



Full wwPDB EM Validation Report ⓘ

May 28, 2024 – 04:23 AM EDT

PDB ID : 7RRO
EMDB ID : EMD-24664
Title : Structure of the 48-nm repeat doublet microtubule from bovine tracheal cilia
Authors : Gui, M.; Anderson, J.R.; Botsch, J.J.; Meleppattu, S.; Singh, S.K.; Zhang, Q.;
Brown, A.
Deposited on : 2021-08-10
Resolution : 3.40 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

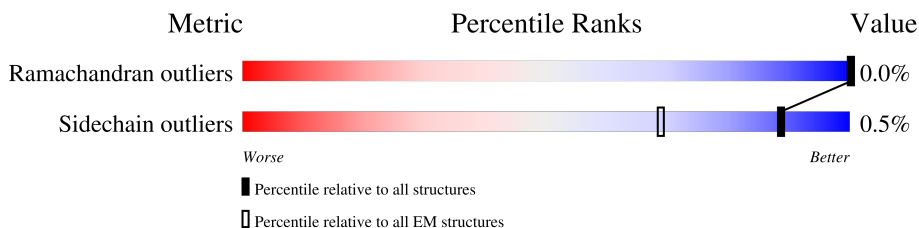
EMDB validation analysis : 0.0.1.dev92
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.40 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	0	232	8% (red), 17% (green), 83% (grey)
1	7	232	29% (red), 50% (green), 48% (grey), 0.5% (yellow)
2	1	877	16% (red), 17% (green), 83% (grey)
2	2	877	24% (red), 33% (green), 67% (grey)
3	3	514	25% (red), 59% (green), 40% (grey)
3	4	514	16% (red), 42% (green), 58% (grey)
4	5	377	81% (red), 97% (green), 2% (grey)
4	6	377	64% (red), 97% (green), 3% (grey)
5	8	196	61% (red), 94% (green), 4% (grey)

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Mol	Chain	Length	Quality of chain
5	9	196	15% 18% 82%
6	A	494	19% 33% 66%
6	B	494	40% 71% 28%
7	A0	418	5% 52% 47%
7	A1	418	8% 94% 5%
7	A2	418	11% 93% 6%
7	A3	418	12% 79% 20%
7	A4	418	8% 92%
8	AA	452	9% 96%
8	AC	452	6% 96%
8	AE	452	5% 96%
8	AG	452	5% 96%
8	AI	452	6% 96%
8	AK	452	96%
8	AM	452	7% 96%
8	BA	452	15% 95% 5%
8	BC	452	7% 97%
8	BE	452	11% 96%
8	BG	452	7% 96%
8	BI	452	11% 95% 5%
8	BK	452	6% 96%
8	BM	452	11% 94% 5%
8	CA	452	31% 95%
8	CC	452	8% 95%
8	CE	452	18% 97%

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Mol	Chain	Length	Quality of chain
8	CG	452	12% 96%
8	CI	452	17% 96%
8	CK	452	11% 97%
8	CM	452	21% 96%
8	DA	452	57% 87% 11%
8	DC	452	24% 94% 5%
8	DE	452	29% 94% 5%
8	DG	452	19% 94% 5%
8	DI	452	32% 94% 5%
8	DK	452	27% 95% 5%
8	DM	452	36% 93% 5%
8	EC	452	32% 96%
8	EE	452	40% 96%
8	EG	452	34% 96%
8	EI	452	37% 94%
8	EK	452	40% 94%
8	EM	452	46% 94% 5%
8	FC	452	35% 94% 5%
8	FE	452	38% 93% 6%
8	FG	452	37% 92% 6%
8	FI	452	39% 94% 6%
8	FK	452	47% 92% 6%
8	FM	452	47% 94% 5%
8	GC	452	8% 97%
8	GE	452	37% 95% 5%

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Mol	Chain	Length	Quality of chain
8	GG	452	15% 97% ..
8	GI	452	10% 95% 5%
8	GK	452	34% 93% 5%
8	GM	452	13% 95% ..
8	HC	452	13% 94% 6%
8	HE	452	40% 94% 5%
8	HG	452	24% 94% 5%
8	HI	452	15% 95% 5%
8	HK	452	40% 95% 5%
8	HM	452	22% 94% 5%
8	HO	452	10% 85% 15%
8	IC	452	34% 95% 5%
8	IE	452	21% 95% .
8	IG	452	40% 97% ..
8	II	452	29% 95% ..
8	IK	452	39% 96% ..
8	IM	452	32% 95% 5%
8	IO	452	58% 94% 6%
8	JC	452	27% 95% .
8	JE	452	26% 95% 5%
8	JG	452	29% 94% 5%
8	JI	452	33% 94% 5%
8	JK	452	31% 96% ..
8	JM	452	30% 94% 5%
8	KC	452	. 95% ..

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Mol	Chain	Length	Quality of chain
8	KE	452	94% 5%
8	KG	452	95% 5%
8	KI	452	93% 5%
8	KK	452	94% 5%
8	KM	452	95% .
8	KO	452	90% 10%
8	LC	452	5% 96% ..
8	LE	452	7% 96% ..
8	LG	452	5% 97% .
8	LI	452	97% ..
8	LK	452	97% .
8	LM	452	95% 5%
8	MC	452	14% 96% ..
8	ME	452	17% 94% 5%
8	MG	452	13% 94% 5%
8	MI	452	15% 95% 5%
8	MK	452	18% 95% ..
8	MM	452	15% 94% 5%
8	NA	452	64% 94% 5%
8	NC	452	60% 94% 5%
8	NE	452	62% 93% 5%
8	NG	452	58% 95% ..
8	NI	452	67% 95% ..
8	NK	452	59% 94% 5%
8	OA	452	55% 94% 5%

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Mol	Chain	Length	Quality of chain
8	OC	452	39% 94% 5%
8	OE	452	53% 95% .
8	OG	452	39% 95% . .
8	OI	452	56% 94% . .
8	OK	452	39% 94% . 5%
8	PA	452	69% 94% . 5%
8	PC	452	49% 95% . .
8	PE	452	67% 94% . 5%
8	PG	452	47% 94% . 5%
8	PI	452	69% 94% . 6%
8	PK	452	47% 94% . 5%
8	PM	452	75% 94% . 5%
8	QA	452	77% 93% . 5%
8	QC	452	54% 94% . 5%
8	QE	452	71% 94% . 5%
8	QG	452	50% 94% . 5%
8	QI	452	72% 94% . 5%
8	QK	452	49% 94% . 5%
8	QM	452	73% 94% . 5%
8	RA	452	79% 94% . 5%
8	RC	452	49% 94% . .
8	RE	452	69% 94% . 5%
8	RG	452	49% 94% . 5%
8	RI	452	69% 95% 5%
8	RK	452	47% 93% . 5%

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Mol	Chain	Length	Quality of chain
8	RM	452	61% 94% • 5%
8	SA	452	81% 94% • 5%
8	SC	452	54% 94% • 5%
8	SE	452	67% 94% • 5%
8	SG	452	58% 94% • 5%
8	SI	452	63% 94% • 6%
8	SK	452	48% 95% •
8	SM	452	56% 94% • 5%
8	TC	452	65% 93% • 5%
8	TE	452	76% 94% • •
8	TG	452	65% 94% • 5%
8	TI	452	77% 94% • 5%
8	TK	452	60% 95% • •
8	TM	452	64% 94% • 5%
8	UC	452	57% 95% • •
8	UE	452	61% 95% •
8	UG	452	47% 95% • •
8	UI	452	55% 95% • •
8	UK	452	51% 96% •
8	UM	452	45% 95% • 5%
8	VC	452	45% 97% • •
8	VE	452	47% 95% • •
8	VG	452	46% 96% • •
8	VI	452	42% 95% • •
8	VK	452	49% 97% •

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Mol	Chain	Length	Quality of chain
8	VM	452	31% 94% 5%
8	WC	452	37% 96% ..
8	WE	452	31% 94% 5%
8	WG	452	41% 96% ..
8	WI	452	27% 94% 5%
8	WK	452	42% 96% .
8	WM	452	22% 94% 5%
9	AB	445	. 97% ..
9	AD	445	. 96% ..
9	AF	445	. 96% ..
9	AH	445	5% 97% ..
9	AJ	445	. 94% ..
9	AL	445	. 96% ..
9	BB	445	8% 95% ..
9	BD	445	7% 95% ..
9	BF	445	6% 95% ..
9	BH	445	7% 94% ..
9	BJ	445	9% 96% .
9	BL	445	6% 94% ..
9	CB	445	13% 94% ..
9	CD	445	11% 95% ..
9	CF	445	16% 96% ..
9	CH	445	13% 94% ..
9	CJ	445	17% 94% ..
9	CL	445	12% 94% ..

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Mol	Chain	Length	Quality of chain
9	DB	445	35% 95%
9	DD	445	18% 95%
9	DF	445	28% 95%
9	DH	445	16% 93%
9	DJ	445	29% 95%
9	DL	445	21% 94%
9	DN	445	65% 86% 13%
9	EB	445	47% 94%
9	ED	445	27% 94%
9	EF	445	41% 95%
9	EH	445	28% 94%
9	EJ	445	44% 94%
9	EL	445	33% 94%
9	EN	445	75% 95%
9	FB	445	51% 96%
9	FD	445	31% 95%
9	FF	445	42% 95%
9	FH	445	27% 94%
9	FJ	445	48% 95%
9	FL	445	33% 93%
9	FN	445	67% 96%
9	GB	445	8% 96%
9	GD	445	18% 96%
9	GF	445	24% 95%
9	GH	445	11% 94%

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Mol	Chain	Length	Quality of chain
9	GJ	445	17% 96%
9	GL	445	22% 95%
9	GN	445	96%
9	HB	445	12% 95%
9	HD	445	25% 95%
9	HF	445	49% 96%
9	HH	445	14% 95%
9	HJ	445	24% 95%
9	HL	445	43% 94%
9	HN	445	14% 95%
9	IB	445	43% 82% 17%
9	ID	445	21% 95%
9	IF	445	35% 95%
9	IH	445	29% 95%
9	IJ	445	38% 95%
9	IL	445	32% 94%
9	IN	445	41% 96%
9	JB	445	32% 95%
9	JD	445	20% 95%
9	JF	445	37% 95%
9	JH	445	27% 95%
9	JJ	445	35% 94%
9	JL	445	23% 94%
9	JN	445	50% 96%
9	KB	445	9% 90% 9%

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Mol	Chain	Length	Quality of chain
9	KD	445	96%
9	KF	445	95%
9	KH	445	96%
9	KJ	445	95%
9	KL	445	96%
9	KN	445	95%
9	LB	445	96%
9	LD	445	96%
9	LF	445	96%
9	LH	445	96%
9	LJ	445	96%
9	LL	445	94%
9	LN	445	95%
9	MB	445	93%
9	MD	445	95%
9	MF	445	95%
9	MH	445	96%
9	MJ	445	95%
9	ML	445	94%
9	MN	445	95%
9	N0	445	95%
9	NB	445	93%
9	ND	445	95%
9	NF	445	94%
9	NH	445	96%

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Mol	Chain	Length	Quality of chain
9	NJ	445	57% 96% ..
9	NL	445	69% 94% ..
9	O0	445	69% 92% 7%
9	OB	445	42% 95% .
9	OD	445	56% 95% .5%
9	OF	445	41% 96% .
9	OH	445	60% 96% .
9	OJ	445	43% 95% ..
9	OL	445	56% 95% 5%
9	PB	445	51% 95% ..
9	PD	445	63% 96% .
9	PF	445	47% 95% ..
9	PH	445	64% 96% .
9	PJ	445	55% 95% ..
9	PL	445	60% 93% ..
9	QB	445	58% 96% .
9	QD	445	68% 95% ..
9	QF	445	50% 95% ..
9	QH	445	62% 95% ..
9	QJ	445	52% 96% ..
9	QL	445	61% 95% ..
9	RB	445	60% 96% .
9	RD	445	65% 96% .
9	RF	445	57% 94% ..
9	RH	445	59% 95% ..

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Mol	Chain	Length	Quality of chain
9	RJ	445	60% 95%
9	RL	445	50% 94%
9	SB	445	61% 94%
9	SD	445	55% 95%
9	SF	445	61% 95%
9	SH	445	56% 96%
9	SJ	445	62% 95%
9	SL	445	48% 95%
9	TB	445	74% 95%
9	TD	445	66% 95%
9	TF	445	77% 95%
9	TH	445	65% 95%
9	TJ	445	74% 95%
9	TL	445	57% 94%
9	UB	445	68% 95%
9	UD	445	51% 96%
9	UF	445	62% 96%
9	UH	445	43% 96%
9	UJ	445	67% 94%
9	UL	445	41% 95%
9	UN	445	71% 95%
9	VB	445	61% 95%
9	VD	445	38% 95%
9	VF	445	60% 95%
9	VH	445	40% 96%

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Mol	Chain	Length	Quality of chain
9	VJ	445	57% 96%
9	VL	445	29% 95%
9	VN	445	45% 96%
9	WB	445	49% 95%
9	WD	445	23% 94%
9	WF	445	42% 95%
9	WH	445	25% 96%
9	WJ	445	46% 95%
9	WL	445	22% 95%
9	WN	445	28% 95%
10	B0	430	44% 56%
10	B1	430	8% 96%
10	B2	430	11% 96%
10	B3	430	13% 88% 11%
10	B4	430	11% 89%
10	B5	430	9% 12% 88%
10	B6	430	60% 83% 17%
10	B7	430	75% 95%
10	B8	430	81% 91% 6%
10	B9	430	40% 43% 57%
11	C	101	50% 87% 10%
12	C0	490	6% 94%
12	C1	490	13% 67% 32%
12	C2	490	17% 80% 20%
12	C3	490	22% 80% 20%

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Mol	Chain	Length	Quality of chain
12	C4	490	13% 43% 56%
12	C5	490	16% 23% 77%
12	C6	490	59% 78% 21%
12	C7	490	63% 83% 16%
12	C8	490	67% 82% 17%
12	C9	490	20% 22% 77%
12	F0	490	17% 28% 72%
12	F1	490	48% 85% 14%
12	F2	490	51% 85% 14%
12	F3	490	53% 76% 23%
12	F4	490	15% 20% 80%
13	D	484	20% 30% 70%
14	D0	447	9% 65% 35%
14	D1	447	9% 95% 5%
14	D2	447	15% 95% 5%
14	D3	447	10% 70% 29%
14	D5	447	98%
14	D6	447	54% 70% 29%
14	D7	447	74% 91% 7%
14	D8	447	76% 91% 8%
14	D9	447	56% 61% 38%
15	E	321	18% 79% 21%
15	F	321	21% 79% 21%
16	E0	208	23% 31% 67%
16	E1	208	47% 58% 39%



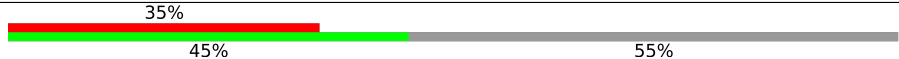
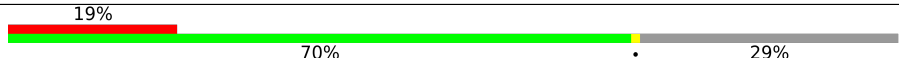
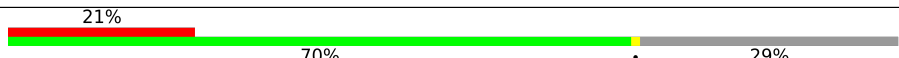
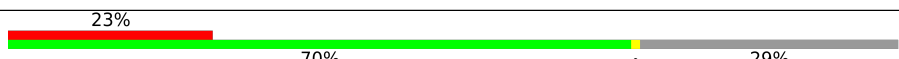
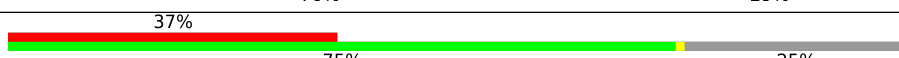
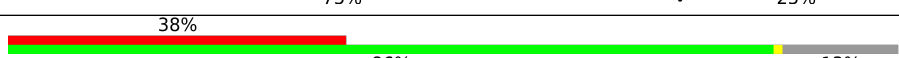
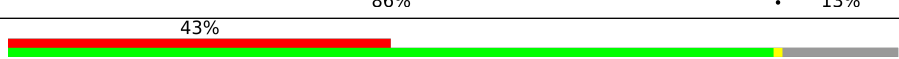

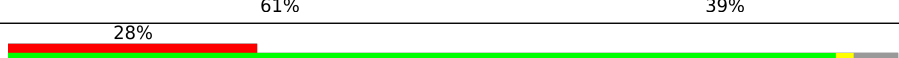
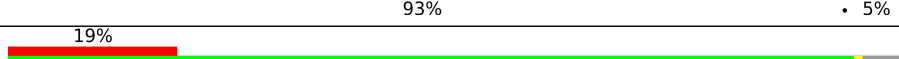
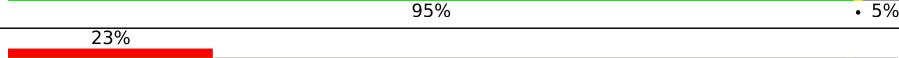
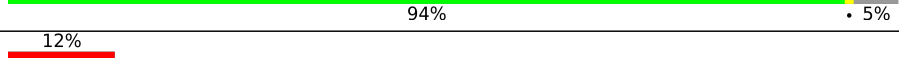
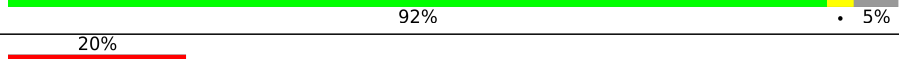
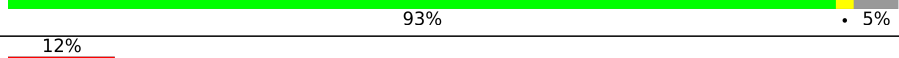
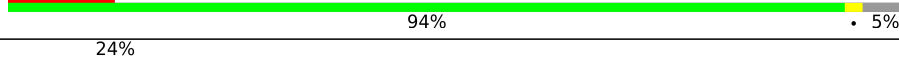
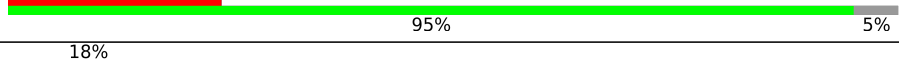
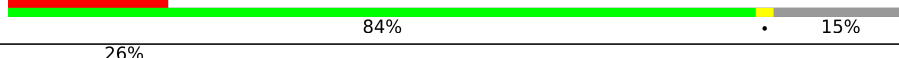
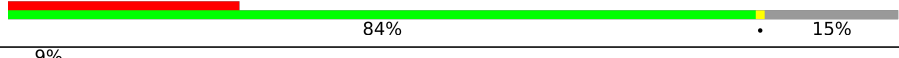

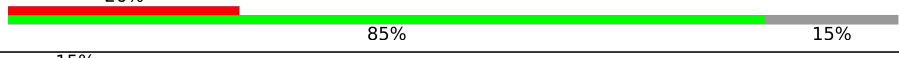



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Mol	Chain	Length	Quality of chain
16	E2	208	57% 66% 31%
16	E3	208	59% 68% 31%
17	G	120	22% 78% 20%
18	H	274	12% 31% 69%
18	I	274	29% 55% 45%
18	J	274	20% 55% 45%
18	K	274	34% 55% 45%
18	L	274	18% 55% 45%
18	M	274	27% 55% 45%
18	N	274	25% 57% 43%
19	H1	687	13% 27% 72%
19	H2	687	19% 35% 64%
19	H3	687	7% 15% 85%
20	H4	621	15% 30% 69%
20	H5	621	20% 39% 60%
20	H6	621	6% 20% 80%
21	H7	1044	10% 55% 44%
21	H8	1044	10% 55% 45%
21	H9	1044	7% 34% 66%
22	I1	683	9% 28% 72%
22	I2	683	12% 28% 72%
23	I3	212	29% 87% 12%
23	I4	212	28% 88% 12%
24	O	377	8% 92%
24	P	377	16% 97%

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Mol	Chain	Length	Quality of chain
24	Q	377	
24	R	377	
24	S	377	
25	T	640	
25	U	640	
25	V	640	
26	W	733	
26	X	733	
26	Y	733	
26	Z	733	
27	XA	193	
27	XB	193	
27	XC	193	
27	XD	193	
27	XE	193	
27	XF	193	
27	XG	193	
28	YB	257	
28	YC	257	
28	YD	257	
28	YE	257	
28	YF	257	
28	YG	257	
29	a	549	
29	b	549	

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Mol	Chain	Length	Quality of chain
29	c	549	48% 50% 50%
29	d	549	37% 38% 61%
30	e	623	43% 97% ..
30	f	623	45% 96% ..
30	g	623	29% 96% ..
31	h	259	34% 57% 43%
31	i	259	47% 89% 9%
31	j	259	47% 90% 9%
31	k	259	36% 90% 9%
32	l	196	16% 58% 42%
32	m	196	14% 58% 41%
32	n	196	13% 60% 40%
33	o	547	59% 69% 31%
33	p	547	15% 18% 82%
34	q	170	13% 45% 54%
34	r	170	14% 45% 54%
34	s	170	9% 46% 54%
35	t	1497	12% 12% 88%
36	y	136	8% 46% 54%
36	z	136	18% 84% 15%

2 Entry composition [i](#)

There are 39 unique types of molecules in this entry. The entry contains 1276281 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 Protein C9orf135 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	0	40	330	205	63	61	1	0	0
1	7	121	806	494	146	164	2	0	0

- Molecule 2 is a protein called EF-hand domain family member B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	1	152	921	570	172	178	1	0	0
2	2	292	1526	915	312	299		0	0

- Molecule 3 is a protein called Methyl-CpG binding domain protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	3	306	2295	1393	444	448	10	0	0
3	4	217	1855	1127	350	364	14	0	0

- Molecule 4 is a protein called Nucleoside diphosphate kinase 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	5	372	2533	1589	451	481	12	0	0
4	6	372	2947	1880	499	546	22	0	0

- Molecule 5 is a protein called Uncharacterized protein C1orf158 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	8	191	Total	C	N	O	S	0	0
			1607	1037	288	281	1		
5	9	35	Total	C	N	O		0	0
			287	181	51	55			

- Molecule 6 is a protein called Meiosis-specific nuclear structural protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A	170	Total	C	N	O	S	0	0
			1427	869	270	281	7		
6	B	354	Total	C	N	O	S	0	0
			3044	1882	553	592	17		

- Molecule 7 is a protein called Tektin-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	A0	221	Total	C	N	O	S	0	0
			1797	1120	329	341	7		
7	A1	396	Total	C	N	O	S	0	0
			3258	2026	592	631	9		
7	A2	393	Total	C	N	O	S	0	0
			3238	2016	589	624	9		
7	A3	334	Total	C	N	O	S	0	0
			2759	1716	498	537	8		
7	A4	34	Total	C	N	O		0	0
			290	179	61	50			

- Molecule 8 is a protein called Tubulin alpha-1D chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AA	438	Total	C	N	O	S	0	0
			3422	2165	582	653	22		
8	AC	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	AE	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	AG	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	AI	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	AK	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	AM	439	3430	2170	583	654	23	0	0
8	BA	430	3372	2136	573	641	22	0	0
8	BC	440	3437	2175	584	655	23	0	0
8	BE	433	3396	2151	576	646	23	0	0
8	BG	440	3437	2175	584	655	23	0	0
8	BI	430	3374	2138	573	640	23	0	0
8	BK	439	3430	2170	583	654	23	0	0
8	BM	430	3372	2137	573	639	23	0	0
8	CA	438	3422	2165	582	653	22	0	0
8	CC	438	3424	2167	582	652	23	0	0
8	CE	438	3424	2167	582	652	23	0	0
8	CG	439	3430	2170	583	654	23	0	0
8	CI	439	3430	2170	583	654	23	0	0
8	CK	439	3430	2170	583	654	23	0	0
8	CM	439	3430	2170	583	654	23	0	0
8	DA	401	3140	1992	535	594	19	0	0
8	DC	429	3366	2134	572	637	23	0	0
8	DE	430	3372	2137	573	639	23	0	0
8	DG	431	3379	2142	574	640	23	0	0
8	DI	429	3364	2133	572	636	23	0	0
8	DK	430	3372	2137	573	639	23	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
8	DM	430	Total	C	N	O	S	0	0
			3372	2137	573	639	23		
8	EC	439	Total	C	N	O	S	0	0
			3430	2170	583	654	23		
8	EE	441	Total	C	N	O	S	0	0
			3446	2180	585	658	23		
8	EG	437	Total	C	N	O	S	0	0
			3416	2163	581	649	23		
8	EI	436	Total	C	N	O	S	0	0
			3408	2158	580	648	22		
8	EK	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	EM	428	Total	C	N	O	S	0	0
			3358	2130	571	634	23		
8	FC	431	Total	C	N	O	S	0	0
			3379	2142	574	640	23		
8	FE	425	Total	C	N	O	S	0	0
			3339	2118	568	631	22		
8	FG	426	Total	C	N	O	S	0	0
			3346	2123	569	632	22		
8	FI	427	Total	C	N	O	S	0	0
			3347	2121	570	633	23		
8	FK	424	Total	C	N	O	S	0	0
			3326	2109	566	629	22		
8	FM	429	Total	C	N	O	S	0	0
			3365	2132	572	638	23		
8	GC	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	GE	430	Total	C	N	O	S	0	0
			3371	2138	573	637	23		
8	GG	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	GI	429	Total	C	N	O	S	0	0
			3365	2135	572	635	23		
8	GK	429	Total	C	N	O	S	0	0
			3364	2133	572	636	23		
8	GM	439	Total	C	N	O	S	0	0
			3430	2170	583	654	23		
8	HC	427	Total	C	N	O	S	0	0
			3350	2126	570	631	23		
8	HE	430	Total	C	N	O	S	0	0
			3374	2138	573	640	23		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	HG	430	3371	2138	573	637	23	0	0
8	HI	430	3371	2138	573	637	23	0	0
8	HK	431	3379	2142	574	640	23	0	0
8	HM	429	3365	2132	572	638	23	0	0
8	HO	386	3037	1926	518	572	21	0	0
8	IC	429	3365	2135	572	635	23	0	0
8	IE	432	3388	2147	575	643	23	0	0
8	IG	440	3437	2175	584	655	23	0	0
8	II	432	3387	2146	575	643	23	0	0
8	IK	440	3437	2175	584	655	23	0	0
8	IM	431	3378	2140	574	641	23	0	0
8	IO	427	3350	2125	570	633	22	0	0
8	JC	432	3384	2143	575	643	23	0	0
8	JE	430	3372	2137	573	639	23	0	0
8	JG	428	3358	2130	571	634	23	0	0
8	JI	429	3366	2134	572	637	23	0	0
8	JK	440	3437	2175	584	655	23	0	0
8	JM	430	3372	2137	573	639	23	0	0
8	KC	432	3384	2143	575	643	23	0	0
8	KE	431	3380	2141	574	642	23	0	0
8	KG	430	3370	2136	573	638	23	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
8	KI	428	Total	C	N	O	S	0	0
			3358	2130	571	634	23		
8	KK	430	Total	C	N	O	S	0	0
			3372	2137	573	639	23		
8	KM	432	Total	C	N	O	S	0	0
			3376	2138	575	641	22		
8	KO	408	Total	C	N	O	S	0	0
			3217	2040	546	608	23		
8	LC	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	LE	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	LG	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	LI	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	LK	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	LM	431	Total	C	N	O	S	0	0
			3378	2140	574	641	23		
8	MC	439	Total	C	N	O	S	0	0
			3430	2170	583	654	23		
8	ME	429	Total	C	N	O	S	0	0
			3366	2134	572	637	23		
8	MG	430	Total	C	N	O	S	0	0
			3372	2137	573	639	23		
8	MI	431	Total	C	N	O	S	0	0
			3379	2142	574	640	23		
8	MK	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	MM	431	Total	C	N	O	S	0	0
			3376	2138	574	642	22		
8	NA	430	Total	C	N	O	S	0	0
			3372	2136	573	641	22		
8	NC	429	Total	C	N	O	S	0	0
			3365	2135	572	635	23		
8	NE	430	Total	C	N	O	S	0	0
			3374	2140	573	638	23		
8	NG	432	Total	C	N	O	S	0	0
			3387	2146	575	643	23		
8	NI	432	Total	C	N	O	S	0	0
			3387	2146	575	643	23		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	NK	430	3374	2138	573	640	23	0	0
8	OA	428	3358	2129	571	636	22	0	0
8	OC	429	3366	2134	572	637	23	0	0
8	OE	433	3396	2151	576	646	23	0	0
8	OG	433	3391	2148	576	644	23	0	0
8	OI	432	3387	2146	575	643	23	0	0
8	OK	431	3380	2141	574	642	23	0	0
8	PA	430	3372	2136	573	641	22	0	0
8	PC	432	3386	2144	575	644	23	0	0
8	PE	431	3380	2143	574	640	23	0	0
8	PG	430	3371	2138	573	637	23	0	0
8	PI	427	3349	2123	570	634	22	0	0
8	PK	430	3371	2138	573	637	23	0	0
8	PM	430	3372	2137	573	639	23	0	0
8	QA	431	3376	2138	574	642	22	0	0
8	QC	430	3372	2137	573	639	23	0	0
8	QE	430	3372	2137	573	639	23	0	0
8	QG	431	3380	2141	574	642	23	0	0
8	QI	429	3366	2134	572	637	23	0	0
8	QK	431	3380	2141	574	642	23	0	0
8	QM	431	3378	2140	574	641	23	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	RA	429	Total 3364	C 2132	N 572	O 638	S 22	0	0
8	RC	432	Total 3387	C 2146	N 575	O 643	S 23	0	0
8	RE	428	Total 3358	C 2130	N 571	O 634	S 23	0	0
8	RG	430	Total 3372	C 2137	N 573	O 639	S 23	0	0
8	RI	431	Total 3379	C 2142	N 574	O 640	S 23	0	0
8	RK	431	Total 3379	C 2142	N 574	O 640	S 23	0	0
8	RM	428	Total 3356	C 2128	N 571	O 635	S 22	0	0
8	SA	430	Total 3372	C 2136	N 573	O 641	S 22	0	0
8	SC	430	Total 3372	C 2137	N 573	O 639	S 23	0	0
8	SE	431	Total 3381	C 2142	N 574	O 642	S 23	0	0
8	SG	431	Total 3379	C 2142	N 574	O 640	S 23	0	0
8	SI	427	Total 3358	C 2129	N 569	O 637	S 23	0	0
8	SK	432	Total 3387	C 2146	N 575	O 643	S 23	0	0
8	SM	431	Total 3378	C 2140	N 574	O 641	S 23	0	0
8	TC	430	Total 3371	C 2138	N 573	O 637	S 23	0	0
8	TE	432	Total 3388	C 2147	N 575	O 643	S 23	0	0
8	TG	430	Total 3371	C 2138	N 573	O 637	S 23	0	0
8	TI	430	Total 3371	C 2138	N 573	O 637	S 23	0	0
8	TK	432	Total 3387	C 2146	N 575	O 643	S 23	0	0
8	TM	430	Total 3372	C 2137	N 573	O 639	S 23	0	0
8	UC	433	Total 3393	C 2149	N 576	O 645	S 23	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
8	UE	432	Total	C	N	O	S	0	0
			3388	2147	575	643	23		
8	UG	433	Total	C	N	O	S	0	0
			3393	2149	576	645	23		
8	UI	433	Total	C	N	O	S	0	0
			3393	2149	576	645	23		
8	UK	433	Total	C	N	O	S	0	0
			3391	2148	576	644	23		
8	UM	431	Total	C	N	O	S	0	0
			3378	2140	574	641	23		
8	VC	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	VE	433	Total	C	N	O	S	0	0
			3396	2151	576	646	23		
8	VG	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	VI	433	Total	C	N	O	S	0	0
			3393	2149	576	645	23		
8	VK	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	VM	430	Total	C	N	O	S	0	0
			3372	2137	573	639	23		
8	WC	440	Total	C	N	O	S	0	0
			3437	2175	584	655	23		
8	WE	431	Total	C	N	O	S	0	0
			3380	2141	574	642	23		
8	WG	439	Total	C	N	O	S	0	0
			3430	2170	583	654	23		
8	WI	431	Total	C	N	O	S	0	0
			3380	2141	574	642	23		
8	WK	438	Total	C	N	O	S	0	0
			3424	2167	582	652	23		
8	WM	431	Total	C	N	O	S	0	0
			3378	2140	574	641	23		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AB	436	Total	C	N	O	S	0	0
			3424	2150	584	664	26		
9	AD	436	Total	C	N	O	S	0	0
			3424	2150	584	664	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	AF	436	3424	2150	584	664	26	0	0
9	AH	436	3424	2150	584	664	26	0	0
9	AJ	436	3424	2150	584	664	26	0	0
9	AL	435	3416	2145	583	663	25	0	0
9	BB	427	3356	2109	575	646	26	0	0
9	BD	427	3356	2109	575	646	26	0	0
9	BF	428	3361	2112	576	647	26	0	0
9	BH	427	3356	2109	575	646	26	0	0
9	BJ	427	3356	2109	575	646	26	0	0
9	BL	425	3340	2100	573	642	25	0	0
9	CB	426	3348	2105	574	643	26	0	0
9	CD	426	3348	2105	574	643	26	0	0
9	CF	428	3361	2112	576	647	26	0	0
9	CH	427	3356	2109	575	646	26	0	0
9	CJ	428	3361	2112	576	647	26	0	0
9	CL	425	3340	2100	573	642	25	0	0
9	DB	426	3348	2105	574	643	26	0	0
9	DD	426	3348	2105	574	643	26	0	0
9	DF	426	3348	2105	574	643	26	0	0
9	DH	426	3348	2105	574	643	26	0	0
9	DJ	426	3348	2105	574	643	26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	DL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	DN	387	Total 3035	C 1911	N 519	O 582	S 23	0	0
9	EB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	ED	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	EF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	EH	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	EJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	EL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	EN	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	FF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FH	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	FL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	FN	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GB	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	GF	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GH	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	GJ	428	Total 3361	C 2112	N 576	O 647	S 26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	GL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	GN	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	HB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	HD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	HF	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	HH	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	HJ	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	HL	425	Total 3340	C 2100	N 573	O 642	S 25	0	0
9	HN	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	IB	370	Total 2905	C 1824	N 501	O 557	S 23	0	0
9	ID	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	IF	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	IH	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	IJ	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	IL	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	IN	428	Total 3361	C 2112	N 576	O 647	S 26	0	0
9	JB	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JD	427	Total 3356	C 2109	N 575	O 646	S 26	0	0
9	JF	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JH	426	Total 3348	C 2105	N 574	O 643	S 26	0	0
9	JJ	426	Total 3348	C 2105	N 574	O 643	S 26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	JL	426	3348	2105	574	643	26	0	0
9	JN	426	3348	2105	574	643	26	0	0
9	KB	403	3165	1989	539	613	24	0	0
9	KD	428	3361	2112	576	647	26	0	0
9	KF	427	3356	2109	575	646	26	0	0
9	KH	429	3368	2116	577	649	26	0	0
9	KJ	426	3348	2105	574	643	26	0	0
9	KL	429	3368	2116	577	649	26	0	0
9	KN	428	3361	2112	576	647	26	0	0
9	LB	428	3361	2112	576	647	26	0	0
9	LD	427	3356	2109	575	646	26	0	0
9	LF	428	3361	2112	576	647	26	0	0
9	LH	428	3361	2112	576	647	26	0	0
9	LJ	428	3361	2112	576	647	26	0	0
9	LL	426	3348	2105	574	643	26	0	0
9	LN	428	3361	2112	576	647	26	0	0
9	MB	426	3348	2105	574	643	26	0	0
9	MD	426	3348	2105	574	643	26	0	0
9	MF	428	3361	2112	576	647	26	0	0
9	MH	428	3361	2112	576	647	26	0	0
9	MJ	426	3348	2105	574	643	26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	ML	426	3348	2105	574	643	26	0	0
9	MN	426	3348	2105	574	643	26	0	0
9	N0	427	3356	2109	575	646	26	0	0
9	NB	428	3361	2112	576	647	26	0	0
9	ND	427	3356	2109	575	646	26	0	0
9	NF	427	3356	2109	575	646	26	0	0
9	NH	428	3361	2112	576	647	26	0	0
9	NJ	428	3361	2112	576	647	26	0	0
9	NL	425	3339	2100	572	641	26	0	0
9	O0	412	3224	2024	553	623	24	0	0
9	OB	425	3339	2100	572	641	26	0	0
9	OD	424	3327	2091	571	639	26	0	0
9	OF	425	3339	2100	572	641	26	0	0
9	OH	428	3361	2112	576	647	26	0	0
9	OJ	428	3361	2112	576	647	26	0	0
9	OL	424	3327	2091	571	639	26	0	0
9	PB	427	3356	2109	575	646	26	0	0
9	PD	427	3356	2109	575	646	26	0	0
9	PF	428	3361	2112	576	647	26	0	0
9	PH	428	3361	2112	576	647	26	0	0
9	PJ	428	3361	2112	576	647	26	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	PL	425	3340	2100	573	642	25	0	0
9	QB	428	3361	2112	576	647	26	0	0
9	QD	427	3356	2109	575	646	26	0	0
9	QF	428	3361	2112	576	647	26	0	0
9	QH	428	3361	2112	576	647	26	0	0
9	QJ	428	3361	2112	576	647	26	0	0
9	QL	426	3348	2105	574	643	26	0	0
9	RB	428	3361	2112	576	647	26	0	0
9	RD	427	3356	2109	575	646	26	0	0
9	RF	428	3361	2112	576	647	26	0	0
9	RH	428	3361	2112	576	647	26	0	0
9	RJ	428	3361	2112	576	647	26	0	0
9	RL	426	3348	2105	574	643	26	0	0
9	SB	428	3361	2112	576	647	26	0	0
9	SD	427	3356	2109	575	646	26	0	0
9	SF	428	3361	2112	576	647	26	0	0
9	SH	428	3361	2112	576	647	26	0	0
9	SJ	428	3361	2112	576	647	26	0	0
9	SL	426	3348	2105	574	643	26	0	0
9	TB	428	3361	2112	576	647	26	0	0
9	TD	427	3356	2109	575	646	26	0	0

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

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Mol	Chain	Residues	Atoms					AltConf	Trace
9	WH	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	WJ	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	WL	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		
9	WN	426	Total	C	N	O	S	0	0
			3348	2105	574	643	26		

- Molecule 10 is a protein called Tektin-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	B0	189	Total	C	N	O	S	0	0
			1538	941	290	301	6		
10	B1	416	Total	C	N	O	S	0	0
			3391	2090	627	660	14		
10	B2	416	Total	C	N	O	S	0	0
			3391	2090	627	660	14		
10	B3	383	Total	C	N	O	S	0	0
			3113	1920	568	610	15		
10	B4	49	Total	C	N	O	S	0	0
			406	248	79	77	2		
10	B5	51	Total	C	N	O	S	0	0
			419	257	81	79	2		
10	B6	358	Total	C	N	O	S	0	0
			2911	1793	534	570	14		
10	B7	414	Total	C	N	O	S	0	0
			3372	2080	621	657	14		
10	B8	403	Total	C	N	O	S	0	0
			3284	2025	607	638	14		
10	B9	187	Total	C	N	O	S	0	0
			1523	933	287	297	6		

- Molecule 11 is a protein called Uncharacterized protein C1orf189 homolog.

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

- Molecule 12 is a protein called Tektin-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	C0	30	Total	C	N	O		0	0
			261	157	50	54			
12	C1	334	Total	C	N	O	S	0	0
			2710	1667	493	537	13		
12	C2	394	Total	C	N	O	S	0	0
			3208	1974	588	631	15		
12	C3	394	Total	C	N	O	S	0	0
			3208	1974	588	631	15		
12	C4	215	Total	C	N	O	S	0	0
			1745	1083	314	335	13		
12	C5	113	Total	C	N	O	S	0	0
			908	559	165	181	3		
12	C6	385	Total	C	N	O	S	0	0
			3131	1925	573	618	15		
12	C7	413	Total	C	N	O	S	0	0
			3359	2066	615	661	17		
12	C8	407	Total	C	N	O	S	0	0
			3310	2039	602	653	16		
12	C9	112	Total	C	N	O	S	0	0
			926	559	177	187	3		
12	F0	139	Total	C	N	O	S	0	0
			1156	714	214	226	2		
12	F1	421	Total	C	N	O	S	0	0
			3433	2121	624	672	16		
12	F2	421	Total	C	N	O	S	0	0
			3433	2121	624	672	16		
12	F3	378	Total	C	N	O	S	0	0
			3064	1884	561	604	15		
12	F4	99	Total	C	N	O	S	0	0
			809	500	147	159	3		

- Molecule 13 is a protein called Sperm associated antigen 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	D	147	Total	C	N	O	S	0	0
			944	587	174	182	1		

- Molecule 14 is a protein called Tektin-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	D0	291	Total	C	N	O	S	0	0
			2377	1468	435	462	12		
14	D1	425	Total	C	N	O	S	0	0
			3483	2143	653	672	15		

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Mol	Chain	Residues	Atoms					AltConf	Trace
14	D2	425	Total	C	N	O	S	0	0
			3483	2143	653	672	15		
14	D3	316	Total	C	N	O	S	0	0
			2593	1603	483	495	12		
14	D5	9	Total	C	N	O	S	0	0
			77	46	18	12	1		
14	D6	319	Total	C	N	O	S	0	0
			2619	1617	489	501	12		
14	D7	414	Total	C	N	O	S	0	0
			3390	2085	634	656	15		
14	D8	413	Total	C	N	O	S	0	0
			3381	2080	632	654	15		
14	D9	277	Total	C	N	O	S	0	0
			2259	1395	410	443	11		

- Molecule 15 is a protein called Cilia and flagella associated protein 161.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	E	255	Total	C	N	O	S	0	0
			2055	1302	369	373	11		
15	F	255	Total	C	N	O	S	0	0
			2055	1302	369	373	11		

- Molecule 16 is a protein called TEKTIPI1.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	E0	68	Total	C	N	O	S	0	0
			581	371	113	96	1		
16	E1	127	Total	C	N	O	S	0	0
			1062	675	200	185	2		
16	E2	144	Total	C	N	O	S	0	0
			1202	766	220	214	2		
16	E3	144	Total	C	N	O	S	0	0
			1202	766	220	214	2		

- Molecule 17 is a protein called Pierce2.

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

- Molecule 18 is a protein called Protein FAM166B.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	H	84	Total	C	N	O	S	0	0
			647	421	111	110	5		
18	I	152	Total	C	N	O	S	0	0
			1188	780	201	201	6		
18	J	152	Total	C	N	O	S	0	0
			1188	780	201	201	6		
18	K	152	Total	C	N	O	S	0	0
			1188	780	201	201	6		
18	L	152	Total	C	N	O	S	0	0
			1188	780	201	201	6		
18	M	152	Total	C	N	O	S	0	0
			1188	780	201	201	6		
18	N	155	Total	C	N	O	S	0	0
			1218	797	209	206	6		

- Molecule 19 is a protein called Coiled-coil domain containing 114.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	H1	192	Total	C	N	O	S	0	0
			1571	959	306	300	6		
19	H2	250	Total	C	N	O	S	0	0
			2069	1261	414	386	8		
19	H3	105	Total	C	N	O	S	0	0
			880	530	182	164	4		

- Molecule 20 is a protein called Outer dynein arm-docking complex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	H4	193	Total	C	N	O	S	0	0
			1625	1009	304	308	4		
20	H5	249	Total	C	N	O	S	0	0
			2097	1303	390	399	5		
20	H6	125	Total	C	N	O	S	0	0
			1060	666	198	195	1		

- Molecule 21 is a protein called Armadillo repeat containing 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	H7	580	Total	C	N	O	0	0
			2867	1707	580	580		
21	H8	579	Total	C	N	O	0	0
			2862	1704	579	579		

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Mol	Chain	Residues	Atoms				AltConf	Trace
21	H9	358	Total	C	N	O	0	0
			1768	1052	358	358		

- Molecule 22 is a protein called TTC25 protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	I1	192	Total	C	N	O	S	0	0
			1300	812	232	249	7		
22	I2	192	Total	C	N	O	S	0	0
			1300	812	232	249	7		

- Molecule 23 is a protein called EF-hand calcium-binding domain-containing protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	I3	186	Total	C	N	O	0	0
			921	549	186	186		
23	I4	187	Total	C	N	O	0	0
			925	551	187	187		

- Molecule 24 is a protein called RIB43A-like with coiled-coils protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	O	31	Total	C	N	O	0	0	
			270	170	58	42			
24	P	373	Total	C	N	O	S	0	0
			3104	1890	607	592	15		
24	Q	39	Total	C	N	O	S	0	0
			317	193	58	63	3		
24	R	249	Total	C	N	O	S	0	0
			2041	1239	395	397	10		
24	S	170	Total	C	N	O	S	0	0
			1412	857	277	271	7		

- Molecule 25 is a protein called EF-hand domain containing 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	T	452	Total	C	N	O	S	0	0
			3726	2406	627	678	15		
25	U	452	Total	C	N	O	S	0	0
			3726	2406	627	678	15		
25	V	452	Total	C	N	O	S	0	0
			3726	2406	627	678	15		

- Molecule 26 is a protein called EFHC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	W	553	Total	C	N	O	S	0	0
			4558	2931	763	841	23		
26	X	636	Total	C	N	O	S	0	0
			5234	3358	881	968	27		
26	Y	636	Total	C	N	O	S	0	0
			5234	3358	881	968	27		
26	Z	449	Total	C	N	O	S	0	0
			3691	2365	618	687	21		

- Molecule 27 is a protein called Cilia- and flagella-associated protein 20.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	XA	184	Total	C	N	O	S	0	0
			1532	984	268	273	7		
27	XB	184	Total	C	N	O	S	0	0
			1532	984	268	273	7		
27	XC	184	Total	C	N	O	S	0	0
			1532	984	268	273	7		
27	XD	184	Total	C	N	O	S	0	0
			1532	984	268	273	7		
27	XE	184	Total	C	N	O	S	0	0
			1532	984	268	273	7		
27	XF	184	Total	C	N	O	S	0	0
			1532	984	268	273	7		
27	XG	184	Total	C	N	O	S	0	0
			1532	984	268	273	7		

- Molecule 28 is a protein called PACRG protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	YB	219	Total	C	N	O	S	0	0
			1767	1144	298	316	9		
28	YC	219	Total	C	N	O	S	0	0
			1767	1144	298	316	9		
28	YD	219	Total	C	N	O	S	0	0
			1767	1144	298	316	9		
28	YE	219	Total	C	N	O	S	0	0
			1767	1144	298	316	9		
28	YF	219	Total	C	N	O	S	0	0
			1767	1144	298	316	9		
28	YG	219	Total	C	N	O	S	0	0
			1767	1144	298	316	9		

- Molecule 29 is a protein called Cilia and flagella associated protein 45.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	a	169	Total	C	N	O	S	0	0
			1426	879	270	269	8		
29	b	332	Total	C	N	O	S	0	0
			2854	1723	570	549	12		
29	c	277	Total	C	N	O	S	0	0
			2361	1445	446	455	15		
29	d	215	Total	C	N	O	S	0	0
			1830	1110	368	346	6		

- Molecule 30 is a protein called Cilia and flagella associated protein 52.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	e	610	Total	C	N	O	S	0	0
			4722	2990	823	877	32		
30	f	610	Total	C	N	O	S	0	0
			4722	2990	823	877	32		
30	g	610	Total	C	N	O	S	0	0
			4722	2990	823	877	32		

- Molecule 31 is a protein called Enkurin, TRPC channel interacting protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	h	148	Total	C	N	O	S	0	0
			1220	772	213	231	4		
31	i	235	Total	C	N	O	S	0	0
			1939	1242	336	354	7		
31	j	235	Total	C	N	O	S	0	0
			1939	1242	336	354	7		
31	k	235	Total	C	N	O	S	0	0
			1939	1242	336	354	7		

- Molecule 32 is a protein called Protein Flattop.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	l	114	Total	C	N	O	S	0	0
			894	569	162	161	2		
32	m	116	Total	C	N	O	S	0	0
			910	580	165	163	2		
32	n	118	Total	C	N	O	S	0	0
			928	590	169	167	2		

- Molecule 33 is a protein called Coiled-coil domain containing 173.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	o	378	Total	C	N	O	S	0	0
			2068	1246	415	405	2		
33	p	100	Total	C	N	O	S	0	0
			835	524	144	164	3		

- Molecule 34 is a protein called Chromosome 3 C1orf194 homolog.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	q	79	Total	C	N	O	0	0
			631	395	116	120		
34	r	79	Total	C	N	O	0	0
			631	395	116	120		
34	s	79	Total	C	N	O	0	0
			631	395	116	120		

- Molecule 35 is a protein called EFCAB6.

Mol	Chain	Residues	Atoms				AltConf	Trace
35	t	178	Total	C	N	O	0	0
			882	526	178	178		

- Molecule 36 is a protein called Pierce1.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	y	63	Total	C	N	O	S	0	0
			515	329	88	94	4		
36	z	115	Total	C	N	O	S	0	0
			950	602	168	175	5		

- Molecule 37 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: C₁₀H₁₆N₅O₁₄P₃).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
37	AA	1	Total 32	10	5	14	3	0
37	AC	1	Total 32	10	5	14	3	0
37	AE	1	Total 32	10	5	14	3	0
37	AG	1	Total 32	10	5	14	3	0
37	AI	1	Total 32	10	5	14	3	0
37	AK	1	Total 32	10	5	14	3	0
37	AM	1	Total 32	10	5	14	3	0
37	BA	1	Total 32	10	5	14	3	0
37	BC	1	Total 32	10	5	14	3	0
37	BE	1	Total 32	10	5	14	3	0
37	BG	1	Total 32	10	5	14	3	0
37	BI	1	Total 32	10	5	14	3	0
37	BK	1	Total 32	10	5	14	3	0
37	BM	1	Total 32	10	5	14	3	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
37	CA	1	Total 32	C 10	N 5	O 14	P 3	0
37	CC	1	Total 32	C 10	N 5	O 14	P 3	0
37	CE	1	Total 32	C 10	N 5	O 14	P 3	0
37	CG	1	Total 32	C 10	N 5	O 14	P 3	0
37	CI	1	Total 32	C 10	N 5	O 14	P 3	0
37	CK	1	Total 32	C 10	N 5	O 14	P 3	0
37	CM	1	Total 32	C 10	N 5	O 14	P 3	0
37	DA	1	Total 32	C 10	N 5	O 14	P 3	0
37	DC	1	Total 32	C 10	N 5	O 14	P 3	0
37	DE	1	Total 32	C 10	N 5	O 14	P 3	0
37	DG	1	Total 32	C 10	N 5	O 14	P 3	0
37	DI	1	Total 32	C 10	N 5	O 14	P 3	0
37	DK	1	Total 32	C 10	N 5	O 14	P 3	0
37	DM	1	Total 32	C 10	N 5	O 14	P 3	0
37	EC	1	Total 32	C 10	N 5	O 14	P 3	0
37	EE	1	Total 32	C 10	N 5	O 14	P 3	0
37	EG	1	Total 32	C 10	N 5	O 14	P 3	0
37	EI	1	Total 32	C 10	N 5	O 14	P 3	0
37	EK	1	Total 32	C 10	N 5	O 14	P 3	0
37	EM	1	Total 32	C 10	N 5	O 14	P 3	0
37	FC	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	
37	FE	1	Total 32	C 10	N 5	O 14	P 3	0
37	FG	1	Total 32	C 10	N 5	O 14	P 3	0
37	FI	1	Total 32	C 10	N 5	O 14	P 3	0
37	FK	1	Total 32	C 10	N 5	O 14	P 3	0
37	FM	1	Total 32	C 10	N 5	O 14	P 3	0
37	GC	1	Total 32	C 10	N 5	O 14	P 3	0
37	GE	1	Total 32	C 10	N 5	O 14	P 3	0
37	GG	1	Total 32	C 10	N 5	O 14	P 3	0
37	GI	1	Total 32	C 10	N 5	O 14	P 3	0
37	GK	1	Total 32	C 10	N 5	O 14	P 3	0
37	GM	1	Total 32	C 10	N 5	O 14	P 3	0
37	HC	1	Total 32	C 10	N 5	O 14	P 3	0
37	HE	1	Total 32	C 10	N 5	O 14	P 3	0
37	HG	1	Total 32	C 10	N 5	O 14	P 3	0
37	HI	1	Total 32	C 10	N 5	O 14	P 3	0
37	HK	1	Total 32	C 10	N 5	O 14	P 3	0
37	HM	1	Total 32	C 10	N 5	O 14	P 3	0
37	HO	1	Total 32	C 10	N 5	O 14	P 3	0
37	IC	1	Total 32	C 10	N 5	O 14	P 3	0
37	IE	1	Total 32	C 10	N 5	O 14	P 3	0
37	IG	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	
37	II	1	Total 32	C 10	N 5	O 14	P 3	0
37	IK	1	Total 32	C 10	N 5	O 14	P 3	0
37	IM	1	Total 32	C 10	N 5	O 14	P 3	0
37	IO	1	Total 32	C 10	N 5	O 14	P 3	0
37	JC	1	Total 32	C 10	N 5	O 14	P 3	0
37	JE	1	Total 32	C 10	N 5	O 14	P 3	0
37	JG	1	Total 32	C 10	N 5	O 14	P 3	0
37	JI	1	Total 32	C 10	N 5	O 14	P 3	0
37	JK	1	Total 32	C 10	N 5	O 14	P 3	0
37	JM	1	Total 32	C 10	N 5	O 14	P 3	0
37	KC	1	Total 32	C 10	N 5	O 14	P 3	0
37	KE	1	Total 32	C 10	N 5	O 14	P 3	0
37	KG	1	Total 32	C 10	N 5	O 14	P 3	0
37	KI	1	Total 32	C 10	N 5	O 14	P 3	0
37	KK	1	Total 32	C 10	N 5	O 14	P 3	0
37	KM	1	Total 32	C 10	N 5	O 14	P 3	0
37	KO	1	Total 32	C 10	N 5	O 14	P 3	0
37	LC	1	Total 32	C 10	N 5	O 14	P 3	0
37	LE	1	Total 32	C 10	N 5	O 14	P 3	0
37	LG	1	Total 32	C 10	N 5	O 14	P 3	0
37	LI	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	
37	LK	1	Total 32	C 10	N 5	O 14	P 3	0
37	LM	1	Total 32	C 10	N 5	O 14	P 3	0
37	MC	1	Total 32	C 10	N 5	O 14	P 3	0
37	ME	1	Total 32	C 10	N 5	O 14	P 3	0
37	MG	1	Total 32	C 10	N 5	O 14	P 3	0
37	MI	1	Total 32	C 10	N 5	O 14	P 3	0
37	MK	1	Total 32	C 10	N 5	O 14	P 3	0
37	MM	1	Total 32	C 10	N 5	O 14	P 3	0
37	NA	1	Total 32	C 10	N 5	O 14	P 3	0
37	NC	1	Total 32	C 10	N 5	O 14	P 3	0
37	NE	1	Total 32	C 10	N 5	O 14	P 3	0
37	NG	1	Total 32	C 10	N 5	O 14	P 3	0
37	NI	1	Total 32	C 10	N 5	O 14	P 3	0
37	NK	1	Total 32	C 10	N 5	O 14	P 3	0
37	OA	1	Total 32	C 10	N 5	O 14	P 3	0
37	OC	1	Total 32	C 10	N 5	O 14	P 3	0
37	OE	1	Total 32	C 10	N 5	O 14	P 3	0
37	OG	1	Total 32	C 10	N 5	O 14	P 3	0
37	OI	1	Total 32	C 10	N 5	O 14	P 3	0
37	OK	1	Total 32	C 10	N 5	O 14	P 3	0
37	PA	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	
37	PC	1	Total 32	C 10	N 5	O 14	P 3	0
37	PE	1	Total 32	C 10	N 5	O 14	P 3	0
37	PG	1	Total 32	C 10	N 5	O 14	P 3	0
37	PI	1	Total 32	C 10	N 5	O 14	P 3	0
37	PK	1	Total 32	C 10	N 5	O 14	P 3	0
37	PM	1	Total 32	C 10	N 5	O 14	P 3	0
37	QA	1	Total 32	C 10	N 5	O 14	P 3	0
37	QC	1	Total 32	C 10	N 5	O 14	P 3	0
37	QE	1	Total 32	C 10	N 5	O 14	P 3	0
37	QG	1	Total 32	C 10	N 5	O 14	P 3	0
37	QI	1	Total 32	C 10	N 5	O 14	P 3	0
37	QK	1	Total 32	C 10	N 5	O 14	P 3	0
37	QM	1	Total 32	C 10	N 5	O 14	P 3	0
37	RA	1	Total 32	C 10	N 5	O 14	P 3	0
37	RC	1	Total 32	C 10	N 5	O 14	P 3	0
37	RE	1	Total 32	C 10	N 5	O 14	P 3	0
37	RG	1	Total 32	C 10	N 5	O 14	P 3	0
37	RI	1	Total 32	C 10	N 5	O 14	P 3	0
37	RK	1	Total 32	C 10	N 5	O 14	P 3	0
37	RM	1	Total 32	C 10	N 5	O 14	P 3	0
37	SA	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	
37	SC	1	Total 32	C 10	N 5	O 14	P 3	0
37	SE	1	Total 32	C 10	N 5	O 14	P 3	0
37	SG	1	Total 32	C 10	N 5	O 14	P 3	0
37	SI	1	Total 32	C 10	N 5	O 14	P 3	0
37	SK	1	Total 32	C 10	N 5	O 14	P 3	0
37	SM	1	Total 32	C 10	N 5	O 14	P 3	0
37	TC	1	Total 32	C 10	N 5	O 14	P 3	0
37	TE	1	Total 32	C 10	N 5	O 14	P 3	0
37	TG	1	Total 32	C 10	N 5	O 14	P 3	0
37	TI	1	Total 32	C 10	N 5	O 14	P 3	0
37	TK	1	Total 32	C 10	N 5	O 14	P 3	0
37	TM	1	Total 32	C 10	N 5	O 14	P 3	0
37	UC	1	Total 32	C 10	N 5	O 14	P 3	0
37	UE	1	Total 32	C 10	N 5	O 14	P 3	0
37	UG	1	Total 32	C 10	N 5	O 14	P 3	0
37	UI	1	Total 32	C 10	N 5	O 14	P 3	0
37	UK	1	Total 32	C 10	N 5	O 14	P 3	0
37	UM	1	Total 32	C 10	N 5	O 14	P 3	0
37	VC	1	Total 32	C 10	N 5	O 14	P 3	0
37	VE	1	Total 32	C 10	N 5	O 14	P 3	0
37	VG	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	
37	VI	1	32	10	5	14	3	0
37	VK	1	32	10	5	14	3	0
37	VM	1	32	10	5	14	3	0
37	WC	1	32	10	5	14	3	0
37	WE	1	32	10	5	14	3	0
37	WG	1	32	10	5	14	3	0
37	WI	1	32	10	5	14	3	0
37	WK	1	32	10	5	14	3	0
37	WM	1	32	10	5	14	3	0

- Molecule 38 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
38	AA	1	1	1	0
38	AC	1	1	1	0
38	AE	1	1	1	0
38	AG	1	1	1	0
38	AI	1	1	1	0
38	AK	1	1	1	0
38	AM	1	1	1	0
38	BA	1	1	1	0
38	BC	1	1	1	0
38	BE	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
38	BG	1	1	1	0
38	BI	1	1	1	0
38	BK	1	1	1	0
38	BM	1	1	1	0
38	CA	1	1	1	0
38	CC	1	1	1	0
38	CE	1	1	1	0
38	CG	1	1	1	0
38	CI	1	1	1	0
38	CK	1	1	1	0
38	CM	1	1	1	0
38	DA	1	1	1	0
38	DC	1	1	1	0
38	DE	1	1	1	0
38	DG	1	1	1	0
38	DI	1	1	1	0
38	DK	1	1	1	0
38	DM	1	1	1	0
38	EC	1	1	1	0
38	EE	1	1	1	0
38	EG	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
38	EI	1	1	1	0
38	EK	1	1	1	0
38	EM	1	1	1	0
38	FC	1	1	1	0
38	FE	1	1	1	0
38	FG	1	1	1	0
38	FI	1	1	1	0
38	FK	1	1	1	0
38	FM	1	1	1	0
38	GC	1	1	1	0
38	GE	1	1	1	0
38	GG	1	1	1	0
38	GI	1	1	1	0
38	GK	1	1	1	0
38	GM	1	1	1	0
38	HC	1	1	1	0
38	HE	1	1	1	0
38	HG	1	1	1	0
38	HI	1	1	1	0
38	HK	1	1	1	0
38	HM	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
38	HO	1	1	1	0
38	IC	1	1	1	0
38	IE	1	1	1	0
38	IG	1	1	1	0
38	II	1	1	1	0
38	IK	1	1	1	0
38	IM	1	1	1	0
38	IO	1	1	1	0
38	JC	1	1	1	0
38	JE	1	1	1	0
38	JG	1	1	1	0
38	JI	1	1	1	0
38	JK	1	1	1	0
38	JM	1	1	1	0
38	KC	1	1	1	0
38	KE	1	1	1	0
38	KG	1	1	1	0
38	KI	1	1	1	0
38	KK	1	1	1	0
38	KM	1	1	1	0
38	KO	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
38	LC	1	1	1	0
38	LE	1	1	1	0
38	LG	1	1	1	0
38	LI	1	1	1	0
38	LK	1	1	1	0
38	LM	1	1	1	0
38	MC	1	1	1	0
38	ME	1	1	1	0
38	MG	1	1	1	0
38	MI	1	1	1	0
38	MK	1	1	1	0
38	MM	1	1	1	0
38	NA	1	1	1	0
38	NC	1	1	1	0
38	NE	1	1	1	0
38	NG	1	1	1	0
38	NI	1	1	1	0
38	NK	1	1	1	0
38	OA	1	1	1	0
38	OC	1	1	1	0
38	OE	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
38	OG	1	1	1	0
38	OI	1	1	1	0
38	OK	1	1	1	0
38	PA	1	1	1	0
38	PC	1	1	1	0
38	PE	1	1	1	0
38	PG	1	1	1	0
38	PI	1	1	1	0
38	PK	1	1	1	0
38	PM	1	1	1	0
38	QA	1	1	1	0
38	QC	1	1	1	0
38	QE	1	1	1	0
38	QG	1	1	1	0
38	QI	1	1	1	0
38	QK	1	1	1	0
38	QM	1	1	1	0
38	RA	1	1	1	0
38	RC	1	1	1	0
38	RE	1	1	1	0
38	RG	1	1	1	0

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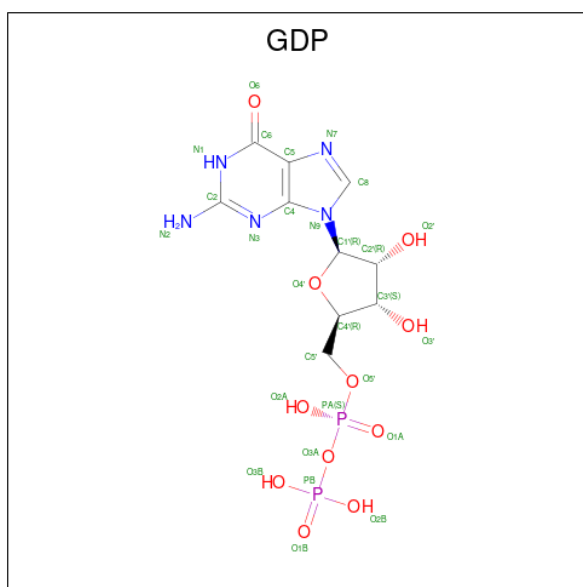
Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
38	RI	1	1	1	0
38	RK	1	1	1	0
38	RM	1	1	1	0
38	SA	1	1	1	0
38	SC	1	1	1	0
38	SE	1	1	1	0
38	SG	1	1	1	0
38	SI	1	1	1	0
38	SK	1	1	1	0
38	SM	1	1	1	0
38	TC	1	1	1	0
38	TE	1	1	1	0
38	TG	1	1	1	0
38	TI	1	1	1	0
38	TK	1	1	1	0
38	TM	1	1	1	0
38	UC	1	1	1	0
38	UE	1	1	1	0
38	UG	1	1	1	0
38	UI	1	1	1	0
38	UK	1	1	1	0

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Mol	Chain	Residues	Atoms		AltConf
38	UM	1	Total 1	Mg 1	0
38	VC	1	Total 1	Mg 1	0
38	VE	1	Total 1	Mg 1	0
38	VG	1	Total 1	Mg 1	0
38	VI	1	Total 1	Mg 1	0
38	VK	1	Total 1	Mg 1	0
38	VM	1	Total 1	Mg 1	0
38	WC	1	Total 1	Mg 1	0
38	WE	1	Total 1	Mg 1	0
38	WG	1	Total 1	Mg 1	0
38	WI	1	Total 1	Mg 1	0
38	WK	1	Total 1	Mg 1	0
38	WM	1	Total 1	Mg 1	0

- Molecule 39 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).



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

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	CF	1	Total 28	C 10	N 5	O 11	P 2	0
39	CH	1	Total 28	C 10	N 5	O 11	P 2	0
39	CJ	1	Total 28	C 10	N 5	O 11	P 2	0
39	CL	1	Total 28	C 10	N 5	O 11	P 2	0
39	DB	1	Total 28	C 10	N 5	O 11	P 2	0
39	DD	1	Total 28	C 10	N 5	O 11	P 2	0
39	DF	1	Total 28	C 10	N 5	O 11	P 2	0
39	DH	1	Total 28	C 10	N 5	O 11	P 2	0
39	DJ	1	Total 28	C 10	N 5	O 11	P 2	0
39	DL	1	Total 28	C 10	N 5	O 11	P 2	0
39	DN	1	Total 28	C 10	N 5	O 11	P 2	0
39	EB	1	Total 28	C 10	N 5	O 11	P 2	0
39	ED	1	Total 28	C 10	N 5	O 11	P 2	0
39	EF	1	Total 28	C 10	N 5	O 11	P 2	0
39	EH	1	Total 28	C 10	N 5	O 11	P 2	0
39	EJ	1	Total 28	C 10	N 5	O 11	P 2	0
39	EL	1	Total 28	C 10	N 5	O 11	P 2	0
39	EN	1	Total 28	C 10	N 5	O 11	P 2	0
39	FB	1	Total 28	C 10	N 5	O 11	P 2	0
39	FD	1	Total 28	C 10	N 5	O 11	P 2	0
39	FF	1	Total 28	C 10	N 5	O 11	P 2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	FH	1	28	10	5	11	2	0
39	FJ	1	28	10	5	11	2	0
39	FL	1	28	10	5	11	2	0
39	FN	1	28	10	5	11	2	0
39	GB	1	28	10	5	11	2	0
39	GD	1	28	10	5	11	2	0
39	GF	1	28	10	5	11	2	0
39	GH	1	28	10	5	11	2	0
39	GJ	1	28	10	5	11	2	0
39	GL	1	28	10	5	11	2	0
39	GN	1	28	10	5	11	2	0
39	HB	1	28	10	5	11	2	0
39	HD	1	28	10	5	11	2	0
39	HF	1	28	10	5	11	2	0
39	HH	1	28	10	5	11	2	0
39	HJ	1	28	10	5	11	2	0
39	HL	1	28	10	5	11	2	0
39	HN	1	28	10	5	11	2	0
39	IB	1	28	10	5	11	2	0
39	ID	1	28	10	5	11	2	0
39	IF	1	28	10	5	11	2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	IH	1	Total 28	C 10	N 5	O 11	P 2	0
39	IJ	1	Total 28	C 10	N 5	O 11	P 2	0
39	IL	1	Total 28	C 10	N 5	O 11	P 2	0
39	IN	1	Total 28	C 10	N 5	O 11	P 2	0
39	JB	1	Total 28	C 10	N 5	O 11	P 2	0
39	JD	1	Total 28	C 10	N 5	O 11	P 2	0
39	JF	1	Total 28	C 10	N 5	O 11	P 2	0
39	JH	1	Total 28	C 10	N 5	O 11	P 2	0
39	JJ	1	Total 28	C 10	N 5	O 11	P 2	0
39	JL	1	Total 28	C 10	N 5	O 11	P 2	0
39	JN	1	Total 28	C 10	N 5	O 11	P 2	0
39	KB	1	Total 28	C 10	N 5	O 11	P 2	0
39	KD	1	Total 28	C 10	N 5	O 11	P 2	0
39	KF	1	Total 28	C 10	N 5	O 11	P 2	0
39	KH	1	Total 28	C 10	N 5	O 11	P 2	0
39	KJ	1	Total 28	C 10	N 5	O 11	P 2	0
39	KL	1	Total 28	C 10	N 5	O 11	P 2	0
39	KN	1	Total 28	C 10	N 5	O 11	P 2	0
39	LB	1	Total 28	C 10	N 5	O 11	P 2	0
39	LD	1	Total 28	C 10	N 5	O 11	P 2	0
39	LF	1	Total 28	C 10	N 5	O 11	P 2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	LH	1	28	10	5	11	2	0
39	LJ	1	28	10	5	11	2	0
39	LL	1	28	10	5	11	2	0
39	LN	1	28	10	5	11	2	0
39	MB	1	28	10	5	11	2	0
39	MD	1	28	10	5	11	2	0
39	MF	1	28	10	5	11	2	0
39	MH	1	28	10	5	11	2	0
39	MJ	1	28	10	5	11	2	0
39	ML	1	28	10	5	11	2	0
39	MN	1	28	10	5	11	2	0
39	N0	1	28	10	5	11	2	0
39	NB	1	28	10	5	11	2	0
39	ND	1	28	10	5	11	2	0
39	NF	1	28	10	5	11	2	0
39	NH	1	28	10	5	11	2	0
39	NJ	1	28	10	5	11	2	0
39	NL	1	28	10	5	11	2	0
39	O0	1	28	10	5	11	2	0
39	OB	1	28	10	5	11	2	0
39	OD	1	28	10	5	11	2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	OF	1	28	10	5	11	2	0
39	OH	1	28	10	5	11	2	0
39	OJ	1	28	10	5	11	2	0
39	OL	1	28	10	5	11	2	0
39	PB	1	28	10	5	11	2	0
39	PD	1	28	10	5	11	2	0
39	PF	1	28	10	5	11	2	0
39	PH	1	28	10	5	11	2	0
39	PJ	1	28	10	5	11	2	0
39	PL	1	28	10	5	11	2	0
39	QB	1	28	10	5	11	2	0
39	QD	1	28	10	5	11	2	0
39	QF	1	28	10	5	11	2	0
39	QH	1	28	10	5	11	2	0
39	QJ	1	28	10	5	11	2	0
39	QL	1	28	10	5	11	2	0
39	RB	1	28	10	5	11	2	0
39	RD	1	28	10	5	11	2	0
39	RF	1	28	10	5	11	2	0
39	RH	1	28	10	5	11	2	0
39	RJ	1	28	10	5	11	2	0

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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
39	RL	1	28	10	5	11	2	0
39	SB	1	28	10	5	11	2	0
39	SD	1	28	10	5	11	2	0
39	SF	1	28	10	5	11	2	0
39	SH	1	28	10	5	11	2	0
39	SJ	1	28	10	5	11	2	0
39	SL	1	28	10	5	11	2	0
39	TB	1	28	10	5	11	2	0
39	TD	1	28	10	5	11	2	0
39	TF	1	28	10	5	11	2	0
39	TH	1	28	10	5	11	2	0
39	TJ	1	28	10	5	11	2	0
39	TL	1	28	10	5	11	2	0
39	UB	1	28	10	5	11	2	0
39	UD	1	28	10	5	11	2	0
39	UF	1	28	10	5	11	2	0
39	UH	1	28	10	5	11	2	0
39	UJ	1	28	10	5	11	2	0
39	UL	1	28	10	5	11	2	0
39	UN	1	28	10	5	11	2	0
39	VB	1	28	10	5	11	2	0

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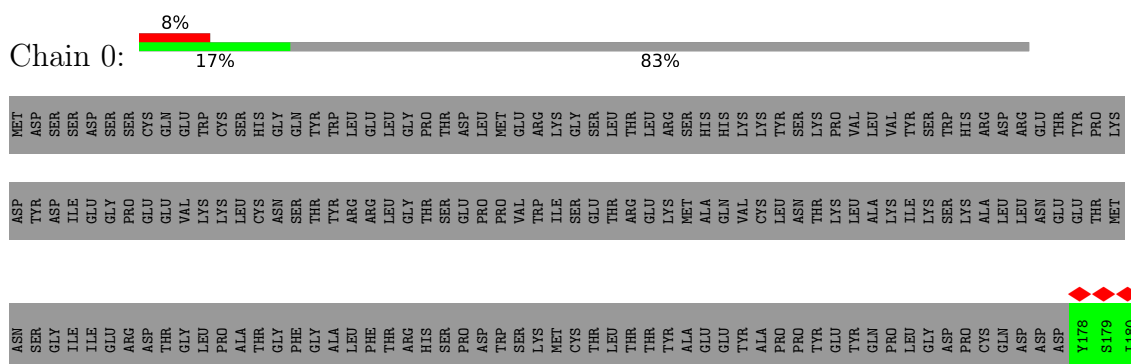
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Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
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39	VF	1	Total 28	10	5	11	2	0
39	VH	1	Total 28	10	5	11	2	0
39	VJ	1	Total 28	10	5	11	2	0
39	VL	1	Total 28	10	5	11	2	0
39	VN	1	Total 28	10	5	11	2	0
39	WB	1	Total 28	10	5	11	2	0
39	WD	1	Total 28	10	5	11	2	0
39	WF	1	Total 28	10	5	11	2	0
39	WH	1	Total 28	10	5	11	2	0
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39	WN	1	Total 28	10	5	11	2	0

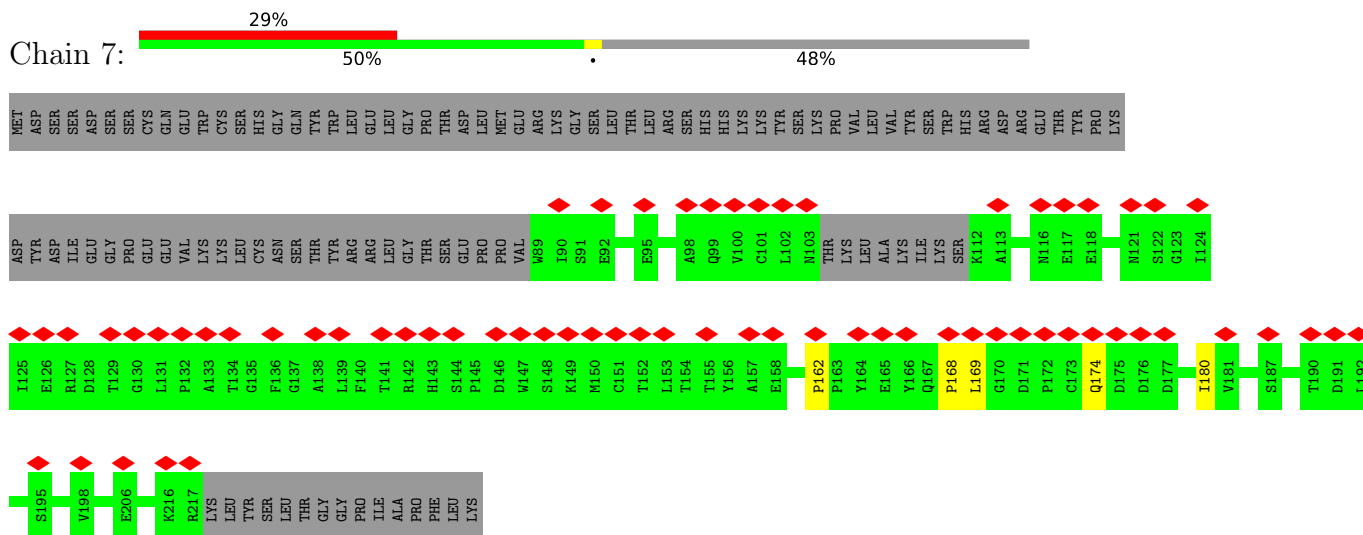
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Protein C9orf135 homolog

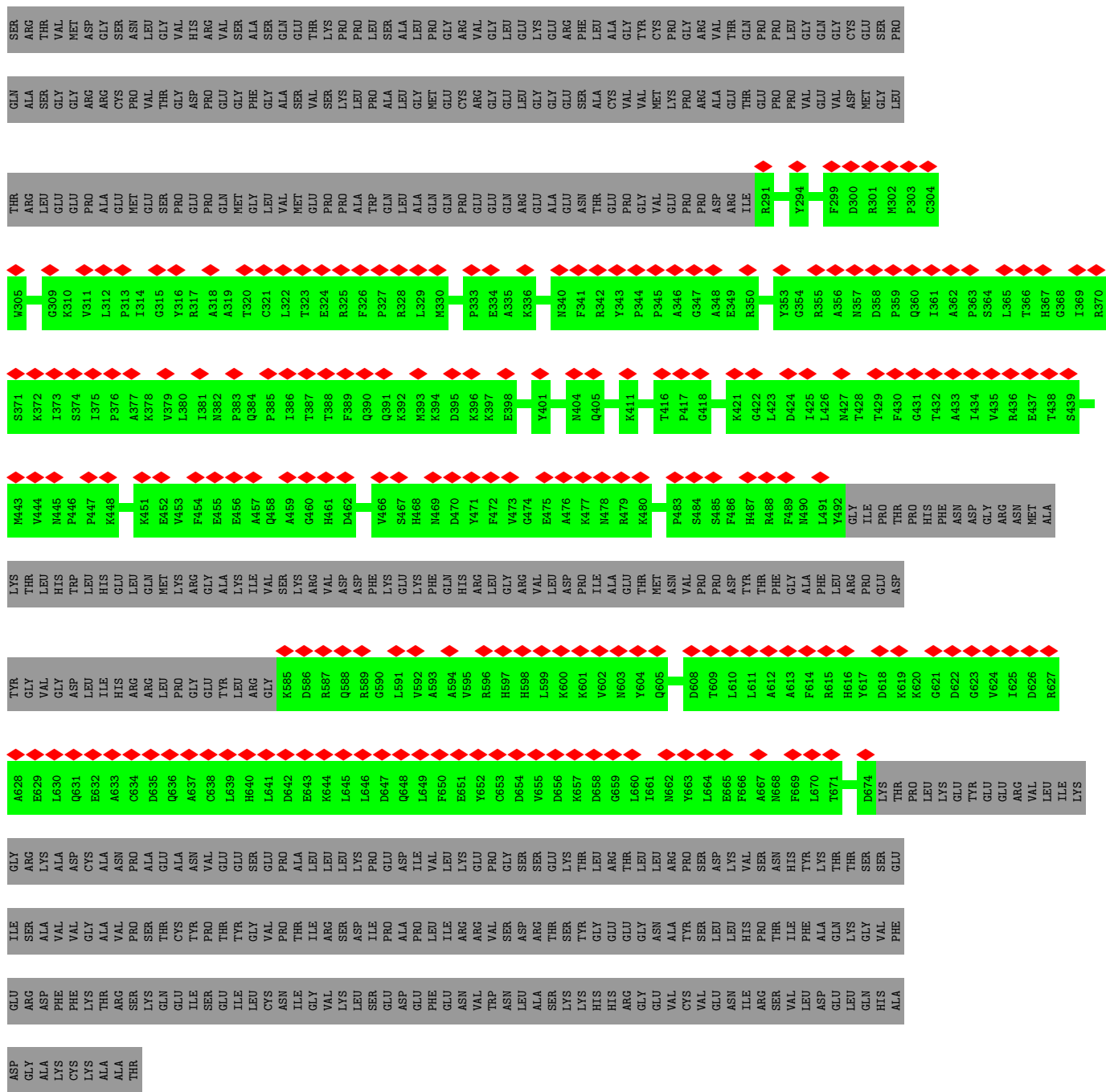


- Molecule 1: Protein C9orf135 homolog

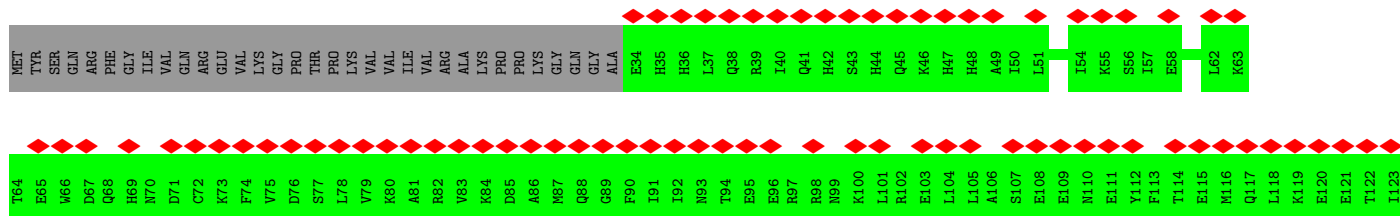


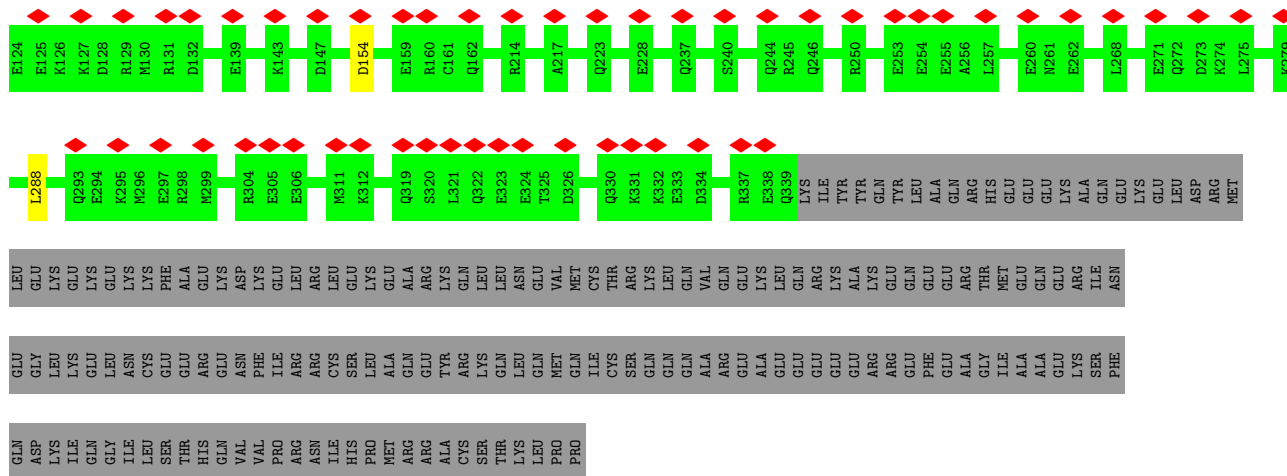
- Molecule 2: EF-hand domain family member B



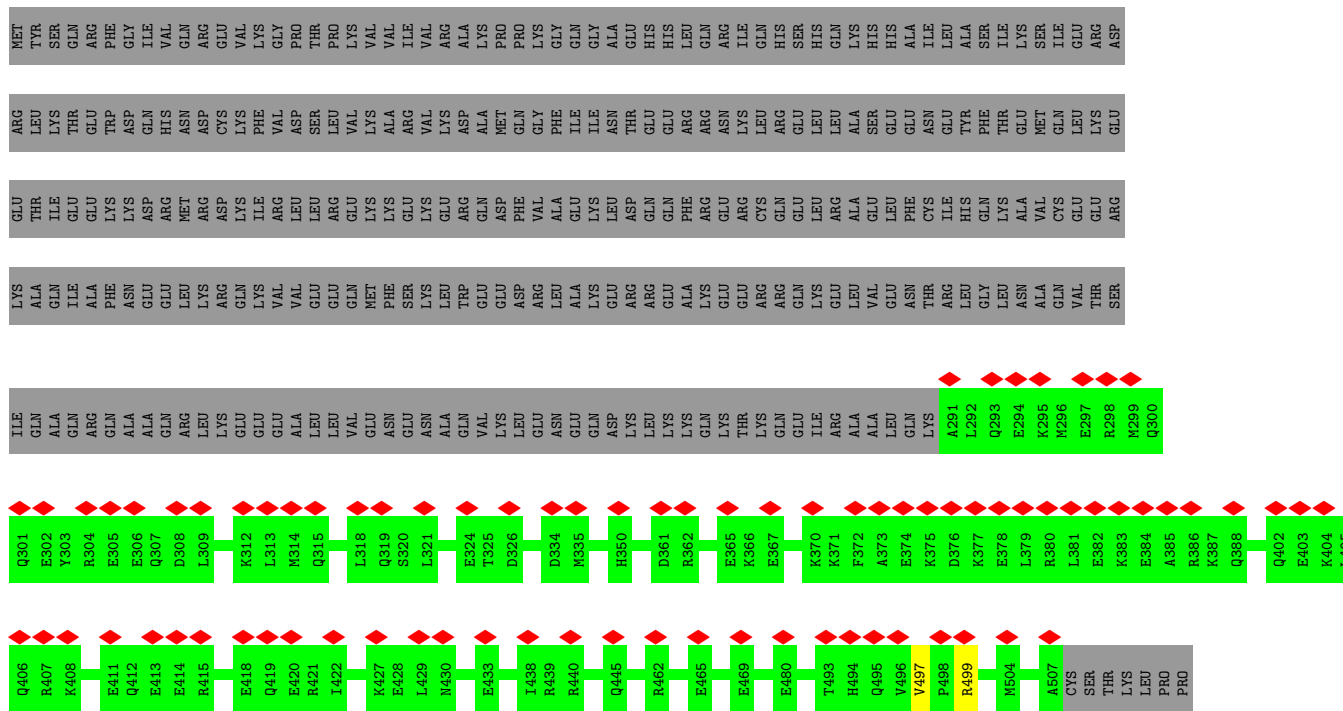
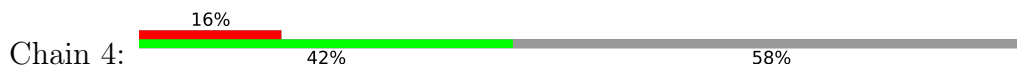


● Molecule 3: Methyl-CpG binding domain protein 1

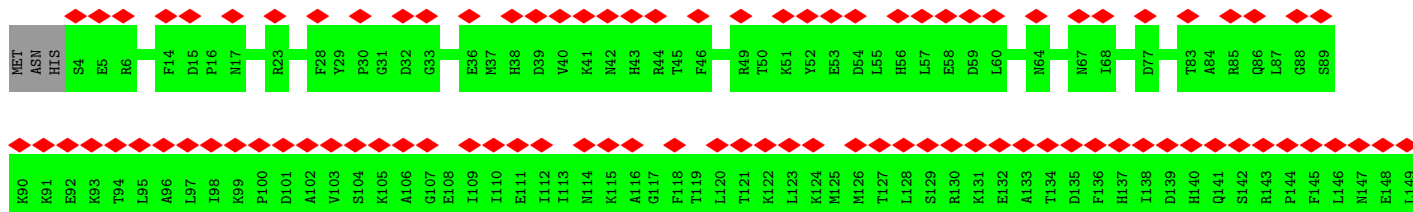
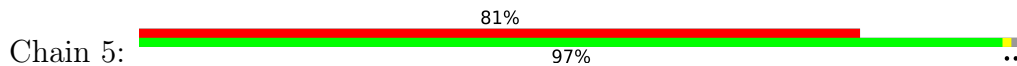


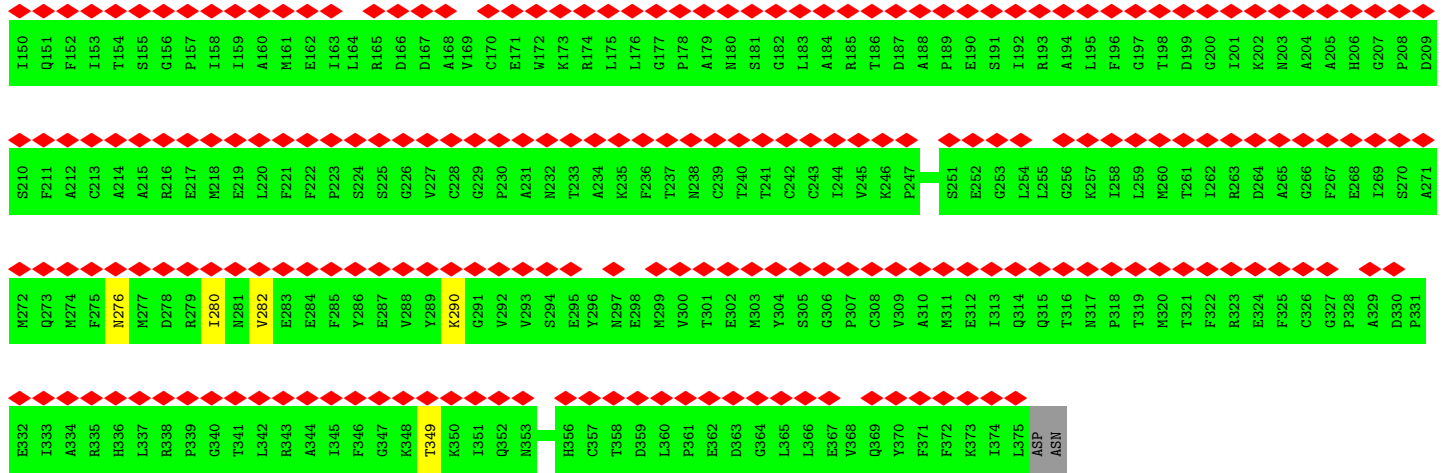


• Molecule 3: Methyl-CpG binding domain protein 1

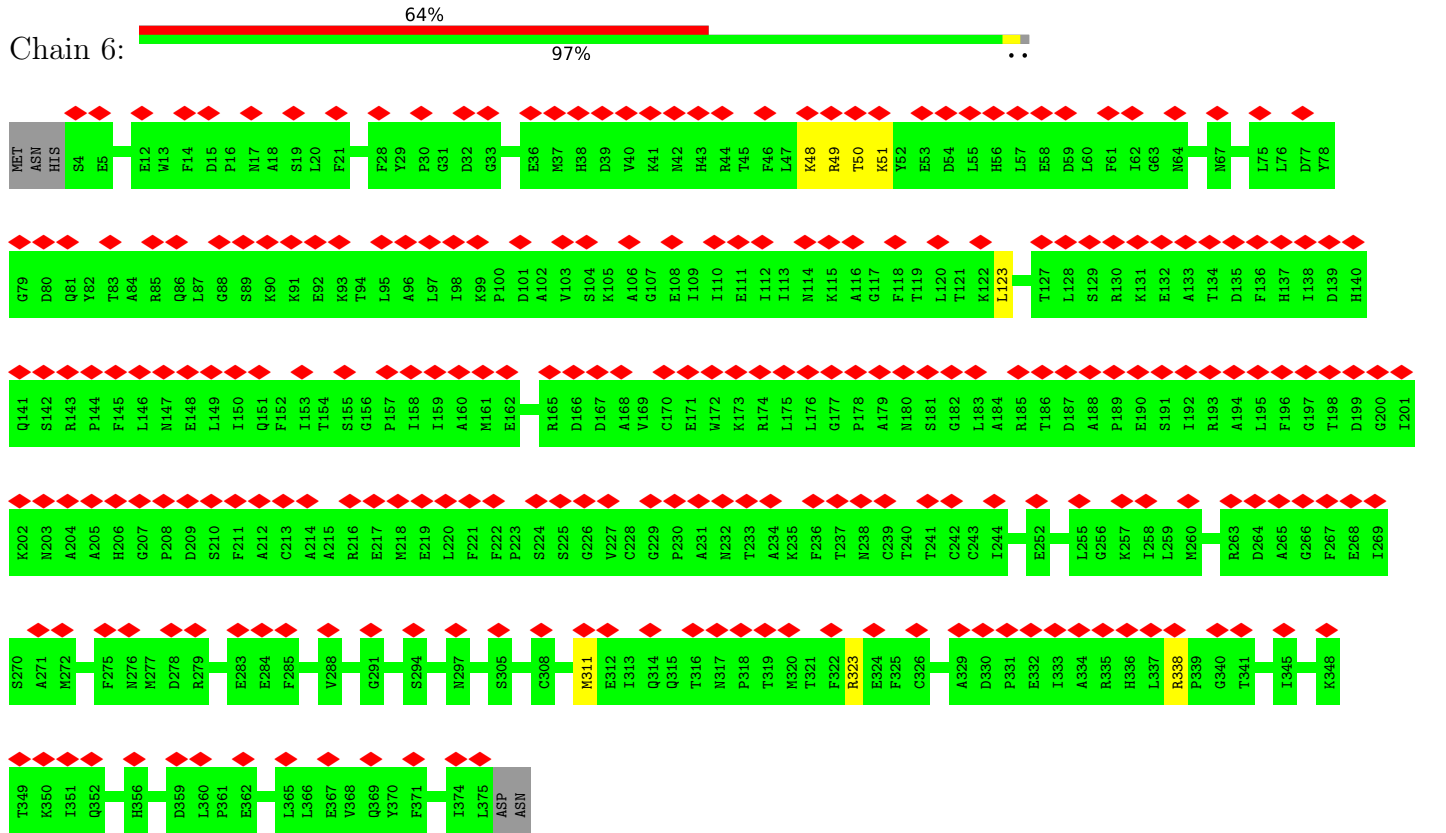


• Molecule 4: Nucleoside diphosphate kinase 7

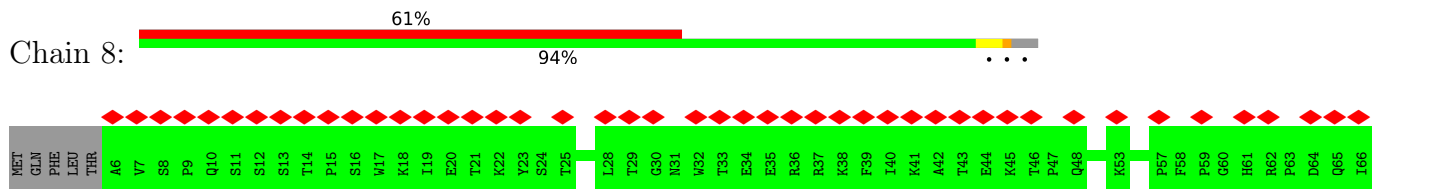


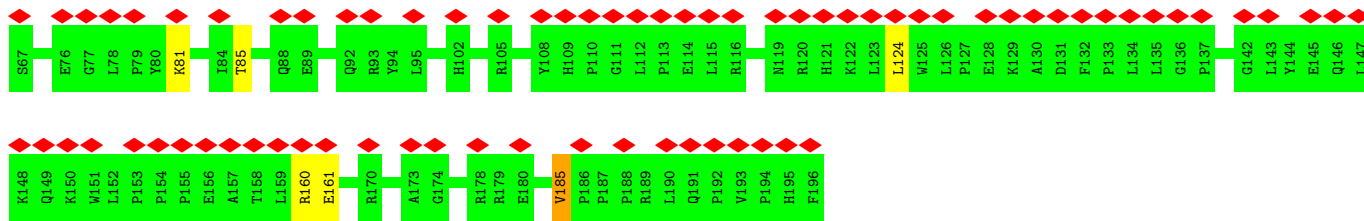


• Molecule 4: Nucleoside diphosphate kinase 7

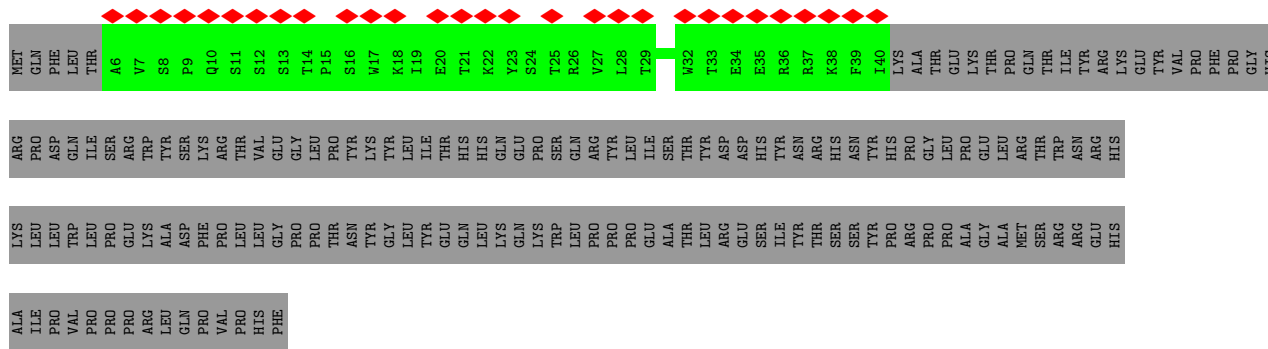


• Molecule 5: Uncharacterized protein C1orf158 homolog

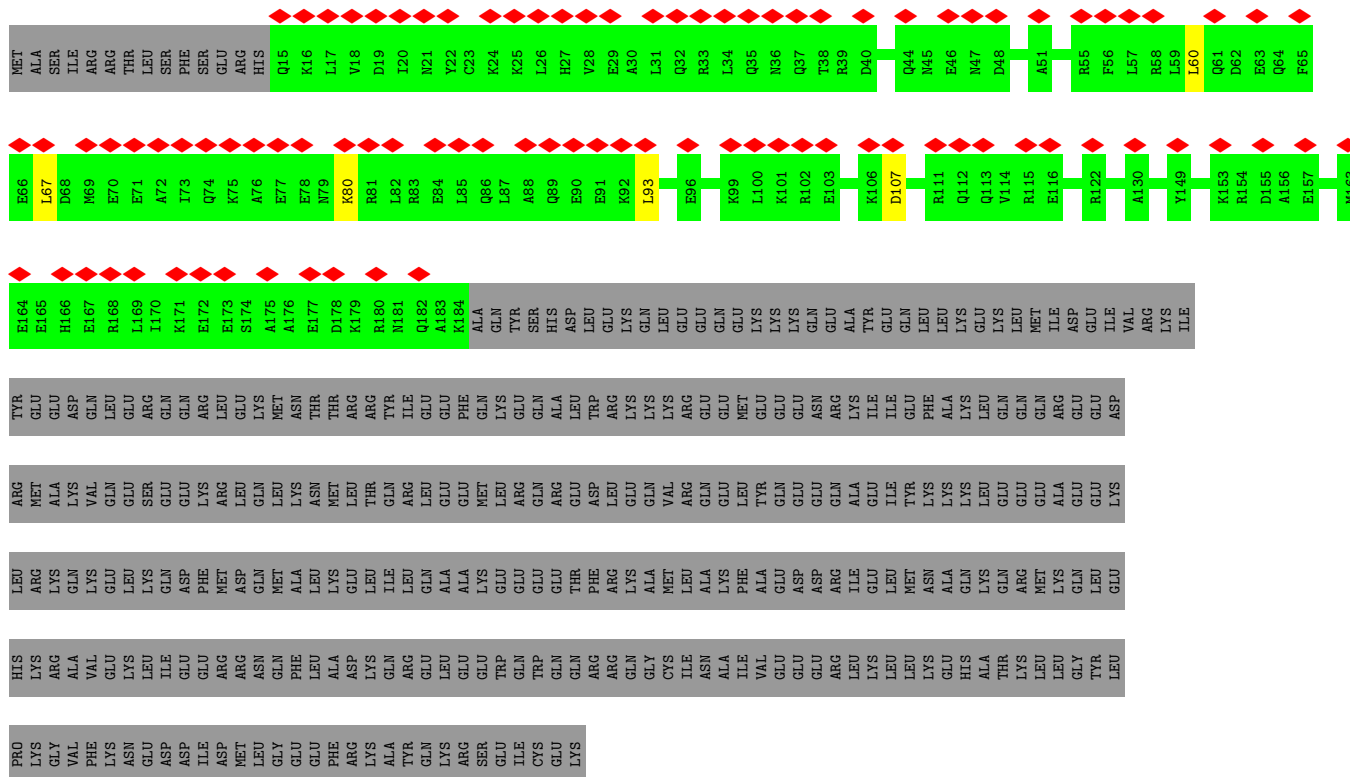




• Molecule 5: Uncharacterized protein C1orf158 homolog



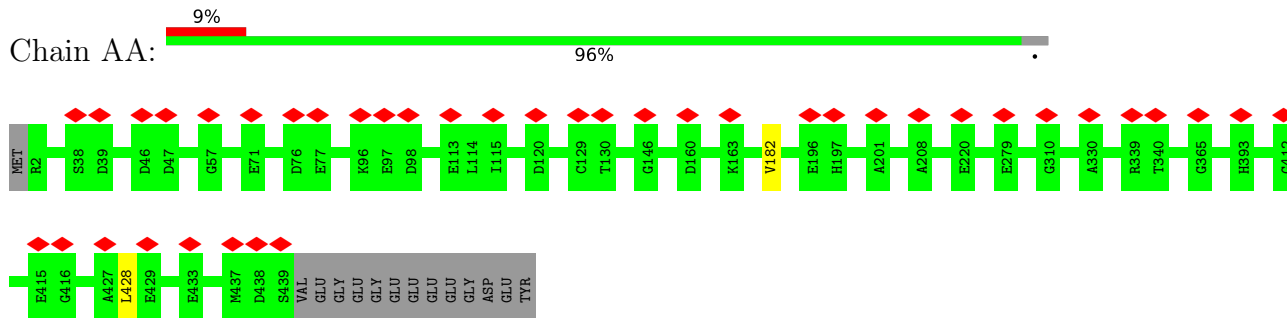
• Molecule 6: Meiosis-specific nuclear structural protein 1



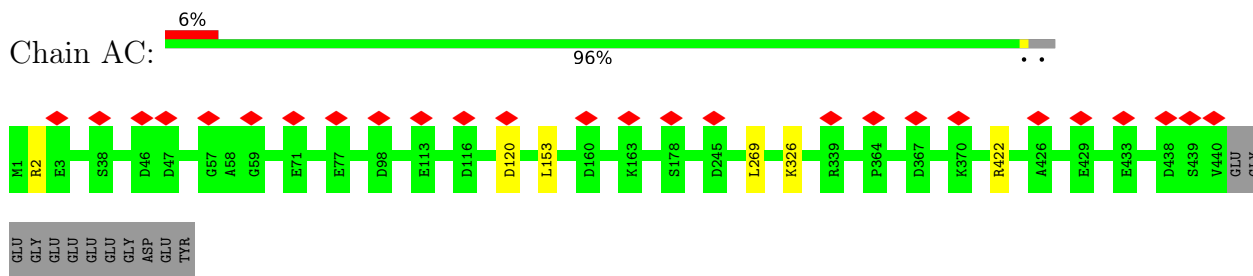
• Molecule 6: Meiosis-specific nuclear structural protein 1

LEU CYS VAL PRO MET ARG LYS SER ILE PRO PRO ARG ASP ASP HIS GLY GLU TRP ALA GLY SER HIS PRO GLU ALA VAL CYS

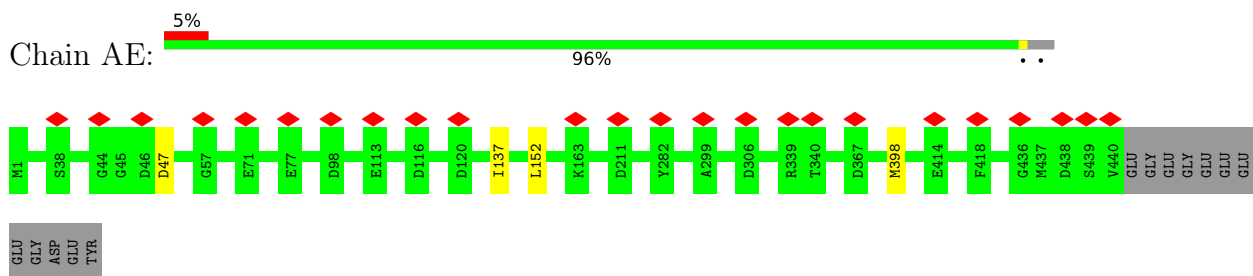
• Molecule 8: Tubulin alpha-1D chain



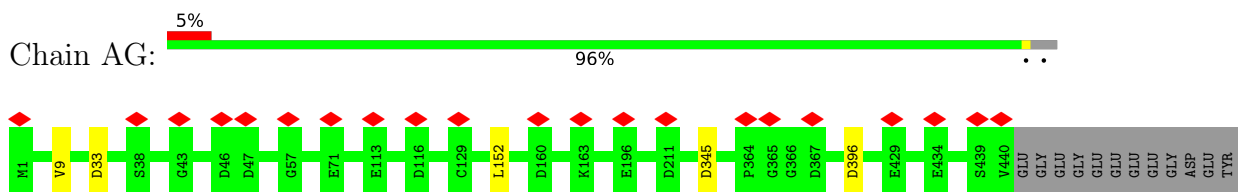
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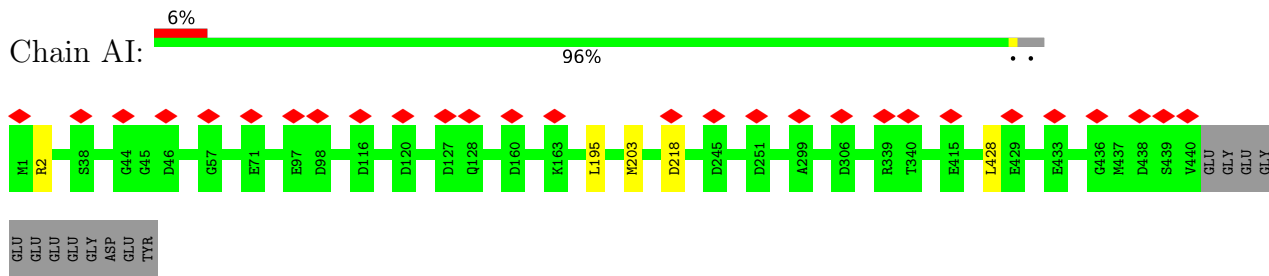
• Molecule 8: Tubulin alpha-1D chain



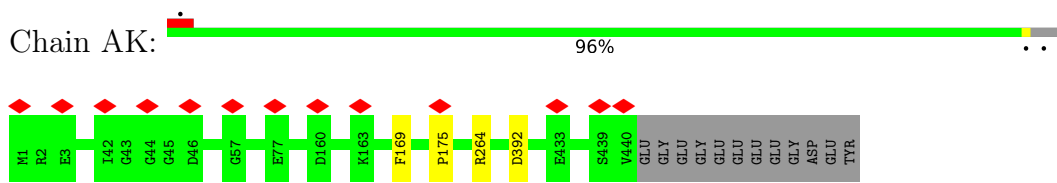
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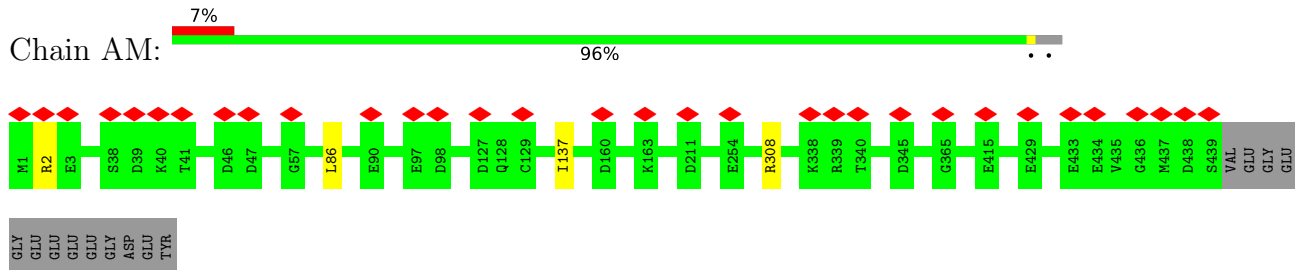
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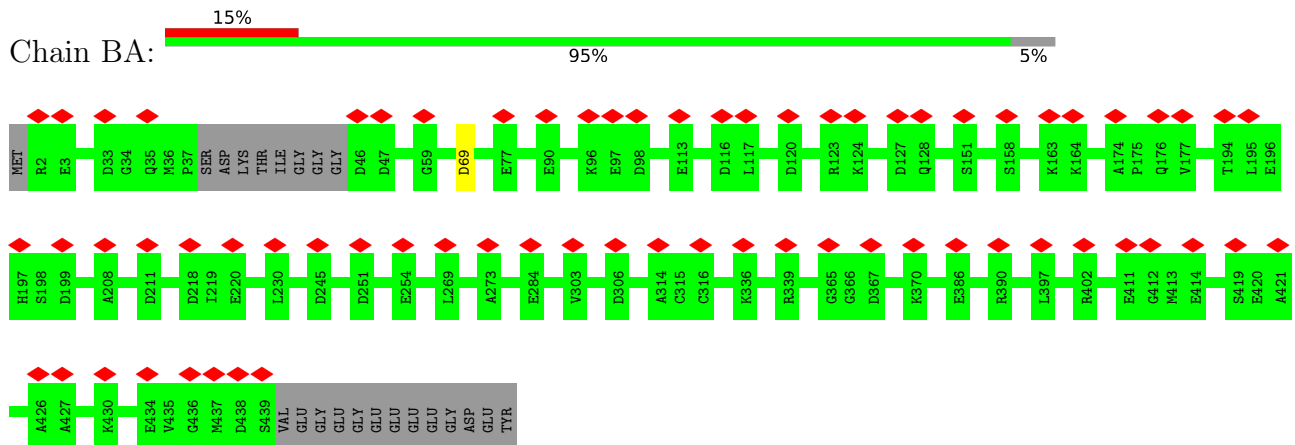
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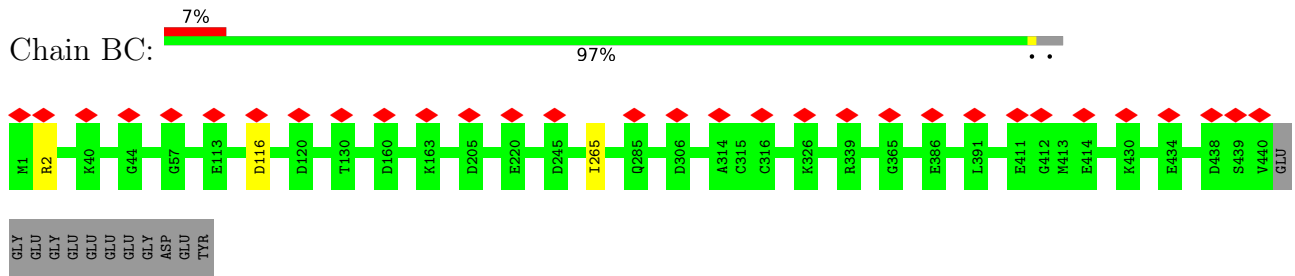
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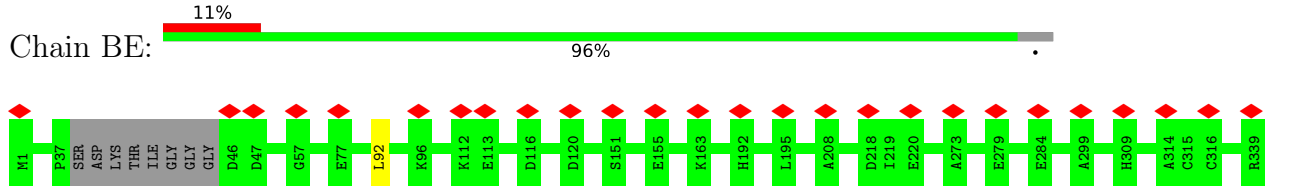
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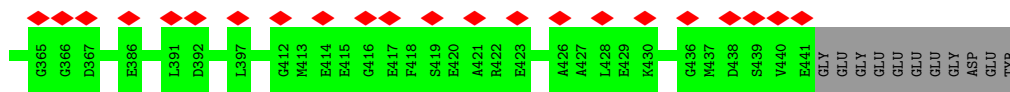


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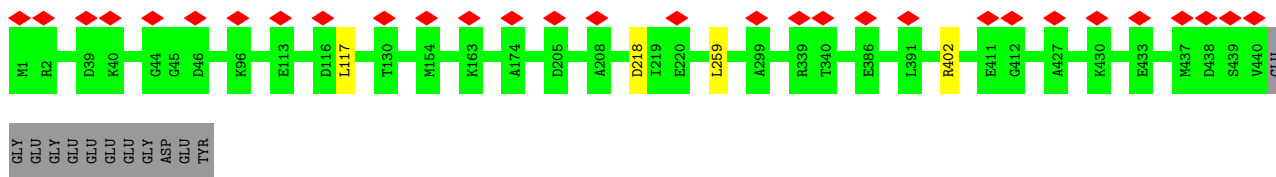


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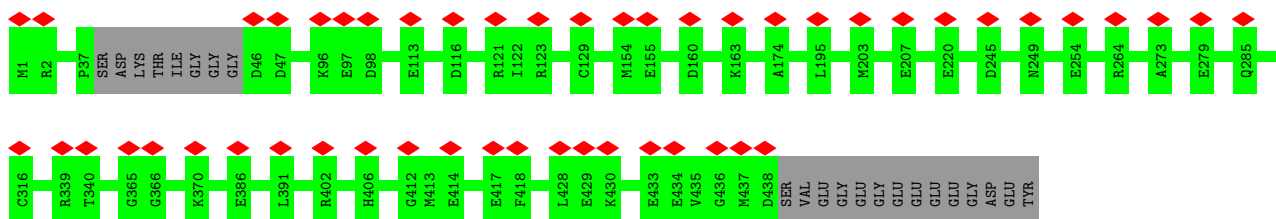




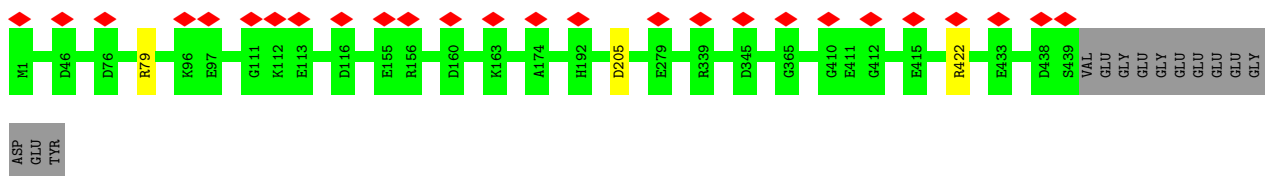
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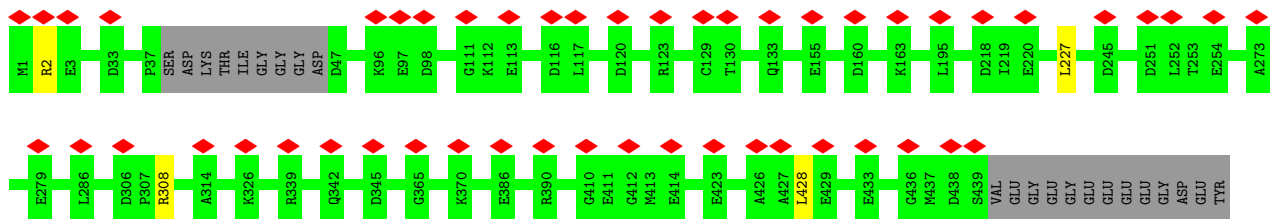
• Molecule 8: Tubulin alpha-1D chain



• Molecule 8: Tubulin alpha-1D chain

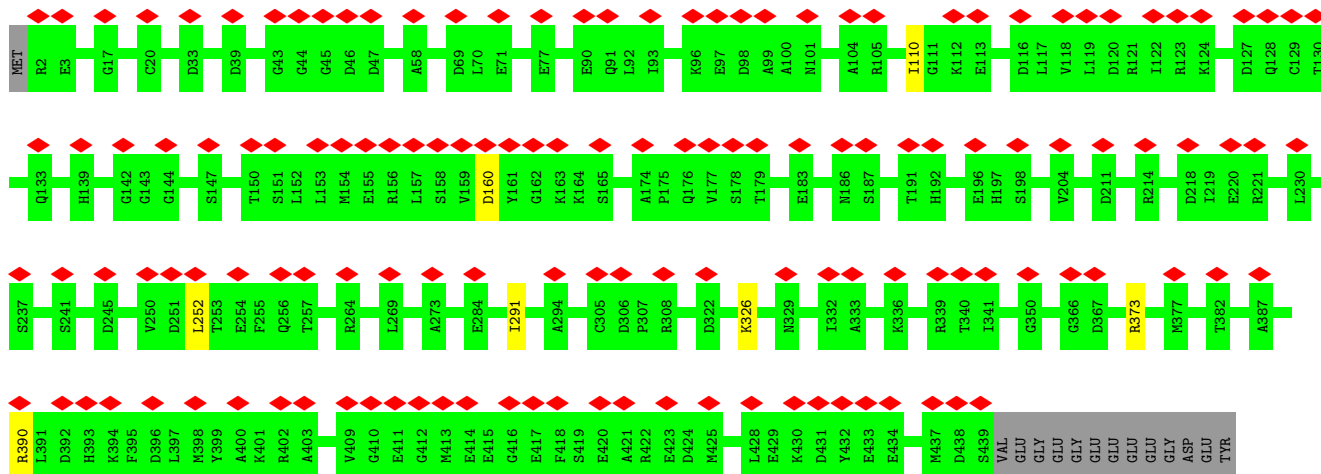


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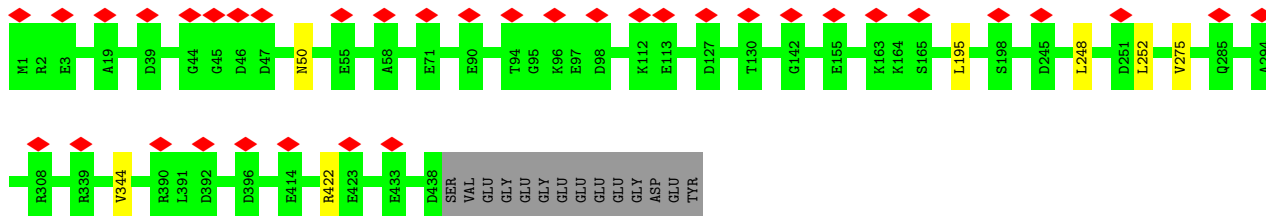


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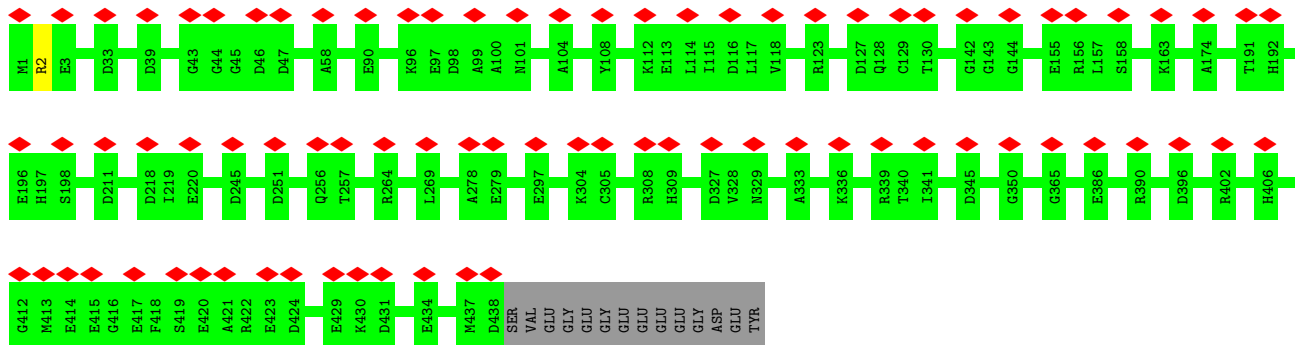




• Molecule 8: Tubulin alpha-1D chain

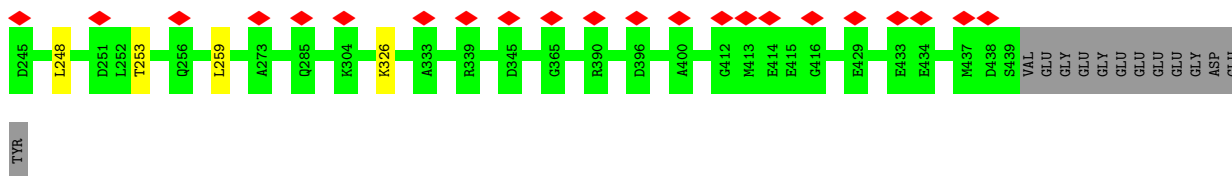


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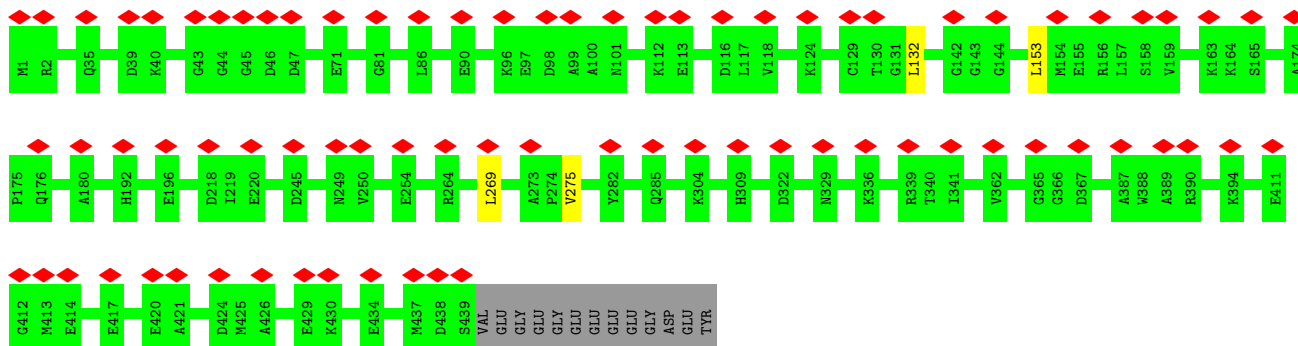


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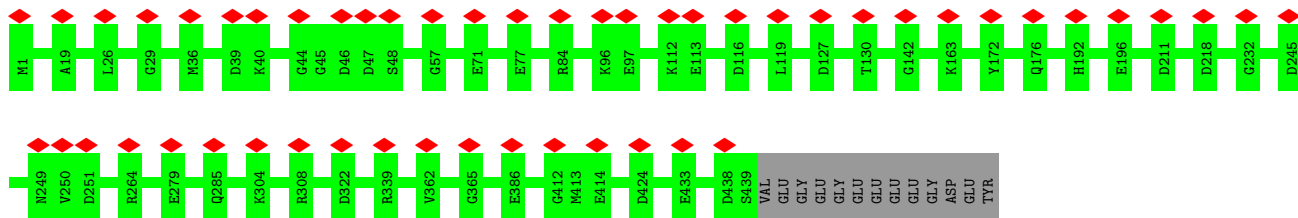




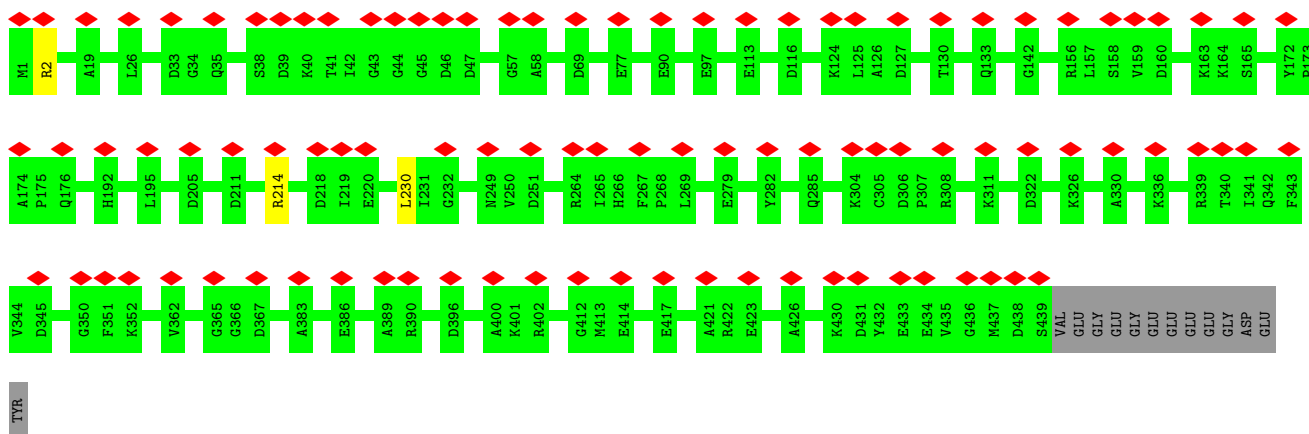
- Molecule 8: Tubulin alpha-1D chain



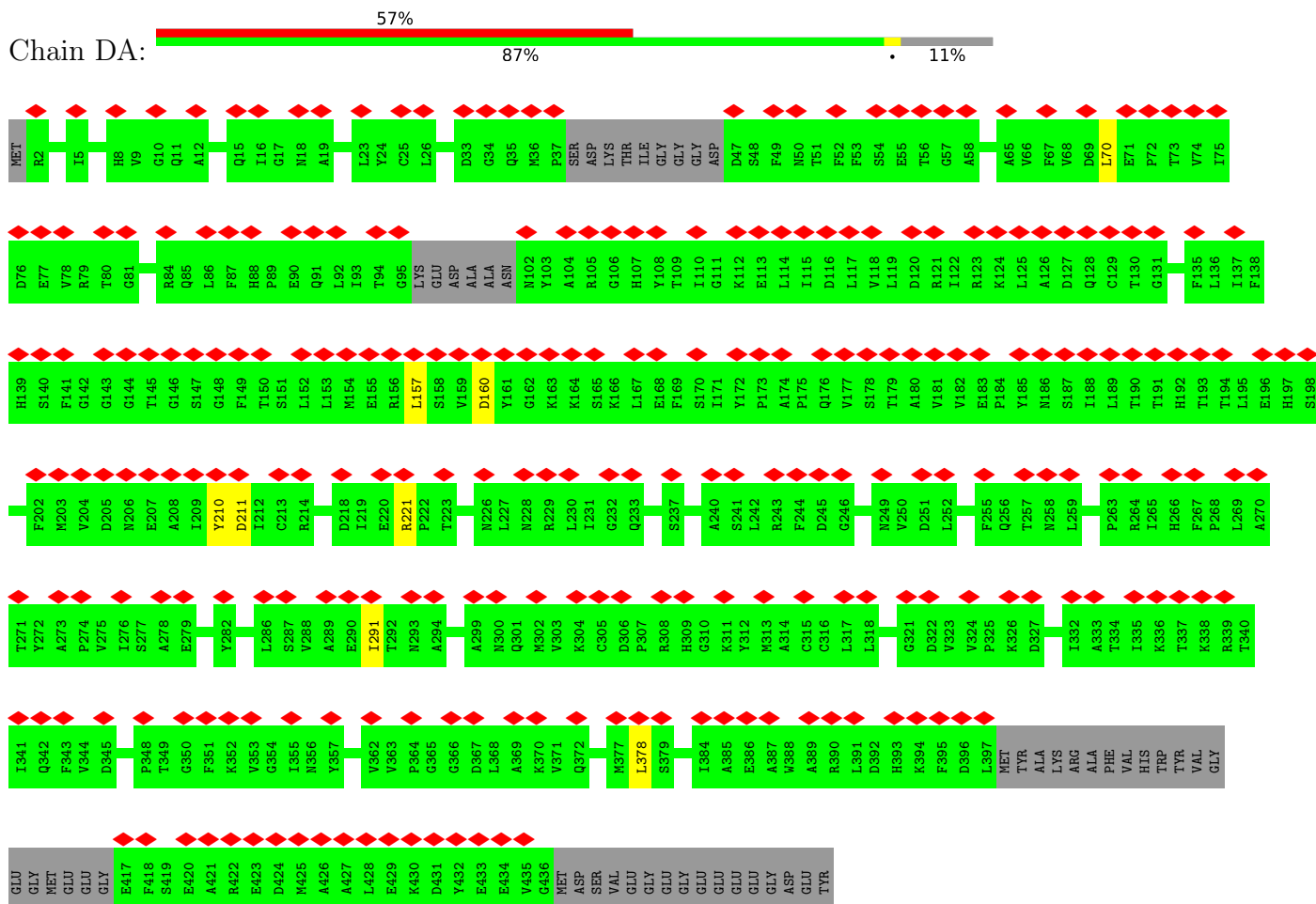
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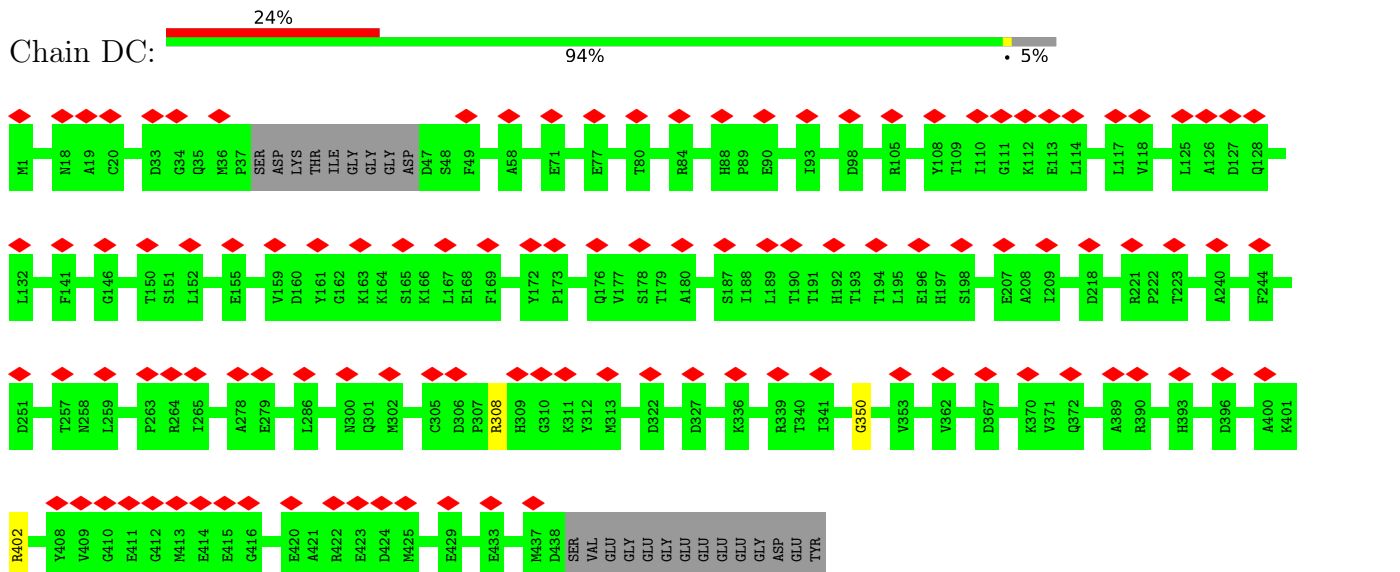
- Molecule 8: Tubulin alpha-1D chain



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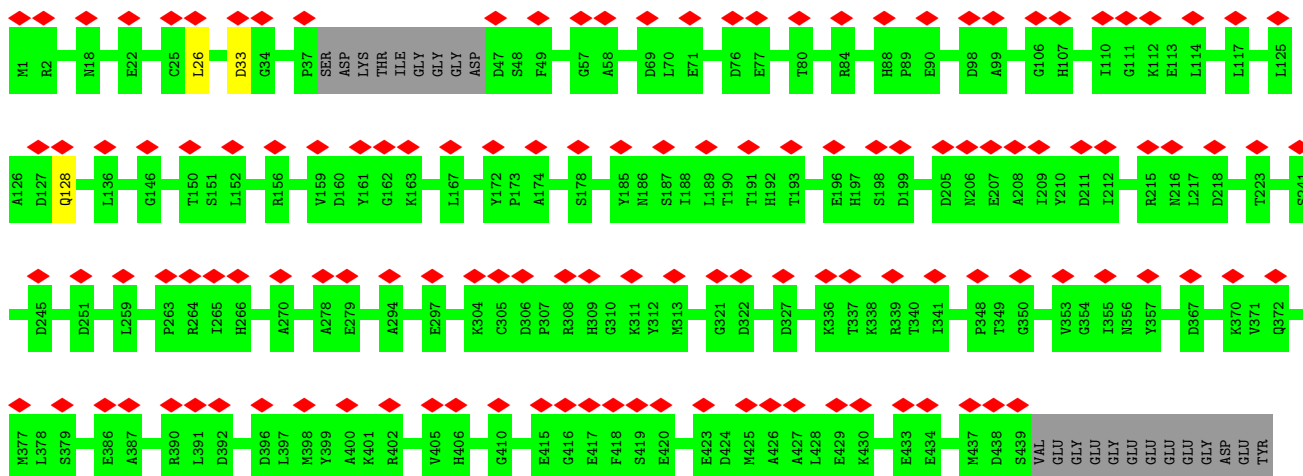


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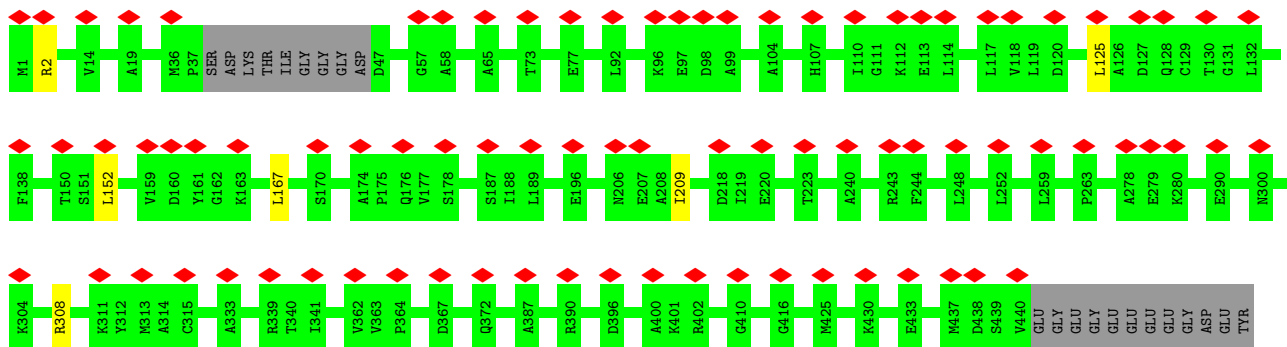


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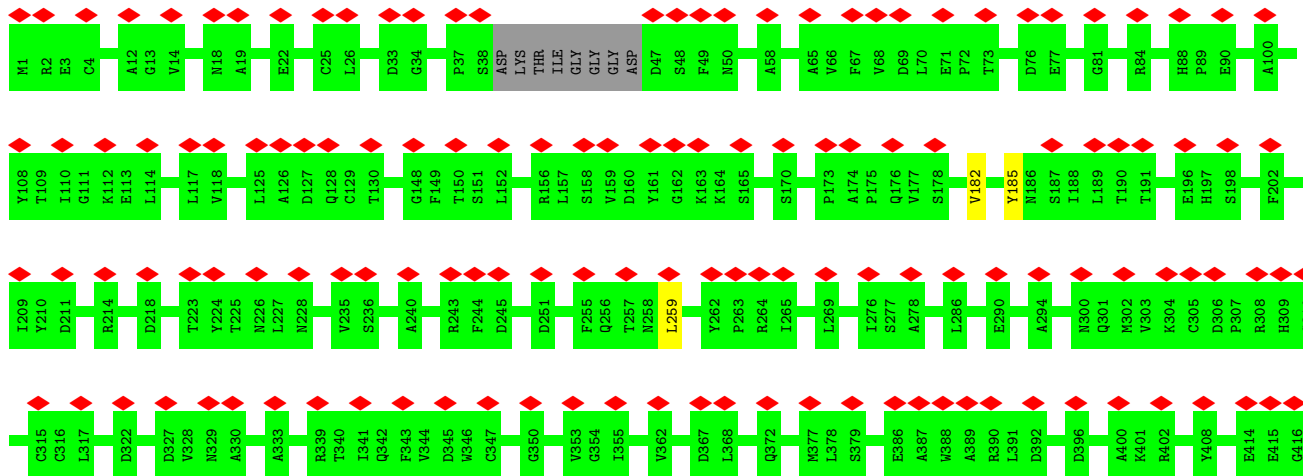


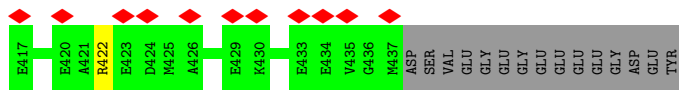


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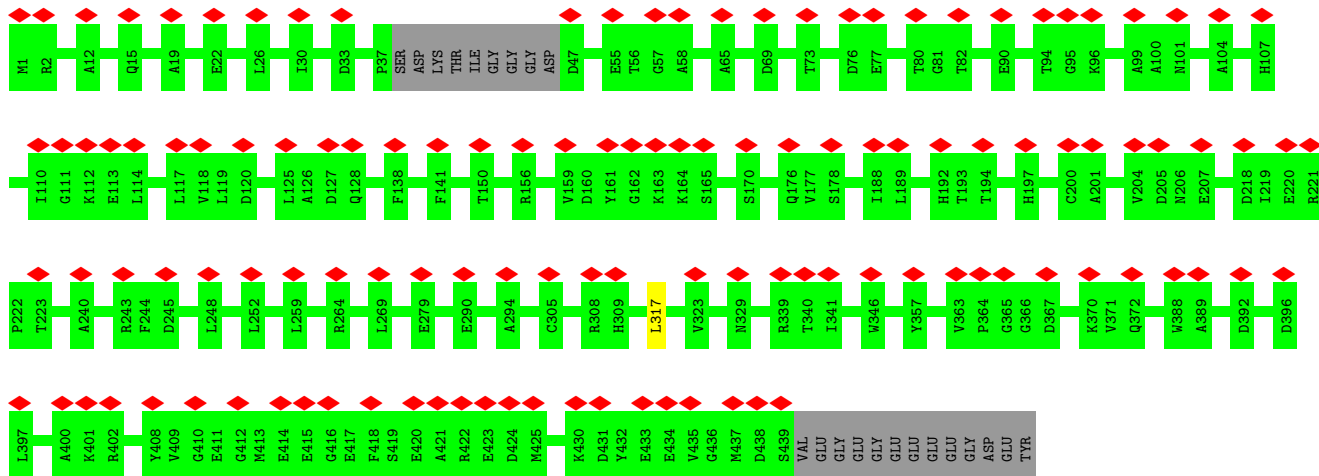


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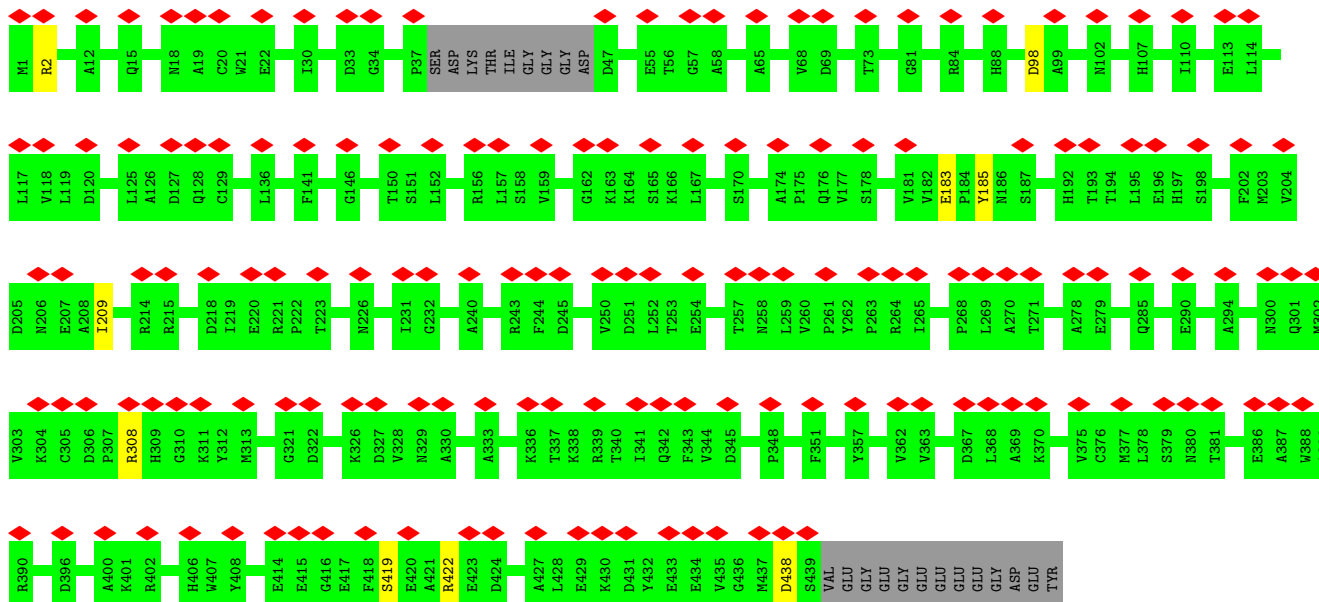
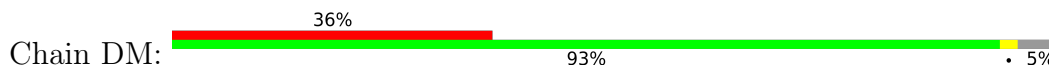




• Molecule 8: Tubulin alpha-1D chain

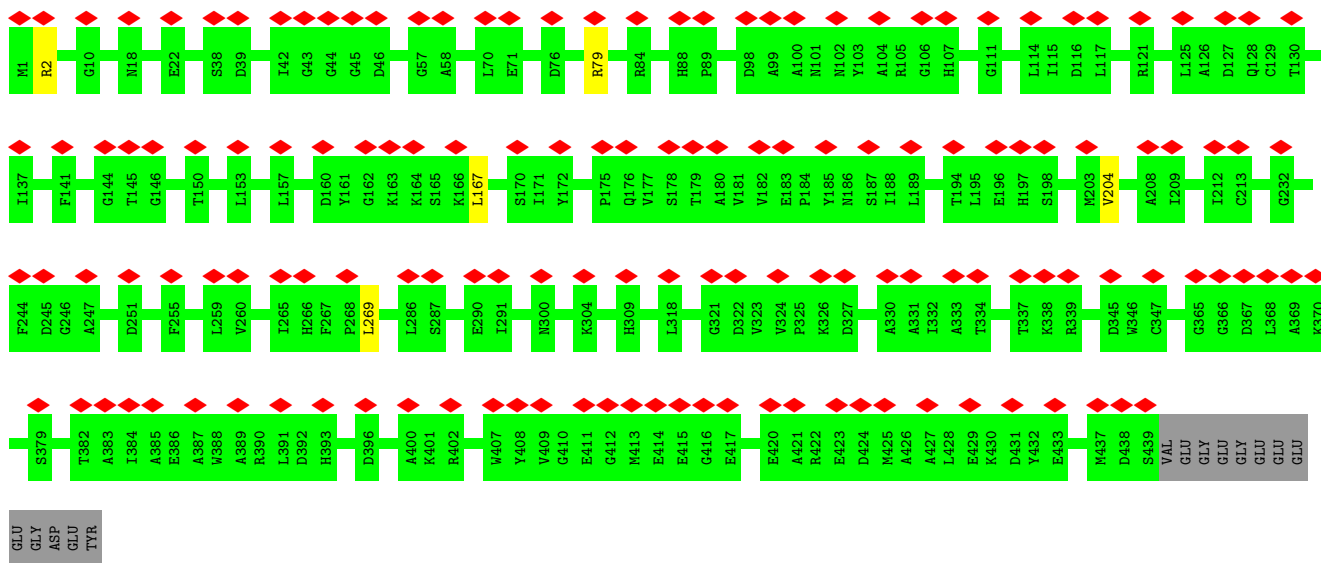


• Molecule 8: Tubulin alpha-1D chain

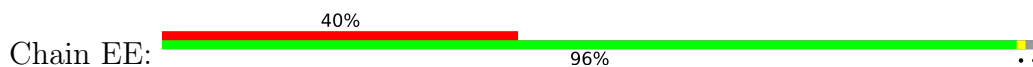


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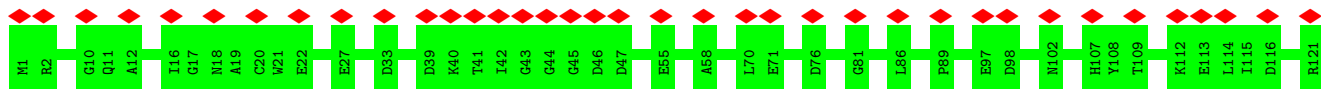


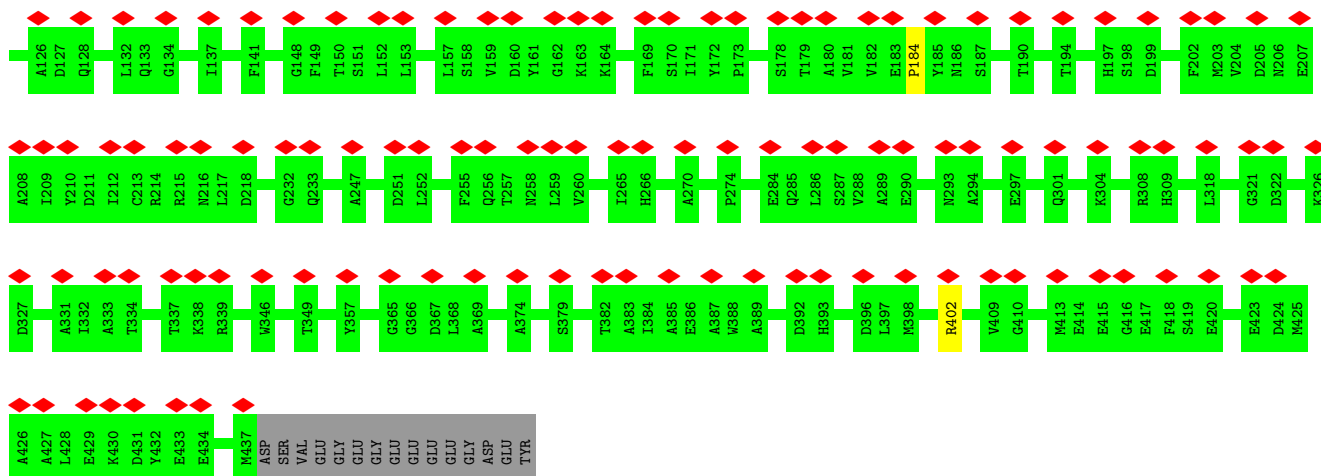


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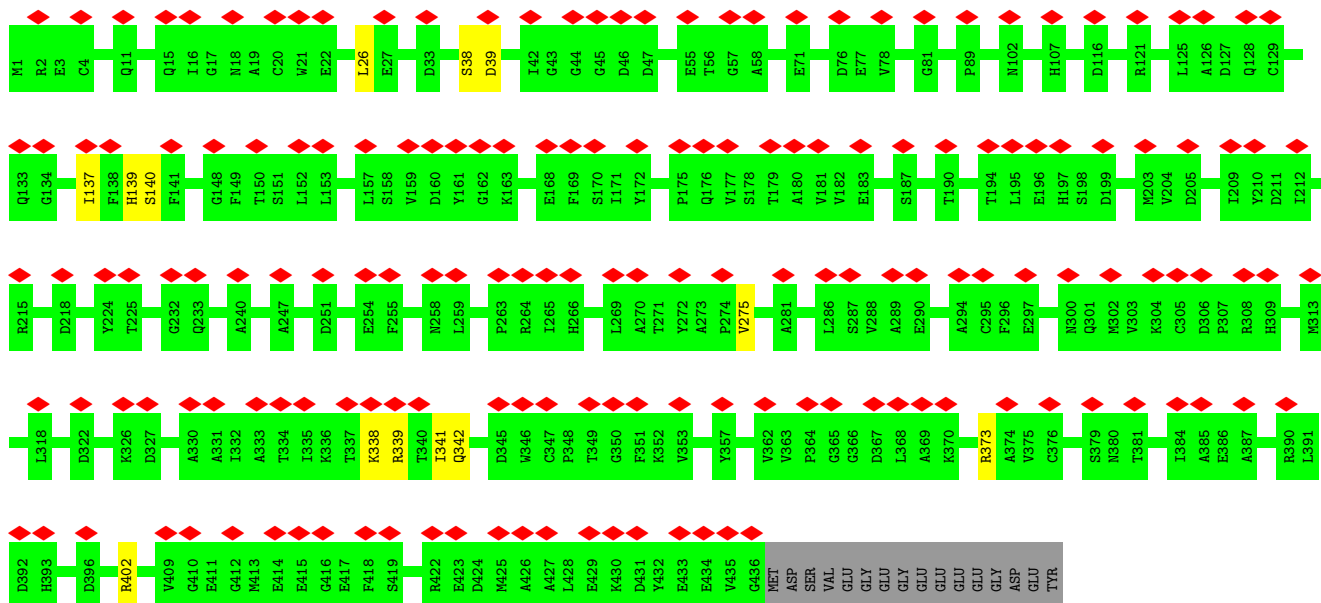


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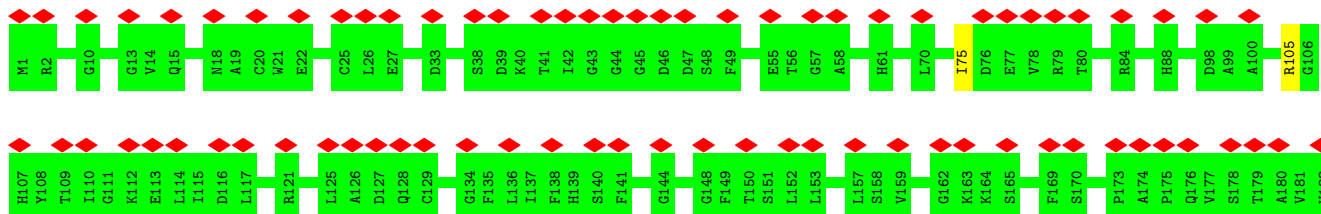
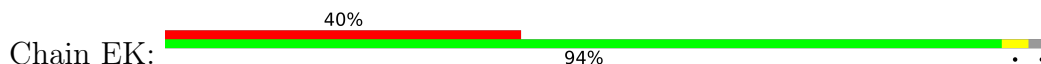


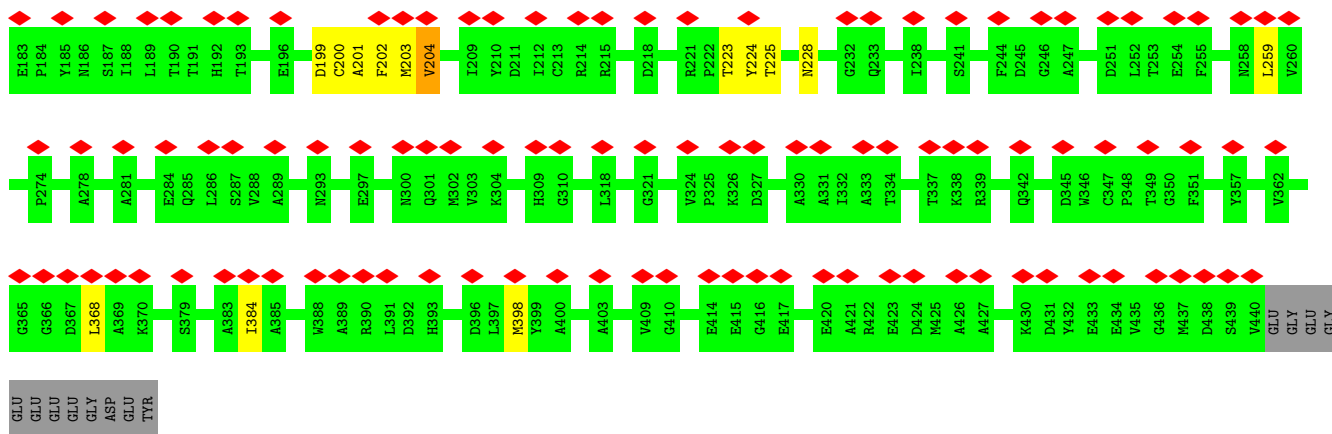


• Molecule 8: Tubulin alpha-1D chain

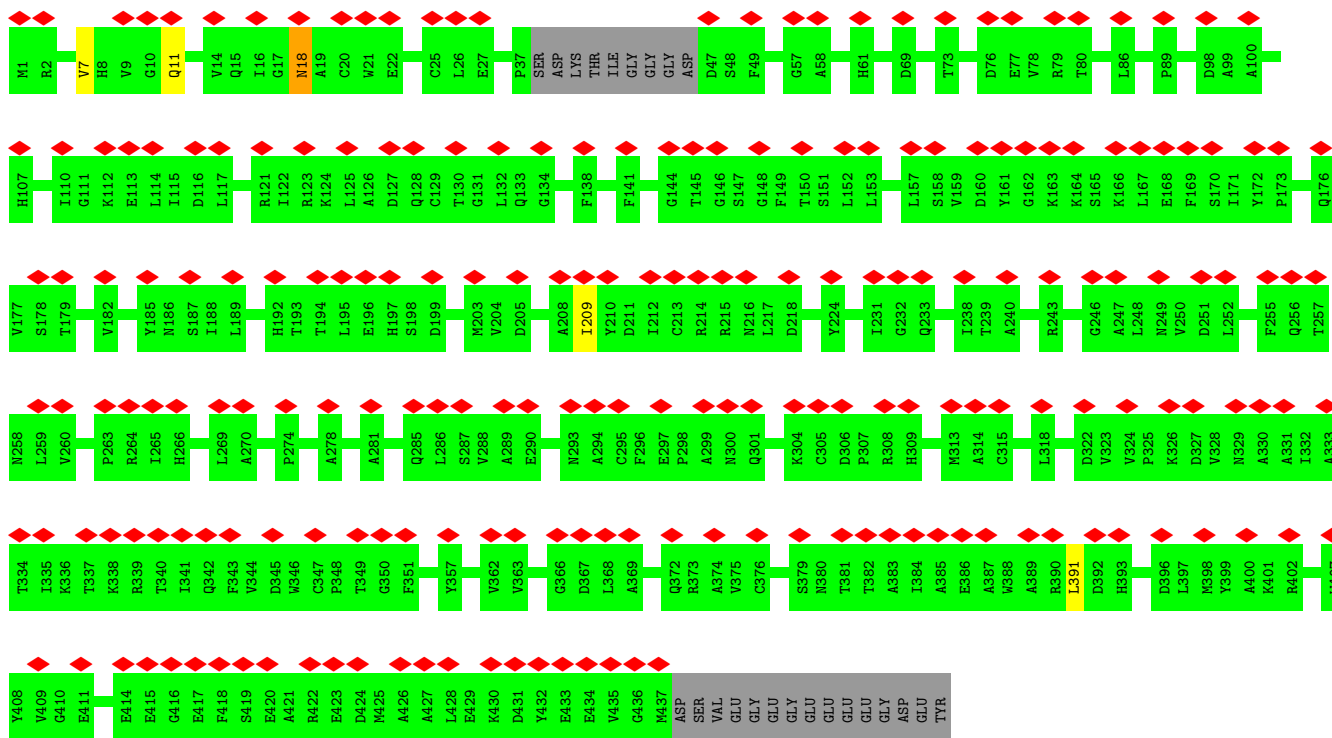


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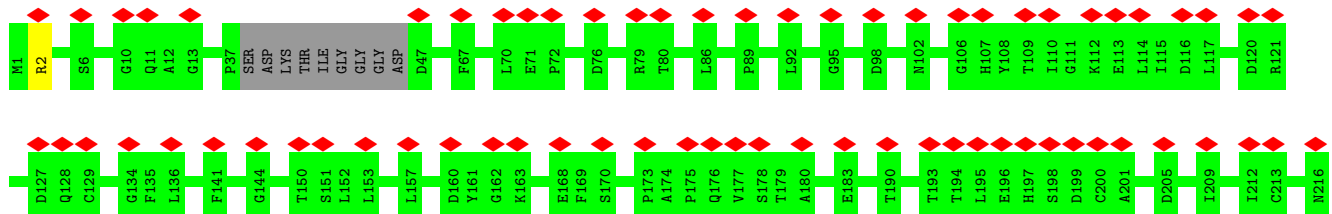


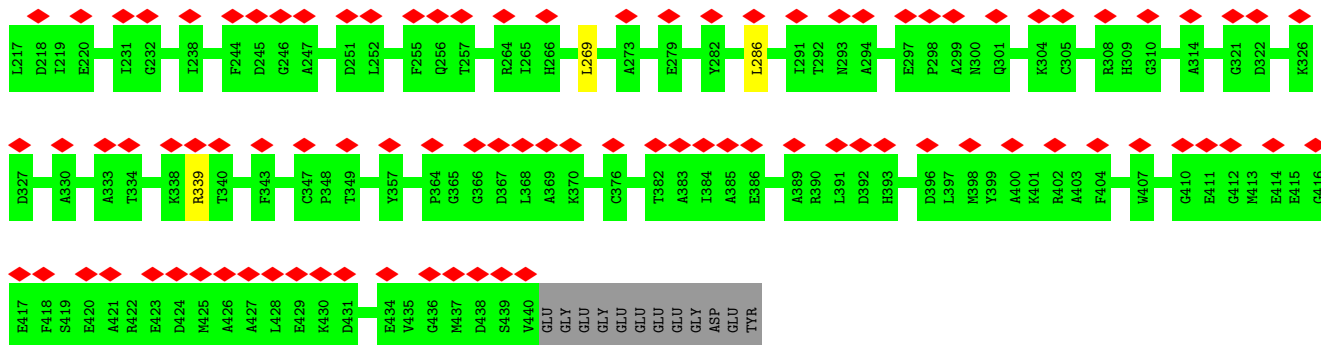


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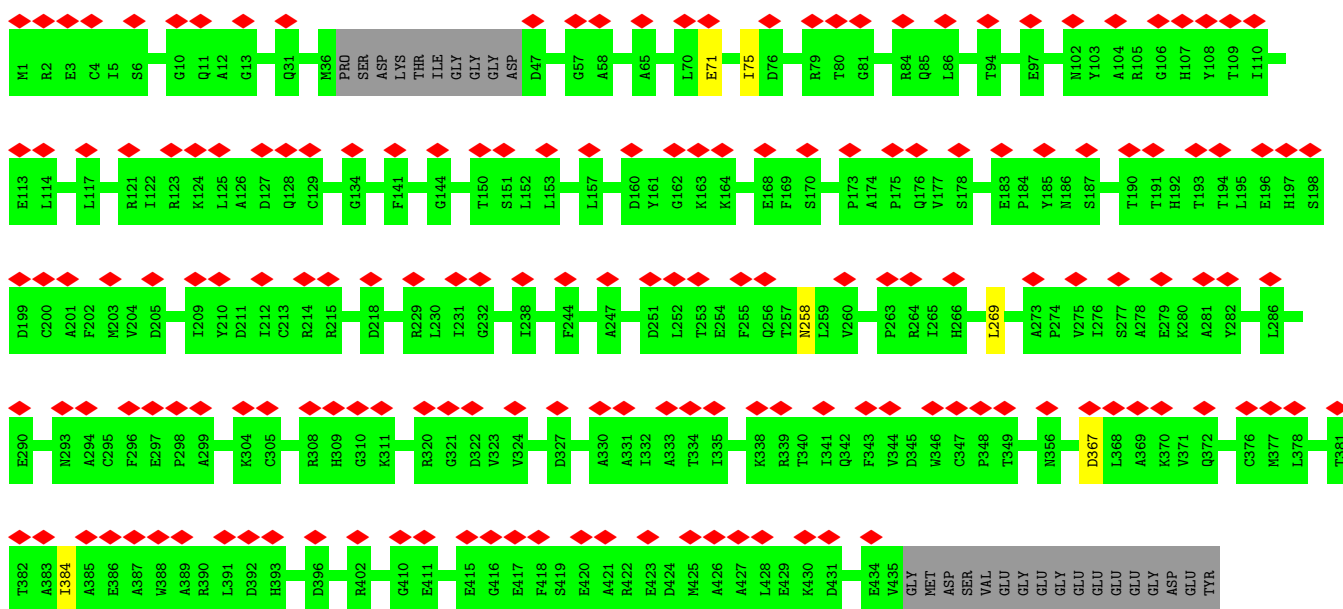


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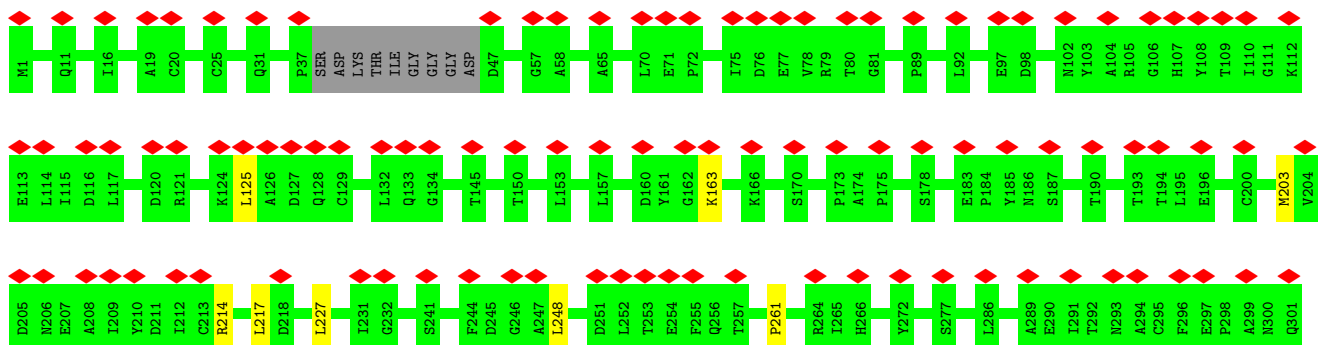
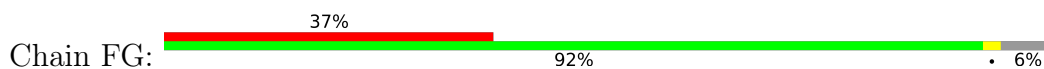


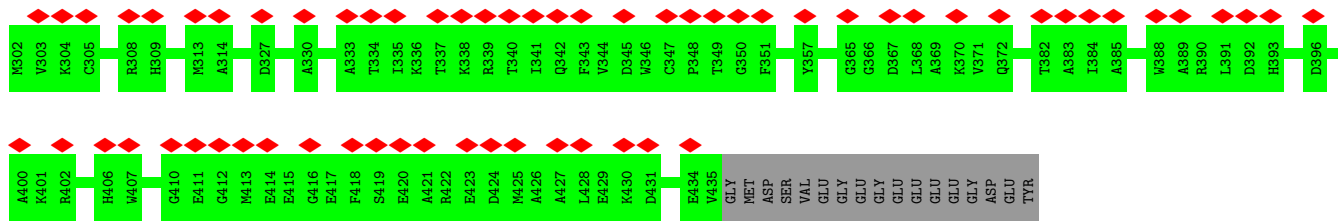


• Molecule 8: Tubulin alpha-1D chain

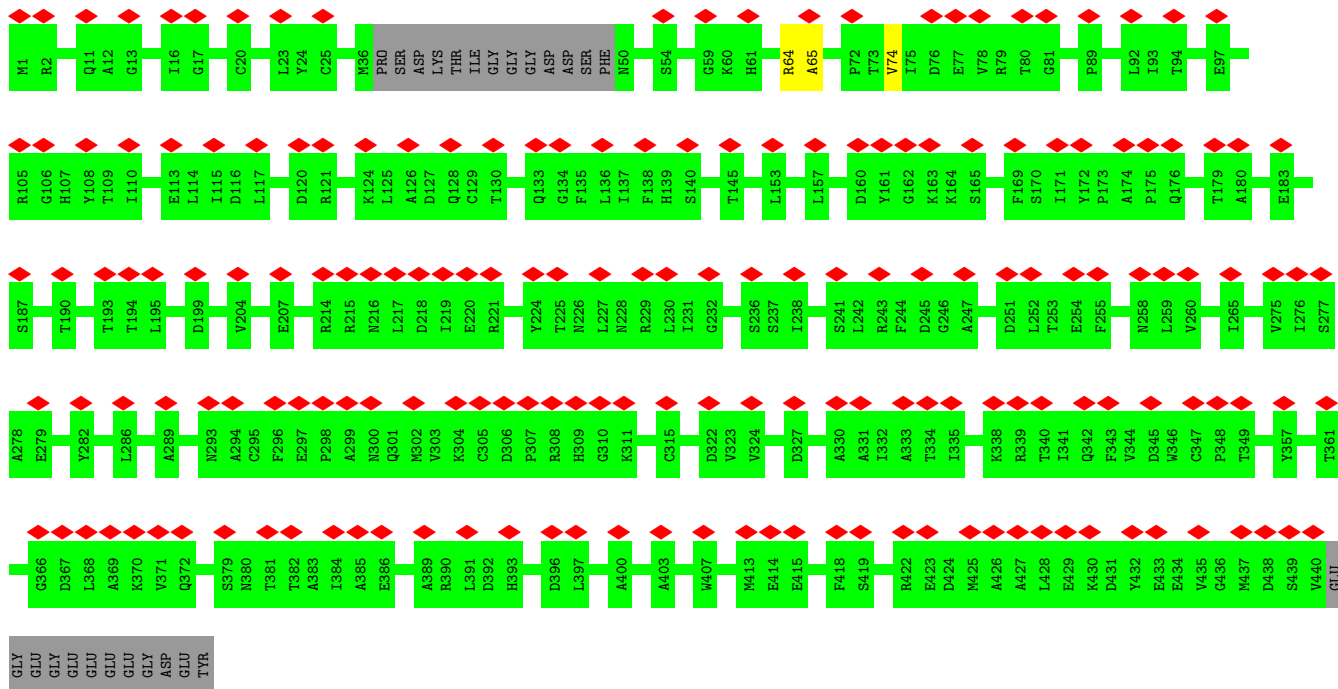
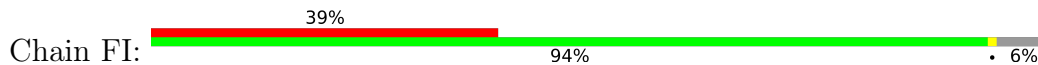


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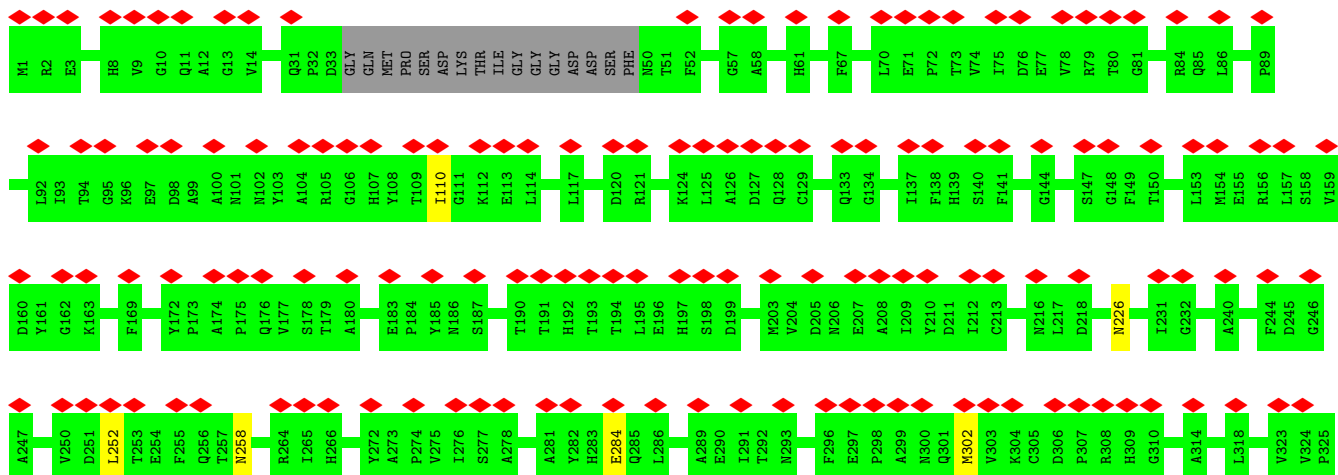


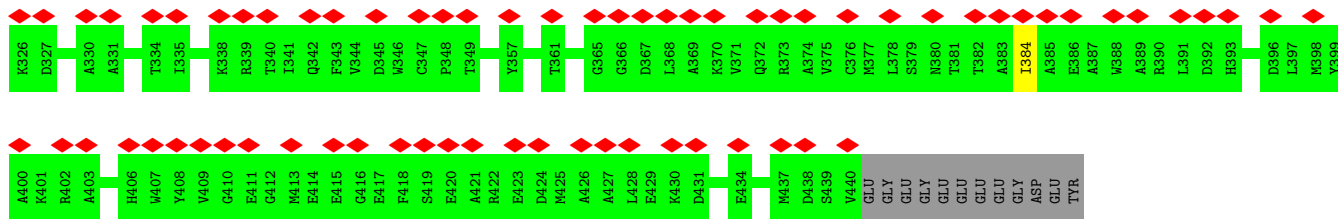


• Molecule 8: Tubulin alpha-1D chain

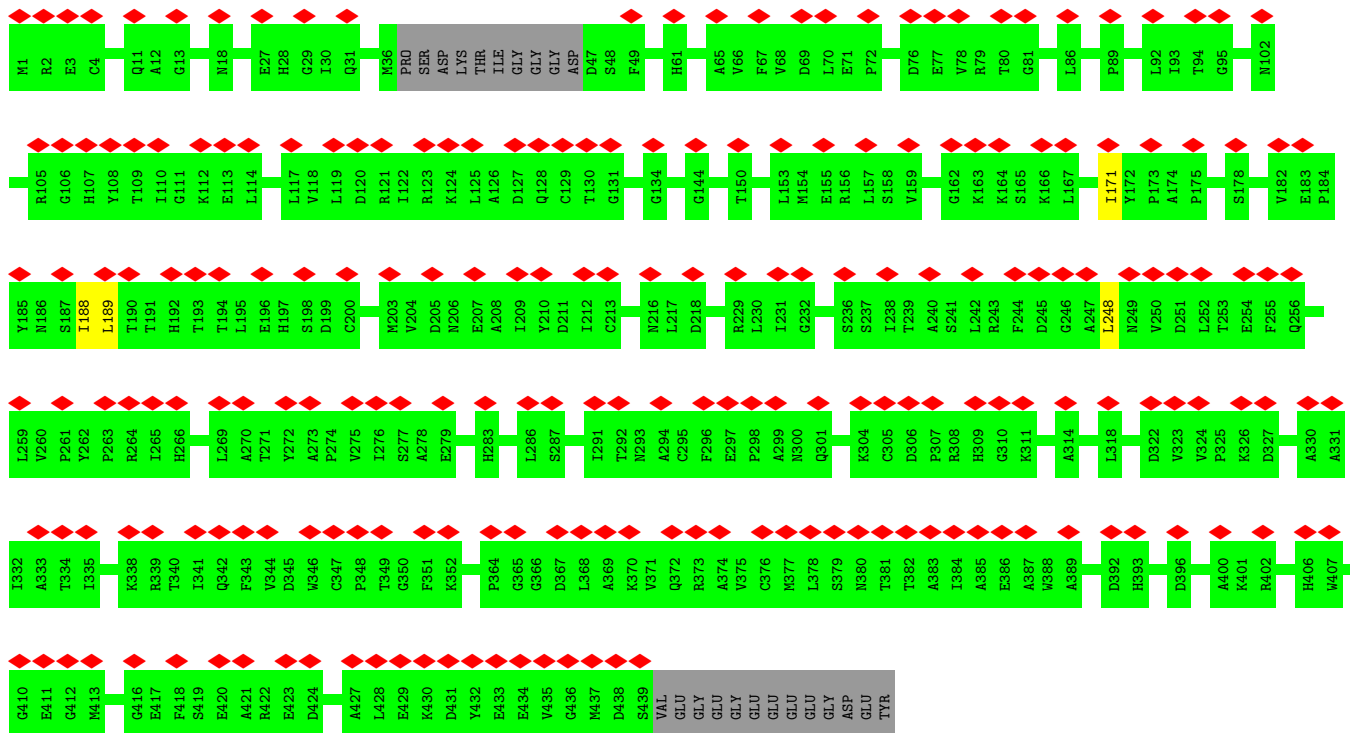
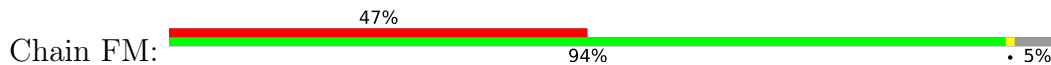


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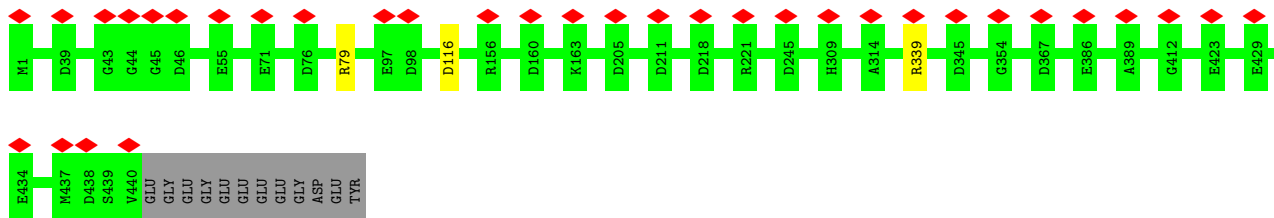




• Molecule 8: Tubulin alpha-1D chain

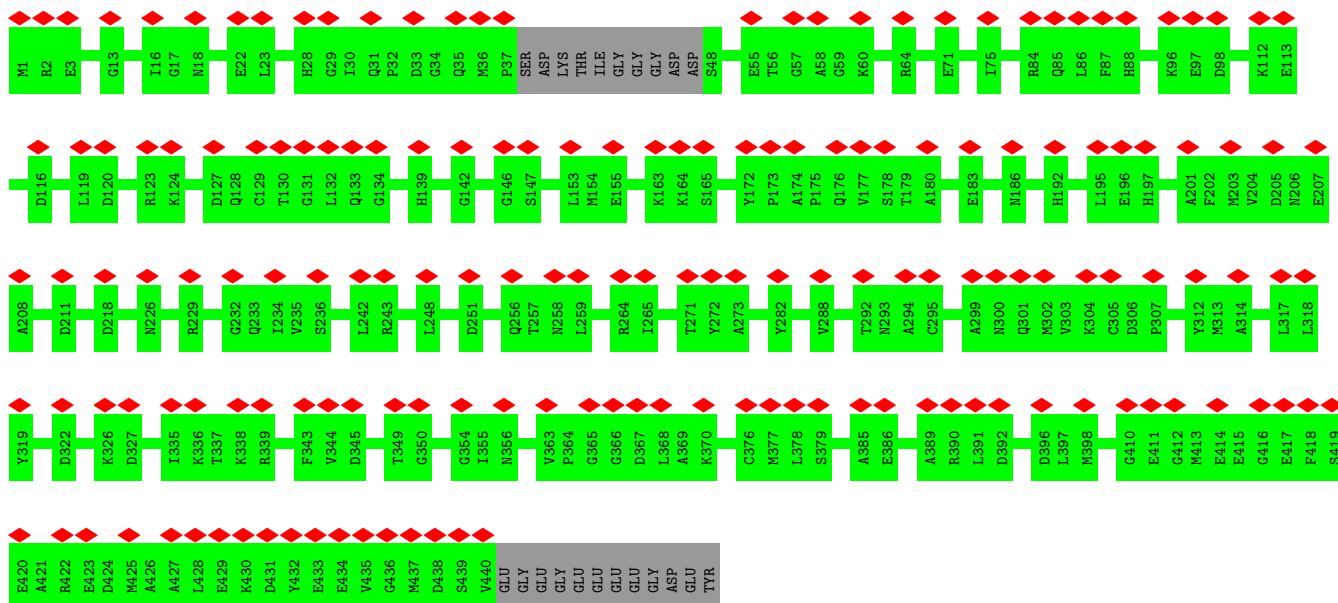


• Molecule 8: Tubulin alpha-1D chain

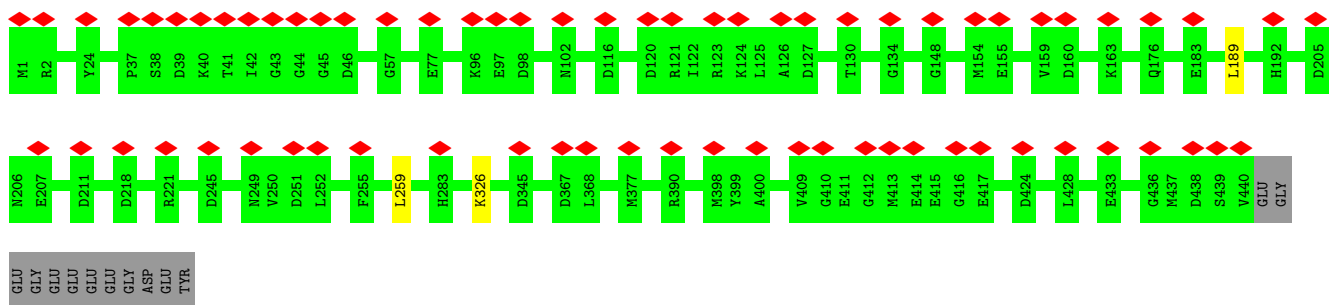


• Molecule 8: Tubulin alpha-1D chain

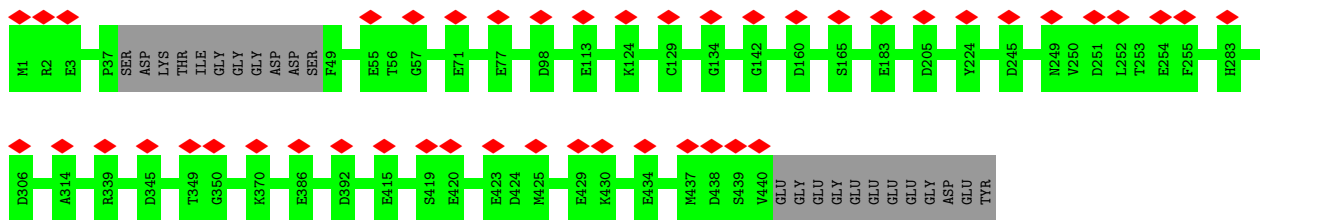
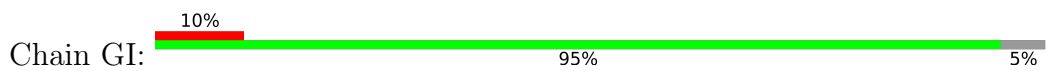




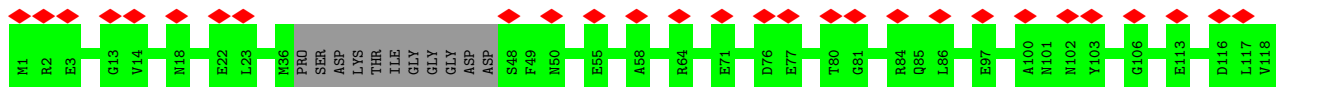
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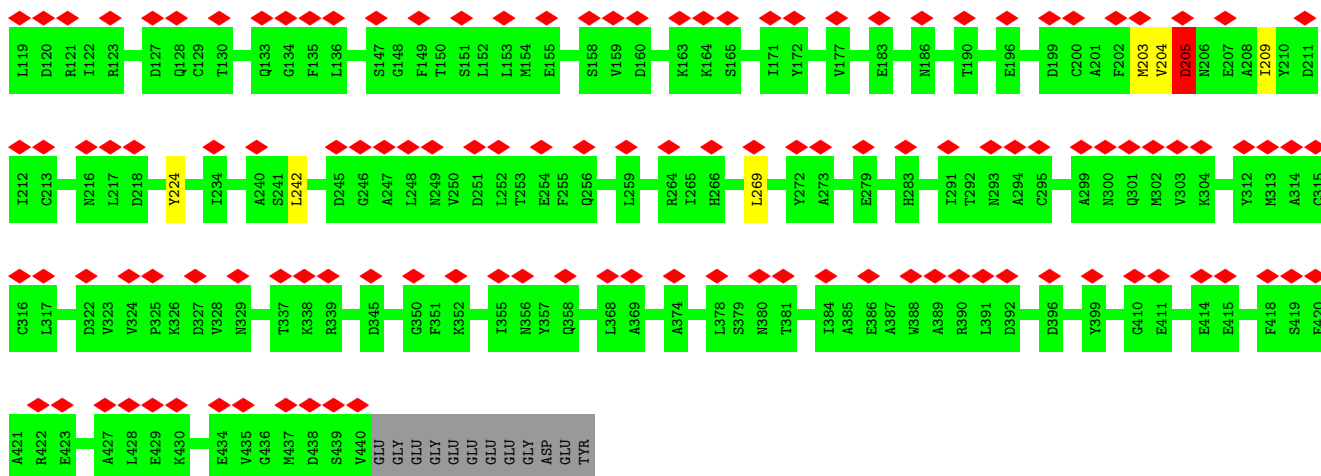


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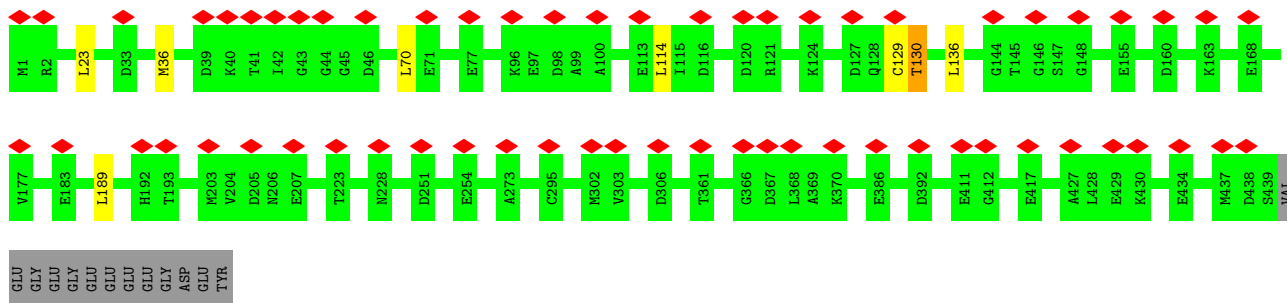


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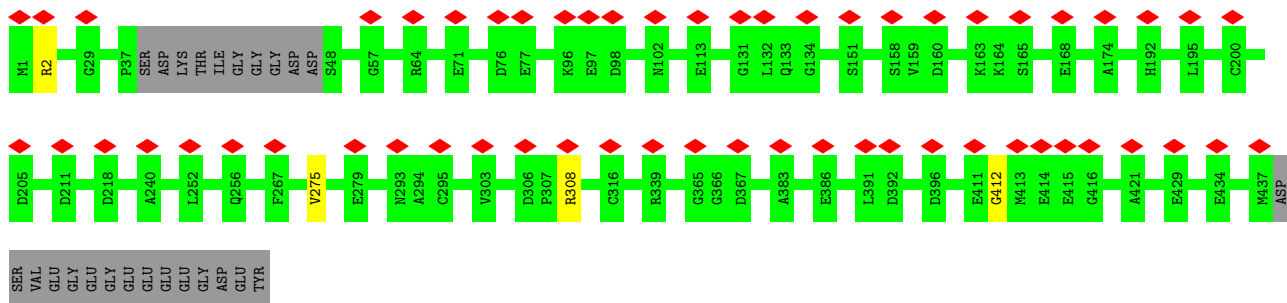




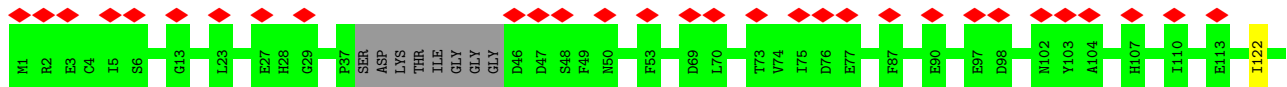
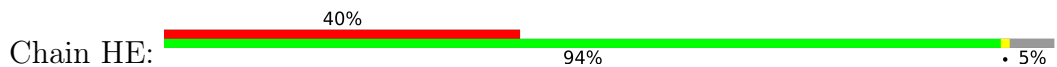
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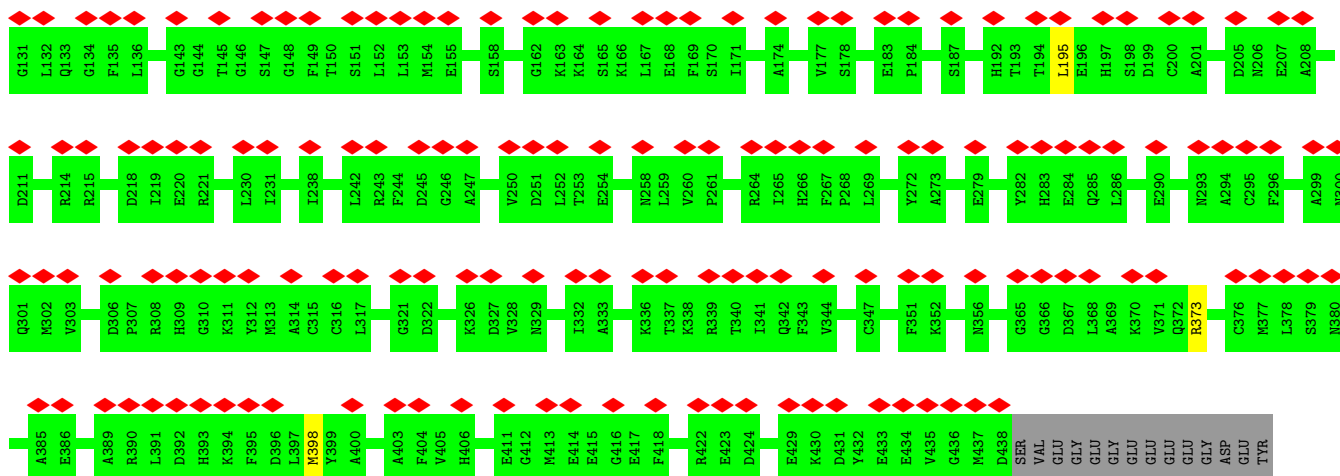


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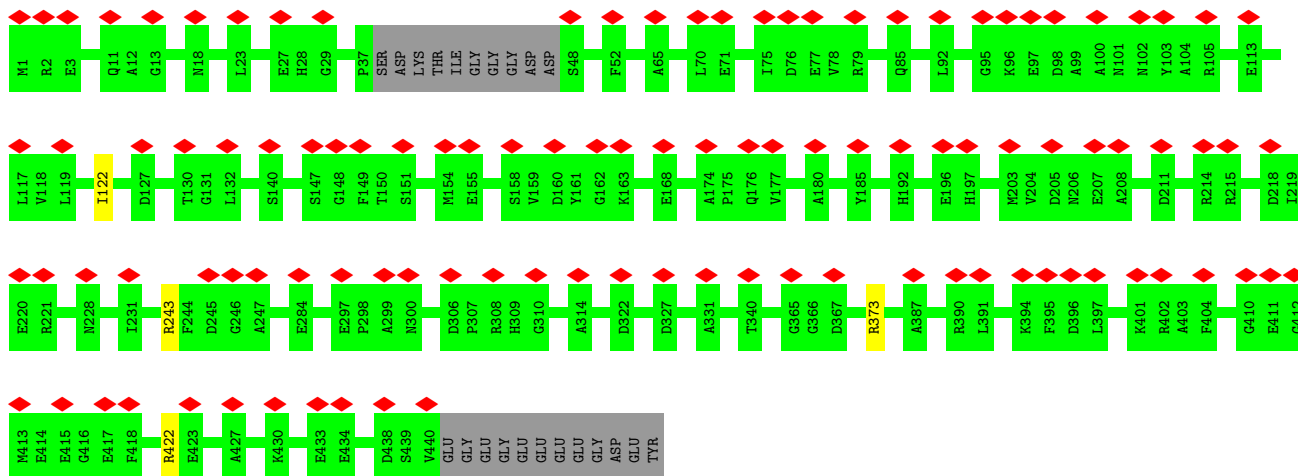
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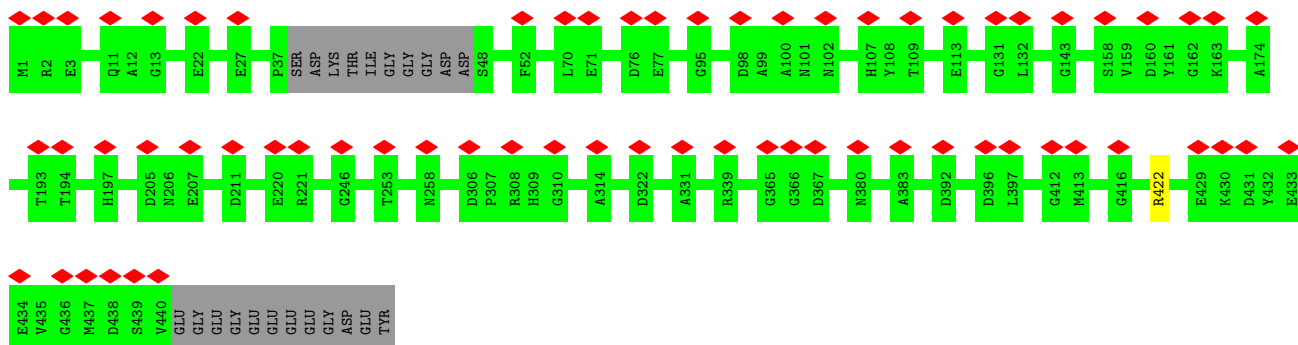
- Molecule 8: Tubulin alpha-1D chain

Chain HG: 24% 94% 5%



- Molecule 8: Tubulin alpha-1D chain

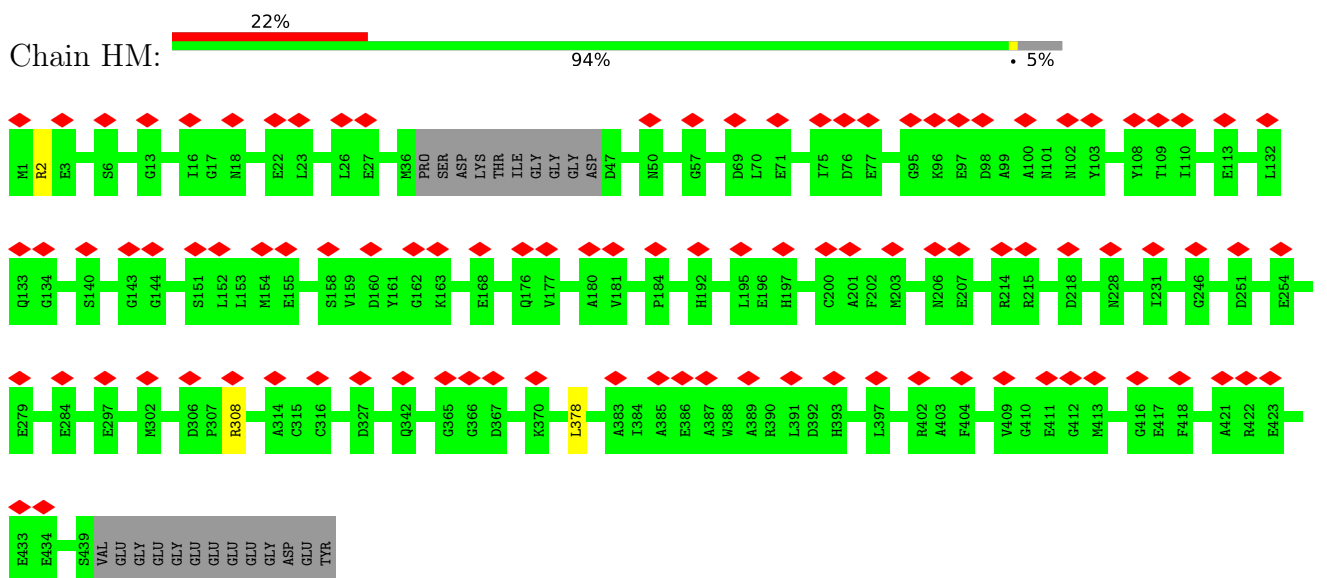
Chain HI: 15% 95% 5%



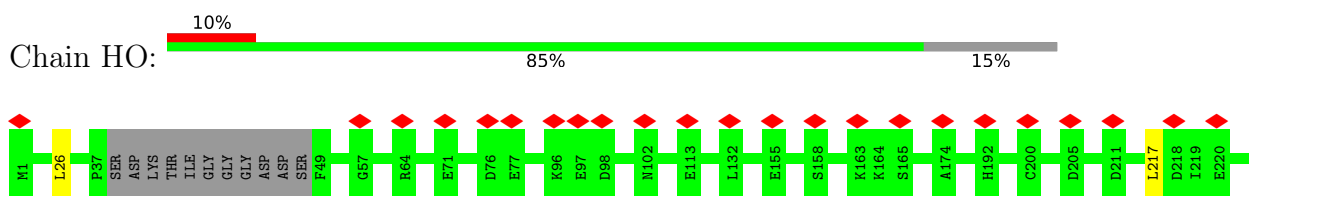
- Molecule 8: Tubulin alpha-1D chain

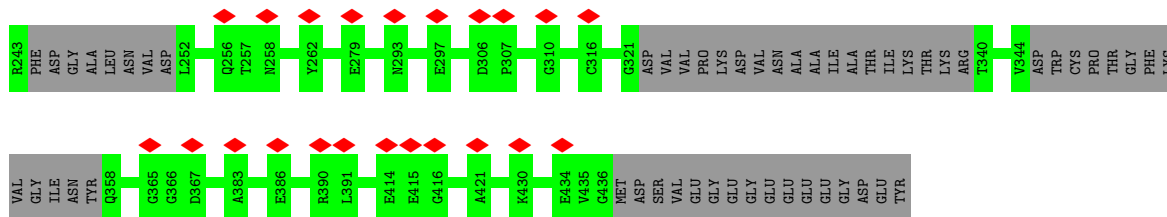


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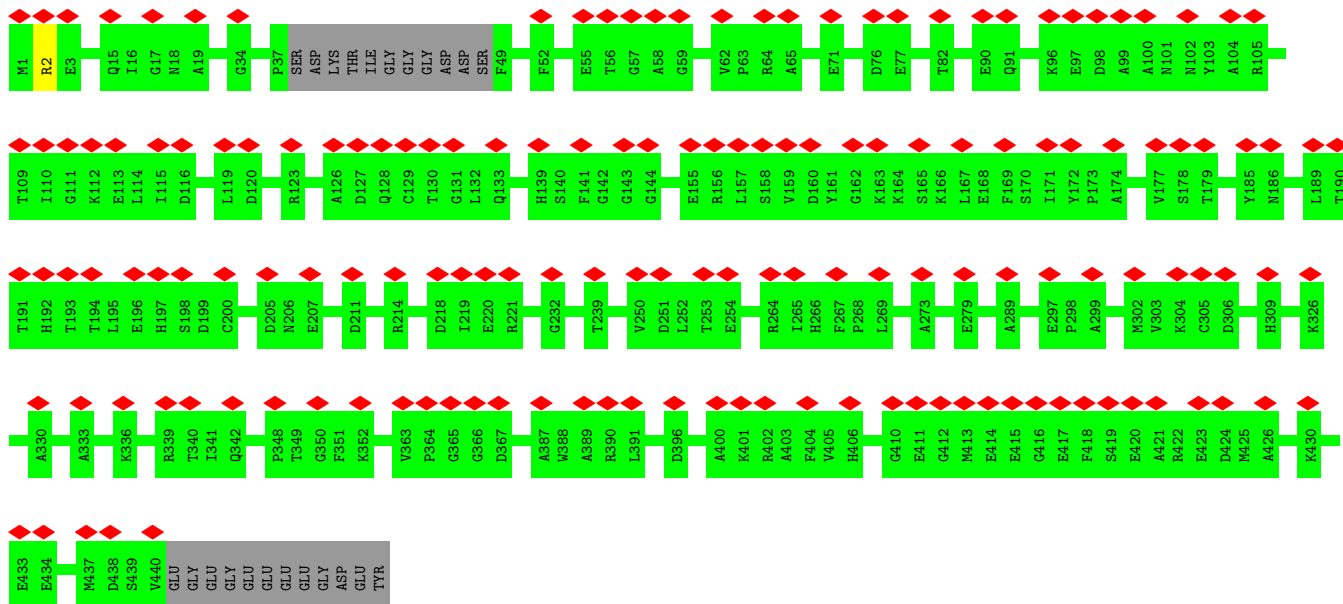


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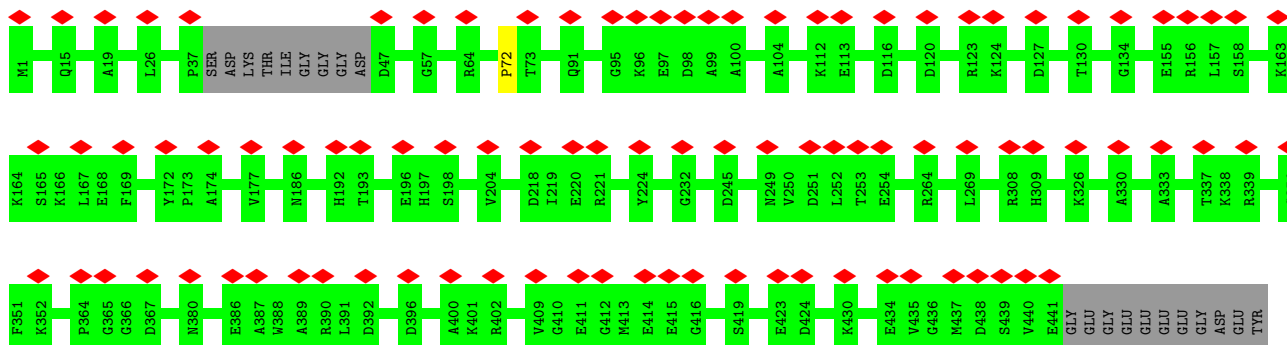




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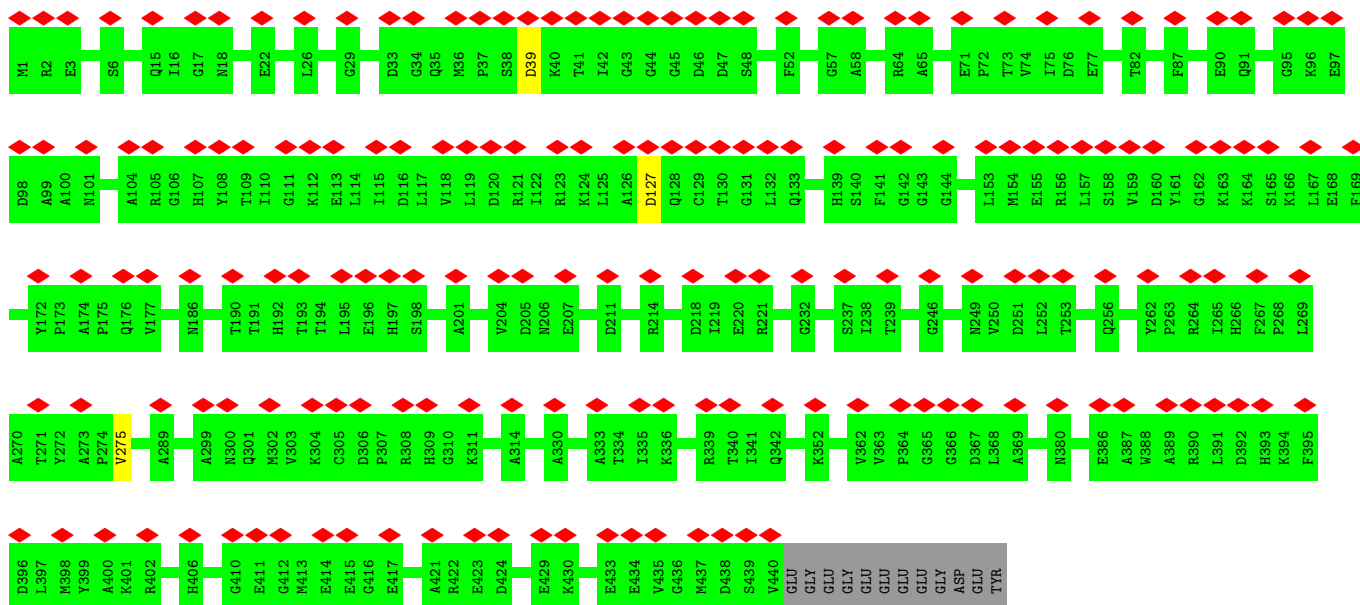


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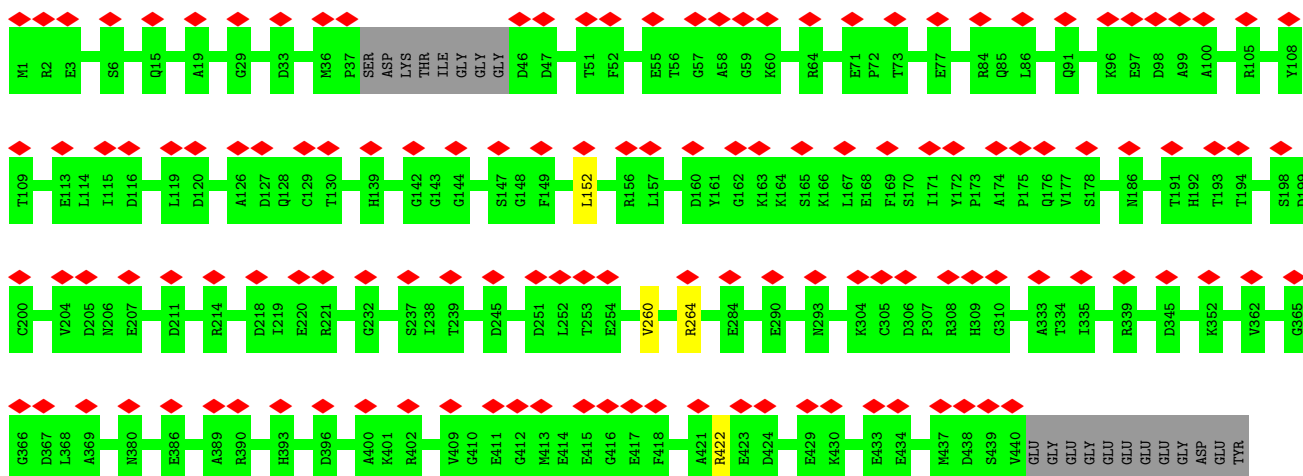
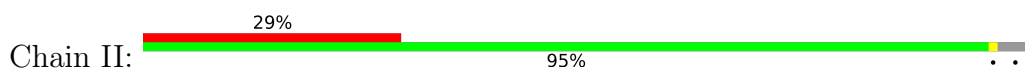


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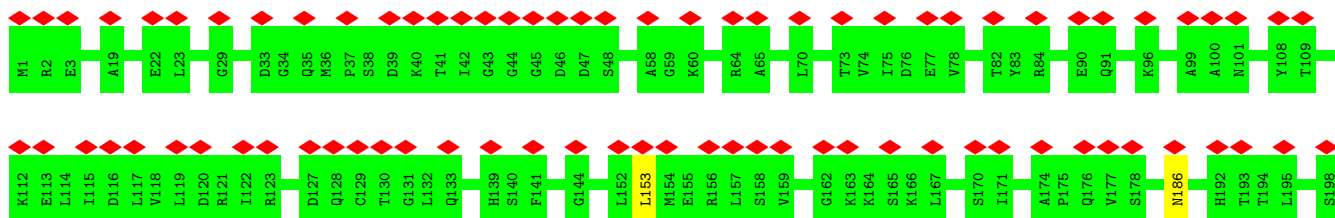
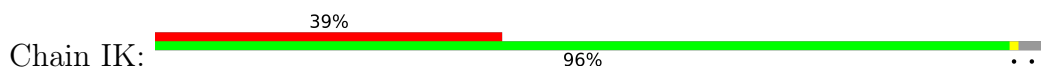


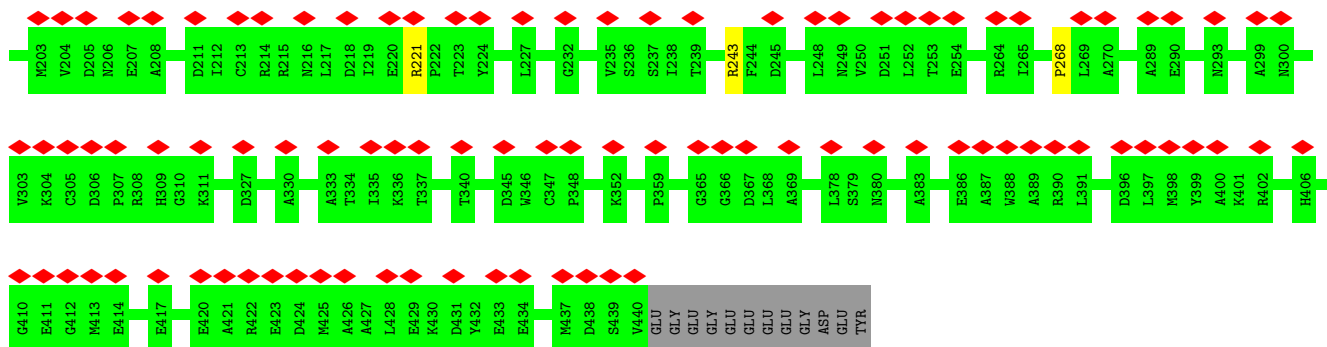


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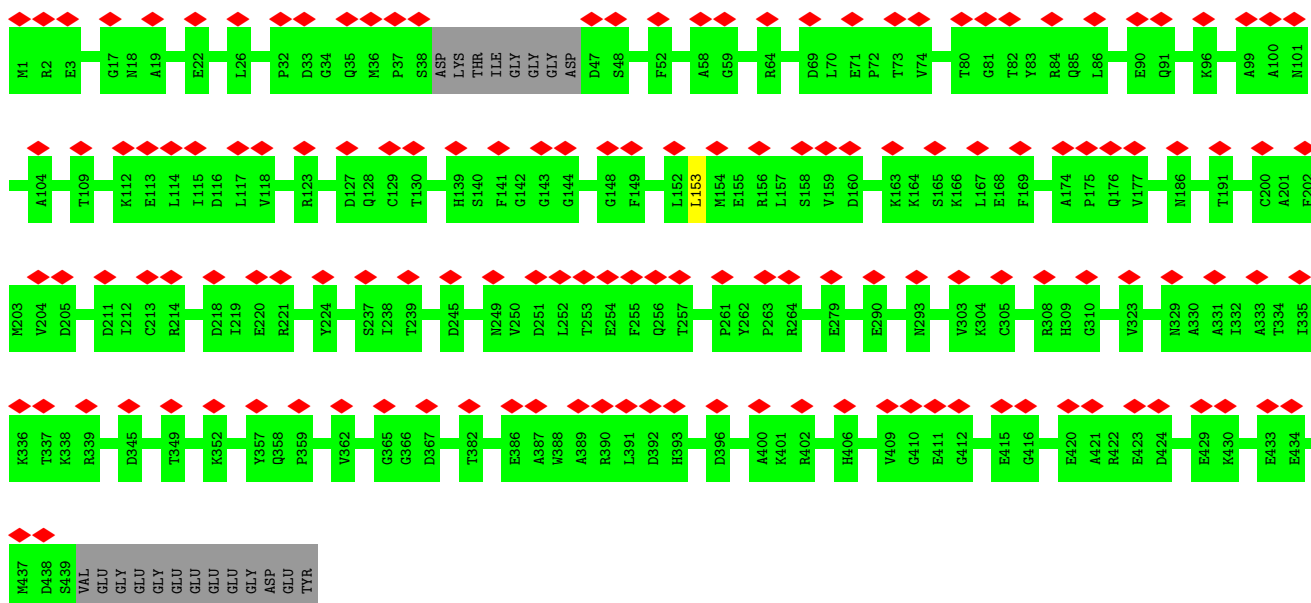


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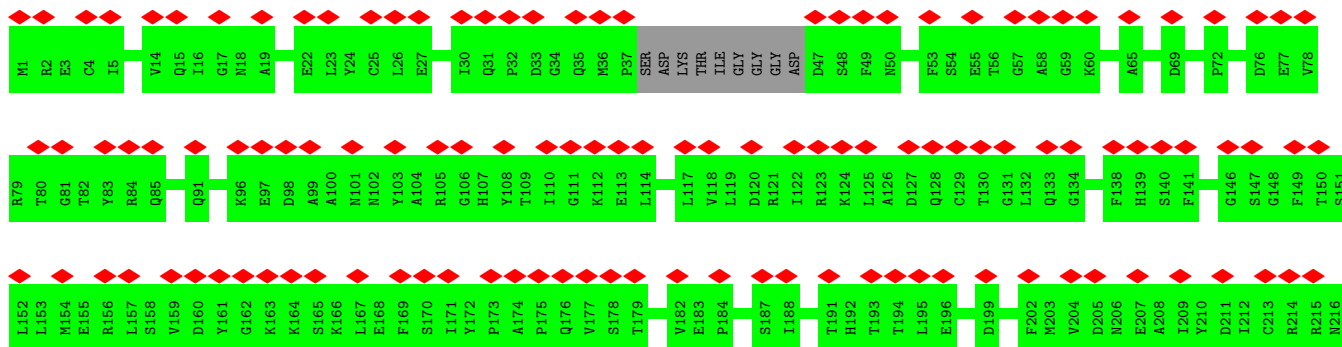


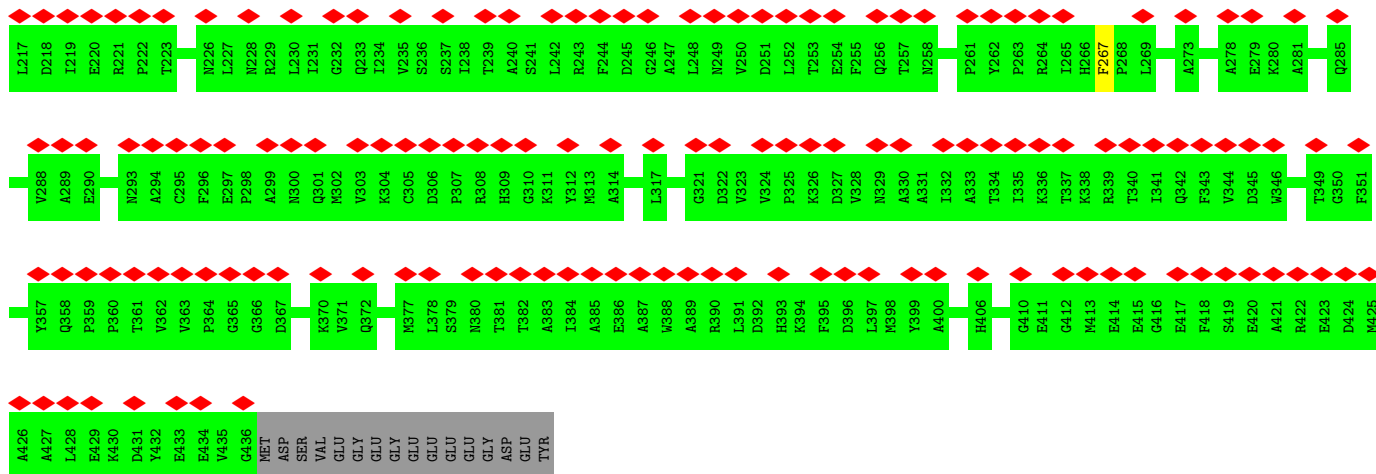


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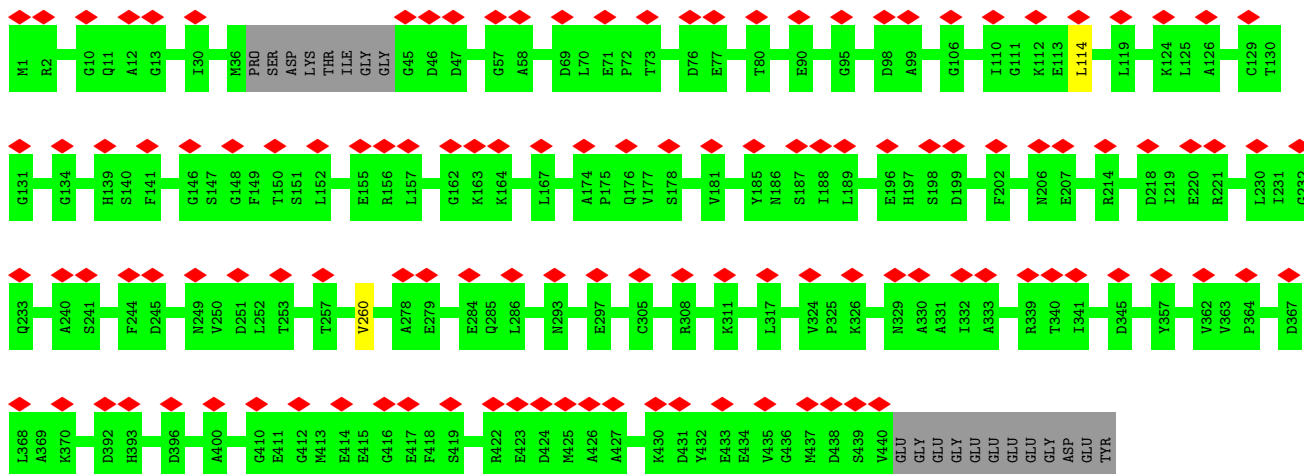


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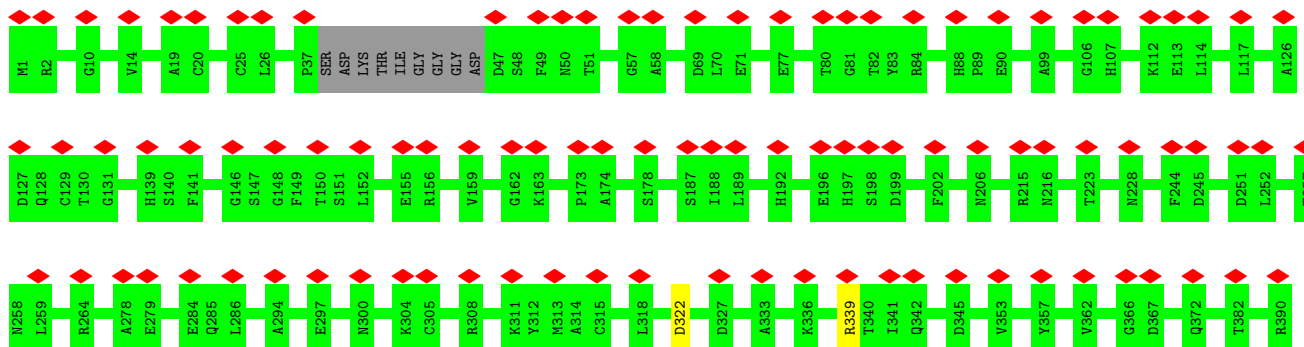


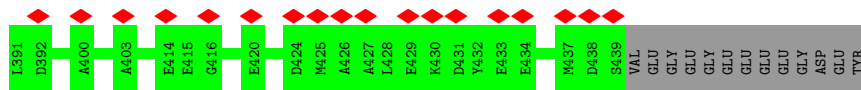


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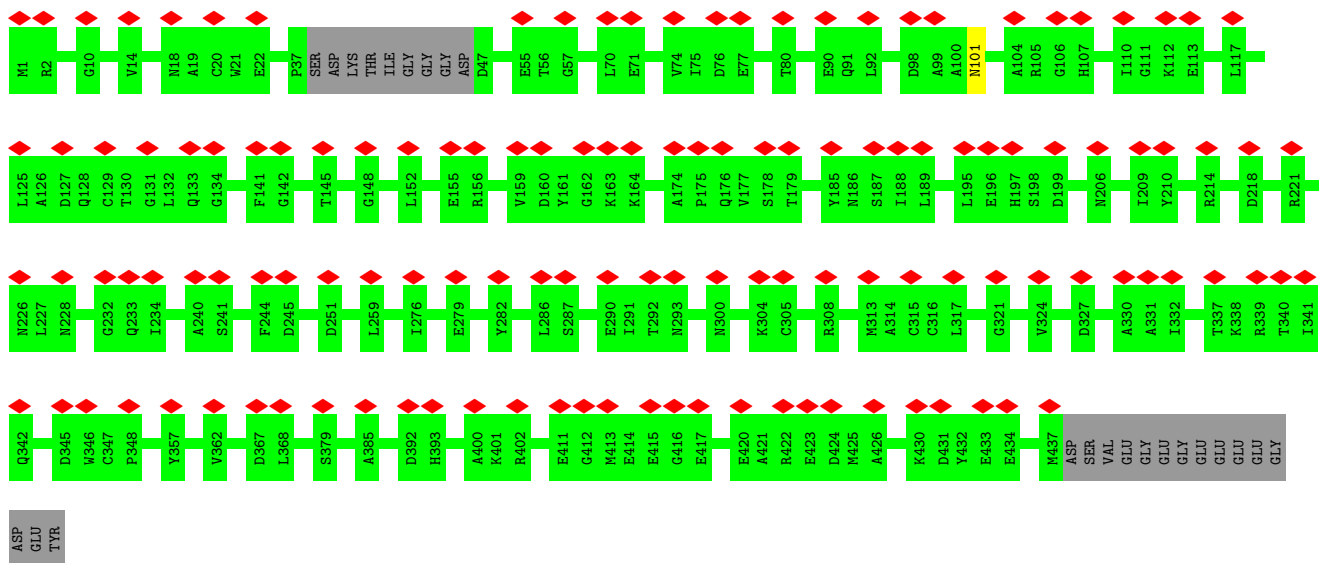


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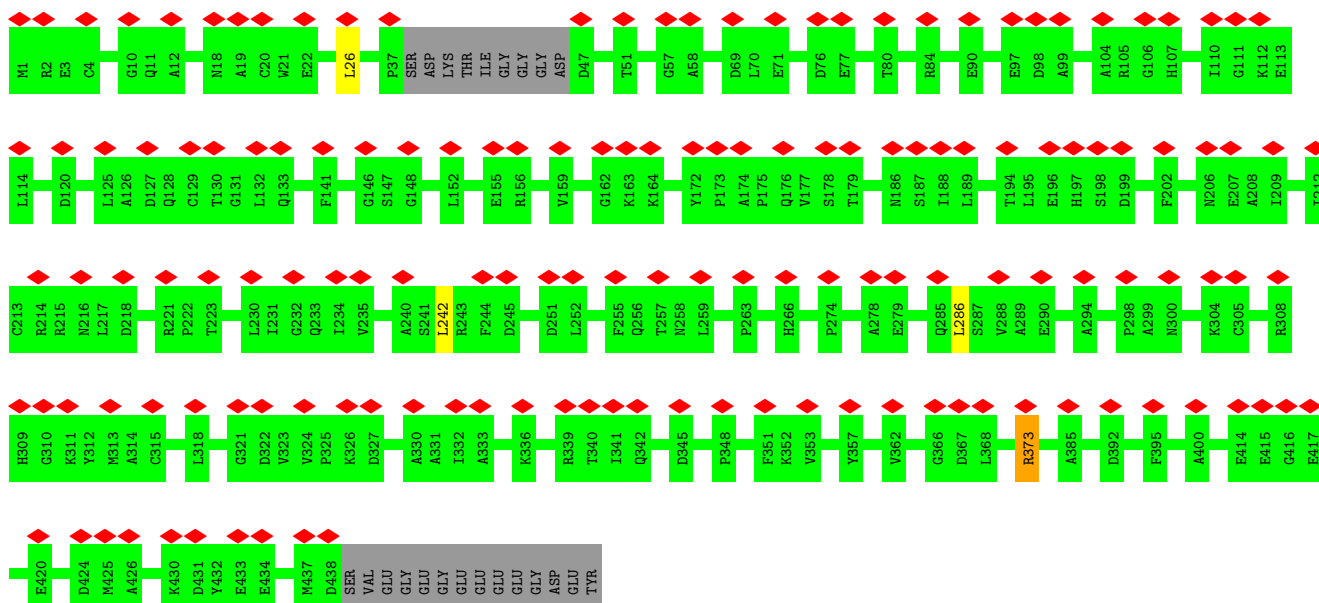




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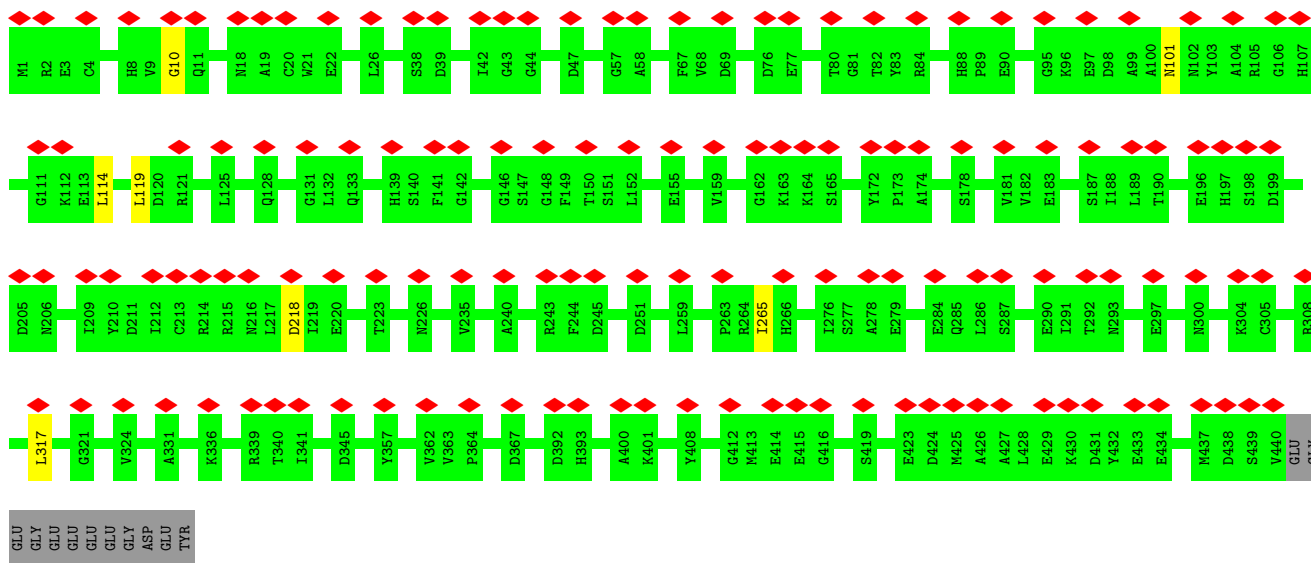


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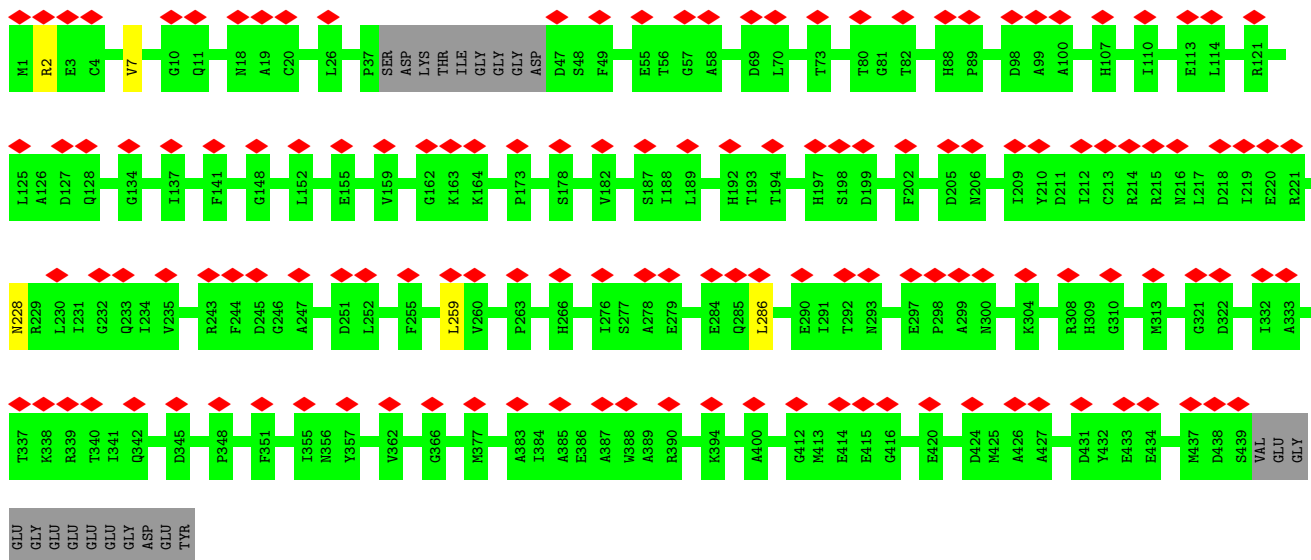


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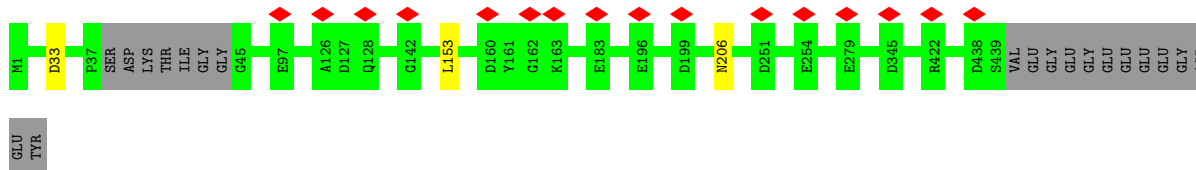




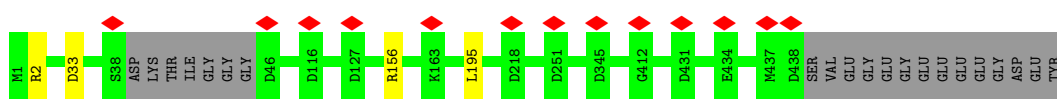
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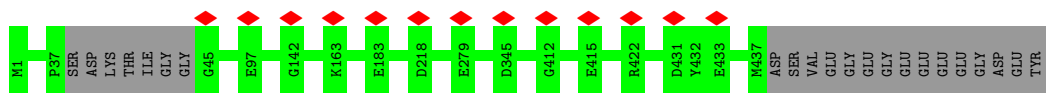
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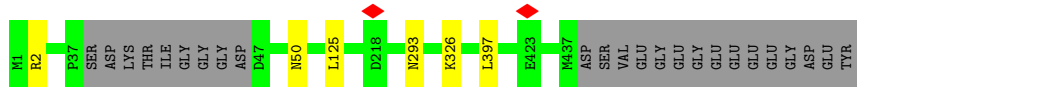
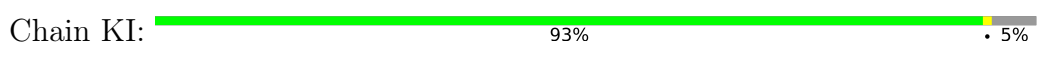
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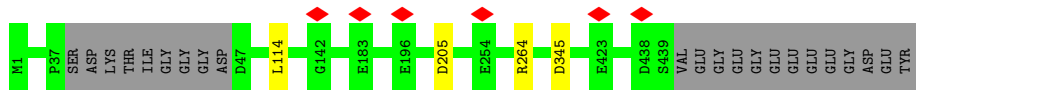
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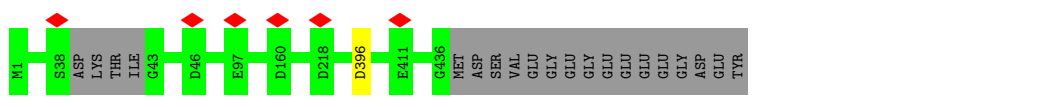
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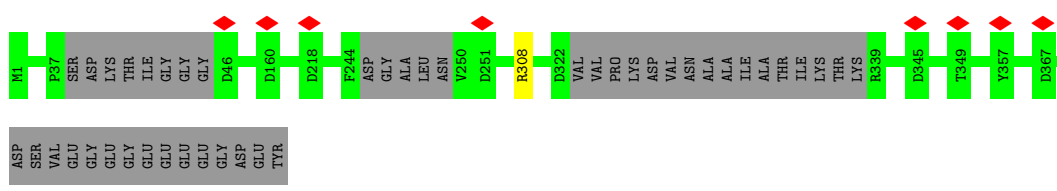
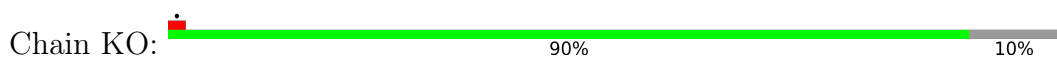
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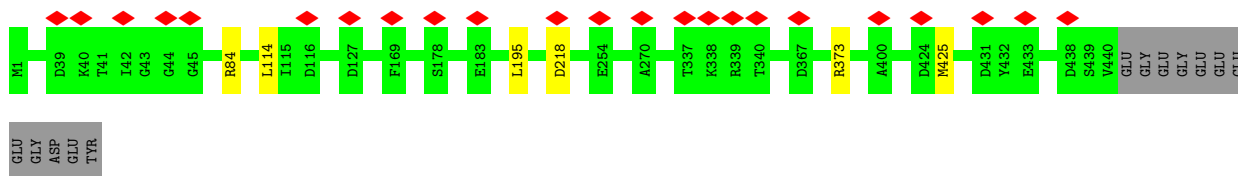


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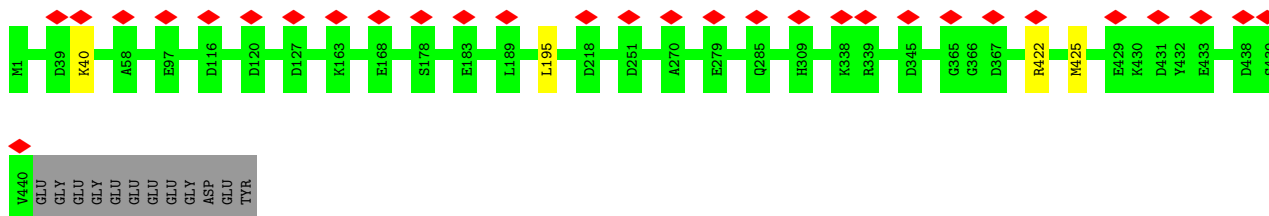


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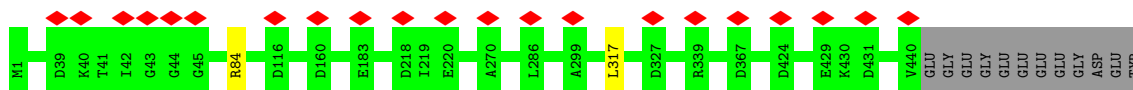




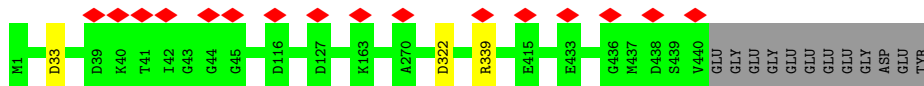
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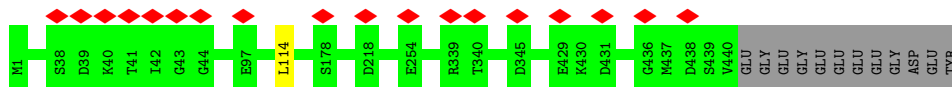
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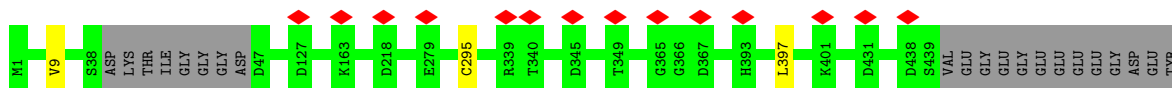
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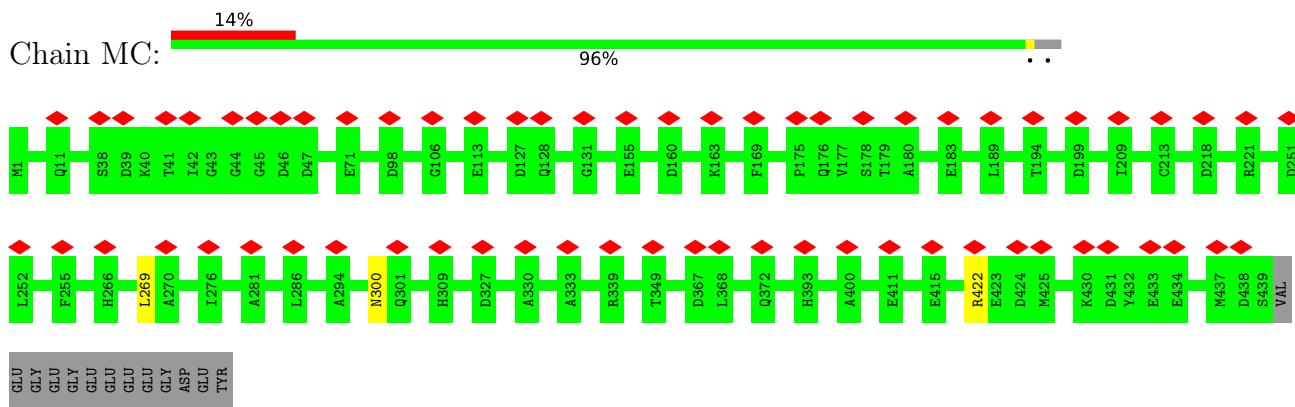
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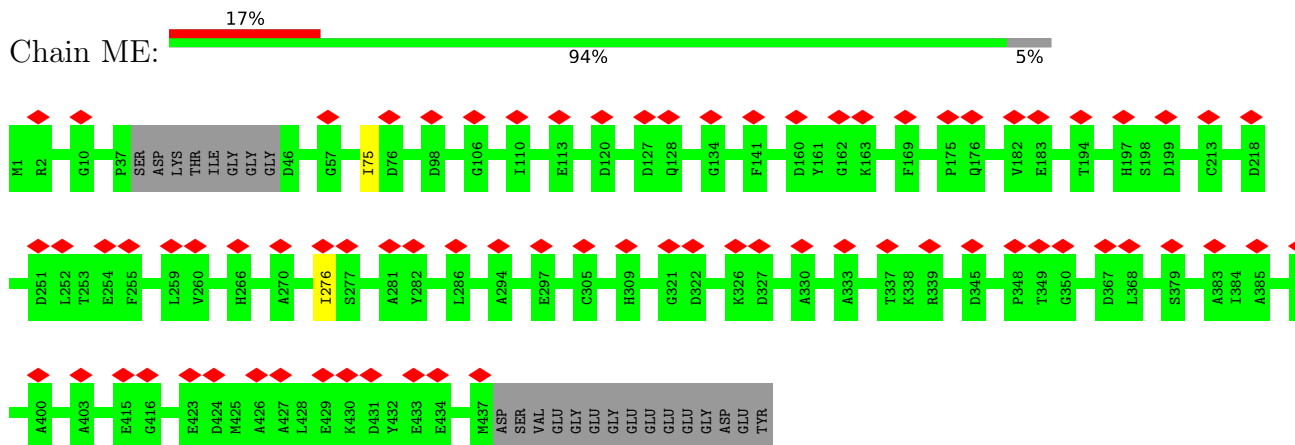
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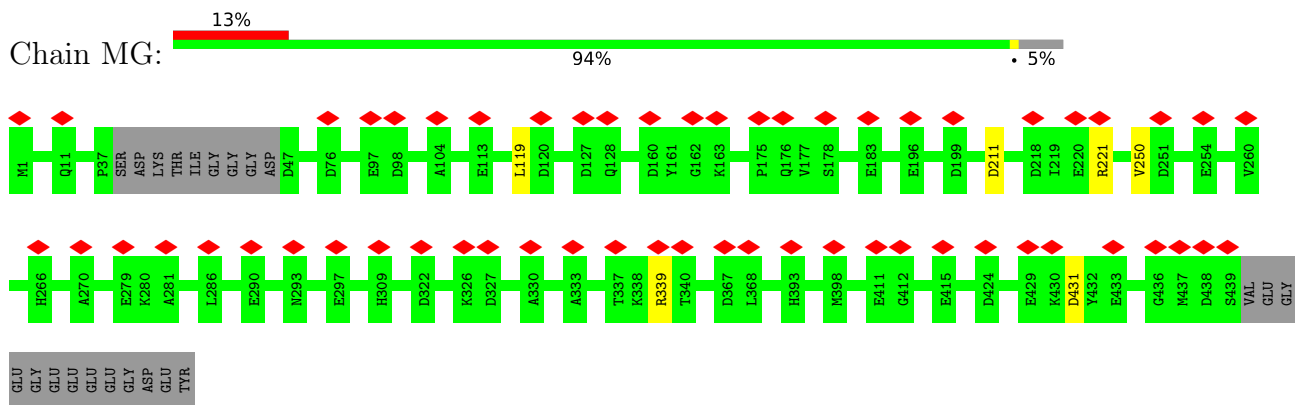
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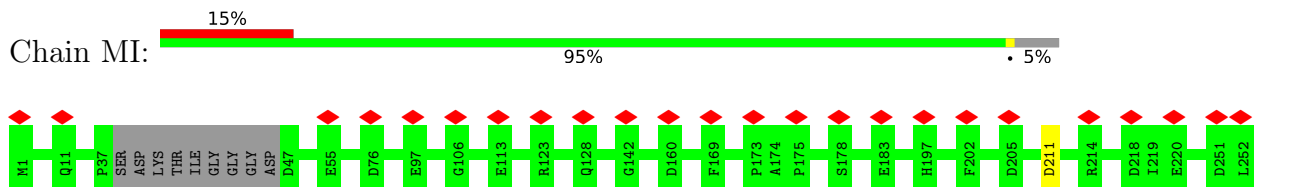
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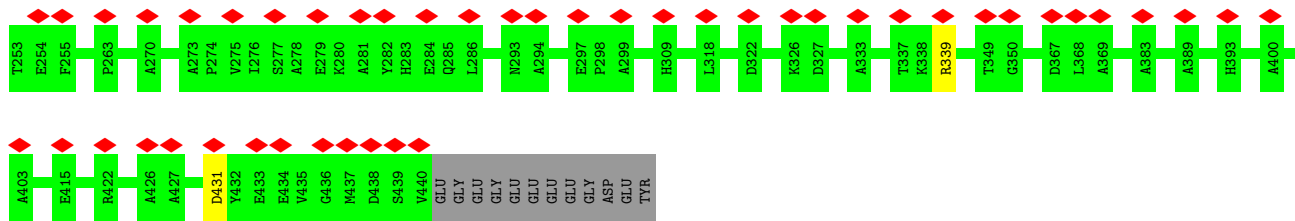


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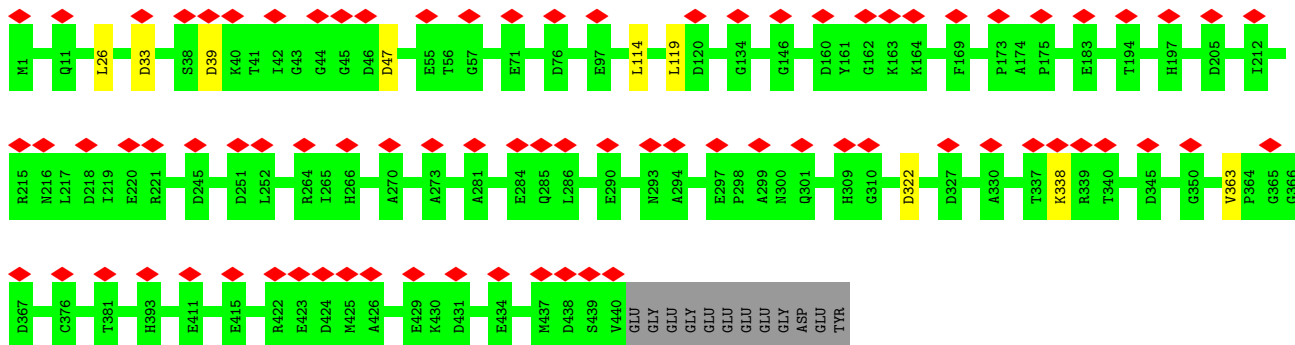


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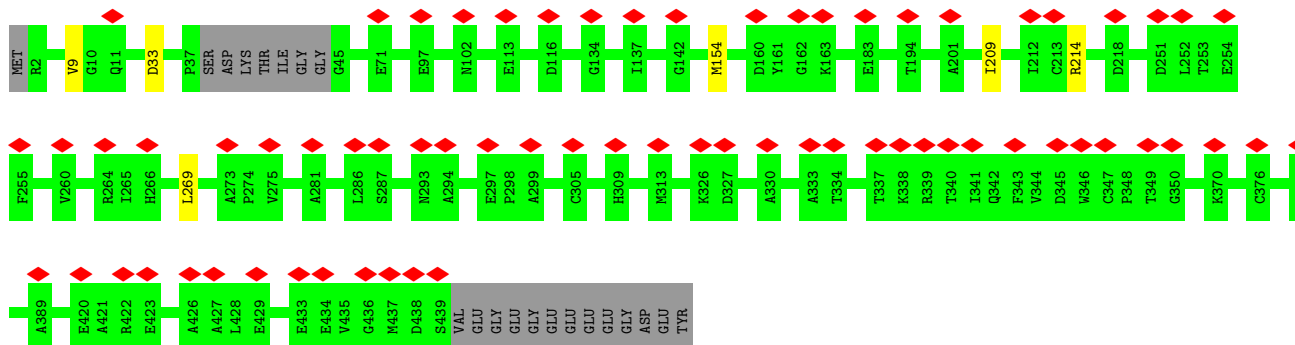




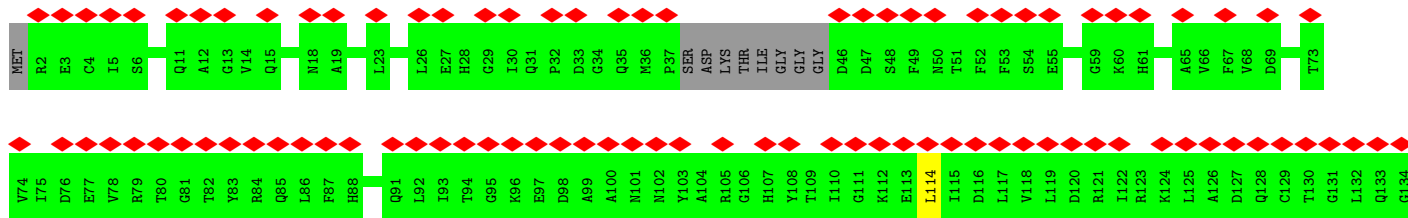
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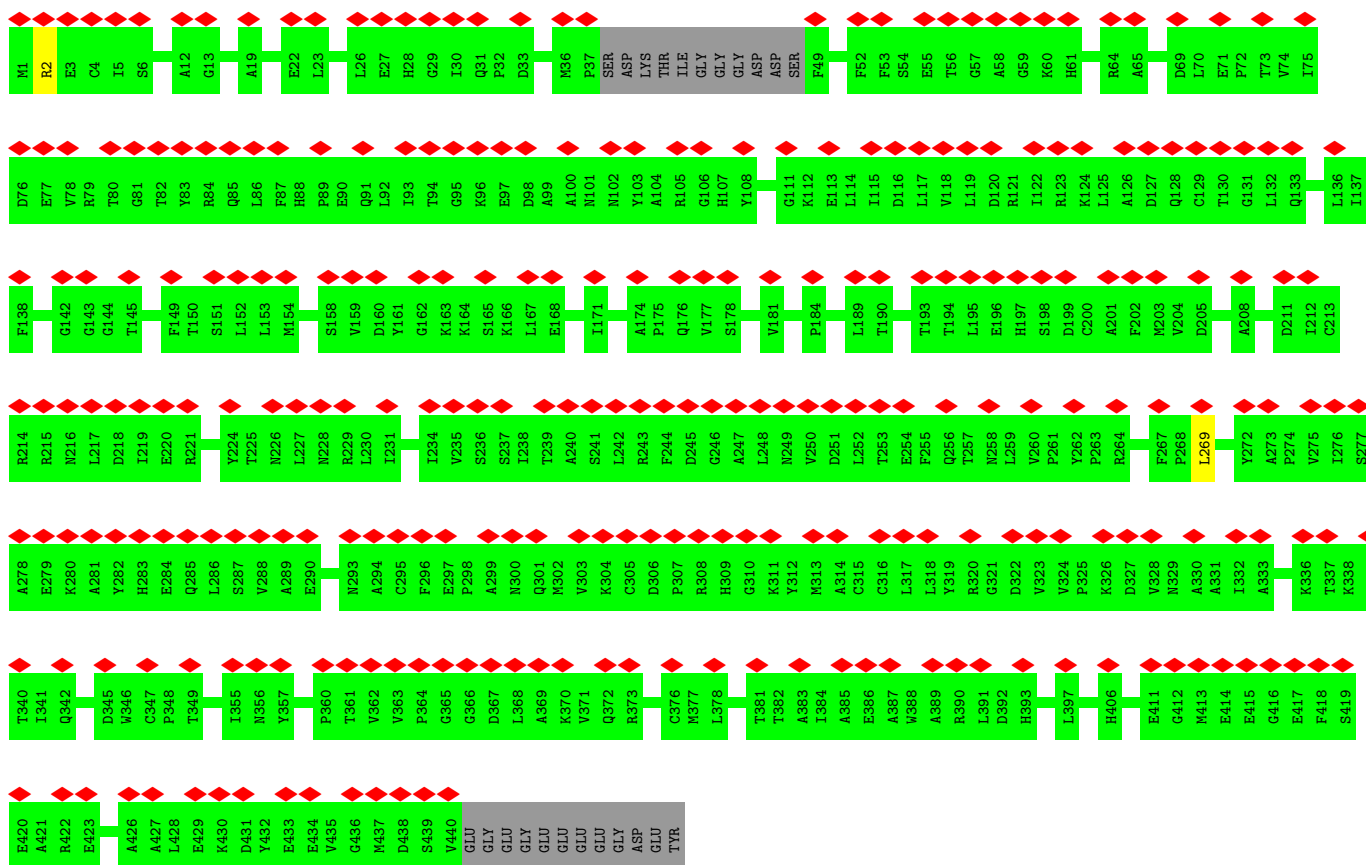


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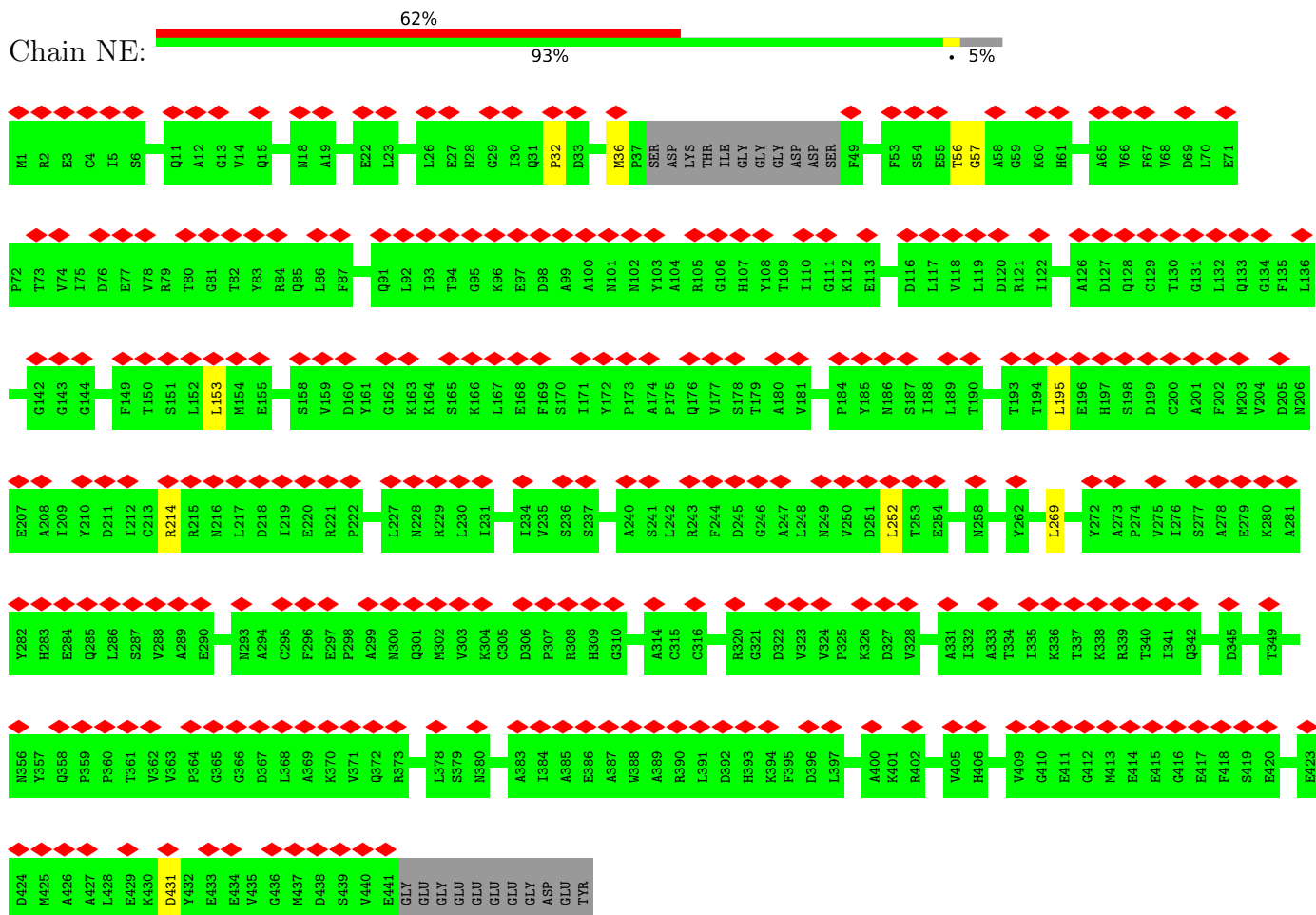




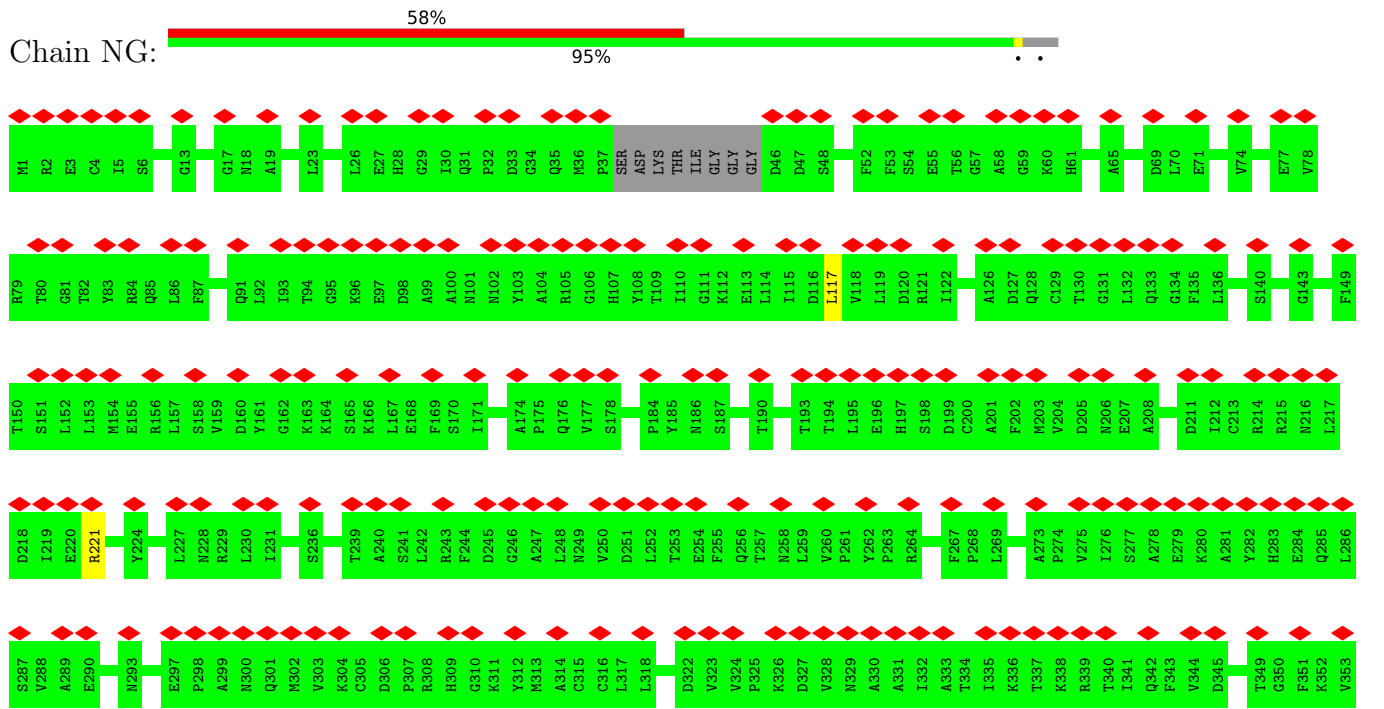
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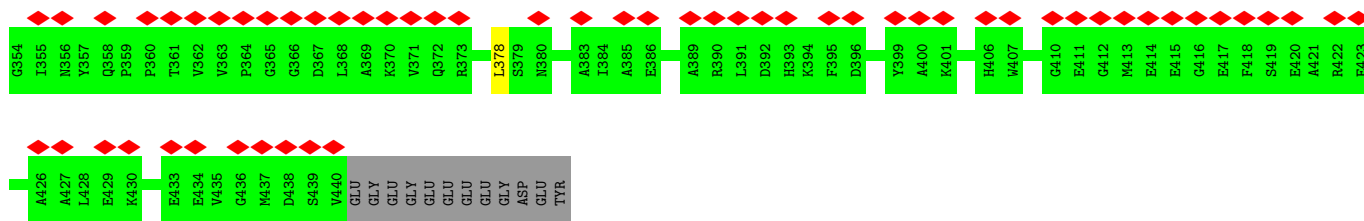


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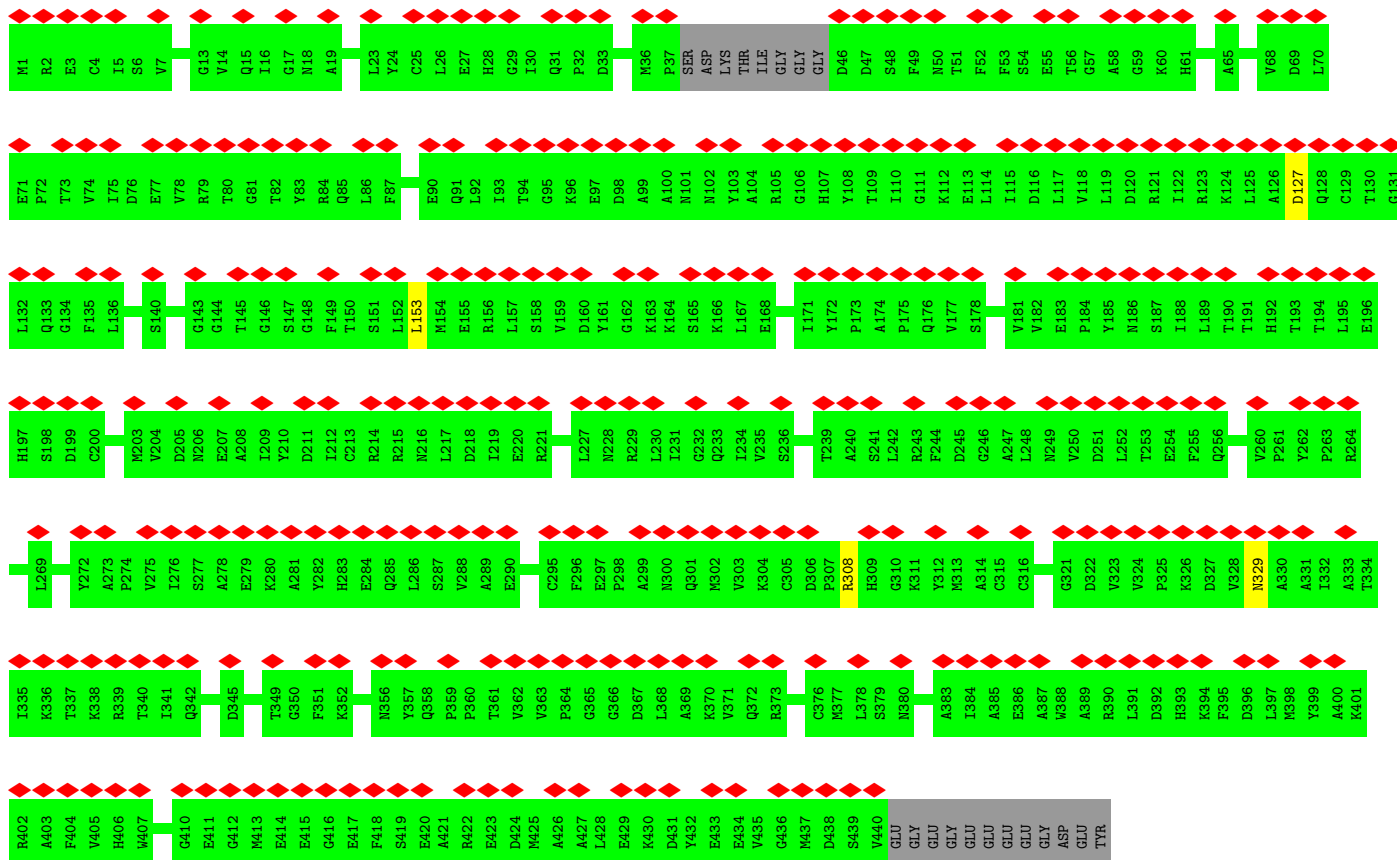


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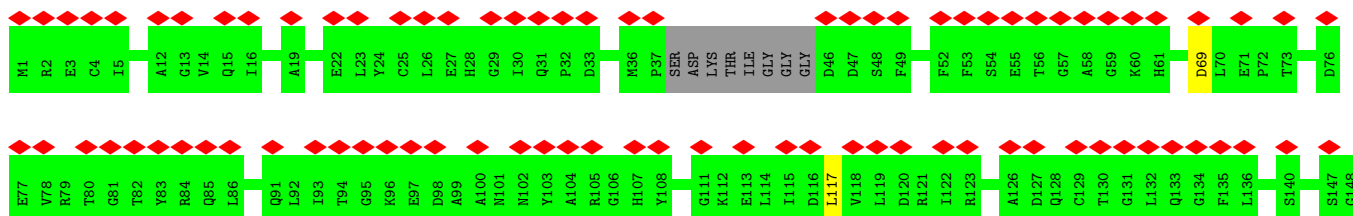


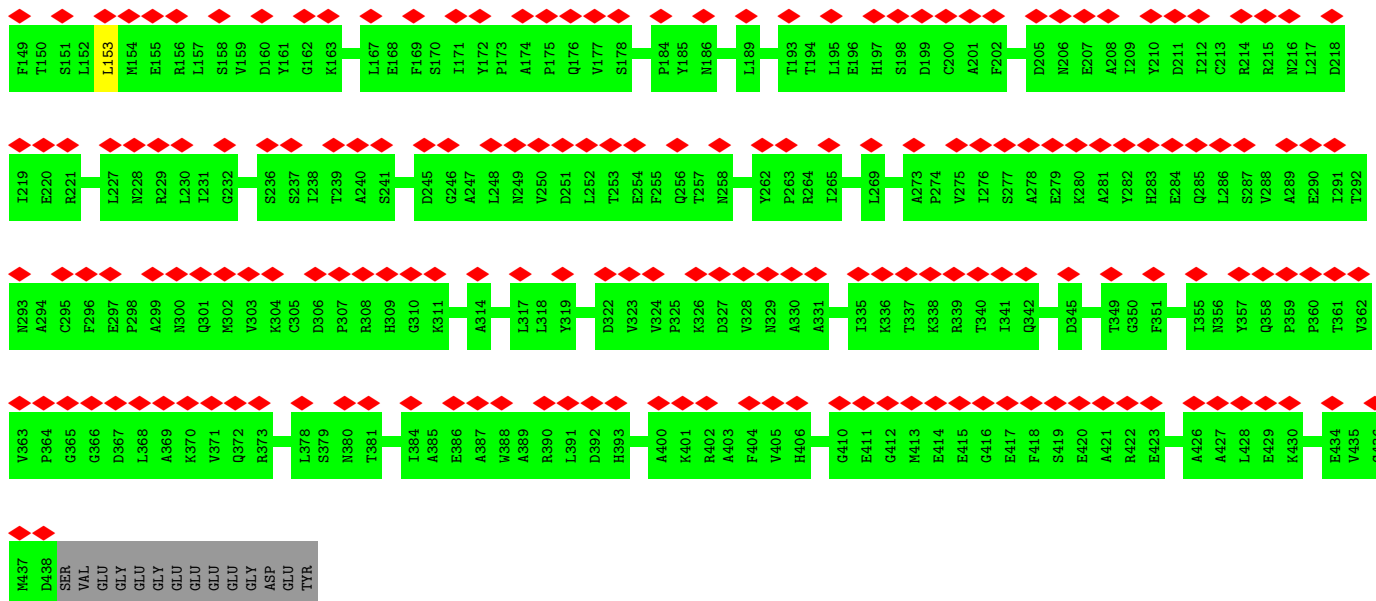


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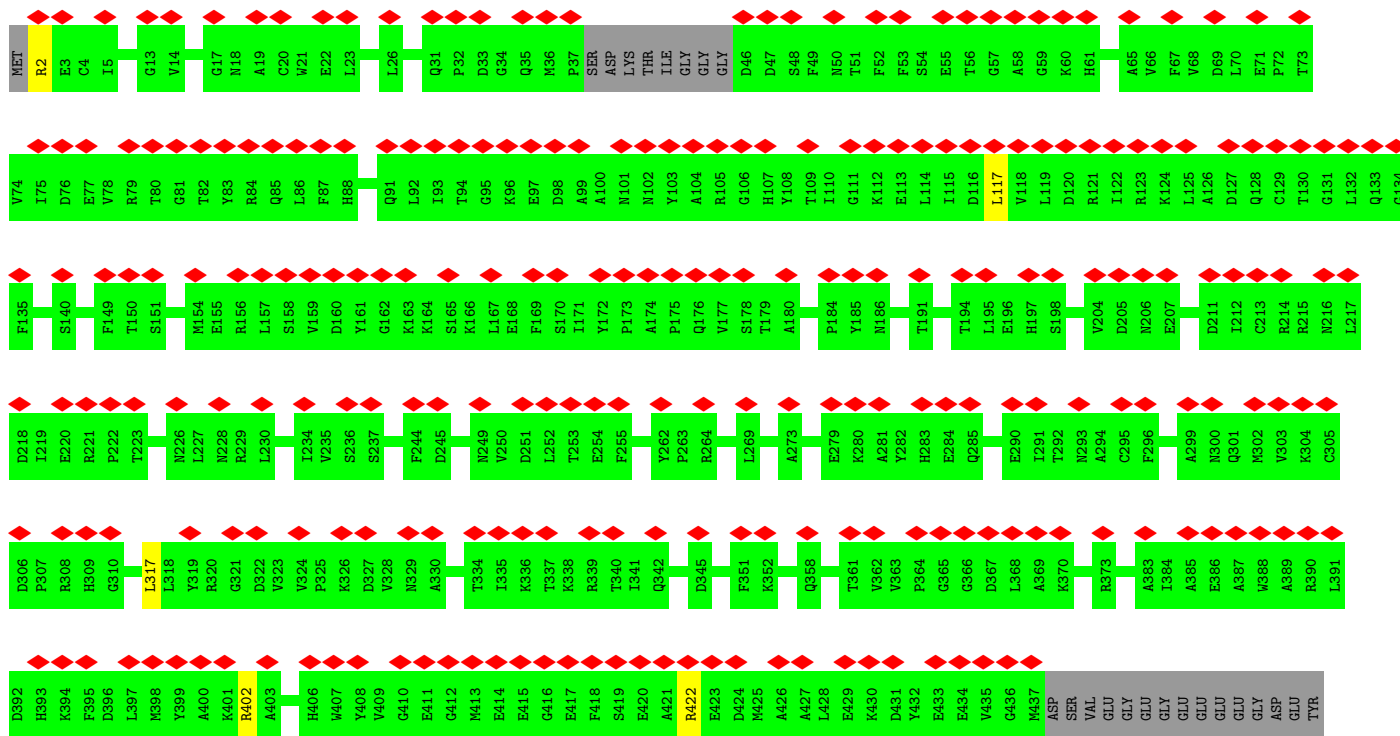


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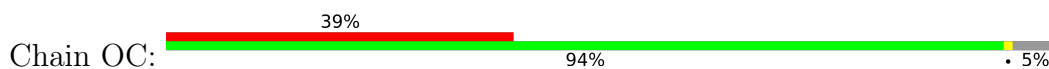


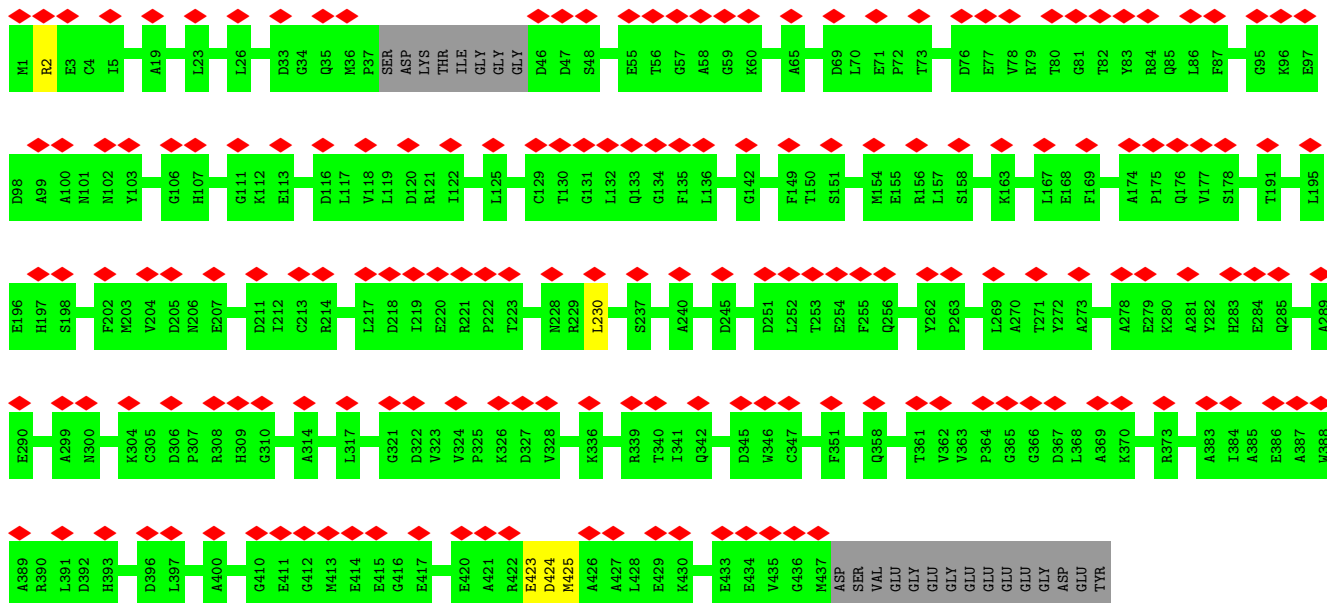


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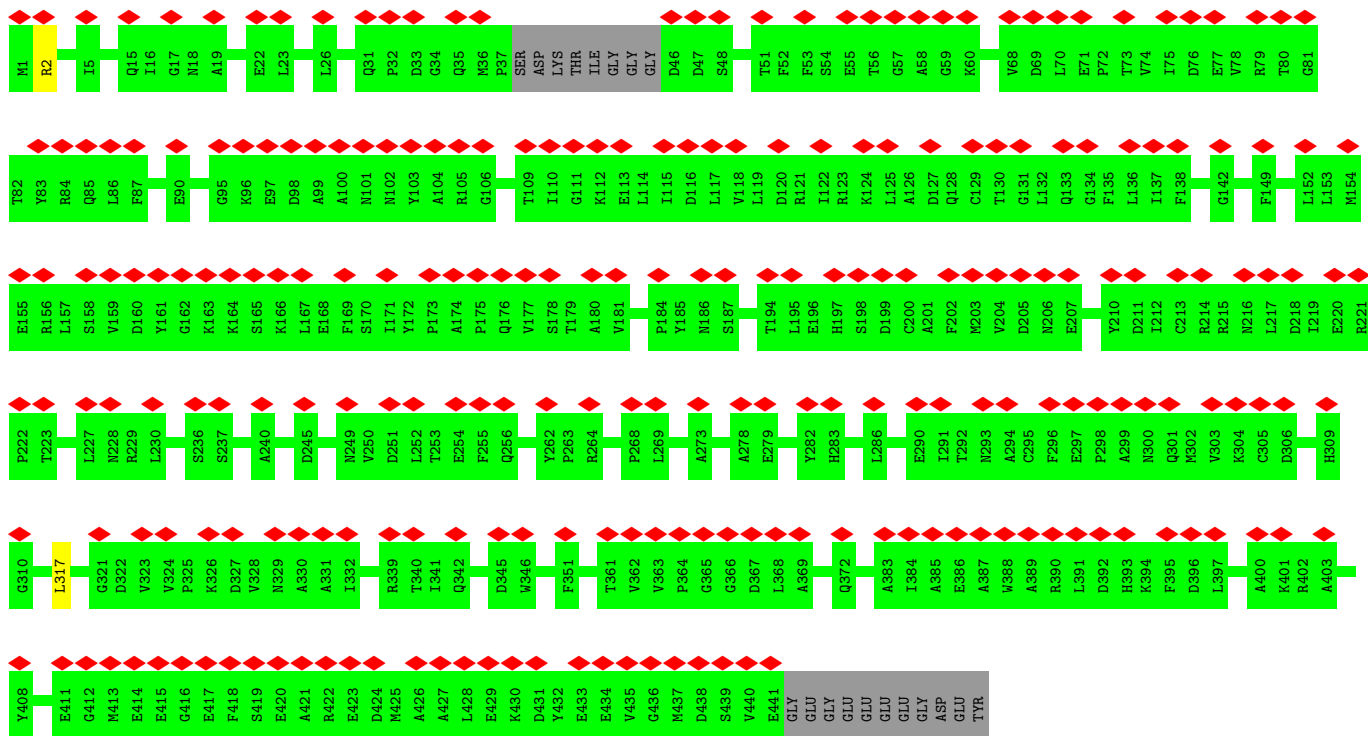


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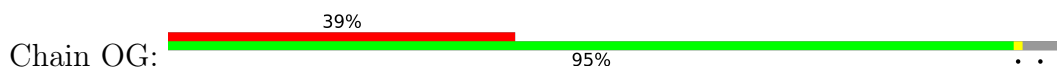


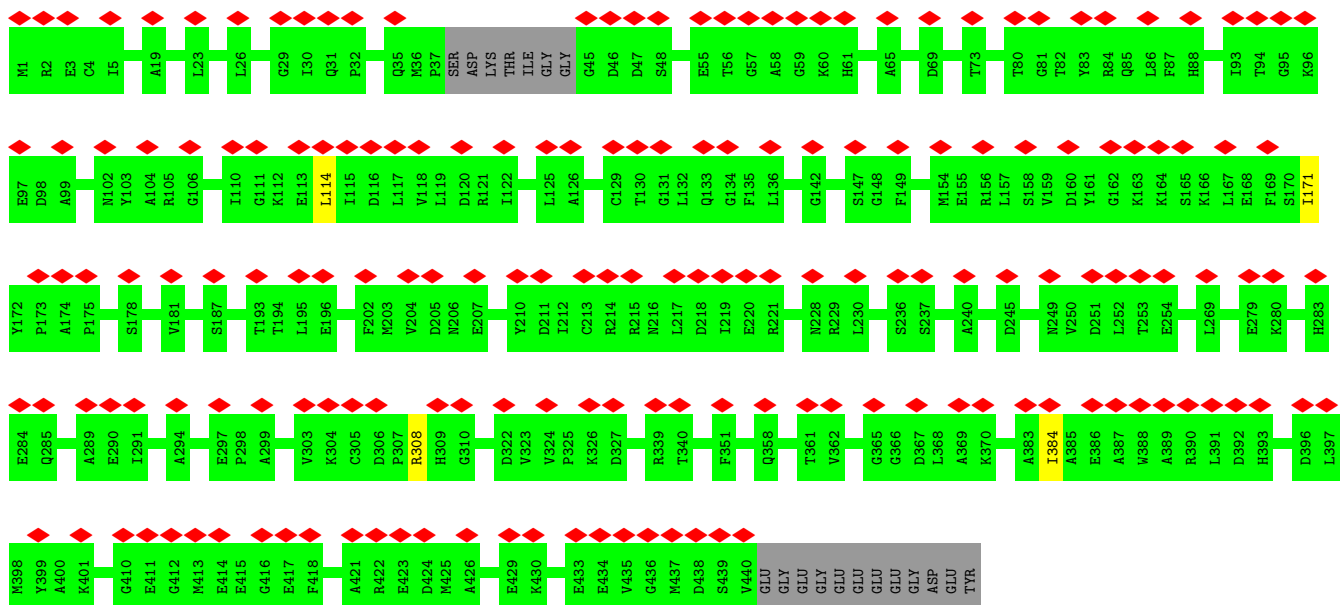


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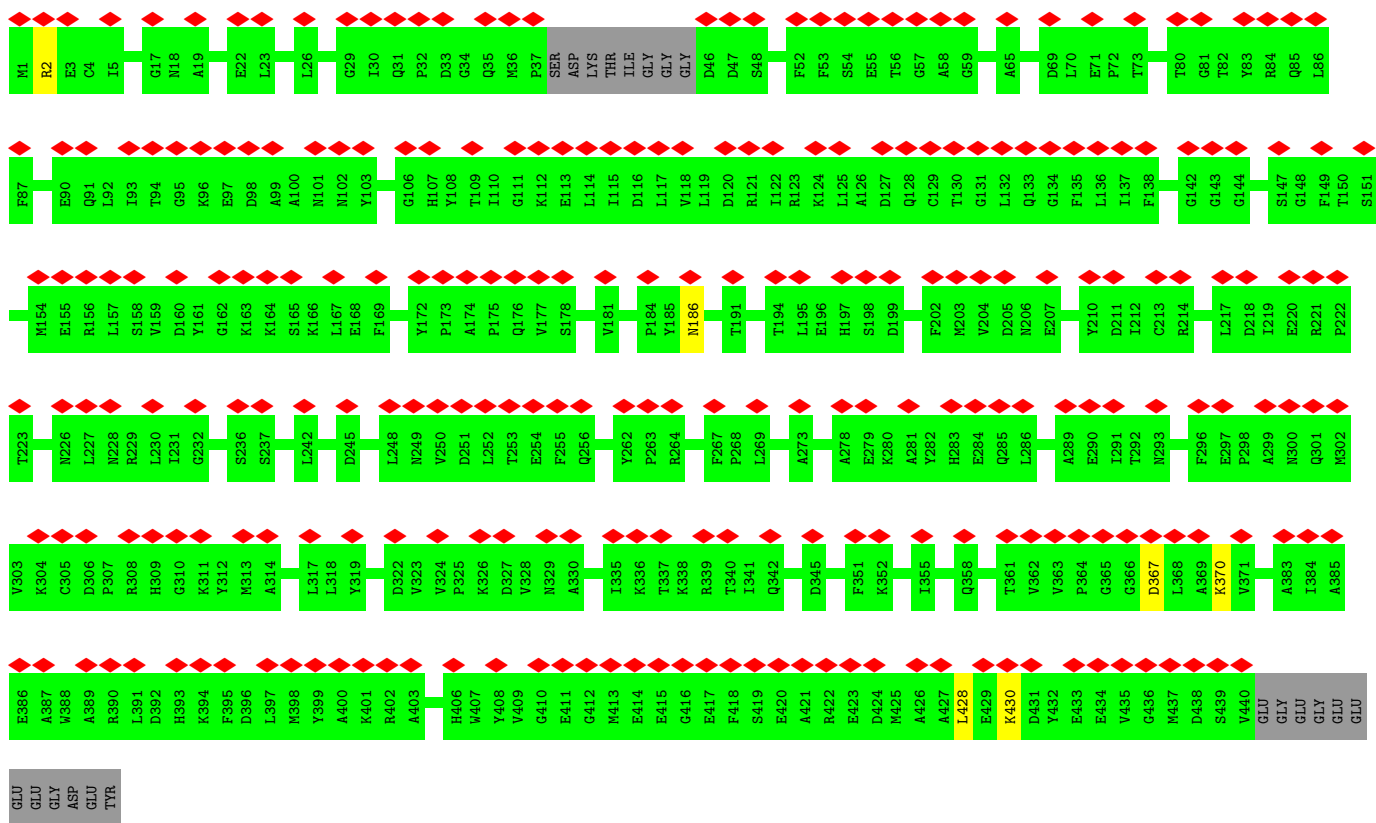


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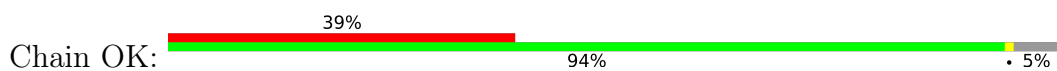


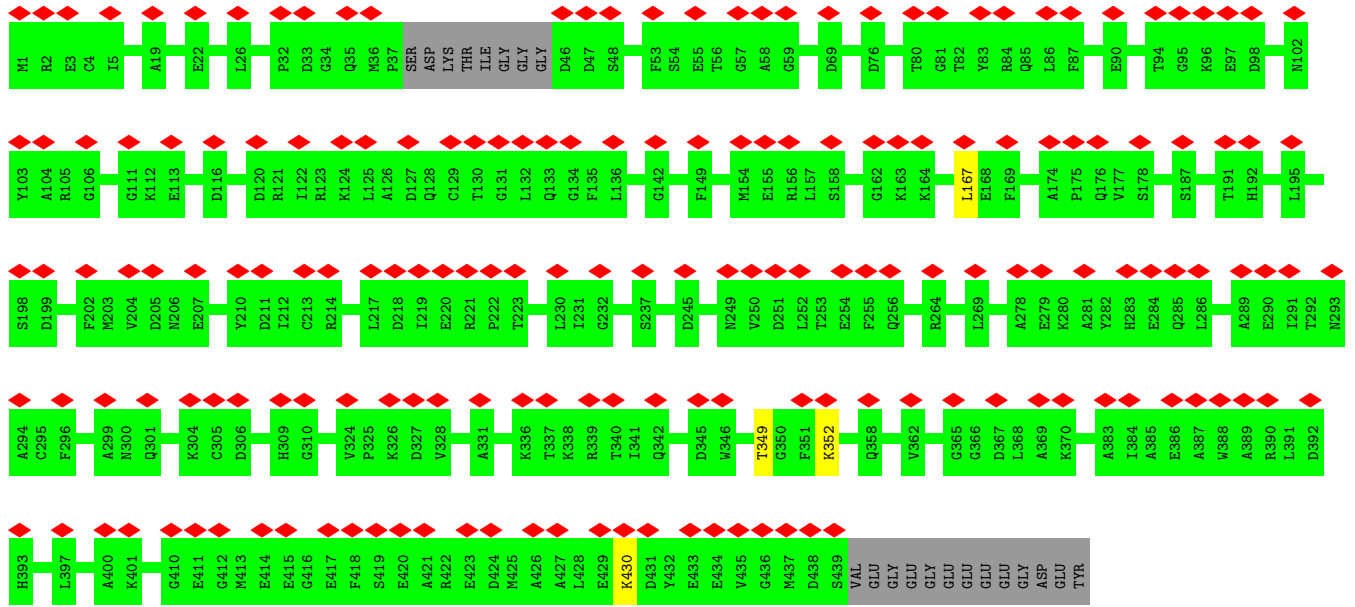


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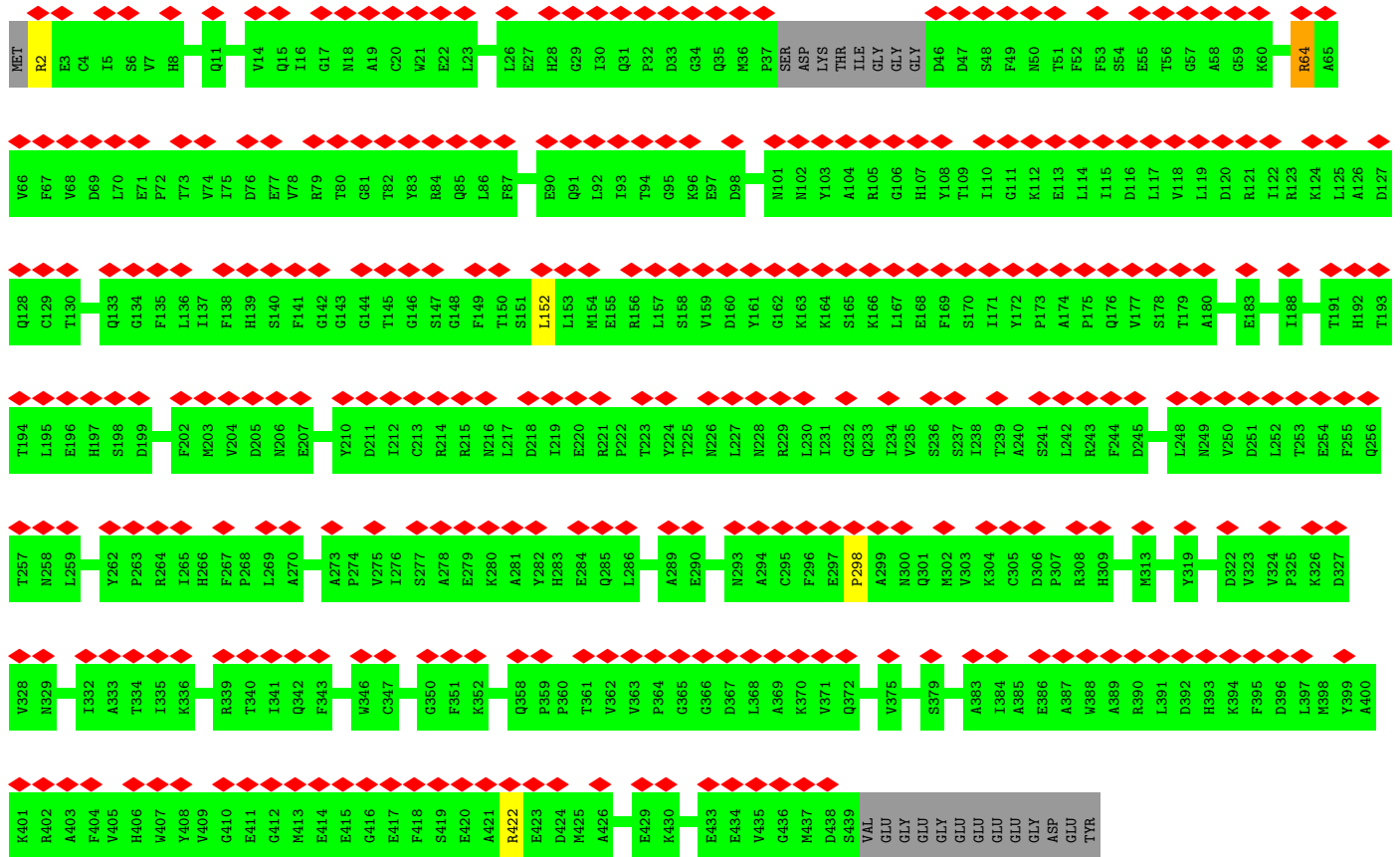


