517
13	G1	0.27	0/4309	0.53	0/5839
13	G2	0.27	0/4192	0.54	0/5678
13	G3	0.27	0/4317	0.53	0/5851
14	G4	0.27	0/6347	0.55	0/8582
14	G5	0.27	0/6339	0.54	0/8570
14	G6	0.27	0/6339	0.54	0/8570
15	H1	0.27	0/1171	0.61	0/1582
15	H2	0.29	0/1139	0.64	0/1538
15	H3	0.28	0/1171	0.63	0/1582
15	H4	0.28	0/1160	0.61	0/1568
15	H5	0.28	0/1171	0.65	0/1582
15	H6	0.28	0/1150	0.66	0/1552
16	I	0.27	0/796	0.53	0/1072
17	I1	0.28	0/306	0.47	0/413
17	I2	0.36	0/306	0.62	0/413
17	I3	0.27	0/306	0.47	0/413
18	J	0.25	0/1373	0.56	0/1872
19	J1	0.28	0/1413	0.54	0/1923
19	J2	0.26	0/1413	0.52	0/1923
19	J3	0.28	0/1413	0.55	0/1923
20	K	0.26	0/2196	0.52	0/2965
20	L	0.26	0/2196	0.54	0/2965
21	K1	0.24	0/859	0.64	0/1150
21	K2	0.25	0/3463	0.60	1/4658 (0.0%)
21	K3	0.24	0/3523	0.58	0/4741
21	K4	0.24	0/3234	0.57	0/4351
21	K5	0.26	0/410	0.67	0/552

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
22	L1	0.26	0/1763	0.54	0/2358
22	L2	0.27	0/1970	0.58	0/2636
22	L3	0.28	0/1970	0.55	0/2636
22	L4	0.27	0/627	0.59	0/840
23	M	0.28	0/975	0.53	0/1321
24	M1	0.28	0/525	0.58	0/708
24	M2	0.28	0/525	0.64	0/708
24	M3	0.31	0/525	0.65	0/708
25	N	0.30	0/602	0.54	0/816
26	N1	0.25	0/546	0.55	0/734
26	N2	0.26	0/546	0.57	0/734
26	N3	0.28	0/546	0.63	1/734 (0.1%)
26	N4	0.25	0/546	0.54	0/734
27	O	0.24	0/418	0.59	0/556
27	P	0.24	0/2734	0.52	0/3649
27	Q	0.24	0/1566	0.53	0/2088
27	R	0.24	0/1951	0.51	0/2609
28	O1	0.27	0/849	0.60	1/1160 (0.1%)
28	O2	0.29	0/849	0.61	1/1160 (0.1%)
28	O3	0.27	0/849	0.61	1/1160 (0.1%)
29	P1	0.25	0/4793	0.51	0/6480
29	P2	0.25	0/4793	0.52	0/6480
29	P3	0.25	0/4793	0.51	0/6480
30	Q1	0.27	0/1500	0.61	1/2007 (0.0%)
30	Q2	0.26	0/1500	0.62	0/2007
30	Q3	0.27	0/1500	0.59	0/2007
31	R1	0.24	0/613	0.60	0/823
31	R2	0.27	0/613	0.62	0/823
31	R3	0.24	0/613	0.58	0/823
32	S	0.26	0/592	0.58	1/809 (0.1%)
32	T	0.24	0/925	0.53	0/1250
33	U	0.23	0/3142	0.55	0/4156
33	V	0.24	0/540	0.53	0/715
33	W	0.25	0/2749	0.60	1/3652 (0.0%)
33	X	0.23	0/1516	0.56	0/2010
34	XA	0.25	0/1573	0.56	1/2122 (0.0%)
34	XB	0.26	0/1573	0.56	0/2122
34	XC	0.27	0/1573	0.58	0/2122
34	XD	0.27	0/1573	0.57	0/2122
34	XE	0.27	0/1573	0.57	1/2122 (0.0%)
34	XF	0.27	0/1573	0.59	0/2122
34	XG	0.26	0/1573	0.57	0/2122
35	XH	0.26	0/1503	0.53	0/2028

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	XI	0.26	0/1503	0.49	0/2028
35	XJ	0.26	0/1503	0.53	0/2028
35	XK	0.27	0/1503	0.55	0/2028
35	XL	0.27	0/1503	0.51	0/2028
35	XM	0.26	0/1503	0.51	0/2028
36	Y	0.23	0/1841	0.47	0/2442
36	Z	0.24	0/2421	0.50	0/3214
37	YA	0.25	0/1393	0.52	0/1876
37	YB	0.26	0/1393	0.57	0/1876
37	YC	0.25	0/1393	0.53	0/1876
37	YD	0.25	0/1393	0.52	0/1876
37	YE	0.25	0/1393	0.51	0/1876
37	YF	0.25	0/1393	0.54	1/1876 (0.1%)
37	YG	0.26	0/1393	0.52	0/1876
37	YH	0.24	0/1393	0.53	1/1876 (0.1%)
37	YI	0.25	0/1393	0.57	1/1876 (0.1%)
37	YJ	0.25	0/1393	0.52	0/1876
37	YK	0.25	0/1393	0.52	0/1876
37	YL	0.26	0/1393	0.53	0/1876
37	YM	0.25	0/1393	0.51	0/1876
37	YN	0.25	0/1393	0.52	0/1876
37	YO	0.25	0/1393	0.51	0/1876
37	YP	0.25	0/1393	0.51	0/1876
37	YQ	0.26	0/1393	0.53	0/1876
37	YR	0.25	0/1393	0.51	0/1876
37	YS	0.25	0/1393	0.53	1/1876 (0.1%)
37	YT	0.25	0/1393	0.52	0/1876
37	YU	0.25	0/1393	0.51	0/1876
37	YV	0.26	0/1393	0.55	0/1876
37	YW	0.25	0/1393	0.54	0/1876
38	a	0.26	0/795	0.54	0/1064
All	All	0.27	1/1301480 (0.0%)	0.54	125/1761933 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	A2	0	1
2	A4	0	1
3	AB	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
3	AD	0	1
3	AF	0	1
3	AH	0	1
3	AJ	0	1
3	BB	0	1
3	BD	0	1
3	BF	0	2
3	BH	0	1
3	BJ	0	3
3	BL	0	1
3	CB	0	1
3	CD	0	1
3	CF	0	1
3	CH	0	1
3	CJ	0	1
3	CL	0	1
3	DB	0	1
3	DD	0	1
3	DF	0	1
3	DH	0	1
3	DJ	0	1
3	DL	0	1
3	EB	0	1
3	ED	0	1
3	EF	0	1
3	EH	0	1
3	EJ	0	1
3	EL	0	1
3	FB	0	2
3	FD	0	1
3	FF	0	1
3	FH	0	1
3	FJ	0	2
3	FL	0	1
3	GB	0	1
3	GD	0	1
3	GF	0	2
3	GH	0	1
3	GJ	0	1
3	GL	0	1
3	HB	0	1
3	HD	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
3	HF	0	2
3	HH	0	1
3	HJ	0	1
3	HL	0	1
3	IB	0	1
3	ID	0	1
3	IF	0	2
3	IH	0	1
3	IJ	0	2
3	IL	0	1
3	JB	0	1
3	JD	0	1
3	JF	0	1
3	JH	0	1
3	JJ	0	1
3	JL	0	1
3	KB	0	1
3	KD	0	1
3	KF	0	1
3	KJ	0	1
3	KL	0	1
3	LB	0	1
3	LD	0	1
3	LF	0	1
3	LH	0	1
3	LL	0	1
3	MB	0	1
3	MD	0	1
3	MF	0	1
3	MH	0	1
3	MJ	0	1
3	ML	0	1
3	NB	0	1
3	ND	0	1
3	NF	0	1
3	NH	0	1
3	NJ	0	1
3	NL	0	1
3	OB	0	1
3	OD	0	1
3	OF	0	1
3	OH	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
3	OJ	0	1
3	PB	0	1
3	PD	0	1
3	PF	0	1
3	PH	0	1
3	PJ	0	1
3	PL	0	1
3	QB	0	1
3	QF	0	1
3	QH	0	1
3	QJ	0	1
3	QL	0	1
3	RD	0	1
3	RF	0	1
3	RJ	0	1
3	RL	0	1
3	SB	0	3
3	SD	0	2
3	SF	0	1
3	SH	0	1
3	TD	0	1
3	TF	0	1
3	TH	0	1
3	TJ	0	1
3	TL	0	3
3	TN	0	1
3	UB	0	1
3	UD	0	1
3	UF	0	1
3	UH	0	1
3	UJ	0	1
3	UL	0	1
3	VB	0	1
3	VD	0	1
3	VF	0	1
3	VH	0	1
3	VJ	0	2
3	VL	0	1
3	WB	0	1
3	WD	0	1
3	WF	0	1
3	WH	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
3	WJ	0	1
3	WL	0	1
4	AG	0	1
4	BM	0	1
4	CM	0	1
4	DK	0	2
4	EC	0	1
4	FC	0	1
4	HC	0	2
4	HI	0	1
4	HK	0	1
4	IG	0	1
4	OE	0	1
4	WE	0	1
9	E	0	1
10	E1	0	2
10	E2	0	2
10	E3	0	1
11	Fb	0	1
11	Fh	0	1
13	G1	0	1
13	G2	0	2
13	G3	0	1
14	G4	0	1
14	G5	0	1
14	G6	0	2
21	K2	0	2
21	K3	0	2
21	K4	0	1
22	L2	0	1
27	P	0	1
35	XK	0	1
All	All	0	184

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	QG	224	TYR	CE2-CZ	5.06	1.45	1.38

All (125) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	C8	369	LEU	CA-CB-CG	12.25	143.47	115.30
3	BJ	15	GLN	CA-CB-CG	10.49	136.47	113.40
3	TL	15	GLN	CA-CB-CG	-8.81	94.02	113.40
4	EC	224	TYR	CB-CG-CD2	-8.61	115.83	121.00
4	EC	222	PRO	CA-N-CD	-8.22	99.99	111.50
3	FH	15	GLN	CA-CB-CG	7.97	130.94	113.40
4	EE	224	TYR	CB-CG-CD2	-7.93	116.24	121.00
4	EE	224	TYR	CB-CG-CD1	7.89	125.73	121.00
4	BM	227	LEU	CA-CB-CG	7.40	132.32	115.30
4	QG	224	TYR	CB-CG-CD1	-7.22	116.67	121.00
4	WI	203	MET	CB-CG-SD	-7.19	90.82	112.40
3	FH	130	LEU	CA-CB-CG	7.06	131.53	115.30
4	NI	224	TYR	CB-CG-CD2	-6.97	116.82	121.00
4	EC	15	GLN	CA-CB-CG	6.85	128.47	113.40
4	FC	11	GLN	CA-CB-CG	6.79	128.35	113.40
3	NB	252	LYS	CB-CG-CD	6.75	129.14	111.60
4	SM	15	GLN	CA-CB-CG	6.69	128.12	113.40
4	AE	224	TYR	CB-CG-CD1	-6.66	117.00	121.00
4	RK	224	TYR	CB-CG-CD1	6.62	124.97	121.00
4	NI	224	TYR	CB-CG-CD1	6.56	124.94	121.00
3	DB	241	ARG	C-N-CA	-6.48	105.49	121.70
28	O3	109	LEU	C-N-CA	-6.48	105.49	121.70
4	FK	224	TYR	CB-CG-CD2	-6.47	117.12	121.00
4	EC	224	TYR	CB-CG-CD1	6.44	124.87	121.00
4	FK	224	TYR	CB-CG-CD1	6.41	124.84	121.00
4	IG	203	MET	CB-CG-SD	-6.39	93.24	112.40
37	YH	113	LEU	CA-CB-CG	6.27	129.72	115.30
4	RK	224	TYR	CB-CG-CD2	-6.26	117.25	121.00
37	YF	113	LEU	CA-CB-CG	6.22	129.60	115.30
37	YI	113	LEU	CA-CB-CG	6.21	129.59	115.30
7	C2	369	LEU	CA-CB-CG	6.19	129.55	115.30
37	YS	113	LEU	CA-CB-CG	6.16	129.48	115.30
4	PM	15	GLN	CB-CA-C	-6.13	98.13	110.40
4	WK	132	LEU	CA-CB-CG	6.10	129.33	115.30
4	DK	11	GLN	CA-CB-CG	6.07	126.75	113.40
11	Fa	455	LEU	CA-CB-CG	6.05	129.22	115.30
3	VH	241	ARG	C-N-CA	-6.05	106.58	121.70
4	HC	11	GLN	CA-CB-CG	6.04	126.69	113.40
4	CK	224	TYR	CB-CG-CD1	-6.03	117.38	121.00
2	A1	175	LEU	CA-CB-CG	6.03	129.17	115.30
4	CK	224	TYR	CB-CG-CD2	6.00	124.60	121.00
4	AK	224	TYR	CB-CG-CD2	-6.00	117.40	121.00
5	B8	293	LEU	CA-CB-CG	5.94	128.95	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	AK	224	TYR	CB-CG-CD1	5.90	124.54	121.00
4	WE	11	GLN	CA-CB-CG	5.89	126.37	113.40
11	Fb	411	VAL	CG1-CB-CG2	-5.88	101.49	110.90
4	AK	15	GLN	CA-CB-CG	5.88	126.33	113.40
4	VE	224	TYR	CA-CB-CG	5.87	124.54	113.40
4	IG	224	TYR	CB-CG-CD2	-5.81	117.52	121.00
28	O1	109	LEU	C-N-CA	-5.80	107.19	121.70
3	TL	15	GLN	CB-CA-C	-5.78	98.84	110.40
4	OK	224	TYR	CB-CG-CD1	-5.77	117.54	121.00
4	EI	224	TYR	CB-CG-CD1	5.77	124.46	121.00
4	EI	224	TYR	CB-CG-CD2	-5.75	117.55	121.00
3	CL	241	ARG	C-N-CA	-5.72	107.39	121.70
3	CF	241	ARG	C-N-CA	-5.72	107.40	121.70
3	TL	15	GLN	CG-CD-NE2	-5.72	102.97	116.70
4	EC	15	GLN	CB-CA-C	-5.69	99.01	110.40
3	BB	164	MET	CA-CB-CG	5.67	122.94	113.30
3	BD	241	ARG	C-N-CA	-5.66	107.54	121.70
4	HC	318	LEU	CA-CB-CG	5.65	128.30	115.30
4	KA	318	LEU	CA-CB-CG	5.63	128.25	115.30
3	DF	241	ARG	C-N-CA	-5.62	107.65	121.70
4	CE	224	TYR	CB-CG-CD1	-5.60	117.64	121.00
4	HI	11	GLN	CA-CB-CG	5.60	125.71	113.40
4	VE	224	TYR	CB-CG-CD1	-5.60	117.64	121.00
11	F3	101	LEU	CA-CB-CG	5.52	128.00	115.30
4	SE	302	MET	CA-CB-CG	5.52	122.68	113.30
4	DI	92	LEU	CA-CB-CG	5.49	127.94	115.30
3	DJ	241	ARG	C-N-CA	-5.49	107.97	121.70
3	MJ	252	LYS	CB-CG-CD	5.46	125.79	111.60
3	AH	241	ARG	C-N-CA	-5.44	108.10	121.70
3	BH	241	ARG	C-N-CA	-5.41	108.17	121.70
3	CD	215	LEU	CA-CB-CG	5.40	127.73	115.30
7	Cb	369	LEU	CA-CB-CG	5.39	127.71	115.30
3	VD	241	ARG	C-N-CA	-5.35	108.33	121.70
4	PI	132	LEU	CA-CB-CG	5.34	127.59	115.30
3	CH	15	GLN	CA-CB-CG	5.34	125.15	113.40
32	S	430	LEU	CA-CB-CG	5.34	127.57	115.30
34	XA	22	LEU	CA-CB-CG	5.33	127.57	115.30
7	Cc	369	LEU	CA-CB-CG	5.33	127.56	115.30
3	MD	241	ARG	C-N-CA	-5.31	108.42	121.70
4	AE	224	TYR	CA-CB-CG	5.31	123.49	113.40
4	HG	318	LEU	CA-CB-CG	5.30	127.49	115.30
3	EL	241	ARG	C-N-CA	-5.30	108.45	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	F3	101	LEU	CB-CG-CD1	-5.29	102.01	111.00
4	IE	318	LEU	CA-CB-CG	5.29	127.46	115.30
3	AJ	241	ARG	C-N-CA	-5.27	108.52	121.70
6	D	142	LEU	CA-CB-CG	5.27	127.42	115.30
28	O2	109	LEU	C-N-CA	-5.27	108.53	121.70
11	Fb	406	GLU	CA-CB-CG	5.26	124.98	113.40
4	HA	15	GLN	CA-CB-CG	5.26	124.98	113.40
8	D8	326	LEU	CA-CB-CG	5.24	127.34	115.30
3	CD	241	ARG	C-N-CA	-5.23	108.62	121.70
30	Q1	1415	MET	CA-CB-CG	5.23	122.19	113.30
4	AI	224	TYR	CA-CB-CG	5.23	123.33	113.40
26	N3	93	LEU	CA-CB-CG	5.22	127.31	115.30
11	F2	470	MET	CB-CG-SD	5.21	128.03	112.40
3	EB	241	ARG	C-N-CA	-5.20	108.69	121.70
11	F2	134	MET	CA-CB-CG	5.20	122.14	113.30
4	SM	15	GLN	CB-CA-C	-5.18	100.03	110.40
7	Cb	210	LEU	CA-CB-CG	5.17	127.18	115.30
11	Fi	170	MET	CA-CB-CG	5.16	122.07	113.30
3	WF	241	ARG	C-N-CA	-5.15	108.81	121.70
4	PG	132	LEU	CA-CB-CG	5.15	127.15	115.30
3	TF	284	LEU	CA-CB-CG	5.15	127.15	115.30
33	W	106	PRO	C-N-CA	-5.13	108.88	121.70
4	OK	132	LEU	CA-CB-CG	5.13	127.10	115.30
3	TJ	217	LEU	CA-CB-CG	5.13	127.10	115.30
4	CE	224	TYR	CB-CG-CD2	5.13	124.08	121.00
3	SJ	241	ARG	C-N-CA	-5.13	108.89	121.70
3	MJ	245	GLN	CA-CB-CG	5.11	124.65	113.40
4	TC	224	TYR	CA-CB-CG	5.10	123.10	113.40
34	XE	22	LEU	CA-CB-CG	5.09	127.00	115.30
3	ML	241	ARG	C-N-CA	-5.07	109.03	121.70
11	Fc	206	LEU	CA-CB-CG	5.06	126.94	115.30
4	GG	242	LEU	CA-CB-CG	5.06	126.93	115.30
4	LG	132	LEU	CA-CB-CG	5.04	126.88	115.30
4	DC	224	TYR	CB-CG-CD2	-5.03	117.98	121.00
21	K2	400	MET	CA-CB-CG	5.03	121.85	113.30
4	OE	15	GLN	CA-CB-CG	5.03	124.47	113.40
3	BF	164	MET	CA-CB-CG	5.02	121.83	113.30
7	Cb	185	LEU	CA-CB-CG	5.01	126.83	115.30
3	JH	241	ARG	C-N-CA	-5.01	109.18	121.70
4	LC	132	LEU	CA-CB-CG	5.01	126.81	115.30

There are no chirality outliers.

All (184) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	A2	206	ARG	Peptide
2	A4	31	ARG	Sidechain
3	AB	271	ALA	Peptide
3	AD	271	ALA	Peptide
3	AF	271	ALA	Peptide
4	AG	411	GLU	Peptide
3	AH	271	ALA	Peptide
3	AJ	271	ALA	Peptide
3	BB	271	ALA	Peptide
3	BD	271	ALA	Peptide
3	BF	130	LEU	Peptide
3	BF	271	ALA	Peptide
3	BH	271	ALA	Peptide
3	BJ	14	ASN	Peptide
3	BJ	15	GLN	Mainchain
3	BJ	271	ALA	Peptide
3	BL	271	ALA	Peptide
4	BM	224	TYR	Peptide
3	CB	271	ALA	Peptide
3	CD	271	ALA	Peptide
3	CF	271	ALA	Peptide
3	CH	271	ALA	Peptide
3	CJ	271	ALA	Peptide
3	CL	271	ALA	Peptide
4	CM	90	GLU	Peptide
3	DB	271	ALA	Peptide
3	DD	271	ALA	Peptide
3	DF	271	ALA	Peptide
3	DH	271	ALA	Peptide
3	DJ	271	ALA	Peptide
4	DK	10	GLY	Peptide
4	DK	11	GLN	Peptide
3	DL	271	ALA	Peptide
9	E	590	PHE	Peptide
10	E1	13	VAL	Peptide
10	E1	50	LYS	Peptide
10	E2	13	VAL	Peptide
10	E2	50	LYS	Peptide
10	E3	50	LYS	Peptide
3	EB	271	ALA	Peptide
4	EC	15	GLN	Sidechain
3	ED	271	ALA	Peptide

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Mol	Chain	Res	Type	Group
3	EF	271	ALA	Peptide
3	EH	271	ALA	Peptide
3	EJ	271	ALA	Peptide
3	EL	271	ALA	Peptide
3	FB	130	LEU	Peptide
3	FB	271	ALA	Peptide
4	FC	10	GLY	Peptide
3	FD	271	ALA	Peptide
3	FF	271	ALA	Peptide
3	FH	271	ALA	Peptide
3	FJ	130	LEU	Peptide
3	FJ	271	ALA	Peptide
3	FL	271	ALA	Peptide
11	Fb	402	ARG	Peptide
11	Fh	394	THR	Peptide
13	G1	33	TYR	Peptide
13	G2	111	MET	Peptide
13	G2	33	TYR	Peptide
13	G3	33	TYR	Peptide
14	G4	140	PRO	Peptide
14	G5	140	PRO	Peptide
14	G6	140	PRO	Peptide
14	G6	734	ARG	Sidechain
3	GB	271	ALA	Peptide
3	GD	271	ALA	Peptide
3	GF	130	LEU	Peptide
3	GF	271	ALA	Peptide
3	GH	271	ALA	Peptide
3	GJ	271	ALA	Peptide
3	GL	271	ALA	Peptide
3	HB	271	ALA	Peptide
4	HC	10	GLY	Peptide
4	HC	11	GLN	Peptide
3	HD	271	ALA	Peptide
3	HF	130	LEU	Peptide
3	HF	271	ALA	Peptide
3	HH	271	ALA	Peptide
4	HI	90	GLU	Peptide
3	HJ	271	ALA	Peptide
4	HK	90	GLU	Peptide
3	HL	271	ALA	Peptide
3	IB	271	ALA	Peptide

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Mol	Chain	Res	Type	Group
3	ID	271	ALA	Peptide
3	IF	130	LEU	Peptide
3	IF	271	ALA	Peptide
4	IG	202	PHE	Peptide
3	IH	271	ALA	Peptide
3	IJ	130	LEU	Peptide
3	IJ	271	ALA	Peptide
3	IL	271	ALA	Peptide
3	JB	271	ALA	Peptide
3	JD	271	ALA	Peptide
3	JF	271	ALA	Peptide
3	JH	271	ALA	Peptide
3	JJ	271	ALA	Peptide
3	JL	271	ALA	Peptide
21	K2	393	LEU	Peptide
21	K2	487	PRO	Peptide
21	K3	185	ARG	Peptide
21	K3	487	PRO	Peptide
21	K4	487	PRO	Peptide
3	KB	271	ALA	Peptide
3	KD	271	ALA	Peptide
3	KF	271	ALA	Peptide
3	KJ	271	ALA	Peptide
3	KL	271	ALA	Peptide
22	L2	47	LYS	Peptide
3	LB	271	ALA	Peptide
3	LD	271	ALA	Peptide
3	LF	271	ALA	Peptide
3	LH	271	ALA	Peptide
3	LL	271	ALA	Peptide
3	MB	241	ARG	Sidechain
3	MD	271	ALA	Peptide
3	MF	271	ALA	Peptide
3	MH	271	ALA	Peptide
3	MJ	271	ALA	Peptide
3	ML	271	ALA	Peptide
3	NB	271	ALA	Peptide
3	ND	271	ALA	Peptide
3	NF	271	ALA	Peptide
3	NH	271	ALA	Peptide
3	NJ	271	ALA	Peptide
3	NL	271	ALA	Peptide

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Mol	Chain	Res	Type	Group
3	OB	271	ALA	Peptide
3	OD	271	ALA	Peptide
4	OE	14	VAL	Peptide
3	OF	271	ALA	Peptide
3	OH	271	ALA	Peptide
3	OJ	271	ALA	Peptide
27	P	365	THR	Peptide
3	PB	271	ALA	Peptide
3	PD	271	ALA	Peptide
3	PF	271	ALA	Peptide
3	PH	271	ALA	Peptide
3	PJ	271	ALA	Peptide
3	PL	271	ALA	Peptide
3	QB	271	ALA	Peptide
3	QF	271	ALA	Peptide
3	QH	271	ALA	Peptide
3	QJ	271	ALA	Peptide
3	QL	271	ALA	Peptide
3	RD	271	ALA	Peptide
3	RF	271	ALA	Peptide
3	RJ	271	ALA	Peptide
3	RL	271	ALA	Peptide
3	SB	252	LYS	Peptide
3	SB	262	ARG	Sidechain
3	SB	271	ALA	Peptide
3	SD	262	ARG	Sidechain
3	SD	271	ALA	Peptide
3	SF	271	ALA	Peptide
3	SH	271	ALA	Peptide
3	TD	271	ALA	Peptide
3	TF	271	ALA	Peptide
3	TH	271	ALA	Peptide
3	TJ	271	ALA	Peptide
3	TL	15	GLN	Peptide,Sidechain
3	TL	271	ALA	Peptide
3	TN	271	ALA	Peptide
3	UB	271	ALA	Peptide
3	UD	271	ALA	Peptide
3	UF	271	ALA	Peptide
3	UH	271	ALA	Peptide
3	UJ	271	ALA	Peptide
3	UL	271	ALA	Peptide

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Mol	Chain	Res	Type	Group
3	VB	271	ALA	Peptide
3	VD	271	ALA	Peptide
3	VF	271	ALA	Peptide
3	VH	271	ALA	Peptide
3	VJ	262	ARG	Sidechain
3	VJ	271	ALA	Peptide
3	VL	271	ALA	Peptide
3	WB	271	ALA	Peptide
3	WD	271	ALA	Peptide
4	WE	10	GLY	Peptide
3	WF	271	ALA	Peptide
3	WH	271	ALA	Peptide
3	WJ	271	ALA	Peptide
3	WL	271	ALA	Peptide
35	XK	70	GLU	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](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	313/491 (64%)	302 (96%)	11 (4%)	0	100	100
1	B	194/491 (40%)	188 (97%)	6 (3%)	0	100	100
2	A1	311/418 (74%)	297 (96%)	14 (4%)	0	100	100
2	A2	394/418 (94%)	366 (93%)	27 (7%)	1 (0%)	41	76
2	A3	394/418 (94%)	374 (95%)	20 (5%)	0	100	100
2	A4	184/418 (44%)	178 (97%)	6 (3%)	0	100	100
3	AB	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	AD	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	AF	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	AH	425/427 (100%)	400 (94%)	24 (6%)	1 (0%)	47	81
3	AJ	425/427 (100%)	391 (92%)	31 (7%)	3 (1%)	22	63
3	AL	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	BB	425/427 (100%)	396 (93%)	27 (6%)	2 (0%)	29	69
3	BD	425/427 (100%)	399 (94%)	25 (6%)	1 (0%)	47	81
3	BF	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	BH	425/427 (100%)	391 (92%)	33 (8%)	1 (0%)	47	81
3	BJ	425/427 (100%)	396 (93%)	27 (6%)	2 (0%)	29	69
3	BL	425/427 (100%)	396 (93%)	28 (7%)	1 (0%)	47	81
3	CB	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	CD	425/427 (100%)	403 (95%)	21 (5%)	1 (0%)	47	81
3	CF	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	CH	425/427 (100%)	397 (93%)	26 (6%)	2 (0%)	29	69
3	CJ	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	CL	425/427 (100%)	396 (93%)	27 (6%)	2 (0%)	29	69
3	DB	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	DD	425/427 (100%)	395 (93%)	28 (7%)	2 (0%)	29	69
3	DF	425/427 (100%)	396 (93%)	27 (6%)	2 (0%)	29	69
3	DH	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	DJ	425/427 (100%)	391 (92%)	32 (8%)	2 (0%)	29	69
3	DL	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	EB	425/427 (100%)	397 (93%)	26 (6%)	2 (0%)	29	69
3	ED	425/427 (100%)	397 (93%)	27 (6%)	1 (0%)	47	81
3	EF	425/427 (100%)	397 (93%)	27 (6%)	1 (0%)	47	81
3	EH	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	EJ	425/427 (100%)	400 (94%)	24 (6%)	1 (0%)	47	81
3	EL	425/427 (100%)	395 (93%)	29 (7%)	1 (0%)	47	81
3	FB	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	FD	425/427 (100%)	397 (93%)	27 (6%)	1 (0%)	47	81

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	FF	425/427 (100%)	395 (93%)	29 (7%)	1 (0%)	47	81
3	FH	425/427 (100%)	401 (94%)	23 (5%)	1 (0%)	47	81
3	FJ	425/427 (100%)	397 (93%)	27 (6%)	1 (0%)	47	81
3	FL	425/427 (100%)	397 (93%)	27 (6%)	1 (0%)	47	81
3	GB	425/427 (100%)	390 (92%)	33 (8%)	2 (0%)	29	69
3	GD	425/427 (100%)	404 (95%)	20 (5%)	1 (0%)	47	81
3	GF	425/427 (100%)	398 (94%)	26 (6%)	1 (0%)	47	81
3	GH	425/427 (100%)	402 (95%)	22 (5%)	1 (0%)	47	81
3	GJ	425/427 (100%)	403 (95%)	21 (5%)	1 (0%)	47	81
3	GL	425/427 (100%)	393 (92%)	30 (7%)	2 (0%)	29	69
3	HB	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	HD	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	HF	425/427 (100%)	397 (93%)	26 (6%)	2 (0%)	29	69
3	HH	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	HJ	425/427 (100%)	401 (94%)	23 (5%)	1 (0%)	47	81
3	HL	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	IB	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	ID	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	IF	425/427 (100%)	401 (94%)	23 (5%)	1 (0%)	47	81
3	IH	425/427 (100%)	397 (93%)	26 (6%)	2 (0%)	29	69
3	IJ	425/427 (100%)	395 (93%)	29 (7%)	1 (0%)	47	81
3	IL	425/427 (100%)	407 (96%)	16 (4%)	2 (0%)	29	69
3	JB	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	JD	425/427 (100%)	405 (95%)	18 (4%)	2 (0%)	29	69
3	JF	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	JH	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	JJ	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	JL	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	KB	425/427 (100%)	405 (95%)	18 (4%)	2 (0%)	29	69
3	KD	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	KF	425/427 (100%)	398 (94%)	26 (6%)	1 (0%)	47	81

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	KH	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	KJ	425/427 (100%)	399 (94%)	25 (6%)	1 (0%)	47	81
3	KL	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	LB	425/427 (100%)	401 (94%)	23 (5%)	1 (0%)	47	81
3	LD	425/427 (100%)	396 (93%)	27 (6%)	2 (0%)	29	69
3	LF	425/427 (100%)	396 (93%)	27 (6%)	2 (0%)	29	69
3	LH	425/427 (100%)	397 (93%)	26 (6%)	2 (0%)	29	69
3	LJ	425/427 (100%)	394 (93%)	29 (7%)	2 (0%)	29	69
3	LL	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	MB	425/427 (100%)	394 (93%)	29 (7%)	2 (0%)	29	69
3	MD	425/427 (100%)	394 (93%)	29 (7%)	2 (0%)	29	69
3	MF	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	MH	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	MJ	425/427 (100%)	394 (93%)	30 (7%)	1 (0%)	47	81
3	ML	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	NB	425/427 (100%)	404 (95%)	19 (4%)	2 (0%)	29	69
3	ND	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	NF	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	NH	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	NJ	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	NL	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	OB	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	OD	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	OF	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	OH	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	OJ	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	OL	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	PB	425/427 (100%)	405 (95%)	18 (4%)	2 (0%)	29	69
3	PD	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	PF	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	PH	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	PJ	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	PL	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	QB	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	QD	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	QF	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	QH	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	QJ	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	QL	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	RB	425/427 (100%)	404 (95%)	19 (4%)	2 (0%)	29	69
3	RD	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	RF	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	RH	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	RJ	425/427 (100%)	399 (94%)	25 (6%)	1 (0%)	47	81
3	RL	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	SB	425/427 (100%)	404 (95%)	19 (4%)	2 (0%)	29	69
3	SD	425/427 (100%)	398 (94%)	25 (6%)	2 (0%)	29	69
3	SF	425/427 (100%)	404 (95%)	19 (4%)	2 (0%)	29	69
3	SH	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	SJ	425/427 (100%)	406 (96%)	17 (4%)	2 (0%)	29	69
3	SL	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	TB	425/427 (100%)	400 (94%)	23 (5%)	2 (0%)	29	69
3	TD	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	TF	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	TH	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	TJ	425/427 (100%)	401 (94%)	23 (5%)	1 (0%)	47	81
3	TL	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	TN	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	UB	425/427 (100%)	406 (96%)	17 (4%)	2 (0%)	29	69
3	UD	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	UF	425/427 (100%)	393 (92%)	30 (7%)	2 (0%)	29	69
3	UH	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	UJ	425/427 (100%)	396 (93%)	27 (6%)	2 (0%)	29	69
3	UL	425/427 (100%)	401 (94%)	23 (5%)	1 (0%)	47	81
3	VB	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	VD	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	VF	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	VH	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	VJ	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	VL	425/427 (100%)	402 (95%)	21 (5%)	2 (0%)	29	69
3	WB	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	WD	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	WF	425/427 (100%)	403 (95%)	20 (5%)	2 (0%)	29	69
3	WH	425/427 (100%)	401 (94%)	22 (5%)	2 (0%)	29	69
3	WJ	425/427 (100%)	399 (94%)	24 (6%)	2 (0%)	29	69
3	WL	425/427 (100%)	396 (93%)	28 (7%)	1 (0%)	47	81
4	AC	436/438 (100%)	411 (94%)	25 (6%)	0	100	100
4	AE	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	AG	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81
4	AI	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	AK	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	AM	436/438 (100%)	410 (94%)	26 (6%)	0	100	100
4	BC	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81
4	BE	436/438 (100%)	402 (92%)	33 (8%)	1 (0%)	47	81
4	BG	436/438 (100%)	405 (93%)	30 (7%)	1 (0%)	47	81
4	BI	436/438 (100%)	403 (92%)	32 (7%)	1 (0%)	47	81
4	BK	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	BM	436/438 (100%)	414 (95%)	21 (5%)	1 (0%)	47	81
4	CC	436/438 (100%)	412 (94%)	24 (6%)	0	100	100
4	CE	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	CG	436/438 (100%)	399 (92%)	37 (8%)	0	100	100
4	CI	436/438 (100%)	402 (92%)	33 (8%)	1 (0%)	47	81
4	CK	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	CM	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	DA	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81
4	DC	436/438 (100%)	407 (93%)	28 (6%)	1 (0%)	47	81
4	DE	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	DG	436/438 (100%)	403 (92%)	32 (7%)	1 (0%)	47	81
4	DI	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	DK	436/438 (100%)	404 (93%)	30 (7%)	2 (0%)	29	69
4	EA	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81
4	EC	436/438 (100%)	405 (93%)	30 (7%)	1 (0%)	47	81
4	EE	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	EG	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	EI	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81
4	EK	436/438 (100%)	403 (92%)	32 (7%)	1 (0%)	47	81
4	FA	436/438 (100%)	414 (95%)	21 (5%)	1 (0%)	47	81
4	FC	436/438 (100%)	408 (94%)	26 (6%)	2 (0%)	29	69
4	FE	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81
4	FG	436/438 (100%)	411 (94%)	25 (6%)	0	100	100
4	FI	436/438 (100%)	403 (92%)	32 (7%)	1 (0%)	47	81
4	FK	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	GA	436/438 (100%)	414 (95%)	21 (5%)	1 (0%)	47	81
4	GC	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	GE	436/438 (100%)	410 (94%)	26 (6%)	0	100	100
4	GG	436/438 (100%)	407 (93%)	28 (6%)	1 (0%)	47	81
4	GI	436/438 (100%)	405 (93%)	31 (7%)	0	100	100
4	GK	436/438 (100%)	405 (93%)	30 (7%)	1 (0%)	47	81
4	HA	436/438 (100%)	409 (94%)	27 (6%)	0	100	100
4	HC	436/438 (100%)	403 (92%)	32 (7%)	1 (0%)	47	81
4	HE	436/438 (100%)	402 (92%)	33 (8%)	1 (0%)	47	81
4	HG	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	HI	436/438 (100%)	407 (93%)	27 (6%)	2 (0%)	29	69
4	HK	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	IA	436/438 (100%)	405 (93%)	30 (7%)	1 (0%)	47	81
4	IC	436/438 (100%)	407 (93%)	29 (7%)	0	100	100
4	IE	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	IG	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	II	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	IK	436/438 (100%)	401 (92%)	34 (8%)	1 (0%)	47	81
4	IM	436/438 (100%)	408 (94%)	28 (6%)	0	100	100
4	JA	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81
4	JC	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81
4	JE	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	JG	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	JI	436/438 (100%)	410 (94%)	26 (6%)	0	100	100
4	JK	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	KA	436/438 (100%)	407 (93%)	29 (7%)	0	100	100
4	KC	436/438 (100%)	401 (92%)	34 (8%)	1 (0%)	47	81
4	KE	436/438 (100%)	407 (93%)	29 (7%)	0	100	100
4	KG	436/438 (100%)	408 (94%)	28 (6%)	0	100	100
4	KI	436/438 (100%)	403 (92%)	33 (8%)	0	100	100
4	KK	436/438 (100%)	407 (93%)	29 (7%)	0	100	100
4	LA	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	LC	436/438 (100%)	407 (93%)	28 (6%)	1 (0%)	47	81
4	LE	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81
4	LG	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	LI	436/438 (100%)	405 (93%)	30 (7%)	1 (0%)	47	81
4	LK	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	MC	436/438 (100%)	413 (95%)	22 (5%)	1 (0%)	47	81
4	ME	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	MG	436/438 (100%)	403 (92%)	32 (7%)	1 (0%)	47	81
4	MI	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81
4	MK	436/438 (100%)	408 (94%)	28 (6%)	0	100	100
4	MM	436/438 (100%)	399 (92%)	36 (8%)	1 (0%)	47	81

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	NA	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	NC	436/438 (100%)	413 (95%)	22 (5%)	1 (0%)	47	81
4	NE	436/438 (100%)	405 (93%)	30 (7%)	1 (0%)	47	81
4	NG	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	NI	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81
4	NK	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	OA	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	OC	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	OE	436/438 (100%)	409 (94%)	25 (6%)	2 (0%)	29	69
4	OG	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	OI	436/438 (100%)	405 (93%)	30 (7%)	1 (0%)	47	81
4	OK	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	PA	436/438 (100%)	413 (95%)	22 (5%)	1 (0%)	47	81
4	PC	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	PE	436/438 (100%)	414 (95%)	22 (5%)	0	100	100
4	PG	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	PI	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	PK	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	PM	436/438 (100%)	407 (93%)	28 (6%)	1 (0%)	47	81
4	QC	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	QE	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	QG	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	QI	436/438 (100%)	416 (95%)	19 (4%)	1 (0%)	47	81
4	QK	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	QM	436/438 (100%)	410 (94%)	26 (6%)	0	100	100
4	RC	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	RE	436/438 (100%)	413 (95%)	22 (5%)	1 (0%)	47	81
4	RG	436/438 (100%)	412 (94%)	24 (6%)	0	100	100
4	RI	436/438 (100%)	413 (95%)	22 (5%)	1 (0%)	47	81
4	RK	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	RM	436/438 (100%)	411 (94%)	25 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	SC	436/438 (100%)	415 (95%)	20 (5%)	1 (0%)	47	81
4	SE	436/438 (100%)	414 (95%)	21 (5%)	1 (0%)	47	81
4	SG	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	SI	436/438 (100%)	410 (94%)	26 (6%)	0	100	100
4	SK	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81
4	SM	436/438 (100%)	412 (94%)	23 (5%)	1 (0%)	47	81
4	TC	436/438 (100%)	415 (95%)	20 (5%)	1 (0%)	47	81
4	TE	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	TG	436/438 (100%)	413 (95%)	22 (5%)	1 (0%)	47	81
4	TI	436/438 (100%)	408 (94%)	28 (6%)	0	100	100
4	TK	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	TM	436/438 (100%)	409 (94%)	27 (6%)	0	100	100
4	UA	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	UC	436/438 (100%)	408 (94%)	27 (6%)	1 (0%)	47	81
4	UE	436/438 (100%)	410 (94%)	26 (6%)	0	100	100
4	UG	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	UI	436/438 (100%)	407 (93%)	28 (6%)	1 (0%)	47	81
4	UK	436/438 (100%)	409 (94%)	26 (6%)	1 (0%)	47	81
4	VA	436/438 (100%)	416 (95%)	20 (5%)	0	100	100
4	VC	436/438 (100%)	406 (93%)	29 (7%)	1 (0%)	47	81
4	VE	436/438 (100%)	407 (93%)	28 (6%)	1 (0%)	47	81
4	VG	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	VI	436/438 (100%)	407 (93%)	28 (6%)	1 (0%)	47	81
4	VK	436/438 (100%)	413 (95%)	22 (5%)	1 (0%)	47	81
4	WA	436/438 (100%)	415 (95%)	20 (5%)	1 (0%)	47	81
4	WC	436/438 (100%)	411 (94%)	24 (6%)	1 (0%)	47	81
4	WE	436/438 (100%)	405 (93%)	29 (7%)	2 (0%)	29	69
4	WG	436/438 (100%)	410 (94%)	25 (6%)	1 (0%)	47	81
4	WI	436/438 (100%)	404 (93%)	31 (7%)	1 (0%)	47	81
4	WK	436/438 (100%)	402 (92%)	33 (8%)	1 (0%)	47	81
5	B1	234/430 (54%)	216 (92%)	18 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	B2	414/430 (96%)	398 (96%)	15 (4%)	1 (0%)	47	81
5	B3	414/430 (96%)	389 (94%)	24 (6%)	1 (0%)	47	81
5	B4	308/430 (72%)	289 (94%)	18 (6%)	1 (0%)	41	76
5	B5	46/430 (11%)	43 (94%)	3 (6%)	0	100	100
5	B6	359/430 (84%)	344 (96%)	13 (4%)	2 (1%)	25	66
5	B7	403/430 (94%)	383 (95%)	18 (4%)	2 (0%)	29	69
5	B8	396/430 (92%)	378 (96%)	16 (4%)	2 (0%)	29	69
5	B9	113/430 (26%)	109 (96%)	4 (4%)	0	100	100
6	C	370/395 (94%)	313 (85%)	56 (15%)	1 (0%)	41	76
6	D	370/395 (94%)	328 (89%)	42 (11%)	0	100	100
7	C1	94/490 (19%)	88 (94%)	6 (6%)	0	100	100
7	C2	386/490 (79%)	371 (96%)	15 (4%)	0	100	100
7	C3	386/490 (79%)	368 (95%)	18 (5%)	0	100	100
7	C4	359/490 (73%)	333 (93%)	26 (7%)	0	100	100
7	C5	61/490 (12%)	59 (97%)	2 (3%)	0	100	100
7	C6	196/490 (40%)	187 (95%)	9 (5%)	0	100	100
7	C7	392/490 (80%)	367 (94%)	25 (6%)	0	100	100
7	C8	392/490 (80%)	375 (96%)	17 (4%)	0	100	100
7	C9	294/490 (60%)	279 (95%)	14 (5%)	1 (0%)	41	76
7	Ca	215/490 (44%)	212 (99%)	2 (1%)	1 (0%)	29	69
7	Cb	386/490 (79%)	372 (96%)	14 (4%)	0	100	100
7	Cc	386/490 (79%)	364 (94%)	22 (6%)	0	100	100
7	Cd	262/490 (54%)	257 (98%)	4 (2%)	1 (0%)	34	72
8	D1	54/447 (12%)	53 (98%)	1 (2%)	0	100	100
8	D2	361/447 (81%)	350 (97%)	11 (3%)	0	100	100
8	D3	423/447 (95%)	410 (97%)	13 (3%)	0	100	100
8	D4	423/447 (95%)	402 (95%)	21 (5%)	0	100	100
8	D5	128/447 (29%)	125 (98%)	3 (2%)	0	100	100
8	D6	73/447 (16%)	70 (96%)	2 (3%)	1 (1%)	11	46
8	D7	367/447 (82%)	353 (96%)	13 (4%)	1 (0%)	41	76
8	D8	396/447 (89%)	383 (97%)	12 (3%)	1 (0%)	41	76

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	D9	390/447 (87%)	379 (97%)	10 (3%)	1 (0%)	41	76
8	Da	56/447 (12%)	55 (98%)	1 (2%)	0	100	100
9	E	259/853 (30%)	230 (89%)	26 (10%)	3 (1%)	13	50
9	F	147/853 (17%)	123 (84%)	24 (16%)	0	100	100
10	E1	185/206 (90%)	137 (74%)	48 (26%)	0	100	100
10	E2	185/206 (90%)	143 (77%)	42 (23%)	0	100	100
10	E3	185/206 (90%)	136 (74%)	49 (26%)	0	100	100
10	E4	55/206 (27%)	46 (84%)	9 (16%)	0	100	100
11	F1	280/557 (50%)	271 (97%)	9 (3%)	0	100	100
11	F2	391/557 (70%)	378 (97%)	13 (3%)	0	100	100
11	F3	391/557 (70%)	369 (94%)	22 (6%)	0	100	100
11	F4	208/557 (37%)	203 (98%)	5 (2%)	0	100	100
11	F5	252/557 (45%)	244 (97%)	8 (3%)	0	100	100
11	F6	387/557 (70%)	366 (95%)	20 (5%)	1 (0%)	41	76
11	F7	387/557 (70%)	368 (95%)	18 (5%)	1 (0%)	41	76
11	F8	225/557 (40%)	217 (96%)	8 (4%)	0	100	100
11	F9	169/557 (30%)	160 (95%)	9 (5%)	0	100	100
11	Fa	387/557 (70%)	371 (96%)	16 (4%)	0	100	100
11	Fb	387/557 (70%)	367 (95%)	18 (5%)	2 (0%)	29	69
11	Fc	311/557 (56%)	294 (94%)	15 (5%)	2 (1%)	25	66
11	Fd	21/557 (4%)	20 (95%)	1 (5%)	0	100	100
11	Fe	231/557 (42%)	230 (100%)	0	1 (0%)	34	72
11	Ff	391/557 (70%)	379 (97%)	12 (3%)	0	100	100
11	Fg	307/557 (55%)	293 (95%)	14 (5%)	0	100	100
11	Fh	179/557 (32%)	164 (92%)	12 (7%)	3 (2%)	9	42
11	Fi	266/557 (48%)	261 (98%)	5 (2%)	0	100	100
11	Fj	271/557 (49%)	265 (98%)	6 (2%)	0	100	100
11	Fk	326/557 (58%)	316 (97%)	8 (2%)	2 (1%)	25	66
11	Fl	326/557 (58%)	315 (97%)	9 (3%)	2 (1%)	25	66
11	Fm	321/557 (58%)	309 (96%)	11 (3%)	1 (0%)	41	76
12	G	446/514 (87%)	441 (99%)	5 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	H	45/514 (9%)	45 (100%)	0	0	100	100
13	G1	506/648 (78%)	443 (88%)	61 (12%)	2 (0%)	34	72
13	G2	491/648 (76%)	438 (89%)	50 (10%)	3 (1%)	25	66
13	G3	507/648 (78%)	439 (87%)	65 (13%)	3 (1%)	25	66
14	G4	746/750 (100%)	640 (86%)	100 (13%)	6 (1%)	19	60
14	G5	745/750 (99%)	640 (86%)	99 (13%)	6 (1%)	19	60
14	G6	745/750 (99%)	636 (85%)	101 (14%)	8 (1%)	14	52
15	H1	133/319 (42%)	97 (73%)	33 (25%)	3 (2%)	6	34
15	H2	129/319 (40%)	100 (78%)	28 (22%)	1 (1%)	19	60
15	H3	133/319 (42%)	97 (73%)	34 (26%)	2 (2%)	10	46
15	H4	132/319 (41%)	102 (77%)	28 (21%)	2 (2%)	10	46
15	H5	133/319 (42%)	95 (71%)	35 (26%)	3 (2%)	6	34
15	H6	130/319 (41%)	93 (72%)	34 (26%)	3 (2%)	6	34
16	I	90/228 (40%)	80 (89%)	10 (11%)	0	100	100
17	I1	36/200 (18%)	34 (94%)	2 (6%)	0	100	100
17	I2	36/200 (18%)	35 (97%)	1 (3%)	0	100	100
17	I3	36/200 (18%)	35 (97%)	1 (3%)	0	100	100
18	J	156/196 (80%)	122 (78%)	33 (21%)	1 (1%)	25	66
19	J1	169/189 (89%)	131 (78%)	35 (21%)	3 (2%)	8	40
19	J2	169/189 (89%)	135 (80%)	32 (19%)	2 (1%)	13	50
19	J3	169/189 (89%)	127 (75%)	39 (23%)	3 (2%)	8	40
20	K	268/303 (88%)	256 (96%)	12 (4%)	0	100	100
20	L	268/303 (88%)	253 (94%)	15 (6%)	0	100	100
21	K1	101/499 (20%)	92 (91%)	7 (7%)	2 (2%)	7	38
21	K2	417/499 (84%)	366 (88%)	39 (9%)	12 (3%)	4	29
21	K3	424/499 (85%)	364 (86%)	43 (10%)	17 (4%)	3	23
21	K4	388/499 (78%)	340 (88%)	36 (9%)	12 (3%)	4	27
21	K5	46/499 (9%)	36 (78%)	6 (13%)	4 (9%)	1	11
22	L1	206/255 (81%)	166 (81%)	36 (18%)	4 (2%)	8	38
22	L2	234/255 (92%)	181 (77%)	50 (21%)	3 (1%)	12	48
22	L3	234/255 (92%)	187 (80%)	43 (18%)	4 (2%)	9	42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	L4	73/255 (29%)	55 (75%)	18 (25%)	0	100	100
23	M	113/167 (68%)	102 (90%)	11 (10%)	0	100	100
24	M1	60/141 (43%)	48 (80%)	12 (20%)	0	100	100
24	M2	60/141 (43%)	48 (80%)	12 (20%)	0	100	100
24	M3	60/141 (43%)	52 (87%)	8 (13%)	0	100	100
25	N	72/122 (59%)	68 (94%)	4 (6%)	0	100	100
26	N1	64/168 (38%)	48 (75%)	16 (25%)	0	100	100
26	N2	64/168 (38%)	46 (72%)	18 (28%)	0	100	100
26	N3	64/168 (38%)	51 (80%)	12 (19%)	1 (2%)	9	44
26	N4	64/168 (38%)	47 (73%)	15 (23%)	2 (3%)	4	27
27	O	47/377 (12%)	45 (96%)	2 (4%)	0	100	100
27	P	313/377 (83%)	304 (97%)	9 (3%)	0	100	100
27	Q	181/377 (48%)	167 (92%)	13 (7%)	1 (1%)	25	66
27	R	224/377 (59%)	219 (98%)	5 (2%)	0	100	100
28	O1	101/189 (53%)	77 (76%)	22 (22%)	2 (2%)	7	38
28	O2	101/189 (53%)	72 (71%)	28 (28%)	1 (1%)	15	54
28	O3	101/189 (53%)	74 (73%)	26 (26%)	1 (1%)	15	54
29	P1	606/620 (98%)	593 (98%)	13 (2%)	0	100	100
29	P2	606/620 (98%)	590 (97%)	16 (3%)	0	100	100
29	P3	606/620 (98%)	591 (98%)	15 (2%)	0	100	100
30	Q1	176/1516 (12%)	145 (82%)	29 (16%)	2 (1%)	14	52
30	Q2	176/1516 (12%)	141 (80%)	31 (18%)	4 (2%)	6	34
30	Q3	176/1516 (12%)	144 (82%)	30 (17%)	2 (1%)	14	52
31	R1	70/283 (25%)	62 (89%)	7 (10%)	1 (1%)	11	46
31	R2	70/283 (25%)	61 (87%)	8 (11%)	1 (1%)	11	46
31	R3	70/283 (25%)	63 (90%)	6 (9%)	1 (1%)	11	46
32	S	69/470 (15%)	60 (87%)	9 (13%)	0	100	100
32	T	107/470 (23%)	97 (91%)	10 (9%)	0	100	100
33	U	359/551 (65%)	354 (99%)	5 (1%)	0	100	100
33	V	61/551 (11%)	61 (100%)	0	0	100	100
33	W	321/551 (58%)	303 (94%)	16 (5%)	2 (1%)	25	66

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	X	174/551 (32%)	167 (96%)	7 (4%)	0	100	100
34	XA	183/193 (95%)	174 (95%)	9 (5%)	0	100	100
34	XB	183/193 (95%)	174 (95%)	9 (5%)	0	100	100
34	XC	183/193 (95%)	172 (94%)	11 (6%)	0	100	100
34	XD	183/193 (95%)	176 (96%)	7 (4%)	0	100	100
34	XE	183/193 (95%)	171 (93%)	12 (7%)	0	100	100
34	XF	183/193 (95%)	172 (94%)	11 (6%)	0	100	100
34	XG	183/193 (95%)	174 (95%)	9 (5%)	0	100	100
35	XH	174/241 (72%)	157 (90%)	17 (10%)	0	100	100
35	XI	174/241 (72%)	160 (92%)	14 (8%)	0	100	100
35	XJ	174/241 (72%)	158 (91%)	16 (9%)	0	100	100
35	XK	174/241 (72%)	152 (87%)	22 (13%)	0	100	100
35	XL	174/241 (72%)	158 (91%)	16 (9%)	0	100	100
35	XM	174/241 (72%)	161 (92%)	13 (8%)	0	100	100
36	Y	212/547 (39%)	207 (98%)	5 (2%)	0	100	100
36	Z	281/547 (51%)	271 (96%)	10 (4%)	0	100	100
37	YA	166/168 (99%)	148 (89%)	15 (9%)	3 (2%)	8	40
37	YB	166/168 (99%)	146 (88%)	19 (11%)	1 (1%)	25	66
37	YC	166/168 (99%)	145 (87%)	19 (11%)	2 (1%)	13	50
37	YD	166/168 (99%)	147 (89%)	17 (10%)	2 (1%)	13	50
37	YE	166/168 (99%)	148 (89%)	16 (10%)	2 (1%)	13	50
37	YF	166/168 (99%)	145 (87%)	18 (11%)	3 (2%)	8	40
37	YG	166/168 (99%)	145 (87%)	19 (11%)	2 (1%)	13	50
37	YH	166/168 (99%)	149 (90%)	15 (9%)	2 (1%)	13	50
37	YI	166/168 (99%)	148 (89%)	16 (10%)	2 (1%)	13	50
37	YJ	166/168 (99%)	145 (87%)	19 (11%)	2 (1%)	13	50
37	YK	166/168 (99%)	146 (88%)	18 (11%)	2 (1%)	13	50
37	YL	166/168 (99%)	147 (89%)	16 (10%)	3 (2%)	8	40
37	YM	166/168 (99%)	145 (87%)	18 (11%)	3 (2%)	8	40
37	YN	166/168 (99%)	147 (89%)	17 (10%)	2 (1%)	13	50
37	YO	166/168 (99%)	145 (87%)	19 (11%)	2 (1%)	13	50

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	YP	166/168 (99%)	149 (90%)	15 (9%)	2 (1%)	13	50
37	YQ	166/168 (99%)	147 (89%)	16 (10%)	3 (2%)	8	40
37	YR	166/168 (99%)	145 (87%)	19 (11%)	2 (1%)	13	50
37	YS	166/168 (99%)	148 (89%)	16 (10%)	2 (1%)	13	50
37	YT	166/168 (99%)	143 (86%)	21 (13%)	2 (1%)	13	50
37	YU	166/168 (99%)	142 (86%)	22 (13%)	2 (1%)	13	50
37	YV	166/168 (99%)	146 (88%)	18 (11%)	2 (1%)	13	50
37	YW	166/168 (99%)	143 (86%)	21 (13%)	2 (1%)	13	50
38	a	89/101 (88%)	81 (91%)	8 (9%)	0	100	100
All	All	159844/188175 (85%)	149076 (93%)	10183 (6%)	585 (0%)	38	72

All (585) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A2	209	PRO
5	B2	125	ASP
5	B3	125	ASP
5	B6	125	ASP
5	B6	400	PRO
5	B7	125	ASP
5	B7	399	VAL
5	B8	125	ASP
5	B8	400	PRO
6	C	372	ALA
8	D6	365	ASN
8	D9	147	VAL
4	DK	11	GLN
9	E	425	SER
9	E	467	LEU
9	E	618	ASP
11	F7	400	THR
4	FC	11	GLN
11	Fb	197	ASN
11	Fe	209	ASP
11	Fh	207	VAL
11	Fh	395	MET
13	G1	226	PRO
13	G2	225	THR
13	G2	226	PRO

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Mol	Chain	Res	Type
13	G3	225	THR
13	G3	226	PRO
14	G4	722	VAL
14	G4	727	PRO
14	G5	722	VAL
14	G5	727	PRO
14	G6	722	VAL
14	G6	727	PRO
15	H5	258	VAL
15	H6	218	ILE
4	HC	11	GLN
19	J1	33	SER
19	J2	33	SER
19	J3	33	SER
21	K1	403	ARG
21	K2	108	ARG
21	K2	109	LEU
21	K2	188	CYS
21	K2	189	GLU
21	K2	245	VAL
21	K2	249	ASN
21	K3	109	LEU
21	K3	188	CYS
21	K3	189	GLU
21	K3	245	VAL
21	K4	109	LEU
21	K4	188	CYS
21	K4	189	GLU
21	K4	245	VAL
21	K5	109	LEU
22	L1	137	GLU
22	L1	244	ILE
22	L2	137	GLU
22	L2	248	LYS
22	L3	89	PRO
22	L3	137	GLU
30	Q1	1354	LYS
30	Q1	1505	ILE
30	Q2	1354	LYS
30	Q3	1354	LYS
4	WE	11	GLN
37	YA	60	SER

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Mol	Chain	Res	Type
37	YA	86	LEU
37	YA	118	PRO
37	YB	86	LEU
37	YC	60	SER
37	YC	86	LEU
37	YD	60	SER
37	YD	86	LEU
37	YE	60	SER
37	YE	86	LEU
37	YF	60	SER
37	YF	86	LEU
37	YF	118	PRO
37	YG	60	SER
37	YG	86	LEU
37	YH	60	SER
37	YH	86	LEU
37	YI	60	SER
37	YI	86	LEU
37	YJ	60	SER
37	YJ	86	LEU
37	YK	60	SER
37	YK	86	LEU
37	YL	60	SER
37	YL	86	LEU
37	YL	118	PRO
37	YM	60	SER
37	YM	86	LEU
37	YN	60	SER
37	YN	86	LEU
37	YO	60	SER
37	YO	86	LEU
37	YP	60	SER
37	YP	86	LEU
37	YQ	60	SER
37	YQ	86	LEU
37	YQ	118	PRO
37	YR	60	SER
37	YR	86	LEU
37	YS	60	SER
37	YS	86	LEU
37	YT	60	SER
37	YT	86	LEU

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Mol	Chain	Res	Type
37	YU	60	SER
37	YU	86	LEU
37	YV	60	SER
37	YV	86	LEU
37	YW	60	SER
37	YW	86	LEU
3	AB	177	ASP
3	AD	177	ASP
3	AF	177	ASP
3	AH	177	ASP
3	AJ	177	ASP
3	AL	177	ASP
3	BB	177	ASP
3	BD	177	ASP
4	BE	264	ARG
3	BF	177	ASP
3	BJ	177	ASP
3	BL	177	ASP
4	BM	264	ARG
3	CB	177	ASP
3	CD	177	ASP
3	CH	177	ASP
3	CJ	177	ASP
4	CM	264	ARG
8	D8	365	ASN
3	DB	218	THR
3	DD	177	ASP
3	DF	177	ASP
3	DJ	177	ASP
3	DL	177	ASP
3	EF	177	ASP
3	EH	177	ASP
3	FD	177	ASP
4	FE	264	ARG
3	FF	177	ASP
3	FH	177	ASP
3	FJ	177	ASP
3	FL	177	ASP
11	F1	415	ARG
13	G1	224	VAL
13	G2	224	VAL
13	G3	224	VAL

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Mol	Chain	Res	Type
3	GD	177	ASP
3	GH	177	ASP
3	GL	177	ASP
15	H5	256	HIS
15	H6	213	ILE
3	HB	177	ASP
3	HD	177	ASP
4	HE	264	ARG
3	HF	177	ASP
4	HI	11	GLN
3	HJ	177	ASP
3	HL	177	ASP
3	IB	177	ASP
3	IF	177	ASP
3	IH	177	ASP
3	IL	177	ASP
3	JD	177	ASP
3	JF	177	ASP
3	JH	177	ASP
3	JL	177	ASP
21	K1	405	VAL
21	K2	405	VAL
21	K2	472	VAL
21	K3	108	ARG
21	K3	243	GLN
21	K3	249	ASN
21	K3	392	LYS
21	K3	393	LEU
21	K3	394	ASN
21	K3	472	VAL
21	K3	491	ARG
21	K4	108	ARG
21	K4	243	GLN
21	K4	249	ASN
21	K4	472	VAL
21	K5	108	ARG
3	KD	177	ASP
3	KF	177	ASP
22	L1	79	ASN
22	L3	79	ASN
3	LB	177	ASP
3	LD	177	ASP

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Mol	Chain	Res	Type
3	LH	177	ASP
3	LJ	177	ASP
3	LL	218	THR
3	MD	177	ASP
3	MH	177	ASP
3	MJ	177	ASP
3	ML	177	ASP
26	N3	97	GLU
3	NB	177	ASP
3	ND	177	ASP
3	NJ	177	ASP
3	NL	177	ASP
28	O1	61	TRP
28	O2	61	TRP
28	O3	61	TRP
3	OB	177	ASP
3	OD	177	ASP
3	OH	177	ASP
3	OJ	177	ASP
4	PA	264	ARG
3	PB	177	ASP
3	PD	177	ASP
3	PF	177	ASP
3	PH	177	ASP
3	PL	177	ASP
30	Q2	1505	ILE
3	QB	177	ASP
3	QH	177	ASP
3	QJ	177	ASP
3	RB	177	ASP
3	RD	177	ASP
3	RF	177	ASP
3	RH	177	ASP
3	RJ	177	ASP
4	RK	264	ARG
3	RL	177	ASP
3	SD	177	ASP
3	SF	177	ASP
3	SJ	177	ASP
3	SL	177	ASP
3	TD	177	ASP
3	TJ	177	ASP

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Mol	Chain	Res	Type
3	TL	177	ASP
3	TN	177	ASP
3	UB	177	ASP
3	UD	177	ASP
3	UF	177	ASP
3	UH	177	ASP
3	UJ	177	ASP
3	UL	177	ASP
3	VB	177	ASP
3	VD	177	ASP
3	VF	177	ASP
3	VH	177	ASP
3	VJ	177	ASP
3	VL	177	ASP
3	WB	177	ASP
3	WD	177	ASP
3	WF	177	ASP
3	WH	177	ASP
3	WL	177	ASP
3	AF	218	THR
3	BF	218	THR
3	BH	177	ASP
3	CB	218	THR
3	CF	177	ASP
3	CH	218	THR
3	CL	177	ASP
3	CL	218	THR
7	Ca	408	ASN
8	D7	368	LEU
3	DB	177	ASP
3	DD	218	THR
3	DH	177	ASP
3	DH	218	THR
4	DI	264	ARG
3	DJ	218	THR
3	EB	177	ASP
3	EB	218	THR
3	ED	177	ASP
3	EH	218	THR
3	EJ	177	ASP
3	EL	177	ASP
3	FB	177	ASP

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Mol	Chain	Res	Type
11	Fb	411	VAL
11	Fc	283	VAL
11	Fm	207	VAL
14	G4	30	ASN
14	G5	30	ASN
14	G6	30	ASN
3	GB	177	ASP
3	GB	218	THR
3	GF	177	ASP
3	GJ	177	ASP
3	HB	218	THR
3	HH	177	ASP
3	ID	177	ASP
3	ID	218	THR
4	IG	264	ARG
3	IH	218	THR
3	IJ	177	ASP
18	J	127	LEU
19	J3	64	ASP
3	JB	177	ASP
3	JD	218	THR
3	JJ	177	ASP
3	JL	218	THR
21	K2	267	ILE
21	K2	491	ARG
21	K3	265	VAL
21	K3	267	ILE
21	K3	405	VAL
21	K4	491	ARG
21	K5	44	VAL
21	K5	45	THR
3	KB	177	ASP
3	KB	218	THR
3	KH	177	ASP
3	KH	218	THR
3	KJ	177	ASP
3	KL	177	ASP
3	KL	218	THR
4	LA	264	ARG
3	LD	218	THR
4	LE	264	ARG
3	LF	177	ASP

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Mol	Chain	Res	Type
3	LF	218	THR
4	LI	264	ARG
3	LL	177	ASP
3	MB	177	ASP
3	MB	218	THR
3	MD	218	THR
3	MF	177	ASP
3	ML	218	THR
3	ND	218	THR
3	NF	177	ASP
3	NF	218	THR
4	NG	264	ARG
3	NH	177	ASP
3	NH	218	THR
3	NL	218	THR
28	O1	9	GLN
3	OB	218	THR
3	OD	218	THR
4	OE	264	ARG
3	OF	177	ASP
4	OI	264	ARG
3	OJ	218	THR
4	OK	264	ARG
3	OL	177	ASP
3	PB	218	THR
3	PD	218	THR
3	PF	218	THR
3	PH	218	THR
3	PJ	177	ASP
4	PK	264	ARG
3	PL	218	THR
30	Q2	1418	MET
30	Q2	1423	ALA
3	QB	218	THR
3	QD	177	ASP
3	QF	177	ASP
3	QF	218	THR
3	QH	218	THR
3	QL	177	ASP
3	QL	218	THR
3	RB	218	THR
3	RD	218	THR

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Mol	Chain	Res	Type
3	RF	218	THR
3	RL	218	THR
3	SB	177	ASP
3	SB	218	THR
3	SF	218	THR
3	SJ	218	THR
4	SK	264	ARG
3	SL	218	THR
3	TB	177	ASP
3	TB	218	THR
3	TF	177	ASP
3	TF	218	THR
3	TH	177	ASP
3	TH	218	THR
3	TL	218	THR
3	TN	218	THR
3	UD	218	THR
3	UF	218	THR
3	UH	218	THR
3	UJ	218	THR
3	VL	218	THR
3	WJ	177	ASP
4	AE	264	ARG
4	AG	264	ARG
3	AJ	99	ASN
5	B4	125	ASP
3	BB	218	THR
4	BC	264	ARG
4	BG	264	ARG
4	BI	264	ARG
3	CF	218	THR
4	CI	264	ARG
3	CJ	218	THR
4	CK	264	ARG
4	DA	264	ARG
4	DC	264	ARG
4	DE	264	ARG
4	DG	264	ARG
3	DL	218	THR
4	EA	264	ARG
4	EE	264	ARG
4	EG	264	ARG

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Mol	Chain	Res	Type
4	EK	264	ARG
3	FB	218	THR
4	FC	264	ARG
11	Fc	476	PHE
11	Fk	207	VAL
11	Fk	415	ARG
11	F1	207	VAL
14	G4	386	ILE
14	G4	631	ILE
14	G5	386	ILE
14	G5	631	ILE
14	G6	386	ILE
4	GA	264	ARG
4	GC	264	ARG
4	GG	264	ARG
4	GK	264	ARG
15	H1	211	ASN
15	H1	258	VAL
15	H5	218	ILE
3	HD	218	THR
4	HG	264	ARG
4	HI	264	ARG
4	HK	264	ARG
4	IA	264	ARG
3	IB	218	THR
4	IE	264	ARG
4	II	264	ARG
3	IL	218	THR
19	J1	64	ASP
3	JB	218	THR
4	JE	264	ARG
3	JF	218	THR
4	JK	264	ARG
21	K2	265	VAL
4	KC	264	ARG
22	L1	117	VAL
22	L2	117	VAL
22	L3	117	VAL
4	LC	264	ARG
4	LG	264	ARG
3	LJ	218	THR
4	LK	264	ARG

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Mol	Chain	Res	Type
4	MC	264	ARG
4	ME	264	ARG
4	MG	264	ARG
3	MH	218	THR
4	MI	264	ARG
4	MM	264	ARG
26	N4	97	GLU
4	NA	264	ARG
3	NB	218	THR
4	NC	264	ARG
4	NE	264	ARG
4	NI	264	ARG
3	NJ	218	THR
4	NK	264	ARG
4	OA	264	ARG
4	OC	264	ARG
4	OE	15	GLN
3	OF	218	THR
4	OG	264	ARG
3	OH	218	THR
3	OL	218	THR
4	PC	264	ARG
4	PG	264	ARG
4	PI	264	ARG
3	PJ	218	THR
30	Q3	1505	ILE
4	QC	264	ARG
3	QD	218	THR
4	QE	264	ARG
4	QG	264	ARG
4	QI	264	ARG
3	QJ	218	THR
4	QK	264	ARG
4	RC	264	ARG
4	RE	264	ARG
4	RI	264	ARG
4	SC	264	ARG
3	SD	218	THR
4	SE	264	ARG
4	SG	264	ARG
3	SH	177	ASP
4	SM	264	ARG

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Mol	Chain	Res	Type
4	TC	264	ARG
3	TD	218	THR
4	TE	264	ARG
4	TG	264	ARG
4	TK	264	ARG
4	UA	264	ARG
4	UC	264	ARG
4	UG	264	ARG
4	UI	264	ARG
4	UK	264	ARG
3	VB	218	THR
4	VC	264	ARG
4	VE	264	ARG
4	VG	264	ARG
3	VH	218	THR
4	VI	264	ARG
4	VK	264	ARG
4	WA	264	ARG
3	WB	218	THR
4	WC	264	ARG
4	WE	264	ARG
4	WG	264	ARG
3	WJ	218	THR
4	WK	264	ARG
3	AB	218	THR
4	AI	264	ARG
3	AJ	218	THR
4	AK	264	ARG
3	AL	218	THR
4	BK	264	ARG
4	CE	264	ARG
4	DK	264	ARG
4	EC	264	ARG
4	EI	264	ARG
11	F6	92	PRO
4	FA	264	ARG
4	FI	264	ARG
4	FK	264	ARG
11	Fh	394	THR
14	G6	631	ILE
15	H3	218	ILE
15	H4	211	ASN

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Mol	Chain	Res	Type
15	H4	230	TRP
3	HH	218	THR
4	IK	264	ARG
19	J2	64	ASP
4	JA	264	ARG
4	JC	264	ARG
4	JG	264	ARG
3	JJ	218	THR
21	K2	487	PRO
21	K3	487	PRO
21	K4	265	VAL
21	K4	267	ILE
4	PM	264	ARG
27	Q	112	LEU
3	RH	218	THR
3	SH	218	THR
3	UB	218	THR
3	VD	218	THR
3	VF	218	THR
33	W	379	ALA
3	WD	218	THR
3	WH	218	THR
4	WI	264	ARG
3	AD	218	THR
3	BJ	218	THR
7	Cd	289	ARG
3	DF	218	THR
14	G5	29	CYS
14	G6	29	CYS
3	GL	218	THR
15	H1	218	ILE
15	H2	230	TRP
15	H3	258	VAL
15	H6	230	TRP
3	HF	218	THR
3	HL	218	THR
19	J1	62	PHE
19	J3	111	ARG
3	JH	218	THR
21	K3	403	ARG
21	K4	487	PRO
3	KD	218	THR

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Mol	Chain	Res	Type
3	LH	218	THR
3	MF	218	THR
3	VJ	218	THR
3	WF	218	THR
37	YM	119	HIS
26	N4	163	GLY
31	R3	282	HIS
33	W	369	ILE
31	R1	282	HIS
31	R2	282	HIS
7	C9	407	PRO
14	G4	710	PRO
14	G6	369	GLY
14	G6	710	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	294/450 (65%)	289 (98%)	5 (2%)	60	78
1	B	179/450 (40%)	176 (98%)	3 (2%)	60	78
2	A1	288/380 (76%)	286 (99%)	2 (1%)	84	90
2	A2	365/380 (96%)	360 (99%)	5 (1%)	67	80
2	A3	365/380 (96%)	358 (98%)	7 (2%)	57	75
2	A4	179/380 (47%)	176 (98%)	3 (2%)	60	78
3	AB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	AD	367/367 (100%)	367 (100%)	0	100	100
3	AF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	AH	367/367 (100%)	367 (100%)	0	100	100
3	AJ	367/367 (100%)	367 (100%)	0	100	100
3	AL	367/367 (100%)	367 (100%)	0	100	100
3	BB	367/367 (100%)	366 (100%)	1 (0%)	92	95

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	BD	367/367 (100%)	363 (99%)	4 (1%)	73	84
3	BF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	BH	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	BJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	BL	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	CB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	CD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	CF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	CH	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	CJ	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	CL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	DB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	DD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	DF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	DH	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	DJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	DL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	EB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	ED	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	EF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	EH	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	EJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	EL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	FB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	FD	367/367 (100%)	367 (100%)	0	100	100
3	FF	367/367 (100%)	367 (100%)	0	100	100
3	FH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	FJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	FL	367/367 (100%)	363 (99%)	4 (1%)	73	84
3	GB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	GD	367/367 (100%)	365 (100%)	2 (0%)	88	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	GF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	GH	367/367 (100%)	367 (100%)	0	100	100
3	GJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	GL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	HB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	HD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	HF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	HH	367/367 (100%)	367 (100%)	0	100	100
3	HJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	HL	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	ID	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IH	367/367 (100%)	367 (100%)	0	100	100
3	IJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IL	367/367 (100%)	367 (100%)	0	100	100
3	JB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	JD	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JH	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	KB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	KD	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	KF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	KH	367/367 (100%)	367 (100%)	0	100	100
3	KJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	KL	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	LB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	LD	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	LF	367/367 (100%)	365 (100%)	2 (0%)	88	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	LH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	LJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	LL	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	MB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	MD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	MF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	MH	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	MJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	ML	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	NB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	ND	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	NF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	NH	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	NJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	NL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	OB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	OD	367/367 (100%)	367 (100%)	0	100	100
3	OF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	OH	367/367 (100%)	367 (100%)	0	100	100
3	OJ	367/367 (100%)	367 (100%)	0	100	100
3	OL	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	PB	367/367 (100%)	363 (99%)	4 (1%)	73	84
3	PD	367/367 (100%)	367 (100%)	0	100	100
3	PF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	PH	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	PJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	PL	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	QB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	QD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	QF	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	QH	367/367 (100%)	364 (99%)	3 (1%)	81	89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	QJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	QL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	RB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	RD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	RF	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	RH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	RJ	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	RL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	SB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	SD	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	SF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	SH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	SJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	SL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	TD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TH	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	TJ	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	TL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TN	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	UB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	UD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	UF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	UH	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	UJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	UL	367/367 (100%)	363 (99%)	4 (1%)	73	84
3	VB	367/367 (100%)	367 (100%)	0	100	100
3	VD	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	VF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	VH	367/367 (100%)	366 (100%)	1 (0%)	92	95

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	VJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	VL	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	WB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	WD	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	WF	367/367 (100%)	367 (100%)	0	100	100
3	WH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	WJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	WL	367/367 (100%)	365 (100%)	2 (0%)	88	93
4	AC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	AE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	AG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	AI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	AK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	AM	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	BC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	BE	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	BG	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	BI	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	BK	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	BM	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	CC	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	CE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	CG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	CI	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	CK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	CM	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	DA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	DC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	DE	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	DG	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	DI	366/366 (100%)	360 (98%)	6 (2%)	62	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	DK	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	EA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	EC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	EE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	EG	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	EI	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	EK	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	FA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	FC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	FE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	FG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	FI	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	FK	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	GA	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	GC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	GE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	GG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	GI	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	GK	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	HA	366/366 (100%)	364 (100%)	2 (0%)	88	93
4	HC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	HE	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	HG	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	HI	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	HK	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	IA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	IC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	IE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	IG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	II	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	IK	366/366 (100%)	362 (99%)	4 (1%)	73	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	IM	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	JA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JC	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JE	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	JI	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	KA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	KC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	KE	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	KG	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	KI	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	KK	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	LA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	LC	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	LE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	LG	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	LI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	LK	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	MC	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	ME	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	MG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	MI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	MK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	MM	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	NA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	NC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	NE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	NG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	NI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	NK	366/366 (100%)	364 (100%)	2 (0%)	88	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	OA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	OC	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	OE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	OG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	OI	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	OK	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	PA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	PC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	PE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	PG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	PI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	PK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	PM	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	QC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	QE	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	QG	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	QI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	QK	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	QM	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	RC	366/366 (100%)	364 (100%)	2 (0%)	88	93
4	RE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	RG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	RI	366/366 (100%)	358 (98%)	8 (2%)	52	71
4	RK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	RM	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	SC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	SE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	SG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	SI	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	SK	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	SM	366/366 (100%)	362 (99%)	4 (1%)	73	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	TC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	TE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	TG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	TI	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	TK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	TM	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	UA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	UC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	UE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	UG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	UI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	UK	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	VC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	VE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VK	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	WA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	WC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	WE	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	WG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	WI	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	WK	366/366 (100%)	360 (98%)	6 (2%)	62	79
5	B1	215/395 (54%)	213 (99%)	2 (1%)	78	88
5	B2	381/395 (96%)	380 (100%)	1 (0%)	92	95
5	B3	381/395 (96%)	379 (100%)	2 (0%)	88	93
5	B4	288/395 (73%)	287 (100%)	1 (0%)	92	95
5	B5	44/395 (11%)	44 (100%)	0	100	100
5	B6	331/395 (84%)	328 (99%)	3 (1%)	78	88
5	B7	370/395 (94%)	367 (99%)	3 (1%)	81	89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	B8	364/395 (92%)	363 (100%)	1 (0%)	92	95
5	B9	104/395 (26%)	103 (99%)	1 (1%)	76	86
6	C	317/337 (94%)	312 (98%)	5 (2%)	62	79
6	D	317/337 (94%)	311 (98%)	6 (2%)	57	75
7	C1	90/445 (20%)	89 (99%)	1 (1%)	73	84
7	C2	353/445 (79%)	349 (99%)	4 (1%)	73	84
7	C3	353/445 (79%)	350 (99%)	3 (1%)	81	89
7	C4	326/445 (73%)	323 (99%)	3 (1%)	78	88
7	C5	59/445 (13%)	58 (98%)	1 (2%)	60	78
7	C6	180/445 (40%)	179 (99%)	1 (1%)	86	92
7	C7	359/445 (81%)	356 (99%)	3 (1%)	81	89
7	C8	359/445 (81%)	354 (99%)	5 (1%)	67	80
7	C9	270/445 (61%)	266 (98%)	4 (2%)	65	80
7	Ca	202/445 (45%)	201 (100%)	1 (0%)	88	93
7	Cb	353/445 (79%)	349 (99%)	4 (1%)	73	84
7	Cc	353/445 (79%)	351 (99%)	2 (1%)	86	92
7	Cd	238/445 (54%)	236 (99%)	2 (1%)	81	89
8	D1	45/402 (11%)	45 (100%)	0	100	100
8	D2	330/402 (82%)	326 (99%)	4 (1%)	71	83
8	D3	383/402 (95%)	381 (100%)	2 (0%)	88	93
8	D4	383/402 (95%)	381 (100%)	2 (0%)	88	93
8	D5	119/402 (30%)	119 (100%)	0	100	100
8	D6	66/402 (16%)	65 (98%)	1 (2%)	65	80
8	D7	340/402 (85%)	335 (98%)	5 (2%)	65	80
8	D8	364/402 (90%)	361 (99%)	3 (1%)	81	89
8	D9	360/402 (90%)	357 (99%)	3 (1%)	81	89
8	Da	49/402 (12%)	48 (98%)	1 (2%)	55	74
9	E	235/745 (32%)	233 (99%)	2 (1%)	78	88
9	F	130/745 (17%)	130 (100%)	0	100	100
10	E1	159/174 (91%)	157 (99%)	2 (1%)	69	82
10	E2	159/174 (91%)	158 (99%)	1 (1%)	86	92

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	E3	159/174 (91%)	158 (99%)	1 (1%)	86	92
10	E4	45/174 (26%)	45 (100%)	0	100	100
11	F1	265/487 (54%)	261 (98%)	4 (2%)	65	80
11	F2	362/487 (74%)	358 (99%)	4 (1%)	73	84
11	F3	362/487 (74%)	357 (99%)	5 (1%)	67	80
11	F4	193/487 (40%)	189 (98%)	4 (2%)	53	72
11	F5	235/487 (48%)	230 (98%)	5 (2%)	53	72
11	F6	359/487 (74%)	356 (99%)	3 (1%)	81	89
11	F7	359/487 (74%)	355 (99%)	4 (1%)	73	84
11	F8	213/487 (44%)	211 (99%)	2 (1%)	78	88
11	F9	161/487 (33%)	161 (100%)	0	100	100
11	Fa	359/487 (74%)	355 (99%)	4 (1%)	73	84
11	Fb	359/487 (74%)	355 (99%)	4 (1%)	73	84
11	Fc	290/487 (60%)	287 (99%)	3 (1%)	76	86
11	Fd	21/487 (4%)	21 (100%)	0	100	100
11	Fe	220/487 (45%)	218 (99%)	2 (1%)	78	88
11	Ff	362/487 (74%)	361 (100%)	1 (0%)	92	95
11	Fg	289/487 (59%)	286 (99%)	3 (1%)	76	86
11	Fh	171/487 (35%)	171 (100%)	0	100	100
11	Fi	251/487 (52%)	249 (99%)	2 (1%)	81	89
11	Fj	256/487 (53%)	253 (99%)	3 (1%)	71	83
11	Fk	305/487 (63%)	305 (100%)	0	100	100
11	Fl	305/487 (63%)	302 (99%)	3 (1%)	76	86
11	Fm	301/487 (62%)	300 (100%)	1 (0%)	92	95
12	G	406/464 (88%)	402 (99%)	4 (1%)	76	86
12	H	39/464 (8%)	39 (100%)	0	100	100
13	G1	465/589 (79%)	463 (100%)	2 (0%)	91	94
13	G2	452/589 (77%)	450 (100%)	2 (0%)	91	94
13	G3	466/589 (79%)	461 (99%)	5 (1%)	73	84
14	G4	682/683 (100%)	677 (99%)	5 (1%)	84	90
14	G5	681/683 (100%)	678 (100%)	3 (0%)	91	94

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	G6	681/683 (100%)	677 (99%)	4 (1%)	86	92
15	H1	120/279 (43%)	119 (99%)	1 (1%)	81	89
15	H2	116/279 (42%)	115 (99%)	1 (1%)	78	88
15	H3	120/279 (43%)	119 (99%)	1 (1%)	81	89
15	H4	119/279 (43%)	118 (99%)	1 (1%)	81	89
15	H5	120/279 (43%)	118 (98%)	2 (2%)	60	78
15	H6	117/279 (42%)	116 (99%)	1 (1%)	78	88
16	I	87/210 (41%)	86 (99%)	1 (1%)	73	84
17	I1	33/180 (18%)	33 (100%)	0	100	100
17	I2	33/180 (18%)	33 (100%)	0	100	100
17	I3	33/180 (18%)	33 (100%)	0	100	100
18	J	146/181 (81%)	144 (99%)	2 (1%)	67	80
19	J1	153/169 (90%)	152 (99%)	1 (1%)	84	90
19	J2	153/169 (90%)	151 (99%)	2 (1%)	69	82
19	J3	153/169 (90%)	152 (99%)	1 (1%)	84	90
20	K	236/265 (89%)	235 (100%)	1 (0%)	91	94
20	L	236/265 (89%)	236 (100%)	0	100	100
21	K1	92/434 (21%)	90 (98%)	2 (2%)	52	71
21	K2	370/434 (85%)	368 (100%)	2 (0%)	88	93
21	K3	375/434 (86%)	370 (99%)	5 (1%)	69	82
21	K4	345/434 (80%)	342 (99%)	3 (1%)	78	88
21	K5	40/434 (9%)	40 (100%)	0	100	100
22	L1	193/235 (82%)	191 (99%)	2 (1%)	76	86
22	L2	216/235 (92%)	214 (99%)	2 (1%)	78	88
22	L3	216/235 (92%)	211 (98%)	5 (2%)	50	70
22	L4	70/235 (30%)	69 (99%)	1 (1%)	67	80
23	M	105/147 (71%)	105 (100%)	0	100	100
24	M1	54/125 (43%)	54 (100%)	0	100	100
24	M2	54/125 (43%)	54 (100%)	0	100	100
24	M3	54/125 (43%)	54 (100%)	0	100	100
25	N	65/110 (59%)	65 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
26	N1	58/148 (39%)	57 (98%)	1 (2%)	60	78
26	N2	58/148 (39%)	57 (98%)	1 (2%)	60	78
26	N3	58/148 (39%)	58 (100%)	0	100	100
26	N4	58/148 (39%)	57 (98%)	1 (2%)	60	78
27	O	42/341 (12%)	41 (98%)	1 (2%)	49	69
27	P	287/341 (84%)	283 (99%)	4 (1%)	67	80
27	Q	162/341 (48%)	161 (99%)	1 (1%)	86	92
27	R	208/341 (61%)	203 (98%)	5 (2%)	49	69
28	O1	88/165 (53%)	87 (99%)	1 (1%)	73	84
28	O2	88/165 (53%)	86 (98%)	2 (2%)	50	70
28	O3	88/165 (53%)	87 (99%)	1 (1%)	73	84
29	P1	511/522 (98%)	510 (100%)	1 (0%)	93	96
29	P2	511/522 (98%)	507 (99%)	4 (1%)	81	89
29	P3	511/522 (98%)	509 (100%)	2 (0%)	91	94
30	Q1	162/1391 (12%)	160 (99%)	2 (1%)	71	83
30	Q2	162/1391 (12%)	160 (99%)	2 (1%)	71	83
30	Q3	162/1391 (12%)	160 (99%)	2 (1%)	71	83
31	R1	62/250 (25%)	61 (98%)	1 (2%)	62	79
31	R2	62/250 (25%)	60 (97%)	2 (3%)	39	61
31	R3	62/250 (25%)	61 (98%)	1 (2%)	62	79
32	S	65/401 (16%)	65 (100%)	0	100	100
32	T	101/401 (25%)	99 (98%)	2 (2%)	55	74
33	U	332/497 (67%)	323 (97%)	9 (3%)	44	65
33	V	57/497 (12%)	54 (95%)	3 (5%)	22	47
33	W	294/497 (59%)	287 (98%)	7 (2%)	49	69
33	X	156/497 (31%)	152 (97%)	4 (3%)	46	66
34	XA	173/180 (96%)	171 (99%)	2 (1%)	71	83
34	XB	173/180 (96%)	170 (98%)	3 (2%)	60	78
34	XC	173/180 (96%)	170 (98%)	3 (2%)	60	78
34	XD	173/180 (96%)	171 (99%)	2 (1%)	71	83
34	XE	173/180 (96%)	171 (99%)	2 (1%)	71	83

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	XF	173/180 (96%)	171 (99%)	2 (1%)	71	83
34	XG	173/180 (96%)	170 (98%)	3 (2%)	60	78
35	XH	161/215 (75%)	156 (97%)	5 (3%)	40	62
35	XI	161/215 (75%)	158 (98%)	3 (2%)	57	75
35	XJ	161/215 (75%)	157 (98%)	4 (2%)	47	68
35	XK	161/215 (75%)	159 (99%)	2 (1%)	71	83
35	XL	161/215 (75%)	157 (98%)	4 (2%)	47	68
35	XM	161/215 (75%)	160 (99%)	1 (1%)	86	92
36	Y	194/490 (40%)	192 (99%)	2 (1%)	76	86
36	Z	261/490 (53%)	260 (100%)	1 (0%)	91	94
37	YA	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YB	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YC	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YD	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YE	157/157 (100%)	156 (99%)	1 (1%)	86	92
37	YF	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YG	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YH	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YI	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YJ	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YK	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YL	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YM	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YN	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YO	157/157 (100%)	156 (99%)	1 (1%)	86	92
37	YP	157/157 (100%)	156 (99%)	1 (1%)	86	92
37	YQ	157/157 (100%)	156 (99%)	1 (1%)	86	92
37	YR	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YS	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YT	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YU	157/157 (100%)	154 (98%)	3 (2%)	57	75

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	YV	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YW	157/157 (100%)	155 (99%)	2 (1%)	69	82
38	a	82/91 (90%)	81 (99%)	1 (1%)	71	83
All	All	138680/162697 (85%)	137404 (99%)	1276 (1%)	79	88

All (1276) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	106	LYS
1	A	231	ARG
1	A	234	LYS
1	A	243	LYS
1	A	298	ARG
2	A1	74	LYS
2	A1	106	LYS
2	A2	10	ARG
2	A2	21	LYS
2	A2	36	ARG
2	A2	74	LYS
2	A2	106	LYS
2	A3	10	ARG
2	A3	21	LYS
2	A3	36	ARG
2	A3	74	LYS
2	A3	106	LYS
2	A3	165	ARG
2	A3	295	ASN
2	A4	21	LYS
2	A4	74	LYS
2	A4	178	LYS
3	AB	300	MET
4	AC	84	ARG
4	AC	214	ARG
4	AC	339	ARG
4	AC	402	ARG
4	AE	84	ARG
4	AE	214	ARG
4	AE	339	ARG
4	AE	402	ARG
3	AF	323	MET
3	AF	392	LYS

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Mol	Chain	Res	Type
4	AG	84	ARG
4	AG	214	ARG
4	AG	339	ARG
4	AG	401	LYS
4	AG	402	ARG
4	AI	84	ARG
4	AI	214	ARG
4	AI	229	ARG
4	AI	339	ARG
4	AI	402	ARG
4	AK	84	ARG
4	AK	214	ARG
4	AK	339	ARG
4	AK	402	ARG
4	AM	84	ARG
4	AM	214	ARG
4	AM	233	GLN
4	AM	339	ARG
4	AM	402	ARG
1	B	346	ARG
1	B	435	ARG
1	B	483	LYS
5	B1	284	LYS
5	B1	394	ARG
5	B2	305	ARG
5	B3	11	ARG
5	B3	305	ARG
5	B4	75	LYS
5	B6	11	ARG
5	B6	226	LYS
5	B6	305	ARG
5	B7	30	ARG
5	B7	305	ARG
5	B7	403	LYS
5	B8	305	ARG
5	B9	331	ARG
3	BB	392	LYS
4	BC	84	ARG
4	BC	214	ARG
4	BC	264	ARG
4	BC	339	ARG
4	BC	402	ARG

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Mol	Chain	Res	Type
3	BD	2	ARG
3	BD	262	ARG
3	BD	323	MET
3	BD	392	LYS
4	BE	84	ARG
4	BE	214	ARG
4	BE	226	ASN
4	BE	264	ARG
4	BE	339	ARG
4	BE	402	ARG
3	BF	262	ARG
3	BF	392	LYS
4	BG	84	ARG
4	BG	214	ARG
4	BG	229	ARG
4	BG	264	ARG
4	BG	339	ARG
4	BG	402	ARG
3	BH	392	LYS
4	BI	84	ARG
4	BI	214	ARG
4	BI	402	ARG
3	BJ	122	LYS
3	BJ	392	LYS
4	BK	84	ARG
4	BK	123	ARG
4	BK	124	LYS
4	BK	214	ARG
4	BK	226	ASN
4	BK	229	ARG
4	BK	339	ARG
3	BL	392	LYS
4	BM	84	ARG
4	BM	214	ARG
4	BM	229	ARG
4	BM	264	ARG
4	BM	402	ARG
6	C	42	ARG
6	C	63	ARG
6	C	184	ARG
6	C	275	LYS
6	C	353	ARG

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Mol	Chain	Res	Type
7	C1	285	ARG
7	C2	179	ARG
7	C2	275	ARG
7	C2	289	ARG
7	C2	439	ARG
7	C3	275	ARG
7	C3	289	ARG
7	C3	439	ARG
7	C4	202	ARG
7	C4	358	LYS
7	C4	477	ARG
7	C5	413	ARG
7	C6	261	LYS
7	C7	179	ARG
7	C7	275	ARG
7	C7	439	ARG
7	C8	93	ARG
7	C8	179	ARG
7	C8	275	ARG
7	C8	439	ARG
7	C8	485	ARG
7	C9	248	ARG
7	C9	261	LYS
7	C9	477	ARG
7	C9	485	ARG
3	CB	262	ARG
3	CB	318	ARG
3	CB	392	LYS
4	CC	84	ARG
4	CC	214	ARG
4	CC	229	ARG
4	CC	264	ARG
4	CC	339	ARG
4	CC	402	ARG
3	CD	282	ARG
3	CD	370	ASN
4	CE	84	ARG
4	CE	214	ARG
4	CE	264	ARG
4	CE	339	ARG
4	CE	402	ARG
3	CF	262	ARG

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Mol	Chain	Res	Type
3	CF	392	LYS
4	CG	84	ARG
4	CG	214	ARG
4	CG	264	ARG
4	CG	339	ARG
4	CG	402	ARG
3	CH	262	ARG
3	CH	323	MET
3	CH	392	LYS
4	CI	84	ARG
4	CI	214	ARG
4	CI	264	ARG
4	CI	402	ARG
3	CJ	46	ARG
3	CJ	282	ARG
3	CJ	392	LYS
4	CK	84	ARG
4	CK	214	ARG
4	CK	339	ARG
4	CK	402	ARG
3	CL	323	MET
3	CL	359	ARG
4	CM	84	ARG
4	CM	264	ARG
4	CM	339	ARG
4	CM	402	ARG
7	Ca	179	ARG
7	Cb	114	ARG
7	Cb	179	ARG
7	Cb	275	ARG
7	Cb	439	ARG
7	Cc	289	ARG
7	Cc	439	ARG
7	Cd	178	LYS
7	Cd	289	ARG
6	D	42	ARG
6	D	63	ARG
6	D	149	ARG
6	D	184	ARG
6	D	275	LYS
6	D	368	LYS
8	D2	24	ARG

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Mol	Chain	Res	Type
8	D2	94	ARG
8	D2	135	LYS
8	D2	184	ARG
8	D3	94	ARG
8	D3	184	ARG
8	D4	24	ARG
8	D4	184	ARG
8	D6	389	ARG
8	D7	76	ARG
8	D7	94	ARG
8	D7	169	ARG
8	D7	184	ARG
8	D7	360	ARG
8	D8	94	ARG
8	D8	184	ARG
8	D8	403	ARG
8	D9	94	ARG
8	D9	184	ARG
8	D9	360	ARG
4	DA	84	ARG
4	DA	124	LYS
4	DA	214	ARG
4	DA	402	ARG
3	DB	392	LYS
4	DC	84	ARG
4	DC	214	ARG
4	DC	264	ARG
4	DC	402	ARG
3	DD	392	LYS
3	DD	426	GLN
4	DE	84	ARG
4	DE	214	ARG
4	DE	229	ARG
4	DE	264	ARG
4	DE	339	ARG
4	DE	402	ARG
3	DF	392	LYS
4	DG	84	ARG
4	DG	214	ARG
4	DG	256	GLN
3	DH	2	ARG
4	DI	84	ARG

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Mol	Chain	Res	Type
4	DI	214	ARG
4	DI	229	ARG
4	DI	264	ARG
4	DI	339	ARG
4	DI	402	ARG
3	DJ	392	LYS
4	DK	79	ARG
4	DK	84	ARG
4	DK	214	ARG
4	DK	339	ARG
4	DK	402	ARG
3	DL	392	LYS
3	DL	426	GLN
8	Da	94	ARG
9	E	445	ASN
9	E	464	ARG
10	E1	10	ARG
10	E1	153	ARG
10	E2	153	ARG
10	E3	153	ARG
4	EA	84	ARG
4	EA	214	ARG
4	EA	264	ARG
4	EA	339	ARG
3	EB	392	LYS
4	EC	84	ARG
4	EC	214	ARG
4	EC	264	ARG
4	EC	402	ARG
3	ED	318	ARG
3	ED	323	MET
3	ED	392	LYS
4	EE	84	ARG
4	EE	124	LYS
4	EE	214	ARG
4	EE	402	ARG
3	EF	262	ARG
3	EF	392	LYS
4	EG	84	ARG
4	EG	124	LYS
4	EG	214	ARG
4	EG	229	ARG

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Mol	Chain	Res	Type
4	EG	264	ARG
4	EG	339	ARG
4	EG	402	ARG
3	EH	392	LYS
4	EI	84	ARG
4	EI	214	ARG
4	EI	229	ARG
4	EI	264	ARG
3	EJ	262	ARG
3	EJ	323	MET
4	EK	84	ARG
4	EK	214	ARG
4	EK	264	ARG
3	EL	122	LYS
3	EL	262	ARG
11	F1	175	ARG
11	F1	198	ARG
11	F1	409	ARG
11	F1	431	LYS
11	F2	93	ARG
11	F2	97	ARG
11	F2	162	ARG
11	F2	473	ARG
11	F3	93	ARG
11	F3	97	ARG
11	F3	162	ARG
11	F3	217	ARG
11	F3	473	ARG
11	F4	89	ARG
11	F4	162	ARG
11	F4	174	LYS
11	F4	244	ARG
11	F5	93	ARG
11	F5	115	ARG
11	F5	198	ARG
11	F5	217	ARG
11	F5	244	ARG
11	F6	162	ARG
11	F6	175	ARG
11	F6	305	ARG
11	F7	162	ARG
11	F7	175	ARG

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Mol	Chain	Res	Type
11	F7	217	ARG
11	F7	399	ARG
11	F8	175	ARG
11	F8	448	LYS
4	FA	84	ARG
4	FA	124	LYS
4	FA	214	ARG
4	FA	339	ARG
3	FB	280	GLN
3	FB	392	LYS
4	FC	84	ARG
4	FC	214	ARG
4	FC	229	ARG
4	FC	264	ARG
4	FC	339	ARG
4	FE	84	ARG
4	FE	214	ARG
4	FE	229	ARG
4	FE	264	ARG
4	FE	339	ARG
4	FG	84	ARG
4	FG	214	ARG
4	FG	229	ARG
4	FG	264	ARG
4	FG	339	ARG
3	FH	323	MET
3	FH	392	LYS
4	FI	40	LYS
4	FI	84	ARG
4	FI	214	ARG
4	FI	229	ARG
4	FI	264	ARG
4	FI	339	ARG
3	FJ	392	LYS
4	FK	84	ARG
4	FK	214	ARG
4	FK	402	ARG
3	FL	320	ARG
3	FL	323	MET
3	FL	370	ASN
3	FL	392	LYS
11	Fa	145	ARG

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Mol	Chain	Res	Type
11	Fa	223	LYS
11	Fa	235	ARG
11	Fa	401	ARG
11	Fb	162	ARG
11	Fb	244	ARG
11	Fb	285	LYS
11	Fb	409	ARG
11	Fc	93	ARG
11	Fc	115	ARG
11	Fc	473	ARG
11	Fe	162	ARG
11	Fe	450	ARG
11	Ff	162	ARG
11	Fg	223	LYS
11	Fg	298	LYS
11	Fg	409	ARG
11	Fi	175	ARG
11	Fi	435	ARG
11	Fj	175	ARG
11	Fj	354	LYS
11	Fj	385	LYS
11	Fl	122	ARG
11	Fl	201	ARG
11	Fl	448	LYS
11	Fm	201	ARG
12	G	290	LYS
12	G	304	ARG
12	G	329	LYS
12	G	377	ARG
13	G1	27	ARG
13	G1	260	ARG
13	G2	27	ARG
13	G2	260	ARG
13	G3	27	ARG
13	G3	145	GLN
13	G3	260	ARG
13	G3	378	LYS
13	G3	465	LYS
14	G4	100	ARG
14	G4	211	ARG
14	G4	379	LYS
14	G4	415	ARG

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Mol	Chain	Res	Type
14	G4	666	ARG
14	G5	100	ARG
14	G5	201	ARG
14	G5	211	ARG
14	G6	100	ARG
14	G6	211	ARG
14	G6	281	ARG
14	G6	483	ARG
4	GA	84	ARG
4	GA	124	LYS
4	GA	214	ARG
4	GA	229	ARG
4	GA	243	ARG
4	GA	339	ARG
4	GA	402	ARG
3	GB	323	MET
3	GB	392	LYS
4	GC	84	ARG
4	GC	214	ARG
4	GC	264	ARG
4	GC	339	ARG
4	GC	402	ARG
3	GD	262	ARG
3	GD	379	LYS
4	GE	84	ARG
4	GE	214	ARG
4	GE	229	ARG
4	GE	339	ARG
4	GE	402	ARG
3	GF	392	LYS
4	GG	84	ARG
4	GG	214	ARG
4	GG	264	ARG
4	GG	339	ARG
4	GG	402	ARG
4	GI	84	ARG
4	GI	214	ARG
4	GI	229	ARG
4	GI	243	ARG
4	GI	264	ARG
4	GI	339	ARG
4	GI	402	ARG

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Mol	Chain	Res	Type
3	GJ	392	LYS
4	GK	84	ARG
4	GK	214	ARG
4	GK	339	ARG
4	GK	402	ARG
4	GK	430	LYS
3	GL	390	ARG
3	GL	426	GLN
15	H1	215	ARG
15	H2	215	ARG
15	H3	215	ARG
15	H4	215	ARG
15	H5	28	ARG
15	H5	251	GLN
15	H6	306	ARG
4	HA	214	ARG
4	HA	300	ASN
3	HB	392	LYS
4	HC	40	LYS
4	HC	84	ARG
4	HC	214	ARG
4	HC	264	ARG
4	HC	339	ARG
3	HD	262	ARG
3	HD	323	MET
4	HE	84	ARG
4	HE	214	ARG
4	HE	229	ARG
4	HE	264	ARG
4	HE	339	ARG
4	HE	402	ARG
3	HF	262	ARG
4	HG	84	ARG
4	HG	214	ARG
4	HG	339	ARG
4	HI	84	ARG
4	HI	214	ARG
4	HI	422	ARG
3	HJ	262	ARG
4	HK	84	ARG
4	HK	214	ARG
4	HK	229	ARG

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Mol	Chain	Res	Type
4	HK	308	ARG
4	HK	339	ARG
4	HK	402	ARG
3	HL	392	LYS
16	I	184	ARG
4	IA	84	ARG
4	IA	214	ARG
4	IA	339	ARG
4	IA	402	ARG
3	IB	323	MET
3	IB	370	ASN
3	IB	392	LYS
4	IC	84	ARG
4	IC	214	ARG
4	IC	229	ARG
4	IC	264	ARG
4	IC	339	ARG
3	ID	323	MET
4	IE	84	ARG
4	IE	214	ARG
4	IE	229	ARG
4	IE	339	ARG
4	IE	402	ARG
3	IF	379	LYS
4	IG	84	ARG
4	IG	214	ARG
4	IG	264	ARG
4	IG	339	ARG
4	II	84	ARG
4	II	214	ARG
4	II	339	ARG
3	IJ	323	MET
4	IK	84	ARG
4	IK	214	ARG
4	IK	264	ARG
4	IK	339	ARG
4	IM	84	ARG
4	IM	124	LYS
4	IM	214	ARG
4	IM	339	ARG
4	IM	402	ARG
18	J	82	LYS

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Mol	Chain	Res	Type
18	J	130	LYS
19	J1	111	ARG
19	J2	111	ARG
19	J2	181	LYS
19	J3	111	ARG
4	JA	84	ARG
4	JA	214	ARG
4	JA	229	ARG
4	JA	264	ARG
4	JA	339	ARG
4	JA	402	ARG
3	JB	323	MET
3	JB	392	LYS
4	JC	84	ARG
4	JC	123	ARG
4	JC	214	ARG
4	JC	229	ARG
4	JC	264	ARG
4	JC	402	ARG
3	JD	392	LYS
4	JE	84	ARG
4	JE	214	ARG
4	JE	229	ARG
4	JE	264	ARG
4	JE	339	ARG
4	JE	402	ARG
3	JF	323	MET
4	JG	84	ARG
4	JG	214	ARG
4	JG	229	ARG
4	JG	339	ARG
4	JG	402	ARG
3	JH	392	LYS
4	JI	84	ARG
4	JI	214	ARG
4	JI	229	ARG
4	JI	264	ARG
4	JI	339	ARG
4	JI	402	ARG
3	JJ	323	MET
4	JK	84	ARG
4	JK	214	ARG

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Mol	Chain	Res	Type
4	JK	229	ARG
4	JK	402	ARG
3	JL	323	MET
3	JL	392	LYS
20	K	110	ILE
21	K1	384	LYS
21	K1	426	ASN
21	K2	22	ARG
21	K2	99	LYS
21	K3	99	LYS
21	K3	108	ARG
21	K3	131	ARG
21	K3	163	ARG
21	K3	393	LEU
21	K4	99	LYS
21	K4	131	ARG
21	K4	464	ARG
4	KA	84	ARG
4	KA	123	ARG
4	KA	214	ARG
4	KA	402	ARG
3	KB	390	ARG
3	KB	392	LYS
4	KC	84	ARG
4	KC	214	ARG
4	KC	339	ARG
4	KC	402	ARG
3	KD	392	LYS
4	KE	84	ARG
4	KE	214	ARG
4	KE	402	ARG
3	KF	379	LYS
3	KF	392	LYS
4	KG	84	ARG
4	KG	214	ARG
4	KG	229	ARG
4	KG	264	ARG
4	KG	339	ARG
4	KG	402	ARG
4	KI	84	ARG
4	KI	214	ARG
4	KI	402	ARG

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Mol	Chain	Res	Type
3	KJ	392	LYS
4	KK	84	ARG
4	KK	214	ARG
4	KK	233	GLN
4	KK	264	ARG
4	KK	339	ARG
4	KK	402	ARG
3	KL	323	MET
22	L1	70	LYS
22	L1	202	LYS
22	L2	77	LYS
22	L2	235	LYS
22	L3	41	LYS
22	L3	70	LYS
22	L3	91	ARG
22	L3	160	LYS
22	L3	235	LYS
22	L4	70	LYS
4	LA	84	ARG
4	LA	123	ARG
4	LA	214	ARG
4	LA	229	ARG
4	LA	339	ARG
4	LA	402	ARG
3	LB	392	LYS
4	LC	84	ARG
4	LC	124	LYS
4	LC	214	ARG
4	LC	229	ARG
4	LC	264	ARG
4	LC	339	ARG
4	LC	402	ARG
3	LD	392	LYS
4	LE	84	ARG
4	LE	214	ARG
4	LE	229	ARG
4	LE	402	ARG
3	LF	251	ARG
3	LF	392	LYS
4	LG	84	ARG
4	LG	124	LYS
4	LG	214	ARG

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Mol	Chain	Res	Type
4	LG	229	ARG
4	LG	264	ARG
4	LG	339	ARG
3	LH	262	ARG
3	LH	392	LYS
4	LI	84	ARG
4	LI	214	ARG
4	LI	229	ARG
4	LI	339	ARG
4	LI	402	ARG
3	LJ	392	LYS
4	LK	84	ARG
4	LK	124	LYS
4	LK	214	ARG
4	LK	229	ARG
4	LK	264	ARG
4	LK	402	ARG
3	LL	392	LYS
3	MB	103	LYS
3	MB	392	LYS
4	MC	84	ARG
4	MC	214	ARG
4	MC	229	ARG
4	MC	243	ARG
4	MC	264	ARG
4	MC	339	ARG
4	MC	402	ARG
3	MD	262	ARG
3	MD	392	LYS
4	ME	84	ARG
4	ME	214	ARG
4	ME	229	ARG
4	ME	264	ARG
4	ME	339	ARG
4	ME	402	ARG
3	MF	392	LYS
4	MG	84	ARG
4	MG	214	ARG
4	MG	229	ARG
4	MG	339	ARG
4	MG	402	ARG
3	MH	262	ARG

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Mol	Chain	Res	Type
3	MH	323	MET
3	MH	392	LYS
4	MI	84	ARG
4	MI	214	ARG
4	MI	229	ARG
4	MI	339	ARG
4	MI	402	ARG
3	MJ	262	ARG
3	MJ	392	LYS
4	MK	84	ARG
4	MK	214	ARG
4	MK	264	ARG
4	MK	402	ARG
3	ML	323	MET
3	ML	392	LYS
4	MM	84	ARG
4	MM	214	ARG
4	MM	339	ARG
4	MM	402	ARG
26	N1	68	LYS
26	N2	68	LYS
26	N4	68	LYS
4	NA	84	ARG
4	NA	214	ARG
4	NA	229	ARG
4	NA	264	ARG
4	NA	339	ARG
4	NA	402	ARG
3	NB	392	LYS
4	NC	84	ARG
4	NC	214	ARG
4	NC	226	ASN
4	NC	229	ARG
3	ND	392	LYS
4	NE	84	ARG
4	NE	214	ARG
4	NE	229	ARG
4	NE	339	ARG
4	NE	402	ARG
3	NF	392	LYS
4	NG	84	ARG
4	NG	214	ARG

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Mol	Chain	Res	Type
4	NG	229	ARG
4	NG	339	ARG
4	NG	402	ARG
3	NH	392	LYS
4	NI	84	ARG
4	NI	214	ARG
4	NI	229	ARG
4	NI	339	ARG
4	NI	402	ARG
3	NJ	2	ARG
3	NJ	392	LYS
4	NK	84	ARG
4	NK	214	ARG
3	NL	323	MET
3	NL	392	LYS
27	O	33	ARG
28	O1	29	LYS
28	O2	26	ARG
28	O2	29	LYS
28	O3	29	LYS
4	OA	84	ARG
4	OA	214	ARG
4	OA	229	ARG
4	OA	264	ARG
4	OA	339	ARG
4	OA	402	ARG
3	OB	323	MET
3	OB	392	LYS
4	OC	84	ARG
4	OC	214	ARG
4	OC	229	ARG
4	OC	339	ARG
4	OC	402	ARG
4	OC	430	LYS
4	OE	84	ARG
4	OE	214	ARG
4	OE	229	ARG
4	OE	264	ARG
3	OF	323	MET
3	OF	392	LYS
4	OG	40	LYS
4	OG	84	ARG

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Mol	Chain	Res	Type
4	OG	214	ARG
4	OG	229	ARG
4	OG	339	ARG
4	OI	84	ARG
4	OI	229	ARG
4	OI	339	ARG
4	OI	430	LYS
4	OK	84	ARG
4	OK	214	ARG
4	OK	229	ARG
4	OK	264	ARG
4	OK	339	ARG
3	OL	321	MET
27	P	49	ARG
27	P	218	LYS
27	P	313	ARG
27	P	353	LYS
29	P1	369	ARG
29	P2	192	ARG
29	P2	205	LYS
29	P2	323	LYS
29	P2	369	ARG
29	P3	369	ARG
29	P3	565	HIS
4	PA	84	ARG
4	PA	214	ARG
4	PA	229	ARG
4	PA	264	ARG
4	PA	339	ARG
4	PA	402	ARG
3	PB	2	ARG
3	PB	262	ARG
3	PB	323	MET
3	PB	392	LYS
4	PC	84	ARG
4	PC	214	ARG
4	PC	229	ARG
4	PC	339	ARG
4	PC	402	ARG
4	PE	84	ARG
4	PE	214	ARG
4	PE	229	ARG

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Mol	Chain	Res	Type
4	PE	339	ARG
3	PF	262	ARG
3	PF	392	LYS
4	PG	84	ARG
4	PG	214	ARG
4	PG	229	ARG
4	PG	339	ARG
4	PG	402	ARG
3	PH	156	ARG
3	PH	262	ARG
3	PH	392	LYS
4	PI	105	ARG
4	PI	214	ARG
4	PI	229	ARG
4	PI	264	ARG
4	PI	339	ARG
3	PJ	321	MET
3	PJ	392	LYS
4	PK	84	ARG
4	PK	214	ARG
4	PK	229	ARG
4	PK	339	ARG
3	PL	323	MET
3	PL	391	ARG
3	PL	392	LYS
4	PM	84	ARG
4	PM	214	ARG
4	PM	229	ARG
4	PM	339	ARG
4	PM	402	ARG
27	Q	33	ARG
30	Q1	1452	ARG
30	Q1	1479	ARG
30	Q2	1452	ARG
30	Q2	1479	ARG
30	Q3	1452	ARG
30	Q3	1479	ARG
3	QB	241	ARG
3	QB	323	MET
3	QB	392	LYS
4	QC	214	ARG
4	QC	229	ARG

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Mol	Chain	Res	Type
4	QC	264	ARG
4	QC	402	ARG
4	QC	430	LYS
3	QD	103	LYS
3	QD	392	LYS
4	QE	84	ARG
4	QE	214	ARG
4	QE	229	ARG
3	QF	262	ARG
3	QF	391	ARG
3	QF	392	LYS
4	QG	40	LYS
4	QG	84	ARG
4	QG	214	ARG
4	QG	229	ARG
4	QG	264	ARG
4	QG	339	ARG
3	QH	262	ARG
3	QH	323	MET
3	QH	392	LYS
4	QI	84	ARG
4	QI	214	ARG
4	QI	229	ARG
4	QI	339	ARG
4	QI	402	ARG
3	QJ	300	MET
3	QJ	392	LYS
4	QK	214	ARG
4	QK	229	ARG
4	QK	402	ARG
3	QL	121	ARG
3	QL	392	LYS
4	QM	214	ARG
4	QM	229	ARG
4	QM	339	ARG
27	R	158	GLN
27	R	278	ARG
27	R	312	ARG
27	R	316	LYS
27	R	353	LYS
31	R1	148	ARG
31	R2	125	ARG

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Mol	Chain	Res	Type
31	R2	148	ARG
31	R3	262	LYS
3	RB	392	LYS
4	RC	84	ARG
4	RC	229	ARG
3	RD	323	MET
3	RD	392	LYS
4	RE	84	ARG
4	RE	214	ARG
4	RE	229	ARG
4	RE	264	ARG
4	RE	339	ARG
3	RF	262	ARG
3	RF	323	MET
3	RF	392	LYS
4	RG	84	ARG
4	RG	214	ARG
4	RG	229	ARG
4	RG	264	ARG
4	RG	402	ARG
3	RH	103	LYS
3	RH	370	ASN
4	RI	40	LYS
4	RI	84	ARG
4	RI	156	ARG
4	RI	214	ARG
4	RI	229	ARG
4	RI	264	ARG
4	RI	339	ARG
4	RI	402	ARG
3	RJ	323	MET
3	RJ	391	ARG
3	RJ	392	LYS
4	RK	84	ARG
4	RK	214	ARG
4	RK	229	ARG
4	RK	264	ARG
3	RL	262	ARG
3	RL	392	LYS
4	RM	84	ARG
4	RM	214	ARG
4	RM	229	ARG

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Mol	Chain	Res	Type
4	RM	339	ARG
3	SB	252	LYS
3	SB	262	ARG
3	SB	300	MET
4	SC	84	ARG
4	SC	214	ARG
4	SC	229	ARG
4	SC	264	ARG
4	SC	339	ARG
3	SD	103	LYS
3	SD	262	ARG
3	SD	300	MET
4	SE	84	ARG
4	SE	214	ARG
4	SE	229	ARG
4	SE	264	ARG
3	SF	392	LYS
4	SG	84	ARG
4	SG	214	ARG
4	SG	229	ARG
4	SG	264	ARG
3	SH	103	LYS
3	SH	370	ASN
4	SI	84	ARG
4	SI	229	ARG
4	SI	339	ARG
4	SI	402	ARG
3	SJ	392	LYS
4	SK	84	ARG
4	SK	214	ARG
4	SK	226	ASN
4	SK	229	ARG
4	SK	339	ARG
3	SL	392	LYS
3	SL	426	GLN
4	SM	84	ARG
4	SM	214	ARG
4	SM	229	ARG
4	SM	339	ARG
32	T	324	ARG
32	T	372	ARG
3	TB	73	MET

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Mol	Chain	Res	Type
3	TB	323	MET
3	TB	392	LYS
4	TC	84	ARG
4	TC	214	ARG
4	TC	229	ARG
4	TC	339	ARG
3	TD	103	LYS
3	TD	392	LYS
4	TE	84	ARG
4	TE	214	ARG
4	TE	229	ARG
4	TE	264	ARG
4	TE	339	ARG
3	TF	370	ASN
3	TF	392	LYS
4	TG	84	ARG
4	TG	229	ARG
4	TG	339	ARG
4	TG	402	ARG
3	TH	46	ARG
3	TH	370	ASN
3	TH	392	LYS
4	TI	84	ARG
4	TI	214	ARG
4	TI	226	ASN
4	TI	229	ARG
4	TI	339	ARG
4	TI	402	ARG
3	TJ	323	MET
3	TJ	379	LYS
3	TJ	392	LYS
4	TK	84	ARG
4	TK	214	ARG
4	TK	229	ARG
4	TK	339	ARG
3	TL	2	ARG
3	TL	392	LYS
4	TM	84	ARG
4	TM	214	ARG
4	TM	229	ARG
4	TM	339	ARG
3	TN	392	LYS

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Mol	Chain	Res	Type
33	U	267	LYS
33	U	308	LYS
33	U	346	LYS
33	U	403	ARG
33	U	407	LYS
33	U	431	LYS
33	U	466	LYS
33	U	479	ARG
33	U	501	ARG
4	UA	84	ARG
4	UA	214	ARG
4	UA	229	ARG
4	UA	264	ARG
4	UA	339	ARG
4	UA	402	ARG
3	UB	392	LYS
4	UC	84	ARG
4	UC	214	ARG
4	UC	229	ARG
4	UC	264	ARG
4	UC	339	ARG
3	UD	262	ARG
3	UD	392	LYS
4	UE	84	ARG
4	UE	214	ARG
4	UE	229	ARG
4	UE	402	ARG
3	UF	122	LYS
4	UG	84	ARG
4	UG	214	ARG
4	UG	229	ARG
4	UG	264	ARG
3	UH	300	MET
3	UH	323	MET
3	UH	392	LYS
4	UI	84	ARG
4	UI	214	ARG
4	UI	229	ARG
4	UI	264	ARG
4	UI	402	ARG
3	UJ	392	LYS
4	UK	84	ARG

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Mol	Chain	Res	Type
4	UK	214	ARG
4	UK	229	ARG
4	UK	339	ARG
4	UK	402	ARG
3	UL	122	LYS
3	UL	300	MET
3	UL	318	ARG
3	UL	392	LYS
33	V	488	LYS
33	V	504	LYS
33	V	519	LYS
4	VA	84	ARG
4	VA	214	ARG
4	VA	229	ARG
4	VA	264	ARG
4	VC	84	ARG
4	VC	214	ARG
4	VC	229	ARG
4	VC	264	ARG
3	VD	318	ARG
3	VD	323	MET
3	VD	392	LYS
4	VE	84	ARG
4	VE	214	ARG
4	VE	229	ARG
4	VE	264	ARG
4	VE	339	ARG
3	VF	392	LYS
4	VG	84	ARG
4	VG	214	ARG
4	VG	229	ARG
4	VG	264	ARG
4	VG	339	ARG
3	VH	262	ARG
4	VI	84	ARG
4	VI	214	ARG
4	VI	229	ARG
4	VI	264	ARG
4	VI	402	ARG
3	VJ	262	ARG
3	VJ	392	LYS
4	VK	84	ARG

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Mol	Chain	Res	Type
4	VK	214	ARG
4	VK	229	ARG
4	VK	264	ARG
4	VK	339	ARG
4	VK	402	ARG
4	VK	430	LYS
3	VL	392	LYS
33	W	160	LYS
33	W	184	ARG
33	W	196	LYS
33	W	267	LYS
33	W	308	LYS
33	W	324	ARG
33	W	326	LYS
4	WA	84	ARG
4	WA	214	ARG
4	WA	229	ARG
4	WA	264	ARG
4	WA	339	ARG
4	WA	402	ARG
3	WB	392	LYS
4	WC	84	ARG
4	WC	214	ARG
4	WC	229	ARG
4	WC	264	ARG
3	WD	262	ARG
3	WD	323	MET
3	WD	392	LYS
4	WE	84	ARG
4	WE	214	ARG
4	WE	229	ARG
4	WE	264	ARG
4	WE	339	ARG
4	WE	402	ARG
4	WG	84	ARG
4	WG	214	ARG
4	WG	264	ARG
4	WG	339	ARG
3	WH	262	ARG
3	WH	392	LYS
4	WI	84	ARG
4	WI	214	ARG

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Mol	Chain	Res	Type
4	WI	229	ARG
4	WI	264	ARG
4	WI	320	ARG
4	WI	339	ARG
4	WI	402	ARG
3	WJ	370	ASN
3	WJ	392	LYS
4	WK	84	ARG
4	WK	123	ARG
4	WK	214	ARG
4	WK	229	ARG
4	WK	264	ARG
4	WK	402	ARG
3	WL	262	ARG
3	WL	323	MET
33	X	488	LYS
33	X	513	ARG
33	X	521	LYS
33	X	526	ARG
34	XA	36	ARG
34	XA	100	ARG
34	XB	36	ARG
34	XB	100	ARG
34	XB	124	ARG
34	XC	36	ARG
34	XC	100	ARG
34	XC	124	ARG
34	XD	36	ARG
34	XD	124	ARG
34	XE	36	ARG
34	XE	124	ARG
34	XF	36	ARG
34	XF	124	ARG
34	XG	36	ARG
34	XG	100	ARG
34	XG	124	ARG
35	XH	58	LYS
35	XH	146	ARG
35	XH	175	ARG
35	XH	199	GLN
35	XH	202	ARG
35	XI	58	LYS

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Mol	Chain	Res	Type
35	XI	175	ARG
35	XI	202	ARG
35	XJ	58	LYS
35	XJ	86	LYS
35	XJ	175	ARG
35	XJ	202	ARG
35	XK	175	ARG
35	XK	202	ARG
35	XL	58	LYS
35	XL	112	ARG
35	XL	175	ARG
35	XL	202	ARG
35	XM	175	ARG
36	Y	130	LYS
36	Y	203	ARG
37	YA	22	GLN
37	YA	39	LYS
37	YA	63	ARG
37	YB	9	ARG
37	YB	39	LYS
37	YB	63	ARG
37	YC	39	LYS
37	YC	63	ARG
37	YD	39	LYS
37	YD	63	ARG
37	YE	63	ARG
37	YF	39	LYS
37	YF	63	ARG
37	YG	39	LYS
37	YG	63	ARG
37	YH	39	LYS
37	YH	63	ARG
37	YI	39	LYS
37	YI	63	ARG
37	YJ	39	LYS
37	YJ	63	ARG
37	YJ	99	LYS
37	YK	39	LYS
37	YK	63	ARG
37	YL	9	ARG
37	YL	39	LYS
37	YL	63	ARG

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Mol	Chain	Res	Type
37	YM	5	LYS
37	YM	39	LYS
37	YM	63	ARG
37	YN	39	LYS
37	YN	63	ARG
37	YO	39	LYS
37	YP	63	ARG
37	YQ	39	LYS
37	YR	39	LYS
37	YR	63	ARG
37	YS	39	LYS
37	YS	63	ARG
37	YS	116	LYS
37	YT	22	GLN
37	YT	39	LYS
37	YT	63	ARG
37	YU	22	GLN
37	YU	39	LYS
37	YU	63	ARG
37	YV	39	LYS
37	YV	63	ARG
37	YW	39	LYS
37	YW	63	ARG
36	Z	308	LYS
38	a	43	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (939) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	279	GLN
2	A1	295	ASN
2	A1	357	GLN
2	A1	369	GLN
2	A2	30	GLN
2	A2	42	GLN
2	A2	234	ASN
2	A2	292	GLN
2	A2	295	ASN
2	A2	357	GLN
2	A3	30	GLN
2	A3	42	GLN
2	A3	234	ASN

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Mol	Chain	Res	Type
2	A3	357	GLN
2	A3	361	GLN
2	A4	30	GLN
2	A4	33	GLN
2	A4	56	GLN
3	AB	426	GLN
4	AC	8	HIS
4	AC	88	HIS
4	AG	61	HIS
4	AG	88	HIS
4	AG	283	HIS
4	AG	356	ASN
4	AG	393	HIS
3	AH	8	GLN
4	AI	88	HIS
4	AI	283	HIS
4	AI	285	GLN
3	AJ	6	HIS
3	AJ	8	GLN
3	AJ	11	GLN
3	AJ	256	ASN
3	AJ	426	GLN
4	AK	88	HIS
3	AL	8	GLN
4	AM	88	HIS
4	AM	139	HIS
4	AM	283	HIS
4	AM	356	ASN
4	AM	393	HIS
1	B	299	GLN
1	B	300	ASN
1	B	312	GLN
5	B1	315	HIS
5	B1	360	GLN
5	B2	36	HIS
5	B2	94	GLN
5	B2	152	GLN
5	B2	282	GLN
5	B3	94	GLN
5	B3	152	GLN
5	B3	171	GLN
5	B3	282	GLN

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Mol	Chain	Res	Type
5	B3	335	GLN
5	B4	40	GLN
5	B4	58	HIS
5	B4	217	GLN
5	B6	152	GLN
5	B6	171	GLN
5	B7	60	ASN
5	B7	152	GLN
5	B7	160	GLN
5	B7	361	ASN
5	B8	152	GLN
5	B8	170	GLN
5	B8	171	GLN
5	B8	360	GLN
3	BB	15	GLN
3	BB	426	GLN
4	BC	8	HIS
4	BC	88	HIS
4	BC	285	GLN
4	BC	393	HIS
3	BD	195	ASN
3	BD	426	GLN
4	BE	88	HIS
4	BE	393	HIS
3	BF	8	GLN
3	BF	14	ASN
3	BF	191	GLN
3	BF	426	GLN
4	BG	8	HIS
4	BG	88	HIS
4	BG	91	GLN
4	BG	393	HIS
3	BH	195	ASN
4	BI	8	HIS
4	BI	393	HIS
3	BJ	14	ASN
3	BJ	426	GLN
4	BK	88	HIS
4	BK	226	ASN
3	BL	426	GLN
4	BM	88	HIS
6	C	156	HIS

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Mol	Chain	Res	Type
6	C	222	ASN
6	C	299	ASN
6	C	370	GLN
7	C1	115	HIS
7	C1	144	GLN
7	C1	145	ASN
7	C2	108	GLN
7	C2	115	HIS
7	C4	129	GLN
7	C4	339	GLN
7	C4	417	GLN
7	C5	397	GLN
7	C5	432	GLN
7	C6	141	HIS
7	C6	327	ASN
7	C7	212	HIS
7	C7	457	HIS
7	C8	134	GLN
7	C9	230	GLN
7	C9	252	HIS
7	C9	370	GLN
7	C9	374	GLN
7	C9	417	GLN
7	C9	470	GLN
3	CB	8	GLN
3	CB	256	ASN
4	CC	88	HIS
4	CC	91	GLN
3	CD	6	HIS
3	CD	11	GLN
3	CD	195	ASN
4	CE	61	HIS
4	CE	88	HIS
4	CE	258	ASN
4	CE	285	GLN
3	CF	426	GLN
4	CG	88	HIS
4	CG	139	HIS
4	CG	285	GLN
4	CG	393	HIS
3	CH	426	GLN
4	CI	88	HIS

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Mol	Chain	Res	Type
4	CI	283	HIS
4	CI	393	HIS
3	CJ	11	GLN
3	CJ	43	GLN
3	CJ	99	ASN
3	CJ	426	GLN
4	CK	8	HIS
4	CK	88	HIS
4	CK	226	ASN
4	CK	283	HIS
4	CK	342	GLN
4	CK	393	HIS
3	CL	8	GLN
3	CL	426	GLN
4	CM	88	HIS
7	Ca	201	HIS
7	Ca	339	GLN
7	Ca	370	GLN
7	Cb	397	GLN
7	Cc	272	GLN
7	Cc	273	HIS
7	Cd	251	GLN
7	Cd	273	HIS
7	Cd	341	ASN
8	D2	134	GLN
8	D3	239	GLN
8	D4	239	GLN
8	D4	354	GLN
8	D4	400	GLN
8	D4	404	ASN
8	D8	118	GLN
8	D8	301	ASN
8	D9	157	GLN
8	D9	301	ASN
8	D9	400	GLN
8	D9	404	ASN
4	DA	176	GLN
4	DC	8	HIS
4	DC	88	HIS
4	DC	283	HIS
3	DD	8	GLN
3	DD	245	GLN

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Mol	Chain	Res	Type
4	DE	8	HIS
4	DE	88	HIS
4	DE	283	HIS
4	DE	393	HIS
3	DF	195	ASN
3	DF	247	ASN
3	DF	370	ASN
3	DF	426	GLN
4	DG	8	HIS
4	DG	88	HIS
4	DG	139	HIS
4	DG	285	GLN
3	DH	256	ASN
4	DI	8	HIS
4	DI	88	HIS
4	DI	139	HIS
4	DI	285	GLN
3	DJ	426	GLN
4	DK	176	GLN
4	DK	393	HIS
3	DL	195	ASN
8	Da	96	GLN
9	E	574	HIS
9	E	780	GLN
10	E1	25	HIS
10	E1	29	ASN
10	E3	185	GLN
4	EA	8	HIS
4	EA	283	HIS
4	EA	285	GLN
4	EC	285	GLN
3	ED	195	ASN
3	ED	245	GLN
4	EE	88	HIS
4	EE	393	HIS
4	EG	91	GLN
4	EG	283	HIS
4	EG	285	GLN
3	EH	43	GLN
3	EH	423	GLN
4	EI	88	HIS
4	EI	176	GLN

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Mol	Chain	Res	Type
4	EI	283	HIS
4	EI	285	GLN
3	EJ	226	ASN
3	EJ	247	ASN
3	EJ	424	GLN
3	EJ	426	GLN
4	EK	133	GLN
3	EL	28	HIS
3	EL	195	ASN
9	F	358	ASN
11	F1	197	ASN
11	F1	308	GLN
11	F1	442	GLN
11	F2	99	ASN
11	F2	105	ASN
11	F2	125	GLN
11	F2	335	GLN
11	F2	428	GLN
11	F3	99	ASN
11	F3	129	GLN
11	F3	132	HIS
11	F3	133	GLN
11	F3	167	ASN
11	F3	335	GLN
11	F3	393	GLN
11	F3	428	GLN
11	F4	129	GLN
11	F4	133	GLN
11	F4	144	GLN
11	F5	243	ASN
11	F5	308	GLN
11	F5	331	GLN
11	F5	340	ASN
11	F6	129	GLN
11	F6	141	ASN
11	F6	266	ASN
11	F7	129	GLN
11	F7	132	HIS
11	F7	133	GLN
11	F7	144	GLN
11	F8	393	GLN
11	F9	360	GLN

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Mol	Chain	Res	Type
4	FA	88	HIS
4	FA	91	GLN
4	FA	139	HIS
4	FA	283	HIS
4	FA	285	GLN
3	FB	280	GLN
3	FB	426	GLN
4	FC	8	HIS
4	FC	88	HIS
4	FC	393	HIS
3	FD	11	GLN
3	FD	195	ASN
3	FD	426	GLN
4	FE	283	HIS
3	FF	190	HIS
3	FF	195	ASN
3	FF	291	GLN
3	FF	426	GLN
4	FG	283	HIS
4	FG	285	GLN
3	FH	15	GLN
3	FH	28	HIS
3	FH	414	ASN
4	FI	35	GLN
4	FI	88	HIS
4	FI	283	HIS
3	FJ	15	GLN
3	FJ	190	HIS
3	FJ	195	ASN
3	FJ	426	GLN
4	FK	88	HIS
4	FK	285	GLN
3	FL	11	GLN
3	FL	426	GLN
11	Fa	208	HIS
11	Fb	125	GLN
11	Fb	185	ASN
11	Fb	226	GLN
11	Fb	313	ASN
11	Fb	340	ASN
11	Fb	442	GLN
11	Fc	102	GLN

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Mol	Chain	Res	Type
11	Fc	239	GLN
11	Fc	308	GLN
11	Fc	331	GLN
11	Fe	214	ASN
11	Fe	308	GLN
11	Ff	266	ASN
11	Ff	393	GLN
11	Fg	308	GLN
11	Fg	309	ASN
11	Fj	197	ASN
11	Fk	228	GLN
11	Fk	308	GLN
11	Fl	226	GLN
11	Fl	266	ASN
11	Fl	335	GLN
11	Fl	428	GLN
11	Fm	360	GLN
11	Fm	428	GLN
12	G	70	ASN
12	G	265	GLN
12	G	330	GLN
12	G	406	GLN
12	G	454	GLN
13	G1	145	GLN
13	G1	164	HIS
13	G2	164	HIS
13	G2	261	HIS
13	G2	396	ASN
13	G2	532	GLN
14	G4	25	HIS
14	G4	30	ASN
14	G4	297	GLN
14	G4	305	ASN
14	G5	24	GLN
14	G5	25	HIS
14	G5	30	ASN
14	G5	142	ASN
14	G5	564	GLN
14	G5	641	ASN
14	G6	25	HIS
14	G6	30	ASN
14	G6	297	GLN

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Mol	Chain	Res	Type
14	G6	305	ASN
4	GA	88	HIS
4	GA	283	HIS
4	GA	285	GLN
3	GB	11	GLN
3	GB	14	ASN
3	GB	195	ASN
3	GB	426	GLN
4	GC	8	HIS
4	GC	88	HIS
4	GC	283	HIS
4	GC	393	HIS
3	GD	195	ASN
4	GE	88	HIS
4	GE	228	ASN
4	GE	285	GLN
3	GF	195	ASN
3	GF	256	ASN
3	GF	423	GLN
4	GG	88	HIS
3	GH	11	GLN
3	GH	15	GLN
3	GH	195	ASN
3	GH	423	GLN
3	GH	426	GLN
4	GI	88	HIS
4	GI	283	HIS
4	GI	285	GLN
4	GK	88	HIS
4	GK	285	GLN
4	GK	356	ASN
4	GK	393	HIS
3	GL	14	ASN
3	GL	334	GLN
3	GL	423	GLN
15	H2	26	GLN
15	H3	26	GLN
15	H4	242	GLN
15	H4	295	ASN
15	H5	26	GLN
15	H5	295	ASN
15	H6	302	ASN

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Mol	Chain	Res	Type
15	H6	309	GLN
4	HA	88	HIS
4	HA	258	ASN
4	HA	283	HIS
3	HB	195	ASN
4	HC	8	HIS
4	HC	88	HIS
4	HC	283	HIS
4	HC	285	GLN
3	HD	43	GLN
3	HD	195	ASN
4	HE	8	HIS
4	HE	88	HIS
4	HE	283	HIS
4	HE	285	GLN
4	HE	393	HIS
3	HF	43	GLN
3	HF	256	ASN
3	HF	426	GLN
4	HG	88	HIS
4	HG	283	HIS
4	HI	88	HIS
4	HI	283	HIS
4	HI	285	GLN
4	HI	393	HIS
3	HJ	370	ASN
4	HK	283	HIS
4	HK	285	GLN
3	HL	11	GLN
3	HL	423	GLN
3	HL	426	GLN
17	I1	54	ASN
4	IA	8	HIS
3	IB	329	GLN
4	IC	283	HIS
3	ID	6	HIS
3	ID	195	ASN
4	IE	8	HIS
4	IE	283	HIS
4	IE	393	HIS
3	IF	8	GLN
3	IF	43	GLN

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Mol	Chain	Res	Type
3	IF	423	GLN
3	IF	426	GLN
4	IG	258	ASN
4	IG	393	HIS
3	IH	195	ASN
4	II	258	ASN
4	II	285	GLN
4	II	372	GLN
3	IJ	256	ASN
3	IJ	347	ASN
4	IK	283	HIS
4	IK	285	GLN
3	IL	11	GLN
3	IL	256	ASN
3	IL	426	GLN
4	IM	285	GLN
18	J	89	GLN
18	J	120	ASN
18	J	181	HIS
19	J3	66	GLN
19	J3	92	HIS
19	J3	177	ASN
4	JA	8	HIS
4	JA	88	HIS
4	JA	176	GLN
3	JB	195	ASN
3	JB	423	GLN
4	JC	8	HIS
4	JC	88	HIS
4	JC	258	ASN
4	JC	283	HIS
4	JC	301	GLN
4	JC	393	HIS
3	JD	226	ASN
3	JD	426	GLN
4	JE	88	HIS
4	JE	91	GLN
3	JF	256	ASN
3	JF	426	GLN
4	JG	88	HIS
4	JG	91	GLN
4	JG	228	ASN

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Mol	Chain	Res	Type
3	JH	334	GLN
3	JH	426	GLN
4	JI	8	HIS
4	JI	88	HIS
4	JI	285	GLN
4	JI	393	HIS
3	JJ	256	ASN
4	JK	88	HIS
4	JK	283	HIS
3	JL	195	ASN
20	K	74	ASN
21	K1	442	ASN
21	K2	120	GLN
21	K3	120	GLN
21	K3	386	ASN
21	K3	394	ASN
4	KA	8	HIS
4	KA	88	HIS
3	KB	195	ASN
3	KB	414	ASN
3	KB	426	GLN
4	KC	35	GLN
4	KC	226	ASN
4	KC	283	HIS
4	KC	356	ASN
3	KD	195	ASN
3	KD	426	GLN
3	KF	6	HIS
4	KG	8	HIS
4	KG	285	GLN
4	KG	356	ASN
4	KG	393	HIS
3	KH	426	GLN
4	KI	8	HIS
4	KI	283	HIS
4	KI	285	GLN
3	KJ	190	HIS
3	KJ	414	ASN
3	KJ	426	GLN
4	KK	8	HIS
4	KK	283	HIS
4	KK	356	ASN

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Mol	Chain	Res	Type
3	KL	8	GLN
3	KL	426	GLN
22	L2	109	ASN
22	L2	174	ASN
22	L3	109	ASN
4	LA	256	GLN
4	LA	285	GLN
3	LB	11	GLN
4	LC	35	GLN
4	LC	285	GLN
3	LD	15	GLN
3	LD	280	GLN
3	LD	426	GLN
3	LF	227	HIS
3	LF	426	GLN
4	LG	283	HIS
4	LG	356	ASN
3	LH	11	GLN
3	LH	14	ASN
3	LH	43	GLN
4	LI	8	HIS
4	LI	88	HIS
4	LI	283	HIS
3	LJ	6	HIS
3	LJ	195	ASN
4	LK	283	HIS
4	LK	285	GLN
4	LK	356	ASN
3	LL	195	ASN
3	LL	426	GLN
23	M	102	HIS
3	MB	28	HIS
3	MB	195	ASN
3	MB	256	ASN
3	MB	426	GLN
4	MC	88	HIS
4	MC	283	HIS
4	MC	356	ASN
3	MD	245	GLN
3	MD	307	HIS
3	MD	370	ASN
4	ME	88	HIS

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Mol	Chain	Res	Type
4	ME	258	ASN
4	ME	283	HIS
4	ME	285	GLN
4	ME	393	HIS
3	MF	8	GLN
3	MF	195	ASN
3	MF	256	ASN
4	MG	88	HIS
4	MG	285	GLN
4	MI	88	HIS
4	MI	283	HIS
4	MI	285	GLN
3	MJ	8	GLN
3	MJ	195	ASN
3	MJ	426	GLN
4	MK	88	HIS
4	MK	283	HIS
3	ML	6	HIS
3	ML	15	GLN
3	ML	426	GLN
4	MM	8	HIS
4	MM	88	HIS
4	MM	283	HIS
4	MM	285	GLN
26	N2	96	GLN
26	N4	96	GLN
26	N4	139	HIS
4	NA	8	HIS
4	NA	176	GLN
4	NA	285	GLN
4	NA	356	ASN
4	NA	393	HIS
3	NB	426	GLN
4	NC	226	ASN
4	NC	356	ASN
3	ND	15	GLN
4	NE	356	ASN
4	NE	393	HIS
3	NF	11	GLN
3	NF	256	ASN
4	NG	226	ASN
4	NG	393	HIS

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Mol	Chain	Res	Type
3	NH	426	GLN
4	NI	8	HIS
4	NI	356	ASN
4	NI	393	HIS
3	NJ	11	GLN
3	NJ	426	GLN
4	NK	88	HIS
4	NK	356	ASN
28	O1	9	GLN
28	O1	35	HIS
28	O2	35	HIS
28	O3	9	GLN
4	OA	356	ASN
3	OB	195	ASN
3	OB	426	GLN
4	OC	11	GLN
3	OD	195	ASN
3	OD	423	GLN
4	OE	8	HIS
4	OE	88	HIS
4	OE	393	HIS
3	OF	190	HIS
3	OF	195	ASN
3	OF	256	ASN
3	OF	414	ASN
4	OG	88	HIS
3	OH	423	GLN
4	OI	88	HIS
3	OJ	256	ASN
3	OJ	291	GLN
3	OJ	423	GLN
3	OJ	426	GLN
4	OK	88	HIS
4	OK	283	HIS
4	OK	356	ASN
4	OK	393	HIS
3	OL	291	GLN
29	P1	200	GLN
29	P3	200	GLN
29	P3	549	ASN
29	P3	565	HIS
4	PA	176	GLN

