wwPDB EM Validation Summary Report

Nov 30, 2023 – 12:12 PM JST

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

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

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

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

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

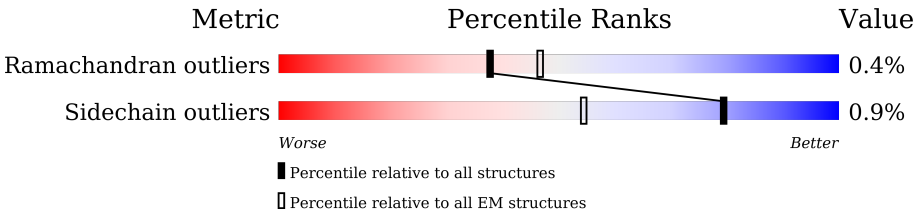
EMDB validation analysis	:	0.0.1.dev70
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 6.50 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	491	8% 63% 36%
1	B	491	10% 39% 60%
2	A1	418	75% 25%
2	A2	418	93% 5%
2	A3	418	93% 5%
2	A4	418	44% 55%
3	AB	427	7% 99%
3	AD	427	99%
3	AF	427	99%

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

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

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

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

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

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

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

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

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

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

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

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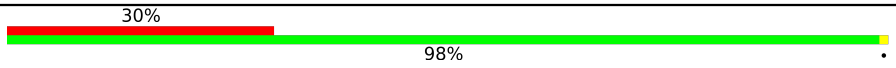
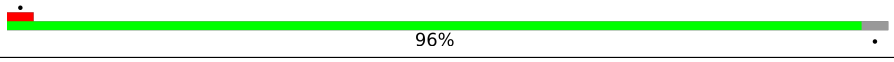
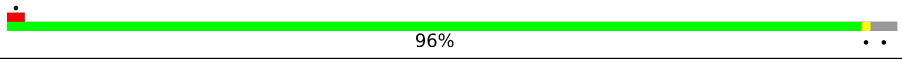
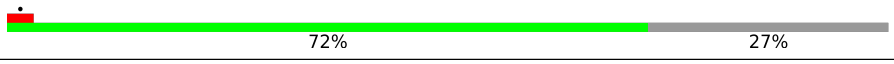
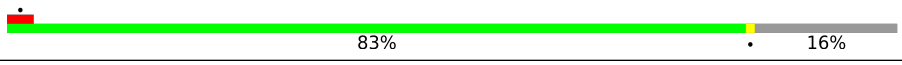
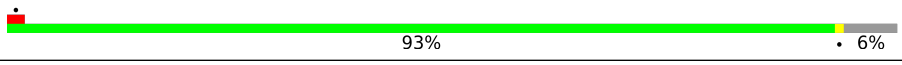
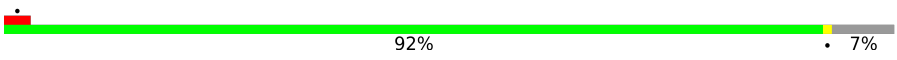
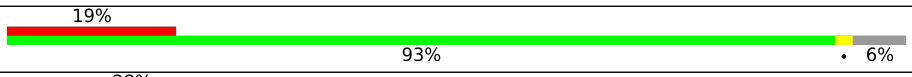
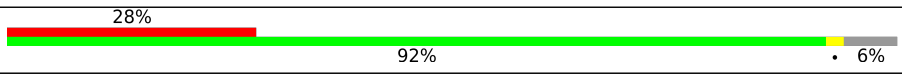
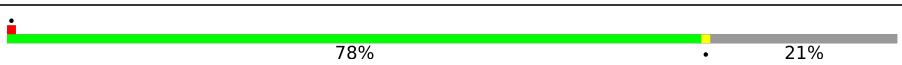
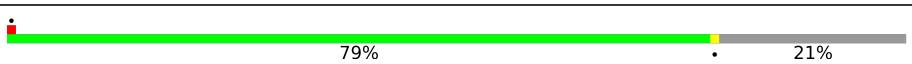
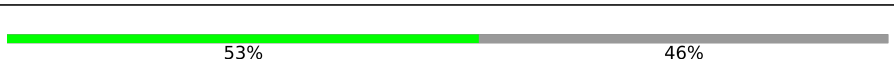
Mol	Chain	Length	Quality of chain
4	WK	438	
5	B1	430	
5	B2	430	
5	B3	430	
5	B4	430	
5	B5	430	
5	B6	430	
5	B7	430	
5	B8	430	
5	B9	430	
6	C	395	
6	D	395	
7	C1	490	
7	C2	490	
7	C3	490	
7	C4	490	
7	C5	490	
7	C6	490	
7	C7	490	
7	C8	490	
7	C9	490	
7	Ca	490	
7	Cb	490	
7	Cc	490	
7	Cd	490	

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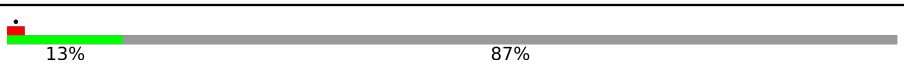
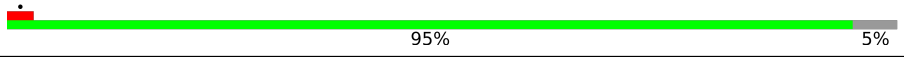
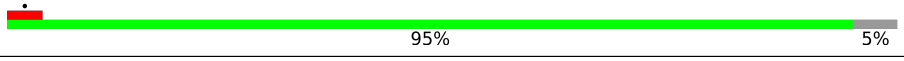
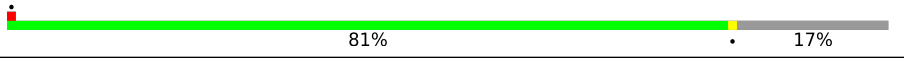
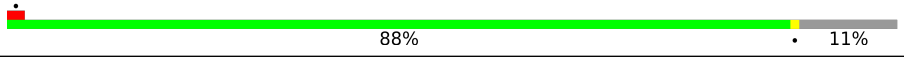
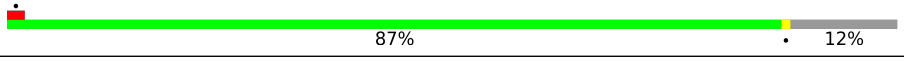
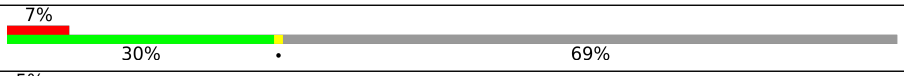
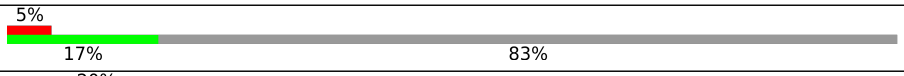
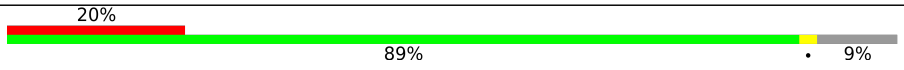
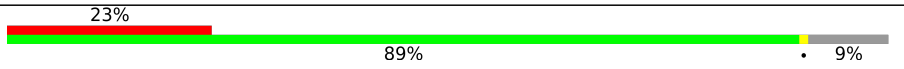
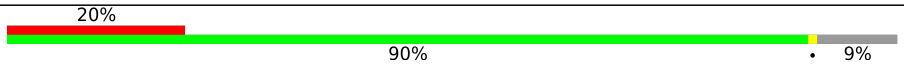
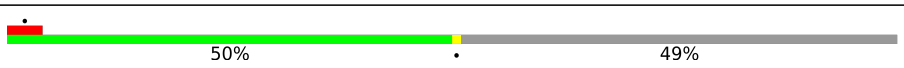
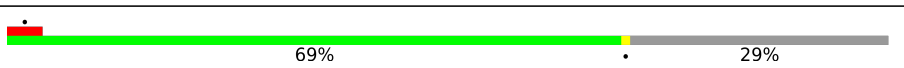
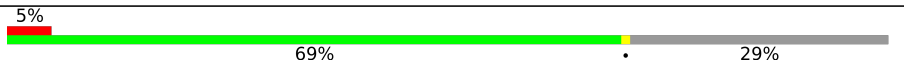
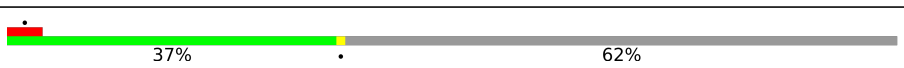
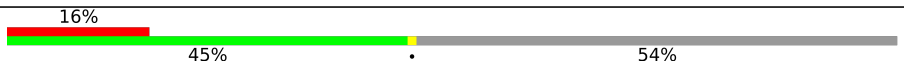
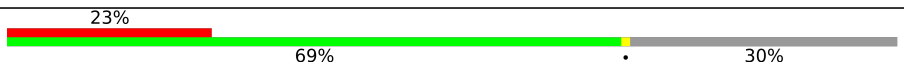
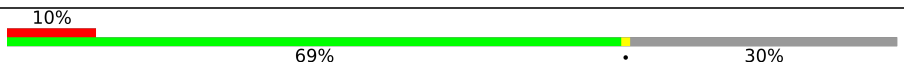
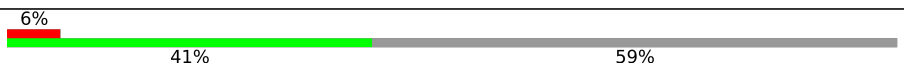
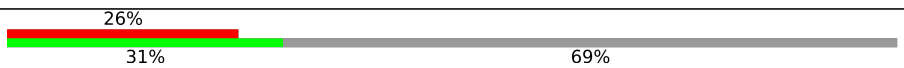
Mol	Chain	Length	Quality of chain
8	D1	447	
8	D2	447	
8	D3	447	
8	D4	447	
8	D5	447	
8	D6	447	
8	D7	447	
8	D8	447	
8	D9	447	
8	Da	447	
9	E	853	
9	F	853	
10	E1	206	
10	E2	206	
10	E3	206	
10	E4	206	
11	F1	557	
11	F2	557	
11	F3	557	
11	F4	557	
11	F5	557	
11	F6	557	
11	F7	557	
11	F8	557	
11	F9	557	

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Mol	Chain	Length	Quality of chain
11	Fa	557	29% 69% 30%
11	Fb	557	13% 68% 30%
11	Fc	557	26% 55% 43%
11	Fd	557	96%
11	Fe	557	14% 42% 57%
11	Ff	557	22% 70% 29%
11	Fg	557	26% 55% 44%
11	Fh	557	12% 32% 67%
11	Fi	557	33% 48% 51%
11	Fj	557	15% 49% 50%
11	Fk	557	11% 59% 40%
11	Fl	557	12% 59% 40%
11	Fm	557	12% 58% 41%
12	G	514	11% 86% 13%
12	H	514	9% 91%
13	G1	648	13% 78% 21%
13	G2	648	15% 75% 24%
13	G3	648	20% 77% 21%
14	G4	750	20% 98%
14	G5	750	22% 98%
14	G6	750	21% 98%
15	H1	319	10% 42% 56%
15	H2	319	8% 42% 58%
15	H3	319	7% 43% 56%
15	H4	319	8% 42% 57%