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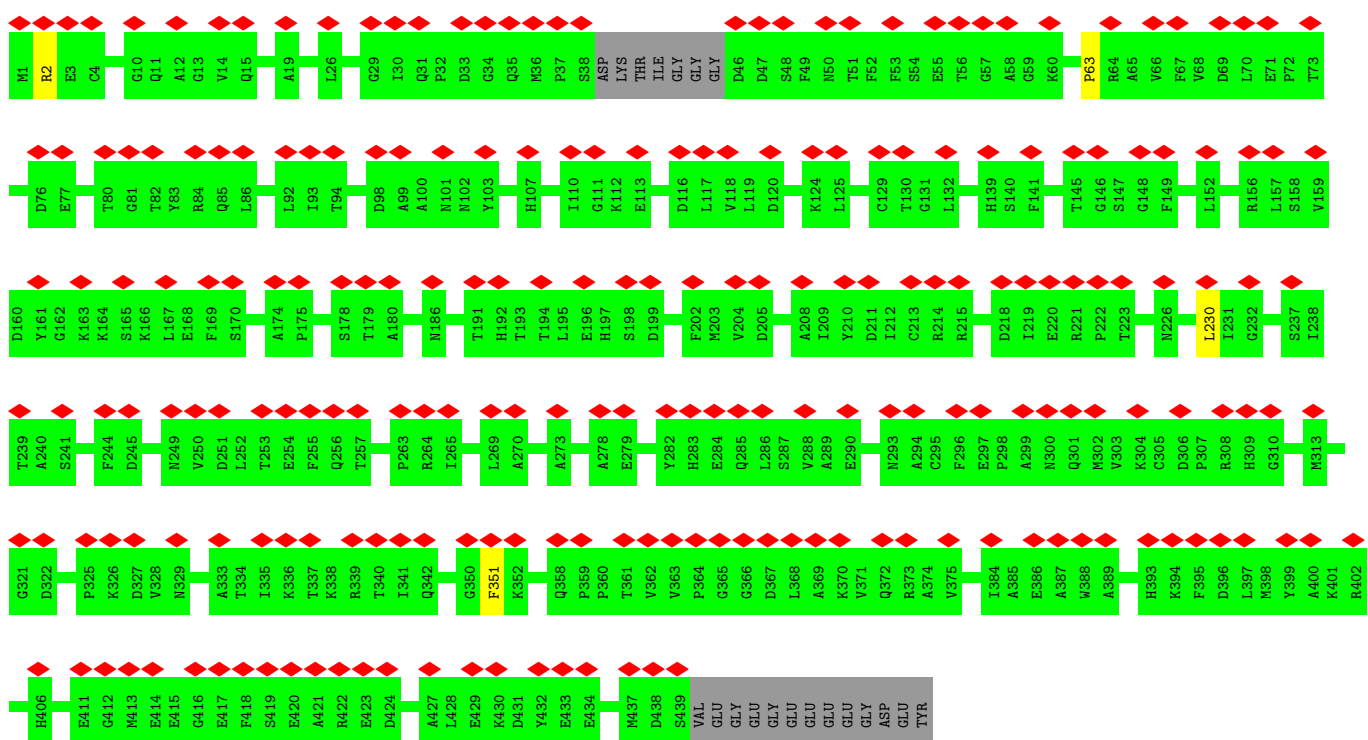




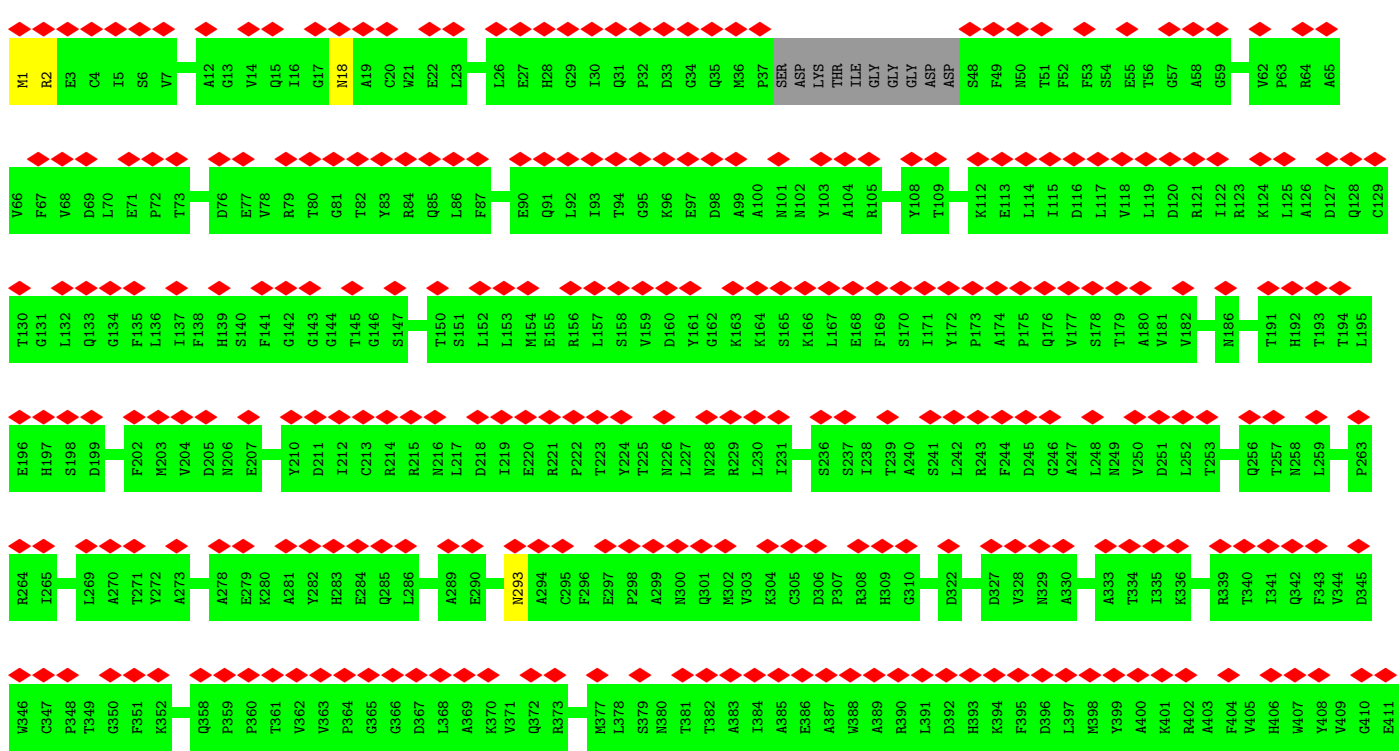
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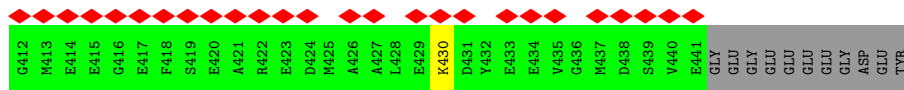


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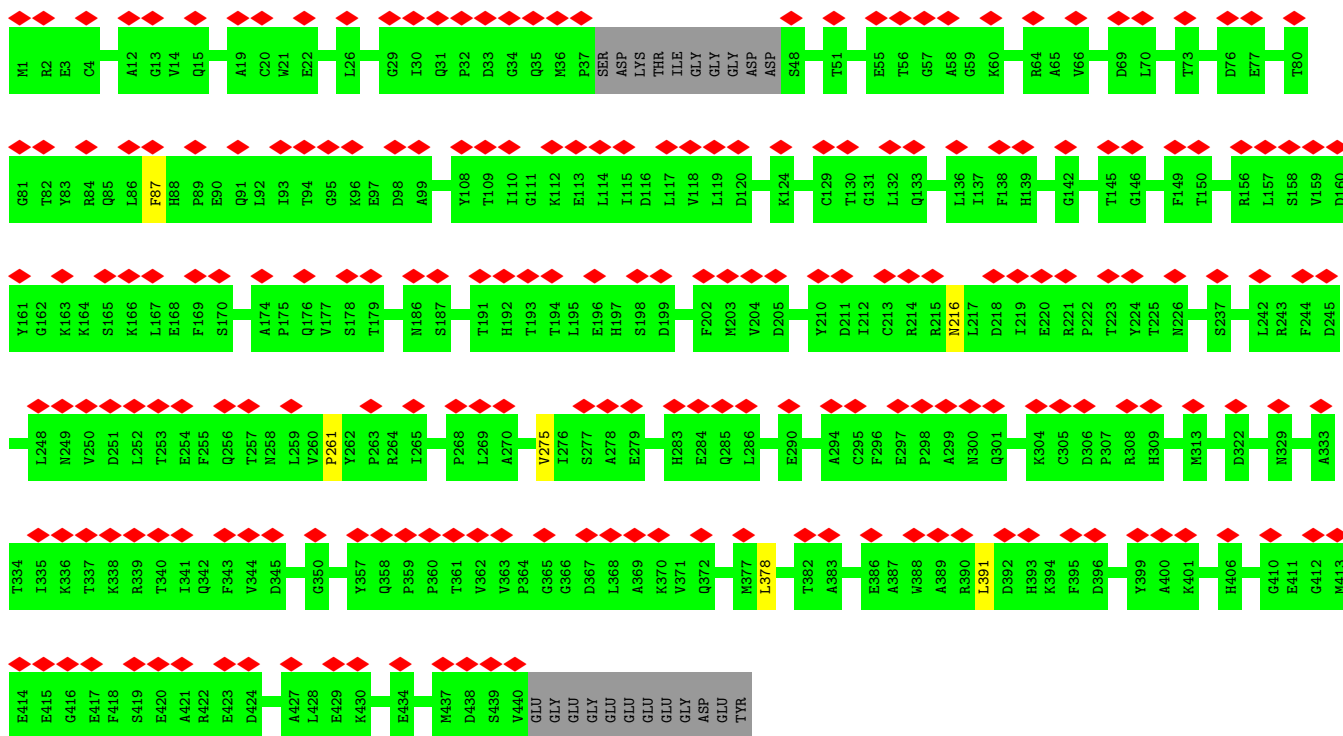


• Molecule 8: Tubulin alpha-1D chain

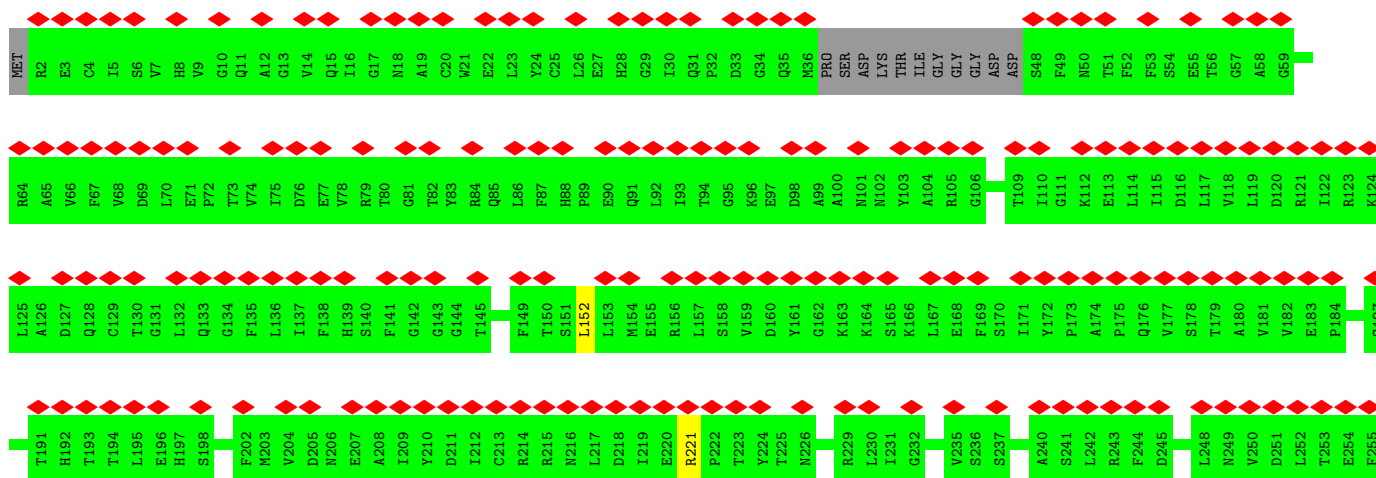
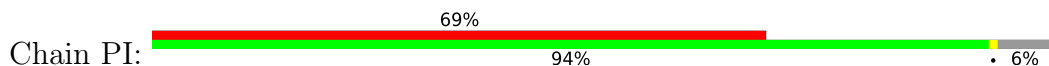


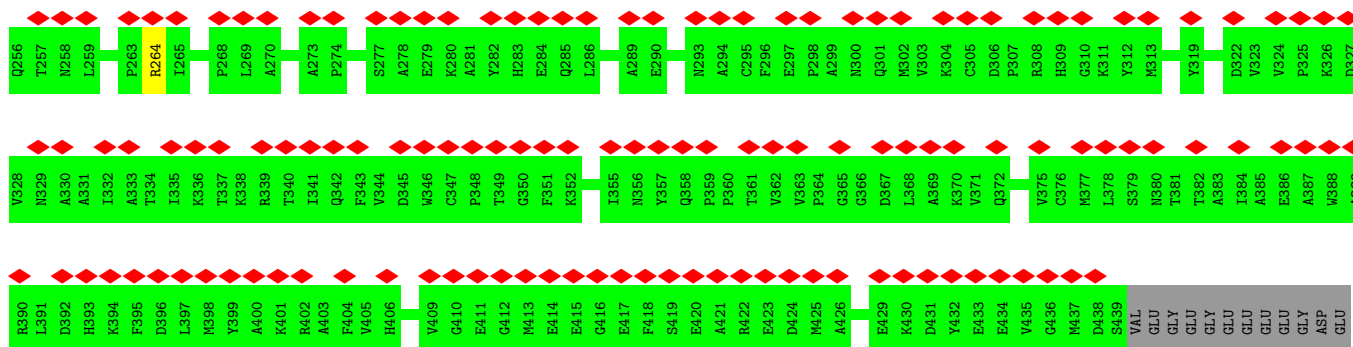


• Molecule 8: Tubulin alpha-1D chain



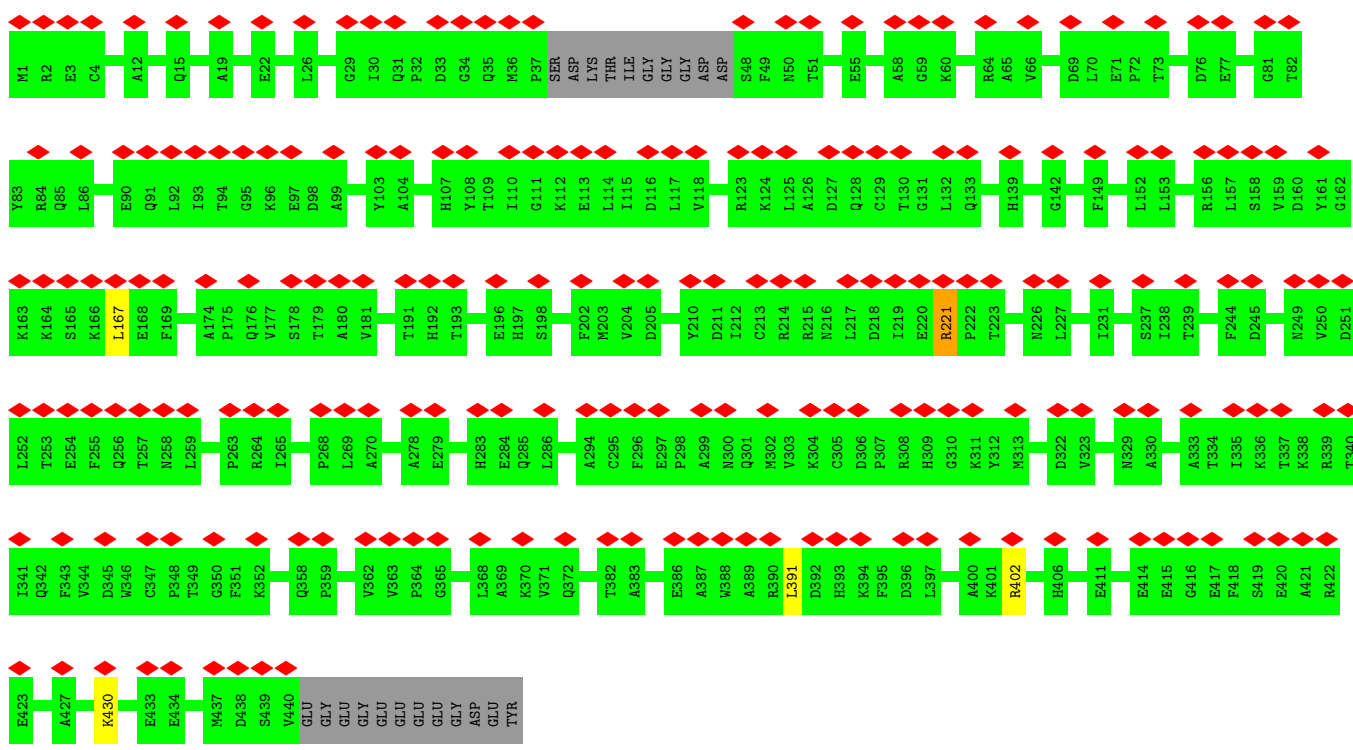
• Molecule 8: Tubulin alpha-1D chain



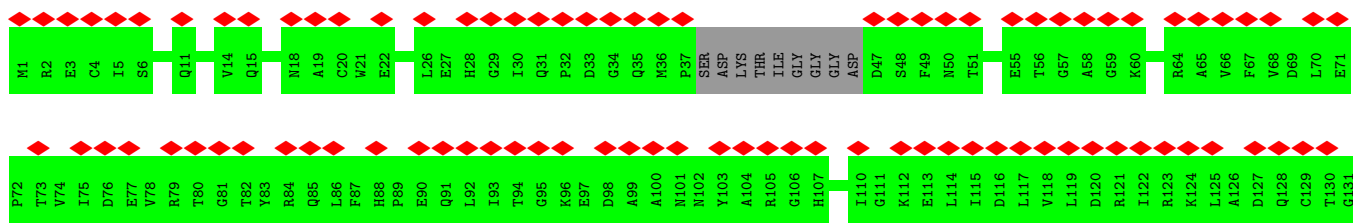
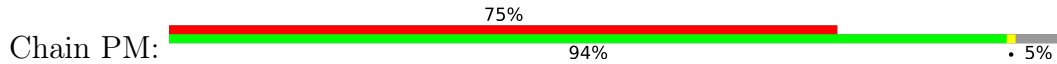


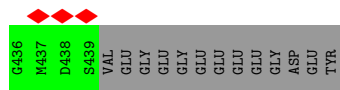
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• Molecule 8: Tubulin alpha-1D chain

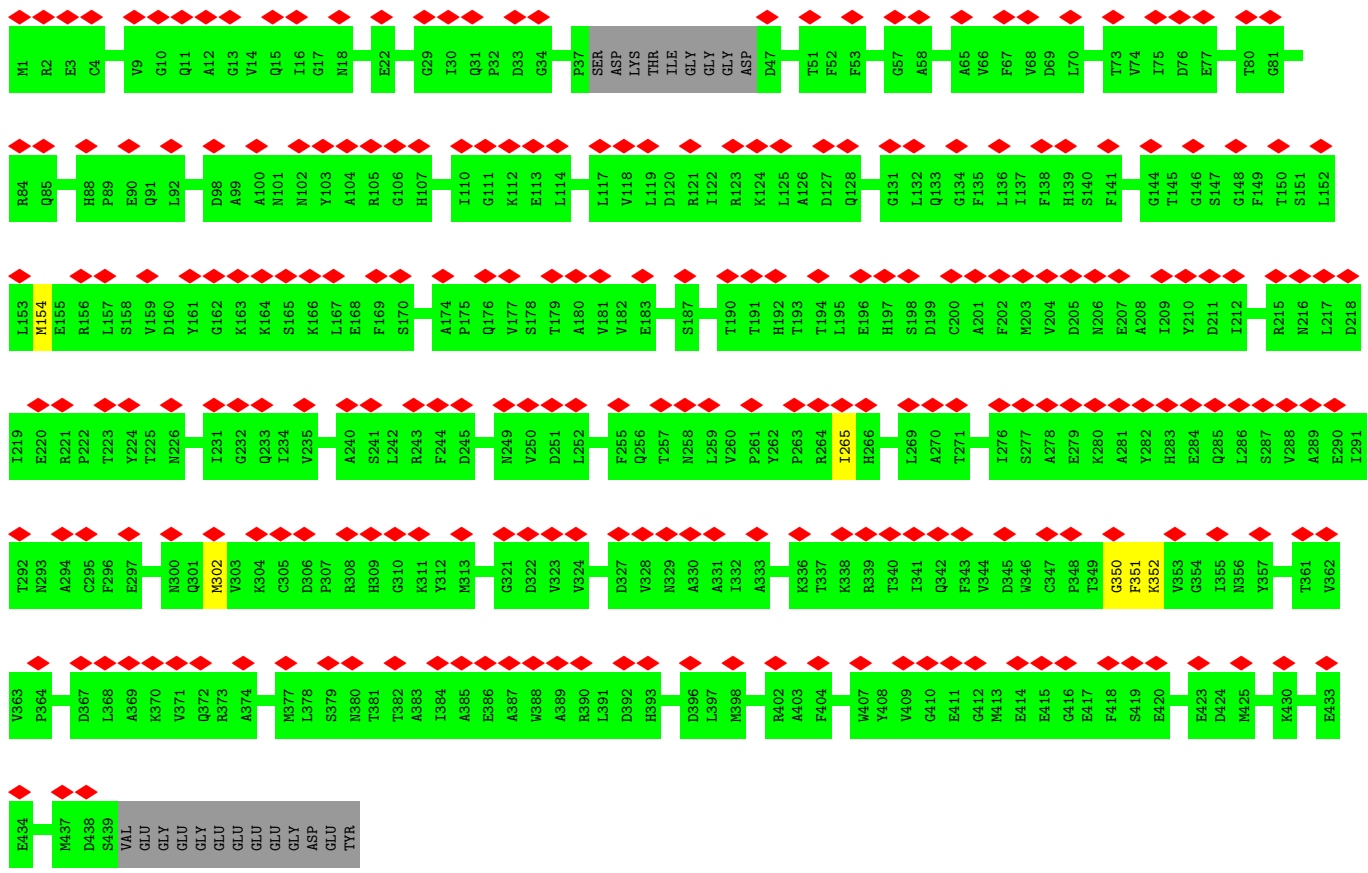


• Molecule 8: Tubulin alpha-1D chain

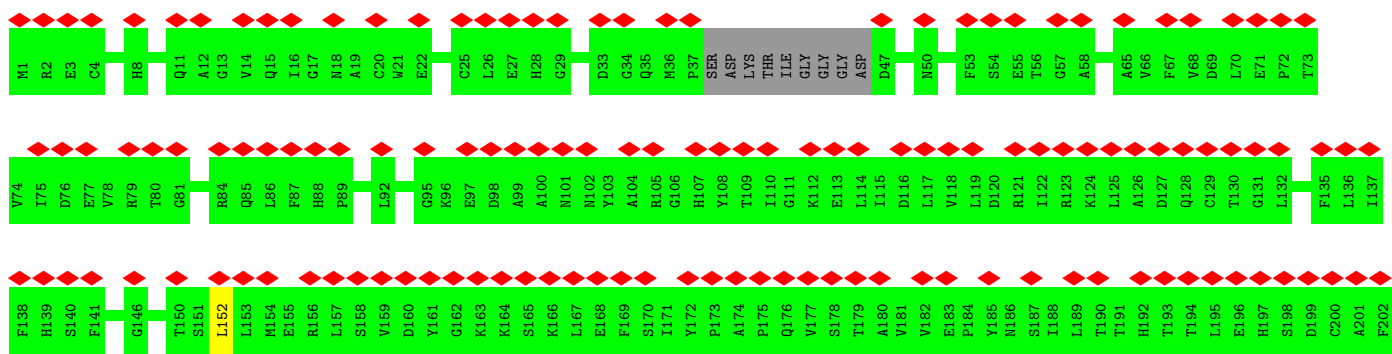
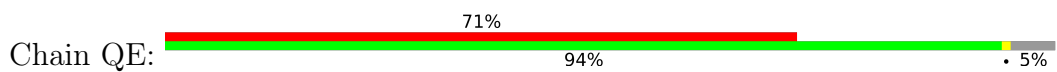


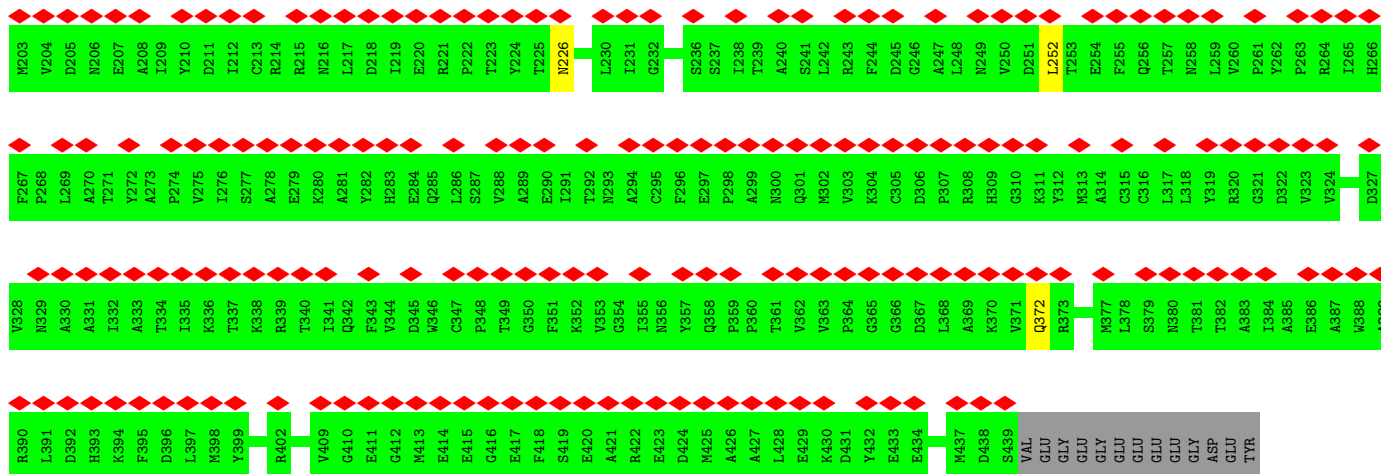


• Molecule 8: Tubulin alpha-1D chain

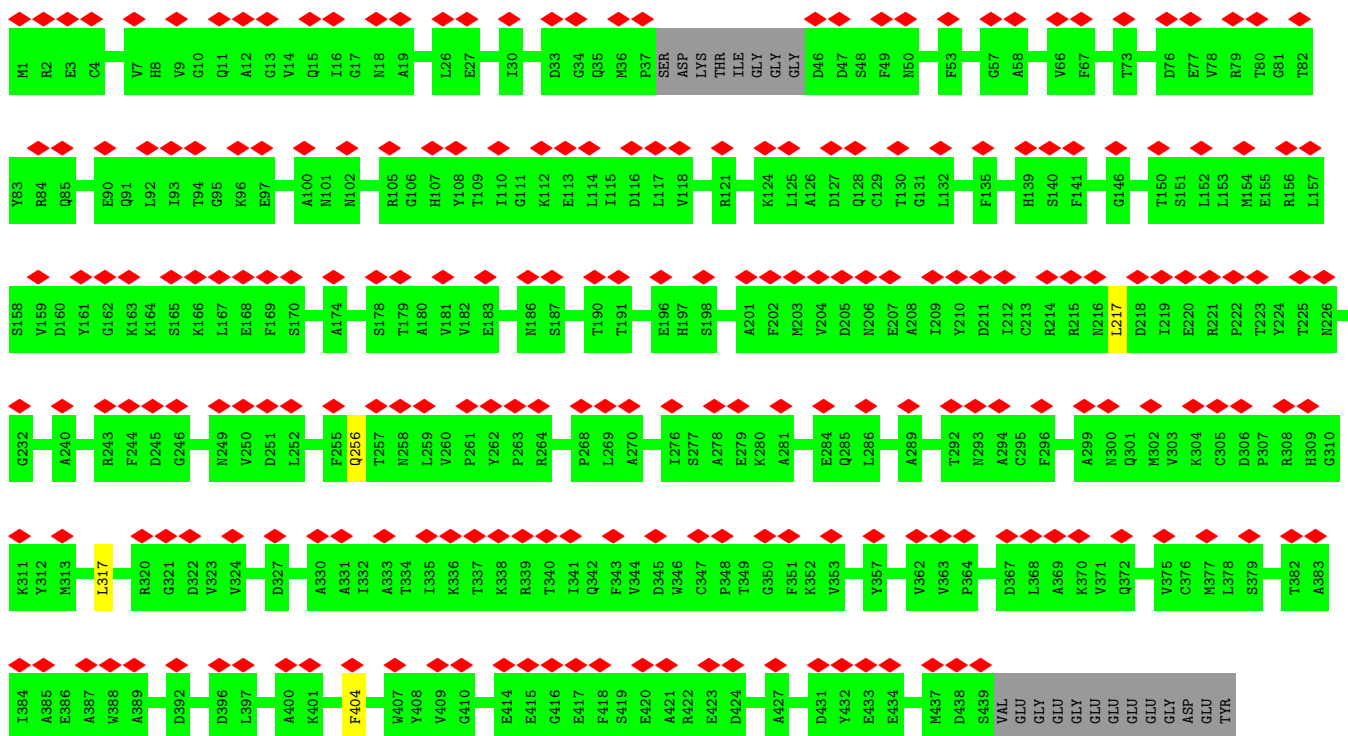


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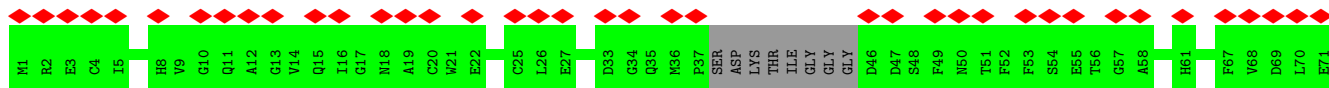
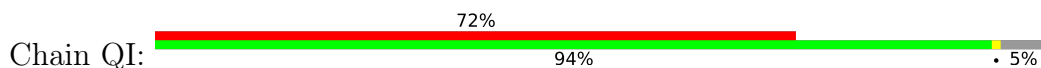


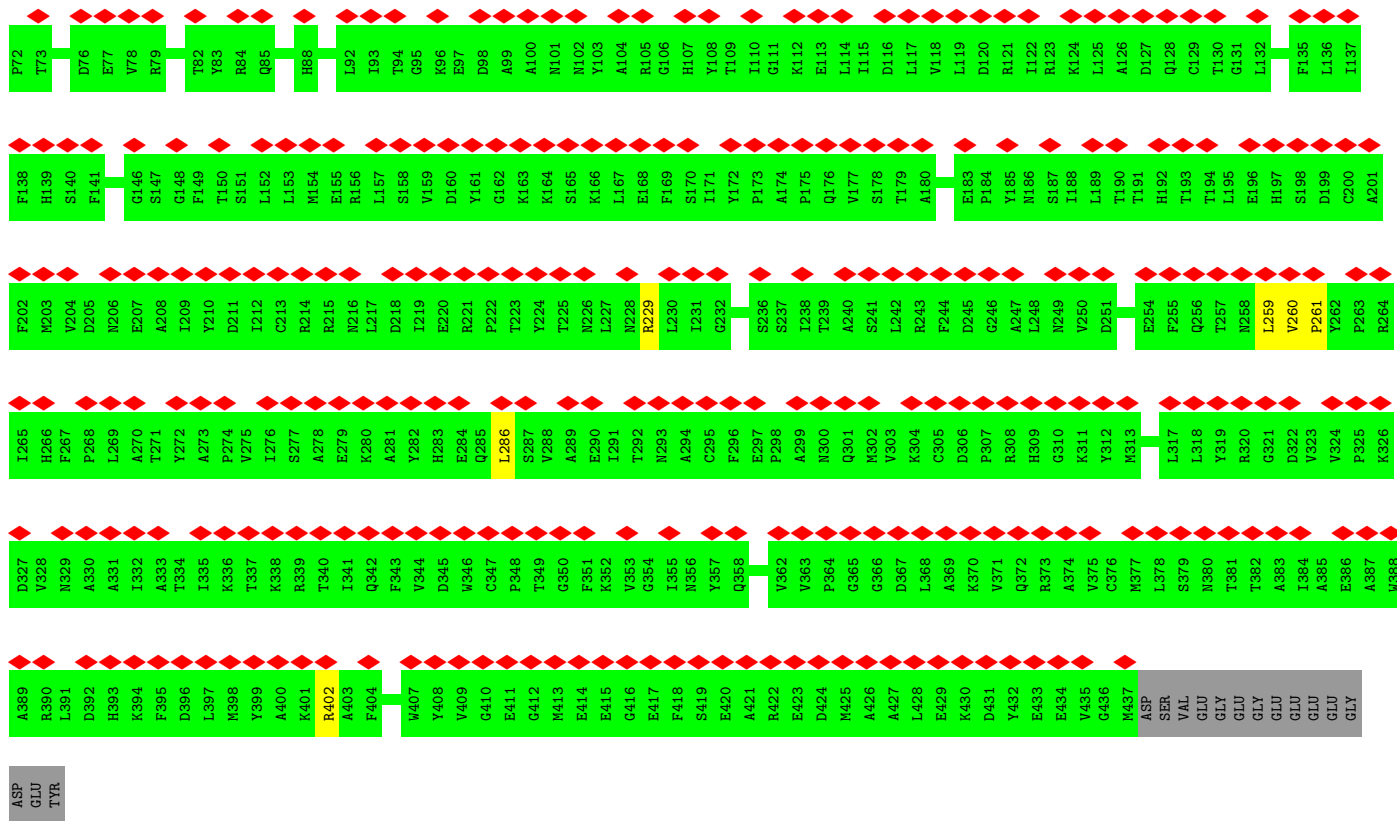


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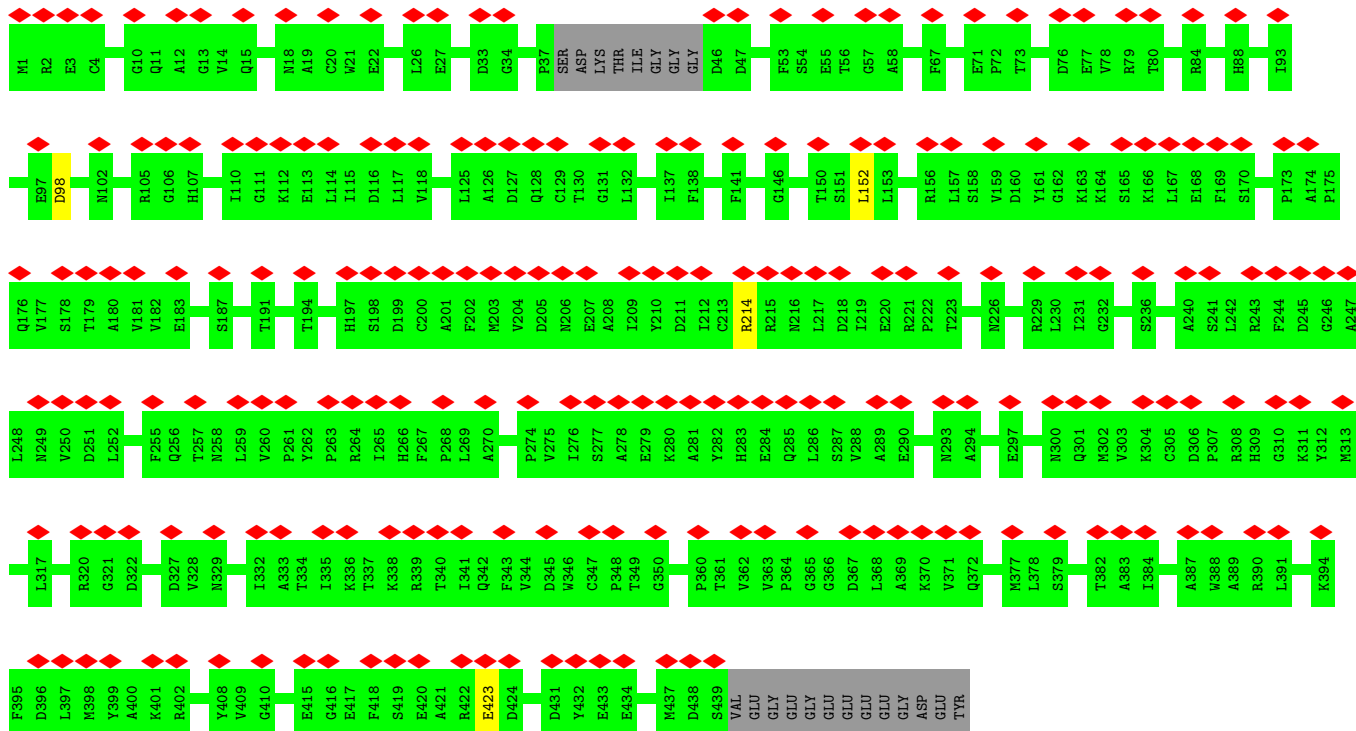


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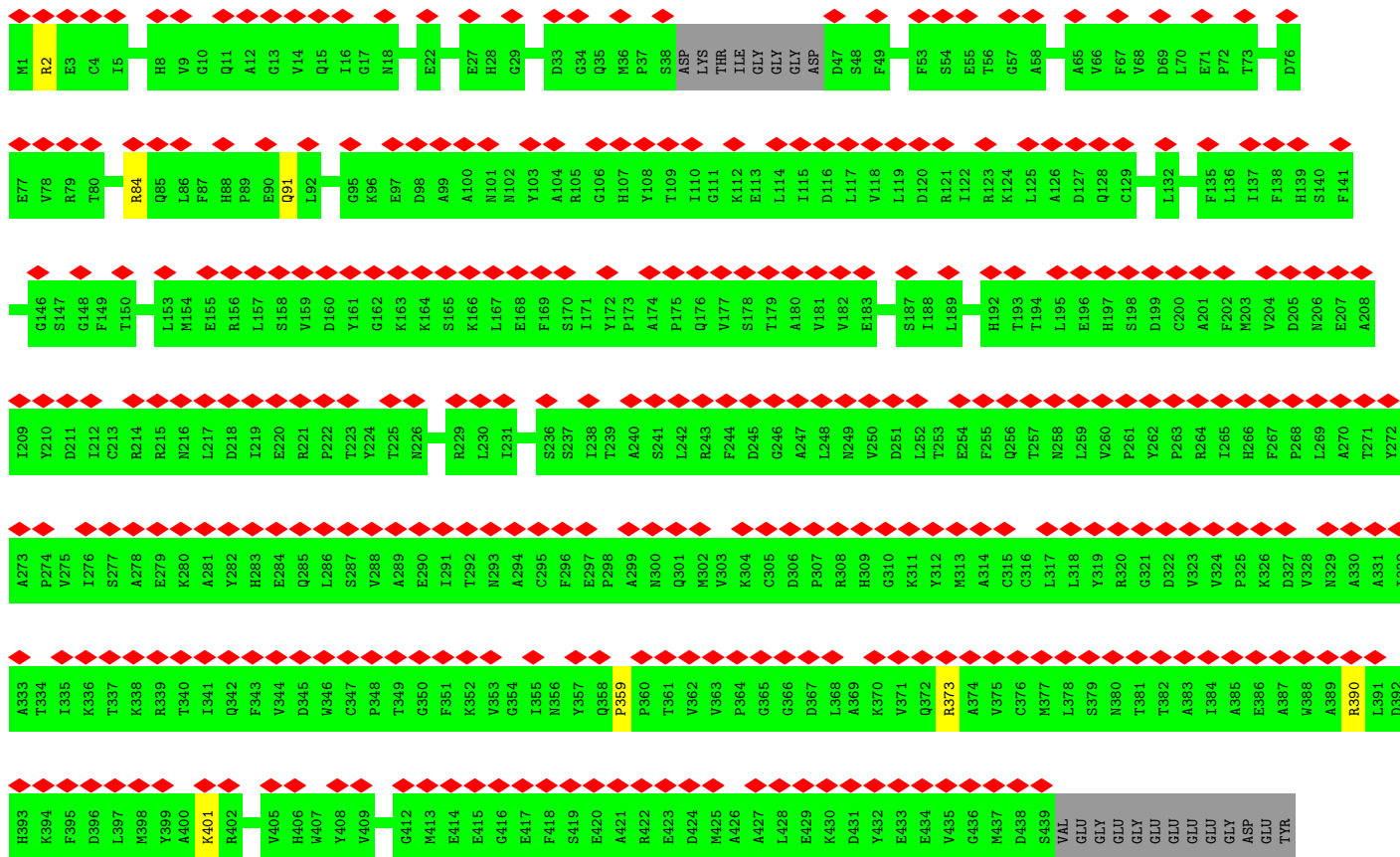
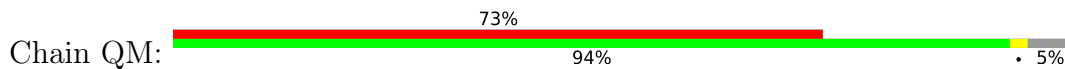




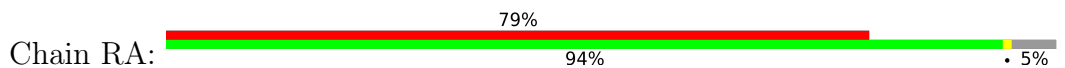
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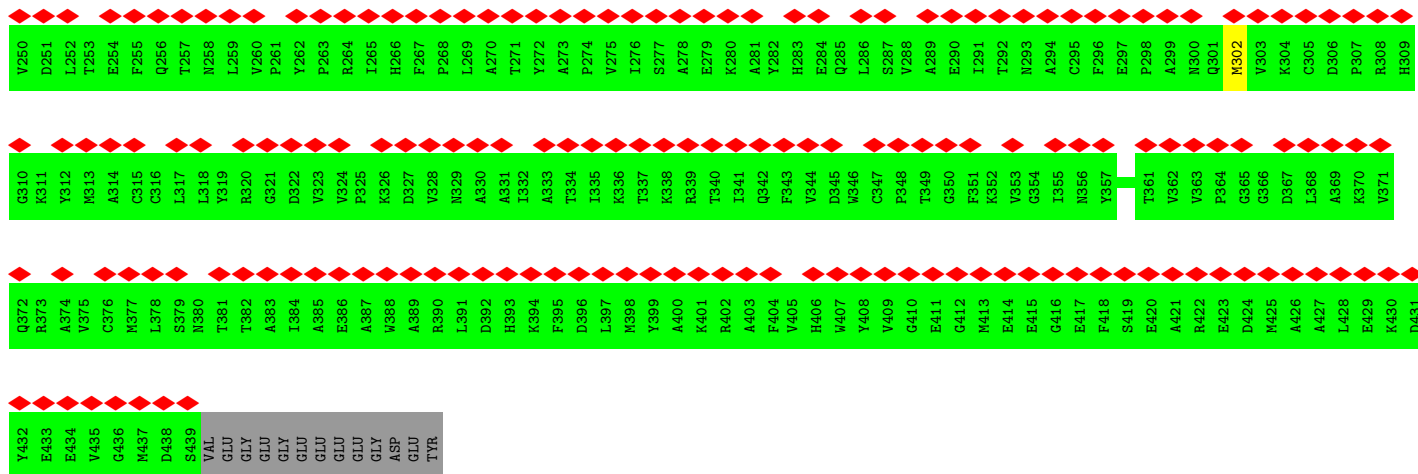


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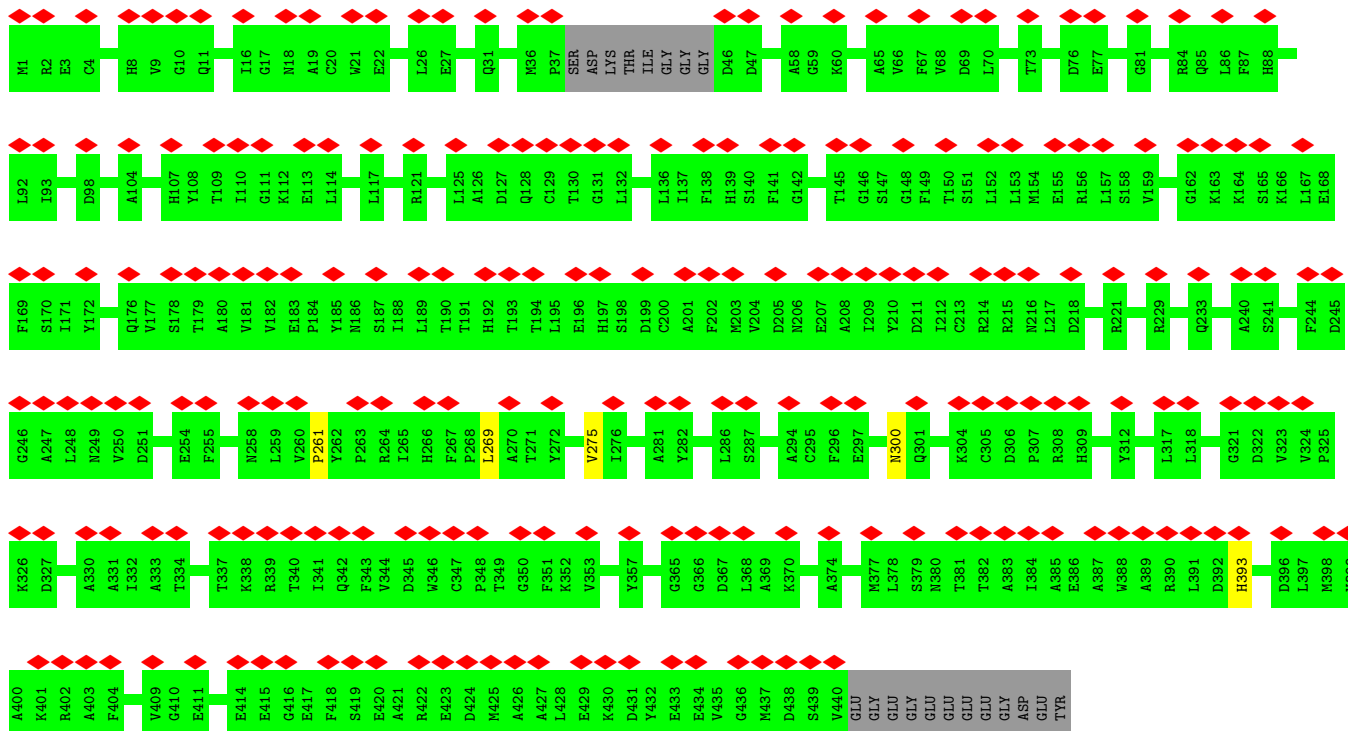


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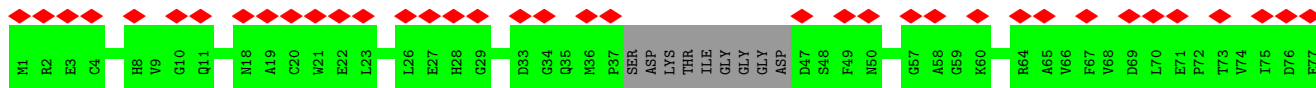


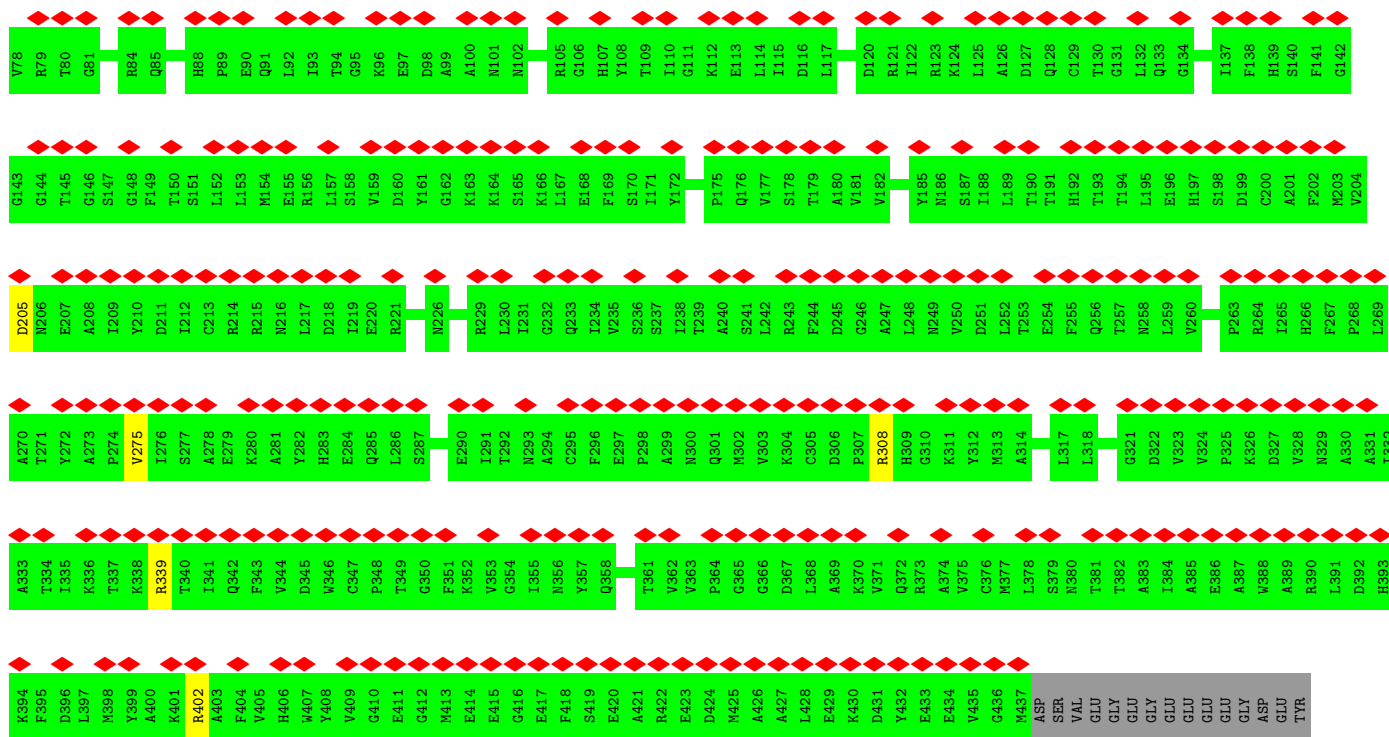


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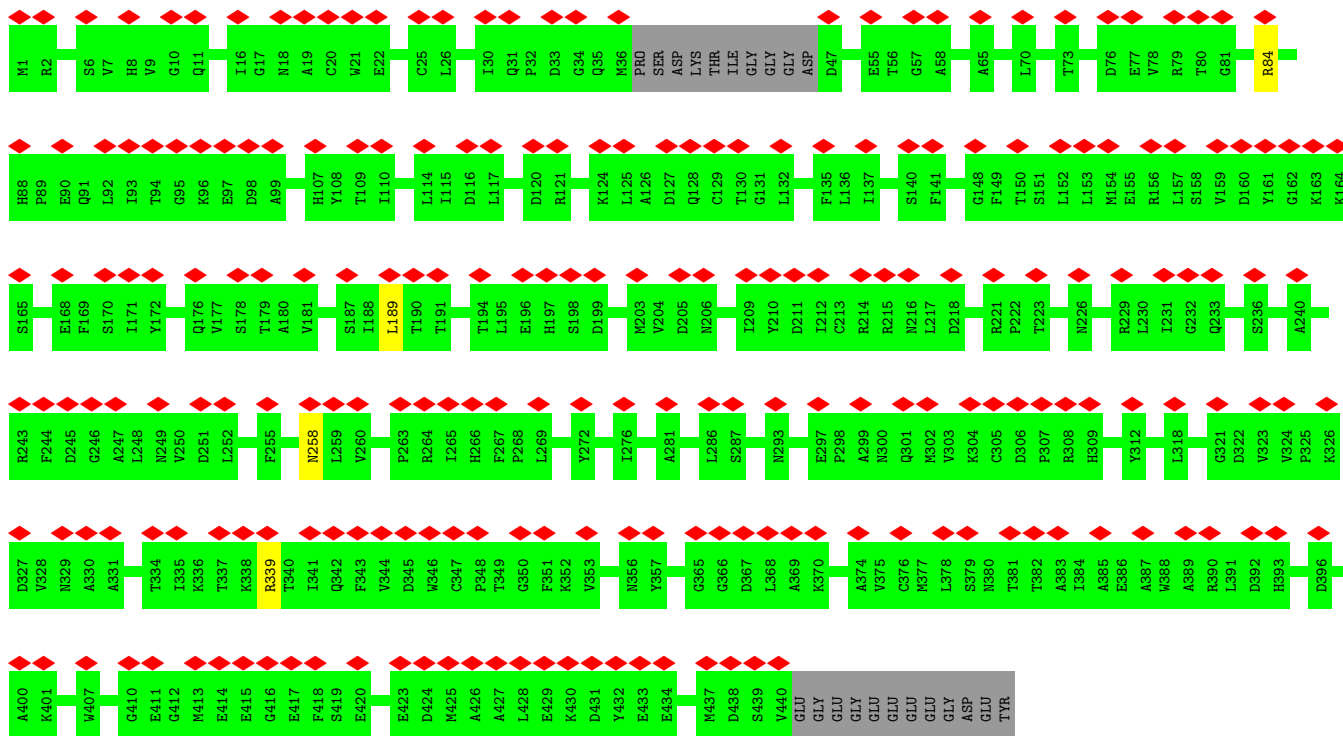


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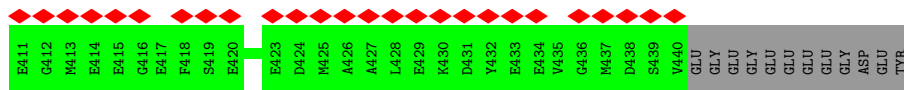




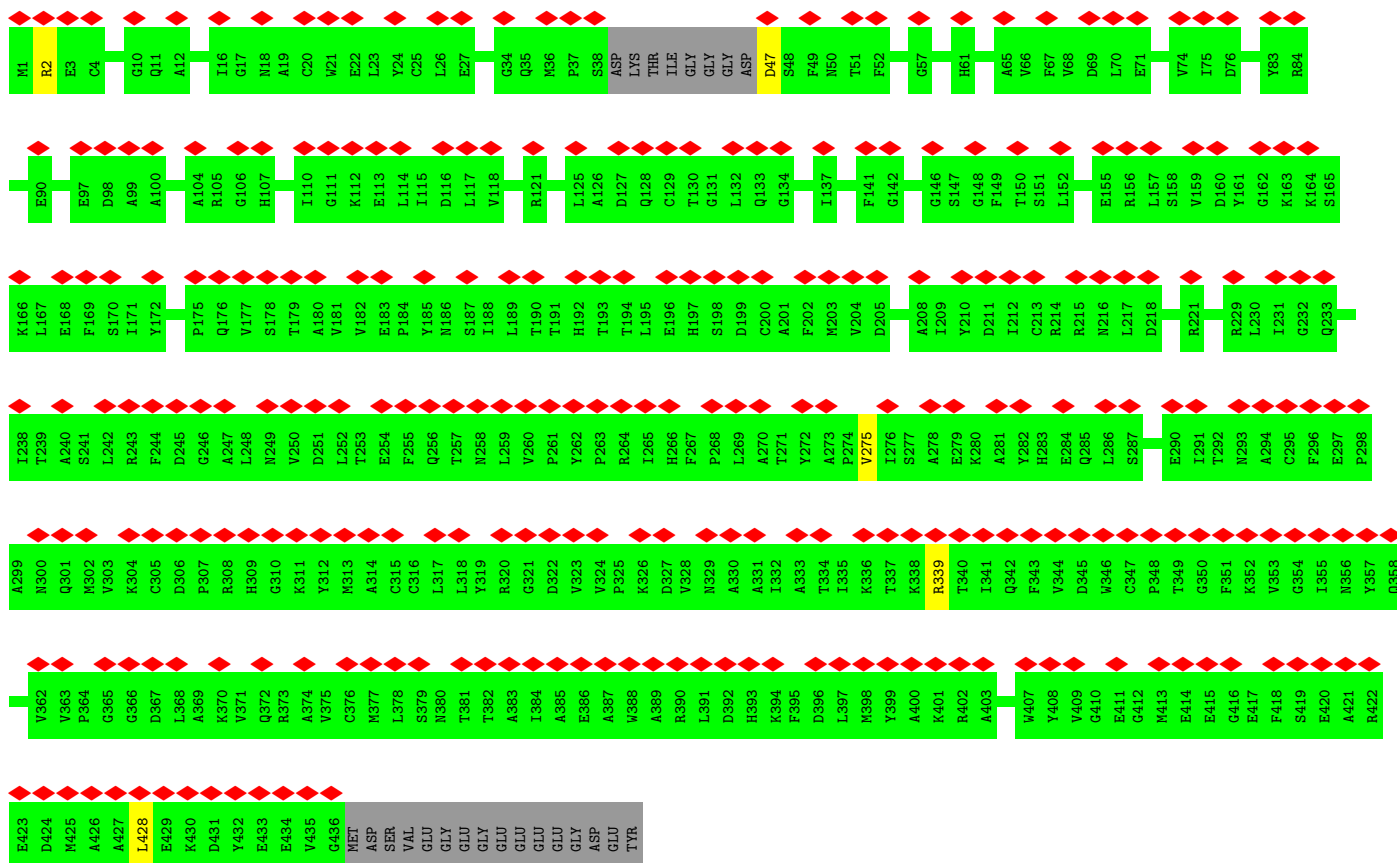
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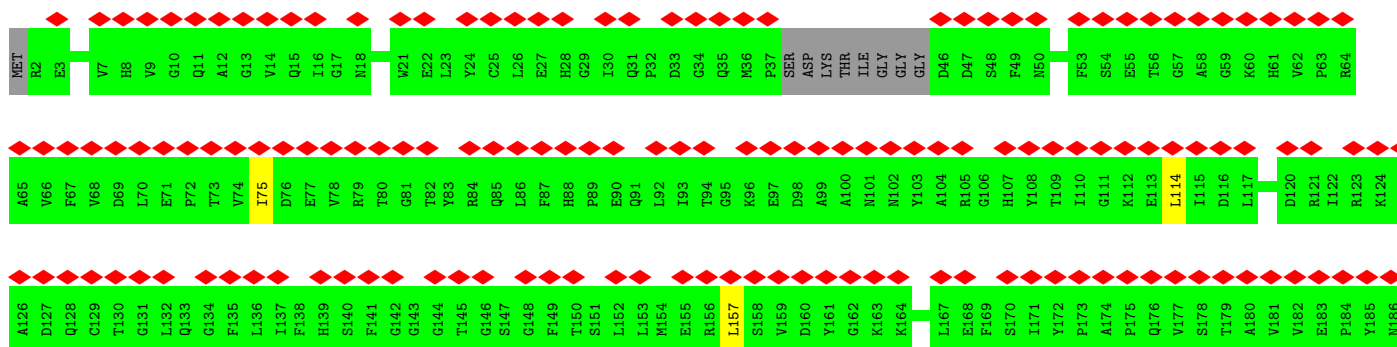
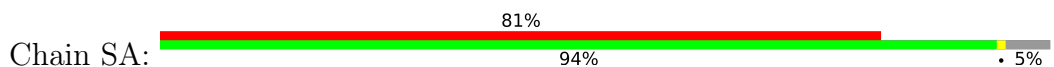
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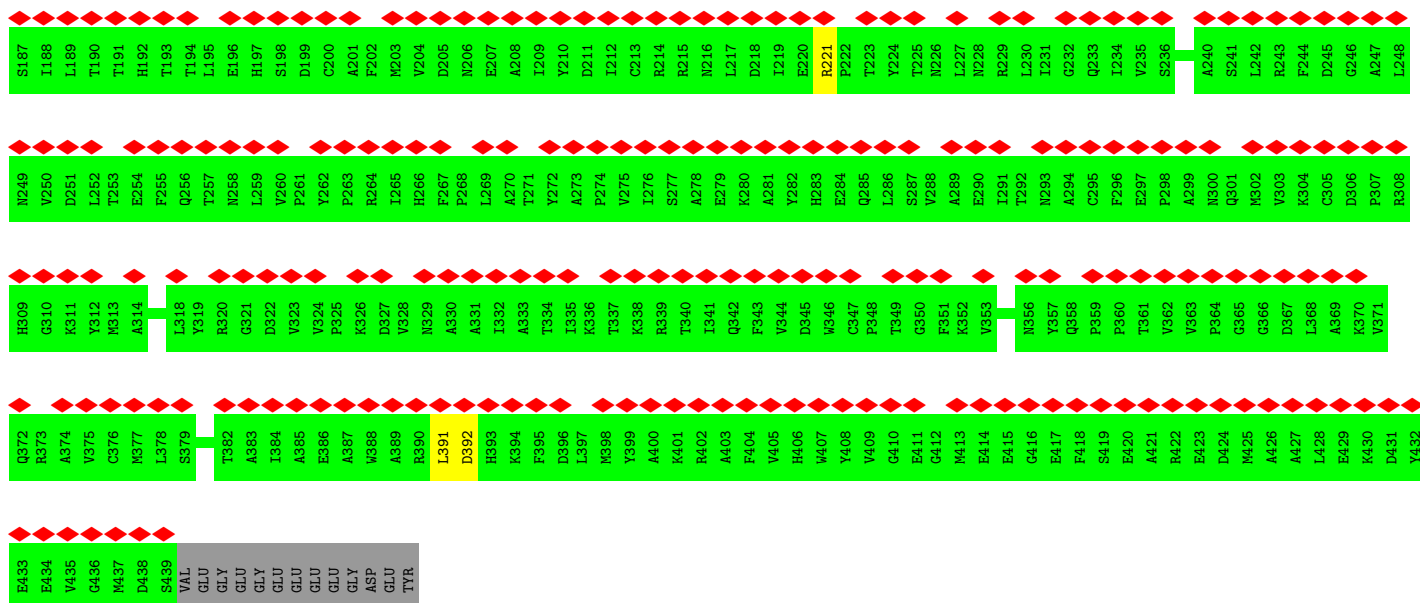


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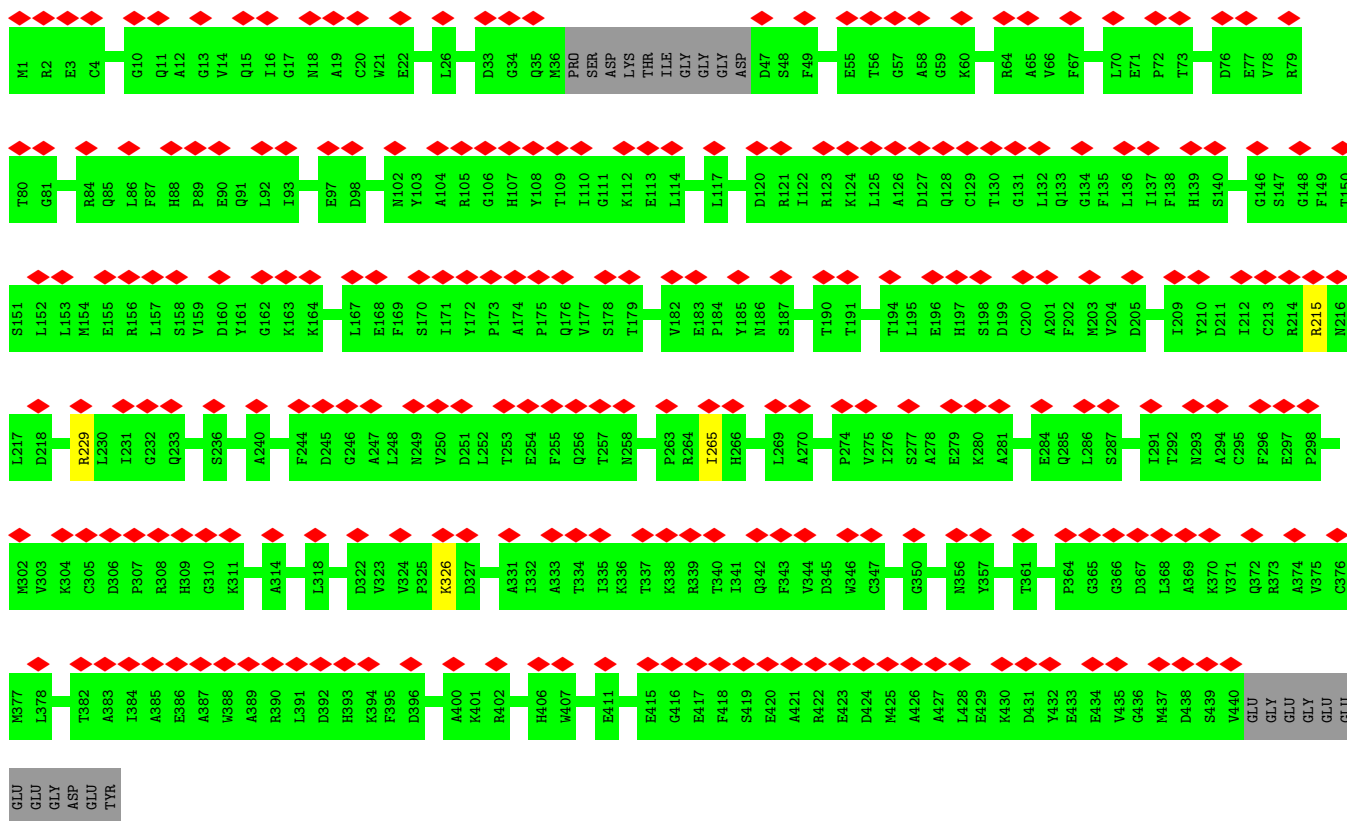


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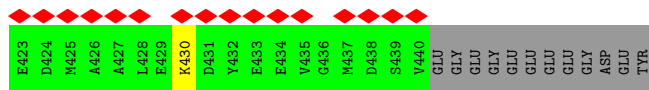


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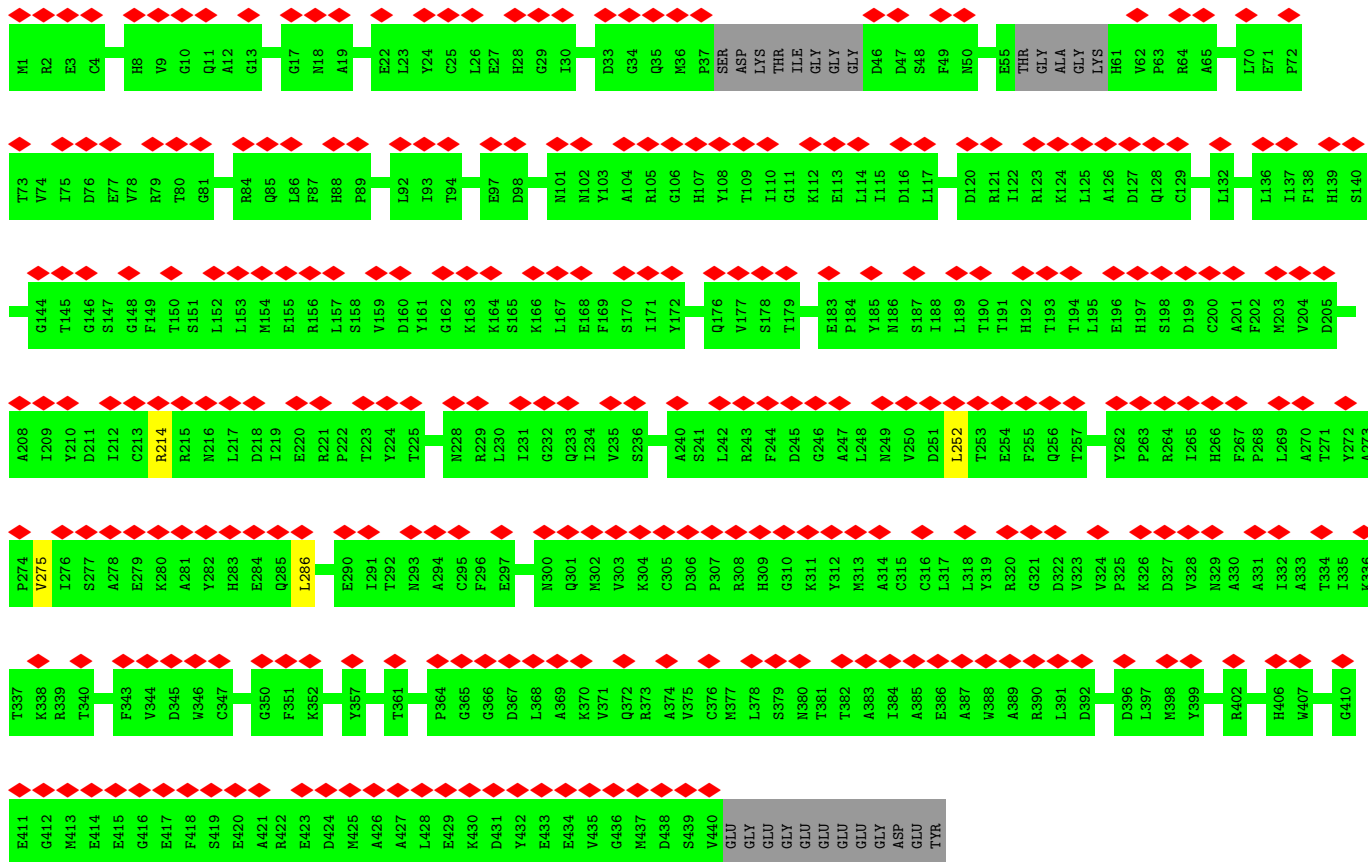
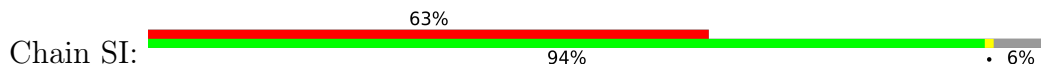


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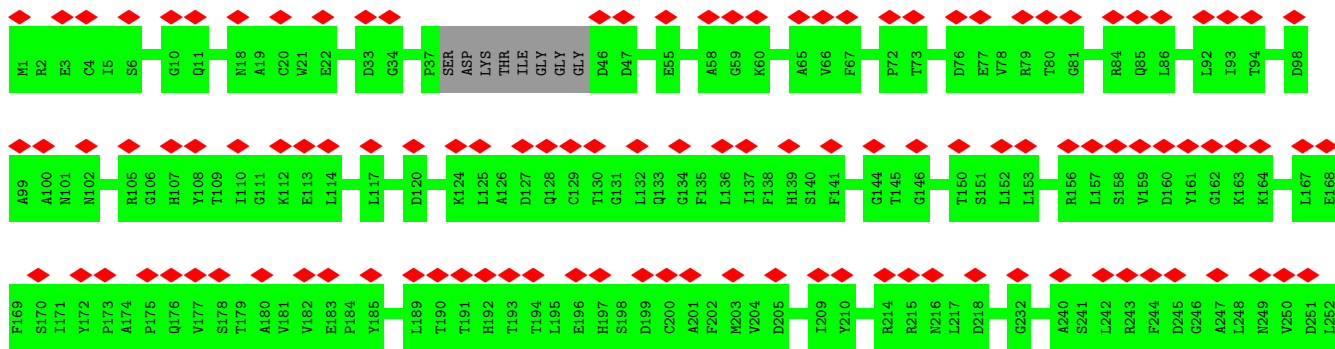


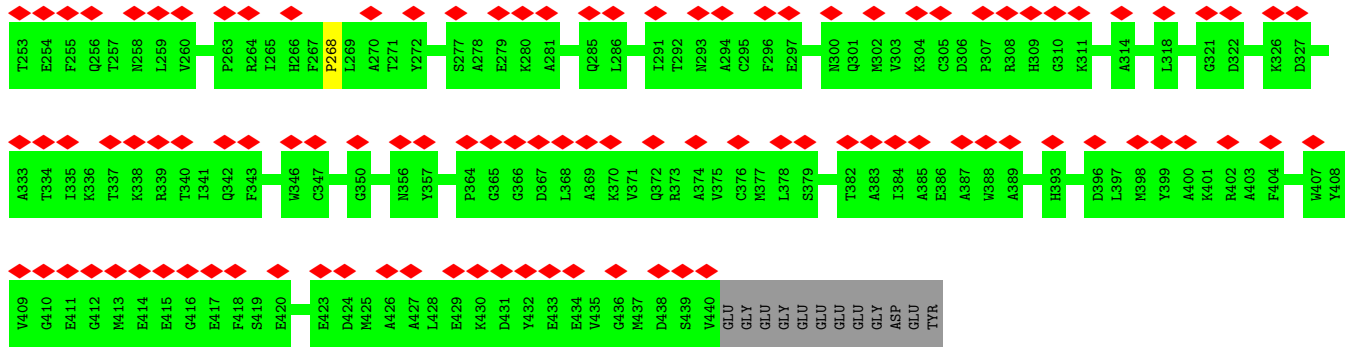


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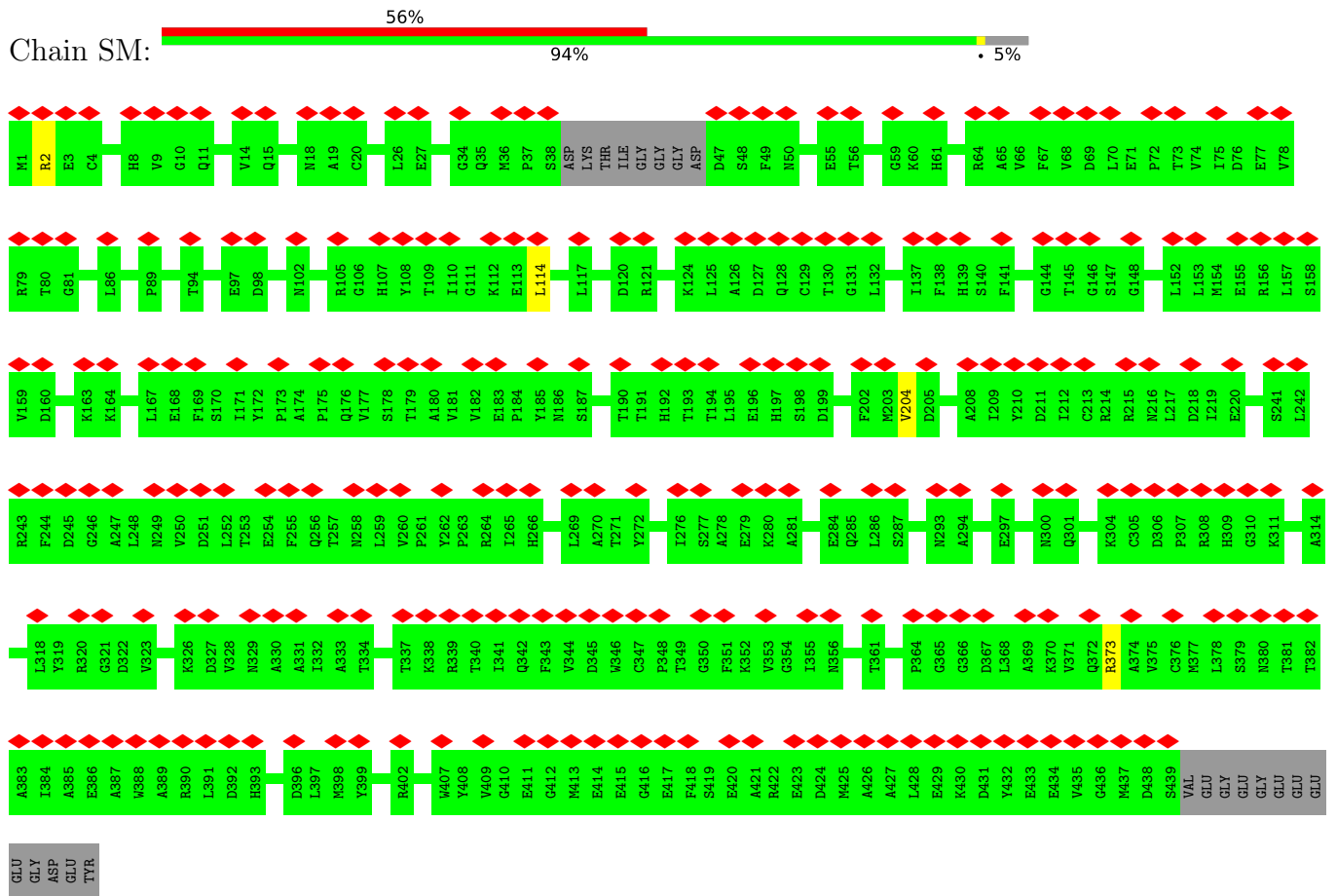


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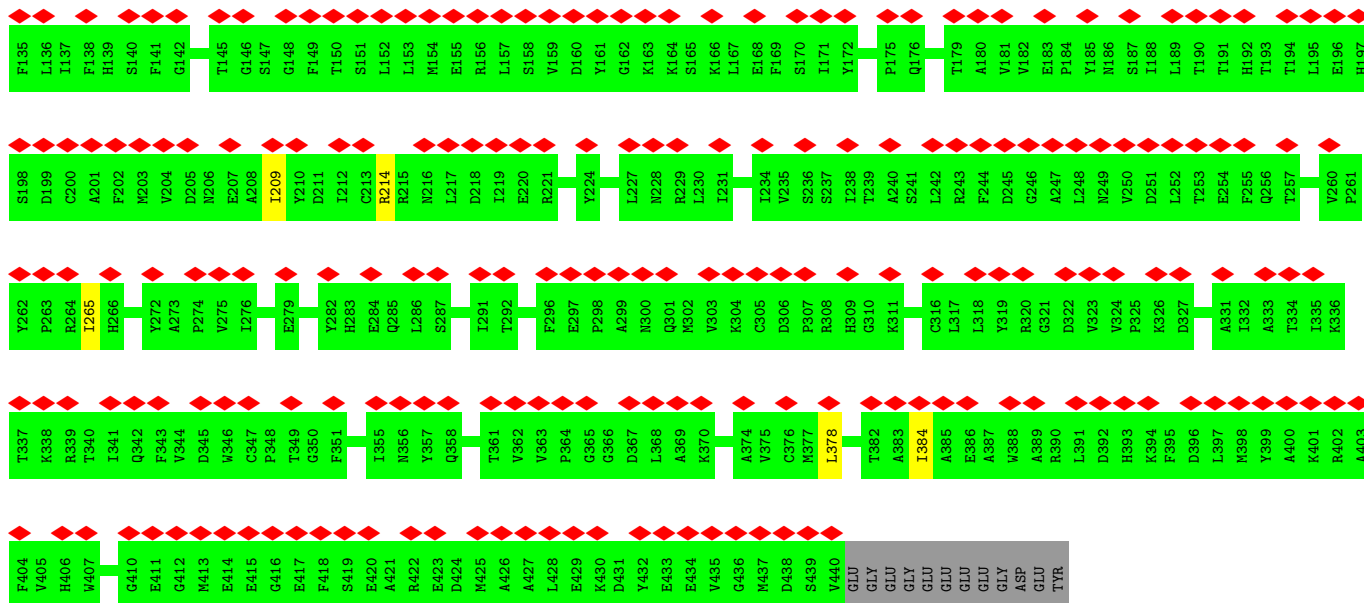




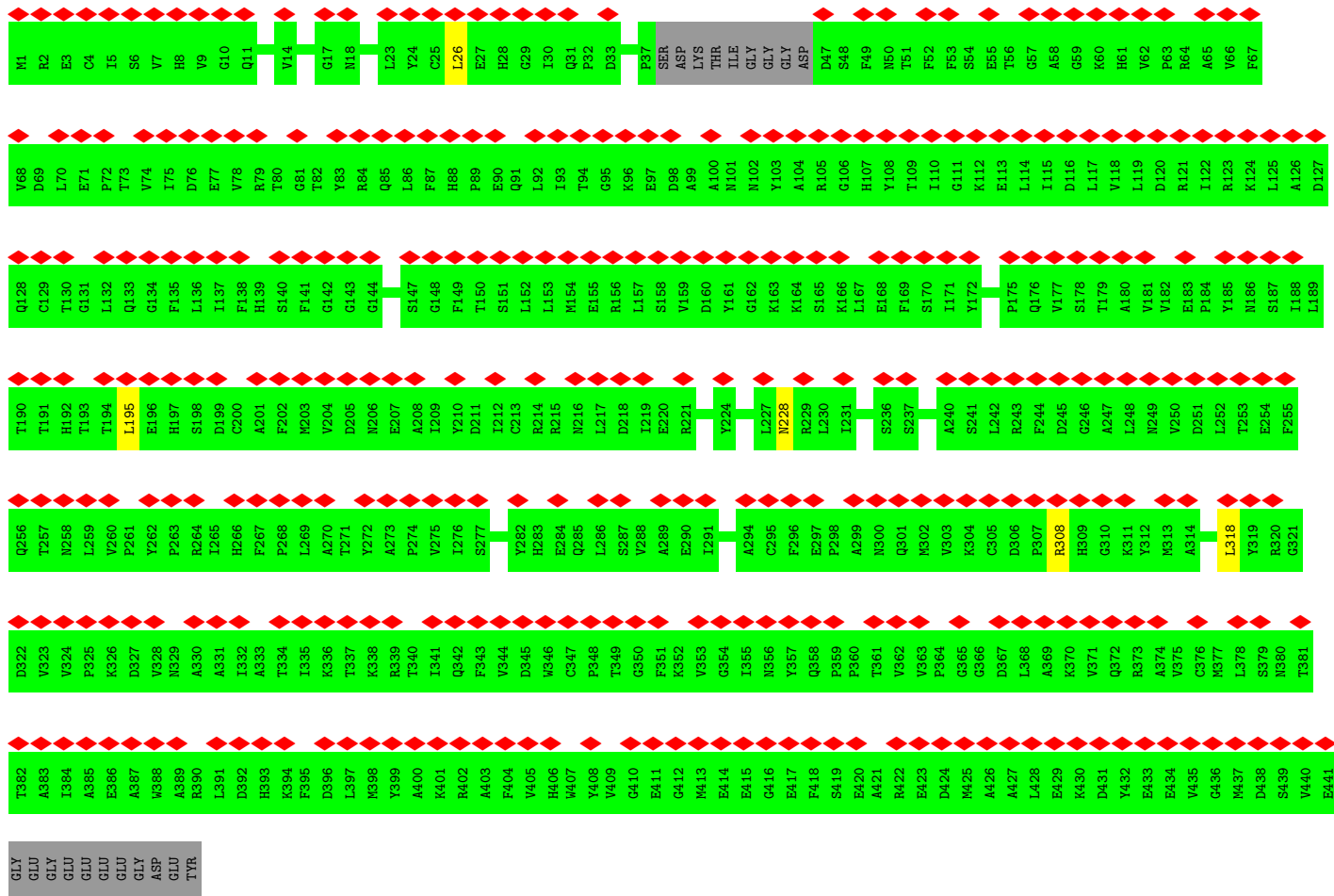
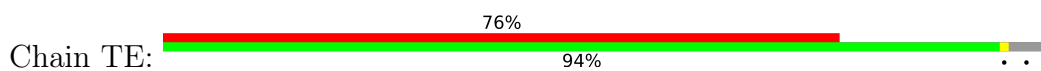
• Molecule 8: Tubulin alpha-1D chain



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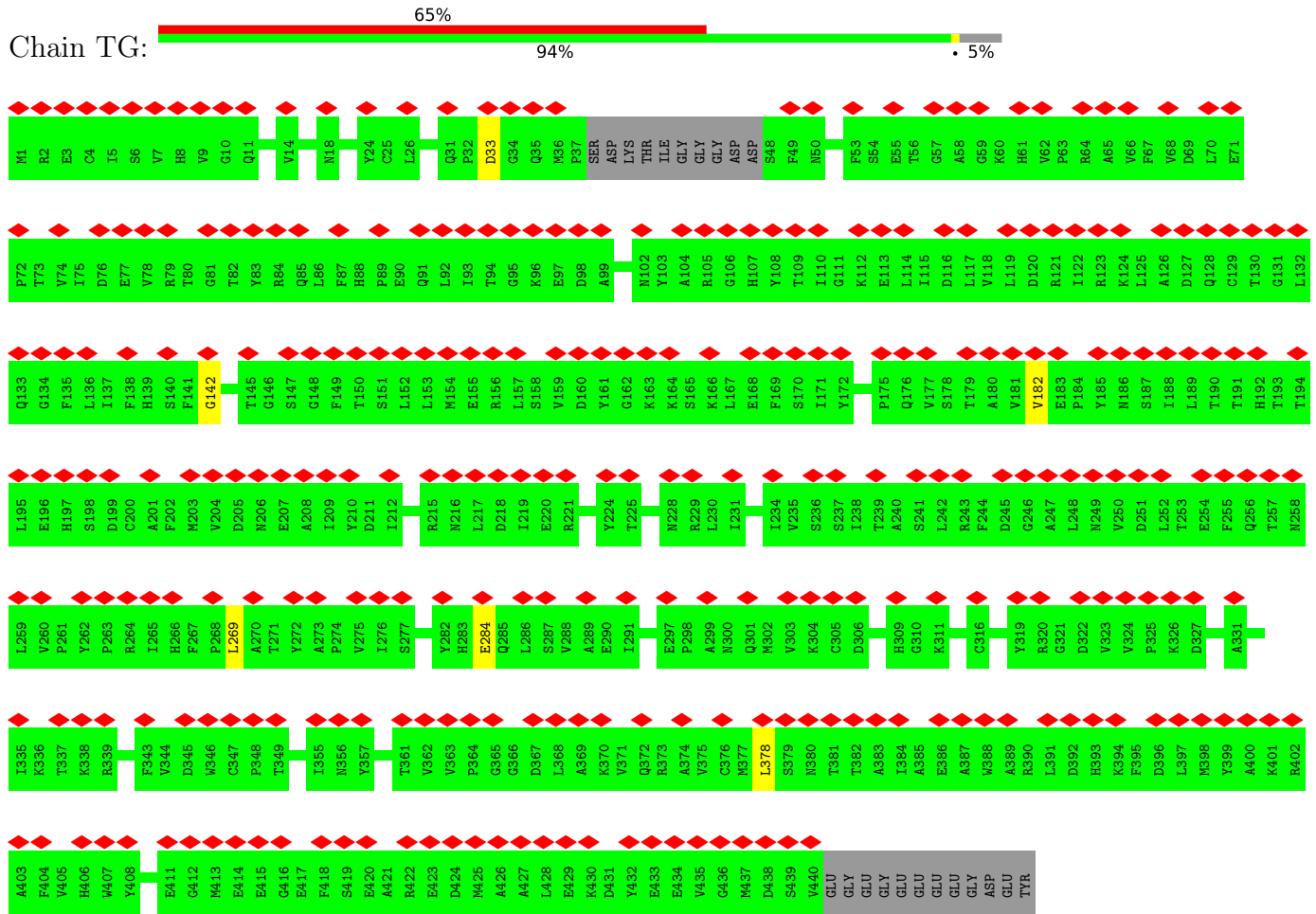


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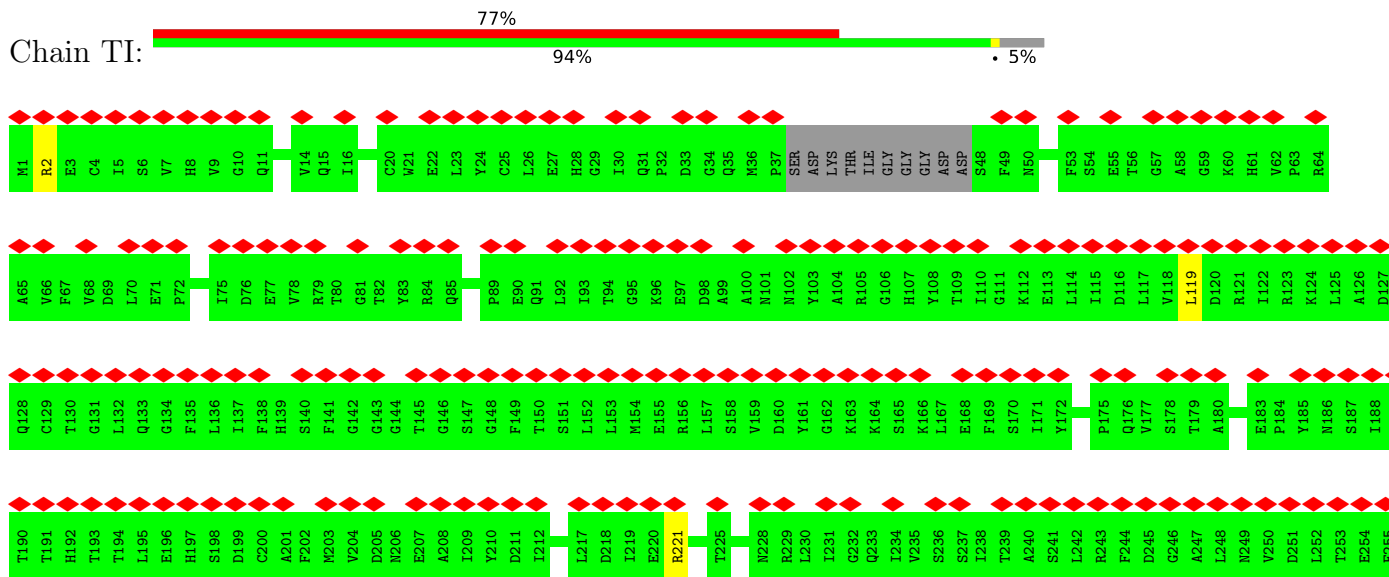


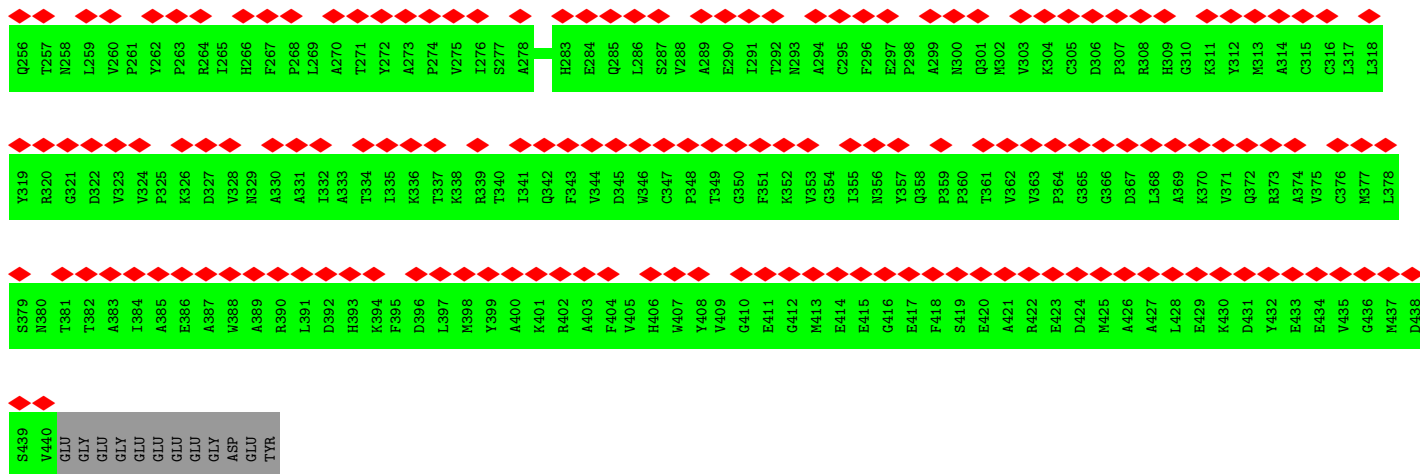
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GLU
GLY
GLU
GLU
GLU
GLU
GLY
GLY
ASP
GLU
TYR

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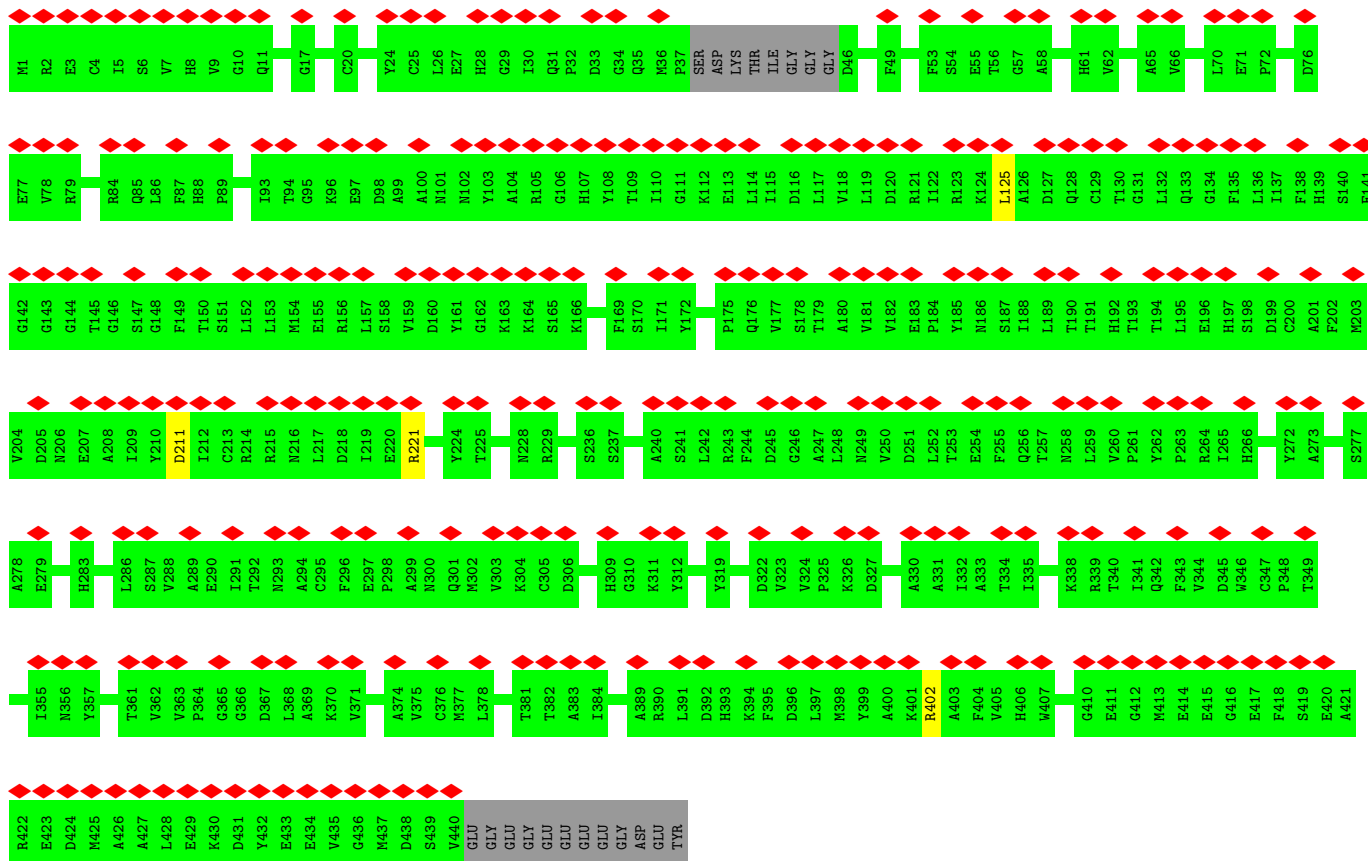


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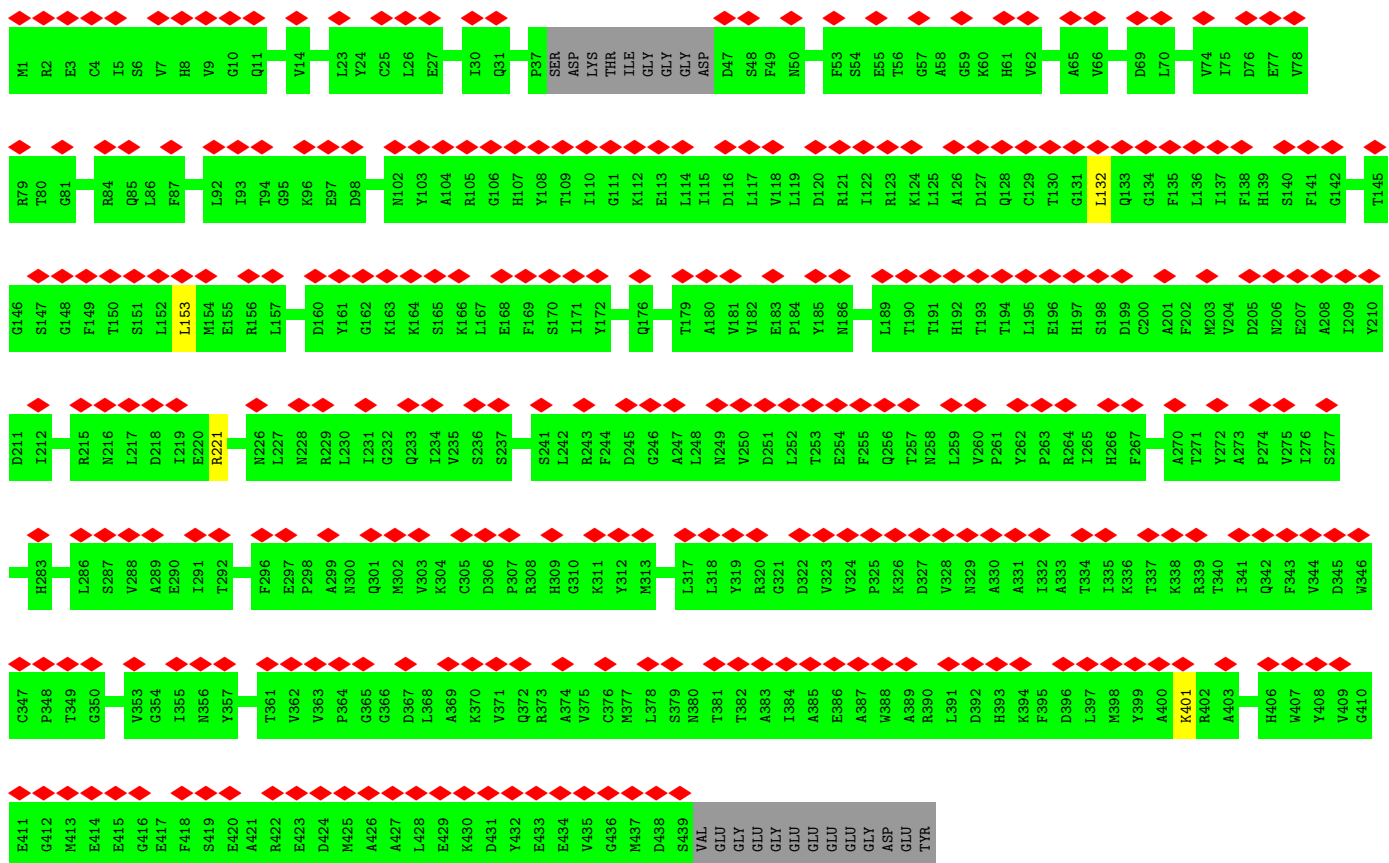


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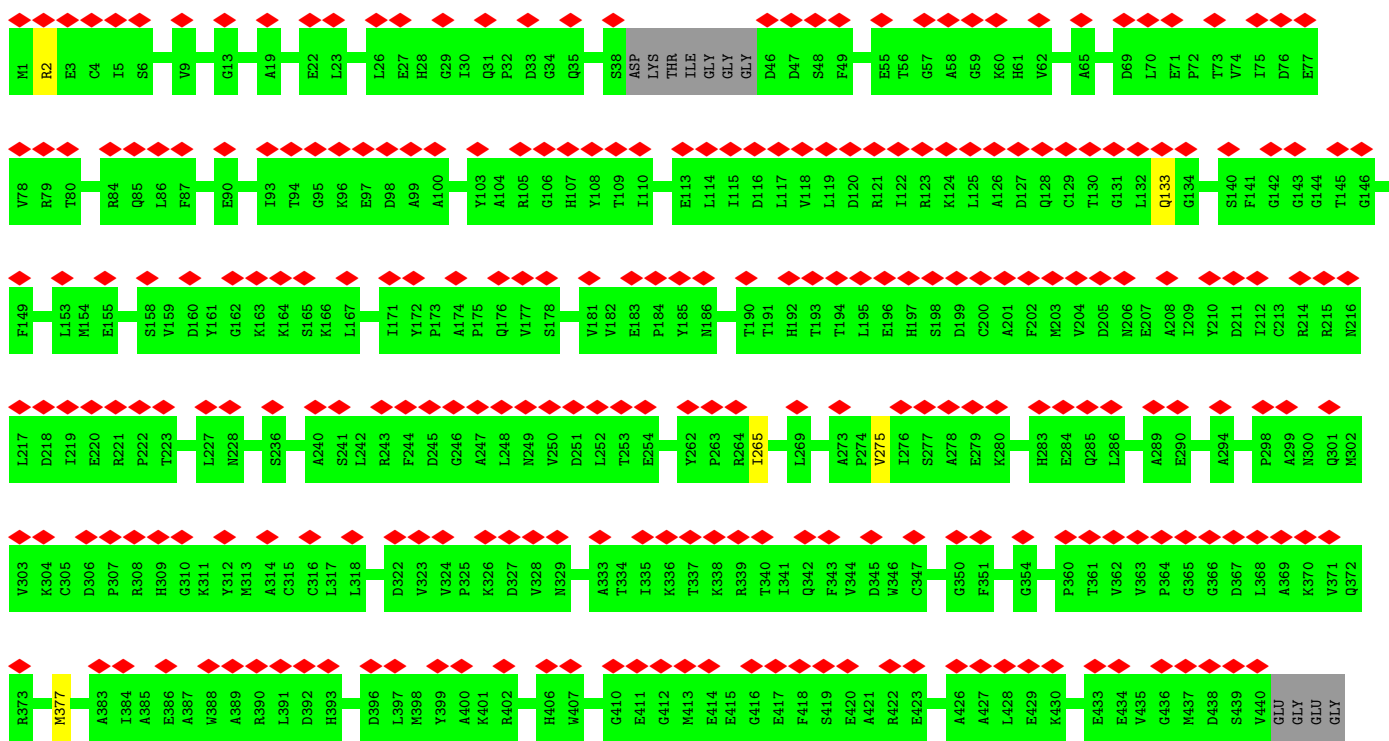


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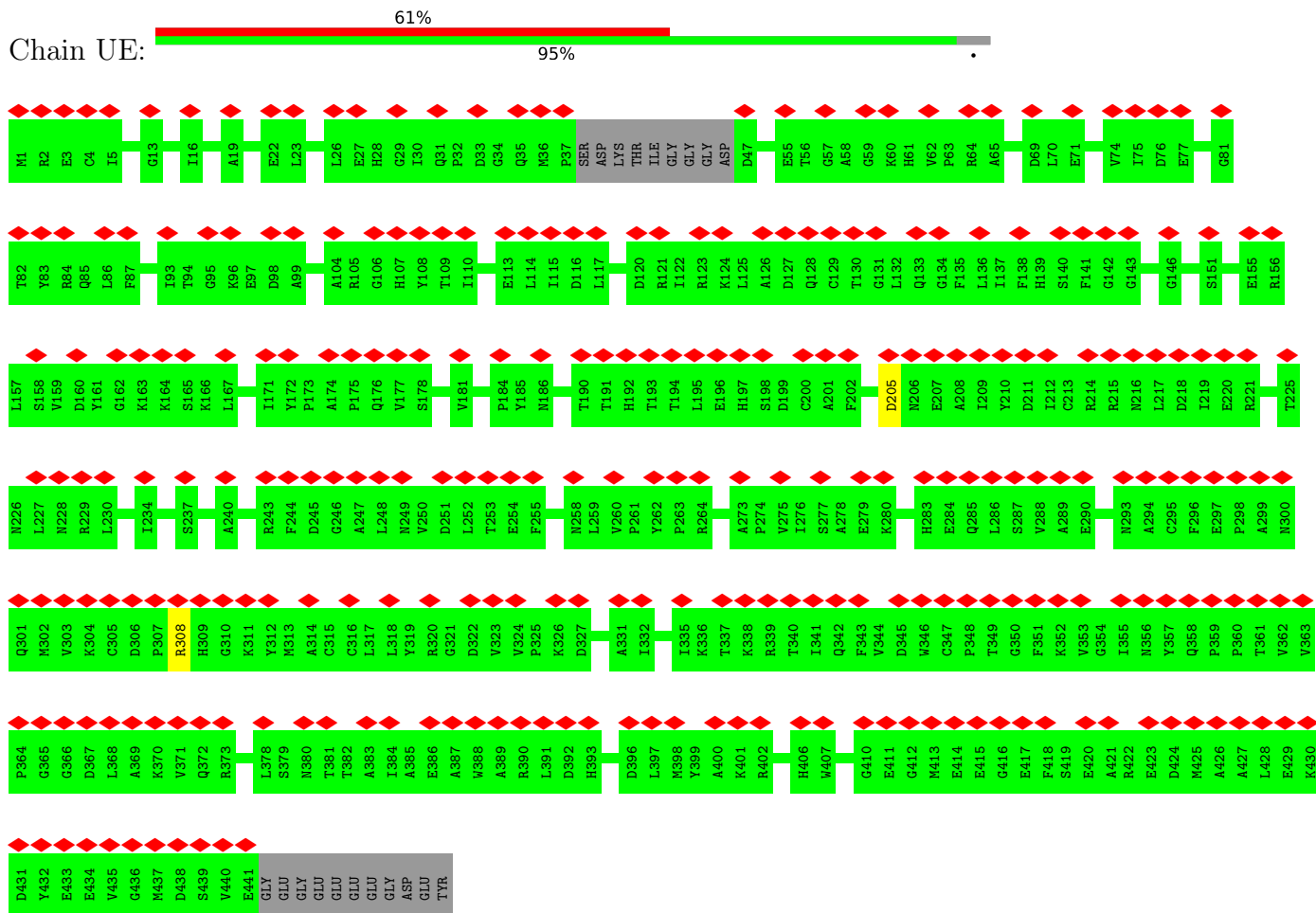


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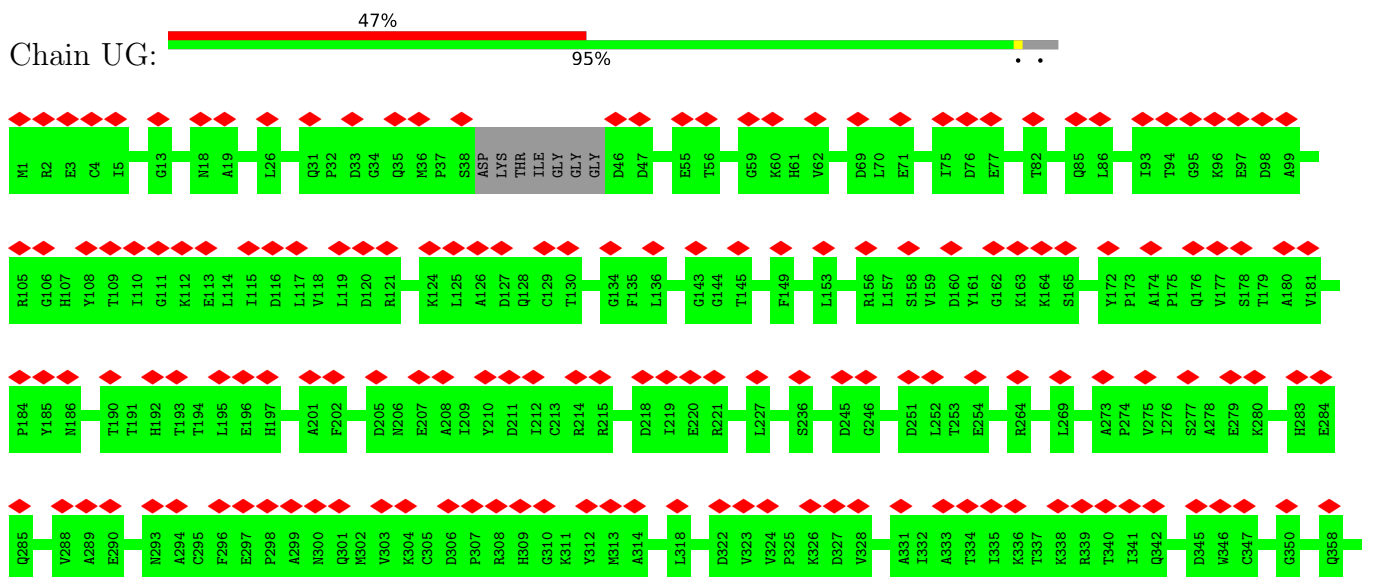


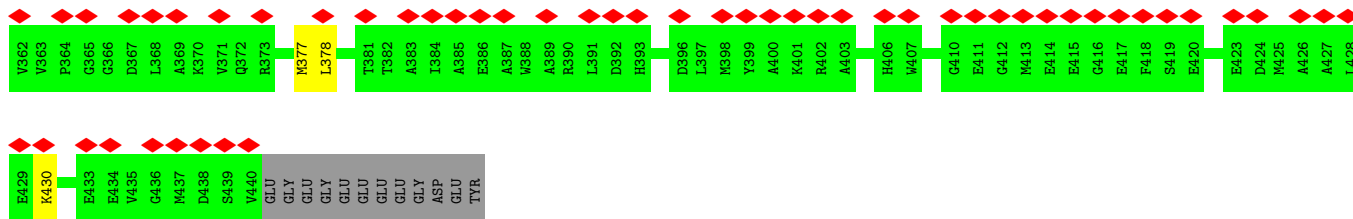
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GLU
GLU
GLY
ASP
GLU
TYR

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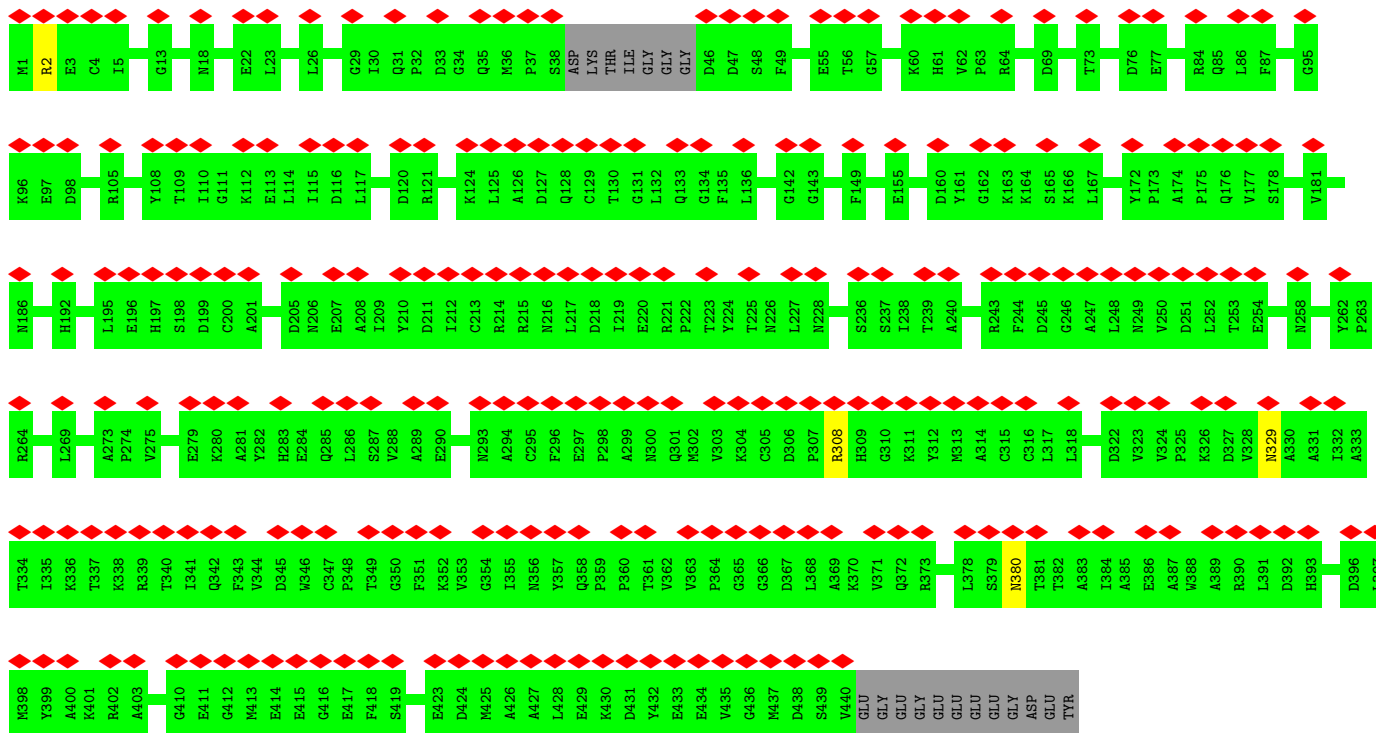


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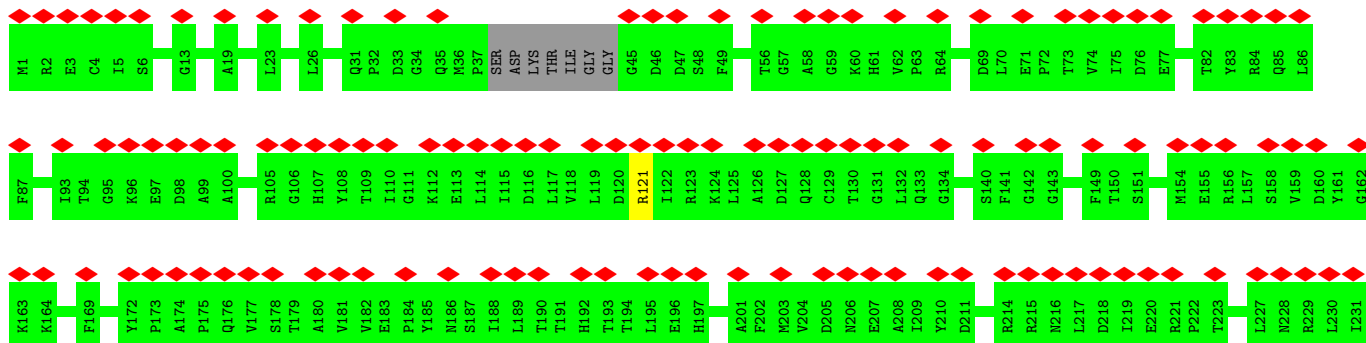


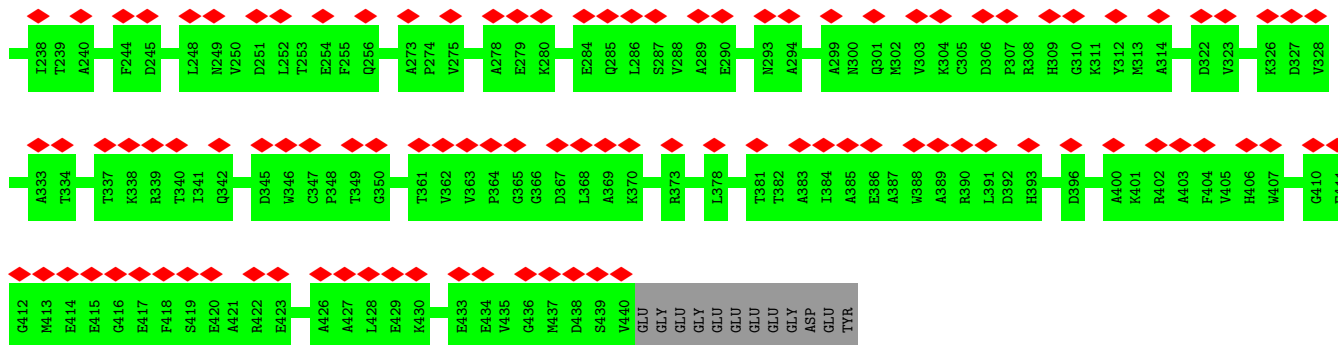


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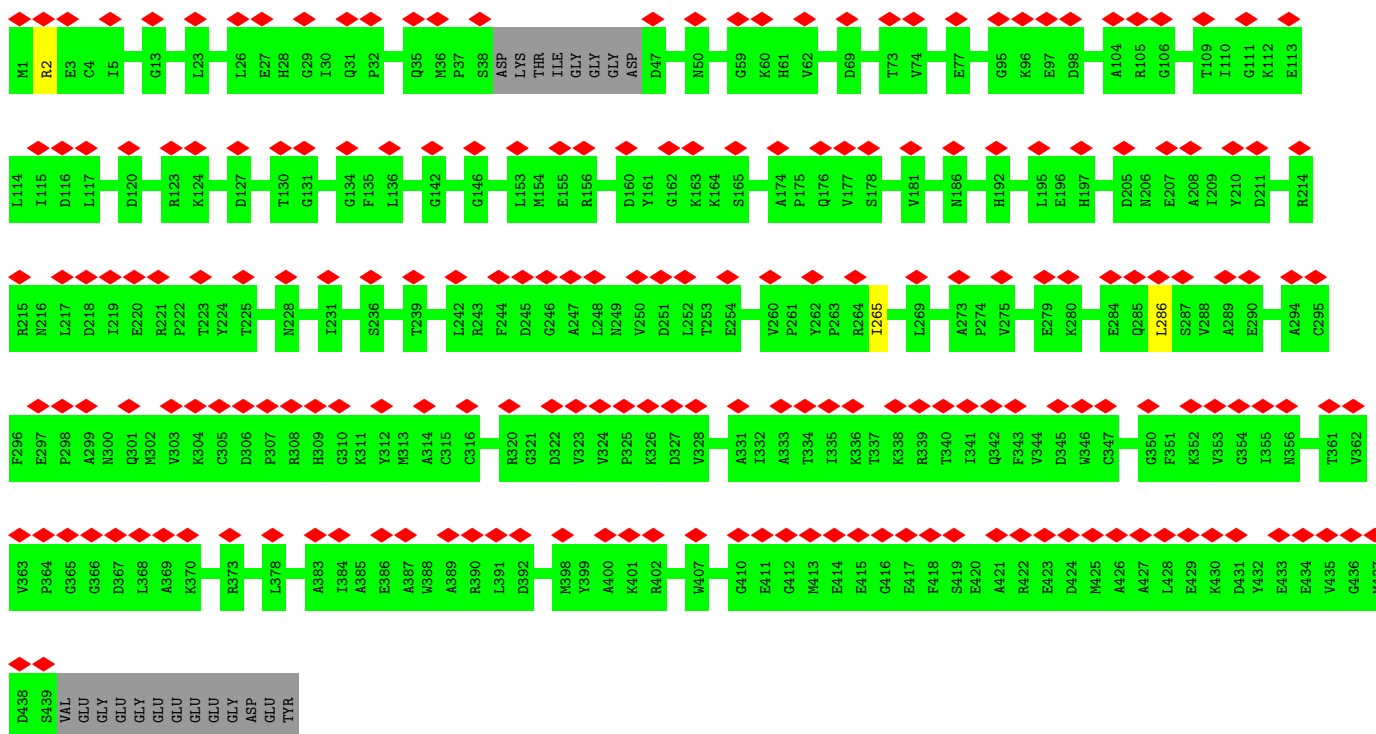


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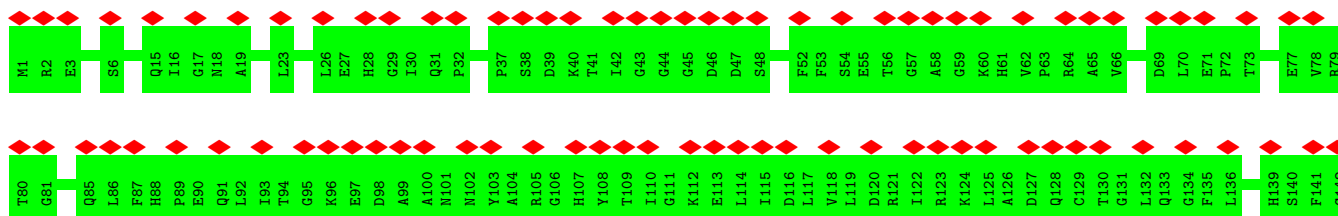


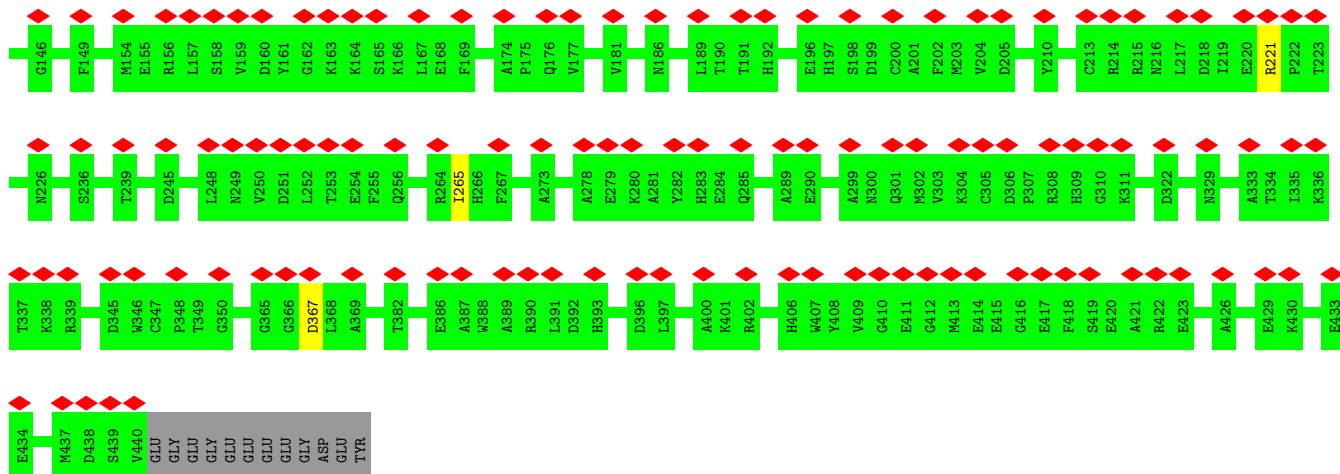


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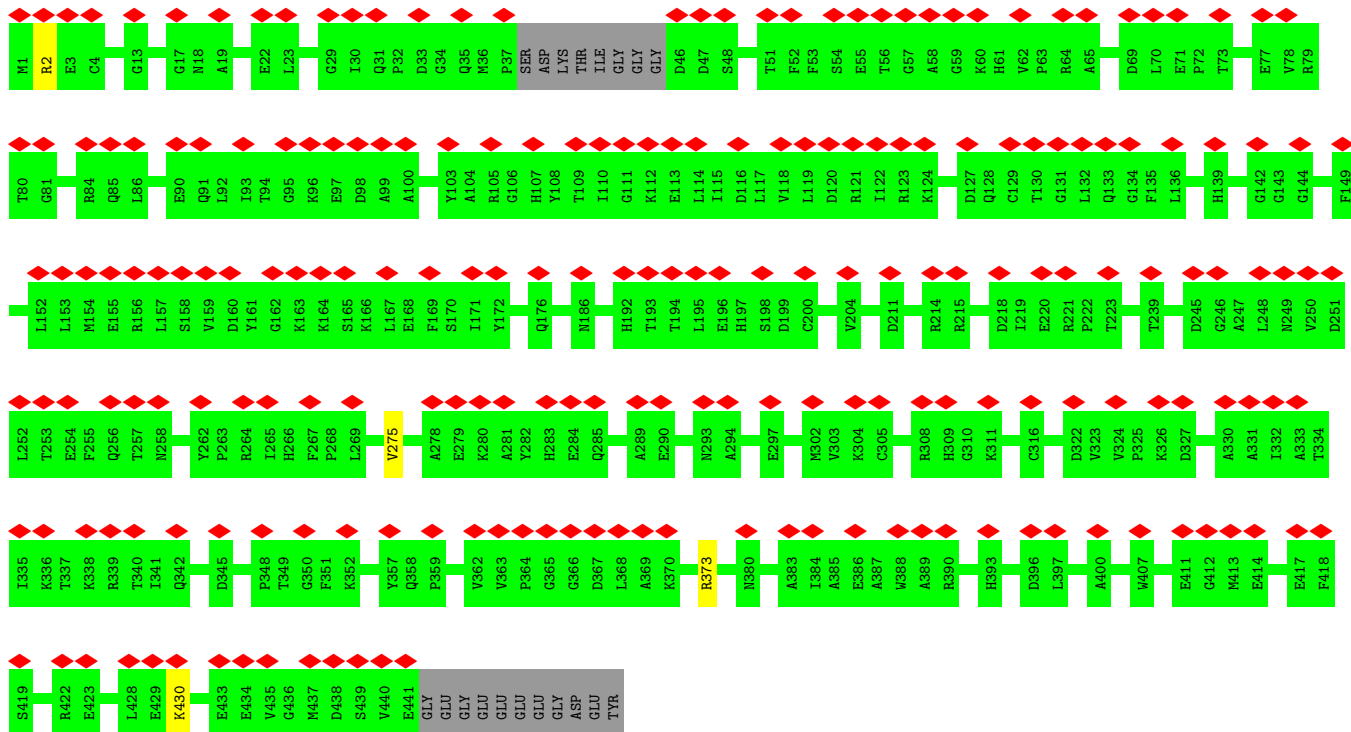


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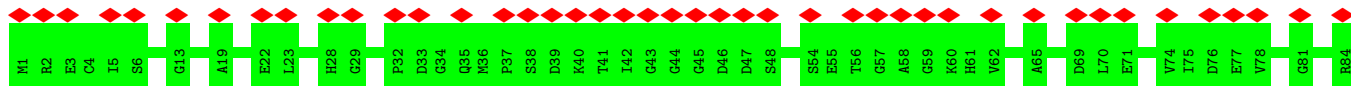


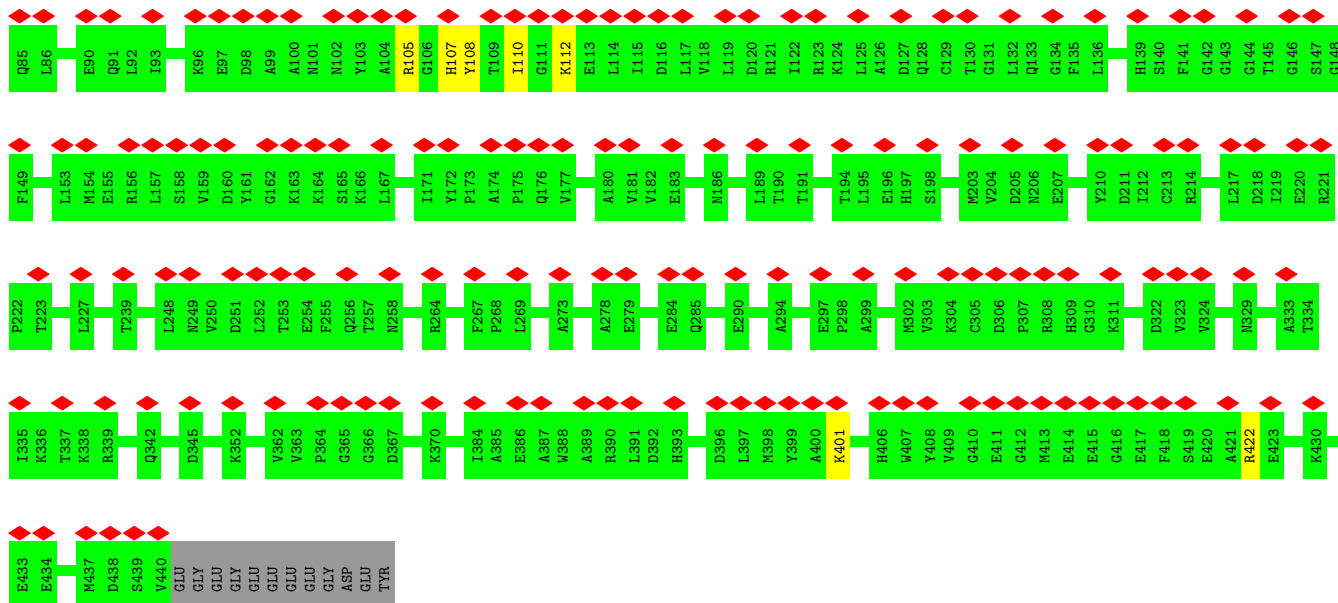


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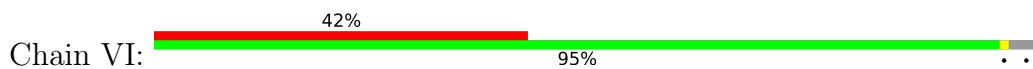


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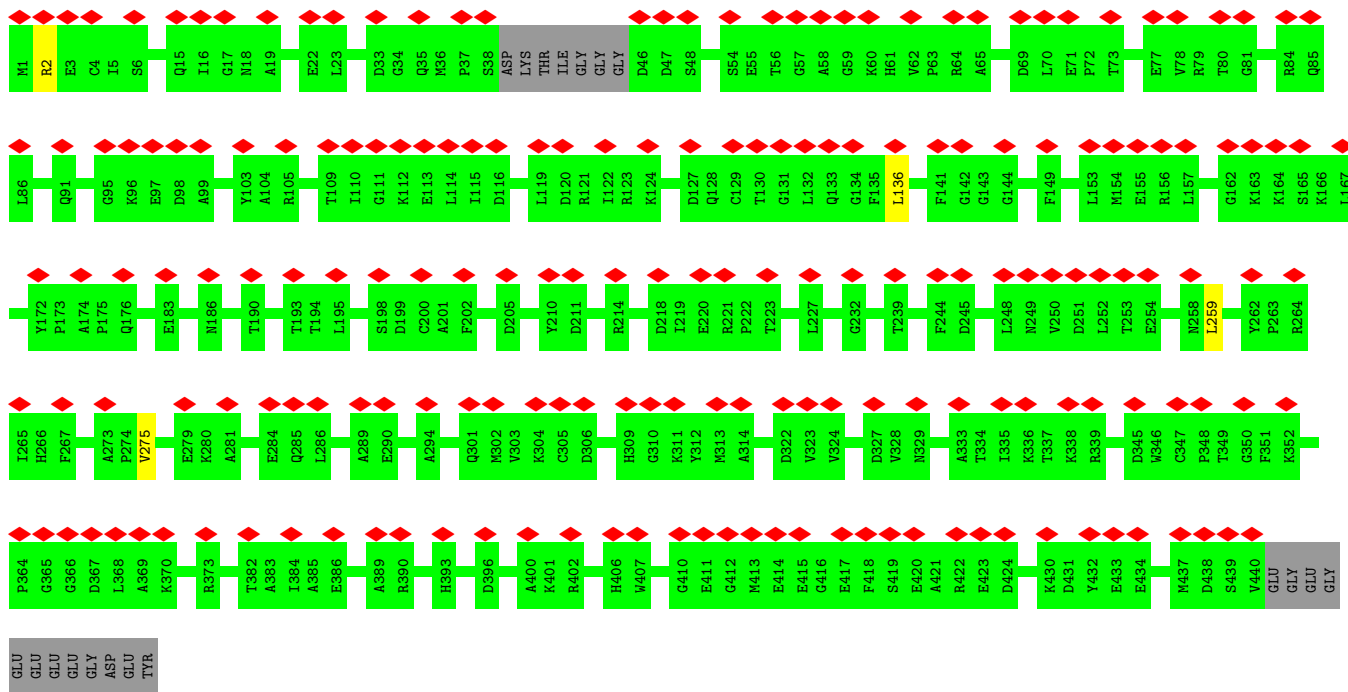




• Molecule 8: Tubulin alpha-1D chain



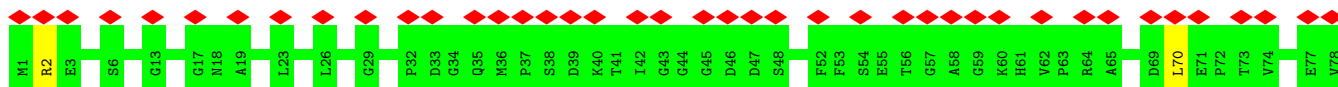
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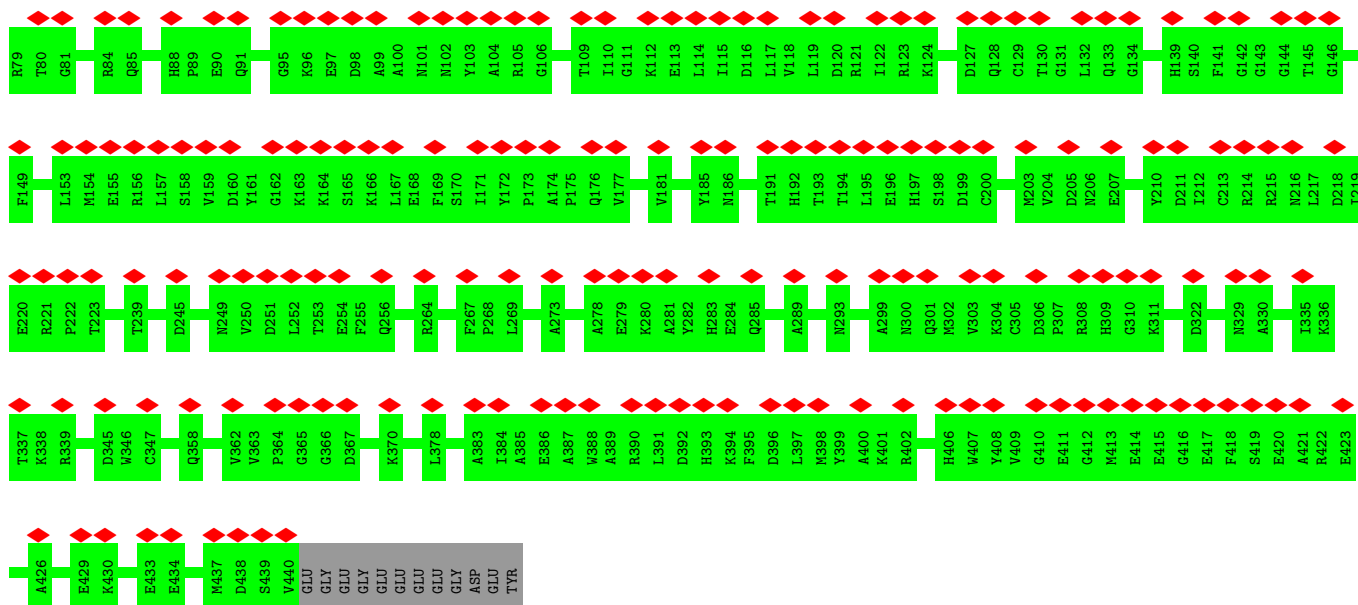


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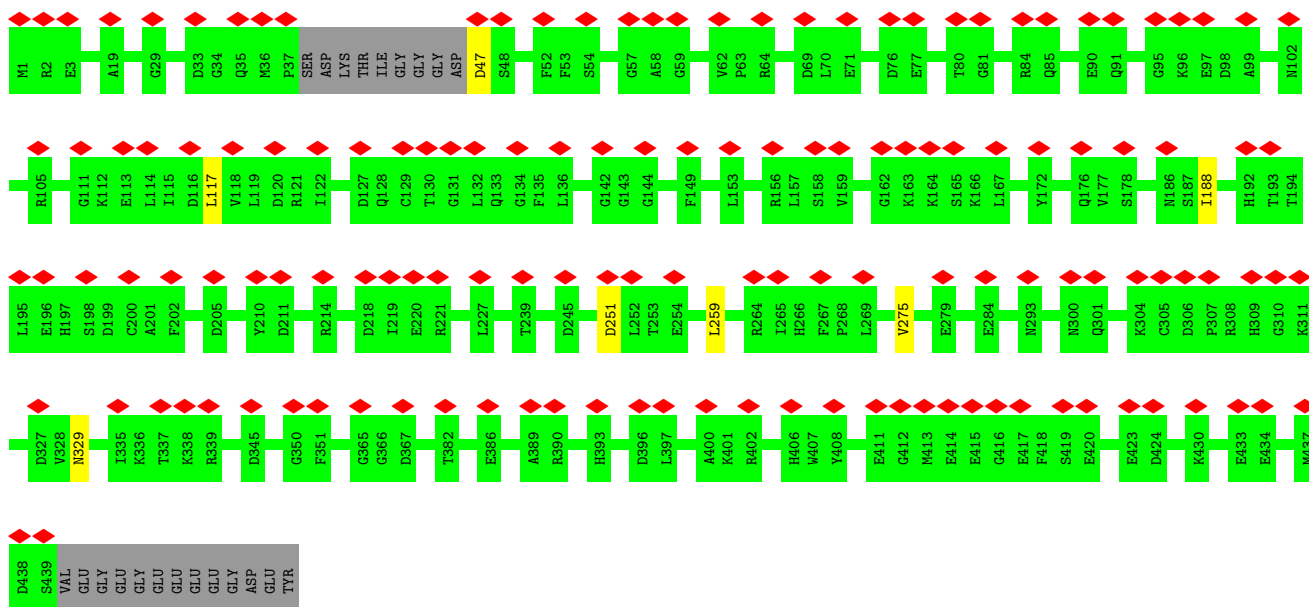


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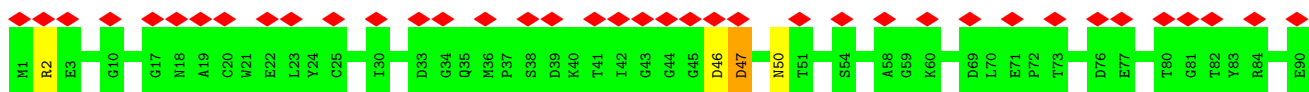


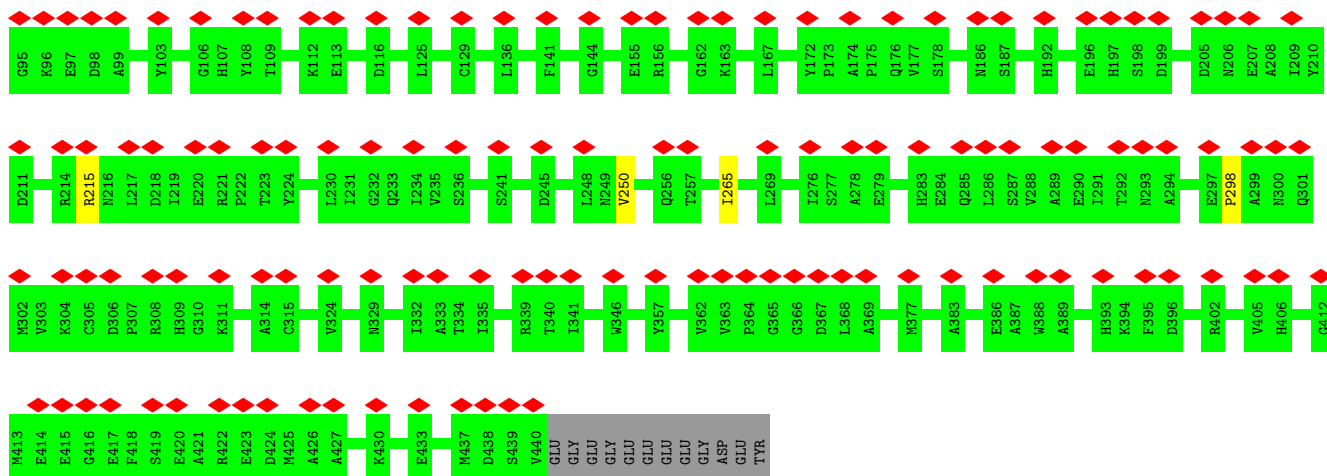


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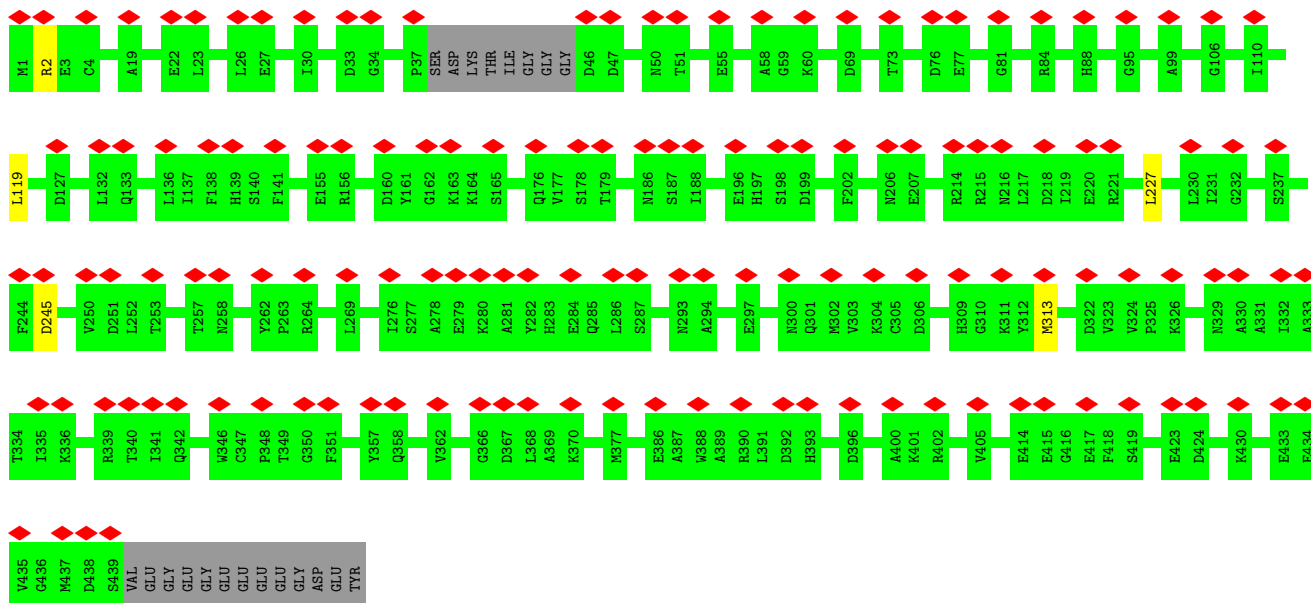


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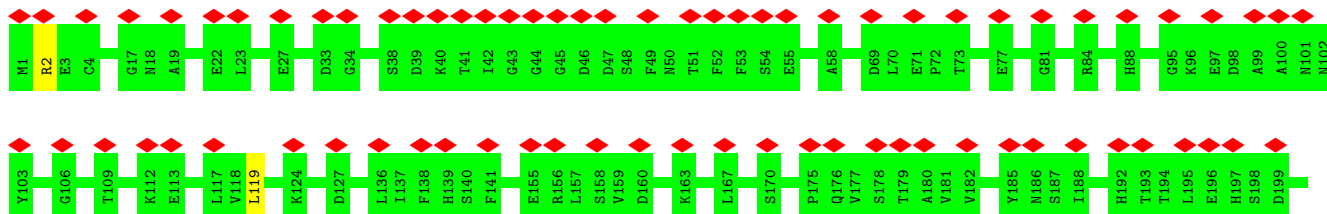
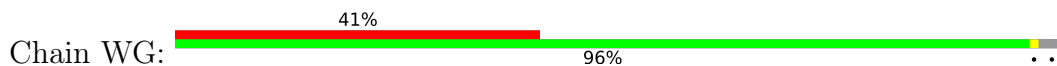


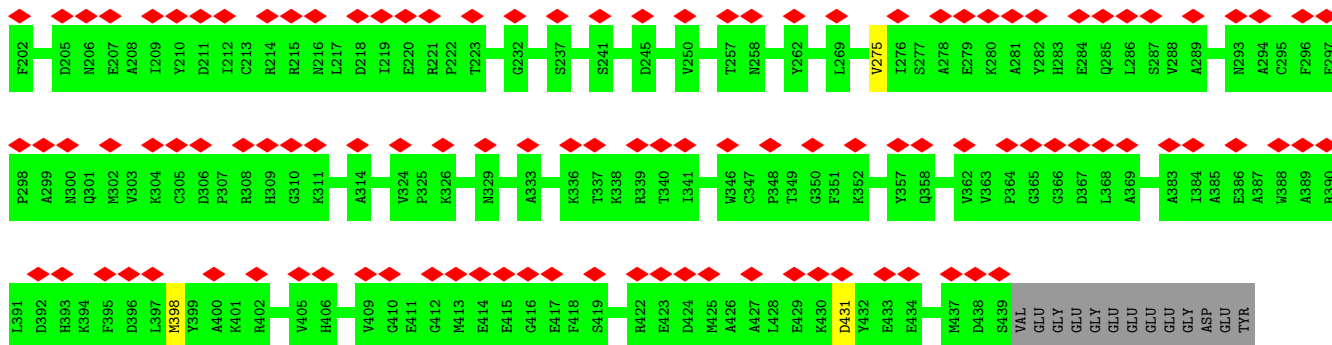


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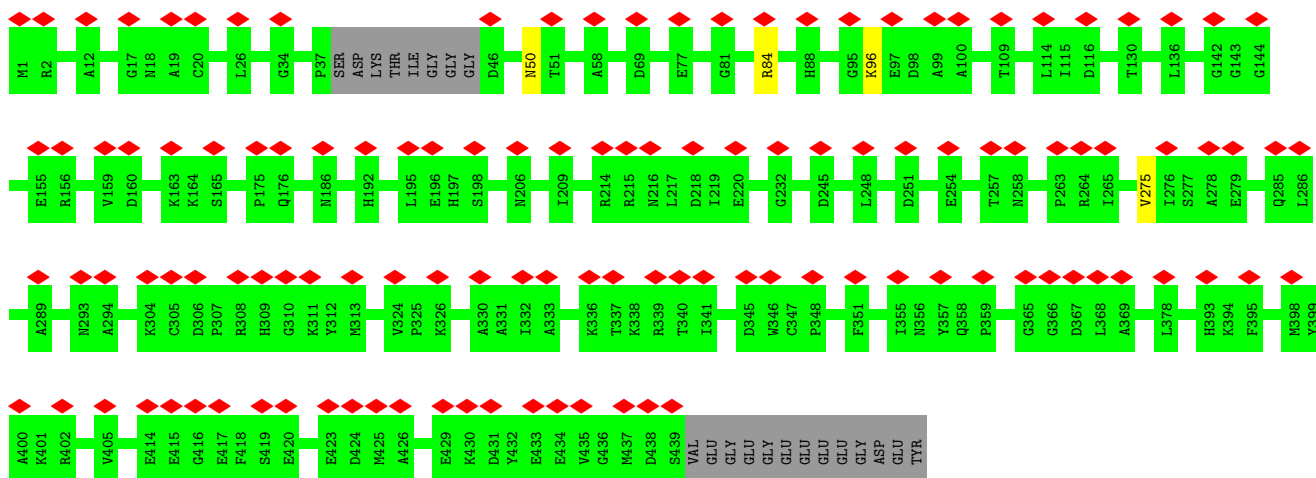


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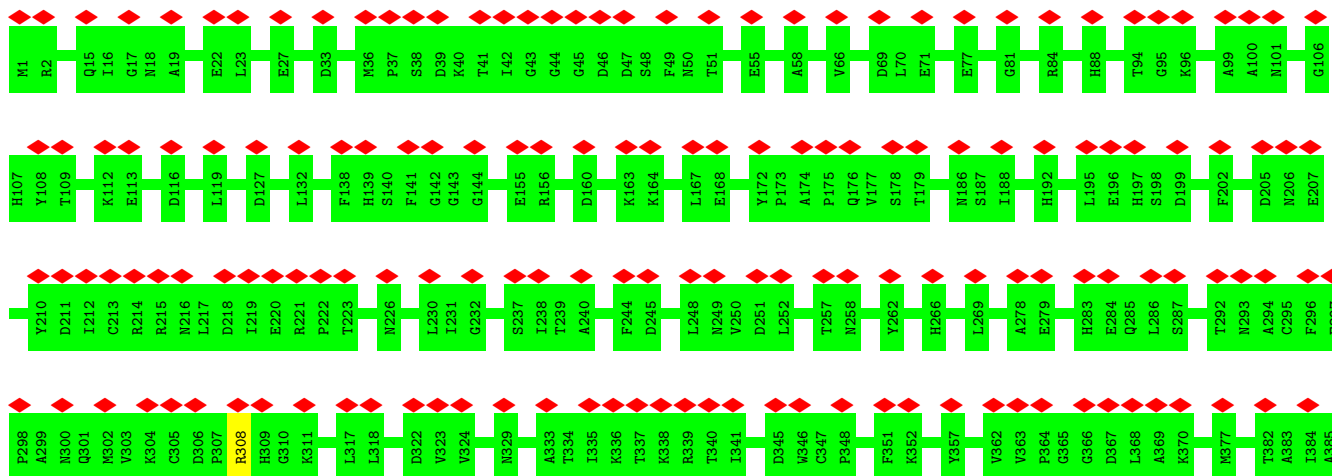
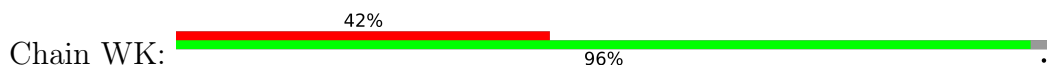


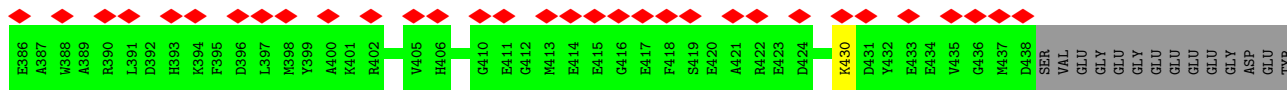


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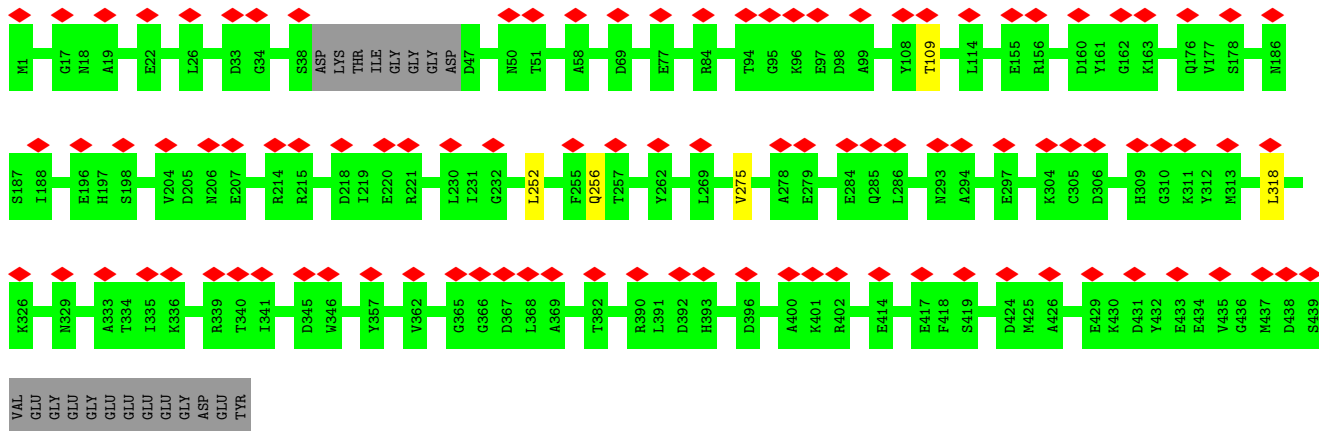


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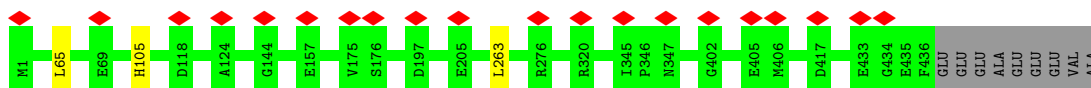




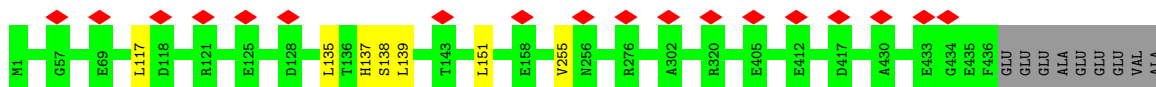
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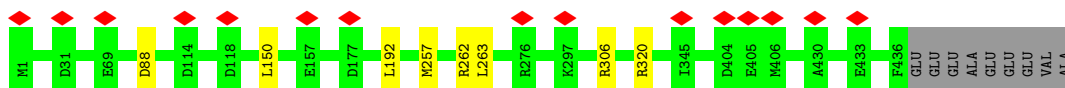
• Molecule 9: Tubulin beta-4B chain



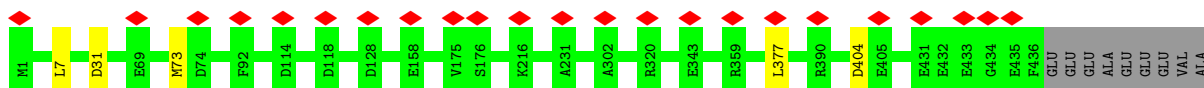
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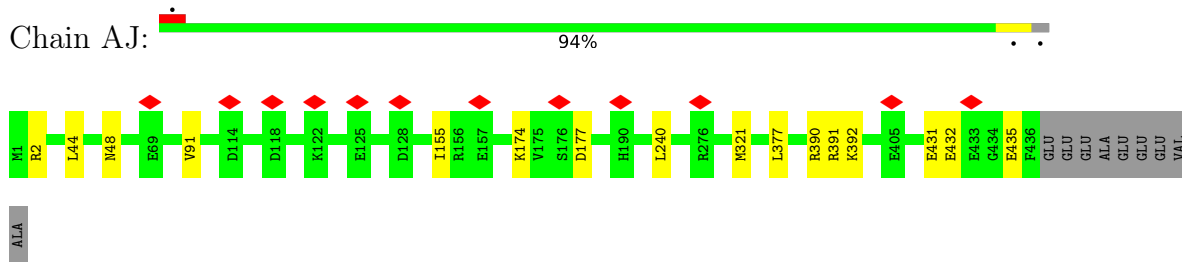
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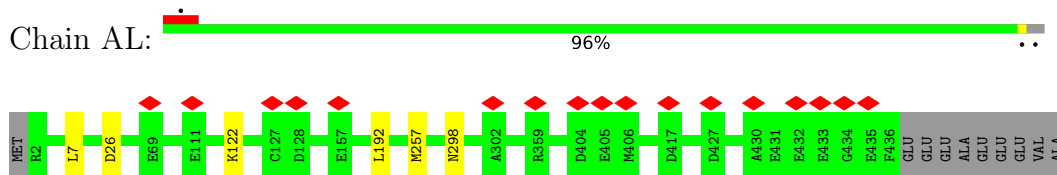
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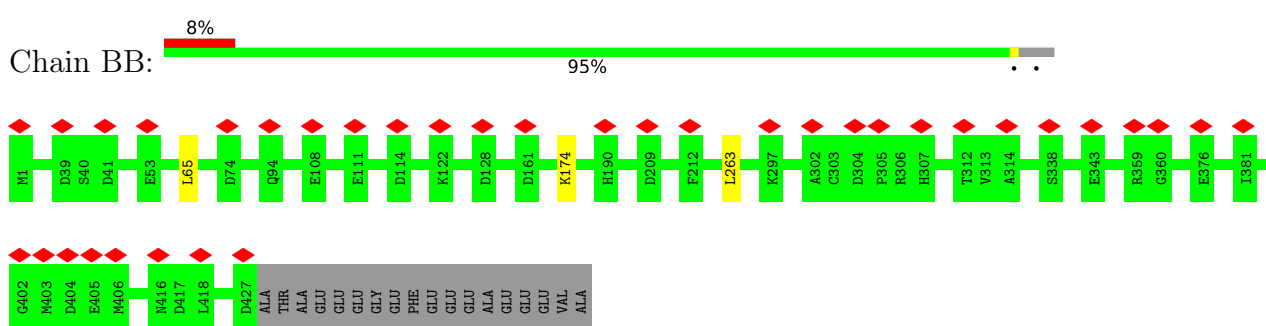
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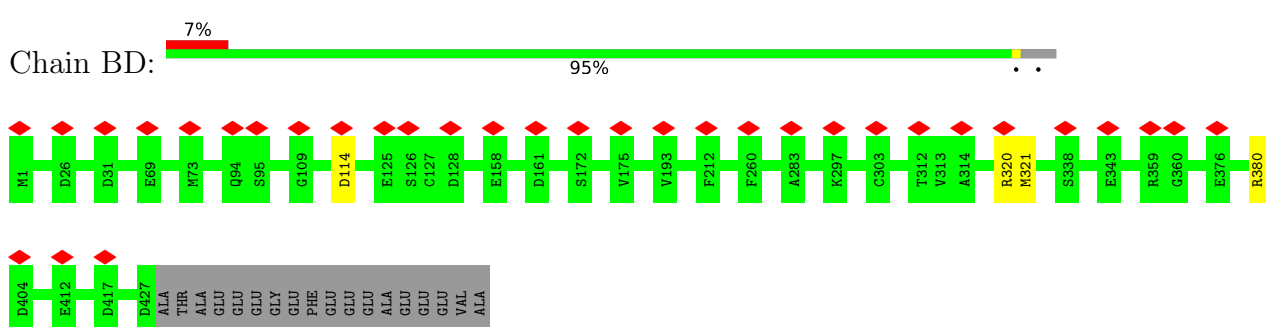
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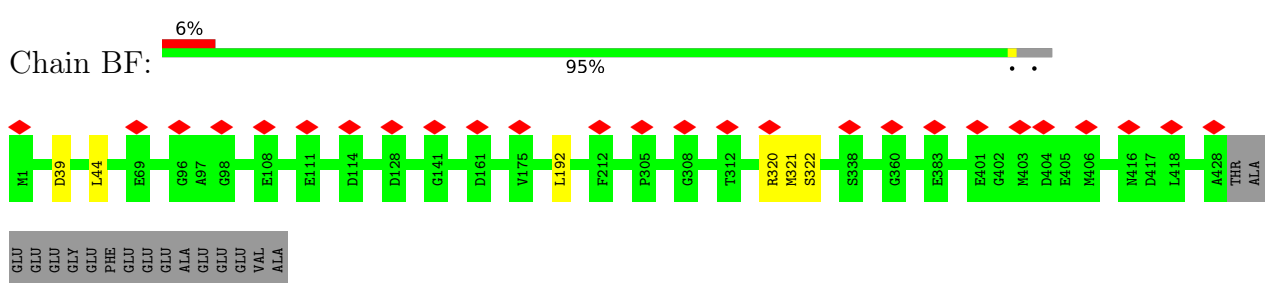
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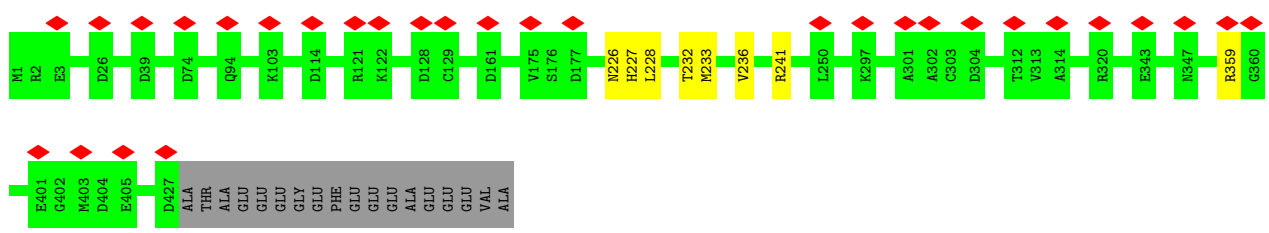
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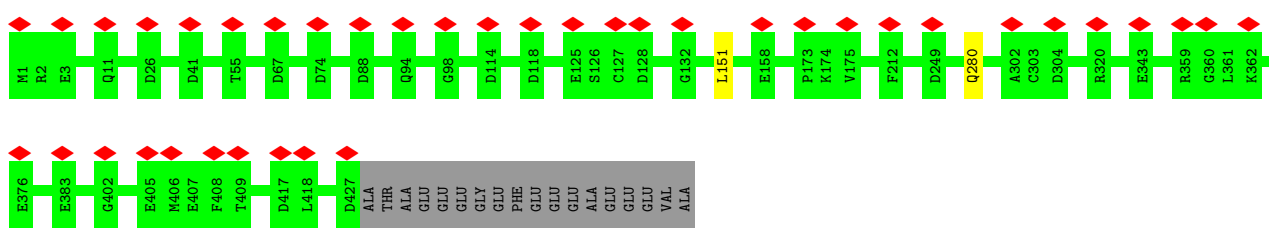
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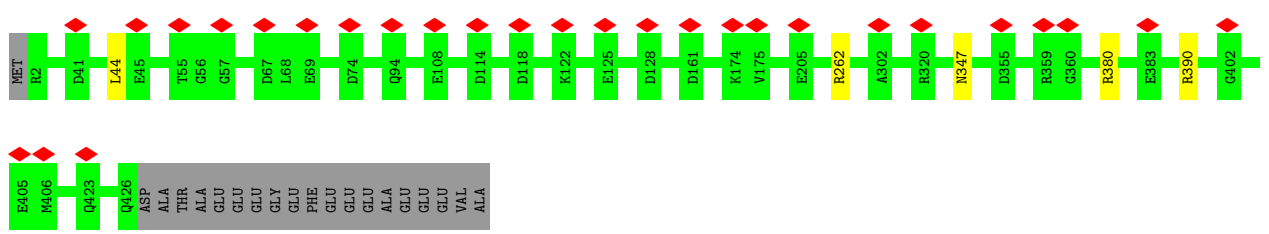
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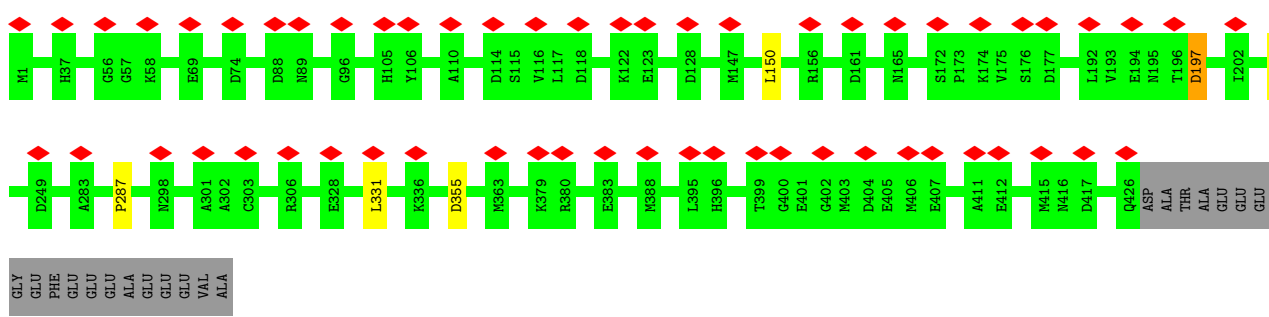
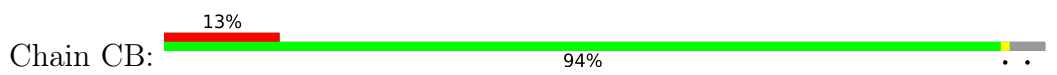
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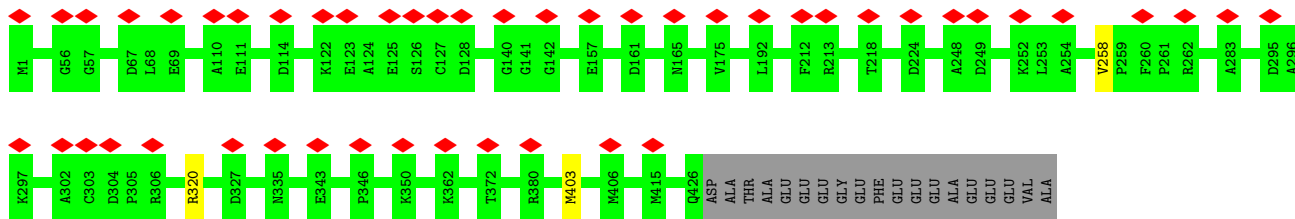


• Molecule 9: Tubulin beta-4B chain

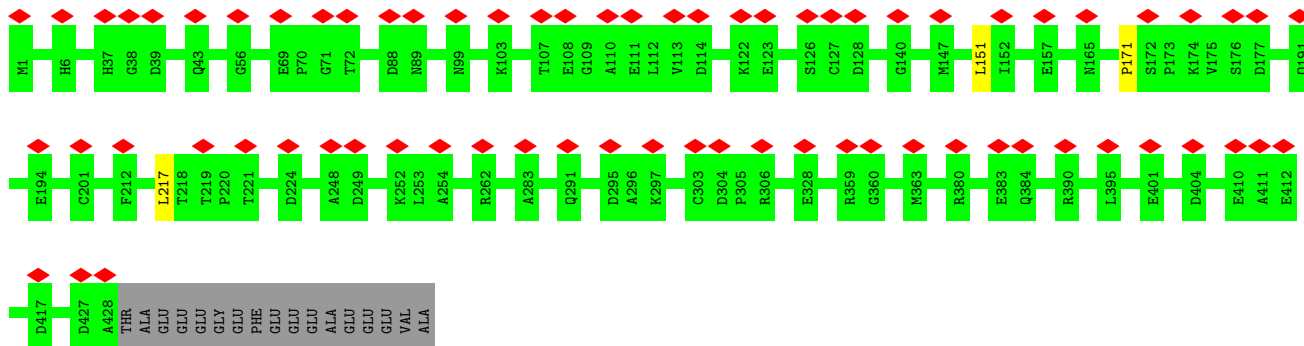


• Molecule 9: Tubulin beta-4B chain

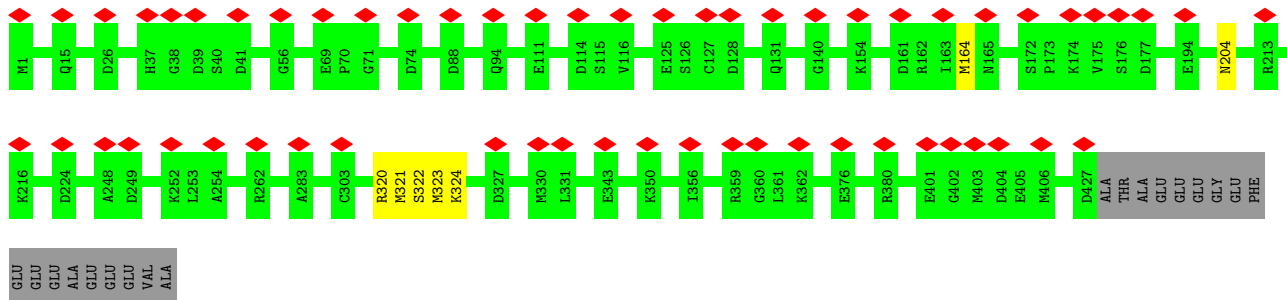




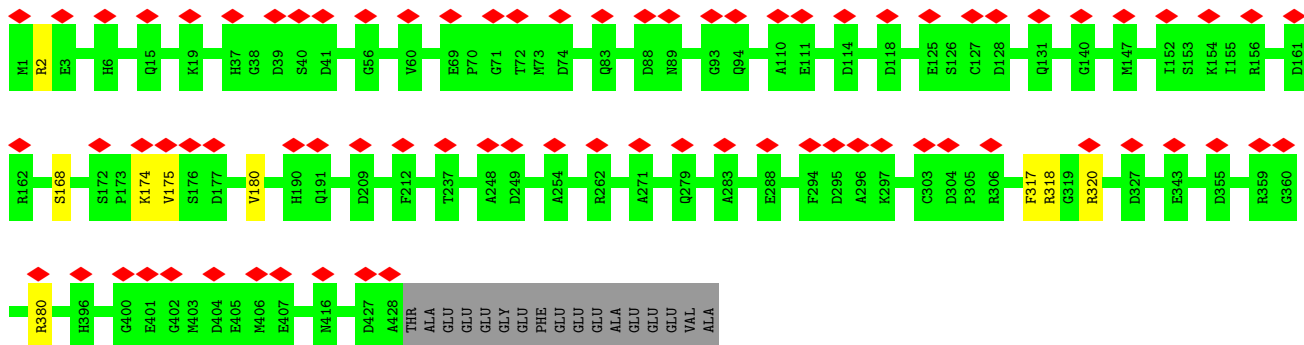
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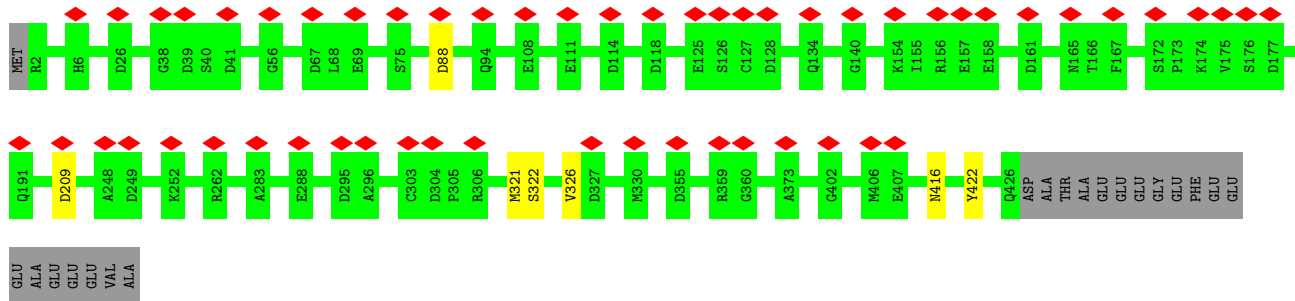
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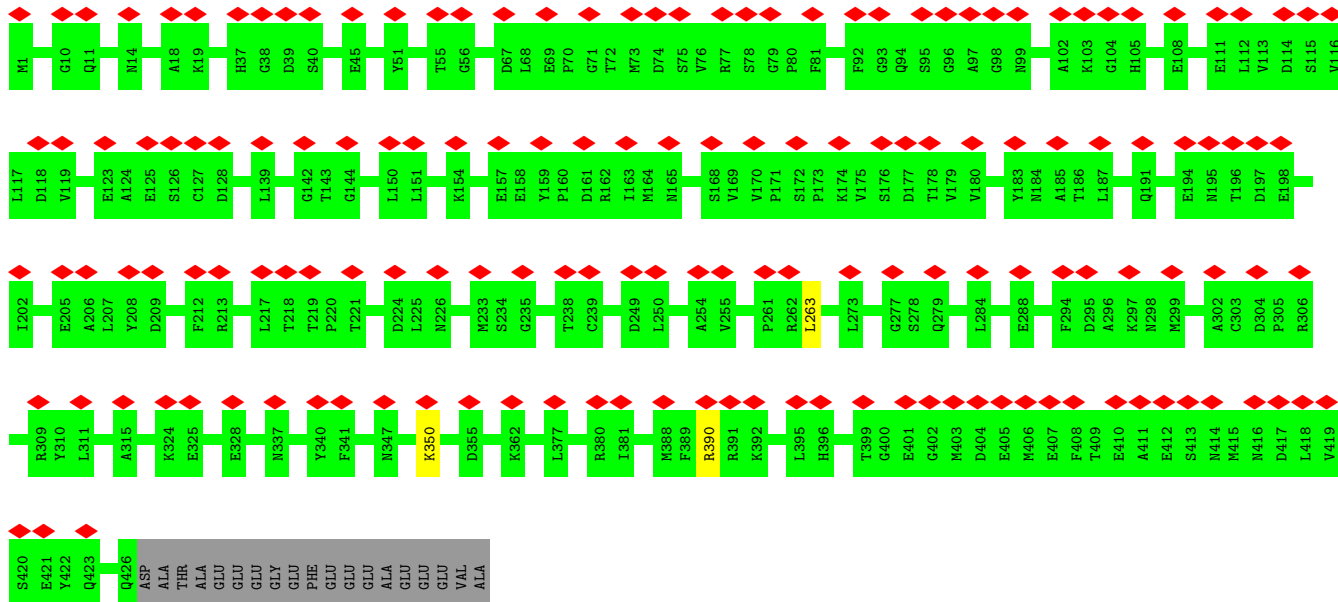
• Molecule 9: Tubulin beta-4B chain



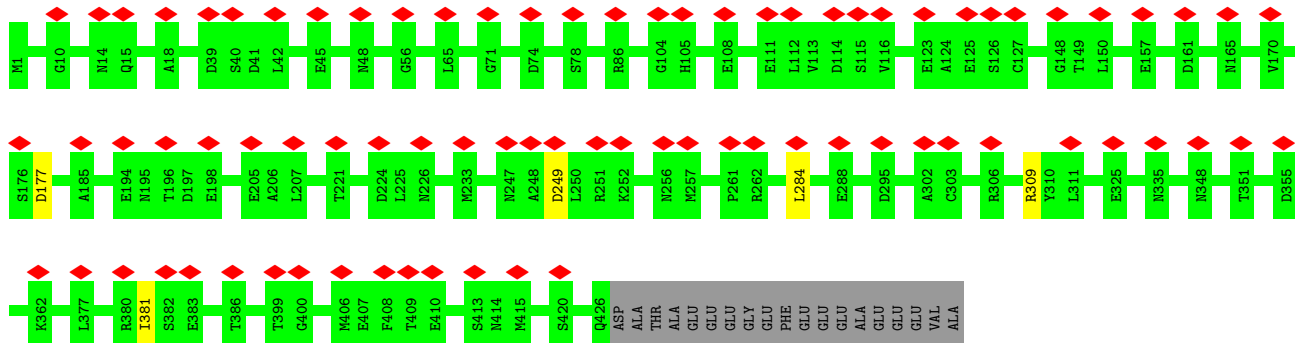
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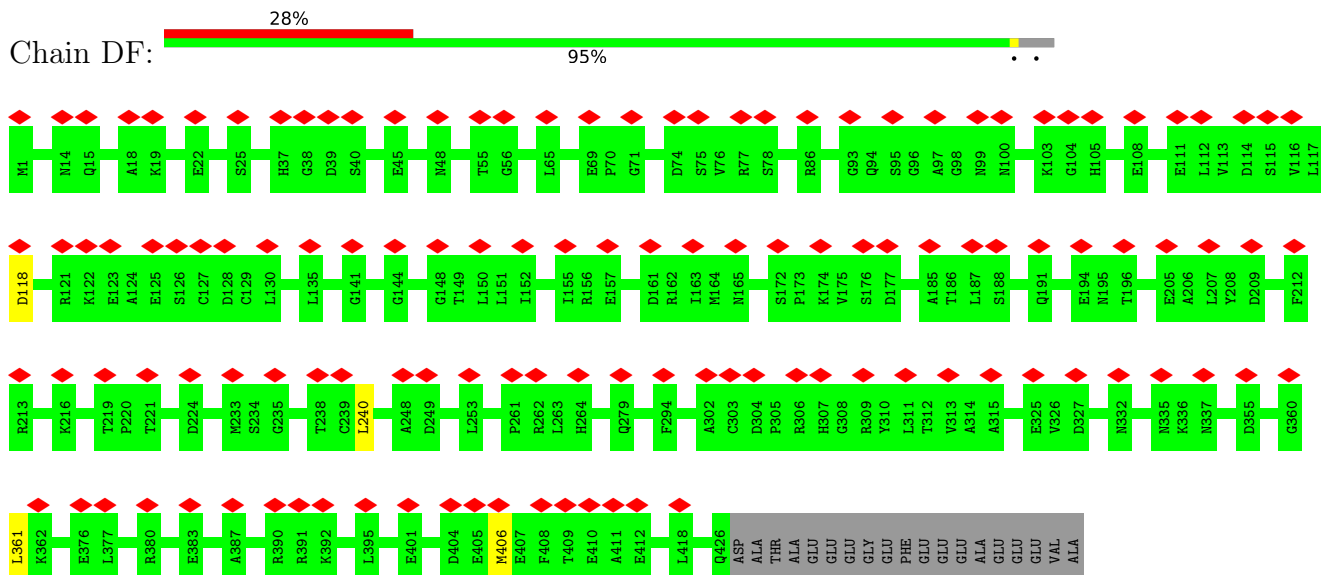
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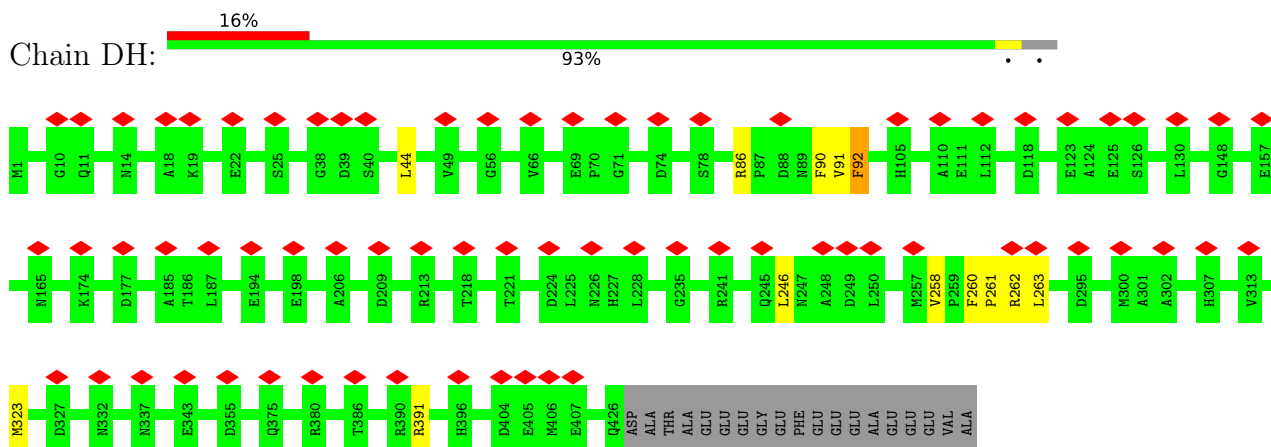
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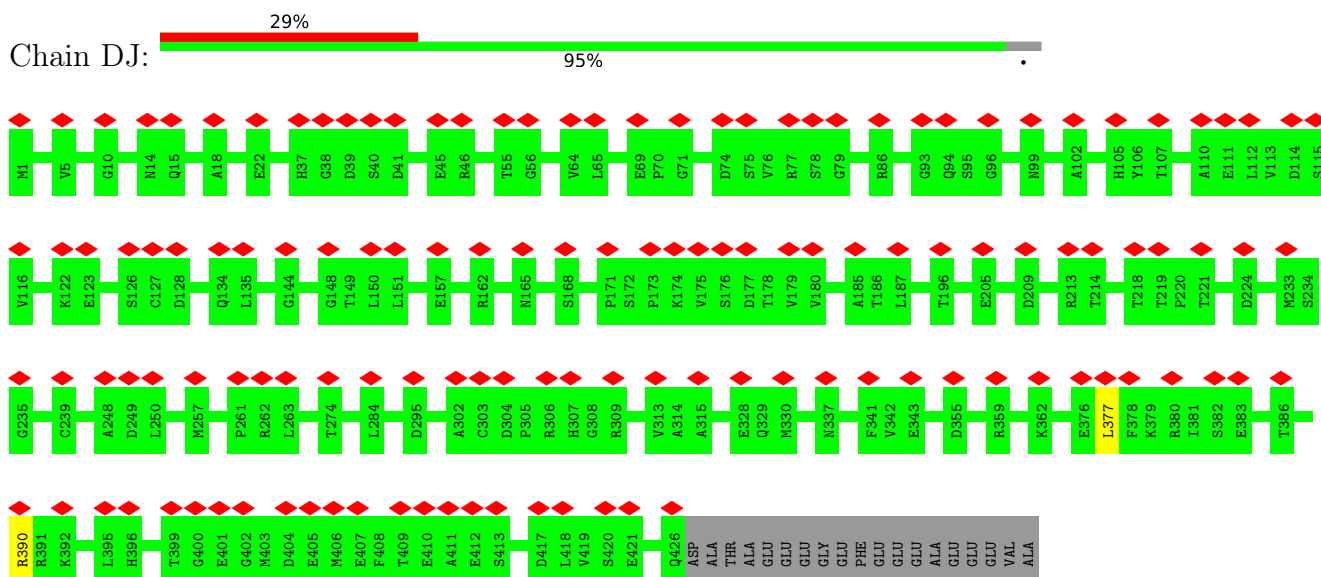
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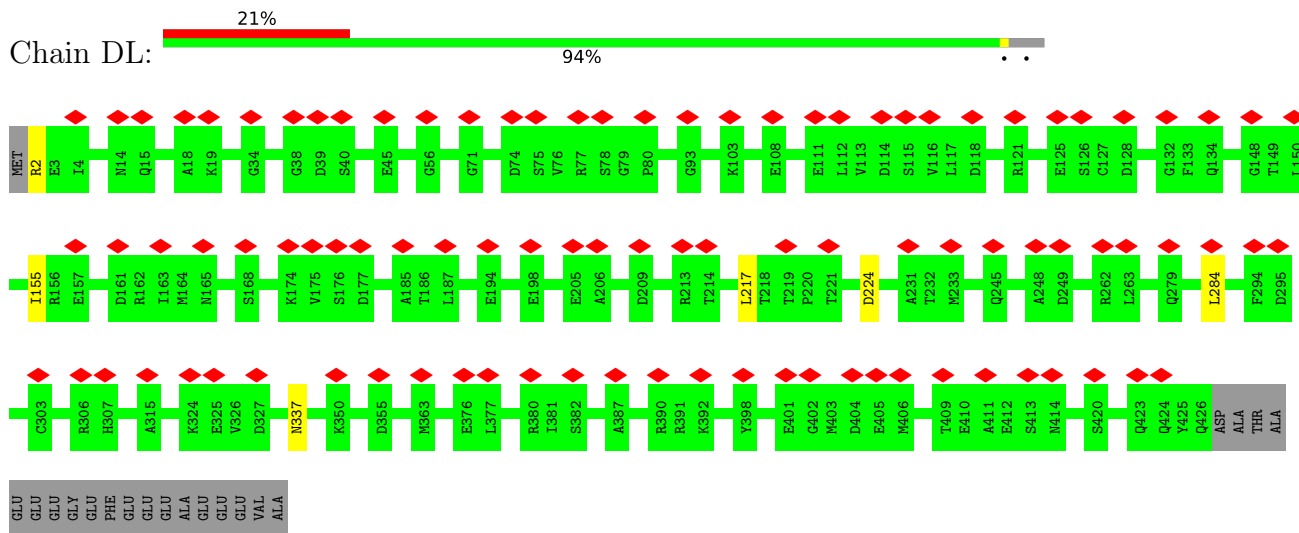
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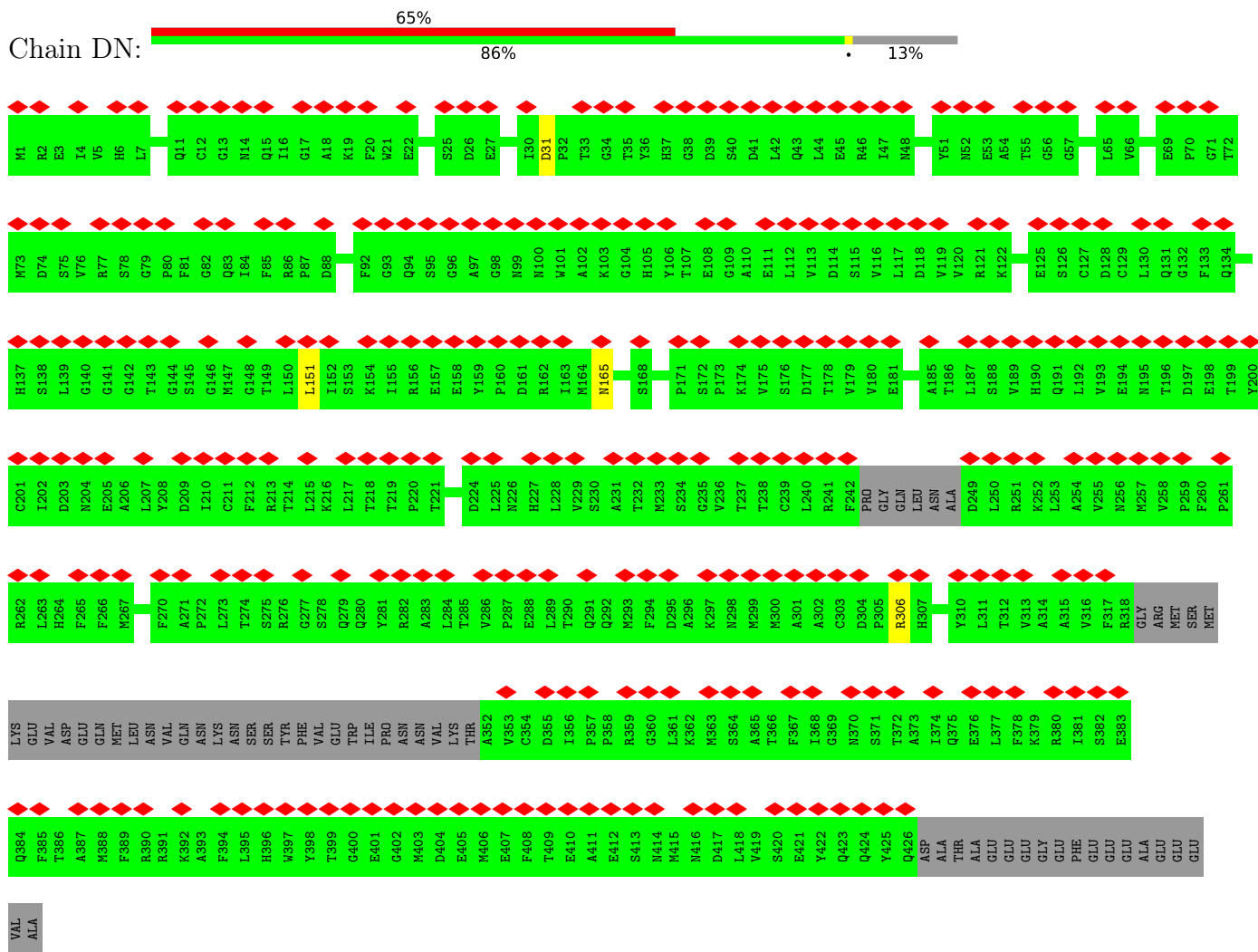
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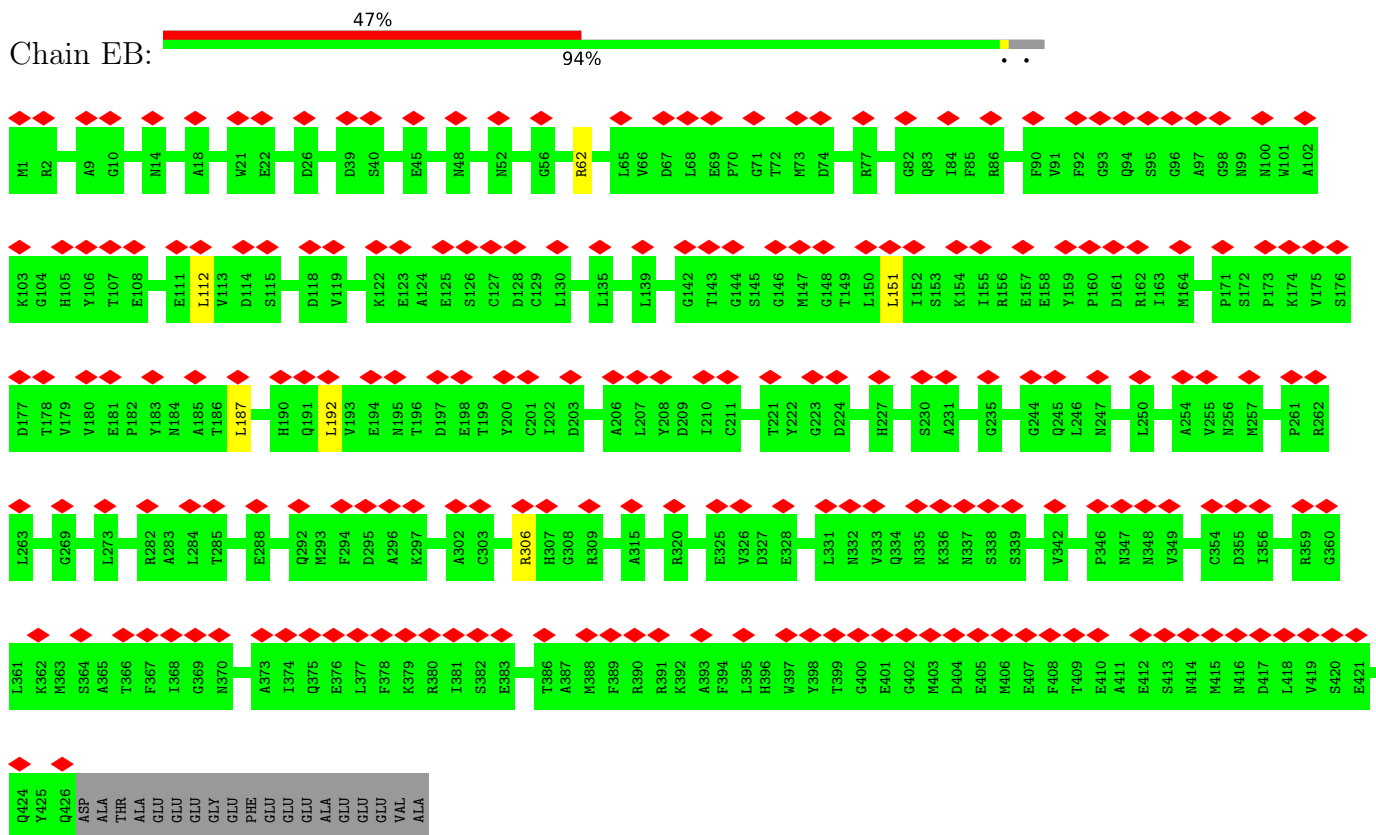
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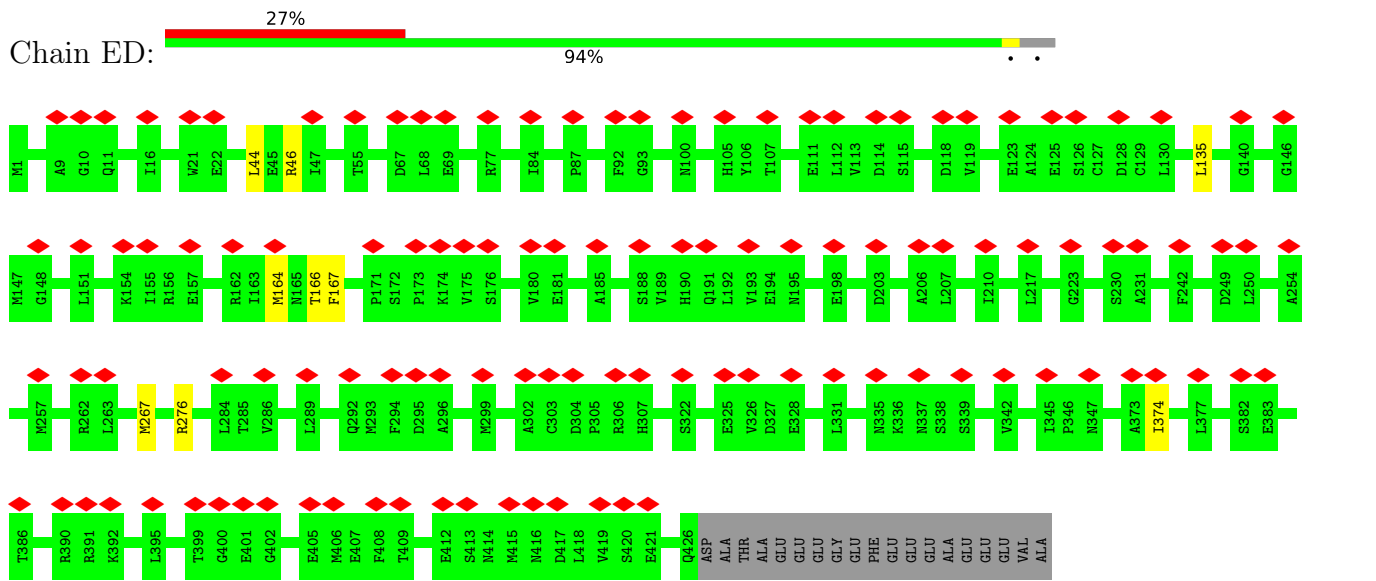
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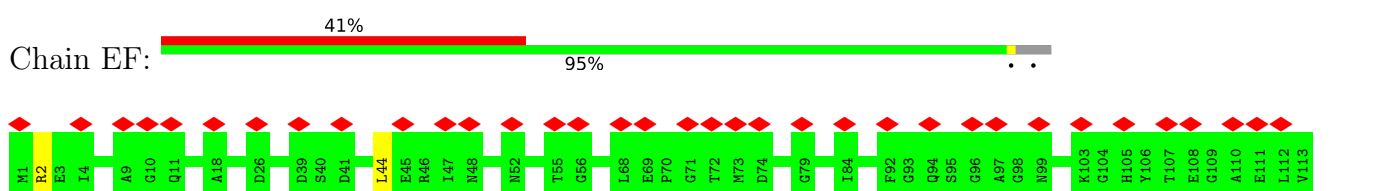
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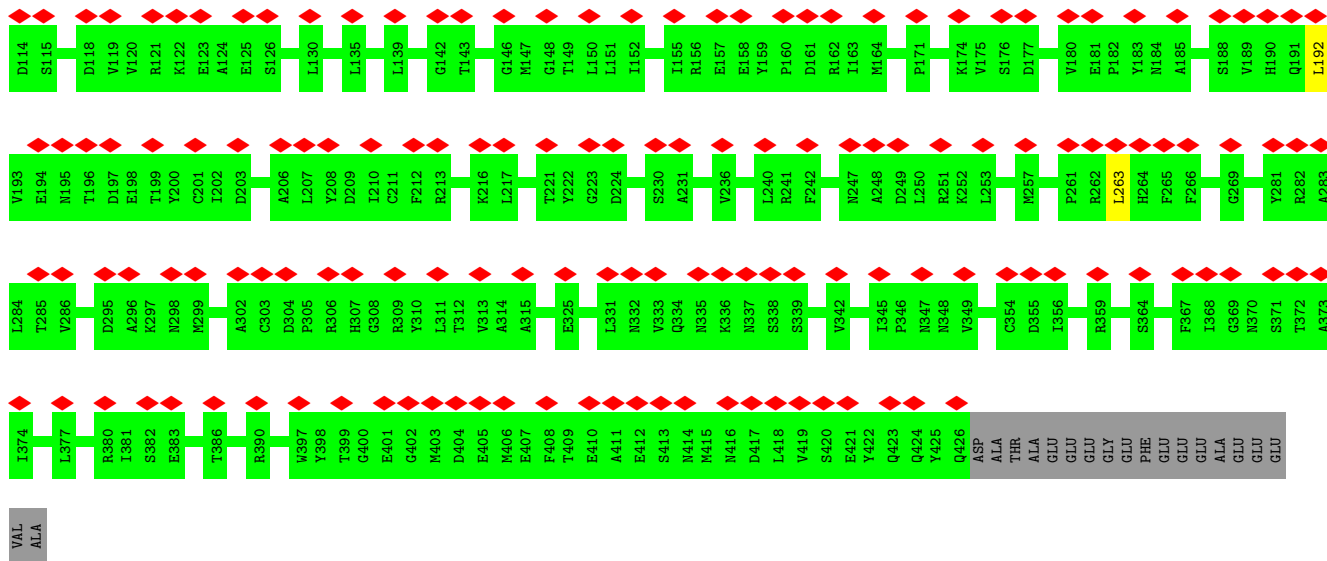


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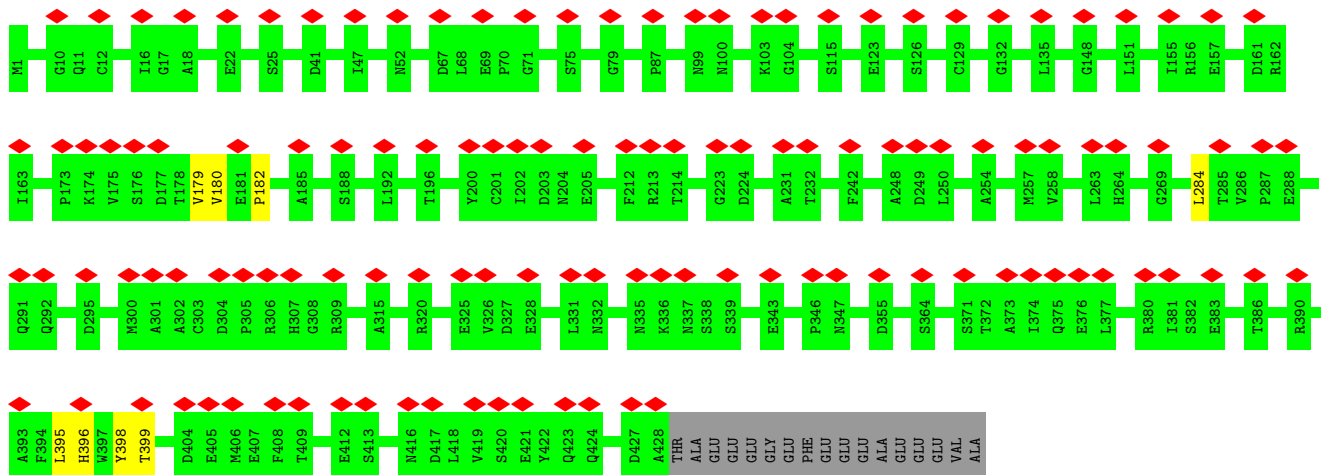


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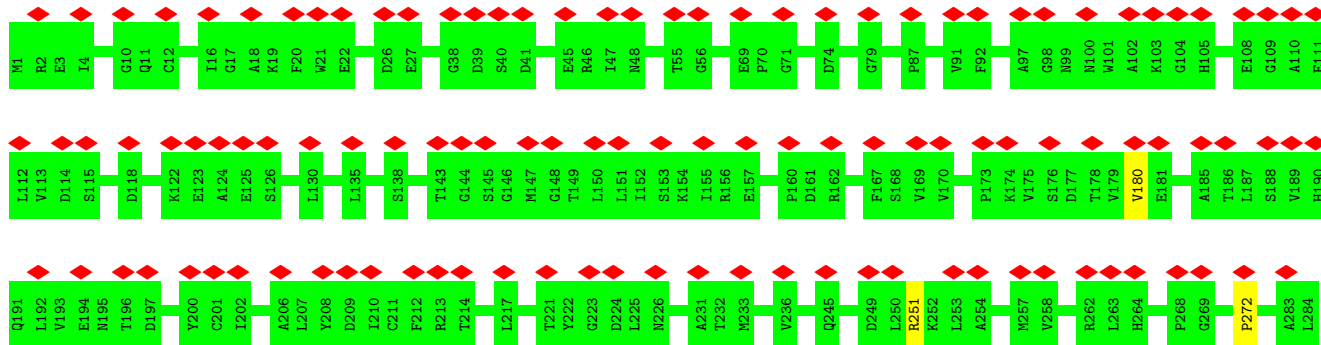
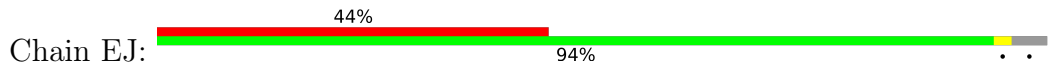


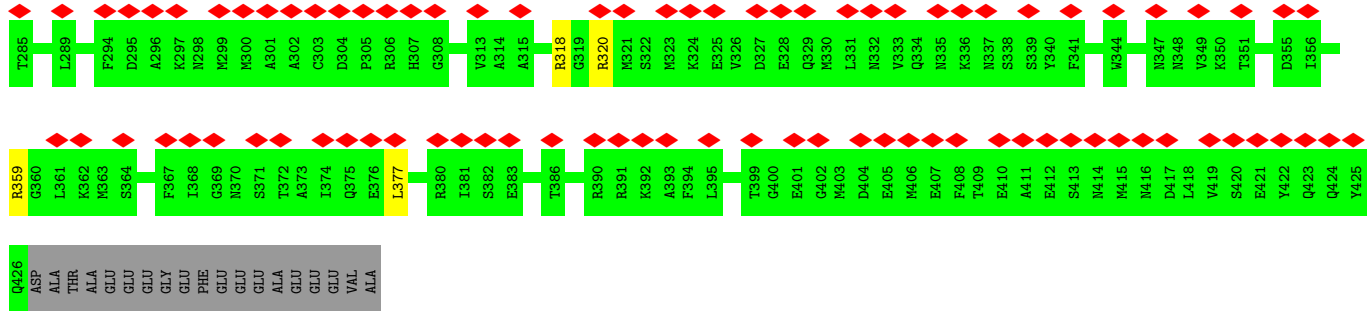


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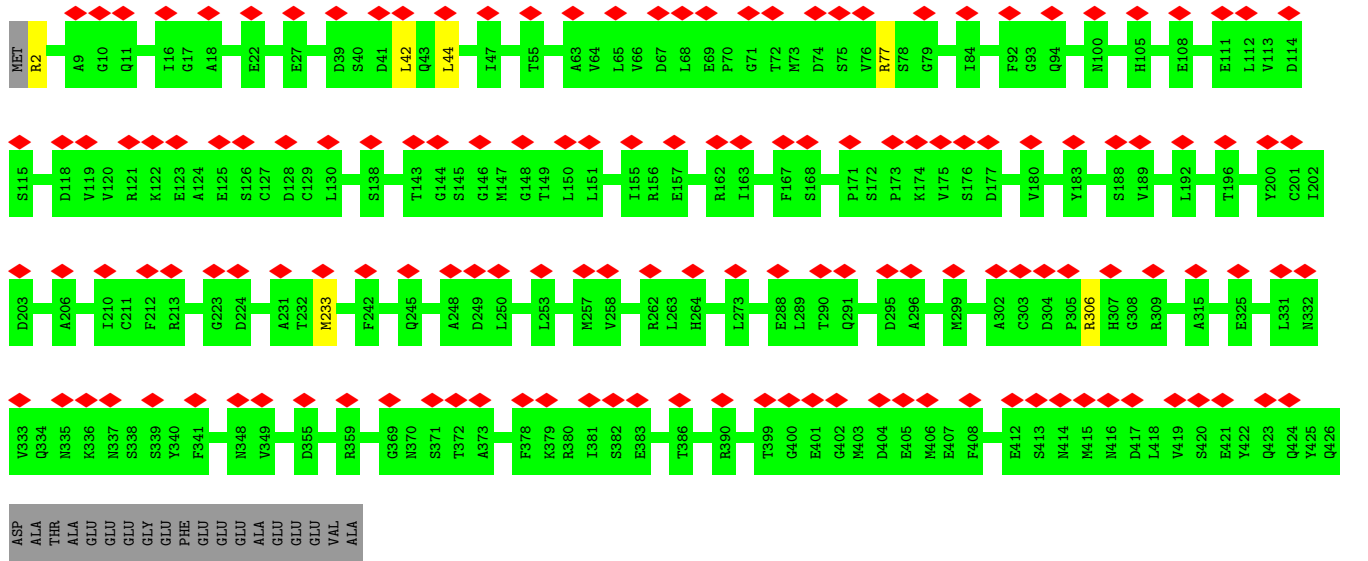


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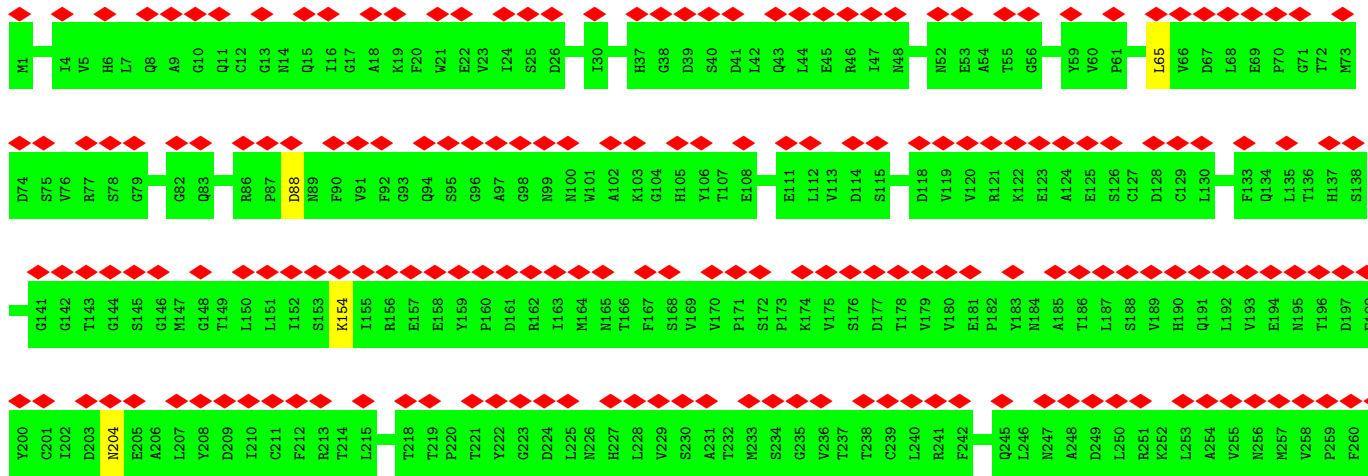
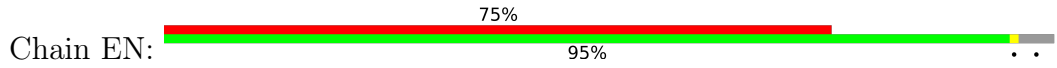


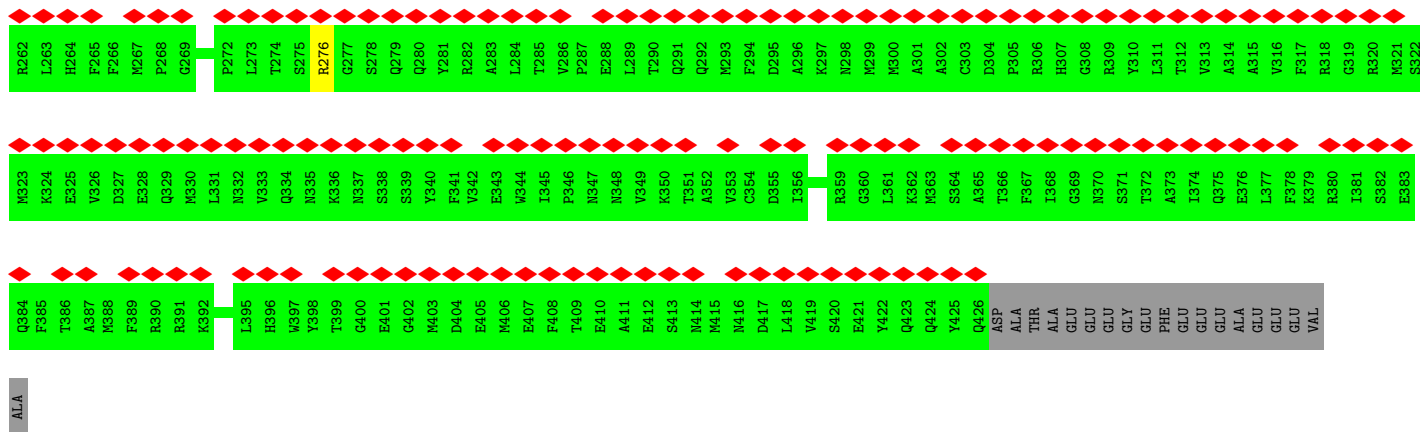


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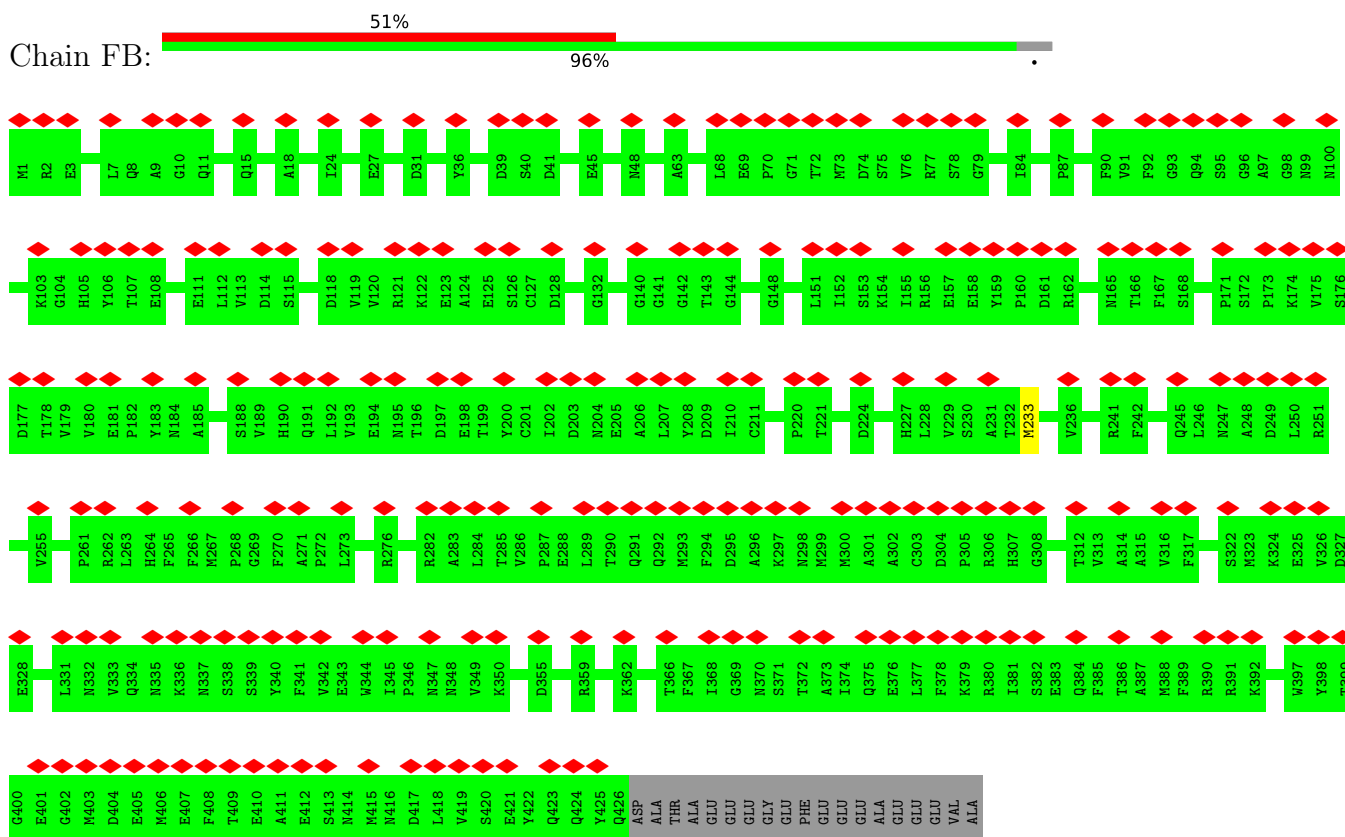
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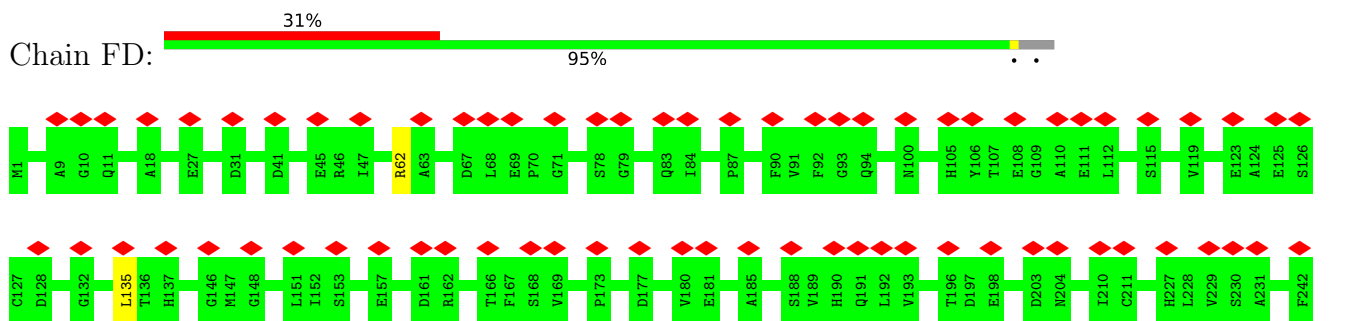
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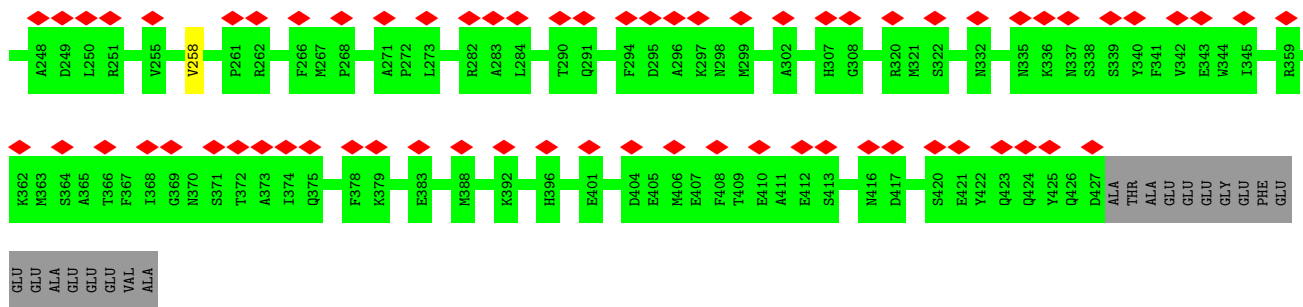
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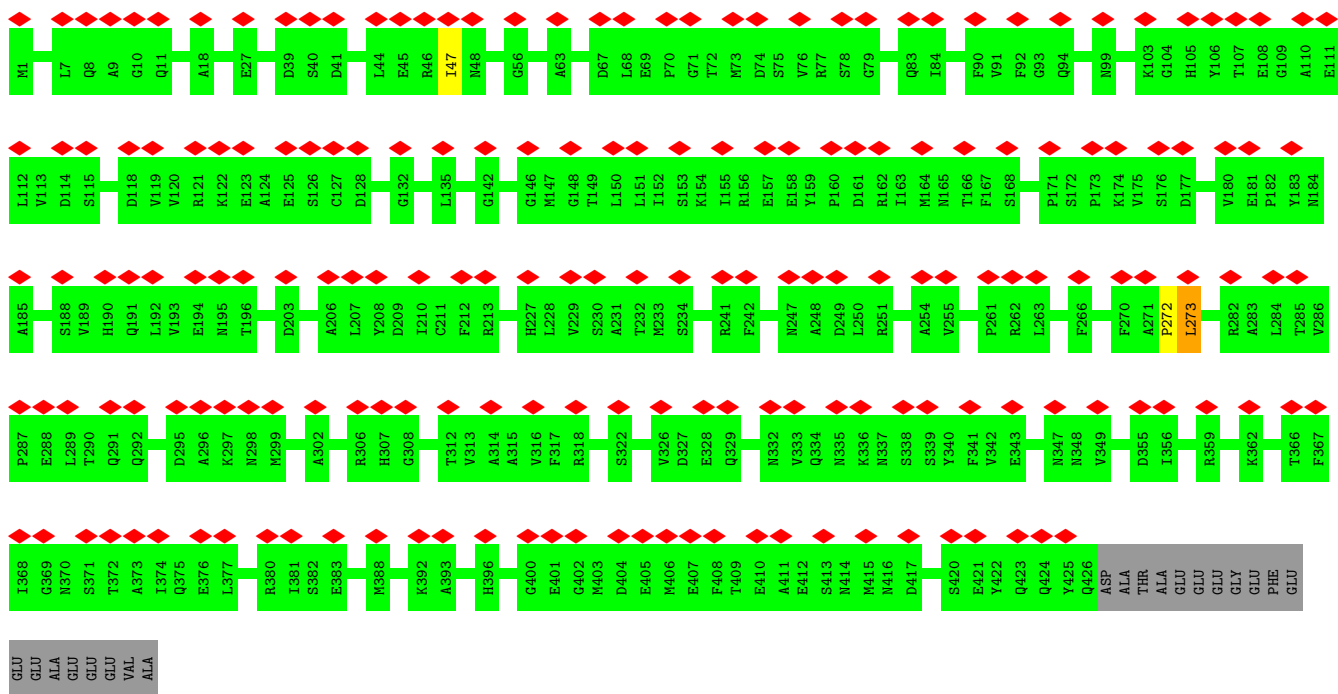
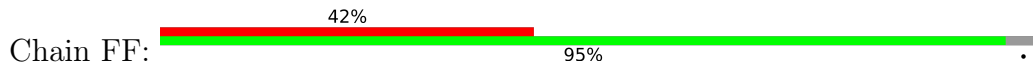
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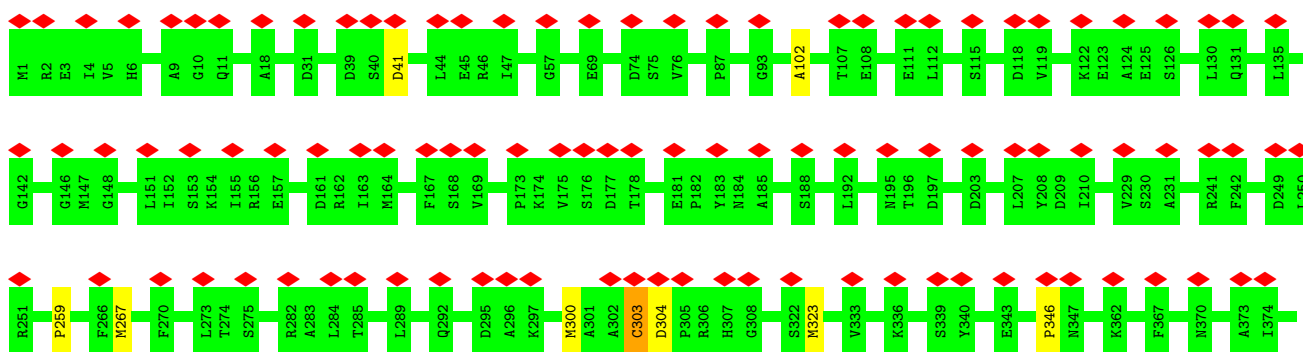


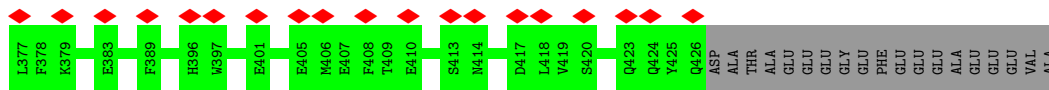


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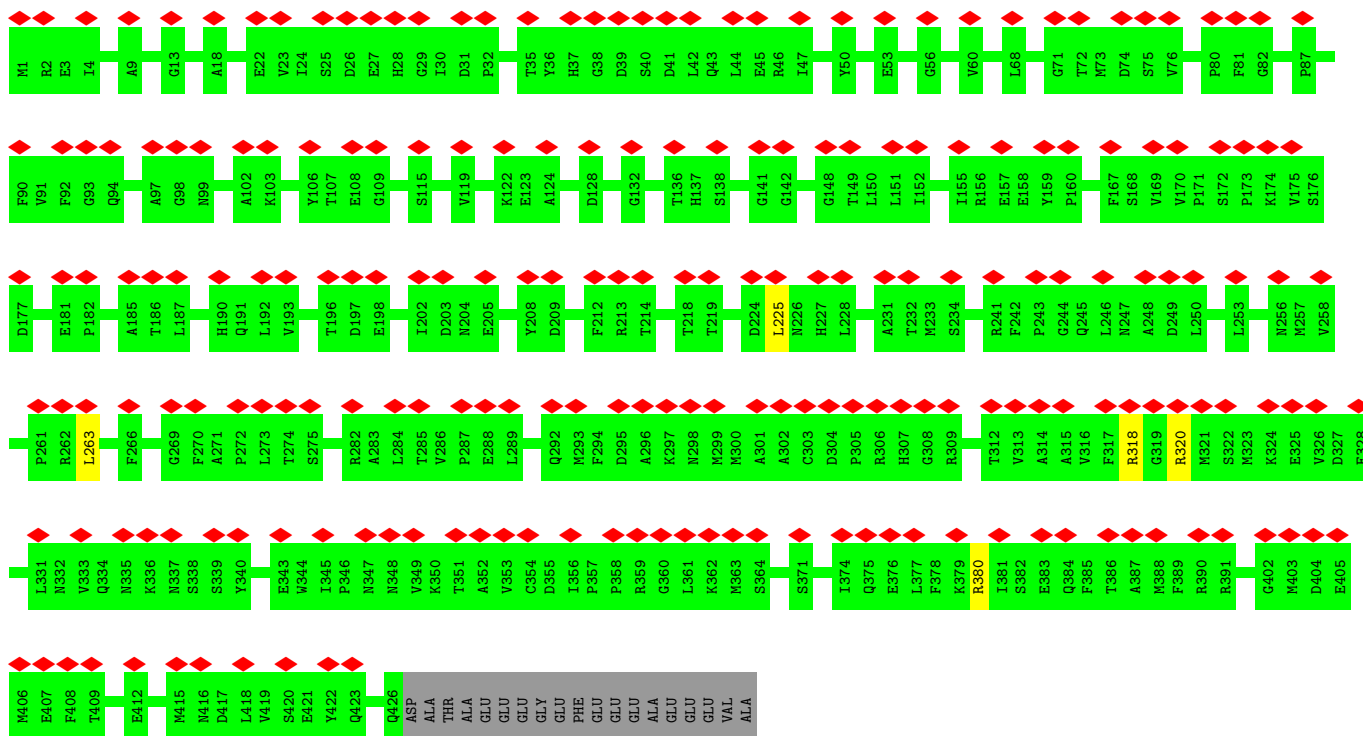


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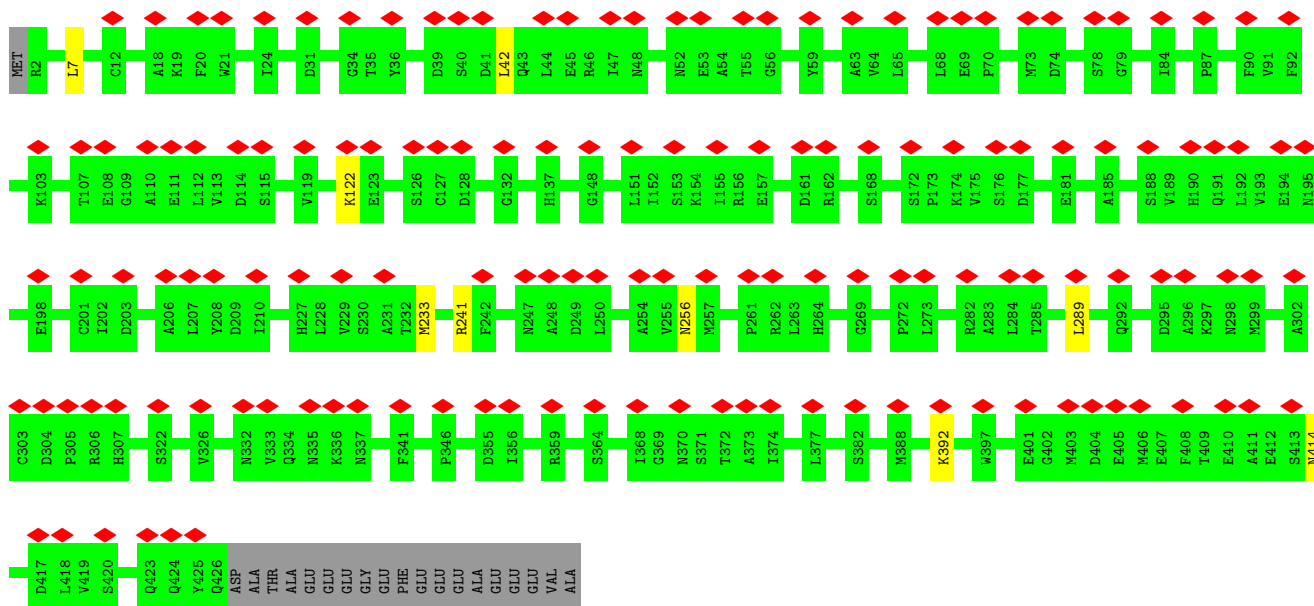




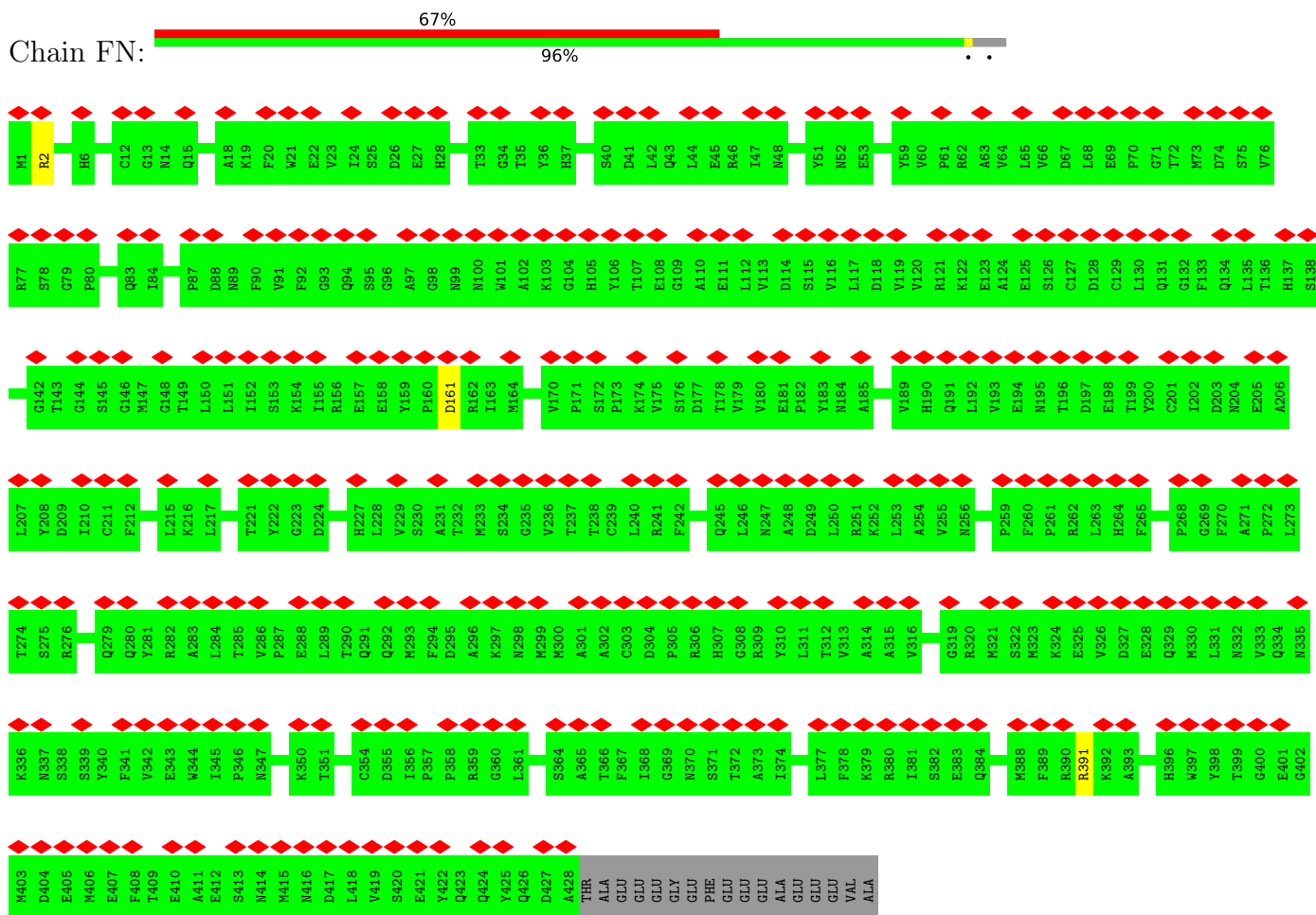
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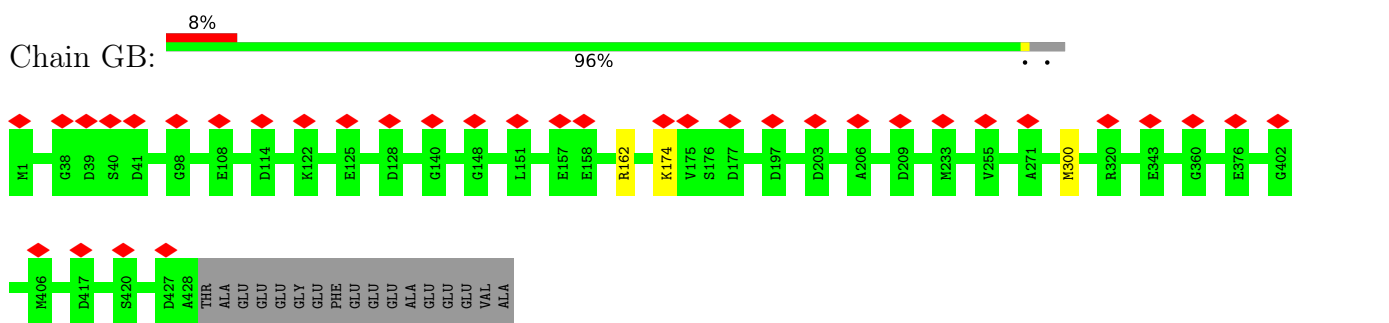
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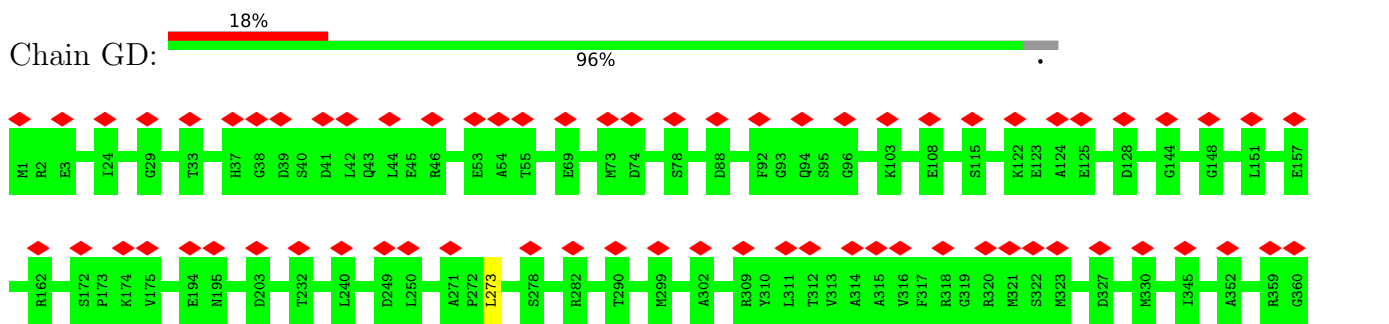
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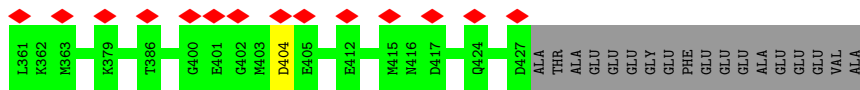


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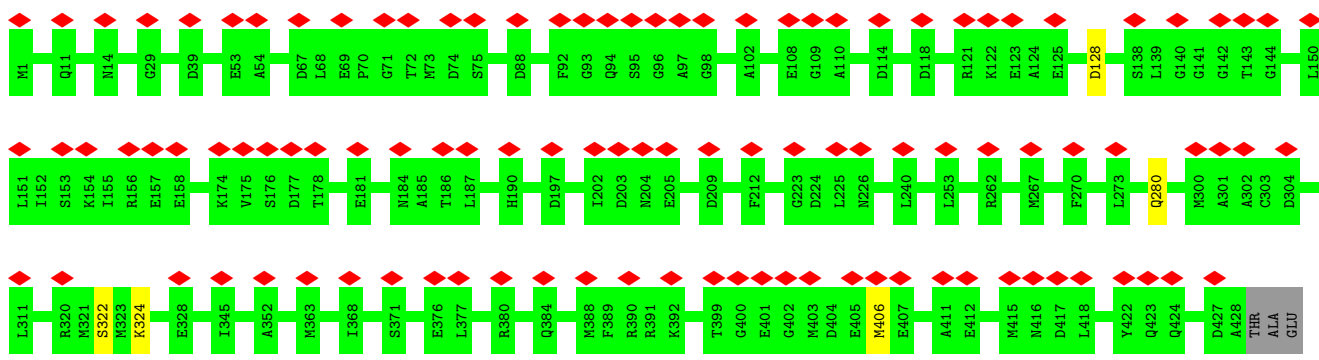


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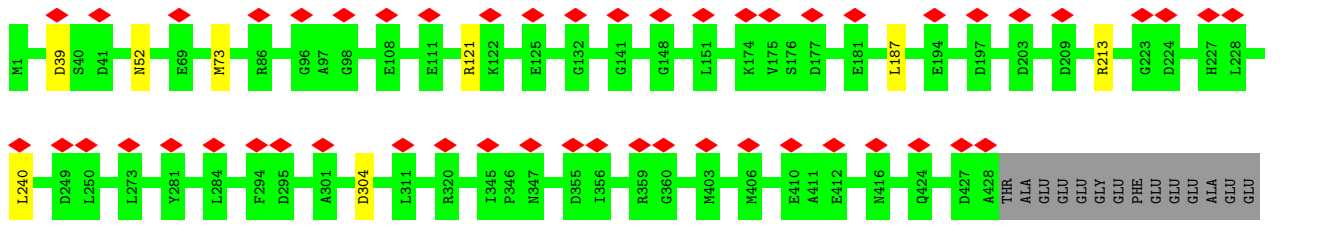
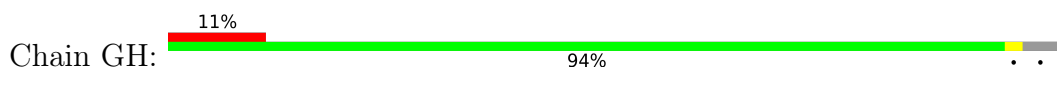




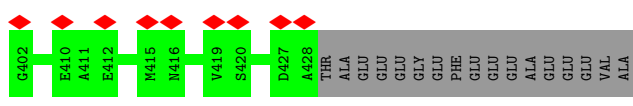
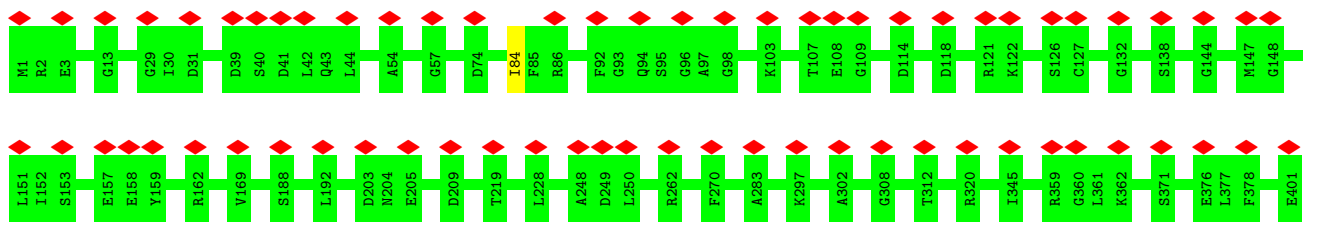
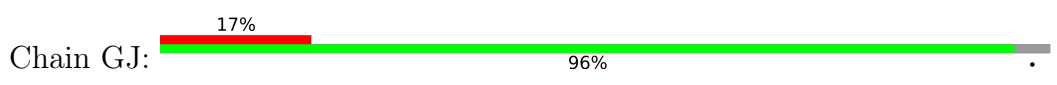
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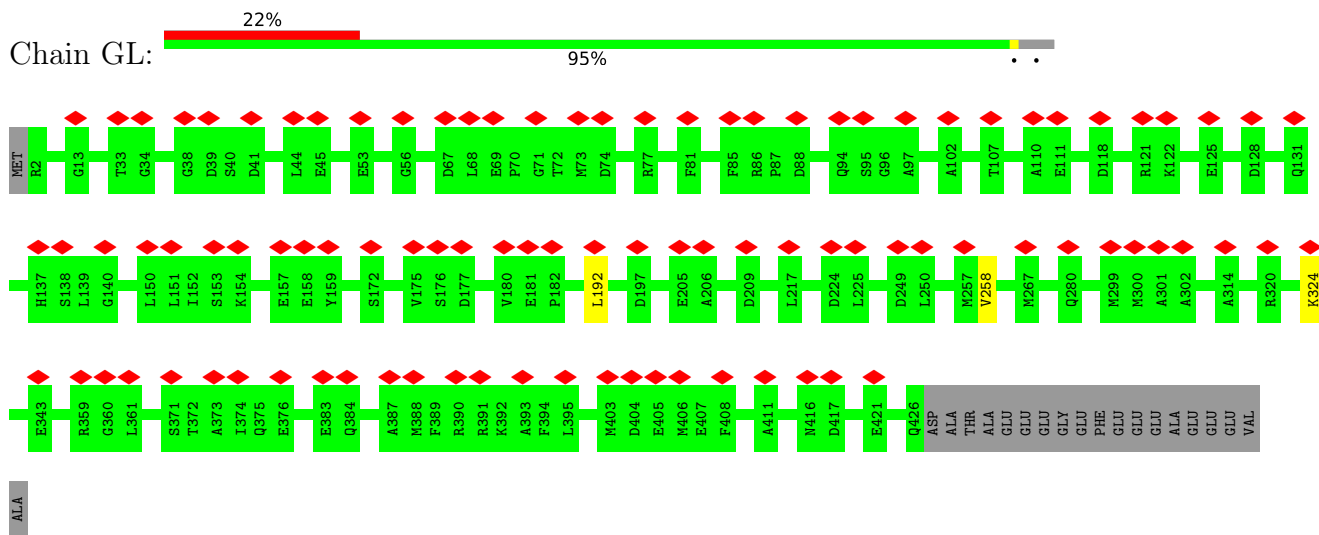
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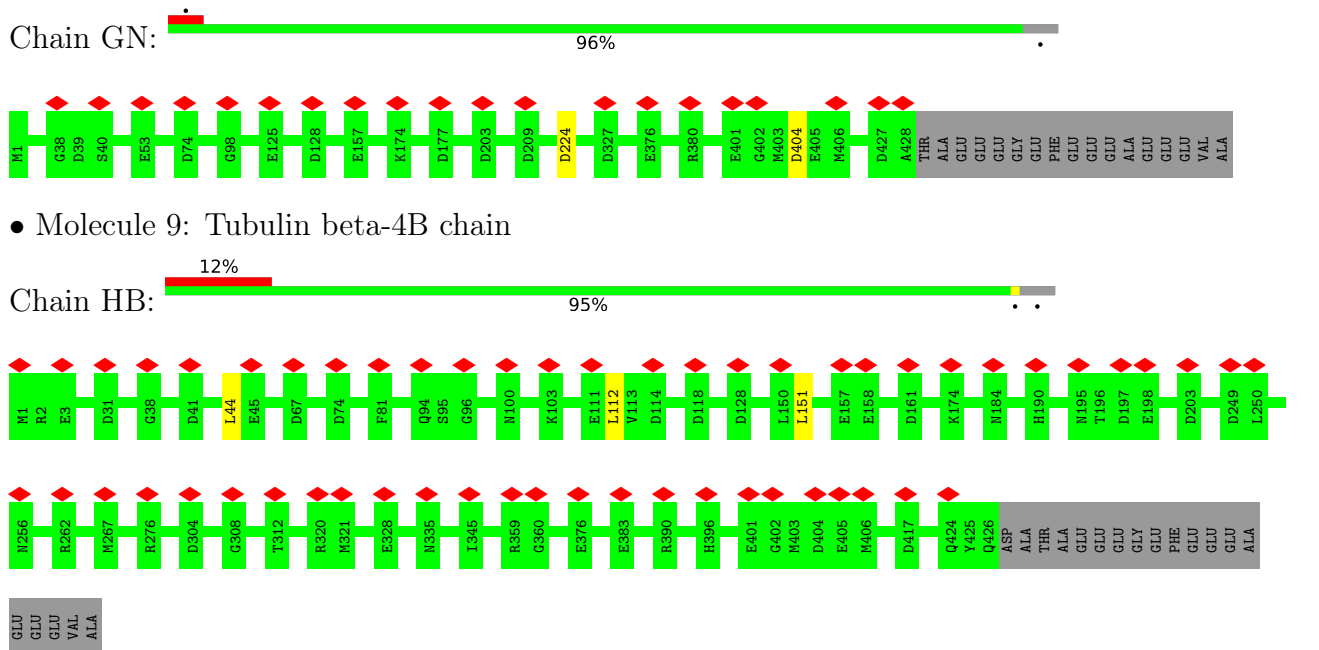
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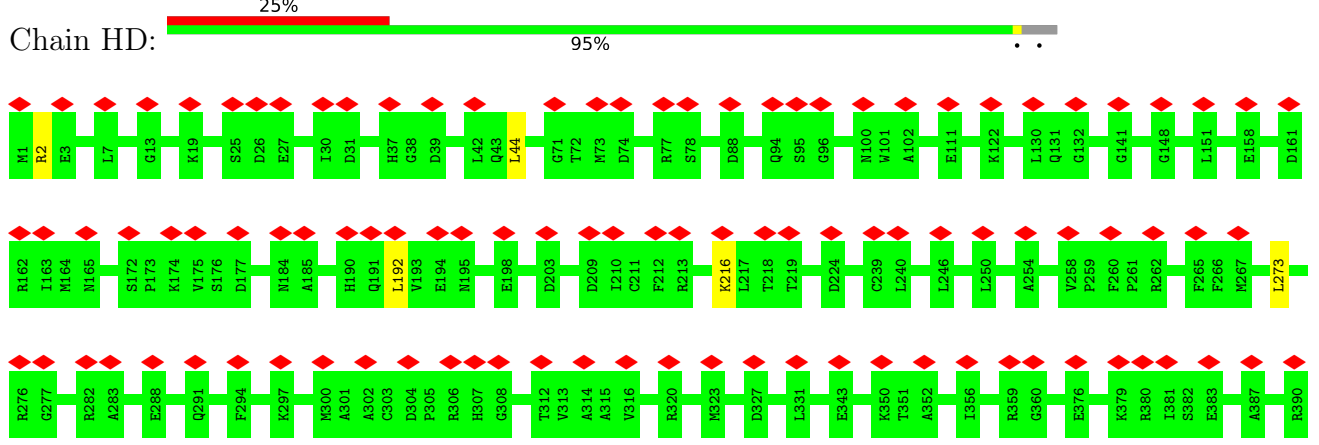
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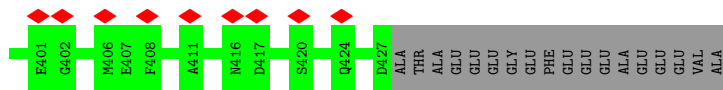


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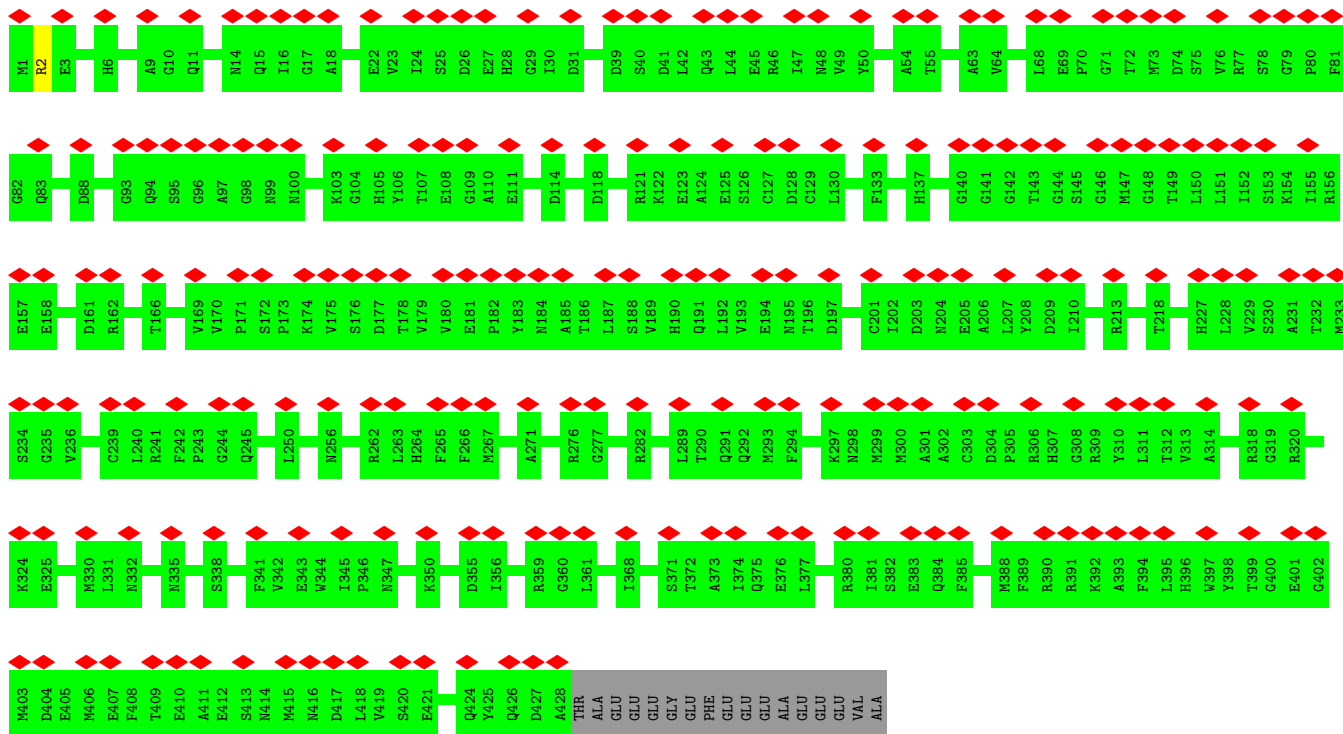


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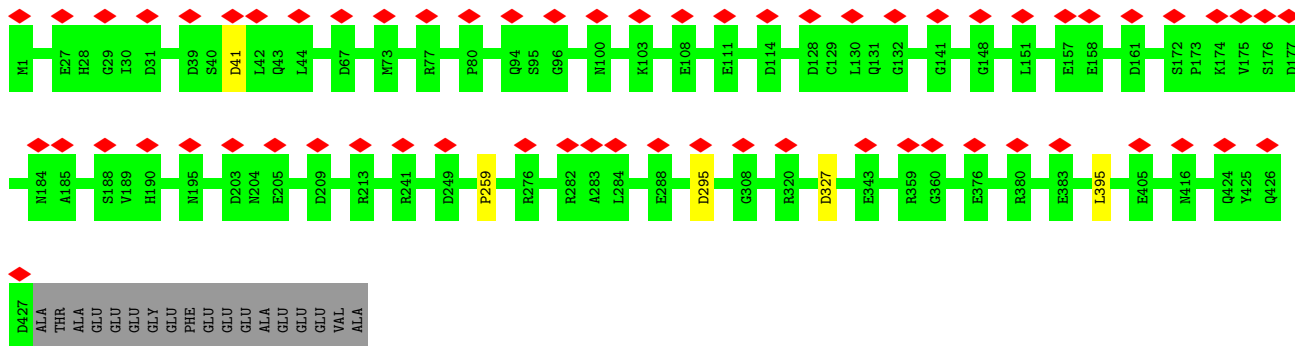




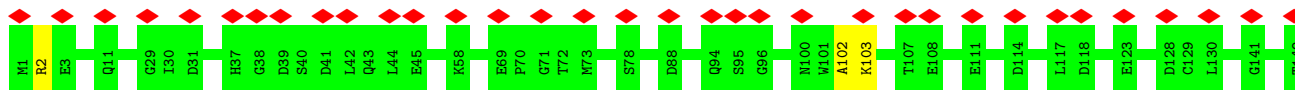
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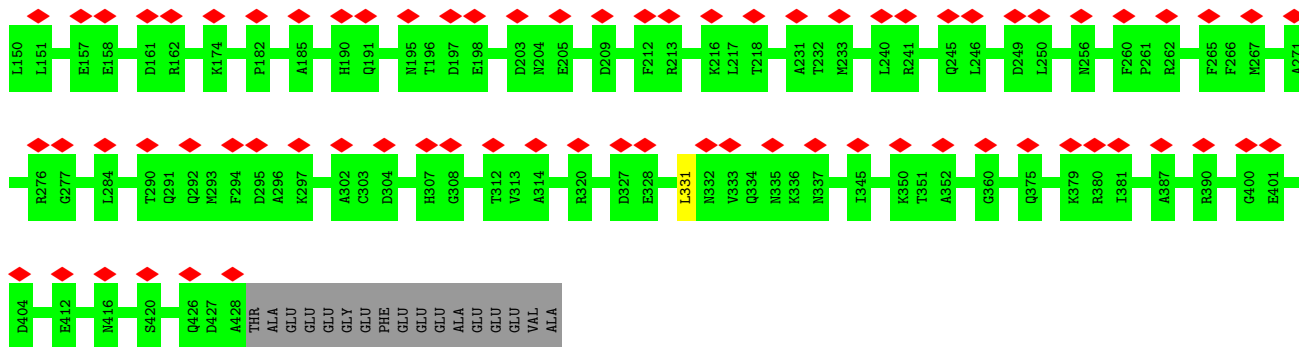


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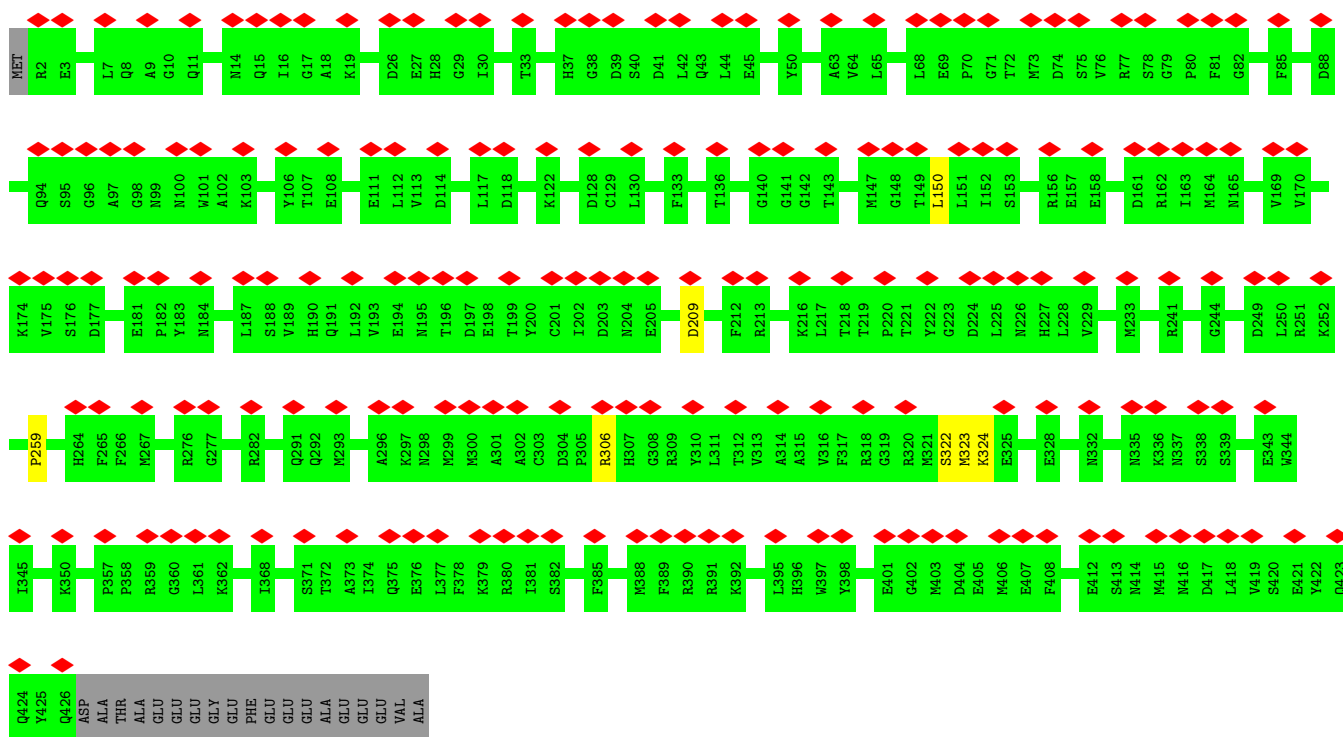


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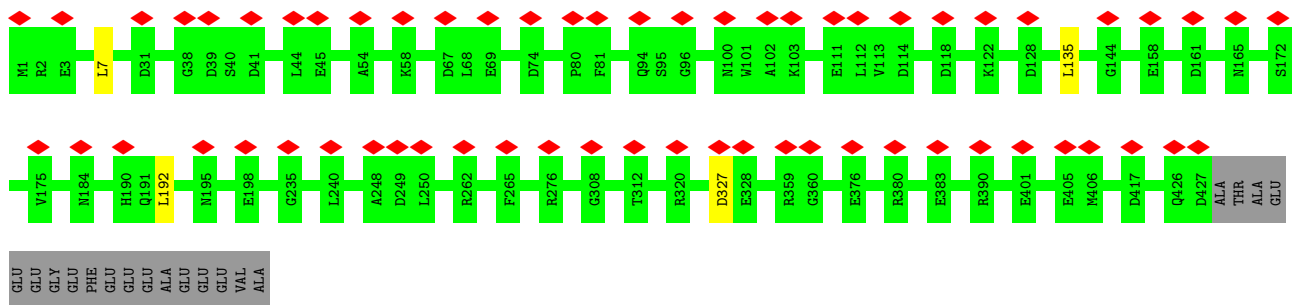




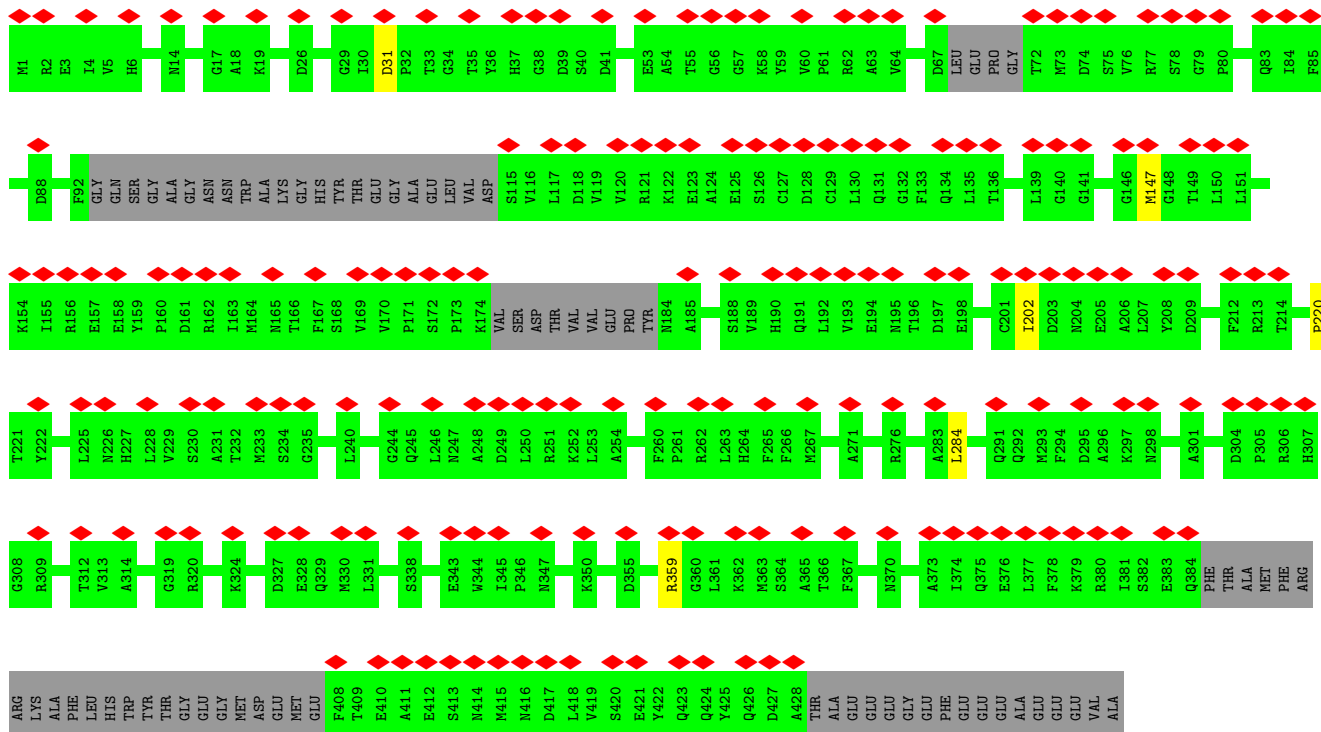
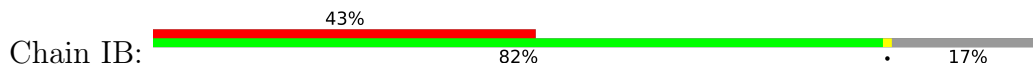
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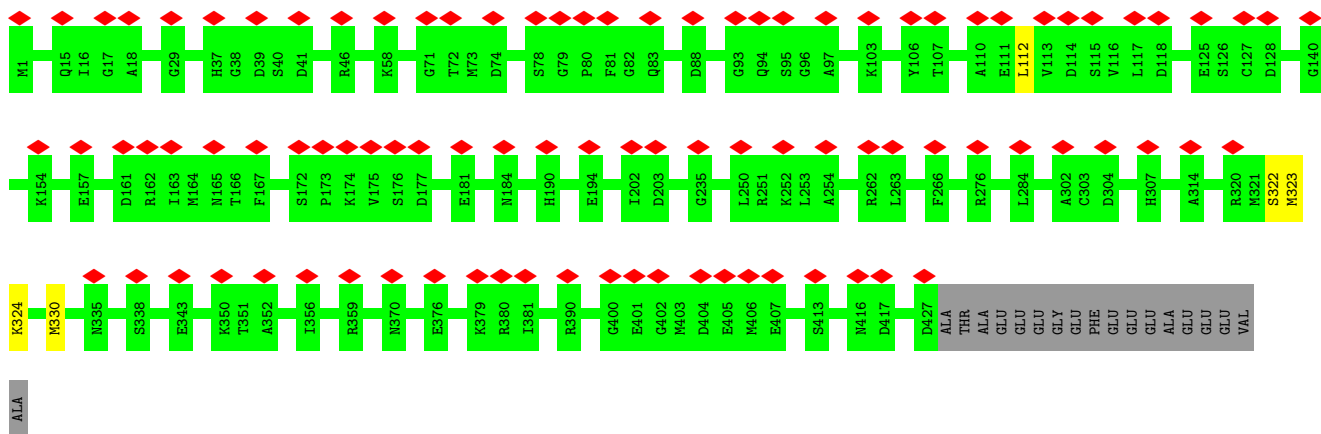
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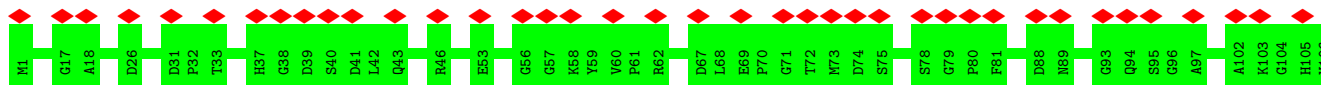
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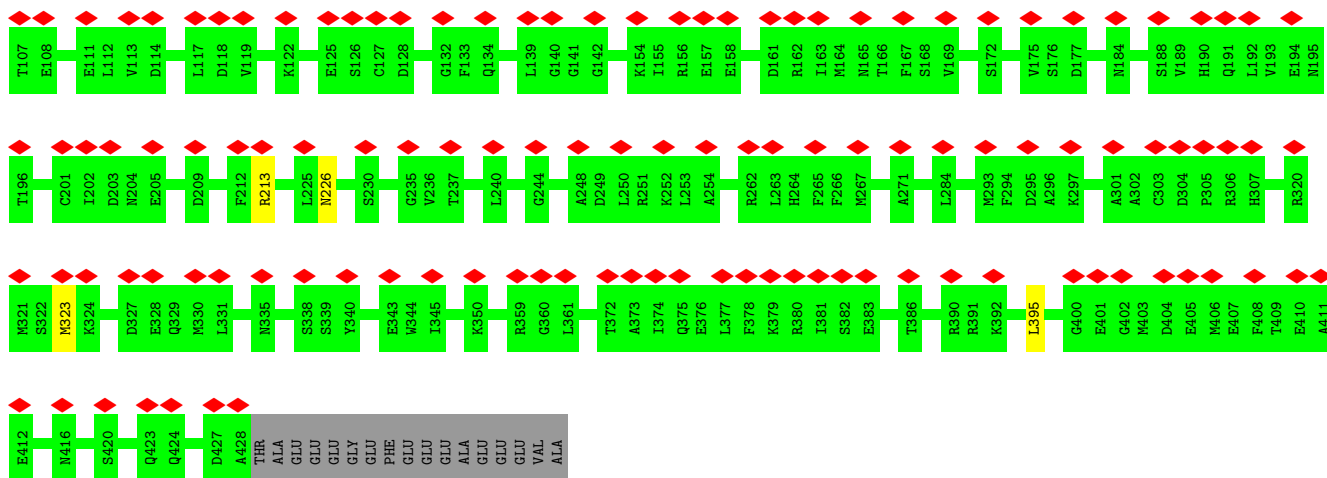


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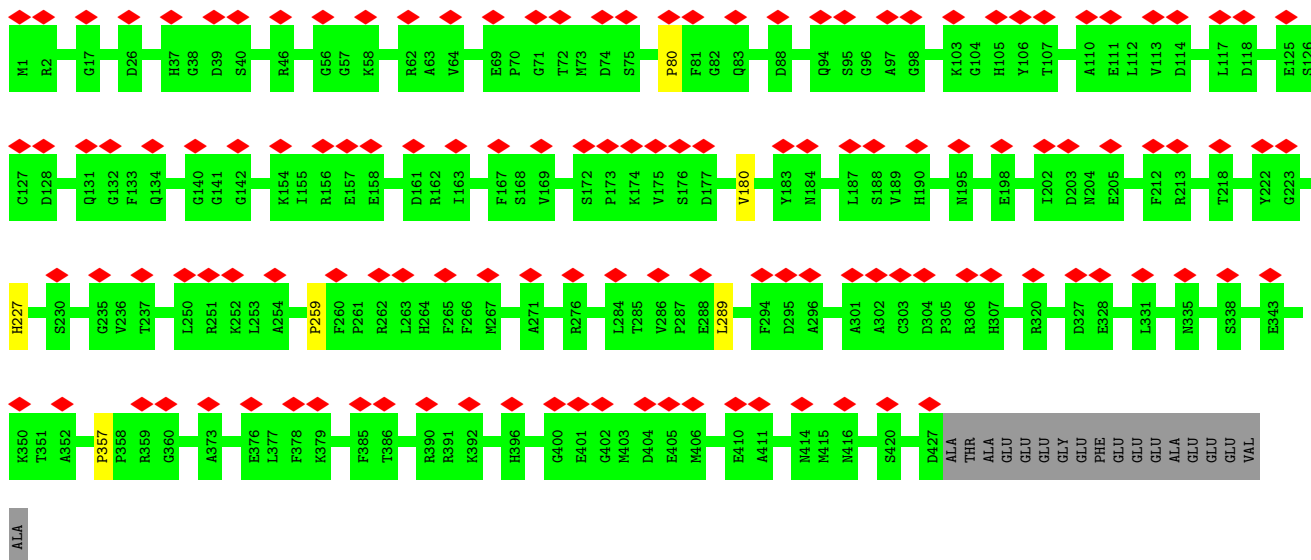


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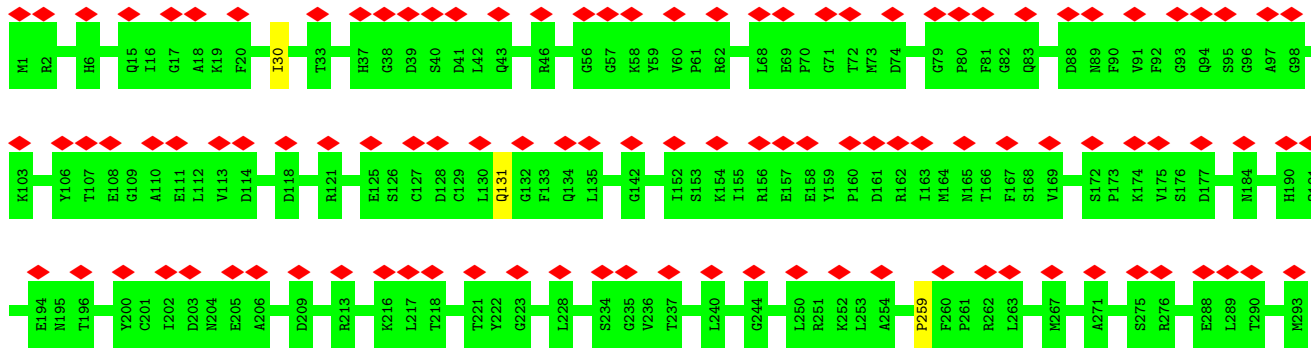


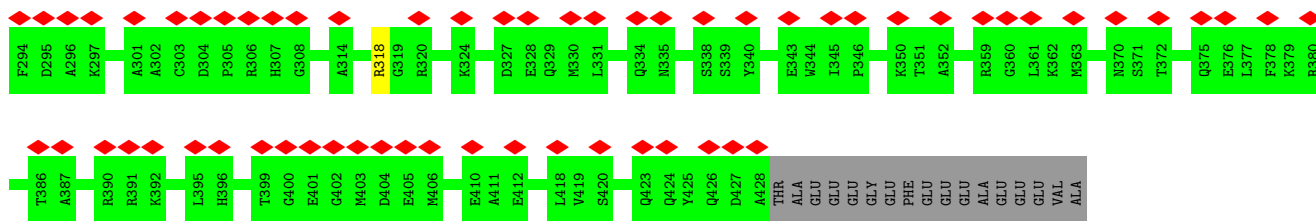


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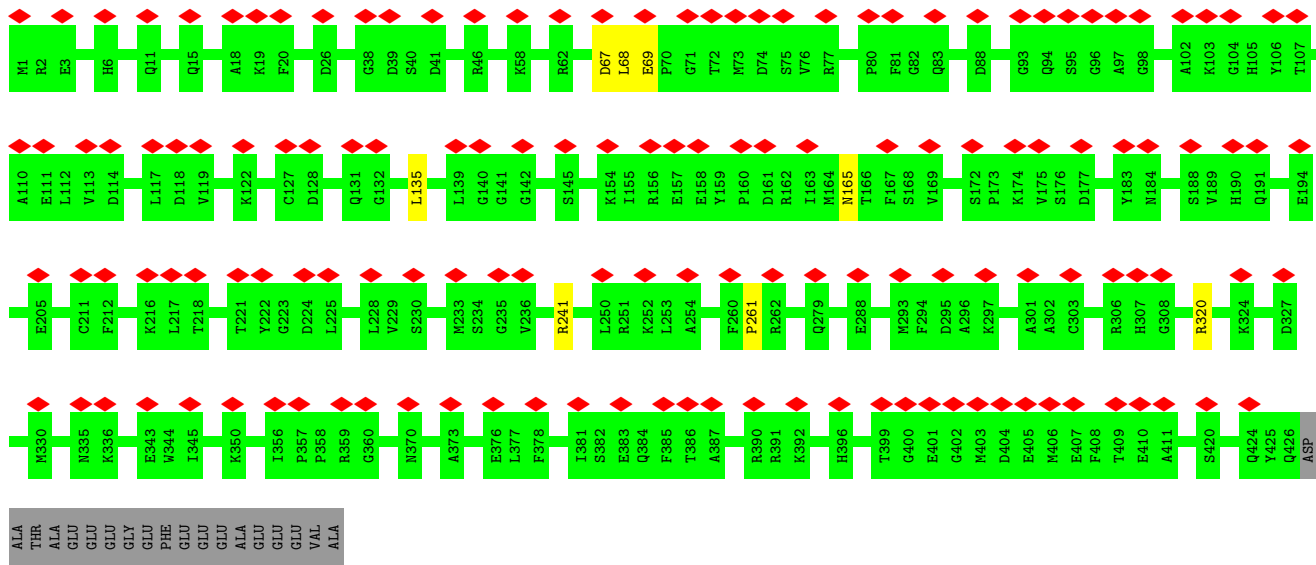
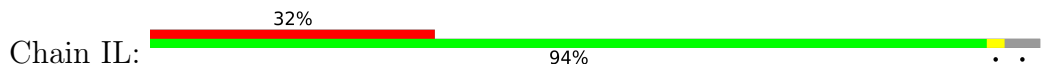


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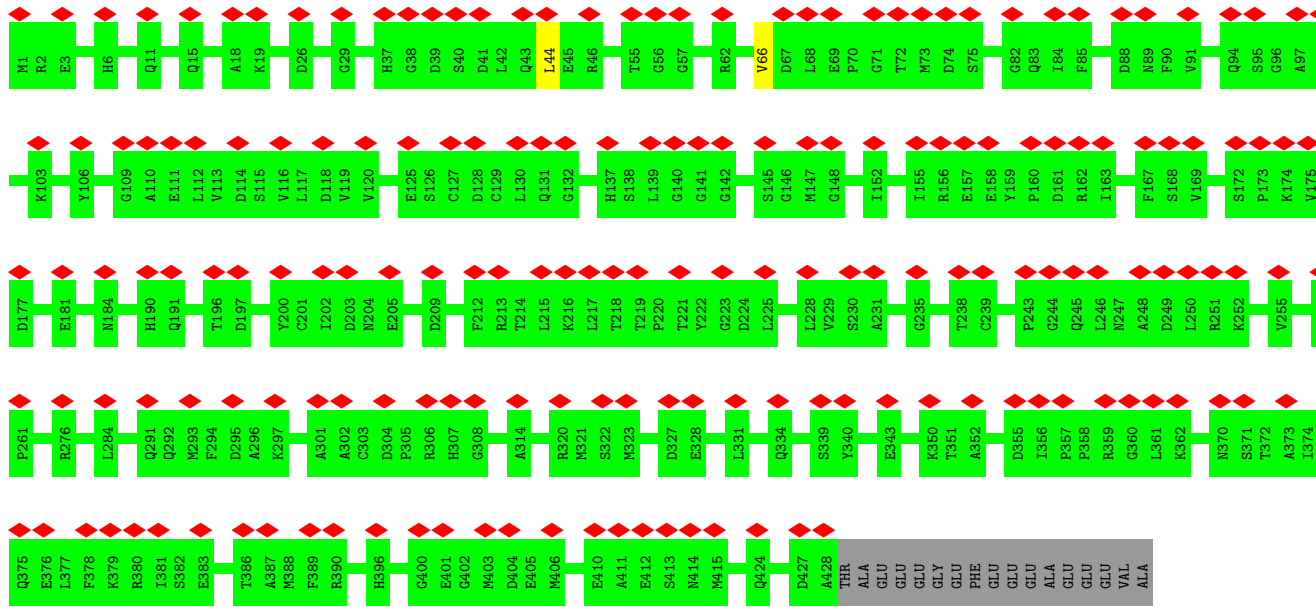
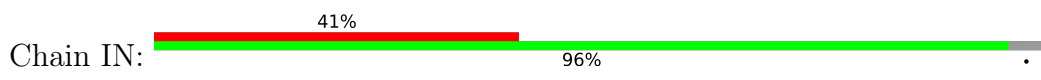




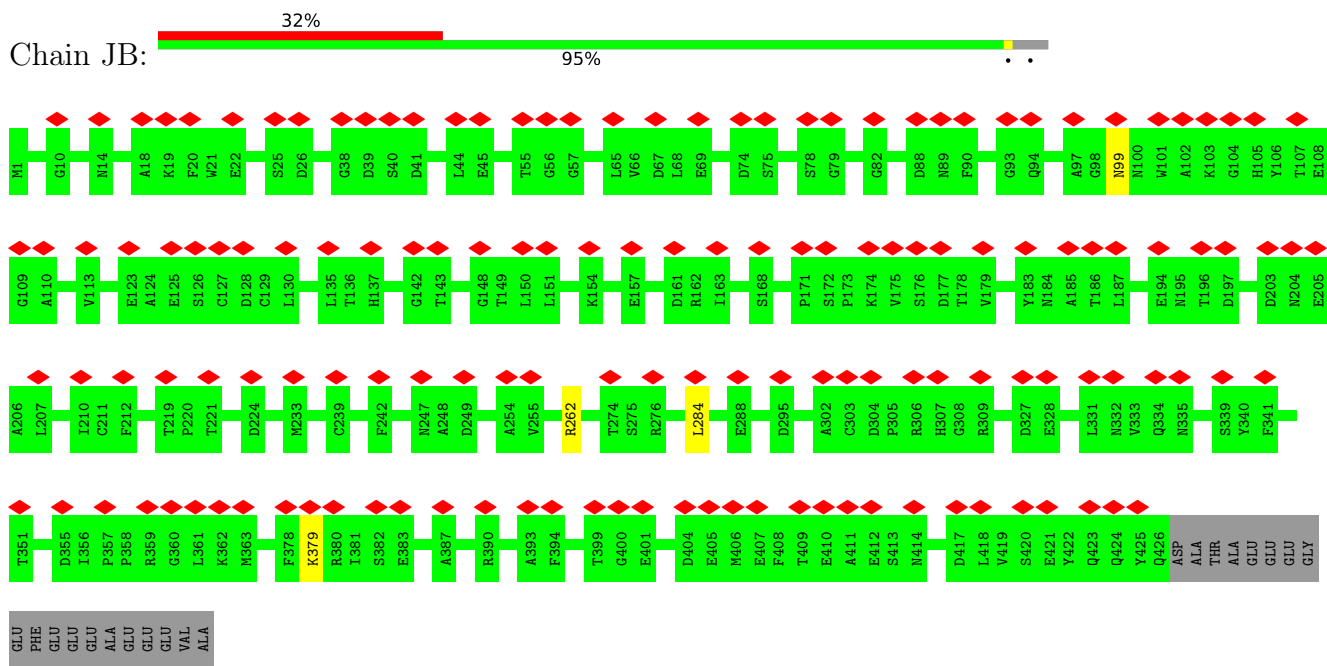
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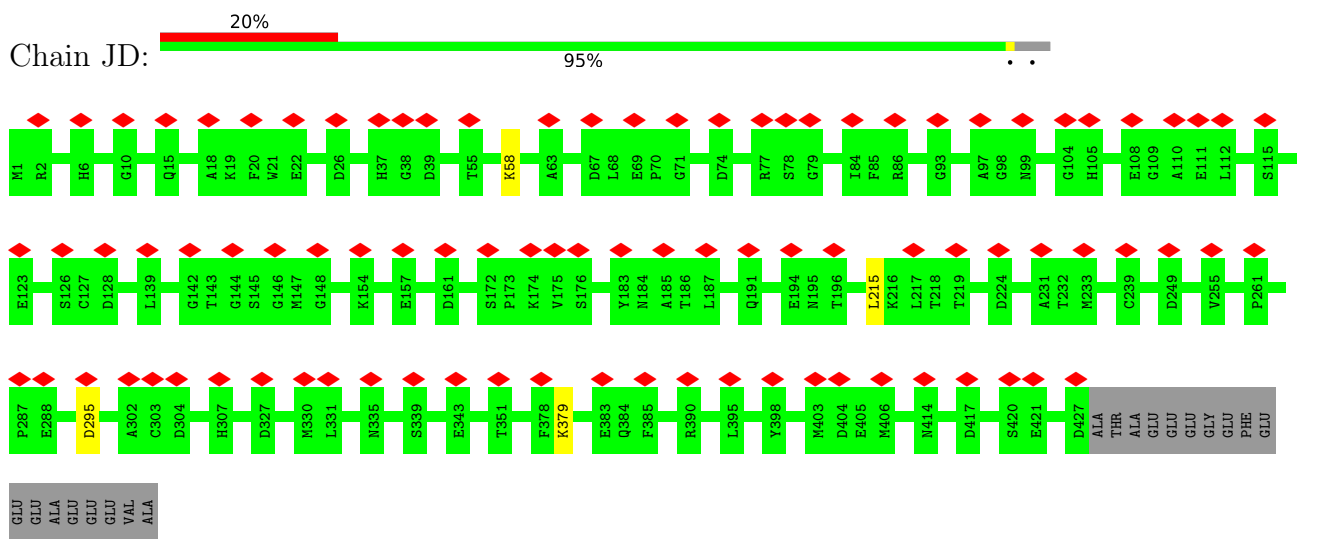
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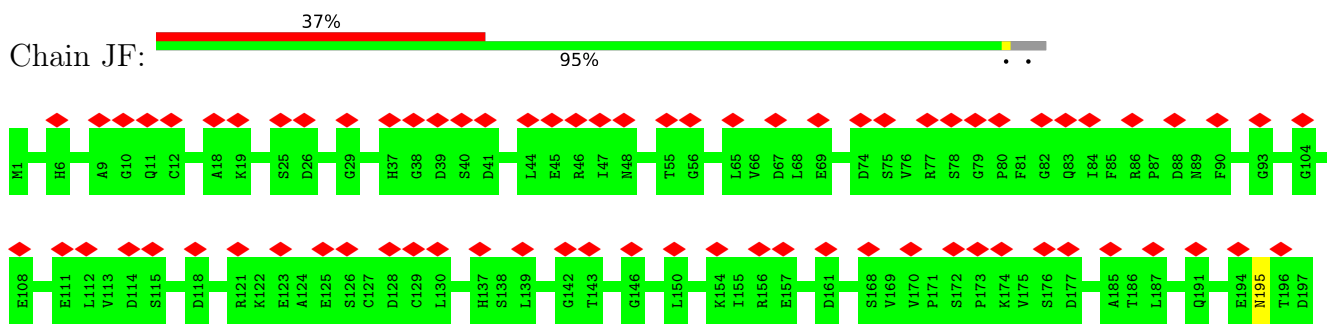
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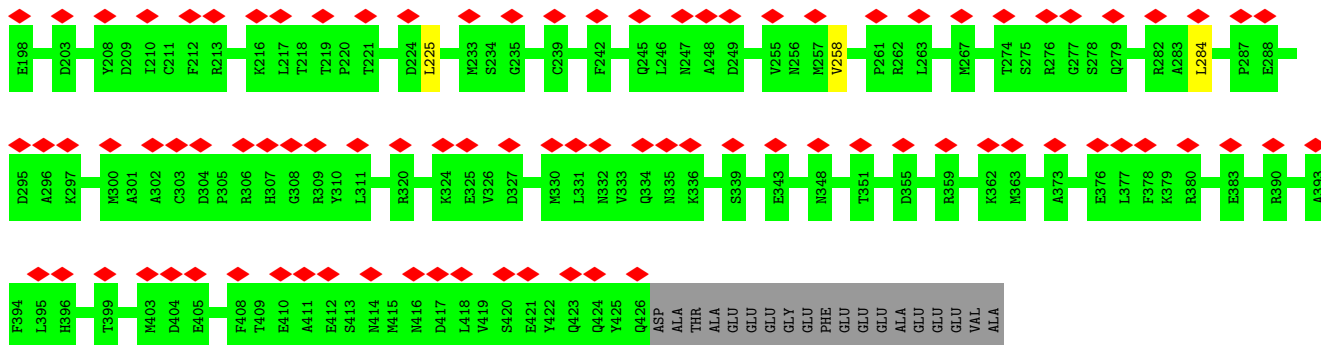