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Mol	Chain	Res	Type
4	PA	283	HIS
3	PB	195	ASN
3	PB	370	ASN
3	PB	426	GLN
4	PC	88	HIS
4	PC	283	HIS
4	PC	356	ASN
3	PD	15	GLN
3	PD	426	GLN
4	PE	283	HIS
4	PE	285	GLN
3	PF	15	GLN
3	PF	256	ASN
3	PF	292	GLN
3	PF	423	GLN
4	PG	11	GLN
4	PG	88	HIS
4	PG	283	HIS
4	PG	393	HIS
3	PH	245	GLN
3	PH	256	ASN
3	PH	423	GLN
3	PH	426	GLN
4	PI	8	HIS
4	PI	88	HIS
4	PI	283	HIS
4	PI	356	ASN
3	PJ	15	GLN
3	PJ	195	ASN
3	PJ	245	GLN
3	PJ	423	GLN
4	PK	11	GLN
4	PK	283	HIS
4	PK	356	ASN
3	PL	15	GLN
3	PL	426	GLN
4	PM	11	GLN
4	PM	88	HIS
27	Q	51	GLN
30	Q2	1444	GLN
30	Q3	1381	GLN
30	Q3	1390	ASN

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Mol	Chain	Res	Type
3	QB	426	GLN
4	QC	8	HIS
4	QC	283	HIS
3	QD	426	GLN
4	QE	88	HIS
3	QF	245	GLN
3	QF	256	ASN
3	QF	332	ASN
4	QG	283	HIS
4	QG	356	ASN
4	QI	283	HIS
3	QJ	423	GLN
4	QK	8	HIS
4	QK	88	HIS
4	QK	283	HIS
3	QL	8	GLN
4	QM	8	HIS
4	QM	11	GLN
4	QM	91	GLN
4	QM	393	HIS
31	R2	272	GLN
31	R3	272	GLN
3	RB	15	GLN
4	RC	8	HIS
4	RC	283	HIS
3	RD	137	HIS
3	RD	426	GLN
4	RE	8	HIS
3	RF	256	ASN
3	RF	426	GLN
4	RG	8	HIS
4	RG	88	HIS
4	RG	283	HIS
3	RH	6	HIS
3	RH	245	GLN
3	RH	307	HIS
3	RH	426	GLN
3	RJ	291	GLN
3	RJ	423	GLN
3	RJ	426	GLN
4	RK	8	HIS
4	RK	88	HIS

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Mol	Chain	Res	Type
4	RK	283	HIS
4	RK	285	GLN
4	RM	88	HIS
4	RM	285	GLN
4	RM	356	ASN
32	S	387	HIS
3	SB	11	GLN
3	SB	256	ASN
3	SB	375	GLN
3	SB	426	GLN
4	SC	88	HIS
3	SD	256	ASN
3	SD	426	GLN
4	SE	8	HIS
4	SE	285	GLN
3	SF	15	GLN
3	SF	423	GLN
4	SG	88	HIS
4	SG	283	HIS
3	SH	426	GLN
4	SI	8	HIS
4	SI	88	HIS
4	SI	283	HIS
3	SJ	11	GLN
3	SJ	195	ASN
3	SJ	424	GLN
4	SK	283	HIS
3	SL	11	GLN
3	SL	99	ASN
4	SM	283	HIS
32	T	344	HIS
3	TB	256	ASN
3	TB	426	GLN
4	TC	88	HIS
4	TC	283	HIS
4	TC	393	HIS
3	TD	11	GLN
3	TD	245	GLN
3	TD	426	GLN
4	TE	11	GLN
4	TE	88	HIS
4	TE	285	GLN

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Mol	Chain	Res	Type
3	TF	8	GLN
3	TF	14	ASN
3	TF	256	ASN
3	TF	423	GLN
3	TF	426	GLN
4	TG	8	HIS
4	TG	88	HIS
4	TG	258	ASN
4	TG	285	GLN
3	TH	256	ASN
4	TI	88	HIS
3	TJ	8	GLN
3	TJ	11	GLN
3	TJ	190	HIS
3	TJ	256	ASN
3	TJ	329	GLN
3	TJ	332	ASN
3	TJ	414	ASN
3	TJ	426	GLN
4	TK	8	HIS
4	TK	11	GLN
4	TK	88	HIS
4	TK	226	ASN
4	TK	283	HIS
4	TK	356	ASN
4	TK	393	HIS
3	TL	8	GLN
3	TL	14	ASN
3	TL	195	ASN
4	TM	88	HIS
4	TM	283	HIS
4	TM	285	GLN
3	TN	370	ASN
33	U	294	GLN
33	U	323	GLN
33	U	386	GLN
33	U	427	GLN
33	U	453	GLN
4	UA	88	HIS
4	UA	176	GLN
4	UA	285	GLN
4	UA	393	HIS

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Mol	Chain	Res	Type
3	UB	43	GLN
3	UB	256	ASN
4	UC	88	HIS
4	UC	356	ASN
4	UC	393	HIS
3	UD	43	GLN
3	UD	256	ASN
4	UE	8	HIS
4	UE	88	HIS
3	UF	195	ASN
4	UG	8	HIS
4	UG	88	HIS
4	UG	285	GLN
3	UH	43	GLN
3	UH	256	ASN
3	UH	416	ASN
3	UH	426	GLN
4	UI	8	HIS
4	UI	88	HIS
4	UI	283	HIS
4	UI	285	GLN
3	UJ	11	GLN
3	UJ	375	GLN
3	UJ	423	GLN
3	UJ	426	GLN
4	UK	35	GLN
4	UK	88	HIS
4	UK	285	GLN
4	UK	393	HIS
3	UL	43	GLN
3	UL	375	GLN
3	UL	426	GLN
4	VA	8	HIS
4	VA	88	HIS
4	VA	285	GLN
3	VB	291	GLN
3	VB	426	GLN
4	VC	88	HIS
4	VC	91	GLN
3	VD	245	GLN
3	VD	426	GLN
4	VE	8	HIS

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Mol	Chain	Res	Type
4	VE	88	HIS
4	VE	283	HIS
3	VF	15	GLN
3	VF	423	GLN
4	VG	88	HIS
4	VG	285	GLN
4	VG	356	ASN
3	VH	11	GLN
3	VH	195	ASN
3	VH	375	GLN
3	VH	426	GLN
4	VI	88	HIS
4	VI	285	GLN
4	VI	372	GLN
3	VJ	43	GLN
4	VK	88	HIS
4	VK	283	HIS
4	VK	356	ASN
33	W	322	ASN
33	W	323	GLN
4	WA	8	HIS
3	WB	15	GLN
3	WB	94	GLN
3	WB	195	ASN
3	WB	256	ASN
3	WB	291	GLN
3	WB	370	ASN
3	WB	423	GLN
3	WB	426	GLN
4	WC	283	HIS
4	WC	285	GLN
3	WD	426	GLN
4	WE	356	ASN
3	WF	256	ASN
4	WG	285	GLN
3	WH	8	GLN
3	WH	423	GLN
3	WH	426	GLN
4	WI	8	HIS
3	WJ	195	ASN
3	WJ	423	GLN
3	WJ	426	GLN

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Mol	Chain	Res	Type
4	WK	283	HIS
4	WK	356	ASN
3	WL	37	HIS
3	WL	195	ASN
34	XA	7	GLN
34	XA	155	GLN
34	XA	157	HIS
34	XB	33	HIS
34	XC	82	ASN
34	XD	82	ASN
34	XD	107	ASN
34	XE	155	GLN
34	XF	82	ASN
35	XH	210	GLN
35	XI	210	GLN
35	XJ	199	GLN
35	XJ	210	GLN
35	XK	158	HIS
35	XK	199	GLN
35	XK	210	GLN
35	XL	158	HIS
35	XL	210	GLN
35	XM	210	GLN
36	Y	141	HIS
36	Y	182	GLN
37	YA	20	GLN
37	YA	165	HIS
37	YB	21	GLN
37	YB	59	ASN
37	YB	165	HIS
37	YF	154	HIS
37	YH	22	GLN
37	YJ	20	GLN
37	YJ	119	HIS
37	YK	22	GLN
37	YM	154	HIS
37	YO	165	HIS
37	YP	13	GLN
37	YR	21	GLN
37	YT	20	GLN
37	YT	22	GLN
37	YT	82	HIS

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Mol	Chain	Res	Type
37	YV	165	HIS
36	Z	365	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

279 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	DB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	MB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	CI	501	4	26,34,34	1.04	2 (7%)	32,54,54	1.56	6 (18%)
39	GTP	DG	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.51	6 (18%)
39	GTP	AD	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	FI	501	3,4	26,34,34	1.02	1 (3%)	32,54,54	1.55	7 (21%)
39	GTP	HE	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.66	9 (28%)
39	GTP	IM	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.64	8 (25%)
39	GTP	RD	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.46	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	UL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	HK	501	3,4	26,34,34	1.02	2 (7%)	32,54,54	1.53	8 (25%)
39	GTP	PJ	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	QF	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.54	8 (25%)
39	GTP	RI	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	NI	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.65	8 (25%)
39	GTP	NC	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	NK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.46	6 (18%)
39	GTP	DE	501	3,4	26,34,34	1.02	1 (3%)	32,54,54	1.58	7 (21%)
39	GTP	FA	501	4	26,34,34	1.04	1 (3%)	32,54,54	1.45	7 (21%)
39	GTP	DH	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	PI	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	VD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	CL	501	3	26,34,34	1.52	3 (11%)	32,54,54	2.44	11 (34%)
39	GTP	IF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.47	8 (25%)
39	GTP	TG	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	CK	501	3,4	26,34,34	1.08	1 (3%)	32,54,54	1.68	9 (28%)
39	GTP	QL	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	TK	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.43	5 (15%)
39	GTP	HA	501	4	26,34,34	1.01	1 (3%)	32,54,54	1.47	5 (15%)
39	GTP	TN	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	JB	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.54	7 (21%)
39	GTP	RH	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	MM	501	3,4	26,34,34	0.98	2 (7%)	32,54,54	1.70	6 (18%)
39	GTP	UD	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	UE	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.56	8 (25%)
39	GTP	PK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.48	5 (15%)
39	GTP	JI	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.44	7 (21%)
39	GTP	BD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.40	7 (21%)
39	GTP	SG	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.51	5 (15%)
39	GTP	PH	501	3	26,34,34	1.22	2 (7%)	32,54,54	1.45	8 (25%)
39	GTP	IA	501	4	26,34,34	1.03	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	WH	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.57	8 (25%)
39	GTP	CE	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.54	8 (25%)
39	GTP	VL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	SI	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.48	5 (15%)
39	GTP	GK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.57	8 (25%)
39	GTP	WC	501	3,4	26,34,34	1.02	2 (7%)	32,54,54	1.50	6 (18%)
39	GTP	RB	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.41	4 (12%)
39	GTP	HB	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.54	7 (21%)
39	GTP	WI	501	3,4	26,34,34	0.99	2 (7%)	32,54,54	1.69	8 (25%)
39	GTP	HG	501	3,4	26,34,34	1.16	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	AC	501	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.52	6 (18%)
39	GTP	DI	501	3,4	26,34,34	0.94	1 (3%)	32,54,54	1.85	7 (21%)
39	GTP	OG	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	LF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	VJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	OA	501	4	26,34,34	0.98	2 (7%)	32,54,54	1.65	8 (25%)
39	GTP	AK	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.45	5 (15%)
39	GTP	WB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	GA	501	4	26,34,34	1.08	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	OL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	LB	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	VE	501	3,4	26,34,34	1.14	3 (11%)	32,54,54	1.81	9 (28%)
39	GTP	JF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.42	6 (18%)
39	GTP	CH	501	3	26,34,34	1.23	2 (7%)	32,54,54	1.44	5 (15%)
39	GTP	CF	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	IC	501	3,4	26,34,34	0.96	1 (3%)	32,54,54	1.79	7 (21%)
39	GTP	UJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	JJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	CG	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.58	6 (18%)
39	GTP	IB	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	OH	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	LG	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.50	6 (18%)
39	GTP	KE	501	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	DD	501	3	26,34,34	1.25	2 (7%)	32,54,54	1.54	5 (15%)
39	GTP	DF	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.52	8 (25%)
39	GTP	JL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	VF	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.37	6 (18%)
39	GTP	JG	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.59	5 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	KB	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.53	6 (18%)
39	GTP	JH	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.45	7 (21%)
39	GTP	EH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	IK	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.57	7 (21%)
39	GTP	CC	501	4	26,34,34	1.07	1 (3%)	32,54,54	1.40	5 (15%)
39	GTP	PC	501	3,4	26,34,34	1.08	1 (3%)	32,54,54	1.51	5 (15%)
39	GTP	RJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.42	6 (18%)
39	GTP	BB	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	DK	501	3,4	26,34,34	1.14	1 (3%)	32,54,54	1.65	9 (28%)
39	GTP	GF	501	3	26,34,34	1.18	2 (7%)	32,54,54	1.51	9 (28%)
39	GTP	BF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)
39	GTP	ID	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	FD	501	3	26,34,34	1.21	2 (7%)	32,54,54	1.61	8 (25%)
39	GTP	QD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.61	6 (18%)
39	GTP	GB	501	3	26,34,34	1.37	2 (7%)	32,54,54	1.53	6 (18%)
39	GTP	SL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	AI	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.49	7 (21%)
39	GTP	CB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	BL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	QL	502	3,4	26,34,34	1.08	2 (7%)	32,54,54	1.43	4 (12%)
39	GTP	KK	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.48	6 (18%)
39	GTP	AH	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	BM	501	3,4	26,34,34	1.17	1 (3%)	32,54,54	1.86	10 (31%)
39	GTP	QK	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.38	6 (18%)
39	GTP	TJ	501	3	26,34,34	1.45	3 (11%)	32,54,54	1.67	6 (18%)
39	GTP	NB	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	GD	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	QI	501	3,4	26,34,34	1.00	1 (3%)	32,54,54	1.89	7 (21%)
39	GTP	QJ	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	MJ	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.39	6 (18%)
39	GTP	HL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	RF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	RL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	LH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	PD	501	3	26,34,34	1.29	3 (11%)	32,54,54	1.64	8 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	BC	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	AF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	BE	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.49	6 (18%)
39	GTP	AE	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.48	6 (18%)
39	GTP	PA	501	4	26,34,34	0.99	2 (7%)	32,54,54	1.66	7 (21%)
39	GTP	AB	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.45	7 (21%)
39	GTP	TF	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	FF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.46	8 (25%)
39	GTP	VH	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	DJ	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.55	8 (25%)
39	GTP	MK	501	3,4	26,34,34	1.13	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	OC	501	3,4	26,34,34	0.97	2 (7%)	32,54,54	1.62	5 (15%)
39	GTP	RC	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.55	6 (18%)
39	GTP	VG	501	3,4	26,34,34	1.08	1 (3%)	32,54,54	1.56	9 (28%)
39	GTP	TM	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.47	6 (18%)
39	GTP	NE	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.54	6 (18%)
39	GTP	NL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.33	5 (15%)
39	GTP	QB	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	UI	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.94	7 (21%)
39	GTP	FG	501	3,4	26,34,34	1.02	1 (3%)	32,54,54	1.57	7 (21%)
39	GTP	WG	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.50	6 (18%)
39	GTP	MC	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.47	5 (15%)
39	GTP	II	501	3,4	26,34,34	0.97	1 (3%)	32,54,54	1.77	8 (25%)
39	GTP	VB	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)
39	GTP	LC	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.48	7 (21%)
39	GTP	KI	501	3,4	26,34,34	0.97	2 (7%)	32,54,54	1.79	7 (21%)
39	GTP	AL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.42	8 (25%)
39	GTP	SD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	6 (18%)
39	GTP	SB	501	3	26,34,34	1.28	2 (7%)	32,54,54	1.61	8 (25%)
39	GTP	EC	501	3,4	26,34,34	1.14	2 (7%)	32,54,54	1.64	6 (18%)
39	GTP	JD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	SE	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.41	5 (15%)
39	GTP	GC	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.32	5 (15%)
39	GTP	CM	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.57	6 (18%)
39	GTP	MH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	DA	501	4	26,34,34	1.05	2 (7%)	32,54,54	1.48	6 (18%)
39	GTP	FE	501	4	26,34,34	1.05	2 (7%)	32,54,54	1.46	5 (15%)
39	GTP	RK	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.77	10 (31%)
39	GTP	JE	501	3,4	26,34,34	0.99	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	DC	501	3,4	26,34,34	0.97	1 (3%)	32,54,54	1.45	7 (21%)
39	GTP	HD	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.54	8 (25%)
39	GTP	IL	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	KA	501	4	26,34,34	1.09	2 (7%)	32,54,54	1.53	9 (28%)
39	GTP	OK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.80	8 (25%)
39	GTP	RE	501	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	GE	501	4	26,34,34	0.97	1 (3%)	32,54,54	1.57	6 (18%)
39	GTP	SJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	KH	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.57	11 (34%)
39	GTP	WJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	WK	501	4	26,34,34	1.01	1 (3%)	32,54,54	1.47	6 (18%)
39	GTP	BH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	HF	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.38	6 (18%)
39	GTP	TB	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	IJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.48	8 (25%)
39	GTP	KL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	TC	501	3,4	26,34,34	1.10	1 (3%)	32,54,54	1.51	7 (21%)
39	GTP	TI	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.65	7 (21%)
39	GTP	BI	501	3,4	26,34,34	0.94	1 (3%)	32,54,54	1.82	7 (21%)
39	GTP	MG	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.46	6 (18%)
39	GTP	SF	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.52	6 (18%)
39	GTP	NH	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	LL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.45	7 (21%)
39	GTP	QD	502	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.46	6 (18%)
39	GTP	WD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	8 (25%)
39	GTP	NA	501	4	26,34,34	1.00	2 (7%)	32,54,54	1.59	8 (25%)
39	GTP	EB	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.50	8 (25%)
39	GTP	ML	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.52	8 (25%)
39	GTP	EE	501	4	26,34,34	1.04	1 (3%)	32,54,54	1.66	6 (18%)
39	GTP	RM	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.50	6 (18%)
39	GTP	LI	501	3,4	26,34,34	0.98	2 (7%)	32,54,54	1.70	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	WF	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.49	8 (25%)
39	GTP	OF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	HC	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.67	9 (28%)
39	GTP	LK	501	3,4	26,34,34	1.12	2 (7%)	32,54,54	1.42	5 (15%)
39	GTP	VI	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.60	7 (21%)
39	GTP	NJ	501	3	26,34,34	1.21	2 (7%)	32,54,54	1.57	8 (25%)
39	GTP	KC	501	3,4	26,34,34	1.09	2 (7%)	32,54,54	1.45	6 (18%)
39	GTP	CD	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	HI	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.54	8 (25%)
39	GTP	KG	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	UB	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	UH	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	OI	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	GG	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.53	7 (21%)
39	GTP	EK	501	4	26,34,34	1.00	1 (3%)	32,54,54	1.54	6 (18%)
39	GTP	PM	501	3,4	26,34,34	1.07	2 (7%)	32,54,54	1.66	7 (21%)
39	GTP	RG	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.51	6 (18%)
39	GTP	IE	501	3,4	26,34,34	0.96	2 (7%)	32,54,54	1.72	7 (21%)
39	GTP	GJ	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.51	8 (25%)
39	GTP	VA	501	4	26,34,34	1.04	2 (7%)	32,54,54	1.40	7 (21%)
39	GTP	TH	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	SH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	CJ	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.56	7 (21%)
39	GTP	WL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.42	7 (21%)
39	GTP	KJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	EG	501	3,4	26,34,34	0.97	2 (7%)	32,54,54	1.80	6 (18%)
39	GTP	LA	501	4	26,34,34	0.99	2 (7%)	32,54,54	1.63	7 (21%)
39	GTP	AG	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.54	7 (21%)
39	GTP	FC	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.47	7 (21%)
39	GTP	NG	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.59	7 (21%)
39	GTP	KD	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	EF	501	3	26,34,34	1.22	2 (7%)	32,54,54	1.50	8 (25%)
39	GTP	FJ	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.44	5 (15%)
39	GTP	OE	501	3,4	26,34,34	0.96	1 (3%)	32,54,54	1.62	6 (18%)
39	GTP	AJ	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.55	8 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	FK	501	4	26,34,34	1.02	1 (3%)	32,54,54	1.55	8 (25%)
39	GTP	GI	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.44	4 (12%)
39	GTP	IH	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	9 (28%)
39	GTP	PG	501	3,4	26,34,34	1.07	2 (7%)	32,54,54	1.47	6 (18%)
39	GTP	OJ	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	TL	501	3	26,34,34	1.66	2 (7%)	32,54,54	1.65	6 (18%)
39	GTP	UC	501	3,4	26,34,34	1.10	2 (7%)	32,54,54	1.52	8 (25%)
39	GTP	SM	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.41	5 (15%)
39	GTP	UG	501	3,4	26,34,34	1.09	2 (7%)	32,54,54	1.48	6 (18%)
39	GTP	VC	501	3,4	26,34,34	0.94	1 (3%)	32,54,54	1.86	8 (25%)
39	GTP	WE	501	4	26,34,34	1.16	1 (3%)	32,54,54	1.80	8 (25%)
39	GTP	AM	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	MD	502	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.52	8 (25%)
39	GTP	LE	501	3,4	26,34,34	1.11	2 (7%)	32,54,54	1.41	5 (15%)
39	GTP	HJ	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	8 (25%)
39	GTP	IG	501	3,4	26,34,34	1.02	2 (7%)	32,54,54	1.54	6 (18%)
39	GTP	KF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.56	7 (21%)
39	GTP	UA	501	4	26,34,34	0.99	2 (7%)	32,54,54	1.61	7 (21%)
39	GTP	BJ	501	3	26,34,34	1.42	3 (11%)	32,54,54	2.26	10 (31%)
39	GTP	EL	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.40	7 (21%)
39	GTP	PL	501	3	26,34,34	1.23	2 (7%)	32,54,54	1.47	9 (28%)
39	GTP	QC	501	3,4	26,34,34	0.96	2 (7%)	32,54,54	1.69	7 (21%)
39	GTP	QG	501	3,4	26,34,34	1.10	3 (11%)	32,54,54	1.68	5 (15%)
39	GTP	FL	501	3	26,34,34	1.25	2 (7%)	32,54,54	1.53	8 (25%)
39	GTP	MF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	PF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	JA	501	4	26,34,34	1.04	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	HH	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	JC	501	3,4	26,34,34	1.09	2 (7%)	32,54,54	1.45	6 (18%)
39	GTP	FH	501	3	26,34,34	1.36	3 (11%)	32,54,54	1.64	7 (21%)
39	GTP	QH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.37	6 (18%)
39	GTP	TE	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.48	5 (15%)
39	GTP	UF	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.39	6 (18%)
39	GTP	BK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.43	6 (18%)
39	GTP	LJ	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.59	9 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GTP	SK	501	3,4	26,34,34	1.07	2 (7%)	32,54,54	1.49	4 (12%)
39	GTP	EJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)
39	GTP	TD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	EA	501	4	26,34,34	0.99	1 (3%)	32,54,54	1.65	7 (21%)
39	GTP	JK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.45	6 (18%)
39	GTP	SC	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.54	7 (21%)
39	GTP	BG	501	3,4	26,34,34	0.99	2 (7%)	32,54,54	1.58	6 (18%)
39	GTP	MI	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	MD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	WA	501	4	26,34,34	1.05	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	VK	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	GL	501	3	26,34,34	1.32	2 (7%)	32,54,54	1.66	8 (25%)
39	GTP	OB	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.45	8 (25%)
39	GTP	NF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	ND	501	3	26,34,34	1.25	2 (7%)	32,54,54	1.64	8 (25%)
39	GTP	UK	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.59	8 (25%)
39	GTP	FB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	8 (25%)
39	GTP	PB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	ED	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	8 (25%)
39	GTP	GH	501	3	26,34,34	1.24	2 (7%)	32,54,54	1.47	8 (25%)
39	GTP	OD	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	LD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	DL	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	PE	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.46	7 (21%)
39	GTP	EI	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.56	7 (21%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	DB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	MB	501	3	-	6/18/38/38	0/3/3/3
39	GTP	CI	501	4	-	9/18/38/38	0/3/3/3
39	GTP	DG	501	3,4	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	AD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	FI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	HE	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	IM	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	RD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	UL	501	3	-	6/18/38/38	0/3/3/3
39	GTP	HK	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	PJ	501	3	-	3/18/38/38	0/3/3/3
39	GTP	QF	501	3	-	5/18/38/38	0/3/3/3
39	GTP	RI	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	NI	501	3,4	-	8/18/38/38	0/3/3/3
39	GTP	NC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	NK	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	DE	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	FA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	DH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	PI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	VD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	CL	501	3	-	3/18/38/38	0/3/3/3
39	GTP	IF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	TG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	CK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	QL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	TK	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	HA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	TN	501	3	-	6/18/38/38	0/3/3/3
39	GTP	JB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	RH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	MM	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	UD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	UE	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	PK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	JI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	BD	501	3	-	1/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	SG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	PH	501	3	-	1/18/38/38	0/3/3/3
39	GTP	IA	501	4	-	2/18/38/38	0/3/3/3
39	GTP	WH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	CE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	VL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	SI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	GK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	WC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	RB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	HB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	WI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	HG	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	AC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	DI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	OG	501	3,4	-	8/18/38/38	0/3/3/3
39	GTP	LF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	VJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OA	501	4	-	3/18/38/38	0/3/3/3
39	GTP	AK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	WB	501	3	-	1/18/38/38	0/3/3/3
39	GTP	GA	501	4	-	4/18/38/38	0/3/3/3
39	GTP	OL	501	3	-	6/18/38/38	0/3/3/3
39	GTP	LB	501	3	-	2/18/38/38	0/3/3/3
39	GTP	VE	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	JF	501	3	-	3/18/38/38	0/3/3/3
39	GTP	CH	501	3	-	2/18/38/38	0/3/3/3
39	GTP	CF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	IC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	UJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	JJ	501	3	-	4/18/38/38	0/3/3/3
39	GTP	CG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	IB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OH	501	3	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	LG	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	KE	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	DD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	DF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	JL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	VF	501	3	-	2/18/38/38	0/3/3/3
39	GTP	JG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	KB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	JH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	EH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	IK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	CC	501	4	-	9/18/38/38	0/3/3/3
39	GTP	PC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	RJ	501	3	-	4/18/38/38	0/3/3/3
39	GTP	BB	501	3	-	3/18/38/38	0/3/3/3
39	GTP	DK	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	GF	501	3	-	2/18/38/38	0/3/3/3
39	GTP	BF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	ID	501	3	-	1/18/38/38	0/3/3/3
39	GTP	FD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	QD	501	3	-	4/18/38/38	0/3/3/3
39	GTP	GB	501	3	-	3/18/38/38	0/3/3/3
39	GTP	SL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	AI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	CB	501	3	-	3/18/38/38	0/3/3/3
39	GTP	BL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	QL	502	3,4	-	5/18/38/38	0/3/3/3
39	GTP	KK	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	AH	501	3	-	4/18/38/38	0/3/3/3
39	GTP	BM	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	QK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	TJ	501	3	-	2/18/38/38	0/3/3/3
39	GTP	NB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	GD	501	3	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	QI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	QJ	501	3	-	1/18/38/38	0/3/3/3
39	GTP	MJ	501	3	-	7/18/38/38	0/3/3/3
39	GTP	HL	501	3	-	2/18/38/38	0/3/3/3
39	GTP	RF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	RL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	LH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	PD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	BC	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	AF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	BE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	AE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	PA	501	4	-	3/18/38/38	0/3/3/3
39	GTP	AB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	TF	501	3	-	4/18/38/38	0/3/3/3
39	GTP	FF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	VH	501	3	-	2/18/38/38	0/3/3/3
39	GTP	DJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	MK	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	OC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	RC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	VG	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	TM	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	NE	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	NL	501	3	-	1/18/38/38	0/3/3/3
39	GTP	QB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	UI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	FG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	WG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	MC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	II	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	VB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	LC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	KI	501	3,4	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	AL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	SD	501	3	-	7/18/38/38	0/3/3/3
39	GTP	SB	501	3	-	1/18/38/38	0/3/3/3
39	GTP	EC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	JD	501	3	-	8/18/38/38	0/3/3/3
39	GTP	SE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	CM	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	MH	501	3	-	3/18/38/38	0/3/3/3
39	GTP	DA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	FE	501	4	-	2/18/38/38	0/3/3/3
39	GTP	RK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	JE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	DC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	HD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	IL	501	3	-	0/18/38/38	0/3/3/3
39	GTP	KA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	OK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	RE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GE	501	4	-	4/18/38/38	0/3/3/3
39	GTP	SJ	501	3	-	0/18/38/38	0/3/3/3
39	GTP	KH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	WJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	WK	501	4	-	7/18/38/38	0/3/3/3
39	GTP	BH	501	3	-	2/18/38/38	0/3/3/3
39	GTP	HF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	TB	501	3	-	6/18/38/38	0/3/3/3
39	GTP	IJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	KL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	TC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	TI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	BI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	MG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	SF	501	3	-	0/18/38/38	0/3/3/3
39	GTP	NH	501	3	-	7/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	LL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	QD	502	3,4	-	5/18/38/38	0/3/3/3
39	GTP	WD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	NA	501	4	-	3/18/38/38	0/3/3/3
39	GTP	EB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	ML	501	3	-	1/18/38/38	0/3/3/3
39	GTP	EE	501	4	-	3/18/38/38	0/3/3/3
39	GTP	RM	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	LI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	WF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	OF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	HC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	LK	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	VI	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	NJ	501	3	-	2/18/38/38	0/3/3/3
39	GTP	KC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	CD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	HI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	KG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	UB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	UH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OI	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	GG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	EK	501	4	-	4/18/38/38	0/3/3/3
39	GTP	PM	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	RG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	IE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	VA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	TH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	SH	501	3	-	7/18/38/38	0/3/3/3
39	GTP	CJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	WL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	KJ	501	3	-	7/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	EG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	LA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	AG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	FC	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	NG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	KD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	EF	501	3	-	2/18/38/38	0/3/3/3
39	GTP	FJ	501	3	-	2/18/38/38	0/3/3/3
39	GTP	OE	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	AJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	FK	501	4	-	5/18/38/38	0/3/3/3
39	GTP	GI	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	IH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	PG	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	OJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	TL	501	3	-	4/18/38/38	0/3/3/3
39	GTP	UC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	SM	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	UG	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	VC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	WE	501	4	-	7/18/38/38	0/3/3/3
39	GTP	AM	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	MD	502	3,4	-	6/18/38/38	0/3/3/3
39	GTP	LE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	HJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	IG	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	KF	501	3	-	4/18/38/38	0/3/3/3
39	GTP	UA	501	4	-	2/18/38/38	0/3/3/3
39	GTP	BJ	501	3	-	1/18/38/38	0/3/3/3
39	GTP	EL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	PL	501	3	-	4/18/38/38	0/3/3/3
39	GTP	QC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	QG	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	FL	501	3	-	5/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	MF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	PF	501	3	-	1/18/38/38	0/3/3/3
39	GTP	JA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	HH	501	3	-	7/18/38/38	0/3/3/3
39	GTP	JC	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	FH	501	3	-	3/18/38/38	0/3/3/3
39	GTP	QH	501	3	-	4/18/38/38	0/3/3/3
39	GTP	TE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	UF	501	3	-	4/18/38/38	0/3/3/3
39	GTP	BK	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	LJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	SK	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	EJ	501	3	-	4/18/38/38	0/3/3/3
39	GTP	TD	501	3	-	5/18/38/38	0/3/3/3
39	GTP	EA	501	4	-	3/18/38/38	0/3/3/3
39	GTP	JK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	SC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	BG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	MI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	MD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	WA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	VK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GL	501	3	-	0/18/38/38	0/3/3/3
39	GTP	OB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	NF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	ND	501	3	-	0/18/38/38	0/3/3/3
39	GTP	UK	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	FB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	PB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	ED	501	3	-	7/18/38/38	0/3/3/3
39	GTP	GH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OD	501	3	-	7/18/38/38	0/3/3/3
39	GTP	LD	501	3	-	2/18/38/38	0/3/3/3
39	GTP	DL	501	3	-	4/18/38/38	0/3/3/3
39	GTP	PE	501	3,4	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	EI	501	3,4	-	3/18/38/38	0/3/3/3

All (505) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	TL	501	GTP	C5-C6	-5.41	1.36	1.47
39	CL	501	GTP	C5-C6	-5.13	1.37	1.47
39	TJ	501	GTP	C5-C6	-5.03	1.37	1.47
39	GB	501	GTP	C5-C6	-4.88	1.37	1.47
39	DD	501	GTP	C5-C6	-4.64	1.38	1.47
39	CH	501	GTP	C5-C6	-4.63	1.38	1.47
39	TL	501	GTP	C2-N3	4.57	1.44	1.33
39	FL	501	GTP	C5-C6	-4.54	1.38	1.47
39	SB	501	GTP	C5-C6	-4.51	1.38	1.47
39	GH	501	GTP	C5-C6	-4.50	1.38	1.47
39	GL	501	GTP	C5-C6	-4.49	1.38	1.47
39	EF	501	GTP	C5-C6	-4.49	1.38	1.47
39	FD	501	GTP	C5-C6	-4.45	1.38	1.47
39	ND	501	GTP	C5-C6	-4.44	1.38	1.47
39	PH	501	GTP	C5-C6	-4.44	1.38	1.47
39	PL	501	GTP	C5-C6	-4.44	1.38	1.47
39	NJ	501	GTP	C5-C6	-4.33	1.38	1.47
39	AJ	501	GTP	C5-C6	-4.30	1.38	1.47
39	EB	501	GTP	C5-C6	-4.29	1.38	1.47
39	LJ	501	GTP	C5-C6	-4.28	1.38	1.47
39	BJ	501	GTP	C5-C6	-4.26	1.38	1.47
39	GF	501	GTP	C5-C6	-4.26	1.38	1.47
39	DH	501	GTP	C5-C6	-4.26	1.38	1.47
39	UF	501	GTP	C5-C6	-4.26	1.38	1.47
39	GJ	501	GTP	C5-C6	-4.26	1.38	1.47
39	HB	501	GTP	C5-C6	-4.25	1.38	1.47
39	RB	501	GTP	C5-C6	-4.25	1.38	1.47
39	DL	501	GTP	C5-C6	-4.24	1.38	1.47
39	IH	501	GTP	C5-C6	-4.24	1.38	1.47
39	MB	501	GTP	C5-C6	-4.24	1.38	1.47
39	MJ	501	GTP	C5-C6	-4.23	1.38	1.47
39	CB	501	GTP	C5-C6	-4.23	1.38	1.47
39	IL	501	GTP	C5-C6	-4.23	1.38	1.47
39	GD	501	GTP	C5-C6	-4.22	1.38	1.47
39	FB	501	GTP	C5-C6	-4.22	1.38	1.47
39	ED	501	GTP	C5-C6	-4.22	1.38	1.47
39	VF	501	GTP	C5-C6	-4.22	1.38	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	BB	501	GTP	C5-C6	-4.22	1.38	1.47
39	LB	501	GTP	C5-C6	-4.21	1.38	1.47
39	VH	501	GTP	C5-C6	-4.21	1.38	1.47
39	PB	501	GTP	C5-C6	-4.21	1.38	1.47
39	PJ	501	GTP	C5-C6	-4.21	1.38	1.47
39	DB	501	GTP	C5-C6	-4.21	1.38	1.47
39	VB	501	GTP	C5-C6	-4.20	1.38	1.47
39	CD	501	GTP	C5-C6	-4.20	1.38	1.47
39	LF	501	GTP	C5-C6	-4.20	1.38	1.47
39	EL	501	GTP	C5-C6	-4.20	1.38	1.47
39	FH	501	GTP	C5-C6	-4.20	1.38	1.47
39	VD	501	GTP	C5-C6	-4.19	1.38	1.47
39	SF	501	GTP	C5-C6	-4.19	1.38	1.47
39	HJ	501	GTP	C5-C6	-4.19	1.38	1.47
39	EH	501	GTP	C5-C6	-4.19	1.38	1.47
39	FJ	501	GTP	C5-C6	-4.19	1.38	1.47
39	AF	501	GTP	C5-C6	-4.19	1.38	1.47
39	BH	501	GTP	C5-C6	-4.19	1.38	1.47
39	HD	501	GTP	C5-C6	-4.19	1.38	1.47
39	RJ	501	GTP	C5-C6	-4.19	1.38	1.47
39	IF	501	GTP	C5-C6	-4.18	1.38	1.47
39	JF	501	GTP	C5-C6	-4.18	1.38	1.47
39	BD	501	GTP	C5-C6	-4.18	1.38	1.47
39	AL	501	GTP	C5-C6	-4.18	1.38	1.47
39	TD	501	GTP	C5-C6	-4.18	1.38	1.47
39	LD	501	GTP	C5-C6	-4.18	1.38	1.47
39	ML	501	GTP	C5-C6	-4.18	1.38	1.47
39	KF	501	GTP	C5-C6	-4.18	1.38	1.47
39	NL	501	GTP	C5-C6	-4.17	1.38	1.47
39	FF	501	GTP	C5-C6	-4.17	1.38	1.47
39	MF	501	GTP	C5-C6	-4.17	1.38	1.47
39	JB	501	GTP	C5-C6	-4.17	1.38	1.47
39	QH	501	GTP	C5-C6	-4.17	1.38	1.47
39	RF	501	GTP	C5-C6	-4.17	1.38	1.47
39	ID	501	GTP	C5-C6	-4.17	1.39	1.47
39	LH	501	GTP	C5-C6	-4.17	1.39	1.47
39	NF	501	GTP	C5-C6	-4.17	1.39	1.47
39	WJ	501	GTP	C5-C6	-4.16	1.39	1.47
39	EJ	501	GTP	C5-C6	-4.16	1.39	1.47
39	JJ	501	GTP	C5-C6	-4.16	1.39	1.47
39	JL	501	GTP	C5-C6	-4.16	1.39	1.47
39	JH	501	GTP	C5-C6	-4.16	1.39	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	WD	501	GTP	C5-C6	-4.16	1.39	1.47
39	HG	501	GTP	C5-C6	-4.16	1.39	1.47
39	AB	501	GTP	C5-C6	-4.15	1.39	1.47
39	BF	501	GTP	C5-C6	-4.15	1.39	1.47
39	NB	501	GTP	C5-C6	-4.15	1.39	1.47
39	UB	501	GTP	C5-C6	-4.15	1.39	1.47
39	MD	501	GTP	C5-C6	-4.15	1.39	1.47
39	RH	501	GTP	C5-C6	-4.15	1.39	1.47
39	HH	501	GTP	C5-C6	-4.15	1.39	1.47
39	JD	501	GTP	C5-C6	-4.14	1.39	1.47
39	UJ	501	GTP	C5-C6	-4.14	1.39	1.47
39	BL	501	GTP	C5-C6	-4.14	1.39	1.47
39	UD	501	GTP	C5-C6	-4.14	1.39	1.47
39	WL	501	GTP	C5-C6	-4.14	1.39	1.47
39	SJ	501	GTP	C5-C6	-4.14	1.39	1.47
39	UL	501	GTP	C5-C6	-4.14	1.39	1.47
39	KL	501	GTP	C5-C6	-4.13	1.39	1.47
39	SD	501	GTP	C5-C6	-4.13	1.39	1.47
39	VJ	501	GTP	C5-C6	-4.13	1.39	1.47
39	SH	501	GTP	C5-C6	-4.13	1.39	1.47
39	CF	501	GTP	C5-C6	-4.13	1.39	1.47
39	SL	501	GTP	C5-C6	-4.12	1.39	1.47
39	TN	501	GTP	C5-C6	-4.12	1.39	1.47
39	TH	501	GTP	C5-C6	-4.12	1.39	1.47
39	WB	501	GTP	C5-C6	-4.12	1.39	1.47
39	HL	501	GTP	C5-C6	-4.11	1.39	1.47
39	OH	501	GTP	C5-C6	-4.11	1.39	1.47
39	OF	501	GTP	C5-C6	-4.11	1.39	1.47
39	AD	501	GTP	C5-C6	-4.11	1.39	1.47
39	MH	501	GTP	C5-C6	-4.11	1.39	1.47
39	VL	501	GTP	C5-C6	-4.11	1.39	1.47
39	QD	501	GTP	C5-C6	-4.10	1.39	1.47
39	QF	501	GTP	C5-C6	-4.10	1.39	1.47
39	IJ	501	GTP	C5-C6	-4.10	1.39	1.47
39	OD	501	GTP	C5-C6	-4.10	1.39	1.47
39	KJ	501	GTP	C5-C6	-4.10	1.39	1.47
39	PF	501	GTP	C5-C6	-4.10	1.39	1.47
39	RL	501	GTP	C5-C6	-4.10	1.39	1.47
39	QB	501	GTP	C5-C6	-4.10	1.39	1.47
39	OL	501	GTP	C5-C6	-4.10	1.39	1.47
39	LL	501	GTP	C5-C6	-4.09	1.39	1.47
39	TB	501	GTP	C5-C6	-4.09	1.39	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	WF	501	GTP	C5-C6	-4.09	1.39	1.47
39	RD	501	GTP	C5-C6	-4.08	1.39	1.47
39	OJ	501	GTP	C5-C6	-4.08	1.39	1.47
39	KD	501	GTP	C5-C6	-4.08	1.39	1.47
39	HF	501	GTP	C5-C6	-4.08	1.39	1.47
39	OB	501	GTP	C5-C6	-4.07	1.39	1.47
39	QJ	501	GTP	C5-C6	-4.07	1.39	1.47
39	WH	501	GTP	C5-C6	-4.07	1.39	1.47
39	DF	501	GTP	C5-C6	-4.07	1.39	1.47
39	KB	501	GTP	C5-C6	-4.05	1.39	1.47
39	TF	501	GTP	C5-C6	-4.03	1.39	1.47
39	QL	501	GTP	C5-C6	-4.02	1.39	1.47
39	AH	501	GTP	C5-C6	-4.02	1.39	1.47
39	DJ	501	GTP	C5-C6	-4.02	1.39	1.47
39	NH	501	GTP	C5-C6	-4.02	1.39	1.47
39	IB	501	GTP	C5-C6	-4.01	1.39	1.47
39	UH	501	GTP	C5-C6	-3.99	1.39	1.47
39	PD	501	GTP	C5-C6	-3.98	1.39	1.47
39	KH	501	GTP	C5-C6	-3.98	1.39	1.47
39	CJ	501	GTP	C5-C6	-3.95	1.39	1.47
39	LK	501	GTP	C5-C6	-3.93	1.39	1.47
39	FA	501	GTP	C5-C6	-3.91	1.39	1.47
39	MK	501	GTP	C5-C6	-3.87	1.39	1.47
39	LE	501	GTP	C5-C6	-3.84	1.39	1.47
39	KC	501	GTP	C5-C6	-3.78	1.39	1.47
39	UC	501	GTP	C5-C6	-3.77	1.39	1.47
39	GI	501	GTP	C5-C6	-3.77	1.39	1.47
39	UG	501	GTP	C5-C6	-3.73	1.39	1.47
39	KA	501	GTP	C5-C6	-3.71	1.39	1.47
39	VG	501	GTP	C5-C6	-3.71	1.39	1.47
39	JC	501	GTP	C5-C6	-3.70	1.39	1.47
39	SM	501	GTP	C5-C6	-3.69	1.39	1.47
39	QL	502	GTP	C5-C6	-3.67	1.40	1.47
39	PD	501	GTP	C2-N3	3.66	1.42	1.33
39	PC	501	GTP	C5-C6	-3.64	1.40	1.47
39	GA	501	GTP	C5-C6	-3.64	1.40	1.47
39	AK	501	GTP	C5-C6	-3.63	1.40	1.47
39	TJ	501	GTP	C2-N3	3.60	1.41	1.33
39	LG	501	GTP	C5-C6	-3.60	1.40	1.47
39	PG	501	GTP	C5-C6	-3.59	1.40	1.47
39	KK	501	GTP	C5-C6	-3.57	1.40	1.47
39	NK	501	GTP	C5-C6	-3.56	1.40	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	GC	501	GTP	C5-C6	-3.55	1.40	1.47
39	LC	501	GTP	C5-C6	-3.54	1.40	1.47
39	SK	501	GTP	C5-C6	-3.53	1.40	1.47
39	MC	501	GTP	C5-C6	-3.53	1.40	1.47
39	AM	501	GTP	C5-C6	-3.51	1.40	1.47
39	RC	501	GTP	C5-C6	-3.51	1.40	1.47
39	SG	501	GTP	C5-C6	-3.50	1.40	1.47
39	CK	501	GTP	C5-C6	-3.49	1.40	1.47
39	PE	501	GTP	C5-C6	-3.49	1.40	1.47
39	TK	501	GTP	C5-C6	-3.48	1.40	1.47
39	RE	501	GTP	C5-C6	-3.47	1.40	1.47
39	WA	501	GTP	C5-C6	-3.47	1.40	1.47
39	FE	501	GTP	C5-C6	-3.46	1.40	1.47
39	RG	501	GTP	C5-C6	-3.46	1.40	1.47
39	OG	501	GTP	C5-C6	-3.45	1.40	1.47
39	UK	501	GTP	C5-C6	-3.44	1.40	1.47
39	NC	501	GTP	C5-C6	-3.44	1.40	1.47
39	AE	501	GTP	C5-C6	-3.43	1.40	1.47
39	PM	501	GTP	C5-C6	-3.42	1.40	1.47
39	DA	501	GTP	C5-C6	-3.42	1.40	1.47
39	PI	501	GTP	C5-C6	-3.40	1.40	1.47
39	TG	501	GTP	C5-C6	-3.40	1.40	1.47
39	CL	501	GTP	C2-N3	3.40	1.41	1.33
39	GB	501	GTP	C2-N3	3.40	1.41	1.33
39	HC	501	GTP	C5-C6	-3.40	1.40	1.47
39	RM	501	GTP	C5-C6	-3.39	1.40	1.47
39	TM	501	GTP	C5-C6	-3.39	1.40	1.47
39	GK	501	GTP	C5-C6	-3.38	1.40	1.47
39	AG	501	GTP	C5-C6	-3.37	1.40	1.47
39	BJ	501	GTP	O4'-C1'	3.37	1.45	1.41
39	WE	501	GTP	C5-C6	-3.36	1.40	1.47
39	TC	501	GTP	C5-C6	-3.36	1.40	1.47
39	NE	501	GTP	C5-C6	-3.36	1.40	1.47
39	HI	501	GTP	C5-C6	-3.36	1.40	1.47
39	SC	501	GTP	C5-C6	-3.36	1.40	1.47
39	JA	501	GTP	C5-C6	-3.36	1.40	1.47
39	UE	501	GTP	C5-C6	-3.36	1.40	1.47
39	GG	501	GTP	C5-C6	-3.35	1.40	1.47
39	KG	501	GTP	C5-C6	-3.35	1.40	1.47
39	JK	501	GTP	C5-C6	-3.34	1.40	1.47
39	TE	501	GTP	C5-C6	-3.34	1.40	1.47
39	SE	501	GTP	C5-C6	-3.33	1.40	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	FC	501	GTP	C5-C6	-3.33	1.40	1.47
39	QK	501	GTP	C5-C6	-3.32	1.40	1.47
39	BK	501	GTP	C5-C6	-3.32	1.40	1.47
39	EC	501	GTP	C5-C6	-3.31	1.40	1.47
39	VA	501	GTP	C5-C6	-3.30	1.40	1.47
39	CC	501	GTP	C5-C6	-3.29	1.40	1.47
39	DG	501	GTP	C5-C6	-3.29	1.40	1.47
39	JI	501	GTP	C5-C6	-3.29	1.40	1.47
39	GL	501	GTP	C2-N3	3.29	1.41	1.33
39	CI	501	GTP	C5-C6	-3.29	1.40	1.47
39	FK	501	GTP	C5-C6	-3.27	1.40	1.47
39	PK	501	GTP	C5-C6	-3.26	1.40	1.47
39	MG	501	GTP	C5-C6	-3.26	1.40	1.47
39	CE	501	GTP	C5-C6	-3.26	1.40	1.47
39	SB	501	GTP	C2-N3	3.26	1.41	1.33
39	IA	501	GTP	C5-C6	-3.25	1.40	1.47
39	FI	501	GTP	C5-C6	-3.24	1.40	1.47
39	QD	502	GTP	C5-C6	-3.23	1.40	1.47
39	DK	501	GTP	C5-C6	-3.23	1.40	1.47
39	NI	501	GTP	C5-C6	-3.22	1.40	1.47
39	TI	501	GTP	C5-C6	-3.21	1.40	1.47
39	KE	501	GTP	C5-C6	-3.21	1.40	1.47
39	AI	501	GTP	C5-C6	-3.19	1.40	1.47
39	MI	501	GTP	C5-C6	-3.19	1.40	1.47
39	VI	501	GTP	C5-C6	-3.17	1.41	1.47
39	OI	501	GTP	C5-C6	-3.17	1.41	1.47
39	HA	501	GTP	C5-C6	-3.17	1.41	1.47
39	DC	501	GTP	C5-C6	-3.15	1.41	1.47
39	IG	501	GTP	C5-C6	-3.14	1.41	1.47
39	MD	502	GTP	C5-C6	-3.14	1.41	1.47
39	BM	501	GTP	C5-C6	-3.13	1.41	1.47
39	WK	501	GTP	C5-C6	-3.13	1.41	1.47
39	WC	501	GTP	C5-C6	-3.13	1.41	1.47
39	JG	501	GTP	C5-C6	-3.10	1.41	1.47
39	WG	501	GTP	C5-C6	-3.10	1.41	1.47
39	FH	501	GTP	C2-N3	3.09	1.40	1.33
39	FG	501	GTP	C5-C6	-3.09	1.41	1.47
39	ND	501	GTP	C2-N3	3.09	1.40	1.33
39	VK	501	GTP	C5-C6	-3.09	1.41	1.47
39	EF	501	GTP	C2-N3	3.08	1.40	1.33
39	GE	501	GTP	C5-C6	-3.08	1.41	1.47
39	HK	501	GTP	C5-C6	-3.08	1.41	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	JE	501	GTP	C5-C6	-3.08	1.41	1.47
39	BG	501	GTP	C5-C6	-3.06	1.41	1.47
39	EI	501	GTP	C5-C6	-3.05	1.41	1.47
39	KB	501	GTP	C2-N3	3.05	1.40	1.33
39	AC	501	GTP	C5-C6	-3.05	1.41	1.47
39	RK	501	GTP	C5-C6	-3.04	1.41	1.47
39	NA	501	GTP	C5-C6	-3.04	1.41	1.47
39	DE	501	GTP	C5-C6	-3.04	1.41	1.47
39	BE	501	GTP	C5-C6	-3.03	1.41	1.47
39	NG	501	GTP	C5-C6	-3.03	1.41	1.47
39	SI	501	GTP	C5-C6	-3.03	1.41	1.47
39	IK	501	GTP	C5-C6	-3.03	1.41	1.47
39	HE	501	GTP	C5-C6	-3.02	1.41	1.47
39	FL	501	GTP	C2-N3	3.02	1.40	1.33
39	PA	501	GTP	C5-C6	-2.99	1.41	1.47
39	QG	501	GTP	C5-C6	-2.99	1.41	1.47
39	PH	501	GTP	C2-N3	2.98	1.40	1.33
39	UA	501	GTP	C5-C6	-2.98	1.41	1.47
39	DD	501	GTP	C2-N3	2.96	1.40	1.33
39	DJ	501	GTP	C2-N3	2.96	1.40	1.33
39	IM	501	GTP	C5-C6	-2.96	1.41	1.47
39	GH	501	GTP	C2-N3	2.95	1.40	1.33
39	NJ	501	GTP	C2-N3	2.94	1.40	1.33
39	LA	501	GTP	C5-C6	-2.94	1.41	1.47
39	WH	501	GTP	C2-N3	2.93	1.40	1.33
39	BC	501	GTP	C5-C6	-2.93	1.41	1.47
39	PL	501	GTP	C2-N3	2.92	1.40	1.33
39	EE	501	GTP	C5-C6	-2.92	1.41	1.47
39	RI	501	GTP	C5-C6	-2.91	1.41	1.47
39	CM	501	GTP	C5-C6	-2.91	1.41	1.47
39	OA	501	GTP	C5-C6	-2.87	1.41	1.47
39	BJ	501	GTP	C2-N3	2.87	1.40	1.33
39	EK	501	GTP	C5-C6	-2.85	1.41	1.47
39	DF	501	GTP	C2-N3	2.85	1.40	1.33
39	KH	501	GTP	C2-N3	2.85	1.40	1.33
39	FJ	501	GTP	C2-N3	2.85	1.40	1.33
39	EA	501	GTP	C5-C6	-2.85	1.41	1.47
39	AB	501	GTP	C2-N3	2.84	1.40	1.33
39	KI	501	GTP	C5-C6	-2.82	1.41	1.47
39	RB	501	GTP	C2-N3	2.82	1.40	1.33
39	OC	501	GTP	C5-C6	-2.81	1.41	1.47
39	MM	501	GTP	C5-C6	-2.80	1.41	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	CG	501	GTP	C5-C6	-2.80	1.41	1.47
39	PJ	501	GTP	C2-N3	2.80	1.39	1.33
39	IE	501	GTP	C5-C6	-2.78	1.41	1.47
39	ML	501	GTP	C2-N3	2.78	1.39	1.33
39	UI	501	GTP	C5-C6	-2.78	1.41	1.47
39	PF	501	GTP	C2-N3	2.77	1.39	1.33
39	WB	501	GTP	C2-N3	2.77	1.39	1.33
39	CH	501	GTP	C2-N3	2.76	1.39	1.33
39	BB	501	GTP	C2-N3	2.75	1.39	1.33
39	VF	501	GTP	C2-N3	2.74	1.39	1.33
39	WI	501	GTP	C5-C6	-2.74	1.41	1.47
39	VE	501	GTP	C5-C6	-2.74	1.41	1.47
39	SF	501	GTP	C2-N3	2.73	1.39	1.33
39	LI	501	GTP	C5-C6	-2.73	1.41	1.47
39	ED	501	GTP	C2-N3	2.72	1.39	1.33
39	EG	501	GTP	C5-C6	-2.70	1.41	1.47
39	QI	501	GTP	C5-C6	-2.68	1.42	1.47
39	LD	501	GTP	C2-N3	2.68	1.39	1.33
39	RH	501	GTP	C2-N3	2.67	1.39	1.33
39	FH	501	GTP	C6-N1	2.67	1.41	1.37
39	GD	501	GTP	C2-N3	2.66	1.39	1.33
39	HD	501	GTP	C2-N3	2.65	1.39	1.33
39	QC	501	GTP	C5-C6	-2.65	1.42	1.47
39	KF	501	GTP	C2-N3	2.65	1.39	1.33
39	UF	501	GTP	C2-N3	2.64	1.39	1.33
39	SL	501	GTP	C2-N3	2.64	1.39	1.33
39	VH	501	GTP	C2-N3	2.61	1.39	1.33
39	HL	501	GTP	C2-N3	2.61	1.39	1.33
39	FD	501	GTP	C2-N3	2.61	1.39	1.33
39	BD	501	GTP	C2-N3	2.61	1.39	1.33
39	OE	501	GTP	C5-C6	-2.60	1.42	1.47
39	IL	501	GTP	C2-N3	2.60	1.39	1.33
39	TD	501	GTP	C2-N3	2.60	1.39	1.33
39	DL	501	GTP	C2-N3	2.59	1.39	1.33
39	VE	501	GTP	C6-N1	2.59	1.41	1.37
39	LJ	501	GTP	C2-N3	2.58	1.39	1.33
39	IH	501	GTP	C2-N3	2.58	1.39	1.33
39	GF	501	GTP	C2-N3	2.57	1.39	1.33
39	WJ	501	GTP	C2-N3	2.57	1.39	1.33
39	UL	501	GTP	C2-N3	2.56	1.39	1.33
39	JB	501	GTP	C2-N3	2.55	1.39	1.33
39	LB	501	GTP	C2-N3	2.55	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	HB	501	GTP	C2-N3	2.55	1.39	1.33
39	NL	501	GTP	C2-N3	2.54	1.39	1.33
39	SJ	501	GTP	C2-N3	2.54	1.39	1.33
39	DB	501	GTP	C2-N3	2.53	1.39	1.33
39	BH	501	GTP	C2-N3	2.53	1.39	1.33
39	IB	501	GTP	C2-N3	2.52	1.39	1.33
39	LH	501	GTP	C2-N3	2.51	1.39	1.33
39	FF	501	GTP	C2-N3	2.51	1.39	1.33
39	UH	501	GTP	C2-N3	2.51	1.39	1.33
39	AJ	501	GTP	C2-N3	2.50	1.39	1.33
39	JJ	501	GTP	C2-N3	2.50	1.39	1.33
39	NH	501	GTP	C2-N3	2.50	1.39	1.33
39	RL	501	GTP	C2-N3	2.50	1.39	1.33
39	CD	501	GTP	C2-N3	2.50	1.39	1.33
39	VD	501	GTP	C2-N3	2.50	1.39	1.33
39	CB	501	GTP	C2-N3	2.50	1.39	1.33
39	NF	501	GTP	C2-N3	2.50	1.39	1.33
39	VB	501	GTP	C2-N3	2.50	1.39	1.33
39	IC	501	GTP	C5-C6	-2.49	1.42	1.47
39	AL	501	GTP	C2-N3	2.49	1.39	1.33
39	ID	501	GTP	C2-N3	2.49	1.39	1.33
39	DH	501	GTP	C2-N3	2.49	1.39	1.33
39	GJ	501	GTP	C2-N3	2.48	1.39	1.33
39	EL	501	GTP	C2-N3	2.48	1.39	1.33
39	UJ	501	GTP	C2-N3	2.47	1.39	1.33
39	JD	501	GTP	C2-N3	2.47	1.39	1.33
39	OL	501	GTP	C2-N3	2.47	1.39	1.33
39	EB	501	GTP	C2-N3	2.47	1.39	1.33
39	JF	501	GTP	C2-N3	2.47	1.39	1.33
39	BF	501	GTP	C2-N3	2.46	1.39	1.33
39	RF	501	GTP	C2-N3	2.46	1.39	1.33
39	FB	501	GTP	C2-N3	2.46	1.39	1.33
39	VL	501	GTP	C2-N3	2.46	1.39	1.33
39	SH	501	GTP	C2-N3	2.45	1.39	1.33
39	WD	501	GTP	C2-N3	2.45	1.39	1.33
39	OK	501	GTP	C5-C6	-2.44	1.42	1.47
39	CJ	501	GTP	C2-N3	2.44	1.39	1.33
39	IJ	501	GTP	C2-N3	2.44	1.39	1.33
39	QB	501	GTP	C2-N3	2.44	1.39	1.33
39	BI	501	GTP	C5-C6	-2.44	1.42	1.47
39	RJ	501	GTP	C2-N3	2.44	1.39	1.33
39	TN	501	GTP	C2-N3	2.44	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	TB	501	GTP	C2-N3	2.43	1.39	1.33
39	RD	501	GTP	C2-N3	2.43	1.39	1.33
39	TH	501	GTP	C2-N3	2.43	1.39	1.33
39	OF	501	GTP	C2-N3	2.42	1.39	1.33
39	II	501	GTP	C5-C6	-2.42	1.42	1.47
39	OB	501	GTP	C2-N3	2.42	1.39	1.33
39	QH	501	GTP	C2-N3	2.41	1.39	1.33
39	JH	501	GTP	C2-N3	2.41	1.39	1.33
39	QD	501	GTP	C2-N3	2.41	1.39	1.33
39	MH	501	GTP	C2-N3	2.41	1.39	1.33
39	WF	501	GTP	C2-N3	2.41	1.39	1.33
39	HJ	501	GTP	C2-N3	2.41	1.39	1.33
39	SD	501	GTP	C2-N3	2.41	1.39	1.33
39	VJ	501	GTP	C2-N3	2.41	1.39	1.33
39	OJ	501	GTP	C2-N3	2.41	1.39	1.33
39	JL	501	GTP	C2-N3	2.40	1.39	1.33
39	NB	501	GTP	C2-N3	2.40	1.39	1.33
39	MF	501	GTP	C2-N3	2.39	1.39	1.33
39	KJ	501	GTP	C2-N3	2.39	1.39	1.33
39	VC	501	GTP	C5-C6	-2.39	1.42	1.47
39	HF	501	GTP	C2-N3	2.39	1.39	1.33
39	BL	501	GTP	C2-N3	2.39	1.39	1.33
39	EJ	501	GTP	C2-N3	2.39	1.38	1.33
39	MD	501	GTP	C2-N3	2.38	1.38	1.33
39	KL	501	GTP	C2-N3	2.38	1.38	1.33
39	WL	501	GTP	C2-N3	2.37	1.38	1.33
39	IF	501	GTP	C2-N3	2.37	1.38	1.33
39	HH	501	GTP	C2-N3	2.37	1.38	1.33
39	PB	501	GTP	C2-N3	2.37	1.38	1.33
39	LF	501	GTP	C2-N3	2.37	1.38	1.33
39	AD	501	GTP	C2-N3	2.37	1.38	1.33
39	CF	501	GTP	C2-N3	2.36	1.38	1.33
39	OH	501	GTP	C2-N3	2.36	1.38	1.33
39	QL	501	GTP	C2-N3	2.35	1.38	1.33
39	OD	501	GTP	C2-N3	2.35	1.38	1.33
39	QJ	501	GTP	C2-N3	2.35	1.38	1.33
39	UD	501	GTP	C2-N3	2.35	1.38	1.33
39	EH	501	GTP	C2-N3	2.34	1.38	1.33
39	AF	501	GTP	C2-N3	2.33	1.38	1.33
39	UB	501	GTP	C2-N3	2.32	1.38	1.33
39	KD	501	GTP	C2-N3	2.32	1.38	1.33
39	LL	501	GTP	C2-N3	2.32	1.38	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	MB	501	GTP	C2-N3	2.31	1.38	1.33
39	TF	501	GTP	C2-N3	2.30	1.38	1.33
39	VE	501	GTP	C2-N3	2.28	1.38	1.33
39	QG	501	GTP	C6-N1	2.28	1.41	1.37
39	QF	501	GTP	C2-N3	2.28	1.38	1.33
39	QG	501	GTP	C2-N3	2.27	1.38	1.33
39	MJ	501	GTP	C2-N3	2.26	1.38	1.33
39	AH	501	GTP	C2-N3	2.26	1.38	1.33
39	SK	501	GTP	C2-N3	2.24	1.38	1.33
39	SG	501	GTP	C2-N3	2.24	1.38	1.33
39	PM	501	GTP	C2-N3	2.23	1.38	1.33
39	LI	501	GTP	C2-N3	2.22	1.38	1.33
39	OK	501	GTP	C2-N3	2.21	1.38	1.33
39	DI	501	GTP	C5-C6	-2.21	1.42	1.47
39	TJ	501	GTP	C2-N2	2.20	1.39	1.34
39	LE	501	GTP	C2-N3	2.20	1.38	1.33
39	EG	501	GTP	C2-N3	2.18	1.38	1.33
39	IE	501	GTP	C2-N3	2.18	1.38	1.33
39	DA	501	GTP	C2-N3	2.16	1.38	1.33
39	OC	501	GTP	C2-N3	2.16	1.38	1.33
39	LK	501	GTP	C2-N3	2.15	1.38	1.33
39	JC	501	GTP	C2-N3	2.15	1.38	1.33
39	UG	501	GTP	C2-N3	2.14	1.38	1.33
39	MK	501	GTP	C2-N3	2.14	1.38	1.33
39	UI	501	GTP	C2-N3	2.14	1.38	1.33
39	BG	501	GTP	C2-N3	2.13	1.38	1.33
39	HG	501	GTP	C2-N3	2.13	1.38	1.33
39	NA	501	GTP	C2-N3	2.12	1.38	1.33
39	KE	501	GTP	C2-N3	2.12	1.38	1.33
39	FE	501	GTP	C2-N3	2.12	1.38	1.33
39	KI	501	GTP	C2-N3	2.11	1.38	1.33
39	NG	501	GTP	C2-N3	2.10	1.38	1.33
39	HE	501	GTP	C2-N3	2.10	1.38	1.33
39	KG	501	GTP	C2-N3	2.09	1.38	1.33
39	OA	501	GTP	C2-N3	2.09	1.38	1.33
39	JE	501	GTP	C2-N3	2.09	1.38	1.33
39	QL	502	GTP	C2-N3	2.09	1.38	1.33
39	TK	501	GTP	C2-N3	2.08	1.38	1.33
39	TE	501	GTP	C2-N3	2.08	1.38	1.33
39	VA	501	GTP	C2-N3	2.07	1.38	1.33
39	PG	501	GTP	C2-N3	2.07	1.38	1.33
39	WA	501	GTP	C2-N3	2.07	1.38	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	RI	501	GTP	C2-N3	2.07	1.38	1.33
39	JK	501	GTP	C2-N3	2.07	1.38	1.33
39	KC	501	GTP	C2-N3	2.07	1.38	1.33
39	QC	501	GTP	C2-N3	2.07	1.38	1.33
39	JA	501	GTP	C2-N3	2.07	1.38	1.33
39	HK	501	GTP	C2-N3	2.06	1.38	1.33
39	PI	501	GTP	C2-N3	2.05	1.38	1.33
39	IA	501	GTP	C2-N3	2.05	1.38	1.33
39	WI	501	GTP	C2-N3	2.05	1.38	1.33
39	OI	501	GTP	C2-N3	2.05	1.38	1.33
39	VI	501	GTP	C2-N3	2.05	1.38	1.33
39	MM	501	GTP	C2-N3	2.05	1.38	1.33
39	DG	501	GTP	C2-N3	2.05	1.38	1.33
39	LA	501	GTP	C2-N3	2.04	1.38	1.33
39	IG	501	GTP	C2-N3	2.04	1.38	1.33
39	CL	501	GTP	C5-C4	-2.04	1.37	1.43
39	WC	501	GTP	C2-N3	2.04	1.38	1.33
39	RG	501	GTP	C2-N3	2.04	1.38	1.33
39	GK	501	GTP	C2-N3	2.04	1.38	1.33
39	PA	501	GTP	C2-N3	2.04	1.38	1.33
39	BC	501	GTP	C2-N3	2.03	1.38	1.33
39	EC	501	GTP	O6-C6	2.03	1.27	1.23
39	TM	501	GTP	C2-N3	2.03	1.38	1.33
39	MG	501	GTP	C2-N3	2.03	1.38	1.33
39	RM	501	GTP	C2-N3	2.03	1.38	1.33
39	CI	501	GTP	C2-N3	2.03	1.38	1.33
39	OG	501	GTP	C2-N3	2.03	1.38	1.33
39	UA	501	GTP	C2-N3	2.03	1.38	1.33
39	AC	501	GTP	C2-N3	2.03	1.38	1.33
39	VK	501	GTP	C2-N3	2.03	1.38	1.33
39	TG	501	GTP	C2-N3	2.03	1.38	1.33
39	GA	501	GTP	C2-N3	2.02	1.38	1.33
39	UK	501	GTP	C2-N3	2.02	1.38	1.33
39	NK	501	GTP	C2-N3	2.02	1.38	1.33
39	AG	501	GTP	C2-N3	2.02	1.38	1.33
39	IK	501	GTP	C2-N3	2.01	1.38	1.33
39	PD	501	GTP	C2-N2	2.01	1.39	1.34
39	BK	501	GTP	C2-N3	2.01	1.38	1.33
39	SE	501	GTP	C2-N3	2.01	1.38	1.33
39	PK	501	GTP	C2-N3	2.01	1.38	1.33
39	QD	502	GTP	C2-N3	2.01	1.38	1.33
39	AM	501	GTP	C2-N3	2.00	1.38	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	KA	501	GTP	C2-N3	2.00	1.38	1.33
39	NC	501	GTP	C2-N3	2.00	1.38	1.33
39	UC	501	GTP	C2-N3	2.00	1.38	1.33
39	RE	501	GTP	C2-N3	2.00	1.38	1.33
39	MI	501	GTP	C2-N3	2.00	1.38	1.33
39	MD	502	GTP	C2-N3	2.00	1.38	1.33