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

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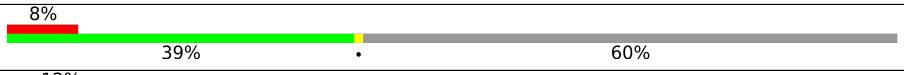
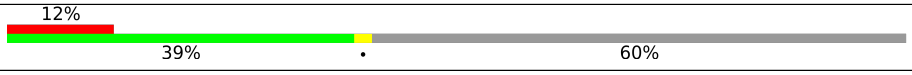
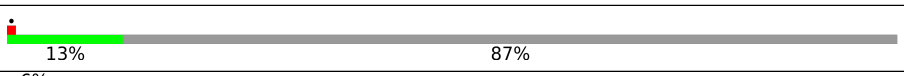
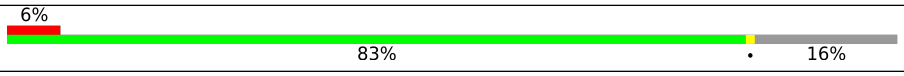
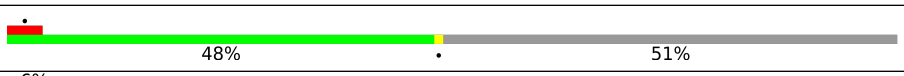
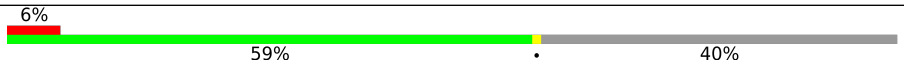
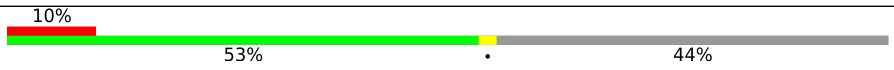
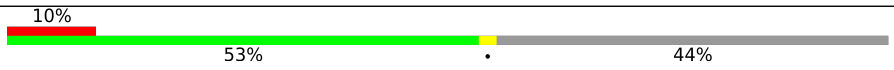
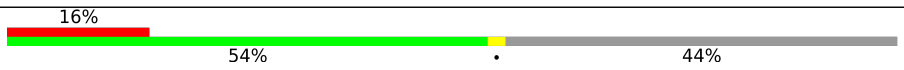
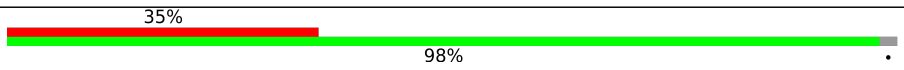
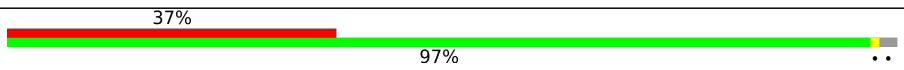
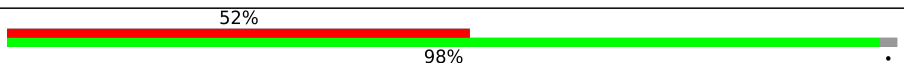
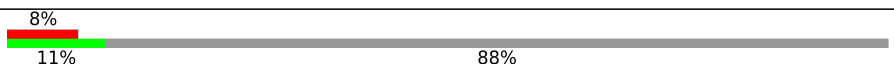
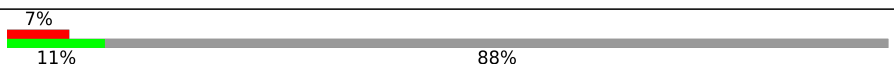
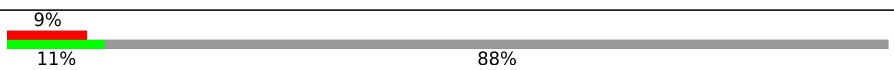
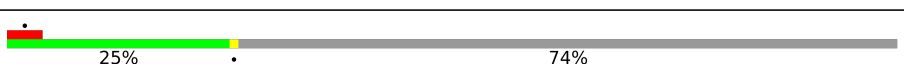
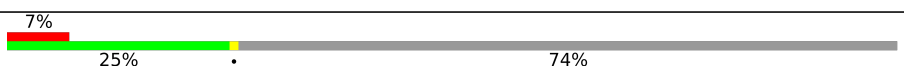
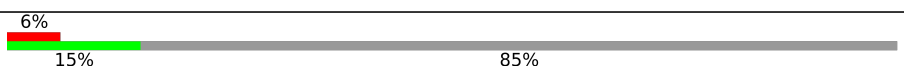
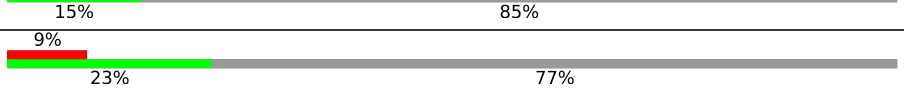
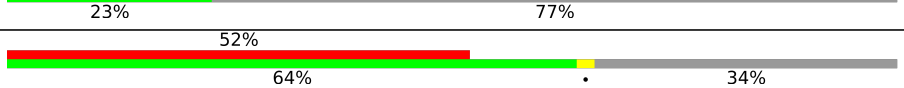
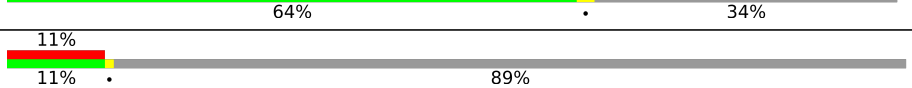
Mol	Chain	Length	Quality of chain
25	N	122	
26	N1	168	
26	N2	168	
26	N3	168	
26	N4	168	
27	O	377	
27	P	377	
27	Q	377	
27	R	377	
28	O1	189	
28	O2	189	
28	O3	189	
29	P1	620	
29	P2	620	
29	P3	620	
30	Q1	1516	
30	Q2	1516	
30	Q3	1516	
31	R1	283	
31	R2	283	
31	R3	283	
32	S	470	
32	T	470	
33	U	551	
33	V	551	

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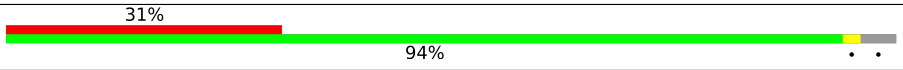
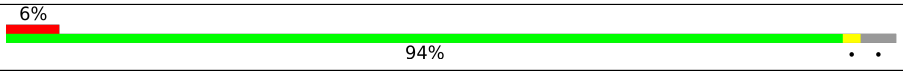
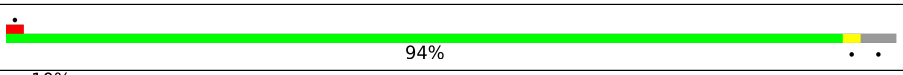
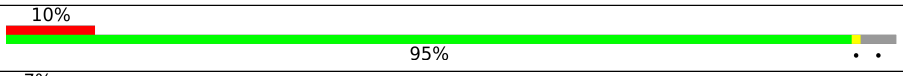
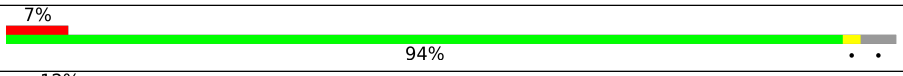
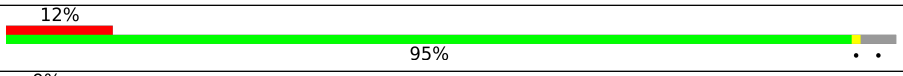
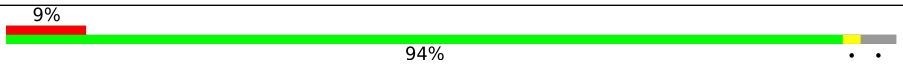
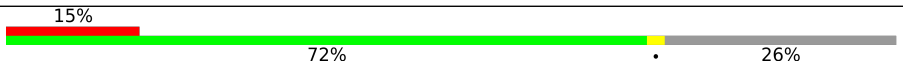
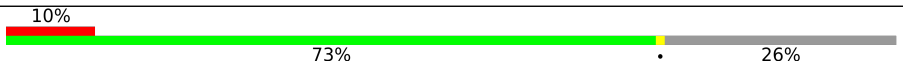
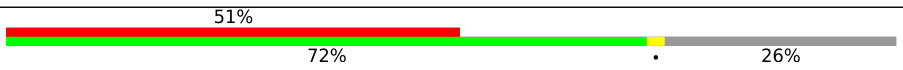
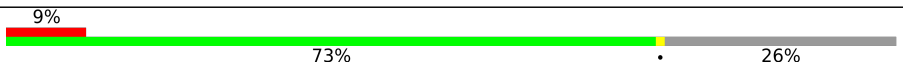
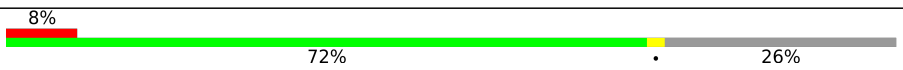
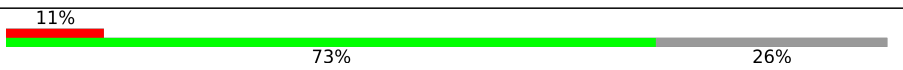
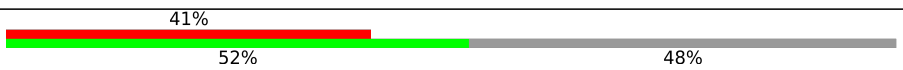
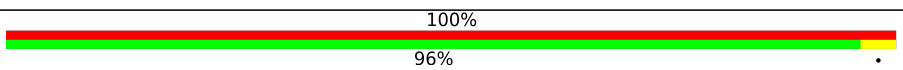
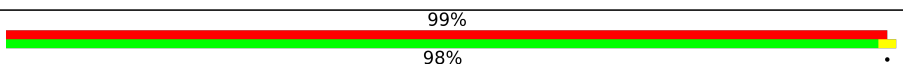
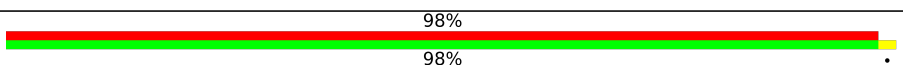
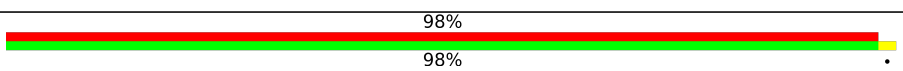
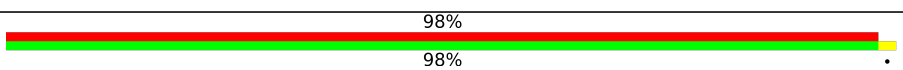
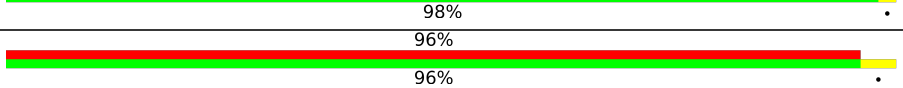
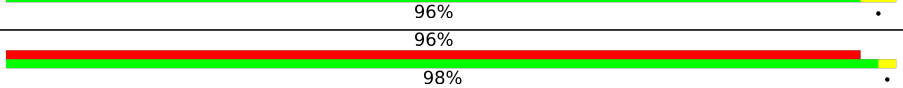
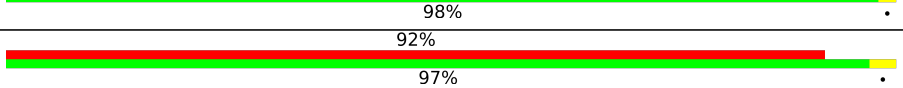
Mol	Chain	Length	Quality of chain
33	W	551	
33	X	551	
34	XA	193	
34	XB	193	
34	XC	193	
34	XD	193	
34	XE	193	
34	XF	193	
34	XG	193	
35	XH	241	
35	XI	241	
35	XJ	241	
35	XK	241	
35	XL	241	
35	XM	241	
36	Y	547	
36	Z	547	
37	YA	168	
37	YB	168	
37	YC	168	
37	YD	168	
37	YE	168	
37	YF	168	
37	YG	168	
37	YH	168	