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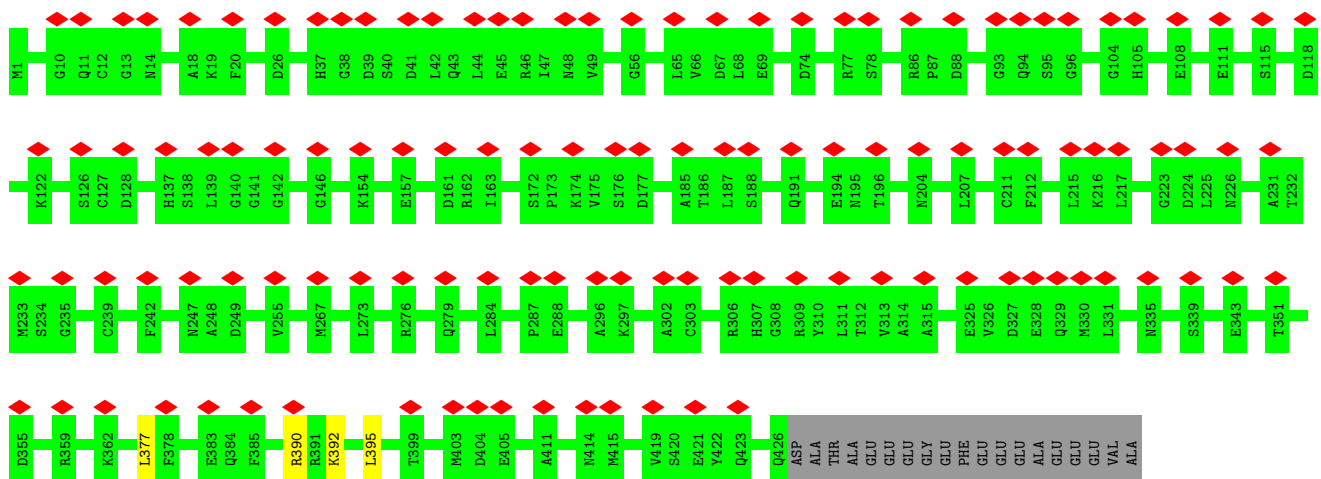


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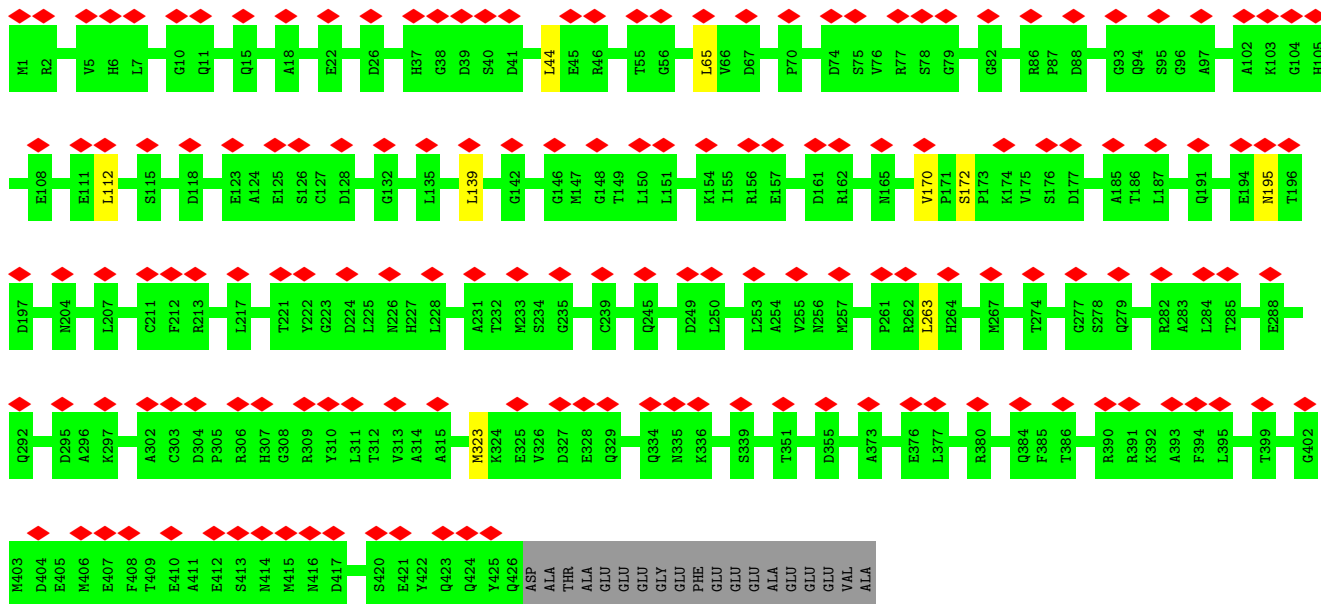




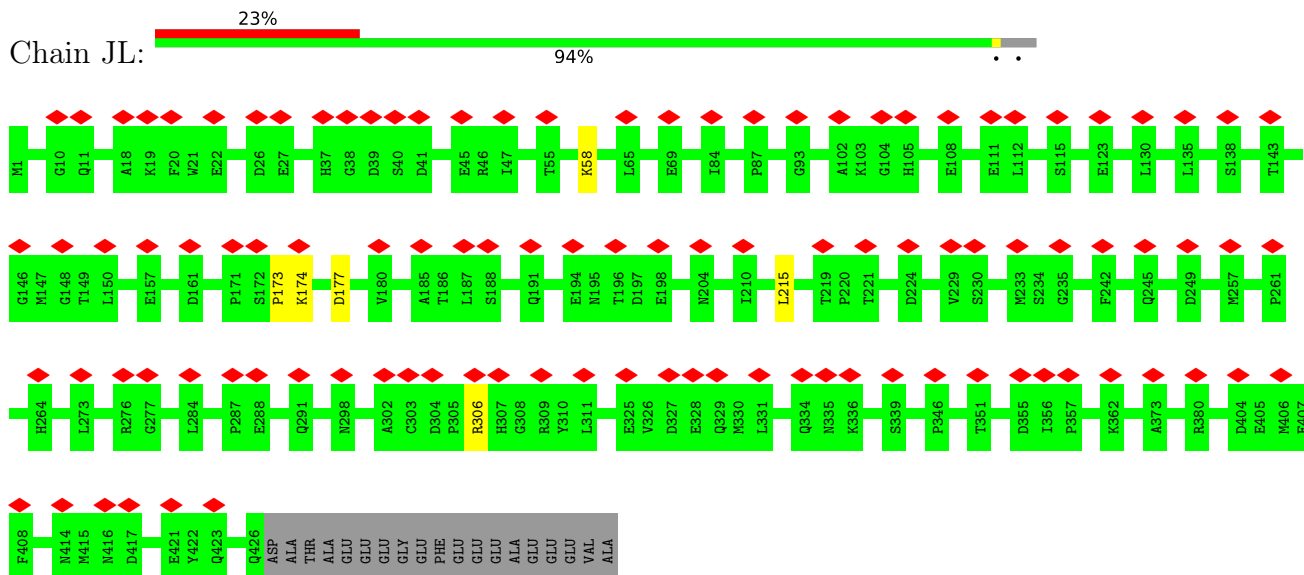
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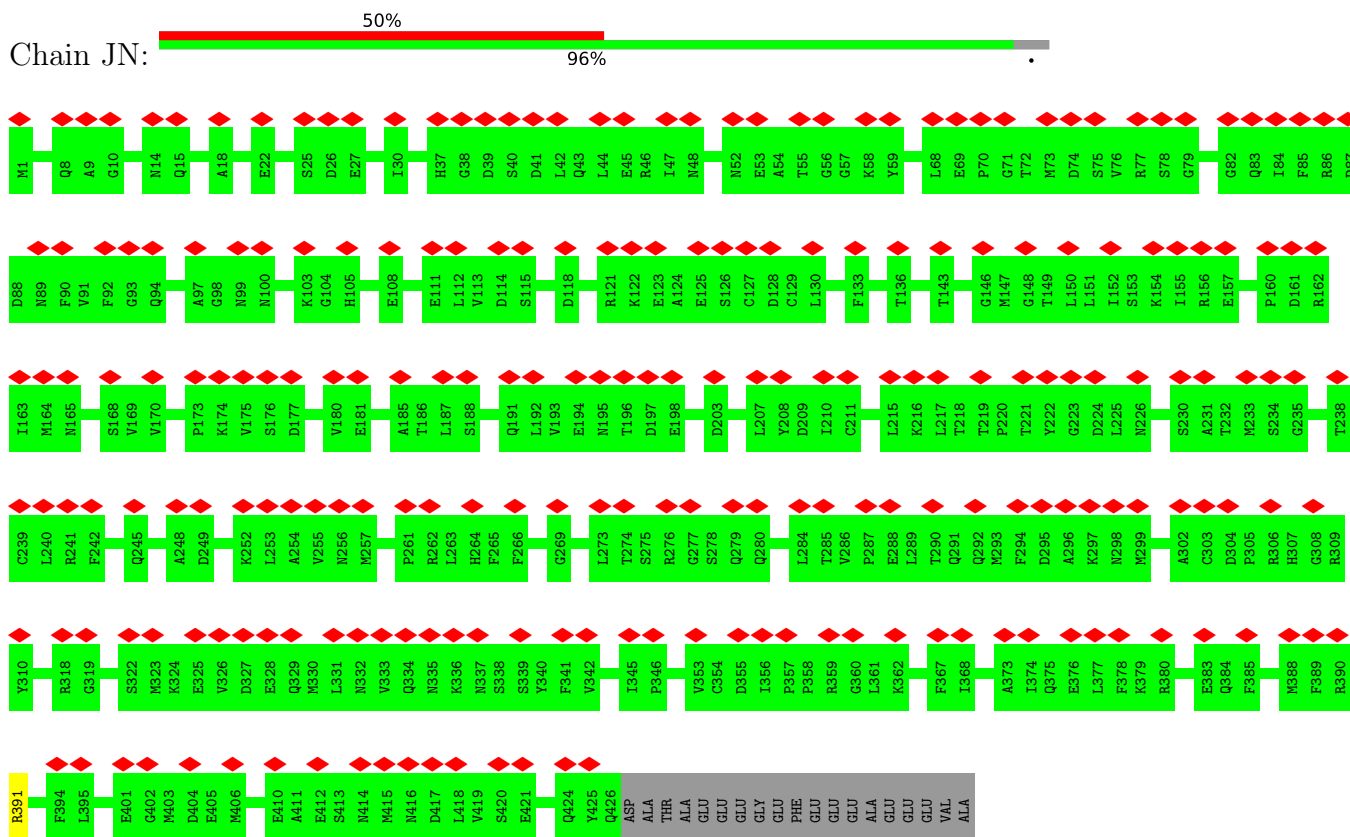
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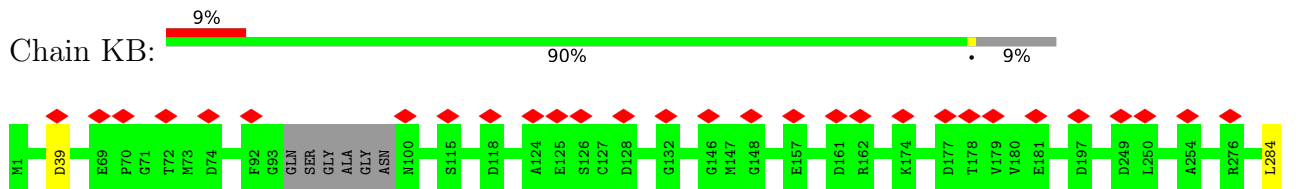
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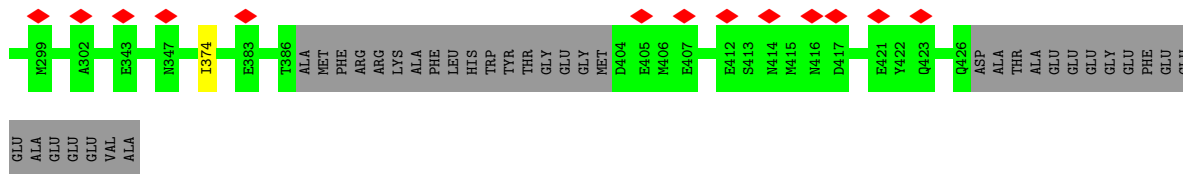


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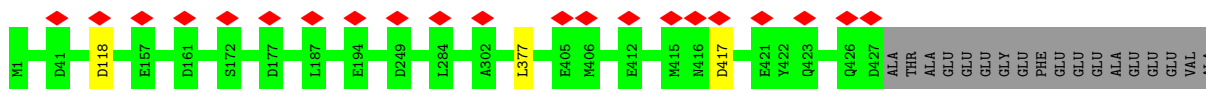




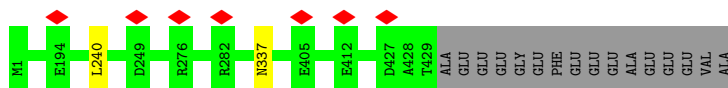
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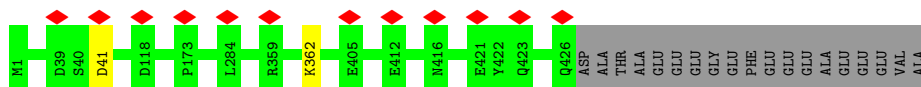
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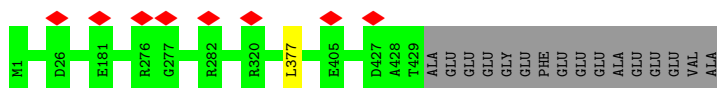
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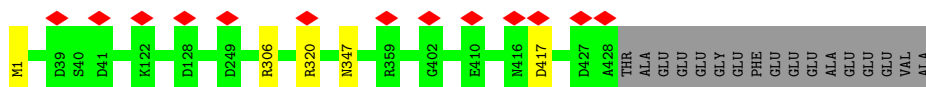
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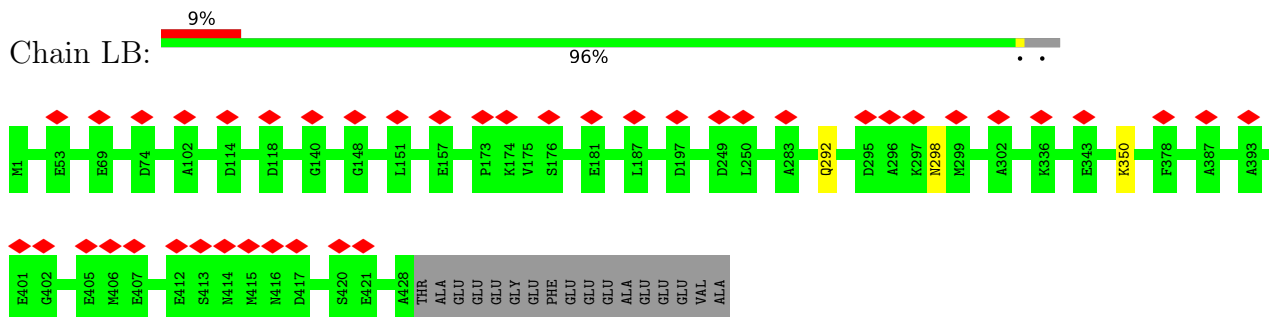
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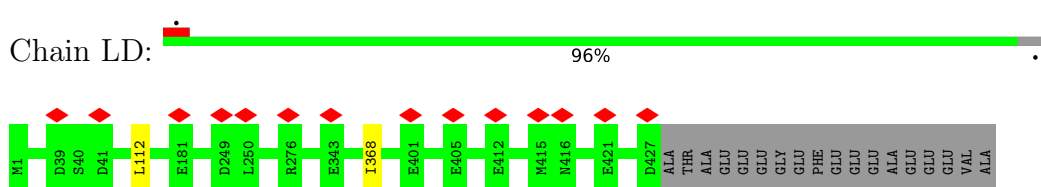
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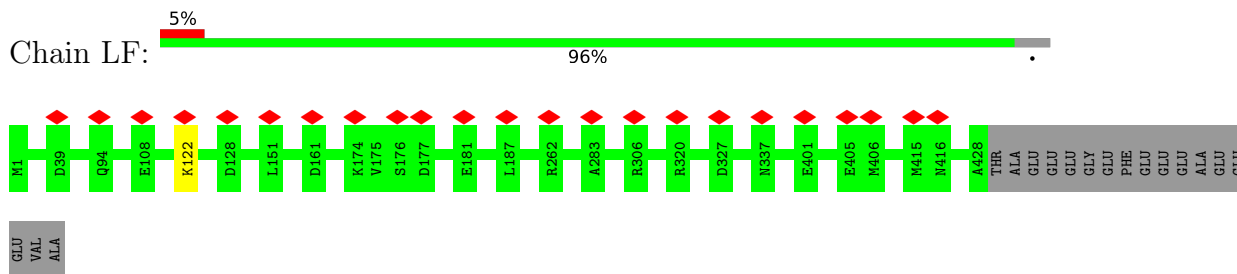
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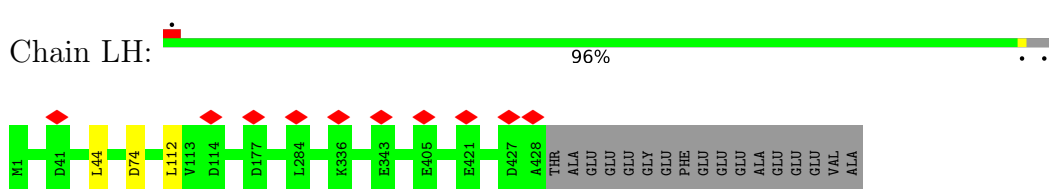
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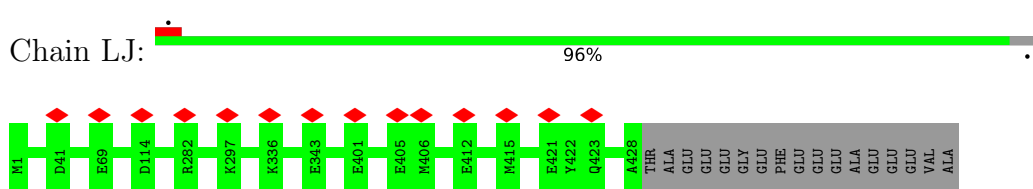
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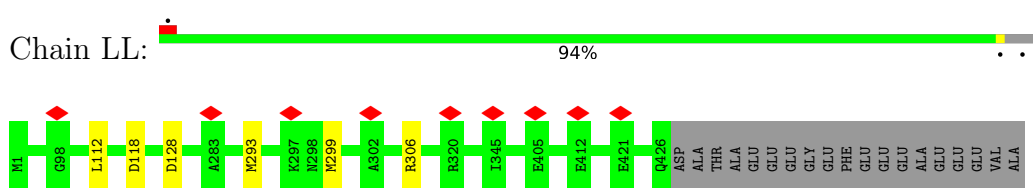
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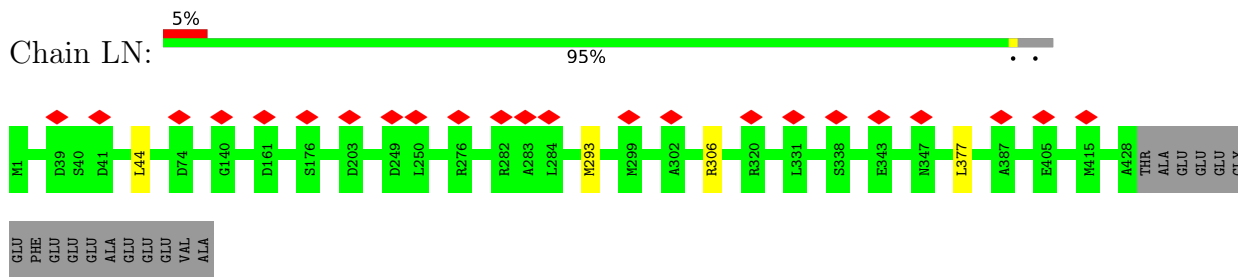
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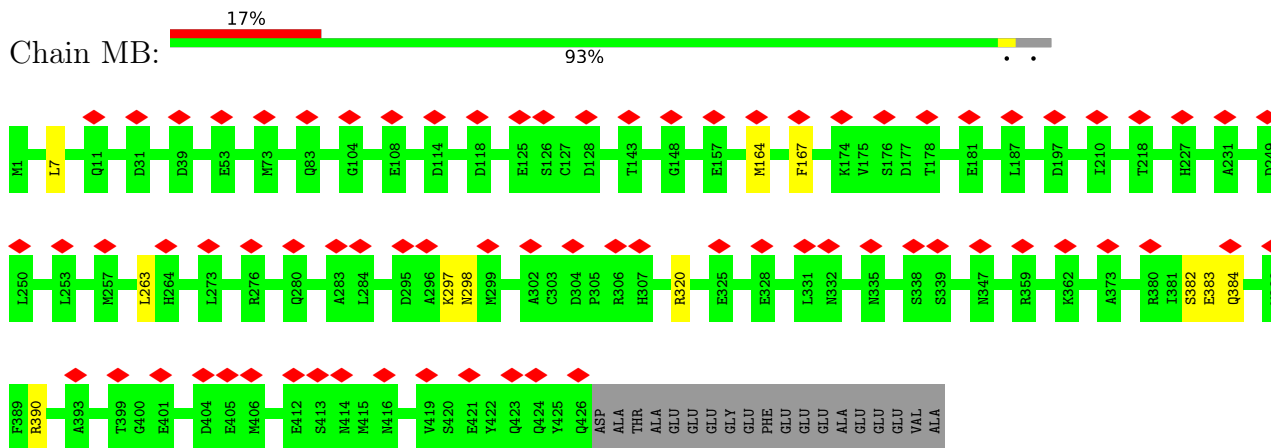
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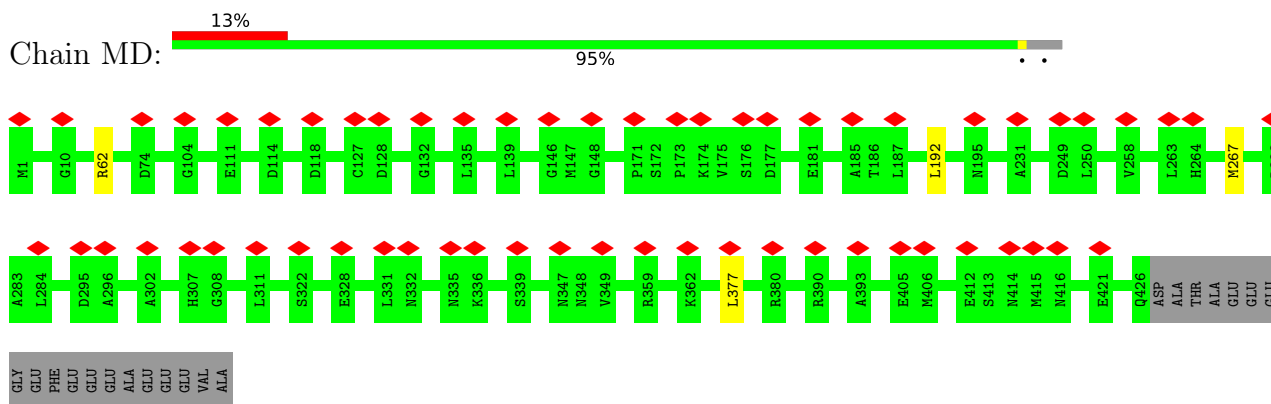
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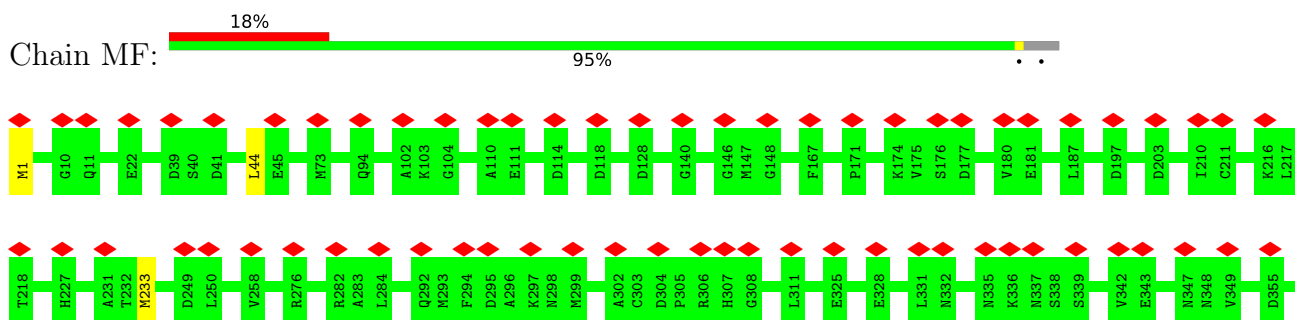
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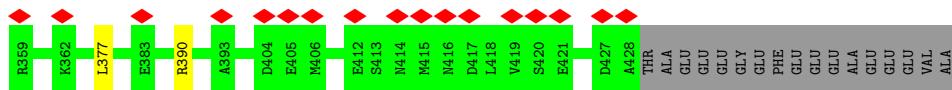


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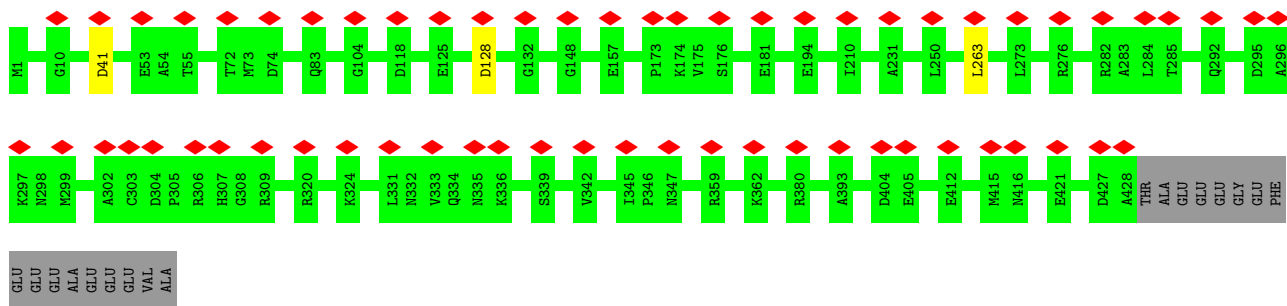


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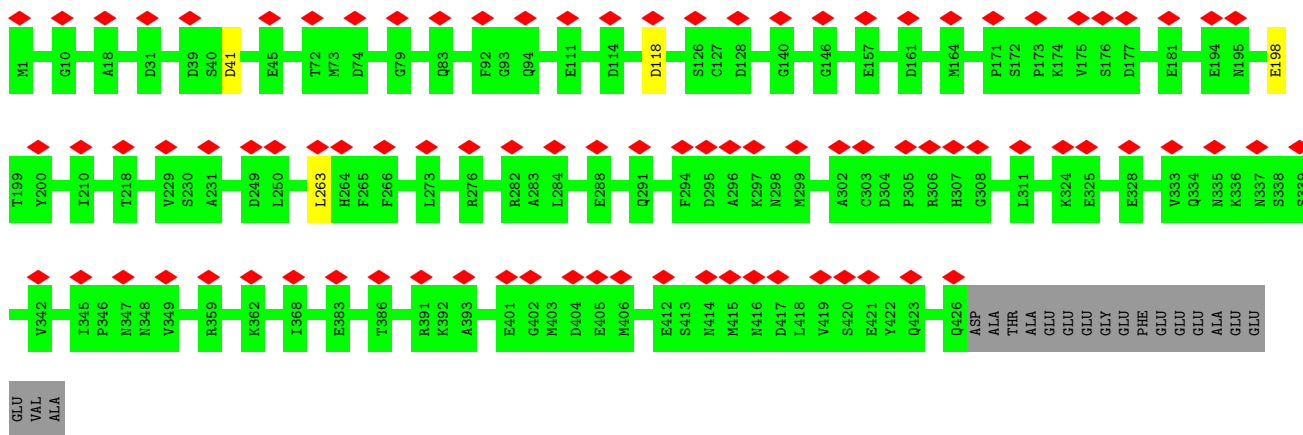




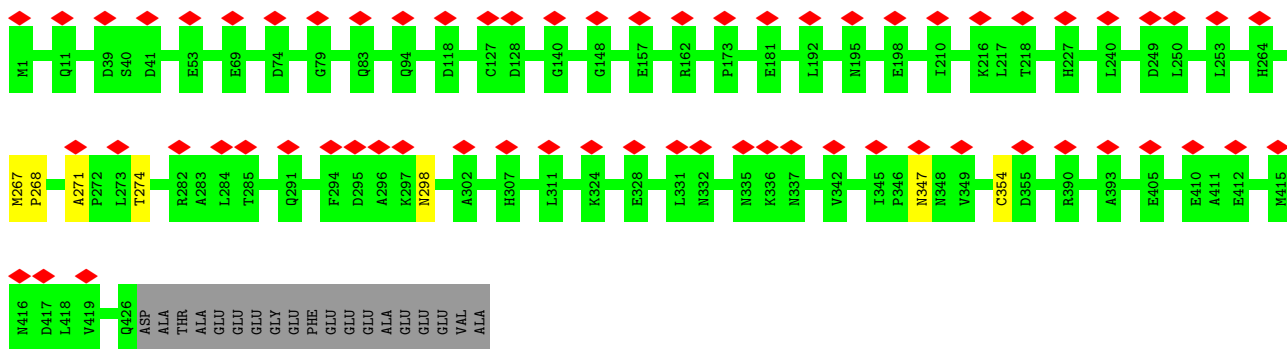
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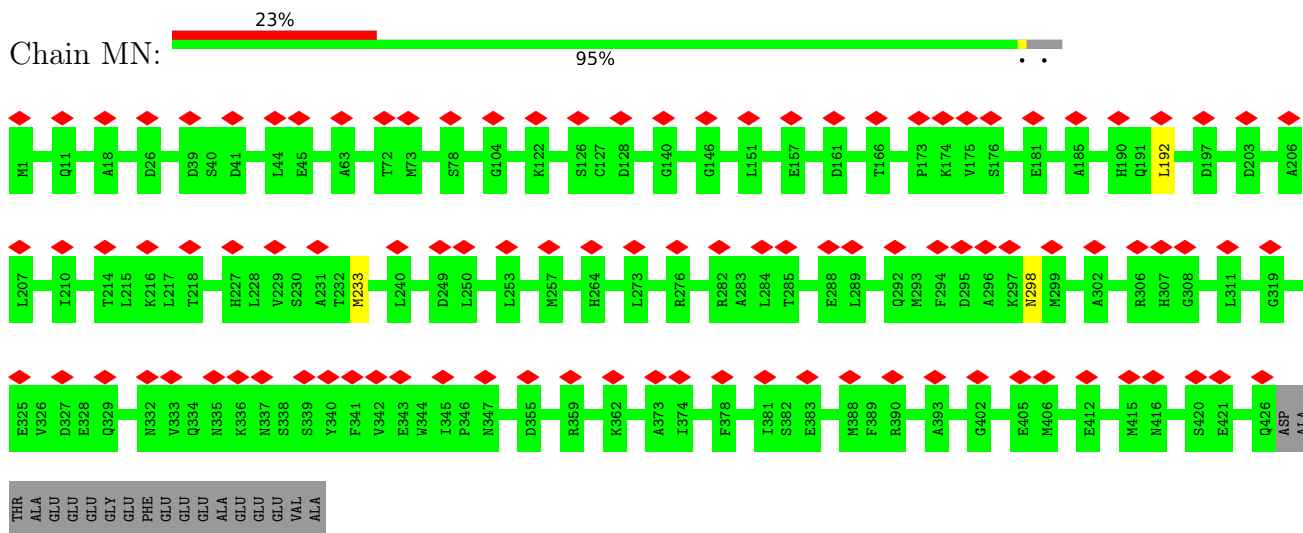
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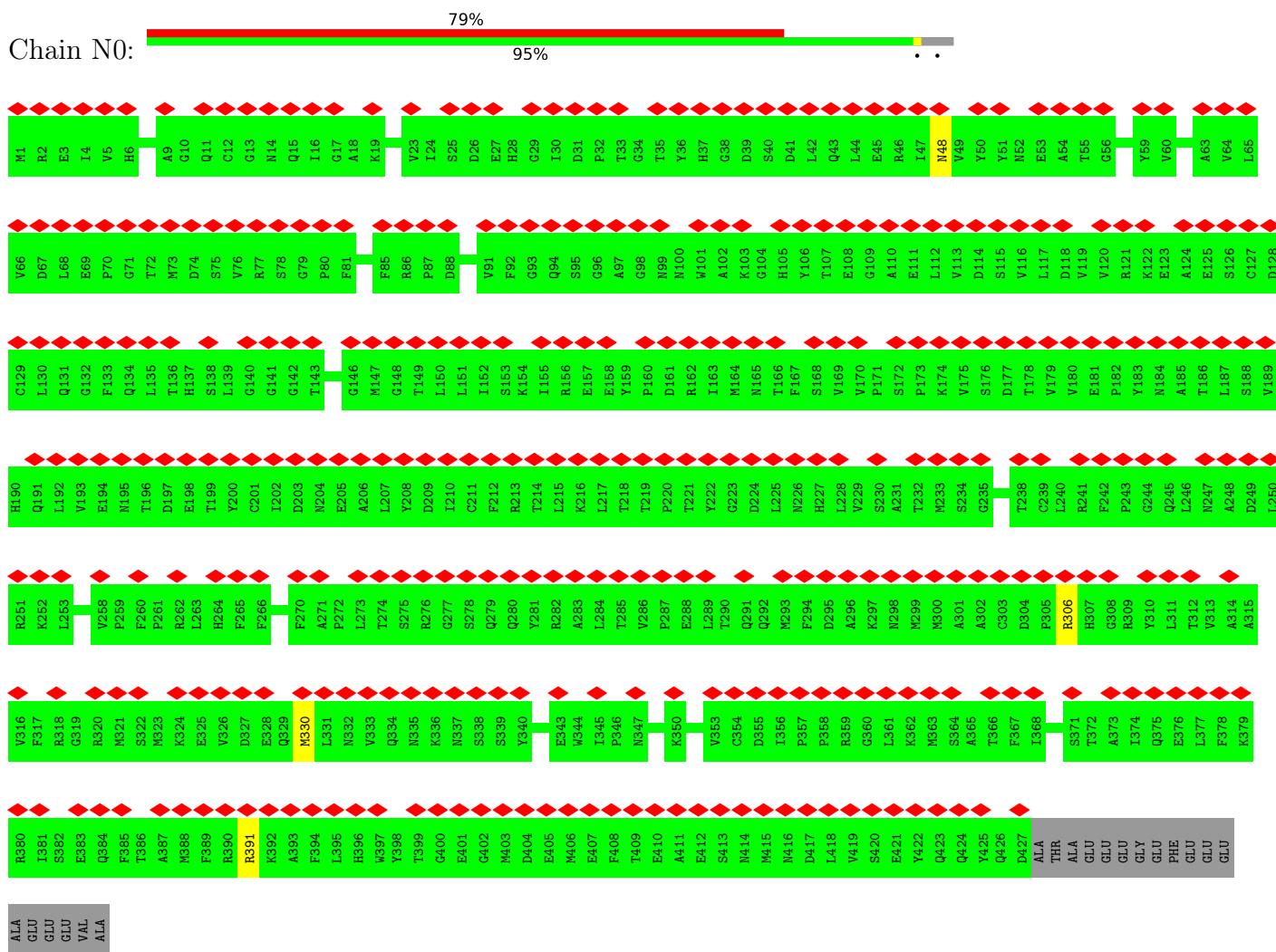
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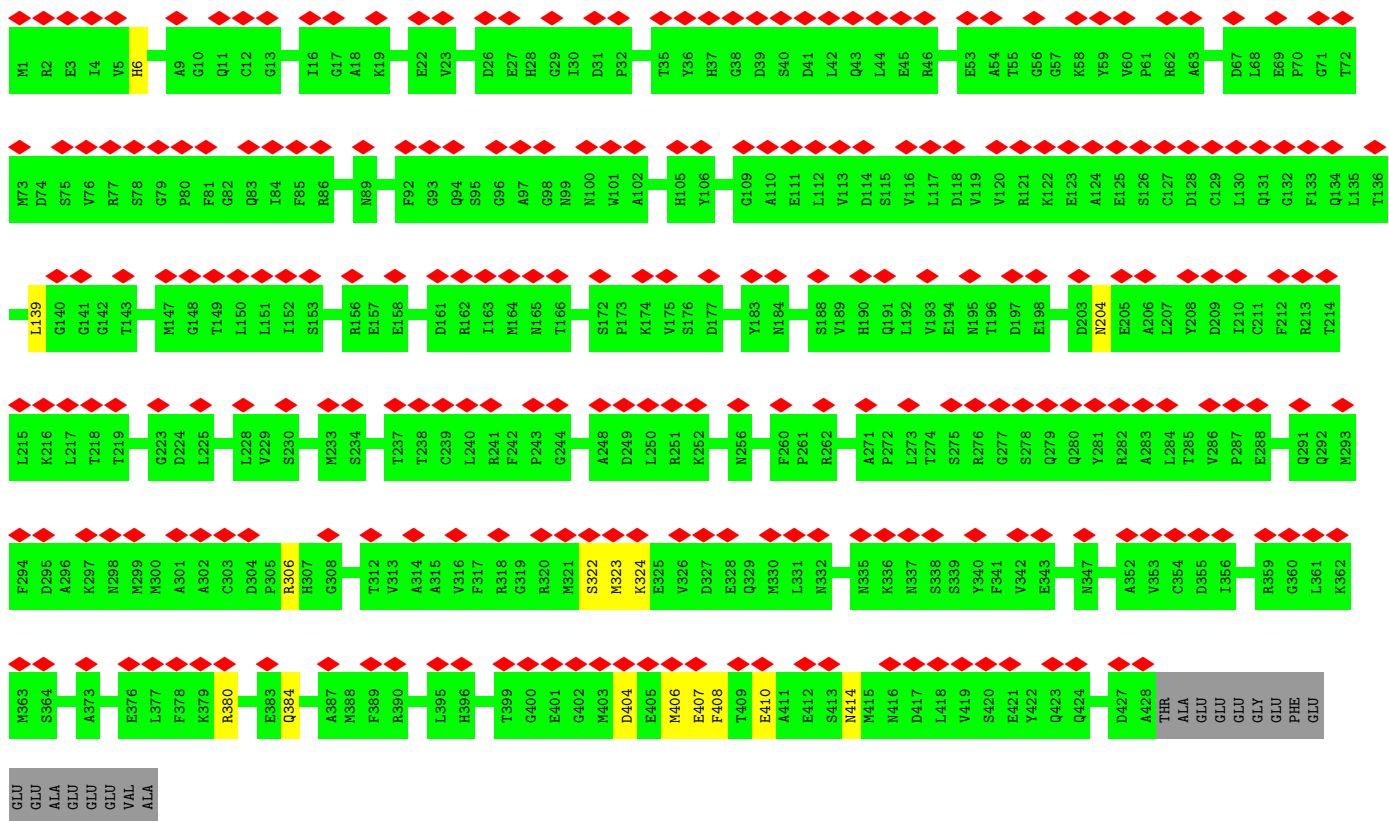


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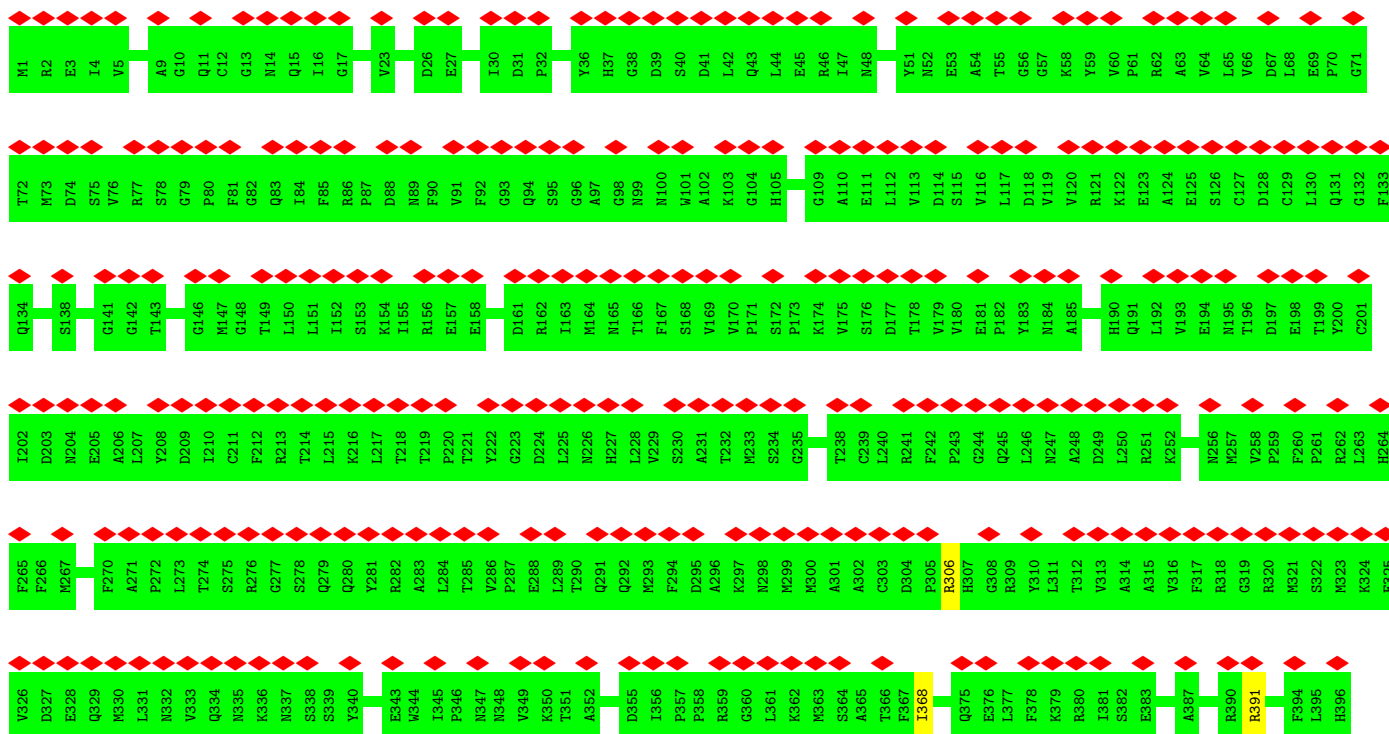


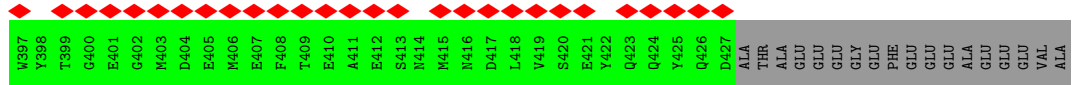
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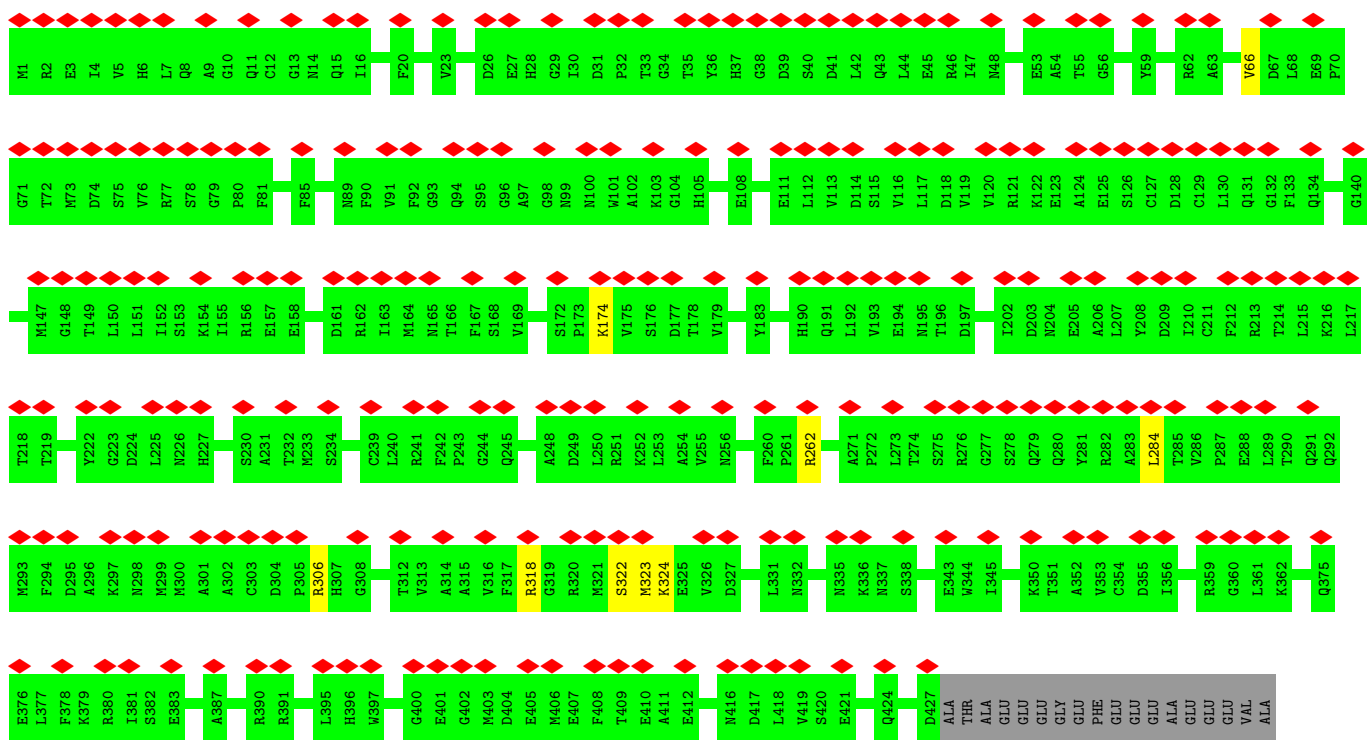


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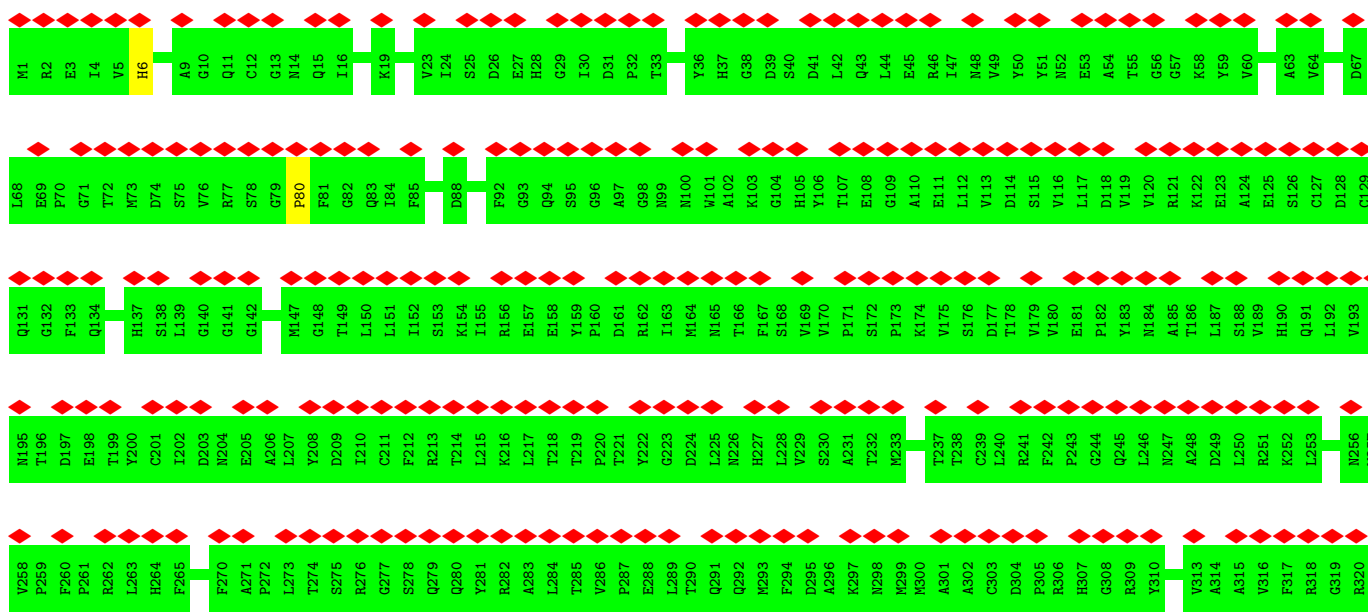
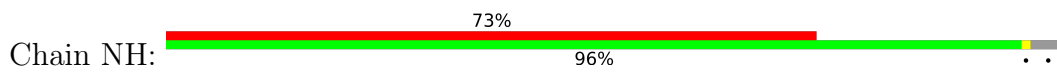


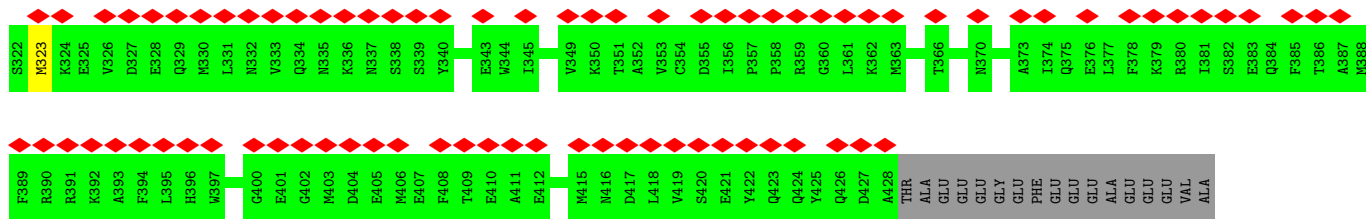


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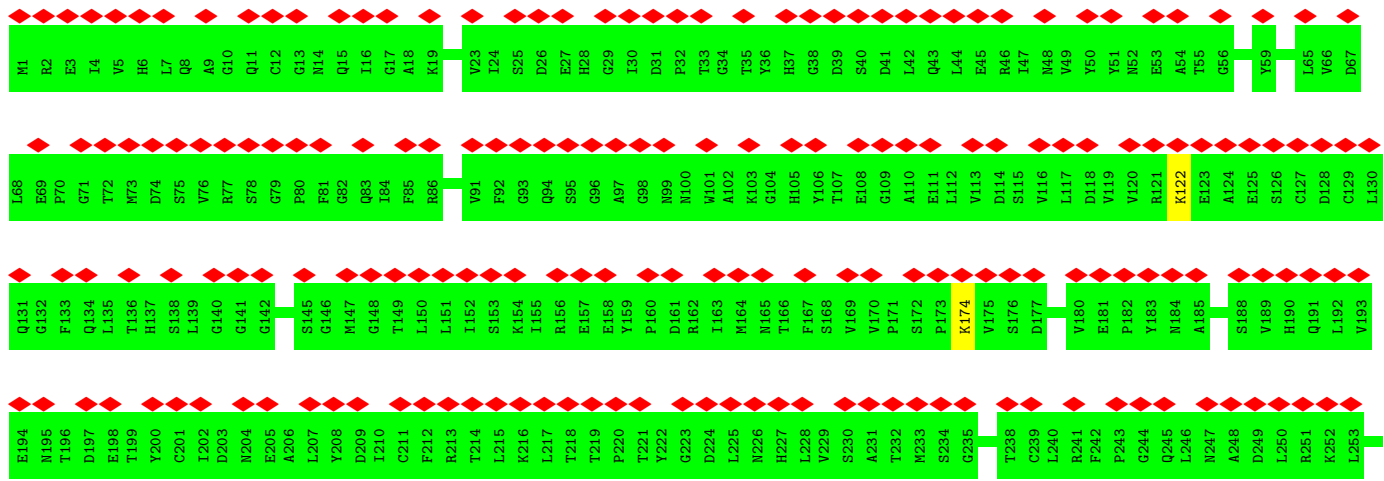
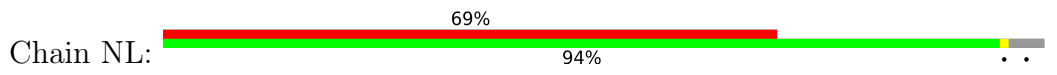


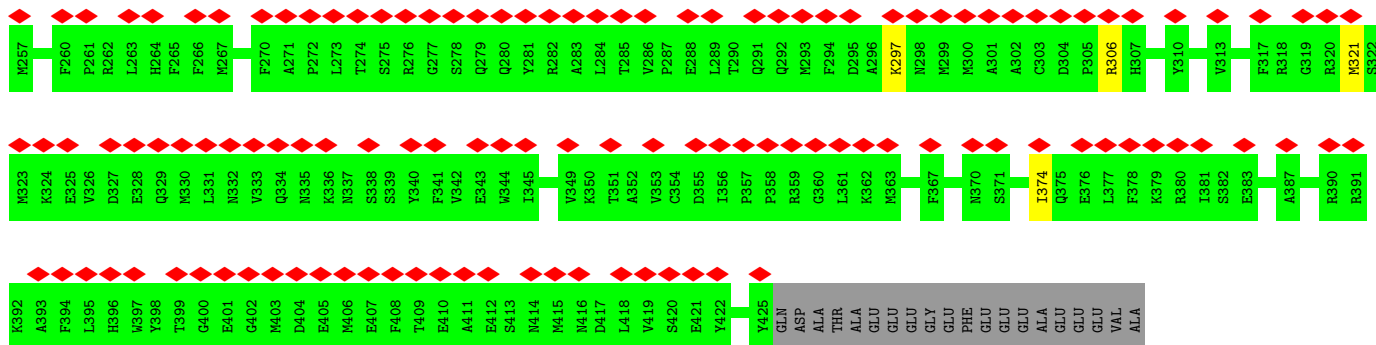


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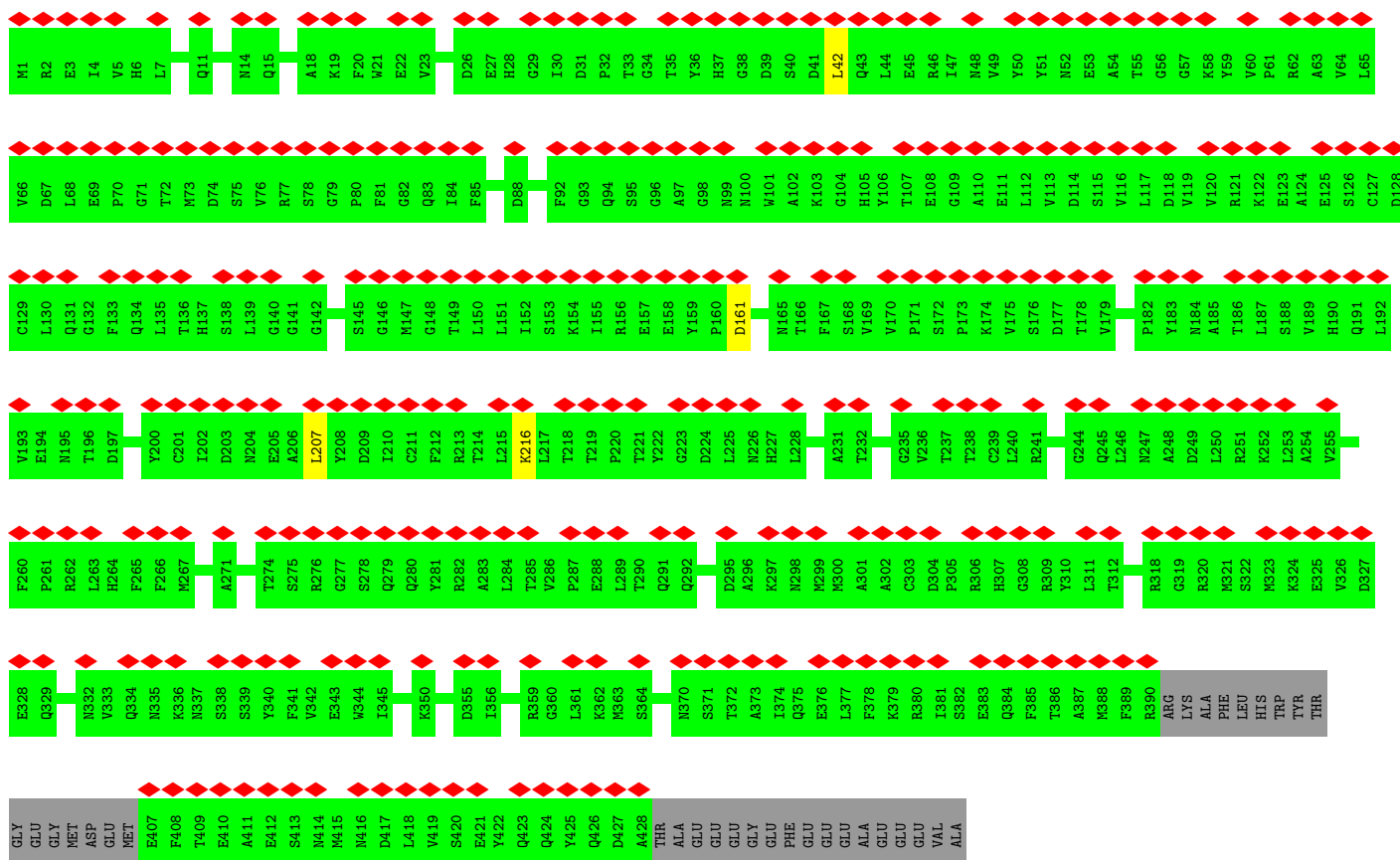


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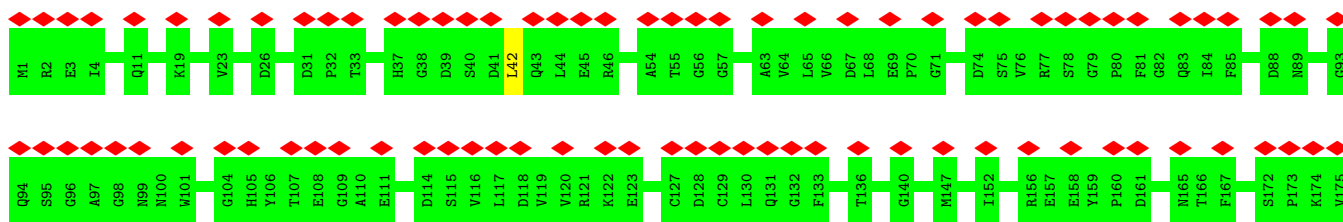
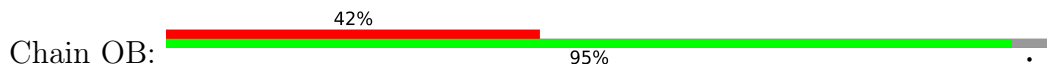


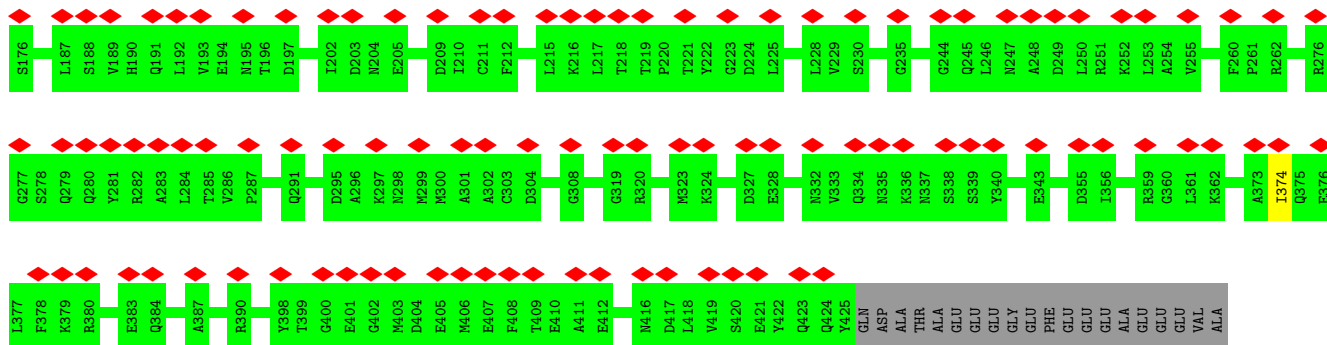


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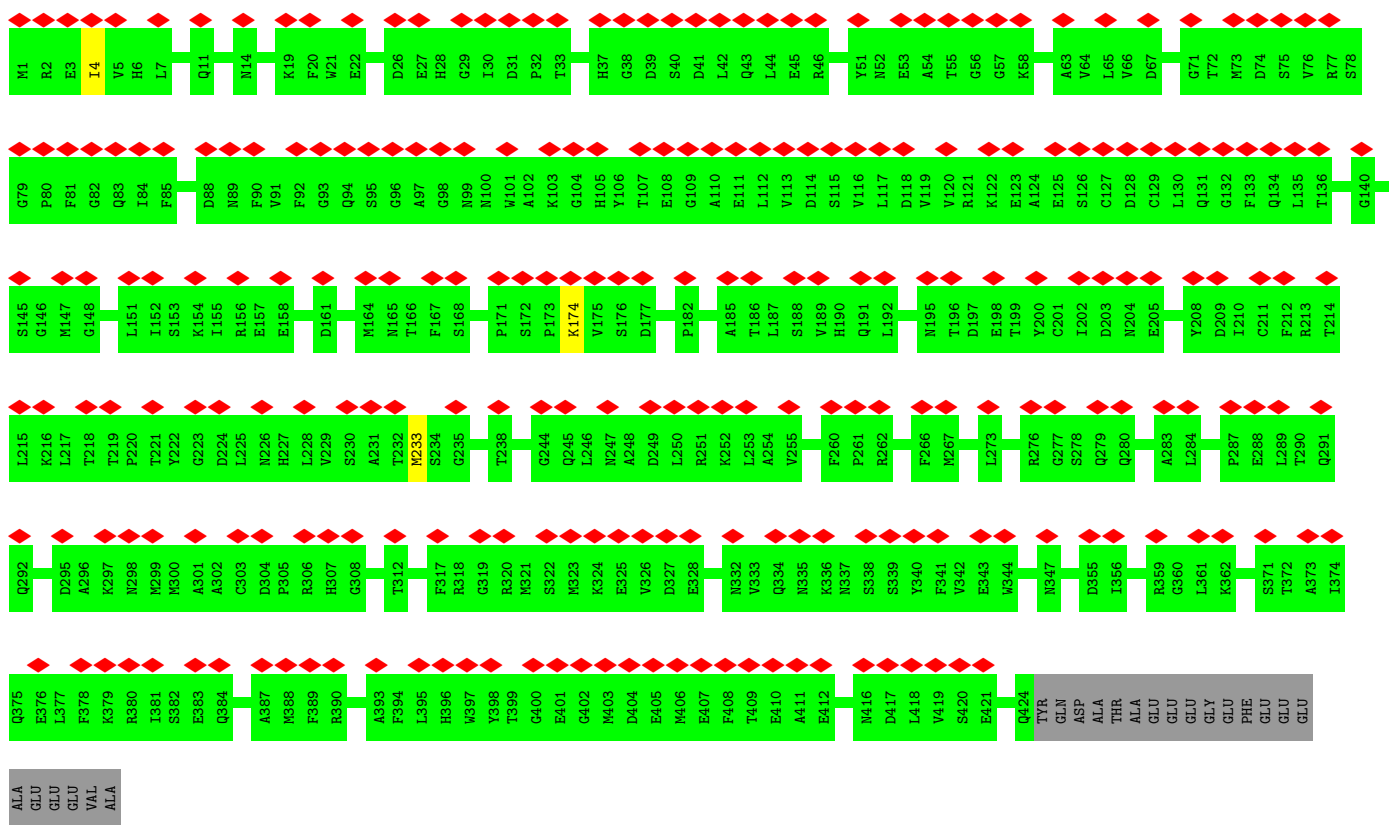


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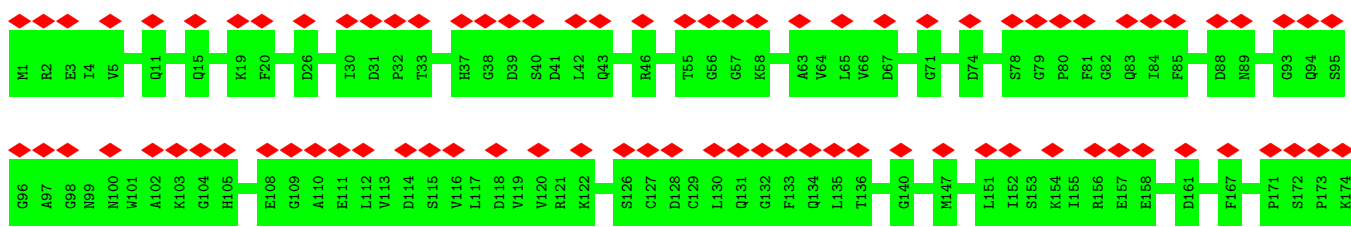
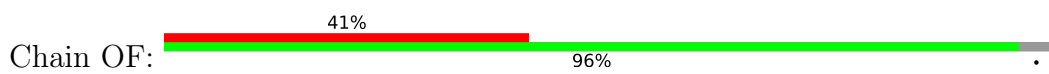


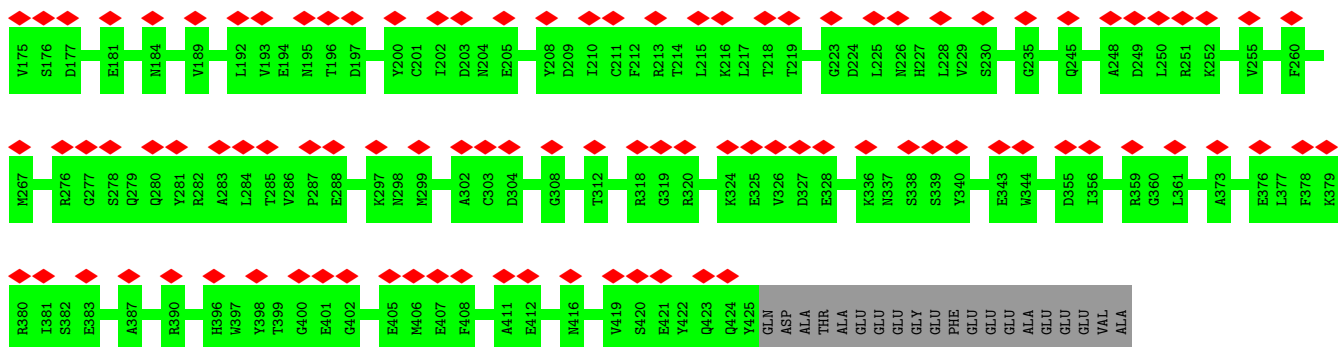


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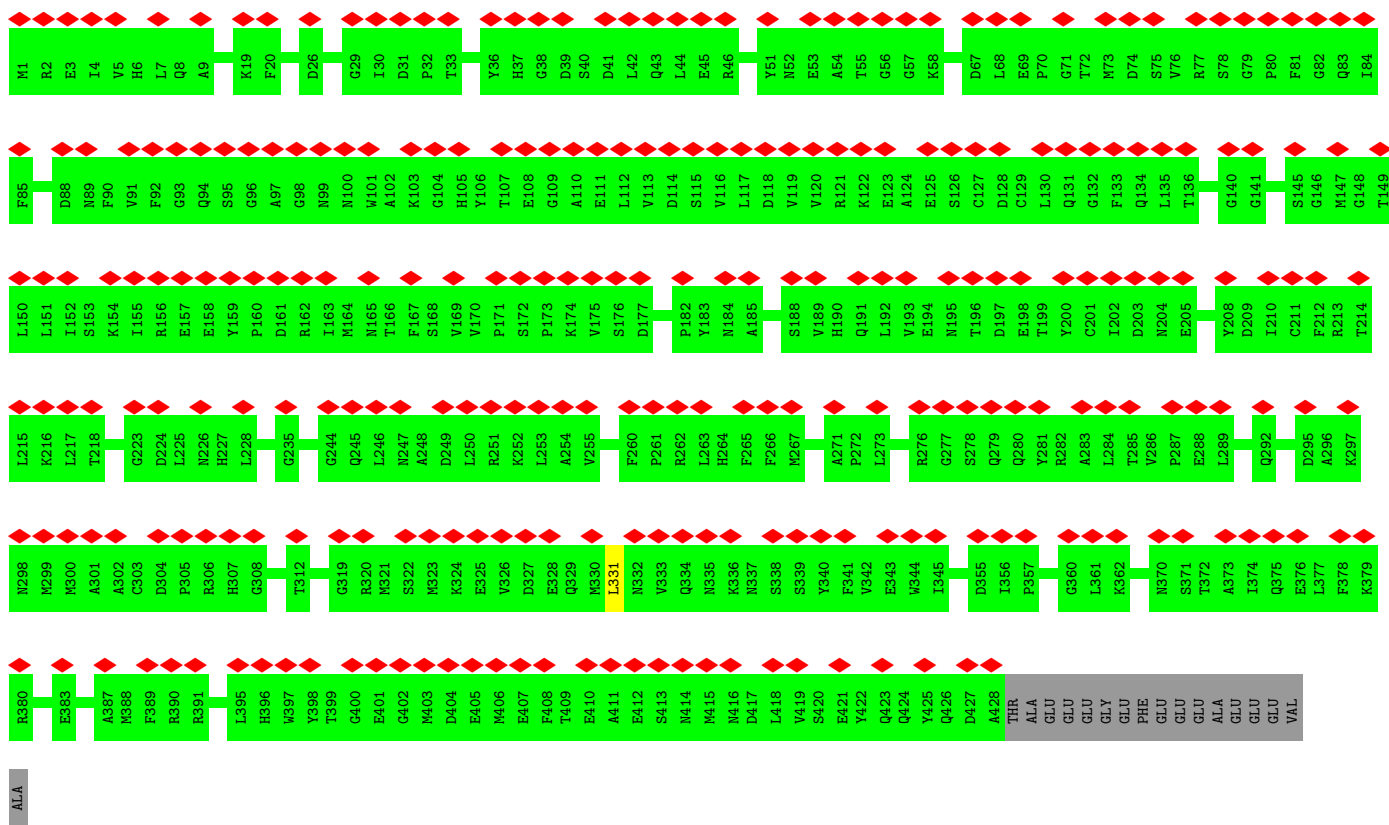


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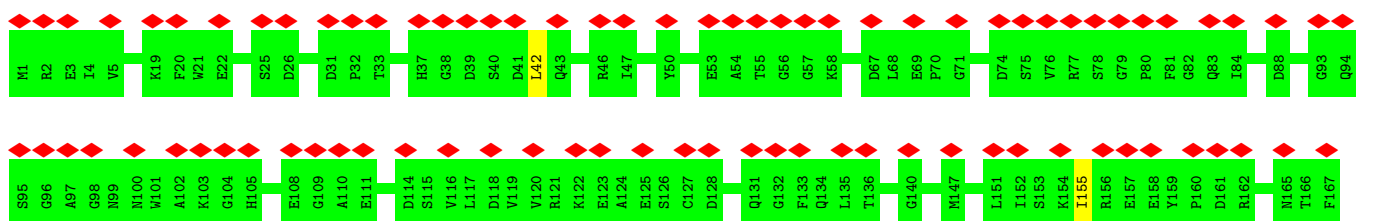
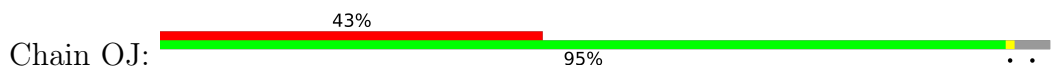


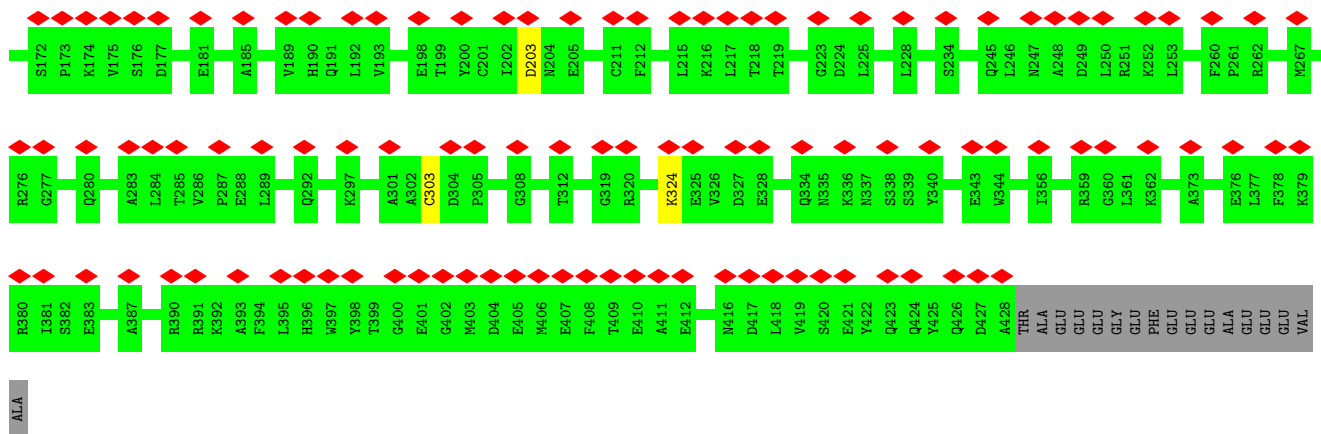


• Molecule 9: Tubulin beta-4B chain



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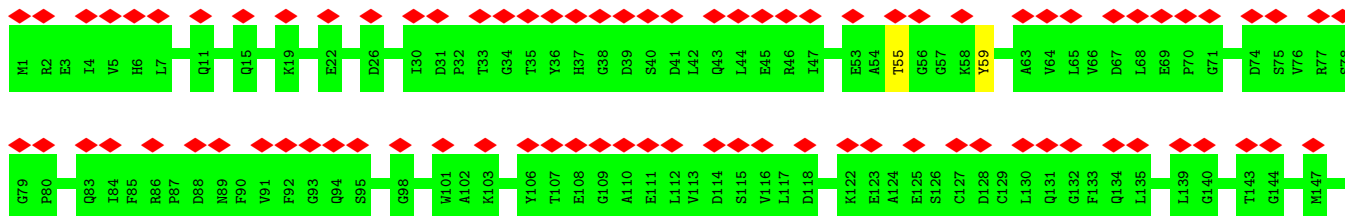


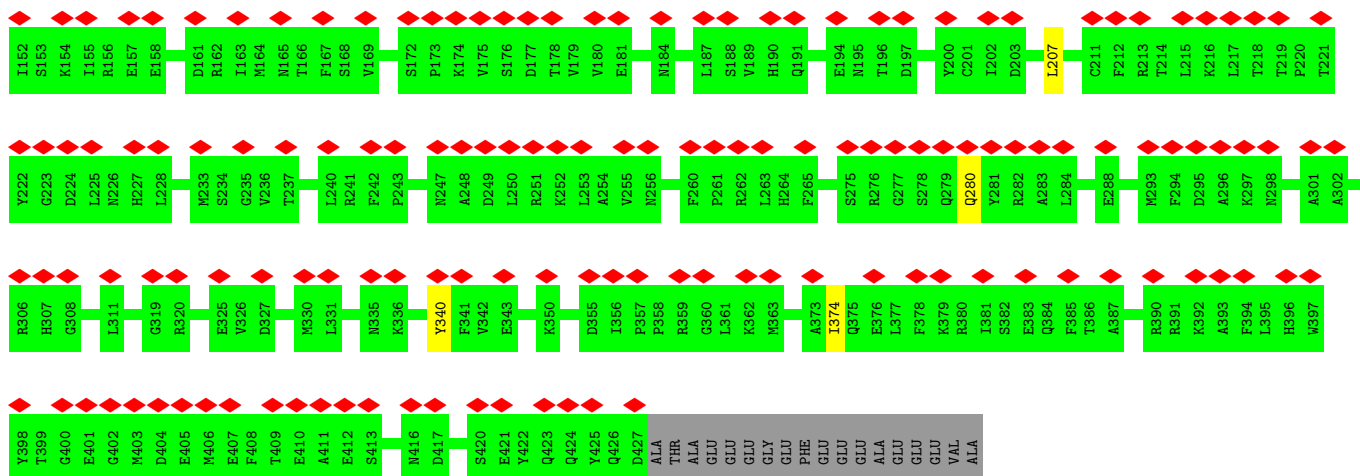


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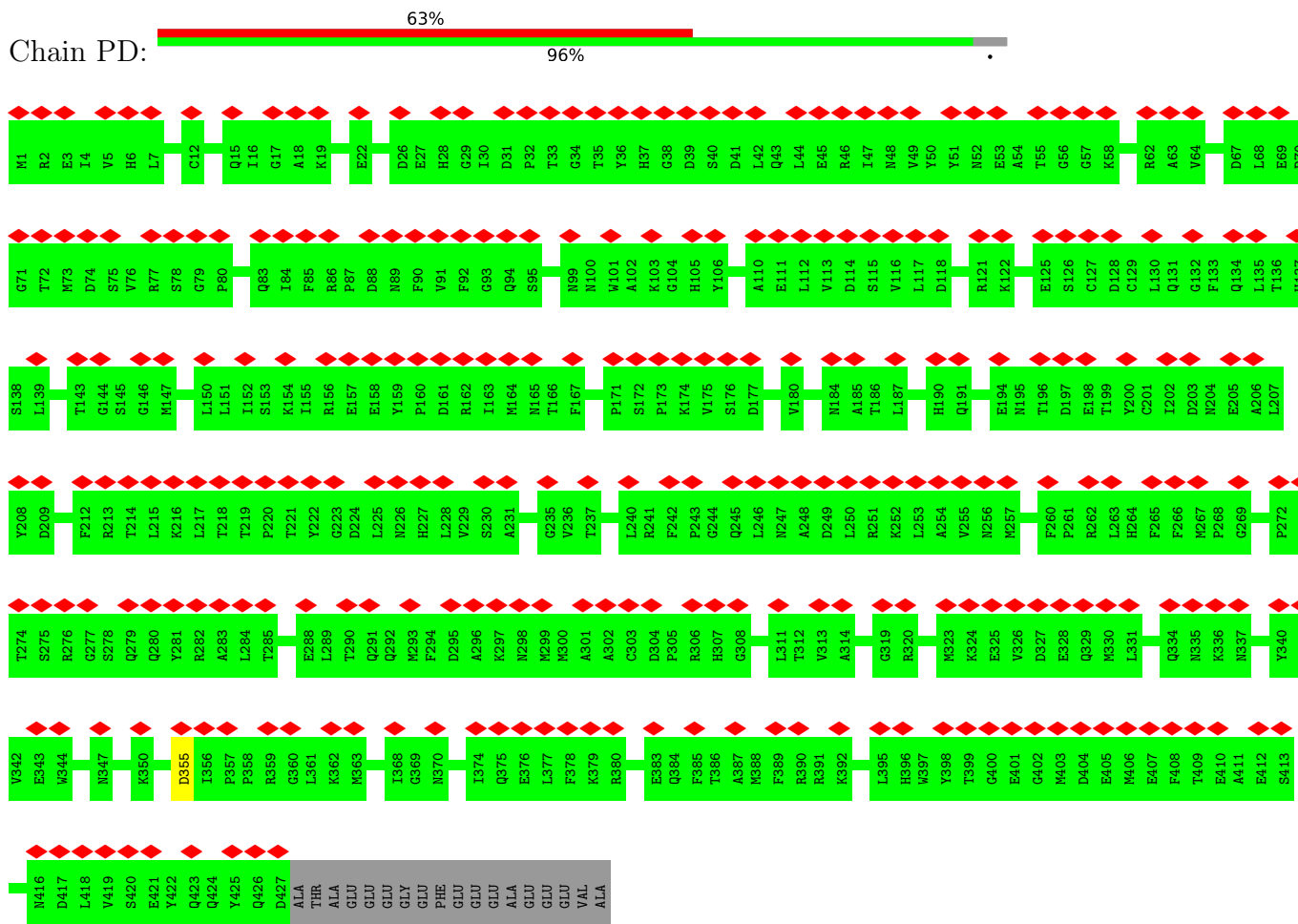


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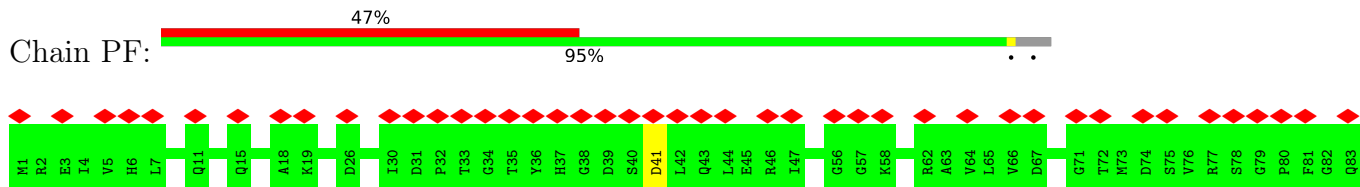


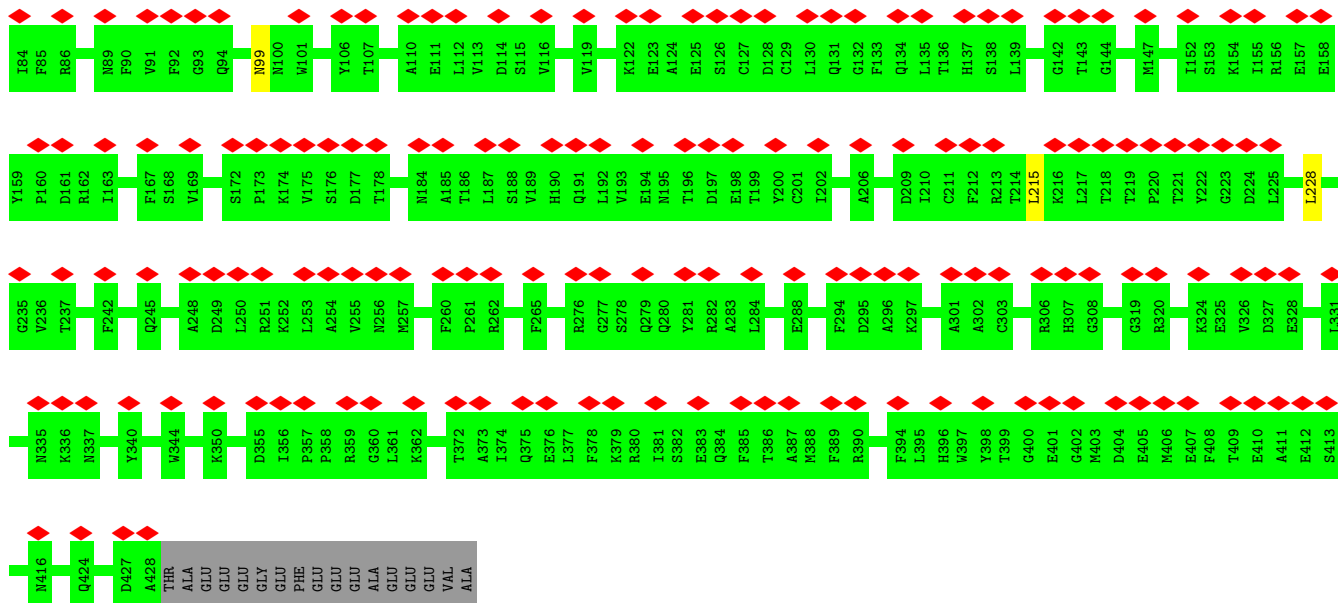


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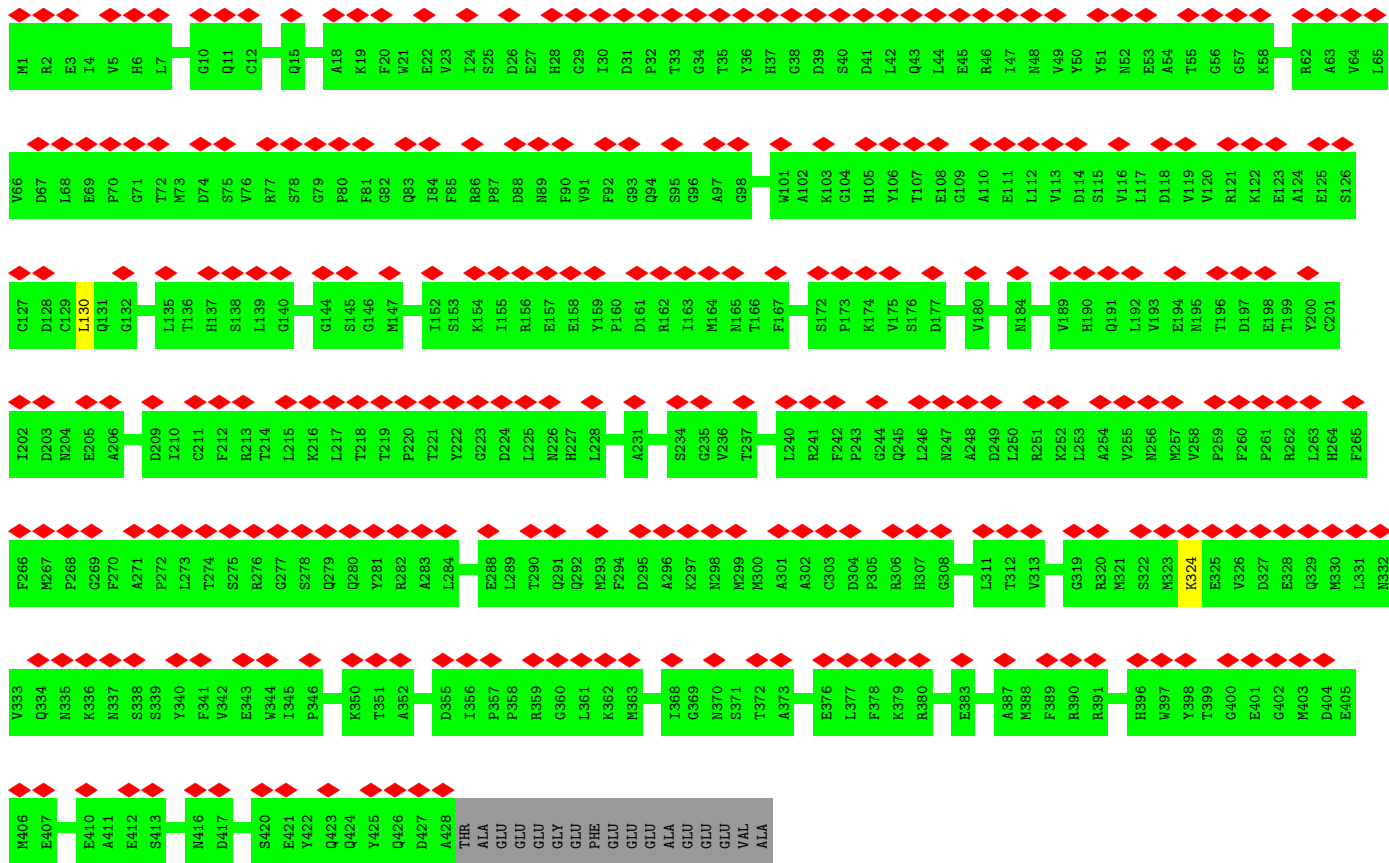


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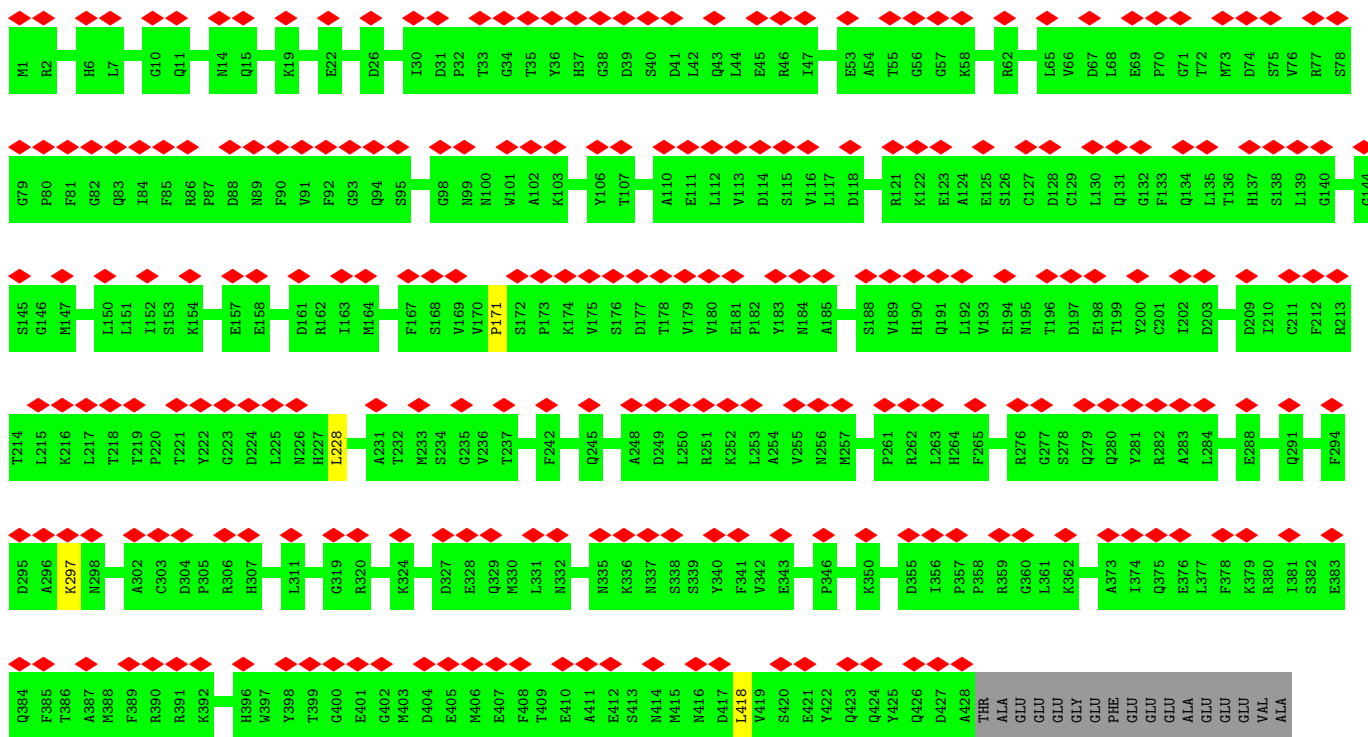


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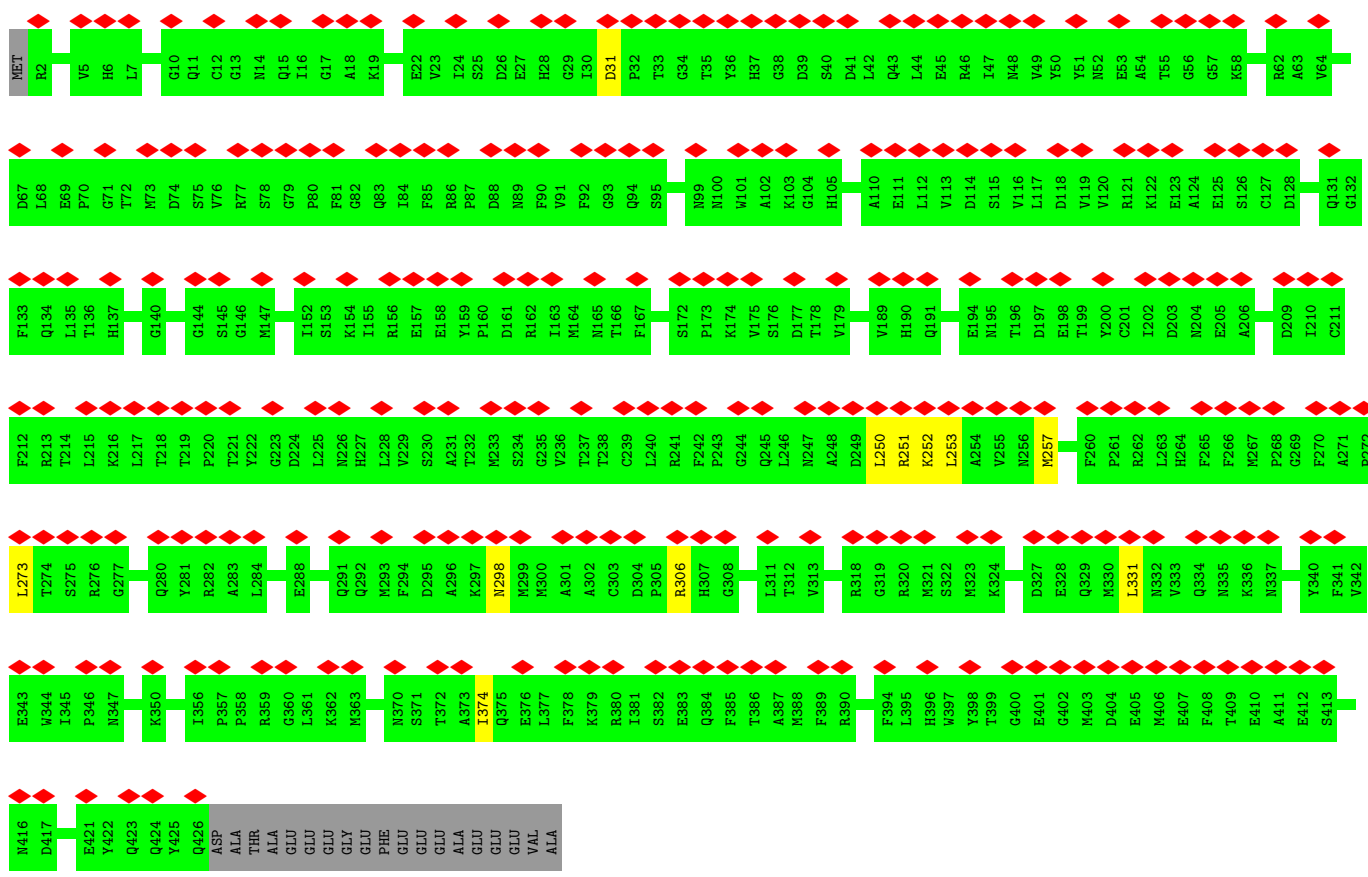


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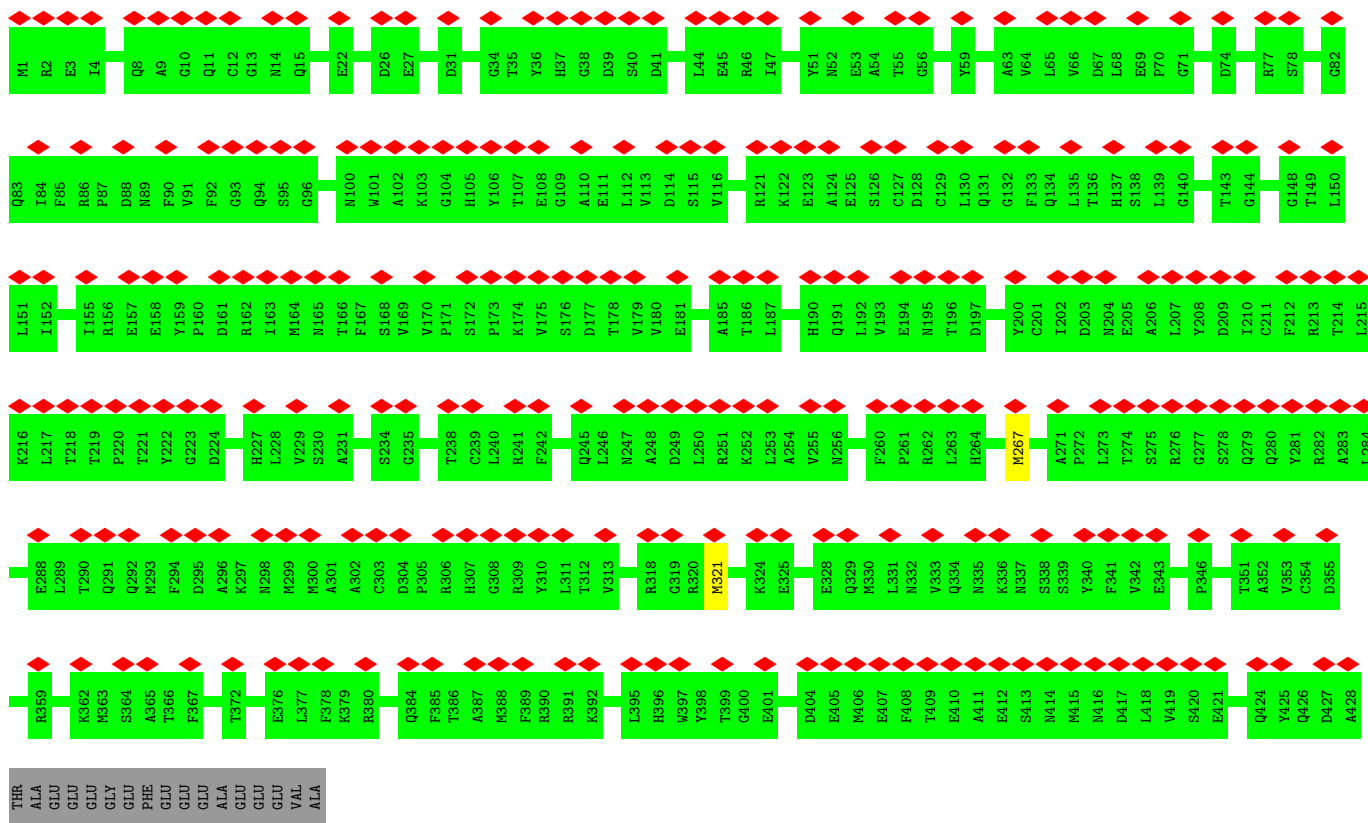




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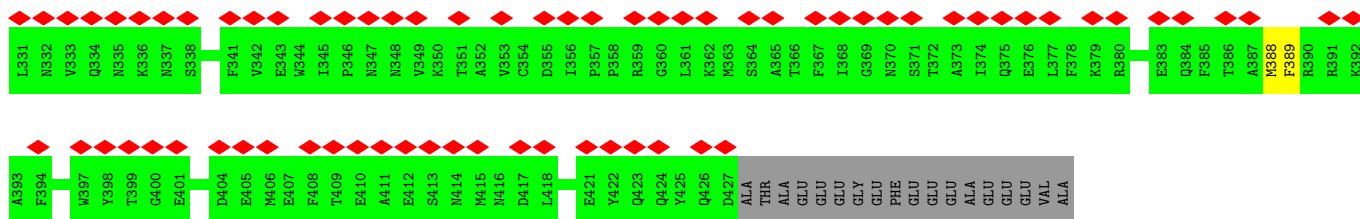


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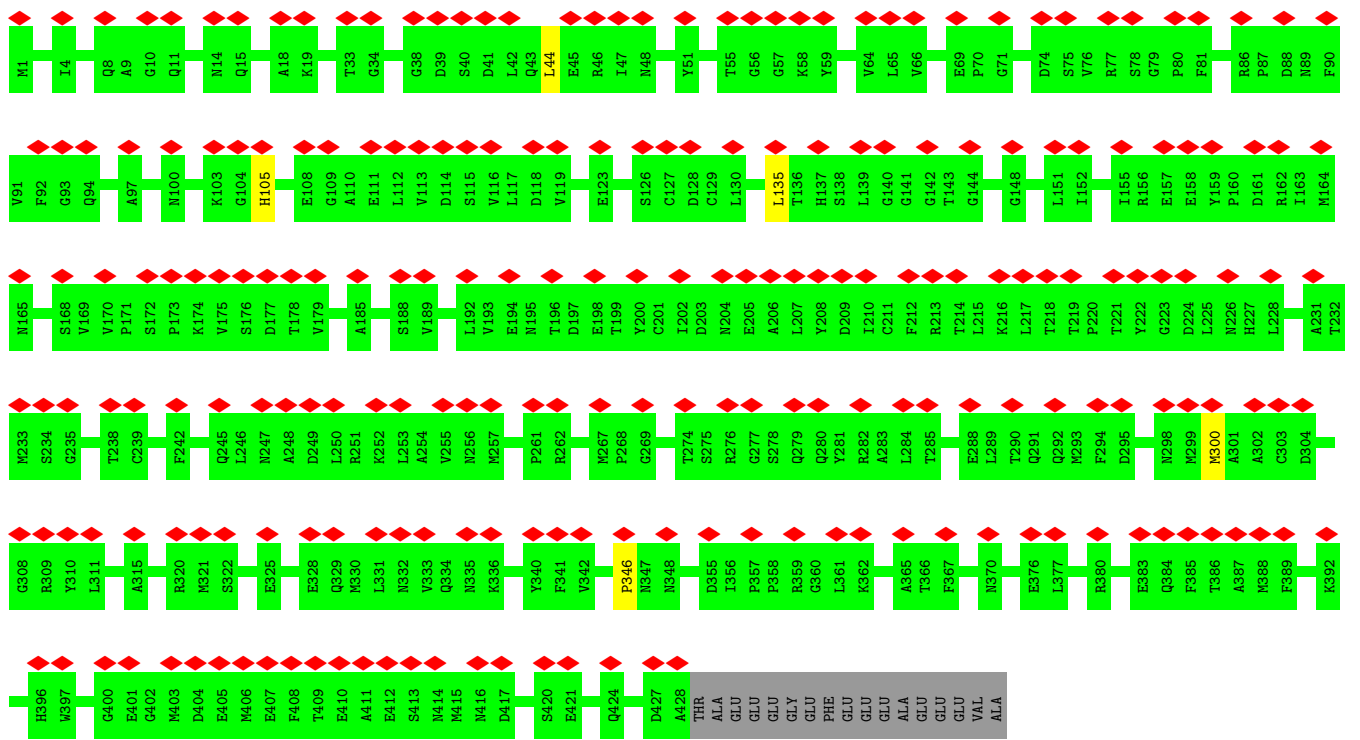


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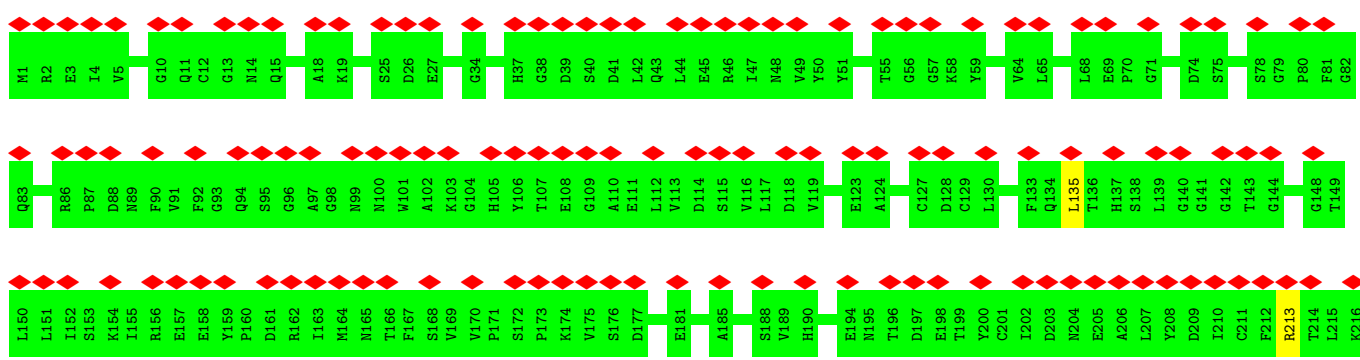


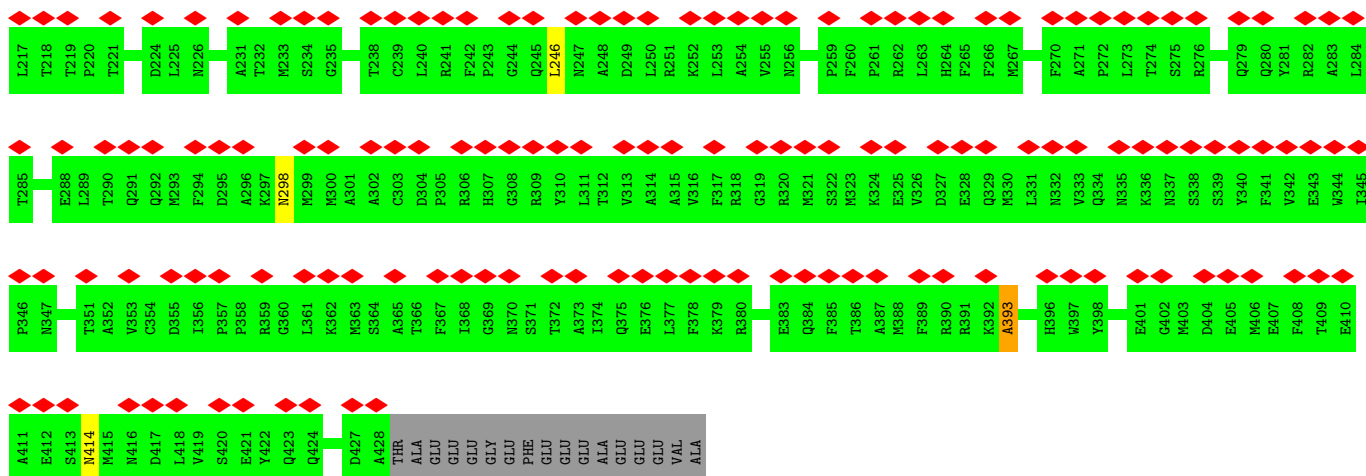


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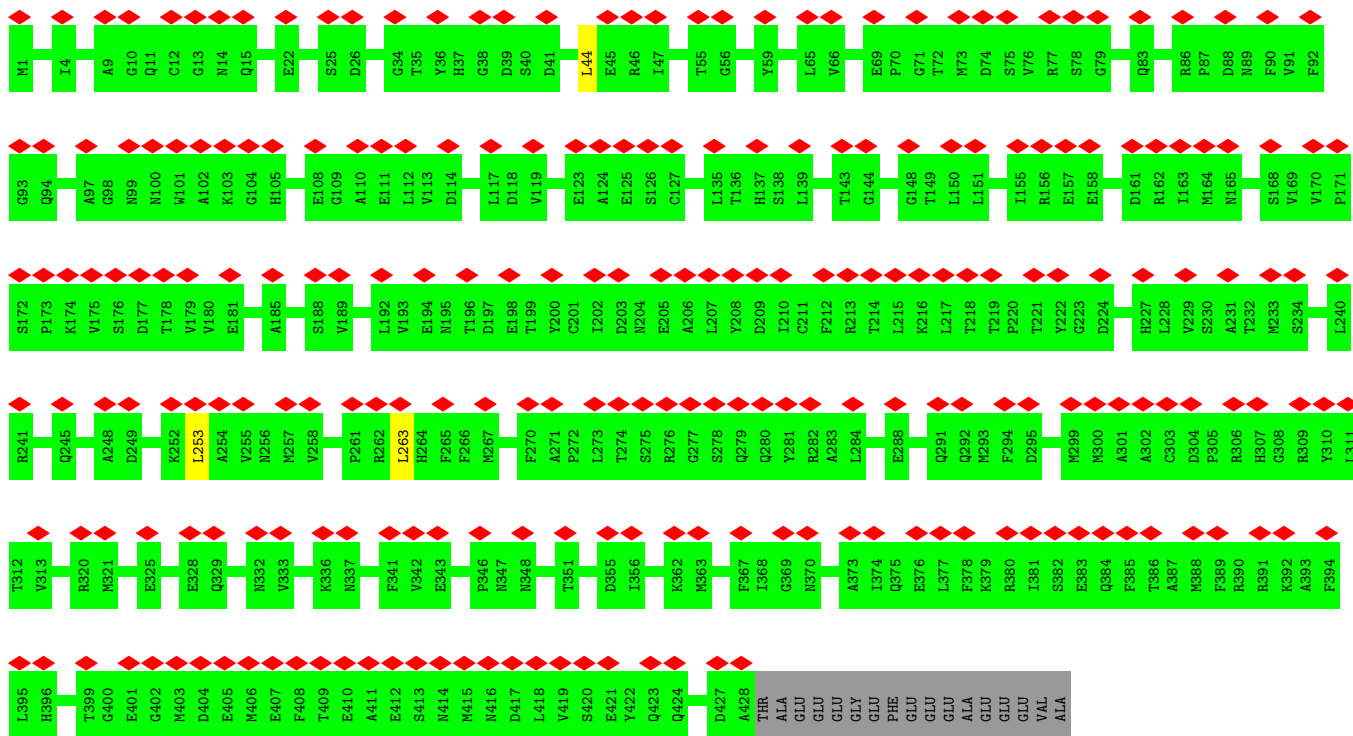


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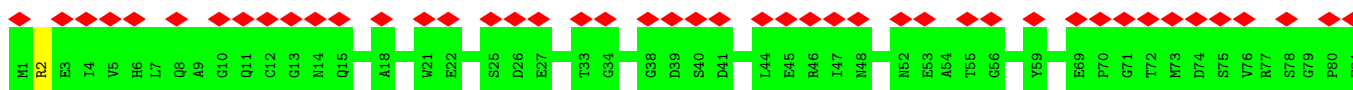




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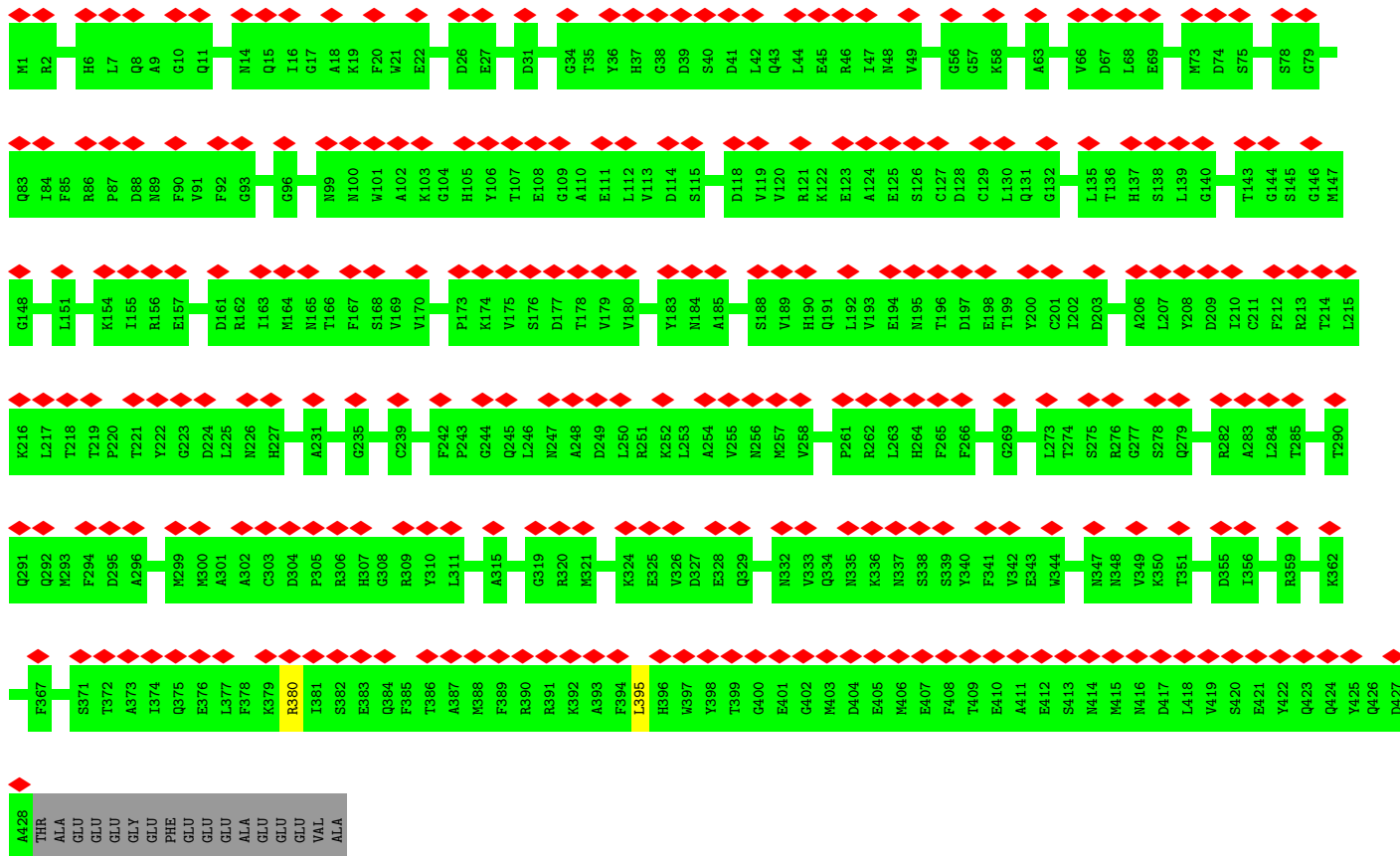


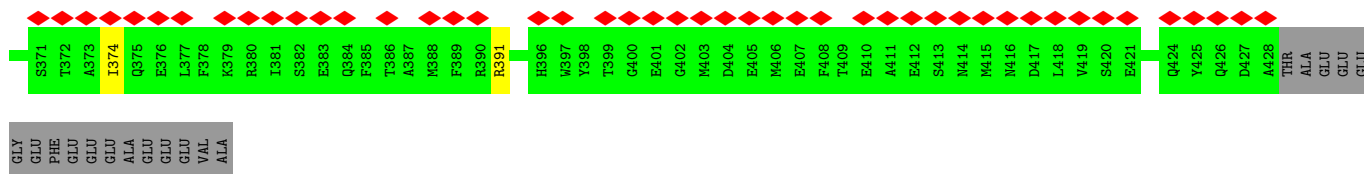
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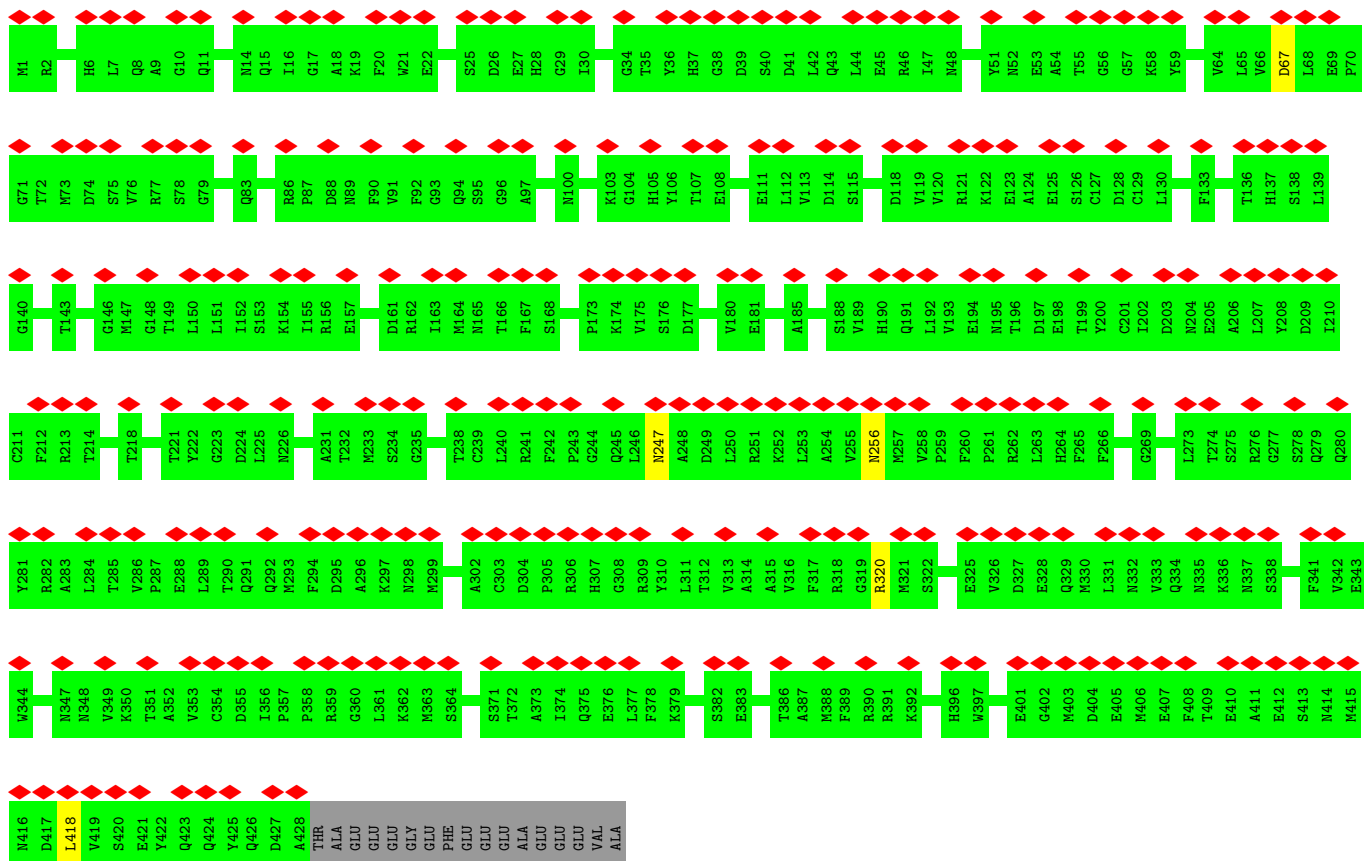


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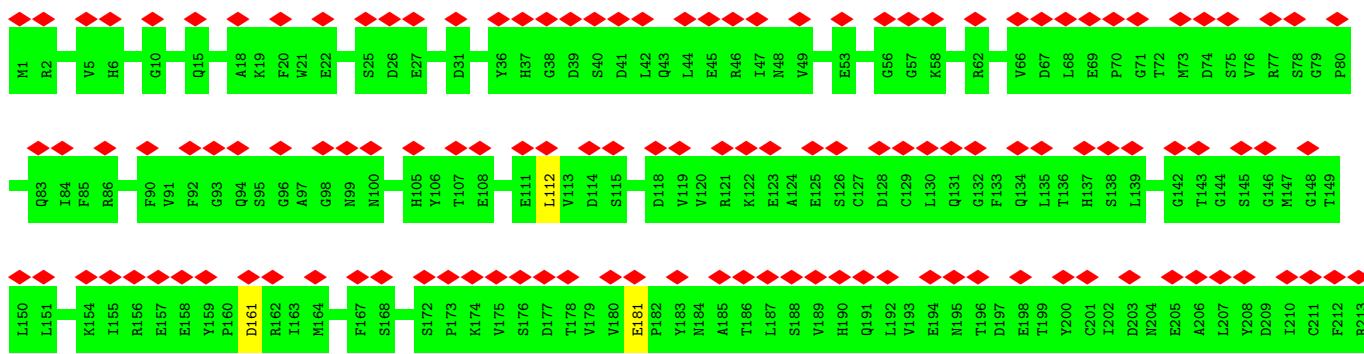


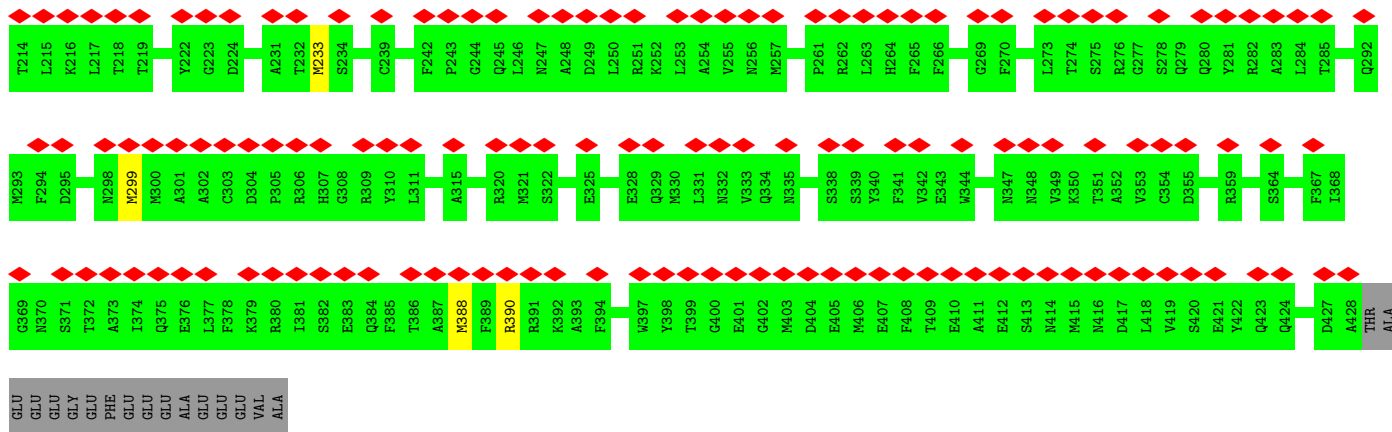


• Molecule 9: Tubulin beta-4B chain



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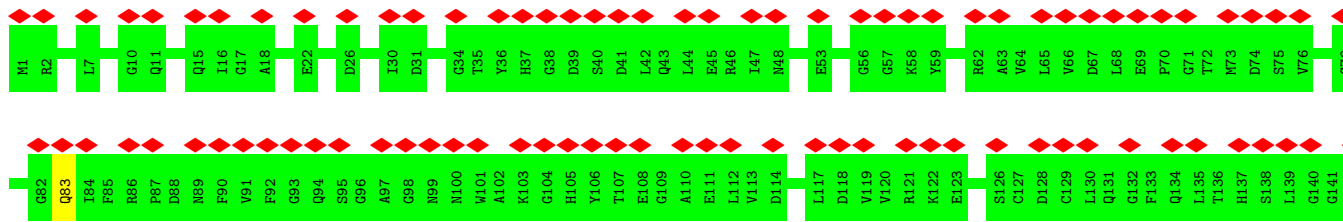


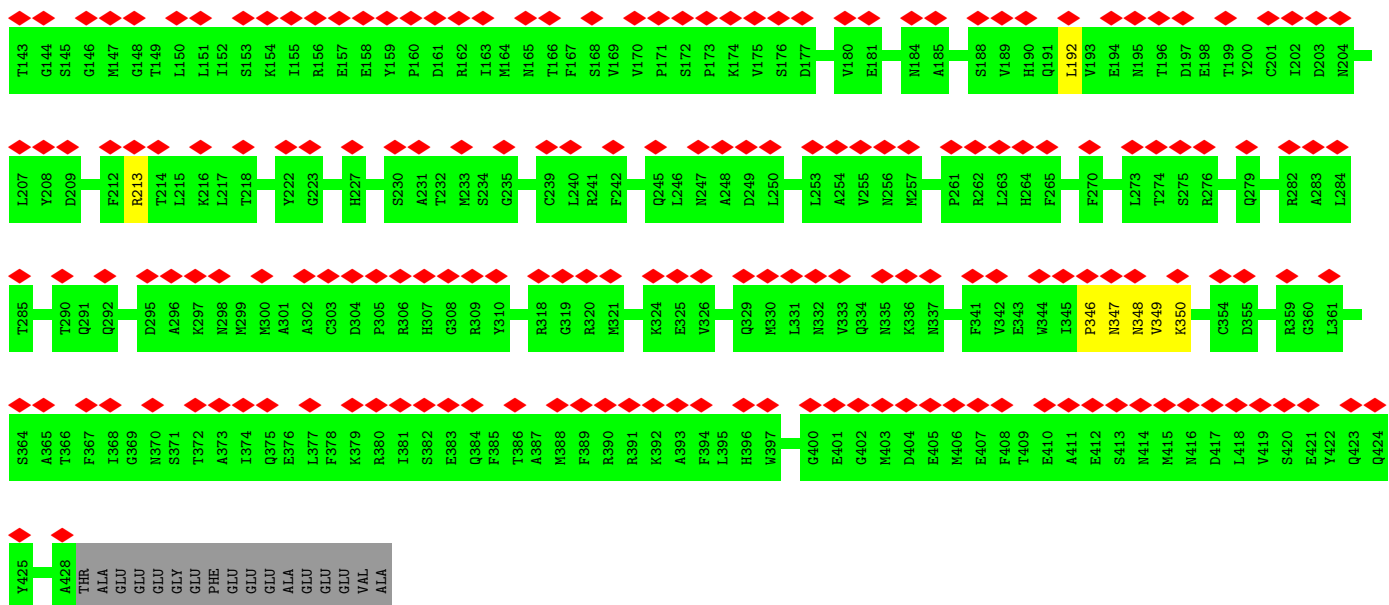


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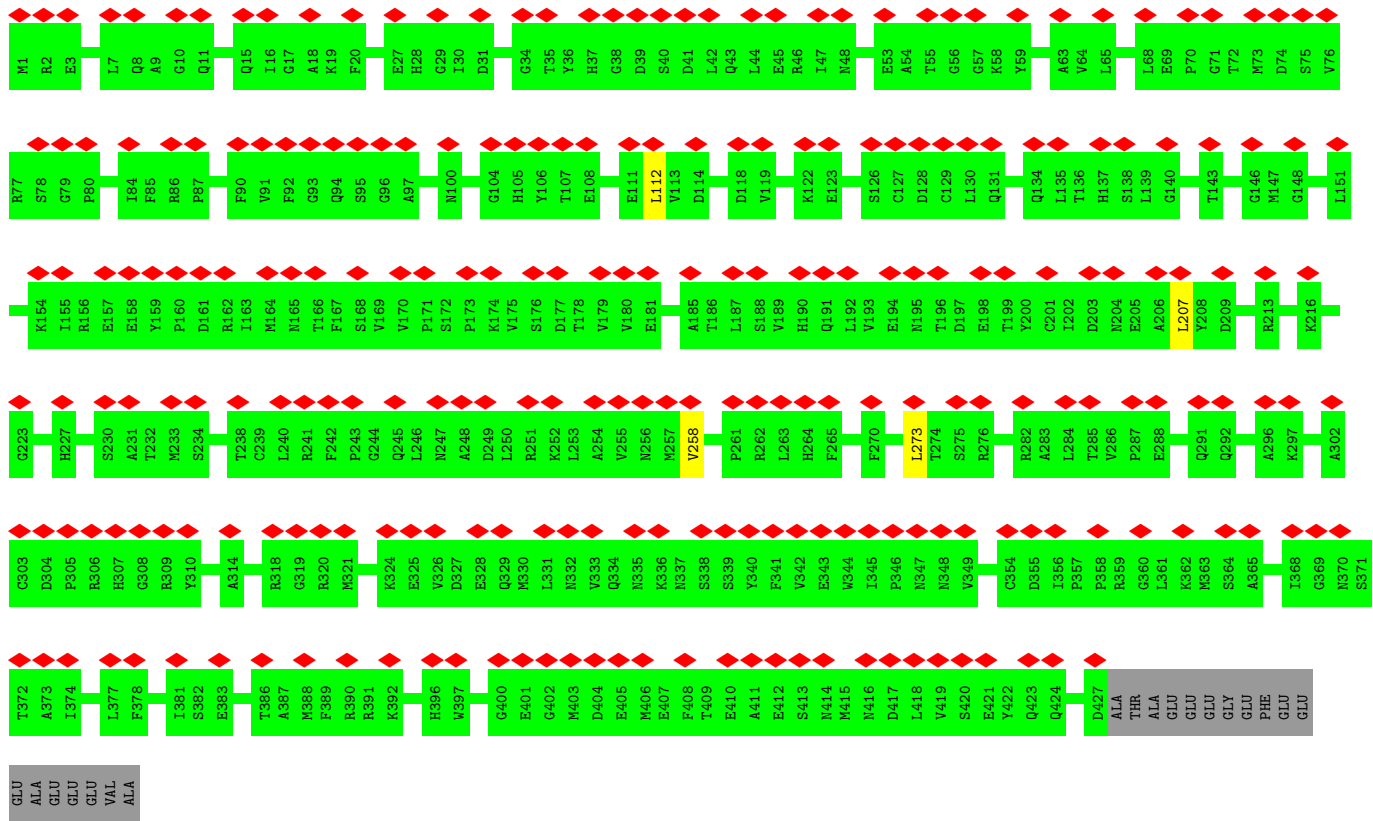


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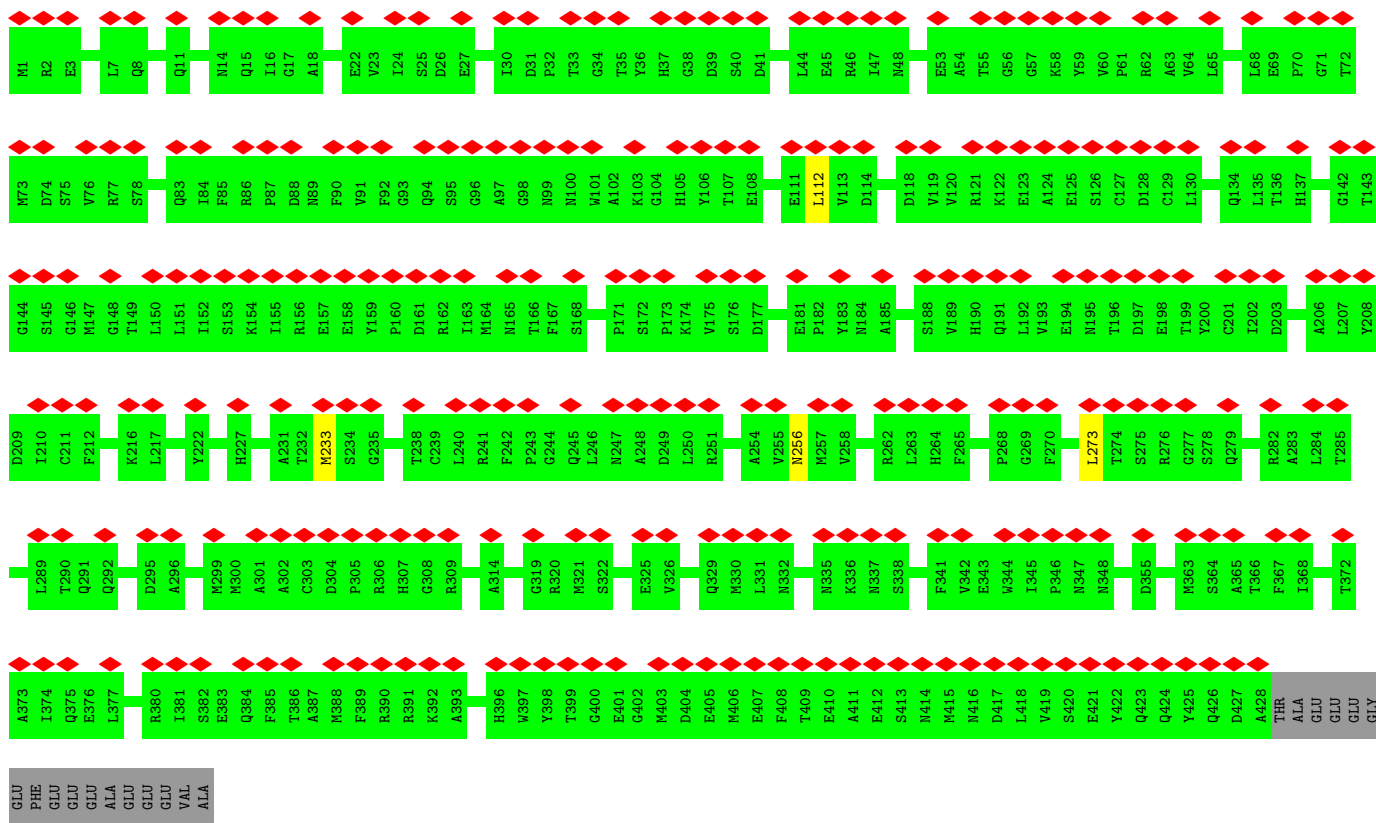


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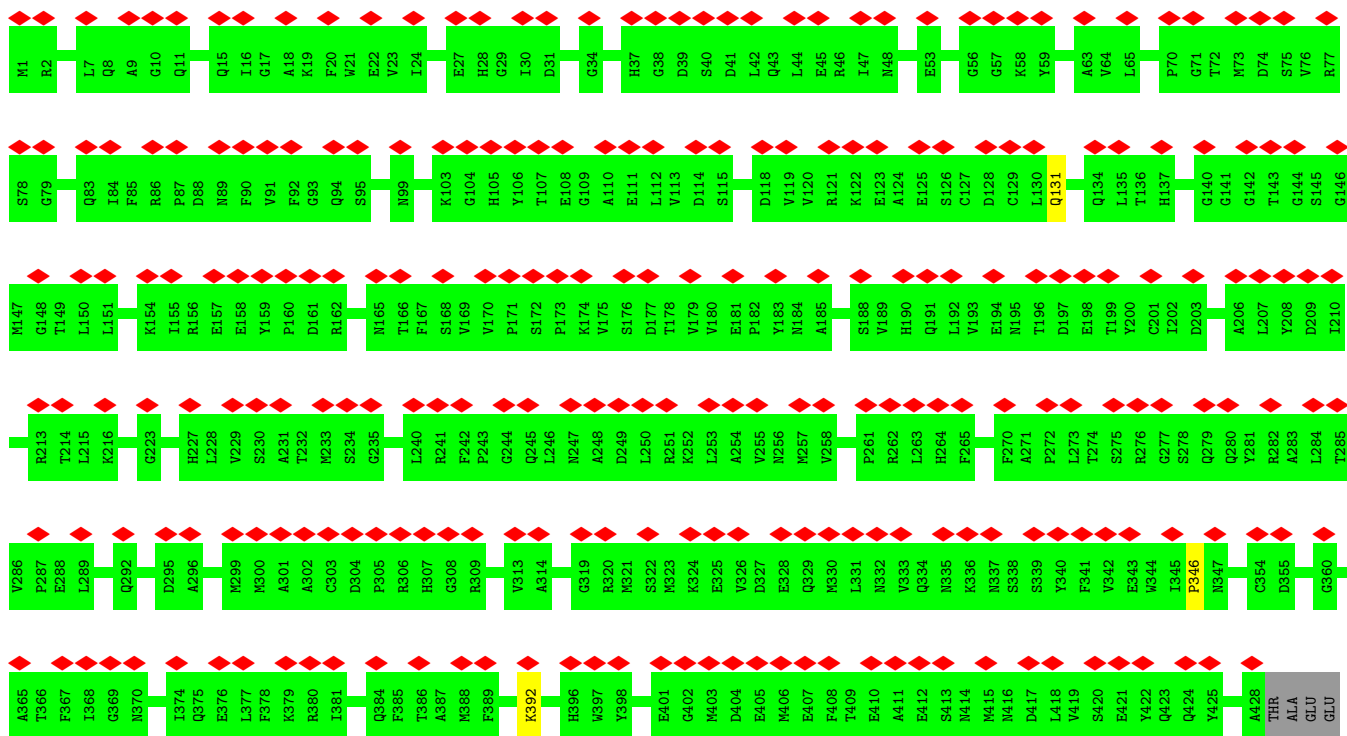


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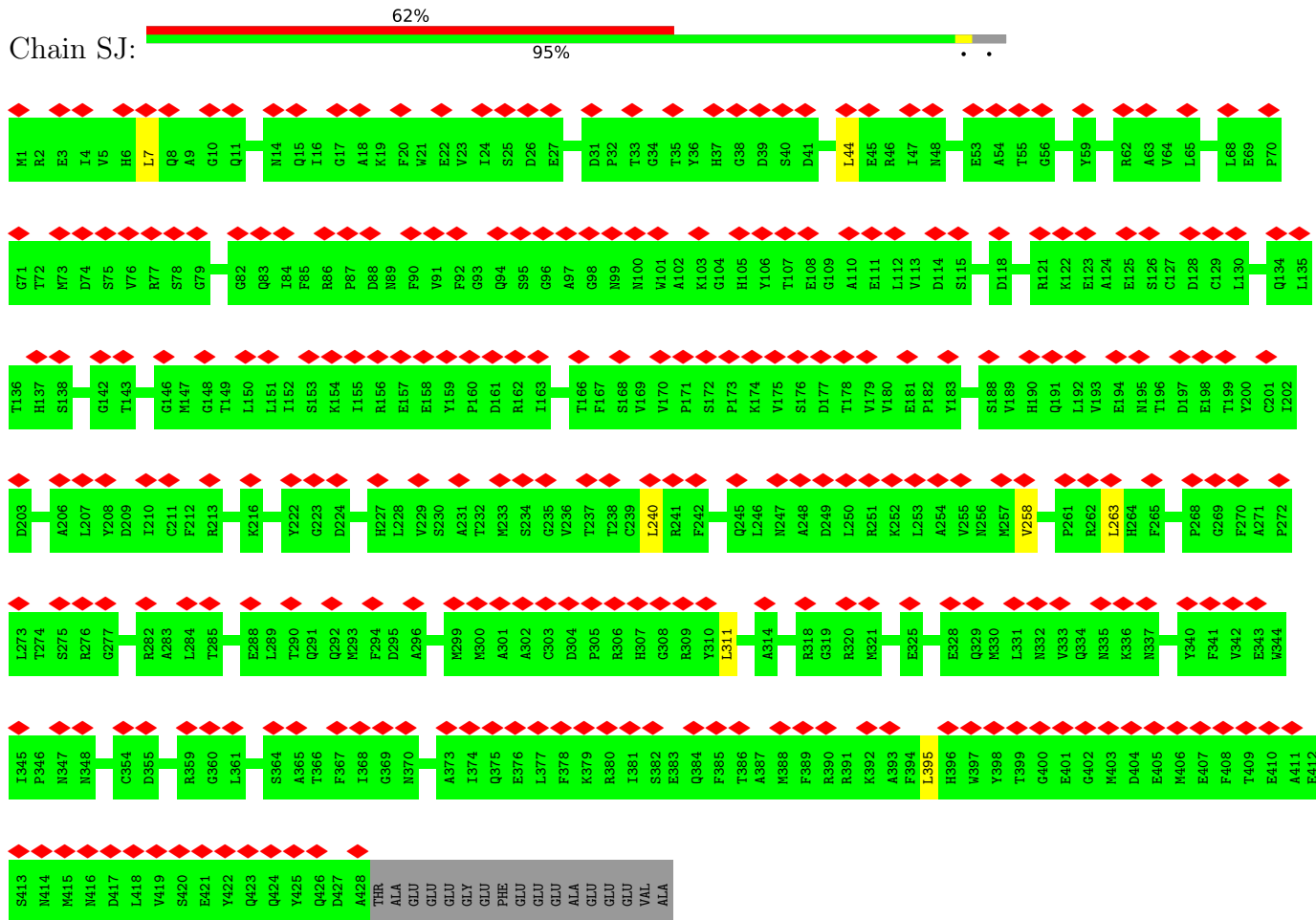


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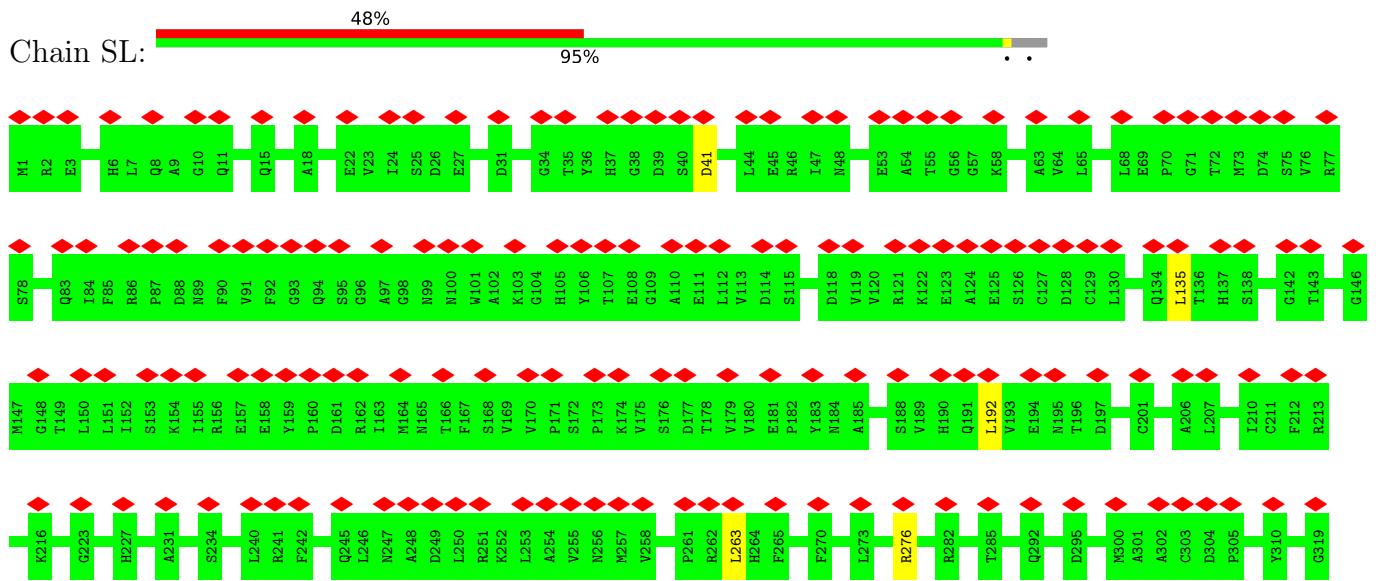


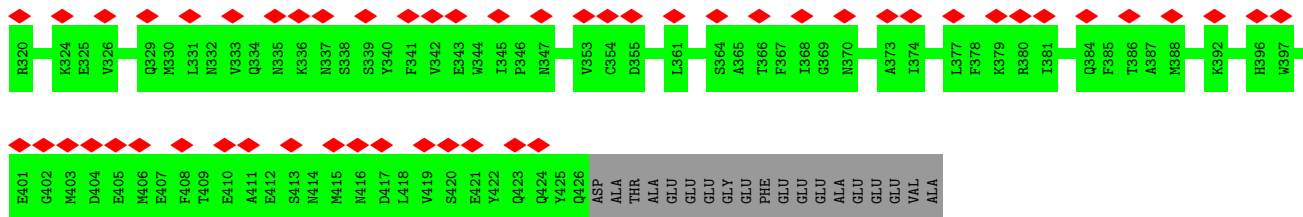
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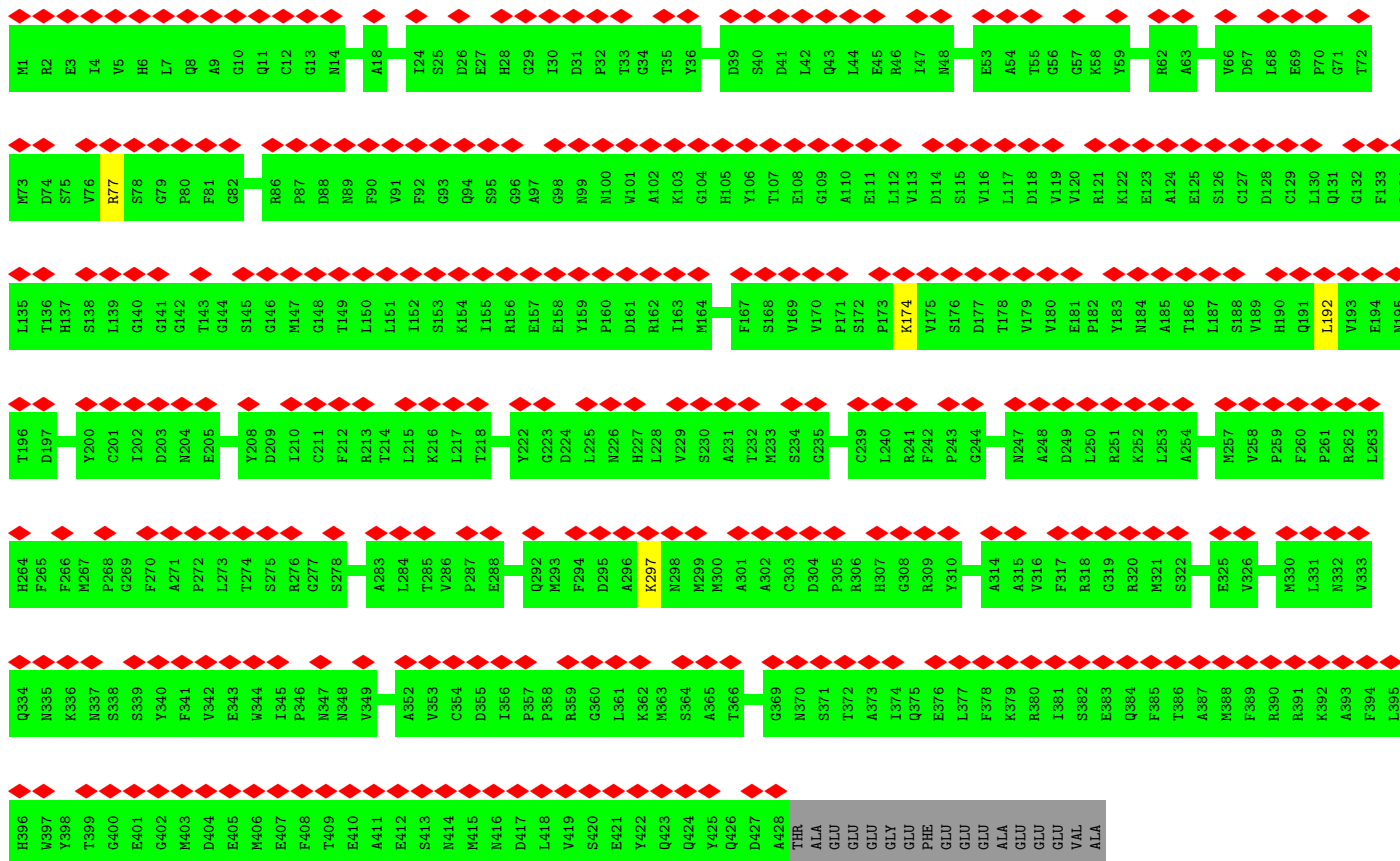
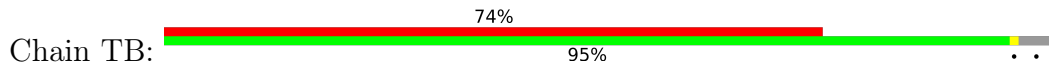


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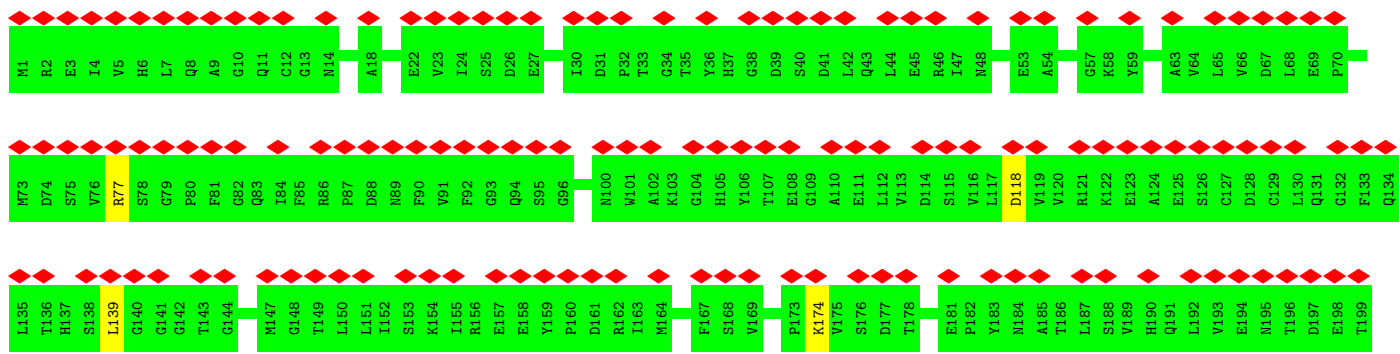


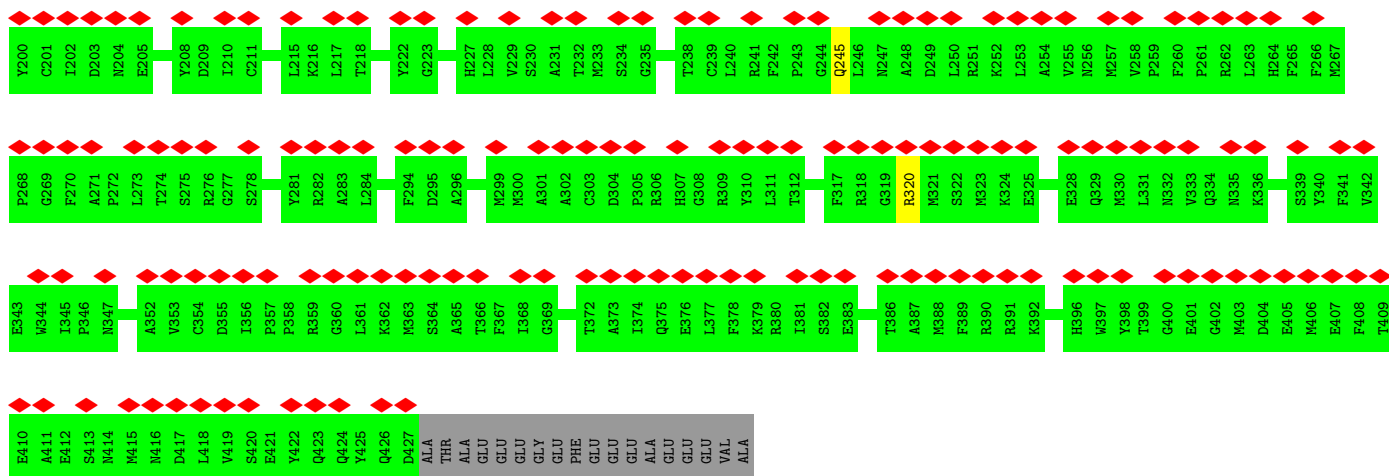


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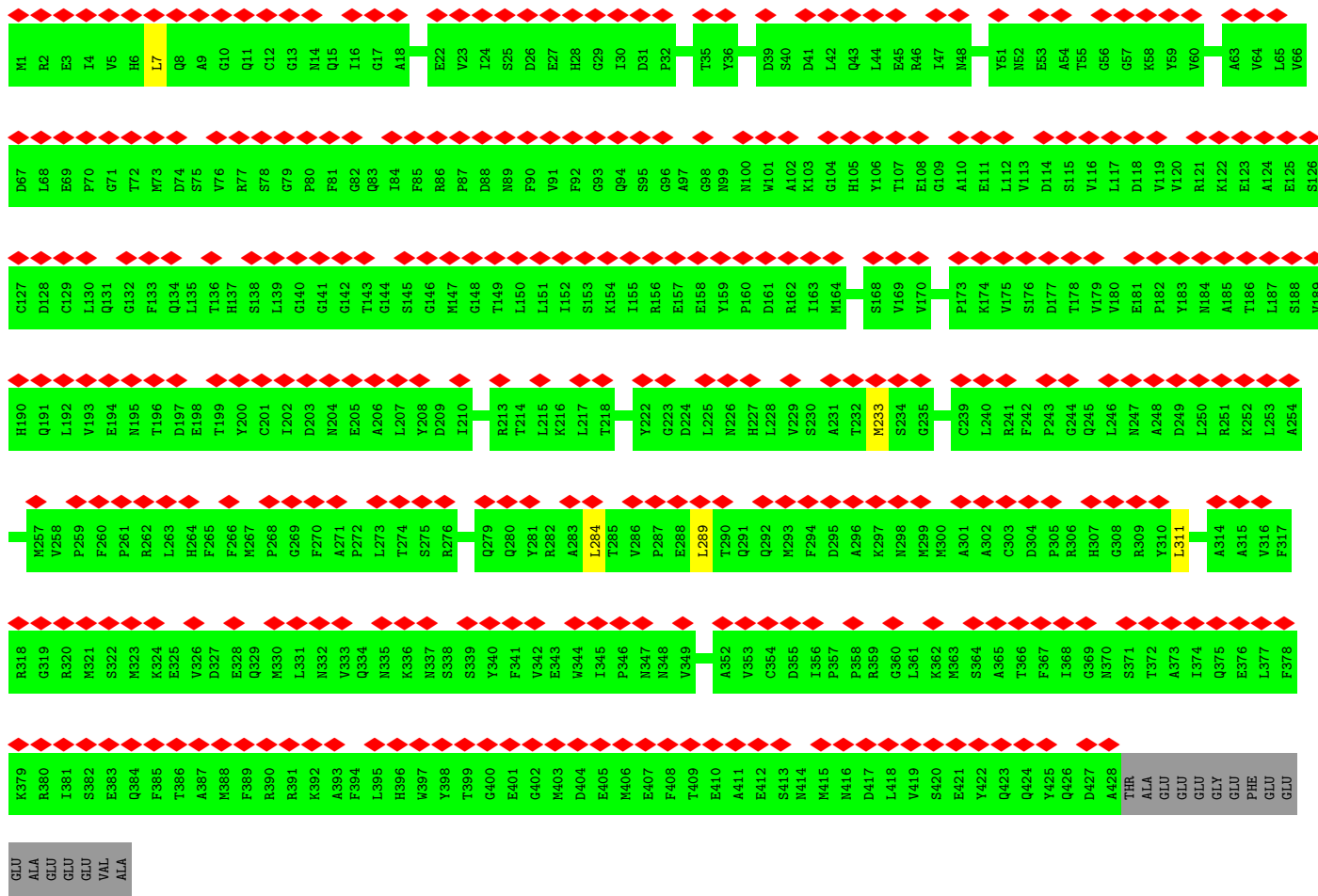
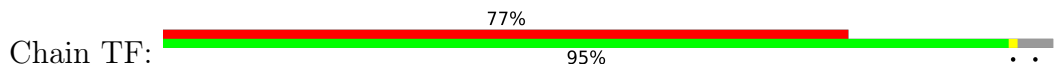


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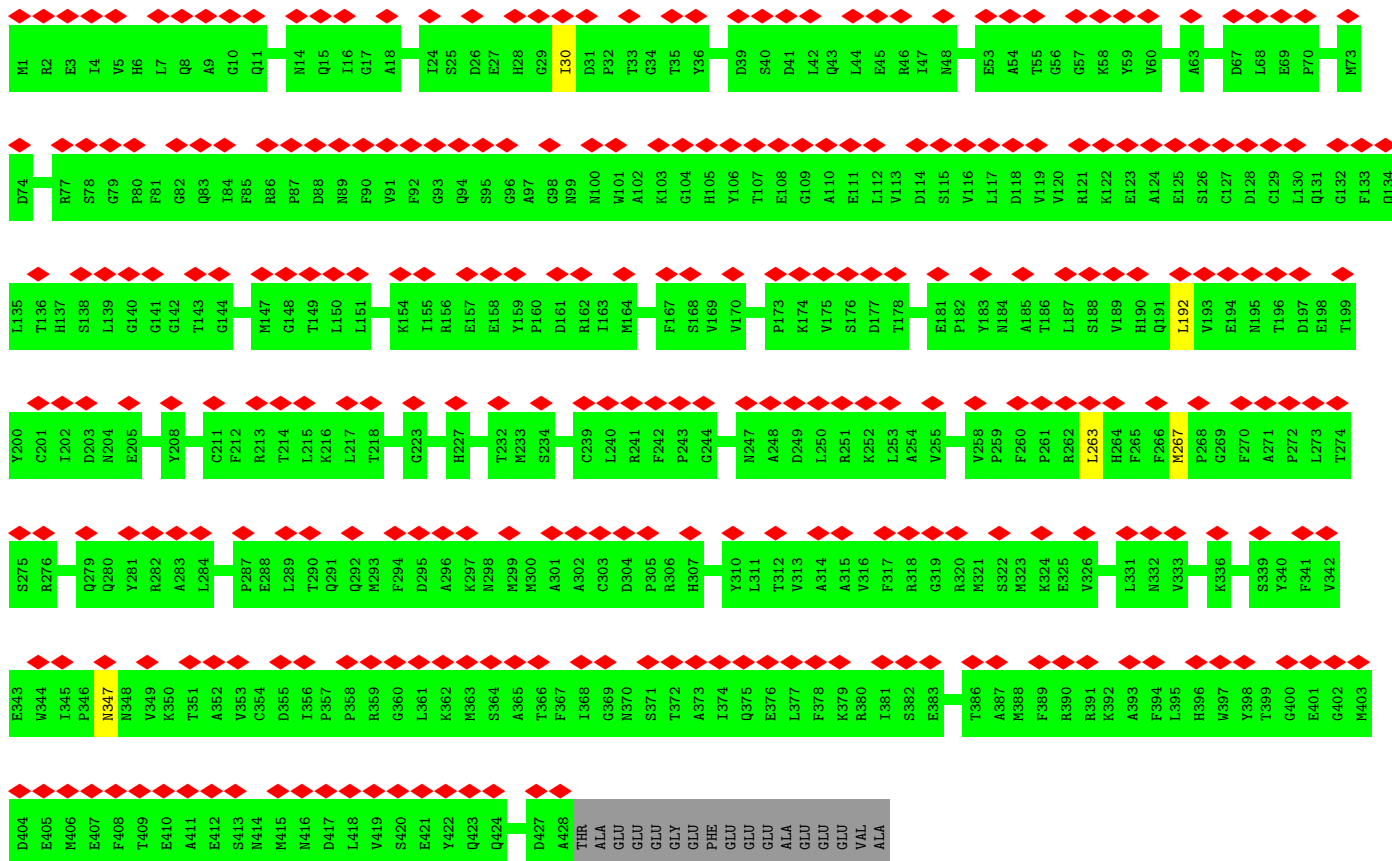


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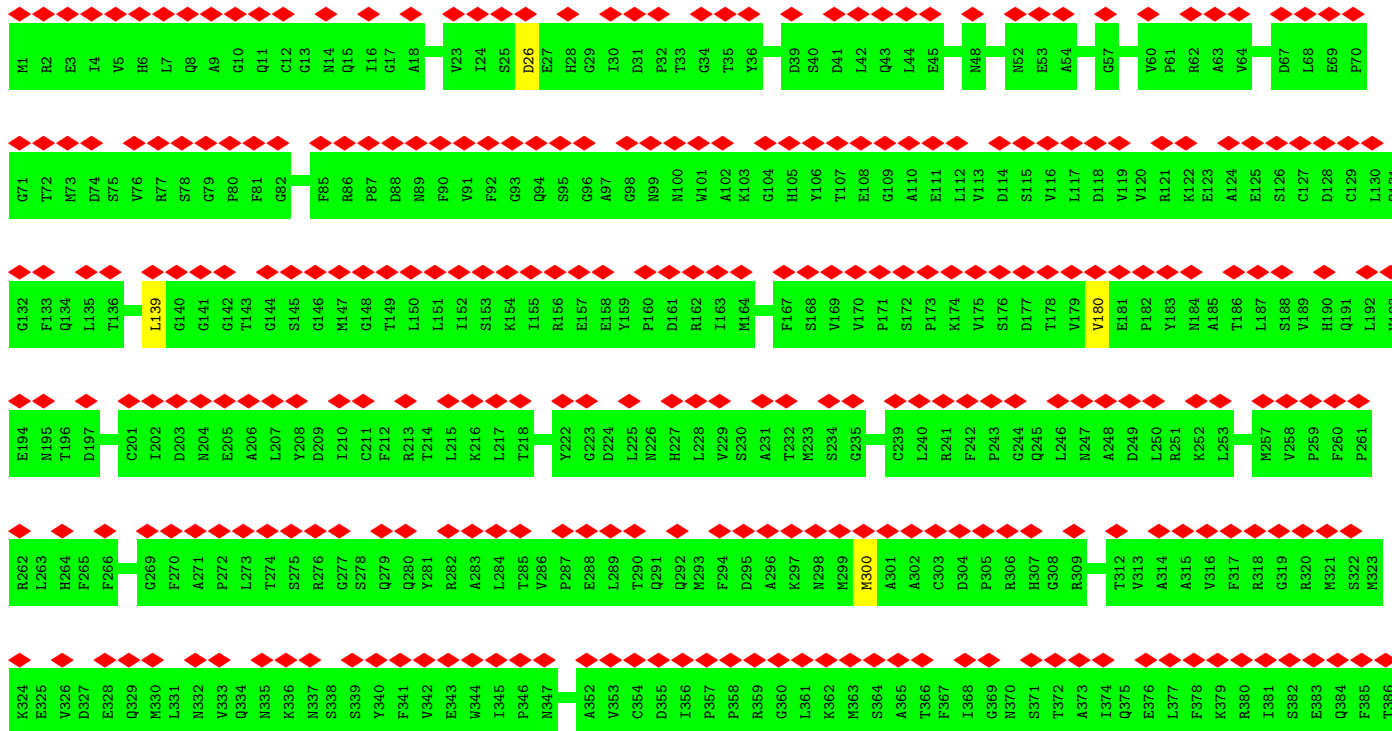
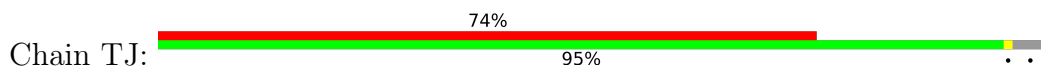


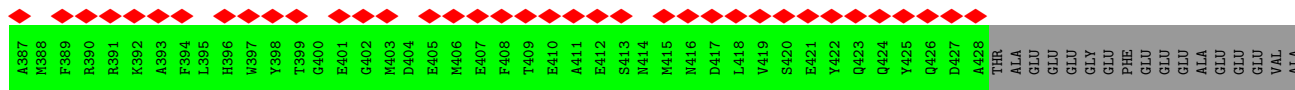
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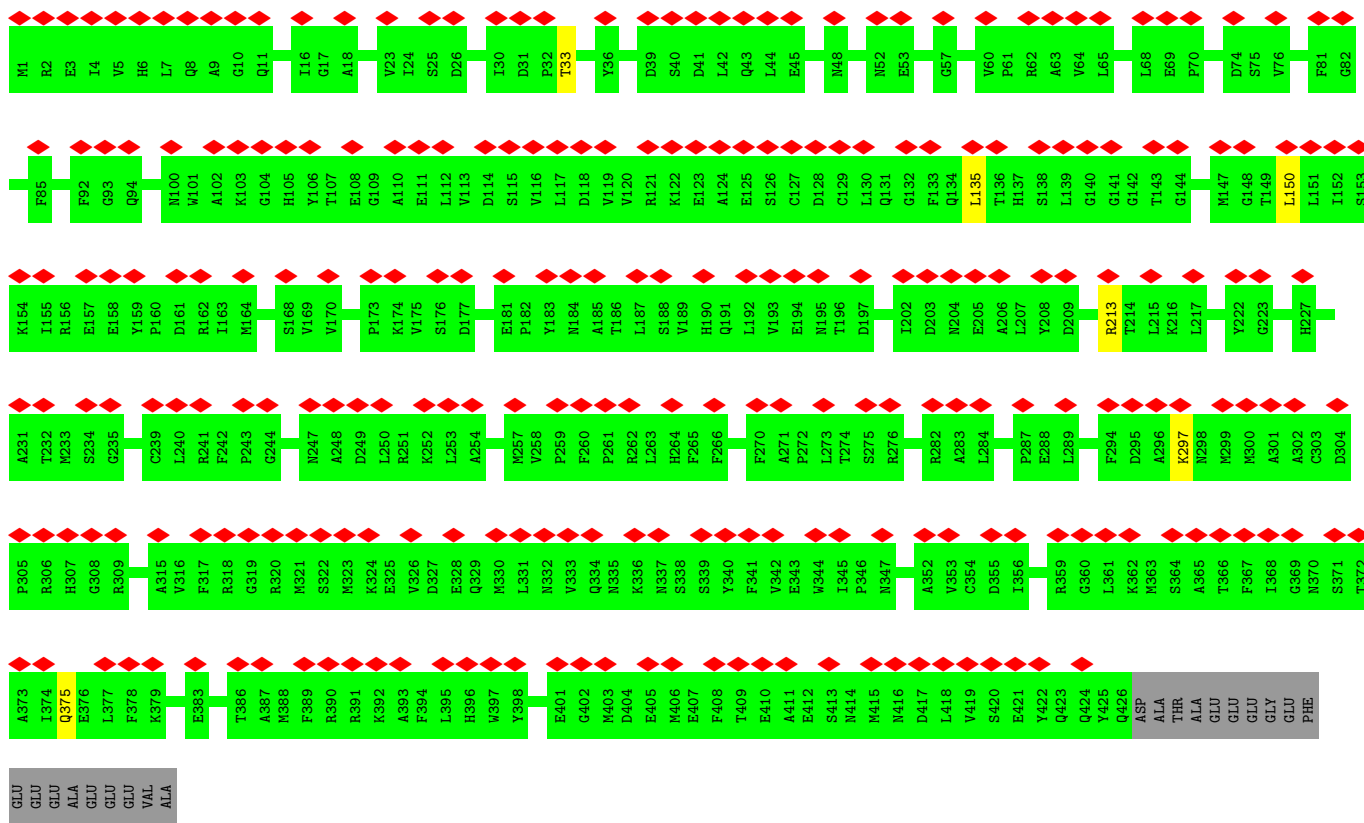
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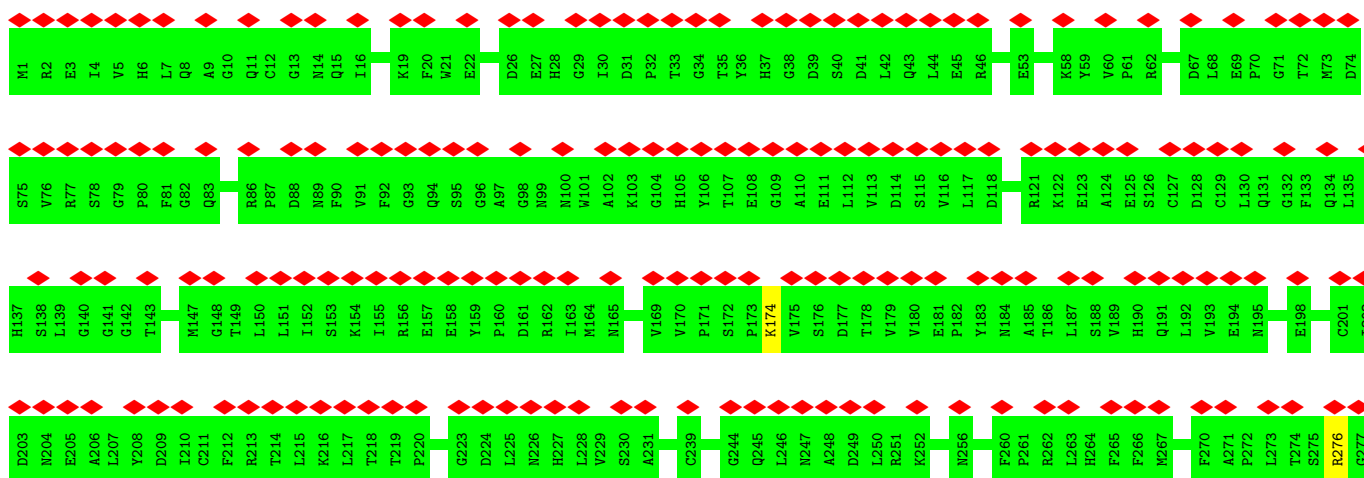
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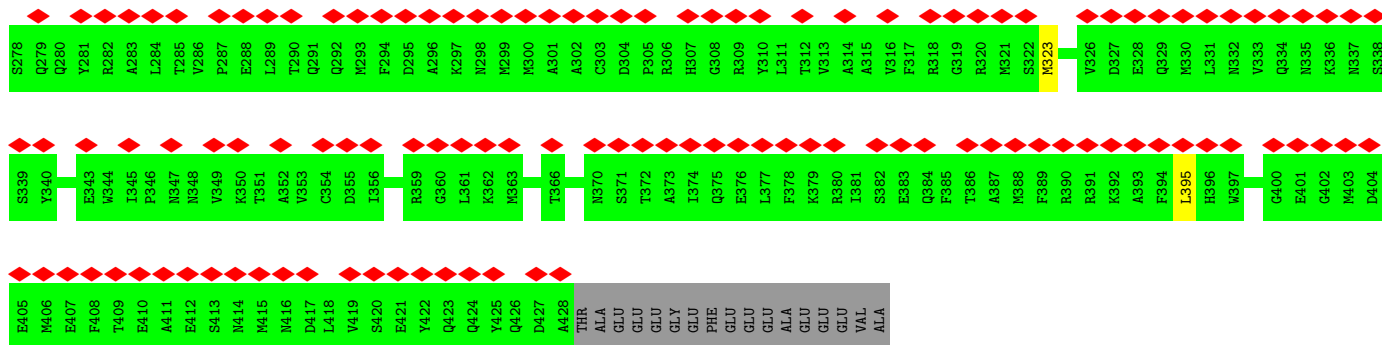
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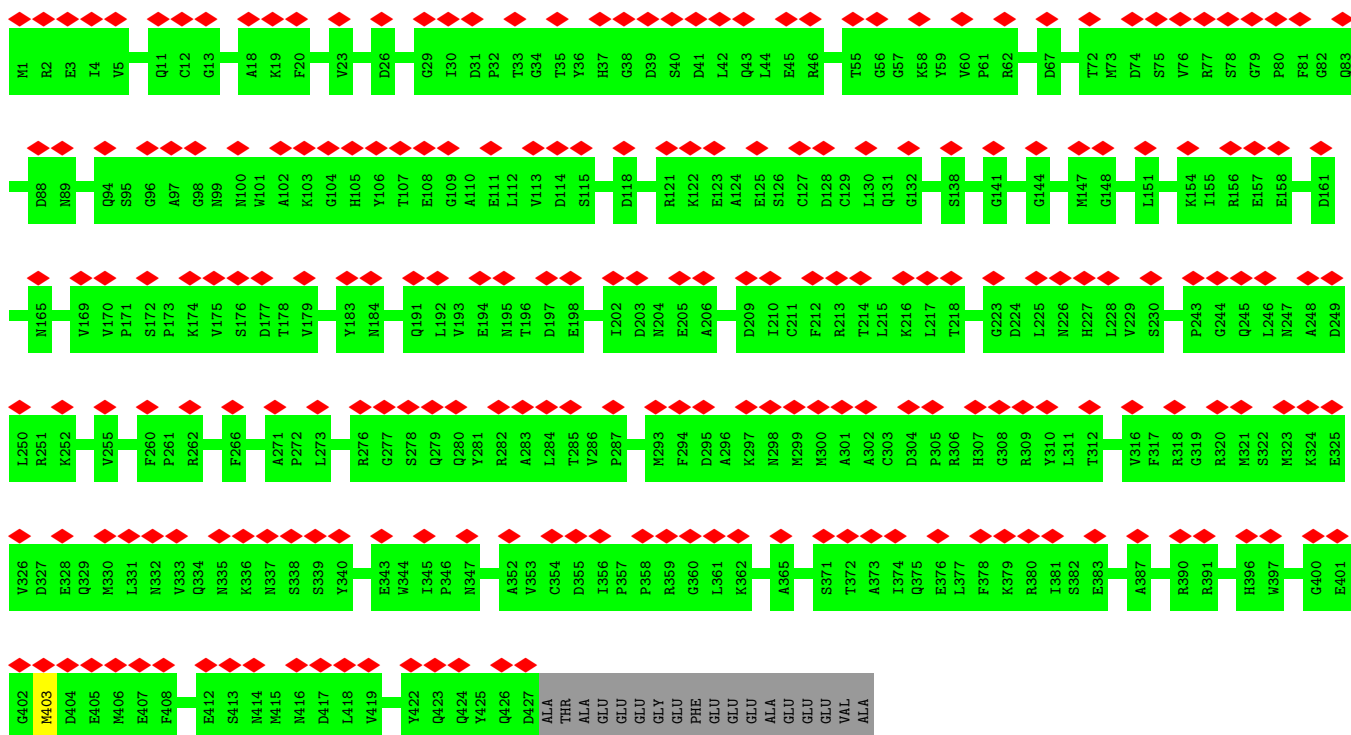
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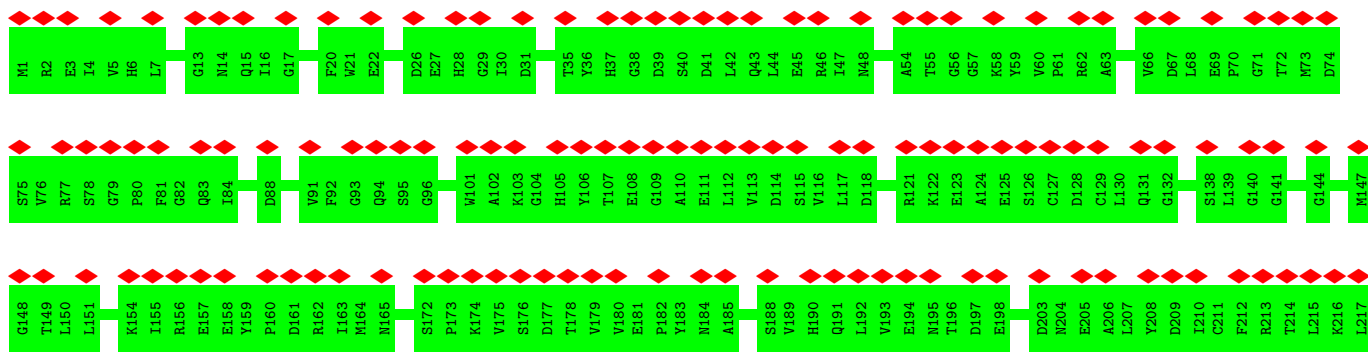


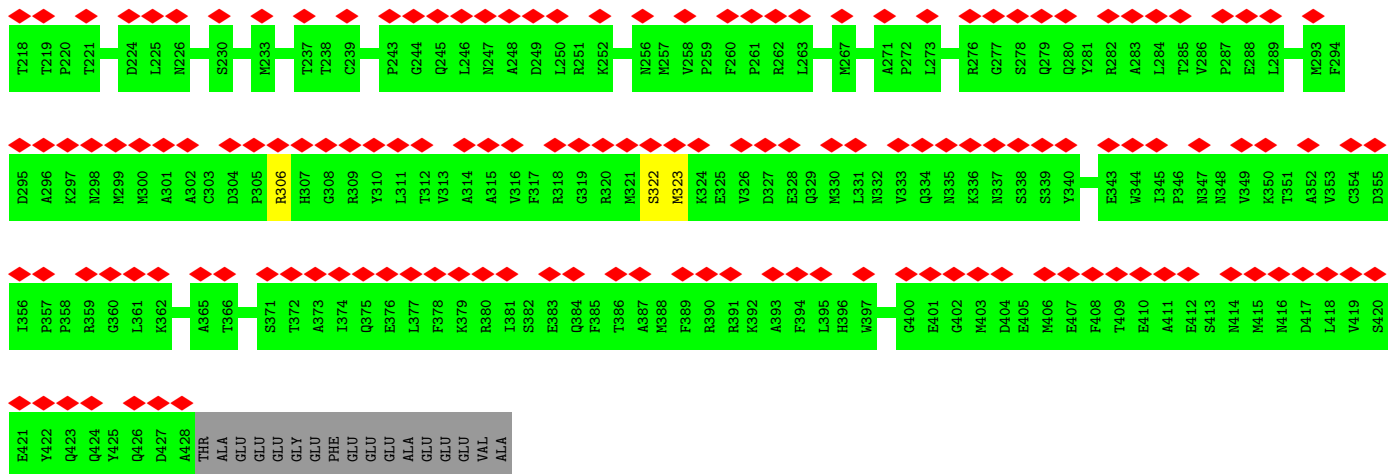


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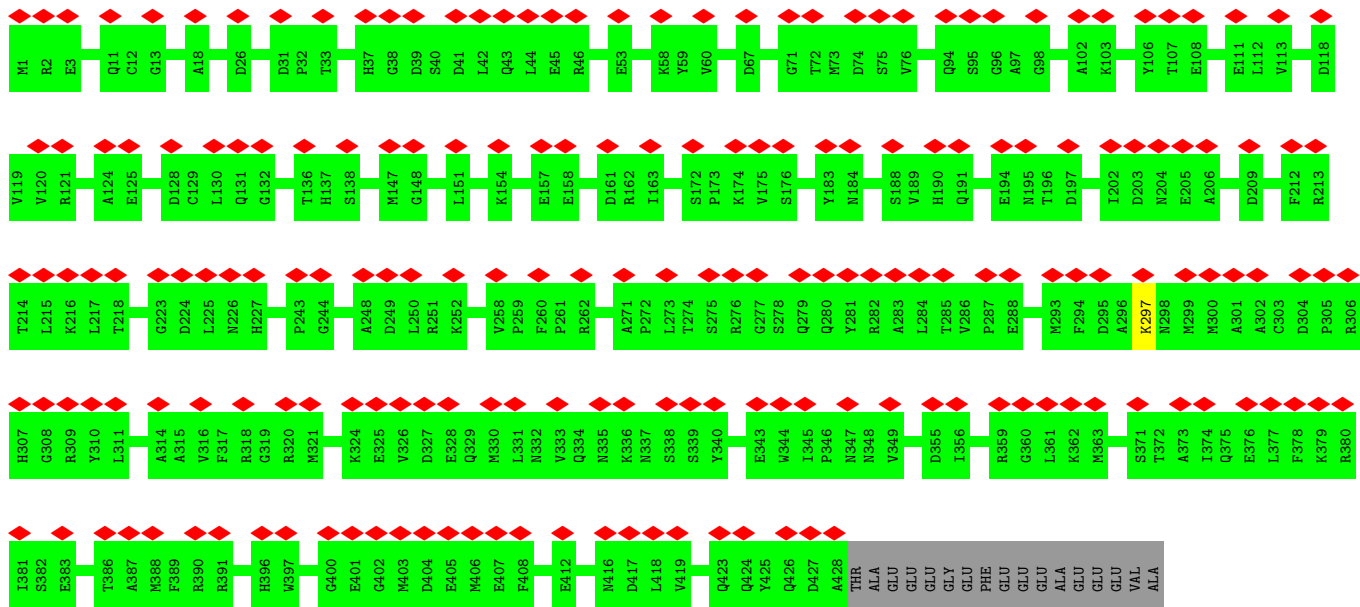
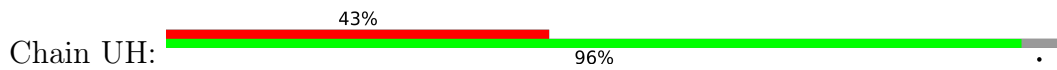


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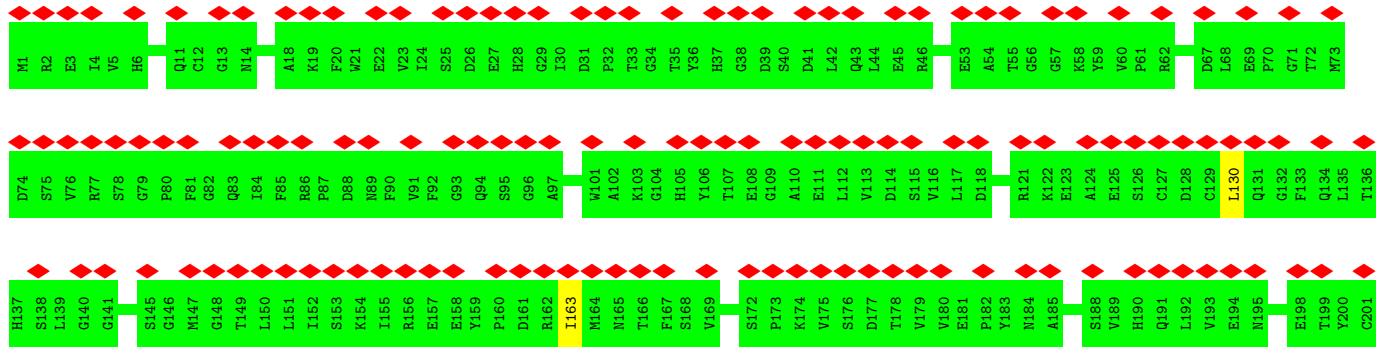
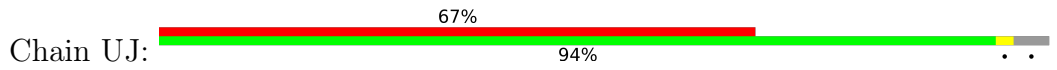


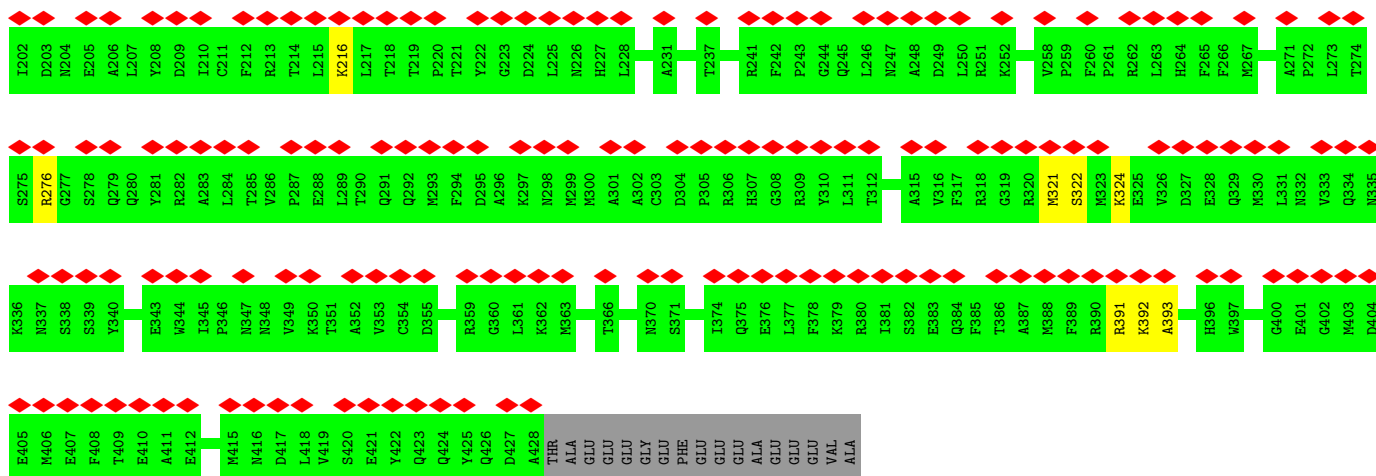


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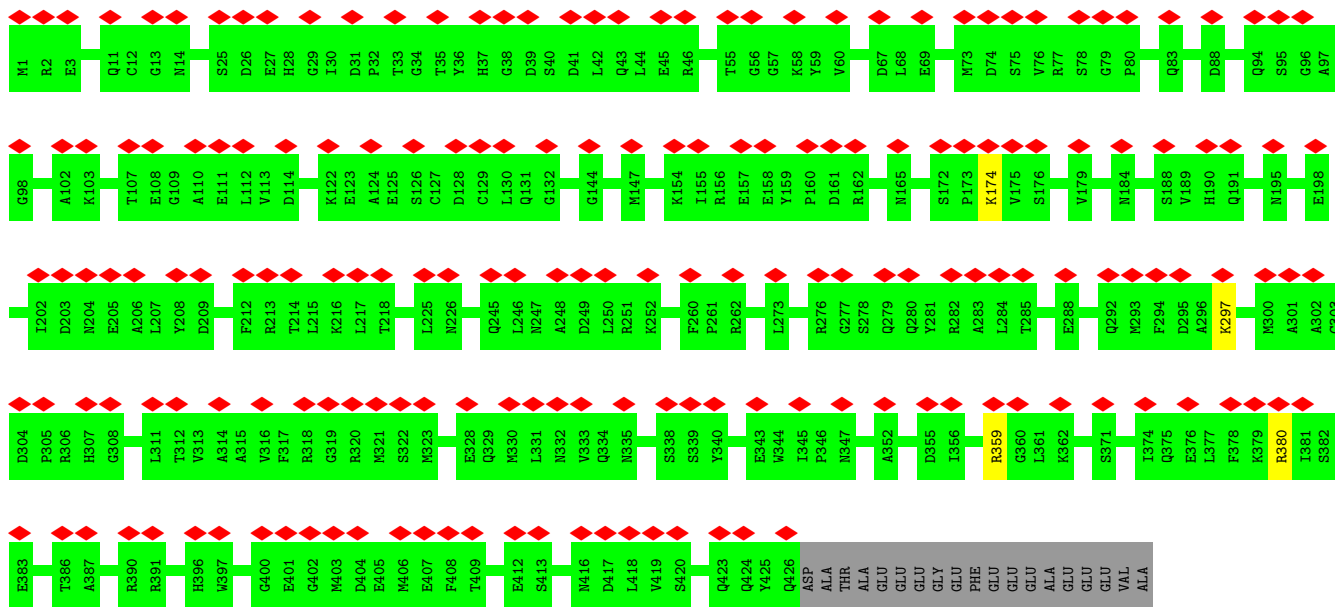
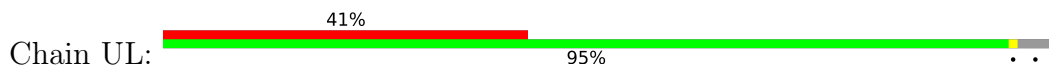


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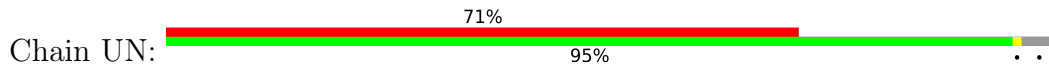


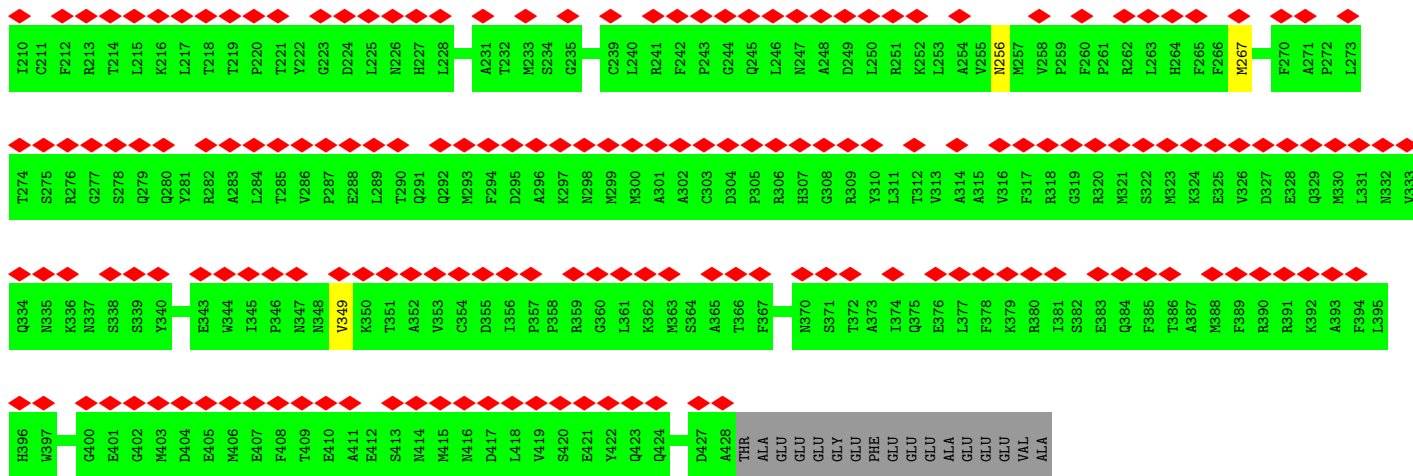


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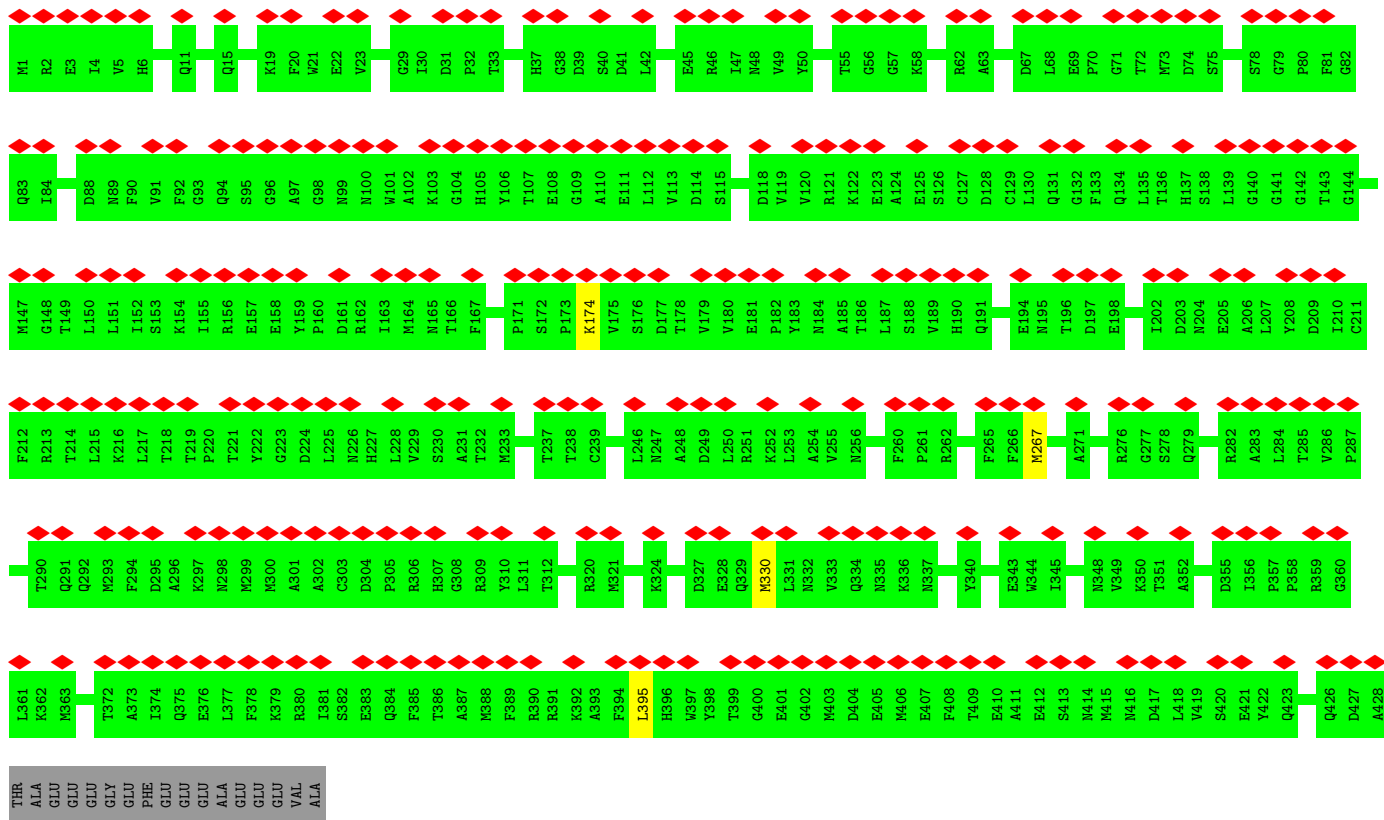


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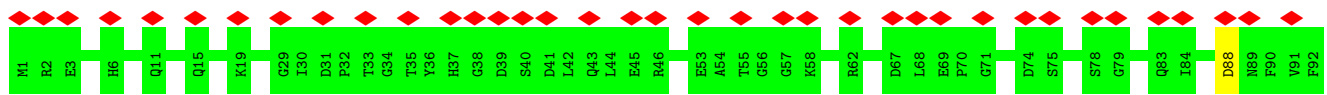


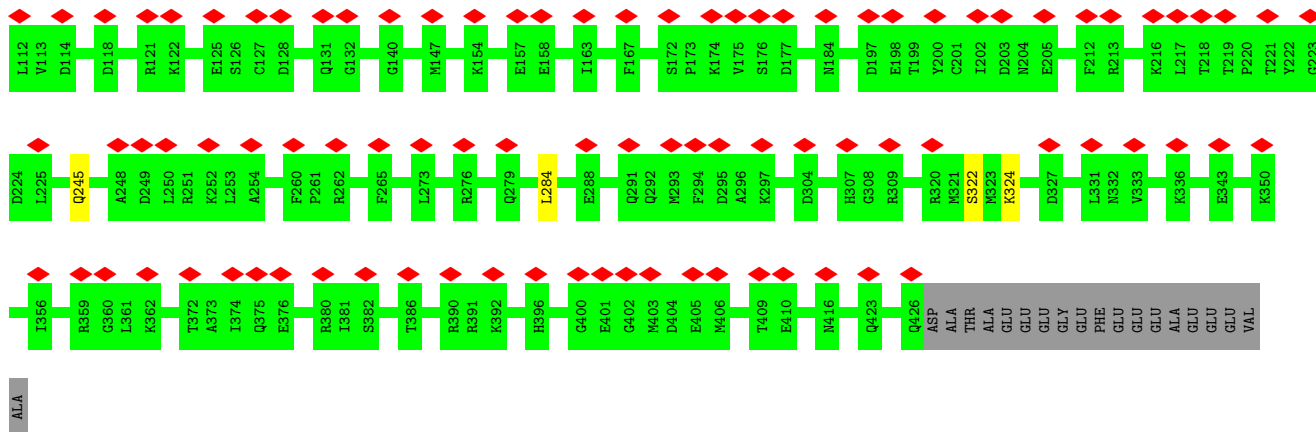


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• Molecule 9: Tubulin beta-4B chain

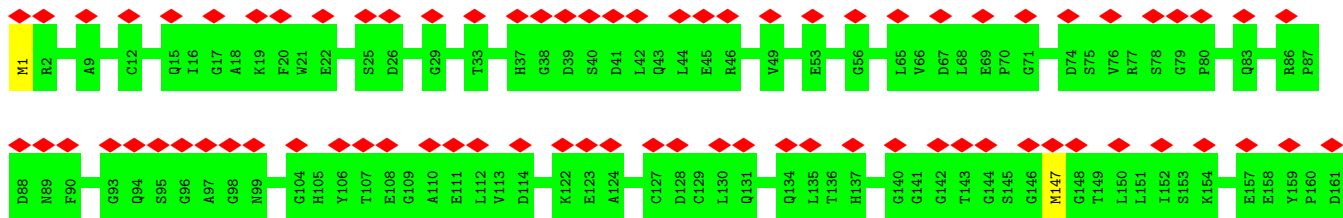


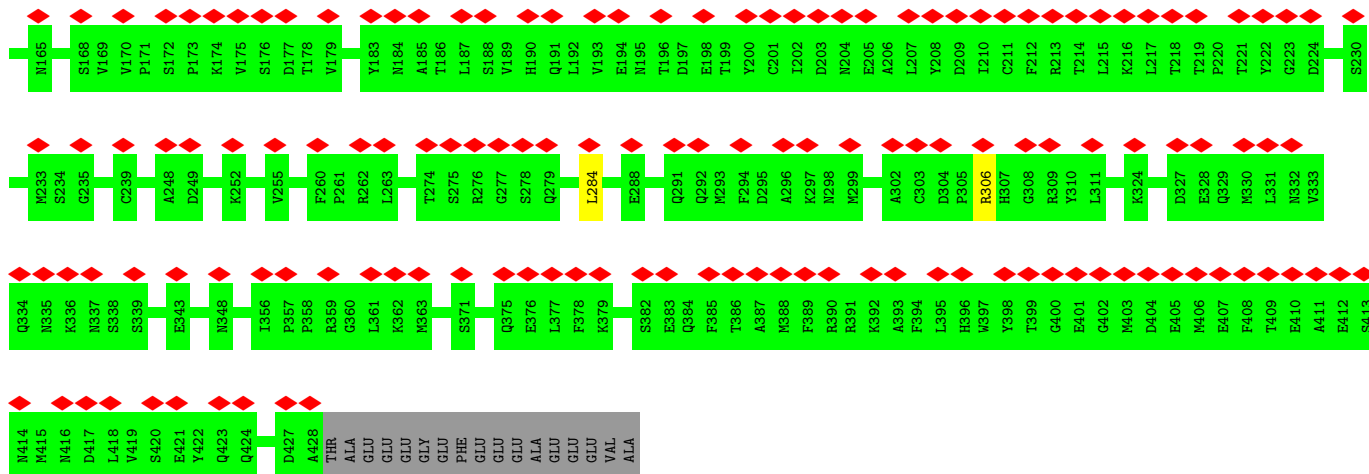


• Molecule 9: Tubulin beta-4B chain

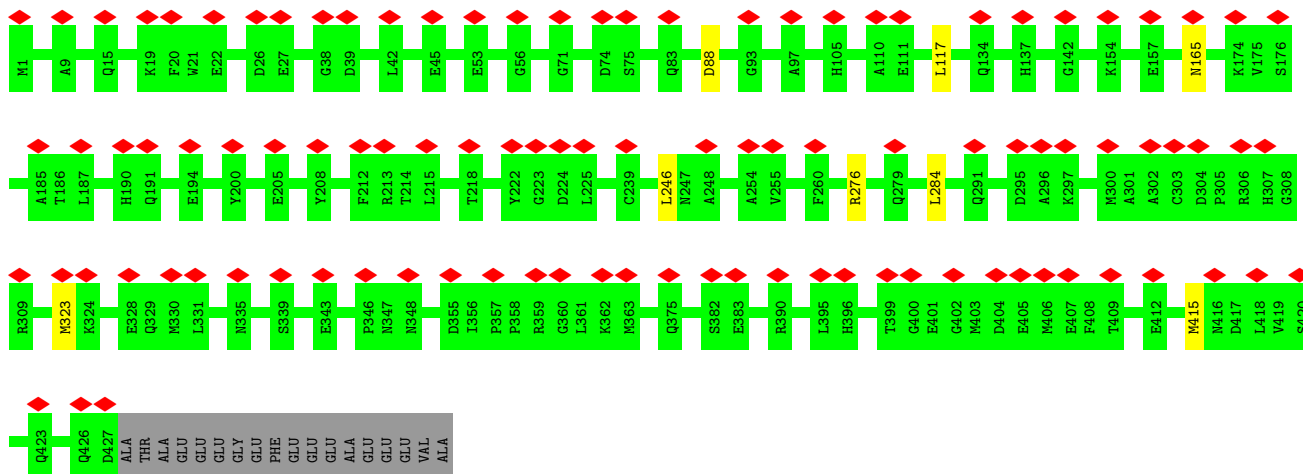


• Molecule 9: Tubulin beta-4B chain

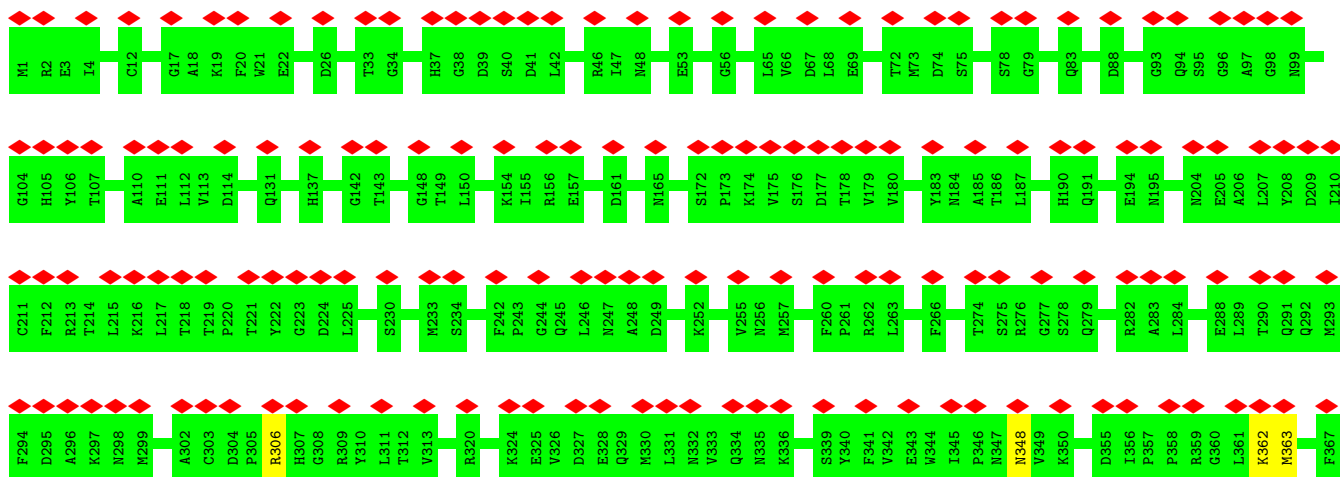
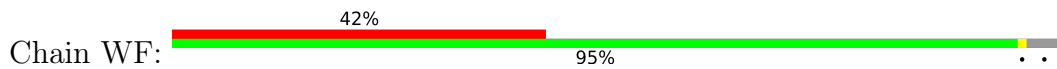


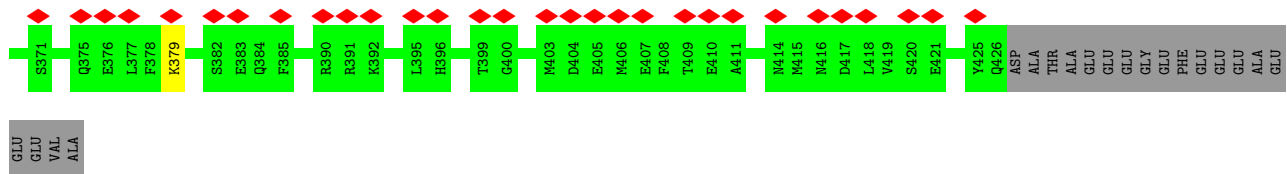


• Molecule 9: Tubulin beta-4B chain

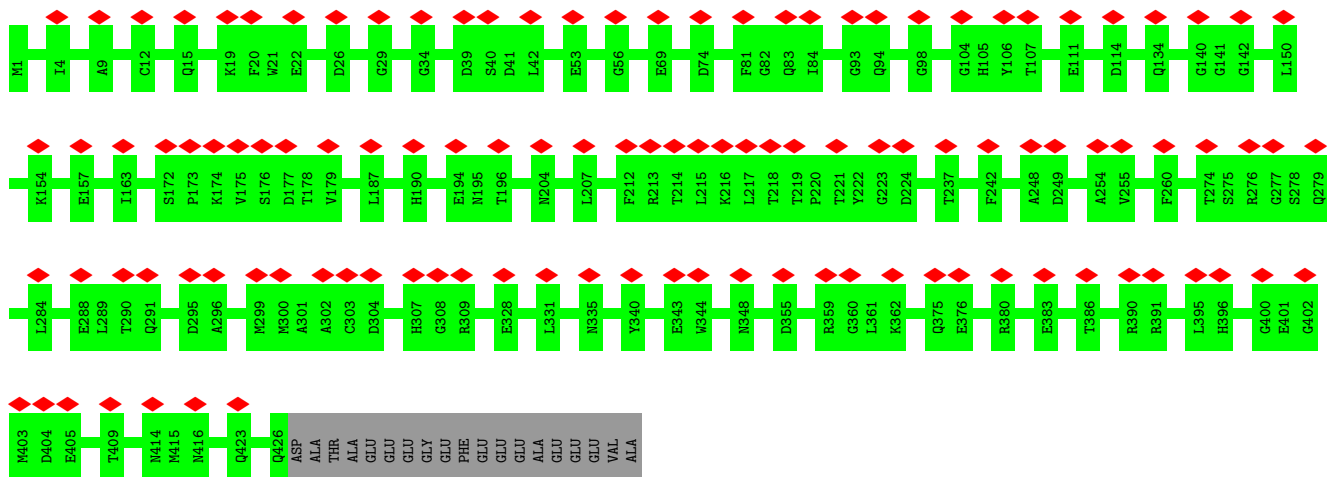


• Molecule 9: Tubulin beta-4B chain

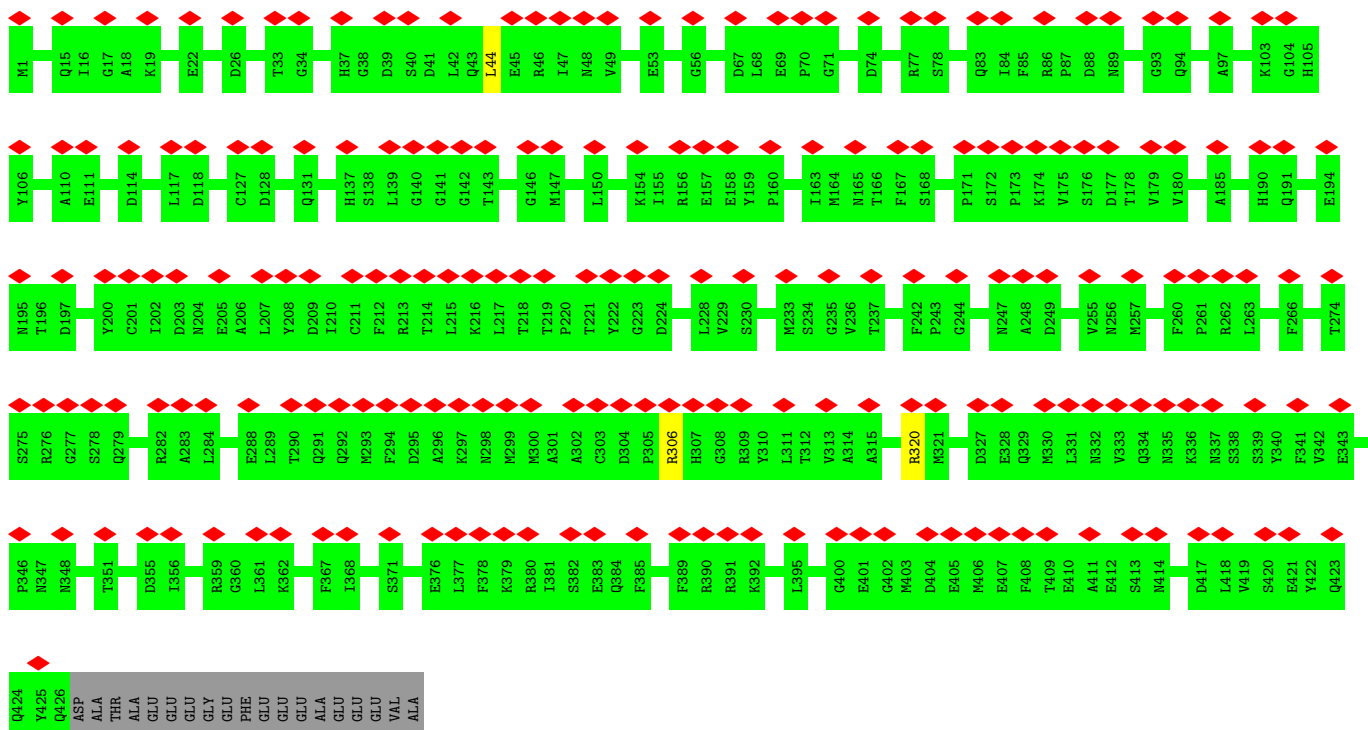


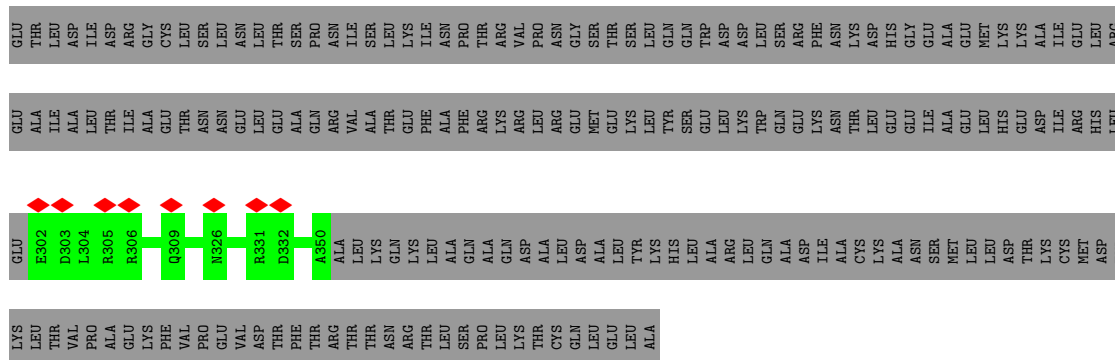


• Molecule 9: Tubulin beta-4B chain

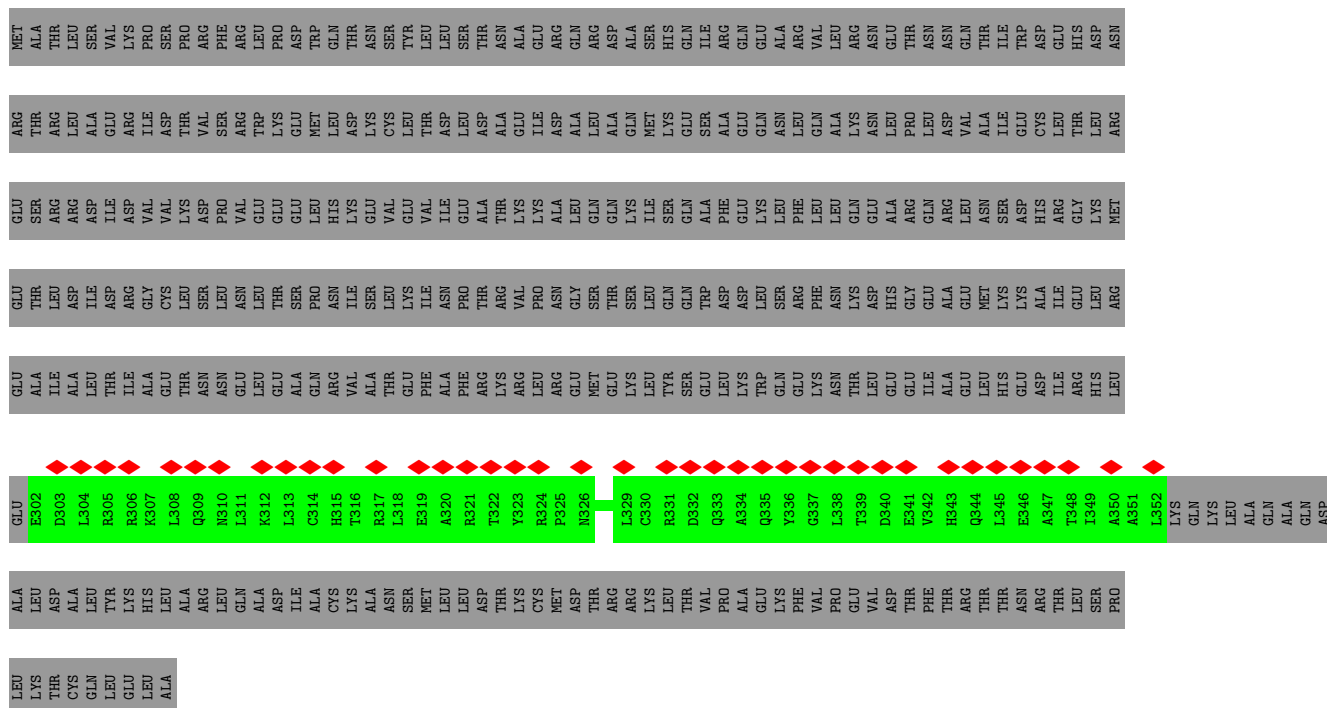


• Molecule 9: Tubulin beta-4B chain

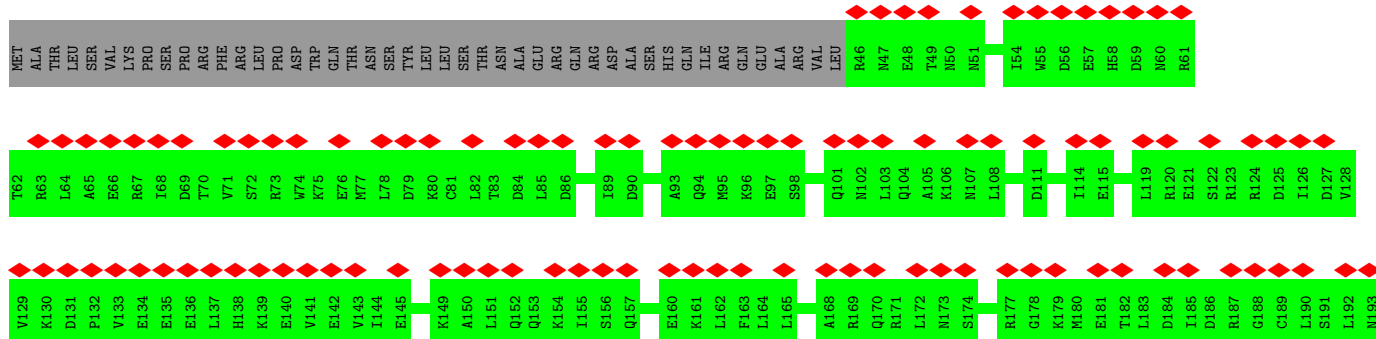
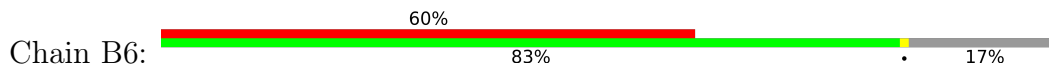


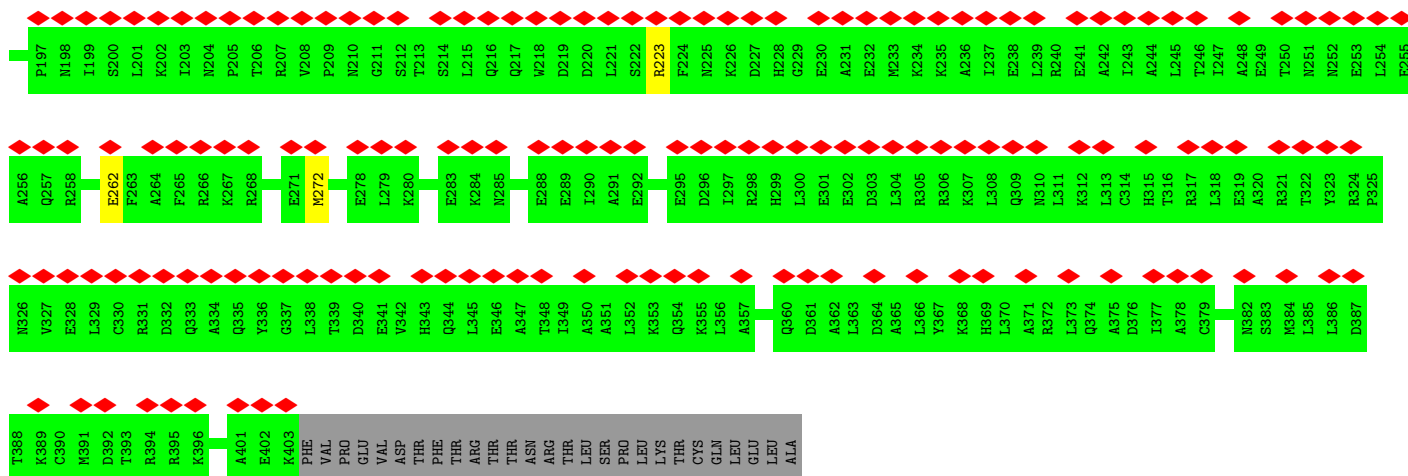


• Molecule 10: Tektin-2

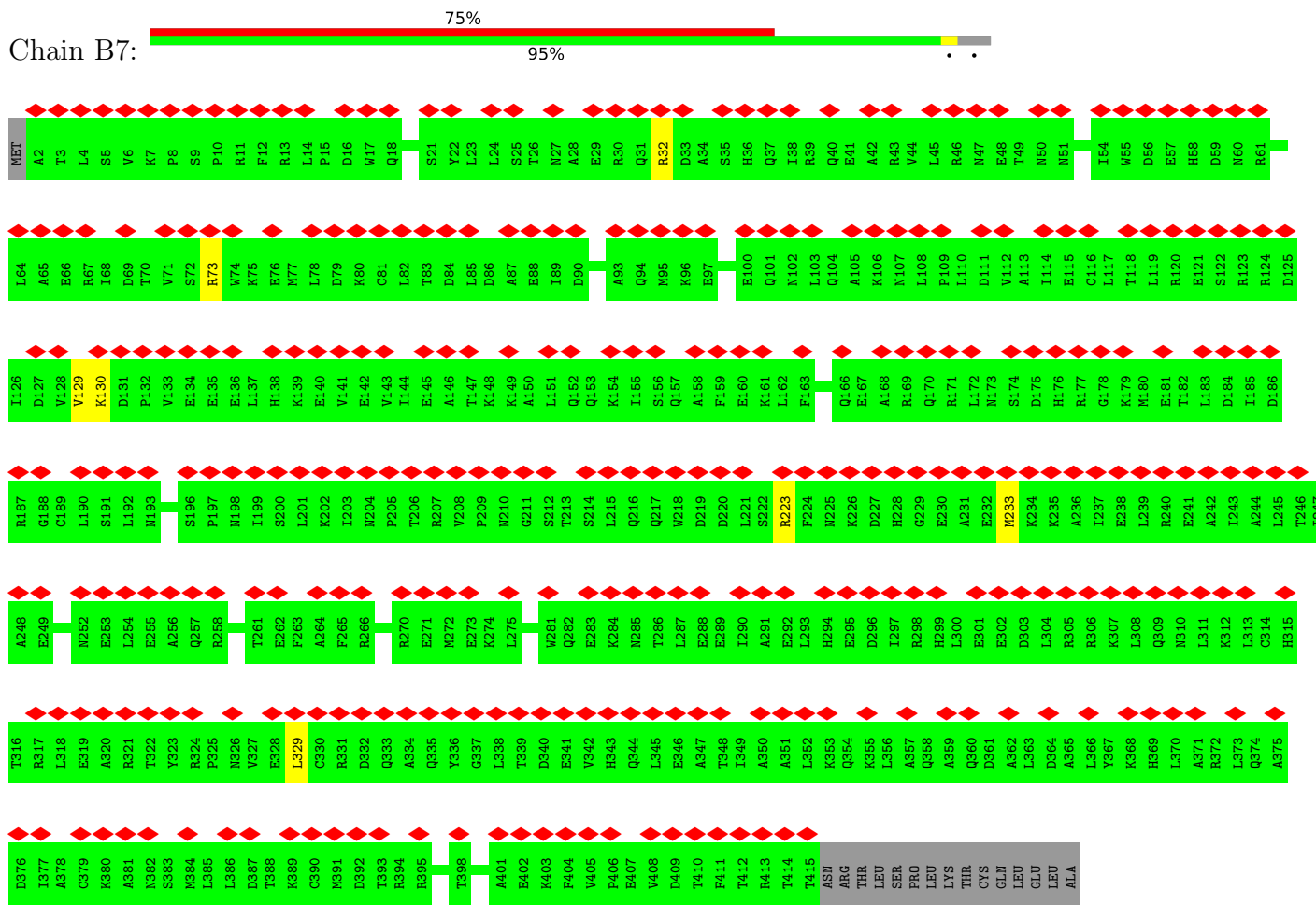


• Molecule 10: Tektin-2

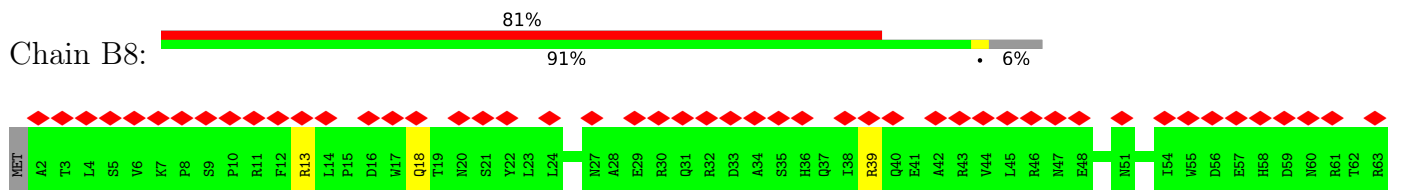


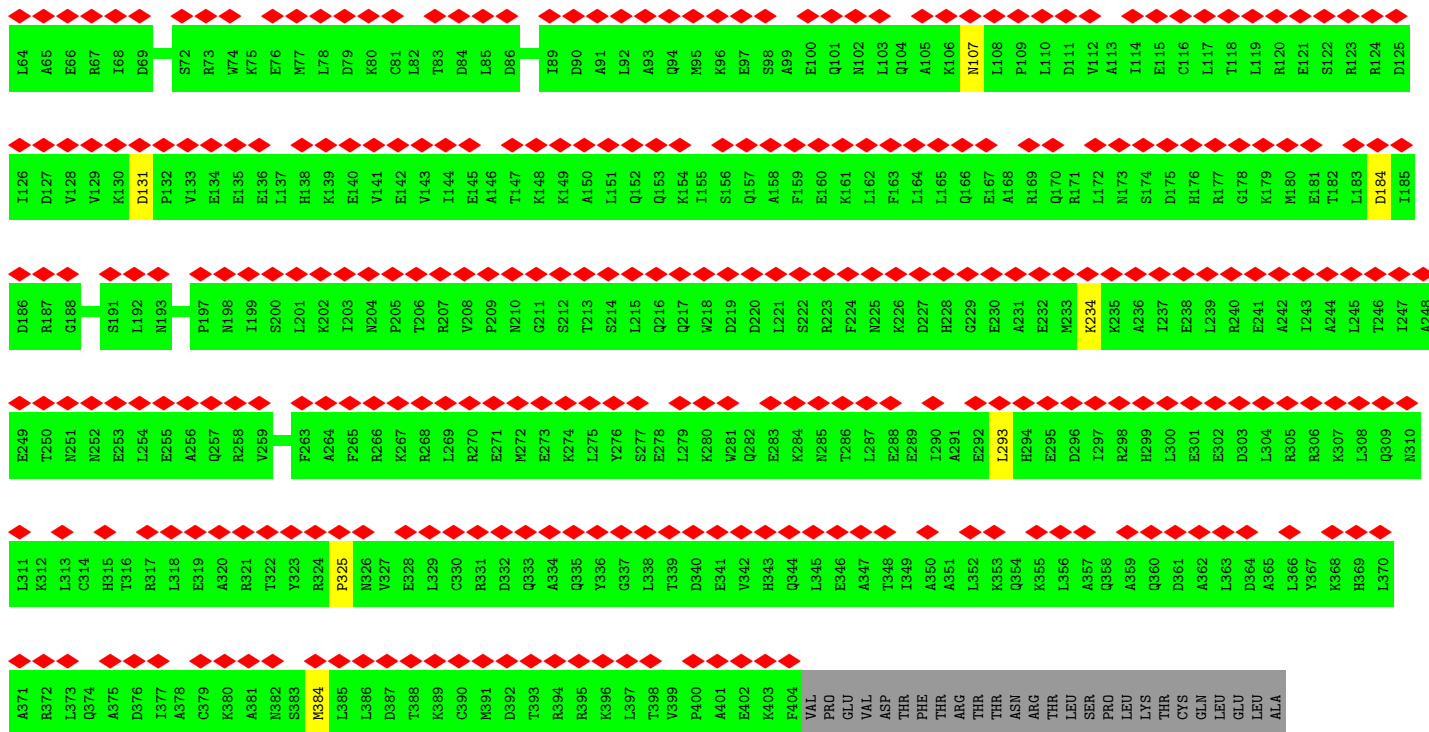


• Molecule 10: Tektin-2

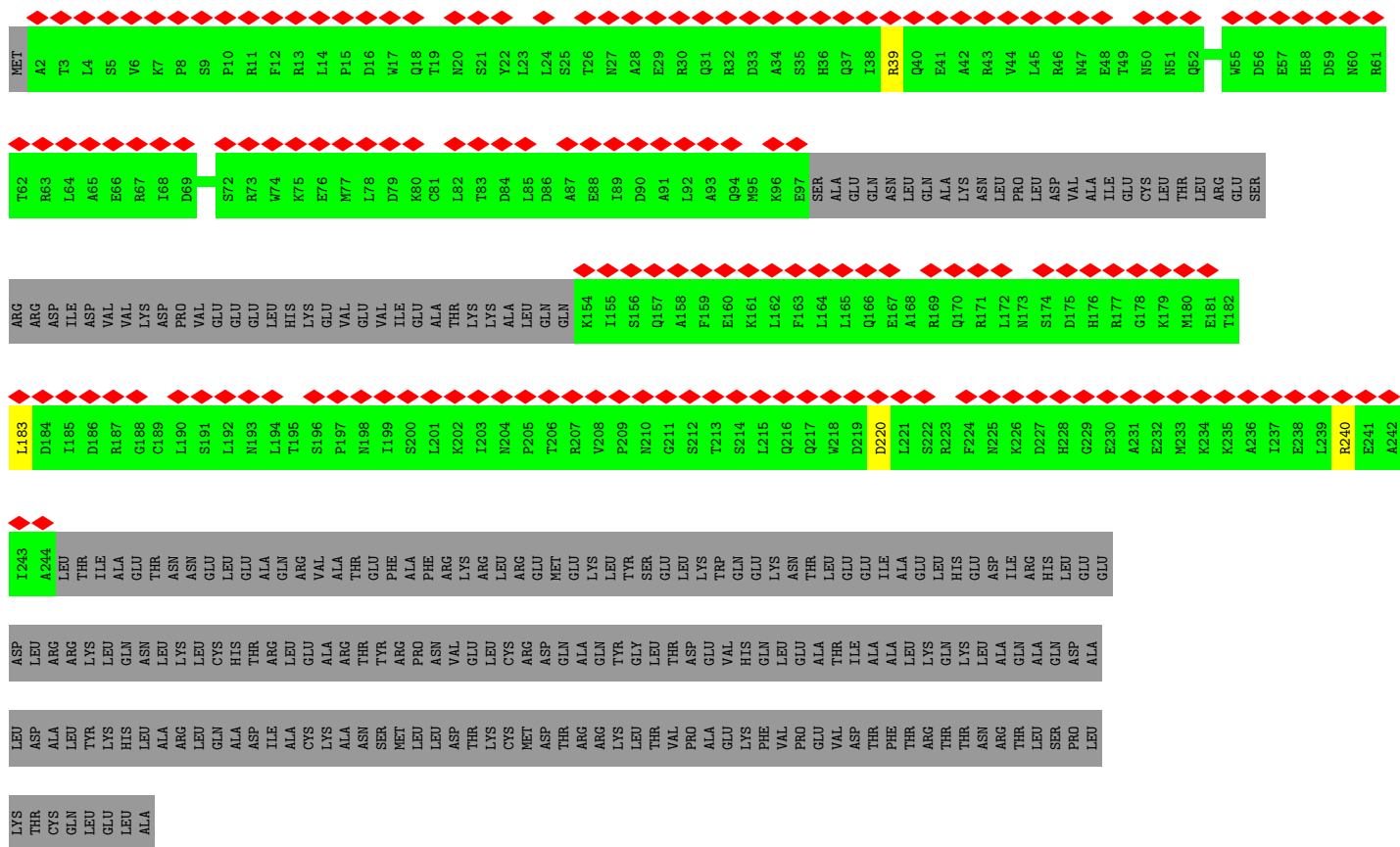
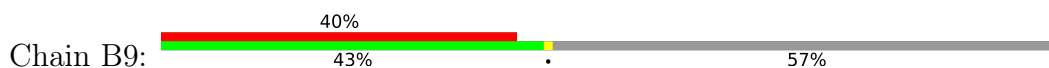


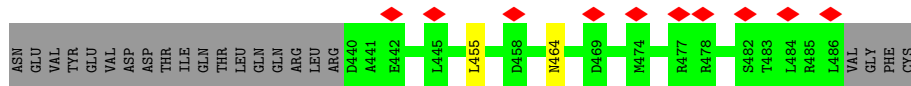
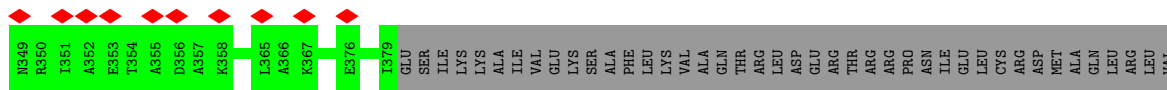
• Molecule 10: Tektin-2



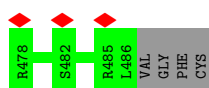
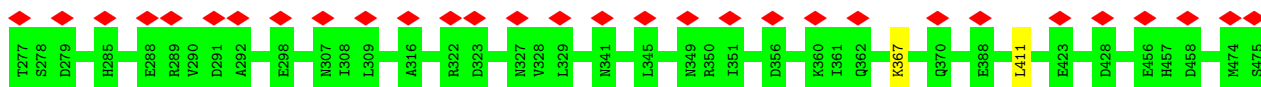
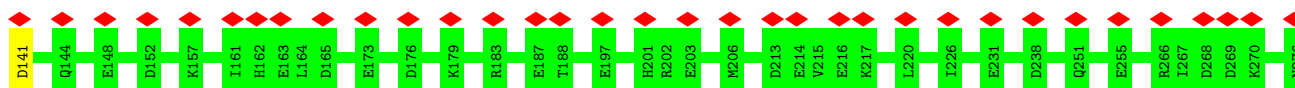
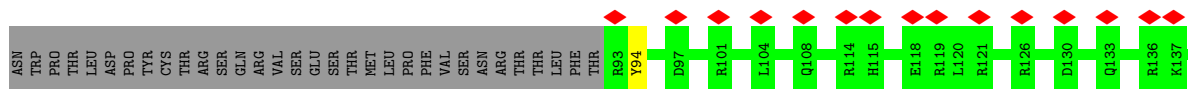
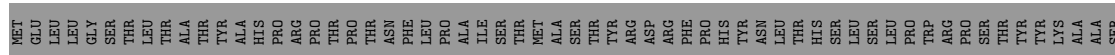
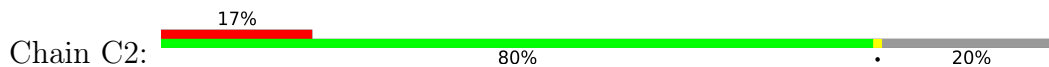


• Molecule 10: Tektin-2

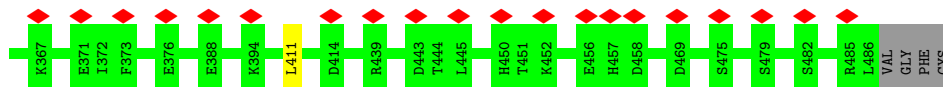
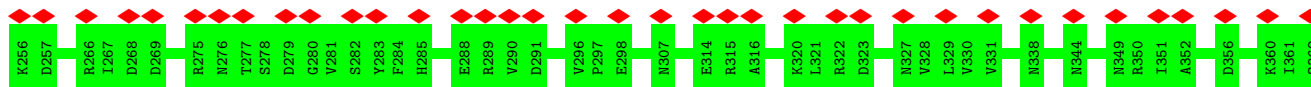
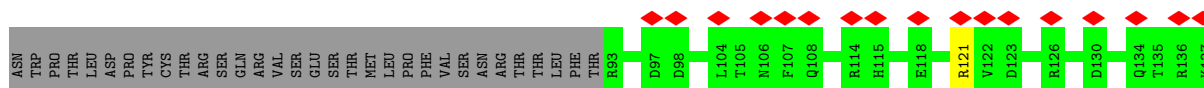
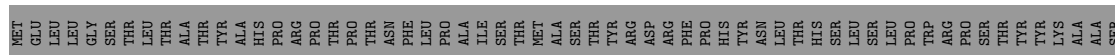
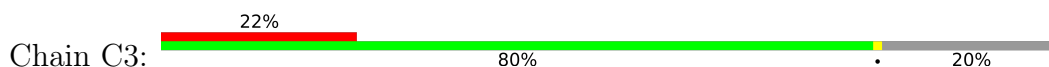




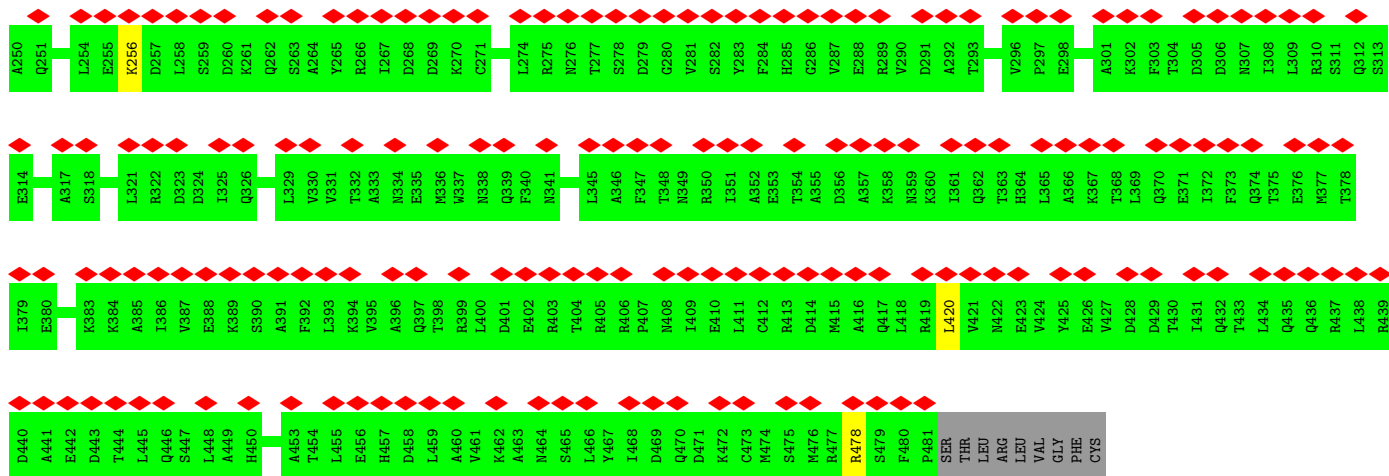
• Molecule 12: Tektin-3



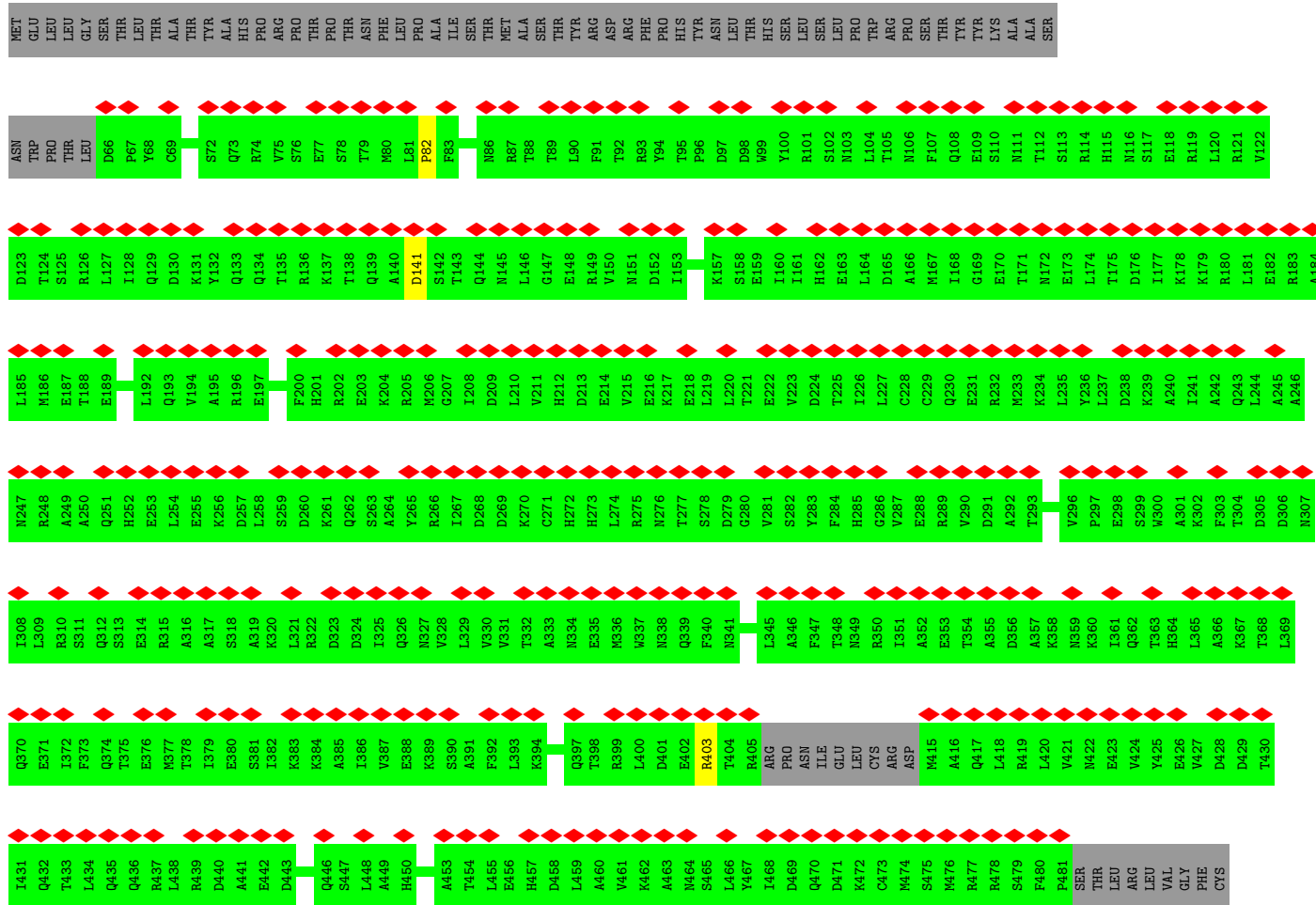
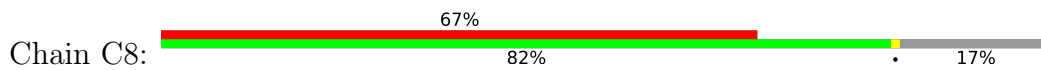
• Molecule 12: Tektin-3



• Molecule 12: Tektin-3

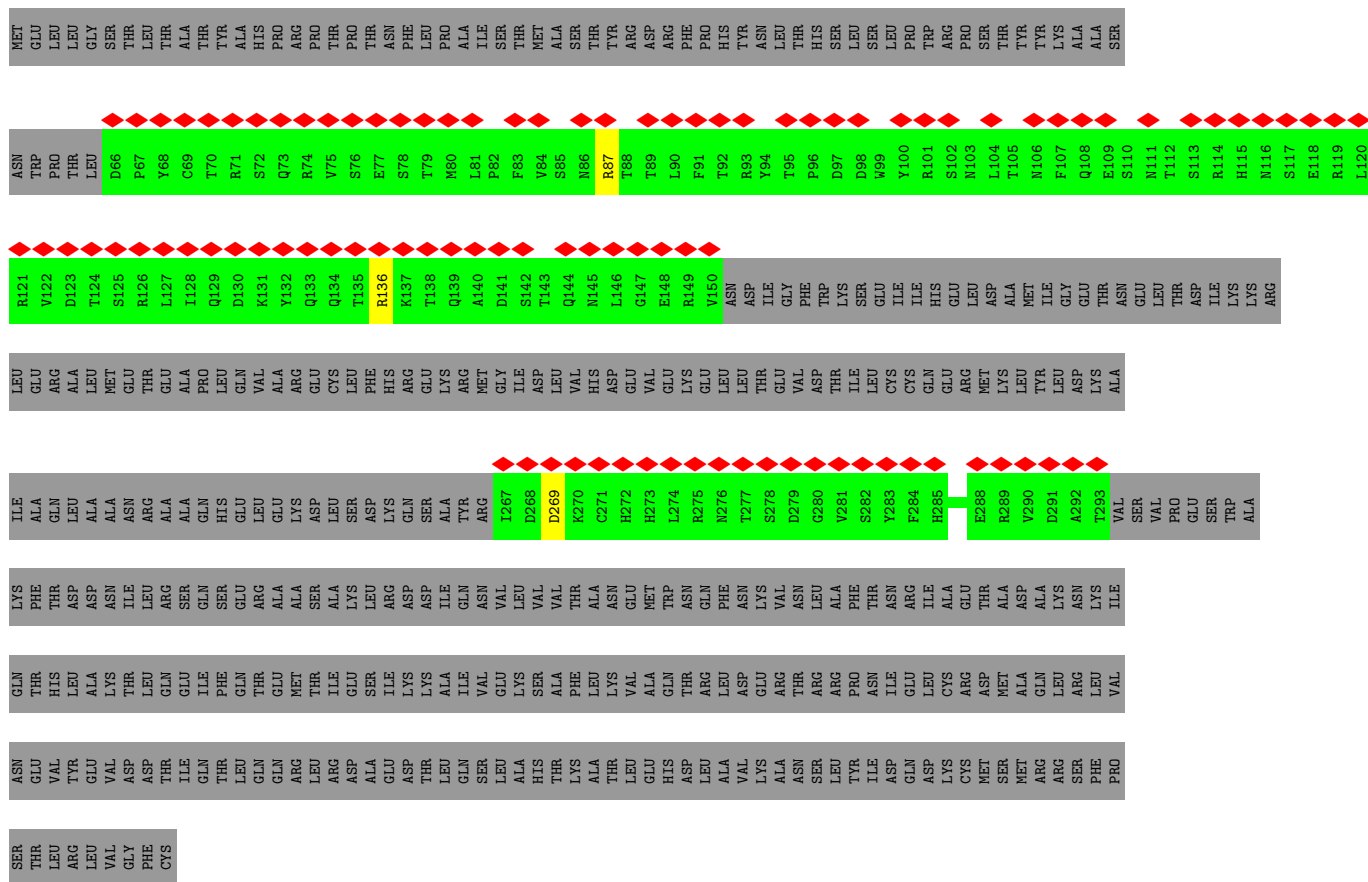


• Molecule 12: Tektin-3

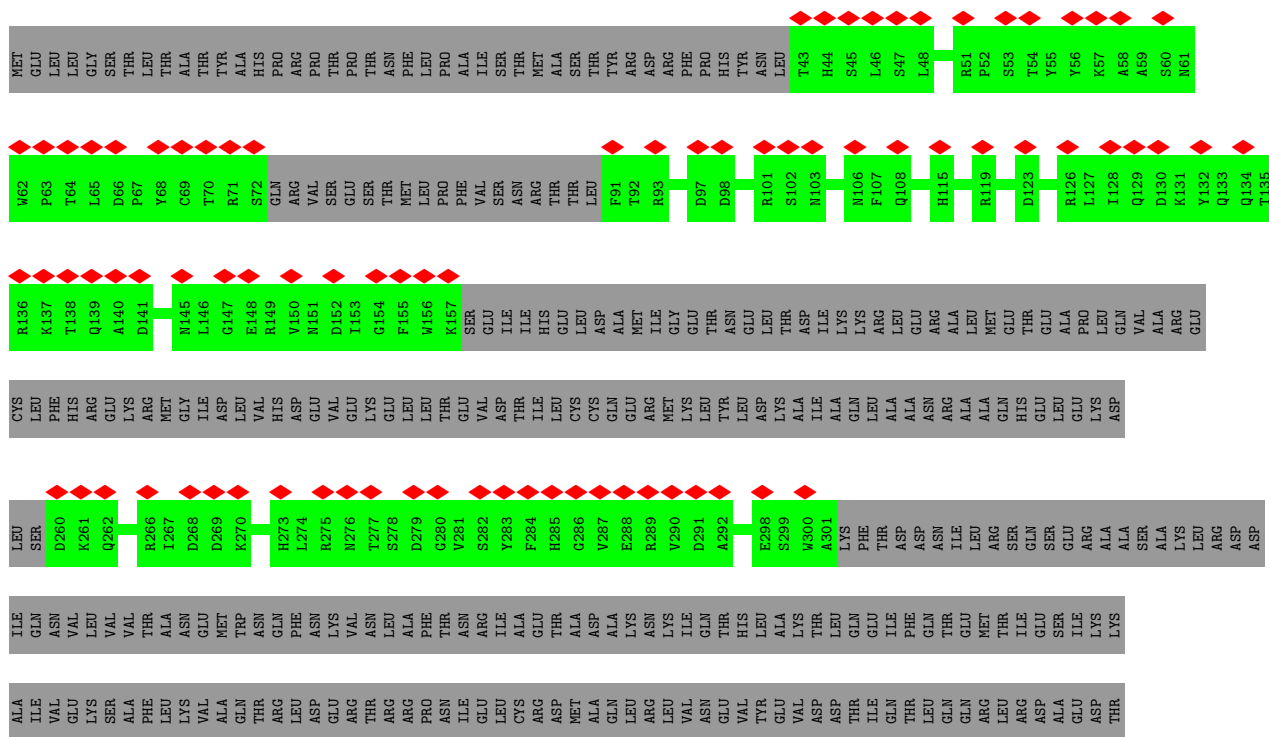


• Molecule 12: Tektin-3



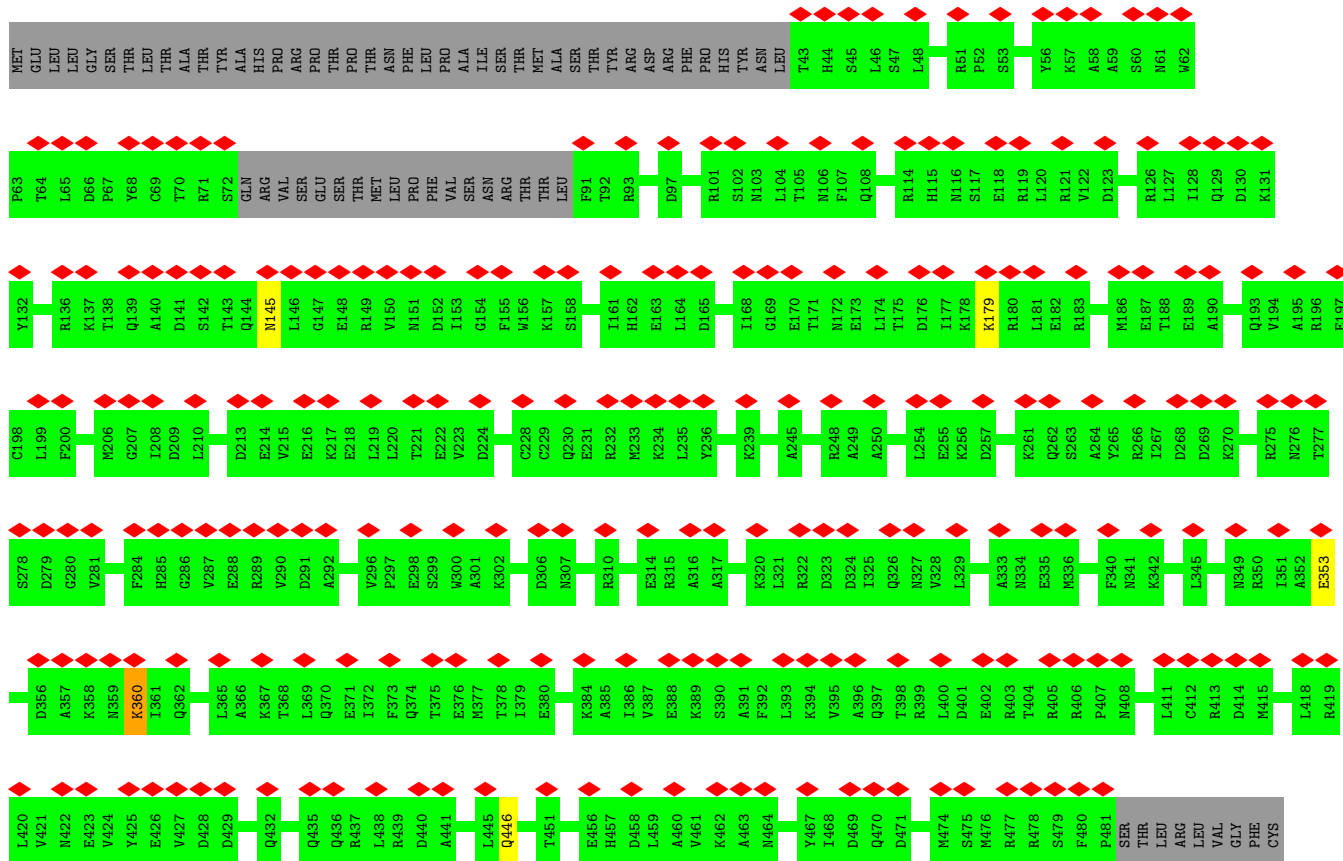
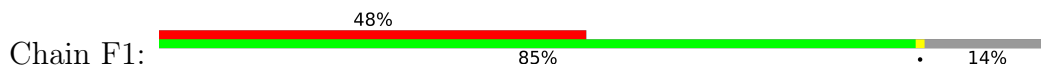


● Molecule 12: Tektin-3

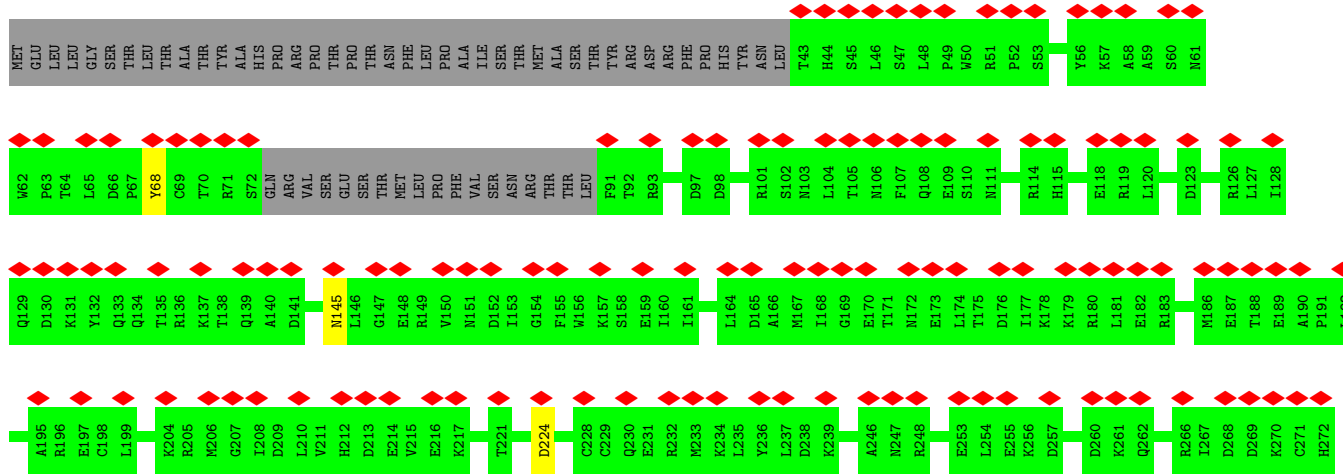
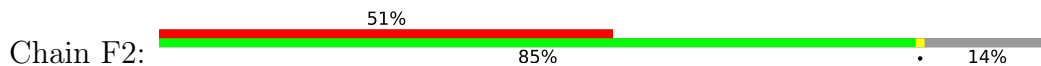


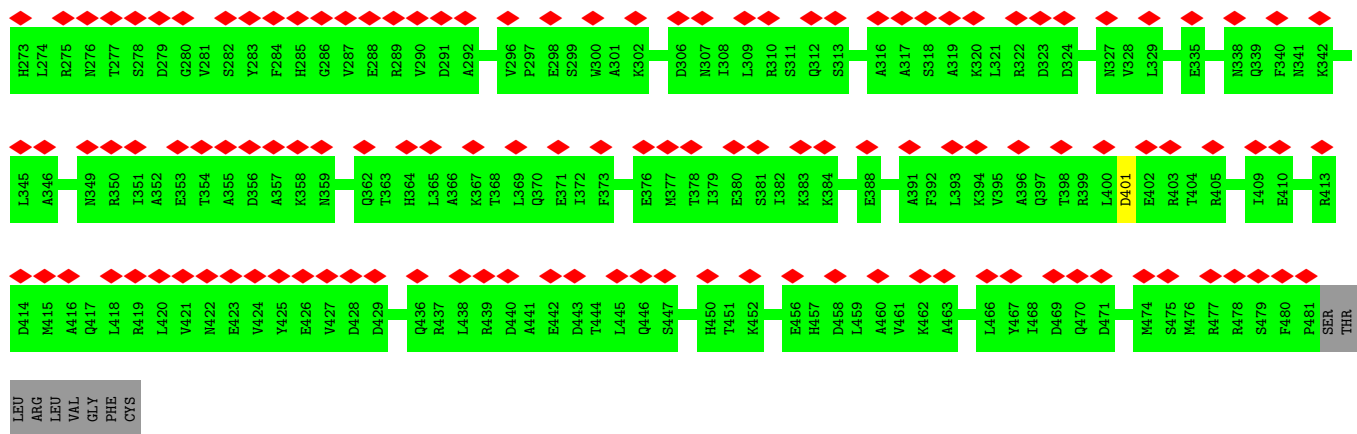
LEU GLN SER LEU LEU ALA HIS THR LYS LEU THR ALA LEU LEU GLU HIS ASP GLN LEU VAL ARG ALA VAL LYS ALA ASN ASN SER LEU TYR PHE LEU ILE ASP GLN ASP LYS MET MET MET ARG ARG ARG PHE PRO SER THR LEU VAL VAL PHE CYS

Molecule 12: Tektin-3



Molecule 12: Tektin-3





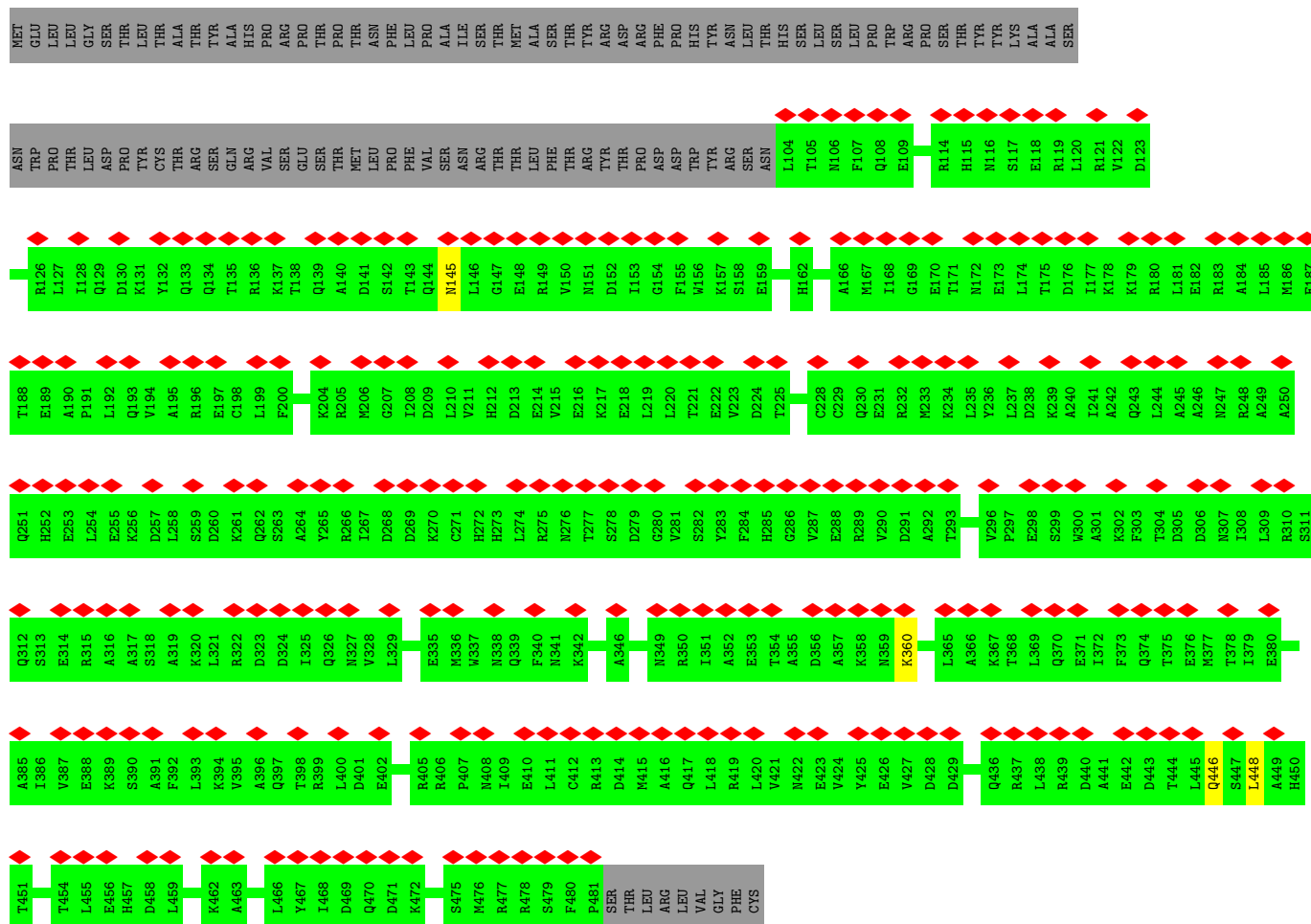
● Molecule 12: Tektin-3

Chain F3:

53%

76%

23%



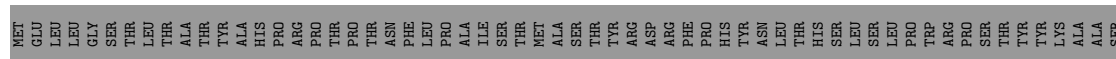
● Molecule 12: Tektin-3

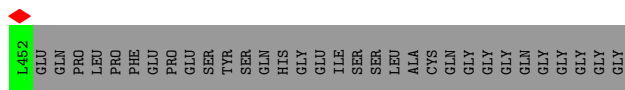
Chain F4:

15%

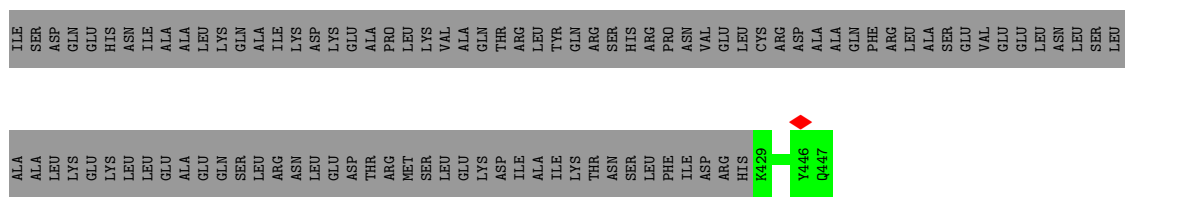
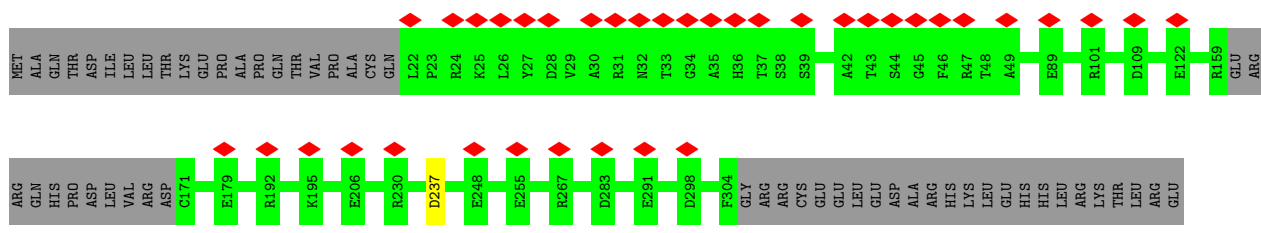
20%

80%

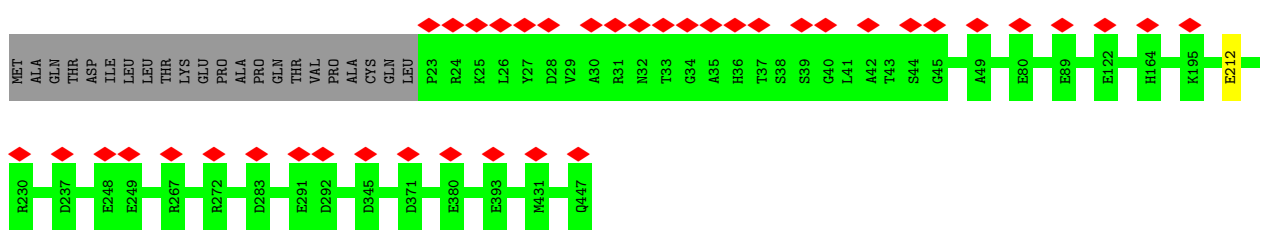




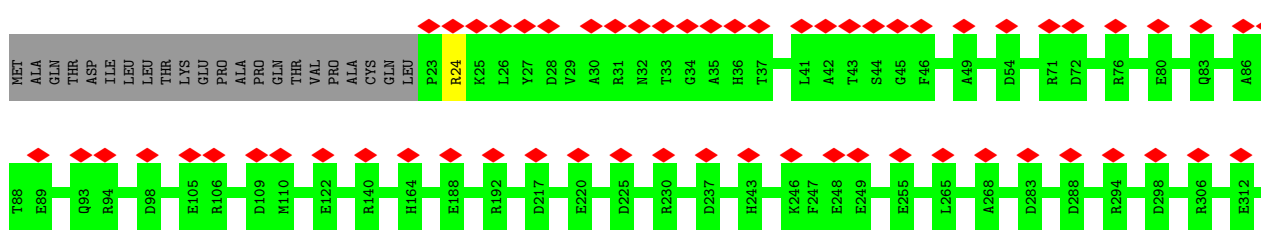
• Molecule 14: Tektin-4



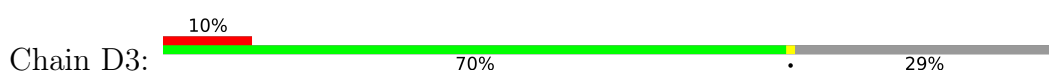
• Molecule 14: Tektin-4

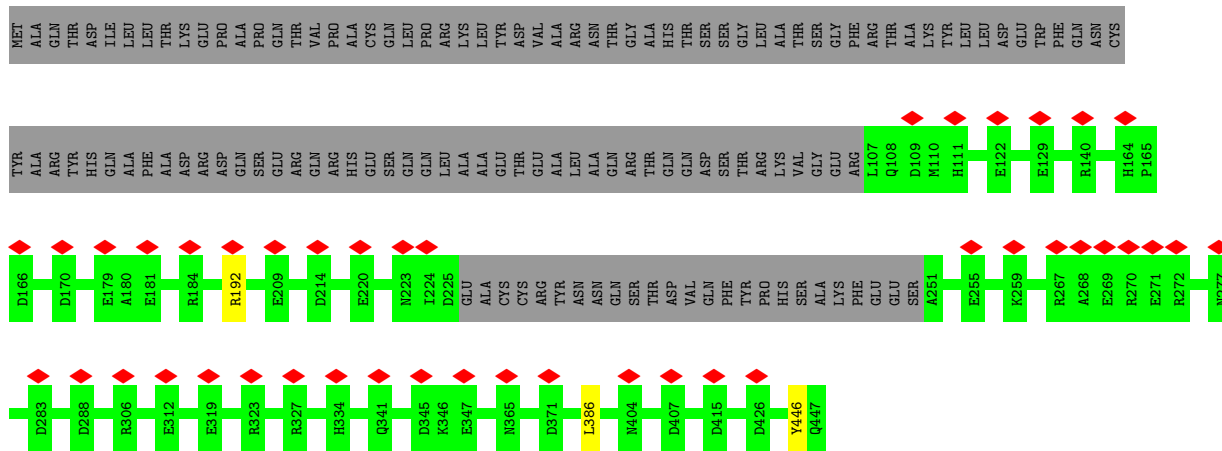


• Molecule 14: Tektin-4

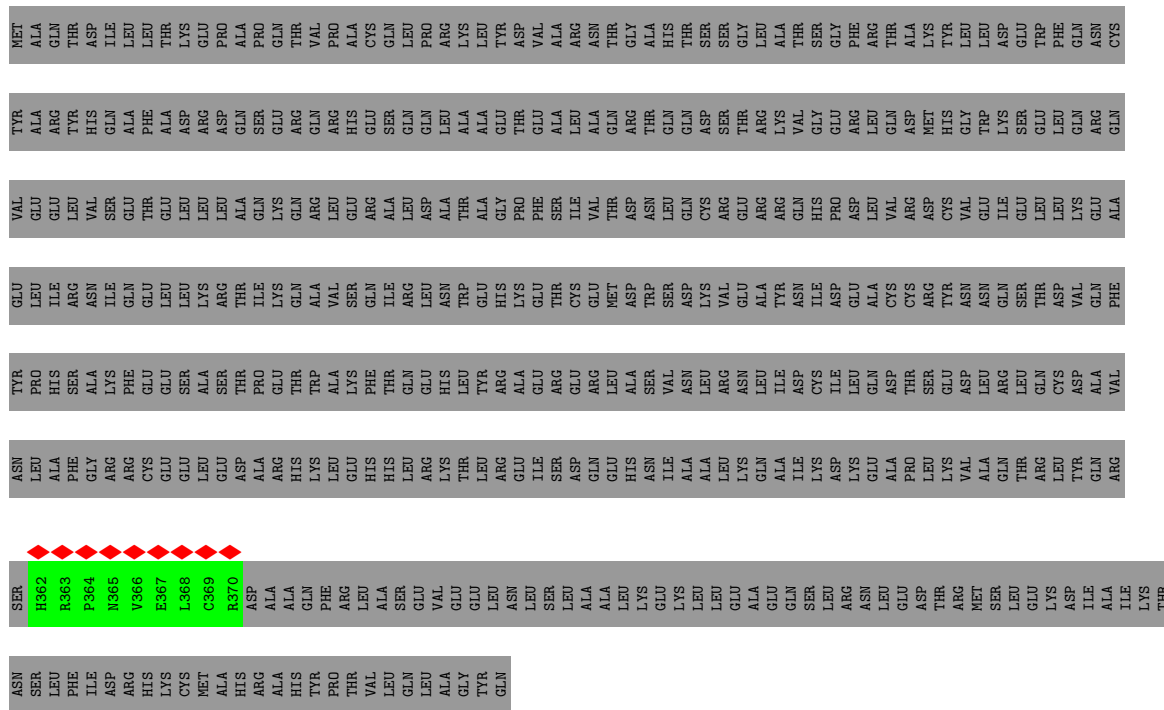


• Molecule 14: Tektin-4

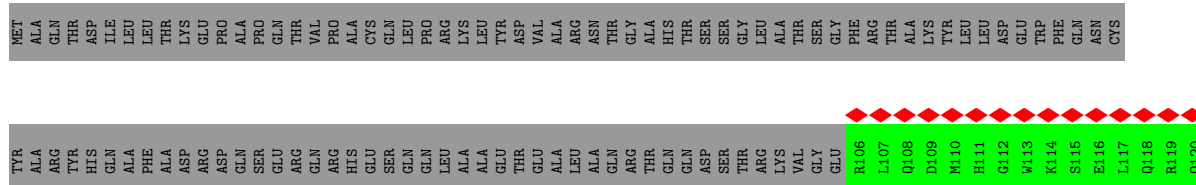
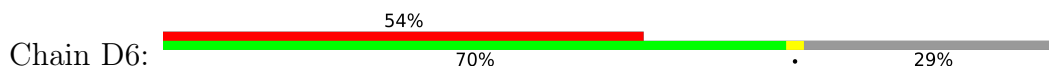


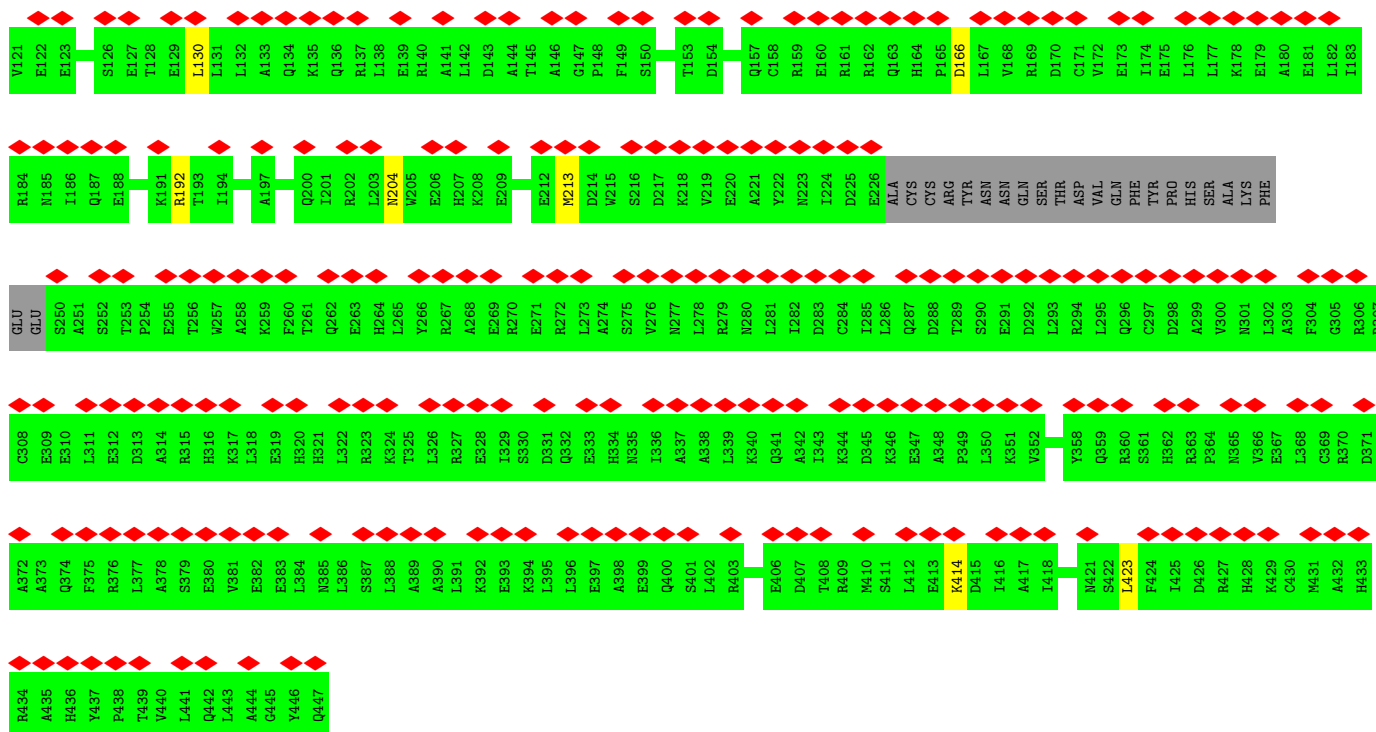


• Molecule 14: Tektin-4

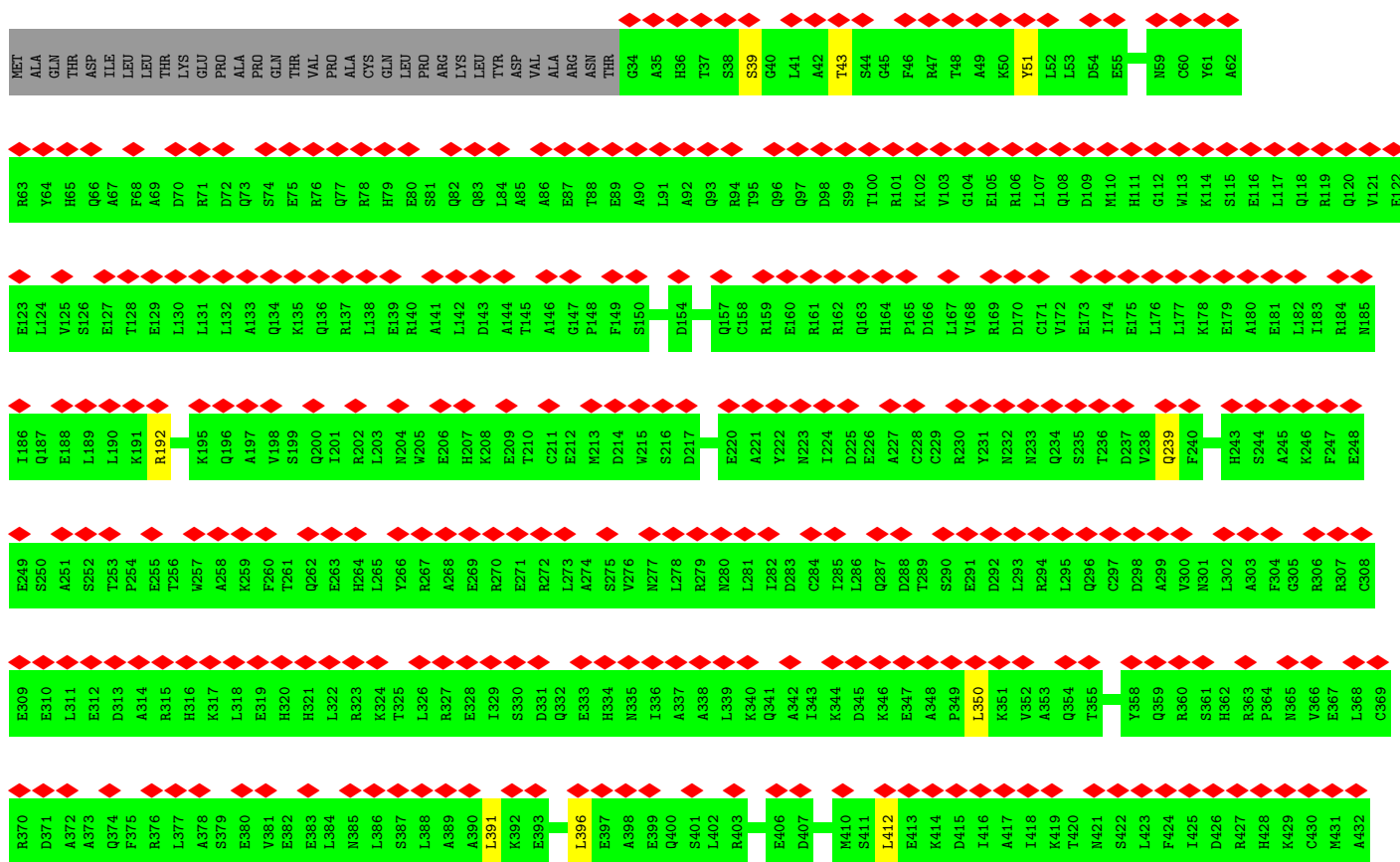
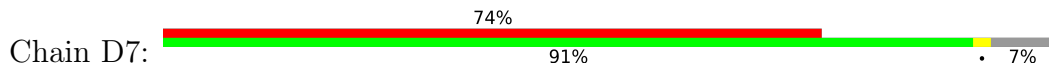


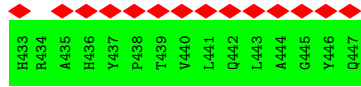
• Molecule 14: Tektin-4



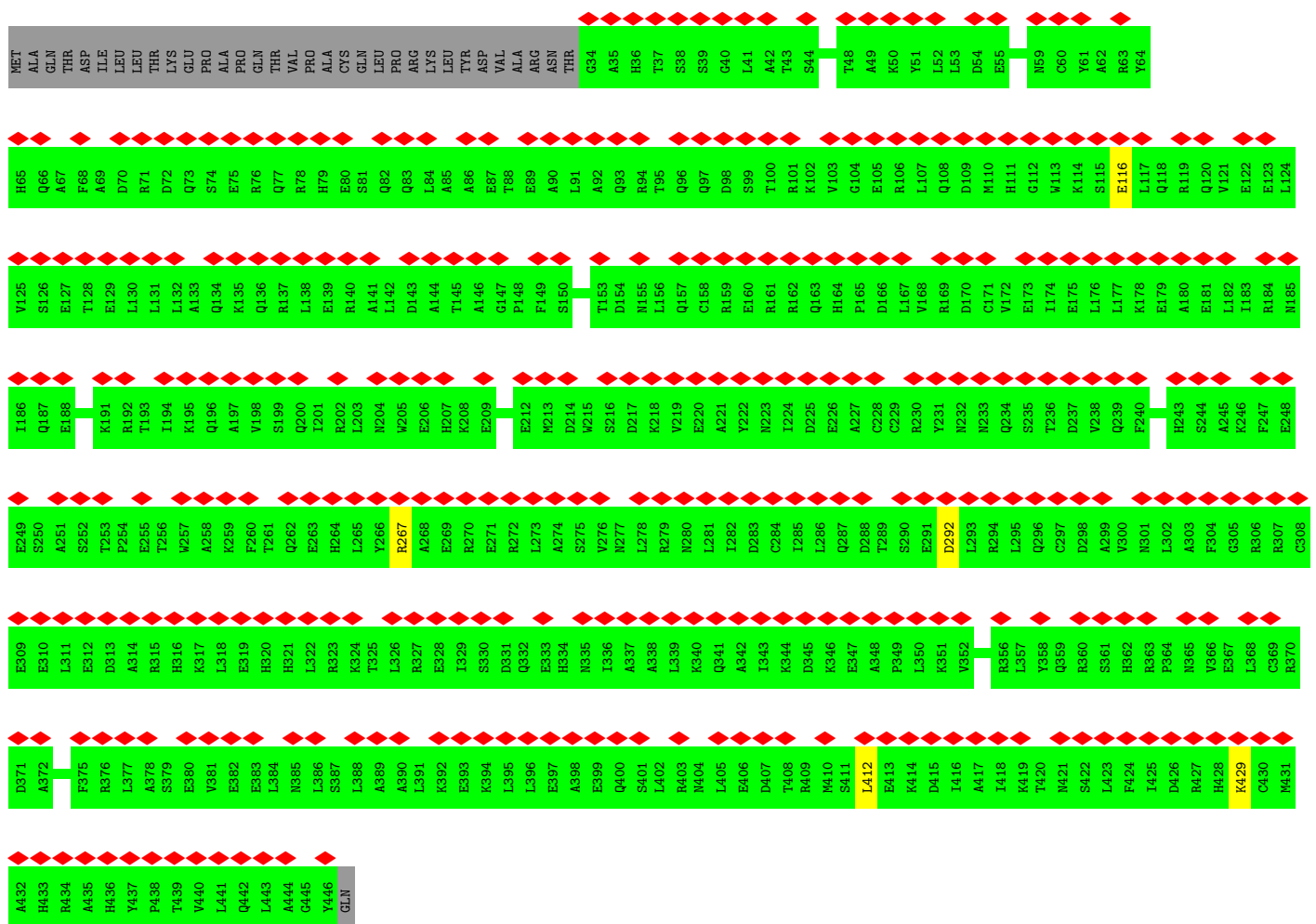
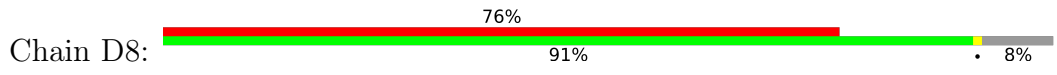


• Molecule 14: Tektin-4

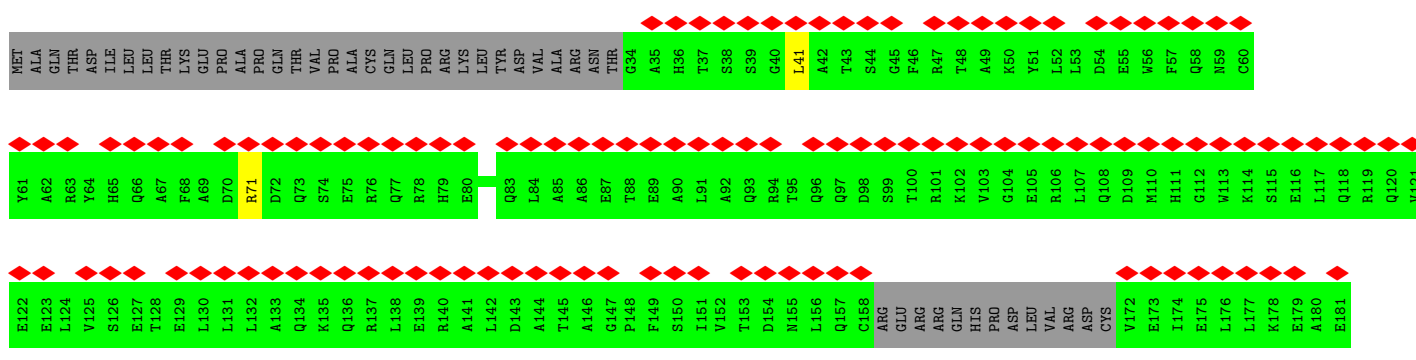


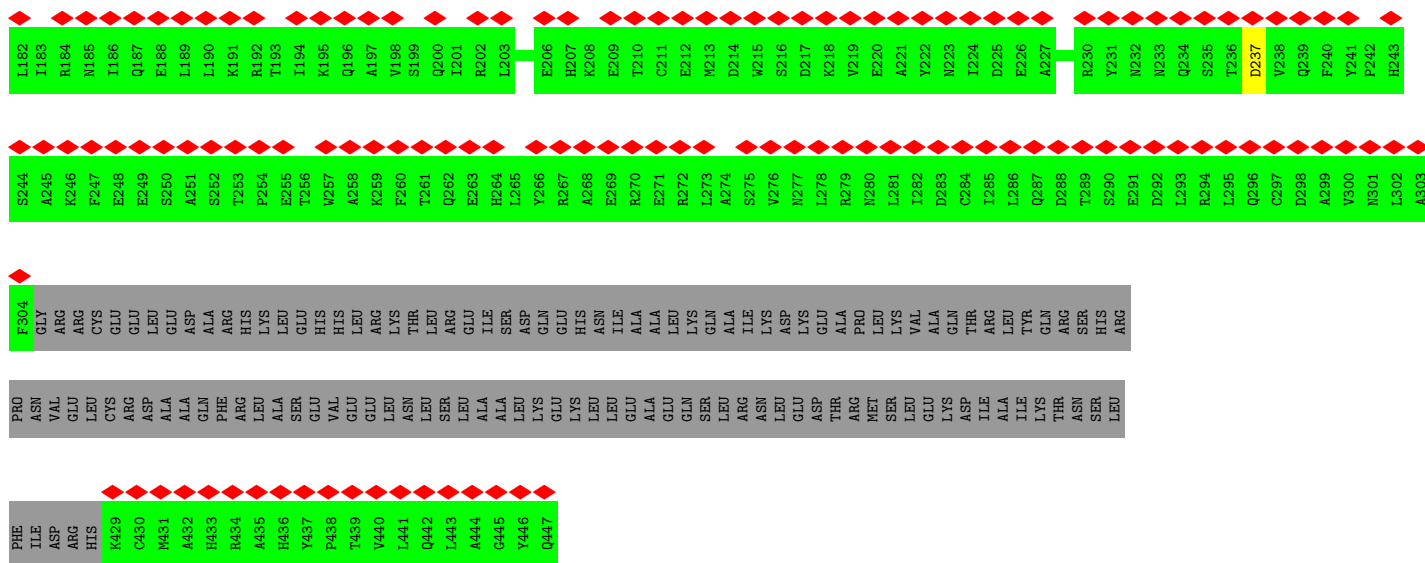


• Molecule 14: Tektin-4

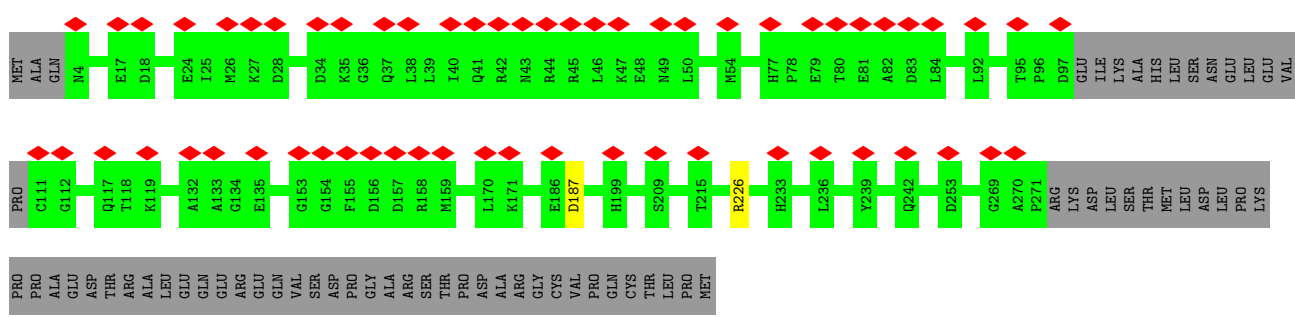
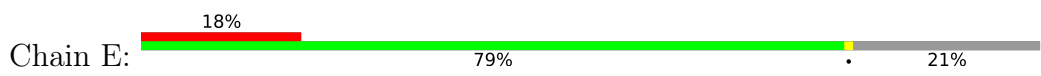