All (1930) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	CL	501	GTP	C5-C6-N1	7.16	126.59	113.95
39	QI	501	GTP	O6-C6-N1	-6.50	112.97	120.65
39	UI	501	GTP	O6-C6-N1	-6.45	113.04	120.65
39	BI	501	GTP	O6-C6-N1	-6.15	113.38	120.65
39	DI	501	GTP	O6-C6-N1	-6.13	113.41	120.65
39	CL	501	GTP	O6-C6-N1	-5.82	113.78	120.65
39	BJ	501	GTP	C5-C6-N1	5.77	124.13	113.95
39	KI	501	GTP	O6-C6-N1	-5.68	113.94	120.65
39	VC	501	GTP	O6-C6-N1	-5.62	114.01	120.65
39	IC	501	GTP	O6-C6-N1	-5.53	114.12	120.65
39	EG	501	GTP	O6-C6-N1	-5.18	114.53	120.65
39	BJ	501	GTP	O4'-C4'-C5'	5.11	126.17	109.37
39	OE	501	GTP	O6-C6-N1	-5.03	114.71	120.65
39	QD	501	GTP	PB-O3B-PG	-4.96	115.81	132.83
39	EC	501	GTP	O6-C6-N1	-4.93	114.83	120.65
39	II	501	GTP	O6-C6-N1	-4.87	114.90	120.65
39	QG	501	GTP	C3'-C2'-C1'	4.80	108.21	100.98
39	UI	501	GTP	C3'-C2'-C1'	4.79	108.19	100.98
39	RK	501	GTP	O6-C6-N1	-4.78	115.00	120.65
39	MM	501	GTP	O6-C6-N1	-4.71	115.09	120.65
39	EG	501	GTP	C3'-C2'-C1'	4.69	108.04	100.98
39	TL	501	GTP	N2-C2-N3	4.66	128.80	119.74
39	VE	501	GTP	C3'-C2'-C1'	4.64	107.97	100.98
39	LA	501	GTP	O6-C6-N1	-4.64	115.17	120.65
39	II	501	GTP	C3'-C2'-C1'	4.60	107.91	100.98
39	DI	501	GTP	C3'-C2'-C1'	4.49	107.75	100.98
39	EA	501	GTP	O6-C6-N1	-4.46	115.38	120.65
39	VC	501	GTP	C3'-C2'-C1'	4.45	107.68	100.98
39	IE	501	GTP	C3'-C2'-C1'	4.43	107.65	100.98
39	LI	501	GTP	C3'-C2'-C1'	4.41	107.61	100.98
39	QC	501	GTP	O6-C6-N1	-4.40	115.46	120.65
39	TJ	501	GTP	N1-C2-N3	-4.37	115.15	123.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	OK	501	GTP	C5-C6-N1	4.36	121.65	113.95
39	IC	501	GTP	C3'-C2'-C1'	4.34	107.52	100.98
39	PD	501	GTP	C5-C6-N1	4.26	121.47	113.95
39	BJ	501	GTP	C2-N1-C6	-4.26	117.25	125.10
39	MM	501	GTP	C3'-C2'-C1'	4.24	107.36	100.98
39	NG	501	GTP	C3'-C2'-C1'	4.24	107.36	100.98
39	BM	501	GTP	N2-C2-N1	4.23	125.73	116.71
39	QC	501	GTP	C3'-C2'-C1'	4.23	107.34	100.98
39	OC	501	GTP	C3'-C2'-C1'	4.22	107.33	100.98
39	JG	501	GTP	C8-N7-C5	4.22	111.03	102.99
39	QI	501	GTP	C3'-C2'-C1'	4.20	107.30	100.98
39	LI	501	GTP	O6-C6-N1	-4.19	115.70	120.65
39	EE	501	GTP	O6-C6-N1	-4.18	115.72	120.65
39	OA	501	GTP	C3'-C2'-C1'	4.17	107.25	100.98
39	HE	501	GTP	C3'-C2'-C1'	4.14	107.22	100.98
39	VE	501	GTP	C5-C6-N1	4.14	121.25	113.95
39	IM	501	GTP	C3'-C2'-C1'	4.13	107.20	100.98
39	CL	501	GTP	C2-N1-C6	-4.12	117.52	125.10
39	BI	501	GTP	C3'-C2'-C1'	4.11	107.17	100.98
39	KI	501	GTP	C3'-C2'-C1'	4.10	107.16	100.98
39	AH	501	GTP	PB-O3B-PG	-4.05	118.92	132.83
39	UA	501	GTP	C3'-C2'-C1'	4.05	107.07	100.98
39	KB	501	GTP	C5-C6-N1	4.03	121.06	113.95
39	WI	501	GTP	C3'-C2'-C1'	4.02	107.03	100.98
39	EA	501	GTP	C3'-C2'-C1'	4.01	107.01	100.98
39	WE	501	GTP	PB-O3B-PG	-4.01	119.08	132.83
39	JG	501	GTP	C3'-C2'-C1'	3.96	106.94	100.98
39	NA	501	GTP	C3'-C2'-C1'	3.95	106.93	100.98
39	PA	501	GTP	C3'-C2'-C1'	3.94	106.91	100.98
39	GL	501	GTP	C5-C6-N1	3.92	120.88	113.95
39	OC	501	GTP	O6-C6-N1	-3.92	116.02	120.65
39	QI	501	GTP	C8-N7-C5	3.92	110.45	102.99
39	EK	501	GTP	O6-C6-N1	-3.90	116.04	120.65
39	ND	501	GTP	C2-N1-C6	-3.90	117.92	125.10
39	HK	501	GTP	C3'-C2'-C1'	3.90	106.85	100.98
39	ND	501	GTP	C5-C6-N1	3.90	120.83	113.95
39	LF	501	GTP	PB-O3B-PG	-3.89	119.48	132.83
39	EK	501	GTP	C3'-C2'-C1'	3.89	106.83	100.98
39	GB	501	GTP	N1-C2-N3	-3.89	116.06	123.32
39	TJ	501	GTP	N2-C2-N3	3.88	127.29	119.74
39	RI	501	GTP	C3'-C2'-C1'	3.87	106.81	100.98
39	NI	501	GTP	O6-C6-N1	-3.87	116.08	120.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	VK	501	GTP	C3'-C2'-C1'	3.86	106.79	100.98
39	FH	501	GTP	O6-C6-C5	-3.82	116.91	124.37
39	TH	501	GTP	PB-O3B-PG	-3.80	119.79	132.83
39	JB	501	GTP	PB-O3B-PG	-3.80	119.80	132.83
39	SB	501	GTP	C5-C6-N1	3.80	120.66	113.95
39	QF	501	GTP	PB-O3B-PG	-3.80	119.80	132.83
39	LA	501	GTP	C3'-C2'-C1'	3.79	106.69	100.98
39	TI	501	GTP	C5-C6-N1	3.79	120.64	113.95
39	CM	501	GTP	O6-C6-N1	-3.79	116.18	120.65
39	BC	501	GTP	C3'-C2'-C1'	3.78	106.67	100.98
39	IG	501	GTP	C5-C6-N1	3.78	120.63	113.95
39	IK	501	GTP	C3'-C2'-C1'	3.77	106.66	100.98
39	RK	501	GTP	C5-C6-N1	3.77	120.61	113.95
39	HL	501	GTP	PA-O3A-PB	-3.77	119.89	132.83
39	ML	501	GTP	PB-O3B-PG	-3.76	119.93	132.83
39	ED	501	GTP	PB-O3B-PG	-3.76	119.93	132.83
39	MI	501	GTP	C3'-C2'-C1'	3.76	106.63	100.98
39	BB	501	GTP	PB-O3B-PG	-3.75	119.94	132.83
39	NJ	501	GTP	PB-O3B-PG	-3.75	119.94	132.83
39	CG	501	GTP	C3'-C2'-C1'	3.75	106.62	100.98
39	HB	501	GTP	PB-O3B-PG	-3.74	119.98	132.83
39	JE	501	GTP	C3'-C2'-C1'	3.74	106.61	100.98
39	WI	501	GTP	O6-C6-N1	-3.74	116.23	120.65
39	CJ	501	GTP	PB-O3B-PG	-3.74	120.00	132.83
39	OK	501	GTP	C3'-C2'-C1'	3.74	106.61	100.98
39	RH	501	GTP	PB-O3B-PG	-3.74	120.00	132.83
39	UA	501	GTP	O6-C6-N1	-3.73	116.24	120.65
39	DK	501	GTP	O6-C6-N1	-3.72	116.26	120.65
39	PM	501	GTP	C5-C6-N1	3.71	120.51	113.95
39	DE	501	GTP	C3'-C2'-C1'	3.71	106.56	100.98
39	IE	501	GTP	O6-C6-N1	-3.71	116.27	120.65
39	CL	501	GTP	N1-C2-N3	-3.70	116.41	123.32
39	OA	501	GTP	O6-C6-N1	-3.69	116.29	120.65
39	WE	501	GTP	O6-C6-N1	-3.68	116.30	120.65
39	WH	501	GTP	PB-O3B-PG	-3.68	120.19	132.83
39	VI	501	GTP	C5-C6-N1	3.68	120.45	113.95
39	IE	501	GTP	C8-N7-C5	3.68	110.00	102.99
39	BE	501	GTP	C8-N7-C5	3.68	109.99	102.99
39	UI	501	GTP	C8-N7-C5	3.67	109.97	102.99
39	RB	501	GTP	C5-C6-N1	3.66	120.41	113.95
39	BE	501	GTP	C3'-C2'-C1'	3.66	106.48	100.98
39	BJ	501	GTP	N1-C2-N3	-3.65	116.49	123.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	QC	501	GTP	C8-N7-C5	3.65	109.94	102.99
39	RC	501	GTP	C3'-C2'-C1'	3.65	106.47	100.98
39	GE	501	GTP	C3'-C2'-C1'	3.65	106.47	100.98
39	CG	501	GTP	O6-C6-N1	-3.65	116.34	120.65
39	WH	501	GTP	C5-C6-N1	3.65	120.39	113.95
39	DD	501	GTP	PA-O3A-PB	-3.64	120.33	132.83
39	PA	501	GTP	O6-C6-N1	-3.64	116.35	120.65
39	OH	501	GTP	PB-O3B-PG	-3.63	120.35	132.83
39	FG	501	GTP	C5-C6-N1	3.63	120.36	113.95
39	QG	501	GTP	N1-C2-N3	-3.62	116.55	123.32
39	CL	501	GTP	PB-O3B-PG	-3.62	120.40	132.83
39	VD	501	GTP	PB-O3B-PG	-3.62	120.41	132.83
39	NF	501	GTP	PB-O3B-PG	-3.62	120.42	132.83
39	DG	501	GTP	C3'-C2'-C1'	3.62	106.42	100.98
39	KF	501	GTP	PB-O3B-PG	-3.61	120.42	132.83
39	OJ	501	GTP	PB-O3B-PG	-3.61	120.43	132.83
39	SK	501	GTP	C3'-C2'-C1'	3.61	106.41	100.98
39	DK	501	GTP	C8-N7-C5	3.61	109.86	102.99
39	CK	501	GTP	C3'-C2'-C1'	3.61	106.41	100.98
39	CK	501	GTP	C5-C6-N1	3.60	120.31	113.95
39	JJ	501	GTP	PB-O3B-PG	-3.60	120.46	132.83
39	OI	501	GTP	C5-C6-N1	3.60	120.31	113.95
39	LB	501	GTP	PB-O3B-PG	-3.60	120.48	132.83
39	UK	501	GTP	C5-C6-N1	3.60	120.30	113.95
39	NB	501	GTP	PB-O3B-PG	-3.59	120.52	132.83
39	KH	501	GTP	C5-C6-N1	3.58	120.28	113.95
39	SF	501	GTP	C5-C6-N1	3.58	120.28	113.95
39	WC	501	GTP	C3'-C2'-C1'	3.58	106.37	100.98
39	FG	501	GTP	O6-C6-N1	-3.58	116.42	120.65
39	OC	501	GTP	C8-N7-C5	3.58	109.80	102.99
39	EF	501	GTP	PB-O3B-PG	-3.58	120.56	132.83
39	SH	501	GTP	PB-O3B-PG	-3.57	120.56	132.83
39	EI	501	GTP	C5-C6-N1	3.57	120.26	113.95
39	DJ	501	GTP	C5-C6-N1	3.57	120.26	113.95
39	DJ	501	GTP	PB-O3B-PG	-3.57	120.58	132.83
39	VK	501	GTP	O6-C6-N1	-3.56	116.44	120.65
39	CM	501	GTP	C3'-C2'-C1'	3.56	106.34	100.98
39	QL	501	GTP	PB-O3B-PG	-3.56	120.61	132.83
39	HG	501	GTP	C5-C6-N1	3.56	120.24	113.95
39	RG	501	GTP	C5-C6-N1	3.56	120.24	113.95
39	KJ	501	GTP	PB-O3B-PG	-3.56	120.61	132.83
39	EE	501	GTP	C3'-C2'-C1'	3.56	106.33	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	IB	501	GTP	PB-O3B-PG	-3.55	120.63	132.83
39	BG	501	GTP	C3'-C2'-C1'	3.55	106.33	100.98
39	PB	501	GTP	PB-O3B-PG	-3.55	120.63	132.83
39	QK	501	GTP	C3'-C2'-C1'	3.55	106.33	100.98
39	SC	501	GTP	C3'-C2'-C1'	3.55	106.33	100.98
39	UD	501	GTP	PB-O3B-PG	-3.55	120.65	132.83
39	KE	501	GTP	C5-C6-N1	3.54	120.20	113.95
39	EK	501	GTP	C8-N7-C5	3.53	109.72	102.99
39	AC	501	GTP	C3'-C2'-C1'	3.53	106.30	100.98
39	WJ	501	GTP	PB-O3B-PG	-3.53	120.71	132.83
39	PD	501	GTP	N1-C2-N3	-3.53	116.73	123.32
39	FK	501	GTP	C3'-C2'-C1'	3.52	106.28	100.98
39	VI	501	GTP	O6-C6-N1	-3.52	116.49	120.65
39	IL	501	GTP	PB-O3B-PG	-3.52	120.74	132.83
39	NG	501	GTP	O6-C6-N1	-3.52	116.49	120.65
39	DL	501	GTP	PB-O3B-PG	-3.51	120.77	132.83
39	RK	501	GTP	C3'-C2'-C1'	3.51	106.27	100.98
39	GK	501	GTP	C8-N7-C5	3.51	109.68	102.99
39	KG	501	GTP	C5-C6-N1	3.51	120.15	113.95
39	DD	501	GTP	C2-N1-C6	-3.51	118.64	125.10
39	SB	501	GTP	N1-C2-N3	-3.51	116.77	123.32
39	JL	501	GTP	PB-O3B-PG	-3.51	120.80	132.83
39	HA	501	GTP	O6-C6-N1	-3.50	116.51	120.65
39	DB	501	GTP	PB-O3B-PG	-3.50	120.80	132.83
39	IK	501	GTP	C8-N7-C5	3.50	109.66	102.99
39	CC	501	GTP	C3'-C2'-C1'	3.50	106.25	100.98
39	VL	501	GTP	PB-O3B-PG	-3.50	120.82	132.83
39	JG	501	GTP	O6-C6-N1	-3.50	116.52	120.65
39	LI	501	GTP	C8-N7-C5	3.49	109.65	102.99
39	CH	501	GTP	C5-C6-N1	3.49	120.11	113.95
39	HH	501	GTP	PB-O3B-PG	-3.48	120.87	132.83
39	FJ	501	GTP	C5-C6-N1	3.48	120.10	113.95
39	FL	501	GTP	PB-O3B-PG	-3.48	120.89	132.83
39	DF	501	GTP	C5-C6-N1	3.47	120.09	113.95
39	HJ	501	GTP	PB-O3B-PG	-3.47	120.91	132.83
39	CI	501	GTP	C3'-C2'-C1'	3.47	106.21	100.98
39	GL	501	GTP	N1-C2-N3	-3.47	116.83	123.32
39	HD	501	GTP	PB-O3B-PG	-3.47	120.92	132.83
39	SK	501	GTP	C8-N7-C5	3.47	109.60	102.99
39	AI	501	GTP	C3'-C2'-C1'	3.47	106.20	100.98
39	KI	501	GTP	C8-N7-C5	3.47	109.60	102.99
39	FJ	501	GTP	PA-O3A-PB	-3.47	120.93	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	MD	502	GTP	C5-C6-N1	3.47	120.07	113.95
39	UE	501	GTP	C5-C6-N1	3.47	120.07	113.95
39	IM	501	GTP	O6-C6-N1	-3.46	116.56	120.65
39	GJ	501	GTP	PB-O3B-PG	-3.46	120.95	132.83
39	CH	501	GTP	C2-N1-C6	-3.46	118.73	125.10
39	VJ	501	GTP	PB-O3B-PG	-3.46	120.96	132.83
39	NI	501	GTP	C5-C6-N1	3.46	120.06	113.95
39	RI	501	GTP	C8-N7-C5	3.45	109.57	102.99
39	IB	501	GTP	C5-C6-N1	3.45	120.05	113.95
39	BM	501	GTP	N2-C2-N3	-3.45	113.02	119.74
39	VC	501	GTP	C5-C6-N1	3.45	120.05	113.95
39	RM	501	GTP	C5-C6-N1	3.45	120.04	113.95
39	LJ	501	GTP	C5-C6-N1	3.45	120.04	113.95
39	UJ	501	GTP	PB-O3B-PG	-3.45	121.00	132.83
39	FL	501	GTP	C5-C6-N1	3.44	120.03	113.95
39	NH	501	GTP	C5-C6-N1	3.44	120.03	113.95
39	FD	501	GTP	C5-C6-N1	3.44	120.03	113.95
39	RH	501	GTP	C5-C6-N1	3.44	120.02	113.95
39	DD	501	GTP	C5-C6-N1	3.44	120.02	113.95
39	PI	501	GTP	C5-C6-N1	3.44	120.02	113.95
39	WG	501	GTP	C8-N7-C5	3.44	109.53	102.99
39	EI	501	GTP	C3'-C2'-C1'	3.43	106.15	100.98
39	BJ	501	GTP	PB-O3B-PG	-3.43	121.06	132.83
39	TI	501	GTP	C3'-C2'-C1'	3.43	106.14	100.98
39	CF	501	GTP	PB-O3B-PG	-3.43	121.07	132.83
39	PJ	501	GTP	PB-O3B-PG	-3.42	121.08	132.83
39	TI	501	GTP	O6-C6-N1	-3.42	116.61	120.65
39	AB	501	GTP	C5-C6-N1	3.42	119.98	113.95
39	TJ	501	GTP	PB-O3B-PG	-3.41	121.11	132.83
39	JE	501	GTP	C5-C6-N1	3.41	119.98	113.95
39	RF	501	GTP	PB-O3B-PG	-3.41	121.11	132.83
39	ND	501	GTP	O6-C6-C5	-3.41	117.71	124.37
39	TE	501	GTP	C5-C6-N1	3.41	119.98	113.95
39	BJ	501	GTP	N2-C2-N1	3.41	123.98	116.71
39	OL	501	GTP	PA-O3A-PB	-3.41	121.13	132.83
39	WA	501	GTP	C5-C6-N1	3.41	119.97	113.95
39	UL	501	GTP	PB-O3B-PG	-3.41	121.13	132.83
39	DD	501	GTP	PB-O3B-PG	-3.41	121.14	132.83
39	BK	501	GTP	C8-N7-C5	3.40	109.47	102.99
39	KF	501	GTP	C5-C6-N1	3.40	119.96	113.95
39	TG	501	GTP	C5-C6-N1	3.40	119.96	113.95
39	NA	501	GTP	C8-N7-C5	3.40	109.46	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	SE	501	GTP	C3'-C2'-C1'	3.40	106.09	100.98
39	IF	501	GTP	PB-O3B-PG	-3.40	121.17	132.83
39	TN	501	GTP	PB-O3B-PG	-3.39	121.18	132.83
39	CJ	501	GTP	C5-C6-N1	3.39	119.95	113.95
39	IA	501	GTP	C3'-C2'-C1'	3.39	106.09	100.98
39	TM	501	GTP	C5-C6-N1	3.39	119.94	113.95
39	GL	501	GTP	PA-O3A-PB	-3.39	121.20	132.83
39	QD	502	GTP	C3'-C2'-C1'	3.39	106.08	100.98
39	HE	501	GTP	C8-N7-C5	3.39	109.44	102.99
39	PJ	501	GTP	C5-C6-N1	3.39	119.93	113.95
39	WG	501	GTP	C3'-C2'-C1'	3.39	106.08	100.98
39	MF	501	GTP	PB-O3B-PG	-3.38	121.22	132.83
39	SG	501	GTP	C3'-C2'-C1'	3.38	106.07	100.98
39	NJ	501	GTP	C5-C6-N1	3.38	119.92	113.95
39	MM	501	GTP	C8-N7-C5	3.38	109.42	102.99
39	FF	501	GTP	C5-C6-N1	3.37	119.91	113.95
39	GJ	501	GTP	C5-C6-N1	3.37	119.90	113.95
39	HF	501	GTP	C5-C6-N1	3.37	119.90	113.95
39	LB	501	GTP	C5-C6-N1	3.37	119.90	113.95
39	AG	501	GTP	C3'-C2'-C1'	3.37	106.05	100.98
39	EG	501	GTP	C5-C6-N1	3.37	119.90	113.95
39	ML	501	GTP	C5-C6-N1	3.37	119.90	113.95
39	RL	501	GTP	C5-C6-N1	3.37	119.89	113.95
39	IH	501	GTP	PB-O3B-PG	-3.37	121.28	132.83
39	GB	501	GTP	N2-C2-N3	3.36	126.28	119.74
39	GF	501	GTP	C5-C6-N1	3.36	119.89	113.95
39	TJ	501	GTP	C5-C6-N1	3.36	119.89	113.95
39	SG	501	GTP	C8-N7-C5	3.36	109.39	102.99
39	AM	501	GTP	C5-C6-N1	3.36	119.88	113.95
39	MG	501	GTP	C3'-C2'-C1'	3.36	106.03	100.98
39	AJ	501	GTP	C5-C6-N1	3.36	119.88	113.95
39	GD	501	GTP	C5-C6-N1	3.36	119.88	113.95
39	HC	501	GTP	C5-C6-N1	3.36	119.88	113.95
39	OG	501	GTP	C5-C6-N1	3.36	119.88	113.95
39	NI	501	GTP	C3'-C2'-C1'	3.36	106.03	100.98
39	WF	501	GTP	PB-O3B-PG	-3.36	121.31	132.83
39	CE	501	GTP	C3'-C2'-C1'	3.35	106.03	100.98
39	EC	501	GTP	N1-C2-N3	-3.35	117.06	123.32
39	AF	501	GTP	PB-O3B-PG	-3.35	121.32	132.83
39	DA	501	GTP	C3'-C2'-C1'	3.35	106.03	100.98
39	KA	501	GTP	C5-C6-N1	3.35	119.87	113.95
39	TK	501	GTP	C5-C6-N1	3.35	119.87	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	AE	501	GTP	C5-C6-N1	3.35	119.86	113.95
39	AE	501	GTP	C3'-C2'-C1'	3.35	106.02	100.98
39	SL	501	GTP	PB-O3B-PG	-3.35	121.34	132.83
39	MI	501	GTP	C8-N7-C5	3.35	109.37	102.99
39	UC	501	GTP	C3'-C2'-C1'	3.35	106.02	100.98
39	HK	501	GTP	C8-N7-C5	3.35	109.36	102.99
39	TF	501	GTP	PB-O3B-PG	-3.35	121.35	132.83
39	BD	501	GTP	C5-C6-N1	3.34	119.85	113.95
39	SI	501	GTP	C3'-C2'-C1'	3.34	106.01	100.98
39	GG	501	GTP	C5-C6-N1	3.34	119.85	113.95
39	JA	501	GTP	C5-C6-N1	3.34	119.84	113.95
39	WB	501	GTP	C5-C6-N1	3.34	119.84	113.95
39	NE	501	GTP	C5-C6-N1	3.34	119.84	113.95
39	BC	501	GTP	C8-N7-C5	3.33	109.34	102.99
39	GD	501	GTP	PB-O3B-PG	-3.33	121.39	132.83
39	MK	501	GTP	C5-C6-N1	3.33	119.83	113.95
39	SB	501	GTP	PA-O3A-PB	-3.33	121.40	132.83
39	AL	501	GTP	C5-C6-N1	3.33	119.83	113.95
39	VK	501	GTP	C8-N7-C5	3.33	109.33	102.99
39	II	501	GTP	C8-N7-C5	3.33	109.33	102.99
39	FB	501	GTP	PB-O3B-PG	-3.33	121.41	132.83
39	LC	501	GTP	C5-C6-N1	3.33	119.83	113.95
39	PK	501	GTP	C3'-C2'-C1'	3.32	105.98	100.98
39	PA	501	GTP	C8-N7-C5	3.32	109.32	102.99
39	WE	501	GTP	C3'-C2'-C1'	3.32	105.98	100.98
39	DH	501	GTP	C5-C6-N1	3.32	119.81	113.95
39	SL	501	GTP	C5-C6-N1	3.31	119.80	113.95
39	BH	501	GTP	C5-C6-N1	3.31	119.80	113.95
39	KK	501	GTP	C5-C6-N1	3.31	119.80	113.95
39	IC	501	GTP	C8-N7-C5	3.31	109.30	102.99
39	EE	501	GTP	C5-C6-N1	3.31	119.80	113.95
39	RC	501	GTP	C5-C6-N1	3.31	119.80	113.95
39	PF	501	GTP	C5-C6-N1	3.31	119.79	113.95
39	TE	501	GTP	C3'-C2'-C1'	3.31	105.96	100.98
39	DH	501	GTP	PB-O3B-PG	-3.30	121.49	132.83
39	LD	501	GTP	C5-C6-N1	3.30	119.78	113.95
39	FH	501	GTP	PA-O3A-PB	-3.30	121.49	132.83
39	JD	501	GTP	C5-C6-N1	3.30	119.78	113.95
39	UG	501	GTP	C5-C6-N1	3.30	119.78	113.95
39	AM	501	GTP	C3'-C2'-C1'	3.30	105.95	100.98
39	VJ	501	GTP	C5-C6-N1	3.30	119.78	113.95
39	MC	501	GTP	C5-C6-N1	3.30	119.78	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	SF	501	GTP	PB-O3B-PG	-3.30	121.50	132.83
39	NC	501	GTP	C5-C6-N1	3.30	119.78	113.95
39	VF	501	GTP	C5-C6-N1	3.30	119.78	113.95
39	KA	501	GTP	C3'-C2'-C1'	3.30	105.94	100.98
39	WK	501	GTP	C3'-C2'-C1'	3.30	105.94	100.98
39	FE	501	GTP	C5-C6-N1	3.30	119.77	113.95
39	HD	501	GTP	C5-C6-N1	3.29	119.77	113.95
39	WI	501	GTP	C5-C6-N1	3.29	119.77	113.95
39	VG	501	GTP	C3'-C2'-C1'	3.29	105.94	100.98
39	BB	501	GTP	C5-C6-N1	3.29	119.77	113.95
39	TD	501	GTP	C5-C6-N1	3.29	119.77	113.95
39	UC	501	GTP	C5-C6-N1	3.29	119.77	113.95
39	UH	501	GTP	PB-O3B-PG	-3.29	121.53	132.83
39	BF	501	GTP	C5-C6-N1	3.29	119.76	113.95
39	JJ	501	GTP	C5-C6-N1	3.29	119.76	113.95
39	SC	501	GTP	C8-N7-C5	3.29	109.25	102.99
39	UH	501	GTP	C5-C6-N1	3.29	119.75	113.95
39	HB	501	GTP	C5-C6-N1	3.29	119.75	113.95
39	CL	501	GTP	PA-O3A-PB	-3.28	121.55	132.83
39	HL	501	GTP	C5-C6-N1	3.28	119.75	113.95
39	CH	501	GTP	O6-C6-C5	-3.28	117.97	124.37
39	FE	501	GTP	C3'-C2'-C1'	3.28	105.92	100.98
39	LF	501	GTP	C5-C6-N1	3.28	119.74	113.95
39	GB	501	GTP	C5-C6-N1	3.28	119.73	113.95
39	EB	501	GTP	C5-C6-N1	3.27	119.73	113.95
39	DF	501	GTP	PB-O3B-PG	-3.27	121.59	132.83
39	VA	501	GTP	C3'-C2'-C1'	3.27	105.91	100.98
39	CG	501	GTP	C8-N7-C5	3.27	109.22	102.99
39	DL	501	GTP	C5-C6-N1	3.27	119.73	113.95
39	CK	501	GTP	O6-C6-N1	-3.27	116.78	120.65
39	OL	501	GTP	C5-C6-N1	3.27	119.73	113.95
39	PM	501	GTP	N1-C2-N3	-3.27	117.22	123.32
39	KE	501	GTP	O6-C6-N1	-3.27	116.79	120.65
39	PK	501	GTP	C5-C6-N1	3.27	119.72	113.95
39	GE	501	GTP	O6-C6-N1	-3.27	116.79	120.65
39	UA	501	GTP	C8-N7-C5	3.27	109.21	102.99
39	NL	501	GTP	C5-C6-N1	3.26	119.72	113.95
39	FH	501	GTP	O6-C6-N1	3.26	124.50	120.65
39	PB	501	GTP	C5-C6-N1	3.26	119.72	113.95
39	QJ	501	GTP	C5-C6-N1	3.26	119.71	113.95
39	VH	501	GTP	PB-O3B-PG	-3.26	121.63	132.83
39	MK	501	GTP	O3G-PG-O3B	3.26	115.57	104.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	PG	501	GTP	C5-C6-N1	3.26	119.71	113.95
39	WD	501	GTP	C5-C6-N1	3.26	119.71	113.95
39	NF	501	GTP	C5-C6-N1	3.26	119.71	113.95
39	JI	501	GTP	C3'-C2'-C1'	3.26	105.89	100.98
39	VH	501	GTP	C5-C6-N1	3.26	119.71	113.95
39	WI	501	GTP	C8-N7-C5	3.26	109.20	102.99
39	SD	501	GTP	C5-C6-N1	3.26	119.70	113.95
39	TB	501	GTP	PB-O3B-PG	-3.26	121.65	132.83
39	BG	501	GTP	C5-C6-N1	3.26	119.70	113.95
39	IH	501	GTP	C5-C6-N1	3.26	119.70	113.95
39	GA	501	GTP	C5-C6-N1	3.25	119.70	113.95
39	JH	501	GTP	C5-C6-N1	3.25	119.70	113.95
39	JB	501	GTP	C5-C6-N1	3.25	119.69	113.95
39	QB	501	GTP	C5-C6-N1	3.25	119.69	113.95
39	BG	501	GTP	C8-N7-C5	3.25	109.18	102.99
39	QL	502	GTP	C5-C6-N1	3.25	119.69	113.95
39	LL	501	GTP	PB-O3B-PG	-3.25	121.67	132.83
39	SJ	501	GTP	C5-C6-N1	3.25	119.69	113.95
39	TN	501	GTP	C5-C6-N1	3.25	119.69	113.95
39	LG	501	GTP	C5-C6-N1	3.25	119.69	113.95
39	BK	501	GTP	C3'-C2'-C1'	3.25	105.87	100.98
39	UD	501	GTP	C5-C6-N1	3.25	119.69	113.95
39	PL	501	GTP	PB-O3B-PG	-3.25	121.69	132.83
39	BM	501	GTP	C2-N1-C6	-3.25	119.12	125.10
39	IG	501	GTP	O6-C6-N1	-3.25	116.82	120.65
39	CB	501	GTP	C5-C6-N1	3.25	119.68	113.95
39	IL	501	GTP	C5-C6-N1	3.25	119.68	113.95
39	OG	501	GTP	C3'-C2'-C1'	3.25	105.86	100.98
39	UF	501	GTP	C5-C6-N1	3.25	119.68	113.95
39	KL	501	GTP	C5-C6-N1	3.24	119.68	113.95
39	ED	501	GTP	C5-C6-N1	3.24	119.68	113.95
39	TB	501	GTP	C5-C6-N1	3.24	119.68	113.95
39	TD	501	GTP	PB-O3B-PG	-3.24	121.70	132.83
39	QH	501	GTP	C5-C6-N1	3.24	119.67	113.95
39	TC	501	GTP	C3'-C2'-C1'	3.24	105.85	100.98
39	HI	501	GTP	C5-C6-N1	3.24	119.67	113.95
39	PC	501	GTP	C5-C6-N1	3.24	119.67	113.95
39	RF	501	GTP	C5-C6-N1	3.24	119.67	113.95
39	MD	502	GTP	C3'-C2'-C1'	3.24	105.85	100.98
39	OE	501	GTP	C3'-C2'-C1'	3.24	105.85	100.98
39	WE	501	GTP	C8-N7-C5	3.24	109.15	102.99
39	BL	501	GTP	C5-C6-N1	3.23	119.66	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	JK	501	GTP	C3'-C2'-C1'	3.23	105.85	100.98
39	UI	501	GTP	C2-N1-C6	-3.23	119.14	125.10
39	TK	501	GTP	C3'-C2'-C1'	3.23	105.85	100.98
39	HH	501	GTP	C5-C6-N1	3.23	119.66	113.95
39	WJ	501	GTP	C5-C6-N1	3.23	119.66	113.95
39	QD	501	GTP	C5-C6-N1	3.23	119.66	113.95
39	TF	501	GTP	C5-C6-N1	3.23	119.66	113.95
39	EF	501	GTP	C5-C6-N1	3.23	119.65	113.95
39	MF	501	GTP	C5-C6-N1	3.23	119.65	113.95
39	NB	501	GTP	C5-C6-N1	3.23	119.65	113.95
39	WL	501	GTP	C5-C6-N1	3.23	119.65	113.95
39	EH	501	GTP	PB-O3B-PG	-3.22	121.77	132.83
39	MK	501	GTP	C3'-C2'-C1'	3.22	105.83	100.98
39	EJ	501	GTP	C5-C6-N1	3.22	119.64	113.95
39	OD	501	GTP	C5-C6-N1	3.22	119.64	113.95
39	SC	501	GTP	PA-O3A-PB	-3.22	121.77	132.83
39	UG	501	GTP	PB-O3B-PG	-3.22	121.78	132.83
39	KL	501	GTP	PB-O3B-PG	-3.22	121.78	132.83
39	MH	501	GTP	C5-C6-N1	3.22	119.63	113.95
39	RD	501	GTP	C5-C6-N1	3.22	119.63	113.95
39	LH	501	GTP	C5-C6-N1	3.21	119.63	113.95
39	MB	501	GTP	C5-C6-N1	3.21	119.63	113.95
39	SH	501	GTP	C5-C6-N1	3.21	119.63	113.95
39	CJ	501	GTP	PA-O3A-PB	-3.21	121.80	132.83
39	ID	501	GTP	PB-O3B-PG	-3.21	121.80	132.83
39	VG	501	GTP	C5-C6-N1	3.21	119.62	113.95
39	KC	501	GTP	C5-C6-N1	3.21	119.62	113.95
39	PH	501	GTP	C5-C6-N1	3.21	119.62	113.95
39	KJ	501	GTP	C5-C6-N1	3.21	119.62	113.95
39	QL	501	GTP	C5-C6-N1	3.21	119.62	113.95
39	VI	501	GTP	C3'-C2'-C1'	3.21	105.81	100.98
39	UJ	501	GTP	C5-C6-N1	3.21	119.62	113.95
39	VL	501	GTP	C5-C6-N1	3.21	119.62	113.95
39	IG	501	GTP	C3'-C2'-C1'	3.21	105.81	100.98
39	GE	501	GTP	C5-C6-N1	3.21	119.61	113.95
39	HJ	501	GTP	C5-C6-N1	3.21	119.61	113.95
39	OF	501	GTP	C5-C6-N1	3.20	119.61	113.95
39	CF	501	GTP	C5-C6-N1	3.20	119.61	113.95
39	KD	501	GTP	C5-C6-N1	3.20	119.61	113.95
39	OJ	501	GTP	C5-C6-N1	3.20	119.61	113.95
39	QF	501	GTP	C5-C6-N1	3.20	119.61	113.95
39	RJ	501	GTP	C5-C6-N1	3.20	119.61	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	IJ	501	GTP	C5-C6-N1	3.20	119.60	113.95
39	TL	501	GTP	C5-C6-N1	3.20	119.60	113.95
39	UL	501	GTP	C5-C6-N1	3.20	119.60	113.95
39	FL	501	GTP	N1-C2-N3	-3.20	117.34	123.32
39	MJ	501	GTP	C5-C6-N1	3.20	119.60	113.95
39	NK	501	GTP	C3'-C2'-C1'	3.20	105.79	100.98
39	PG	501	GTP	C3'-C2'-C1'	3.20	105.79	100.98
39	IM	501	GTP	C8-N7-C5	3.20	109.08	102.99
39	CB	501	GTP	PB-O3B-PG	-3.20	121.86	132.83
39	QJ	501	GTP	PB-O3B-PG	-3.20	121.86	132.83
39	IJ	501	GTP	PB-O3B-PG	-3.20	121.86	132.83
39	JF	501	GTP	C5-C6-N1	3.20	119.59	113.95
39	FI	501	GTP	C5-C6-N1	3.19	119.59	113.95
39	PA	501	GTP	PA-O3A-PB	-3.19	121.87	132.83
39	VE	501	GTP	N2-C2-N1	3.19	123.51	116.71
39	CI	501	GTP	C5-C6-N1	3.19	119.59	113.95
39	TH	501	GTP	C5-C6-N1	3.19	119.59	113.95
39	OH	501	GTP	C5-C6-N1	3.19	119.58	113.95
39	JL	501	GTP	C5-C6-N1	3.19	119.58	113.95
39	DE	501	GTP	C8-N7-C5	3.19	109.06	102.99
39	QG	501	GTP	N2-C2-N1	3.19	123.50	116.71
39	VA	501	GTP	C8-N7-C5	3.19	109.06	102.99
39	QL	502	GTP	C3'-C2'-C1'	3.18	105.77	100.98
39	IK	501	GTP	O6-C6-N1	-3.18	116.89	120.65
39	ID	501	GTP	C5-C6-N1	3.18	119.57	113.95
39	HC	501	GTP	O3G-PG-O1G	3.18	123.14	110.68
39	AF	501	GTP	C5-C6-N1	3.18	119.57	113.95
39	WF	501	GTP	C5-C6-N1	3.18	119.56	113.95
39	RG	501	GTP	C3'-C2'-C1'	3.18	105.76	100.98
39	LD	501	GTP	PB-O3B-PG	-3.18	121.92	132.83
39	DB	501	GTP	C5-C6-N1	3.17	119.56	113.95
39	DG	501	GTP	C5-C6-N1	3.17	119.55	113.95
39	OI	501	GTP	C3'-C2'-C1'	3.17	105.75	100.98
39	NK	501	GTP	C5-C6-N1	3.17	119.55	113.95
39	LL	501	GTP	C5-C6-N1	3.17	119.55	113.95
39	OB	501	GTP	C5-C6-N1	3.17	119.55	113.95
39	VB	501	GTP	C5-C6-N1	3.17	119.55	113.95
39	IA	501	GTP	C5-C6-N1	3.17	119.55	113.95
39	SG	501	GTP	C5-C6-N1	3.17	119.54	113.95
39	RE	501	GTP	C3'-C2'-C1'	3.17	105.74	100.98
39	DD	501	GTP	O6-C6-C5	-3.17	118.19	124.37
39	FI	501	GTP	C3'-C2'-C1'	3.16	105.74	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	WG	501	GTP	O6-C6-N1	-3.16	116.92	120.65
39	AK	501	GTP	O6-C6-N1	-3.16	116.92	120.65
39	GH	501	GTP	C5-C6-N1	3.16	119.53	113.95
39	HB	501	GTP	PA-O3A-PB	-3.16	122.00	132.83
39	OK	501	GTP	C2-N1-C6	-3.16	119.29	125.10
39	GI	501	GTP	C5-C6-N1	3.16	119.52	113.95
39	RE	501	GTP	C5-C6-N1	3.16	119.52	113.95
39	LE	501	GTP	C8-N7-C5	3.15	109.00	102.99
39	MD	502	GTP	O6-C6-N1	-3.15	116.92	120.65
39	WK	501	GTP	C5-C6-N1	3.15	119.52	113.95
39	NE	501	GTP	C3'-C2'-C1'	3.15	105.72	100.98
39	UK	501	GTP	C3'-C2'-C1'	3.15	105.72	100.98
39	VD	501	GTP	C5-C6-N1	3.15	119.51	113.95
39	RM	501	GTP	C3'-C2'-C1'	3.15	105.71	100.98
39	SI	501	GTP	C5-C6-N1	3.14	119.50	113.95
39	HE	501	GTP	C5-C6-N1	3.14	119.50	113.95
39	PE	501	GTP	C5-C6-N1	3.14	119.50	113.95
39	UE	501	GTP	C3'-C2'-C1'	3.14	105.71	100.98
39	EH	501	GTP	C5-C6-N1	3.14	119.49	113.95
39	FB	501	GTP	C5-C6-N1	3.14	119.49	113.95
39	CD	501	GTP	C5-C6-N1	3.14	119.49	113.95
39	JA	501	GTP	C3'-C2'-C1'	3.14	105.70	100.98
39	OK	501	GTP	N2-C2-N1	3.13	123.39	116.71
39	MC	501	GTP	C3'-C2'-C1'	3.13	105.69	100.98
39	JI	501	GTP	C8-N7-C5	3.13	108.95	102.99
39	QB	501	GTP	PB-O3B-PG	-3.13	122.08	132.83
39	FG	501	GTP	C3'-C2'-C1'	3.13	105.69	100.98
39	NA	501	GTP	O6-C6-N1	-3.13	116.96	120.65
39	CE	501	GTP	C5-C6-N1	3.13	119.47	113.95
39	AH	501	GTP	C5-C6-N1	3.12	119.47	113.95
39	TG	501	GTP	C3'-C2'-C1'	3.12	105.68	100.98
39	LI	501	GTP	C5-C6-N1	3.12	119.47	113.95
39	KB	501	GTP	C2-N1-C6	-3.12	119.35	125.10
39	AI	501	GTP	C8-N7-C5	3.12	108.93	102.99
39	PI	501	GTP	C3'-C2'-C1'	3.12	105.67	100.98
39	JE	501	GTP	O6-C6-N1	-3.12	116.97	120.65
39	OA	501	GTP	C5-C6-N1	3.12	119.46	113.95
39	SM	501	GTP	C3'-C2'-C1'	3.12	105.67	100.98
39	SB	501	GTP	PB-O3B-PG	-3.12	122.14	132.83
39	CJ	501	GTP	C2-N1-C6	-3.11	119.36	125.10
39	GK	501	GTP	C3'-C2'-C1'	3.11	105.66	100.98
39	WB	501	GTP	PB-O3B-PG	-3.11	122.15	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	NG	501	GTP	C8-N7-C5	3.11	108.91	102.99
39	GG	501	GTP	C3'-C2'-C1'	3.11	105.66	100.98
39	EL	501	GTP	C5-C6-N1	3.11	119.44	113.95
39	NG	501	GTP	C5-C6-N1	3.11	119.44	113.95
39	QG	501	GTP	C5-C6-N1	3.11	119.44	113.95
39	EL	501	GTP	PB-O3B-PG	-3.11	122.17	132.83
39	QD	502	GTP	C8-N7-C5	3.11	108.91	102.99
39	IF	501	GTP	C5-C6-N1	3.10	119.43	113.95
39	UB	501	GTP	C5-C6-N1	3.10	119.43	113.95
39	OA	501	GTP	C8-N7-C5	3.10	108.90	102.99
39	MD	501	GTP	C5-C6-N1	3.10	119.43	113.95
39	OB	501	GTP	PB-O3B-PG	-3.10	122.18	132.83
39	FC	501	GTP	C3'-C2'-C1'	3.10	105.65	100.98
39	TM	501	GTP	C3'-C2'-C1'	3.10	105.65	100.98
39	JC	501	GTP	C3'-C2'-C1'	3.10	105.64	100.98
39	OL	501	GTP	PB-O3B-PG	-3.10	122.19	132.83
39	HI	501	GTP	C3'-C2'-C1'	3.10	105.64	100.98
39	SD	501	GTP	PB-O3B-PG	-3.09	122.21	132.83
39	SE	501	GTP	C8-N7-C5	3.09	108.88	102.99
39	JK	501	GTP	C8-N7-C5	3.09	108.88	102.99
39	VE	501	GTP	C8-N7-C5	3.09	108.88	102.99
39	CD	501	GTP	PB-O3B-PG	-3.09	122.22	132.83
39	IM	501	GTP	C5-C6-N1	3.09	119.41	113.95
39	LK	501	GTP	C5-C6-N1	3.09	119.41	113.95
39	KG	501	GTP	C3'-C2'-C1'	3.09	105.62	100.98
39	AD	501	GTP	C5-C6-N1	3.08	119.39	113.95
39	EG	501	GTP	C8-N7-C5	3.08	108.86	102.99
39	LE	501	GTP	C5-C6-N1	3.08	119.39	113.95
39	HE	501	GTP	O6-C6-N1	-3.08	117.01	120.65
39	BI	501	GTP	C5-C6-N1	3.08	119.39	113.95
39	PM	501	GTP	O6-C6-N1	-3.07	117.02	120.65
39	GA	501	GTP	C3'-C2'-C1'	3.07	105.60	100.98
39	EI	501	GTP	O6-C6-N1	-3.07	117.03	120.65
39	VG	501	GTP	C8-N7-C5	3.07	108.83	102.99
39	UG	501	GTP	C3'-C2'-C1'	3.07	105.59	100.98
39	LA	501	GTP	C8-N7-C5	3.07	108.83	102.99
39	IB	501	GTP	C2-N1-C6	-3.07	119.45	125.10
39	KE	501	GTP	C3'-C2'-C1'	3.07	105.59	100.98
39	UK	501	GTP	O6-C6-N1	-3.07	117.03	120.65
39	DA	501	GTP	C5-C6-N1	3.06	119.36	113.95
39	PM	501	GTP	C3'-C2'-C1'	3.06	105.59	100.98
39	DC	501	GTP	C3'-C2'-C1'	3.05	105.58	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	GI	501	GTP	C3'-C2'-C1'	3.05	105.58	100.98
39	HK	501	GTP	C5-C6-N1	3.05	119.34	113.95
39	MG	501	GTP	C8-N7-C5	3.05	108.81	102.99
39	BM	501	GTP	C8-N7-C5	3.05	108.80	102.99
39	UB	501	GTP	PB-O3B-PG	-3.05	122.37	132.83
39	EA	501	GTP	C5-C6-N1	3.05	119.33	113.95
39	IA	501	GTP	O6-C6-N1	-3.04	117.05	120.65
39	JF	501	GTP	PB-O3B-PG	-3.04	122.38	132.83
39	JC	501	GTP	C5-C6-N1	3.04	119.32	113.95
39	LG	501	GTP	C3'-C2'-C1'	3.04	105.56	100.98
39	AC	501	GTP	C8-N7-C5	3.04	108.78	102.99
39	PL	501	GTP	C5-C6-N1	3.04	119.32	113.95
39	VC	501	GTP	C8-N7-C5	3.04	108.78	102.99
39	WA	501	GTP	C3'-C2'-C1'	3.04	105.55	100.98
39	BJ	501	GTP	PA-O3A-PB	-3.03	122.42	132.83
39	DG	501	GTP	C8-N7-C5	3.03	108.77	102.99
39	FK	501	GTP	O6-C6-N1	-3.03	117.07	120.65
39	AG	501	GTP	C5-C6-N1	3.03	119.30	113.95
39	WC	501	GTP	C8-N7-C5	3.03	108.76	102.99
39	AG	501	GTP	C8-N7-C5	3.03	108.75	102.99
39	PH	501	GTP	PB-O3B-PG	-3.02	122.46	132.83
39	HG	501	GTP	C3'-C2'-C1'	3.02	105.53	100.98
39	RJ	501	GTP	PB-O3B-PG	-3.02	122.48	132.83
39	JC	501	GTP	C8-N7-C5	3.01	108.73	102.99
39	KK	501	GTP	C3'-C2'-C1'	3.01	105.52	100.98
39	BK	501	GTP	O6-C6-N1	-3.01	117.09	120.65
39	LC	501	GTP	C3'-C2'-C1'	3.01	105.51	100.98
39	JE	501	GTP	C8-N7-C5	3.01	108.73	102.99
39	CM	501	GTP	C8-N7-C5	3.00	108.71	102.99
39	JD	501	GTP	PB-O3B-PG	-3.00	122.52	132.83
39	KB	501	GTP	O6-C6-C5	-3.00	118.51	124.37
39	RH	501	GTP	PA-O3A-PB	-3.00	122.53	132.83
39	NH	501	GTP	C2-N1-C6	-3.00	119.57	125.10
39	TH	501	GTP	PA-O3A-PB	-3.00	122.54	132.83
39	IB	501	GTP	PA-O3A-PB	-3.00	122.54	132.83
39	BC	501	GTP	O6-C6-N1	-3.00	117.11	120.65
39	DI	501	GTP	C8-N7-C5	3.00	108.70	102.99
39	WE	501	GTP	C5-C6-N1	3.00	119.24	113.95
39	HF	501	GTP	PA-O3A-PB	-3.00	122.55	132.83
39	EA	501	GTP	C8-N7-C5	2.99	108.69	102.99
39	HC	501	GTP	C3'-C2'-C1'	2.99	105.48	100.98
39	FA	501	GTP	C8-N7-C5	2.99	108.69	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	FA	501	GTP	N1-C2-N3	-2.99	117.73	123.32
39	OF	501	GTP	PB-O3B-PG	-2.99	122.56	132.83
39	CC	501	GTP	C8-N7-C5	2.99	108.68	102.99
39	RB	501	GTP	C2-N1-C6	-2.99	119.60	125.10
39	IC	501	GTP	C5-C6-N1	2.99	119.22	113.95
39	LK	501	GTP	C8-N7-C5	2.99	108.68	102.99
39	CE	501	GTP	O6-C6-N1	-2.99	117.12	120.65
39	DE	501	GTP	O6-C6-N1	-2.98	117.12	120.65
39	PF	501	GTP	PB-O3B-PG	-2.98	122.59	132.83
39	II	501	GTP	C5-C6-N1	2.98	119.22	113.95
39	FE	501	GTP	C8-N7-C5	2.98	108.67	102.99
39	RC	501	GTP	C8-N7-C5	2.98	108.67	102.99
39	SF	501	GTP	C2-N1-C6	-2.98	119.61	125.10
39	WC	501	GTP	C5-C6-N1	2.98	119.21	113.95
39	CE	501	GTP	C8-N7-C5	2.98	108.66	102.99
39	MG	501	GTP	C5-C6-N1	2.97	119.20	113.95
39	RF	501	GTP	PA-O3A-PB	-2.97	122.64	132.83
39	UB	501	GTP	C2-N1-C6	-2.97	119.63	125.10
39	PD	501	GTP	PB-O3B-PG	-2.97	122.65	132.83
39	DC	501	GTP	O6-C6-N1	-2.96	117.15	120.65
39	TC	501	GTP	C5-C6-N1	2.96	119.19	113.95
39	UH	501	GTP	C2-N1-C6	-2.96	119.64	125.10
39	GC	501	GTP	C8-N7-C5	2.96	108.63	102.99
39	CK	501	GTP	C8-N7-C5	2.96	108.63	102.99
39	LK	501	GTP	C3'-C2'-C1'	2.96	105.43	100.98
39	LJ	501	GTP	C2-N1-C6	-2.96	119.65	125.10
39	FC	501	GTP	C8-N7-C5	2.96	108.62	102.99
39	WC	501	GTP	O6-C6-N1	-2.96	117.16	120.65
39	GH	501	GTP	N1-C2-N3	-2.95	117.80	123.32
39	TF	501	GTP	C2-N1-C6	-2.95	119.66	125.10
39	NJ	501	GTP	PA-O3A-PB	-2.95	122.69	132.83
39	LB	501	GTP	C2-N1-C6	-2.95	119.66	125.10
39	PC	501	GTP	C8-N7-C5	2.95	108.61	102.99
39	HA	501	GTP	C3'-C2'-C1'	2.95	105.42	100.98
39	UJ	501	GTP	PA-O3A-PB	-2.95	122.71	132.83
39	GK	501	GTP	C5-C6-N1	2.95	119.16	113.95
39	PG	501	GTP	C8-N7-C5	2.94	108.60	102.99
39	BJ	501	GTP	O6-C6-N1	-2.94	117.17	120.65
39	RL	501	GTP	PB-O3B-PG	-2.94	122.74	132.83
39	TL	501	GTP	N1-C2-N3	-2.94	117.83	123.32
39	RL	501	GTP	C2-N1-C6	-2.94	119.69	125.10
39	UH	501	GTP	PA-O3A-PB	-2.94	122.74	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	TF	501	GTP	C8-N7-C5	2.94	108.59	102.99
39	FI	501	GTP	C8-N7-C5	2.94	108.58	102.99
39	AD	501	GTP	PA-O3A-PB	-2.94	122.75	132.83
39	KF	501	GTP	PA-O3A-PB	-2.93	122.76	132.83
39	EE	501	GTP	C8-N7-C5	2.93	108.57	102.99
39	PE	501	GTP	C3'-C2'-C1'	2.93	105.39	100.98
39	TN	501	GTP	PA-O3A-PB	-2.93	122.78	132.83
39	VK	501	GTP	C5-C6-N1	2.93	119.12	113.95
39	DF	501	GTP	C8-N7-C5	2.92	108.56	102.99
39	SJ	501	GTP	PB-O3B-PG	-2.92	122.79	132.83
39	MB	501	GTP	PB-O3B-PG	-2.92	122.80	132.83
39	LB	501	GTP	PA-O3A-PB	-2.92	122.80	132.83
39	KA	501	GTP	C8-N7-C5	2.92	108.55	102.99
39	UA	501	GTP	C5-C6-N1	2.92	119.11	113.95
39	AB	501	GTP	PB-O3B-PG	-2.92	122.82	132.83
39	FH	501	GTP	PB-O3B-PG	-2.91	122.83	132.83
39	AB	501	GTP	C8-N7-C5	2.91	108.54	102.99
39	BJ	501	GTP	O6-C6-C5	-2.91	118.69	124.37
39	IE	501	GTP	C5-C6-N1	2.91	119.08	113.95
39	KD	501	GTP	PA-O3A-PB	-2.91	122.85	132.83
39	MD	501	GTP	PB-O3B-PG	-2.91	122.86	132.83
39	ND	501	GTP	PB-O3B-PG	-2.90	122.87	132.83
39	KH	501	GTP	PB-O3B-PG	-2.90	122.87	132.83
39	KC	501	GTP	C3'-C2'-C1'	2.90	105.35	100.98
39	AM	501	GTP	C8-N7-C5	2.90	108.51	102.99
39	WK	501	GTP	C8-N7-C5	2.90	108.51	102.99
39	GF	501	GTP	C2-N1-C6	-2.90	119.77	125.10
39	RH	501	GTP	C2-N1-C6	-2.90	119.77	125.10
39	GA	501	GTP	C8-N7-C5	2.90	108.50	102.99
39	DE	501	GTP	C5-C6-N1	2.89	119.06	113.95
39	TF	501	GTP	PA-O3A-PB	-2.89	122.90	132.83
39	PA	501	GTP	C5-C6-N1	2.89	119.06	113.95
39	FI	501	GTP	O6-C6-N1	-2.89	117.24	120.65
39	VB	501	GTP	PB-O3B-PG	-2.89	122.92	132.83
39	TJ	501	GTP	PA-O3A-PB	-2.89	122.92	132.83
39	SK	501	GTP	C2-N1-C6	-2.89	119.78	125.10
39	NC	501	GTP	C3'-C2'-C1'	2.88	105.32	100.98
39	JB	501	GTP	PA-O3A-PB	-2.88	122.93	132.83
39	LA	501	GTP	C5-C6-N1	2.88	119.04	113.95
39	BH	501	GTP	PB-O3B-PG	-2.88	122.93	132.83
39	BH	501	GTP	C2-N1-C6	-2.88	119.79	125.10
39	HH	501	GTP	C8-N7-C5	2.88	108.48	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	AG	501	GTP	PA-O3A-PB	-2.88	122.95	132.83
39	HI	501	GTP	C8-N7-C5	2.88	108.47	102.99
39	LE	501	GTP	C3'-C2'-C1'	2.88	105.31	100.98
39	UD	501	GTP	C8-N7-C5	2.88	108.47	102.99
39	HF	501	GTP	C2-N1-C6	-2.88	119.80	125.10
39	QL	501	GTP	C8-N7-C5	2.88	108.47	102.99
39	JJ	501	GTP	C2-N1-C6	-2.88	119.80	125.10
39	IJ	501	GTP	C8-N7-C5	2.88	108.47	102.99
39	RB	501	GTP	O6-C6-C5	-2.88	118.76	124.37
39	OH	501	GTP	C8-N7-C5	2.87	108.47	102.99
39	AD	501	GTP	PB-O3B-PG	-2.87	122.97	132.83
39	BG	501	GTP	O6-C6-N1	-2.87	117.26	120.65
39	PL	501	GTP	N1-C2-N3	-2.87	117.95	123.32
39	QF	501	GTP	C8-N7-C5	2.87	108.46	102.99
39	AC	501	GTP	C5-C6-N1	2.87	119.02	113.95
39	BL	501	GTP	C8-N7-C5	2.87	108.46	102.99
39	AK	501	GTP	C8-N7-C5	2.87	108.46	102.99
39	VE	501	GTP	N1-C2-N3	-2.87	117.96	123.32
39	RD	501	GTP	C8-N7-C5	2.87	108.46	102.99
39	UC	501	GTP	C8-N7-C5	2.87	108.45	102.99
39	QB	501	GTP	C8-N7-C5	2.87	108.45	102.99
39	QD	501	GTP	C8-N7-C5	2.87	108.45	102.99
39	OL	501	GTP	C8-N7-C5	2.87	108.45	102.99
39	NC	501	GTP	C8-N7-C5	2.87	108.45	102.99
39	OF	501	GTP	C8-N7-C5	2.87	108.45	102.99
39	DL	501	GTP	PA-O3A-PB	-2.86	123.00	132.83
39	KD	501	GTP	C8-N7-C5	2.86	108.45	102.99
39	FD	501	GTP	C2-N1-C6	-2.86	119.83	125.10
39	OC	501	GTP	C5-C6-N1	2.86	119.01	113.95
39	PB	501	GTP	C8-N7-C5	2.86	108.44	102.99
39	CI	501	GTP	O3G-PG-O3B	2.86	114.24	104.64
39	MD	501	GTP	C8-N7-C5	2.86	108.44	102.99
39	IA	501	GTP	C8-N7-C5	2.86	108.44	102.99
39	PB	501	GTP	C2-N1-C6	-2.86	119.83	125.10
39	WF	501	GTP	C8-N7-C5	2.86	108.44	102.99
39	UD	501	GTP	C2-N1-C6	-2.86	119.83	125.10
39	TN	501	GTP	C8-N7-C5	2.86	108.44	102.99
39	WD	501	GTP	PB-O3B-PG	-2.86	123.02	132.83
39	HD	501	GTP	C8-N7-C5	2.86	108.43	102.99
39	OD	501	GTP	C8-N7-C5	2.86	108.43	102.99
39	TE	501	GTP	C2-N1-C6	-2.86	119.84	125.10
39	TN	501	GTP	C2-N1-C6	-2.86	119.84	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	MJ	501	GTP	C8-N7-C5	2.85	108.43	102.99
39	TE	501	GTP	C8-N7-C5	2.85	108.43	102.99
39	DK	501	GTP	C3'-C2'-C1'	2.85	105.28	100.98
39	KL	501	GTP	C2-N1-C6	-2.85	119.84	125.10
39	RE	501	GTP	C8-N7-C5	2.85	108.43	102.99
39	NB	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	MB	501	GTP	PA-O3A-PB	-2.85	123.04	132.83
39	LF	501	GTP	C2-N1-C6	-2.85	119.84	125.10
39	NI	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	QJ	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	MC	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	TB	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	EC	501	GTP	C3'-C2'-C1'	2.85	105.27	100.98
39	DA	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	FA	501	GTP	O6-C6-N1	-2.85	117.28	120.65
39	WL	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	WD	501	GTP	C2-N1-C6	-2.85	119.85	125.10
39	LL	501	GTP	C8-N7-C5	2.85	108.41	102.99
39	OK	501	GTP	N1-C2-N3	-2.85	118.00	123.32
39	MF	501	GTP	C8-N7-C5	2.85	108.41	102.99
39	EJ	501	GTP	C8-N7-C5	2.85	108.41	102.99
39	JF	501	GTP	C8-N7-C5	2.85	108.41	102.99
39	LH	501	GTP	C8-N7-C5	2.84	108.41	102.99
39	FK	501	GTP	C5-C6-N1	2.84	118.97	113.95
39	AH	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	AJ	501	GTP	C2-N1-C6	-2.84	119.87	125.10
39	IF	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	TC	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	VL	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	OB	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	FJ	501	GTP	C2-N1-C6	-2.84	119.87	125.10
39	KL	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	JI	501	GTP	C5-C6-N1	2.84	118.97	113.95
39	JJ	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	HA	501	GTP	N1-C2-N3	-2.84	118.02	123.32
39	SH	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	OH	501	GTP	C2-N1-C6	-2.84	119.87	125.10
39	JA	501	GTP	C8-N7-C5	2.84	108.40	102.99
39	KH	501	GTP	C8-N7-C5	2.84	108.39	102.99
39	RD	501	GTP	PB-O3B-PG	-2.84	123.09	132.83
39	WK	501	GTP	O6-C6-N1	-2.84	117.30	120.65
39	BD	501	GTP	PA-O3A-PB	-2.84	123.09	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	QB	501	GTP	C2-N1-C6	-2.84	119.88	125.10
39	VJ	501	GTP	C2-N1-C6	-2.84	119.88	125.10
39	FB	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	EH	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	QH	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	RI	501	GTP	C5-C6-N1	2.83	118.96	113.95
39	ID	501	GTP	C2-N1-C6	-2.83	119.88	125.10
39	RD	501	GTP	C2-N1-C6	-2.83	119.88	125.10
39	CF	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	SD	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	JL	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	TH	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	VJ	501	GTP	C8-N7-C5	2.83	108.39	102.99
39	LH	501	GTP	C2-N1-C6	-2.83	119.88	125.10
39	JH	501	GTP	C2-N1-C6	-2.83	119.88	125.10
39	NA	501	GTP	C5-C6-N1	2.83	118.95	113.95
39	LF	501	GTP	C8-N7-C5	2.83	108.38	102.99
39	BF	501	GTP	C2-N1-C6	-2.83	119.89	125.10
39	SF	501	GTP	PA-O3A-PB	-2.83	123.12	132.83
39	KJ	501	GTP	C8-N7-C5	2.83	108.38	102.99
39	DA	501	GTP	C2-N1-C6	-2.83	119.89	125.10
39	AH	501	GTP	C2-N1-C6	-2.83	119.89	125.10
39	HG	501	GTP	C2-N1-C6	-2.83	119.89	125.10
39	UJ	501	GTP	C8-N7-C5	2.83	108.38	102.99
39	IL	501	GTP	PA-O3A-PB	-2.83	123.13	132.83
39	RF	501	GTP	C8-N7-C5	2.83	108.38	102.99
39	DH	501	GTP	C2-N1-C6	-2.82	119.90	125.10
39	NF	501	GTP	C2-N1-C6	-2.82	119.90	125.10
39	SD	501	GTP	C2-N1-C6	-2.82	119.90	125.10
39	BH	501	GTP	C8-N7-C5	2.82	108.37	102.99
39	OJ	501	GTP	C8-N7-C5	2.82	108.37	102.99
39	OA	501	GTP	PA-O3A-PB	-2.82	123.14	132.83
39	QJ	501	GTP	C2-N1-C6	-2.82	119.90	125.10
39	HJ	501	GTP	C8-N7-C5	2.82	108.37	102.99
39	SH	501	GTP	C2-N1-C6	-2.82	119.90	125.10
39	CB	501	GTP	C8-N7-C5	2.82	108.37	102.99
39	OI	501	GTP	O3G-PG-O3B	2.82	114.10	104.64
39	BF	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	ID	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	WJ	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	FI	501	GTP	PA-O3A-PB	-2.82	123.15	132.83
39	JB	501	GTP	C8-N7-C5	2.82	108.36	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	SJ	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	AF	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	ED	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	MH	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	PJ	501	GTP	PA-O3A-PB	-2.82	123.15	132.83
39	DB	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	NF	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	PC	501	GTP	C3'-C2'-C1'	2.82	105.22	100.98
39	HL	501	GTP	C2-N1-C6	-2.82	119.91	125.10
39	MB	501	GTP	C2-N1-C6	-2.82	119.91	125.10
39	TB	501	GTP	C2-N1-C6	-2.82	119.91	125.10
39	IH	501	GTP	C8-N7-C5	2.82	108.36	102.99
39	MM	501	GTP	C5-C6-N1	2.82	118.93	113.95
39	BM	501	GTP	O6-C6-C5	-2.82	118.87	124.37
39	BL	501	GTP	C2-N1-C6	-2.82	119.91	125.10
39	MB	501	GTP	C8-N7-C5	2.81	108.35	102.99
39	KI	501	GTP	C5-C6-N1	2.81	118.92	113.95
39	DH	501	GTP	C8-N7-C5	2.81	108.35	102.99
39	CF	501	GTP	C2-N1-C6	-2.81	119.92	125.10
39	KF	501	GTP	C2-N1-C6	-2.81	119.92	125.10
39	JH	501	GTP	C8-N7-C5	2.81	108.35	102.99
39	RJ	501	GTP	C8-N7-C5	2.81	108.35	102.99
39	OJ	501	GTP	C2-N1-C6	-2.81	119.92	125.10
39	SJ	501	GTP	C2-N1-C6	-2.81	119.92	125.10
39	KD	501	GTP	PB-O3B-PG	-2.81	123.18	132.83
39	KJ	501	GTP	C2-N1-C6	-2.81	119.92	125.10
39	UF	501	GTP	C8-N7-C5	2.81	108.34	102.99
39	AL	501	GTP	C2-N1-C6	-2.81	119.93	125.10
39	MH	501	GTP	C2-N1-C6	-2.81	119.93	125.10
39	GG	501	GTP	C8-N7-C5	2.81	108.34	102.99
39	QD	501	GTP	C2-N1-C6	-2.81	119.93	125.10
39	AD	501	GTP	C8-N7-C5	2.81	108.34	102.99
39	GI	501	GTP	C8-N7-C5	2.81	108.34	102.99
39	LD	501	GTP	C8-N7-C5	2.81	108.34	102.99
39	VD	501	GTP	C8-N7-C5	2.81	108.34	102.99
39	LG	501	GTP	C8-N7-C5	2.81	108.34	102.99
39	AK	501	GTP	C3'-C2'-C1'	2.81	105.20	100.98
39	QF	501	GTP	C2-N1-C6	-2.81	119.93	125.10
39	RF	501	GTP	C2-N1-C6	-2.80	119.93	125.10
39	FD	501	GTP	O6-C6-C5	-2.80	118.89	124.37
39	OG	501	GTP	C8-N7-C5	2.80	108.33	102.99
39	WB	501	GTP	C8-N7-C5	2.80	108.33	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	QG	501	GTP	C8-N7-C5	2.80	108.32	102.99
39	TH	501	GTP	C2-N1-C6	-2.80	119.94	125.10
39	QD	502	GTP	C5-C6-N1	2.80	118.89	113.95
39	QL	501	GTP	C2-N1-C6	-2.79	119.95	125.10
39	DL	501	GTP	C2-N1-C6	-2.79	119.95	125.10
39	MJ	501	GTP	C2-N1-C6	-2.79	119.95	125.10
39	GL	501	GTP	O6-C6-C5	-2.79	118.92	124.37
39	DL	501	GTP	C8-N7-C5	2.79	108.31	102.99
39	FK	501	GTP	N2-C2-N1	2.79	122.66	116.71
39	PH	501	GTP	N1-C2-N3	-2.79	118.11	123.32
39	PJ	501	GTP	C8-N7-C5	2.79	108.31	102.99
39	NB	501	GTP	C2-N1-C6	-2.79	119.96	125.10
39	PF	501	GTP	C8-N7-C5	2.79	108.30	102.99
39	VF	501	GTP	C8-N7-C5	2.79	108.30	102.99
39	WI	501	GTP	C2-N1-C6	-2.79	119.97	125.10
39	VB	501	GTP	C8-N7-C5	2.79	108.30	102.99
39	VD	501	GTP	PA-O3A-PB	-2.78	123.27	132.83
39	CD	501	GTP	C8-N7-C5	2.78	108.29	102.99
39	OL	501	GTP	C2-N1-C6	-2.78	119.97	125.10
39	HG	501	GTP	C8-N7-C5	2.78	108.29	102.99
39	KD	501	GTP	C2-N1-C6	-2.78	119.98	125.10
39	UG	501	GTP	C8-N7-C5	2.78	108.29	102.99
39	PK	501	GTP	C8-N7-C5	2.78	108.29	102.99
39	WD	501	GTP	C8-N7-C5	2.78	108.29	102.99
39	JB	501	GTP	C2-N1-C6	-2.78	119.98	125.10
39	JL	501	GTP	C2-N1-C6	-2.78	119.98	125.10
39	TI	501	GTP	C2-N1-C6	-2.78	119.98	125.10
39	UB	501	GTP	C8-N7-C5	2.78	108.28	102.99
39	EB	501	GTP	C2-N1-C6	-2.78	119.98	125.10
39	LD	501	GTP	C2-N1-C6	-2.78	119.98	125.10
39	OB	501	GTP	C2-N1-C6	-2.78	119.98	125.10
39	DI	501	GTP	C5-C6-N1	2.78	118.85	113.95
39	BB	501	GTP	C8-N7-C5	2.78	108.28	102.99
39	LJ	501	GTP	C8-N7-C5	2.78	108.28	102.99
39	UD	501	GTP	PA-O3A-PB	-2.78	123.30	132.83
39	UJ	501	GTP	C2-N1-C6	-2.77	119.99	125.10
39	TD	501	GTP	C8-N7-C5	2.77	108.28	102.99
39	TD	501	GTP	C2-N1-C6	-2.77	119.99	125.10
39	VH	501	GTP	C8-N7-C5	2.77	108.28	102.99
39	OD	501	GTP	PB-O3B-PG	-2.77	123.31	132.83
39	AM	501	GTP	PB-O3B-PG	-2.77	123.31	132.83
39	BC	501	GTP	O3G-PG-O3B	2.77	113.94	104.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	LC	501	GTP	C8-N7-C5	2.77	108.27	102.99
39	ML	501	GTP	C8-N7-C5	2.77	108.27	102.99
39	DE	501	GTP	C2-N1-C6	-2.77	120.00	125.10
39	HC	501	GTP	C8-N7-C5	2.77	108.27	102.99
39	KF	501	GTP	C8-N7-C5	2.77	108.27	102.99
39	RH	501	GTP	C8-N7-C5	2.77	108.27	102.99
39	WH	501	GTP	C8-N7-C5	2.77	108.26	102.99
39	BF	501	GTP	PA-O3A-PB	-2.77	123.33	132.83
39	CC	501	GTP	C5-C6-N1	2.77	118.84	113.95
39	NJ	501	GTP	C8-N7-C5	2.77	108.26	102.99
39	GJ	501	GTP	C2-N1-C6	-2.77	120.00	125.10
39	DJ	501	GTP	C8-N7-C5	2.77	108.26	102.99
39	OD	501	GTP	C2-N1-C6	-2.77	120.01	125.10
39	EJ	501	GTP	C2-N1-C6	-2.76	120.01	125.10
39	SI	501	GTP	C8-N7-C5	2.76	108.26	102.99
39	FH	501	GTP	C2-N1-C6	-2.76	120.01	125.10
39	BK	501	GTP	C2-N1-C6	-2.76	120.01	125.10
39	CB	501	GTP	C2-N1-C6	-2.76	120.01	125.10
39	OI	501	GTP	O6-C6-N1	-2.76	117.39	120.65
39	EF	501	GTP	N2-C2-N3	2.76	125.11	119.74
39	QC	501	GTP	C5-C6-N1	2.76	118.83	113.95
39	WL	501	GTP	C2-N1-C6	-2.76	120.02	125.10
39	AC	501	GTP	PB-O3B-PG	-2.76	123.36	132.83
39	RM	501	GTP	C8-N7-C5	2.76	108.24	102.99
39	WB	501	GTP	C2-N1-C6	-2.76	120.02	125.10
39	QI	501	GTP	C2-N1-C6	-2.75	120.03	125.10
39	EB	501	GTP	C8-N7-C5	2.75	108.24	102.99
39	MF	501	GTP	C2-N1-C6	-2.75	120.03	125.10
39	GD	501	GTP	C2-N1-C6	-2.75	120.03	125.10
39	QH	501	GTP	C2-N1-C6	-2.75	120.03	125.10
39	GD	501	GTP	PA-O3A-PB	-2.75	123.38	132.83
39	CM	501	GTP	C5-C6-N1	2.75	118.81	113.95
39	AI	501	GTP	O6-C6-N1	-2.75	117.40	120.65
39	PF	501	GTP	C2-N1-C6	-2.75	120.03	125.10
39	AM	501	GTP	C2-N1-C6	-2.75	120.04	125.10
39	HH	501	GTP	PA-O3A-PB	-2.75	123.40	132.83
39	PJ	501	GTP	C2-N1-C6	-2.75	120.04	125.10
39	PE	501	GTP	C8-N7-C5	2.74	108.22	102.99
39	KC	501	GTP	C8-N7-C5	2.74	108.22	102.99
39	RE	501	GTP	PA-O3A-PB	-2.74	123.41	132.83
39	RL	501	GTP	PA-O3A-PB	-2.74	123.41	132.83
39	DB	501	GTP	C2-N1-C6	-2.74	120.05	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	SC	501	GTP	C5-C6-N1	2.74	118.80	113.95
39	HH	501	GTP	C2-N1-C6	-2.74	120.05	125.10
39	RJ	501	GTP	C2-N1-C6	-2.74	120.05	125.10
39	AJ	501	GTP	C8-N7-C5	2.74	108.21	102.99
39	NL	501	GTP	C2-N1-C6	-2.74	120.05	125.10
39	LE	501	GTP	C2-N1-C6	-2.74	120.05	125.10
39	WF	501	GTP	PA-O3A-PB	-2.74	123.43	132.83
39	WA	501	GTP	C8-N7-C5	2.74	108.20	102.99
39	MH	501	GTP	PB-O3B-PG	-2.74	123.44	132.83
39	GE	501	GTP	C8-N7-C5	2.74	108.20	102.99
39	TE	501	GTP	O6-C6-N1	-2.73	117.42	120.65
39	TM	501	GTP	C8-N7-C5	2.73	108.20	102.99
39	NK	501	GTP	C8-N7-C5	2.73	108.20	102.99
39	NE	501	GTP	PA-O3A-PB	-2.73	123.45	132.83
39	BD	501	GTP	C8-N7-C5	2.73	108.19	102.99
39	JD	501	GTP	C2-N1-C6	-2.73	120.07	125.10
39	UL	501	GTP	PA-O3A-PB	-2.73	123.45	132.83
39	FF	501	GTP	C8-N7-C5	2.73	108.19	102.99
39	SL	501	GTP	C8-N7-C5	2.73	108.19	102.99
39	MD	502	GTP	O3G-PG-O3B	2.73	113.79	104.64
39	IL	501	GTP	C8-N7-C5	2.73	108.19	102.99
39	PI	501	GTP	C8-N7-C5	2.73	108.19	102.99
39	EI	501	GTP	C2-N1-C6	-2.73	120.08	125.10
39	OF	501	GTP	C2-N1-C6	-2.73	120.08	125.10
39	VL	501	GTP	C2-N1-C6	-2.73	120.08	125.10
39	NH	501	GTP	PB-O3B-PG	-2.73	123.47	132.83
39	BD	501	GTP	C2-N1-C6	-2.73	120.08	125.10
39	OK	501	GTP	C8-N7-C5	2.73	108.18	102.99
39	KE	501	GTP	PA-O3A-PB	-2.72	123.48	132.83
39	KB	501	GTP	PB-O3B-PG	-2.72	123.48	132.83
39	KK	501	GTP	C8-N7-C5	2.72	108.18	102.99
39	VF	501	GTP	C2-N1-C6	-2.72	120.08	125.10
39	IG	501	GTP	C2-N1-C6	-2.72	120.09	125.10
39	TC	501	GTP	C2-N1-C6	-2.72	120.09	125.10
39	SL	501	GTP	PA-O3A-PB	-2.72	123.49	132.83
39	HF	501	GTP	C8-N7-C5	2.72	108.17	102.99
39	WF	501	GTP	C2-N1-C6	-2.72	120.09	125.10
39	WJ	501	GTP	C2-N1-C6	-2.72	120.09	125.10
39	LD	501	GTP	PA-O3A-PB	-2.72	123.50	132.83
39	AI	501	GTP	C5-C6-N1	2.72	118.75	113.95
39	UL	501	GTP	C8-N7-C5	2.72	108.16	102.99
39	UL	501	GTP	C2-N1-C6	-2.72	120.10	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	AF	501	GTP	C2-N1-C6	-2.71	120.10	125.10
39	AI	501	GTP	C2-N1-C6	-2.71	120.10	125.10
39	FG	501	GTP	C8-N7-C5	2.71	108.16	102.99
39	KE	501	GTP	C8-N7-C5	2.71	108.16	102.99
39	LJ	501	GTP	C3'-C2'-C1'	2.71	105.06	100.98
39	DB	501	GTP	PA-O3A-PB	-2.71	123.52	132.83
39	GJ	501	GTP	C8-N7-C5	2.71	108.16	102.99
39	BI	501	GTP	C8-N7-C5	2.71	108.15	102.99
39	UK	501	GTP	C8-N7-C5	2.71	108.15	102.99
39	UD	501	GTP	C3'-C2'-C1'	2.71	105.06	100.98
39	TL	501	GTP	PA-O3A-PB	-2.71	123.53	132.83
39	OK	501	GTP	O6-C6-N1	-2.71	117.45	120.65
39	FE	501	GTP	C2-N1-C6	-2.71	120.11	125.10
39	SF	501	GTP	O6-C6-C5	-2.71	119.09	124.37
39	RC	501	GTP	C2-N1-C6	-2.71	120.12	125.10
39	BM	501	GTP	C2'-C3'-C4'	2.70	107.90	102.64
39	CC	501	GTP	O6-C6-N1	-2.70	117.46	120.65
39	VE	501	GTP	C2-N1-C6	-2.70	120.12	125.10
39	JC	501	GTP	PA-O3A-PB	-2.70	123.55	132.83
39	NL	501	GTP	C8-N7-C5	2.70	108.14	102.99
39	SI	501	GTP	O6-C6-N1	-2.70	117.46	120.65
39	GD	501	GTP	C8-N7-C5	2.70	108.13	102.99
39	PC	501	GTP	C2-N1-C6	-2.70	120.13	125.10
39	VH	501	GTP	C2-N1-C6	-2.70	120.13	125.10
39	PK	501	GTP	O6-C6-N1	-2.70	117.46	120.65
39	IA	501	GTP	C2-N1-C6	-2.70	120.13	125.10
39	FF	501	GTP	PA-O3A-PB	-2.70	123.57	132.83
39	SM	501	GTP	C5-C6-N1	2.70	118.71	113.95
39	HB	501	GTP	C8-N7-C5	2.69	108.12	102.99
39	FG	501	GTP	C2-N1-C6	-2.69	120.14	125.10
39	WE	501	GTP	PA-O3A-PB	-2.69	123.58	132.83
39	TB	501	GTP	PA-O3A-PB	-2.69	123.58	132.83
39	OJ	501	GTP	PA-O3A-PB	-2.69	123.59	132.83
39	KG	501	GTP	C2-N1-C6	-2.69	120.14	125.10
39	GG	501	GTP	O6-C6-N1	-2.69	117.47	120.65
39	RH	501	GTP	C3'-C2'-C1'	2.69	105.03	100.98
39	IK	501	GTP	C5-C6-N1	2.69	118.70	113.95
39	LB	501	GTP	C8-N7-C5	2.69	108.11	102.99
39	GH	501	GTP	C8-N7-C5	2.69	108.11	102.99
39	PH	501	GTP	C8-N7-C5	2.69	108.11	102.99
39	AD	501	GTP	C2-N1-C6	-2.69	120.15	125.10
39	LK	501	GTP	C2-N1-C6	-2.69	120.15	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	RK	501	GTP	C8-N7-C5	2.69	108.11	102.99
39	VD	501	GTP	C2-N1-C6	-2.69	120.15	125.10
39	AL	501	GTP	PB-O3B-PG	-2.69	123.60	132.83
39	SK	501	GTP	C5-C6-N1	2.69	118.70	113.95
39	TG	501	GTP	C8-N7-C5	2.69	108.11	102.99
39	JK	501	GTP	C2-N1-C6	-2.69	120.15	125.10
39	JF	501	GTP	C2-N1-C6	-2.68	120.16	125.10
39	CD	501	GTP	C2-N1-C6	-2.68	120.16	125.10
39	UC	501	GTP	C2-N1-C6	-2.68	120.16	125.10
39	MC	501	GTP	C2-N1-C6	-2.68	120.16	125.10
39	PI	501	GTP	C2-N1-C6	-2.68	120.16	125.10
39	MI	501	GTP	C5-C6-N1	2.68	118.68	113.95
39	EE	501	GTP	C2-N1-C6	-2.68	120.17	125.10
39	JC	501	GTP	C2-N1-C6	-2.68	120.17	125.10
39	CI	501	GTP	C8-N7-C5	2.68	108.09	102.99
39	RK	501	GTP	C2-N1-C6	-2.68	120.17	125.10
39	AG	501	GTP	C2-N1-C6	-2.68	120.17	125.10
39	SL	501	GTP	C2-N1-C6	-2.68	120.17	125.10
39	GK	501	GTP	PA-O3A-PB	-2.68	123.64	132.83
39	SB	501	GTP	N2-C2-N3	2.67	124.94	119.74
39	BE	501	GTP	O6-C6-N1	-2.67	117.49	120.65
39	JD	501	GTP	C8-N7-C5	2.67	108.08	102.99
39	IL	501	GTP	C2-N1-C6	-2.67	120.18	125.10
39	AE	501	GTP	C2-N1-C6	-2.67	120.19	125.10
39	QK	501	GTP	C8-N7-C5	2.67	108.07	102.99
39	SJ	501	GTP	PA-O3A-PB	-2.67	123.68	132.83
39	LL	501	GTP	C2-N1-C6	-2.67	120.19	125.10
39	SE	501	GTP	C5-C6-N1	2.67	118.66	113.95
39	UE	501	GTP	C8-N7-C5	2.66	108.07	102.99
39	RG	501	GTP	C8-N7-C5	2.66	108.06	102.99
39	UB	501	GTP	PA-O3A-PB	-2.66	123.69	132.83
39	AC	501	GTP	C2-N1-C6	-2.66	120.19	125.10
39	KG	501	GTP	C8-N7-C5	2.66	108.06	102.99
39	JK	501	GTP	C5-C6-N1	2.66	118.65	113.95
39	TH	501	GTP	C3'-C2'-C1'	2.66	104.98	100.98
39	TK	501	GTP	C8-N7-C5	2.66	108.06	102.99
39	UJ	501	GTP	C3'-C2'-C1'	2.66	104.98	100.98
39	WL	501	GTP	PB-O3B-PG	-2.66	123.70	132.83
39	PL	501	GTP	C8-N7-C5	2.66	108.05	102.99
39	EH	501	GTP	C2-N1-C6	-2.66	120.20	125.10
39	BG	501	GTP	C2-N1-C6	-2.66	120.20	125.10
39	NH	501	GTP	PA-O3A-PB	-2.66	123.72	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	NE	501	GTP	C8-N7-C5	2.65	108.05	102.99
39	WJ	501	GTP	PA-O3A-PB	-2.65	123.72	132.83
39	VI	501	GTP	C8-N7-C5	2.65	108.05	102.99
39	HG	501	GTP	O6-C6-C5	-2.65	119.19	124.37
39	EE	501	GTP	PB-O3B-PG	-2.65	123.72	132.83
39	VJ	501	GTP	C3'-C2'-C1'	2.65	104.97	100.98
39	QL	501	GTP	PA-O3A-PB	-2.65	123.73	132.83
39	BM	501	GTP	O3G-PG-O3B	2.65	113.52	104.64
39	FC	501	GTP	C5-C6-N1	2.65	118.63	113.95
39	PD	501	GTP	O6-C6-C5	-2.65	119.20	124.37
39	GH	501	GTP	PA-O3A-PB	-2.65	123.74	132.83
39	AK	501	GTP	N1-C2-N3	-2.65	118.37	123.32
39	IH	501	GTP	PA-O3A-PB	-2.65	123.74	132.83
39	PD	501	GTP	PA-O3A-PB	-2.65	123.74	132.83
39	UF	501	GTP	C2-N1-C6	-2.65	120.22	125.10
39	PB	501	GTP	PA-O3A-PB	-2.65	123.75	132.83
39	CG	501	GTP	C2-N1-C6	-2.65	120.23	125.10
39	JH	501	GTP	PB-O3B-PG	-2.65	123.75	132.83
39	ML	501	GTP	C2-N1-C6	-2.65	120.23	125.10
39	WC	501	GTP	C2-N1-C6	-2.64	120.23	125.10
39	VA	501	GTP	C5-C6-N1	2.64	118.62	113.95
39	EG	501	GTP	N1-C2-N3	-2.64	118.38	123.32
39	AM	501	GTP	O6-C6-N1	-2.64	117.53	120.65
39	JH	501	GTP	C3'-C2'-C1'	2.64	104.95	100.98
39	LH	501	GTP	PA-O3A-PB	-2.64	123.77	132.83
39	MB	501	GTP	C3'-C2'-C1'	2.64	104.95	100.98
39	BB	501	GTP	C2-N1-C6	-2.64	120.24	125.10
39	FB	501	GTP	C2-N1-C6	-2.64	120.24	125.10
39	SG	501	GTP	C2-N1-C6	-2.64	120.24	125.10
39	FD	501	GTP	PA-O3A-PB	-2.64	123.78	132.83
39	KK	501	GTP	C2-N1-C6	-2.64	120.25	125.10
39	HD	501	GTP	C3'-C2'-C1'	2.63	104.94	100.98
39	HB	501	GTP	C2-N1-C6	-2.63	120.25	125.10
39	IJ	501	GTP	C2-N1-C6	-2.63	120.25	125.10
39	VI	501	GTP	C2-N1-C6	-2.63	120.25	125.10
39	JJ	501	GTP	PA-O3A-PB	-2.63	123.79	132.83
39	MD	501	GTP	C3'-C2'-C1'	2.63	104.94	100.98
39	TD	501	GTP	PA-O3A-PB	-2.63	123.80	132.83
39	RG	501	GTP	C2-N1-C6	-2.63	120.25	125.10
39	LF	501	GTP	C3'-C2'-C1'	2.63	104.94	100.98
39	FD	501	GTP	C3'-C2'-C1'	2.63	104.94	100.98
39	GH	501	GTP	PB-O3B-PG	-2.63	123.81	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	DG	501	GTP	C2-N1-C6	-2.63	120.26	125.10
39	HJ	501	GTP	C2-N1-C6	-2.63	120.26	125.10
39	DF	501	GTP	C3'-C2'-C1'	2.63	104.93	100.98
39	AC	501	GTP	O6-C6-N1	-2.62	117.55	120.65
39	FH	501	GTP	C5-C6-N1	2.62	118.58	113.95
39	HH	501	GTP	C3'-C2'-C1'	2.62	104.93	100.98
39	QB	501	GTP	C3'-C2'-C1'	2.62	104.93	100.98
39	IF	501	GTP	C2-N1-C6	-2.62	120.27	125.10
39	NA	501	GTP	PB-O3B-PG	-2.62	123.83	132.83
39	TJ	501	GTP	O6-C6-C5	-2.62	119.25	124.37
39	KC	501	GTP	PA-O3A-PB	-2.62	123.84	132.83
39	SI	501	GTP	C2-N1-C6	-2.62	120.28	125.10
39	KE	501	GTP	C2-N1-C6	-2.62	120.28	125.10
39	RI	501	GTP	C2-N1-C6	-2.62	120.28	125.10
39	BB	501	GTP	PA-O3A-PB	-2.62	123.85	132.83
39	CH	501	GTP	PA-O3A-PB	-2.61	123.85	132.83
39	WG	501	GTP	C2-N1-C6	-2.61	120.28	125.10
39	GL	501	GTP	N2-C2-N3	2.61	124.83	119.74
39	CK	501	GTP	C2-N1-C6	-2.61	120.28	125.10
39	VL	501	GTP	PA-O3A-PB	-2.61	123.86	132.83
39	KA	501	GTP	C2-N1-C6	-2.61	120.29	125.10
39	KF	501	GTP	C3'-C2'-C1'	2.61	104.91	100.98
39	GJ	501	GTP	O6-C6-C5	-2.61	119.27	124.37
39	GF	501	GTP	PA-O3A-PB	-2.61	123.87	132.83
39	QL	502	GTP	C8-N7-C5	2.61	107.96	102.99
39	QI	501	GTP	C5-C6-N1	2.61	118.56	113.95
39	OH	501	GTP	C3'-C2'-C1'	2.61	104.90	100.98
39	GB	501	GTP	O6-C6-C5	-2.61	119.28	124.37
39	OL	501	GTP	C3'-C2'-C1'	2.61	104.90	100.98
39	WH	501	GTP	C3'-C2'-C1'	2.61	104.90	100.98
39	TI	501	GTP	C8-N7-C5	2.61	107.95	102.99
39	LJ	501	GTP	O6-C6-C5	-2.60	119.28	124.37
39	UI	501	GTP	C5-C6-N1	2.60	118.55	113.95
39	SH	501	GTP	C3'-C2'-C1'	2.60	104.90	100.98
39	LB	501	GTP	C3'-C2'-C1'	2.60	104.90	100.98
39	FD	501	GTP	C8-N7-C5	2.60	107.94	102.99
39	TL	501	GTP	O6-C6-C5	-2.60	119.29	124.37
39	PG	501	GTP	O3G-PG-O3B	2.60	113.36	104.64
39	GA	501	GTP	C2-N1-C6	-2.60	120.31	125.10
39	MI	501	GTP	C2-N1-C6	-2.60	120.31	125.10
39	GF	501	GTP	C8-N7-C5	2.60	107.94	102.99
39	MF	501	GTP	C3'-C2'-C1'	2.60	104.89	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	PB	501	GTP	C3'-C2'-C1'	2.60	104.89	100.98
39	WA	501	GTP	C2-N1-C6	-2.60	120.32	125.10
39	LG	501	GTP	PA-O3A-PB	-2.59	123.93	132.83
39	MD	502	GTP	C8-N7-C5	2.59	107.93	102.99
39	MD	501	GTP	C2-N1-C6	-2.59	120.33	125.10
39	MH	501	GTP	C3'-C2'-C1'	2.59	104.88	100.98
39	RL	501	GTP	C8-N7-C5	2.59	107.93	102.99
39	BL	501	GTP	PB-O3B-PG	-2.59	123.94	132.83
39	LK	501	GTP	PA-O3A-PB	-2.59	123.94	132.83
39	DA	501	GTP	PA-O3A-PB	-2.59	123.94	132.83
39	RD	501	GTP	C3'-C2'-C1'	2.59	104.88	100.98
39	SC	501	GTP	C2-N1-C6	-2.59	120.33	125.10
39	ID	501	GTP	O5'-C5'-C4'	2.59	117.89	108.99
39	RF	501	GTP	C3'-C2'-C1'	2.59	104.87	100.98
39	TN	501	GTP	C3'-C2'-C1'	2.59	104.87	100.98
39	VB	501	GTP	C2-N1-C6	-2.59	120.33	125.10
39	TB	501	GTP	C3'-C2'-C1'	2.58	104.87	100.98
39	TI	501	GTP	PB-O3B-PG	-2.58	123.97	132.83
39	GE	501	GTP	C2-N1-C6	-2.58	120.34	125.10
39	VB	501	GTP	C3'-C2'-C1'	2.58	104.86	100.98
39	VA	501	GTP	C2-N1-C6	-2.58	120.35	125.10
39	QL	501	GTP	C3'-C2'-C1'	2.58	104.86	100.98
39	VJ	501	GTP	PA-O3A-PB	-2.58	123.98	132.83
39	CM	501	GTP	C2-N1-C6	-2.58	120.35	125.10
39	OG	501	GTP	C2-N1-C6	-2.58	120.35	125.10
39	NH	501	GTP	C3'-C2'-C1'	2.58	104.86	100.98
39	NI	501	GTP	C2-N1-C6	-2.58	120.35	125.10
39	RM	501	GTP	O6-C6-N1	-2.58	117.61	120.65
39	CJ	501	GTP	C3'-C2'-C1'	2.58	104.86	100.98
39	UE	501	GTP	C2-N1-C6	-2.58	120.36	125.10
39	FJ	501	GTP	C8-N7-C5	2.57	107.89	102.99
39	WH	501	GTP	C2-N1-C6	-2.57	120.36	125.10
39	JK	501	GTP	PB-O3B-PG	-2.57	123.99	132.83
39	EH	501	GTP	C3'-C2'-C1'	2.57	104.85	100.98
39	IH	501	GTP	C2-N1-C6	-2.57	120.36	125.10
39	JE	501	GTP	PA-O3A-PB	-2.57	124.00	132.83
39	AK	501	GTP	N2-C2-N1	2.57	122.19	116.71
39	EK	501	GTP	C2-N1-C6	-2.57	120.36	125.10
39	SE	501	GTP	C2-N1-C6	-2.57	120.36	125.10
39	HD	501	GTP	PA-O3A-PB	-2.57	124.01	132.83
39	RD	501	GTP	PA-O3A-PB	-2.57	124.01	132.83
39	OI	501	GTP	C8-N7-C5	2.57	107.89	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	EJ	501	GTP	PB-O3B-PG	-2.57	124.01	132.83
39	MM	501	GTP	PA-O3A-PB	-2.57	124.02	132.83
39	BE	501	GTP	C2-N1-C6	-2.57	120.37	125.10
39	JL	501	GTP	PA-O3A-PB	-2.57	124.02	132.83
39	MK	501	GTP	C2-N1-C6	-2.56	120.38	125.10
39	KL	501	GTP	C3'-C2'-C1'	2.56	104.84	100.98
39	CF	501	GTP	C3'-C2'-C1'	2.56	104.84	100.98
39	NA	501	GTP	PA-O3A-PB	-2.56	124.04	132.83
39	GB	501	GTP	PB-O3B-PG	-2.56	124.04	132.83
39	SH	501	GTP	PA-O3A-PB	-2.56	124.04	132.83
39	PG	501	GTP	C2-N1-C6	-2.56	120.39	125.10
39	UE	501	GTP	O6-C6-N1	-2.56	117.63	120.65
39	TK	501	GTP	C2-N1-C6	-2.56	120.39	125.10
39	HJ	501	GTP	C3'-C2'-C1'	2.56	104.83	100.98
39	JE	501	GTP	C2-N1-C6	-2.56	120.39	125.10
39	CG	501	GTP	C5-C6-N1	2.56	118.47	113.95
39	HL	501	GTP	C8-N7-C5	2.56	107.86	102.99
39	AJ	501	GTP	O6-C6-C5	-2.56	119.38	124.37
39	EJ	501	GTP	C3'-C2'-C1'	2.56	104.83	100.98
39	TD	501	GTP	C3'-C2'-C1'	2.56	104.83	100.98
39	NC	501	GTP	C2-N1-C6	-2.56	120.39	125.10
39	SB	501	GTP	O6-C6-C5	-2.56	119.38	124.37
39	TL	501	GTP	PB-O3B-PG	-2.55	124.06	132.83
39	LC	501	GTP	C2-N1-C6	-2.55	120.39	125.10
39	BF	501	GTP	C3'-C2'-C1'	2.55	104.82	100.98
39	ML	501	GTP	PA-O3A-PB	-2.55	124.07	132.83
39	NH	501	GTP	C8-N7-C5	2.55	107.85	102.99
39	RE	501	GTP	C2-N1-C6	-2.55	120.40	125.10
39	RG	501	GTP	O6-C6-N1	-2.55	117.64	120.65
39	DF	501	GTP	C2-N1-C6	-2.55	120.41	125.10
39	FK	501	GTP	C8-N7-C5	2.55	107.84	102.99
39	SL	501	GTP	C3'-C2'-C1'	2.55	104.81	100.98
39	WE	501	GTP	N2-C2-N1	2.55	122.14	116.71
39	BM	501	GTP	C5-C6-N1	2.55	118.45	113.95
39	FF	501	GTP	C2-N1-C6	-2.55	120.41	125.10
39	JA	501	GTP	C2-N1-C6	-2.54	120.41	125.10
39	RM	501	GTP	C2-N1-C6	-2.54	120.41	125.10
39	JJ	501	GTP	C3'-C2'-C1'	2.54	104.81	100.98
39	DK	501	GTP	N2-C2-N1	2.54	122.12	116.71
39	HC	501	GTP	C2-N1-C6	-2.54	120.42	125.10
39	CD	501	GTP	PA-O3A-PB	-2.54	124.11	132.83
39	PI	501	GTP	PB-O3B-PG	-2.54	124.11	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	LJ	501	GTP	O2G-PG-O3B	2.54	113.15	104.64
39	GK	501	GTP	C2-N1-C6	-2.54	120.42	125.10
39	KC	501	GTP	C2-N1-C6	-2.54	120.42	125.10
39	IJ	501	GTP	C3'-C2'-C1'	2.54	104.80	100.98
39	OE	501	GTP	C8-N7-C5	2.54	107.82	102.99
39	WJ	501	GTP	C3'-C2'-C1'	2.54	104.80	100.98
39	FK	501	GTP	PB-O3B-PG	-2.54	124.12	132.83
39	UH	501	GTP	C8-N7-C5	2.54	107.82	102.99
39	AJ	501	GTP	C3'-C2'-C1'	2.54	104.80	100.98
39	LA	501	GTP	C2-N1-C6	-2.53	120.43	125.10
39	AE	501	GTP	C8-N7-C5	2.53	107.81	102.99
39	IK	501	GTP	PB-O3B-PG	-2.53	124.14	132.83
39	LL	501	GTP	C3'-C2'-C1'	2.53	104.78	100.98
39	KD	501	GTP	C3'-C2'-C1'	2.53	104.78	100.98
39	SD	501	GTP	C3'-C2'-C1'	2.53	104.78	100.98
39	AB	501	GTP	C2-N1-C6	-2.53	120.44	125.10
39	VL	501	GTP	C3'-C2'-C1'	2.53	104.78	100.98
39	UK	501	GTP	C2-N1-C6	-2.53	120.45	125.10
39	LG	501	GTP	C2-N1-C6	-2.53	120.45	125.10
39	CK	501	GTP	N2-C2-N1	2.52	122.09	116.71
39	NB	501	GTP	C3'-C2'-C1'	2.52	104.78	100.98
39	JI	501	GTP	C2-N1-C6	-2.52	120.45	125.10
39	NE	501	GTP	C2-N1-C6	-2.52	120.45	125.10
39	NK	501	GTP	C2-N1-C6	-2.52	120.45	125.10
39	TG	501	GTP	C2-N1-C6	-2.52	120.46	125.10
39	DC	501	GTP	C5-C6-N1	2.52	118.40	113.95
39	JL	501	GTP	C3'-C2'-C1'	2.52	104.77	100.98
39	OJ	501	GTP	C3'-C2'-C1'	2.52	104.77	100.98
39	VD	501	GTP	C3'-C2'-C1'	2.52	104.77	100.98
39	WH	501	GTP	PA-O3A-PB	-2.52	124.19	132.83
39	PE	501	GTP	O6-C6-N1	-2.52	117.68	120.65
39	AL	501	GTP	C8-N7-C5	2.51	107.78	102.99
39	GH	501	GTP	N2-C2-N3	2.51	124.63	119.74
39	FJ	501	GTP	O6-C6-C5	-2.51	119.47	124.37
39	TM	501	GTP	C2-N1-C6	-2.51	120.47	125.10
39	CI	501	GTP	C2-N1-C6	-2.51	120.48	125.10
39	OI	501	GTP	C2-N1-C6	-2.51	120.48	125.10
39	OB	501	GTP	C3'-C2'-C1'	2.51	104.75	100.98
39	QF	501	GTP	C3'-C2'-C1'	2.51	104.75	100.98
39	FI	501	GTP	C2-N1-C6	-2.51	120.48	125.10
39	HK	501	GTP	C2-N1-C6	-2.51	120.48	125.10
39	AF	501	GTP	C3'-C2'-C1'	2.51	104.75	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	DJ	501	GTP	PA-O3A-PB	-2.51	124.23	132.83
39	JH	501	GTP	PA-O3A-PB	-2.50	124.23	132.83
39	JF	501	GTP	C3'-C2'-C1'	2.50	104.75	100.98
39	VG	501	GTP	C2-N1-C6	-2.50	120.49	125.10
39	EL	501	GTP	C2-N1-C6	-2.50	120.49	125.10
39	UF	501	GTP	PA-O3A-PB	-2.50	124.24	132.83
39	FD	501	GTP	PB-O3B-PG	-2.50	124.24	132.83
39	KJ	501	GTP	C3'-C2'-C1'	2.50	104.74	100.98
39	EF	501	GTP	C2-N1-C6	-2.50	120.49	125.10
39	FL	501	GTP	PA-O3A-PB	-2.50	124.25	132.83
39	DK	501	GTP	C2-N1-C6	-2.50	120.50	125.10
39	UG	501	GTP	C2-N1-C6	-2.50	120.50	125.10
39	ND	501	GTP	PA-O3A-PB	-2.50	124.26	132.83
39	HI	501	GTP	C2-N1-C6	-2.50	120.50	125.10
39	QD	502	GTP	C2-N1-C6	-2.50	120.50	125.10
39	MJ	501	GTP	C3'-C2'-C1'	2.50	104.74	100.98
39	WE	501	GTP	C2-N1-C6	-2.49	120.51	125.10
39	GE	501	GTP	PB-O3B-PG	-2.49	124.28	132.83
39	LH	501	GTP	C3'-C2'-C1'	2.49	104.73	100.98
39	PK	501	GTP	C2-N1-C6	-2.49	120.51	125.10
39	MD	502	GTP	C2-N1-C6	-2.49	120.52	125.10
39	IE	501	GTP	PA-O3A-PB	-2.49	124.29	132.83
39	GG	501	GTP	C2-N1-C6	-2.49	120.52	125.10
39	CJ	501	GTP	C8-N7-C5	2.49	107.73	102.99
39	IE	501	GTP	C2-N1-C6	-2.49	120.52	125.10
39	JI	501	GTP	PA-O3A-PB	-2.49	124.30	132.83
39	GF	501	GTP	O6-C6-C5	-2.48	119.52	124.37
39	EF	501	GTP	C8-N7-C5	2.48	107.72	102.99
39	PC	501	GTP	PB-O3B-PG	-2.48	124.31	132.83
39	ED	501	GTP	C3'-C2'-C1'	2.48	104.72	100.98
39	HB	501	GTP	C3'-C2'-C1'	2.48	104.71	100.98
39	NJ	501	GTP	N1-C2-N3	-2.48	118.69	123.32
39	IB	501	GTP	C8-N7-C5	2.48	107.71	102.99
39	JK	501	GTP	PA-O3A-PB	-2.48	124.33	132.83
39	IH	501	GTP	C3'-C2'-C1'	2.47	104.70	100.98
39	MI	501	GTP	O6-C6-N1	-2.47	117.73	120.65
39	AF	501	GTP	PA-O3A-PB	-2.47	124.34	132.83
39	QF	501	GTP	PA-O3A-PB	-2.47	124.34	132.83
39	KH	501	GTP	C2-N1-C6	-2.47	120.55	125.10
39	HD	501	GTP	C2-N1-C6	-2.47	120.55	125.10
39	EB	501	GTP	O6-C6-C5	-2.47	119.55	124.37
39	VG	501	GTP	PA-O3A-PB	-2.47	124.36	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	KB	501	GTP	O2G-PG-O3B	2.47	112.91	104.64
39	DG	501	GTP	O6-C6-N1	-2.47	117.74	120.65
39	DJ	501	GTP	C3'-C2'-C1'	2.46	104.69	100.98
39	EB	501	GTP	PA-O3A-PB	-2.46	124.37	132.83
39	ED	501	GTP	PA-O3A-PB	-2.46	124.38	132.83
39	EF	501	GTP	PA-O3A-PB	-2.46	124.38	132.83
39	LI	501	GTP	C2-N1-C6	-2.46	120.57	125.10
39	CK	501	GTP	PB-O3B-PG	-2.46	124.39	132.83
39	OD	501	GTP	O2G-PG-O3B	2.46	112.88	104.64
39	EL	501	GTP	C8-N7-C5	2.46	107.67	102.99
39	NF	501	GTP	C3'-C2'-C1'	2.46	104.68	100.98
39	AJ	501	GTP	PB-O3B-PG	-2.46	124.39	132.83
39	GC	501	GTP	C3'-C2'-C1'	2.46	104.68	100.98
39	FB	501	GTP	PA-O3A-PB	-2.46	124.40	132.83
39	GJ	501	GTP	PA-O3A-PB	-2.46	124.40	132.83
39	CG	501	GTP	PA-O3A-PB	-2.46	124.40	132.83
39	MI	501	GTP	PA-O3A-PB	-2.45	124.40	132.83
39	IK	501	GTP	PA-O3A-PB	-2.45	124.41	132.83
39	JB	501	GTP	C3'-C2'-C1'	2.45	104.67	100.98
39	EC	501	GTP	O6-C6-C5	2.45	129.16	124.37
39	TF	501	GTP	C3'-C2'-C1'	2.45	104.67	100.98
39	UL	501	GTP	C3'-C2'-C1'	2.45	104.67	100.98
39	AL	501	GTP	O6-C6-C5	-2.45	119.59	124.37
39	RL	501	GTP	C3'-C2'-C1'	2.45	104.66	100.98
39	CC	501	GTP	C2-N1-C6	-2.45	120.59	125.10
39	HA	501	GTP	C8-N7-C5	2.45	107.65	102.99
39	IF	501	GTP	PA-O3A-PB	-2.45	124.43	132.83
39	LB	501	GTP	O6-C6-C5	-2.45	119.60	124.37
39	WG	501	GTP	PA-O3A-PB	-2.44	124.44	132.83
39	PL	501	GTP	N2-C2-N3	2.44	124.49	119.74
39	QL	502	GTP	C2-N1-C6	-2.44	120.60	125.10
39	LJ	501	GTP	O5'-C5'-C4'	2.44	117.39	108.99
39	KK	501	GTP	PA-O3A-PB	-2.44	124.45	132.83
39	AJ	501	GTP	PA-O3A-PB	-2.44	124.45	132.83
39	DJ	501	GTP	C2-N1-C6	-2.44	120.61	125.10
39	PL	501	GTP	PA-O3A-PB	-2.44	124.46	132.83
39	HL	501	GTP	C3'-C2'-C1'	2.44	104.65	100.98
39	LJ	501	GTP	PB-O3B-PG	-2.44	124.46	132.83
39	FG	501	GTP	PB-O3B-PG	-2.44	124.46	132.83
39	BK	501	GTP	C5-C6-N1	2.44	118.25	113.95
39	VE	501	GTP	O6-C6-C5	-2.44	119.61	124.37
39	OG	501	GTP	PA-O3A-PB	-2.44	124.47	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	IL	501	GTP	C3'-C2'-C1'	2.43	104.64	100.98
39	DH	501	GTP	O6-C6-C5	-2.43	119.62	124.37
39	SC	501	GTP	PB-O3B-PG	-2.43	124.48	132.83
39	CL	501	GTP	O6-C6-C5	-2.43	119.62	124.37
39	BC	501	GTP	C5-C6-N1	2.43	118.25	113.95
39	VH	501	GTP	C3'-C2'-C1'	2.43	104.64	100.98
39	VK	501	GTP	C2-N1-C6	-2.43	120.62	125.10
39	HK	501	GTP	O6-C6-N1	-2.43	117.78	120.65
39	UK	501	GTP	PB-O3B-PG	-2.43	124.50	132.83
39	BL	501	GTP	C3'-C2'-C1'	2.43	104.63	100.98
39	QD	501	GTP	C3'-C2'-C1'	2.43	104.63	100.98
39	WL	501	GTP	C3'-C2'-C1'	2.42	104.63	100.98
39	JC	501	GTP	PB-O3B-PG	-2.42	124.50	132.83
39	GD	501	GTP	C3'-C2'-C1'	2.42	104.63	100.98
39	GD	501	GTP	O6-C6-C5	-2.42	119.64	124.37
39	PA	501	GTP	PB-O3B-PG	-2.42	124.51	132.83
39	NB	501	GTP	PA-O3A-PB	-2.42	124.52	132.83
39	HC	501	GTP	PA-O3A-PB	-2.42	124.52	132.83
39	NJ	501	GTP	C3'-C2'-C1'	2.42	104.62	100.98
39	WD	501	GTP	C3'-C2'-C1'	2.42	104.62	100.98
39	BC	501	GTP	C2-N1-C6	-2.42	120.64	125.10
39	FF	501	GTP	O6-C6-C5	-2.42	119.65	124.37
39	EI	501	GTP	C8-N7-C5	2.42	107.60	102.99
39	OD	501	GTP	C3'-C2'-C1'	2.42	104.62	100.98
39	QD	502	GTP	PA-O3A-PB	-2.42	124.53	132.83
39	BH	501	GTP	C3'-C2'-C1'	2.42	104.62	100.98
39	CL	501	GTP	O5'-C5'-C4'	2.42	117.31	108.99
39	NF	501	GTP	PA-O3A-PB	-2.42	124.54	132.83
39	KF	501	GTP	O6-C6-C5	-2.42	119.65	124.37
39	EC	501	GTP	C2'-C3'-C4'	2.41	107.33	102.64
39	DL	501	GTP	C3'-C2'-C1'	2.41	104.61	100.98
39	HD	501	GTP	O6-C6-C5	-2.41	119.66	124.37
39	WD	501	GTP	O2G-PG-O3B	2.41	112.72	104.64
39	MJ	501	GTP	PA-O3A-PB	-2.41	124.56	132.83
39	ND	501	GTP	O2G-PG-O3B	2.41	112.72	104.64
39	HE	501	GTP	C2-N1-C6	-2.41	120.66	125.10
39	WA	501	GTP	PA-O3A-PB	-2.41	124.56	132.83
39	CL	501	GTP	N2-C2-N1	2.41	121.84	116.71
39	OH	501	GTP	PA-O3A-PB	-2.41	124.57	132.83
39	GH	501	GTP	O6-C6-C5	-2.41	119.67	124.37
39	FF	501	GTP	PB-O3B-PG	-2.40	124.58	132.83
39	CK	501	GTP	N1-C2-N3	-2.40	118.83	123.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	KL	501	GTP	PA-O3A-PB	-2.40	124.58	132.83
39	WG	501	GTP	C5-C6-N1	2.40	118.19	113.95
39	CE	501	GTP	C2-N1-C6	-2.40	120.67	125.10
39	WH	501	GTP	O6-C6-C5	-2.40	119.68	124.37
39	RE	501	GTP	PB-O3B-PG	-2.40	124.59	132.83
39	JG	501	GTP	C2-N1-C6	-2.40	120.68	125.10
39	SJ	501	GTP	C3'-C2'-C1'	2.40	104.59	100.98
39	PH	501	GTP	C3'-C2'-C1'	2.40	104.59	100.98
39	ED	501	GTP	C2-N1-C6	-2.40	120.68	125.10
39	AI	501	GTP	PA-O3A-PB	-2.40	124.59	132.83
39	NJ	501	GTP	O6-C6-C5	-2.40	119.69	124.37
39	AB	501	GTP	O6-C6-C5	-2.40	119.69	124.37
39	RL	501	GTP	O6-C6-C5	-2.40	119.69	124.37
39	VH	501	GTP	PA-O3A-PB	-2.40	124.61	132.83
39	SE	501	GTP	PA-O3A-PB	-2.39	124.61	132.83
39	DH	501	GTP	O2G-PG-O3B	2.39	112.67	104.64
39	KH	501	GTP	C3'-C2'-C1'	2.39	104.58	100.98
39	UH	501	GTP	C3'-C2'-C1'	2.39	104.58	100.98
39	QH	501	GTP	C3'-C2'-C1'	2.39	104.58	100.98
39	GK	501	GTP	O3G-PG-O3B	2.39	112.66	104.64
39	IE	501	GTP	PB-O3B-PG	-2.39	124.62	132.83
39	KG	501	GTP	O6-C6-N1	-2.39	117.83	120.65
39	CF	501	GTP	PA-O3A-PB	-2.39	124.63	132.83
39	DF	501	GTP	PA-O3A-PB	-2.39	124.63	132.83
39	KA	501	GTP	PB-O3B-PG	-2.39	124.63	132.83
39	OE	501	GTP	PA-O3A-PB	-2.39	124.63	132.83
39	WK	501	GTP	C2-N1-C6	-2.39	120.70	125.10
39	FC	501	GTP	C2-N1-C6	-2.39	120.70	125.10
39	OC	501	GTP	C2-N1-C6	-2.38	120.71	125.10
39	GA	501	GTP	PA-O3A-PB	-2.38	124.64	132.83
39	NL	501	GTP	C3'-C2'-C1'	2.38	104.56	100.98
39	RC	501	GTP	PB-O3B-PG	-2.38	124.65	132.83
39	QJ	501	GTP	O5'-C5'-C4'	2.38	117.19	108.99
39	BD	501	GTP	O6-C6-C5	-2.38	119.72	124.37
39	JD	501	GTP	O6-C6-C5	-2.38	119.72	124.37
39	OF	501	GTP	C3'-C2'-C1'	2.38	104.56	100.98
39	NL	501	GTP	O6-C6-C5	-2.38	119.73	124.37
39	NJ	501	GTP	C2-N1-C6	-2.38	120.72	125.10
39	IM	501	GTP	PA-O3A-PB	-2.38	124.67	132.83
39	LF	501	GTP	O6-C6-C5	-2.38	119.73	124.37
39	HF	501	GTP	O6-C6-C5	-2.37	119.74	124.37
39	HJ	501	GTP	PA-O3A-PB	-2.37	124.70	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	RK	501	GTP	PB-O3B-PG	-2.37	124.70	132.83
39	UE	501	GTP	PA-O3A-PB	-2.37	124.70	132.83
39	KA	501	GTP	O6-C6-N1	-2.37	117.86	120.65
39	IB	501	GTP	C3'-C2'-C1'	2.36	104.54	100.98
39	UB	501	GTP	C3'-C2'-C1'	2.36	104.54	100.98
39	GC	501	GTP	C5-C6-N1	2.36	118.12	113.95
39	BH	501	GTP	O6-C6-C5	-2.36	119.76	124.37
39	PM	501	GTP	N2-C2-N1	2.36	121.74	116.71
39	BF	501	GTP	PB-O3B-PG	-2.36	124.73	132.83
39	GI	501	GTP	C2-N1-C6	-2.36	120.75	125.10
39	DA	501	GTP	PB-O3B-PG	-2.36	124.73	132.83
39	EH	501	GTP	PA-O3A-PB	-2.36	124.73	132.83
39	KC	501	GTP	PB-O3B-PG	-2.36	124.73	132.83
39	SB	501	GTP	C8-N7-C5	2.36	107.48	102.99
39	RJ	501	GTP	C3'-C2'-C1'	2.36	104.53	100.98
39	CB	501	GTP	O2G-PG-O3B	2.36	112.53	104.64
39	DJ	501	GTP	O6-C6-C5	-2.36	119.77	124.37
39	HB	501	GTP	O6-C6-C5	-2.36	119.77	124.37
39	RH	501	GTP	O6-C6-C5	-2.35	119.78	124.37
39	QJ	501	GTP	C3'-C2'-C1'	2.35	104.52	100.98
39	WF	501	GTP	C3'-C2'-C1'	2.35	104.52	100.98
39	EB	501	GTP	PB-O3B-PG	-2.35	124.76	132.83
39	IF	501	GTP	C3'-C2'-C1'	2.35	104.52	100.98
39	HI	501	GTP	O3G-PG-O3B	2.35	112.51	104.64
39	GA	501	GTP	PB-O3B-PG	-2.35	124.77	132.83
39	AH	501	GTP	PA-O3A-PB	-2.35	124.77	132.83
39	GB	501	GTP	C8-N7-C5	2.35	107.46	102.99
39	PM	501	GTP	C8-N7-C5	2.35	107.46	102.99
39	AB	501	GTP	C3'-C2'-C1'	2.34	104.51	100.98
39	PD	501	GTP	C2-N1-C6	-2.34	120.78	125.10
39	SM	501	GTP	N1-C2-N3	-2.34	118.94	123.32
39	CI	501	GTP	O6-C6-N1	-2.34	117.89	120.65
39	FA	501	GTP	C3'-C2'-C1'	2.34	104.50	100.98
39	WL	501	GTP	O2G-PG-O3B	2.34	112.48	104.64
39	GJ	501	GTP	C3'-C2'-C1'	2.34	104.50	100.98
39	KH	501	GTP	N1-C2-N3	-2.34	118.95	123.32
39	IH	501	GTP	O6-C6-C5	-2.34	119.81	124.37
39	OE	501	GTP	C5-C6-N1	2.34	118.08	113.95
39	MG	501	GTP	O6-C6-N1	-2.33	117.89	120.65
39	NF	501	GTP	O6-C6-C5	-2.33	119.81	124.37
39	TG	501	GTP	O6-C6-N1	-2.33	117.89	120.65
39	GF	501	GTP	PB-O3B-PG	-2.33	124.82	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	TC	501	GTP	PB-O3B-PG	-2.33	124.83	132.83
39	EA	501	GTP	C2-N1-C6	-2.33	120.80	125.10
39	KJ	501	GTP	PA-O3A-PB	-2.33	124.83	132.83
39	EA	501	GTP	PB-O3B-PG	-2.33	124.83	132.83
39	MJ	501	GTP	O6-C6-C5	-2.33	119.82	124.37
39	IL	501	GTP	O6-C6-C5	-2.33	119.83	124.37
39	QK	501	GTP	C5-C6-N1	2.33	118.06	113.95
39	FF	501	GTP	C3'-C2'-C1'	2.33	104.48	100.98
39	IC	501	GTP	PB-O3B-PG	-2.33	124.84	132.83
39	OK	501	GTP	PA-O3A-PB	-2.33	124.84	132.83
39	UF	501	GTP	C3'-C2'-C1'	2.33	104.48	100.98
39	GF	501	GTP	C3'-C2'-C1'	2.33	104.48	100.98
39	JA	501	GTP	PB-O3B-PG	-2.32	124.85	132.83
39	EB	501	GTP	C3'-C2'-C1'	2.32	104.47	100.98
39	IM	501	GTP	C2-N1-C6	-2.32	120.82	125.10
39	EL	501	GTP	O6-C6-C5	-2.32	119.84	124.37
39	MK	501	GTP	C8-N7-C5	2.32	107.41	102.99
39	DK	501	GTP	O3G-PG-O1G	2.32	119.77	110.68
39	CB	501	GTP	C3'-C2'-C1'	2.32	104.47	100.98
39	DC	501	GTP	C8-N7-C5	2.32	107.41	102.99
39	FF	501	GTP	N1-C2-N3	-2.32	118.99	123.32
39	WD	501	GTP	O6-C6-C5	-2.32	119.85	124.37
39	BI	501	GTP	C2-N1-C6	-2.32	120.83	125.10
39	BF	501	GTP	O6-C6-C5	-2.31	119.85	124.37
39	MB	501	GTP	O6-C6-C5	-2.31	119.86	124.37
39	IK	501	GTP	C2-N1-C6	-2.31	120.84	125.10
39	PJ	501	GTP	C3'-C2'-C1'	2.31	104.46	100.98
39	LD	501	GTP	O6-C6-C5	-2.31	119.86	124.37
39	PI	501	GTP	O6-C6-N1	-2.31	117.92	120.65
39	IA	501	GTP	PB-O3B-PG	-2.31	124.91	132.83
39	MG	501	GTP	C2-N1-C6	-2.31	120.85	125.10
39	EL	501	GTP	PA-O3A-PB	-2.31	124.91	132.83
39	PE	501	GTP	C2-N1-C6	-2.30	120.86	125.10
39	DB	501	GTP	C3'-C2'-C1'	2.30	104.44	100.98
39	VG	501	GTP	O6-C6-N1	-2.30	117.93	120.65
39	PJ	501	GTP	O6-C6-C5	-2.30	119.88	124.37
39	NI	501	GTP	N2-C2-N1	2.30	121.61	116.71
39	UB	501	GTP	O6-C6-C5	-2.30	119.89	124.37
39	KH	501	GTP	O2G-PG-O3B	2.30	112.33	104.64
39	NH	501	GTP	O6-C6-C5	-2.29	119.89	124.37
39	NC	501	GTP	O6-C6-N1	-2.29	117.94	120.65
39	KH	501	GTP	O6-C6-C5	-2.29	119.89	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	ML	501	GTP	O6-C6-C5	-2.29	119.89	124.37
39	JD	501	GTP	C3'-C2'-C1'	2.29	104.43	100.98
39	ED	501	GTP	O6-C6-C5	-2.29	119.90	124.37
39	SL	501	GTP	O6-C6-C5	-2.29	119.90	124.37
39	UF	501	GTP	O6-C6-C5	-2.29	119.90	124.37
39	PH	501	GTP	N2-C2-N3	2.29	124.20	119.74
39	JJ	501	GTP	O6-C6-C5	-2.29	119.90	124.37
39	SF	501	GTP	C8-N7-C5	2.29	107.35	102.99
39	IG	501	GTP	C8-N7-C5	2.29	107.35	102.99
39	BB	501	GTP	O6-C6-C5	-2.29	119.91	124.37
39	FB	501	GTP	C3'-C2'-C1'	2.29	104.42	100.98
39	LD	501	GTP	C3'-C2'-C1'	2.29	104.42	100.98
39	PH	501	GTP	O6-C6-C5	-2.28	119.91	124.37
39	CE	501	GTP	PA-O3A-PB	-2.28	124.99	132.83
39	DJ	501	GTP	N1-C2-N3	-2.28	119.06	123.32
39	MD	501	GTP	PA-O3A-PB	-2.28	124.99	132.83
39	FL	501	GTP	C3'-C2'-C1'	2.28	104.41	100.98
39	VC	501	GTP	C2-N1-C6	-2.28	120.90	125.10
39	HJ	501	GTP	O6-C6-C5	-2.28	119.92	124.37
39	MF	501	GTP	O6-C6-C5	-2.28	119.92	124.37
39	VA	501	GTP	PB-O3B-PG	-2.28	125.00	132.83
39	PD	501	GTP	C3'-C2'-C1'	2.28	104.41	100.98
39	HC	501	GTP	O6-C6-N1	-2.28	117.96	120.65
39	GG	501	GTP	PB-O3B-PG	-2.28	125.01	132.83
39	CD	501	GTP	C3'-C2'-C1'	2.28	104.41	100.98
39	FL	501	GTP	O6-C6-C5	-2.28	119.93	124.37
39	LH	501	GTP	PB-O3B-PG	-2.27	125.02	132.83
39	PB	501	GTP	O6-C6-C5	-2.27	119.93	124.37
39	ND	501	GTP	O4'-C4'-C5'	2.27	116.85	109.37
39	CB	501	GTP	O6-C6-C5	-2.27	119.94	124.37
39	DB	501	GTP	O6-C6-C5	-2.27	119.94	124.37
39	WJ	501	GTP	O6-C6-C5	-2.27	119.94	124.37
39	DL	501	GTP	O6-C6-C5	-2.27	119.94	124.37
39	HI	501	GTP	O6-C6-N1	-2.27	117.97	120.65
39	BB	501	GTP	C3'-C2'-C1'	2.27	104.40	100.98
39	UA	501	GTP	PB-O3B-PG	-2.27	125.04	132.83
39	WB	501	GTP	O6-C6-C5	-2.27	119.94	124.37
39	OG	501	GTP	O6-C6-N1	-2.27	117.97	120.65
39	JD	501	GTP	PA-O3A-PB	-2.27	125.04	132.83
39	DH	501	GTP	C3'-C2'-C1'	2.27	104.39	100.98
39	KK	501	GTP	PB-O3B-PG	-2.27	125.04	132.83
39	RI	501	GTP	PB-O3B-PG	-2.27	125.04	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	DK	501	GTP	C2'-C3'-C4'	2.27	107.05	102.64
39	KG	501	GTP	PB-O3B-PG	-2.27	125.04	132.83
39	VF	501	GTP	O6-C6-C5	-2.27	119.94	124.37
39	NE	501	GTP	O6-C6-N1	-2.27	117.97	120.65
39	MM	501	GTP	C2-N1-C6	-2.27	120.92	125.10
39	TI	501	GTP	PA-O3A-PB	-2.27	125.05	132.83
39	GL	501	GTP	C8-N7-C5	2.27	107.31	102.99
39	KI	501	GTP	PA-O3A-PB	-2.27	125.05	132.83
39	CL	501	GTP	O3'-C3'-C4'	-2.27	104.50	111.05
39	DI	501	GTP	PA-O3A-PB	-2.26	125.06	132.83
39	VH	501	GTP	O6-C6-C5	-2.26	119.95	124.37
39	SM	501	GTP	C8-N7-C5	2.26	107.30	102.99
39	GG	501	GTP	PA-O3A-PB	-2.26	125.07	132.83
39	VC	501	GTP	N1-C2-N3	-2.26	119.10	123.32
39	WA	501	GTP	PB-O3B-PG	-2.26	125.08	132.83
39	GF	501	GTP	O5'-C5'-C4'	2.26	116.76	108.99
39	DE	501	GTP	PA-O3A-PB	-2.26	125.08	132.83
39	HE	501	GTP	N1-C2-N3	-2.25	119.11	123.32
39	BI	501	GTP	PA-O3A-PB	-2.25	125.09	132.83
39	LA	501	GTP	PB-O3B-PG	-2.25	125.09	132.83
39	LC	501	GTP	PA-O3A-PB	-2.25	125.09	132.83
39	LH	501	GTP	O6-C6-C5	-2.25	119.98	124.37
39	VJ	501	GTP	O6-C6-C5	-2.25	119.98	124.37
39	SD	501	GTP	O6-C6-C5	-2.25	119.98	124.37
39	FH	501	GTP	O5'-C5'-C4'	2.25	116.72	108.99
39	DG	501	GTP	PA-O3A-PB	-2.25	125.12	132.83
39	GL	501	GTP	PB-O3B-PG	-2.25	125.12	132.83
39	OF	501	GTP	O2G-PG-O3B	2.25	112.16	104.64
39	RK	501	GTP	N2-C2-N1	2.24	121.49	116.71
39	QD	501	GTP	O6-C6-C5	-2.24	119.99	124.37
39	TD	501	GTP	O6-C6-C5	-2.24	119.99	124.37
39	DE	501	GTP	PB-O3B-PG	-2.24	125.14	132.83
39	AH	501	GTP	C3'-C2'-C1'	2.24	104.35	100.98
39	IA	501	GTP	PA-O3A-PB	-2.24	125.14	132.83
39	TM	501	GTP	O6-C6-N1	-2.24	118.00	120.65
39	NG	501	GTP	C2-N1-C6	-2.24	120.97	125.10
39	NC	501	GTP	O3G-PG-O3B	2.24	112.14	104.64
39	FL	501	GTP	C8-N7-C5	2.24	107.25	102.99
39	ED	501	GTP	N1-C2-N3	-2.24	119.14	123.32
39	UK	501	GTP	N1-C2-N3	-2.24	119.14	123.32
39	RJ	501	GTP	O6-C6-C5	-2.24	120.00	124.37
39	HD	501	GTP	N1-C2-N3	-2.24	119.14	123.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	KL	501	GTP	O6-C6-C5	-2.23	120.01	124.37
39	FK	501	GTP	C2-N1-C6	-2.23	120.98	125.10
39	LA	501	GTP	PA-O3A-PB	-2.23	125.17	132.83
39	CF	501	GTP	O6-C6-C5	-2.23	120.01	124.37
39	CK	501	GTP	PA-O3A-PB	-2.23	125.17	132.83
39	FD	501	GTP	O5'-C5'-C4'	2.23	116.67	108.99
39	BL	501	GTP	PA-O3A-PB	-2.23	125.18	132.83
39	SJ	501	GTP	O6-C6-C5	-2.23	120.02	124.37
39	WC	501	GTP	PA-O3A-PB	-2.23	125.18	132.83
39	JG	501	GTP	PA-O3A-PB	-2.23	125.18	132.83
39	IJ	501	GTP	PA-O3A-PB	-2.23	125.18	132.83
39	MF	501	GTP	PA-O3A-PB	-2.23	125.18	132.83
39	LC	501	GTP	PB-O3B-PG	-2.23	125.19	132.83
39	HK	501	GTP	PB-O3B-PG	-2.22	125.19	132.83
39	OE	501	GTP	N1-C2-N3	-2.22	119.16	123.32
39	JB	501	GTP	O6-C6-C5	-2.22	120.03	124.37
39	UA	501	GTP	C2-N1-C6	-2.22	121.00	125.10
39	BL	501	GTP	O6-C6-C5	-2.22	120.03	124.37
39	TN	501	GTP	O6-C6-C5	-2.22	120.03	124.37
39	AG	501	GTP	O6-C6-N1	-2.22	118.02	120.65
39	DF	501	GTP	O6-C6-C5	-2.22	120.03	124.37
39	QH	501	GTP	PA-O3A-PB	-2.22	125.20	132.83
39	JH	501	GTP	O6-C6-C5	-2.22	120.03	124.37
39	SM	501	GTP	N2-C2-N1	2.22	121.44	116.71
39	HL	501	GTP	PB-O3B-PG	-2.22	125.21	132.83
39	TB	501	GTP	O6-C6-C5	-2.22	120.04	124.37
39	RK	501	GTP	N1-C2-N3	-2.22	119.17	123.32
39	SH	501	GTP	O6-C6-C5	-2.22	120.04	124.37
39	MH	501	GTP	PA-O3A-PB	-2.22	125.22	132.83
39	BD	501	GTP	C3'-C2'-C1'	2.22	104.31	100.98
39	PI	501	GTP	PA-O3A-PB	-2.22	125.22	132.83
39	VA	501	GTP	PA-O3A-PB	-2.22	125.22	132.83
39	DI	501	GTP	C2-N1-C6	-2.22	121.02	125.10
39	MC	501	GTP	PA-O3A-PB	-2.21	125.23	132.83
39	UE	501	GTP	PB-O3B-PG	-2.21	125.23	132.83
39	VI	501	GTP	PA-O3A-PB	-2.21	125.23	132.83
39	AF	501	GTP	O6-C6-C5	-2.21	120.05	124.37
39	QD	502	GTP	O6-C6-N1	-2.21	118.04	120.65
39	II	501	GTP	N1-C2-N3	-2.21	119.19	123.32
39	FC	501	GTP	PA-O3A-PB	-2.21	125.24	132.83
39	NB	501	GTP	O6-C6-C5	-2.21	120.06	124.37
39	OA	501	GTP	C2-N1-C6	-2.21	121.03	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	HK	501	GTP	PA-O3A-PB	-2.21	125.25	132.83
39	OI	501	GTP	N1-C2-N3	-2.21	119.20	123.32
39	RF	501	GTP	O6-C6-C5	-2.21	120.06	124.37
39	RK	501	GTP	PA-O3A-PB	-2.20	125.26	132.83
39	VF	501	GTP	PA-O3A-PB	-2.20	125.26	132.83
39	JA	501	GTP	O6-C6-N1	-2.20	118.05	120.65
39	JL	501	GTP	O6-C6-C5	-2.20	120.07	124.37
39	HH	501	GTP	O6-C6-C5	-2.20	120.07	124.37
39	OF	501	GTP	O6-C6-C5	-2.20	120.07	124.37
39	KJ	501	GTP	O6-C6-C5	-2.20	120.08	124.37
39	NK	501	GTP	PA-O3A-PB	-2.20	125.28	132.83
39	TF	501	GTP	O6-C6-C5	-2.20	120.08	124.37
39	OA	501	GTP	PB-O3B-PG	-2.20	125.28	132.83
39	MH	501	GTP	O6-C6-C5	-2.20	120.08	124.37
39	ND	501	GTP	O5'-C5'-C4'	2.20	116.55	108.99
39	FB	501	GTP	O6-C6-C5	-2.20	120.08	124.37
39	EH	501	GTP	O6-C6-C5	-2.19	120.08	124.37
39	BG	501	GTP	PA-O3A-PB	-2.19	125.30	132.83
39	WI	501	GTP	PA-O3A-PB	-2.19	125.30	132.83
39	LE	501	GTP	PA-O3A-PB	-2.19	125.30	132.83
39	WF	501	GTP	O6-C6-C5	-2.19	120.09	124.37
39	VI	501	GTP	PB-O3B-PG	-2.19	125.30	132.83
39	RB	501	GTP	C8-N7-C5	2.19	107.17	102.99
39	IB	501	GTP	O6-C6-C5	-2.19	120.09	124.37
39	NI	501	GTP	N1-C2-N3	-2.19	119.23	123.32
39	UD	501	GTP	O6-C6-C5	-2.19	120.09	124.37
39	EJ	501	GTP	O6-C6-C5	-2.19	120.10	124.37
39	QB	501	GTP	O6-C6-C5	-2.19	120.10	124.37
39	TK	501	GTP	O6-C6-N1	-2.19	118.06	120.65
39	VL	501	GTP	O6-C6-C5	-2.19	120.10	124.37
39	WL	501	GTP	O6-C6-C5	-2.19	120.10	124.37
39	RK	501	GTP	O3G-PG-O3B	2.19	111.97	104.64
39	LG	501	GTP	PB-O3B-PG	-2.19	125.32	132.83
39	WH	501	GTP	N1-C2-N3	-2.19	119.24	123.32
39	CD	501	GTP	O6-C6-C5	-2.18	120.11	124.37
39	QJ	501	GTP	O6-C6-C5	-2.18	120.11	124.37
39	AD	501	GTP	C3'-C2'-C1'	2.18	104.27	100.98
39	FC	501	GTP	C2'-C3'-C4'	2.18	106.88	102.64
39	OJ	501	GTP	O6-C6-C5	-2.18	120.11	124.37
39	QH	501	GTP	O6-C6-C5	-2.18	120.11	124.37
39	IF	501	GTP	O2G-PG-O3B	2.18	111.95	104.64
39	RD	501	GTP	O6-C6-C5	-2.18	120.12	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	UK	501	GTP	PA-O3A-PB	-2.18	125.36	132.83
39	QF	501	GTP	O6-C6-C5	-2.18	120.12	124.37
39	LC	501	GTP	O6-C6-N1	-2.18	118.08	120.65
39	JF	501	GTP	O6-C6-C5	-2.18	120.12	124.37
39	WB	501	GTP	O2G-PG-O3B	2.18	111.93	104.64
39	OA	501	GTP	N1-C2-N3	-2.17	119.26	123.32
39	HL	501	GTP	O6-C6-C5	-2.17	120.12	124.37
39	KI	501	GTP	PB-O3B-PG	-2.17	125.36	132.83
39	NA	501	GTP	C2-N1-C6	-2.17	121.10	125.10
39	QC	501	GTP	PB-O3B-PG	-2.17	125.37	132.83
39	KH	501	GTP	O5'-C5'-C4'	2.17	116.46	108.99
39	PA	501	GTP	N1-C2-N3	-2.17	119.26	123.32
39	UL	501	GTP	O6-C6-C5	-2.17	120.13	124.37
39	MD	501	GTP	O6-C6-C5	-2.17	120.14	124.37
39	BE	501	GTP	PA-O3A-PB	-2.17	125.39	132.83
39	HF	501	GTP	C3'-C2'-C1'	2.17	104.24	100.98
39	NG	501	GTP	N1-C2-N3	-2.17	119.27	123.32
39	HE	501	GTP	PA-O3A-PB	-2.17	125.40	132.83
39	PH	501	GTP	PA-O3A-PB	-2.16	125.40	132.83
39	FL	501	GTP	N2-C2-N3	2.16	123.95	119.74
39	RI	501	GTP	O6-C6-N1	-2.16	118.09	120.65
39	UJ	501	GTP	O6-C6-C5	-2.16	120.15	124.37
39	LI	501	GTP	PB-O3B-PG	-2.16	125.41	132.83
39	FI	501	GTP	PB-O3B-PG	-2.16	125.41	132.83
39	MD	502	GTP	PA-O3A-PB	-2.16	125.41	132.83
39	OB	501	GTP	O6-C6-C5	-2.16	120.15	124.37
39	HI	501	GTP	C2'-C3'-C4'	2.16	106.84	102.64
39	EF	501	GTP	O6-C6-C5	-2.16	120.15	124.37
39	ID	501	GTP	O6-C6-C5	-2.16	120.15	124.37
39	KD	501	GTP	O6-C6-C5	-2.16	120.16	124.37
39	VE	501	GTP	PB-O3B-PG	-2.16	125.42	132.83
39	AL	501	GTP	C3'-C2'-C1'	2.16	104.23	100.98
39	VB	501	GTP	O6-C6-C5	-2.16	120.16	124.37
39	OD	501	GTP	O6-C6-C5	-2.16	120.16	124.37
39	TG	501	GTP	PB-O3B-PG	-2.16	125.43	132.83
39	QI	501	GTP	PA-O3A-PB	-2.15	125.43	132.83
39	LL	501	GTP	O6-C6-C5	-2.15	120.17	124.37
39	NG	501	GTP	PB-O3B-PG	-2.15	125.44	132.83
39	PF	501	GTP	O6-C6-C5	-2.15	120.17	124.37
39	DI	501	GTP	O3G-PG-O3B	2.15	111.85	104.64
39	UC	501	GTP	N2-C2-N1	2.15	121.30	116.71
39	VD	501	GTP	O6-C6-C5	-2.15	120.17	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	CM	501	GTP	N2-C2-N1	2.15	121.29	116.71
39	UC	501	GTP	PB-O3B-PG	-2.15	125.45	132.83
39	HG	501	GTP	O3G-PG-O3B	2.15	111.84	104.64
39	PD	501	GTP	N2-C2-N3	2.15	123.92	119.74
39	IC	501	GTP	N1-C2-N3	-2.15	119.31	123.32
39	OL	501	GTP	O6-C6-C5	-2.15	120.18	124.37
39	BK	501	GTP	PA-O3A-PB	-2.14	125.47	132.83
39	QL	501	GTP	O6-C6-C5	-2.14	120.18	124.37
39	TH	501	GTP	O6-C6-C5	-2.14	120.18	124.37
39	VG	501	GTP	N1-C2-N3	-2.14	119.31	123.32
39	EC	501	GTP	N2-C2-N3	2.14	123.91	119.74
39	BE	501	GTP	PB-O3B-PG	-2.14	125.48	132.83
39	EB	501	GTP	O2G-PG-O3B	2.14	111.82	104.64
39	TC	501	GTP	O6-C6-N1	-2.14	118.12	120.65
39	VE	501	GTP	PA-O3A-PB	-2.14	125.49	132.83
39	OB	501	GTP	O2G-PG-O3B	2.14	111.81	104.64
39	DC	501	GTP	N1-C2-N3	-2.14	119.33	123.32
39	GL	501	GTP	C3'-C2'-C1'	2.14	104.19	100.98
39	NC	501	GTP	PA-O3A-PB	-2.13	125.50	132.83
39	VG	501	GTP	N2-C2-N1	2.13	121.26	116.71
39	WI	501	GTP	PB-O3B-PG	-2.13	125.50	132.83
39	IJ	501	GTP	O5'-C5'-C4'	2.13	116.34	108.99
39	WK	501	GTP	O3G-PG-O3B	2.13	111.79	104.64
39	VG	501	GTP	O3G-PG-O3B	2.13	111.78	104.64
39	IJ	501	GTP	O6-C6-C5	-2.13	120.21	124.37
39	AJ	501	GTP	O2G-PG-O3B	2.13	111.78	104.64
39	DK	501	GTP	PA-O3A-PB	-2.13	125.52	132.83
39	CL	501	GTP	O4'-C1'-C2'	2.13	110.04	106.93
39	EI	501	GTP	PA-O3A-PB	-2.13	125.53	132.83
39	JA	501	GTP	PA-O3A-PB	-2.13	125.53	132.83
39	HE	501	GTP	N2-C2-N1	2.13	121.24	116.71
39	SB	501	GTP	C3'-C2'-C1'	2.13	104.18	100.98
39	QB	501	GTP	O5'-C5'-C4'	2.13	116.31	108.99
39	UA	501	GTP	PA-O3A-PB	-2.12	125.53	132.83
39	WB	501	GTP	C3'-C2'-C1'	2.12	104.18	100.98
39	IF	501	GTP	O6-C6-C5	-2.12	120.22	124.37
39	EI	501	GTP	PB-O3B-PG	-2.12	125.54	132.83
39	LI	501	GTP	PA-O3A-PB	-2.12	125.54	132.83
39	CE	501	GTP	N1-C2-N3	-2.12	119.36	123.32
39	LF	501	GTP	O2G-PG-O3B	2.12	111.75	104.64
39	GK	501	GTP	C2'-C3'-C4'	2.12	106.76	102.64
39	OH	501	GTP	O6-C6-C5	-2.12	120.23	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	RG	501	GTP	PA-O3A-PB	-2.12	125.55	132.83
39	VB	501	GTP	PA-O3A-PB	-2.12	125.55	132.83
39	MK	501	GTP	N1-C2-N3	-2.12	119.36	123.32
39	EL	501	GTP	C3'-C2'-C1'	2.12	104.17	100.98
39	AH	501	GTP	O6-C6-C5	-2.12	120.24	124.37
39	MK	501	GTP	O6-C6-C5	-2.12	120.24	124.37
39	VF	501	GTP	C3'-C2'-C1'	2.12	104.16	100.98
39	OG	501	GTP	PB-O3B-PG	-2.12	125.57	132.83
39	IM	501	GTP	N1-C2-N3	-2.11	119.37	123.32
39	PF	501	GTP	PA-O3A-PB	-2.11	125.57	132.83
39	PF	501	GTP	C3'-C2'-C1'	2.11	104.16	100.98
39	EA	501	GTP	PA-O3A-PB	-2.11	125.58	132.83
39	KB	501	GTP	N1-C2-N3	-2.11	119.37	123.32
39	KH	501	GTP	N2-C2-N3	2.11	123.85	119.74
39	KG	501	GTP	PA-O3A-PB	-2.11	125.58	132.83
39	ID	501	GTP	C3'-C2'-C1'	2.11	104.16	100.98
39	KA	501	GTP	N2-C2-N1	2.11	121.21	116.71
39	VK	501	GTP	PA-O3A-PB	-2.11	125.58	132.83
39	QC	501	GTP	N1-C2-N3	-2.11	119.38	123.32
39	DC	501	GTP	O3G-PG-O3B	2.11	111.71	104.64
39	AE	501	GTP	PA-O3A-PB	-2.11	125.58	132.83
39	PE	501	GTP	PA-O3A-PB	-2.11	125.59	132.83
39	DC	501	GTP	PA-O3A-PB	-2.11	125.59	132.83
39	EK	501	GTP	C5-C6-N1	2.11	117.67	113.95
39	KH	501	GTP	PA-O3A-PB	-2.10	125.60	132.83
39	RC	501	GTP	O6-C6-N1	-2.10	118.17	120.65
39	WD	501	GTP	PA-O3A-PB	-2.10	125.61	132.83
39	BC	501	GTP	PA-O3A-PB	-2.10	125.61	132.83
39	TM	501	GTP	PB-O3B-PG	-2.10	125.61	132.83
39	GC	501	GTP	O3G-PG-O3B	2.10	111.68	104.64
39	PL	501	GTP	C3'-C2'-C1'	2.10	104.14	100.98
39	OB	501	GTP	PA-O3A-PB	-2.10	125.62	132.83
39	RM	501	GTP	PA-O3A-PB	-2.10	125.63	132.83
39	PG	501	GTP	PA-O3A-PB	-2.10	125.63	132.83
39	LJ	501	GTP	PA-O3A-PB	-2.10	125.64	132.83
39	KA	501	GTP	N1-C2-N3	-2.10	119.41	123.32
39	QI	501	GTP	O6-C6-C5	2.09	128.46	124.37
39	SG	501	GTP	PB-O3B-PG	-2.09	125.64	132.83
39	SC	501	GTP	O6-C6-N1	-2.09	118.18	120.65
39	WF	501	GTP	O2G-PG-O3B	2.09	111.65	104.64
39	AD	501	GTP	O6-C6-C5	-2.09	120.29	124.37
39	HC	501	GTP	C2'-C3'-C4'	2.09	106.70	102.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	VC	501	GTP	PB-O3B-PG	-2.09	125.66	132.83
39	GH	501	GTP	C3'-C2'-C1'	2.09	104.12	100.98
39	DK	501	GTP	C5-C6-N1	2.09	117.64	113.95
39	HC	501	GTP	O2G-PG-O1G	-2.08	102.52	110.68
39	FA	501	GTP	PA-O3A-PB	-2.08	125.67	132.83
39	WA	501	GTP	O6-C6-N1	-2.08	118.19	120.65
39	WI	501	GTP	N2-C2-N1	2.08	121.15	116.71
39	PM	501	GTP	O5'-C5'-C4'	2.08	116.16	108.99
39	IG	501	GTP	PB-O3B-PG	-2.08	125.68	132.83
39	PE	501	GTP	N1-C2-N3	-2.08	119.43	123.32
39	FA	501	GTP	N2-C2-N1	2.08	121.14	116.71
39	DF	501	GTP	N1-C2-N3	-2.08	119.44	123.32
39	GC	501	GTP	C2-N1-C6	-2.08	121.27	125.10
39	RE	501	GTP	O6-C6-N1	-2.08	118.19	120.65
39	ML	501	GTP	C3'-C2'-C1'	2.08	104.11	100.98
39	PL	501	GTP	O2G-PG-O3B	2.08	111.60	104.64
39	II	501	GTP	C2-N1-C6	-2.08	121.27	125.10
39	UC	501	GTP	N1-C2-N3	-2.08	119.44	123.32
39	RI	501	GTP	PA-O3A-PB	-2.08	125.70	132.83
39	GA	501	GTP	N1-C2-N3	-2.08	119.44	123.32
39	NI	501	GTP	PB-O3B-PG	-2.07	125.71	132.83
39	EG	501	GTP	PA-O3A-PB	-2.07	125.71	132.83
39	BH	501	GTP	O5'-C5'-C4'	2.07	116.12	108.99
39	CE	501	GTP	PB-O3B-PG	-2.07	125.72	132.83
39	AL	501	GTP	O2G-PG-O3B	2.07	111.58	104.64
39	UE	501	GTP	O2G-PG-O3B	2.07	111.57	104.64
39	BJ	501	GTP	C3'-C2'-C1'	2.07	104.09	100.98
39	VA	501	GTP	O6-C6-N1	-2.07	118.21	120.65
39	VC	501	GTP	PA-O3A-PB	-2.06	125.74	132.83
39	MG	501	GTP	N1-C2-N3	-2.06	119.46	123.32
39	UI	501	GTP	O6-C6-C5	2.06	128.40	124.37
39	QK	501	GTP	N1-C2-N3	-2.06	119.47	123.32
39	CJ	501	GTP	O6-C6-C5	-2.06	120.35	124.37
39	PL	501	GTP	O6-C6-C5	-2.06	120.35	124.37
39	TC	501	GTP	PA-O3A-PB	-2.06	125.77	132.83
39	MI	501	GTP	PB-O3B-PG	-2.06	125.77	132.83
39	CH	501	GTP	C8-N7-C5	2.06	106.91	102.99
39	QK	501	GTP	N2-C2-N1	2.06	121.09	116.71
39	UH	501	GTP	O6-C6-C5	-2.05	120.36	124.37
39	FB	501	GTP	O2G-PG-O3B	2.05	111.52	104.64
39	LL	501	GTP	PA-O3A-PB	-2.05	125.79	132.83
39	KA	501	GTP	PA-O3A-PB	-2.05	125.79	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	HE	501	GTP	O3G-PG-O3B	2.05	111.51	104.64
39	FG	501	GTP	PA-O3A-PB	-2.05	125.80	132.83
39	HK	501	GTP	N1-C2-N3	-2.05	119.50	123.32
39	IC	501	GTP	C2-N1-C6	-2.04	121.33	125.10
39	AB	501	GTP	N1-C2-N3	-2.04	119.50	123.32
39	FE	501	GTP	PB-O3B-PG	-2.04	125.82	132.83
39	IH	501	GTP	N1-C2-N3	-2.04	119.51	123.32
39	AI	501	GTP	PB-O3B-PG	-2.04	125.82	132.83
39	QC	501	GTP	C2-N1-C6	-2.04	121.34	125.10
39	HG	501	GTP	N1-C2-N3	-2.04	119.51	123.32
39	TG	501	GTP	PA-O3A-PB	-2.04	125.83	132.83
39	IH	501	GTP	O2G-PG-O3B	2.04	111.47	104.64
39	AM	501	GTP	N2-C2-N1	2.04	121.05	116.71
39	NK	501	GTP	PB-O3B-PG	-2.04	125.83	132.83
39	JI	501	GTP	PB-O3B-PG	-2.04	125.84	132.83
39	KE	501	GTP	PB-O3B-PG	-2.04	125.84	132.83
39	ML	501	GTP	N1-C2-N3	-2.03	119.52	123.32
39	BI	501	GTP	PB-O3B-PG	-2.03	125.85	132.83
39	II	501	GTP	PB-O3B-PG	-2.03	125.85	132.83
39	NA	501	GTP	N1-C2-N3	-2.03	119.52	123.32
39	UI	501	GTP	O3G-PG-O3B	2.03	111.45	104.64
39	HJ	501	GTP	O5'-C5'-C4'	2.03	115.98	108.99
39	EJ	501	GTP	PA-O3A-PB	-2.03	125.86	132.83
39	BM	501	GTP	C3'-C2'-C1'	2.03	104.03	100.98
39	MD	502	GTP	N1-C2-N3	-2.02	119.54	123.32
39	UC	501	GTP	PA-O3A-PB	-2.02	125.88	132.83
39	GF	501	GTP	O2G-PG-O3B	2.02	111.42	104.64
39	FA	501	GTP	C2'-C3'-C4'	2.02	106.57	102.64
39	FC	501	GTP	O3G-PG-O3B	2.02	111.41	104.64
39	QF	501	GTP	O5'-C5'-C4'	2.02	115.94	108.99
39	II	501	GTP	PA-O3A-PB	-2.02	125.90	132.83
39	IM	501	GTP	N2-C2-N1	2.02	121.01	116.71
39	BD	501	GTP	O5'-C5'-C4'	2.02	115.94	108.99
39	EK	501	GTP	PA-O3A-PB	-2.02	125.91	132.83
39	AL	501	GTP	O5'-C5'-C4'	2.01	115.93	108.99
39	JI	501	GTP	O6-C6-N1	-2.01	118.27	120.65
39	QK	501	GTP	O6-C6-N1	-2.01	118.27	120.65
39	FK	501	GTP	N1-C2-N3	-2.01	119.56	123.32
39	JE	501	GTP	N1-C2-N3	-2.01	119.56	123.32
39	EF	501	GTP	O4'-C4'-C5'	2.01	115.99	109.37
39	VK	501	GTP	PB-O3B-PG	-2.01	125.93	132.83
39	AG	501	GTP	O3G-PG-O3B	2.01	111.37	104.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	BM	501	GTP	O3'-C3'-C4'	-2.01	105.25	111.05
39	GJ	501	GTP	N1-C2-N3	-2.01	119.57	123.32
39	KI	501	GTP	C2-N1-C6	-2.00	121.41	125.10
39	UG	501	GTP	N1-C2-N3	-2.00	119.58	123.32
39	GK	501	GTP	PB-O3B-PG	-2.00	125.96	132.83
39	HI	501	GTP	PA-O3A-PB	-2.00	125.96	132.83
39	AE	501	GTP	O3G-PG-O3B	2.00	111.35	104.64
39	HA	501	GTP	PB-O3B-PG	-2.00	125.96	132.83

There are no chirality outliers.

All (1275) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
39	AB	501	GTP	C5'-O5'-PA-O1A
39	AB	501	GTP	C5'-O5'-PA-O2A
39	AF	501	GTP	C5'-O5'-PA-O2A
39	AG	501	GTP	C3'-C4'-C5'-O5'
39	AK	501	GTP	PB-O3B-PG-O2G
39	AK	501	GTP	O4'-C4'-C5'-O5'
39	AK	501	GTP	C3'-C4'-C5'-O5'
39	BF	501	GTP	C5'-O5'-PA-O2A
39	BL	501	GTP	C5'-O5'-PA-O2A
39	CC	501	GTP	PB-O3B-PG-O3G
39	CE	501	GTP	PB-O3B-PG-O2G
39	CF	501	GTP	C5'-O5'-PA-O2A
39	CI	501	GTP	PB-O3B-PG-O3G
39	CK	501	GTP	PB-O3B-PG-O2G
39	CK	501	GTP	C3'-C4'-C5'-O5'
39	DC	501	GTP	O4'-C4'-C5'-O5'
39	DC	501	GTP	C3'-C4'-C5'-O5'
39	DF	501	GTP	C5'-O5'-PA-O1A
39	DF	501	GTP	C5'-O5'-PA-O2A
39	DH	501	GTP	C5'-O5'-PA-O2A
39	DI	501	GTP	PB-O3B-PG-O2G
39	DI	501	GTP	C3'-C4'-C5'-O5'
39	DK	501	GTP	C3'-C4'-C5'-O5'
39	EC	501	GTP	O4'-C4'-C5'-O5'
39	EC	501	GTP	C3'-C4'-C5'-O5'
39	ED	501	GTP	C5'-O5'-PA-O2A
39	EG	501	GTP	PB-O3B-PG-O2G
39	EG	501	GTP	O4'-C4'-C5'-O5'
39	EG	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	EH	501	GTP	C5'-O5'-PA-O2A
39	EI	501	GTP	C3'-C4'-C5'-O5'
39	FB	501	GTP	C5'-O5'-PA-O2A
39	FG	501	GTP	O4'-C4'-C5'-O5'
39	FG	501	GTP	C3'-C4'-C5'-O5'
39	GC	501	GTP	C3'-C4'-C5'-O5'
39	GD	501	GTP	C5'-O5'-PA-O1A
39	GD	501	GTP	C5'-O5'-PA-O2A
39	HB	501	GTP	C5'-O5'-PA-O2A
39	HC	501	GTP	C3'-C4'-C5'-O5'
39	HD	501	GTP	C5'-O5'-PA-O2A
39	HE	501	GTP	O4'-C4'-C5'-O5'
39	HE	501	GTP	C3'-C4'-C5'-O5'
39	HG	501	GTP	O4'-C4'-C5'-O5'
39	HG	501	GTP	C3'-C4'-C5'-O5'
39	HH	501	GTP	C5'-O5'-PA-O2A
39	HJ	501	GTP	C5'-O5'-PA-O2A
39	HK	501	GTP	C3'-C4'-C5'-O5'
39	IC	501	GTP	PB-O3B-PG-O2G
39	IC	501	GTP	C3'-C4'-C5'-O5'
39	IE	501	GTP	C3'-C4'-C5'-O5'
39	IF	501	GTP	C5'-O5'-PA-O2A
39	IG	501	GTP	O4'-C4'-C5'-O5'
39	IG	501	GTP	C3'-C4'-C5'-O5'
39	IH	501	GTP	C5'-O5'-PA-O1A
39	IH	501	GTP	C5'-O5'-PA-O2A
39	II	501	GTP	O4'-C4'-C5'-O5'
39	II	501	GTP	C3'-C4'-C5'-O5'
39	IJ	501	GTP	C5'-O5'-PA-O1A
39	IJ	501	GTP	C5'-O5'-PA-O2A
39	IK	501	GTP	PB-O3B-PG-O2G
39	JA	501	GTP	O4'-C4'-C5'-O5'
39	JB	501	GTP	PB-O3B-PG-O2G
39	JD	501	GTP	C5'-O5'-PA-O1A
39	JD	501	GTP	C5'-O5'-PA-O2A
39	JG	501	GTP	PB-O3B-PG-O2G
39	JK	501	GTP	PB-O3B-PG-O2G
39	JK	501	GTP	O4'-C4'-C5'-O5'
39	KA	501	GTP	O4'-C4'-C5'-O5'
39	KB	501	GTP	C5'-O5'-PA-O2A
39	KG	501	GTP	C3'-C4'-C5'-O5'
39	KH	501	GTP	C5'-O5'-PA-O2A

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Mol	Chain	Res	Type	Atoms
39	KJ	501	GTP	C5'-O5'-PA-O2A
39	KL	501	GTP	C5'-O5'-PA-O2A
39	LI	501	GTP	O4'-C4'-C5'-O5'
39	LI	501	GTP	C3'-C4'-C5'-O5'
39	LL	501	GTP	C5'-O5'-PA-O2A
39	MC	501	GTP	C3'-C4'-C5'-O5'
39	MD	501	GTP	C5'-O5'-PA-O2A
39	MF	501	GTP	C5'-O5'-PA-O1A
39	MF	501	GTP	C5'-O5'-PA-O2A
39	MG	501	GTP	PB-O3B-PG-O2G
39	MI	501	GTP	PB-O3B-PG-O2G
39	MI	501	GTP	O4'-C4'-C5'-O5'
39	MI	501	GTP	C3'-C4'-C5'-O5'
39	MJ	501	GTP	C5'-O5'-PA-O2A
39	MK	501	GTP	O4'-C4'-C5'-O5'
39	NA	501	GTP	PB-O3B-PG-O2G
39	NA	501	GTP	O4'-C4'-C5'-O5'
39	NB	501	GTP	C5'-O5'-PA-O2A
39	NH	501	GTP	C5'-O5'-PA-O2A
39	NI	501	GTP	PB-O3B-PG-O2G
39	OA	501	GTP	PB-O3B-PG-O2G
39	OA	501	GTP	O4'-C4'-C5'-O5'
39	OB	501	GTP	C5'-O5'-PA-O2A
39	OC	501	GTP	O4'-C4'-C5'-O5'
39	OD	501	GTP	C5'-O5'-PA-O2A
39	OE	501	GTP	PB-O3B-PG-O2G
39	OF	501	GTP	C5'-O5'-PA-O2A
39	OG	501	GTP	O4'-C4'-C5'-O5'
39	PA	501	GTP	PB-O3B-PG-O2G
39	PB	501	GTP	C5'-O5'-PA-O2A
39	QC	501	GTP	PB-O3B-PG-O2G
39	QD	501	GTP	PB-O3B-PG-O2G
39	QL	502	GTP	O4'-C4'-C5'-O5'
39	RC	501	GTP	O4'-C4'-C5'-O5'
39	RC	501	GTP	C3'-C4'-C5'-O5'
39	RD	501	GTP	C5'-O5'-PA-O2A
39	RE	501	GTP	PB-O3B-PG-O2G
39	RG	501	GTP	O4'-C4'-C5'-O5'
39	RI	501	GTP	O4'-C4'-C5'-O5'
39	RI	501	GTP	C3'-C4'-C5'-O5'
39	RJ	501	GTP	PB-O3B-PG-O2G
39	RL	501	GTP	C5'-O5'-PA-O2A

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Mol	Chain	Res	Type	Atoms
39	RM	501	GTP	PB-O3B-PG-O2G
39	SH	501	GTP	C5'-O5'-PA-O2A
39	SL	501	GTP	C5'-O5'-PA-O2A
39	SM	501	GTP	PB-O3B-PG-O2G
39	SM	501	GTP	O4'-C4'-C5'-O5'
39	SM	501	GTP	C3'-C4'-C5'-O5'
39	TB	501	GTP	C5'-O5'-PA-O2A
39	TE	501	GTP	O4'-C4'-C5'-O5'
39	TG	501	GTP	PB-O3B-PG-O2G
39	TH	501	GTP	C5'-O5'-PA-O2A
39	TK	501	GTP	O4'-C4'-C5'-O5'
39	TN	501	GTP	C5'-O5'-PA-O2A
39	UB	501	GTP	C5'-O5'-PA-O2A
39	UD	501	GTP	C5'-O5'-PA-O2A
39	UH	501	GTP	C5'-O5'-PA-O2A
39	UJ	501	GTP	C5'-O5'-PA-O2A
39	VD	501	GTP	C5'-O5'-PA-O2A
39	VG	501	GTP	PB-O3B-PG-O2G
39	VI	501	GTP	C3'-C4'-C5'-O5'
39	VJ	501	GTP	C5'-O5'-PA-O2A
39	VK	501	GTP	PB-O3B-PG-O2G
39	VL	501	GTP	C5'-O5'-PA-O2A
39	WA	501	GTP	O4'-C4'-C5'-O5'
39	WC	501	GTP	PB-O3B-PG-O2G
39	WF	501	GTP	C5'-O5'-PA-O2A
39	WH	501	GTP	C5'-O5'-PA-O2A
39	WL	501	GTP	C5'-O5'-PA-O1A
39	WL	501	GTP	C5'-O5'-PA-O2A
39	AC	501	GTP	O4'-C4'-C5'-O5'
39	AC	501	GTP	C3'-C4'-C5'-O5'
39	AE	501	GTP	O4'-C4'-C5'-O5'
39	AE	501	GTP	C3'-C4'-C5'-O5'
39	AG	501	GTP	O4'-C4'-C5'-O5'
39	AI	501	GTP	O4'-C4'-C5'-O5'
39	AI	501	GTP	C3'-C4'-C5'-O5'
39	AM	501	GTP	O4'-C4'-C5'-O5'
39	AM	501	GTP	C3'-C4'-C5'-O5'
39	BC	501	GTP	O4'-C4'-C5'-O5'
39	BC	501	GTP	C3'-C4'-C5'-O5'
39	BE	501	GTP	O4'-C4'-C5'-O5'
39	BE	501	GTP	C3'-C4'-C5'-O5'
39	BG	501	GTP	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	BG	501	GTP	C3'-C4'-C5'-O5'
39	BI	501	GTP	O4'-C4'-C5'-O5'
39	BI	501	GTP	C3'-C4'-C5'-O5'
39	BK	501	GTP	O4'-C4'-C5'-O5'
39	BK	501	GTP	C3'-C4'-C5'-O5'
39	BM	501	GTP	O4'-C4'-C5'-O5'
39	BM	501	GTP	C3'-C4'-C5'-O5'
39	CC	501	GTP	O4'-C4'-C5'-O5'
39	CE	501	GTP	O4'-C4'-C5'-O5'
39	CE	501	GTP	C3'-C4'-C5'-O5'
39	CF	501	GTP	C3'-C4'-C5'-O5'
39	CG	501	GTP	O4'-C4'-C5'-O5'
39	CG	501	GTP	C3'-C4'-C5'-O5'
39	CI	501	GTP	O4'-C4'-C5'-O5'
39	CI	501	GTP	C3'-C4'-C5'-O5'
39	CK	501	GTP	O4'-C4'-C5'-O5'
39	CM	501	GTP	O4'-C4'-C5'-O5'
39	CM	501	GTP	C3'-C4'-C5'-O5'
39	DE	501	GTP	O4'-C4'-C5'-O5'
39	DE	501	GTP	C3'-C4'-C5'-O5'
39	DG	501	GTP	O4'-C4'-C5'-O5'
39	DG	501	GTP	C3'-C4'-C5'-O5'
39	DI	501	GTP	O4'-C4'-C5'-O5'
39	DK	501	GTP	O4'-C4'-C5'-O5'
39	EA	501	GTP	O4'-C4'-C5'-O5'
39	EA	501	GTP	C3'-C4'-C5'-O5'
39	EE	501	GTP	O4'-C4'-C5'-O5'
39	EE	501	GTP	C3'-C4'-C5'-O5'
39	EI	501	GTP	O4'-C4'-C5'-O5'
39	EK	501	GTP	O4'-C4'-C5'-O5'
39	EK	501	GTP	C3'-C4'-C5'-O5'
39	FA	501	GTP	O4'-C4'-C5'-O5'
39	FA	501	GTP	C3'-C4'-C5'-O5'
39	FC	501	GTP	O4'-C4'-C5'-O5'
39	FC	501	GTP	C3'-C4'-C5'-O5'
39	FE	501	GTP	O4'-C4'-C5'-O5'
39	FE	501	GTP	C3'-C4'-C5'-O5'
39	FI	501	GTP	O4'-C4'-C5'-O5'
39	FI	501	GTP	C3'-C4'-C5'-O5'
39	FK	501	GTP	O4'-C4'-C5'-O5'
39	FK	501	GTP	C3'-C4'-C5'-O5'
39	GA	501	GTP	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	GC	501	GTP	O4'-C4'-C5'-O5'
39	GE	501	GTP	O4'-C4'-C5'-O5'
39	GE	501	GTP	C3'-C4'-C5'-O5'
39	GG	501	GTP	O4'-C4'-C5'-O5'
39	GG	501	GTP	C3'-C4'-C5'-O5'
39	GI	501	GTP	O4'-C4'-C5'-O5'
39	GI	501	GTP	C3'-C4'-C5'-O5'
39	GK	501	GTP	O4'-C4'-C5'-O5'
39	GK	501	GTP	C3'-C4'-C5'-O5'
39	HA	501	GTP	O4'-C4'-C5'-O5'
39	HA	501	GTP	C3'-C4'-C5'-O5'
39	HC	501	GTP	O4'-C4'-C5'-O5'
39	HI	501	GTP	O4'-C4'-C5'-O5'
39	HI	501	GTP	C3'-C4'-C5'-O5'
39	HK	501	GTP	O4'-C4'-C5'-O5'
39	IA	501	GTP	O4'-C4'-C5'-O5'
39	IA	501	GTP	C3'-C4'-C5'-O5'
39	IC	501	GTP	O4'-C4'-C5'-O5'
39	IE	501	GTP	O4'-C4'-C5'-O5'
39	IK	501	GTP	O4'-C4'-C5'-O5'
39	IK	501	GTP	C3'-C4'-C5'-O5'
39	IM	501	GTP	O4'-C4'-C5'-O5'
39	IM	501	GTP	C3'-C4'-C5'-O5'
39	JC	501	GTP	O4'-C4'-C5'-O5'
39	JC	501	GTP	C3'-C4'-C5'-O5'
39	JE	501	GTP	O4'-C4'-C5'-O5'
39	JE	501	GTP	C3'-C4'-C5'-O5'
39	JG	501	GTP	O4'-C4'-C5'-O5'
39	JG	501	GTP	C3'-C4'-C5'-O5'
39	JI	501	GTP	O4'-C4'-C5'-O5'
39	JI	501	GTP	C3'-C4'-C5'-O5'
39	JK	501	GTP	C3'-C4'-C5'-O5'
39	KC	501	GTP	O4'-C4'-C5'-O5'
39	KE	501	GTP	O4'-C4'-C5'-O5'
39	KE	501	GTP	C3'-C4'-C5'-O5'
39	KG	501	GTP	O4'-C4'-C5'-O5'
39	KI	501	GTP	O4'-C4'-C5'-O5'
39	KK	501	GTP	O4'-C4'-C5'-O5'
39	LA	501	GTP	O4'-C4'-C5'-O5'
39	LA	501	GTP	C3'-C4'-C5'-O5'
39	LC	501	GTP	O4'-C4'-C5'-O5'
39	LC	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	LE	501	GTP	O4'-C4'-C5'-O5'
39	LG	501	GTP	O4'-C4'-C5'-O5'
39	LG	501	GTP	C3'-C4'-C5'-O5'
39	MC	501	GTP	O4'-C4'-C5'-O5'
39	MD	502	GTP	O4'-C4'-C5'-O5'
39	MD	502	GTP	C3'-C4'-C5'-O5'
39	MG	501	GTP	O4'-C4'-C5'-O5'
39	MG	501	GTP	C3'-C4'-C5'-O5'
39	MM	501	GTP	O4'-C4'-C5'-O5'
39	MM	501	GTP	C3'-C4'-C5'-O5'
39	NC	501	GTP	O4'-C4'-C5'-O5'
39	NC	501	GTP	C3'-C4'-C5'-O5'
39	NE	501	GTP	O4'-C4'-C5'-O5'
39	NE	501	GTP	C3'-C4'-C5'-O5'
39	NG	501	GTP	O4'-C4'-C5'-O5'
39	NG	501	GTP	C3'-C4'-C5'-O5'
39	NI	501	GTP	O4'-C4'-C5'-O5'
39	NI	501	GTP	C3'-C4'-C5'-O5'
39	NK	501	GTP	O4'-C4'-C5'-O5'
39	NK	501	GTP	C3'-C4'-C5'-O5'
39	OE	501	GTP	O4'-C4'-C5'-O5'
39	OE	501	GTP	C3'-C4'-C5'-O5'
39	OG	501	GTP	C3'-C4'-C5'-O5'
39	OI	501	GTP	O4'-C4'-C5'-O5'
39	OI	501	GTP	C3'-C4'-C5'-O5'
39	OK	501	GTP	O4'-C4'-C5'-O5'
39	OK	501	GTP	C3'-C4'-C5'-O5'
39	PA	501	GTP	O4'-C4'-C5'-O5'
39	PA	501	GTP	C3'-C4'-C5'-O5'
39	PC	501	GTP	O4'-C4'-C5'-O5'
39	PC	501	GTP	C3'-C4'-C5'-O5'
39	PE	501	GTP	O4'-C4'-C5'-O5'
39	PE	501	GTP	C3'-C4'-C5'-O5'
39	PG	501	GTP	O4'-C4'-C5'-O5'
39	PG	501	GTP	C3'-C4'-C5'-O5'
39	PI	501	GTP	O4'-C4'-C5'-O5'
39	PI	501	GTP	C3'-C4'-C5'-O5'
39	PK	501	GTP	O4'-C4'-C5'-O5'
39	PK	501	GTP	C3'-C4'-C5'-O5'
39	PM	501	GTP	O4'-C4'-C5'-O5'
39	PM	501	GTP	C3'-C4'-C5'-O5'
39	QC	501	GTP	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	QC	501	GTP	C3'-C4'-C5'-O5'
39	QD	502	GTP	O4'-C4'-C5'-O5'
39	QD	502	GTP	C3'-C4'-C5'-O5'
39	QG	501	GTP	O4'-C4'-C5'-O5'
39	QG	501	GTP	C3'-C4'-C5'-O5'
39	QI	501	GTP	O4'-C4'-C5'-O5'
39	QI	501	GTP	C3'-C4'-C5'-O5'
39	QK	501	GTP	O4'-C4'-C5'-O5'
39	QK	501	GTP	C3'-C4'-C5'-O5'
39	RK	501	GTP	O4'-C4'-C5'-O5'
39	RK	501	GTP	C3'-C4'-C5'-O5'
39	RM	501	GTP	O4'-C4'-C5'-O5'
39	RM	501	GTP	C3'-C4'-C5'-O5'
39	SC	501	GTP	O4'-C4'-C5'-O5'
39	SC	501	GTP	C3'-C4'-C5'-O5'
39	SE	501	GTP	O4'-C4'-C5'-O5'
39	SE	501	GTP	C3'-C4'-C5'-O5'
39	SG	501	GTP	O4'-C4'-C5'-O5'
39	SG	501	GTP	C3'-C4'-C5'-O5'
39	SI	501	GTP	O4'-C4'-C5'-O5'
39	SI	501	GTP	C3'-C4'-C5'-O5'
39	SK	501	GTP	O4'-C4'-C5'-O5'
39	SK	501	GTP	C3'-C4'-C5'-O5'
39	TC	501	GTP	O4'-C4'-C5'-O5'
39	TC	501	GTP	C3'-C4'-C5'-O5'
39	TG	501	GTP	O4'-C4'-C5'-O5'
39	TG	501	GTP	C3'-C4'-C5'-O5'
39	TI	501	GTP	O4'-C4'-C5'-O5'
39	TI	501	GTP	C3'-C4'-C5'-O5'
39	TK	501	GTP	C3'-C4'-C5'-O5'
39	TM	501	GTP	O4'-C4'-C5'-O5'
39	TM	501	GTP	C3'-C4'-C5'-O5'
39	UA	501	GTP	O4'-C4'-C5'-O5'
39	UA	501	GTP	C3'-C4'-C5'-O5'
39	UC	501	GTP	O4'-C4'-C5'-O5'
39	UC	501	GTP	C3'-C4'-C5'-O5'
39	UE	501	GTP	O4'-C4'-C5'-O5'
39	UE	501	GTP	C3'-C4'-C5'-O5'
39	UG	501	GTP	O4'-C4'-C5'-O5'
39	UG	501	GTP	C3'-C4'-C5'-O5'
39	UI	501	GTP	O4'-C4'-C5'-O5'
39	UI	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	UK	501	GTP	O4'-C4'-C5'-O5'
39	UK	501	GTP	C3'-C4'-C5'-O5'
39	VA	501	GTP	O4'-C4'-C5'-O5'
39	VC	501	GTP	O4'-C4'-C5'-O5'
39	VC	501	GTP	C3'-C4'-C5'-O5'
39	VE	501	GTP	O4'-C4'-C5'-O5'
39	VE	501	GTP	C3'-C4'-C5'-O5'
39	VG	501	GTP	O4'-C4'-C5'-O5'
39	VG	501	GTP	C3'-C4'-C5'-O5'
39	VI	501	GTP	O4'-C4'-C5'-O5'
39	VK	501	GTP	O4'-C4'-C5'-O5'
39	VK	501	GTP	C3'-C4'-C5'-O5'
39	WA	501	GTP	C3'-C4'-C5'-O5'
39	WC	501	GTP	O4'-C4'-C5'-O5'
39	WC	501	GTP	C3'-C4'-C5'-O5'
39	WE	501	GTP	O4'-C4'-C5'-O5'
39	WE	501	GTP	C3'-C4'-C5'-O5'
39	WG	501	GTP	O4'-C4'-C5'-O5'
39	WG	501	GTP	C3'-C4'-C5'-O5'
39	WI	501	GTP	O4'-C4'-C5'-O5'
39	WI	501	GTP	C3'-C4'-C5'-O5'
39	AF	501	GTP	C3'-C4'-C5'-O5'
39	BL	501	GTP	C3'-C4'-C5'-O5'
39	CC	501	GTP	C3'-C4'-C5'-O5'
39	CF	501	GTP	O4'-C4'-C5'-O5'
39	HD	501	GTP	O4'-C4'-C5'-O5'
39	HD	501	GTP	C3'-C4'-C5'-O5'
39	HF	501	GTP	C3'-C4'-C5'-O5'
39	JA	501	GTP	C3'-C4'-C5'-O5'
39	KA	501	GTP	C3'-C4'-C5'-O5'
39	KI	501	GTP	C3'-C4'-C5'-O5'
39	MB	501	GTP	C3'-C4'-C5'-O5'
39	MD	501	GTP	O4'-C4'-C5'-O5'
39	MD	501	GTP	C3'-C4'-C5'-O5'
39	MF	501	GTP	O4'-C4'-C5'-O5'
39	MF	501	GTP	C3'-C4'-C5'-O5'
39	MK	501	GTP	C3'-C4'-C5'-O5'
39	NA	501	GTP	C3'-C4'-C5'-O5'
39	OA	501	GTP	C3'-C4'-C5'-O5'
39	OC	501	GTP	C3'-C4'-C5'-O5'
39	OF	501	GTP	O4'-C4'-C5'-O5'
39	OF	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	PB	501	GTP	C3'-C4'-C5'-O5'
39	QL	502	GTP	C3'-C4'-C5'-O5'
39	RE	501	GTP	O4'-C4'-C5'-O5'
39	RG	501	GTP	C3'-C4'-C5'-O5'
39	TE	501	GTP	C3'-C4'-C5'-O5'
39	VA	501	GTP	C3'-C4'-C5'-O5'
39	VJ	501	GTP	C3'-C4'-C5'-O5'
39	WL	501	GTP	C3'-C4'-C5'-O5'
39	AF	501	GTP	O4'-C4'-C5'-O5'
39	HF	501	GTP	O4'-C4'-C5'-O5'
39	VJ	501	GTP	O4'-C4'-C5'-O5'
39	AB	501	GTP	C3'-C4'-C5'-O5'
39	BL	501	GTP	O4'-C4'-C5'-O5'
39	DF	501	GTP	O4'-C4'-C5'-O5'
39	EH	501	GTP	O4'-C4'-C5'-O5'
39	EH	501	GTP	C3'-C4'-C5'-O5'
39	GA	501	GTP	C3'-C4'-C5'-O5'
39	KC	501	GTP	C3'-C4'-C5'-O5'
39	KK	501	GTP	C3'-C4'-C5'-O5'
39	KL	501	GTP	C3'-C4'-C5'-O5'
39	LE	501	GTP	C3'-C4'-C5'-O5'
39	MB	501	GTP	O4'-C4'-C5'-O5'
39	MJ	501	GTP	O4'-C4'-C5'-O5'
39	MJ	501	GTP	C3'-C4'-C5'-O5'
39	PB	501	GTP	O4'-C4'-C5'-O5'
39	WL	501	GTP	O4'-C4'-C5'-O5'
39	AB	501	GTP	O4'-C4'-C5'-O5'
39	AH	501	GTP	O4'-C4'-C5'-O5'
39	AJ	501	GTP	O4'-C4'-C5'-O5'
39	AL	501	GTP	O4'-C4'-C5'-O5'
39	BF	501	GTP	O4'-C4'-C5'-O5'
39	CD	501	GTP	O4'-C4'-C5'-O5'
39	CJ	501	GTP	O4'-C4'-C5'-O5'
39	DH	501	GTP	O4'-C4'-C5'-O5'
39	EB	501	GTP	O4'-C4'-C5'-O5'
39	ED	501	GTP	O4'-C4'-C5'-O5'
39	EJ	501	GTP	O4'-C4'-C5'-O5'
39	EL	501	GTP	O4'-C4'-C5'-O5'
39	FF	501	GTP	O4'-C4'-C5'-O5'
39	GD	501	GTP	O4'-C4'-C5'-O5'
39	HH	501	GTP	O4'-C4'-C5'-O5'
39	HJ	501	GTP	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	IF	501	GTP	O4'-C4'-C5'-O5'
39	IJ	501	GTP	O4'-C4'-C5'-O5'
39	JH	501	GTP	O4'-C4'-C5'-O5'
39	JJ	501	GTP	O4'-C4'-C5'-O5'
39	JL	501	GTP	O4'-C4'-C5'-O5'
39	KD	501	GTP	O4'-C4'-C5'-O5'
39	KJ	501	GTP	O4'-C4'-C5'-O5'
39	KL	501	GTP	O4'-C4'-C5'-O5'
39	LF	501	GTP	O4'-C4'-C5'-O5'
39	LF	501	GTP	C3'-C4'-C5'-O5'
39	LJ	501	GTP	O4'-C4'-C5'-O5'
39	LL	501	GTP	O4'-C4'-C5'-O5'
39	NB	501	GTP	O4'-C4'-C5'-O5'
39	NH	501	GTP	O4'-C4'-C5'-O5'
39	OB	501	GTP	O4'-C4'-C5'-O5'
39	OD	501	GTP	O4'-C4'-C5'-O5'
39	OJ	501	GTP	O4'-C4'-C5'-O5'
39	OL	501	GTP	O4'-C4'-C5'-O5'
39	QD	501	GTP	O4'-C4'-C5'-O5'
39	QF	501	GTP	O4'-C4'-C5'-O5'
39	RD	501	GTP	O4'-C4'-C5'-O5'
39	RF	501	GTP	O4'-C4'-C5'-O5'
39	RJ	501	GTP	O4'-C4'-C5'-O5'
39	SD	501	GTP	O4'-C4'-C5'-O5'
39	SL	501	GTP	O4'-C4'-C5'-O5'
39	TD	501	GTP	O4'-C4'-C5'-O5'
39	TN	501	GTP	O4'-C4'-C5'-O5'
39	UB	501	GTP	O4'-C4'-C5'-O5'
39	UD	501	GTP	O4'-C4'-C5'-O5'
39	UJ	501	GTP	O4'-C4'-C5'-O5'
39	VD	501	GTP	O4'-C4'-C5'-O5'
39	VL	501	GTP	O4'-C4'-C5'-O5'
39	WD	501	GTP	O4'-C4'-C5'-O5'
39	WF	501	GTP	O4'-C4'-C5'-O5'
39	WH	501	GTP	O4'-C4'-C5'-O5'
39	AJ	501	GTP	C3'-C4'-C5'-O5'
39	DF	501	GTP	C3'-C4'-C5'-O5'
39	EB	501	GTP	C3'-C4'-C5'-O5'
39	ED	501	GTP	C3'-C4'-C5'-O5'
39	HH	501	GTP	C3'-C4'-C5'-O5'
39	JH	501	GTP	C3'-C4'-C5'-O5'
39	KB	501	GTP	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	OD	501	GTP	C3'-C4'-C5'-O5'
39	RE	501	GTP	C3'-C4'-C5'-O5'
39	SD	501	GTP	C3'-C4'-C5'-O5'
39	SH	501	GTP	O4'-C4'-C5'-O5'
39	SH	501	GTP	C3'-C4'-C5'-O5'
39	VL	501	GTP	C3'-C4'-C5'-O5'
39	WK	501	GTP	O4'-C4'-C5'-O5'
39	HI	501	GTP	PG-O3B-PB-O3A
39	TM	501	GTP	PG-O3B-PB-O3A
39	BC	501	GTP	PA-O3A-PB-O1B
39	FC	501	GTP	PA-O3A-PB-O1B
39	LE	501	GTP	PG-O3B-PB-O1B
39	LK	501	GTP	PG-O3B-PB-O1B
39	QG	501	GTP	PG-O3B-PB-O1B
39	QL	502	GTP	PG-O3B-PB-O1B
39	TE	501	GTP	PG-O3B-PB-O1B
39	WK	501	GTP	PA-O3A-PB-O1B
39	AH	501	GTP	C3'-C4'-C5'-O5'
39	DA	501	GTP	O4'-C4'-C5'-O5'
39	GD	501	GTP	C3'-C4'-C5'-O5'
39	GH	501	GTP	O4'-C4'-C5'-O5'
39	GJ	501	GTP	O4'-C4'-C5'-O5'
39	HB	501	GTP	O4'-C4'-C5'-O5'
39	HJ	501	GTP	C3'-C4'-C5'-O5'
39	IF	501	GTP	C3'-C4'-C5'-O5'
39	KD	501	GTP	C3'-C4'-C5'-O5'
39	KF	501	GTP	O4'-C4'-C5'-O5'
39	KJ	501	GTP	C3'-C4'-C5'-O5'
39	LL	501	GTP	C3'-C4'-C5'-O5'
39	NF	501	GTP	O4'-C4'-C5'-O5'
39	QL	501	GTP	O4'-C4'-C5'-O5'
39	SL	501	GTP	C3'-C4'-C5'-O5'
39	TB	501	GTP	O4'-C4'-C5'-O5'
39	UD	501	GTP	C3'-C4'-C5'-O5'
39	UJ	501	GTP	C3'-C4'-C5'-O5'
39	UL	501	GTP	O4'-C4'-C5'-O5'
39	WJ	501	GTP	O4'-C4'-C5'-O5'
39	AD	501	GTP	PG-O3B-PB-O3A
39	BF	501	GTP	PG-O3B-PB-O3A
39	BI	501	GTP	PG-O3B-PB-O3A
39	BM	501	GTP	PG-O3B-PB-O3A
39	CG	501	GTP	PG-O3B-PB-O3A

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Mol	Chain	Res	Type	Atoms
39	CH	501	GTP	PG-O3B-PB-O3A
39	CI	501	GTP	PG-O3B-PB-O3A
39	CM	501	GTP	PG-O3B-PB-O3A
39	EA	501	GTP	PG-O3B-PB-O3A
39	EI	501	GTP	PG-O3B-PB-O3A
39	EL	501	GTP	PG-O3B-PB-O3A
39	FA	501	GTP	PG-O3B-PB-O3A
39	FB	501	GTP	PG-O3B-PB-O3A
39	FD	501	GTP	PG-O3B-PB-O3A
39	FG	501	GTP	PG-O3B-PB-O3A
39	GC	501	GTP	PG-O3B-PB-O3A
39	GE	501	GTP	PG-O3B-PB-O3A
39	GH	501	GTP	PG-O3B-PB-O3A
39	HE	501	GTP	PG-O3B-PB-O3A
39	IG	501	GTP	PG-O3B-PB-O3A
39	IJ	501	GTP	PG-O3B-PB-O3A
39	JA	501	GTP	PG-O3B-PB-O3A
39	JH	501	GTP	PG-O3B-PB-O3A
39	KK	501	GTP	PG-O3B-PB-O3A
39	KL	501	GTP	PG-O3B-PB-O3A
39	LG	501	GTP	PG-O3B-PB-O3A
39	LI	501	GTP	PG-O3B-PB-O3A
39	MD	501	GTP	PG-O3B-PB-O3A
39	NC	501	GTP	PG-O3B-PB-O3A
39	OK	501	GTP	PG-O3B-PB-O3A
39	PE	501	GTP	PG-O3B-PB-O3A
39	QK	501	GTP	PG-O3B-PB-O3A
39	RC	501	GTP	PG-O3B-PB-O3A
39	RI	501	GTP	PG-O3B-PB-O3A
39	SI	501	GTP	PG-O3B-PB-O3A
39	VC	501	GTP	PG-O3B-PB-O3A
39	WE	501	GTP	PG-O3B-PB-O3A
39	CB	501	GTP	O4'-C4'-C5'-O5'
39	CD	501	GTP	C3'-C4'-C5'-O5'
39	FB	501	GTP	O4'-C4'-C5'-O5'
39	IJ	501	GTP	C3'-C4'-C5'-O5'
39	NH	501	GTP	C3'-C4'-C5'-O5'
39	OH	501	GTP	O4'-C4'-C5'-O5'
39	RD	501	GTP	C3'-C4'-C5'-O5'
39	RL	501	GTP	O4'-C4'-C5'-O5'
39	CC	501	GTP	PG-O3B-PB-O3A
39	EK	501	GTP	PG-O3B-PB-O3A

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Mol	Chain	Res	Type	Atoms
39	VA	501	GTP	PG-O3B-PB-O3A
39	BF	501	GTP	C3'-C4'-C5'-O5'
39	JJ	501	GTP	C3'-C4'-C5'-O5'
39	LH	501	GTP	O4'-C4'-C5'-O5'
39	LJ	501	GTP	C3'-C4'-C5'-O5'
39	LK	501	GTP	O4'-C4'-C5'-O5'
39	NB	501	GTP	C3'-C4'-C5'-O5'
39	OB	501	GTP	C3'-C4'-C5'-O5'
39	OL	501	GTP	C3'-C4'-C5'-O5'
39	QD	501	GTP	C3'-C4'-C5'-O5'
39	RF	501	GTP	C3'-C4'-C5'-O5'
39	TH	501	GTP	O4'-C4'-C5'-O5'
39	TN	501	GTP	C3'-C4'-C5'-O5'
39	VD	501	GTP	C3'-C4'-C5'-O5'
39	WF	501	GTP	C3'-C4'-C5'-O5'
39	WH	501	GTP	C3'-C4'-C5'-O5'
39	IM	501	GTP	PB-O3B-PG-O1G
39	QB	501	GTP	PB-O3B-PG-O1G
39	QD	502	GTP	PB-O3B-PG-O1G
39	AG	501	GTP	PB-O3B-PG-O2G
39	BG	501	GTP	PB-O3B-PG-O2G
39	ID	501	GTP	PB-O3B-PG-O3G
39	JD	501	GTP	PB-O3B-PG-O3G
39	KC	501	GTP	PB-O3B-PG-O2G
39	KH	501	GTP	PB-O3B-PG-O2G
39	LJ	501	GTP	PB-O3B-PG-O2G
39	PM	501	GTP	PB-O3B-PG-O2G
39	QI	501	GTP	PB-O3B-PG-O2G
39	QJ	501	GTP	PB-O3B-PG-O3G
39	RG	501	GTP	PB-O3B-PG-O2G
39	SK	501	GTP	PB-O3B-PG-O2G
39	WI	501	GTP	PB-O3B-PG-O2G
39	AB	501	GTP	C5'-O5'-PA-O3A
39	AF	501	GTP	C5'-O5'-PA-O3A
39	BF	501	GTP	C5'-O5'-PA-O3A
39	BL	501	GTP	C5'-O5'-PA-O3A
39	CD	501	GTP	C5'-O5'-PA-O3A
39	CF	501	GTP	C5'-O5'-PA-O3A
39	CJ	501	GTP	C5'-O5'-PA-O3A
39	DF	501	GTP	C5'-O5'-PA-O3A
39	DH	501	GTP	C5'-O5'-PA-O3A
39	DJ	501	GTP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
39	DL	501	GTP	C5'-O5'-PA-O3A
39	EB	501	GTP	C5'-O5'-PA-O3A
39	ED	501	GTP	C5'-O5'-PA-O3A
39	EH	501	GTP	C5'-O5'-PA-O3A
39	EJ	501	GTP	C5'-O5'-PA-O3A
39	FB	501	GTP	C5'-O5'-PA-O3A
39	FF	501	GTP	C5'-O5'-PA-O3A
39	FL	501	GTP	C5'-O5'-PA-O3A
39	GD	501	GTP	C5'-O5'-PA-O3A
39	GJ	501	GTP	C5'-O5'-PA-O3A
39	HB	501	GTP	C5'-O5'-PA-O3A
39	HD	501	GTP	C5'-O5'-PA-O3A
39	HF	501	GTP	C5'-O5'-PA-O3A
39	HH	501	GTP	C5'-O5'-PA-O3A
39	HJ	501	GTP	C5'-O5'-PA-O3A
39	IB	501	GTP	C5'-O5'-PA-O3A
39	IF	501	GTP	C5'-O5'-PA-O3A
39	IH	501	GTP	C5'-O5'-PA-O3A
39	IJ	501	GTP	C5'-O5'-PA-O3A
39	JD	501	GTP	C5'-O5'-PA-O3A
39	JL	501	GTP	C5'-O5'-PA-O3A
39	KB	501	GTP	C5'-O5'-PA-O3A
39	KD	501	GTP	C5'-O5'-PA-O3A
39	KH	501	GTP	C5'-O5'-PA-O3A
39	KJ	501	GTP	C5'-O5'-PA-O3A
39	KL	501	GTP	C5'-O5'-PA-O3A
39	LH	501	GTP	C5'-O5'-PA-O3A
39	LJ	501	GTP	C5'-O5'-PA-O3A
39	LL	501	GTP	C5'-O5'-PA-O3A
39	MB	501	GTP	C5'-O5'-PA-O3A
39	MD	501	GTP	C5'-O5'-PA-O3A
39	MF	501	GTP	C5'-O5'-PA-O3A
39	MJ	501	GTP	C5'-O5'-PA-O3A
39	NB	501	GTP	C5'-O5'-PA-O3A
39	NF	501	GTP	C5'-O5'-PA-O3A
39	NH	501	GTP	C5'-O5'-PA-O3A
39	NJ	501	GTP	C5'-O5'-PA-O3A
39	OB	501	GTP	C5'-O5'-PA-O3A
39	OD	501	GTP	C5'-O5'-PA-O3A
39	OF	501	GTP	C5'-O5'-PA-O3A
39	OH	501	GTP	C5'-O5'-PA-O3A
39	OL	501	GTP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
39	PB	501	GTP	C5'-O5'-PA-O3A
39	PL	501	GTP	C5'-O5'-PA-O3A
39	QF	501	GTP	C5'-O5'-PA-O3A
39	QH	501	GTP	C5'-O5'-PA-O3A
39	QL	501	GTP	C5'-O5'-PA-O3A
39	RD	501	GTP	C5'-O5'-PA-O3A
39	RF	501	GTP	C5'-O5'-PA-O3A
39	RH	501	GTP	C5'-O5'-PA-O3A
39	RL	501	GTP	C5'-O5'-PA-O3A
39	SD	501	GTP	C5'-O5'-PA-O3A
39	SH	501	GTP	C5'-O5'-PA-O3A
39	SL	501	GTP	C5'-O5'-PA-O3A
39	TB	501	GTP	C5'-O5'-PA-O3A
39	TD	501	GTP	C5'-O5'-PA-O3A
39	TH	501	GTP	C5'-O5'-PA-O3A
39	TN	501	GTP	C5'-O5'-PA-O3A
39	UB	501	GTP	C5'-O5'-PA-O3A
39	UD	501	GTP	C5'-O5'-PA-O3A
39	UF	501	GTP	C5'-O5'-PA-O3A
39	UH	501	GTP	C5'-O5'-PA-O3A
39	UJ	501	GTP	C5'-O5'-PA-O3A
39	UL	501	GTP	C5'-O5'-PA-O3A
39	VD	501	GTP	C5'-O5'-PA-O3A
39	VJ	501	GTP	C5'-O5'-PA-O3A
39	VL	501	GTP	C5'-O5'-PA-O3A
39	WD	501	GTP	C5'-O5'-PA-O3A
39	WF	501	GTP	C5'-O5'-PA-O3A
39	WH	501	GTP	C5'-O5'-PA-O3A
39	WJ	501	GTP	C5'-O5'-PA-O3A
39	WL	501	GTP	C5'-O5'-PA-O3A
39	EL	501	GTP	C3'-C4'-C5'-O5'
39	UB	501	GTP	C3'-C4'-C5'-O5'
39	AC	501	GTP	PB-O3A-PA-O2A
39	BC	501	GTP	PB-O3A-PA-O2A
39	BM	501	GTP	PB-O3A-PA-O2A
39	CC	501	GTP	PA-O3A-PB-O1B
39	CC	501	GTP	PB-O3A-PA-O2A
39	CI	501	GTP	PB-O3A-PA-O2A
39	FA	501	GTP	PB-O3A-PA-O2A
39	GK	501	GTP	PB-O3A-PA-O2A
39	HL	501	GTP	PG-O3B-PB-O1B
39	MD	502	GTP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
39	MK	501	GTP	PB-O3A-PA-O2A
39	OI	501	GTP	PG-O3B-PB-O1B
39	OI	501	GTP	PB-O3A-PA-O2A
39	PK	501	GTP	PB-O3A-PA-O2A
39	PM	501	GTP	PB-O3A-PA-O2A
39	QG	501	GTP	PB-O3A-PA-O2A
39	QL	502	GTP	PB-O3A-PA-O2A
39	RI	501	GTP	PA-O3A-PB-O1B
39	TK	501	GTP	PG-O3B-PB-O1B
39	WE	501	GTP	PB-O3A-PA-O2A
39	WK	501	GTP	PB-O3A-PA-O2A
39	AC	501	GTP	PG-O3B-PB-O3A
39	AE	501	GTP	PG-O3B-PB-O3A
39	BL	501	GTP	PG-O3B-PB-O3A
39	DF	501	GTP	PG-O3B-PB-O3A
39	EC	501	GTP	PG-O3B-PB-O3A
39	FH	501	GTP	PG-O3B-PB-O3A
39	IF	501	GTP	PG-O3B-PB-O3A
39	LC	501	GTP	PG-O3B-PB-O3A
39	MJ	501	GTP	PG-O3B-PB-O3A
39	NI	501	GTP	PG-O3B-PB-O3A
39	WF	501	GTP	PG-O3B-PB-O3A
39	AF	501	GTP	C5'-O5'-PA-O1A
39	AH	501	GTP	C5'-O5'-PA-O1A
39	BF	501	GTP	C5'-O5'-PA-O1A
39	BL	501	GTP	C5'-O5'-PA-O1A
39	CB	501	GTP	C5'-O5'-PA-O1A
39	CD	501	GTP	C5'-O5'-PA-O1A
39	CF	501	GTP	C5'-O5'-PA-O1A
39	CJ	501	GTP	C5'-O5'-PA-O1A
39	DH	501	GTP	C5'-O5'-PA-O1A
39	DJ	501	GTP	C5'-O5'-PA-O1A
39	DL	501	GTP	C5'-O5'-PA-O1A
39	DL	501	GTP	C5'-O5'-PA-O2A
39	EB	501	GTP	C5'-O5'-PA-O1A
39	EB	501	GTP	C5'-O5'-PA-O2A
39	ED	501	GTP	C5'-O5'-PA-O1A
39	EF	501	GTP	C5'-O5'-PA-O1A
39	EH	501	GTP	C5'-O5'-PA-O1A
39	EJ	501	GTP	C5'-O5'-PA-O1A
39	EL	501	GTP	C5'-O5'-PA-O1A
39	FB	501	GTP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
39	FF	501	GTP	C5'-O5'-PA-O1A
39	FL	501	GTP	C5'-O5'-PA-O1A
39	FL	501	GTP	C5'-O5'-PA-O2A
39	GJ	501	GTP	C5'-O5'-PA-O1A
39	HB	501	GTP	C5'-O5'-PA-O1A
39	HD	501	GTP	C5'-O5'-PA-O1A
39	HF	501	GTP	C5'-O5'-PA-O1A
39	HF	501	GTP	C5'-O5'-PA-O2A
39	HH	501	GTP	C5'-O5'-PA-O1A
39	HJ	501	GTP	C5'-O5'-PA-O1A
39	IB	501	GTP	C5'-O5'-PA-O1A
39	IF	501	GTP	C5'-O5'-PA-O1A
39	JB	501	GTP	C5'-O5'-PA-O1A
39	JH	501	GTP	C5'-O5'-PA-O1A
39	JJ	501	GTP	C5'-O5'-PA-O1A
39	JL	501	GTP	C5'-O5'-PA-O1A
39	KB	501	GTP	C5'-O5'-PA-O1A
39	KD	501	GTP	C5'-O5'-PA-O1A
39	KH	501	GTP	C5'-O5'-PA-O1A
39	KJ	501	GTP	C5'-O5'-PA-O1A
39	KL	501	GTP	C5'-O5'-PA-O1A
39	LF	501	GTP	C5'-O5'-PA-O1A
39	LH	501	GTP	C5'-O5'-PA-O1A
39	LJ	501	GTP	C5'-O5'-PA-O1A
39	LJ	501	GTP	C5'-O5'-PA-O2A
39	LL	501	GTP	C5'-O5'-PA-O1A
39	MB	501	GTP	C5'-O5'-PA-O1A
39	MB	501	GTP	C5'-O5'-PA-O2A
39	MD	501	GTP	C5'-O5'-PA-O1A
39	MH	501	GTP	C5'-O5'-PA-O1A
39	MJ	501	GTP	C5'-O5'-PA-O1A
39	NB	501	GTP	C5'-O5'-PA-O1A
39	NF	501	GTP	C5'-O5'-PA-O1A
39	NH	501	GTP	C5'-O5'-PA-O1A
39	NJ	501	GTP	C5'-O5'-PA-O1A
39	OB	501	GTP	C5'-O5'-PA-O1A
39	OD	501	GTP	C5'-O5'-PA-O1A
39	OF	501	GTP	C5'-O5'-PA-O1A
39	OH	501	GTP	C5'-O5'-PA-O1A
39	OJ	501	GTP	C5'-O5'-PA-O1A
39	OL	501	GTP	C5'-O5'-PA-O1A
39	PB	501	GTP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
39	PL	501	GTP	C5'-O5'-PA-O1A
39	QF	501	GTP	C5'-O5'-PA-O1A
39	QF	501	GTP	C5'-O5'-PA-O2A
39	QL	501	GTP	C5'-O5'-PA-O1A
39	QL	501	GTP	C5'-O5'-PA-O2A
39	RD	501	GTP	C5'-O5'-PA-O1A
39	RF	501	GTP	C5'-O5'-PA-O1A
39	RH	501	GTP	C5'-O5'-PA-O1A
39	RL	501	GTP	C5'-O5'-PA-O1A
39	SD	501	GTP	C5'-O5'-PA-O1A
39	SH	501	GTP	C5'-O5'-PA-O1A
39	SL	501	GTP	C5'-O5'-PA-O1A
39	TB	501	GTP	C5'-O5'-PA-O1A
39	TD	501	GTP	C5'-O5'-PA-O1A
39	TH	501	GTP	C5'-O5'-PA-O1A
39	TN	501	GTP	C5'-O5'-PA-O1A
39	UB	501	GTP	C5'-O5'-PA-O1A
39	UD	501	GTP	C5'-O5'-PA-O1A
39	UF	501	GTP	C5'-O5'-PA-O1A
39	UH	501	GTP	C5'-O5'-PA-O1A
39	UJ	501	GTP	C5'-O5'-PA-O1A
39	UL	501	GTP	C5'-O5'-PA-O1A
39	VD	501	GTP	C5'-O5'-PA-O1A
39	VJ	501	GTP	C5'-O5'-PA-O1A
39	VL	501	GTP	C5'-O5'-PA-O1A
39	WD	501	GTP	C5'-O5'-PA-O1A
39	WF	501	GTP	C5'-O5'-PA-O1A
39	WH	501	GTP	C5'-O5'-PA-O1A
39	WJ	501	GTP	C5'-O5'-PA-O1A
39	CJ	501	GTP	C3'-C4'-C5'-O5'
39	DH	501	GTP	C3'-C4'-C5'-O5'
39	EJ	501	GTP	C3'-C4'-C5'-O5'
39	FF	501	GTP	C3'-C4'-C5'-O5'
39	IH	501	GTP	O4'-C4'-C5'-O5'
39	JF	501	GTP	O4'-C4'-C5'-O5'
39	JL	501	GTP	C3'-C4'-C5'-O5'
39	MH	501	GTP	O4'-C4'-C5'-O5'
39	OJ	501	GTP	C3'-C4'-C5'-O5'
39	QF	501	GTP	C3'-C4'-C5'-O5'
39	QH	501	GTP	O4'-C4'-C5'-O5'
39	RJ	501	GTP	C3'-C4'-C5'-O5'
39	TD	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	WD	501	GTP	C3'-C4'-C5'-O5'
39	WJ	501	GTP	C3'-C4'-C5'-O5'
39	BC	501	GTP	PG-O3B-PB-O3A
39	HG	501	GTP	PG-O3B-PB-O3A
39	IB	501	GTP	PG-O3B-PB-O3A
39	KG	501	GTP	PG-O3B-PB-O3A
39	KJ	501	GTP	PG-O3B-PB-O3A
39	SG	501	GTP	PG-O3B-PB-O3A
39	UC	501	GTP	PG-O3B-PB-O3A
39	AL	501	GTP	C3'-C4'-C5'-O5'
39	HB	501	GTP	C3'-C4'-C5'-O5'
39	TB	501	GTP	C3'-C4'-C5'-O5'
39	DC	501	GTP	PB-O3B-PG-O1G
39	SC	501	GTP	PB-O3B-PG-O1G
39	VB	501	GTP	PB-O3B-PG-O1G
39	DB	501	GTP	PG-O3B-PB-O3A
39	FC	501	GTP	PG-O3B-PB-O3A
39	FF	501	GTP	PG-O3B-PB-O3A
39	GB	501	GTP	PG-O3B-PB-O3A
39	GG	501	GTP	PG-O3B-PB-O3A
39	HK	501	GTP	PG-O3B-PB-O3A
39	KA	501	GTP	PG-O3B-PB-O3A
39	LA	501	GTP	PG-O3B-PB-O3A
39	LL	501	GTP	PG-O3B-PB-O3A
39	OF	501	GTP	PG-O3B-PB-O3A
39	PC	501	GTP	PG-O3B-PB-O3A
39	PG	501	GTP	PG-O3B-PB-O3A
39	RB	501	GTP	PG-O3B-PB-O3A
39	TF	501	GTP	PG-O3B-PB-O3A
39	UH	501	GTP	PG-O3B-PB-O3A
39	VI	501	GTP	PG-O3B-PB-O3A
39	RH	501	GTP	O4'-C4'-C5'-O5'
39	VB	501	GTP	O4'-C4'-C5'-O5'
39	AC	501	GTP	PA-O3A-PB-O2B
39	DA	501	GTP	PB-O3A-PA-O2A
39	DG	501	GTP	PB-O3A-PA-O2A
39	FC	501	GTP	PB-O3A-PA-O2A
39	GI	501	GTP	PB-O3A-PA-O2A
39	HA	501	GTP	PB-O3A-PA-O2A
39	HI	501	GTP	PA-O3A-PB-O1B
39	II	501	GTP	PA-O3A-PB-O1B
39	KA	501	GTP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
39	LE	501	GTP	PB-O3A-PA-O2A
39	LK	501	GTP	PB-O3A-PA-O2A
39	OC	501	GTP	PG-O3B-PB-O1B
39	OC	501	GTP	PB-O3A-PA-O2A
39	PC	501	GTP	PB-O3A-PA-O2A
39	PI	501	GTP	PB-O3A-PA-O2A
39	PM	501	GTP	PG-O3B-PB-O1B
39	SG	501	GTP	PB-O3A-PA-O2A
39	SK	501	GTP	PB-O3A-PA-O2A
39	TE	501	GTP	PB-O3A-PA-O2A
39	TK	501	GTP	PB-O3A-PA-O2A
39	UG	501	GTP	PB-O3A-PA-O2A
39	UI	501	GTP	PB-O3A-PA-O2A
39	VG	501	GTP	PB-O3A-PA-O2A
39	MD	502	GTP	C4'-C5'-O5'-PA
39	OC	501	GTP	C4'-C5'-O5'-PA
39	OI	501	GTP	C4'-C5'-O5'-PA
39	WK	501	GTP	C3'-C4'-C5'-O5'
39	DJ	501	GTP	PG-O3B-PB-O3A
39	IH	501	GTP	PG-O3B-PB-O3A
39	VA	501	GTP	C4'-C5'-O5'-PA
39	FD	501	GTP	O4'-C4'-C5'-O5'
39	GH	501	GTP	C3'-C4'-C5'-O5'
39	GJ	501	GTP	C3'-C4'-C5'-O5'
39	KB	501	GTP	C3'-C4'-C5'-O5'
39	KF	501	GTP	C3'-C4'-C5'-O5'
39	NF	501	GTP	C3'-C4'-C5'-O5'
39	UL	501	GTP	C3'-C4'-C5'-O5'
39	LF	501	GTP	PB-O3B-PG-O1G
39	PD	501	GTP	PB-O3B-PG-O1G
39	BE	501	GTP	PG-O3B-PB-O3A
39	BJ	501	GTP	PG-O3B-PB-O3A
39	DE	501	GTP	PG-O3B-PB-O3A
39	HH	501	GTP	PG-O3B-PB-O3A
39	NE	501	GTP	PG-O3B-PB-O3A
39	WB	501	GTP	PG-O3B-PB-O3A
39	QG	501	GTP	C4'-C5'-O5'-PA
39	WK	501	GTP	C4'-C5'-O5'-PA
39	DA	501	GTP	C3'-C4'-C5'-O5'
39	VH	501	GTP	O4'-C4'-C5'-O5'
39	BF	501	GTP	PG-O3B-PB-O1B
39	BM	501	GTP	PA-O3A-PB-O1B

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Mol	Chain	Res	Type	Atoms
39	CC	501	GTP	PA-O3A-PB-O2B
39	CI	501	GTP	PA-O3A-PB-O1B
39	CI	501	GTP	PA-O3A-PB-O2B
39	DA	501	GTP	PG-O3B-PB-O3A
39	DE	501	GTP	PB-O3A-PA-O2A
39	DH	501	GTP	PG-O3B-PB-O2B
39	FK	501	GTP	PB-O3A-PA-O2A
39	HE	501	GTP	PB-O3A-PA-O2A
39	JD	501	GTP	PA-O3A-PB-O1B
39	JE	501	GTP	PB-O3A-PA-O2A
39	KK	501	GTP	PB-O3A-PA-O2A
39	MK	501	GTP	PG-O3B-PB-O1B
39	ML	501	GTP	PG-O3B-PB-O3A
39	NC	501	GTP	PB-O3A-PA-O2A
39	NE	501	GTP	PB-O3A-PA-O2A
39	NI	501	GTP	PB-O3A-PA-O2A
39	NK	501	GTP	PG-O3B-PB-O3A
39	OD	501	GTP	PG-O3B-PB-O3A
39	OE	501	GTP	PG-O3B-PB-O3A
39	OG	501	GTP	PG-O3B-PB-O3A
39	OG	501	GTP	PB-O3A-PA-O2A
39	OI	501	GTP	PA-O3A-PB-O1B
39	PM	501	GTP	PA-O3A-PB-O1B
39	QC	501	GTP	PG-O3B-PB-O3A
39	QG	501	GTP	PA-O3A-PB-O1B
39	QI	501	GTP	PG-O3B-PB-O3A
39	RI	501	GTP	PB-O3A-PA-O2A
39	RM	501	GTP	PG-O3B-PB-O3A
39	TB	501	GTP	PG-O3B-PB-O3A
39	TK	501	GTP	PA-O3A-PB-O1B
39	TN	501	GTP	PG-O3B-PB-O3A
39	WE	501	GTP	PA-O3A-PB-O2B
39	WH	501	GTP	PG-O3B-PB-O3A
39	WK	501	GTP	PG-O3B-PB-O2B
39	OH	501	GTP	C3'-C4'-C5'-O5'
39	QL	501	GTP	C3'-C4'-C5'-O5'
39	RL	501	GTP	C3'-C4'-C5'-O5'
39	TH	501	GTP	C3'-C4'-C5'-O5'
39	TL	501	GTP	O4'-C4'-C5'-O5'
39	TL	501	GTP	C3'-C4'-C5'-O5'
39	HF	501	GTP	C4'-C5'-O5'-PA
39	LE	501	GTP	C4'-C5'-O5'-PA

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Mol	Chain	Res	Type	Atoms
39	AB	501	GTP	PG-O3B-PB-O3A
39	AF	501	GTP	PG-O3B-PB-O3A
39	HA	501	GTP	PG-O3B-PB-O3A
39	JG	501	GTP	PG-O3B-PB-O3A
39	JL	501	GTP	PG-O3B-PB-O3A
39	KD	501	GTP	PG-O3B-PB-O3A
39	MF	501	GTP	PG-O3B-PB-O3A
39	NF	501	GTP	PG-O3B-PB-O3A
39	OH	501	GTP	PG-O3B-PB-O3A
39	PB	501	GTP	PG-O3B-PB-O3A
39	RH	501	GTP	PG-O3B-PB-O3A
39	RL	501	GTP	PG-O3B-PB-O3A
39	SK	501	GTP	PG-O3B-PB-O3A
39	TC	501	GTP	PG-O3B-PB-O3A
39	UB	501	GTP	PG-O3B-PB-O3A
39	UF	501	GTP	PG-O3B-PB-O3A
39	VD	501	GTP	PG-O3B-PB-O3A
39	VE	501	GTP	PG-O3B-PB-O3A
39	VF	501	GTP	PG-O3B-PB-O3A
39	VL	501	GTP	PG-O3B-PB-O3A
39	WD	501	GTP	PG-O3B-PB-O3A
39	WK	501	GTP	PG-O3B-PB-O3A
39	CB	501	GTP	C3'-C4'-C5'-O5'
39	LK	501	GTP	C3'-C4'-C5'-O5'
39	AI	501	GTP	PB-O3B-PG-O1G
39	BH	501	GTP	PB-O3B-PG-O1G
39	CC	501	GTP	PB-O3B-PG-O1G
39	JF	501	GTP	PB-O3B-PG-O1G
39	WA	501	GTP	C4'-C5'-O5'-PA
39	CL	501	GTP	O4'-C4'-C5'-O5'
39	DJ	501	GTP	O4'-C4'-C5'-O5'
39	FB	501	GTP	C3'-C4'-C5'-O5'
39	HL	501	GTP	O4'-C4'-C5'-O5'
39	JB	501	GTP	O4'-C4'-C5'-O5'
39	JD	501	GTP	O4'-C4'-C5'-O5'
39	LH	501	GTP	C3'-C4'-C5'-O5'
39	AI	501	GTP	PB-O3B-PG-O2G
39	AI	501	GTP	PB-O3B-PG-O3G
39	BD	501	GTP	PB-O3B-PG-O2G
39	BH	501	GTP	PB-O3B-PG-O2G
39	CC	501	GTP	PB-O3B-PG-O2G
39	CI	501	GTP	PB-O3B-PG-O2G

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Mol	Chain	Res	Type	Atoms
39	DC	501	GTP	PB-O3B-PG-O2G
39	DC	501	GTP	PB-O3B-PG-O3G
39	DG	501	GTP	PB-O3B-PG-O2G
39	DG	501	GTP	PB-O3B-PG-O3G
39	EG	501	GTP	PB-O3B-PG-O3G
39	FI	501	GTP	PB-O3B-PG-O2G
39	FI	501	GTP	PB-O3B-PG-O3G
39	GI	501	GTP	PB-O3B-PG-O2G
39	GI	501	GTP	PB-O3B-PG-O3G
39	IM	501	GTP	PB-O3B-PG-O2G
39	IM	501	GTP	PB-O3B-PG-O3G
39	JE	501	GTP	PB-O3B-PG-O2G
39	JF	501	GTP	PB-O3B-PG-O3G
39	JI	501	GTP	PB-O3B-PG-O2G
39	KE	501	GTP	PB-O3B-PG-O2G
39	KI	501	GTP	PB-O3B-PG-O2G
39	LF	501	GTP	PB-O3B-PG-O2G
39	LF	501	GTP	PB-O3B-PG-O3G
39	MC	501	GTP	PB-O3B-PG-O2G
39	MC	501	GTP	PB-O3B-PG-O3G
39	MM	501	GTP	PB-O3B-PG-O2G
39	MM	501	GTP	PB-O3B-PG-O3G
39	NE	501	GTP	PB-O3B-PG-O2G
39	NG	501	GTP	PB-O3B-PG-O2G
39	NG	501	GTP	PB-O3B-PG-O3G
39	OG	501	GTP	PB-O3B-PG-O2G
39	PD	501	GTP	PB-O3B-PG-O2G
39	PD	501	GTP	PB-O3B-PG-O3G
39	PF	501	GTP	PB-O3B-PG-O2G
39	PH	501	GTP	PB-O3B-PG-O2G
39	QB	501	GTP	PB-O3B-PG-O2G
39	QB	501	GTP	PB-O3B-PG-O3G
39	QD	502	GTP	PB-O3B-PG-O2G
39	QD	502	GTP	PB-O3B-PG-O3G
39	QH	501	GTP	PB-O3B-PG-O2G
39	SC	501	GTP	PB-O3B-PG-O2G
39	SC	501	GTP	PB-O3B-PG-O3G
39	SE	501	GTP	PB-O3B-PG-O2G
39	VB	501	GTP	PB-O3B-PG-O2G
39	VB	501	GTP	PB-O3B-PG-O3G
39	WG	501	GTP	PB-O3B-PG-O2G
39	WG	501	GTP	PB-O3B-PG-O3G