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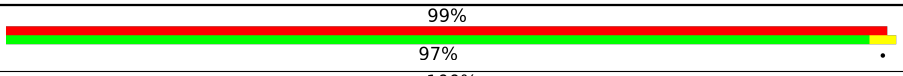
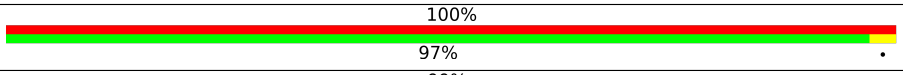
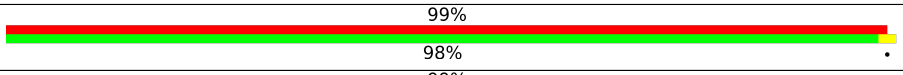
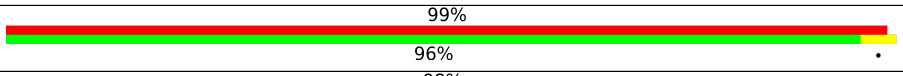
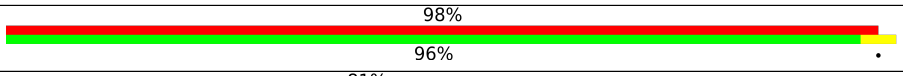
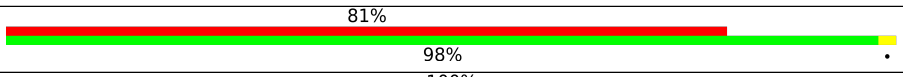
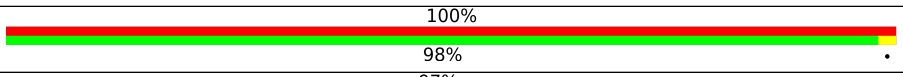
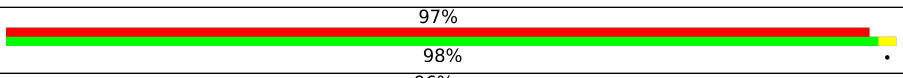
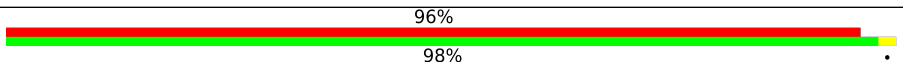
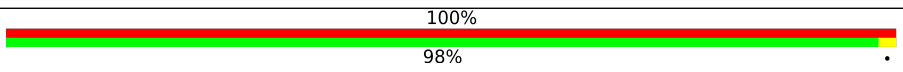
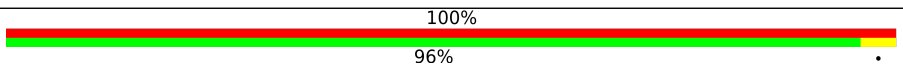
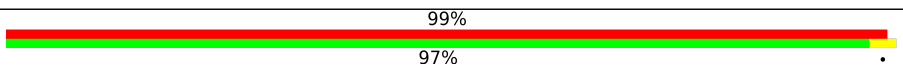
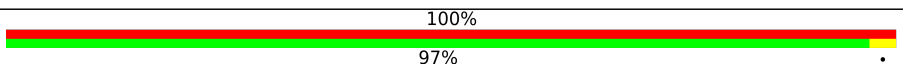
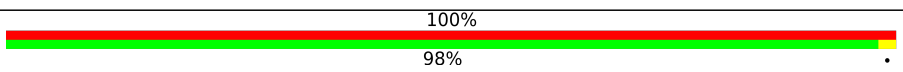
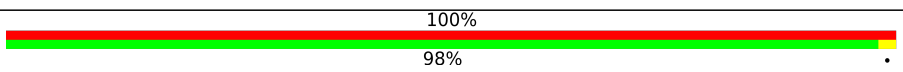
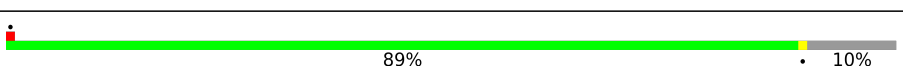
Mol	Chain	Length	Quality of chain
37	YI	168	
37	YJ	168	
37	YK	168	
37	YL	168	
37	YM	168	
37	YN	168	
37	YO	168	
37	YP	168	
37	YQ	168	
37	YR	168	
37	YS	168	
37	YT	168	
37	YU	168	
37	YV	168	
37	YW	168	
38	a	101	

2 Entry composition (i)

There are 39 unique types of molecules in this entry. The entry contains 1283344 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

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

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

- Molecule 2 is a protein called Tektin-1.

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

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

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

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

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	EJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	EL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	FL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	GL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	HL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	IB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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Mol	Chain	Residues	Atoms					AltConf	Trace
3	ID	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	IF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	IH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	IJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	IL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	JB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	JD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	JF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	JH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	JJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	JL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	KB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	KD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	KF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	KH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	KJ	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	KL	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	LB	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	LD	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	LF	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		
3	LH	427	Total	C	N	O	S	0	0
			3356	2109	575	646	26		

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 5 is a protein called Tektin-2.

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

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

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

- Molecule 7 is a protein called Tektin-3.

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

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

- Molecule 8 is a protein called Tektin-4.

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

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

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

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

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

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

- Molecule 11 is a protein called Tektin-5.

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

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

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

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

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

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

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

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

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

- Molecule 15 is a protein called Protein FAM166A.

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

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

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

- Molecule 17 is a protein called Protein FAM166C.

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

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

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

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

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

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

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

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

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

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

- Molecule 22 is a protein called Enkurin.

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 28 is a protein called Protein Flattop.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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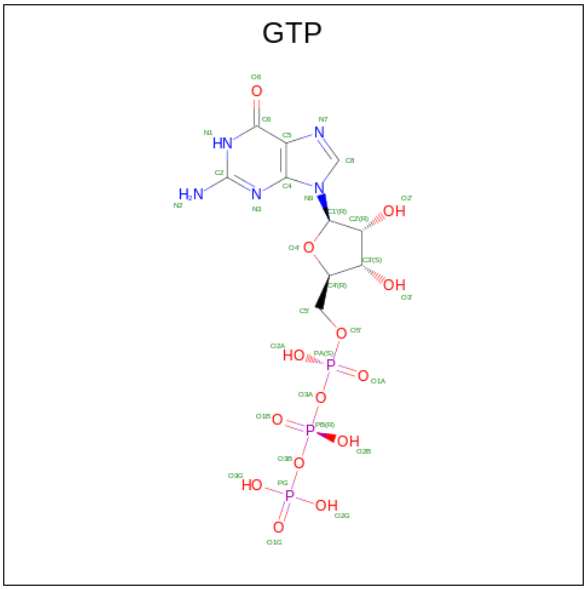
Mol	Chain	Residues	Atoms					AltConf	Trace
37	YD	168	Total	C	N	O	S	0	0
			1365	856	244	254	11		
37	YE	168	Total	C	N	O	S	0	0
			1365	856	244	254	11		
37	YF	168	Total	C	N	O	S	0	0
			1365	856	244	254	11		
37	YG	168	Total	C	N	O	S	0	0
			1365	856	244	254	11		
37	YH	168	Total	C	N	O	S	0	0
			1365	856	244	254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

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

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

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



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

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Mol	Chain	Residues	Atoms					AltConf
39	AL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	AM	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	BM	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CH	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	CI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	CM	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	DL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	ED	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	EE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	EL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	FL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GA	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	GB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	GL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HJ	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	HK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	HL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	ID	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	II	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	IM	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JF	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	JG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	JL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	KL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LC	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	LD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	LL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	ML	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	MM	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	NA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	ND	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	NL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	OI	1	Total	C	N	O	P	0
			32	10	5	14	3	

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

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

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Mol	Chain	Residues	Atoms					AltConf
39	SD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	SM	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TL	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
39	TM	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	TN	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UG	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	UL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VB	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VC	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VD	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VE	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VF	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VG	1	Total	C	N	O	P	0
			32	10	5	14	3	

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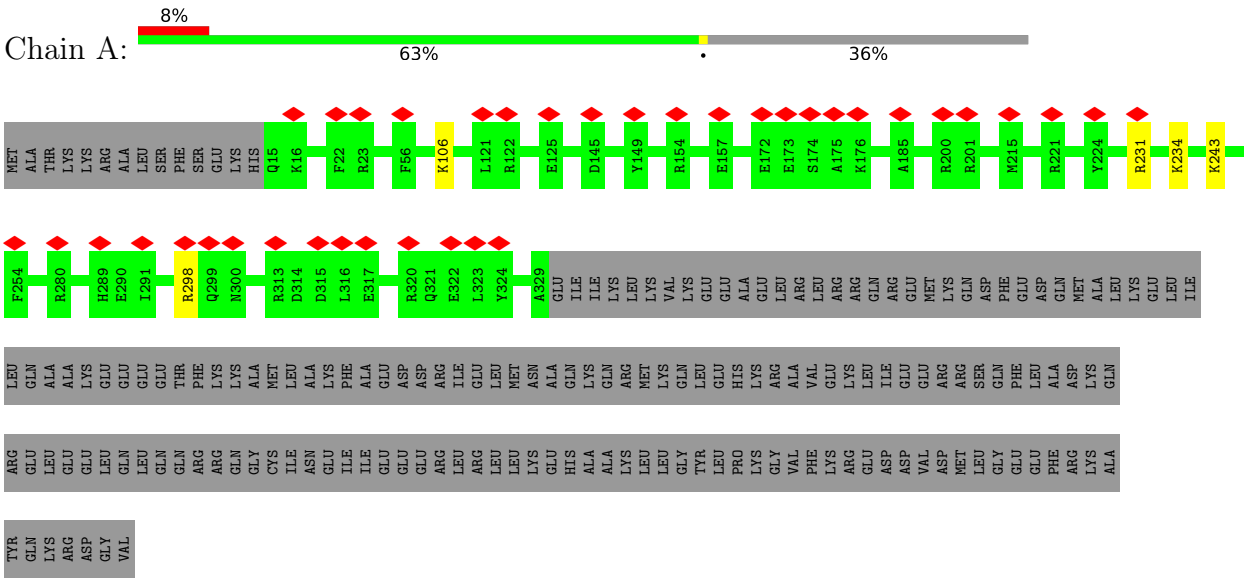
Mol	Chain	Residues	Atoms					AltConf
39	VH	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VI	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VJ	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VK	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	VL	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	WA	1	Total	C	N	O	P	0
			32	10	5	14	3	
39	WB	1	Total	C	N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

3 Residue-property plots (i)

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

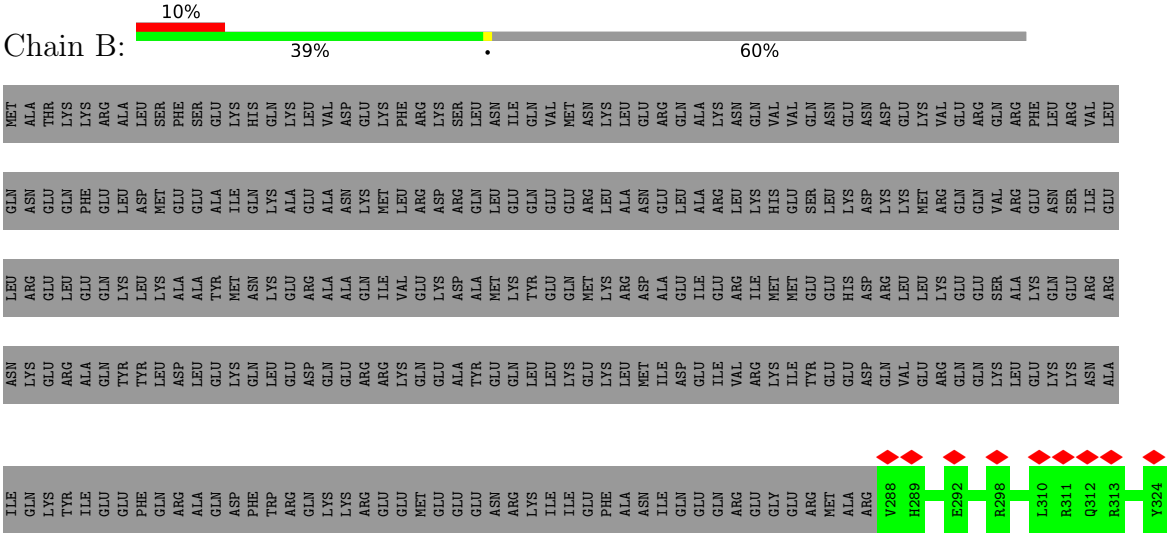
• Molecule 1: Meiosis-specific nuclear structural protein 1

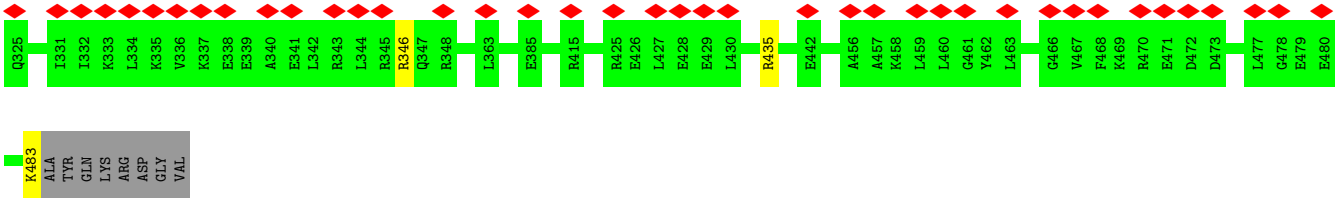
Chain A:



• Molecule 1: Meiosis-specific nuclear structural protein 1

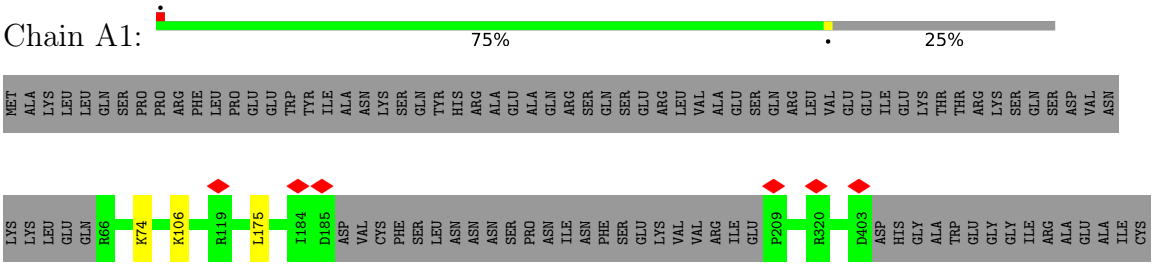
Chain B:





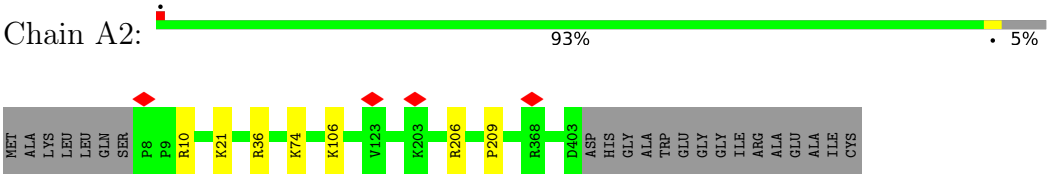
• Molecule 2: Tektin-1

Chain A1:



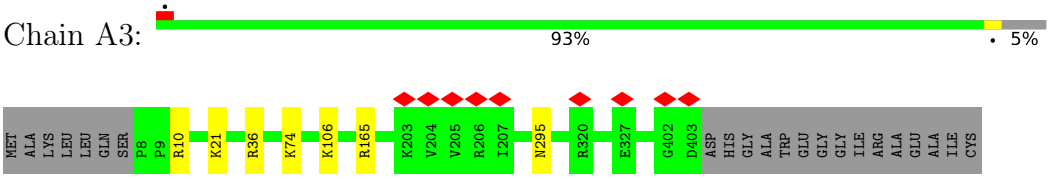
• Molecule 2: Tektin-1

Chain A2:



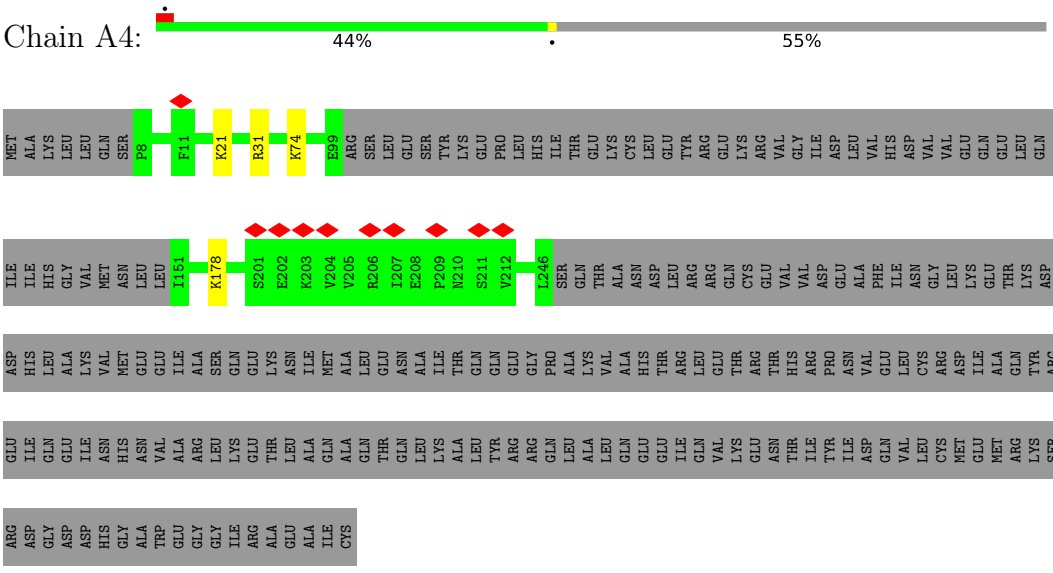
• Molecule 2: Tektin-1

Chain A3:



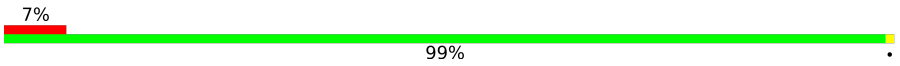
• Molecule 2: Tektin-1

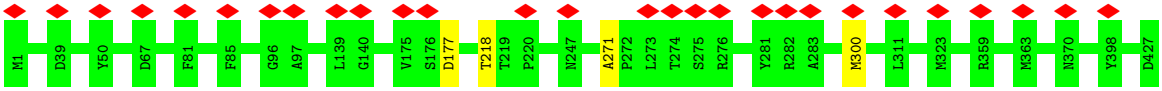
Chain A4:



• Molecule 3: Tubulin beta-4B chain

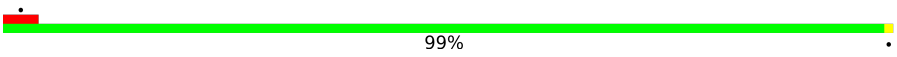
Chain AB:

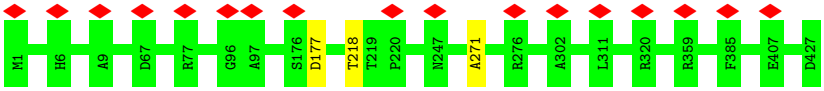




• Molecule 3: Tubulin beta-4B chain

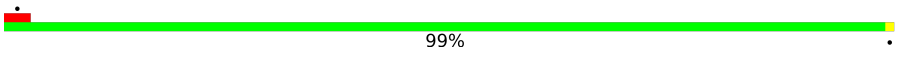
Chain AD:

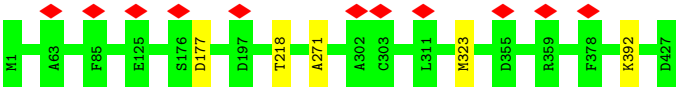




• Molecule 3: Tubulin beta-4B chain

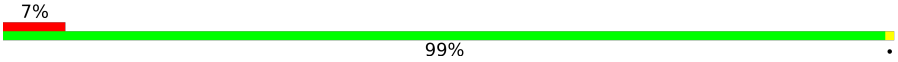
Chain AF:

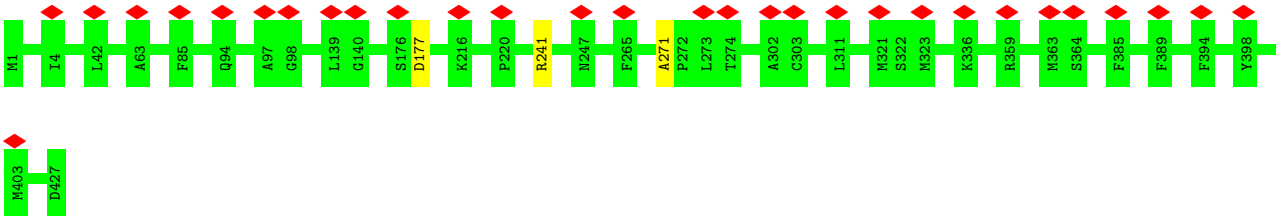




• Molecule 3: Tubulin beta-4B chain

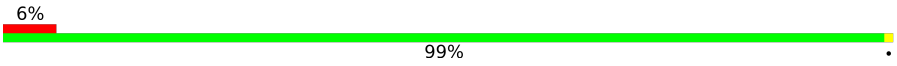
Chain AH:

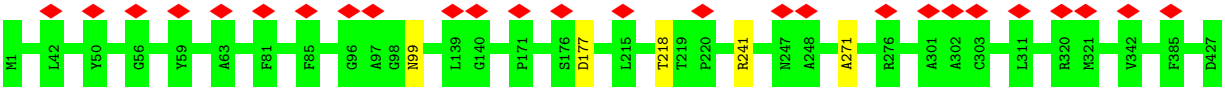




• Molecule 3: Tubulin beta-4B chain

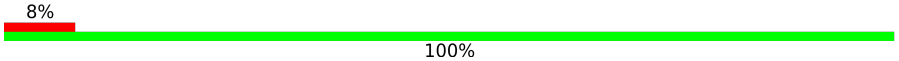
Chain AJ:

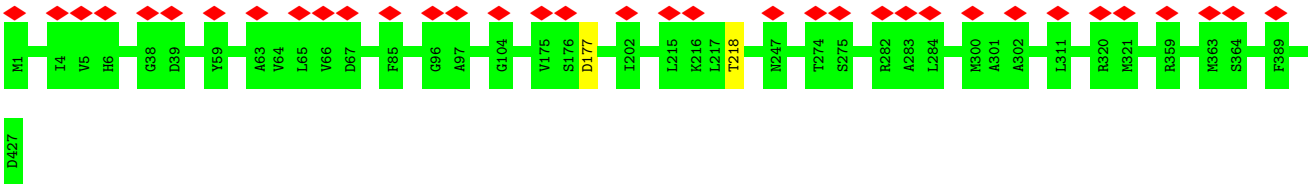




• Molecule 3: Tubulin beta-4B chain

Chain AL:





• Molecule 3: Tubulin beta-4B chain

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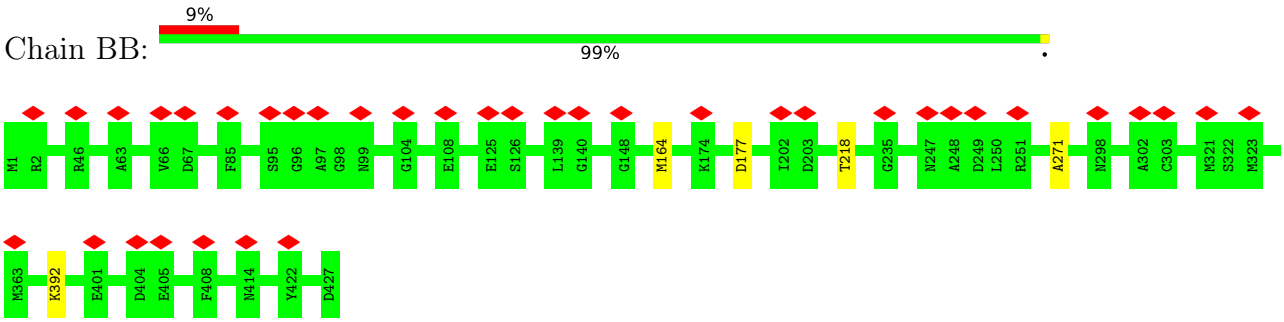
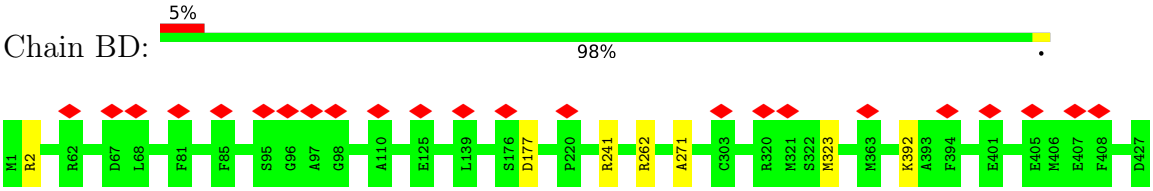


• Molecule 3: Tubulin beta-4B chain

Chain BD:



• Molecule 3: Tubulin beta-4B chain

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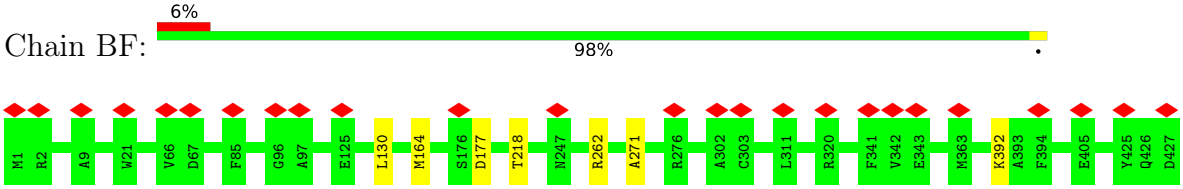