• Molecule 14: Tektin-4

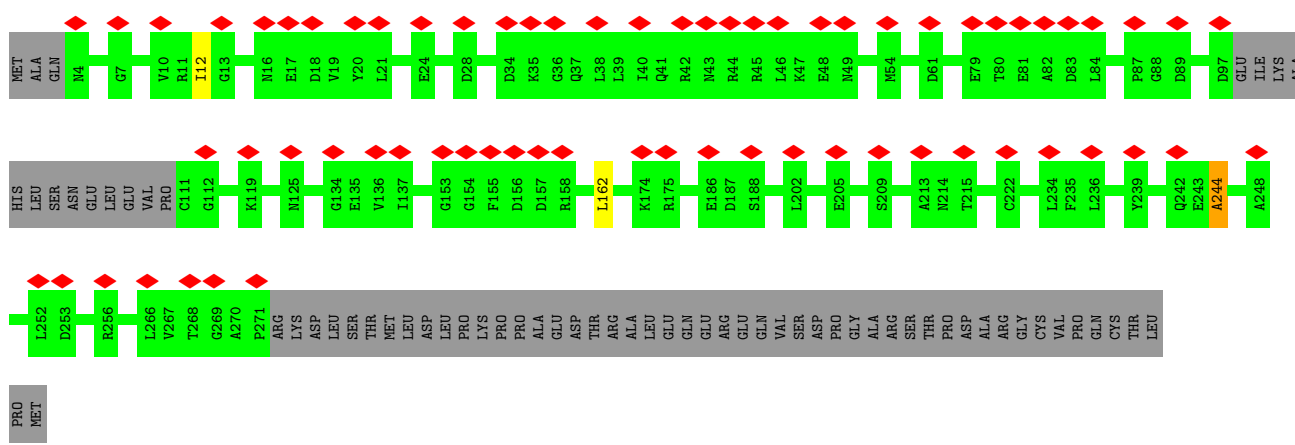
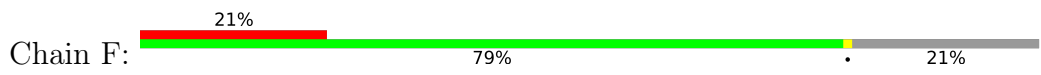




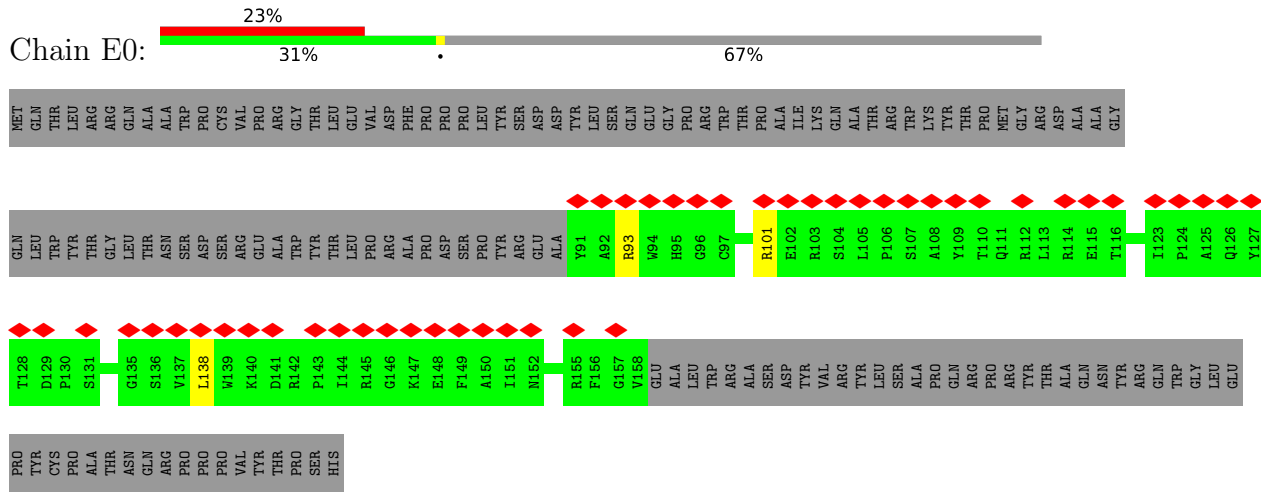
• Molecule 15: Cilia and flagella associated protein 161



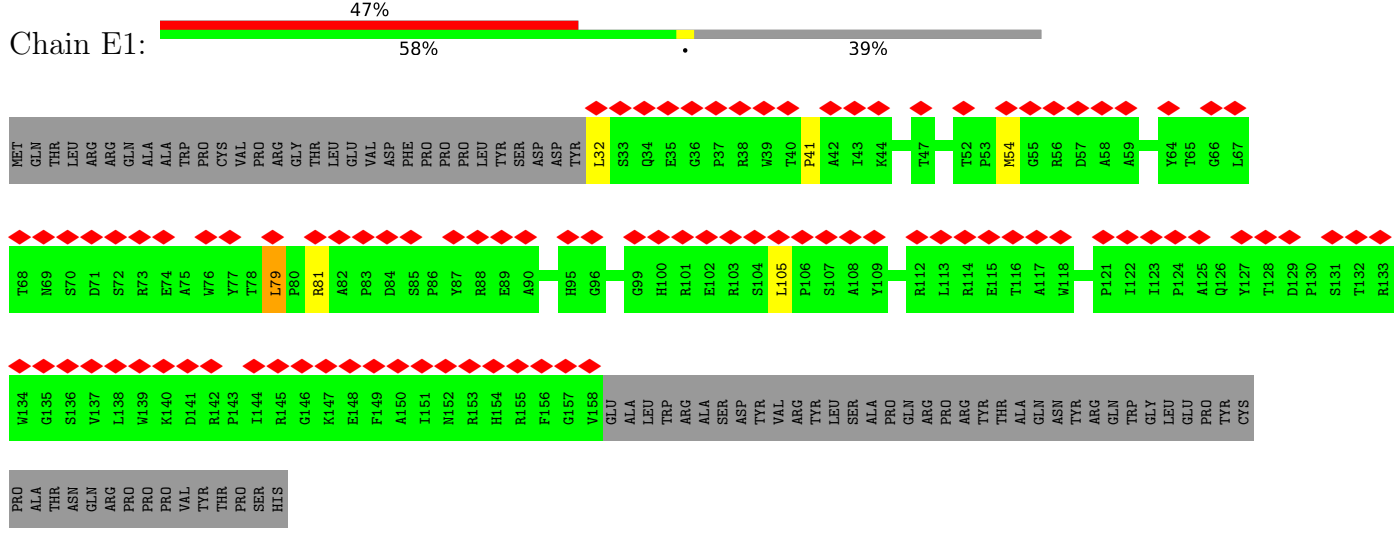
• Molecule 15: Cilia and flagella associated protein 161



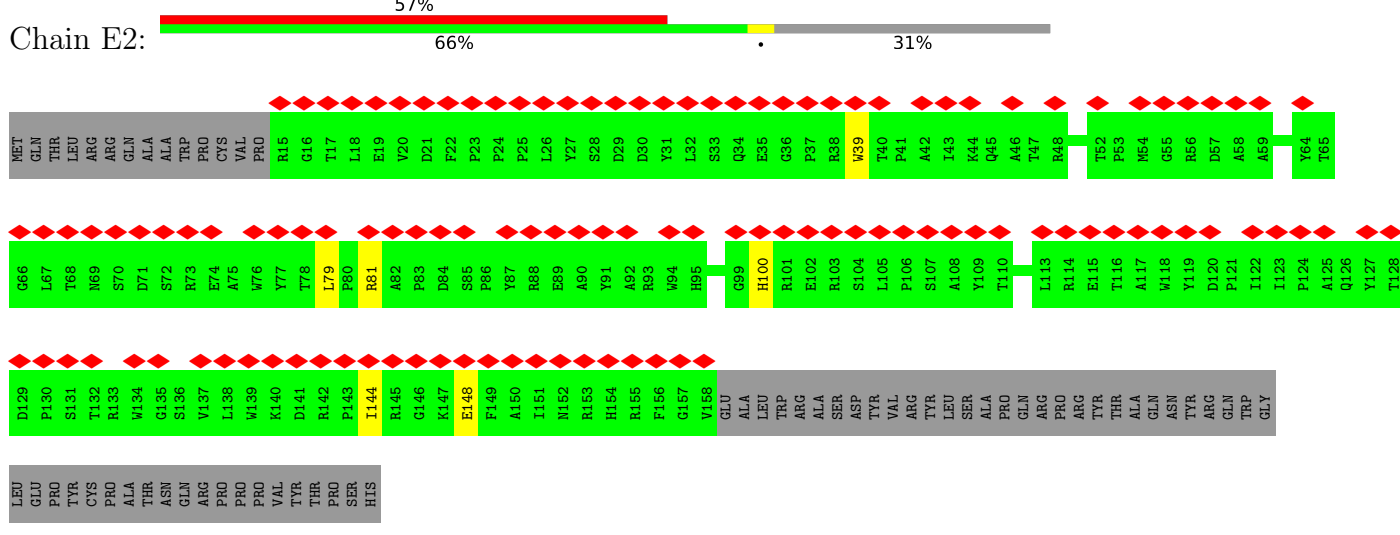
• Molecule 16: TEKTIIP1



• Molecule 16: TEK TIP1

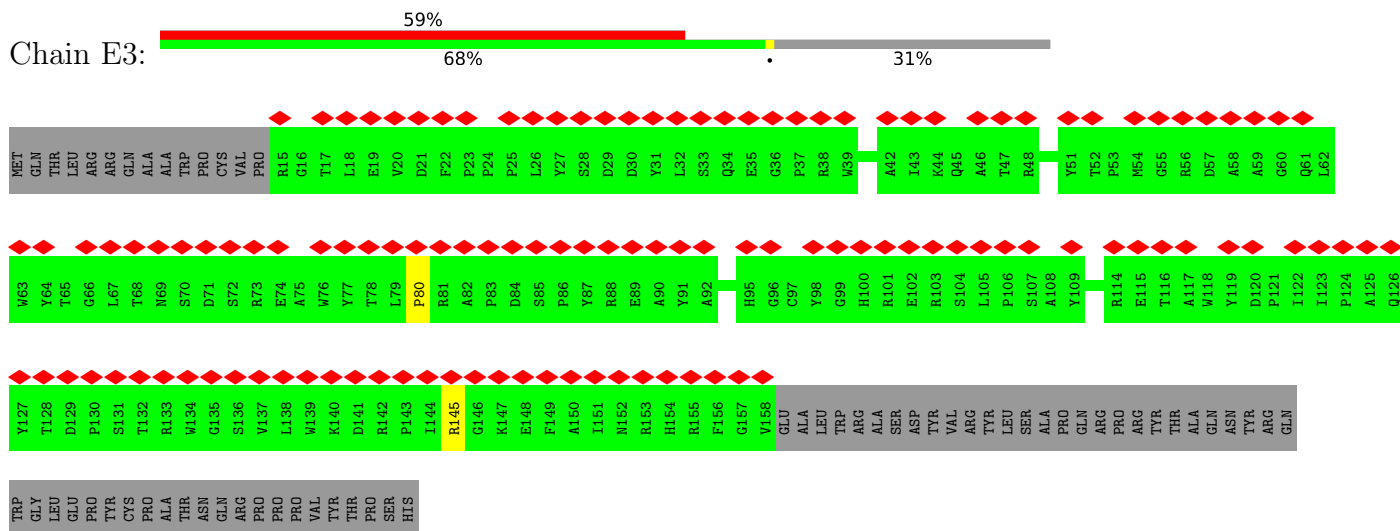


• Molecule 16: TEK TIP1

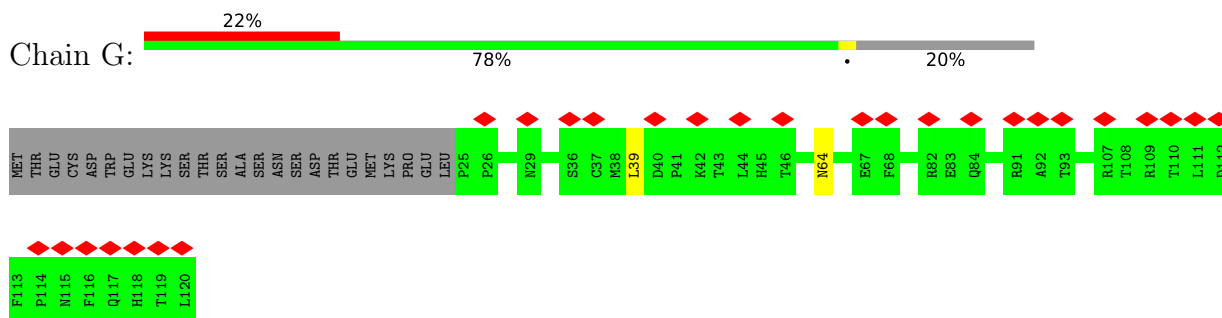


• Molecule 16: TEK TIP1

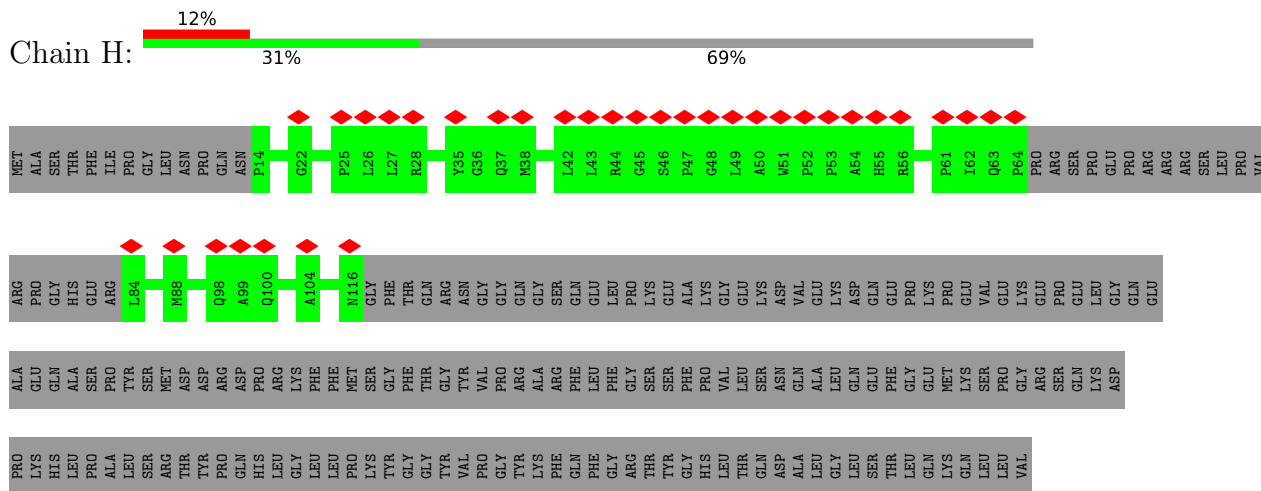




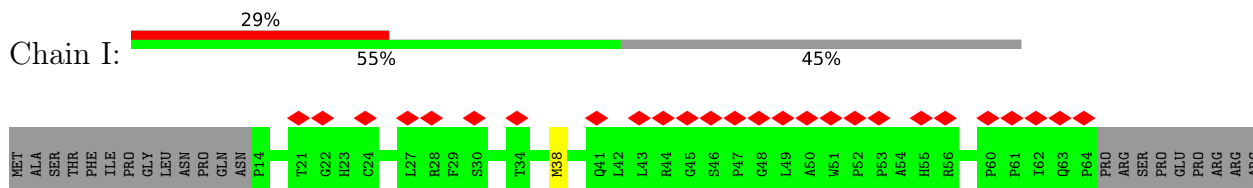
● Molecule 17: Pierce2

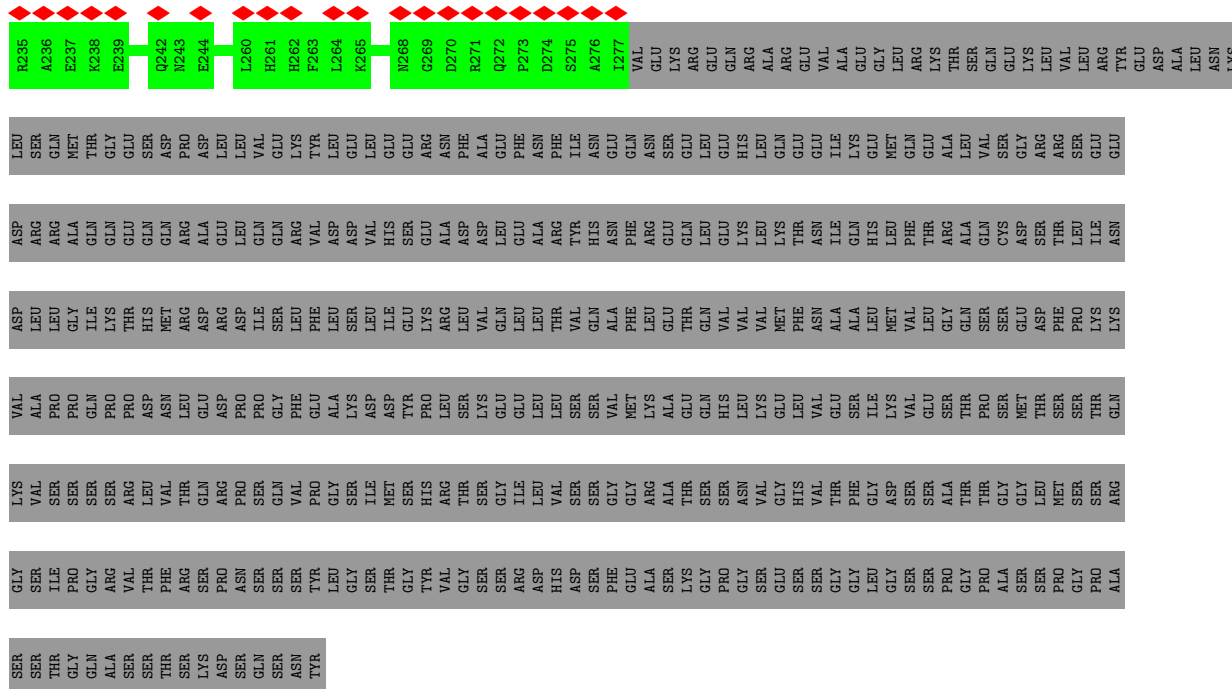


● Molecule 18: Protein FAM166B

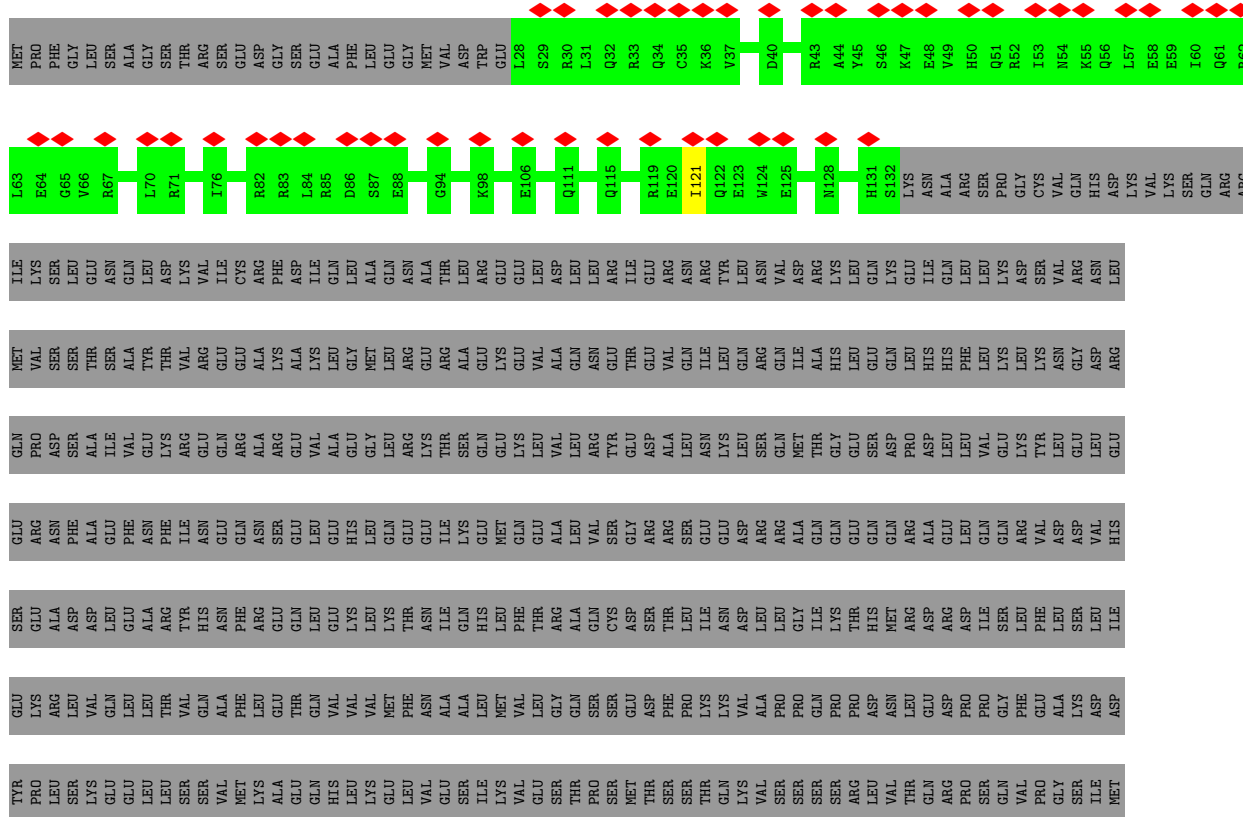


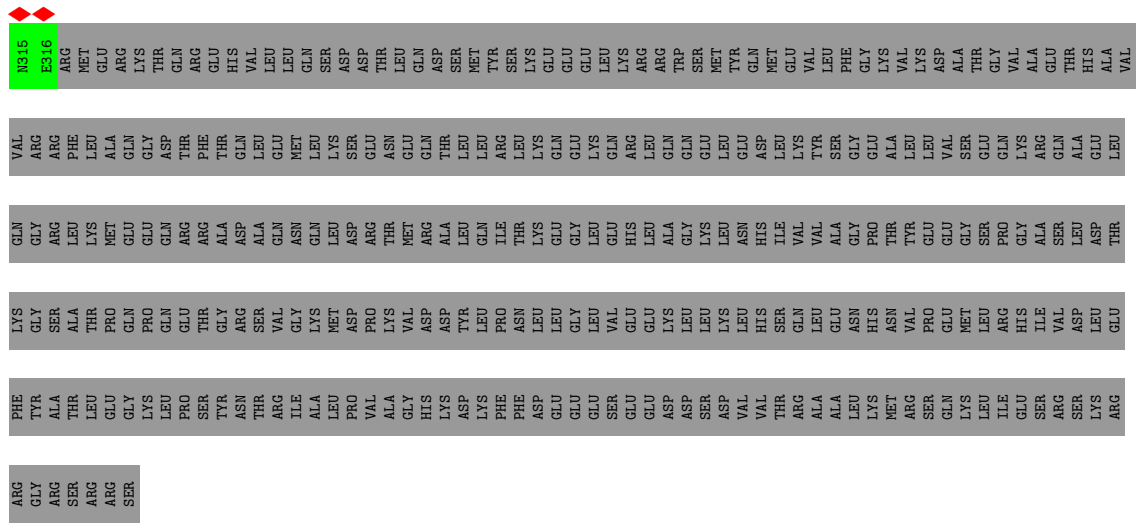
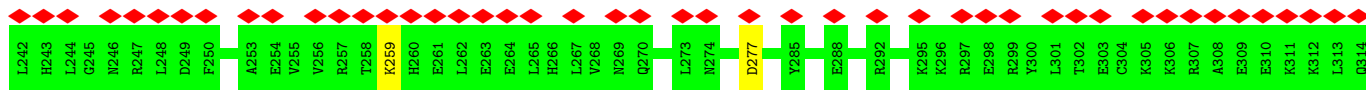
● Molecule 18: Protein FAM166B



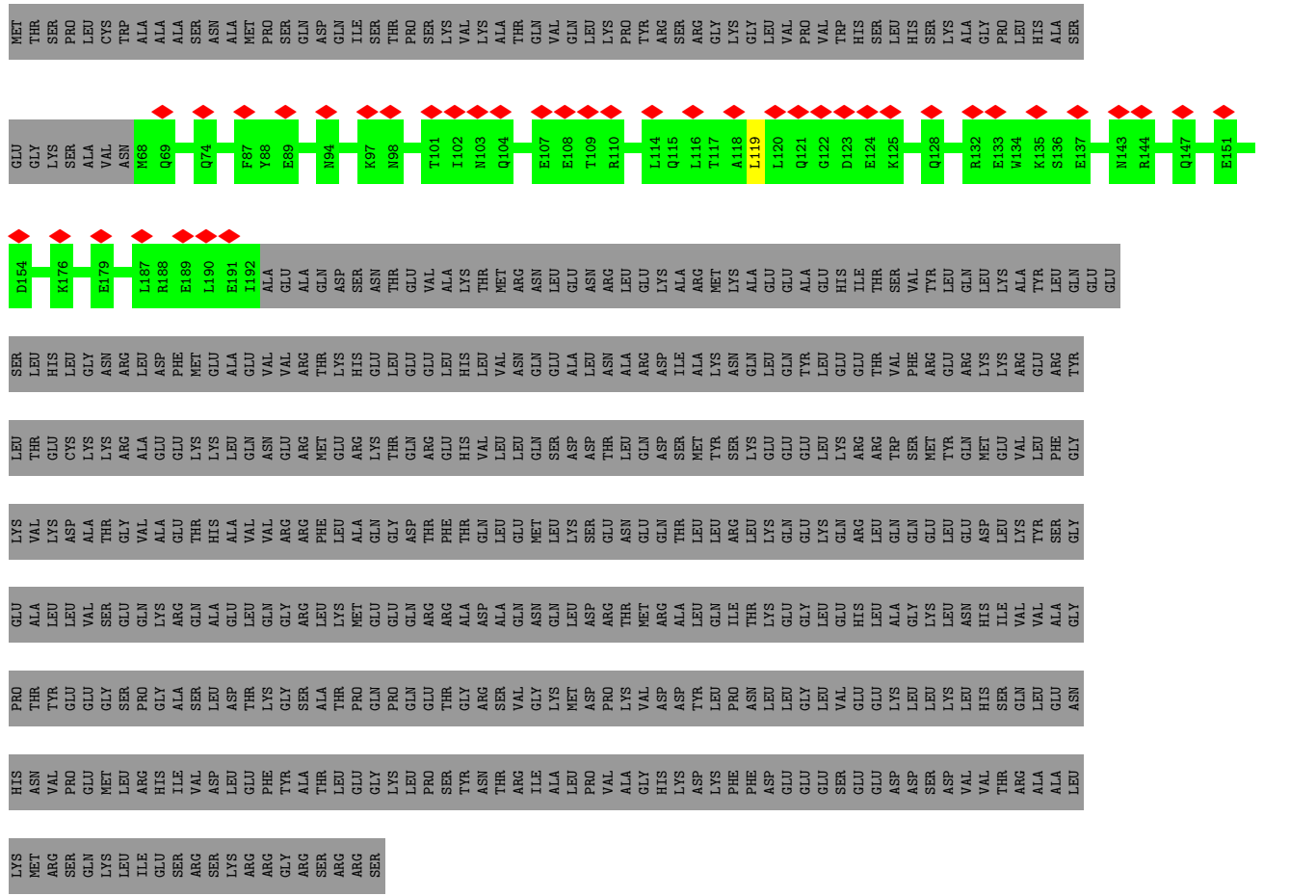


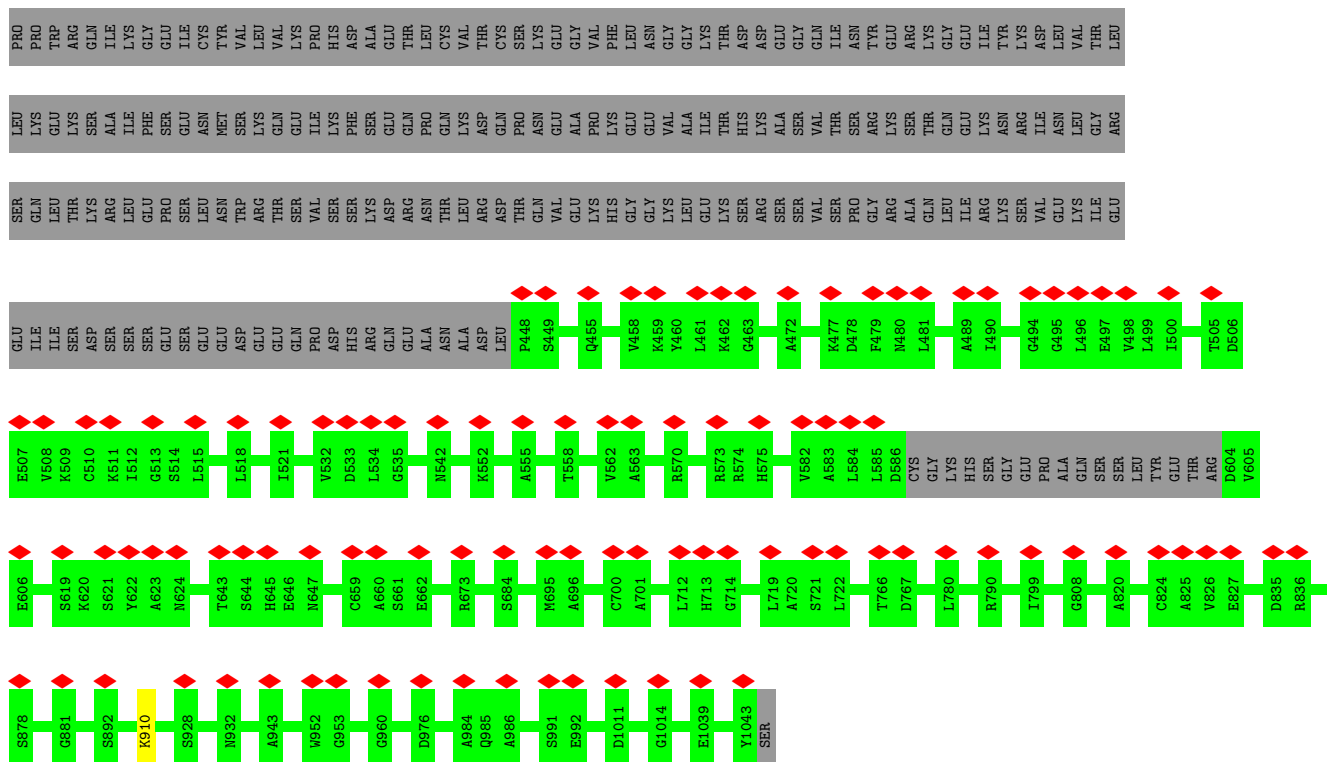
● Molecule 19: Coiled-coil domain containing 114



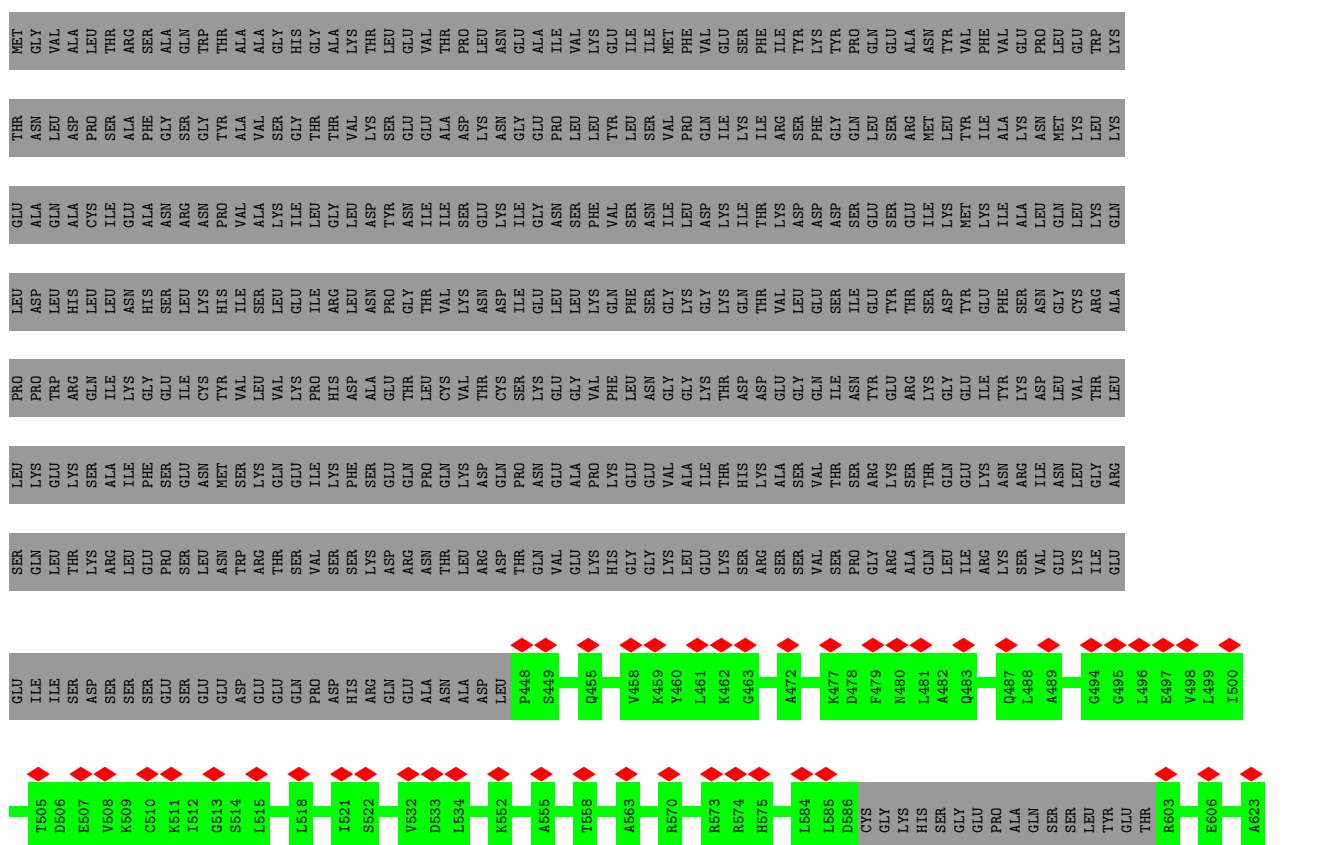


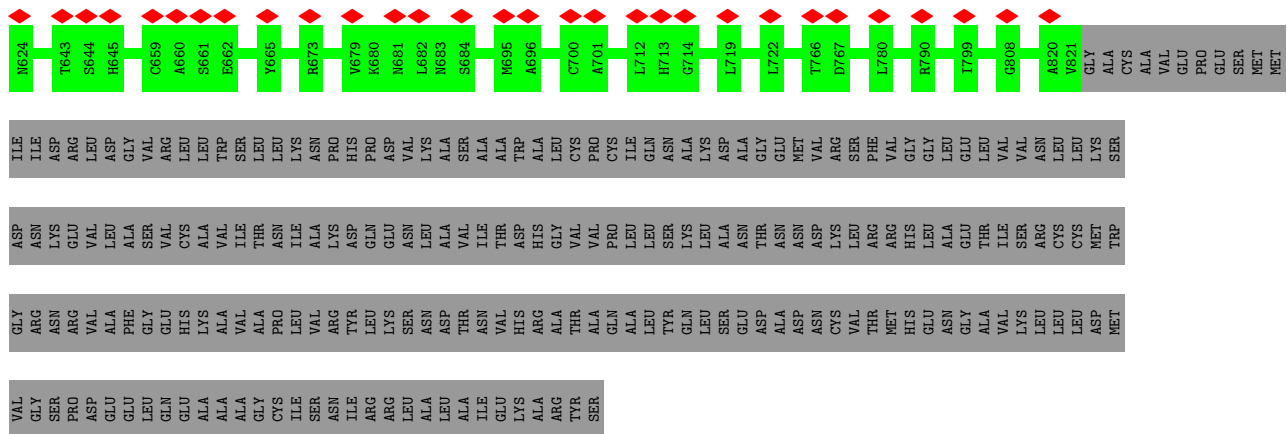
● Molecule 20: Outer dynein arm-docking complex subunit 3



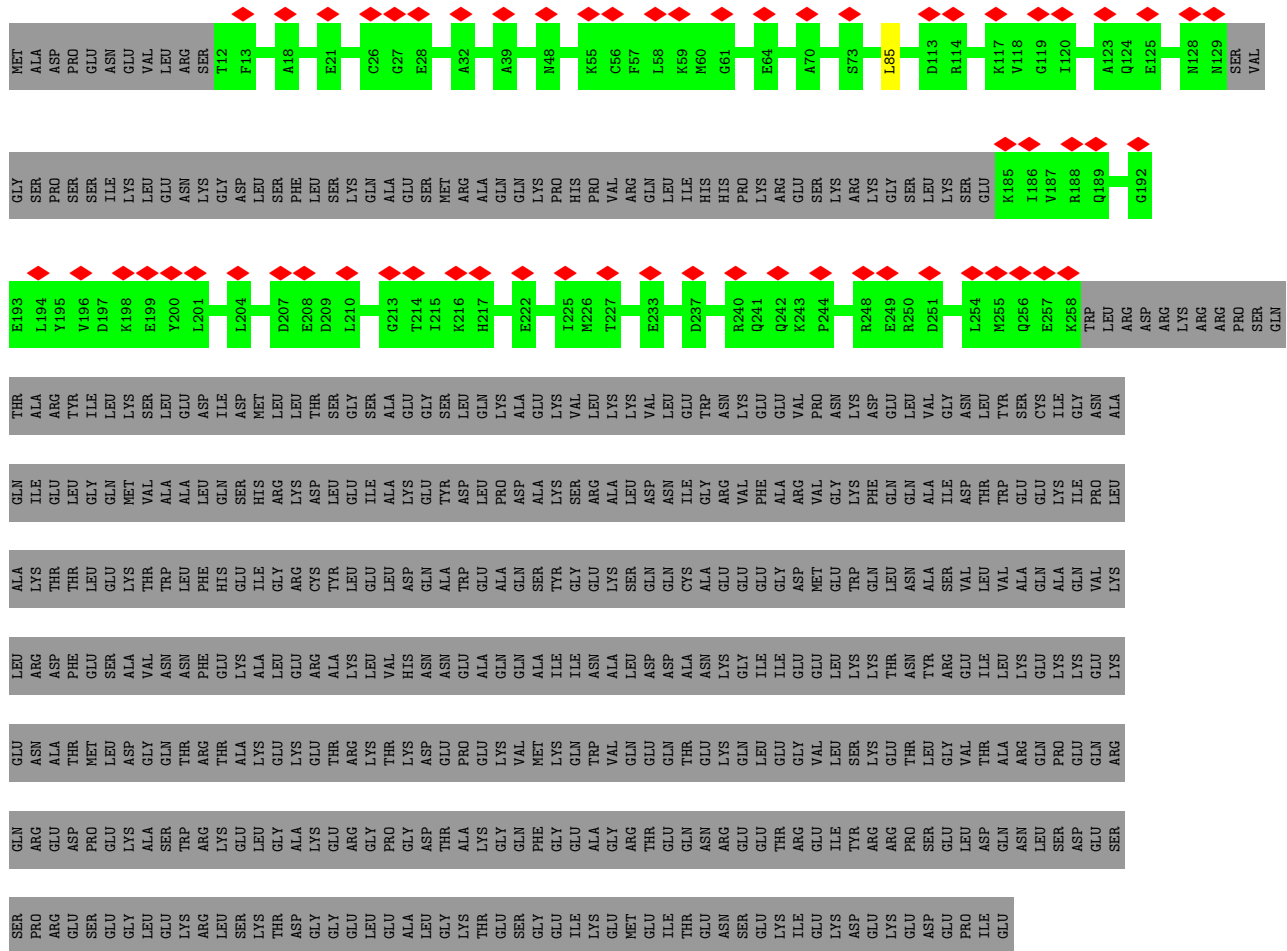


• Molecule 21: Armadillo repeat containing 4



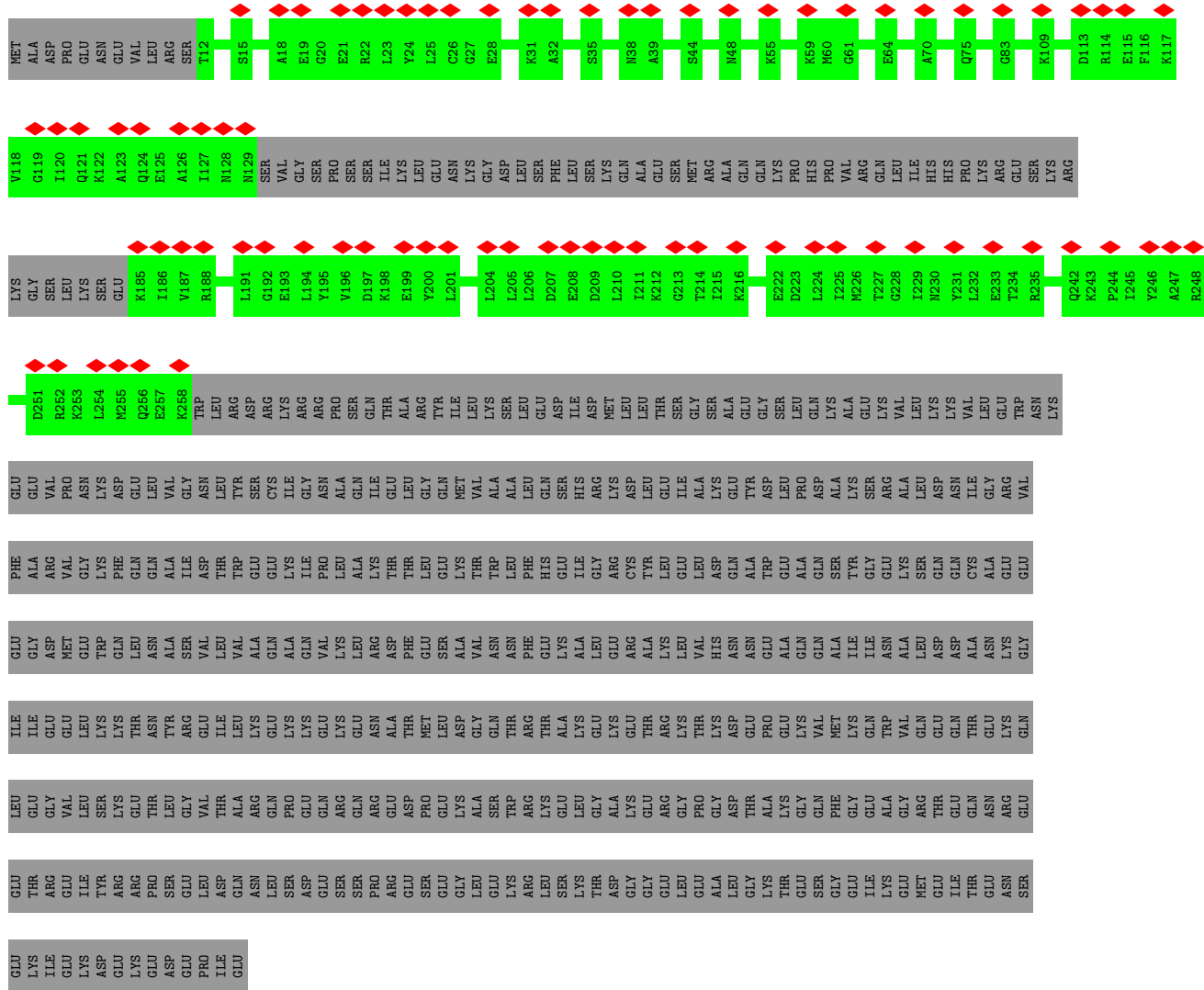


• Molecule 22: TTC25 protein

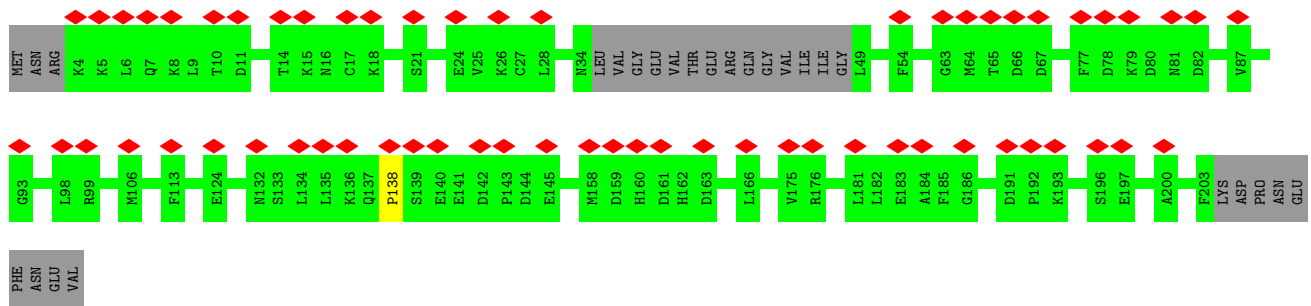
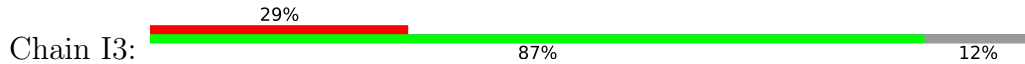


• Molecule 22: TTC25 protein

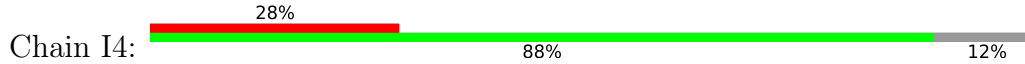


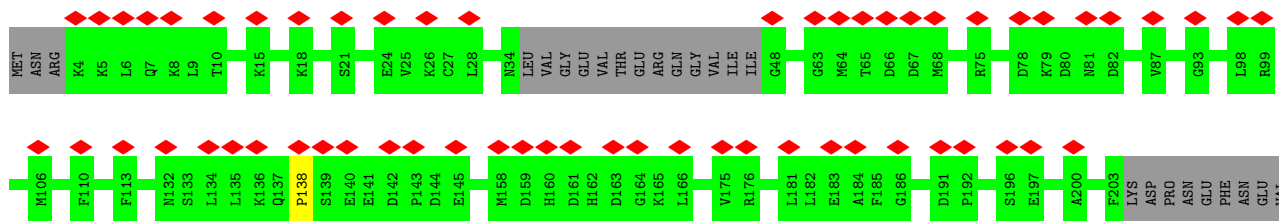


• Molecule 23: EF-hand calcium-binding domain-containing protein 1

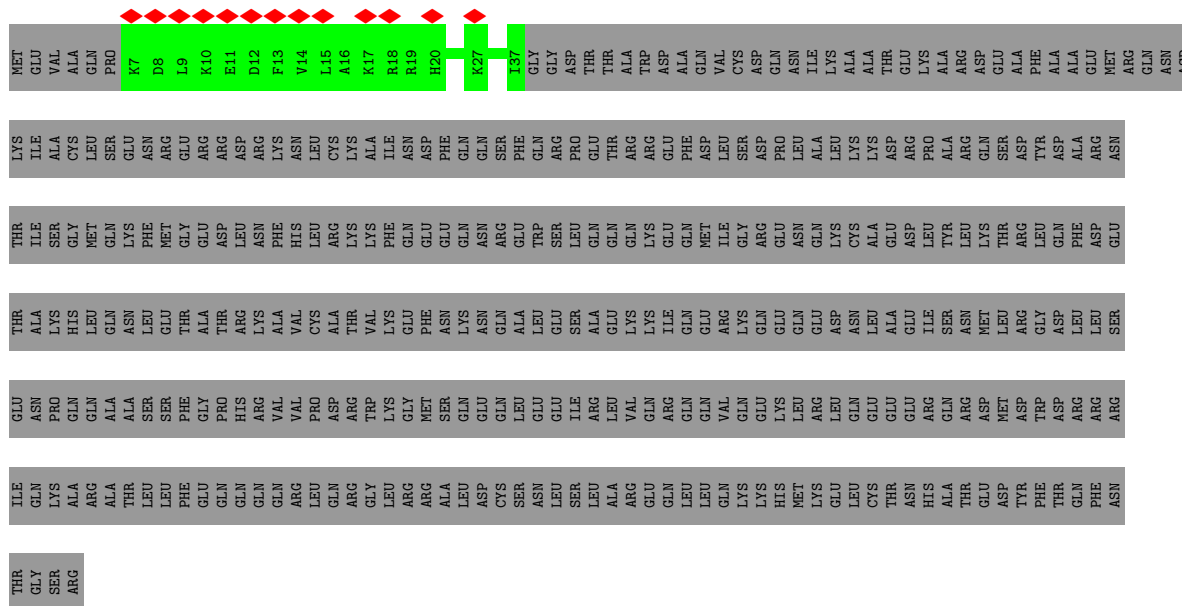


• Molecule 23: EF-hand calcium-binding domain-containing protein 1

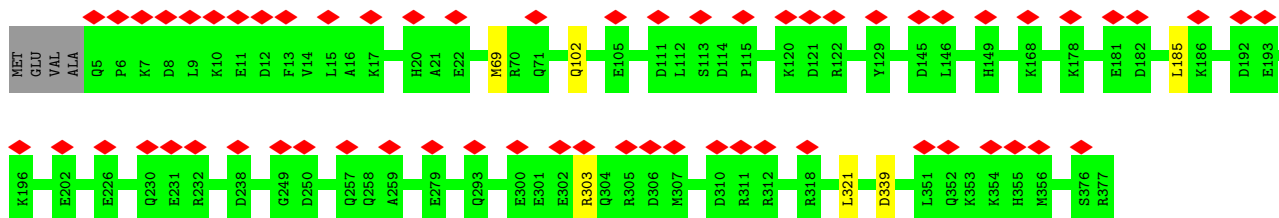




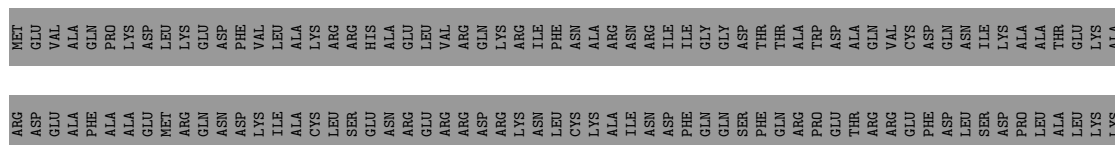
• Molecule 24: RIB43A-like with coiled-coils protein 2

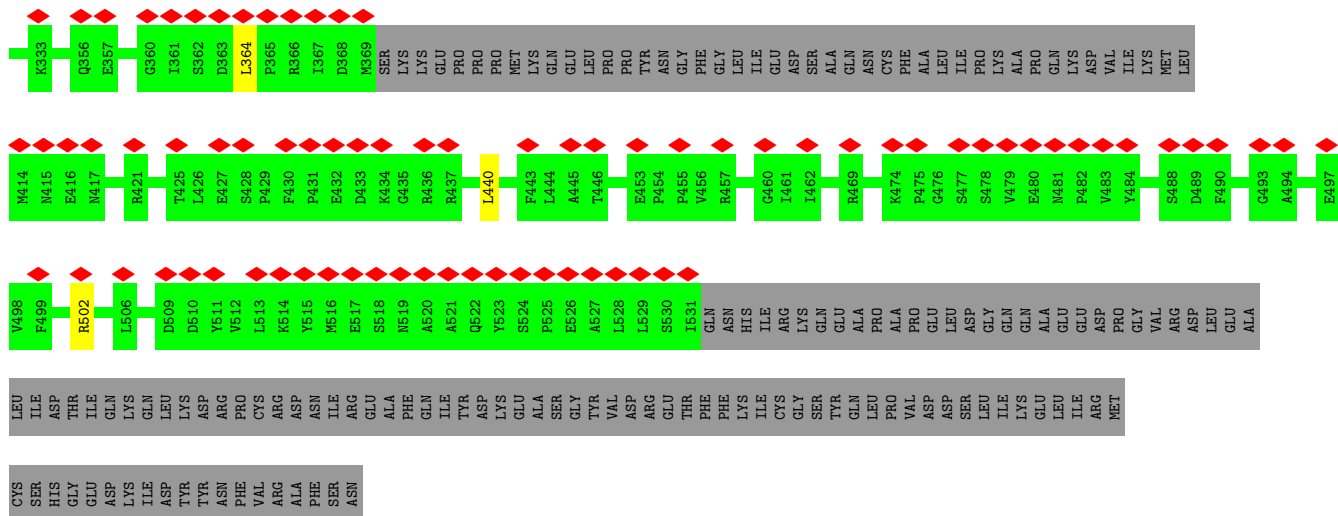


• Molecule 24: RIB43A-like with coiled-coils protein 2

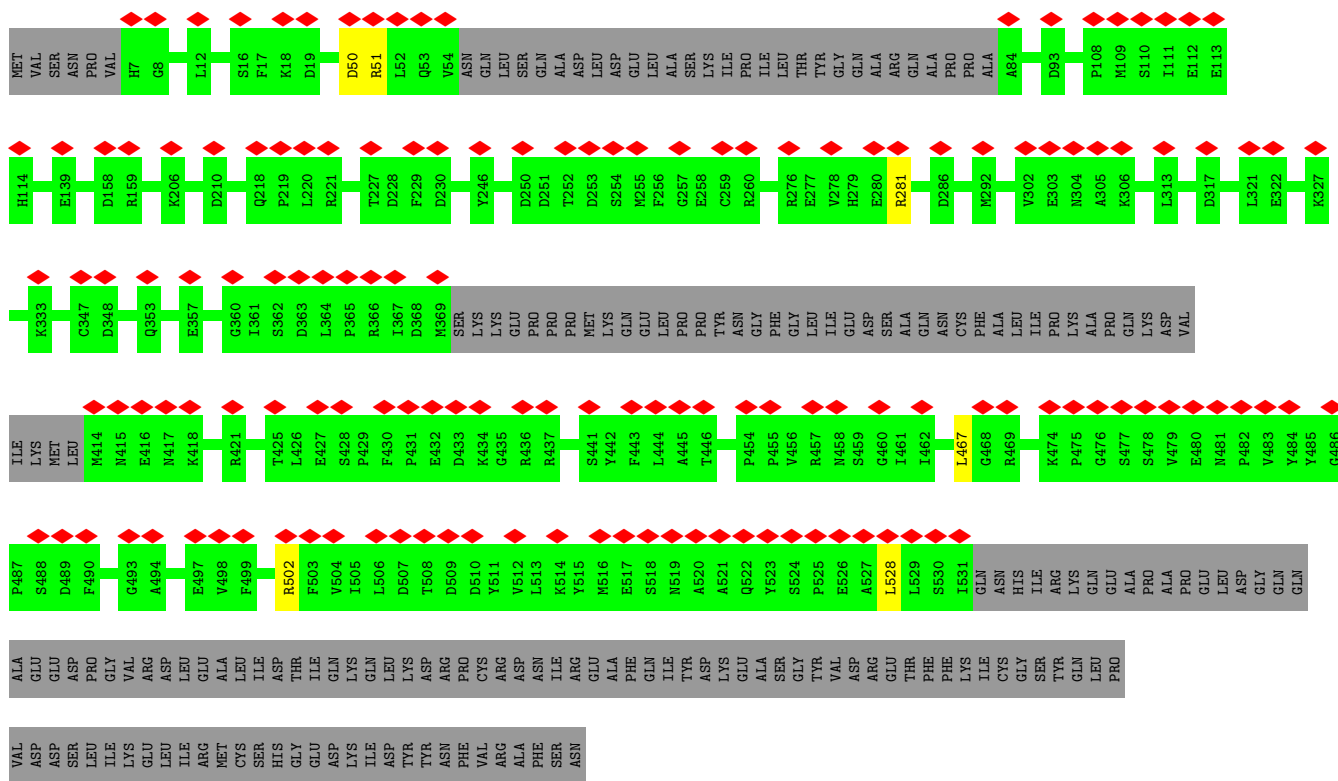


• Molecule 24: RIB43A-like with coiled-coils protein 2

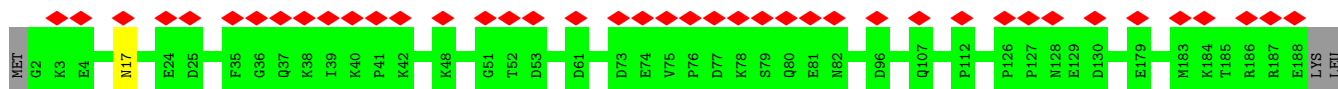
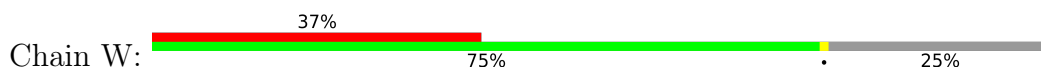


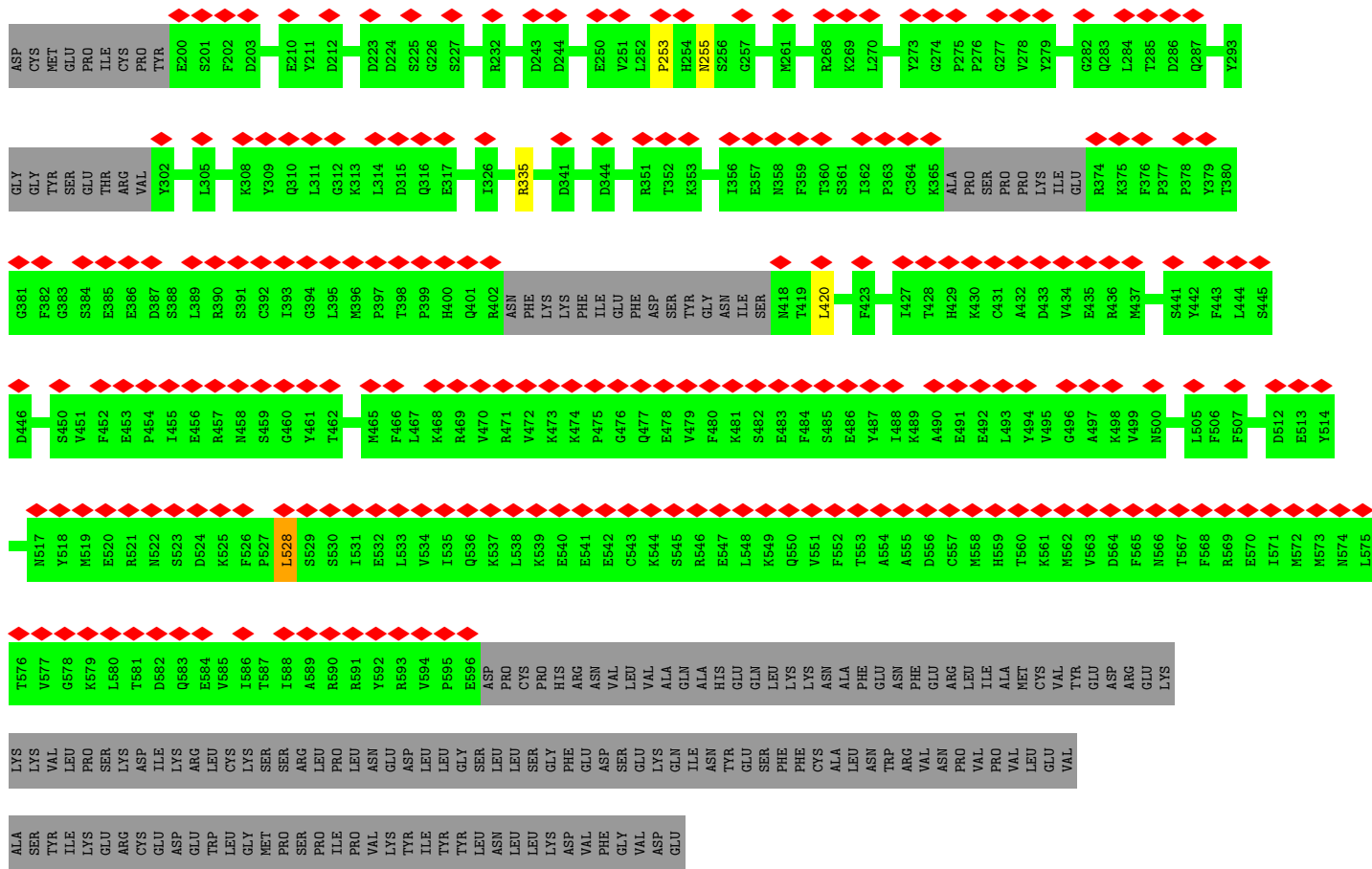


• Molecule 25: EF-hand domain containing 1

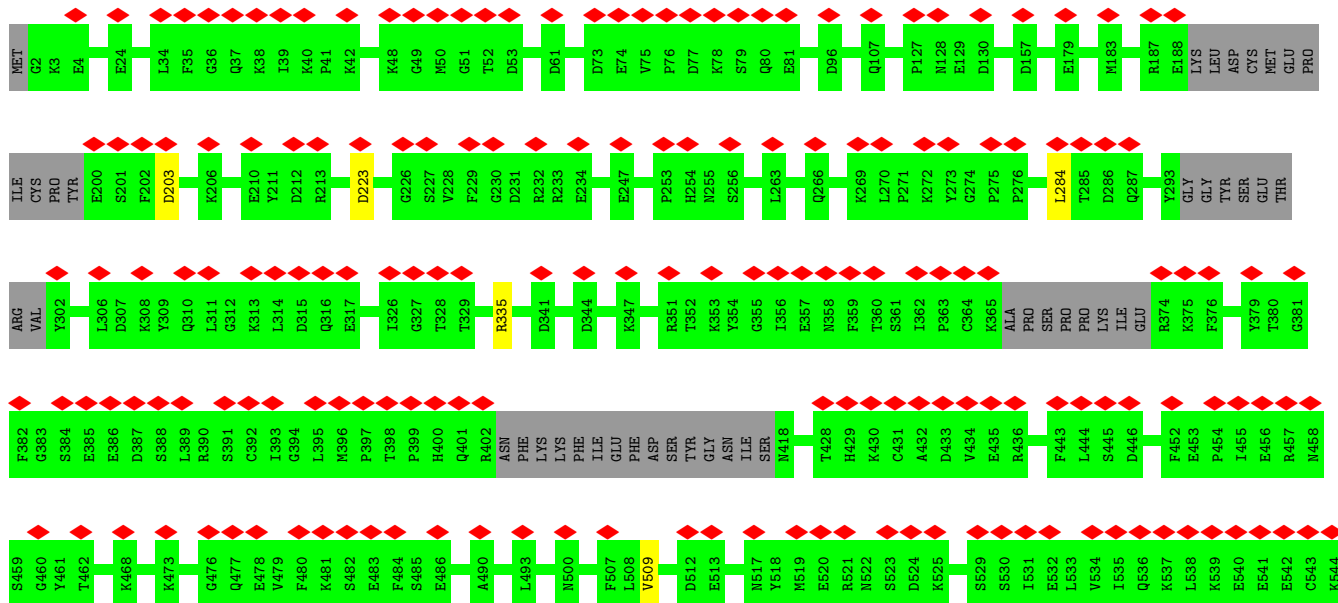
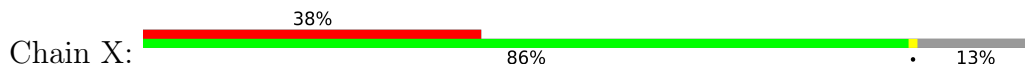


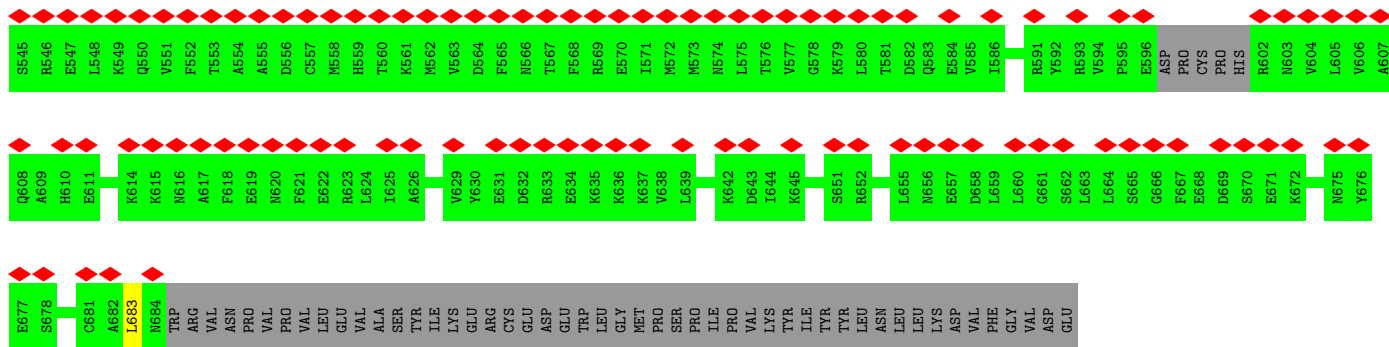
• Molecule 26: EFHC2



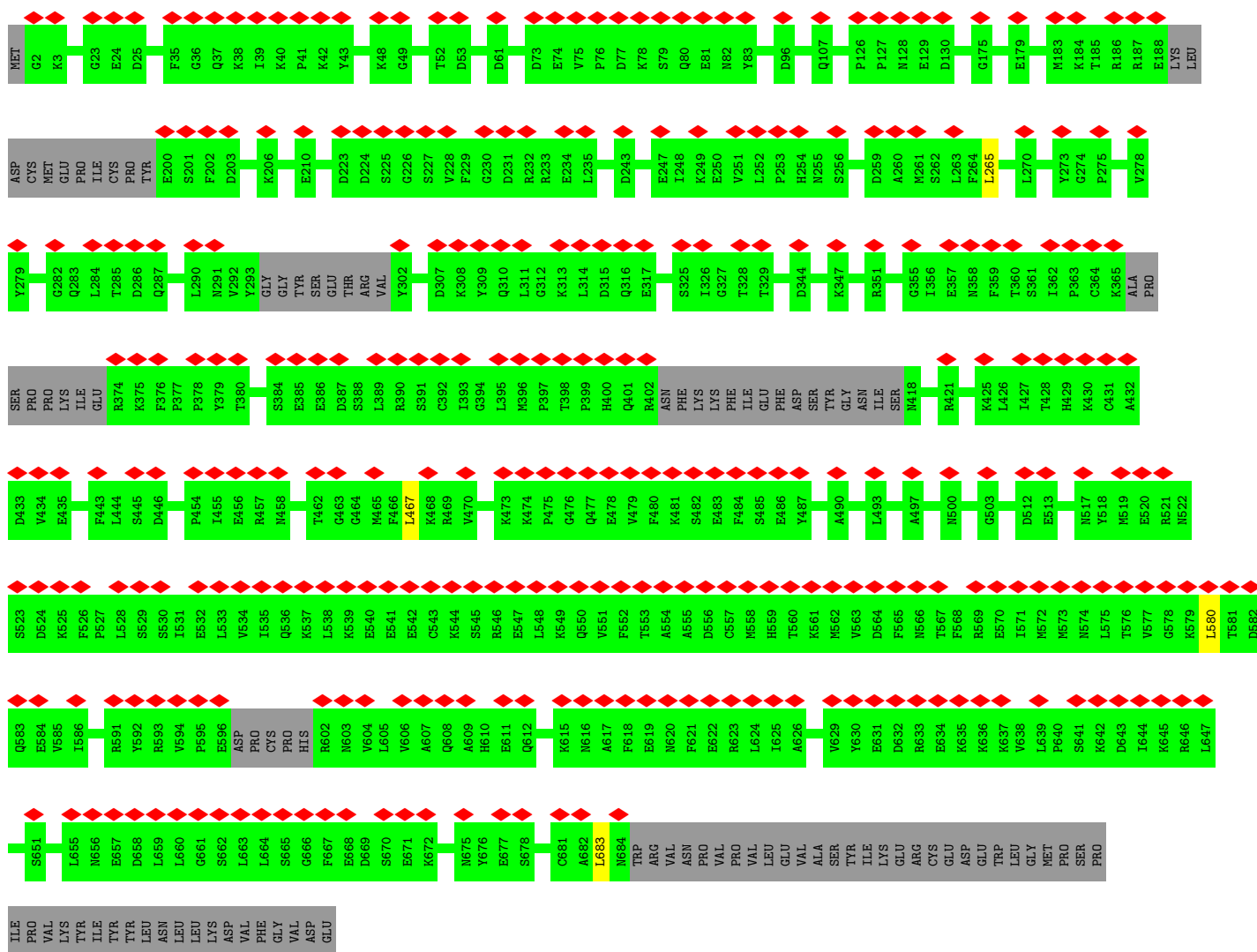
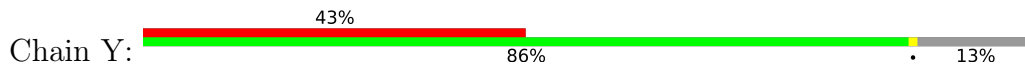


● Molecule 26: EFHC2



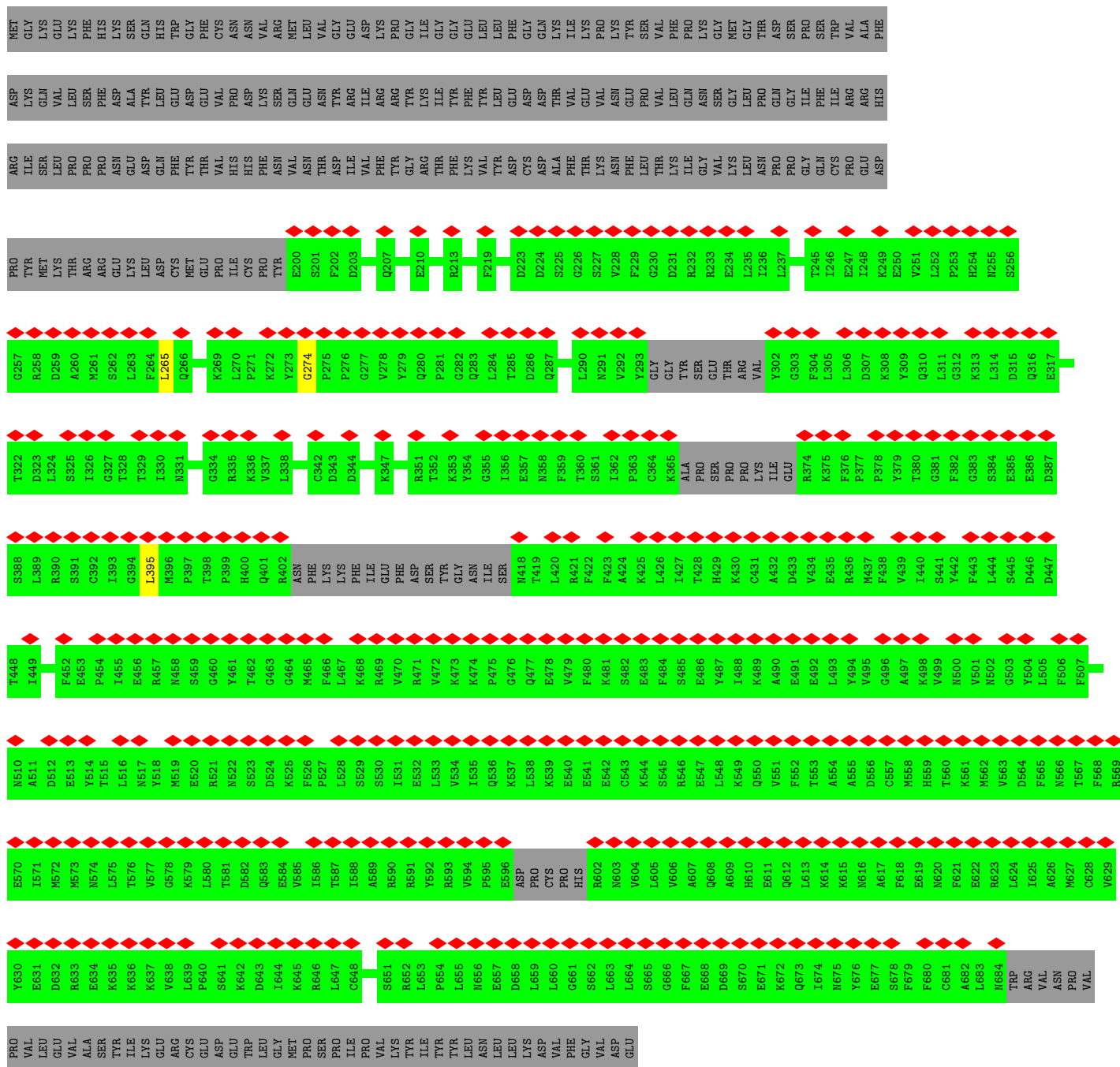


• Molecule 26: EFHC2

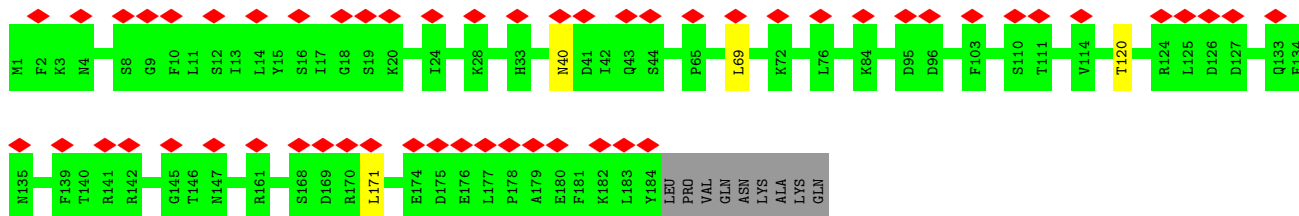


• Molecule 26: EFHC2

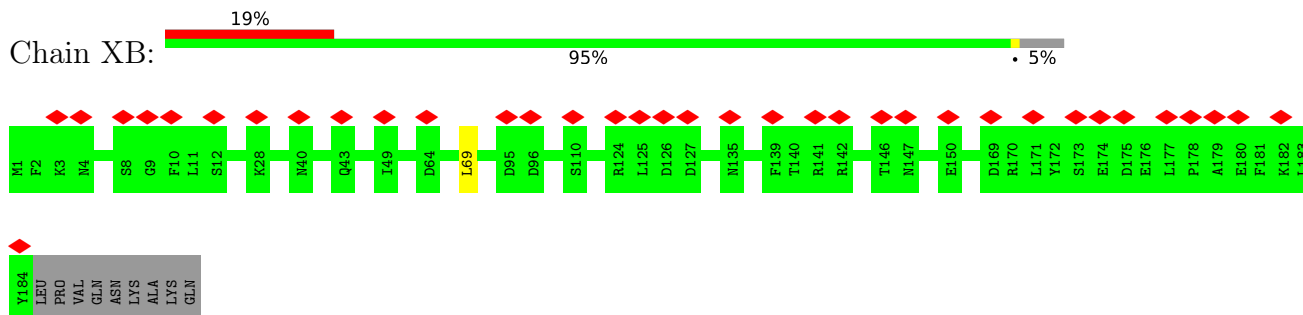




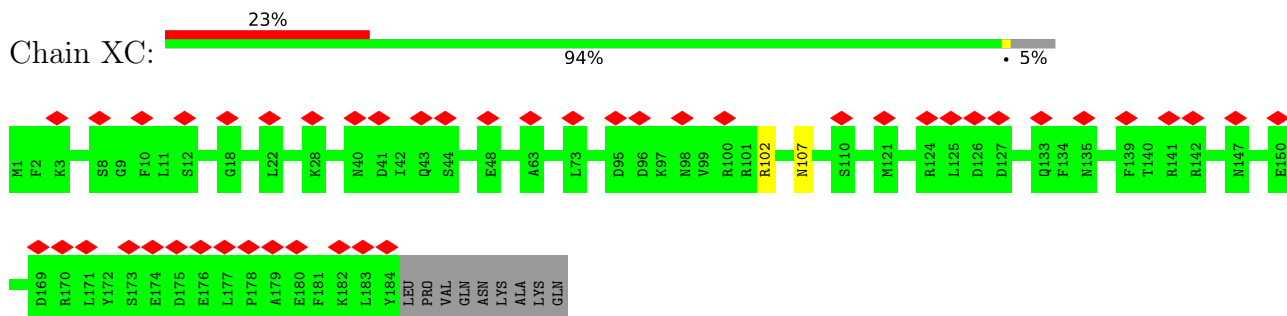
• Molecule 27: Cilia- and flagella-associated protein 20



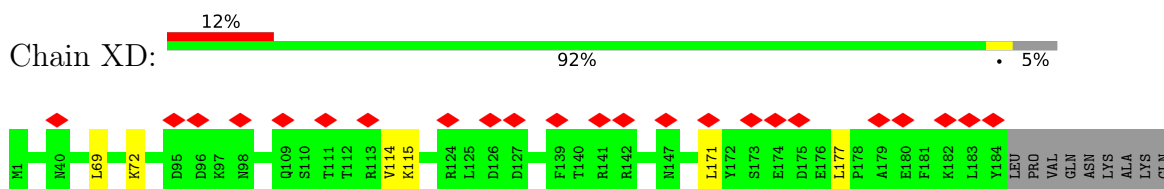
• Molecule 27: Cilia- and flagella-associated protein 20



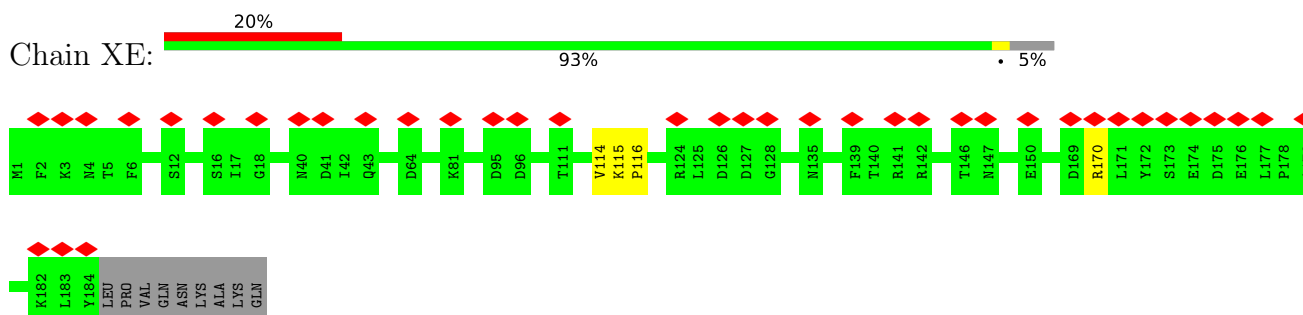
• Molecule 27: Cilia- and flagella-associated protein 20



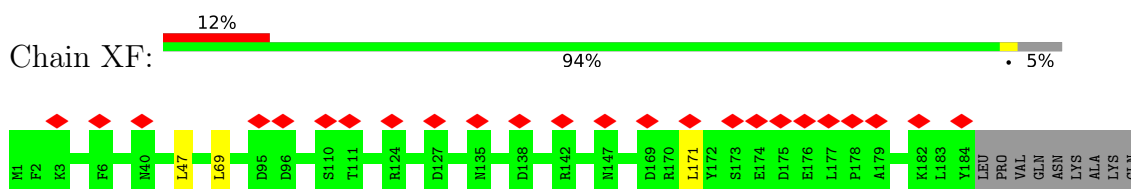
• Molecule 27: Cilia- and flagella-associated protein 20



• Molecule 27: Cilia- and flagella-associated protein 20

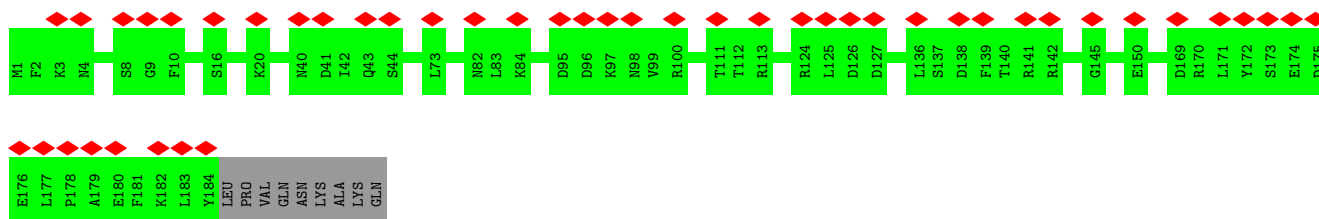


• Molecule 27: Cilia- and flagella-associated protein 20



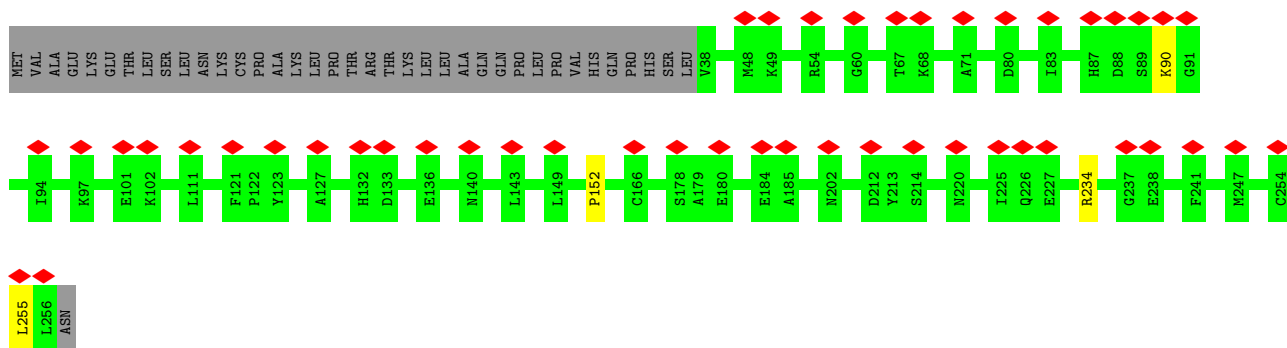
• Molecule 27: Cilia- and flagella-associated protein 20

Chain XG: 24% 95% 5%



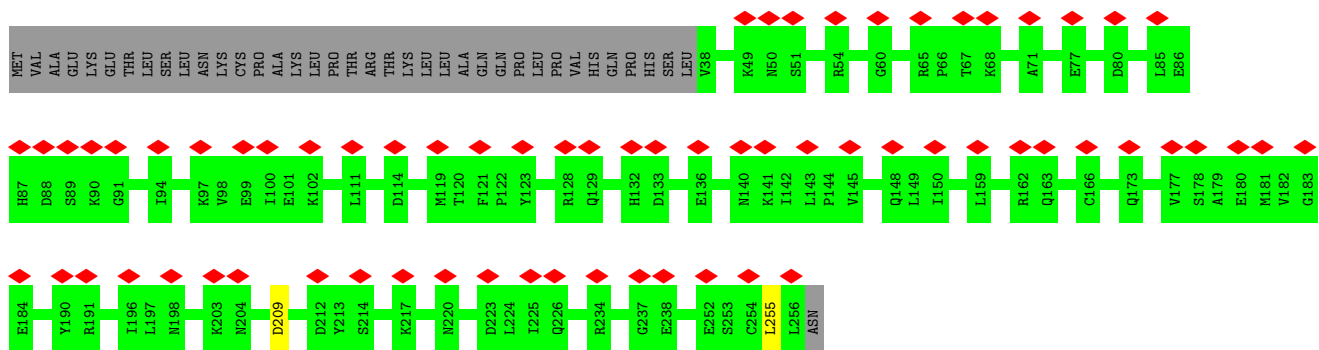
- Molecule 28: PACRG protein

Chain YB: 18% 84% 15%



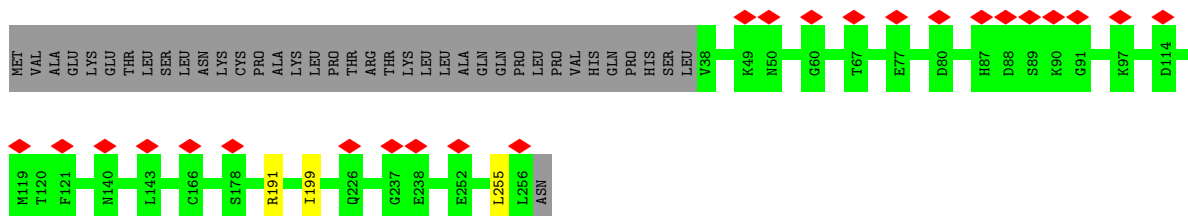
- Molecule 28: PACRG protein

Chain YC: 26% 84% 15%

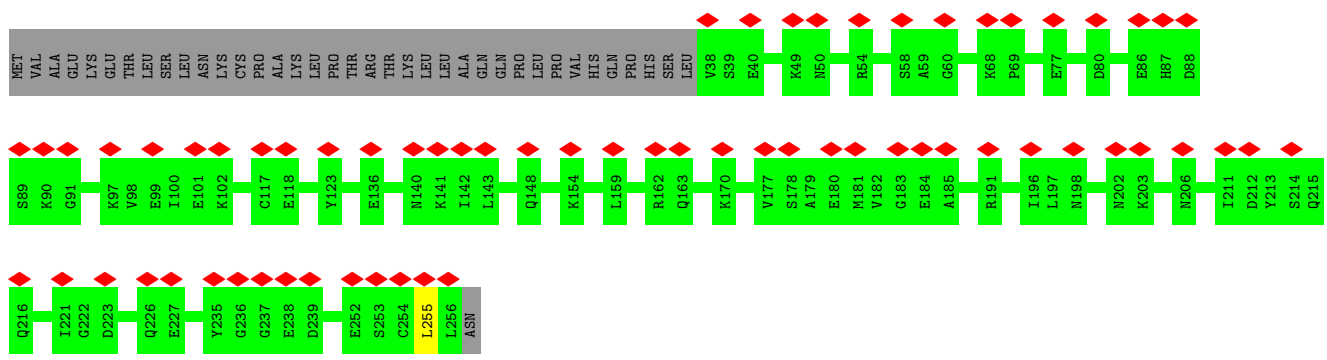
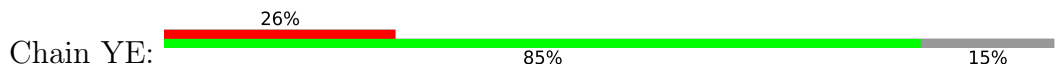


- Molecule 28: PACRG protein

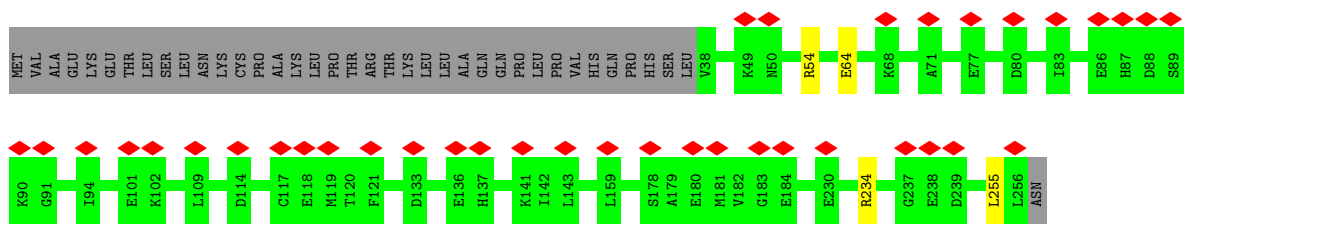
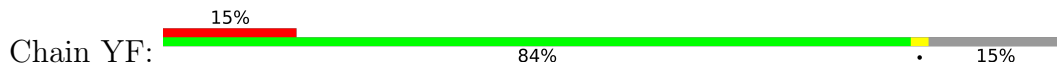
Chain YD: 9% 84% 15%



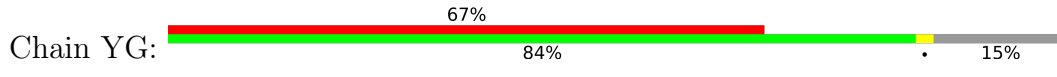
• Molecule 28: PACRG protein



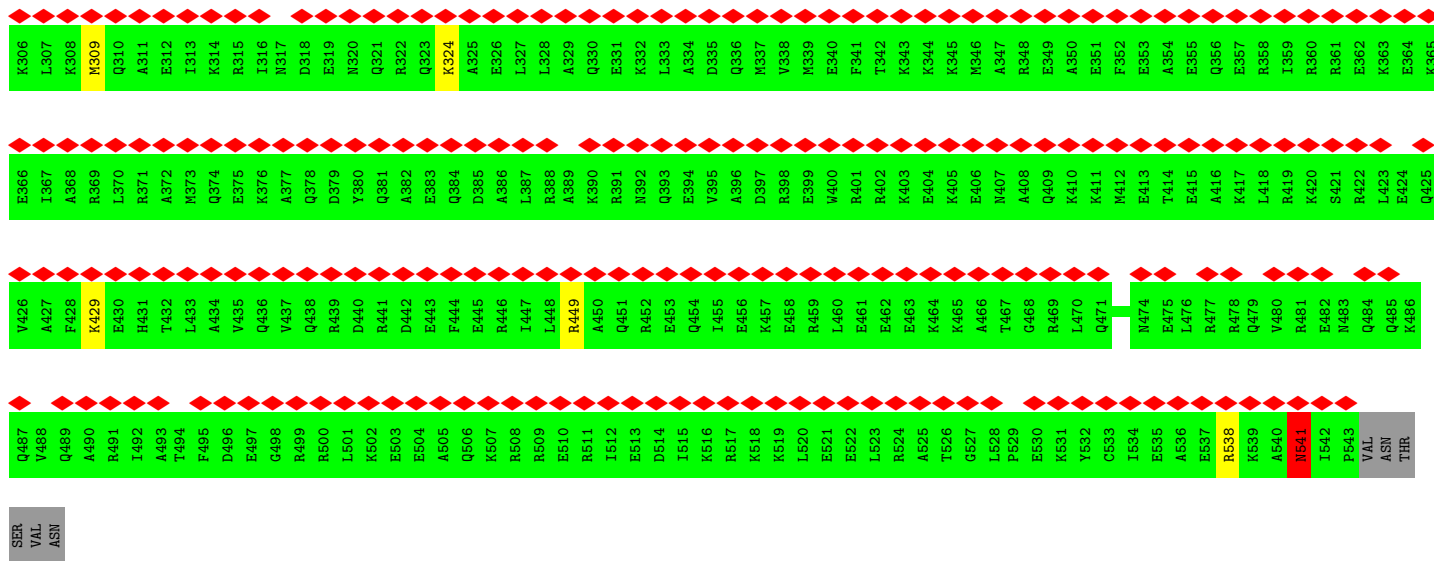
• Molecule 28: PACRG protein



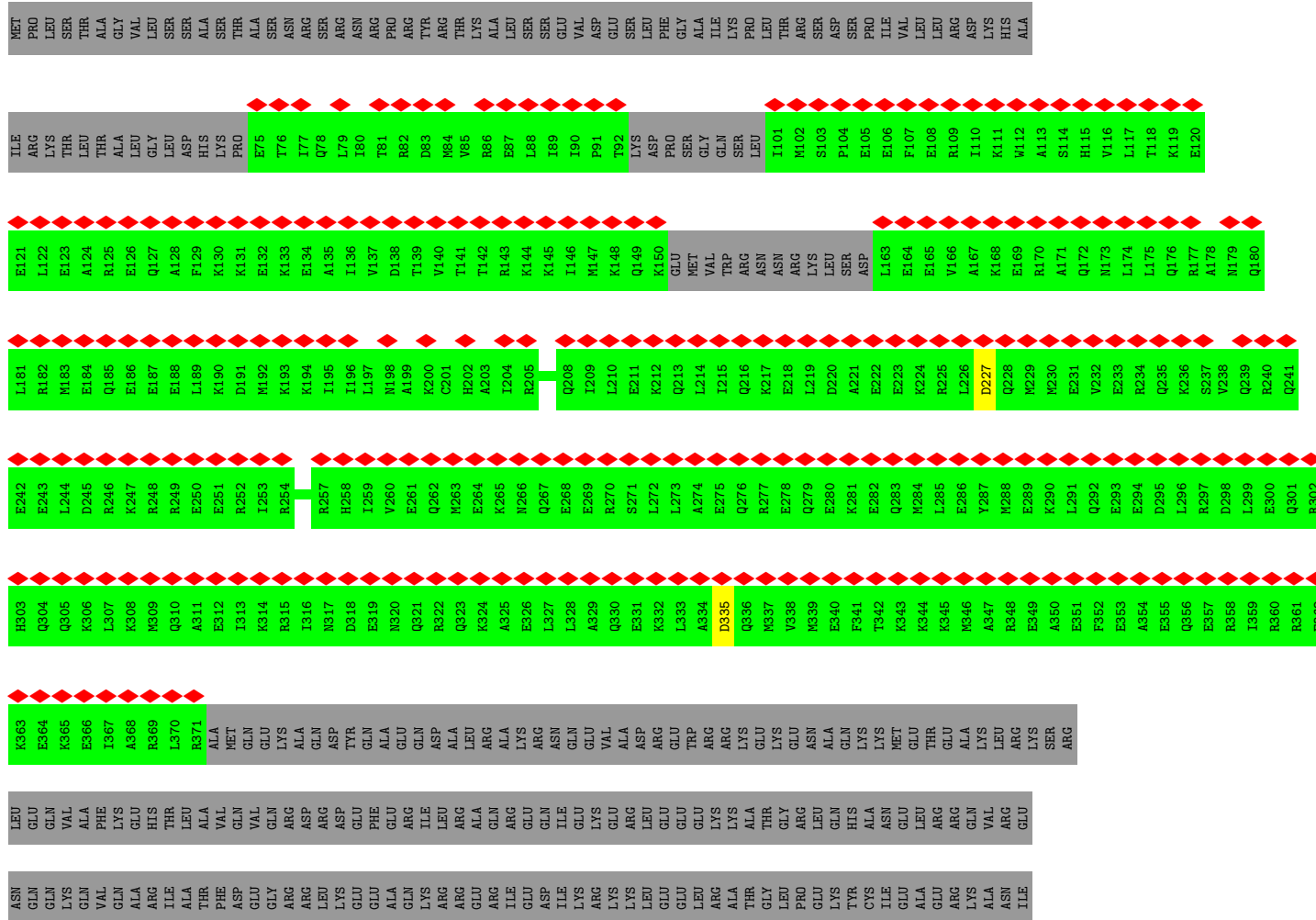
• Molecule 28: PACRG protein

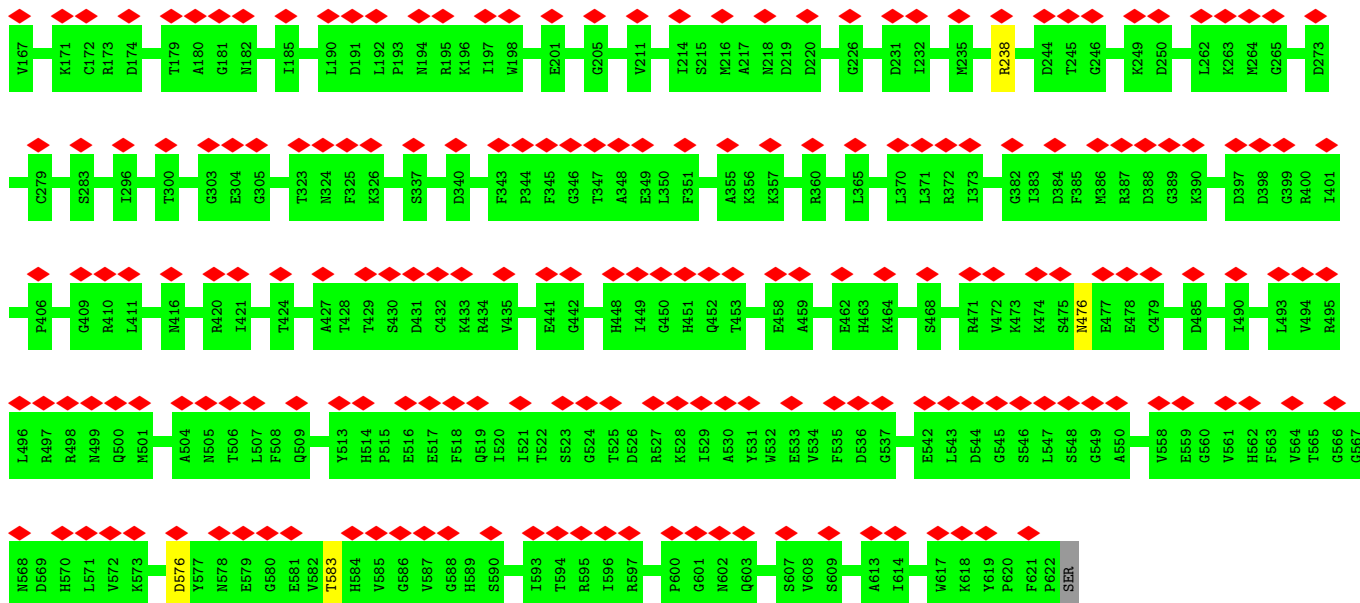


• Molecule 29: Cilia and flagella associated protein 45

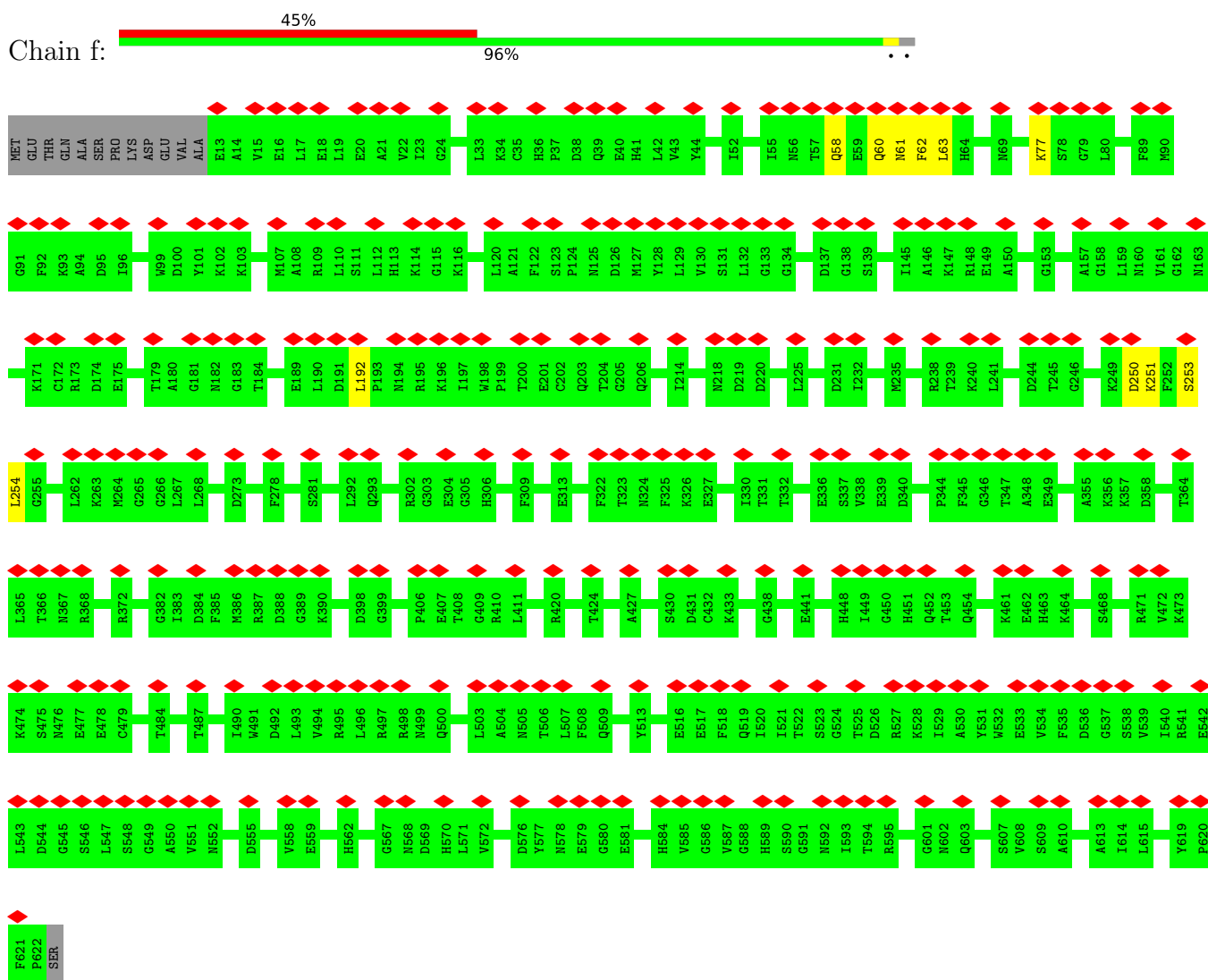


● Molecule 29: Cilia and flagella associated protein 45





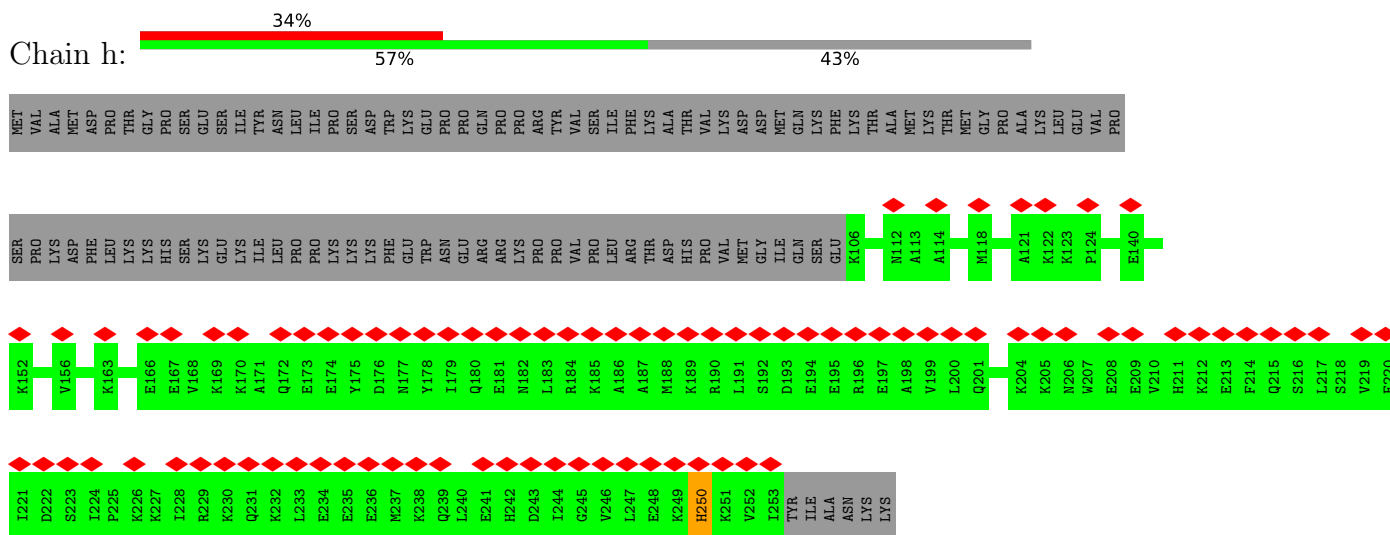
• Molecule 30: Cilia and flagella associated protein 52



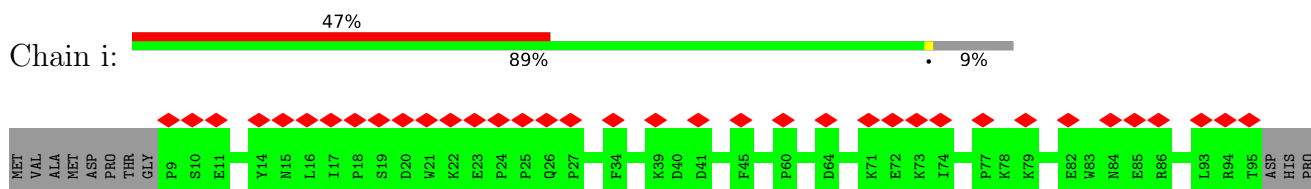
- Molecule 30: Cilia and flagella associated protein 52

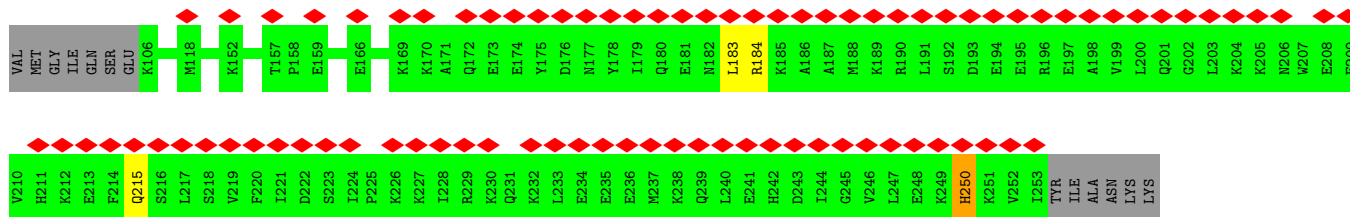


- Molecule 31: Enkurin, TRPC channel interacting protein

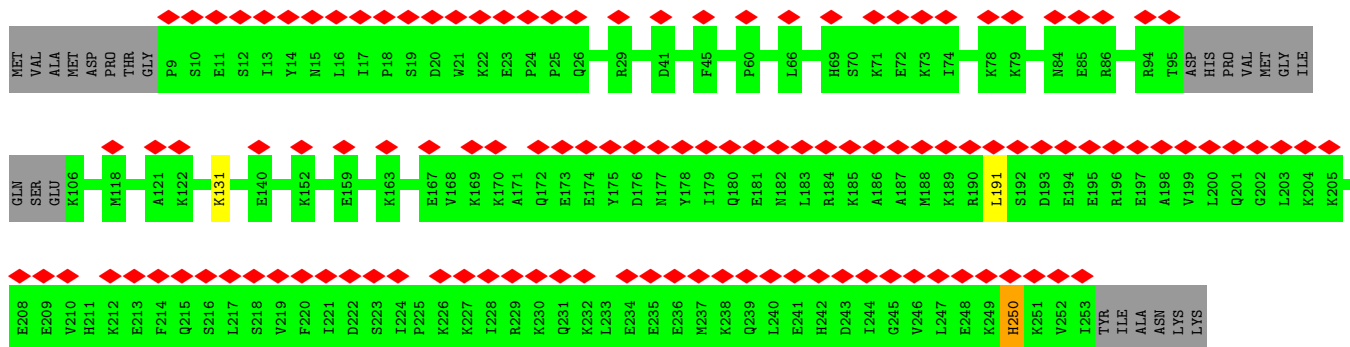
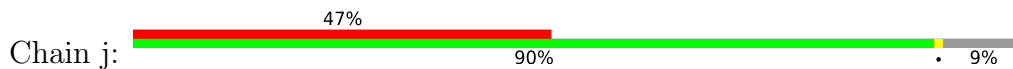


- Molecule 31: Enkurin, TRPC channel interacting protein

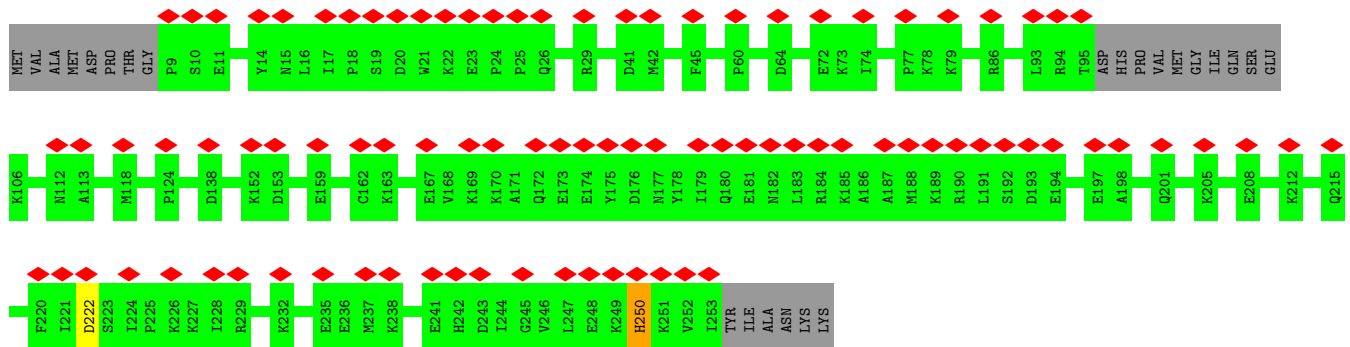
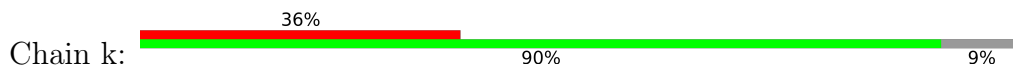




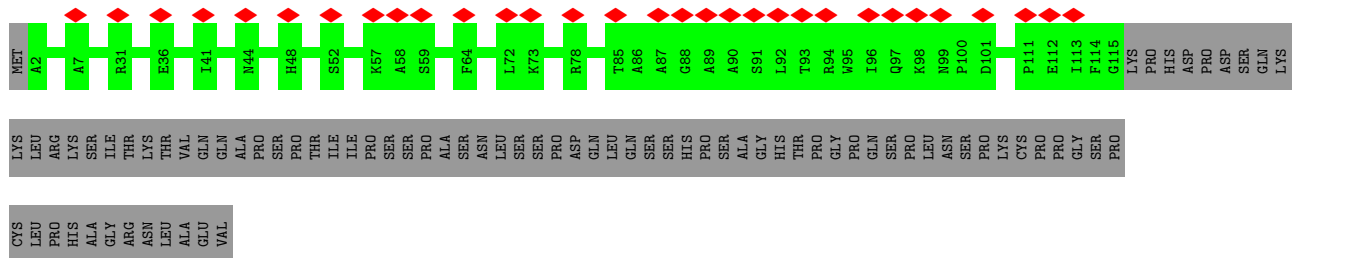
• Molecule 31: Enkurin, TRPC channel interacting protein



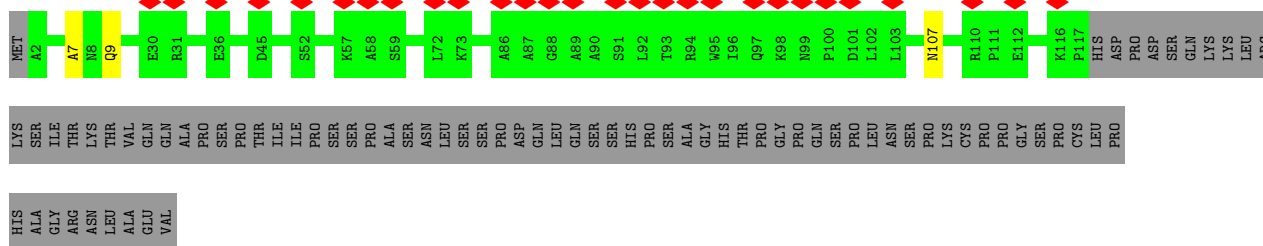
• Molecule 31: Enkurin, TRPC channel interacting protein



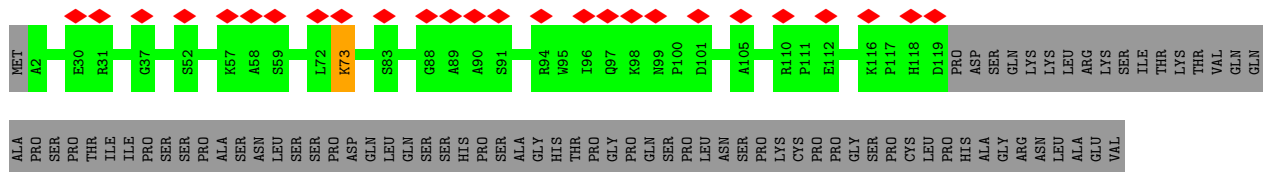
• Molecule 32: Protein Flattop



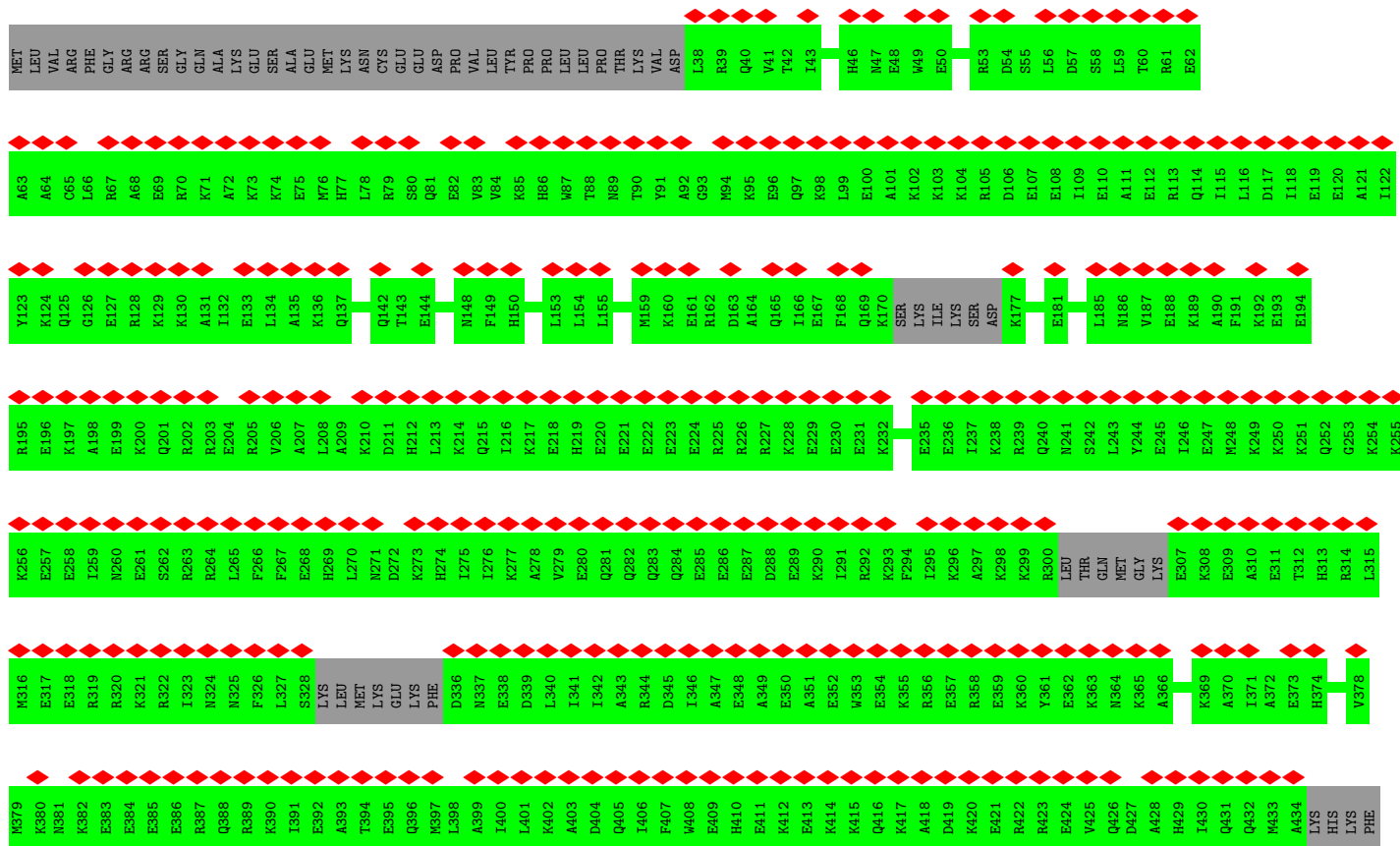
• Molecule 32: Protein Flattop



• Molecule 32: Protein Flattop



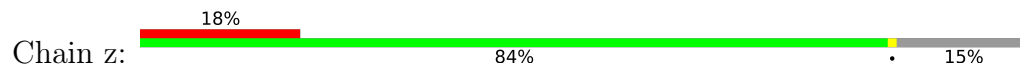
• Molecule 33: Coiled-coil domain containing 173



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

GLN ALA TYR GLY SER ARG ALA PRO THR VAL HIS GLU MET P74 R86 N96 K105 D112 Y118 D119 R120 L121 R131 I134 C136 D136

• Molecule 36: Pierce1



MET SER GLU TYR GLY ASP PRO LYS ALA CYS THR VAL HIS GLU PRO GLU GLU PRO LYS ALA GLY PRO PRO PRO E22 K23 D26 R29 E32 D33 T49 K50 E51 F52 F53 R57 N60 Q61 A62 R66 G91 M103 E104 K105 D112 L121 R131 P132 S133 I134 C135

D136

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	80503	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 ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	49.832	Depositor
Minimum map value	0.000	Depositor
Average map value	0.284	Depositor
Map value standard deviation	1.458	Depositor
Recommended contour level	7.0	Depositor
Map size (Å)	732.48004, 732.48004, 732.48004	wwPDB
Map dimensions	672, 672, 672	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.09, 1.09, 1.09	Depositor

5 Model quality i

5.1 Standard geometry i

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	0	0.37	0/337	0.56	0/452
1	7	0.39	0/820	0.60	1/1122 (0.1%)
2	1	0.33	0/933	0.56	0/1284
2	2	0.27	0/1528	0.48	0/2114
3	3	0.40	0/2303	0.58	2/3079 (0.1%)
3	4	0.43	0/1868	0.66	0/2471
4	5	0.33	0/2575	0.64	0/3508
4	6	0.35	0/3011	0.67	2/4065 (0.0%)
5	8	0.40	0/1671	0.74	2/2285 (0.1%)
5	9	0.34	0/294	0.54	0/398
6	A	0.38	0/1433	0.67	4/1901 (0.2%)
6	B	0.44	1/3071 (0.0%)	0.66	1/4071 (0.0%)
7	A0	0.43	0/1815	0.60	1/2442 (0.0%)
7	A1	0.44	0/3298	0.57	1/4442 (0.0%)
7	A2	0.45	0/3278	0.63	3/4415 (0.1%)
7	A3	0.43	0/2792	0.61	4/3754 (0.1%)
7	A4	0.42	0/296	0.59	0/397
8	AA	0.50	0/3500	0.73	1/4751 (0.0%)
8	AC	0.55	0/3515	0.73	4/4771 (0.1%)
8	AE	0.49	0/3515	0.70	4/4771 (0.1%)
8	AG	0.56	0/3515	0.75	6/4771 (0.1%)
8	AI	0.51	0/3515	0.67	3/4771 (0.1%)
8	AK	0.58	0/3515	0.71	3/4771 (0.1%)
8	AM	0.49	0/3508	0.66	2/4761 (0.0%)
8	BA	0.45	0/3449	0.69	1/4682 (0.0%)
8	BC	0.51	0/3515	0.69	2/4771 (0.0%)
8	BE	0.47	0/3473	0.68	1/4714 (0.0%)
8	BG	0.51	0/3515	0.72	3/4771 (0.1%)
8	BI	0.46	0/3451	0.66	0/4684
8	BK	0.53	0/3508	0.70	1/4761 (0.0%)
8	BM	0.46	0/3449	0.66	2/4681 (0.0%)
8	CA	0.40	0/3500	0.71	5/4751 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
8	CC	0.47	0/3502	0.69	5/4753 (0.1%)
8	CE	0.42	0/3502	0.64	0/4753
8	CG	0.49	0/3508	0.70	4/4761 (0.1%)
8	CI	0.42	0/3508	0.70	4/4761 (0.1%)
8	CK	0.45	0/3508	0.63	0/4761
8	CM	0.41	0/3508	0.67	2/4761 (0.0%)
8	DA	0.38	0/3209	0.74	7/4357 (0.2%)
8	DC	0.40	0/3443	0.68	1/4673 (0.0%)
8	DE	0.41	0/3449	0.69	2/4681 (0.0%)
8	DG	0.45	0/3456	0.74	6/4691 (0.1%)
8	DI	0.43	0/3441	0.73	4/4670 (0.1%)
8	DK	0.43	0/3449	0.72	1/4681 (0.0%)
8	DM	0.39	0/3449	0.69	3/4681 (0.1%)
8	EC	0.42	0/3508	0.70	3/4761 (0.1%)
8	EE	0.41	0/3524	0.72	3/4783 (0.1%)
8	EG	0.44	0/3494	0.72	1/4742 (0.0%)
8	EI	0.42	0/3486	0.77	7/4732 (0.1%)
8	EK	0.43	0/3515	0.76	6/4771 (0.1%)
8	EM	0.42	0/3435	0.70	2/4662 (0.0%)
8	FC	0.38	0/3456	0.70	2/4691 (0.0%)
8	FE	0.42	0/3415	0.74	5/4635 (0.1%)
8	FG	0.44	0/3423	0.78	6/4647 (0.1%)
8	FI	0.44	0/3422	0.79	2/4644 (0.0%)
8	FK	0.42	0/3401	0.76	5/4617 (0.1%)
8	FM	0.41	0/3441	0.73	4/4669 (0.1%)
8	GC	0.46	0/3515	0.66	1/4771 (0.0%)
8	GE	0.34	0/3448	0.62	0/4680
8	GG	0.42	0/3515	0.64	2/4771 (0.0%)
8	GI	0.43	0/3442	0.63	0/4672
8	GK	0.38	0/3440	0.66	4/4668 (0.1%)
8	GM	0.42	0/3508	0.65	6/4761 (0.1%)
8	HC	0.44	0/3427	0.67	2/4651 (0.0%)
8	HE	0.37	0/3451	0.63	3/4684 (0.1%)
8	HG	0.40	0/3448	0.64	1/4680 (0.0%)
8	HI	0.43	0/3448	0.64	0/4680
8	HK	0.36	0/3456	0.64	2/4691 (0.0%)
8	HM	0.42	0/3441	0.68	1/4669 (0.0%)
8	HO	0.45	0/3104	0.69	2/4206 (0.0%)
8	IC	0.41	0/3442	0.62	0/4672
8	IE	0.42	0/3465	0.66	1/4703 (0.0%)
8	IG	0.38	0/3515	0.67	3/4771 (0.1%)
8	II	0.42	0/3464	0.68	1/4702 (0.0%)
8	IK	0.39	0/3515	0.70	3/4771 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
8	IM	0.41	0/3455	0.70	1/4689 (0.0%)
8	IO	0.37	0/3427	0.64	1/4652 (0.0%)
8	JC	0.42	0/3460	0.69	2/4695 (0.0%)
8	JE	0.40	0/3449	0.66	0/4681
8	JG	0.39	0/3435	0.65	0/4662
8	JI	0.42	0/3443	0.70	4/4673 (0.1%)
8	JK	0.43	0/3515	0.75	6/4771 (0.1%)
8	JM	0.41	0/3449	0.69	3/4681 (0.1%)
8	KC	0.56	0/3461	0.73	2/4697 (0.0%)
8	KE	0.55	0/3457	0.71	3/4692 (0.1%)
8	KG	0.51	0/3447	0.66	0/4678
8	KI	0.56	0/3435	0.67	2/4662 (0.0%)
8	KK	0.53	0/3449	0.67	4/4681 (0.1%)
8	KM	0.58	0/3453	0.67	1/4686 (0.0%)
8	KO	0.49	0/3291	0.60	0/4462
8	LC	0.54	0/3515	0.69	5/4771 (0.1%)
8	LE	0.52	0/3515	0.67	2/4771 (0.0%)
8	LG	0.51	0/3515	0.63	2/4771 (0.0%)
8	LI	0.56	0/3515	0.67	2/4771 (0.0%)
8	LK	0.53	0/3515	0.66	1/4771 (0.0%)
8	LM	0.55	1/3455 (0.0%)	0.64	2/4689 (0.0%)
8	MC	0.47	0/3508	0.69	1/4761 (0.0%)
8	ME	0.44	0/3443	0.68	2/4673 (0.0%)
8	MG	0.44	0/3449	0.71	5/4681 (0.1%)
8	MI	0.46	0/3456	0.70	2/4691 (0.0%)
8	MK	0.45	0/3515	0.73	7/4771 (0.1%)
8	MM	0.47	0/3453	0.70	5/4687 (0.1%)
8	NA	0.36	0/3449	0.67	1/4682 (0.0%)
8	NC	0.37	0/3442	0.67	1/4672 (0.0%)
8	NE	0.38	0/3451	0.74	7/4684 (0.1%)
8	NG	0.36	0/3464	0.67	2/4702 (0.0%)
8	NI	0.35	0/3464	0.66	2/4702 (0.0%)
8	NK	0.36	0/3451	0.66	3/4684 (0.1%)
8	OA	0.37	0/3435	0.66	2/4663 (0.0%)
8	OC	0.38	0/3443	0.64	1/4673 (0.0%)
8	OE	0.35	0/3473	0.66	1/4714 (0.0%)
8	OG	0.37	0/3468	0.67	3/4707 (0.1%)
8	OI	0.35	0/3464	0.64	2/4702 (0.0%)
8	OK	0.37	0/3457	0.64	1/4692 (0.0%)
8	PA	0.33	0/3449	0.63	3/4682 (0.1%)
8	PC	0.38	0/3463	0.69	3/4700 (0.1%)
8	PE	0.36	0/3457	0.69	0/4692
8	PG	0.38	0/3448	0.68	4/4680 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
8	PI	0.35	0/3425	0.67	1/4648 (0.0%)
8	PK	0.38	0/3448	0.67	3/4680 (0.1%)
8	PM	0.32	0/3449	0.62	1/4681 (0.0%)
8	QA	0.33	0/3453	0.71	5/4687 (0.1%)
8	QC	0.37	0/3449	0.70	4/4681 (0.1%)
8	QE	0.33	0/3449	0.64	2/4681 (0.0%)
8	QG	0.38	0/3457	0.69	2/4692 (0.0%)
8	QI	0.34	0/3443	0.66	2/4673 (0.0%)
8	QK	0.36	0/3457	0.66	2/4692 (0.0%)
8	QM	0.33	0/3455	0.63	1/4689 (0.0%)
8	RA	0.33	0/3441	0.66	3/4671 (0.1%)
8	RC	0.36	0/3464	0.66	2/4702 (0.0%)
8	RE	0.37	0/3435	0.70	2/4662 (0.0%)
8	RG	0.36	0/3448	0.65	1/4679 (0.0%)
8	RI	0.32	0/3456	0.61	1/4691 (0.0%)
8	RK	0.38	0/3456	0.69	6/4691 (0.1%)
8	RM	0.37	0/3433	0.66	3/4660 (0.1%)
8	SA	0.32	0/3449	0.66	5/4682 (0.1%)
8	SC	0.38	0/3448	0.67	1/4679 (0.0%)
8	SE	0.36	0/3457	0.67	4/4691 (0.1%)
8	SG	0.40	0/3456	0.69	3/4691 (0.1%)
8	SI	0.36	0/3434	0.65	3/4661 (0.1%)
8	SK	0.37	0/3464	0.69	0/4702
8	SM	0.36	0/3455	0.64	2/4689 (0.0%)
8	TC	0.34	0/3448	0.68	5/4680 (0.1%)
8	TE	0.32	0/3465	0.65	3/4703 (0.1%)
8	TG	0.35	0/3448	0.71	7/4680 (0.1%)
8	TI	0.34	0/3448	0.63	1/4680 (0.0%)
8	TK	0.36	0/3464	0.70	2/4702 (0.0%)
8	TM	0.36	0/3449	0.70	3/4681 (0.1%)
8	UC	0.35	0/3470	0.62	3/4710 (0.1%)
8	UE	0.34	0/3465	0.67	1/4703 (0.0%)
8	UG	0.35	0/3470	0.63	1/4710 (0.0%)
8	UI	0.35	0/3470	0.62	0/4710
8	UK	0.38	0/3468	0.64	0/4707
8	UM	0.36	0/3455	0.66	2/4689 (0.0%)
8	VC	0.39	0/3515	0.68	4/4771 (0.1%)
8	VE	0.38	0/3473	0.65	1/4714 (0.0%)
8	VG	0.36	0/3515	0.63	0/4771
8	VI	0.38	0/3470	0.66	3/4710 (0.1%)
8	VK	0.37	0/3515	0.66	1/4771 (0.0%)
8	VM	0.40	0/3449	0.70	6/4681 (0.1%)
8	WC	0.42	0/3515	0.73	6/4771 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
8	WE	0.39	0/3457	0.66	4/4692 (0.1%)
8	WG	0.38	0/3508	0.69	4/4761 (0.1%)
8	WI	0.40	0/3457	0.66	1/4692 (0.0%)
8	WK	0.37	0/3502	0.62	0/4753
8	WM	0.42	0/3455	0.68	3/4689 (0.1%)
9	AB	0.55	0/3500	0.71	2/4742 (0.0%)
9	AD	0.52	0/3500	0.70	4/4742 (0.1%)
9	AF	0.57	0/3500	0.75	4/4742 (0.1%)
9	AH	0.52	0/3500	0.71	5/4742 (0.1%)
9	AJ	0.55	0/3500	0.73	7/4742 (0.1%)
9	AL	0.52	0/3492	0.70	5/4732 (0.1%)
9	BB	0.49	0/3431	0.69	2/4649 (0.0%)
9	BD	0.47	0/3431	0.69	2/4649 (0.0%)
9	BF	0.48	0/3436	0.70	3/4656 (0.1%)
9	BH	0.46	0/3431	0.64	2/4649 (0.0%)
9	BJ	0.47	0/3431	0.67	1/4649 (0.0%)
9	BL	0.48	0/3415	0.66	4/4628 (0.1%)
9	CB	0.46	0/3423	0.73	6/4638 (0.1%)
9	CD	0.47	0/3423	0.67	3/4638 (0.1%)
9	CF	0.47	0/3436	0.74	3/4656 (0.1%)
9	CH	0.49	0/3431	0.69	1/4649 (0.0%)
9	CJ	0.44	0/3436	0.67	1/4656 (0.0%)
9	CL	0.44	0/3415	0.65	2/4628 (0.0%)
9	DB	0.41	0/3423	0.70	2/4638 (0.0%)
9	DD	0.45	0/3423	0.74	5/4638 (0.1%)
9	DF	0.41	0/3423	0.74	4/4638 (0.1%)
9	DH	0.46	0/3423	0.79	7/4638 (0.2%)
9	DJ	0.40	0/3423	0.69	1/4638 (0.0%)
9	DL	0.43	0/3415	0.70	4/4628 (0.1%)
9	DN	0.35	0/3102	0.66	2/4201 (0.0%)
9	EB	0.39	0/3423	0.70	5/4638 (0.1%)
9	ED	0.43	0/3423	0.76	5/4638 (0.1%)
9	EF	0.39	0/3423	0.73	3/4638 (0.1%)
9	EH	0.44	0/3436	0.73	2/4656 (0.0%)
9	EJ	0.40	0/3423	0.72	2/4638 (0.0%)
9	EL	0.41	0/3415	0.73	4/4628 (0.1%)
9	EN	0.34	0/3423	0.69	3/4638 (0.1%)
9	FB	0.35	0/3423	0.65	1/4638 (0.0%)
9	FD	0.41	0/3431	0.72	3/4649 (0.1%)
9	FF	0.39	0/3423	0.66	1/4638 (0.0%)
9	FH	0.46	0/3423	0.78	6/4638 (0.1%)
9	FJ	0.38	0/3423	0.68	2/4638 (0.0%)
9	FL	0.41	0/3415	0.72	4/4628 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
9	FN	0.34	0/3436	0.64	1/4656 (0.0%)
9	GB	0.44	0/3436	0.65	1/4656 (0.0%)
9	GD	0.41	0/3431	0.68	2/4649 (0.0%)
9	GF	0.38	0/3436	0.63	2/4656 (0.0%)
9	GH	0.44	0/3436	0.70	6/4656 (0.1%)
9	GJ	0.40	0/3436	0.65	1/4656 (0.0%)
9	GL	0.36	0/3415	0.63	2/4628 (0.0%)
9	GN	0.45	0/3436	0.64	2/4656 (0.0%)
9	HB	0.42	0/3423	0.67	3/4638 (0.1%)
9	HD	0.40	0/3431	0.66	3/4649 (0.1%)
9	HF	0.36	0/3436	0.61	0/4656
9	HH	0.43	0/3431	0.68	4/4649 (0.1%)
9	HJ	0.39	0/3436	0.63	2/4656 (0.0%)
9	HL	0.36	0/3415	0.64	2/4628 (0.0%)
9	HN	0.43	0/3431	0.68	4/4649 (0.1%)
9	IB	0.38	0/2962	0.71	5/4007 (0.1%)
9	ID	0.44	0/3431	0.69	1/4649 (0.0%)
9	IF	0.38	0/3436	0.62	2/4656 (0.0%)
9	IH	0.41	0/3431	0.68	3/4649 (0.1%)
9	IJ	0.39	0/3436	0.66	1/4656 (0.0%)
9	IL	0.43	0/3423	0.67	1/4638 (0.0%)
9	IN	0.39	0/3436	0.70	1/4656 (0.0%)
9	JB	0.39	0/3423	0.67	1/4638 (0.0%)
9	JD	0.42	0/3431	0.68	2/4649 (0.0%)
9	JF	0.38	0/3423	0.67	3/4638 (0.1%)
9	JH	0.41	0/3423	0.68	2/4638 (0.0%)
9	JJ	0.40	0/3423	0.68	6/4638 (0.1%)
9	JL	0.43	0/3423	0.72	1/4638 (0.0%)
9	JN	0.39	0/3423	0.67	0/4638
9	KB	0.48	0/3232	0.72	3/4380 (0.1%)
9	KD	0.55	0/3436	0.65	2/4656 (0.0%)
9	KF	0.49	0/3431	0.65	3/4649 (0.1%)
9	KH	0.56	0/3443	0.63	1/4666 (0.0%)
9	KJ	0.50	0/3423	0.61	1/4638 (0.0%)
9	KL	0.58	0/3443	0.65	1/4666 (0.0%)
9	KN	0.51	0/3436	0.64	2/4656 (0.0%)
9	LB	0.47	0/3436	0.66	0/4656
9	LD	0.51	0/3431	0.68	2/4649 (0.0%)
9	LF	0.48	0/3436	0.65	1/4656 (0.0%)
9	LH	0.54	0/3436	0.66	3/4656 (0.1%)
9	LJ	0.50	0/3436	0.65	0/4656
9	LL	0.56	0/3423	0.70	6/4638 (0.1%)
9	LN	0.49	0/3436	0.64	3/4656 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
9	MB	0.44	0/3423	0.68	4/4638 (0.1%)
9	MD	0.46	0/3423	0.70	4/4638 (0.1%)
9	MF	0.40	0/3436	0.65	3/4656 (0.1%)
9	MH	0.44	0/3436	0.66	3/4656 (0.1%)
9	MJ	0.42	0/3423	0.68	3/4638 (0.1%)
9	ML	0.46	0/3423	0.75	3/4638 (0.1%)
9	MN	0.43	0/3423	0.70	2/4638 (0.0%)
9	NO	0.34	0/3431	0.63	1/4649 (0.0%)
9	NB	0.38	0/3436	0.70	2/4656 (0.0%)
9	ND	0.34	0/3431	0.66	0/4649
9	NF	0.37	0/3431	0.69	2/4649 (0.0%)
9	NH	0.33	0/3436	0.63	0/4656
9	NJ	0.36	0/3436	0.70	2/4656 (0.0%)
9	NL	0.34	0/3414	0.67	1/4626 (0.0%)
9	OO	0.38	0/3293	0.70	3/4463 (0.1%)
9	OB	0.37	0/3414	0.66	2/4626 (0.0%)
9	OD	0.34	0/3401	0.64	1/4608 (0.0%)
9	OF	0.40	0/3414	0.69	0/4626
9	OH	0.33	0/3436	0.63	1/4656 (0.0%)
9	OJ	0.36	0/3436	0.67	3/4656 (0.1%)
9	OL	0.36	0/3401	0.65	1/4608 (0.0%)
9	PB	0.36	0/3431	0.70	2/4649 (0.0%)
9	PD	0.35	0/3431	0.64	1/4649 (0.0%)
9	PF	0.38	0/3436	0.69	3/4656 (0.1%)
9	PH	0.36	0/3436	0.64	2/4656 (0.0%)
9	PJ	0.35	0/3436	0.67	3/4656 (0.1%)
9	PL	0.36	0/3415	0.72	4/4628 (0.1%)
9	QB	0.33	0/3436	0.64	1/4656 (0.0%)
9	QD	0.33	0/3431	0.64	1/4649 (0.0%)
9	QF	0.37	0/3436	0.70	4/4656 (0.1%)
9	QH	0.35	0/3436	0.67	3/4656 (0.1%)
9	QJ	0.34	0/3436	0.65	3/4656 (0.1%)
9	QL	0.35	0/3423	0.68	2/4638 (0.0%)
9	RB	0.33	0/3436	0.68	2/4656 (0.0%)
9	RD	0.34	0/3431	0.63	1/4649 (0.0%)
9	RF	0.35	0/3436	0.68	5/4656 (0.1%)
9	RH	0.36	0/3436	0.68	2/4656 (0.0%)
9	RJ	0.35	0/3436	0.69	4/4656 (0.1%)
9	RL	0.35	0/3423	0.64	1/4638 (0.0%)
9	SB	0.35	0/3436	0.66	1/4656 (0.0%)
9	SD	0.36	0/3431	0.67	4/4649 (0.1%)
9	SF	0.36	0/3436	0.68	3/4656 (0.1%)
9	SH	0.38	0/3436	0.68	0/4656

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
9	SJ	0.34	0/3436	0.71	7/4656 (0.2%)
9	SL	0.36	0/3423	0.68	5/4638 (0.1%)
9	TB	0.32	0/3436	0.66	1/4656 (0.0%)
9	TD	0.33	0/3431	0.67	2/4649 (0.0%)
9	TF	0.34	0/3436	0.67	5/4656 (0.1%)
9	TH	0.34	0/3436	0.64	4/4656 (0.1%)
9	TJ	0.35	0/3436	0.70	4/4656 (0.1%)
9	TL	0.36	0/3423	0.67	3/4638 (0.1%)
9	UB	0.33	0/3436	0.65	2/4656 (0.0%)
9	UD	0.35	0/3431	0.62	1/4649 (0.0%)
9	UF	0.34	0/3436	0.62	0/4656
9	UH	0.36	0/3436	0.64	0/4656
9	UJ	0.33	0/3436	0.65	3/4656 (0.1%)
9	UL	0.36	0/3423	0.67	1/4638 (0.0%)
9	UN	0.34	0/3436	0.64	2/4656 (0.0%)
9	VB	0.36	0/3436	0.68	4/4656 (0.1%)
9	VD	0.37	0/3431	0.65	2/4649 (0.0%)
9	VF	0.34	0/3431	0.62	2/4649 (0.0%)
9	VH	0.38	0/3436	0.66	2/4656 (0.0%)
9	VJ	0.34	0/3436	0.61	0/4656
9	VL	0.37	0/3423	0.66	1/4638 (0.0%)
9	VN	0.35	0/3436	0.63	0/4656
9	WB	0.38	0/3436	0.67	2/4656 (0.0%)
9	WD	0.42	0/3431	0.77	8/4649 (0.2%)
9	WF	0.37	0/3423	0.65	2/4638 (0.0%)
9	WH	0.42	0/3423	0.67	0/4638
9	WJ	0.37	0/3423	0.65	1/4638 (0.0%)
9	WL	0.41	0/3423	0.71	3/4638 (0.1%)
9	WN	0.40	0/3423	0.71	3/4638 (0.1%)
10	B0	0.40	0/1559	0.58	1/2100 (0.0%)
10	B1	0.44	0/3434	0.59	1/4630 (0.0%)
10	B2	0.44	0/3434	0.59	2/4630 (0.0%)
10	B3	0.42	0/3149	0.61	1/4243 (0.0%)
10	B4	0.39	0/410	0.56	0/552
10	B5	0.39	0/423	0.65	0/570
10	B6	0.39	0/2943	0.61	2/3961 (0.1%)
10	B7	0.38	0/3415	0.64	3/4605 (0.1%)
10	B8	0.40	0/3325	0.74	9/4480 (0.2%)
10	B9	0.41	0/1544	0.76	5/2080 (0.2%)
11	C	0.42	0/801	0.78	2/1073 (0.2%)
12	C0	0.31	0/267	0.63	0/362
12	C1	0.40	0/2747	0.63	4/3704 (0.1%)
12	C2	0.41	0/3249	0.62	3/4380 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
12	C3	0.40	0/3249	0.60	2/4380 (0.0%)
12	C4	0.44	0/1761	0.70	3/2370 (0.1%)
12	C5	0.37	0/914	0.55	0/1231
12	C6	0.38	0/3170	0.58	4/4272 (0.1%)
12	C7	0.39	0/3403	0.60	1/4589 (0.0%)
12	C8	0.38	0/3354	0.60	1/4523 (0.0%)
12	C9	0.35	0/942	0.62	1/1273 (0.1%)
12	F0	0.37	0/1186	0.61	0/1610
12	F1	0.42	0/3486	0.63	3/4708 (0.1%)
12	F2	0.43	0/3486	0.63	3/4708 (0.1%)
12	F3	0.41	0/3100	0.63	1/4176 (0.0%)
12	F4	0.42	0/815	0.67	2/1097 (0.2%)
13	D	0.33	0/961	0.59	1/1323 (0.1%)
14	D0	0.42	0/2416	0.57	1/3260 (0.0%)
14	D1	0.45	1/3537 (0.0%)	0.57	0/4765
14	D2	0.44	0/3537	0.61	1/4765 (0.0%)
14	D3	0.44	0/2627	0.62	2/3537 (0.1%)
14	D5	0.26	0/78	0.64	0/104
14	D6	0.39	0/2653	0.64	4/3571 (0.1%)
14	D7	0.41	0/3442	0.64	4/4637 (0.1%)
14	D8	0.37	0/3433	0.64	3/4625 (0.1%)
14	D9	0.38	0/2296	0.64	2/3098 (0.1%)
15	E	0.40	0/2105	0.67	1/2851 (0.0%)
15	F	0.42	0/2105	0.72	3/2851 (0.1%)
16	E0	0.41	0/603	0.77	2/819 (0.2%)
16	E1	0.35	0/1102	0.68	4/1503 (0.3%)
16	E2	0.33	0/1248	0.62	0/1705
16	E3	0.34	0/1248	0.63	0/1705
17	G	0.40	0/802	0.71	1/1094 (0.1%)
18	H	0.39	0/671	0.63	0/916
18	I	0.36	0/1230	0.66	1/1667 (0.1%)
18	J	0.40	0/1230	0.66	0/1667
18	K	0.37	0/1230	0.66	0/1667
18	L	0.39	0/1230	0.65	0/1667
18	M	0.35	0/1230	0.63	0/1667
18	N	0.38	0/1261	0.61	0/1708
19	H1	0.41	0/1584	0.71	3/2120 (0.1%)
19	H2	0.38	0/2085	0.74	6/2785 (0.2%)
19	H3	0.43	0/886	0.64	1/1180 (0.1%)
20	H4	0.41	0/1644	0.67	1/2200 (0.0%)
20	H5	0.39	0/2120	0.71	2/2840 (0.1%)
20	H6	0.41	0/1073	0.68	1/1440 (0.1%)
21	H7	0.29	0/2865	0.42	0/3988

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
21	H8	0.28	0/2860	0.41	0/3981
21	H9	0.24	0/1766	0.37	0/2456
22	I1	0.37	0/1318	0.61	1/1783 (0.1%)
22	I2	0.45	0/1318	0.70	0/1783
23	I3	0.25	0/919	0.39	0/1278
23	I4	0.25	0/923	0.38	0/1283
24	O	0.30	0/272	0.65	0/359
24	P	0.41	0/3142	0.68	7/4198 (0.2%)
24	Q	0.42	0/321	0.61	0/429
24	R	0.40	0/2063	0.61	2/2756 (0.1%)
24	S	0.37	0/1427	0.60	0/1907
25	T	0.46	0/3823	0.64	2/5172 (0.0%)
25	U	0.47	0/3823	0.70	4/5172 (0.1%)
25	V	0.44	0/3823	0.64	4/5172 (0.1%)
26	W	0.40	0/4670	0.67	2/6296 (0.0%)
26	X	0.40	0/5355	0.68	5/7211 (0.1%)
26	Y	0.40	0/5355	0.66	4/7211 (0.1%)
26	Z	0.36	0/3766	0.67	3/5063 (0.1%)
27	XA	0.43	0/1565	0.76	3/2111 (0.1%)
27	XB	0.50	0/1565	0.77	1/2111 (0.0%)
27	XC	0.42	0/1565	0.73	1/2111 (0.0%)
27	XD	0.45	0/1565	0.73	3/2111 (0.1%)
27	XE	0.39	0/1565	0.67	0/2111
27	XF	0.48	0/1565	0.72	3/2111 (0.1%)
27	XG	0.38	0/1565	0.68	0/2111
28	YB	0.44	0/1810	0.76	3/2446 (0.1%)
28	YC	0.40	0/1810	0.72	3/2446 (0.1%)
28	YD	0.44	0/1810	0.73	3/2446 (0.1%)
28	YE	0.40	0/1810	0.70	1/2446 (0.0%)
28	YF	0.43	0/1810	0.74	4/2446 (0.2%)
28	YG	0.36	0/1810	0.73	3/2446 (0.1%)
29	a	0.37	0/1432	0.63	0/1899
29	b	0.38	0/2869	0.67	2/3794 (0.1%)
29	c	0.38	0/2371	0.66	2/3139 (0.1%)
29	d	0.37	0/1842	0.59	2/2438 (0.1%)
30	e	0.37	0/4821	0.70	3/6527 (0.0%)
30	f	0.37	0/4821	0.69	2/6527 (0.0%)
30	g	0.39	0/4821	0.70	3/6527 (0.0%)
31	h	0.39	0/1239	0.69	1/1657 (0.1%)
31	i	0.36	0/1982	0.63	2/2659 (0.1%)
31	j	0.36	0/1982	0.64	3/2659 (0.1%)
31	k	0.37	0/1982	0.67	2/2659 (0.1%)
32	l	0.46	0/921	0.66	0/1253

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	m	0.48	0/938	0.70	1/1276 (0.1%)
32	n	0.43	0/957	0.62	1/1302 (0.1%)
33	o	0.33	0/2072	0.36	0/2868
33	p	0.39	0/847	0.63	1/1131 (0.1%)
34	q	0.40	0/646	0.68	1/871 (0.1%)
34	r	0.36	0/646	0.66	1/871 (0.1%)
34	s	0.39	0/646	0.74	1/871 (0.1%)
35	t	0.24	0/881	0.41	0/1227
36	y	0.41	0/530	0.62	0/718
36	z	0.41	0/981	0.67	1/1334 (0.1%)
All	All	0.41	3/1294189 (0.0%)	0.67	964/1753471 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	7	0	1
11	C	0	1
29	b	0	1
31	h	0	1
31	i	0	1
31	j	0	1
31	k	0	1
All	All	0	7

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	D1	212	GLU	CB-CG	-6.00	1.40	1.52
8	LM	295	CYS	CB-SG	-5.89	1.72	1.81
6	B	462	TYR	CD2-CE2	-5.29	1.31	1.39

All (964) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	k	250	HIS	O-C-N	-12.58	102.58	122.70
31	i	250	HIS	O-C-N	-12.16	103.25	122.70
5	8	124	LEU	CB-CG-CD2	-10.99	92.31	111.00
8	AG	396	ASP	CB-CG-OD2	10.58	127.82	118.30
9	WL	118	ASP	CB-CG-OD1	10.46	127.71	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	WD	88	ASP	CB-CG-OD2	10.45	127.71	118.30
31	h	250	HIS	O-C-N	-10.44	106.00	122.70
9	WN	88	ASP	CB-CG-OD2	10.32	127.59	118.30
9	DF	118	ASP	CB-CG-OD1	9.66	126.99	118.30
9	WN	171	PRO	C-N-CA	9.61	145.71	121.70
26	X	223	ASP	CB-CG-OD1	9.60	126.94	118.30
9	EN	88	ASP	CB-CG-OD1	9.38	126.75	118.30
9	LF	122	LYS	CD-CE-NZ	-9.34	90.22	111.70
8	IK	268	PRO	CA-N-CD	-9.21	98.61	111.50
8	MG	431	ASP	CB-CG-OD2	9.20	126.58	118.30
8	TC	384	ILE	CG1-CB-CG2	-9.18	91.21	111.40
12	F3	448	LEU	CA-CB-CG	9.16	136.37	115.30
28	YC	209	ASP	CB-CG-OD1	9.14	126.53	118.30
9	KB	39	ASP	CB-CG-OD1	9.06	126.46	118.30
29	d	442	ASP	CB-CG-OD1	8.99	126.39	118.30
5	8	124	LEU	CB-CG-CD1	8.89	126.11	111.00
14	D9	237	ASP	CB-CG-OD1	8.77	126.19	118.30
8	AE	47	ASP	CB-CG-OD1	8.74	126.17	118.30
12	C9	269	ASP	CB-CG-OD1	8.74	126.17	118.30
9	O0	161	ASP	CB-CG-OD1	8.74	126.17	118.30
19	H2	232	LEU	CA-CB-CG	8.73	135.38	115.30
8	MM	33	ASP	CB-CG-OD2	8.67	126.10	118.30
8	OI	367	ASP	CB-CG-OD1	8.66	126.09	118.30
9	GH	39	ASP	CB-CG-OD1	8.66	126.09	118.30
8	FM	171	ILE	C-N-CA	8.59	143.16	121.70
24	P	321	LEU	CA-CB-CG	8.54	134.95	115.30
9	PB	374	ILE	CG1-CB-CG2	-8.54	92.61	111.40
10	B3	46	ARG	NE-CZ-NH1	8.52	124.56	120.30
8	KK	205	ASP	CB-CG-OD2	8.52	125.96	118.30
15	E	187	ASP	CB-CG-OD1	8.50	125.95	118.30
36	z	26	ASP	CB-CG-OD1	8.49	125.94	118.30
8	BK	205	ASP	CB-CG-OD1	8.47	125.92	118.30
9	KN	417	ASP	CB-CG-OD1	8.45	125.91	118.30
9	BD	114	ASP	CB-CG-OD1	8.43	125.88	118.30
14	D0	237	ASP	CB-CG-OD1	8.42	125.88	118.30
8	LC	114	LEU	CA-CB-CG	8.41	134.63	115.30
9	DH	261	PRO	N-CA-C	-8.40	90.27	112.10
20	H5	277	ASP	CB-CG-OD1	8.37	125.83	118.30
8	BG	218	ASP	CB-CG-OD2	8.36	125.83	118.30
28	YG	255	LEU	CA-CB-CG	8.35	134.51	115.30
9	CB	287	PRO	CA-N-CD	-8.34	99.83	111.50
8	MI	431	ASP	CB-CG-OD2	8.34	125.80	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	YC	255	LEU	CA-CB-CG	8.33	134.46	115.30
12	C1	291	ASP	CB-CG-OD1	8.32	125.79	118.30
9	AF	88	ASP	CB-CG-OD1	8.31	125.78	118.30
8	FE	384	ILE	CG1-CB-CG2	-8.29	93.15	111.40
8	AG	33	ASP	CB-CG-OD2	8.29	125.76	118.30
8	QA	424	ASP	CB-CG-OD1	8.26	125.73	118.30
8	QA	431	ASP	CB-CG-OD1	8.24	125.71	118.30
28	YD	255	LEU	CA-CB-CG	8.22	134.20	115.30
9	FN	161	ASP	CB-CG-OD2	8.19	125.67	118.30
28	YE	255	LEU	CA-CB-CG	8.18	134.11	115.30
12	C6	114	ARG	NE-CZ-NH2	-8.17	116.22	120.30
8	KE	156	ARG	NE-CZ-NH2	8.10	124.35	120.30
9	RJ	161	ASP	CB-CG-OD1	8.05	125.54	118.30
9	TB	192	LEU	CA-CB-CG	8.04	133.80	115.30
34	s	94	LEU	CA-CB-CG	8.04	133.79	115.30
12	F2	224	ASP	CB-CG-OD1	8.03	125.53	118.30
14	D2	426	ASP	CB-CG-OD2	8.03	125.52	118.30
8	RA	171	ILE	C-N-CA	7.98	141.66	121.70
9	CB	150	LEU	CB-CG-CD2	-7.98	97.44	111.00
6	A	67	LEU	CA-CB-CG	7.96	133.60	115.30
9	DD	284	LEU	CA-CB-CG	7.95	133.59	115.30
9	AL	26	ASP	CB-CG-OD1	7.93	125.44	118.30
9	DL	224	ASP	CB-CG-OD1	7.92	125.43	118.30
8	IE	72	PRO	CA-N-CD	-7.90	100.44	111.50
8	MG	211	ASP	CB-CG-OD1	7.88	125.39	118.30
6	B	387	ASP	CB-CG-OD1	7.87	125.38	118.30
9	OJ	203	ASP	CB-CG-OD1	7.84	125.36	118.30
9	PF	41	ASP	CB-CG-OD1	7.84	125.36	118.30
25	U	50	ASP	CB-CG-OD2	7.84	125.36	118.30
9	CB	355	ASP	CB-CG-OD1	7.83	125.35	118.30
29	b	541	ASN	O-C-N	-7.81	110.21	122.70
9	GH	213	ARG	NE-CZ-NH2	7.78	124.19	120.30
28	YF	255	LEU	CA-CB-CG	7.77	133.18	115.30
9	VH	233	MET	CA-CB-CG	7.76	126.48	113.30
9	SD	273	LEU	CA-CB-CG	7.71	133.02	115.30
9	SL	41	ASP	CB-CG-OD2	7.70	125.23	118.30
9	KF	118	ASP	CB-CG-OD1	7.69	125.22	118.30
8	UC	265	ILE	CG1-CB-CG2	-7.69	94.49	111.40
9	ED	167	PHE	N-CA-C	-7.68	90.25	111.00
9	TD	118	ASP	CB-CG-OD1	7.67	125.21	118.30
30	e	583	THR	N-CA-C	-7.66	90.33	111.00
8	MI	211	ASP	CB-CG-OD2	7.62	125.15	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	UM	265	ILE	CG1-CB-CG2	-7.59	94.71	111.40
8	IG	127	ASP	CB-CG-OD2	7.57	125.11	118.30
9	AJ	321	MET	CG-SD-CE	-7.56	88.10	100.20
28	YG	209	ASP	CB-CG-OD2	7.56	125.11	118.30
10	B9	39	ARG	CG-CD-NE	-7.53	95.98	111.80
9	IJ	30	ILE	C-N-CA	7.53	140.53	121.70
12	C6	114	ARG	NE-CZ-NH1	7.50	124.05	120.30
9	FD	135	LEU	CA-CB-CG	7.47	132.49	115.30
9	ED	135	LEU	CB-CG-CD2	-7.46	98.31	111.00
19	H2	212	MET	CA-CB-CG	7.45	125.97	113.30
8	DM	98	ASP	CB-CG-OD1	7.37	124.93	118.30
14	D8	292	ASP	CB-CG-OD1	7.37	124.93	118.30
9	DH	246	LEU	CA-CB-CG	7.37	132.24	115.30
19	H2	38	MET	CA-CB-CG	7.35	125.80	113.30
8	DA	211	ASP	CB-CG-OD1	7.34	124.91	118.30
8	KE	33	ASP	CB-CG-OD1	7.34	124.91	118.30
8	FM	188	ILE	CG1-CB-CG2	-7.33	95.26	111.40
9	EF	192	LEU	CA-CB-CG	7.32	132.14	115.30
9	VB	395	LEU	CA-CB-CG	7.32	132.13	115.30
24	P	185	LEU	CB-CG-CD2	-7.32	98.56	111.00
25	U	364	LEU	CA-CB-CG	7.31	132.12	115.30
24	P	339	ASP	CB-CG-OD1	7.29	124.86	118.30
8	VM	251	ASP	CB-CG-OD1	7.28	124.85	118.30
9	WD	117	LEU	CA-CB-CG	7.24	131.94	115.30
9	DL	217	LEU	CB-CG-CD1	-7.23	98.70	111.00
8	MK	33	ASP	CB-CG-OD1	7.22	124.80	118.30
9	HH	327	ASP	CB-CG-OD2	7.22	124.80	118.30
8	SA	75	ILE	CG1-CB-CG2	-7.21	95.54	111.40
9	SJ	258	VAL	CG1-CB-CG2	-7.20	99.38	110.90
8	WI	275	VAL	CG1-CB-CG2	-7.20	99.39	110.90
8	NI	127	ASP	CB-CG-OD2	7.17	124.75	118.30
8	PC	230	LEU	CA-CB-CG	7.16	131.77	115.30
9	SJ	263	LEU	CA-CB-CG	7.16	131.76	115.30
8	WE	245	ASP	CB-CG-OD2	7.13	124.71	118.30
8	VC	265	ILE	CG1-CB-CG2	-7.11	95.75	111.40
9	AJ	177	ASP	CB-CG-OD1	7.10	124.69	118.30
9	WB	284	LEU	CA-CB-CG	7.10	131.63	115.30
31	j	191	LEU	CA-CB-CG	7.08	131.59	115.30
9	EL	233	MET	CA-CB-CG	7.08	125.33	113.30
8	CC	252	LEU	CA-CB-CG	7.07	131.57	115.30
9	GN	224	ASP	CB-CG-OD1	7.07	124.66	118.30
9	HN	135	LEU	CB-CG-CD2	-7.04	99.04	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
30	g	17	LEU	CA-CB-CG	7.04	131.49	115.30
8	FG	203	MET	CB-CG-SD	7.02	133.45	112.40
8	BC	116	ASP	CB-CG-OD1	7.01	124.61	118.30
9	MJ	263	LEU	CA-CB-CG	7.01	131.41	115.30
8	FI	65	ALA	N-CA-C	7.00	129.90	111.00
9	KB	284	LEU	CA-CB-CG	7.00	131.40	115.30
9	GD	404	ASP	CB-CG-OD2	6.99	124.59	118.30
8	MK	322	ASP	CB-CG-OD1	6.98	124.58	118.30
29	c	227	ASP	CB-CG-OD2	6.97	124.58	118.30
8	DG	209	ILE	CG1-CB-CG2	-6.97	96.07	111.40
9	DL	284	LEU	CA-CB-CG	6.96	131.31	115.30
9	JF	284	LEU	CA-CB-CG	6.96	131.30	115.30
26	W	253	PRO	CA-N-CD	-6.95	101.77	111.50
10	B8	325	PRO	CA-N-CD	-6.95	101.77	111.50
9	MB	7	LEU	CA-CB-CG	6.95	131.27	115.30
8	LI	322	ASP	CB-CG-OD2	6.94	124.54	118.30
25	V	528	LEU	CA-CB-CG	6.93	131.25	115.30
8	VI	275	VAL	CG1-CB-CG2	-6.93	99.82	110.90
9	VL	284	LEU	CA-CB-CG	6.91	131.19	115.30
8	CA	110	ILE	CG1-CB-CG2	-6.90	96.22	111.40
8	GM	36	MET	CA-CB-CG	6.90	125.03	113.30
9	LD	112	LEU	CA-CB-CG	6.90	131.17	115.30
8	FK	384	ILE	CG1-CB-CG2	-6.89	96.23	111.40
12	C6	210	LEU	CA-CB-CG	6.88	131.12	115.30
9	NF	284	LEU	CA-CB-CG	6.88	131.12	115.30
8	QI	229	ARG	NE-CZ-NH2	6.85	123.73	120.30
8	PK	167	LEU	CA-CB-CG	6.85	131.06	115.30
9	RF	161	ASP	CB-CG-OD1	6.85	124.47	118.30
25	T	507	ASP	CB-CG-OD2	6.85	124.47	118.30
8	CM	214	ARG	NE-CZ-NH2	6.85	123.72	120.30
9	ML	271	ALA	N-CA-C	6.83	129.44	111.00
24	R	146	LEU	N-CA-C	-6.83	92.56	111.00
10	B8	184	ASP	CB-CG-OD1	6.83	124.45	118.30
7	A3	273	ASP	CB-CG-OD2	6.82	124.44	118.30
9	RF	7	LEU	CA-CB-CG	6.81	130.97	115.30
9	TD	139	LEU	CA-CB-CG	6.81	130.97	115.30
8	CI	275	VAL	CG1-CB-CG2	-6.81	100.01	110.90
8	CG	259	LEU	CA-CB-CG	6.80	130.95	115.30
9	SJ	240	LEU	CB-CG-CD2	-6.80	99.45	111.00
8	GM	189	LEU	CA-CB-CG	6.79	130.93	115.30
27	XC	102	ARG	NE-CZ-NH1	6.79	123.69	120.30
8	TC	378	LEU	CA-CB-CG	6.78	130.90	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	WD	284	LEU	CA-CB-CG	6.78	130.89	115.30
8	EE	259	LEU	CA-CB-CG	6.78	130.88	115.30
8	ME	75	ILE	CG1-CB-CG2	-6.76	96.52	111.40
9	LH	44	LEU	CA-CB-CG	6.75	130.83	115.30
9	QF	300	MET	CA-CB-CG	6.73	124.74	113.30
8	TG	182	VAL	CA-CB-CG1	6.72	120.98	110.90
29	d	373	MET	CA-CB-CG	6.71	124.71	113.30
12	C4	401	ASP	CB-CG-OD2	6.71	124.34	118.30
8	VC	221	ARG	NE-CZ-NH1	-6.70	116.95	120.30
9	WL	284	LEU	CA-CB-CG	6.70	130.72	115.30
8	LE	195	LEU	CA-CB-CG	6.70	130.72	115.30
9	TJ	26	ASP	CB-CG-OD2	6.70	124.33	118.30
27	XD	69	LEU	CA-CB-CG	6.70	130.71	115.30
30	f	192	LEU	CA-CB-CG	6.70	130.71	115.30
8	DE	33	ASP	CB-CG-OD1	6.69	124.32	118.30
9	OJ	155	ILE	CG1-CB-CG2	-6.69	96.68	111.40
9	CF	171	PRO	C-N-CA	6.69	138.42	121.70
9	RD	273	LEU	CA-CB-CG	6.69	130.68	115.30
8	HE	195	LEU	CA-CB-CG	6.68	130.68	115.30
8	GM	70	LEU	C-N-CA	6.68	138.41	121.70
27	XB	69	LEU	CA-CB-CG	6.68	130.66	115.30
9	IF	395	LEU	CA-CB-CG	6.66	130.63	115.30
9	WL	395	LEU	CA-CB-CG	6.66	130.63	115.30
9	UB	395	LEU	CA-CB-CG	6.66	130.61	115.30
8	WC	265	ILE	CG1-CB-CG2	-6.65	96.77	111.40
8	EI	39	ASP	CB-CG-OD1	6.64	124.28	118.30
9	HN	327	ASP	CB-CG-OD2	6.64	124.28	118.30
27	XF	47	LEU	CA-CB-CG	6.64	130.57	115.30
9	ED	267	MET	CA-CB-CG	6.62	124.56	113.30
8	OA	317	LEU	CA-CB-CG	6.62	130.54	115.30
8	AC	422	ARG	NE-CZ-NH2	6.62	123.61	120.30
9	AL	257	MET	CA-CB-CG	-6.62	102.05	113.30
9	PL	31	ASP	CB-CG-OD1	6.62	124.25	118.30
8	KM	396	ASP	CB-CG-OD1	6.61	124.25	118.30
8	MG	339	ARG	NE-CZ-NH2	6.60	123.60	120.30
9	WF	363	MET	CA-CB-CG	6.60	124.52	113.30
8	EI	26	LEU	CA-CB-CG	6.59	130.46	115.30
9	FH	259	PRO	C-N-CA	6.59	138.17	121.70
8	JK	10	GLY	N-CA-C	6.57	129.51	113.10
9	UL	380	ARG	NE-CZ-NH2	6.55	123.58	120.30
9	RL	359	ARG	NE-CZ-NH2	6.55	123.57	120.30
9	CD	320	ARG	NE-CZ-NH2	6.54	123.57	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	DH	323	MET	CB-CG-SD	6.54	132.01	112.40
9	TJ	139	LEU	CA-CB-CG	6.53	130.33	115.30
24	P	185	LEU	CB-CG-CD1	6.53	122.09	111.00
34	q	94	LEU	CA-CB-CG	6.52	130.30	115.30
9	TH	267	MET	CA-CB-CG	6.51	124.38	113.30
28	YF	54	ARG	NE-CZ-NH2	6.51	123.55	120.30
8	QA	302	MET	CA-CB-CG	6.50	124.35	113.30
8	FE	269	LEU	CB-CG-CD1	-6.50	99.95	111.00
9	AH	404	ASP	CB-CG-OD2	6.49	124.14	118.30
9	IN	44	LEU	CA-CB-CG	6.49	130.22	115.30
9	SF	112	LEU	CA-CB-CG	6.48	130.21	115.30
8	QK	98	ASP	CB-CG-OD1	6.47	124.13	118.30
10	B9	220	ASP	CB-CG-OD2	6.47	124.12	118.30
9	PB	207	LEU	CA-CB-CG	6.47	130.18	115.30
9	JB	284	LEU	CA-CB-CG	6.46	130.16	115.30
9	NL	374	ILE	CG1-CB-CG2	-6.46	97.19	111.40
16	E0	101	ARG	NE-CZ-NH1	6.45	123.53	120.30
8	FE	367	ASP	CB-CG-OD1	6.45	124.11	118.30
8	KK	345	ASP	CB-CG-OD1	6.45	124.10	118.30
9	PL	374	ILE	CG1-CB-CG2	-6.45	97.22	111.40
8	DM	438	ASP	CB-CG-OD1	6.44	124.10	118.30
9	IB	202	ILE	CG1-CB-CG2	-6.44	97.24	111.40
34	r	94	LEU	CA-CB-CG	6.44	130.11	115.30
24	R	84	ARG	NE-CZ-NH1	6.42	123.51	120.30
9	RF	374	ILE	CG1-CB-CG2	-6.42	97.27	111.40
9	MD	62	ARG	NE-CZ-NH2	6.42	123.51	120.30
8	SE	397	LEU	CA-CB-CG	6.42	130.06	115.30
8	GC	116	ASP	CB-CG-OD2	6.42	124.07	118.30
10	B2	402	GLU	N-CA-C	-6.41	93.69	111.00
8	AG	345	ASP	CB-CG-OD1	6.41	124.07	118.30
8	EC	204	VAL	CG1-CB-CG2	-6.41	100.65	110.90
8	CM	230	LEU	CA-CB-CG	6.40	130.03	115.30
9	FL	42	LEU	CA-CB-CG	6.39	130.00	115.30
8	AE	398	MET	CA-CB-CG	6.38	124.15	113.30
8	MK	47	ASP	CB-CG-OD2	6.38	124.05	118.30
9	HH	41	ASP	CB-CG-OD2	6.38	124.04	118.30
9	AB	65	LEU	CB-CG-CD2	6.38	121.85	111.00
8	TC	209	ILE	CG1-CB-CG2	-6.38	97.37	111.40
12	F4	401	ASP	CB-CG-OD1	6.38	124.04	118.30
8	PM	275	VAL	CG1-CB-CG2	-6.38	100.70	110.90
8	DI	259	LEU	CA-CB-CG	6.37	129.96	115.30
9	AF	192	LEU	CA-CB-CG	6.37	129.95	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	WD	276	ARG	NE-CZ-NH2	6.37	123.48	120.30
32	m	7	ALA	N-CA-C	-6.37	93.81	111.00
9	LL	128	ASP	CB-CG-OD1	6.36	124.02	118.30
9	ML	267	MET	CA-CB-CG	6.35	124.10	113.30
9	BL	262	ARG	NE-CZ-NH2	6.35	123.47	120.30
9	CB	197	ASP	CB-CG-OD1	6.34	124.01	118.30
8	EK	75	ILE	CG1-CB-CG2	-6.33	97.48	111.40
9	AH	31	ASP	CB-CG-OD1	6.33	123.99	118.30
31	j	250	HIS	O-C-N	-6.32	112.58	122.70
12	F1	353	GLU	CA-CB-CG	6.32	127.31	113.40
33	p	419	ASP	CB-CG-OD2	6.32	123.99	118.30
19	H3	121	ILE	CG1-CB-CG2	-6.32	97.50	111.40
8	QM	359	PRO	CA-N-CD	-6.31	102.66	111.50
9	JJ	263	LEU	CA-CB-CG	6.31	129.81	115.30
14	D3	192	ARG	NE-CZ-NH1	6.30	123.45	120.30
7	A3	106	LYS	CD-CE-NZ	-6.30	97.20	111.70
8	FG	125	LEU	CA-CB-CG	6.30	129.79	115.30
10	B6	272	MET	CA-CB-CG	6.30	124.01	113.30
8	PI	152	LEU	CA-CB-CG	6.30	129.78	115.30
8	AG	9	VAL	CG1-CB-CG2	-6.29	100.83	110.90
8	AK	264	ARG	NE-CZ-NH2	6.28	123.44	120.30
9	JH	377	LEU	CA-CB-CG	6.28	129.75	115.30
8	MK	39	ASP	CB-CG-OD1	6.28	123.95	118.30
9	AF	320	ARG	NE-CZ-NH2	6.28	123.44	120.30
8	LC	195	LEU	CA-CB-CG	6.28	129.74	115.30
8	WC	47	ASP	CB-CG-OD1	6.27	123.94	118.30
25	T	440	LEU	CA-CB-CG	6.26	129.69	115.30
9	DD	177	ASP	CB-CG-OD2	6.25	123.93	118.30
8	EI	26	LEU	CB-CG-CD1	-6.25	100.37	111.00
8	WG	431	ASP	CB-CG-OD1	6.25	123.93	118.30
7	A2	58	ASP	CB-CG-OD1	6.25	123.92	118.30
8	OG	171	ILE	C-N-CA	6.25	137.32	121.70
8	NE	431	ASP	CB-CG-OD2	6.24	123.92	118.30
9	SD	258	VAL	CG1-CB-CG2	-6.24	100.92	110.90
8	EK	201	ALA	N-CA-C	6.24	127.84	111.00
12	C3	411	LEU	CA-CB-CG	6.23	129.64	115.30
9	AB	263	LEU	CA-CB-CG	6.22	129.61	115.30
8	WC	46	ASP	C-N-CA	6.22	137.26	121.70
8	HO	26	LEU	CB-CG-CD2	-6.21	100.45	111.00
8	TC	125	LEU	CA-CB-CG	6.20	129.57	115.30
9	JD	295	ASP	CB-CG-OD1	6.20	123.88	118.30
10	B8	131	ASP	CB-CG-OD1	6.19	123.87	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	DG	2	ARG	NE-CZ-NH2	6.19	123.39	120.30
28	YF	234	ARG	NE-CZ-NH2	6.18	123.39	120.30
8	QC	302	MET	CA-CB-CG	6.18	123.80	113.30
8	CG	160	ASP	CB-CG-OD2	6.18	123.86	118.30
8	NE	57	GLY	N-CA-C	6.17	128.54	113.10
8	EM	209	ILE	CG1-CB-CG2	-6.17	97.82	111.40
9	LN	44	LEU	CA-CB-CG	6.17	129.49	115.30
8	VM	275	VAL	CG1-CB-CG2	-6.17	101.03	110.90
9	CF	151	LEU	CA-CB-CG	6.17	129.49	115.30
8	FE	71	GLU	N-CA-C	-6.17	94.35	111.00
6	A	93	LEU	CA-CB-CG	6.16	129.47	115.30
8	JK	265	ILE	CG1-CB-CG2	-6.16	97.86	111.40
28	YB	152	PRO	CA-N-CD	-6.15	102.89	111.50
8	AG	152	LEU	CA-CB-CG	6.15	129.44	115.30
24	P	303	ARG	NE-CZ-NH1	6.15	123.37	120.30
12	C7	420	LEU	CB-CG-CD1	6.14	121.45	111.00
9	OB	42	LEU	CA-CB-CG	6.14	129.42	115.30
8	EI	139	HIS	N-CA-C	-6.14	94.43	111.00
11	C	53	ASP	CB-CG-OD2	6.14	123.82	118.30
6	A	107	ASP	CB-CG-OD2	6.13	123.82	118.30
9	HL	209	ASP	CB-CG-OD1	6.13	123.82	118.30
8	RK	345	ASP	CB-CG-OD2	6.13	123.82	118.30
9	QH	393	ALA	N-CA-C	6.13	127.55	111.00
8	JM	259	LEU	CA-CB-CG	6.13	129.39	115.30
8	TK	211	ASP	CB-CG-OD2	6.13	123.81	118.30
8	BM	428	LEU	CA-CB-CG	6.12	129.38	115.30
9	ED	44	LEU	CA-CB-CG	6.12	129.38	115.30
12	C6	114	ARG	CG-CD-NE	-6.12	98.95	111.80
9	FH	267	MET	CA-CB-CG	6.12	123.70	113.30
9	VF	284	LEU	CA-CB-CG	6.12	129.37	115.30
1	7	180	ILE	CG1-CB-CG2	-6.11	97.95	111.40
8	QC	265	ILE	CG1-CB-CG2	-6.11	97.95	111.40
19	H2	119	ARG	NE-CZ-NH2	6.11	123.36	120.30
27	XA	171	LEU	CA-CB-CG	6.11	129.35	115.30
31	k	222	ASP	CB-CG-OD1	6.11	123.80	118.30
9	BL	390	ARG	NE-CZ-NH2	6.10	123.35	120.30
30	e	576	ASP	CB-CG-OD1	6.09	123.78	118.30
7	A1	243	ASP	CB-CG-OD2	6.09	123.78	118.30
8	BC	265	ILE	CG1-CB-CG2	-6.09	98.00	111.40
8	JI	286	LEU	CA-CB-CG	6.08	129.29	115.30
9	SJ	7	LEU	CA-CB-CG	6.08	129.28	115.30
9	BL	44	LEU	CA-CB-CG	6.08	129.28	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
28	YG	234	ARG	NE-CZ-NH2	6.07	123.34	120.30
30	g	547	LEU	CA-CB-CG	6.07	129.26	115.30
8	RA	302	MET	CA-CB-CG	6.07	123.61	113.30
8	FM	248	LEU	CA-CB-CG	6.06	129.25	115.30
9	FF	47	ILE	CG1-CB-CG2	-6.06	98.07	111.40
8	PG	378	LEU	CA-CB-CG	6.05	129.22	115.30
8	VM	117	LEU	CB-CG-CD1	-6.04	100.72	111.00
8	FC	269	LEU	CA-CB-CG	6.04	129.19	115.30
8	SM	114	LEU	CA-CB-CG	6.04	129.19	115.30
7	A2	219	ASP	CB-CG-OD1	6.04	123.74	118.30
28	YD	199	ILE	CG1-CB-CG2	-6.04	98.12	111.40
9	DH	391	ARG	CG-CD-NE	-6.04	99.12	111.80
9	DN	151	LEU	CB-CG-CD2	-6.04	100.74	111.00
8	DG	152	LEU	CB-CG-CD2	6.03	121.24	111.00
9	ED	374	ILE	CG1-CB-CG2	-6.02	98.15	111.40
8	AK	169	PHE	N-CA-C	-6.02	94.75	111.00
9	SF	273	LEU	CA-CB-CG	6.01	129.13	115.30
26	Y	683	LEU	CA-CB-CG	6.01	129.12	115.30
9	EB	187	LEU	CA-CB-CG	6.01	129.11	115.30
8	OE	317	LEU	CA-CB-CG	6.01	129.11	115.30
9	GL	192	LEU	CA-CB-CG	6.00	129.11	115.30
9	MH	41	ASP	CB-CG-OD1	6.00	123.70	118.30
8	QC	350	GLY	N-CA-C	6.00	128.10	113.10
8	AE	137	ILE	CG1-CB-CG2	-6.00	98.20	111.40
3	3	154	ASP	CB-CG-OD2	5.99	123.69	118.30
9	SJ	44	LEU	CA-CB-CG	5.99	129.09	115.30
9	AD	255	VAL	CG1-CB-CG2	-5.99	101.32	110.90
8	IG	275	VAL	CG1-CB-CG2	-5.99	101.32	110.90
9	DD	309	ARG	NE-CZ-NH2	5.99	123.29	120.30
12	C1	248	ARG	NE-CZ-NH1	5.98	123.29	120.30
8	FI	74	VAL	CG1-CB-CG2	5.98	120.46	110.90
8	SI	286	LEU	CA-CB-CG	5.98	129.04	115.30
8	QG	317	LEU	CB-CG-CD1	-5.97	100.84	111.00
8	TG	33	ASP	CB-CG-OD1	5.97	123.67	118.30
9	DH	44	LEU	CA-CB-CG	5.97	129.03	115.30
9	N0	330	MET	CB-CG-SD	-5.97	94.50	112.40
7	A0	254	ARG	NE-CZ-NH2	5.96	123.28	120.30
9	EJ	180	VAL	CA-CB-CG1	5.96	119.85	110.90
8	HG	122	ILE	CG1-CB-CG2	-5.96	98.29	111.40
26	Z	395	LEU	CA-CB-CG	5.96	129.00	115.30
19	H1	235	ARG	CA-CB-CG	5.95	126.50	113.40
8	AE	152	LEU	CA-CB-CG	5.95	128.98	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	IH	289	LEU	CA-CB-CG	5.95	128.97	115.30
31	i	183	LEU	CA-CB-CG	5.94	128.96	115.30
9	BF	192	LEU	CA-CB-CG	5.94	128.96	115.30
20	H5	120	LEU	CA-CB-CG	5.94	128.96	115.30
8	SG	242	LEU	CA-CB-CG	5.94	128.95	115.30
8	QC	154	MET	CA-CB-CG	5.93	123.38	113.30
19	H1	204	LEU	CA-CB-CG	5.93	128.94	115.30
8	JK	114	LEU	CA-CB-CG	5.92	128.92	115.30
9	GH	187	LEU	CA-CB-CG	5.92	128.91	115.30
8	TG	142	GLY	N-CA-C	5.92	127.89	113.10
28	YB	234	ARG	NE-CZ-NH2	5.92	123.26	120.30
10	B8	293	LEU	CA-CB-CG	5.91	128.90	115.30
8	SC	265	ILE	CG1-CB-CG2	-5.91	98.39	111.40
9	IL	135	LEU	CA-CB-CG	5.91	128.90	115.30
8	DM	209	ILE	CG1-CB-CG2	-5.91	98.40	111.40
28	YB	255	LEU	CA-CB-CG	5.90	128.88	115.30
14	D9	41	LEU	CB-CG-CD2	-5.90	100.97	111.00
9	RH	67	ASP	CB-CG-OD1	5.90	123.61	118.30
26	X	203	ASP	CB-CG-OD2	5.90	123.61	118.30
9	AD	117	LEU	CB-CG-CD1	-5.89	100.99	111.00
8	BG	117	LEU	CA-CB-CG	5.89	128.85	115.30
8	JI	242	LEU	CB-CG-CD2	-5.89	100.99	111.00
8	SA	114	LEU	CA-CB-CG	5.89	128.84	115.30
8	LM	9	VAL	CG1-CB-CG2	-5.88	101.49	110.90
9	KF	417	ASP	CB-CG-OD2	5.88	123.59	118.30
8	MG	119	LEU	CB-CG-CD2	-5.88	101.01	111.00
9	PJ	171	PRO	C-N-CA	5.88	136.39	121.70
9	RJ	112	LEU	CA-CB-CG	5.87	128.80	115.30
9	BF	44	LEU	CA-CB-CG	5.87	128.79	115.30
25	U	106	ASP	CB-CG-OD1	5.86	123.58	118.30
8	SE	275	VAL	CG1-CB-CG2	-5.86	101.53	110.90
9	MJ	118	ASP	CB-CG-OD1	5.86	123.57	118.30
9	JJ	112	LEU	CA-CB-CG	5.86	128.77	115.30
9	BH	359	ARG	NE-CZ-NH1	5.85	123.23	120.30
8	CA	252	LEU	CA-CB-CG	5.85	128.75	115.30
8	RE	205	ASP	CB-CG-OD1	5.85	123.56	118.30
9	MB	263	LEU	CA-CB-CG	5.85	128.75	115.30
8	TG	378	LEU	CA-CB-CG	5.84	128.74	115.30
8	TC	265	ILE	CG1-CB-CG2	-5.84	98.55	111.40
9	KN	320	ARG	NE-CZ-NH2	5.84	123.22	120.30
8	OG	384	ILE	CG1-CB-CG2	-5.83	98.57	111.40
9	AD	137	HIS	CB-CA-C	-5.83	98.74	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	MG	250	VAL	CG1-CB-CG2	-5.83	101.58	110.90
8	UM	286	LEU	CA-CB-CG	5.83	128.71	115.30
8	WM	275	VAL	CG1-CB-CG2	-5.83	101.58	110.90
9	EH	398	TYR	N-CA-C	5.82	126.72	111.00
12	F1	360	LYS	CA-CB-CG	5.82	126.21	113.40
9	LL	112	LEU	CA-CB-CG	5.82	128.68	115.30
8	TE	318	LEU	CA-CB-CG	5.82	128.68	115.30
4	6	311	MET	CA-CB-CG	5.82	123.19	113.30
9	RJ	233	MET	CA-CB-CG	5.82	123.19	113.30
9	AL	7	LEU	CA-CB-CG	5.81	128.66	115.30
9	JH	395	LEU	CA-CB-CG	5.81	128.66	115.30
9	RF	263	LEU	CA-CB-CG	5.81	128.66	115.30
8	FG	217	LEU	CB-CG-CD2	5.81	120.87	111.00
9	WD	323	MET	CB-CG-SD	5.80	129.81	112.40
9	BD	380	ARG	NE-CZ-NH2	5.80	123.20	120.30
20	H6	119	LEU	CA-CB-CG	5.80	128.63	115.30
8	JC	114	LEU	CA-CB-CG	5.80	128.63	115.30
14	D7	396	LEU	CA-CB-CG	5.79	128.62	115.30
9	EB	192	LEU	CA-CB-CG	5.79	128.62	115.30
8	VI	259	LEU	CA-CB-CG	5.79	128.62	115.30
8	GK	269	LEU	CA-CB-CG	5.79	128.61	115.30
9	GB	300	MET	CA-CB-CG	5.78	123.13	113.30
8	NG	117	LEU	CA-CB-CG	5.78	128.59	115.30
27	XF	171	LEU	CA-CB-CG	5.78	128.59	115.30
8	DI	185	TYR	CA-CB-CG	5.77	124.36	113.40
8	LK	114	LEU	CA-CB-CG	5.77	128.57	115.30
9	O0	42	LEU	CA-CB-CG	5.77	128.57	115.30
12	C4	479	SER	N-CA-C	5.77	126.58	111.00
9	EB	62	ARG	NE-CZ-NH2	5.77	123.18	120.30
8	AM	86	LEU	CA-CB-CG	5.76	128.55	115.30
14	D7	350	LEU	CA-CB-CG	5.76	128.54	115.30
8	CG	230	LEU	CA-CB-CG	5.76	128.54	115.30
8	DA	210	TYR	CA-CB-CG	5.76	124.33	113.40
8	OK	167	LEU	CA-CB-CG	5.76	128.54	115.30
9	CJ	180	VAL	CA-CB-CG1	5.75	119.53	110.90
9	KB	374	ILE	CG1-CB-CG2	-5.75	98.75	111.40
9	TF	289	LEU	CA-CB-CG	5.75	128.53	115.30
8	CC	275	VAL	CG1-CB-CG2	-5.75	101.70	110.90
9	HH	395	LEU	CA-CB-CG	5.75	128.52	115.30
14	D6	213	MET	CA-CB-CG	5.74	123.06	113.30
9	MF	44	LEU	CA-CB-CG	5.74	128.50	115.30
9	TF	311	LEU	CA-CB-CG	5.74	128.50	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	SG	260	VAL	CG1-CB-CG2	-5.74	101.72	110.90
9	VD	147	MET	CA-CB-CG	5.73	123.05	113.30
9	FL	392	LYS	CA-CB-CG	5.73	126.00	113.40
9	GN	404	ASP	CB-CG-OD2	5.73	123.45	118.30
8	NE	214	ARG	NE-CZ-NH2	5.72	123.16	120.30
15	F	12	ILE	CG1-CB-CG2	-5.72	98.81	111.40
9	PD	355	ASP	CB-CG-OD1	5.72	123.45	118.30
30	f	63	LEU	CA-CB-CG	5.72	128.46	115.30
9	KL	377	LEU	CA-CB-CG	5.72	128.46	115.30
8	QK	152	LEU	CB-CG-CD2	5.72	120.72	111.00
8	OC	230	LEU	CA-CB-CG	5.72	128.45	115.30
8	KC	33	ASP	CB-CG-OD1	5.71	123.44	118.30
9	QJ	44	LEU	CA-CB-CG	5.71	128.44	115.30
9	TH	263	LEU	CA-CB-CG	5.71	128.44	115.30
9	CL	88	ASP	CB-CG-OD1	5.71	123.44	118.30
8	FG	248	LEU	CA-CB-CG	5.71	128.42	115.30
8	HO	217	LEU	CA-CB-CG	5.71	128.43	115.30
12	C2	141	ASP	CB-CG-OD1	5.70	123.43	118.30
8	MM	9	VAL	CG1-CB-CG2	-5.70	101.78	110.90
8	DA	160	ASP	CB-CG-OD2	5.70	123.43	118.30
8	KI	397	LEU	CA-CB-CG	5.69	128.39	115.30
9	MF	377	LEU	CA-CB-CG	5.69	128.39	115.30
9	IH	180	VAL	CA-CB-CG1	5.69	119.43	110.90
9	AH	73	MET	CG-SD-CE	-5.69	91.10	100.20
8	RK	220	GLU	N-CA-C	-5.68	95.65	111.00
9	AJ	44	LEU	CA-CB-CG	5.68	128.37	115.30
8	VM	188	ILE	CG1-CB-CG2	-5.68	98.90	111.40
9	JD	215	LEU	CA-CB-CG	5.68	128.36	115.30
9	CD	258	VAL	CG1-CB-CG2	-5.67	101.82	110.90
8	NE	195	LEU	CA-CB-CG	5.67	128.34	115.30
8	VC	221	ARG	NE-CZ-NH2	5.67	123.14	120.30
26	Z	265	LEU	CA-CB-CG	5.67	128.35	115.30
9	PH	130	LEU	CA-CB-CG	5.67	128.34	115.30
9	TF	7	LEU	CA-CB-CG	5.67	128.33	115.30
8	RM	428	LEU	CA-CB-CG	5.66	128.32	115.30
8	JK	317	LEU	CA-CB-CG	5.66	128.31	115.30
8	DG	308	ARG	NE-CZ-NH2	5.66	123.13	120.30
10	B9	183	LEU	CA-CB-CG	5.65	128.31	115.30
8	KK	114	LEU	CA-CB-CG	5.65	128.30	115.30
11	C	39	LEU	CA-CB-CG	5.65	128.29	115.30
8	PK	391	LEU	CA-CB-CG	5.65	128.29	115.30
9	RF	44	LEU	CA-CB-CG	5.65	128.29	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	JJ	323	MET	CB-CG-SD	5.64	129.34	112.40
8	PA	152	LEU	CA-CB-CG	5.64	128.28	115.30
9	FH	304	ASP	N-CA-C	-5.64	95.76	111.00
8	OA	117	LEU	CA-CB-CG	5.64	128.28	115.30
9	BB	263	LEU	CA-CB-CG	5.64	128.27	115.30
9	HJ	102	ALA	N-CA-C	-5.64	95.78	111.00
9	FH	41	ASP	CB-CG-OD1	5.63	123.37	118.30
8	RG	189	LEU	CA-CB-CG	5.63	128.26	115.30
8	RM	275	VAL	CG1-CB-CG2	-5.63	101.89	110.90
9	QH	246	LEU	CA-CB-CG	5.63	128.24	115.30
9	TL	213	ARG	NE-CZ-NH2	5.62	123.11	120.30
8	FG	248	LEU	CB-CG-CD2	5.62	120.56	111.00
8	TM	401	LYS	CA-CB-CG	5.62	125.76	113.40
12	C3	141	ASP	CB-CG-OD1	5.62	123.35	118.30
14	D3	386	LEU	CA-CB-CG	5.61	128.21	115.30
8	FK	302	MET	CA-CB-CG	5.61	122.83	113.30
8	SI	275	VAL	CG1-CB-CG2	-5.61	101.93	110.90
8	JM	286	LEU	CA-CB-CG	5.61	128.19	115.30
9	NJ	374	ILE	CG1-CB-CG2	-5.61	99.07	111.40
9	EL	44	LEU	CA-CB-CG	5.60	128.18	115.30
8	EE	269	LEU	CA-CB-CG	5.60	128.17	115.30
26	W	420	LEU	CA-CB-CG	5.59	128.17	115.30
8	FG	227	LEU	CA-CB-CG	5.59	128.16	115.30
9	LH	112	LEU	CA-CB-CG	5.59	128.16	115.30
9	AJ	377	LEU	CA-CB-CG	5.59	128.16	115.30
9	ML	268	PRO	N-CA-C	5.59	126.63	112.10
9	BB	65	LEU	CB-CG-CD2	-5.58	101.51	111.00
9	NF	66	VAL	CG1-CB-CG2	-5.58	101.97	110.90
9	UJ	393	ALA	N-CA-C	5.58	126.07	111.00
8	BE	92	LEU	CA-CB-CG	5.58	128.13	115.30
9	HH	295	ASP	CB-CG-OD2	5.58	123.32	118.30
9	WN	207	LEU	CA-CB-CG	5.58	128.13	115.30
8	HC	412	GLY	N-CA-C	5.58	127.04	113.10
10	B1	90	ASP	CB-CG-OD1	5.58	123.32	118.30
9	CH	164	MET	CA-CB-CG	5.57	122.77	113.30
9	DF	240	LEU	CA-CB-CG	5.57	128.12	115.30
8	NK	153	LEU	CA-CB-CG	5.57	128.12	115.30
9	UN	267	MET	CA-CB-CG	5.57	122.77	113.30
9	BH	227	HIS	N-CA-C	-5.57	95.97	111.00
12	C4	356	ASP	CB-CG-OD1	5.57	123.31	118.30
8	JK	218	ASP	CB-CG-OD1	5.56	123.31	118.30
25	V	51	ARG	CB-CG-CD	-5.56	97.14	111.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	ME	276	ILE	CG1-CB-CG2	-5.56	99.17	111.40
8	NE	153	LEU	CA-CB-CG	5.56	128.09	115.30
8	WG	275	VAL	CG1-CB-CG2	-5.56	102.00	110.90
8	EI	275	VAL	CG1-CB-CG2	-5.56	102.01	110.90
19	H2	181	ASP	CB-CG-OD1	5.56	123.30	118.30
9	VD	88	ASP	CB-CG-OD2	5.55	123.30	118.30
9	VH	233	MET	CB-CG-SD	5.55	129.06	112.40
8	WE	313	MET	CB-CG-SD	5.55	129.06	112.40
8	MC	269	LEU	CA-CB-CG	5.55	128.07	115.30
8	VC	367	ASP	CB-CG-OD1	5.55	123.29	118.30
10	B8	39	ARG	CB-CG-CD	-5.55	97.18	111.60
10	B8	384	MET	CA-CB-CG	5.54	122.73	113.30
9	HJ	331	LEU	CA-CB-CG	5.54	128.05	115.30
9	FD	62	ARG	NE-CZ-NH2	5.54	123.07	120.30
8	NI	153	LEU	CA-CB-CG	5.54	128.04	115.30
9	DF	361	LEU	CA-CB-CG	5.54	128.03	115.30
8	TI	119	LEU	CA-CB-CG	5.53	128.02	115.30
9	GF	128	ASP	CB-CG-OD2	5.53	123.28	118.30
8	DK	317	LEU	CA-CB-CG	5.53	128.02	115.30
8	IM	153	LEU	CA-CB-CG	5.53	128.01	115.30
9	LN	377	LEU	CA-CB-CG	5.53	128.01	115.30
9	UN	130	LEU	CA-CB-CG	5.53	128.01	115.30
8	AG	396	ASP	CB-CG-OD1	-5.52	113.33	118.30
8	FE	75	ILE	CG1-CB-CG2	-5.52	99.25	111.40
9	MB	167	PHE	N-CA-C	-5.52	96.09	111.00
10	B2	90	ASP	CB-CG-OD2	5.52	123.27	118.30
29	b	309	MET	CA-CB-CG	5.52	122.68	113.30
8	EG	184	PRO	CA-N-CD	-5.51	103.78	111.50
9	SJ	395	LEU	CA-CB-CG	5.51	127.97	115.30
9	OJ	42	LEU	CA-CB-CG	5.51	127.97	115.30
9	HN	192	LEU	CA-CB-CG	5.51	127.97	115.30
9	LL	299	MET	CA-CB-CG	5.51	122.66	113.30
8	AC	120	ASP	CB-CG-OD2	5.50	123.25	118.30
8	FC	286	LEU	CA-CB-CG	5.50	127.96	115.30
8	WC	215	ARG	NE-CZ-NH2	5.50	123.05	120.30
9	CB	246	LEU	CA-CB-CG	5.50	127.95	115.30
9	QD	130	LEU	CA-CB-CG	5.50	127.95	115.30
14	D8	116	GLU	CA-CB-CG	5.50	125.50	113.40
8	II	152	LEU	CB-CG-CD2	5.50	120.35	111.00
9	TJ	180	VAL	CA-CB-CG1	5.50	119.15	110.90
7	A3	185	ASP	CB-CG-OD2	5.50	123.25	118.30
8	WG	398	MET	CA-CB-CG	5.50	122.64	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	VE	275	VAL	CG1-CB-CG2	-5.49	102.11	110.90
10	B7	329	LEU	CA-CB-CG	5.49	127.93	115.30
9	DL	155	ILE	CG1-CB-CG2	-5.49	99.32	111.40
9	DN	31	ASP	CB-CG-OD2	5.49	123.24	118.30
28	YD	191	ARG	NE-CZ-NH2	5.49	123.05	120.30
26	Z	274	GLY	C-N-CD	-5.49	108.53	120.60
9	DH	92	PHE	N-CA-C	5.48	125.81	111.00
26	X	683	LEU	CA-CB-CG	5.48	127.91	115.30
9	DH	323	MET	CA-CB-CG	5.48	122.61	113.30
8	LC	425	MET	CA-CB-CG	5.48	122.61	113.30
8	EI	38	SER	C-N-CA	5.47	135.38	121.70
9	JF	225	LEU	CA-CB-CG	5.47	127.89	115.30
8	SA	391	LEU	CA-CB-CG	5.47	127.89	115.30
9	EH	284	LEU	CA-CB-CG	5.47	127.88	115.30
26	Y	467	LEU	CA-CB-CG	5.46	127.87	115.30
10	B7	233	MET	CA-CB-CG	5.46	122.59	113.30
9	KD	112	LEU	CA-CB-CG	5.46	127.86	115.30
6	A	60	LEU	CA-CB-CG	5.46	127.85	115.30
20	H4	244	LEU	CB-CG-CD2	5.46	120.28	111.00
9	QJ	263	LEU	CA-CB-CG	5.46	127.86	115.30
9	DF	406	MET	CA-CB-CG	5.46	122.58	113.30
9	TL	135	LEU	CA-CB-CG	5.46	127.85	115.30
8	AC	269	LEU	CA-CB-CG	5.46	127.85	115.30
8	HC	275	VAL	CG1-CB-CG2	-5.45	102.17	110.90
8	PG	275	VAL	CG1-CB-CG2	-5.45	102.17	110.90
9	EF	263	LEU	CA-CB-CG	5.45	127.83	115.30
9	FH	102	ALA	N-CA-C	5.45	125.72	111.00
9	LD	368	ILE	CG1-CB-CG2	-5.45	99.41	111.40
25	U	440	LEU	CA-CB-CG	5.45	127.83	115.30
8	NA	114	LEU	CA-CB-CG	5.45	127.83	115.30
9	FD	258	VAL	CG1-CB-CG2	-5.45	102.19	110.90
8	RI	227	LEU	CA-CB-CG	5.45	127.83	115.30
9	WB	147	MET	CA-CB-CG	5.44	122.55	113.30
24	P	102	GLN	CA-CB-CG	5.44	125.38	113.40
9	QF	135	LEU	CA-CB-CG	5.44	127.81	115.30
8	AI	428	LEU	CA-CB-CG	5.44	127.81	115.30
8	RK	171	ILE	C-N-CA	5.44	135.29	121.70
9	EN	154	LYS	CA-CB-CG	5.43	125.35	113.40
8	IK	186	ASN	N-CA-C	5.43	125.67	111.00
8	KK	264	ARG	NE-CZ-NH2	5.43	123.02	120.30
9	ID	112	LEU	CA-CB-CG	5.43	127.79	115.30
9	TH	30	ILE	C-N-CA	5.43	135.28	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	UC	275	VAL	CG1-CB-CG2	-5.43	102.21	110.90
8	JM	7	VAL	CG1-CB-CG2	-5.43	102.22	110.90
8	RK	9	VAL	CG1-CB-CG2	-5.42	102.22	110.90
12	C2	411	LEU	CA-CB-CG	5.42	127.77	115.30
9	HL	150	LEU	CB-CG-CD2	5.42	120.22	111.00
9	LL	293	MET	CB-CG-SD	-5.42	96.13	112.40
8	TM	153	LEU	CA-CB-CG	5.42	127.77	115.30
9	EF	44	LEU	CA-CB-CG	5.42	127.77	115.30
8	QG	217	LEU	CA-CB-CG	5.42	127.77	115.30
9	NB	139	LEU	CA-CB-CG	5.42	127.76	115.30
9	VB	330	MET	CB-CG-SD	-5.42	96.16	112.40
8	VM	259	LEU	CA-CB-CG	5.41	127.75	115.30
4	6	123	LEU	CA-CB-CG	5.41	127.74	115.30
8	JC	260	VAL	C-N-CD	-5.40	108.72	120.60
8	QI	286	LEU	CA-CB-CG	5.40	127.72	115.30
8	TK	125	LEU	CA-CB-CG	5.40	127.71	115.30
8	PA	298	PRO	CA-N-CD	-5.40	103.94	111.50
9	TL	150	LEU	CA-CB-CG	5.40	127.71	115.30
9	UJ	163	ILE	CG1-CB-CG2	-5.40	99.53	111.40
9	AL	257	MET	CG-SD-CE	-5.39	91.57	100.20
9	HB	44	LEU	CA-CB-CG	5.39	127.70	115.30
8	QE	152	LEU	CB-CG-CD2	5.39	120.17	111.00
15	F	162	LEU	CA-CB-CG	5.39	127.69	115.30
9	MD	192	LEU	CA-CB-CG	5.38	127.68	115.30
8	MK	26	LEU	CA-CB-CG	5.38	127.68	115.30
9	OB	374	ILE	CG1-CB-CG2	-5.38	99.56	111.40
9	GH	240	LEU	CA-CB-CG	5.38	127.66	115.30
8	HE	398	MET	CA-CB-CG	5.38	122.44	113.30
9	WD	246	LEU	CA-CB-CG	5.38	127.67	115.30
8	CI	269	LEU	CA-CB-CG	5.38	127.66	115.30
8	HE	122	ILE	CG1-CB-CG2	-5.37	99.60	111.40
8	EI	140	SER	N-CA-C	5.36	125.48	111.00
9	LL	118	ASP	CB-CG-OD2	5.36	123.13	118.30
26	X	509	VAL	CG1-CB-CG2	-5.36	102.32	110.90
8	FM	189	LEU	CA-CB-CG	5.36	127.63	115.30
25	V	467	LEU	CA-CB-CG	5.36	127.62	115.30
8	CA	291	ILE	CG1-CB-CG2	-5.36	99.62	111.40
8	PC	351	PHE	CB-CG-CD1	5.36	124.55	120.80
8	HM	378	LEU	CA-CB-CG	5.35	127.61	115.30
8	DG	125	LEU	CA-CB-CG	5.35	127.60	115.30
12	F1	179	LYS	CB-CG-CD	5.35	125.51	111.60
9	VF	240	LEU	CA-CB-CG	5.35	127.60	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	EB	112	LEU	CB-CG-CD2	5.35	120.09	111.00
10	B9	39	ARG	NE-CZ-NH2	-5.34	117.63	120.30
9	SJ	311	LEU	CA-CB-CG	5.34	127.58	115.30
22	I1	85	LEU	CA-CB-CG	5.34	127.58	115.30
8	UE	205	ASP	CB-CG-OD1	5.34	123.11	118.30
9	IB	31	ASP	CB-CG-OD1	5.34	123.10	118.30
9	CB	331	LEU	CA-CB-CG	5.33	127.57	115.30
9	CD	403	MET	CA-CB-CG	5.33	122.37	113.30
8	DE	26	LEU	CA-CB-CG	5.33	127.57	115.30
9	KH	240	LEU	CA-CB-CG	5.33	127.57	115.30
9	GL	258	VAL	CG1-CB-CG2	-5.33	102.38	110.90
8	LG	84	ARG	NE-CZ-NH1	5.32	122.96	120.30
8	WC	298	PRO	CA-N-CD	-5.32	104.05	111.50
8	GG	189	LEU	CB-CG-CD2	-5.32	101.96	111.00
9	HD	44	LEU	CA-CB-CG	5.32	127.53	115.30
8	UC	377	MET	CB-CG-SD	5.32	128.36	112.40
9	OL	331	LEU	CA-CB-CG	5.32	127.52	115.30
9	AD	151	LEU	CA-CB-CG	5.31	127.52	115.30
9	HB	112	LEU	CA-CB-CG	5.31	127.52	115.30
8	QA	157	LEU	CA-CB-CG	5.31	127.52	115.30
9	CF	217	LEU	CA-CB-CG	5.31	127.51	115.30
9	CL	209	ASP	CB-CG-OD1	5.31	123.08	118.30
9	QH	135	LEU	CA-CB-CG	5.31	127.51	115.30
8	RM	47	ASP	CB-CG-OD1	5.31	123.08	118.30
8	KE	195	LEU	CA-CB-CG	5.30	127.49	115.30
8	CI	132	LEU	CA-CB-CG	5.30	127.49	115.30
8	HK	378	LEU	CA-CB-CG	5.29	127.48	115.30
9	OH	331	LEU	CA-CB-CG	5.29	127.47	115.30
8	WE	227	LEU	CA-CB-CG	5.29	127.47	115.30
8	EC	167	LEU	CA-CB-CG	5.29	127.46	115.30
9	HD	273	LEU	CA-CB-CG	5.29	127.47	115.30
9	GH	73	MET	CB-CG-SD	-5.29	96.54	112.40
16	E1	105	LEU	CA-CB-CG	5.28	127.45	115.30
8	LE	425	MET	CA-CB-CG	5.28	122.28	113.30
32	n	73	LYS	CA-CB-CG	5.28	125.02	113.40
9	EL	42	LEU	CA-CB-CG	5.28	127.45	115.30
8	NE	252	LEU	CA-CB-CG	5.28	127.45	115.30
7	A2	246	LEU	CA-CB-CG	5.28	127.44	115.30
9	OD	4	ILE	CG1-CB-CG2	-5.28	99.79	111.40
9	TJ	300	MET	CA-CB-CG	5.28	122.27	113.30
8	TG	269	LEU	CA-CB-CG	5.27	127.43	115.30
8	JI	373	ARG	NE-CZ-NH2	-5.27	117.66	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	AI	195	LEU	CB-CG-CD2	-5.27	102.04	111.00
31	j	131	LYS	C-N-CA	5.27	134.88	121.70
9	FB	233	MET	CA-CB-CG	5.27	122.26	113.30
9	IB	220	PRO	CA-N-CD	-5.27	104.12	111.50
12	C1	181	LEU	CB-CG-CD1	-5.27	102.05	111.00
14	D6	423	LEU	CA-CB-CG	5.27	127.41	115.30
18	I	38	MET	CG-SD-CE	5.27	108.63	100.20
8	KC	153	LEU	CA-CB-CG	5.26	127.41	115.30
9	DJ	377	LEU	CA-CB-CG	5.26	127.40	115.30
9	JJ	139	LEU	CA-CB-CG	5.26	127.40	115.30
8	NE	269	LEU	CA-CB-CG	5.26	127.40	115.30
8	DI	182	VAL	CG1-CB-CG2	-5.26	102.49	110.90
8	PG	87	PHE	C-N-CA	-5.25	108.56	121.70
10	B7	73	ARG	NE-CZ-NH1	5.25	122.93	120.30
9	FJ	225	LEU	CA-CB-CG	5.25	127.38	115.30
7	A3	241	LEU	CA-CB-CG	5.25	127.38	115.30
9	FL	289	LEU	CB-CG-CD1	-5.25	102.07	111.00
9	QJ	253	LEU	CA-CB-CG	5.25	127.37	115.30
9	QL	240	LEU	CA-CB-CG	5.25	127.36	115.30
9	TH	192	LEU	CA-CB-CG	5.24	127.36	115.30
8	SM	204	VAL	CG1-CB-CG2	-5.24	102.52	110.90
14	D7	412	LEU	CA-CB-CG	5.24	127.34	115.30
9	HB	151	LEU	CA-CB-CG	5.24	127.34	115.30
8	PK	221	ARG	CA-CB-CG	5.24	124.92	113.40
9	MH	263	LEU	CA-CB-CG	5.23	127.34	115.30
8	WG	119	LEU	CA-CB-CG	5.23	127.33	115.30
9	AH	7	LEU	CA-CB-CG	5.23	127.32	115.30
8	WM	318	LEU	CA-CB-CG	5.23	127.33	115.30
8	MM	269	LEU	CA-CB-CG	5.23	127.32	115.30
9	FJ	263	LEU	CA-CB-CG	5.22	127.31	115.30
8	LM	397	LEU	CA-CB-CG	5.22	127.31	115.30
8	BG	259	LEU	CA-CB-CG	5.22	127.30	115.30
9	AJ	91	VAL	CG1-CB-CG2	-5.22	102.56	110.90
9	LN	293	MET	CA-CB-CG	5.22	122.17	113.30
8	OG	114	LEU	CA-CB-CG	5.21	127.29	115.30
27	XA	69	LEU	CA-CB-CG	5.21	127.29	115.30
8	EC	269	LEU	CA-CB-CG	5.21	127.29	115.30
9	JL	215	LEU	CA-CB-CG	5.21	127.29	115.30
12	F4	394	LYS	CA-CB-CG	5.21	124.87	113.40
9	MJ	41	ASP	CB-CG-OD2	5.21	122.99	118.30
8	WE	119	LEU	CA-CB-CG	5.21	127.28	115.30
9	VB	330	MET	CG-SD-CE	5.21	108.54	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	E0	138	LEU	CA-CB-CG	5.21	127.28	115.30
8	JI	26	LEU	CB-CG-CD1	-5.21	102.15	111.00
9	AF	150	LEU	CA-CB-CG	5.21	127.27	115.30
9	QF	44	LEU	CA-CB-CG	5.21	127.27	115.30
9	UD	403	MET	CA-CB-CG	5.20	122.14	113.30
30	g	371	LEU	CA-CB-CG	5.20	127.26	115.30
8	CA	160	ASP	CB-CG-OD2	5.20	122.98	118.30
8	BM	227	LEU	CA-CB-CG	5.20	127.25	115.30
8	OI	428	LEU	CA-CB-CG	5.20	127.25	115.30
16	E1	32	LEU	CA-CB-CG	5.20	127.25	115.30
9	PJ	418	LEU	CA-CB-CG	5.20	127.25	115.30
8	BA	69	ASP	CB-CG-OD1	5.19	122.97	118.30
8	DG	167	LEU	CA-CB-CG	5.19	127.24	115.30
9	MH	128	ASP	CB-CG-OD1	5.19	122.97	118.30
8	AK	392	ASP	CB-CG-OD1	5.18	122.97	118.30
9	AH	377	LEU	CA-CB-CG	5.18	127.22	115.30
9	UJ	130	LEU	CA-CB-CG	5.18	127.22	115.30
8	MK	119	LEU	CB-CG-CD1	-5.18	102.20	111.00
8	SI	252	LEU	CA-CB-CG	5.18	127.21	115.30
8	IG	39	ASP	CB-CG-OD2	5.18	122.96	118.30
8	WC	250	VAL	CG1-CB-CG2	-5.18	102.62	110.90
9	DD	381	ILE	CG1-CB-CG2	-5.17	100.01	111.40
8	SE	132	LEU	CA-CB-CG	5.17	127.20	115.30
9	TF	284	LEU	CA-CB-CG	5.17	127.20	115.30
9	VB	267	MET	CA-CB-CG	5.17	122.10	113.30
8	AM	137	ILE	CG1-CB-CG2	-5.17	100.02	111.40
27	XD	171	LEU	CA-CB-CG	5.17	127.20	115.30
26	Y	265	LEU	CA-CB-CG	5.17	127.19	115.30
9	AJ	155	ILE	CG1-CB-CG2	-5.17	100.03	111.40
9	IB	284	LEU	CA-CB-CG	5.17	127.19	115.30
8	RC	275	VAL	CG1-CB-CG2	-5.17	102.63	110.90
9	JF	258	VAL	CG1-CB-CG2	-5.17	102.63	110.90
10	B8	325	PRO	N-CD-CG	-5.16	95.45	103.20
29	c	335	ASP	CB-CG-OD2	5.16	122.94	118.30
9	BF	39	ASP	CB-CG-OD1	5.16	122.94	118.30
8	GK	242	LEU	CA-CB-CG	5.16	127.16	115.30
8	RC	269	LEU	CA-CB-CG	5.16	127.16	115.30
8	LC	84	ARG	NE-CZ-NH1	5.16	122.88	120.30
9	WD	88	ASP	CB-CG-OD1	-5.16	113.66	118.30
9	PF	228	LEU	CA-CB-CG	5.15	127.15	115.30
8	LG	317	LEU	CA-CB-CG	5.15	127.15	115.30
8	MK	114	LEU	CA-CB-CG	5.15	127.15	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	WF	362	LYS	CA-CB-CG	5.15	124.73	113.40
9	HD	192	LEU	CA-CB-CG	5.15	127.15	115.30
8	KI	125	LEU	CB-CG-CD2	-5.15	102.25	111.00
8	TE	26	LEU	CA-CB-CG	5.15	127.15	115.30
8	UG	378	LEU	N-CA-C	-5.15	97.09	111.00
8	LC	218	ASP	CB-CG-OD1	5.15	122.94	118.30
25	V	50	ASP	CB-CG-OD1	5.15	122.93	118.30
8	PG	391	LEU	CA-CB-CG	5.15	127.14	115.30
9	JJ	44	LEU	CA-CB-CG	5.15	127.14	115.30
10	B9	240	ARG	CB-CG-CD	5.14	124.98	111.60
9	PL	331	LEU	CA-CB-CG	5.14	127.13	115.30
9	RB	380	ARG	NE-CZ-NH2	5.14	122.87	120.30
9	SL	192	LEU	CA-CB-CG	5.14	127.13	115.30
9	EJ	377	LEU	CA-CB-CG	5.14	127.12	115.30
8	NK	117	LEU	CA-CB-CG	5.14	127.12	115.30
8	GG	259	LEU	CA-CB-CG	5.14	127.12	115.30
27	XA	120	THR	C-N-CA	-5.14	108.85	121.70
19	H2	38	MET	CB-CA-C	5.14	120.68	110.40
8	SG	181	VAL	CA-CB-CG1	5.14	118.61	110.90
8	TG	182	VAL	CG1-CB-CG2	-5.14	102.68	110.90
9	GH	213	ARG	NE-CZ-NH1	-5.14	117.73	120.30
8	MM	209	ILE	CG1-CB-CG2	-5.14	100.10	111.40
13	D	450	LEU	CA-CB-CG	5.13	127.11	115.30
9	DD	249	ASP	CB-CG-OD1	5.13	122.92	118.30
9	QL	187	LEU	CA-CB-CG	-5.13	103.49	115.30
9	O0	207	LEU	CB-CG-CD2	-5.13	102.27	111.00
10	B6	262	GLU	N-CA-CB	5.13	119.83	110.60
8	EK	368	LEU	CA-CB-CG	5.13	127.10	115.30
8	DA	291	ILE	CG1-CB-CG2	-5.13	100.11	111.40
9	QF	346	PRO	CA-N-CD	-5.13	104.32	111.50
8	AI	218	ASP	CB-CG-OD1	5.13	122.92	118.30
16	E1	54	MET	CA-CB-CG	5.13	122.02	113.30
8	RK	136	LEU	CA-CB-CG	5.13	127.09	115.30
8	JK	119	LEU	CA-CB-CG	-5.13	103.51	115.30
9	NJ	135	LEU	CA-CB-CG	5.13	127.09	115.30
9	TF	233	MET	CA-CB-CG	5.13	122.02	113.30
9	LH	74	ASP	CB-CG-OD2	5.12	122.91	118.30
9	DB	350	LYS	CD-CE-NZ	-5.12	99.92	111.70
9	UB	323	MET	CA-CB-CG	5.12	122.01	113.30
8	CA	390	ARG	NE-CZ-NH1	-5.12	117.74	120.30
8	CI	153	LEU	CA-CB-CG	5.12	127.08	115.30
9	SL	276	ARG	NE-CZ-NH2	5.12	122.86	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	WM	252	LEU	CA-CB-CG	5.12	127.08	115.30
8	DA	378	LEU	CA-CB-CG	5.12	127.07	115.30
8	HK	398	MET	CA-CB-CG	5.12	122.00	113.30
8	SA	392	ASP	CB-CG-OD1	5.12	122.91	118.30
14	D7	391	LEU	CA-CB-CG	5.12	127.06	115.30
9	KD	225	LEU	CA-CB-CG	5.12	127.07	115.30
9	MN	233	MET	CA-CB-CG	5.11	121.99	113.30
8	VM	47	ASP	CB-CG-OD2	5.11	122.90	118.30
28	YC	209	ASP	CB-CG-OD2	-5.11	113.70	118.30
8	EE	398	MET	CA-CB-CG	5.11	121.99	113.30
9	IF	323	MET	CB-CG-SD	5.11	127.73	112.40
8	DC	350	GLY	N-CA-C	5.11	125.86	113.10
9	SL	263	LEU	CA-CB-CG	5.11	127.04	115.30
8	VK	70	LEU	CA-CB-CG	5.11	127.04	115.30
8	FK	252	LEU	CA-CB-CG	5.10	127.04	115.30
8	FK	284	GLU	CA-CB-CG	5.10	124.63	113.40
9	MF	233	MET	CA-CB-CG	5.10	121.97	113.30
8	VI	136	LEU	CA-CB-CG	5.10	127.03	115.30
9	QB	267	MET	CA-CB-CG	5.10	121.97	113.30
9	RH	418	LEU	CA-CB-CG	5.10	127.02	115.30
8	RK	313	MET	CA-CB-CG	5.10	121.97	113.30
10	B8	39	ARG	CA-CB-CG	5.10	124.61	113.40
9	MD	267	MET	CA-CB-CG	5.10	121.96	113.30
9	WJ	44	LEU	CA-CB-CG	5.10	127.02	115.30
9	KJ	41	ASP	CB-CG-OD1	5.09	122.89	118.30
9	HN	7	LEU	CA-CB-CG	5.09	127.01	115.30
30	e	17	LEU	CA-CB-CG	5.09	127.01	115.30
9	JJ	65	LEU	CA-CB-CG	5.09	127.01	115.30
8	TG	284	GLU	CA-CB-CG	5.09	124.60	113.40
8	GK	209	ILE	CG1-CB-CG2	-5.09	100.20	111.40
9	IH	357	PRO	CA-N-CD	-5.09	104.38	111.50
27	XD	177	LEU	CA-CB-CG	5.09	127.00	115.30
8	EM	391	LEU	CA-CB-CG	5.09	127.00	115.30
15	F	244	ALA	N-CA-CB	5.09	117.22	110.10
8	TE	195	LEU	CA-CB-CG	5.09	127.00	115.30
12	F2	401	ASP	CB-CG-OD1	5.08	122.88	118.30
9	GD	273	LEU	CA-CB-CG	5.08	126.99	115.30
9	MB	164	MET	CB-CG-SD	-5.08	97.15	112.40
8	RA	157	LEU	CA-CB-CG	5.08	126.99	115.30
9	GJ	84	ILE	CG1-CB-CG2	-5.08	100.22	111.40
9	RB	395	LEU	CA-CB-CG	5.08	126.98	115.30
27	XF	69	LEU	CA-CB-CG	5.08	126.98	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	3	288	LEU	CA-CB-CG	5.08	126.97	115.30
14	D8	412	LEU	CA-CB-CG	5.08	126.98	115.30
9	SB	192	LEU	CA-CB-CG	5.08	126.97	115.30
9	PF	215	LEU	CA-CB-CG	5.07	126.97	115.30
14	D6	166	ASP	CB-CG-OD1	5.07	122.86	118.30
9	MN	192	LEU	CA-CB-CG	5.07	126.96	115.30
24	P	69	MET	CA-CB-CG	5.07	121.92	113.30
12	C1	455	LEU	CA-CB-CG	5.07	126.95	115.30
8	EK	384	ILE	CG1-CB-CG2	-5.07	100.25	111.40
8	AA	428	LEU	CA-CB-CG	5.06	126.95	115.30
9	AJ	240	LEU	CA-CB-CG	5.06	126.95	115.30
8	NG	378	LEU	CA-CB-CG	5.06	126.95	115.30
8	PC	63	PRO	CA-N-CD	-5.06	104.41	111.50
8	GK	205	ASP	N-CA-C	5.06	124.67	111.00
8	SA	157	LEU	CA-CB-CG	5.06	126.94	115.30
8	SE	286	LEU	CA-CB-CG	5.06	126.94	115.30
8	AC	153	LEU	CA-CB-CG	5.06	126.94	115.30
9	EB	151	LEU	CB-CG-CD2	5.06	119.60	111.00
12	F2	68	TYR	CA-CB-CG	5.06	123.01	113.40
9	MD	377	LEU	CA-CB-CG	5.06	126.94	115.30
26	X	284	LEU	CA-CB-CG	5.06	126.93	115.30
9	SD	112	LEU	CA-CB-CG	5.06	126.93	115.30
8	EK	259	LEU	CB-CG-CD1	-5.05	102.41	111.00
8	IK	153	LEU	CA-CB-CG	5.05	126.92	115.30
8	IO	267	PHE	CB-CG-CD1	5.05	124.33	120.80
8	LI	33	ASP	CB-CG-OD1	5.05	122.84	118.30
8	TM	132	LEU	CA-CB-CG	5.05	126.92	115.30
9	AL	192	LEU	CA-CB-CG	5.05	126.91	115.30
19	H1	159	LEU	CA-CB-CG	5.05	126.91	115.30
26	Y	580	LEU	CA-CB-CG	5.05	126.91	115.30
9	WD	415	MET	CB-CG-SD	5.05	127.54	112.40
8	GM	136	LEU	CA-CB-CG	5.04	126.90	115.30
8	NK	69	ASP	CB-CG-OD1	5.04	122.84	118.30
12	C2	94	TYR	C-N-CA	5.04	134.30	121.70
12	C8	141	ASP	CB-CG-OD1	5.04	122.83	118.30
8	EK	398	MET	CA-CB-CG	5.04	121.86	113.30
9	EN	65	LEU	CA-CB-CG	5.04	126.88	115.30
9	FL	7	LEU	CB-CG-CD1	-5.04	102.44	111.00
8	GM	23	LEU	CA-CB-CG	5.04	126.88	115.30
8	CC	195	LEU	CA-CB-CG	5.03	126.88	115.30
8	DA	157	LEU	CA-CB-CG	5.03	126.88	115.30
9	KF	377	LEU	CA-CB-CG	5.03	126.88	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	DI	422	ARG	NE-CZ-NH1	-5.03	117.78	120.30
8	GM	114	LEU	CA-CB-CG	5.03	126.87	115.30
9	NB	380	ARG	NE-CZ-NH2	5.03	122.81	120.30
8	QE	252	LEU	CA-CB-CG	5.03	126.87	115.30
9	PH	324	LYS	CD-CE-NZ	-5.03	100.13	111.70
9	SD	207	LEU	CB-CG-CD2	-5.03	102.45	111.00
9	SF	233	MET	CA-CB-CG	5.03	121.85	113.30
10	B0	221	LEU	CA-CB-CG	5.03	126.86	115.30
14	D6	130	LEU	CA-CB-CG	5.03	126.86	115.30
9	GF	406	MET	CB-CG-SD	5.03	127.48	112.40
8	PA	64	ARG	NE-CZ-NH2	-5.03	117.79	120.30
9	RJ	299	MET	CG-SD-CE	5.03	108.24	100.20
8	CC	248	LEU	CA-CB-CG	5.03	126.86	115.30
8	CC	344	VAL	CG1-CB-CG2	5.03	118.94	110.90
9	PJ	228	LEU	CA-CB-CG	5.02	126.85	115.30
8	CG	248	LEU	CA-CB-CG	5.02	126.84	115.30
16	E1	79	LEU	N-CA-C	5.02	124.55	111.00
9	IB	147	MET	CG-SD-CE	5.02	108.23	100.20
9	BL	380	ARG	NE-CZ-NH2	-5.01	117.79	120.30
9	LL	293	MET	CA-CB-CG	5.01	121.83	113.30
8	MM	154	MET	CG-SD-CE	-5.01	92.18	100.20
8	QA	350	GLY	N-CA-C	5.01	125.64	113.10
28	YF	64	GLU	C-N-CA	5.01	134.24	121.70
10	B8	39	ARG	CG-CD-NE	-5.01	101.28	111.80
9	DB	263	LEU	CA-CB-CG	5.01	126.83	115.30
9	EL	233	MET	CB-CG-SD	5.01	127.43	112.40
9	PL	273	LEU	CA-CB-CG	5.01	126.83	115.30
9	BJ	151	LEU	CA-CB-CG	5.01	126.82	115.30
8	DA	70	LEU	CA-CB-CG	5.01	126.82	115.30
9	SL	135	LEU	CA-CB-CG	5.01	126.82	115.30
8	RE	275	VAL	CG1-CB-CG2	-5.01	102.89	110.90
9	FH	323	MET	CB-CG-SD	-5.01	97.38	112.40
8	FK	110	ILE	CG1-CB-CG2	-5.01	100.39	111.40
17	G	39	LEU	CA-CB-CG	5.01	126.82	115.30
8	NC	269	LEU	CA-CB-CG	5.00	126.81	115.30

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	7	162	PRO	Mainchain
11	C	100	ARG	Mainchain

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Mol	Chain	Res	Type	Group
29	b	541	ASN	Mainchain
31	h	250	HIS	Mainchain
31	i	250	HIS	Mainchain
31	j	250	HIS	Mainchain
31	k	250	HIS	Mainchain

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	0	38/232 (16%)	36 (95%)	2 (5%)	0	100	100
1	7	117/232 (50%)	104 (89%)	11 (9%)	2 (2%)	9	34
2	1	148/877 (17%)	142 (96%)	6 (4%)	0	100	100
2	2	288/877 (33%)	258 (90%)	30 (10%)	0	100	100
3	3	304/514 (59%)	304 (100%)	0	0	100	100
3	4	215/514 (42%)	215 (100%)	0	0	100	100
4	5	370/377 (98%)	347 (94%)	23 (6%)	0	100	100
4	6	370/377 (98%)	348 (94%)	22 (6%)	0	100	100
5	8	189/196 (96%)	159 (84%)	29 (15%)	1 (0%)	29	61
5	9	33/196 (17%)	30 (91%)	3 (9%)	0	100	100
6	A	168/494 (34%)	167 (99%)	1 (1%)	0	100	100
6	B	352/494 (71%)	349 (99%)	3 (1%)	0	100	100
7	A0	217/418 (52%)	209 (96%)	8 (4%)	0	100	100
7	A1	394/418 (94%)	383 (97%)	10 (2%)	1 (0%)	41	72

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	A2	391/418 (94%)	383 (98%)	7 (2%)	1 (0%)	41	72
7	A3	330/418 (79%)	320 (97%)	10 (3%)	0	100	100
7	A4	32/418 (8%)	31 (97%)	1 (3%)	0	100	100
8	AA	436/452 (96%)	399 (92%)	37 (8%)	0	100	100
8	AC	438/452 (97%)	407 (93%)	31 (7%)	0	100	100
8	AE	438/452 (97%)	413 (94%)	25 (6%)	0	100	100
8	AG	438/452 (97%)	413 (94%)	25 (6%)	0	100	100
8	AI	438/452 (97%)	408 (93%)	30 (7%)	0	100	100
8	AK	438/452 (97%)	410 (94%)	27 (6%)	1 (0%)	47	78
8	AM	437/452 (97%)	418 (96%)	19 (4%)	0	100	100
8	BA	426/452 (94%)	391 (92%)	35 (8%)	0	100	100
8	BC	438/452 (97%)	409 (93%)	29 (7%)	0	100	100
8	BE	429/452 (95%)	396 (92%)	33 (8%)	0	100	100
8	BG	438/452 (97%)	398 (91%)	40 (9%)	0	100	100
8	BI	426/452 (94%)	390 (92%)	36 (8%)	0	100	100
8	BK	437/452 (97%)	394 (90%)	43 (10%)	0	100	100
8	BM	426/452 (94%)	391 (92%)	35 (8%)	0	100	100
8	CA	436/452 (96%)	406 (93%)	30 (7%)	0	100	100
8	CC	436/452 (96%)	406 (93%)	30 (7%)	0	100	100
8	CE	436/452 (96%)	399 (92%)	37 (8%)	0	100	100
8	CG	437/452 (97%)	405 (93%)	32 (7%)	0	100	100
8	CI	437/452 (97%)	408 (93%)	29 (7%)	0	100	100
8	CK	437/452 (97%)	410 (94%)	27 (6%)	0	100	100
8	CM	437/452 (97%)	410 (94%)	27 (6%)	0	100	100
8	DA	393/452 (87%)	359 (91%)	34 (9%)	0	100	100
8	DC	425/452 (94%)	392 (92%)	33 (8%)	0	100	100
8	DE	426/452 (94%)	379 (89%)	47 (11%)	0	100	100
8	DG	427/452 (94%)	378 (88%)	49 (12%)	0	100	100
8	DI	425/452 (94%)	396 (93%)	29 (7%)	0	100	100
8	DK	426/452 (94%)	388 (91%)	38 (9%)	0	100	100
8	DM	426/452 (94%)	400 (94%)	26 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	EC	437/452 (97%)	395 (90%)	42 (10%)	0	100	100
8	EE	439/452 (97%)	395 (90%)	44 (10%)	0	100	100
8	EG	435/452 (96%)	390 (90%)	45 (10%)	0	100	100
8	EI	434/452 (96%)	387 (89%)	47 (11%)	0	100	100
8	EK	438/452 (97%)	383 (87%)	54 (12%)	1 (0%)	47	78
8	EM	424/452 (94%)	379 (89%)	44 (10%)	1 (0%)	47	78
8	FC	427/452 (94%)	395 (92%)	32 (8%)	0	100	100
8	FE	421/452 (93%)	372 (88%)	49 (12%)	0	100	100
8	FG	422/452 (93%)	381 (90%)	40 (10%)	1 (0%)	47	78
8	FI	423/452 (94%)	383 (90%)	40 (10%)	0	100	100
8	FK	420/452 (93%)	377 (90%)	43 (10%)	0	100	100
8	FM	425/452 (94%)	384 (90%)	41 (10%)	0	100	100
8	GC	438/452 (97%)	411 (94%)	27 (6%)	0	100	100
8	GE	426/452 (94%)	409 (96%)	17 (4%)	0	100	100
8	GG	438/452 (97%)	410 (94%)	28 (6%)	0	100	100
8	GI	425/452 (94%)	401 (94%)	24 (6%)	0	100	100
8	GK	425/452 (94%)	396 (93%)	27 (6%)	2 (0%)	29	61
8	GM	437/452 (97%)	405 (93%)	31 (7%)	1 (0%)	47	78
8	HC	423/452 (94%)	401 (95%)	22 (5%)	0	100	100
8	HE	426/452 (94%)	402 (94%)	24 (6%)	0	100	100
8	HG	426/452 (94%)	396 (93%)	30 (7%)	0	100	100
8	HI	426/452 (94%)	398 (93%)	28 (7%)	0	100	100
8	HK	427/452 (94%)	392 (92%)	35 (8%)	0	100	100
8	HM	425/452 (94%)	403 (95%)	22 (5%)	0	100	100
8	HO	376/452 (83%)	355 (94%)	21 (6%)	0	100	100
8	IC	425/452 (94%)	390 (92%)	35 (8%)	0	100	100
8	IE	428/452 (95%)	396 (92%)	32 (8%)	0	100	100
8	IG	438/452 (97%)	404 (92%)	34 (8%)	0	100	100
8	II	428/452 (95%)	381 (89%)	47 (11%)	0	100	100
8	IK	438/452 (97%)	391 (89%)	47 (11%)	0	100	100
8	IM	427/452 (94%)	378 (88%)	49 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	IO	423/452 (94%)	396 (94%)	27 (6%)	0	100	100
8	JC	428/452 (95%)	394 (92%)	34 (8%)	0	100	100
8	JE	426/452 (94%)	399 (94%)	27 (6%)	0	100	100
8	JG	424/452 (94%)	391 (92%)	33 (8%)	0	100	100
8	JI	425/452 (94%)	394 (93%)	31 (7%)	0	100	100
8	JK	438/452 (97%)	399 (91%)	39 (9%)	0	100	100
8	JM	426/452 (94%)	379 (89%)	47 (11%)	0	100	100
8	KC	428/452 (95%)	394 (92%)	34 (8%)	0	100	100
8	KE	427/452 (94%)	394 (92%)	33 (8%)	0	100	100
8	KG	426/452 (94%)	404 (95%)	22 (5%)	0	100	100
8	KI	424/452 (94%)	396 (93%)	28 (7%)	0	100	100
8	KK	426/452 (94%)	405 (95%)	21 (5%)	0	100	100
8	KM	428/452 (95%)	399 (93%)	29 (7%)	0	100	100
8	KO	400/452 (88%)	371 (93%)	29 (7%)	0	100	100
8	LC	438/452 (97%)	407 (93%)	31 (7%)	0	100	100
8	LE	438/452 (97%)	406 (93%)	32 (7%)	0	100	100
8	LG	438/452 (97%)	407 (93%)	31 (7%)	0	100	100
8	LI	438/452 (97%)	405 (92%)	33 (8%)	0	100	100
8	LK	438/452 (97%)	413 (94%)	25 (6%)	0	100	100
8	LM	427/452 (94%)	398 (93%)	29 (7%)	0	100	100
8	MC	437/452 (97%)	393 (90%)	44 (10%)	0	100	100
8	ME	425/452 (94%)	398 (94%)	27 (6%)	0	100	100
8	MG	426/452 (94%)	396 (93%)	30 (7%)	0	100	100
8	MI	427/452 (94%)	385 (90%)	42 (10%)	0	100	100
8	MK	438/452 (97%)	398 (91%)	40 (9%)	0	100	100
8	MM	427/452 (94%)	384 (90%)	43 (10%)	0	100	100
8	NA	426/452 (94%)	393 (92%)	33 (8%)	0	100	100
8	NC	425/452 (94%)	391 (92%)	34 (8%)	0	100	100
8	NE	426/452 (94%)	397 (93%)	28 (7%)	1 (0%)	47	78
8	NG	428/452 (95%)	382 (89%)	46 (11%)	0	100	100
8	NI	428/452 (95%)	391 (91%)	37 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	NK	426/452 (94%)	400 (94%)	26 (6%)	0	100	100
8	OA	424/452 (94%)	401 (95%)	23 (5%)	0	100	100
8	OC	425/452 (94%)	395 (93%)	30 (7%)	0	100	100
8	OE	429/452 (95%)	398 (93%)	31 (7%)	0	100	100
8	OG	429/452 (95%)	394 (92%)	35 (8%)	0	100	100
8	OI	428/452 (95%)	397 (93%)	31 (7%)	0	100	100
8	OK	427/452 (94%)	402 (94%)	25 (6%)	0	100	100
8	PA	426/452 (94%)	401 (94%)	25 (6%)	0	100	100
8	PC	428/452 (95%)	392 (92%)	36 (8%)	0	100	100
8	PE	427/452 (94%)	403 (94%)	24 (6%)	0	100	100
8	PG	426/452 (94%)	383 (90%)	42 (10%)	1 (0%)	47	78
8	PI	423/452 (94%)	399 (94%)	24 (6%)	0	100	100
8	PK	426/452 (94%)	399 (94%)	27 (6%)	0	100	100
8	PM	426/452 (94%)	401 (94%)	25 (6%)	0	100	100
8	QA	427/452 (94%)	396 (93%)	31 (7%)	0	100	100
8	QC	426/452 (94%)	396 (93%)	30 (7%)	0	100	100
8	QE	426/452 (94%)	398 (93%)	28 (7%)	0	100	100
8	QG	427/452 (94%)	393 (92%)	33 (8%)	1 (0%)	47	78
8	QI	425/452 (94%)	394 (93%)	30 (7%)	1 (0%)	47	78
8	QK	427/452 (94%)	392 (92%)	35 (8%)	0	100	100
8	QM	427/452 (94%)	397 (93%)	30 (7%)	0	100	100
8	RA	425/452 (94%)	395 (93%)	30 (7%)	0	100	100
8	RC	428/452 (95%)	393 (92%)	34 (8%)	1 (0%)	47	78
8	RE	424/452 (94%)	393 (93%)	31 (7%)	0	100	100
8	RG	426/452 (94%)	387 (91%)	39 (9%)	0	100	100
8	RI	427/452 (94%)	397 (93%)	30 (7%)	0	100	100
8	RK	427/452 (94%)	396 (93%)	31 (7%)	0	100	100
8	RM	424/452 (94%)	398 (94%)	26 (6%)	0	100	100
8	SA	426/452 (94%)	394 (92%)	32 (8%)	0	100	100
8	SC	426/452 (94%)	388 (91%)	38 (9%)	0	100	100
8	SE	427/452 (94%)	402 (94%)	25 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	SG	427/452 (94%)	388 (91%)	39 (9%)	0	100	100
8	SI	421/452 (93%)	385 (91%)	36 (9%)	0	100	100
8	SK	428/452 (95%)	397 (93%)	30 (7%)	1 (0%)	47	78
8	SM	427/452 (94%)	397 (93%)	30 (7%)	0	100	100
8	TC	426/452 (94%)	384 (90%)	42 (10%)	0	100	100
8	TE	428/452 (95%)	392 (92%)	36 (8%)	0	100	100
8	TG	426/452 (94%)	384 (90%)	42 (10%)	0	100	100
8	TI	426/452 (94%)	397 (93%)	29 (7%)	0	100	100
8	TK	428/452 (95%)	400 (94%)	28 (6%)	0	100	100
8	TM	426/452 (94%)	382 (90%)	44 (10%)	0	100	100
8	UC	429/452 (95%)	400 (93%)	29 (7%)	0	100	100
8	UE	428/452 (95%)	400 (94%)	28 (6%)	0	100	100
8	UG	429/452 (95%)	398 (93%)	31 (7%)	0	100	100
8	UI	429/452 (95%)	399 (93%)	30 (7%)	0	100	100
8	UK	429/452 (95%)	407 (95%)	22 (5%)	0	100	100
8	UM	427/452 (94%)	400 (94%)	27 (6%)	0	100	100
8	VC	438/452 (97%)	400 (91%)	38 (9%)	0	100	100
8	VE	429/452 (95%)	401 (94%)	28 (6%)	0	100	100
8	VG	438/452 (97%)	398 (91%)	40 (9%)	0	100	100
8	VI	429/452 (95%)	401 (94%)	28 (6%)	0	100	100
8	VK	438/452 (97%)	406 (93%)	32 (7%)	0	100	100
8	VM	426/452 (94%)	394 (92%)	32 (8%)	0	100	100
8	WC	438/452 (97%)	394 (90%)	43 (10%)	1 (0%)	47	78
8	WE	427/452 (94%)	391 (92%)	36 (8%)	0	100	100
8	WG	437/452 (97%)	403 (92%)	34 (8%)	0	100	100
8	WI	427/452 (94%)	400 (94%)	27 (6%)	0	100	100
8	WK	436/452 (96%)	404 (93%)	32 (7%)	0	100	100
8	WM	427/452 (94%)	397 (93%)	30 (7%)	0	100	100
9	AB	434/445 (98%)	404 (93%)	30 (7%)	0	100	100
9	AD	434/445 (98%)	402 (93%)	32 (7%)	0	100	100
9	AF	434/445 (98%)	409 (94%)	25 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	AH	434/445 (98%)	404 (93%)	30 (7%)	0	100	100
9	AJ	434/445 (98%)	408 (94%)	26 (6%)	0	100	100
9	AL	433/445 (97%)	411 (95%)	22 (5%)	0	100	100
9	BB	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
9	BD	425/445 (96%)	393 (92%)	32 (8%)	0	100	100
9	BF	426/445 (96%)	391 (92%)	35 (8%)	0	100	100
9	BH	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
9	BJ	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
9	BL	423/445 (95%)	395 (93%)	28 (7%)	0	100	100
9	CB	424/445 (95%)	386 (91%)	37 (9%)	1 (0%)	47	78
9	CD	424/445 (95%)	392 (92%)	32 (8%)	0	100	100
9	CF	426/445 (96%)	393 (92%)	33 (8%)	0	100	100
9	CH	425/445 (96%)	390 (92%)	35 (8%)	0	100	100
9	CJ	426/445 (96%)	396 (93%)	30 (7%)	0	100	100
9	CL	423/445 (95%)	397 (94%)	25 (6%)	1 (0%)	47	78
9	DB	424/445 (95%)	393 (93%)	31 (7%)	0	100	100
9	DD	424/445 (95%)	384 (91%)	40 (9%)	0	100	100
9	DF	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
9	DH	424/445 (95%)	375 (88%)	48 (11%)	1 (0%)	47	78
9	DJ	424/445 (95%)	387 (91%)	37 (9%)	0	100	100
9	DL	423/445 (95%)	391 (92%)	32 (8%)	0	100	100
9	DN	381/445 (86%)	358 (94%)	23 (6%)	0	100	100
9	EB	424/445 (95%)	392 (92%)	32 (8%)	0	100	100
9	ED	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
9	EF	424/445 (95%)	379 (89%)	45 (11%)	0	100	100
9	EH	426/445 (96%)	377 (88%)	47 (11%)	2 (0%)	29	61
9	EJ	424/445 (95%)	386 (91%)	37 (9%)	1 (0%)	47	78
9	EL	423/445 (95%)	378 (89%)	45 (11%)	0	100	100
9	EN	424/445 (95%)	385 (91%)	39 (9%)	0	100	100
9	FB	424/445 (95%)	391 (92%)	33 (8%)	0	100	100
9	FD	425/445 (96%)	388 (91%)	37 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	FF	424/445 (95%)	373 (88%)	49 (12%)	2 (0%)	29	61
9	FH	424/445 (95%)	369 (87%)	53 (12%)	2 (0%)	29	61
9	FJ	424/445 (95%)	397 (94%)	27 (6%)	0	100	100
9	FL	423/445 (95%)	386 (91%)	37 (9%)	0	100	100
9	FN	426/445 (96%)	390 (92%)	36 (8%)	0	100	100
9	GB	426/445 (96%)	397 (93%)	29 (7%)	0	100	100
9	GD	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
9	GF	426/445 (96%)	398 (93%)	28 (7%)	0	100	100
9	GH	426/445 (96%)	389 (91%)	37 (9%)	0	100	100
9	GJ	426/445 (96%)	398 (93%)	28 (7%)	0	100	100
9	GL	423/445 (95%)	394 (93%)	29 (7%)	0	100	100
9	GN	426/445 (96%)	400 (94%)	26 (6%)	0	100	100
9	HB	424/445 (95%)	397 (94%)	27 (6%)	0	100	100
9	HD	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
9	HF	426/445 (96%)	405 (95%)	21 (5%)	0	100	100
9	HH	425/445 (96%)	393 (92%)	31 (7%)	1 (0%)	47	78
9	HJ	426/445 (96%)	402 (94%)	24 (6%)	0	100	100
9	HL	423/445 (95%)	395 (93%)	27 (6%)	1 (0%)	47	78
9	HN	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
9	IB	360/445 (81%)	338 (94%)	22 (6%)	0	100	100
9	ID	425/445 (96%)	391 (92%)	34 (8%)	0	100	100
9	IF	426/445 (96%)	394 (92%)	32 (8%)	0	100	100
9	IH	425/445 (96%)	388 (91%)	35 (8%)	2 (0%)	29	61
9	IJ	426/445 (96%)	391 (92%)	34 (8%)	1 (0%)	47	78
9	IL	424/445 (95%)	384 (91%)	39 (9%)	1 (0%)	47	78
9	IN	426/445 (96%)	391 (92%)	35 (8%)	0	100	100
9	JB	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
9	JD	425/445 (96%)	384 (90%)	41 (10%)	0	100	100
9	JF	424/445 (95%)	393 (93%)	31 (7%)	0	100	100
9	JH	424/445 (95%)	389 (92%)	35 (8%)	0	100	100
9	JJ	424/445 (95%)	392 (92%)	32 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	JL	424/445 (95%)	376 (89%)	47 (11%)	1 (0%)	47	78
9	JN	424/445 (95%)	390 (92%)	34 (8%)	0	100	100
9	KB	397/445 (89%)	378 (95%)	19 (5%)	0	100	100
9	KD	426/445 (96%)	397 (93%)	29 (7%)	0	100	100
9	KF	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
9	KH	427/445 (96%)	406 (95%)	21 (5%)	0	100	100
9	KJ	424/445 (95%)	397 (94%)	27 (6%)	0	100	100
9	KL	427/445 (96%)	399 (93%)	28 (7%)	0	100	100
9	KN	426/445 (96%)	412 (97%)	14 (3%)	0	100	100
9	LB	426/445 (96%)	403 (95%)	23 (5%)	0	100	100
9	LD	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
9	LF	426/445 (96%)	401 (94%)	25 (6%)	0	100	100
9	LH	426/445 (96%)	398 (93%)	28 (7%)	0	100	100
9	LJ	426/445 (96%)	401 (94%)	25 (6%)	0	100	100
9	LL	424/445 (95%)	398 (94%)	26 (6%)	0	100	100
9	LN	426/445 (96%)	401 (94%)	25 (6%)	0	100	100
9	MB	424/445 (95%)	390 (92%)	34 (8%)	0	100	100
9	MD	424/445 (95%)	384 (91%)	40 (9%)	0	100	100
9	MF	426/445 (96%)	392 (92%)	34 (8%)	0	100	100
9	MH	426/445 (96%)	395 (93%)	31 (7%)	0	100	100
9	MJ	424/445 (95%)	390 (92%)	34 (8%)	0	100	100
9	ML	424/445 (95%)	387 (91%)	37 (9%)	0	100	100
9	MN	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
9	NO	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
9	NB	426/445 (96%)	386 (91%)	40 (9%)	0	100	100
9	ND	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
9	NF	425/445 (96%)	387 (91%)	38 (9%)	0	100	100
9	NH	426/445 (96%)	393 (92%)	32 (8%)	1 (0%)	47	78
9	NJ	426/445 (96%)	396 (93%)	30 (7%)	0	100	100
9	NL	423/445 (95%)	398 (94%)	25 (6%)	0	100	100
9	OO	408/445 (92%)	383 (94%)	25 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	OB	423/445 (95%)	395 (93%)	28 (7%)	0	100	100
9	OD	422/445 (95%)	402 (95%)	20 (5%)	0	100	100
9	OF	423/445 (95%)	390 (92%)	33 (8%)	0	100	100
9	OH	426/445 (96%)	399 (94%)	27 (6%)	0	100	100
9	OJ	426/445 (96%)	398 (93%)	28 (7%)	0	100	100
9	OL	422/445 (95%)	390 (92%)	32 (8%)	0	100	100
9	PB	425/445 (96%)	393 (92%)	31 (7%)	1 (0%)	47	78
9	PD	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
9	PF	426/445 (96%)	400 (94%)	26 (6%)	0	100	100
9	PH	426/445 (96%)	397 (93%)	29 (7%)	0	100	100
9	PJ	426/445 (96%)	399 (94%)	27 (6%)	0	100	100
9	PL	423/445 (95%)	394 (93%)	29 (7%)	0	100	100
9	QB	426/445 (96%)	396 (93%)	30 (7%)	0	100	100
9	QD	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
9	QF	426/445 (96%)	389 (91%)	37 (9%)	0	100	100
9	QH	426/445 (96%)	386 (91%)	39 (9%)	1 (0%)	47	78
9	QJ	426/445 (96%)	392 (92%)	34 (8%)	0	100	100
9	QL	424/445 (95%)	399 (94%)	25 (6%)	0	100	100
9	RB	426/445 (96%)	384 (90%)	42 (10%)	0	100	100
9	RD	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
9	RF	426/445 (96%)	390 (92%)	36 (8%)	0	100	100
9	RH	426/445 (96%)	397 (93%)	29 (7%)	0	100	100
9	RJ	426/445 (96%)	397 (93%)	29 (7%)	0	100	100
9	RL	424/445 (95%)	386 (91%)	38 (9%)	0	100	100
9	SB	426/445 (96%)	385 (90%)	40 (9%)	1 (0%)	47	78
9	SD	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
9	SF	426/445 (96%)	393 (92%)	33 (8%)	0	100	100
9	SH	426/445 (96%)	396 (93%)	29 (7%)	1 (0%)	47	78
9	SJ	426/445 (96%)	398 (93%)	28 (7%)	0	100	100
9	SL	424/445 (95%)	391 (92%)	33 (8%)	0	100	100
9	TB	426/445 (96%)	393 (92%)	33 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	TD	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
9	TF	426/445 (96%)	392 (92%)	34 (8%)	0	100	100
9	TH	426/445 (96%)	405 (95%)	21 (5%)	0	100	100
9	TJ	426/445 (96%)	383 (90%)	43 (10%)	0	100	100
9	TL	424/445 (95%)	389 (92%)	35 (8%)	0	100	100
9	UB	426/445 (96%)	393 (92%)	33 (8%)	0	100	100
9	UD	425/445 (96%)	392 (92%)	33 (8%)	0	100	100
9	UF	426/445 (96%)	396 (93%)	30 (7%)	0	100	100
9	UH	426/445 (96%)	399 (94%)	27 (6%)	0	100	100
9	UJ	426/445 (96%)	392 (92%)	34 (8%)	0	100	100
9	UL	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
9	UN	426/445 (96%)	404 (95%)	22 (5%)	0	100	100
9	VB	426/445 (96%)	384 (90%)	42 (10%)	0	100	100
9	VD	425/445 (96%)	393 (92%)	32 (8%)	0	100	100
9	VF	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
9	VH	426/445 (96%)	400 (94%)	26 (6%)	0	100	100
9	VJ	426/445 (96%)	396 (93%)	30 (7%)	0	100	100
9	VL	424/445 (95%)	384 (91%)	40 (9%)	0	100	100
9	VN	426/445 (96%)	400 (94%)	26 (6%)	0	100	100
9	WB	426/445 (96%)	381 (89%)	45 (11%)	0	100	100
9	WD	425/445 (96%)	388 (91%)	37 (9%)	0	100	100
9	WF	424/445 (95%)	396 (93%)	28 (7%)	0	100	100
9	WH	424/445 (95%)	391 (92%)	33 (8%)	0	100	100
9	WJ	424/445 (95%)	399 (94%)	25 (6%)	0	100	100
9	WL	424/445 (95%)	386 (91%)	38 (9%)	0	100	100
9	WN	424/445 (95%)	397 (94%)	27 (6%)	0	100	100
10	B0	185/430 (43%)	181 (98%)	4 (2%)	0	100	100
10	B1	414/430 (96%)	406 (98%)	8 (2%)	0	100	100
10	B2	414/430 (96%)	397 (96%)	17 (4%)	0	100	100
10	B3	381/430 (89%)	367 (96%)	13 (3%)	1 (0%)	41	72
10	B4	47/430 (11%)	46 (98%)	1 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	B5	49/430 (11%)	46 (94%)	3 (6%)	0	100	100
10	B6	356/430 (83%)	354 (99%)	2 (1%)	0	100	100
10	B7	412/430 (96%)	402 (98%)	10 (2%)	0	100	100
10	B8	401/430 (93%)	390 (97%)	11 (3%)	0	100	100
10	B9	183/430 (43%)	176 (96%)	7 (4%)	0	100	100
11	C	89/101 (88%)	89 (100%)	0	0	100	100
12	C0	28/490 (6%)	28 (100%)	0	0	100	100
12	C1	330/490 (67%)	320 (97%)	10 (3%)	0	100	100
12	C2	392/490 (80%)	387 (99%)	5 (1%)	0	100	100
12	C3	392/490 (80%)	378 (96%)	14 (4%)	0	100	100
12	C4	211/490 (43%)	203 (96%)	7 (3%)	1 (0%)	29	61
12	C5	111/490 (23%)	109 (98%)	2 (2%)	0	100	100
12	C6	383/490 (78%)	376 (98%)	7 (2%)	0	100	100
12	C7	411/490 (84%)	402 (98%)	8 (2%)	1 (0%)	47	78
12	C8	403/490 (82%)	395 (98%)	7 (2%)	1 (0%)	47	78
12	C9	108/490 (22%)	107 (99%)	1 (1%)	0	100	100
12	F0	133/490 (27%)	127 (96%)	6 (4%)	0	100	100
12	F1	417/490 (85%)	402 (96%)	15 (4%)	0	100	100
12	F2	417/490 (85%)	403 (97%)	14 (3%)	0	100	100
12	F3	376/490 (77%)	369 (98%)	7 (2%)	0	100	100
12	F4	97/490 (20%)	92 (95%)	5 (5%)	0	100	100
13	D	141/484 (29%)	128 (91%)	13 (9%)	0	100	100
14	D0	285/447 (64%)	280 (98%)	5 (2%)	0	100	100
14	D1	423/447 (95%)	409 (97%)	14 (3%)	0	100	100
14	D2	423/447 (95%)	413 (98%)	10 (2%)	0	100	100
14	D3	312/447 (70%)	308 (99%)	4 (1%)	0	100	100
14	D5	7/447 (2%)	7 (100%)	0	0	100	100
14	D6	315/447 (70%)	307 (98%)	8 (2%)	0	100	100
14	D7	412/447 (92%)	397 (96%)	14 (3%)	1 (0%)	47	78
14	D8	411/447 (92%)	401 (98%)	10 (2%)	0	100	100
14	D9	271/447 (61%)	261 (96%)	10 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	E	251/321 (78%)	230 (92%)	21 (8%)	0	100	100
15	F	251/321 (78%)	220 (88%)	30 (12%)	1 (0%)	34	67
16	E0	66/208 (32%)	60 (91%)	6 (9%)	0	100	100
16	E1	125/208 (60%)	112 (90%)	12 (10%)	1 (1%)	19	51
16	E2	142/208 (68%)	129 (91%)	12 (8%)	1 (1%)	22	55
16	E3	142/208 (68%)	129 (91%)	12 (8%)	1 (1%)	22	55
17	G	94/120 (78%)	86 (92%)	8 (8%)	0	100	100
18	H	80/274 (29%)	70 (88%)	10 (12%)	0	100	100
18	I	144/274 (53%)	139 (96%)	5 (4%)	0	100	100
18	J	144/274 (53%)	131 (91%)	13 (9%)	0	100	100
18	K	144/274 (53%)	131 (91%)	13 (9%)	0	100	100
18	L	144/274 (53%)	137 (95%)	7 (5%)	0	100	100
18	M	144/274 (53%)	136 (94%)	8 (6%)	0	100	100
18	N	147/274 (54%)	135 (92%)	12 (8%)	0	100	100
19	H1	190/687 (28%)	188 (99%)	2 (1%)	0	100	100
19	H2	248/687 (36%)	243 (98%)	5 (2%)	0	100	100
19	H3	103/687 (15%)	102 (99%)	1 (1%)	0	100	100
20	H4	191/621 (31%)	186 (97%)	5 (3%)	0	100	100
20	H5	247/621 (40%)	246 (100%)	1 (0%)	0	100	100
20	H6	123/621 (20%)	121 (98%)	2 (2%)	0	100	100
21	H7	576/1044 (55%)	541 (94%)	34 (6%)	1 (0%)	47	78
21	H8	575/1044 (55%)	543 (94%)	31 (5%)	1 (0%)	47	78
21	H9	354/1044 (34%)	338 (96%)	16 (4%)	0	100	100
22	I1	188/683 (28%)	176 (94%)	12 (6%)	0	100	100
22	I2	188/683 (28%)	181 (96%)	7 (4%)	0	100	100
23	I3	182/212 (86%)	174 (96%)	7 (4%)	1 (0%)	29	61
23	I4	183/212 (86%)	175 (96%)	7 (4%)	1 (0%)	29	61
24	O	29/377 (8%)	29 (100%)	0	0	100	100
24	P	371/377 (98%)	359 (97%)	12 (3%)	0	100	100
24	Q	37/377 (10%)	34 (92%)	3 (8%)	0	100	100
24	R	247/377 (66%)	240 (97%)	7 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	S	168/377 (45%)	167 (99%)	1 (1%)	0	100	100
25	T	446/640 (70%)	404 (91%)	41 (9%)	1 (0%)	47	78
25	U	446/640 (70%)	396 (89%)	50 (11%)	0	100	100
25	V	446/640 (70%)	405 (91%)	41 (9%)	0	100	100
26	W	543/733 (74%)	484 (89%)	58 (11%)	1 (0%)	47	78
26	X	624/733 (85%)	560 (90%)	64 (10%)	0	100	100
26	Y	624/733 (85%)	567 (91%)	57 (9%)	0	100	100
26	Z	439/733 (60%)	400 (91%)	39 (9%)	0	100	100
27	XA	182/193 (94%)	168 (92%)	14 (8%)	0	100	100
27	XB	182/193 (94%)	162 (89%)	20 (11%)	0	100	100
27	XC	182/193 (94%)	163 (90%)	19 (10%)	0	100	100
27	XD	182/193 (94%)	167 (92%)	15 (8%)	0	100	100
27	XE	182/193 (94%)	168 (92%)	13 (7%)	1 (0%)	29	61
27	XF	182/193 (94%)	165 (91%)	17 (9%)	0	100	100
27	XG	182/193 (94%)	168 (92%)	14 (8%)	0	100	100
28	YB	217/257 (84%)	194 (89%)	23 (11%)	0	100	100
28	YC	217/257 (84%)	196 (90%)	21 (10%)	0	100	100
28	YD	217/257 (84%)	196 (90%)	21 (10%)	0	100	100
28	YE	217/257 (84%)	202 (93%)	15 (7%)	0	100	100
28	YF	217/257 (84%)	201 (93%)	16 (7%)	0	100	100
28	YG	217/257 (84%)	198 (91%)	18 (8%)	1 (0%)	29	61
29	a	163/549 (30%)	162 (99%)	1 (1%)	0	100	100
29	b	330/549 (60%)	327 (99%)	3 (1%)	0	100	100
29	c	271/549 (49%)	271 (100%)	0	0	100	100
29	d	213/549 (39%)	209 (98%)	4 (2%)	0	100	100
30	e	608/623 (98%)	541 (89%)	67 (11%)	0	100	100
30	f	608/623 (98%)	530 (87%)	77 (13%)	1 (0%)	47	78
30	g	608/623 (98%)	536 (88%)	70 (12%)	2 (0%)	41	72
31	h	146/259 (56%)	139 (95%)	7 (5%)	0	100	100
31	i	231/259 (89%)	222 (96%)	9 (4%)	0	100	100
31	j	231/259 (89%)	219 (95%)	12 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	k	231/259 (89%)	224 (97%)	7 (3%)	0	100	100
32	l	112/196 (57%)	102 (91%)	10 (9%)	0	100	100
32	m	114/196 (58%)	106 (93%)	8 (7%)	0	100	100
32	n	116/196 (59%)	108 (93%)	8 (7%)	0	100	100
33	o	370/547 (68%)	367 (99%)	3 (1%)	0	100	100
33	p	98/547 (18%)	96 (98%)	2 (2%)	0	100	100
34	q	75/170 (44%)	70 (93%)	5 (7%)	0	100	100
34	r	75/170 (44%)	68 (91%)	7 (9%)	0	100	100
34	s	75/170 (44%)	67 (89%)	8 (11%)	0	100	100
35	t	176/1497 (12%)	162 (92%)	14 (8%)	0	100	100
36	y	61/136 (45%)	55 (90%)	6 (10%)	0	100	100
36	z	113/136 (83%)	108 (96%)	5 (4%)	0	100	100
All	All	160251/190211 (84%)	148753 (93%)	11437 (7%)	61 (0%)	100	100

All (61) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	EH	180	VAL
8	GK	224	TYR
8	GM	130	THR
9	QH	393	ALA
8	SK	268	PRO
30	f	62	PHE
7	A2	328	LEU
9	CB	197	ASP
14	D7	51	TYR
8	GK	205	ASP
21	H7	910	LYS
21	H8	910	LYS
9	JL	173	PRO
9	PB	59	TYR
8	QG	404	PHE
1	7	168	PRO
1	7	169	LEU
16	E3	80	PRO
9	EJ	272	PRO
8	EK	204	VAL
15	F	244	ALA

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Mol	Chain	Res	Type
9	FF	273	LEU
8	NE	32	PRO
9	SB	346	PRO
8	WC	47	ASP
30	g	477	GLU
8	AK	175	PRO
10	B3	128	VAL
16	E1	41	PRO
16	E2	39	TRP
8	EM	18	ASN
9	FF	272	PRO
9	FH	303	CYS
9	FH	346	PRO
9	IJ	259	PRO
9	SH	346	PRO
27	XE	116	PRO
7	A1	400	ARG
12	C4	481	PRO
9	DH	263	LEU
9	EH	179	VAL
8	PG	261	PRO
8	QI	261	PRO
8	RC	261	PRO
25	T	283	ASP
30	g	250	ASP
12	C7	82	PRO
9	IH	259	PRO
26	W	528	LEU
23	I3	138	PRO
9	NH	80	PRO
9	HL	259	PRO
9	IL	261	PRO
5	8	185	VAL
12	C8	82	PRO
23	I4	138	PRO
9	IH	80	PRO
9	CL	326	VAL
8	FG	261	PRO
9	HH	259	PRO
28	YG	57	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	0	36/208 (17%)	36 (100%)	0	100	100
1	7	57/208 (27%)	56 (98%)	1 (2%)	59	79
2	1	47/750 (6%)	47 (100%)	0	100	100
2	2	20/750 (3%)	20 (100%)	0	100	100
3	3	199/469 (42%)	199 (100%)	0	100	100
3	4	200/469 (43%)	198 (99%)	2 (1%)	76	88
4	5	191/324 (59%)	186 (97%)	5 (3%)	46	72
4	6	319/324 (98%)	313 (98%)	6 (2%)	57	78
5	8	177/182 (97%)	172 (97%)	5 (3%)	43	70
5	9	33/182 (18%)	33 (100%)	0	100	100
6	A	151/451 (34%)	150 (99%)	1 (1%)	84	92
6	B	321/451 (71%)	319 (99%)	2 (1%)	86	94
7	A0	201/382 (53%)	200 (100%)	1 (0%)	88	94
7	A1	366/382 (96%)	364 (100%)	2 (0%)	88	94
7	A2	364/382 (95%)	361 (99%)	3 (1%)	81	91
7	A3	311/382 (81%)	311 (100%)	0	100	100
7	A4	29/382 (8%)	29 (100%)	0	100	100
8	AA	368/379 (97%)	367 (100%)	1 (0%)	92	97
8	AC	370/379 (98%)	368 (100%)	2 (0%)	88	94
8	AE	370/379 (98%)	370 (100%)	0	100	100
8	AG	370/379 (98%)	370 (100%)	0	100	100
8	AI	370/379 (98%)	368 (100%)	2 (0%)	88	94
8	AK	370/379 (98%)	370 (100%)	0	100	100
8	AM	369/379 (97%)	367 (100%)	2 (0%)	88	94
8	BA	363/379 (96%)	363 (100%)	0	100	100
8	BC	370/379 (98%)	369 (100%)	1 (0%)	92	97

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	BE	366/379 (97%)	366 (100%)	0	100	100
8	BG	370/379 (98%)	369 (100%)	1 (0%)	92	97
8	BI	363/379 (96%)	363 (100%)	0	100	100
8	BK	369/379 (97%)	367 (100%)	2 (0%)	88	94
8	BM	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	CA	368/379 (97%)	366 (100%)	2 (0%)	88	94
8	CC	368/379 (97%)	366 (100%)	2 (0%)	88	94
8	CE	368/379 (97%)	367 (100%)	1 (0%)	92	97
8	CG	369/379 (97%)	366 (99%)	3 (1%)	81	91
8	CI	369/379 (97%)	369 (100%)	0	100	100
8	CK	369/379 (97%)	369 (100%)	0	100	100
8	CM	369/379 (97%)	368 (100%)	1 (0%)	92	97
8	DA	341/379 (90%)	340 (100%)	1 (0%)	92	97
8	DC	362/379 (96%)	360 (99%)	2 (1%)	86	94
8	DE	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	DG	364/379 (96%)	364 (100%)	0	100	100
8	DI	362/379 (96%)	362 (100%)	0	100	100
8	DK	363/379 (96%)	363 (100%)	0	100	100
8	DM	363/379 (96%)	357 (98%)	6 (2%)	60	80
8	EC	369/379 (97%)	367 (100%)	2 (0%)	88	94
8	EE	371/379 (98%)	368 (99%)	3 (1%)	81	91
8	EG	367/379 (97%)	366 (100%)	1 (0%)	92	97
8	EI	366/379 (97%)	359 (98%)	7 (2%)	57	78
8	EK	370/379 (98%)	360 (97%)	10 (3%)	44	70
8	EM	361/379 (95%)	358 (99%)	3 (1%)	81	91
8	FC	364/379 (96%)	362 (100%)	2 (0%)	88	94
8	FE	359/379 (95%)	358 (100%)	1 (0%)	92	97
8	FG	360/379 (95%)	358 (99%)	2 (1%)	86	94
8	FI	360/379 (95%)	359 (100%)	1 (0%)	92	97
8	FK	358/379 (94%)	356 (99%)	2 (1%)	86	94
8	FM	362/379 (96%)	362 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	GC	370/379 (98%)	368 (100%)	2 (0%)	88	94
8	GE	363/379 (96%)	363 (100%)	0	100	100
8	GG	370/379 (98%)	369 (100%)	1 (0%)	92	97
8	GI	362/379 (96%)	362 (100%)	0	100	100
8	GK	362/379 (96%)	359 (99%)	3 (1%)	81	91
8	GM	369/379 (97%)	367 (100%)	2 (0%)	88	94
8	HC	360/379 (95%)	358 (99%)	2 (1%)	86	94
8	HE	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	HG	363/379 (96%)	360 (99%)	3 (1%)	81	91
8	HI	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	HK	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	HM	362/379 (96%)	360 (99%)	2 (1%)	86	94
8	HO	326/379 (86%)	326 (100%)	0	100	100
8	IC	362/379 (96%)	361 (100%)	1 (0%)	92	97
8	IE	365/379 (96%)	365 (100%)	0	100	100
8	IG	370/379 (98%)	370 (100%)	0	100	100
8	II	365/379 (96%)	362 (99%)	3 (1%)	81	91
8	IK	370/379 (98%)	368 (100%)	2 (0%)	88	94
8	IM	364/379 (96%)	364 (100%)	0	100	100
8	IO	360/379 (95%)	360 (100%)	0	100	100
8	JC	364/379 (96%)	364 (100%)	0	100	100
8	JE	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	JG	361/379 (95%)	360 (100%)	1 (0%)	92	97
8	JI	362/379 (96%)	361 (100%)	1 (0%)	92	97
8	JK	370/379 (98%)	369 (100%)	1 (0%)	92	97
8	JM	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	KC	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	KE	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	KG	362/379 (96%)	362 (100%)	0	100	100
8	KI	361/379 (95%)	357 (99%)	4 (1%)	73	86
8	KK	363/379 (96%)	363 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	KM	362/379 (96%)	362 (100%)	0	100	100
8	KO	346/379 (91%)	345 (100%)	1 (0%)	92	97
8	LC	370/379 (98%)	369 (100%)	1 (0%)	92	97
8	LE	370/379 (98%)	368 (100%)	2 (0%)	88	94
8	LG	370/379 (98%)	370 (100%)	0	100	100
8	LI	370/379 (98%)	369 (100%)	1 (0%)	92	97
8	LK	370/379 (98%)	370 (100%)	0	100	100
8	LM	364/379 (96%)	364 (100%)	0	100	100
8	MC	369/379 (97%)	367 (100%)	2 (0%)	88	94
8	ME	362/379 (96%)	362 (100%)	0	100	100
8	MG	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	MI	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	MK	370/379 (98%)	368 (100%)	2 (0%)	88	94
8	MM	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	NA	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	NC	362/379 (96%)	361 (100%)	1 (0%)	92	97
8	NE	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	NG	365/379 (96%)	364 (100%)	1 (0%)	92	97
8	NI	365/379 (96%)	363 (100%)	2 (0%)	88	94
8	NK	363/379 (96%)	363 (100%)	0	100	100
8	OA	361/379 (95%)	358 (99%)	3 (1%)	81	91
8	OC	362/379 (96%)	358 (99%)	4 (1%)	73	86
8	OE	366/379 (97%)	365 (100%)	1 (0%)	92	97
8	OG	365/379 (96%)	364 (100%)	1 (0%)	92	97
8	OI	365/379 (96%)	361 (99%)	4 (1%)	73	86
8	OK	364/379 (96%)	361 (99%)	3 (1%)	81	91
8	PA	363/379 (96%)	360 (99%)	3 (1%)	81	91
8	PC	365/379 (96%)	364 (100%)	1 (0%)	92	97
8	PE	364/379 (96%)	359 (99%)	5 (1%)	67	83
8	PG	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	PI	360/379 (95%)	358 (99%)	2 (1%)	86	94

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	PK	363/379 (96%)	360 (99%)	3 (1%)	81	91
8	PM	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	QA	363/379 (96%)	359 (99%)	4 (1%)	73	86
8	QC	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	QE	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	QG	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	QI	362/379 (96%)	359 (99%)	3 (1%)	81	91
8	QK	364/379 (96%)	362 (100%)	2 (0%)	88	94
8	QM	364/379 (96%)	358 (98%)	6 (2%)	62	81
8	RA	362/379 (96%)	362 (100%)	0	100	100
8	RC	365/379 (96%)	363 (100%)	2 (0%)	88	94
8	RE	361/379 (95%)	358 (99%)	3 (1%)	81	91
8	RG	363/379 (96%)	360 (99%)	3 (1%)	81	91
8	RI	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	RK	364/379 (96%)	361 (99%)	3 (1%)	81	91
8	RM	361/379 (95%)	359 (99%)	2 (1%)	86	94
8	SA	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	SC	363/379 (96%)	360 (99%)	3 (1%)	81	91
8	SE	364/379 (96%)	362 (100%)	2 (0%)	88	94
8	SG	364/379 (96%)	361 (99%)	3 (1%)	81	91
8	SI	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	SK	365/379 (96%)	365 (100%)	0	100	100
8	SM	364/379 (96%)	362 (100%)	2 (0%)	88	94
8	TC	363/379 (96%)	358 (99%)	5 (1%)	67	83
8	TE	365/379 (96%)	363 (100%)	2 (0%)	88	94
8	TG	363/379 (96%)	363 (100%)	0	100	100
8	TI	363/379 (96%)	361 (99%)	2 (1%)	86	94
8	TK	365/379 (96%)	363 (100%)	2 (0%)	88	94
8	TM	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	UC	366/379 (97%)	364 (100%)	2 (0%)	88	94
8	UE	365/379 (96%)	364 (100%)	1 (0%)	92	97

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	UG	366/379 (97%)	364 (100%)	2 (0%)	88	94
8	UI	366/379 (97%)	362 (99%)	4 (1%)	73	86
8	UK	365/379 (96%)	364 (100%)	1 (0%)	92	97
8	UM	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	VC	370/379 (98%)	370 (100%)	0	100	100
8	VE	366/379 (97%)	363 (99%)	3 (1%)	81	91
8	VG	370/379 (98%)	363 (98%)	7 (2%)	57	78
8	VI	366/379 (97%)	365 (100%)	1 (0%)	92	97
8	VK	370/379 (98%)	369 (100%)	1 (0%)	92	97
8	VM	363/379 (96%)	362 (100%)	1 (0%)	92	97
8	WC	370/379 (98%)	368 (100%)	2 (0%)	88	94
8	WE	364/379 (96%)	363 (100%)	1 (0%)	92	97
8	WG	369/379 (97%)	368 (100%)	1 (0%)	92	97
8	WI	364/379 (96%)	361 (99%)	3 (1%)	81	91
8	WK	368/379 (97%)	366 (100%)	2 (0%)	88	94
8	WM	364/379 (96%)	362 (100%)	2 (0%)	88	94
9	AB	373/380 (98%)	372 (100%)	1 (0%)	92	97
9	AD	373/380 (98%)	370 (99%)	3 (1%)	81	91
9	AF	373/380 (98%)	369 (99%)	4 (1%)	73	86
9	AH	373/380 (98%)	373 (100%)	0	100	100
9	AJ	373/380 (98%)	364 (98%)	9 (2%)	49	74
9	AL	372/380 (98%)	370 (100%)	2 (0%)	88	94
9	BB	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	BD	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	BF	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	BH	367/380 (97%)	361 (98%)	6 (2%)	62	81
9	BJ	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	BL	365/380 (96%)	364 (100%)	1 (0%)	92	97
9	CB	366/380 (96%)	366 (100%)	0	100	100
9	CD	366/380 (96%)	366 (100%)	0	100	100
9	CF	367/380 (97%)	367 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	CH	367/380 (97%)	361 (98%)	6 (2%)	62	81
9	CJ	367/380 (97%)	359 (98%)	8 (2%)	52	75
9	CL	365/380 (96%)	361 (99%)	4 (1%)	73	86
9	DB	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	DD	366/380 (96%)	366 (100%)	0	100	100
9	DF	366/380 (96%)	366 (100%)	0	100	100
9	DH	366/380 (96%)	359 (98%)	7 (2%)	57	78
9	DJ	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	DL	365/380 (96%)	363 (100%)	2 (0%)	88	94
9	DN	330/380 (87%)	328 (99%)	2 (1%)	86	94
9	EB	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	ED	366/380 (96%)	362 (99%)	4 (1%)	73	86
9	EF	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	EH	367/380 (97%)	363 (99%)	4 (1%)	73	86
9	EJ	366/380 (96%)	362 (99%)	4 (1%)	73	86
9	EL	365/380 (96%)	362 (99%)	3 (1%)	81	91
9	EN	366/380 (96%)	364 (100%)	2 (0%)	88	94
9	FB	366/380 (96%)	366 (100%)	0	100	100
9	FD	367/380 (97%)	367 (100%)	0	100	100
9	FF	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	FH	366/380 (96%)	364 (100%)	2 (0%)	88	94
9	FJ	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	FL	365/380 (96%)	360 (99%)	5 (1%)	67	83
9	FN	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	GB	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	GD	367/380 (97%)	367 (100%)	0	100	100
9	GF	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	GH	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	GJ	367/380 (97%)	367 (100%)	0	100	100
9	GL	365/380 (96%)	364 (100%)	1 (0%)	92	97
9	GN	367/380 (97%)	367 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	HB	366/380 (96%)	366 (100%)	0	100	100
9	HD	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	HF	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	HH	367/380 (97%)	367 (100%)	0	100	100
9	HJ	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	HL	365/380 (96%)	361 (99%)	4 (1%)	73	86
9	HN	367/380 (97%)	367 (100%)	0	100	100
9	IB	322/380 (85%)	321 (100%)	1 (0%)	92	97
9	ID	367/380 (97%)	363 (99%)	4 (1%)	73	86
9	IF	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	IH	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	IJ	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	IL	366/380 (96%)	360 (98%)	6 (2%)	62	81
9	IN	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	JB	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	JD	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	JF	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	JH	366/380 (96%)	364 (100%)	2 (0%)	88	94
9	JJ	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	JL	366/380 (96%)	362 (99%)	4 (1%)	73	86
9	JN	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	KB	350/380 (92%)	350 (100%)	0	100	100
9	KD	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	KF	367/380 (97%)	367 (100%)	0	100	100
9	KH	368/380 (97%)	367 (100%)	1 (0%)	92	97
9	KJ	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	KL	368/380 (97%)	368 (100%)	0	100	100
9	KN	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	LB	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	LD	367/380 (97%)	367 (100%)	0	100	100
9	LF	367/380 (97%)	367 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	LH	367/380 (97%)	367 (100%)	0	100	100
9	LJ	367/380 (97%)	367 (100%)	0	100	100
9	LL	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	LN	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	MB	366/380 (96%)	359 (98%)	7 (2%)	57	78
9	MD	366/380 (96%)	366 (100%)	0	100	100
9	MF	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	MH	367/380 (97%)	367 (100%)	0	100	100
9	MJ	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	ML	366/380 (96%)	362 (99%)	4 (1%)	73	86
9	MN	366/380 (96%)	365 (100%)	1 (0%)	92	97
9	NO	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	NB	367/380 (97%)	354 (96%)	13 (4%)	36	65
9	ND	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	NF	367/380 (97%)	360 (98%)	7 (2%)	57	78
9	NH	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	NJ	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	NL	365/380 (96%)	360 (99%)	5 (1%)	67	83
9	OO	354/380 (93%)	353 (100%)	1 (0%)	92	97
9	OB	365/380 (96%)	365 (100%)	0	100	100
9	OD	364/380 (96%)	362 (100%)	2 (0%)	88	94
9	OF	365/380 (96%)	365 (100%)	0	100	100
9	OH	367/380 (97%)	367 (100%)	0	100	100
9	OJ	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	OL	364/380 (96%)	364 (100%)	0	100	100
9	PB	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	PD	367/380 (97%)	367 (100%)	0	100	100
9	PF	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	PH	367/380 (97%)	367 (100%)	0	100	100
9	PJ	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	PL	365/380 (96%)	358 (98%)	7 (2%)	57	78

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	QB	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	QD	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	QF	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	QH	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	QJ	367/380 (97%)	367 (100%)	0	100	100
9	QL	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	RB	367/380 (97%)	367 (100%)	0	100	100
9	RD	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	RF	367/380 (97%)	363 (99%)	4 (1%)	73	86
9	RH	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	RJ	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	RL	366/380 (96%)	361 (99%)	5 (1%)	67	83
9	SB	367/380 (97%)	361 (98%)	6 (2%)	62	81
9	SD	367/380 (97%)	367 (100%)	0	100	100
9	SF	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	SH	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	SJ	367/380 (97%)	367 (100%)	0	100	100
9	SL	366/380 (96%)	366 (100%)	0	100	100
9	TB	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	TD	367/380 (97%)	363 (99%)	4 (1%)	73	86
9	TF	367/380 (97%)	367 (100%)	0	100	100
9	TH	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	TJ	367/380 (97%)	367 (100%)	0	100	100
9	TL	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	UB	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	UD	367/380 (97%)	367 (100%)	0	100	100
9	UF	367/380 (97%)	364 (99%)	3 (1%)	81	91
9	UH	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	UJ	367/380 (97%)	360 (98%)	7 (2%)	57	78
9	UL	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	UN	367/380 (97%)	365 (100%)	2 (0%)	88	94

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	VB	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	VD	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	VF	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	VH	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	VJ	367/380 (97%)	367 (100%)	0	100	100
9	VL	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	VN	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	WB	367/380 (97%)	365 (100%)	2 (0%)	88	94
9	WD	367/380 (97%)	366 (100%)	1 (0%)	92	97
9	WF	366/380 (96%)	363 (99%)	3 (1%)	81	91
9	WH	366/380 (96%)	366 (100%)	0	100	100
9	WJ	366/380 (96%)	364 (100%)	2 (0%)	88	94
9	WL	366/380 (96%)	366 (100%)	0	100	100
9	WN	366/380 (96%)	364 (100%)	2 (0%)	88	94
10	B0	171/386 (44%)	171 (100%)	0	100	100
10	B1	373/386 (97%)	370 (99%)	3 (1%)	81	91
10	B2	373/386 (97%)	370 (99%)	3 (1%)	81	91
10	B3	344/386 (89%)	343 (100%)	1 (0%)	92	97
10	B4	44/386 (11%)	44 (100%)	0	100	100
10	B5	45/386 (12%)	45 (100%)	0	100	100
10	B6	319/386 (83%)	318 (100%)	1 (0%)	92	97
10	B7	371/386 (96%)	367 (99%)	4 (1%)	73	86
10	B8	360/386 (93%)	356 (99%)	4 (1%)	73	86
10	B9	169/386 (44%)	169 (100%)	0	100	100
11	C	83/92 (90%)	83 (100%)	0	100	100
12	C0	30/444 (7%)	30 (100%)	0	100	100
12	C1	300/444 (68%)	299 (100%)	1 (0%)	92	97
12	C2	356/444 (80%)	355 (100%)	1 (0%)	92	97
12	C3	356/444 (80%)	355 (100%)	1 (0%)	92	97
12	C4	196/444 (44%)	196 (100%)	0	100	100
12	C5	101/444 (23%)	101 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	C6	347/444 (78%)	346 (100%)	1 (0%)	92	97
12	C7	375/444 (84%)	371 (99%)	4 (1%)	73	86
12	C8	369/444 (83%)	368 (100%)	1 (0%)	92	97
12	C9	107/444 (24%)	105 (98%)	2 (2%)	57	78
12	F0	129/444 (29%)	129 (100%)	0	100	100
12	F1	381/444 (86%)	378 (99%)	3 (1%)	81	91
12	F2	381/444 (86%)	380 (100%)	1 (0%)	92	97
12	F3	340/444 (77%)	337 (99%)	3 (1%)	78	90
12	F4	91/444 (20%)	91 (100%)	0	100	100
13	D	65/397 (16%)	65 (100%)	0	100	100
14	D0	255/394 (65%)	255 (100%)	0	100	100
14	D1	375/394 (95%)	375 (100%)	0	100	100
14	D2	375/394 (95%)	374 (100%)	1 (0%)	92	97
14	D3	283/394 (72%)	282 (100%)	1 (0%)	91	95
14	D5	9/394 (2%)	9 (100%)	0	100	100
14	D6	286/394 (73%)	283 (99%)	3 (1%)	76	88
14	D7	365/394 (93%)	361 (99%)	4 (1%)	73	86
14	D8	364/394 (92%)	362 (100%)	2 (0%)	88	94
14	D9	242/394 (61%)	241 (100%)	1 (0%)	91	95
15	E	223/281 (79%)	222 (100%)	1 (0%)	91	95
15	F	223/281 (79%)	223 (100%)	0	100	100
16	E0	58/178 (33%)	57 (98%)	1 (2%)	60	80
16	E1	106/178 (60%)	104 (98%)	2 (2%)	57	78
16	E2	122/178 (68%)	117 (96%)	5 (4%)	30	59
16	E3	122/178 (68%)	121 (99%)	1 (1%)	81	91
17	G	91/114 (80%)	90 (99%)	1 (1%)	73	86
18	H	69/231 (30%)	69 (100%)	0	100	100
18	I	123/231 (53%)	123 (100%)	0	100	100
18	J	123/231 (53%)	123 (100%)	0	100	100
18	K	123/231 (53%)	122 (99%)	1 (1%)	81	91
18	L	123/231 (53%)	122 (99%)	1 (1%)	81	91