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Mol	Chain	Res	Type	Atoms
39	AL	501	GTP	PG-O3B-PB-O3A
39	DI	501	GTP	PG-O3B-PB-O3A
39	FK	501	GTP	PG-O3B-PB-O3A
39	HC	501	GTP	PG-O3B-PB-O3A
39	II	501	GTP	PG-O3B-PB-O3A
39	KB	501	GTP	PG-O3B-PB-O3A
39	MD	502	GTP	PG-O3B-PB-O3A
39	NH	501	GTP	PG-O3B-PB-O3A
39	OB	501	GTP	PG-O3B-PB-O3A
39	OJ	501	GTP	PG-O3B-PB-O3A
39	PI	501	GTP	PG-O3B-PB-O3A
39	SH	501	GTP	PG-O3B-PB-O3A
39	SL	501	GTP	PG-O3B-PB-O3A
39	SM	501	GTP	PG-O3B-PB-O3A
39	VG	501	GTP	PG-O3B-PB-O3A
39	WA	501	GTP	PG-O3B-PB-O3A
39	WJ	501	GTP	PG-O3B-PB-O3A
39	AH	501	GTP	C5'-O5'-PA-O3A
39	AJ	501	GTP	C5'-O5'-PA-O3A
39	CL	501	GTP	C5'-O5'-PA-O3A
39	DB	501	GTP	C5'-O5'-PA-O3A
39	EF	501	GTP	C5'-O5'-PA-O3A
39	EL	501	GTP	C5'-O5'-PA-O3A
39	GF	501	GTP	C5'-O5'-PA-O3A
39	JB	501	GTP	C5'-O5'-PA-O3A
39	JH	501	GTP	C5'-O5'-PA-O3A
39	JJ	501	GTP	C5'-O5'-PA-O3A
39	KF	501	GTP	C5'-O5'-PA-O3A
39	LB	501	GTP	C5'-O5'-PA-O3A
39	LF	501	GTP	C5'-O5'-PA-O3A
39	MH	501	GTP	C5'-O5'-PA-O3A
39	OJ	501	GTP	C5'-O5'-PA-O3A
39	PJ	501	GTP	C5'-O5'-PA-O3A
39	TF	501	GTP	C5'-O5'-PA-O3A
39	GA	501	GTP	C4'-C5'-O5'-PA
39	AB	501	GTP	PG-O3B-PB-O2B
39	AC	501	GTP	PG-O3B-PB-O1B
39	AD	501	GTP	PG-O3B-PB-O2B
39	AE	501	GTP	PG-O3B-PB-O1B
39	AE	501	GTP	PB-O3A-PA-O2A
39	AF	501	GTP	PG-O3B-PB-O2B
39	AG	501	GTP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
39	AJ	501	GTP	PG-O3B-PB-O2B
39	AL	501	GTP	PG-O3B-PB-O2B
39	BB	501	GTP	PG-O3B-PB-O2B
39	BC	501	GTP	PG-O3B-PB-O1B
39	BC	501	GTP	PG-O3B-PB-O2B
39	BE	501	GTP	PG-O3B-PB-O1B
39	BE	501	GTP	PG-O3B-PB-O2B
39	BG	501	GTP	PB-O3A-PA-O2A
39	BL	501	GTP	PG-O3B-PB-O1B
39	BM	501	GTP	PA-O3A-PB-O2B
39	BM	501	GTP	PB-O3A-PA-O1A
39	CD	501	GTP	PG-O3B-PB-O2B
39	CF	501	GTP	PG-O3B-PB-O2B
39	CG	501	GTP	PG-O3B-PB-O1B
39	CG	501	GTP	PB-O3A-PA-O2A
39	CH	501	GTP	PG-O3B-PB-O2B
39	CJ	501	GTP	PG-O3B-PB-O2B
39	DA	501	GTP	PG-O3B-PB-O2B
39	DA	501	GTP	PB-O3A-PA-O1A
39	DB	501	GTP	PG-O3B-PB-O1B
39	DC	501	GTP	PB-O3A-PA-O2A
39	DD	501	GTP	PG-O3B-PB-O2B
39	DE	501	GTP	PG-O3B-PB-O1B
39	DE	501	GTP	PG-O3B-PB-O2B
39	DF	501	GTP	PG-O3B-PB-O1B
39	DG	501	GTP	PB-O3A-PA-O1A
39	DJ	501	GTP	PG-O3B-PB-O1B
39	DL	501	GTP	PG-O3B-PB-O2B
39	EC	501	GTP	PG-O3B-PB-O1B
39	EC	501	GTP	PG-O3B-PB-O2B
39	ED	501	GTP	PG-O3B-PB-O2B
39	EH	501	GTP	PG-O3B-PB-O2B
39	EK	501	GTP	PG-O3B-PB-O1B
39	FA	501	GTP	PG-O3B-PB-O1B
39	FB	501	GTP	PG-O3B-PB-O1B
39	FC	501	GTP	PG-O3B-PB-O2B
39	FC	501	GTP	PB-O3A-PA-O1A
39	FF	501	GTP	PG-O3B-PB-O1B
39	FG	501	GTP	PB-O3A-PA-O2A
39	FH	501	GTP	PG-O3B-PB-O1B
39	FJ	501	GTP	PG-O3B-PB-O2B
39	FK	501	GTP	PG-O3B-PB-O2B

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Mol	Chain	Res	Type	Atoms
39	FL	501	GTP	PG-O3B-PB-O2B
39	GA	501	GTP	PG-O3B-PB-O2B
39	GB	501	GTP	PG-O3B-PB-O1B
39	GD	501	GTP	PG-O3B-PB-O2B
39	GE	501	GTP	PB-O3A-PA-O2A
39	GG	501	GTP	PG-O3B-PB-O1B
39	GG	501	GTP	PG-O3B-PB-O2B
39	GH	501	GTP	PG-O3B-PB-O1B
39	GI	501	GTP	PB-O3A-PA-O1A
39	GJ	501	GTP	PG-O3B-PB-O2B
39	HA	501	GTP	PG-O3B-PB-O2B
39	HD	501	GTP	PG-O3B-PB-O2B
39	HG	501	GTP	PG-O3B-PB-O1B
39	HG	501	GTP	PG-O3B-PB-O2B
39	HG	501	GTP	PB-O3A-PA-O2A
39	HH	501	GTP	PG-O3B-PB-O1B
39	HI	501	GTP	PB-O3A-PA-O2A
39	HK	501	GTP	PG-O3B-PB-O1B
39	HK	501	GTP	PG-O3B-PB-O2B
39	IB	501	GTP	PG-O3B-PB-O1B
39	IE	501	GTP	PB-O3A-PA-O2A
39	IF	501	GTP	PG-O3B-PB-O1B
39	IH	501	GTP	PG-O3B-PB-O1B
39	JA	501	GTP	PB-O3A-PA-O1A
39	JA	501	GTP	PB-O3A-PA-O2A
39	JD	501	GTP	PA-O3A-PB-O2B
39	JD	501	GTP	PB-O3A-PA-O2A
39	JE	501	GTP	PB-O3A-PA-O1A
39	JG	501	GTP	PG-O3B-PB-O2B
39	KA	501	GTP	PG-O3B-PB-O1B
39	KA	501	GTP	PG-O3B-PB-O2B
39	KB	501	GTP	PG-O3B-PB-O2B
39	KC	501	GTP	PB-O3A-PA-O2A
39	KD	501	GTP	PG-O3B-PB-O2B
39	KE	501	GTP	PB-O3A-PA-O2A
39	KG	501	GTP	PG-O3B-PB-O1B
39	KG	501	GTP	PG-O3B-PB-O2B
39	KH	501	GTP	PA-O3A-PB-O2B
39	KJ	501	GTP	PG-O3B-PB-O1B
39	KK	501	GTP	PG-O3B-PB-O1B
39	KK	501	GTP	PB-O3A-PA-O1A
39	KL	501	GTP	PG-O3B-PB-O1B

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Mol	Chain	Res	Type	Atoms
39	LA	501	GTP	PG-O3B-PB-O1B
39	LA	501	GTP	PG-O3B-PB-O2B
39	LA	501	GTP	PB-O3A-PA-O2A
39	LC	501	GTP	PG-O3B-PB-O1B
39	LD	501	GTP	PG-O3B-PB-O2B
39	LL	501	GTP	PG-O3B-PB-O1B
39	MB	501	GTP	PG-O3B-PB-O2B
39	MD	502	GTP	PB-O3A-PA-O1A
39	MF	501	GTP	PG-O3B-PB-O2B
39	MG	501	GTP	PB-O3A-PA-O2A
39	MJ	501	GTP	PG-O3B-PB-O2B
39	MK	501	GTP	PB-O3A-PA-O1A
39	NE	501	GTP	PG-O3B-PB-O1B
39	NE	501	GTP	PG-O3B-PB-O2B
39	NF	501	GTP	PG-O3B-PB-O2B
39	NH	501	GTP	PG-O3B-PB-O2B
39	NI	501	GTP	PG-O3B-PB-O1B
39	NI	501	GTP	PG-O3B-PB-O2B
39	NI	501	GTP	PB-O3A-PA-O1A
39	NK	501	GTP	PG-O3B-PB-O2B
39	OB	501	GTP	PG-O3B-PB-O2B
39	OC	501	GTP	PB-O3A-PA-O1A
39	OD	501	GTP	PG-O3B-PB-O2B
39	OE	501	GTP	PG-O3B-PB-O1B
39	OE	501	GTP	PG-O3B-PB-O2B
39	OF	501	GTP	PG-O3B-PB-O1B
39	OG	501	GTP	PG-O3B-PB-O1B
39	OG	501	GTP	PG-O3B-PB-O2B
39	OG	501	GTP	PB-O3A-PA-O1A
39	OH	501	GTP	PG-O3B-PB-O2B
39	OJ	501	GTP	PG-O3B-PB-O2B
39	OL	501	GTP	PG-O3B-PB-O2B
39	PB	501	GTP	PG-O3B-PB-O2B
39	PC	501	GTP	PG-O3B-PB-O1B
39	PC	501	GTP	PG-O3B-PB-O2B
39	PG	501	GTP	PG-O3B-PB-O1B
39	PG	501	GTP	PB-O3A-PA-O1A
39	PG	501	GTP	PB-O3A-PA-O2A
39	PI	501	GTP	PB-O3A-PA-O1A
39	PJ	501	GTP	PG-O3B-PB-O2B
39	PL	501	GTP	PG-O3B-PB-O2B
39	PM	501	GTP	PB-O3A-PA-O1A

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Mol	Chain	Res	Type	Atoms
39	QC	501	GTP	PG-O3B-PB-O2B
39	QG	501	GTP	PB-O3A-PA-O1A
39	QI	501	GTP	PG-O3B-PB-O2B
39	QL	502	GTP	PB-O3A-PA-O1A
39	RB	501	GTP	PG-O3B-PB-O1B
39	RB	501	GTP	PG-O3B-PB-O2B
39	RC	501	GTP	PB-O3A-PA-O2A
39	RD	501	GTP	PG-O3B-PB-O2B
39	RF	501	GTP	PG-O3B-PB-O2B
39	RI	501	GTP	PB-O3A-PA-O1A
39	RK	501	GTP	PB-O3A-PA-O2A
39	RL	501	GTP	PG-O3B-PB-O2B
39	RM	501	GTP	PG-O3B-PB-O1B
39	RM	501	GTP	PG-O3B-PB-O2B
39	SD	501	GTP	PG-O3B-PB-O2B
39	SH	501	GTP	PG-O3B-PB-O2B
39	SI	501	GTP	PG-O3B-PB-O1B
39	SK	501	GTP	PG-O3B-PB-O2B
39	SK	501	GTP	PB-O3A-PA-O1A
39	SL	501	GTP	PG-O3B-PB-O2B
39	TC	501	GTP	PG-O3B-PB-O2B
39	TC	501	GTP	PB-O3A-PA-O2A
39	TE	501	GTP	PB-O3A-PA-O1A
39	TF	501	GTP	PG-O3B-PB-O1B
39	TG	501	GTP	PG-O3B-PB-O2B
39	TI	501	GTP	PB-O3A-PA-O1A
39	TI	501	GTP	PB-O3A-PA-O2A
39	TJ	501	GTP	PG-O3B-PB-O2B
39	TK	501	GTP	PB-O3A-PA-O1A
39	TL	501	GTP	PG-O3B-PB-O2B
39	UB	501	GTP	PG-O3B-PB-O2B
39	UC	501	GTP	PG-O3B-PB-O1B
39	UC	501	GTP	PG-O3B-PB-O2B
39	UC	501	GTP	PB-O3A-PA-O2A
39	UD	501	GTP	PG-O3B-PB-O2B
39	UF	501	GTP	PG-O3B-PB-O2B
39	UH	501	GTP	PG-O3B-PB-O1B
39	UI	501	GTP	PB-O3A-PA-O1A
39	UK	501	GTP	PG-O3B-PB-O2B
39	UL	501	GTP	PG-O3B-PB-O2B
39	VA	501	GTP	PG-O3B-PB-O1B
39	VC	501	GTP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
39	VE	501	GTP	PG-O3B-PB-O2B
39	VF	501	GTP	PG-O3B-PB-O1B
39	VG	501	GTP	PG-O3B-PB-O2B
39	VG	501	GTP	PB-O3A-PA-O1A
39	VI	501	GTP	PG-O3B-PB-O1B
39	VI	501	GTP	PG-O3B-PB-O2B
39	VI	501	GTP	PB-O3A-PA-O2A
39	VL	501	GTP	PG-O3B-PB-O2B
39	WA	501	GTP	PG-O3B-PB-O2B
39	WA	501	GTP	PB-O3A-PA-O2A
39	WD	501	GTP	PG-O3B-PB-O2B
39	WE	501	GTP	PG-O3B-PB-O1B
39	WE	501	GTP	PA-O3A-PB-O1B
39	WF	501	GTP	PG-O3B-PB-O1B
39	WJ	501	GTP	PG-O3B-PB-O2B
39	WL	501	GTP	PG-O3B-PB-O2B
39	BB	501	GTP	PG-O3B-PB-O3A
39	CD	501	GTP	PG-O3B-PB-O3A
39	ED	501	GTP	PG-O3B-PB-O3A
39	MG	501	GTP	PG-O3B-PB-O3A
39	PL	501	GTP	PG-O3B-PB-O3A
39	SD	501	GTP	PG-O3B-PB-O3A
39	UK	501	GTP	PG-O3B-PB-O3A
39	UL	501	GTP	PG-O3B-PB-O3A
39	WL	501	GTP	PG-O3B-PB-O3A
39	AD	501	GTP	C5'-O5'-PA-O1A
39	AJ	501	GTP	C5'-O5'-PA-O1A
39	AL	501	GTP	C5'-O5'-PA-O1A
39	BB	501	GTP	C5'-O5'-PA-O1A
39	CL	501	GTP	C5'-O5'-PA-O1A
39	DB	501	GTP	C5'-O5'-PA-O1A
39	DD	501	GTP	C5'-O5'-PA-O1A
39	FD	501	GTP	C5'-O5'-PA-O1A
39	FH	501	GTP	C5'-O5'-PA-O1A
39	GB	501	GTP	C5'-O5'-PA-O1A
39	GF	501	GTP	C5'-O5'-PA-O1A
39	GH	501	GTP	C5'-O5'-PA-O1A
39	IB	501	GTP	C5'-O5'-PA-O2A
39	JH	501	GTP	C5'-O5'-PA-O2A
39	KF	501	GTP	C5'-O5'-PA-O1A
39	LB	501	GTP	C5'-O5'-PA-O1A
39	LD	501	GTP	C5'-O5'-PA-O1A

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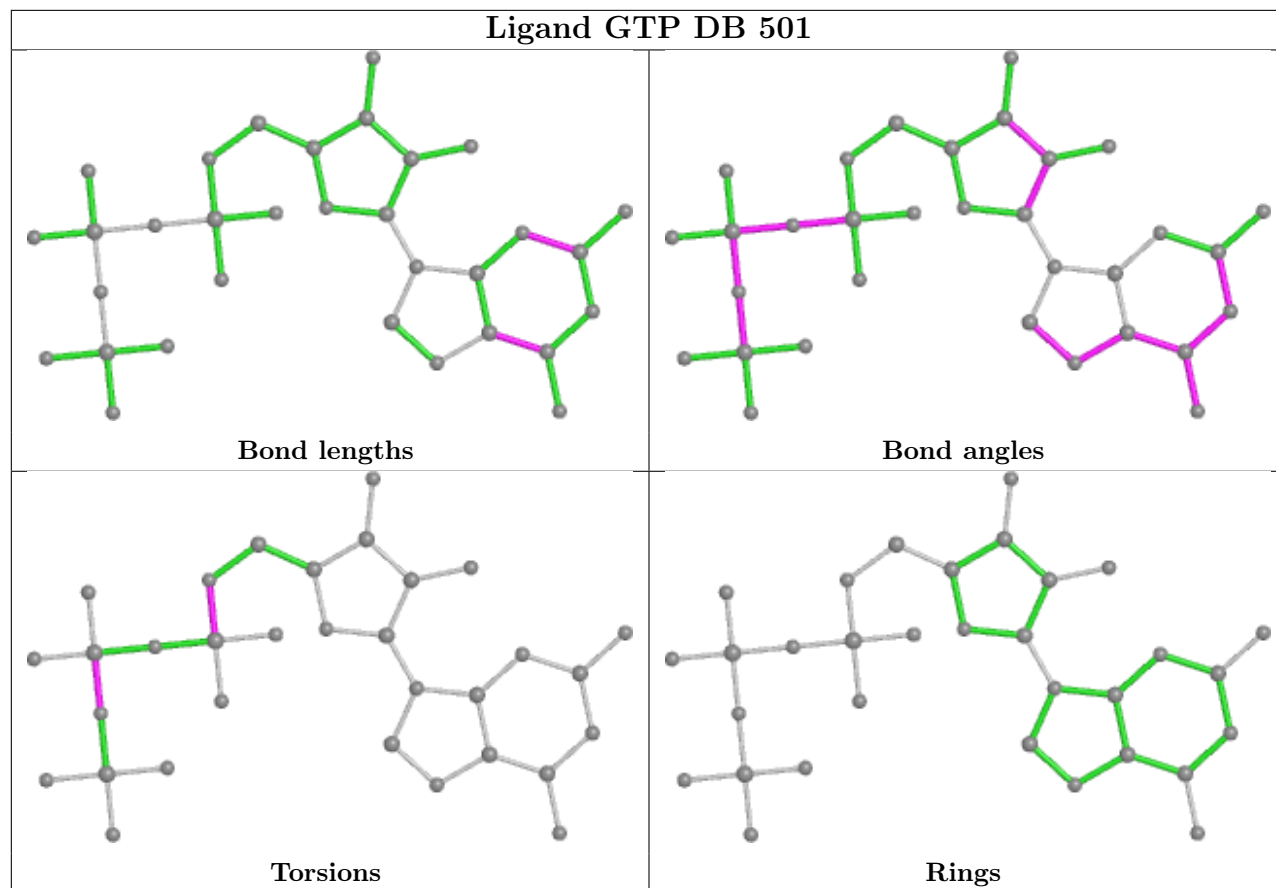
Mol	Chain	Res	Type	Atoms
39	LH	501	GTP	C5'-O5'-PA-O2A
39	NL	501	GTP	C5'-O5'-PA-O1A
39	PJ	501	GTP	C5'-O5'-PA-O1A
39	QD	501	GTP	C5'-O5'-PA-O1A
39	QH	501	GTP	C5'-O5'-PA-O1A
39	RB	501	GTP	C5'-O5'-PA-O1A
39	RF	501	GTP	C5'-O5'-PA-O2A
39	RH	501	GTP	C5'-O5'-PA-O2A
39	RJ	501	GTP	C5'-O5'-PA-O1A
39	SB	501	GTP	C5'-O5'-PA-O1A
39	SD	501	GTP	C5'-O5'-PA-O2A
39	TD	501	GTP	C5'-O5'-PA-O2A
39	TF	501	GTP	C5'-O5'-PA-O1A
39	TJ	501	GTP	C5'-O5'-PA-O1A
39	VH	501	GTP	C5'-O5'-PA-O1A
39	QB	501	GTP	O4'-C4'-C5'-O5'
39	CI	501	GTP	PB-O3B-PG-O1G
39	CF	501	GTP	PG-O3B-PB-O3A
39	DD	501	GTP	PG-O3B-PB-O3A
39	EE	501	GTP	PG-O3B-PB-O3A
39	FJ	501	GTP	PG-O3B-PB-O3A
39	FL	501	GTP	PG-O3B-PB-O3A
39	GI	501	GTP	PG-O3B-PB-O3A
39	GJ	501	GTP	PG-O3B-PB-O3A
39	OL	501	GTP	PG-O3B-PB-O3A
39	RG	501	GTP	PG-O3B-PB-O3A
39	TG	501	GTP	PG-O3B-PB-O3A
39	TL	501	GTP	PG-O3B-PB-O3A

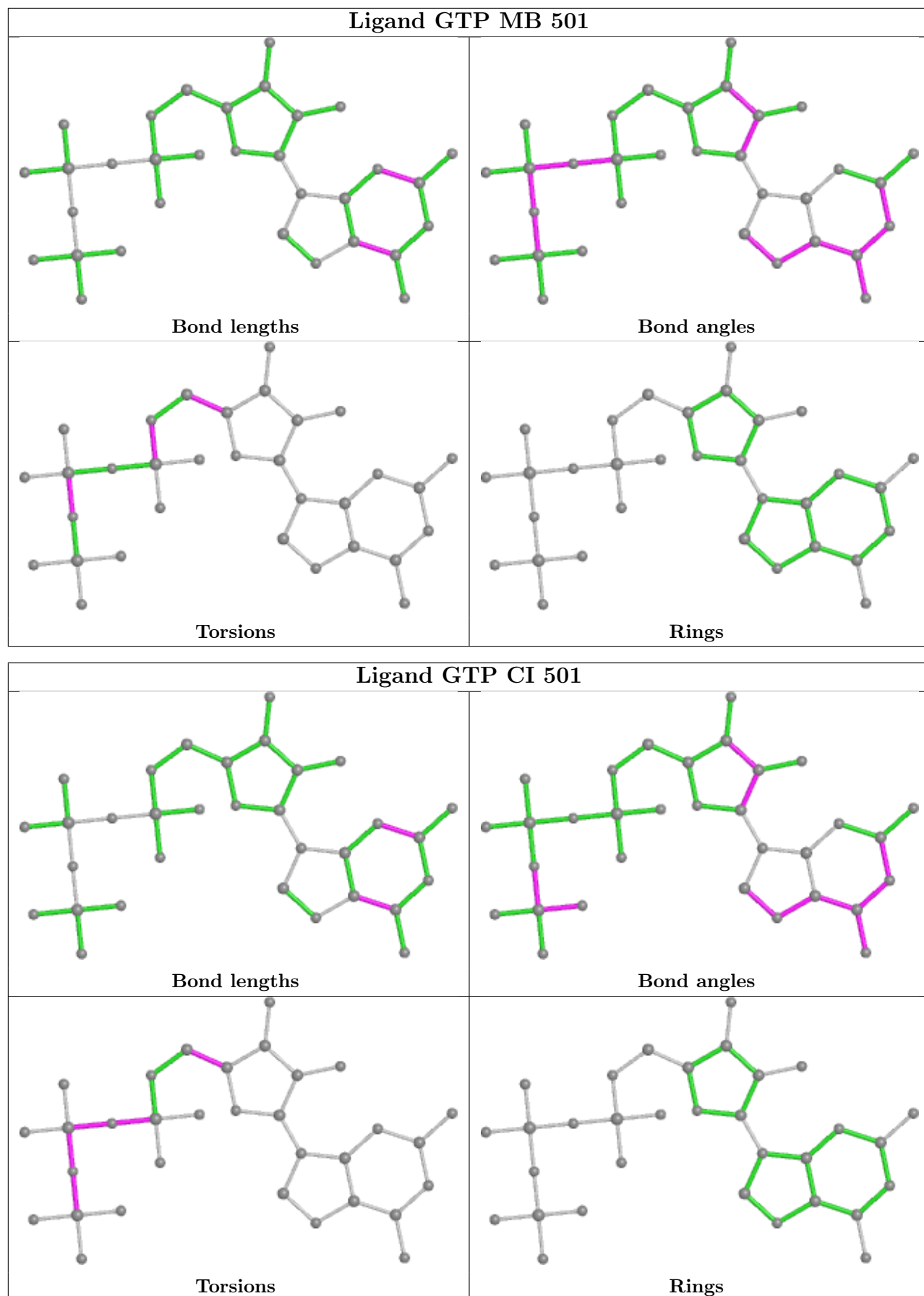
There are no ring outliers.

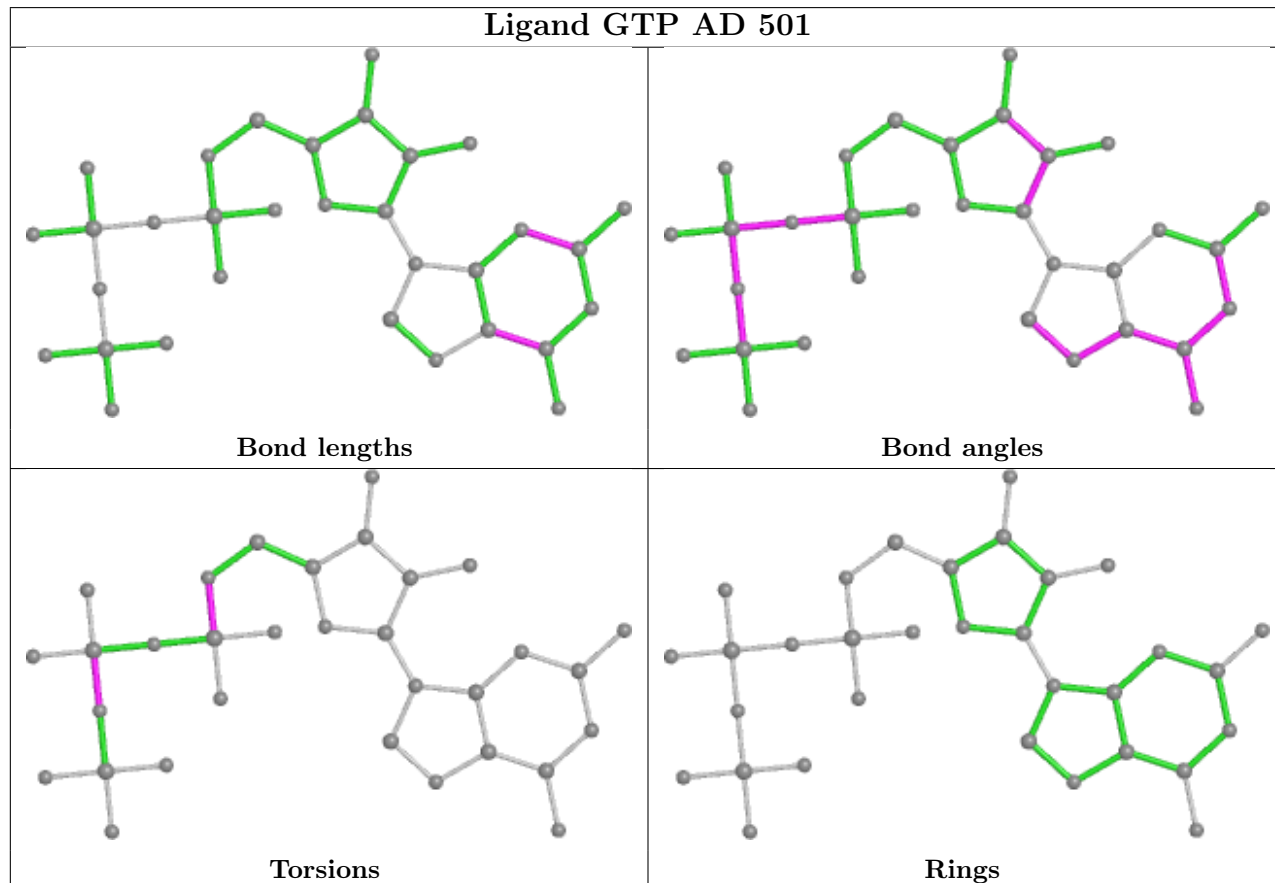
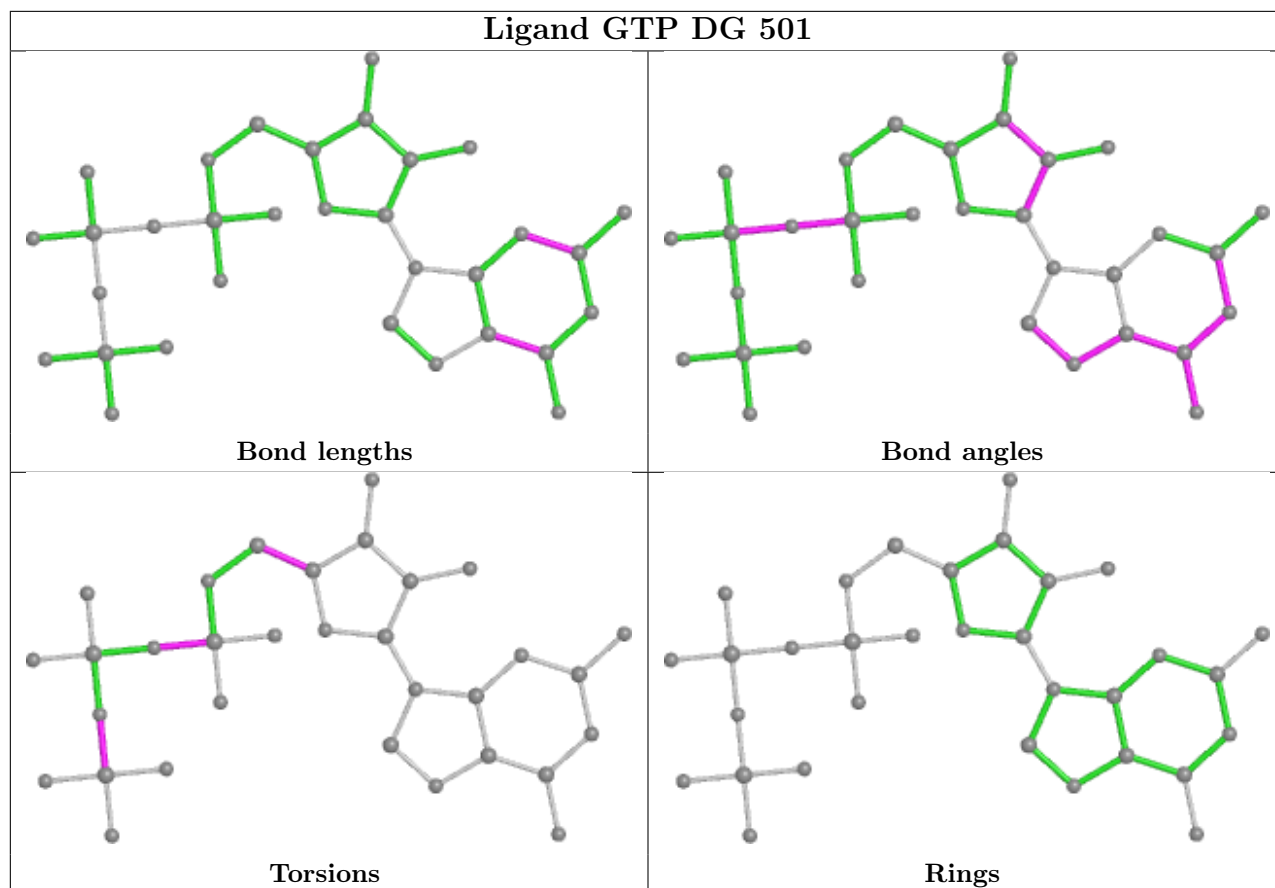
No monomer is involved in short contacts.

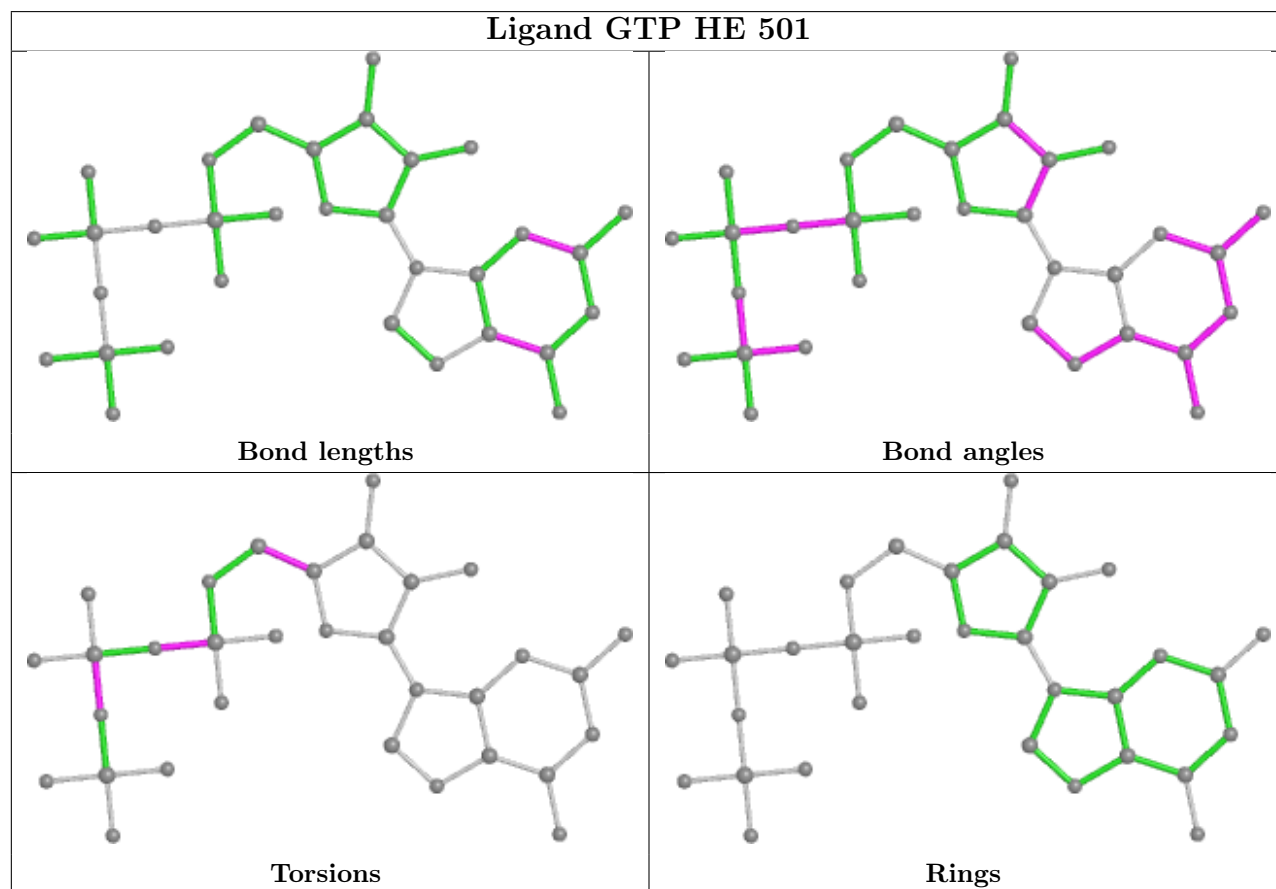
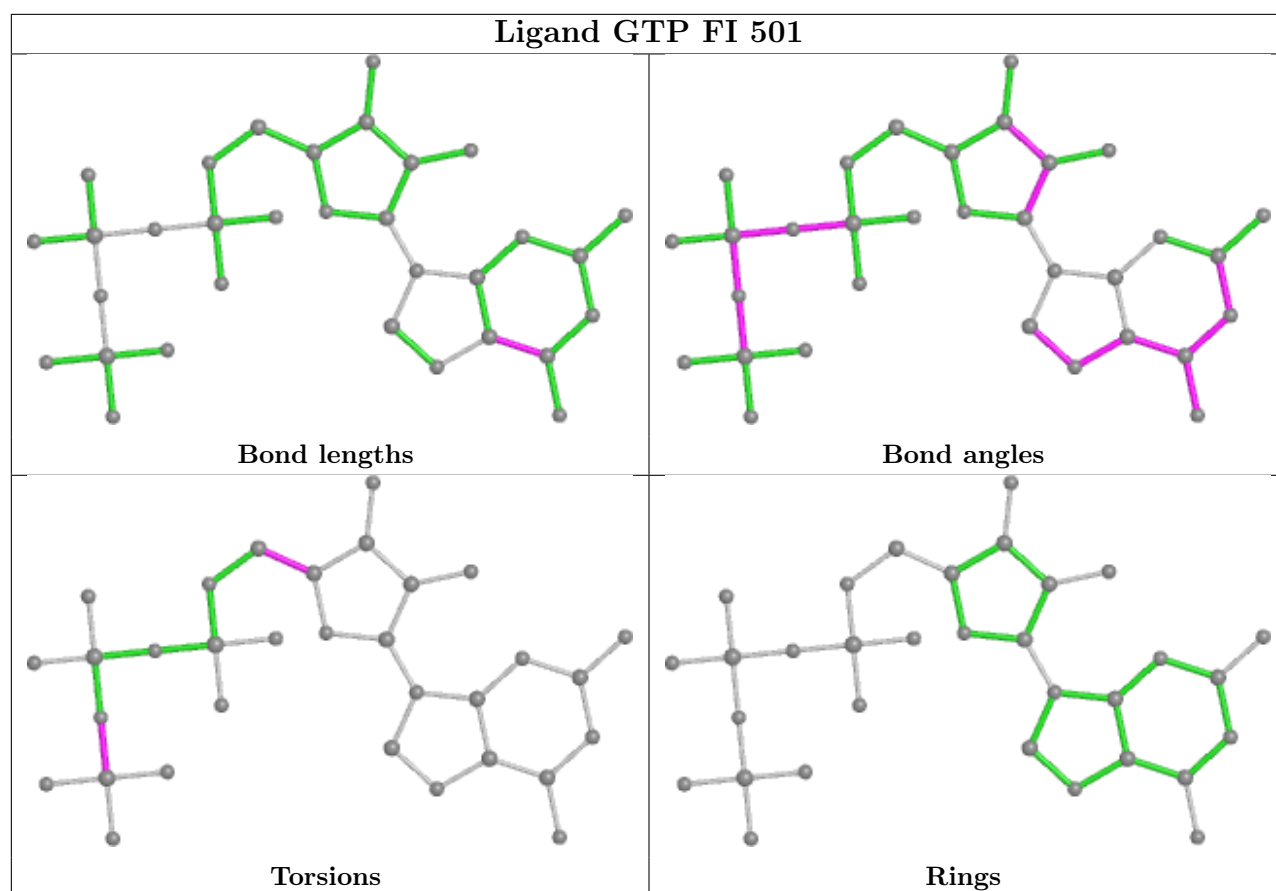
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

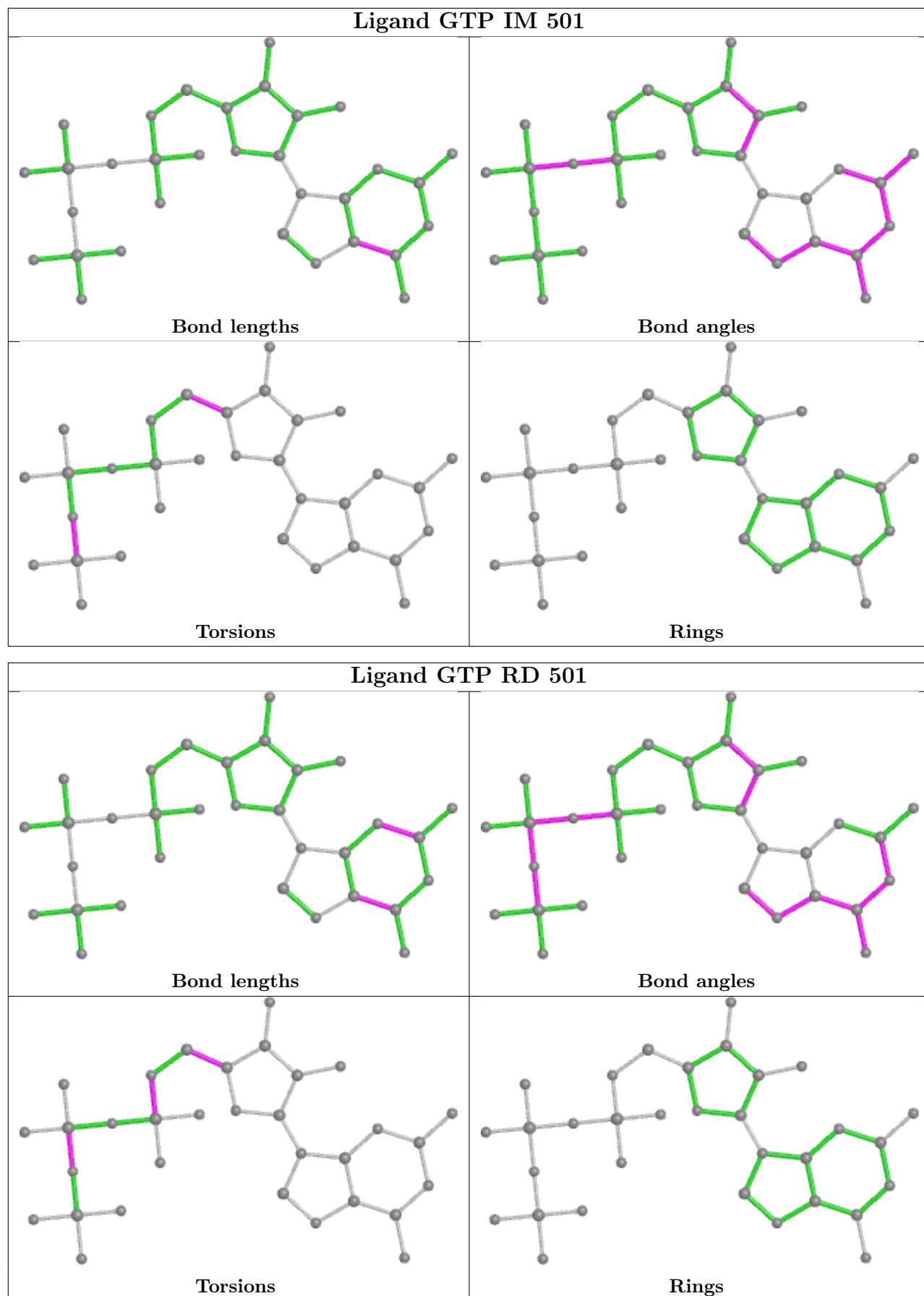
equivalents in the CSD to analyse the geometry.

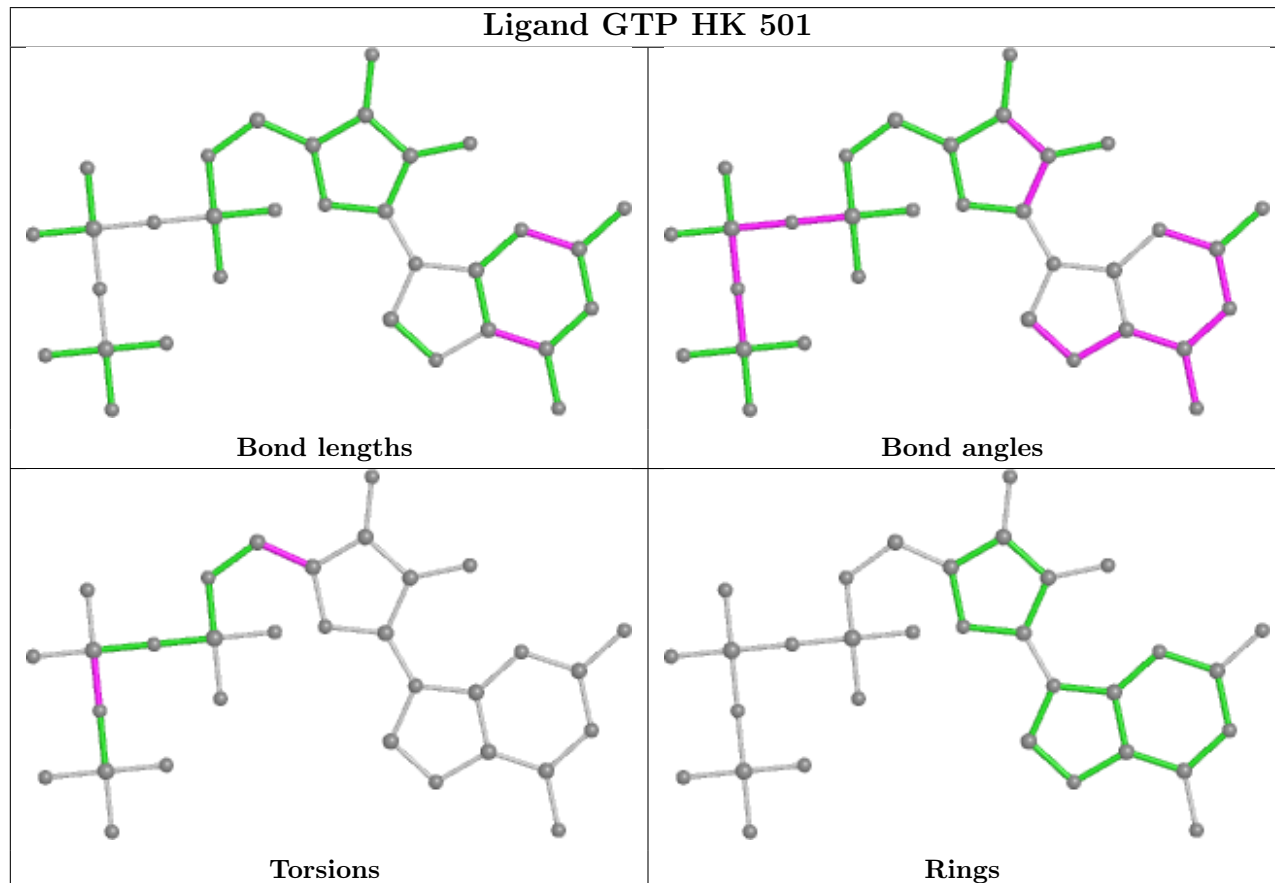
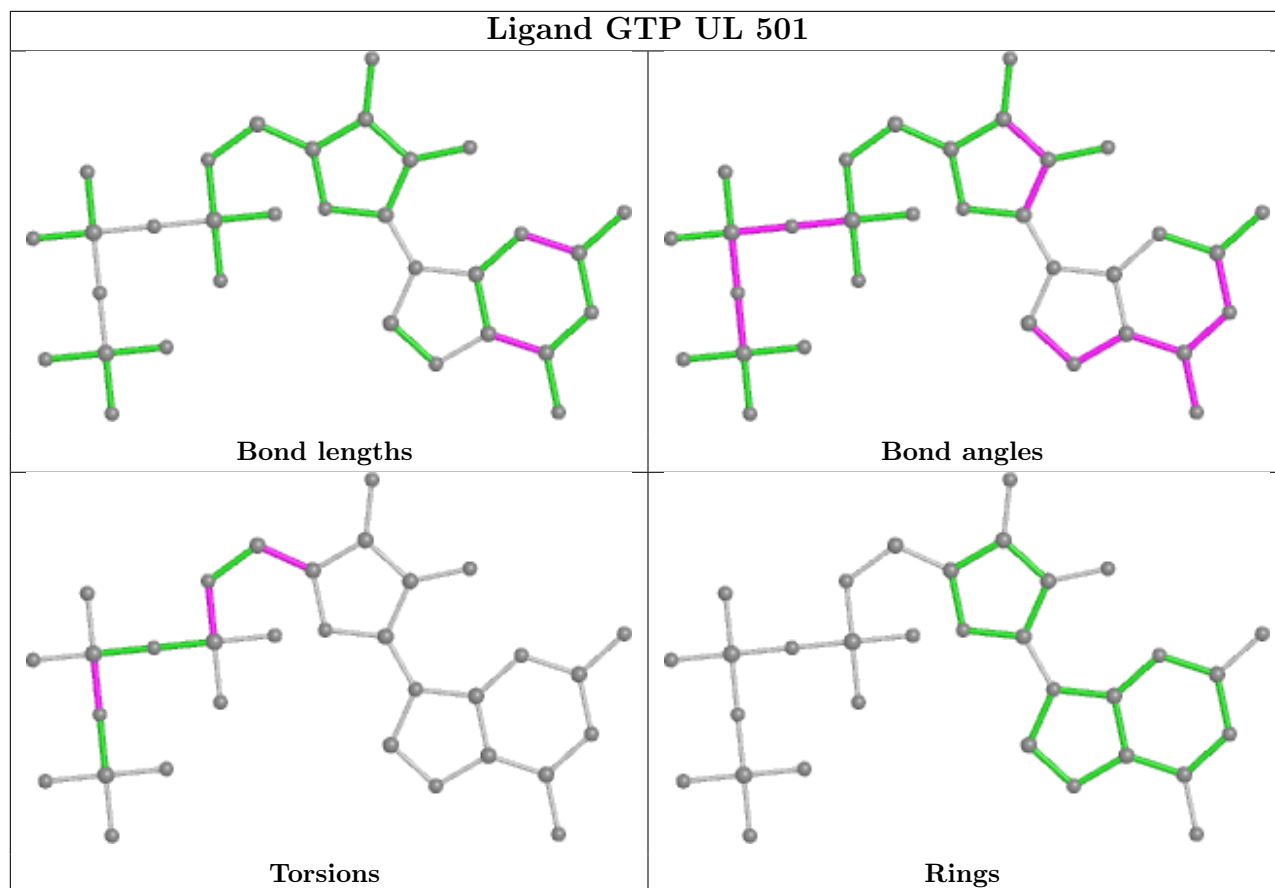


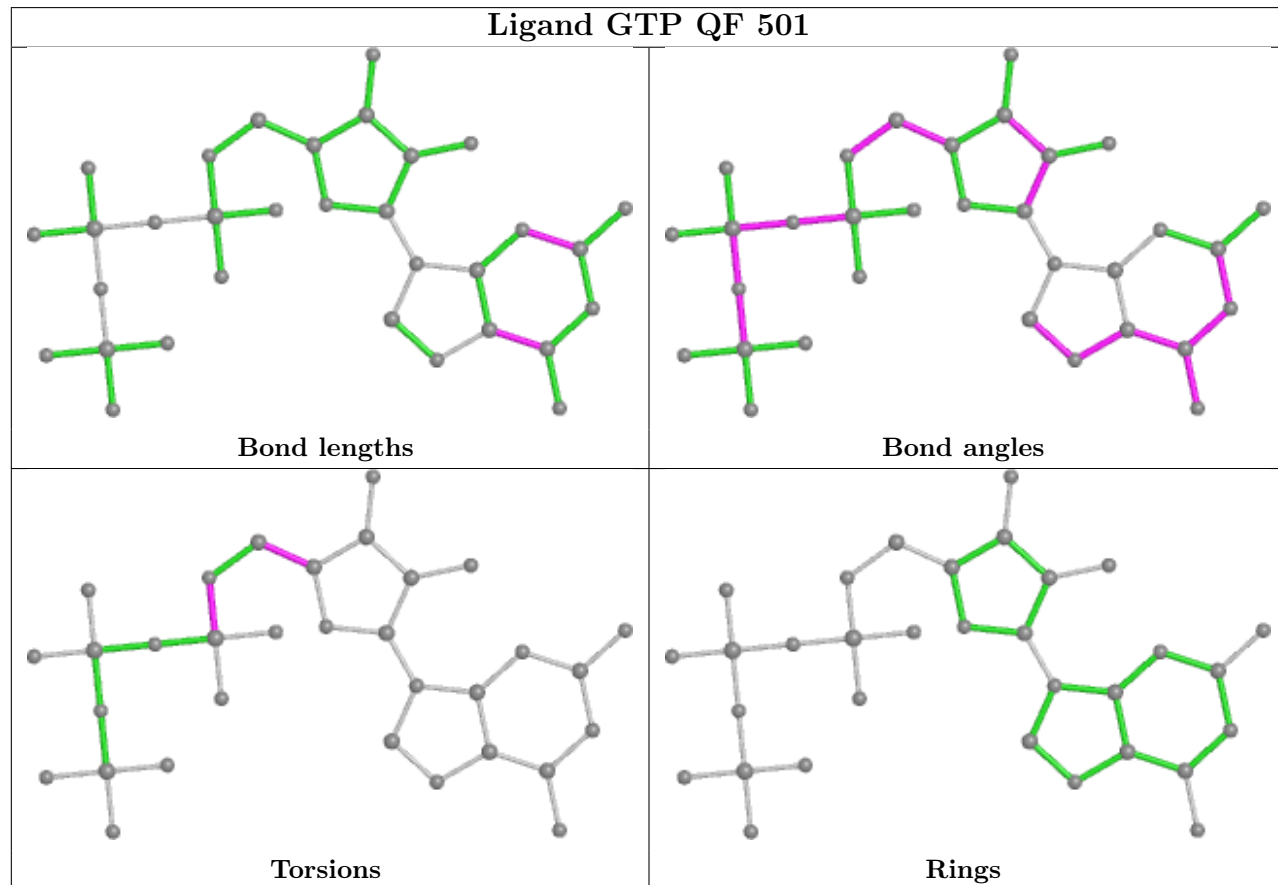
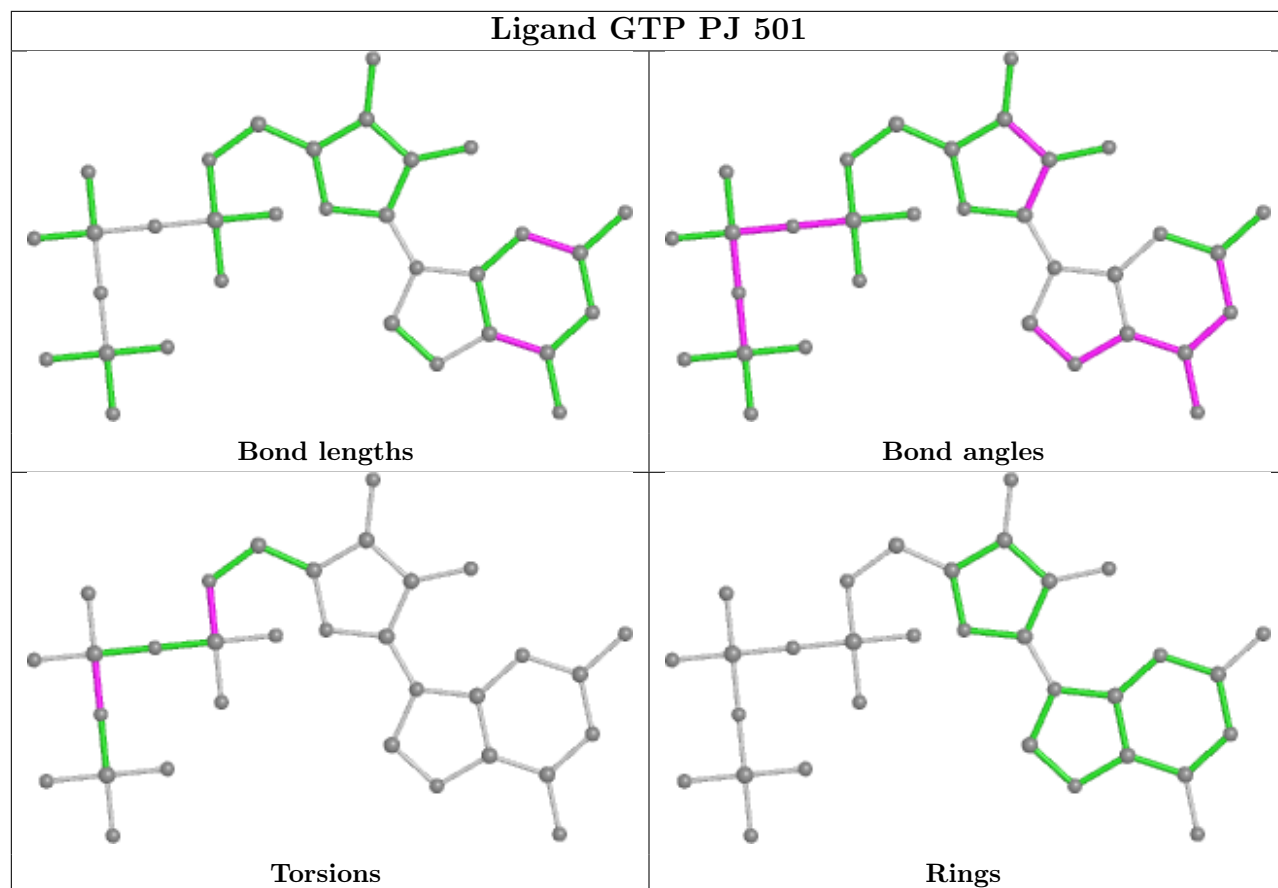


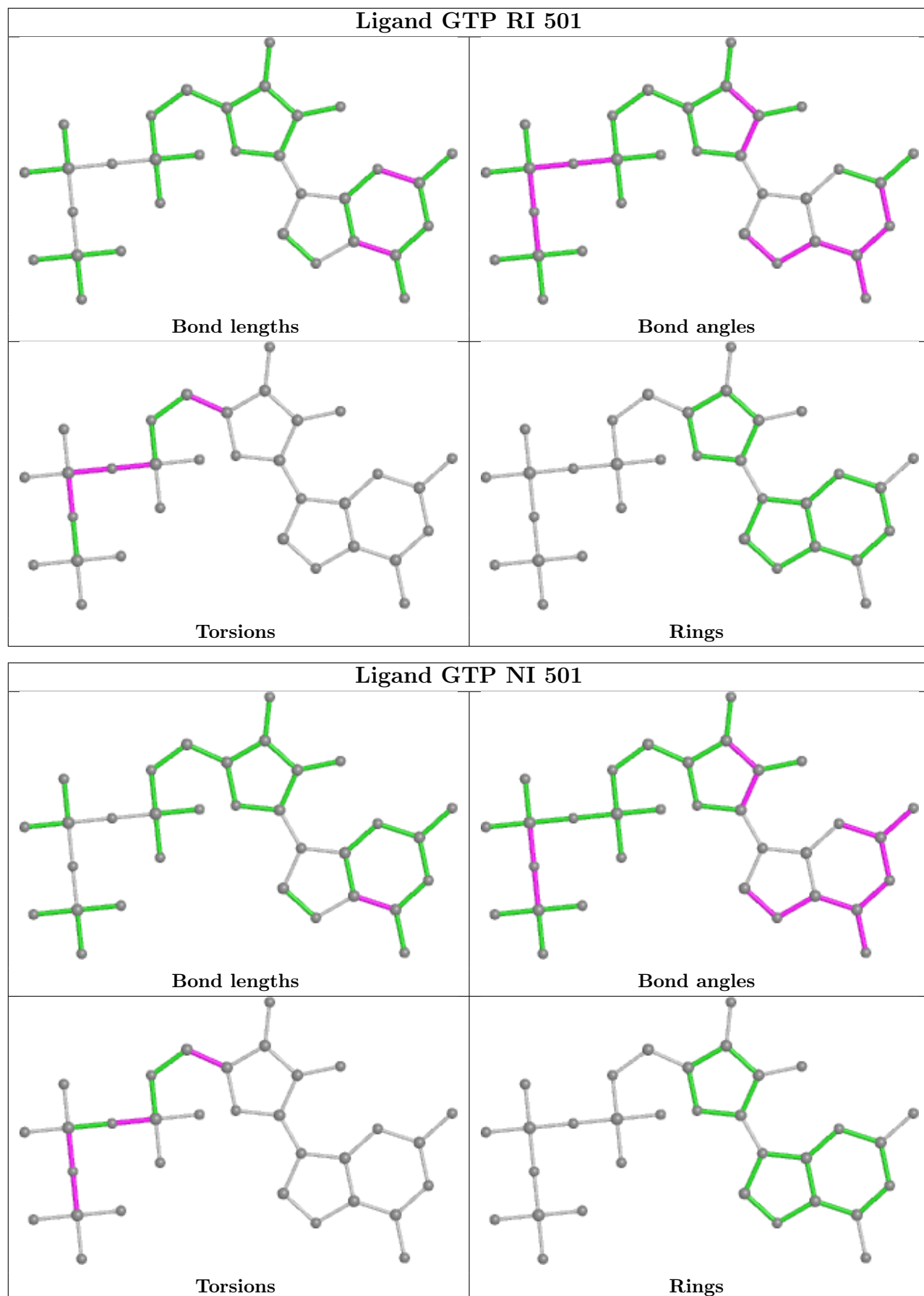


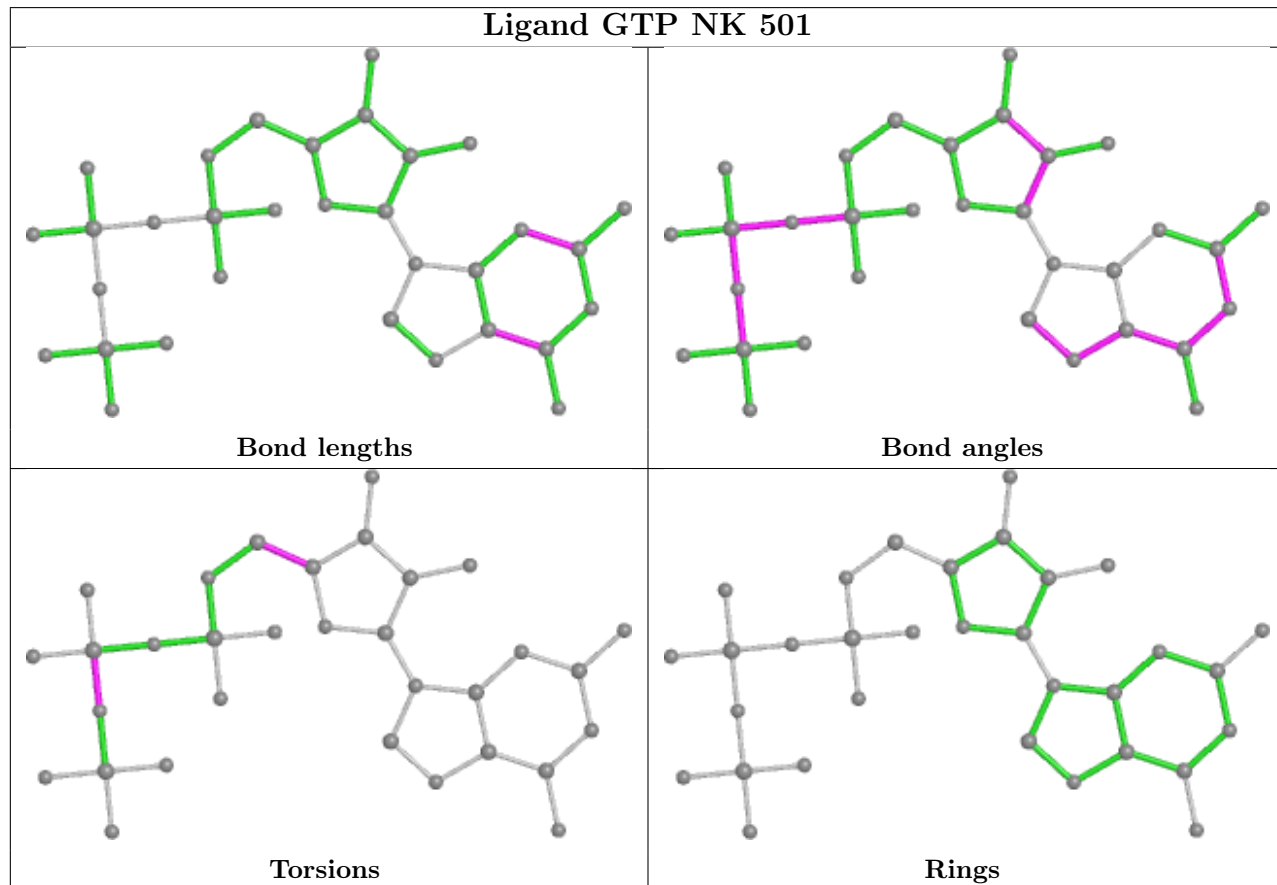
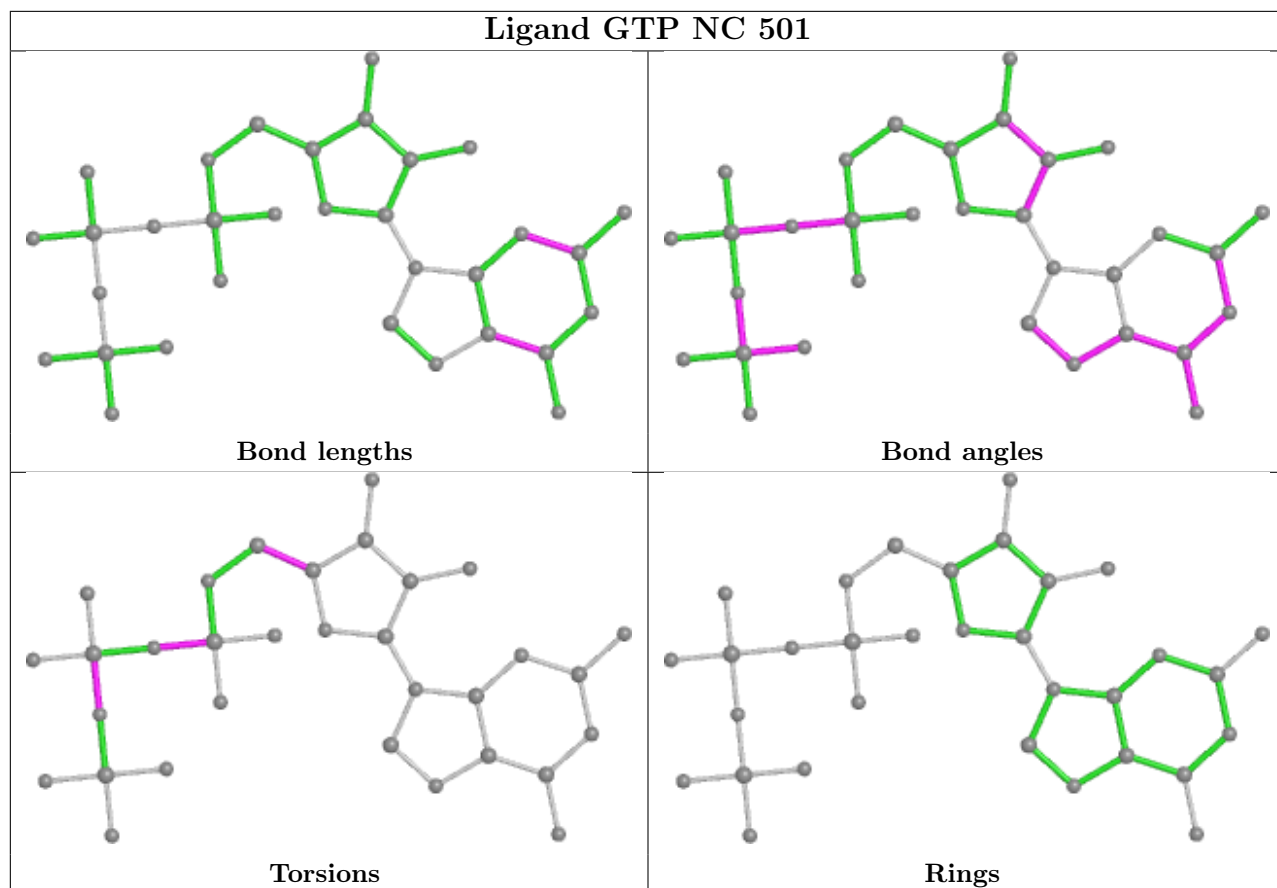


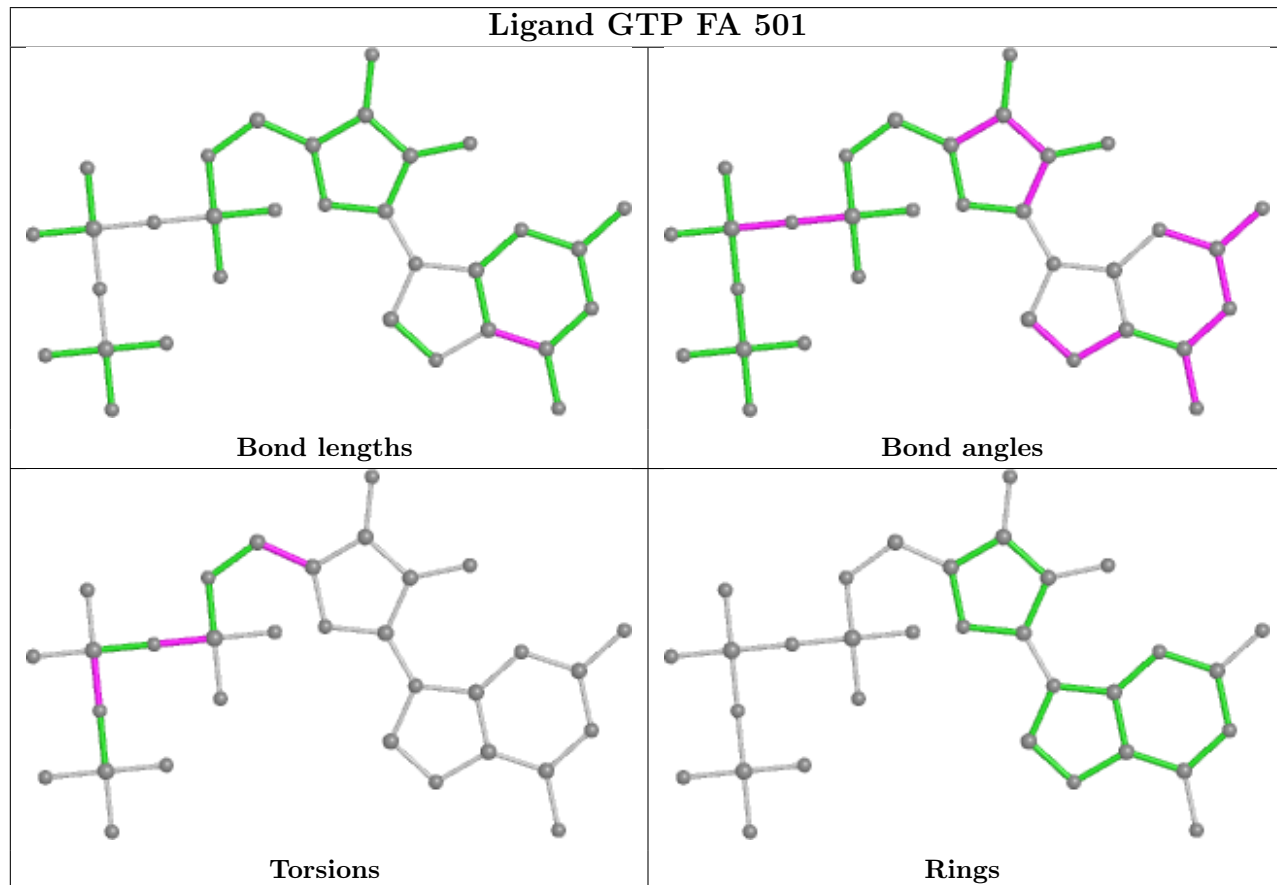
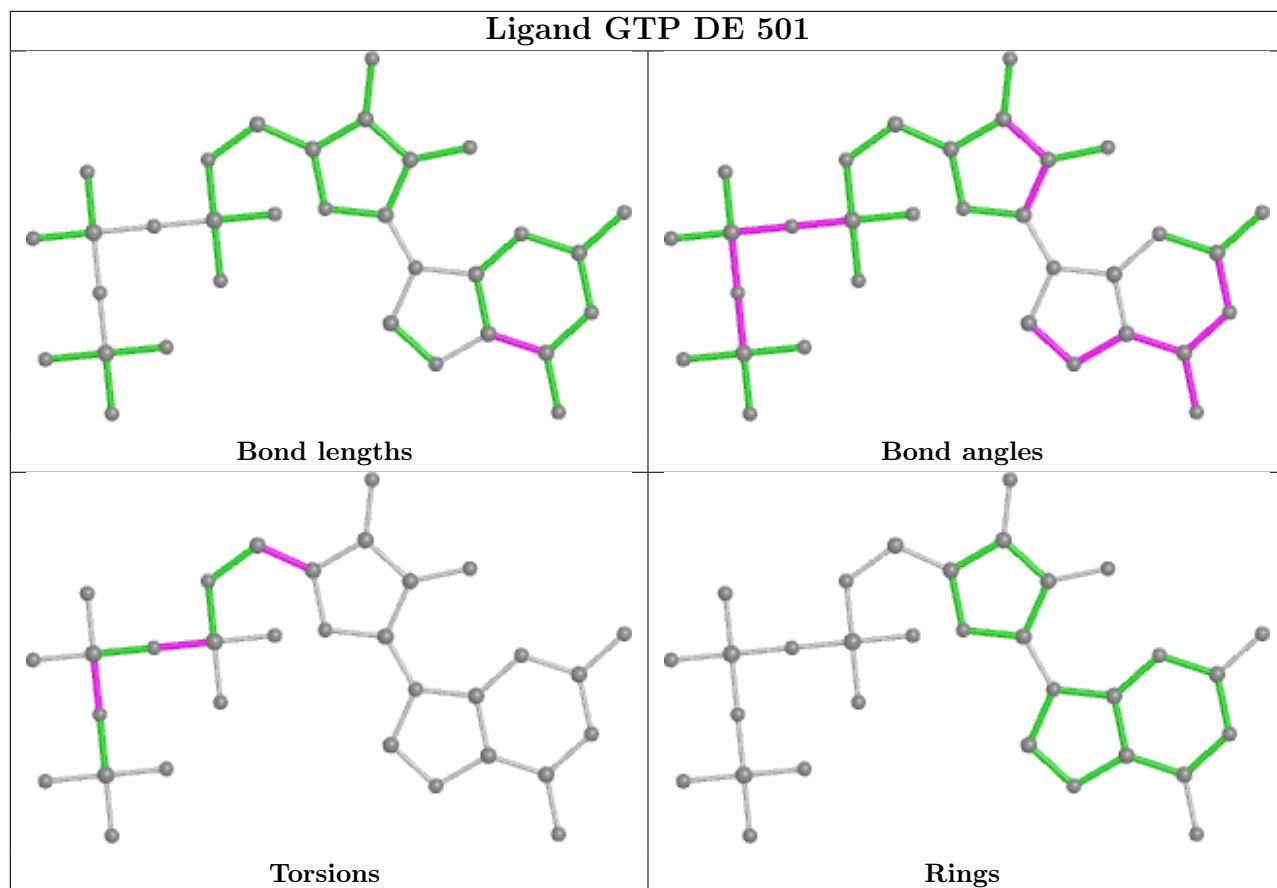


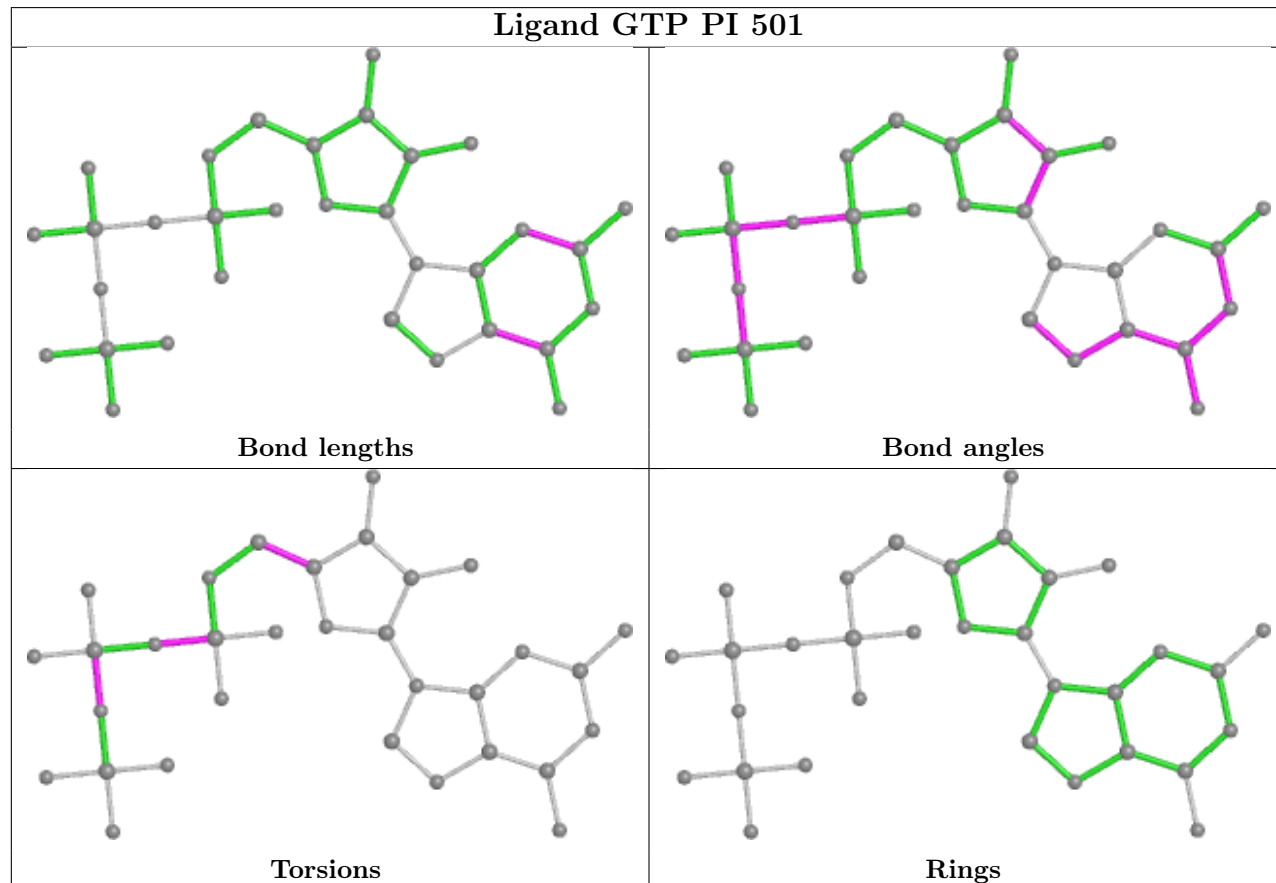
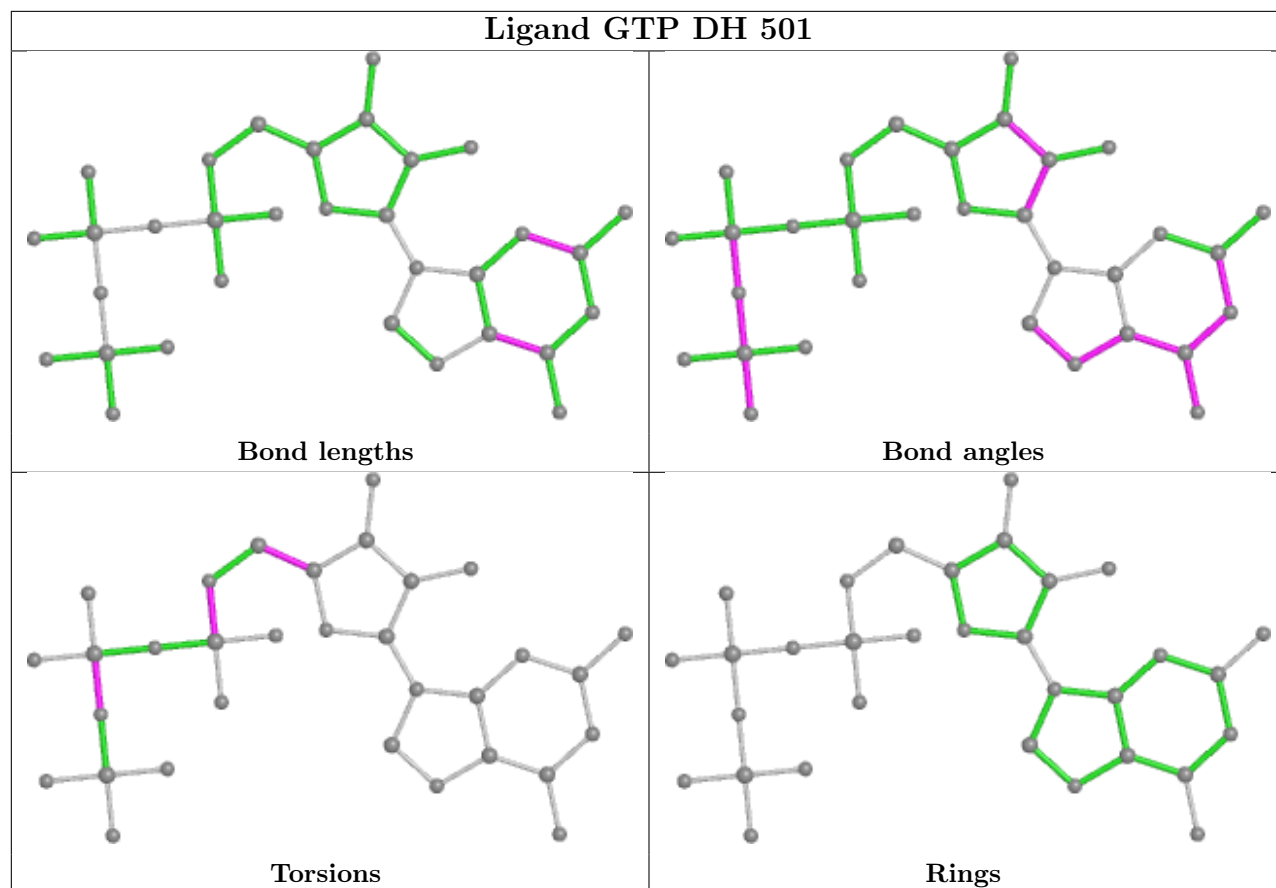


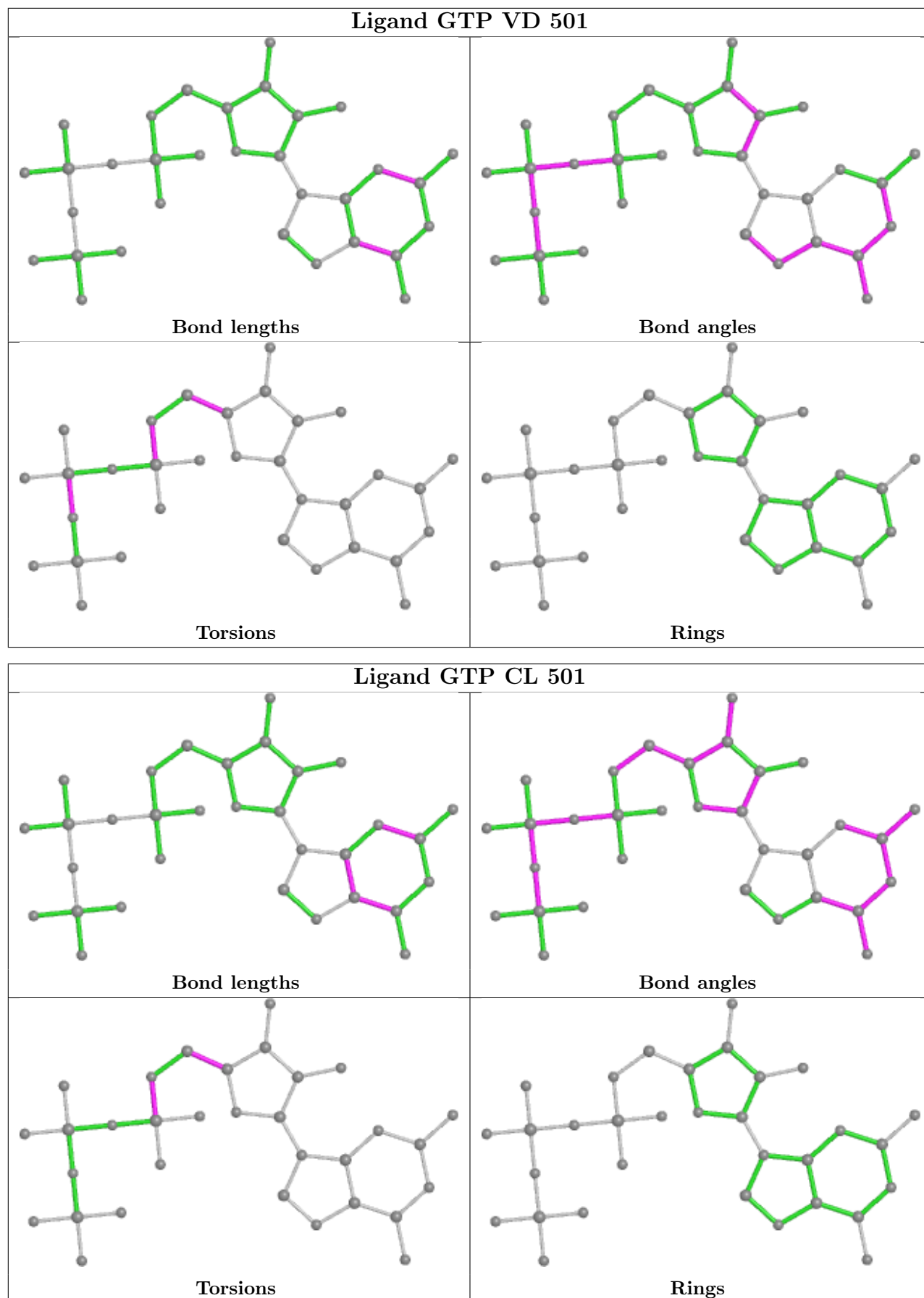


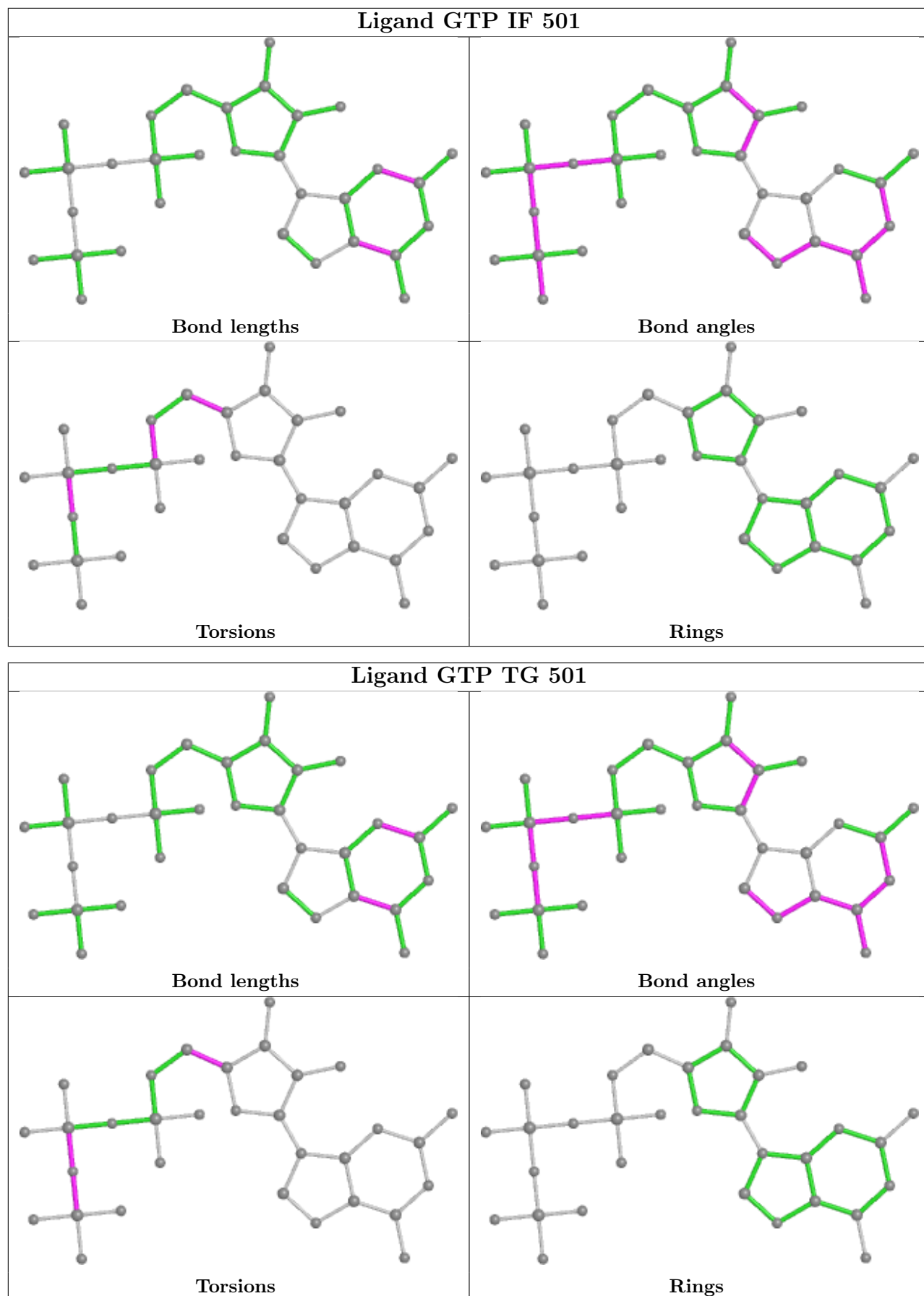


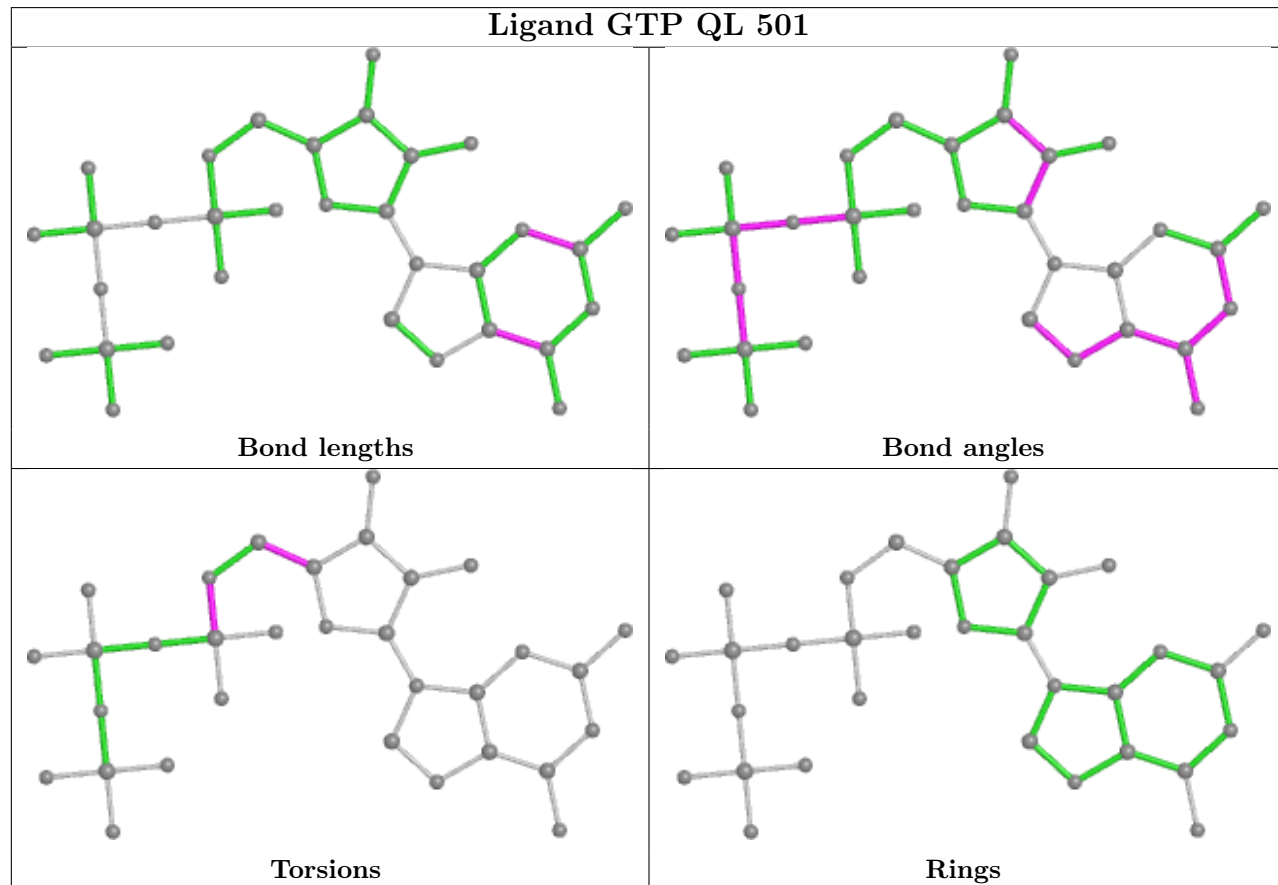
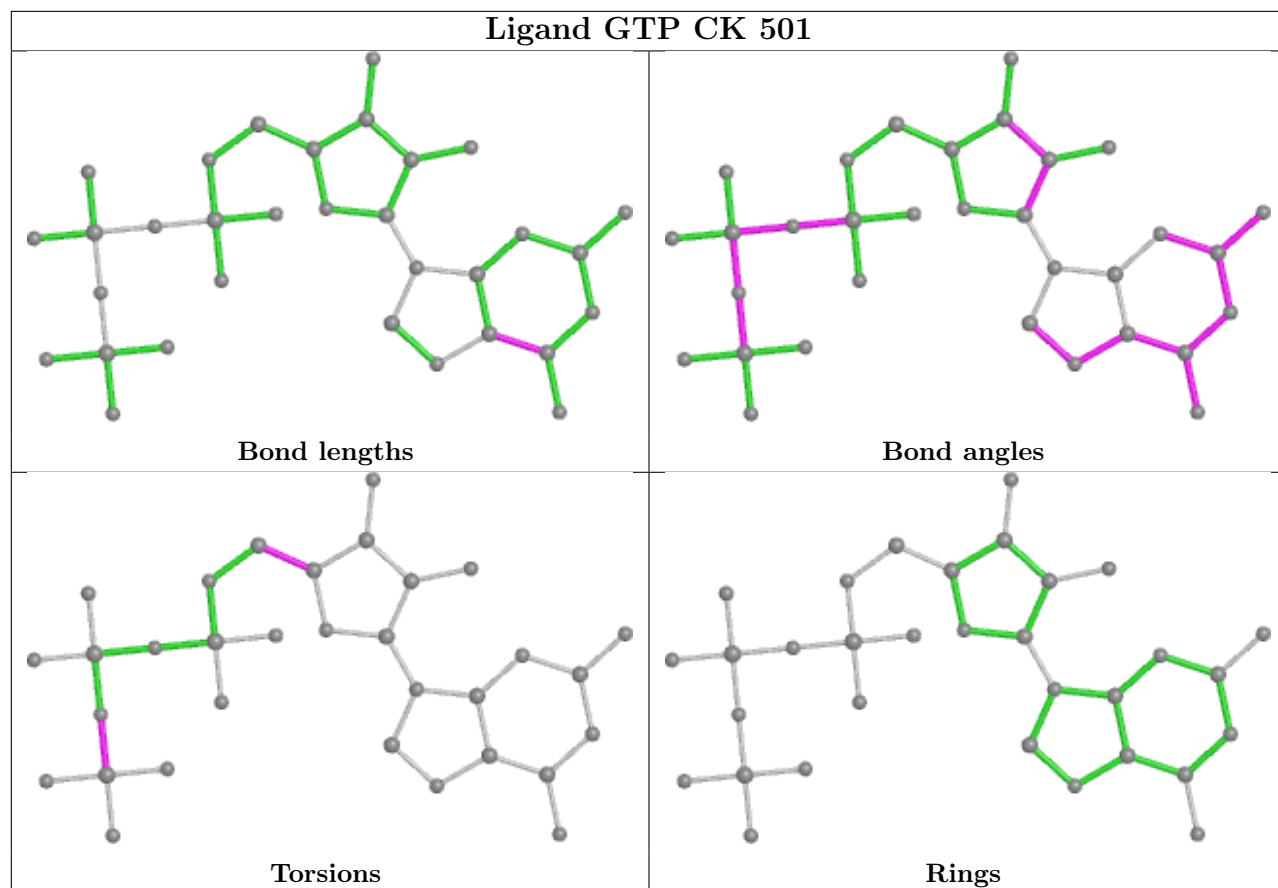


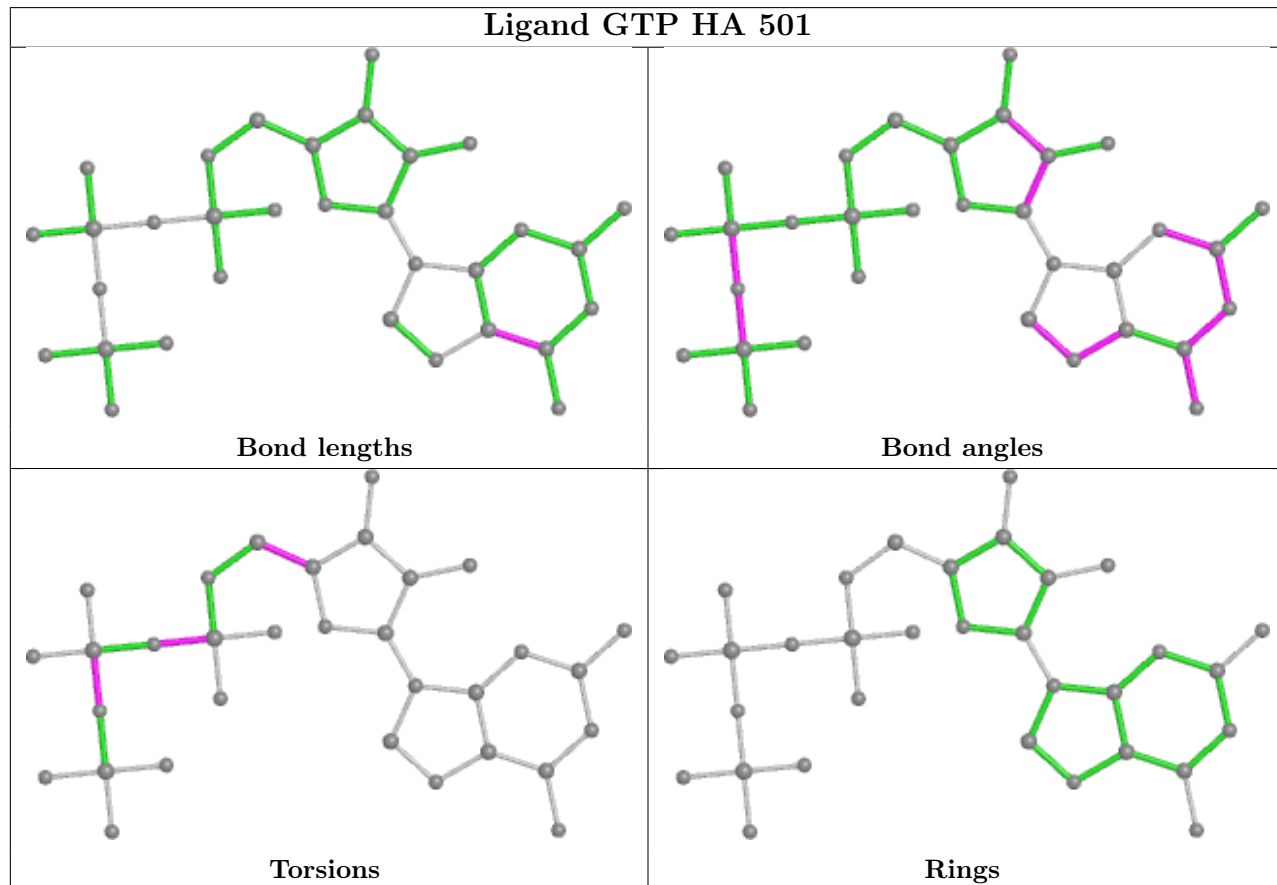
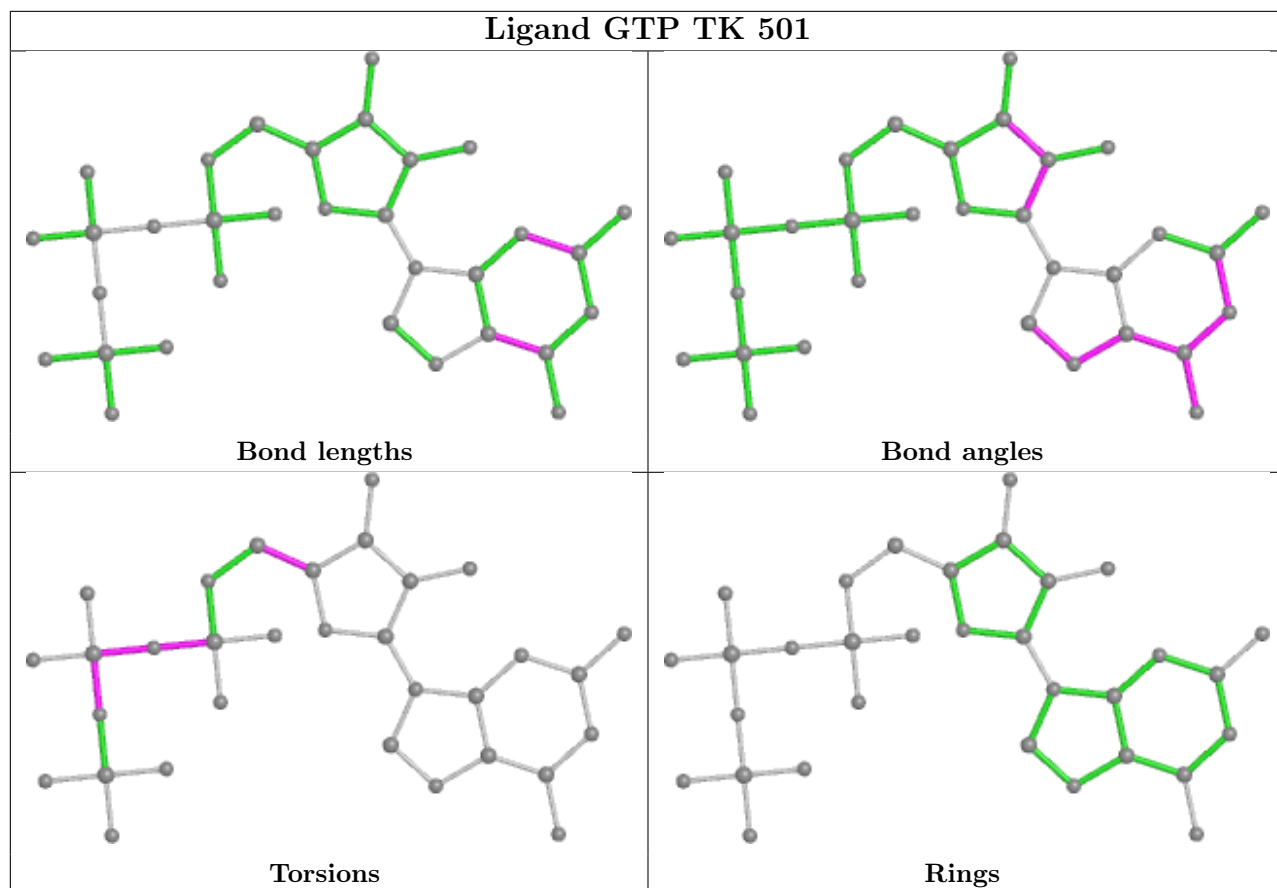


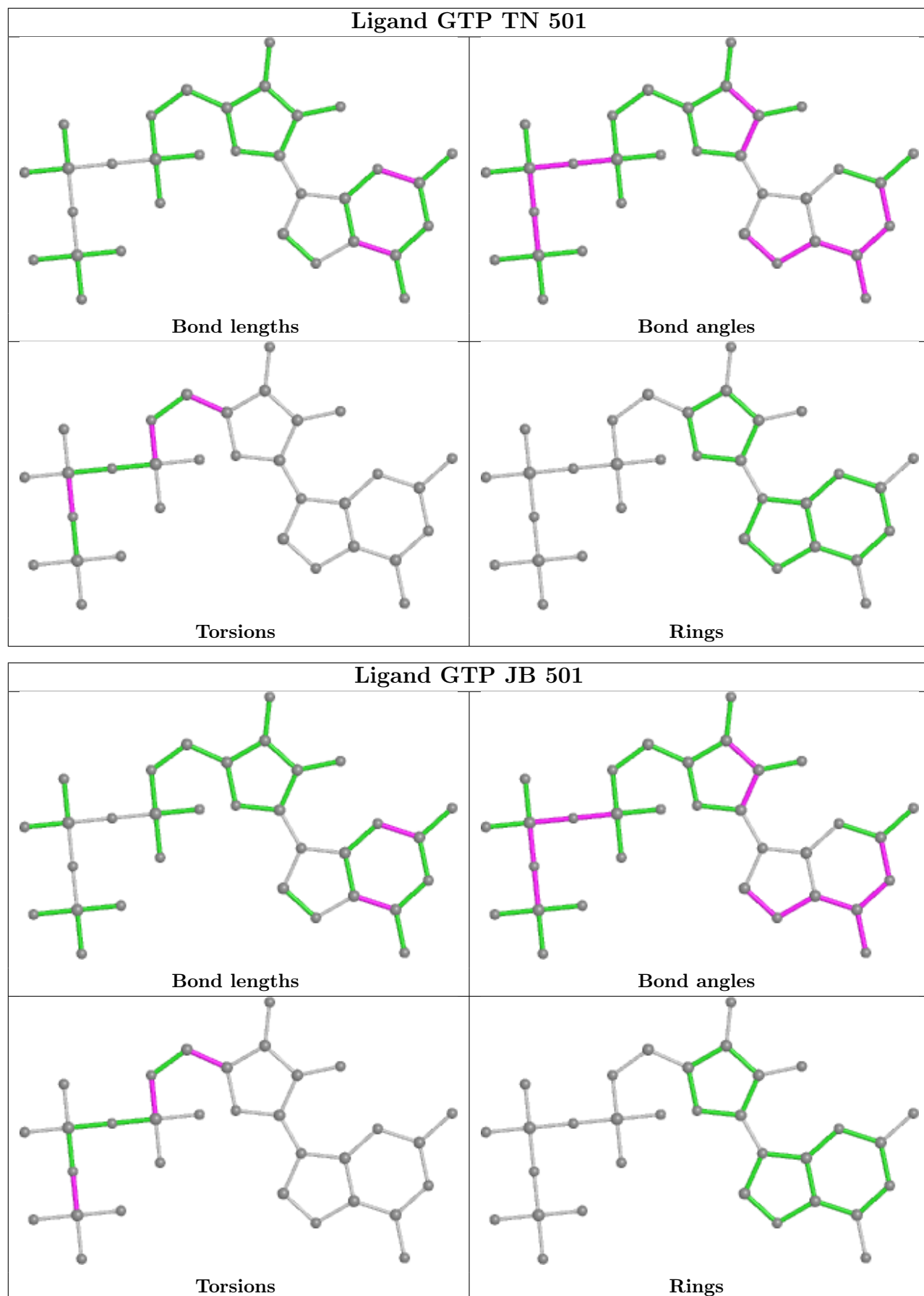


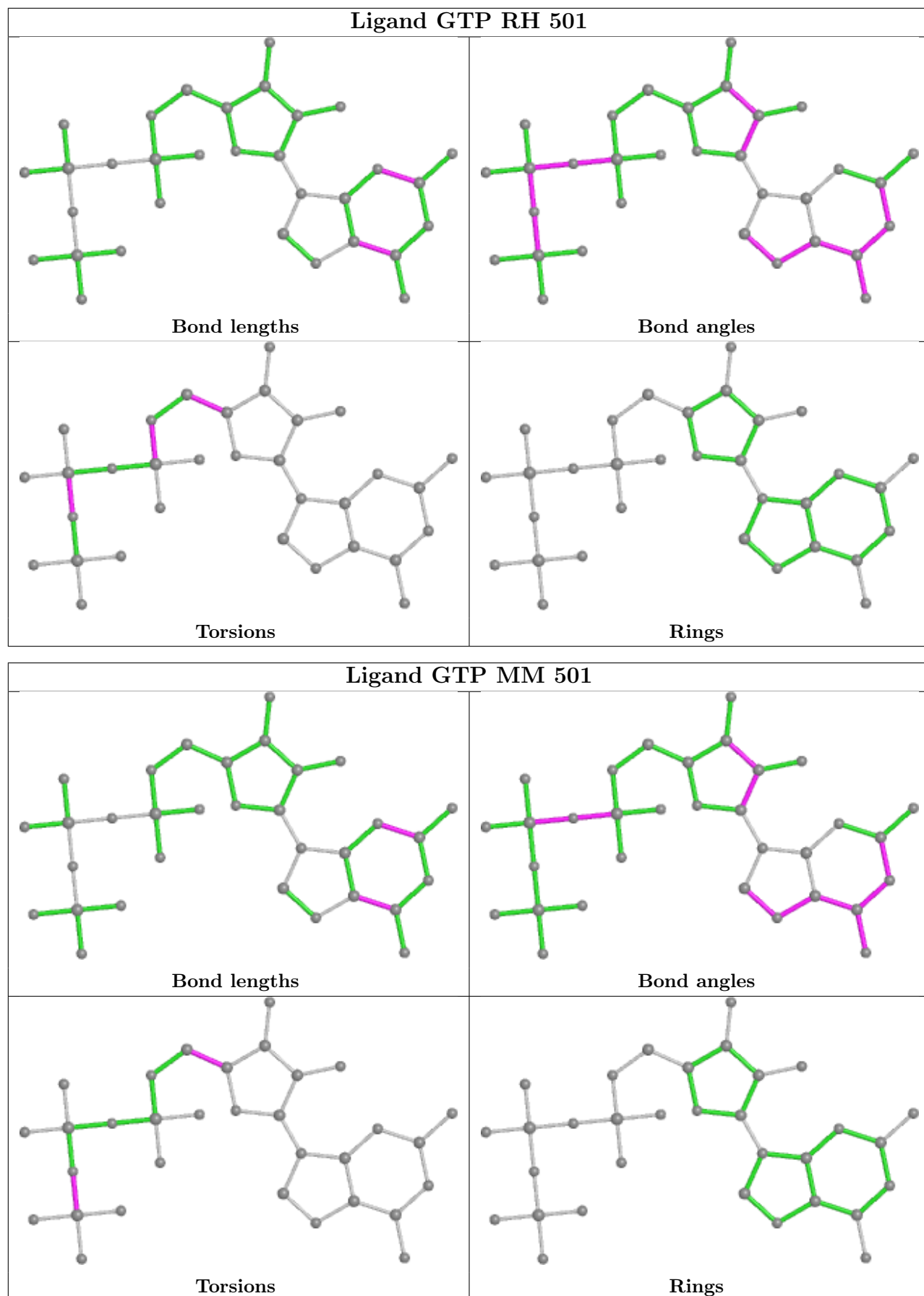


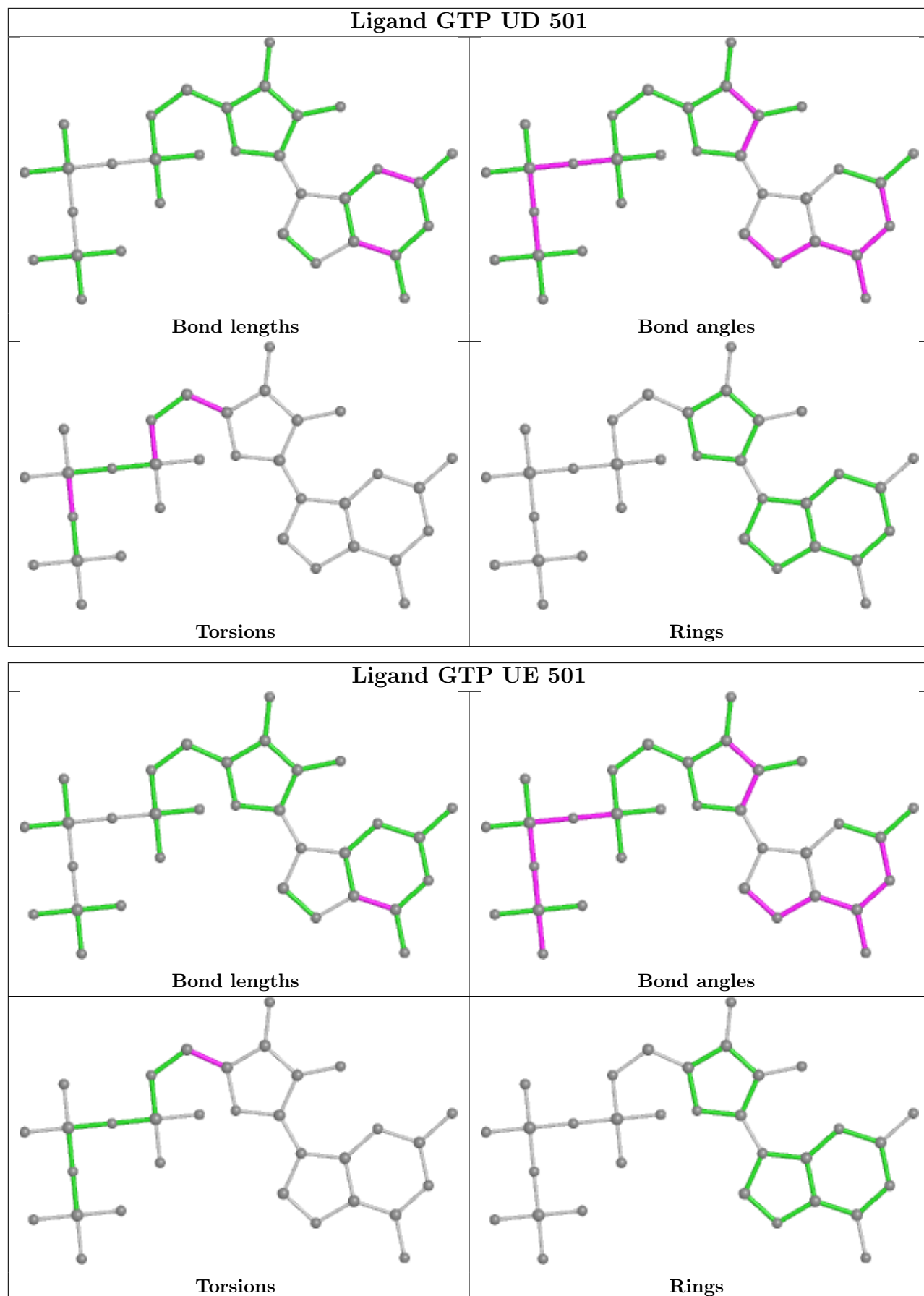


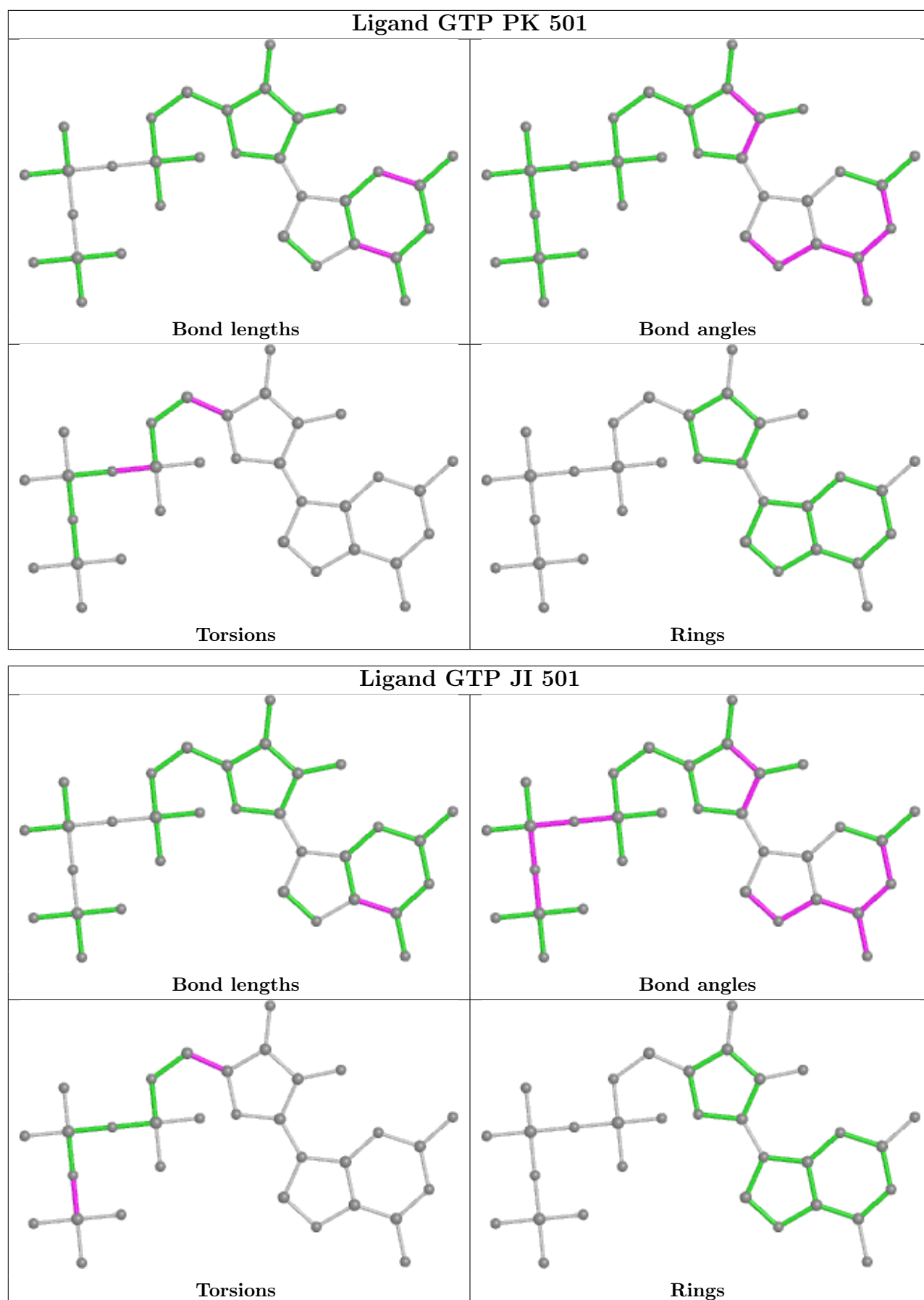


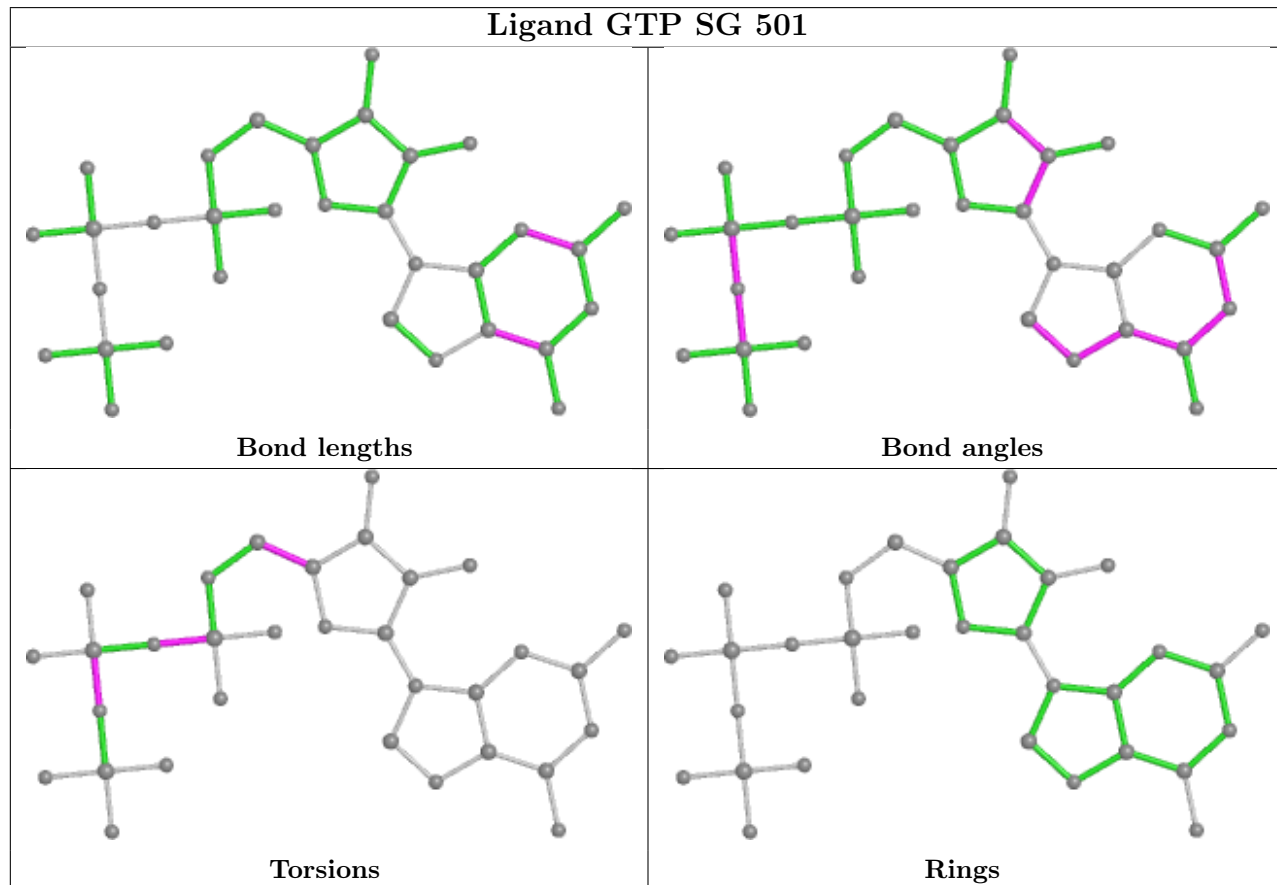
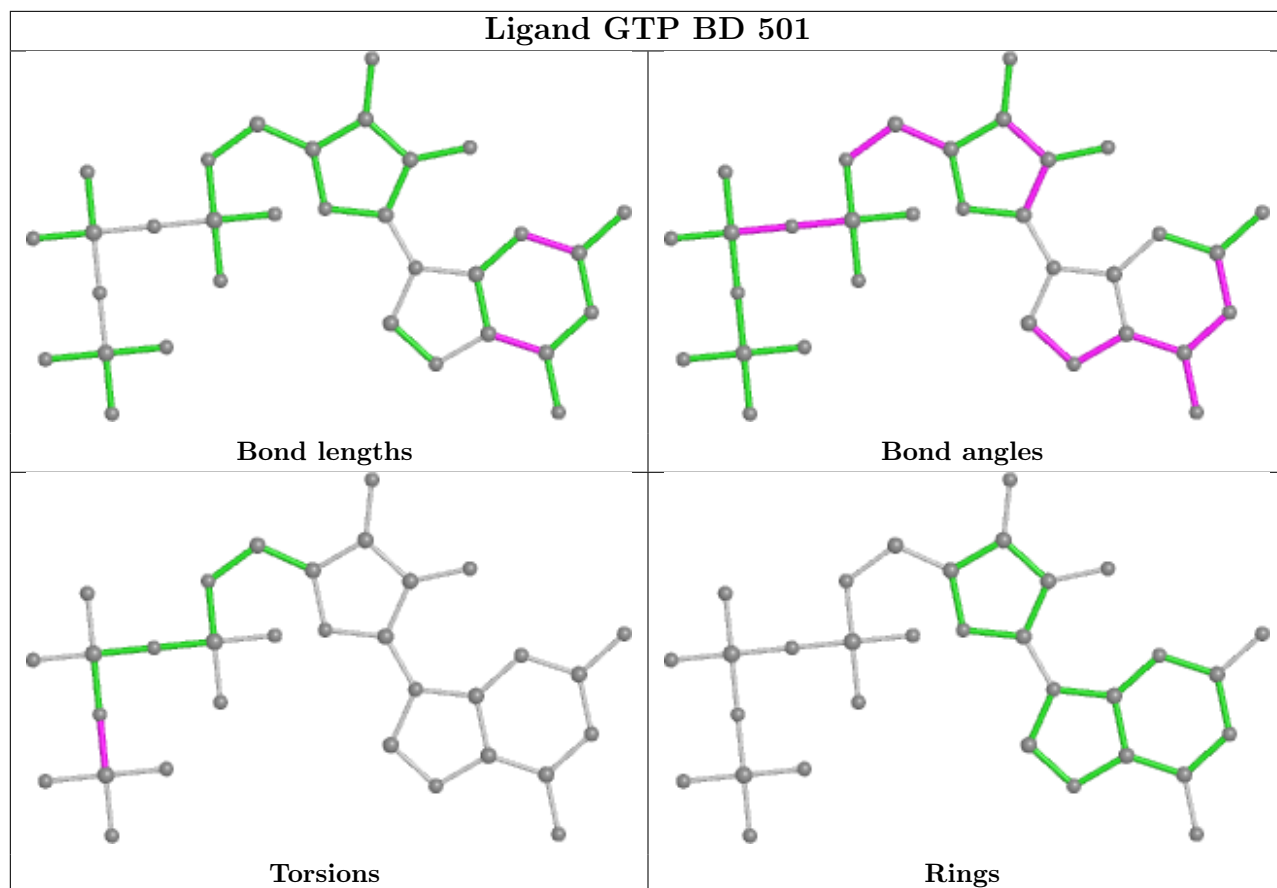


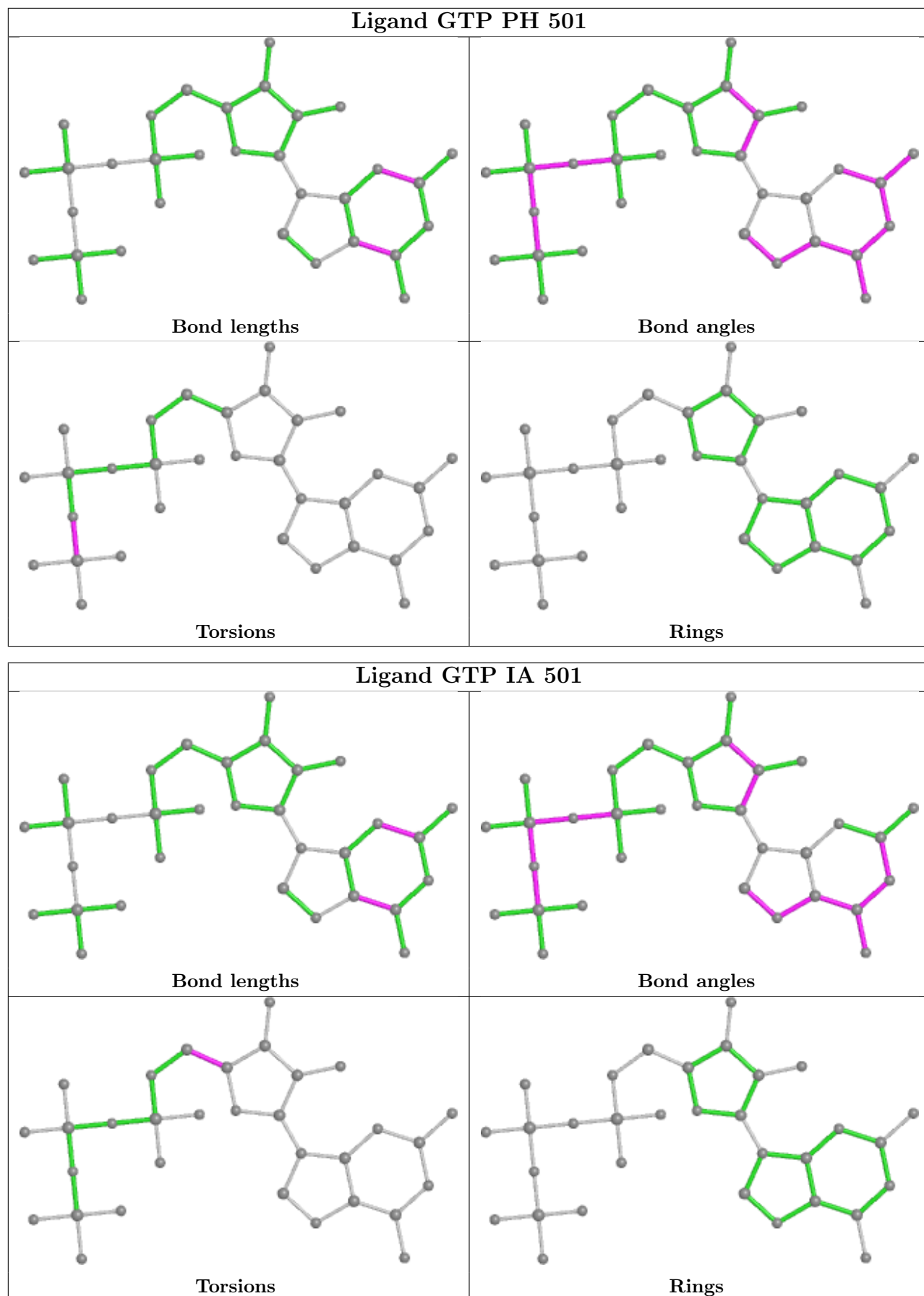


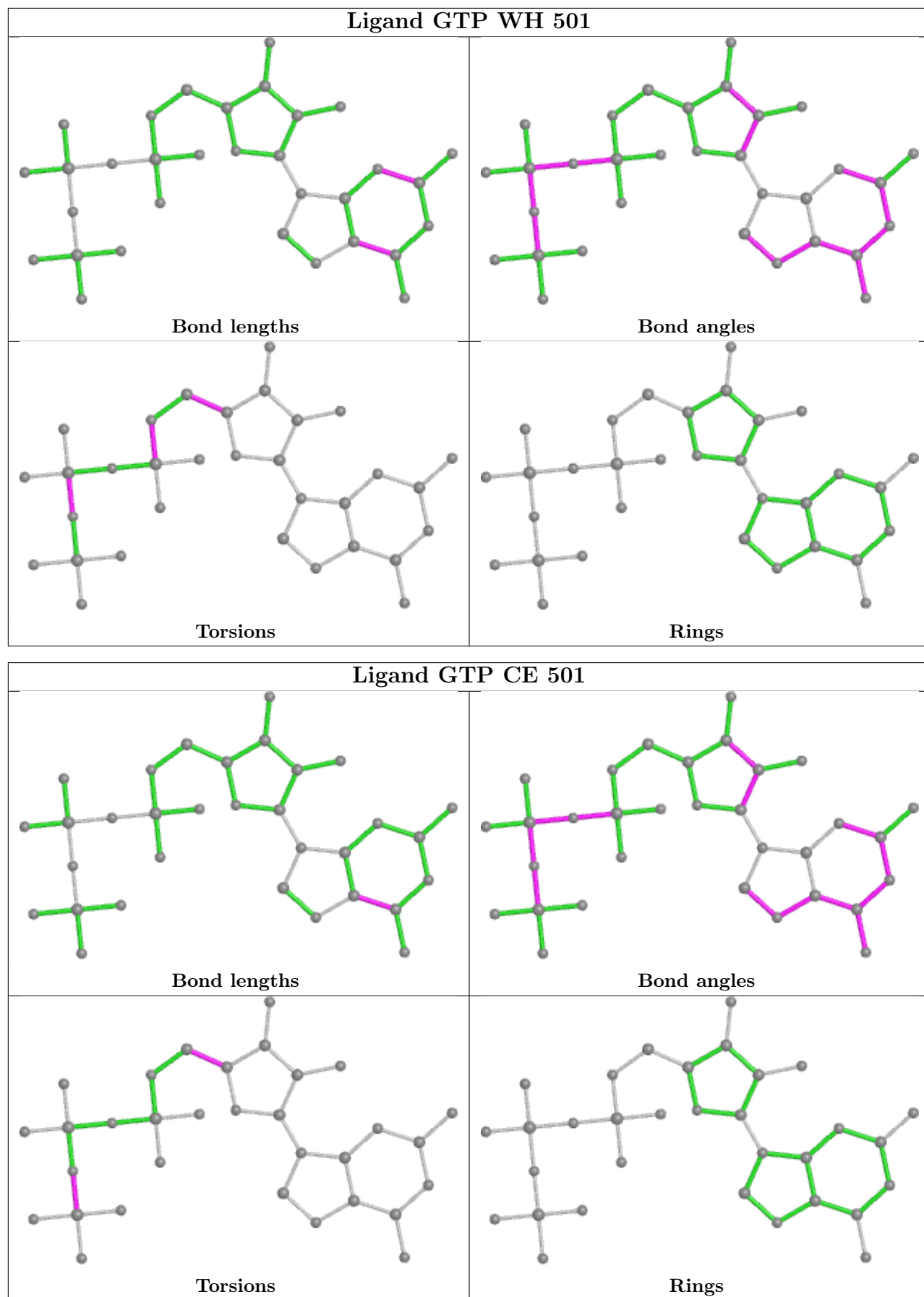


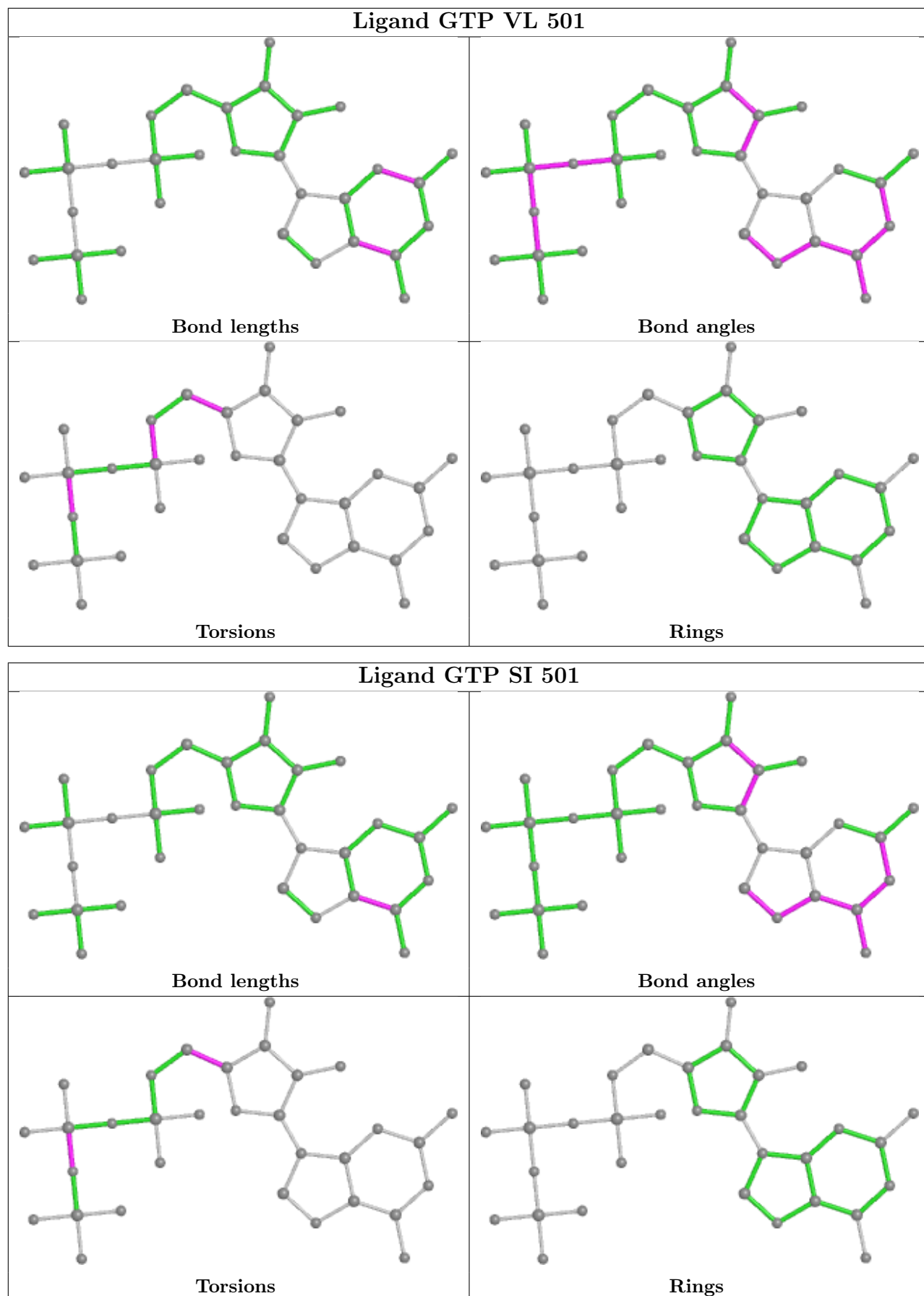


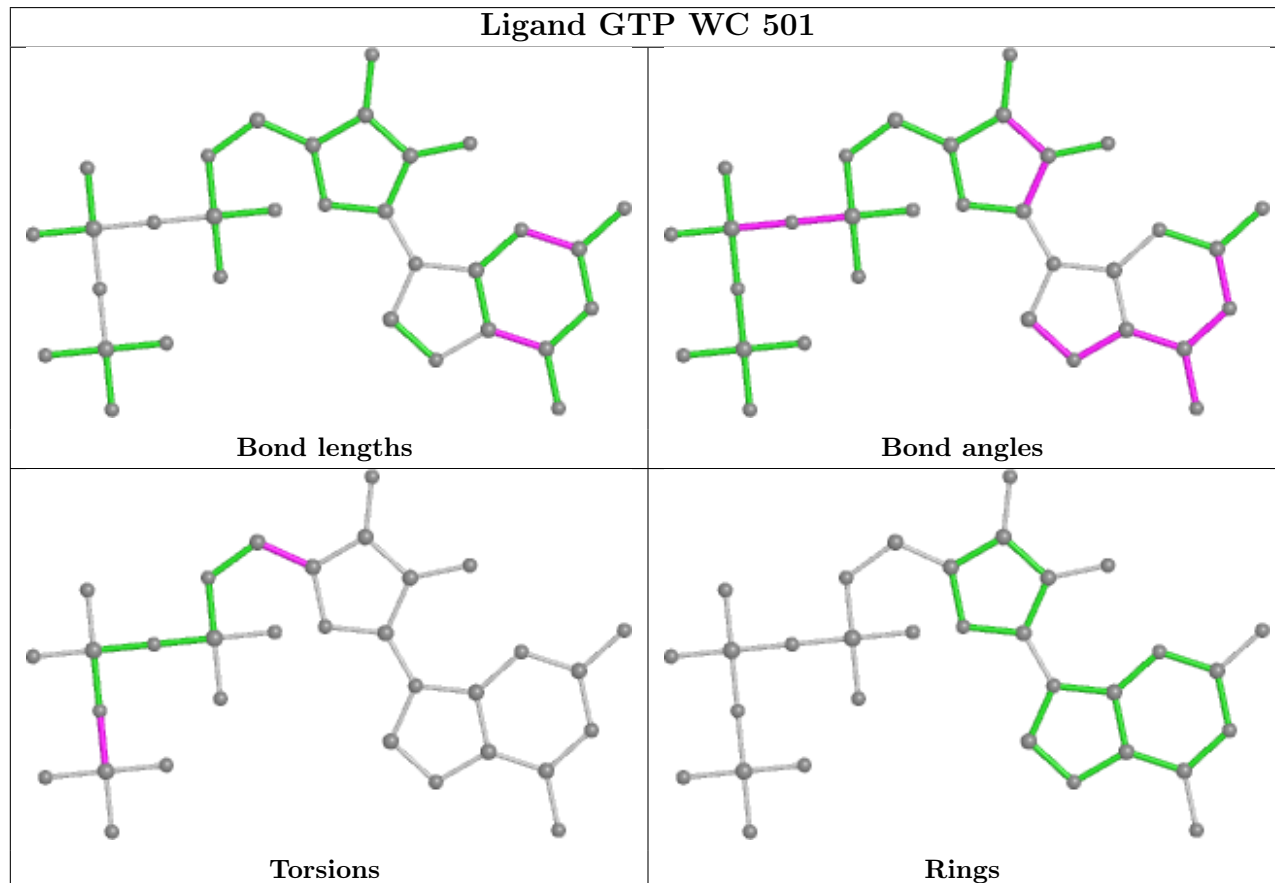
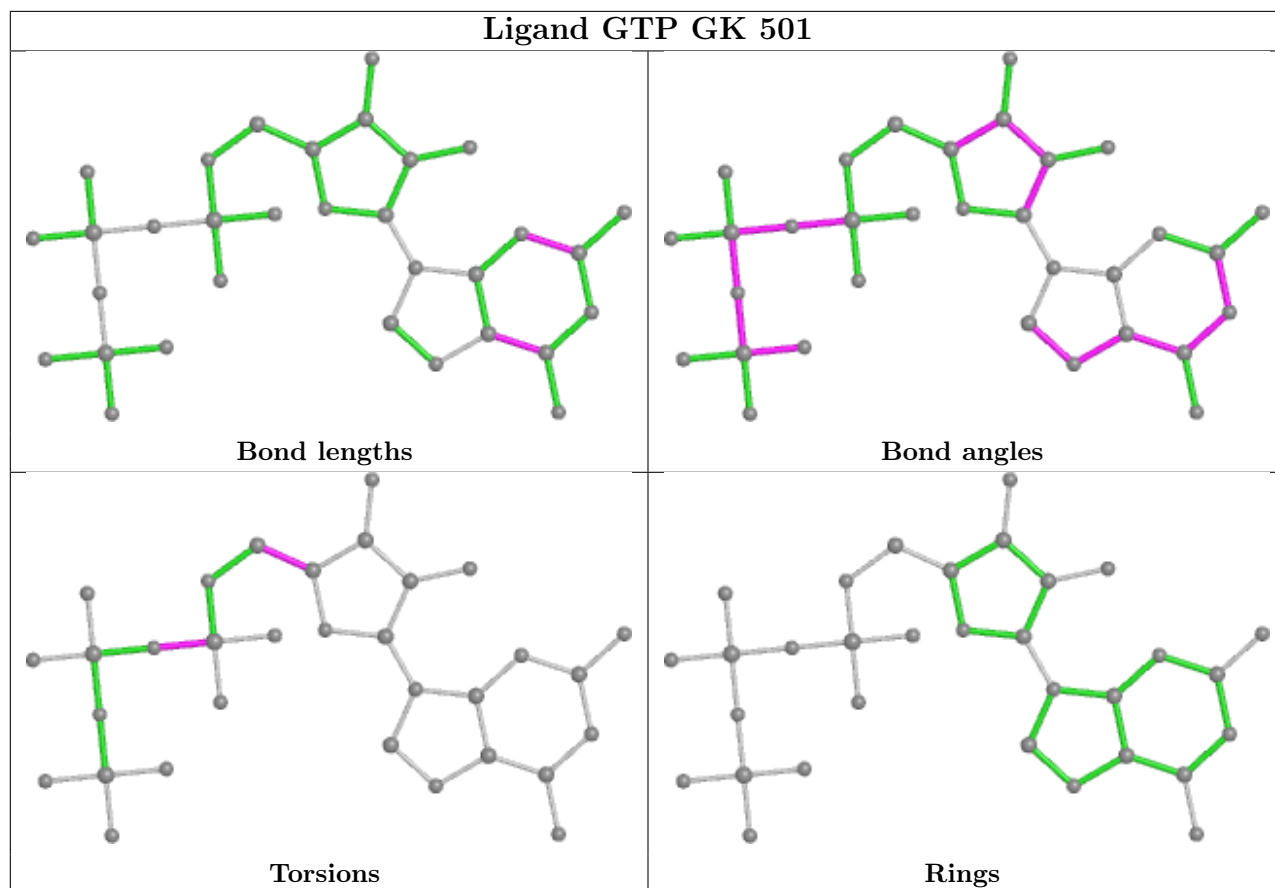