• Molecule 3: Tubulin beta-4B chain

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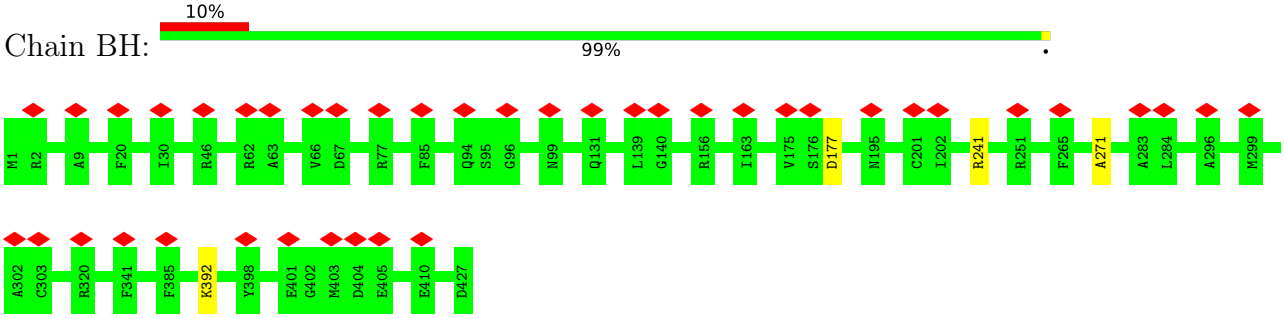

• Molecule 3: Tubulin beta-4B chain

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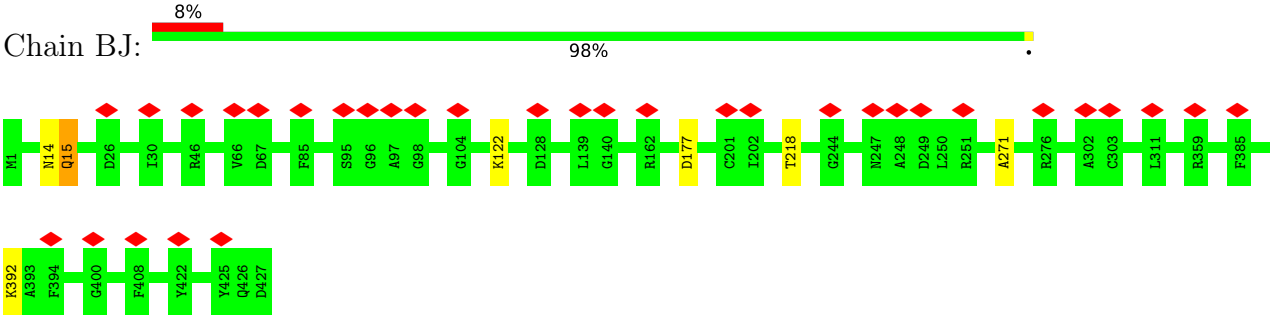

• Molecule 3: Tubulin beta-4B chain

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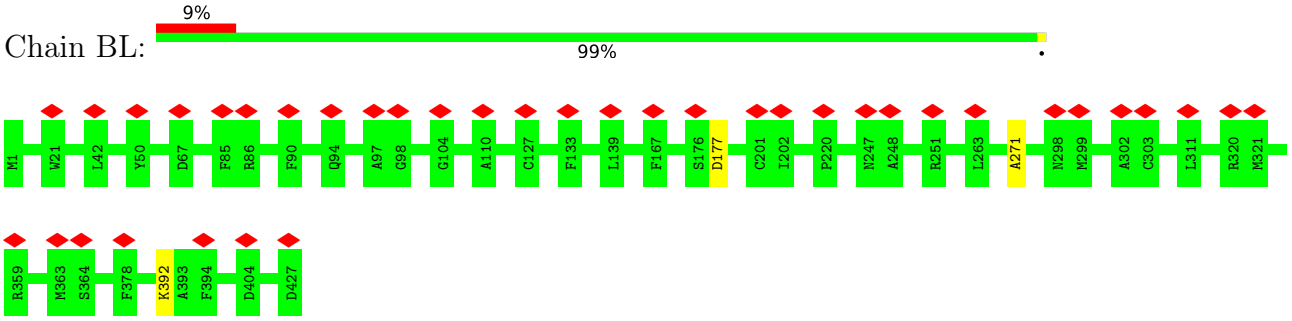

• Molecule 3: Tubulin beta-4B chain

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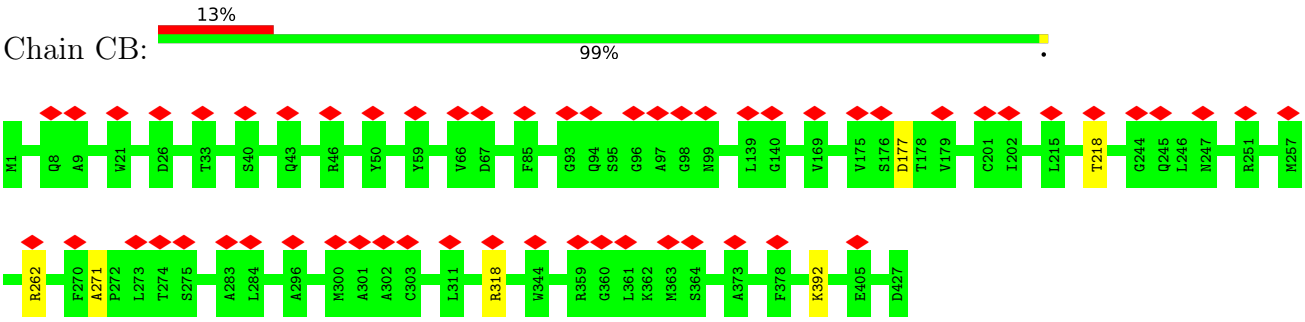
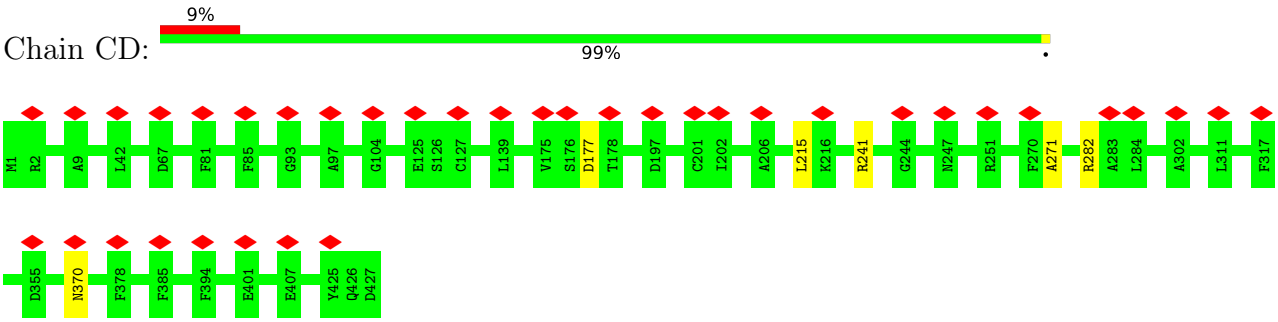


• Molecule 3: Tubulin beta-4B chain

Chain CD:



• Molecule 3: Tubulin beta-4B chain

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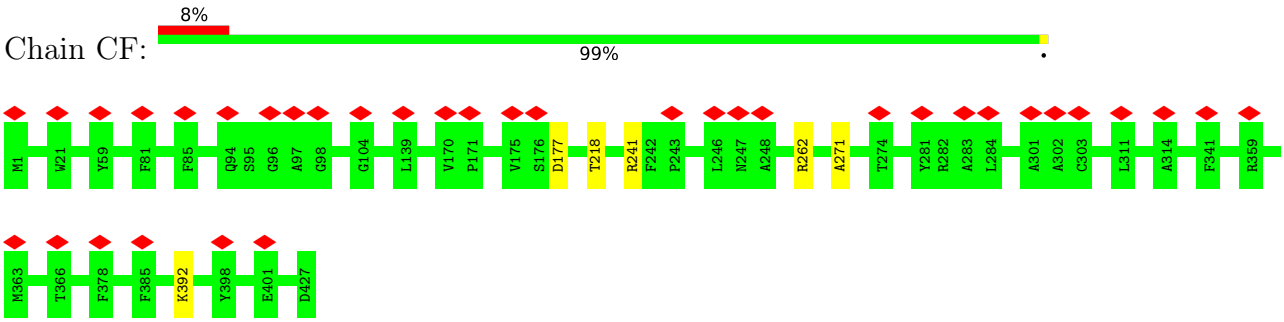
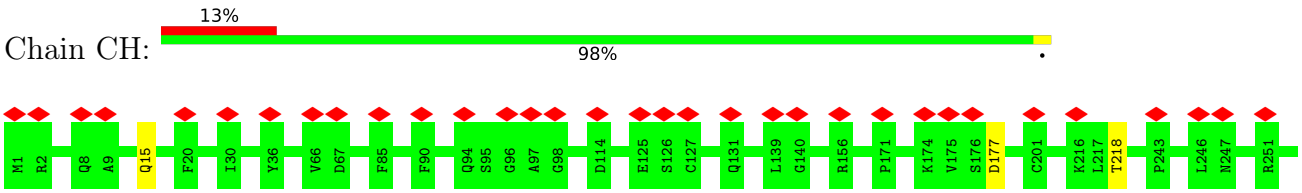


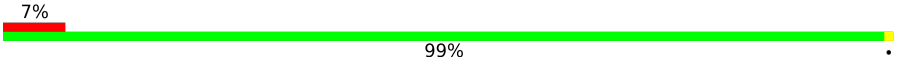
• Molecule 3: Tubulin beta-4B chain

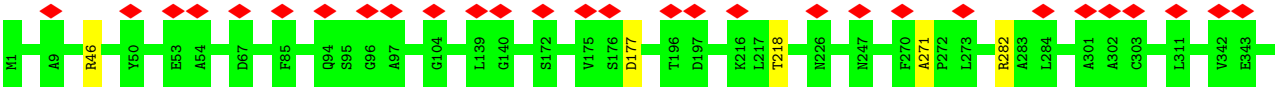
Chain CH:

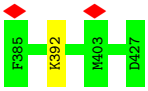


• Molecule 3: Tubulin beta-4B chain

Chain CJ:

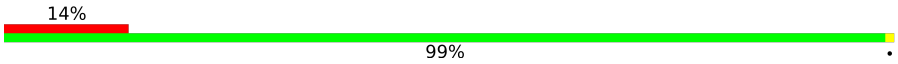


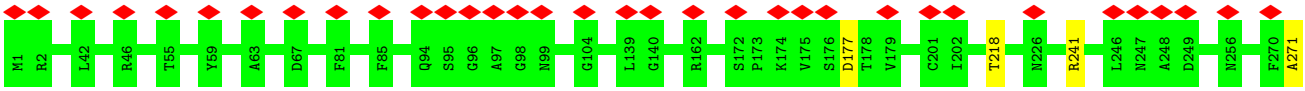


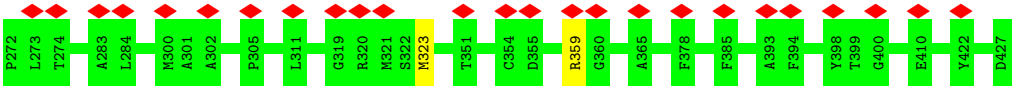


• Molecule 3: Tubulin beta-4B chain

Chain CL:

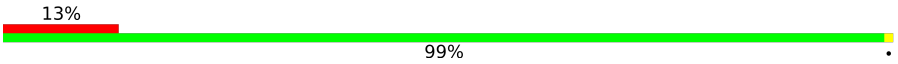


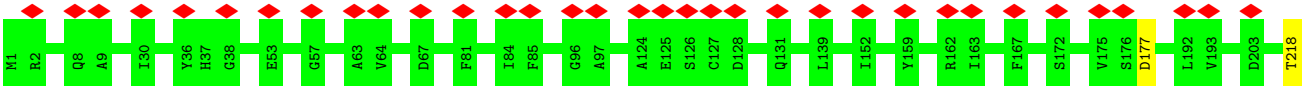


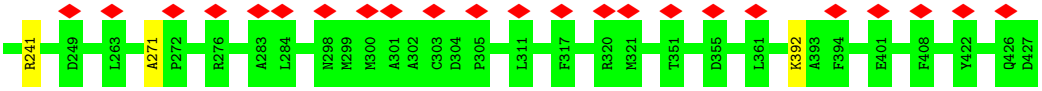


• Molecule 3: Tubulin beta-4B chain

Chain DB:

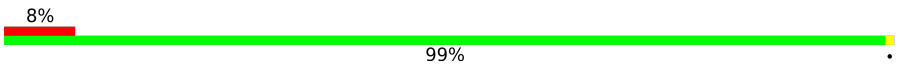


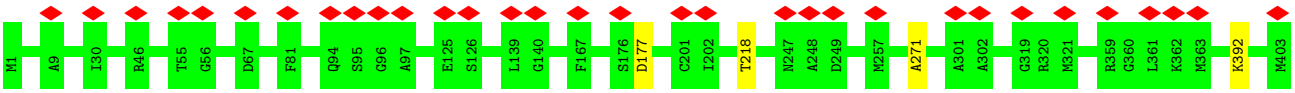


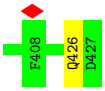


• Molecule 3: Tubulin beta-4B chain

Chain DD:

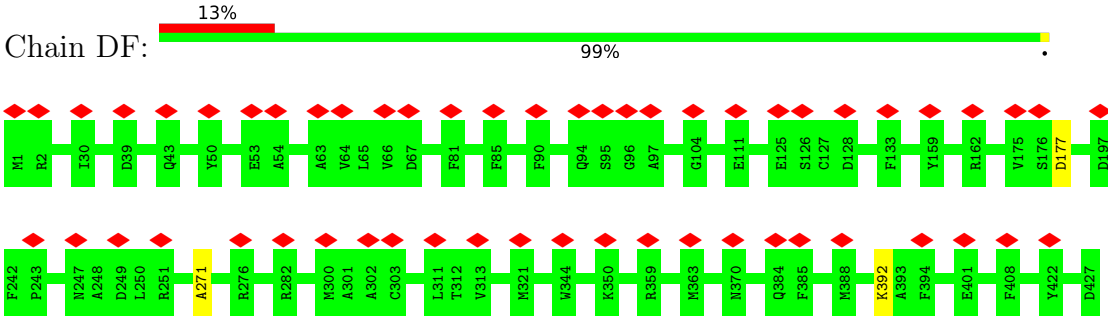






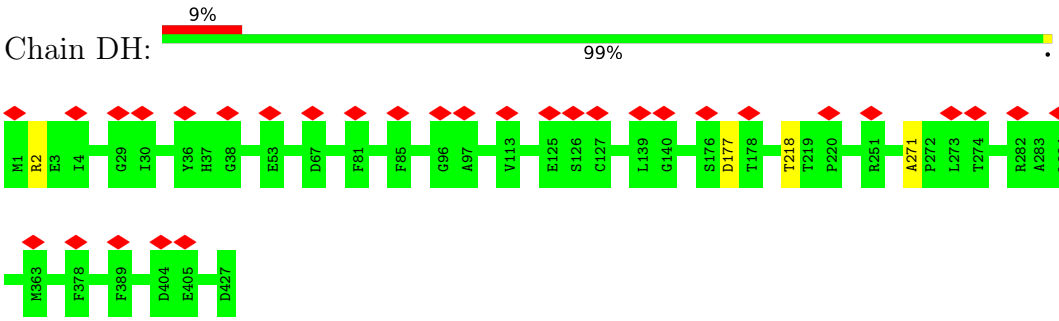
• Molecule 3: Tubulin beta-4B chain

Chain DF:



• Molecule 3: Tubulin beta-4B chain

Chain DH:



• Molecule 3: Tubulin beta-4B chain

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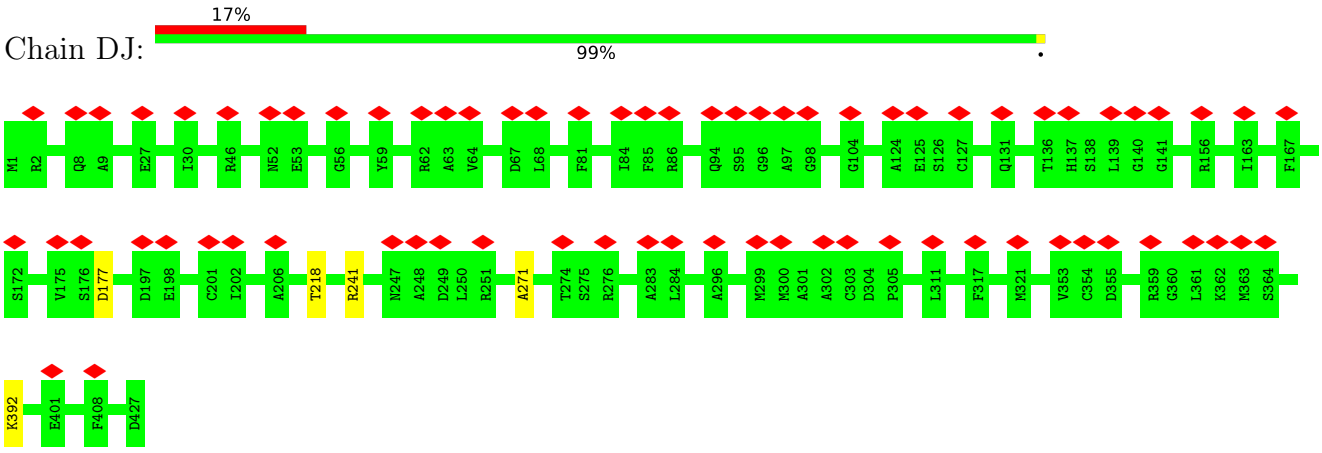
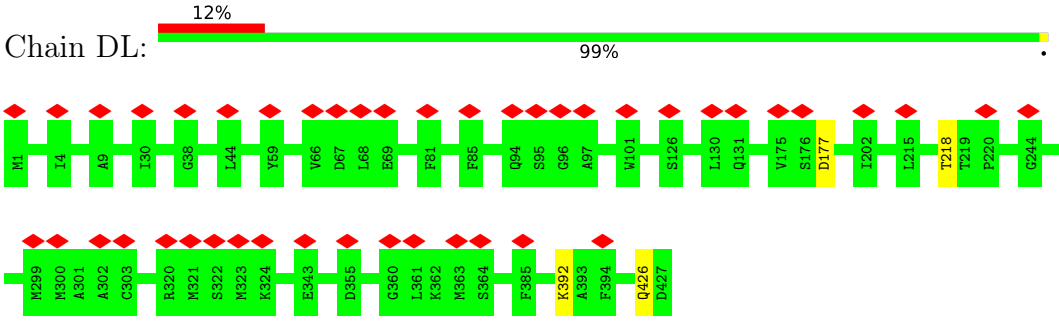


• Molecule 3: Tubulin beta-4B chain

Chain DL:



• Molecule 3: Tubulin beta-4B chain

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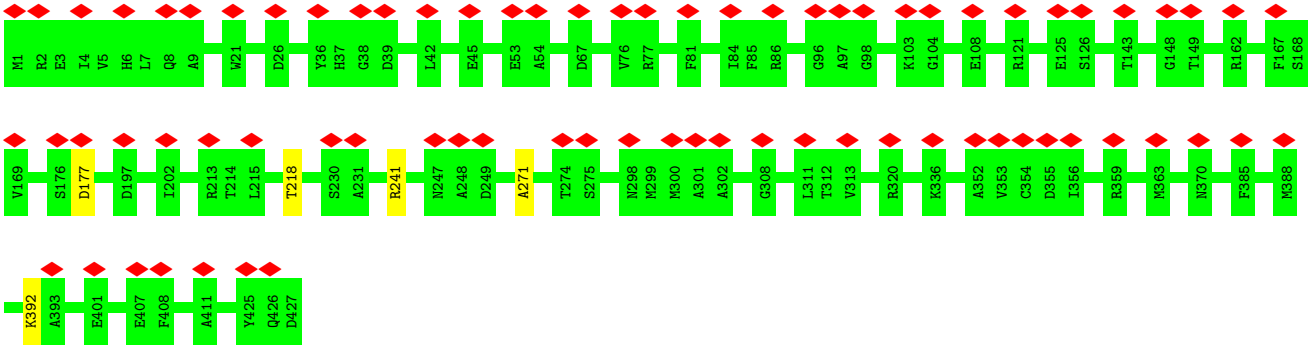
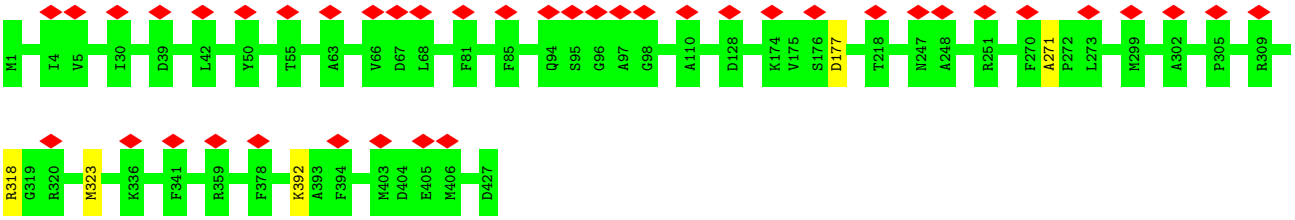
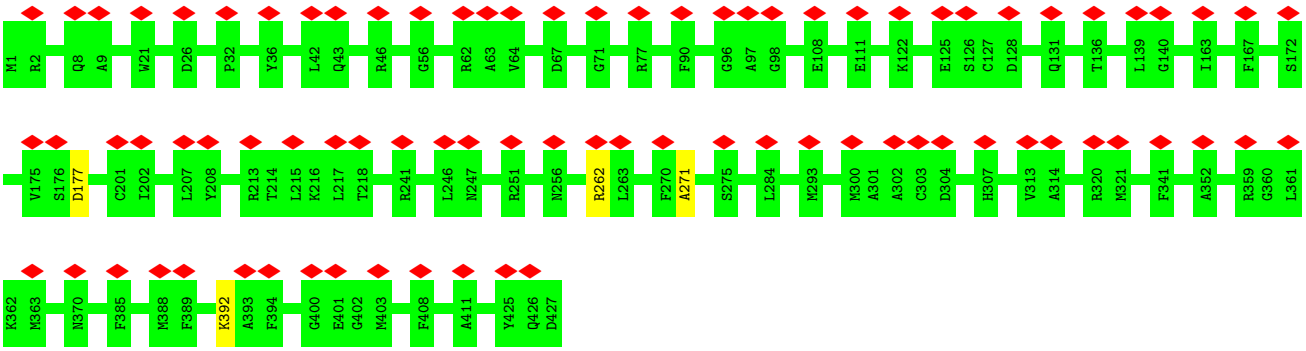


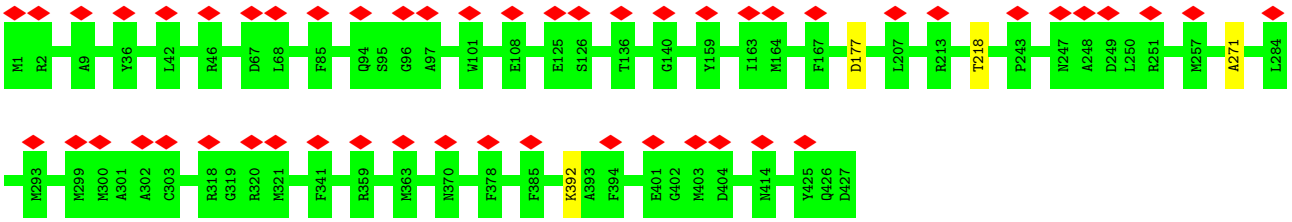
• Molecule 3: Tubulin beta-4B chain



• Molecule 3: Tubulin beta-4B chain



• Molecule 3: Tubulin beta-4B chain



• Molecule 3: Tubulin beta-4B chain

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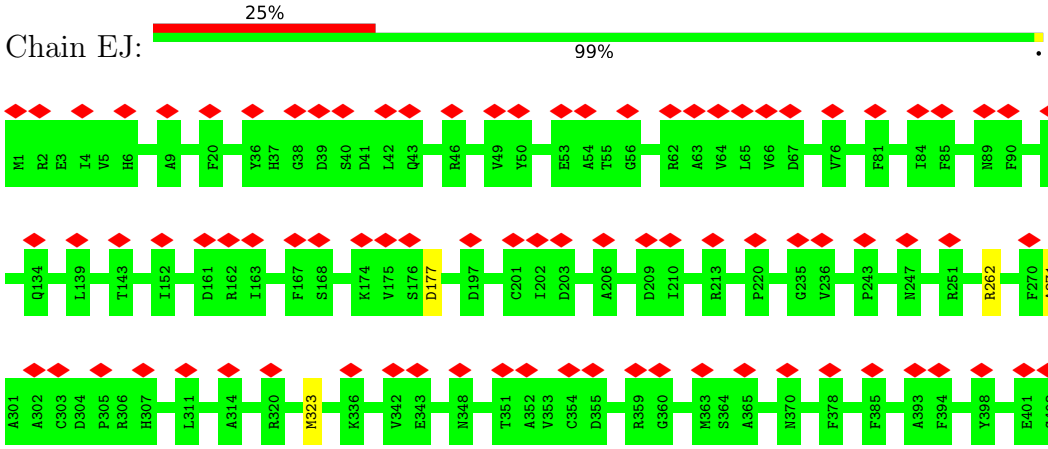