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	M	123/231 (53%)	123 (100%)	0	100	100
18	N	126/231 (54%)	126 (100%)	0	100	100
19	H1	174/611 (28%)	171 (98%)	3 (2%)	60	80
19	H2	229/611 (38%)	227 (99%)	2 (1%)	78	90
19	H3	97/611 (16%)	97 (100%)	0	100	100
20	H4	174/551 (32%)	170 (98%)	4 (2%)	50	74
20	H5	226/551 (41%)	224 (99%)	2 (1%)	78	90
20	H6	115/551 (21%)	115 (100%)	0	100	100
22	I1	97/593 (16%)	97 (100%)	0	100	100
22	I2	97/593 (16%)	97 (100%)	0	100	100
24	O	28/335 (8%)	28 (100%)	0	100	100
24	P	332/335 (99%)	332 (100%)	0	100	100
24	Q	36/335 (11%)	36 (100%)	0	100	100
24	R	217/335 (65%)	213 (98%)	4 (2%)	59	79
24	S	153/335 (46%)	153 (100%)	0	100	100
25	T	409/574 (71%)	404 (99%)	5 (1%)	71	85
25	U	409/574 (71%)	408 (100%)	1 (0%)	93	98
25	V	409/574 (71%)	407 (100%)	2 (0%)	88	94
26	W	506/672 (75%)	502 (99%)	4 (1%)	81	91
26	X	582/672 (87%)	581 (100%)	1 (0%)	93	98
26	Y	582/672 (87%)	582 (100%)	0	100	100
26	Z	412/672 (61%)	412 (100%)	0	100	100
27	XA	172/180 (96%)	171 (99%)	1 (1%)	86	94
27	XB	172/180 (96%)	172 (100%)	0	100	100
27	XC	172/180 (96%)	171 (99%)	1 (1%)	86	94
27	XD	172/180 (96%)	169 (98%)	3 (2%)	60	80
27	XE	172/180 (96%)	169 (98%)	3 (2%)	60	80
27	XF	172/180 (96%)	172 (100%)	0	100	100
27	XG	172/180 (96%)	172 (100%)	0	100	100
28	YB	192/227 (85%)	191 (100%)	1 (0%)	88	94
28	YC	192/227 (85%)	192 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
28	YD	192/227 (85%)	192 (100%)	0	100	100
28	YE	192/227 (85%)	192 (100%)	0	100	100
28	YF	192/227 (85%)	192 (100%)	0	100	100
28	YG	192/227 (85%)	192 (100%)	0	100	100
29	a	157/495 (32%)	155 (99%)	2 (1%)	69	84
29	b	299/495 (60%)	293 (98%)	6 (2%)	55	77
29	c	256/495 (52%)	256 (100%)	0	100	100
29	d	187/495 (38%)	183 (98%)	4 (2%)	53	76
30	e	516/527 (98%)	514 (100%)	2 (0%)	91	95
30	f	516/527 (98%)	508 (98%)	8 (2%)	62	81
30	g	516/527 (98%)	510 (99%)	6 (1%)	71	85
31	h	135/238 (57%)	135 (100%)	0	100	100
31	i	218/238 (92%)	216 (99%)	2 (1%)	78	90
31	j	218/238 (92%)	218 (100%)	0	100	100
31	k	218/238 (92%)	218 (100%)	0	100	100
32	l	95/168 (56%)	95 (100%)	0	100	100
32	m	97/168 (58%)	95 (98%)	2 (2%)	53	76
32	n	99/168 (59%)	98 (99%)	1 (1%)	76	88
33	o	49/486 (10%)	49 (100%)	0	100	100
33	p	88/486 (18%)	88 (100%)	0	100	100
34	q	69/152 (45%)	67 (97%)	2 (3%)	42	69
34	r	69/152 (45%)	68 (99%)	1 (1%)	67	83
34	s	69/152 (45%)	69 (100%)	0	100	100
36	y	59/122 (48%)	58 (98%)	1 (2%)	60	80
36	z	105/122 (86%)	105 (100%)	0	100	100
All	All	135879/158917 (86%)	135160 (100%)	719 (0%)	89	94

All (719) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	4	497	VAL
3	4	499	ARG
4	5	276	ASN

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Mol	Chain	Res	Type
4	5	280	ILE
4	5	282	VAL
4	5	290	LYS
4	5	349	THR
4	6	48	LYS
4	6	49	ARG
4	6	50	THR
4	6	51	LYS
4	6	323	ARG
4	6	338	ARG
1	7	174	GLN
5	8	81	LYS
5	8	85	THR
5	8	160	ARG
5	8	161	GLU
5	8	185	VAL
6	A	80	LYS
7	A0	301	LYS
7	A1	194	ASN
7	A1	400	ARG
7	A2	206	ARG
7	A2	327	GLU
7	A2	328	LEU
8	AA	182	VAL
9	AB	105	HIS
8	AC	2	ARG
8	AC	326	LYS
9	AD	135	LEU
9	AD	138	SER
9	AD	139	LEU
9	AF	257	MET
9	AF	262	ARG
9	AF	263	LEU
9	AF	306	ARG
8	AI	2	ARG
8	AI	203	MET
9	AJ	2	ARG
9	AJ	48	ASN
9	AJ	174	LYS
9	AJ	390	ARG
9	AJ	391	ARG
9	AJ	392	LYS

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Mol	Chain	Res	Type
9	AJ	431	GLU
9	AJ	432	GLU
9	AJ	435	GLU
9	AL	122	LYS
9	AL	298	ASN
8	AM	2	ARG
8	AM	308	ARG
6	B	320	ARG
6	B	376	ARG
10	B1	20	ASN
10	B1	107	ASN
10	B1	417	ARG
10	B2	124	ARG
10	B2	398	THR
10	B2	417	ARG
10	B3	129	VAL
10	B6	223	ARG
10	B7	32	ARG
10	B7	129	VAL
10	B7	130	LYS
10	B7	223	ARG
10	B8	13	ARG
10	B8	18	GLN
10	B8	107	ASN
10	B8	234	LYS
9	BB	174	LYS
8	BC	2	ARG
9	BD	320	ARG
9	BD	321	MET
9	BF	320	ARG
9	BF	321	MET
9	BF	322	SER
8	BG	402	ARG
9	BH	226	ASN
9	BH	228	LEU
9	BH	232	THR
9	BH	233	MET
9	BH	236	VAL
9	BH	241	ARG
9	BJ	280	GLN
8	BK	79	ARG
8	BK	422	ARG

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Mol	Chain	Res	Type
9	BL	347	ASN
8	BM	2	ARG
8	BM	308	ARG
12	C1	464	ASN
12	C2	367	LYS
12	C3	121	ARG
12	C6	202	ARG
12	C7	119	ARG
12	C7	137	LYS
12	C7	256	LYS
12	C7	478	ARG
12	C8	403	ARG
12	C9	87	ARG
12	C9	136	ARG
8	CA	326	LYS
8	CA	373	ARG
8	CC	50	ASN
8	CC	422	ARG
8	CE	2	ARG
8	CG	2	ARG
8	CG	253	THR
8	CG	326	LYS
9	CH	204	ASN
9	CH	320	ARG
9	CH	321	MET
9	CH	322	SER
9	CH	323	MET
9	CH	324	LYS
9	CJ	2	ARG
9	CJ	168	SER
9	CJ	174	LYS
9	CJ	175	VAL
9	CJ	317	PHE
9	CJ	318	ARG
9	CJ	320	ARG
9	CJ	380	ARG
9	CL	321	MET
9	CL	322	SER
9	CL	416	ASN
9	CL	422	TYR
8	CM	2	ARG
14	D2	24	ARG

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Mol	Chain	Res	Type
14	D3	446	TYR
14	D6	192	ARG
14	D6	204	ASN
14	D6	414	LYS
14	D7	39	SER
14	D7	43	THR
14	D7	192	ARG
14	D7	239	GLN
14	D8	267	ARG
14	D8	429	LYS
14	D9	71	ARG
8	DA	221	ARG
9	DB	390	ARG
8	DC	308	ARG
8	DC	402	ARG
8	DE	128	GLN
9	DH	86	ARG
9	DH	90	PHE
9	DH	91	VAL
9	DH	92	PHE
9	DH	258	VAL
9	DH	260	PHE
9	DH	262	ARG
9	DJ	390	ARG
9	DL	2	ARG
9	DL	337	ASN
8	DM	2	ARG
8	DM	183	GLU
8	DM	185	TYR
8	DM	308	ARG
8	DM	419	SER
8	DM	422	ARG
9	DN	165	ASN
9	DN	306	ARG
15	E	226	ARG
16	E0	93	ARG
16	E1	79	LEU
16	E1	81	ARG
16	E2	79	LEU
16	E2	81	ARG
16	E2	100	HIS
16	E2	144	ILE

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Mol	Chain	Res	Type
16	E2	148	GLU
16	E3	145	ARG
9	EB	306	ARG
8	EC	2	ARG
8	EC	79	ARG
9	ED	46	ARG
9	ED	164	MET
9	ED	166	THR
9	ED	276	ARG
8	EE	214	ARG
8	EE	373	ARG
8	EE	402	ARG
9	EF	2	ARG
8	EG	402	ARG
9	EH	182	PRO
9	EH	395	LEU
9	EH	396	HIS
9	EH	399	THR
8	EI	137	ILE
8	EI	338	LYS
8	EI	339	ARG
8	EI	341	ILE
8	EI	342	GLN
8	EI	373	ARG
8	EI	402	ARG
9	EJ	251	ARG
9	EJ	318	ARG
9	EJ	320	ARG
9	EJ	359	ARG
8	EK	105	ARG
8	EK	199	ASP
8	EK	200	CYS
8	EK	202	PHE
8	EK	203	MET
8	EK	204	VAL
8	EK	223	THR
8	EK	224	TYR
8	EK	225	THR
8	EK	228	ASN
9	EL	2	ARG
9	EL	77	ARG
9	EL	306	ARG

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Mol	Chain	Res	Type
8	EM	7	VAL
8	EM	11	GLN
8	EM	18	ASN
9	EN	204	ASN
9	EN	276	ARG
12	F1	145	ASN
12	F1	360	LYS
12	F1	446	GLN
12	F2	145	ASN
12	F3	145	ASN
12	F3	360	LYS
12	F3	446	GLN
8	FC	2	ARG
8	FC	339	ARG
8	FE	258	ASN
9	FF	273	LEU
8	FG	163	LYS
8	FG	214	ARG
9	FH	300	MET
9	FH	303	CYS
8	FI	64	ARG
9	FJ	318	ARG
9	FJ	320	ARG
9	FJ	380	ARG
8	FK	226	ASN
8	FK	258	ASN
9	FL	122	LYS
9	FL	233	MET
9	FL	241	ARG
9	FL	256	ASN
9	FL	414	ASN
9	FN	2	ARG
9	FN	391	ARG
17	G	64	ASN
9	GB	162	ARG
9	GB	174	LYS
8	GC	79	ARG
8	GC	339	ARG
9	GF	280	GLN
9	GF	322	SER
9	GF	324	LYS
8	GG	326	LYS

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Mol	Chain	Res	Type
9	GH	52	ASN
9	GH	121	ARG
9	GH	304	ASP
8	GK	203	MET
8	GK	204	VAL
8	GK	205	ASP
9	GL	324	LYS
8	GM	129	CYS
8	GM	130	THR
19	H1	226	LYS
19	H1	228	LYS
19	H1	235	ARG
19	H2	150	ARG
19	H2	228	LYS
20	H4	132	ARG
20	H4	133	GLU
20	H4	135	LYS
20	H4	292	ARG
20	H5	165	ASN
20	H5	259	LYS
8	HC	2	ARG
8	HC	308	ARG
9	HD	2	ARG
9	HD	216	LYS
8	HE	373	ARG
9	HF	2	ARG
8	HG	243	ARG
8	HG	373	ARG
8	HG	422	ARG
8	HI	422	ARG
9	HJ	2	ARG
9	HJ	103	LYS
8	HK	216	ASN
9	HL	306	ARG
9	HL	322	SER
9	HL	323	MET
9	HL	324	LYS
8	HM	2	ARG
8	HM	308	ARG
9	IB	359	ARG
8	IC	2	ARG
9	ID	322	SER

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Mol	Chain	Res	Type
9	ID	323	MET
9	ID	324	LYS
9	ID	330	MET
9	IF	213	ARG
9	IF	226	ASN
9	IH	227	HIS
8	II	260	VAL
8	II	264	ARG
8	II	422	ARG
9	IJ	131	GLN
9	IJ	318	ARG
8	IK	221	ARG
8	IK	243	ARG
9	IL	67	ASP
9	IL	68	LEU
9	IL	69	GLU
9	IL	165	ASN
9	IL	241	ARG
9	IL	320	ARG
9	IN	66	VAL
9	JB	99	ASN
9	JB	262	ARG
9	JB	379	LYS
9	JD	58	LYS
9	JD	379	LYS
8	JE	322	ASP
8	JE	339	ARG
9	JF	195	ASN
8	JG	101	ASN
9	JH	390	ARG
9	JH	392	LYS
8	JI	373	ARG
9	JJ	170	VAL
9	JJ	172	SER
9	JJ	195	ASN
8	JK	101	ASN
9	JL	58	LYS
9	JL	174	LYS
9	JL	177	ASP
9	JL	306	ARG
8	JM	2	ARG
8	JM	228	ASN

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Mol	Chain	Res	Type
9	JN	391	ARG
18	K	248	LYS
8	KC	206	ASN
9	KD	414	ASN
8	KE	2	ARG
9	KH	337	ASN
8	KI	2	ARG
8	KI	50	ASN
8	KI	293	ASN
8	KI	326	LYS
9	KJ	362	LYS
9	KN	1	MET
9	KN	306	ARG
9	KN	347	ASN
8	KO	308	ARG
18	L	28	ARG
9	LB	292	GLN
9	LB	298	ASN
9	LB	350	LYS
8	LC	373	ARG
8	LE	40	LYS
8	LE	422	ARG
8	LI	339	ARG
9	LL	306	ARG
9	LN	306	ARG
9	MB	297	LYS
9	MB	298	ASN
9	MB	320	ARG
9	MB	382	SER
9	MB	383	GLU
9	MB	384	GLN
9	MB	390	ARG
8	MC	300	ASN
8	MC	422	ARG
9	MF	1	MET
9	MF	390	ARG
8	MG	221	ARG
8	MI	339	ARG
9	MJ	198	GLU
8	MK	338	LYS
8	MK	363	VAL
9	ML	274	THR

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Mol	Chain	Res	Type
9	ML	298	ASN
9	ML	347	ASN
9	ML	354	CYS
8	MM	214	ARG
9	MN	298	ASN
9	N0	48	ASN
9	N0	306	ARG
9	N0	391	ARG
8	NA	390	ARG
8	NA	391	LEU
9	NB	6	HIS
9	NB	204	ASN
9	NB	306	ARG
9	NB	322	SER
9	NB	323	MET
9	NB	324	LYS
9	NB	384	GLN
9	NB	404	ASP
9	NB	406	MET
9	NB	407	GLU
9	NB	408	PHE
9	NB	410	GLU
9	NB	414	ASN
8	NC	2	ARG
9	ND	306	ARG
9	ND	368	ILE
9	ND	391	ARG
8	NE	36	MET
8	NE	56	THR
9	NF	174	LYS
9	NF	262	ARG
9	NF	306	ARG
9	NF	318	ARG
9	NF	322	SER
9	NF	323	MET
9	NF	324	LYS
8	NG	221	ARG
9	NH	6	HIS
9	NH	323	MET
8	NI	308	ARG
8	NI	329	ASN
9	NJ	297	LYS

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Mol	Chain	Res	Type
9	NL	122	LYS
9	NL	174	LYS
9	NL	297	LYS
9	NL	306	ARG
9	NL	321	MET
9	O0	216	LYS
8	OA	2	ARG
8	OA	402	ARG
8	OA	422	ARG
8	OC	2	ARG
8	OC	423	GLU
8	OC	424	ASP
8	OC	425	MET
9	OD	174	LYS
9	OD	233	MET
8	OE	2	ARG
8	OG	308	ARG
8	OI	2	ARG
8	OI	186	ASN
8	OI	370	LYS
8	OI	430	LYS
9	OJ	303	CYS
9	OJ	324	LYS
8	OK	349	THR
8	OK	352	LYS
8	OK	430	LYS
8	PA	2	ARG
8	PA	64	ARG
8	PA	422	ARG
9	PB	55	THR
9	PB	280	GLN
9	PB	340	TYR
8	PC	2	ARG
8	PE	1	MET
8	PE	2	ARG
8	PE	18	ASN
8	PE	293	ASN
8	PE	430	LYS
9	PF	99	ASN
8	PG	216	ASN
8	PI	221	ARG
8	PI	264	ARG

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Mol	Chain	Res	Type
9	PJ	297	LYS
8	PK	221	ARG
8	PK	402	ARG
8	PK	430	LYS
9	PL	250	LEU
9	PL	251	ARG
9	PL	252	LYS
9	PL	253	LEU
9	PL	257	MET
9	PL	298	ASN
9	PL	306	ARG
8	PM	308	ARG
8	PM	390	ARG
8	QA	216	ASN
8	QA	304	LYS
8	QA	373	ARG
8	QA	394	LYS
9	QB	321	MET
8	QC	351	PHE
8	QC	352	LYS
9	QD	257	MET
9	QD	388	MET
9	QD	389	PHE
8	QE	226	ASN
8	QE	372	GLN
9	QF	105	HIS
8	QG	256	GLN
9	QH	213	ARG
9	QH	298	ASN
9	QH	414	ASN
8	QI	259	LEU
8	QI	260	VAL
8	QI	402	ARG
8	QK	214	ARG
8	QK	423	GLU
9	QL	2	ARG
9	QL	247	ASN
9	QL	379	LYS
8	QM	2	ARG
8	QM	84	ARG
8	QM	91	GLN
8	QM	373	ARG

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Mol	Chain	Res	Type
8	QM	390	ARG
8	QM	401	LYS
24	R	145	ASP
24	R	147	ASN
24	R	158	GLN
24	R	196	LYS
8	RC	300	ASN
8	RC	393	HIS
9	RD	247	ASN
8	RE	308	ARG
8	RE	339	ARG
8	RE	402	ARG
9	RF	2	ARG
9	RF	247	ASN
9	RF	262	ARG
9	RF	391	ARG
8	RG	84	ARG
8	RG	258	ASN
8	RG	339	ARG
9	RH	247	ASN
9	RH	256	ASN
9	RH	320	ARG
8	RI	285	GLN
9	RJ	181	GLU
9	RJ	388	MET
9	RJ	390	ARG
8	RK	18	ASN
8	RK	214	ARG
8	RK	339	ARG
9	RL	2	ARG
9	RL	247	ASN
9	RL	291	GLN
9	RL	299	MET
9	RL	300	MET
8	RM	2	ARG
8	RM	339	ARG
8	SA	221	ARG
9	SB	83	GLN
9	SB	213	ARG
9	SB	347	ASN
9	SB	348	ASN
9	SB	349	VAL

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Mol	Chain	Res	Type
9	SB	350	LYS
8	SC	215	ARG
8	SC	229	ARG
8	SC	326	LYS
8	SE	249	ASN
8	SE	258	ASN
9	SF	256	ASN
8	SG	226	ASN
8	SG	300	ASN
8	SG	430	LYS
9	SH	131	GLN
9	SH	392	LYS
8	SI	214	ARG
8	SM	2	ARG
8	SM	373	ARG
25	T	147	LYS
25	T	148	LEU
25	T	150	LYS
25	T	222	LYS
25	T	283	ASP
9	TB	77	ARG
9	TB	174	LYS
9	TB	297	LYS
8	TC	1	MET
8	TC	2	ARG
8	TC	3	GLU
8	TC	4	CYS
8	TC	214	ARG
9	TD	77	ARG
9	TD	174	LYS
9	TD	245	GLN
9	TD	320	ARG
8	TE	228	ASN
8	TE	308	ARG
9	TH	347	ASN
8	TI	2	ARG
8	TI	221	ARG
8	TK	221	ARG
8	TK	402	ARG
9	TL	33	THR
9	TL	297	LYS
9	TL	375	GLN

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Mol	Chain	Res	Type
8	TM	221	ARG
25	U	502	ARG
9	UB	174	LYS
9	UB	276	ARG
8	UC	2	ARG
8	UC	133	GLN
8	UE	308	ARG
9	UF	306	ARG
9	UF	322	SER
9	UF	323	MET
8	UG	377	MET
8	UG	430	LYS
9	UH	297	LYS
8	UI	2	ARG
8	UI	308	ARG
8	UI	329	ASN
8	UI	380	ASN
9	UJ	216	LYS
9	UJ	276	ARG
9	UJ	321	MET
9	UJ	322	SER
9	UJ	324	LYS
9	UJ	391	ARG
9	UJ	392	LYS
8	UK	121	ARG
9	UL	174	LYS
9	UL	297	LYS
9	UL	359	ARG
8	UM	2	ARG
9	UN	256	ASN
9	UN	349	VAL
25	V	281	ARG
25	V	502	ARG
9	VB	174	LYS
9	VD	322	SER
8	VE	2	ARG
8	VE	373	ARG
8	VE	430	LYS
9	VF	105	HIS
9	VF	306	ARG
8	VG	105	ARG
8	VG	107	HIS

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Mol	Chain	Res	Type
8	VG	108	TYR
8	VG	110	ILE
8	VG	112	LYS
8	VG	401	LYS
8	VG	422	ARG
9	VH	297	LYS
8	VI	2	ARG
8	VK	2	ARG
9	VL	245	GLN
9	VL	322	SER
9	VL	324	LYS
8	VM	329	ASN
9	VN	262	ARG
9	VN	282	ARG
26	W	17	ASN
26	W	255	ASN
26	W	335	ARG
26	W	528	LEU
9	WB	1	MET
9	WB	306	ARG
8	WC	2	ARG
8	WC	50	ASN
9	WD	165	ASN
8	WE	2	ARG
9	WF	306	ARG
9	WF	348	ASN
9	WF	379	LYS
8	WG	2	ARG
8	WI	50	ASN
8	WI	84	ARG
8	WI	96	LYS
9	WJ	306	ARG
9	WJ	320	ARG
8	WK	308	ARG
8	WK	430	LYS
8	WM	109	THR
8	WM	256	GLN
9	WN	8	GLN
9	WN	165	ASN
26	X	335	ARG
27	XA	40	ASN
27	XC	107	ASN

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Mol	Chain	Res	Type
27	XD	72	LYS
27	XD	114	VAL
27	XD	115	LYS
27	XE	114	VAL
27	XE	115	LYS
27	XE	170	ARG
28	YB	90	LYS
29	a	170	ARG
29	a	224	LYS
29	b	290	LYS
29	b	324	LYS
29	b	429	LYS
29	b	449	ARG
29	b	538	ARG
29	b	541	ASN
29	d	523	LEU
29	d	524	ARG
29	d	528	LEU
29	d	531	LYS
30	e	238	ARG
30	e	476	ASN
30	f	58	GLN
30	f	60	GLN
30	f	61	ASN
30	f	77	LYS
30	f	250	ASP
30	f	251	LYS
30	f	253	SER
30	f	254	LEU
30	g	60	GLN
30	g	62	PHE
30	g	473	LYS
30	g	474	LYS
30	g	475	SER
30	g	477	GLU
31	i	184	ARG
31	i	215	GLN
32	m	9	GLN
32	m	107	ASN
32	n	73	LYS
34	q	152	THR
34	q	155	THR

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Mol	Chain	Res	Type
34	r	130	ARG
36	y	86	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (315) such sidechains are listed below:

Mol	Chain	Res	Type
4	5	353	ASN
7	A2	129	HIS
8	AC	88	HIS
9	AD	8	GLN
9	AH	100	ASN
9	AH	298	ASN
8	AI	228	ASN
9	AJ	8	GLN
9	AJ	14	ASN
9	AL	190	HIS
6	B	277	GLN
10	B1	20	ASN
10	B1	152	GLN
10	B2	107	ASN
10	B3	107	ASN
10	B3	360	GLN
10	B8	18	GLN
10	B8	50	ASN
10	B8	369	HIS
10	B9	31	GLN
8	BE	258	ASN
9	BF	347	ASN
8	BI	8	HIS
9	BL	256	ASN
12	C1	464	ASN
12	C4	338	ASN
12	C4	397	GLN
8	CA	342	GLN
9	CB	256	ASN
8	CG	28	HIS
9	CH	8	GLN
9	CH	99	ASN
9	CH	204	ASN
8	CI	300	ASN
9	CJ	165	ASN
9	CJ	334	GLN

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Mol	Chain	Res	Type
14	D0	232	ASN
14	D2	163	GLN
14	D2	239	GLN
14	D3	421	ASN
14	D7	204	ASN
14	D7	239	GLN
8	DA	266	HIS
9	DB	298	ASN
8	DC	133	GLN
9	DD	131	GLN
9	DD	298	ASN
9	DD	414	ASN
8	DG	11	GLN
9	DH	256	ASN
9	DH	292	GLN
9	DJ	329	GLN
9	DL	245	GLN
9	DL	329	GLN
8	DM	133	GLN
15	E	117	GLN
15	E	242	GLN
16	E3	69	ASN
9	EB	348	ASN
9	ED	414	ASN
8	EE	61	HIS
9	EF	256	ASN
9	EH	347	ASN
8	EI	101	ASN
8	EI	228	ASN
8	EI	342	GLN
9	EL	134	GLN
8	EM	18	ASN
8	EM	285	GLN
12	F3	446	GLN
9	FB	6	HIS
9	FB	105	HIS
8	FC	18	ASN
8	FC	61	HIS
9	FD	137	HIS
9	FD	256	ASN
8	FE	18	ASN
8	FG	102	ASN

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Mol	Chain	Res	Type
9	FH	89	ASN
9	FH	226	ASN
9	FJ	226	ASN
9	FL	28	HIS
9	FL	100	ASN
9	FL	414	ASN
9	FN	375	GLN
17	G	64	ASN
9	GF	6	HIS
9	GF	11	GLN
9	GH	165	ASN
8	GK	102	ASN
8	GK	192	HIS
8	GK	216	ASN
9	GL	6	HIS
9	GL	8	GLN
9	GL	134	GLN
8	GM	101	ASN
19	H1	149	GLN
19	H2	56	GLN
19	H3	100	GLN
20	H4	211	ASN
20	H5	98	ASN
20	H5	121	GLN
8	HE	358	GLN
9	HF	245	GLN
9	HH	99	ASN
9	HH	100	ASN
9	HJ	204	ASN
8	HM	101	ASN
8	HO	128	GLN
8	HO	293	ASN
22	I2	129	ASN
9	IF	348	ASN
9	IH	165	ASN
8	II	11	GLN
8	II	216	ASN
8	II	266	HIS
8	II	285	GLN
8	II	300	ASN
9	IJ	14	ASN
9	IJ	334	GLN

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Mol	Chain	Res	Type
9	IJ	348	ASN
8	IK	216	ASN
8	IK	249	ASN
8	IK	300	ASN
8	IK	356	ASN
8	IK	358	GLN
9	IL	134	GLN
9	IL	165	ASN
9	JD	131	GLN
9	JD	134	GLN
9	JD	292	GLN
9	JD	334	GLN
9	JD	348	ASN
9	JF	99	ASN
8	JG	101	ASN
8	JG	256	GLN
9	JH	105	HIS
9	JH	184	ASN
9	JH	347	ASN
9	JH	396	HIS
9	JJ	292	GLN
8	JK	256	GLN
9	JL	190	HIS
9	JL	348	ASN
9	JN	15	GLN
9	KB	375	GLN
8	KC	11	GLN
8	KC	101	ASN
9	KD	414	ASN
8	KG	50	ASN
8	KI	50	ASN
9	LB	292	GLN
9	LB	298	ASN
9	LD	334	GLN
9	LH	6	HIS
9	LJ	247	ASN
9	LL	347	ASN
8	MC	293	ASN
9	MD	6	HIS
9	MD	8	GLN
8	MG	329	ASN
9	MH	227	HIS

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Mol	Chain	Res	Type
9	MH	423	GLN
8	MI	31	GLN
9	MJ	292	GLN
9	MJ	298	ASN
9	MN	15	GLN
9	MN	298	ASN
9	NO	8	GLN
8	NA	88	HIS
9	NB	414	ASN
8	NC	216	ASN
8	NC	300	ASN
9	ND	334	GLN
8	NE	139	HIS
8	NE	258	ASN
9	NF	329	GLN
9	NF	375	GLN
9	NF	426	GLN
8	NG	18	ASN
8	NI	133	GLN
9	NJ	204	ASN
8	NK	356	ASN
9	OO	204	ASN
9	OO	279	GLN
8	OA	186	ASN
9	OB	190	HIS
8	OC	283	HIS
8	OC	329	ASN
8	OG	28	HIS
8	OI	186	ASN
9	OJ	347	ASN
8	OK	107	HIS
24	P	98	GLN
24	P	126	GLN
24	P	373	ASN
8	PA	256	GLN
9	PF	256	ASN
9	PH	334	GLN
8	PK	301	GLN
9	PL	6	HIS
9	PL	8	GLN
9	PL	204	ASN
9	PL	298	ASN

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Mol	Chain	Res	Type
8	QA	216	ASN
9	QB	8	GLN
9	QB	131	GLN
9	QB	134	GLN
9	QD	8	GLN
9	QD	131	GLN
8	QE	91	GLN
8	QE	226	ASN
9	QH	298	ASN
9	QH	375	GLN
9	QH	426	GLN
8	QK	192	HIS
8	QK	216	ASN
8	QK	256	GLN
8	QM	91	GLN
24	R	133	ASN
24	R	139	GLN
9	RB	375	GLN
9	RD	423	GLN
8	RE	88	HIS
8	RE	285	GLN
8	RI	101	ASN
8	RI	258	ASN
8	RI	293	ASN
8	RK	301	GLN
9	RL	334	GLN
9	SB	375	GLN
8	SC	139	HIS
9	SD	131	GLN
9	SD	204	ASN
9	SD	256	ASN
9	SD	423	GLN
8	SE	249	ASN
8	SI	293	ASN
9	SJ	15	GLN
9	SJ	226	ASN
9	SJ	247	ASN
9	SL	191	GLN
9	SL	256	ASN
9	TD	191	GLN
9	TD	245	GLN
9	TF	89	ASN

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Mol	Chain	Res	Type
9	TH	256	ASN
8	TM	31	GLN
25	U	164	HIS
9	UB	15	GLN
9	UD	256	ASN
9	UD	334	GLN
8	UE	406	HIS
9	UF	43	GLN
9	UF	348	ASN
8	UG	258	ASN
9	UH	190	HIS
9	UH	280	GLN
9	UH	414	ASN
8	UI	380	ASN
9	UJ	6	HIS
9	UJ	14	ASN
8	UK	11	GLN
8	UK	15	GLN
8	UK	107	HIS
8	UK	216	ASN
8	UK	258	ASN
8	UK	300	ASN
9	UL	6	HIS
9	UL	134	GLN
9	UL	332	ASN
8	UM	128	GLN
8	UM	258	ASN
9	VB	334	GLN
9	VD	334	GLN
9	VH	334	GLN
9	VH	348	ASN
8	VI	35	GLN
9	VJ	14	ASN
9	VJ	131	GLN
9	VJ	334	GLN
9	VL	99	ASN
9	VL	105	HIS
26	W	255	ASN
26	W	283	GLN
9	WF	134	GLN
9	WF	334	GLN
9	WF	347	ASN

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Mol	Chain	Res	Type
9	WH	347	ASN
8	WK	356	ASN
9	WL	396	HIS
9	WN	8	GLN
9	WN	165	ASN
9	WN	334	GLN
9	WN	348	ASN
26	X	10	GLN
26	Y	283	GLN
28	YG	198	ASN
29	c	310	GLN
30	e	584	HIS
30	f	41	HIS
30	f	60	GLN
30	g	36	HIS
30	g	58	GLN
30	g	60	GLN
30	g	562	HIS
30	g	592	ASN
31	i	182	ASN
31	i	215	GLN
31	j	107	ASN
31	j	110	ASN
31	k	211	HIS
32	l	9	GLN
32	n	9	GLN
33	p	492	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 451 ligands modelled in this entry, 149 are monoatomic - leaving 302 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	GTP	MG	501	-	26,34,34	1.23	1 (3%)	32,54,54	1.59	6 (18%)
37	GTP	WC	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.55	7 (21%)
39	GDP	WB	502	-	24,30,30	0.93	1 (4%)	30,47,47	1.27	4 (13%)
39	GDP	SL	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.34	4 (13%)
37	GTP	JG	501	-	26,34,34	1.32	3 (11%)	32,54,54	1.57	7 (21%)
37	GTP	HO	501	-	26,34,34	1.24	2 (7%)	32,54,54	1.80	7 (21%)
37	GTP	LE	501	-	26,34,34	1.40	2 (7%)	32,54,54	1.67	6 (18%)
39	GDP	FJ	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.52	7 (23%)
39	GDP	IH	502	-	24,30,30	1.09	1 (4%)	30,47,47	1.38	5 (16%)
39	GDP	AH	502	-	24,30,30	1.11	1 (4%)	30,47,47	1.51	5 (16%)
37	GTP	GM	501	-	26,34,34	1.32	3 (11%)	32,54,54	1.81	7 (21%)
37	GTP	HK	501	-	26,34,34	1.26	2 (7%)	32,54,54	1.60	6 (18%)
39	GDP	HN	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.58	5 (16%)
37	GTP	ME	501	-	26,34,34	1.37	2 (7%)	32,54,54	1.77	6 (18%)
37	GTP	IO	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.86	6 (18%)
37	GTP	OG	501	-	26,34,34	1.27	2 (7%)	32,54,54	1.77	8 (25%)
37	GTP	AG	501	-	26,34,34	1.39	4 (15%)	32,54,54	1.63	8 (25%)
39	GDP	SD	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.34	4 (13%)
37	GTP	SE	501	-	26,34,34	1.29	3 (11%)	32,54,54	1.73	7 (21%)
39	GDP	PL	502	-	24,30,30	1.02	2 (8%)	30,47,47	1.30	3 (10%)
39	GDP	UN	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.33	4 (13%)
37	GTP	SI	501	-	26,34,34	1.22	1 (3%)	32,54,54	1.84	6 (18%)
39	GDP	FD	502	-	24,30,30	1.08	1 (4%)	30,47,47	1.36	3 (10%)
39	GDP	EJ	502	-	24,30,30	1.06	1 (4%)	30,47,47	1.43	3 (10%)
37	GTP	KC	501	-	26,34,34	1.55	3 (11%)	32,54,54	1.83	7 (21%)
37	GTP	QG	501	-	26,34,34	1.14	2 (7%)	32,54,54	1.54	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	GTP	BA	501	-	26,34,34	1.32	2 (7%)	32,54,54	1.78	7 (21%)
39	GDP	CB	502	-	24,30,30	0.97	1 (4%)	30,47,47	1.46	5 (16%)
39	GDP	RJ	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.43	5 (16%)
37	GTP	DM	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.59	6 (18%)
39	GDP	LL	502	-	24,30,30	1.12	1 (4%)	30,47,47	1.24	5 (16%)
39	GDP	UB	502	-	24,30,30	1.04	2 (8%)	30,47,47	1.38	3 (10%)
37	GTP	LG	501	-	26,34,34	1.42	1 (3%)	32,54,54	1.61	6 (18%)
37	GTP	PG	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.61	10 (31%)
37	GTP	HI	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.66	7 (21%)
37	GTP	VK	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.66	7 (21%)
39	GDP	TL	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.17	4 (13%)
39	GDP	AL	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.42	5 (16%)
37	GTP	LI	501	-	26,34,34	1.43	2 (7%)	32,54,54	1.63	6 (18%)
37	GTP	EE	501	-	26,34,34	1.30	1 (3%)	32,54,54	1.57	6 (18%)
37	GTP	LK	501	-	26,34,34	1.39	2 (7%)	32,54,54	1.57	6 (18%)
37	GTP	PM	501	-	26,34,34	1.32	2 (7%)	32,54,54	1.58	7 (21%)
37	GTP	QI	501	-	26,34,34	1.14	2 (7%)	32,54,54	1.67	9 (28%)
37	GTP	IG	501	-	26,34,34	1.17	1 (3%)	32,54,54	1.89	8 (25%)
37	GTP	HM	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.67	7 (21%)
37	GTP	FI	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.91	8 (25%)
37	GTP	KE	501	-	26,34,34	1.51	3 (11%)	32,54,54	1.49	5 (15%)
37	GTP	QM	501	-	26,34,34	1.25	2 (7%)	32,54,54	1.53	7 (21%)
37	GTP	AC	501	-	26,34,34	1.42	3 (11%)	32,54,54	1.69	7 (21%)
37	GTP	TM	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.52	8 (25%)
37	GTP	KG	501	-	26,34,34	1.55	3 (11%)	32,54,54	1.75	9 (28%)
37	GTP	LC	501	-	26,34,34	1.31	2 (7%)	32,54,54	1.71	7 (21%)
37	GTP	OE	501	-	26,34,34	1.25	2 (7%)	32,54,54	1.67	7 (21%)
37	GTP	GG	501	-	26,34,34	1.38	2 (7%)	32,54,54	1.84	7 (21%)
39	GDP	CD	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.52	4 (13%)
39	GDP	O0	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.39	4 (13%)
39	GDP	IN	502	-	24,30,30	1.04	1 (4%)	30,47,47	1.31	6 (20%)
39	GDP	MJ	502	-	24,30,30	1.06	1 (4%)	30,47,47	1.46	5 (16%)
37	GTP	IE	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.66	7 (21%)
39	GDP	HB	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.54	4 (13%)
39	GDP	AJ	502	-	24,30,30	1.13	1 (4%)	30,47,47	1.45	5 (16%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GDP	HH	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.37	3 (10%)
37	GTP	HC	501	-	26,34,34	1.28	2 (7%)	32,54,54	1.72	7 (21%)
37	GTP	CK	501	-	26,34,34	1.21	1 (3%)	32,54,54	1.66	6 (18%)
37	GTP	UC	501	-	26,34,34	1.26	2 (7%)	32,54,54	1.73	6 (18%)
39	GDP	BF	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.37	5 (16%)
39	GDP	RF	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.21	3 (10%)
37	GTP	RC	501	-	26,34,34	1.31	2 (7%)	32,54,54	1.64	7 (21%)
39	GDP	MF	502	-	24,30,30	1.06	1 (4%)	30,47,47	1.29	3 (10%)
39	GDP	UD	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.35	4 (13%)
39	GDP	WJ	502	-	24,30,30	1.03	1 (4%)	30,47,47	1.29	3 (10%)
39	GDP	EH	502	-	24,30,30	0.97	1 (4%)	30,47,47	1.30	4 (13%)
37	GTP	JM	501	-	26,34,34	1.26	2 (7%)	32,54,54	1.56	7 (21%)
37	GTP	CC	501	-	26,34,34	1.24	3 (11%)	32,54,54	1.74	7 (21%)
37	GTP	GK	501	-	26,34,34	1.31	2 (7%)	32,54,54	1.82	7 (21%)
39	GDP	OF	502	-	24,30,30	0.89	0	30,47,47	1.33	6 (20%)
39	GDP	PD	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	5 (16%)
39	GDP	LN	502	-	24,30,30	1.09	2 (8%)	30,47,47	1.32	3 (10%)
37	GTP	NE	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.72	7 (21%)
39	GDP	JL	502	-	24,30,30	1.06	1 (4%)	30,47,47	1.29	6 (20%)
39	GDP	RH	502	-	24,30,30	1.03	1 (4%)	30,47,47	1.40	5 (16%)
37	GTP	NA	501	-	26,34,34	1.27	1 (3%)	32,54,54	1.63	7 (21%)
39	GDP	CL	502	-	24,30,30	0.97	1 (4%)	30,47,47	1.42	4 (13%)
37	GTP	CI	501	-	26,34,34	1.25	3 (11%)	32,54,54	1.74	7 (21%)
39	GDP	KB	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.39	3 (10%)
39	GDP	JF	502	-	24,30,30	1.08	1 (4%)	30,47,47	1.26	4 (13%)
39	GDP	TH	502	-	24,30,30	1.03	1 (4%)	30,47,47	1.27	4 (13%)
39	GDP	GH	502	-	24,30,30	1.04	1 (4%)	30,47,47	1.48	4 (13%)
37	GTP	WG	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.66	7 (21%)
39	GDP	HF	502	-	24,30,30	0.97	1 (4%)	30,47,47	1.39	4 (13%)
39	GDP	VJ	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.26	4 (13%)
37	GTP	BM	501	-	26,34,34	1.36	3 (11%)	32,54,54	1.64	6 (18%)
37	GTP	CG	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.78	7 (21%)
37	GTP	RK	501	-	26,34,34	1.33	3 (11%)	32,54,54	1.55	7 (21%)
37	GTP	UK	501	-	26,34,34	1.23	2 (7%)	32,54,54	1.55	8 (25%)
37	GTP	KM	501	-	26,34,34	1.49	4 (15%)	32,54,54	1.57	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	GTP	MK	501	-	26,34,34	1.38	2 (7%)	32,54,54	1.74	9 (28%)
39	GDP	DJ	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.27	5 (16%)
39	GDP	SJ	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.50	5 (16%)
37	GTP	OK	501	-	26,34,34	1.30	3 (11%)	32,54,54	1.71	8 (25%)
37	GTP	OI	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.76	7 (21%)
37	GTP	AA	501	-	26,34,34	1.35	3 (11%)	32,54,54	1.64	9 (28%)
37	GTP	FM	501	-	26,34,34	1.26	3 (11%)	32,54,54	1.69	10 (31%)
39	GDP	DF	502	-	24,30,30	0.96	1 (4%)	30,47,47	1.37	4 (13%)
39	GDP	NH	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.44	4 (13%)
37	GTP	EG	501	-	26,34,34	1.26	1 (3%)	32,54,54	1.67	7 (21%)
39	GDP	OB	502	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	4 (13%)
37	GTP	FG	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.60	7 (21%)
39	GDP	FN	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.23	3 (10%)
39	GDP	QH	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.33	4 (13%)
37	GTP	JK	501	-	26,34,34	1.31	2 (7%)	32,54,54	1.72	7 (21%)
39	GDP	BB	502	-	24,30,30	0.87	0	30,47,47	1.78	8 (26%)
37	GTP	IC	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.63	7 (21%)
39	GDP	ID	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.44	4 (13%)
39	GDP	LJ	502	-	24,30,30	1.09	1 (4%)	30,47,47	1.41	5 (16%)
39	GDP	ML	502	-	24,30,30	1.18	2 (8%)	30,47,47	1.32	4 (13%)
37	GTP	HE	501	-	26,34,34	1.29	2 (7%)	32,54,54	1.73	7 (21%)
37	GTP	GE	501	-	26,34,34	1.27	1 (3%)	32,54,54	1.79	7 (21%)
39	GDP	EL	502	-	24,30,30	1.13	1 (4%)	30,47,47	1.32	4 (13%)
39	GDP	MN	502	-	24,30,30	1.09	1 (4%)	30,47,47	1.34	4 (13%)
37	GTP	CE	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.64	6 (18%)
37	GTP	BK	501	-	26,34,34	1.37	4 (15%)	32,54,54	1.70	7 (21%)
39	GDP	BJ	502	-	24,30,30	1.06	1 (4%)	30,47,47	1.47	4 (13%)
37	GTP	WM	501	-	26,34,34	1.24	1 (3%)	32,54,54	1.61	6 (18%)
37	GTP	AI	501	-	26,34,34	1.37	3 (11%)	32,54,54	1.62	6 (18%)
39	GDP	PF	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.39	4 (13%)
39	GDP	TD	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.26	4 (13%)
37	GTP	EK	501	-	26,34,34	1.25	1 (3%)	32,54,54	1.56	6 (18%)
39	GDP	UL	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.41	3 (10%)
39	GDP	GJ	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.37	4 (13%)
39	GDP	OD	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GDP	TF	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.42	4 (13%)
39	GDP	WF	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.33	4 (13%)
37	GTP	GC	501	-	26,34,34	1.40	4 (15%)	32,54,54	1.85	7 (21%)
37	GTP	QA	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.57	7 (21%)
39	GDP	CJ	502	-	24,30,30	1.03	1 (4%)	30,47,47	1.53	6 (20%)
37	GTP	RA	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.64	7 (21%)
39	GDP	DD	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
39	GDP	CF	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.40	5 (16%)
39	GDP	RL	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.39	5 (16%)
39	GDP	VF	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.38	4 (13%)
37	GTP	VG	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.67	7 (21%)
37	GTP	PK	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.71	8 (25%)
39	GDP	LH	502	-	24,30,30	1.11	1 (4%)	30,47,47	1.40	4 (13%)
37	GTP	FC	501	-	26,34,34	1.24	1 (3%)	32,54,54	1.63	7 (21%)
37	GTP	PE	501	-	26,34,34	1.23	2 (7%)	32,54,54	1.82	7 (21%)
37	GTP	MC	501	-	26,34,34	1.43	3 (11%)	32,54,54	1.70	6 (18%)
37	GTP	MI	501	-	26,34,34	1.35	2 (7%)	32,54,54	1.79	9 (28%)
39	GDP	QF	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
39	GDP	LF	502	-	24,30,30	1.09	1 (4%)	30,47,47	1.29	3 (10%)
39	GDP	WD	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.39	6 (20%)
39	GDP	WH	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.55	5 (16%)
37	GTP	WK	501	-	26,34,34	1.17	1 (3%)	32,54,54	1.62	6 (18%)
39	GDP	LD	502	-	24,30,30	1.15	1 (4%)	30,47,47	1.34	3 (10%)
37	GTP	NG	501	-	26,34,34	1.26	1 (3%)	32,54,54	1.54	9 (28%)
39	GDP	QL	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.39	5 (16%)
39	GDP	KN	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.44	4 (13%)
39	GDP	SB	502	-	24,30,30	1.03	1 (4%)	30,47,47	1.34	5 (16%)
37	GTP	NI	501	-	26,34,34	1.24	2 (7%)	32,54,54	1.64	7 (21%)
37	GTP	JC	501	-	26,34,34	1.25	2 (7%)	32,54,54	1.70	8 (25%)
37	GTP	OC	501	-	26,34,34	1.35	4 (15%)	32,54,54	1.80	7 (21%)
37	GTP	VM	501	-	26,34,34	1.25	2 (7%)	32,54,54	1.82	7 (21%)
39	GDP	JJ	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.35	5 (16%)
39	GDP	UF	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.39	4 (13%)
39	GDP	PB	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.38	4 (13%)
39	GDP	GF	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.30	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GDP	EN	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.26	4 (13%)
39	GDP	UJ	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.43	5 (16%)
39	GDP	BH	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.46	4 (13%)
37	GTP	IM	501	-	26,34,34	1.30	2 (7%)	32,54,54	1.75	8 (25%)
37	GTP	QK	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.49	5 (15%)
37	GTP	DA	501	-	26,34,34	1.11	2 (7%)	32,54,54	1.56	5 (15%)
39	GDP	DB	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.45	6 (20%)
39	GDP	SF	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.43	5 (16%)
39	GDP	VH	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.29	5 (16%)
39	GDP	HD	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.41	5 (16%)
37	GTP	OA	501	-	26,34,34	1.23	2 (7%)	32,54,54	1.64	7 (21%)
37	GTP	LM	501	-	26,34,34	1.45	4 (15%)	32,54,54	1.66	7 (21%)
37	GTP	UG	501	-	26,34,34	1.29	1 (3%)	32,54,54	1.65	7 (21%)
39	GDP	ED	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.41	4 (13%)
39	GDP	BD	502	-	24,30,30	1.04	1 (4%)	30,47,47	1.46	4 (13%)
39	GDP	JB	502	-	24,30,30	0.97	1 (4%)	30,47,47	1.28	3 (10%)
39	GDP	MD	502	-	24,30,30	1.14	1 (4%)	30,47,47	1.29	2 (6%)
39	GDP	NL	502	-	24,30,30	0.92	1 (4%)	30,47,47	1.44	4 (13%)
39	GDP	VL	502	-	24,30,30	1.01	1 (4%)	30,47,47	1.36	5 (16%)
37	GTP	DI	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
37	GTP	DK	501	-	26,34,34	1.16	2 (7%)	32,54,54	1.51	6 (18%)
39	GDP	DL	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.34	4 (13%)
37	GTP	PC	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.53	6 (18%)
39	GDP	HL	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.41	4 (13%)
37	GTP	VI	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.92	6 (18%)
39	GDP	FB	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.29	3 (10%)
39	GDP	DN	502	-	24,30,30	1.02	2 (8%)	30,47,47	1.34	4 (13%)
39	GDP	AB	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.35	4 (13%)
39	GDP	CH	502	-	24,30,30	1.04	1 (4%)	30,47,47	1.58	5 (16%)
39	GDP	MH	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.35	4 (13%)
37	GTP	WE	501	-	26,34,34	1.27	2 (7%)	32,54,54	1.66	6 (18%)
37	GTP	RG	501	-	26,34,34	1.34	3 (11%)	32,54,54	1.64	6 (18%)
39	GDP	DH	502	-	24,30,30	1.06	1 (4%)	30,47,47	1.26	3 (10%)
37	GTP	SM	501	-	26,34,34	1.33	1 (3%)	32,54,54	1.68	7 (21%)
39	GDP	FF	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.35	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
39	GDP	VB	502	-	24,30,30	0.90	0	30,47,47	1.51	4 (13%)
37	GTP	EM	501	-	26,34,34	1.32	3 (11%)	32,54,54	1.68	6 (18%)
37	GTP	NK	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.62	8 (25%)
37	GTP	RM	501	-	26,34,34	1.24	1 (3%)	32,54,54	1.73	7 (21%)
37	GTP	DC	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.48	6 (18%)
39	GDP	QJ	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.32	4 (13%)
37	GTP	BI	501	-	26,34,34	1.35	2 (7%)	32,54,54	1.67	8 (25%)
37	GTP	CM	501	-	26,34,34	1.24	2 (7%)	32,54,54	1.82	7 (21%)
37	GTP	AM	501	-	26,34,34	1.44	4 (15%)	32,54,54	1.62	6 (18%)
39	GDP	QD	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.26	4 (13%)
37	GTP	PI	501	-	26,34,34	1.12	2 (7%)	32,54,54	1.80	6 (18%)
37	GTP	QE	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.85	7 (21%)
39	GDP	GN	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.47	4 (13%)
37	GTP	EC	501	-	26,34,34	1.28	1 (3%)	32,54,54	1.76	6 (18%)
39	GDP	HJ	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.31	4 (13%)
37	GTP	KO	501	-	26,34,34	1.41	3 (11%)	32,54,54	1.57	7 (21%)
37	GTP	QC	501	-	26,34,34	1.14	2 (7%)	32,54,54	1.59	7 (21%)
39	GDP	TJ	502	-	24,30,30	0.92	1 (4%)	30,47,47	1.26	4 (13%)
37	GTP	TE	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.45	7 (21%)
39	GDP	OJ	502	-	24,30,30	0.97	1 (4%)	30,47,47	1.36	4 (13%)
37	GTP	TK	501	-	26,34,34	1.25	1 (3%)	32,54,54	1.49	7 (21%)
37	GTP	MM	501	-	26,34,34	1.37	1 (3%)	32,54,54	1.51	7 (21%)
37	GTP	KK	501	-	26,34,34	1.48	4 (15%)	32,54,54	1.65	7 (21%)
39	GDP	MB	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.64	6 (20%)
37	GTP	PA	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.71	8 (25%)
39	GDP	EF	502	-	24,30,30	1.12	1 (4%)	30,47,47	1.26	4 (13%)
37	GTP	RI	501	-	26,34,34	1.20	2 (7%)	32,54,54	1.81	9 (28%)
37	GTP	JE	501	-	26,34,34	1.28	2 (7%)	32,54,54	1.61	6 (18%)
37	GTP	SG	501	-	26,34,34	1.28	3 (11%)	32,54,54	1.44	5 (15%)
39	GDP	JH	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.30	3 (10%)
39	GDP	PJ	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.37	4 (13%)
37	GTP	EI	501	-	26,34,34	1.35	3 (11%)	32,54,54	1.87	8 (25%)
37	GTP	TG	501	-	26,34,34	1.18	1 (3%)	32,54,54	1.46	8 (25%)
37	GTP	NC	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.65	7 (21%)
37	GTP	UM	501	-	26,34,34	1.21	2 (7%)	32,54,54	1.79	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	GTP	TI	501	-	26,34,34	1.18	2 (7%)	32,54,54	1.44	6 (18%)
37	GTP	AK	501	-	26,34,34	1.40	3 (11%)	32,54,54	1.70	7 (21%)
37	GTP	AE	501	-	26,34,34	1.41	3 (11%)	32,54,54	1.65	7 (21%)
39	GDP	IF	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.37	5 (16%)
39	GDP	JD	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.32	6 (20%)
37	GTP	IK	501	-	26,34,34	1.24	2 (7%)	32,54,54	1.64	7 (21%)
39	GDP	OH	502	-	24,30,30	0.96	1 (4%)	30,47,47	1.43	5 (16%)
39	GDP	KJ	502	-	24,30,30	1.06	1 (4%)	30,47,47	1.37	4 (13%)
37	GTP	DE	501	-	26,34,34	1.19	2 (7%)	32,54,54	1.65	8 (25%)
37	GTP	SA	501	-	26,34,34	1.17	2 (7%)	32,54,54	1.68	7 (21%)
37	GTP	II	501	-	26,34,34	1.19	1 (3%)	32,54,54	1.68	7 (21%)
39	GDP	FH	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.23	4 (13%)
39	GDP	RB	502	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
37	GTP	GI	501	-	26,34,34	1.27	1 (3%)	32,54,54	1.76	7 (21%)
37	GTP	JI	501	-	26,34,34	1.34	2 (7%)	32,54,54	1.69	7 (21%)
39	GDP	QB	502	-	24,30,30	1.03	1 (4%)	30,47,47	1.28	4 (13%)
39	GDP	EB	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.40	4 (13%)
37	GTP	FK	501	-	26,34,34	1.27	2 (7%)	32,54,54	1.67	8 (25%)
39	GDP	JN	502	-	24,30,30	1.07	1 (4%)	30,47,47	1.38	5 (16%)
37	GTP	FE	501	-	26,34,34	1.23	3 (11%)	32,54,54	1.95	8 (25%)
37	GTP	UE	501	-	26,34,34	1.20	1 (3%)	32,54,54	1.72	6 (18%)
39	GDP	VD	502	-	24,30,30	1.04	1 (4%)	30,47,47	1.51	5 (16%)
37	GTP	SC	501	-	26,34,34	1.30	2 (7%)	32,54,54	1.66	7 (21%)
37	GTP	BC	501	-	26,34,34	1.35	2 (7%)	32,54,54	1.71	7 (21%)
39	GDP	AF	502	-	24,30,30	1.16	2 (8%)	30,47,47	1.41	4 (13%)
37	GTP	DG	501	-	26,34,34	1.25	2 (7%)	32,54,54	1.72	7 (21%)
37	GTP	VC	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.83	7 (21%)
39	GDP	LB	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.45	4 (13%)
39	GDP	VN	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.41	4 (13%)
39	GDP	GD	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.40	4 (13%)
39	GDP	WN	502	-	24,30,30	1.08	1 (4%)	30,47,47	1.41	4 (13%)
39	GDP	UH	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.47	3 (10%)
39	GDP	N0	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
39	GDP	GL	502	-	24,30,30	0.96	1 (4%)	30,47,47	1.41	4 (13%)
39	GDP	IJ	502	-	24,30,30	1.04	1 (4%)	30,47,47	1.56	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
37	GTP	SK	501	-	26,34,34	1.32	3 (11%)	32,54,54	1.82	6 (18%)
39	GDP	FL	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.38	4 (13%)
37	GTP	BG	501	-	26,34,34	1.35	2 (7%)	32,54,54	1.78	8 (25%)
37	GTP	RE	501	-	26,34,34	1.22	1 (3%)	32,54,54	1.76	7 (21%)
37	GTP	VE	501	-	26,34,34	1.26	2 (7%)	32,54,54	1.87	7 (21%)
37	GTP	WI	501	-	26,34,34	1.26	2 (7%)	32,54,54	1.61	5 (15%)
39	GDP	BL	502	-	24,30,30	1.05	1 (4%)	30,47,47	1.38	4 (13%)
39	GDP	IB	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.38	4 (13%)
39	GDP	AD	502	-	24,30,30	0.97	2 (8%)	30,47,47	1.47	5 (16%)
39	GDP	KF	502	-	24,30,30	1.08	1 (4%)	30,47,47	1.31	4 (13%)
39	GDP	NF	502	-	24,30,30	0.91	0	30,47,47	1.47	4 (13%)
39	GDP	OL	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.56	5 (16%)
37	GTP	CA	501	-	26,34,34	1.25	2 (7%)	32,54,54	1.75	7 (21%)
37	GTP	UI	501	-	26,34,34	1.25	2 (7%)	32,54,54	1.76	7 (21%)
39	GDP	SH	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.47	4 (13%)
39	GDP	TB	502	-	24,30,30	0.95	1 (4%)	30,47,47	1.30	4 (13%)
39	GDP	KH	502	-	24,30,30	1.09	1 (4%)	30,47,47	1.43	4 (13%)
39	GDP	NJ	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.36	4 (13%)
39	GDP	WL	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.44	5 (16%)
39	GDP	GB	502	-	24,30,30	0.99	1 (4%)	30,47,47	1.46	4 (13%)
37	GTP	KI	501	-	26,34,34	1.50	3 (11%)	32,54,54	1.63	8 (25%)
39	GDP	IL	502	-	24,30,30	1.12	1 (4%)	30,47,47	1.45	6 (20%)
39	GDP	KD	502	-	24,30,30	1.12	1 (4%)	30,47,47	1.31	4 (13%)
39	GDP	KL	502	-	24,30,30	1.04	1 (4%)	30,47,47	1.35	4 (13%)
37	GTP	HG	501	-	26,34,34	1.22	2 (7%)	32,54,54	1.73	7 (21%)
37	GTP	TC	501	-	26,34,34	1.15	2 (7%)	32,54,54	1.67	7 (21%)
39	GDP	ND	502	-	24,30,30	0.98	1 (4%)	30,47,47	1.48	4 (13%)
39	GDP	PH	502	-	24,30,30	0.96	1 (4%)	30,47,47	1.35	5 (16%)
39	GDP	RD	502	-	24,30,30	1.02	1 (4%)	30,47,47	1.39	4 (13%)
37	GTP	BE	501	-	26,34,34	1.37	3 (11%)	32,54,54	1.69	7 (21%)
39	GDP	NB	502	-	24,30,30	1.00	1 (4%)	30,47,47	1.41	4 (13%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
37	GTP	MG	501	-	-	4/18/38/38	0/3/3/3
37	GTP	WC	501	-	-	1/18/38/38	0/3/3/3
39	GDP	WB	502	-	-	1/12/32/32	0/3/3/3
39	GDP	SL	502	-	-	3/12/32/32	0/3/3/3
37	GTP	JG	501	-	-	6/18/38/38	0/3/3/3
37	GTP	HO	501	-	-	6/18/38/38	0/3/3/3
37	GTP	LE	501	-	-	6/18/38/38	0/3/3/3
39	GDP	FJ	502	-	-	3/12/32/32	0/3/3/3
39	GDP	IH	502	-	-	6/12/32/32	0/3/3/3
39	GDP	AH	502	-	-	1/12/32/32	0/3/3/3
37	GTP	GM	501	-	-	5/18/38/38	0/3/3/3
37	GTP	HK	501	-	-	5/18/38/38	0/3/3/3
39	GDP	HN	502	-	-	1/12/32/32	0/3/3/3
37	GTP	ME	501	-	-	4/18/38/38	0/3/3/3
37	GTP	IO	501	-	-	3/18/38/38	0/3/3/3
37	GTP	OG	501	-	-	0/18/38/38	0/3/3/3
37	GTP	AG	501	-	-	5/18/38/38	0/3/3/3
39	GDP	SD	502	-	-	1/12/32/32	0/3/3/3
37	GTP	SE	501	-	-	6/18/38/38	0/3/3/3
39	GDP	PL	502	-	-	7/12/32/32	0/3/3/3
39	GDP	UN	502	-	-	2/12/32/32	0/3/3/3
37	GTP	SI	501	-	-	3/18/38/38	0/3/3/3
39	GDP	FD	502	-	-	6/12/32/32	0/3/3/3
39	GDP	EJ	502	-	-	4/12/32/32	0/3/3/3
37	GTP	KC	501	-	-	10/18/38/38	0/3/3/3
37	GTP	QG	501	-	-	3/18/38/38	0/3/3/3
37	GTP	BA	501	-	-	6/18/38/38	0/3/3/3
39	GDP	CB	502	-	-	3/12/32/32	0/3/3/3
39	GDP	RJ	502	-	-	2/12/32/32	0/3/3/3
37	GTP	DM	501	-	-	2/18/38/38	0/3/3/3
39	GDP	LL	502	-	-	3/12/32/32	0/3/3/3
39	GDP	UB	502	-	-	5/12/32/32	0/3/3/3
37	GTP	LG	501	-	-	4/18/38/38	0/3/3/3
37	GTP	PG	501	-	-	4/18/38/38	0/3/3/3
37	GTP	HI	501	-	-	4/18/38/38	0/3/3/3
37	GTP	VK	501	-	-	5/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GDP	TL	502	-	-	3/12/32/32	0/3/3/3
39	GDP	AL	502	-	-	1/12/32/32	0/3/3/3
37	GTP	LI	501	-	-	7/18/38/38	0/3/3/3
37	GTP	EE	501	-	-	6/18/38/38	0/3/3/3
37	GTP	LK	501	-	-	9/18/38/38	0/3/3/3
37	GTP	PM	501	-	-	3/18/38/38	0/3/3/3
37	GTP	QI	501	-	-	3/18/38/38	0/3/3/3
37	GTP	IG	501	-	-	3/18/38/38	0/3/3/3
37	GTP	HM	501	-	-	1/18/38/38	0/3/3/3
37	GTP	FI	501	-	-	5/18/38/38	0/3/3/3
37	GTP	KE	501	-	-	5/18/38/38	0/3/3/3
37	GTP	QM	501	-	-	3/18/38/38	0/3/3/3
37	GTP	AC	501	-	-	4/18/38/38	0/3/3/3
37	GTP	TM	501	-	-	5/18/38/38	0/3/3/3
37	GTP	KG	501	-	-	5/18/38/38	0/3/3/3
37	GTP	LC	501	-	-	1/18/38/38	0/3/3/3
37	GTP	OE	501	-	-	7/18/38/38	0/3/3/3
37	GTP	GG	501	-	-	7/18/38/38	0/3/3/3
39	GDP	CD	502	-	-	2/12/32/32	0/3/3/3
39	GDP	O0	502	-	-	1/12/32/32	0/3/3/3
39	GDP	IN	502	-	-	4/12/32/32	0/3/3/3
39	GDP	MJ	502	-	-	2/12/32/32	0/3/3/3
37	GTP	IE	501	-	-	2/18/38/38	0/3/3/3
39	GDP	HB	502	-	-	3/12/32/32	0/3/3/3
39	GDP	AJ	502	-	-	3/12/32/32	0/3/3/3
39	GDP	HH	502	-	-	6/12/32/32	0/3/3/3
37	GTP	HC	501	-	-	5/18/38/38	0/3/3/3
37	GTP	CK	501	-	-	5/18/38/38	0/3/3/3
37	GTP	UC	501	-	-	5/18/38/38	0/3/3/3
39	GDP	BF	502	-	-	5/12/32/32	0/3/3/3
39	GDP	RF	502	-	-	1/12/32/32	0/3/3/3
37	GTP	RC	501	-	-	6/18/38/38	0/3/3/3
39	GDP	MF	502	-	-	2/12/32/32	0/3/3/3
39	GDP	UD	502	-	-	2/12/32/32	0/3/3/3
39	GDP	WJ	502	-	-	4/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GDP	EH	502	-	-	6/12/32/32	0/3/3/3
37	GTP	JM	501	-	-	2/18/38/38	0/3/3/3
37	GTP	CC	501	-	-	4/18/38/38	0/3/3/3
37	GTP	GK	501	-	-	4/18/38/38	0/3/3/3
39	GDP	OF	502	-	-	3/12/32/32	0/3/3/3
39	GDP	PD	502	-	-	4/12/32/32	0/3/3/3
39	GDP	LN	502	-	-	3/12/32/32	0/3/3/3
37	GTP	NE	501	-	-	6/18/38/38	0/3/3/3
39	GDP	JL	502	-	-	2/12/32/32	0/3/3/3
39	GDP	RH	502	-	-	1/12/32/32	0/3/3/3
37	GTP	NA	501	-	-	7/18/38/38	0/3/3/3
39	GDP	CL	502	-	-	5/12/32/32	0/3/3/3
37	GTP	CI	501	-	-	7/18/38/38	0/3/3/3
39	GDP	KB	502	-	-	3/12/32/32	0/3/3/3
39	GDP	JF	502	-	-	0/12/32/32	0/3/3/3
39	GDP	TH	502	-	-	2/12/32/32	0/3/3/3
39	GDP	GH	502	-	-	4/12/32/32	0/3/3/3
37	GTP	WG	501	-	-	5/18/38/38	0/3/3/3
39	GDP	HF	502	-	-	1/12/32/32	0/3/3/3
39	GDP	VJ	502	-	-	3/12/32/32	0/3/3/3
37	GTP	BM	501	-	-	3/18/38/38	0/3/3/3
37	GTP	CG	501	-	-	4/18/38/38	0/3/3/3
37	GTP	RK	501	-	-	2/18/38/38	0/3/3/3
37	GTP	UK	501	-	-	2/18/38/38	0/3/3/3
37	GTP	KM	501	-	-	4/18/38/38	0/3/3/3
37	GTP	MK	501	-	-	6/18/38/38	0/3/3/3
39	GDP	DJ	502	-	-	2/12/32/32	0/3/3/3
39	GDP	SJ	502	-	-	2/12/32/32	0/3/3/3
37	GTP	OK	501	-	-	6/18/38/38	0/3/3/3
37	GTP	OI	501	-	-	6/18/38/38	0/3/3/3
37	GTP	AA	501	-	-	4/18/38/38	0/3/3/3
37	GTP	FM	501	-	-	5/18/38/38	0/3/3/3
39	GDP	DF	502	-	-	4/12/32/32	0/3/3/3
39	GDP	NH	502	-	-	4/12/32/32	0/3/3/3
37	GTP	EG	501	-	-	8/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GDP	OB	502	-	-	4/12/32/32	0/3/3/3
37	GTP	FG	501	-	-	5/18/38/38	0/3/3/3
39	GDP	FN	502	-	-	2/12/32/32	0/3/3/3
39	GDP	QH	502	-	-	0/12/32/32	0/3/3/3
37	GTP	JK	501	-	-	4/18/38/38	0/3/3/3
39	GDP	BB	502	-	-	5/12/32/32	0/3/3/3
37	GTP	IC	501	-	-	7/18/38/38	0/3/3/3
39	GDP	ID	502	-	-	6/12/32/32	0/3/3/3
39	GDP	LJ	502	-	-	5/12/32/32	0/3/3/3
39	GDP	ML	502	-	-	3/12/32/32	0/3/3/3
37	GTP	HE	501	-	-	6/18/38/38	0/3/3/3
37	GTP	GE	501	-	-	6/18/38/38	0/3/3/3
39	GDP	EL	502	-	-	4/12/32/32	0/3/3/3
39	GDP	MN	502	-	-	3/12/32/32	0/3/3/3
37	GTP	CE	501	-	-	4/18/38/38	0/3/3/3
37	GTP	BK	501	-	-	5/18/38/38	0/3/3/3
39	GDP	BJ	502	-	-	7/12/32/32	0/3/3/3
37	GTP	WM	501	-	-	6/18/38/38	0/3/3/3
37	GTP	AI	501	-	-	1/18/38/38	0/3/3/3
39	GDP	PF	502	-	-	3/12/32/32	0/3/3/3
39	GDP	TD	502	-	-	2/12/32/32	0/3/3/3
37	GTP	EK	501	-	-	6/18/38/38	0/3/3/3
39	GDP	UL	502	-	-	3/12/32/32	0/3/3/3
39	GDP	GJ	502	-	-	2/12/32/32	0/3/3/3
39	GDP	OD	502	-	-	1/12/32/32	0/3/3/3
39	GDP	TF	502	-	-	1/12/32/32	0/3/3/3
39	GDP	WF	502	-	-	2/12/32/32	0/3/3/3
37	GTP	GC	501	-	-	6/18/38/38	0/3/3/3
37	GTP	QA	501	-	-	5/18/38/38	0/3/3/3
39	GDP	CJ	502	-	-	6/12/32/32	0/3/3/3
37	GTP	RA	501	-	-	7/18/38/38	0/3/3/3
39	GDP	DD	502	-	-	7/12/32/32	0/3/3/3
39	GDP	CF	502	-	-	6/12/32/32	0/3/3/3
39	GDP	RL	502	-	-	2/12/32/32	0/3/3/3
39	GDP	VF	502	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
37	GTP	VG	501	-	-	3/18/38/38	0/3/3/3
37	GTP	PK	501	-	-	7/18/38/38	0/3/3/3
39	GDP	LH	502	-	-	5/12/32/32	0/3/3/3
37	GTP	FC	501	-	-	8/18/38/38	0/3/3/3
37	GTP	PE	501	-	-	6/18/38/38	0/3/3/3
37	GTP	MC	501	-	-	5/18/38/38	0/3/3/3
37	GTP	MI	501	-	-	8/18/38/38	0/3/3/3
39	GDP	QF	502	-	-	0/12/32/32	0/3/3/3
39	GDP	LF	502	-	-	2/12/32/32	0/3/3/3
39	GDP	WD	502	-	-	4/12/32/32	0/3/3/3
39	GDP	WH	502	-	-	2/12/32/32	0/3/3/3
37	GTP	WK	501	-	-	8/18/38/38	0/3/3/3
39	GDP	LD	502	-	-	7/12/32/32	0/3/3/3
37	GTP	NG	501	-	-	4/18/38/38	0/3/3/3
39	GDP	QL	502	-	-	1/12/32/32	0/3/3/3
39	GDP	KN	502	-	-	3/12/32/32	0/3/3/3
39	GDP	SB	502	-	-	1/12/32/32	0/3/3/3
37	GTP	NI	501	-	-	7/18/38/38	0/3/3/3
37	GTP	JC	501	-	-	0/18/38/38	0/3/3/3
37	GTP	OC	501	-	-	6/18/38/38	0/3/3/3
37	GTP	VM	501	-	-	3/18/38/38	0/3/3/3
39	GDP	JJ	502	-	-	0/12/32/32	0/3/3/3
39	GDP	UF	502	-	-	4/12/32/32	0/3/3/3
39	GDP	PB	502	-	-	5/12/32/32	0/3/3/3
39	GDP	GF	502	-	-	6/12/32/32	0/3/3/3
39	GDP	EN	502	-	-	5/12/32/32	0/3/3/3
39	GDP	UJ	502	-	-	5/12/32/32	0/3/3/3
39	GDP	BH	502	-	-	4/12/32/32	0/3/3/3
37	GTP	IM	501	-	-	6/18/38/38	0/3/3/3
37	GTP	QK	501	-	-	7/18/38/38	0/3/3/3
37	GTP	DA	501	-	-	3/18/38/38	0/3/3/3
39	GDP	DB	502	-	-	1/12/32/32	0/3/3/3
39	GDP	SF	502	-	-	0/12/32/32	0/3/3/3
39	GDP	VH	502	-	-	4/12/32/32	0/3/3/3
39	GDP	HD	502	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
37	GTP	OA	501	-	-	6/18/38/38	0/3/3/3
37	GTP	LM	501	-	-	4/18/38/38	0/3/3/3
37	GTP	UG	501	-	-	6/18/38/38	0/3/3/3
39	GDP	ED	502	-	-	4/12/32/32	0/3/3/3
39	GDP	BD	502	-	-	5/12/32/32	0/3/3/3
39	GDP	JB	502	-	-	1/12/32/32	0/3/3/3
39	GDP	MD	502	-	-	4/12/32/32	0/3/3/3
39	GDP	NL	502	-	-	3/12/32/32	0/3/3/3
39	GDP	VL	502	-	-	4/12/32/32	0/3/3/3
37	GTP	DI	501	-	-	6/18/38/38	0/3/3/3
37	GTP	DK	501	-	-	3/18/38/38	0/3/3/3
39	GDP	DL	502	-	-	3/12/32/32	0/3/3/3
37	GTP	PC	501	-	-	1/18/38/38	0/3/3/3
39	GDP	HL	502	-	-	1/12/32/32	0/3/3/3
37	GTP	VI	501	-	-	4/18/38/38	0/3/3/3
39	GDP	FB	502	-	-	3/12/32/32	0/3/3/3
39	GDP	DN	502	-	-	3/12/32/32	0/3/3/3
39	GDP	AB	502	-	-	4/12/32/32	0/3/3/3
39	GDP	CH	502	-	-	4/12/32/32	0/3/3/3
39	GDP	MH	502	-	-	3/12/32/32	0/3/3/3
37	GTP	WE	501	-	-	6/18/38/38	0/3/3/3
37	GTP	RG	501	-	-	3/18/38/38	0/3/3/3
39	GDP	DH	502	-	-	3/12/32/32	0/3/3/3
37	GTP	SM	501	-	-	7/18/38/38	0/3/3/3
39	GDP	FF	502	-	-	0/12/32/32	0/3/3/3
39	GDP	VB	502	-	-	5/12/32/32	0/3/3/3
37	GTP	EM	501	-	-	6/18/38/38	0/3/3/3
37	GTP	NK	501	-	-	1/18/38/38	0/3/3/3
37	GTP	RM	501	-	-	3/18/38/38	0/3/3/3
37	GTP	DC	501	-	-	6/18/38/38	0/3/3/3
39	GDP	QJ	502	-	-	3/12/32/32	0/3/3/3
37	GTP	BI	501	-	-	4/18/38/38	0/3/3/3
37	GTP	CM	501	-	-	7/18/38/38	0/3/3/3
37	GTP	AM	501	-	-	4/18/38/38	0/3/3/3
39	GDP	QD	502	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
37	GTP	PI	501	-	-	5/18/38/38	0/3/3/3
37	GTP	QE	501	-	-	3/18/38/38	0/3/3/3
39	GDP	GN	502	-	-	4/12/32/32	0/3/3/3
37	GTP	EC	501	-	-	6/18/38/38	0/3/3/3
39	GDP	HJ	502	-	-	3/12/32/32	0/3/3/3
37	GTP	KO	501	-	-	5/18/38/38	0/3/3/3
37	GTP	QC	501	-	-	3/18/38/38	0/3/3/3
39	GDP	TJ	502	-	-	2/12/32/32	0/3/3/3
37	GTP	TE	501	-	-	3/18/38/38	0/3/3/3
39	GDP	OJ	502	-	-	2/12/32/32	0/3/3/3
37	GTP	TK	501	-	-	5/18/38/38	0/3/3/3
37	GTP	MM	501	-	-	7/18/38/38	0/3/3/3
37	GTP	KK	501	-	-	7/18/38/38	0/3/3/3
39	GDP	MB	502	-	-	0/12/32/32	0/3/3/3
37	GTP	PA	501	-	-	7/18/38/38	0/3/3/3
39	GDP	EF	502	-	-	5/12/32/32	0/3/3/3
37	GTP	RI	501	-	-	4/18/38/38	0/3/3/3
37	GTP	JE	501	-	-	2/18/38/38	0/3/3/3
37	GTP	SG	501	-	-	7/18/38/38	0/3/3/3
39	GDP	JH	502	-	-	2/12/32/32	0/3/3/3
39	GDP	PJ	502	-	-	4/12/32/32	0/3/3/3
37	GTP	EI	501	-	-	6/18/38/38	0/3/3/3
37	GTP	TG	501	-	-	7/18/38/38	0/3/3/3
37	GTP	NC	501	-	-	6/18/38/38	0/3/3/3
37	GTP	UM	501	-	-	2/18/38/38	0/3/3/3
37	GTP	TI	501	-	-	5/18/38/38	0/3/3/3
37	GTP	AK	501	-	-	2/18/38/38	0/3/3/3
37	GTP	AE	501	-	-	4/18/38/38	0/3/3/3
39	GDP	IF	502	-	-	0/12/32/32	0/3/3/3
39	GDP	JD	502	-	-	1/12/32/32	0/3/3/3
37	GTP	IK	501	-	-	5/18/38/38	0/3/3/3
39	GDP	OH	502	-	-	2/12/32/32	0/3/3/3
39	GDP	KJ	502	-	-	3/12/32/32	0/3/3/3
37	GTP	DE	501	-	-	8/18/38/38	0/3/3/3
37	GTP	SA	501	-	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
37	GTP	II	501	-	-	4/18/38/38	0/3/3/3
39	GDP	FH	502	-	-	4/12/32/32	0/3/3/3
39	GDP	RB	502	-	-	4/12/32/32	0/3/3/3
37	GTP	GI	501	-	-	4/18/38/38	0/3/3/3
37	GTP	JI	501	-	-	4/18/38/38	0/3/3/3
39	GDP	QB	502	-	-	5/12/32/32	0/3/3/3
39	GDP	EB	502	-	-	4/12/32/32	0/3/3/3
37	GTP	FK	501	-	-	8/18/38/38	0/3/3/3
39	GDP	JN	502	-	-	3/12/32/32	0/3/3/3
37	GTP	FE	501	-	-	5/18/38/38	0/3/3/3
37	GTP	UE	501	-	-	5/18/38/38	0/3/3/3
39	GDP	VD	502	-	-	2/12/32/32	0/3/3/3
37	GTP	SC	501	-	-	4/18/38/38	0/3/3/3
37	GTP	BC	501	-	-	7/18/38/38	0/3/3/3
39	GDP	AF	502	-	-	6/12/32/32	0/3/3/3
37	GTP	DG	501	-	-	5/18/38/38	0/3/3/3
37	GTP	VC	501	-	-	6/18/38/38	0/3/3/3
39	GDP	LB	502	-	-	1/12/32/32	0/3/3/3
39	GDP	VN	502	-	-	0/12/32/32	0/3/3/3
39	GDP	GD	502	-	-	1/12/32/32	0/3/3/3
39	GDP	WN	502	-	-	7/12/32/32	0/3/3/3
39	GDP	UH	502	-	-	4/12/32/32	0/3/3/3
39	GDP	N0	502	-	-	5/12/32/32	0/3/3/3
39	GDP	GL	502	-	-	1/12/32/32	0/3/3/3
39	GDP	IJ	502	-	-	3/12/32/32	0/3/3/3
37	GTP	SK	501	-	-	6/18/38/38	0/3/3/3
39	GDP	FL	502	-	-	5/12/32/32	0/3/3/3
37	GTP	BG	501	-	-	6/18/38/38	0/3/3/3
37	GTP	RE	501	-	-	3/18/38/38	0/3/3/3
37	GTP	VE	501	-	-	4/18/38/38	0/3/3/3
37	GTP	WI	501	-	-	6/18/38/38	0/3/3/3
39	GDP	BL	502	-	-	1/12/32/32	0/3/3/3
39	GDP	IB	502	-	-	6/12/32/32	0/3/3/3
39	GDP	AD	502	-	-	3/12/32/32	0/3/3/3
39	GDP	KF	502	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GDP	NF	502	-	-	4/12/32/32	0/3/3/3
39	GDP	OL	502	-	-	3/12/32/32	0/3/3/3
37	GTP	CA	501	-	-	3/18/38/38	0/3/3/3
37	GTP	UI	501	-	-	6/18/38/38	0/3/3/3
39	GDP	SH	502	-	-	0/12/32/32	0/3/3/3
39	GDP	TB	502	-	-	6/12/32/32	0/3/3/3
39	GDP	KH	502	-	-	4/12/32/32	0/3/3/3
39	GDP	NJ	502	-	-	2/12/32/32	0/3/3/3
39	GDP	WL	502	-	-	5/12/32/32	0/3/3/3
39	GDP	GB	502	-	-	2/12/32/32	0/3/3/3
37	GTP	KI	501	-	-	8/18/38/38	0/3/3/3
39	GDP	IL	502	-	-	0/12/32/32	0/3/3/3
39	GDP	KD	502	-	-	5/12/32/32	0/3/3/3
39	GDP	KL	502	-	-	1/12/32/32	0/3/3/3
37	GTP	HG	501	-	-	4/18/38/38	0/3/3/3
37	GTP	TC	501	-	-	9/18/38/38	0/3/3/3
39	GDP	ND	502	-	-	4/12/32/32	0/3/3/3
39	GDP	PH	502	-	-	0/12/32/32	0/3/3/3
39	GDP	RD	502	-	-	2/12/32/32	0/3/3/3
37	GTP	BE	501	-	-	4/18/38/38	0/3/3/3
39	GDP	NB	502	-	-	3/12/32/32	0/3/3/3

All (472) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	KC	501	GTP	C5-C6	-5.53	1.36	1.47
37	KG	501	GTP	C5-C6	-5.44	1.36	1.47
37	KE	501	GTP	C5-C6	-5.19	1.36	1.47
37	KI	501	GTP	C5-C6	-5.14	1.37	1.47
37	KM	501	GTP	C5-C6	-5.14	1.37	1.47
37	KK	501	GTP	C5-C6	-5.10	1.37	1.47
37	PM	501	GTP	C5-C6	-5.07	1.37	1.47
37	GG	501	GTP	C5-C6	-5.00	1.37	1.47
37	SM	501	GTP	C5-C6	-5.00	1.37	1.47
37	LI	501	GTP	C5-C6	-4.91	1.37	1.47
37	MM	501	GTP	C5-C6	-4.90	1.37	1.47
37	LG	501	GTP	C5-C6	-4.89	1.37	1.47
37	MK	501	GTP	C5-C6	-4.89	1.37	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	MC	501	GTP	C5-C6	-4.88	1.37	1.47
37	ME	501	GTP	C5-C6	-4.87	1.37	1.47
37	KO	501	GTP	C5-C6	-4.87	1.37	1.47
37	BG	501	GTP	C5-C6	-4.86	1.37	1.47
37	BI	501	GTP	C5-C6	-4.84	1.37	1.47
37	AC	501	GTP	C5-C6	-4.83	1.37	1.47
37	GC	501	GTP	C5-C6	-4.81	1.37	1.47
37	AE	501	GTP	C5-C6	-4.81	1.37	1.47
37	SK	501	GTP	C5-C6	-4.81	1.37	1.47
37	RG	501	GTP	C5-C6	-4.80	1.37	1.47
37	OK	501	GTP	C5-C6	-4.79	1.37	1.47
37	AM	501	GTP	C5-C6	-4.78	1.37	1.47
37	GM	501	GTP	C5-C6	-4.77	1.37	1.47
37	JI	501	GTP	C5-C6	-4.77	1.37	1.47
37	OC	501	GTP	C5-C6	-4.76	1.37	1.47
37	BE	501	GTP	C5-C6	-4.76	1.37	1.47
37	LM	501	GTP	C5-C6	-4.75	1.37	1.47
37	BA	501	GTP	C5-C6	-4.75	1.37	1.47
37	MI	501	GTP	C5-C6	-4.75	1.37	1.47
37	RC	501	GTP	C5-C6	-4.74	1.37	1.47
37	SC	501	GTP	C5-C6	-4.71	1.37	1.47
37	BM	501	GTP	C5-C6	-4.71	1.37	1.47
37	SE	501	GTP	C5-C6	-4.70	1.37	1.47
37	BC	501	GTP	C5-C6	-4.70	1.37	1.47
37	LK	501	GTP	C5-C6	-4.70	1.37	1.47
37	RK	501	GTP	C5-C6	-4.68	1.37	1.47
37	SG	501	GTP	C5-C6	-4.68	1.37	1.47
37	UG	501	GTP	C5-C6	-4.67	1.37	1.47
37	NG	501	GTP	C5-C6	-4.64	1.38	1.47
37	LE	501	GTP	C5-C6	-4.64	1.38	1.47
37	IM	501	GTP	C5-C6	-4.62	1.38	1.47
37	TK	501	GTP	C5-C6	-4.62	1.38	1.47
37	BK	501	GTP	C5-C6	-4.61	1.38	1.47
37	NA	501	GTP	C5-C6	-4.61	1.38	1.47
37	AG	501	GTP	C5-C6	-4.61	1.38	1.47
37	EK	501	GTP	C5-C6	-4.60	1.38	1.47
37	HE	501	GTP	C5-C6	-4.59	1.38	1.47
37	JG	501	GTP	C5-C6	-4.57	1.38	1.47
37	GK	501	GTP	C5-C6	-4.56	1.38	1.47
37	AI	501	GTP	C5-C6	-4.56	1.38	1.47
37	EM	501	GTP	C5-C6	-4.55	1.38	1.47
37	OG	501	GTP	C5-C6	-4.54	1.38	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	CA	501	GTP	C5-C6	-4.54	1.38	1.47
37	IK	501	GTP	C5-C6	-4.53	1.38	1.47
37	GI	501	GTP	C5-C6	-4.53	1.38	1.47
37	QM	501	GTP	C5-C6	-4.53	1.38	1.47
37	VE	501	GTP	C5-C6	-4.52	1.38	1.47
37	GE	501	GTP	C5-C6	-4.51	1.38	1.47
37	AK	501	GTP	C5-C6	-4.50	1.38	1.47
37	FK	501	GTP	C5-C6	-4.50	1.38	1.47
37	NI	501	GTP	C5-C6	-4.50	1.38	1.47
37	FC	501	GTP	C5-C6	-4.49	1.38	1.47
37	VM	501	GTP	C5-C6	-4.49	1.38	1.47
37	UC	501	GTP	C5-C6	-4.49	1.38	1.47
37	OA	501	GTP	C5-C6	-4.47	1.38	1.47
37	EE	501	GTP	C5-C6	-4.45	1.38	1.47
37	AA	501	GTP	C5-C6	-4.44	1.38	1.47
37	JK	501	GTP	C5-C6	-4.44	1.38	1.47
37	RM	501	GTP	C5-C6	-4.44	1.38	1.47
37	UK	501	GTP	C5-C6	-4.40	1.38	1.47
37	EI	501	GTP	C5-C6	-4.40	1.38	1.47
37	OE	501	GTP	C5-C6	-4.40	1.38	1.47
37	HC	501	GTP	C5-C6	-4.39	1.38	1.47
37	UI	501	GTP	C5-C6	-4.39	1.38	1.47
37	LC	501	GTP	C5-C6	-4.38	1.38	1.47
37	RA	501	GTP	C5-C6	-4.37	1.38	1.47
37	CI	501	GTP	C5-C6	-4.36	1.38	1.47
37	OI	501	GTP	C5-C6	-4.36	1.38	1.47
37	EG	501	GTP	C5-C6	-4.35	1.38	1.47
37	HO	501	GTP	C5-C6	-4.35	1.38	1.47
37	SI	501	GTP	C5-C6	-4.34	1.38	1.47
37	PE	501	GTP	C5-C6	-4.33	1.38	1.47
37	II	501	GTP	C5-C6	-4.32	1.38	1.47
37	TE	501	GTP	C5-C6	-4.31	1.38	1.47
37	EC	501	GTP	C5-C6	-4.31	1.38	1.47
37	NE	501	GTP	C5-C6	-4.31	1.38	1.47
37	PG	501	GTP	C5-C6	-4.30	1.38	1.47
37	FG	501	GTP	C5-C6	-4.30	1.38	1.47
37	VG	501	GTP	C5-C6	-4.30	1.38	1.47
37	PA	501	GTP	C5-C6	-4.29	1.38	1.47
37	DG	501	GTP	C5-C6	-4.28	1.38	1.47
37	WE	501	GTP	C5-C6	-4.28	1.38	1.47
37	NK	501	GTP	C5-C6	-4.27	1.38	1.47
37	TG	501	GTP	C5-C6	-4.27	1.38	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	JE	501	GTP	C5-C6	-4.26	1.38	1.47
37	CK	501	GTP	C5-C6	-4.25	1.38	1.47
37	CM	501	GTP	C5-C6	-4.25	1.38	1.47
37	RE	501	GTP	C5-C6	-4.24	1.38	1.47
37	HM	501	GTP	C5-C6	-4.24	1.38	1.47
37	CG	501	GTP	C5-C6	-4.24	1.38	1.47
37	VC	501	GTP	C5-C6	-4.24	1.38	1.47
37	FE	501	GTP	C5-C6	-4.23	1.38	1.47
37	HK	501	GTP	C5-C6	-4.23	1.38	1.47
37	TI	501	GTP	C5-C6	-4.23	1.38	1.47
37	UM	501	GTP	C5-C6	-4.23	1.38	1.47
37	HG	501	GTP	C5-C6	-4.22	1.38	1.47
37	CC	501	GTP	C5-C6	-4.22	1.38	1.47
37	PC	501	GTP	C5-C6	-4.22	1.38	1.47
37	FM	501	GTP	C5-C6	-4.21	1.38	1.47
37	JM	501	GTP	C5-C6	-4.20	1.38	1.47
37	VK	501	GTP	C5-C6	-4.20	1.38	1.47
37	JC	501	GTP	C5-C6	-4.19	1.38	1.47
37	DE	501	GTP	C5-C6	-4.19	1.38	1.47
37	WM	501	GTP	C5-C6	-4.18	1.38	1.47
37	NC	501	GTP	C5-C6	-4.18	1.38	1.47
37	MG	501	GTP	C5-C6	-4.18	1.38	1.47
37	DC	501	GTP	C5-C6	-4.17	1.38	1.47
37	SA	501	GTP	C5-C6	-4.15	1.39	1.47
37	TC	501	GTP	C5-C6	-4.15	1.39	1.47
37	WI	501	GTP	C5-C6	-4.15	1.39	1.47
37	IC	501	GTP	C5-C6	-4.11	1.39	1.47
37	UE	501	GTP	C5-C6	-4.11	1.39	1.47
37	VI	501	GTP	C5-C6	-4.10	1.39	1.47
37	RI	501	GTP	C5-C6	-4.09	1.39	1.47
37	HI	501	GTP	C5-C6	-4.06	1.39	1.47
37	WG	501	GTP	C5-C6	-4.03	1.39	1.47
37	QE	501	GTP	C5-C6	-4.03	1.39	1.47
37	IG	501	GTP	C5-C6	-4.02	1.39	1.47
37	CE	501	GTP	C5-C6	-4.01	1.39	1.47
37	QA	501	GTP	C5-C6	-3.98	1.39	1.47
37	IE	501	GTP	C5-C6	-3.96	1.39	1.47
37	WC	501	GTP	C5-C6	-3.96	1.39	1.47
37	PK	501	GTP	C5-C6	-3.95	1.39	1.47
37	DK	501	GTP	C5-C6	-3.95	1.39	1.47
37	QC	501	GTP	C5-C6	-3.94	1.39	1.47
37	TM	501	GTP	C5-C6	-3.92	1.39	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	QG	501	GTP	C5-C6	-3.88	1.39	1.47
37	WK	501	GTP	C5-C6	-3.88	1.39	1.47
37	IO	501	GTP	C5-C6	-3.83	1.39	1.47
37	QK	501	GTP	C5-C6	-3.81	1.39	1.47
37	QI	501	GTP	C5-C6	-3.80	1.39	1.47
37	DM	501	GTP	C5-C6	-3.77	1.39	1.47
37	DA	501	GTP	C5-C6	-3.76	1.39	1.47
37	PI	501	GTP	C5-C6	-3.73	1.39	1.47
37	DI	501	GTP	C5-C6	-3.70	1.39	1.47
39	EF	502	GDP	C6-N1	-3.60	1.32	1.37
39	IL	502	GDP	C6-N1	-3.57	1.32	1.37
39	ML	502	GDP	C6-N1	-3.55	1.32	1.37
39	MD	502	GDP	C6-N1	-3.51	1.32	1.37
39	KD	502	GDP	C6-N1	-3.49	1.32	1.37
39	AF	502	GDP	C6-N1	-3.44	1.32	1.37
39	KB	502	GDP	C6-N1	-3.43	1.32	1.37
39	LD	502	GDP	C6-N1	-3.43	1.32	1.37
39	LF	502	GDP	C6-N1	-3.41	1.32	1.37
39	EL	502	GDP	C6-N1	-3.40	1.32	1.37
39	AJ	502	GDP	C6-N1	-3.40	1.32	1.37
39	KH	502	GDP	C6-N1	-3.39	1.32	1.37
39	MN	502	GDP	C6-N1	-3.36	1.32	1.37
39	IN	502	GDP	C6-N1	-3.36	1.32	1.37
39	IH	502	GDP	C6-N1	-3.34	1.32	1.37
39	LJ	502	GDP	C6-N1	-3.34	1.32	1.37
39	FF	502	GDP	C6-N1	-3.33	1.32	1.37
39	DB	502	GDP	C6-N1	-3.32	1.32	1.37
39	ED	502	GDP	C6-N1	-3.28	1.33	1.37
39	FD	502	GDP	C6-N1	-3.27	1.33	1.37
39	IF	502	GDP	C6-N1	-3.26	1.33	1.37
39	AH	502	GDP	C6-N1	-3.25	1.33	1.37
39	KF	502	GDP	C6-N1	-3.25	1.33	1.37
39	KJ	502	GDP	C6-N1	-3.24	1.33	1.37
37	FI	501	GTP	C5-C6	-3.24	1.40	1.47
39	JF	502	GDP	C6-N1	-3.22	1.33	1.37
39	BD	502	GDP	C6-N1	-3.22	1.33	1.37
39	JH	502	GDP	C6-N1	-3.21	1.33	1.37
39	LL	502	GDP	C6-N1	-3.21	1.33	1.37
39	CF	502	GDP	C6-N1	-3.20	1.33	1.37
39	RF	502	GDP	C6-N1	-3.16	1.33	1.37
39	GH	502	GDP	C6-N1	-3.15	1.33	1.37
39	CH	502	GDP	C6-N1	-3.14	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	LN	502	GDP	C6-N1	-3.14	1.33	1.37
39	LH	502	GDP	C6-N1	-3.13	1.33	1.37
39	JN	502	GDP	C6-N1	-3.13	1.33	1.37
39	MJ	502	GDP	C6-N1	-3.13	1.33	1.37
39	FL	502	GDP	C6-N1	-3.11	1.33	1.37
39	WN	502	GDP	C6-N1	-3.11	1.33	1.37
39	SD	502	GDP	C6-N1	-3.10	1.33	1.37
39	AB	502	GDP	C6-N1	-3.09	1.33	1.37
39	DH	502	GDP	C6-N1	-3.09	1.33	1.37
39	FH	502	GDP	C6-N1	-3.09	1.33	1.37
39	IJ	502	GDP	C6-N1	-3.09	1.33	1.37
39	VJ	502	GDP	C6-N1	-3.08	1.33	1.37
39	AL	502	GDP	C6-N1	-3.08	1.33	1.37
39	EJ	502	GDP	C6-N1	-3.08	1.33	1.37
39	SB	502	GDP	C6-N1	-3.08	1.33	1.37
39	CJ	502	GDP	C6-N1	-3.07	1.33	1.37
39	VD	502	GDP	C6-N1	-3.07	1.33	1.37
39	MF	502	GDP	C6-N1	-3.06	1.33	1.37
39	KL	502	GDP	C6-N1	-3.05	1.33	1.37
39	KN	502	GDP	C6-N1	-3.04	1.33	1.37
39	FJ	502	GDP	C6-N1	-3.02	1.33	1.37
39	SH	502	GDP	C6-N1	-3.01	1.33	1.37
39	JL	502	GDP	C6-N1	-3.00	1.33	1.37
39	BF	502	GDP	C6-N1	-3.00	1.33	1.37
39	BJ	502	GDP	C6-N1	-3.00	1.33	1.37
39	HJ	502	GDP	C6-N1	-3.00	1.33	1.37
39	BL	502	GDP	C6-N1	-3.00	1.33	1.37
39	VL	502	GDP	C6-N1	-2.99	1.33	1.37
39	SL	502	GDP	C6-N1	-2.96	1.33	1.37
39	GF	502	GDP	C6-N1	-2.96	1.33	1.37
39	VF	502	GDP	C6-N1	-2.95	1.33	1.37
39	UN	502	GDP	C6-N1	-2.95	1.33	1.37
39	PJ	502	GDP	C6-N1	-2.94	1.33	1.37
39	VH	502	GDP	C6-N1	-2.93	1.33	1.37
39	UH	502	GDP	C6-N1	-2.93	1.33	1.37
39	WJ	502	GDP	C6-N1	-2.90	1.33	1.37
39	PF	502	GDP	C6-N1	-2.89	1.33	1.37
39	RJ	502	GDP	C6-N1	-2.89	1.33	1.37
39	HB	502	GDP	C6-N1	-2.89	1.33	1.37
39	BH	502	GDP	C6-N1	-2.89	1.33	1.37
39	GB	502	GDP	C6-N1	-2.88	1.33	1.37
39	WL	502	GDP	C6-N1	-2.88	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	UL	502	GDP	C6-N1	-2.87	1.33	1.37
39	MH	502	GDP	C6-N1	-2.87	1.33	1.37
39	HN	502	GDP	C6-N1	-2.87	1.33	1.37
39	ID	502	GDP	C6-N1	-2.87	1.33	1.37
39	NJ	502	GDP	C6-N1	-2.87	1.33	1.37
39	RH	502	GDP	C6-N1	-2.86	1.33	1.37
39	GD	502	GDP	C6-N1	-2.85	1.33	1.37
39	GN	502	GDP	C6-N1	-2.85	1.33	1.37
39	NB	502	GDP	C6-N1	-2.83	1.33	1.37
39	GJ	502	GDP	C6-N1	-2.82	1.33	1.37
39	SF	502	GDP	C6-N1	-2.81	1.33	1.37
39	SJ	502	GDP	C6-N1	-2.80	1.33	1.37
39	RD	502	GDP	C6-N1	-2.79	1.33	1.37
39	VN	502	GDP	C6-N1	-2.79	1.33	1.37
39	UF	502	GDP	C6-N1	-2.77	1.33	1.37
39	WF	502	GDP	C6-N1	-2.77	1.33	1.37
39	HD	502	GDP	C6-N1	-2.76	1.33	1.37
39	N0	502	GDP	C6-N1	-2.76	1.33	1.37
39	PB	502	GDP	C6-N1	-2.75	1.33	1.37
39	CB	502	GDP	C6-N1	-2.75	1.33	1.37
39	IB	502	GDP	C6-N1	-2.75	1.33	1.37
39	ND	502	GDP	C6-N1	-2.74	1.33	1.37
39	GL	502	GDP	C6-N1	-2.72	1.33	1.37
39	QL	502	GDP	C6-N1	-2.72	1.33	1.37
39	JD	502	GDP	C6-N1	-2.71	1.33	1.37
39	CL	502	GDP	C6-N1	-2.71	1.33	1.37
39	HH	502	GDP	C6-N1	-2.70	1.33	1.37
39	FN	502	GDP	C6-N1	-2.69	1.33	1.37
39	OJ	502	GDP	C6-N1	-2.69	1.33	1.37
39	QB	502	GDP	C6-N1	-2.69	1.33	1.37
39	RL	502	GDP	C6-N1	-2.68	1.33	1.37
39	OH	502	GDP	C6-N1	-2.67	1.33	1.37
39	DL	502	GDP	C6-N1	-2.67	1.33	1.37
39	TH	502	GDP	C6-N1	-2.67	1.33	1.37
39	JJ	502	GDP	C6-N1	-2.66	1.33	1.37
39	UD	502	GDP	C6-N1	-2.65	1.33	1.37
39	LB	502	GDP	C6-N1	-2.65	1.33	1.37
37	LM	501	GTP	C2'-C1'	-2.65	1.49	1.53
39	DN	502	GDP	C6-N1	-2.62	1.34	1.37
39	O0	502	GDP	C6-N1	-2.62	1.34	1.37
39	QJ	502	GDP	C6-N1	-2.62	1.34	1.37
39	TD	502	GDP	C6-N1	-2.62	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	WH	502	GDP	C6-N1	-2.62	1.34	1.37
39	OL	502	GDP	C6-N1	-2.61	1.34	1.37
39	DD	502	GDP	C6-N1	-2.60	1.34	1.37
39	HF	502	GDP	C6-N1	-2.59	1.34	1.37
39	UJ	502	GDP	C6-N1	-2.58	1.34	1.37
39	EH	502	GDP	C6-N1	-2.58	1.34	1.37
39	PH	502	GDP	C6-N1	-2.58	1.34	1.37
39	DF	502	GDP	C6-N1	-2.55	1.34	1.37
39	DJ	502	GDP	C6-N1	-2.55	1.34	1.37
39	TF	502	GDP	C6-N1	-2.54	1.34	1.37
37	AK	501	GTP	C2'-C1'	-2.54	1.49	1.53
37	KG	501	GTP	O4'-C4'	-2.54	1.39	1.45
39	NL	502	GDP	C6-N1	-2.53	1.34	1.37
39	TL	502	GDP	C6-N1	-2.53	1.34	1.37
37	PE	501	GTP	C2-N3	2.53	1.39	1.33
39	OB	502	GDP	C6-N1	-2.52	1.34	1.37
39	HL	502	GDP	C6-N1	-2.52	1.34	1.37
39	OD	502	GDP	C6-N1	-2.51	1.34	1.37
39	EB	502	GDP	C6-N1	-2.51	1.34	1.37
39	EN	502	GDP	C6-N1	-2.51	1.34	1.37
39	RB	502	GDP	C6-N1	-2.51	1.34	1.37
39	MB	502	GDP	C6-N1	-2.51	1.34	1.37
39	FB	502	GDP	C6-N1	-2.49	1.34	1.37
39	CD	502	GDP	C6-N1	-2.49	1.34	1.37
39	NH	502	GDP	C6-N1	-2.48	1.34	1.37
37	VE	501	GTP	C2-N3	2.47	1.39	1.33
39	PD	502	GDP	C6-N1	-2.47	1.34	1.37
37	KE	501	GTP	O4'-C4'	-2.46	1.39	1.45
37	KG	501	GTP	C5-C4	-2.44	1.36	1.43
37	KC	501	GTP	O4'-C4'	-2.43	1.39	1.45
39	WD	502	GDP	C6-N1	-2.43	1.34	1.37
39	JB	502	GDP	C6-N1	-2.40	1.34	1.37
39	WB	502	GDP	C6-N1	-2.40	1.34	1.37
37	FM	501	GTP	C5-C4	-2.39	1.37	1.43
37	DK	501	GTP	C2-N3	2.38	1.38	1.33
37	PK	501	GTP	C2-N3	2.37	1.38	1.33
37	LK	501	GTP	C2'-C1'	-2.37	1.50	1.53
37	DA	501	GTP	C2-N3	2.37	1.38	1.33
37	AC	501	GTP	C2'-C1'	-2.36	1.50	1.53
39	QD	502	GDP	C6-N1	-2.36	1.34	1.37
37	VM	501	GTP	C2-N3	2.36	1.38	1.33
37	CA	501	GTP	C2-N3	2.36	1.38	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	VK	501	GTP	C2-N3	2.36	1.38	1.33
37	AA	501	GTP	C2'-C1'	-2.35	1.50	1.53
37	KK	501	GTP	C5-C4	-2.35	1.37	1.43
37	FI	501	GTP	C2-N3	2.34	1.38	1.33
37	HE	501	GTP	C2-N3	2.34	1.38	1.33
37	KC	501	GTP	C5-C4	-2.33	1.37	1.43
39	QH	502	GDP	C6-N1	-2.33	1.34	1.37
37	VG	501	GTP	C2-N3	2.32	1.38	1.33
39	UB	502	GDP	C6-N1	-2.32	1.34	1.37
37	NK	501	GTP	C2-N3	2.32	1.38	1.33
37	KI	501	GTP	C5-C4	-2.32	1.37	1.43
37	IM	501	GTP	C2-N3	2.32	1.38	1.33
37	KE	501	GTP	C5-C4	-2.31	1.37	1.43
37	JM	501	GTP	C2-N3	2.30	1.38	1.33
37	PA	501	GTP	C2-N3	2.30	1.38	1.33
39	PL	502	GDP	C6-N1	-2.29	1.34	1.37
37	FG	501	GTP	C2-N3	2.29	1.38	1.33
39	TB	502	GDP	C6-N1	-2.28	1.34	1.37
39	QF	502	GDP	C6-N1	-2.28	1.34	1.37
37	KM	501	GTP	C2'-C1'	-2.27	1.50	1.53
37	DI	501	GTP	C2-N3	2.27	1.38	1.33
37	QK	501	GTP	C2-N3	2.27	1.38	1.33
37	VI	501	GTP	C2-N3	2.27	1.38	1.33
37	OC	501	GTP	C2-N3	2.26	1.38	1.33
37	DC	501	GTP	C2-N3	2.26	1.38	1.33
37	NI	501	GTP	C2-N3	2.26	1.38	1.33
37	AM	501	GTP	C2'-C1'	-2.25	1.50	1.53
37	HG	501	GTP	C2-N3	2.25	1.38	1.33
37	QC	501	GTP	C2-N3	2.25	1.38	1.33
37	AM	501	GTP	O4'-C4'	-2.24	1.40	1.45
37	KO	501	GTP	O4'-C4'	-2.24	1.40	1.45
37	QA	501	GTP	C2-N3	2.24	1.38	1.33
37	VC	501	GTP	C2-N3	2.24	1.38	1.33
37	WI	501	GTP	C5-C4	-2.24	1.37	1.43
37	AM	501	GTP	C5-C4	-2.24	1.37	1.43
37	QM	501	GTP	C2-N3	2.23	1.38	1.33
37	QE	501	GTP	C2-N3	2.23	1.38	1.33
37	LI	501	GTP	C5-C4	-2.22	1.37	1.43
37	PI	501	GTP	C2-N3	2.22	1.38	1.33
37	AA	501	GTP	C5-C4	-2.22	1.37	1.43
37	AC	501	GTP	C5-C4	-2.22	1.37	1.43
37	IO	501	GTP	C2-N3	2.22	1.38	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	DG	501	GTP	C2-N3	2.21	1.38	1.33
37	GC	501	GTP	C5-C4	-2.21	1.37	1.43
37	UK	501	GTP	C2-N3	2.20	1.38	1.33
37	MC	501	GTP	O4'-C4'	-2.20	1.40	1.45
39	AD	502	GDP	C6-N1	-2.20	1.34	1.37
37	AG	501	GTP	C5-C4	-2.20	1.37	1.43
37	KI	501	GTP	O4'-C4'	-2.20	1.40	1.45
37	SA	501	GTP	C2-N3	2.19	1.38	1.33
37	BG	501	GTP	C5-C4	-2.19	1.37	1.43
37	UI	501	GTP	C2-N3	2.19	1.38	1.33
39	PL	502	GDP	C2-N2	2.19	1.39	1.34
37	OG	501	GTP	C2-N3	2.19	1.38	1.33
37	BE	501	GTP	C2'-C1'	-2.18	1.50	1.53
37	HC	501	GTP	C2-N3	2.18	1.38	1.33
37	CG	501	GTP	C2-N3	2.18	1.38	1.33
37	EI	501	GTP	C2'-C1'	-2.18	1.50	1.53
37	KO	501	GTP	C5-C4	-2.17	1.37	1.43
37	KM	501	GTP	O4'-C4'	-2.17	1.40	1.45
37	JK	501	GTP	C5-C4	-2.16	1.37	1.43
37	NE	501	GTP	C2-N3	2.16	1.38	1.33
37	PM	501	GTP	C2-N3	2.16	1.38	1.33
37	AE	501	GTP	C2'-C1'	-2.16	1.50	1.53
37	BK	501	GTP	O4'-C4'	-2.16	1.40	1.45
37	HO	501	GTP	C2-N3	2.16	1.38	1.33
37	DE	501	GTP	C2-N3	2.16	1.38	1.33
39	AF	502	GDP	C2'-C1'	-2.15	1.50	1.53
37	CI	501	GTP	C5-C4	-2.15	1.37	1.43
37	EM	501	GTP	C5-C4	-2.15	1.37	1.43
37	OI	501	GTP	C2-N3	2.15	1.38	1.33
37	AI	501	GTP	C2'-C1'	-2.15	1.50	1.53
37	NC	501	GTP	C2-N3	2.14	1.38	1.33
37	SG	501	GTP	O4'-C4'	-2.14	1.40	1.45
37	GC	501	GTP	O4'-C4'	-2.14	1.40	1.45
37	RC	501	GTP	C2-N3	2.14	1.38	1.33
37	WE	501	GTP	C5-C4	-2.14	1.37	1.43
37	RG	501	GTP	C5-C4	-2.14	1.37	1.43
37	CI	501	GTP	C2-N3	2.14	1.38	1.33
37	SC	501	GTP	O4'-C4'	-2.14	1.40	1.45
37	AK	501	GTP	C5-C4	-2.14	1.37	1.43
37	RG	501	GTP	O4'-C4'	-2.14	1.40	1.45
37	BC	501	GTP	C5-C4	-2.14	1.37	1.43
37	EI	501	GTP	O4'-C4'	-2.14	1.40	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	SG	501	GTP	C5-C4	-2.13	1.37	1.43
37	JE	501	GTP	C2-N3	2.13	1.38	1.33
37	TE	501	GTP	C2-N3	2.13	1.38	1.33
37	BM	501	GTP	C2'-C1'	-2.12	1.50	1.53
37	BE	501	GTP	C5-C4	-2.12	1.37	1.43
37	GG	501	GTP	C5-C4	-2.12	1.37	1.43
37	CE	501	GTP	C2-N3	2.12	1.38	1.33
37	JG	501	GTP	O4'-C4'	-2.12	1.40	1.45
37	KK	501	GTP	O4'-C4'	-2.12	1.40	1.45
37	HI	501	GTP	C2-N3	2.12	1.38	1.33
37	BI	501	GTP	C5-C4	-2.12	1.37	1.43
37	TC	501	GTP	C2-N3	2.12	1.38	1.33
37	PG	501	GTP	C5-C4	-2.12	1.37	1.43
37	CC	501	GTP	C5-C4	-2.12	1.37	1.43
37	JI	501	GTP	C2-N3	2.12	1.38	1.33
37	AG	501	GTP	O4'-C4'	-2.11	1.40	1.45
37	KK	501	GTP	C2'-C1'	-2.11	1.50	1.53
37	OE	501	GTP	C2-N3	2.11	1.38	1.33
37	FE	501	GTP	O4'-C4'	-2.11	1.40	1.45
37	SK	501	GTP	O4'-C4'	-2.11	1.40	1.45
37	OK	501	GTP	C2-N3	2.11	1.38	1.33
37	AG	501	GTP	C2'-C1'	-2.11	1.50	1.53
37	UM	501	GTP	C2-N3	2.11	1.38	1.33
37	TM	501	GTP	C2-N3	2.10	1.38	1.33
37	KM	501	GTP	C5-C4	-2.10	1.37	1.43
37	HK	501	GTP	C2-N3	2.10	1.38	1.33
37	RI	501	GTP	C5-C4	-2.10	1.37	1.43
37	BK	501	GTP	C5-C4	-2.10	1.37	1.43
37	TI	501	GTP	C2-N3	2.10	1.38	1.33
37	GM	501	GTP	O4'-C4'	-2.10	1.40	1.45
37	AE	501	GTP	C5-C4	-2.09	1.37	1.43
37	WC	501	GTP	C5-C4	-2.09	1.37	1.43
39	ML	502	GDP	C2'-C1'	-2.09	1.50	1.53
37	DM	501	GTP	C2-N3	2.09	1.38	1.33
37	MK	501	GTP	C5-C4	-2.08	1.37	1.43
37	JG	501	GTP	C5-C4	-2.08	1.37	1.43
37	QI	501	GTP	C2-N3	2.08	1.38	1.33
37	BK	501	GTP	C2'-C1'	-2.08	1.50	1.53
37	IE	501	GTP	C2-N3	2.08	1.38	1.33
37	OK	501	GTP	C5-C4	-2.08	1.37	1.43
37	AI	501	GTP	C5-C4	-2.08	1.37	1.43
37	GK	501	GTP	C5-C4	-2.07	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	BM	501	GTP	O4'-C4'	-2.07	1.40	1.45
37	IK	501	GTP	C2-N3	2.07	1.38	1.33
37	OA	501	GTP	C2-N3	2.06	1.38	1.33
37	LE	501	GTP	O4'-C4'	-2.06	1.40	1.45
37	FE	501	GTP	C5-C4	-2.06	1.37	1.43
37	MI	501	GTP	O4'-C4'	-2.05	1.40	1.45
37	IC	501	GTP	C2-N3	2.05	1.38	1.33
37	SE	501	GTP	O4'-C4'	-2.05	1.40	1.45
37	LM	501	GTP	O4'-C4'	-2.04	1.40	1.45
37	MC	501	GTP	C5-C4	-2.04	1.37	1.43
37	UC	501	GTP	C2-N3	2.04	1.38	1.33
37	ME	501	GTP	O4'-C4'	-2.03	1.40	1.45
37	OC	501	GTP	C5-C4	-2.03	1.37	1.43
39	TJ	502	GDP	C6-N1	-2.03	1.34	1.37
37	CM	501	GTP	C2-N3	2.03	1.38	1.33
37	EM	501	GTP	O4'-C4'	-2.03	1.40	1.45
37	WG	501	GTP	C5-C4	-2.03	1.37	1.43
39	LN	502	GDP	C2'-C1'	-2.03	1.50	1.53
39	DN	502	GDP	O4'-C1'	2.03	1.43	1.41
37	RK	501	GTP	O4'-C4'	-2.03	1.40	1.45
37	SE	501	GTP	C2-N3	2.02	1.38	1.33
39	UB	502	GDP	O6-C6	2.02	1.27	1.23
39	AD	502	GDP	C2'-C1'	-2.02	1.50	1.53
37	LM	501	GTP	C5-C4	-2.02	1.37	1.43
37	RK	501	GTP	C2-N3	2.02	1.38	1.33
37	GC	501	GTP	C2'-C1'	-2.02	1.50	1.53
37	BA	501	GTP	C5-C4	-2.02	1.37	1.43
37	FK	501	GTP	O4'-C4'	-2.02	1.40	1.45
37	LC	501	GTP	O4'-C4'	-2.02	1.40	1.45
37	SK	501	GTP	C5-C4	-2.02	1.37	1.43
37	FM	501	GTP	O4'-C4'	-2.01	1.40	1.45
37	PC	501	GTP	C2-N3	2.01	1.38	1.33
37	GM	501	GTP	C5-C4	-2.01	1.38	1.43
37	RA	501	GTP	C5-C4	-2.01	1.38	1.43
37	CC	501	GTP	C2-N3	2.00	1.38	1.33
37	OC	501	GTP	C2'-C1'	-2.00	1.50	1.53
37	HM	501	GTP	C2-N3	2.00	1.38	1.33
37	QG	501	GTP	C2-N3	2.00	1.38	1.33
37	JC	501	GTP	C5-C4	-2.00	1.38	1.43

All (1688) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	GC	501	GTP	PA-O3A-PB	-5.48	114.03	132.83
37	IG	501	GTP	PA-O3A-PB	-5.45	114.12	132.83
39	IJ	502	GDP	PA-O3A-PB	-5.44	114.15	132.83
37	VI	501	GTP	PA-O3A-PB	-5.40	114.31	132.83
39	HN	502	GDP	PA-O3A-PB	-5.37	114.41	132.83
37	SK	501	GTP	PA-O3A-PB	-5.34	114.49	132.83
37	ME	501	GTP	PA-O3A-PB	-5.32	114.57	132.83
37	OC	501	GTP	PA-O3A-PB	-5.30	114.63	132.83
37	VE	501	GTP	PA-O3A-PB	-5.26	114.79	132.83
37	II	501	GTP	PA-O3A-PB	-5.23	114.90	132.83
37	CM	501	GTP	PA-O3A-PB	-5.20	114.99	132.83
39	UH	502	GDP	PA-O3A-PB	-5.14	115.19	132.83
39	HB	502	GDP	PA-O3A-PB	-5.13	115.21	132.83
37	HO	501	GTP	PA-O3A-PB	-5.13	115.22	132.83
39	CH	502	GDP	PA-O3A-PB	-5.13	115.22	132.83
37	VM	501	GTP	PA-O3A-PB	-5.09	115.36	132.83
37	GG	501	GTP	PA-O3A-PB	-5.04	115.52	132.83
39	LH	502	GDP	PA-O3A-PB	-5.04	115.53	132.83
39	VD	502	GDP	PA-O3A-PB	-5.02	115.59	132.83
39	BH	502	GDP	PA-O3A-PB	-5.00	115.67	132.83
37	GK	501	GTP	PB-O3B-PG	-4.99	115.71	132.83
37	FE	501	GTP	PA-O3A-PB	-4.96	115.81	132.83
39	AH	502	GDP	PA-O3A-PB	-4.95	115.83	132.83
37	QE	501	GTP	PB-O3B-PG	-4.94	115.86	132.83
39	NF	502	GDP	PA-O3A-PB	-4.94	115.87	132.83
39	OL	502	GDP	PA-O3A-PB	-4.94	115.88	132.83
39	ND	502	GDP	PA-O3A-PB	-4.93	115.89	132.83
37	LC	501	GTP	PA-O3A-PB	-4.92	115.96	132.83
37	SI	501	GTP	PA-O3A-PB	-4.90	116.00	132.83
39	KB	502	GDP	PA-O3A-PB	-4.89	116.06	132.83
37	GE	501	GTP	PB-O3B-PG	-4.88	116.08	132.83
37	MC	501	GTP	PA-O3A-PB	-4.86	116.14	132.83
37	BA	501	GTP	PA-O3A-PB	-4.84	116.20	132.83
37	SA	501	GTP	PA-O3A-PB	-4.84	116.22	132.83
37	SC	501	GTP	PA-O3A-PB	-4.83	116.26	132.83
37	VI	501	GTP	PB-O3B-PG	-4.82	116.30	132.83
37	EC	501	GTP	PA-O3A-PB	-4.81	116.33	132.83
37	GM	501	GTP	PB-O3B-PG	-4.81	116.33	132.83
37	MI	501	GTP	PA-O3A-PB	-4.81	116.34	132.83
37	CC	501	GTP	PA-O3A-PB	-4.79	116.39	132.83
39	MB	502	GDP	PA-O3A-PB	-4.77	116.44	132.83
37	EI	501	GTP	PB-O3B-PG	-4.77	116.47	132.83
37	IG	501	GTP	PB-O3B-PG	-4.77	116.47	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	VC	501	GTP	PA-O3A-PB	-4.76	116.50	132.83
37	NC	501	GTP	PA-O3A-PB	-4.76	116.50	132.83
39	CD	502	GDP	PA-O3A-PB	-4.75	116.52	132.83
37	FI	501	GTP	PB-O3B-PG	-4.74	116.54	132.83
39	CJ	502	GDP	PA-O3A-PB	-4.74	116.56	132.83
39	SH	502	GDP	PA-O3A-PB	-4.74	116.57	132.83
37	HI	501	GTP	PB-O3B-PG	-4.71	116.65	132.83
39	WH	502	GDP	PA-O3A-PB	-4.71	116.67	132.83
37	PI	501	GTP	PA-O3A-PB	-4.71	116.68	132.83
39	AD	502	GDP	PA-O3A-PB	-4.71	116.68	132.83
37	RE	501	GTP	PB-O3B-PG	-4.71	116.68	132.83
39	AF	502	GDP	PA-O3A-PB	-4.70	116.70	132.83
37	RM	501	GTP	PA-O3A-PB	-4.68	116.76	132.83
37	IO	501	GTP	PA-O3A-PB	-4.68	116.76	132.83
37	CI	501	GTP	PA-O3A-PB	-4.68	116.77	132.83
39	KN	502	GDP	PA-O3A-PB	-4.68	116.78	132.83
37	GC	501	GTP	PB-O3B-PG	-4.66	116.82	132.83
37	OG	501	GTP	PA-O3A-PB	-4.66	116.82	132.83
37	UM	501	GTP	PA-O3A-PB	-4.61	116.99	132.83
37	BG	501	GTP	PA-O3A-PB	-4.61	117.00	132.83
37	BM	501	GTP	PA-O3A-PB	-4.61	117.02	132.83
39	UD	502	GDP	PA-O3A-PB	-4.60	117.02	132.83
37	GI	501	GTP	PA-O3A-PB	-4.60	117.05	132.83
39	BJ	502	GDP	PA-O3A-PB	-4.59	117.08	132.83
37	OI	501	GTP	PB-O3B-PG	-4.59	117.08	132.83
37	HG	501	GTP	PB-O3B-PG	-4.58	117.11	132.83
37	PE	501	GTP	PA-O3A-PB	-4.57	117.13	132.83
39	GB	502	GDP	PA-O3A-PB	-4.57	117.14	132.83
39	MN	502	GDP	PA-O3A-PB	-4.57	117.14	132.83
39	NB	502	GDP	PA-O3A-PB	-4.57	117.15	132.83
37	UC	501	GTP	PA-O3A-PB	-4.56	117.17	132.83
39	UL	502	GDP	PA-O3A-PB	-4.55	117.21	132.83
37	WE	501	GTP	PB-O3B-PG	-4.54	117.25	132.83
37	BK	501	GTP	PA-O3A-PB	-4.53	117.28	132.83
39	GH	502	GDP	PA-O3A-PB	-4.53	117.28	132.83
37	VC	501	GTP	PB-O3B-PG	-4.52	117.30	132.83
39	NH	502	GDP	PA-O3A-PB	-4.52	117.31	132.83
39	GN	502	GDP	PA-O3A-PB	-4.51	117.33	132.83
39	SF	502	GDP	PA-O3A-PB	-4.51	117.34	132.83
37	UC	501	GTP	PB-O3B-PG	-4.50	117.40	132.83
37	BE	501	GTP	PA-O3A-PB	-4.49	117.42	132.83
37	UI	501	GTP	PA-O3A-PB	-4.49	117.42	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	CL	502	GDP	PA-O3A-PB	-4.49	117.44	132.83
37	FI	501	GTP	C8-N7-C5	4.48	111.52	102.99
39	CB	502	GDP	PA-O3A-PB	-4.48	117.47	132.83
39	SJ	502	GDP	PA-O3A-PB	-4.47	117.49	132.83
37	GM	501	GTP	PA-O3A-PB	-4.45	117.54	132.83
39	HH	502	GDP	PA-O3A-PB	-4.45	117.57	132.83
37	CE	501	GTP	PA-O3A-PB	-4.44	117.60	132.83
37	MG	501	GTP	PA-O3A-PB	-4.42	117.66	132.83
37	SI	501	GTP	PB-O3B-PG	-4.42	117.66	132.83
37	QE	501	GTP	PA-O3A-PB	-4.42	117.67	132.83
37	BI	501	GTP	PA-O3A-PB	-4.41	117.68	132.83
37	JK	501	GTP	PA-O3A-PB	-4.41	117.69	132.83
37	GG	501	GTP	PB-O3B-PG	-4.41	117.70	132.83
37	WK	501	GTP	PB-O3B-PG	-4.39	117.75	132.83
37	EI	501	GTP	PA-O3A-PB	-4.39	117.76	132.83
37	CK	501	GTP	PA-O3A-PB	-4.38	117.78	132.83
39	HF	502	GDP	PA-O3A-PB	-4.38	117.79	132.83
37	OE	501	GTP	PB-O3B-PG	-4.37	117.83	132.83
37	HO	501	GTP	PB-O3B-PG	-4.37	117.84	132.83
37	NE	501	GTP	PA-O3A-PB	-4.37	117.85	132.83
37	HE	501	GTP	PB-O3B-PG	-4.35	117.89	132.83
37	UE	501	GTP	PA-O3A-PB	-4.35	117.91	132.83
39	GD	502	GDP	PA-O3A-PB	-4.32	118.01	132.83
39	UF	502	GDP	PA-O3A-PB	-4.31	118.03	132.83
39	GL	502	GDP	PA-O3A-PB	-4.31	118.03	132.83
39	ML	502	GDP	PA-O3A-PB	-4.31	118.03	132.83
37	HK	501	GTP	PB-O3B-PG	-4.31	118.04	132.83
37	DE	501	GTP	PB-O3B-PG	-4.30	118.08	132.83
37	HM	501	GTP	PB-O3B-PG	-4.29	118.12	132.83
39	BD	502	GDP	PA-O3A-PB	-4.28	118.14	132.83
39	RJ	502	GDP	PA-O3A-PB	-4.28	118.14	132.83
39	MJ	502	GDP	PA-O3A-PB	-4.28	118.14	132.83
39	IF	502	GDP	PA-O3A-PB	-4.28	118.15	132.83
39	UB	502	GDP	PA-O3A-PB	-4.28	118.16	132.83
39	IH	502	GDP	PA-O3A-PB	-4.27	118.17	132.83
39	RD	502	GDP	PA-O3A-PB	-4.27	118.18	132.83
37	HG	501	GTP	PA-O3A-PB	-4.27	118.19	132.83
39	BB	502	GDP	PA-O3A-PB	-4.26	118.19	132.83
37	SE	501	GTP	PB-O3B-PG	-4.26	118.21	132.83
39	BL	502	GDP	PA-O3A-PB	-4.26	118.22	132.83
37	PA	501	GTP	PB-O3B-PG	-4.25	118.23	132.83
37	UE	501	GTP	PB-O3B-PG	-4.24	118.26	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	AE	501	GTP	PA-O3A-PB	-4.24	118.29	132.83
39	FJ	502	GDP	PA-O3A-PB	-4.23	118.31	132.83
39	PH	502	GDP	PA-O3A-PB	-4.23	118.33	132.83
37	UI	501	GTP	PB-O3B-PG	-4.22	118.34	132.83
37	UM	501	GTP	PB-O3B-PG	-4.21	118.39	132.83
37	AM	501	GTP	PA-O3A-PB	-4.19	118.45	132.83
39	WL	502	GDP	PA-O3A-PB	-4.19	118.46	132.83
37	HC	501	GTP	PA-O3A-PB	-4.18	118.49	132.83
37	DG	501	GTP	PA-O3A-PB	-4.18	118.49	132.83
37	OA	501	GTP	PB-O3B-PG	-4.18	118.50	132.83
37	NA	501	GTP	PA-O3A-PB	-4.18	118.50	132.83
37	JE	501	GTP	C5-C6-N1	4.18	121.32	113.95
39	VB	502	GDP	PA-O3A-PB	-4.18	118.50	132.83
37	EG	501	GTP	PB-O3B-PG	-4.17	118.51	132.83
39	LN	502	GDP	PA-O3A-PB	-4.15	118.57	132.83
37	IE	501	GTP	PA-O3A-PB	-4.15	118.58	132.83
39	AJ	502	GDP	PA-O3A-PB	-4.15	118.59	132.83
39	LJ	502	GDP	PA-O3A-PB	-4.15	118.59	132.83
39	AL	502	GDP	PA-O3A-PB	-4.15	118.60	132.83
39	IL	502	GDP	PA-O3A-PB	-4.14	118.61	132.83
39	OH	502	GDP	PA-O3A-PB	-4.14	118.61	132.83
37	BG	501	GTP	PB-O3B-PG	-4.14	118.61	132.83
37	FK	501	GTP	PB-O3B-PG	-4.14	118.61	132.83
39	LB	502	GDP	PA-O3A-PB	-4.14	118.62	132.83
37	RE	501	GTP	PA-O3A-PB	-4.14	118.63	132.83
39	MF	502	GDP	PA-O3A-PB	-4.14	118.63	132.83
39	PD	502	GDP	PA-O3A-PB	-4.13	118.64	132.83
37	GI	501	GTP	PB-O3B-PG	-4.13	118.65	132.83
37	MK	501	GTP	PA-O3A-PB	-4.13	118.66	132.83
39	KF	502	GDP	PA-O3A-PB	-4.13	118.66	132.83
39	AB	502	GDP	PA-O3A-PB	-4.13	118.66	132.83
37	MC	501	GTP	C5-C6-N1	4.12	121.22	113.95
37	FE	501	GTP	PB-O3B-PG	-4.11	118.73	132.83
37	BC	501	GTP	PA-O3A-PB	-4.10	118.76	132.83
37	GE	501	GTP	PA-O3A-PB	-4.09	118.78	132.83
39	NJ	502	GDP	PA-O3A-PB	-4.09	118.80	132.83
39	HJ	502	GDP	PA-O3A-PB	-4.09	118.81	132.83
39	VF	502	GDP	PA-O3A-PB	-4.08	118.82	132.83
39	RL	502	GDP	PA-O3A-PB	-4.07	118.85	132.83
37	RC	501	GTP	PA-O3A-PB	-4.07	118.85	132.83
39	EJ	502	GDP	C3'-C2'-C1'	4.07	107.10	100.98
37	HC	501	GTP	PB-O3B-PG	-4.06	118.91	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	FD	502	GDP	PA-O3A-PB	-4.05	118.93	132.83
37	EM	501	GTP	C5-C6-N1	4.05	121.10	113.95
39	DL	502	GDP	PA-O3A-PB	-4.04	118.96	132.83
39	EB	502	GDP	PA-O3A-PB	-4.04	118.98	132.83
39	BB	502	GDP	O6-C6-C5	-4.03	116.50	124.37
39	ID	502	GDP	PA-O3A-PB	-4.03	119.00	132.83
39	FL	502	GDP	PA-O3A-PB	-4.02	119.03	132.83
37	FE	501	GTP	C5-C6-N1	4.01	121.03	113.95
37	RI	501	GTP	C5-C6-N1	4.00	121.02	113.95
39	MH	502	GDP	PA-O3A-PB	-4.00	119.09	132.83
39	JH	502	GDP	PA-O3A-PB	-4.00	119.09	132.83
37	VE	501	GTP	PB-O3B-PG	-4.00	119.09	132.83
37	KC	501	GTP	PA-O3A-PB	-4.00	119.10	132.83
39	KJ	502	GDP	PA-O3A-PB	-3.99	119.13	132.83
37	AC	501	GTP	PA-O3A-PB	-3.99	119.14	132.83
37	WG	501	GTP	PB-O3B-PG	-3.99	119.14	132.83
37	IC	501	GTP	PB-O3B-PG	-3.99	119.14	132.83
39	GJ	502	GDP	PA-O3A-PB	-3.98	119.16	132.83
37	VG	501	GTP	PB-O3B-PG	-3.98	119.16	132.83
37	EE	501	GTP	C5-C6-N1	3.98	120.98	113.95
37	QG	501	GTP	PA-O3A-PB	-3.98	119.16	132.83
37	MK	501	GTP	PB-O3B-PG	-3.98	119.17	132.83
37	UG	501	GTP	PB-O3B-PG	-3.98	119.18	132.83
37	BK	501	GTP	PB-O3B-PG	-3.96	119.25	132.83
39	PF	502	GDP	PA-O3A-PB	-3.96	119.25	132.83
37	LM	501	GTP	PA-O3A-PB	-3.95	119.26	132.83
37	PI	501	GTP	PB-O3B-PG	-3.95	119.28	132.83
37	FG	501	GTP	C5-C6-N1	3.95	120.92	113.95
39	OJ	502	GDP	PA-O3A-PB	-3.95	119.28	132.83
37	WG	501	GTP	PA-O3A-PB	-3.94	119.30	132.83
37	NI	501	GTP	PA-O3A-PB	-3.94	119.31	132.83
37	OI	501	GTP	PA-O3A-PB	-3.94	119.31	132.83
39	WN	502	GDP	PA-O3A-PB	-3.93	119.34	132.83
37	CG	501	GTP	PB-O3B-PG	-3.93	119.35	132.83
37	JC	501	GTP	PB-O3B-PG	-3.92	119.39	132.83
37	PE	501	GTP	C5-C6-N1	3.91	120.86	113.95
37	HK	501	GTP	PA-O3A-PB	-3.91	119.40	132.83
37	SM	501	GTP	C5-C6-N1	3.91	120.86	113.95
37	OG	501	GTP	PB-O3B-PG	-3.91	119.41	132.83
39	WF	502	GDP	PA-O3A-PB	-3.90	119.43	132.83
37	FE	501	GTP	C3'-C2'-C1'	3.90	106.85	100.98
39	O0	502	GDP	PA-O3A-PB	-3.90	119.45	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	JJ	502	GDP	PA-O3A-PB	-3.90	119.46	132.83
37	IO	501	GTP	C5-C6-N1	3.89	120.83	113.95
39	DH	502	GDP	PA-O3A-PB	-3.89	119.47	132.83
39	CF	502	GDP	PA-O3A-PB	-3.89	119.48	132.83
37	JC	501	GTP	PA-O3A-PB	-3.88	119.50	132.83
37	KC	501	GTP	O6-C6-C5	-3.88	116.80	124.37
39	DD	502	GDP	PA-O3A-PB	-3.87	119.54	132.83
37	KK	501	GTP	PB-O3B-PG	-3.87	119.56	132.83
37	LE	501	GTP	PB-O3B-PG	-3.86	119.59	132.83
39	VN	502	GDP	PA-O3A-PB	-3.86	119.59	132.83
37	RA	501	GTP	C5-C6-N1	3.84	120.74	113.95
37	SE	501	GTP	PA-O3A-PB	-3.84	119.64	132.83
37	KG	501	GTP	C5-C6-N1	3.84	120.73	113.95
37	WI	501	GTP	PB-O3B-PG	-3.84	119.65	132.83
39	QH	502	GDP	PA-O3A-PB	-3.84	119.66	132.83
39	NL	502	GDP	PA-O3A-PB	-3.84	119.66	132.83
37	SK	501	GTP	C5-C6-N1	3.84	120.73	113.95
39	SL	502	GDP	PA-O3A-PB	-3.83	119.67	132.83
37	DI	501	GTP	PA-O3A-PB	-3.83	119.68	132.83
37	IO	501	GTP	PB-O3B-PG	-3.82	119.70	132.83
39	N0	502	GDP	PA-O3A-PB	-3.82	119.70	132.83
37	PE	501	GTP	PB-O3B-PG	-3.82	119.70	132.83
37	BC	501	GTP	PB-O3B-PG	-3.81	119.76	132.83
39	HD	502	GDP	PA-O3A-PB	-3.81	119.77	132.83
37	KC	501	GTP	C5-C6-N1	3.80	120.67	113.95
37	KI	501	GTP	C5-C6-N1	3.80	120.67	113.95
37	LI	501	GTP	C5-C6-N1	3.80	120.66	113.95
37	RI	501	GTP	PA-O3A-PB	-3.80	119.80	132.83
37	JI	501	GTP	PA-O3A-PB	-3.79	119.83	132.83
37	SK	501	GTP	PB-O3B-PG	-3.78	119.84	132.83
37	PM	501	GTP	PA-O3A-PB	-3.78	119.84	132.83
39	SB	502	GDP	PA-O3A-PB	-3.78	119.85	132.83
37	IM	501	GTP	C5-C6-N1	3.78	120.63	113.95
39	HL	502	GDP	C3'-C2'-C1'	3.78	106.67	100.98
37	VE	501	GTP	C5-C6-N1	3.78	120.62	113.95
39	RH	502	GDP	PA-O3A-PB	-3.77	119.88	132.83
39	MD	502	GDP	PA-O3A-PB	-3.77	119.88	132.83
37	CM	501	GTP	C5-C6-N1	3.77	120.61	113.95
39	UJ	502	GDP	PA-O3A-PB	-3.77	119.89	132.83
39	TF	502	GDP	PA-O3A-PB	-3.77	119.89	132.83
37	FM	501	GTP	C5-C6-N1	3.76	120.60	113.95
39	KH	502	GDP	PA-O3A-PB	-3.76	119.92	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	NI	501	GTP	PB-O3B-PG	-3.76	119.92	132.83
37	PM	501	GTP	PB-O3B-PG	-3.76	119.93	132.83
37	SI	501	GTP	C5-C6-N1	3.76	120.58	113.95
37	TC	501	GTP	PA-O3A-PB	-3.75	119.95	132.83
37	RG	501	GTP	C5-C6-N1	3.75	120.58	113.95
39	TF	502	GDP	C3'-C2'-C1'	3.75	106.62	100.98
37	WM	501	GTP	PA-O3A-PB	-3.75	119.96	132.83
39	QJ	502	GDP	PA-O3A-PB	-3.75	119.96	132.83
37	FK	501	GTP	C5-C6-N1	3.74	120.56	113.95
37	VM	501	GTP	C5-C6-N1	3.74	120.56	113.95
39	HL	502	GDP	PA-O3A-PB	-3.74	119.99	132.83
37	RA	501	GTP	PA-O3A-PB	-3.74	120.00	132.83
37	FI	501	GTP	C5-C6-N1	3.74	120.55	113.95
37	WC	501	GTP	PA-O3A-PB	-3.73	120.01	132.83
37	CG	501	GTP	C2-N1-C6	-3.73	118.22	125.10
37	JE	501	GTP	PB-O3B-PG	-3.73	120.02	132.83
37	OC	501	GTP	C5-C6-N1	3.73	120.54	113.95
39	SD	502	GDP	PA-O3A-PB	-3.72	120.05	132.83
37	CA	501	GTP	PA-O3A-PB	-3.72	120.06	132.83
39	FN	502	GDP	PA-O3A-PB	-3.72	120.06	132.83
39	DN	502	GDP	PA-O3A-PB	-3.72	120.06	132.83
37	RE	501	GTP	C5-C6-N1	3.72	120.52	113.95
37	RM	501	GTP	PB-O3B-PG	-3.71	120.08	132.83
37	DG	501	GTP	PB-O3B-PG	-3.71	120.09	132.83
37	CI	501	GTP	C5-C6-N1	3.71	120.50	113.95
37	KG	501	GTP	PA-O3A-PB	-3.71	120.10	132.83
37	NA	501	GTP	PB-O3B-PG	-3.71	120.11	132.83
37	RI	501	GTP	PB-O3B-PG	-3.70	120.12	132.83
37	EC	501	GTP	C5-C6-N1	3.70	120.49	113.95
37	JK	501	GTP	C5-C6-N1	3.70	120.49	113.95
37	FI	501	GTP	O6-C6-N1	-3.70	116.28	120.65
37	VI	501	GTP	C5-C6-N1	3.69	120.47	113.95
37	AA	501	GTP	PB-O3B-PG	-3.69	120.16	132.83
37	AK	501	GTP	C5-C6-N1	3.69	120.46	113.95
37	LG	501	GTP	C5-C6-N1	3.68	120.46	113.95
37	KM	501	GTP	C5-C6-N1	3.68	120.45	113.95
39	NL	502	GDP	C3'-C2'-C1'	3.68	106.52	100.98
37	CA	501	GTP	C5-C6-N1	3.68	120.45	113.95
37	LE	501	GTP	C5-C6-N1	3.68	120.45	113.95
37	IK	501	GTP	PB-O3B-PG	-3.68	120.20	132.83
37	PK	501	GTP	C5-C6-N1	3.68	120.45	113.95
37	OK	501	GTP	PB-O3B-PG	-3.68	120.20	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	JI	501	GTP	C5-C6-N1	3.68	120.44	113.95
37	MI	501	GTP	PB-O3B-PG	-3.67	120.22	132.83
37	IM	501	GTP	C2-N1-C6	-3.67	118.34	125.10
37	AC	501	GTP	C5-C6-N1	3.66	120.42	113.95
37	QI	501	GTP	PB-O3B-PG	-3.66	120.26	132.83
37	VC	501	GTP	C5-C6-N1	3.66	120.41	113.95
37	KE	501	GTP	C5-C6-N1	3.66	120.41	113.95
39	FB	502	GDP	PA-O3A-PB	-3.65	120.29	132.83
37	SE	501	GTP	C5-C6-N1	3.65	120.40	113.95
39	PJ	502	GDP	C3'-C2'-C1'	3.65	106.47	100.98
39	OD	502	GDP	PA-O3A-PB	-3.65	120.30	132.83
39	UN	502	GDP	PA-O3A-PB	-3.64	120.34	132.83
39	O0	502	GDP	C3'-C2'-C1'	3.63	106.45	100.98
37	EE	501	GTP	PA-O3A-PB	-3.62	120.39	132.83
37	DA	501	GTP	C3'-C2'-C1'	3.62	106.44	100.98
37	KC	501	GTP	PB-O3B-PG	-3.62	120.39	132.83
37	ME	501	GTP	C5-C6-N1	3.62	120.33	113.95
37	NE	501	GTP	PB-O3B-PG	-3.61	120.42	132.83
37	LK	501	GTP	C5-C6-N1	3.61	120.33	113.95
39	QL	502	GDP	PA-O3A-PB	-3.61	120.45	132.83
37	PI	501	GTP	C3'-C2'-C1'	3.61	106.41	100.98
37	OE	501	GTP	C5-C6-N1	3.60	120.31	113.95
37	OK	501	GTP	C5-C6-N1	3.60	120.31	113.95
37	JI	501	GTP	PB-O3B-PG	-3.60	120.49	132.83
37	IK	501	GTP	C2-N1-C6	-3.60	118.48	125.10
37	LM	501	GTP	C5-C6-N1	3.59	120.29	113.95
39	QF	502	GDP	PA-O3A-PB	-3.59	120.51	132.83
37	NK	501	GTP	PA-O3A-PB	-3.59	120.52	132.83
37	PK	501	GTP	C2-N1-C6	-3.59	118.49	125.10
37	CK	501	GTP	PB-O3B-PG	-3.59	120.52	132.83
37	HE	501	GTP	C5-C6-N1	3.58	120.28	113.95
39	FF	502	GDP	PA-O3A-PB	-3.58	120.54	132.83
37	NG	501	GTP	PA-O3A-PB	-3.58	120.54	132.83
37	FG	501	GTP	C2-N1-C6	-3.58	118.51	125.10
37	IM	501	GTP	PA-O3A-PB	-3.58	120.55	132.83
39	BF	502	GDP	PA-O3A-PB	-3.58	120.55	132.83
39	LF	502	GDP	PA-O3A-PB	-3.58	120.55	132.83
39	WD	502	GDP	PA-O3A-PB	-3.58	120.55	132.83
37	CC	501	GTP	C5-C6-N1	3.58	120.27	113.95
39	NH	502	GDP	C3'-C2'-C1'	3.57	106.36	100.98
37	AI	501	GTP	C5-C6-N1	3.57	120.26	113.95
37	SG	501	GTP	C5-C6-N1	3.56	120.24	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	CG	501	GTP	C3'-C2'-C1'	3.56	106.34	100.98
39	IB	502	GDP	PA-O3A-PB	-3.56	120.61	132.83
39	EJ	502	GDP	PA-O3A-PB	-3.56	120.61	132.83
39	LD	502	GDP	PA-O3A-PB	-3.56	120.62	132.83
37	GI	501	GTP	O4'-C1'-C2'	-3.56	101.73	106.93
37	AM	501	GTP	C5-C6-N1	3.56	120.23	113.95
37	CA	501	GTP	PB-O3B-PG	-3.56	120.63	132.83
37	WM	501	GTP	PB-O3B-PG	-3.55	120.63	132.83
37	KK	501	GTP	C5-C6-N1	3.55	120.23	113.95
37	LC	501	GTP	C5-C6-N1	3.55	120.23	113.95
37	BG	501	GTP	C5-C6-N1	3.55	120.22	113.95
37	KI	501	GTP	C2-N1-C6	-3.55	118.56	125.10
39	KD	502	GDP	PA-O3A-PB	-3.54	120.66	132.83
37	AK	501	GTP	PB-O3B-PG	-3.54	120.67	132.83
37	SM	501	GTP	PA-O3A-PB	-3.54	120.67	132.83
37	BA	501	GTP	C5-C6-N1	3.54	120.20	113.95
37	AG	501	GTP	C5-C6-N1	3.54	120.20	113.95
37	AE	501	GTP	PB-O3B-PG	-3.54	120.69	132.83
39	GL	502	GDP	C3'-C2'-C1'	3.53	106.30	100.98
37	CA	501	GTP	C2-N1-C6	-3.53	118.59	125.10
37	MM	501	GTP	PA-O3A-PB	-3.53	120.70	132.83
37	LI	501	GTP	C2-N1-C6	-3.53	118.59	125.10
39	ID	502	GDP	C3'-C2'-C1'	3.53	106.29	100.98
37	FC	501	GTP	PB-O3B-PG	-3.53	120.72	132.83
37	QI	501	GTP	PA-O3A-PB	-3.53	120.72	132.83
37	VM	501	GTP	C3'-C2'-C1'	3.52	106.28	100.98
37	SC	501	GTP	C5-C6-N1	3.52	120.17	113.95
39	IL	502	GDP	C3'-C2'-C1'	3.52	106.28	100.98
37	KO	501	GTP	C5-C6-N1	3.52	120.17	113.95
37	VC	501	GTP	C2-N1-C6	-3.52	118.62	125.10
37	GG	501	GTP	C5-C6-N1	3.52	120.16	113.95
37	CI	501	GTP	C2-N1-C6	-3.52	118.62	125.10
37	RM	501	GTP	C5-C6-N1	3.52	120.16	113.95
37	GK	501	GTP	C5-C6-N1	3.52	120.16	113.95
39	DF	502	GDP	C3'-C2'-C1'	3.51	106.27	100.98
37	RK	501	GTP	C5-C6-N1	3.51	120.16	113.95
39	PJ	502	GDP	PA-O3A-PB	-3.51	120.77	132.83
37	GI	501	GTP	C5-C6-N1	3.51	120.16	113.95
37	GK	501	GTP	PA-O3A-PB	-3.51	120.78	132.83
37	IO	501	GTP	C3'-C2'-C1'	3.51	106.26	100.98
37	VG	501	GTP	PA-O3A-PB	-3.51	120.79	132.83
37	RC	501	GTP	C5-C6-N1	3.51	120.14	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	LG	501	GTP	C2-N1-C6	-3.51	118.64	125.10
39	VJ	502	GDP	C3'-C2'-C1'	3.50	106.25	100.98
37	VM	501	GTP	PB-O3B-PG	-3.50	120.80	132.83
37	SM	501	GTP	PB-O3B-PG	-3.50	120.81	132.83
37	MK	501	GTP	C5-C6-N1	3.50	120.14	113.95
37	UM	501	GTP	C5-C6-N1	3.50	120.14	113.95
37	DC	501	GTP	PA-O3A-PB	-3.50	120.82	132.83
39	CH	502	GDP	C3'-C2'-C1'	3.50	106.24	100.98
37	DE	501	GTP	PA-O3A-PB	-3.49	120.84	132.83
37	LK	501	GTP	C2-N1-C6	-3.49	118.67	125.10
39	TJ	502	GDP	PA-O3A-PB	-3.49	120.85	132.83
37	IO	501	GTP	C2-N1-C6	-3.49	118.68	125.10
37	OI	501	GTP	C5-C6-N1	3.49	120.11	113.95
37	IK	501	GTP	C5-C6-N1	3.49	120.11	113.95
37	JK	501	GTP	C2-N1-C6	-3.49	118.68	125.10
37	DG	501	GTP	C5-C6-N1	3.48	120.11	113.95
37	FC	501	GTP	C5-C6-N1	3.48	120.10	113.95
39	JF	502	GDP	PA-O3A-PB	-3.48	120.88	132.83
37	VK	501	GTP	C5-C6-N1	3.48	120.10	113.95
37	GE	501	GTP	C5-C6-N1	3.48	120.10	113.95
37	BA	501	GTP	C3'-C2'-C1'	3.48	106.22	100.98
37	PE	501	GTP	C2-N1-C6	-3.48	118.69	125.10
37	VK	501	GTP	PA-O3A-PB	-3.48	120.89	132.83
37	QM	501	GTP	C5-C6-N1	3.48	120.09	113.95
37	JG	501	GTP	PA-O3A-PB	-3.48	120.90	132.83
37	QE	501	GTP	C5-C6-N1	3.48	120.09	113.95
37	UE	501	GTP	C5-C6-N1	3.47	120.08	113.95
37	IM	501	GTP	C3'-C2'-C1'	3.47	106.20	100.98
37	EK	501	GTP	PB-O3B-PG	-3.47	120.92	132.83
37	BC	501	GTP	C5-C6-N1	3.47	120.07	113.95
37	EC	501	GTP	C2-N1-C6	-3.46	118.72	125.10
37	PG	501	GTP	C5-C6-N1	3.46	120.07	113.95
37	VG	501	GTP	C5-C6-N1	3.46	120.07	113.95
37	BK	501	GTP	C5-C6-N1	3.46	120.07	113.95
37	MC	501	GTP	C2-N1-C6	-3.46	118.73	125.10
37	PK	501	GTP	PB-O3B-PG	-3.46	120.96	132.83
39	PB	502	GDP	PA-O3A-PB	-3.46	120.96	132.83
37	CG	501	GTP	PA-O3A-PB	-3.46	120.96	132.83
37	VE	501	GTP	C2-N1-C6	-3.46	118.73	125.10
37	AC	501	GTP	PB-O3B-PG	-3.45	120.99	132.83
37	KM	501	GTP	C2-N1-C6	-3.45	118.75	125.10
39	WJ	502	GDP	PA-O3A-PB	-3.44	121.01	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	TC	501	GTP	PB-O3B-PG	-3.44	121.01	132.83
39	DB	502	GDP	PA-O3A-PB	-3.44	121.01	132.83
39	IB	502	GDP	C3'-C2'-C1'	3.44	106.16	100.98
37	CA	501	GTP	C3'-C2'-C1'	3.44	106.16	100.98
39	TH	502	GDP	PA-O3A-PB	-3.44	121.02	132.83
37	DM	501	GTP	PB-O3B-PG	-3.44	121.02	132.83
37	LE	501	GTP	PA-O3A-PB	-3.44	121.02	132.83
37	DA	501	GTP	PA-O3A-PB	-3.44	121.03	132.83
37	NE	501	GTP	C3'-C2'-C1'	3.44	106.15	100.98
39	OB	502	GDP	C3'-C2'-C1'	3.44	106.15	100.98
37	LE	501	GTP	C2-N1-C6	-3.43	118.77	125.10
37	CE	501	GTP	C5-C6-N1	3.43	120.02	113.95
37	CC	501	GTP	C2-N1-C6	-3.43	118.78	125.10
39	OH	502	GDP	C3'-C2'-C1'	3.43	106.14	100.98
37	CG	501	GTP	C5-C6-N1	3.43	120.01	113.95
37	HE	501	GTP	PA-O3A-PB	-3.43	121.06	132.83
37	CM	501	GTP	C2-N1-C6	-3.43	118.79	125.10
37	CK	501	GTP	C8-N7-C5	3.42	109.51	102.99
37	VE	501	GTP	C3'-C2'-C1'	3.42	106.13	100.98
37	BE	501	GTP	PB-O3B-PG	-3.42	121.09	132.83
37	LI	501	GTP	PB-O3B-PG	-3.42	121.10	132.83
39	GF	502	GDP	PA-O3A-PB	-3.42	121.10	132.83
37	TC	501	GTP	C2-N1-C6	-3.42	118.81	125.10
37	KO	501	GTP	PB-O3B-PG	-3.41	121.11	132.83
37	CC	501	GTP	C8-N7-C5	3.41	109.49	102.99
39	VL	502	GDP	PA-O3A-PB	-3.41	121.12	132.83
37	AE	501	GTP	C5-C6-N1	3.41	119.97	113.95
37	VM	501	GTP	C2-N1-C6	-3.41	118.83	125.10
37	OG	501	GTP	C5-C6-N1	3.40	119.96	113.95
39	ED	502	GDP	PA-O3A-PB	-3.40	121.16	132.83
37	HM	501	GTP	PA-O3A-PB	-3.40	121.18	132.83
37	WM	501	GTP	C2-N1-C6	-3.39	118.85	125.10
39	HD	502	GDP	C3'-C2'-C1'	3.39	106.09	100.98
39	WH	502	GDP	C3'-C2'-C1'	3.39	106.09	100.98
37	LG	501	GTP	PB-O3B-PG	-3.39	121.19	132.83
39	KL	502	GDP	PA-O3A-PB	-3.39	121.19	132.83
37	UG	501	GTP	C5-C6-N1	3.39	119.94	113.95
37	UI	501	GTP	C5-C6-N1	3.39	119.94	113.95
37	MG	501	GTP	PB-O3B-PG	-3.38	121.22	132.83
39	OD	502	GDP	C3'-C2'-C1'	3.38	106.07	100.98
37	SA	501	GTP	PB-O3B-PG	-3.38	121.22	132.83
39	VH	502	GDP	PA-O3A-PB	-3.38	121.23	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	EK	501	GTP	PA-O3A-PB	-3.38	121.24	132.83
37	NC	501	GTP	C5-C6-N1	3.37	119.91	113.95
37	HC	501	GTP	C5-C6-N1	3.37	119.91	113.95
37	WI	501	GTP	PA-O3A-PB	-3.37	121.26	132.83
37	VK	501	GTP	PB-O3B-PG	-3.37	121.27	132.83
39	JN	502	GDP	C3'-C2'-C1'	3.37	106.05	100.98
37	EG	501	GTP	C3'-C2'-C1'	3.36	106.04	100.98
37	CG	501	GTP	C8-N7-C5	3.36	109.39	102.99
37	OC	501	GTP	C3'-C2'-C1'	3.36	106.04	100.98
37	VI	501	GTP	C2-N1-C6	-3.36	118.91	125.10
37	VK	501	GTP	C2-N1-C6	-3.36	118.91	125.10
39	BJ	502	GDP	C3'-C2'-C1'	3.36	106.04	100.98
37	SA	501	GTP	C3'-C2'-C1'	3.36	106.03	100.98
37	NE	501	GTP	C5-C6-N1	3.36	119.88	113.95
37	KG	501	GTP	O6-C6-C5	-3.36	117.82	124.37
39	QL	502	GDP	C3'-C2'-C1'	3.36	106.03	100.98
37	BM	501	GTP	C5-C6-N1	3.36	119.88	113.95
37	TC	501	GTP	C5-C6-N1	3.35	119.87	113.95
37	NK	501	GTP	C5-C6-N1	3.35	119.87	113.95
37	HM	501	GTP	C5-C6-N1	3.35	119.86	113.95
37	PC	501	GTP	PA-O3A-PB	-3.35	121.34	132.83
37	PA	501	GTP	C5-C6-N1	3.34	119.85	113.95
37	DK	501	GTP	C5-C6-N1	3.34	119.85	113.95
37	FI	501	GTP	N1-C2-N3	-3.34	117.08	123.32
37	ME	501	GTP	C2-N1-C6	-3.34	118.95	125.10
37	UK	501	GTP	C5-C6-N1	3.34	119.84	113.95
37	UG	501	GTP	PA-O3A-PB	-3.34	121.38	132.83
37	QI	501	GTP	C5-C6-N1	3.34	119.84	113.95
39	N0	502	GDP	C3'-C2'-C1'	3.34	106.00	100.98
37	AC	501	GTP	C2-N1-C6	-3.34	118.96	125.10
39	IF	502	GDP	C3'-C2'-C1'	3.33	106.00	100.98
37	CE	501	GTP	C2-N1-C6	-3.33	118.96	125.10
37	PC	501	GTP	C5-C6-N1	3.33	119.83	113.95
37	WE	501	GTP	C5-C6-N1	3.33	119.83	113.95
37	JE	501	GTP	C2-N1-C6	-3.33	118.97	125.10
39	BF	502	GDP	C3'-C2'-C1'	3.33	105.99	100.98
37	CE	501	GTP	C8-N7-C5	3.33	109.33	102.99
37	KC	501	GTP	C2-N1-C6	-3.32	118.98	125.10
37	QA	501	GTP	PB-O3B-PG	-3.32	121.42	132.83
37	PK	501	GTP	C3'-C2'-C1'	3.32	105.98	100.98
37	JI	501	GTP	C2-N1-C6	-3.32	118.98	125.10
37	PI	501	GTP	C8-N7-C5	3.32	109.32	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	AG	501	GTP	PA-O3A-PB	-3.32	121.43	132.83
37	JG	501	GTP	C5-C6-N1	3.32	119.81	113.95
37	AK	501	GTP	C8-N7-C5	3.32	109.31	102.99
37	SK	501	GTP	C2-N1-C6	-3.32	118.99	125.10
37	EG	501	GTP	PA-O3A-PB	-3.32	121.44	132.83
37	RE	501	GTP	C2-N1-C6	-3.32	118.99	125.10
37	BA	501	GTP	PB-O3B-PG	-3.32	121.44	132.83
37	OA	501	GTP	C5-C6-N1	3.32	119.81	113.95
37	RG	501	GTP	C2-N1-C6	-3.31	118.99	125.10
37	SM	501	GTP	O6-C6-C5	-3.31	117.90	124.37
37	UC	501	GTP	C5-C6-N1	3.31	119.80	113.95
37	IK	501	GTP	PA-O3A-PB	-3.31	121.47	132.83
37	QC	501	GTP	C5-C6-N1	3.31	119.79	113.95
37	ME	501	GTP	PB-O3B-PG	-3.30	121.49	132.83
37	WI	501	GTP	C5-C6-N1	3.30	119.78	113.95
37	DM	501	GTP	PA-O3A-PB	-3.30	121.51	132.83
39	RB	502	GDP	PA-O3A-PB	-3.29	121.52	132.83
37	IC	501	GTP	C5-C6-N1	3.29	119.77	113.95
37	DK	501	GTP	C2-N1-C6	-3.29	119.03	125.10
37	HK	501	GTP	C5-C6-N1	3.29	119.77	113.95
37	SM	501	GTP	C2-N1-C6	-3.29	119.03	125.10
37	EG	501	GTP	C5-C6-N1	3.29	119.77	113.95
37	BI	501	GTP	C5-C6-N1	3.29	119.76	113.95
37	WC	501	GTP	C2-N1-C6	-3.29	119.04	125.10
37	WC	501	GTP	C8-N7-C5	3.29	109.25	102.99
37	OC	501	GTP	C2-N1-C6	-3.29	119.04	125.10
37	VG	501	GTP	C2-N1-C6	-3.29	119.04	125.10
37	SG	501	GTP	PB-O3B-PG	-3.29	121.55	132.83
37	RA	501	GTP	C2-N1-C6	-3.29	119.05	125.10
37	AK	501	GTP	PA-O3A-PB	-3.28	121.56	132.83
37	LM	501	GTP	C2-N1-C6	-3.28	119.05	125.10
39	OB	502	GDP	PA-O3A-PB	-3.28	121.56	132.83
37	CM	501	GTP	C8-N7-C5	3.28	109.24	102.99
37	DA	501	GTP	C5-C6-N1	3.28	119.74	113.95
37	JM	501	GTP	PA-O3A-PB	-3.28	121.58	132.83
37	MI	501	GTP	O4'-C1'-C2'	-3.28	102.14	106.93
39	HN	502	GDP	C3'-C2'-C1'	3.28	105.91	100.98
39	HB	502	GDP	C3'-C2'-C1'	3.27	105.91	100.98
37	CI	501	GTP	C8-N7-C5	3.27	109.23	102.99
37	WK	501	GTP	C5-C6-N1	3.27	119.73	113.95
37	FG	501	GTP	PA-O3A-PB	-3.27	121.60	132.83
39	TD	502	GDP	PA-O3A-PB	-3.27	121.60	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	QA	501	GTP	C5-C6-N1	3.27	119.73	113.95
37	KI	501	GTP	PA-O3A-PB	-3.27	121.60	132.83
37	UK	501	GTP	PA-O3A-PB	-3.27	121.60	132.83
37	QC	501	GTP	PB-O3B-PG	-3.27	121.61	132.83
37	JC	501	GTP	C2-N1-C6	-3.27	119.08	125.10
37	WM	501	GTP	C5-C6-N1	3.27	119.72	113.95
39	BB	502	GDP	C5-C6-N1	3.27	119.72	113.95
37	CM	501	GTP	C3'-C2'-C1'	3.27	105.90	100.98
37	QK	501	GTP	C8-N7-C5	3.27	109.22	102.99
37	PE	501	GTP	C3'-C2'-C1'	3.26	105.89	100.98
37	VI	501	GTP	C8-N7-C5	3.26	109.21	102.99
37	EI	501	GTP	C5-C6-N1	3.26	119.72	113.95
37	IO	501	GTP	C8-N7-C5	3.26	109.21	102.99
37	MM	501	GTP	C5-C6-N1	3.26	119.71	113.95
37	KK	501	GTP	C2-N1-C6	-3.26	119.09	125.10
37	VK	501	GTP	C3'-C2'-C1'	3.26	105.89	100.98
39	UF	502	GDP	C3'-C2'-C1'	3.26	105.89	100.98
37	RC	501	GTP	C2-N1-C6	-3.26	119.10	125.10
37	EK	501	GTP	C5-C6-N1	3.25	119.70	113.95
39	EL	502	GDP	PA-O3A-PB	-3.25	121.66	132.83
37	DA	501	GTP	C8-N7-C5	3.25	109.18	102.99
37	JG	501	GTP	C2-N1-C6	-3.25	119.11	125.10
39	IH	502	GDP	C3'-C2'-C1'	3.25	105.87	100.98
37	IC	501	GTP	C2-N1-C6	-3.25	119.12	125.10
37	EC	501	GTP	PB-O3B-PG	-3.25	121.69	132.83
37	AK	501	GTP	C2-N1-C6	-3.24	119.12	125.10
37	PK	501	GTP	C8-N7-C5	3.24	109.17	102.99
37	EM	501	GTP	C2-N1-C6	-3.24	119.13	125.10
37	FC	501	GTP	PA-O3A-PB	-3.24	121.70	132.83
37	HM	501	GTP	C8-N7-C5	3.24	109.16	102.99
37	PA	501	GTP	C3'-C2'-C1'	3.24	105.86	100.98
37	QG	501	GTP	PB-O3B-PG	-3.24	121.71	132.83
37	PC	501	GTP	C8-N7-C5	3.24	109.16	102.99
37	QA	501	GTP	C8-N7-C5	3.24	109.15	102.99
37	DG	501	GTP	C2-N1-C6	-3.23	119.14	125.10
39	EF	502	GDP	PA-O3A-PB	-3.23	121.73	132.83
37	EG	501	GTP	C2-N1-C6	-3.23	119.14	125.10
37	OI	501	GTP	C3'-C2'-C1'	3.23	105.84	100.98
37	II	501	GTP	C8-N7-C5	3.23	109.14	102.99
37	BA	501	GTP	C2-N1-C6	-3.23	119.15	125.10
39	EN	502	GDP	PA-O3A-PB	-3.23	121.74	132.83
37	BE	501	GTP	C5-C6-N1	3.22	119.65	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	KO	501	GTP	C2-N1-C6	-3.22	119.16	125.10
37	GC	501	GTP	C5-C6-N1	3.22	119.64	113.95
37	VC	501	GTP	C8-N7-C5	3.22	109.13	102.99
39	VN	502	GDP	C3'-C2'-C1'	3.22	105.83	100.98
37	AA	501	GTP	C5-C6-N1	3.22	119.64	113.95
37	GM	501	GTP	C5-C6-N1	3.22	119.64	113.95
37	LC	501	GTP	C2-N1-C6	-3.22	119.17	125.10
37	AE	501	GTP	C2-N1-C6	-3.22	119.17	125.10
37	DA	501	GTP	C2-N1-C6	-3.22	119.17	125.10
37	HE	501	GTP	C2-N1-C6	-3.22	119.17	125.10
39	HF	502	GDP	C3'-C2'-C1'	3.22	105.82	100.98
37	IC	501	GTP	PA-O3A-PB	-3.22	121.78	132.83
39	GH	502	GDP	C3'-C2'-C1'	3.21	105.82	100.98
37	PM	501	GTP	C5-C6-N1	3.21	119.63	113.95
39	CJ	502	GDP	C3'-C2'-C1'	3.21	105.82	100.98
39	OF	502	GDP	PA-O3A-PB	-3.21	121.80	132.83
39	CF	502	GDP	C3'-C2'-C1'	3.21	105.81	100.98
37	RI	501	GTP	C2-N1-C6	-3.21	119.19	125.10
37	II	501	GTP	C2-N1-C6	-3.21	119.19	125.10
37	MI	501	GTP	C5-C6-N1	3.21	119.62	113.95
37	JC	501	GTP	C5-C6-N1	3.20	119.61	113.95
39	EH	502	GDP	PA-O3A-PB	-3.20	121.84	132.83
39	MB	502	GDP	C5-C6-N1	3.20	119.61	113.95
37	AI	501	GTP	C2-N1-C6	-3.20	119.20	125.10
37	DI	501	GTP	C5-C6-N1	3.19	119.59	113.95
37	NC	501	GTP	C3'-C2'-C1'	3.19	105.78	100.98
37	QM	501	GTP	PB-O3B-PG	-3.19	121.87	132.83
37	WE	501	GTP	PA-O3A-PB	-3.19	121.87	132.83
37	NI	501	GTP	C5-C6-N1	3.19	119.59	113.95
37	QC	501	GTP	PA-O3A-PB	-3.19	121.89	132.83
37	TG	501	GTP	C5-C6-N1	3.18	119.57	113.95
37	QE	501	GTP	C8-N7-C5	3.18	109.05	102.99
37	MM	501	GTP	C2-N1-C6	-3.18	119.25	125.10
37	FM	501	GTP	PB-O3B-PG	-3.17	121.93	132.83
37	DI	501	GTP	C8-N7-C5	3.17	109.03	102.99
37	PE	501	GTP	C8-N7-C5	3.17	109.03	102.99
39	SD	502	GDP	C5-C6-N1	3.17	119.55	113.95
37	CM	501	GTP	PB-O3B-PG	-3.17	121.95	132.83
37	VG	501	GTP	C8-N7-C5	3.17	109.03	102.99
37	HI	501	GTP	C5-C6-N1	3.17	119.55	113.95
37	TM	501	GTP	C8-N7-C5	3.17	109.02	102.99
37	IE	501	GTP	C3'-C2'-C1'	3.17	105.75	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	PI	501	GTP	C5-C6-N1	3.17	119.54	113.95
39	VF	502	GDP	C3'-C2'-C1'	3.16	105.74	100.98
37	OK	501	GTP	C2-N1-C6	-3.16	119.27	125.10
37	II	501	GTP	C3'-C2'-C1'	3.16	105.74	100.98
37	TM	501	GTP	C5-C6-N1	3.16	119.53	113.95
39	LL	502	GDP	PA-O3A-PB	-3.16	121.99	132.83
37	PA	501	GTP	PA-O3A-PB	-3.16	121.99	132.83
39	BB	502	GDP	C2-N1-C6	-3.16	119.29	125.10
37	DC	501	GTP	C2-N1-C6	-3.15	119.29	125.10
37	VK	501	GTP	C8-N7-C5	3.15	109.00	102.99
37	QC	501	GTP	C2-N1-C6	-3.15	119.30	125.10
37	WK	501	GTP	C2-N1-C6	-3.15	119.30	125.10
37	HO	501	GTP	C5-C6-N1	3.15	119.52	113.95
37	LI	501	GTP	C8-N7-C5	3.15	108.99	102.99
37	VE	501	GTP	C8-N7-C5	3.15	108.99	102.99
39	EB	502	GDP	C3'-C2'-C1'	3.15	105.71	100.98
39	OL	502	GDP	C3'-C2'-C1'	3.14	105.71	100.98
37	OC	501	GTP	O6-C6-C5	-3.14	118.23	124.37
37	IK	501	GTP	C3'-C2'-C1'	3.14	105.71	100.98
37	UI	501	GTP	C8-N7-C5	3.14	108.97	102.99
37	EM	501	GTP	PA-O3A-PB	-3.14	122.05	132.83
37	UM	501	GTP	C2-N1-C6	-3.14	119.31	125.10
37	WI	501	GTP	C8-N7-C5	3.14	108.97	102.99
37	EE	501	GTP	PB-O3B-PG	-3.14	122.06	132.83
37	FM	501	GTP	PA-O3A-PB	-3.14	122.07	132.83
39	VD	502	GDP	C3'-C2'-C1'	3.13	105.70	100.98
37	WK	501	GTP	C8-N7-C5	3.13	108.96	102.99
37	AI	501	GTP	PB-O3B-PG	-3.13	122.08	132.83
37	IC	501	GTP	C3'-C2'-C1'	3.13	105.69	100.98
37	LM	501	GTP	PB-O3B-PG	-3.13	122.08	132.83
37	AG	501	GTP	C8-N7-C5	3.13	108.95	102.99
37	VM	501	GTP	C8-N7-C5	3.13	108.95	102.99
37	AM	501	GTP	C8-N7-C5	3.13	108.94	102.99
39	QD	502	GDP	PA-O3A-PB	-3.13	122.10	132.83
37	TI	501	GTP	C3'-C2'-C1'	3.12	105.68	100.98
37	GK	501	GTP	C2-N1-C6	-3.12	119.35	125.10
37	DI	501	GTP	PB-O3B-PG	-3.12	122.11	132.83
37	PC	501	GTP	PB-O3B-PG	-3.12	122.11	132.83
37	IM	501	GTP	C8-N7-C5	3.12	108.94	102.99
37	CK	501	GTP	C3'-C2'-C1'	3.12	105.67	100.98
37	NI	501	GTP	C3'-C2'-C1'	3.12	105.67	100.98
37	DM	501	GTP	C5-C6-N1	3.11	119.45	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	UM	501	GTP	C8-N7-C5	3.11	108.92	102.99
37	HO	501	GTP	C8-N7-C5	3.11	108.92	102.99
37	IE	501	GTP	C8-N7-C5	3.11	108.92	102.99
37	UE	501	GTP	C8-N7-C5	3.11	108.92	102.99
37	HI	501	GTP	C8-N7-C5	3.11	108.92	102.99
37	AI	501	GTP	C8-N7-C5	3.11	108.92	102.99
37	CI	501	GTP	C3'-C2'-C1'	3.11	105.66	100.98
37	WG	501	GTP	C8-N7-C5	3.11	108.91	102.99
39	ND	502	GDP	C3'-C2'-C1'	3.11	105.66	100.98
37	GE	501	GTP	C2-N1-C6	-3.11	119.38	125.10
39	CB	502	GDP	C3'-C2'-C1'	3.11	105.65	100.98
39	VL	502	GDP	C3'-C2'-C1'	3.10	105.65	100.98
39	TB	502	GDP	PA-O3A-PB	-3.10	122.17	132.83
39	QJ	502	GDP	C3'-C2'-C1'	3.10	105.65	100.98
39	PF	502	GDP	C3'-C2'-C1'	3.10	105.65	100.98
37	JK	501	GTP	PB-O3B-PG	-3.10	122.18	132.83
39	DF	502	GDP	PA-O3A-PB	-3.10	122.19	132.83
37	KG	501	GTP	C2-N1-C6	-3.10	119.39	125.10
37	TM	501	GTP	C3'-C2'-C1'	3.10	105.64	100.98
37	IG	501	GTP	C2-N1-C6	-3.10	119.39	125.10
37	HC	501	GTP	C8-N7-C5	3.10	108.89	102.99
37	JM	501	GTP	C8-N7-C5	3.10	108.89	102.99
37	PG	501	GTP	PB-O3B-PG	-3.09	122.21	132.83
37	TI	501	GTP	C5-C6-N1	3.09	119.41	113.95
37	IE	501	GTP	PB-O3B-PG	-3.09	122.21	132.83
37	AG	501	GTP	C2-N1-C6	-3.09	119.40	125.10
37	PC	501	GTP	C2-N1-C6	-3.09	119.41	125.10
37	BC	501	GTP	C8-N7-C5	3.09	108.88	102.99
37	PG	501	GTP	C8-N7-C5	3.09	108.88	102.99
37	LM	501	GTP	C8-N7-C5	3.09	108.87	102.99
37	VG	501	GTP	C3'-C2'-C1'	3.09	105.63	100.98
37	UG	501	GTP	C2-N1-C6	-3.09	119.41	125.10
37	KG	501	GTP	PB-O3B-PG	-3.09	122.23	132.83
37	DC	501	GTP	C5-C6-N1	3.09	119.40	113.95
39	BL	502	GDP	C3'-C2'-C1'	3.09	105.62	100.98
37	DI	501	GTP	C2-N1-C6	-3.08	119.42	125.10
37	EE	501	GTP	C2-N1-C6	-3.08	119.42	125.10
37	PA	501	GTP	C8-N7-C5	3.08	108.86	102.99
37	DM	501	GTP	C2-N1-C6	-3.08	119.42	125.10
37	DE	501	GTP	C5-C6-N1	3.08	119.39	113.95
37	WE	501	GTP	C2-N1-C6	-3.08	119.43	125.10
39	WL	502	GDP	C3'-C2'-C1'	3.08	105.61	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	KE	501	GTP	C2-N1-C6	-3.08	119.43	125.10
37	UI	501	GTP	C2-N1-C6	-3.08	119.43	125.10
37	SA	501	GTP	C5-C6-N1	3.07	119.38	113.95
37	HK	501	GTP	C8-N7-C5	3.07	108.84	102.99
37	QC	501	GTP	C8-N7-C5	3.07	108.84	102.99
37	EK	501	GTP	C2-N1-C6	-3.07	119.44	125.10
37	CK	501	GTP	C5-C6-N1	3.07	119.37	113.95
37	RM	501	GTP	C2-N1-C6	-3.07	119.45	125.10
37	SA	501	GTP	C8-N7-C5	3.07	108.83	102.99
37	BG	501	GTP	C2-N1-C6	-3.07	119.45	125.10
37	GC	501	GTP	C8-N7-C5	3.07	108.83	102.99
37	DK	501	GTP	PB-O3B-PG	-3.07	122.30	132.83
37	WK	501	GTP	PA-O3A-PB	-3.06	122.31	132.83
37	NK	501	GTP	C2-N1-C6	-3.06	119.46	125.10
37	BE	501	GTP	C2-N1-C6	-3.06	119.46	125.10
37	BM	501	GTP	PB-O3B-PG	-3.06	122.32	132.83
39	FL	502	GDP	C5-C6-N1	3.06	119.36	113.95
37	BI	501	GTP	C2-N1-C6	-3.06	119.47	125.10
37	OA	501	GTP	C3'-C2'-C1'	3.06	105.58	100.98
37	EI	501	GTP	C8-N7-C5	3.05	108.81	102.99
39	UJ	502	GDP	C3'-C2'-C1'	3.05	105.57	100.98
37	BC	501	GTP	C2-N1-C6	-3.05	119.48	125.10
37	NK	501	GTP	C3'-C2'-C1'	3.05	105.57	100.98
37	AK	501	GTP	O4'-C1'-C2'	-3.05	102.47	106.93
37	WM	501	GTP	C8-N7-C5	3.05	108.80	102.99
37	QE	501	GTP	C2-N1-C6	-3.05	119.49	125.10
37	IG	501	GTP	C8-N7-C5	3.04	108.78	102.99
37	IC	501	GTP	C8-N7-C5	3.04	108.78	102.99
37	IG	501	GTP	C3'-C2'-C1'	3.04	105.56	100.98
39	IJ	502	GDP	C3'-C2'-C1'	3.04	105.56	100.98
39	TB	502	GDP	C3'-C2'-C1'	3.04	105.55	100.98
37	CC	501	GTP	C3'-C2'-C1'	3.04	105.55	100.98
37	CK	501	GTP	C2-N1-C6	-3.04	119.50	125.10
37	TC	501	GTP	C3'-C2'-C1'	3.04	105.55	100.98
37	FC	501	GTP	C2-N1-C6	-3.04	119.51	125.10
37	WE	501	GTP	C8-N7-C5	3.04	108.78	102.99
37	TK	501	GTP	C3'-C2'-C1'	3.04	105.55	100.98
39	PL	502	GDP	PA-O3A-PB	-3.04	122.41	132.83
37	RG	501	GTP	PB-O3B-PG	-3.04	122.41	132.83
39	AJ	502	GDP	C3'-C2'-C1'	3.04	105.55	100.98
37	QE	501	GTP	C3'-C2'-C1'	3.04	105.55	100.98
37	AC	501	GTP	C8-N7-C5	3.03	108.77	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	BK	501	GTP	C2-N1-C6	-3.03	119.51	125.10
37	AG	501	GTP	PB-O3B-PG	-3.03	122.43	132.83
37	RG	501	GTP	O6-C6-C5	-3.03	118.46	124.37
37	OE	501	GTP	C3'-C2'-C1'	3.03	105.53	100.98
39	JB	502	GDP	PA-O3A-PB	-3.02	122.45	132.83
37	RI	501	GTP	C8-N7-C5	3.02	108.75	102.99
39	FJ	502	GDP	C5-C6-N1	3.02	119.29	113.95
37	GK	501	GTP	C3'-C2'-C1'	3.02	105.53	100.98
37	RG	501	GTP	PA-O3A-PB	-3.02	122.47	132.83
37	SC	501	GTP	PB-O3B-PG	-3.02	122.48	132.83
37	TE	501	GTP	C3'-C2'-C1'	3.01	105.51	100.98
37	NK	501	GTP	PB-O3B-PG	-3.01	122.49	132.83
37	FE	501	GTP	C2-N1-C6	-3.01	119.55	125.10
37	NC	501	GTP	C2-N1-C6	-3.01	119.55	125.10
37	QG	501	GTP	C5-C6-N1	3.01	119.27	113.95
37	HC	501	GTP	C2-N1-C6	-3.01	119.56	125.10
37	PI	501	GTP	C2-N1-C6	-3.01	119.56	125.10
37	DE	501	GTP	C8-N7-C5	3.01	108.72	102.99
37	JK	501	GTP	C8-N7-C5	3.01	108.72	102.99
37	SI	501	GTP	C2-N1-C6	-3.01	119.56	125.10
37	UK	501	GTP	C2-N1-C6	-3.01	119.56	125.10
37	RA	501	GTP	C8-N7-C5	3.00	108.71	102.99
37	IK	501	GTP	C8-N7-C5	3.00	108.71	102.99
37	QI	501	GTP	C3'-C2'-C1'	3.00	105.50	100.98
37	HG	501	GTP	C8-N7-C5	3.00	108.71	102.99
37	TK	501	GTP	C5-C6-N1	3.00	119.25	113.95
37	QA	501	GTP	C2-N1-C6	-3.00	119.57	125.10
39	WB	502	GDP	PA-O3A-PB	-3.00	122.53	132.83
37	AM	501	GTP	C2-N1-C6	-3.00	119.58	125.10
37	LK	501	GTP	C8-N7-C5	3.00	108.70	102.99
37	PC	501	GTP	C3'-C2'-C1'	3.00	105.49	100.98
37	UC	501	GTP	C2-N1-C6	-3.00	119.58	125.10
37	EM	501	GTP	C3'-C2'-C1'	3.00	105.49	100.98
37	JC	501	GTP	C8-N7-C5	3.00	108.70	102.99
37	WG	501	GTP	C5-C6-N1	2.99	119.24	113.95
37	TC	501	GTP	C8-N7-C5	2.99	108.69	102.99
39	TH	502	GDP	C3'-C2'-C1'	2.99	105.48	100.98
37	LK	501	GTP	PB-O3B-PG	-2.99	122.56	132.83
37	BG	501	GTP	C8-N7-C5	2.99	108.69	102.99
37	FK	501	GTP	C2-N1-C6	-2.99	119.60	125.10
37	UK	501	GTP	C3'-C2'-C1'	2.98	105.47	100.98
37	SE	501	GTP	C2-N1-C6	-2.98	119.60	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	GI	501	GTP	C2-N1-C6	-2.98	119.61	125.10
37	GE	501	GTP	C8-N7-C5	2.98	108.67	102.99
37	HO	501	GTP	C2-N1-C6	-2.98	119.61	125.10
37	AA	501	GTP	C8-N7-C5	2.98	108.67	102.99
37	OK	501	GTP	C8-N7-C5	2.98	108.66	102.99
39	JD	502	GDP	C3'-C2'-C1'	2.98	105.46	100.98
37	UM	501	GTP	C3'-C2'-C1'	2.98	105.46	100.98
37	IE	501	GTP	C2-N1-C6	-2.98	119.62	125.10
39	NJ	502	GDP	C3'-C2'-C1'	2.97	105.46	100.98
37	AE	501	GTP	C8-N7-C5	2.97	108.66	102.99
37	OG	501	GTP	C2-N1-C6	-2.97	119.62	125.10
37	BM	501	GTP	C2-N1-C6	-2.97	119.62	125.10
37	RK	501	GTP	C2-N1-C6	-2.97	119.62	125.10
37	PG	501	GTP	C2-N1-C6	-2.97	119.62	125.10
39	RF	502	GDP	PA-O3A-PB	-2.97	122.63	132.83
37	WG	501	GTP	C2-N1-C6	-2.97	119.63	125.10
37	WC	501	GTP	C5-C6-N1	2.97	119.19	113.95
37	GK	501	GTP	C8-N7-C5	2.97	108.64	102.99
37	HI	501	GTP	C2-N1-C6	-2.97	119.64	125.10
37	UK	501	GTP	PB-O3B-PG	-2.96	122.65	132.83
37	DK	501	GTP	C8-N7-C5	2.96	108.64	102.99
39	QB	502	GDP	PA-O3A-PB	-2.96	122.66	132.83
37	OE	501	GTP	C2-N1-C6	-2.96	119.65	125.10
37	OG	501	GTP	C8-N7-C5	2.96	108.62	102.99
39	MB	502	GDP	N2-C2-N1	2.96	123.01	116.71
37	OG	501	GTP	C3'-C2'-C1'	2.96	105.43	100.98
39	UB	502	GDP	C3'-C2'-C1'	2.95	105.43	100.98
37	UG	501	GTP	C8-N7-C5	2.95	108.62	102.99
37	HG	501	GTP	C2-N1-C6	-2.95	119.66	125.10
37	QI	501	GTP	C8-N7-C5	2.95	108.62	102.99
37	FK	501	GTP	C3'-C2'-C1'	2.95	105.42	100.98
37	NE	501	GTP	C2-N1-C6	-2.95	119.67	125.10
37	MG	501	GTP	C8-N7-C5	2.95	108.60	102.99
37	OI	501	GTP	C8-N7-C5	2.94	108.60	102.99
37	KI	501	GTP	C8-N7-C5	2.94	108.59	102.99
37	DM	501	GTP	C8-N7-C5	2.94	108.59	102.99
37	DC	501	GTP	C8-N7-C5	2.94	108.59	102.99
37	LG	501	GTP	C8-N7-C5	2.94	108.59	102.99
39	GF	502	GDP	C3'-C2'-C1'	2.94	105.40	100.98
37	TI	501	GTP	C8-N7-C5	2.93	108.58	102.99
37	VI	501	GTP	C3'-C2'-C1'	2.93	105.40	100.98
37	KM	501	GTP	C8-N7-C5	2.93	108.58	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	NK	501	GTP	C8-N7-C5	2.93	108.58	102.99
37	QM	501	GTP	C3'-C2'-C1'	2.93	105.39	100.98
37	TG	501	GTP	C3'-C2'-C1'	2.93	105.39	100.98
37	OK	501	GTP	C3'-C2'-C1'	2.93	105.39	100.98
37	SI	501	GTP	C8-N7-C5	2.93	108.56	102.99
37	OE	501	GTP	C8-N7-C5	2.93	108.56	102.99
37	QM	501	GTP	C2-N1-C6	-2.93	119.71	125.10
39	PB	502	GDP	C3'-C2'-C1'	2.92	105.38	100.98
37	NA	501	GTP	C8-N7-C5	2.92	108.55	102.99
37	BK	501	GTP	C8-N7-C5	2.92	108.55	102.99
39	RJ	502	GDP	C3'-C2'-C1'	2.92	105.37	100.98
39	FF	502	GDP	C3'-C2'-C1'	2.92	105.37	100.98
37	JM	501	GTP	C5-C6-N1	2.92	119.10	113.95
39	QB	502	GDP	C3'-C2'-C1'	2.91	105.37	100.98
37	FG	501	GTP	C3'-C2'-C1'	2.91	105.36	100.98
37	II	501	GTP	C5-C6-N1	2.91	119.09	113.95
37	NG	501	GTP	O3G-PG-O3B	2.91	114.39	104.64
37	SC	501	GTP	C2-N1-C6	-2.91	119.74	125.10
37	QG	501	GTP	C2-N1-C6	-2.91	119.75	125.10
37	AA	501	GTP	N2-C2-N1	2.91	122.90	116.71
37	HM	501	GTP	C2-N1-C6	-2.90	119.75	125.10
37	KK	501	GTP	C8-N7-C5	2.90	108.52	102.99
39	EL	502	GDP	C3'-C2'-C1'	2.90	105.35	100.98
37	WI	501	GTP	C2-N1-C6	-2.90	119.76	125.10
39	JL	502	GDP	PA-O3A-PB	-2.90	122.88	132.83
37	GM	501	GTP	C8-N7-C5	2.90	108.51	102.99
37	GG	501	GTP	C2-N1-C6	-2.90	119.76	125.10
37	UC	501	GTP	C8-N7-C5	2.90	108.51	102.99
37	NC	501	GTP	C8-N7-C5	2.90	108.51	102.99
37	OI	501	GTP	C2-N1-C6	-2.89	119.77	125.10
37	TI	501	GTP	C2-N1-C6	-2.89	119.77	125.10
37	BI	501	GTP	C8-N7-C5	2.89	108.50	102.99
37	NG	501	GTP	C5-C6-N1	2.89	119.06	113.95
37	HI	501	GTP	PA-O3A-PB	-2.89	122.91	132.83
37	SG	501	GTP	C8-N7-C5	2.89	108.50	102.99
37	FM	501	GTP	C2-N1-C6	-2.89	119.78	125.10
37	HG	501	GTP	C5-C6-N1	2.89	119.05	113.95
37	PA	501	GTP	C2-N1-C6	-2.89	119.78	125.10
37	BM	501	GTP	C8-N7-C5	2.89	108.49	102.99
37	SA	501	GTP	C2-N1-C6	-2.89	119.78	125.10
37	KE	501	GTP	C8-N7-C5	2.88	108.48	102.99
37	NE	501	GTP	C8-N7-C5	2.88	108.48	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	FF	502	GDP	C5-C6-N1	2.88	119.04	113.95
39	BB	502	GDP	C3'-C2'-C1'	2.88	105.31	100.98
37	EI	501	GTP	C2-N1-C6	-2.88	119.80	125.10
37	RM	501	GTP	C3'-C2'-C1'	2.88	105.31	100.98
37	HE	501	GTP	O6-C6-C5	-2.88	118.75	124.37
37	HI	501	GTP	C3'-C2'-C1'	2.88	105.31	100.98
37	CE	501	GTP	C3'-C2'-C1'	2.88	105.31	100.98
39	VB	502	GDP	C3'-C2'-C1'	2.88	105.31	100.98
37	OA	501	GTP	C2-N1-C6	-2.88	119.80	125.10
37	UE	501	GTP	C2-N1-C6	-2.87	119.81	125.10
37	RE	501	GTP	C8-N7-C5	2.87	108.46	102.99
37	QK	501	GTP	C5-C6-N1	2.87	119.01	113.95
39	JN	502	GDP	C5-C6-N1	2.86	119.01	113.95
37	VC	501	GTP	C3'-C2'-C1'	2.86	105.29	100.98
37	JG	501	GTP	C8-N7-C5	2.86	108.44	102.99
37	IE	501	GTP	C5-C6-N1	2.86	119.01	113.95
37	CA	501	GTP	C8-N7-C5	2.86	108.44	102.99
37	OK	501	GTP	O6-C6-C5	-2.86	118.79	124.37
37	HK	501	GTP	C2-N1-C6	-2.86	119.84	125.10
37	OA	501	GTP	C8-N7-C5	2.86	108.43	102.99
37	GC	501	GTP	C2-N1-C6	-2.86	119.84	125.10
39	RH	502	GDP	C3'-C2'-C1'	2.85	105.28	100.98
39	KL	502	GDP	C5-C6-N1	2.85	118.99	113.95
37	HE	501	GTP	C8-N7-C5	2.85	108.42	102.99
39	AL	502	GDP	C3'-C2'-C1'	2.85	105.27	100.98
39	AJ	502	GDP	C5-C6-N1	2.85	118.98	113.95
37	SG	501	GTP	C2-N1-C6	-2.85	119.85	125.10
37	GG	501	GTP	C8-N7-C5	2.85	108.41	102.99
37	QI	501	GTP	C2-N1-C6	-2.84	119.86	125.10
37	CA	501	GTP	O6-C6-C5	-2.84	118.82	124.37
37	AM	501	GTP	PB-O3B-PG	-2.84	123.08	132.83
37	BE	501	GTP	C8-N7-C5	2.84	108.39	102.99
37	OE	501	GTP	PA-O3A-PB	-2.84	123.09	132.83
39	OJ	502	GDP	C3'-C2'-C1'	2.84	105.25	100.98
37	IM	501	GTP	O3G-PG-O3B	2.84	114.14	104.64
37	FE	501	GTP	C8-N7-C5	2.83	108.39	102.99
37	KO	501	GTP	PA-O3A-PB	-2.83	123.10	132.83
37	RC	501	GTP	C8-N7-C5	2.83	108.39	102.99
37	QK	501	GTP	C2-N1-C6	-2.83	119.88	125.10
37	HG	501	GTP	C3'-C2'-C1'	2.83	105.24	100.98
37	NI	501	GTP	C8-N7-C5	2.83	108.38	102.99
37	TE	501	GTP	C5-C6-N1	2.82	118.94	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	TD	502	GDP	C3'-C2'-C1'	2.82	105.22	100.98
37	IG	501	GTP	C5-C6-N1	2.82	118.93	113.95
37	SI	501	GTP	C3'-C2'-C1'	2.82	105.22	100.98
37	DG	501	GTP	O6-C6-C5	-2.82	118.87	124.37
39	JL	502	GDP	C3'-C2'-C1'	2.82	105.22	100.98
37	LI	501	GTP	O4'-C1'-C2'	-2.82	102.81	106.93
37	TK	501	GTP	C2-N1-C6	-2.82	119.91	125.10
37	HE	501	GTP	C3'-C2'-C1'	2.82	105.22	100.98
37	NG	501	GTP	C3'-C2'-C1'	2.81	105.22	100.98
37	UK	501	GTP	C8-N7-C5	2.81	108.35	102.99
37	TM	501	GTP	C2-N1-C6	-2.81	119.92	125.10
37	FM	501	GTP	C8-N7-C5	2.81	108.35	102.99
37	NI	501	GTP	C2-N1-C6	-2.81	119.92	125.10
37	OA	501	GTP	PA-O3A-PB	-2.81	123.19	132.83
37	HC	501	GTP	C3'-C2'-C1'	2.80	105.20	100.98
37	KK	501	GTP	C3'-C2'-C1'	2.80	105.20	100.98
37	KE	501	GTP	O6-C6-C5	-2.80	118.90	124.37
37	KI	501	GTP	PB-O3B-PG	-2.80	123.22	132.83
39	SF	502	GDP	C5-C6-N1	2.80	118.89	113.95
39	VD	502	GDP	C5-C6-N1	2.80	118.89	113.95
37	UI	501	GTP	C3'-C2'-C1'	2.80	105.19	100.98
37	GM	501	GTP	C2-N1-C6	-2.79	119.95	125.10
37	DE	501	GTP	C2-N1-C6	-2.79	119.95	125.10
37	TE	501	GTP	C8-N7-C5	2.79	108.31	102.99
37	QA	501	GTP	C3'-C2'-C1'	2.79	105.18	100.98
37	RC	501	GTP	O6-C6-C5	-2.79	118.92	124.37
37	EG	501	GTP	C8-N7-C5	2.79	108.30	102.99
37	RA	501	GTP	PB-O3B-PG	-2.79	123.26	132.83
37	GM	501	GTP	C3'-C2'-C1'	2.78	105.17	100.98
37	CC	501	GTP	PB-O3B-PG	-2.78	123.28	132.83
39	IN	502	GDP	C3'-C2'-C1'	2.78	105.17	100.98
37	RK	501	GTP	PB-O3B-PG	-2.78	123.28	132.83
39	TL	502	GDP	PA-O3A-PB	-2.78	123.29	132.83
39	MD	502	GDP	C5-C6-N1	2.78	118.86	113.95
37	FG	501	GTP	C8-N7-C5	2.78	108.28	102.99
39	SH	502	GDP	C5-C6-N1	2.78	118.86	113.95
39	LN	502	GDP	C5-C6-N1	2.78	118.86	113.95
37	LE	501	GTP	C8-N7-C5	2.77	108.28	102.99
39	KJ	502	GDP	C5-C6-N1	2.77	118.85	113.95
39	DB	502	GDP	C3'-C2'-C1'	2.77	105.15	100.98
39	WN	502	GDP	C8-N7-C5	2.77	108.27	102.99
39	AL	502	GDP	C5-C6-N1	2.77	118.84	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	QK	501	GTP	PB-O3B-PG	-2.77	123.34	132.83
37	MK	501	GTP	C8-N7-C5	2.76	108.25	102.99
37	LC	501	GTP	C8-N7-C5	2.76	108.25	102.99
37	RI	501	GTP	N2-C2-N1	2.76	122.59	116.71
39	GJ	502	GDP	C3'-C2'-C1'	2.76	105.14	100.98
39	ED	502	GDP	C5-C6-N1	2.76	118.83	113.95
37	BI	501	GTP	PB-O3B-PG	-2.76	123.36	132.83
37	RI	501	GTP	C3'-C2'-C1'	2.76	105.13	100.98
37	PG	501	GTP	PA-O3A-PB	-2.76	123.36	132.83
39	DH	502	GDP	C8-N7-C5	2.76	108.25	102.99
37	PG	501	GTP	N2-C2-N1	2.76	122.58	116.71
39	HJ	502	GDP	C3'-C2'-C1'	2.76	105.13	100.98
39	EF	502	GDP	C5-C6-N1	2.75	118.81	113.95
37	EI	501	GTP	C3'-C2'-C1'	2.75	105.12	100.98
37	BE	501	GTP	O6-C6-C5	-2.75	119.00	124.37
37	OC	501	GTP	C8-N7-C5	2.75	108.22	102.99
37	CI	501	GTP	PB-O3B-PG	-2.74	123.41	132.83
37	RM	501	GTP	C8-N7-C5	2.74	108.22	102.99
37	MG	501	GTP	C5-C6-N1	2.74	118.80	113.95
39	SJ	502	GDP	O6-C6-C5	-2.74	119.01	124.37
37	BA	501	GTP	C8-N7-C5	2.74	108.22	102.99
37	TG	501	GTP	C8-N7-C5	2.74	108.22	102.99
39	AH	502	GDP	C3'-C2'-C1'	2.74	105.11	100.98
39	ED	502	GDP	C3'-C2'-C1'	2.74	105.10	100.98
37	LI	501	GTP	O6-C6-C5	-2.74	119.02	124.37
37	LC	501	GTP	O4'-C1'-C2'	-2.74	102.92	106.93
37	RC	501	GTP	PB-O3B-PG	-2.74	123.43	132.83
37	TG	501	GTP	C2-N1-C6	-2.74	120.06	125.10
37	BG	501	GTP	O6-C6-C5	-2.74	119.03	124.37
37	KM	501	GTP	O6-C6-C5	-2.73	119.03	124.37
37	MI	501	GTP	C8-N7-C5	2.73	108.20	102.99
37	KO	501	GTP	C8-N7-C5	2.73	108.18	102.99
37	MK	501	GTP	O6-C6-C5	-2.72	119.06	124.37
37	DG	501	GTP	C8-N7-C5	2.72	108.17	102.99
39	IJ	502	GDP	C8-N7-C5	2.72	108.17	102.99
37	NG	501	GTP	C8-N7-C5	2.72	108.17	102.99
37	EC	501	GTP	C8-N7-C5	2.72	108.16	102.99
39	AF	502	GDP	C5-C6-N1	2.71	118.73	113.95
37	QM	501	GTP	C8-N7-C5	2.71	108.15	102.99
39	DB	502	GDP	C5-C6-N1	2.71	118.73	113.95
39	IN	502	GDP	O3B-PB-O3A	2.71	113.71	104.64
37	SE	501	GTP	C8-N7-C5	2.70	108.14	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	IB	502	GDP	C5-C6-N1	2.70	118.72	113.95
37	MK	501	GTP	C2-N1-C6	-2.70	120.12	125.10
37	PK	501	GTP	O3G-PG-O3B	2.70	113.70	104.64
37	OK	501	GTP	O3G-PG-O3B	2.70	113.70	104.64
39	QD	502	GDP	C8-N7-C5	2.70	108.14	102.99
39	EN	502	GDP	C3'-C2'-C1'	2.70	105.04	100.98
39	LL	502	GDP	C5-C6-N1	2.70	118.72	113.95
39	EF	502	GDP	C3'-C2'-C1'	2.70	105.04	100.98
39	KH	502	GDP	C5-C6-N1	2.70	118.71	113.95
37	TK	501	GTP	C8-N7-C5	2.70	108.12	102.99
37	BE	501	GTP	C3'-C2'-C1'	2.70	105.04	100.98
39	PH	502	GDP	C5-C6-N1	2.69	118.71	113.95
39	DJ	502	GDP	C3'-C2'-C1'	2.69	105.03	100.98
39	KD	502	GDP	C5-C6-N1	2.69	118.70	113.95
37	MI	501	GTP	C2-N1-C6	-2.69	120.14	125.10
37	NA	501	GTP	C5-C6-N1	2.69	118.70	113.95
39	RL	502	GDP	C3'-C2'-C1'	2.69	105.02	100.98
39	AH	502	GDP	C5-C6-N1	2.68	118.69	113.95
37	TE	501	GTP	C2-N1-C6	-2.68	120.16	125.10
37	MG	501	GTP	C2-N1-C6	-2.68	120.16	125.10
37	MM	501	GTP	C8-N7-C5	2.68	108.09	102.99
39	DD	502	GDP	C5-C6-N1	2.68	118.68	113.95
39	LF	502	GDP	C5-C6-N1	2.68	118.68	113.95
39	WB	502	GDP	C8-N7-C5	2.68	108.09	102.99
39	JB	502	GDP	C8-N7-C5	2.68	108.09	102.99
39	FJ	502	GDP	C8-N7-C5	2.67	108.08	102.99
39	SH	502	GDP	C3'-C2'-C1'	2.67	105.00	100.98
37	GE	501	GTP	C3'-C2'-C1'	2.67	105.00	100.98
39	LD	502	GDP	C5-C6-N1	2.67	118.67	113.95
37	QG	501	GTP	C8-N7-C5	2.67	108.07	102.99
37	JM	501	GTP	PB-O3B-PG	-2.66	123.68	132.83
39	FH	502	GDP	C5-C6-N1	2.66	118.65	113.95
39	HN	502	GDP	C5-C6-N1	2.66	118.65	113.95
37	KG	501	GTP	N2-C2-N1	2.66	122.37	116.71
39	CD	502	GDP	C8-N7-C5	2.66	108.05	102.99
39	IL	502	GDP	C8-N7-C5	2.66	108.05	102.99
37	BC	501	GTP	C3'-C2'-C1'	2.66	104.98	100.98
37	RG	501	GTP	C8-N7-C5	2.66	108.05	102.99
39	BD	502	GDP	C3'-C2'-C1'	2.65	104.97	100.98
37	KG	501	GTP	C8-N7-C5	2.65	108.04	102.99
39	BB	502	GDP	O6-C6-N1	2.65	123.78	120.65
37	DC	501	GTP	PB-O3B-PG	-2.65	123.73	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	SK	501	GTP	O6-C6-C5	-2.65	119.20	124.37
39	ID	502	GDP	C8-N7-C5	2.65	108.03	102.99
37	NA	501	GTP	C3'-C2'-C1'	2.65	104.96	100.98
39	HB	502	GDP	C5-C6-N1	2.64	118.62	113.95
37	GG	501	GTP	O6-C6-C5	-2.64	119.21	124.37
37	WM	501	GTP	C3'-C2'-C1'	2.64	104.95	100.98
37	RK	501	GTP	C8-N7-C5	2.64	108.02	102.99
39	MJ	502	GDP	C3'-C2'-C1'	2.64	104.95	100.98
39	LB	502	GDP	C5-C6-N1	2.63	118.60	113.95
39	UJ	502	GDP	C5-C6-N1	2.63	118.60	113.95
39	PL	502	GDP	C3'-C2'-C1'	2.63	104.94	100.98
39	DF	502	GDP	C5-C6-N1	2.63	118.60	113.95
37	UG	501	GTP	C3'-C2'-C1'	2.63	104.94	100.98
39	UN	502	GDP	C5-C6-N1	2.63	118.59	113.95
37	SC	501	GTP	C8-N7-C5	2.63	108.00	102.99
37	LG	501	GTP	O6-C6-C5	-2.63	119.24	124.37
39	TH	502	GDP	C8-N7-C5	2.63	107.99	102.99
39	DN	502	GDP	C3'-C2'-C1'	2.62	104.93	100.98
37	LM	501	GTP	O4'-C1'-C2'	-2.62	103.09	106.93
37	GM	501	GTP	O6-C6-C5	-2.62	119.25	124.37
39	NB	502	GDP	C5-C6-N1	2.62	118.58	113.95
37	JK	501	GTP	O6-C6-C5	-2.62	119.26	124.37
39	GN	502	GDP	C5-C6-N1	2.62	118.58	113.95
39	CF	502	GDP	C8-N7-C5	2.62	107.97	102.99
37	TG	501	GTP	PB-O3B-PG	-2.61	123.85	132.83
37	PE	501	GTP	O6-C6-C5	-2.61	119.27	124.37
37	KO	501	GTP	C3'-C2'-C1'	2.61	104.91	100.98
39	CJ	502	GDP	C8-N7-C5	2.61	107.97	102.99
39	LJ	502	GDP	C5-C6-N1	2.61	118.56	113.95
39	VL	502	GDP	C5-C6-N1	2.61	118.56	113.95
39	KN	502	GDP	C5-C6-N1	2.61	118.56	113.95
37	AC	501	GTP	O6-C6-C5	-2.60	119.29	124.37
37	OC	501	GTP	PB-O3B-PG	-2.60	123.90	132.83
39	VH	502	GDP	C3'-C2'-C1'	2.60	104.89	100.98
39	TL	502	GDP	C3'-C2'-C1'	2.60	104.89	100.98
39	UH	502	GDP	C5-C6-N1	2.60	118.54	113.95
39	WD	502	GDP	C8-N7-C5	2.60	107.94	102.99
39	DL	502	GDP	C8-N7-C5	2.59	107.93	102.99
37	UG	501	GTP	O6-C6-C5	-2.59	119.31	124.37
37	SM	501	GTP	C8-N7-C5	2.59	107.92	102.99
39	PB	502	GDP	C8-N7-C5	2.59	107.92	102.99
37	FG	501	GTP	O6-C6-C5	-2.59	119.32	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	RK	501	GTP	O6-C6-C5	-2.58	119.32	124.37
39	WN	502	GDP	C5-C6-N1	2.58	118.51	113.95
37	EM	501	GTP	C8-N7-C5	2.58	107.91	102.99
39	JN	502	GDP	PA-O3A-PB	-2.58	123.96	132.83
39	EL	502	GDP	C2'-C3'-C4'	2.58	107.66	102.64
37	NC	501	GTP	PB-O3B-PG	-2.58	123.98	132.83
39	VH	502	GDP	C8-N7-C5	2.58	107.90	102.99
37	GC	501	GTP	O6-C6-C5	-2.58	119.34	124.37
39	DJ	502	GDP	PA-O3A-PB	-2.57	123.99	132.83
39	JH	502	GDP	C8-N7-C5	2.57	107.89	102.99
39	VN	502	GDP	C5-C6-N1	2.57	118.50	113.95
39	CL	502	GDP	C8-N7-C5	2.57	107.89	102.99
37	LK	501	GTP	O4'-C1'-C2'	-2.57	103.17	106.93
39	SJ	502	GDP	C5-C6-N1	2.57	118.49	113.95
37	KI	501	GTP	O6-C6-C5	-2.57	119.36	124.37
39	MF	502	GDP	C5-C6-N1	2.57	118.48	113.95
39	TD	502	GDP	C8-N7-C5	2.57	107.88	102.99
37	MM	501	GTP	PB-O3B-PG	-2.57	124.02	132.83
39	RB	502	GDP	C5-C6-N1	2.56	118.48	113.95
39	FL	502	GDP	C3'-C2'-C1'	2.56	104.84	100.98
37	RI	501	GTP	N1-C2-N3	-2.56	118.53	123.32
37	LC	501	GTP	PB-O3B-PG	-2.56	124.03	132.83
37	PA	501	GTP	O6-C6-C5	-2.56	119.37	124.37
39	PF	502	GDP	C8-N7-C5	2.56	107.87	102.99
39	LN	502	GDP	C8-N7-C5	2.56	107.87	102.99
39	UL	502	GDP	C5-C6-N1	2.56	118.47	113.95
39	SB	502	GDP	C5-C6-N1	2.56	118.47	113.95
37	PG	501	GTP	C3'-C2'-C1'	2.56	104.83	100.98
39	PH	502	GDP	C8-N7-C5	2.56	107.86	102.99
37	ME	501	GTP	C8-N7-C5	2.55	107.86	102.99
37	SE	501	GTP	O6-C6-C5	-2.55	119.39	124.37
39	OF	502	GDP	C5-C6-N1	2.55	118.45	113.95
39	LH	502	GDP	C5-C6-N1	2.55	118.45	113.95
39	WF	502	GDP	C8-N7-C5	2.55	107.84	102.99
37	ME	501	GTP	O6-C6-C5	-2.55	119.40	124.37
37	FK	501	GTP	C8-N7-C5	2.54	107.84	102.99
37	VM	501	GTP	O6-C6-C5	-2.54	119.40	124.37
37	AA	501	GTP	C2-N1-C6	-2.54	120.41	125.10
39	VD	502	GDP	C8-N7-C5	2.54	107.84	102.99
37	JG	501	GTP	O6-C6-C5	-2.54	119.41	124.37
37	OG	501	GTP	O6-C6-C5	-2.54	119.41	124.37
37	IK	501	GTP	O6-C6-C5	-2.54	119.41	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	JI	501	GTP	C3'-C2'-C1'	2.54	104.80	100.98
39	BD	502	GDP	C5-C6-N1	2.54	118.44	113.95
37	BI	501	GTP	O6-C6-C5	-2.54	119.42	124.37
39	GN	502	GDP	C8-N7-C5	2.54	107.82	102.99
39	PF	502	GDP	C5-C6-N1	2.54	118.43	113.95
39	PJ	502	GDP	C5-C6-N1	2.53	118.42	113.95
37	SK	501	GTP	C8-N7-C5	2.53	107.81	102.99
39	VH	502	GDP	C5-C6-N1	2.53	118.42	113.95
37	QC	501	GTP	C3'-C2'-C1'	2.53	104.79	100.98
39	WJ	502	GDP	C8-N7-C5	2.53	107.81	102.99
39	TF	502	GDP	C8-N7-C5	2.53	107.81	102.99
39	BL	502	GDP	C5-C6-N1	2.53	118.42	113.95
37	HC	501	GTP	O6-C6-C5	-2.53	119.44	124.37
37	UC	501	GTP	O6-C6-C5	-2.53	119.44	124.37
39	GB	502	GDP	C5-C6-N1	2.53	118.41	113.95
39	UN	502	GDP	C8-N7-C5	2.53	107.80	102.99
39	LL	502	GDP	C8-N7-C5	2.53	107.80	102.99
37	JI	501	GTP	O6-C6-C5	-2.52	119.44	124.37
39	FB	502	GDP	C5-C6-N1	2.52	118.41	113.95
39	VL	502	GDP	C8-N7-C5	2.52	107.80	102.99
37	GG	501	GTP	C3'-C2'-C1'	2.52	104.78	100.98
37	RA	501	GTP	C3'-C2'-C1'	2.52	104.78	100.98
37	PM	501	GTP	C8-N7-C5	2.52	107.79	102.99
39	IN	502	GDP	C5-C6-N1	2.52	118.40	113.95
39	PJ	502	GDP	C8-N7-C5	2.52	107.79	102.99
39	PB	502	GDP	C5-C6-N1	2.52	118.40	113.95
39	UN	502	GDP	C3'-C2'-C1'	2.52	104.77	100.98
39	KF	502	GDP	C5-C6-N1	2.51	118.39	113.95
39	OH	502	GDP	C5-C6-N1	2.51	118.39	113.95
39	HH	502	GDP	C8-N7-C5	2.51	107.78	102.99
39	RD	502	GDP	C8-N7-C5	2.51	107.77	102.99
39	OJ	502	GDP	C5-C6-N1	2.51	118.38	113.95
39	MH	502	GDP	C5-C6-N1	2.51	118.38	113.95
39	VJ	502	GDP	PA-O3A-PB	-2.50	124.23	132.83
37	JM	501	GTP	C2-N1-C6	-2.50	120.49	125.10
39	MJ	502	GDP	O6-C6-C5	-2.50	119.48	124.37
37	SE	501	GTP	C3'-C2'-C1'	2.50	104.75	100.98
37	QM	501	GTP	PA-O3A-PB	-2.50	124.24	132.83
39	VF	502	GDP	C8-N7-C5	2.50	107.75	102.99
37	BM	501	GTP	O6-C6-C5	-2.50	119.49	124.37
39	BF	502	GDP	C5-C6-N1	2.50	118.37	113.95
37	WE	501	GTP	C3'-C2'-C1'	2.50	104.74	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	KE	501	GTP	PB-O3B-PG	-2.50	124.25	132.83
39	SJ	502	GDP	C3'-C2'-C1'	2.49	104.73	100.98
39	OL	502	GDP	C5-C6-N1	2.49	118.36	113.95
39	WN	502	GDP	C3'-C2'-C1'	2.49	104.73	100.98
39	CD	502	GDP	C3'-C2'-C1'	2.49	104.73	100.98
39	VJ	502	GDP	C8-N7-C5	2.49	107.74	102.99
39	AH	502	GDP	C8-N7-C5	2.49	107.74	102.99
37	NK	501	GTP	O3G-PG-O3B	2.49	112.98	104.64
37	FG	501	GTP	PB-O3B-PG	-2.49	124.29	132.83
39	IB	502	GDP	C8-N7-C5	2.49	107.73	102.99
39	UD	502	GDP	C8-N7-C5	2.49	107.73	102.99
39	NL	502	GDP	C5-C6-N1	2.49	118.34	113.95
37	FI	501	GTP	PA-O3A-PB	-2.49	124.30	132.83
37	GK	501	GTP	O6-C6-C5	-2.48	119.52	124.37
39	DJ	502	GDP	C5-C6-N1	2.48	118.34	113.95
39	IH	502	GDP	C5-C6-N1	2.48	118.33	113.95
37	JG	501	GTP	PB-O3B-PG	-2.48	124.32	132.83
39	AL	502	GDP	C8-N7-C5	2.48	107.71	102.99
37	DE	501	GTP	O3G-PG-O3B	2.48	112.95	104.64
39	LJ	502	GDP	C8-N7-C5	2.48	107.71	102.99
39	GH	502	GDP	C5-C6-N1	2.48	118.33	113.95
39	CH	502	GDP	C8-N7-C5	2.48	107.71	102.99
39	UB	502	GDP	C8-N7-C5	2.47	107.70	102.99
37	PM	501	GTP	C2-N1-C6	-2.47	120.54	125.10
39	AJ	502	GDP	C8-N7-C5	2.47	107.70	102.99
39	QF	502	GDP	C5-C6-N1	2.47	118.32	113.95
39	DN	502	GDP	C8-N7-C5	2.47	107.69	102.99
37	BA	501	GTP	O6-C6-C5	-2.47	119.55	124.37
37	UK	501	GTP	O6-C6-C5	-2.47	119.56	124.37
39	TJ	502	GDP	C5-C6-N1	2.47	118.31	113.95
37	EK	501	GTP	C3'-C2'-C1'	2.46	104.69	100.98
39	EL	502	GDP	C5-C6-N1	2.46	118.30	113.95
39	MJ	502	GDP	C5-C6-N1	2.46	118.30	113.95
39	AB	502	GDP	C8-N7-C5	2.46	107.68	102.99
39	OB	502	GDP	C5-C6-N1	2.46	118.30	113.95
39	CJ	502	GDP	C5-C6-N1	2.46	118.29	113.95
37	AA	501	GTP	N1-C2-N3	-2.46	118.73	123.32
39	AF	502	GDP	C8-N7-C5	2.46	107.67	102.99
39	ML	502	GDP	C5-C6-N1	2.46	118.29	113.95
39	VN	502	GDP	C8-N7-C5	2.46	107.67	102.99
39	JD	502	GDP	C5-C6-N1	2.46	118.29	113.95
39	IL	502	GDP	C5-C6-N1	2.45	118.28	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	RH	502	GDP	C5-C6-N1	2.45	118.27	113.95
39	DD	502	GDP	C8-N7-C5	2.45	107.65	102.99
39	MB	502	GDP	O6-C6-C5	-2.44	119.60	124.37
39	GD	502	GDP	C5-C6-N1	2.44	118.27	113.95
39	JD	502	GDP	PA-O3A-PB	-2.44	124.44	132.83
39	TJ	502	GDP	C8-N7-C5	2.44	107.64	102.99
37	QM	501	GTP	O6-C6-C5	-2.44	119.60	124.37
37	CI	501	GTP	O6-C6-C5	-2.44	119.60	124.37
39	EH	502	GDP	C5-C6-N1	2.44	118.26	113.95
39	VB	502	GDP	C8-N7-C5	2.44	107.63	102.99
39	NF	502	GDP	C8-N7-C5	2.44	107.63	102.99
37	FC	501	GTP	C8-N7-C5	2.44	107.63	102.99
39	KB	502	GDP	C5-C6-N1	2.43	118.25	113.95
39	DJ	502	GDP	C8-N7-C5	2.43	107.63	102.99
37	CG	501	GTP	O3G-PG-O3B	2.43	112.80	104.64
39	UL	502	GDP	C8-N7-C5	2.43	107.62	102.99
39	AD	502	GDP	C5-C6-N1	2.43	118.25	113.95
39	CL	502	GDP	C5-C6-N1	2.43	118.25	113.95
39	QL	502	GDP	C5-C6-N1	2.43	118.25	113.95
37	TK	501	GTP	O6-C6-C5	-2.43	119.62	124.37
39	QH	502	GDP	C5-C6-N1	2.43	118.24	113.95
39	KJ	502	GDP	C8-N7-C5	2.43	107.62	102.99
37	AA	501	GTP	O6-C6-C5	-2.43	119.63	124.37
39	FD	502	GDP	C5-C6-N1	2.43	118.24	113.95
39	BD	502	GDP	C8-N7-C5	2.43	107.61	102.99
37	SC	501	GTP	O6-C6-C5	-2.42	119.64	124.37
37	TE	501	GTP	PB-O3B-PG	-2.42	124.51	132.83
39	HJ	502	GDP	C5-C6-N1	2.42	118.23	113.95
37	JM	501	GTP	O3G-PG-O3B	2.42	112.75	104.64
37	LK	501	GTP	O6-C6-C5	-2.42	119.64	124.37
37	MC	501	GTP	C8-N7-C5	2.42	107.59	102.99
39	QH	502	GDP	C8-N7-C5	2.42	107.59	102.99
39	QB	502	GDP	C8-N7-C5	2.42	107.59	102.99
37	TE	501	GTP	PA-O3A-PB	-2.41	124.54	132.83
39	TL	502	GDP	C8-N7-C5	2.41	107.59	102.99
39	GB	502	GDP	C8-N7-C5	2.41	107.58	102.99
39	AD	502	GDP	C8-N7-C5	2.41	107.57	102.99
39	JL	502	GDP	C5-C6-N1	2.41	118.20	113.95
39	HB	502	GDP	C8-N7-C5	2.40	107.57	102.99
37	KK	501	GTP	O6-C6-C5	-2.40	119.68	124.37
39	OD	502	GDP	C5-C6-N1	2.40	118.19	113.95
37	SM	501	GTP	C3'-C2'-C1'	2.40	104.59	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	VF	502	GDP	C5-C6-N1	2.40	118.19	113.95
39	VB	502	GDP	C5-C6-N1	2.40	118.19	113.95
37	JC	501	GTP	N2-C2-N1	2.39	121.81	116.71
39	GH	502	GDP	C8-N7-C5	2.39	107.55	102.99
39	CH	502	GDP	C5-C6-N1	2.39	118.18	113.95
39	HD	502	GDP	C5-C6-N1	2.39	118.17	113.95
37	BK	501	GTP	O6-C6-C5	-2.39	119.71	124.37
37	KM	501	GTP	PB-O3B-PG	-2.39	124.63	132.83
39	FH	502	GDP	PA-O3A-PB	-2.39	124.64	132.83
37	FM	501	GTP	C2'-C3'-C4'	2.39	107.28	102.64
37	AI	501	GTP	PA-O3A-PB	-2.39	124.64	132.83
39	EH	502	GDP	C3'-C2'-C1'	2.38	104.57	100.98
39	RB	502	GDP	O6-C6-C5	-2.38	119.72	124.37
39	GF	502	GDP	C5-C6-N1	2.38	118.16	113.95
39	RJ	502	GDP	C5-C6-N1	2.38	118.16	113.95
39	QB	502	GDP	C5-C6-N1	2.38	118.16	113.95
37	AA	501	GTP	C3'-C2'-C1'	-2.38	97.39	100.98
39	KL	502	GDP	O6-C6-C5	-2.38	119.72	124.37
37	AC	501	GTP	O4'-C1'-C2'	-2.38	103.45	106.93
39	GJ	502	GDP	C5-C6-N1	2.38	118.15	113.95
39	UF	502	GDP	C8-N7-C5	2.38	107.52	102.99
39	O0	502	GDP	C5-C6-N1	2.38	118.15	113.95
39	HF	502	GDP	C8-N7-C5	2.38	107.52	102.99
37	GI	501	GTP	O6-C6-C5	-2.37	119.74	124.37
39	LB	502	GDP	N2-C2-N1	2.37	121.77	116.71
37	MI	501	GTP	N2-C2-N1	2.37	121.77	116.71
39	QF	502	GDP	C8-N7-C5	2.37	107.51	102.99
39	JJ	502	GDP	C8-N7-C5	2.37	107.51	102.99
37	NG	501	GTP	O6-C6-C5	-2.37	119.74	124.37
39	JF	502	GDP	C5-C6-N1	2.37	118.14	113.95
39	RD	502	GDP	C5-C6-N1	2.37	118.14	113.95
39	N0	502	GDP	C5-C6-N1	2.37	118.13	113.95
37	GE	501	GTP	O6-C6-C5	-2.37	119.75	124.37
37	LE	501	GTP	O6-C6-C5	-2.37	119.75	124.37
37	BI	501	GTP	O3G-PG-O3B	2.37	112.57	104.64
39	JH	502	GDP	C3'-C2'-C1'	2.37	104.54	100.98
37	HO	501	GTP	O6-C6-C5	-2.36	119.75	124.37
39	OF	502	GDP	O6-C6-C5	-2.36	119.75	124.37
39	IH	502	GDP	C8-N7-C5	2.36	107.49	102.99
39	CB	502	GDP	C8-N7-C5	2.36	107.49	102.99
39	TB	502	GDP	C5-C6-N1	2.36	118.12	113.95
37	OA	501	GTP	O6-C6-C5	-2.36	119.76	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	KI	501	GTP	O4'-C1'-C2'	-2.36	103.48	106.93
37	WG	501	GTP	N2-C2-N1	2.36	121.74	116.71
37	AI	501	GTP	O6-C6-C5	-2.36	119.77	124.37
37	MC	501	GTP	PB-O3B-PG	-2.36	124.74	132.83
39	DB	502	GDP	C8-N7-C5	2.36	107.48	102.99
37	PM	501	GTP	C3'-C2'-C1'	2.36	104.53	100.98
39	WL	502	GDP	C5-C6-N1	2.36	118.11	113.95
39	QF	502	GDP	C3'-C2'-C1'	2.36	104.52	100.98
39	JF	502	GDP	C8-N7-C5	2.35	107.47	102.99
37	AA	501	GTP	PA-O3A-PB	-2.35	124.75	132.83
39	DL	502	GDP	C5-C6-N1	2.35	118.11	113.95
37	WC	501	GTP	PB-O3B-PG	-2.35	124.77	132.83
39	TL	502	GDP	C5-C6-N1	2.35	118.10	113.95
37	RK	501	GTP	C3'-C2'-C1'	2.35	104.51	100.98
39	RL	502	GDP	C5-C6-N1	2.34	118.09	113.95
37	HM	501	GTP	O6-C6-C5	-2.34	119.80	124.37
39	HF	502	GDP	C5-C6-N1	2.34	118.09	113.95
39	WL	502	GDP	C8-N7-C5	2.34	107.45	102.99
39	HH	502	GDP	C5-C6-N1	2.34	118.09	113.95
39	CD	502	GDP	C5-C6-N1	2.34	118.09	113.95
39	SB	502	GDP	O6-C6-C5	-2.34	119.80	124.37
37	KC	501	GTP	N2-C2-N1	2.34	121.70	116.71
37	FC	501	GTP	O6-C6-C5	-2.34	119.80	124.37
39	OD	502	GDP	C8-N7-C5	2.34	107.45	102.99
37	HK	501	GTP	C3'-C2'-C1'	2.34	104.50	100.98
39	IN	502	GDP	C8-N7-C5	2.34	107.44	102.99
39	FN	502	GDP	C8-N7-C5	2.33	107.44	102.99
37	PG	501	GTP	O6-C6-C5	-2.33	119.81	124.37
37	HM	501	GTP	C3'-C2'-C1'	2.33	104.49	100.98
37	WC	501	GTP	C3'-C2'-C1'	2.33	104.49	100.98
39	UH	502	GDP	C8-N7-C5	2.33	107.43	102.99
39	RL	502	GDP	C2'-C3'-C4'	2.33	107.16	102.64
39	RH	502	GDP	C8-N7-C5	2.32	107.41	102.99
37	LM	501	GTP	O6-C6-C5	-2.32	119.84	124.37
39	OF	502	GDP	C3'-C2'-C1'	2.32	104.47	100.98
39	EB	502	GDP	C5-C6-N1	2.32	118.05	113.95
39	DN	502	GDP	C5-C6-N1	2.32	118.05	113.95
37	VE	501	GTP	O6-C6-C5	-2.32	119.84	124.37
37	JI	501	GTP	C8-N7-C5	2.32	107.40	102.99
37	NE	501	GTP	O6-C6-C5	-2.32	119.85	124.37
39	RF	502	GDP	C5-C6-N1	2.32	118.04	113.95
37	PK	501	GTP	PA-O3A-PB	-2.32	124.88	132.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	QJ	502	GDP	C5-C6-N1	2.32	118.04	113.95
37	JE	501	GTP	C8-N7-C5	2.32	107.40	102.99
39	NJ	502	GDP	C5-C6-N1	2.32	118.04	113.95
37	AE	501	GTP	O4'-C1'-C2'	-2.31	103.54	106.93
39	BH	502	GDP	C5-C6-N1	2.31	118.04	113.95
37	RM	501	GTP	O6-C6-C5	-2.31	119.86	124.37
39	IF	502	GDP	C8-N7-C5	2.31	107.39	102.99
39	SH	502	GDP	O6-C6-C5	-2.31	119.86	124.37
39	N0	502	GDP	C8-N7-C5	2.31	107.39	102.99
39	NL	502	GDP	C8-N7-C5	2.31	107.39	102.99
39	RH	502	GDP	C2'-C3'-C4'	2.31	107.12	102.64
37	PK	501	GTP	O6-C6-C5	-2.31	119.87	124.37
37	TK	501	GTP	PA-O3A-PB	-2.31	124.92	132.83
39	LH	502	GDP	O6-C6-C5	-2.30	119.87	124.37
39	EB	502	GDP	C8-N7-C5	2.30	107.38	102.99
37	EE	501	GTP	C8-N7-C5	2.30	107.38	102.99
39	UD	502	GDP	C5-C6-N1	2.30	118.02	113.95
37	DM	501	GTP	N2-C2-N1	2.30	121.61	116.71
39	NB	502	GDP	C8-N7-C5	2.30	107.37	102.99
37	AM	501	GTP	O6-C6-C5	-2.30	119.88	124.37
39	GL	502	GDP	C5-C6-N1	2.30	118.01	113.95
37	EI	501	GTP	N2-C2-N1	2.30	121.60	116.71
37	FC	501	GTP	C3'-C2'-C1'	2.29	104.43	100.98
37	NI	501	GTP	O6-C6-C5	-2.29	119.89	124.37
37	KC	501	GTP	C8-N7-C5	2.29	107.36	102.99
39	GD	502	GDP	C3'-C2'-C1'	2.29	104.43	100.98
39	AD	502	GDP	O6-C6-C5	-2.29	119.89	124.37
39	JJ	502	GDP	C3'-C2'-C1'	2.29	104.43	100.98
39	VJ	502	GDP	C5-C6-N1	2.29	118.00	113.95
39	OB	502	GDP	C8-N7-C5	2.29	107.36	102.99
39	FN	502	GDP	C5-C6-N1	2.29	118.00	113.95
37	EE	501	GTP	O6-C6-C5	-2.29	119.90	124.37
39	KH	502	GDP	C8-N7-C5	2.29	107.36	102.99
39	CL	502	GDP	C3'-C2'-C1'	2.29	104.43	100.98
39	QD	502	GDP	C3'-C2'-C1'	2.29	104.43	100.98
37	WC	501	GTP	N2-C2-N1	2.29	121.59	116.71
39	BH	502	GDP	C8-N7-C5	2.29	107.35	102.99
39	NH	502	GDP	C5-C6-N1	2.29	117.99	113.95
37	OE	501	GTP	O6-C6-C5	-2.29	119.91	124.37
39	UJ	502	GDP	C8-N7-C5	2.28	107.34	102.99
39	QH	502	GDP	C3'-C2'-C1'	2.28	104.41	100.98
39	SL	502	GDP	C5-C6-N1	2.28	117.98	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	SG	501	GTP	O6-C6-C5	-2.28	119.92	124.37
37	FK	501	GTP	O3G-PG-O3B	2.28	112.28	104.64
37	JC	501	GTP	O6-C6-C5	-2.28	119.92	124.37
37	MM	501	GTP	O6-C6-C5	-2.28	119.92	124.37
39	DF	502	GDP	C8-N7-C5	2.28	107.33	102.99
39	AF	502	GDP	O2B-PB-O3A	2.28	112.27	104.64
39	GF	502	GDP	C8-N7-C5	2.27	107.32	102.99
37	AG	501	GTP	O3G-PG-O3B	2.27	112.26	104.64
37	OI	501	GTP	O6-C6-C5	-2.27	119.93	124.37
37	OK	501	GTP	O2G-PG-O3B	2.27	112.25	104.64
37	MK	501	GTP	N2-C2-N1	2.27	121.55	116.71
39	NH	502	GDP	C8-N7-C5	2.27	107.32	102.99
39	KN	502	GDP	C8-N7-C5	2.27	107.31	102.99
39	HJ	502	GDP	C8-N7-C5	2.27	107.31	102.99
39	HN	502	GDP	C8-N7-C5	2.27	107.31	102.99
39	FB	502	GDP	C8-N7-C5	2.27	107.31	102.99
37	MI	501	GTP	O6-C6-C5	-2.27	119.94	124.37
37	BG	501	GTP	C3'-C2'-C1'	2.27	104.39	100.98
39	RD	502	GDP	C2'-C3'-C4'	2.27	107.05	102.64
39	AD	502	GDP	N2-C2-N1	2.27	121.54	116.71
37	UM	501	GTP	O6-C6-C5	-2.27	119.94	124.37
37	RI	501	GTP	O6-C6-C5	-2.27	119.95	124.37
39	GL	502	GDP	C8-N7-C5	2.27	107.31	102.99
39	PD	502	GDP	C5-C6-N1	2.27	117.95	113.95
37	AG	501	GTP	O4'-C1'-C2'	-2.27	103.61	106.93
37	RA	501	GTP	O6-C6-C5	-2.27	119.95	124.37
39	HL	502	GDP	C5-C6-N1	2.26	117.95	113.95
39	MN	502	GDP	C5-C6-N1	2.26	117.95	113.95
39	OL	502	GDP	C8-N7-C5	2.26	107.30	102.99
39	ND	502	GDP	C8-N7-C5	2.26	107.30	102.99
39	LL	502	GDP	O6-C6-C5	-2.26	119.95	124.37
39	TB	502	GDP	C8-N7-C5	2.26	107.30	102.99
37	MK	501	GTP	N1-C2-N3	-2.26	119.10	123.32
39	WH	502	GDP	C8-N7-C5	2.26	107.30	102.99
39	PD	502	GDP	C8-N7-C5	2.26	107.30	102.99
37	SA	501	GTP	O6-C6-C5	-2.26	119.96	124.37
39	O0	502	GDP	C8-N7-C5	2.26	107.29	102.99
39	ML	502	GDP	C8-N7-C5	2.26	107.29	102.99
37	NK	501	GTP	O6-C6-C5	-2.26	119.97	124.37
39	LB	502	GDP	C8-N7-C5	2.25	107.29	102.99
37	TK	501	GTP	PB-O3B-PG	-2.25	125.09	132.83
37	AG	501	GTP	O6-C6-C5	-2.25	119.97	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	BF	502	GDP	O6-C6-C5	-2.25	119.97	124.37
39	IJ	502	GDP	C5-C6-N1	2.25	117.93	113.95
37	GI	501	GTP	C8-N7-C5	2.25	107.28	102.99
39	KF	502	GDP	C8-N7-C5	2.25	107.28	102.99
39	JJ	502	GDP	C5-C6-N1	2.25	117.93	113.95
37	AE	501	GTP	O6-C6-C5	-2.25	119.98	124.37
39	FD	502	GDP	C8-N7-C5	2.25	107.28	102.99
39	WD	502	GDP	C3'-C2'-C1'	2.25	104.36	100.98
39	RB	502	GDP	C3'-C2'-C1'	2.25	104.36	100.98
39	BJ	502	GDP	C5-C6-N1	2.24	117.92	113.95
37	DE	501	GTP	O6-C6-C5	-2.24	119.99	124.37
39	BL	502	GDP	C8-N7-C5	2.24	107.26	102.99
37	CM	501	GTP	O6-C6-C5	-2.24	119.99	124.37
39	QJ	502	GDP	C8-N7-C5	2.24	107.26	102.99
37	WG	501	GTP	C3'-C2'-C1'	2.24	104.35	100.98
39	QL	502	GDP	C8-N7-C5	2.24	107.26	102.99
39	CB	502	GDP	C5-C6-N1	2.24	117.91	113.95
37	PM	501	GTP	O6-C6-C5	-2.24	120.00	124.37
39	WH	502	GDP	C5-C6-N1	2.24	117.90	113.95
39	GD	502	GDP	C8-N7-C5	2.24	107.25	102.99
37	DC	501	GTP	O2G-PG-O3B	2.23	112.13	104.64
37	IG	501	GTP	N2-C2-N1	2.23	121.47	116.71
39	GJ	502	GDP	C8-N7-C5	2.23	107.24	102.99
39	WJ	502	GDP	C5-C6-N1	2.23	117.89	113.95
37	JE	501	GTP	C3'-C2'-C1'	2.23	104.34	100.98
37	FK	501	GTP	O6-C6-C5	-2.23	120.02	124.37
37	UK	501	GTP	O3G-PG-O3B	2.23	112.10	104.64
39	IL	502	GDP	C2-N1-C6	-2.23	121.00	125.10
39	UJ	502	GDP	O6-C6-C5	-2.22	120.03	124.37
39	RF	502	GDP	C8-N7-C5	2.22	107.23	102.99
39	WB	502	GDP	C5-C6-N1	2.22	117.88	113.95
37	DI	501	GTP	O4'-C1'-C2'	-2.22	103.68	106.93
37	DK	501	GTP	C3'-C2'-C1'	2.22	104.32	100.98
37	KO	501	GTP	O6-C6-C5	-2.22	120.04	124.37
39	HL	502	GDP	C8-N7-C5	2.22	107.22	102.99
37	SC	501	GTP	C2'-C3'-C4'	2.22	106.95	102.64
37	AK	501	GTP	O6-C6-C5	-2.22	120.04	124.37
39	UF	502	GDP	C5-C6-N1	2.21	117.86	113.95
39	FH	502	GDP	C8-N7-C5	2.21	107.21	102.99
37	EM	501	GTP	O6-C6-C5	-2.21	120.05	124.37
37	LG	501	GTP	PA-O3A-PB	-2.21	125.24	132.83
39	CF	502	GDP	C5-C6-N1	2.21	117.85	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	NJ	502	GDP	C8-N7-C5	2.21	107.20	102.99
39	OJ	502	GDP	C8-N7-C5	2.21	107.20	102.99
37	QI	501	GTP	N1-C2-N3	-2.21	119.19	123.32
39	MB	502	GDP	N2-C2-N3	-2.21	115.44	119.74
39	DD	502	GDP	O6-C6-C5	-2.21	120.06	124.37
39	IF	502	GDP	C5-C6-N1	2.21	117.85	113.95
37	KG	501	GTP	C3'-C2'-C1'	2.20	104.29	100.98
39	ND	502	GDP	C5-C6-N1	2.20	117.84	113.95
39	JN	502	GDP	C2-N1-C6	-2.20	121.04	125.10
39	MB	502	GDP	C8-N7-C5	2.20	107.18	102.99
37	JC	501	GTP	C3'-C2'-C1'	2.20	104.29	100.98
37	KI	501	GTP	O3G-PG-O3B	2.20	112.01	104.64
39	AB	502	GDP	C5-C6-N1	2.20	117.83	113.95
37	JG	501	GTP	O3G-PG-O3B	2.20	112.00	104.64
39	IH	502	GDP	O3B-PB-O3A	2.20	112.00	104.64
39	WF	502	GDP	C5-C6-N1	2.20	117.83	113.95
39	JD	502	GDP	C8-N7-C5	2.19	107.17	102.99
39	MN	502	GDP	C8-N7-C5	2.19	107.17	102.99
37	CE	501	GTP	O3G-PG-O3B	2.19	111.98	104.64
39	WH	502	GDP	C2-N1-C6	-2.19	121.07	125.10
39	TJ	502	GDP	O6-C6-C5	-2.19	120.10	124.37
37	BC	501	GTP	O6-C6-C5	-2.19	120.10	124.37
39	ED	502	GDP	C2'-C3'-C4'	2.19	106.89	102.64
37	TI	501	GTP	O6-C6-C5	-2.19	120.10	124.37
39	LD	502	GDP	C8-N7-C5	2.19	107.15	102.99
39	VL	502	GDP	O3B-PB-O3A	2.18	111.96	104.64
37	FM	501	GTP	O6-C6-C5	-2.18	120.11	124.37
37	EK	501	GTP	C8-N7-C5	2.18	107.15	102.99
39	BF	502	GDP	C8-N7-C5	2.18	107.15	102.99
37	RE	501	GTP	O6-C6-C5	-2.18	120.11	124.37
39	SL	502	GDP	O6-C6-C5	-2.18	120.11	124.37
39	PL	502	GDP	C2'-C3'-C4'	2.18	106.87	102.64
39	PD	502	GDP	O6-C6-C5	-2.17	120.12	124.37
37	MC	501	GTP	O6-C6-C5	-2.17	120.12	124.37
39	BJ	502	GDP	C8-N7-C5	2.17	107.13	102.99
37	TG	501	GTP	O6-C6-C5	-2.17	120.13	124.37
37	FI	501	GTP	C2-N1-C6	-2.17	121.10	125.10
39	RJ	502	GDP	C8-N7-C5	2.17	107.12	102.99
39	LJ	502	GDP	C3'-C2'-C1'	2.17	104.25	100.98
39	DB	502	GDP	C2-N1-C6	-2.17	121.10	125.10
37	KK	501	GTP	PA-O3A-PB	-2.17	125.39	132.83
37	IG	501	GTP	O3G-PG-O3B	2.17	111.90	104.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	DE	501	GTP	O4'-C1'-C2'	-2.17	103.76	106.93
39	EN	502	GDP	C8-N7-C5	2.17	107.11	102.99
39	TH	502	GDP	C5-C6-N1	2.16	117.78	113.95
37	MM	501	GTP	O3G-PG-O3B	2.16	111.88	104.64
37	BI	501	GTP	C3'-C2'-C1'	2.16	104.23	100.98
39	RL	502	GDP	C8-N7-C5	2.16	107.10	102.99
37	RE	501	GTP	C3'-C2'-C1'	2.15	104.22	100.98
39	BB	502	GDP	C8-N7-C5	2.15	107.09	102.99
37	NG	501	GTP	N1-C2-N3	-2.15	119.30	123.32
39	LF	502	GDP	C8-N7-C5	2.15	107.09	102.99
37	BG	501	GTP	O3G-PG-O3B	2.15	111.85	104.64
39	WB	502	GDP	C3'-C2'-C1'	2.15	104.21	100.98
37	EG	501	GTP	O6-C6-N1	-2.15	118.11	120.65
39	JN	502	GDP	C8-N7-C5	2.15	107.08	102.99
37	VC	501	GTP	O6-C6-C5	-2.15	120.18	124.37
37	TI	501	GTP	PA-O3A-PB	-2.15	125.46	132.83
37	NC	501	GTP	O6-C6-C5	-2.15	120.18	124.37
39	VH	502	GDP	O3B-PB-O3A	2.15	111.83	104.64
39	CH	502	GDP	C2-N1-C6	-2.15	121.15	125.10
39	KD	502	GDP	C8-N7-C5	2.14	107.08	102.99
39	UD	502	GDP	C3'-C2'-C1'	2.14	104.21	100.98
39	MF	502	GDP	C8-N7-C5	2.14	107.07	102.99
39	SB	502	GDP	C8-N7-C5	2.14	107.07	102.99
39	WF	502	GDP	C3'-C2'-C1'	2.14	104.20	100.98
37	LC	501	GTP	O6-C6-C5	-2.14	120.19	124.37
37	HO	501	GTP	C3'-C2'-C1'	2.14	104.20	100.98
39	FJ	502	GDP	O4'-C1'-C2'	-2.14	103.80	106.93
39	HN	502	GDP	O6-C6-C5	-2.14	120.20	124.37
39	NF	502	GDP	C5-C6-N1	2.14	117.73	113.95
39	FF	502	GDP	C8-N7-C5	2.14	107.06	102.99
37	TG	501	GTP	PA-O3A-PB	-2.14	125.50	132.83
39	LL	502	GDP	C2-N1-C6	-2.14	121.17	125.10
39	AB	502	GDP	O2B-PB-O3A	2.14	111.80	104.64
37	NG	501	GTP	C2-N1-C6	-2.13	121.17	125.10
37	MK	501	GTP	O4'-C1'-C2'	-2.13	103.81	106.93
39	QD	502	GDP	C5-C6-N1	2.13	117.72	113.95
39	CB	502	GDP	O6-C6-C5	-2.13	120.21	124.37
37	FM	501	GTP	O3G-PG-O3B	2.13	111.79	104.64
37	KG	501	GTP	N1-C2-N3	-2.13	119.34	123.32
39	OL	502	GDP	O2B-PB-O3A	2.13	111.78	104.64
39	SJ	502	GDP	C2'-C3'-C4'	2.13	106.78	102.64
39	OF	502	GDP	C8-N7-C5	2.13	107.04	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	CC	501	GTP	O6-C6-C5	-2.13	120.22	124.37
39	OH	502	GDP	C8-N7-C5	2.13	107.04	102.99
39	JF	502	GDP	C3'-C2'-C1'	2.13	104.18	100.98
37	DK	501	GTP	O3G-PG-O3B	2.12	111.76	104.64
37	TE	501	GTP	O6-C6-C5	-2.12	120.22	124.37
37	PG	501	GTP	O3G-PG-O3B	2.12	111.75	104.64
37	PA	501	GTP	O3G-PG-O3B	2.12	111.75	104.64
39	NF	502	GDP	C2'-C3'-C4'	2.12	106.76	102.64
39	FH	502	GDP	O3B-PB-O3A	2.12	111.75	104.64
39	SB	502	GDP	C2'-C3'-C4'	2.12	106.76	102.64
37	QI	501	GTP	O6-C6-C5	-2.12	120.23	124.37
37	II	501	GTP	PB-O3B-PG	-2.12	125.56	132.83
39	JL	502	GDP	C8-N7-C5	2.12	107.02	102.99
37	QE	501	GTP	O6-C6-C5	-2.12	120.24	124.37
37	EI	501	GTP	O6-C6-C5	-2.11	120.24	124.37
39	RJ	502	GDP	C2'-C3'-C4'	2.11	106.75	102.64
39	WD	502	GDP	C5-C6-N1	2.11	117.68	113.95
39	NB	502	GDP	C3'-C2'-C1'	2.11	104.16	100.98
39	JB	502	GDP	C5-C6-N1	2.11	117.68	113.95
39	EH	502	GDP	O6-C6-C5	-2.11	120.25	124.37
37	JK	501	GTP	C5'-C4'-C3'	-2.11	107.28	115.18
37	IE	501	GTP	O2G-PG-O3B	2.11	111.70	104.64
37	FK	501	GTP	O3'-C3'-C2'	-2.11	105.01	111.82
39	BH	502	GDP	O6-C6-C5	-2.11	120.26	124.37
39	JD	502	GDP	O3B-PB-O3A	2.11	111.69	104.64
37	TM	501	GTP	PA-O3A-PB	-2.10	125.61	132.83
39	HD	502	GDP	C8-N7-C5	2.10	106.99	102.99
37	FI	501	GTP	N2-C2-N1	2.10	121.18	116.71
39	FJ	502	GDP	O5'-C5'-C4'	2.10	116.21	108.99
37	IM	501	GTP	O6-C6-C5	-2.10	120.28	124.37
37	TM	501	GTP	PB-O3B-PG	-2.10	125.63	132.83
37	UI	501	GTP	O6-C6-C5	-2.10	120.28	124.37
37	QI	501	GTP	N2-C2-N1	2.10	121.18	116.71
39	IF	502	GDP	O3B-PB-O3A	2.09	111.66	104.64
37	NG	501	GTP	PB-O3B-PG	-2.09	125.64	132.83
39	HD	502	GDP	O6-C6-C5	-2.09	120.28	124.37
39	TF	502	GDP	C5-C6-N1	2.09	117.65	113.95
39	JD	502	GDP	O6-C6-C5	-2.09	120.29	124.37
37	HG	501	GTP	O6-C6-C5	-2.09	120.29	124.37
39	TD	502	GDP	C5-C6-N1	2.09	117.64	113.95
39	SD	502	GDP	C8-N7-C5	2.09	106.97	102.99
39	OF	502	GDP	C2'-C3'-C4'	2.09	106.70	102.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
39	JL	502	GDP	O2B-PB-O3A	2.08	111.63	104.64
39	LH	502	GDP	C8-N7-C5	2.08	106.96	102.99
37	NA	501	GTP	C2-N1-C6	-2.08	121.26	125.10
39	WL	502	GDP	C2-N1-C6	-2.08	121.26	125.10
37	OG	501	GTP	O3G-PG-O3B	2.08	111.62	104.64
37	FM	501	GTP	O3'-C3'-C2'	-2.08	105.09	111.82
39	DH	502	GDP	C5-C6-N1	2.08	117.63	113.95
39	KB	502	GDP	C8-N7-C5	2.08	106.95	102.99
39	KH	502	GDP	O3B-PB-O3A	2.08	111.61	104.64
39	ID	502	GDP	C5-C6-N1	2.08	117.62	113.95
39	JL	502	GDP	C2-N1-C6	-2.08	121.27	125.10
37	FE	501	GTP	O6-C6-N1	-2.08	118.20	120.65
37	BK	501	GTP	C3'-C2'-C1'	2.08	104.11	100.98
37	RC	501	GTP	C2'-C3'-C4'	2.08	106.68	102.64
37	TM	501	GTP	C2'-C3'-C4'	2.08	106.68	102.64
39	WD	502	GDP	N2-C2-N1	2.07	121.13	116.71
39	SF	502	GDP	C2'-C3'-C4'	2.07	106.67	102.64
39	JJ	502	GDP	O6-C6-C5	-2.07	120.33	124.37
39	MN	502	GDP	O2B-PB-O3A	2.07	111.58	104.64
37	II	501	GTP	N2-C2-N1	2.07	121.12	116.71
39	PD	502	GDP	C3'-C2'-C1'	2.07	104.09	100.98
39	MH	502	GDP	C8-N7-C5	2.07	106.93	102.99
37	VG	501	GTP	O6-C6-C5	-2.07	120.33	124.37
39	DJ	502	GDP	O3B-PB-O3A	2.07	111.57	104.64
37	QG	501	GTP	C3'-C2'-C1'	2.07	104.09	100.98
37	QA	501	GTP	O5'-C5'-C4'	2.07	116.11	108.99
39	IL	502	GDP	O3B-PB-O3A	2.07	111.56	104.64
39	FJ	502	GDP	C2-N1-C6	-2.06	121.30	125.10
39	KN	502	GDP	O6-C6-C5	-2.06	120.34	124.37
39	LJ	502	GDP	C2-N1-C6	-2.06	121.30	125.10
37	VK	501	GTP	O6-C6-C5	-2.06	120.35	124.37
37	PG	501	GTP	N1-C2-N3	-2.06	119.47	123.32
39	EF	502	GDP	C8-N7-C5	2.06	106.91	102.99
37	DG	501	GTP	C3'-C2'-C1'	2.06	104.08	100.98
39	CJ	502	GDP	O2B-PB-O3A	2.06	111.53	104.64
39	AL	502	GDP	O6-C6-C5	-2.06	120.36	124.37
37	JE	501	GTP	O6-C6-C5	-2.05	120.36	124.37
37	KM	501	GTP	O4'-C1'-C2'	-2.05	103.92	106.93
39	SF	502	GDP	C8-N7-C5	2.05	106.90	102.99
37	MI	501	GTP	C3'-C2'-C1'	-2.05	97.89	100.98
39	SL	502	GDP	C3'-C2'-C1'	2.05	104.07	100.98
39	GN	502	GDP	C3'-C2'-C1'	2.05	104.06	100.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	QC	501	GTP	O4'-C1'-C2'	-2.05	103.93	106.93
39	QL	502	GDP	C2-N1-C6	-2.05	121.33	125.10
39	EJ	502	GDP	C5-C6-N1	2.05	117.57	113.95
37	IM	501	GTP	PB-O3B-PG	-2.05	125.80	132.83
37	RK	501	GTP	C2'-C3'-C4'	2.05	106.62	102.64
39	DL	502	GDP	C3'-C2'-C1'	2.05	104.06	100.98
39	DB	502	GDP	O3B-PB-O3A	2.04	111.49	104.64
39	IN	502	GDP	O6-C6-C5	-2.04	120.38	124.37
37	FM	501	GTP	N1-C2-N3	-2.04	119.50	123.32
37	QA	501	GTP	O6-C6-C5	-2.04	120.39	124.37
39	FL	502	GDP	C8-N7-C5	2.04	106.88	102.99
37	NA	501	GTP	N1-C2-N3	-2.04	119.51	123.32
39	GB	502	GDP	C3'-C2'-C1'	2.04	104.05	100.98
37	TG	501	GTP	C2'-C3'-C4'	2.04	106.60	102.64
37	TM	501	GTP	O3G-PG-O3B	2.03	111.45	104.64
39	AH	502	GDP	C2-N1-C6	-2.03	121.35	125.10
39	FJ	502	GDP	C2'-C3'-C4'	2.03	106.59	102.64
39	PH	502	GDP	C3'-C2'-C1'	2.03	104.04	100.98
39	AJ	502	GDP	C2-N1-C6	-2.03	121.36	125.10
37	GC	501	GTP	N2-C2-N1	2.03	121.04	116.71
37	DI	501	GTP	O3G-PG-O3B	2.03	111.44	104.64
39	SD	502	GDP	C3'-C2'-C1'	2.03	104.03	100.98
37	IC	501	GTP	O6-C6-C5	-2.03	120.41	124.37
39	KJ	502	GDP	C2-N1-C6	-2.03	121.36	125.10
39	OH	502	GDP	O6-C6-C5	-2.03	120.41	124.37
37	WK	501	GTP	C3'-C2'-C1'	2.03	104.03	100.98
39	CJ	502	GDP	C2-N1-C6	-2.02	121.37	125.10
37	JM	501	GTP	C5'-C4'-C3'	-2.02	107.59	115.18
37	MG	501	GTP	O4'-C1'-C2'	-2.02	103.97	106.93
37	TC	501	GTP	O6-C6-C5	-2.02	120.42	124.37
37	FE	501	GTP	N1-C2-N3	-2.02	119.54	123.32
37	QK	501	GTP	O3G-PG-O3B	2.02	111.42	104.64
39	KD	502	GDP	O6-C6-C5	-2.02	120.43	124.37
39	SF	502	GDP	O6-C6-C5	-2.02	120.43	124.37
39	KF	502	GDP	O6-C6-C5	-2.02	120.44	124.37
39	MH	502	GDP	O6-C6-C5	-2.02	120.44	124.37
39	VD	502	GDP	C2-N1-C6	-2.01	121.39	125.10
39	CF	502	GDP	C2-N1-C6	-2.01	121.39	125.10
39	BB	502	GDP	O2B-PB-O3A	2.01	111.38	104.64
39	PH	502	GDP	O2B-PB-O3A	2.01	111.38	104.64
39	WD	502	GDP	O2B-PB-O3A	2.01	111.38	104.64
39	KL	502	GDP	C8-N7-C5	2.01	106.81	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	EC	501	GTP	O6-C6-C5	-2.01	120.45	124.37
37	HI	501	GTP	O6-C6-C5	-2.01	120.46	124.37
39	ML	502	GDP	O2B-PB-O3A	2.00	111.35	104.64
39	IN	502	GDP	O4'-C1'-C2'	-2.00	104.00	106.93
37	UE	501	GTP	C3'-C2'-C1'	2.00	103.99	100.98
39	MJ	502	GDP	C8-N7-C5	2.00	106.80	102.99
39	EN	502	GDP	C5-C6-N1	2.00	117.48	113.95

There are no chirality outliers.