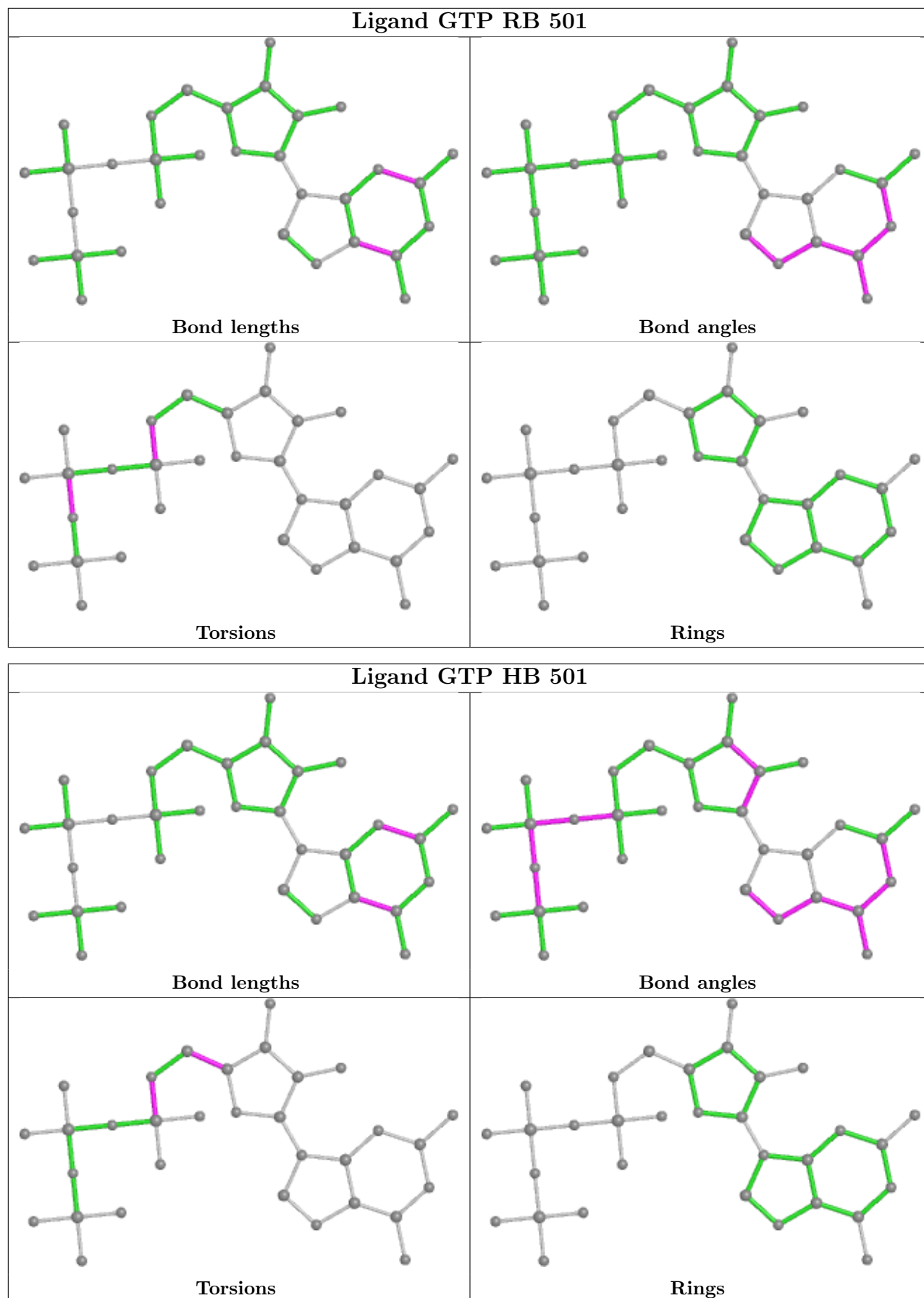


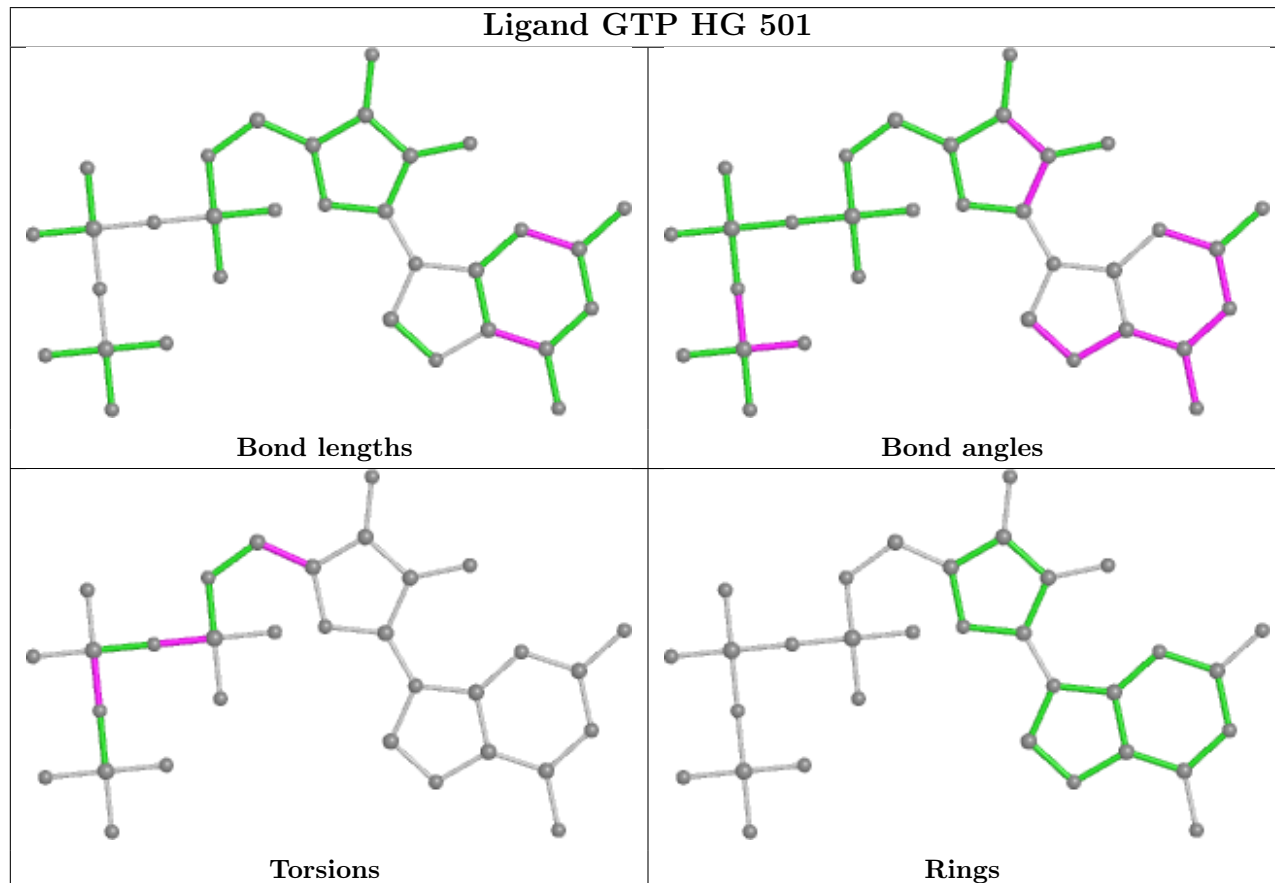
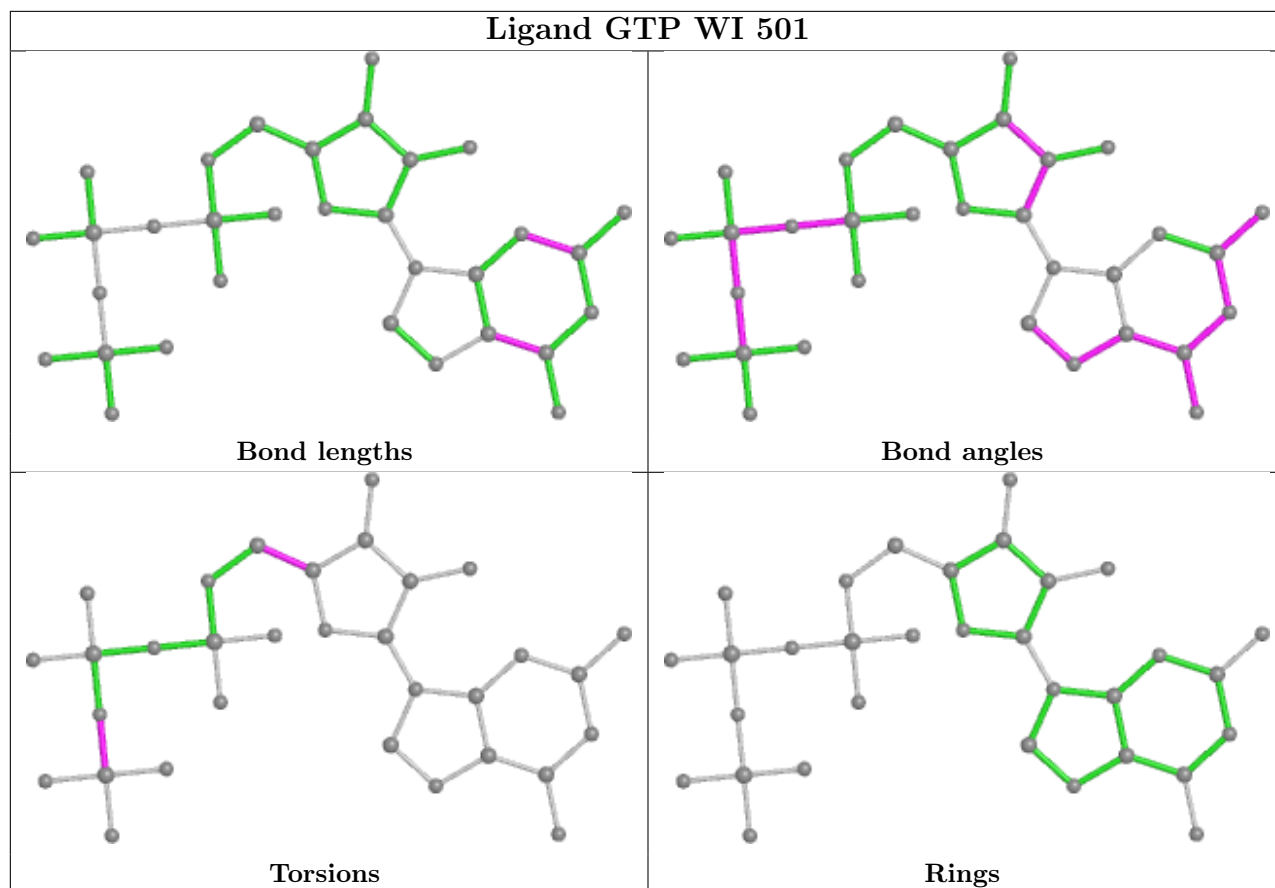


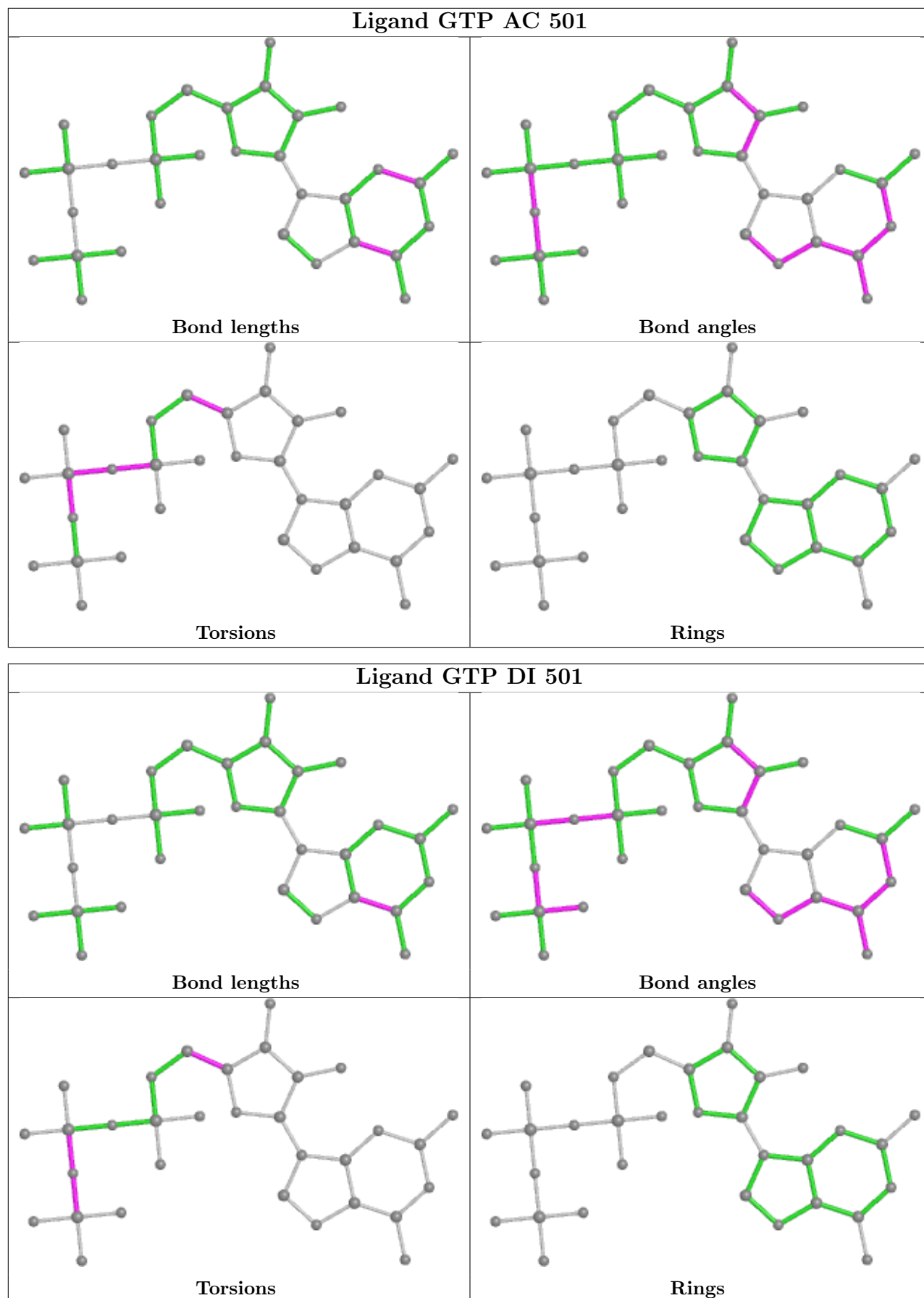


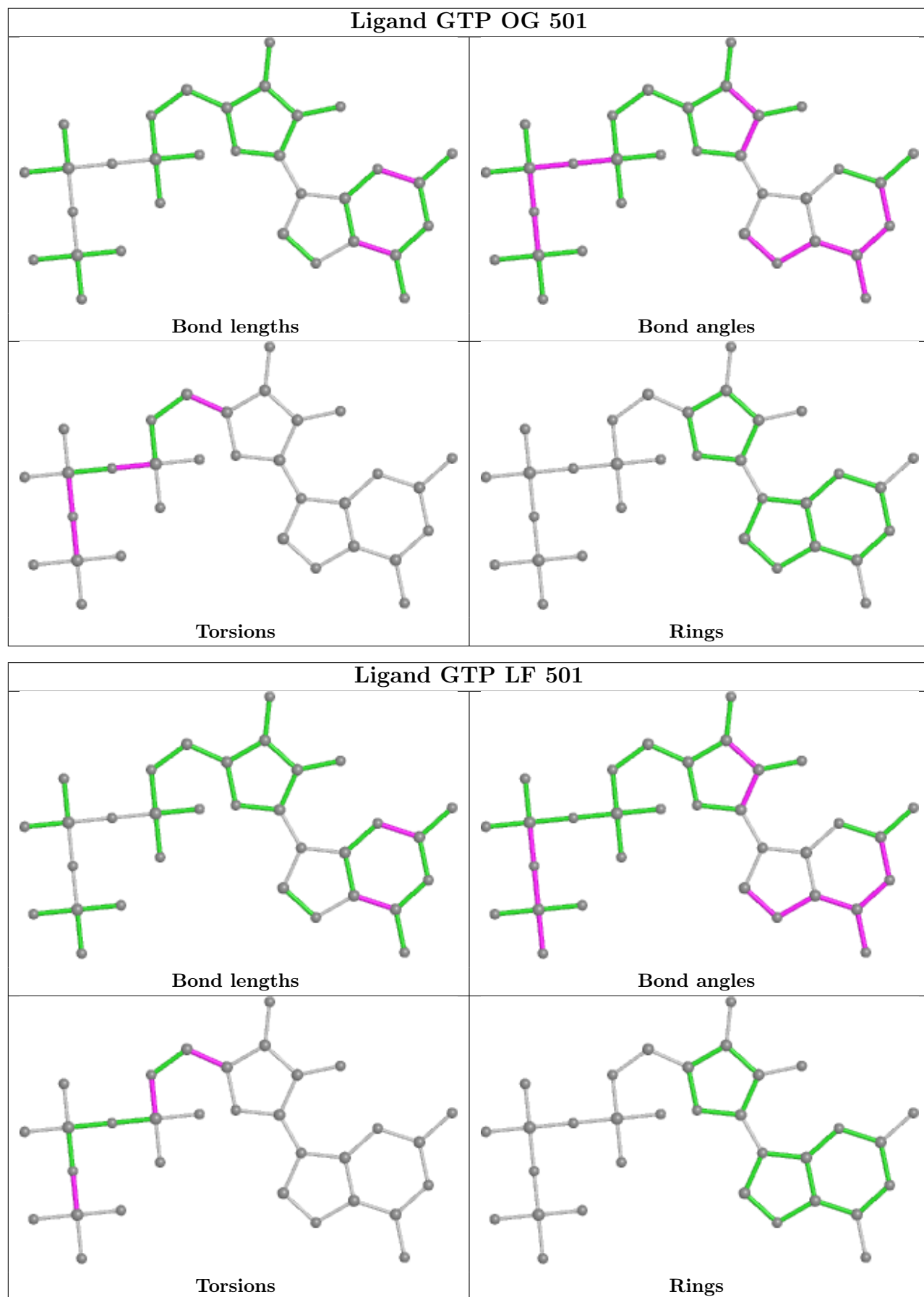


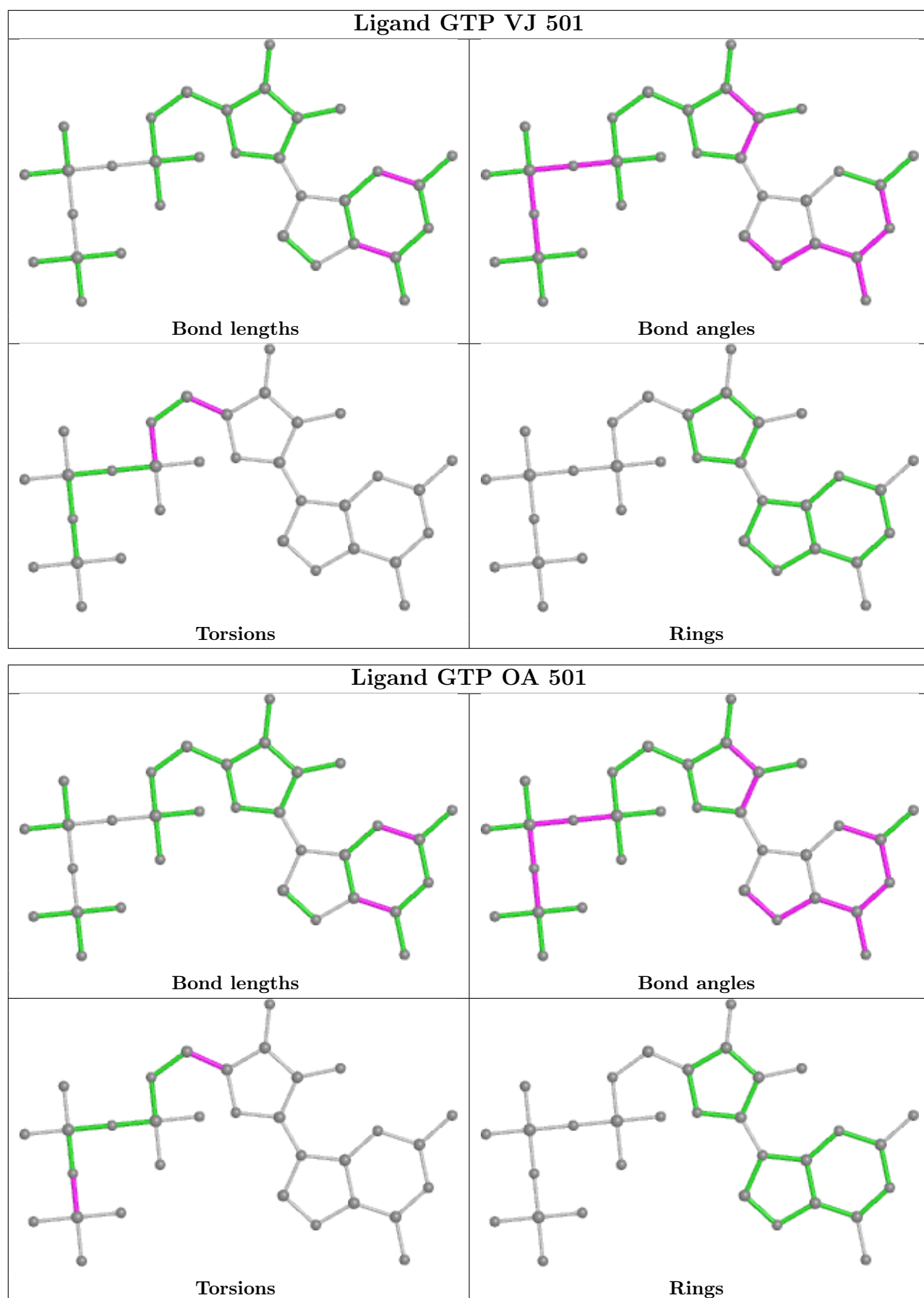


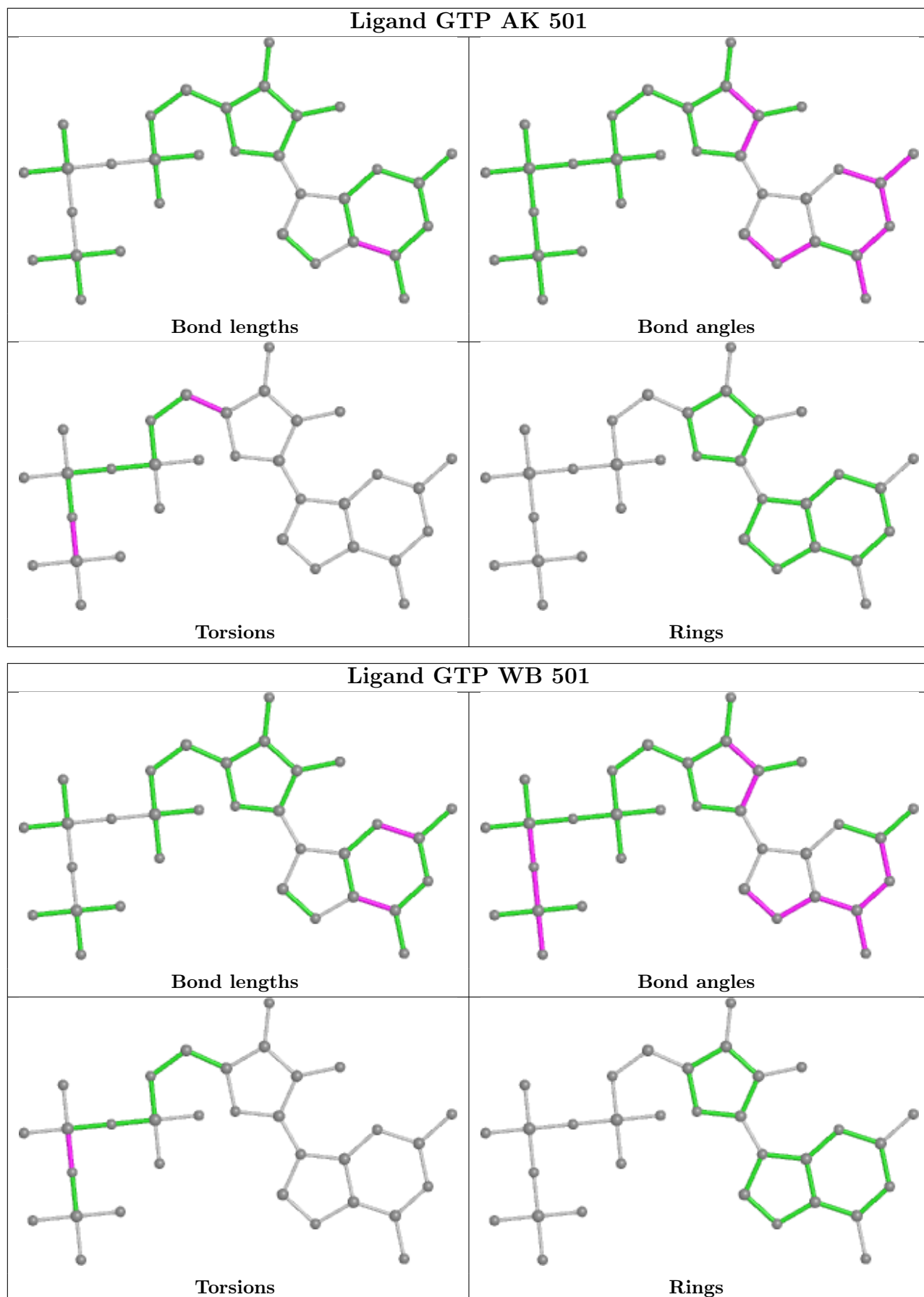


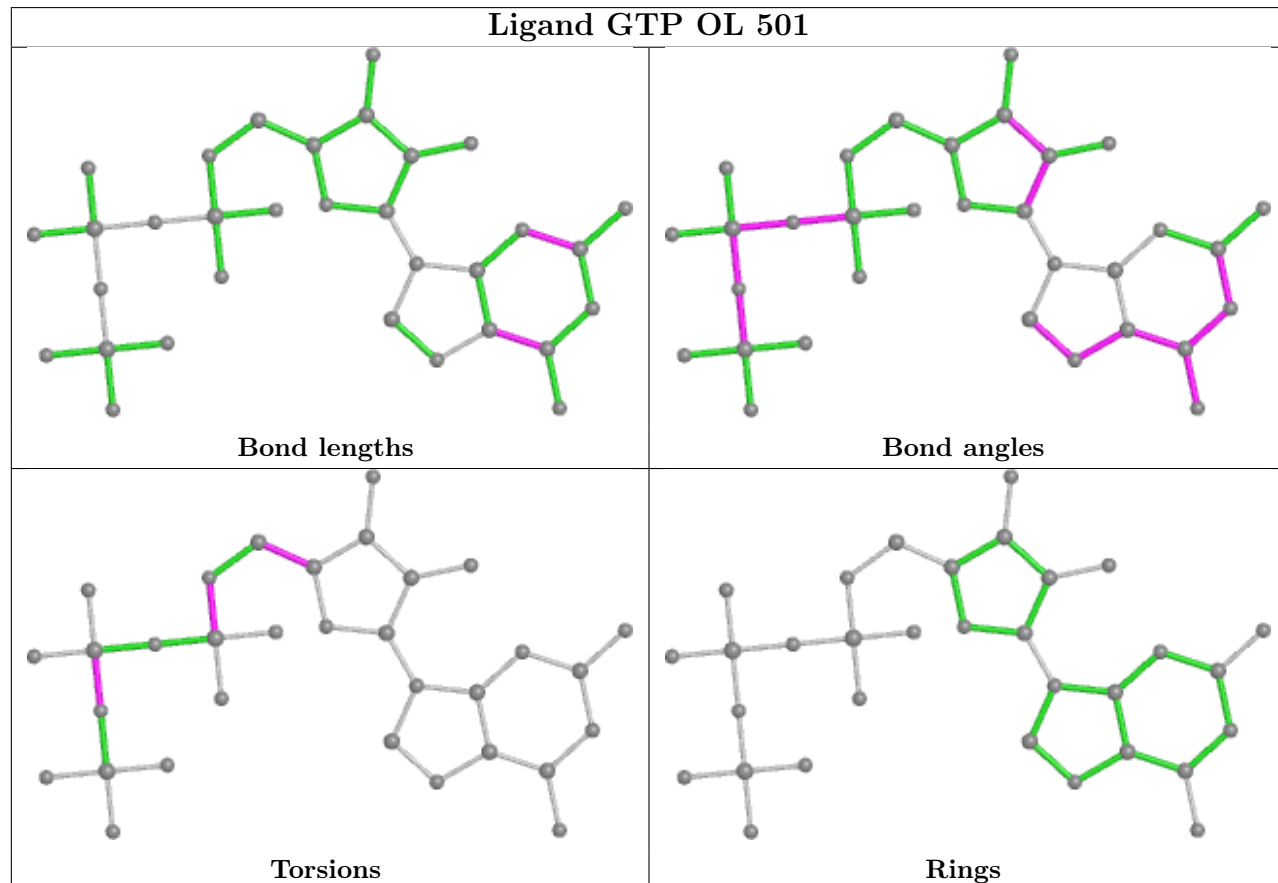
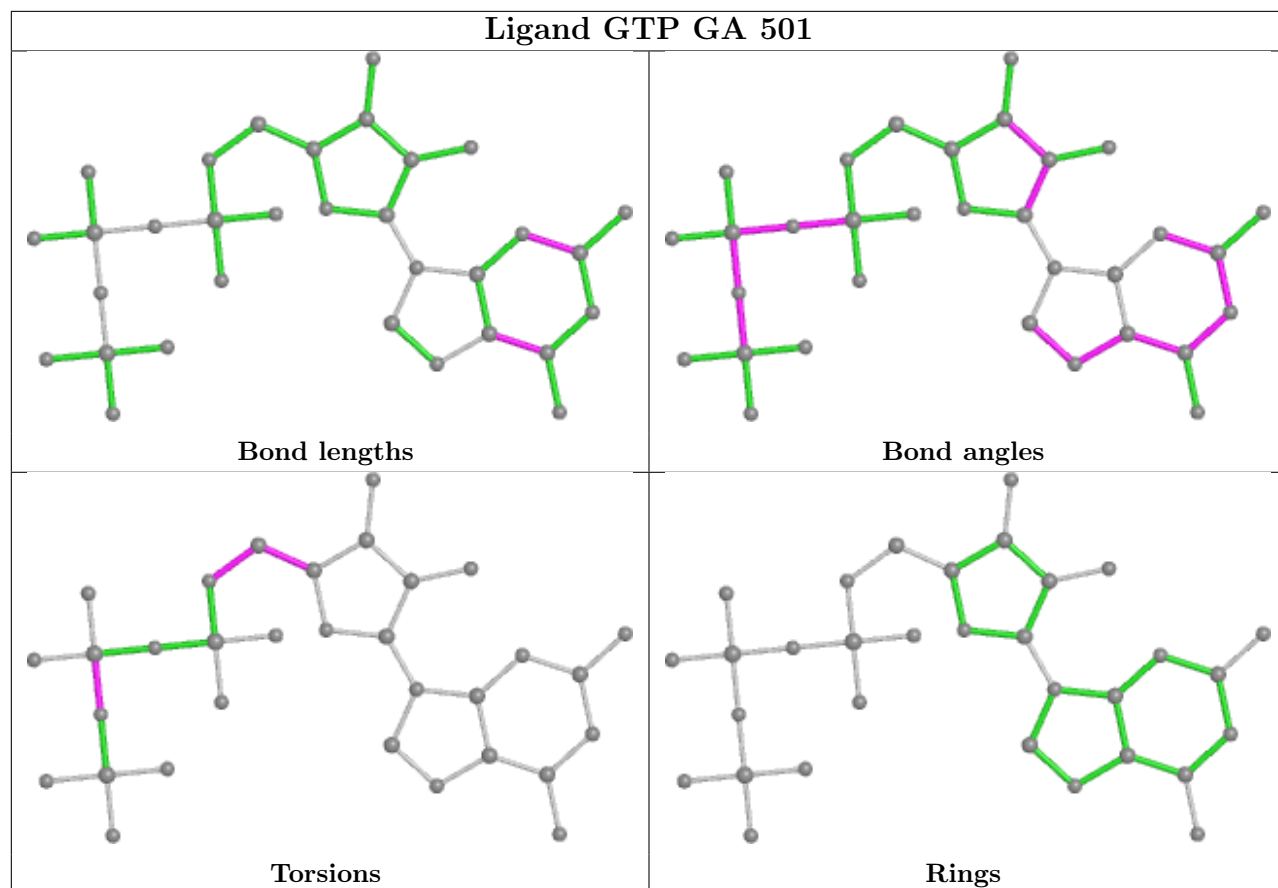


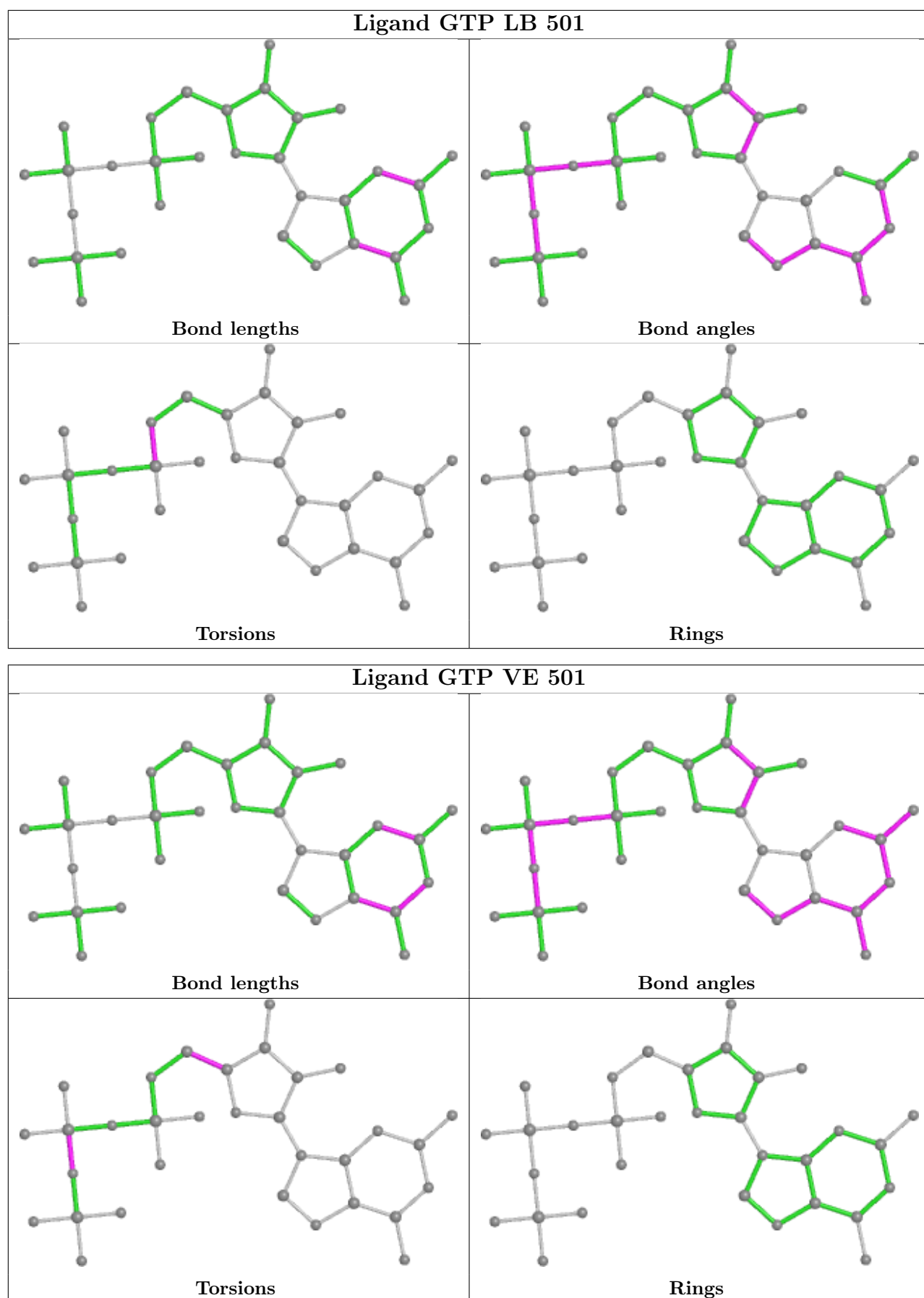


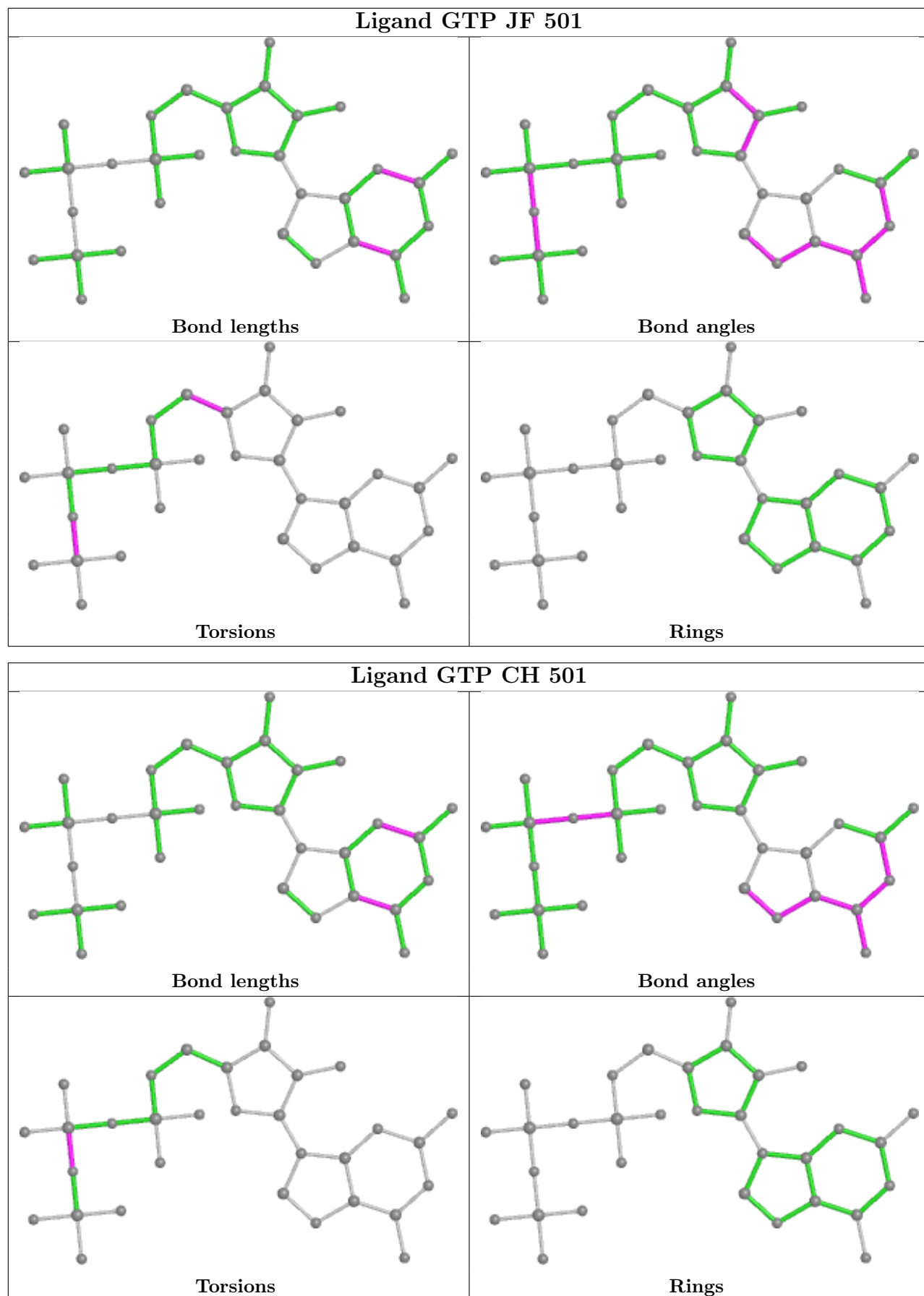


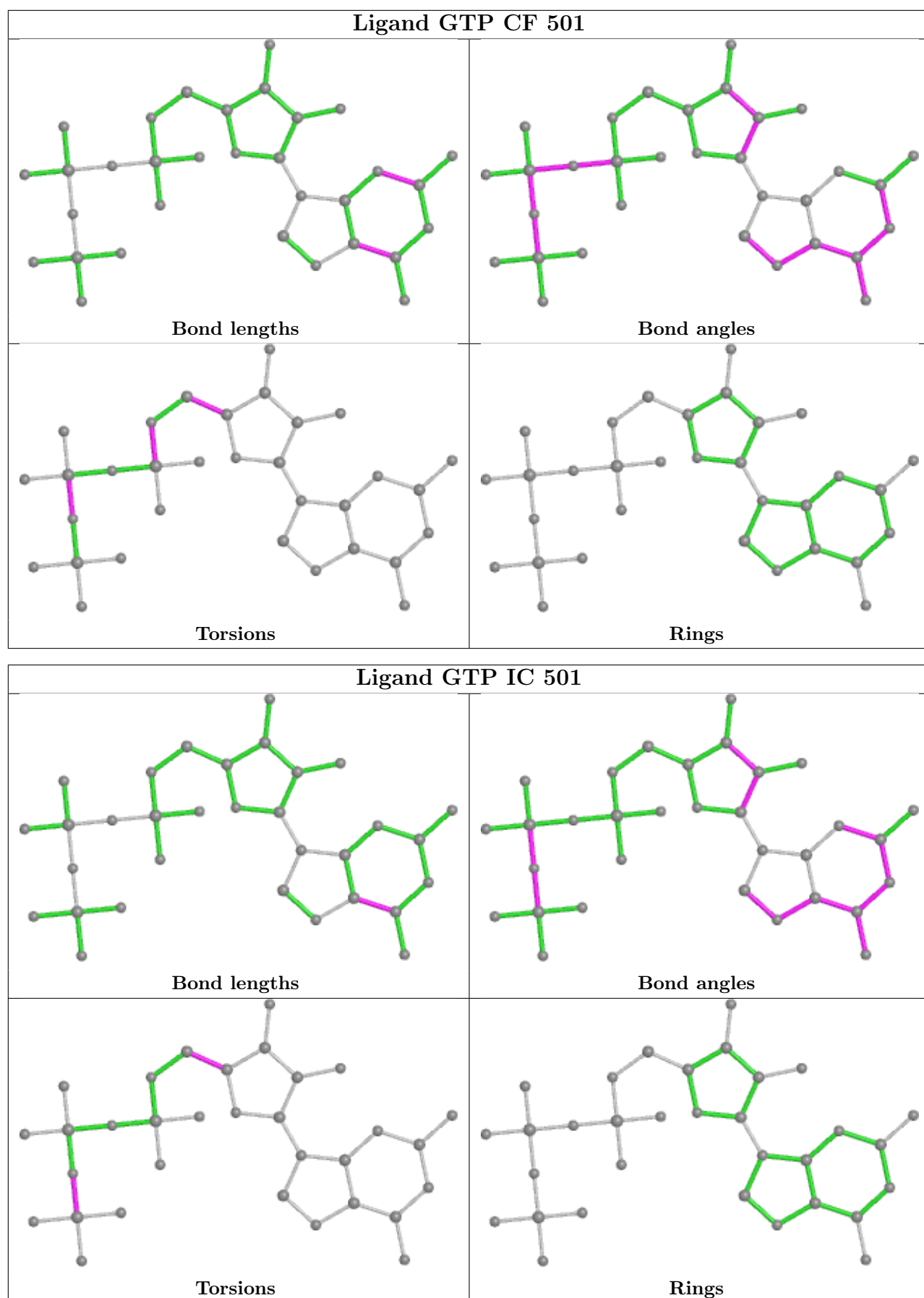


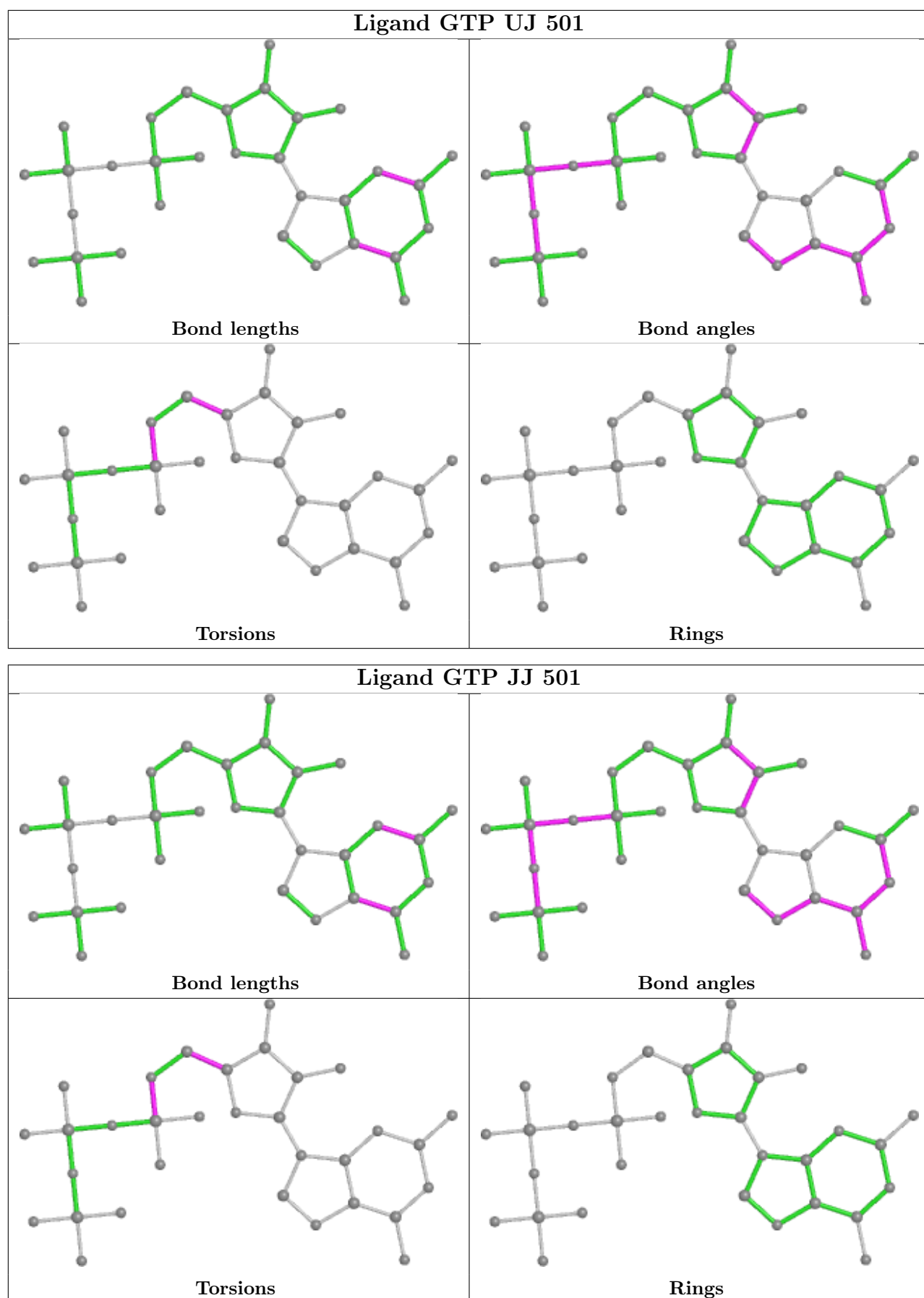


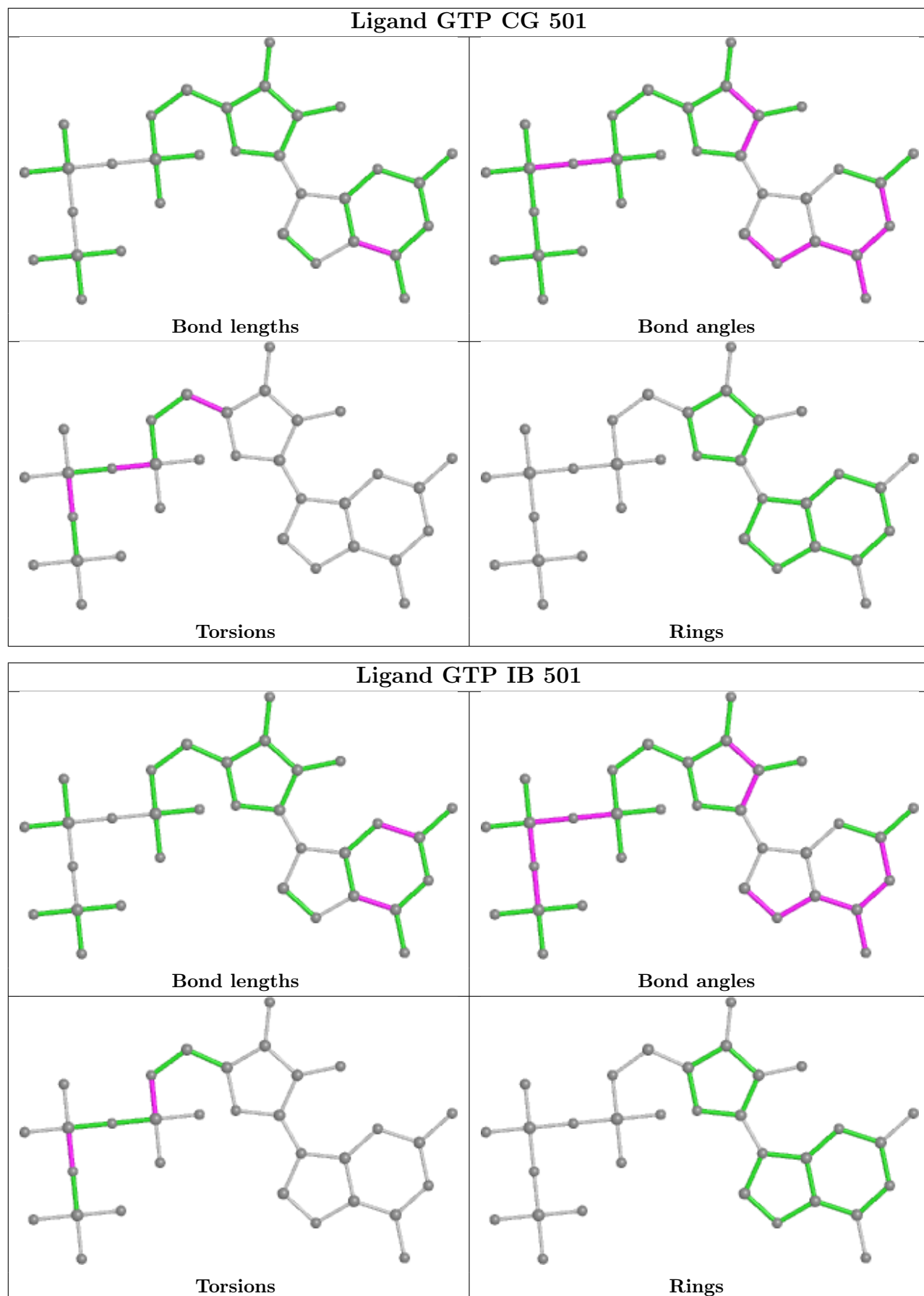


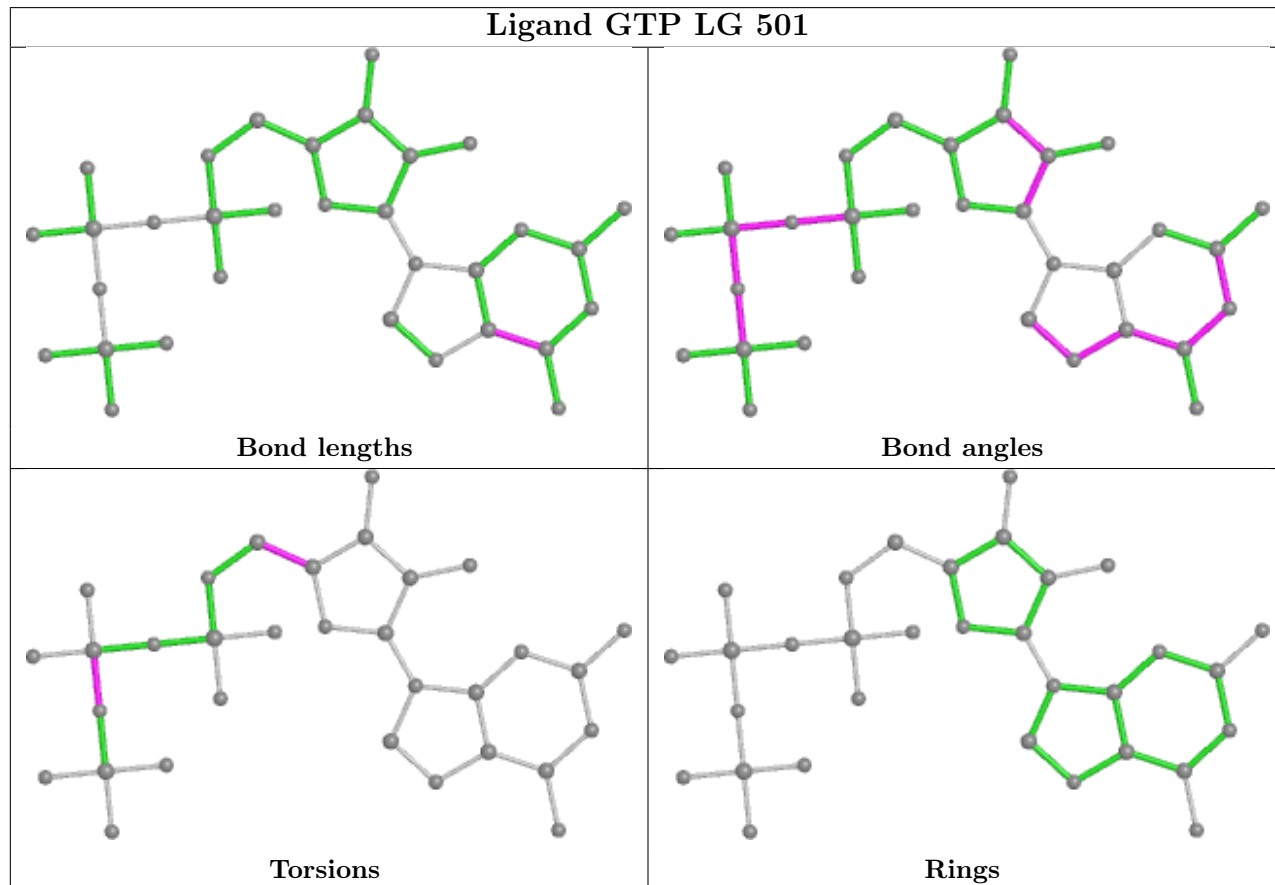
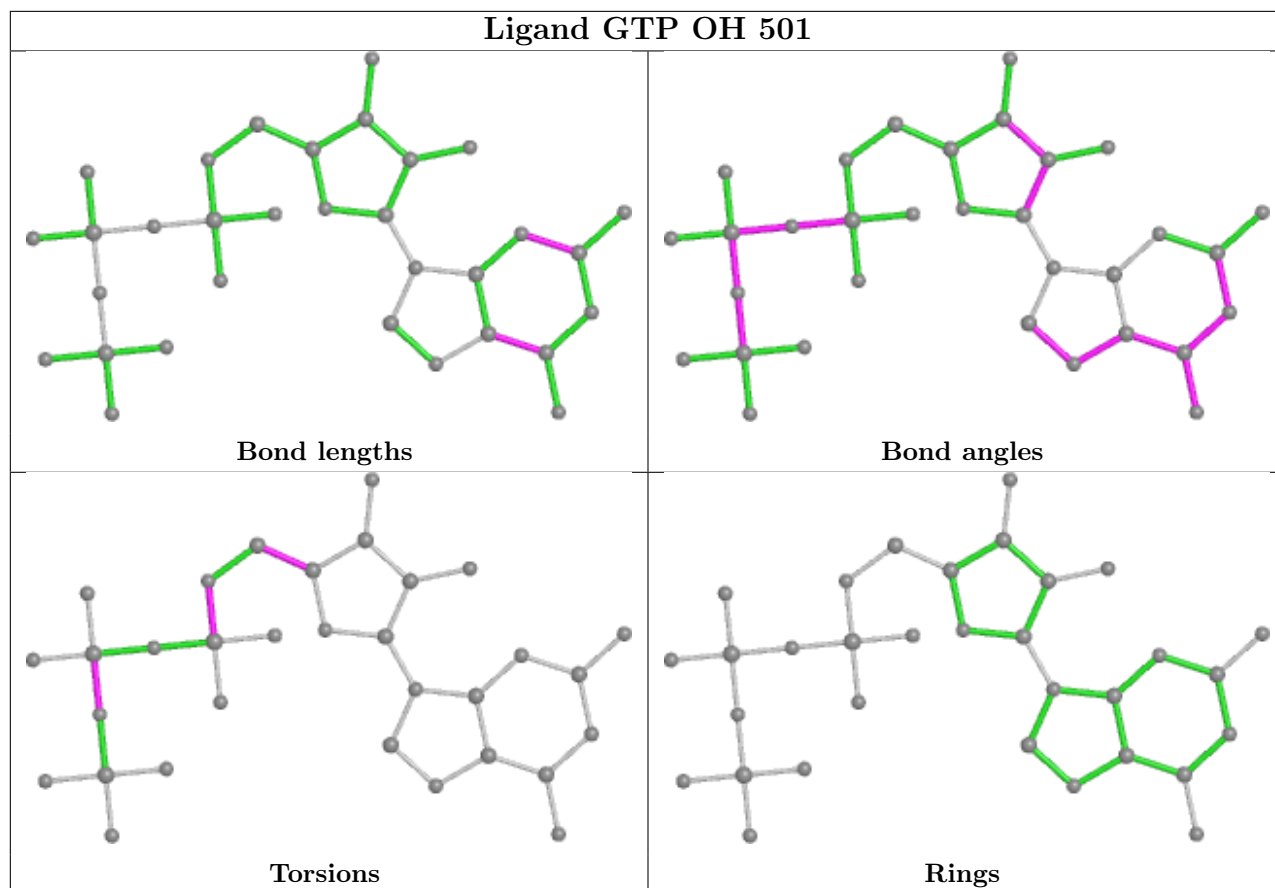


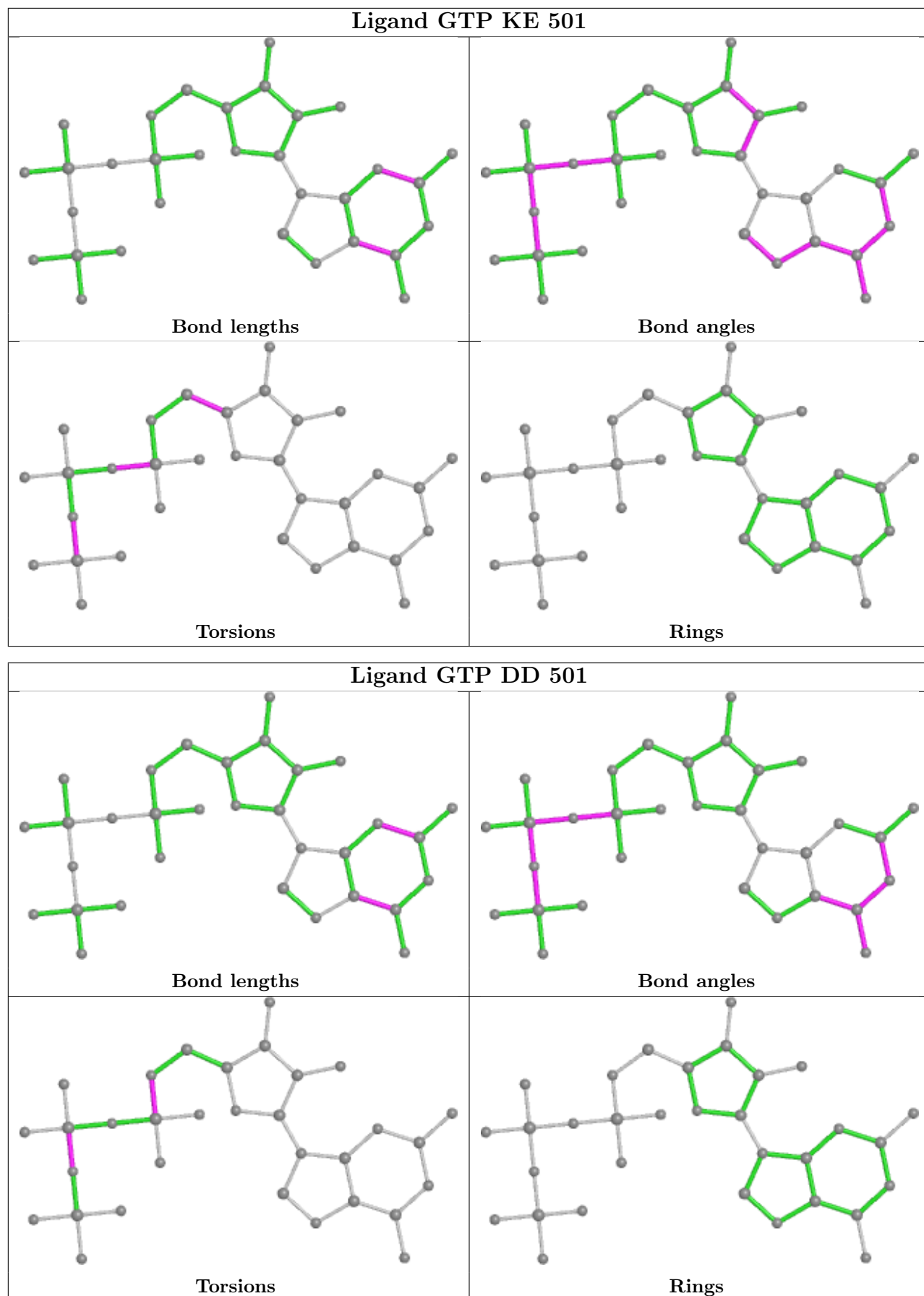


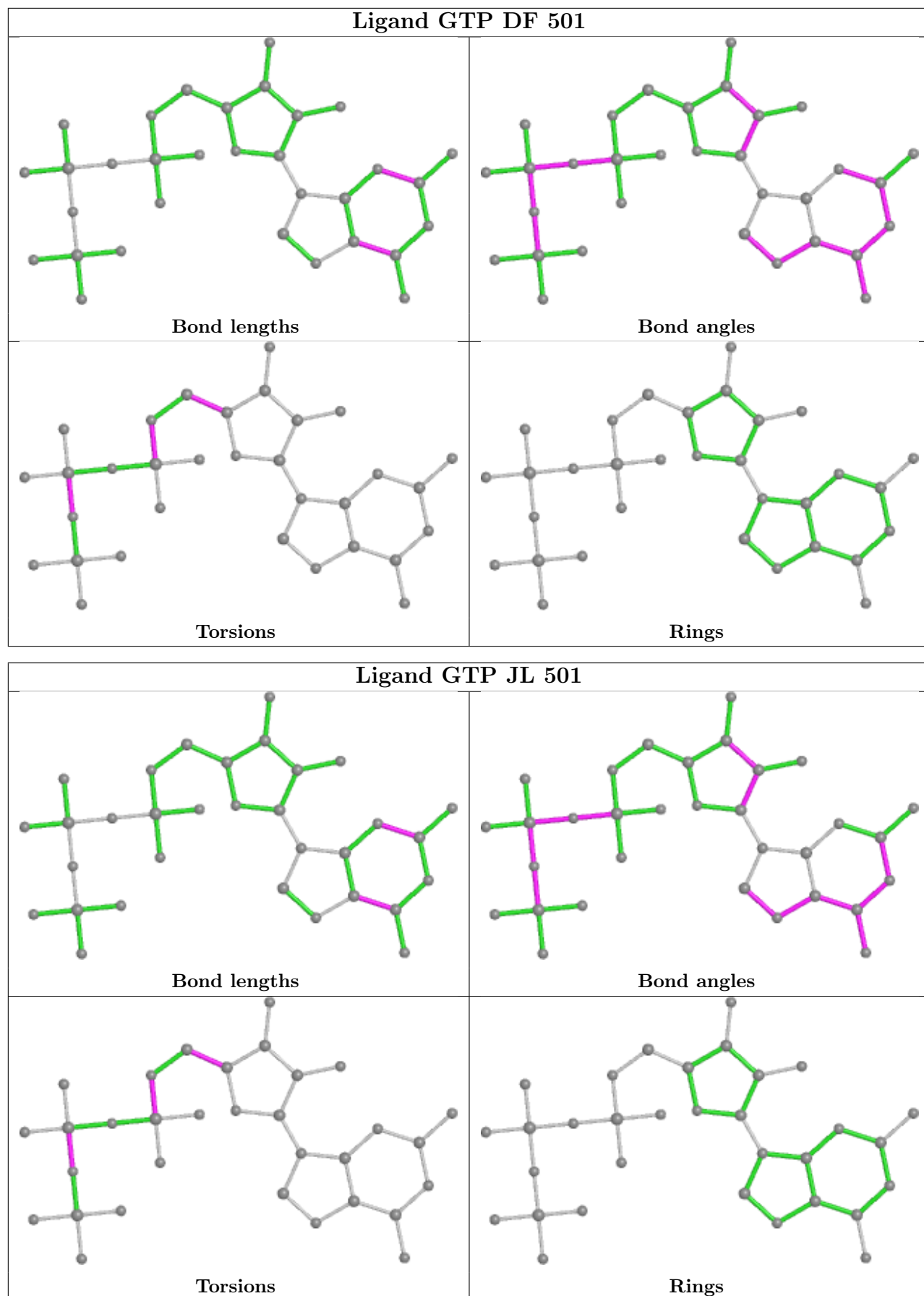


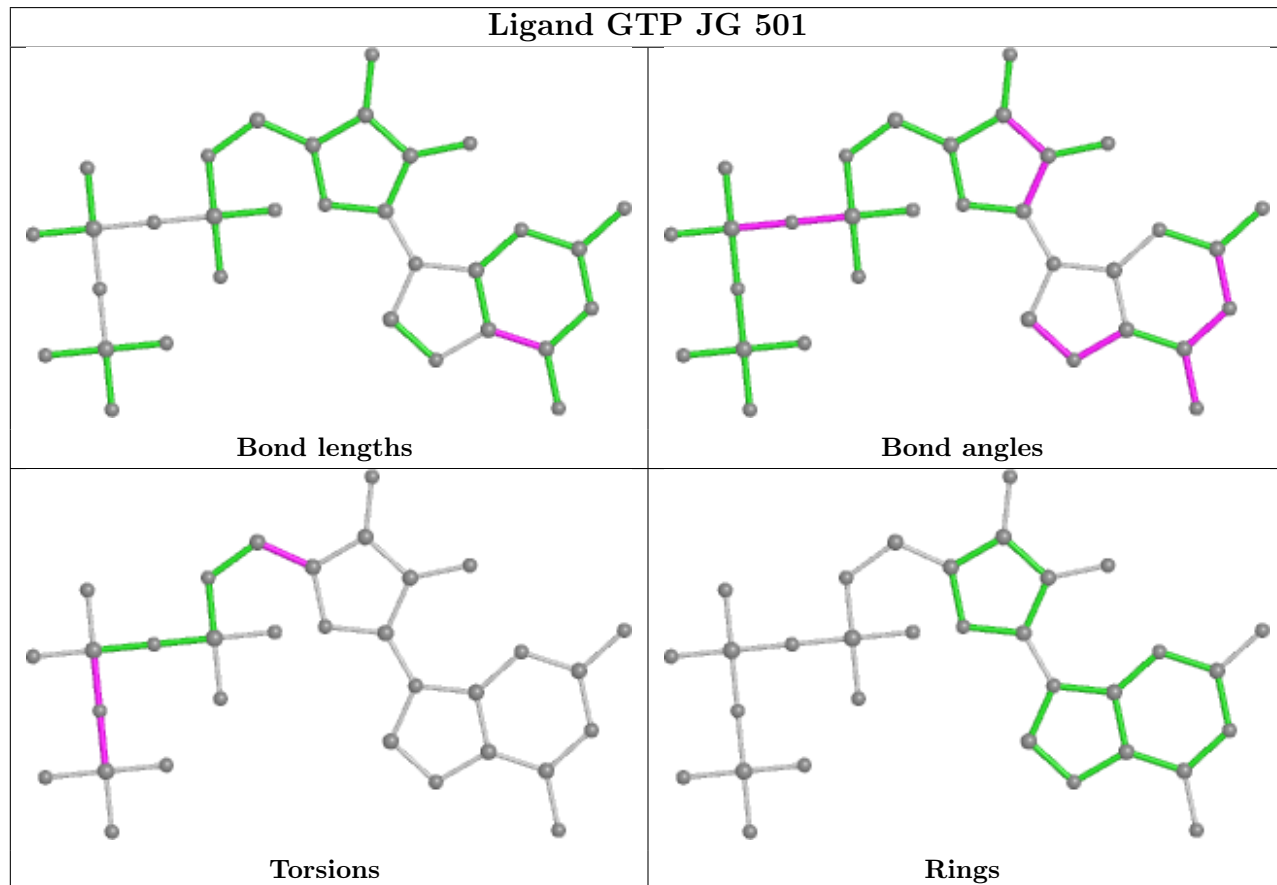
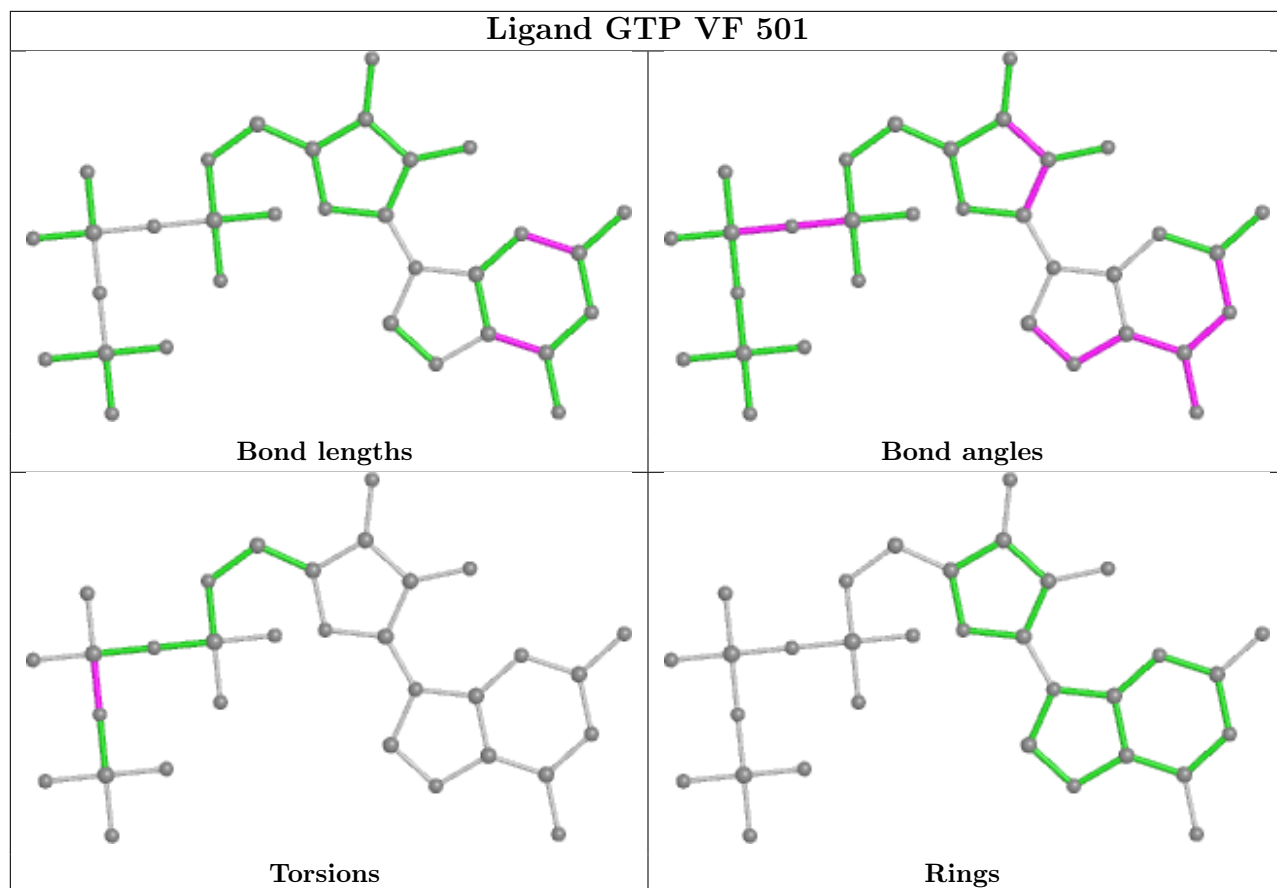


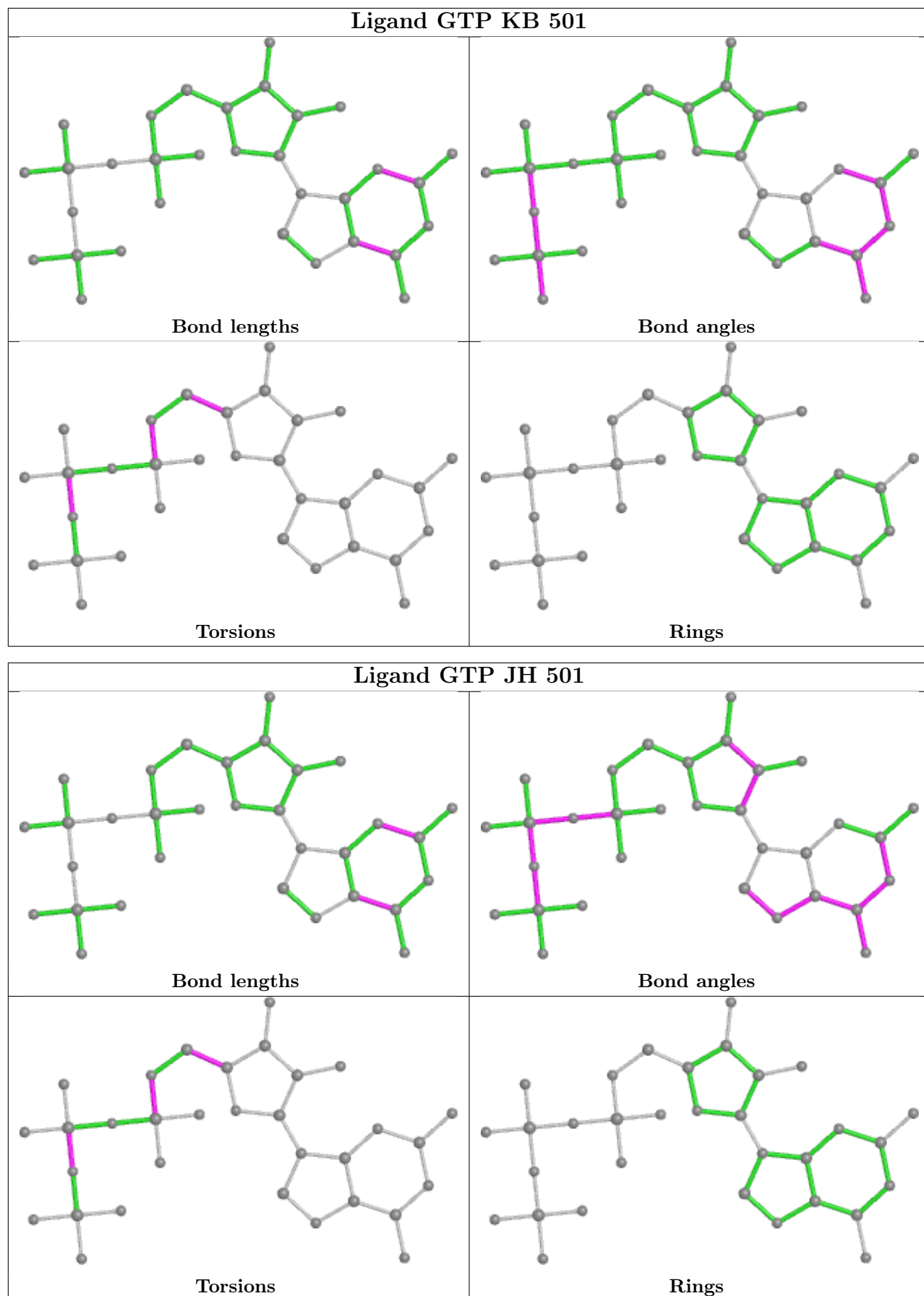


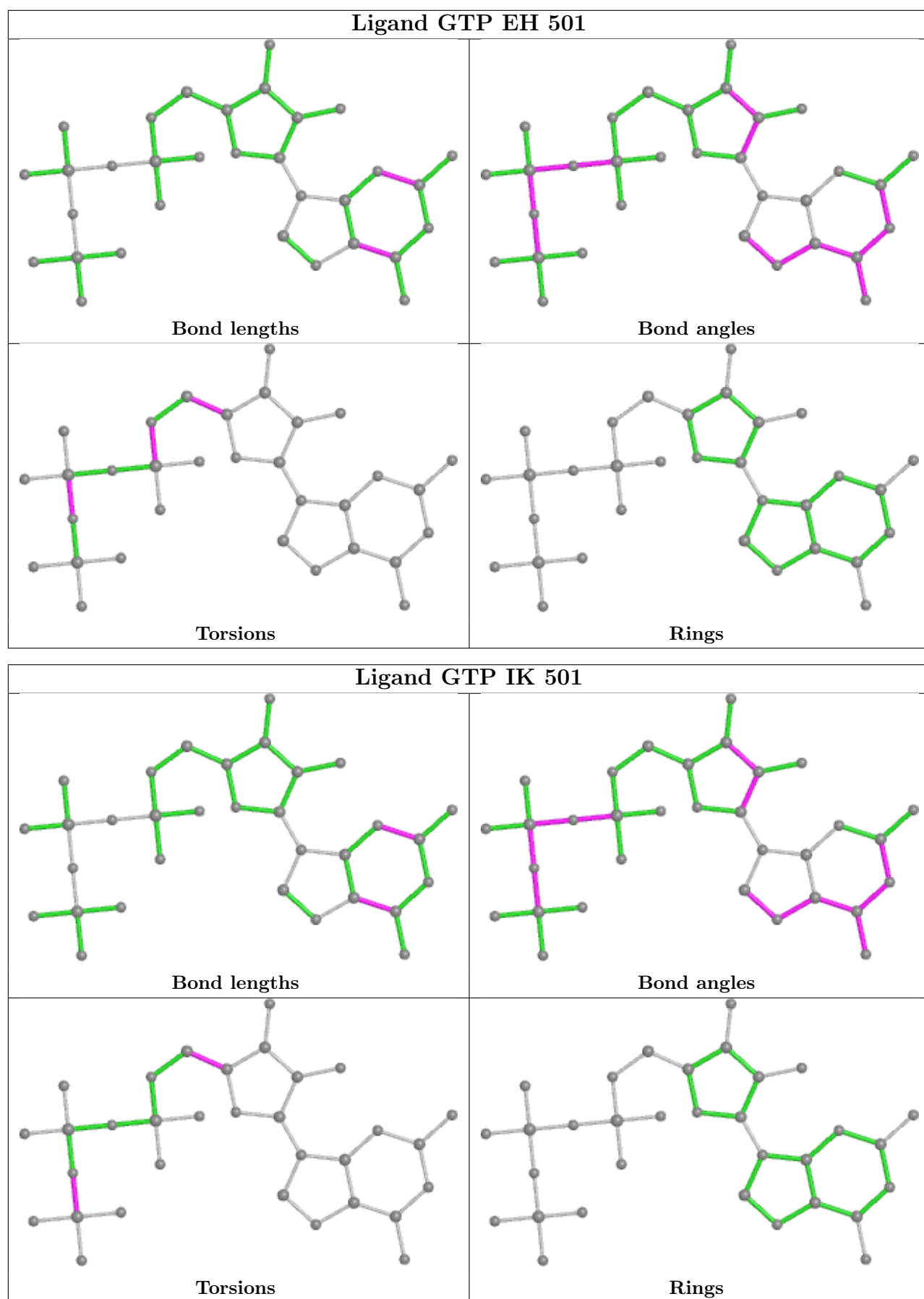


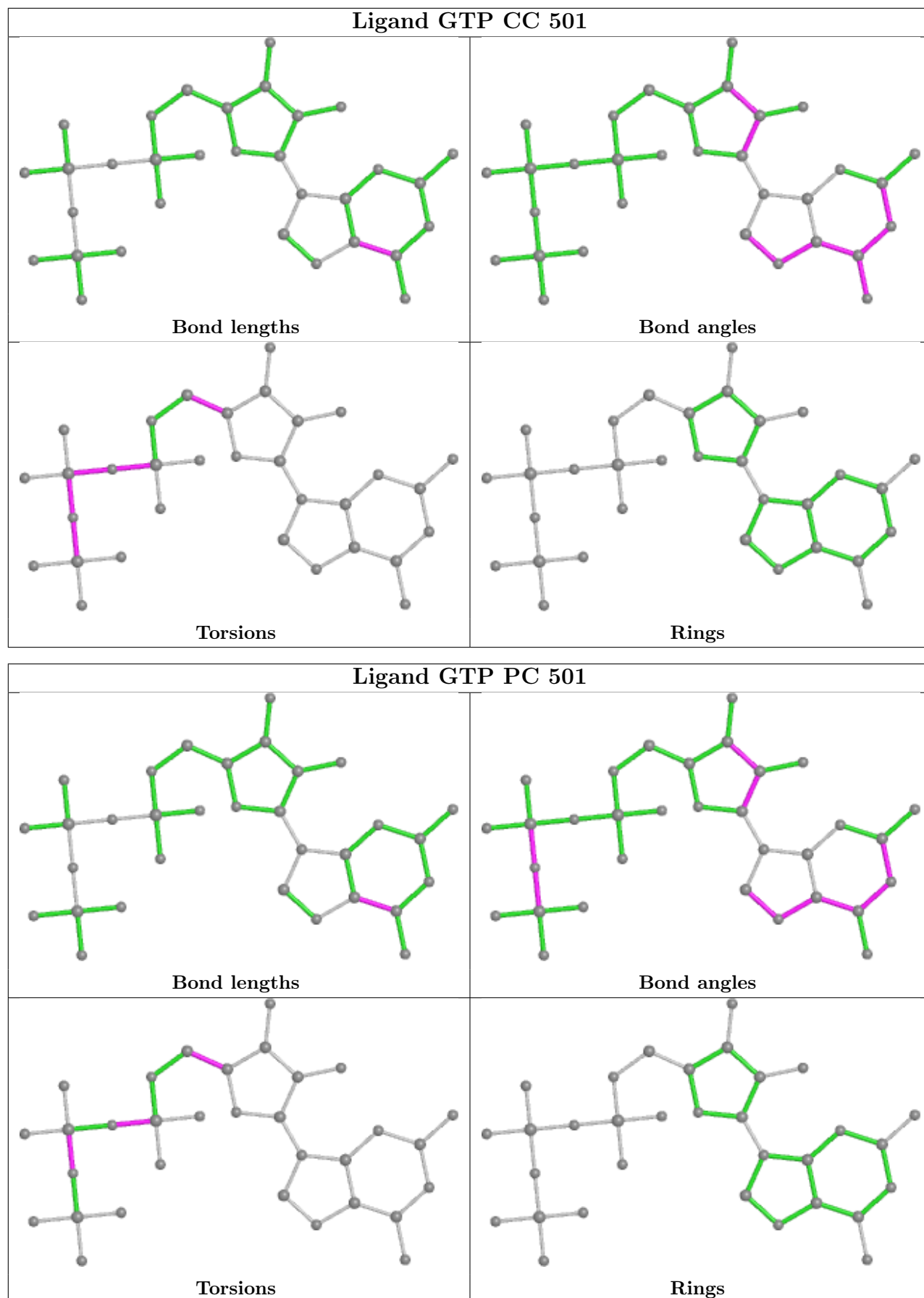


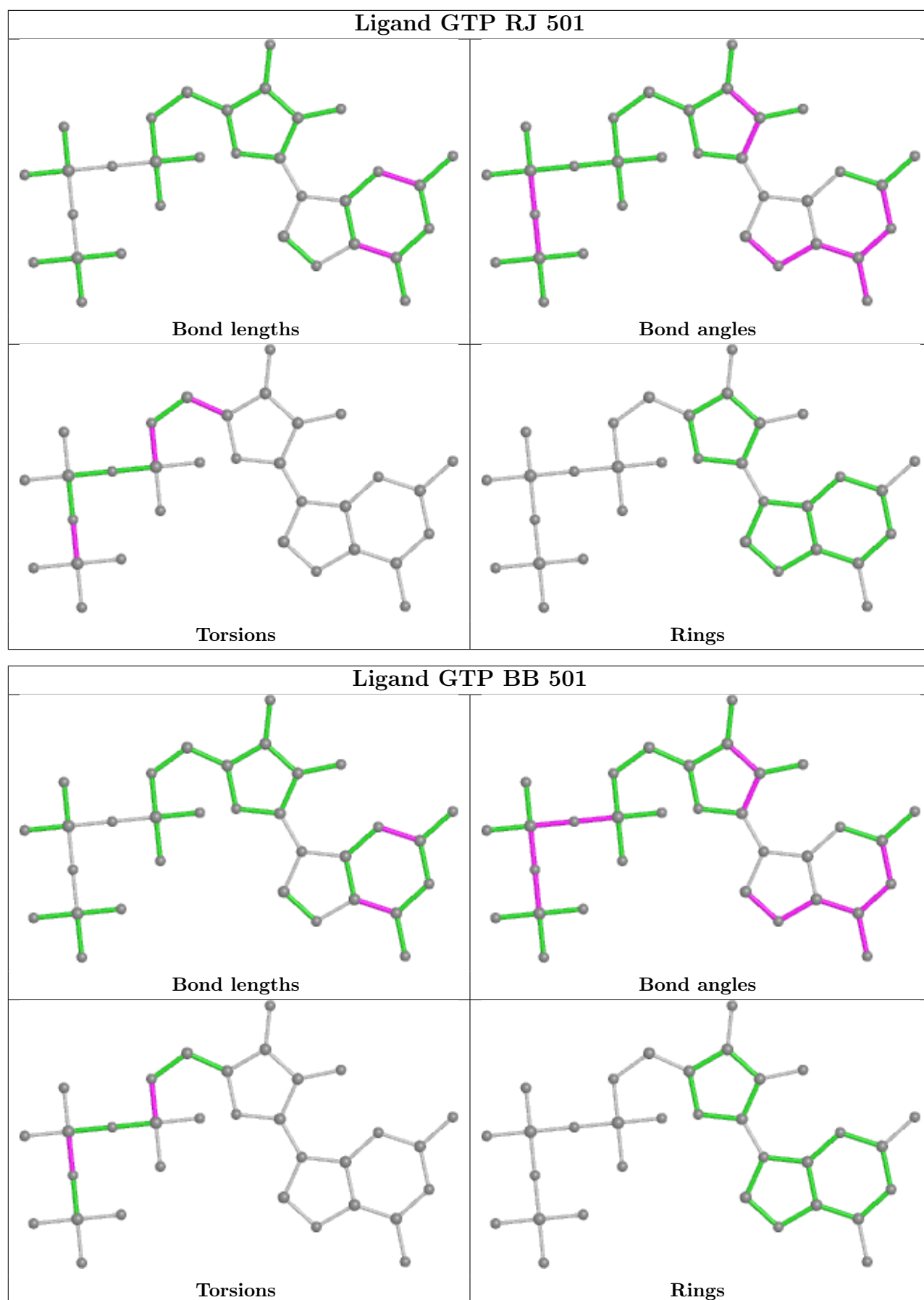


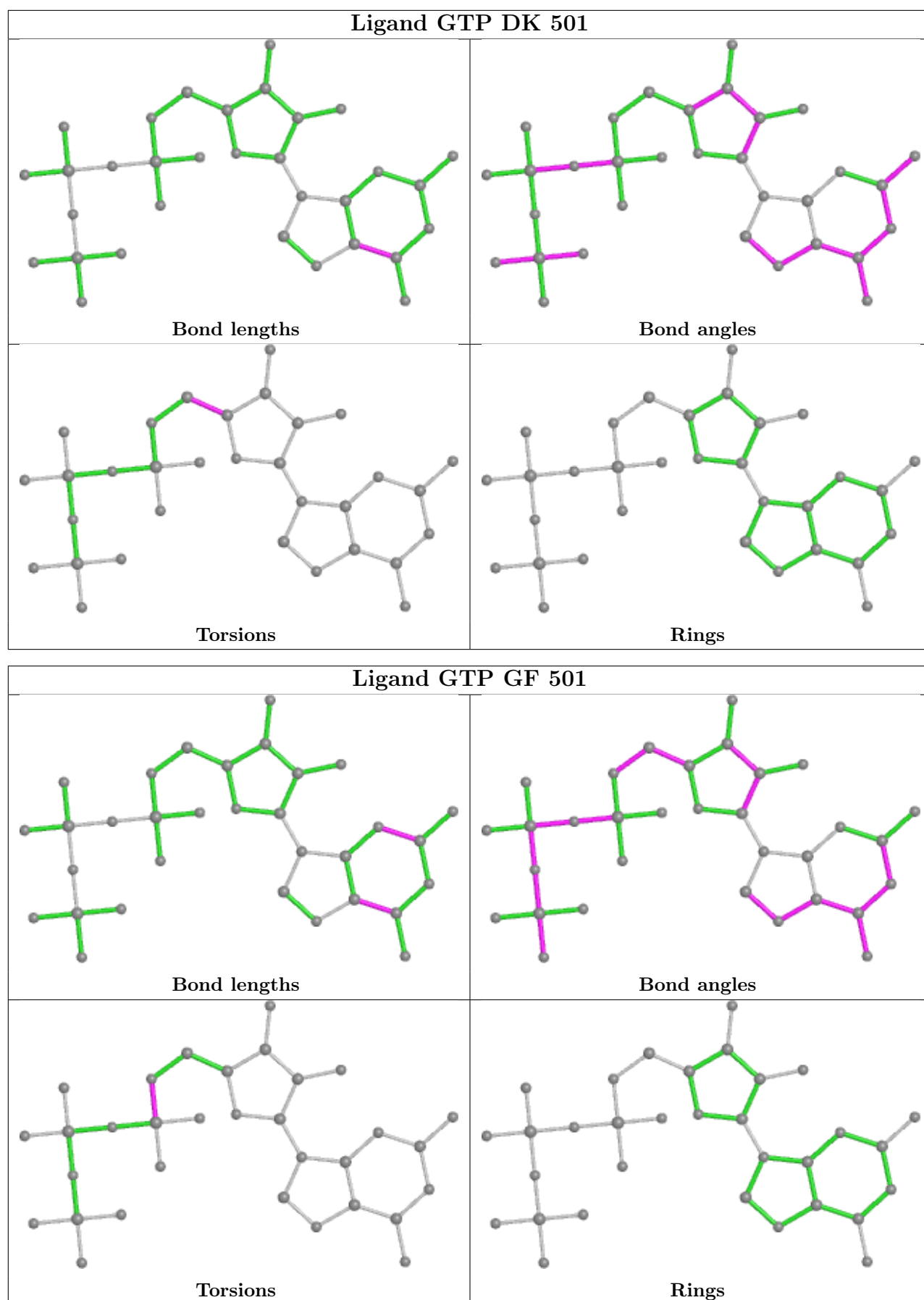


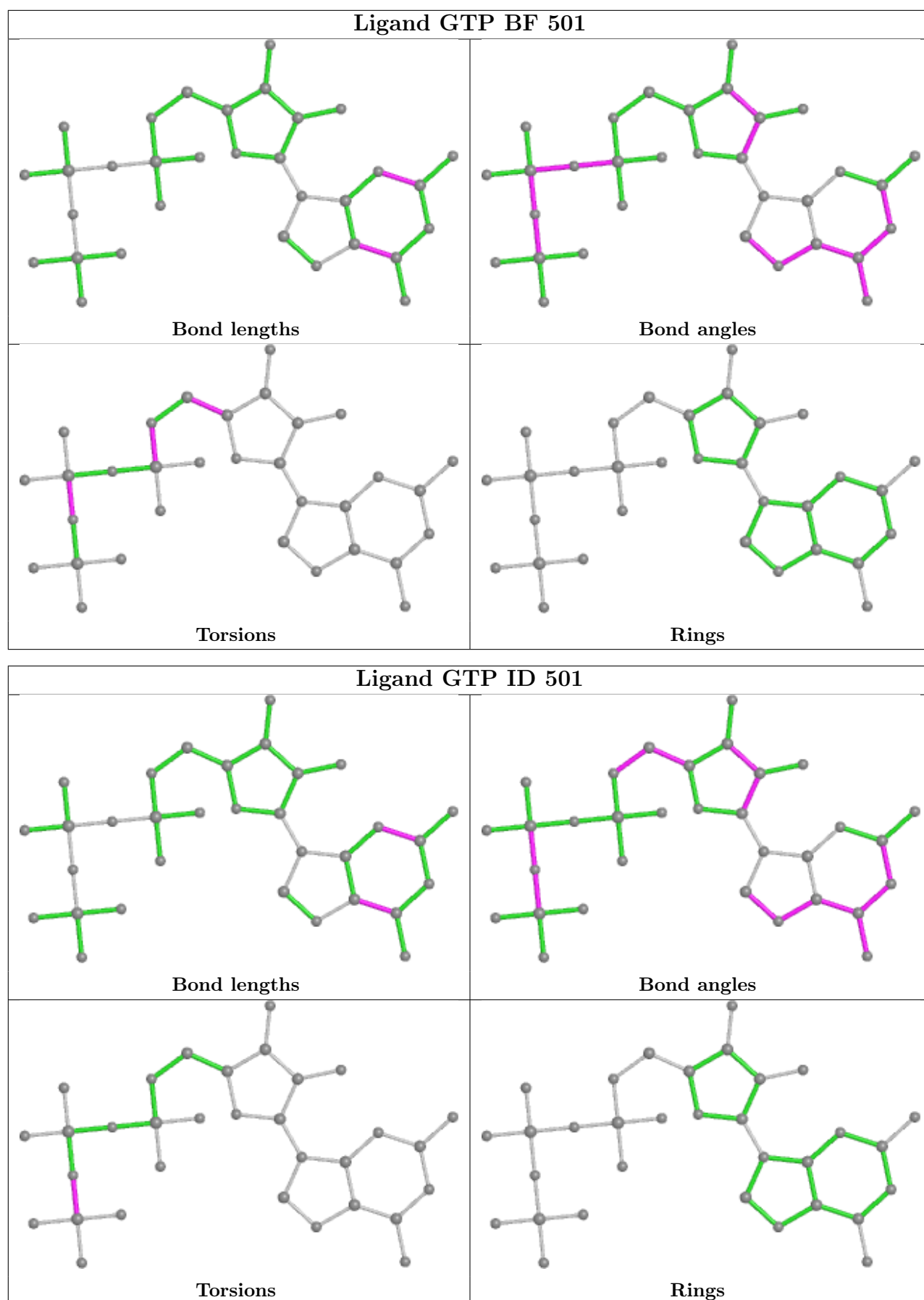


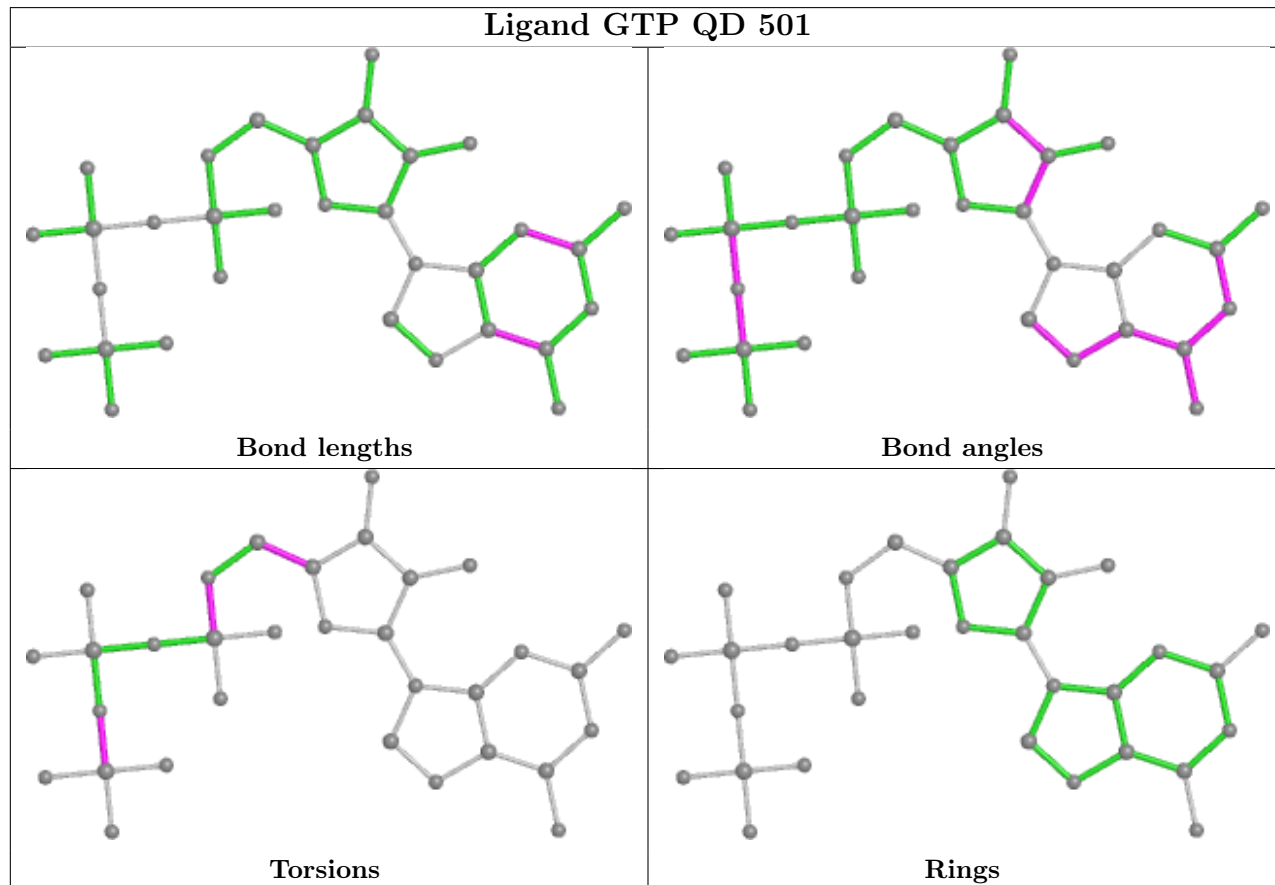
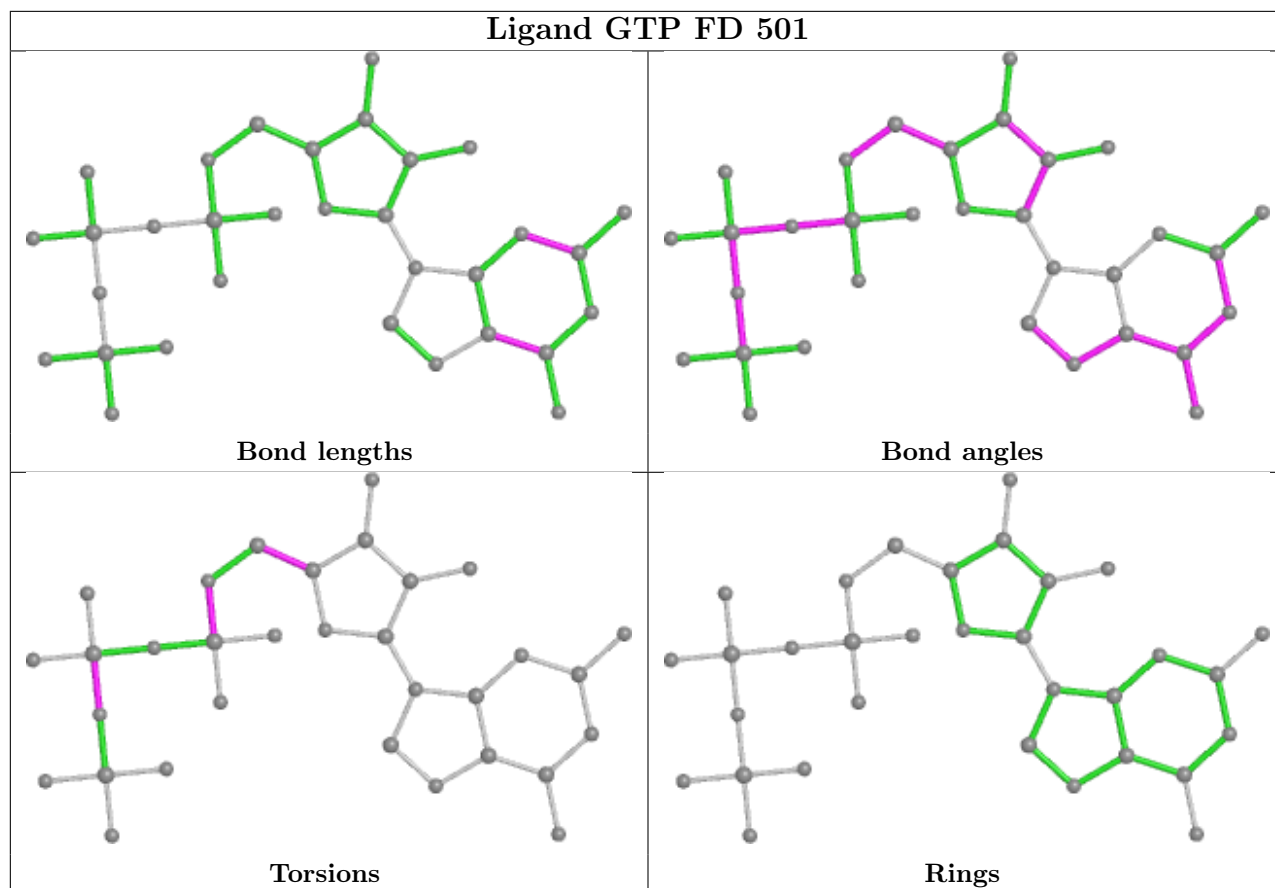


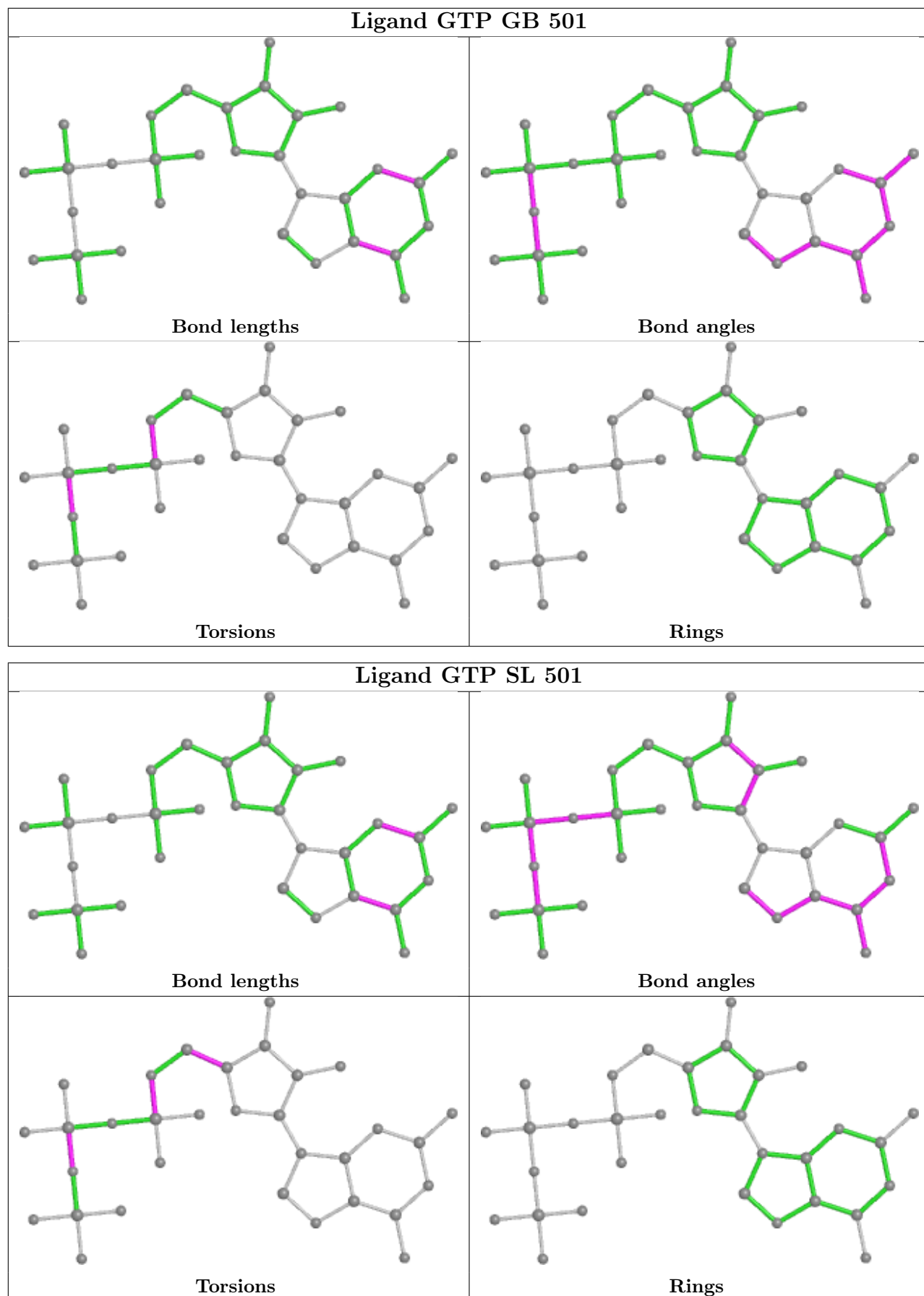


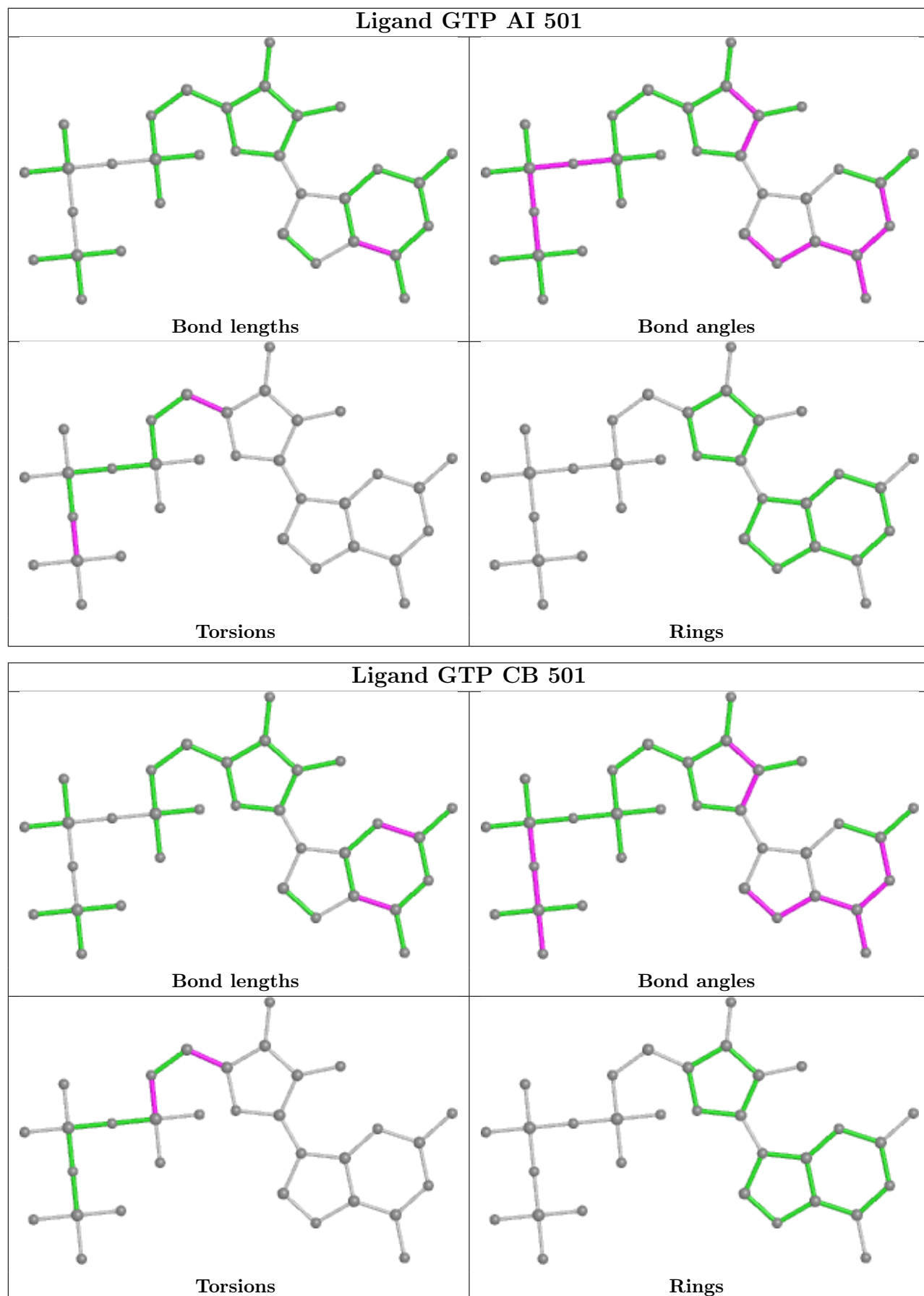


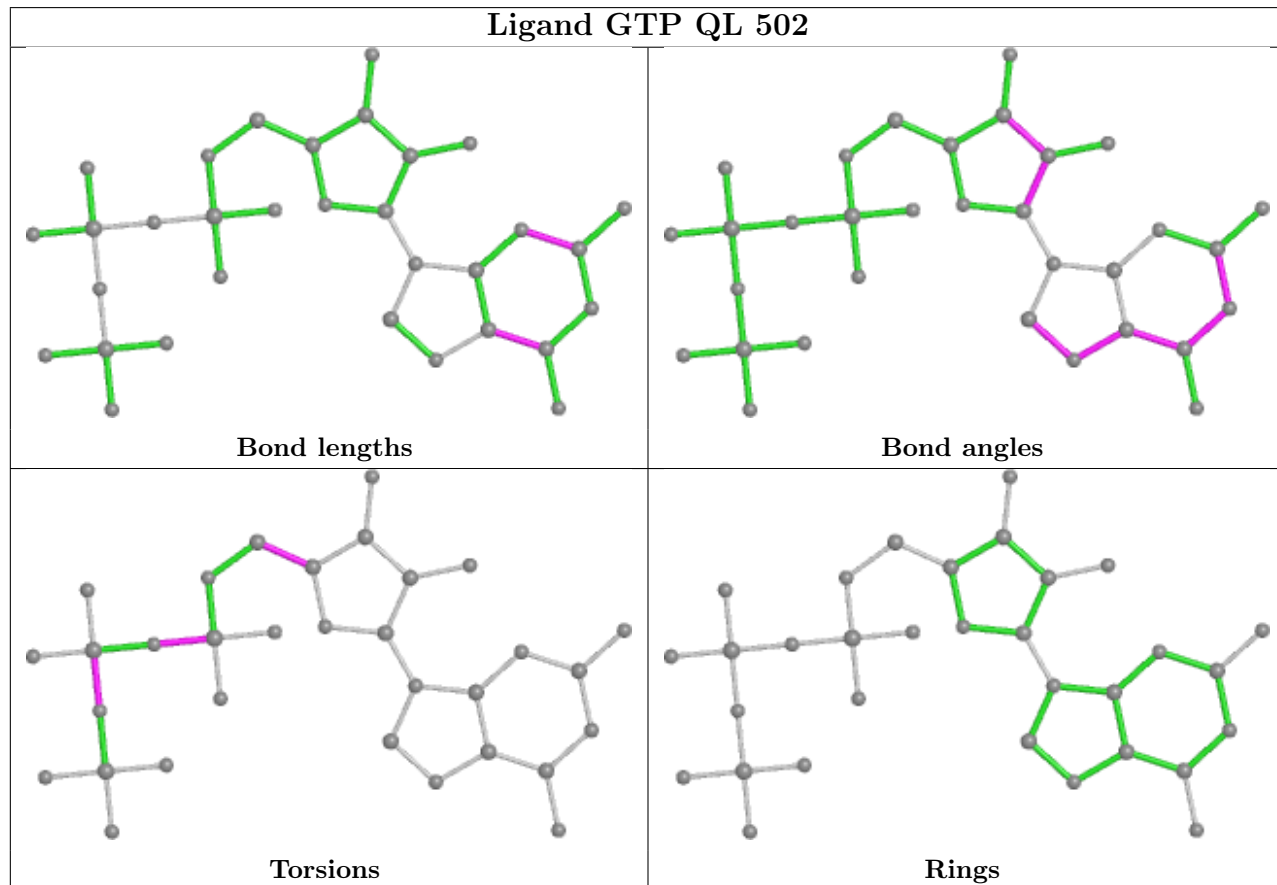
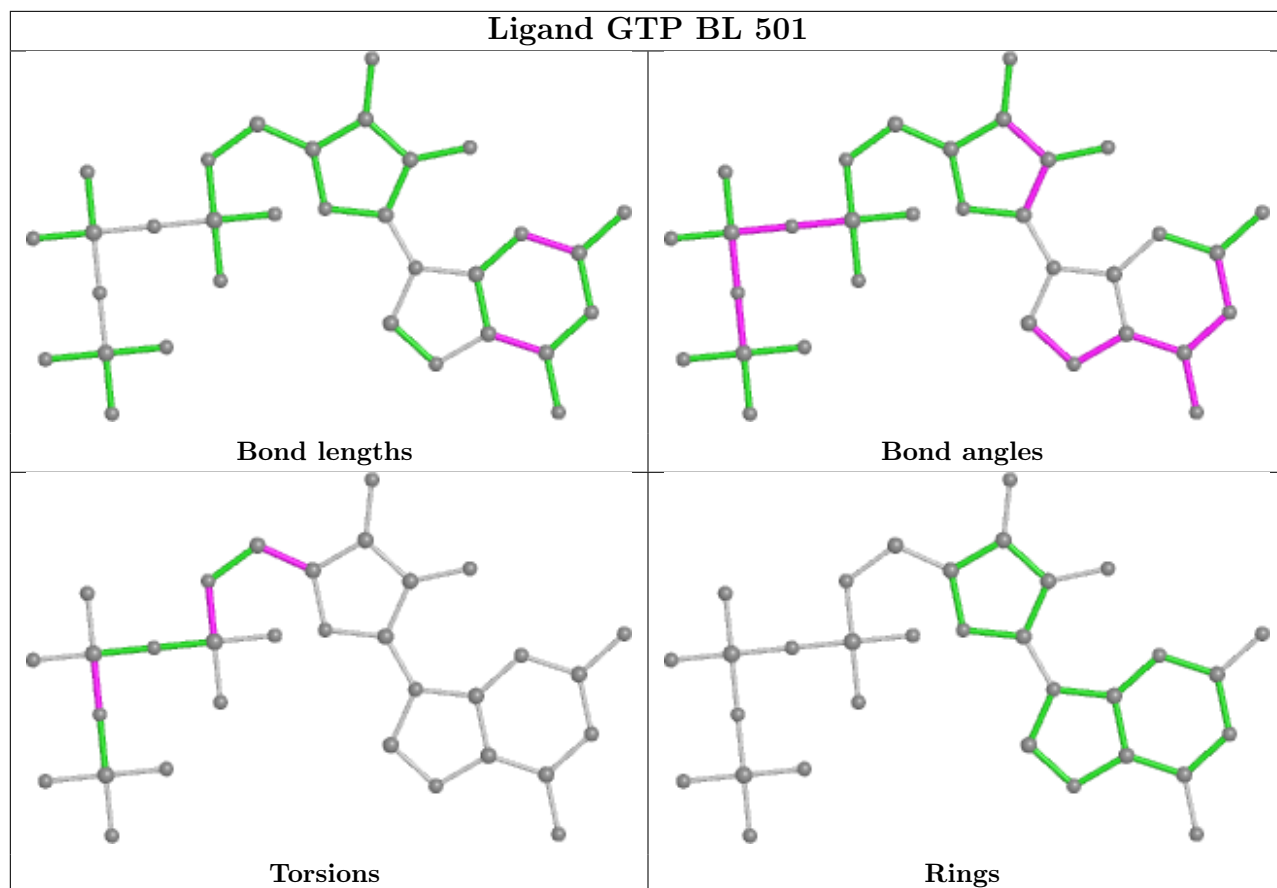


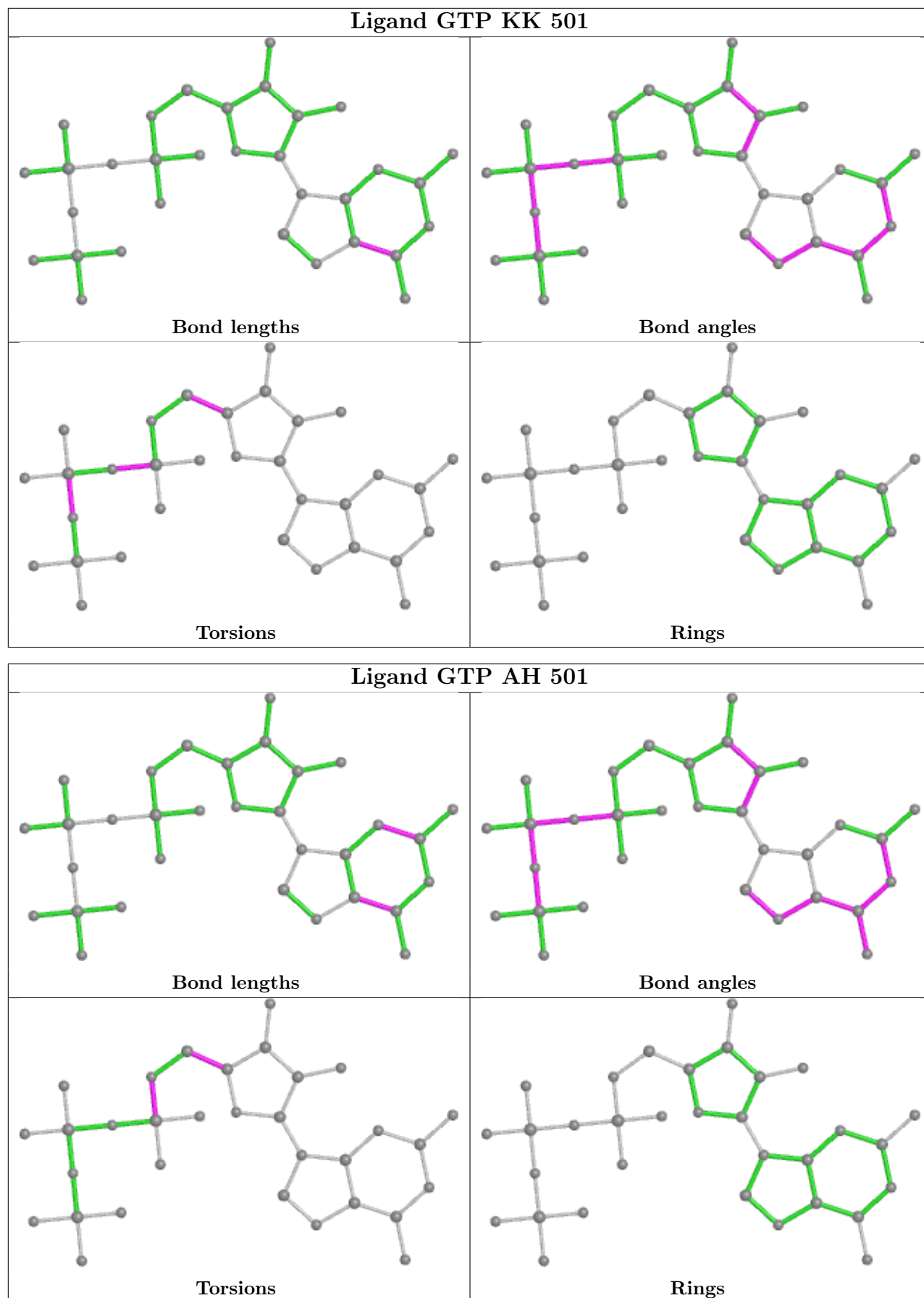


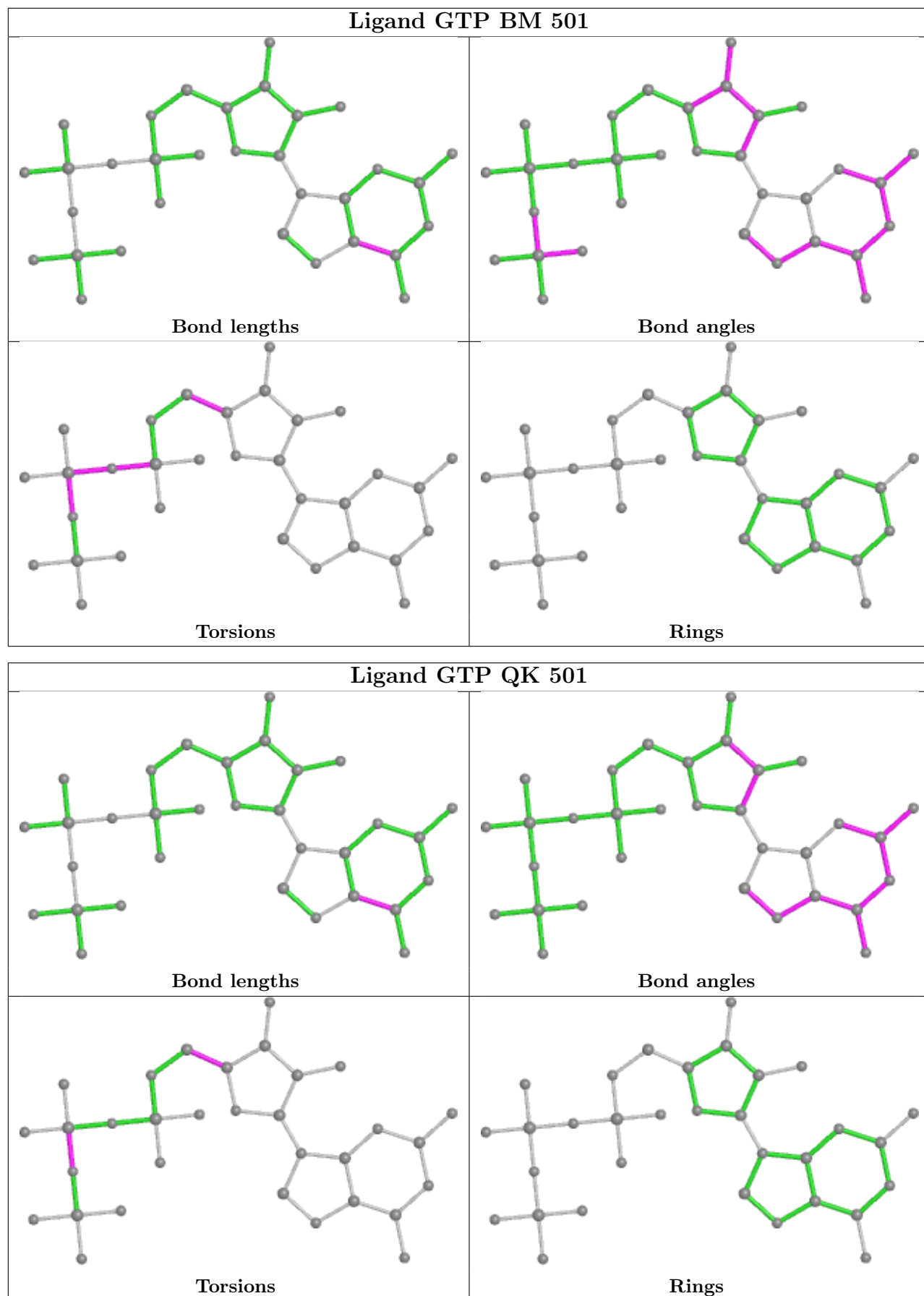


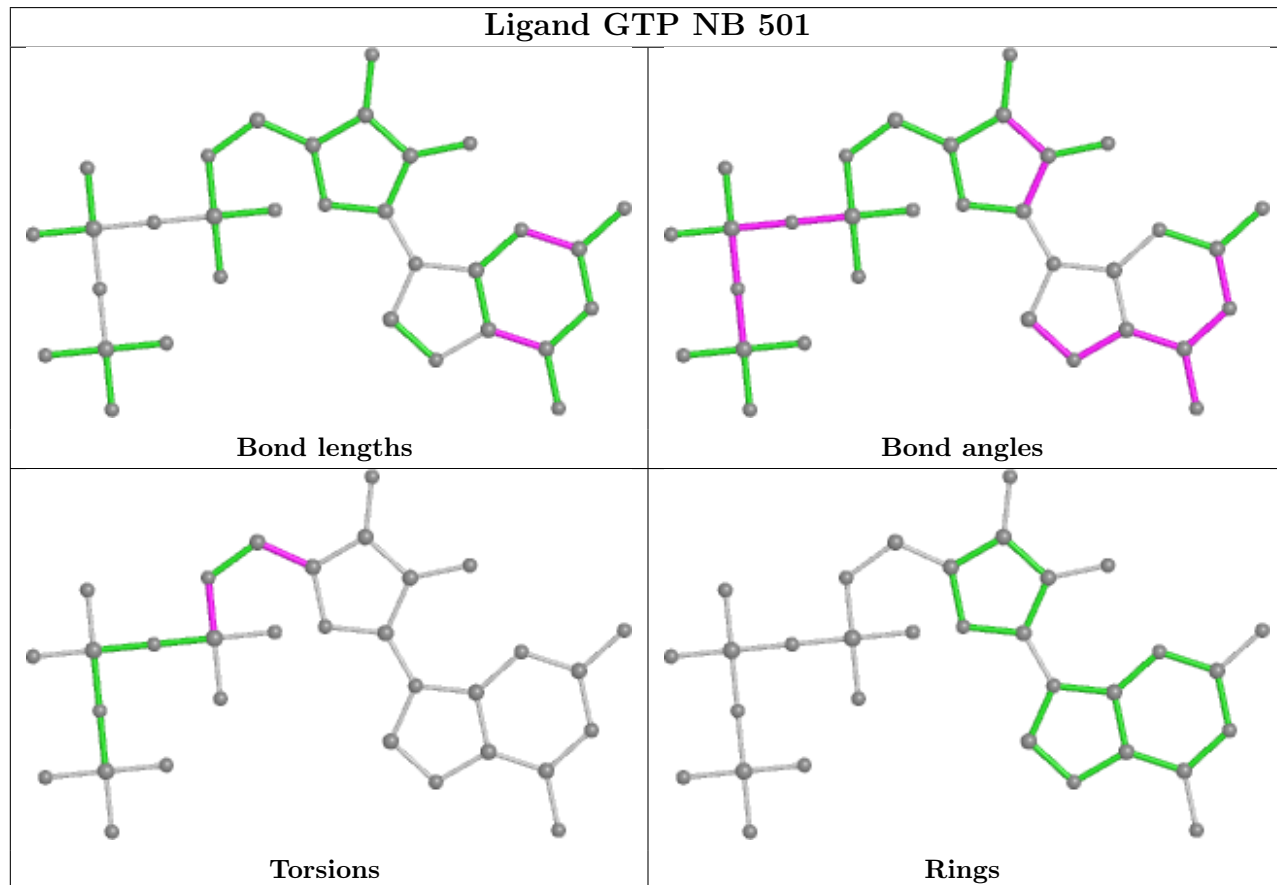
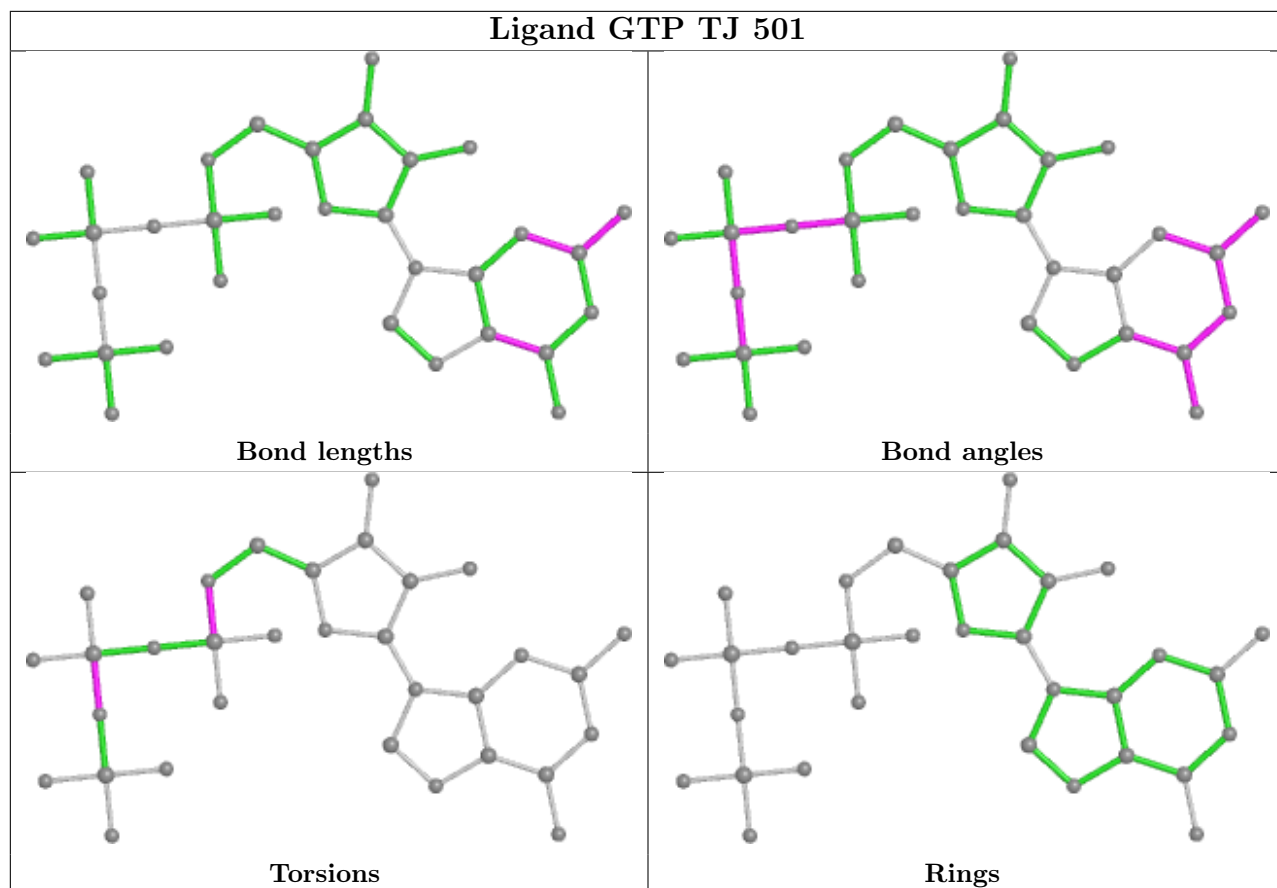