All (1189) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
37	AA	501	GTP	C5'-O5'-PA-O1A
37	AA	501	GTP	C5'-O5'-PA-O2A
37	AC	501	GTP	C5'-O5'-PA-O3A
37	AE	501	GTP	C5'-O5'-PA-O3A
37	AG	501	GTP	C5'-O5'-PA-O3A
37	AG	501	GTP	C5'-O5'-PA-O1A
37	AG	501	GTP	C5'-O5'-PA-O2A
37	AK	501	GTP	C5'-O5'-PA-O1A
37	AM	501	GTP	C5'-O5'-PA-O3A
37	BA	501	GTP	C5'-O5'-PA-O1A
37	BA	501	GTP	C5'-O5'-PA-O2A
37	BC	501	GTP	C5'-O5'-PA-O1A
37	BC	501	GTP	C5'-O5'-PA-O2A
37	BE	501	GTP	C5'-O5'-PA-O3A
37	BE	501	GTP	C5'-O5'-PA-O1A
37	BE	501	GTP	C5'-O5'-PA-O2A
37	BG	501	GTP	C5'-O5'-PA-O1A
37	BG	501	GTP	C5'-O5'-PA-O2A
37	BG	501	GTP	O4'-C4'-C5'-O5'
37	BI	501	GTP	PB-O3B-PG-O2G
37	BI	501	GTP	PB-O3B-PG-O3G
37	BK	501	GTP	C5'-O5'-PA-O1A
37	BK	501	GTP	C5'-O5'-PA-O2A
37	BM	501	GTP	C5'-O5'-PA-O3A
37	CA	501	GTP	C5'-O5'-PA-O3A
37	CC	501	GTP	C5'-O5'-PA-O1A
37	CE	501	GTP	C5'-O5'-PA-O1A
37	CI	501	GTP	PB-O3B-PG-O3G
37	CI	501	GTP	C5'-O5'-PA-O1A
37	CK	501	GTP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
37	CK	501	GTP	C5'-O5'-PA-O2A
37	CM	501	GTP	C5'-O5'-PA-O1A
37	DC	501	GTP	C5'-O5'-PA-O1A
37	DC	501	GTP	C5'-O5'-PA-O2A
37	DE	501	GTP	C5'-O5'-PA-O1A
37	DE	501	GTP	C5'-O5'-PA-O2A
37	DE	501	GTP	C3'-C4'-C5'-O5'
37	DG	501	GTP	C5'-O5'-PA-O3A
37	DG	501	GTP	C5'-O5'-PA-O2A
37	DG	501	GTP	C4'-C5'-O5'-PA
37	DG	501	GTP	C3'-C4'-C5'-O5'
37	DI	501	GTP	C5'-O5'-PA-O1A
37	DI	501	GTP	C5'-O5'-PA-O2A
37	DI	501	GTP	O4'-C4'-C5'-O5'
37	DI	501	GTP	C3'-C4'-C5'-O5'
37	EC	501	GTP	C5'-O5'-PA-O1A
37	EC	501	GTP	C5'-O5'-PA-O2A
37	EC	501	GTP	C3'-C4'-C5'-O5'
37	EE	501	GTP	PB-O3B-PG-O3G
37	EE	501	GTP	C5'-O5'-PA-O1A
37	EG	501	GTP	C5'-O5'-PA-O1A
37	EG	501	GTP	C5'-O5'-PA-O2A
37	EG	501	GTP	C3'-C4'-C5'-O5'
37	EI	501	GTP	PB-O3B-PG-O3G
37	EI	501	GTP	C5'-O5'-PA-O3A
37	EI	501	GTP	C5'-O5'-PA-O2A
37	EK	501	GTP	C5'-O5'-PA-O3A
37	EK	501	GTP	C5'-O5'-PA-O2A
37	EK	501	GTP	O4'-C4'-C5'-O5'
37	EK	501	GTP	C3'-C4'-C5'-O5'
37	EM	501	GTP	PB-O3B-PG-O3G
37	FC	501	GTP	C5'-O5'-PA-O1A
37	FC	501	GTP	C5'-O5'-PA-O2A
37	FC	501	GTP	O4'-C4'-C5'-O5'
37	FC	501	GTP	C3'-C4'-C5'-O5'
37	FE	501	GTP	C5'-O5'-PA-O1A
37	FE	501	GTP	C3'-C4'-C5'-O5'
37	FG	501	GTP	O4'-C4'-C5'-O5'
37	FG	501	GTP	C3'-C4'-C5'-O5'
37	FK	501	GTP	C5'-O5'-PA-O2A
37	FK	501	GTP	O4'-C4'-C5'-O5'
37	FK	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
37	FM	501	GTP	O4'-C4'-C5'-O5'
37	FM	501	GTP	C3'-C4'-C5'-O5'
37	GC	501	GTP	C5'-O5'-PA-O1A
37	GC	501	GTP	C3'-C4'-C5'-O5'
37	GE	501	GTP	C5'-O5'-PA-O1A
37	GE	501	GTP	C5'-O5'-PA-O2A
37	GG	501	GTP	O4'-C4'-C5'-O5'
37	GG	501	GTP	C3'-C4'-C5'-O5'
37	GI	501	GTP	C5'-O5'-PA-O3A
37	GI	501	GTP	O4'-C4'-C5'-O5'
37	GI	501	GTP	C3'-C4'-C5'-O5'
37	GM	501	GTP	C5'-O5'-PA-O1A
37	HC	501	GTP	C5'-O5'-PA-O2A
37	HE	501	GTP	C5'-O5'-PA-O1A
37	HE	501	GTP	C5'-O5'-PA-O2A
37	HE	501	GTP	C3'-C4'-C5'-O5'
37	HG	501	GTP	C5'-O5'-PA-O2A
37	HI	501	GTP	C5'-O5'-PA-O1A
37	HK	501	GTP	O4'-C4'-C5'-O5'
37	HK	501	GTP	C3'-C4'-C5'-O5'
37	HO	501	GTP	C5'-O5'-PA-O3A
37	HO	501	GTP	C5'-O5'-PA-O1A
37	HO	501	GTP	C5'-O5'-PA-O2A
37	IC	501	GTP	C5'-O5'-PA-O1A
37	IC	501	GTP	C5'-O5'-PA-O2A
37	IC	501	GTP	C3'-C4'-C5'-O5'
37	IE	501	GTP	O4'-C4'-C5'-O5'
37	IG	501	GTP	C5'-O5'-PA-O3A
37	IK	501	GTP	C3'-C4'-C5'-O5'
37	IM	501	GTP	C5'-O5'-PA-O1A
37	IO	501	GTP	C3'-C4'-C5'-O5'
37	JE	501	GTP	O4'-C4'-C5'-O5'
37	JG	501	GTP	C5'-O5'-PA-O3A
37	JG	501	GTP	O4'-C4'-C5'-O5'
37	JG	501	GTP	C3'-C4'-C5'-O5'
37	JI	501	GTP	C5'-O5'-PA-O3A
37	JI	501	GTP	C3'-C4'-C5'-O5'
37	JK	501	GTP	C3'-C4'-C5'-O5'
37	JM	501	GTP	C5'-O5'-PA-O3A
37	JM	501	GTP	C5'-O5'-PA-O1A
37	KC	501	GTP	PB-O3B-PG-O3G
37	KC	501	GTP	C5'-O5'-PA-O2A

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Mol	Chain	Res	Type	Atoms
37	KC	501	GTP	C3'-C4'-C5'-O5'
37	KE	501	GTP	C5'-O5'-PA-O1A
37	KG	501	GTP	C5'-O5'-PA-O3A
37	KG	501	GTP	C5'-O5'-PA-O1A
37	KI	501	GTP	PB-O3B-PG-O2G
37	KI	501	GTP	PB-O3B-PG-O3G
37	KI	501	GTP	C5'-O5'-PA-O1A
37	KI	501	GTP	C5'-O5'-PA-O2A
37	KK	501	GTP	C5'-O5'-PA-O1A
37	KK	501	GTP	C5'-O5'-PA-O2A
37	KO	501	GTP	C5'-O5'-PA-O3A
37	KO	501	GTP	C5'-O5'-PA-O2A
37	LE	501	GTP	C5'-O5'-PA-O3A
37	LE	501	GTP	C5'-O5'-PA-O2A
37	LE	501	GTP	O4'-C4'-C5'-O5'
37	LE	501	GTP	C3'-C4'-C5'-O5'
37	LG	501	GTP	C5'-O5'-PA-O3A
37	LI	501	GTP	C5'-O5'-PA-O1A
37	LI	501	GTP	C5'-O5'-PA-O2A
37	LK	501	GTP	C5'-O5'-PA-O3A
37	LK	501	GTP	C5'-O5'-PA-O2A
37	LM	501	GTP	C5'-O5'-PA-O3A
37	LM	501	GTP	C5'-O5'-PA-O2A
37	MC	501	GTP	C5'-O5'-PA-O3A
37	MC	501	GTP	C5'-O5'-PA-O2A
37	ME	501	GTP	O4'-C4'-C5'-O5'
37	ME	501	GTP	C3'-C4'-C5'-O5'
37	MG	501	GTP	C5'-O5'-PA-O1A
37	MG	501	GTP	C5'-O5'-PA-O2A
37	MI	501	GTP	C5'-O5'-PA-O1A
37	MI	501	GTP	C5'-O5'-PA-O2A
37	MI	501	GTP	O4'-C4'-C5'-O5'
37	MI	501	GTP	C3'-C4'-C5'-O5'
37	MK	501	GTP	C5'-O5'-PA-O1A
37	MK	501	GTP	C3'-C4'-C5'-O5'
37	MM	501	GTP	C5'-O5'-PA-O3A
37	MM	501	GTP	C4'-C5'-O5'-PA
37	MM	501	GTP	C3'-C4'-C5'-O5'
37	NA	501	GTP	C5'-O5'-PA-O1A
37	NA	501	GTP	C3'-C4'-C5'-O5'
37	NC	501	GTP	C5'-O5'-PA-O1A
37	NC	501	GTP	C5'-O5'-PA-O2A

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Mol	Chain	Res	Type	Atoms
37	NC	501	GTP	O4'-C4'-C5'-O5'
37	NC	501	GTP	C3'-C4'-C5'-O5'
37	NE	501	GTP	C5'-O5'-PA-O1A
37	NE	501	GTP	C3'-C4'-C5'-O5'
37	NI	501	GTP	C5'-O5'-PA-O1A
37	NI	501	GTP	C5'-O5'-PA-O2A
37	OA	501	GTP	C3'-C4'-C5'-O5'
37	OC	501	GTP	C5'-O5'-PA-O2A
37	OC	501	GTP	O4'-C4'-C5'-O5'
37	OC	501	GTP	C3'-C4'-C5'-O5'
37	OE	501	GTP	C5'-O5'-PA-O1A
37	OE	501	GTP	C3'-C4'-C5'-O5'
37	OI	501	GTP	C5'-O5'-PA-O3A
37	OI	501	GTP	C5'-O5'-PA-O1A
37	OI	501	GTP	C5'-O5'-PA-O2A
37	OK	501	GTP	C3'-C4'-C5'-O5'
37	PA	501	GTP	C5'-O5'-PA-O3A
37	PE	501	GTP	C5'-O5'-PA-O1A
37	PE	501	GTP	C5'-O5'-PA-O2A
37	PE	501	GTP	C3'-C4'-C5'-O5'
37	PG	501	GTP	C5'-O5'-PA-O3A
37	PG	501	GTP	C5'-O5'-PA-O1A
37	PG	501	GTP	O4'-C4'-C5'-O5'
37	PG	501	GTP	C3'-C4'-C5'-O5'
37	PI	501	GTP	C5'-O5'-PA-O3A
37	PK	501	GTP	PB-O3B-PG-O2G
37	PK	501	GTP	PB-O3B-PG-O3G
37	PK	501	GTP	C5'-O5'-PA-O3A
37	PK	501	GTP	C5'-O5'-PA-O1A
37	PK	501	GTP	C3'-C4'-C5'-O5'
37	PM	501	GTP	C5'-O5'-PA-O1A
37	QA	501	GTP	O4'-C4'-C5'-O5'
37	QA	501	GTP	C3'-C4'-C5'-O5'
37	QC	501	GTP	C3'-C4'-C5'-O5'
37	QE	501	GTP	C5'-O5'-PA-O3A
37	QG	501	GTP	C5'-O5'-PA-O1A
37	QG	501	GTP	C5'-O5'-PA-O2A
37	QI	501	GTP	C5'-O5'-PA-O3A
37	QK	501	GTP	PB-O3B-PG-O2G
37	QK	501	GTP	PB-O3B-PG-O3G
37	QK	501	GTP	C5'-O5'-PA-O3A
37	QK	501	GTP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
37	QK	501	GTP	O4'-C4'-C5'-O5'
37	QK	501	GTP	C3'-C4'-C5'-O5'
37	RA	501	GTP	C5'-O5'-PA-O1A
37	RA	501	GTP	C5'-O5'-PA-O2A
37	RA	501	GTP	C3'-C4'-C5'-O5'
37	RC	501	GTP	C5'-O5'-PA-O1A
37	RC	501	GTP	C5'-O5'-PA-O2A
37	RC	501	GTP	O4'-C4'-C5'-O5'
37	RC	501	GTP	C3'-C4'-C5'-O5'
37	RE	501	GTP	C5'-O5'-PA-O3A
37	RE	501	GTP	C5'-O5'-PA-O2A
37	RG	501	GTP	C5'-O5'-PA-O2A
37	RI	501	GTP	C5'-O5'-PA-O1A
37	RI	501	GTP	C5'-O5'-PA-O2A
37	RK	501	GTP	C5'-O5'-PA-O3A
37	RM	501	GTP	C5'-O5'-PA-O3A
37	SA	501	GTP	C5'-O5'-PA-O3A
37	SA	501	GTP	C5'-O5'-PA-O1A
37	SC	501	GTP	O4'-C4'-C5'-O5'
37	SE	501	GTP	C5'-O5'-PA-O1A
37	SE	501	GTP	C5'-O5'-PA-O2A
37	SG	501	GTP	C5'-O5'-PA-O3A
37	SI	501	GTP	C5'-O5'-PA-O3A
37	SK	501	GTP	PB-O3B-PG-O3G
37	SK	501	GTP	O4'-C4'-C5'-O5'
37	SK	501	GTP	C3'-C4'-C5'-O5'
37	SM	501	GTP	C5'-O5'-PA-O3A
37	SM	501	GTP	C5'-O5'-PA-O1A
37	SM	501	GTP	C5'-O5'-PA-O2A
37	SM	501	GTP	O4'-C4'-C5'-O5'
37	SM	501	GTP	C3'-C4'-C5'-O5'
37	TC	501	GTP	PB-O3B-PG-O3G
37	TC	501	GTP	O4'-C4'-C5'-O5'
37	TG	501	GTP	C5'-O5'-PA-O3A
37	TG	501	GTP	C5'-O5'-PA-O2A
37	TK	501	GTP	C5'-O5'-PA-O3A
37	TK	501	GTP	C5'-O5'-PA-O2A
37	UC	501	GTP	O4'-C4'-C5'-O5'
37	UC	501	GTP	C3'-C4'-C5'-O5'
37	UE	501	GTP	C5'-O5'-PA-O1A
37	UE	501	GTP	C5'-O5'-PA-O2A
37	UG	501	GTP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
37	UG	501	GTP	C5'-O5'-PA-O2A
37	UI	501	GTP	C5'-O5'-PA-O1A
37	VC	501	GTP	C5'-O5'-PA-O1A
37	VC	501	GTP	C5'-O5'-PA-O2A
37	VC	501	GTP	O4'-C4'-C5'-O5'
37	VE	501	GTP	C3'-C4'-C5'-O5'
37	VI	501	GTP	C5'-O5'-PA-O1A
37	VI	501	GTP	C5'-O5'-PA-O2A
37	VK	501	GTP	PB-O3B-PG-O3G
37	VK	501	GTP	PB-O3A-PA-O5'
37	VM	501	GTP	C3'-C4'-C5'-O5'
37	WE	501	GTP	C5'-O5'-PA-O1A
37	WG	501	GTP	C5'-O5'-PA-O1A
37	WG	501	GTP	C5'-O5'-PA-O2A
37	WI	501	GTP	C5'-O5'-PA-O1A
37	WI	501	GTP	C5'-O5'-PA-O2A
37	WI	501	GTP	O4'-C4'-C5'-O5'
37	WI	501	GTP	C3'-C4'-C5'-O5'
37	WK	501	GTP	C5'-O5'-PA-O1A
37	WK	501	GTP	C5'-O5'-PA-O2A
37	WM	501	GTP	C5'-O5'-PA-O1A
37	WM	501	GTP	C5'-O5'-PA-O2A
39	AB	502	GDP	C5'-O5'-PA-O3A
39	AD	502	GDP	C5'-O5'-PA-O1A
39	AD	502	GDP	C3'-C4'-C5'-O5'
39	AF	502	GDP	C5'-O5'-PA-O3A
39	AF	502	GDP	C5'-O5'-PA-O2A
39	AJ	502	GDP	C5'-O5'-PA-O3A
39	AJ	502	GDP	C5'-O5'-PA-O2A
39	BB	502	GDP	C5'-O5'-PA-O3A
39	BB	502	GDP	C5'-O5'-PA-O2A
39	BB	502	GDP	O4'-C4'-C5'-O5'
39	BB	502	GDP	C3'-C4'-C5'-O5'
39	BD	502	GDP	PA-O3A-PB-O2B
39	BD	502	GDP	C5'-O5'-PA-O3A
39	BD	502	GDP	C5'-O5'-PA-O1A
39	BF	502	GDP	C5'-O5'-PA-O3A
39	BF	502	GDP	C5'-O5'-PA-O2A
39	BH	502	GDP	C5'-O5'-PA-O3A
39	BH	502	GDP	O4'-C4'-C5'-O5'
39	BH	502	GDP	C3'-C4'-C5'-O5'
39	BJ	502	GDP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
39	BJ	502	GDP	C5'-O5'-PA-O2A
39	BL	502	GDP	C5'-O5'-PA-O1A
39	CB	502	GDP	O4'-C4'-C5'-O5'
39	CB	502	GDP	C3'-C4'-C5'-O5'
39	CD	502	GDP	C5'-O5'-PA-O1A
39	CF	502	GDP	C5'-O5'-PA-O3A
39	CF	502	GDP	C5'-O5'-PA-O1A
39	CJ	502	GDP	C5'-O5'-PA-O1A
39	CJ	502	GDP	C5'-O5'-PA-O2A
39	CL	502	GDP	PA-O3A-PB-O2B
39	CL	502	GDP	C5'-O5'-PA-O3A
39	CL	502	GDP	C5'-O5'-PA-O1A
39	DD	502	GDP	PA-O3A-PB-O3B
39	DD	502	GDP	C5'-O5'-PA-O2A
39	DD	502	GDP	O4'-C4'-C5'-O5'
39	DF	502	GDP	C5'-O5'-PA-O3A
39	DF	502	GDP	C5'-O5'-PA-O1A
39	DF	502	GDP	C5'-O5'-PA-O2A
39	DF	502	GDP	O4'-C4'-C5'-O5'
39	DH	502	GDP	PA-O3A-PB-O2B
39	DH	502	GDP	PA-O3A-PB-O3B
39	DJ	502	GDP	C5'-O5'-PA-O1A
39	DL	502	GDP	C3'-C4'-C5'-O5'
39	DN	502	GDP	C5'-O5'-PA-O1A
39	EB	502	GDP	O4'-C4'-C5'-O5'
39	EB	502	GDP	C3'-C4'-C5'-O5'
39	ED	502	GDP	PA-O3A-PB-O3B
39	ED	502	GDP	C5'-O5'-PA-O3A
39	EF	502	GDP	PA-O3A-PB-O3B
39	EH	502	GDP	C5'-O5'-PA-O3A
39	EH	502	GDP	C5'-O5'-PA-O2A
39	EH	502	GDP	O4'-C4'-C5'-O5'
39	EJ	502	GDP	C5'-O5'-PA-O1A
39	EL	502	GDP	PA-O3A-PB-O2B
39	EN	502	GDP	PA-O3A-PB-O2B
39	EN	502	GDP	PA-O3A-PB-O3B
39	FB	502	GDP	C5'-O5'-PA-O1A
39	FD	502	GDP	C5'-O5'-PA-O3A
39	FH	502	GDP	O4'-C4'-C5'-O5'
39	FH	502	GDP	C3'-C4'-C5'-O5'
39	FJ	502	GDP	C5'-O5'-PA-O1A
39	FL	502	GDP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
39	FL	502	GDP	C5'-O5'-PA-O2A
39	GB	502	GDP	C5'-O5'-PA-O3A
39	GF	502	GDP	C5'-O5'-PA-O1A
39	GF	502	GDP	C5'-O5'-PA-O2A
39	GF	502	GDP	C3'-C4'-C5'-O5'
39	GH	502	GDP	C5'-O5'-PA-O3A
39	GH	502	GDP	C5'-O5'-PA-O2A
39	GJ	502	GDP	C5'-O5'-PA-O3A
39	GL	502	GDP	C5'-O5'-PA-O1A
39	GN	502	GDP	C5'-O5'-PA-O3A
39	GN	502	GDP	C3'-C4'-C5'-O5'
39	HD	502	GDP	C5'-O5'-PA-O3A
39	HH	502	GDP	C5'-O5'-PA-O1A
39	HH	502	GDP	C5'-O5'-PA-O2A
39	HJ	502	GDP	C5'-O5'-PA-O3A
39	HL	502	GDP	PA-O3A-PB-O2B
39	IB	502	GDP	C5'-O5'-PA-O1A
39	IB	502	GDP	C5'-O5'-PA-O2A
39	ID	502	GDP	C5'-O5'-PA-O2A
39	IH	502	GDP	C5'-O5'-PA-O2A
39	IH	502	GDP	O4'-C4'-C5'-O5'
39	IH	502	GDP	C3'-C4'-C5'-O5'
39	IJ	502	GDP	C5'-O5'-PA-O3A
39	IN	502	GDP	C5'-O5'-PA-O1A
39	IN	502	GDP	C5'-O5'-PA-O2A
39	JB	502	GDP	C5'-O5'-PA-O1A
39	JH	502	GDP	O4'-C4'-C5'-O5'
39	JL	502	GDP	C3'-C4'-C5'-O5'
39	JN	502	GDP	PA-O3A-PB-O2B
39	KB	502	GDP	C5'-O5'-PA-O3A
39	KB	502	GDP	C5'-O5'-PA-O1A
39	KD	502	GDP	C5'-O5'-PA-O3A
39	KD	502	GDP	C5'-O5'-PA-O1A
39	KF	502	GDP	C5'-O5'-PA-O3A
39	KF	502	GDP	C5'-O5'-PA-O1A
39	KH	502	GDP	C5'-O5'-PA-O3A
39	KH	502	GDP	C5'-O5'-PA-O1A
39	KJ	502	GDP	C5'-O5'-PA-O1A
39	KJ	502	GDP	C5'-O5'-PA-O2A
39	KN	502	GDP	C5'-O5'-PA-O1A
39	KN	502	GDP	C5'-O5'-PA-O2A
39	LD	502	GDP	PA-O3A-PB-O3B

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Mol	Chain	Res	Type	Atoms
39	LD	502	GDP	C5'-O5'-PA-O1A
39	LD	502	GDP	C5'-O5'-PA-O2A
39	LD	502	GDP	O4'-C4'-C5'-O5'
39	LF	502	GDP	C5'-O5'-PA-O1A
39	LH	502	GDP	C5'-O5'-PA-O3A
39	LH	502	GDP	C5'-O5'-PA-O1A
39	LH	502	GDP	C3'-C4'-C5'-O5'
39	LJ	502	GDP	C5'-O5'-PA-O1A
39	LJ	502	GDP	C5'-O5'-PA-O2A
39	LJ	502	GDP	O4'-C4'-C5'-O5'
39	LJ	502	GDP	C3'-C4'-C5'-O5'
39	LL	502	GDP	C5'-O5'-PA-O3A
39	LN	502	GDP	C5'-O5'-PA-O1A
39	LN	502	GDP	C5'-O5'-PA-O2A
39	MD	502	GDP	PA-O3A-PB-O3B
39	MF	502	GDP	C5'-O5'-PA-O1A
39	MH	502	GDP	C5'-O5'-PA-O1A
39	ML	502	GDP	PA-O3A-PB-O3B
39	MN	502	GDP	C5'-O5'-PA-O3A
39	N0	502	GDP	PA-O3A-PB-O2B
39	N0	502	GDP	C5'-O5'-PA-O1A
39	NB	502	GDP	C5'-O5'-PA-O1A
39	NB	502	GDP	C5'-O5'-PA-O2A
39	ND	502	GDP	C5'-O5'-PA-O3A
39	ND	502	GDP	C3'-C4'-C5'-O5'
39	NF	502	GDP	C5'-O5'-PA-O3A
39	NH	502	GDP	C5'-O5'-PA-O1A
39	NH	502	GDP	C5'-O5'-PA-O2A
39	NJ	502	GDP	C5'-O5'-PA-O3A
39	NL	502	GDP	C5'-O5'-PA-O1A
39	NL	502	GDP	C5'-O5'-PA-O2A
39	OB	502	GDP	C5'-O5'-PA-O1A
39	OB	502	GDP	C5'-O5'-PA-O2A
39	OF	502	GDP	C5'-O5'-PA-O3A
39	OF	502	GDP	C5'-O5'-PA-O2A
39	OH	502	GDP	C5'-O5'-PA-O1A
39	OJ	502	GDP	C5'-O5'-PA-O3A
39	OL	502	GDP	C5'-O5'-PA-O2A
39	PB	502	GDP	C5'-O5'-PA-O3A
39	PD	502	GDP	C5'-O5'-PA-O3A
39	PD	502	GDP	C5'-O5'-PA-O2A
39	PF	502	GDP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
39	PJ	502	GDP	C5'-O5'-PA-O3A
39	PL	502	GDP	C5'-O5'-PA-O1A
39	PL	502	GDP	C5'-O5'-PA-O2A
39	QB	502	GDP	PA-O3A-PB-O2B
39	QB	502	GDP	PA-O3A-PB-O3B
39	QB	502	GDP	C5'-O5'-PA-O1A
39	QB	502	GDP	C3'-C4'-C5'-O5'
39	QD	502	GDP	C5'-O5'-PA-O1A
39	QJ	502	GDP	PA-O3A-PB-O2B
39	QJ	502	GDP	PA-O3A-PB-O3B
39	RB	502	GDP	C5'-O5'-PA-O3A
39	RB	502	GDP	C5'-O5'-PA-O1A
39	RD	502	GDP	C5'-O5'-PA-O3A
39	RH	502	GDP	C5'-O5'-PA-O1A
39	RJ	502	GDP	C5'-O5'-PA-O3A
39	RJ	502	GDP	C5'-O5'-PA-O1A
39	RL	502	GDP	C5'-O5'-PA-O1A
39	SD	502	GDP	C5'-O5'-PA-O1A
39	SL	502	GDP	C5'-O5'-PA-O1A
39	TB	502	GDP	C5'-O5'-PA-O3A
39	TB	502	GDP	C5'-O5'-PA-O1A
39	TB	502	GDP	C3'-C4'-C5'-O5'
39	TD	502	GDP	C5'-O5'-PA-O3A
39	TD	502	GDP	C5'-O5'-PA-O1A
39	TH	502	GDP	C5'-O5'-PA-O3A
39	TJ	502	GDP	C5'-O5'-PA-O3A
39	TJ	502	GDP	C5'-O5'-PA-O1A
39	TL	502	GDP	C5'-O5'-PA-O1A
39	TL	502	GDP	C5'-O5'-PA-O2A
39	UB	502	GDP	C5'-O5'-PA-O2A
39	UB	502	GDP	O4'-C4'-C5'-O5'
39	UB	502	GDP	C3'-C4'-C5'-O5'
39	UD	502	GDP	C5'-O5'-PA-O3A
39	UF	502	GDP	C5'-O5'-PA-O2A
39	UH	502	GDP	C5'-O5'-PA-O1A
39	UH	502	GDP	C5'-O5'-PA-O2A
39	UJ	502	GDP	C5'-O5'-PA-O1A
39	UJ	502	GDP	C5'-O5'-PA-O2A
39	UL	502	GDP	C5'-O5'-PA-O3A
39	UL	502	GDP	C5'-O5'-PA-O2A
39	UN	502	GDP	PA-O3A-PB-O2B
39	VB	502	GDP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
39	VD	502	GDP	C5'-O5'-PA-O3A
39	VD	502	GDP	C5'-O5'-PA-O1A
39	VF	502	GDP	C5'-O5'-PA-O3A
39	VH	502	GDP	C5'-O5'-PA-O3A
39	VH	502	GDP	C5'-O5'-PA-O2A
39	VJ	502	GDP	C5'-O5'-PA-O2A
39	VL	502	GDP	C5'-O5'-PA-O1A
39	VL	502	GDP	C5'-O5'-PA-O2A
39	WD	502	GDP	C5'-O5'-PA-O3A
39	WH	502	GDP	C5'-O5'-PA-O3A
39	WJ	502	GDP	C5'-O5'-PA-O3A
39	WJ	502	GDP	C5'-O5'-PA-O1A
39	WJ	502	GDP	C3'-C4'-C5'-O5'
39	WL	502	GDP	C5'-O5'-PA-O3A
39	WL	502	GDP	C5'-O5'-PA-O2A
39	WN	502	GDP	PA-O3A-PB-O2B
39	WN	502	GDP	C5'-O5'-PA-O3A
39	WN	502	GDP	C5'-O5'-PA-O2A
39	WN	502	GDP	O4'-C4'-C5'-O5'
39	WN	502	GDP	C3'-C4'-C5'-O5'
37	BG	501	GTP	C3'-C4'-C5'-O5'
37	DE	501	GTP	O4'-C4'-C5'-O5'
37	DK	501	GTP	O4'-C4'-C5'-O5'
37	EC	501	GTP	O4'-C4'-C5'-O5'
37	EG	501	GTP	O4'-C4'-C5'-O5'
37	FE	501	GTP	O4'-C4'-C5'-O5'
37	GC	501	GTP	O4'-C4'-C5'-O5'
37	GK	501	GTP	C3'-C4'-C5'-O5'
37	IC	501	GTP	O4'-C4'-C5'-O5'
37	IE	501	GTP	C3'-C4'-C5'-O5'
37	JI	501	GTP	O4'-C4'-C5'-O5'
37	KC	501	GTP	O4'-C4'-C5'-O5'
37	MM	501	GTP	O4'-C4'-C5'-O5'
37	OA	501	GTP	O4'-C4'-C5'-O5'
37	OK	501	GTP	O4'-C4'-C5'-O5'
37	PK	501	GTP	O4'-C4'-C5'-O5'
37	QC	501	GTP	O4'-C4'-C5'-O5'
37	QM	501	GTP	O4'-C4'-C5'-O5'
37	QM	501	GTP	C3'-C4'-C5'-O5'
37	RA	501	GTP	O4'-C4'-C5'-O5'
37	SC	501	GTP	C3'-C4'-C5'-O5'
37	SE	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
37	TC	501	GTP	C3'-C4'-C5'-O5'
37	VC	501	GTP	C3'-C4'-C5'-O5'
39	CF	502	GDP	O4'-C4'-C5'-O5'
39	CF	502	GDP	C3'-C4'-C5'-O5'
39	CJ	502	GDP	C3'-C4'-C5'-O5'
39	DD	502	GDP	C3'-C4'-C5'-O5'
39	DL	502	GDP	O4'-C4'-C5'-O5'
39	EH	502	GDP	C3'-C4'-C5'-O5'
39	FN	502	GDP	O4'-C4'-C5'-O5'
39	GF	502	GDP	O4'-C4'-C5'-O5'
39	GN	502	GDP	O4'-C4'-C5'-O5'
39	HH	502	GDP	C3'-C4'-C5'-O5'
39	JH	502	GDP	C3'-C4'-C5'-O5'
39	LD	502	GDP	C3'-C4'-C5'-O5'
39	ND	502	GDP	O4'-C4'-C5'-O5'
39	QB	502	GDP	O4'-C4'-C5'-O5'
39	TB	502	GDP	O4'-C4'-C5'-O5'
39	VB	502	GDP	C3'-C4'-C5'-O5'
39	WJ	502	GDP	O4'-C4'-C5'-O5'
39	WL	502	GDP	C3'-C4'-C5'-O5'
37	BA	501	GTP	C4'-C5'-O5'-PA
37	BE	501	GTP	C4'-C5'-O5'-PA
37	EI	501	GTP	C4'-C5'-O5'-PA
37	DG	501	GTP	O4'-C4'-C5'-O5'
37	HE	501	GTP	O4'-C4'-C5'-O5'
37	IK	501	GTP	O4'-C4'-C5'-O5'
37	IM	501	GTP	C3'-C4'-C5'-O5'
37	JE	501	GTP	C3'-C4'-C5'-O5'
37	JK	501	GTP	O4'-C4'-C5'-O5'
37	MK	501	GTP	O4'-C4'-C5'-O5'
37	NE	501	GTP	O4'-C4'-C5'-O5'
37	OE	501	GTP	O4'-C4'-C5'-O5'
37	UK	501	GTP	C3'-C4'-C5'-O5'
37	VG	501	GTP	O4'-C4'-C5'-O5'
39	AD	502	GDP	O4'-C4'-C5'-O5'
39	EJ	502	GDP	C3'-C4'-C5'-O5'
39	FN	502	GDP	C3'-C4'-C5'-O5'
39	VB	502	GDP	O4'-C4'-C5'-O5'
39	WL	502	GDP	O4'-C4'-C5'-O5'
37	CA	501	GTP	C4'-C5'-O5'-PA
37	GK	501	GTP	C4'-C5'-O5'-PA
37	HO	501	GTP	C4'-C5'-O5'-PA

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Mol	Chain	Res	Type	Atoms
37	PE	501	GTP	C4'-C5'-O5'-PA
37	CM	501	GTP	C3'-C4'-C5'-O5'
37	DK	501	GTP	C3'-C4'-C5'-O5'
37	PE	501	GTP	O4'-C4'-C5'-O5'
37	VG	501	GTP	C3'-C4'-C5'-O5'
39	AF	502	GDP	C3'-C4'-C5'-O5'
39	EJ	502	GDP	O4'-C4'-C5'-O5'
37	FG	501	GTP	C4'-C5'-O5'-PA
37	LK	501	GTP	C4'-C5'-O5'-PA
37	SI	501	GTP	C4'-C5'-O5'-PA
39	AF	502	GDP	C4'-C5'-O5'-PA
37	BA	501	GTP	C3'-C4'-C5'-O5'
37	BC	501	GTP	C3'-C4'-C5'-O5'
37	DC	501	GTP	C3'-C4'-C5'-O5'
37	HC	501	GTP	C3'-C4'-C5'-O5'
37	HO	501	GTP	C3'-C4'-C5'-O5'
37	NI	501	GTP	C3'-C4'-C5'-O5'
37	OI	501	GTP	C3'-C4'-C5'-O5'
37	TK	501	GTP	C3'-C4'-C5'-O5'
37	UI	501	GTP	C3'-C4'-C5'-O5'
37	UK	501	GTP	O4'-C4'-C5'-O5'
37	VE	501	GTP	O4'-C4'-C5'-O5'
37	VM	501	GTP	O4'-C4'-C5'-O5'
39	BJ	502	GDP	C3'-C4'-C5'-O5'
39	ID	502	GDP	C3'-C4'-C5'-O5'
39	JL	502	GDP	O4'-C4'-C5'-O5'
39	MD	502	GDP	C3'-C4'-C5'-O5'
39	PJ	502	GDP	C3'-C4'-C5'-O5'
37	OI	501	GTP	C4'-C5'-O5'-PA
39	AB	502	GDP	C4'-C5'-O5'-PA
37	CM	501	GTP	O4'-C4'-C5'-O5'
37	EM	501	GTP	C3'-C4'-C5'-O5'
37	GK	501	GTP	O4'-C4'-C5'-O5'
37	HC	501	GTP	O4'-C4'-C5'-O5'
37	IM	501	GTP	O4'-C4'-C5'-O5'
37	IO	501	GTP	O4'-C4'-C5'-O5'
37	MC	501	GTP	C3'-C4'-C5'-O5'
37	NA	501	GTP	O4'-C4'-C5'-O5'
37	PA	501	GTP	C3'-C4'-C5'-O5'
37	SE	501	GTP	O4'-C4'-C5'-O5'
37	TK	501	GTP	O4'-C4'-C5'-O5'
39	AF	502	GDP	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	CJ	502	GDP	O4'-C4'-C5'-O5'
39	HH	502	GDP	O4'-C4'-C5'-O5'
39	LH	502	GDP	O4'-C4'-C5'-O5'
39	MH	502	GDP	C3'-C4'-C5'-O5'
39	RB	502	GDP	C3'-C4'-C5'-O5'
39	SJ	502	GDP	C3'-C4'-C5'-O5'
37	BM	501	GTP	C4'-C5'-O5'-PA
37	LG	501	GTP	C4'-C5'-O5'-PA
39	IB	502	GDP	C3'-C4'-C5'-O5'
39	UJ	502	GDP	C3'-C4'-C5'-O5'
39	EF	502	GDP	PA-O3A-PB-O1B
39	HB	502	GDP	PA-O3A-PB-O1B
39	LD	502	GDP	PA-O3A-PB-O1B
39	VB	502	GDP	PA-O3A-PB-O1B
37	FC	501	GTP	PA-O3A-PB-O1B
37	FI	501	GTP	PB-O3A-PA-O1A
37	MI	501	GTP	PA-O3A-PB-O1B
37	SM	501	GTP	PA-O3A-PB-O1B
37	WK	501	GTP	PB-O3A-PA-O1A
39	TB	502	GDP	PB-O3A-PA-O1A
37	BA	501	GTP	O4'-C4'-C5'-O5'
37	DA	501	GTP	O4'-C4'-C5'-O5'
37	DC	501	GTP	O4'-C4'-C5'-O5'
37	FI	501	GTP	C3'-C4'-C5'-O5'
37	NI	501	GTP	O4'-C4'-C5'-O5'
37	WK	501	GTP	C3'-C4'-C5'-O5'
39	NF	502	GDP	C3'-C4'-C5'-O5'
39	PL	502	GDP	C3'-C4'-C5'-O5'
37	AC	501	GTP	C4'-C5'-O5'-PA
37	BC	501	GTP	C4'-C5'-O5'-PA
37	KC	501	GTP	C4'-C5'-O5'-PA
37	KK	501	GTP	C4'-C5'-O5'-PA
37	LI	501	GTP	C4'-C5'-O5'-PA
37	MI	501	GTP	C4'-C5'-O5'-PA
37	VI	501	GTP	C4'-C5'-O5'-PA
37	WG	501	GTP	C4'-C5'-O5'-PA
39	IB	502	GDP	O4'-C4'-C5'-O5'
39	MD	502	GDP	O4'-C4'-C5'-O5'
37	AG	501	GTP	C4'-C5'-O5'-PA
37	AI	501	GTP	C4'-C5'-O5'-PA
37	CE	501	GTP	C4'-C5'-O5'-PA
37	CM	501	GTP	C4'-C5'-O5'-PA

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Mol	Chain	Res	Type	Atoms
37	DE	501	GTP	C4'-C5'-O5'-PA
37	DM	501	GTP	C4'-C5'-O5'-PA
37	EC	501	GTP	C4'-C5'-O5'-PA
37	EG	501	GTP	C4'-C5'-O5'-PA
37	FK	501	GTP	C4'-C5'-O5'-PA
37	FM	501	GTP	C4'-C5'-O5'-PA
37	HI	501	GTP	C4'-C5'-O5'-PA
37	II	501	GTP	C4'-C5'-O5'-PA
37	KG	501	GTP	C4'-C5'-O5'-PA
37	KM	501	GTP	C4'-C5'-O5'-PA
37	KO	501	GTP	C4'-C5'-O5'-PA
37	LM	501	GTP	C4'-C5'-O5'-PA
37	NA	501	GTP	C4'-C5'-O5'-PA
37	QE	501	GTP	C4'-C5'-O5'-PA
37	RA	501	GTP	C4'-C5'-O5'-PA
37	RE	501	GTP	C4'-C5'-O5'-PA
37	RM	501	GTP	C4'-C5'-O5'-PA
37	SE	501	GTP	C4'-C5'-O5'-PA
37	SK	501	GTP	C4'-C5'-O5'-PA
37	TE	501	GTP	C4'-C5'-O5'-PA
37	TI	501	GTP	C4'-C5'-O5'-PA
37	UI	501	GTP	C4'-C5'-O5'-PA
37	VC	501	GTP	C4'-C5'-O5'-PA
37	VG	501	GTP	C4'-C5'-O5'-PA
37	VK	501	GTP	C4'-C5'-O5'-PA
39	CH	502	GDP	C4'-C5'-O5'-PA
39	ID	502	GDP	C4'-C5'-O5'-PA
39	LH	502	GDP	C4'-C5'-O5'-PA
37	QA	501	GTP	PB-O3A-PA-O5'
37	TG	501	GTP	PB-O3A-PA-O5'
37	TK	501	GTP	PB-O3A-PA-O5'
37	UI	501	GTP	O4'-C4'-C5'-O5'
39	PJ	502	GDP	O4'-C4'-C5'-O5'
37	SK	501	GTP	PB-O3B-PG-O1G
39	DL	502	GDP	PA-O3A-PB-O1B
39	FD	502	GDP	PA-O3A-PB-O1B
37	AA	501	GTP	C4'-C5'-O5'-PA
37	AE	501	GTP	C4'-C5'-O5'-PA
37	AM	501	GTP	C4'-C5'-O5'-PA
37	DC	501	GTP	C4'-C5'-O5'-PA
37	FE	501	GTP	C4'-C5'-O5'-PA
37	MK	501	GTP	C4'-C5'-O5'-PA

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Mol	Chain	Res	Type	Atoms
37	NE	501	GTP	C4'-C5'-O5'-PA
37	NI	501	GTP	C4'-C5'-O5'-PA
37	OE	501	GTP	C4'-C5'-O5'-PA
37	VE	501	GTP	C4'-C5'-O5'-PA
39	MN	502	GDP	C4'-C5'-O5'-PA
37	DA	501	GTP	PB-O3B-PG-O3G
37	EI	501	GTP	PB-O3B-PG-O2G
37	ME	501	GTP	PB-O3B-PG-O2G
37	TC	501	GTP	PB-O3B-PG-O2G
37	TI	501	GTP	PB-O3B-PG-O2G
37	VK	501	GTP	PB-O3B-PG-O2G
39	BJ	502	GDP	PA-O3A-PB-O2B
39	ED	502	GDP	PA-O3A-PB-O2B
37	BG	501	GTP	C5'-O5'-PA-O3A
37	BK	501	GTP	C5'-O5'-PA-O3A
37	CC	501	GTP	C5'-O5'-PA-O3A
37	CE	501	GTP	C5'-O5'-PA-O3A
37	CG	501	GTP	C5'-O5'-PA-O3A
37	CI	501	GTP	C5'-O5'-PA-O3A
37	CK	501	GTP	C5'-O5'-PA-O3A
37	CM	501	GTP	C5'-O5'-PA-O3A
37	DE	501	GTP	C5'-O5'-PA-O3A
37	DI	501	GTP	C5'-O5'-PA-O3A
37	EG	501	GTP	C5'-O5'-PA-O3A
37	GC	501	GTP	C5'-O5'-PA-O3A
37	HC	501	GTP	C5'-O5'-PA-O3A
37	HG	501	GTP	C5'-O5'-PA-O3A
37	HI	501	GTP	C5'-O5'-PA-O3A
37	HK	501	GTP	C5'-O5'-PA-O3A
37	IM	501	GTP	C5'-O5'-PA-O3A
37	KC	501	GTP	C5'-O5'-PA-O3A
37	MK	501	GTP	C5'-O5'-PA-O3A
37	NA	501	GTP	C5'-O5'-PA-O3A
37	NE	501	GTP	C5'-O5'-PA-O3A
37	OC	501	GTP	C5'-O5'-PA-O3A
37	OE	501	GTP	C5'-O5'-PA-O3A
37	PM	501	GTP	C5'-O5'-PA-O3A
37	RC	501	GTP	C5'-O5'-PA-O3A
37	UC	501	GTP	C5'-O5'-PA-O3A
37	UE	501	GTP	C5'-O5'-PA-O3A
37	WE	501	GTP	C5'-O5'-PA-O3A
39	BJ	502	GDP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
39	CH	502	GDP	C5'-O5'-PA-O3A
39	DD	502	GDP	C5'-O5'-PA-O3A
39	EF	502	GDP	C5'-O5'-PA-O3A
39	EJ	502	GDP	C5'-O5'-PA-O3A
39	GF	502	GDP	C5'-O5'-PA-O3A
39	ID	502	GDP	C5'-O5'-PA-O3A
39	IH	502	GDP	C5'-O5'-PA-O3A
39	OL	502	GDP	C5'-O5'-PA-O3A
39	PL	502	GDP	C5'-O5'-PA-O3A
39	UB	502	GDP	C5'-O5'-PA-O3A
39	UF	502	GDP	C5'-O5'-PA-O3A
39	VJ	502	GDP	C5'-O5'-PA-O3A
37	HO	501	GTP	O4'-C4'-C5'-O5'
37	PM	501	GTP	C3'-C4'-C5'-O5'
37	UG	501	GTP	C3'-C4'-C5'-O5'
39	ID	502	GDP	O4'-C4'-C5'-O5'
39	JD	502	GDP	C3'-C4'-C5'-O5'
39	KF	502	GDP	C3'-C4'-C5'-O5'
39	KH	502	GDP	C3'-C4'-C5'-O5'
39	UH	502	GDP	C3'-C4'-C5'-O5'
37	CK	501	GTP	PA-O3A-PB-O2B
37	CM	501	GTP	PG-O3B-PB-O1B
37	DE	501	GTP	PG-O3B-PB-O1B
37	EE	501	GTP	PB-O3A-PA-O1A
37	FK	501	GTP	PA-O3A-PB-O2B
37	KE	501	GTP	PG-O3B-PB-O1B
37	KG	501	GTP	PB-O3A-PA-O1A
37	KI	501	GTP	PB-O3A-PA-O2A
37	KO	501	GTP	PB-O3A-PA-O2A
37	LG	501	GTP	PA-O3A-PB-O2B
37	LK	501	GTP	PA-O3A-PB-O2B
37	LM	501	GTP	PA-O3A-PB-O2B
37	NA	501	GTP	PG-O3B-PB-O1B
37	NI	501	GTP	PG-O3B-PB-O1B
37	OA	501	GTP	PB-O3A-PA-O1A
37	OK	501	GTP	PA-O3A-PB-O1B
37	PA	501	GTP	PB-O3A-PA-O2A
37	QC	501	GTP	PB-O3A-PA-O1A
37	SG	501	GTP	PB-O3A-PA-O1A
37	TE	501	GTP	PG-O3B-PB-O1B
37	VE	501	GTP	PG-O3B-PB-O1B
37	WE	501	GTP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
37	WM	501	GTP	PB-O3A-PA-O2A
39	FH	502	GDP	PB-O3A-PA-O2A
39	IN	502	GDP	PB-O3A-PA-O2A
39	PL	502	GDP	PB-O3A-PA-O2A
37	CC	501	GTP	C4'-C5'-O5'-PA
37	GC	501	GTP	C4'-C5'-O5'-PA
37	GE	501	GTP	C4'-C5'-O5'-PA
37	IK	501	GTP	C4'-C5'-O5'-PA
37	IM	501	GTP	C4'-C5'-O5'-PA
37	LE	501	GTP	C4'-C5'-O5'-PA
37	NC	501	GTP	C4'-C5'-O5'-PA
37	OC	501	GTP	C4'-C5'-O5'-PA
37	PA	501	GTP	C4'-C5'-O5'-PA
37	QI	501	GTP	C4'-C5'-O5'-PA
37	TG	501	GTP	C4'-C5'-O5'-PA
37	UE	501	GTP	C4'-C5'-O5'-PA
37	UG	501	GTP	C4'-C5'-O5'-PA
37	UM	501	GTP	C4'-C5'-O5'-PA
37	VM	501	GTP	C4'-C5'-O5'-PA
39	BF	502	GDP	C4'-C5'-O5'-PA
39	EB	502	GDP	C4'-C5'-O5'-PA
39	FD	502	GDP	C4'-C5'-O5'-PA
39	FL	502	GDP	C4'-C5'-O5'-PA
39	HH	502	GDP	C4'-C5'-O5'-PA
39	IH	502	GDP	C4'-C5'-O5'-PA
37	AC	501	GTP	C5'-O5'-PA-O2A
37	AE	501	GTP	C5'-O5'-PA-O2A
37	AM	501	GTP	C5'-O5'-PA-O2A
37	BM	501	GTP	C5'-O5'-PA-O2A
37	CA	501	GTP	C5'-O5'-PA-O2A
37	CC	501	GTP	C5'-O5'-PA-O2A
37	CE	501	GTP	C5'-O5'-PA-O2A
37	CG	501	GTP	C5'-O5'-PA-O1A
37	CG	501	GTP	C5'-O5'-PA-O2A
37	CI	501	GTP	C5'-O5'-PA-O2A
37	CM	501	GTP	C5'-O5'-PA-O2A
37	EK	501	GTP	C5'-O5'-PA-O1A
37	FK	501	GTP	C5'-O5'-PA-O1A
37	GC	501	GTP	C5'-O5'-PA-O2A
37	GI	501	GTP	C5'-O5'-PA-O1A
37	GM	501	GTP	C5'-O5'-PA-O2A
37	HC	501	GTP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
37	HG	501	GTP	C5'-O5'-PA-O1A
37	HI	501	GTP	C5'-O5'-PA-O2A
37	HK	501	GTP	C5'-O5'-PA-O1A
37	IG	501	GTP	C5'-O5'-PA-O1A
37	IG	501	GTP	C5'-O5'-PA-O2A
37	IM	501	GTP	C5'-O5'-PA-O2A
37	JG	501	GTP	C5'-O5'-PA-O1A
37	JI	501	GTP	C5'-O5'-PA-O1A
37	KC	501	GTP	C5'-O5'-PA-O1A
37	KO	501	GTP	C5'-O5'-PA-O1A
37	LG	501	GTP	C5'-O5'-PA-O2A
37	MC	501	GTP	C5'-O5'-PA-O1A
37	MK	501	GTP	C5'-O5'-PA-O2A
37	MM	501	GTP	C5'-O5'-PA-O2A
37	NA	501	GTP	C5'-O5'-PA-O2A
37	NE	501	GTP	C5'-O5'-PA-O2A
37	OC	501	GTP	C5'-O5'-PA-O1A
37	OE	501	GTP	C5'-O5'-PA-O2A
37	PA	501	GTP	C5'-O5'-PA-O2A
37	PI	501	GTP	C5'-O5'-PA-O1A
37	PI	501	GTP	C5'-O5'-PA-O2A
37	QE	501	GTP	C5'-O5'-PA-O2A
37	RG	501	GTP	C5'-O5'-PA-O1A
37	RK	501	GTP	C5'-O5'-PA-O1A
37	RM	501	GTP	C5'-O5'-PA-O2A
37	SA	501	GTP	C5'-O5'-PA-O2A
37	SG	501	GTP	C5'-O5'-PA-O1A
37	SI	501	GTP	C5'-O5'-PA-O2A
37	UC	501	GTP	C5'-O5'-PA-O1A
37	UI	501	GTP	C5'-O5'-PA-O2A
37	WE	501	GTP	C5'-O5'-PA-O2A
39	AB	502	GDP	C5'-O5'-PA-O1A
39	AF	502	GDP	C5'-O5'-PA-O1A
39	BB	502	GDP	C5'-O5'-PA-O1A
39	BF	502	GDP	C5'-O5'-PA-O1A
39	BH	502	GDP	C5'-O5'-PA-O1A
39	CH	502	GDP	C5'-O5'-PA-O1A
39	DD	502	GDP	C5'-O5'-PA-O1A
39	ED	502	GDP	C5'-O5'-PA-O1A
39	EF	502	GDP	C5'-O5'-PA-O1A
39	EH	502	GDP	C5'-O5'-PA-O1A
39	FD	502	GDP	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
39	GB	502	GDP	C5'-O5'-PA-O1A
39	GH	502	GDP	C5'-O5'-PA-O1A
39	GJ	502	GDP	C5'-O5'-PA-O1A
39	GN	502	GDP	C5'-O5'-PA-O1A
39	HD	502	GDP	C5'-O5'-PA-O1A
39	HJ	502	GDP	C5'-O5'-PA-O1A
39	ID	502	GDP	C5'-O5'-PA-O1A
39	IH	502	GDP	C5'-O5'-PA-O1A
39	IJ	502	GDP	C5'-O5'-PA-O1A
39	LL	502	GDP	C5'-O5'-PA-O1A
39	MN	502	GDP	C5'-O5'-PA-O1A
39	ND	502	GDP	C5'-O5'-PA-O1A
39	NF	502	GDP	C5'-O5'-PA-O1A
39	NJ	502	GDP	C5'-O5'-PA-O1A
39	O0	502	GDP	C5'-O5'-PA-O1A
39	OF	502	GDP	C5'-O5'-PA-O1A
39	OJ	502	GDP	C5'-O5'-PA-O1A
39	OL	502	GDP	C5'-O5'-PA-O1A
39	PB	502	GDP	C5'-O5'-PA-O1A
39	PD	502	GDP	C5'-O5'-PA-O1A
39	PF	502	GDP	C5'-O5'-PA-O1A
39	PJ	502	GDP	C5'-O5'-PA-O1A
39	RD	502	GDP	C5'-O5'-PA-O1A
39	TH	502	GDP	C5'-O5'-PA-O1A
39	UB	502	GDP	C5'-O5'-PA-O1A
39	UD	502	GDP	C5'-O5'-PA-O1A
39	UF	502	GDP	C5'-O5'-PA-O1A
39	UL	502	GDP	C5'-O5'-PA-O1A
39	VB	502	GDP	C5'-O5'-PA-O1A
39	VF	502	GDP	C5'-O5'-PA-O1A
39	VH	502	GDP	C5'-O5'-PA-O1A
39	VJ	502	GDP	C5'-O5'-PA-O1A
39	WD	502	GDP	C5'-O5'-PA-O1A
39	WH	502	GDP	C5'-O5'-PA-O1A
39	WL	502	GDP	C5'-O5'-PA-O1A
39	WN	502	GDP	C5'-O5'-PA-O1A
37	AM	501	GTP	C3'-C4'-C5'-O5'
37	BC	501	GTP	O4'-C4'-C5'-O5'
37	CI	501	GTP	C3'-C4'-C5'-O5'
37	OI	501	GTP	O4'-C4'-C5'-O5'
37	PA	501	GTP	O4'-C4'-C5'-O5'
37	TG	501	GTP	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
39	BF	502	GDP	C3'-C4'-C5'-O5'
39	BJ	502	GDP	O4'-C4'-C5'-O5'
39	FB	502	GDP	O4'-C4'-C5'-O5'
39	PB	502	GDP	C3'-C4'-C5'-O5'
39	SJ	502	GDP	O4'-C4'-C5'-O5'
37	AK	501	GTP	C4'-C5'-O5'-PA
37	KI	501	GTP	C4'-C5'-O5'-PA
37	RC	501	GTP	C4'-C5'-O5'-PA
37	RI	501	GTP	C4'-C5'-O5'-PA
37	SG	501	GTP	C4'-C5'-O5'-PA
37	WK	501	GTP	C4'-C5'-O5'-PA
39	IJ	502	GDP	C4'-C5'-O5'-PA
39	N0	502	GDP	C4'-C5'-O5'-PA
37	AE	501	GTP	C3'-C4'-C5'-O5'
37	MC	501	GTP	O4'-C4'-C5'-O5'
39	DN	502	GDP	O4'-C4'-C5'-O5'
39	EL	502	GDP	C3'-C4'-C5'-O5'
39	FJ	502	GDP	C3'-C4'-C5'-O5'
39	QD	502	GDP	C3'-C4'-C5'-O5'
39	RB	502	GDP	O4'-C4'-C5'-O5'
39	SL	502	GDP	C3'-C4'-C5'-O5'
39	UF	502	GDP	C3'-C4'-C5'-O5'
39	VL	502	GDP	C3'-C4'-C5'-O5'
39	DD	502	GDP	PA-O3A-PB-O1B
39	EL	502	GDP	PA-O3A-PB-O1B
39	MJ	502	GDP	PA-O3A-PB-O1B
39	UN	502	GDP	PA-O3A-PB-O1B
39	WF	502	GDP	PA-O3A-PB-O1B
37	IO	501	GTP	C4'-C5'-O5'-PA
37	NK	501	GTP	C4'-C5'-O5'-PA
37	WM	501	GTP	C4'-C5'-O5'-PA
39	KD	502	GDP	C4'-C5'-O5'-PA
39	ML	502	GDP	C4'-C5'-O5'-PA
37	SG	501	GTP	C3'-C4'-C5'-O5'
37	TI	501	GTP	C3'-C4'-C5'-O5'
37	WK	501	GTP	O4'-C4'-C5'-O5'
39	MH	502	GDP	O4'-C4'-C5'-O5'
39	UJ	502	GDP	O4'-C4'-C5'-O5'
37	BK	501	GTP	PG-O3B-PB-O1B
37	EG	501	GTP	PA-O3A-PB-O1B
37	FM	501	GTP	PB-O3A-PA-O1A
37	FM	501	GTP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
37	GE	501	GTP	PB-O3A-PA-O2A
37	KK	501	GTP	PA-O3A-PB-O2B
37	KK	501	GTP	PB-O3A-PA-O1A
37	KK	501	GTP	PB-O3A-PA-O2A
37	LE	501	GTP	PA-O3A-PB-O2B
37	LI	501	GTP	PA-O3A-PB-O2B
37	LI	501	GTP	PB-O3A-PA-O1A
37	LK	501	GTP	PB-O3A-PA-O1A
37	MM	501	GTP	PA-O3A-PB-O2B
37	NG	501	GTP	PG-O3B-PB-O1B
37	RA	501	GTP	PB-O3A-PA-O2A
37	TC	501	GTP	PA-O3A-PB-O2B
37	UM	501	GTP	PA-O3A-PB-O2B
39	WD	502	GDP	PB-O3A-PA-O2A
37	BK	501	GTP	C4'-C5'-O5'-PA
37	EE	501	GTP	C4'-C5'-O5'-PA
37	FI	501	GTP	C4'-C5'-O5'-PA
37	HE	501	GTP	C4'-C5'-O5'-PA
37	KE	501	GTP	C4'-C5'-O5'-PA
37	SC	501	GTP	C4'-C5'-O5'-PA
37	UC	501	GTP	C4'-C5'-O5'-PA
39	GD	502	GDP	C4'-C5'-O5'-PA
39	NH	502	GDP	C4'-C5'-O5'-PA
39	PD	502	GDP	C4'-C5'-O5'-PA
37	HG	501	GTP	O4'-C4'-C5'-O5'
39	AL	502	GDP	C3'-C4'-C5'-O5'
39	KB	502	GDP	C3'-C4'-C5'-O5'
37	FC	501	GTP	C4'-C5'-O5'-PA
39	CF	502	GDP	C4'-C5'-O5'-PA
39	EH	502	GDP	C4'-C5'-O5'-PA
39	GF	502	GDP	C4'-C5'-O5'-PA
39	HB	502	GDP	C4'-C5'-O5'-PA
39	VH	502	GDP	C4'-C5'-O5'-PA
39	AB	502	GDP	C3'-C4'-C5'-O5'
37	GG	501	GTP	PB-O3B-PG-O1G
37	II	501	GTP	PB-O3B-PG-O1G
37	TM	501	GTP	PA-O3A-PB-O3B
37	IC	501	GTP	C4'-C5'-O5'-PA
37	WE	501	GTP	C4'-C5'-O5'-PA
37	KG	501	GTP	C3'-C4'-C5'-O5'
37	BC	501	GTP	PG-O3B-PB-O1B
37	BI	501	GTP	C4'-C5'-O5'-PA

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Mol	Chain	Res	Type	Atoms
37	CG	501	GTP	C4'-C5'-O5'-PA
37	DK	501	GTP	PB-O3A-PA-O2A
37	FC	501	GTP	PA-O3A-PB-O2B
37	FI	501	GTP	PB-O3A-PA-O2A
37	GE	501	GTP	PB-O3A-PA-O1A
37	GG	501	GTP	PA-O3A-PB-O2B
37	GG	501	GTP	C4'-C5'-O5'-PA
37	IK	501	GTP	PG-O3B-PB-O1B
37	JG	501	GTP	C4'-C5'-O5'-PA
37	KE	501	GTP	PA-O3A-PB-O1B
37	QA	501	GTP	PA-O3A-PB-O1B
37	TG	501	GTP	PB-O3A-PA-O1A
37	TM	501	GTP	PG-O3B-PB-O1B
37	CI	501	GTP	O4'-C4'-C5'-O5'
37	FI	501	GTP	O4'-C4'-C5'-O5'
37	TG	501	GTP	O4'-C4'-C5'-O5'
39	EN	502	GDP	O4'-C4'-C5'-O5'
39	KD	502	GDP	C3'-C4'-C5'-O5'
39	PL	502	GDP	O4'-C4'-C5'-O5'
37	BG	501	GTP	C4'-C5'-O5'-PA
37	LC	501	GTP	C4'-C5'-O5'-PA
37	NG	501	GTP	C4'-C5'-O5'-PA
37	WC	501	GTP	C4'-C5'-O5'-PA
37	WI	501	GTP	C4'-C5'-O5'-PA
39	CJ	502	GDP	C4'-C5'-O5'-PA
39	PF	502	GDP	C4'-C5'-O5'-PA
37	WG	501	GTP	C3'-C4'-C5'-O5'
37	WM	501	GTP	C3'-C4'-C5'-O5'
39	DN	502	GDP	C3'-C4'-C5'-O5'
39	FB	502	GDP	C3'-C4'-C5'-O5'
39	FL	502	GDP	O4'-C4'-C5'-O5'
39	LL	502	GDP	C3'-C4'-C5'-O5'
39	WD	502	GDP	C3'-C4'-C5'-O5'
37	BI	501	GTP	PB-O3B-PG-O1G
37	EI	501	GTP	PB-O3B-PG-O1G
37	PK	501	GTP	PB-O3B-PG-O1G
37	QK	501	GTP	PB-O3B-PG-O1G
37	TC	501	GTP	PB-O3B-PG-O1G
37	TI	501	GTP	PB-O3B-PG-O1G
39	BD	502	GDP	PA-O3A-PB-O1B
39	CL	502	GDP	PA-O3A-PB-O1B
39	JN	502	GDP	PA-O3A-PB-O1B

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Mol	Chain	Res	Type	Atoms
39	MD	502	GDP	PA-O3A-PB-O1B
39	ML	502	GDP	PA-O3A-PB-O1B
39	N0	502	GDP	PA-O3A-PB-O1B
39	QJ	502	GDP	PA-O3A-PB-O1B
37	EM	501	GTP	C4'-C5'-O5'-PA
37	OK	501	GTP	C4'-C5'-O5'-PA
37	EM	501	GTP	O4'-C4'-C5'-O5'
37	LK	501	GTP	C3'-C4'-C5'-O5'
37	TI	501	GTP	O4'-C4'-C5'-O5'
39	AJ	502	GDP	O4'-C4'-C5'-O5'
39	GH	502	GDP	O4'-C4'-C5'-O5'
39	OB	502	GDP	C3'-C4'-C5'-O5'
37	CI	501	GTP	PB-O3B-PG-O2G
37	EE	501	GTP	PB-O3B-PG-O2G
37	EM	501	GTP	PB-O3B-PG-O2G
37	GG	501	GTP	PB-O3B-PG-O2G
37	GG	501	GTP	PB-O3B-PG-O3G
37	II	501	GTP	PB-O3B-PG-O2G
37	II	501	GTP	PB-O3B-PG-O3G
37	KC	501	GTP	PB-O3B-PG-O2G
39	CF	502	GDP	PA-O3A-PB-O2B
39	FD	502	GDP	PA-O3A-PB-O2B
39	FD	502	GDP	PA-O3A-PB-O3B
39	JN	502	GDP	PA-O3A-PB-O3B
39	QL	502	GDP	PA-O3A-PB-O2B
39	WN	502	GDP	PA-O3A-PB-O3B
37	SG	501	GTP	PA-O3A-PB-O3B
37	AA	501	GTP	C5'-O5'-PA-O3A
37	BA	501	GTP	C5'-O5'-PA-O3A
37	BC	501	GTP	C5'-O5'-PA-O3A
37	DC	501	GTP	C5'-O5'-PA-O3A
37	DM	501	GTP	C5'-O5'-PA-O3A
37	EC	501	GTP	C5'-O5'-PA-O3A
37	EE	501	GTP	C5'-O5'-PA-O3A
37	EM	501	GTP	C5'-O5'-PA-O3A
37	FC	501	GTP	C5'-O5'-PA-O3A
37	FK	501	GTP	C5'-O5'-PA-O3A
37	GE	501	GTP	C5'-O5'-PA-O3A
37	GK	501	GTP	C5'-O5'-PA-O3A
37	GM	501	GTP	C5'-O5'-PA-O3A
37	HE	501	GTP	C5'-O5'-PA-O3A
37	IC	501	GTP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
37	KE	501	GTP	C5'-O5'-PA-O3A
37	KI	501	GTP	C5'-O5'-PA-O3A
37	KK	501	GTP	C5'-O5'-PA-O3A
37	LI	501	GTP	C5'-O5'-PA-O3A
37	MG	501	GTP	C5'-O5'-PA-O3A
37	MI	501	GTP	C5'-O5'-PA-O3A
37	NC	501	GTP	C5'-O5'-PA-O3A
37	NG	501	GTP	C5'-O5'-PA-O3A
37	NI	501	GTP	C5'-O5'-PA-O3A
37	PE	501	GTP	C5'-O5'-PA-O3A
37	QG	501	GTP	C5'-O5'-PA-O3A
37	RA	501	GTP	C5'-O5'-PA-O3A
37	RG	501	GTP	C5'-O5'-PA-O3A
37	RI	501	GTP	C5'-O5'-PA-O3A
37	SE	501	GTP	C5'-O5'-PA-O3A
37	SK	501	GTP	C5'-O5'-PA-O3A
37	TC	501	GTP	C5'-O5'-PA-O3A
37	UG	501	GTP	C5'-O5'-PA-O3A
37	UI	501	GTP	C5'-O5'-PA-O3A
37	VC	501	GTP	C5'-O5'-PA-O3A
37	VI	501	GTP	C5'-O5'-PA-O3A
37	WG	501	GTP	C5'-O5'-PA-O3A
37	WI	501	GTP	C5'-O5'-PA-O3A
37	WK	501	GTP	C5'-O5'-PA-O3A
37	WM	501	GTP	C5'-O5'-PA-O3A
39	CB	502	GDP	C5'-O5'-PA-O3A
39	CD	502	GDP	C5'-O5'-PA-O3A
39	CJ	502	GDP	C5'-O5'-PA-O3A
39	DB	502	GDP	C5'-O5'-PA-O3A
39	DH	502	GDP	C5'-O5'-PA-O3A
39	DJ	502	GDP	C5'-O5'-PA-O3A
39	EB	502	GDP	C5'-O5'-PA-O3A
39	EN	502	GDP	C5'-O5'-PA-O3A
39	FJ	502	GDP	C5'-O5'-PA-O3A
39	FL	502	GDP	C5'-O5'-PA-O3A
39	HH	502	GDP	C5'-O5'-PA-O3A
39	IB	502	GDP	C5'-O5'-PA-O3A
39	IN	502	GDP	C5'-O5'-PA-O3A
39	KJ	502	GDP	C5'-O5'-PA-O3A
39	KN	502	GDP	C5'-O5'-PA-O3A
39	LD	502	GDP	C5'-O5'-PA-O3A
39	LF	502	GDP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
39	LJ	502	GDP	C5'-O5'-PA-O3A
39	LN	502	GDP	C5'-O5'-PA-O3A
39	MF	502	GDP	C5'-O5'-PA-O3A
39	N0	502	GDP	C5'-O5'-PA-O3A
39	NB	502	GDP	C5'-O5'-PA-O3A
39	NH	502	GDP	C5'-O5'-PA-O3A
39	NL	502	GDP	C5'-O5'-PA-O3A
39	OB	502	GDP	C5'-O5'-PA-O3A
39	OH	502	GDP	C5'-O5'-PA-O3A
39	RL	502	GDP	C5'-O5'-PA-O3A
39	SL	502	GDP	C5'-O5'-PA-O3A
39	TL	502	GDP	C5'-O5'-PA-O3A
39	UH	502	GDP	C5'-O5'-PA-O3A
39	UJ	502	GDP	C5'-O5'-PA-O3A
39	VL	502	GDP	C5'-O5'-PA-O3A
37	QA	501	GTP	C4'-C5'-O5'-PA
37	MG	501	GTP	C3'-C4'-C5'-O5'
37	PI	501	GTP	C3'-C4'-C5'-O5'
39	BD	502	GDP	C3'-C4'-C5'-O5'
39	CH	502	GDP	C3'-C4'-C5'-O5'
39	HJ	502	GDP	C3'-C4'-C5'-O5'
39	NF	502	GDP	O4'-C4'-C5'-O5'
37	CK	501	GTP	PA-O3A-PB-O1B
37	DA	501	GTP	PB-O3A-PA-O2A
37	DE	501	GTP	PB-O3A-PA-O2A
37	DI	501	GTP	PG-O3B-PB-O1B
37	EG	501	GTP	PA-O3A-PB-O2B
37	EK	501	GTP	PB-O3A-PA-O2A
37	FE	501	GTP	PB-O3A-PA-O2A
37	FG	501	GTP	PB-O3A-PA-O1A
37	FG	501	GTP	PB-O3A-PA-O2A
37	FK	501	GTP	PA-O3A-PB-O1B
37	GM	501	GTP	PB-O3A-PA-O1A
37	HM	501	GTP	PG-O3B-PB-O1B
37	IC	501	GTP	PG-O3B-PB-O2B
37	JG	501	GTP	PA-O3A-PB-O2B
37	KC	501	GTP	PA-O3A-PB-O2B
37	KI	501	GTP	PB-O3A-PA-O1A
37	KM	501	GTP	PA-O3A-PB-O2B
37	KM	501	GTP	PB-O3A-PA-O2A
37	LI	501	GTP	PB-O3A-PA-O2A
37	LK	501	GTP	PA-O3A-PB-O1B

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Mol	Chain	Res	Type	Atoms
37	LK	501	GTP	PB-O3A-PA-O2A
37	MI	501	GTP	PA-O3A-PB-O2B
37	MM	501	GTP	PA-O3A-PB-O1B
37	OA	501	GTP	PG-O3B-PB-O2B
37	OA	501	GTP	PB-O3A-PA-O2A
37	OE	501	GTP	PA-O3A-PB-O2B
37	OK	501	GTP	PG-O3B-PB-O1B
37	OK	501	GTP	PB-O3A-PA-O2A
37	PA	501	GTP	PB-O3A-PA-O1A
37	PC	501	GTP	PB-O3A-PA-O2A
37	QM	501	GTP	PG-O3B-PB-O2B
37	SG	501	GTP	PG-O3B-PB-O2B
37	SM	501	GTP	PA-O3A-PB-O2B
37	TC	501	GTP	PA-O3A-PB-O1B
37	TE	501	GTP	PB-O3A-PA-O2A
37	TM	501	GTP	PA-O3A-PB-O1B
37	TM	501	GTP	PA-O3A-PB-O2B
37	UE	501	GTP	PG-O3B-PB-O1B
37	UG	501	GTP	PG-O3B-PB-O2B
37	WE	501	GTP	PB-O3A-PA-O1A
37	WK	501	GTP	PB-O3A-PA-O2A
39	FH	502	GDP	PB-O3A-PA-O1A
39	IB	502	GDP	PB-O3A-PA-O1A
39	KD	502	GDP	PB-O3A-PA-O2A
39	PL	502	GDP	PB-O3A-PA-O1A
39	TB	502	GDP	PB-O3A-PA-O2A
37	GM	501	GTP	C4'-C5'-O5'-PA
37	JK	501	GTP	C4'-C5'-O5'-PA
37	PI	501	GTP	C4'-C5'-O5'-PA
37	TM	501	GTP	C4'-C5'-O5'-PA
39	BJ	502	GDP	C4'-C5'-O5'-PA
39	PB	502	GDP	C4'-C5'-O5'-PA
37	HK	501	GTP	C5'-O5'-PA-O2A
37	IK	501	GTP	C5'-O5'-PA-O2A
37	JK	501	GTP	C5'-O5'-PA-O1A
37	KM	501	GTP	C5'-O5'-PA-O1A
37	LK	501	GTP	C5'-O5'-PA-O1A
37	ME	501	GTP	C5'-O5'-PA-O1A
37	OA	501	GTP	C5'-O5'-PA-O2A
37	QI	501	GTP	C5'-O5'-PA-O2A
37	SC	501	GTP	C5'-O5'-PA-O1A
37	TC	501	GTP	C5'-O5'-PA-O1A

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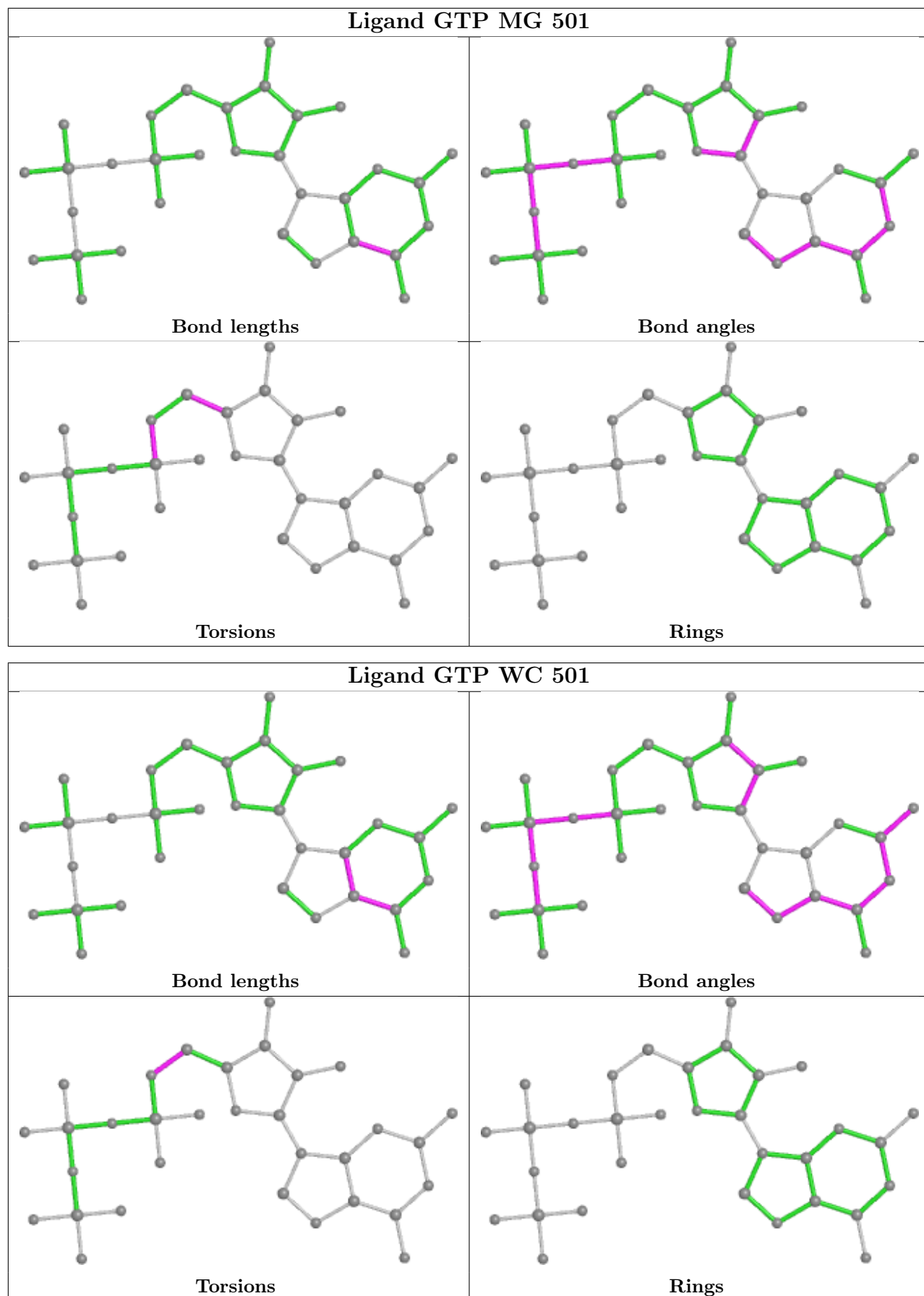
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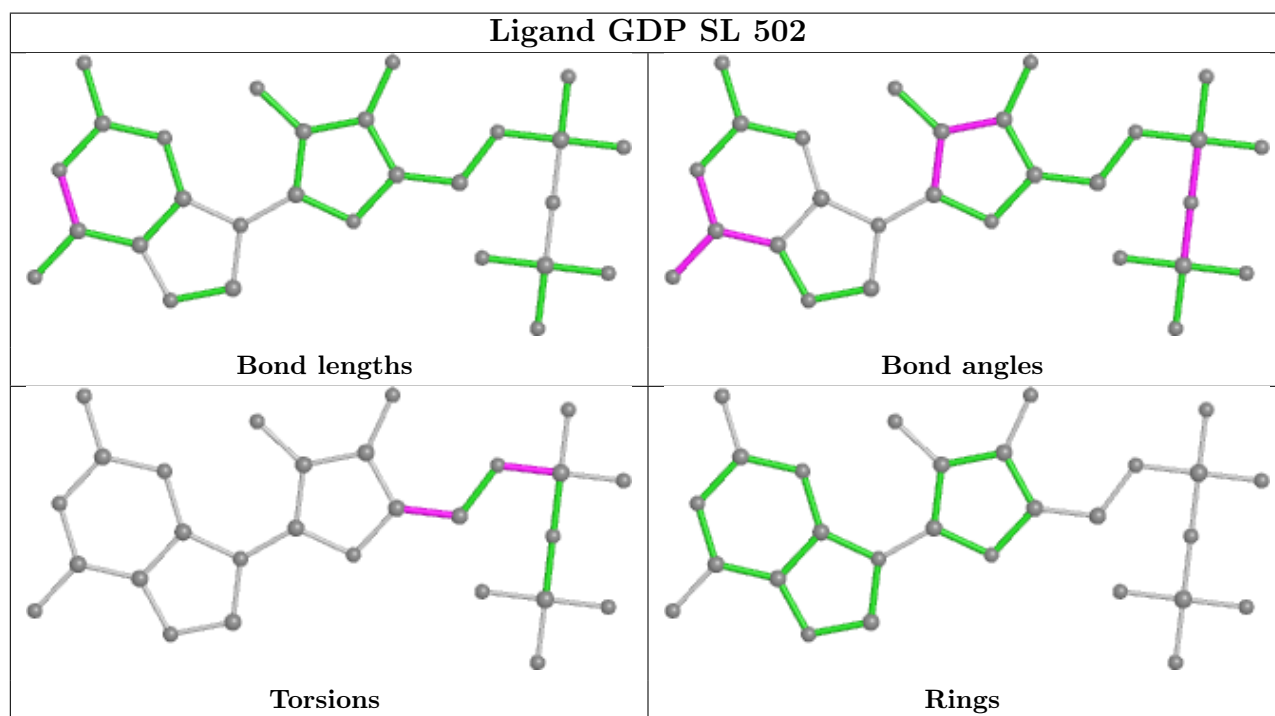
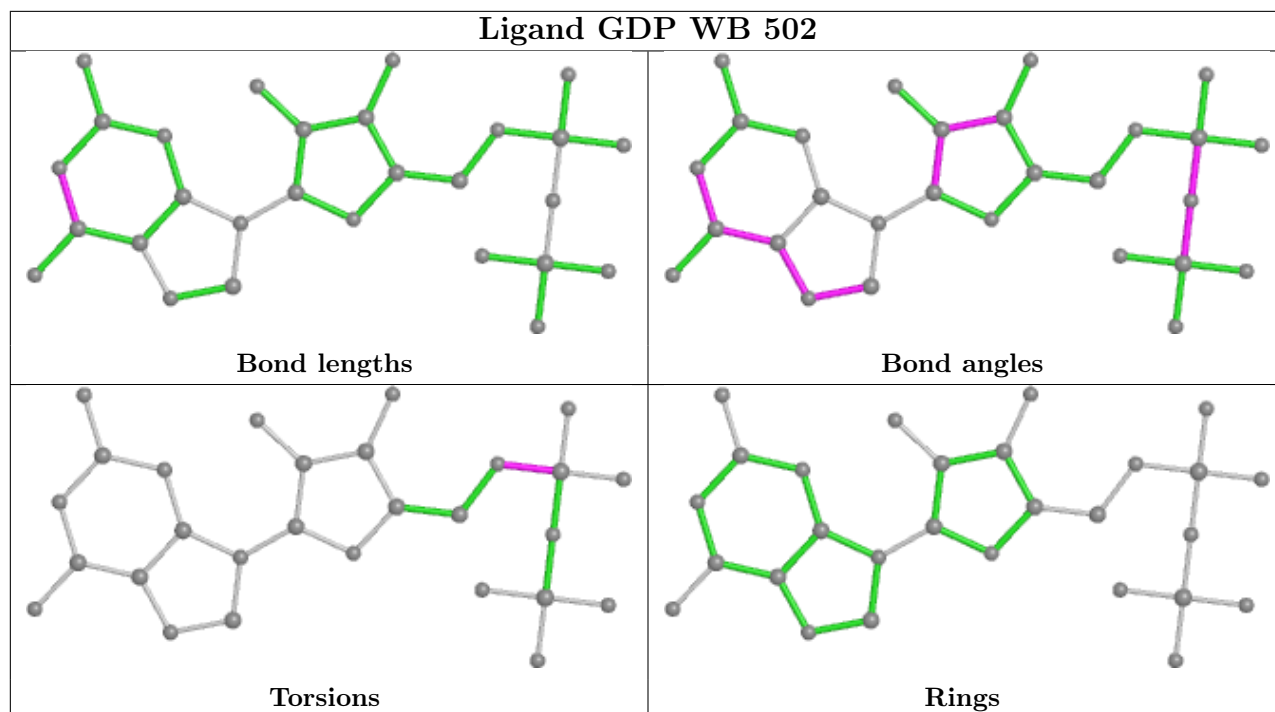
Mol	Chain	Res	Type	Atoms
39	AH	502	GDP	C5'-O5'-PA-O1A
39	EF	502	GDP	C5'-O5'-PA-O2A
39	EL	502	GDP	C5'-O5'-PA-O1A
39	HB	502	GDP	C5'-O5'-PA-O1A
39	HF	502	GDP	C5'-O5'-PA-O1A
39	HN	502	GDP	C5'-O5'-PA-O1A
39	KL	502	GDP	C5'-O5'-PA-O1A
39	LB	502	GDP	C5'-O5'-PA-O1A
39	MJ	502	GDP	C5'-O5'-PA-O1A
39	OD	502	GDP	C5'-O5'-PA-O1A
39	RF	502	GDP	C5'-O5'-PA-O1A
39	SB	502	GDP	C5'-O5'-PA-O1A
39	TF	502	GDP	C5'-O5'-PA-O1A
39	VF	502	GDP	C5'-O5'-PA-O2A
39	WB	502	GDP	C5'-O5'-PA-O1A
37	NG	501	GTP	O4'-C4'-C5'-O5'
39	KH	502	GDP	O4'-C4'-C5'-O5'
39	PB	502	GDP	O4'-C4'-C5'-O5'
39	WF	502	GDP	C3'-C4'-C5'-O5'
37	KC	501	GTP	PB-O3B-PG-O1G
39	EN	502	GDP	PA-O3A-PB-O1B
39	CL	502	GDP	C4'-C5'-O5'-PA
37	AC	501	GTP	C3'-C4'-C5'-O5'
37	AG	501	GTP	C3'-C4'-C5'-O5'
37	VK	501	GTP	C3'-C4'-C5'-O5'

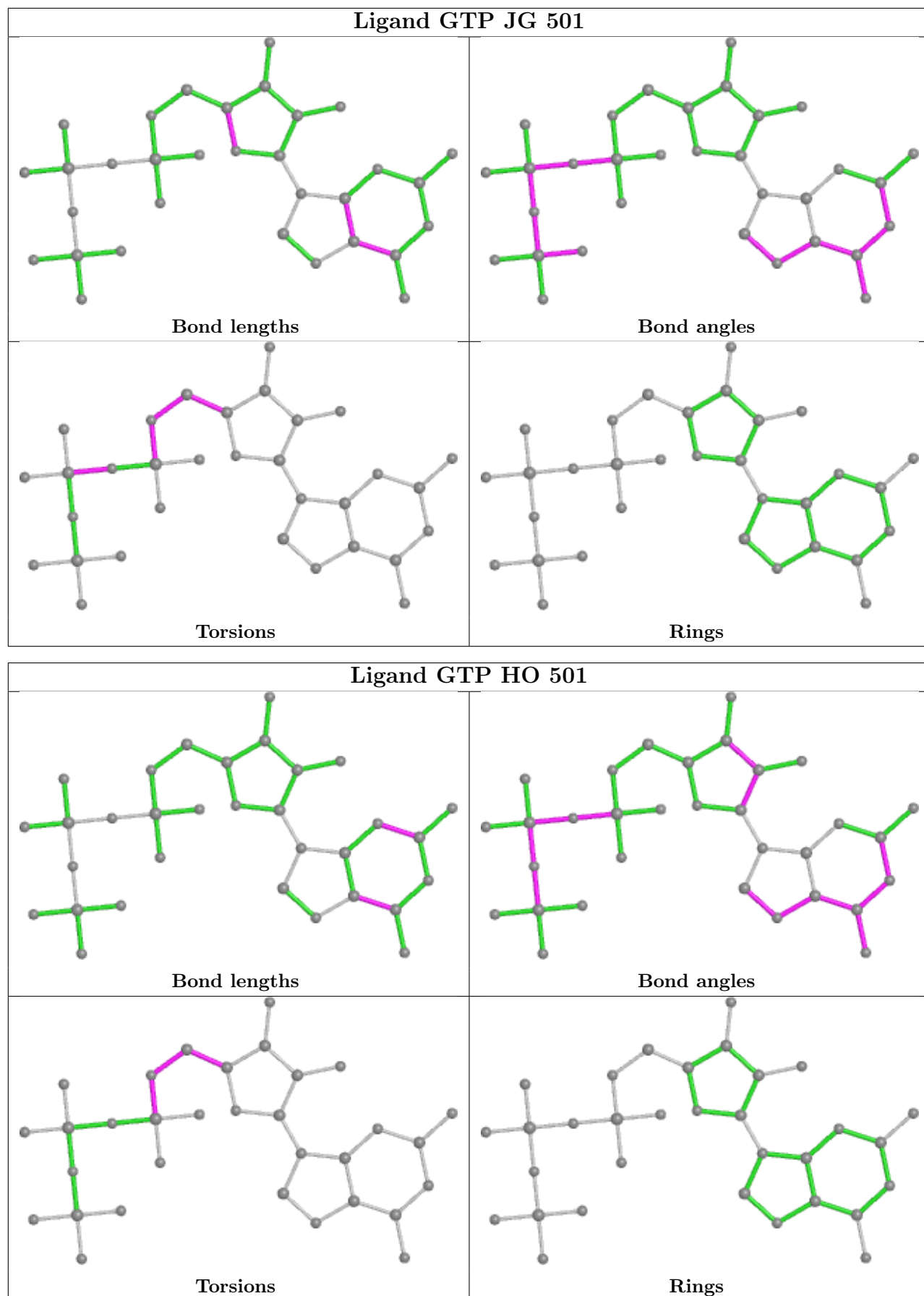
There are no ring outliers.

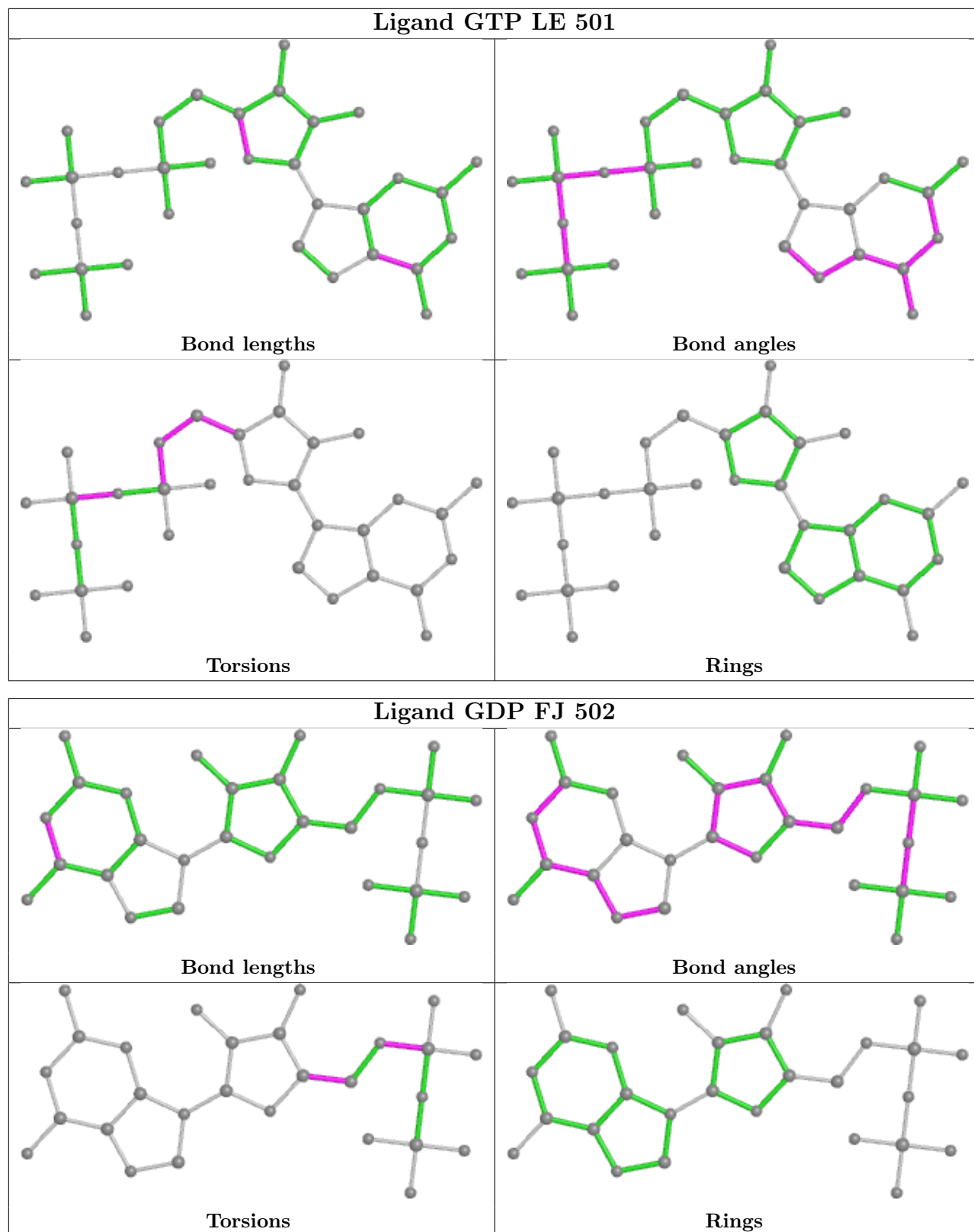
No monomer is involved in short contacts.

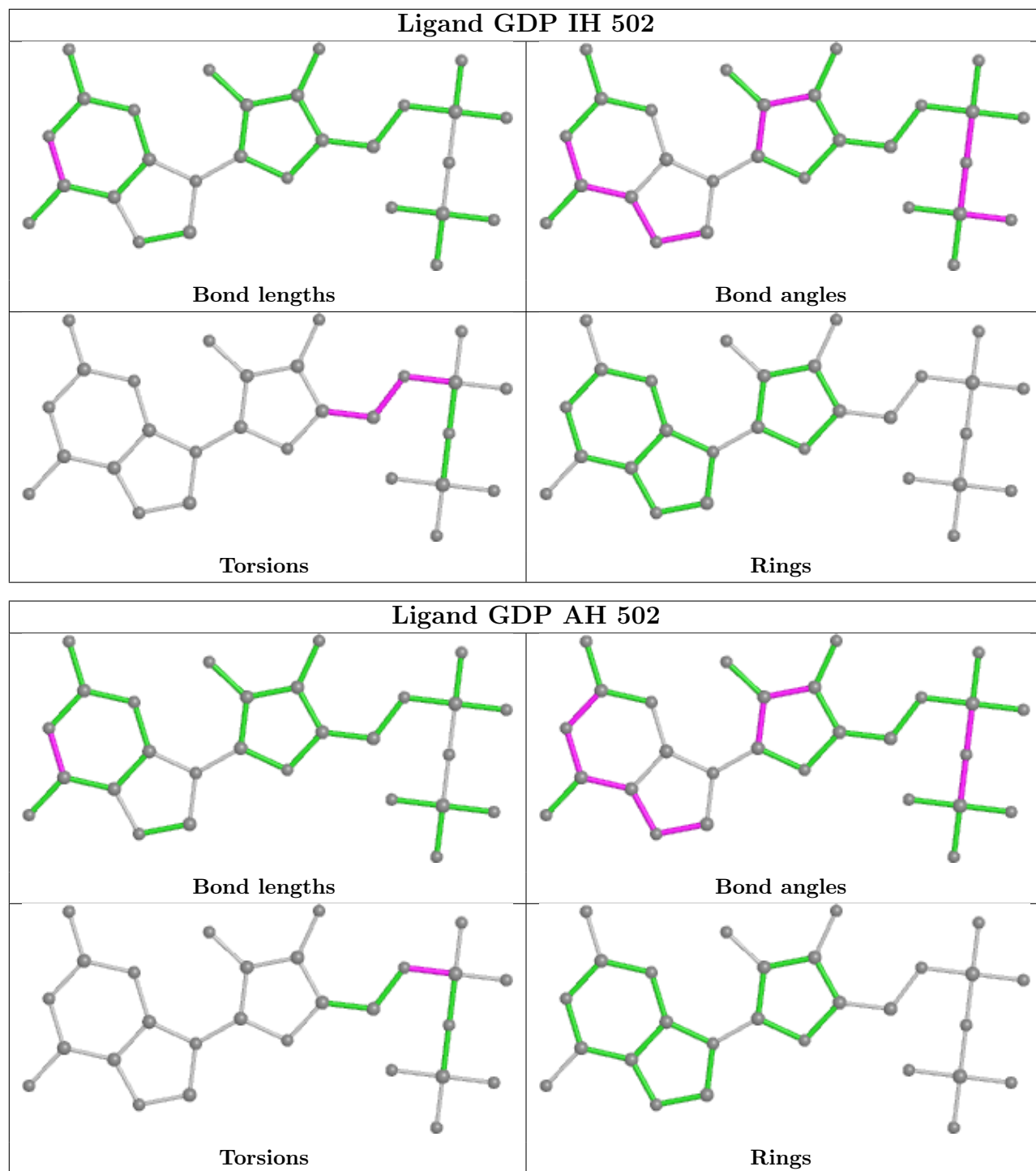
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

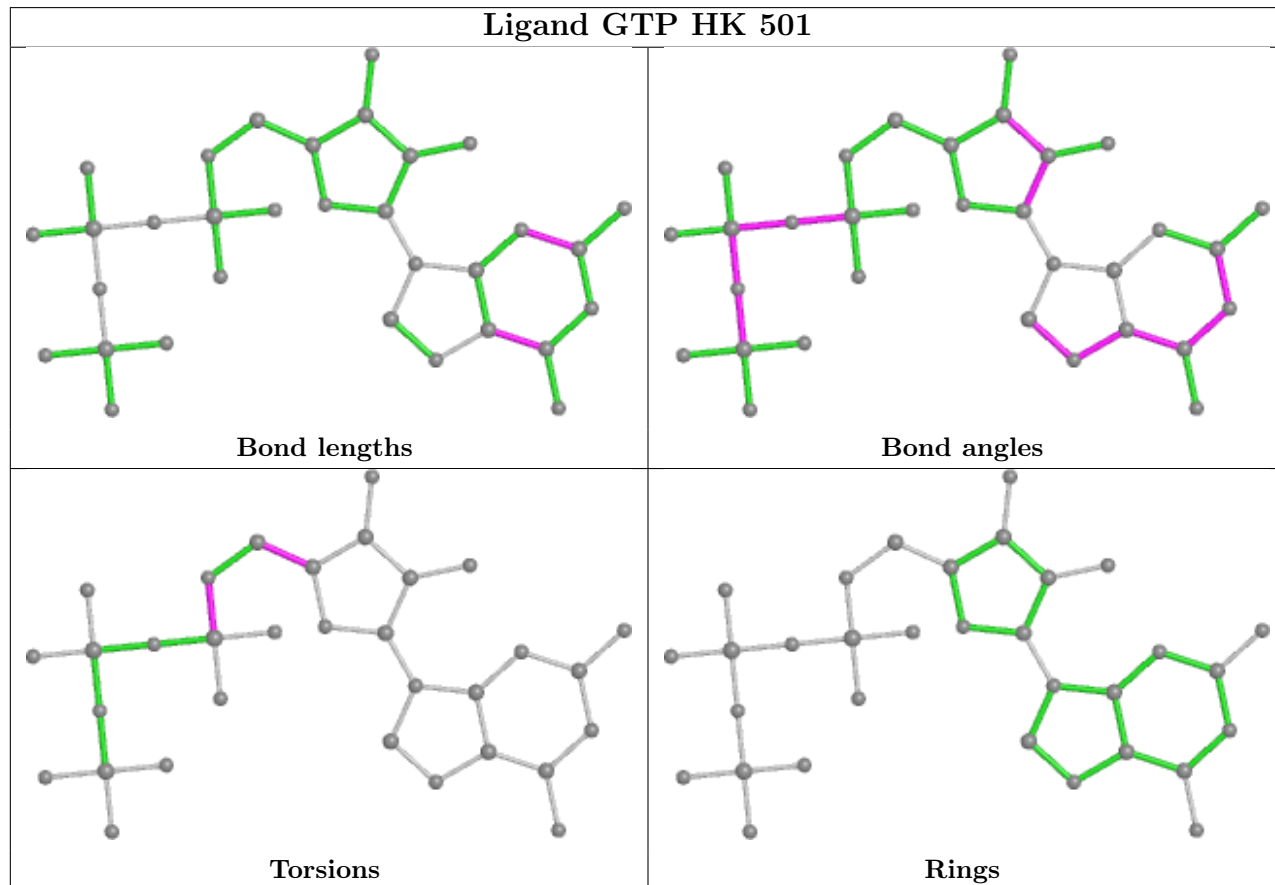
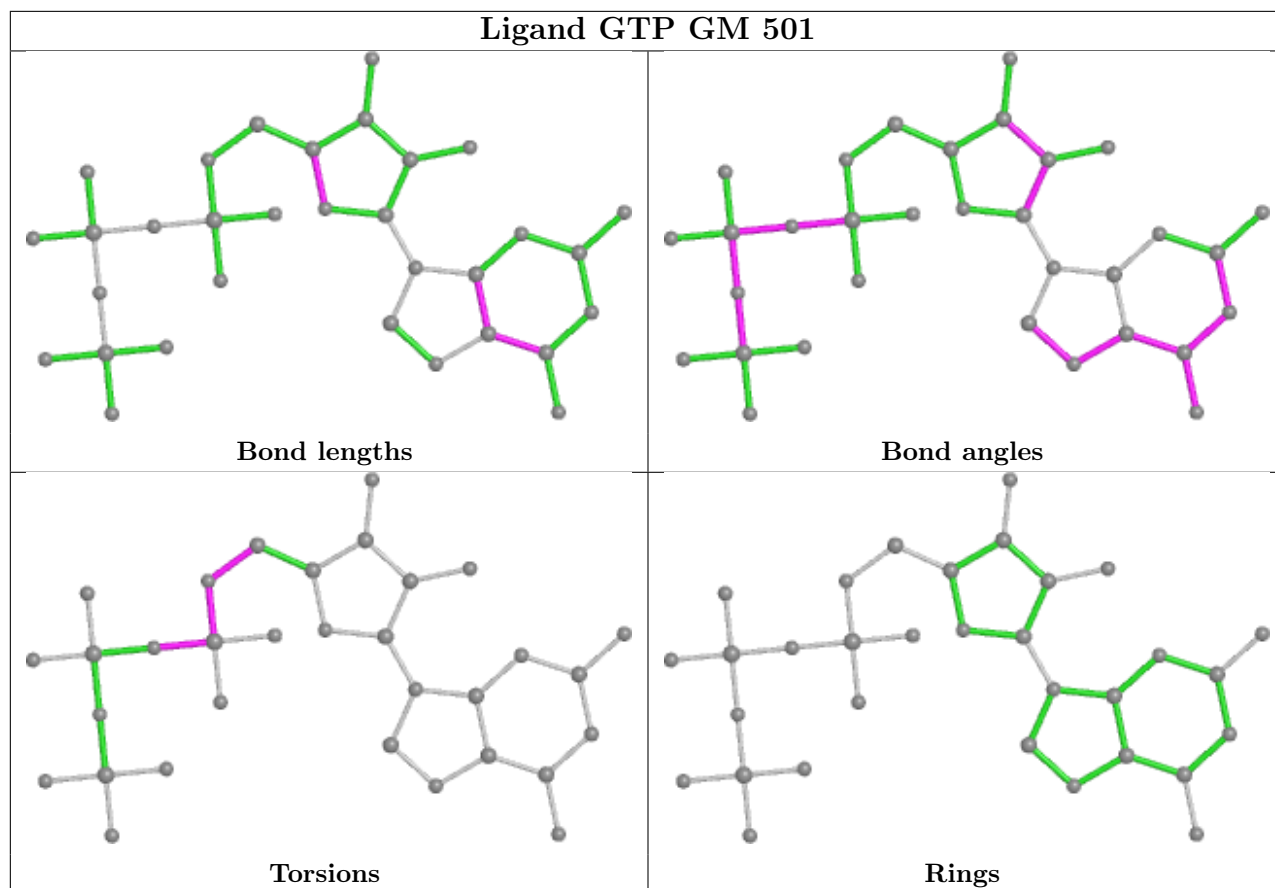


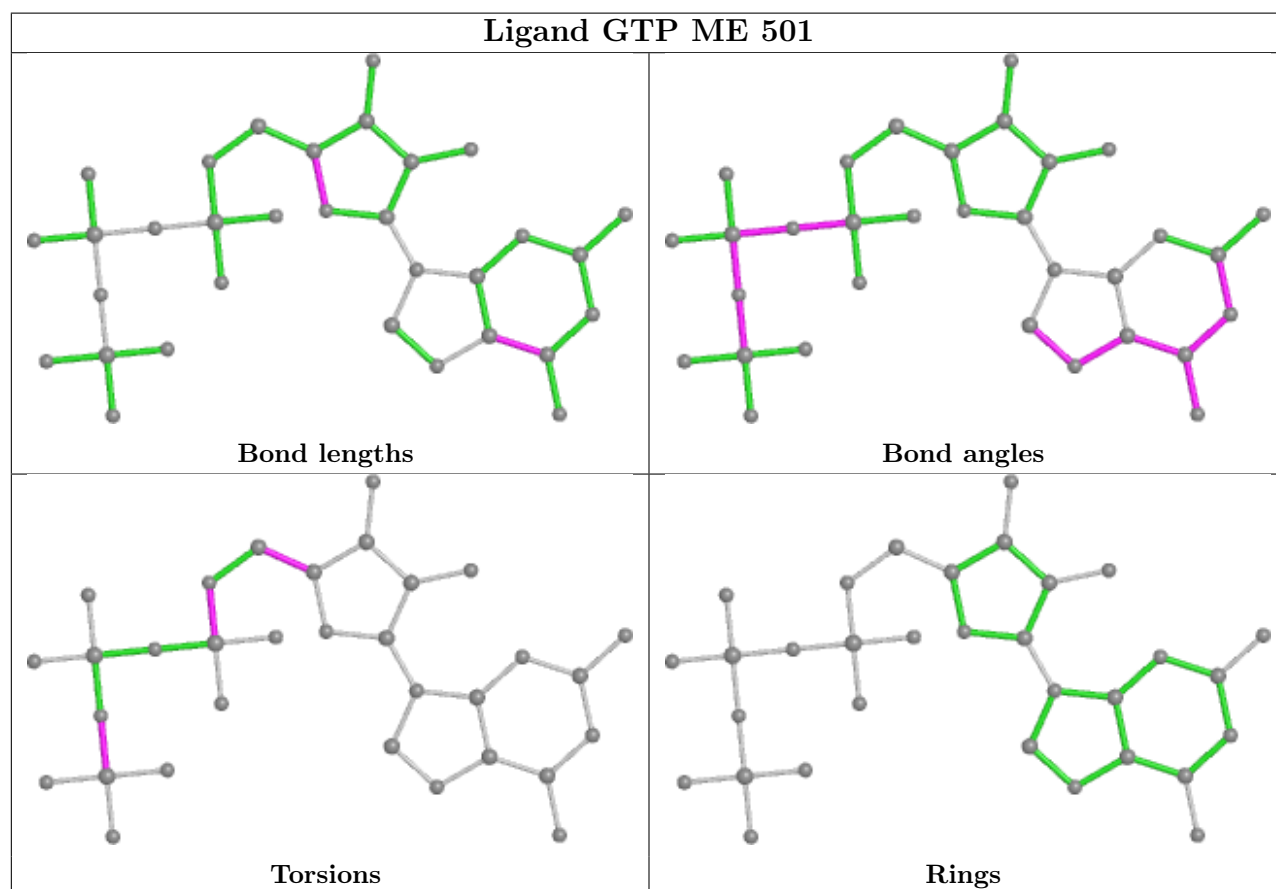
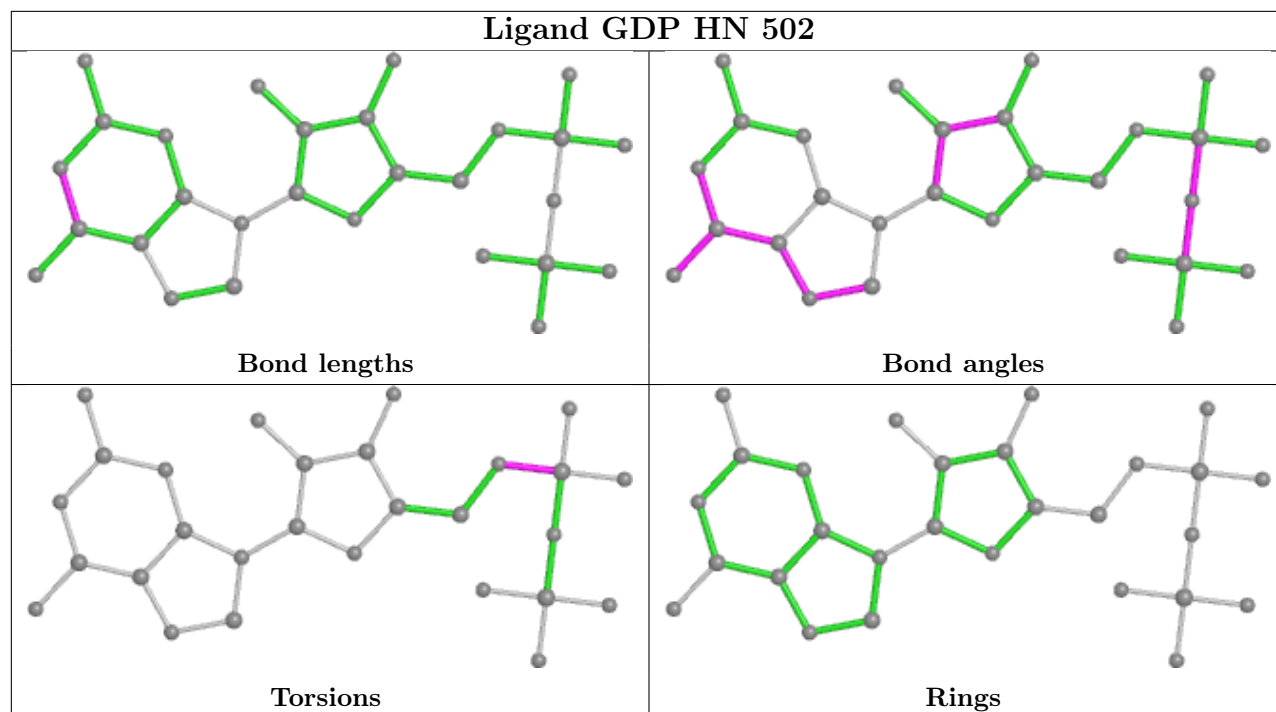


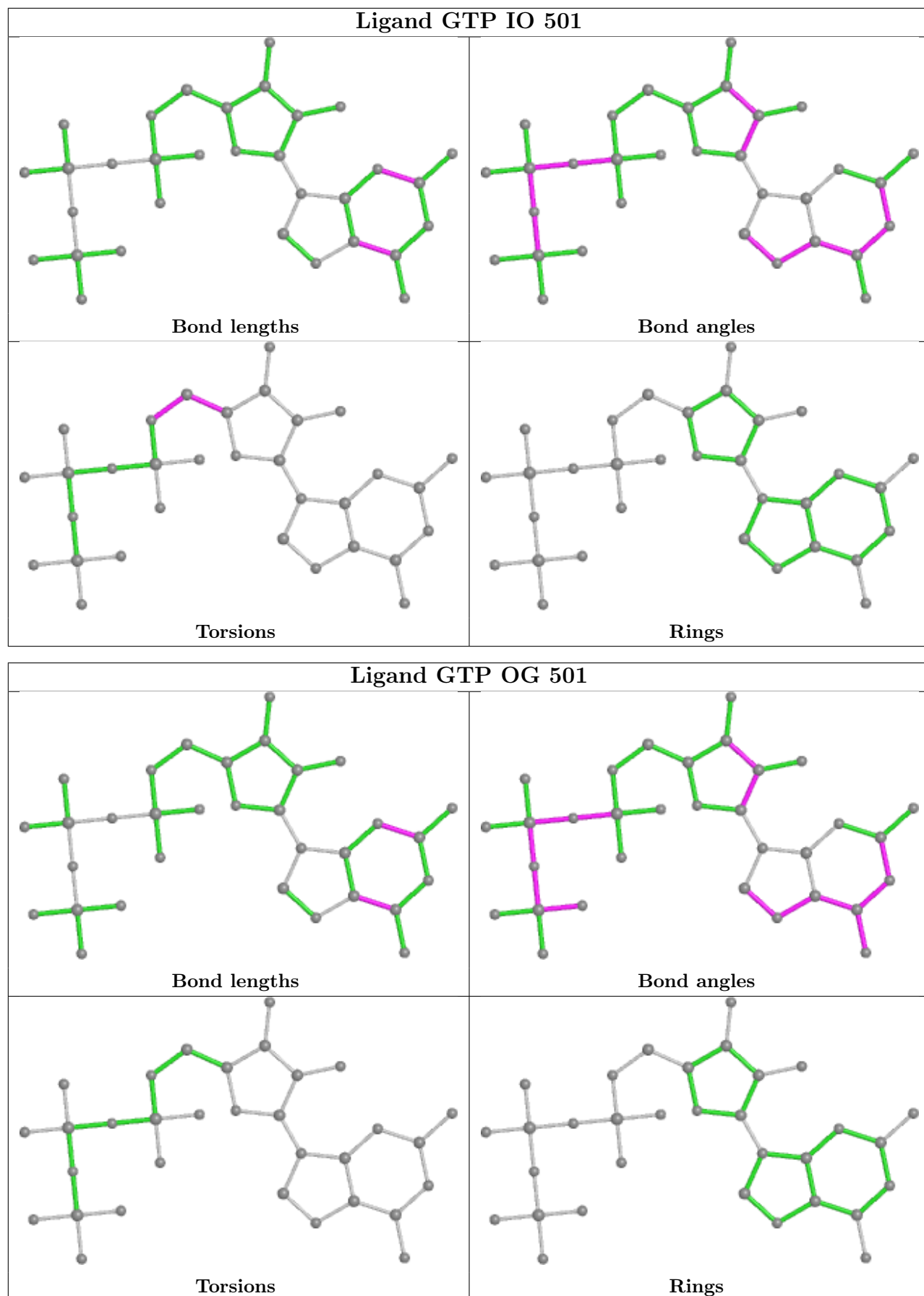


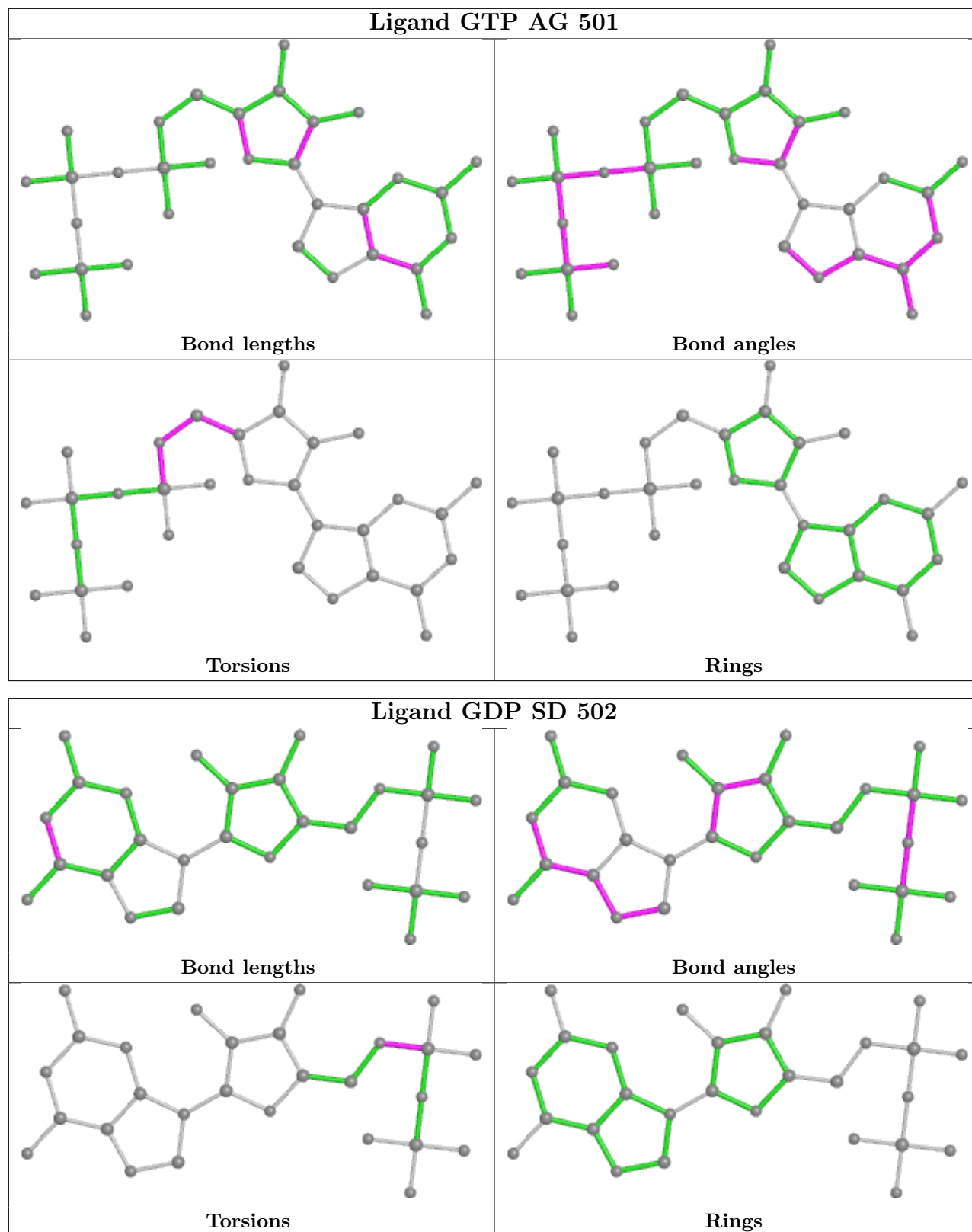


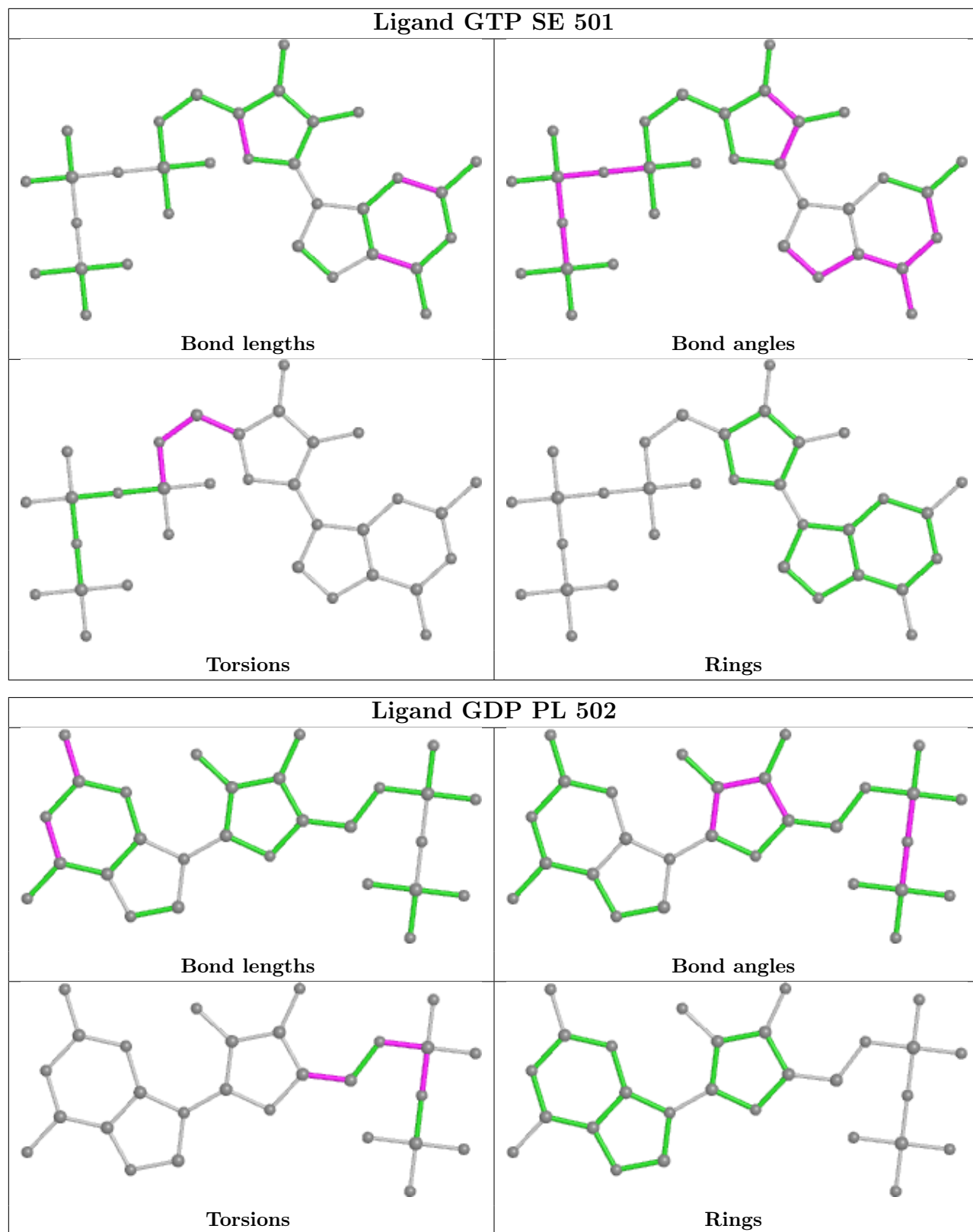


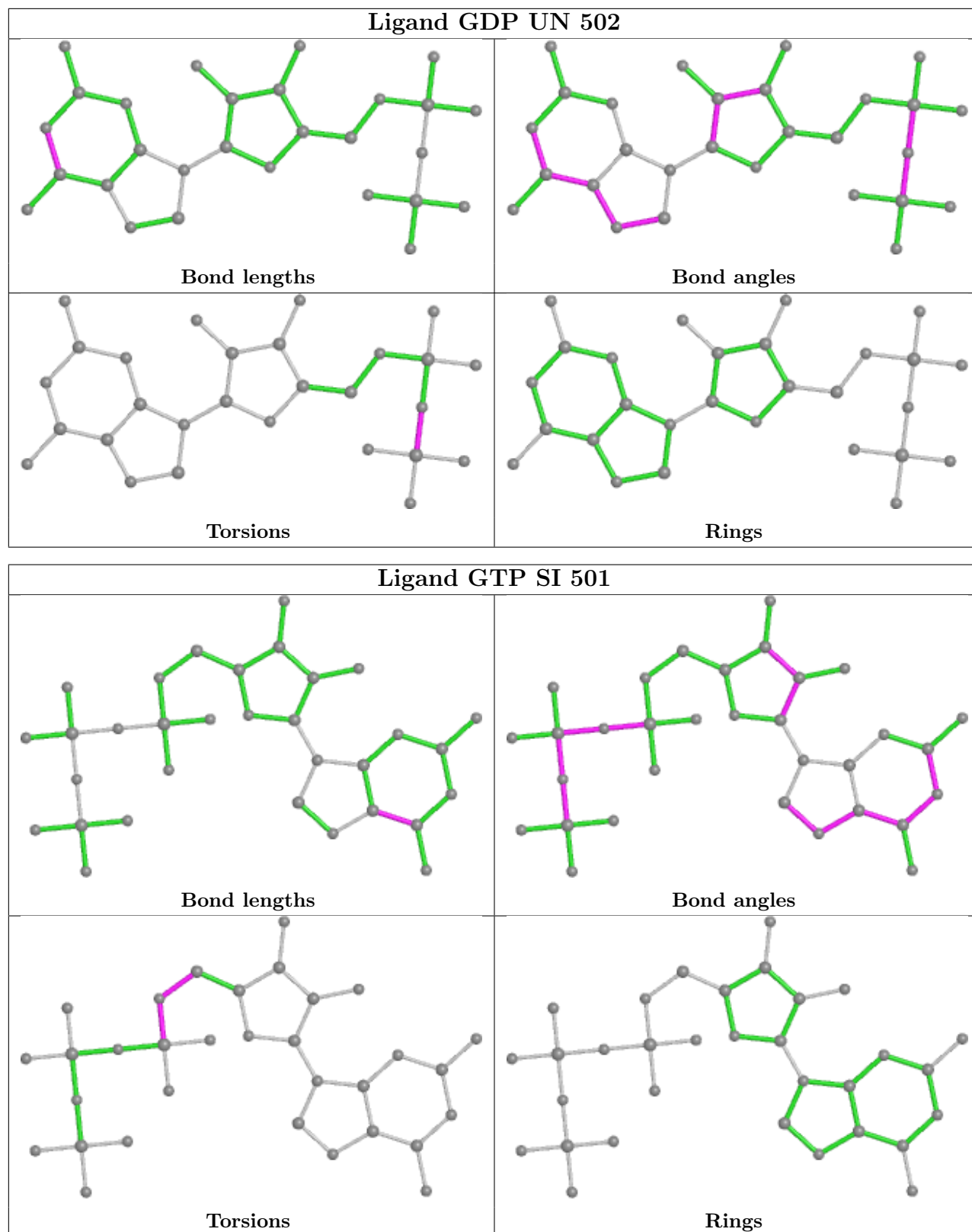


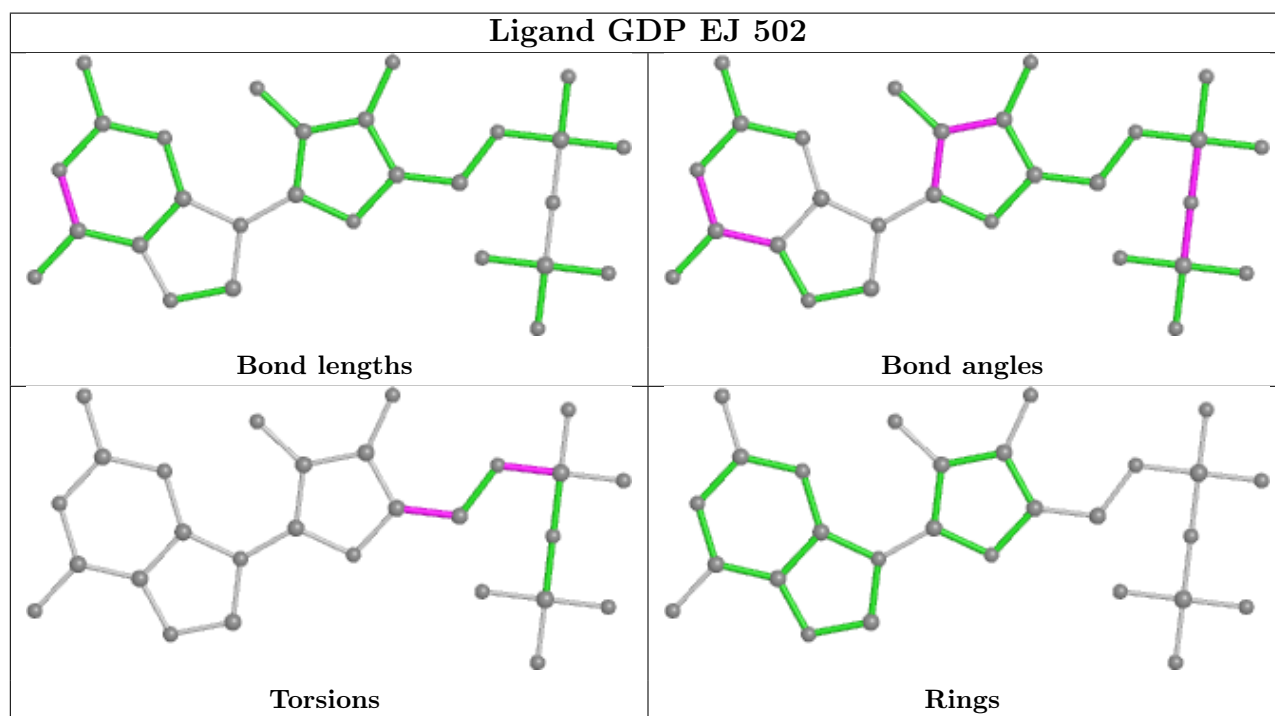
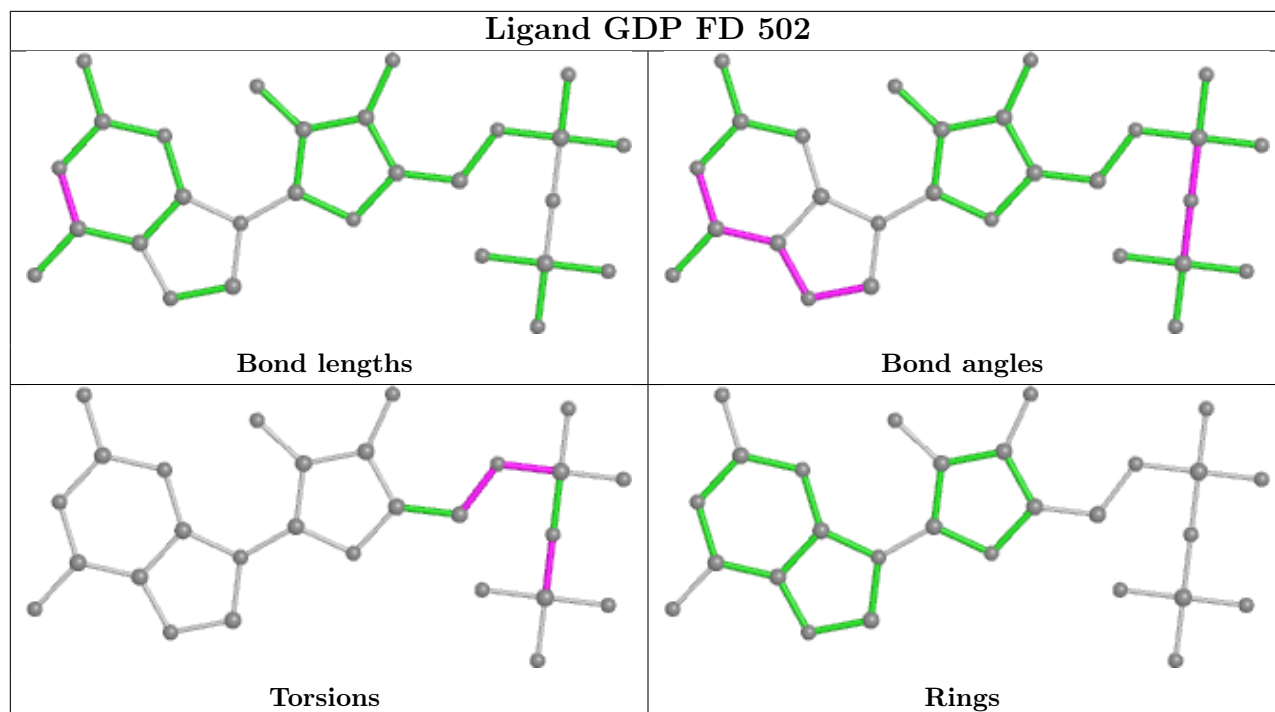


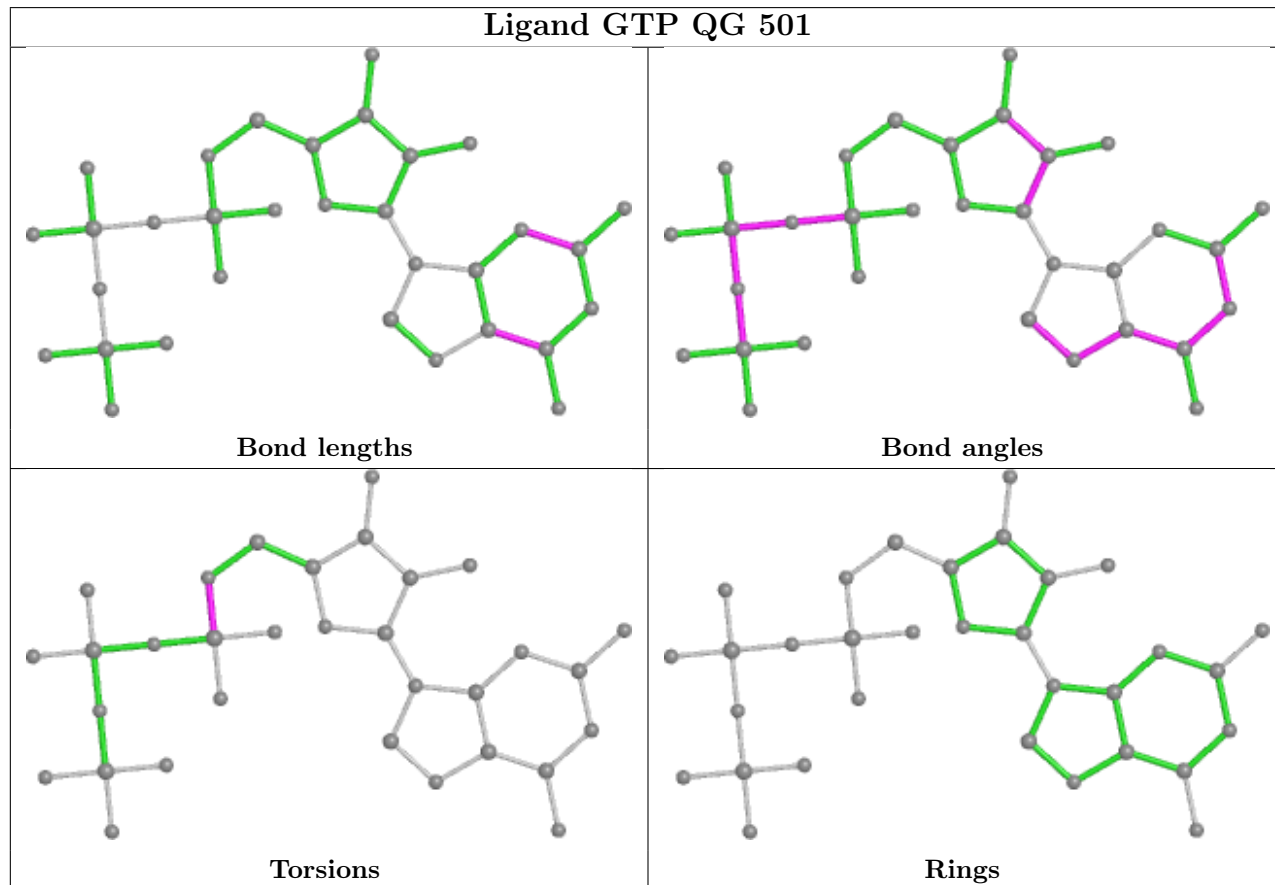
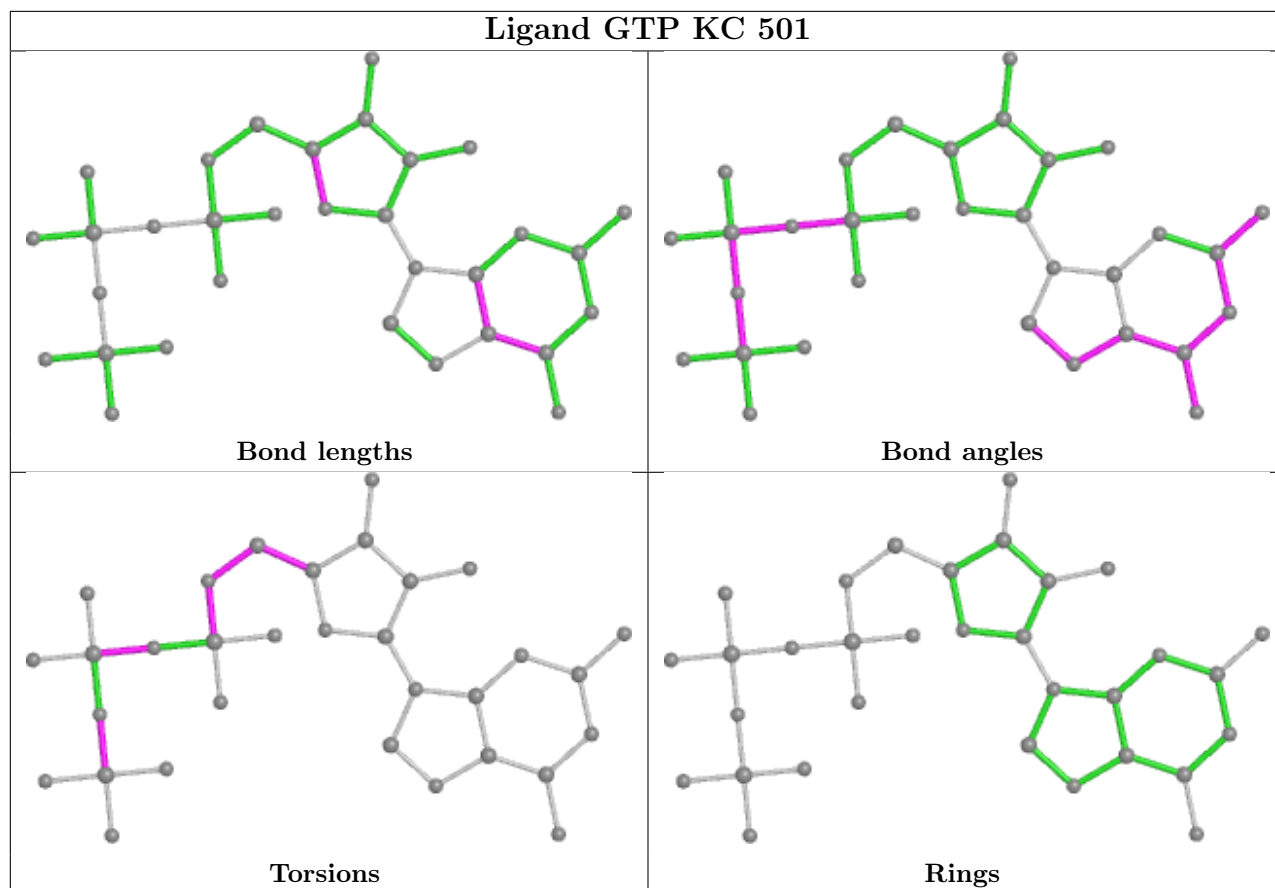


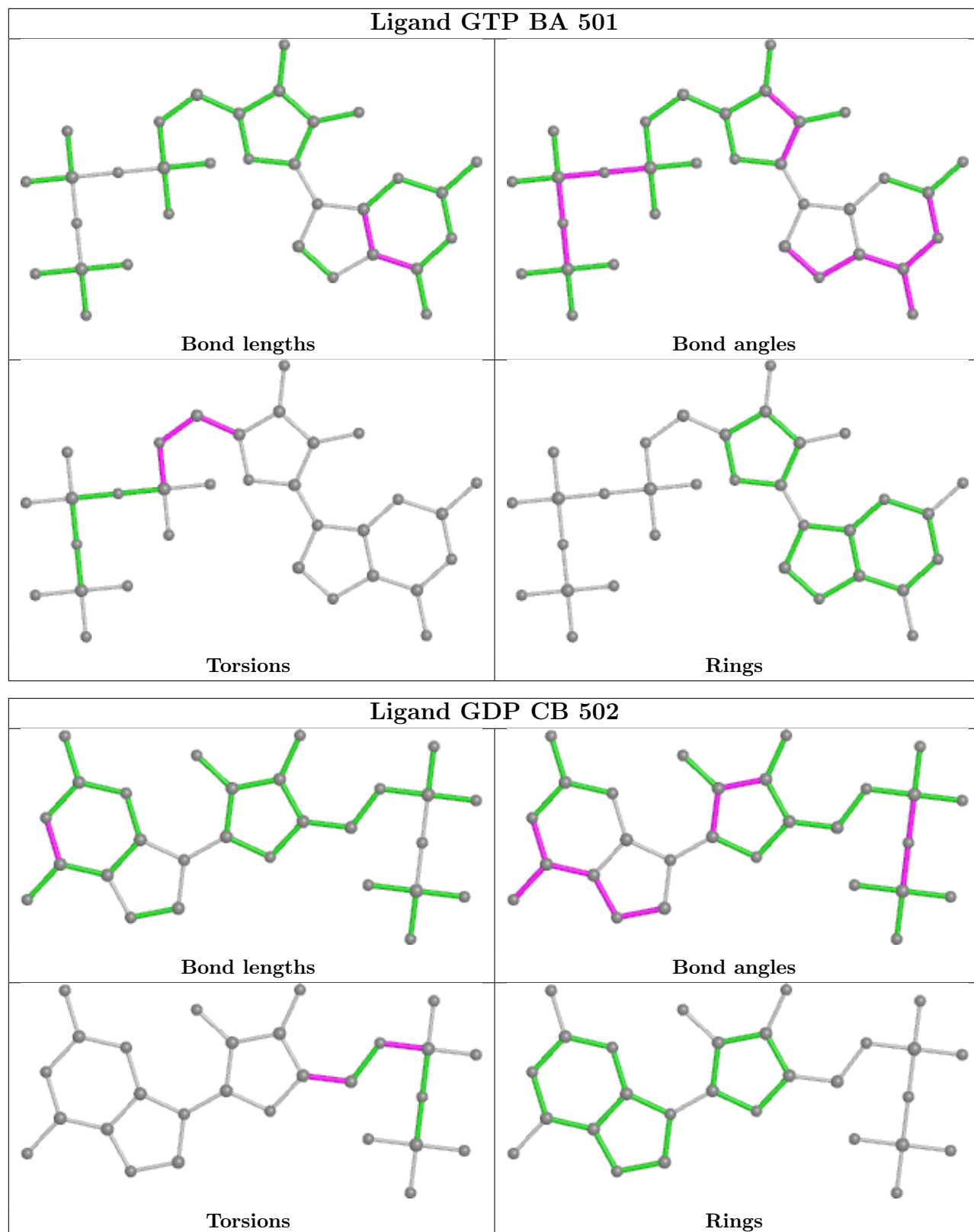


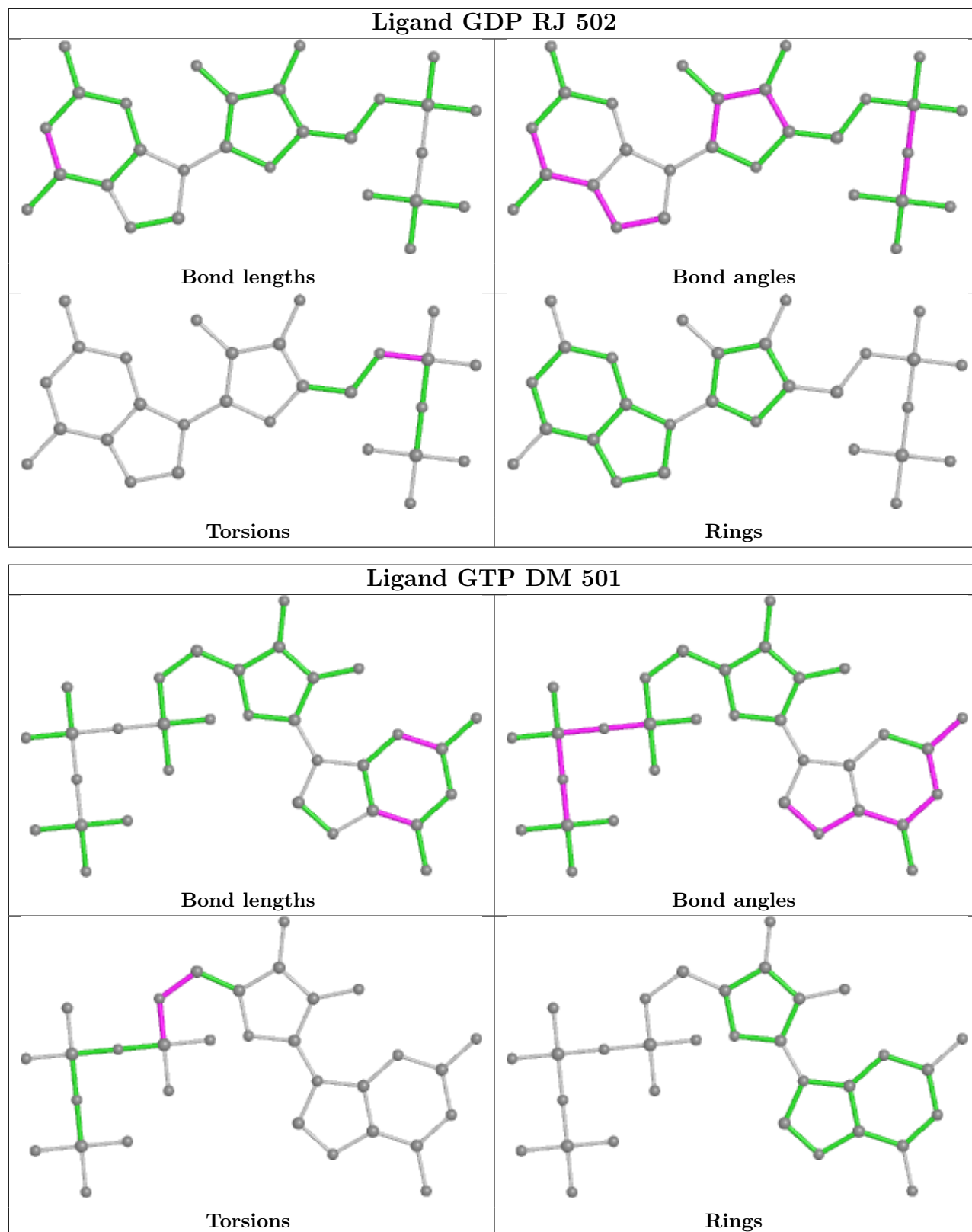


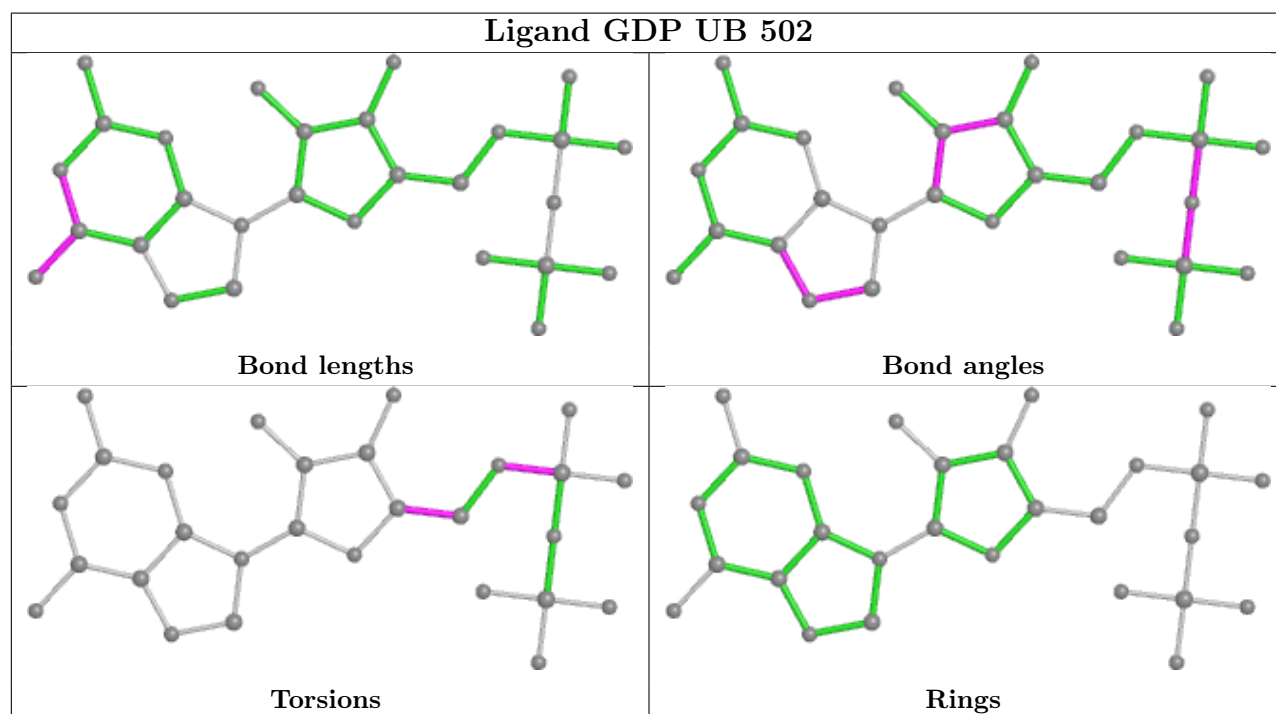
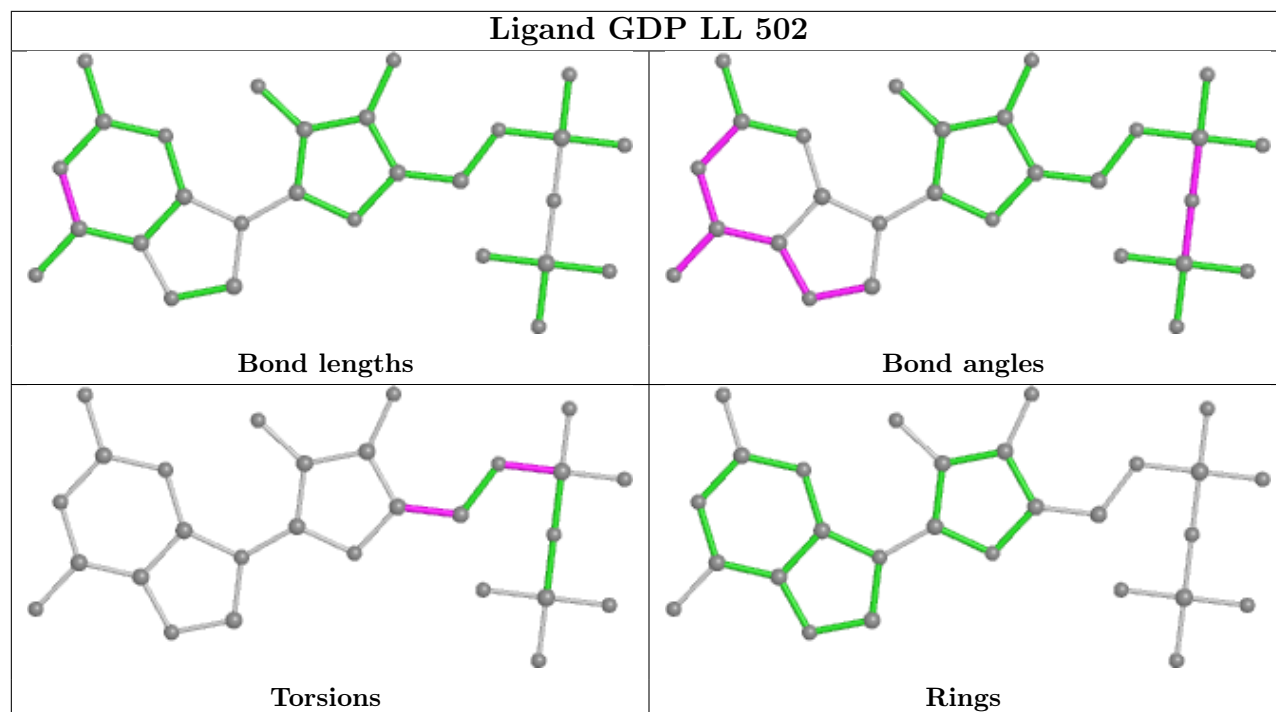


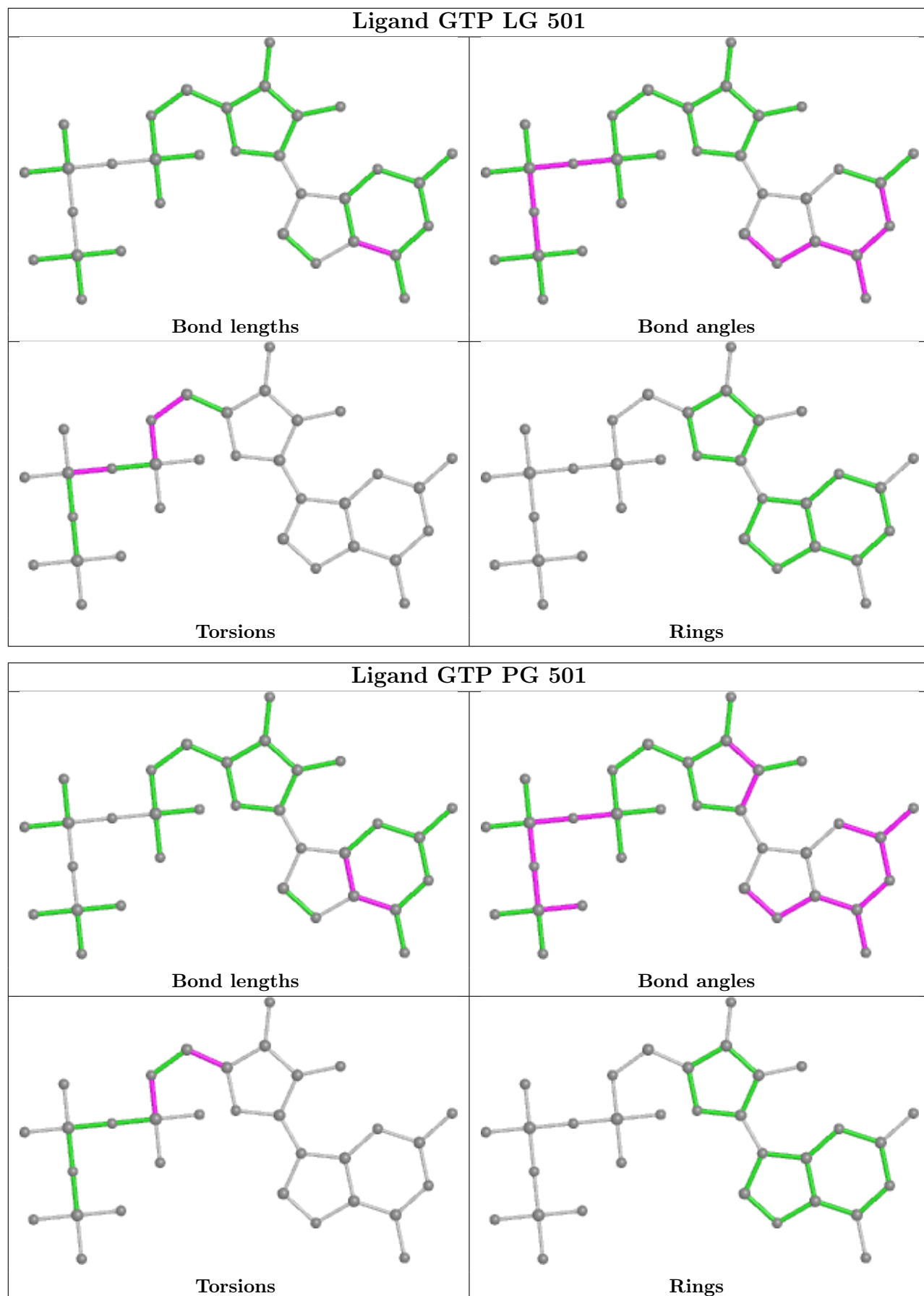


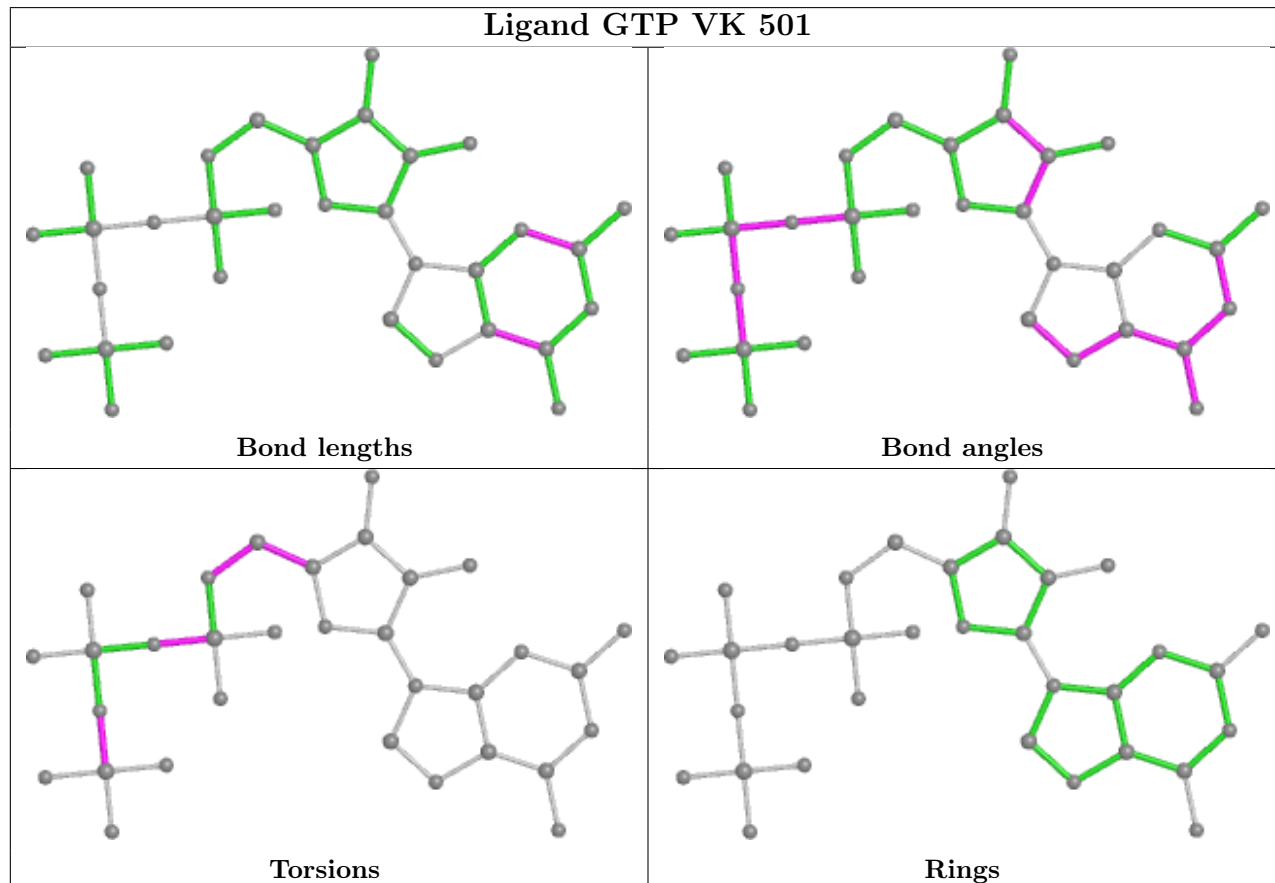
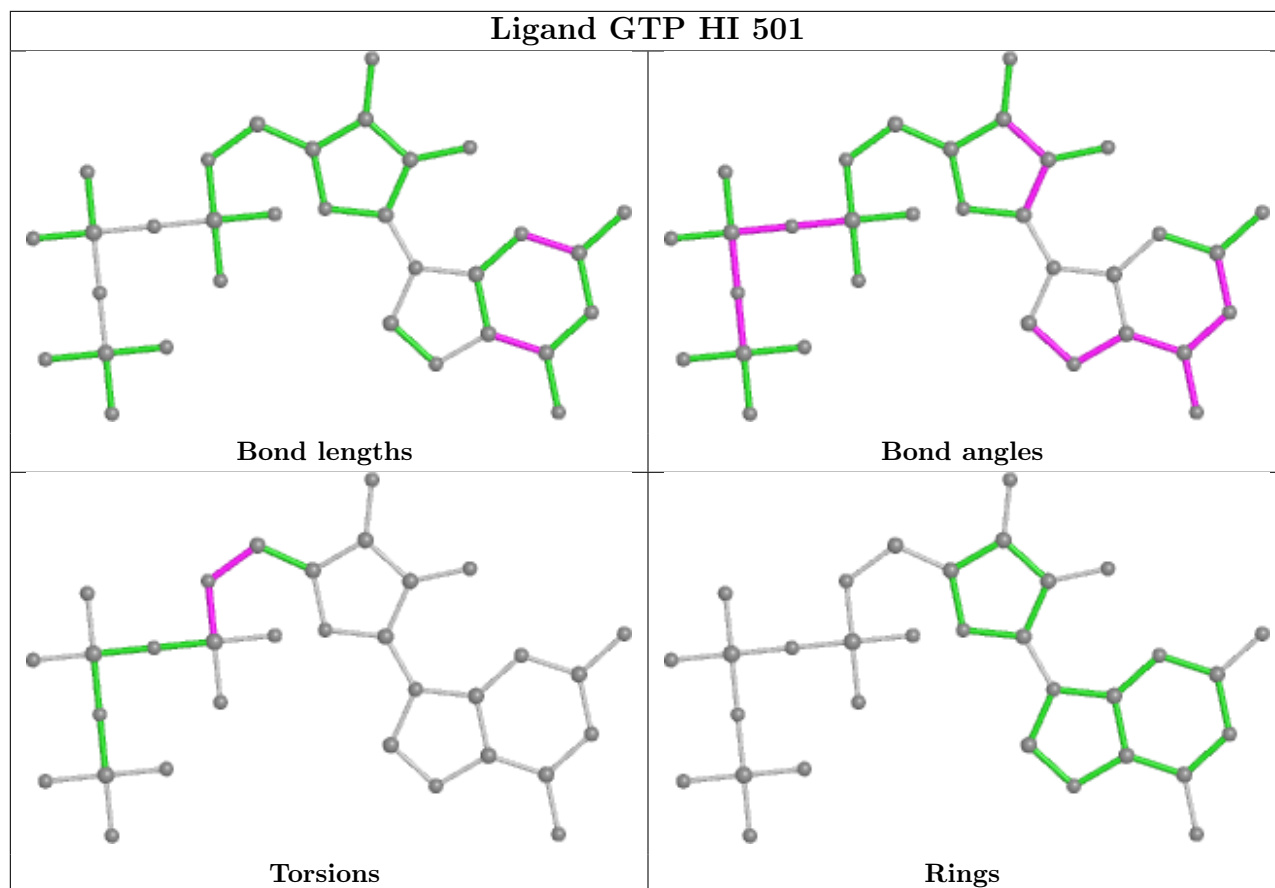


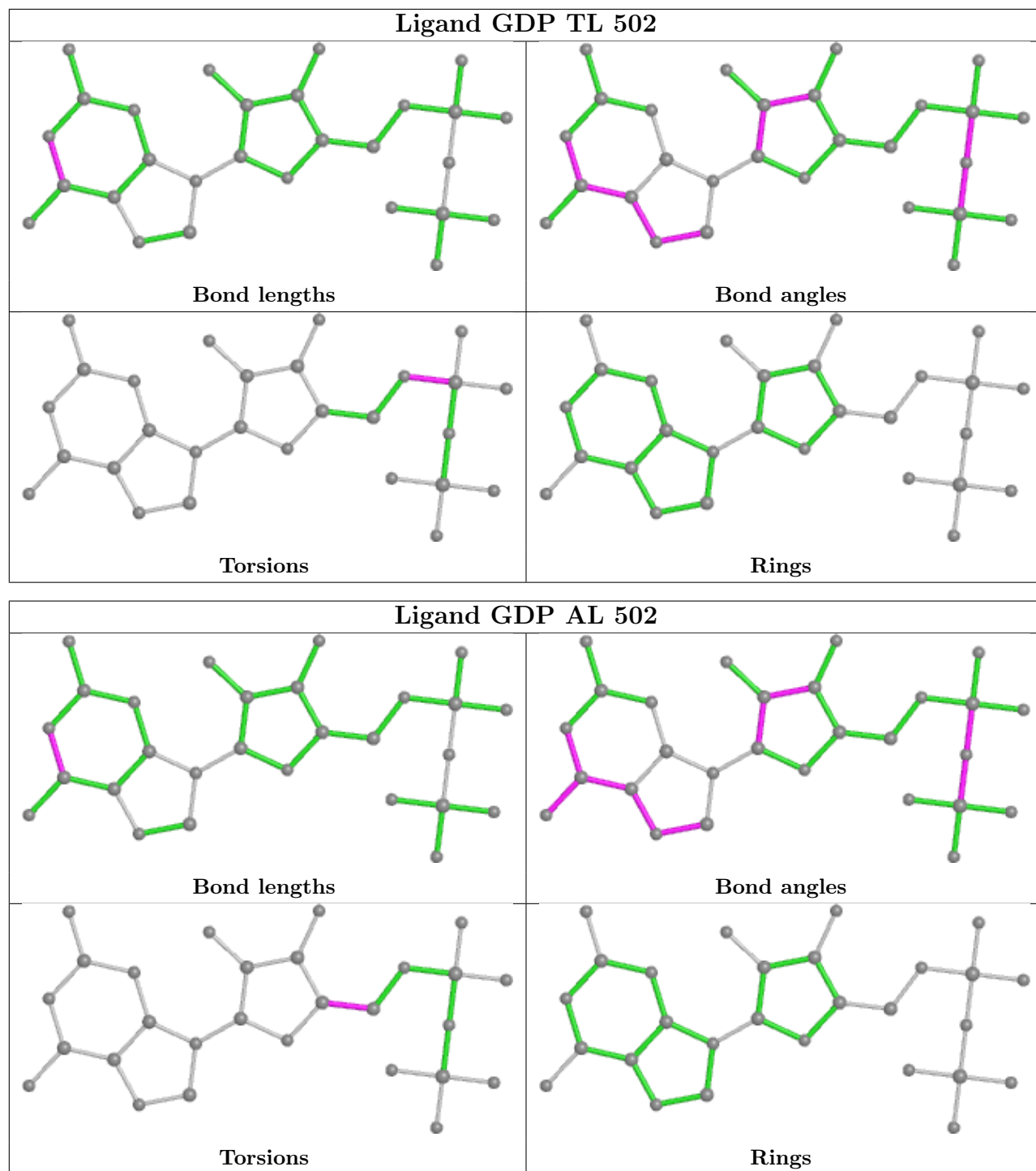


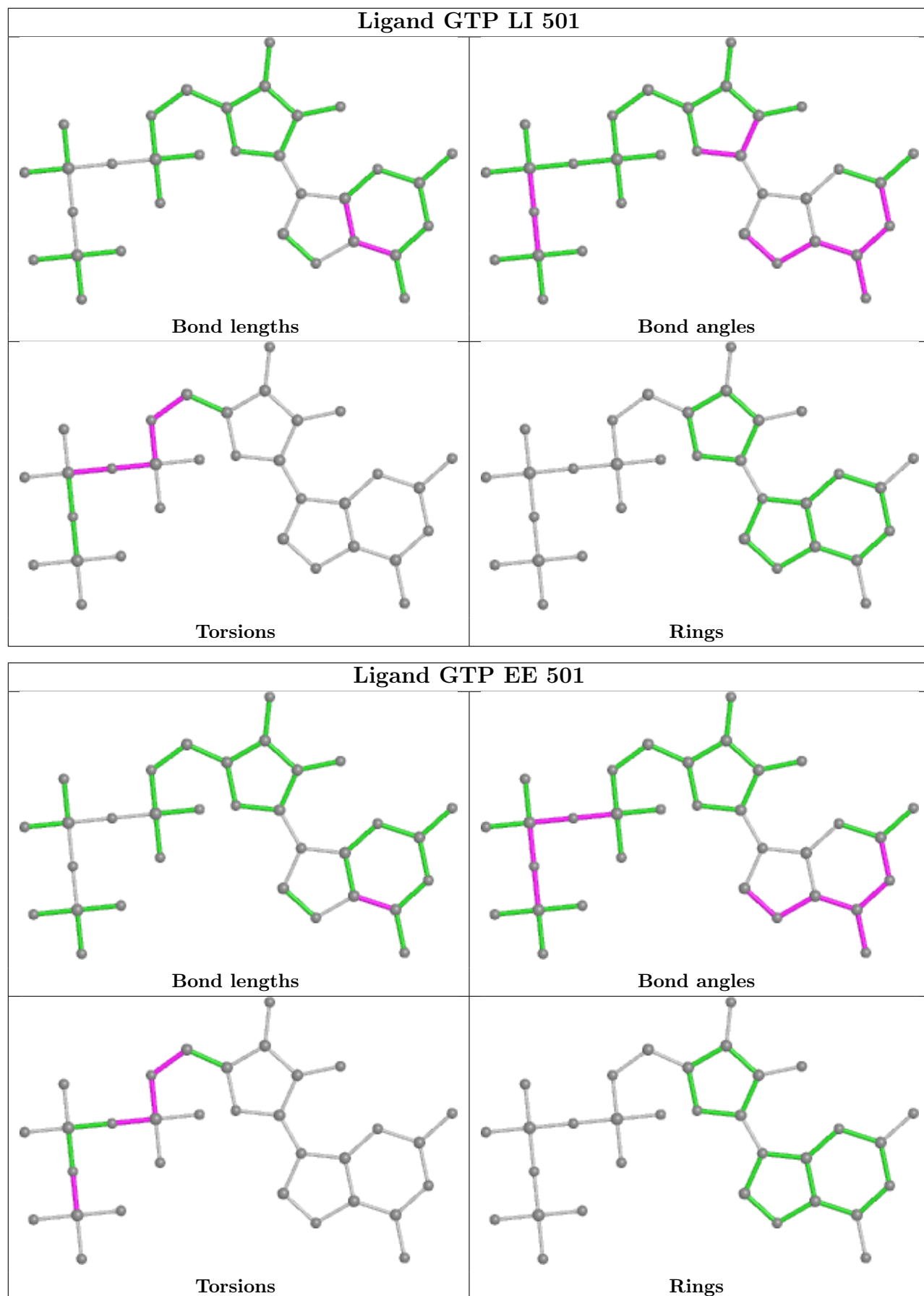


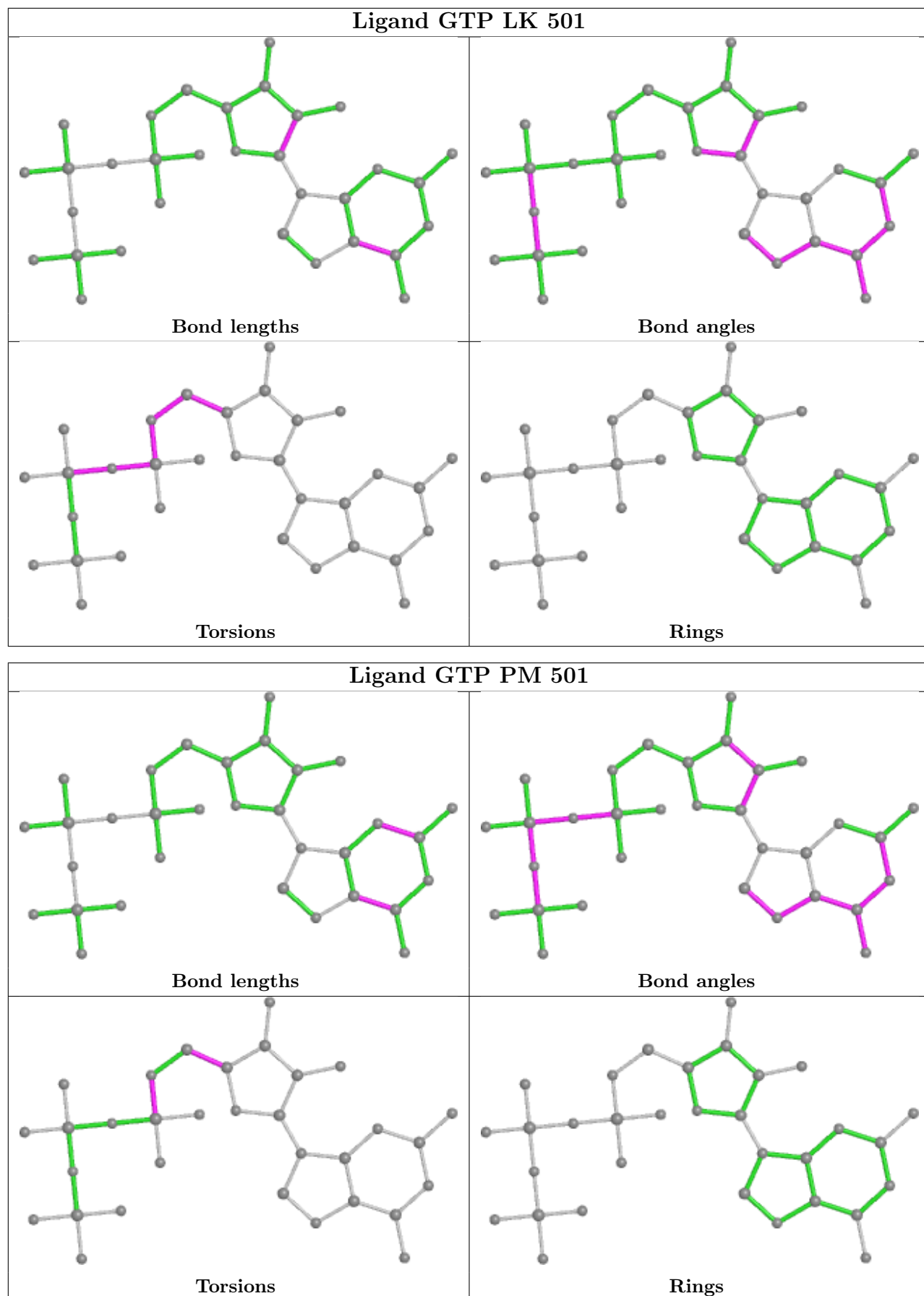


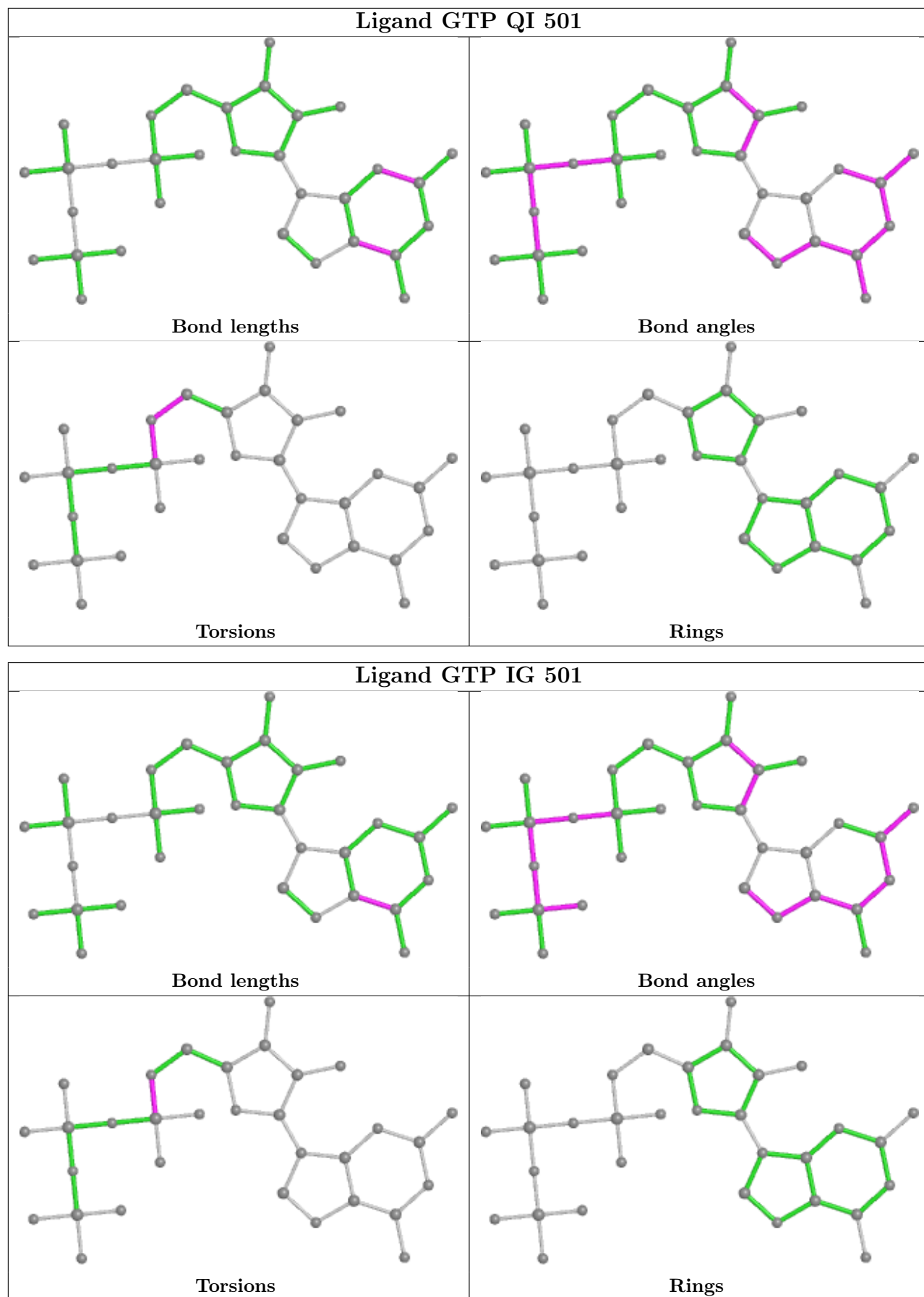


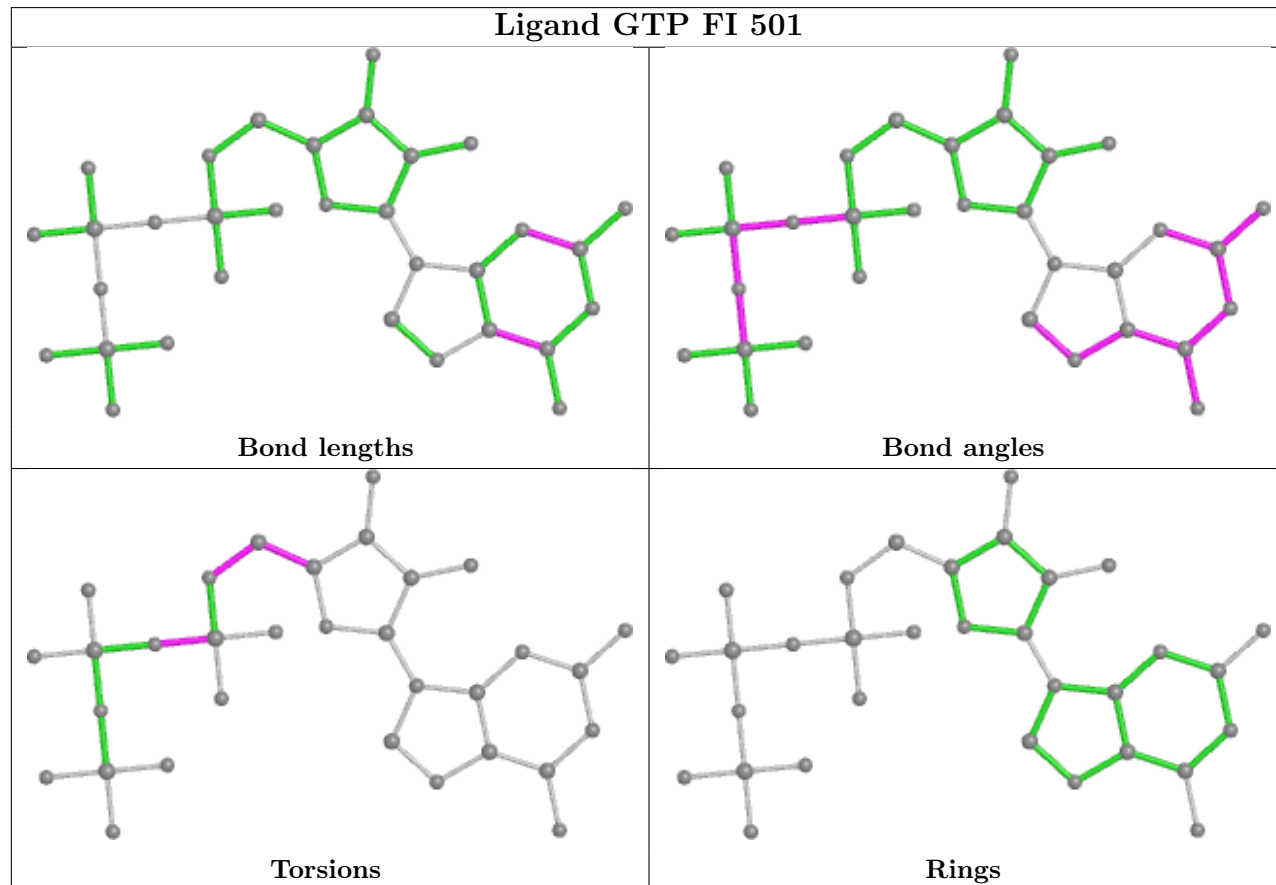
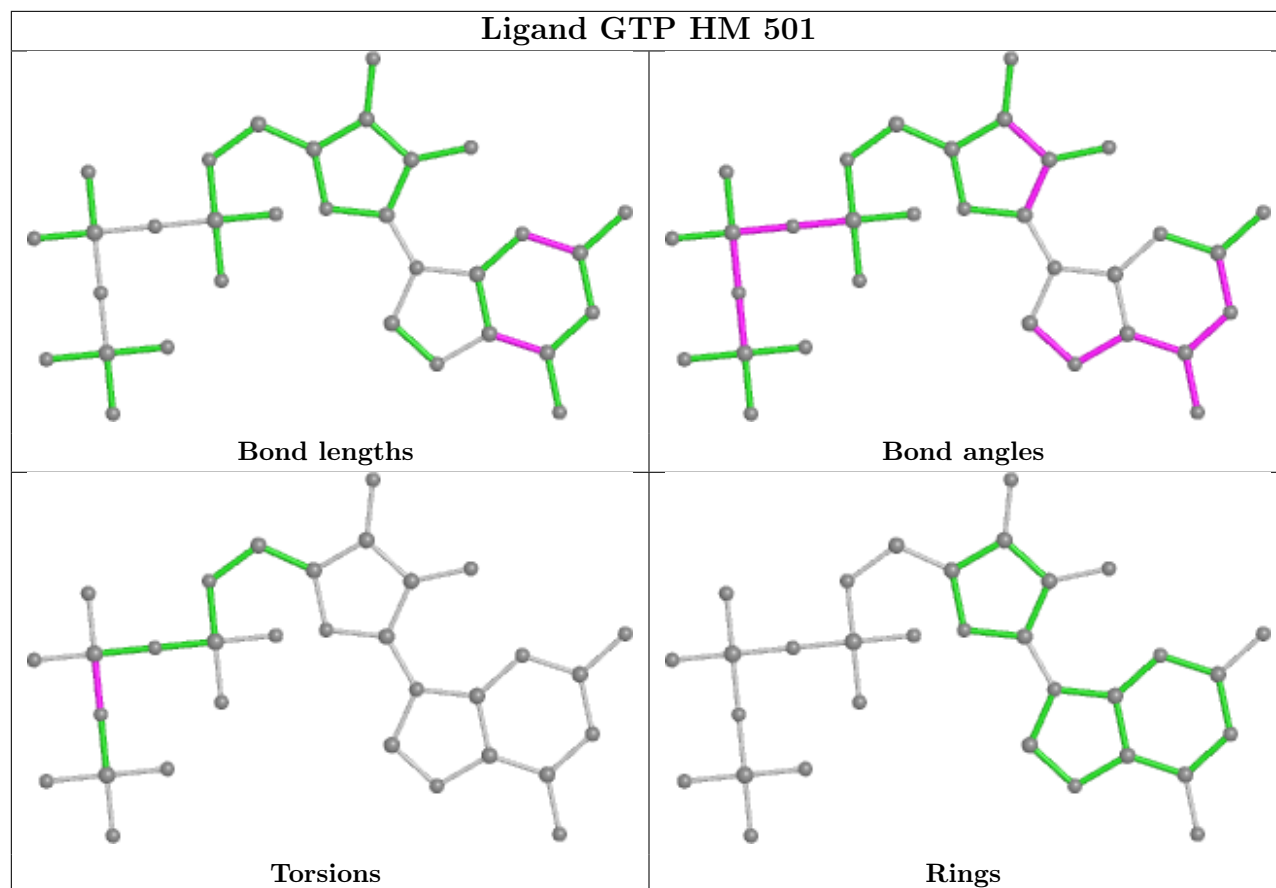


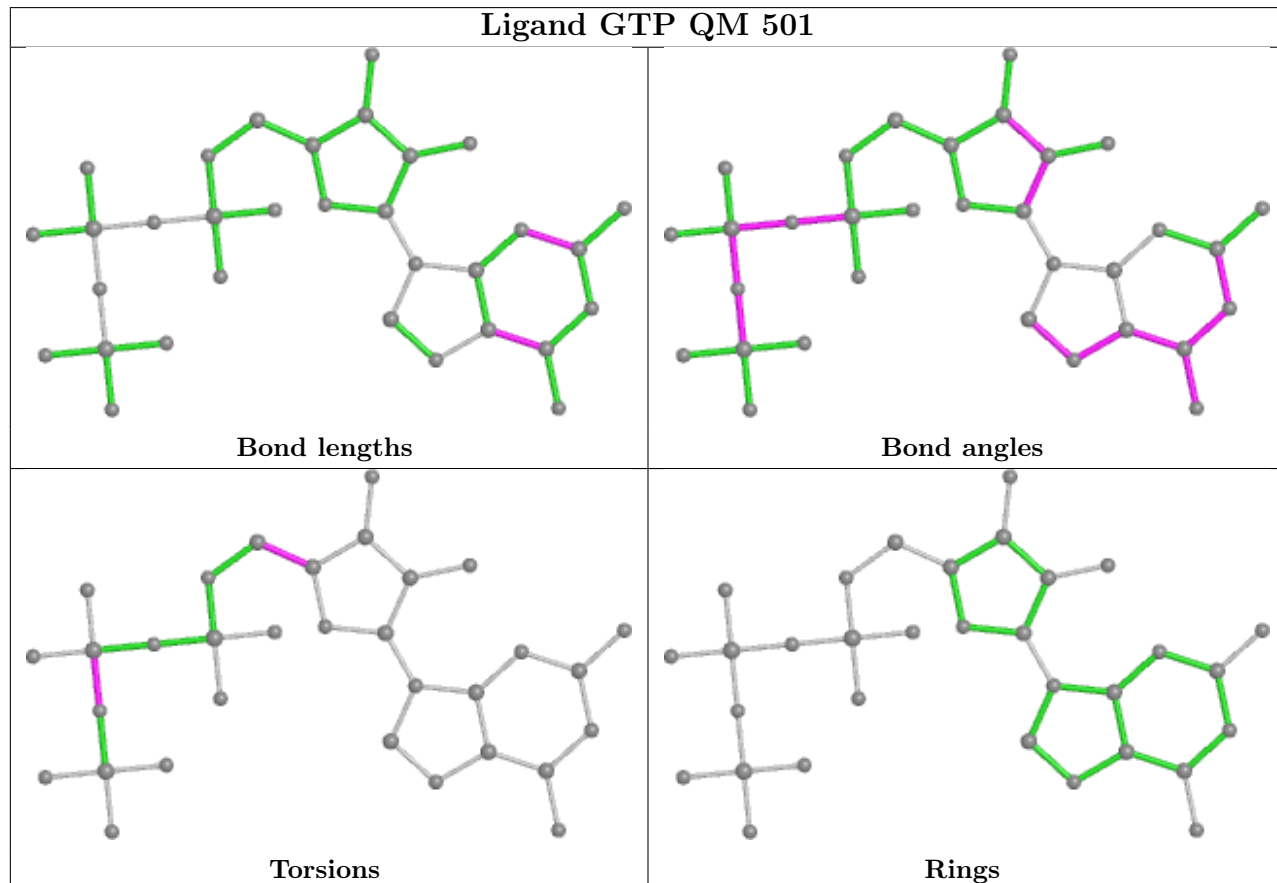
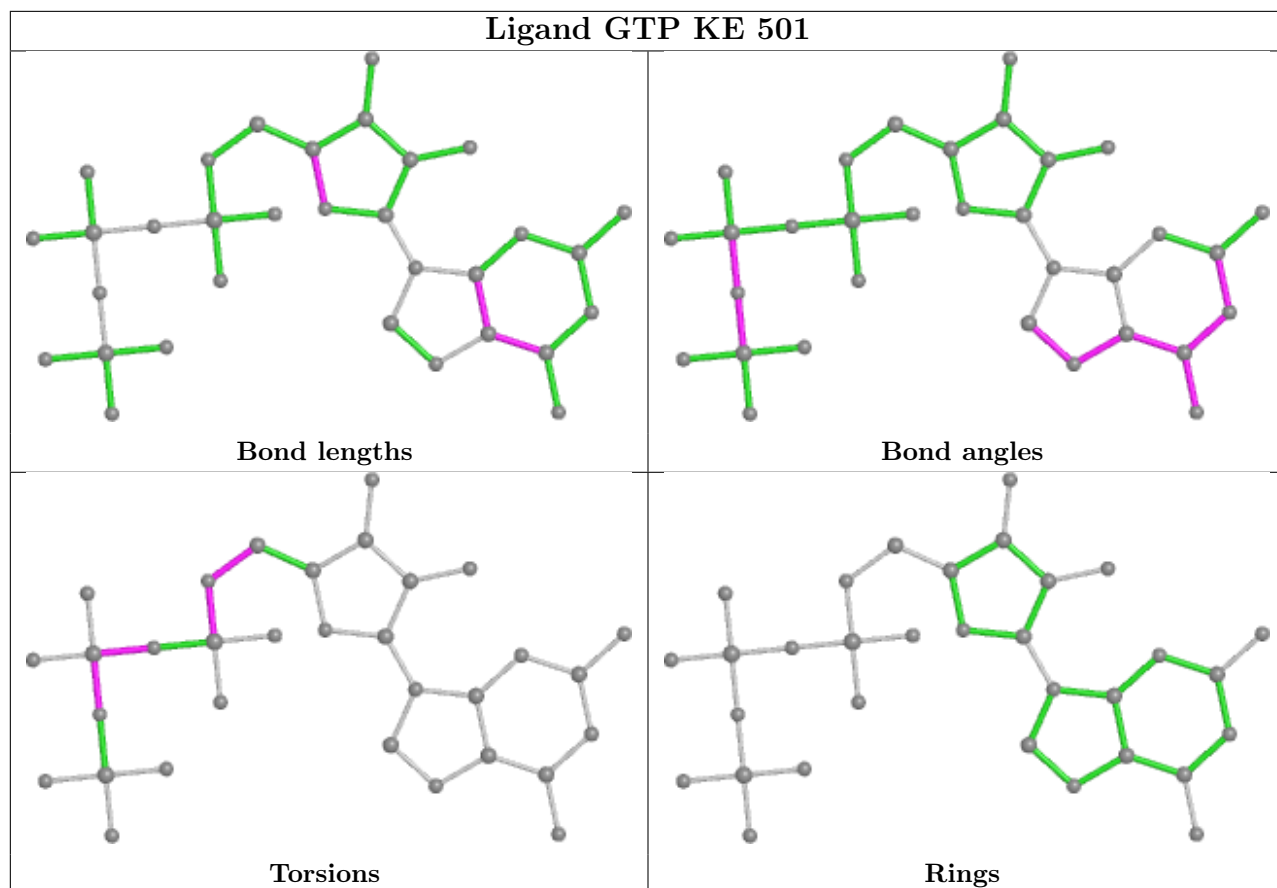


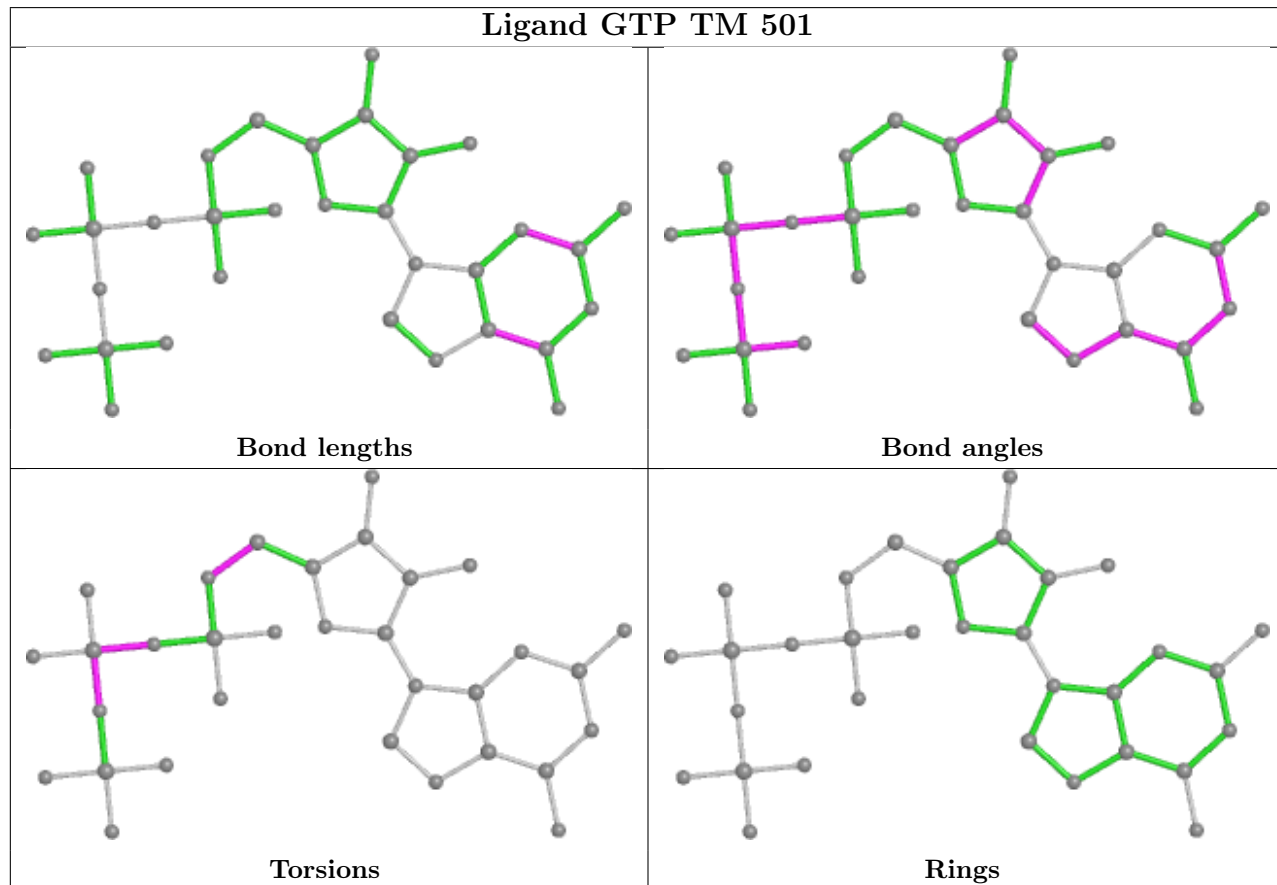
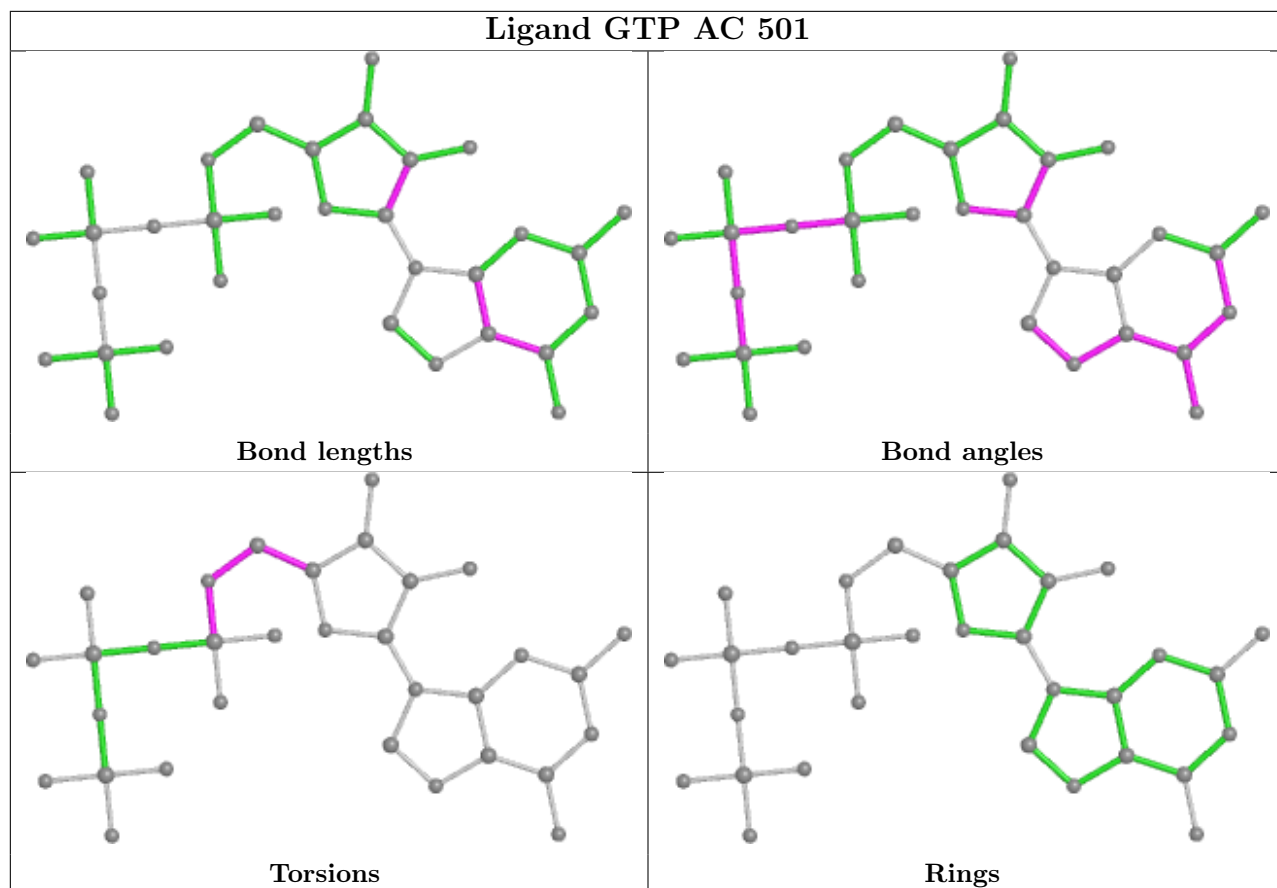


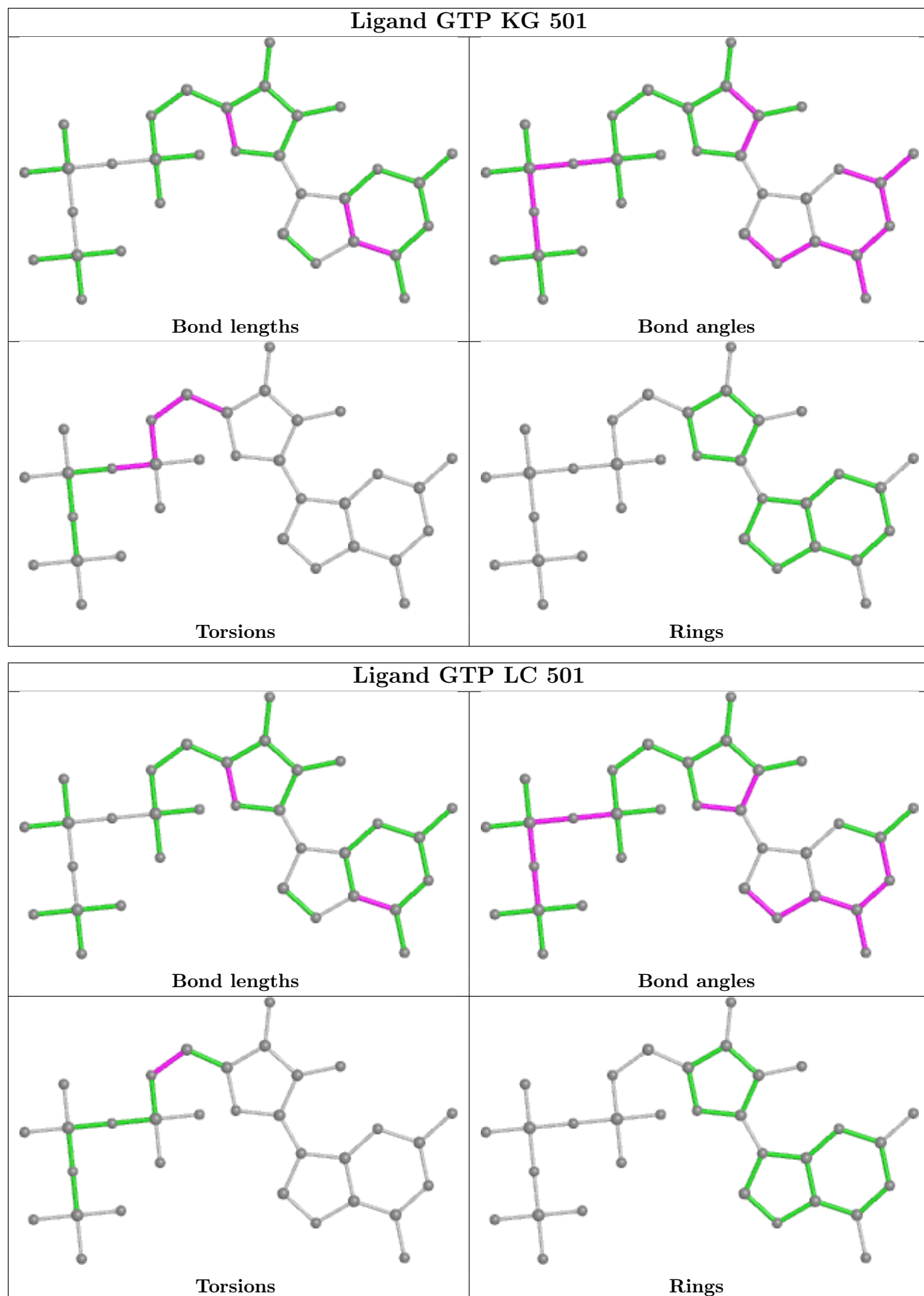


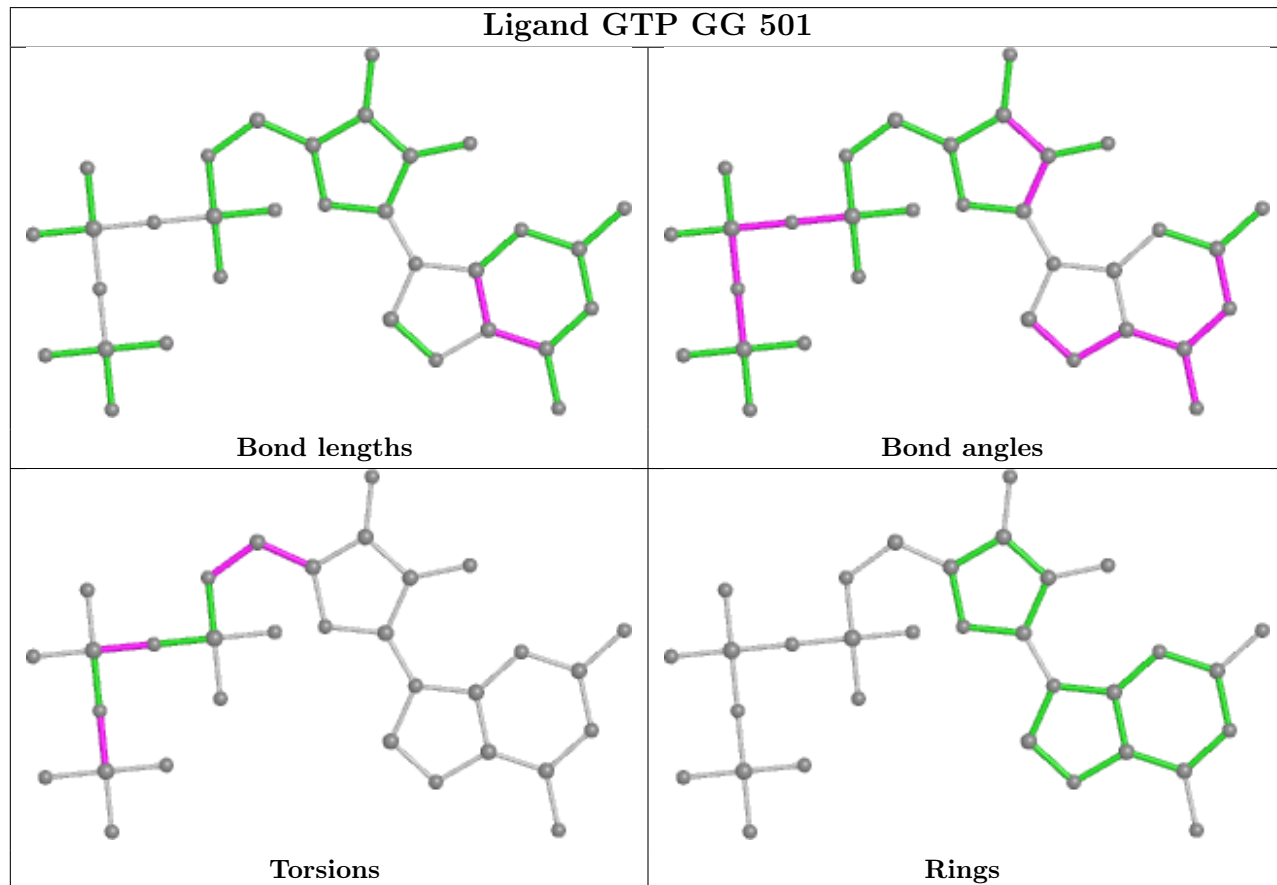
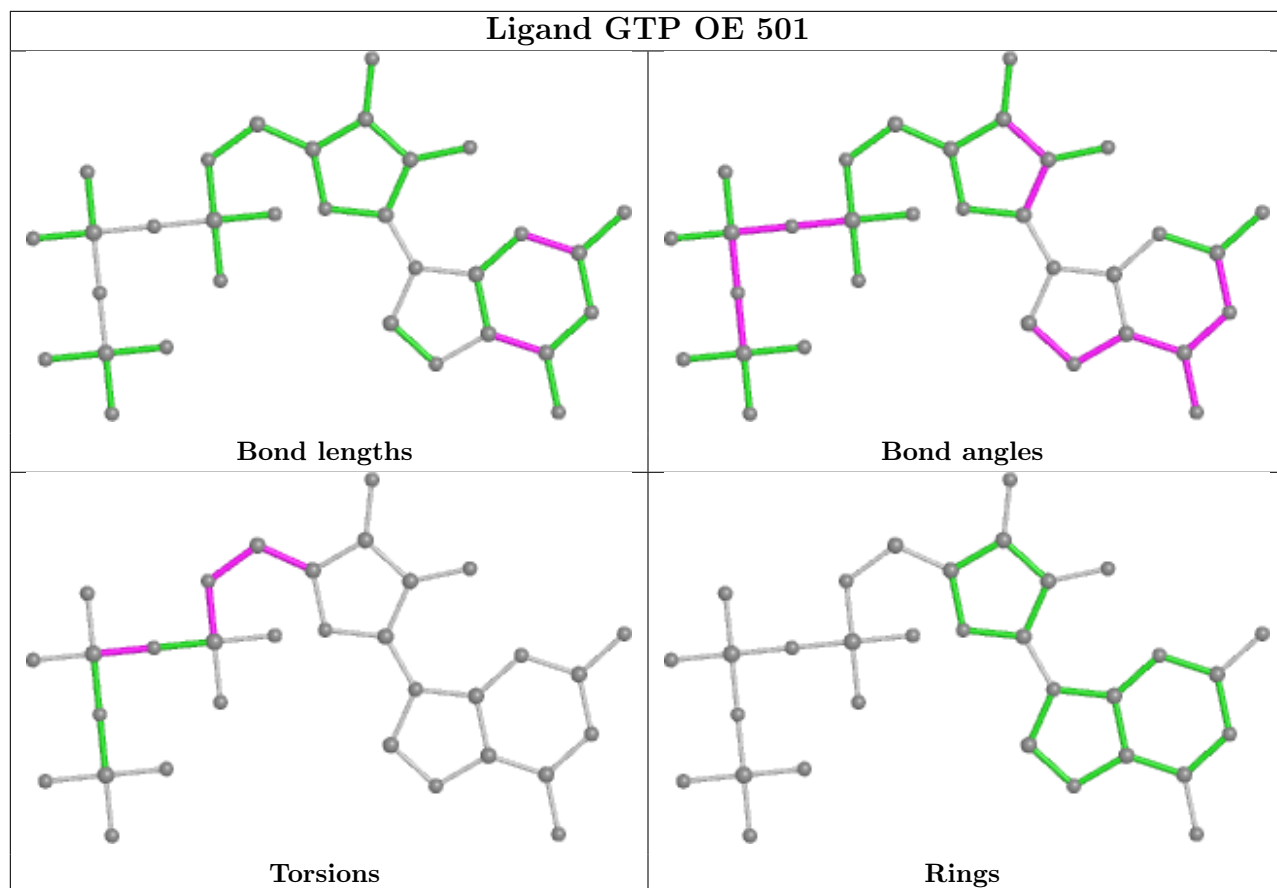


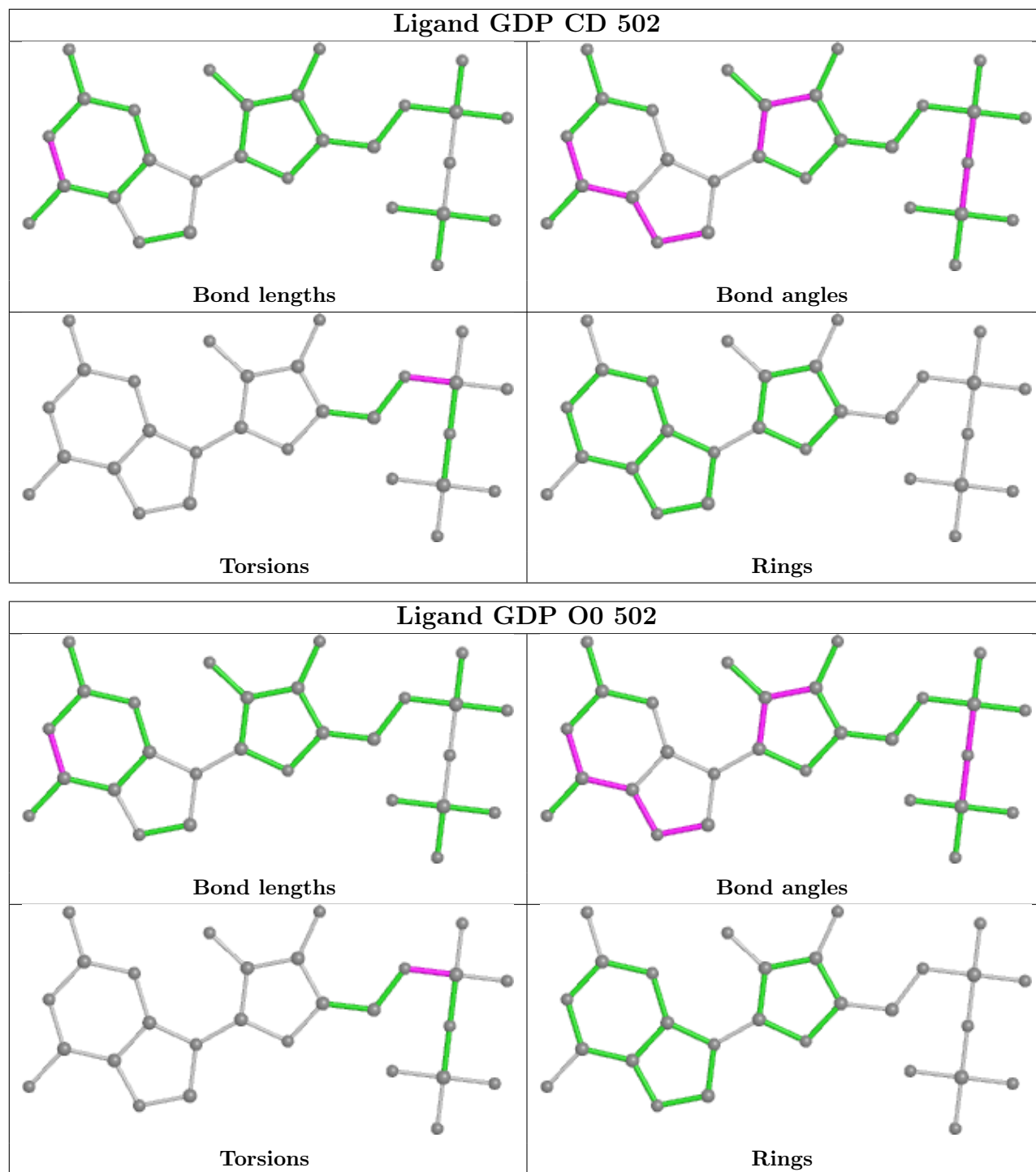


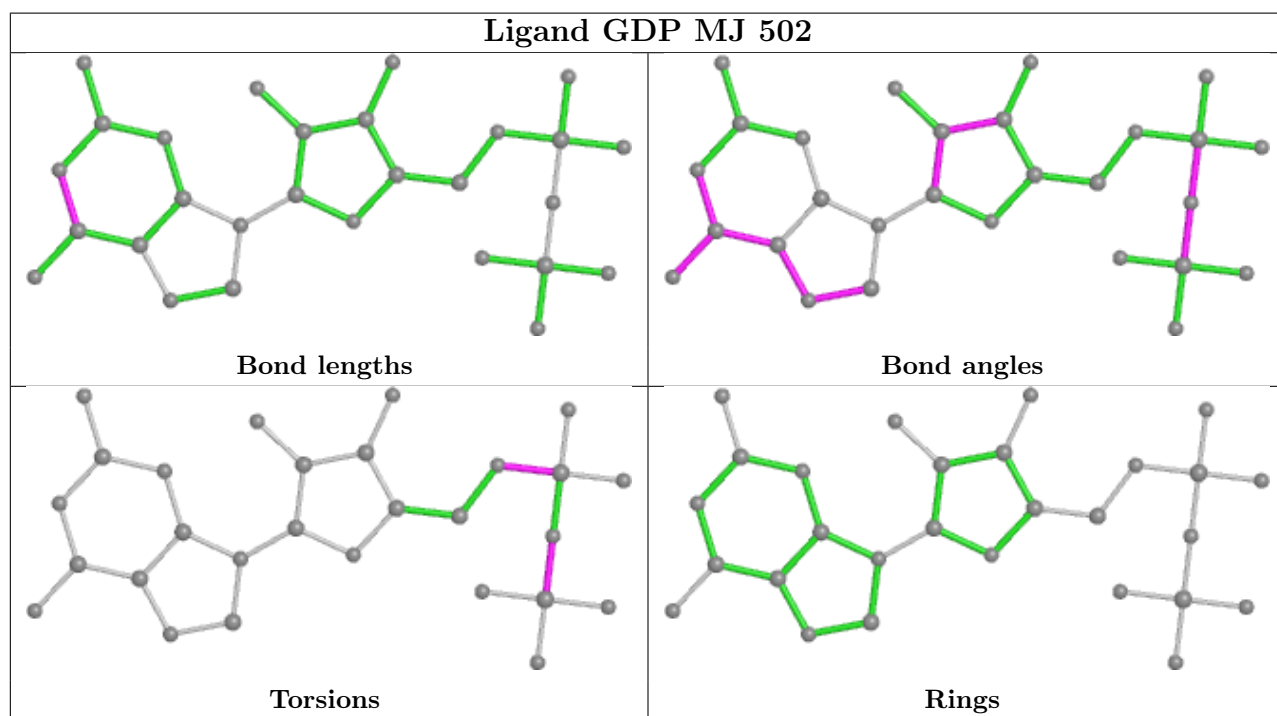
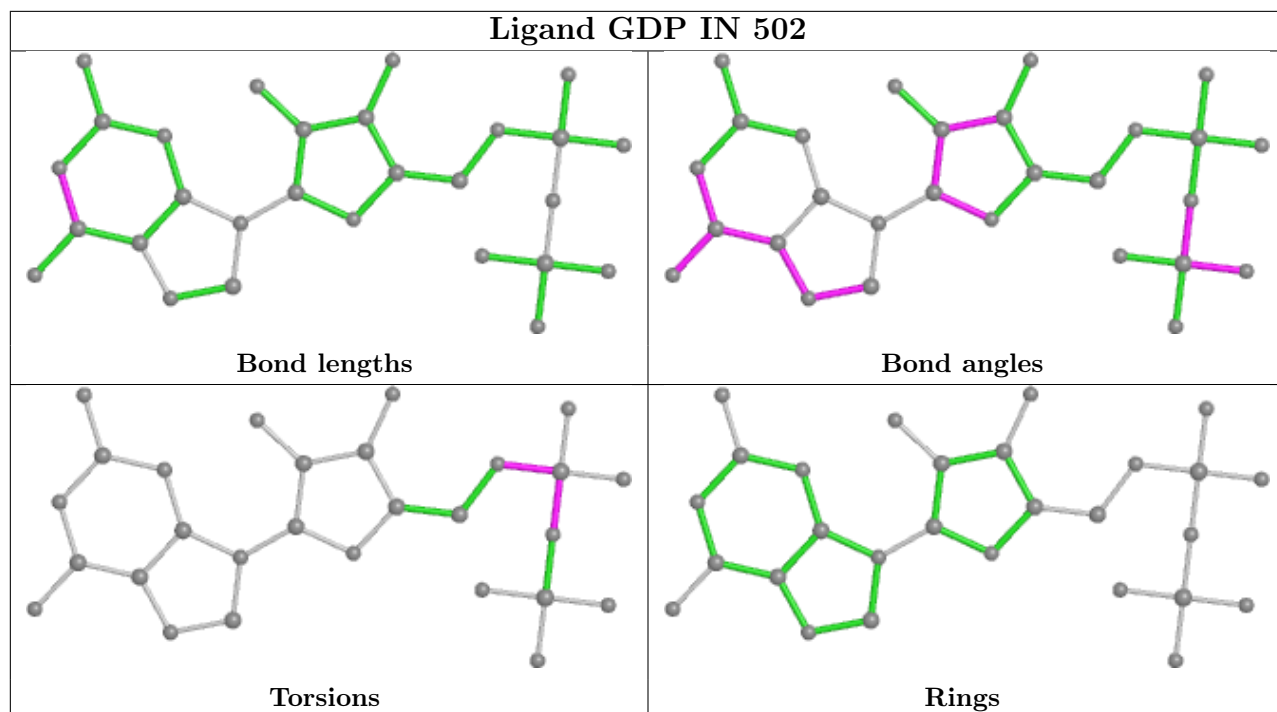


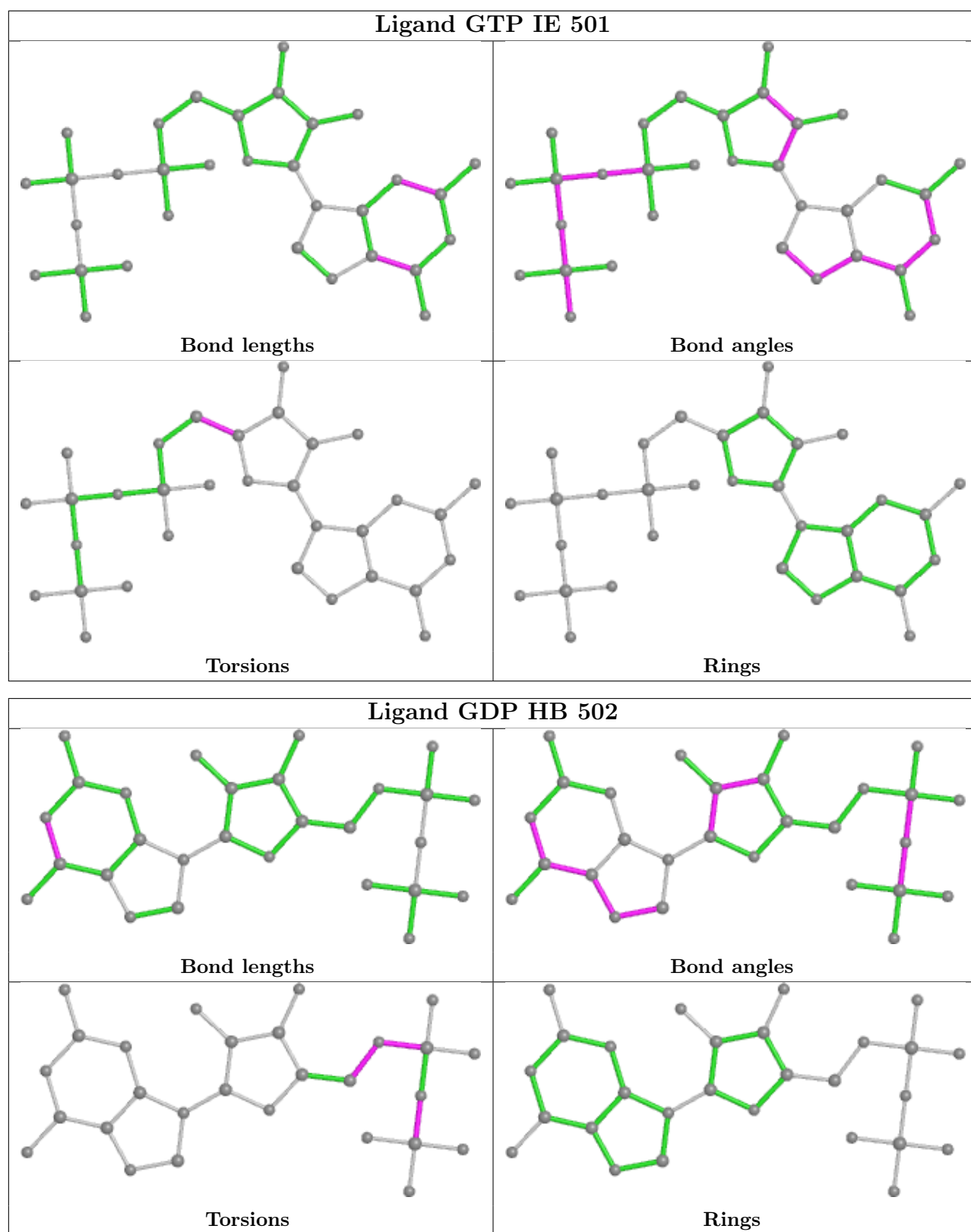


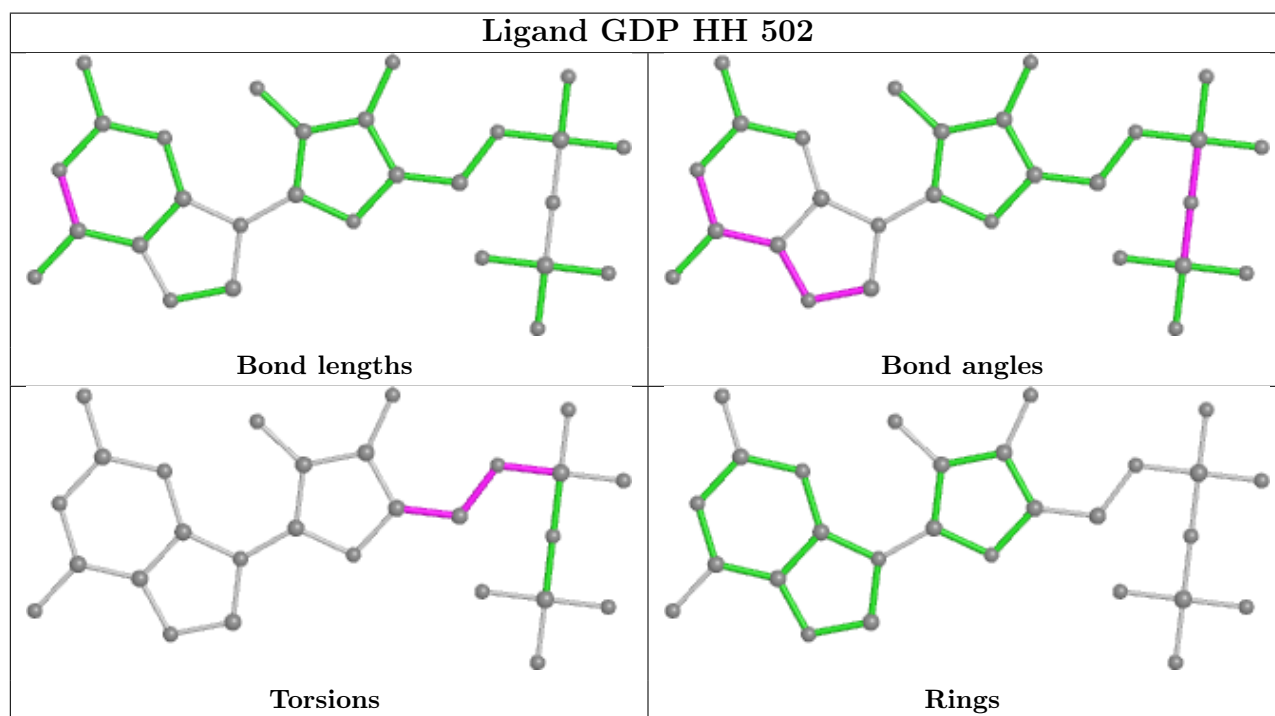
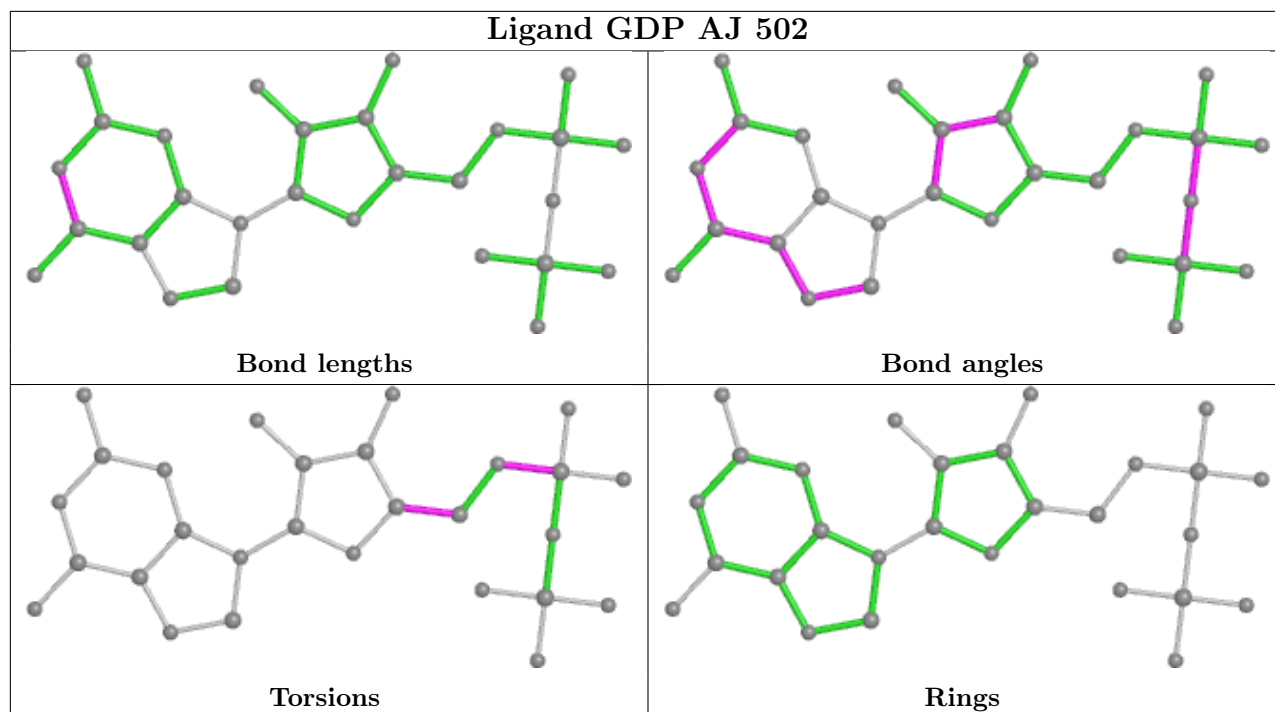


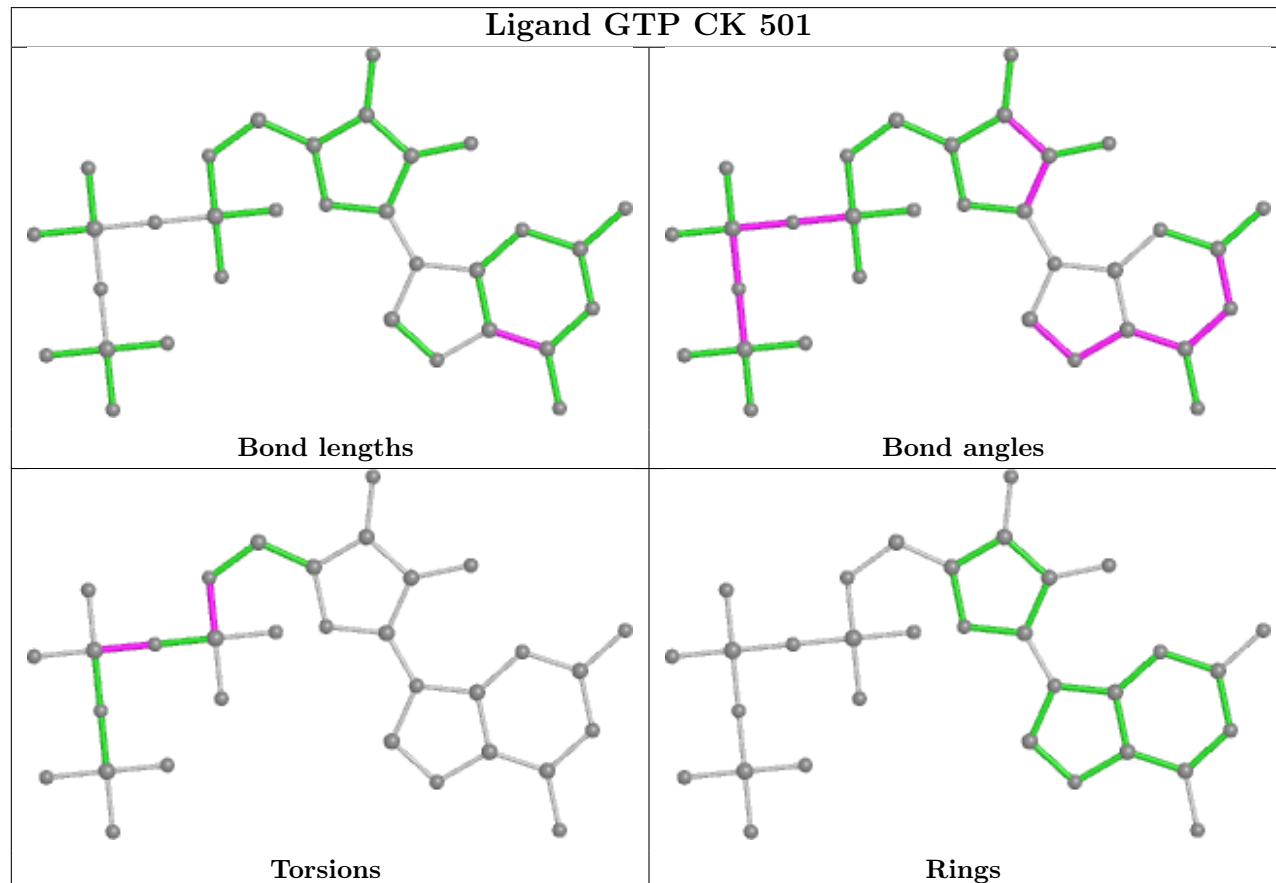
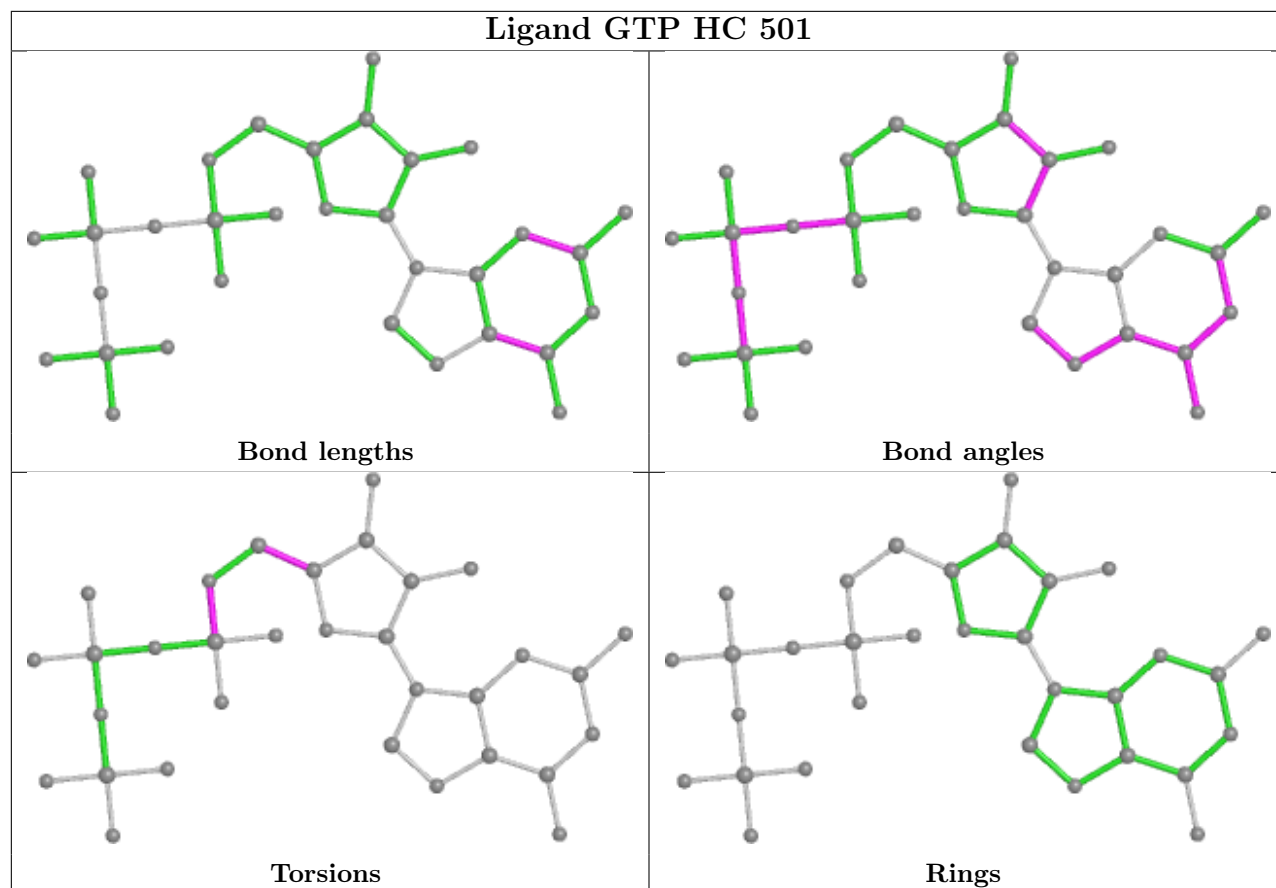


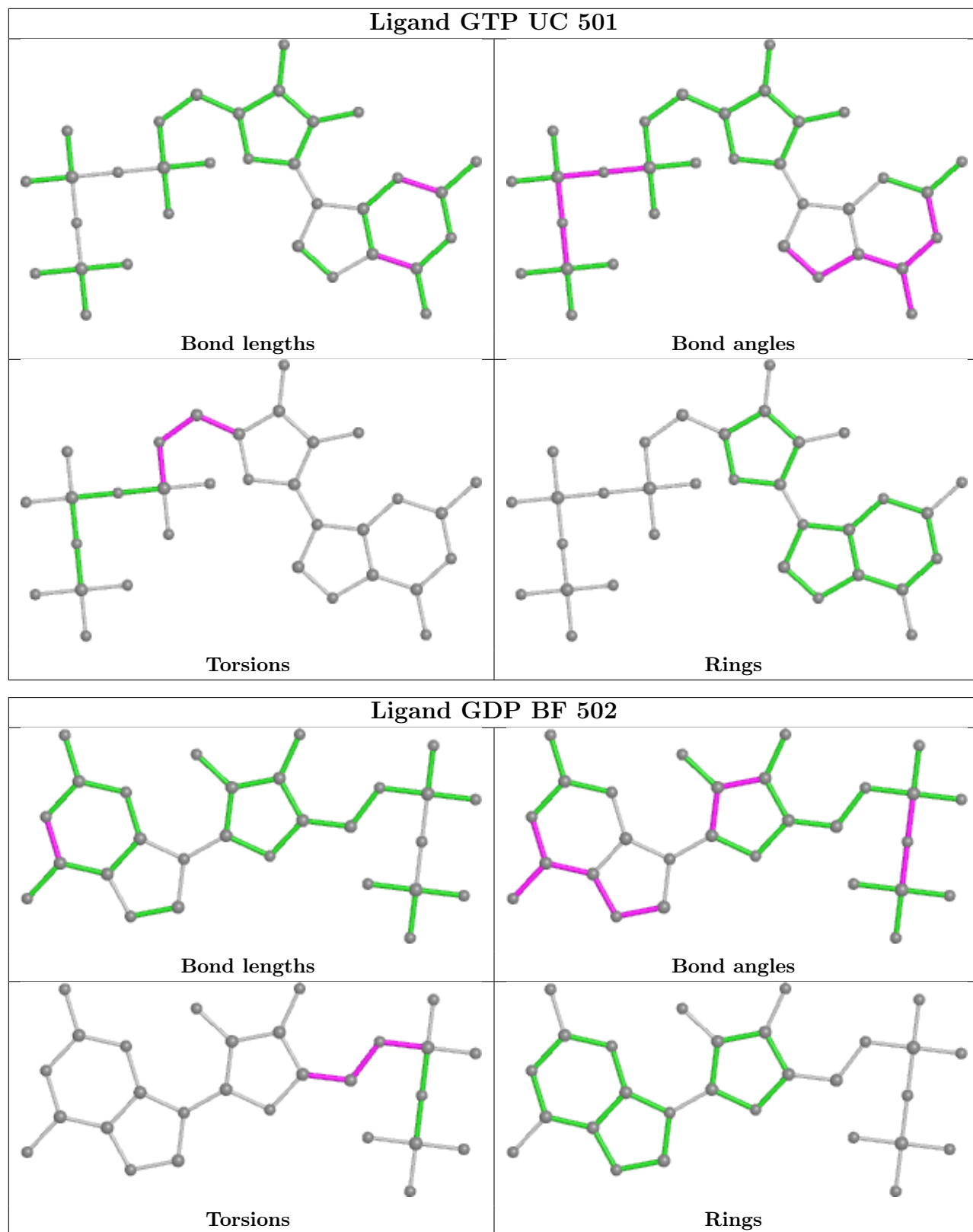


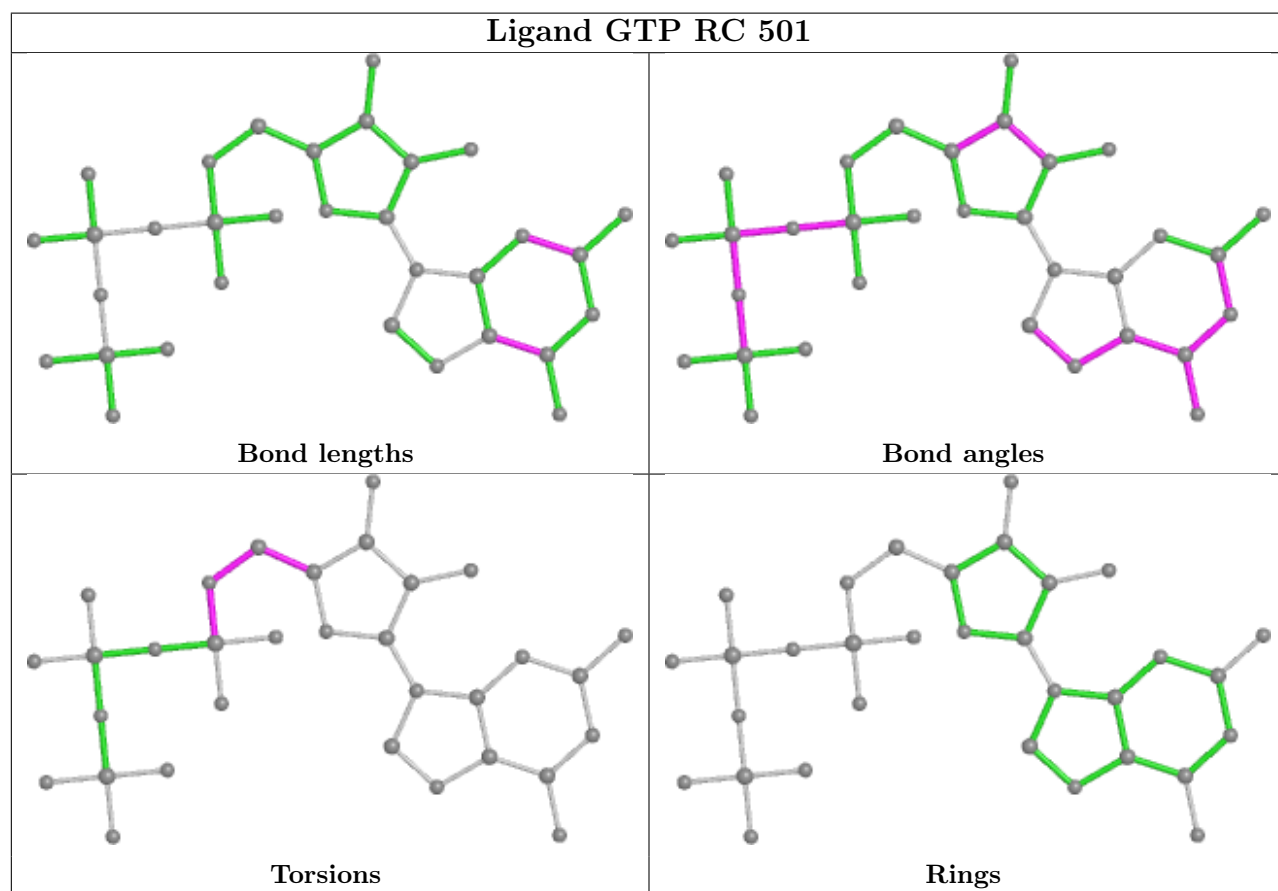
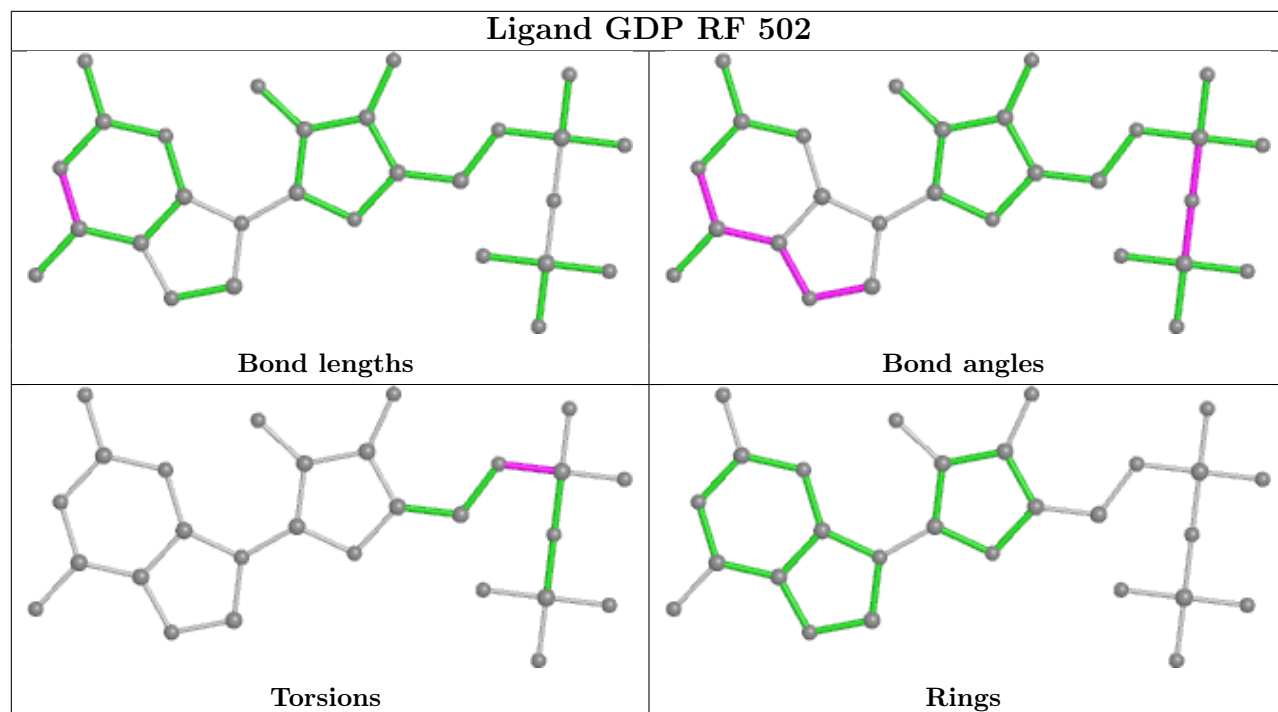


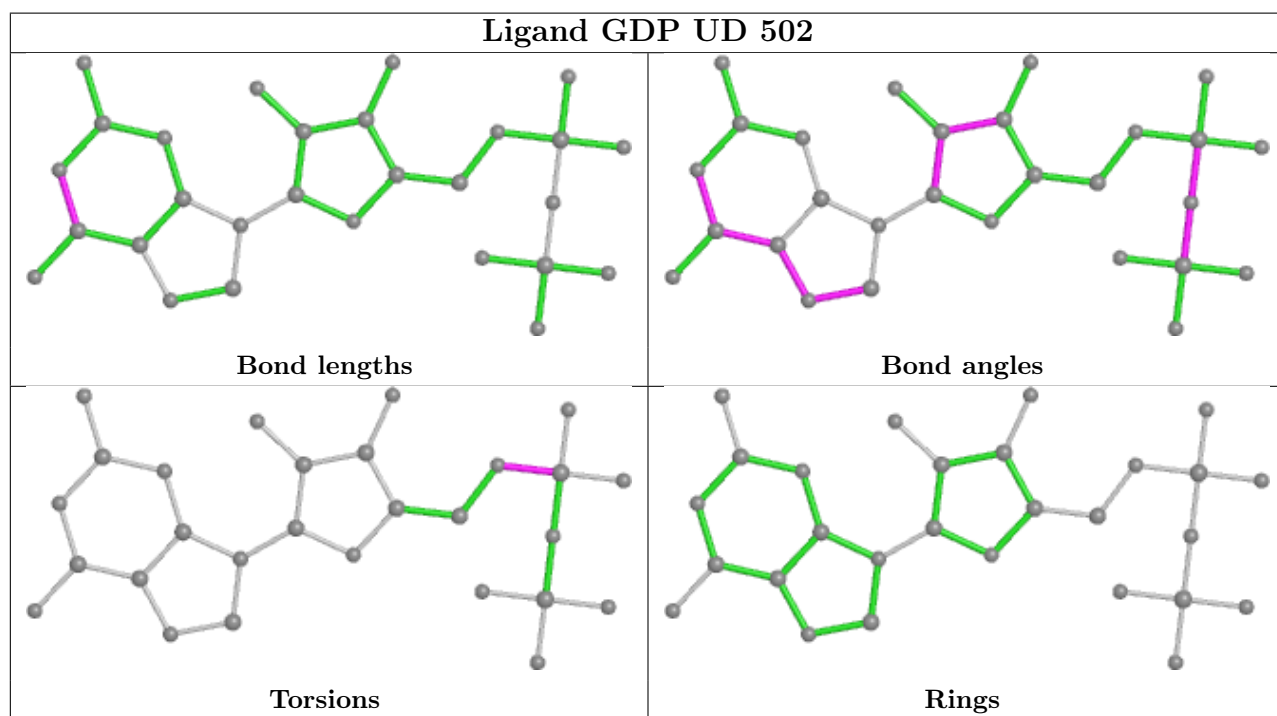
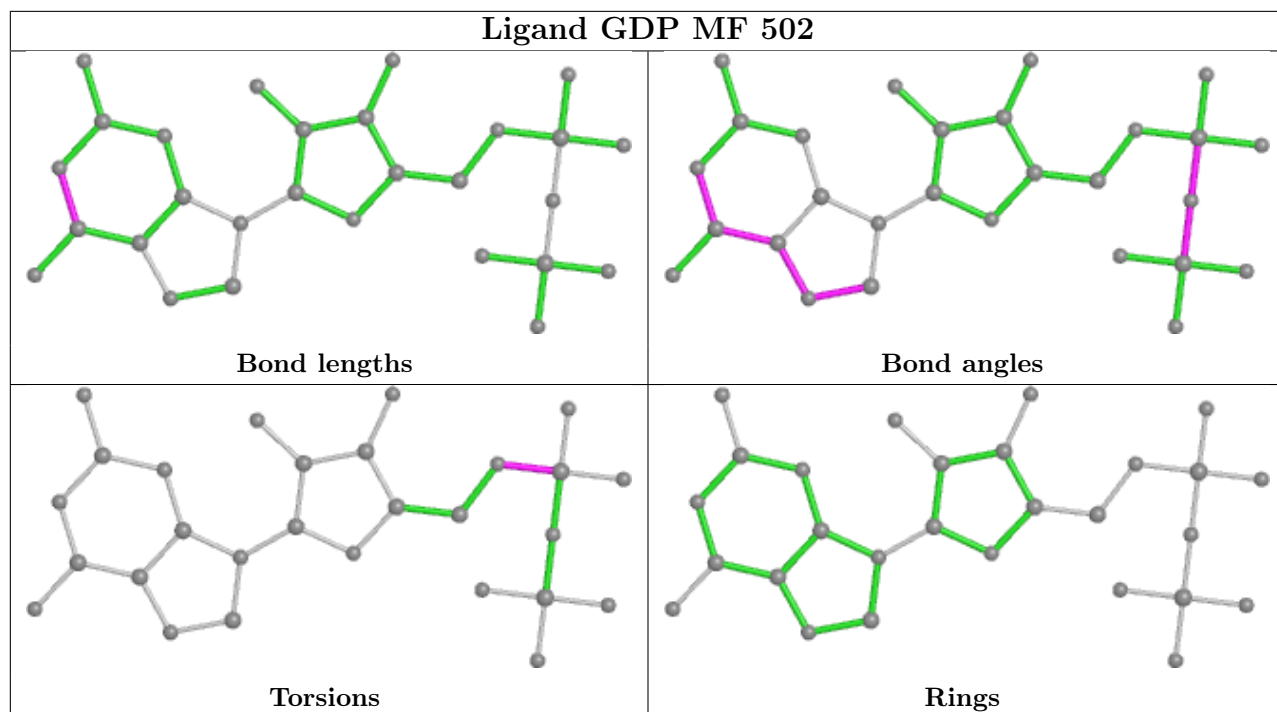


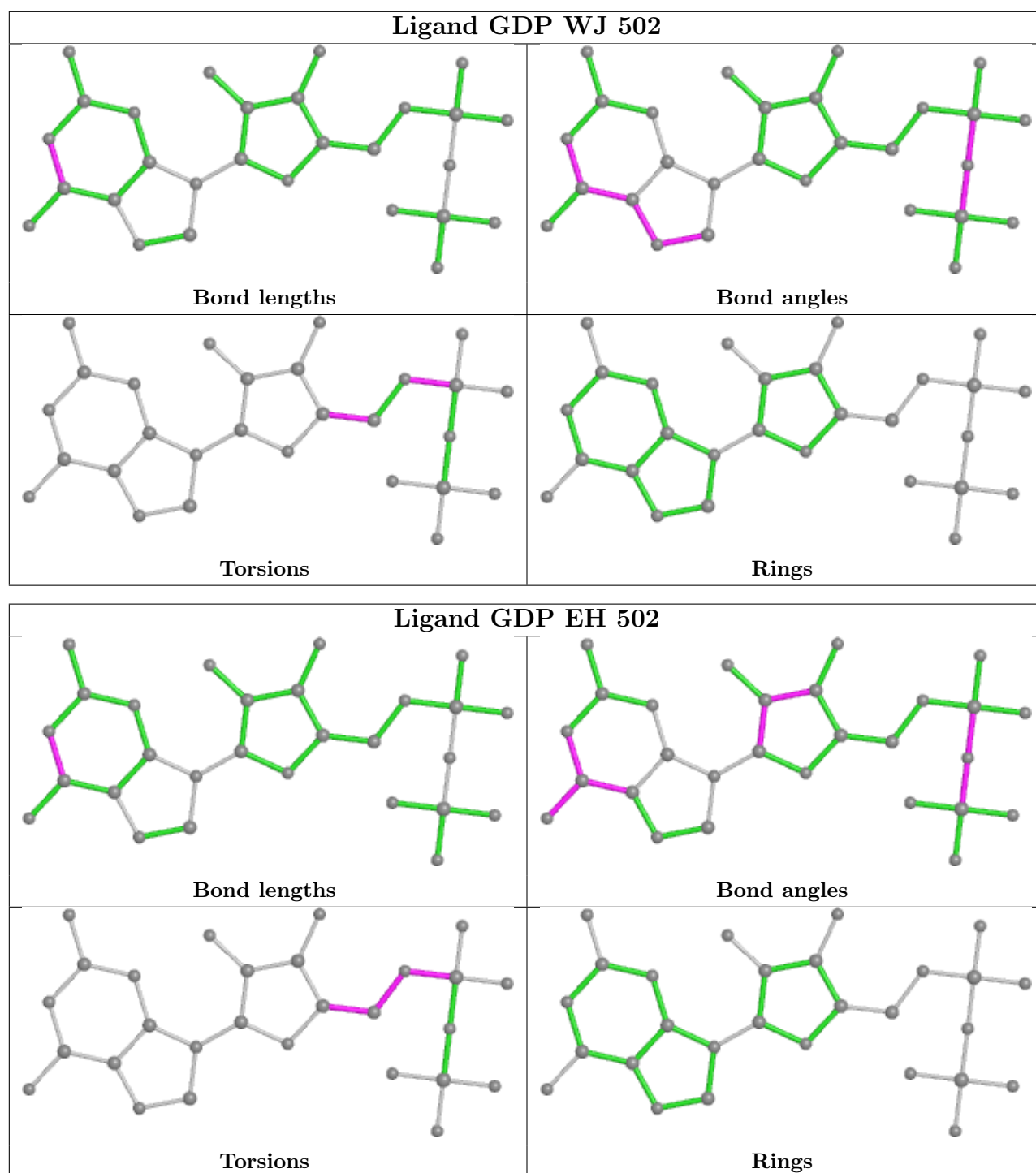


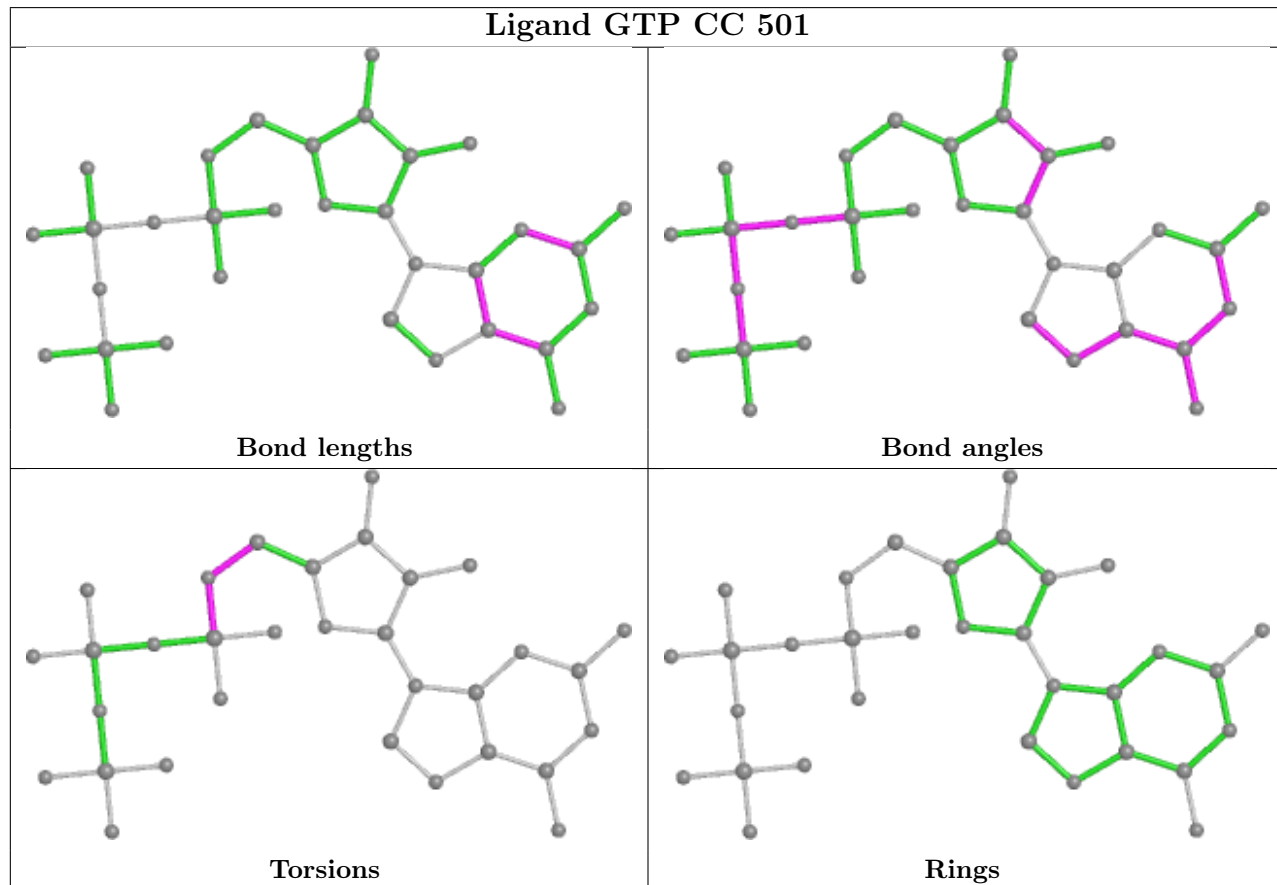
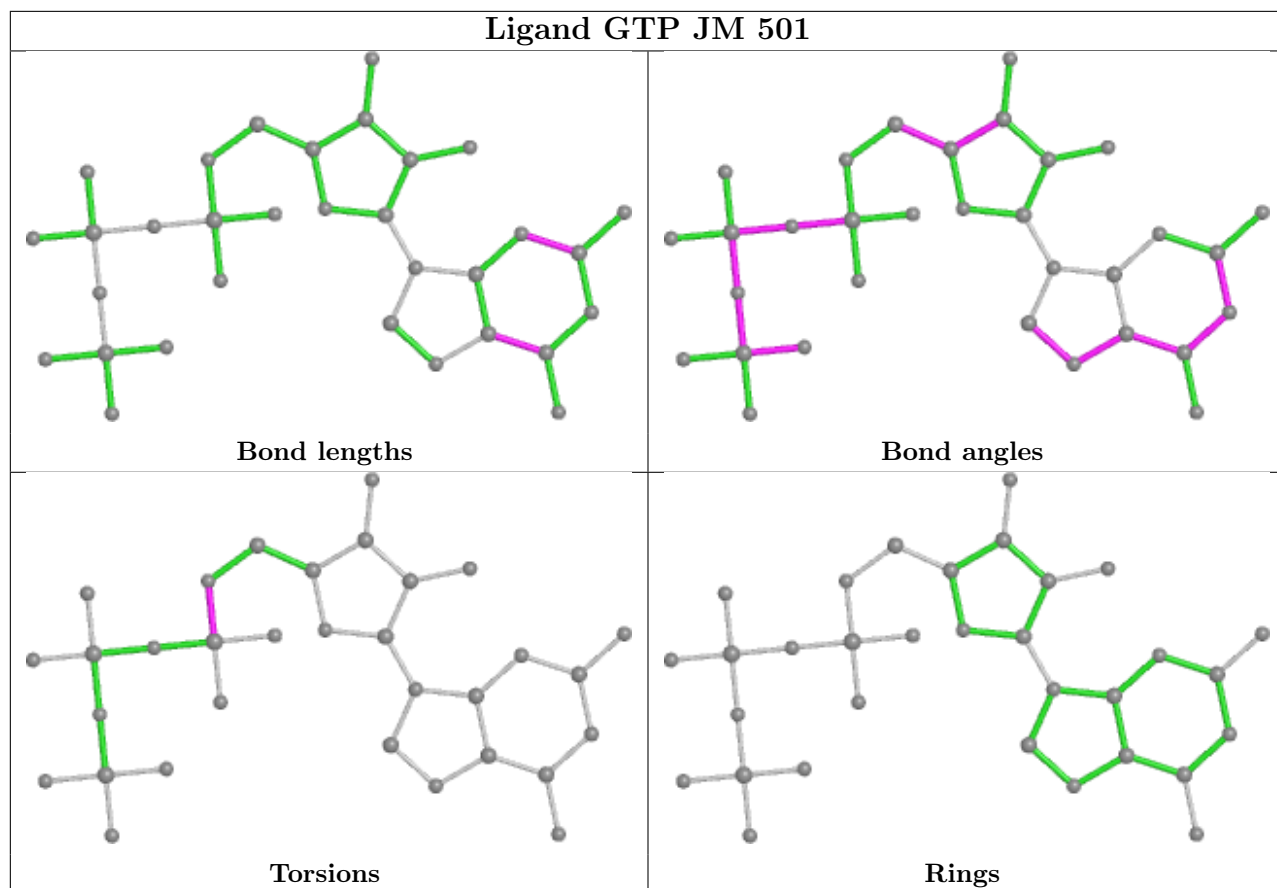


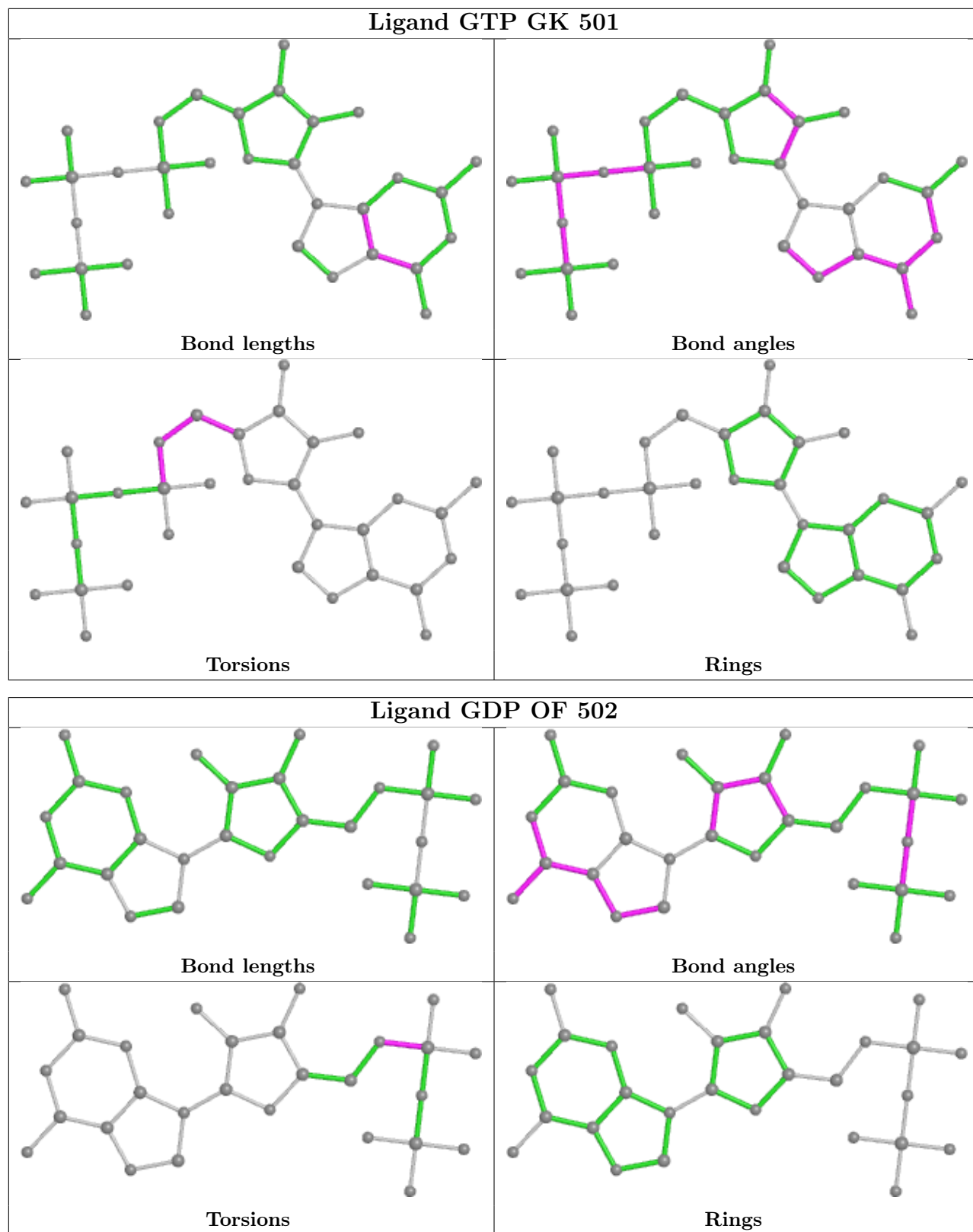


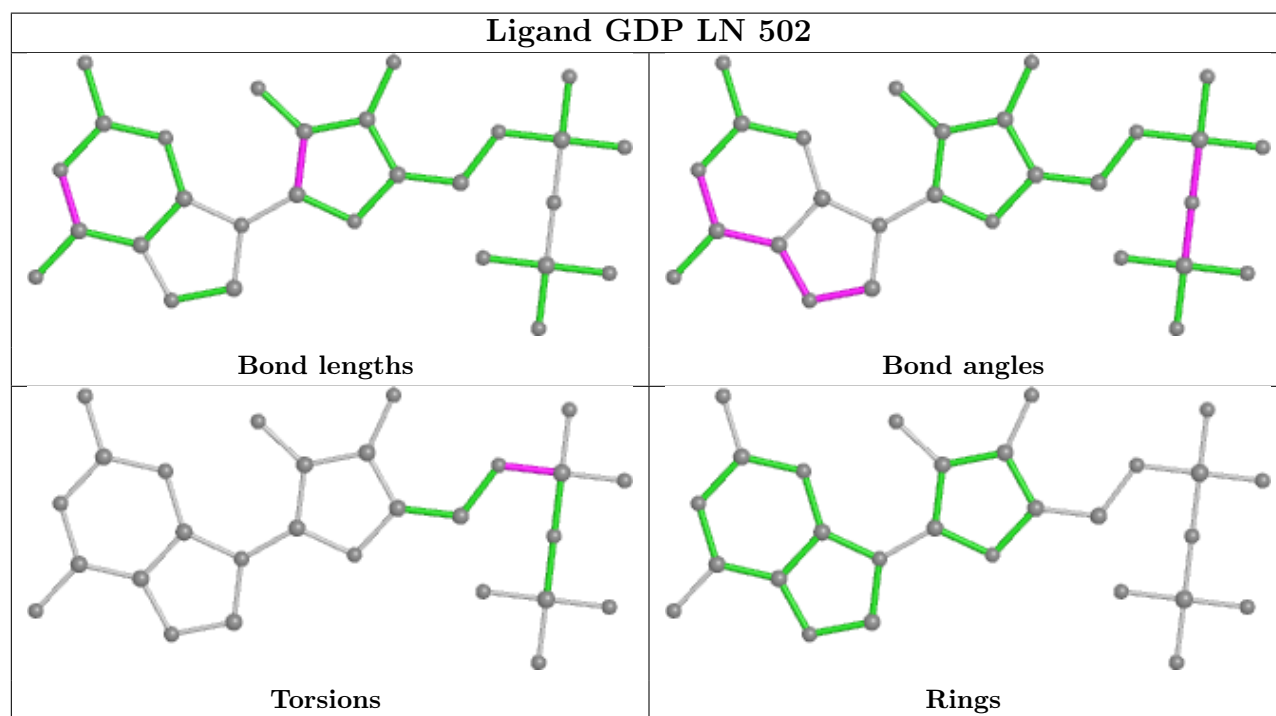
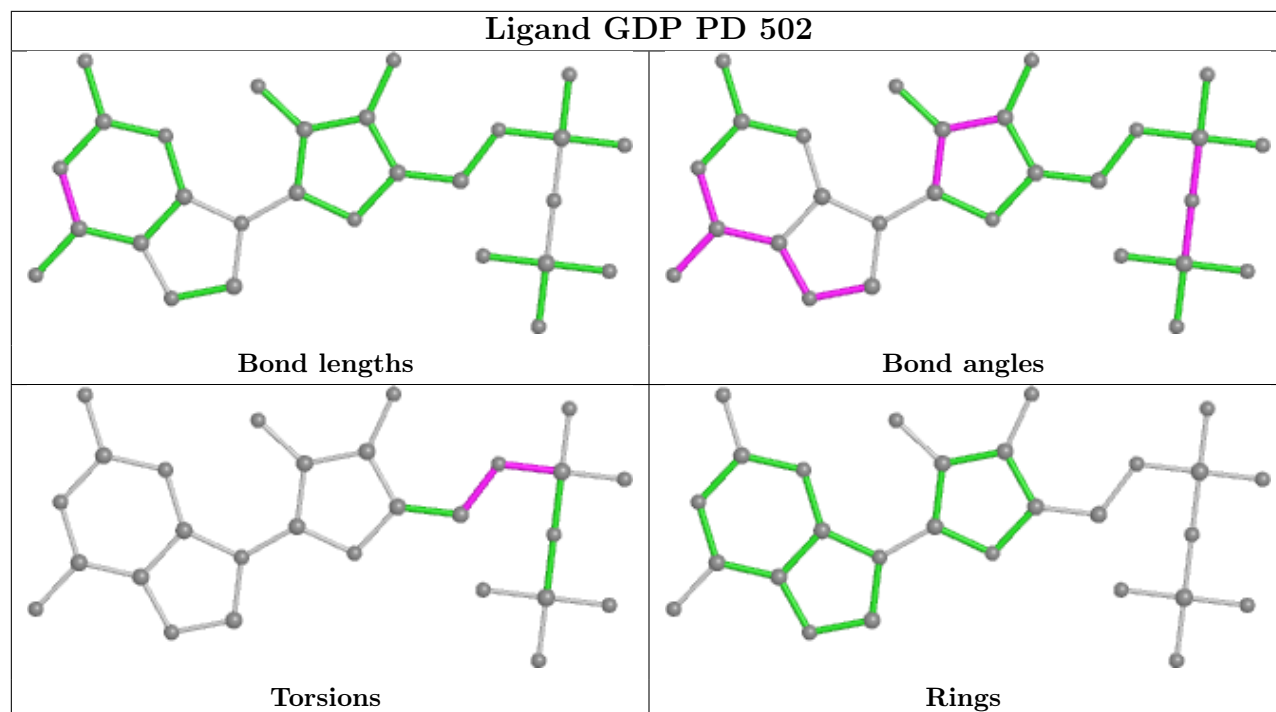


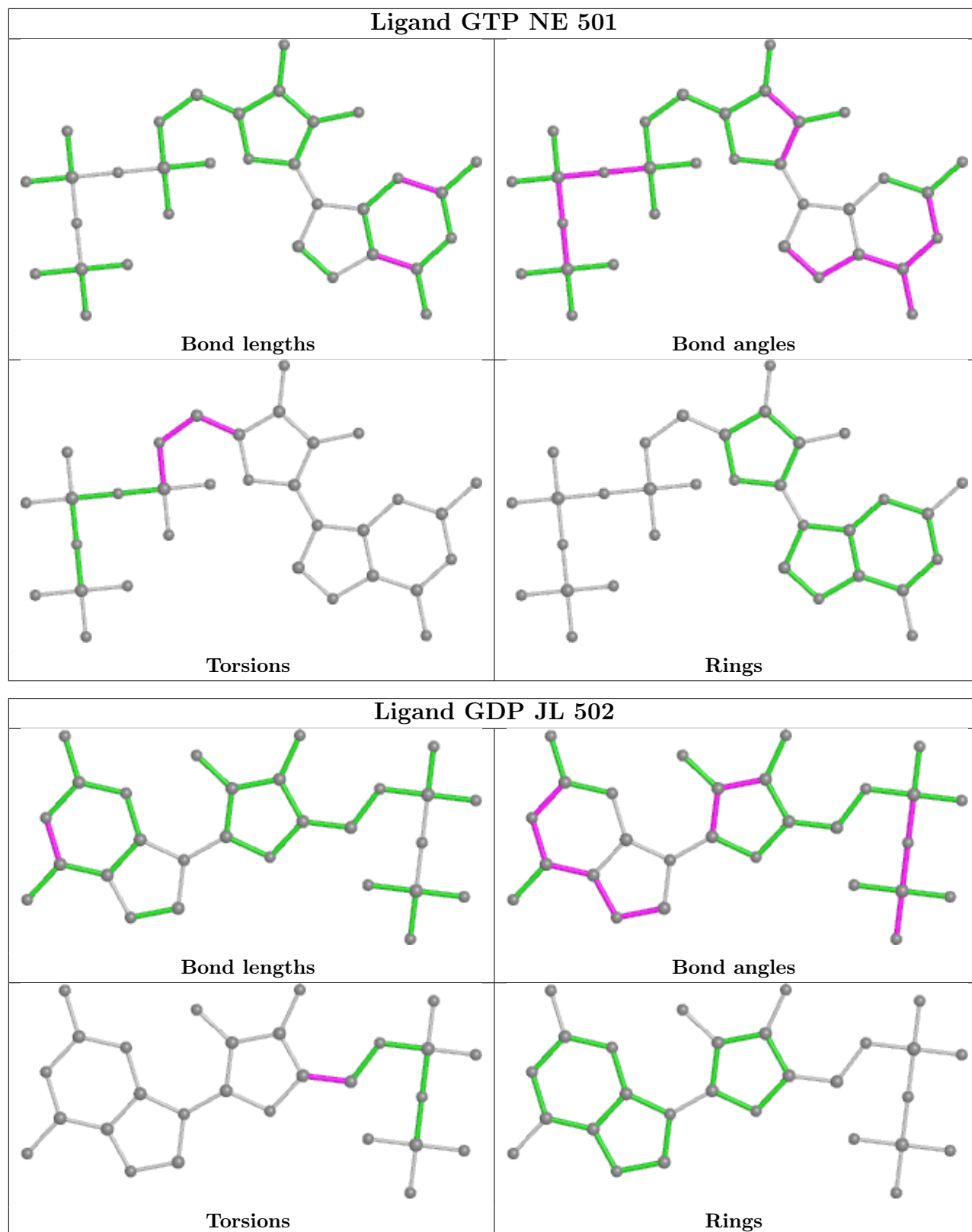


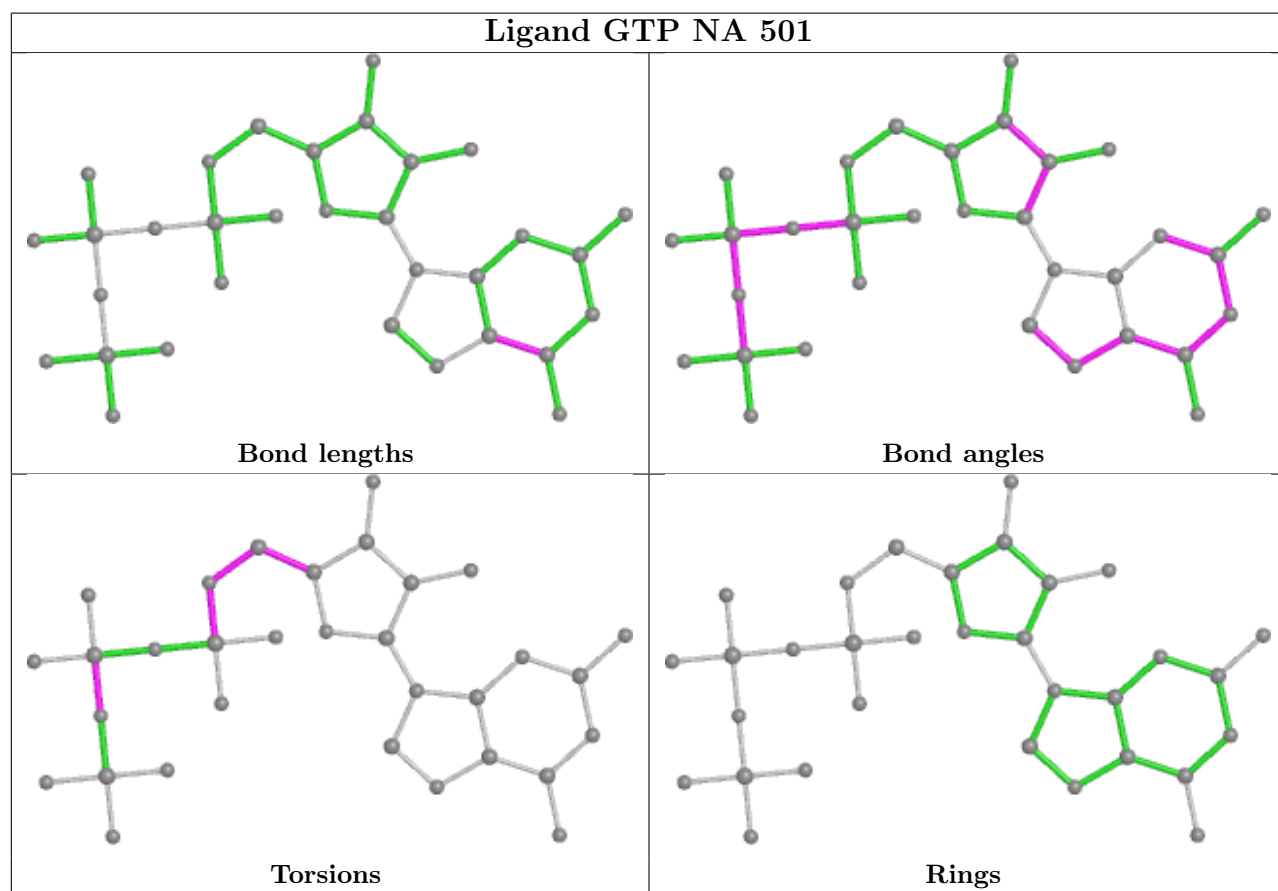
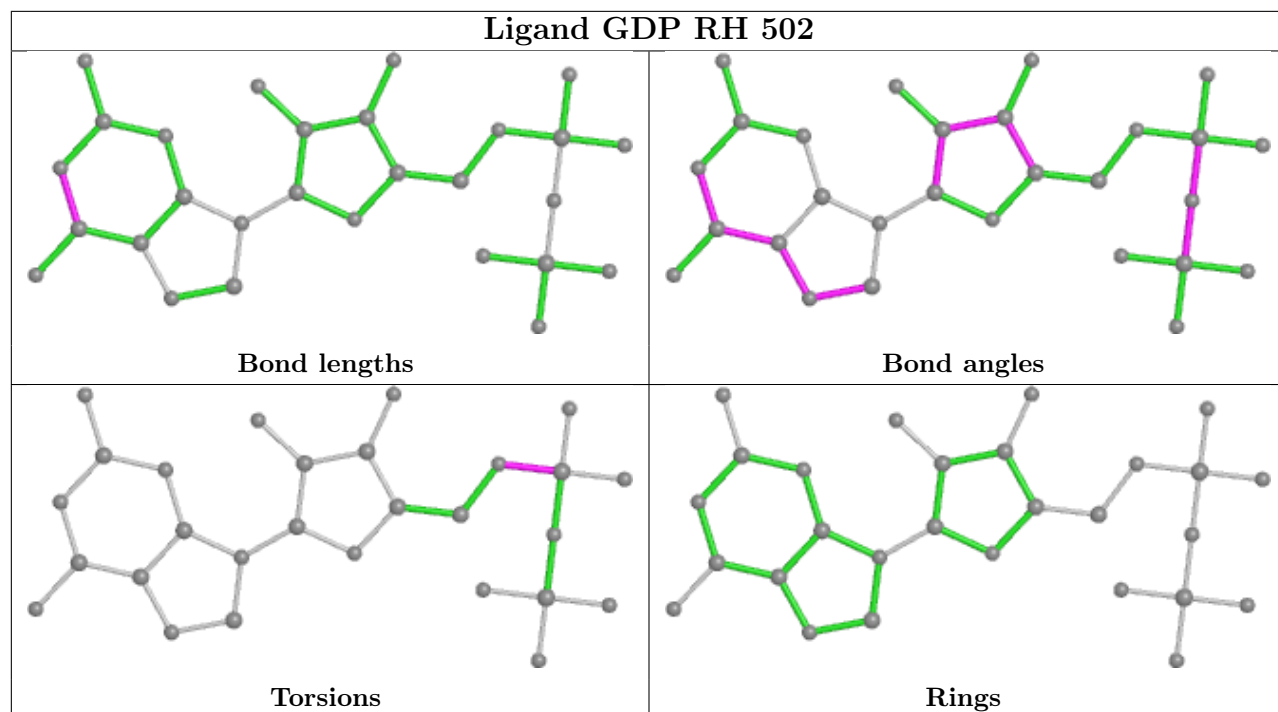


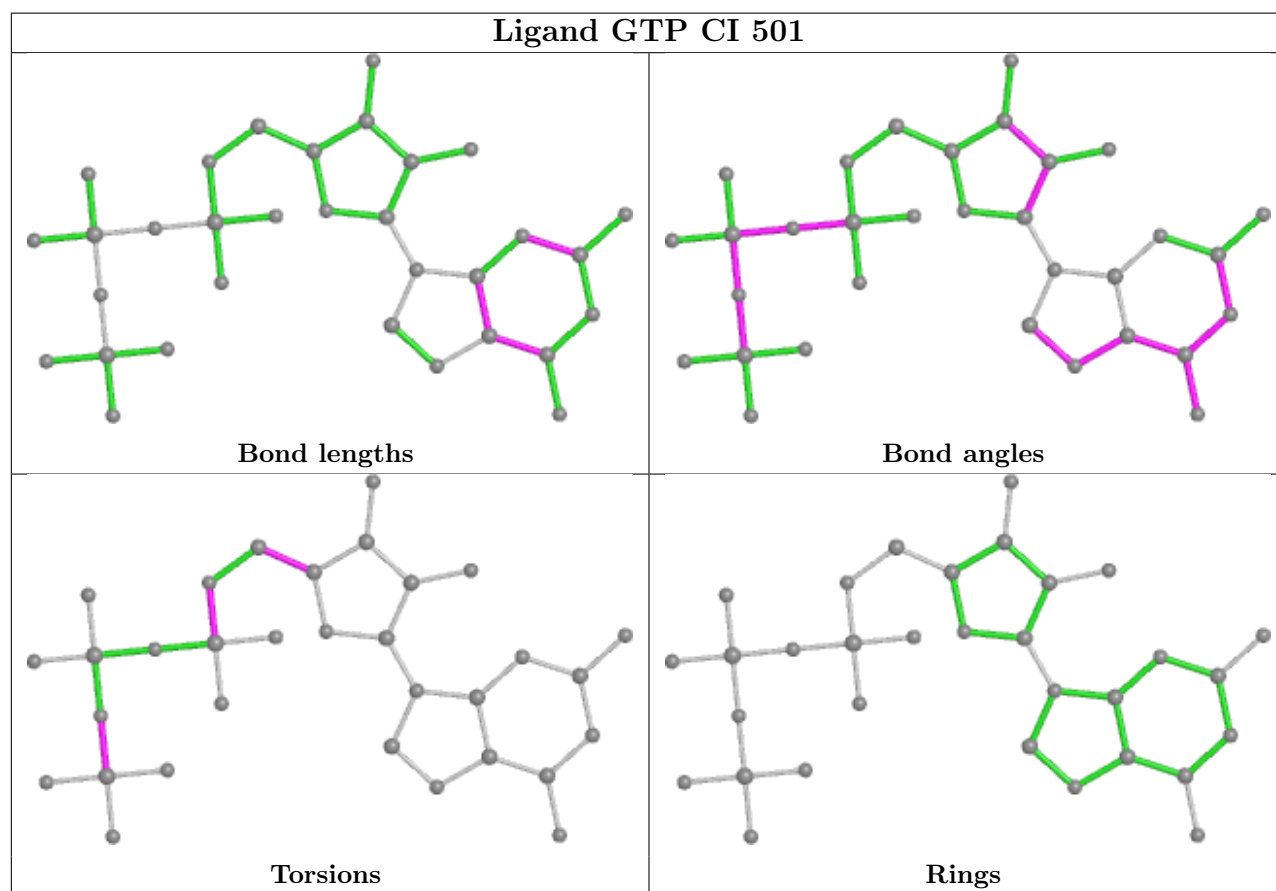
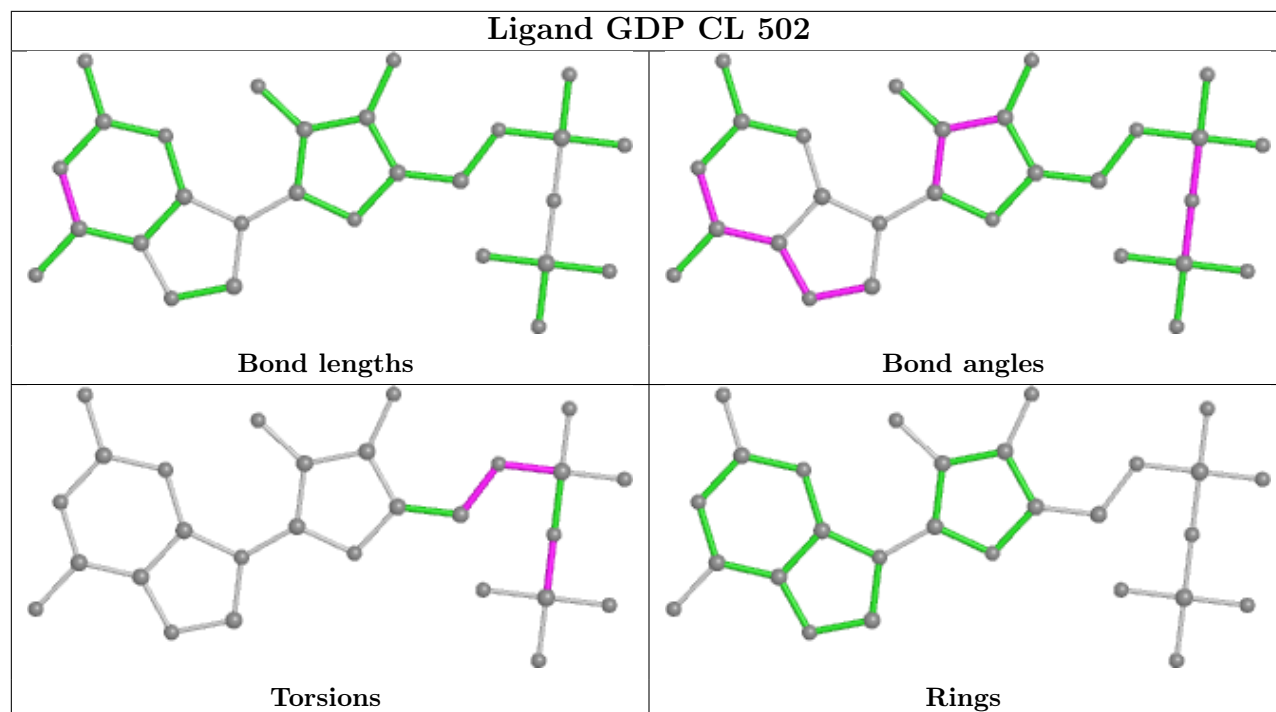


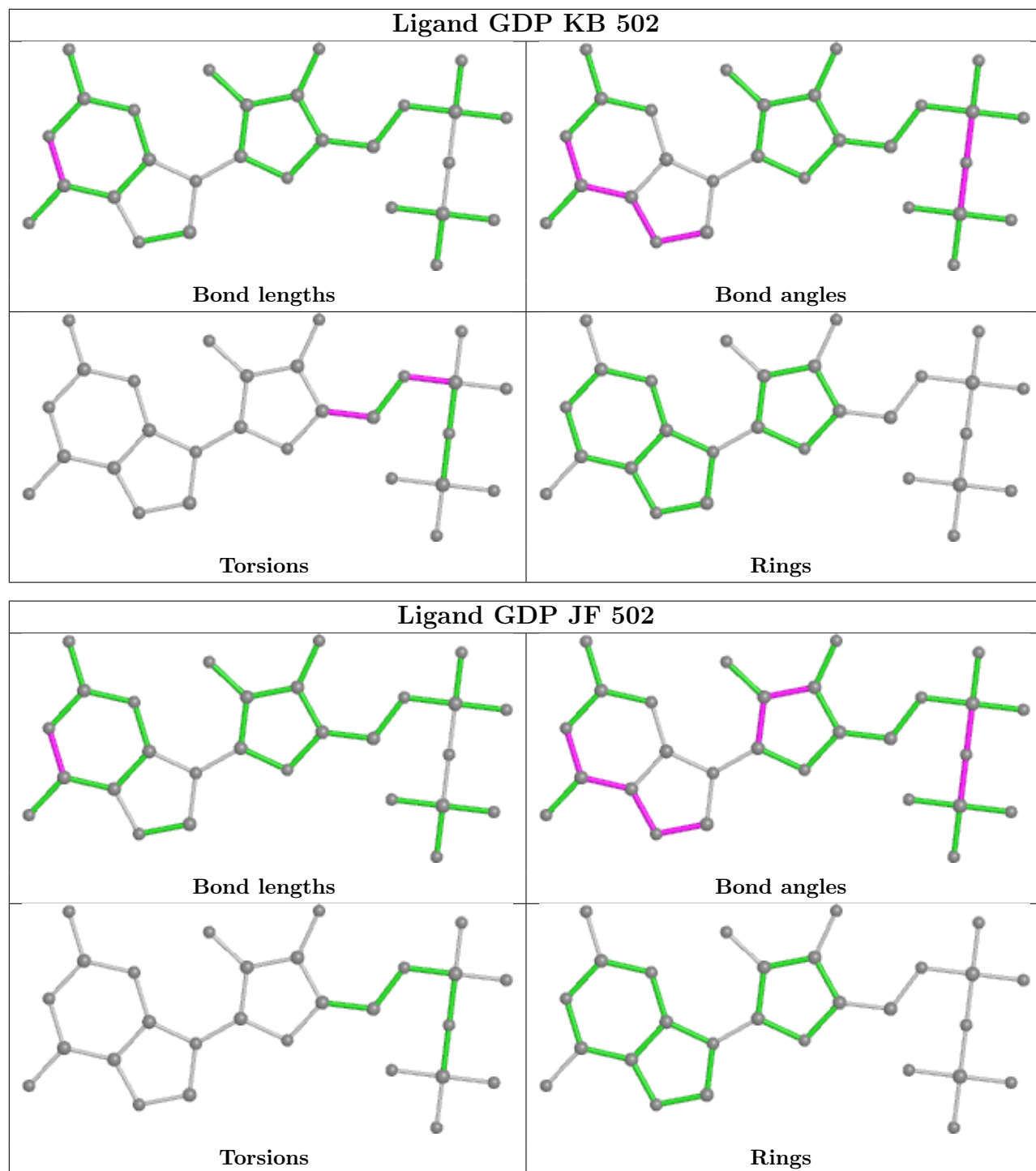


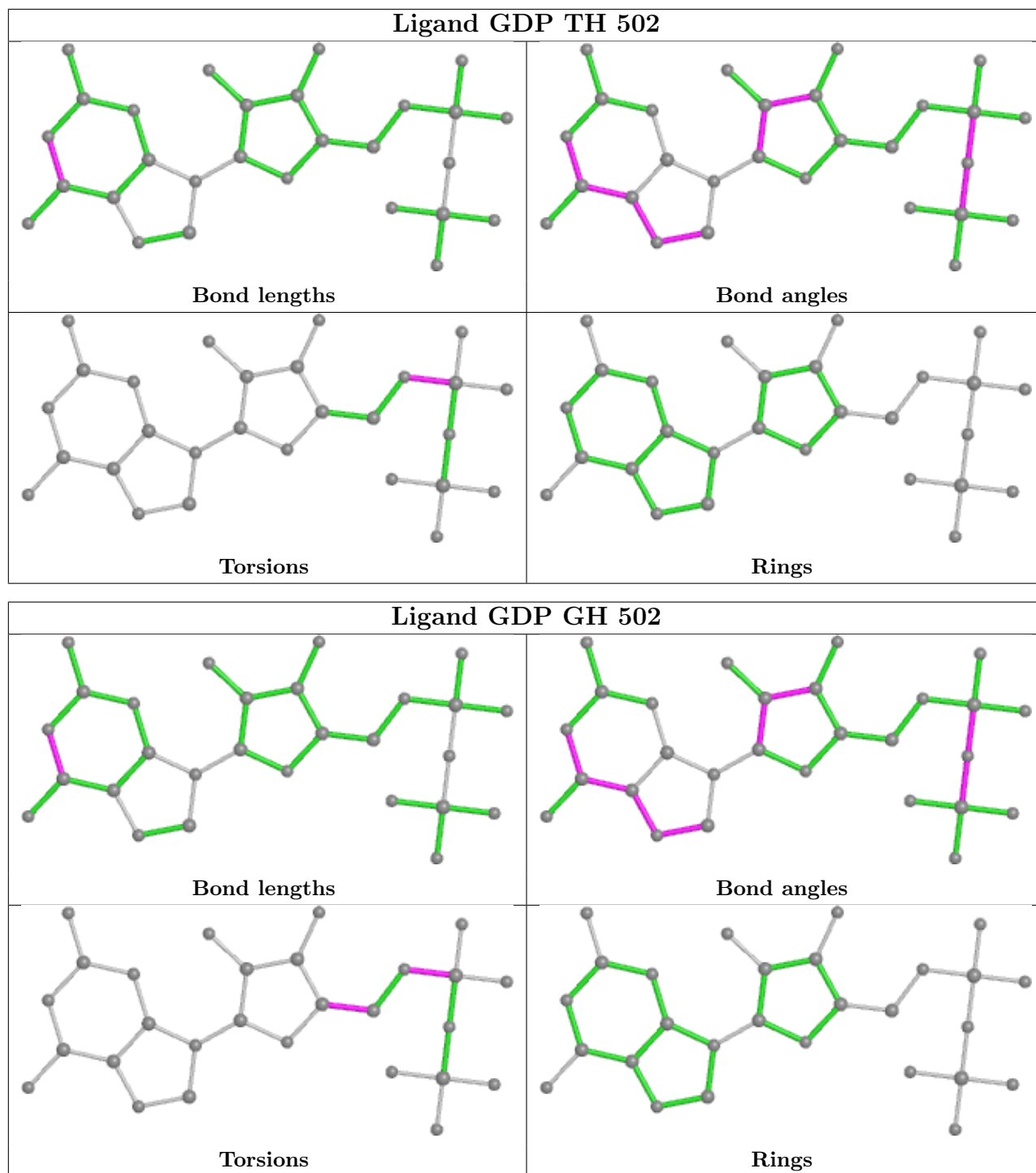


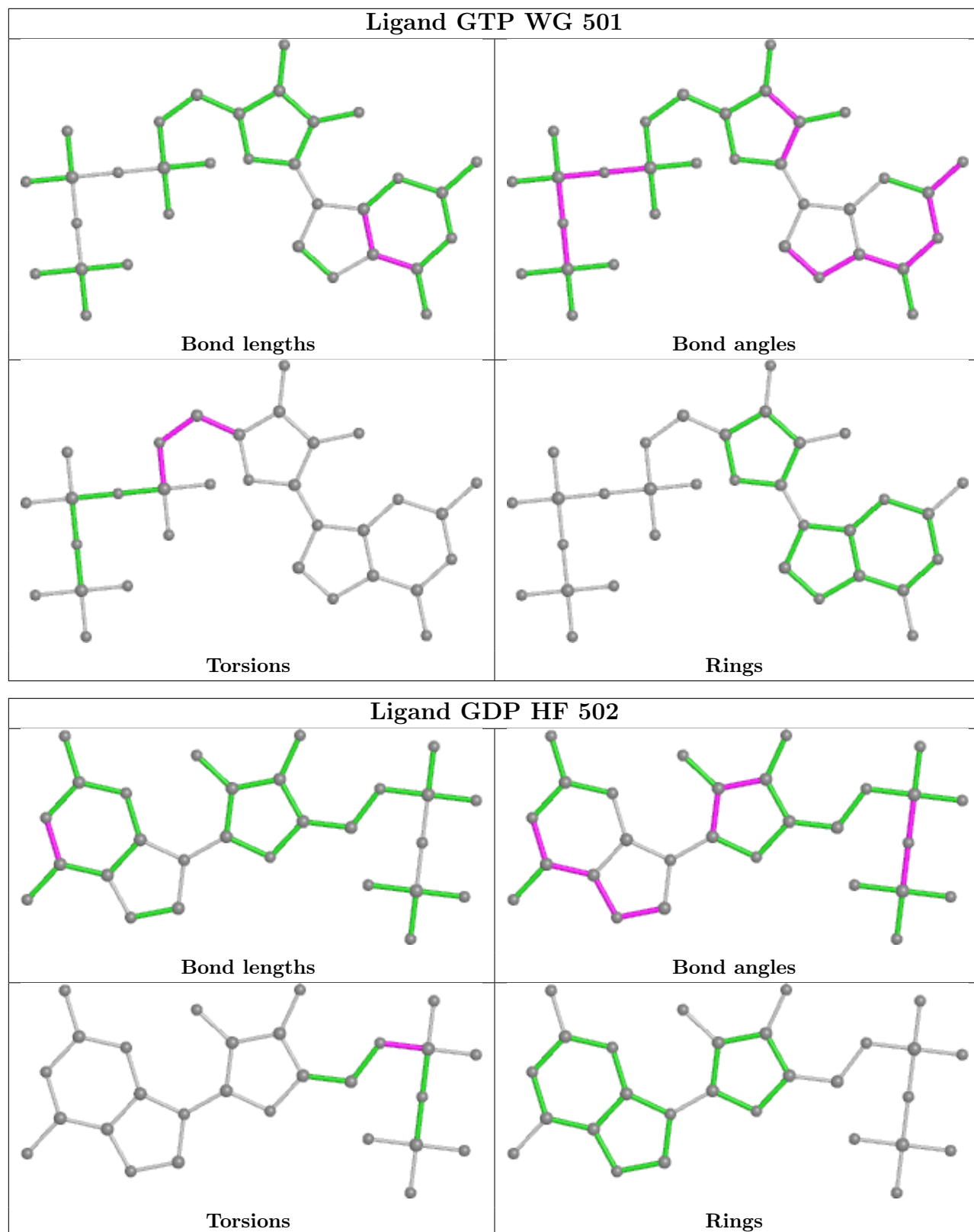


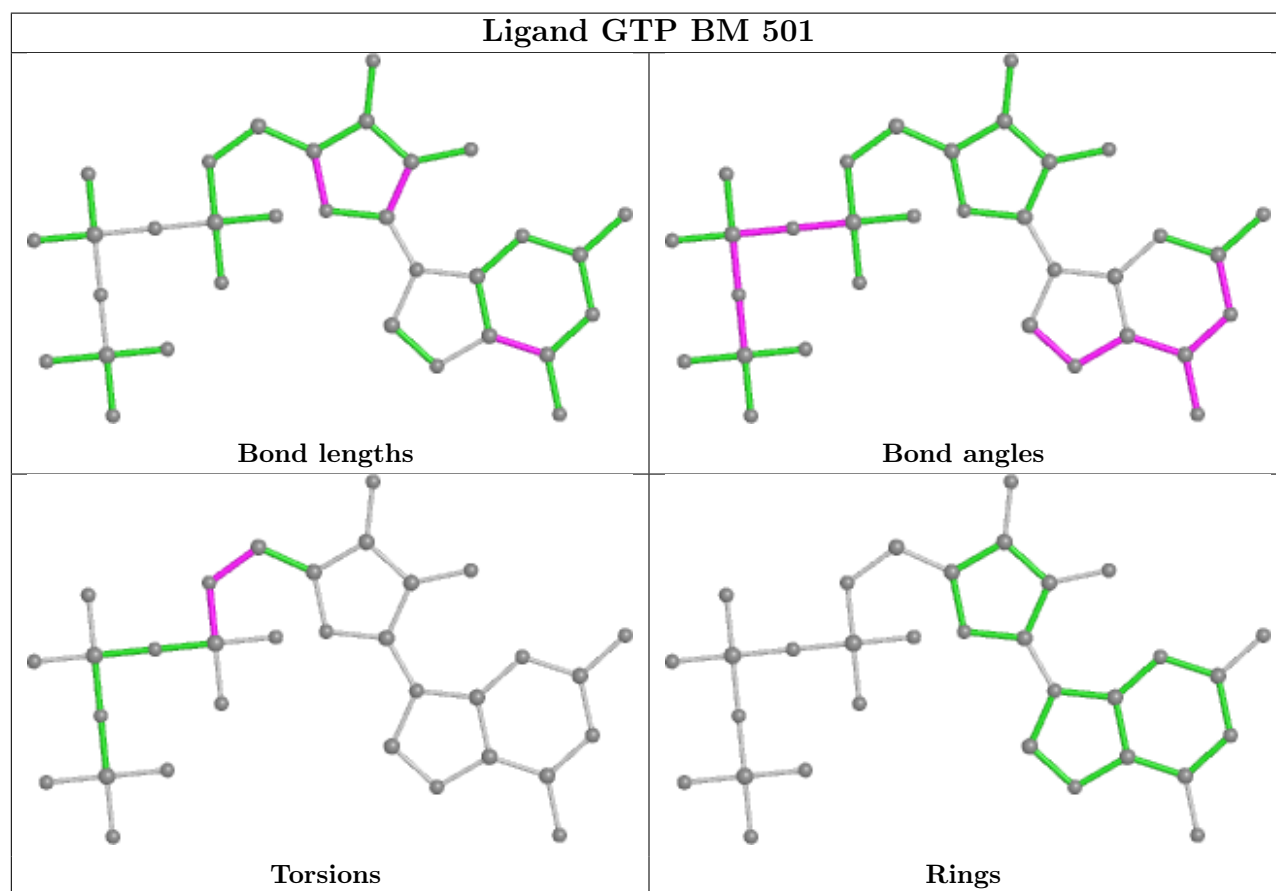
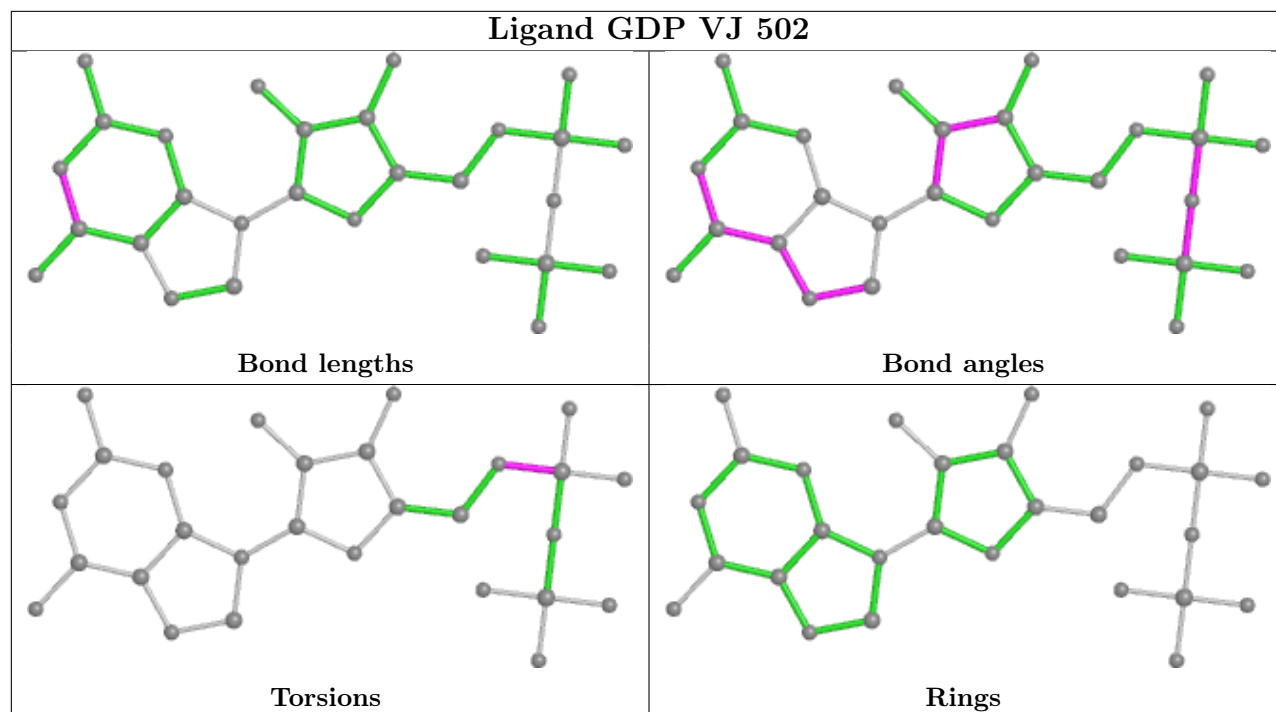


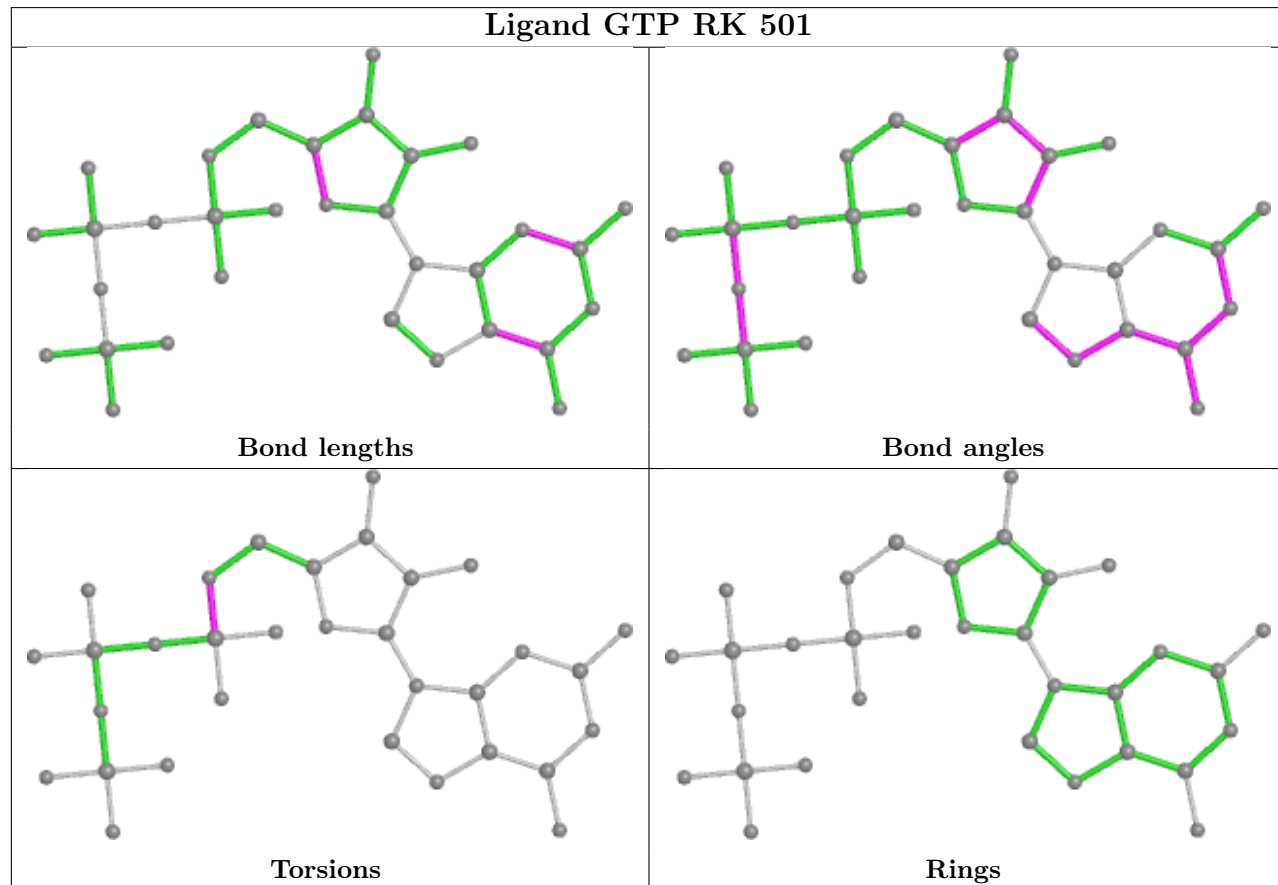
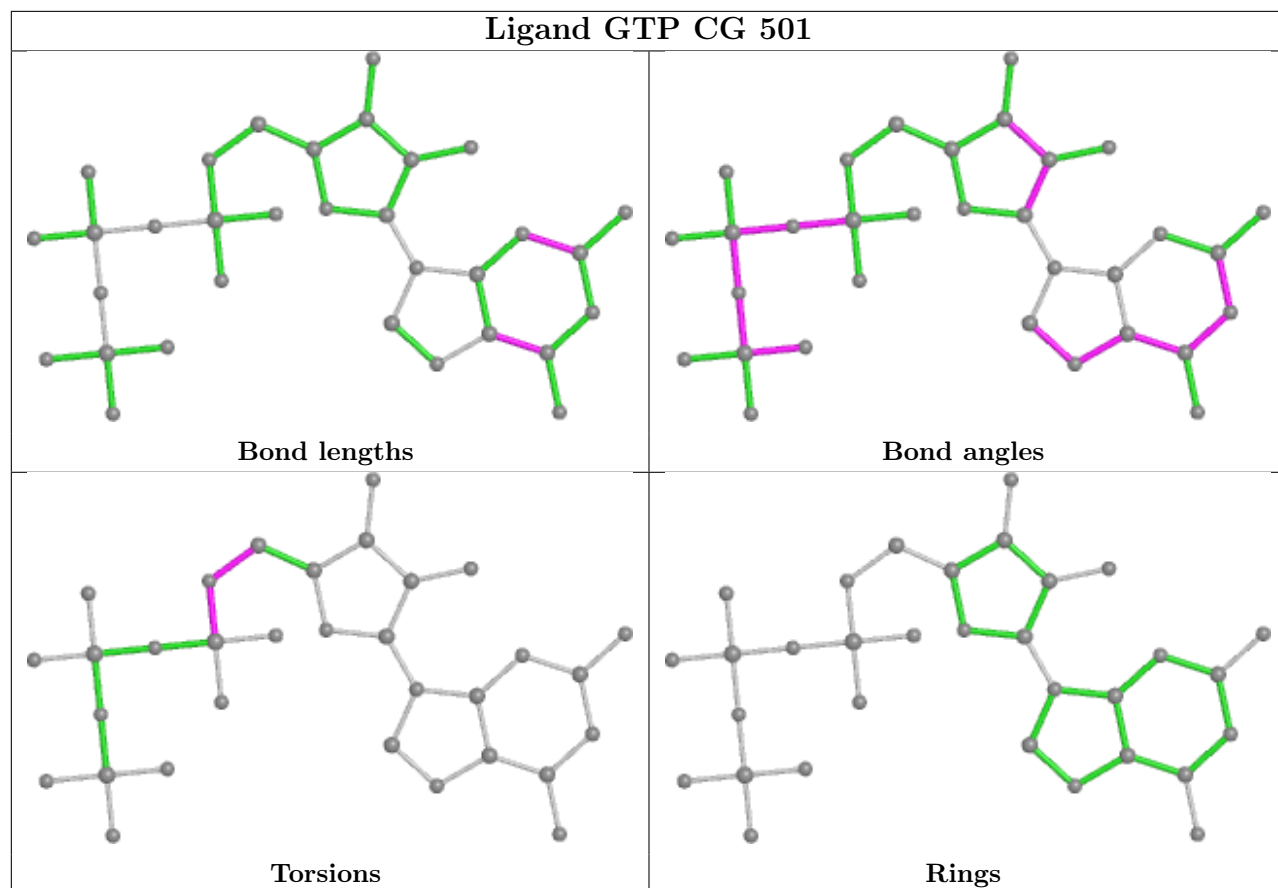