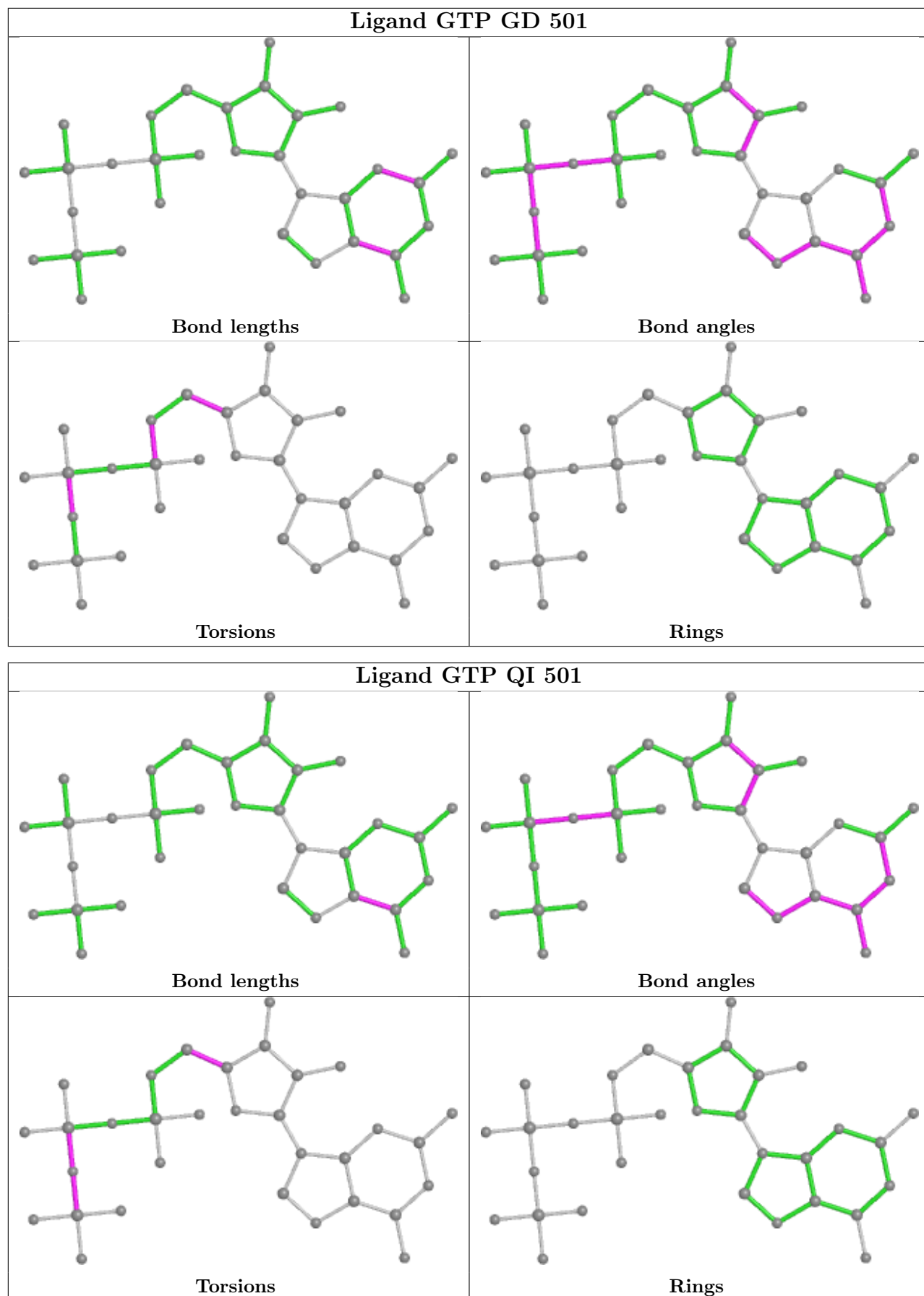


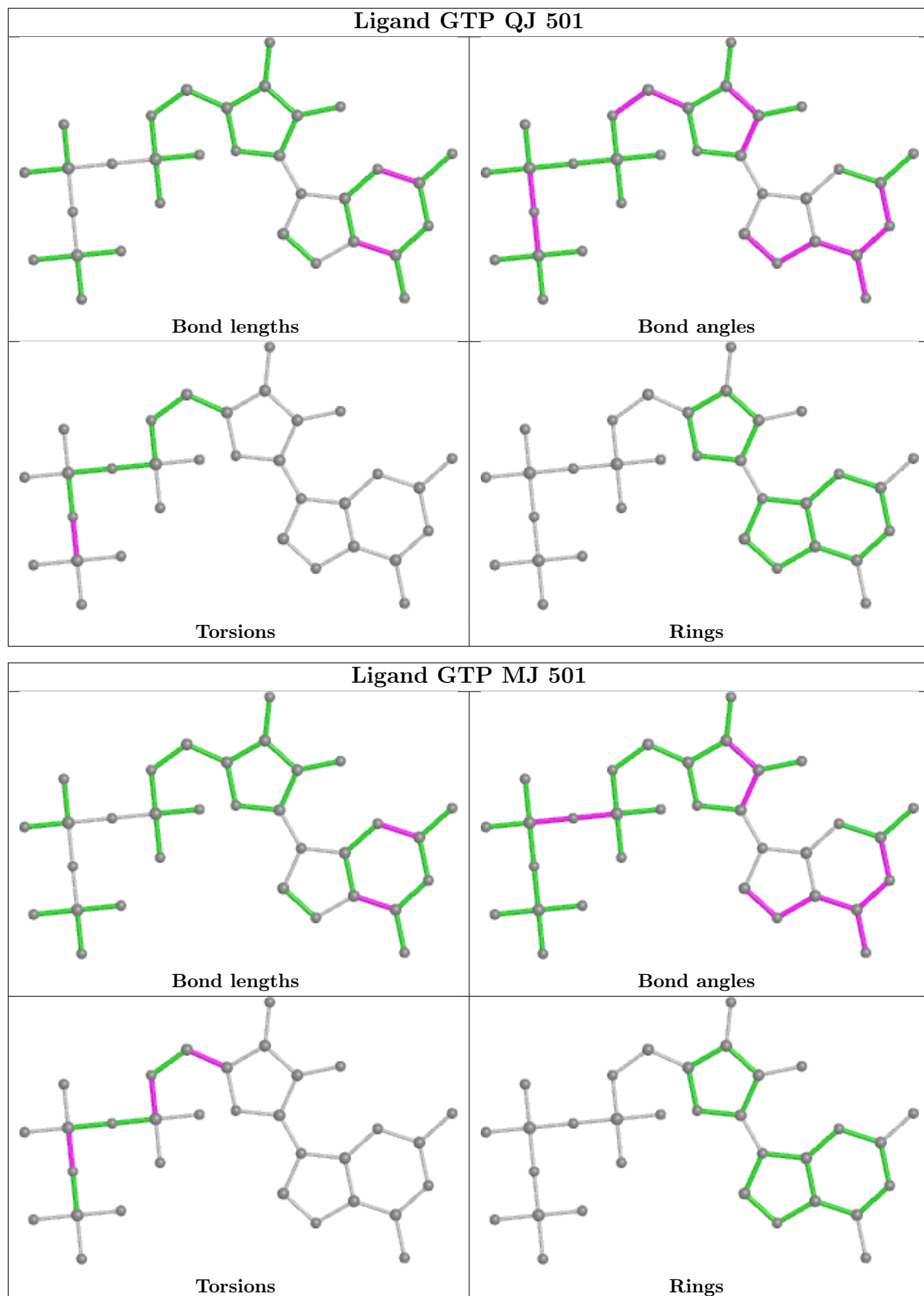


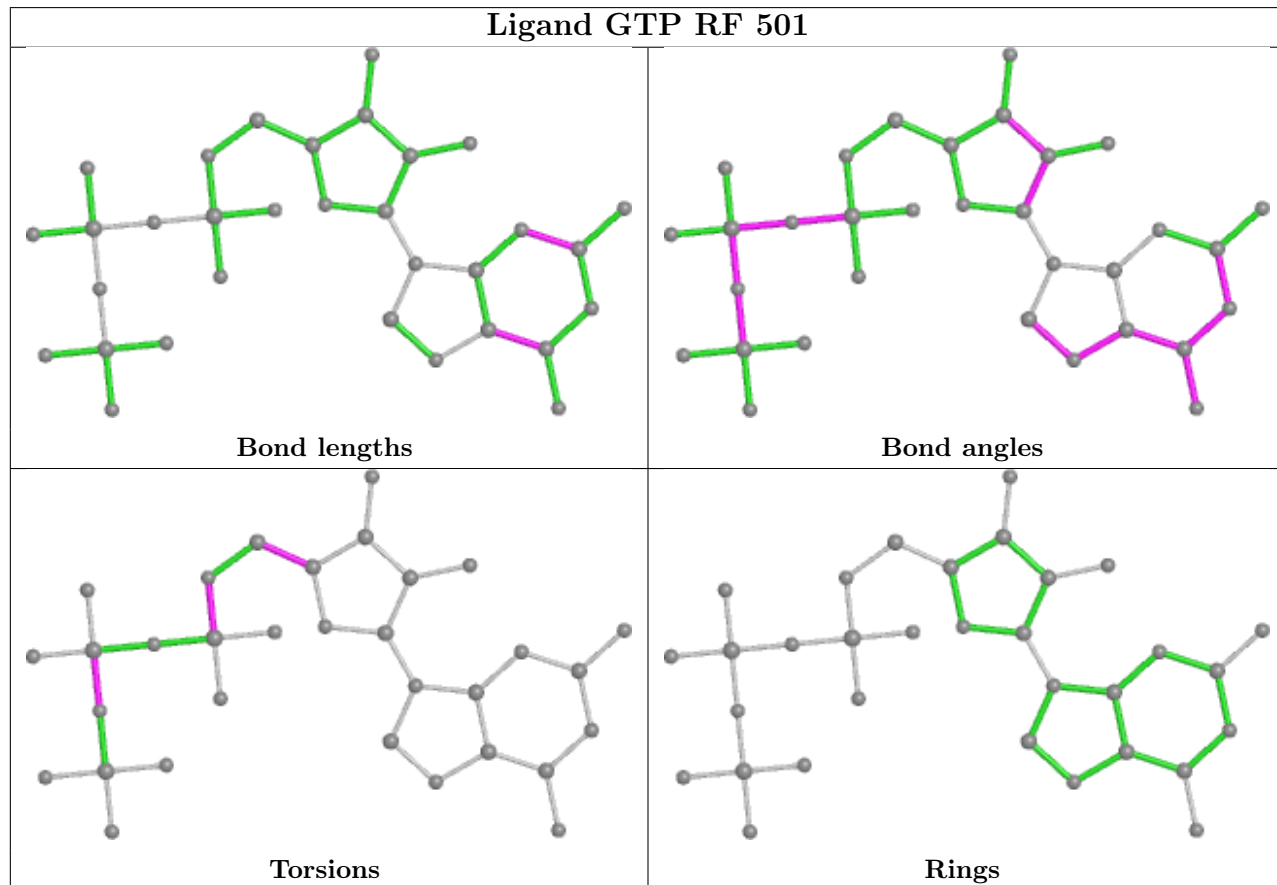
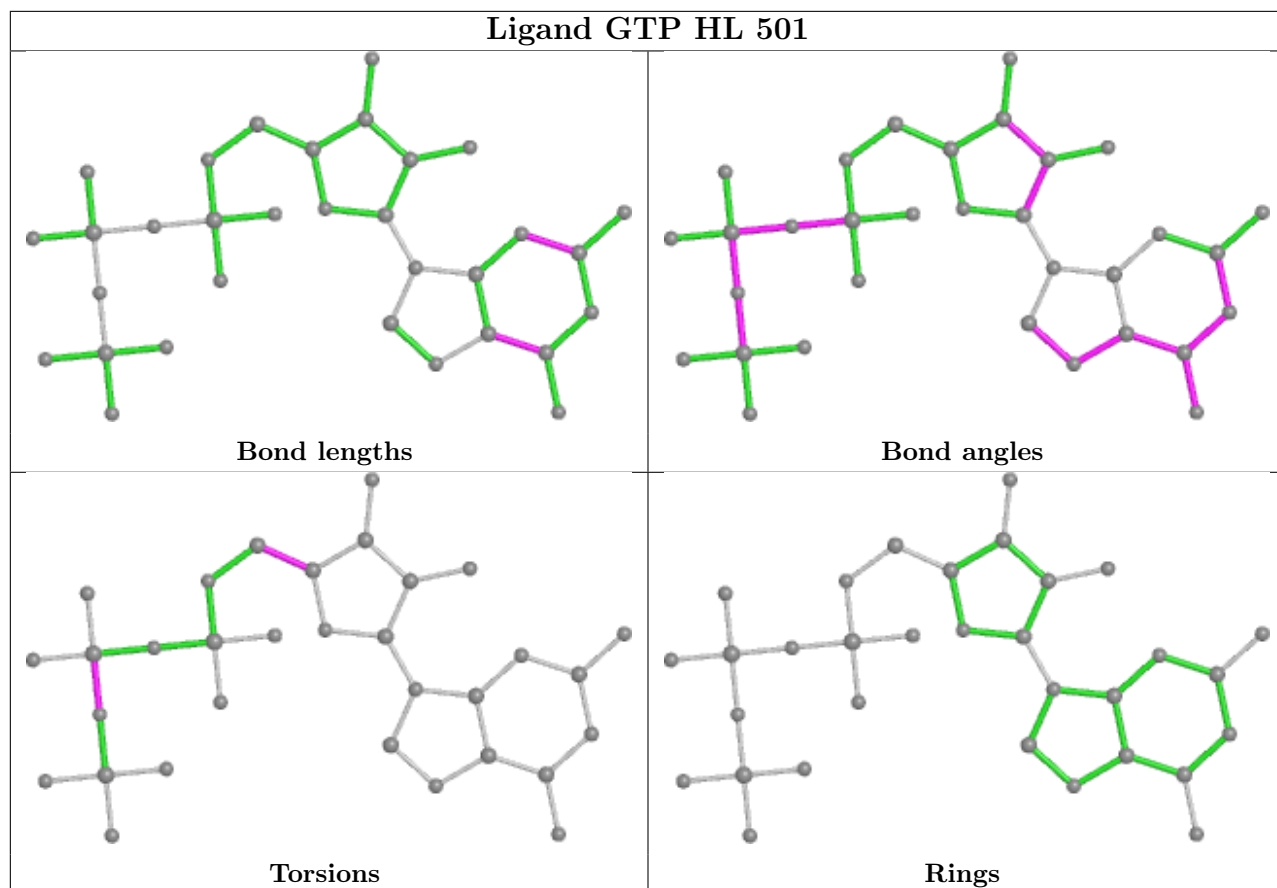


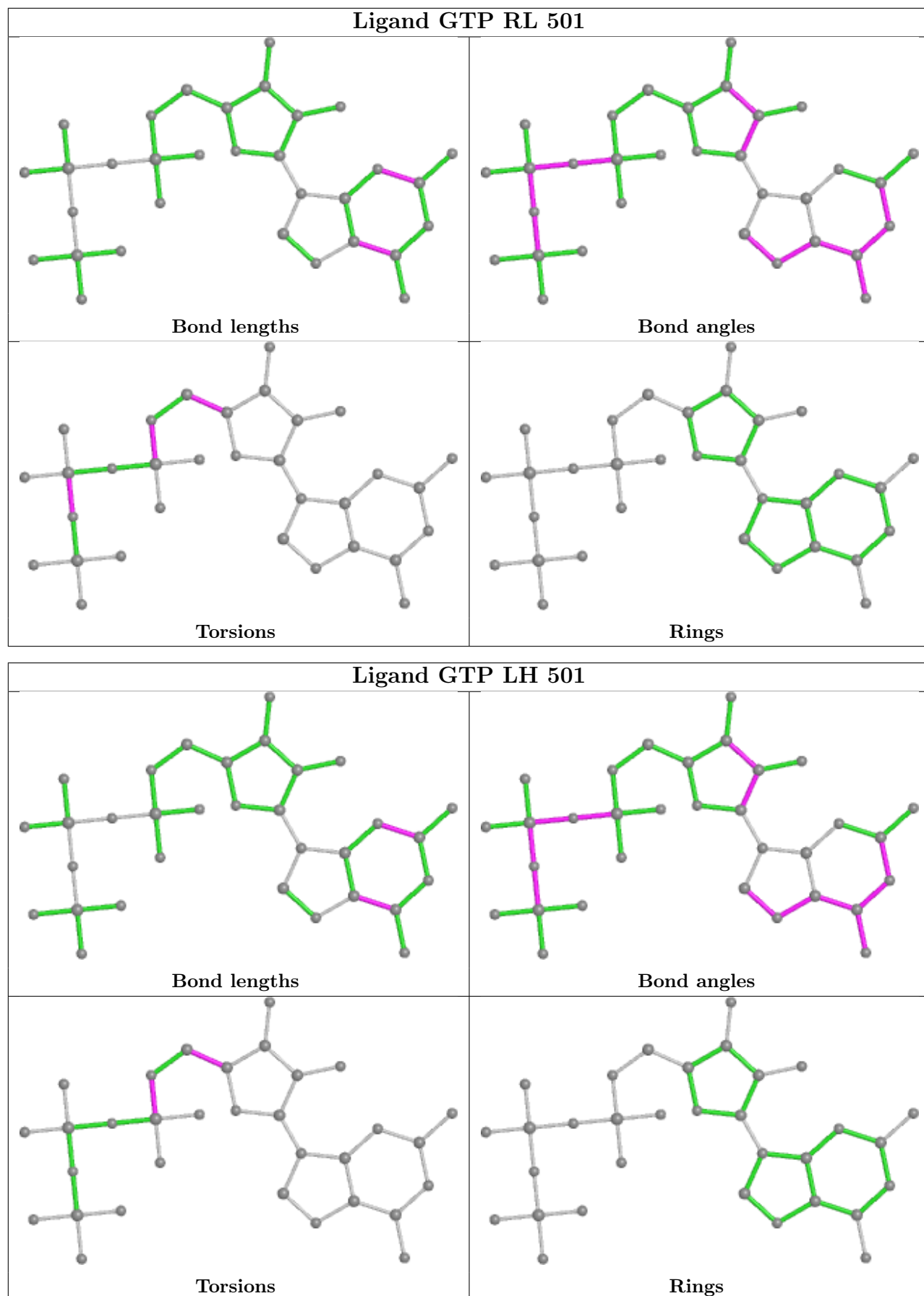


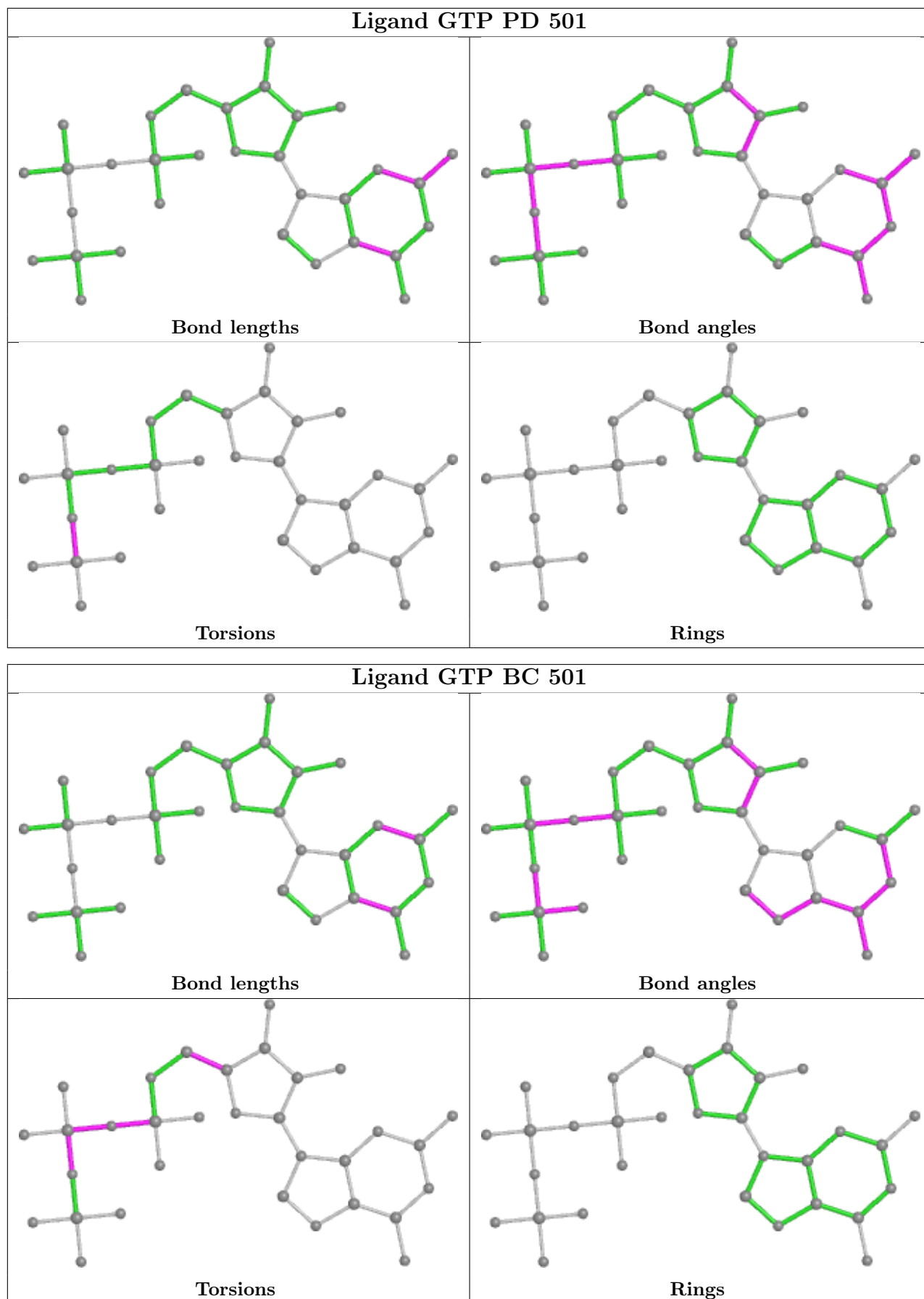


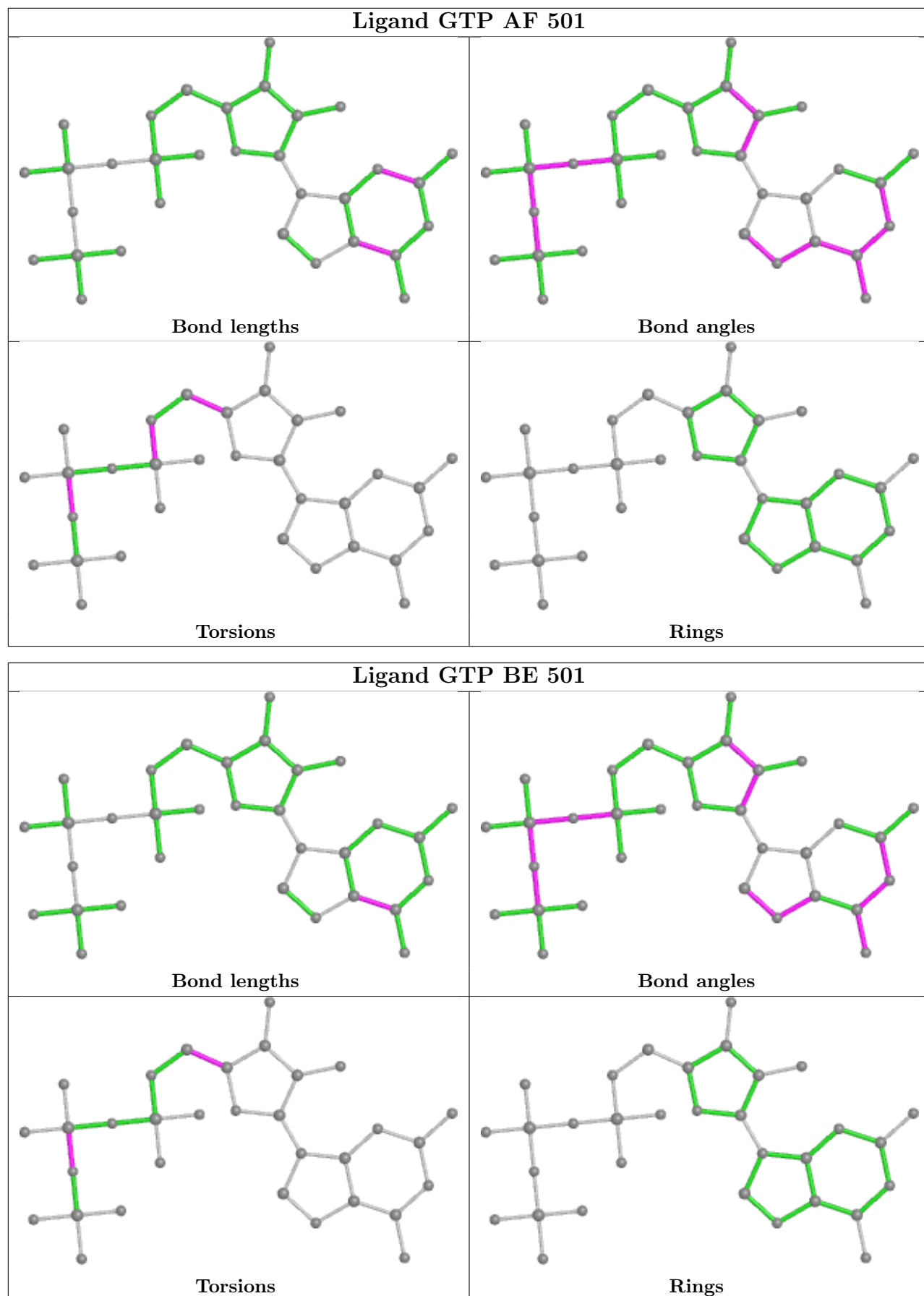


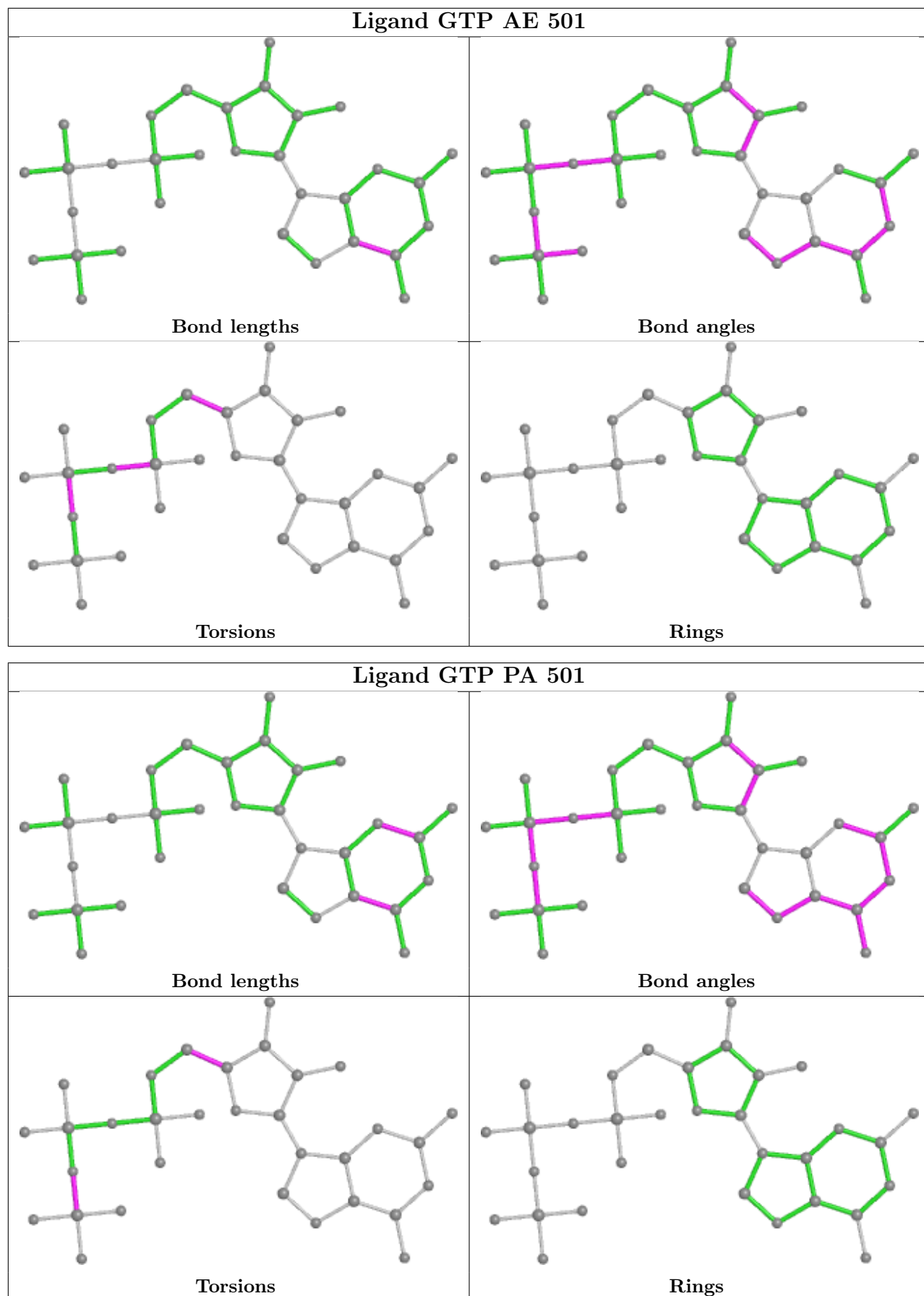


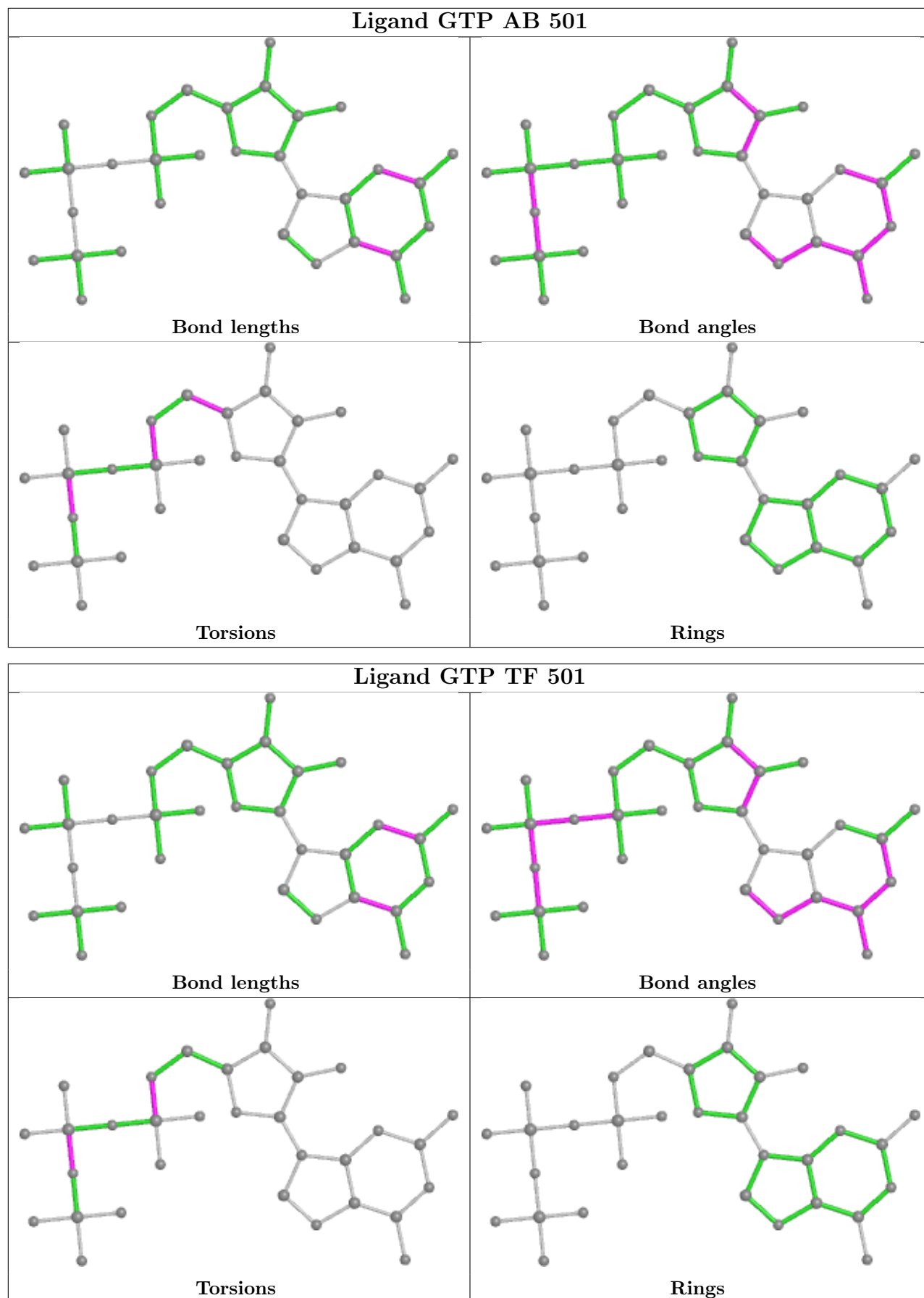


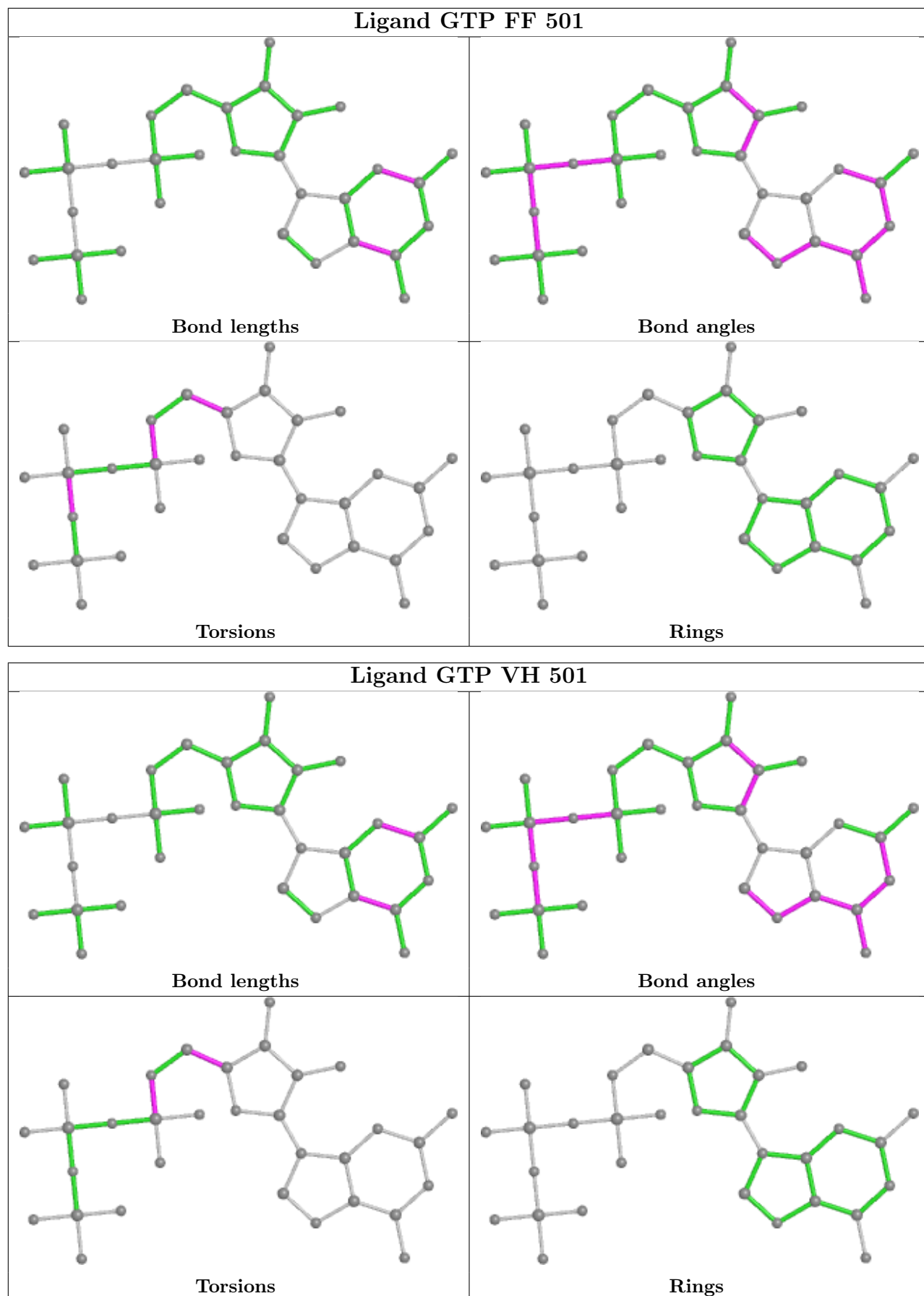


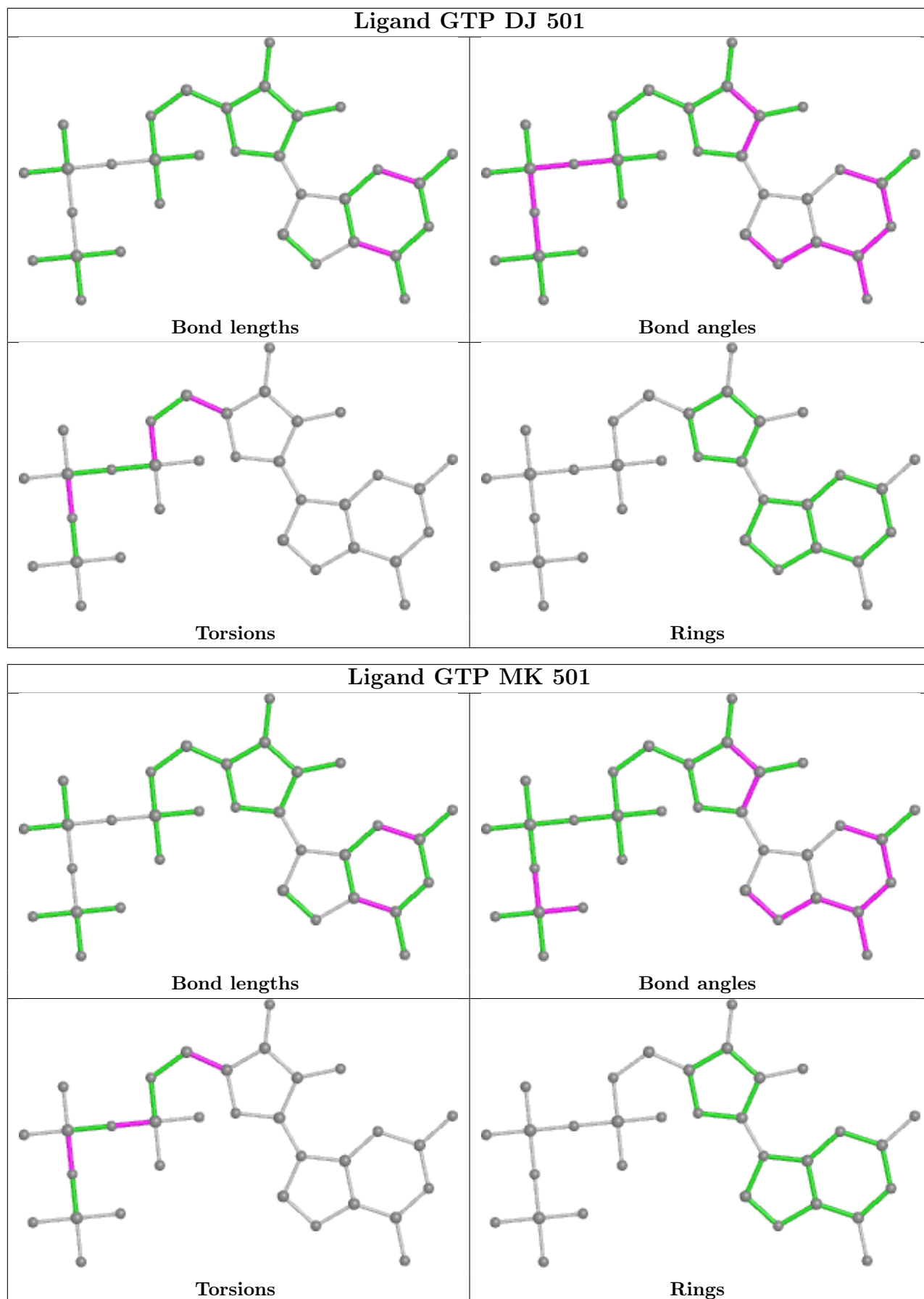


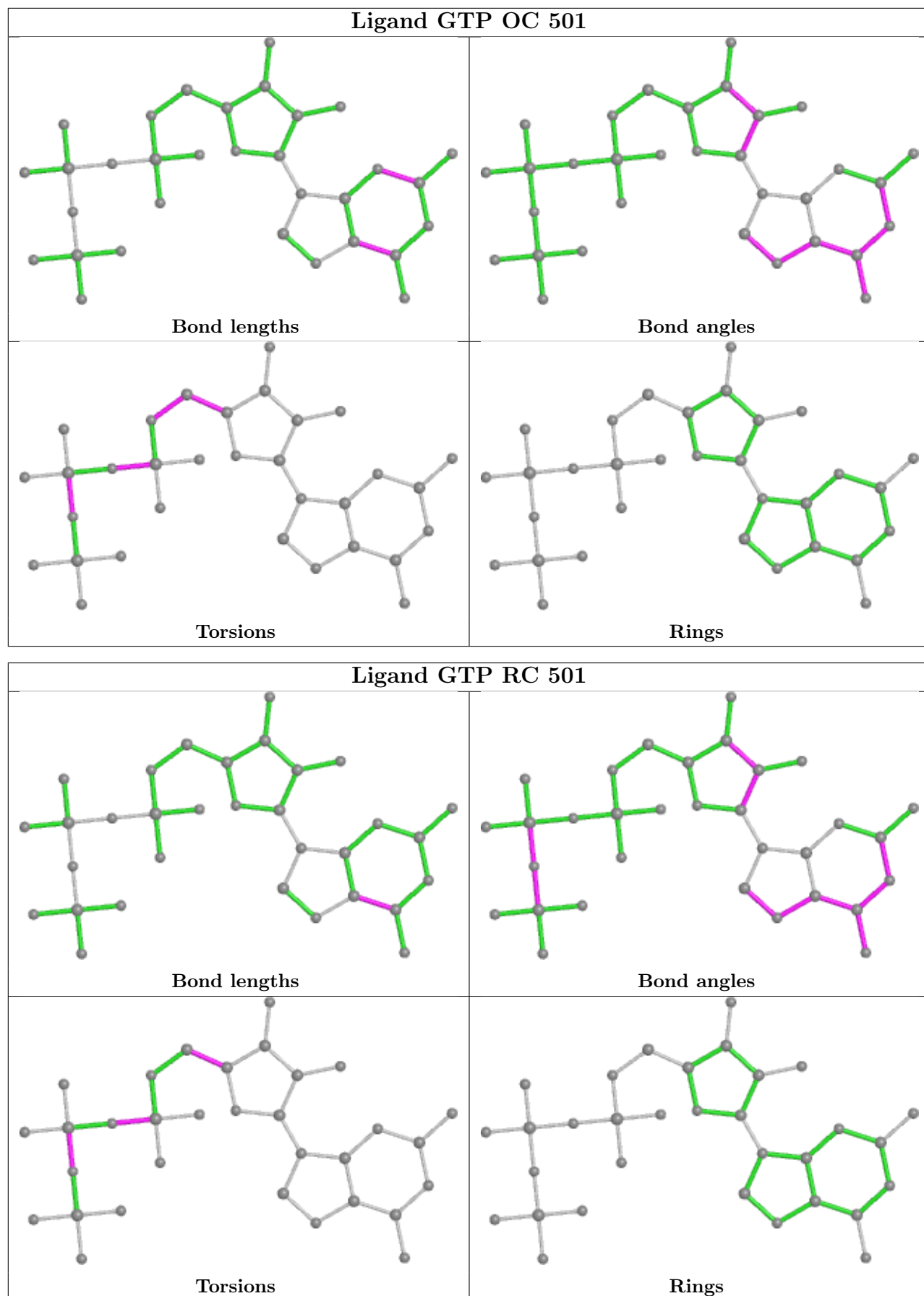


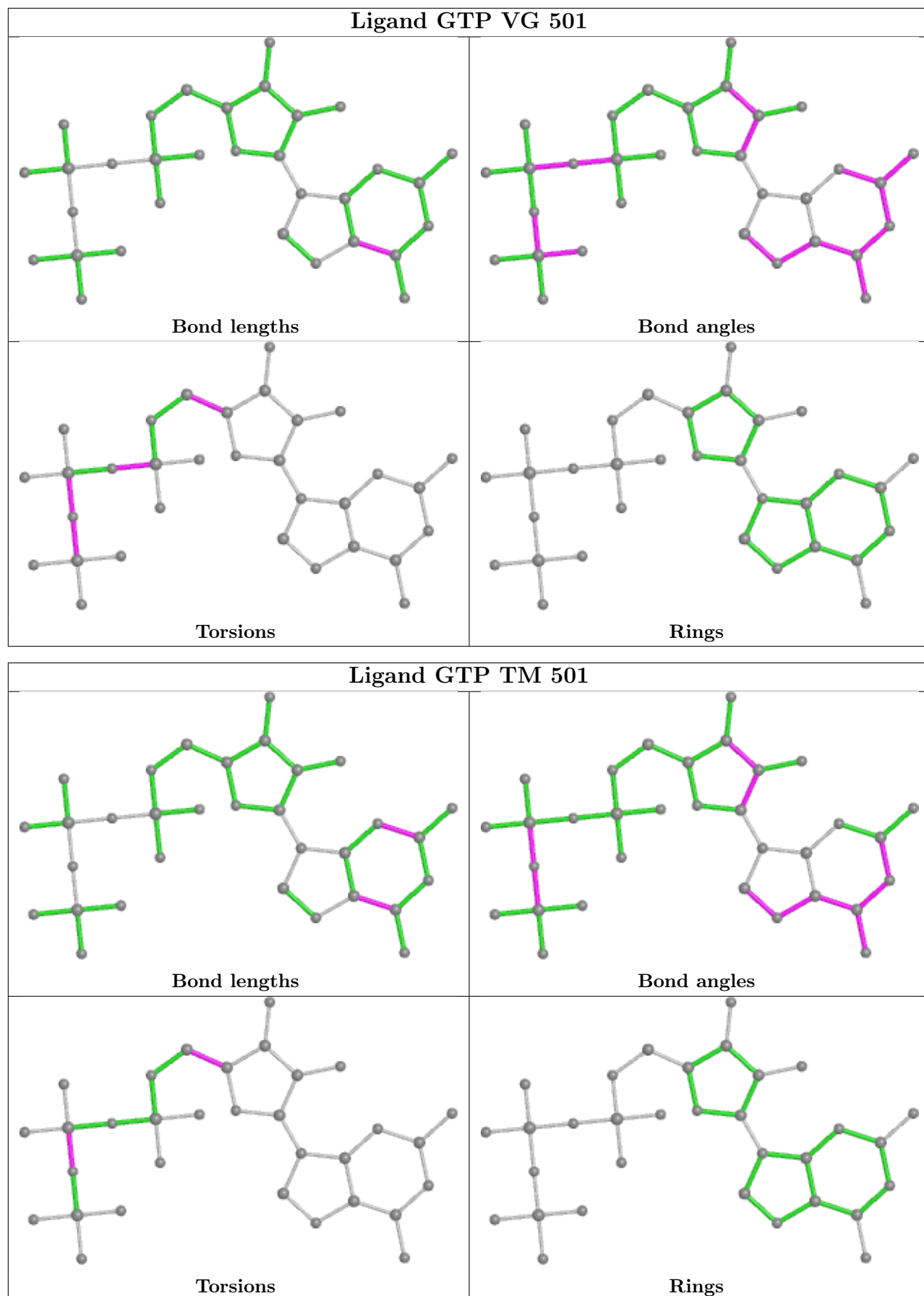


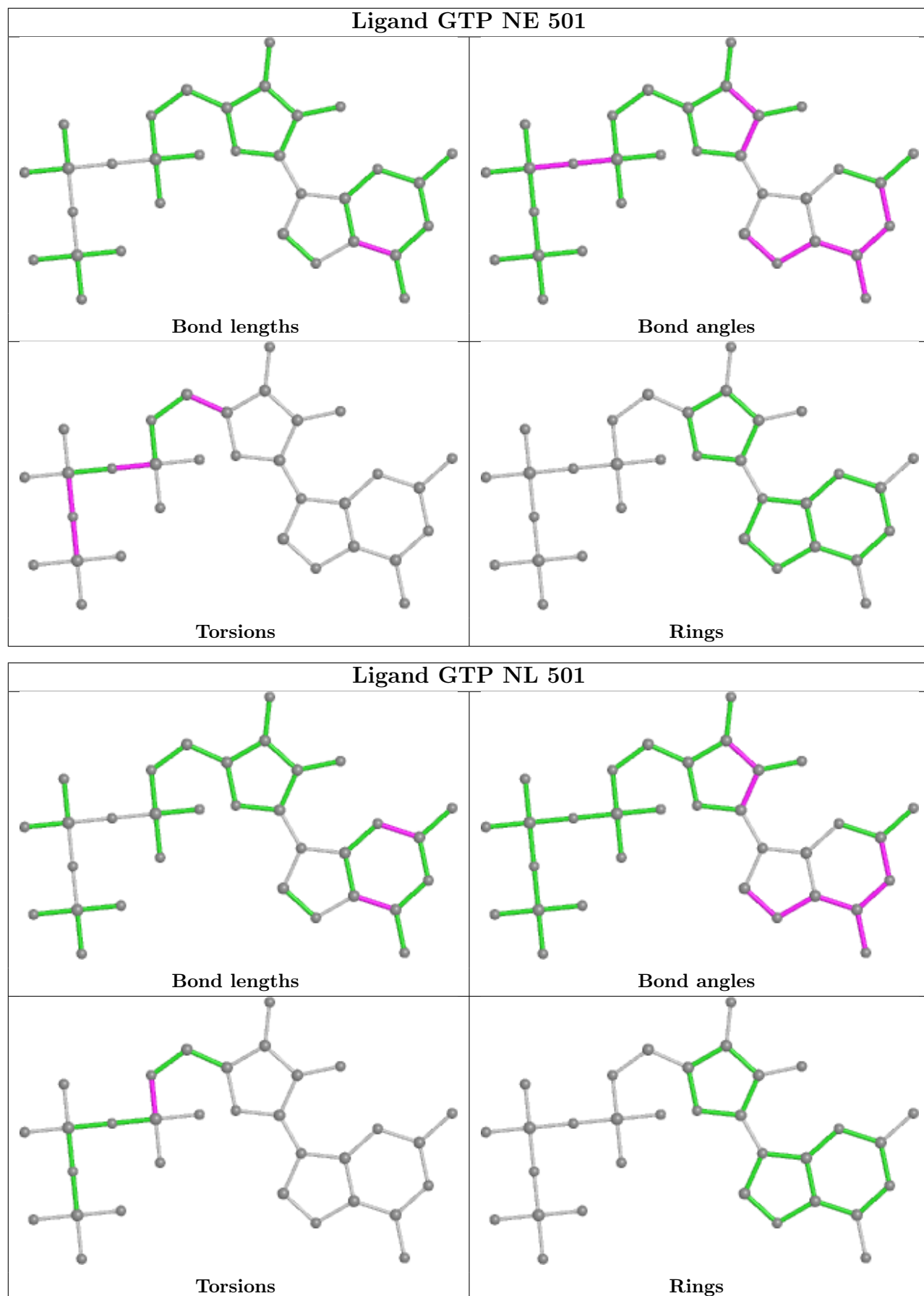


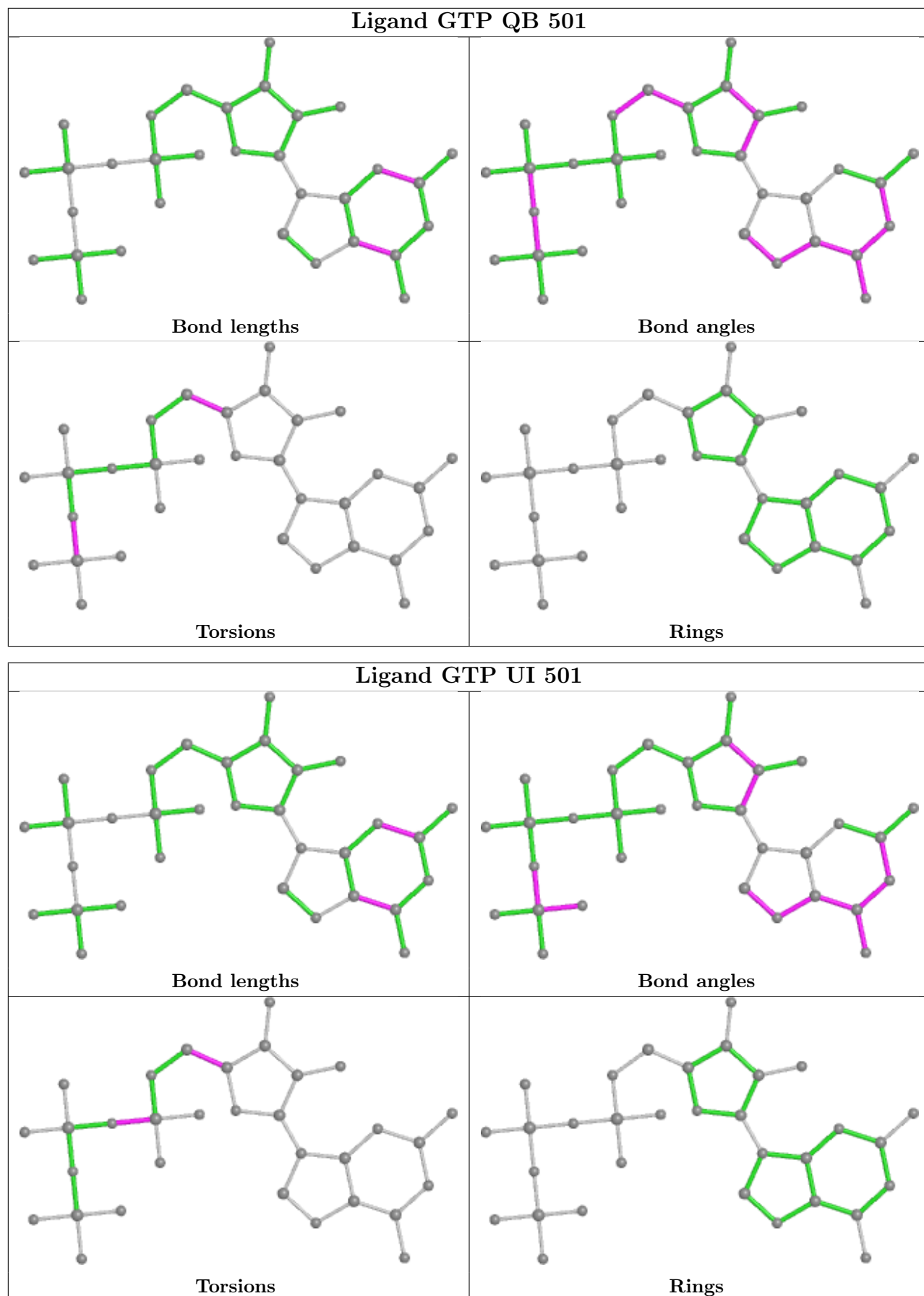


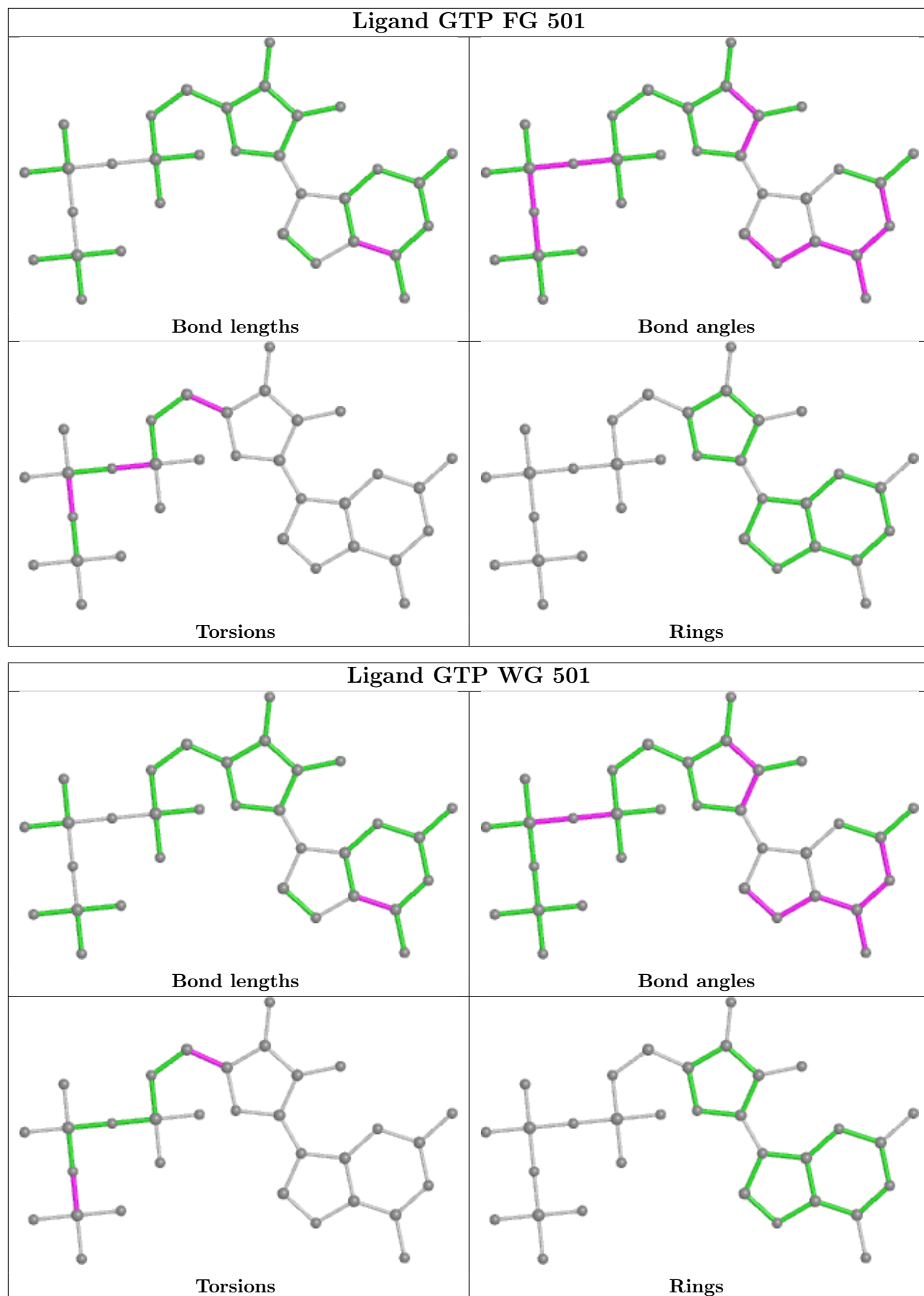


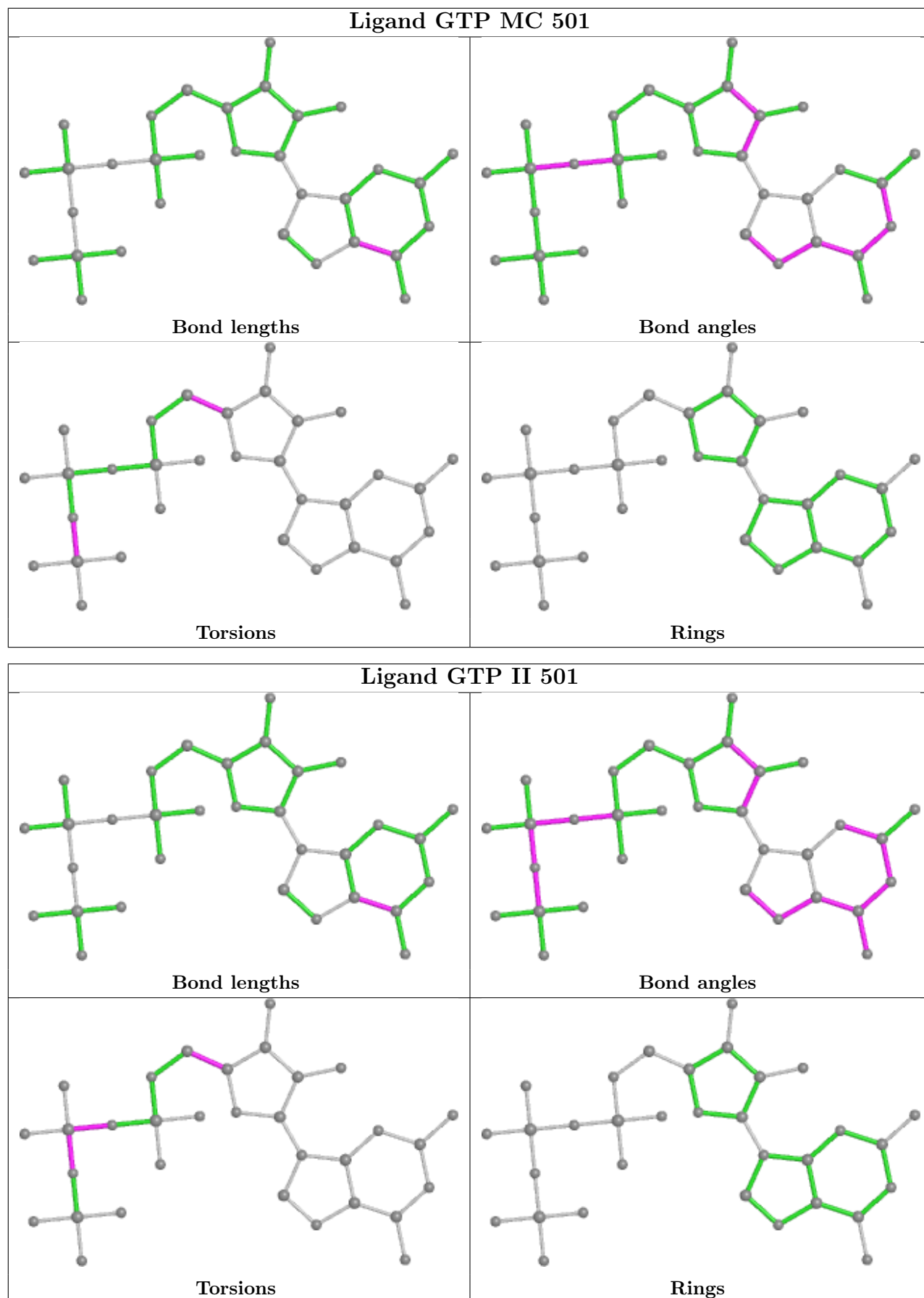


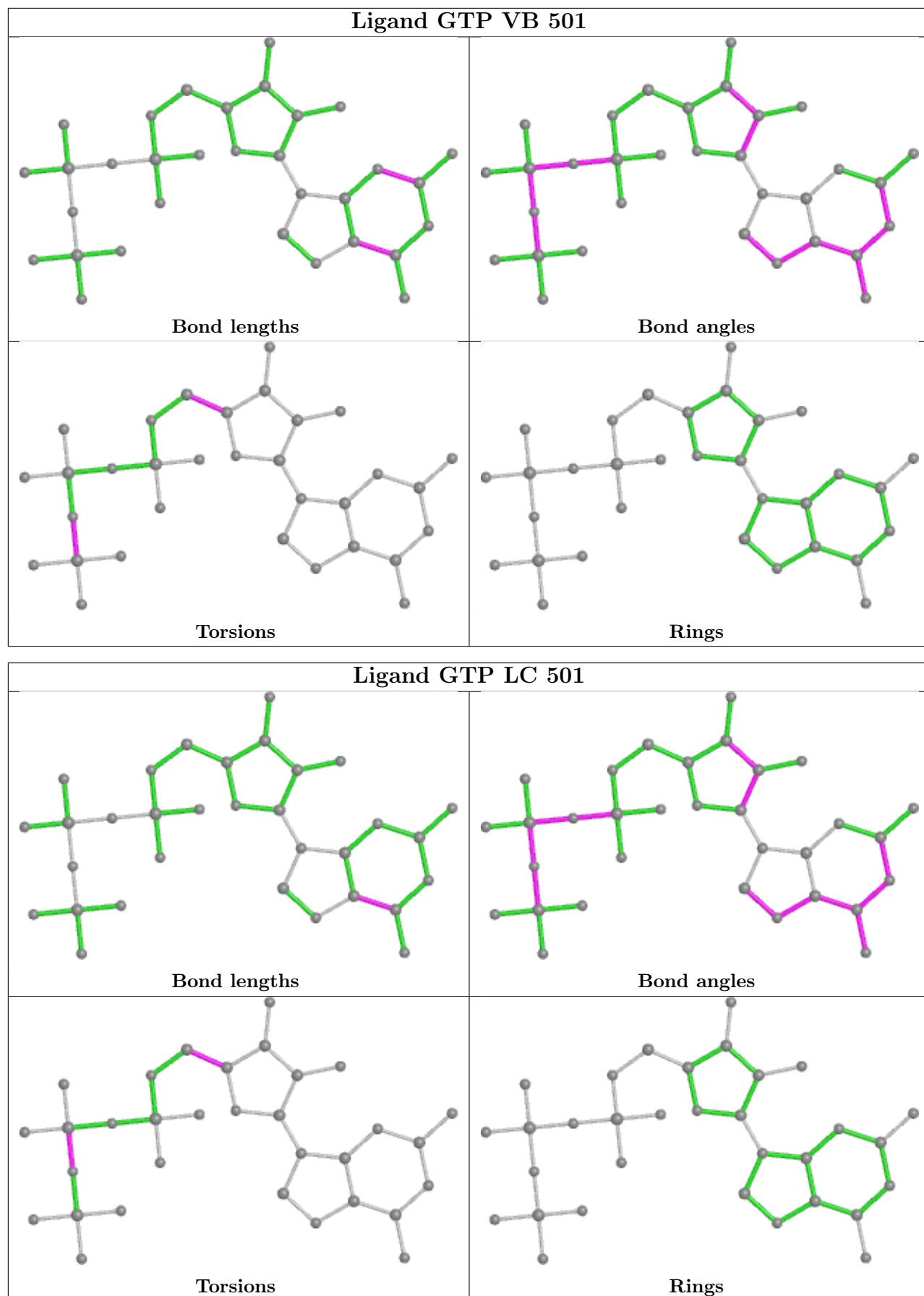


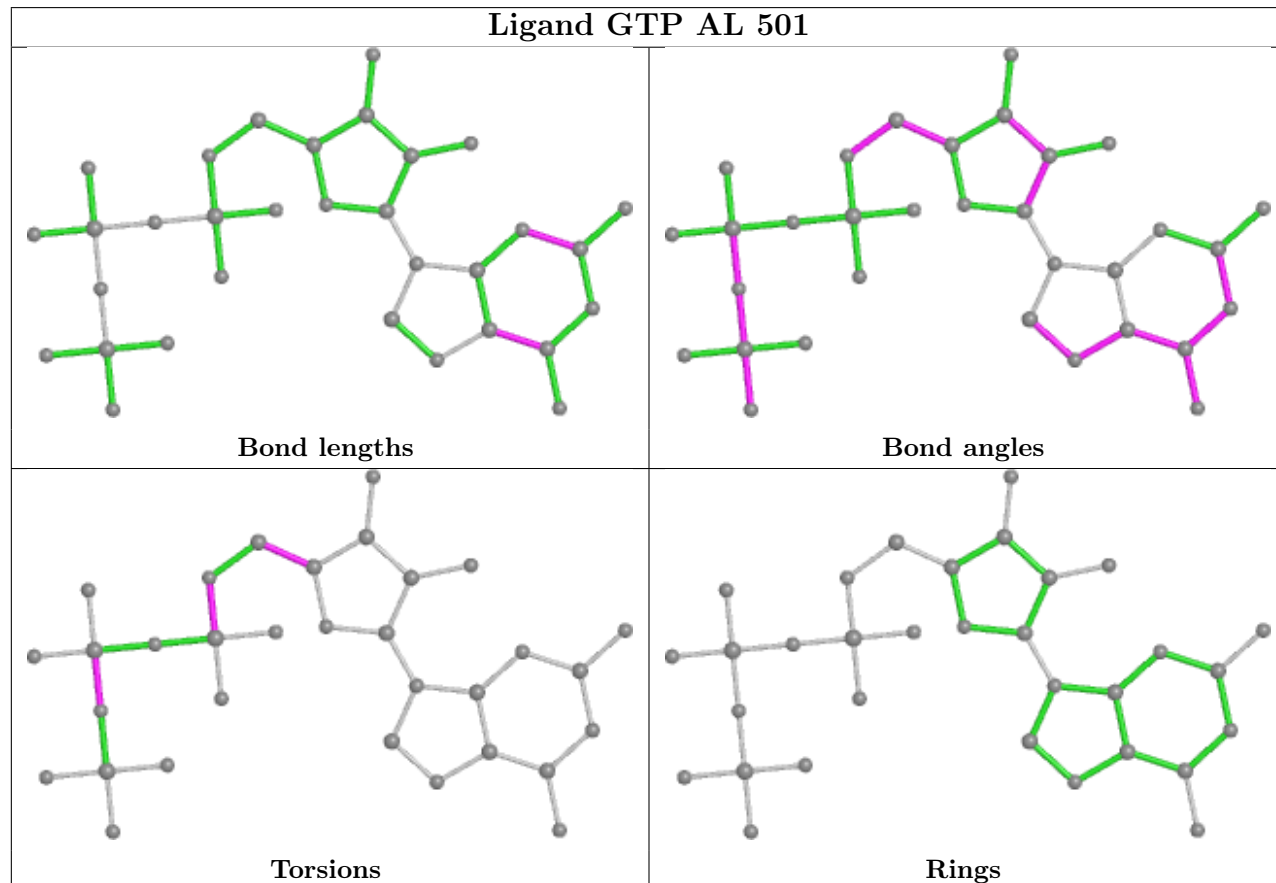
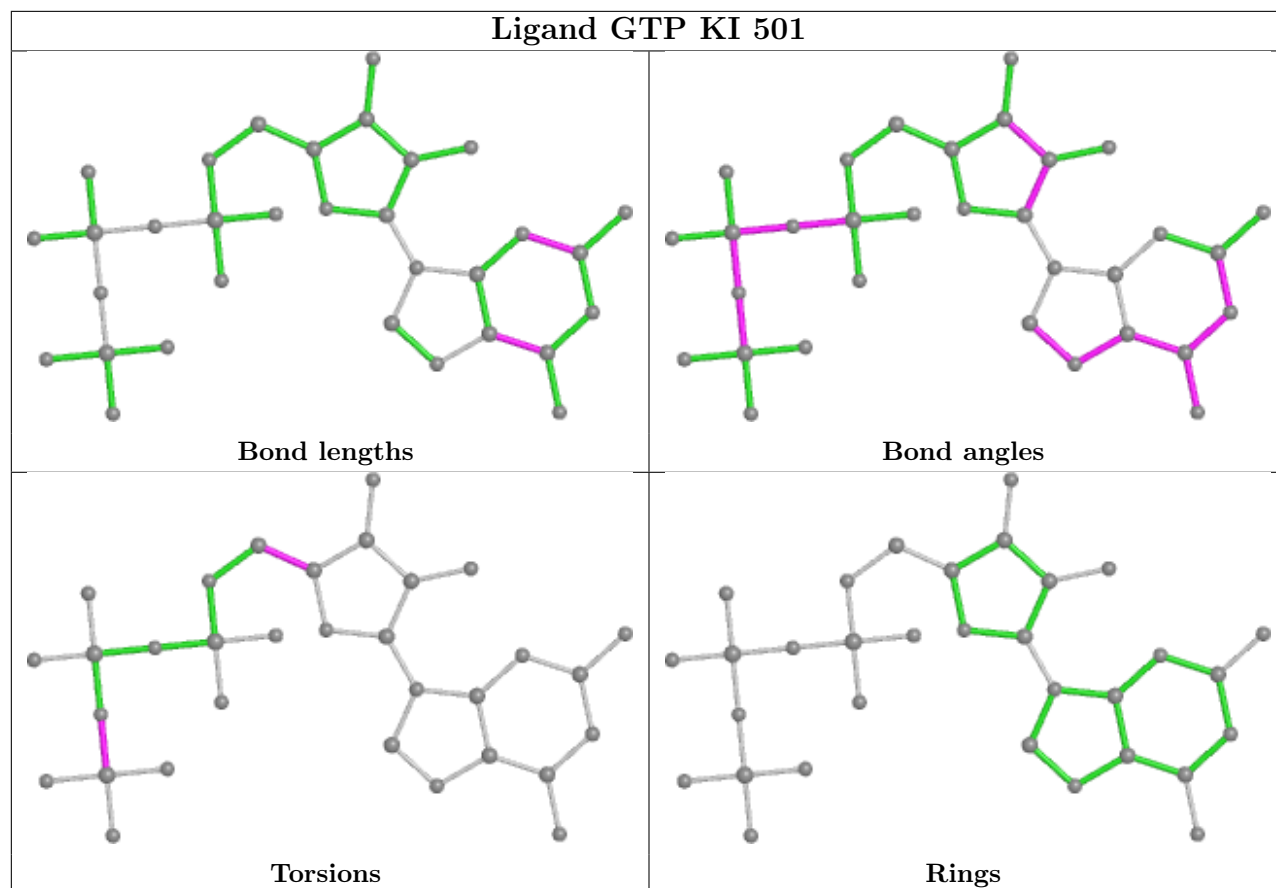


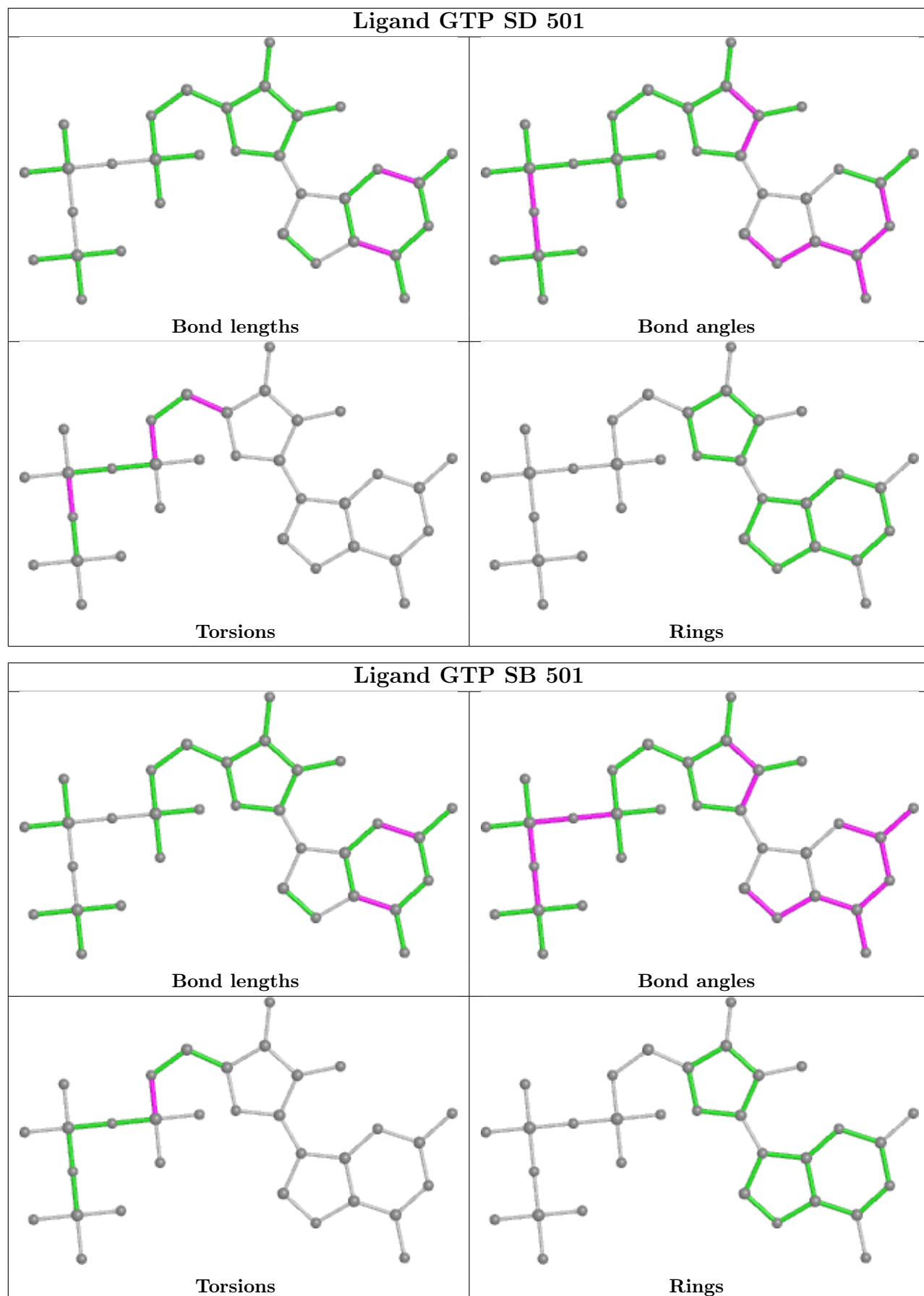


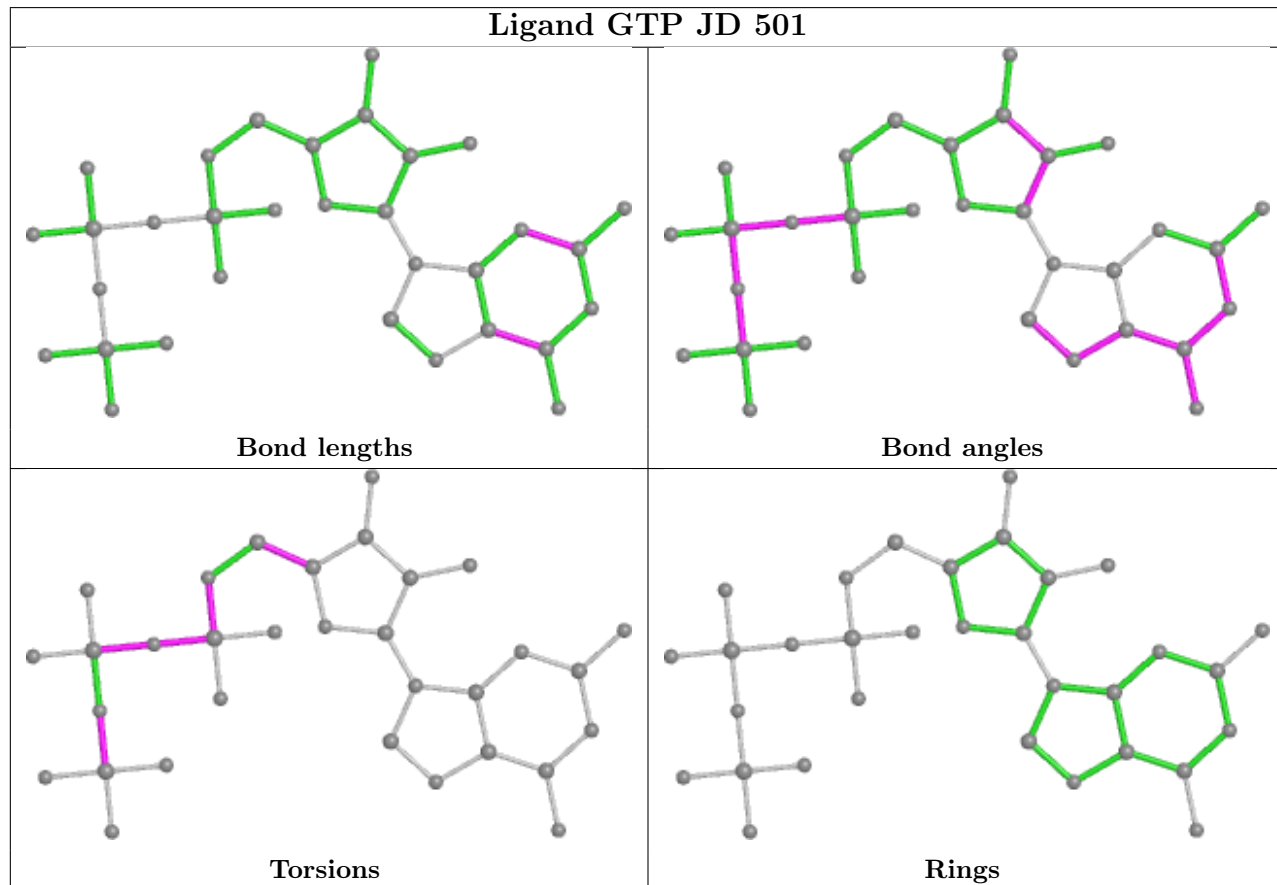
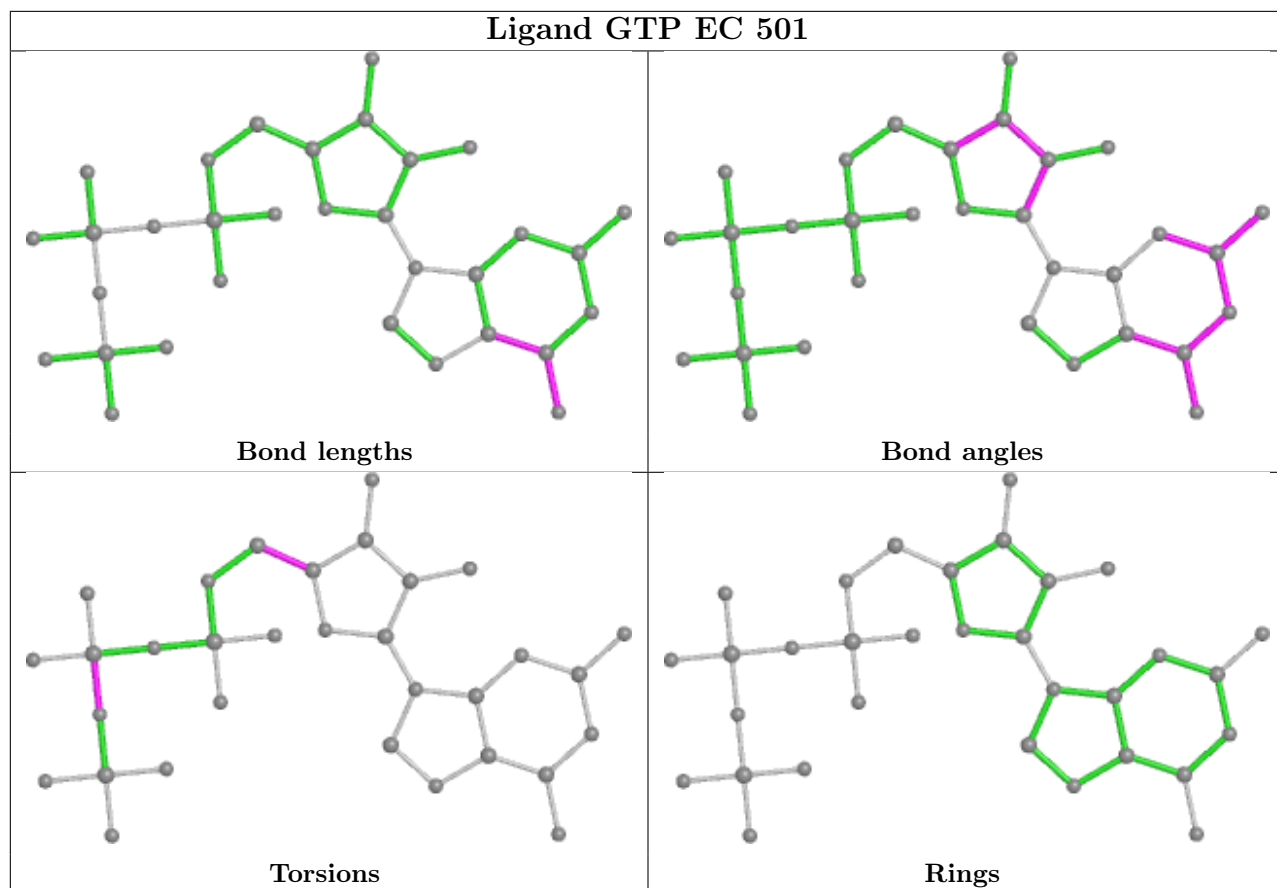


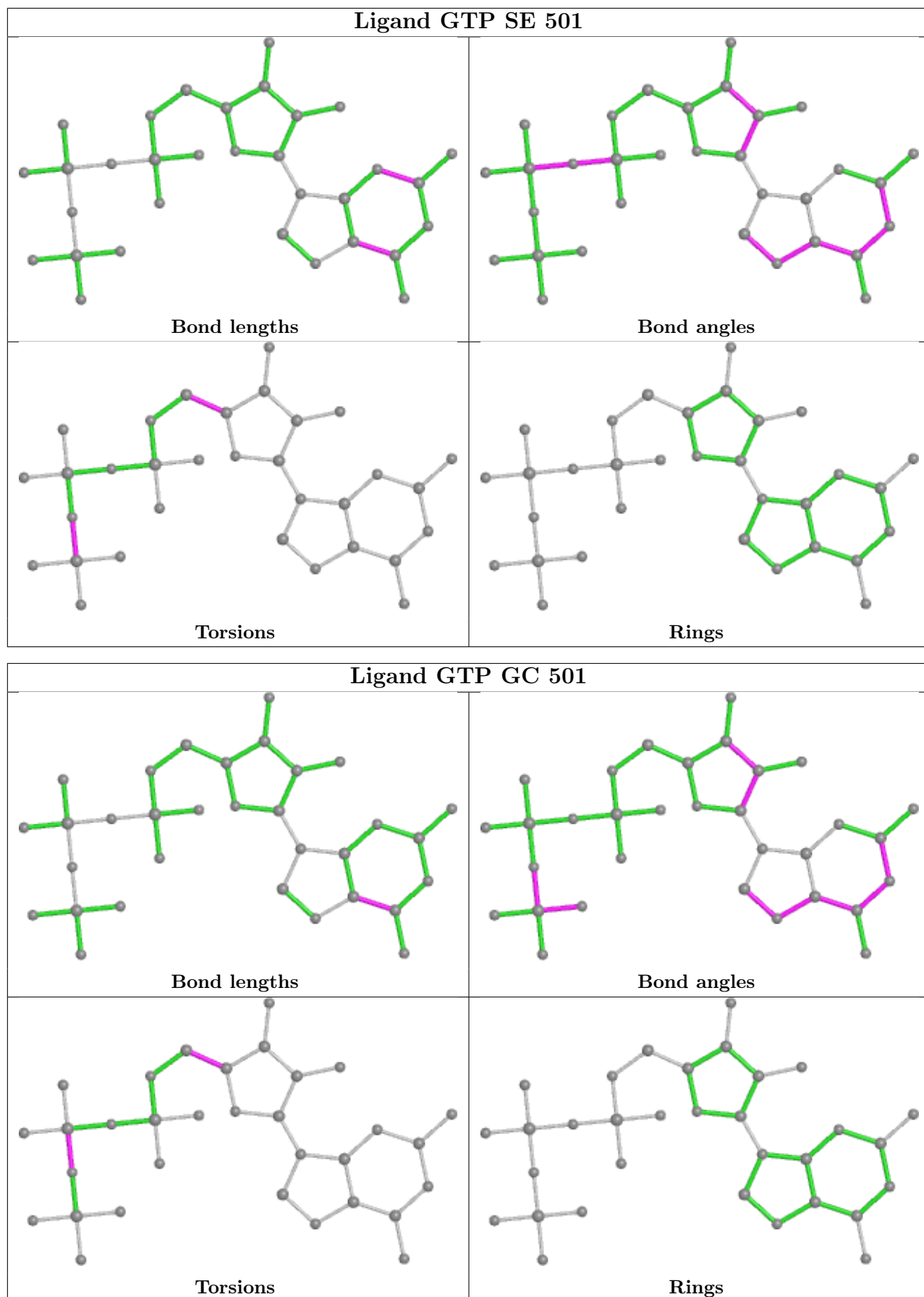


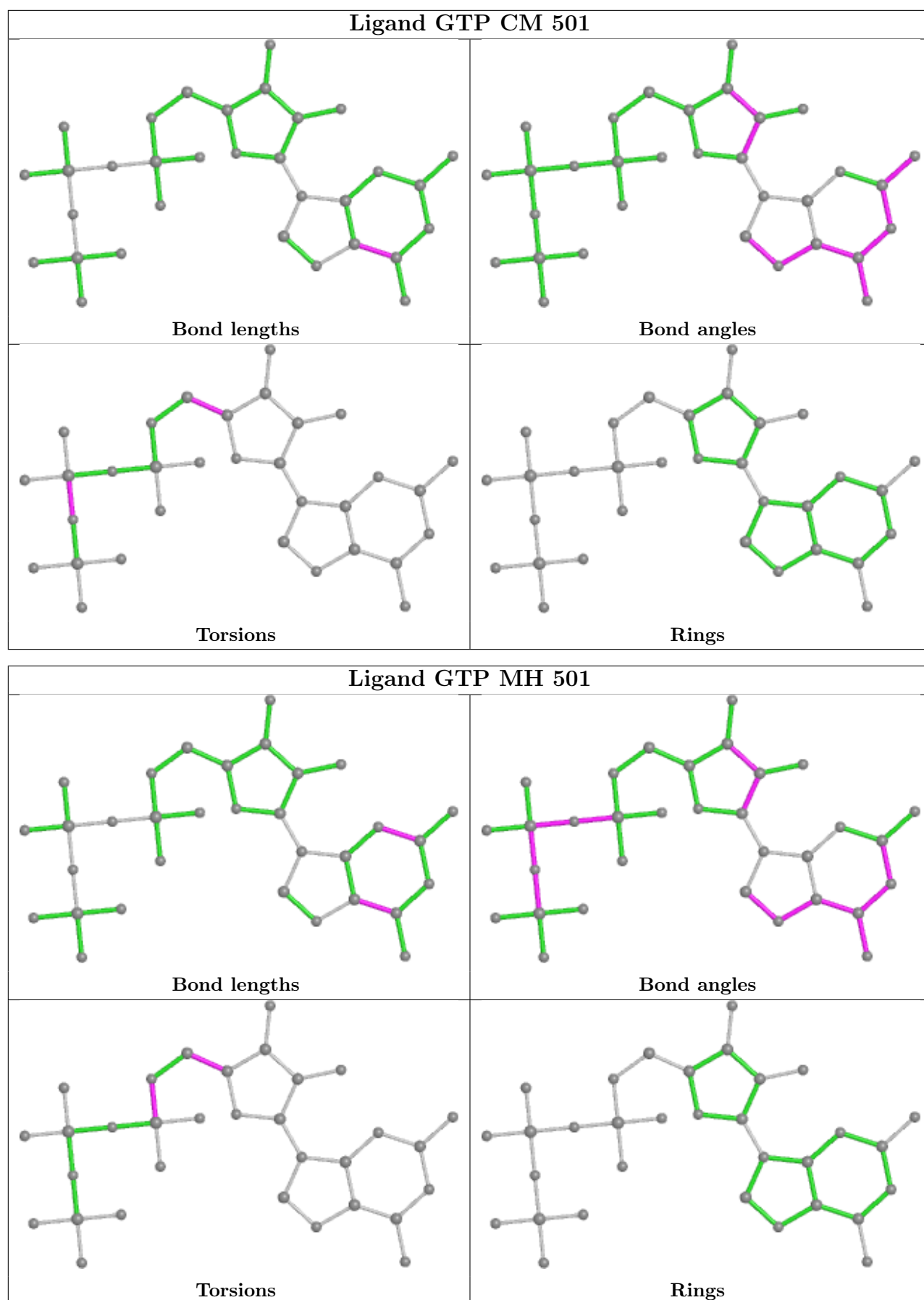


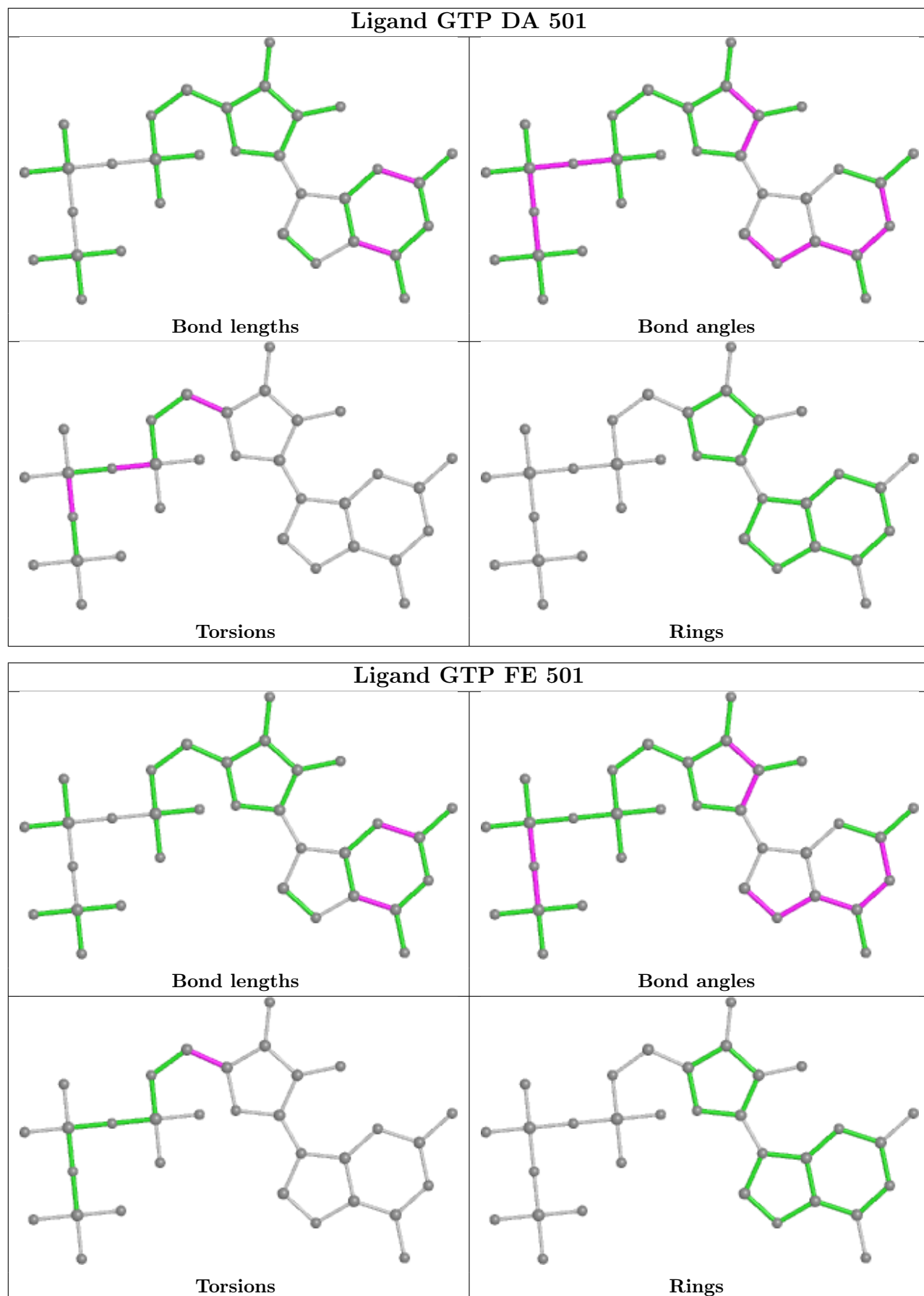


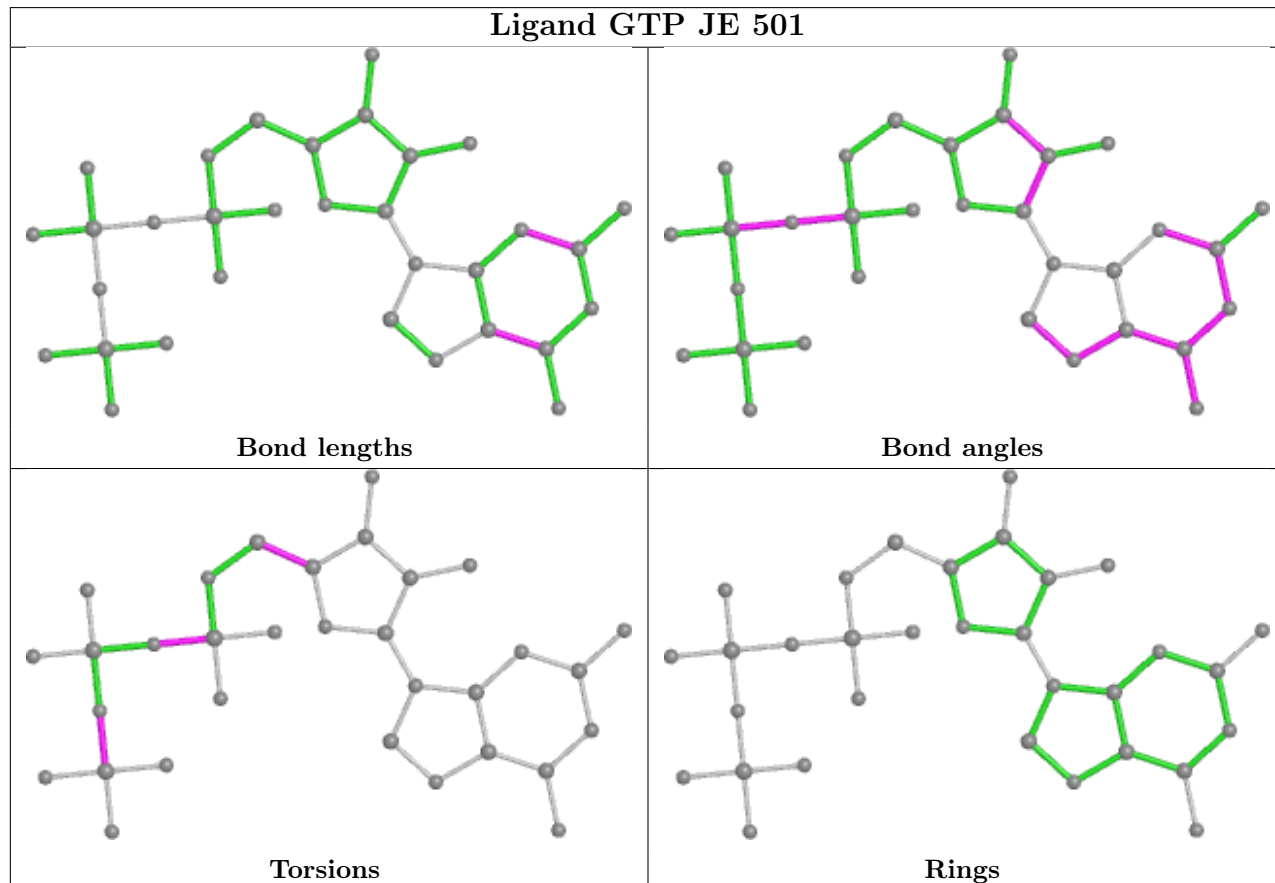
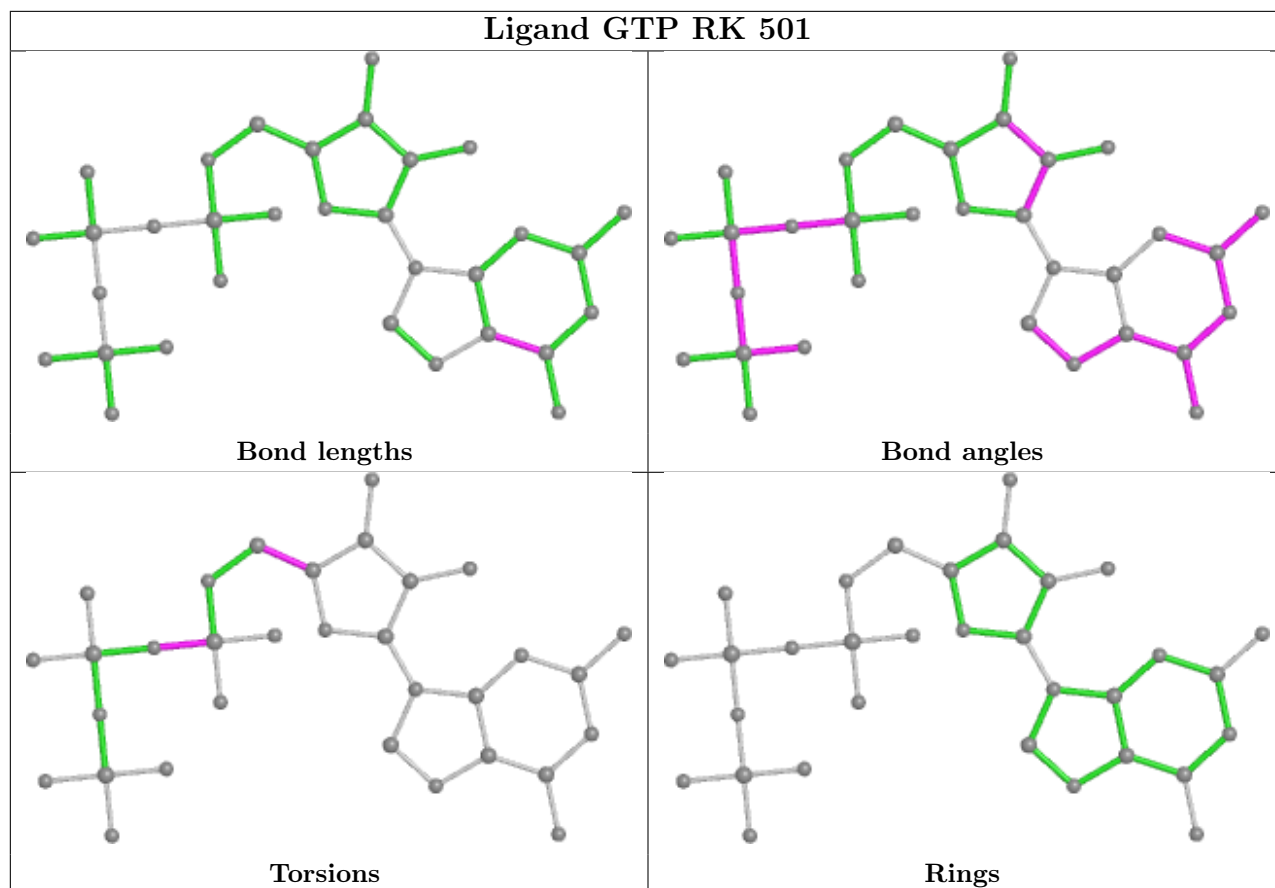


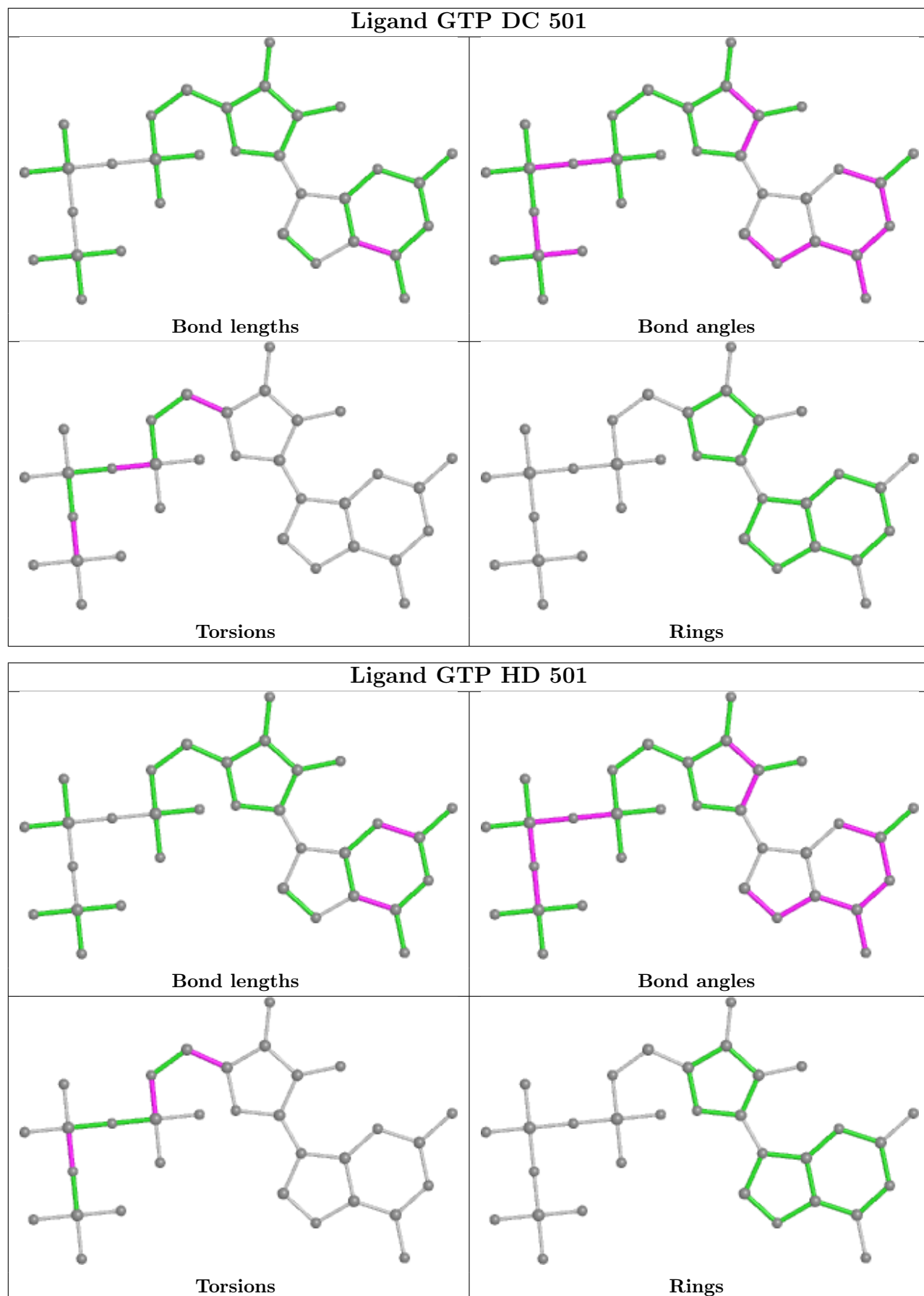


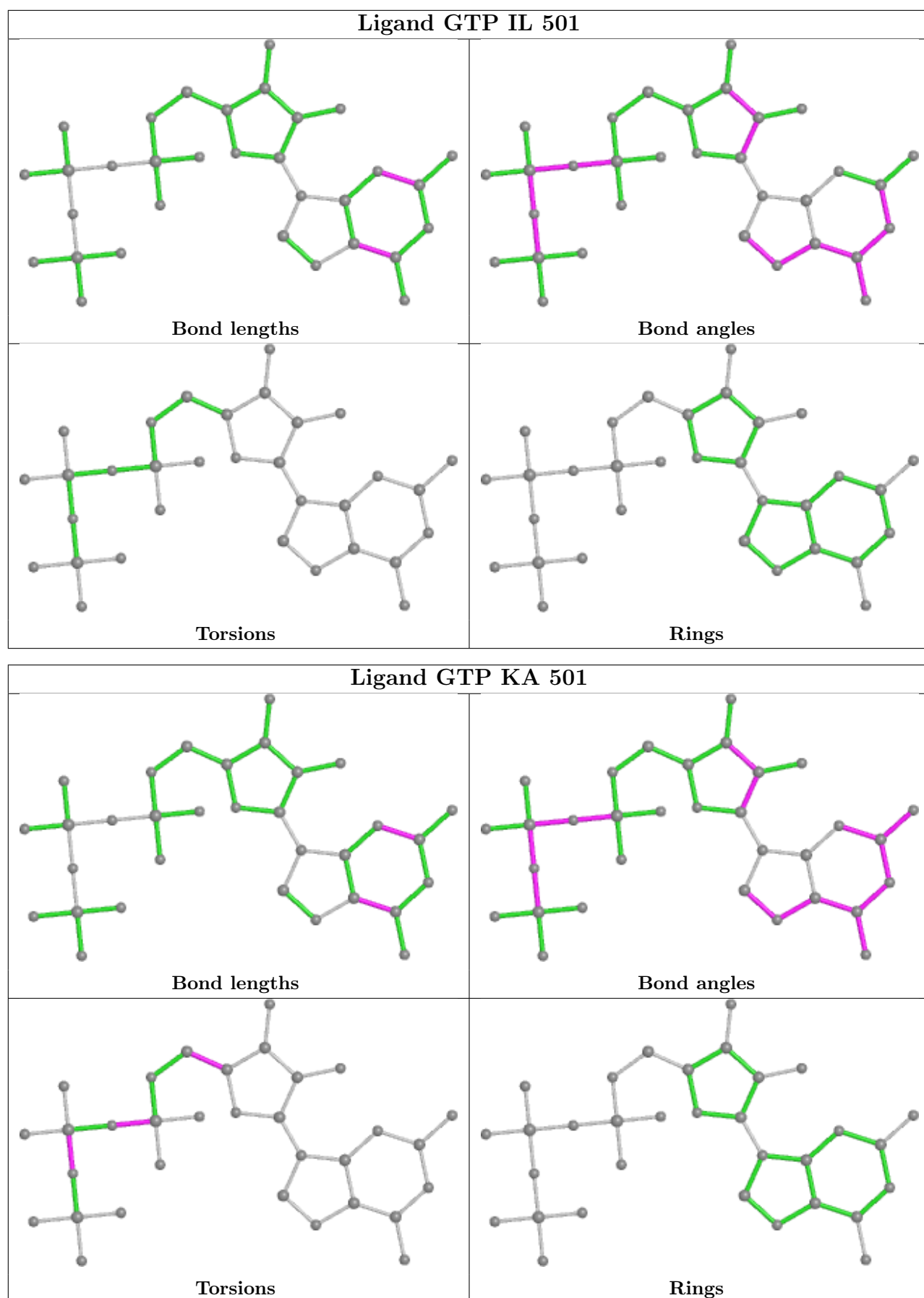


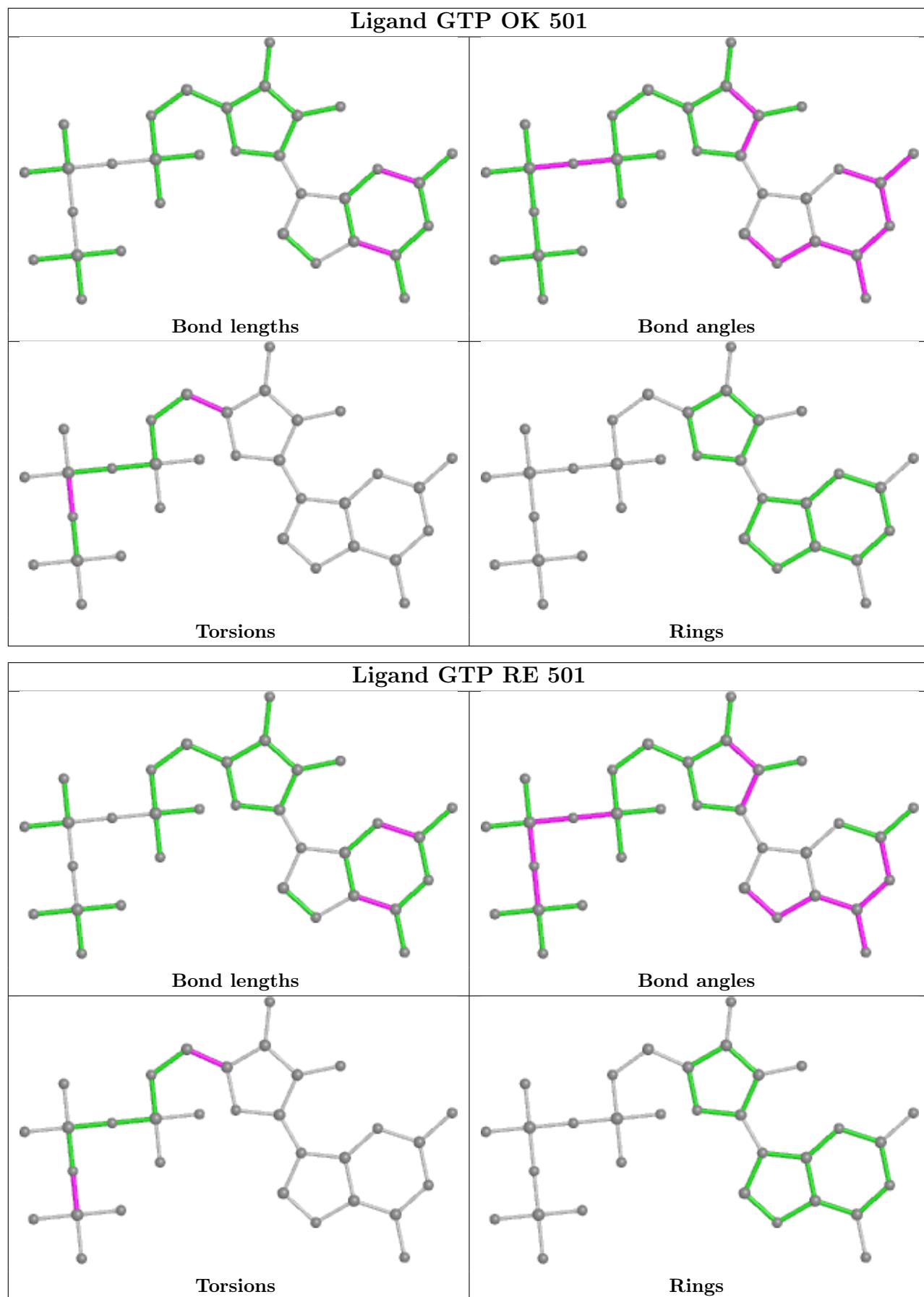


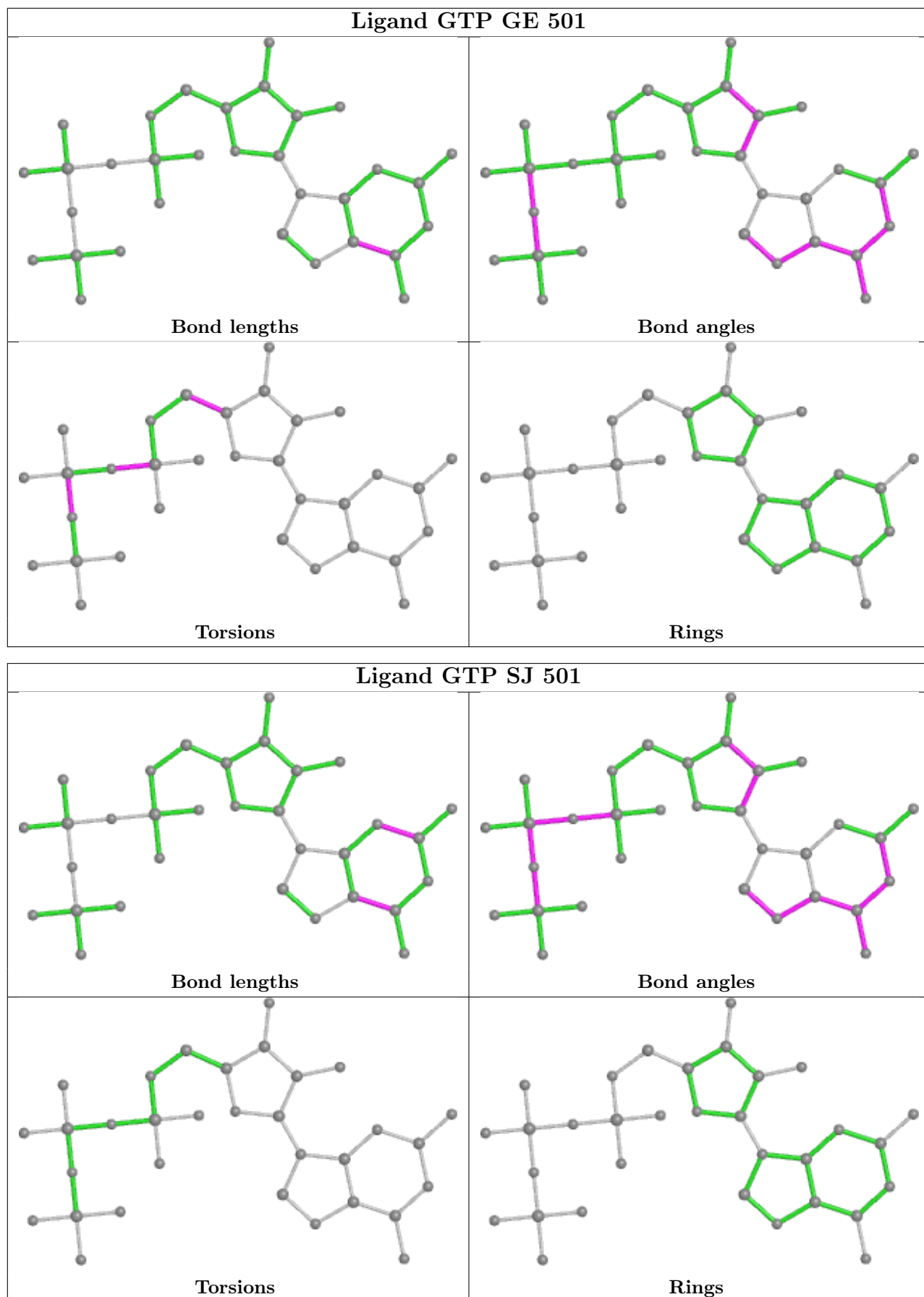


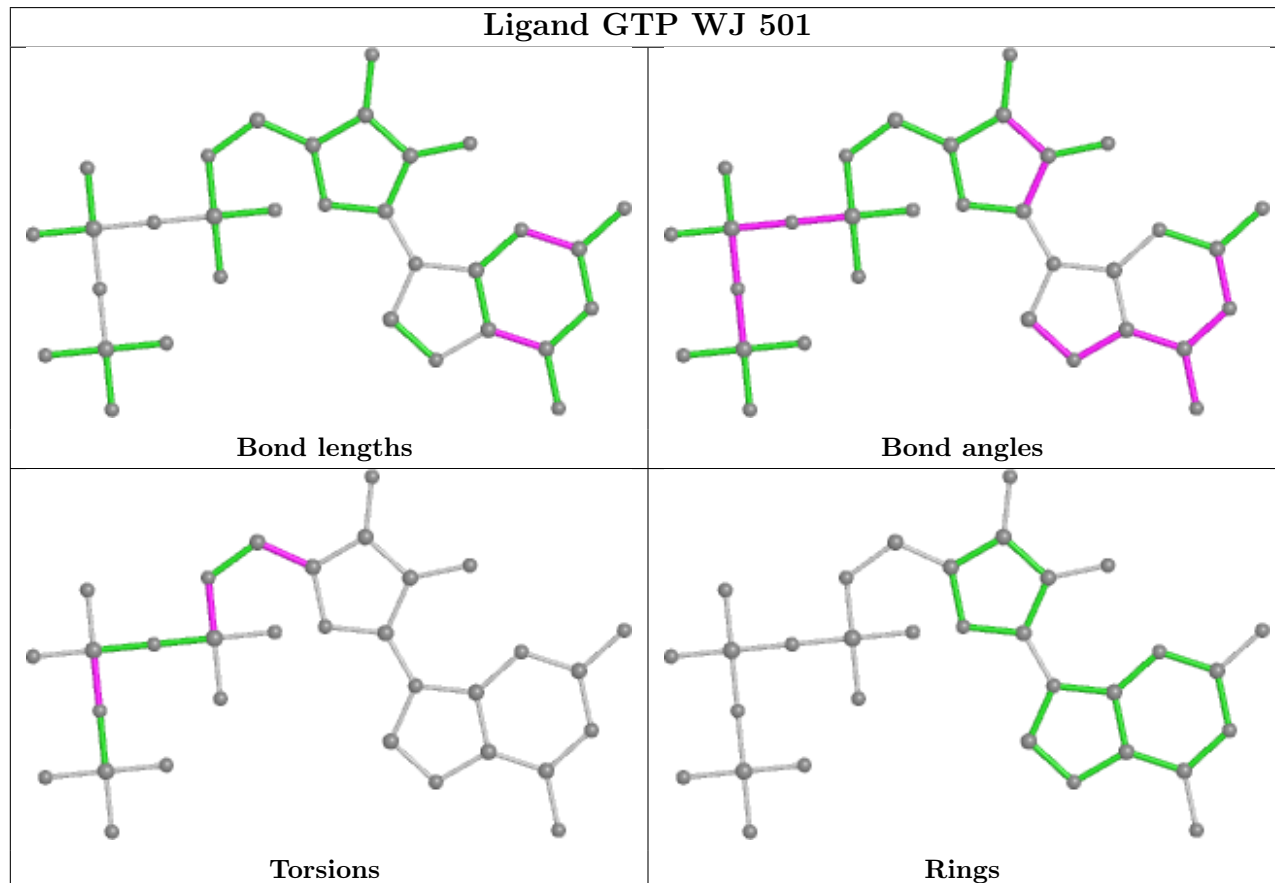
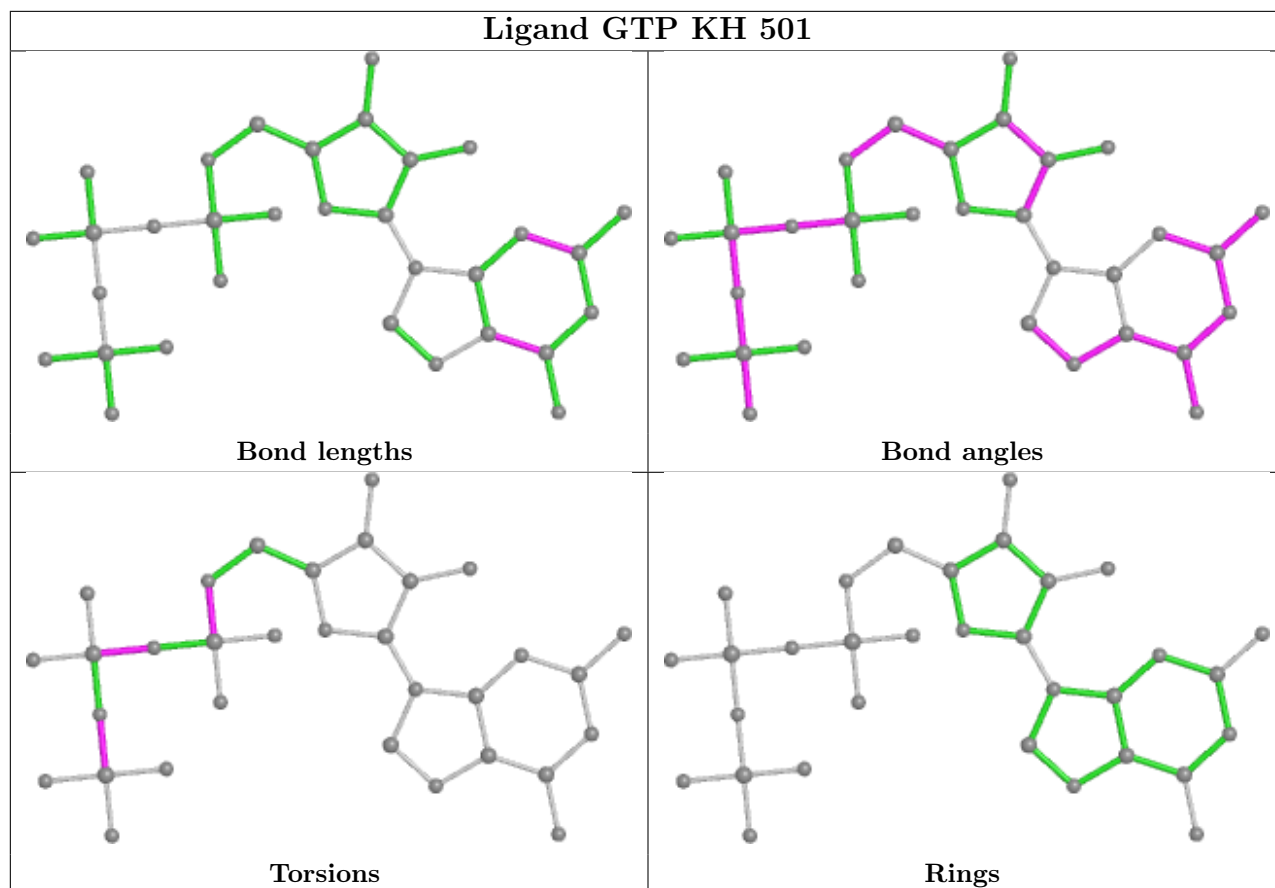