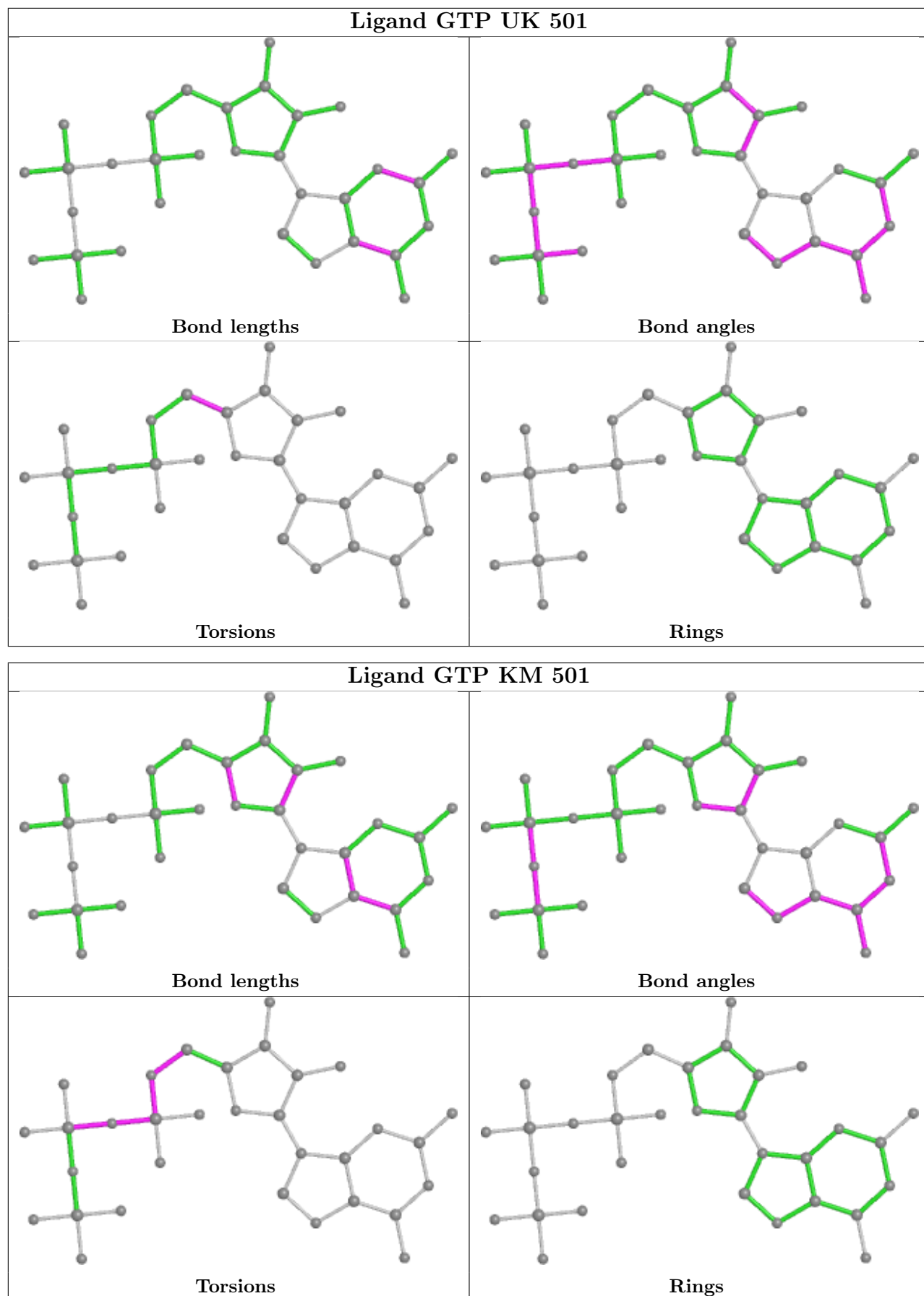


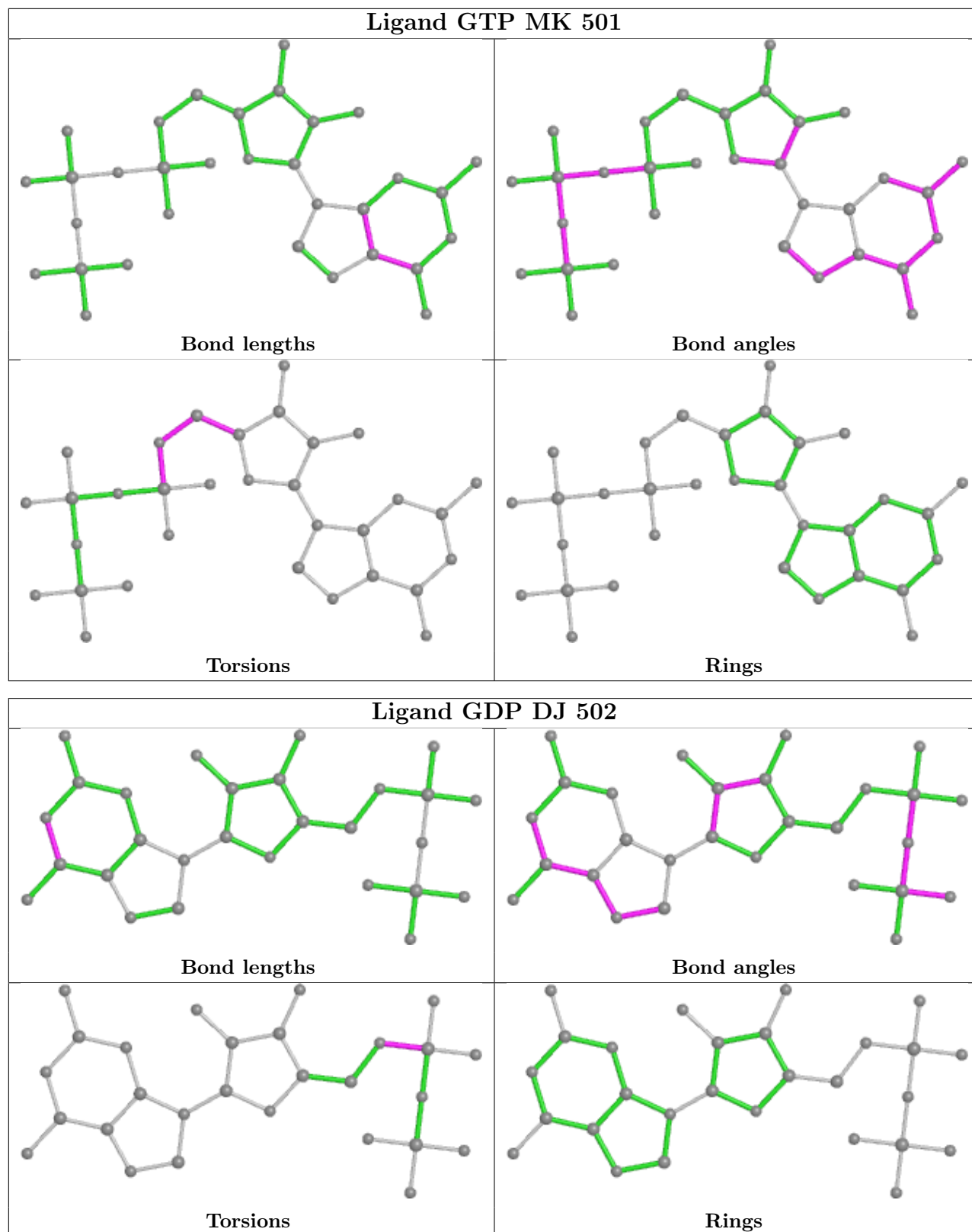


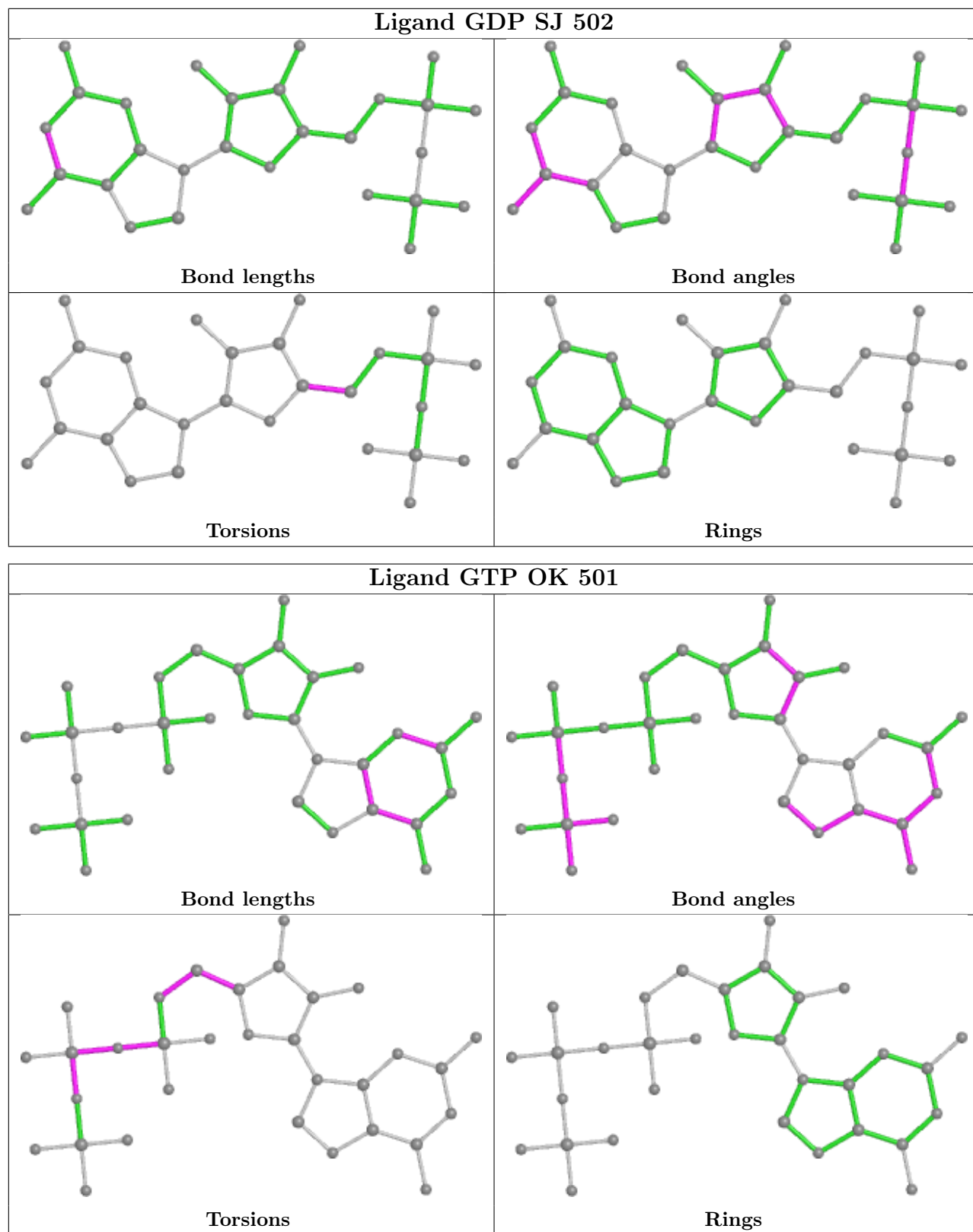


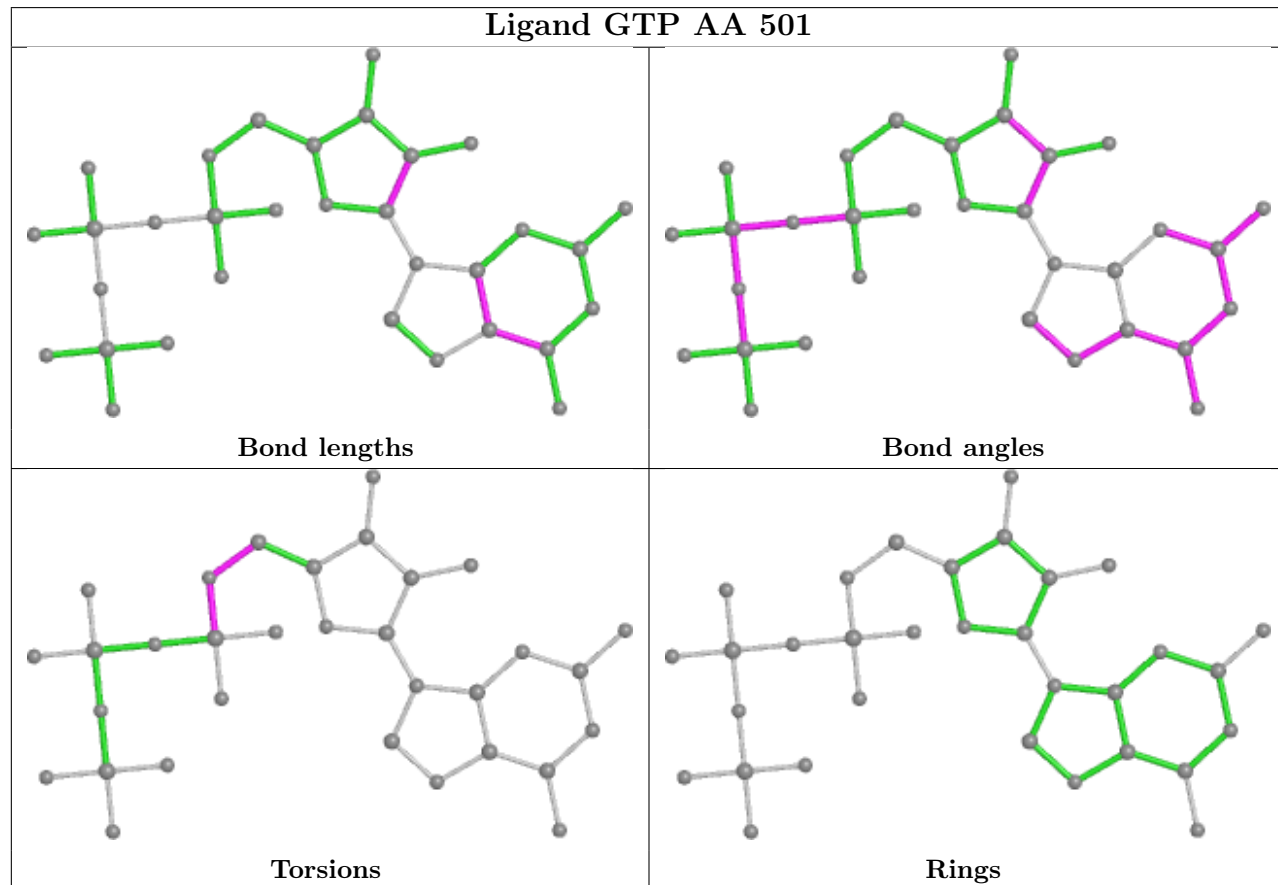
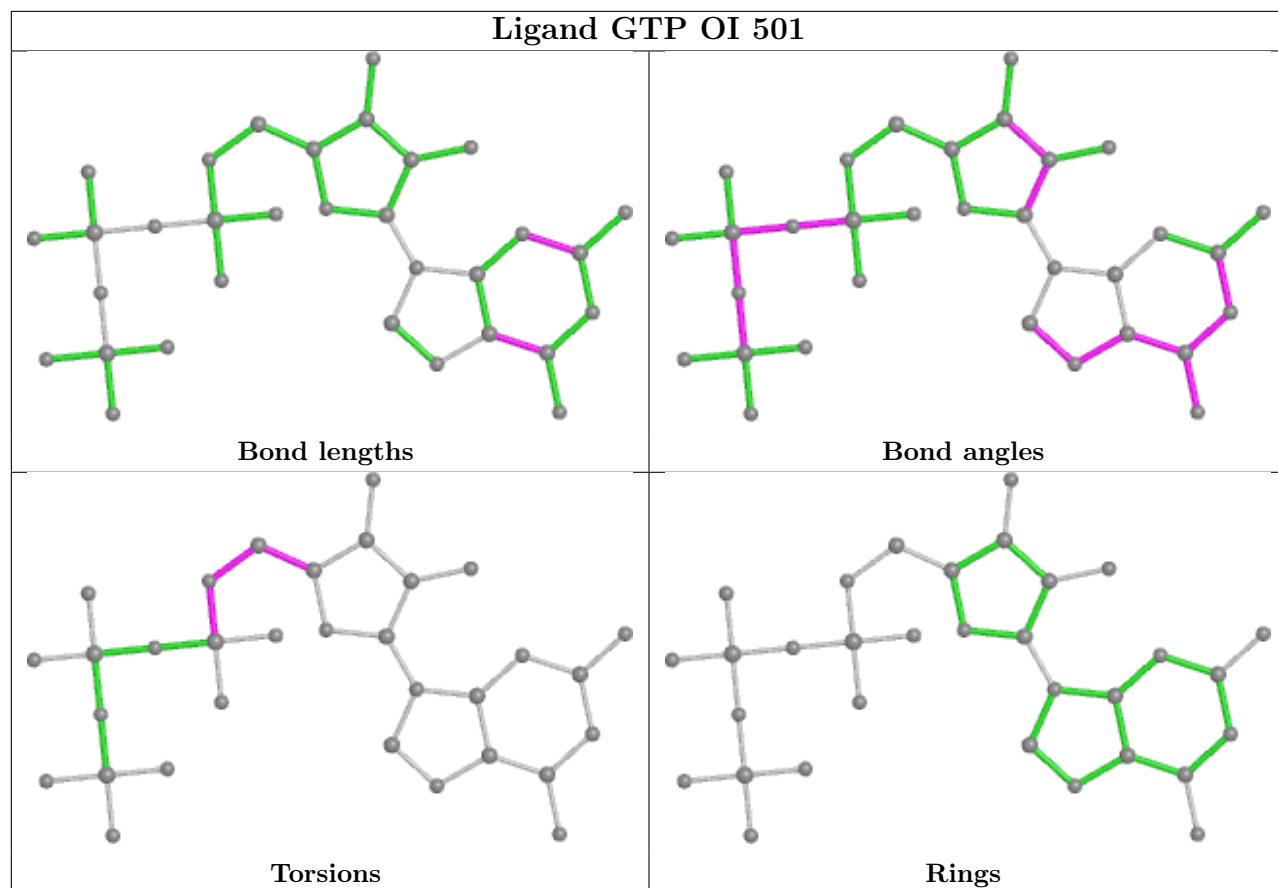


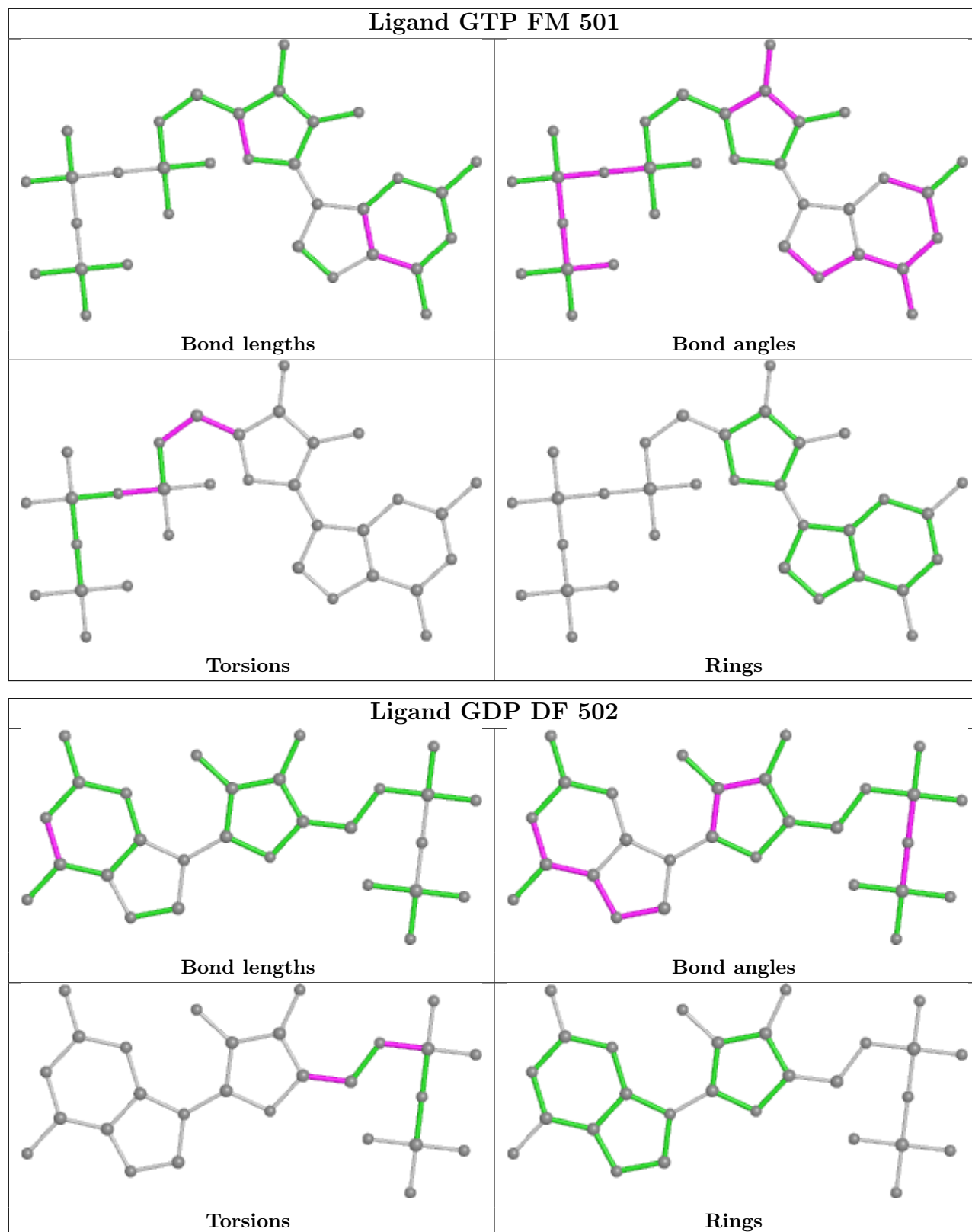


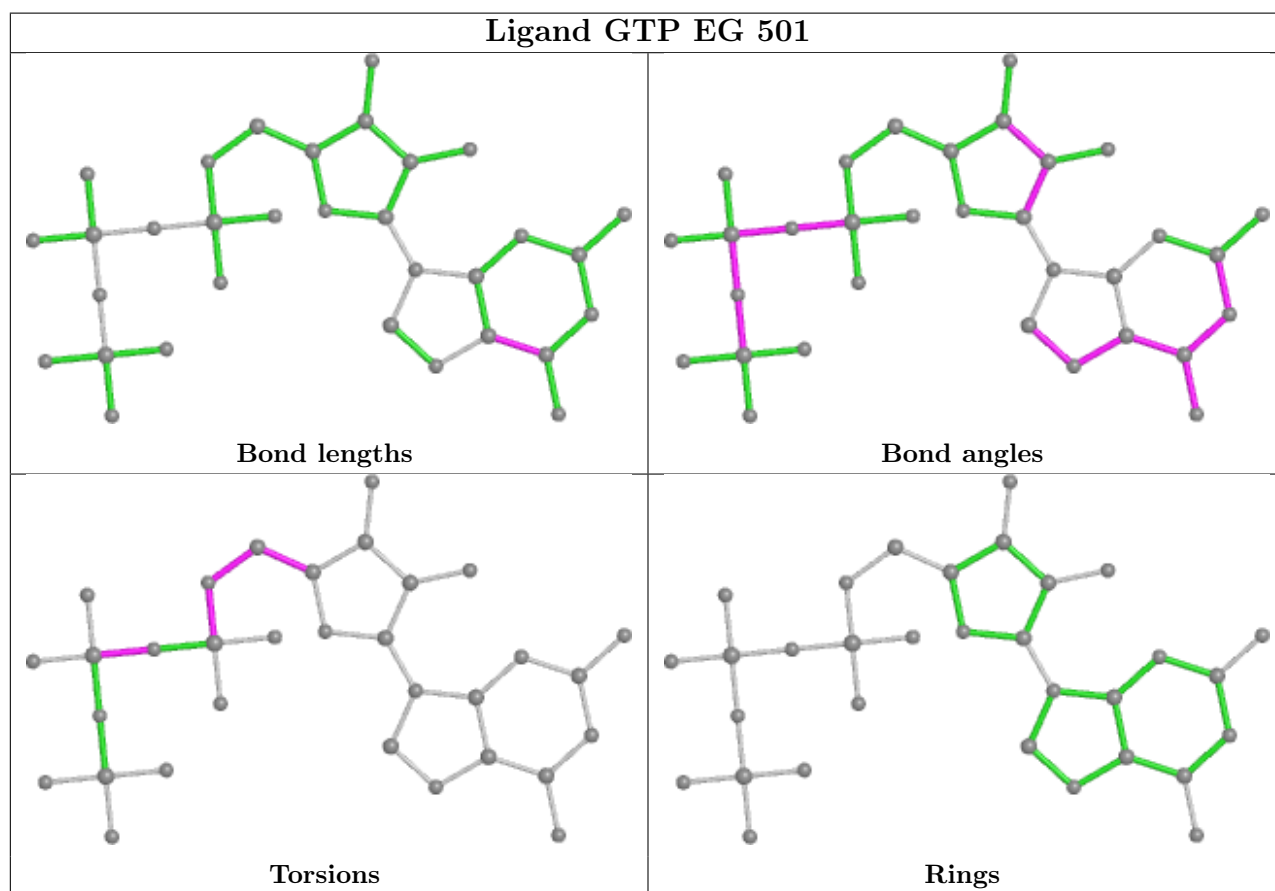
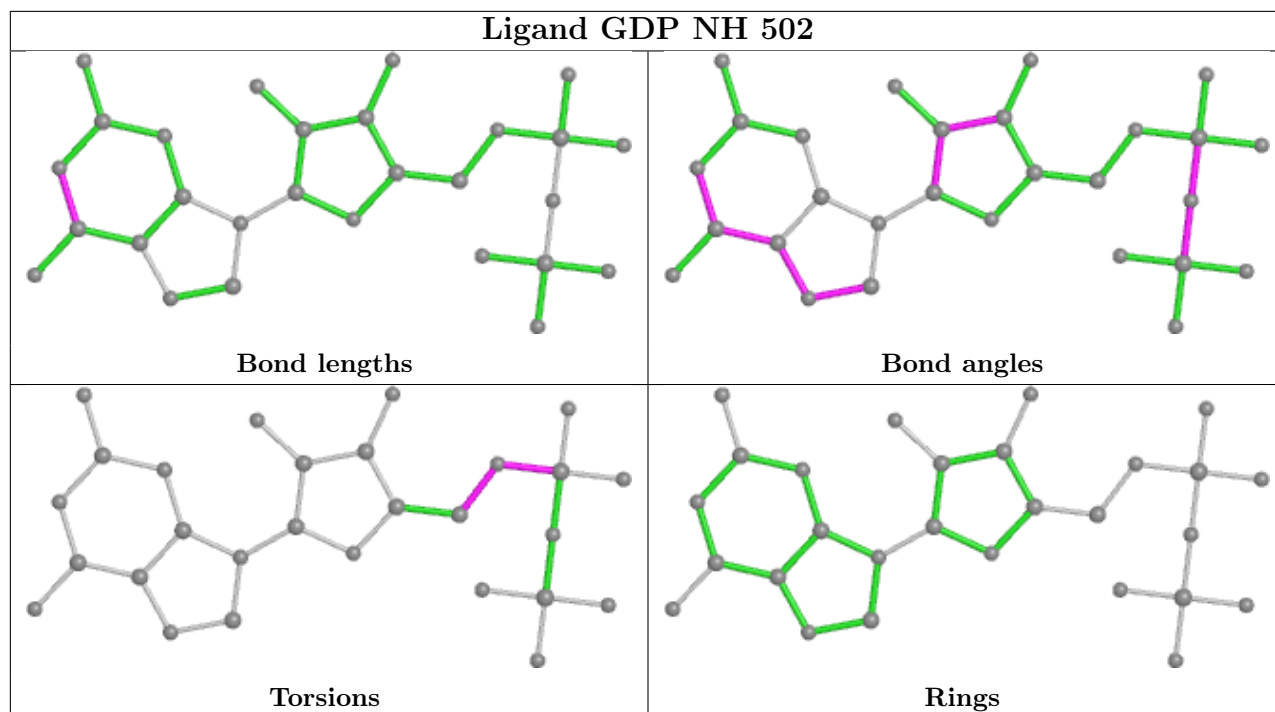


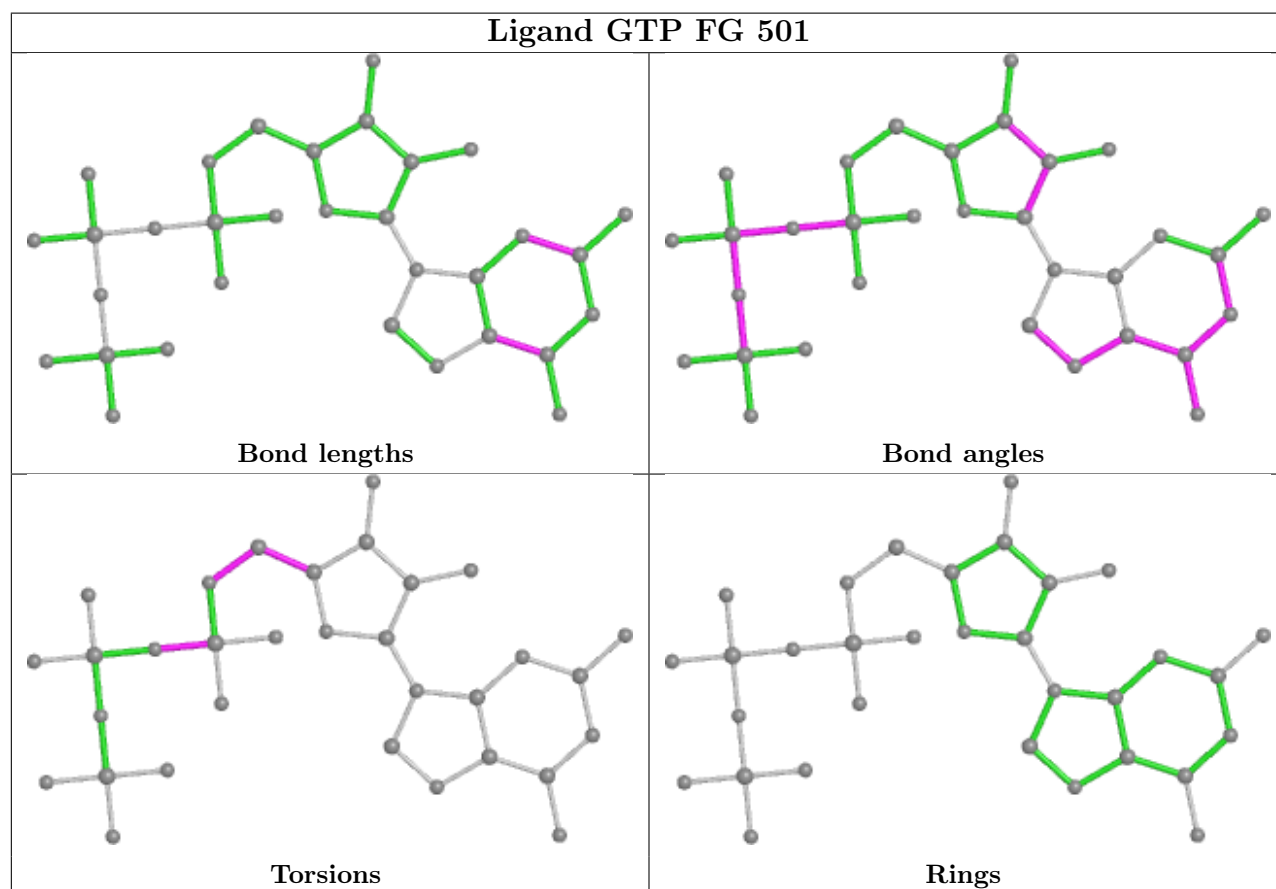
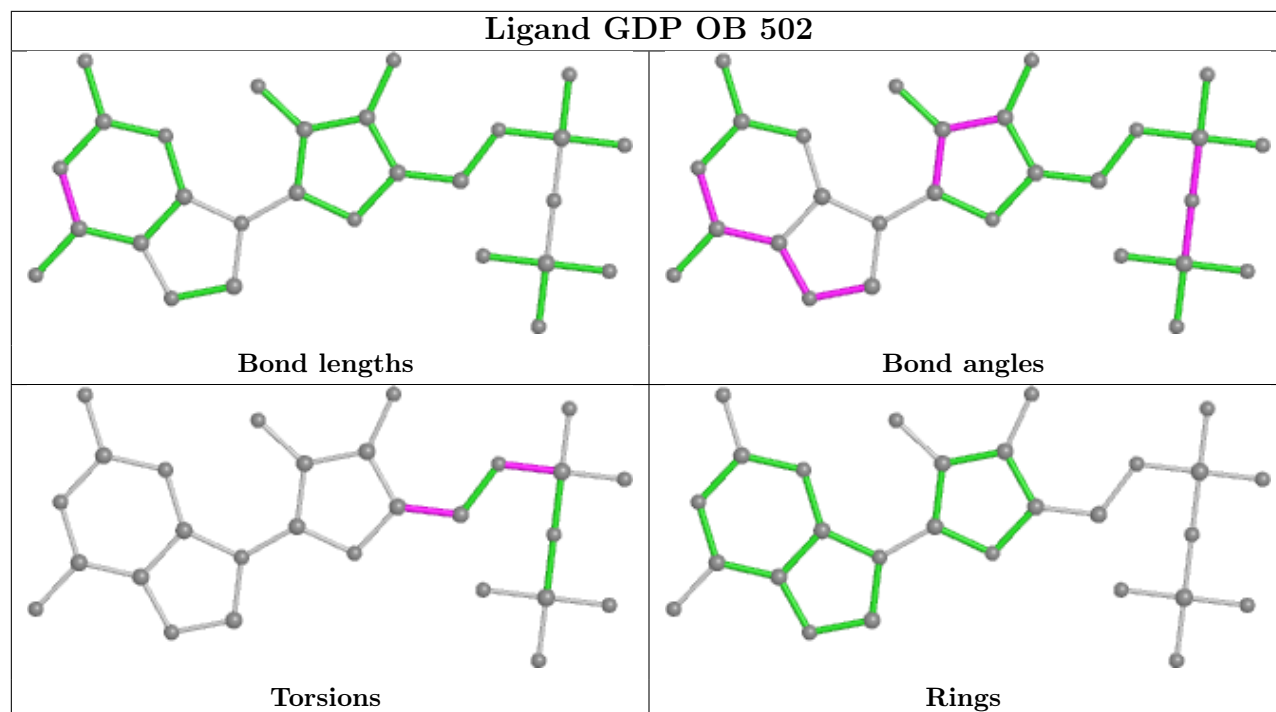


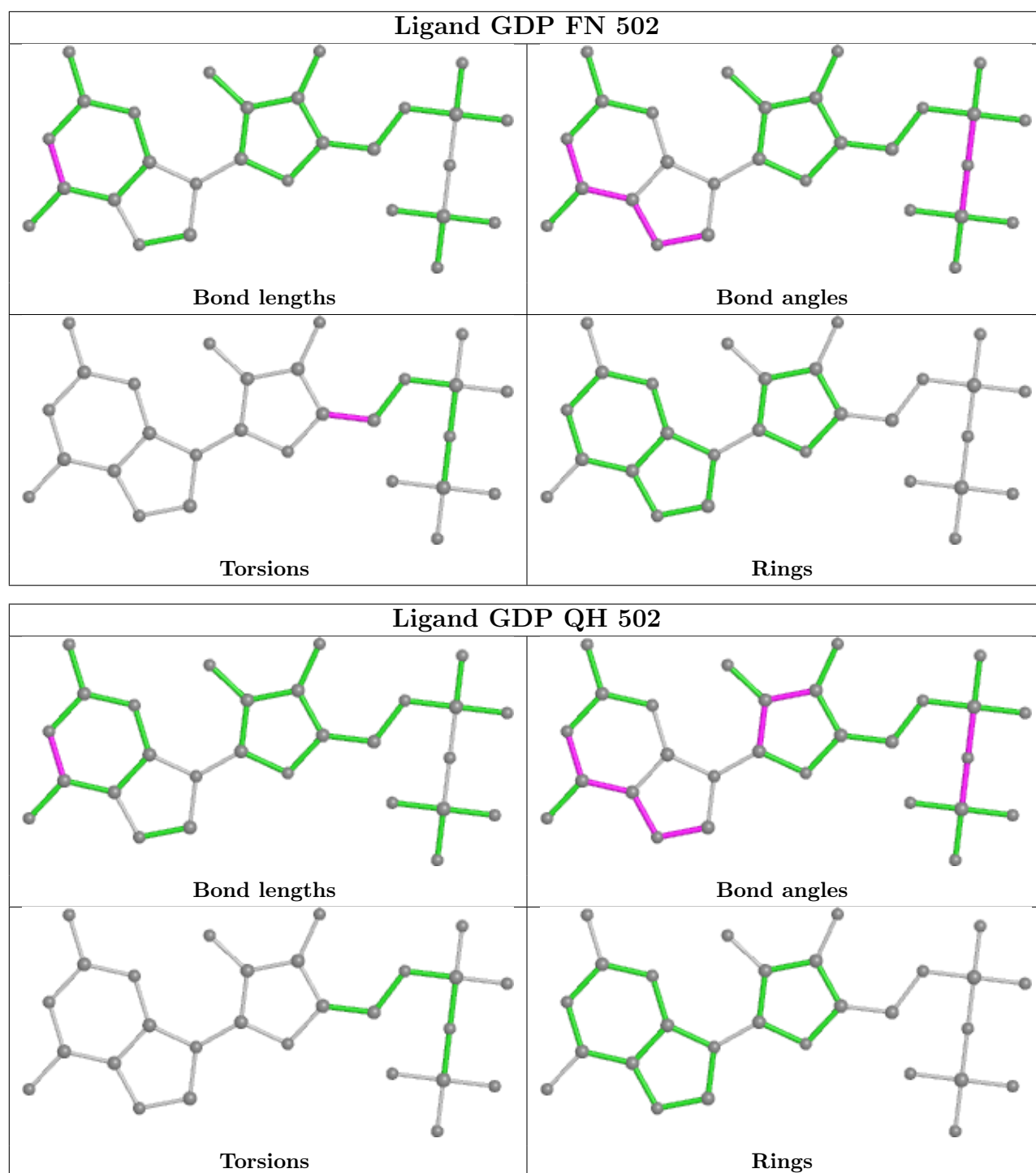


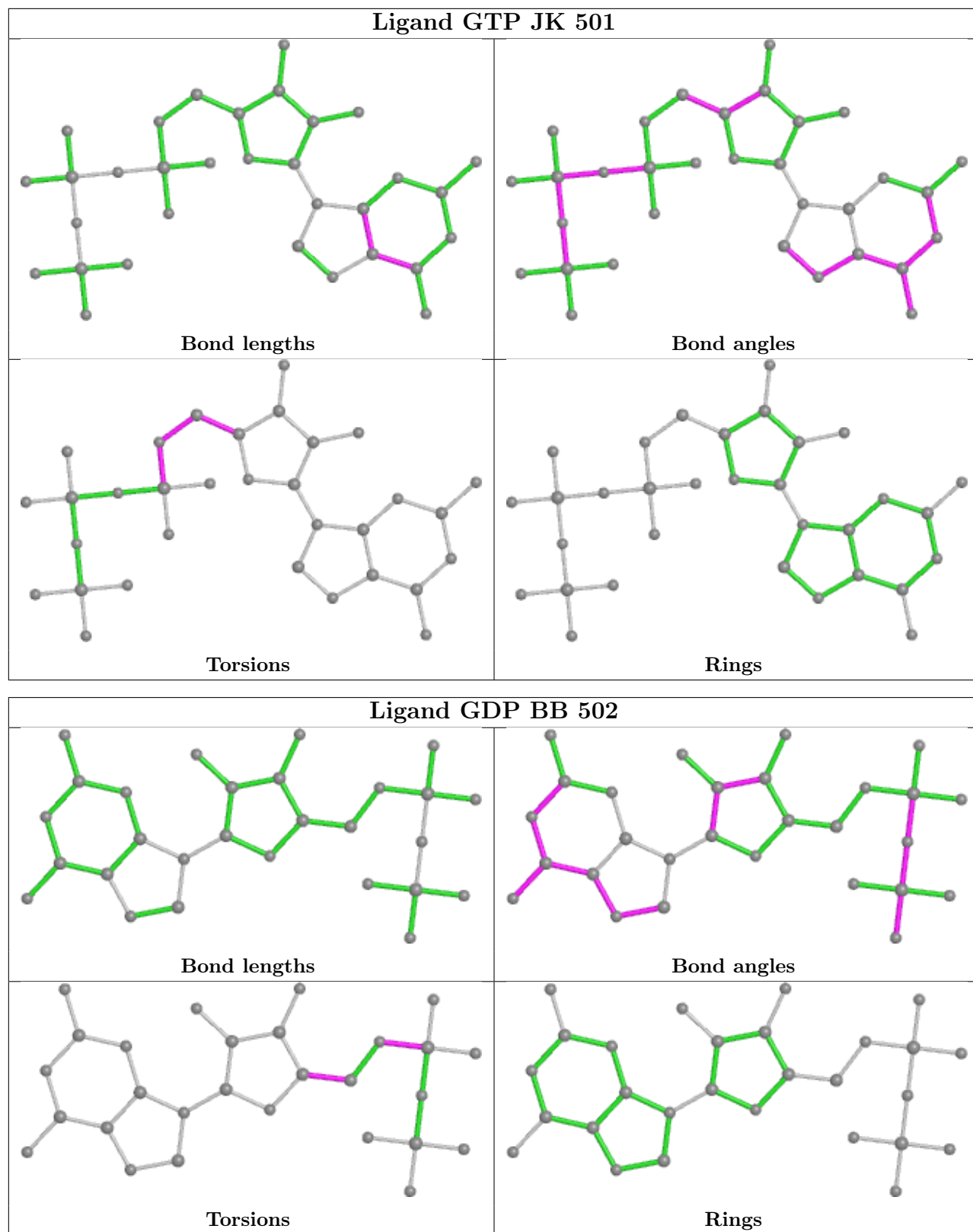


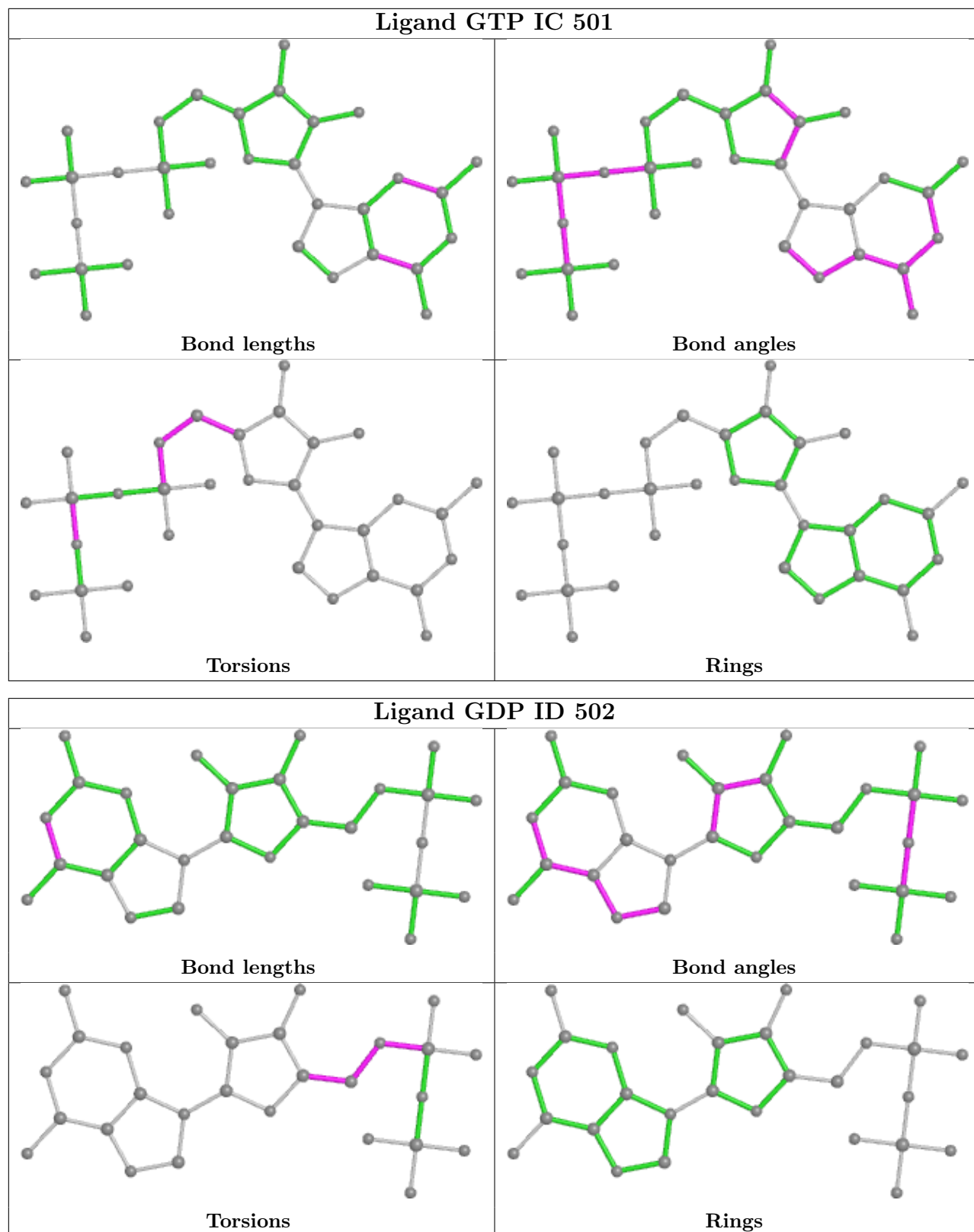


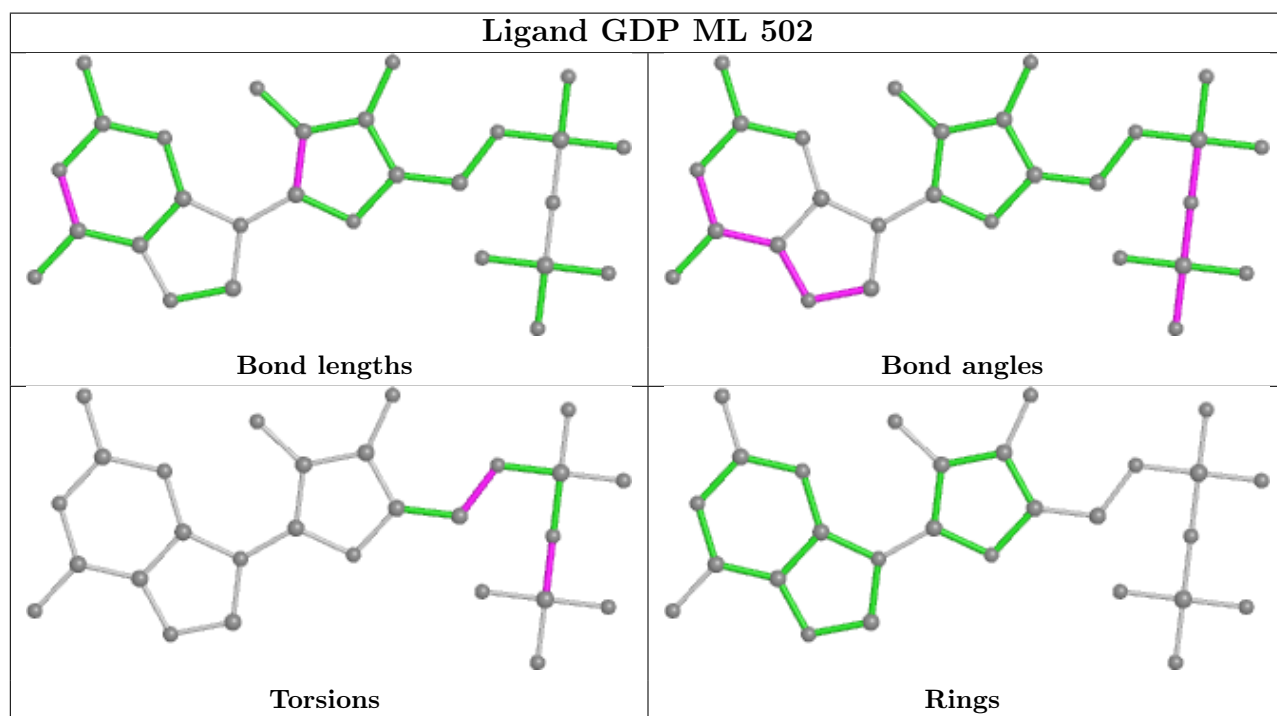
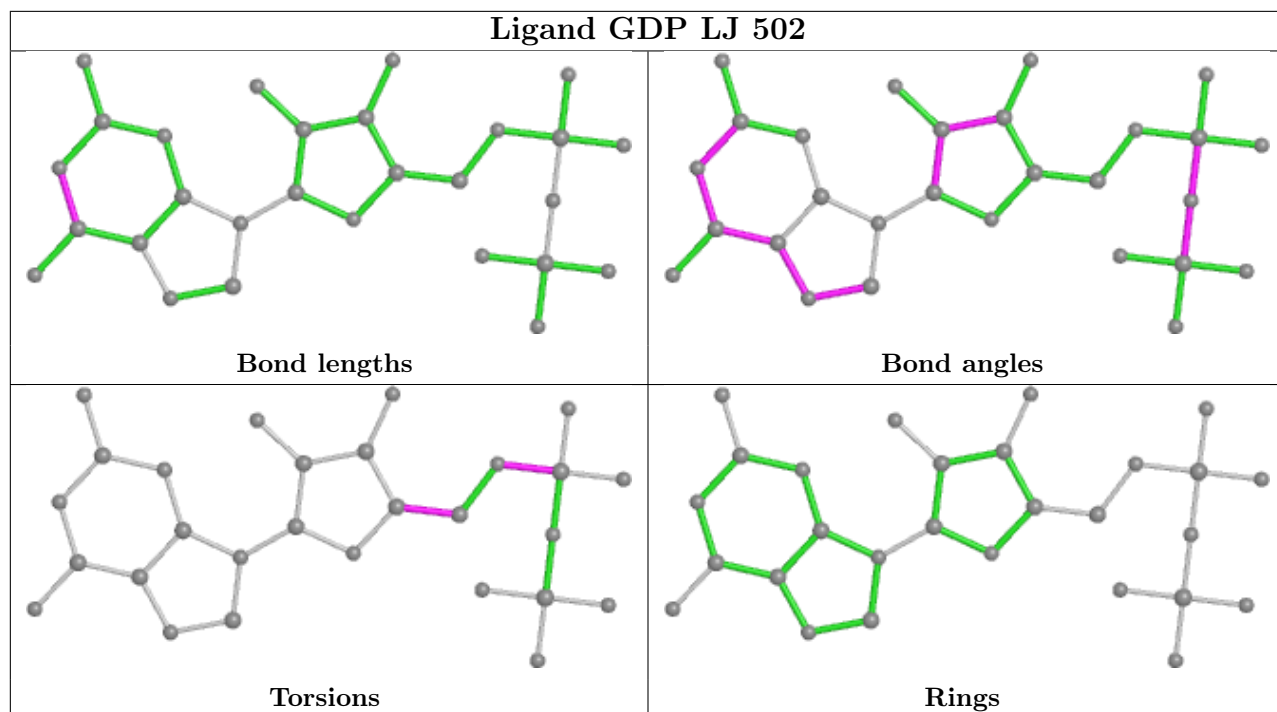


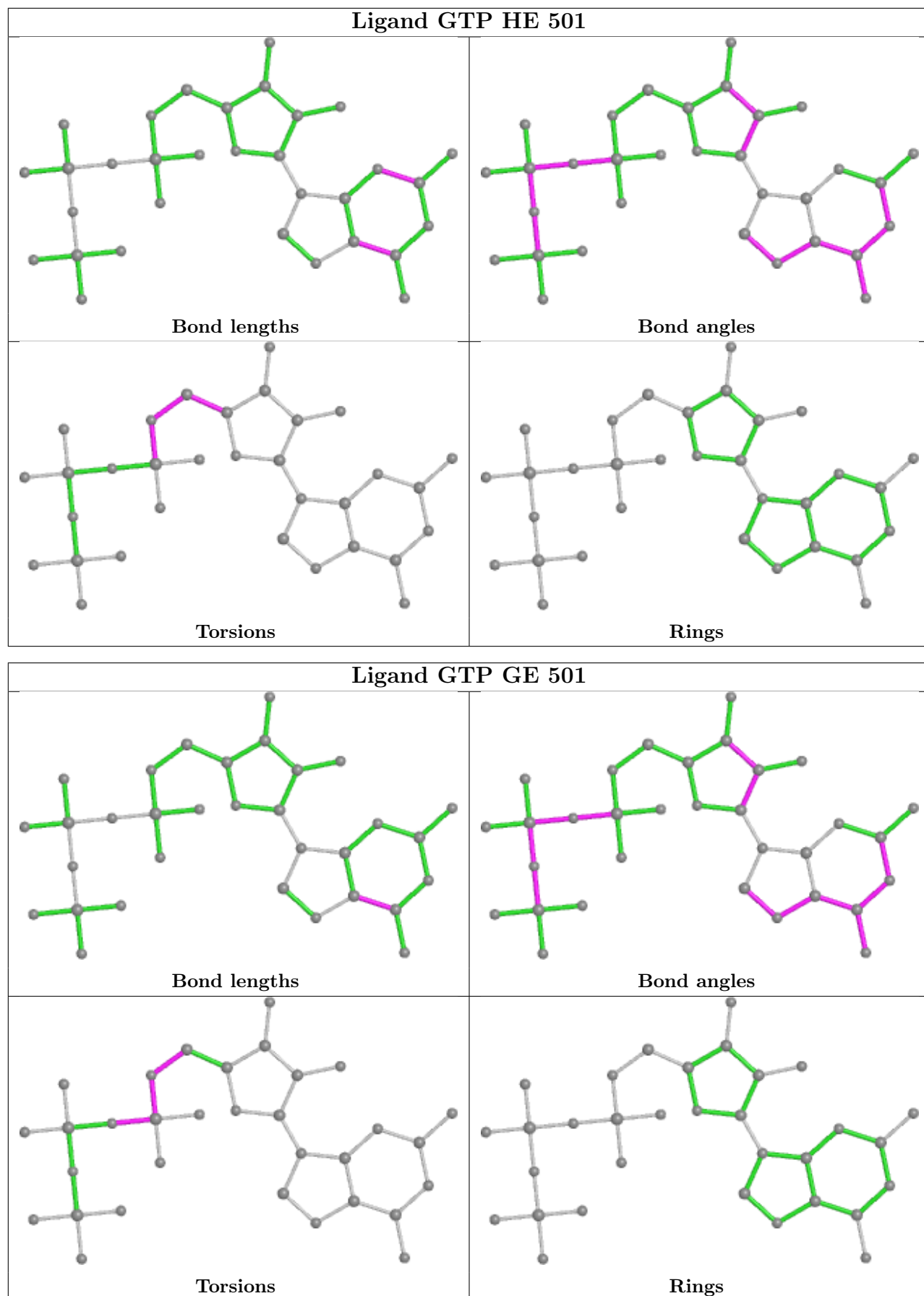


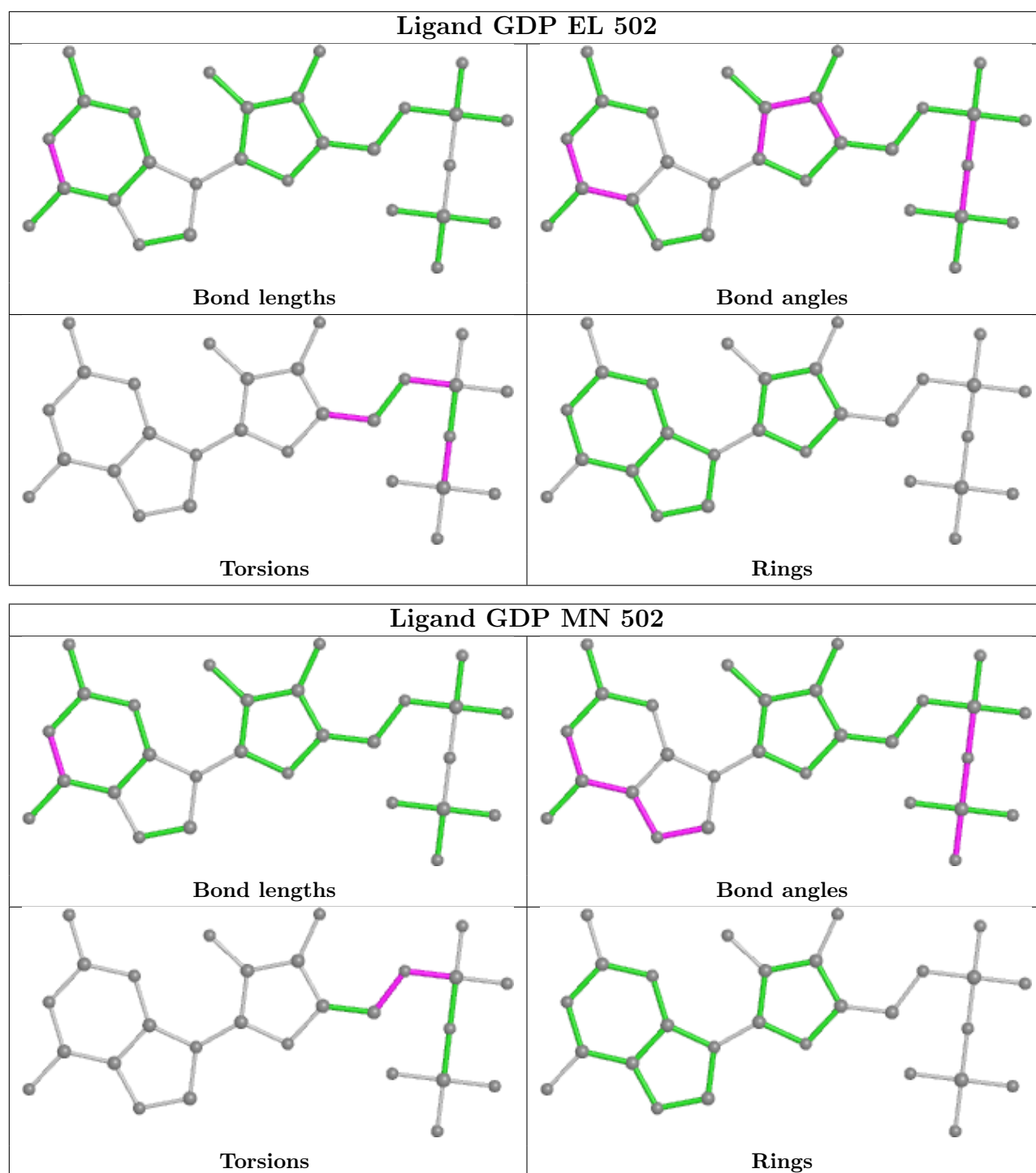


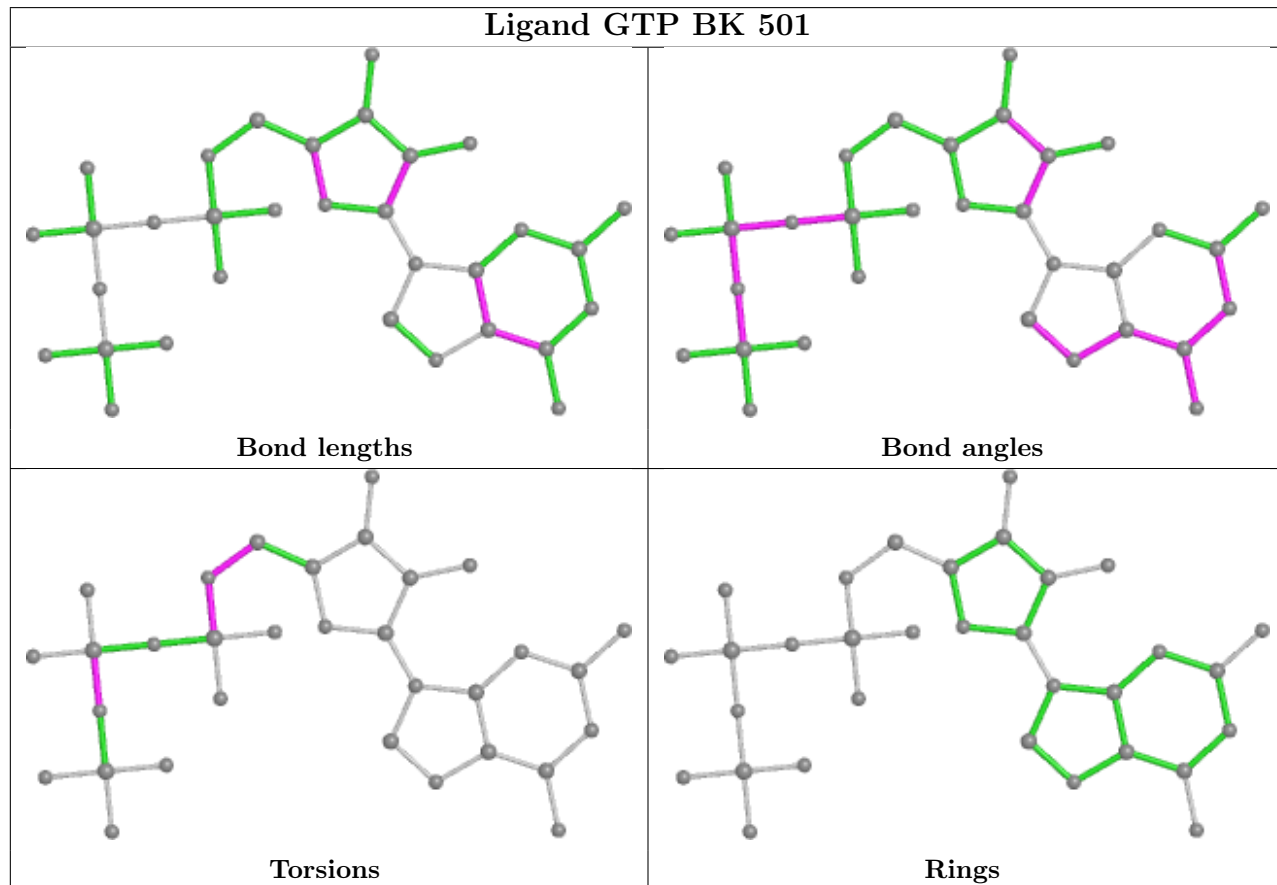
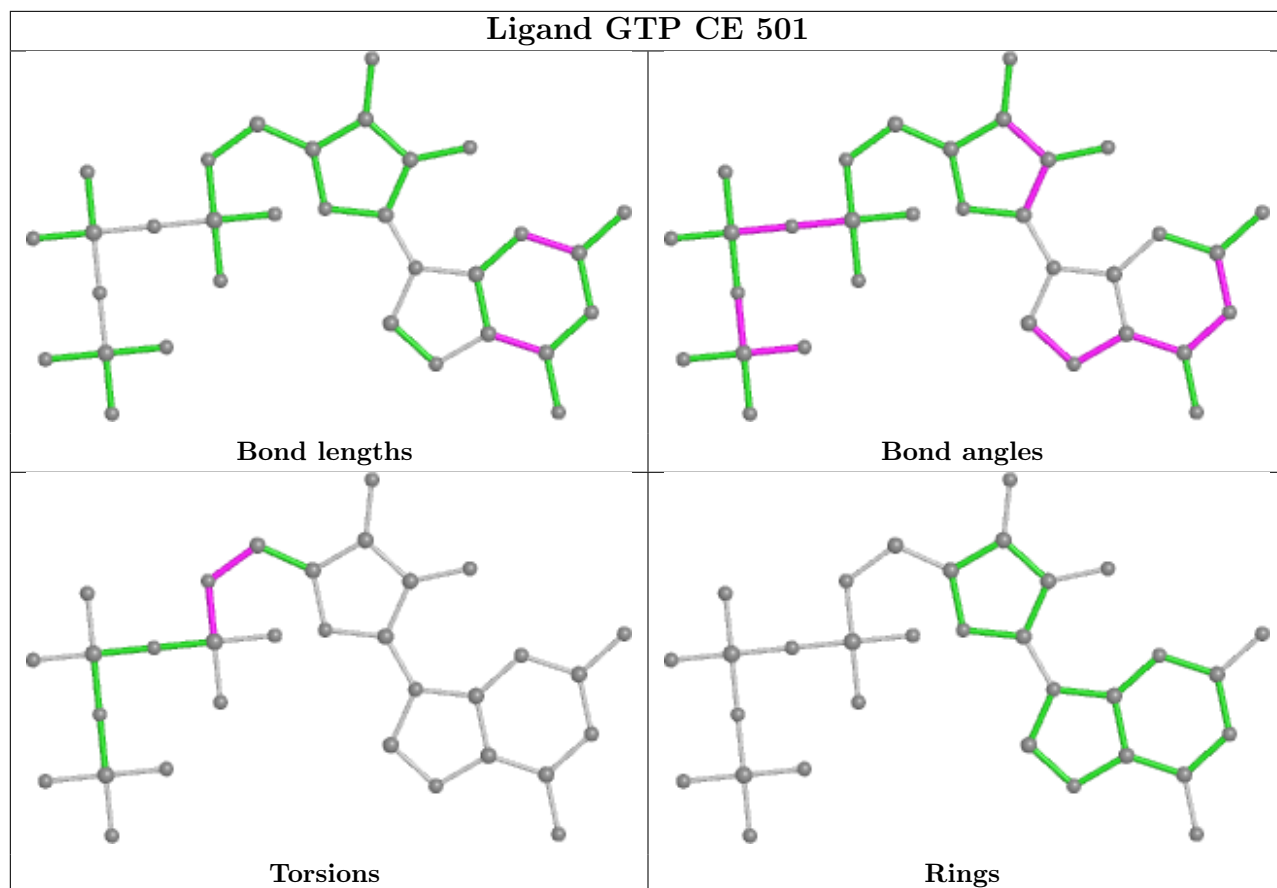


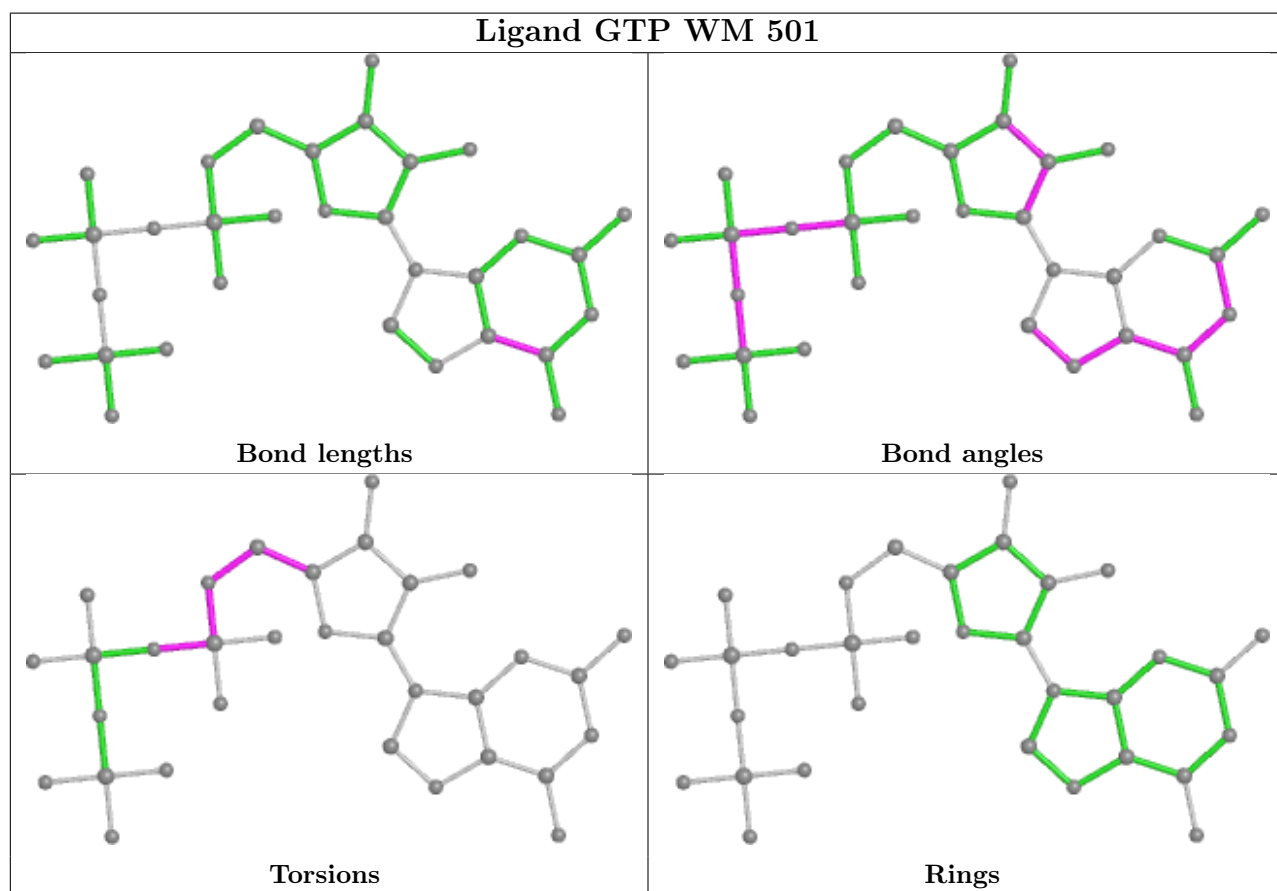
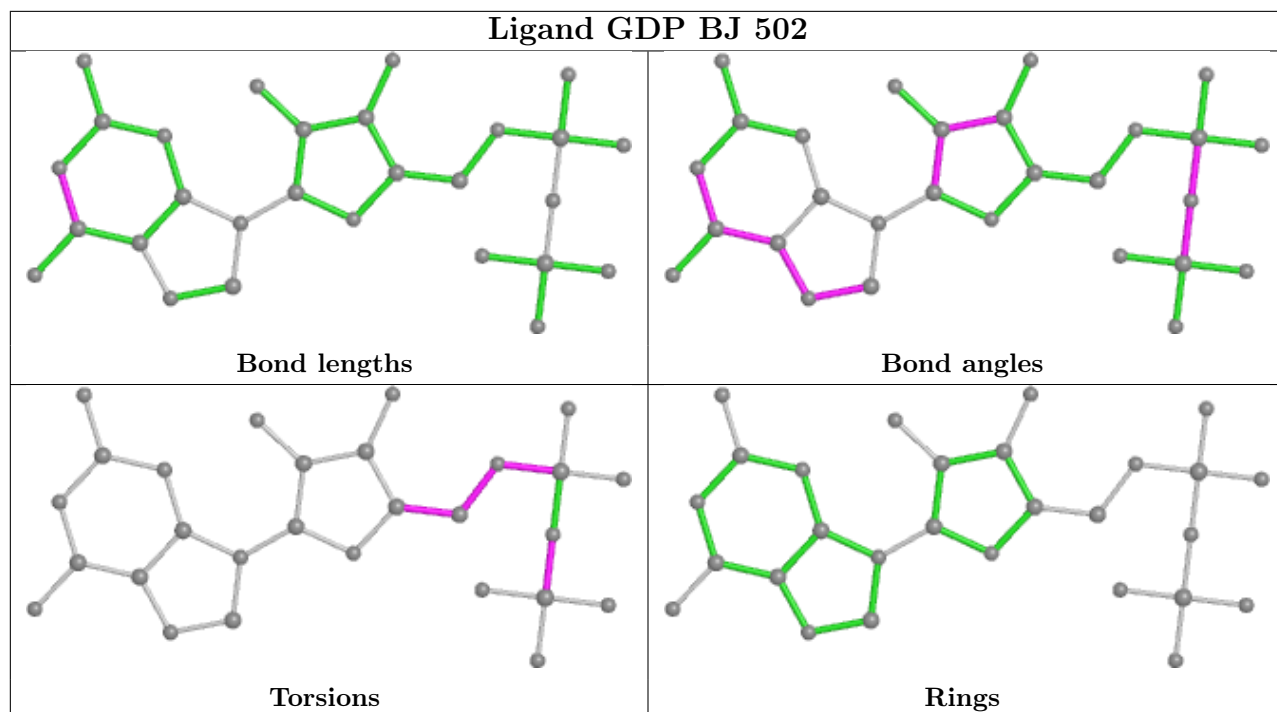


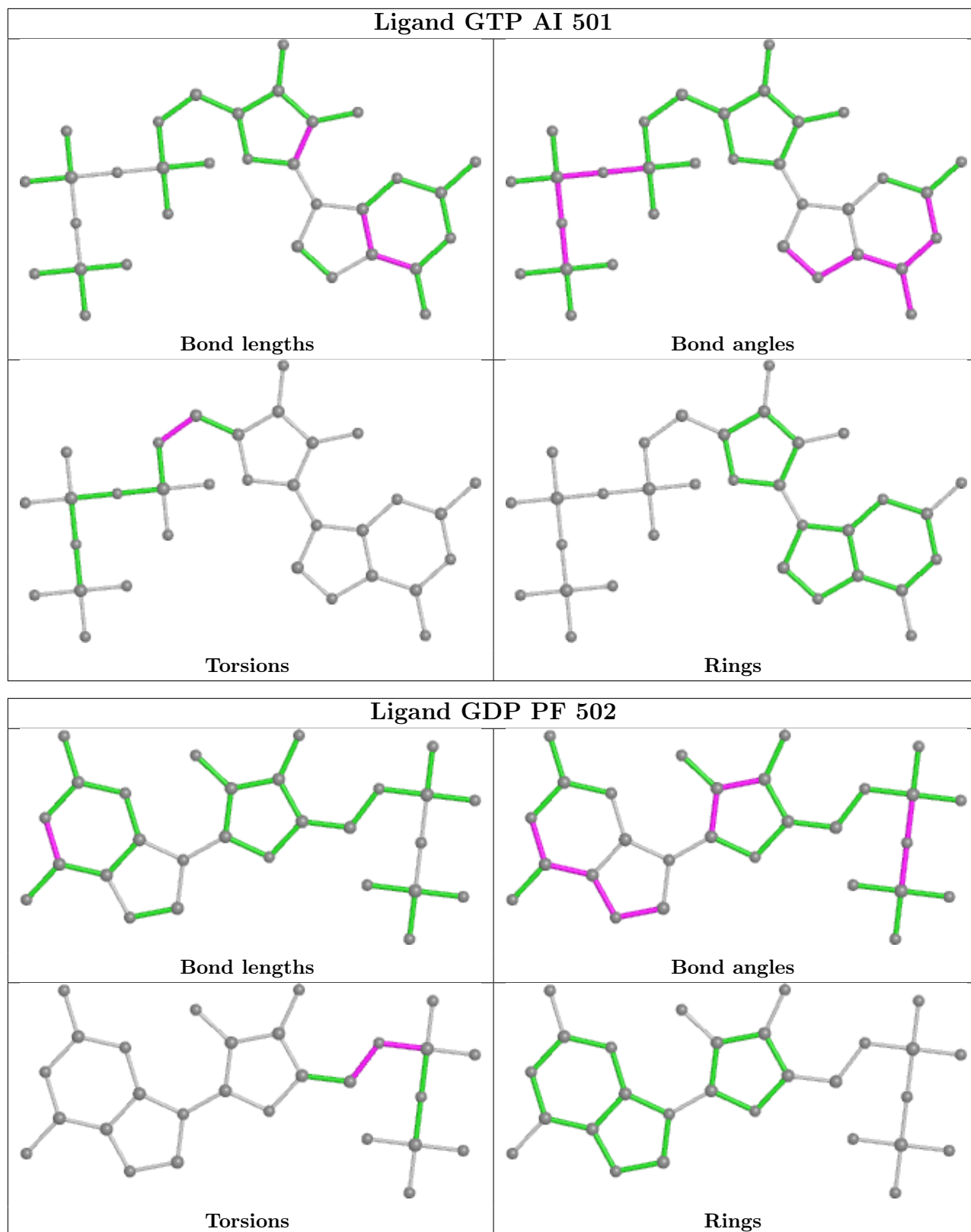


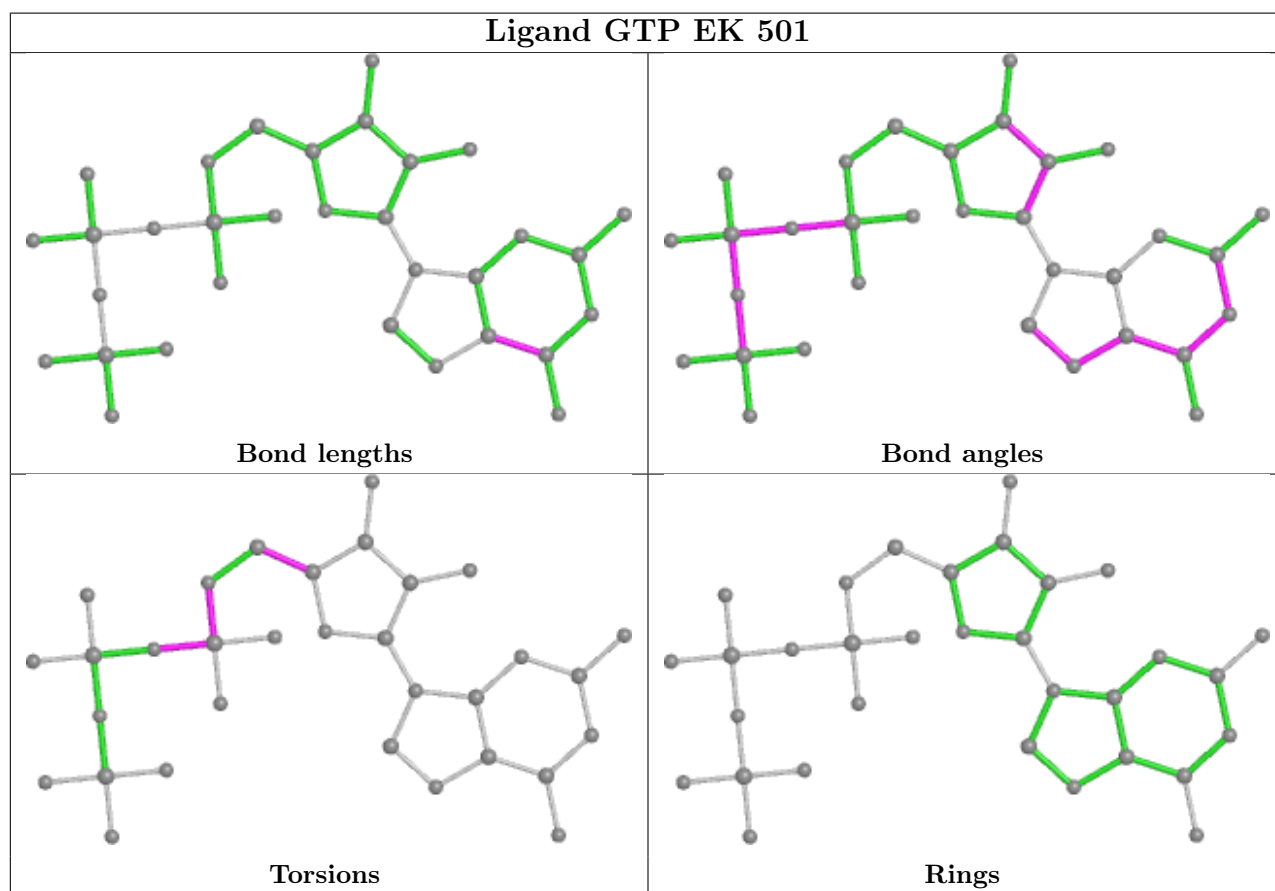
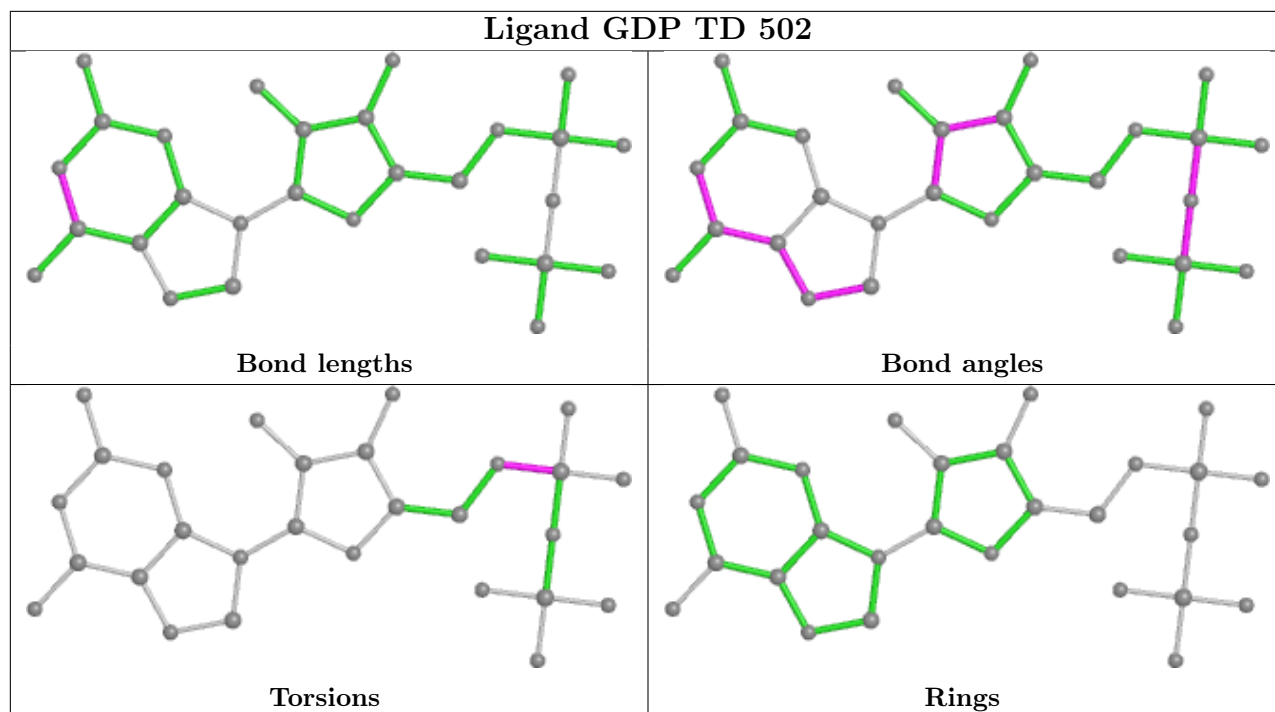


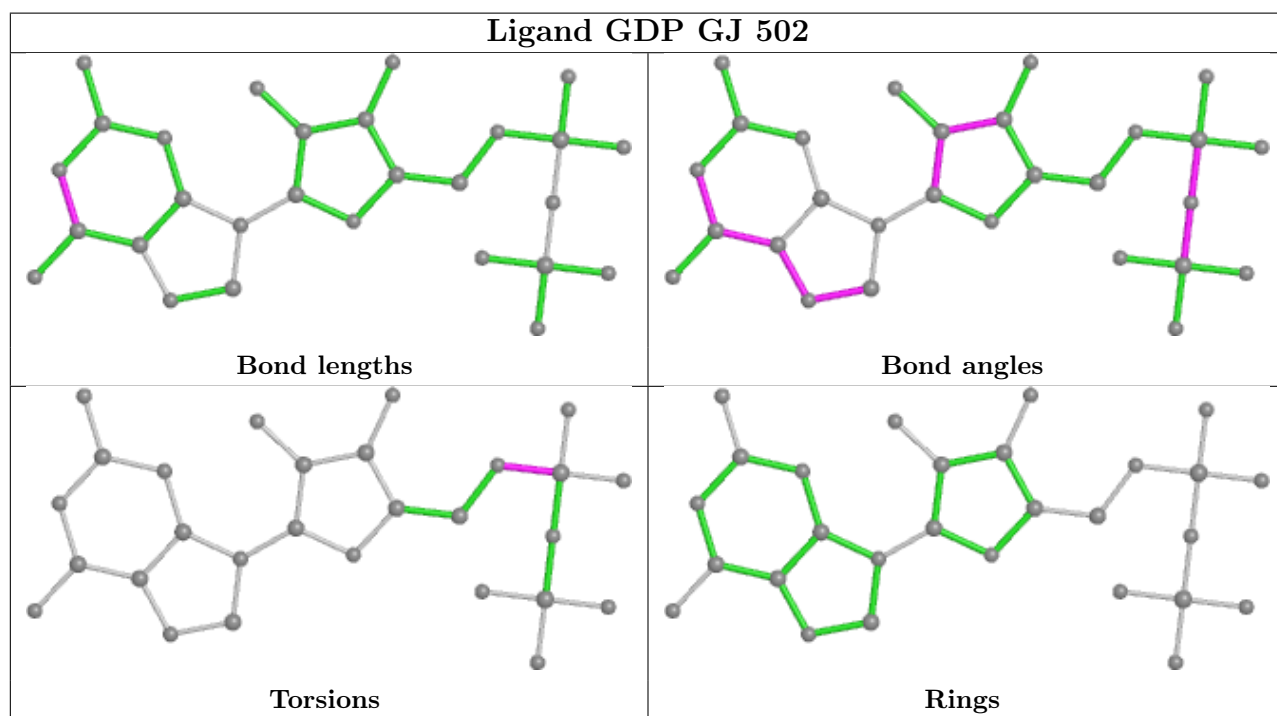
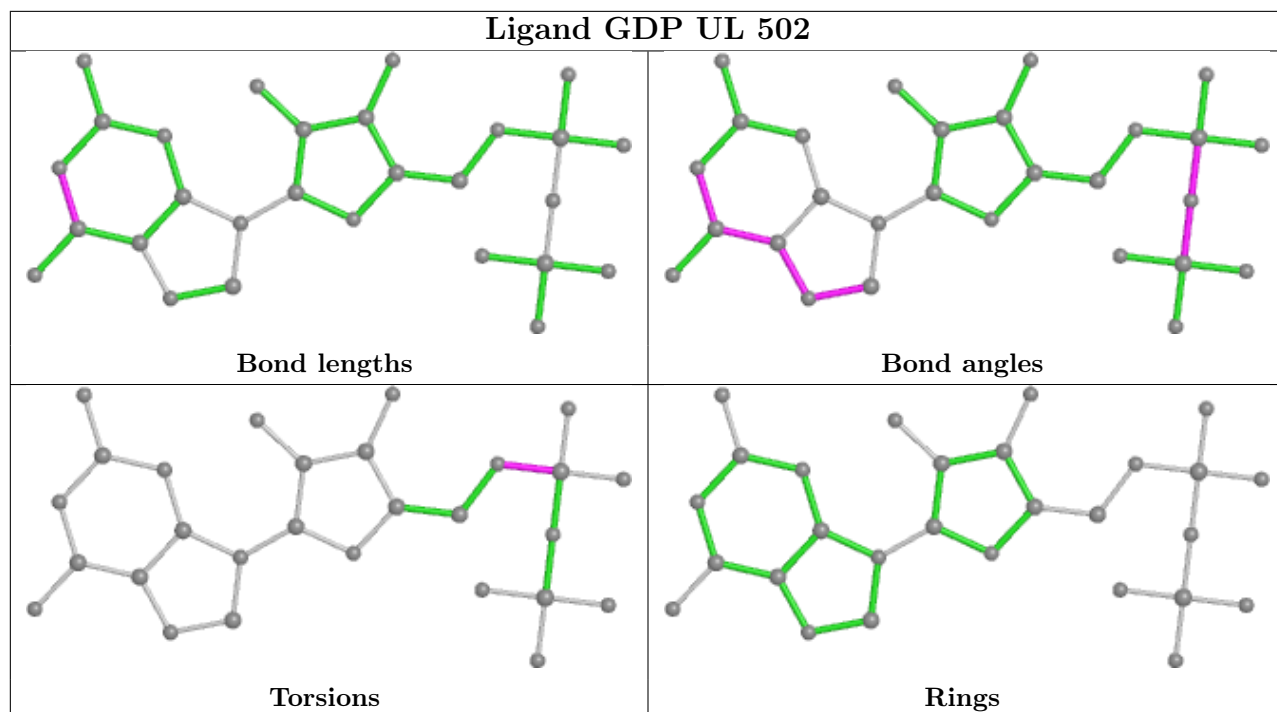


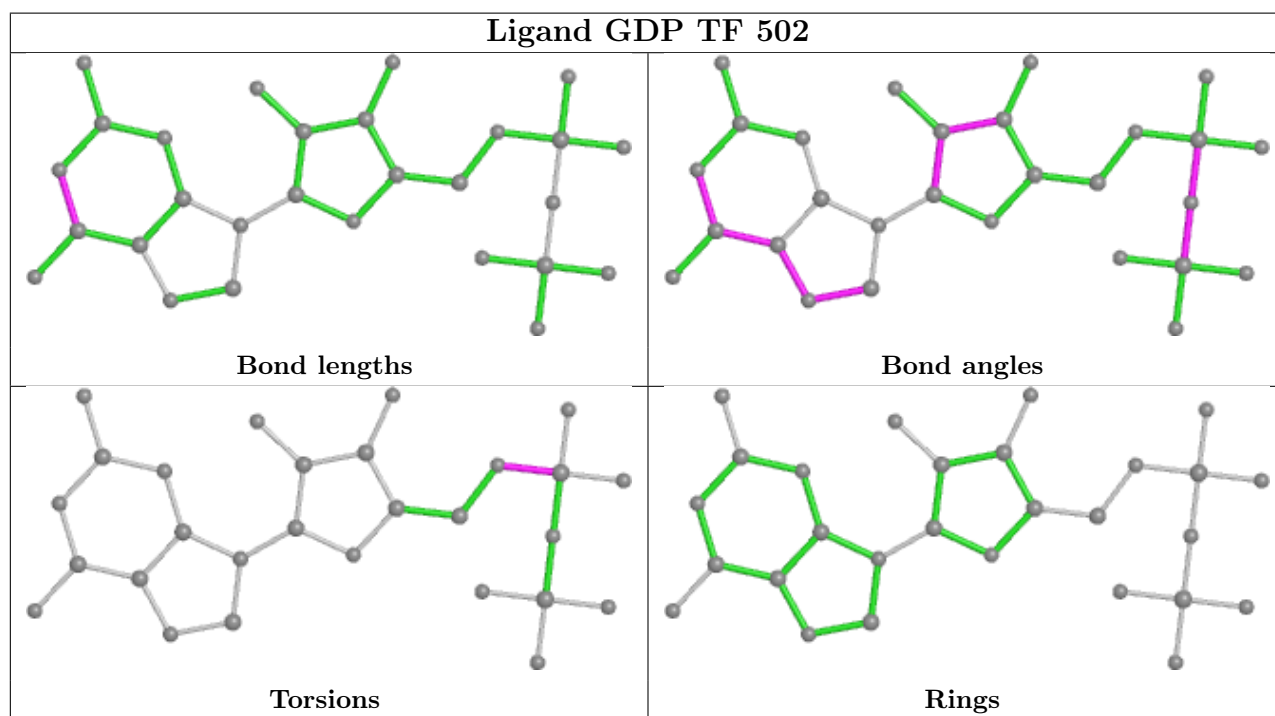
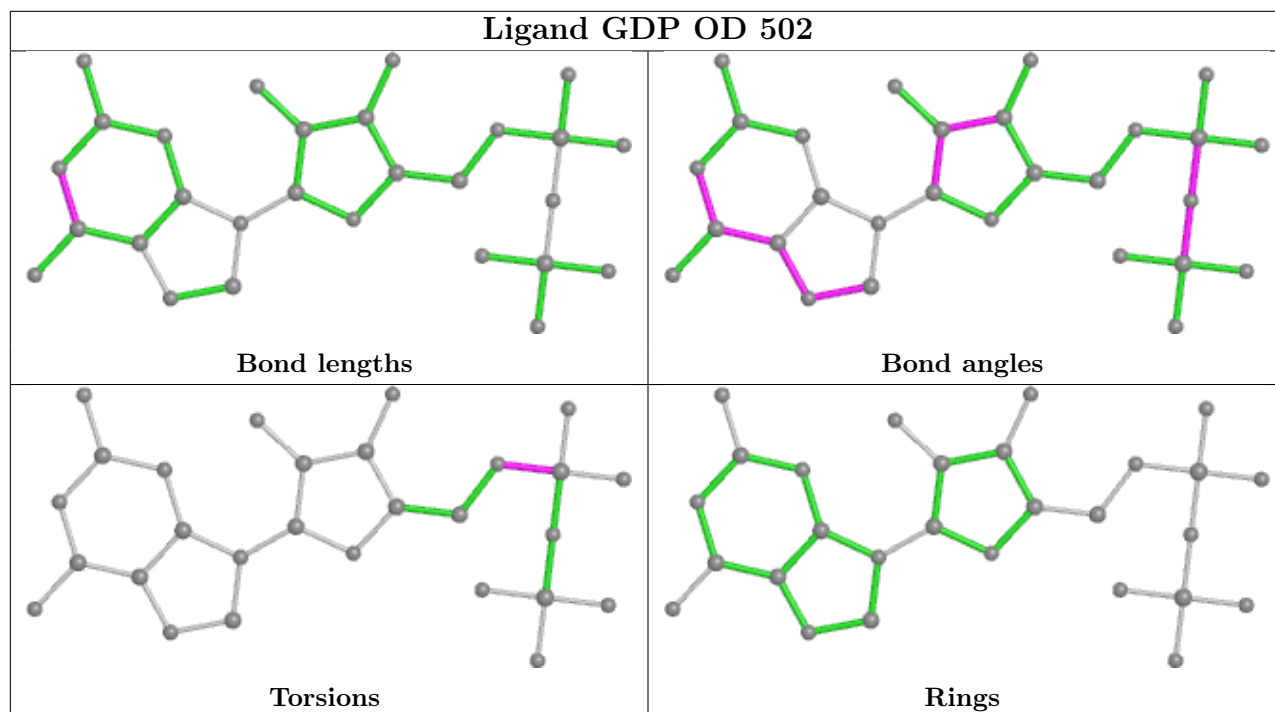


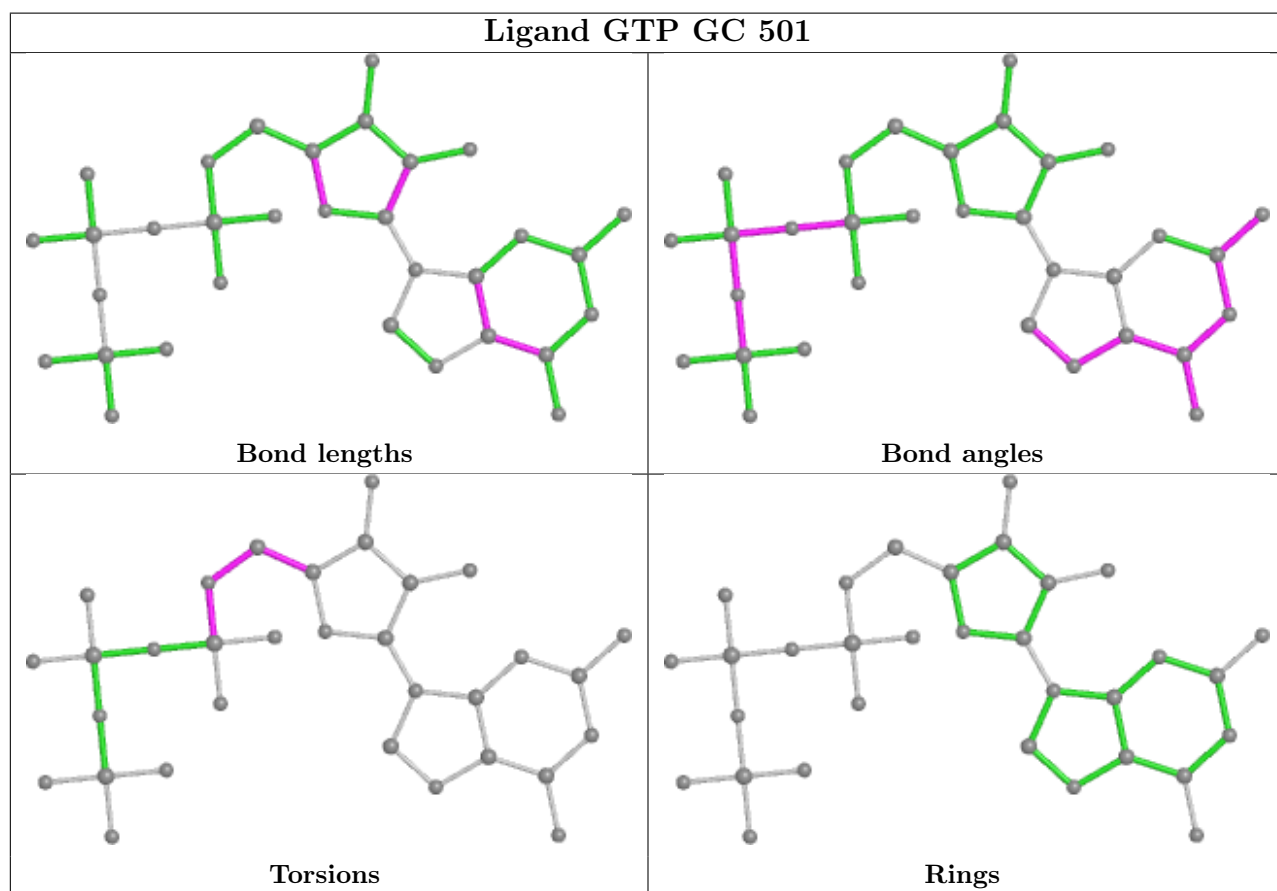
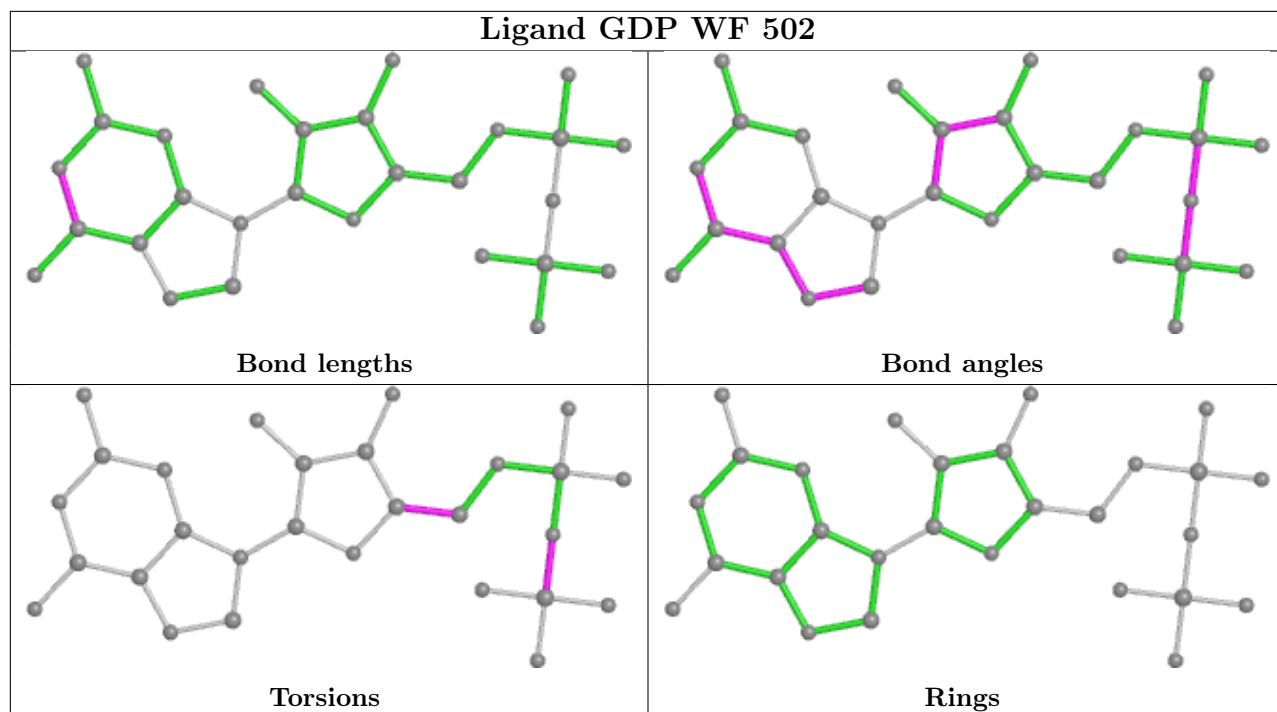


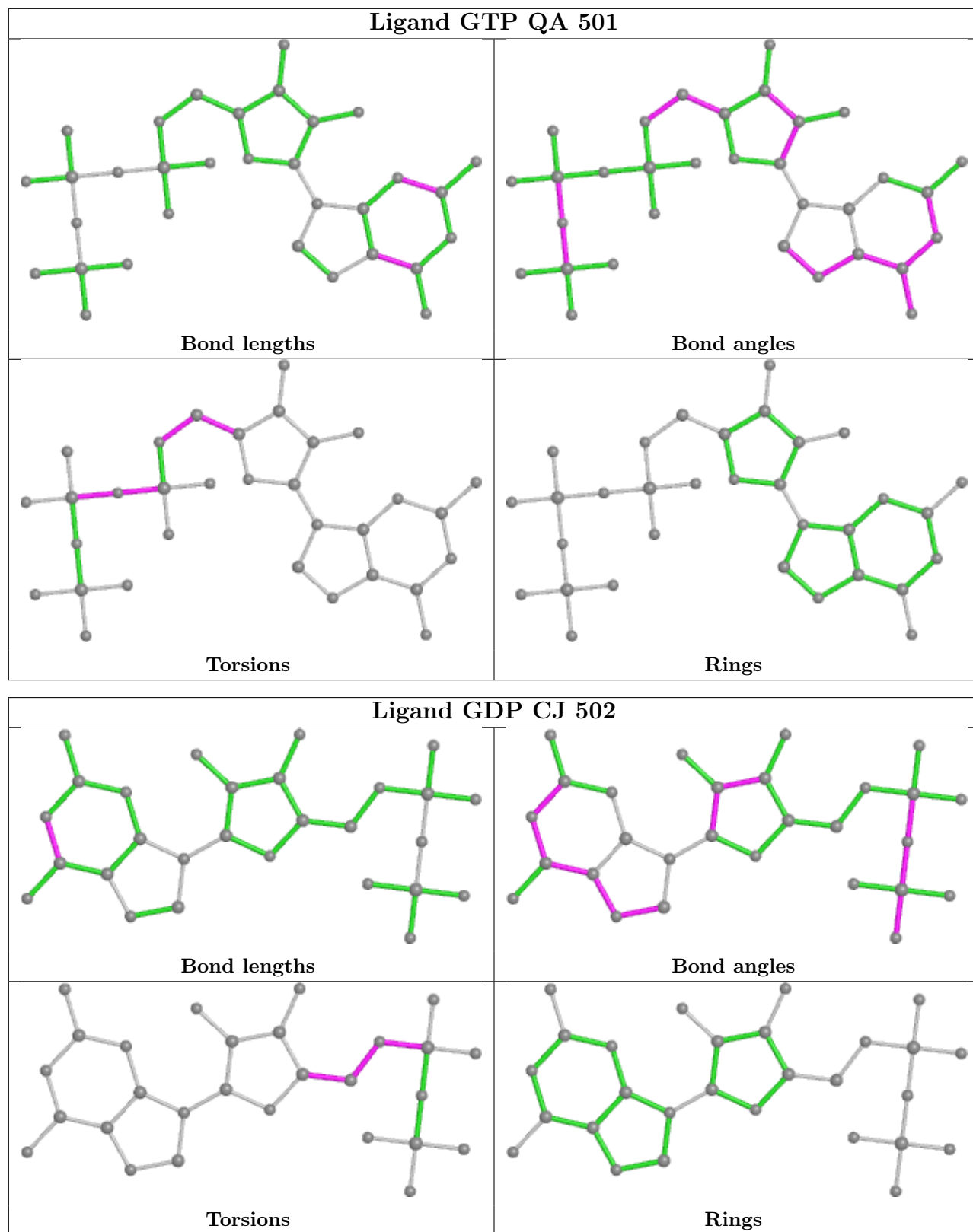


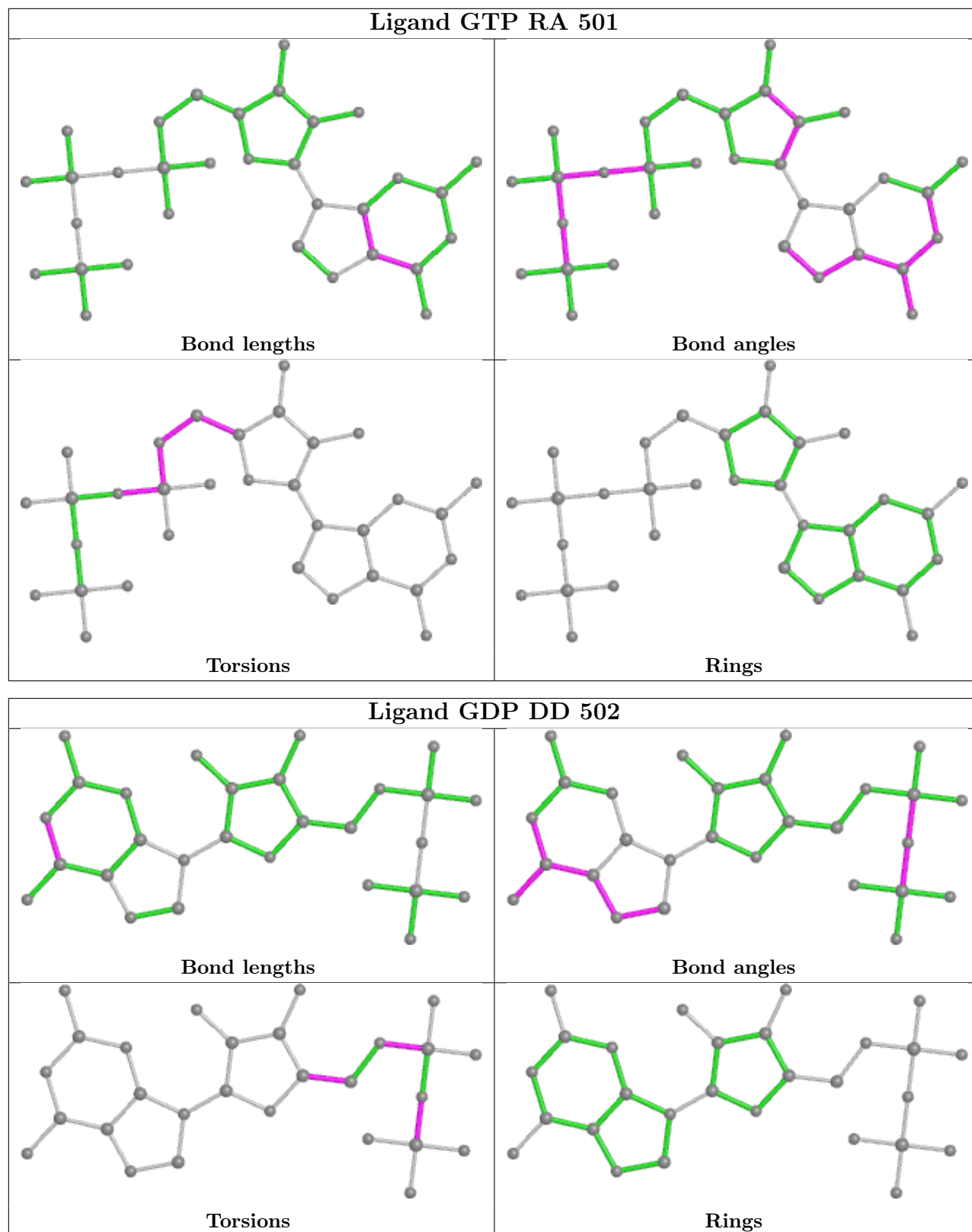


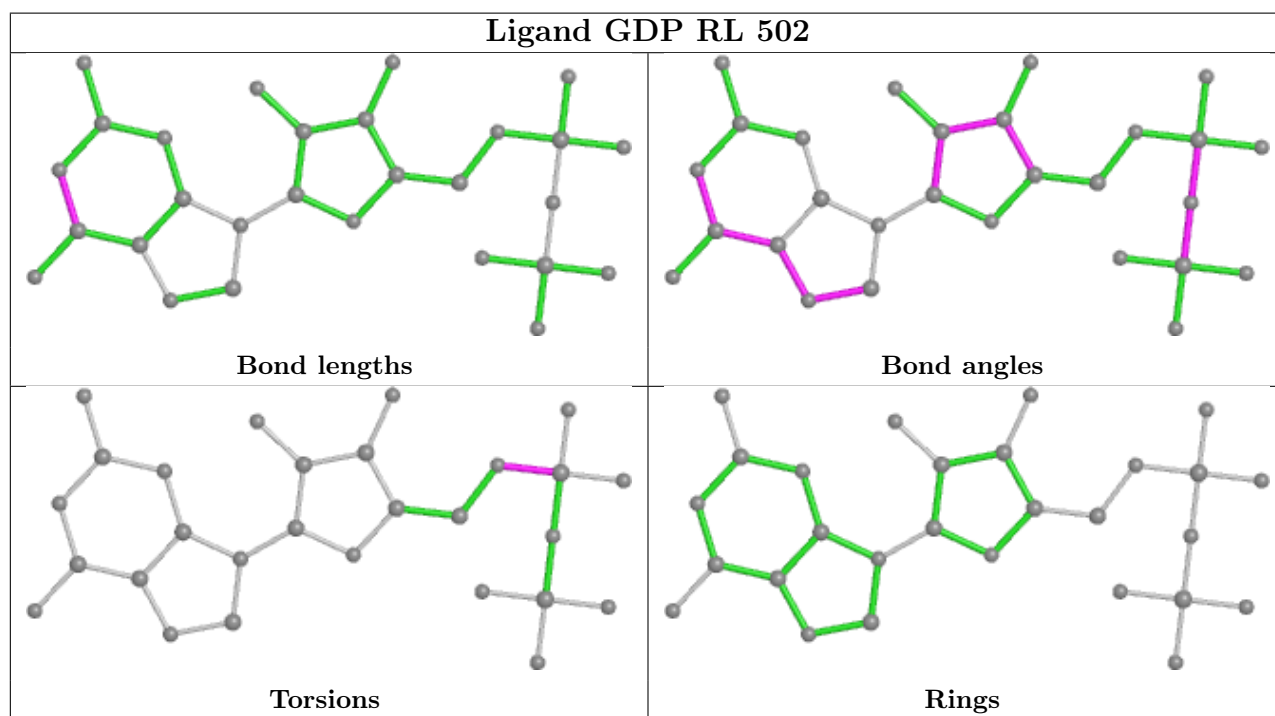
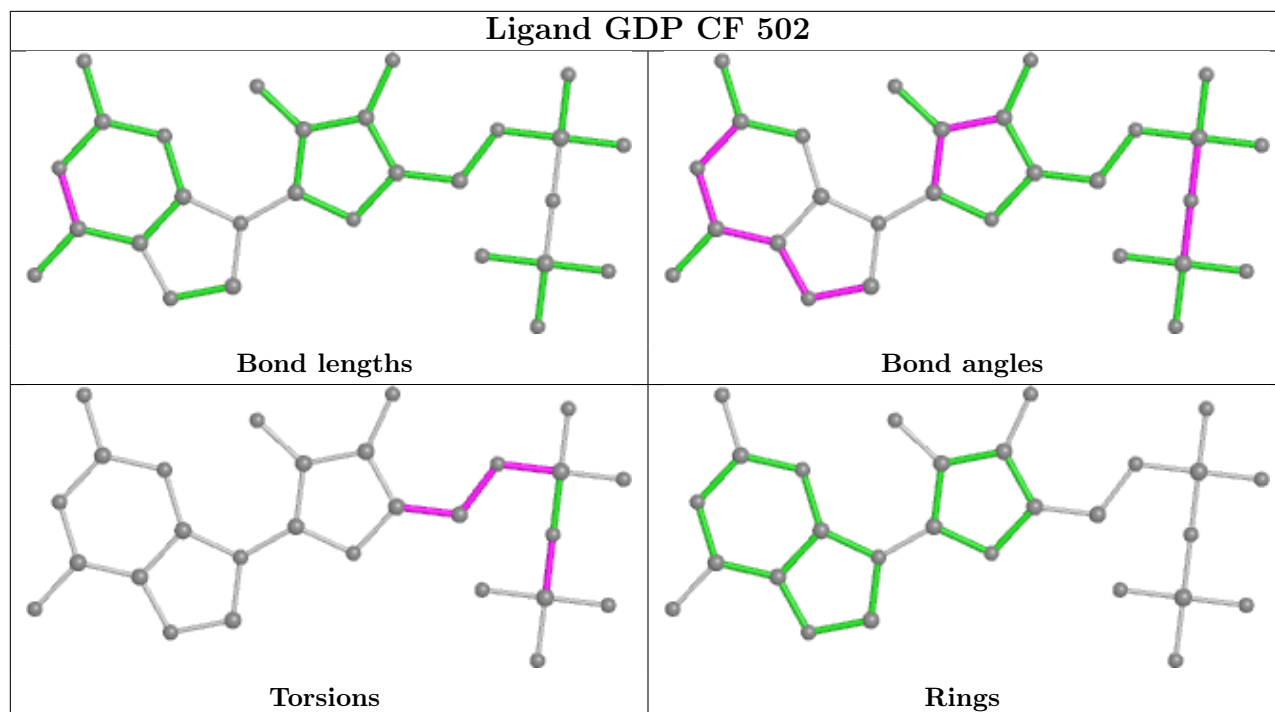


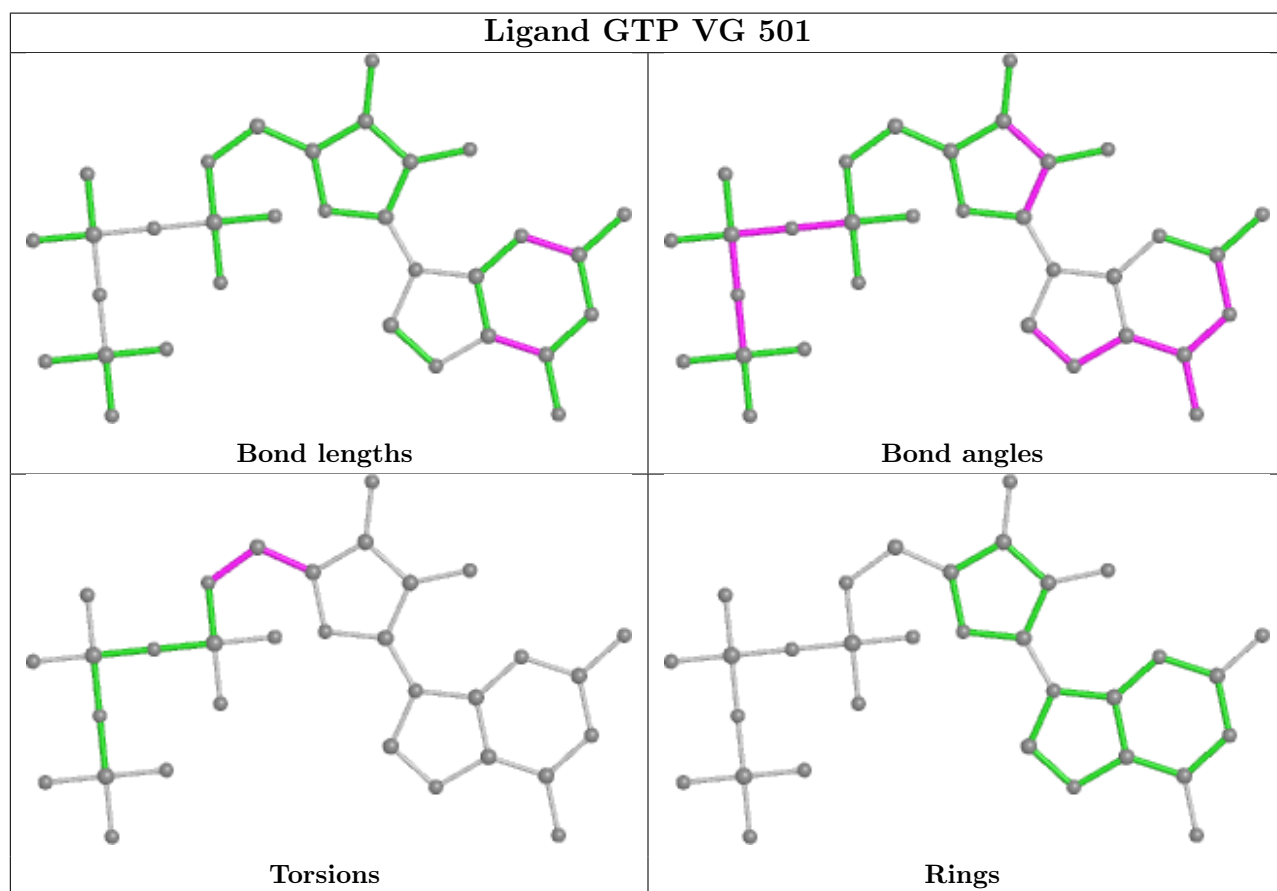
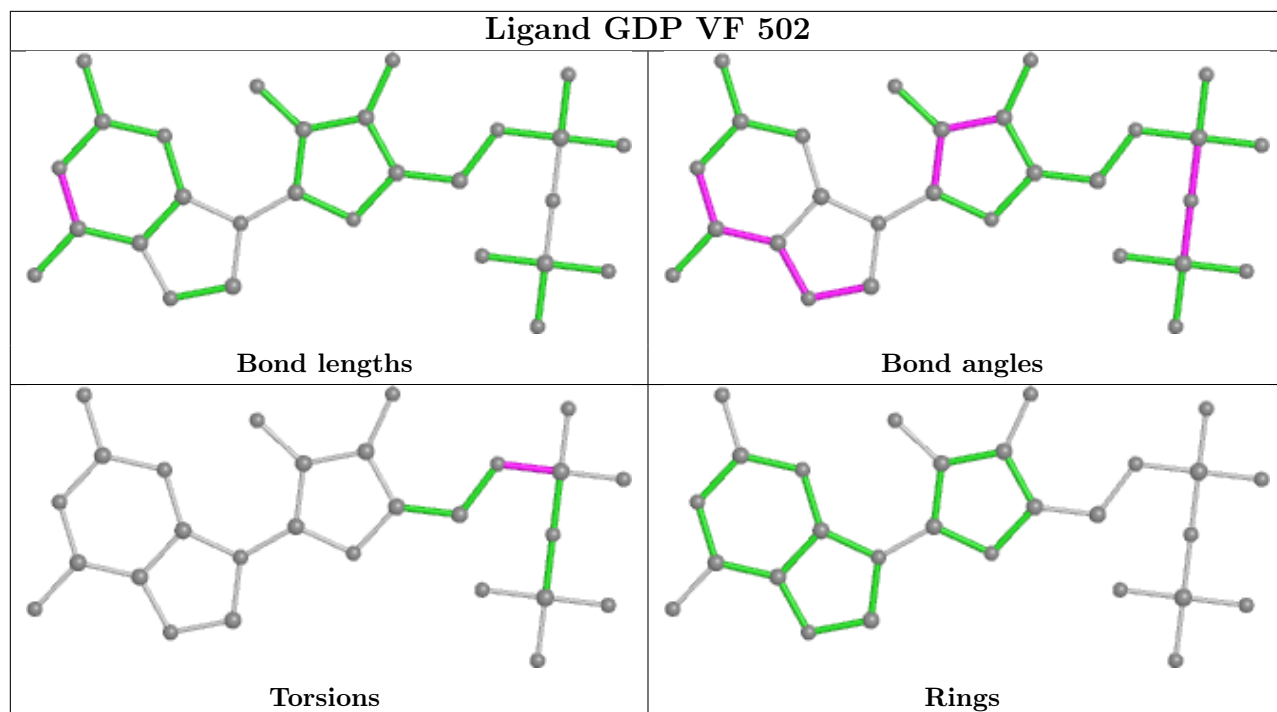


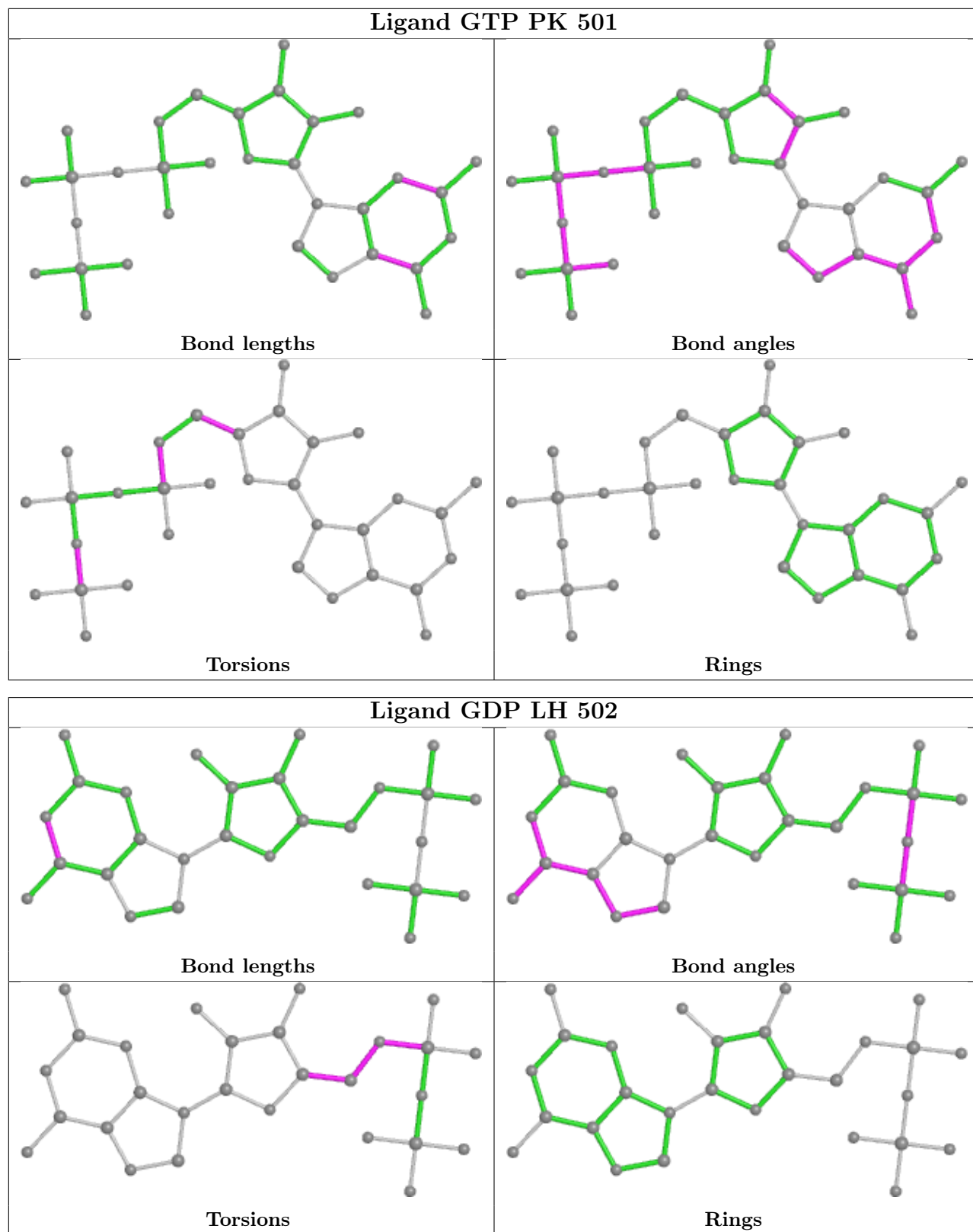


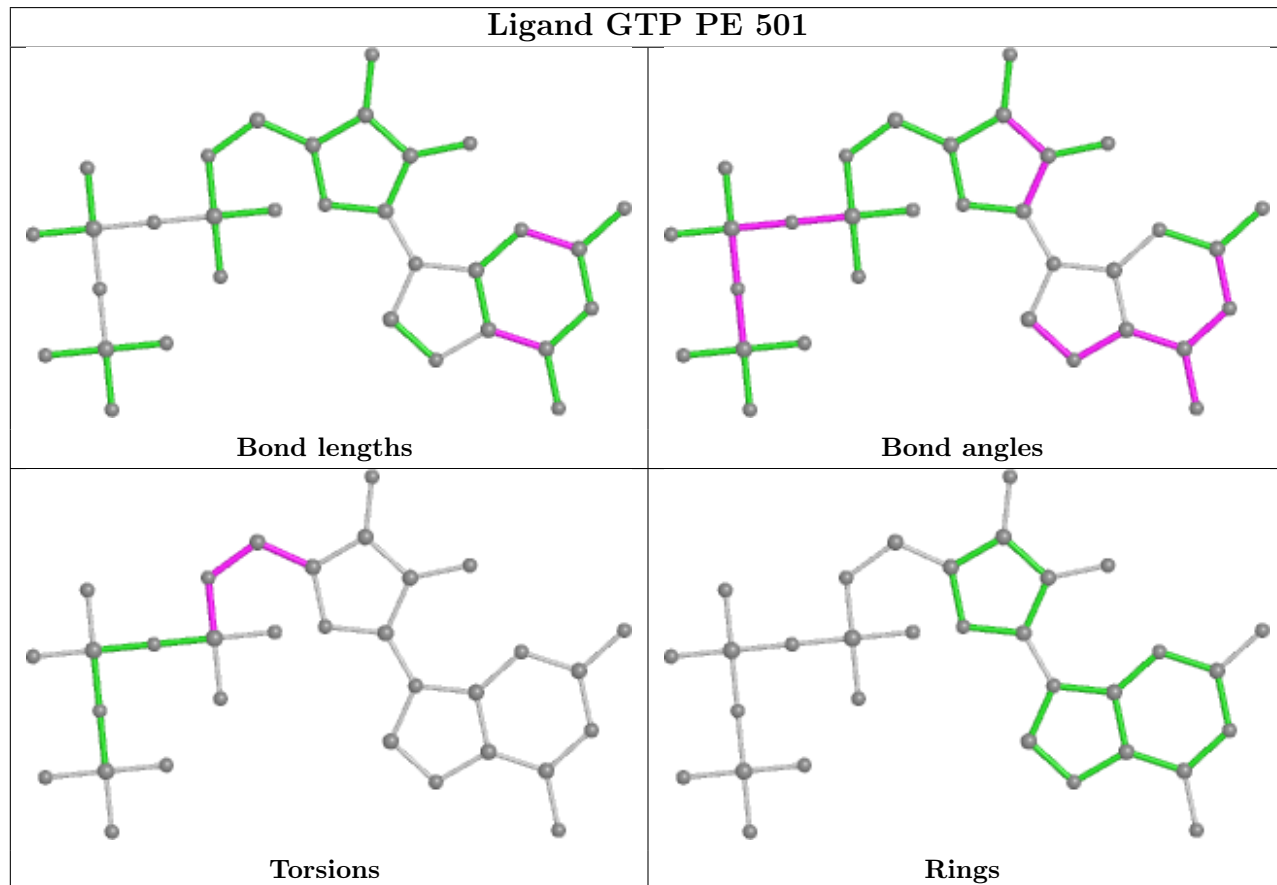
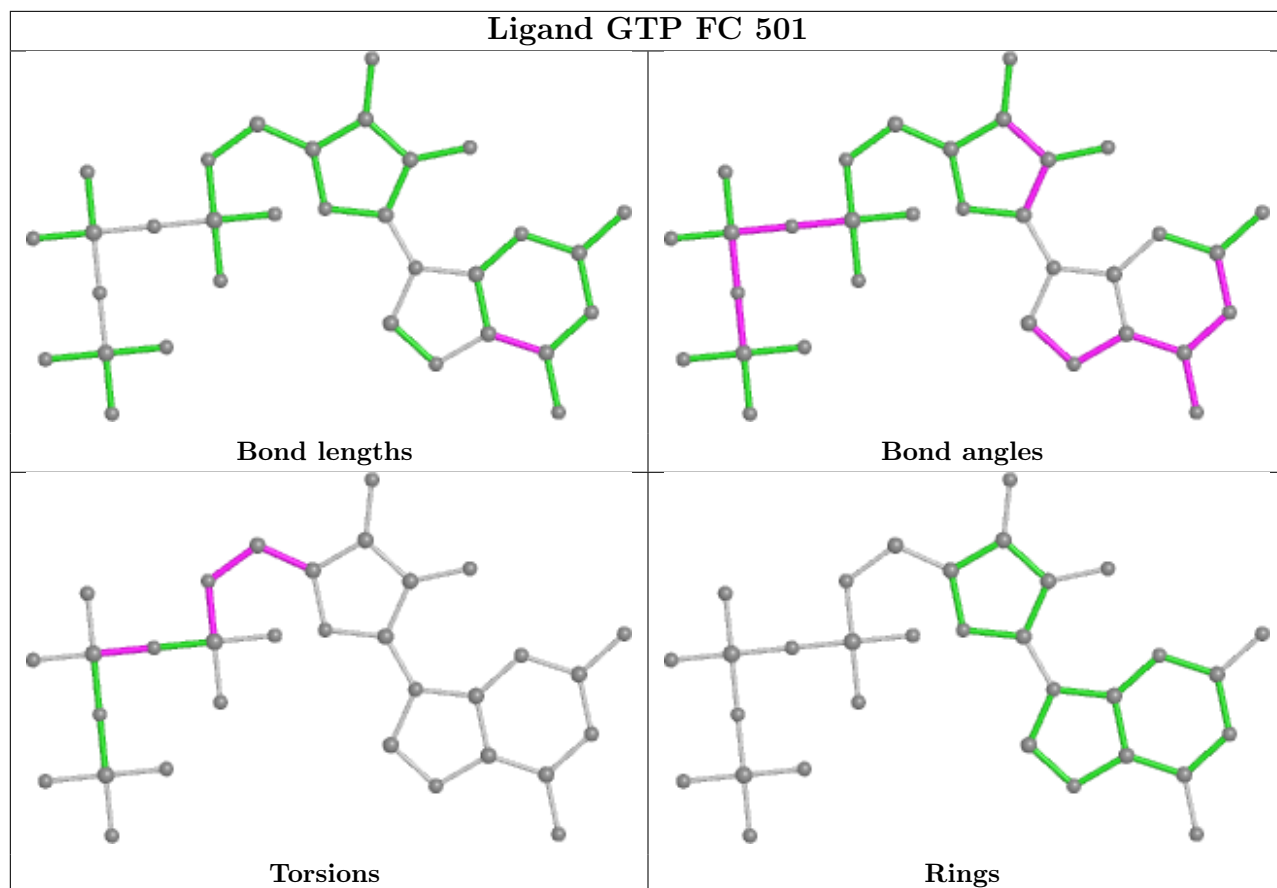


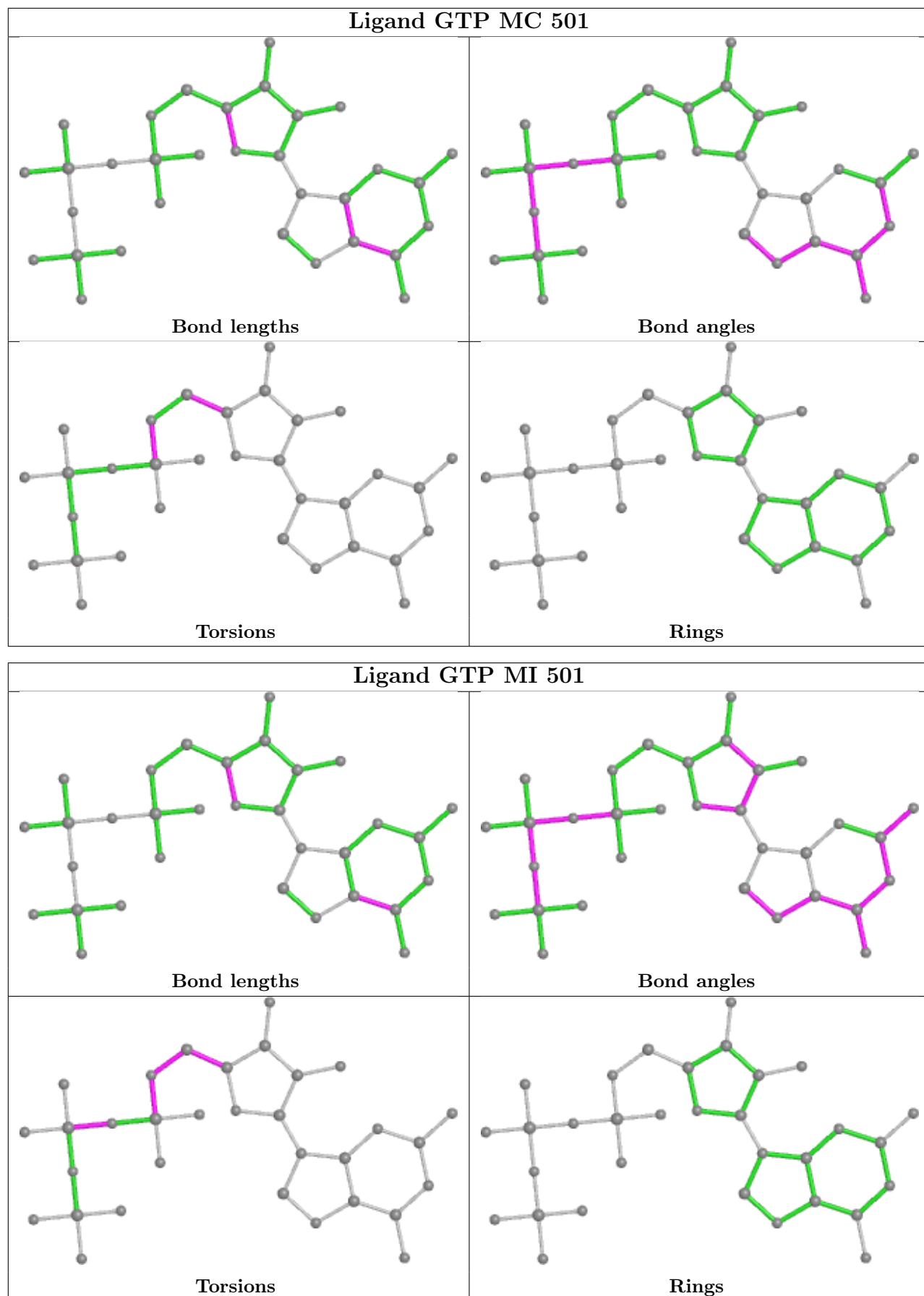


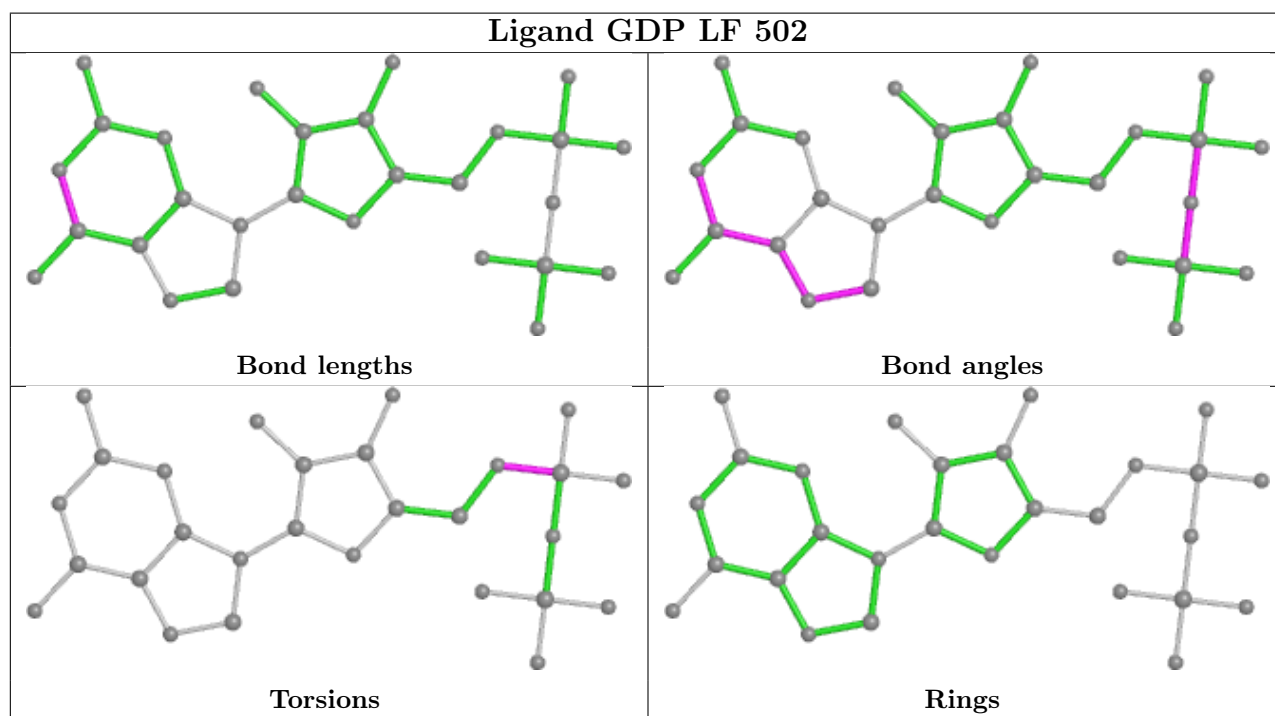
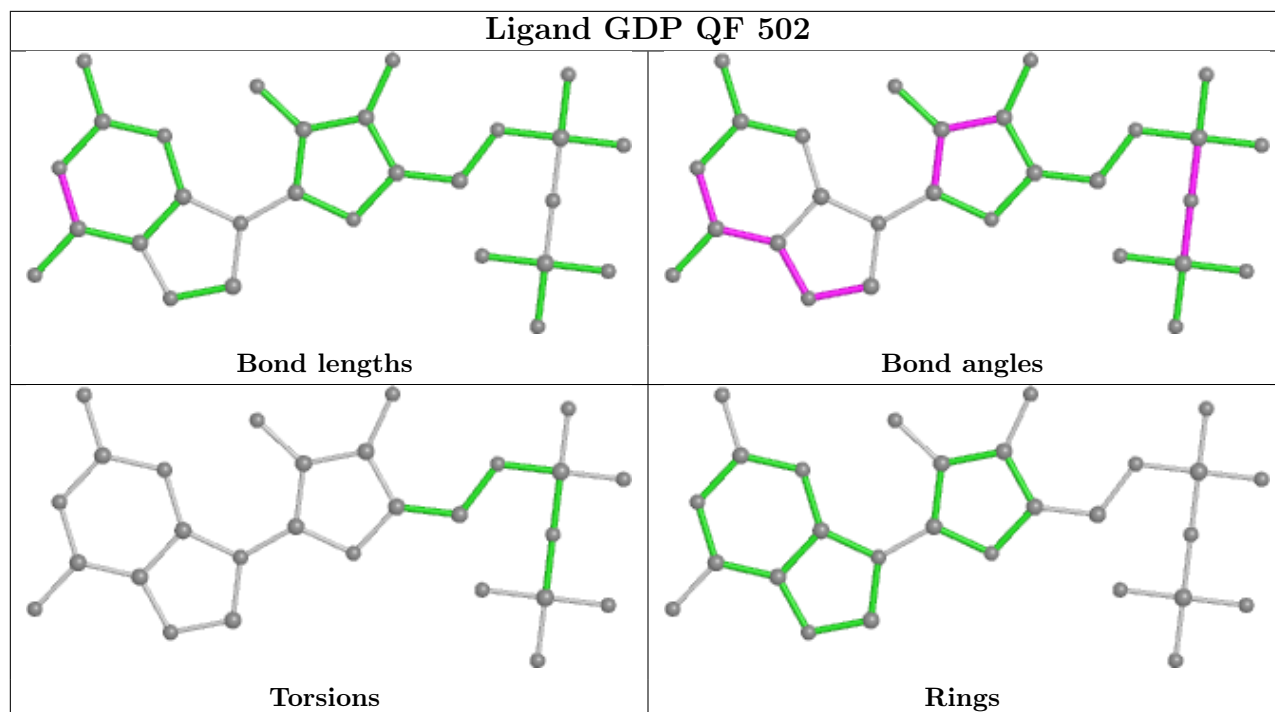


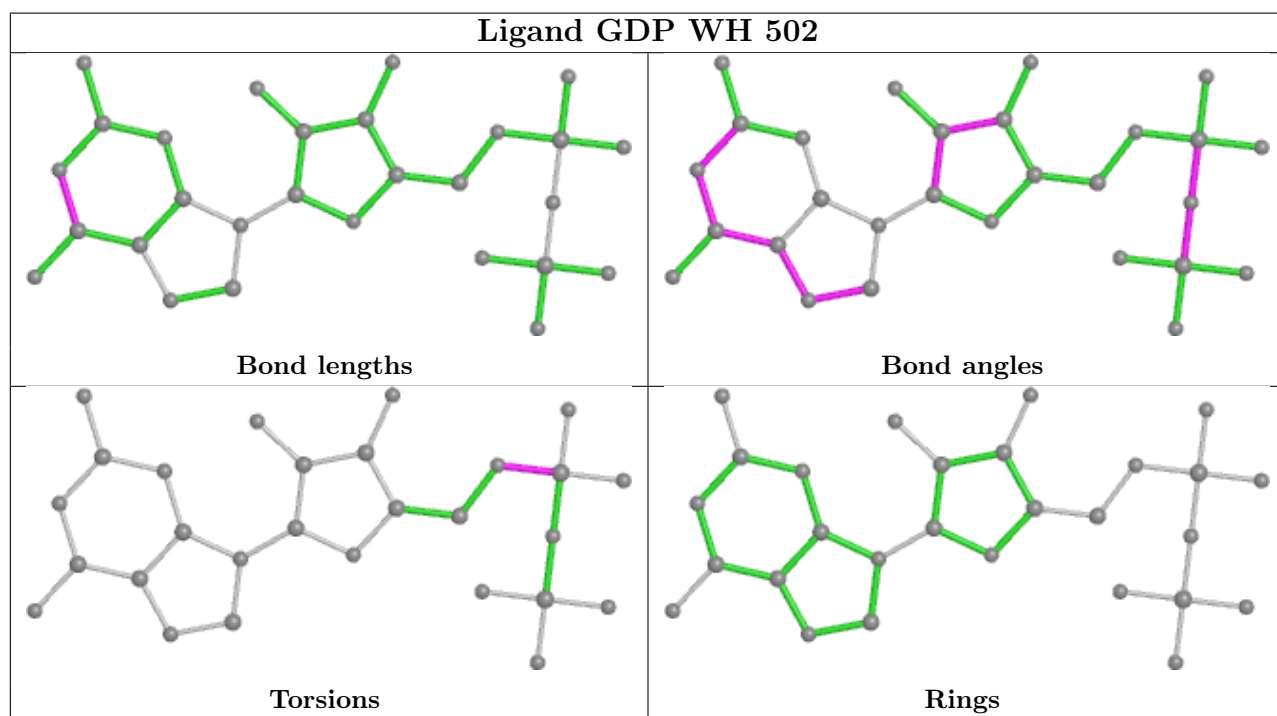
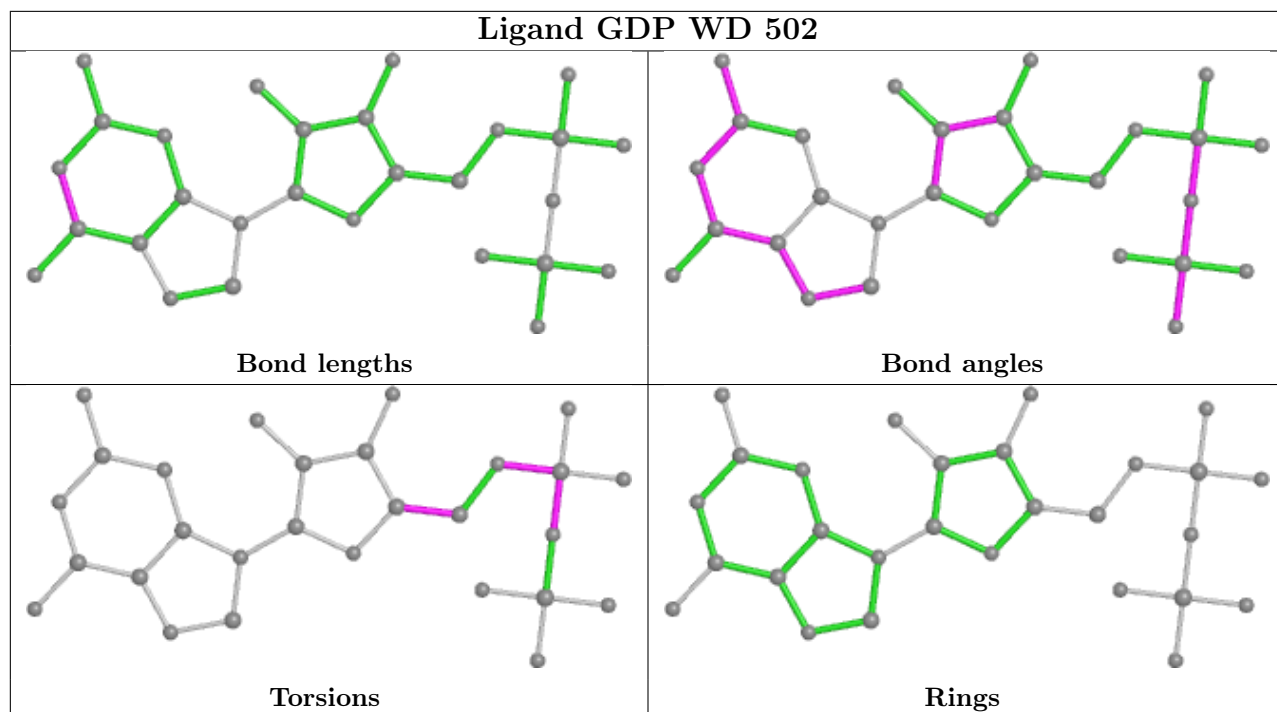


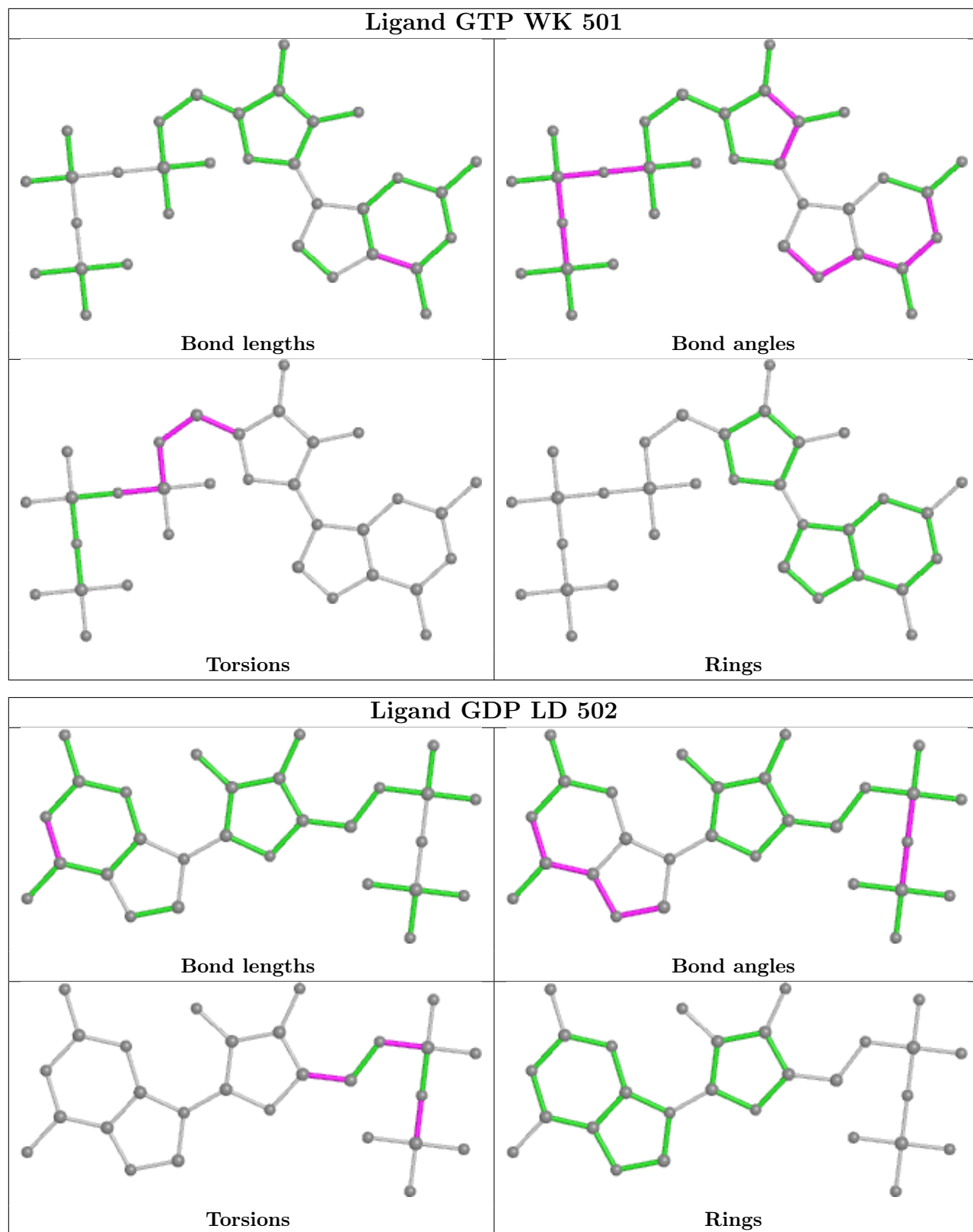


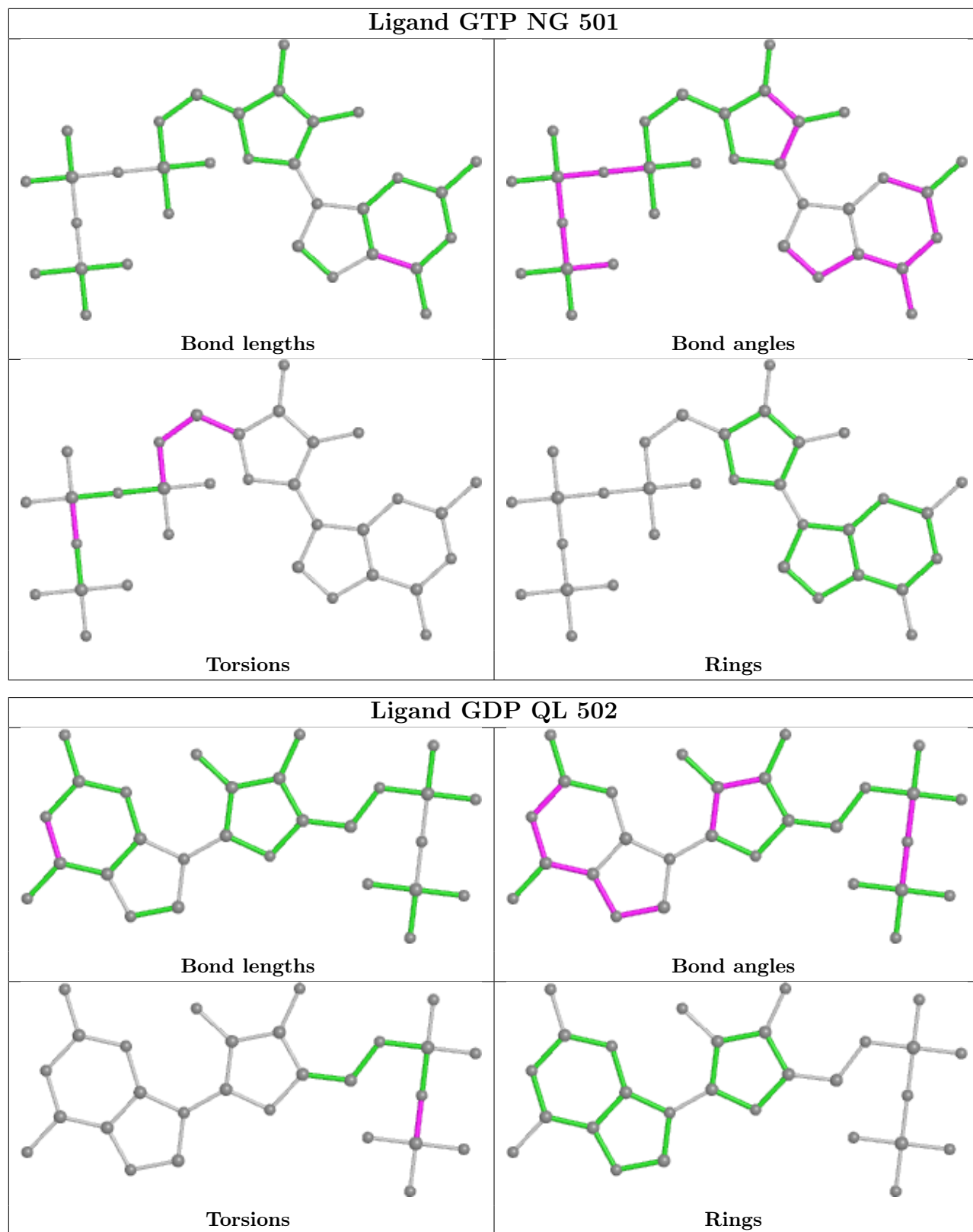


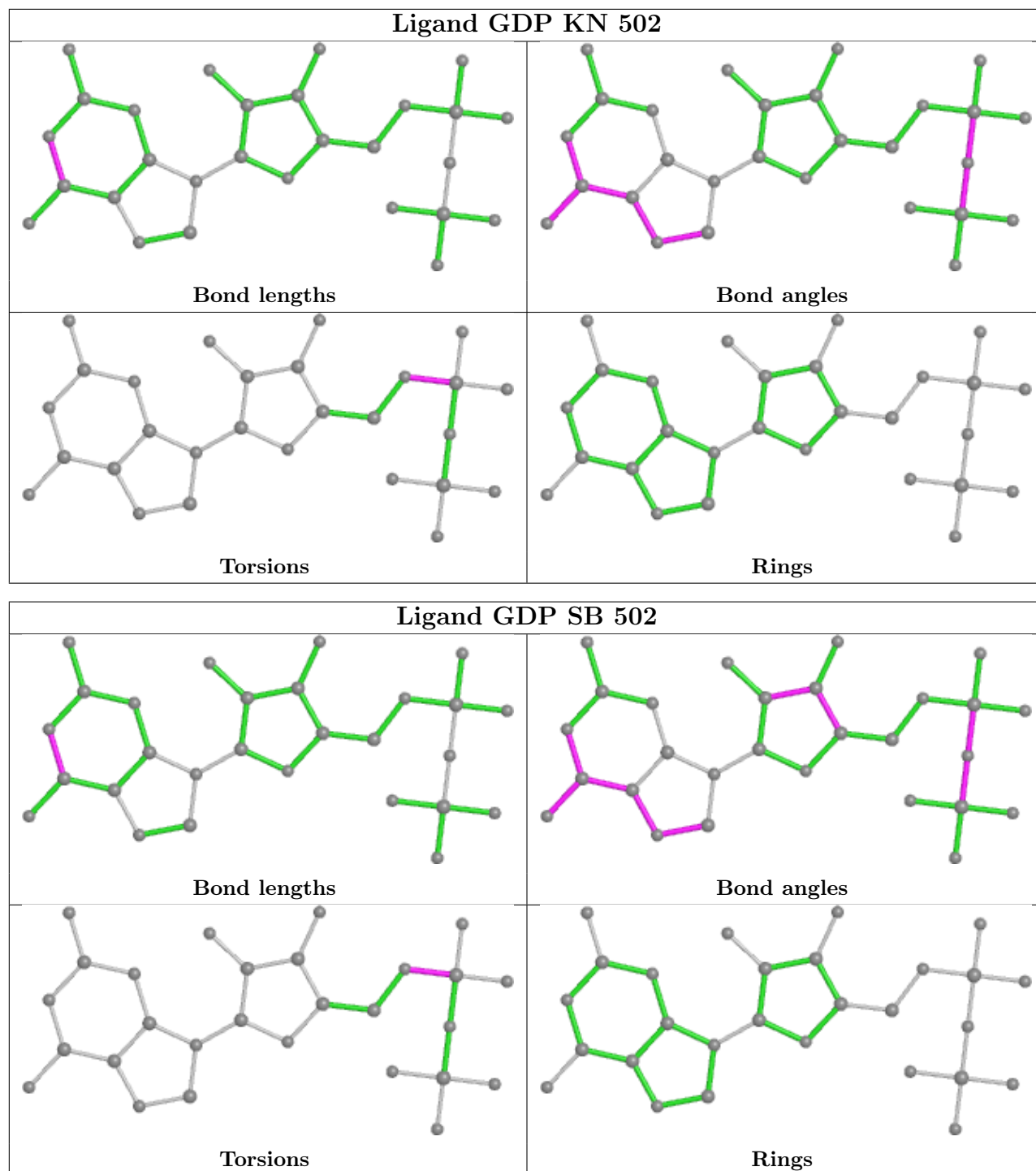


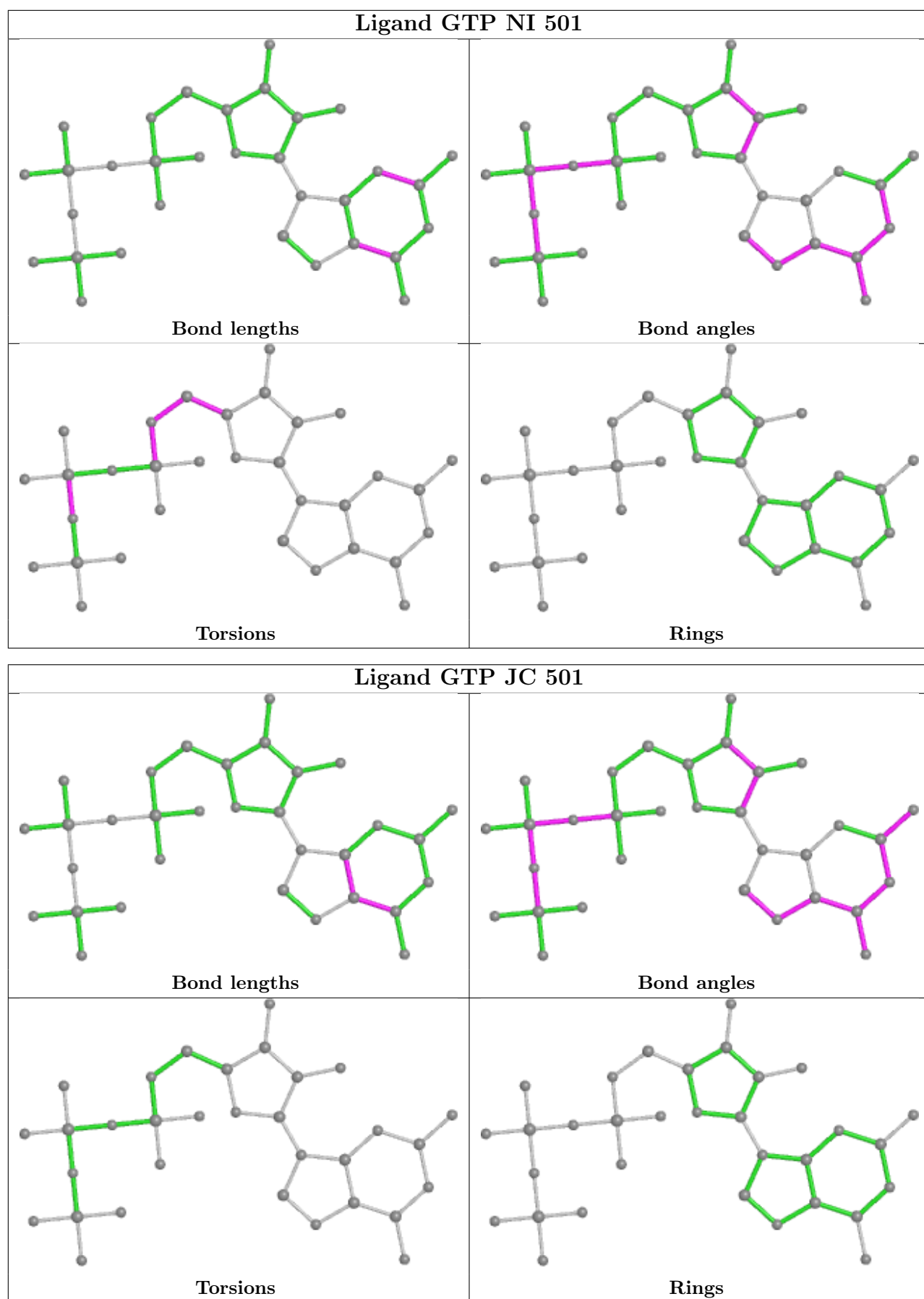


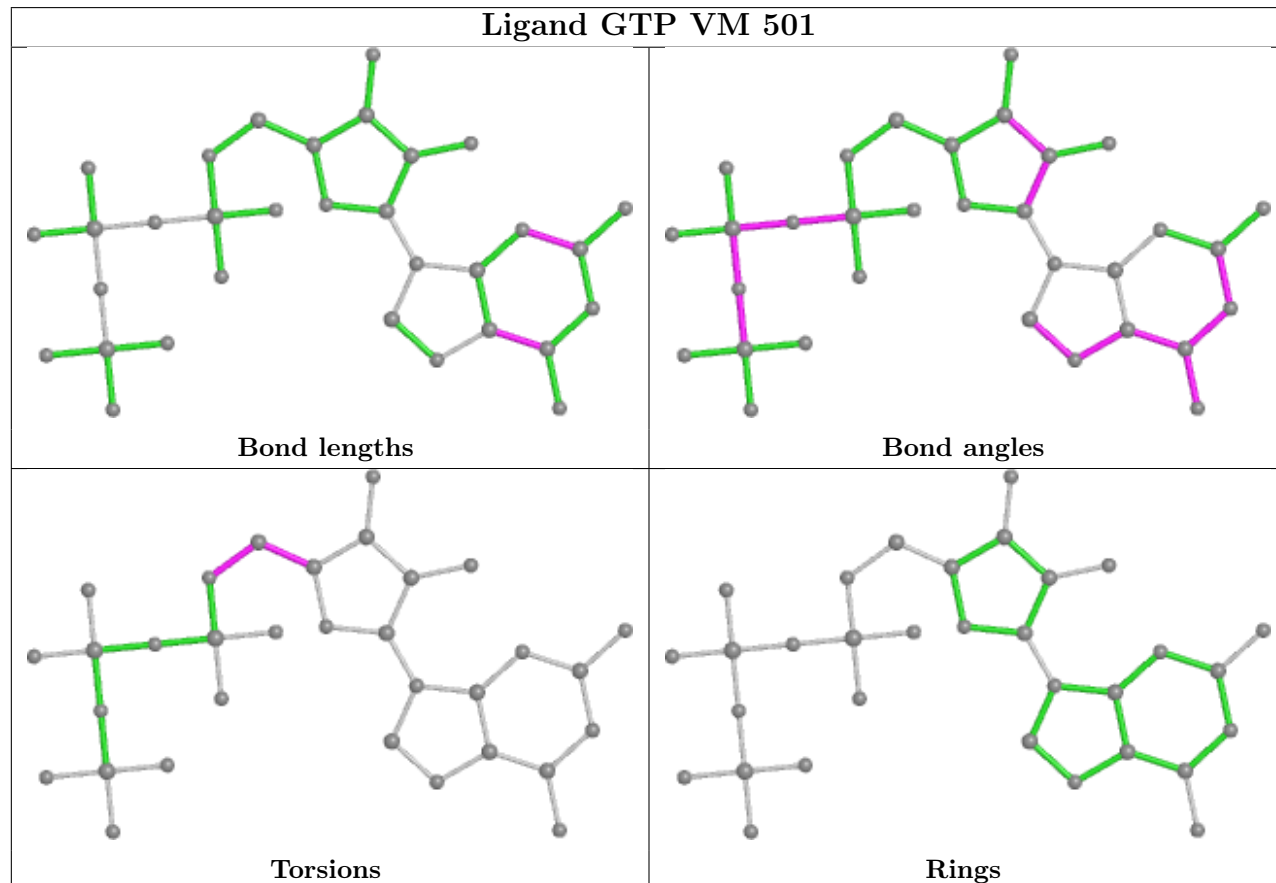
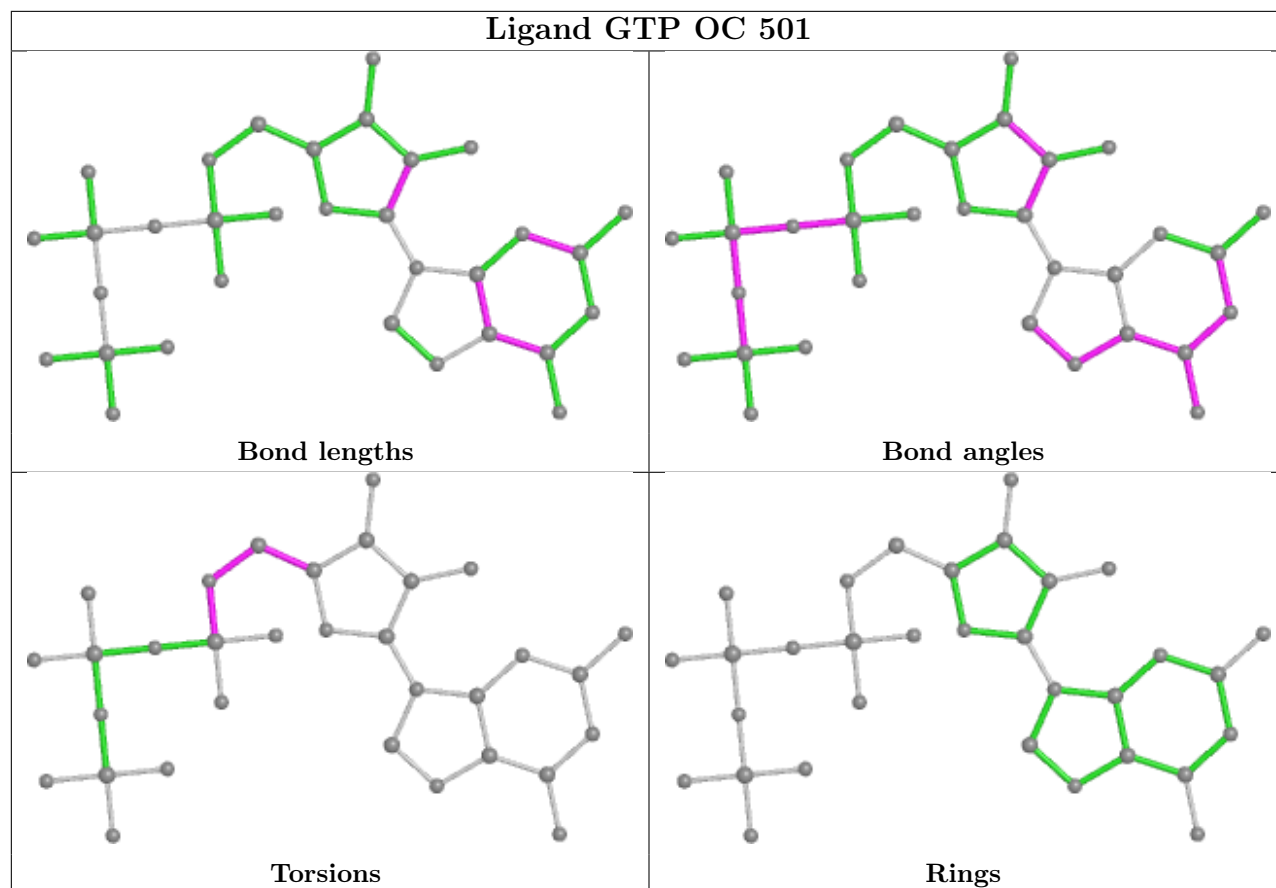


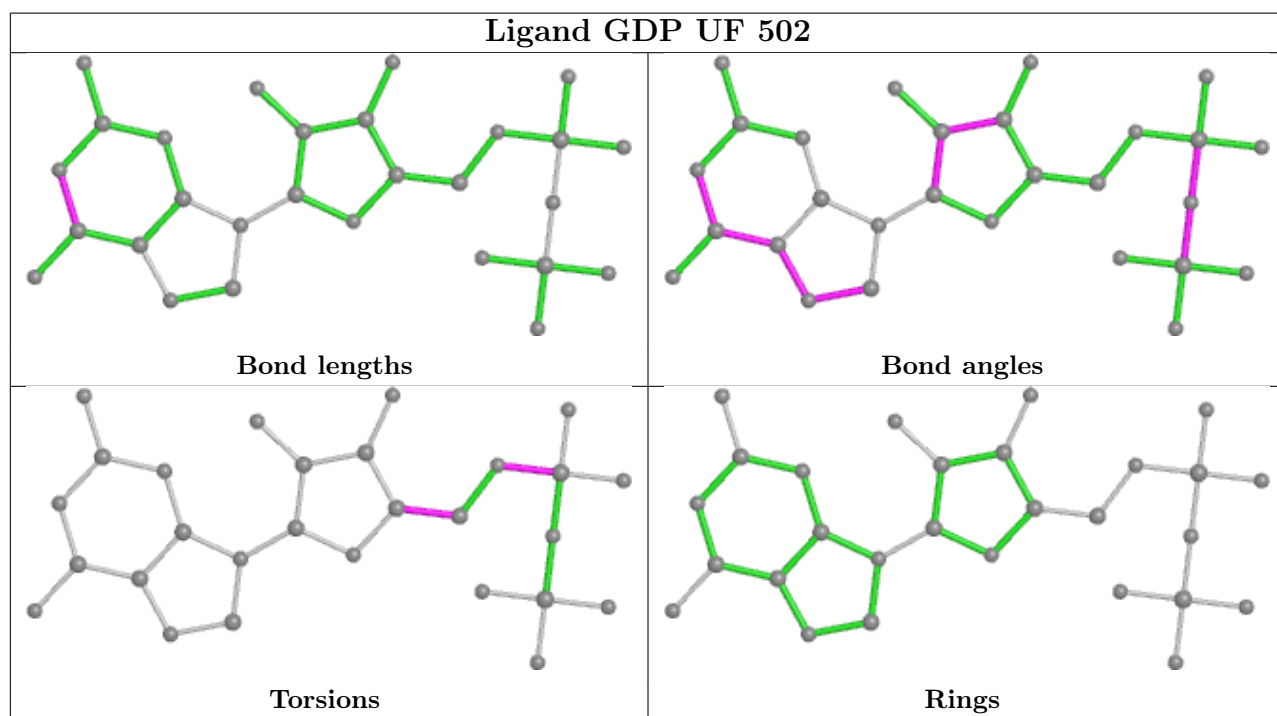
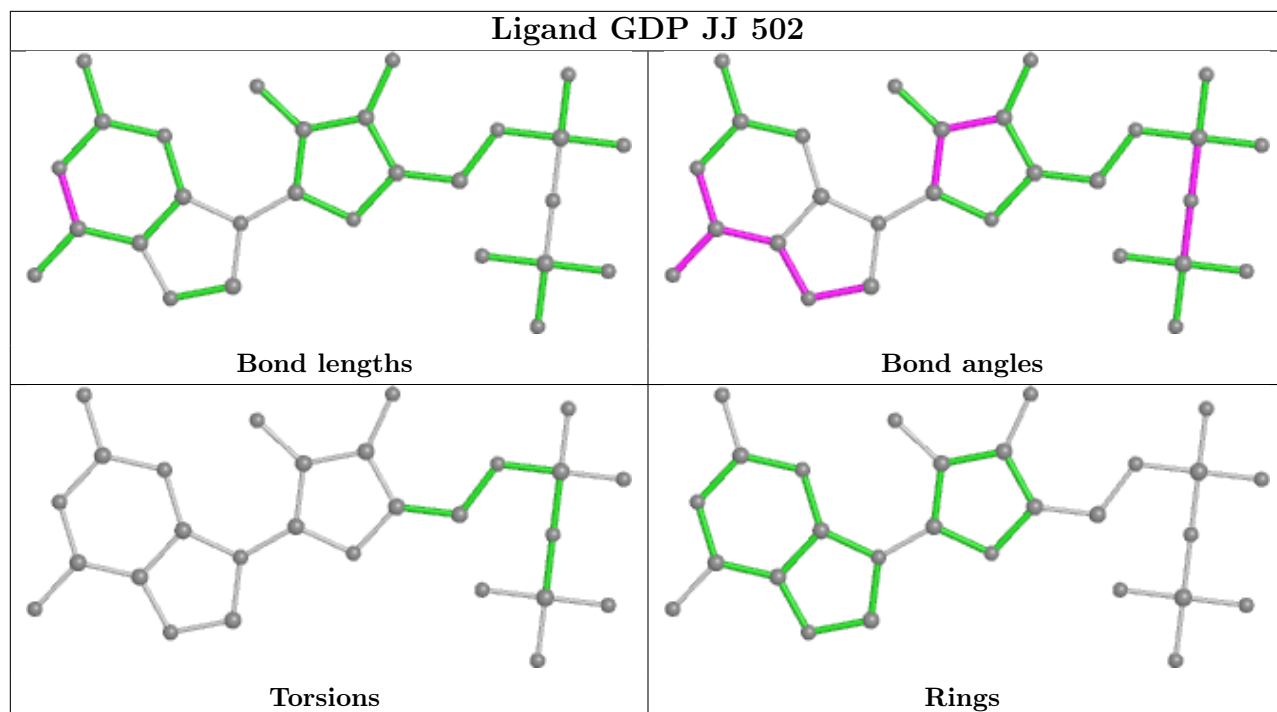


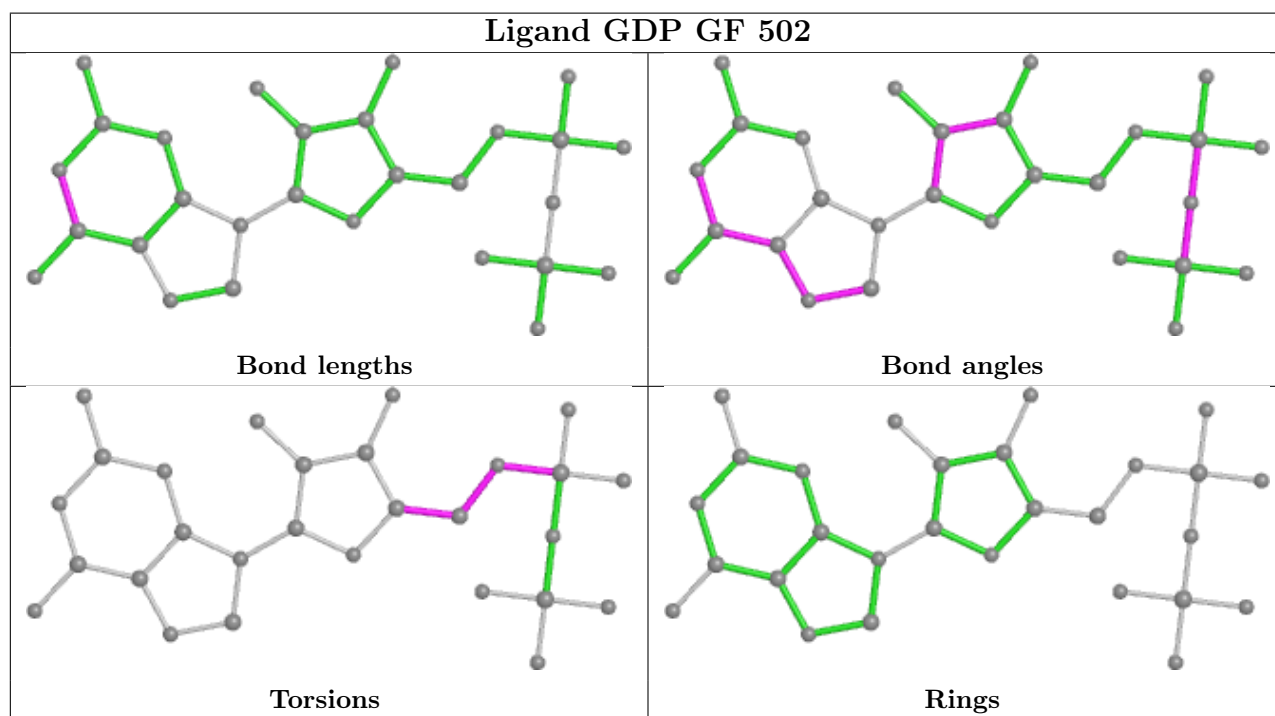
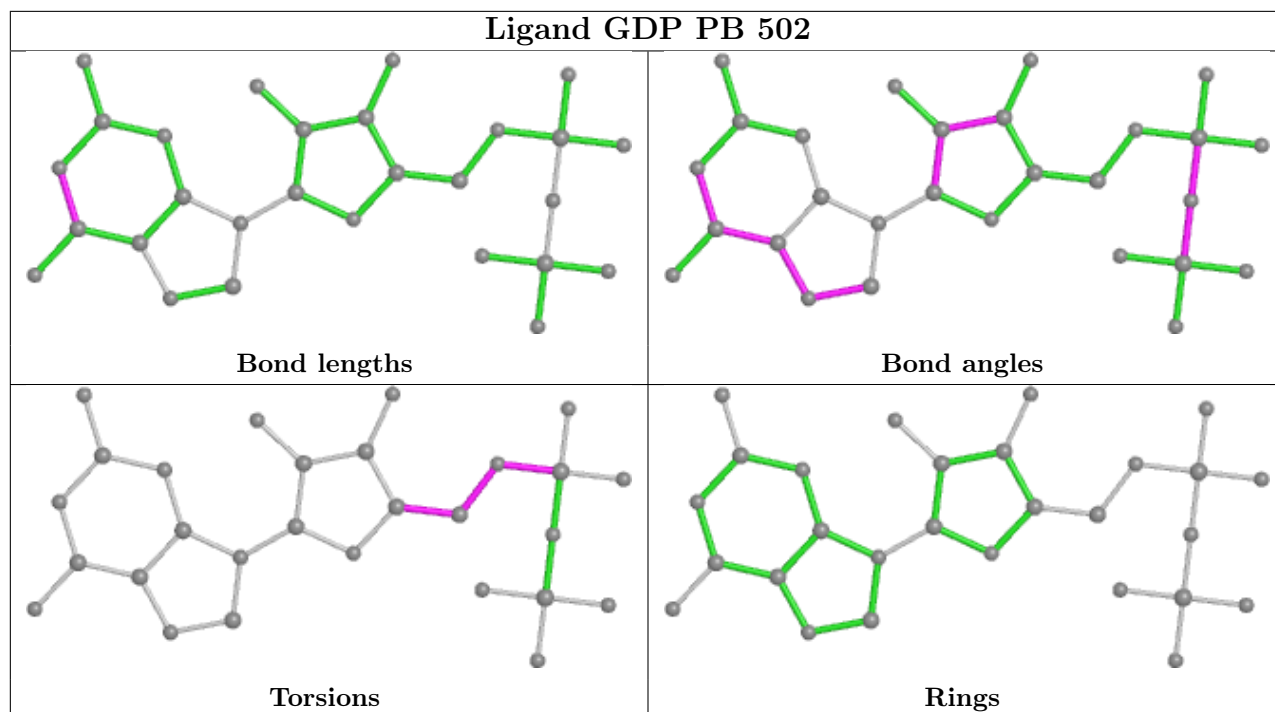


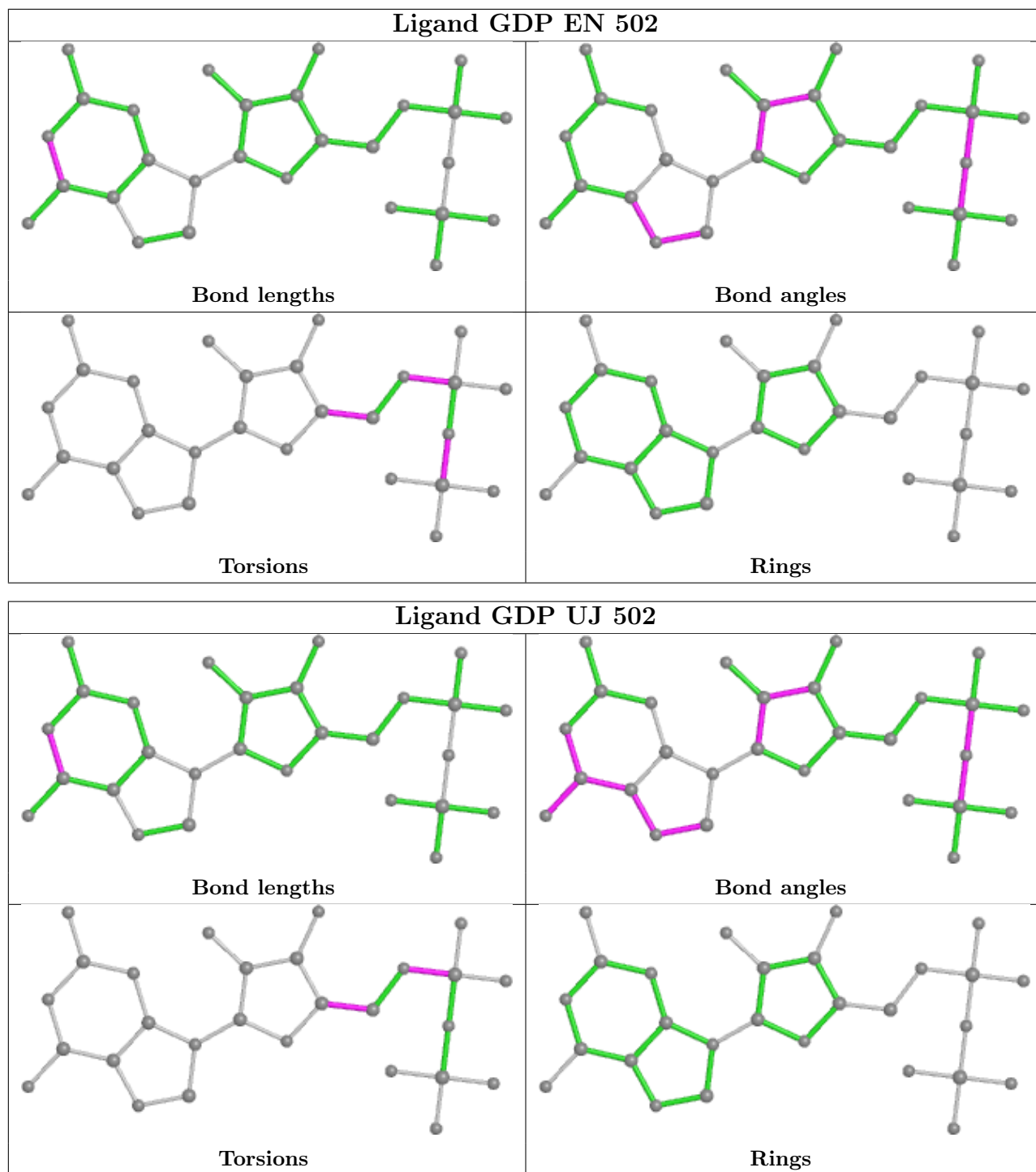


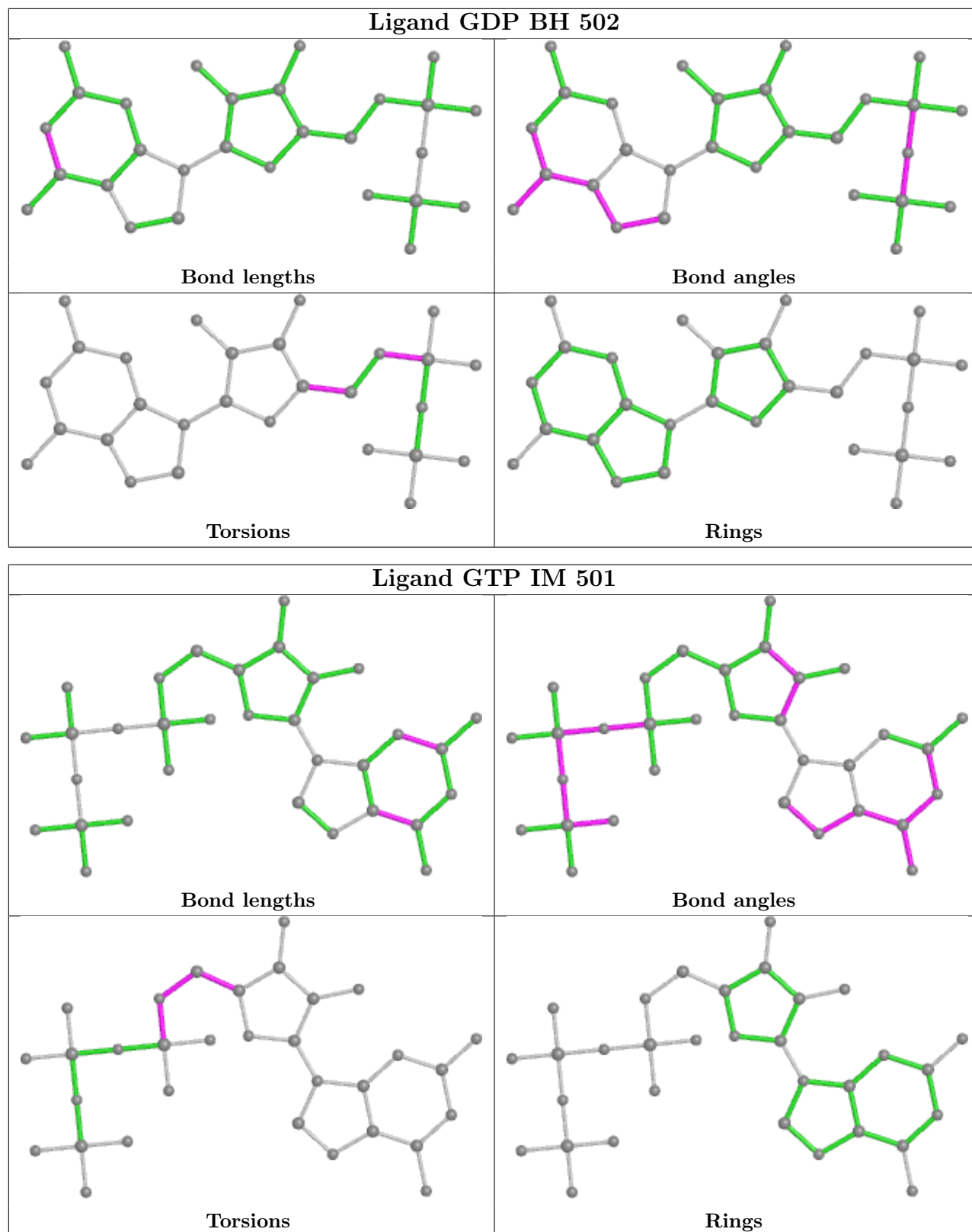


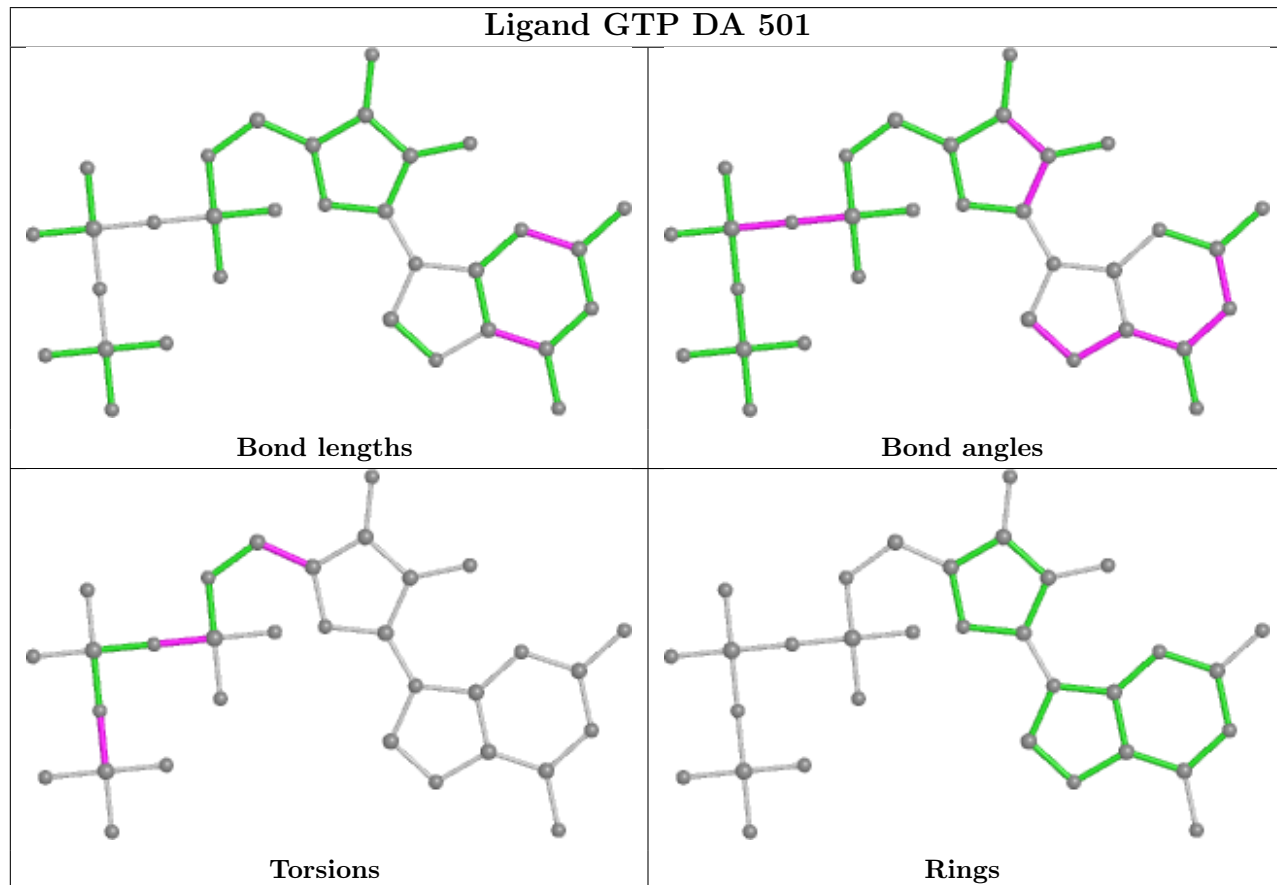
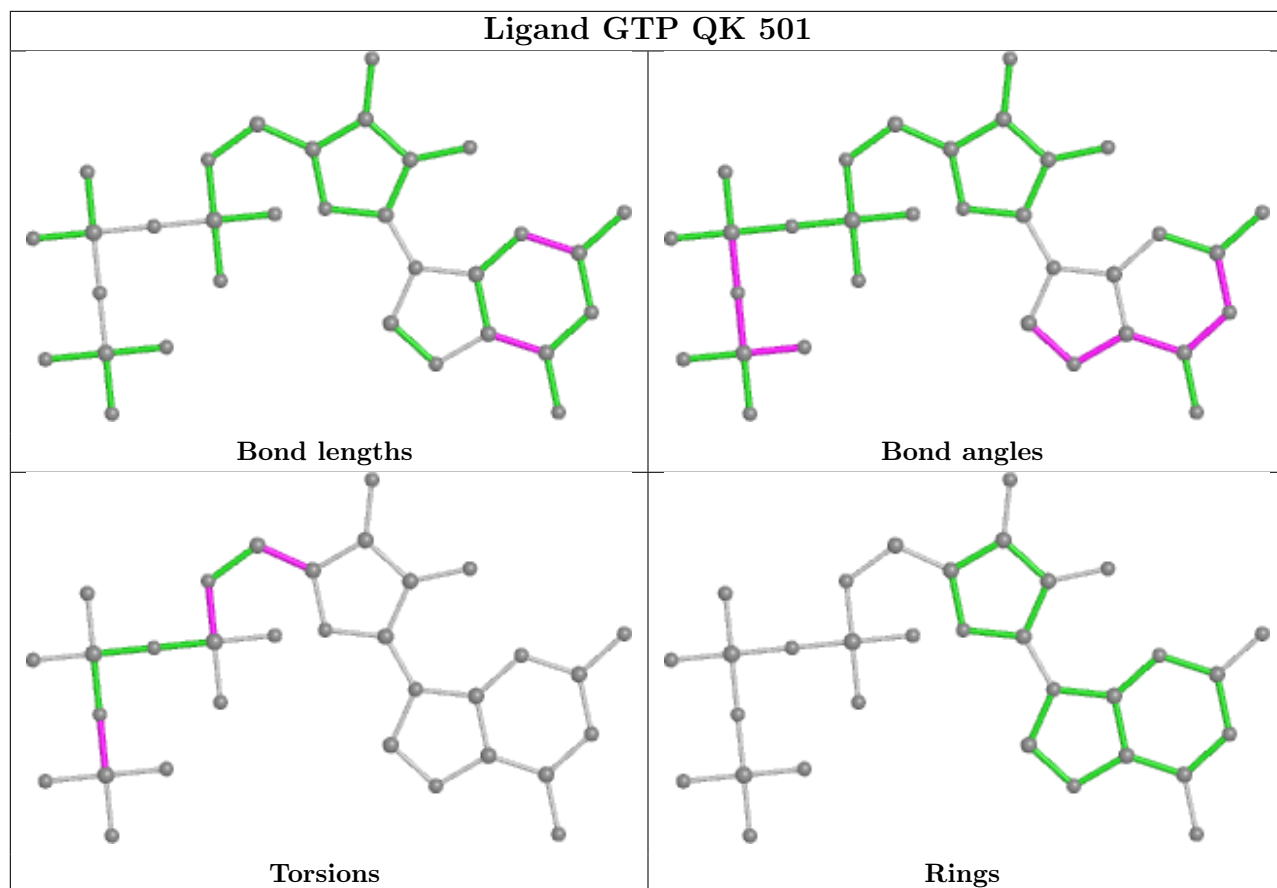


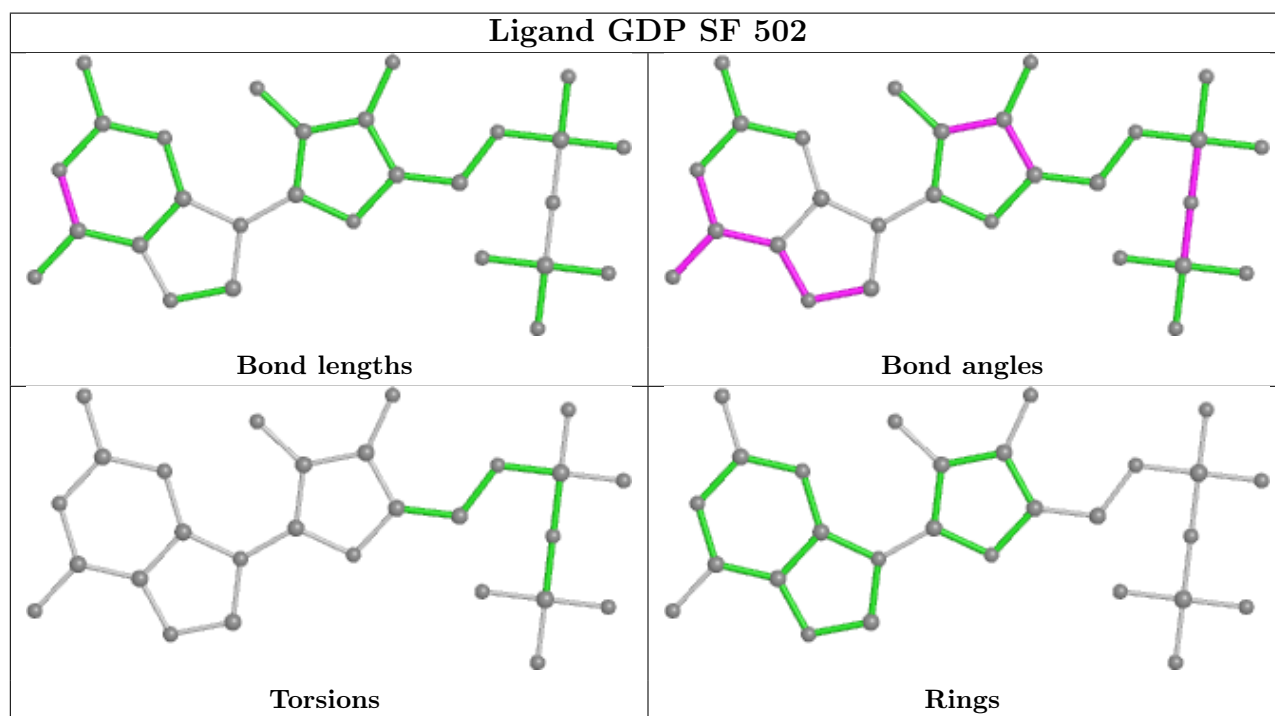
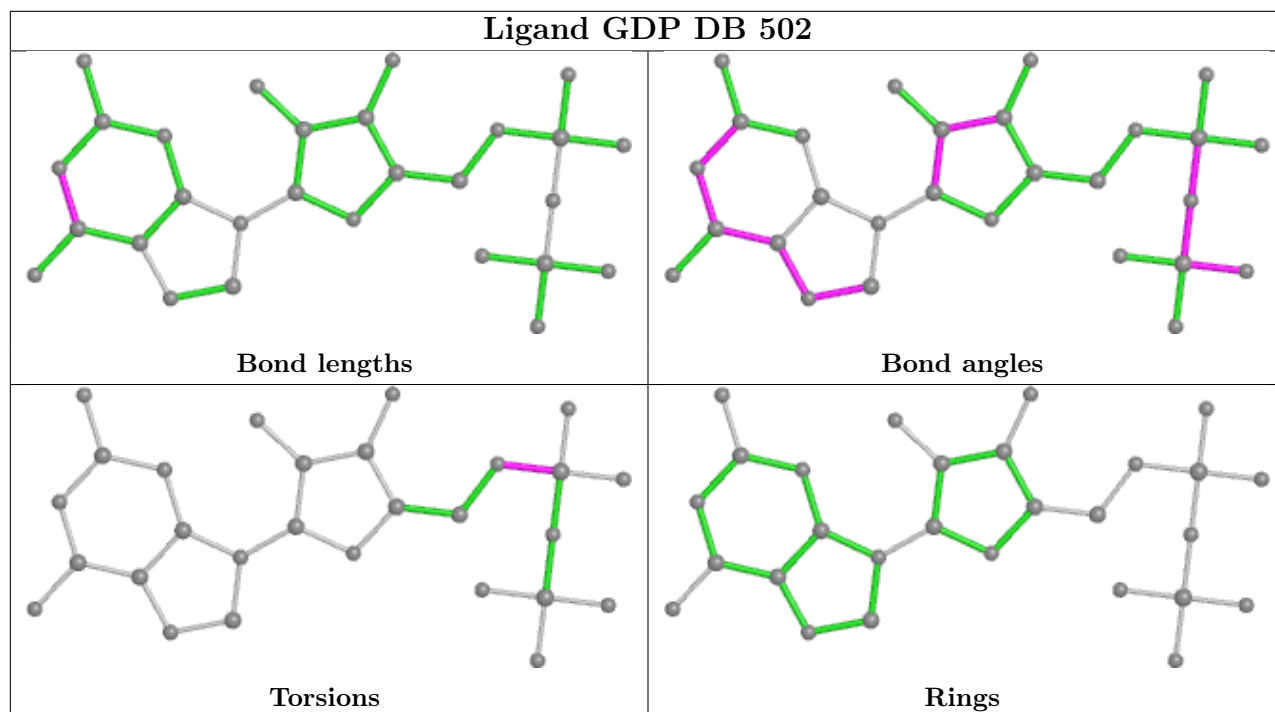


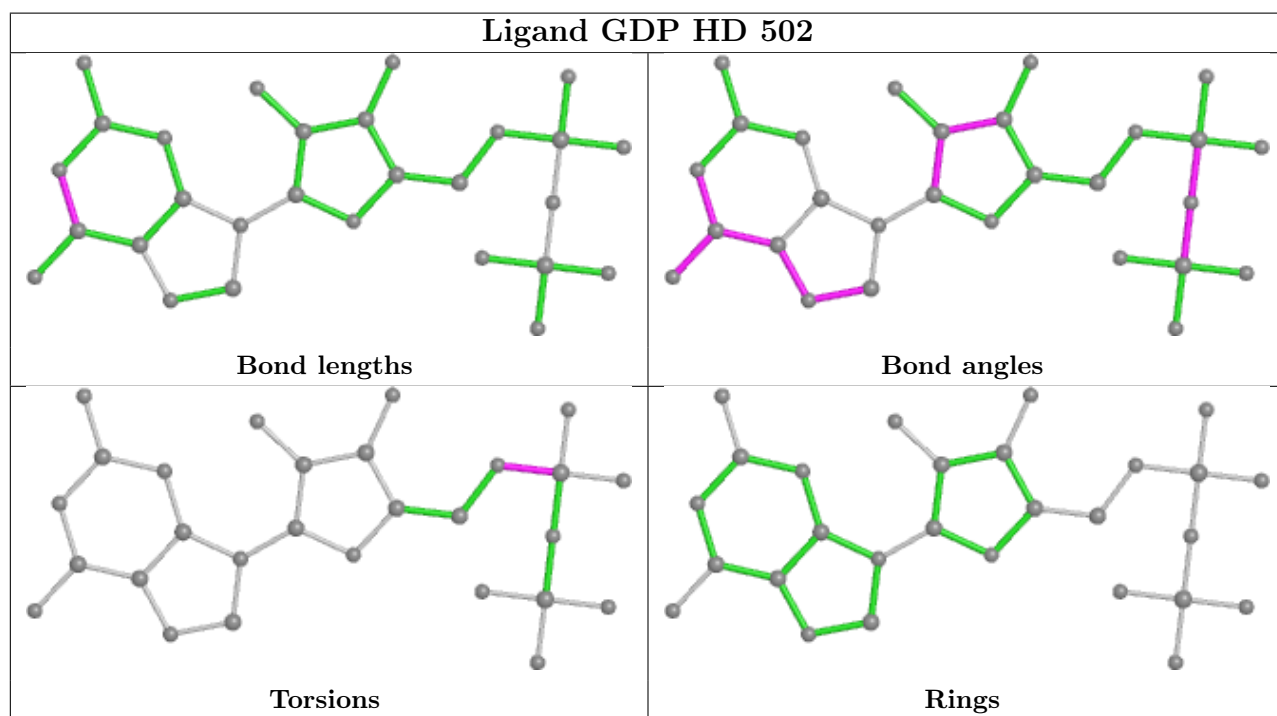
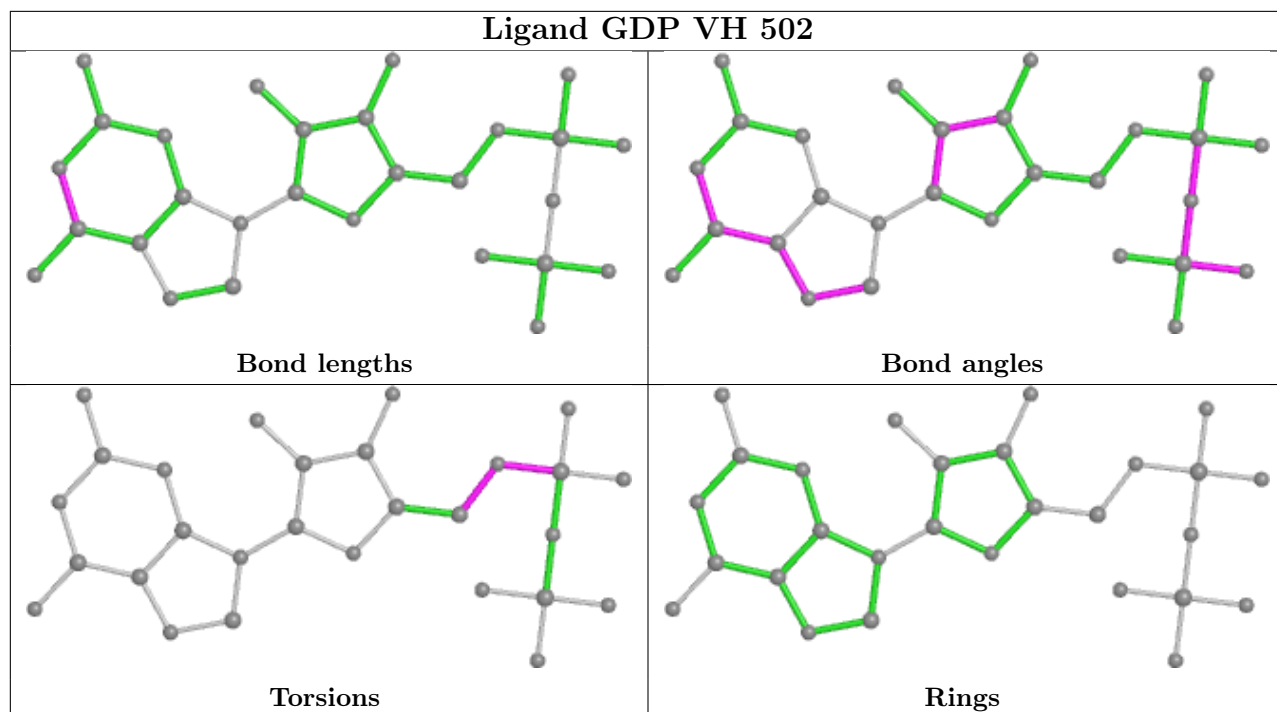


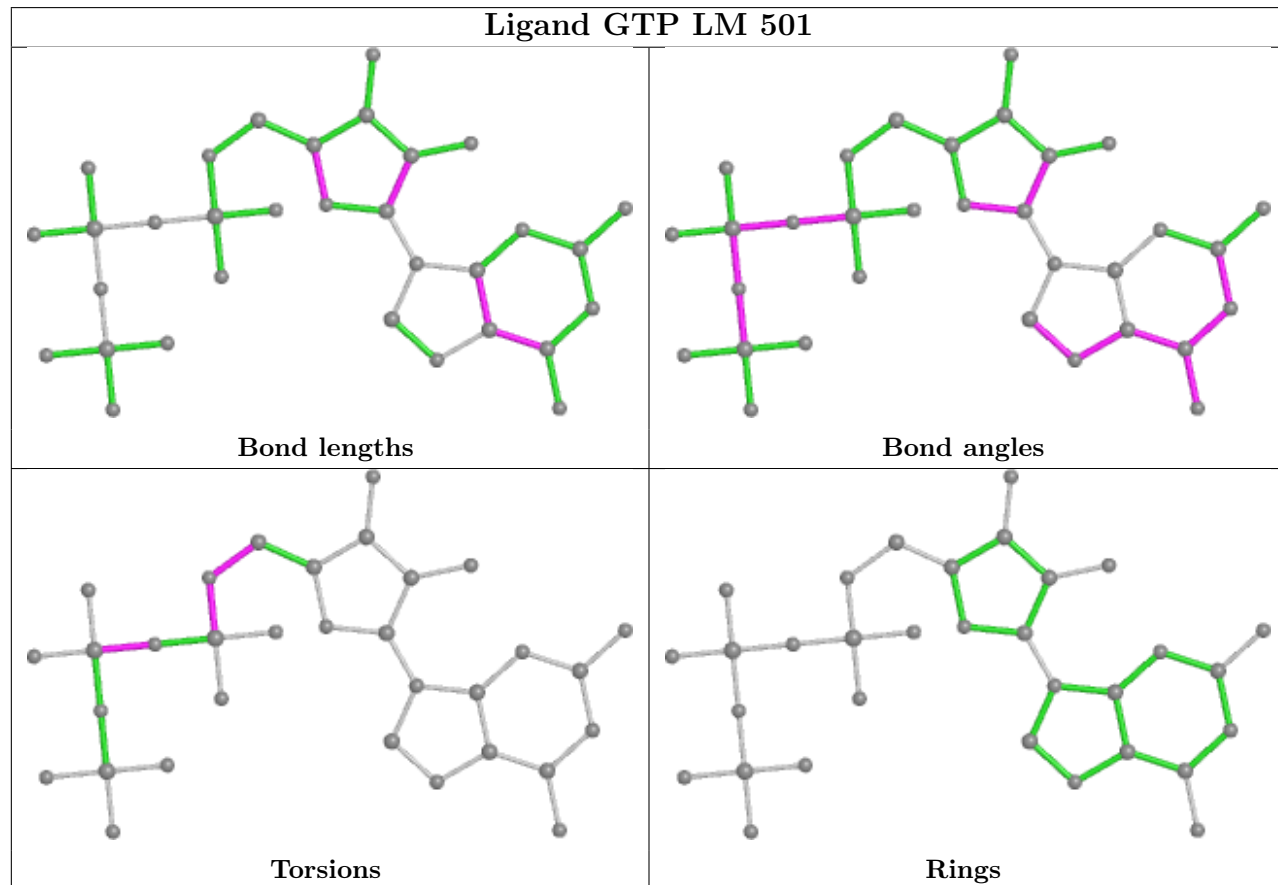
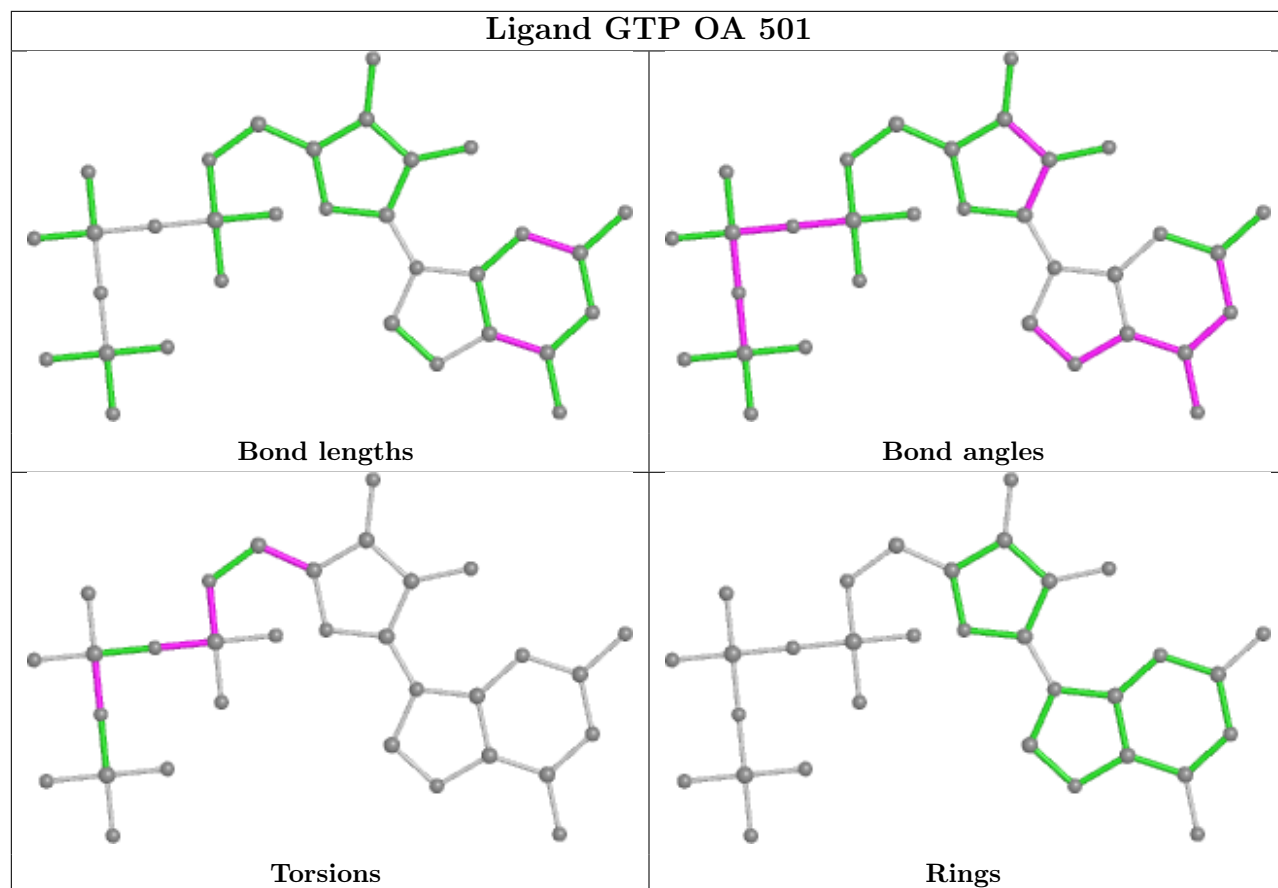


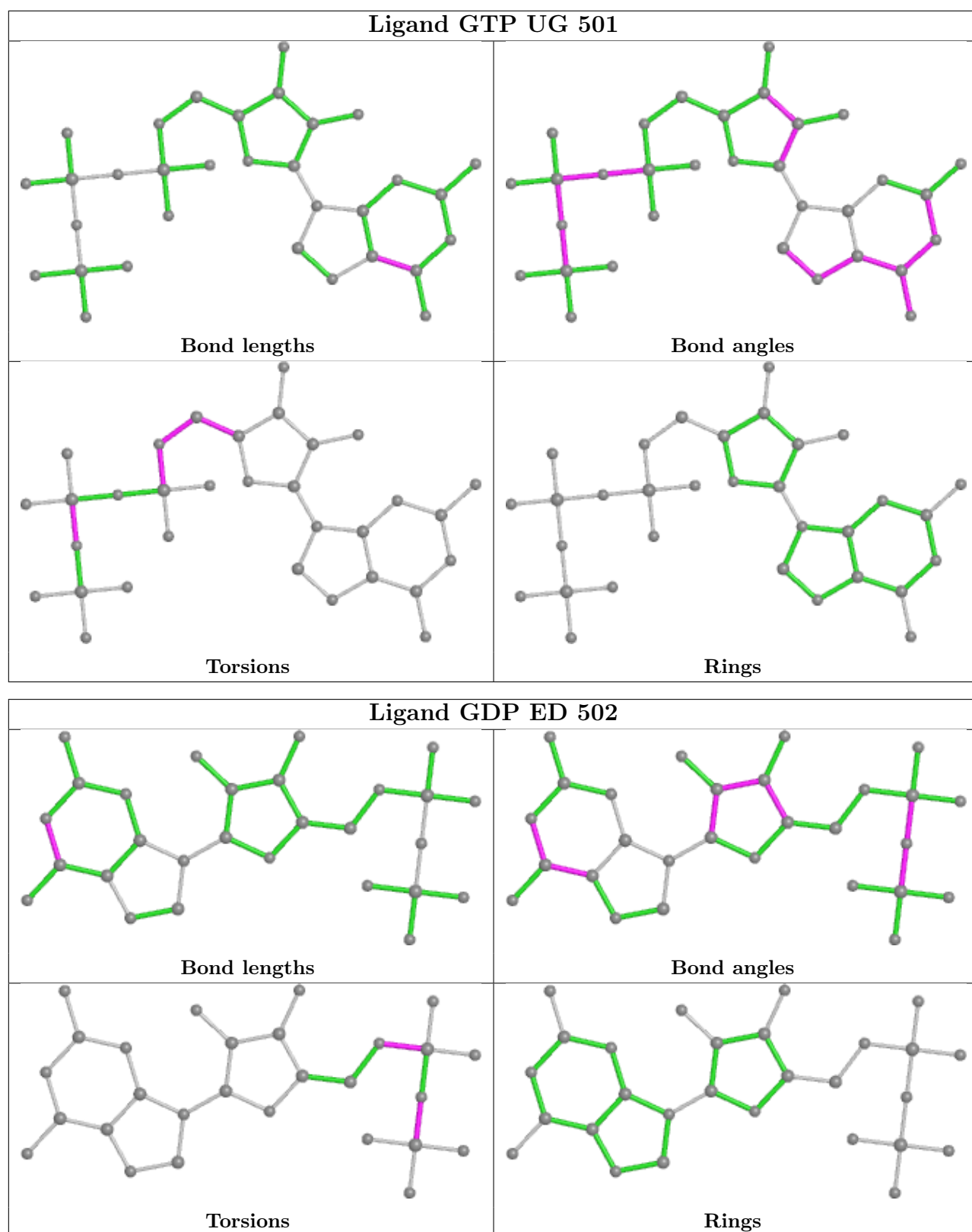


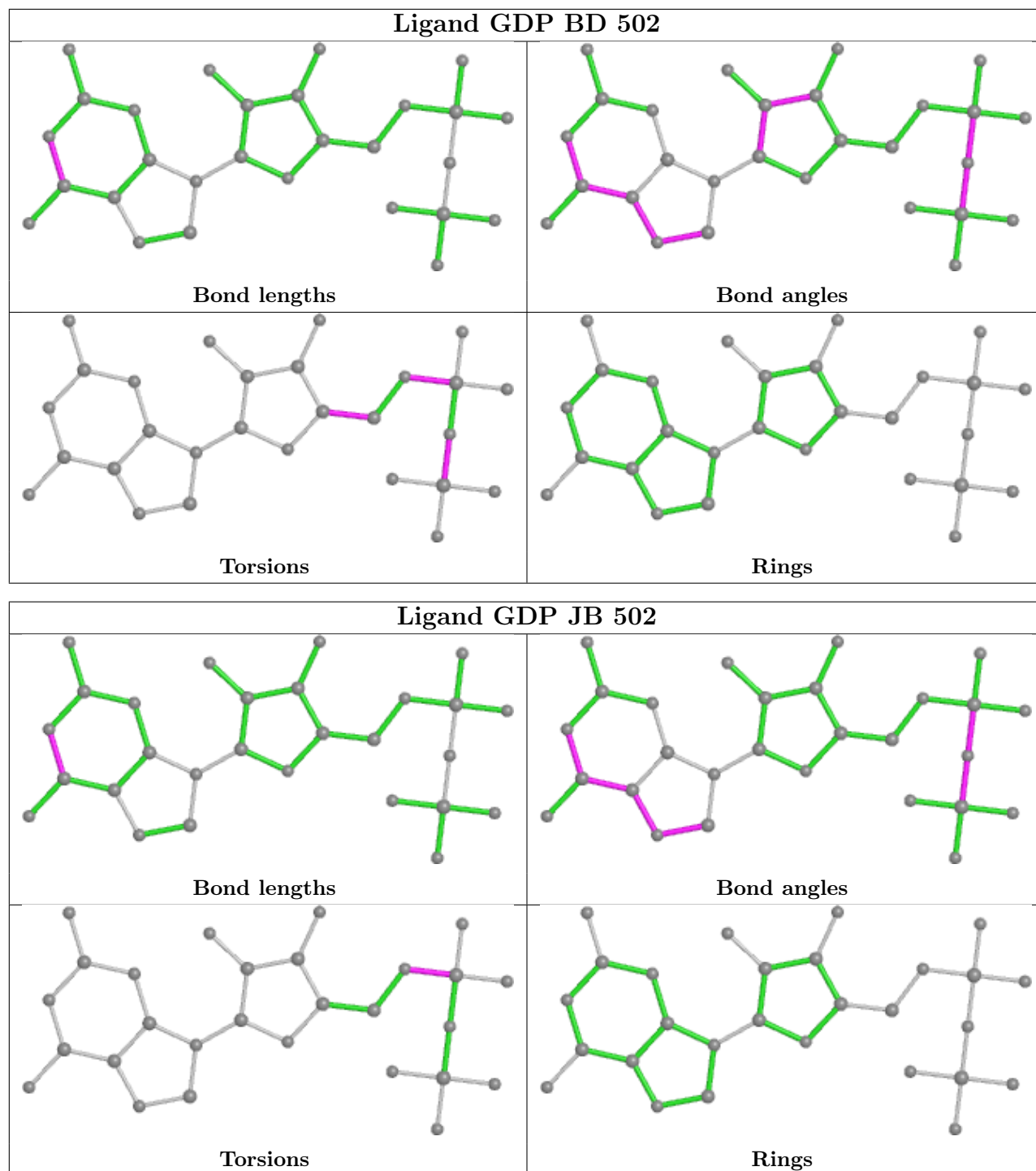


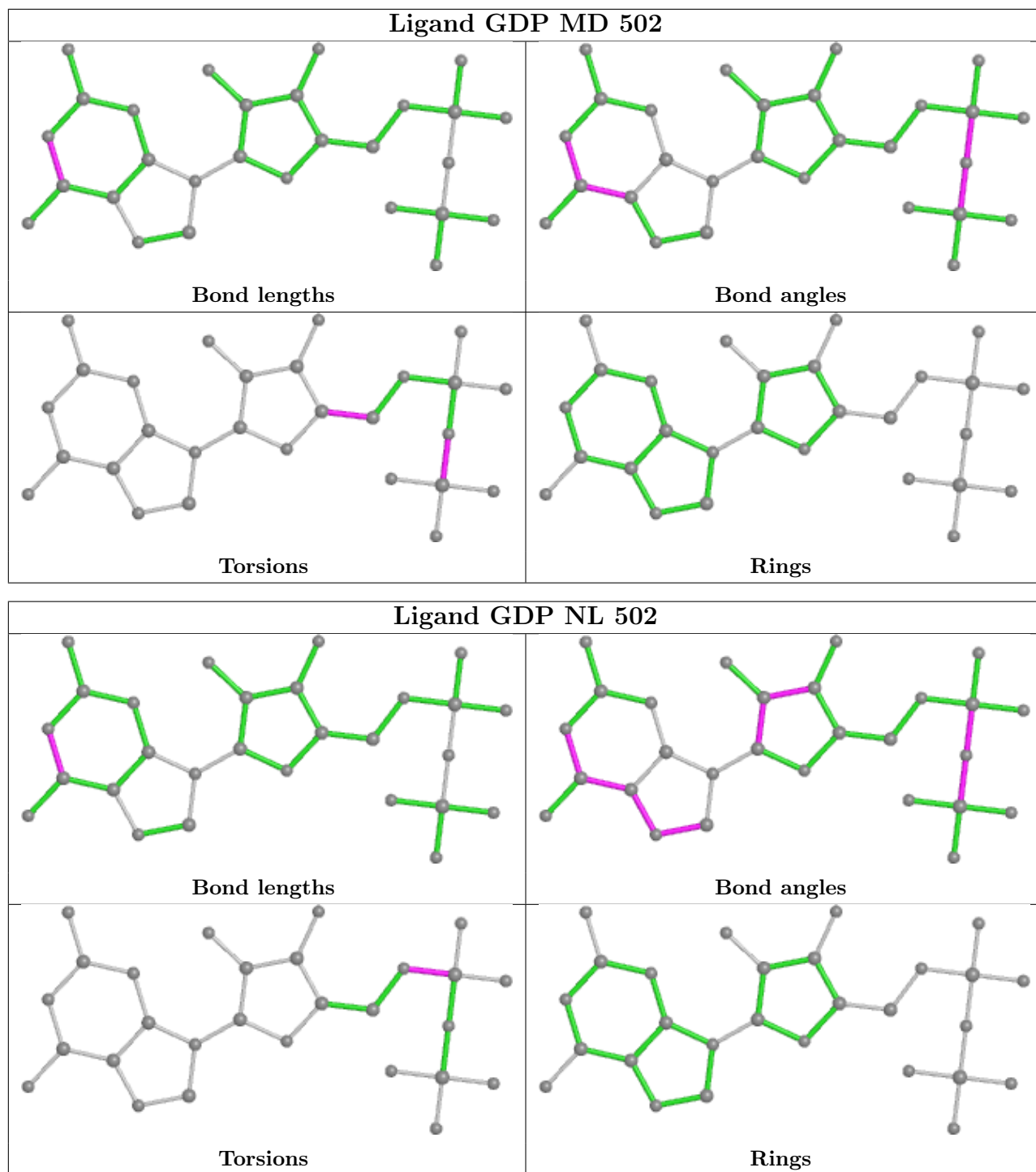


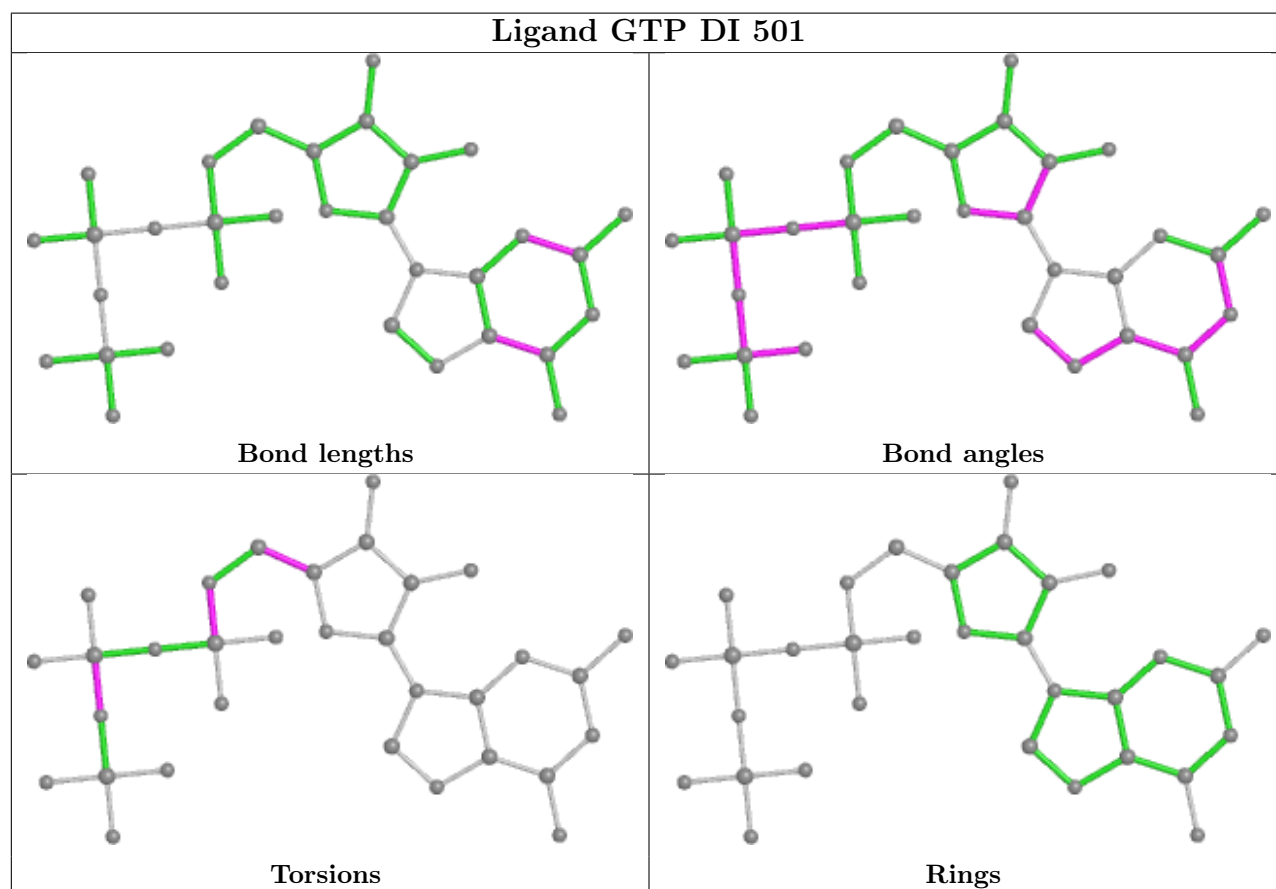
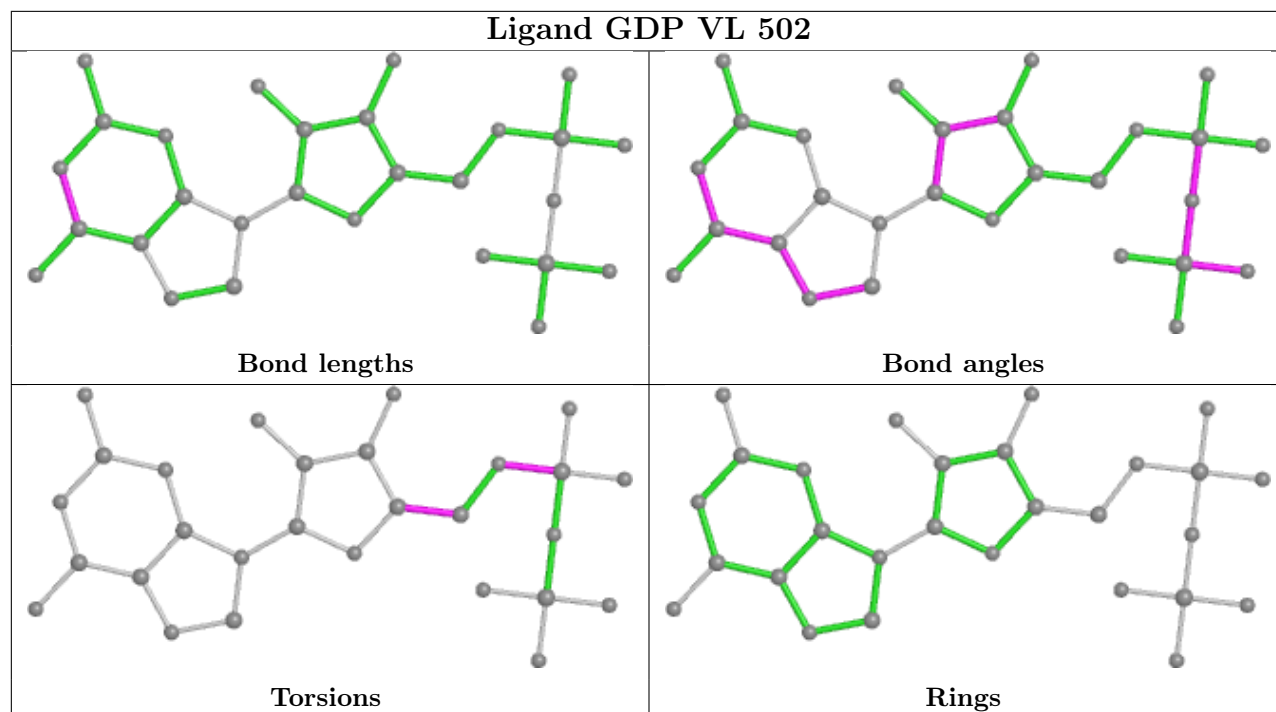


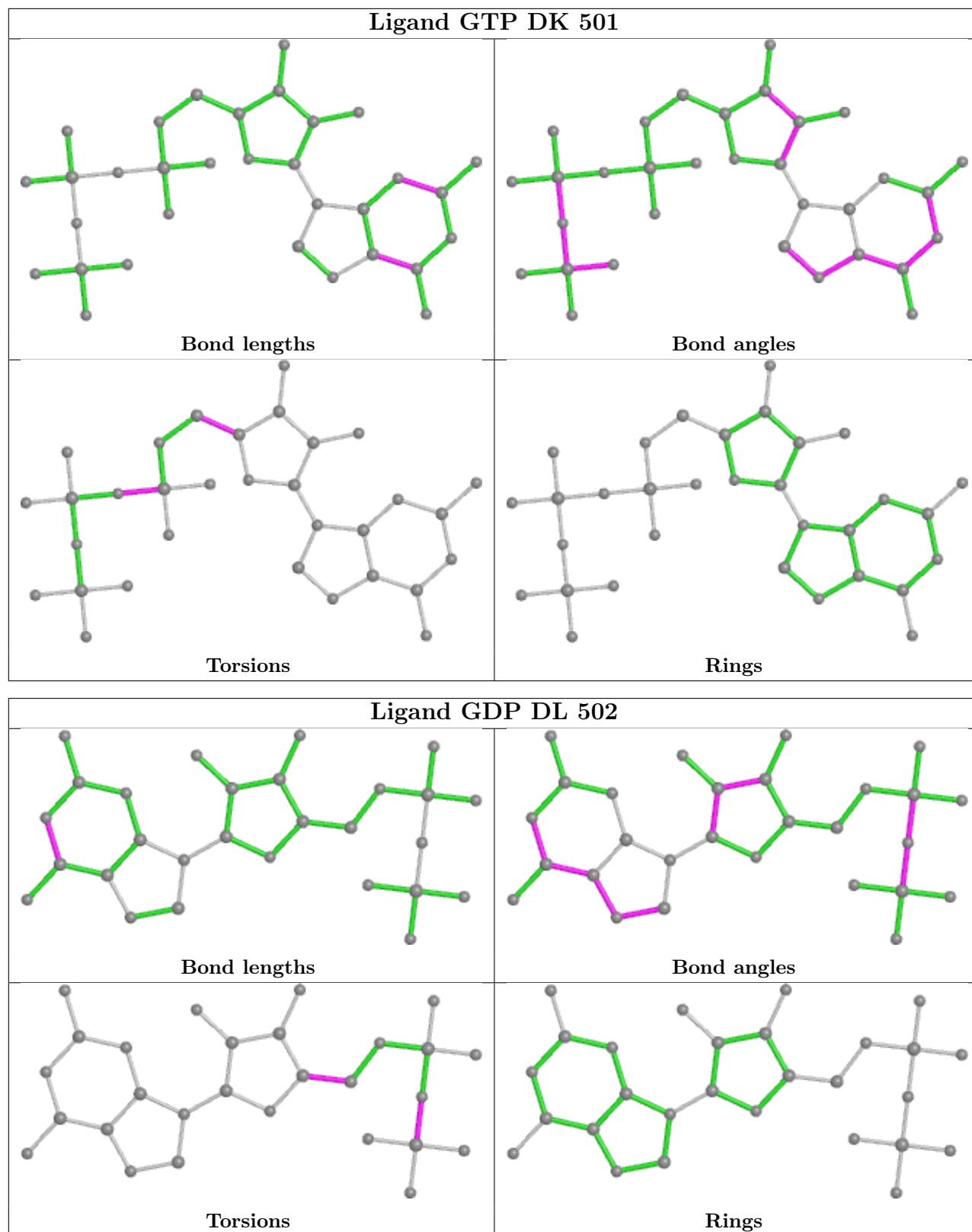


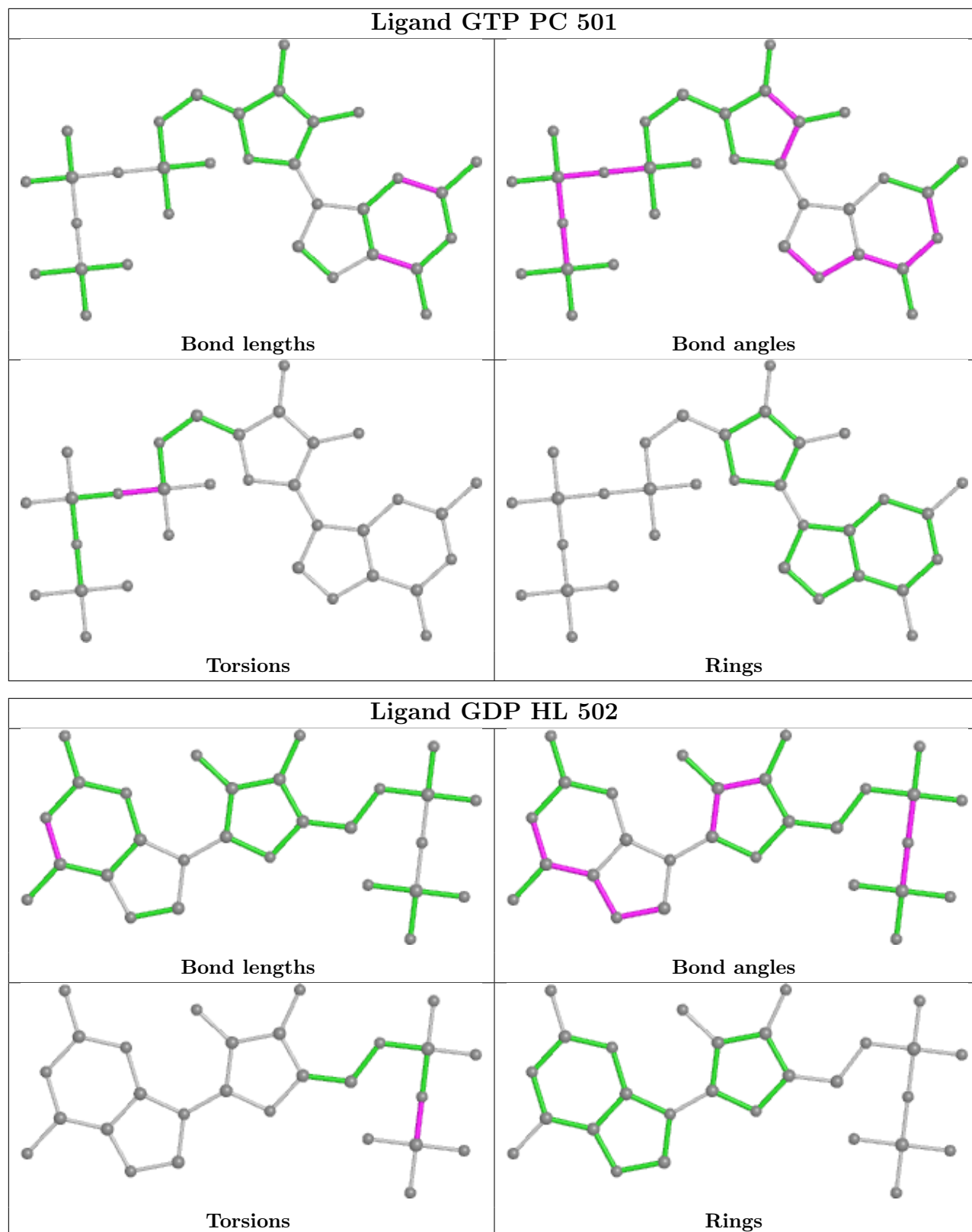


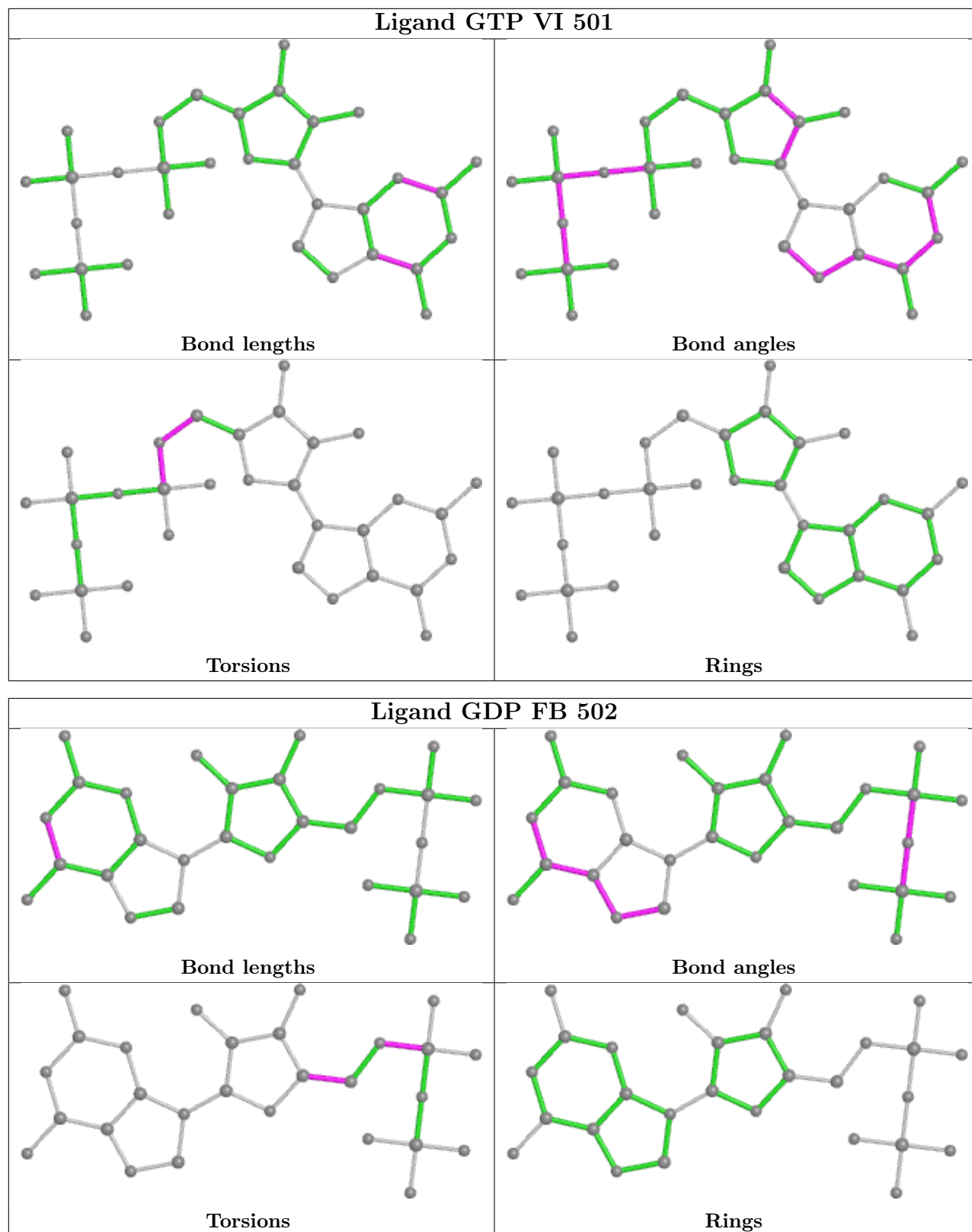


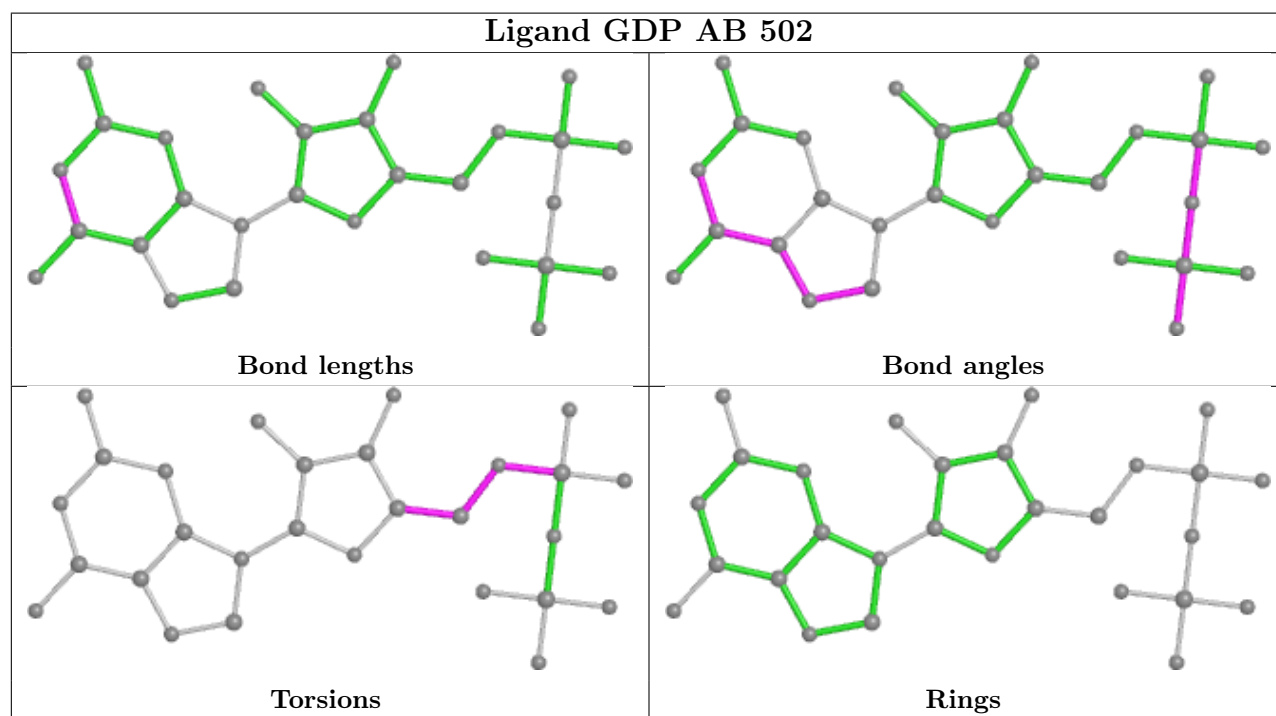
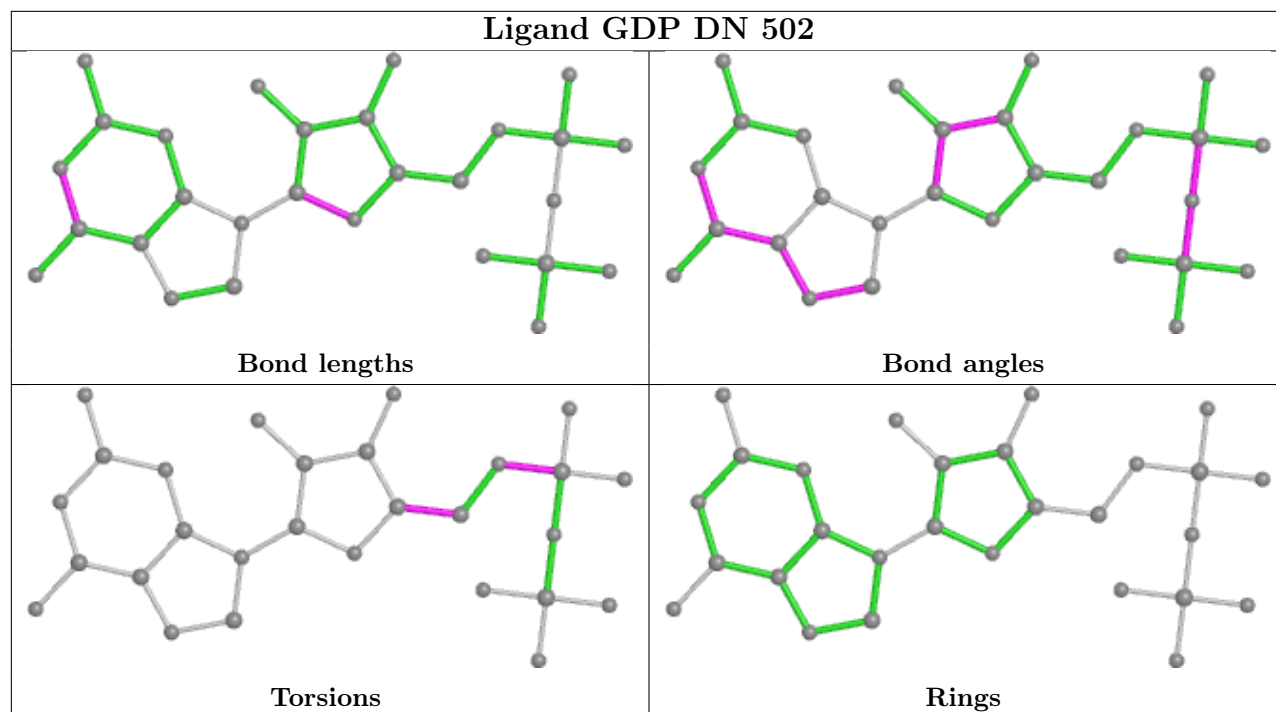


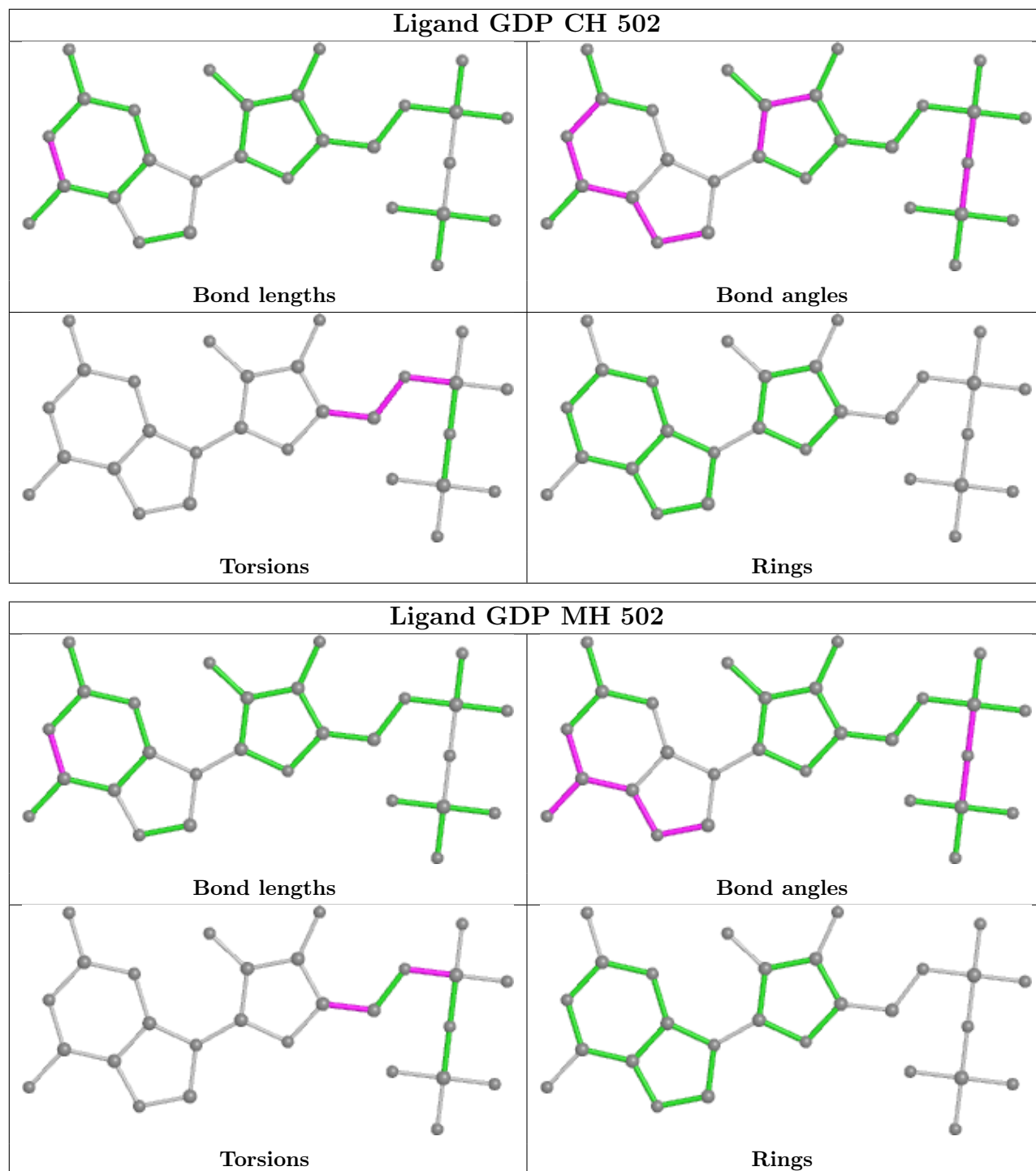


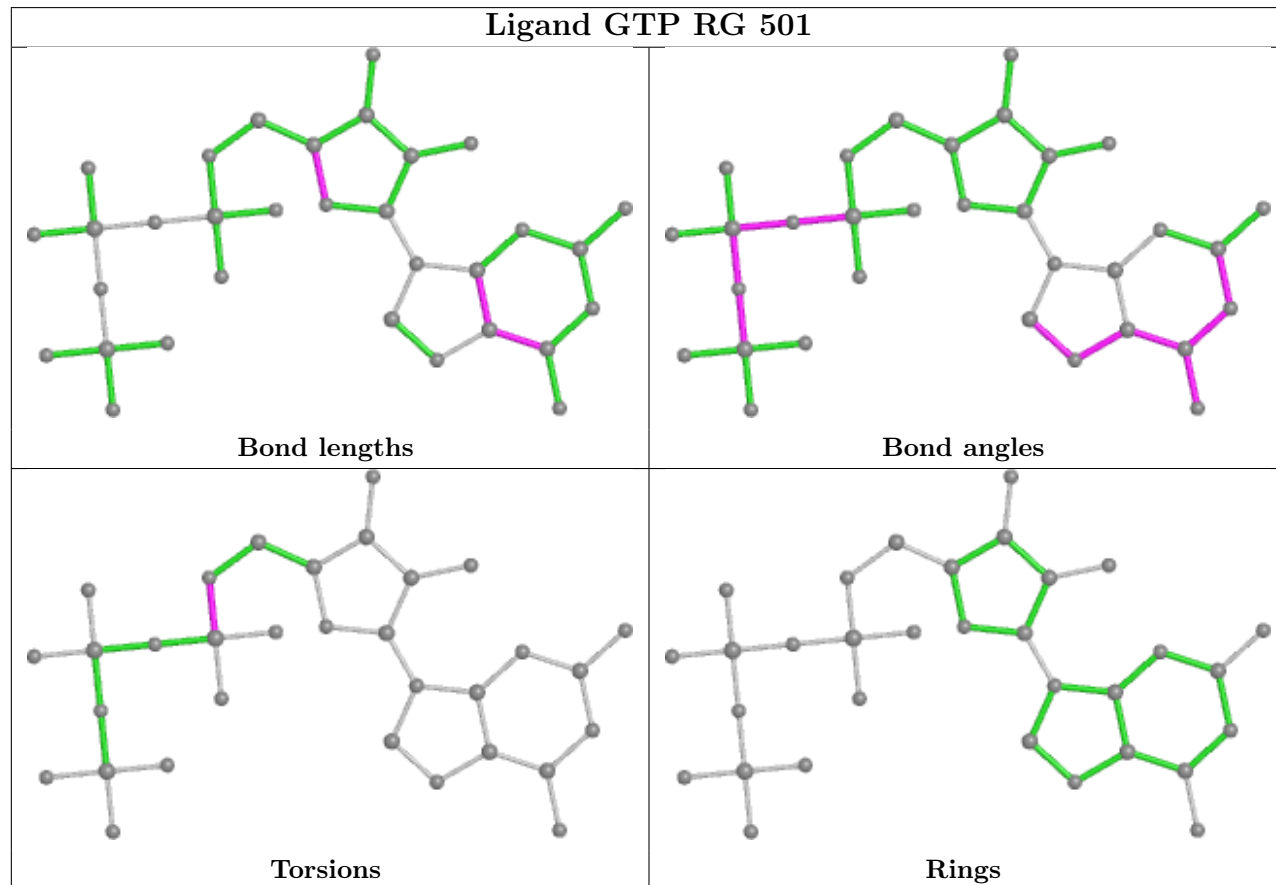
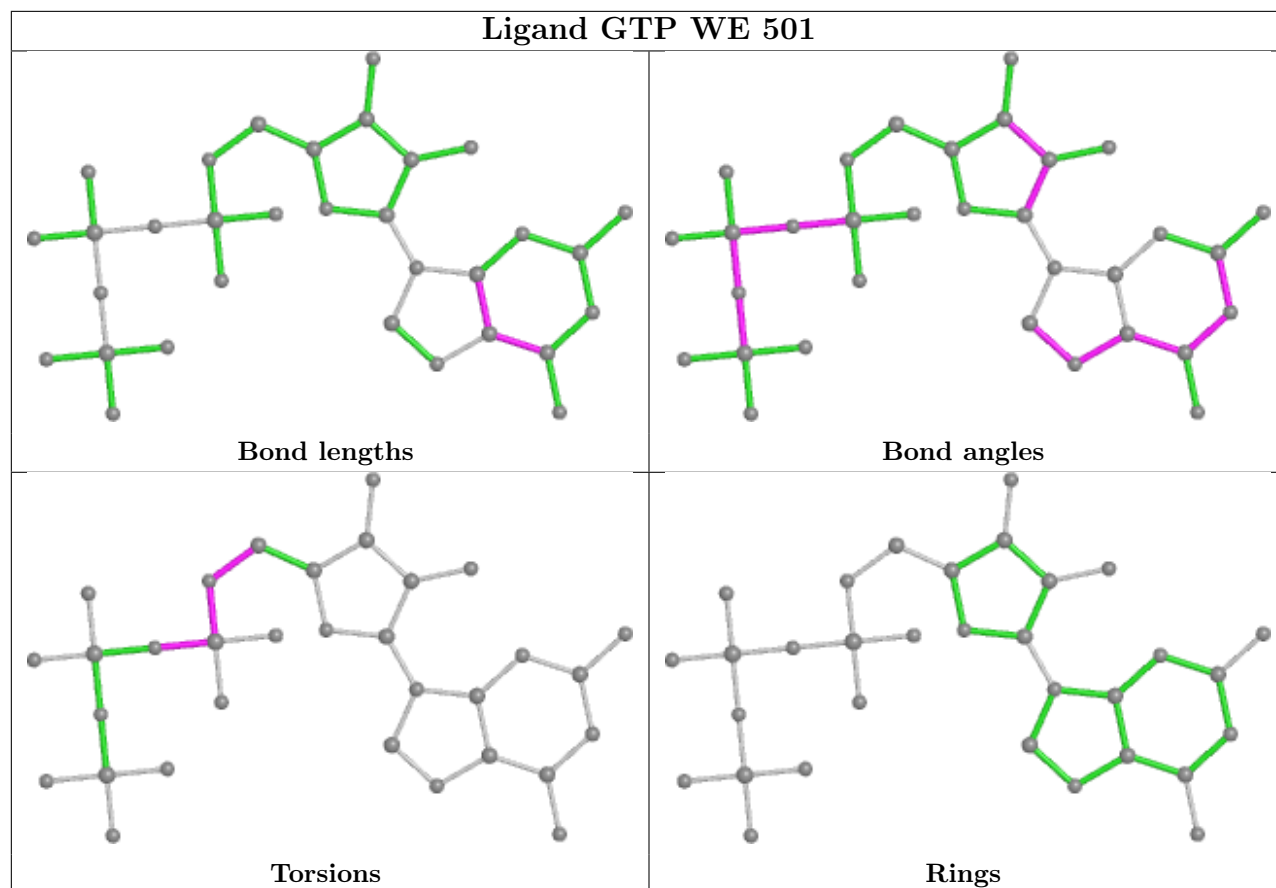


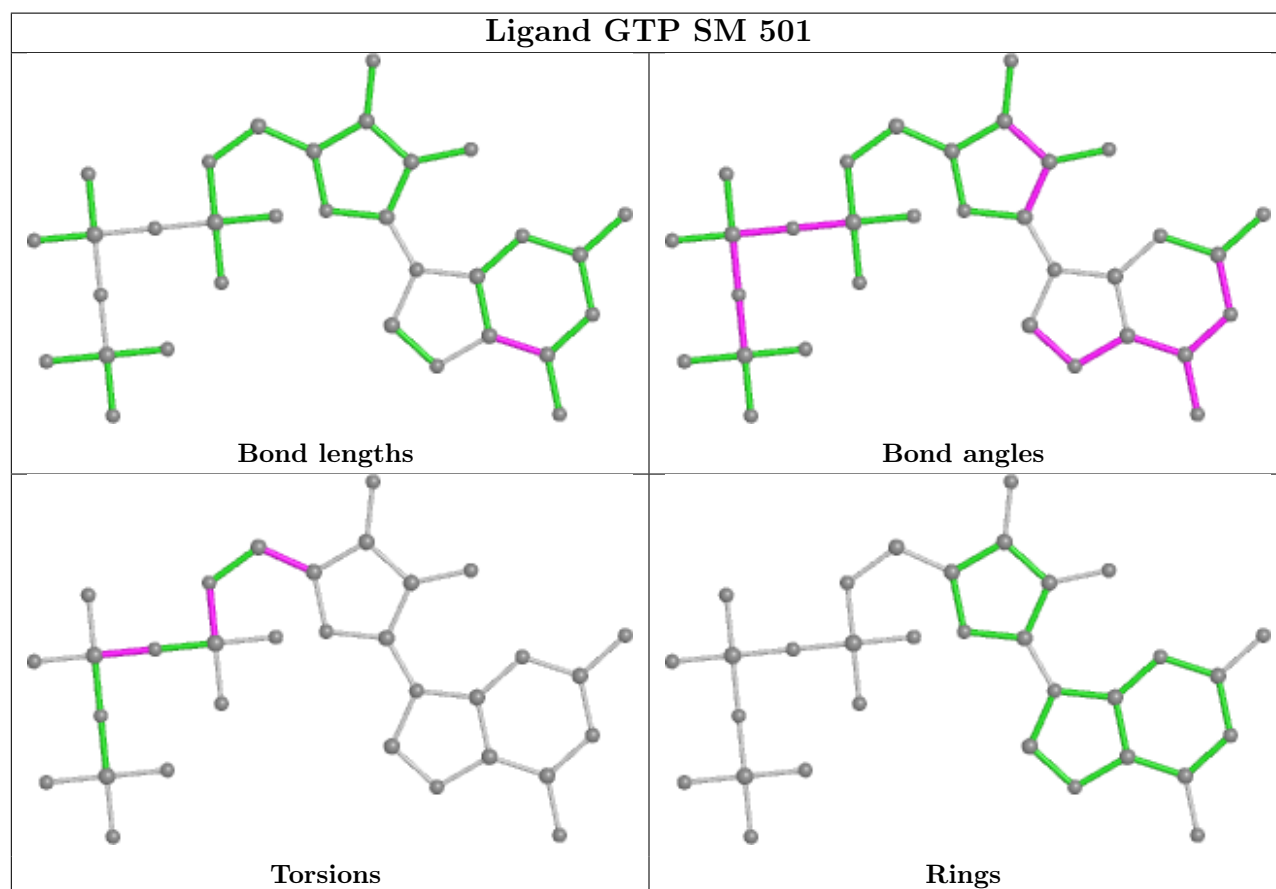
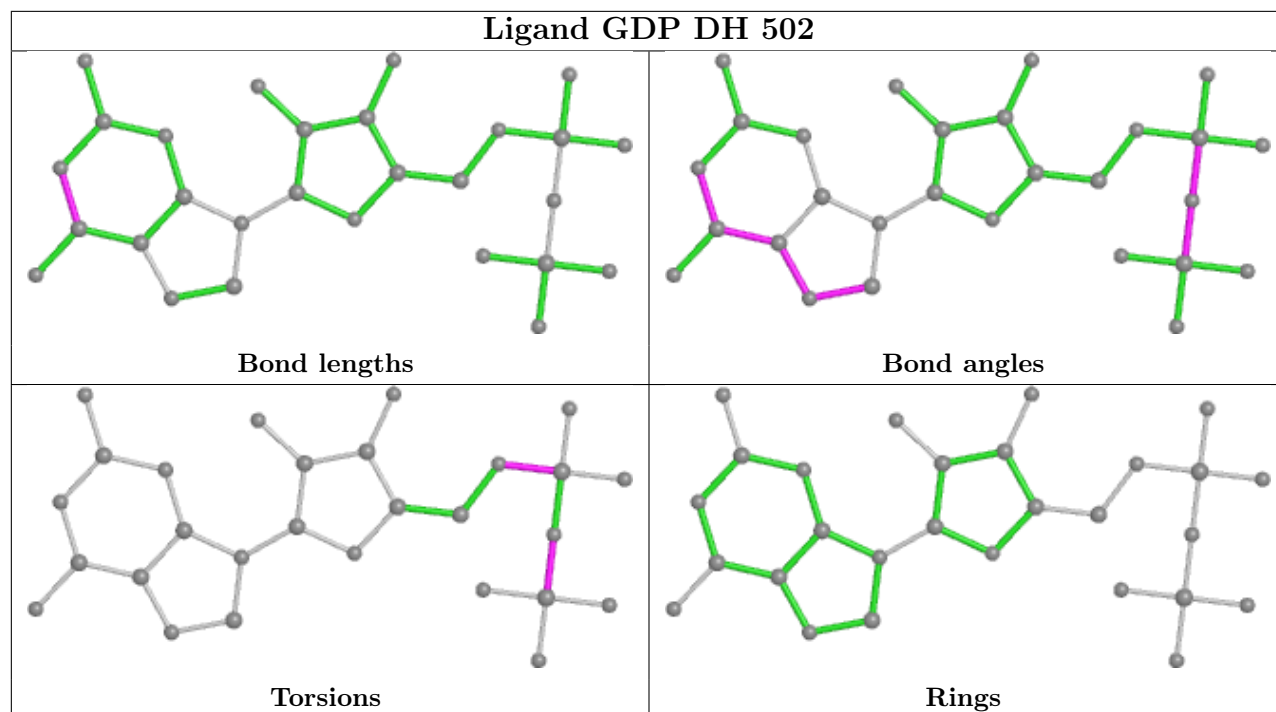


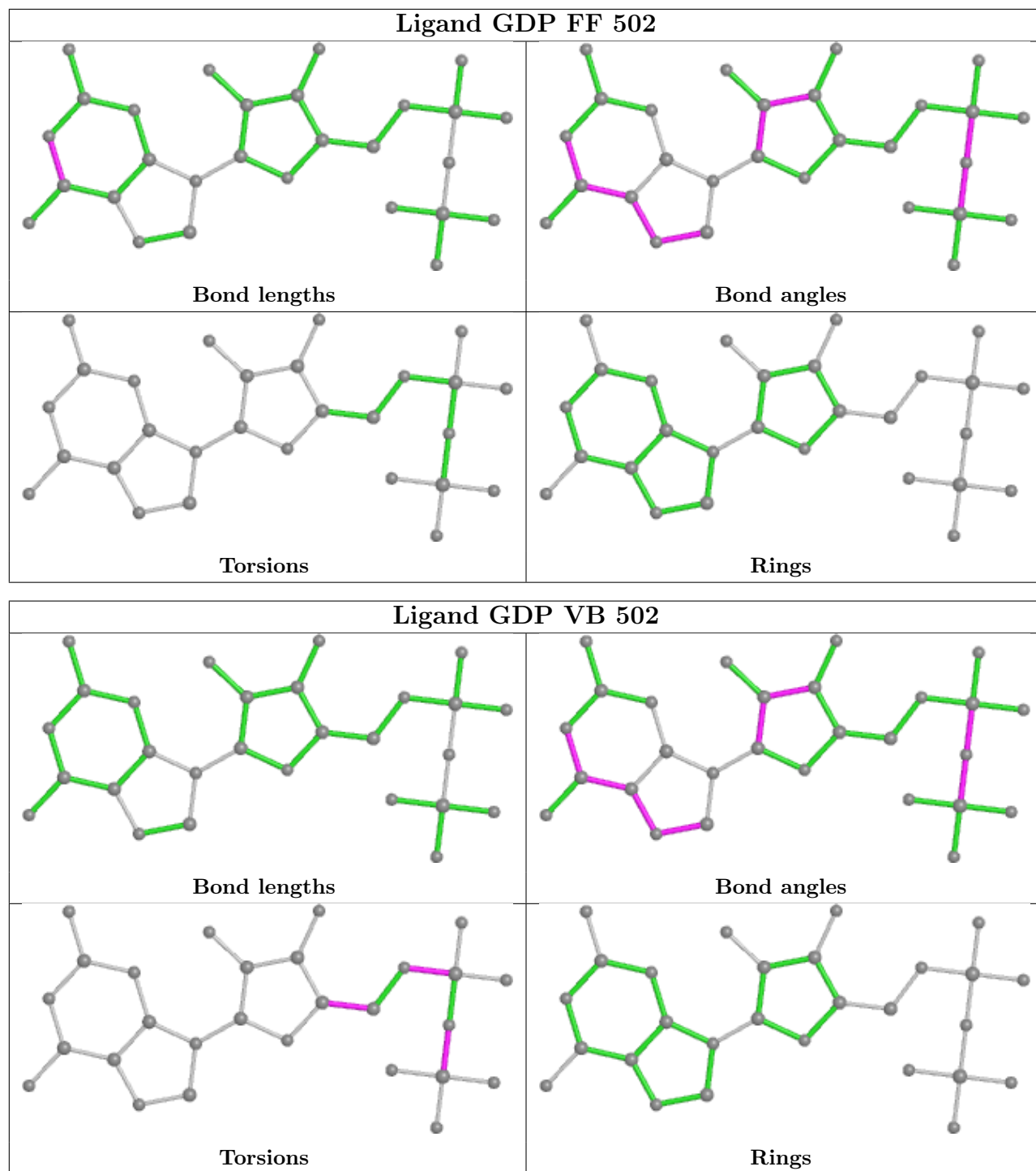


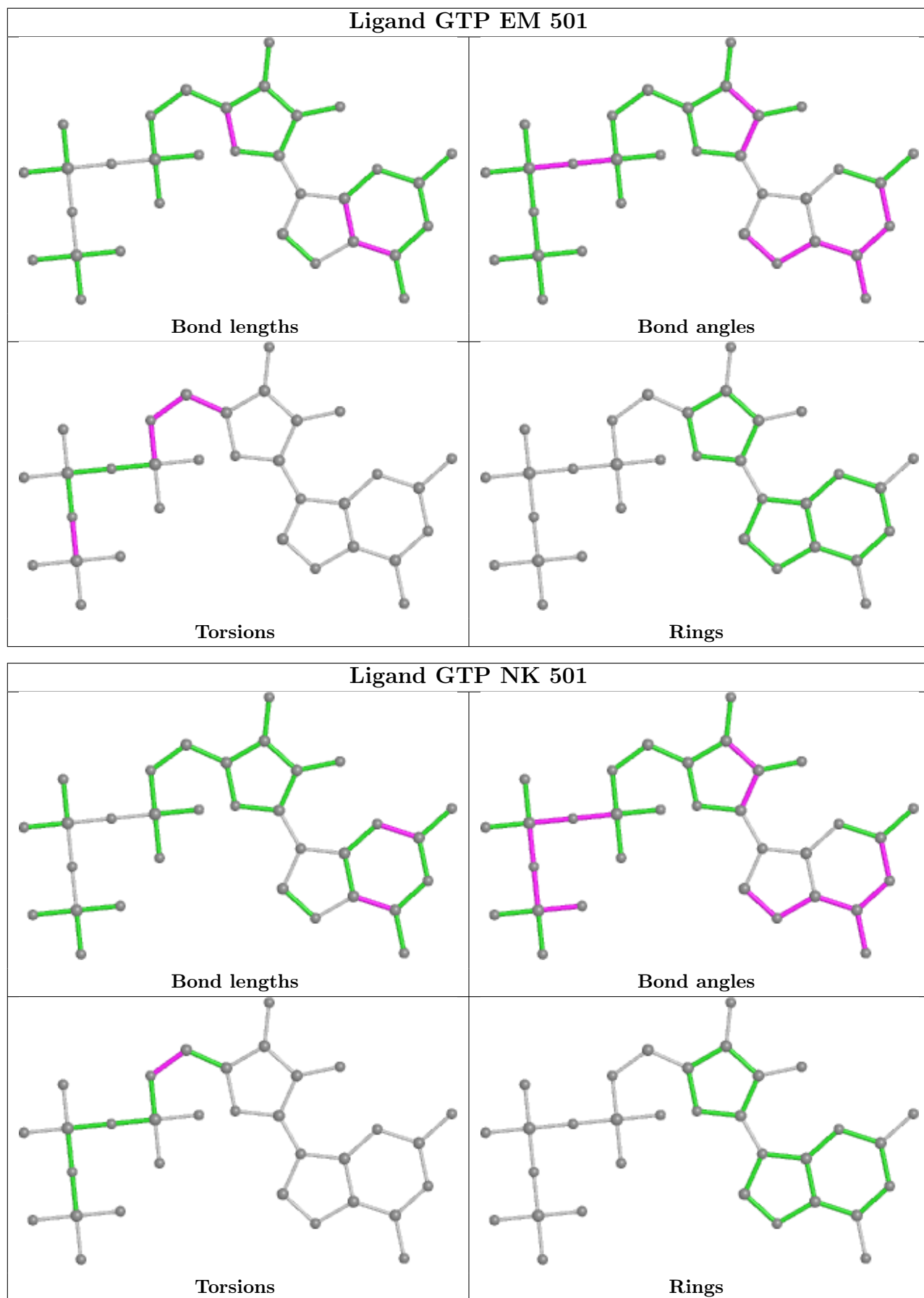


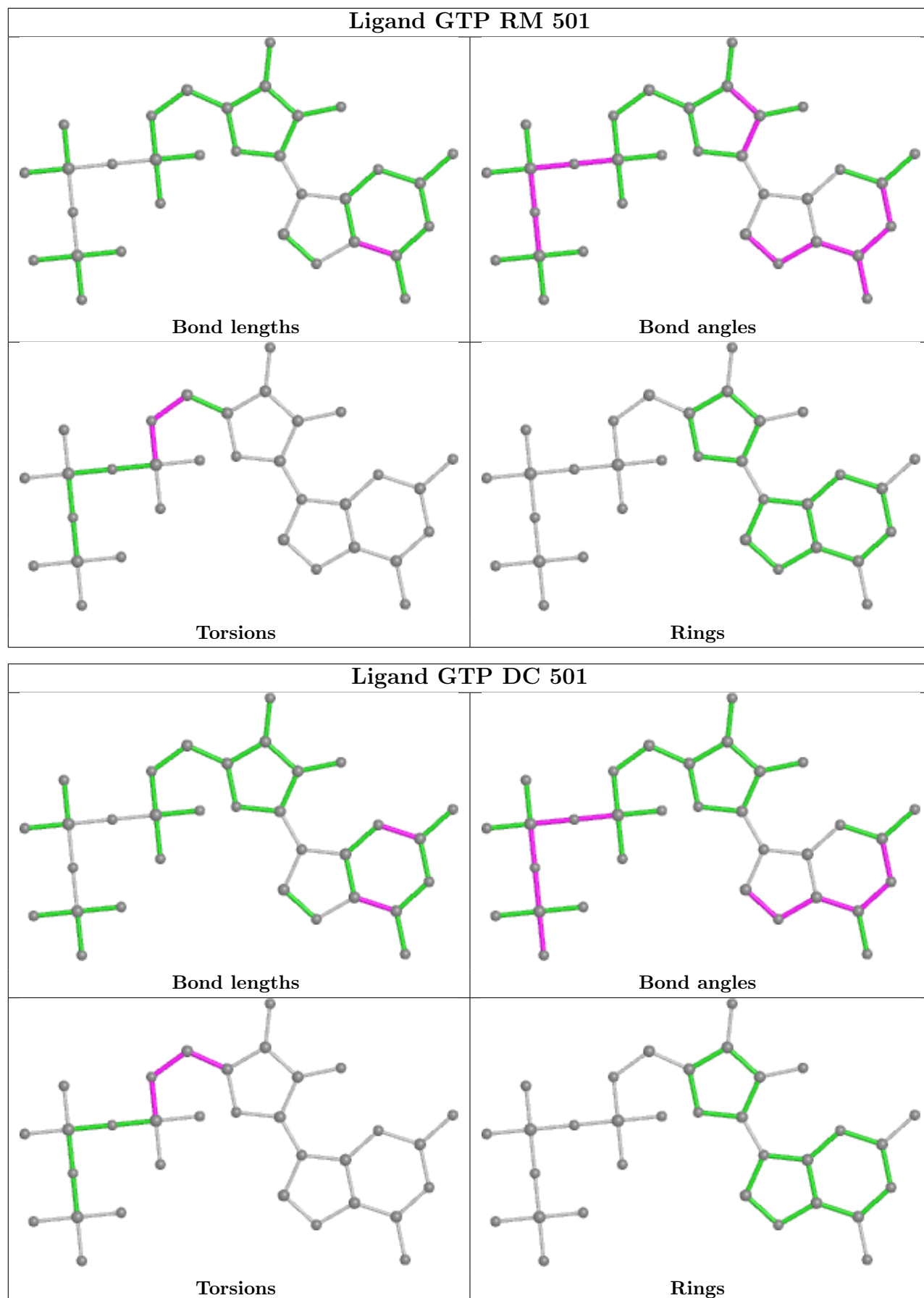


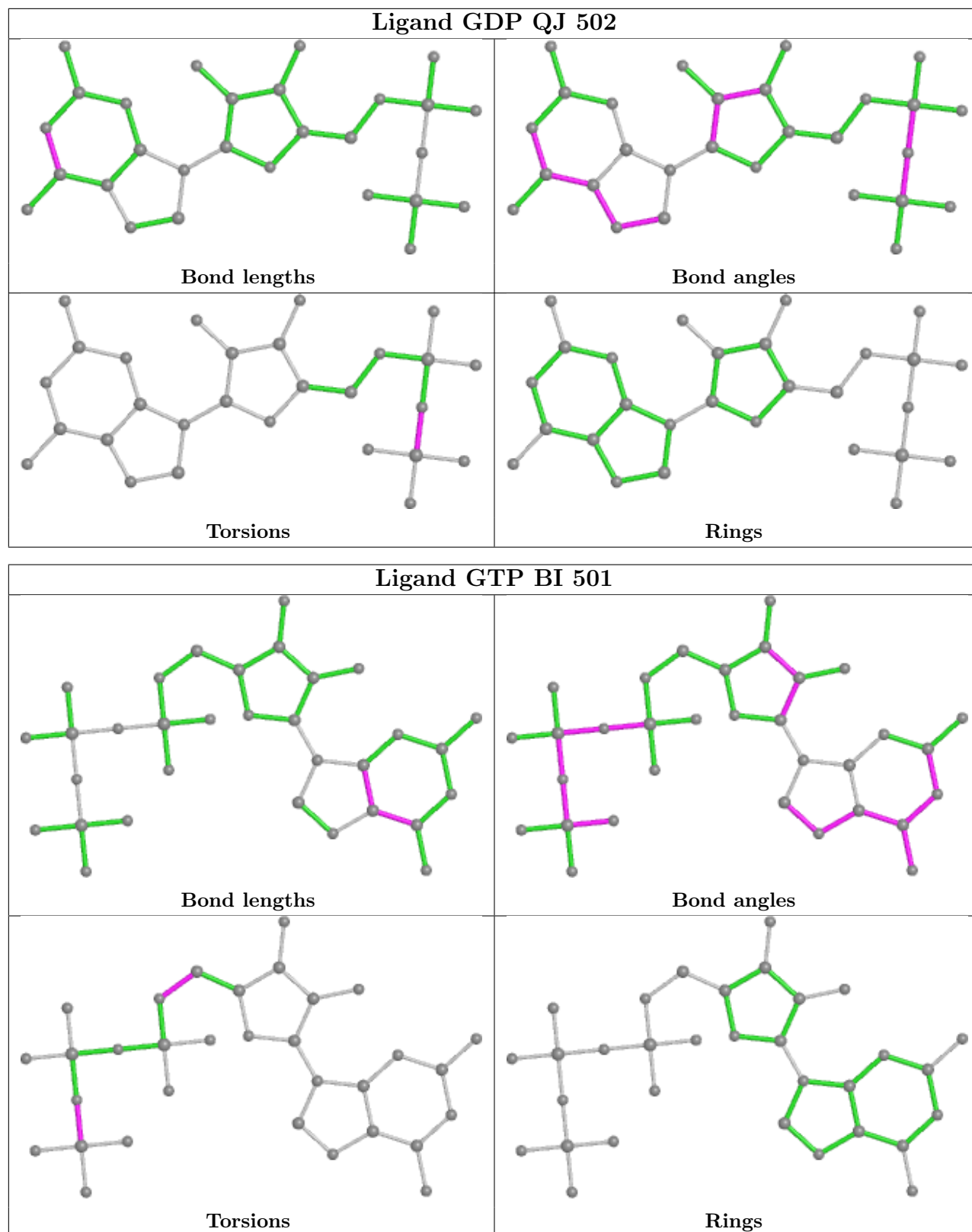


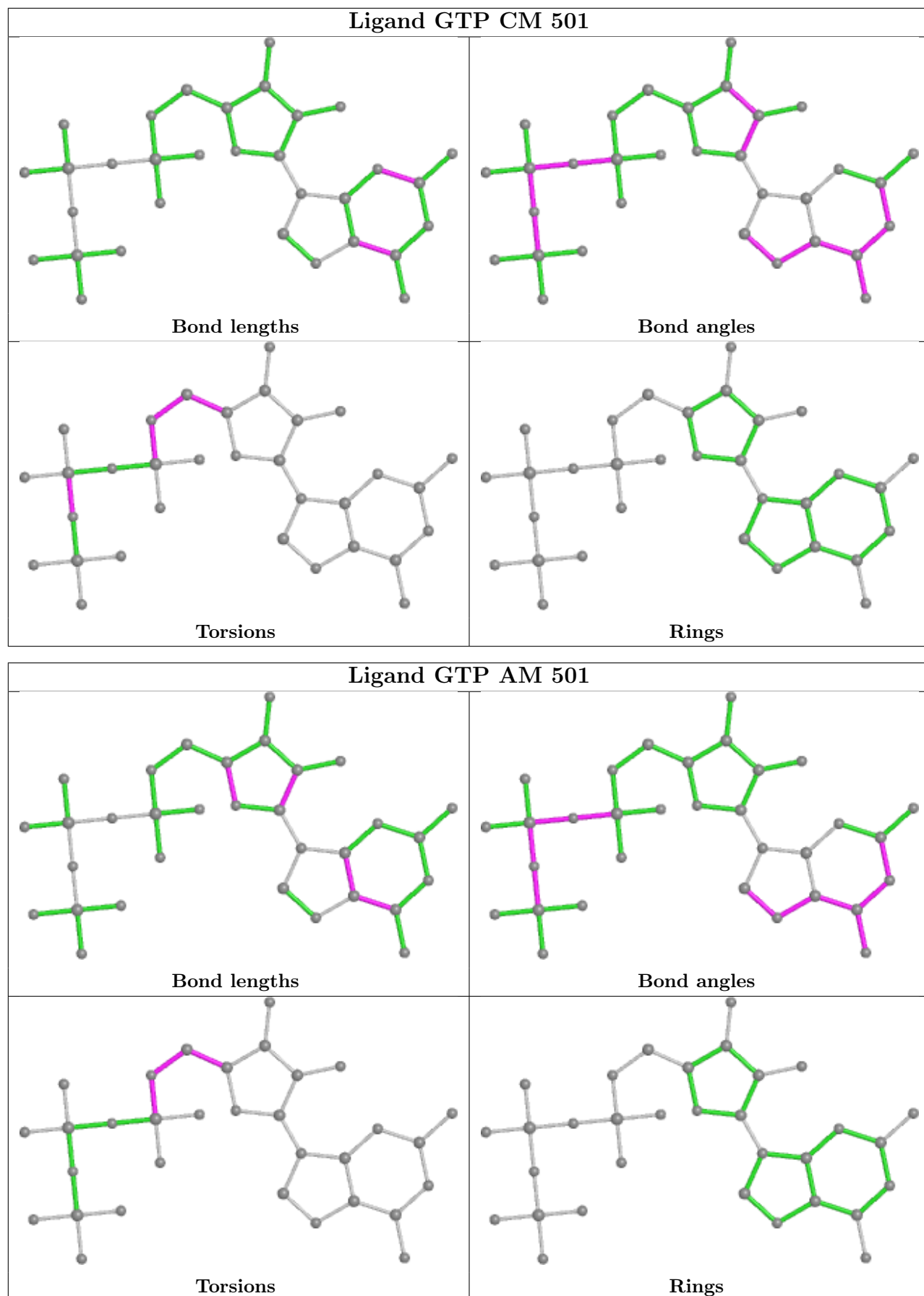


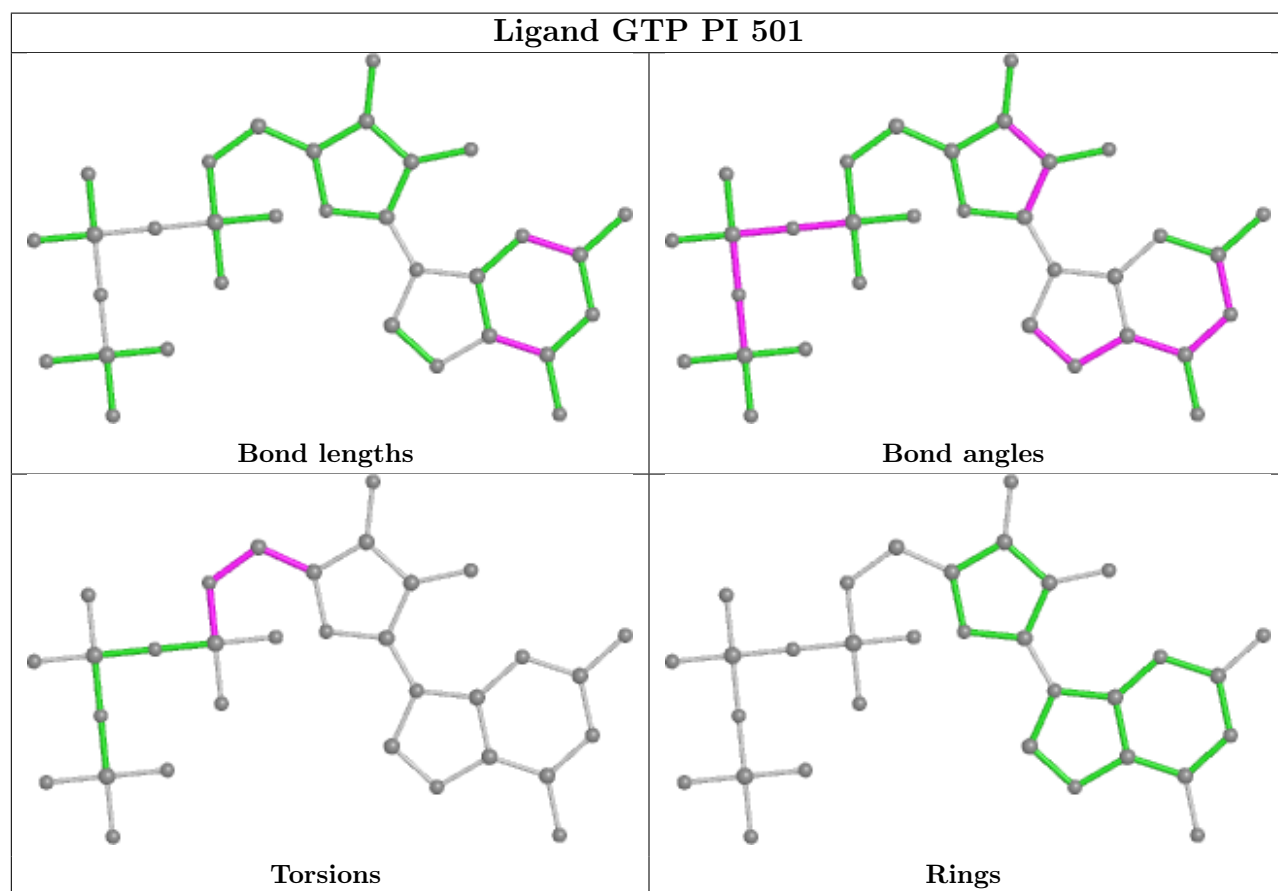
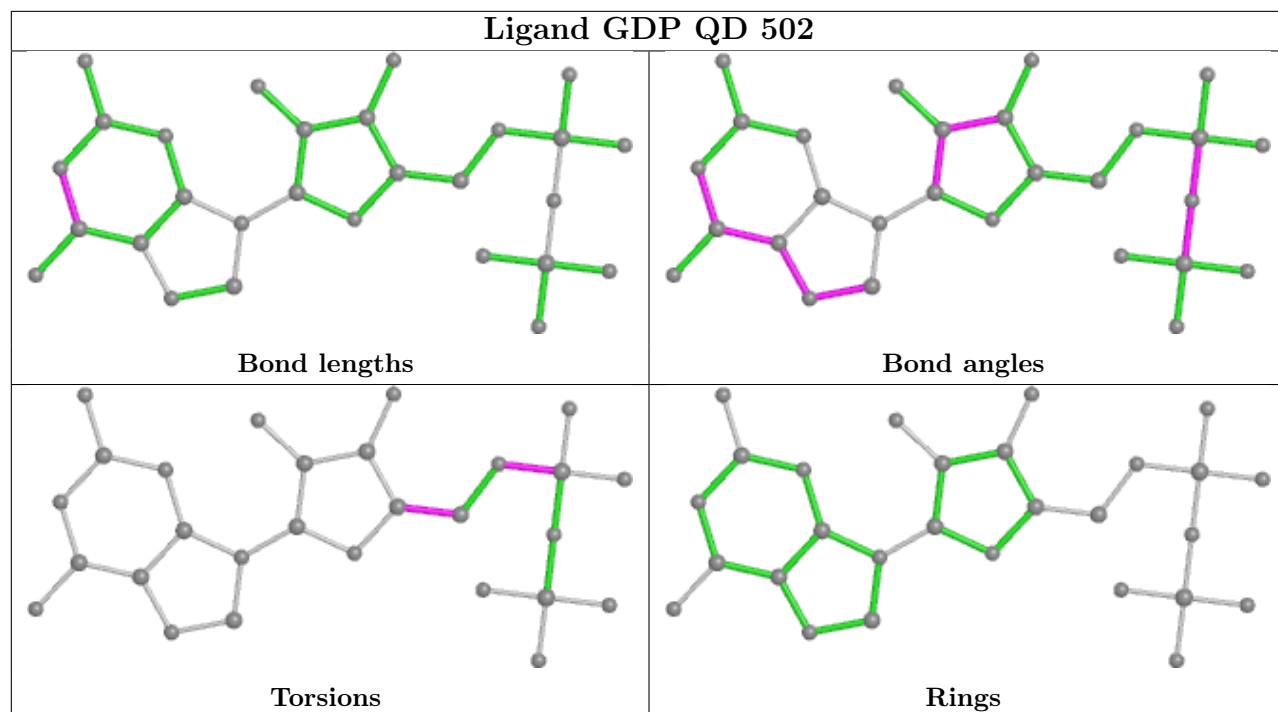


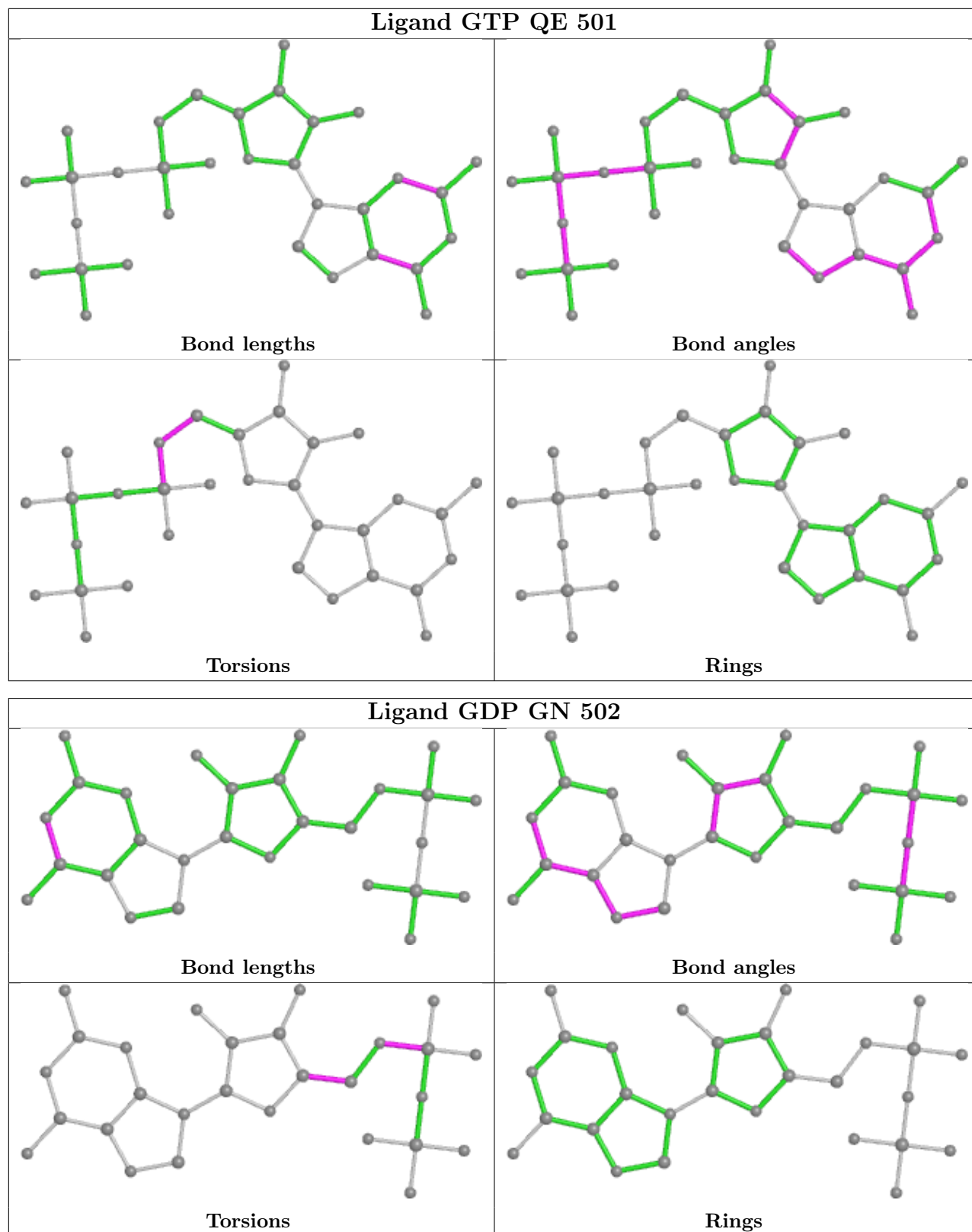


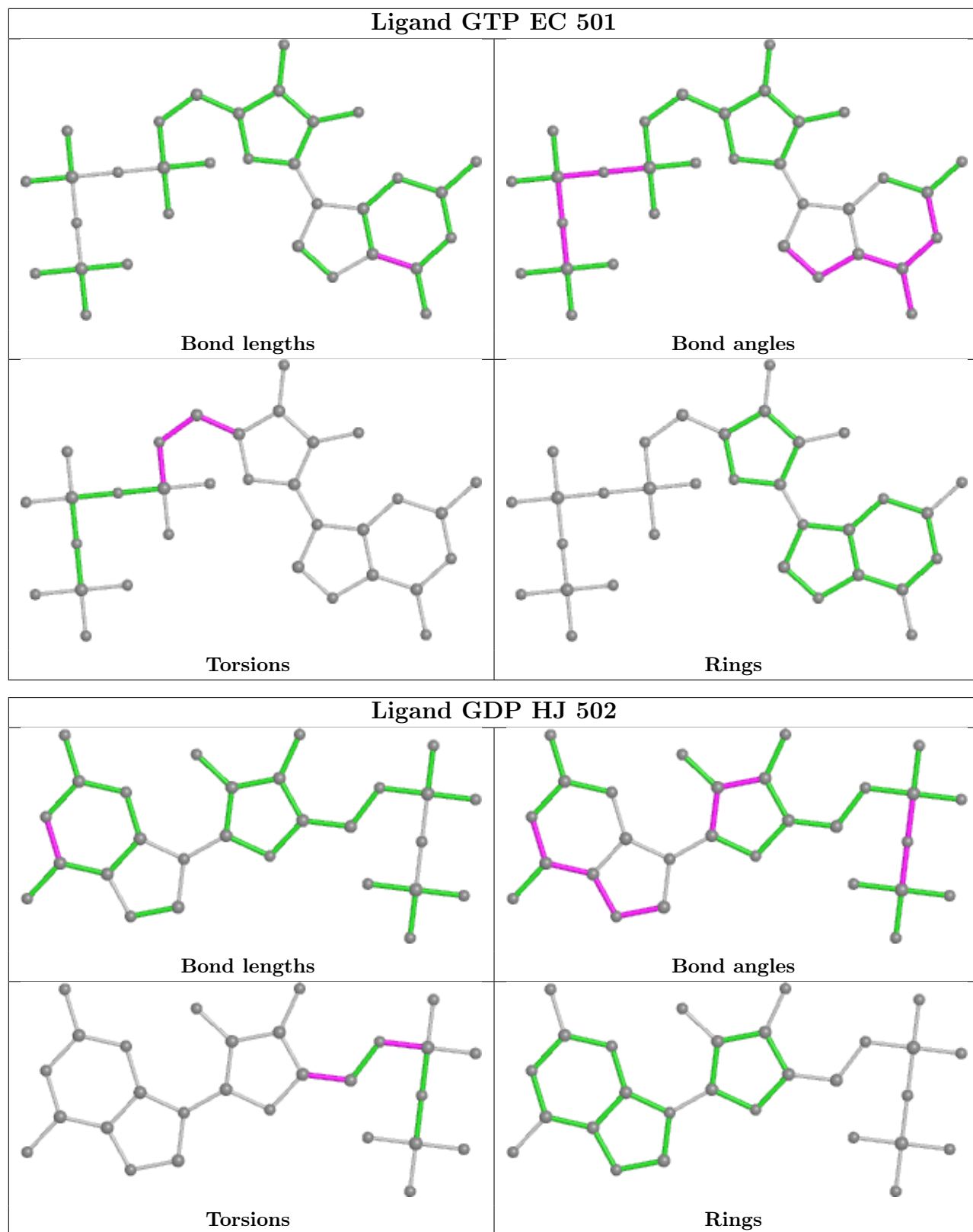


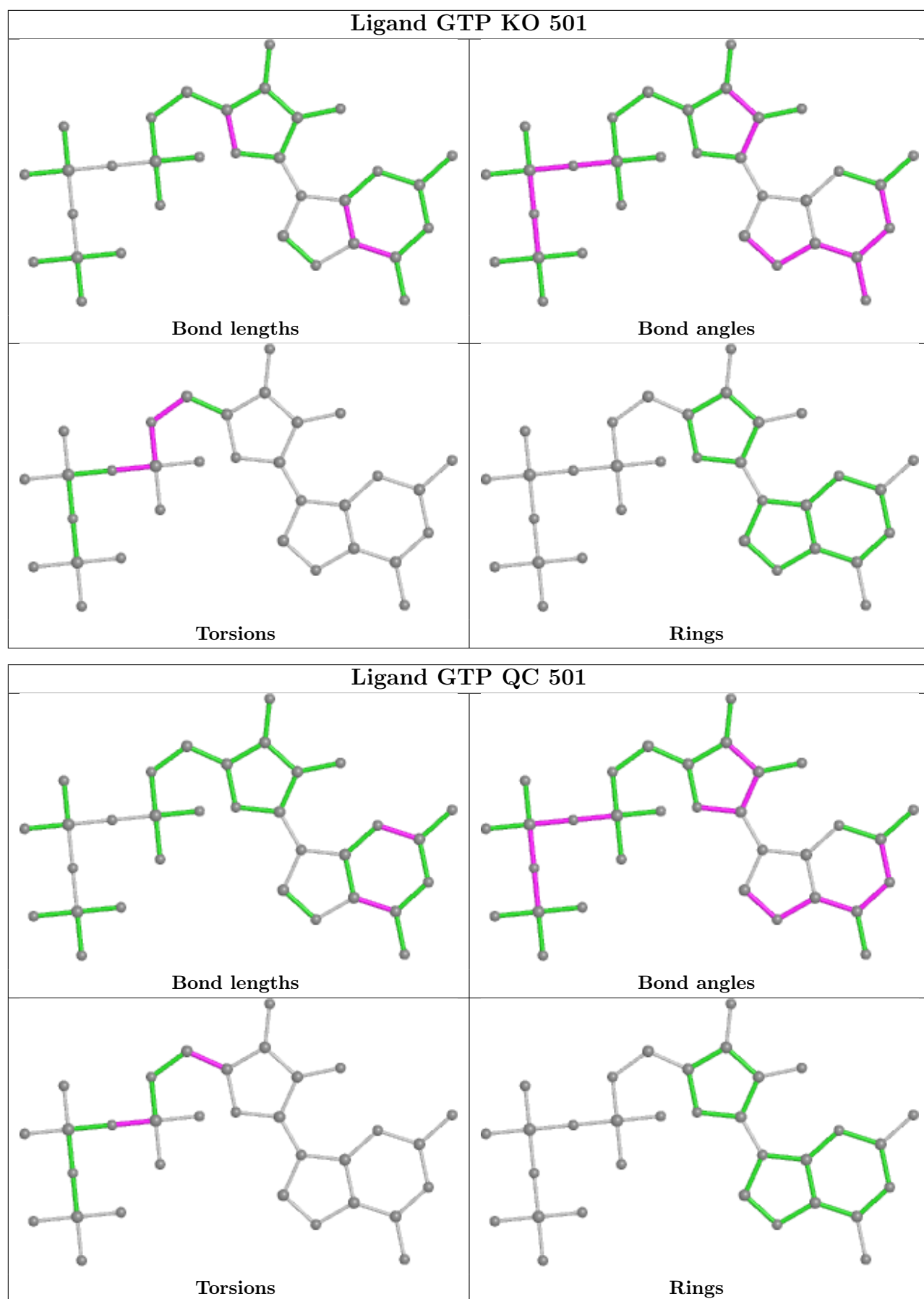


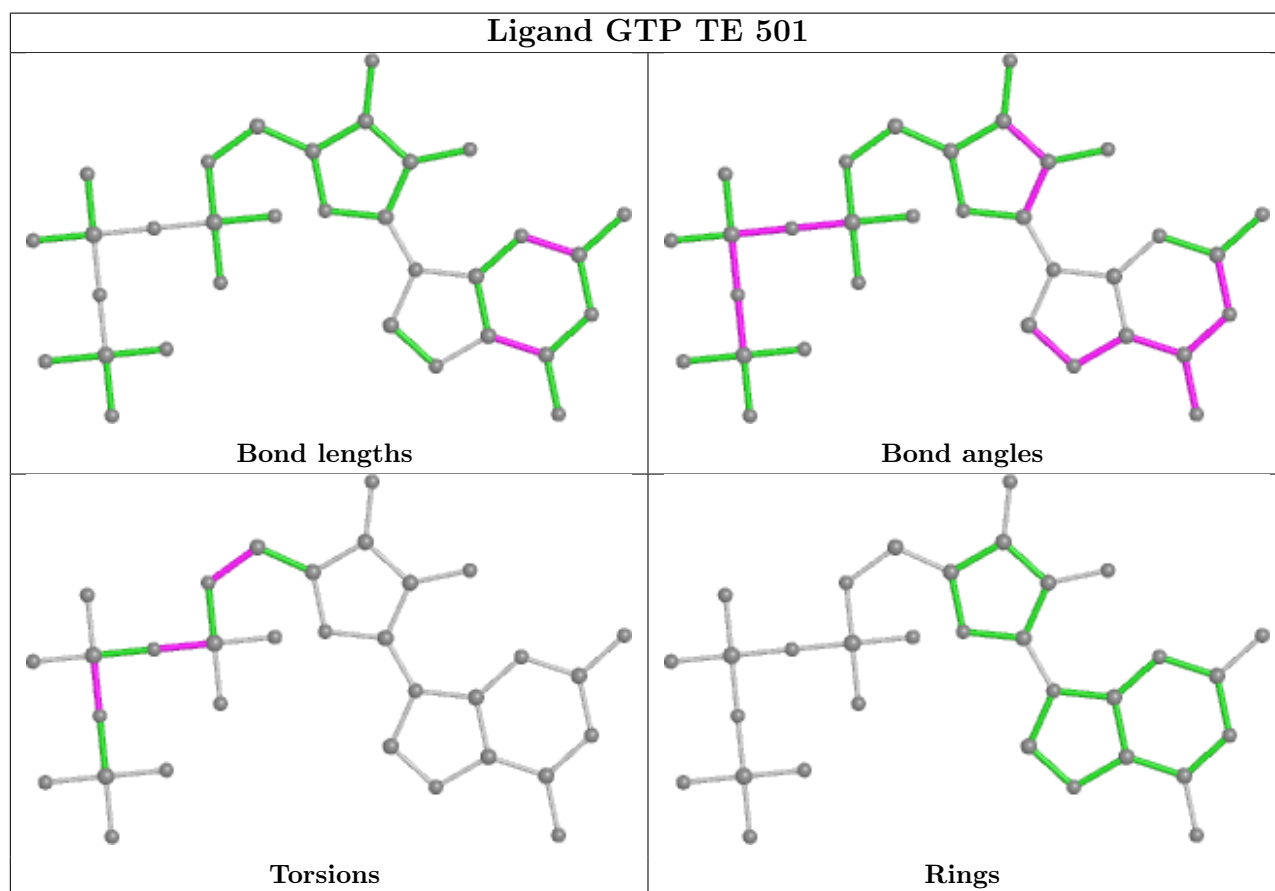
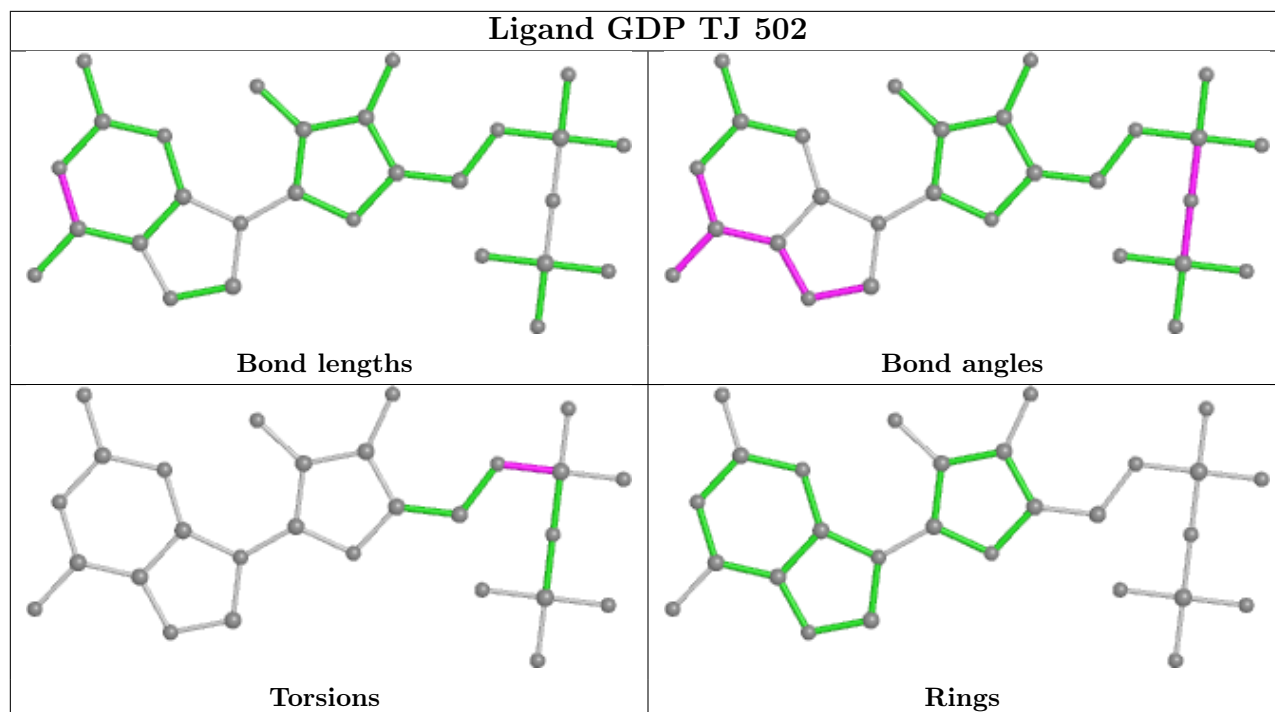


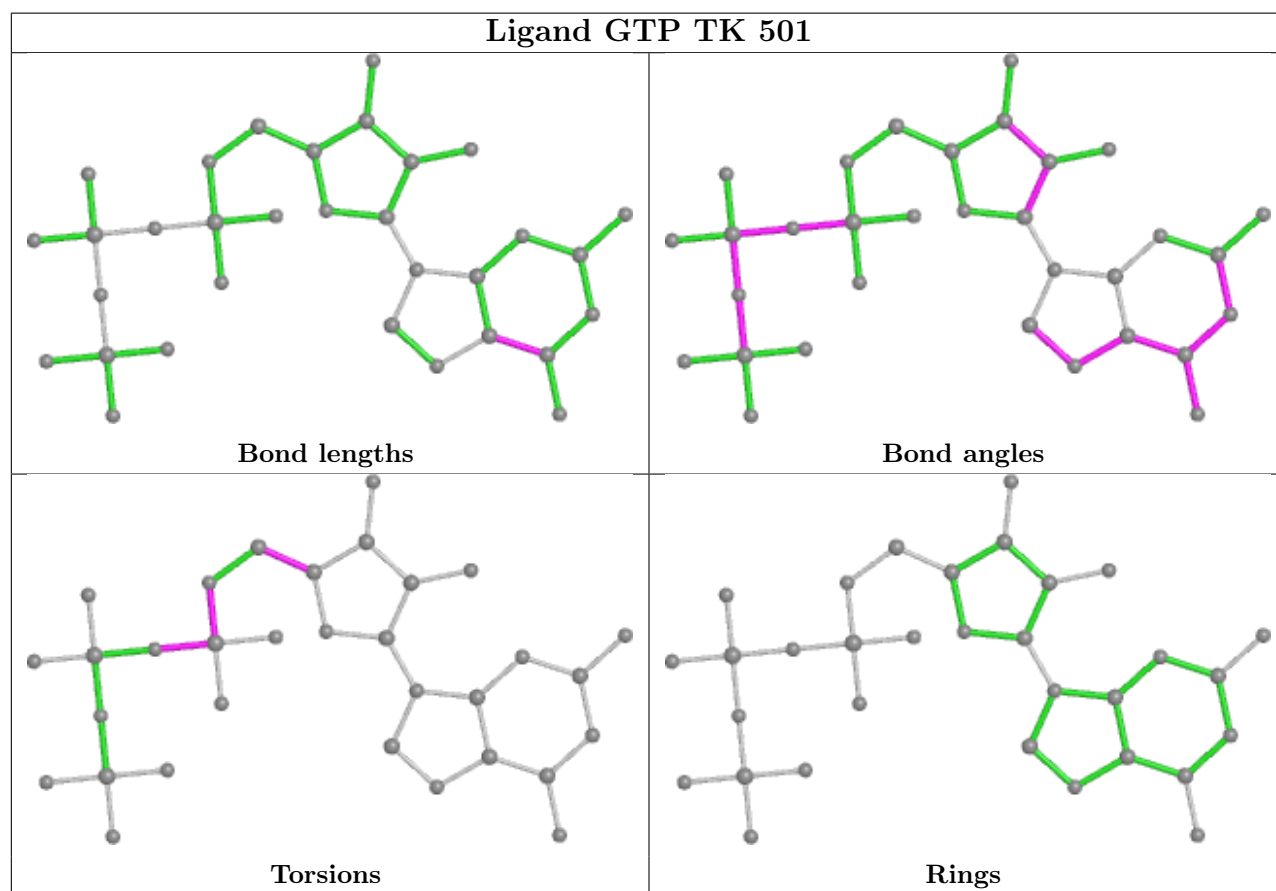
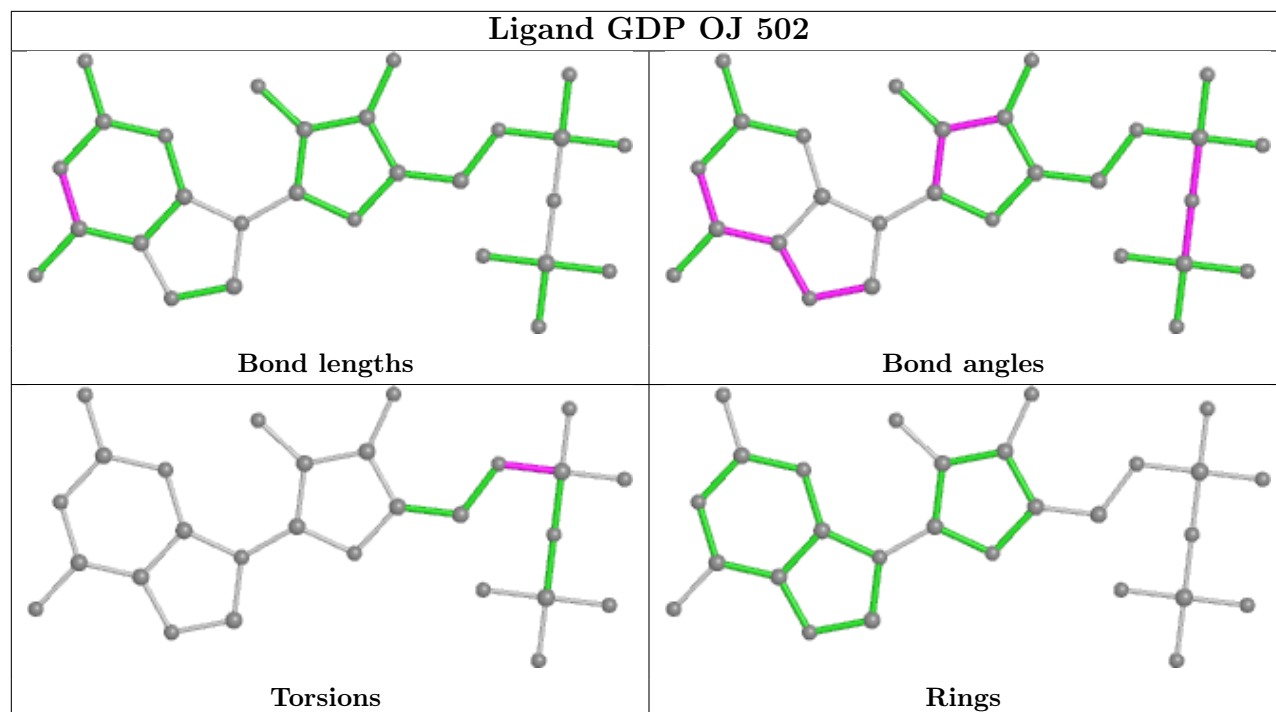


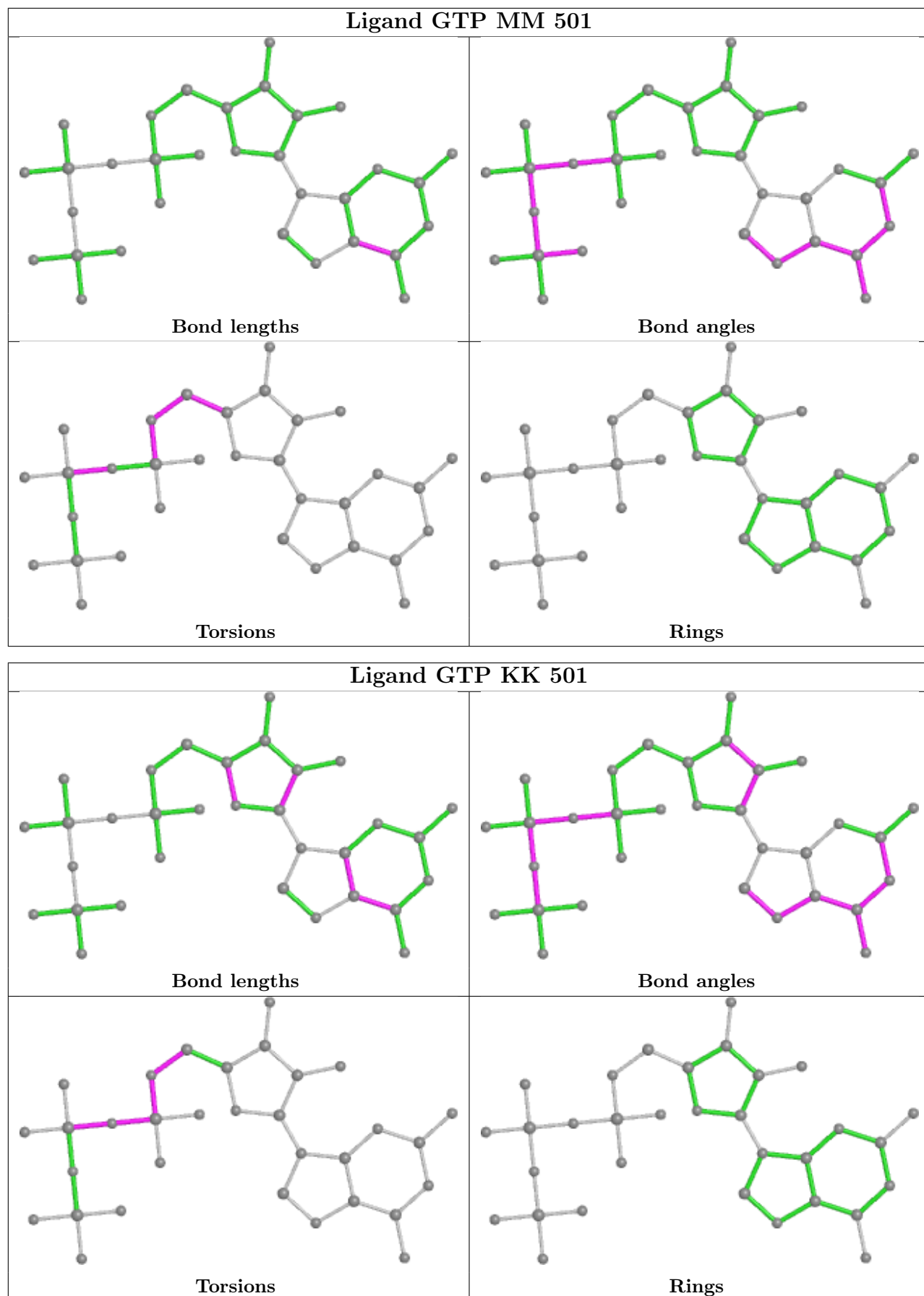


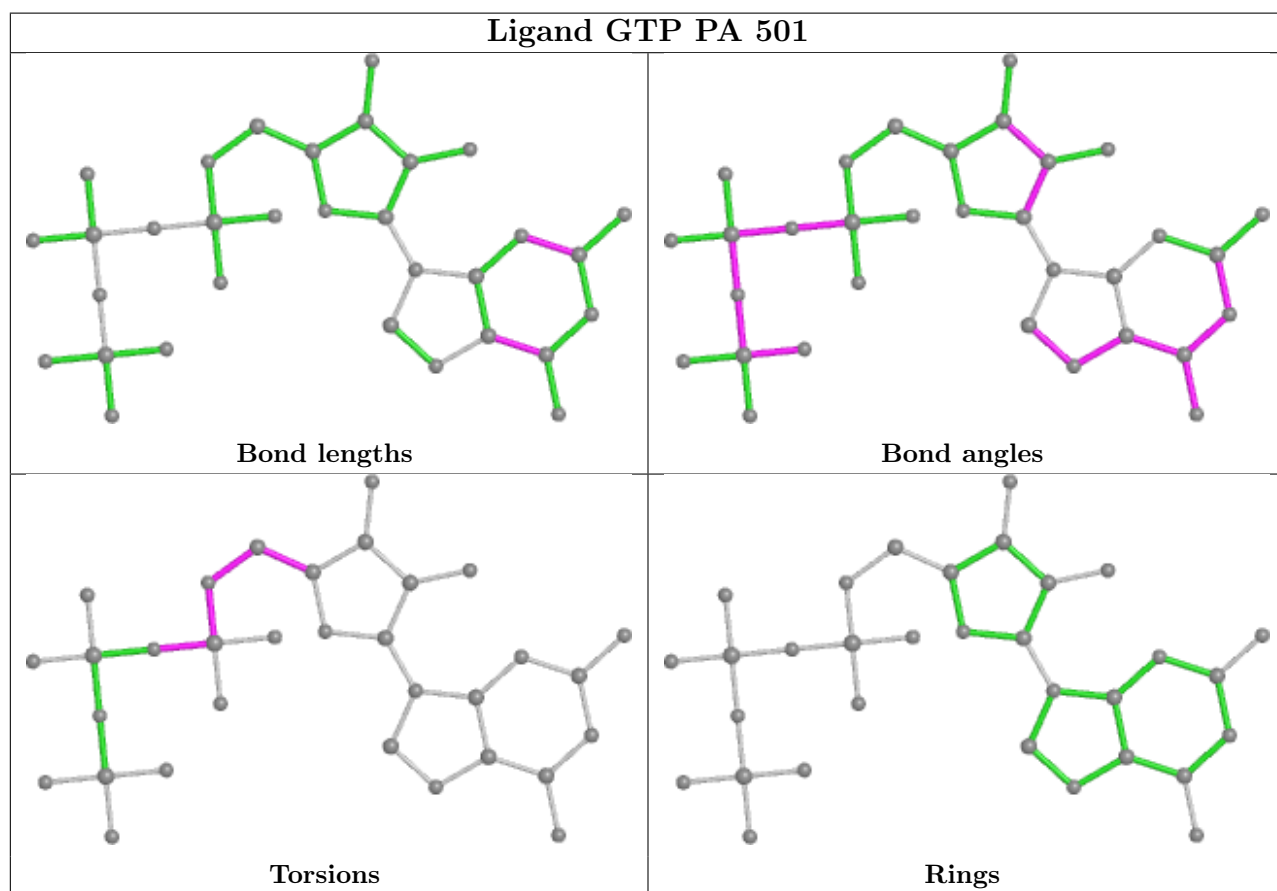
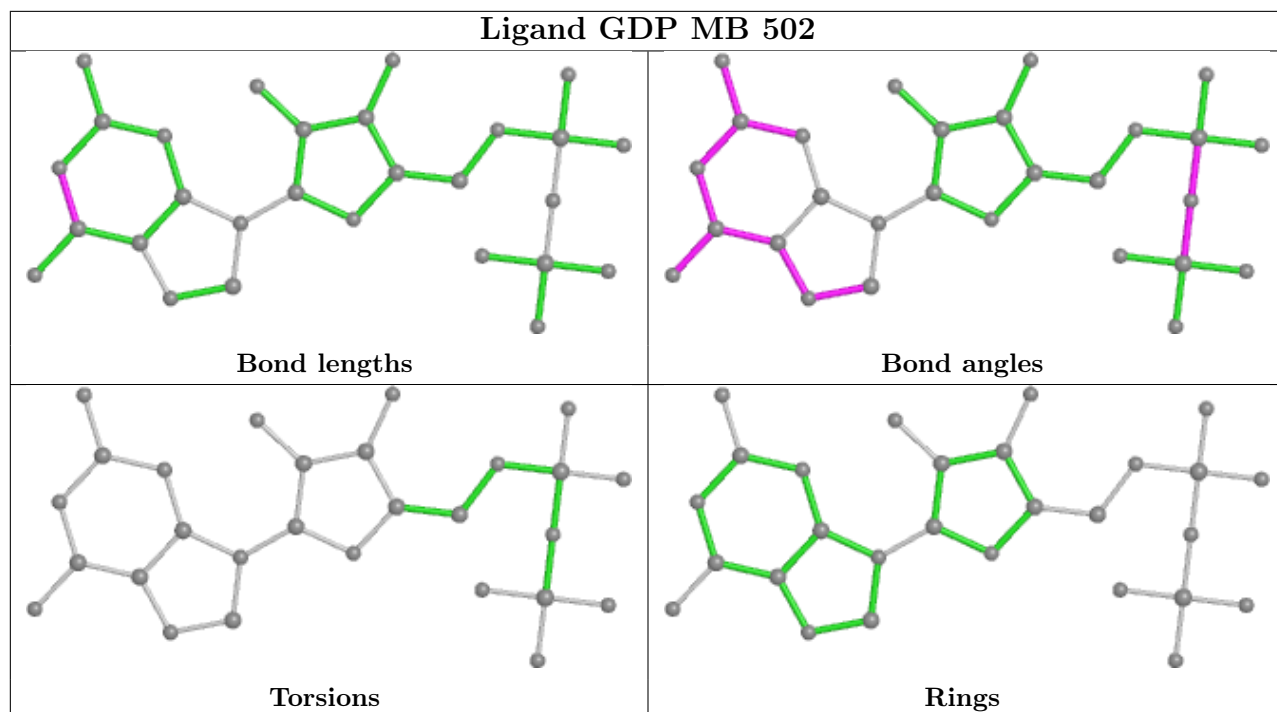


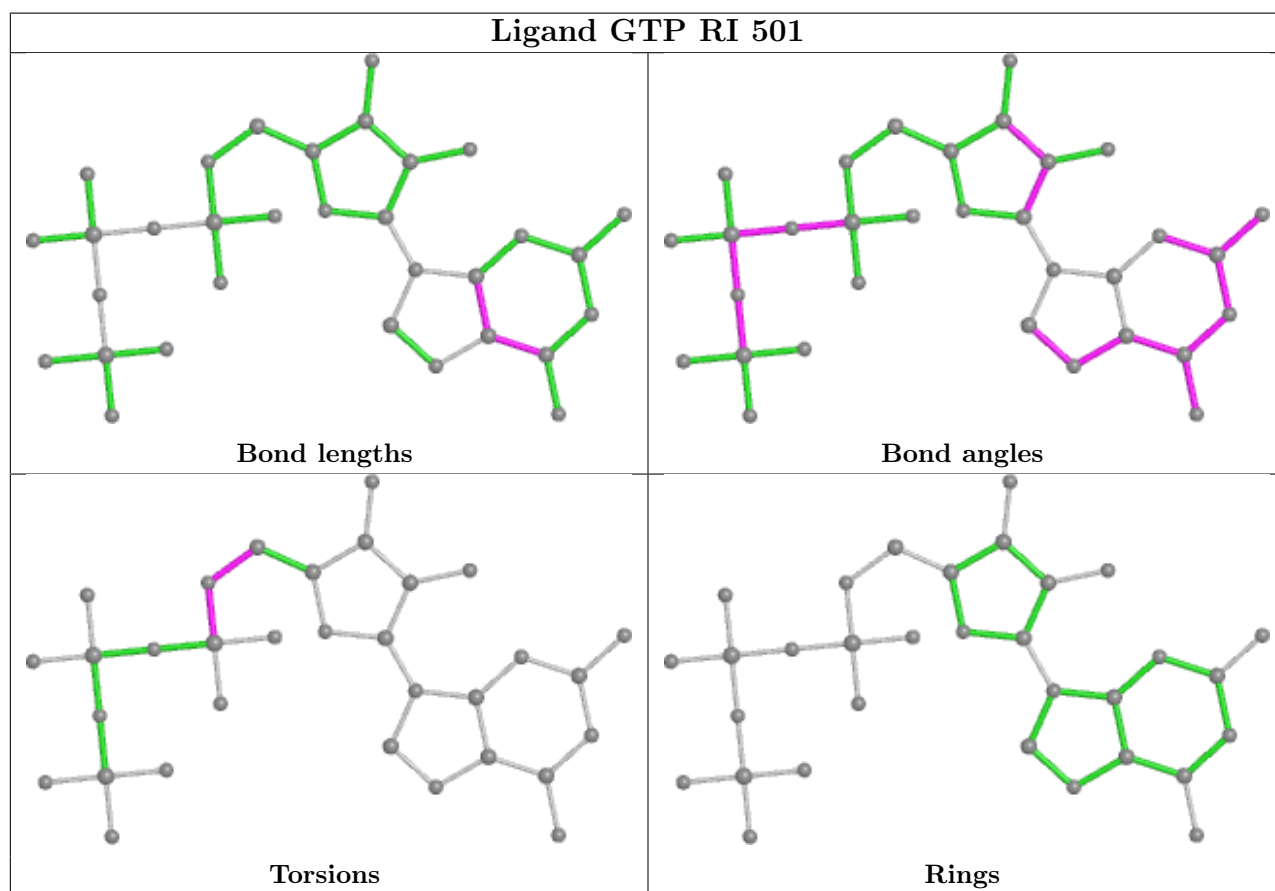
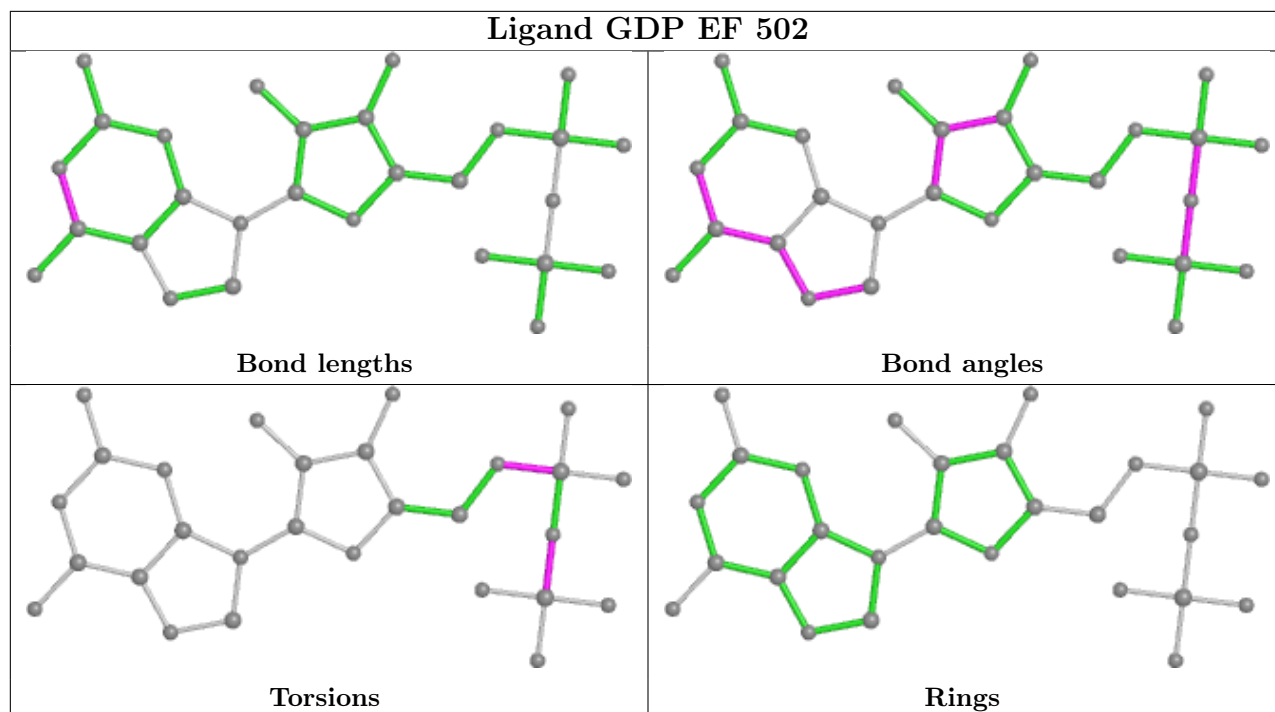


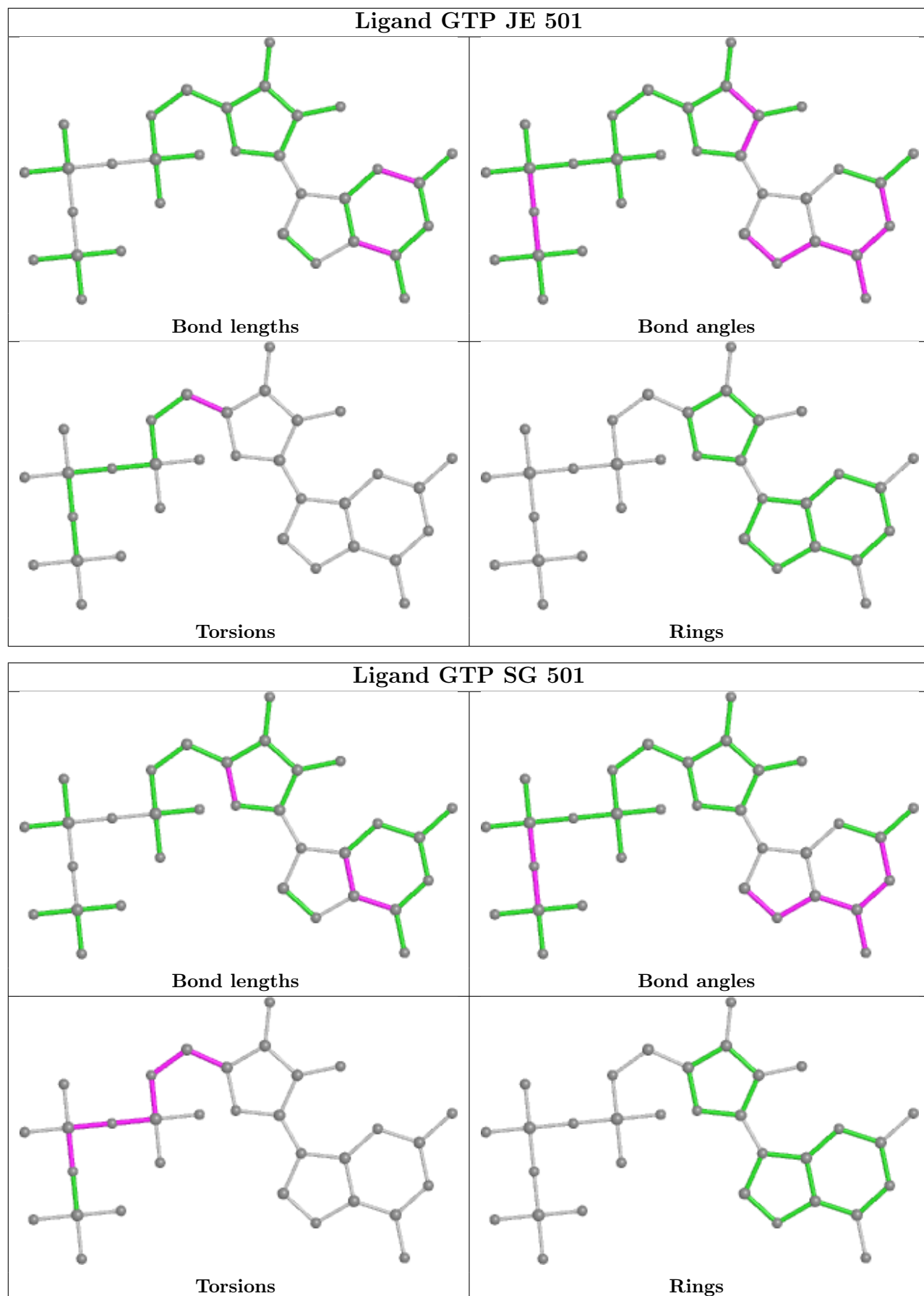


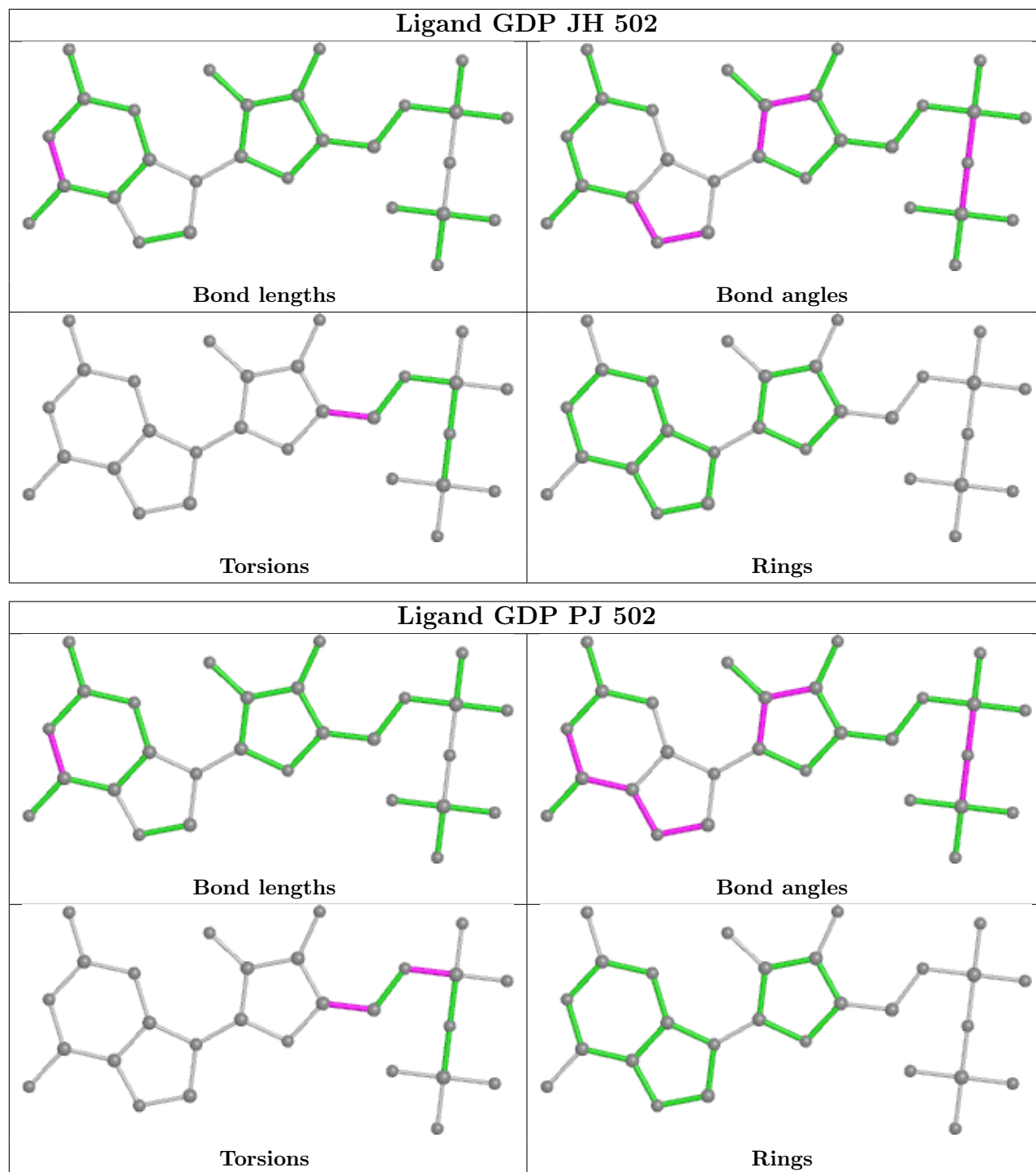


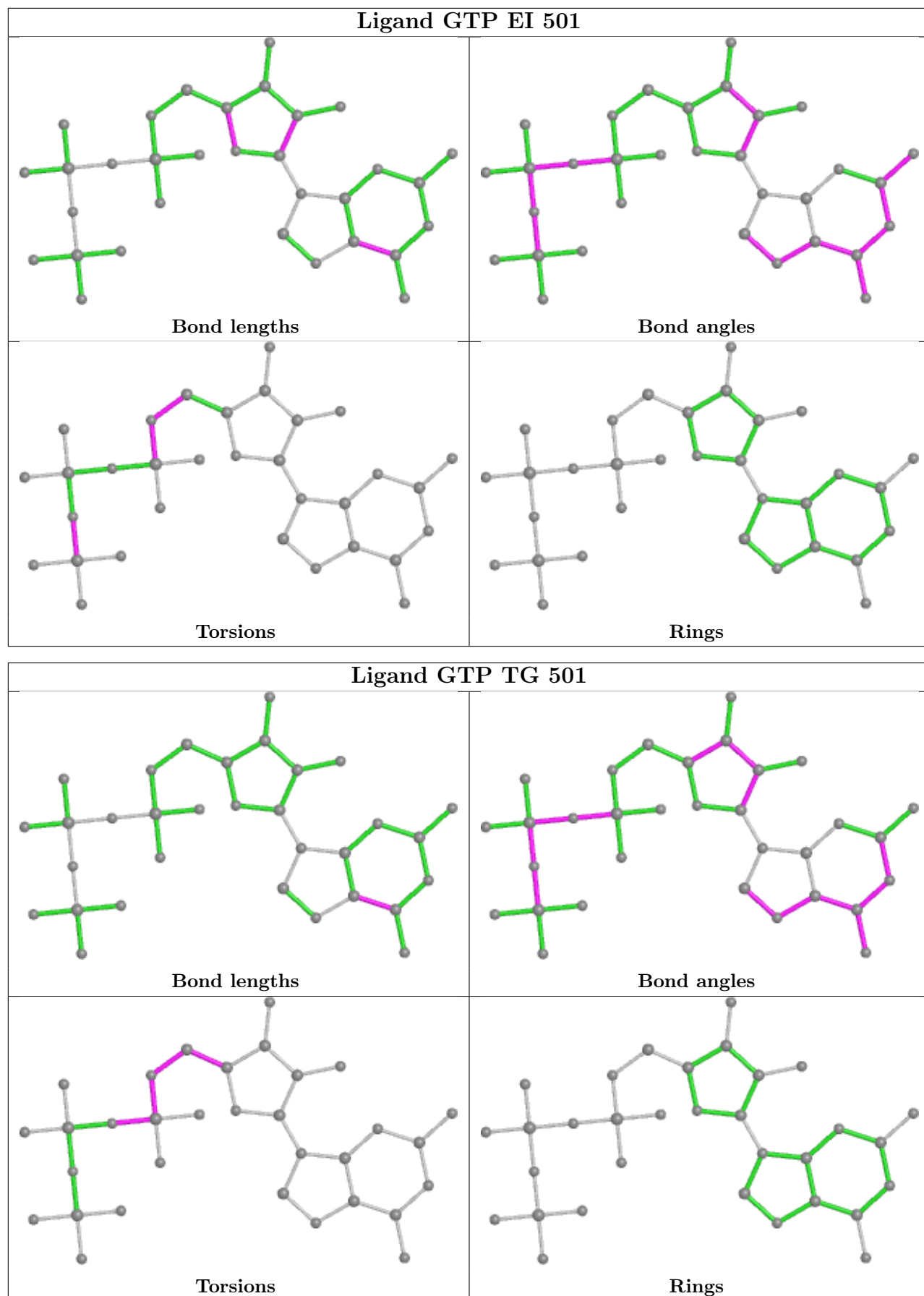


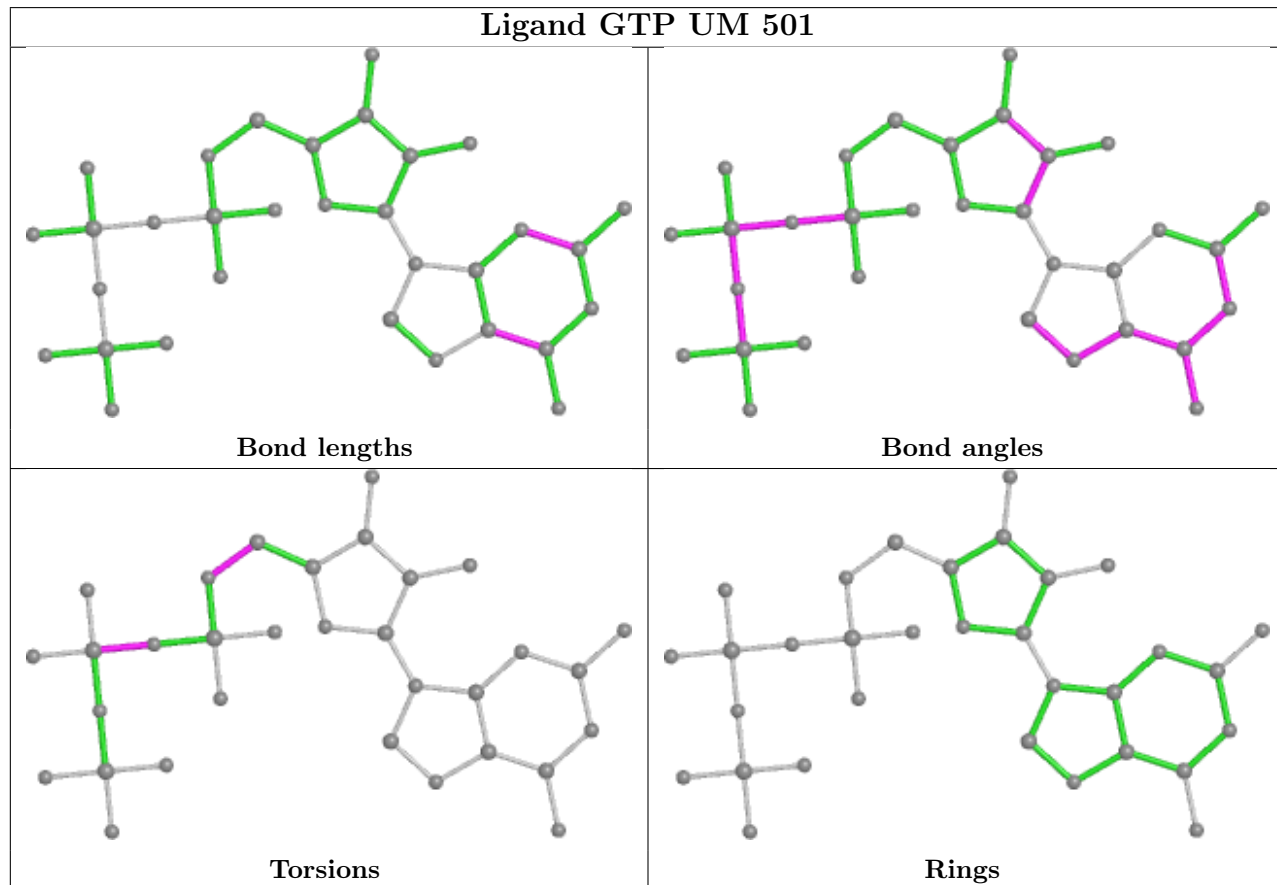
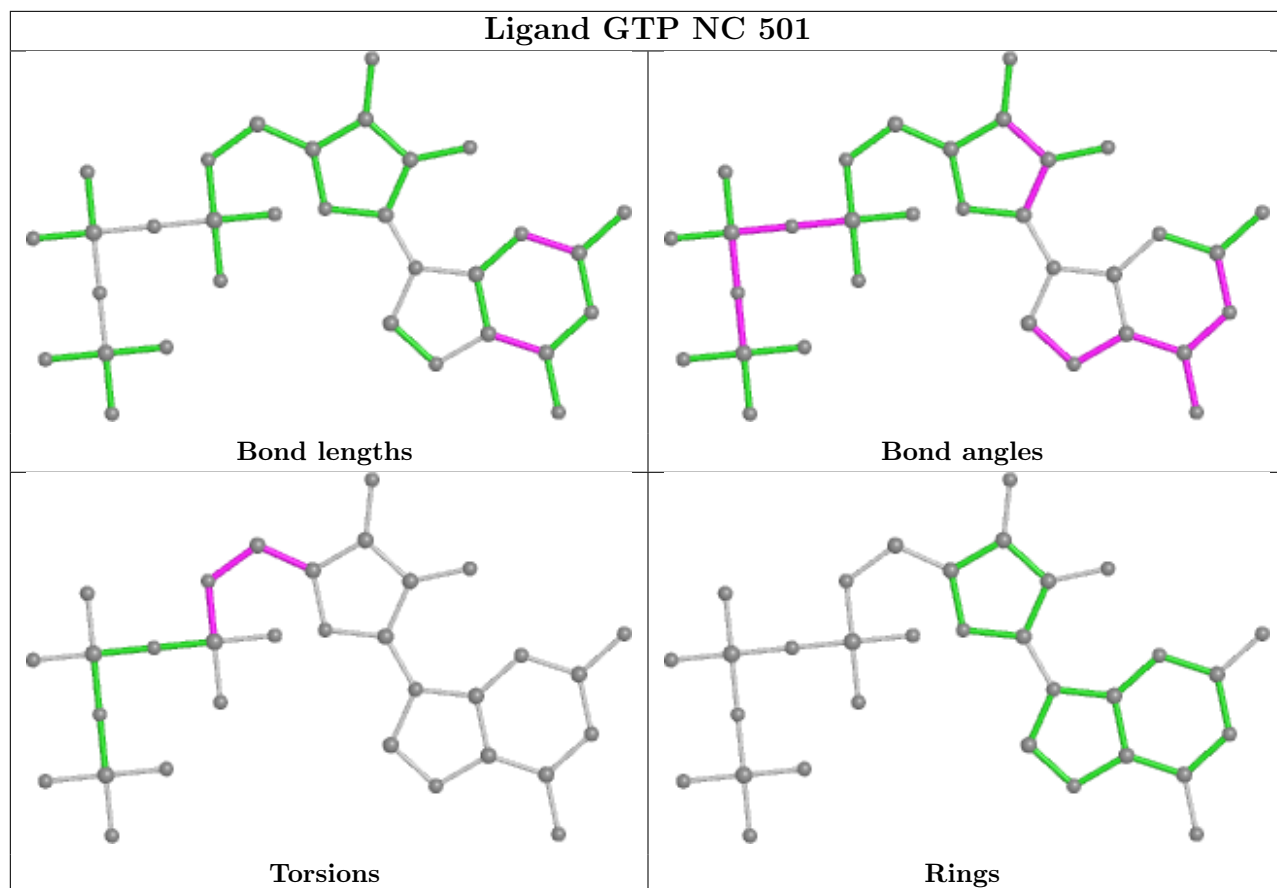


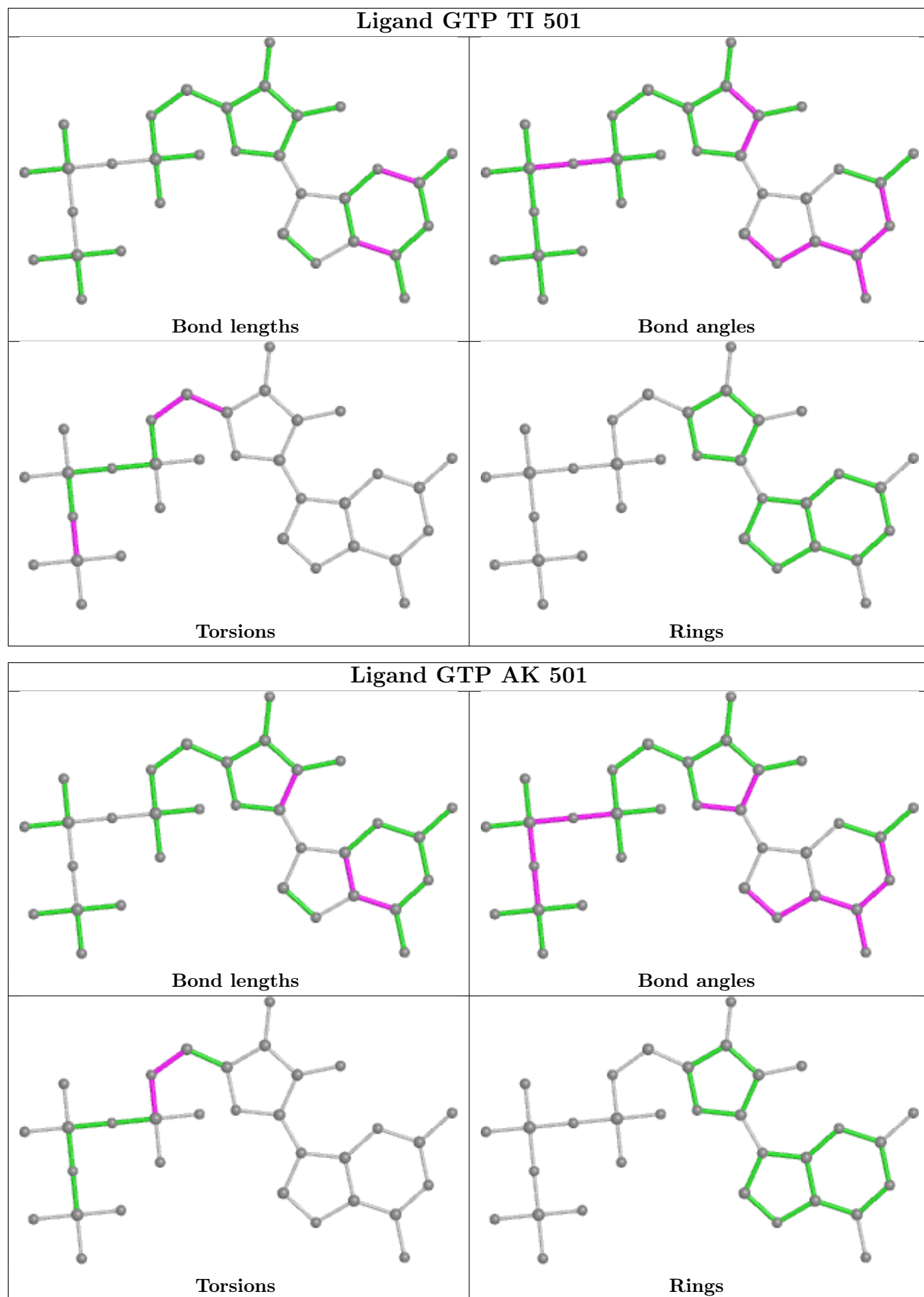


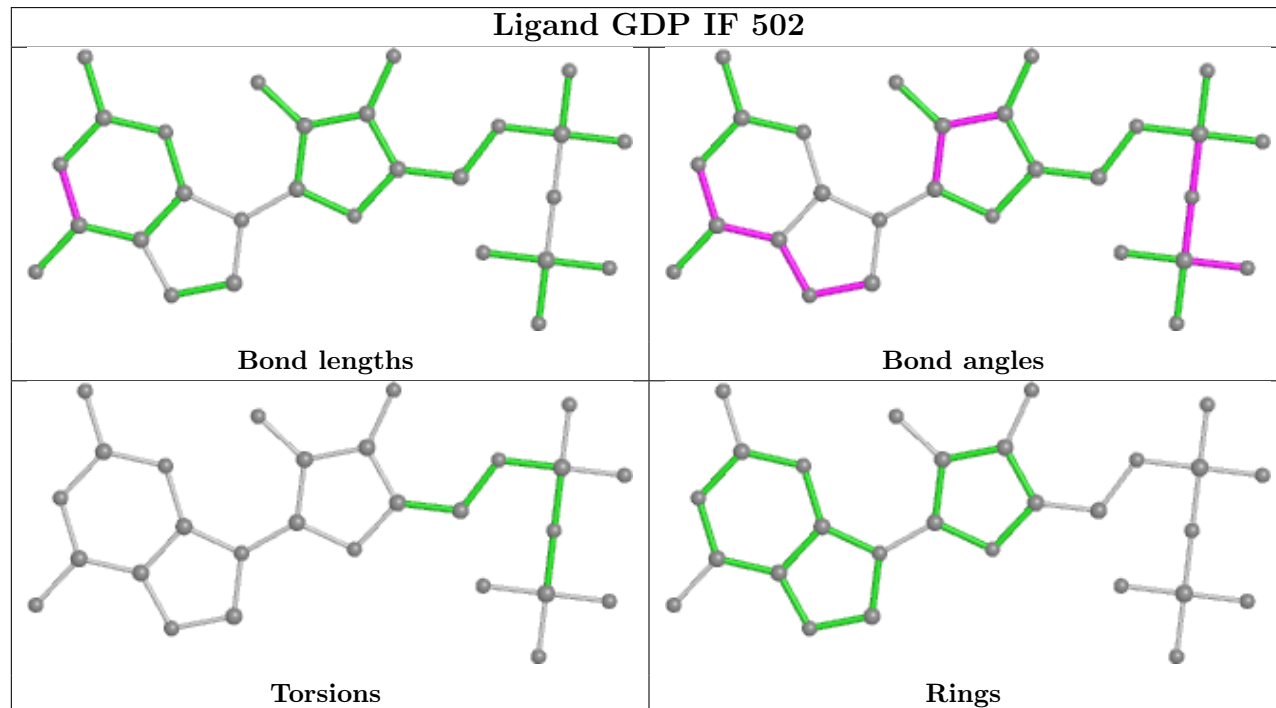
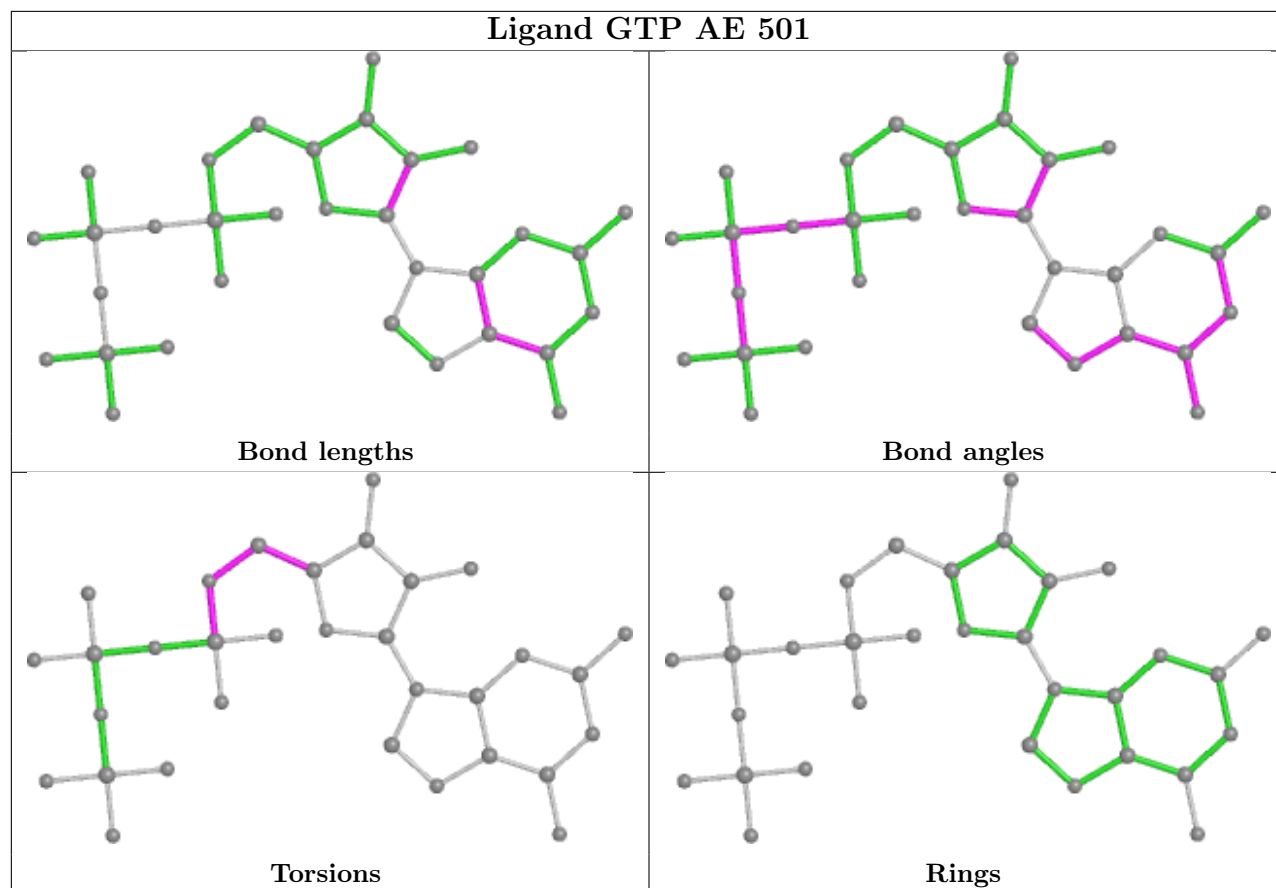


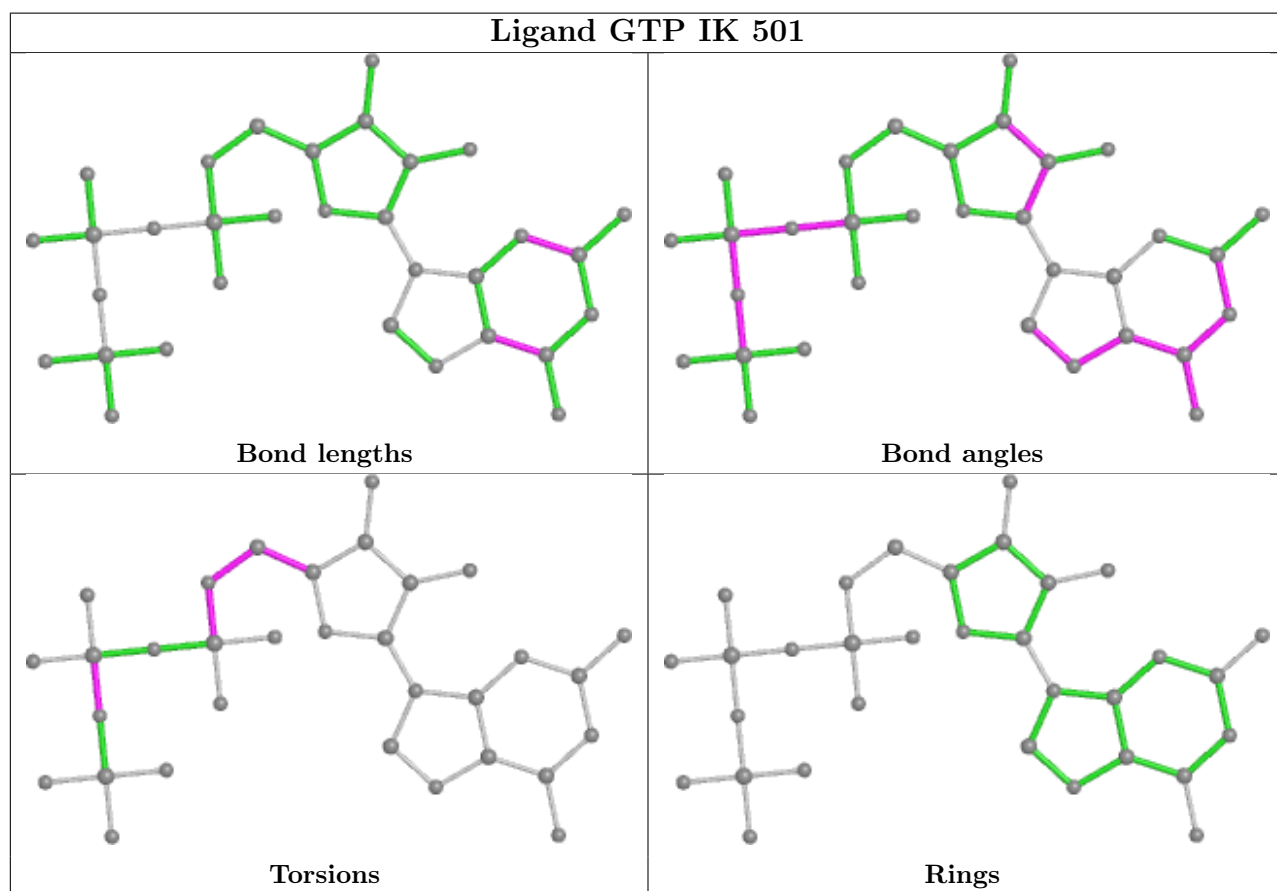
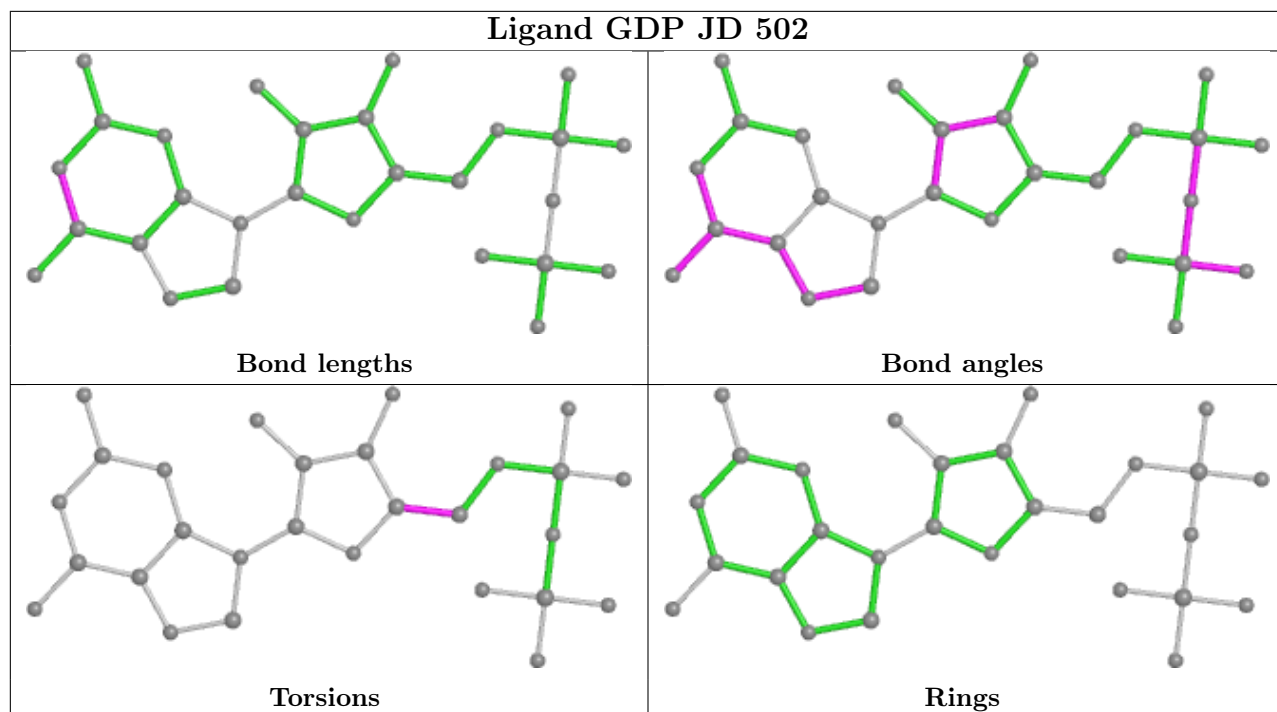


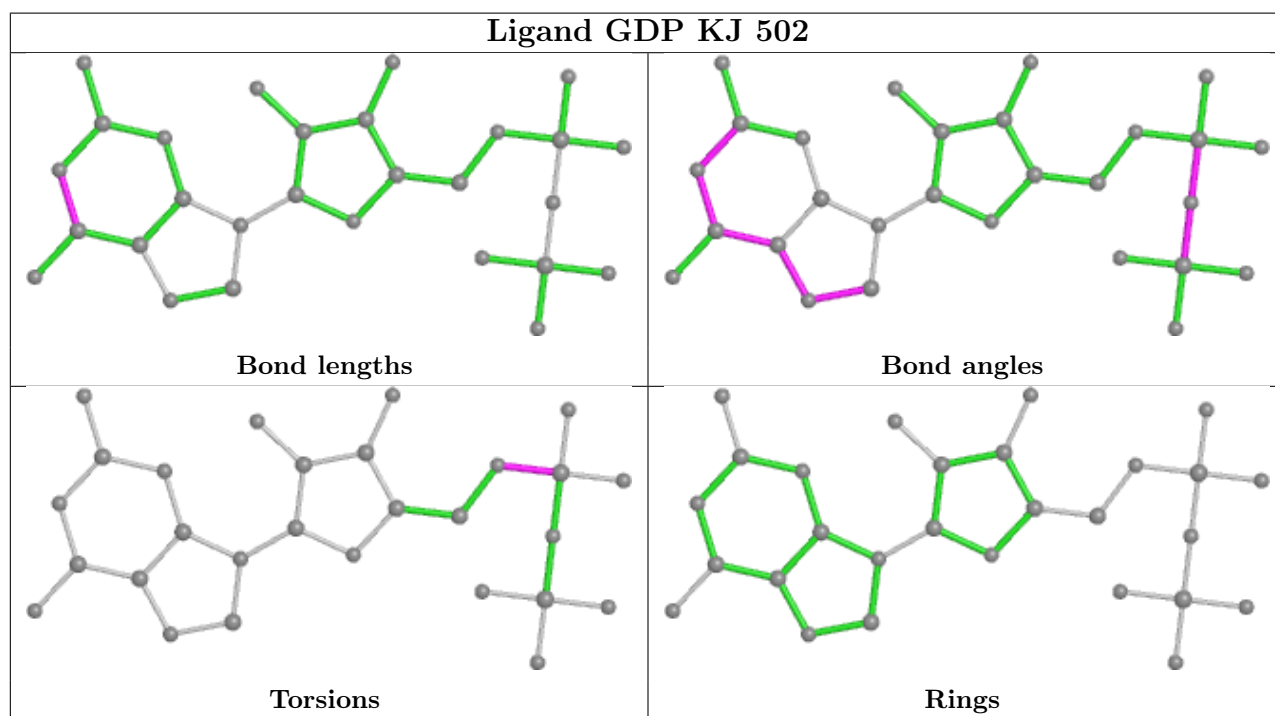
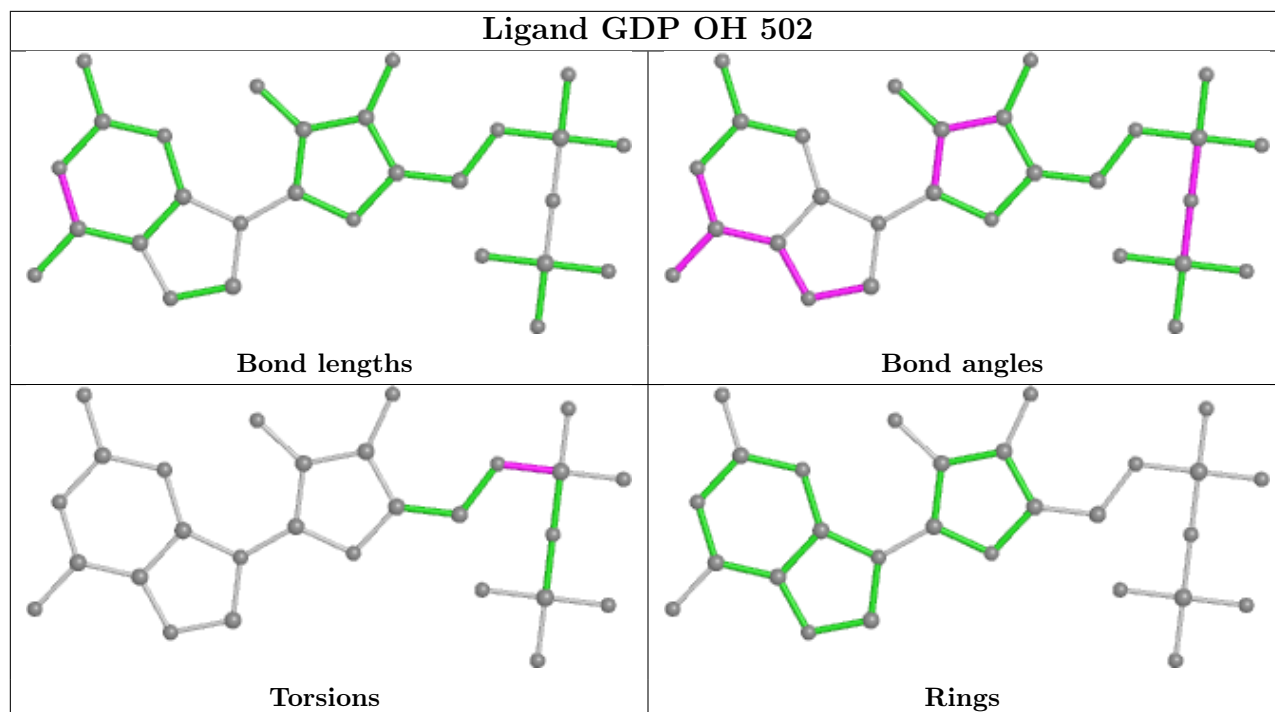


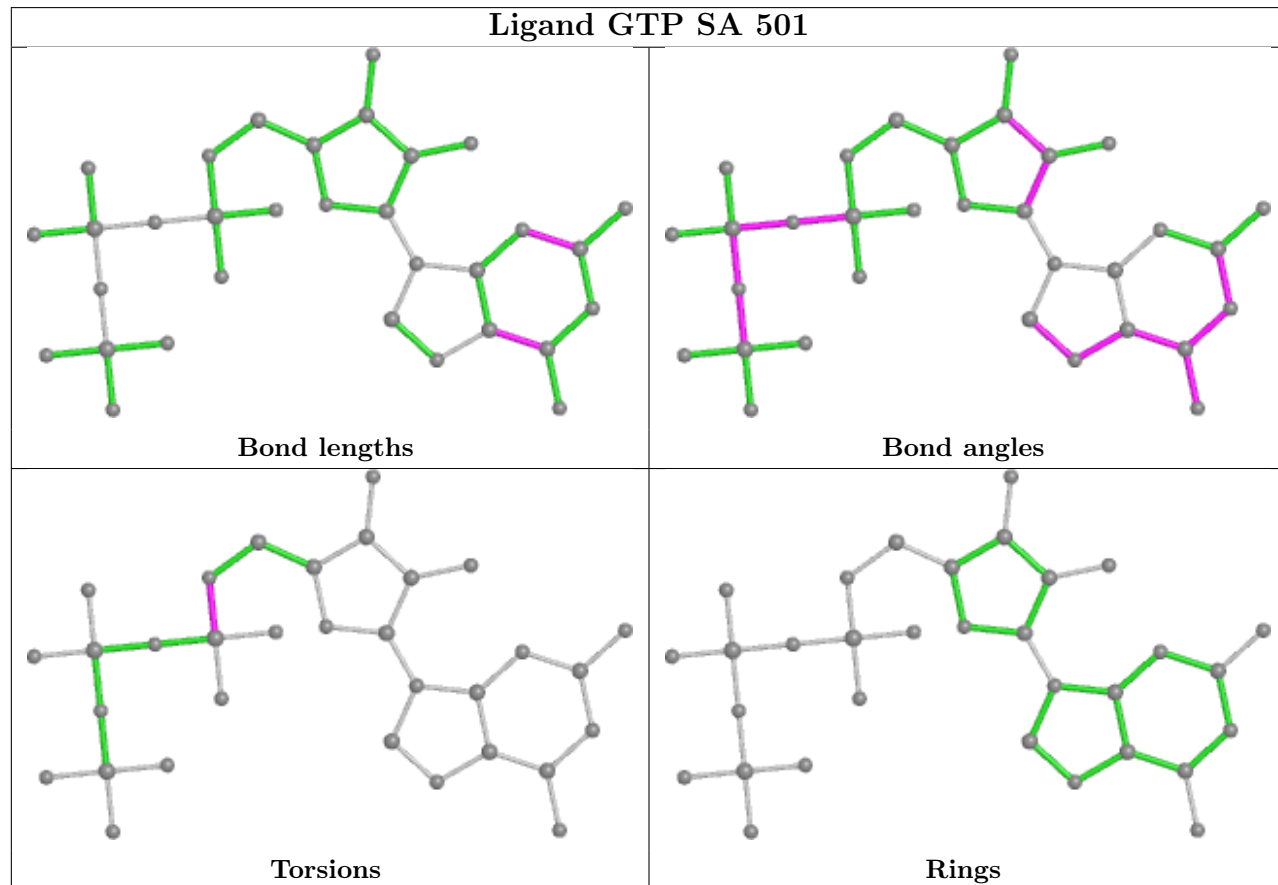
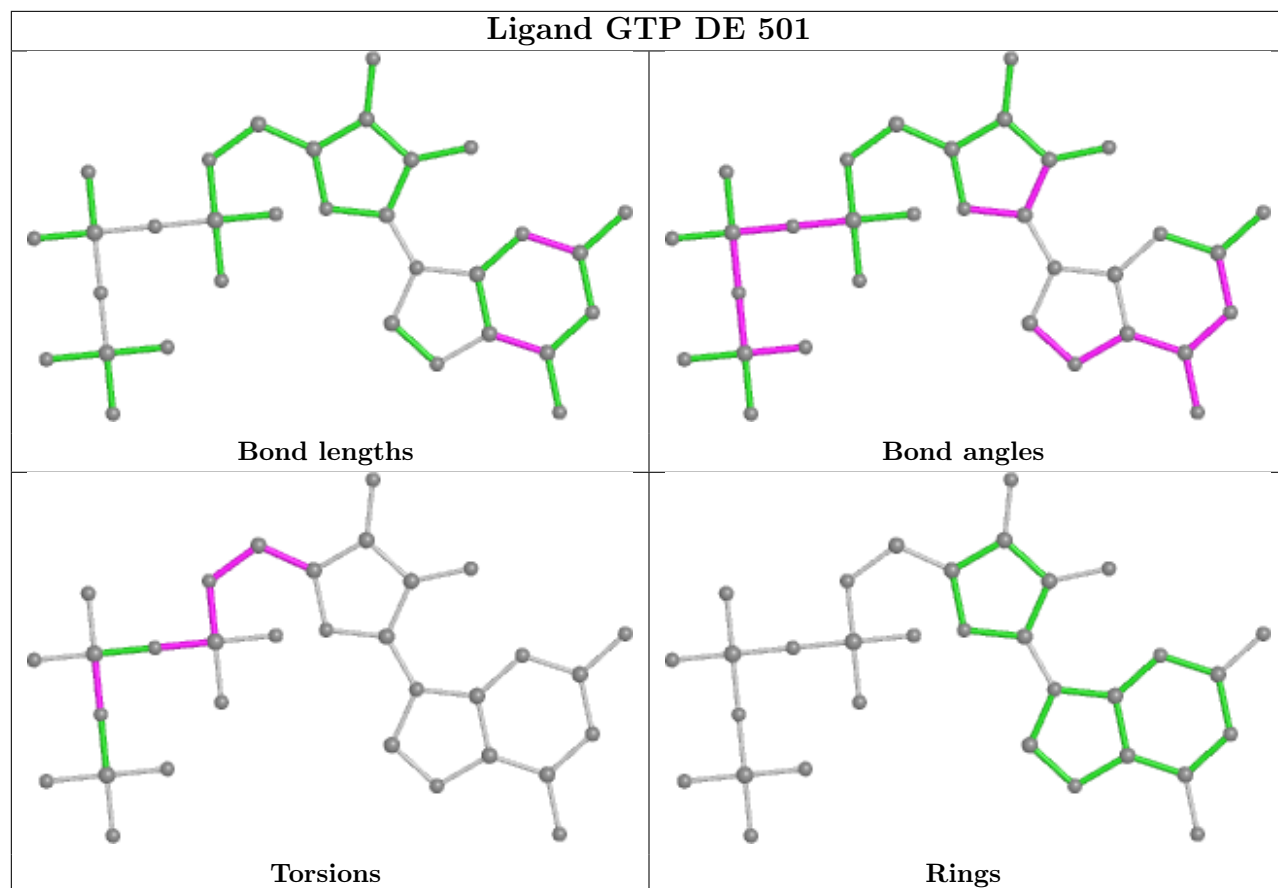


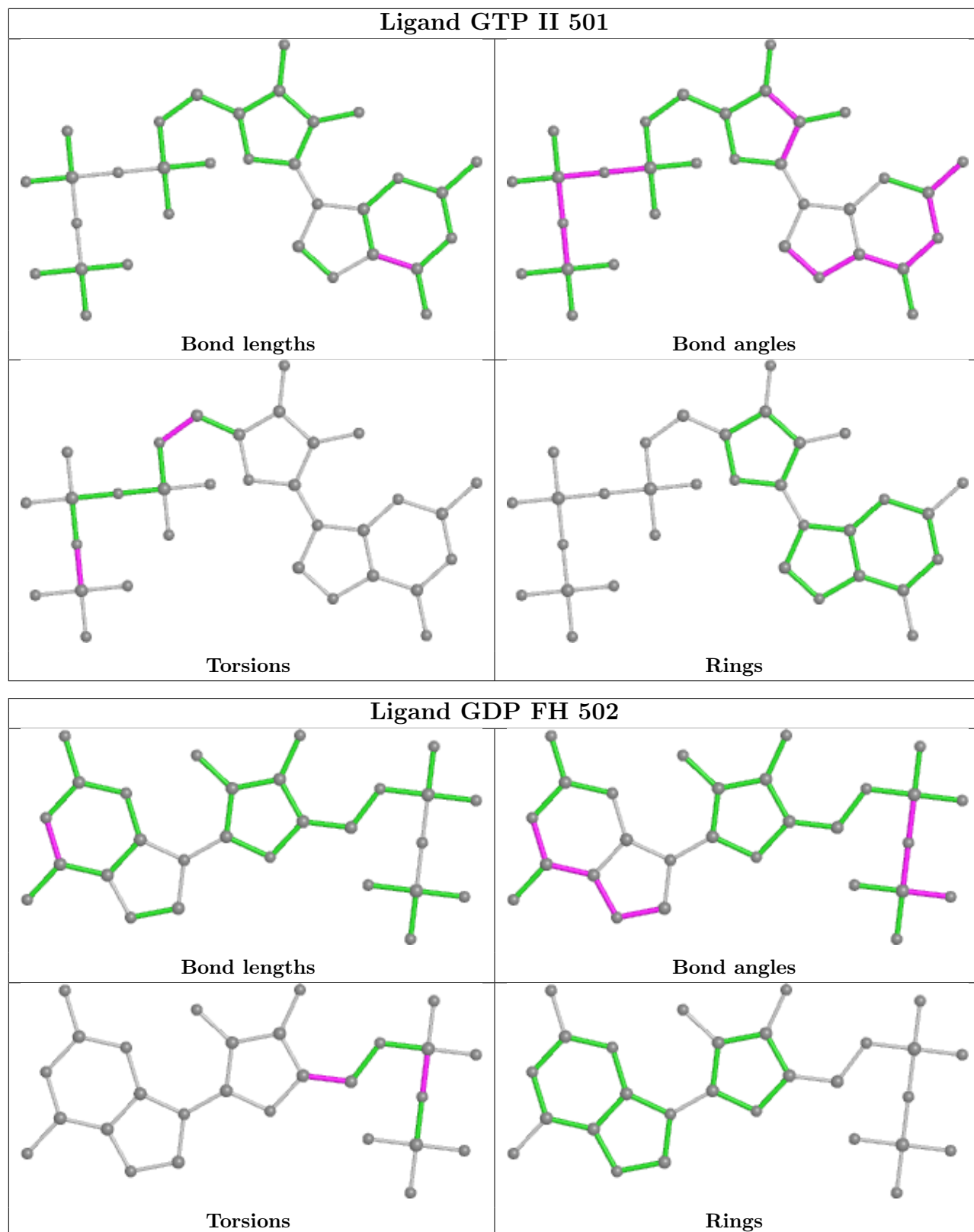


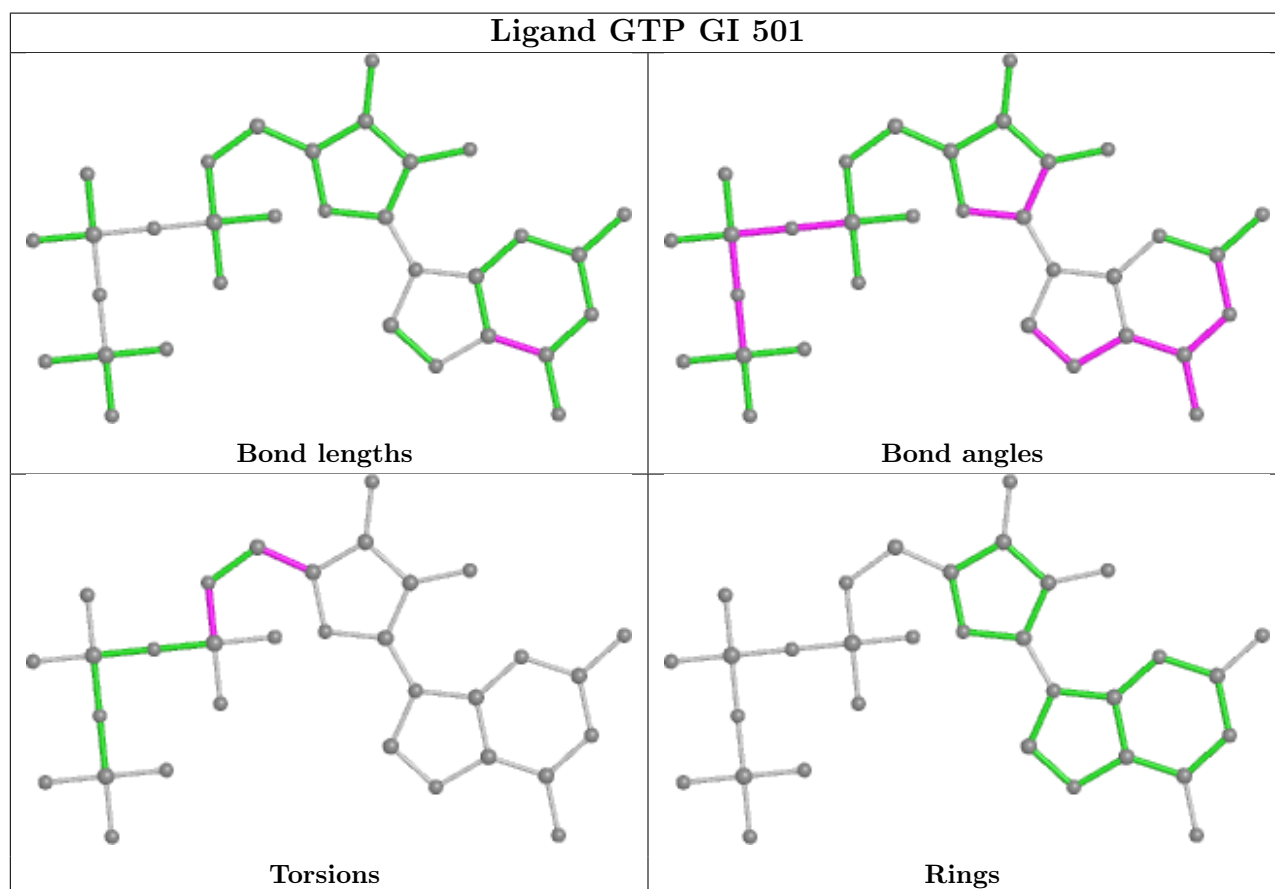
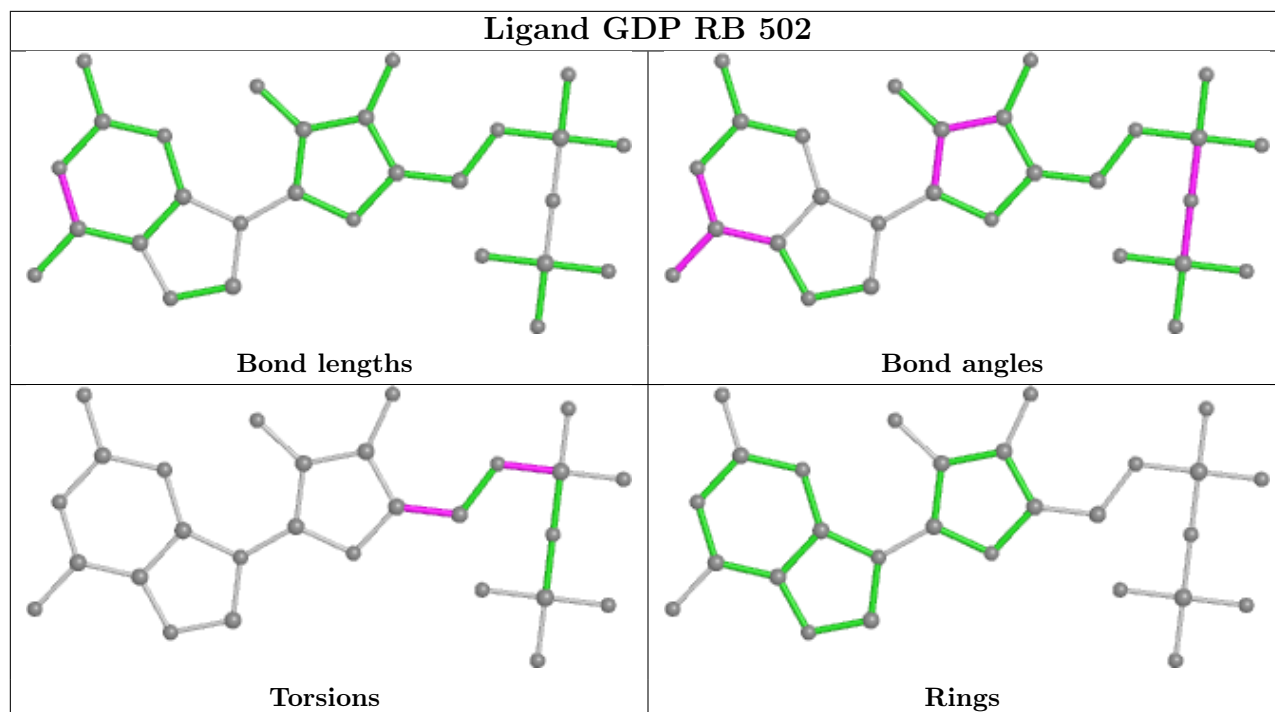


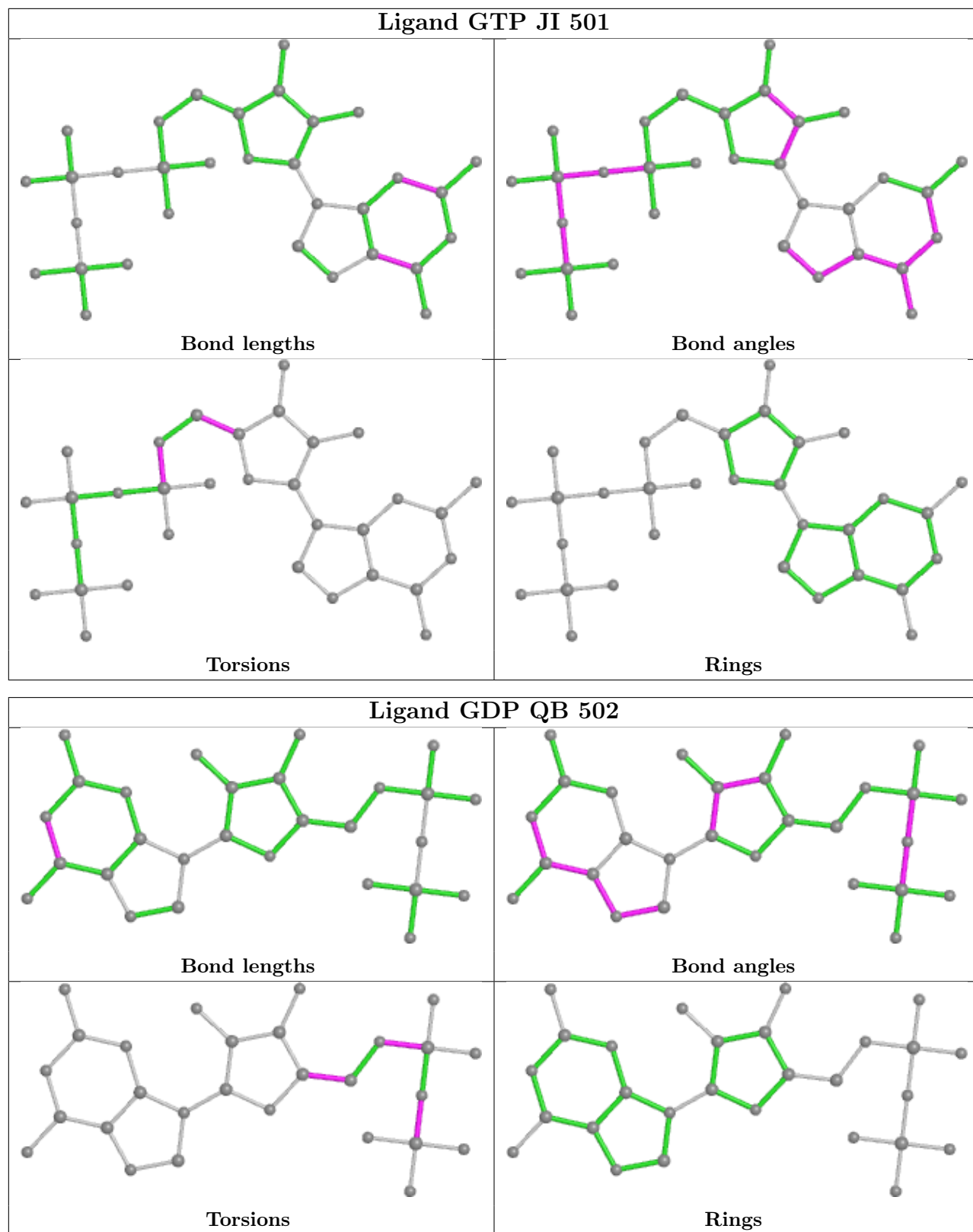


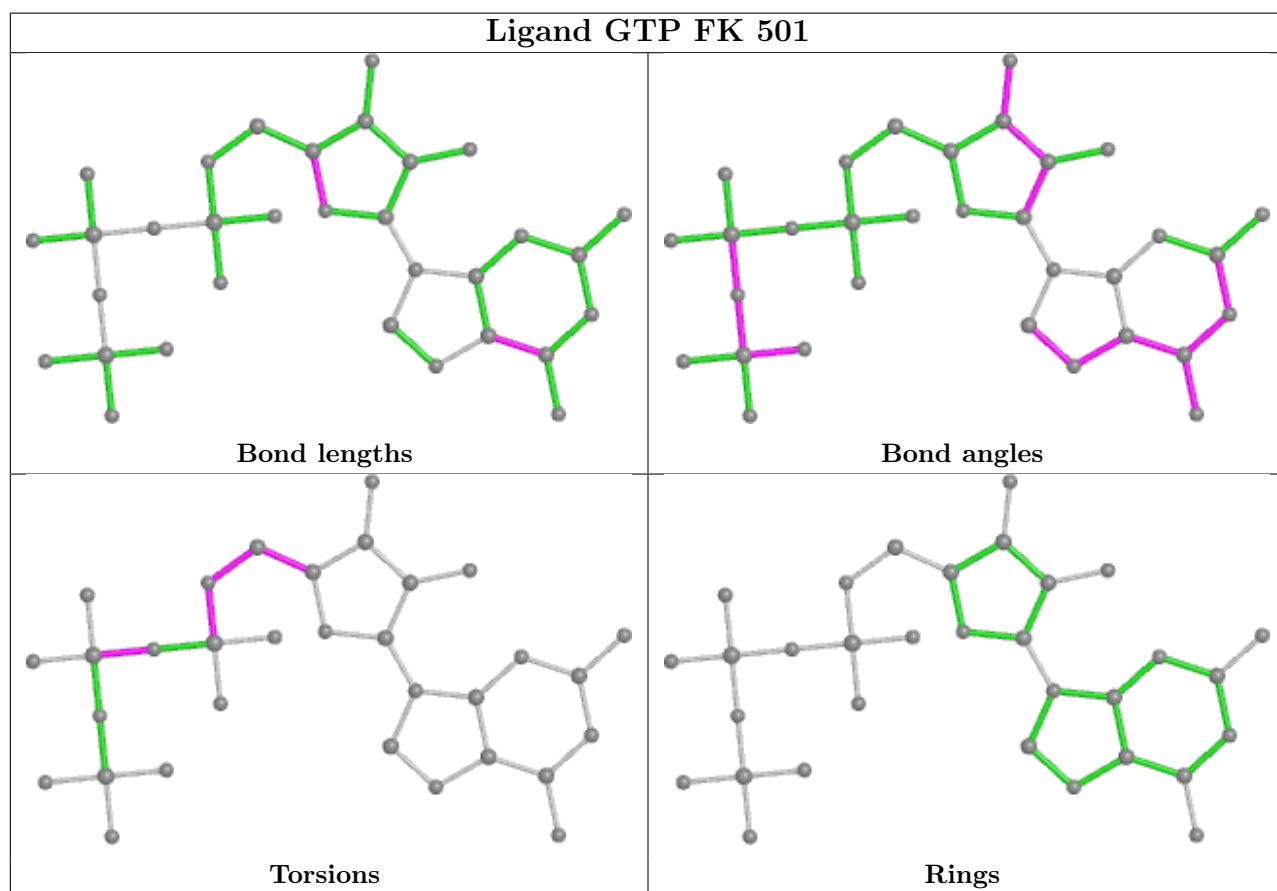
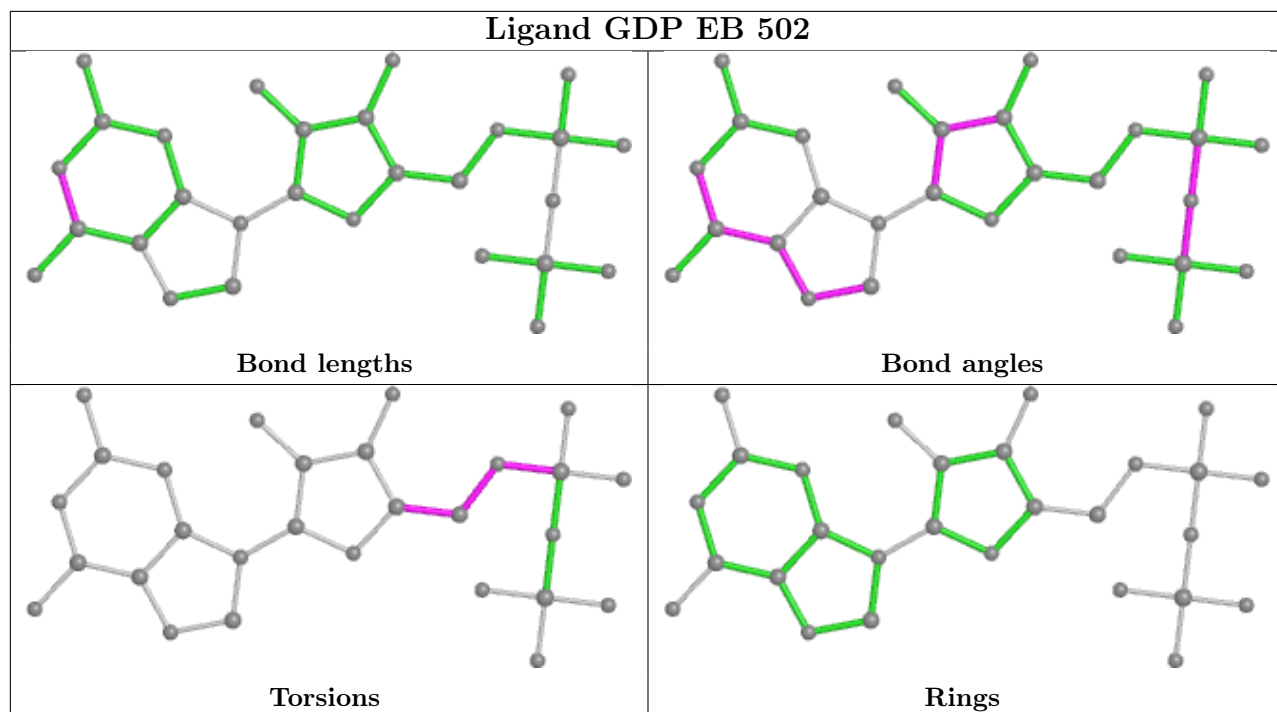


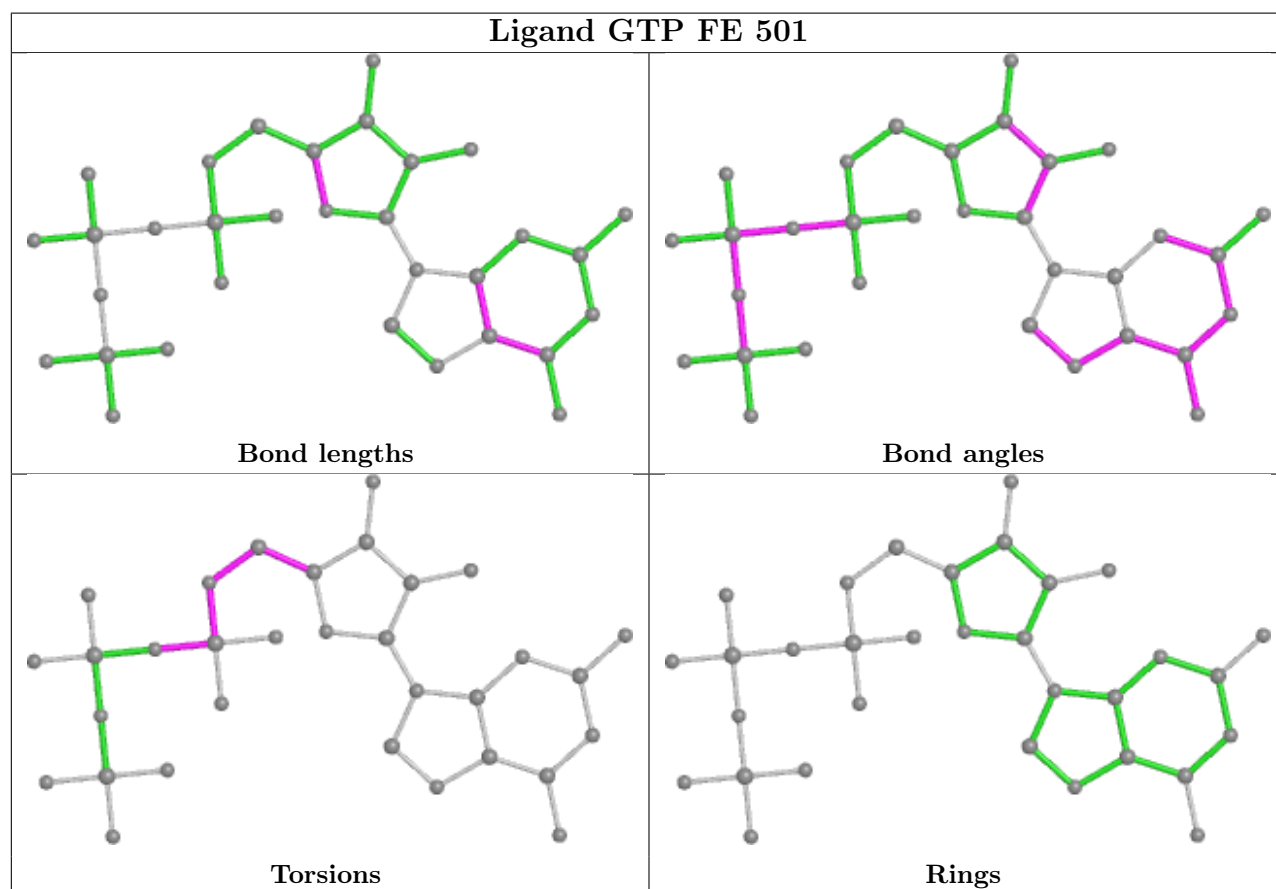
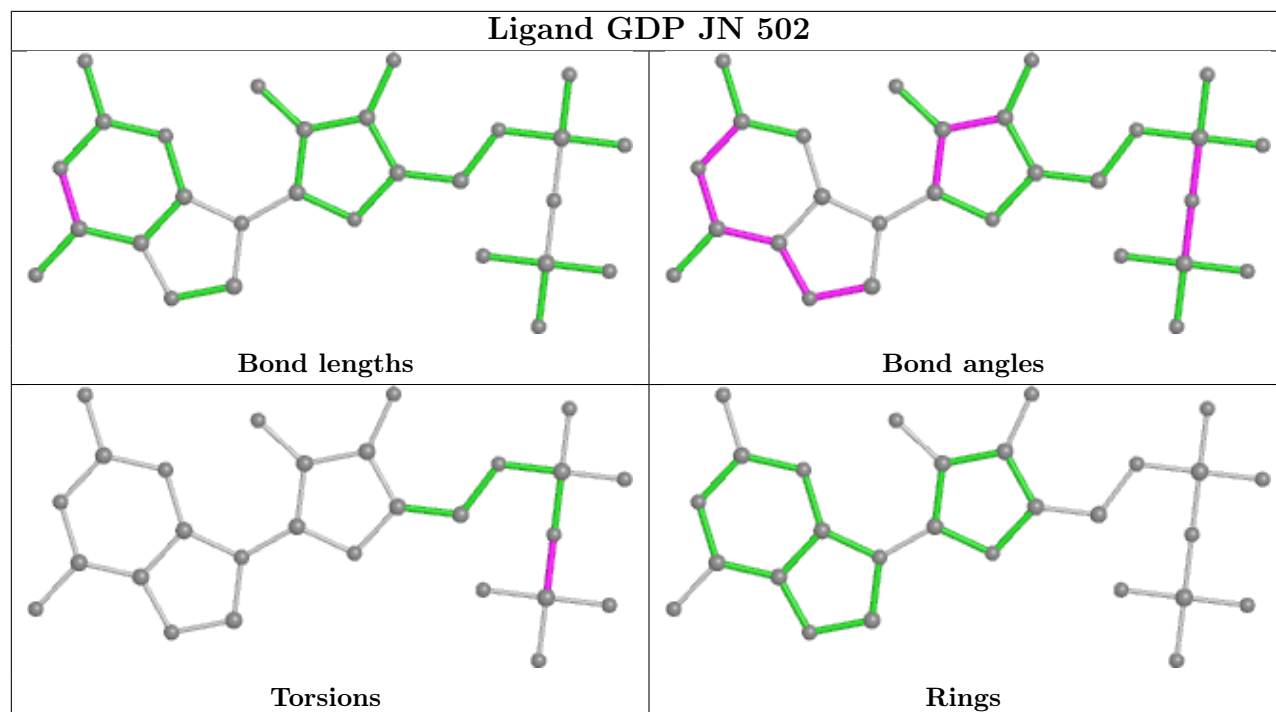


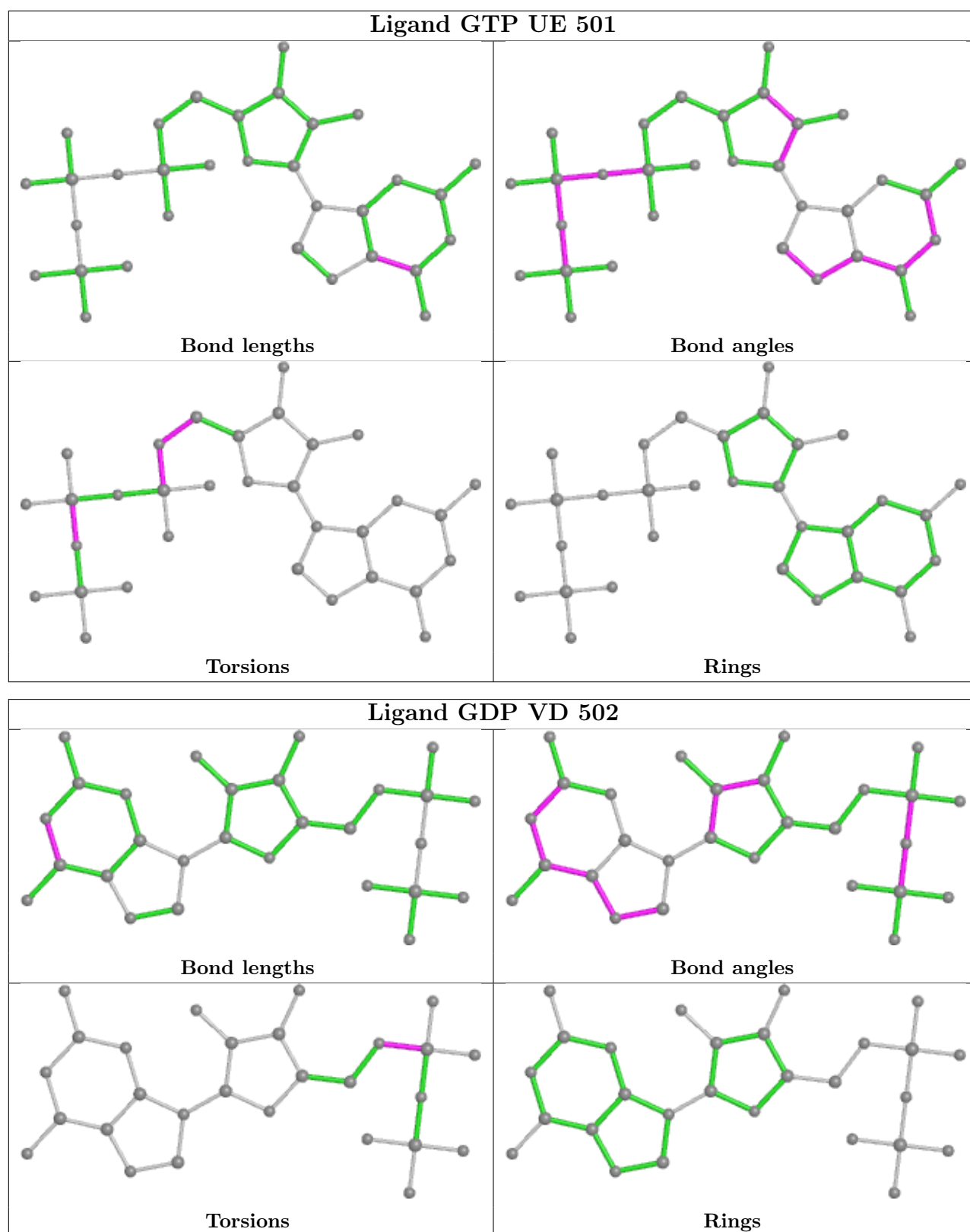


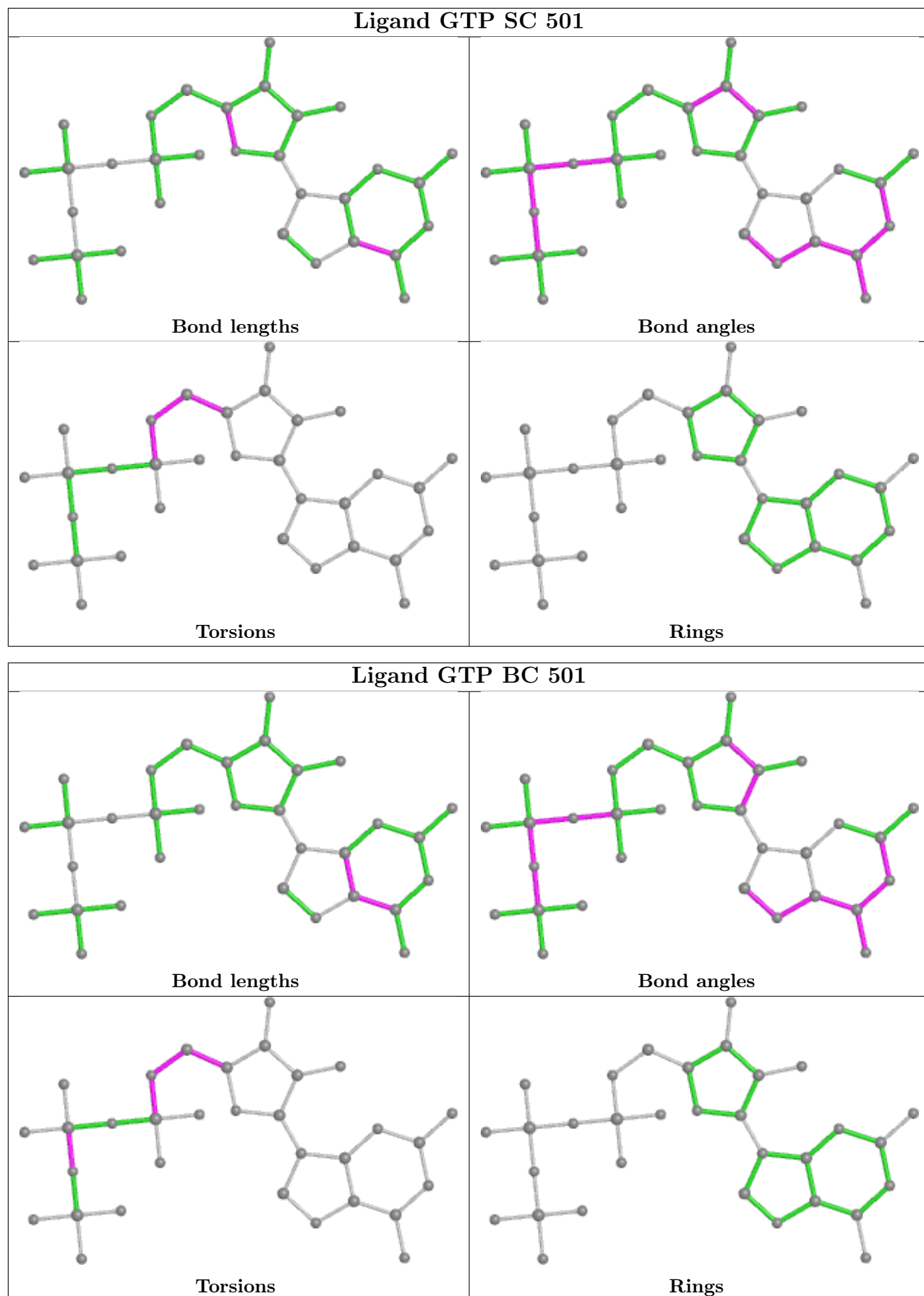


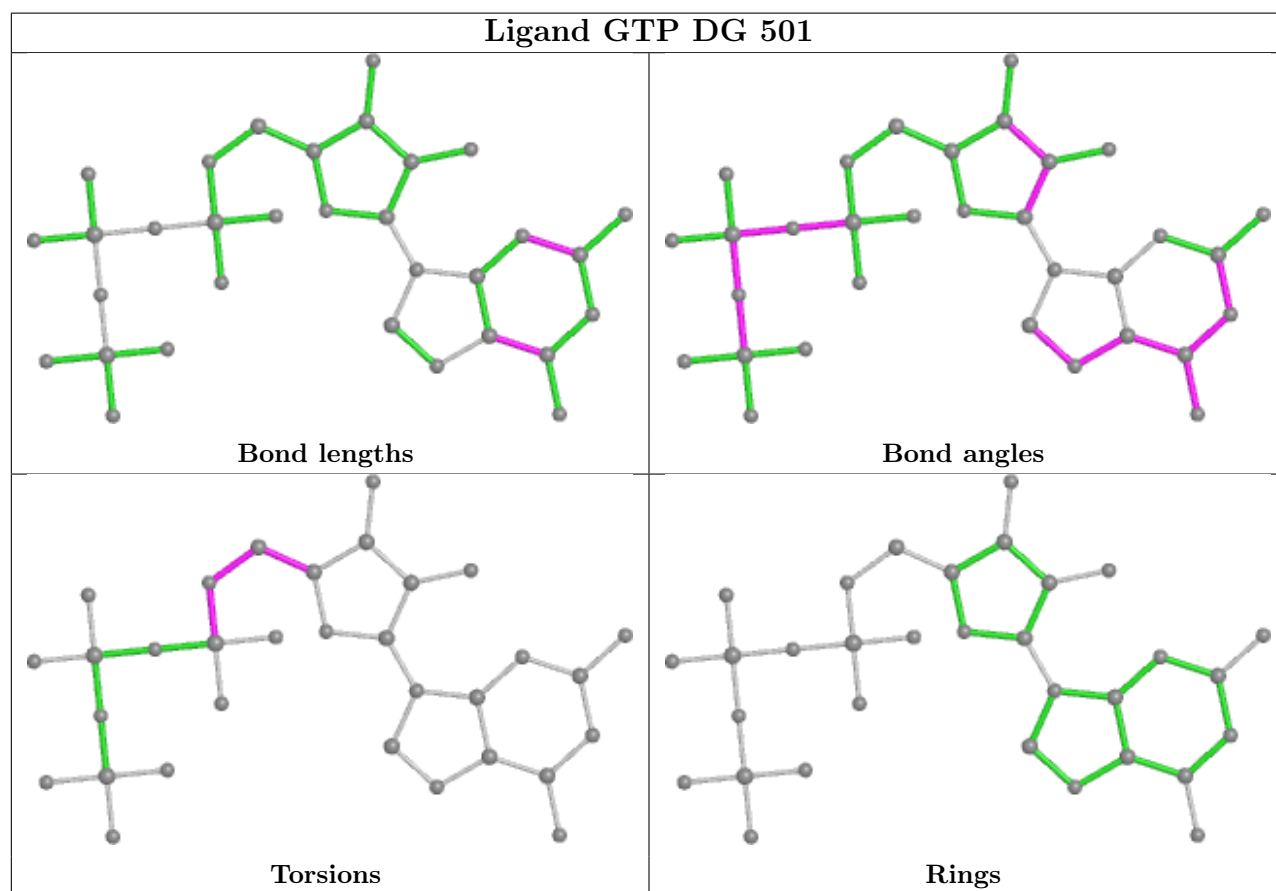
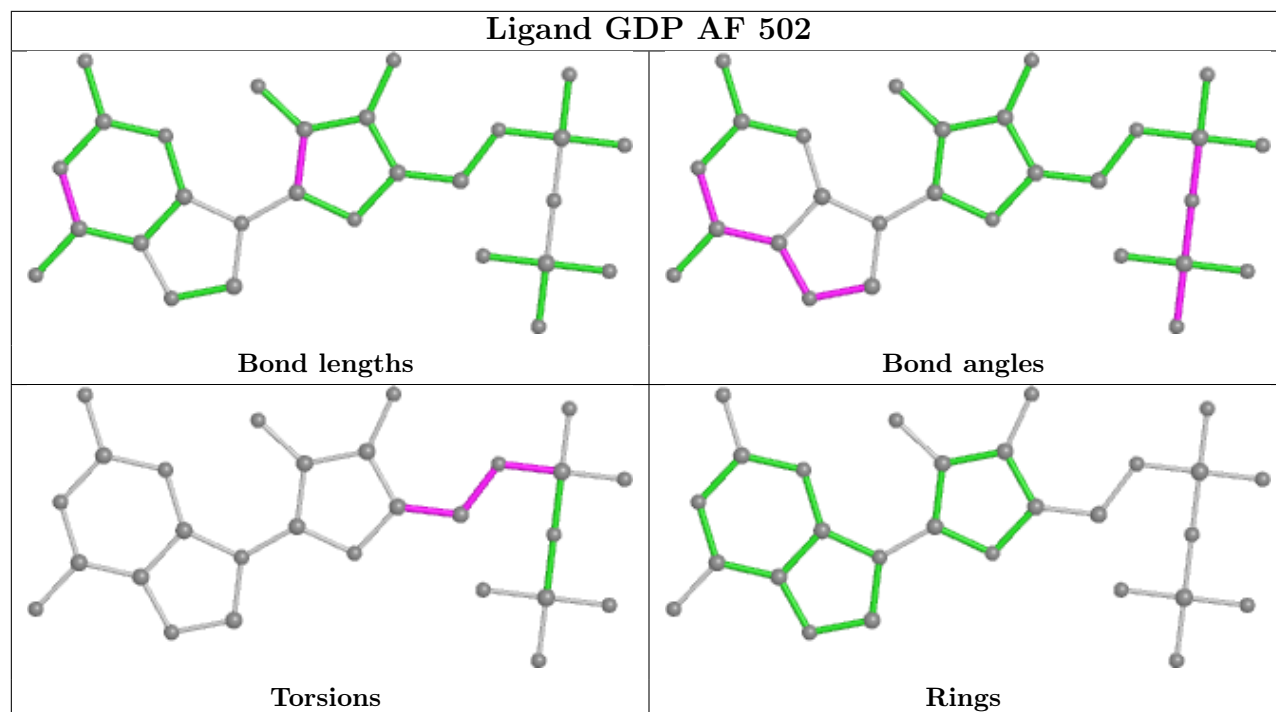


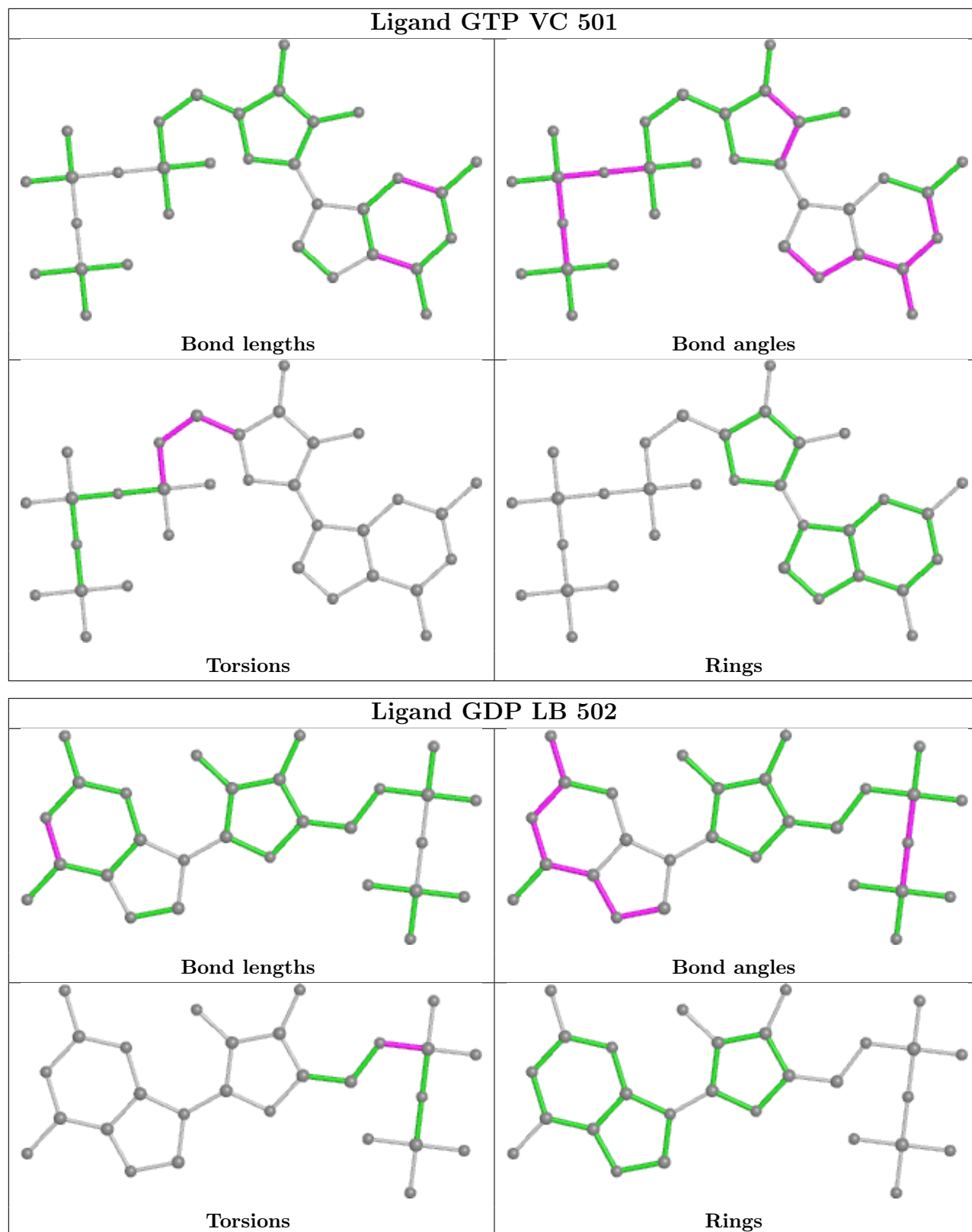


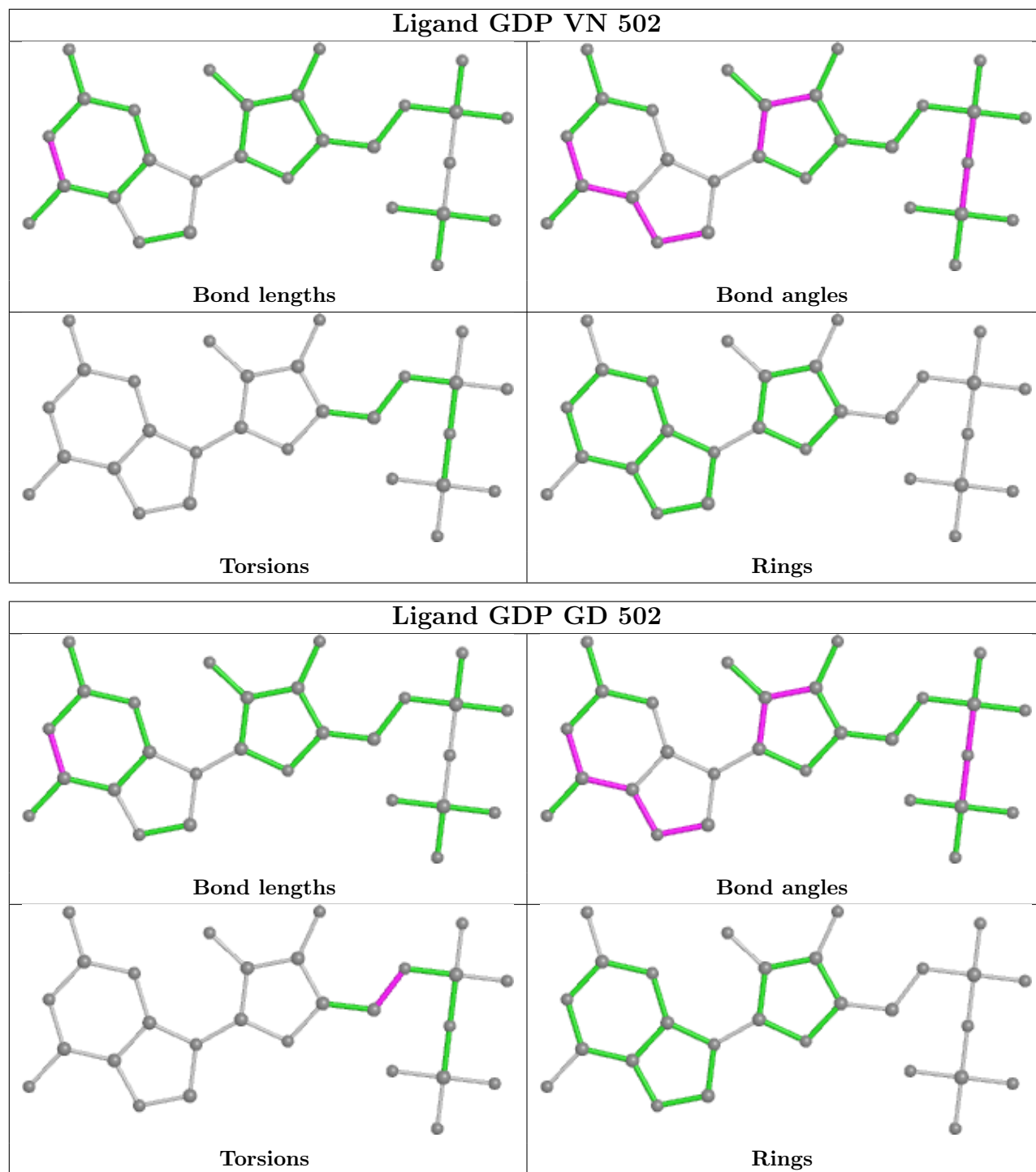


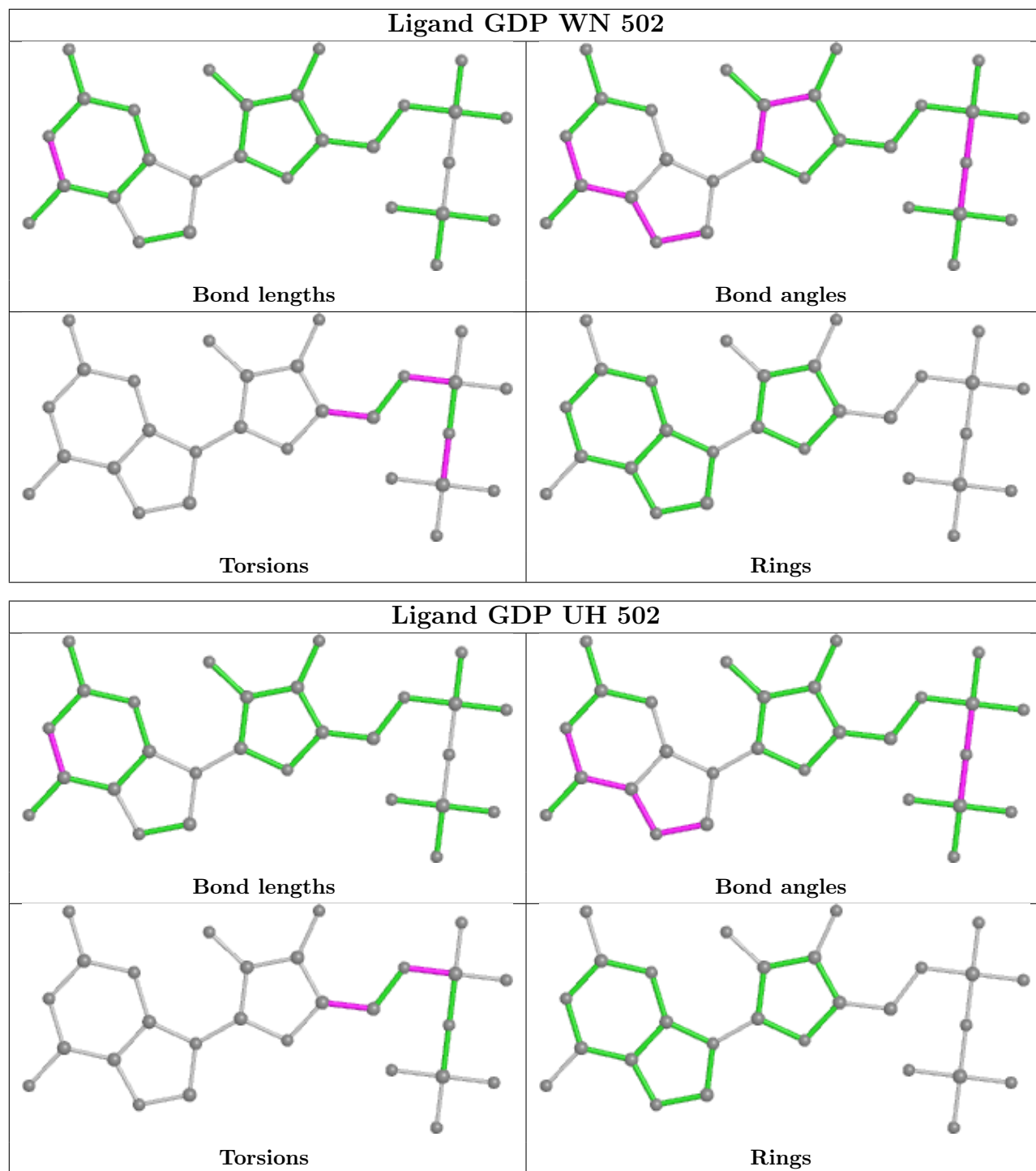


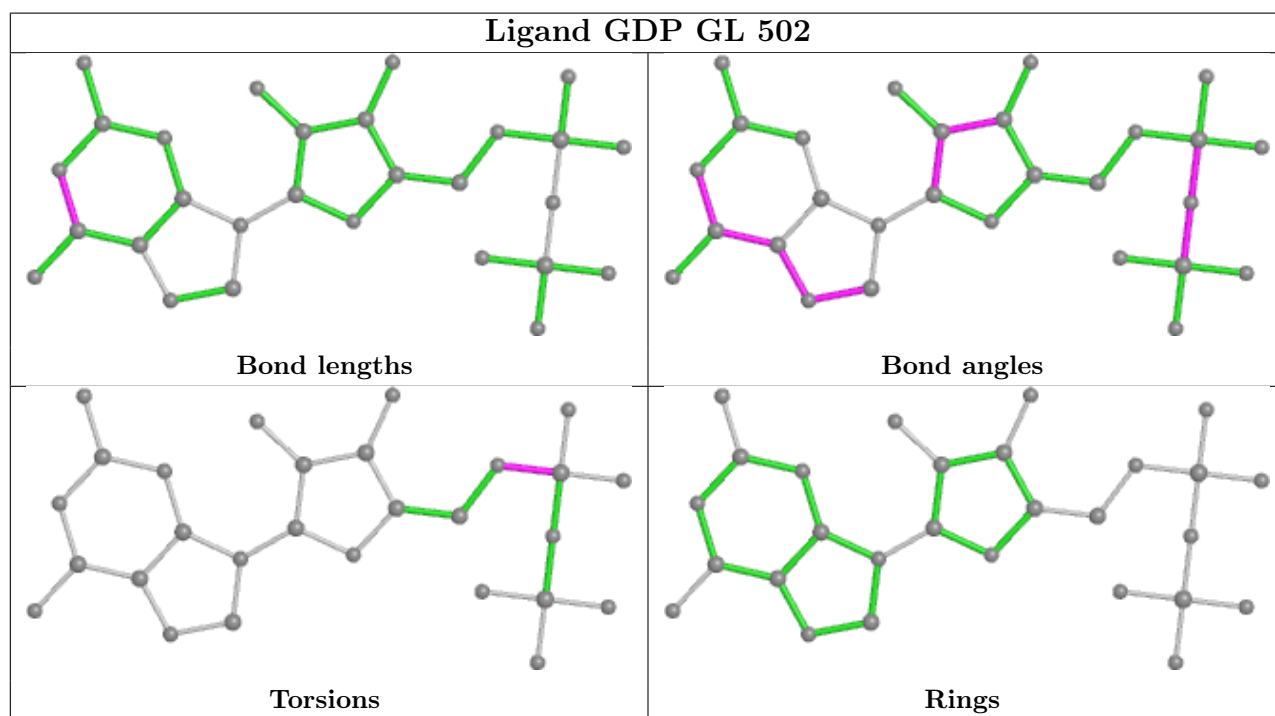
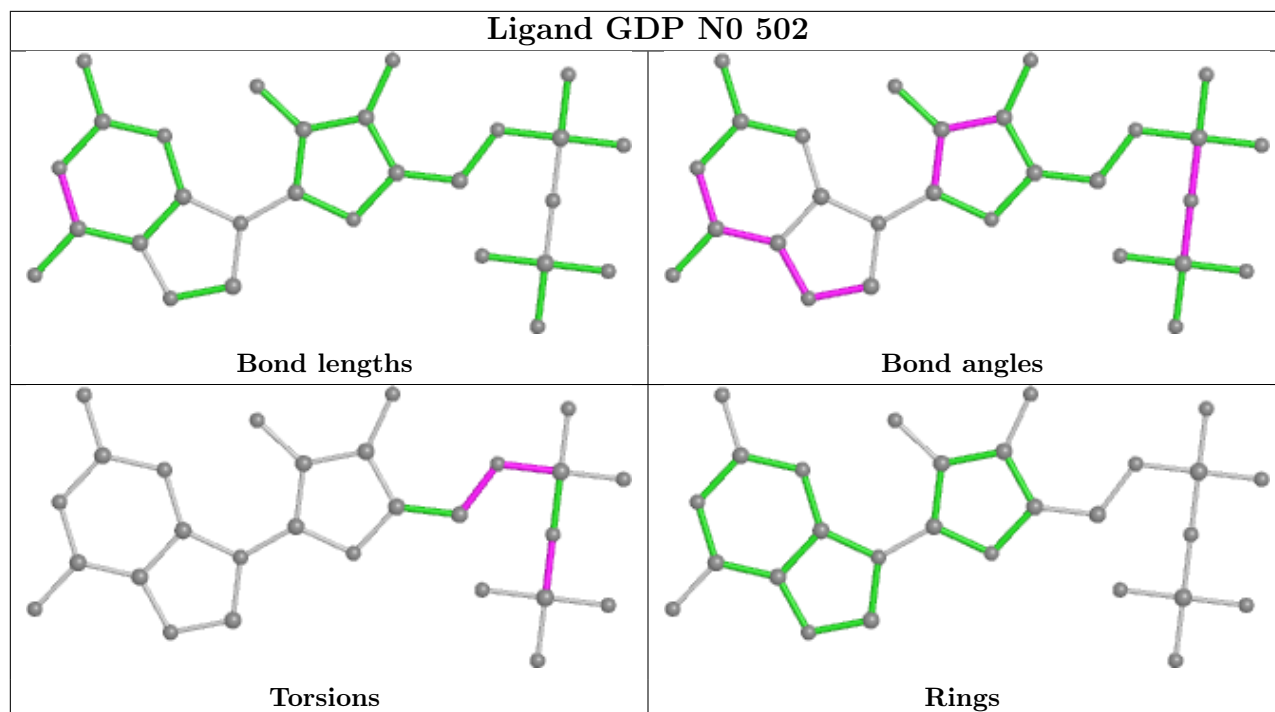


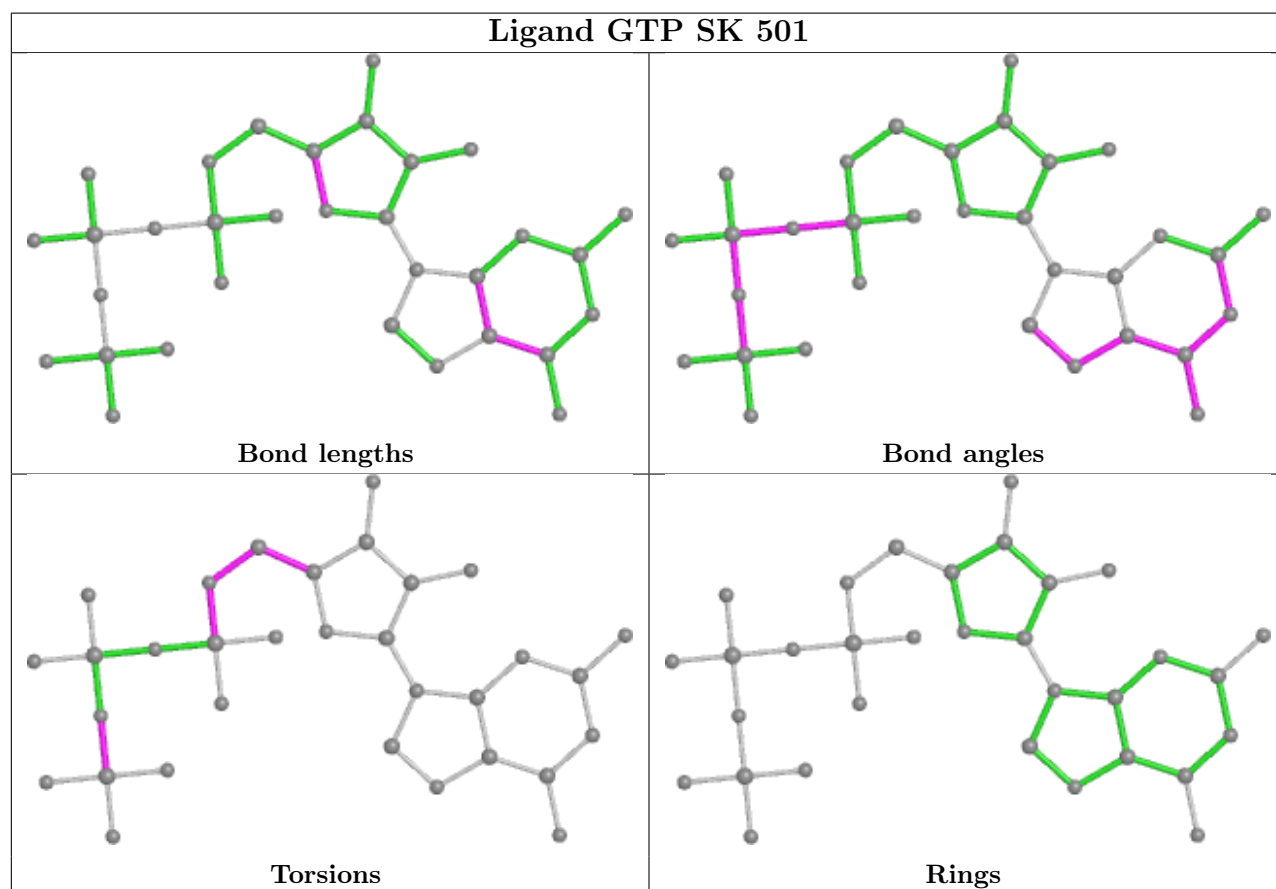
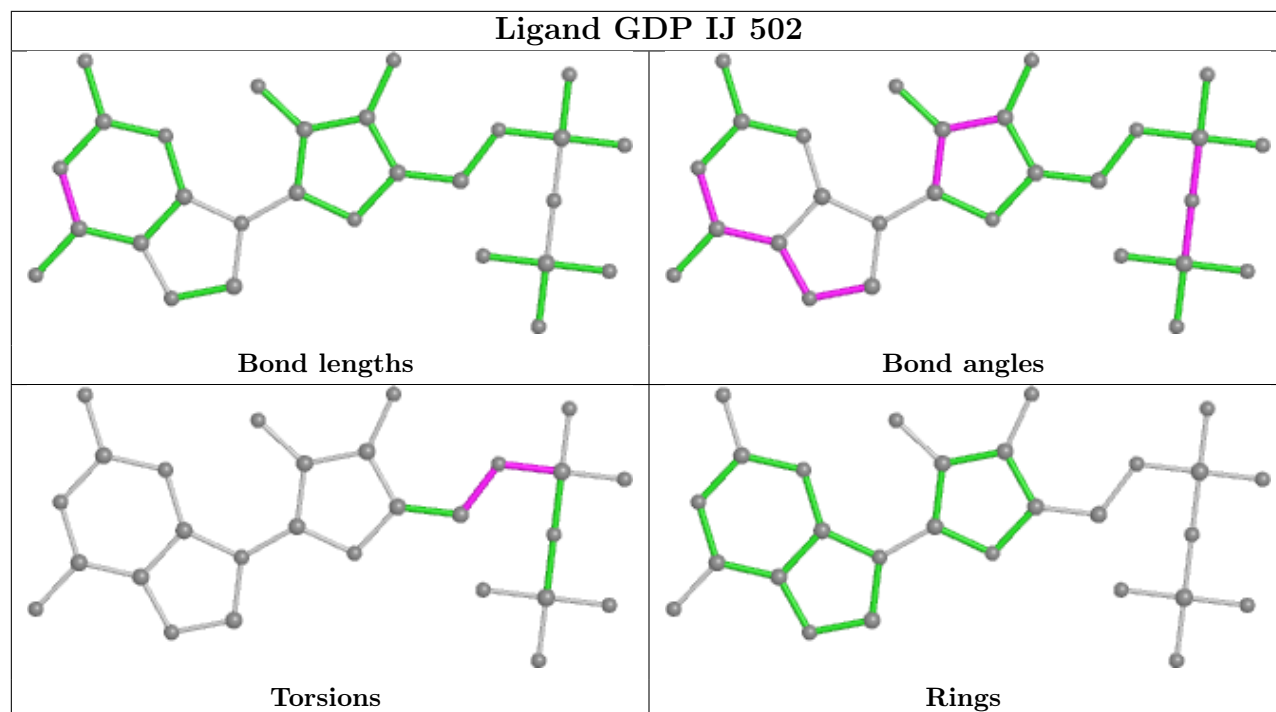


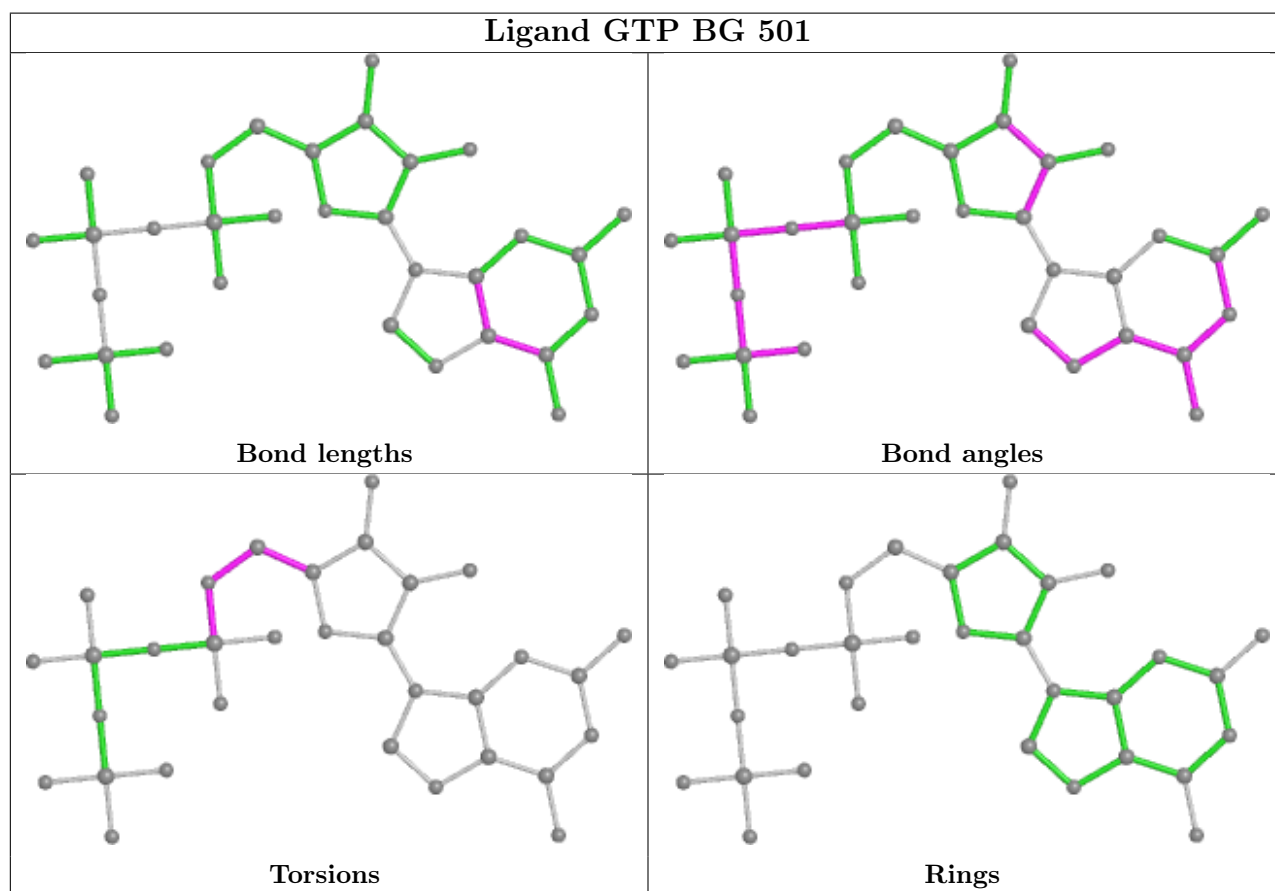
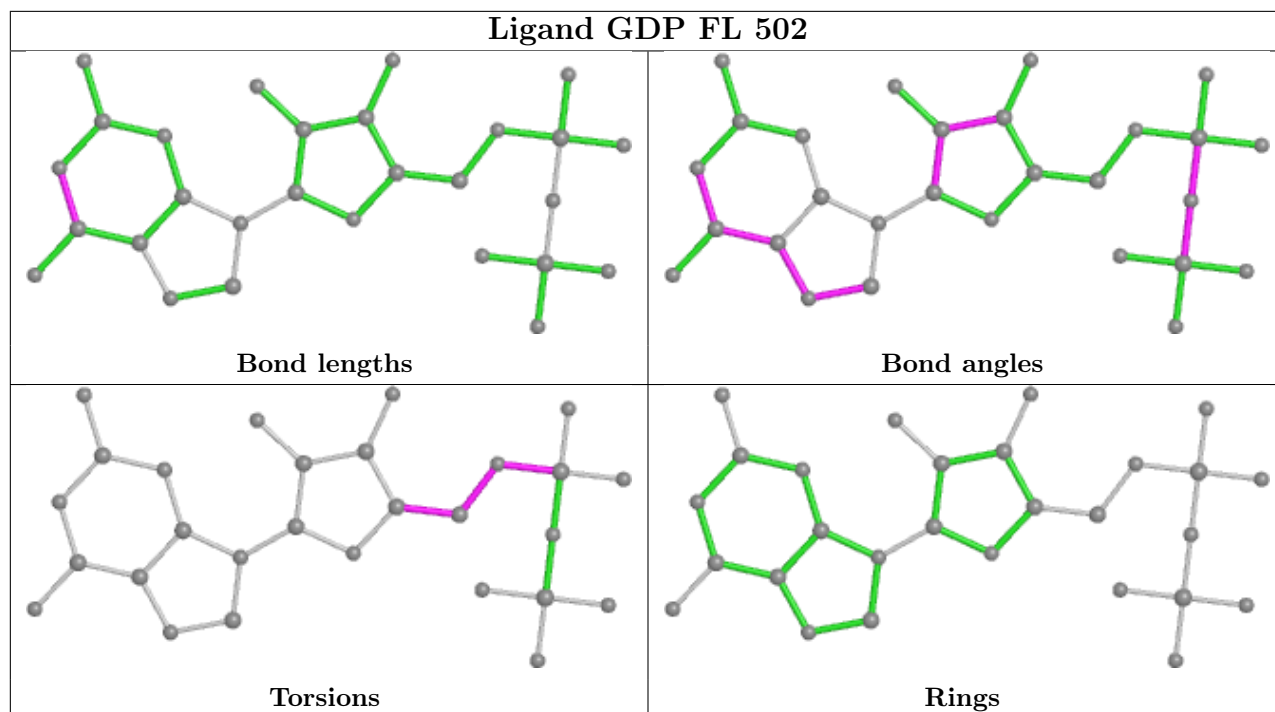


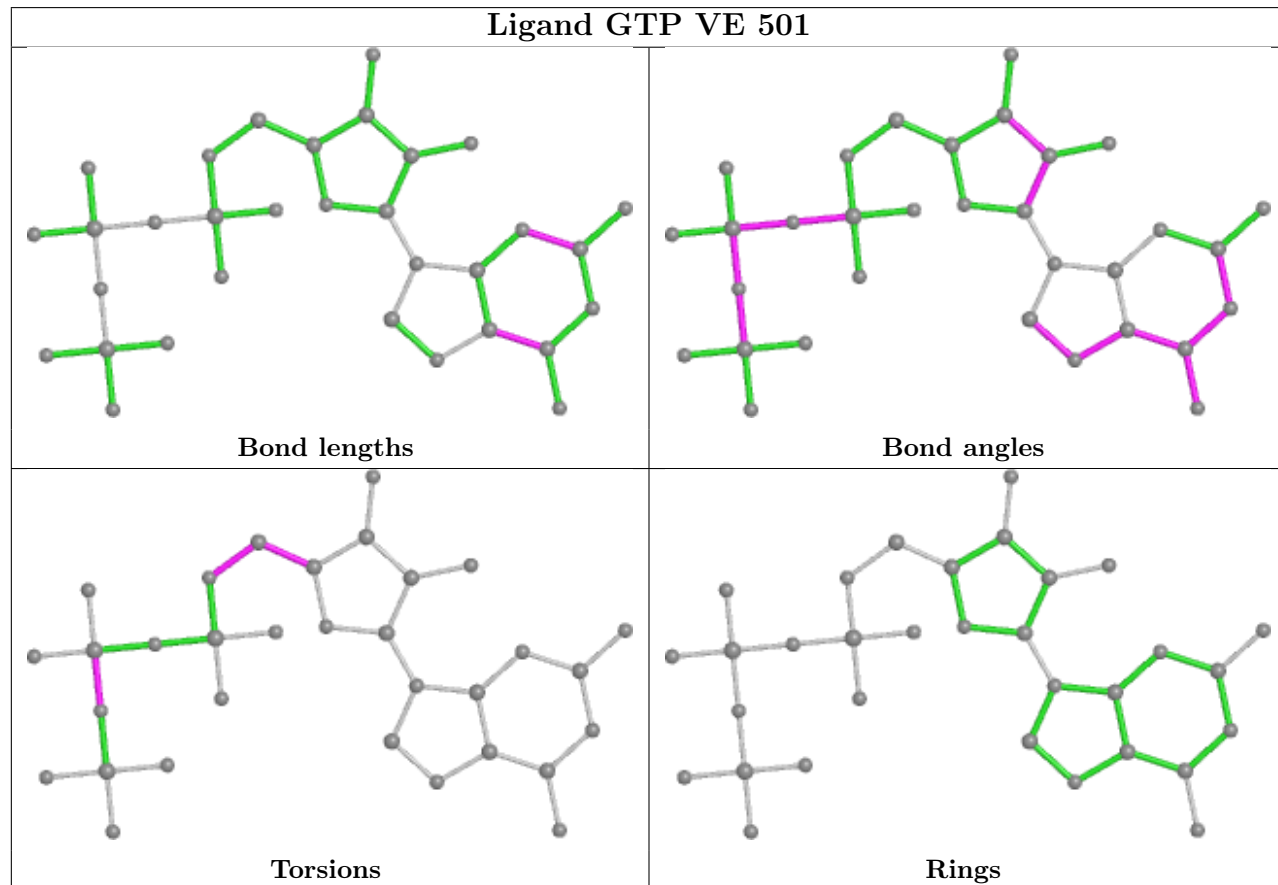
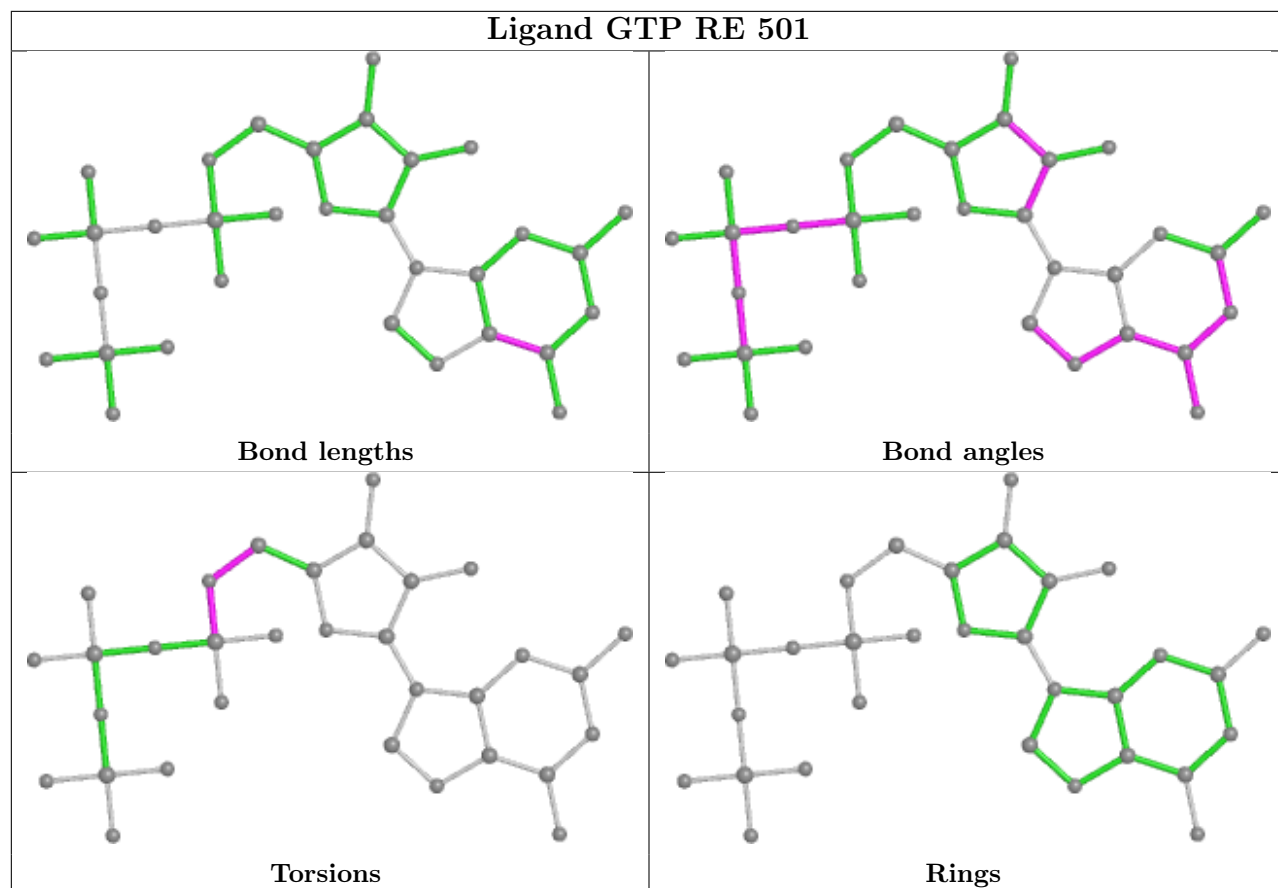


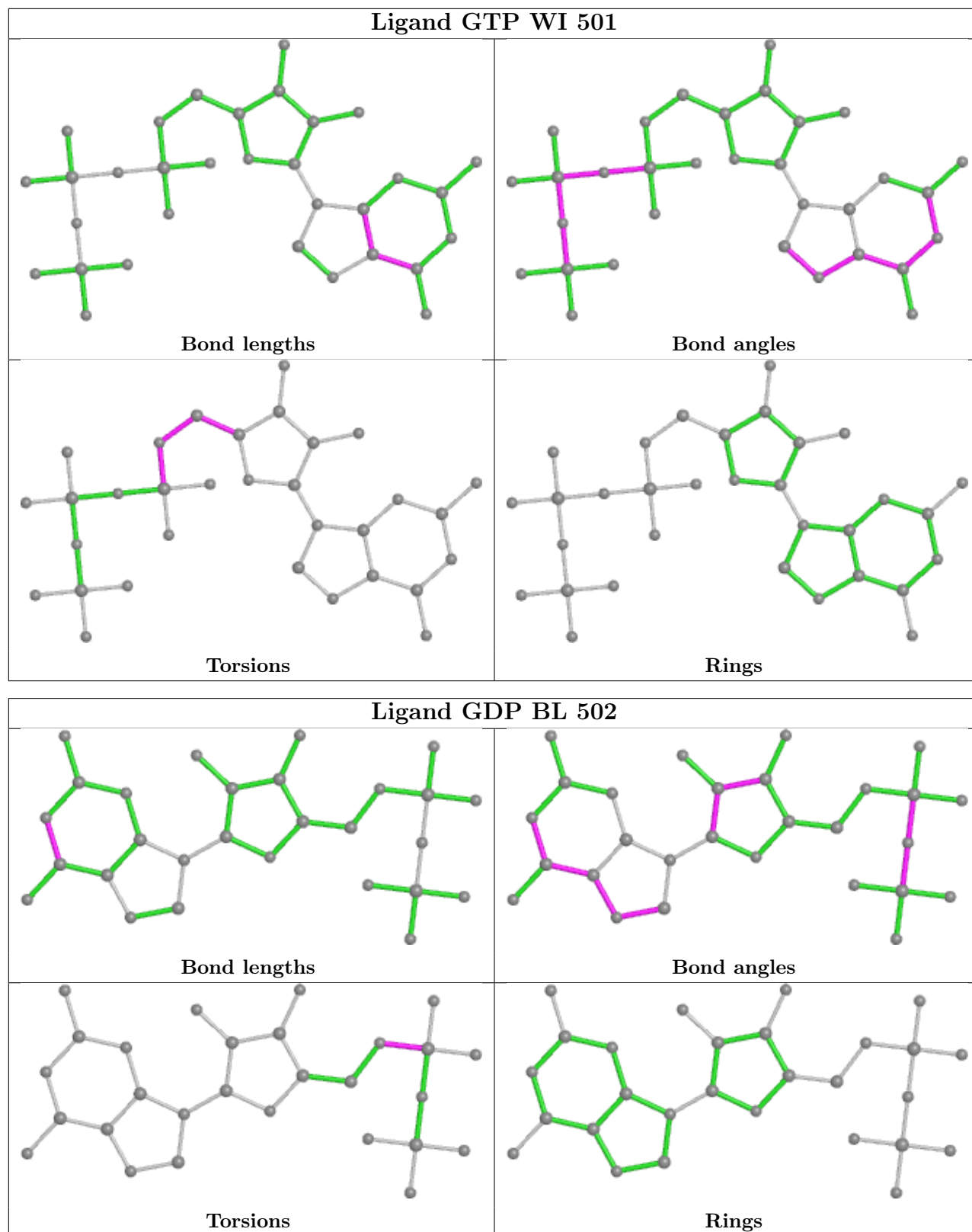


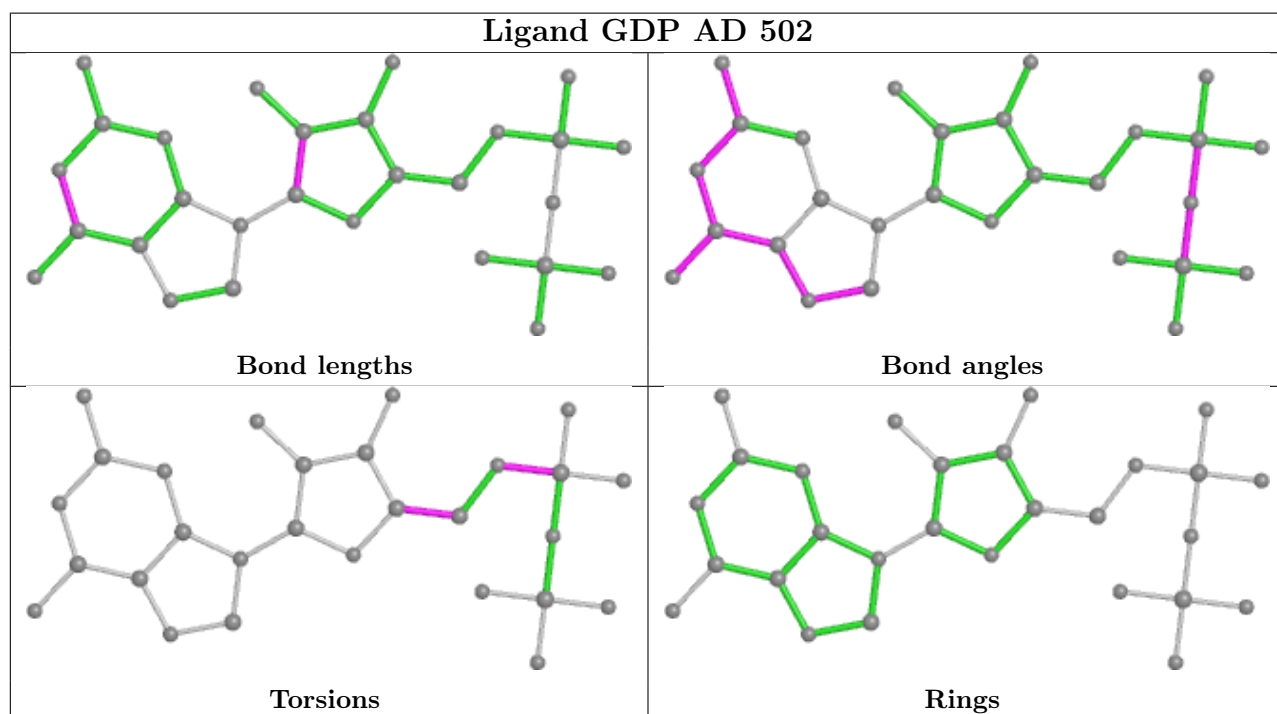
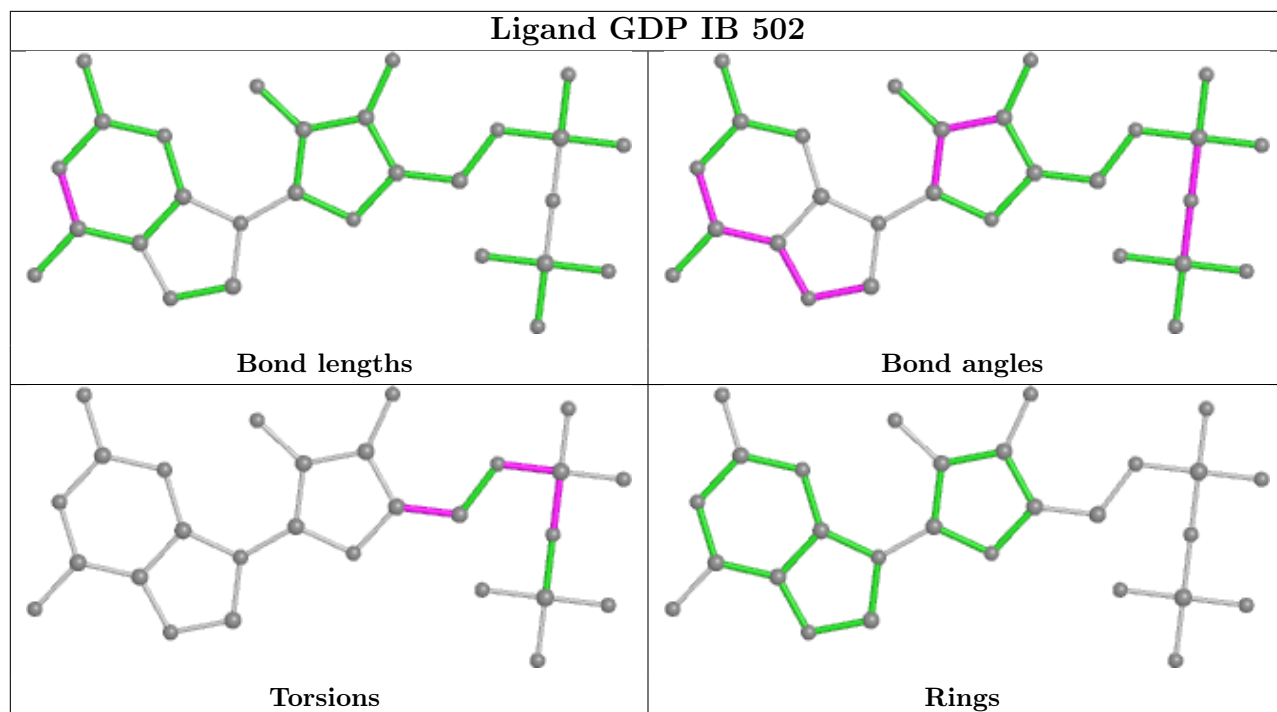


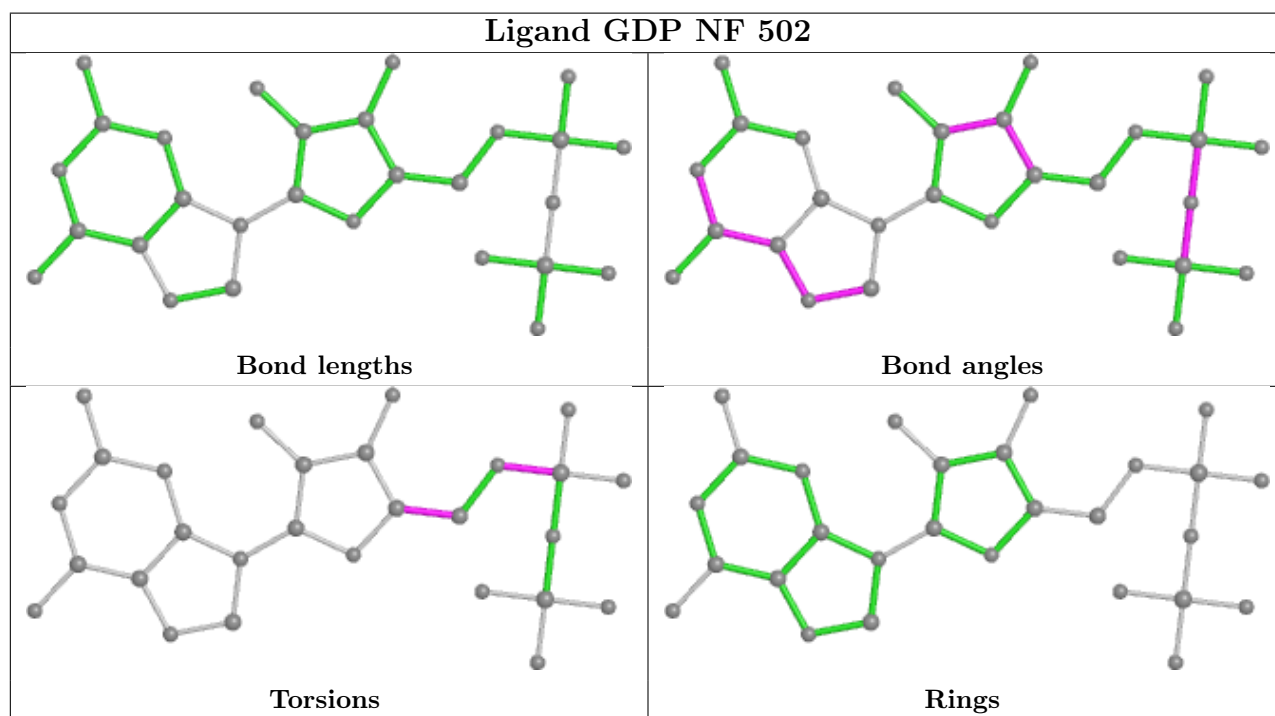
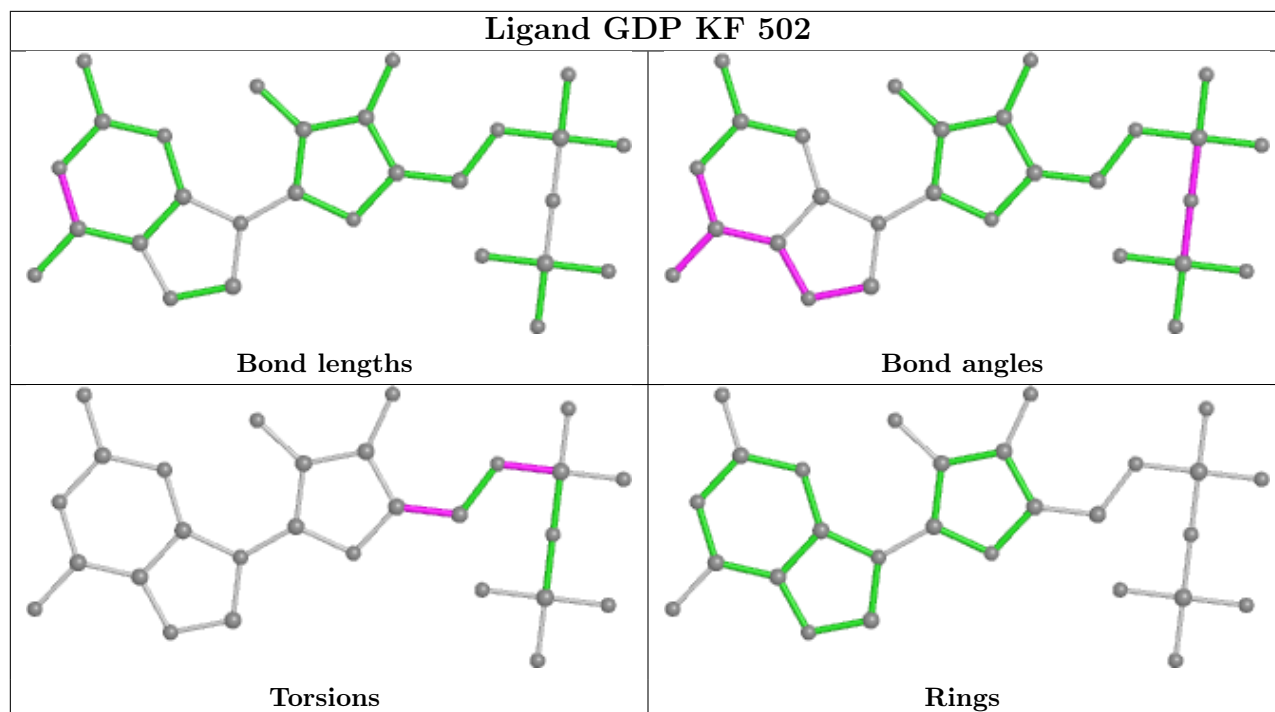


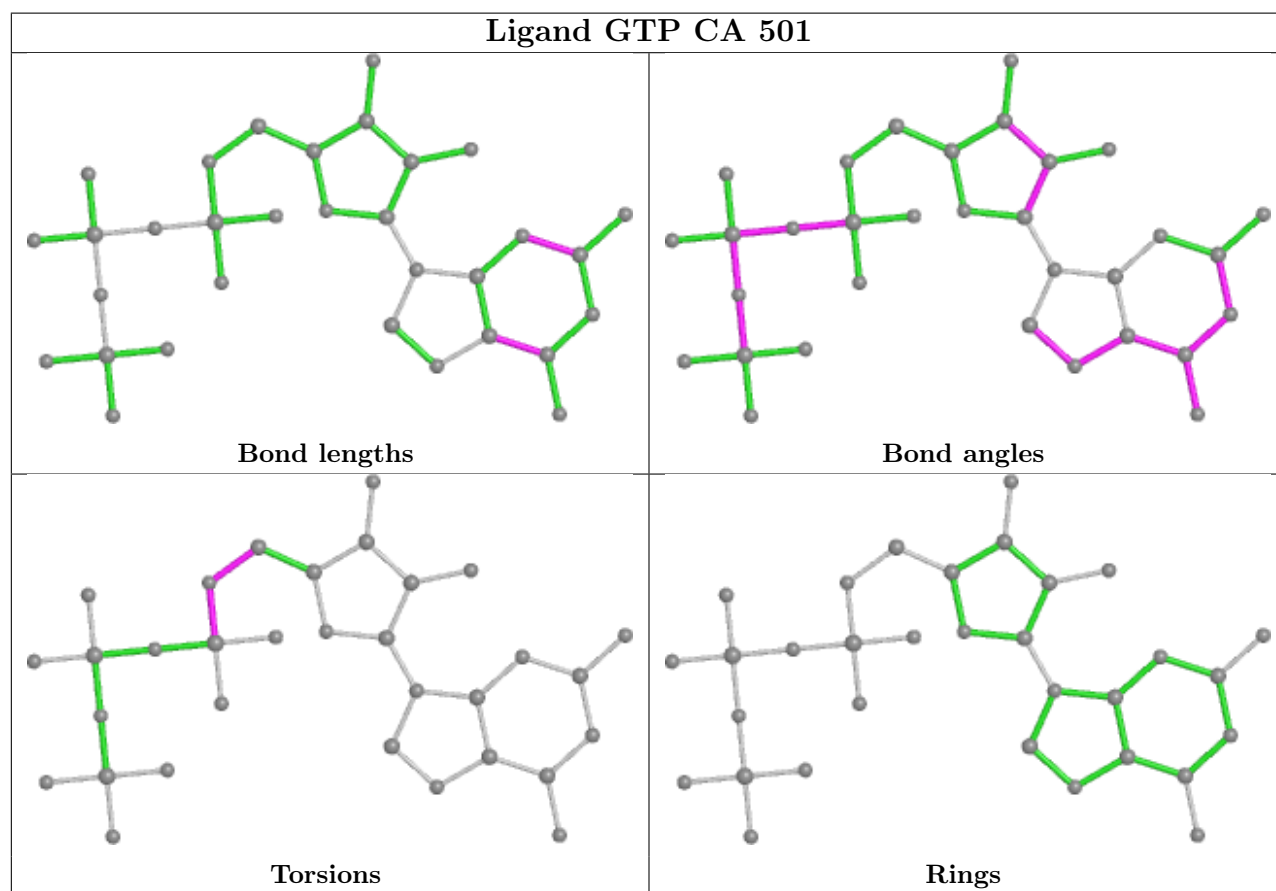
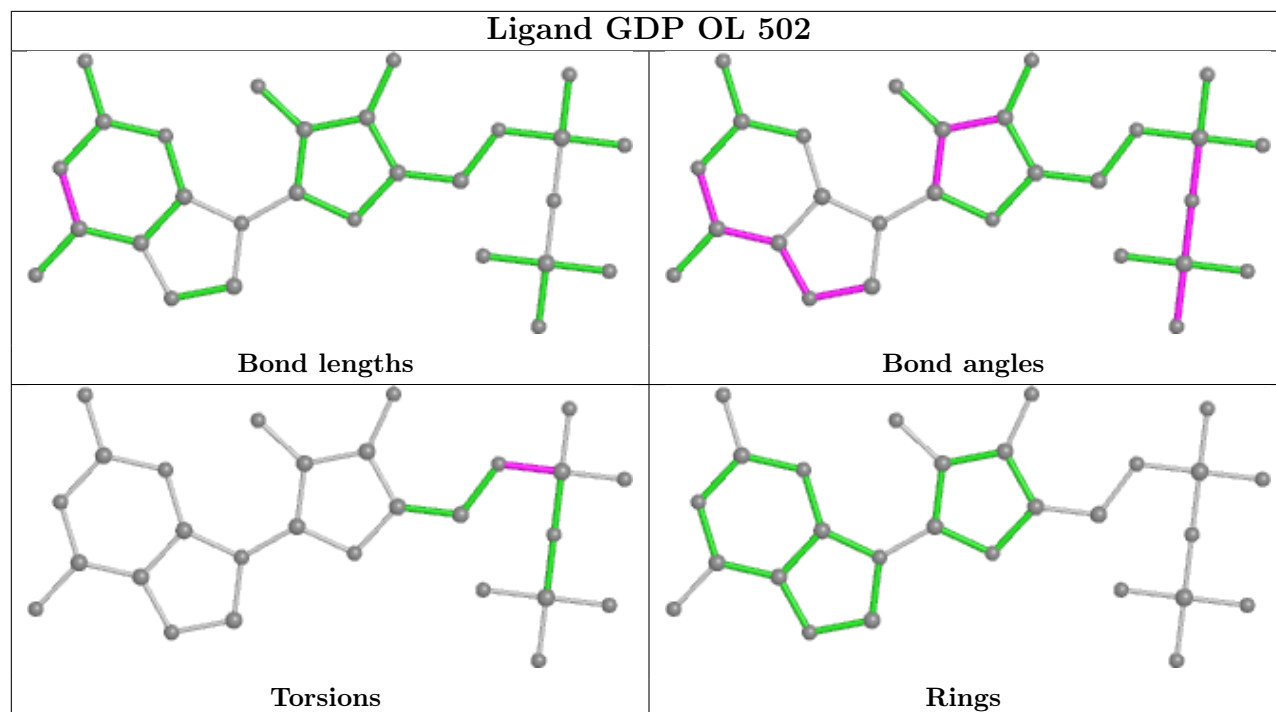


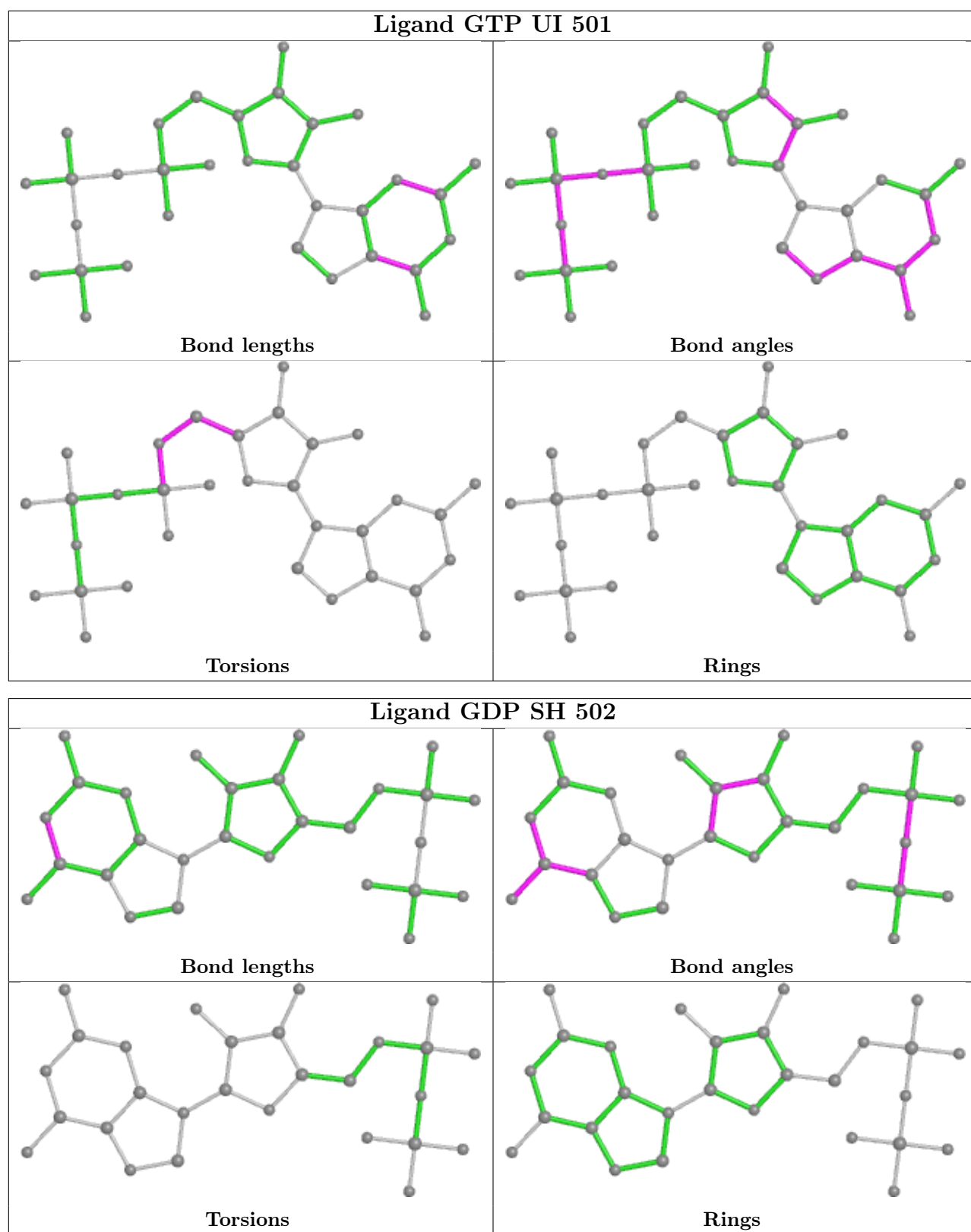


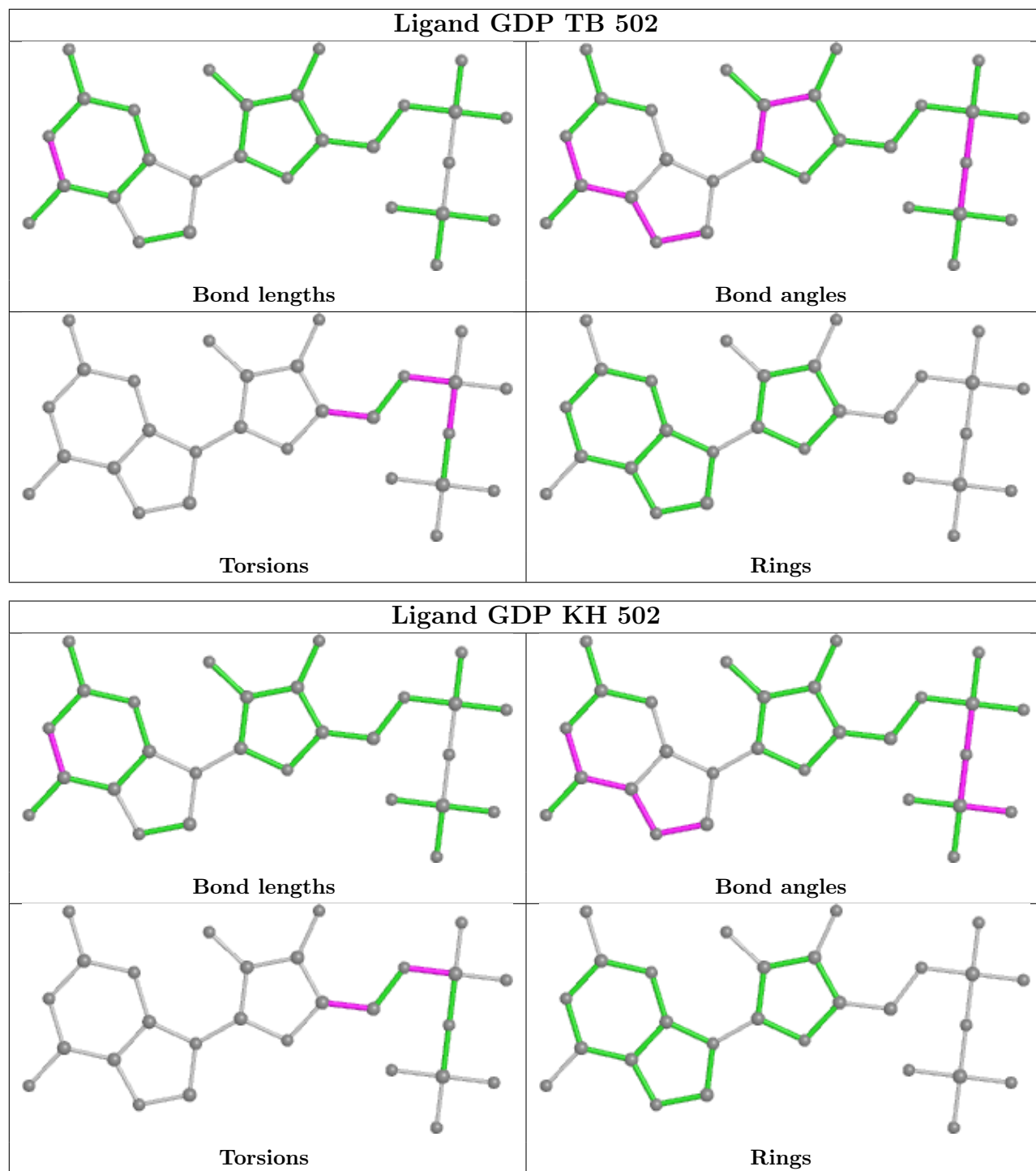


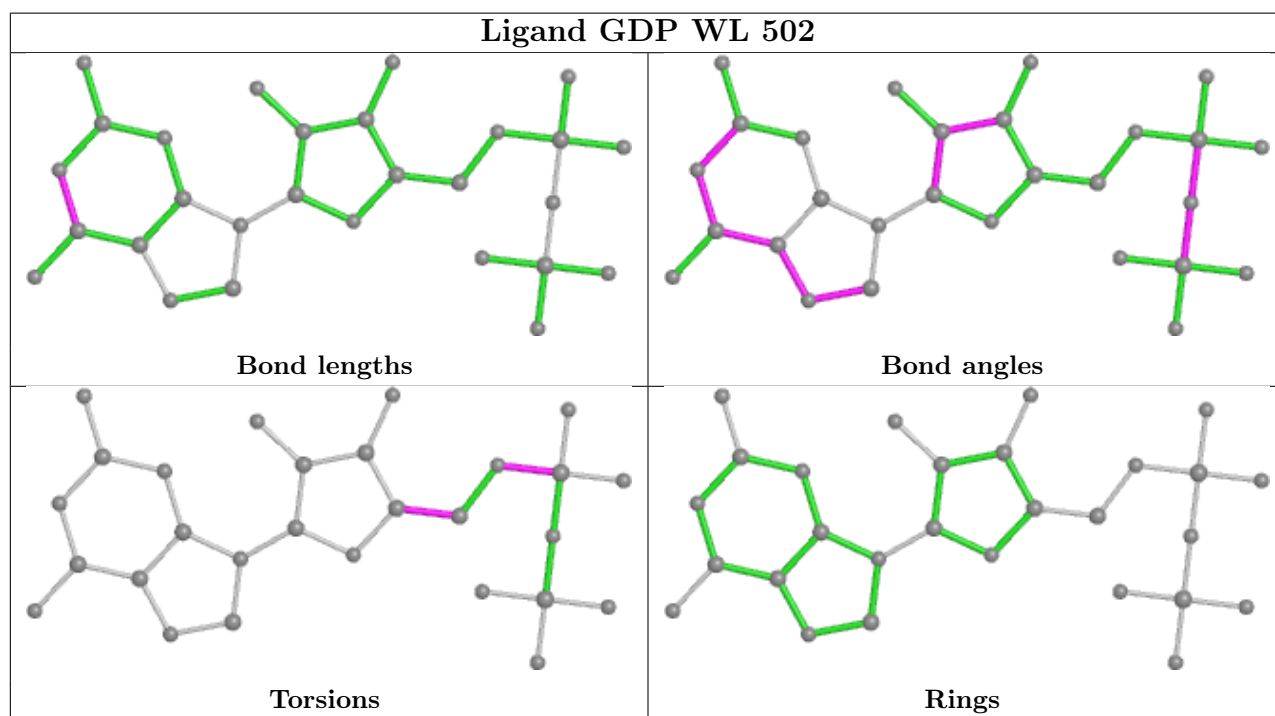
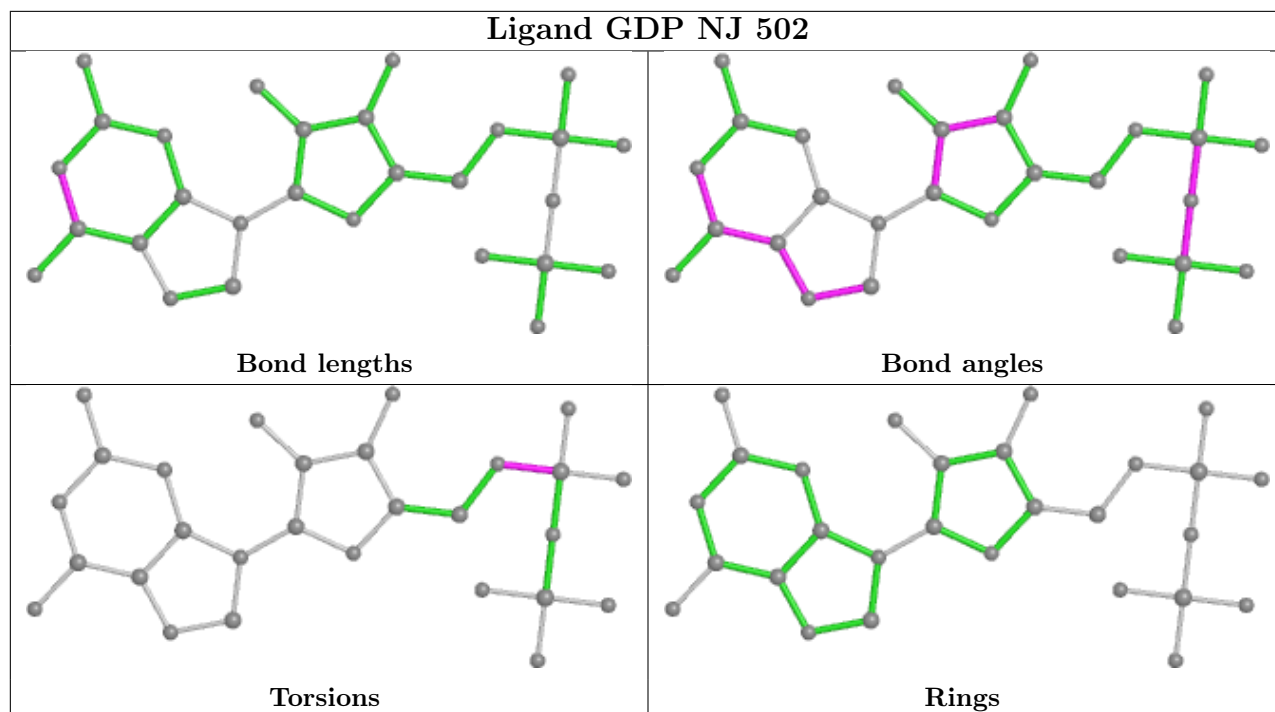


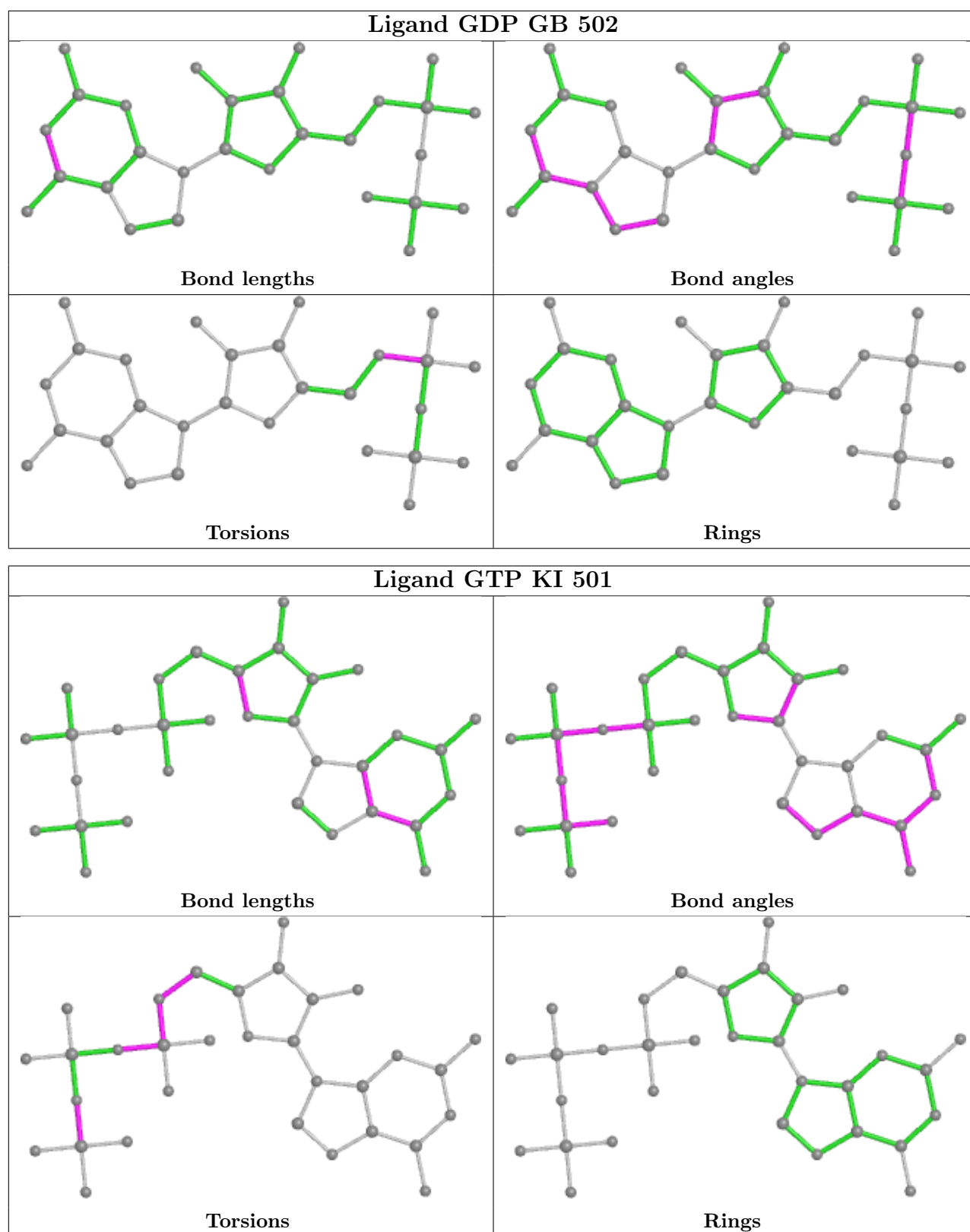


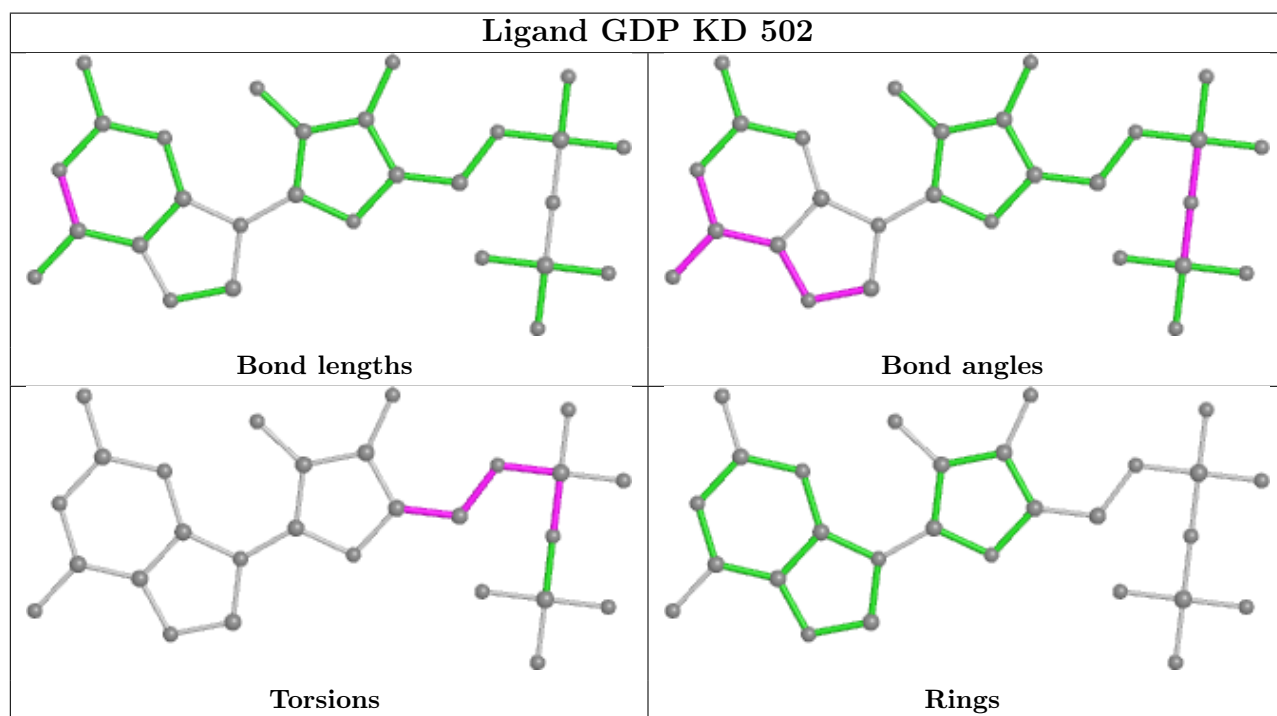
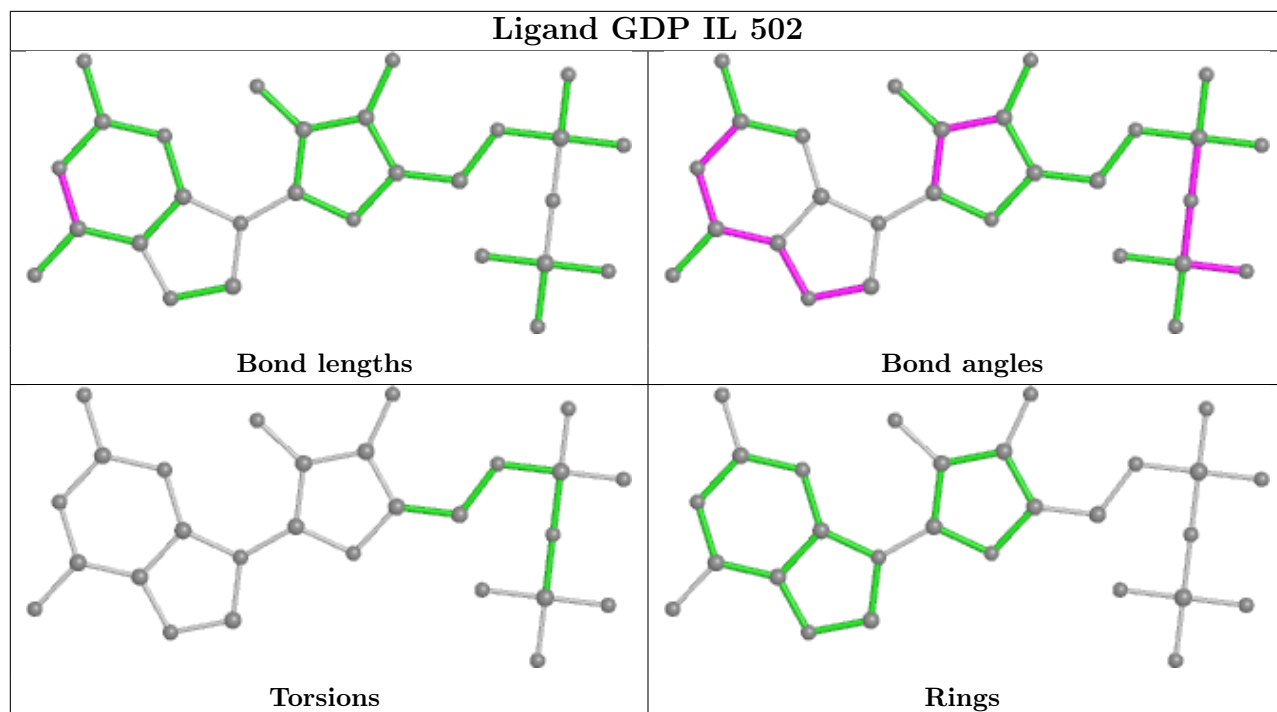


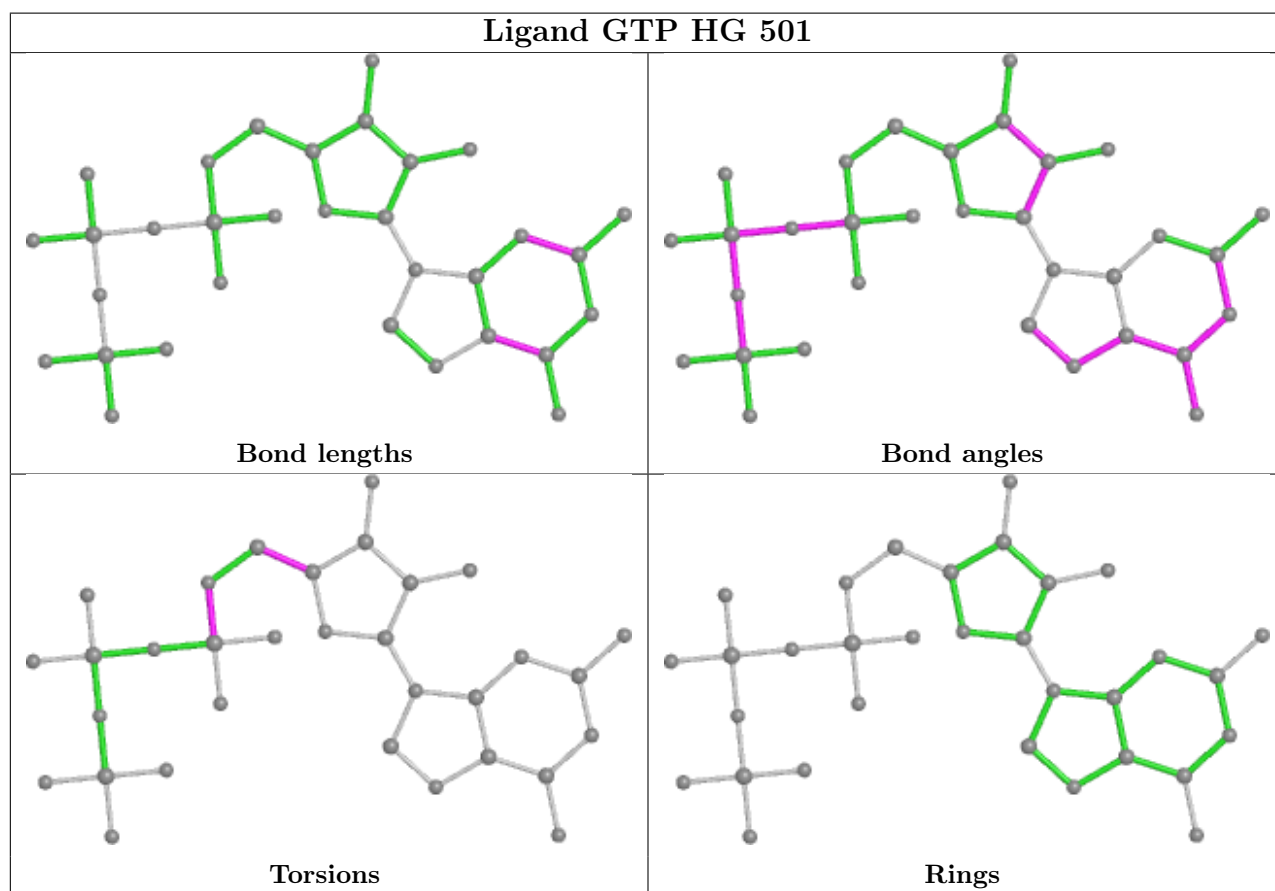
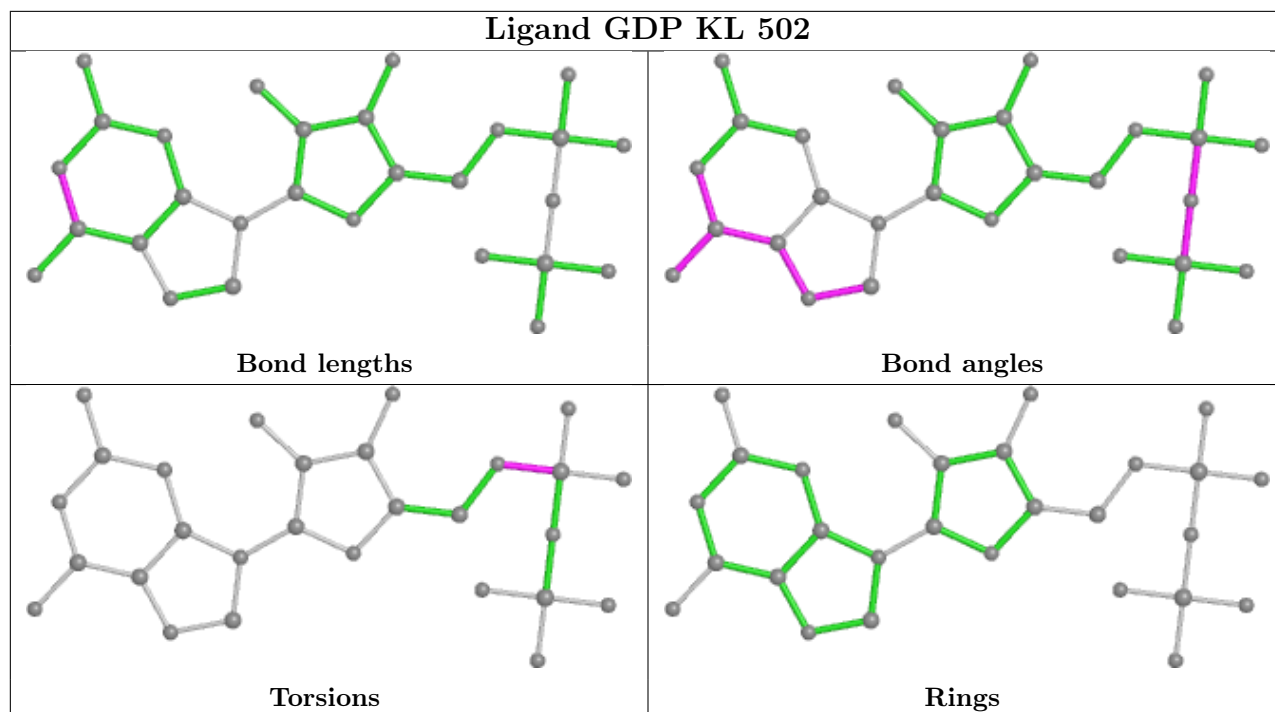


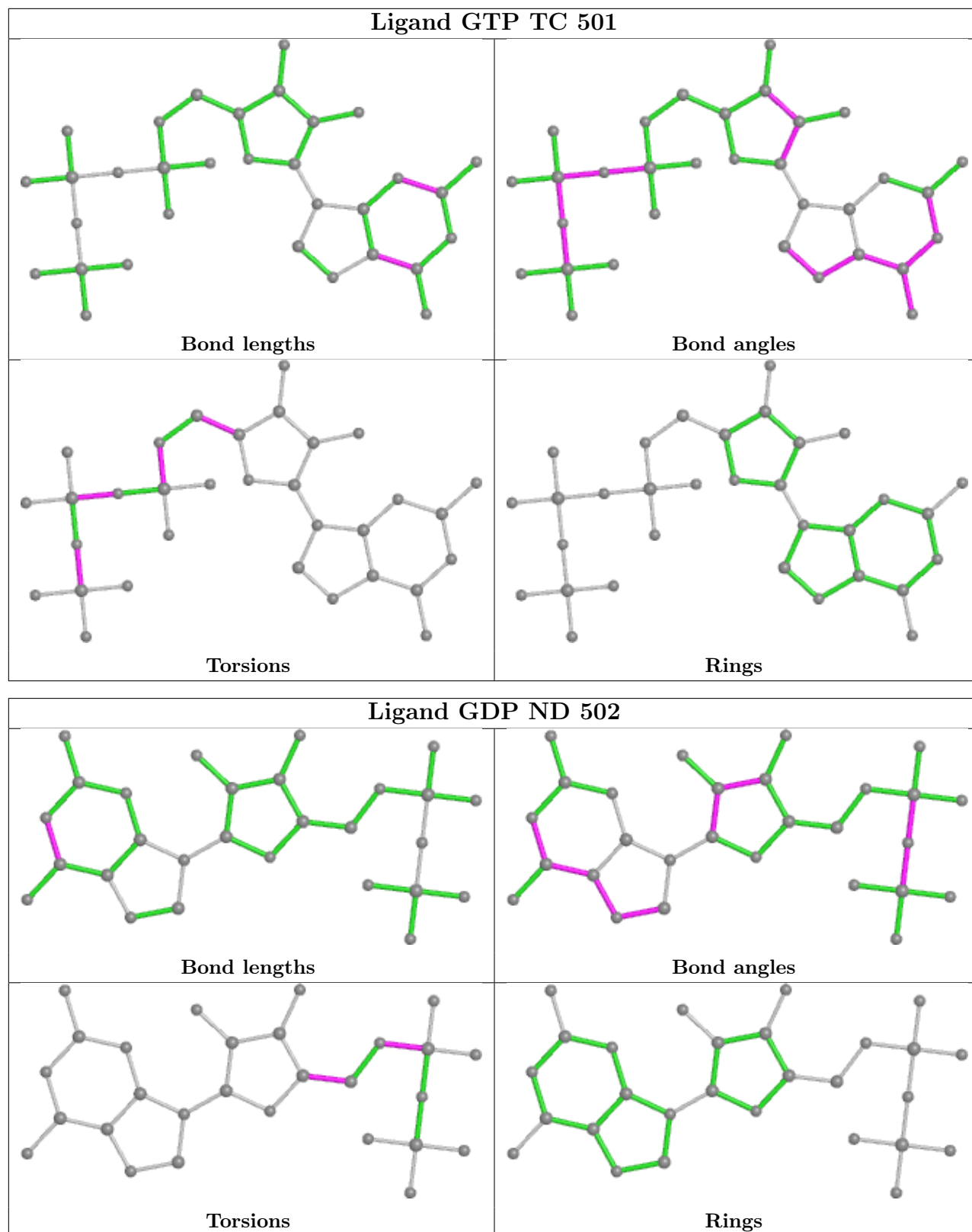


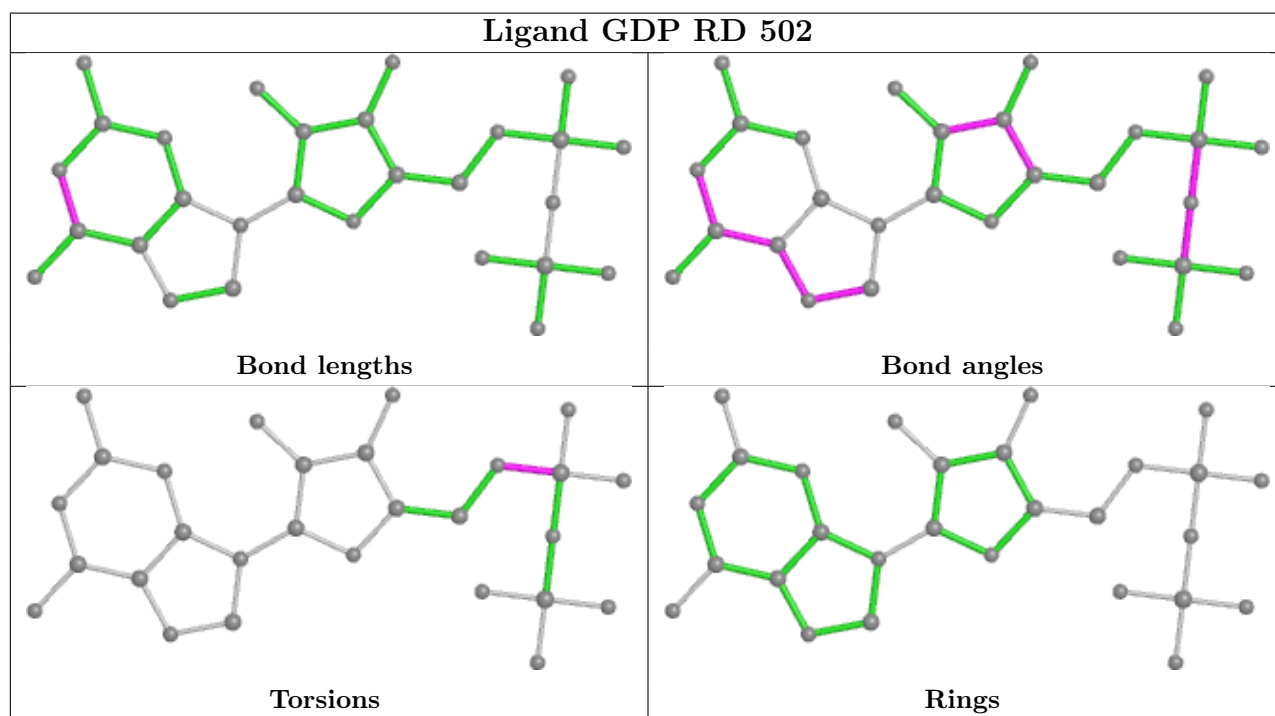
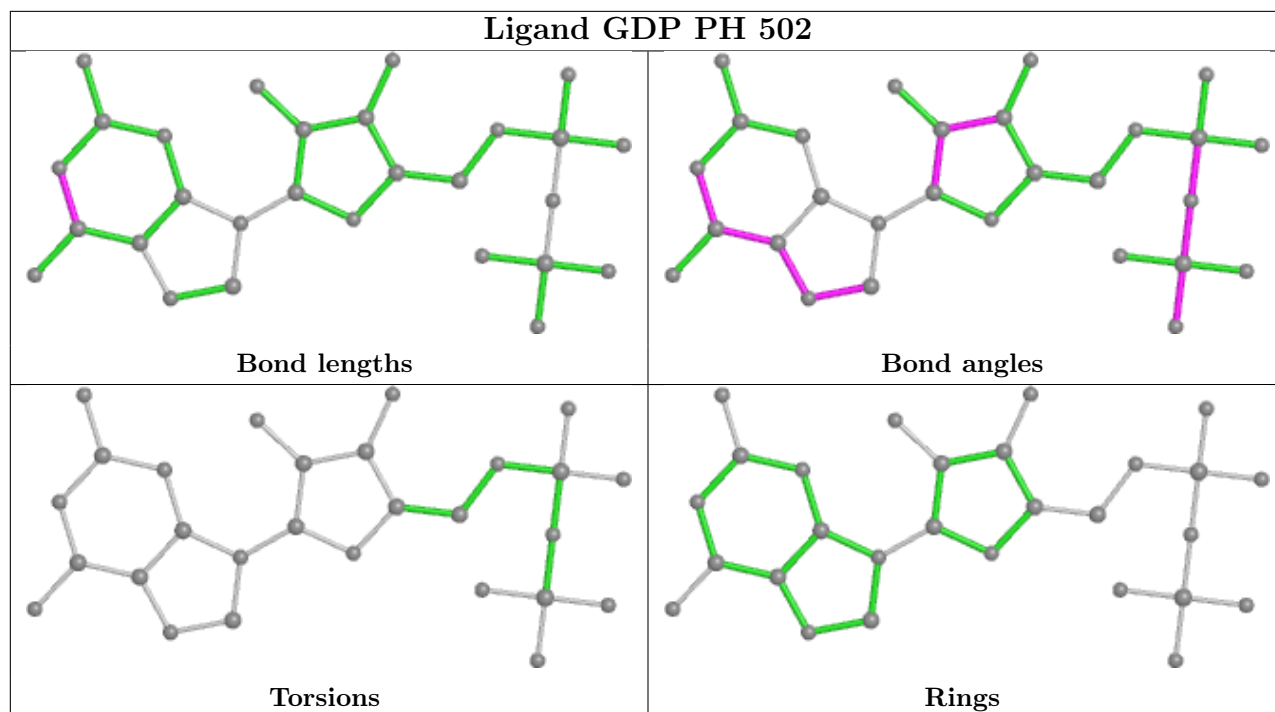


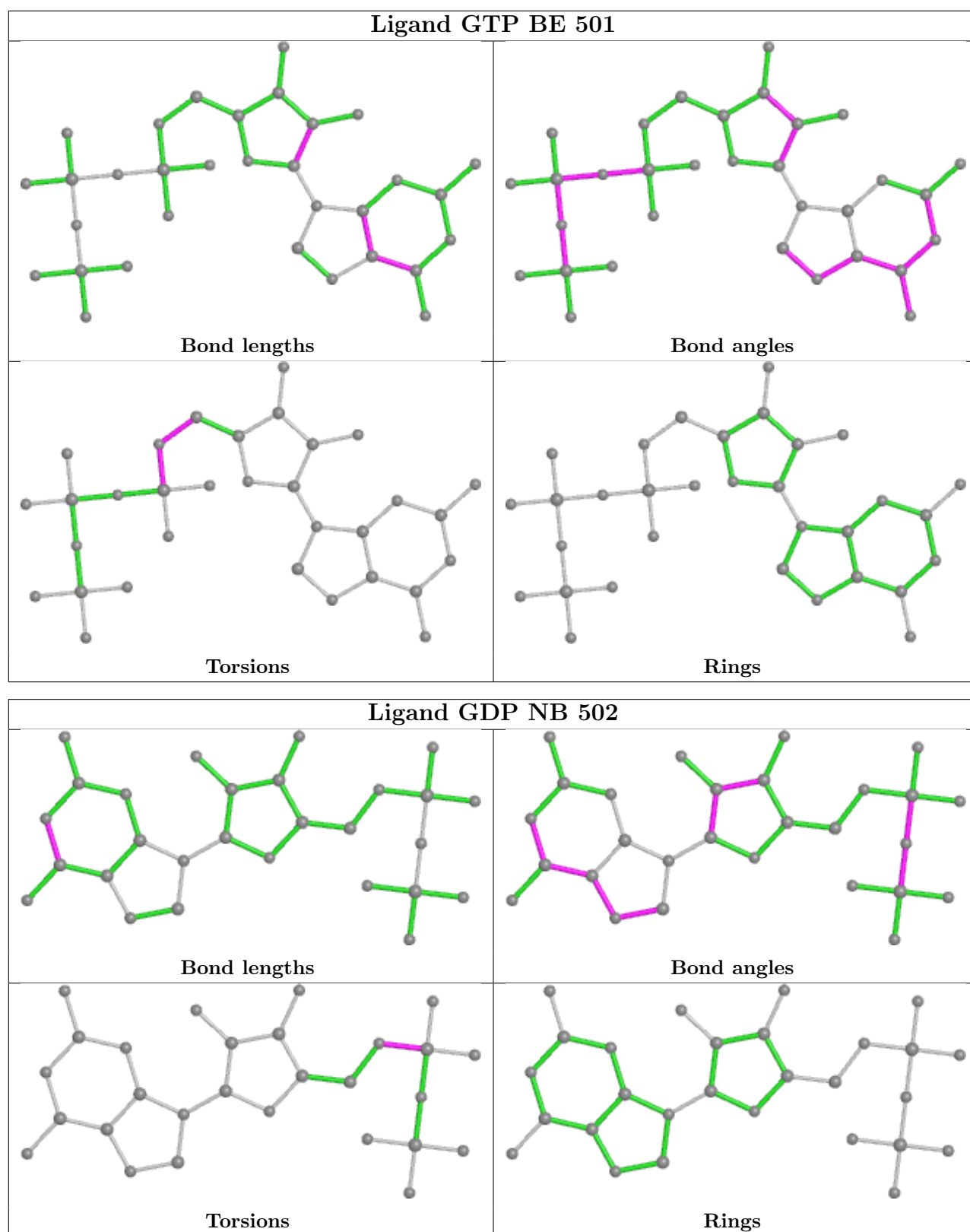












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

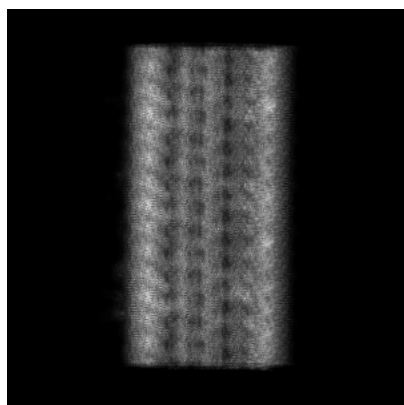
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-24664. These allow visual inspection of the internal detail of the map and identification of artifacts.

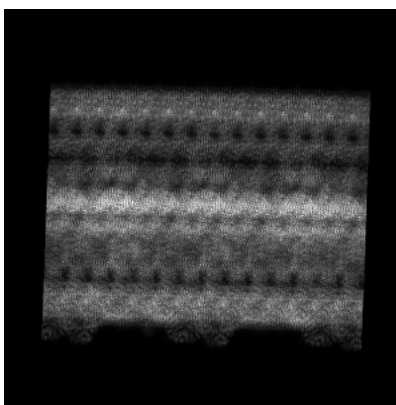
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

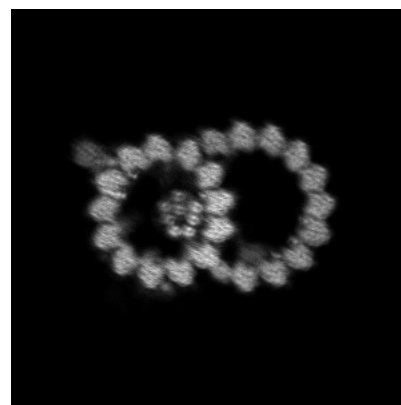
6.1.1 Primary map



X



Y

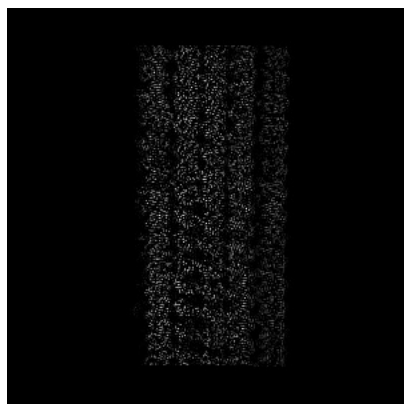


Z

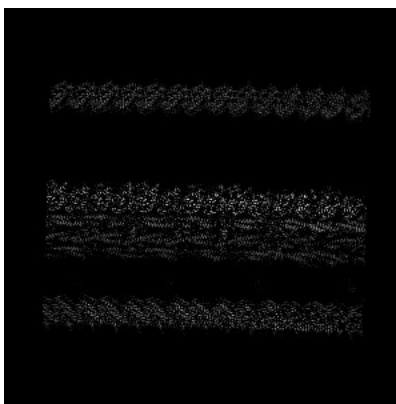
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

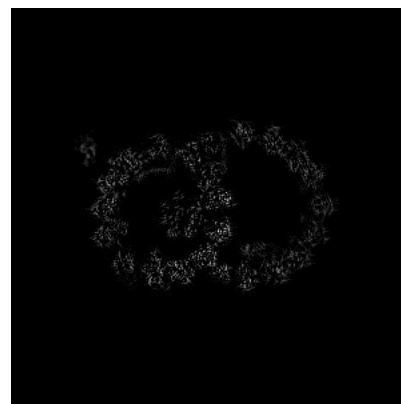
6.2.1 Primary map



X Index: 336



Y Index: 336

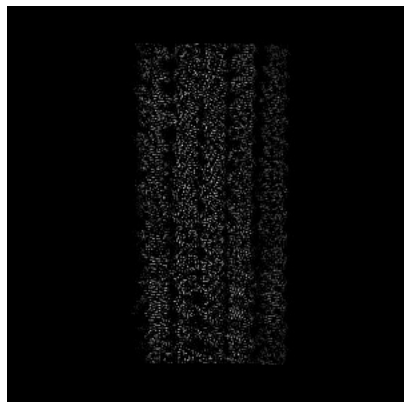


Z Index: 336

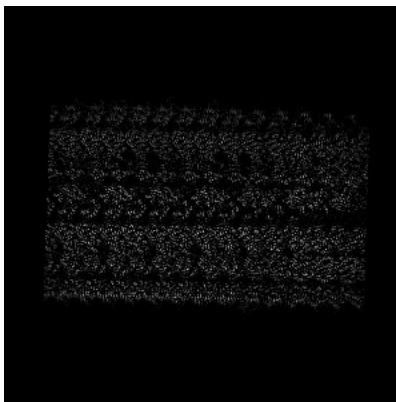
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

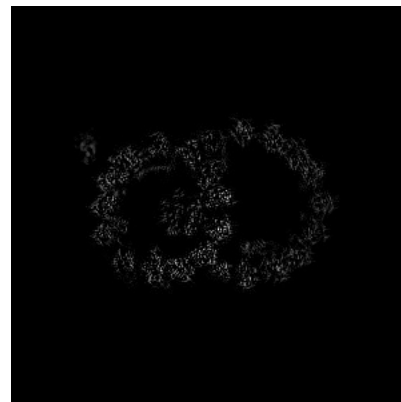
6.3.1 Primary map



X Index: 339



Y Index: 236

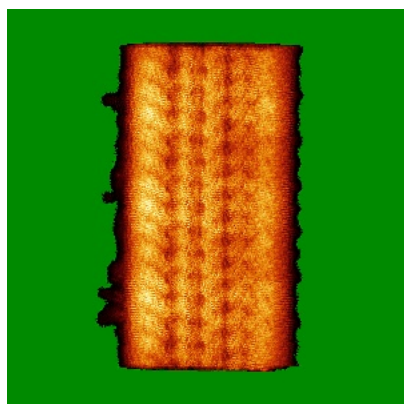


Z Index: 336

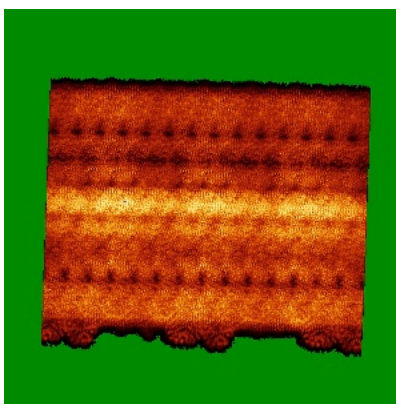
The images above show the largest variance slices of the map in three orthogonal directions.

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

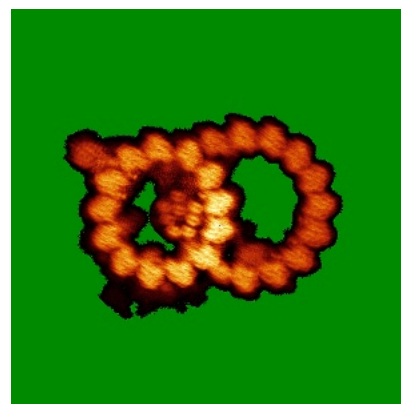
6.4.1 Primary map



X



Y

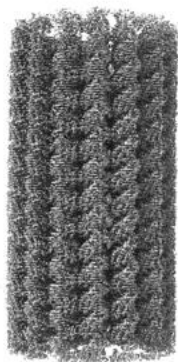


Z

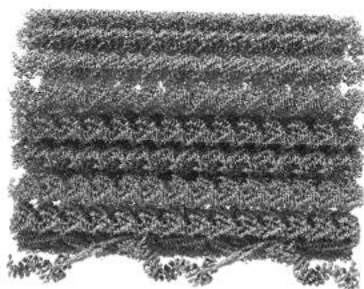
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

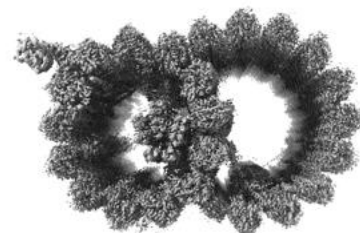
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 7.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

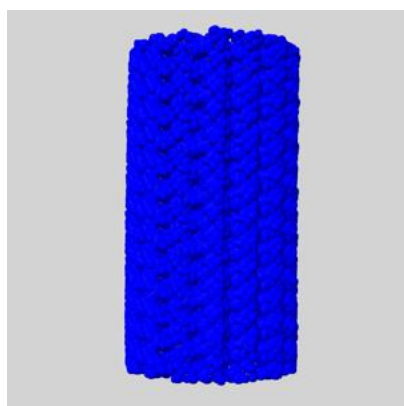
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

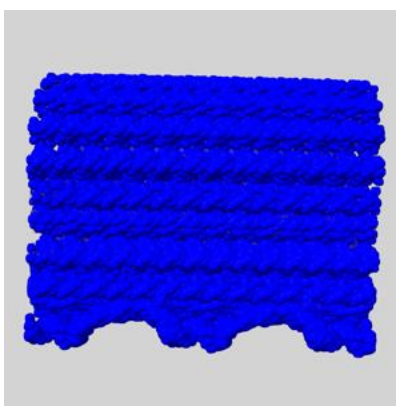
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

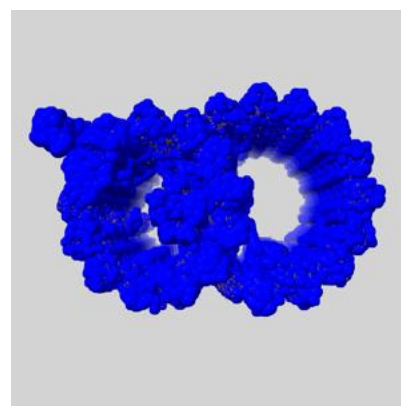
6.6.1 emd_24664_msk_1.map [i](#)



X



Y

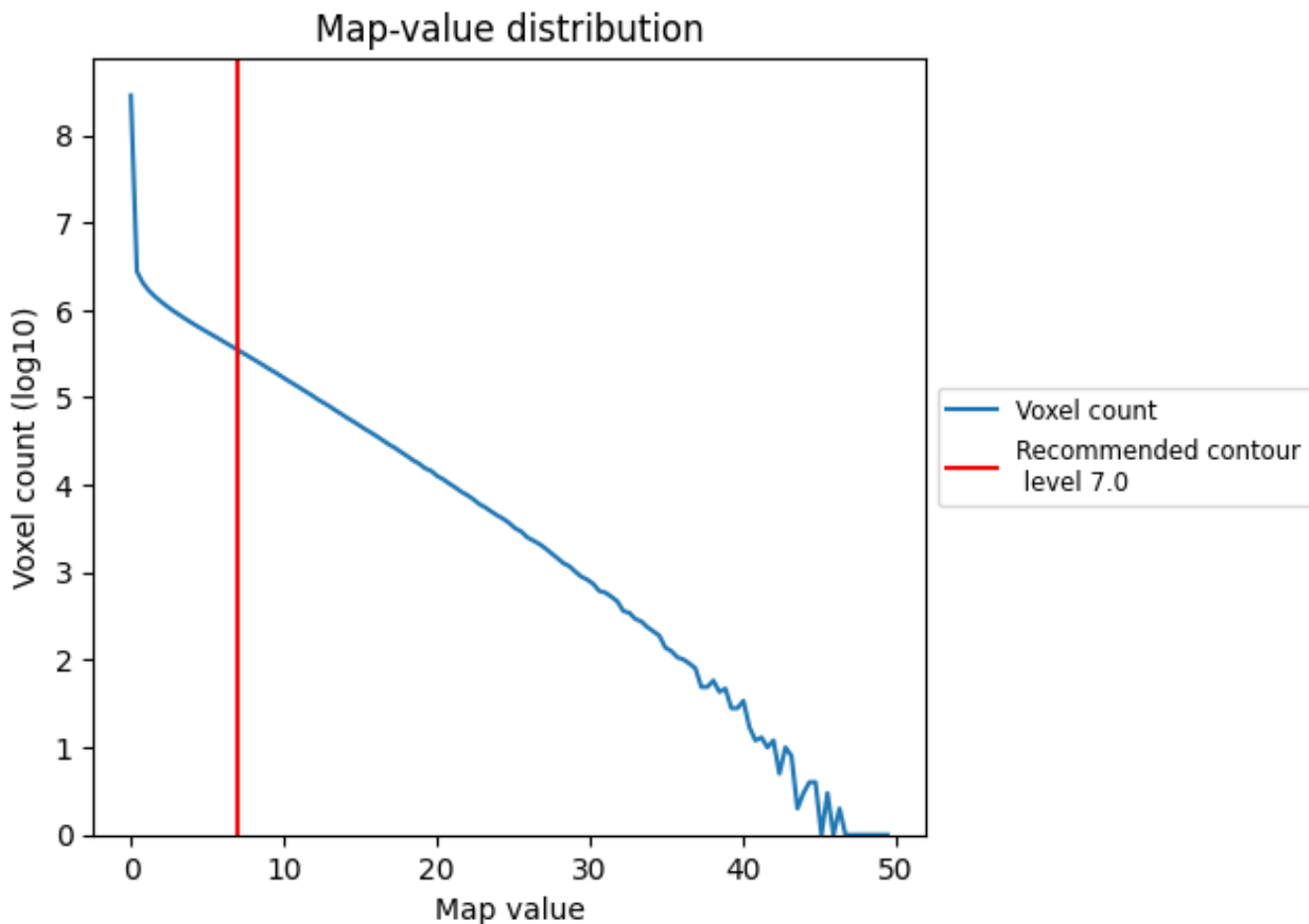


Z

7 Map analysis [i](#)

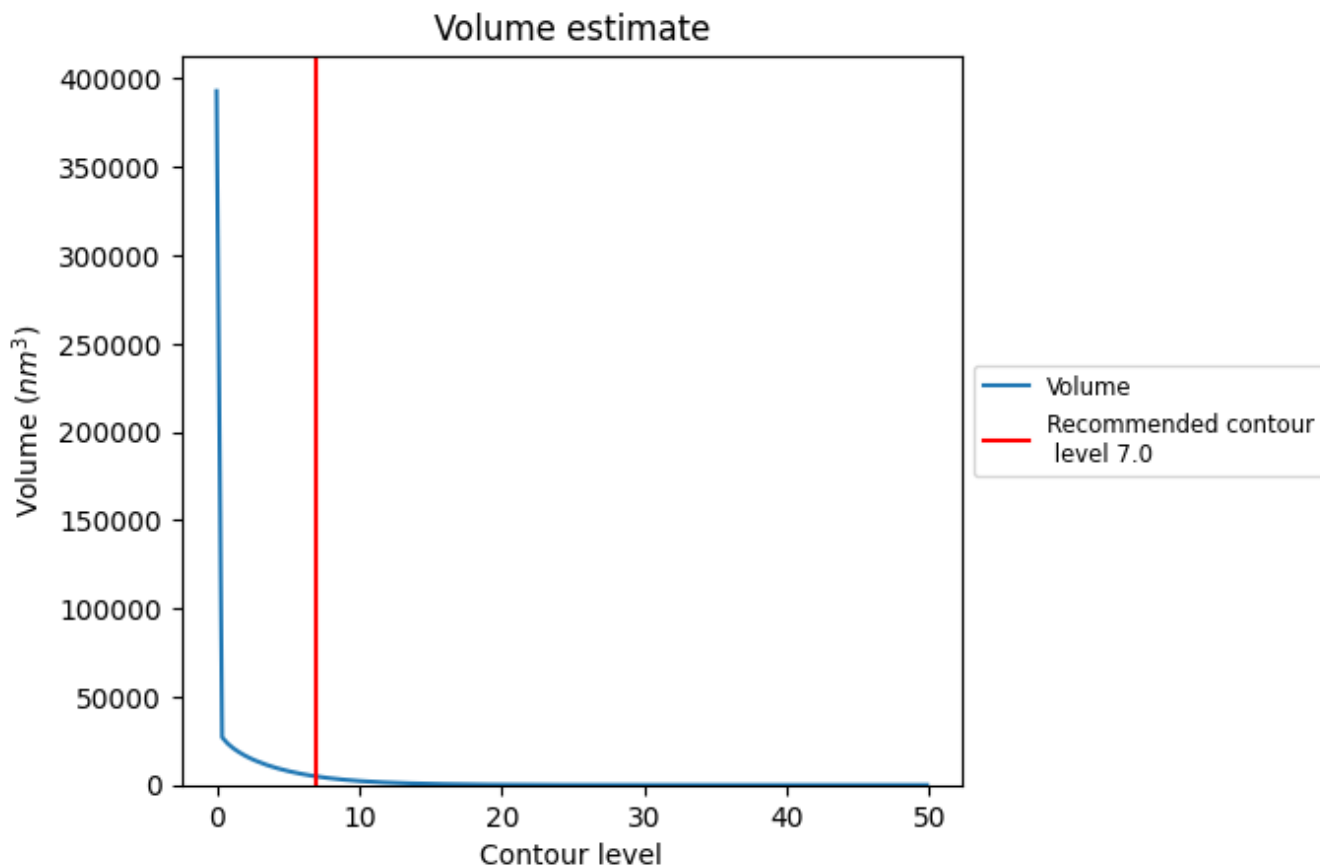
This section contains the results of statistical analysis of the map.

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.

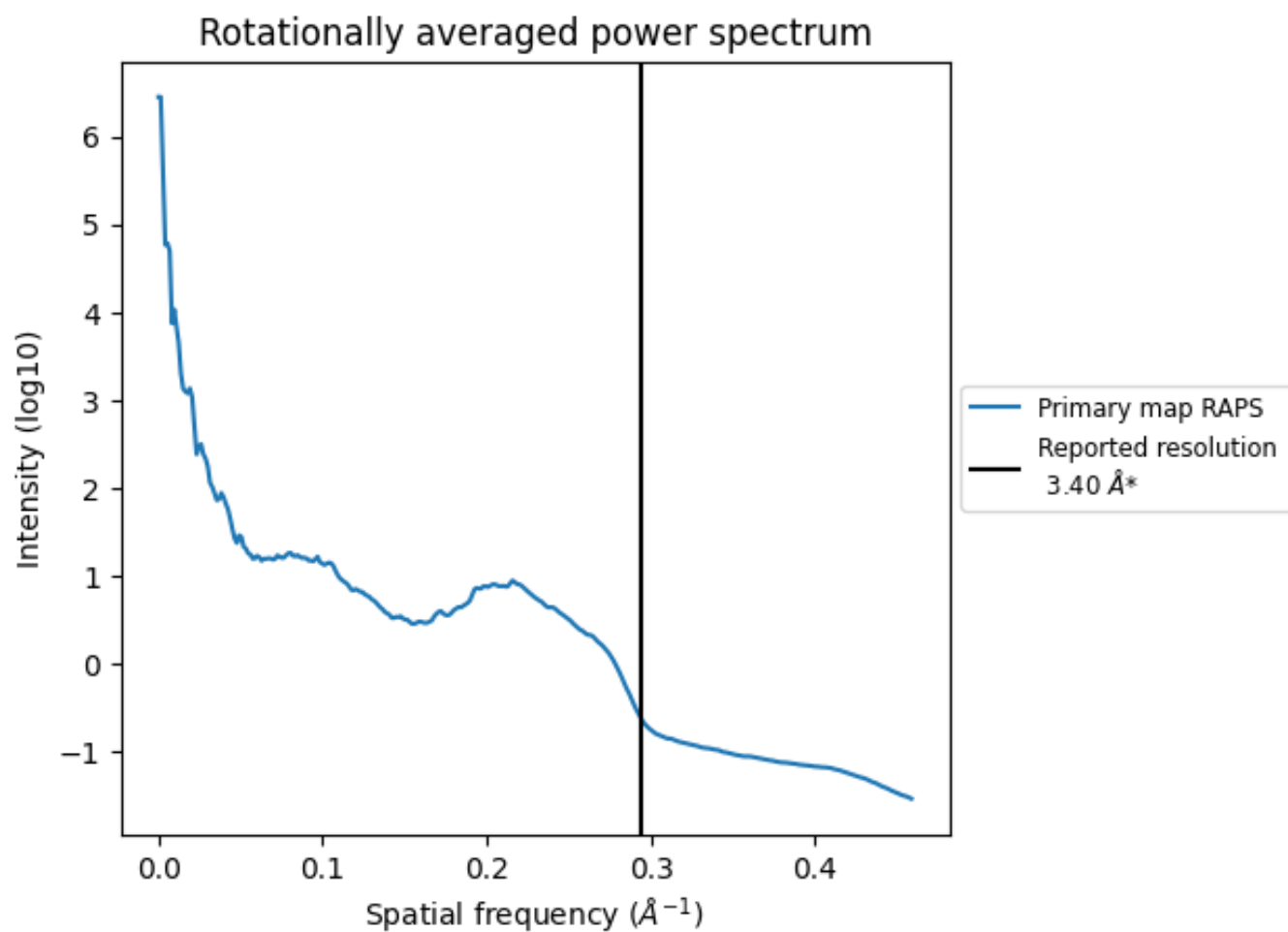
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 4833 nm³; this corresponds to an approximate mass of 4366 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](#)

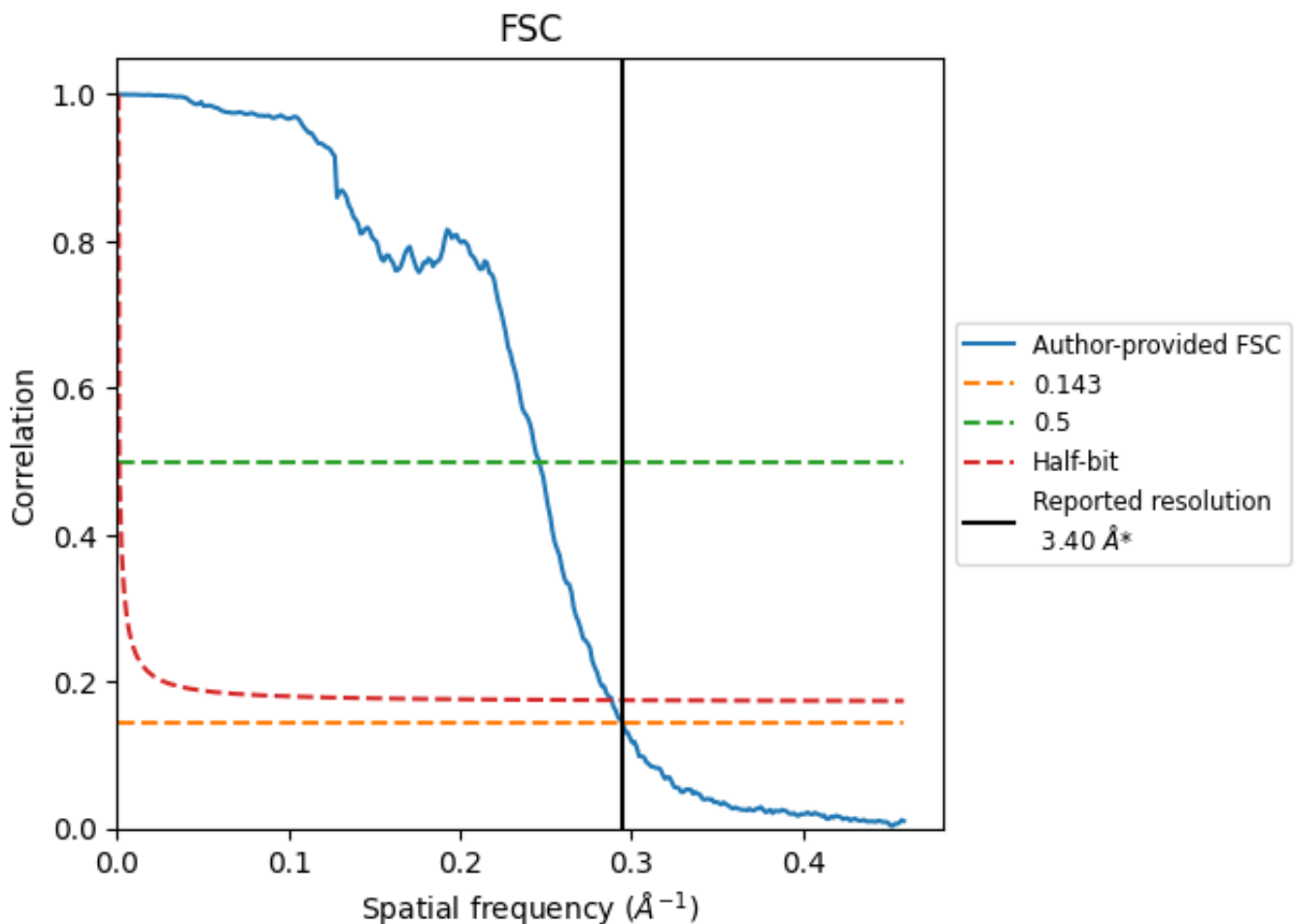


*Reported resolution corresponds to spatial frequency of 0.294\AA^{-1}

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

8.2 Resolution estimates [i](#)

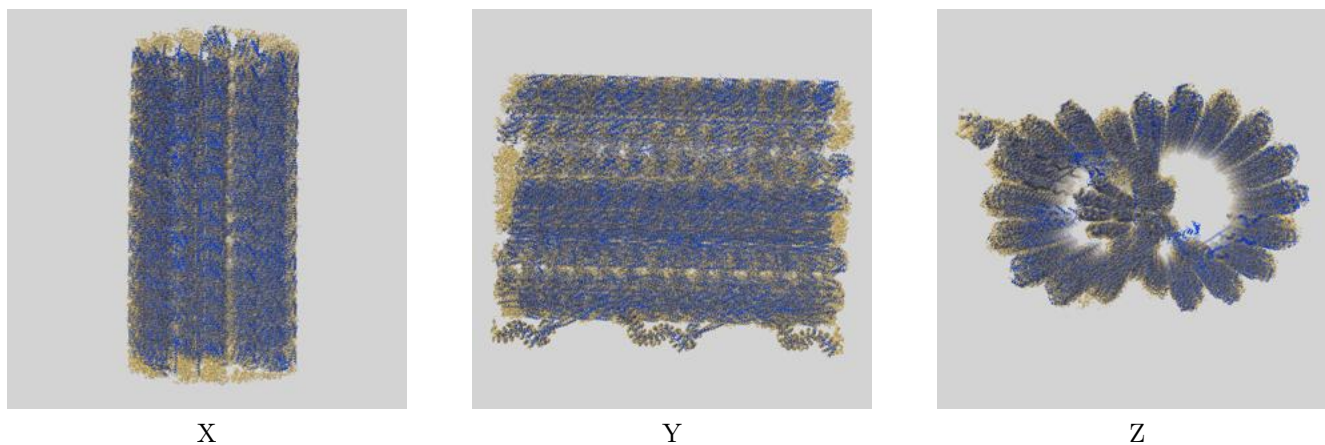
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.39	4.07	3.47
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

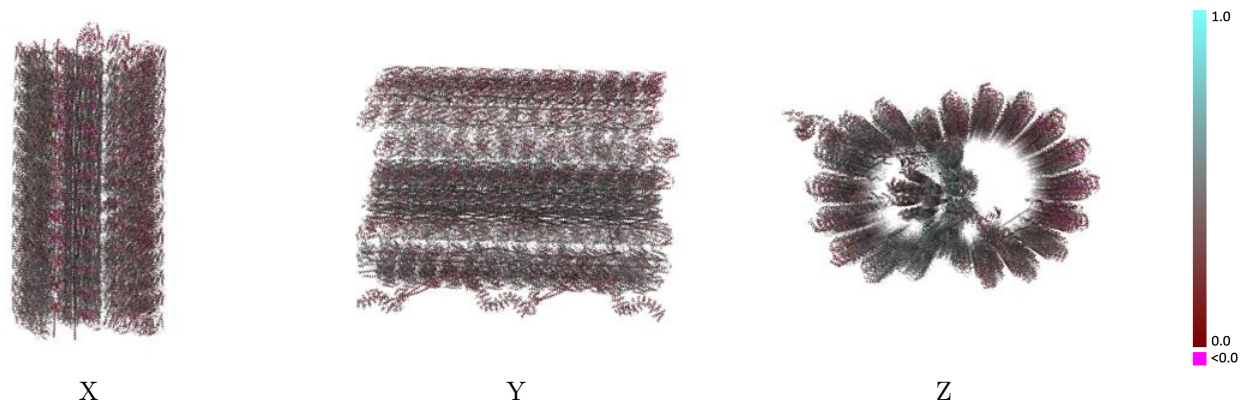
This section contains information regarding the fit between EMDB map EMD-24664 and PDB model 7RRO. Per-residue inclusion information can be found in section [3](#) on page [67](#).

9.1 Map-model overlay [i](#)



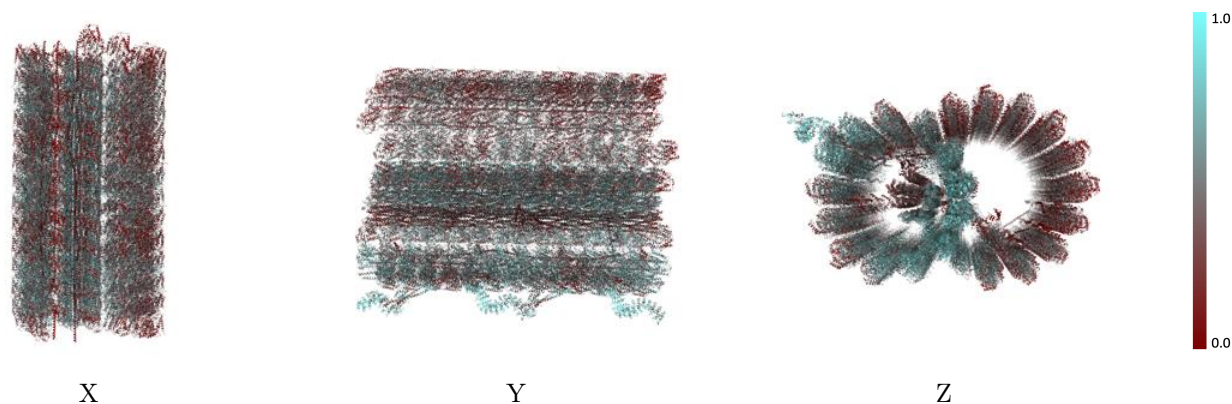
The images above show the 3D surface view of the map at the recommended contour level 7.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



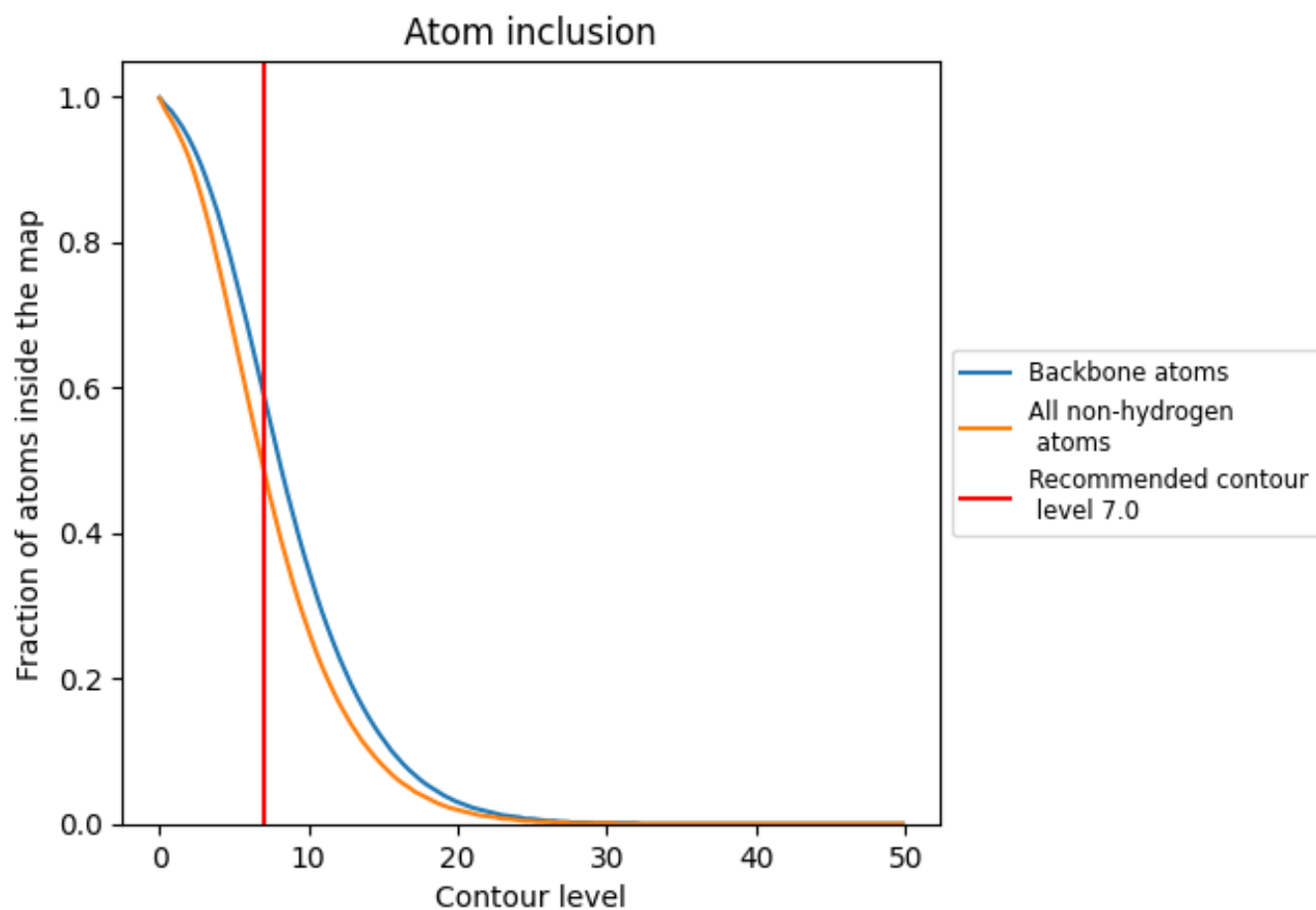
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [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 (7.0).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 59% of all backbone atoms, 48% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (7.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4850	 0.4120
0	 0.4530	 0.4800
1	 0.1420	 0.4210
2	 0.3210	 0.4020
3	 0.4800	 0.3830
4	 0.4820	 0.3920
5	 0.2140	 0.3580
6	 0.3150	 0.3960
7	 0.3950	 0.4240
8	 0.3330	 0.3970
9	 0.2010	 0.3690
A	 0.3940	 0.3750
A0	 0.6410	 0.4760
A1	 0.6340	 0.4830
A2	 0.6190	 0.4770
A3	 0.6000	 0.4740
A4	 0.6010	 0.4770
AA	 0.6780	 0.4680
AB	 0.7330	 0.4910
AC	 0.7440	 0.5040
AD	 0.7110	 0.4870
AE	 0.7070	 0.5050
AF	 0.7420	 0.5060
AG	 0.7570	 0.5230
AH	 0.7160	 0.5000
AI	 0.7280	 0.5170
AJ	 0.7610	 0.5170
AK	 0.7650	 0.5320
AL	 0.7300	 0.5220
AM	 0.6910	 0.5210
B	 0.3790	 0.3710
B0	 0.6250	 0.4730
B1	 0.6210	 0.4730
B2	 0.6110	 0.4720
B3	 0.5790	 0.4590























































































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Chain	Atom inclusion	Q-score
B4	0.5970	0.4510
B5	0.2840	0.3970
B6	0.3090	0.3960
B7	0.2730	0.3840
B8	0.2240	0.3780
B9	0.1920	0.3610
BA	0.6240	0.4680
BB	0.6820	0.4940
BC	0.7130	0.4980
BD	0.6750	0.4890
BE	0.6610	0.4810
BF	0.6900	0.4880
BG	0.7090	0.4950
BH	0.6820	0.4970
BI	0.6590	0.4900
BJ	0.6890	0.5020
BK	0.7180	0.5040
BL	0.6900	0.5070
BM	0.6450	0.5030
C	0.4010	0.3810
C0	0.5360	0.4120
C1	0.5760	0.4370
C2	0.5670	0.4460
C3	0.5180	0.4400
C4	0.5130	0.4290
C5	0.3150	0.4070
C6	0.2990	0.4120
C7	0.3010	0.3990
C8	0.2610	0.3960
C9	0.2110	0.3960
CA	0.5030	0.4270
CB	0.6370	0.4780
CC	0.6880	0.4890
CD	0.6490	0.4800
CE	0.6090	0.4580
CF	0.6300	0.4600
CG	0.6660	0.4720
CH	0.6580	0.4740
CI	0.6060	0.4610
CJ	0.6150	0.4760
CK	0.6630	0.4810
CL	0.6430	0.4890





















































































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Chain	Atom inclusion	Q-score
CM	 0.5720	 0.4760
D	 0.3000	 0.4550
D0	 0.5980	 0.4620
D1	 0.6200	 0.4670
D2	 0.5860	 0.4640
D3	 0.5920	 0.4500
D5	 0.1780	 0.4210
D6	 0.2860	 0.3880
D7	 0.2640	 0.3820
D8	 0.2300	 0.3770
D9	 0.1860	 0.3640
DA	 0.3170	 0.3440
DB	 0.4940	 0.4090
DC	 0.5550	 0.4180
DD	 0.5940	 0.4220
DE	 0.5210	 0.4030
DF	 0.5330	 0.4010
DG	 0.5920	 0.4110
DH	 0.6000	 0.4130
DI	 0.5050	 0.3810
DJ	 0.5310	 0.4090
DK	 0.5450	 0.4040
DL	 0.5560	 0.4210
DM	 0.4910	 0.4120
DN	 0.2660	 0.3230
E	 0.5850	 0.4860
E0	 0.3060	 0.4400
E1	 0.2680	 0.4390
E2	 0.1850	 0.4190
E3	 0.1770	 0.3850
EB	 0.4270	 0.3610
EC	 0.5100	 0.3880
ED	 0.5570	 0.3880
EE	 0.4750	 0.3610
EF	 0.4710	 0.3690
EG	 0.5140	 0.3520
EH	 0.5450	 0.3640
EI	 0.4880	 0.3380
EJ	 0.4360	 0.3260
EK	 0.4620	 0.3430
EL	 0.5020	 0.3580
EM	 0.4380	 0.3590





















































































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Chain	Atom inclusion	Q-score
EN	 0.2380	 0.2790
F	 0.5530	 0.4400
F0	 0.3330	 0.4260
F1	 0.3850	 0.4080
F2	 0.3610	 0.4000
F3	 0.3220	 0.3930
F4	 0.2940	 0.3820
FB	 0.3960	 0.3540
FC	 0.4900	 0.3820
FD	 0.5240	 0.3740
FE	 0.4710	 0.3470
FF	 0.4590	 0.3570
FG	 0.4810	 0.3460
FH	 0.5280	 0.3560
FI	 0.4700	 0.3230
FJ	 0.4170	 0.3180
FK	 0.4090	 0.2970
FL	 0.4930	 0.3580
FM	 0.4140	 0.3030
FN	 0.3040	 0.3230
G	 0.5130	 0.4510
GB	 0.6700	 0.4740
GC	 0.6650	 0.4800
GD	 0.5830	 0.4370
GE	 0.4680	 0.4050
GF	 0.5410	 0.4320
GG	 0.6070	 0.4610
GH	 0.6410	 0.4650
GI	 0.6480	 0.4650
GJ	 0.5810	 0.4370
GK	 0.4890	 0.3890
GL	 0.5480	 0.4270
GM	 0.6260	 0.4630
GN	 0.6880	 0.4760
H	 0.4390	 0.4490
H1	 0.4030	 0.3550
H2	 0.4030	 0.3400
H3	 0.4610	 0.3730
H4	 0.4180	 0.3470
H5	 0.4160	 0.3410
H6	 0.5200	 0.3950
H7	 0.7220	 0.3420

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Chain	Atom inclusion	Q-score
H8	 0.7180	 0.3410
H9	 0.6820	 0.3370
HB	 0.6320	 0.4500
HC	 0.6300	 0.4360
HD	 0.5350	 0.4160
HE	 0.4460	 0.3890
HF	 0.4160	 0.3900
HG	 0.5380	 0.4250
HH	 0.6080	 0.4550
HI	 0.6110	 0.4520
HJ	 0.5390	 0.4160
HK	 0.4570	 0.3810
HL	 0.4340	 0.3890
HM	 0.5660	 0.4150
HN	 0.6270	 0.4500
HO	 0.6290	 0.4350
I	 0.3780	 0.4640
I1	 0.5860	 0.3470
I2	 0.5310	 0.2940
I3	 0.6050	 0.3270
I4	 0.6120	 0.3310
IB	 0.4120	 0.3820
IC	 0.4930	 0.4170
ID	 0.5770	 0.4340
IE	 0.5820	 0.4450
IF	 0.4870	 0.4220
IG	 0.4630	 0.4140
IH	 0.5220	 0.4090
II	 0.5300	 0.4040
IJ	 0.4710	 0.3870
IK	 0.4740	 0.3850
IL	 0.5110	 0.3800
IM	 0.5160	 0.3830
IN	 0.4410	 0.3570
IO	 0.3570	 0.3430
J	 0.5310	 0.4640
JB	 0.5000	 0.4260
JC	 0.5390	 0.4180
JD	 0.5710	 0.4330
JE	 0.5280	 0.4300
JF	 0.4770	 0.4260
JG	 0.5280	 0.4180





















































































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Chain	Atom inclusion	Q-score
JH	0.5250	0.4220
JI	0.4900	0.3790
JJ	0.4810	0.3980
JK	0.5250	0.3970
JL	0.5670	0.4070
JM	0.5120	0.3800
JN	0.4120	0.3690
K	0.3340	0.4470
KB	0.6690	0.4840
KC	0.7420	0.5060
KD	0.7660	0.5190
KE	0.7630	0.5210
KF	0.7400	0.5310
KG	0.7590	0.5270
KH	0.7910	0.5480
KI	0.7930	0.5510
KJ	0.7620	0.5480
KK	0.7750	0.5500
KL	0.7960	0.5450
KM	0.7860	0.5490
KN	0.7670	0.5550
KO	0.7290	0.5380
L	0.5060	0.4620
LB	0.6840	0.4890
LC	0.7370	0.5030
LD	0.7460	0.5180
LE	0.7280	0.5150
LF	0.7130	0.5170
LG	0.7420	0.5250
LH	0.7660	0.5390
LI	0.7550	0.5320
LJ	0.7280	0.5270
LK	0.7430	0.5210
LL	0.7620	0.5270
LM	0.7560	0.5200
LN	0.7220	0.5190
M	0.3880	0.4550
MB	0.5980	0.4460
MC	0.6420	0.4600
MD	0.6520	0.4700
ME	0.6250	0.4630
MF	0.5960	0.4680

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Chain	Atom inclusion	Q-score
MG	 0.6220	 0.4630
MH	 0.6220	 0.4650
MI	 0.6230	 0.4670
MJ	 0.5850	 0.4400
MK	 0.6060	 0.4380
ML	 0.6450	 0.4430
MM	 0.6490	 0.4420
MN	 0.5640	 0.4210
N	 0.4350	 0.4490
NO	 0.2280	 0.3490
NA	 0.3170	 0.3670
NB	 0.3650	 0.3760
NC	 0.3450	 0.3690
ND	 0.2830	 0.3570
NE	 0.3110	 0.3560
NF	 0.3740	 0.3710
NG	 0.3460	 0.3620
NH	 0.2620	 0.3550
NI	 0.2790	 0.3450
NJ	 0.3690	 0.3620
NK	 0.3430	 0.3610
NL	 0.2740	 0.3530
O	 0.4500	 0.4500
OO	 0.2620	 0.3570
OA	 0.3530	 0.3710
OB	 0.4370	 0.3960
OC	 0.4500	 0.4090
OD	 0.3570	 0.3830
OE	 0.3780	 0.3830
OF	 0.4510	 0.3880
OG	 0.4640	 0.4040
OH	 0.3490	 0.3800
OI	 0.3460	 0.3820
OJ	 0.4300	 0.4040
OK	 0.4500	 0.4140
OL	 0.3570	 0.3820
P	 0.5880	 0.4920
PA	 0.2770	 0.3390
PB	 0.3980	 0.3680
PC	 0.4040	 0.3580
PD	 0.3200	 0.3550
PE	 0.3000	 0.3260

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Chain	Atom inclusion	Q-score
PF	0.4290	0.3770
PG	0.4210	0.3720
PH	0.3180	0.3490
PI	0.2980	0.3340
PJ	0.3840	0.3790
PK	0.4070	0.3850
PL	0.3240	0.3580
PM	0.2570	0.3520
Q	0.5710	0.4910
QA	0.2140	0.3030
QB	0.3640	0.3490
QC	0.3860	0.3520
QD	0.3050	0.3480
QE	0.2710	0.3200
QF	0.4050	0.3610
QG	0.4080	0.3470
QH	0.3360	0.3440
QI	0.2620	0.3150
QJ	0.3780	0.3630
QK	0.4100	0.3640
QL	0.3500	0.3560
QM	0.2550	0.3270
R	0.2650	0.4340
RA	0.1960	0.3060
RB	0.3480	0.3580
RC	0.3970	0.3770
RD	0.3180	0.3630
RE	0.2700	0.3210
RF	0.3520	0.3410
RG	0.4030	0.3490
RH	0.3490	0.3420
RI	0.2880	0.3340
RJ	0.3420	0.3610
RK	0.4180	0.3750
RL	0.4020	0.3870
RM	0.3280	0.3610
S	0.2830	0.4370
SA	0.1900	0.2880
SB	0.3350	0.3320
SC	0.3700	0.3300
SD	0.3710	0.3440
SE	0.2840	0.3170

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Chain	Atom inclusion	Q-score
SF	0.3160	0.3280
SG	0.3560	0.3180
SH	0.3650	0.3410
SI	0.3050	0.3220
SJ	0.3190	0.3320
SK	0.4010	0.3500
SL	0.4100	0.3510
SM	0.3530	0.3330
T	0.5870	0.4970
TB	0.2360	0.2890
TC	0.3000	0.3020
TD	0.3080	0.2980
TE	0.2240	0.2730
TF	0.2270	0.2720
TG	0.2930	0.2990
TH	0.3020	0.3060
TI	0.2140	0.2720
TJ	0.2490	0.2830
TK	0.3350	0.3010
TL	0.3660	0.3250
TM	0.3130	0.3070
U	0.5640	0.4890
UB	0.2910	0.3710
UC	0.3730	0.3920
UD	0.4000	0.4120
UE	0.3320	0.3780
UF	0.3160	0.3780
UG	0.4130	0.4030
UH	0.4310	0.4160
UI	0.3680	0.3940
UJ	0.3140	0.3710
UK	0.3870	0.3770
UL	0.4580	0.4170
UM	0.4320	0.4120
UN	0.2900	0.3900
V	0.5420	0.4800
VB	0.3410	0.3790
VC	0.4310	0.3950
VD	0.4700	0.4260
VE	0.4220	0.4000
VF	0.3510	0.3910
VG	0.4170	0.4040



































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Chain	Atom inclusion	Q-score
VH	0.4750	0.4240
VI	0.4490	0.4060
VJ	0.3560	0.3950
VK	0.4060	0.4060
VL	0.5190	0.4350
VM	0.5120	0.4260
VN	0.4320	0.4160
W	0.4100	0.4470
WB	0.4100	0.3750
WC	0.4910	0.4000
WD	0.5610	0.4260
WE	0.5220	0.4300
WF	0.4460	0.4120
WG	0.4600	0.4090
WH	0.5670	0.4300
WI	0.5300	0.4200
WJ	0.4310	0.4140
WK	0.4460	0.4050
WL	0.5770	0.4330
WM	0.5640	0.4380
WN	0.5140	0.4350
X	0.4410	0.4630
XA	0.5270	0.4210
XB	0.6140	0.4450
XC	0.5810	0.4510
XD	0.6550	0.4610
XE	0.5850	0.4660
XF	0.6600	0.4830
XG	0.5490	0.4690
Y	0.4230	0.4520
YB	0.5780	0.4480
YC	0.5010	0.4510
YD	0.6230	0.4760
YE	0.5170	0.4700
YF	0.6190	0.4910
YG	0.2820	0.4460
Z	0.2060	0.4000
a	0.1800	0.3690
b	0.1660	0.3730
c	0.0880	0.3440
d	0.1180	0.3610
e	0.4350	0.4240

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Chain	Atom inclusion	Q-score
f	 0.4290	 0.4260
g	 0.5060	 0.4450
h	 0.3620	 0.3960
i	 0.3760	 0.4470
j	 0.3920	 0.4500
k	 0.4610	 0.4520
l	 0.5750	 0.4620
m	 0.5860	 0.5000
n	 0.5850	 0.5060
o	 0.1940	 0.3240
p	 0.2180	 0.3260
q	 0.5350	 0.4550
r	 0.5340	 0.4590
s	 0.5710	 0.4770
t	 0.0580	 0.3120
y	 0.5830	 0.4800
z	 0.5820	 0.4780