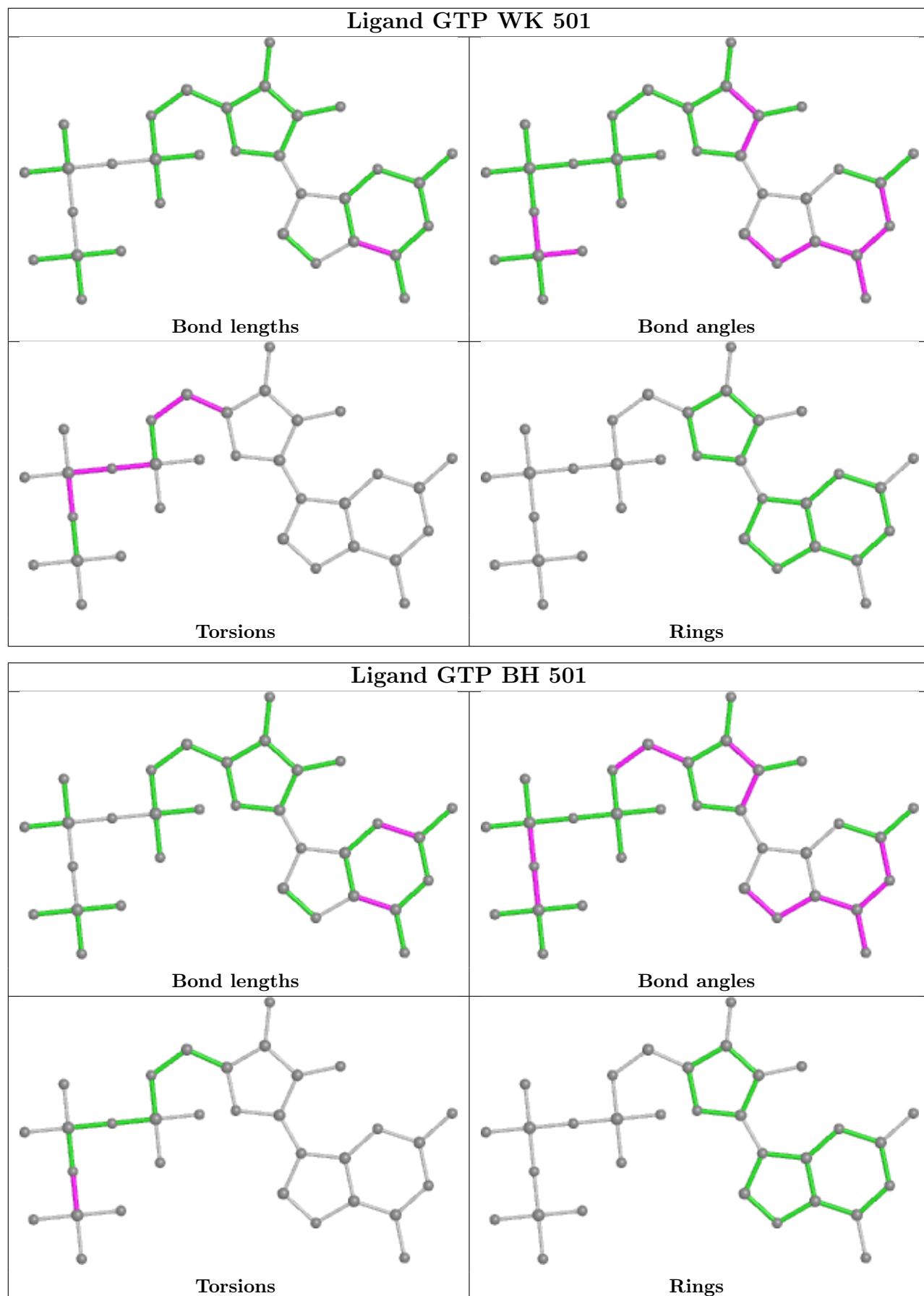


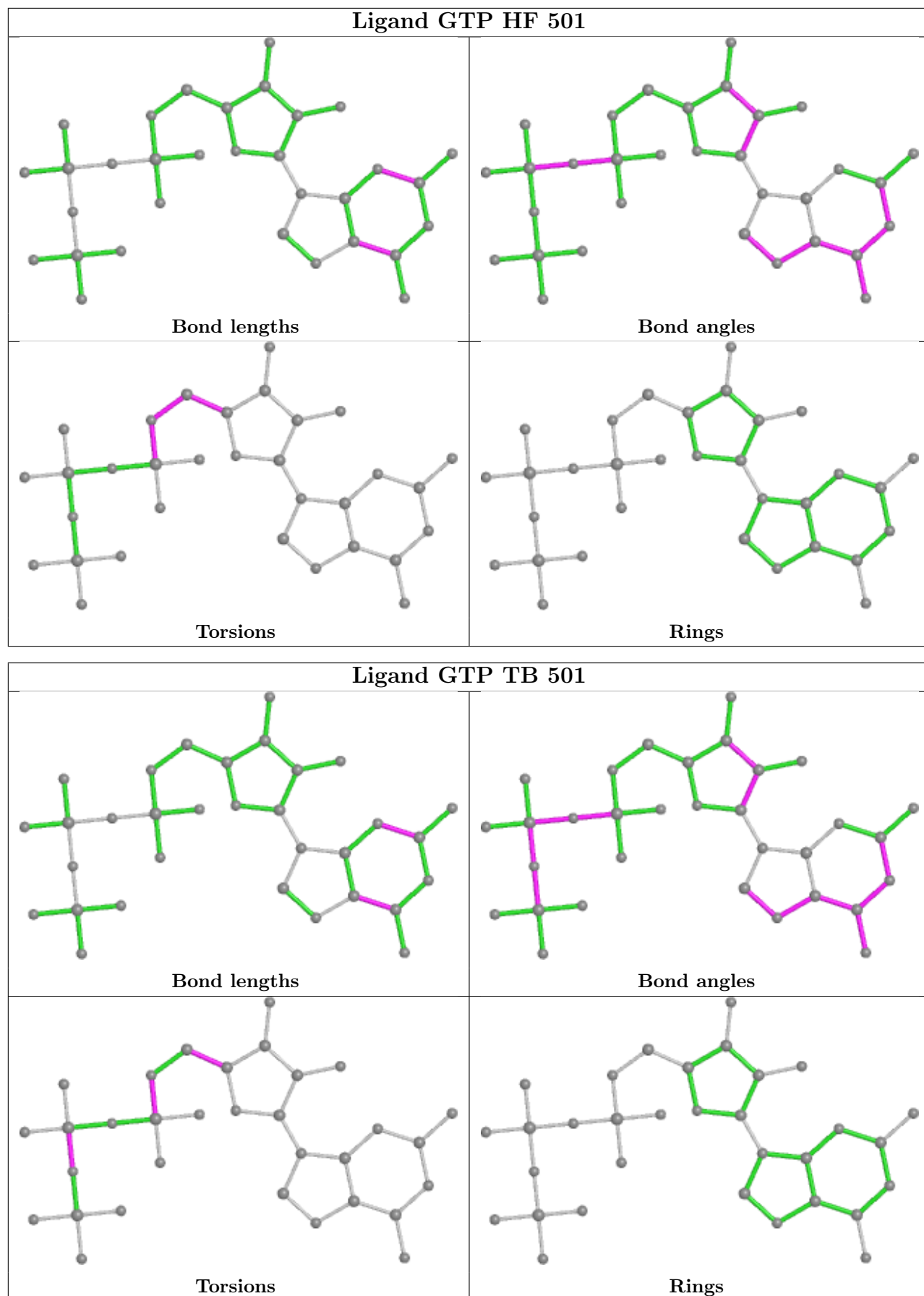


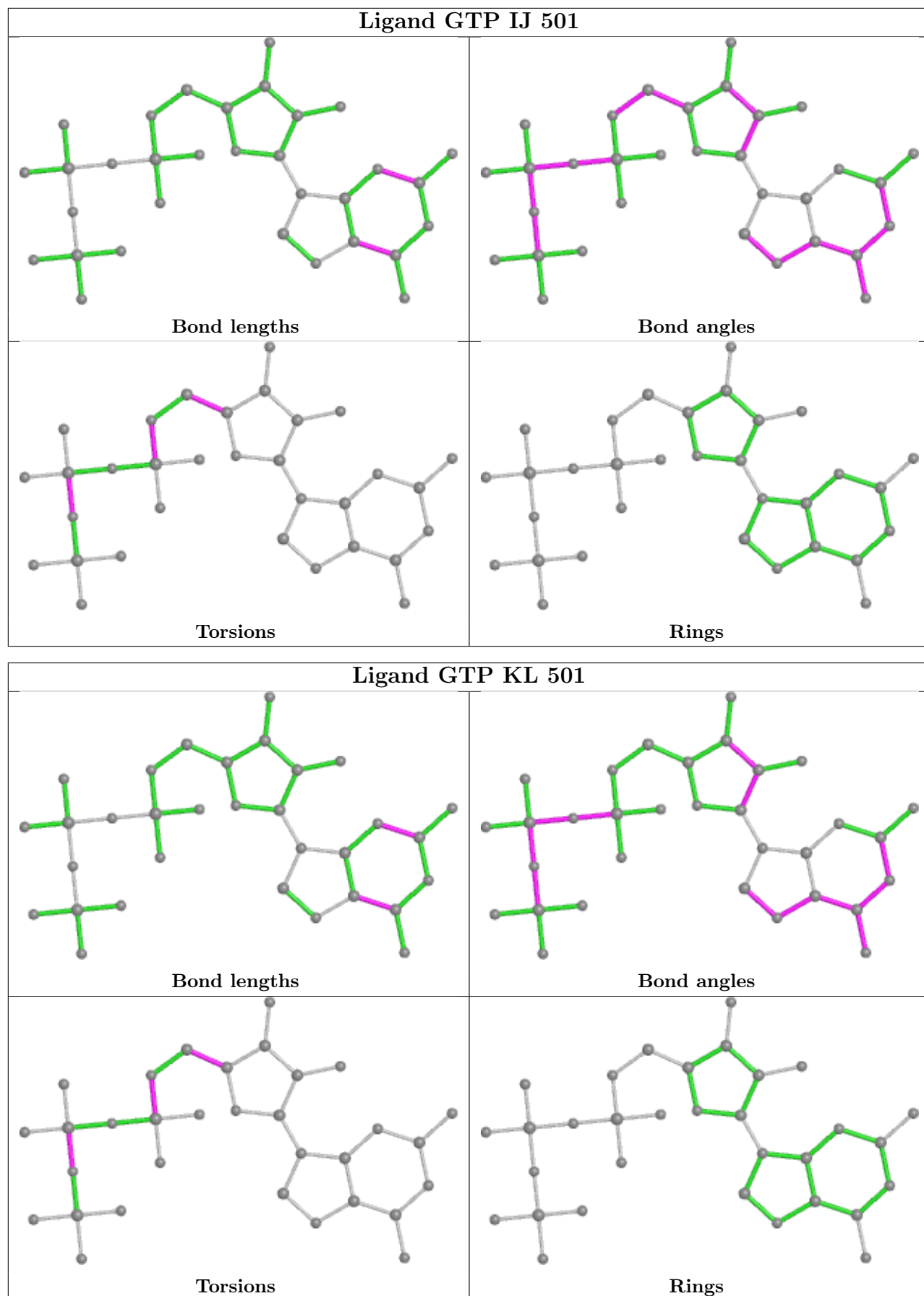


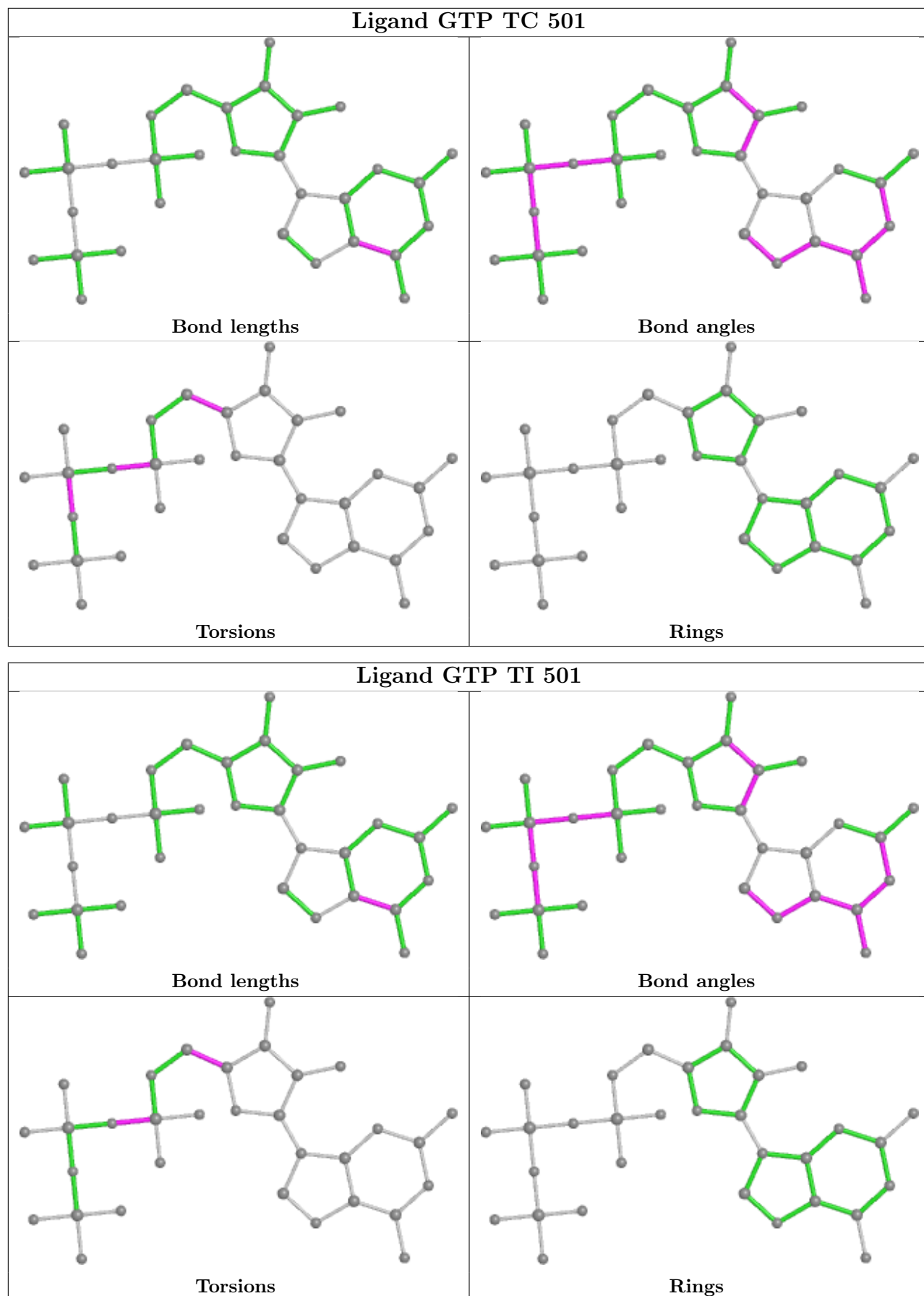


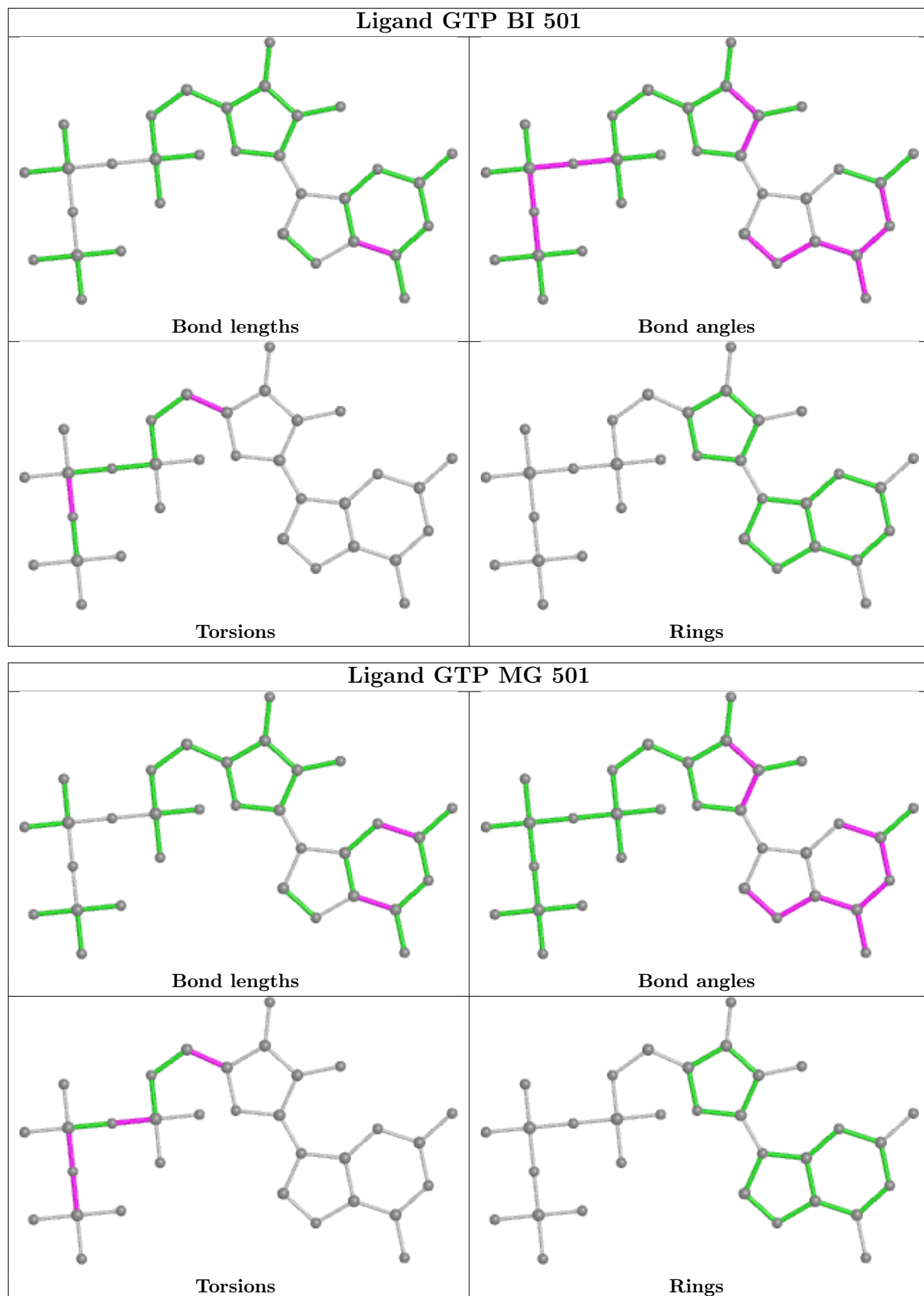


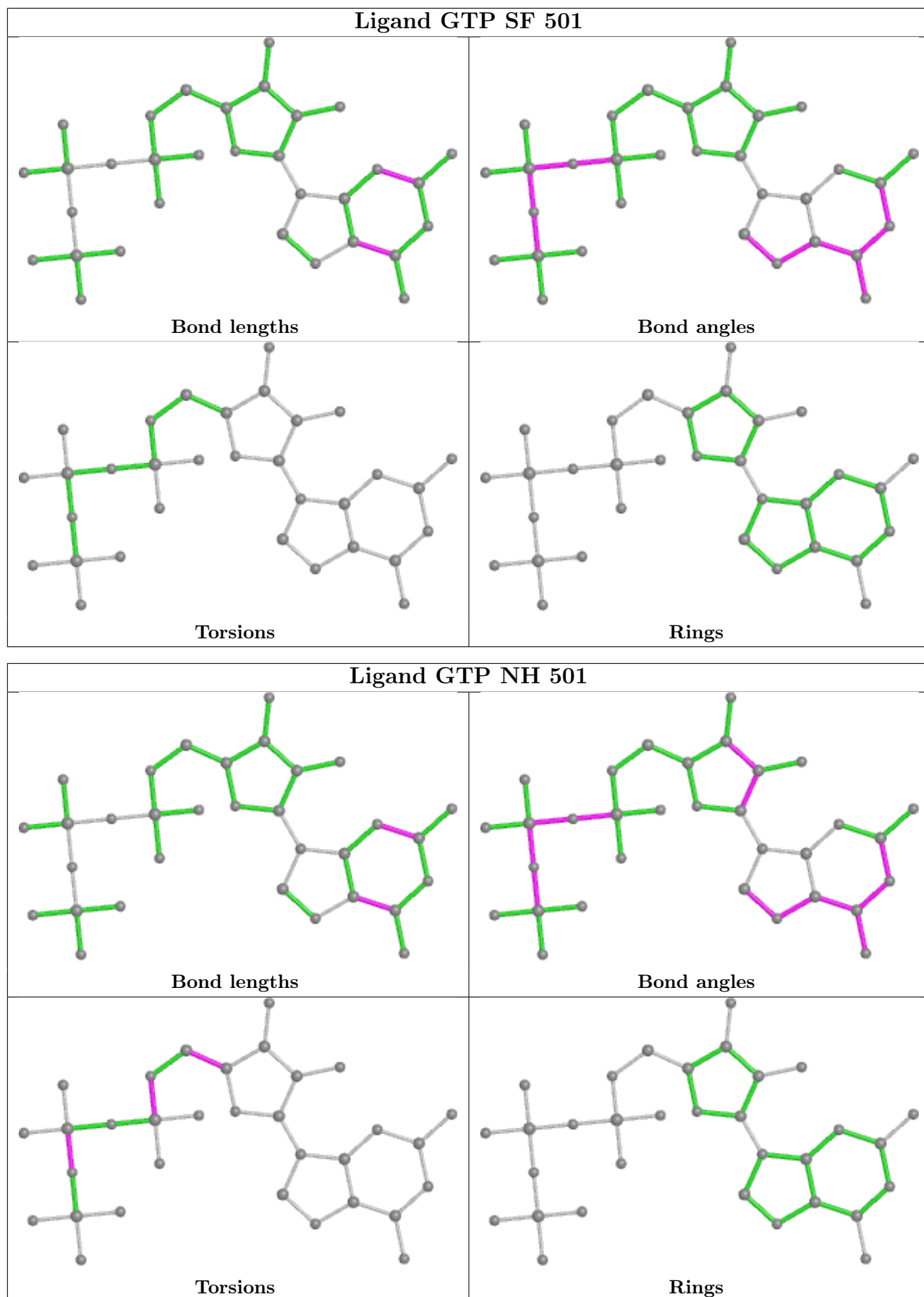


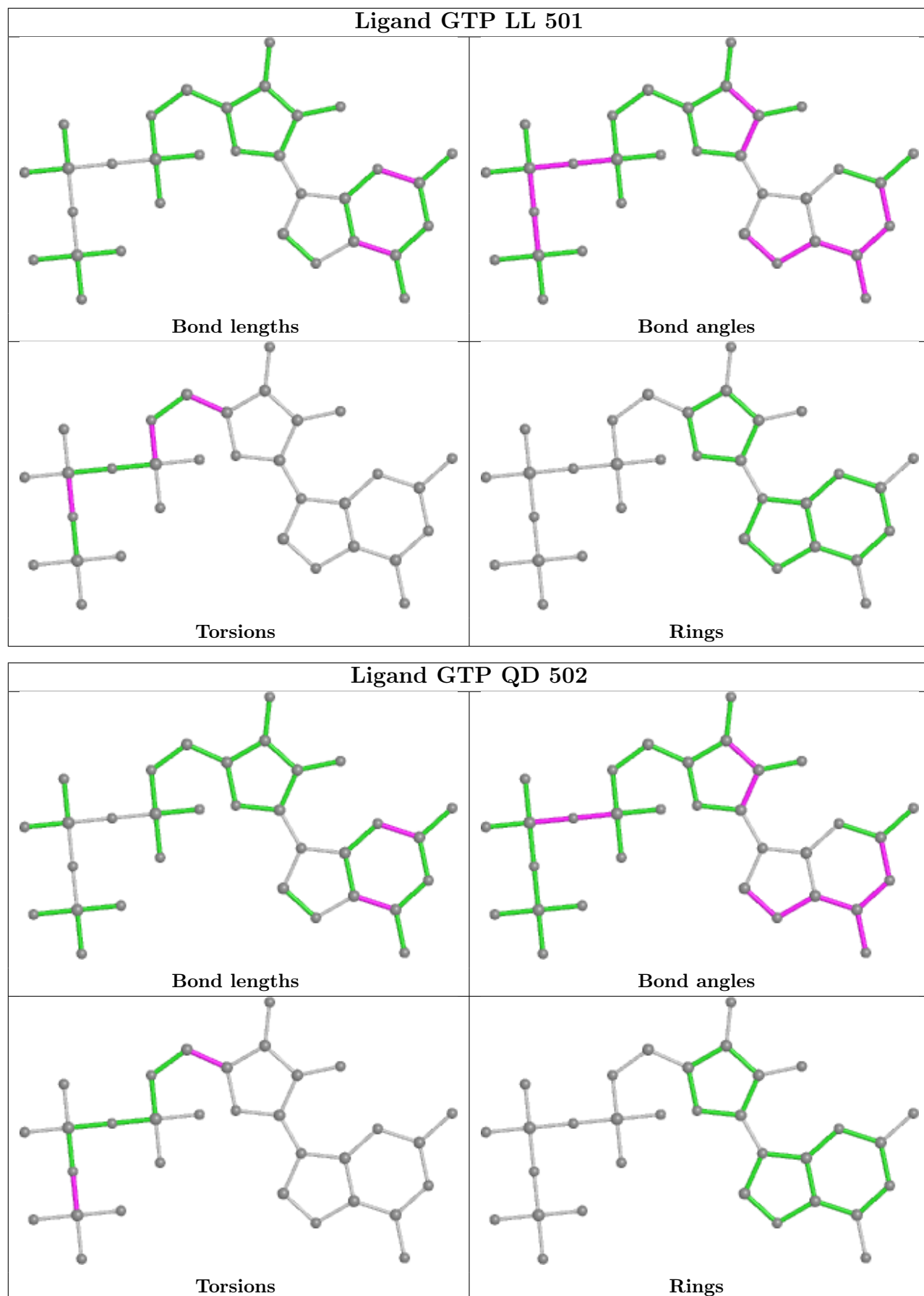


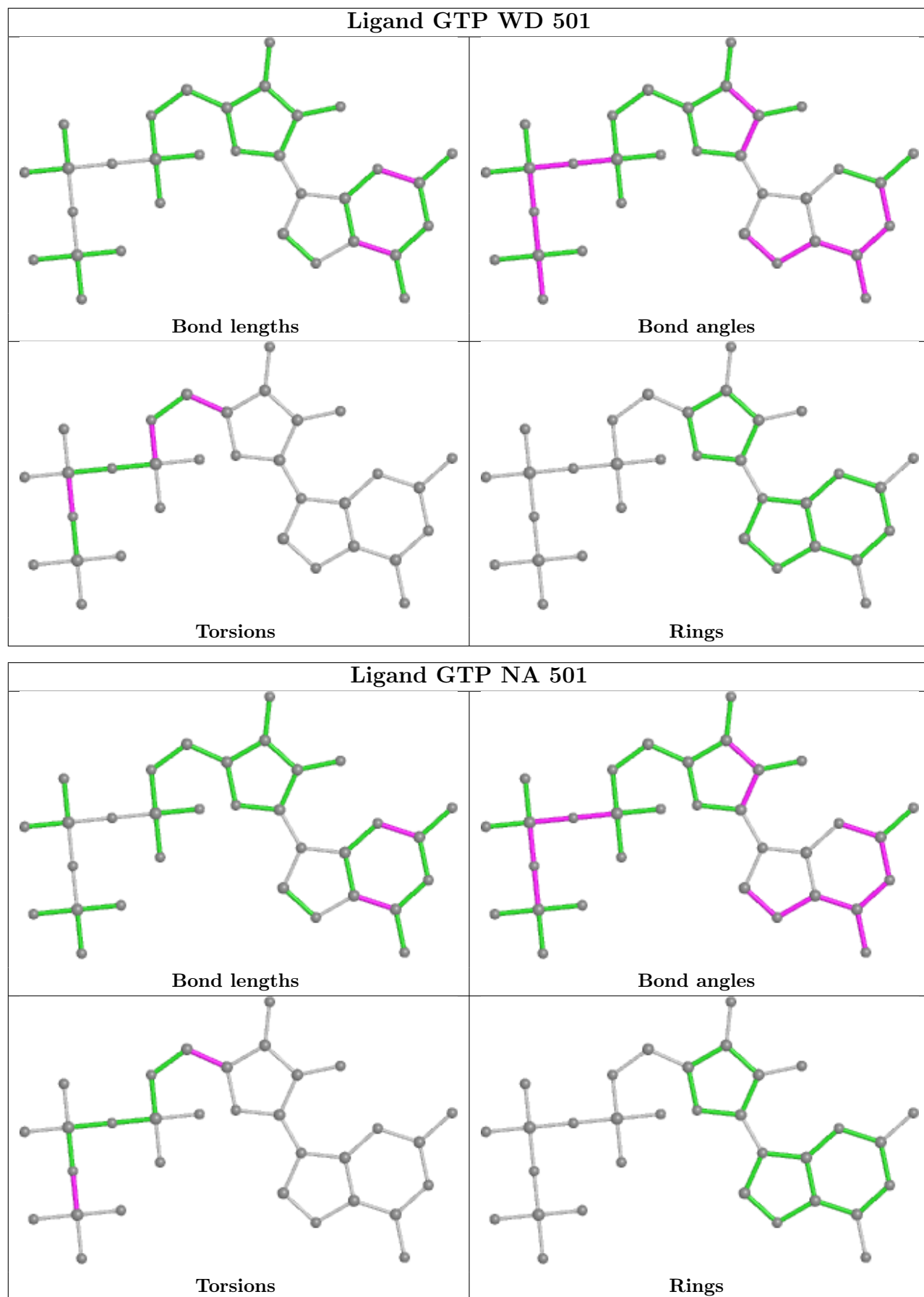


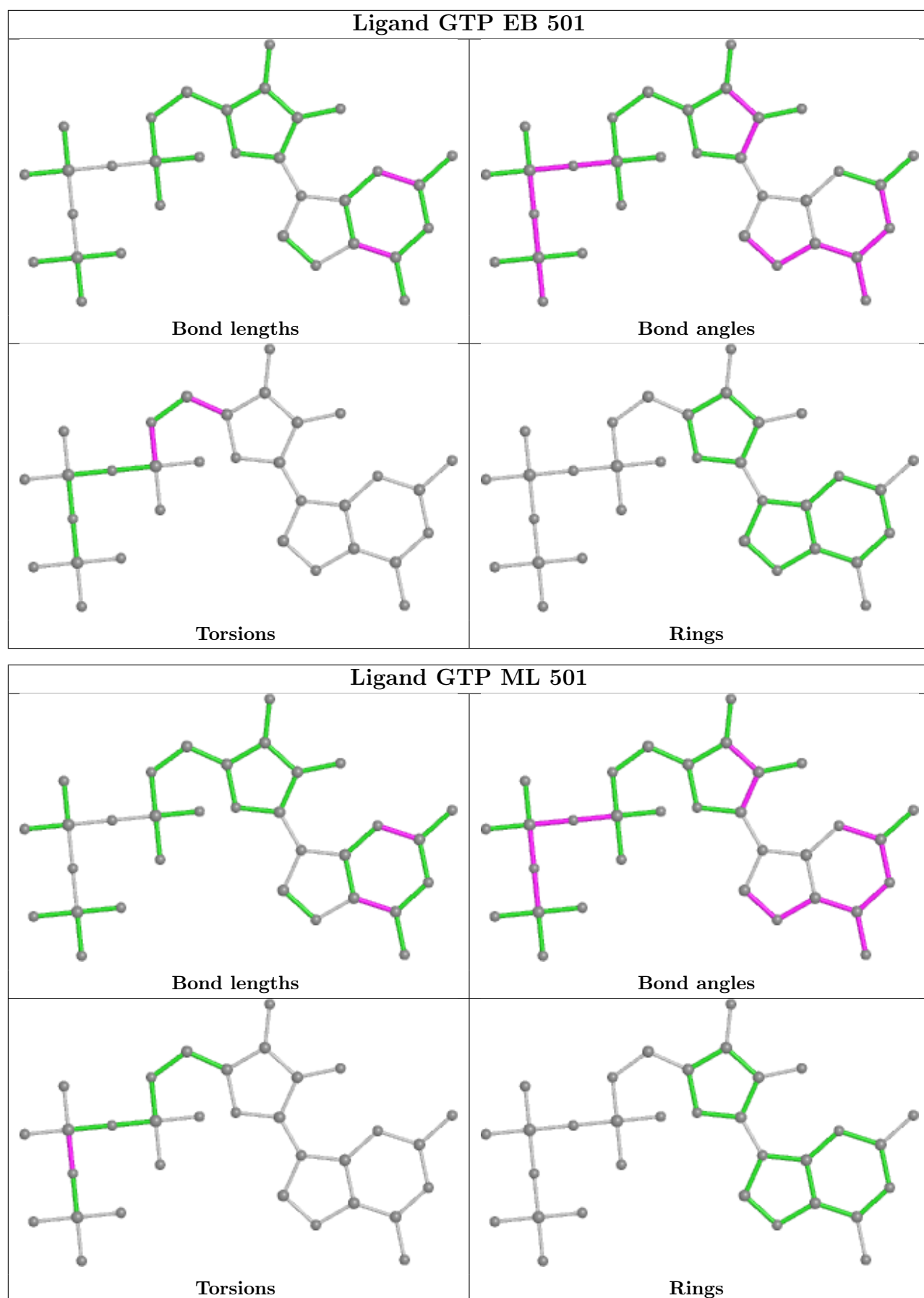


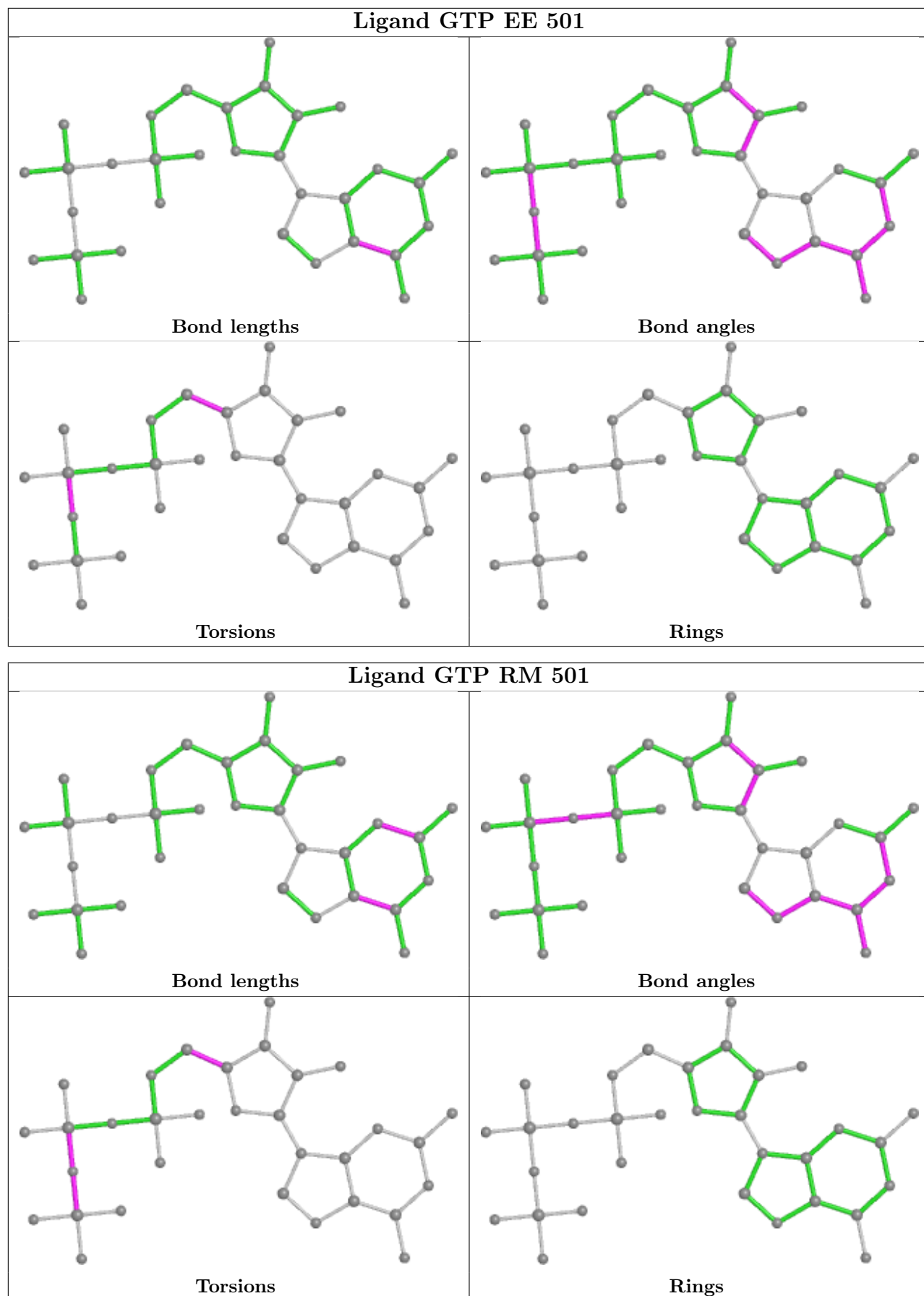


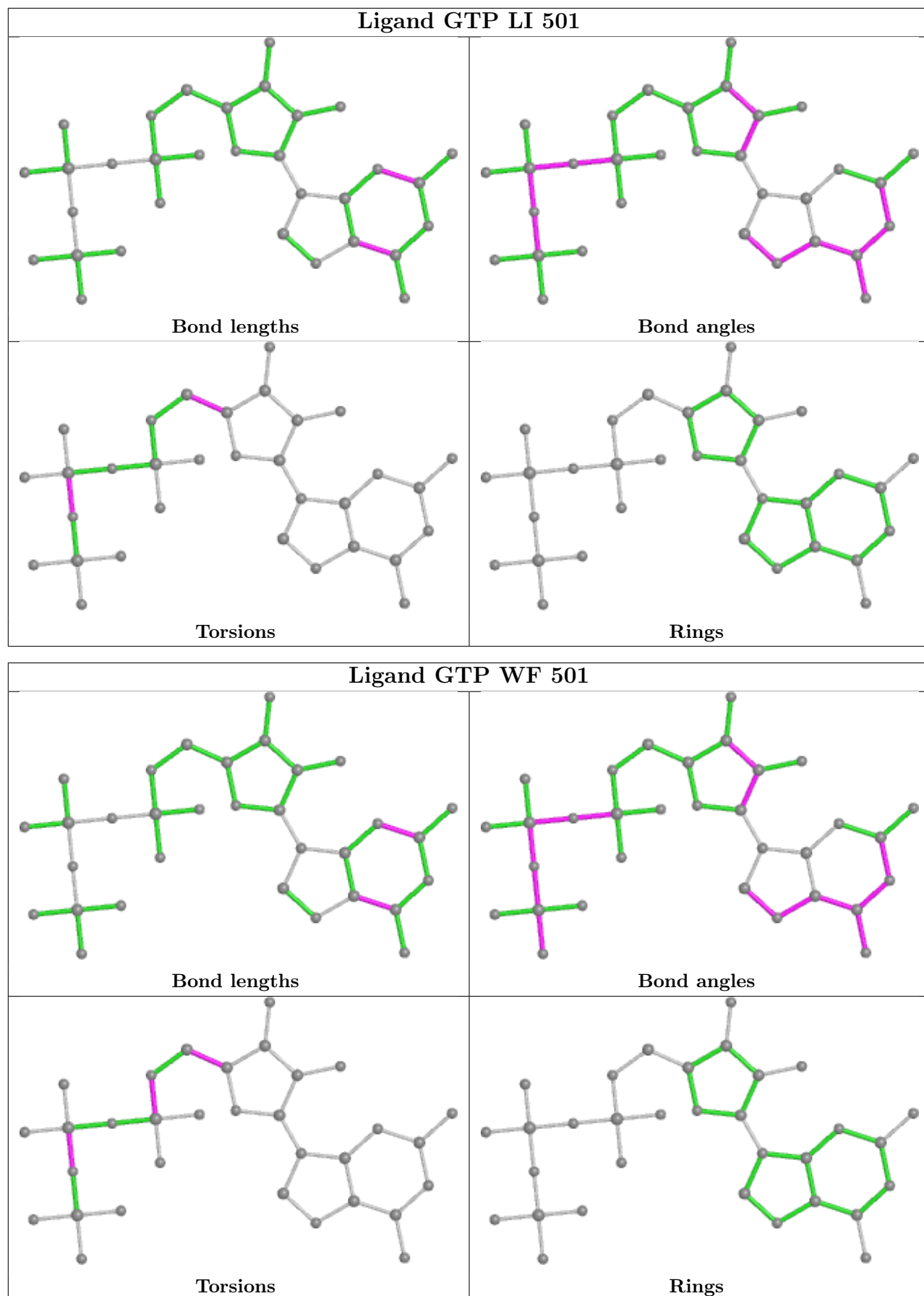


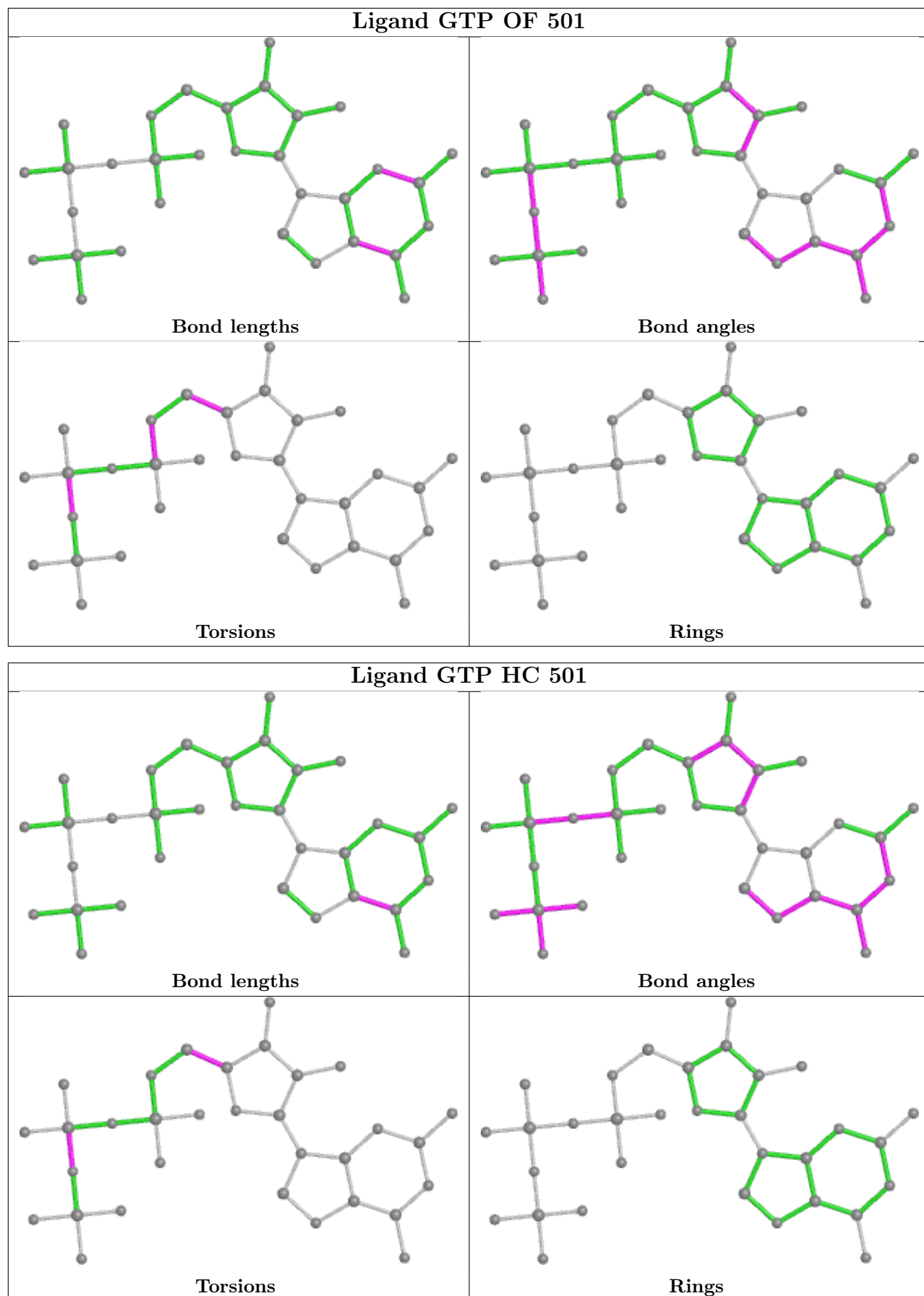


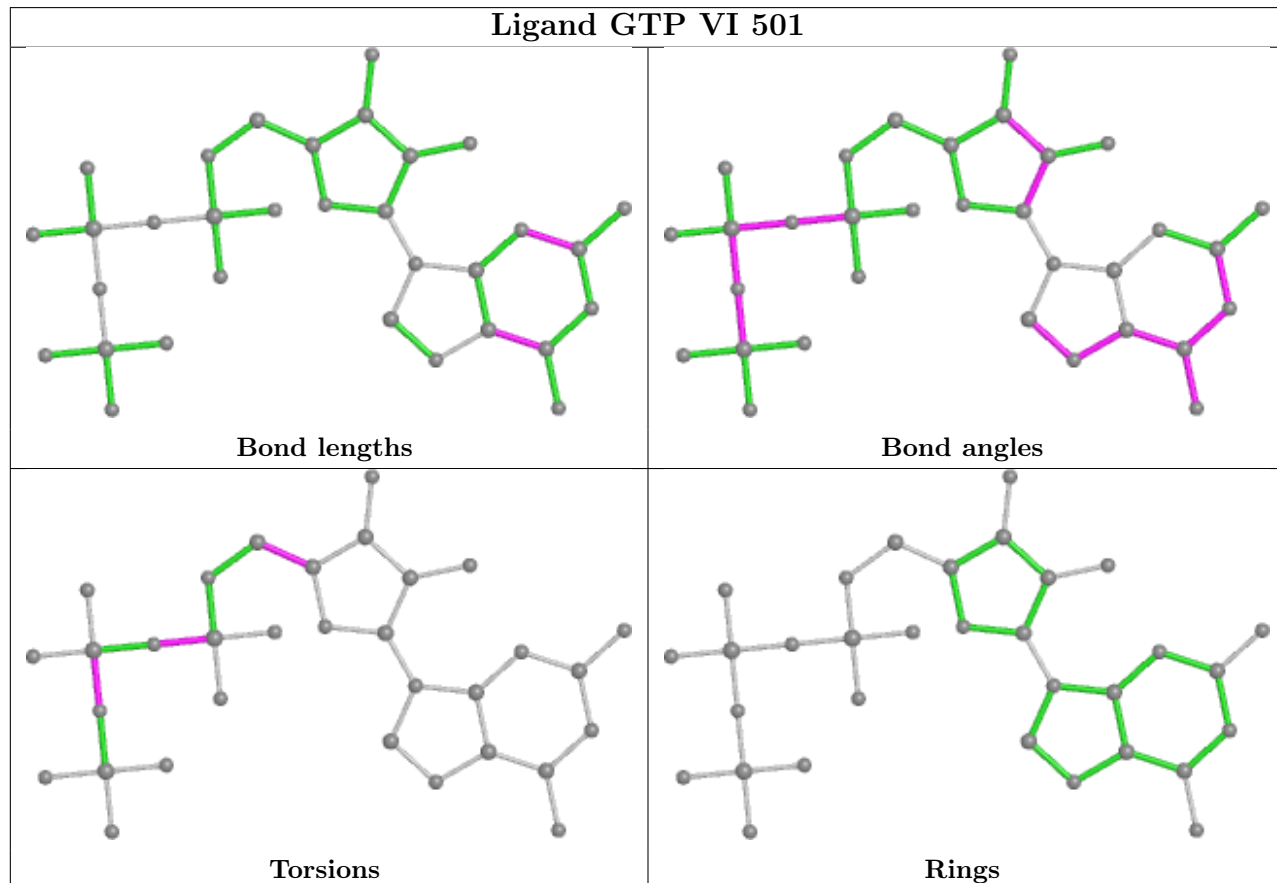
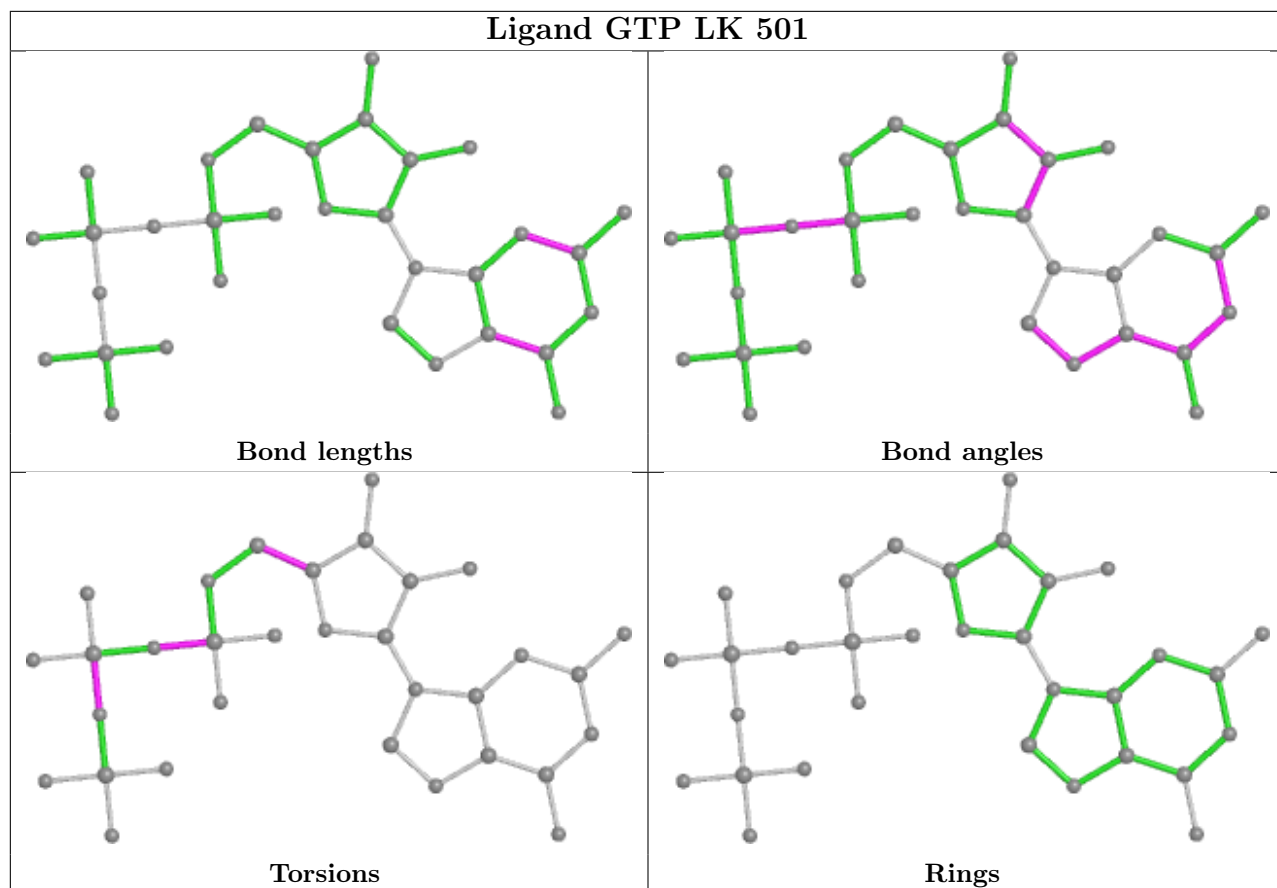


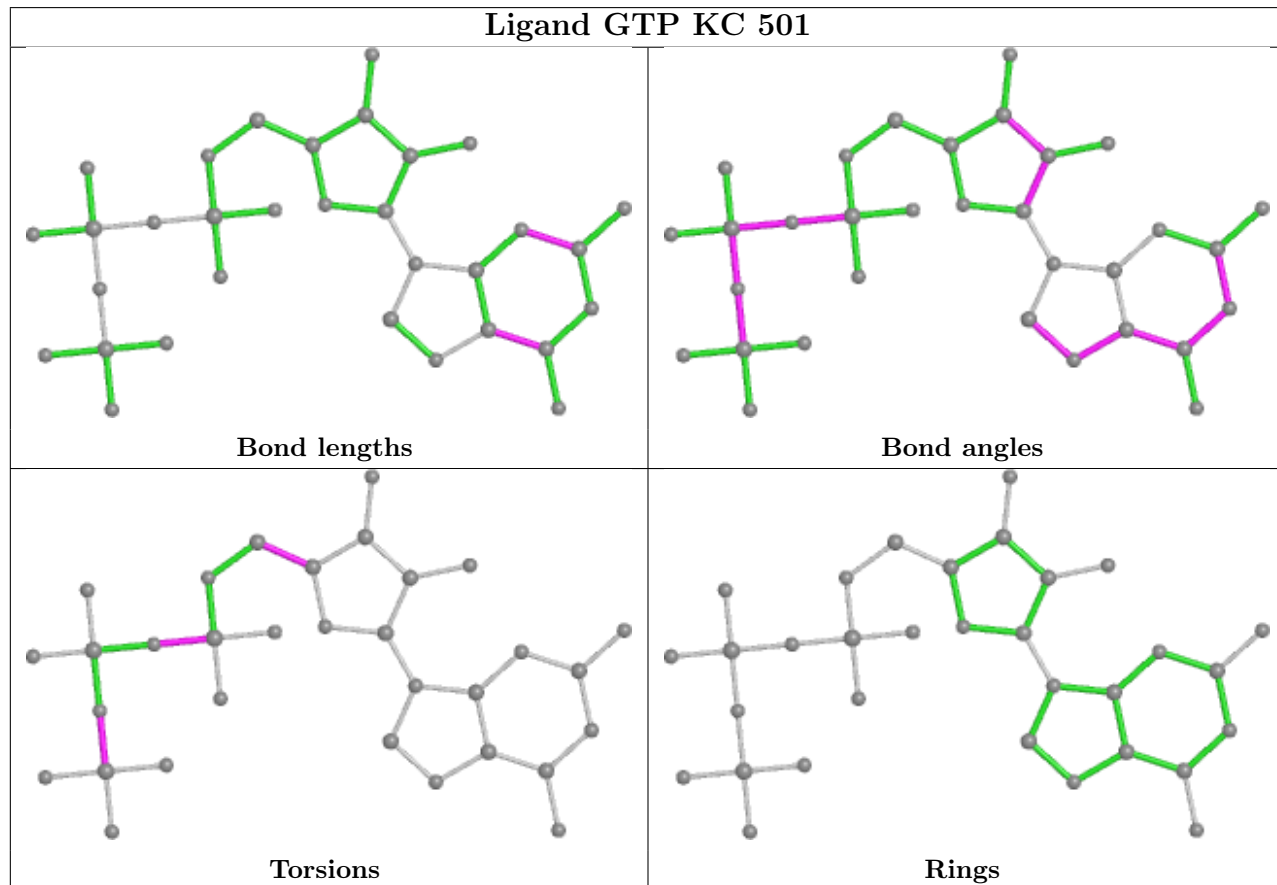
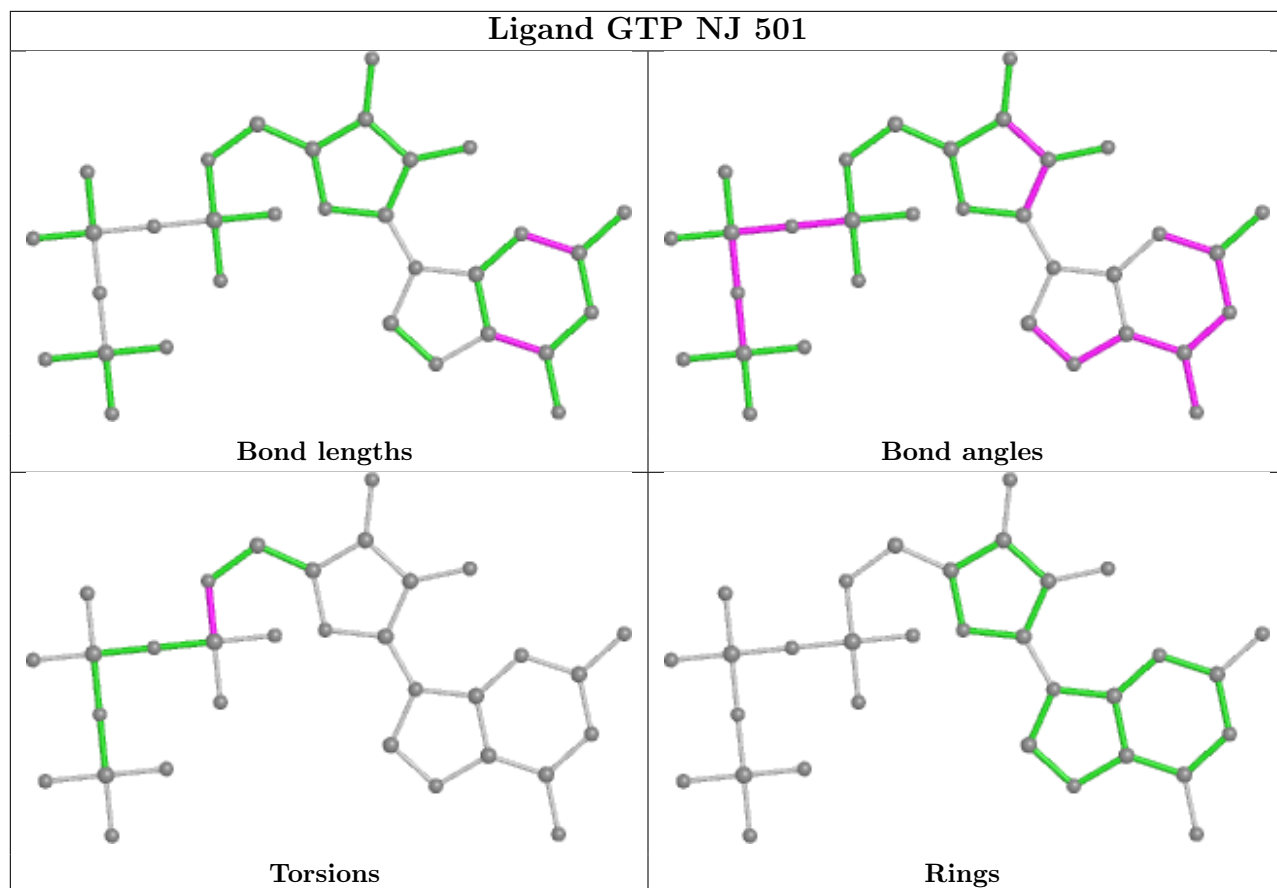


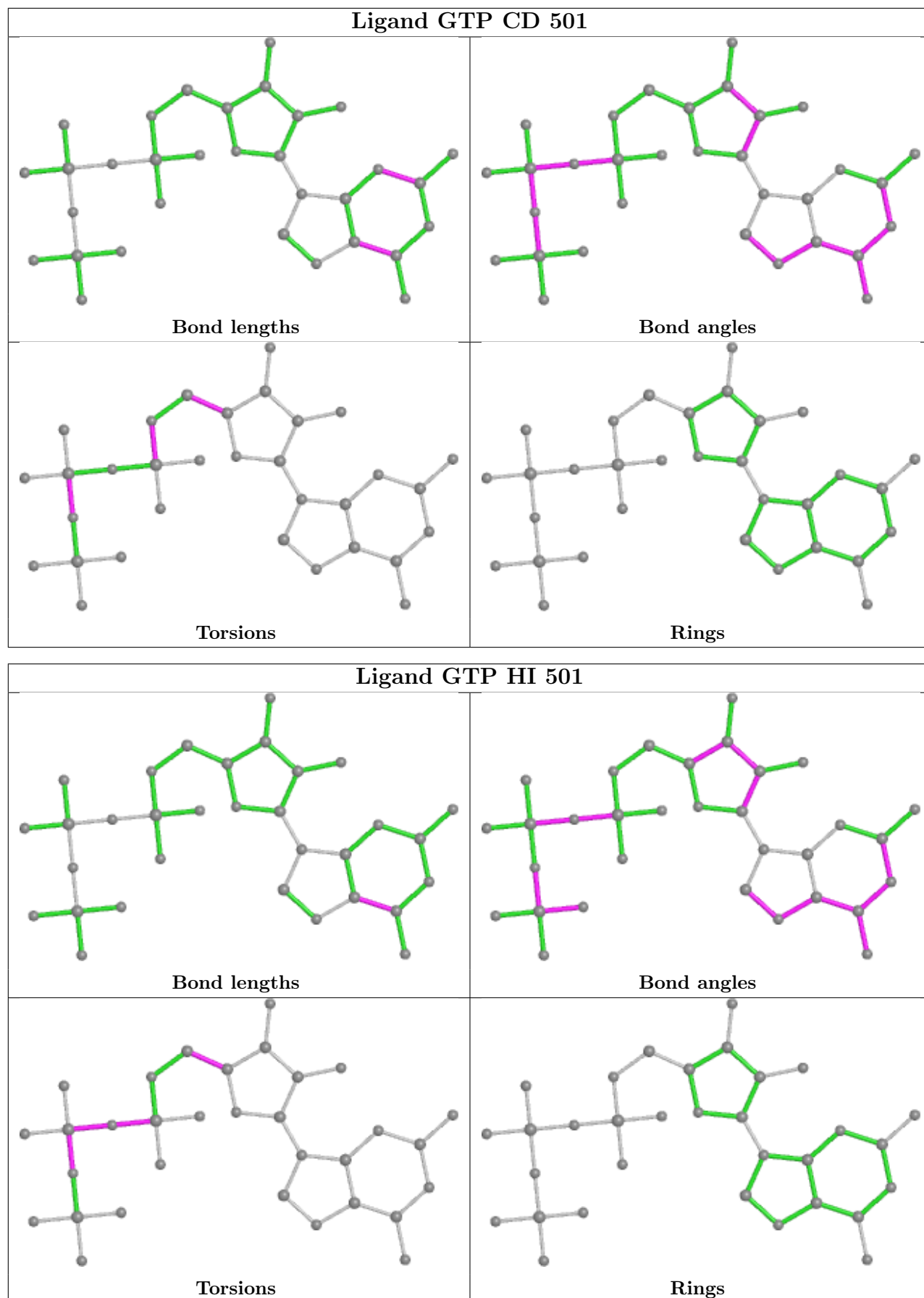


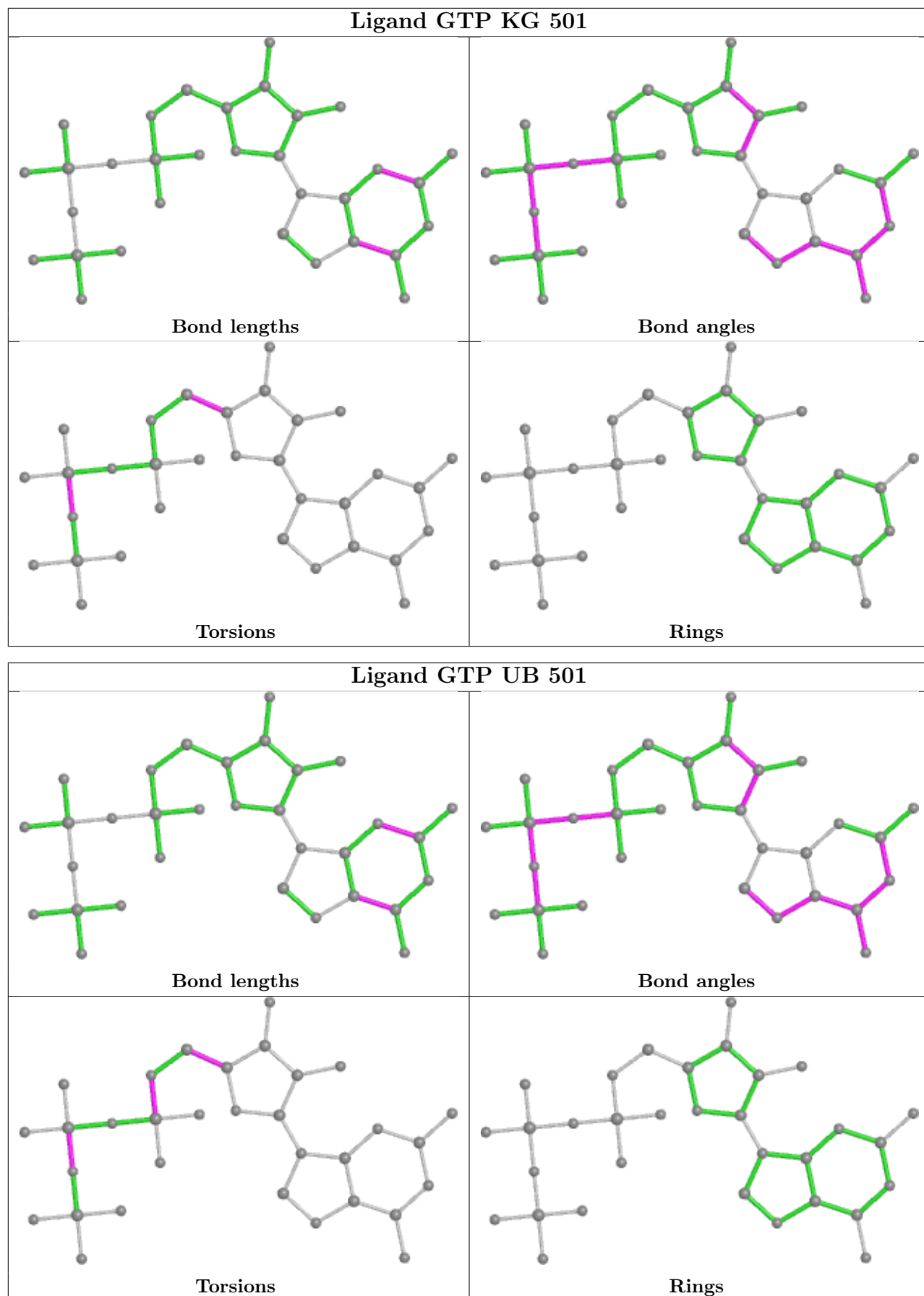


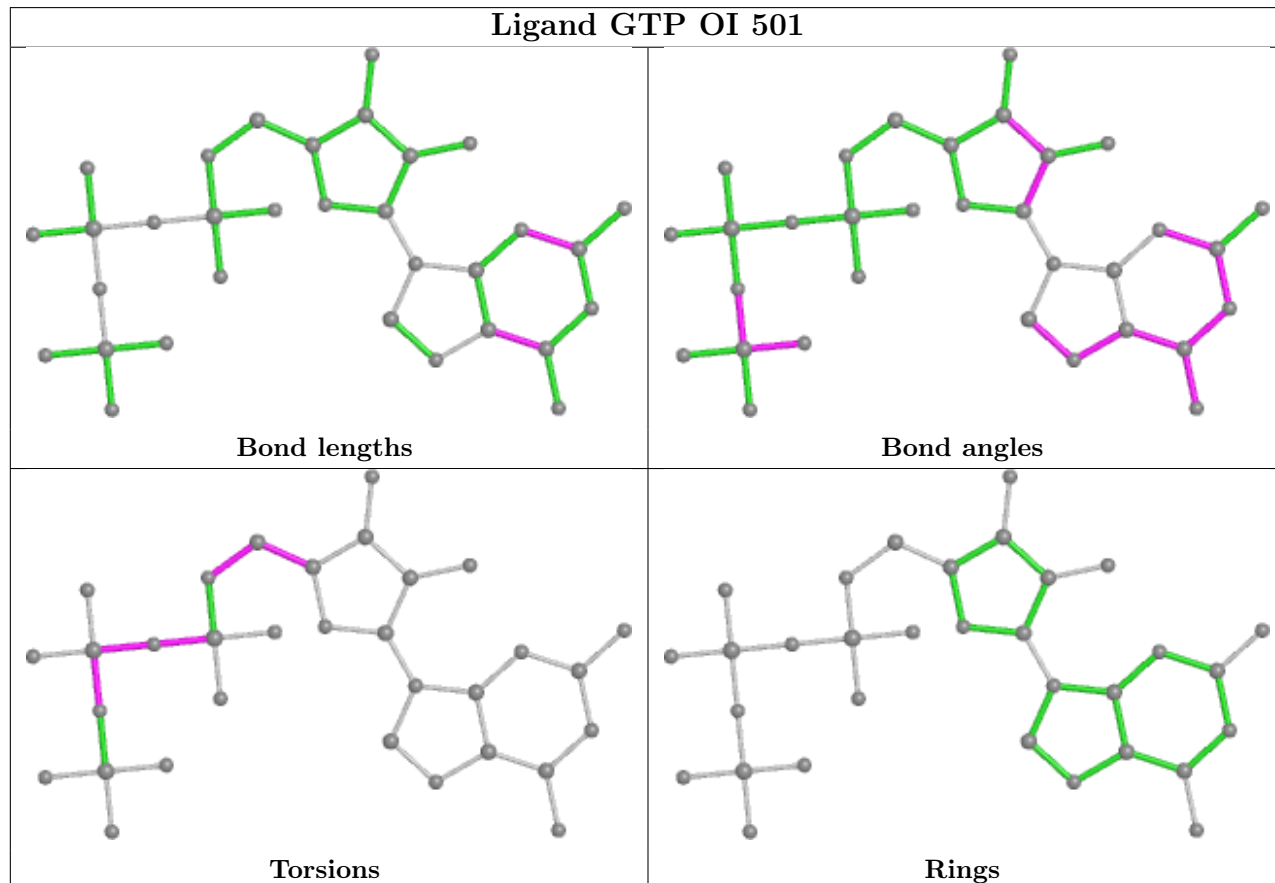
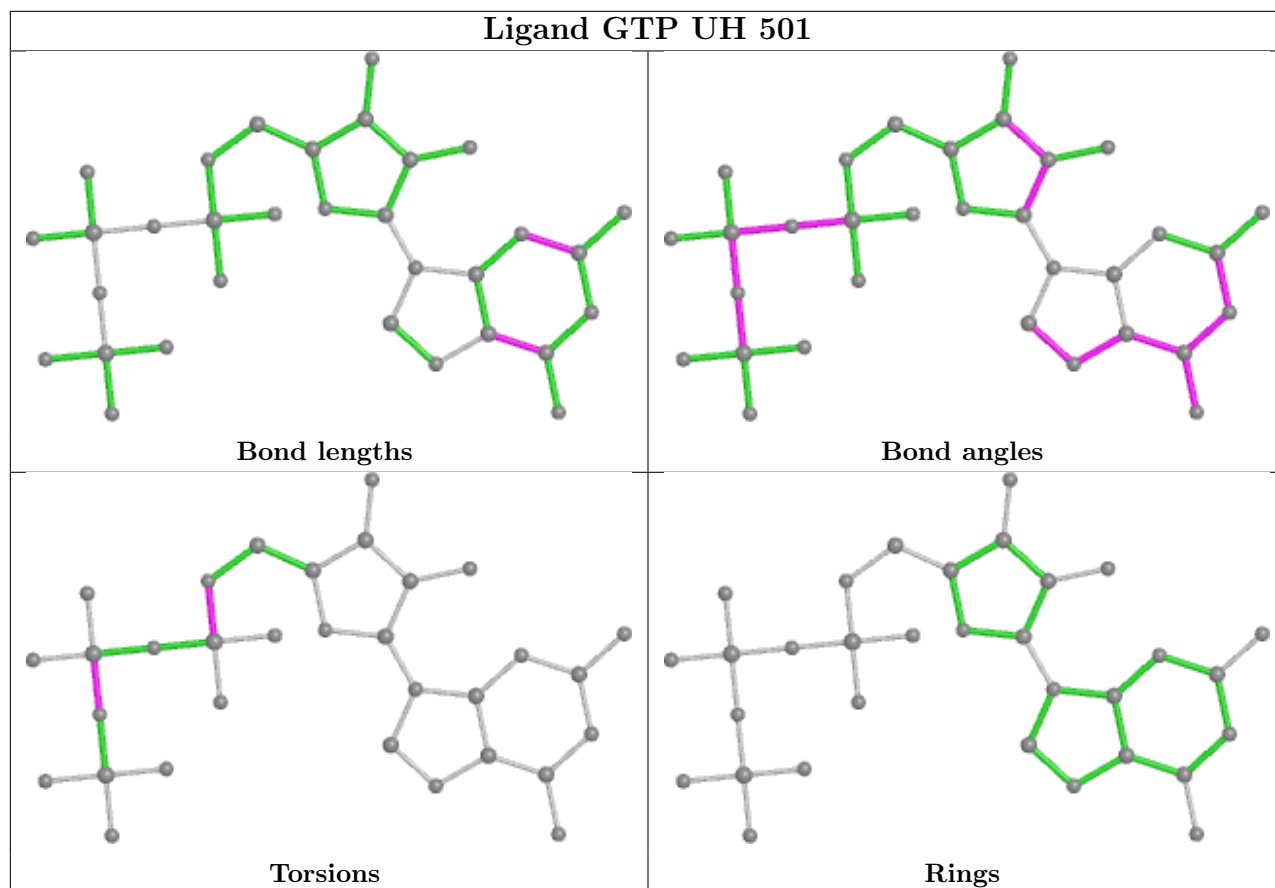


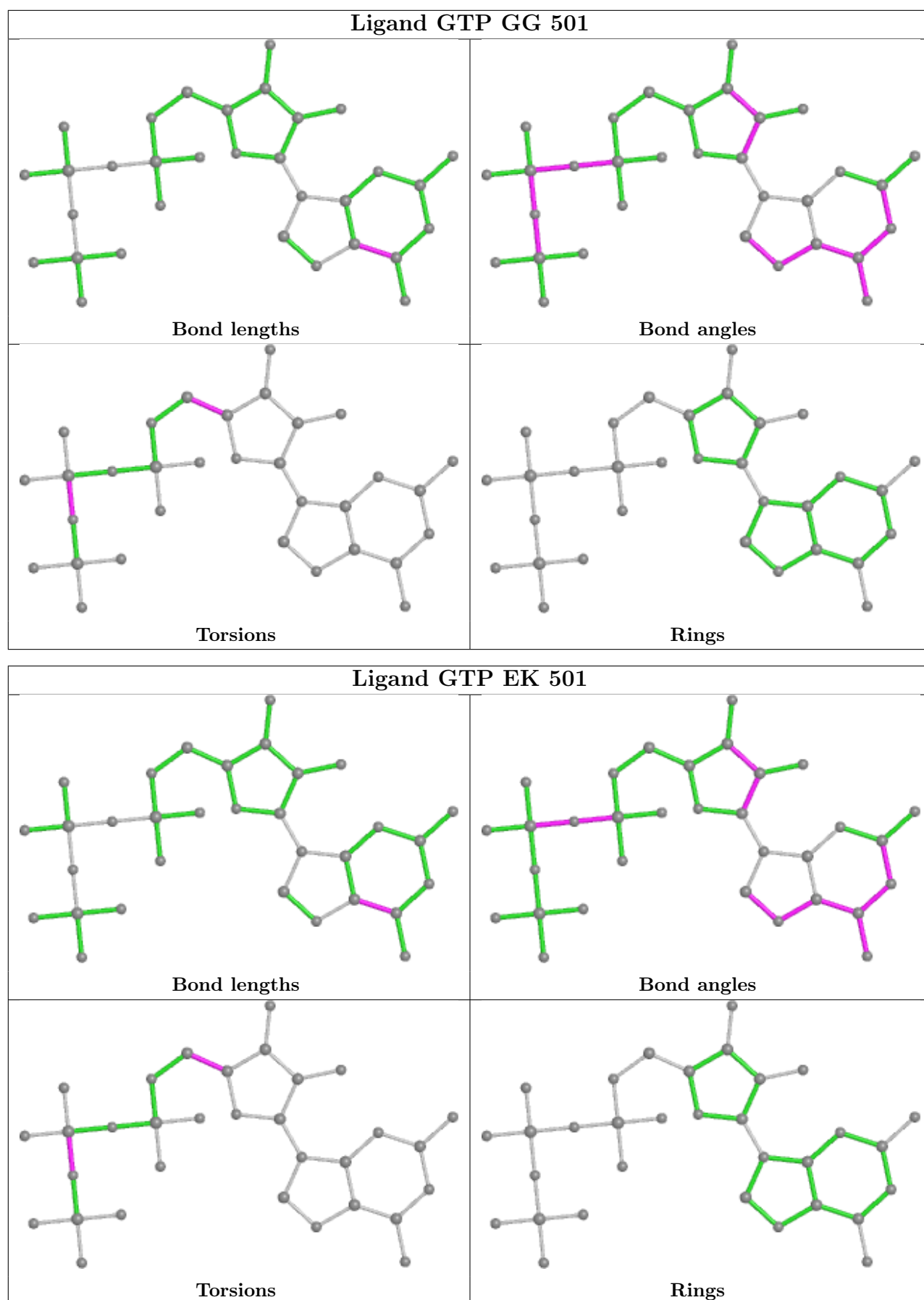


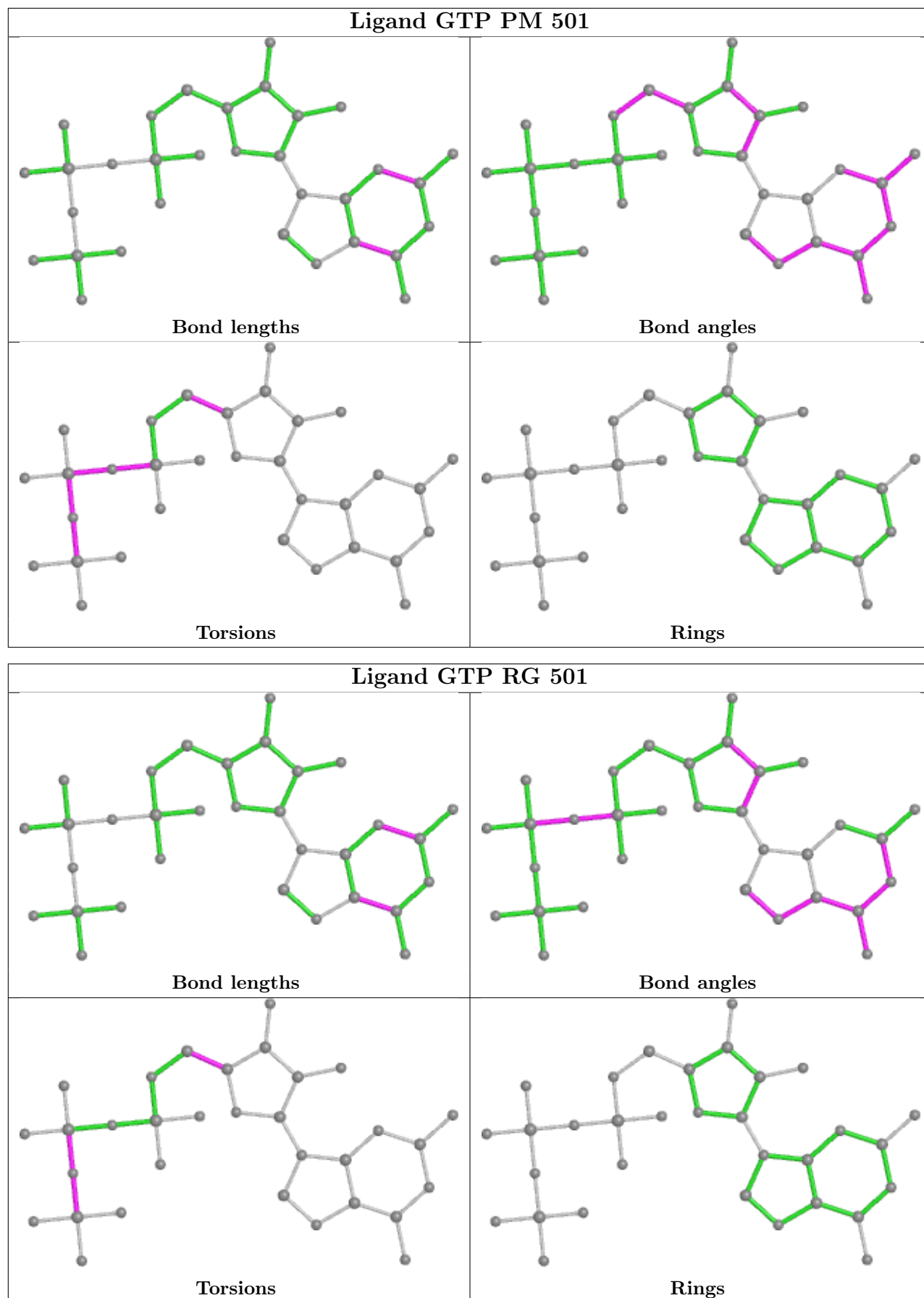


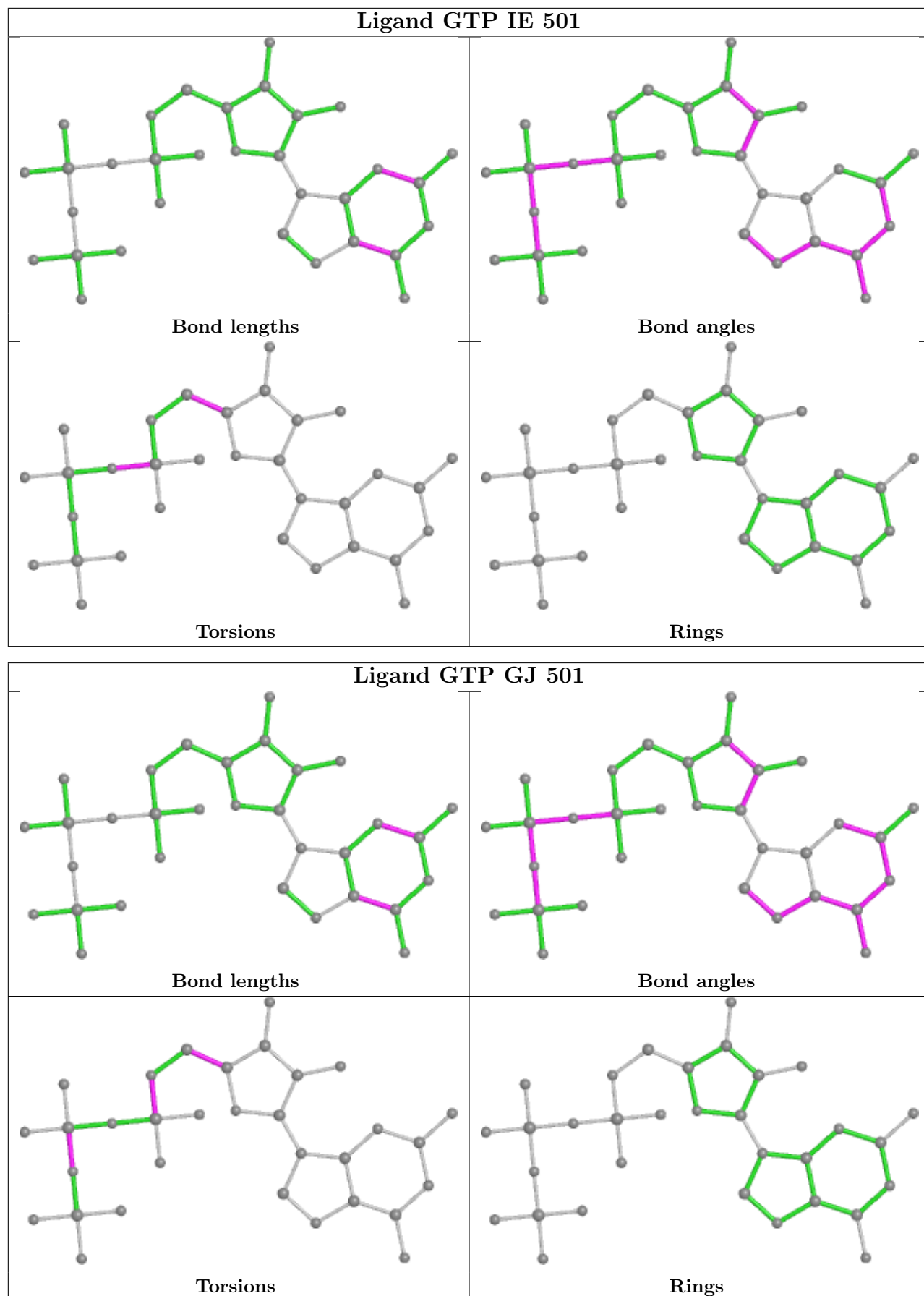


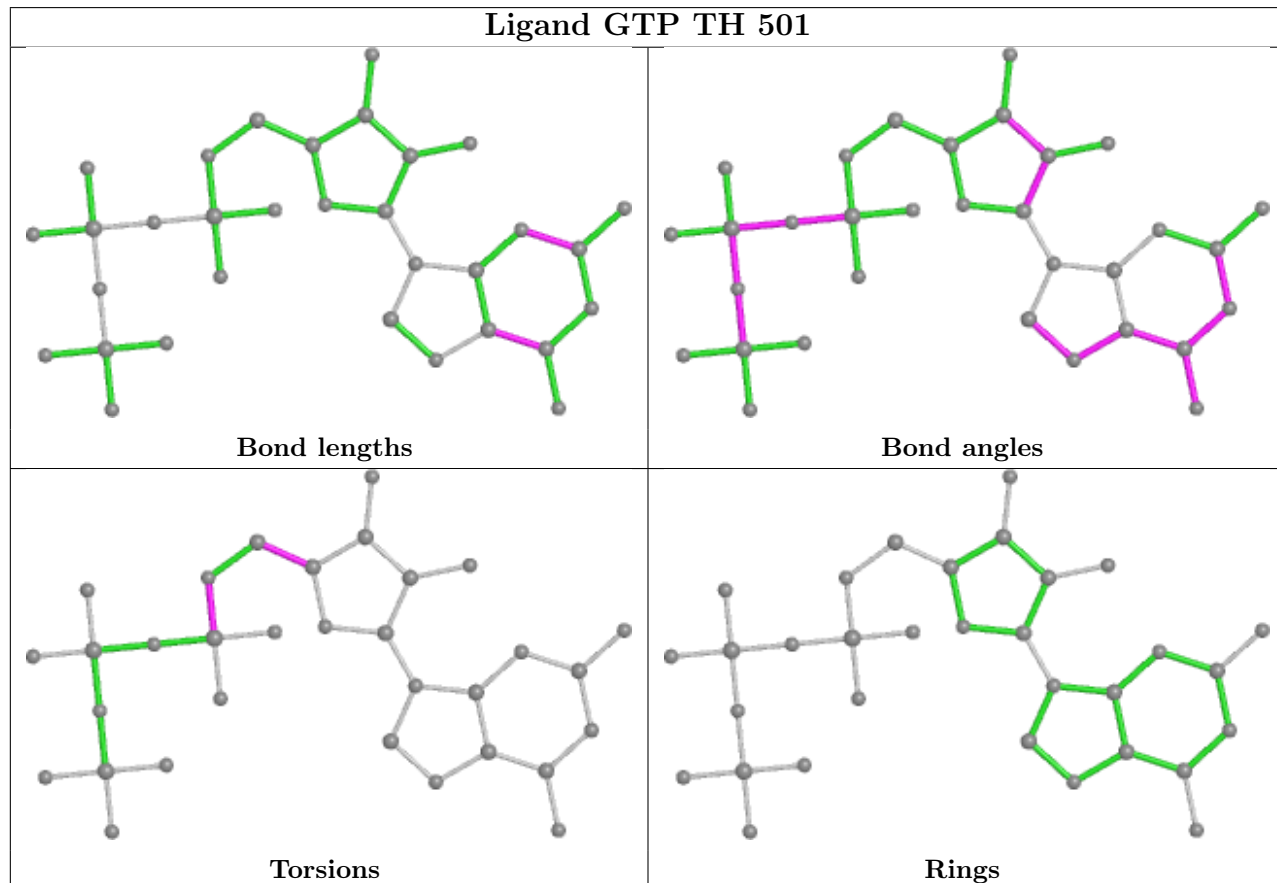
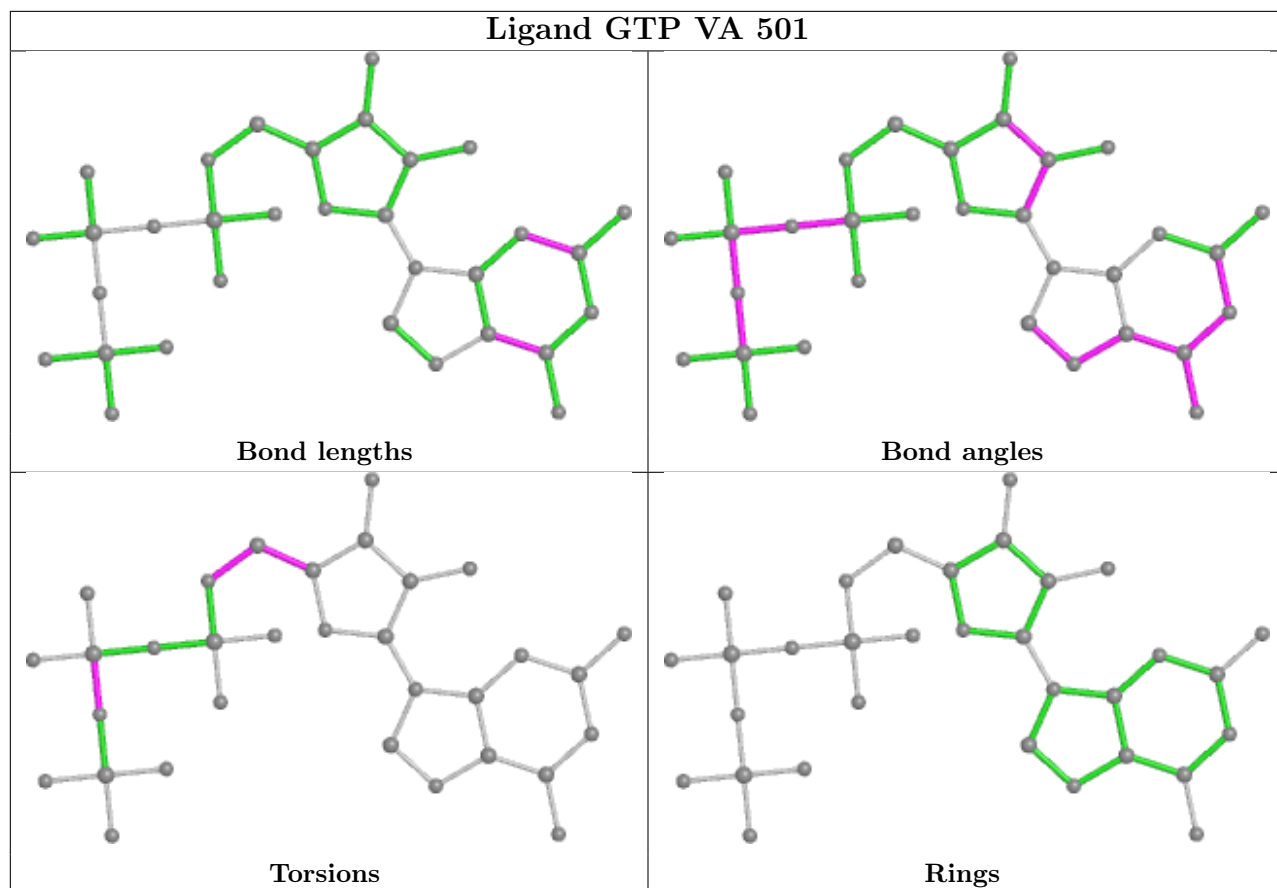


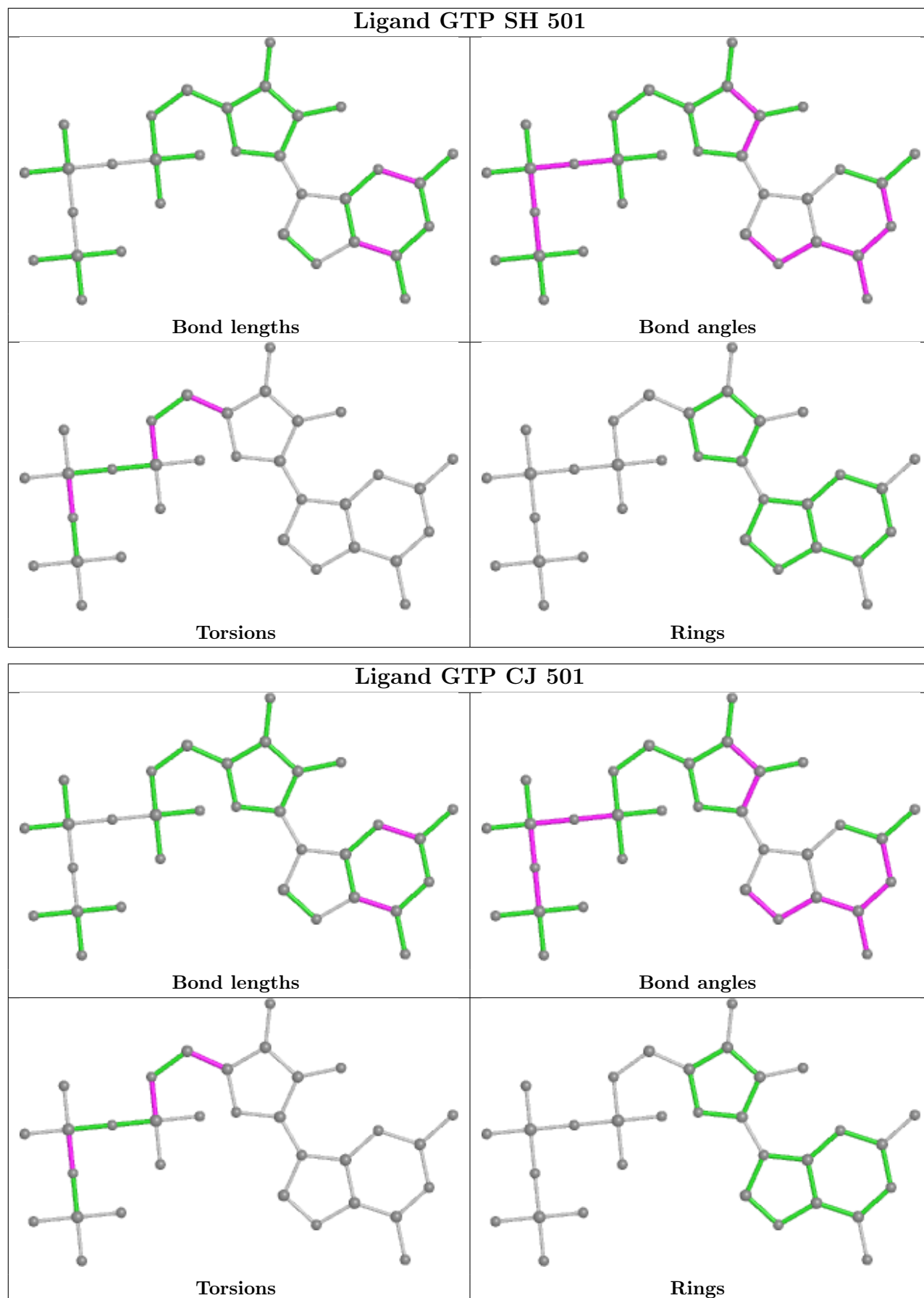


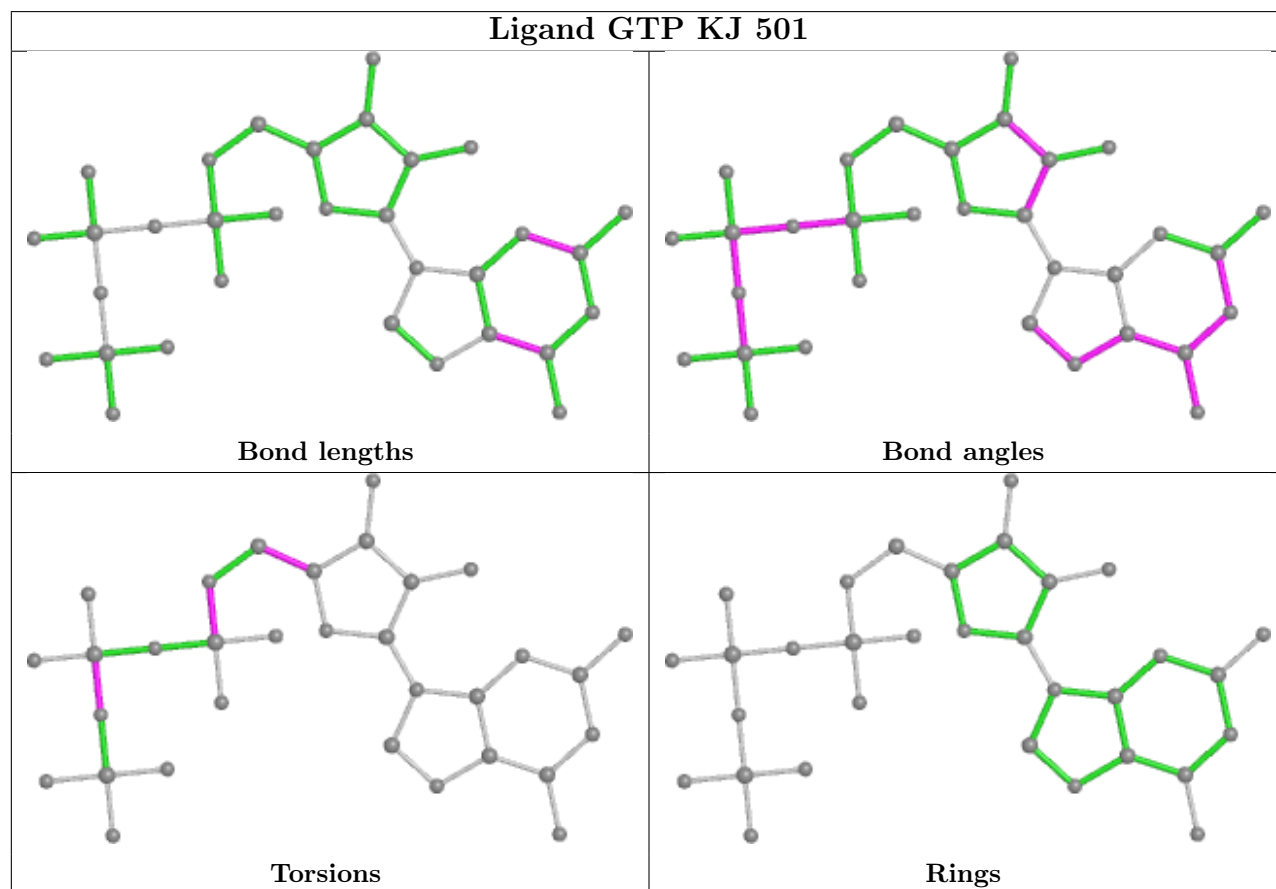
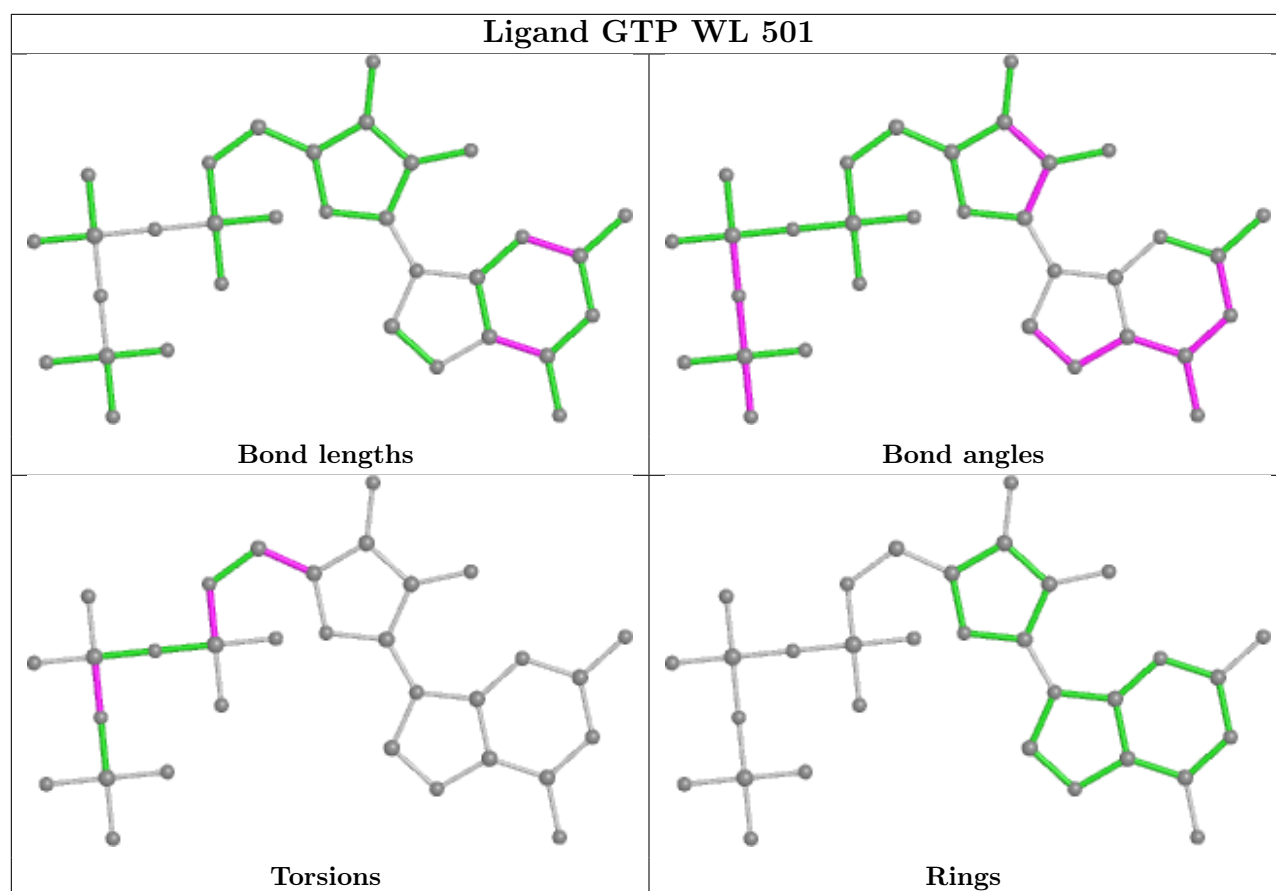


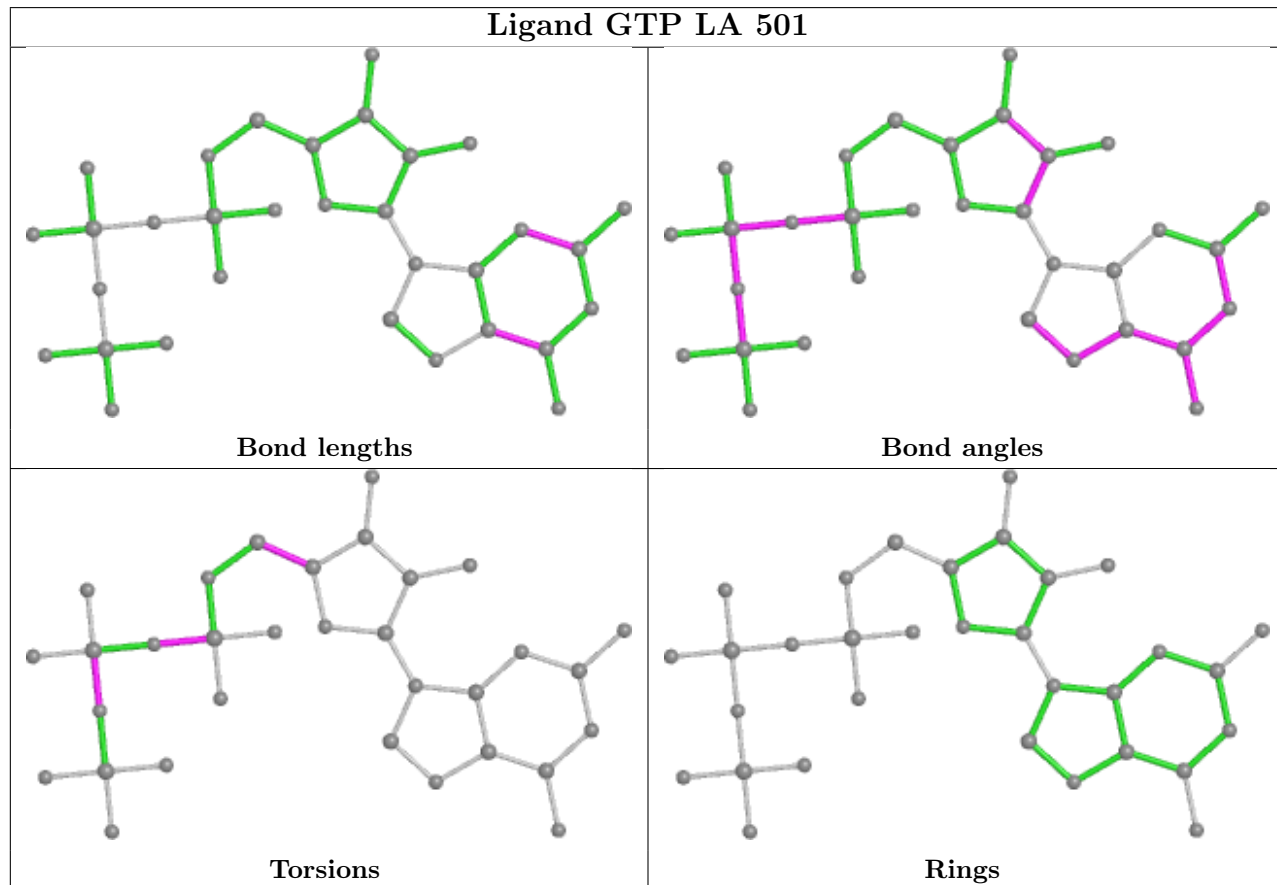
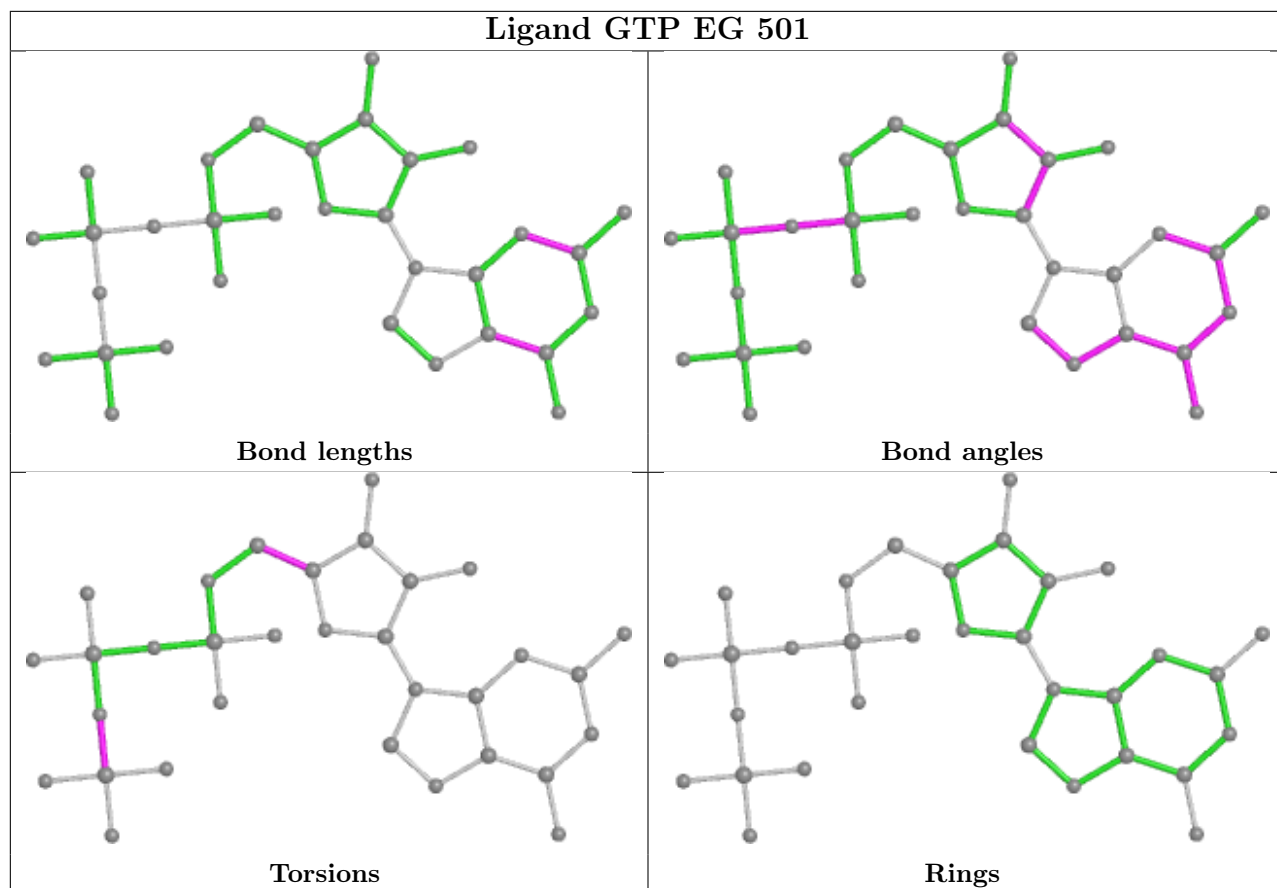


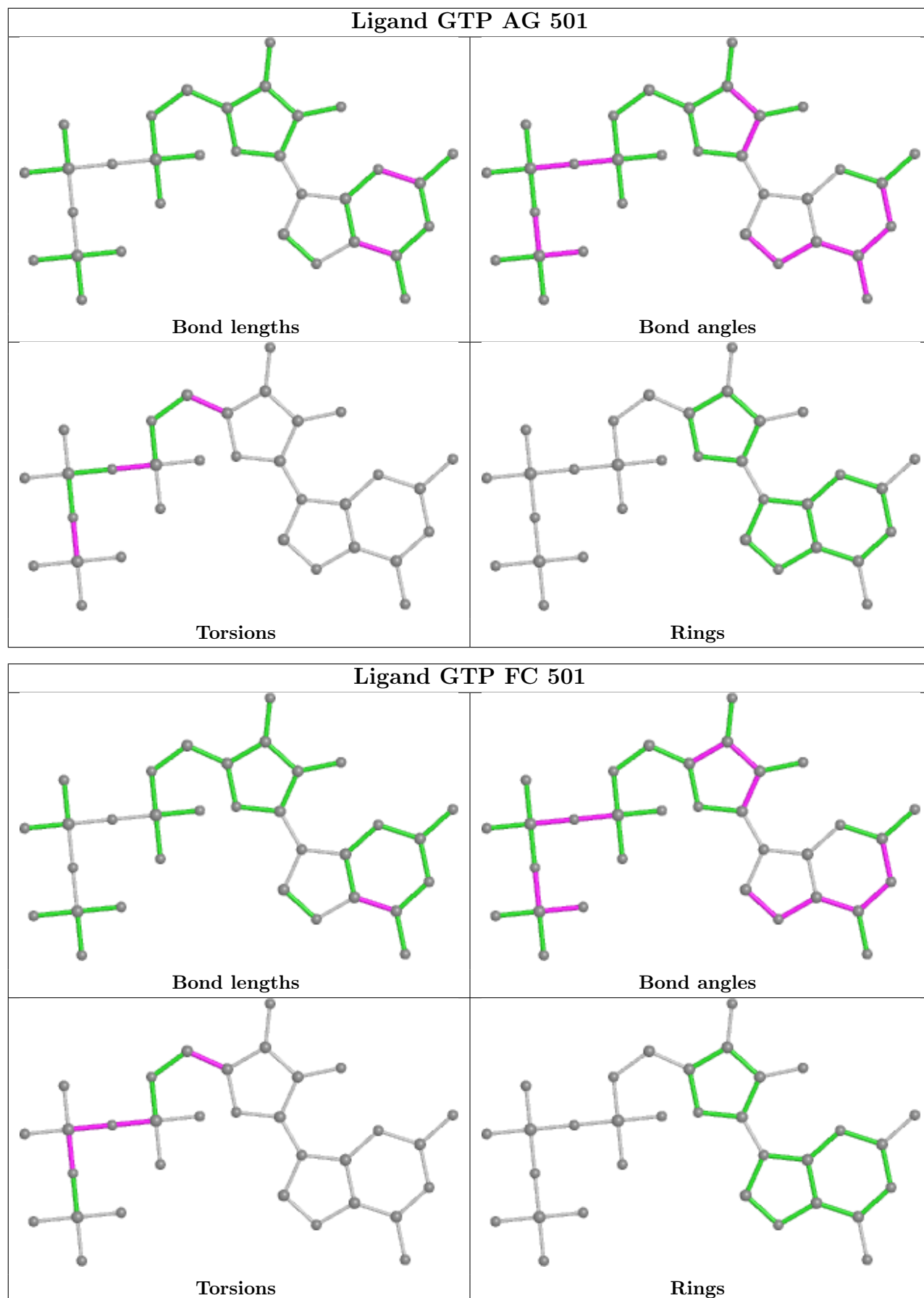


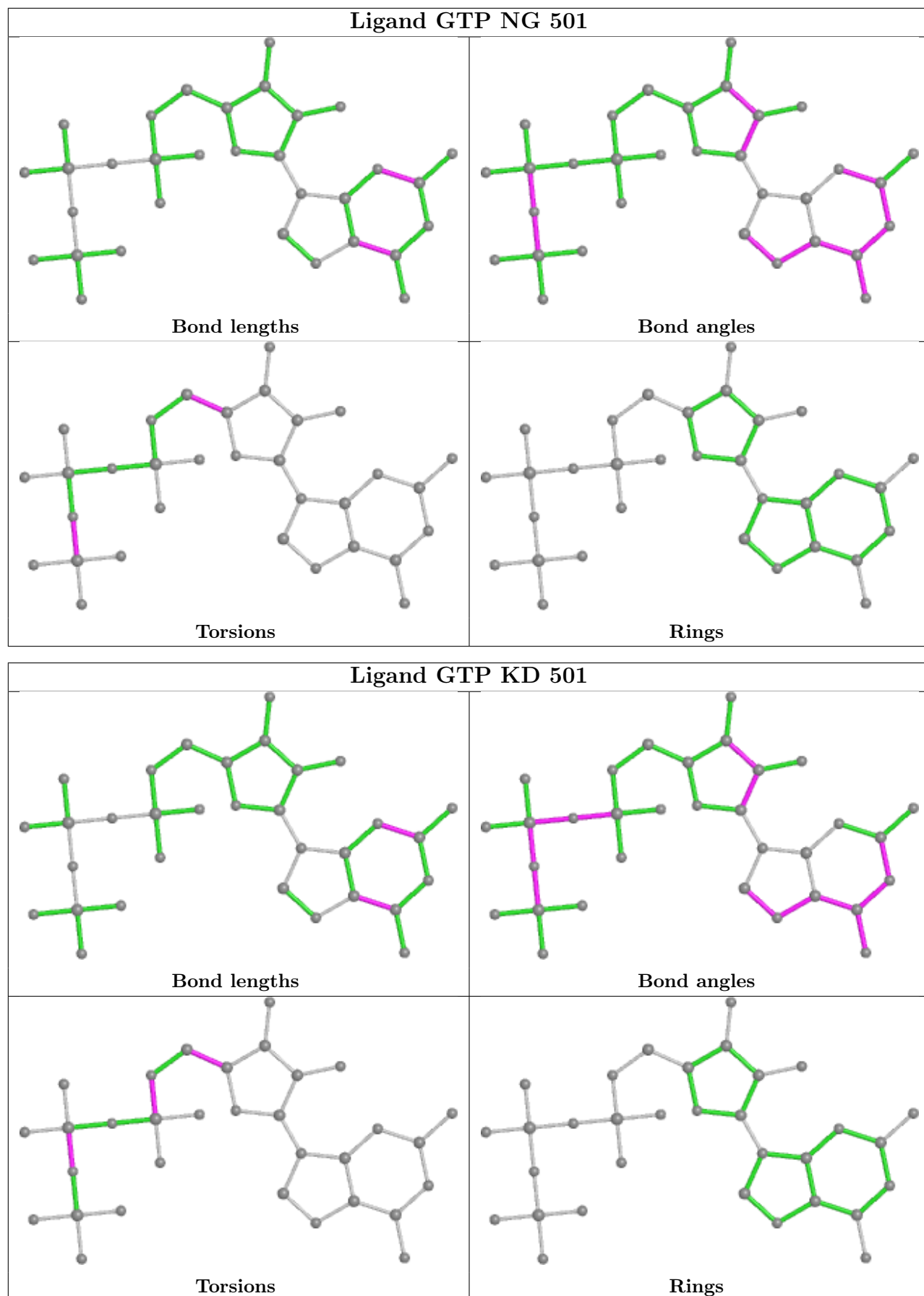


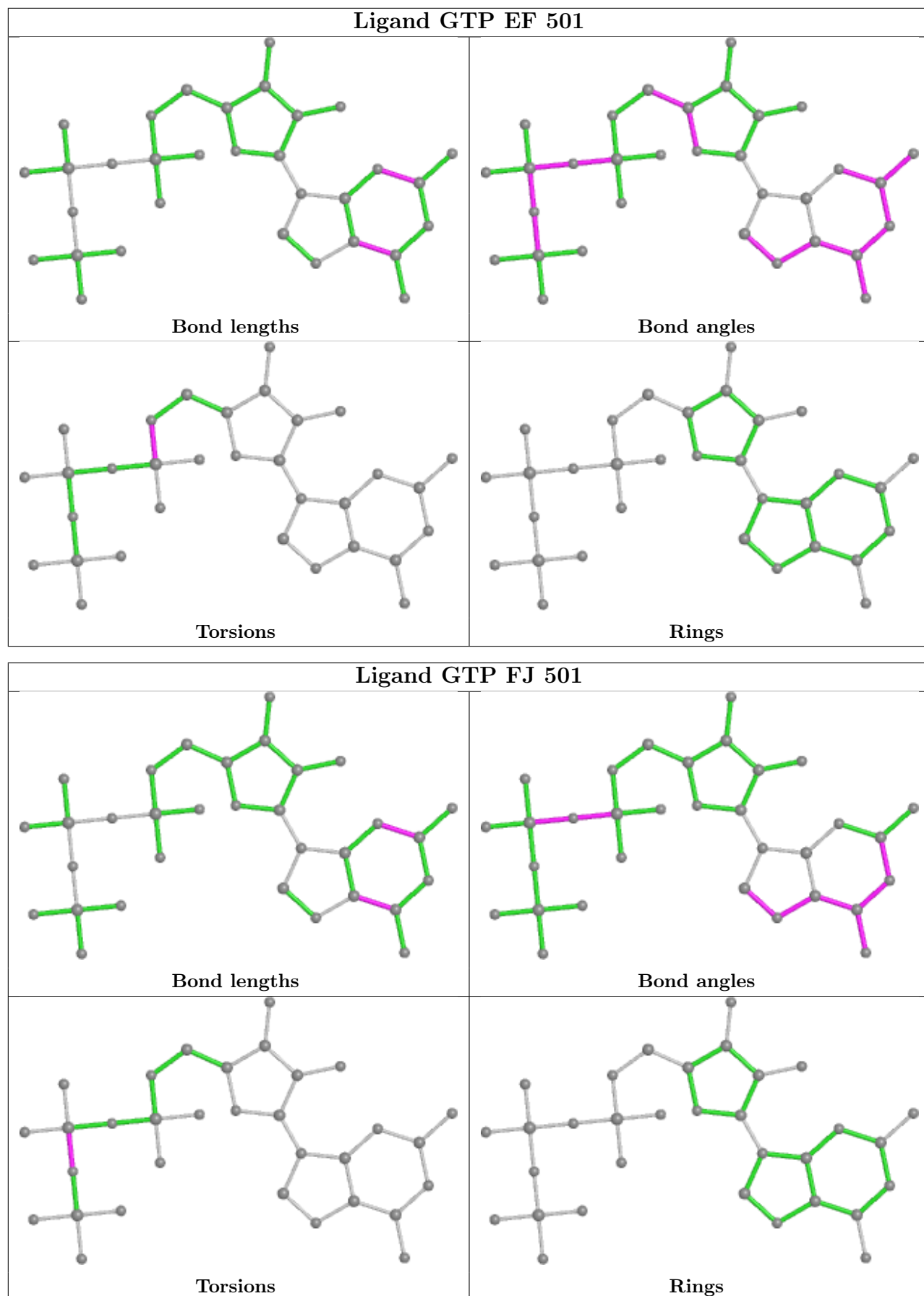


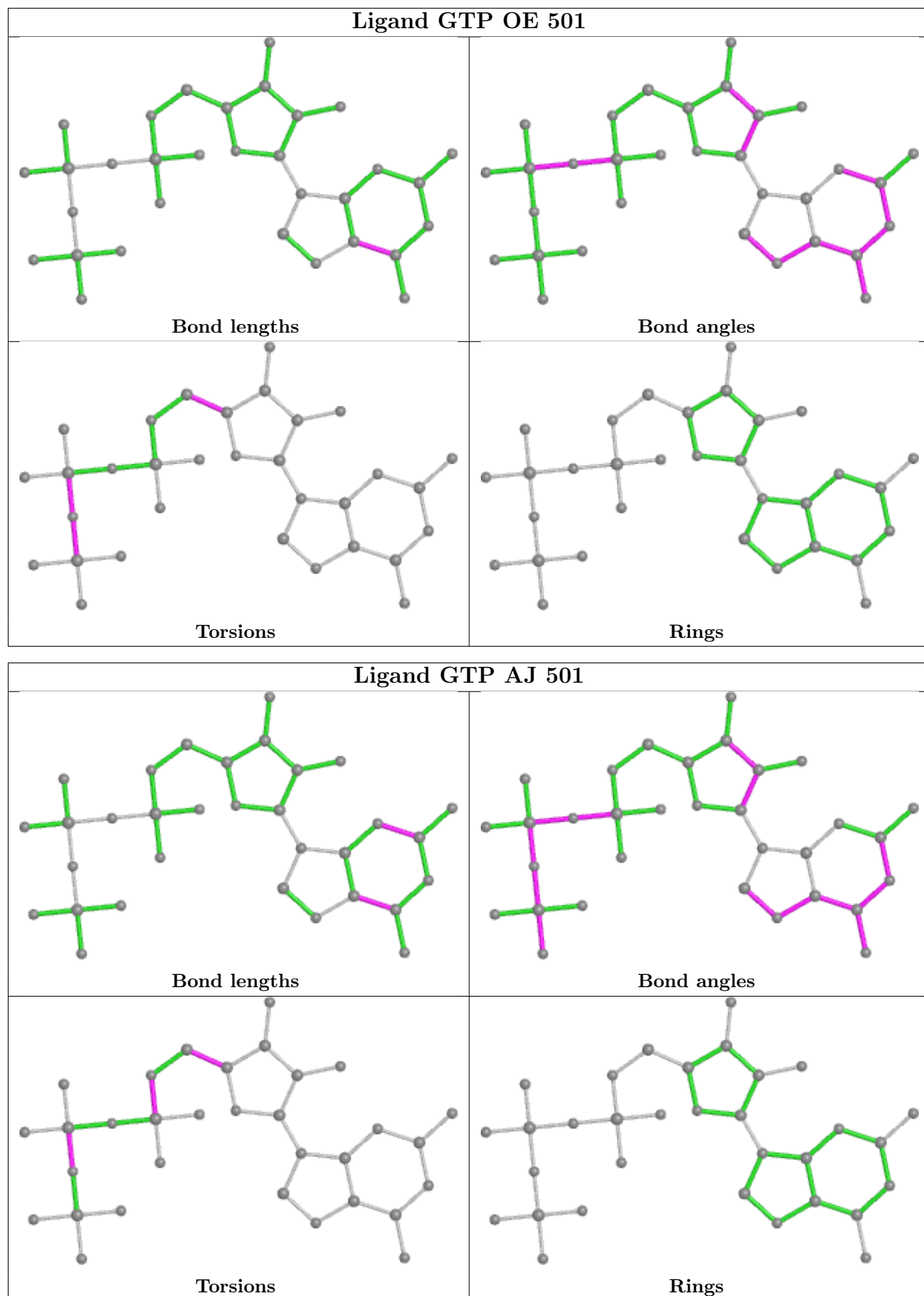


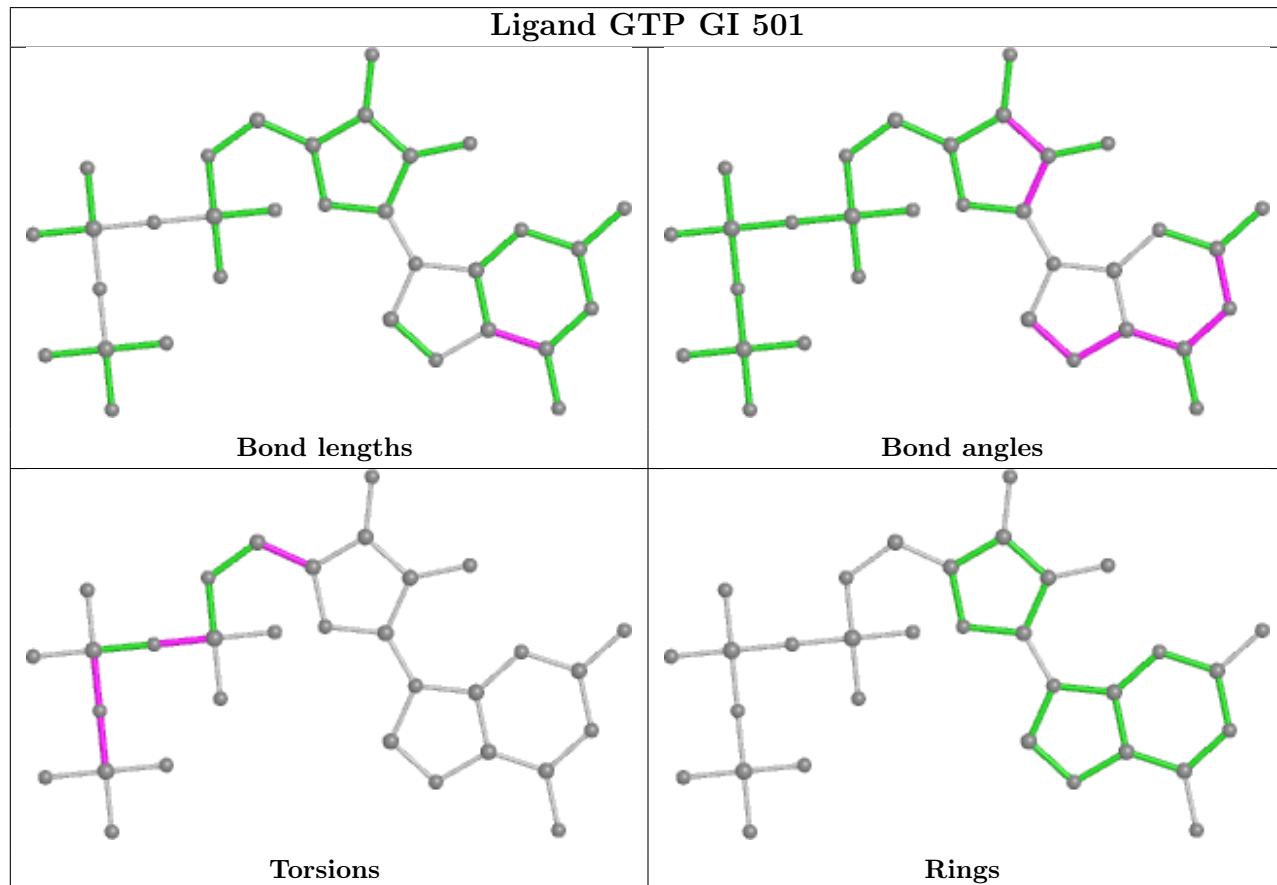
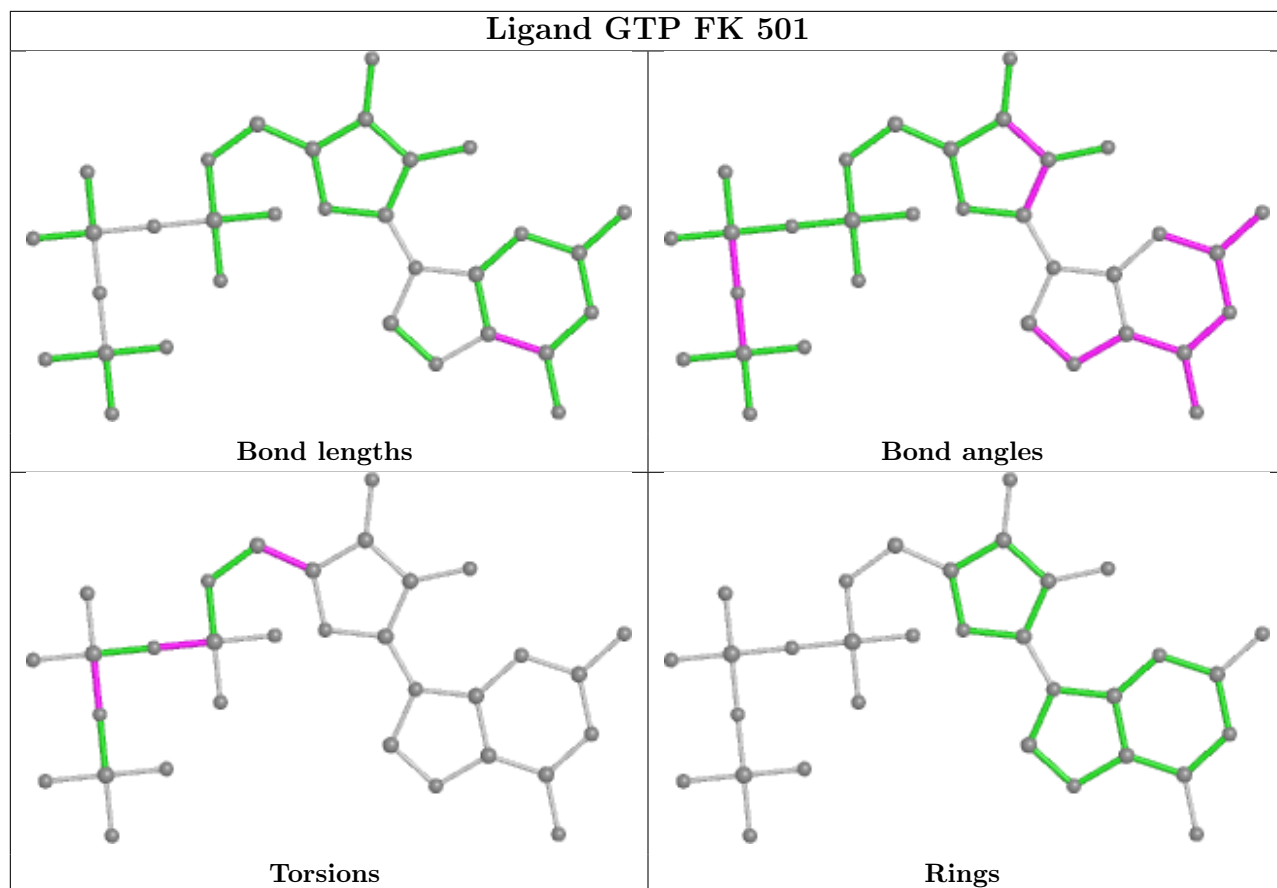


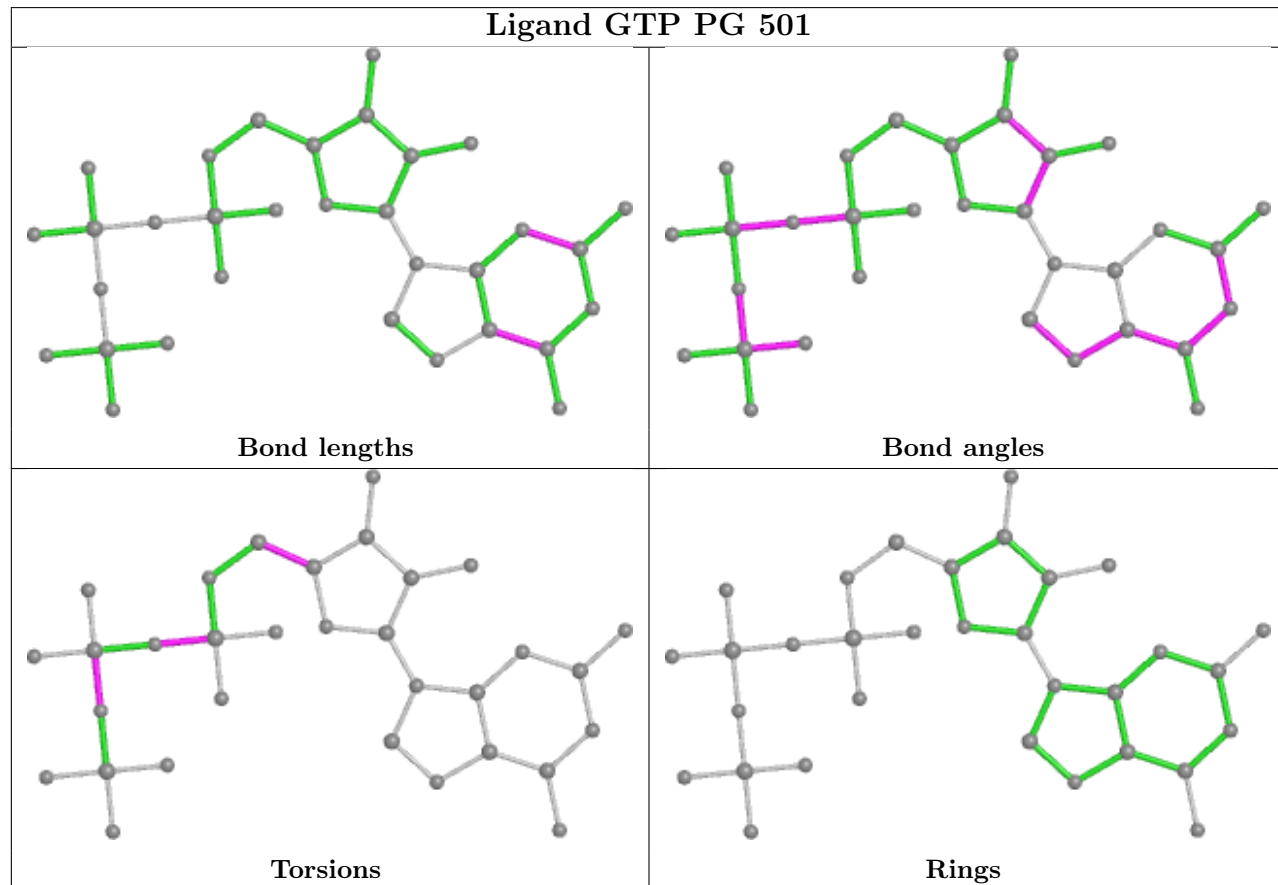
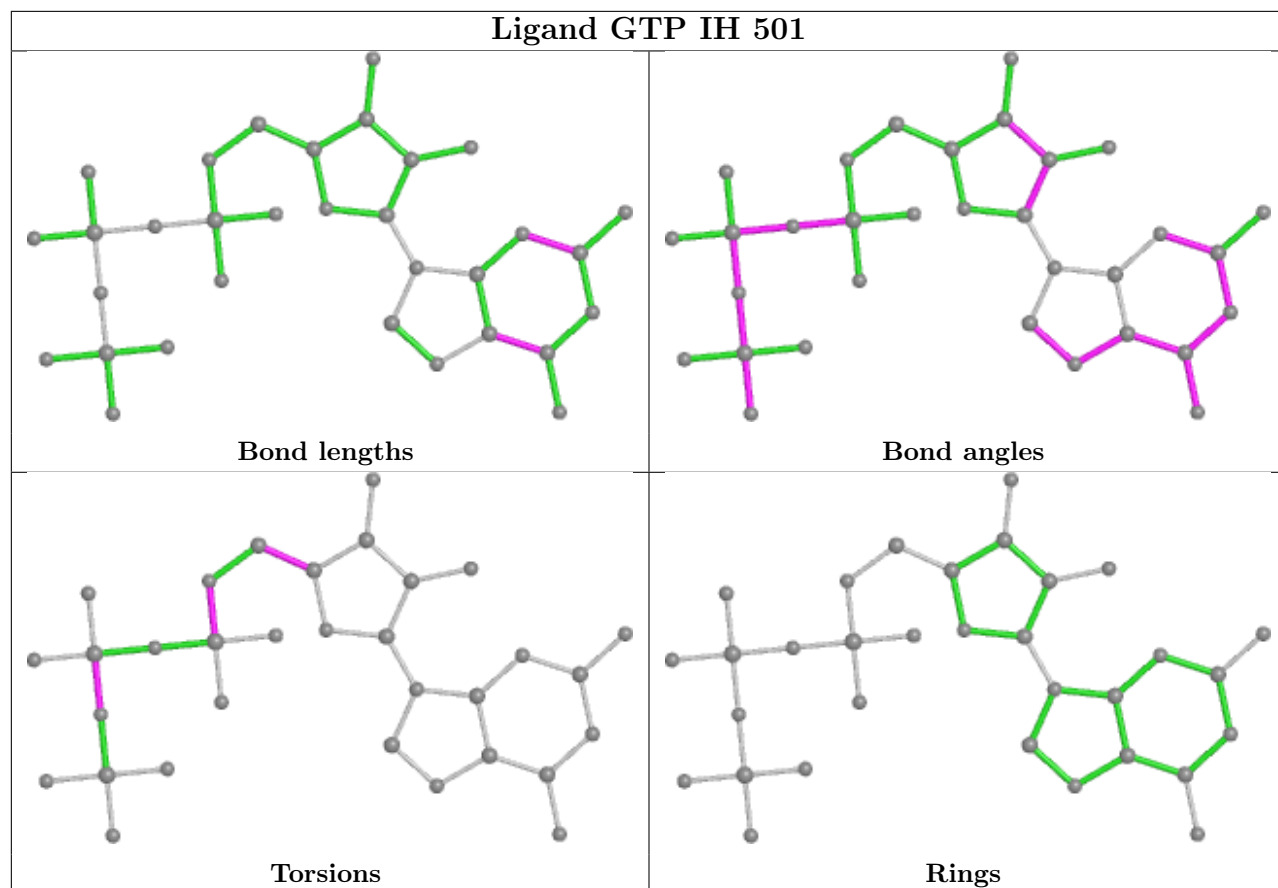


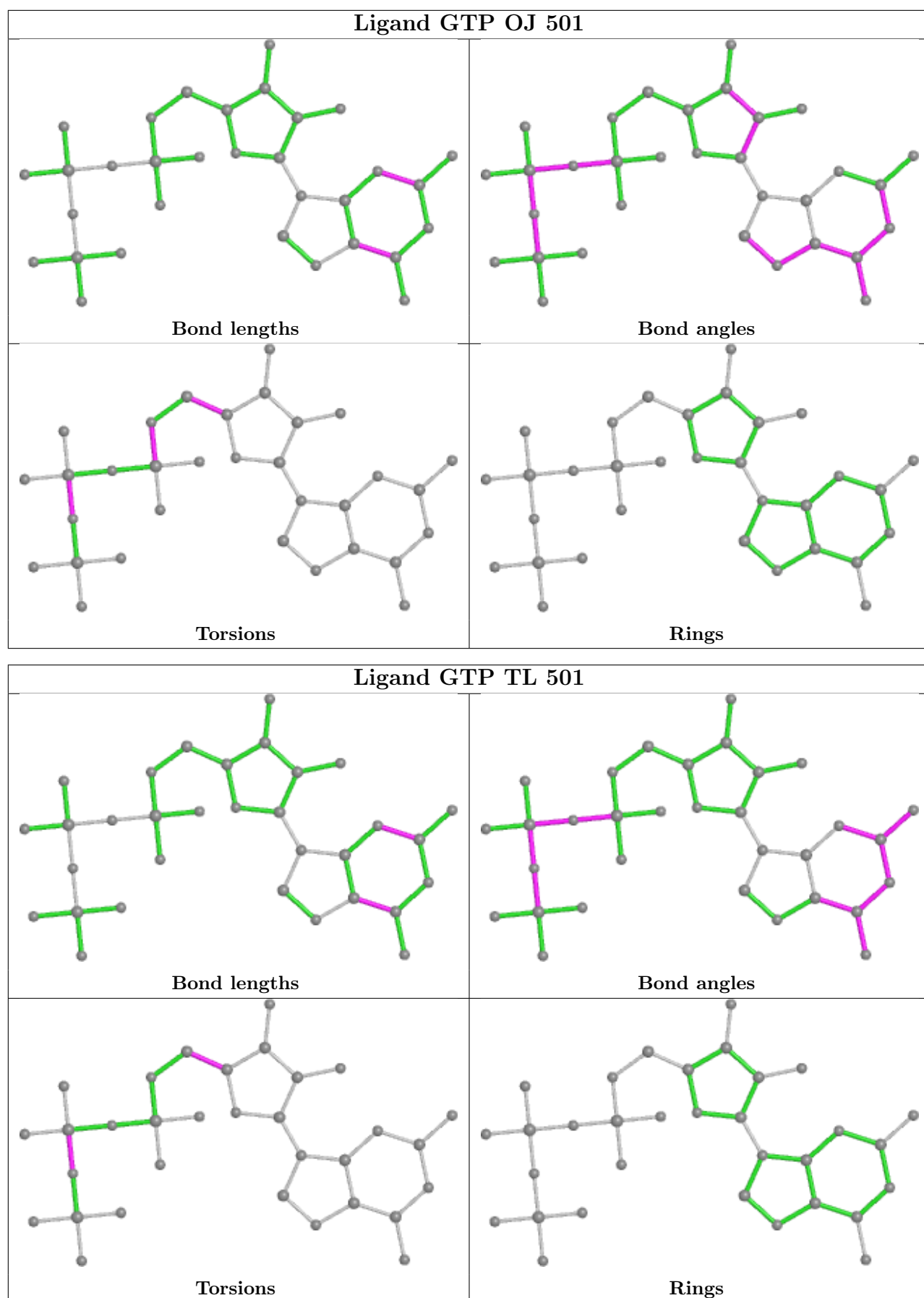


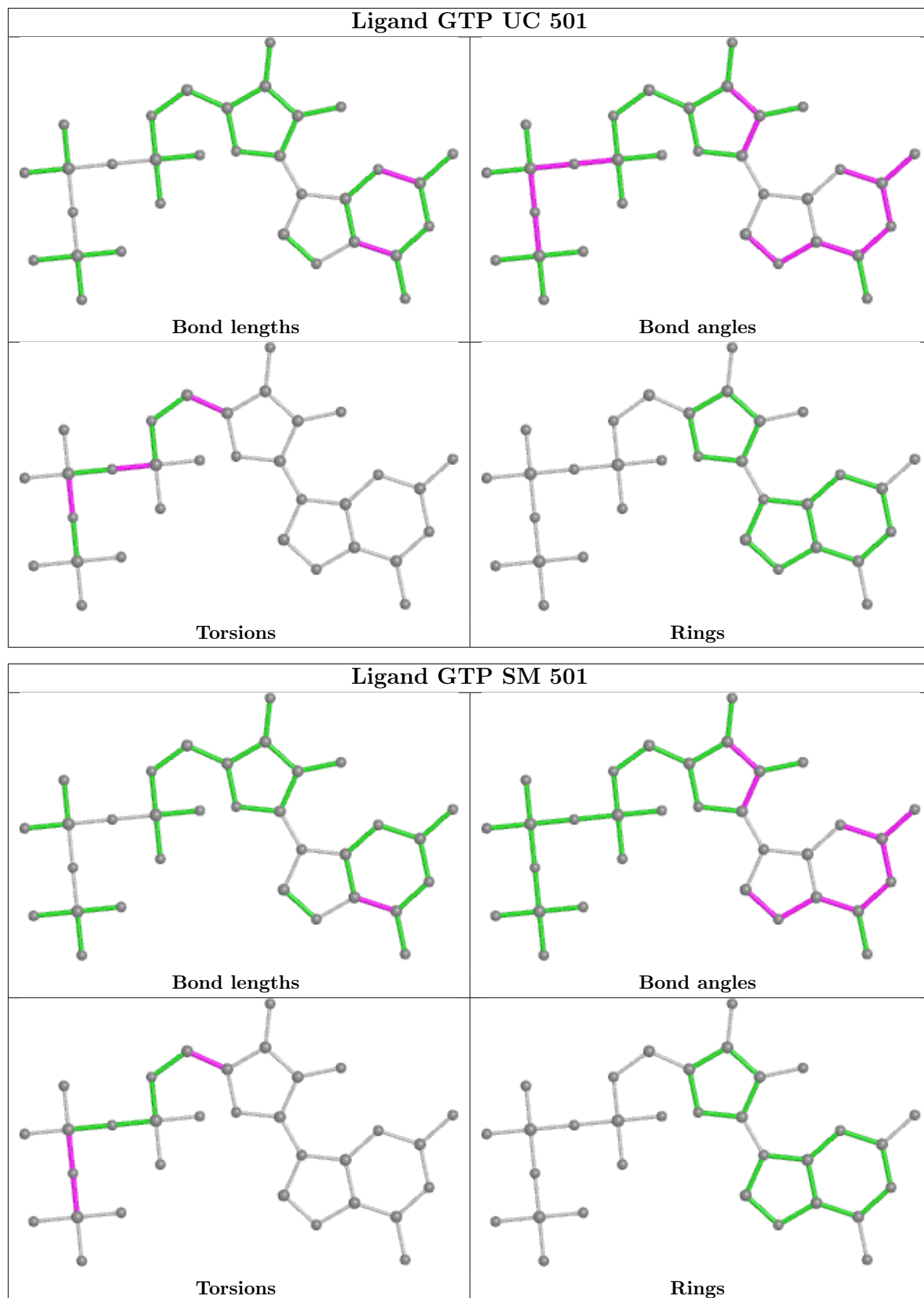


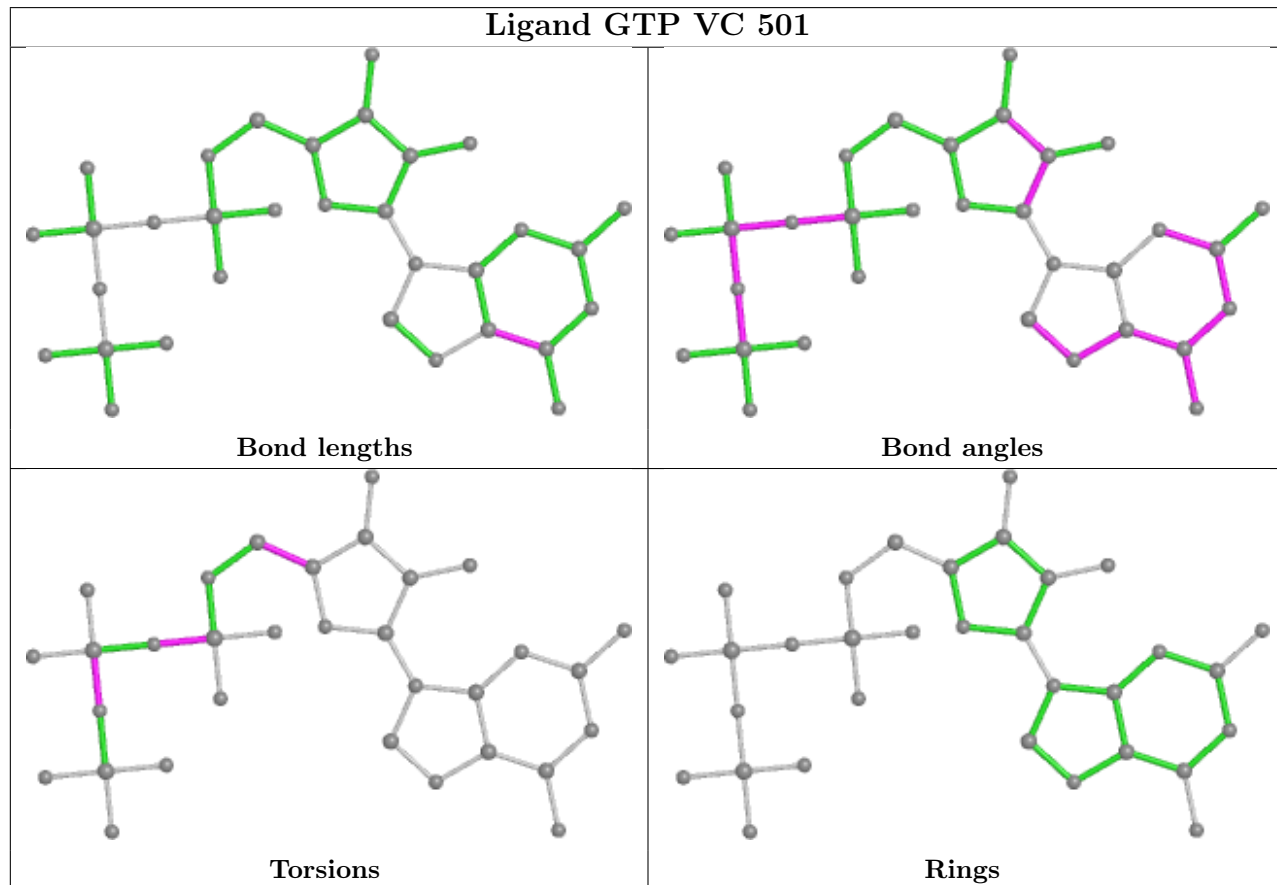
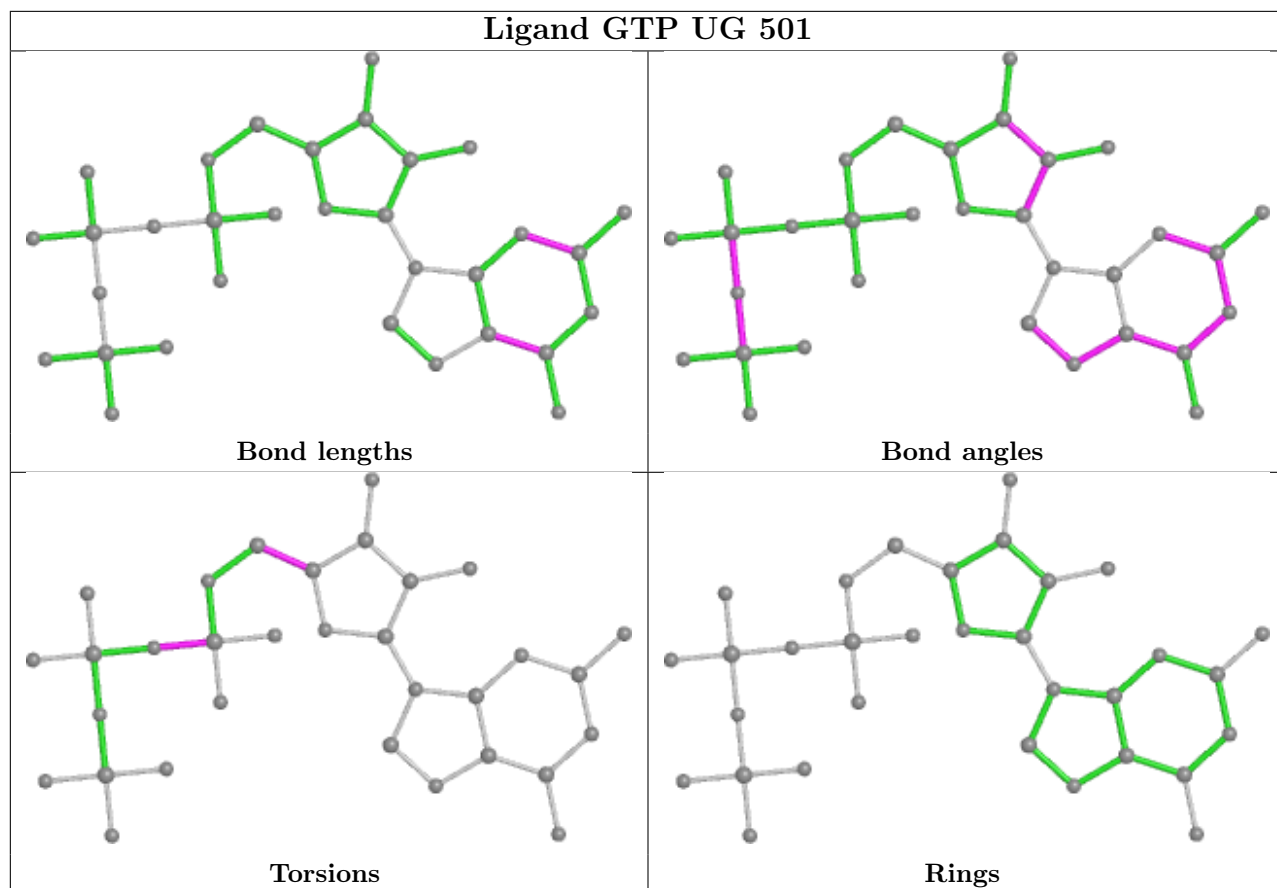


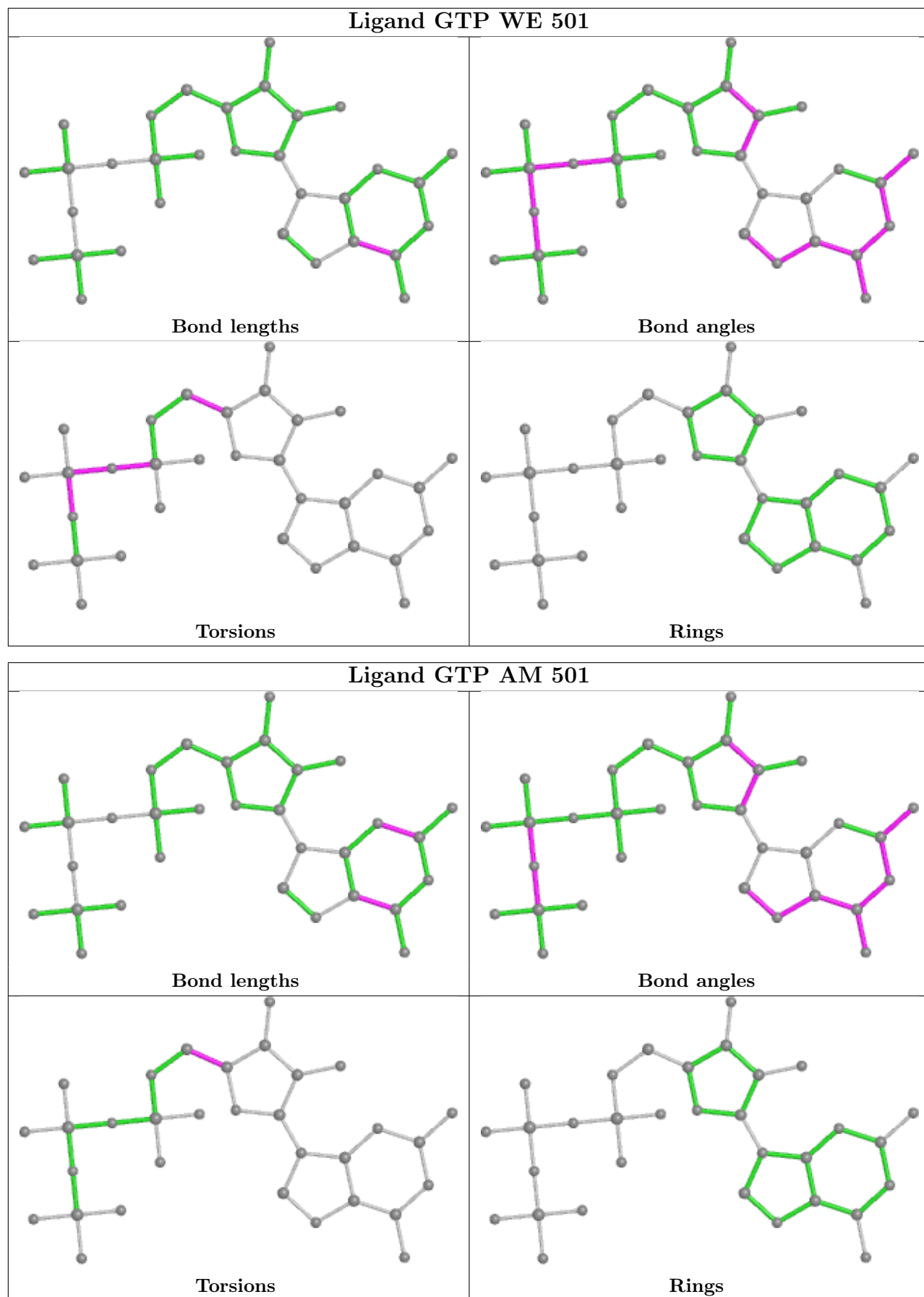


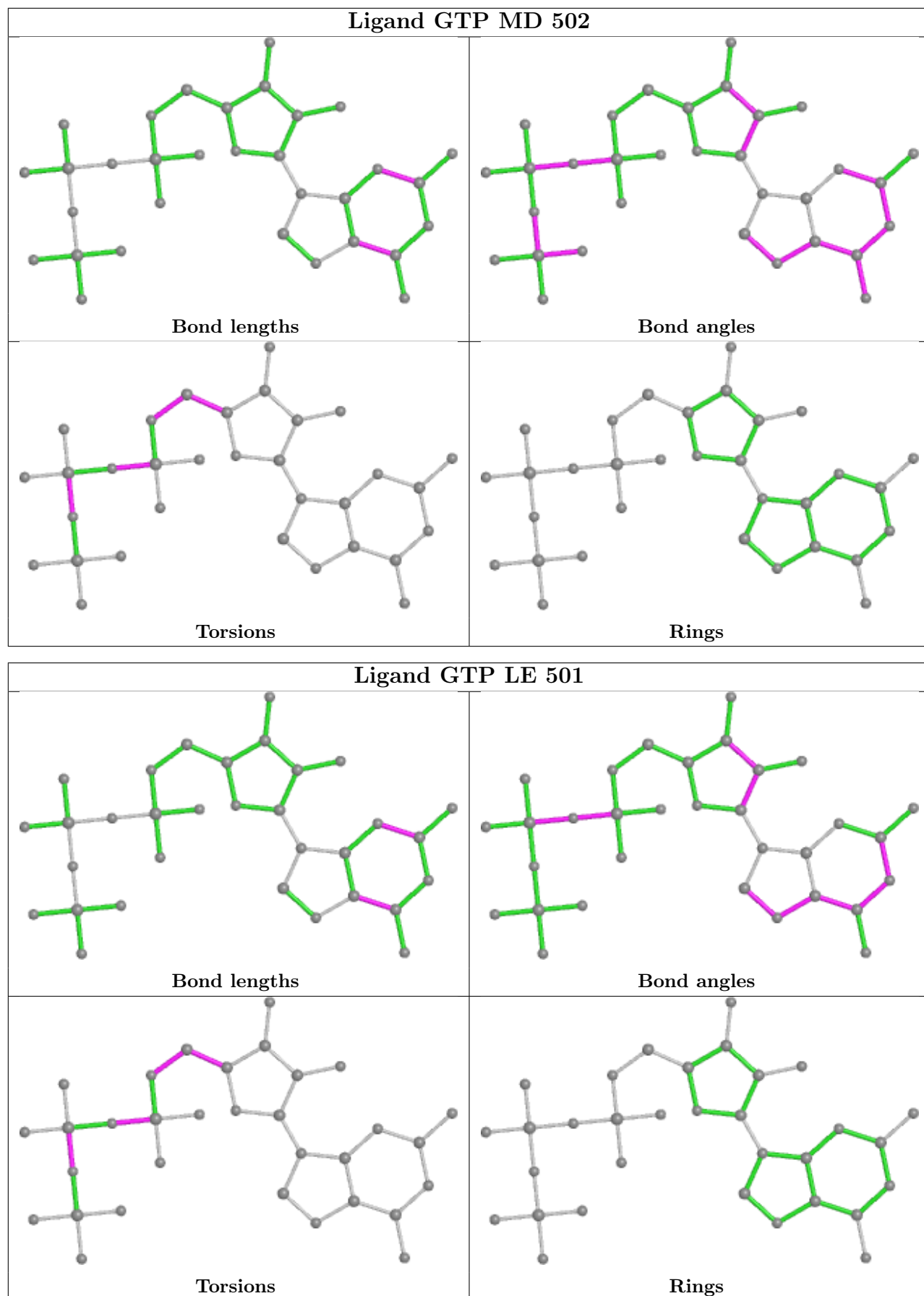


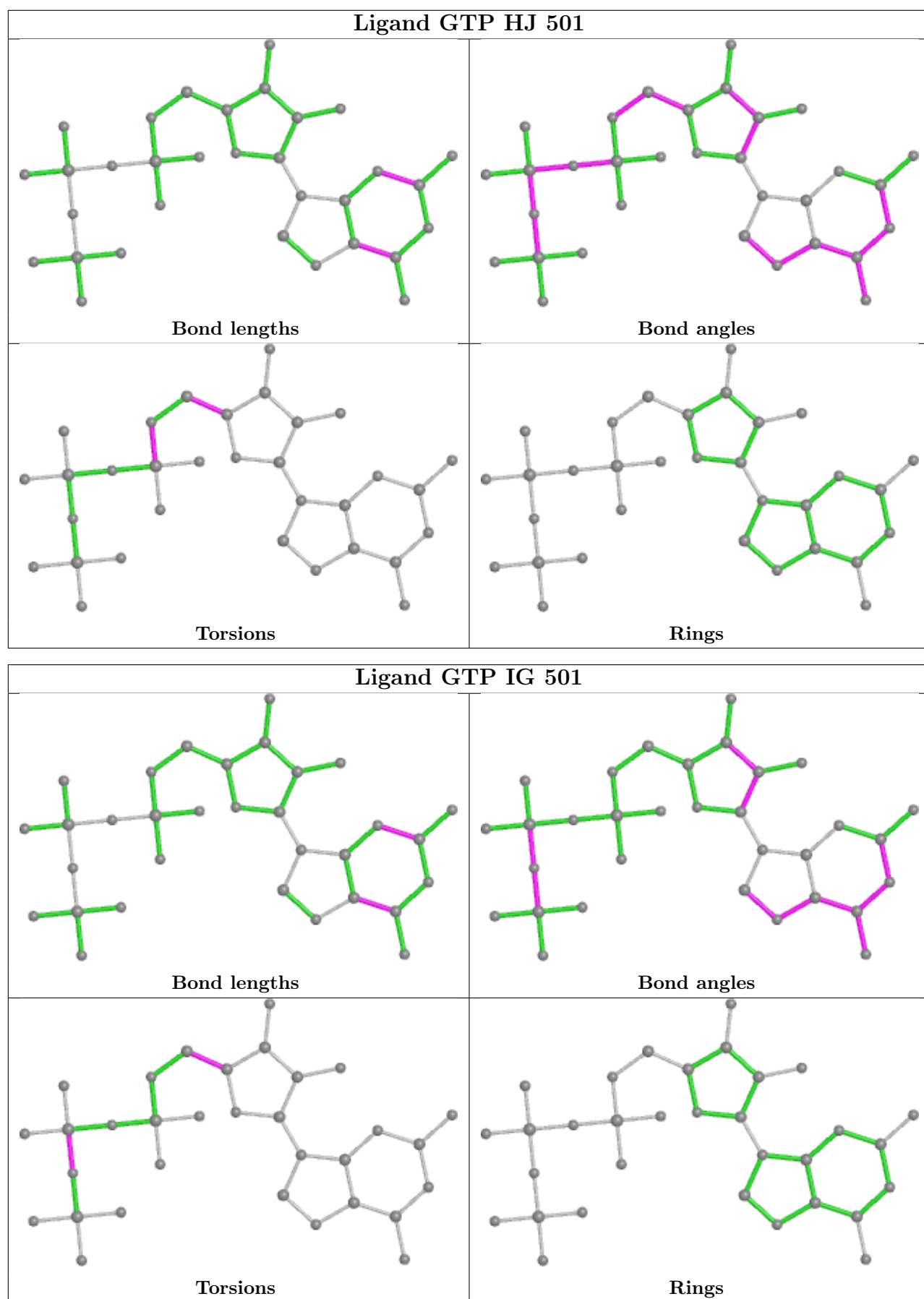


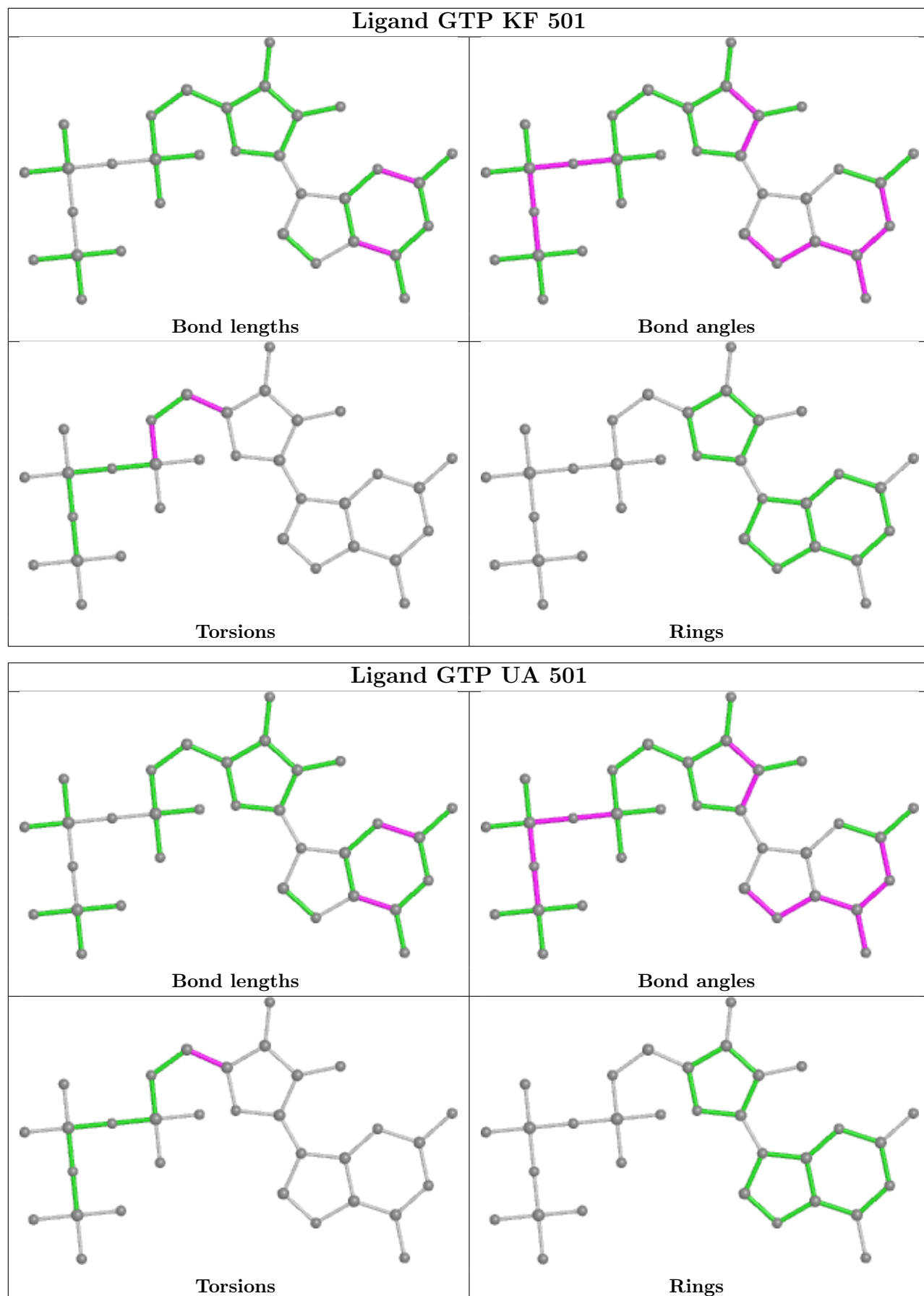


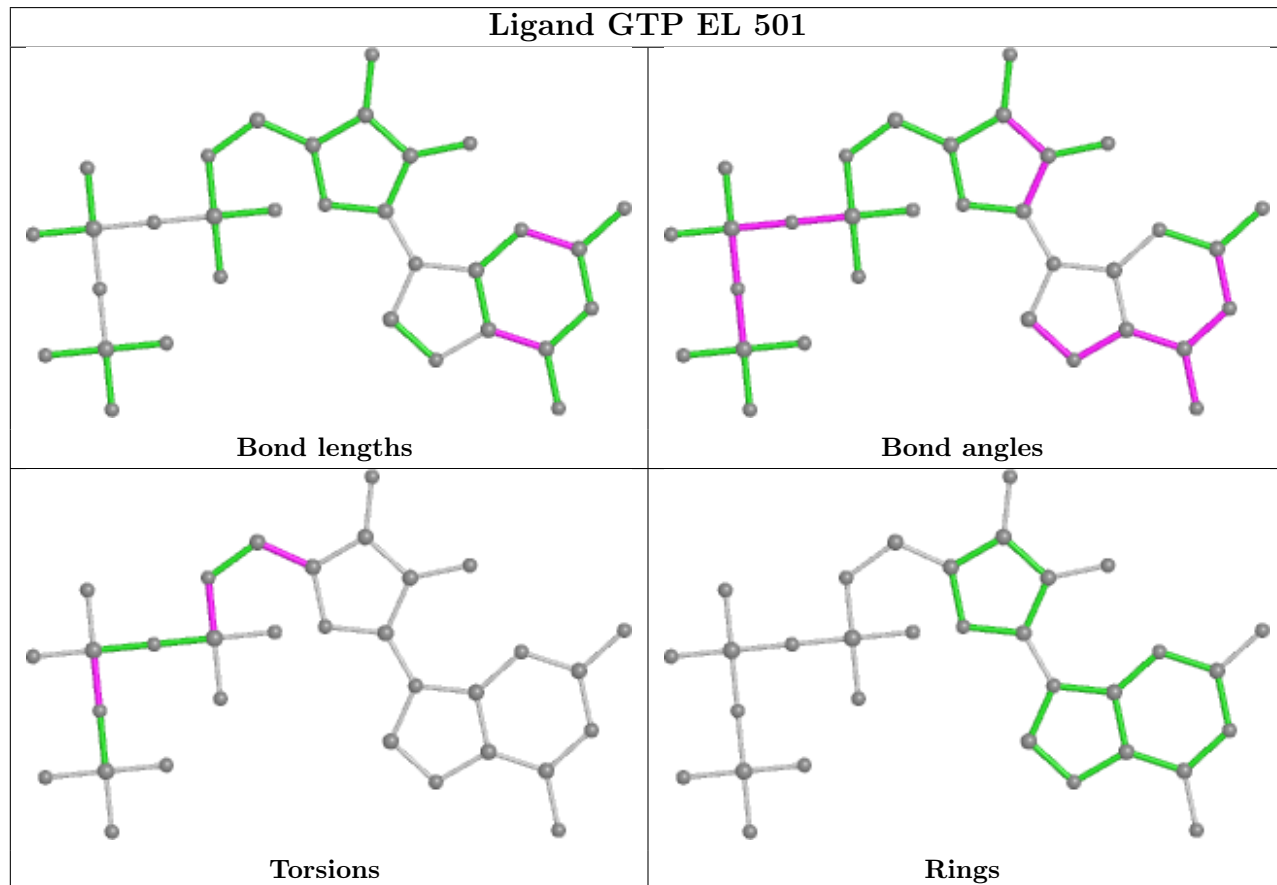
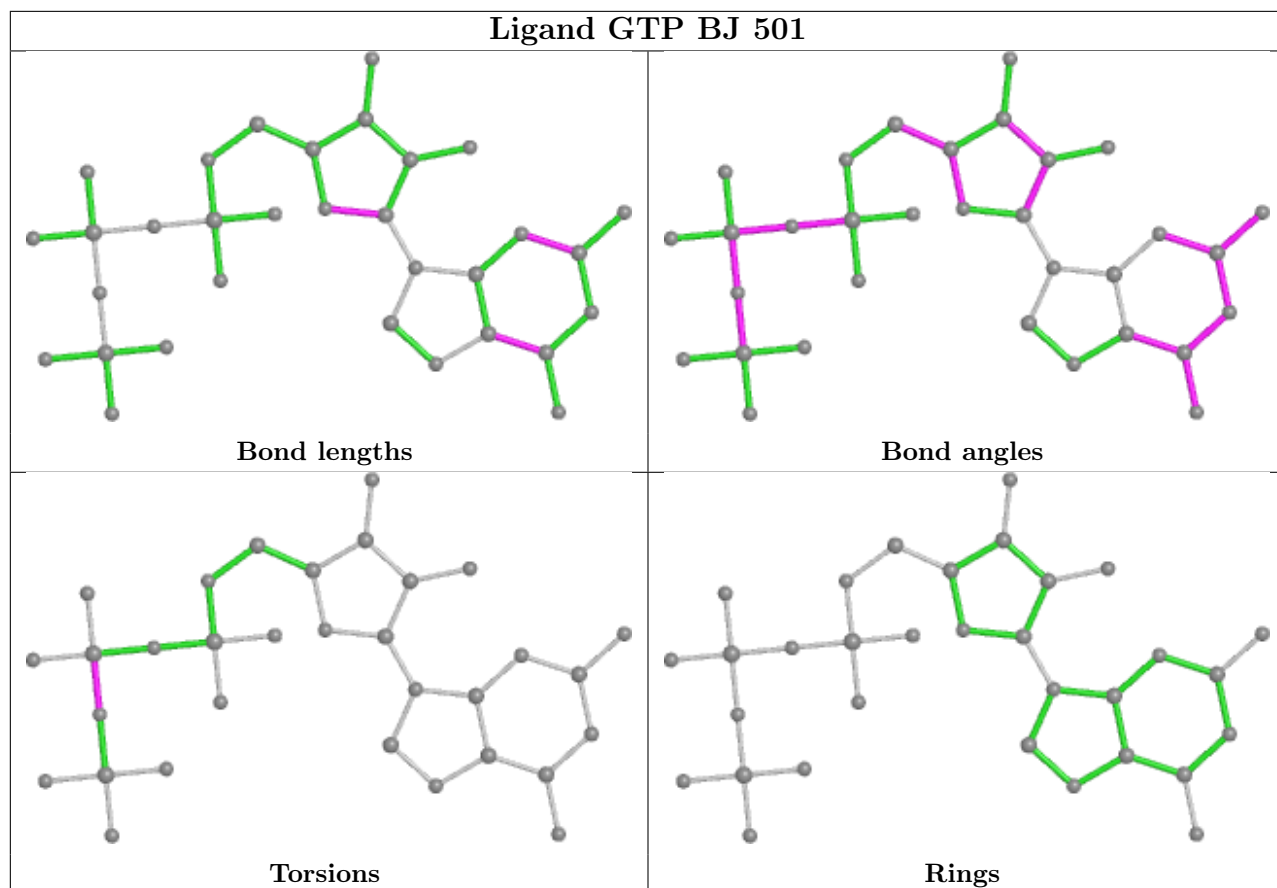


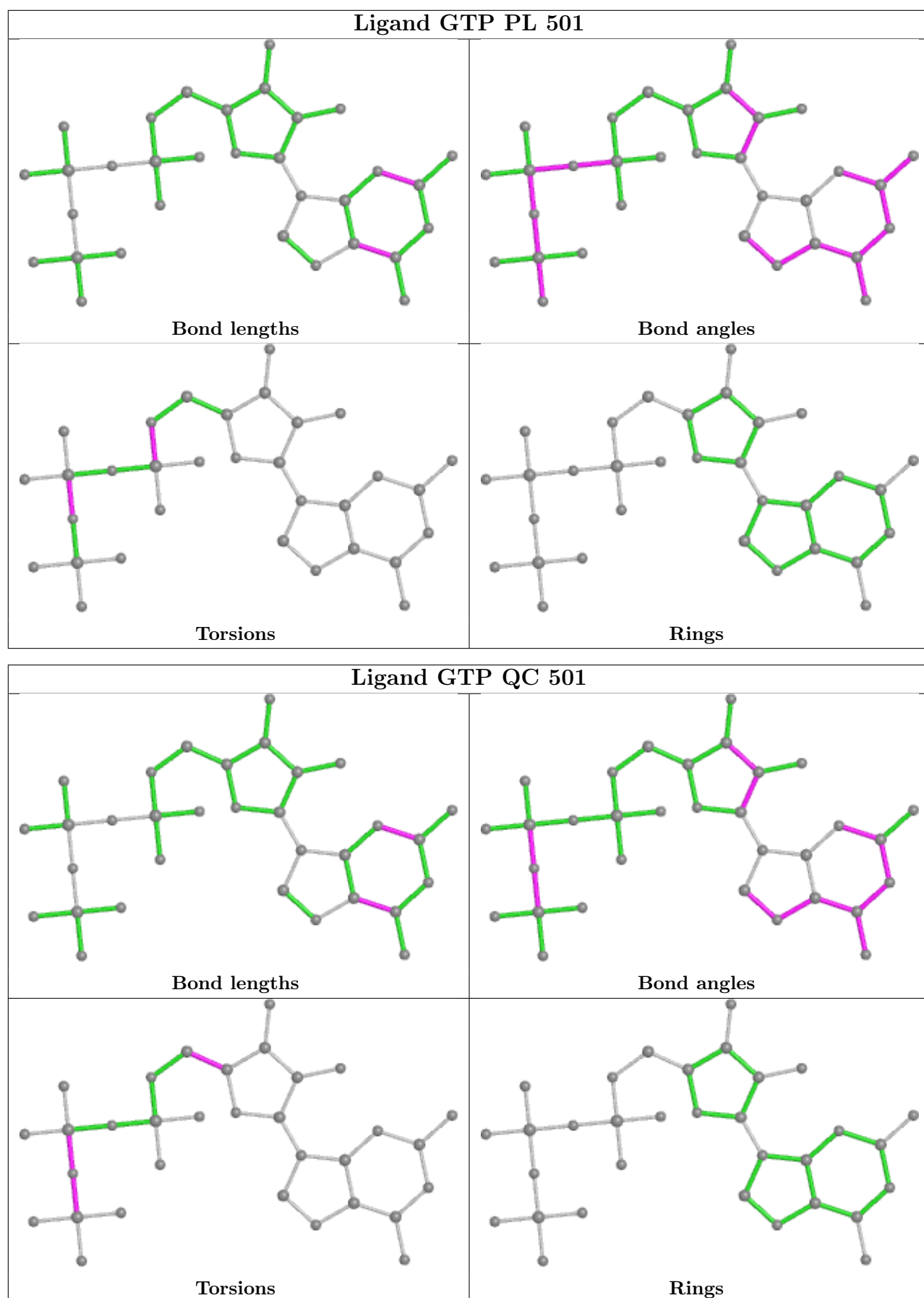


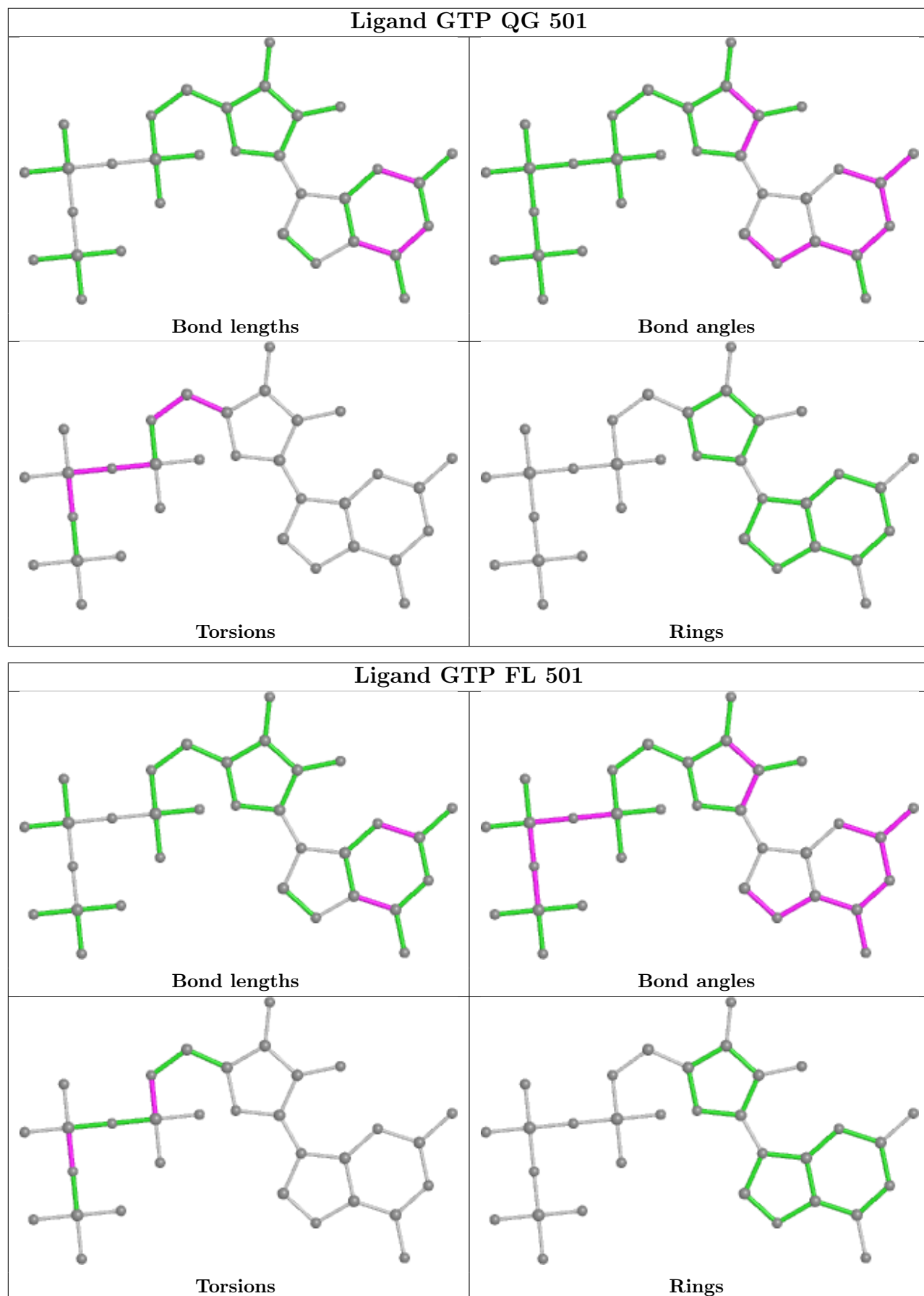


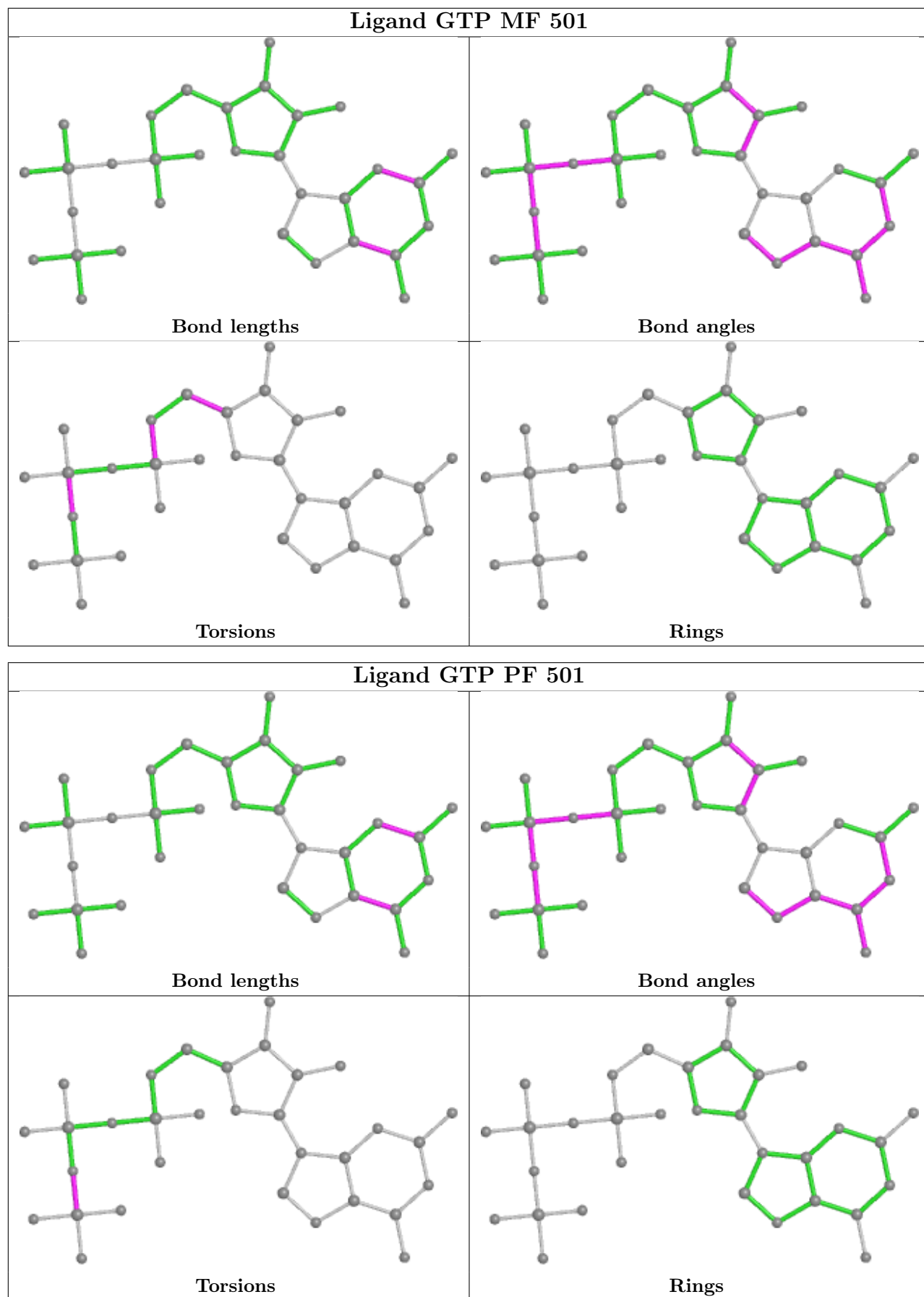


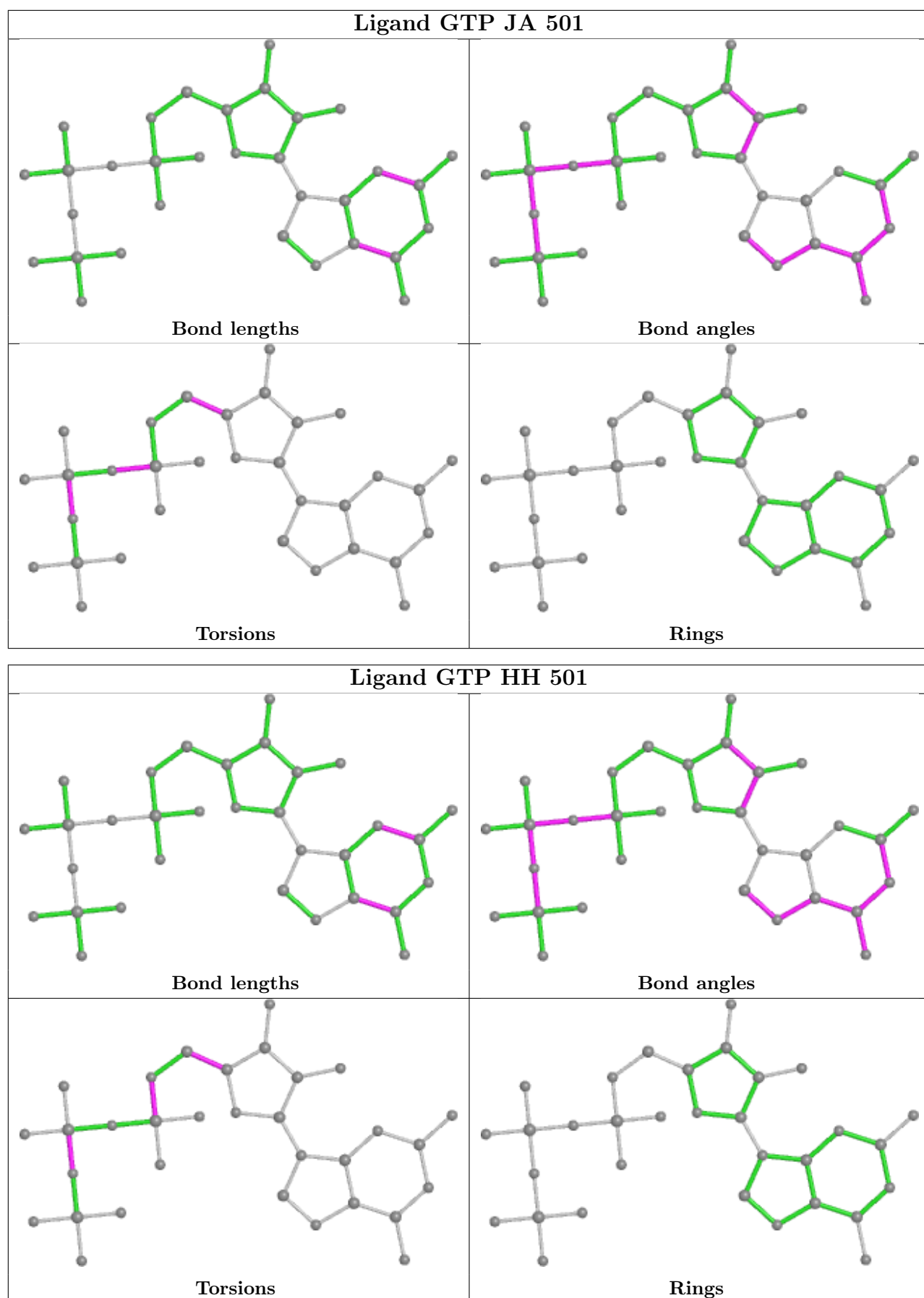


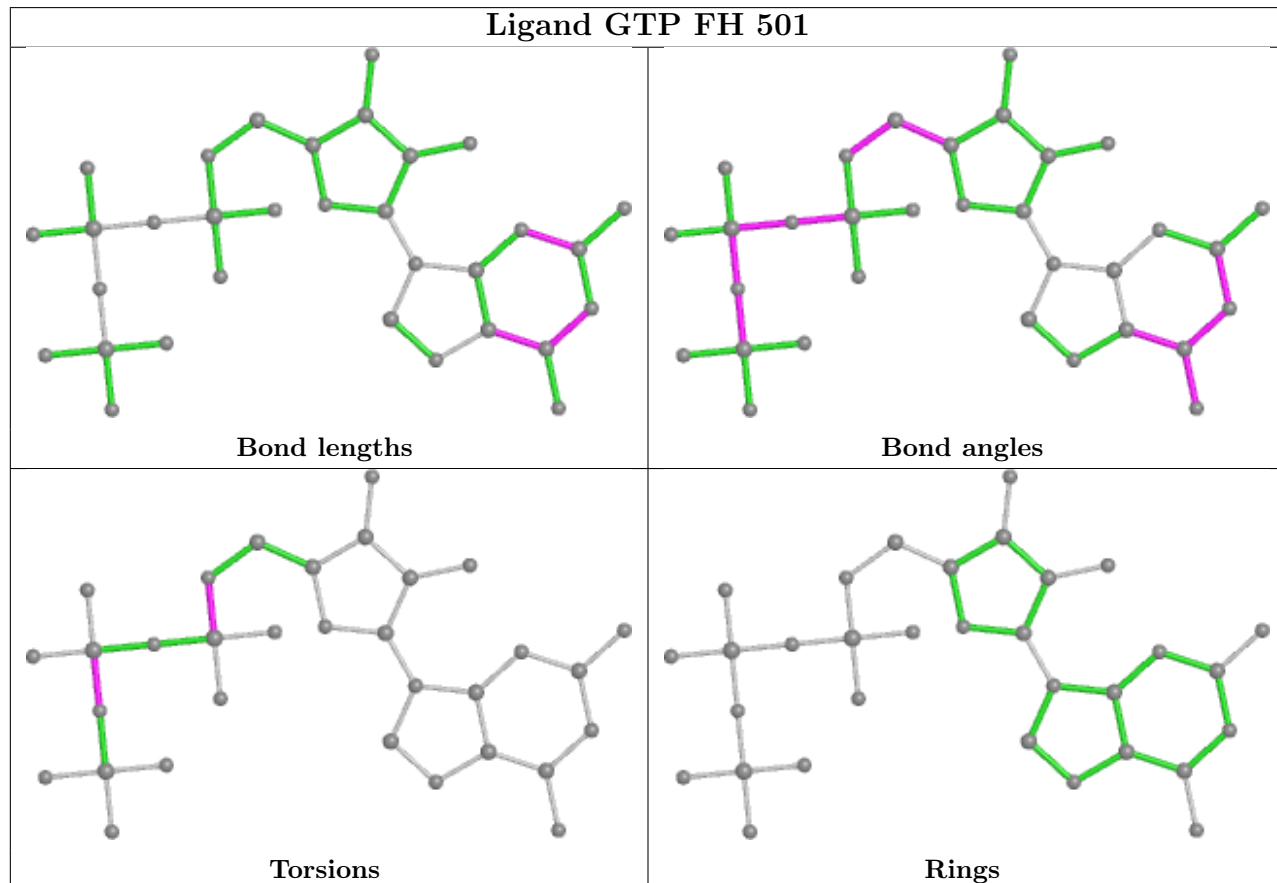
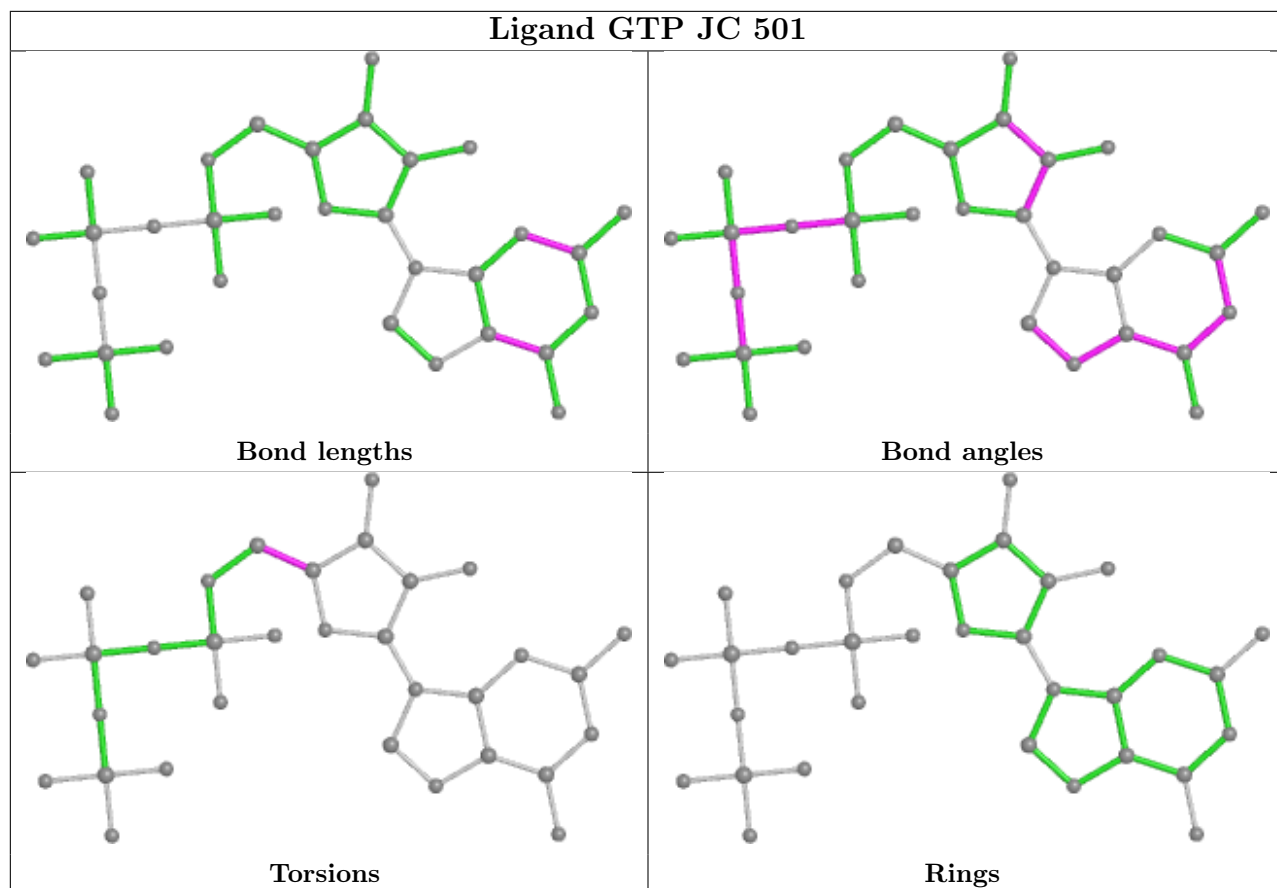


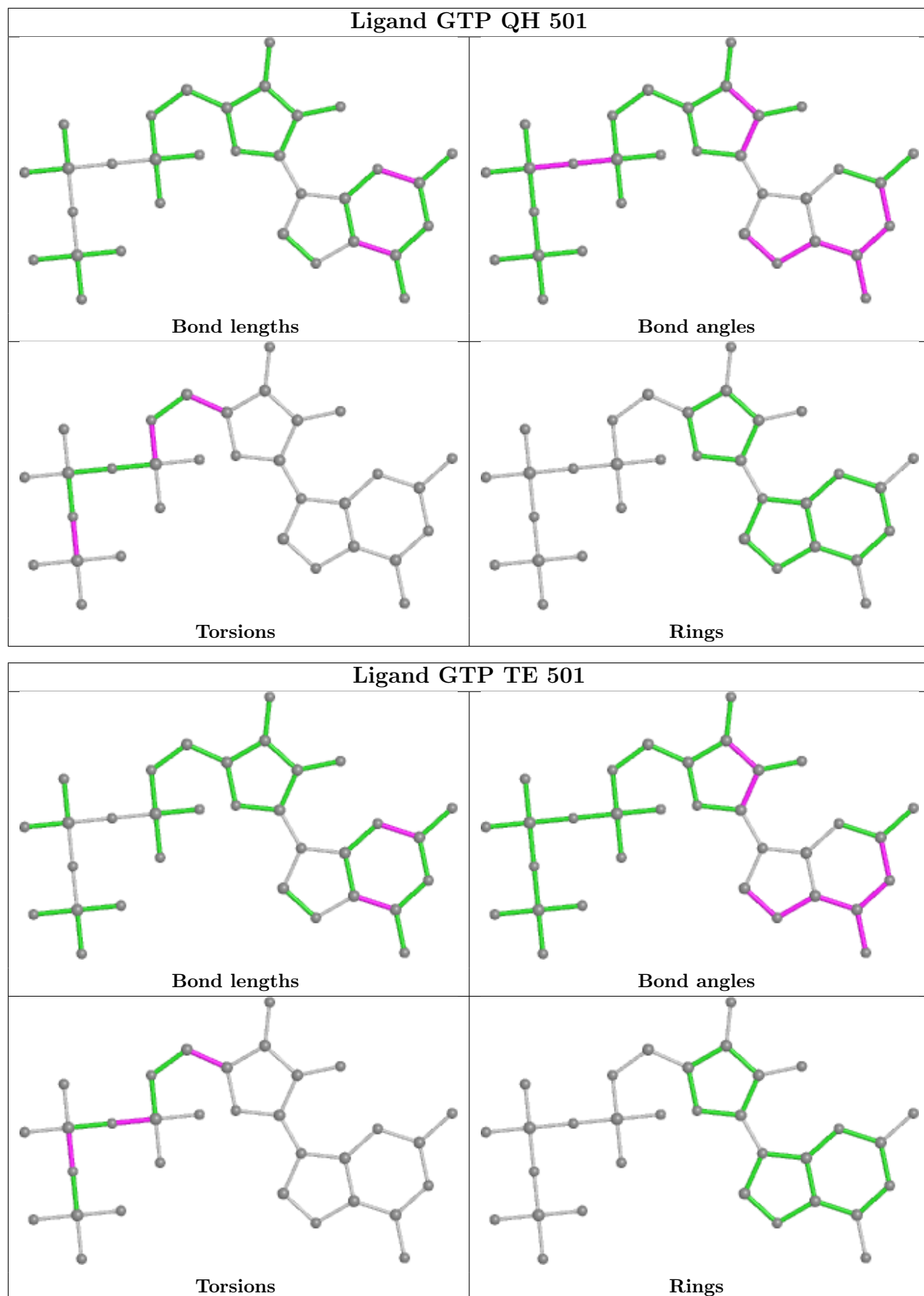


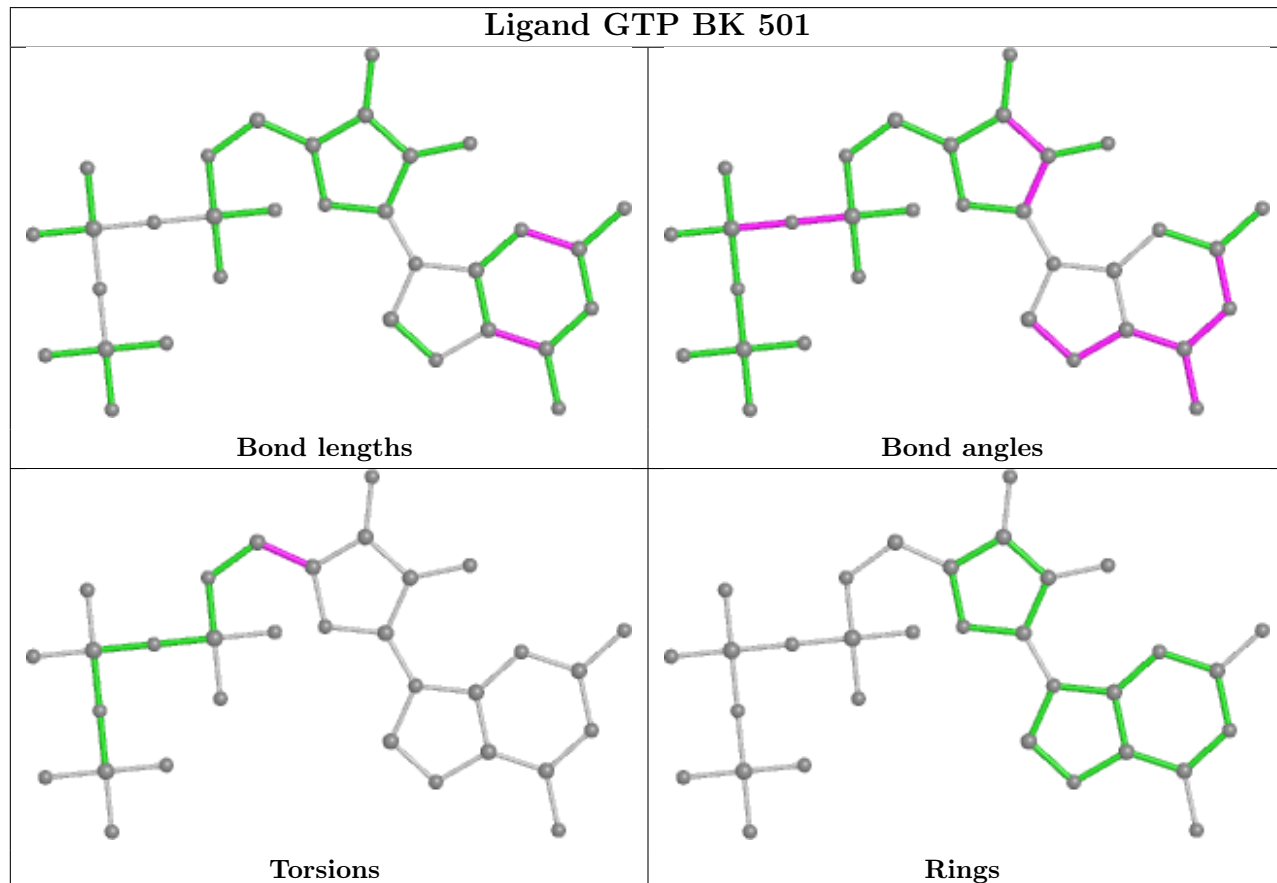
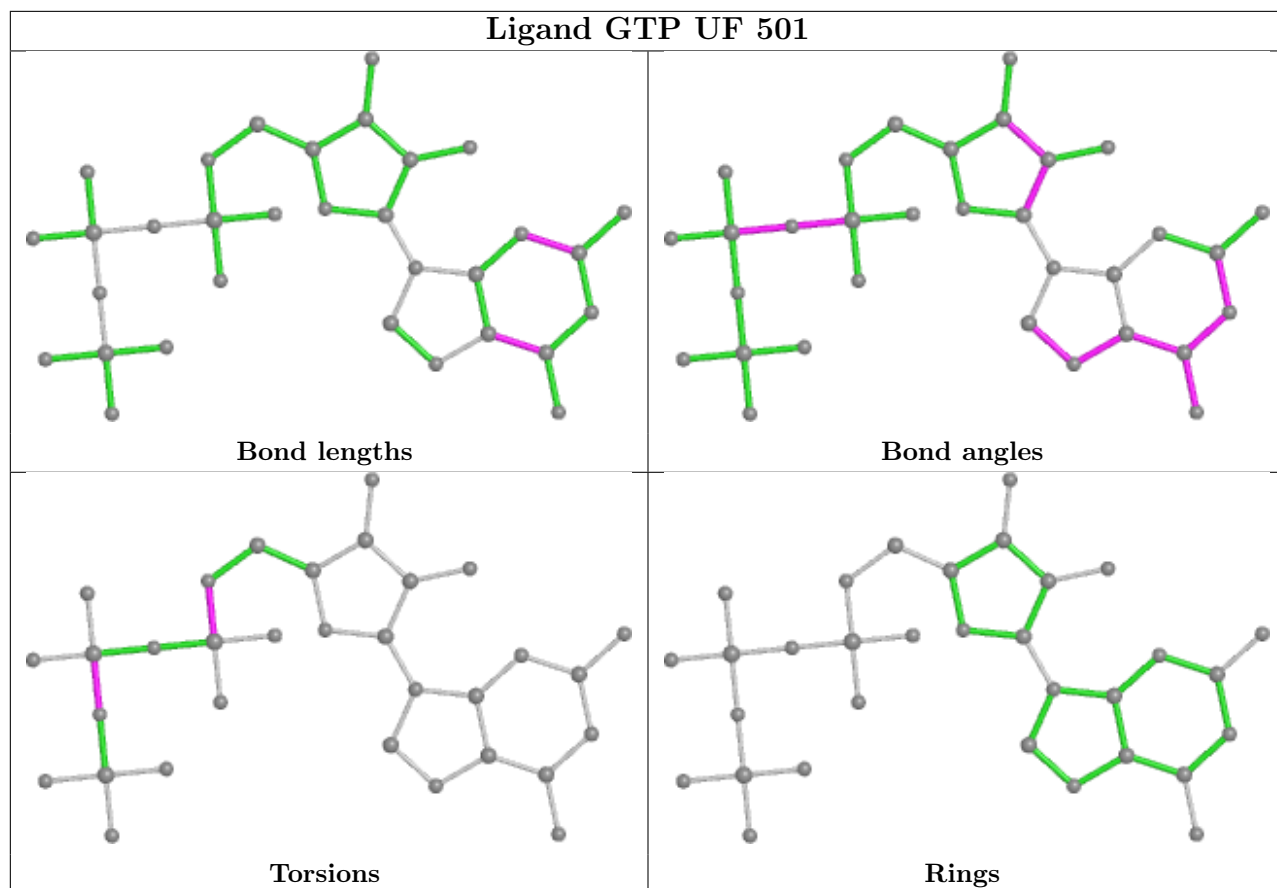


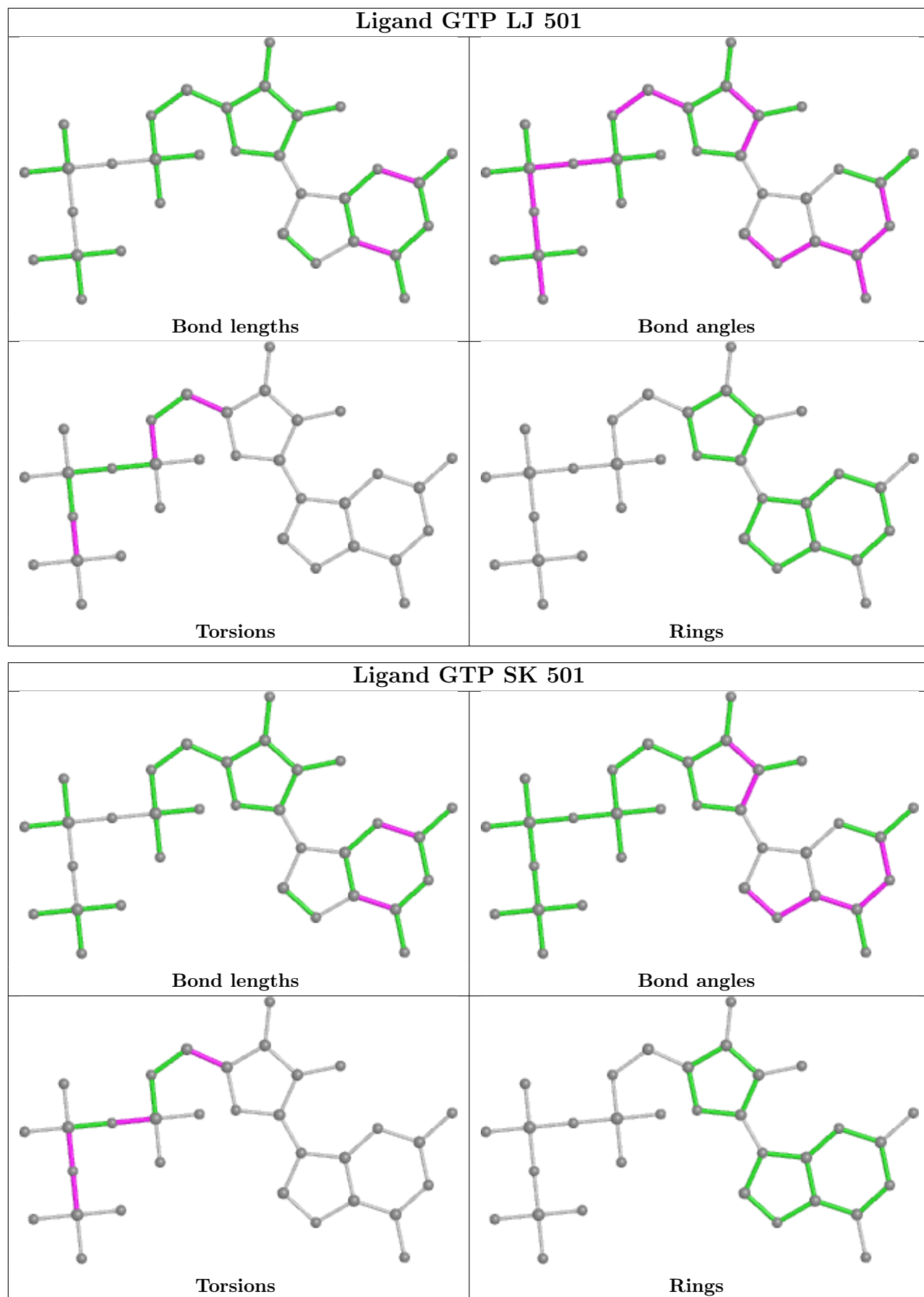


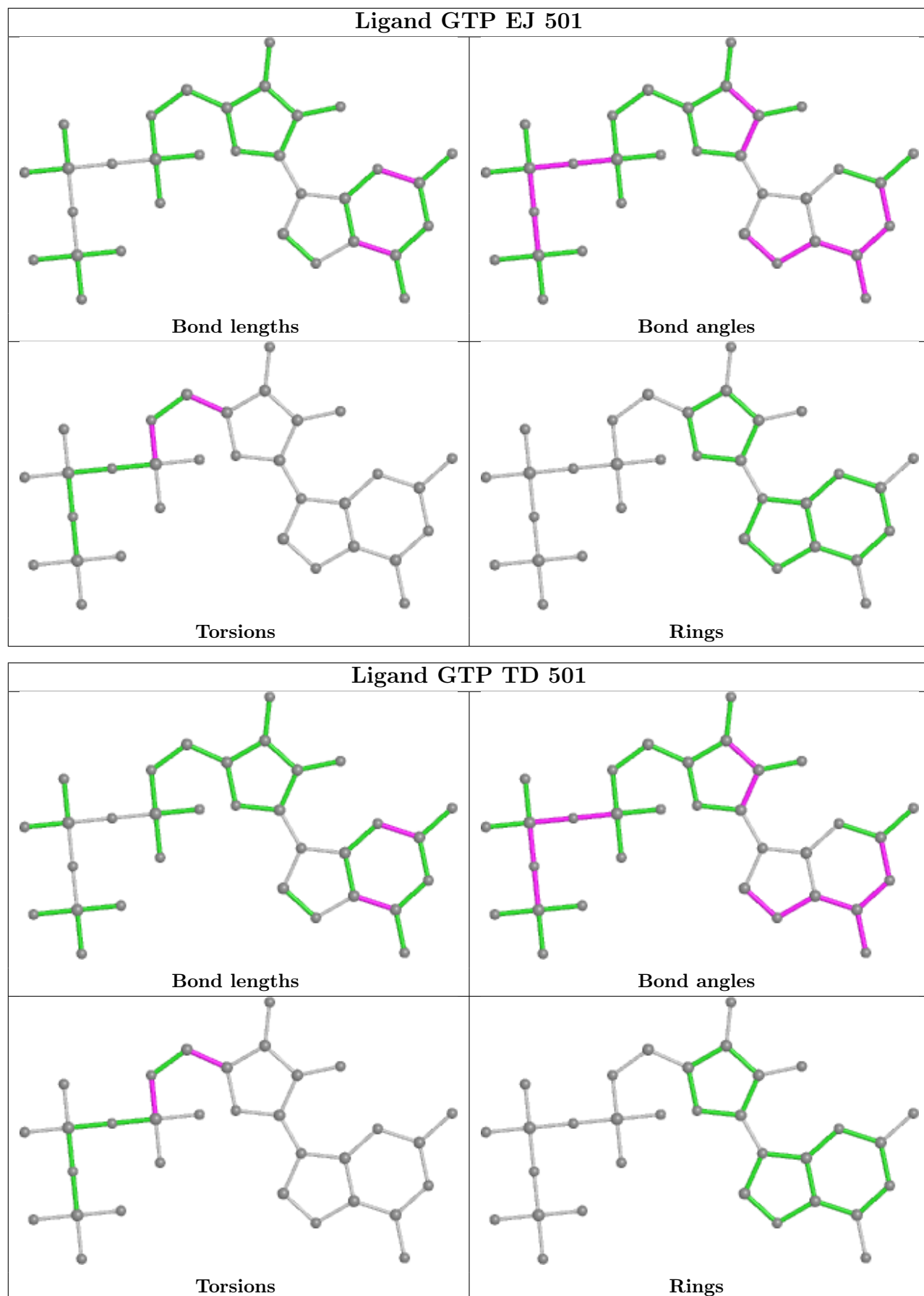


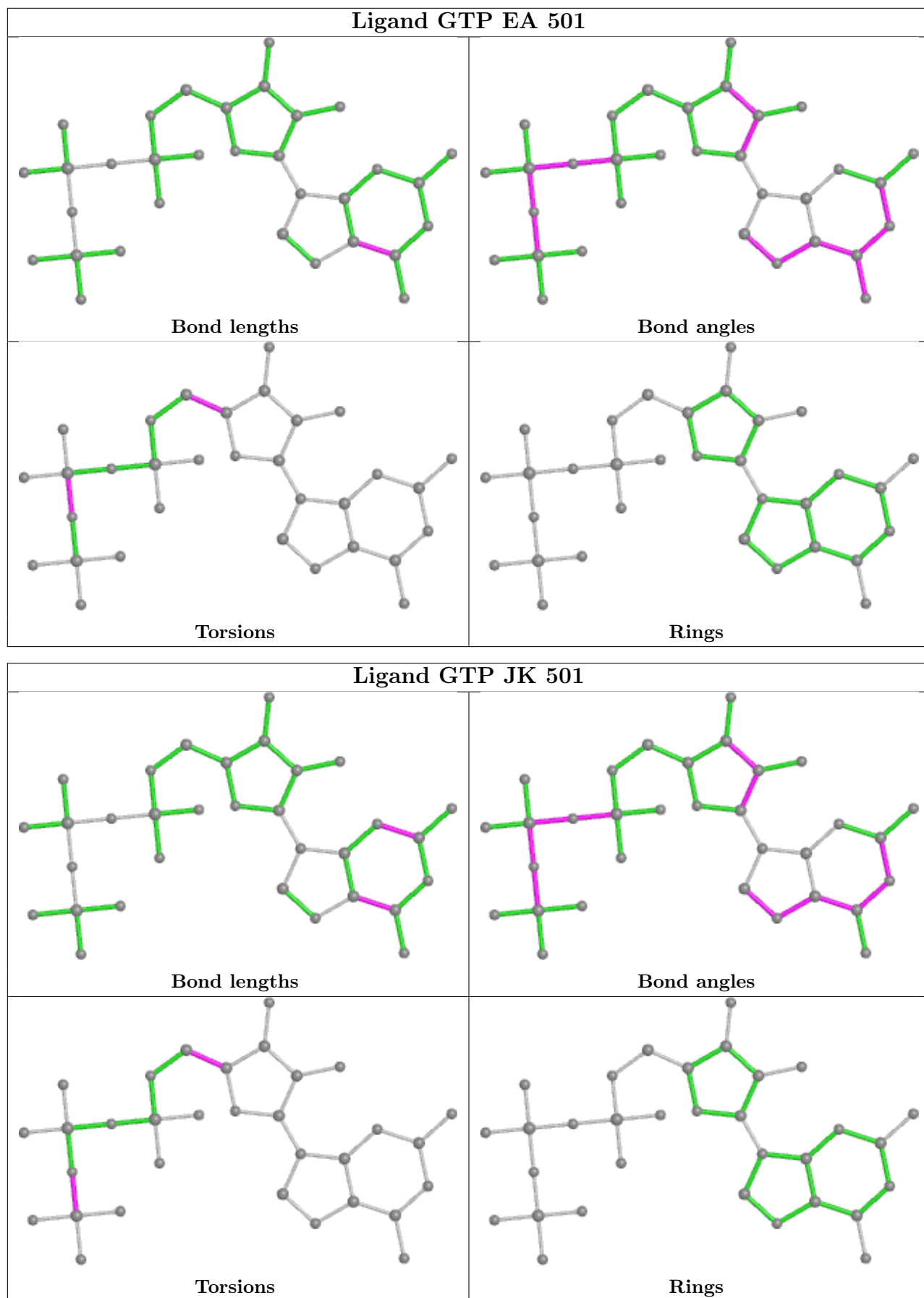


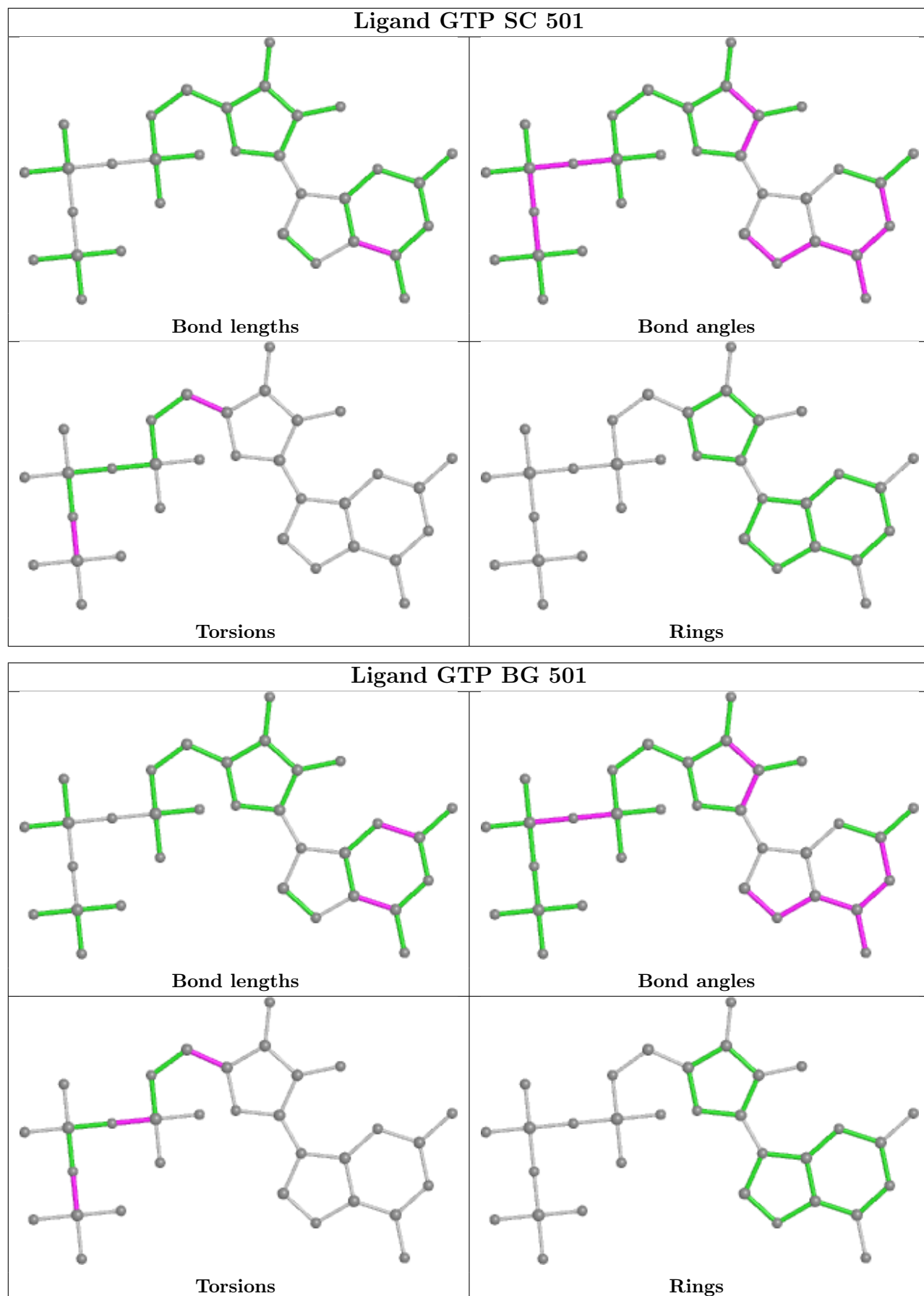


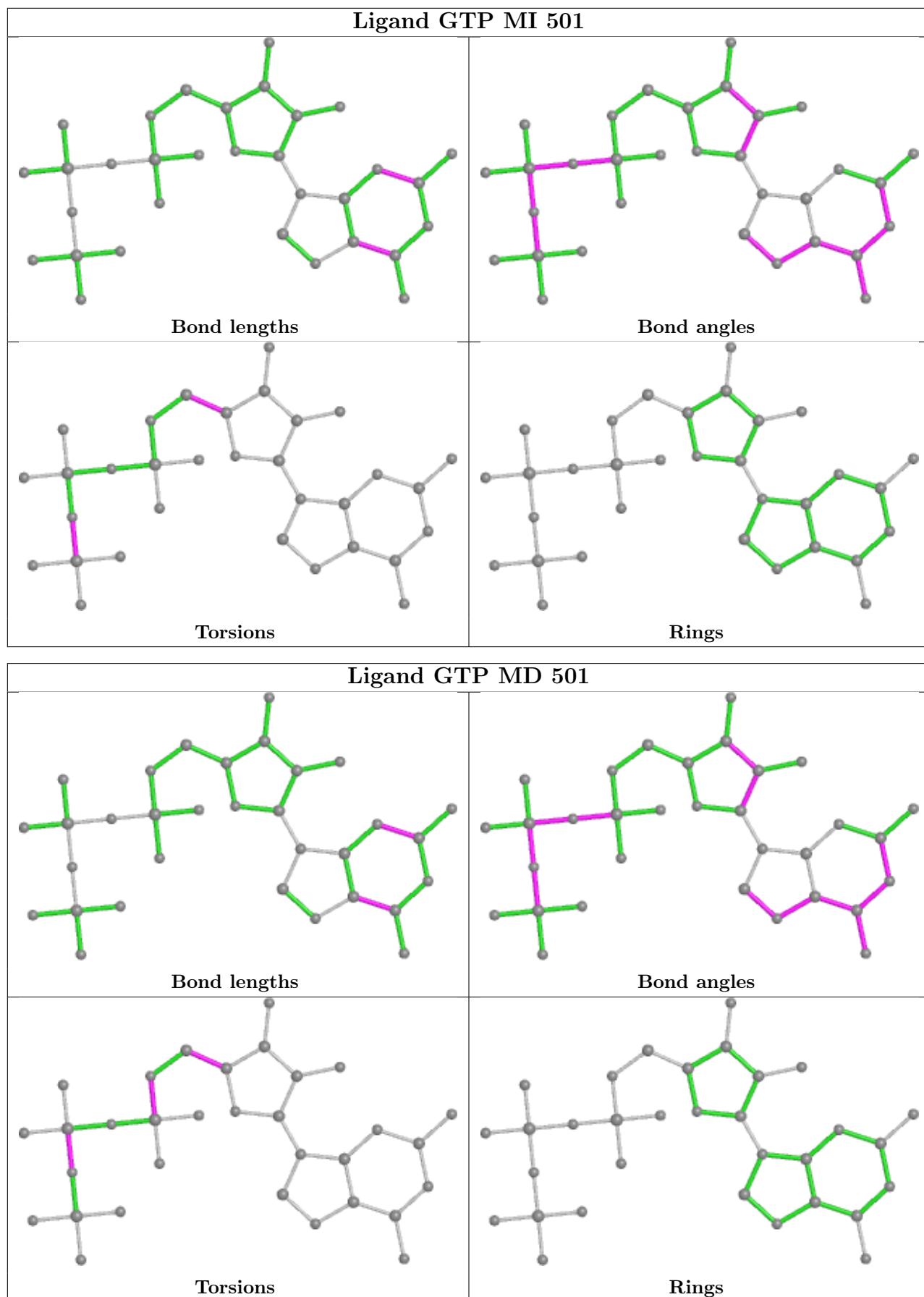


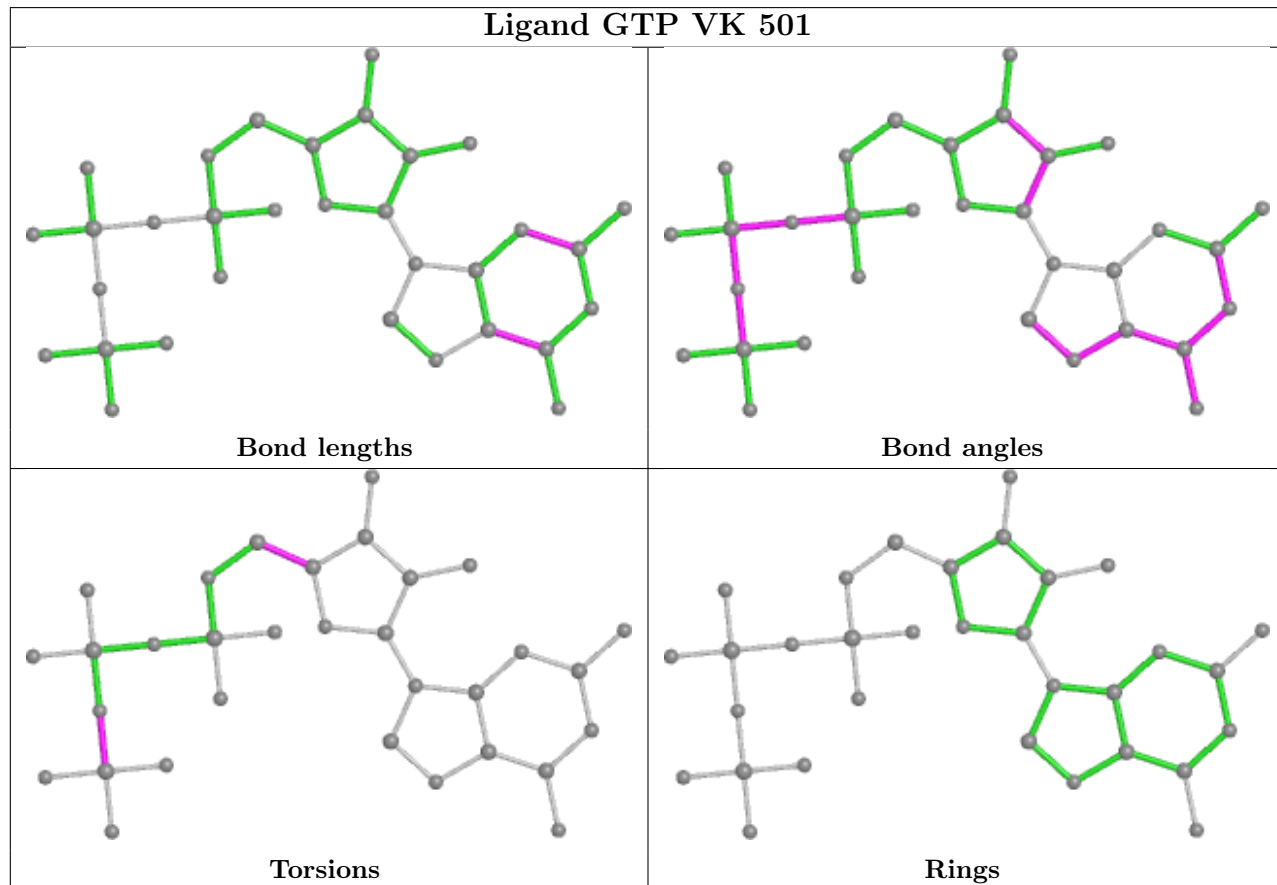
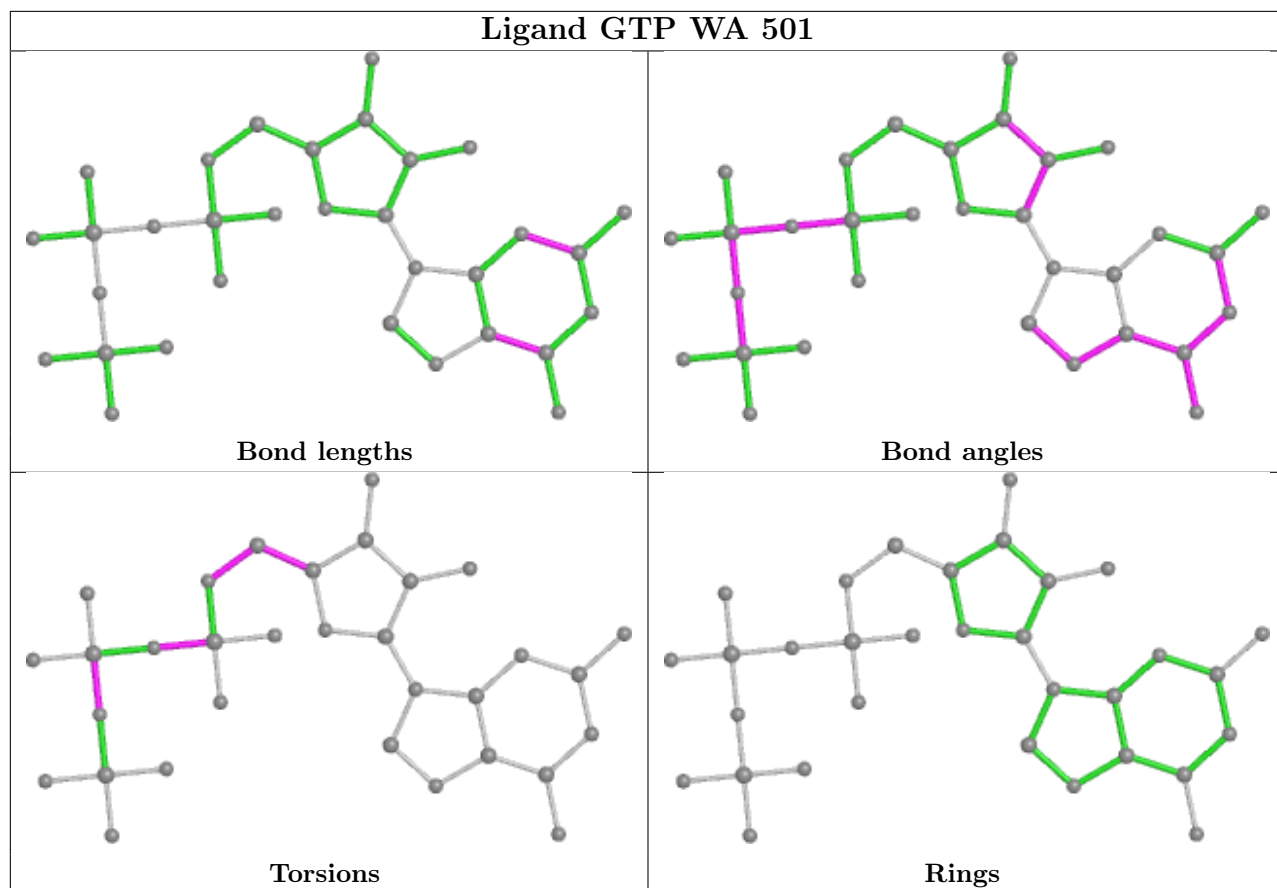


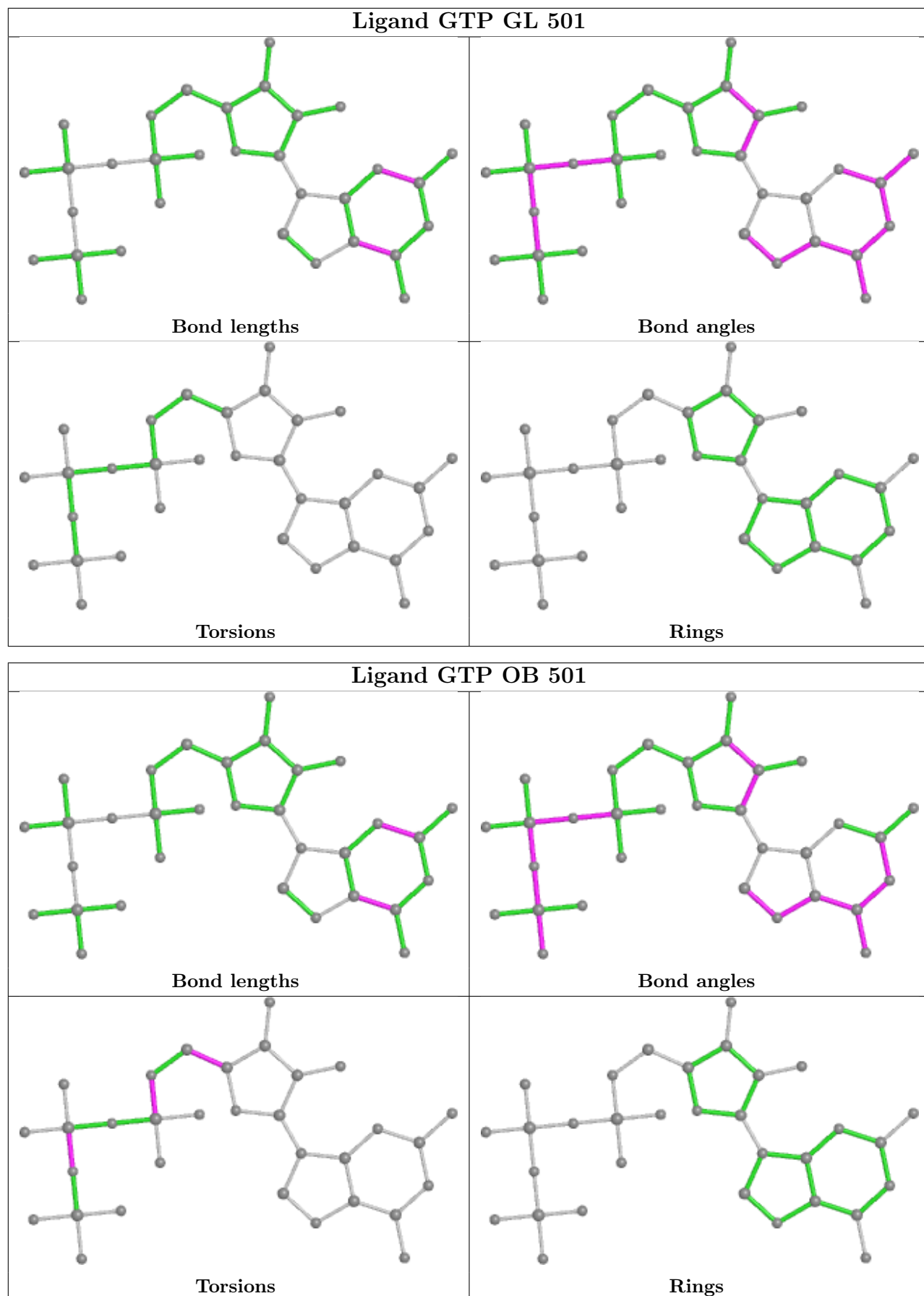


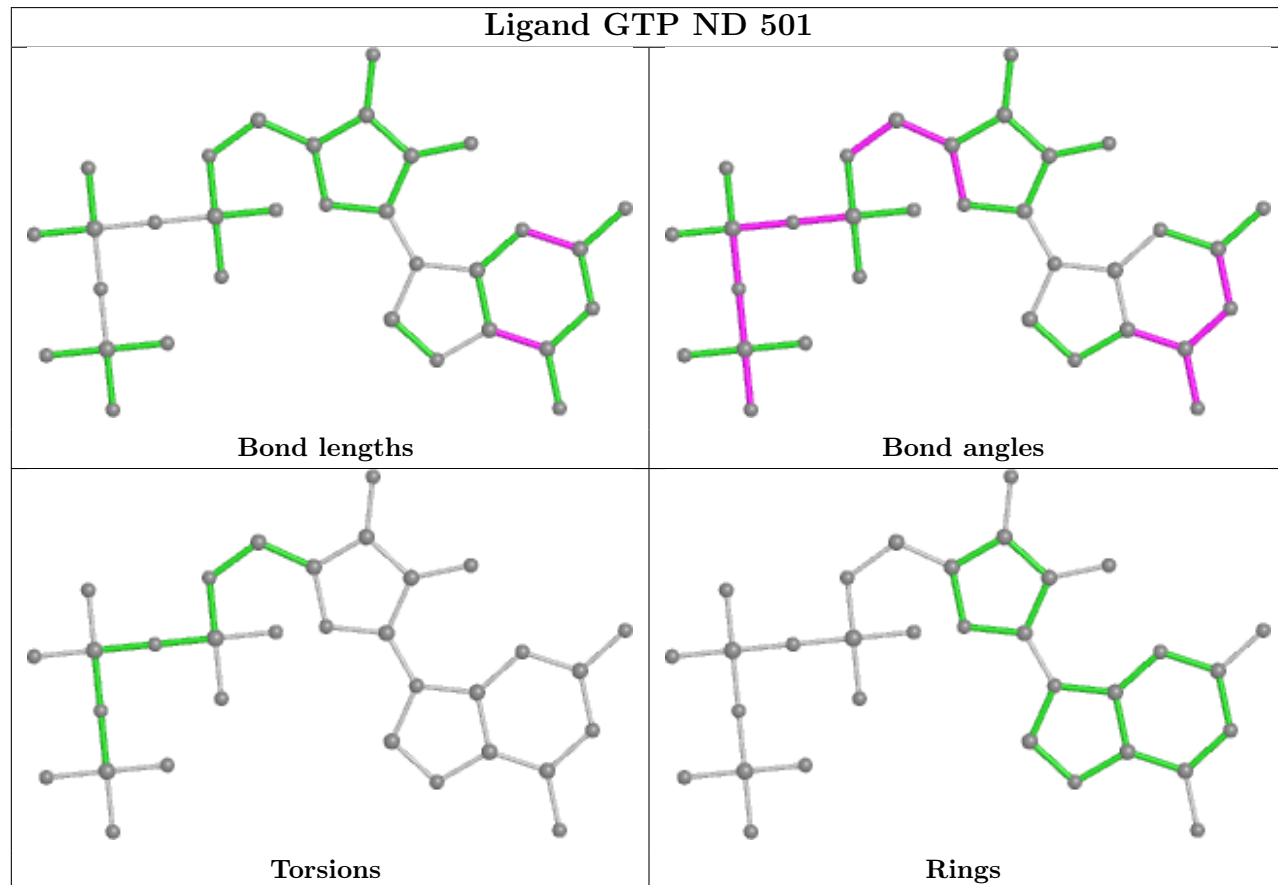
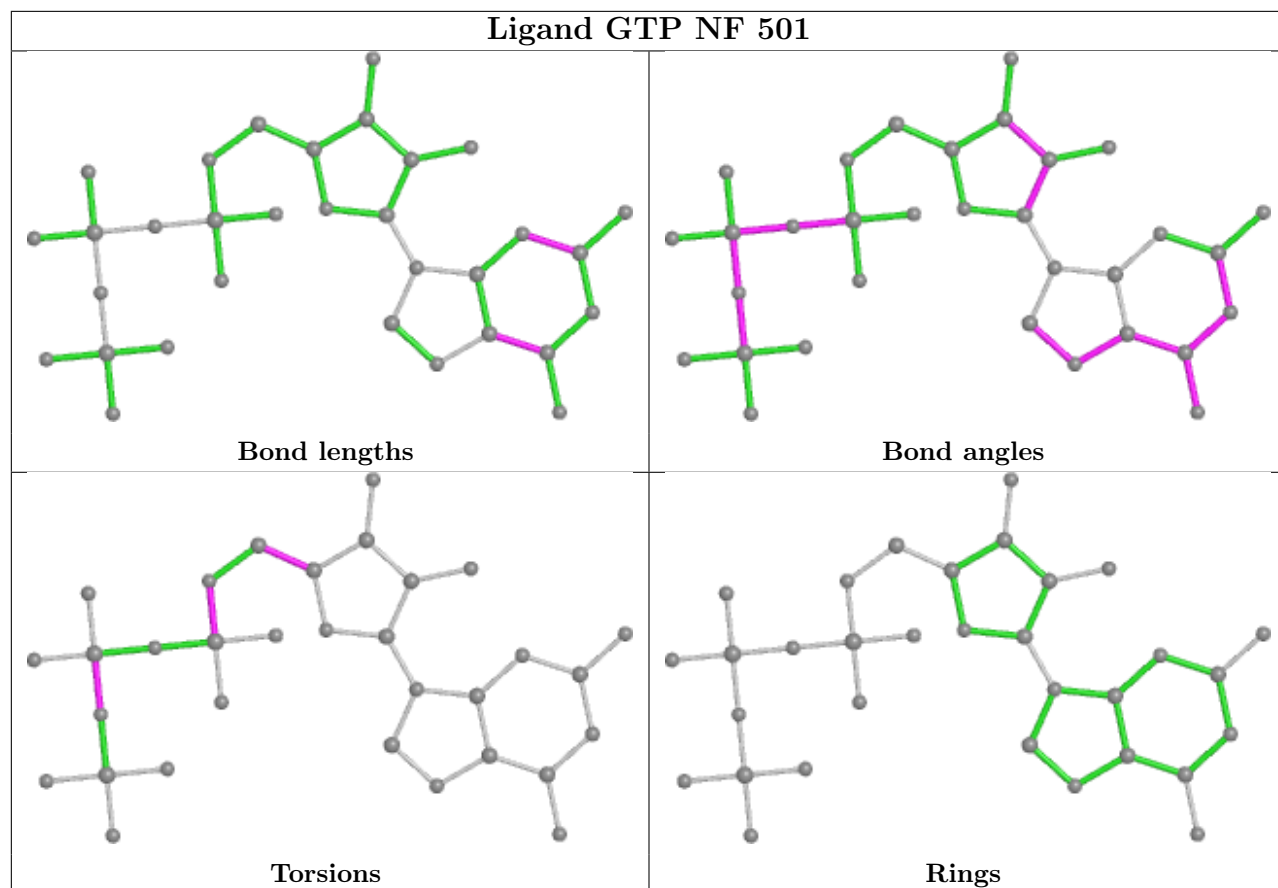


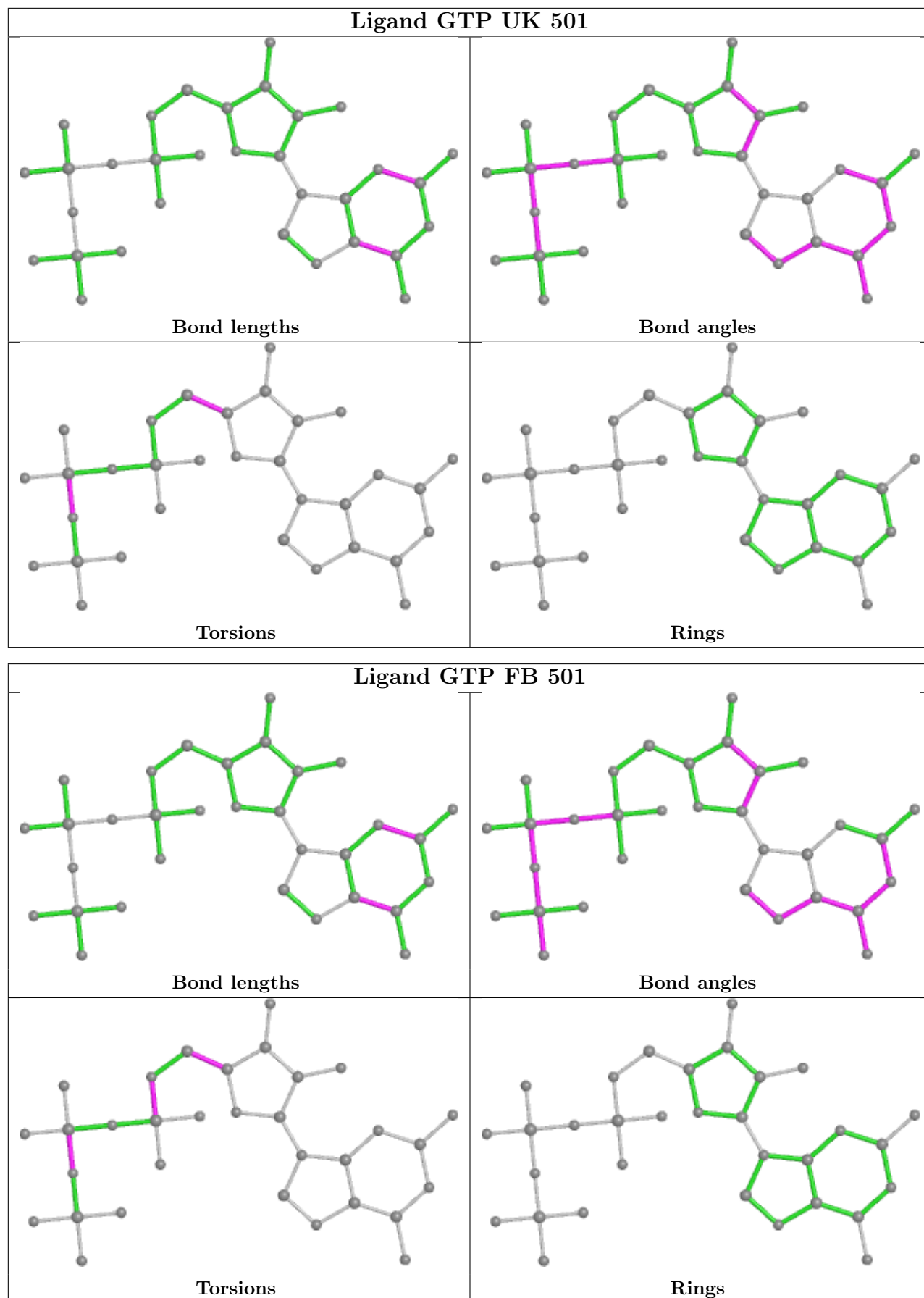


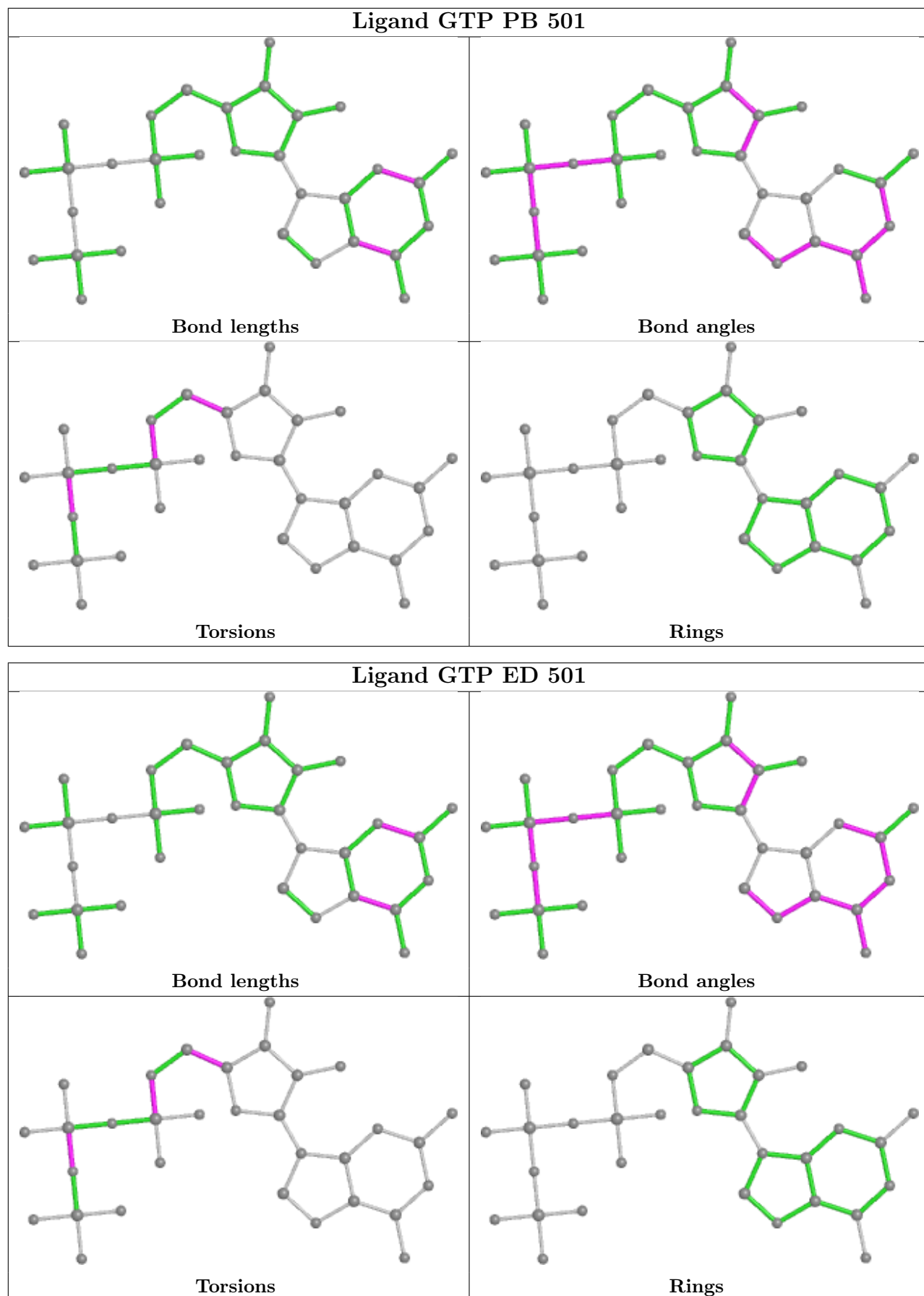


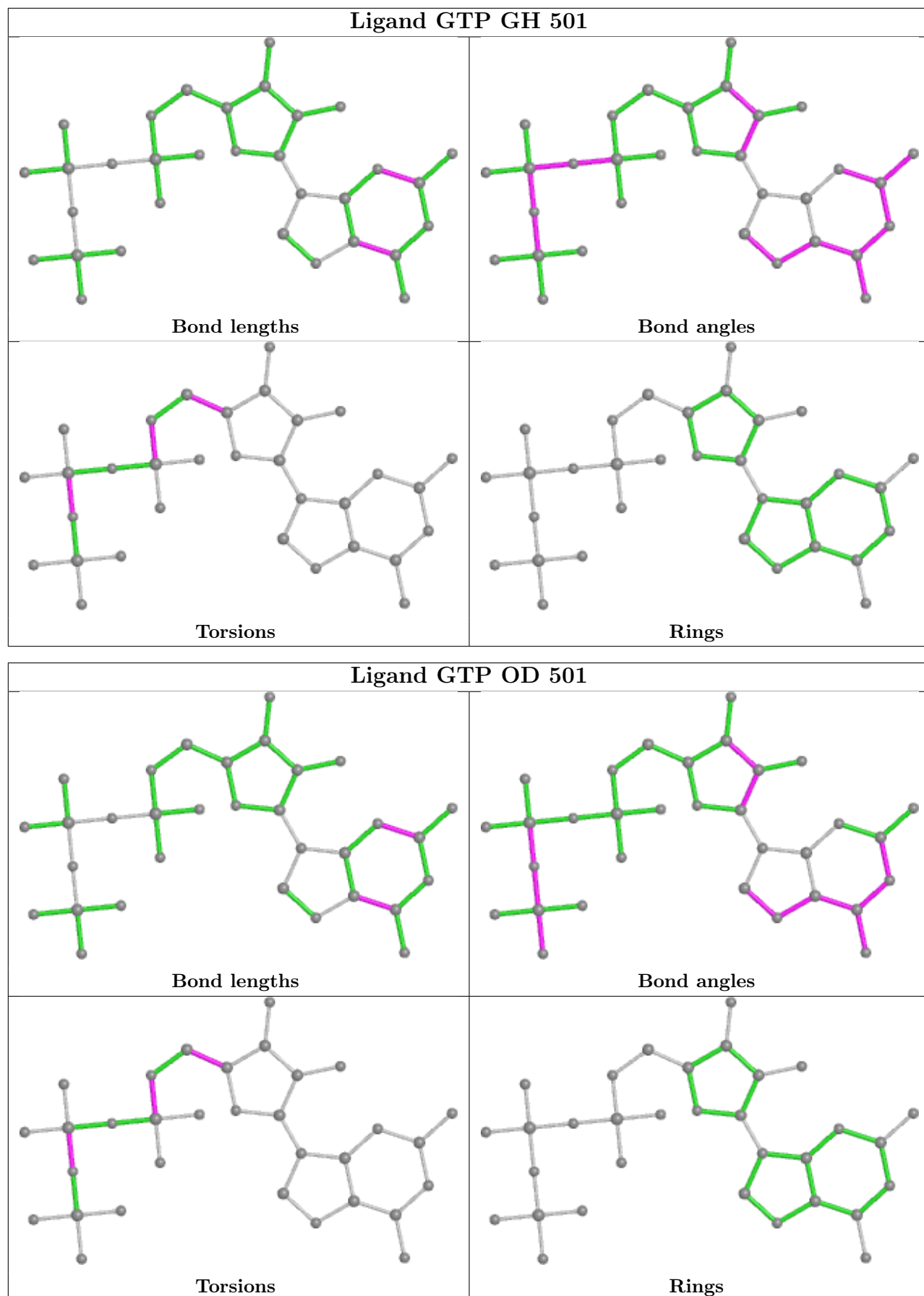


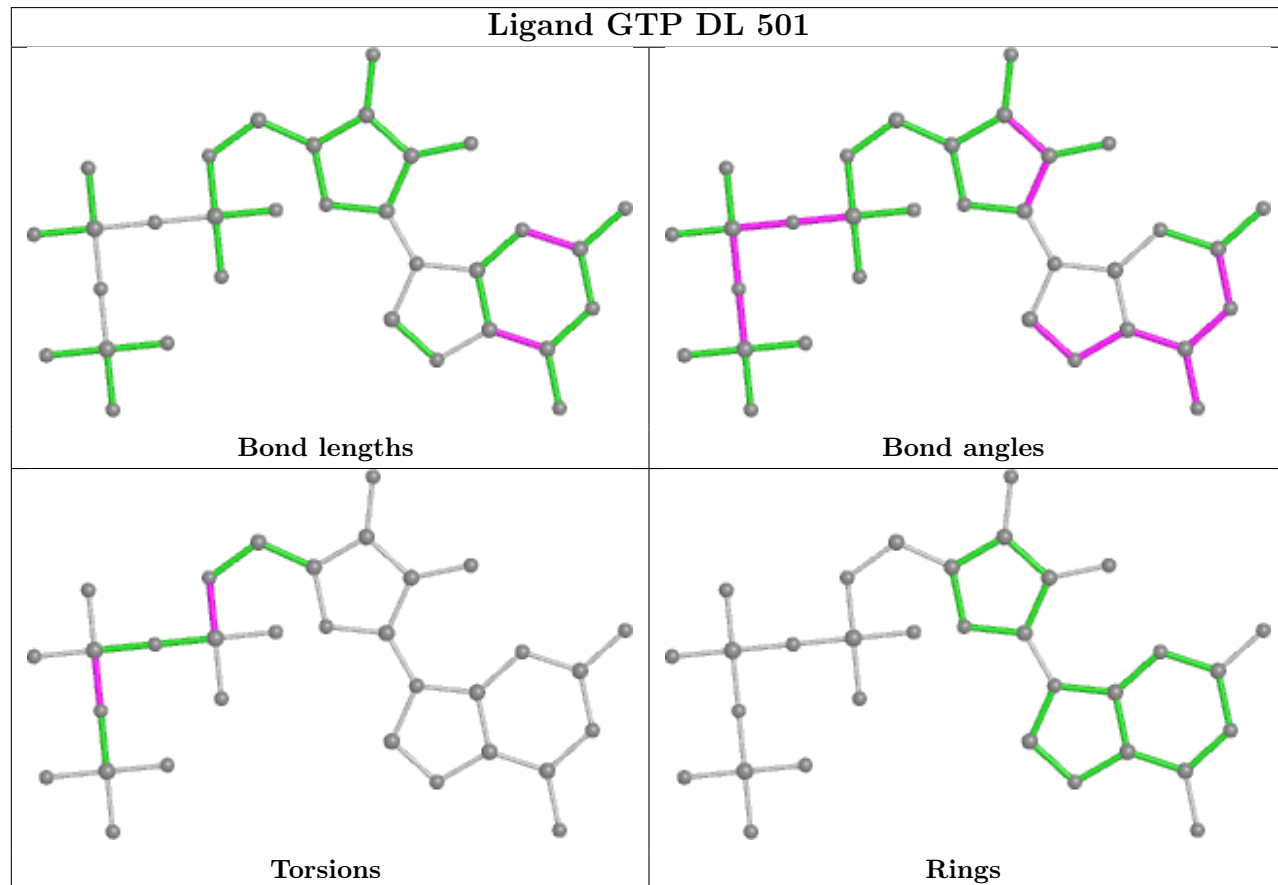
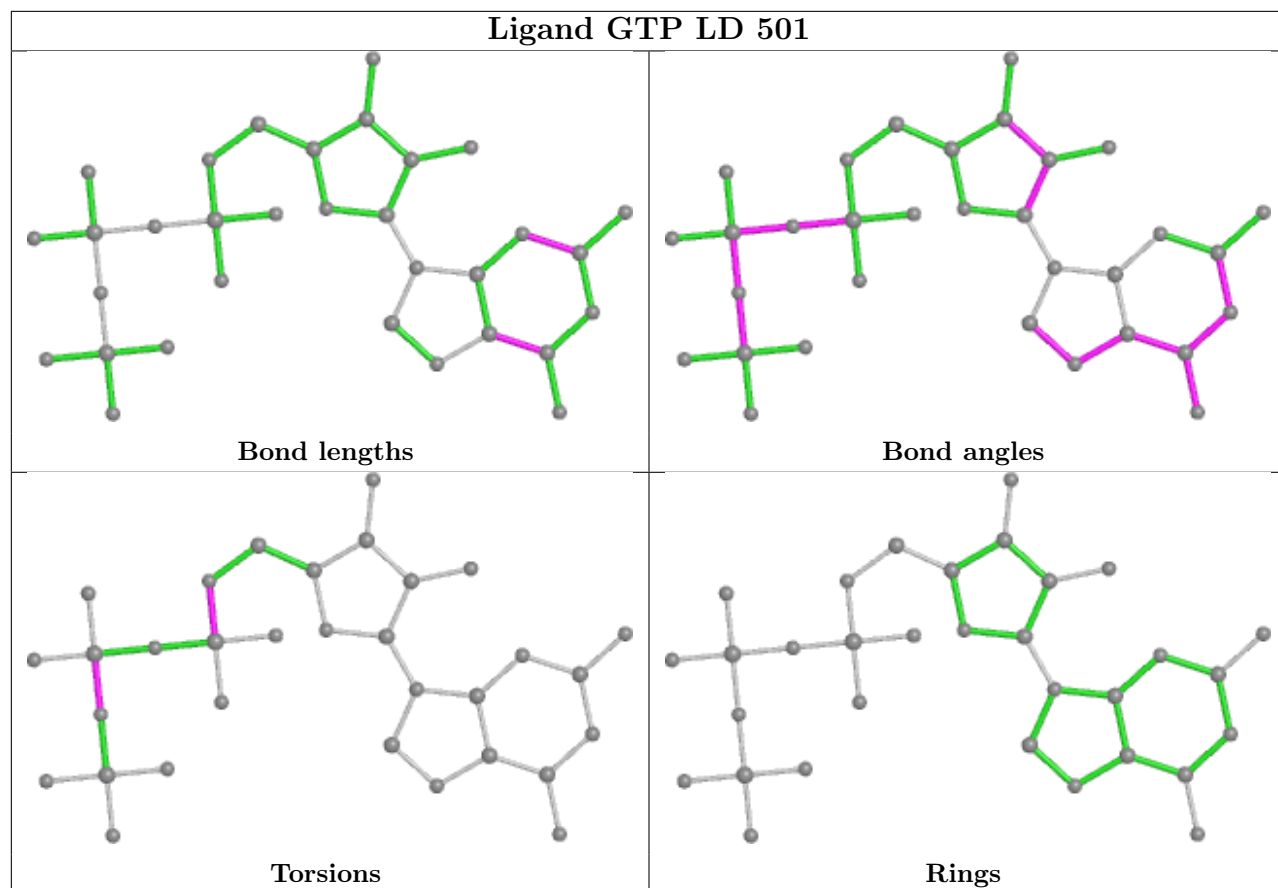


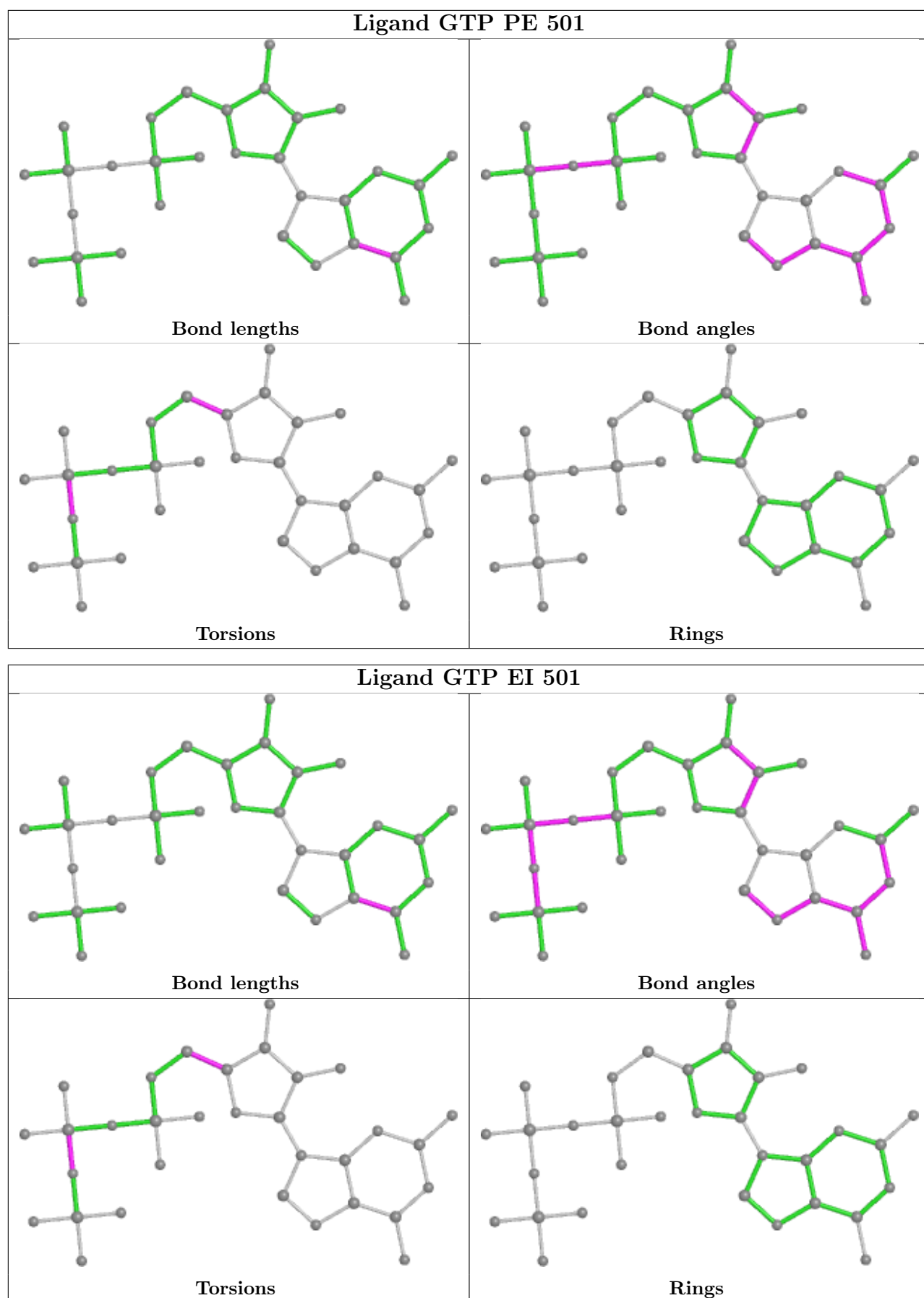












5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

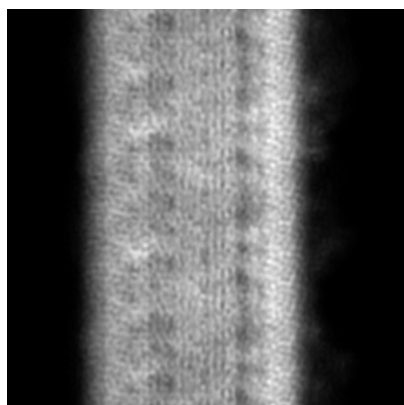
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35230. These allow visual inspection of the internal detail of the map and identification of artifacts.

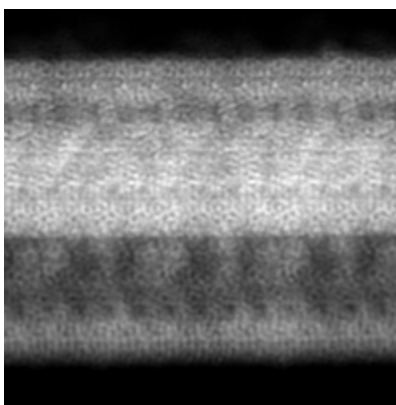
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

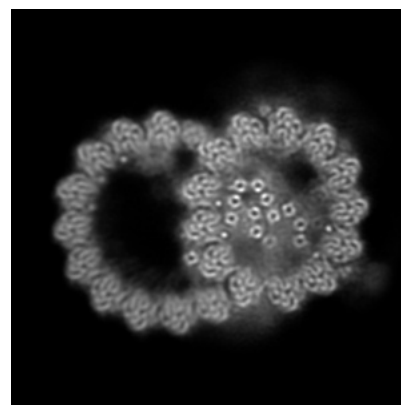
6.1.1 Primary map



X



Y

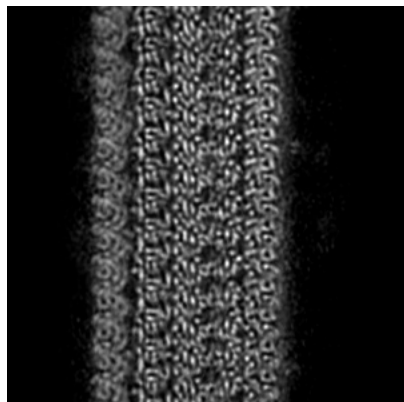


Z

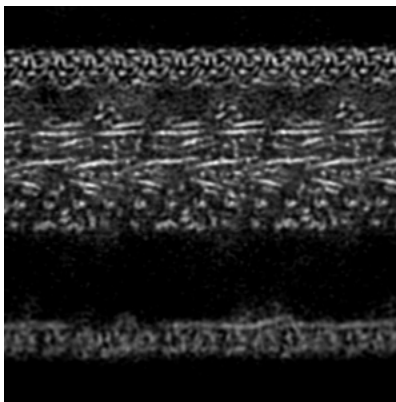
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

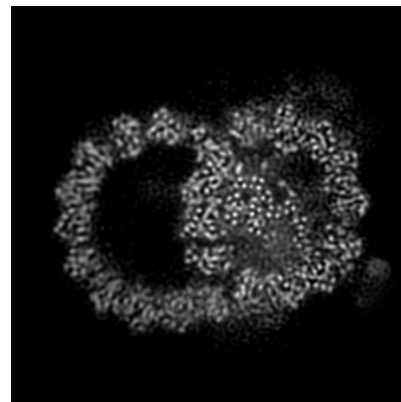
6.2.1 Primary map



X Index: 160



Y Index: 160

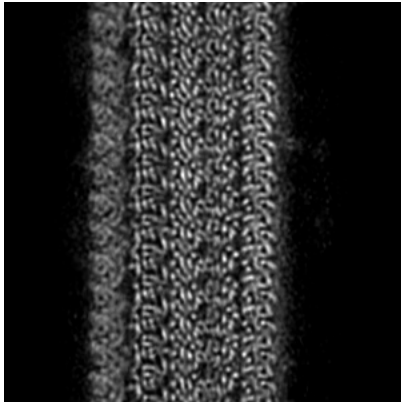


Z Index: 160

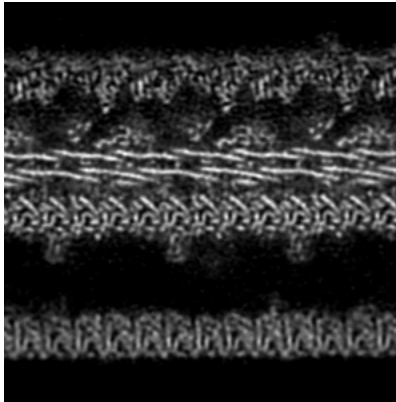
The images above show central slices of the map in three orthogonal directions.

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

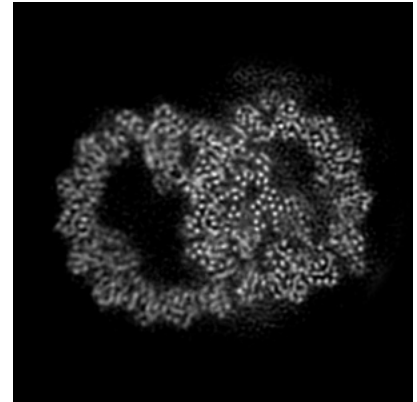
6.3.1 Primary map



X Index: 159



Y Index: 175

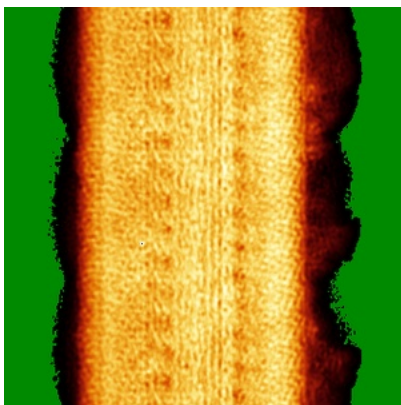


Z Index: 232

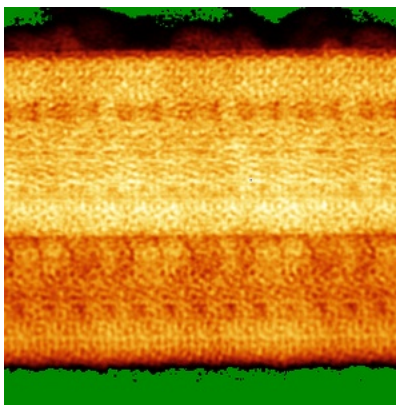
The images above show the largest variance slices of the map in three orthogonal directions.

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

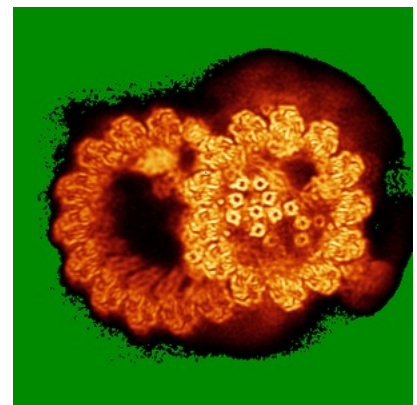
6.4.1 Primary map



X



Y

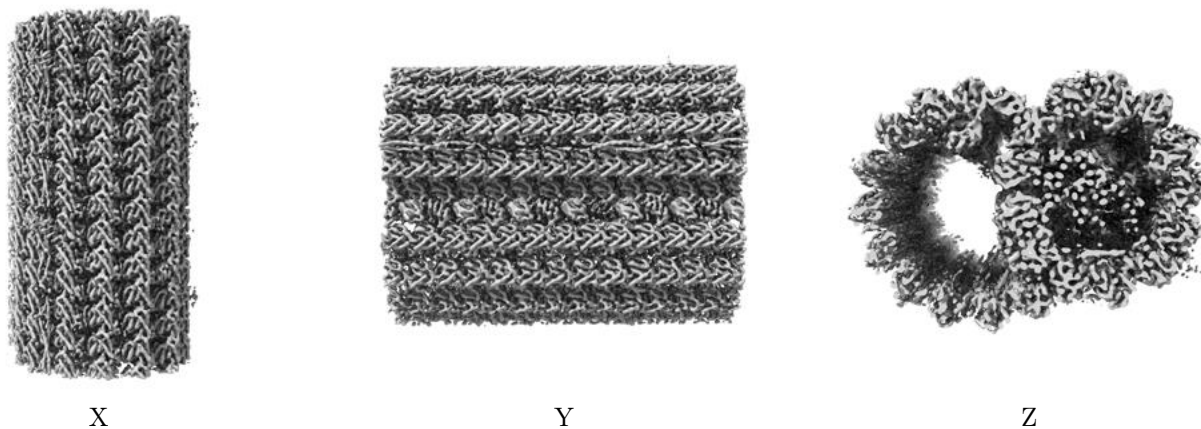


Z

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 0.003. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

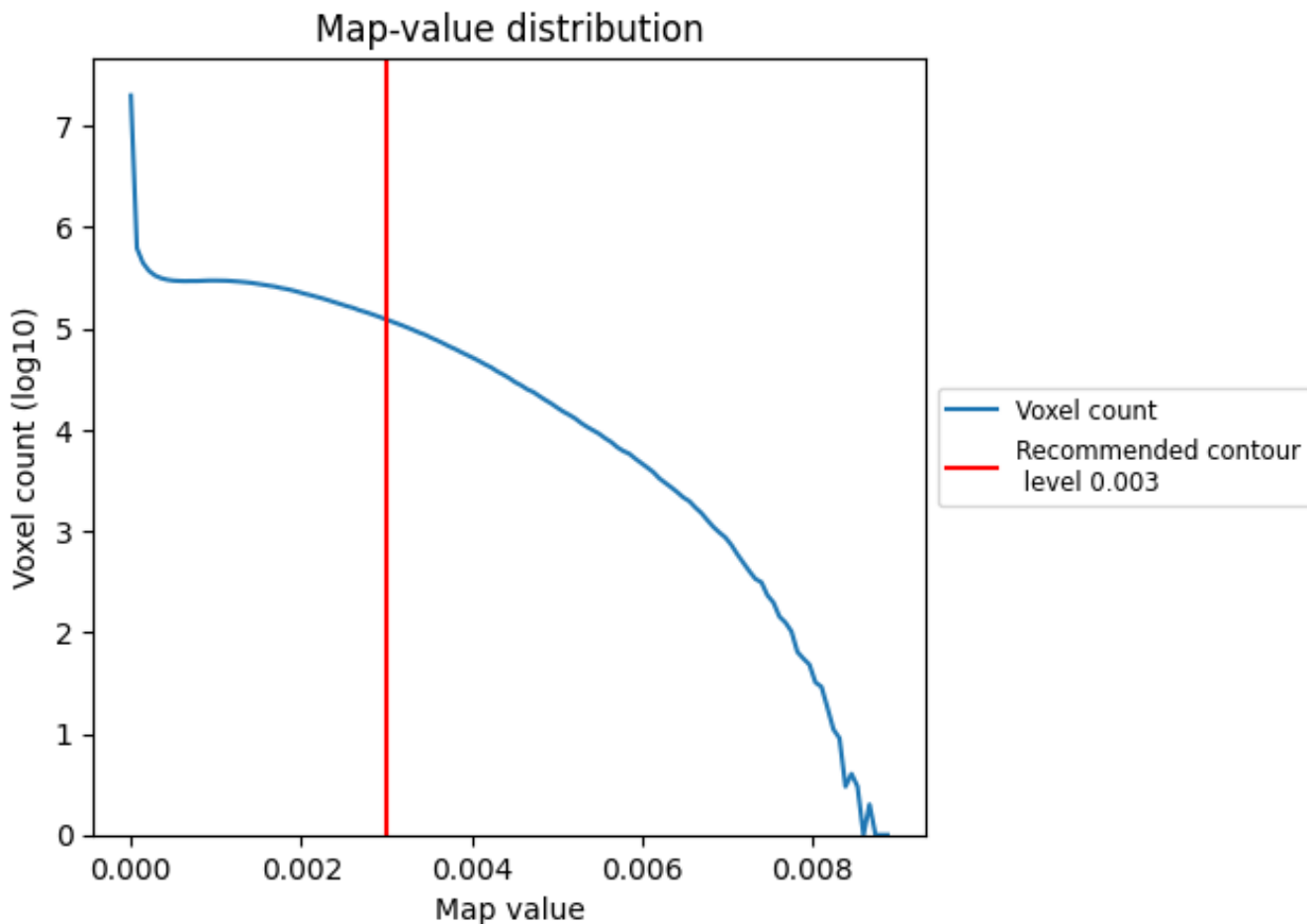
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

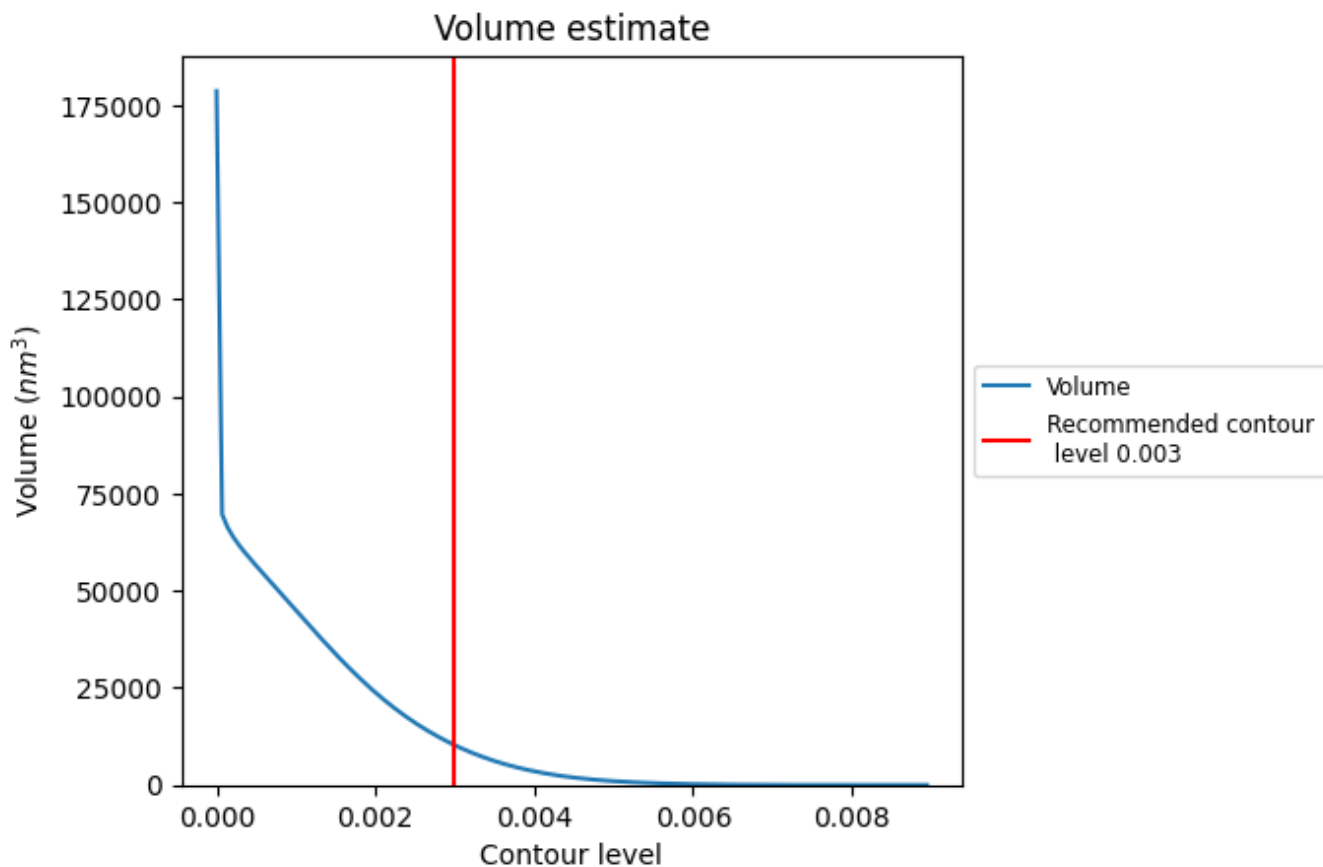
This section contains the results of statistical analysis of the map.

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.

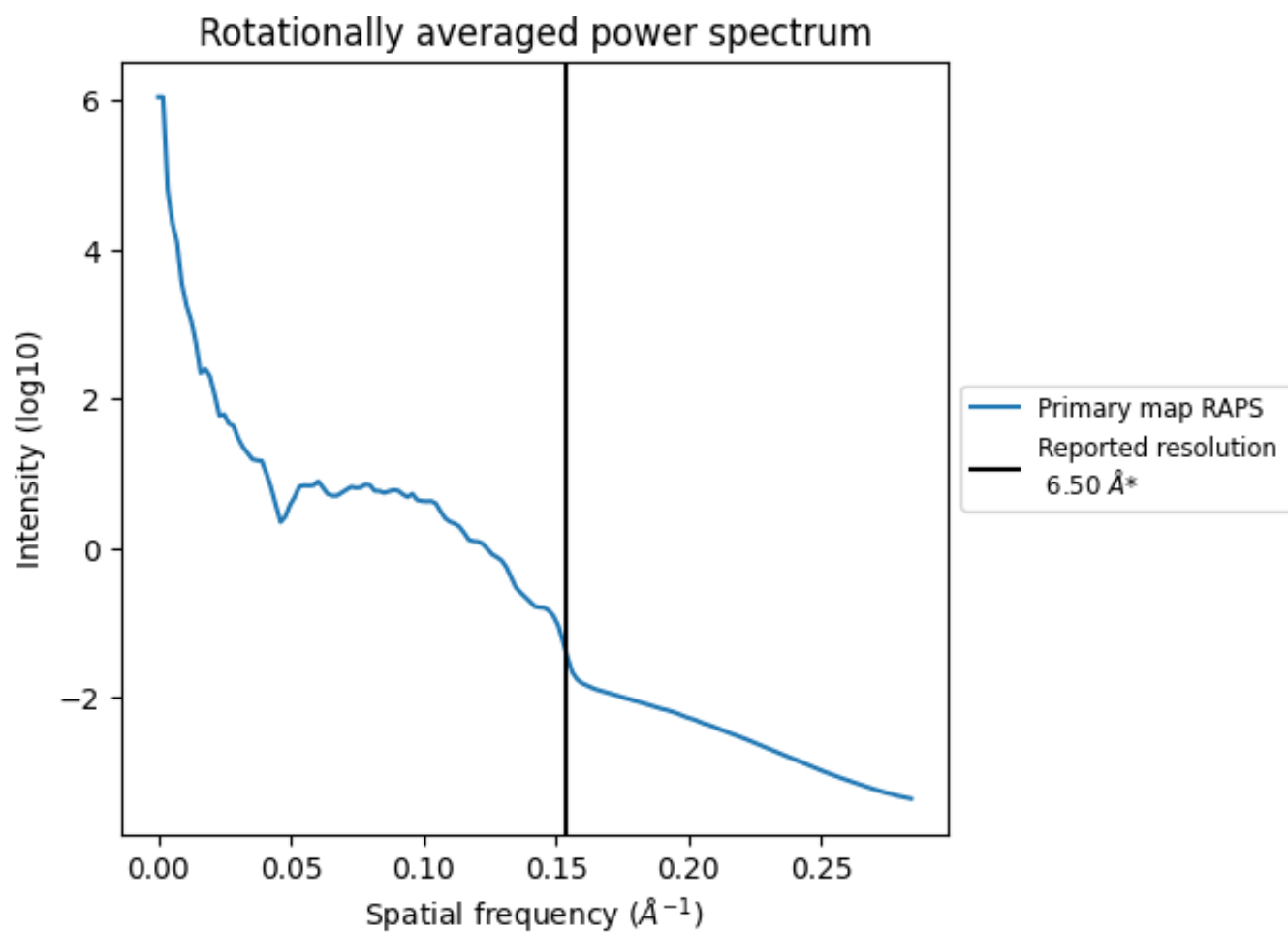
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 10233 nm³; this corresponds to an approximate mass of 9243 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 0.154\AA^{-1}

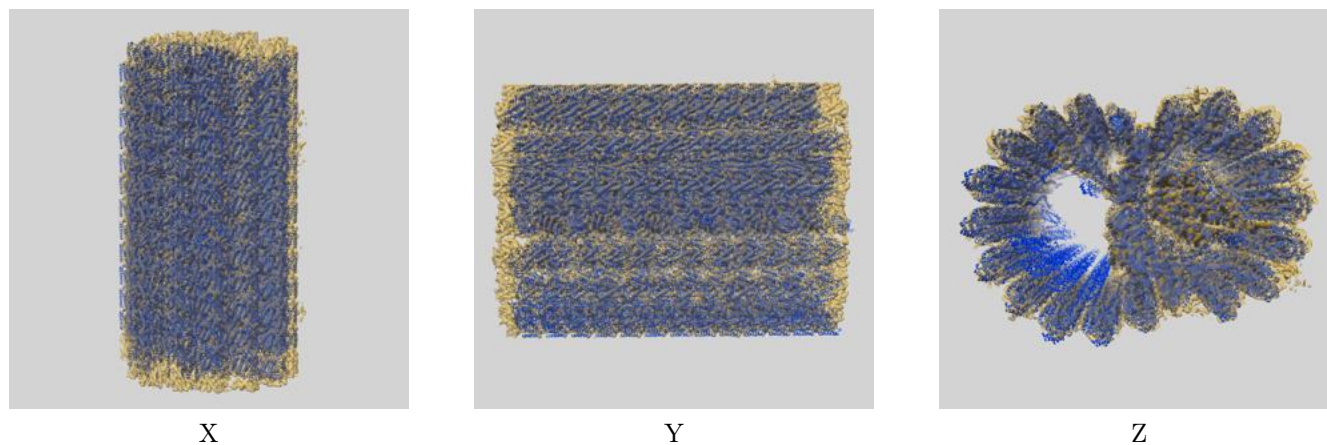
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-35230 and PDB model 8I7R. Per-residue inclusion information can be found in section 3 on page 60.

9.1 Map-model overlay [i](#)

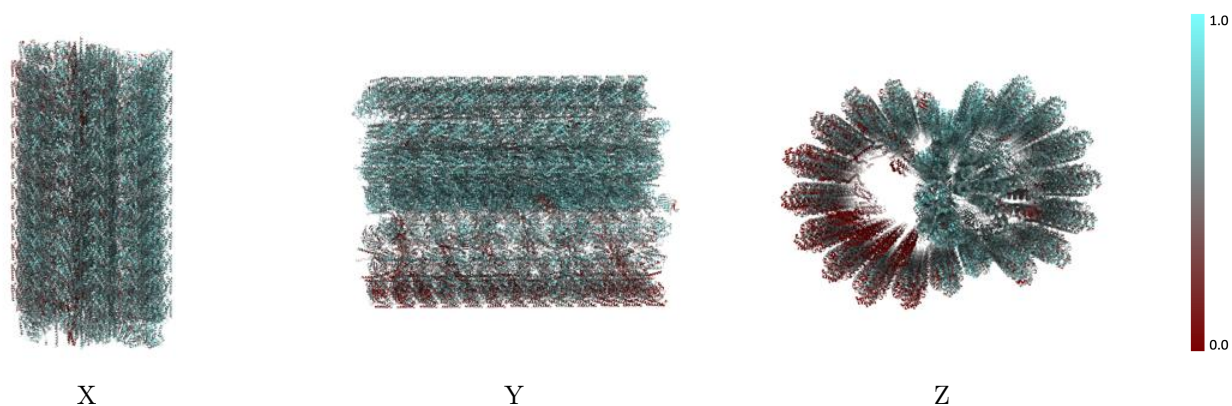


The images above show the 3D surface view of the map at the recommended contour level 0.003 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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

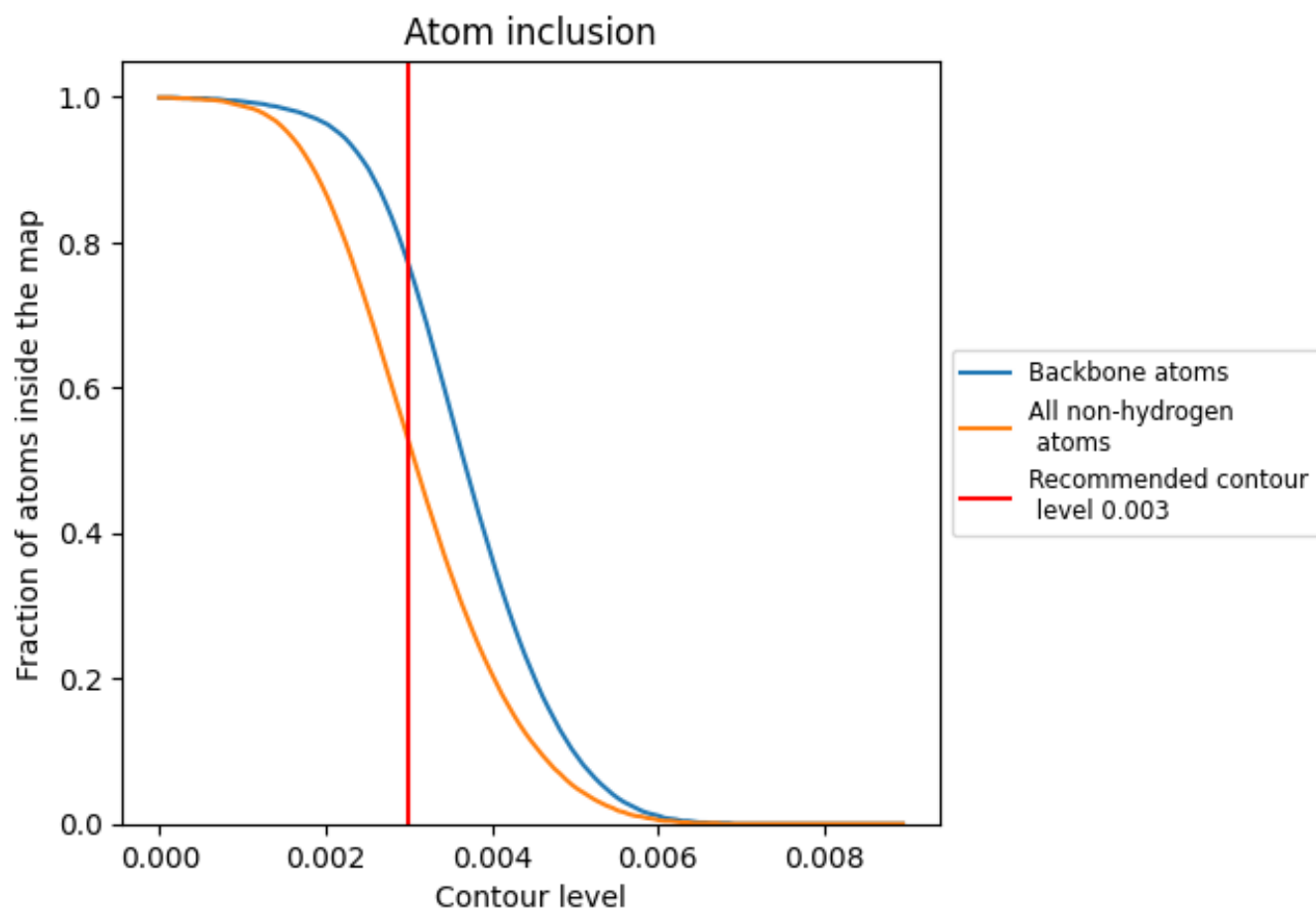
This section was not generated.

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 (0.003).

9.4 Atom inclusion [i](#)



At the recommended contour level, 77% of all backbone atoms, 52% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.003) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	0.5250
A	0.5490
A1	0.6650
A2	0.6980
A3	0.6700
A4	0.6350
AB	0.6910
AC	0.7010
AD	0.7540
AE	0.7470
AF	0.7430
AG	0.6680
AH	0.6930
AI	0.7140
AJ	0.7240
AK	0.6920
AL	0.6800
AM	0.6530
B	0.4900
B1	0.6370
B2	0.6750
B3	0.6870
B4	0.6560
B5	0.6100
B6	0.6440
B7	0.6780
B8	0.6710
B9	0.6550
BB	0.6660
BC	0.6590
BD	0.6980
BE	0.6970
BF	0.7070
BG	0.6360
BH	0.6660



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Chain	Atom inclusion
BI	0.6820
BJ	0.6860
BK	0.6670
BL	0.6500
BM	0.6470
C	0.5950
C1	0.6550
C2	0.6970
C3	0.7030
C4	0.6580
C5	0.7060
C6	0.6690
C7	0.6910
C8	0.6840
C9	0.6560
CB	0.6180
CC	0.6180
CD	0.6630
CE	0.6520
CF	0.6750
CG	0.6090
CH	0.6250
CI	0.6380
CJ	0.6740
CK	0.6310
CL	0.6260
CM	0.6210
Ca	0.6690
Cb	0.6920
Cc	0.6940
Cd	0.6810
D	0.5180
D1	0.6210
D2	0.6660
D3	0.6850
D4	0.6770
D5	0.6550
D6	0.6570
D7	0.6950
D8	0.6860
D9	0.6800
DA	0.5940

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Chain	Atom inclusion
DB	0.6360
DC	0.6480
DD	0.6750
DE	0.6000
DF	0.6170
DG	0.6180
DH	0.6680
DI	0.6360
DJ	0.5980
DK	0.5900
DL	0.6400
Da	0.6590
E	0.5590
E1	0.6120
E2	0.6030
E3	0.6140
E4	0.5930
EA	0.5660
EB	0.6000
EC	0.6140
ED	0.6420
EE	0.5850
EF	0.5710
EG	0.5710
EH	0.6240
EI	0.6170
EJ	0.5490
EK	0.5400
EL	0.5760
F	0.5150
F1	0.5880
F2	0.6220
F3	0.6170
F4	0.5840
F5	0.4290
F6	0.4720
F7	0.5710
F8	0.5330
F9	0.1880
FA	0.5110
FB	0.5640
FC	0.5720

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Chain	Atom inclusion
FD	0.6130
FE	0.5900
FF	0.5470
FG	0.5380
FH	0.6000
FI	0.6000
FJ	0.5760
FK	0.5370
FL	0.5600
Fa	0.4090
Fb	0.5260
Fc	0.4060
Fd	0.0110
Fe	0.4600
Ff	0.4680
Fg	0.3990
Fh	0.4350
Fi	0.2630
Fj	0.4530
Fk	0.5560
Fl	0.5210
Fm	0.5140
G	0.5460
G1	0.6430
G2	0.6040
G3	0.5640
G4	0.5780
G5	0.5660
G6	0.5790
GA	0.5070
GB	0.5580
GC	0.5370
GD	0.5880
GE	0.5790
GF	0.5230
GG	0.4960
GH	0.5510
GI	0.6040
GJ	0.5680
GK	0.4760
GL	0.5250
H	0.5480

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Chain	Atom inclusion
H1	0.5760
H2	0.6440
H3	0.6840
H4	0.6000
H5	0.6370
H6	0.5550
HA	0.4900
HB	0.5260
HC	0.4910
HD	0.5750
HE	0.5670
HF	0.5150
HG	0.5070
HH	0.5650
HI	0.5910
HJ	0.5620
HK	0.4680
HL	0.5200
I	0.5390
I1	0.7610
I2	0.7750
I3	0.7410
IA	0.5000
IB	0.5590
IC	0.5420
ID	0.5980
IE	0.5900
IF	0.5530
IG	0.5290
IH	0.5730
II	0.6050
IJ	0.6150
IK	0.5290
IL	0.5570
IM	0.5600
J	0.5760
J1	0.5120
J2	0.5810
J3	0.5500
JA	0.5940
JB	0.6370
JC	0.6410

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Chain	Atom inclusion
JD	0.6650
JE	0.6200
JF	0.6120
JG	0.6080
JH	0.6600
JI	0.6430
JJ	0.6220
JK	0.5800
JL	0.6180
K	0.5880
K1	0.6200
K2	0.6460
K3	0.6550
K4	0.6470
K5	0.5920
KA	0.6330
KB	0.6450
KC	0.6890
KD	0.7190
KE	0.7030
KF	0.6640
KG	0.6480
KH	0.7070
KI	0.6930
KJ	0.7070
KK	0.6190
KL	0.6420
L	0.5800
L1	0.5150
L2	0.5960
L3	0.5960
L4	0.4350
LA	0.6520
LB	0.6510
LC	0.7060
LD	0.7210
LE	0.7110
LF	0.7090
LG	0.6670
LH	0.7210
LI	0.7010
LJ	0.7210

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Chain	Atom inclusion
LK	0.6590
LL	0.6460
M	0.4100
M1	0.5530
M2	0.6680
M3	0.6760
MB	0.6540
MC	0.6870
MD	0.7500
ME	0.7300
MF	0.7300
MG	0.6870
MH	0.7190
MI	0.6830
MJ	0.7060
MK	0.6970
ML	0.6700
MM	0.6300
N	0.3720
N1	0.4820
N2	0.6070
N3	0.6160
N4	0.5220
NA	0.4500
NB	0.4700
NC	0.4660
ND	0.5550
NE	0.5160
NF	0.5050
NG	0.5010
NH	0.5560
NI	0.5570
NJ	0.4830
NK	0.4620
NL	0.4770
O	0.6300
O1	0.6540
O2	0.6330
O3	0.5640
OA	0.2650
OB	0.3030
OC	0.2920











































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Chain	Atom inclusion
OD	0.3710
OE	0.3970
OF	0.3640
OG	0.3690
OH	0.3970
OI	0.4170
OJ	0.3470
OK	0.3200
OL	0.3420
P	0.6400
P1	0.5240
P2	0.4960
P3	0.3900
PA	0.2580
PB	0.3060
PC	0.2720
PD	0.3670
PE	0.4160
PF	0.3680
PG	0.3590
PH	0.3550
PI	0.3730
PJ	0.3700
PK	0.2750
PL	0.2770
PM	0.2830
Q	0.6760
Q1	0.2580
Q2	0.2930
Q3	0.2010
QB	0.2520
QC	0.2820
QD	0.3490
QE	0.4130
QF	0.3660
QG	0.3480
QH	0.3410
QI	0.3840
QJ	0.3640
QK	0.3010
QL	0.2780
QM	0.2560











































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Chain	Atom inclusion
R	 0.6350
R1	 0.6630
R2	 0.6440
R3	 0.5640
RB	 0.2340
RC	 0.2270
RD	 0.2820
RE	 0.3670
RF	 0.3650
RG	 0.3010
RH	 0.3100
RI	 0.3410
RJ	 0.3500
RK	 0.3200
RL	 0.2350
RM	 0.2170
S	 0.4770
SB	 0.2760
SC	 0.2650
SD	 0.3250
SE	 0.4180
SF	 0.4410
SG	 0.3410
SH	 0.3410
SI	 0.3700
SJ	 0.3740
SK	 0.3970
SL	 0.2720
SM	 0.2470
T	 0.4340
TB	 0.2730
TC	 0.2740
TD	 0.3210
TE	 0.4150
TF	 0.4580
TG	 0.3950
TH	 0.3430
TI	 0.3530
TJ	 0.4280
TK	 0.4080
TL	 0.3390
TM	 0.2600







































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Chain	Atom inclusion
TN	 0.2880
U	 0.2150
UA	 0.3580
UB	 0.3640
UC	 0.4790
UD	 0.5280
UE	 0.4610
UF	 0.4560
UG	 0.4310
UH	 0.4770
UI	 0.4690
UJ	 0.4160
UK	 0.3410
UL	 0.3740
V	 0.0950
VA	 0.4450
VB	 0.4810
VC	 0.5070
VD	 0.5900
VE	 0.5640
VF	 0.5370
VG	 0.4920
VH	 0.5540
VI	 0.5520
VJ	 0.5150
VK	 0.4450
VL	 0.4510
W	 0.3430
WA	 0.5400
WB	 0.5970
WC	 0.5640
WD	 0.6310
WE	 0.6210
WF	 0.6110
WG	 0.5810
WH	 0.6200
WI	 0.5890
WJ	 0.6070
WK	 0.5220
WL	 0.5600
X	 0.3510
XA	 0.4960

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Chain	Atom inclusion
XB	 0.6800
XC	 0.7550
XD	 0.6600
XE	 0.7020
XF	 0.6470
XG	 0.6660
XH	 0.5610
XI	 0.6540
XJ	 0.2680
XK	 0.6230
XL	 0.6780
XM	 0.6300
Y	 0.2510
YA	 0.0010
YB	 0.0110
YC	 0.0360
YD	 0.0330
YE	 0.0270
YF	 0.0540
YG	 0.0590
YH	 0.1030
YI	 0.0100
YJ	 0.0100
YK	 0.0070
YL	 0.0070
YM	 0.0450
YN	 0.1880
YO	 0.0040
YP	 0.0450
YQ	 0.0410
YR	 0.0020
YS	 0.0020
YT	 0.0060
YU	 0.0000
YV	 0.0070
YW	 0.0070
Z	 0.1720
a	 0.6790