• Molecule 3: Tubulin beta-4B chain

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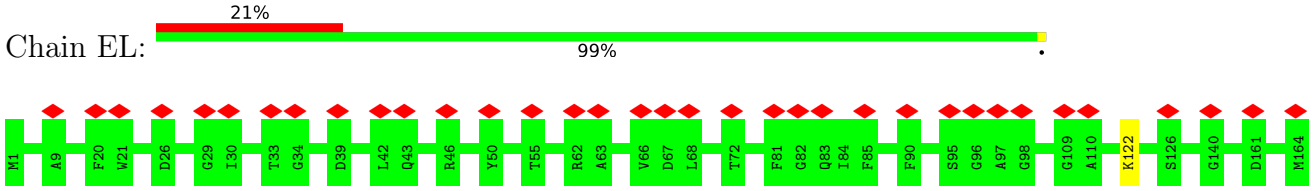

• Molecule 3: Tubulin beta-4B chain

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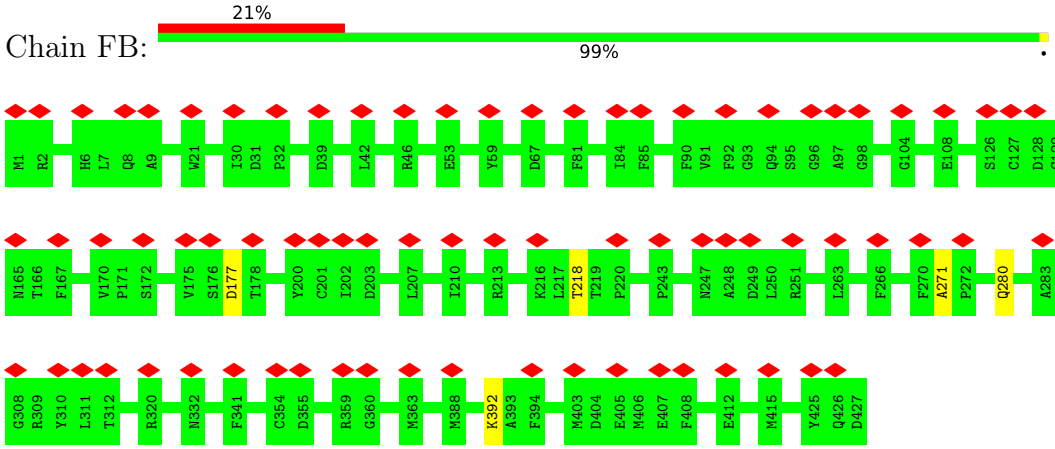

• Molecule 3: Tubulin beta-4B chain

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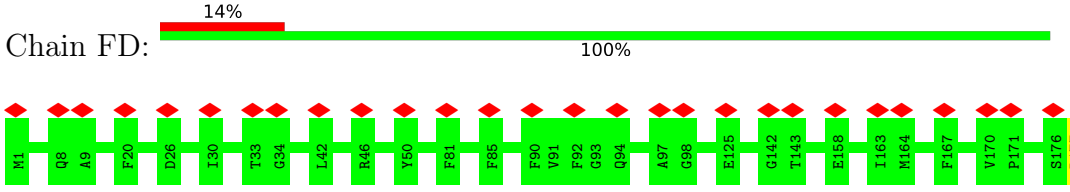

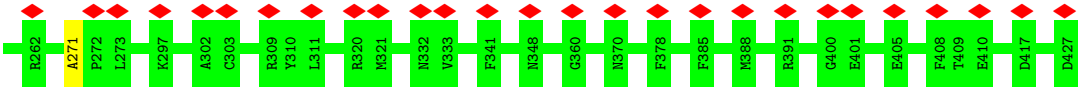

• Molecule 3: Tubulin beta-4B chain

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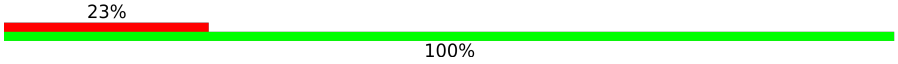

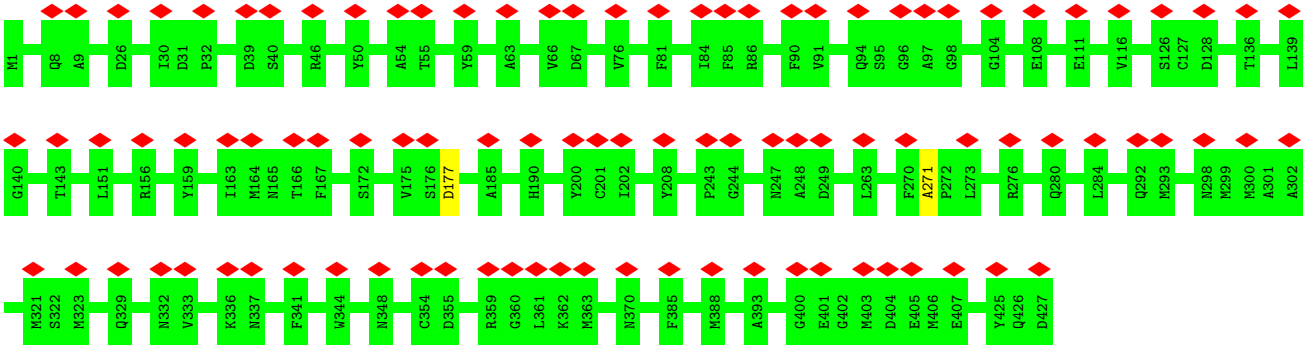

• Molecule 3: Tubulin beta-4B chain

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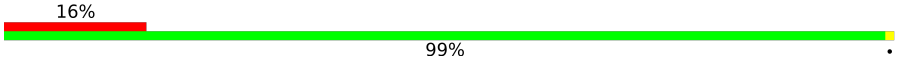

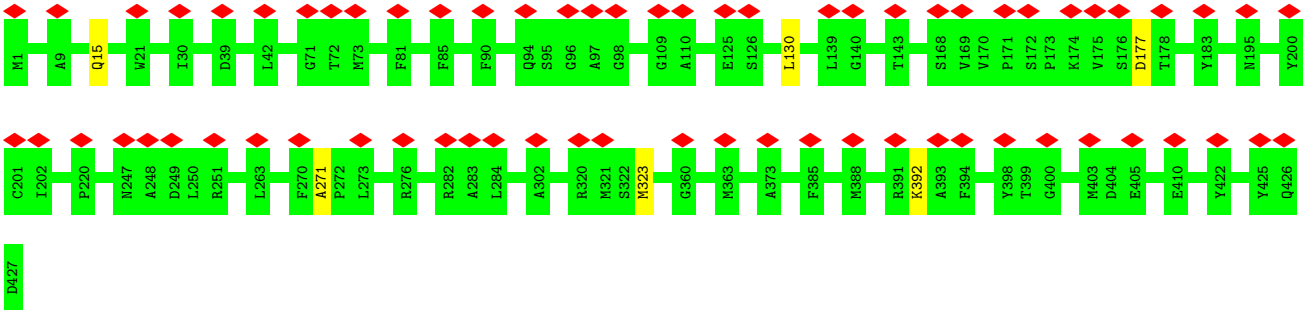

• Molecule 3: Tubulin beta-4B chain

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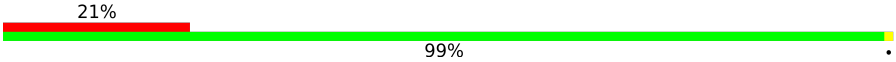
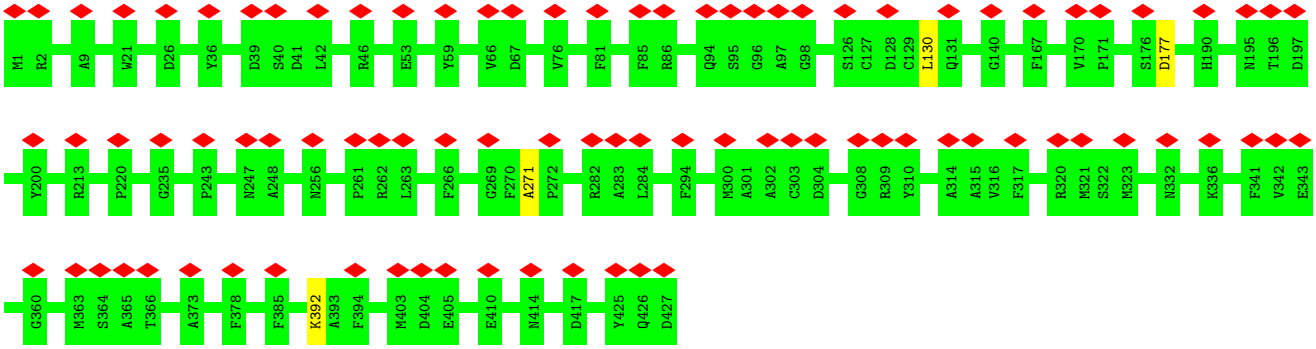
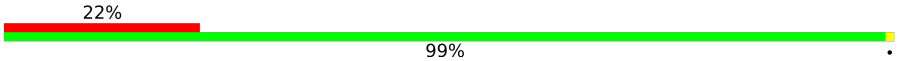
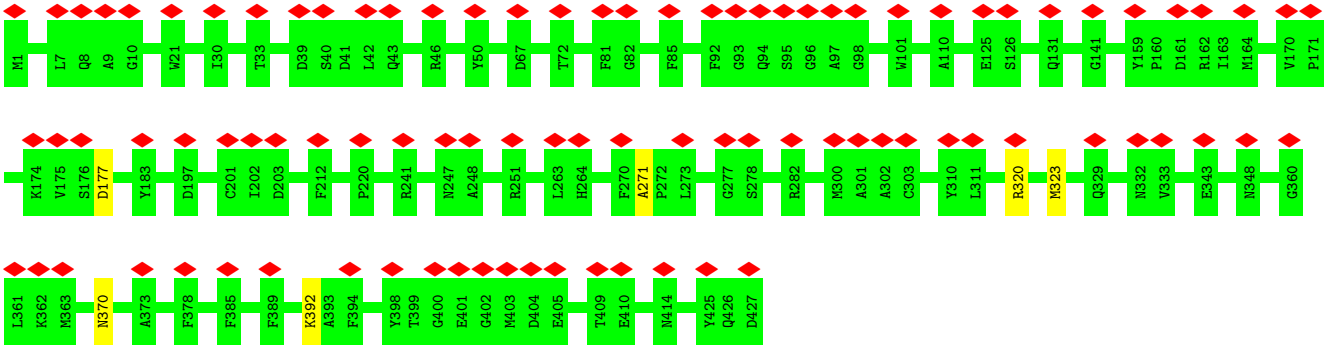




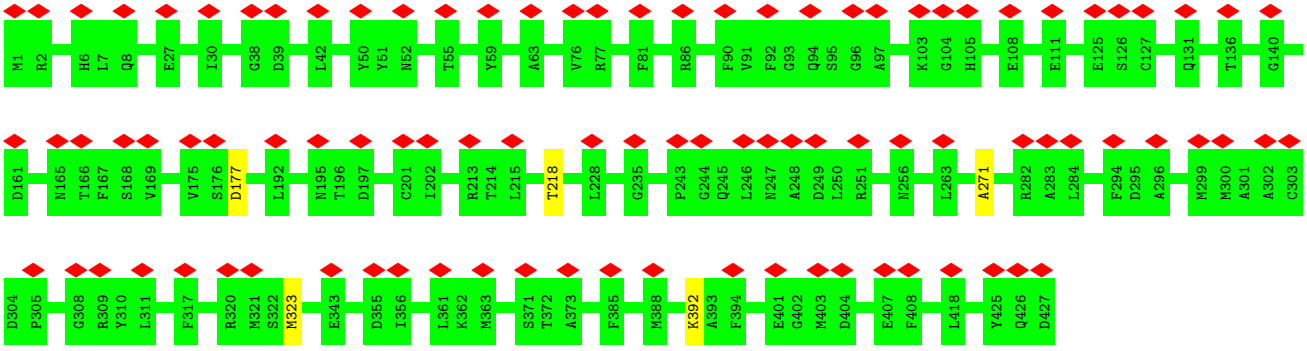
• Molecule 3: Tubulin beta-4B chain

Chain FL:

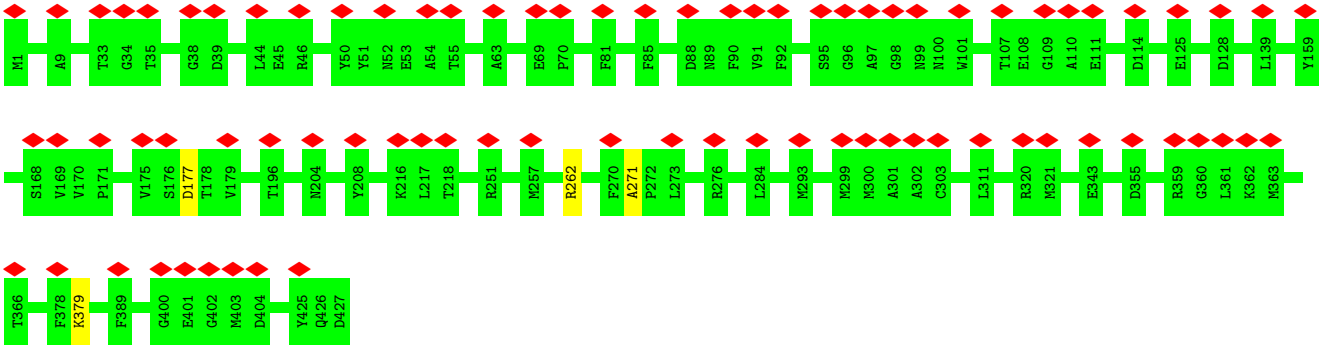




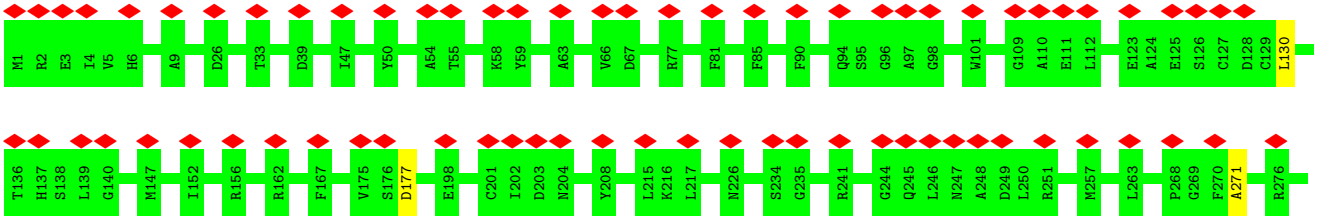
• Molecule 3: Tubulin beta-4B chain

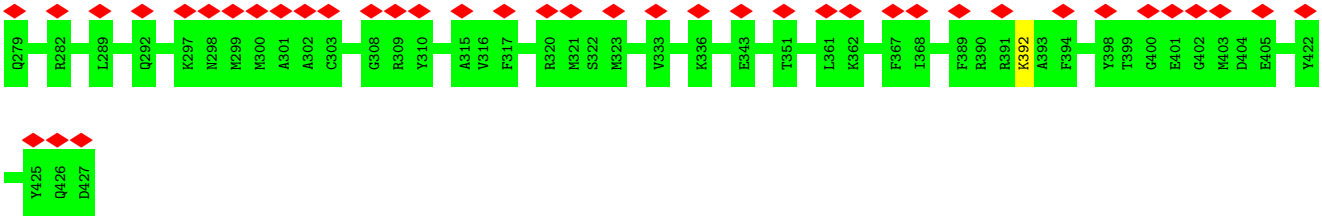


• Molecule 3: Tubulin beta-4B chain



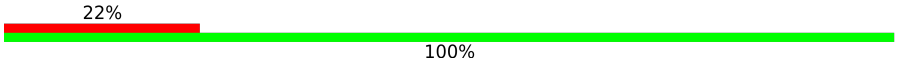
• Molecule 3: Tubulin beta-4B chain

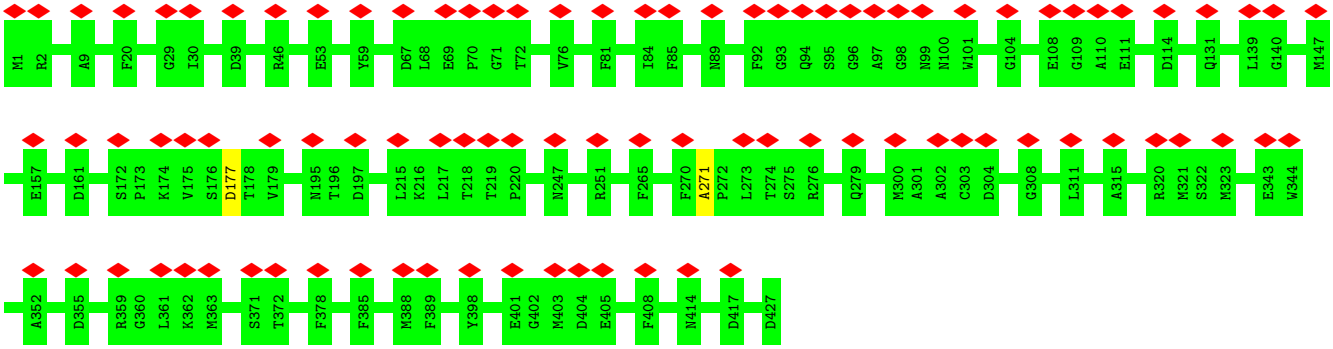




• Molecule 3: Tubulin beta-4B chain

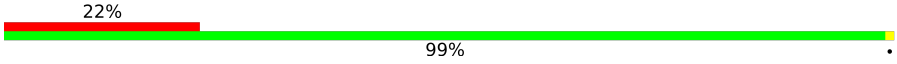
Chain GH:

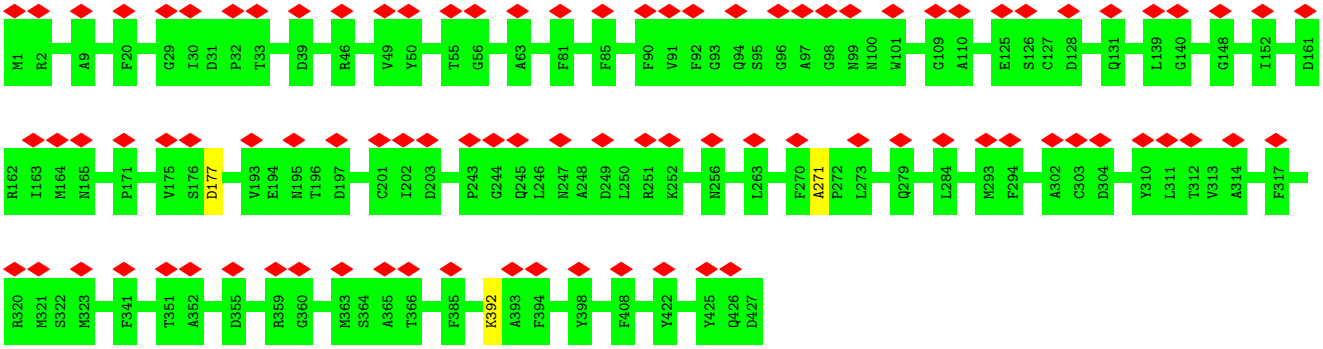




• Molecule 3: Tubulin beta-4B chain

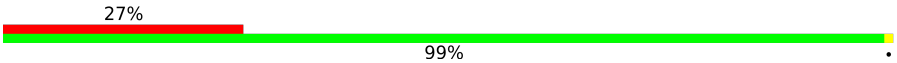
Chain GJ:

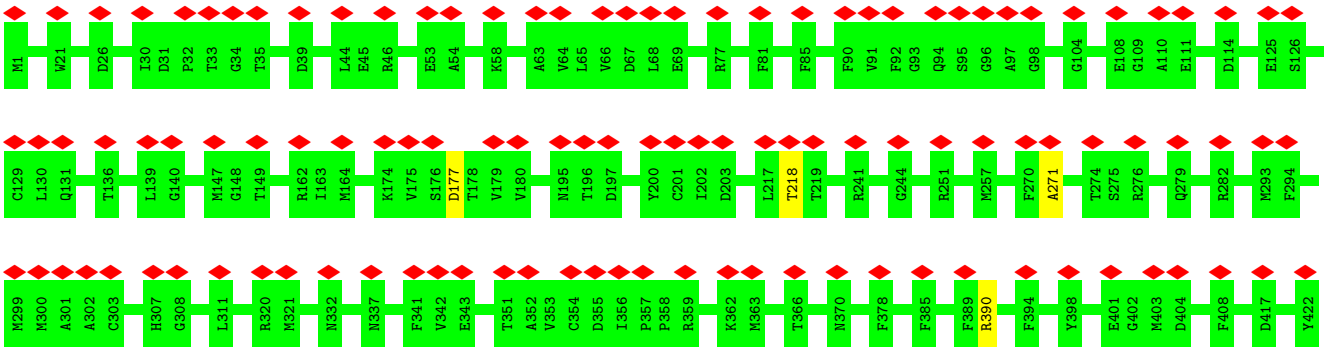




• Molecule 3: Tubulin beta-4B chain

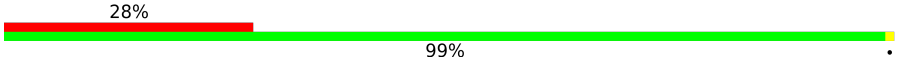
Chain GL:

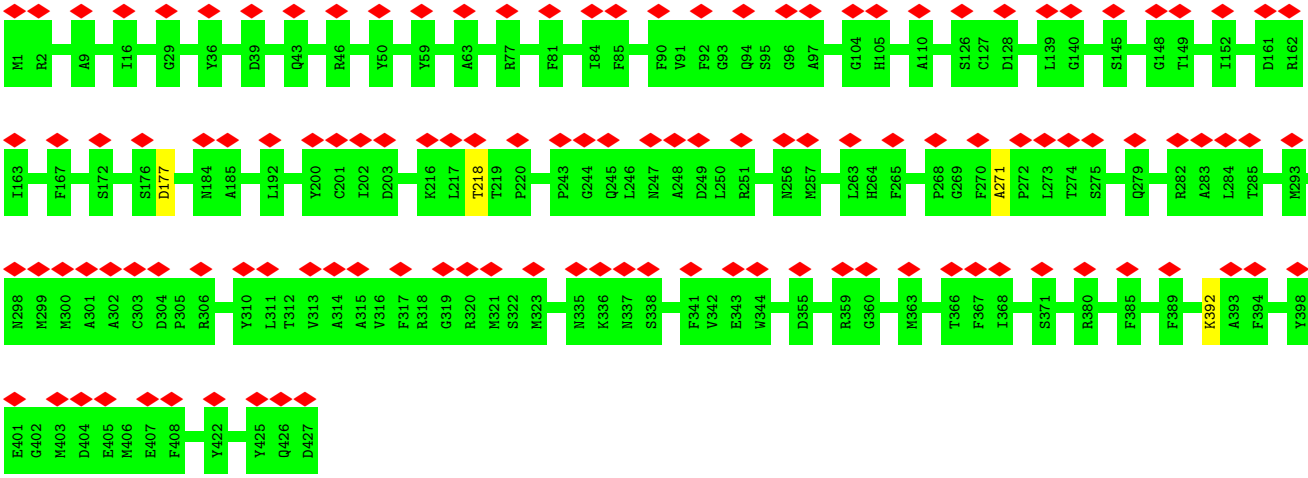




• Molecule 3: Tubulin beta-4B chain

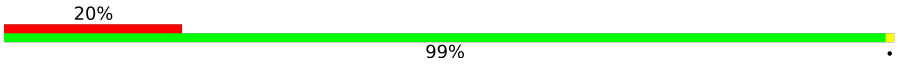
Chain HB:

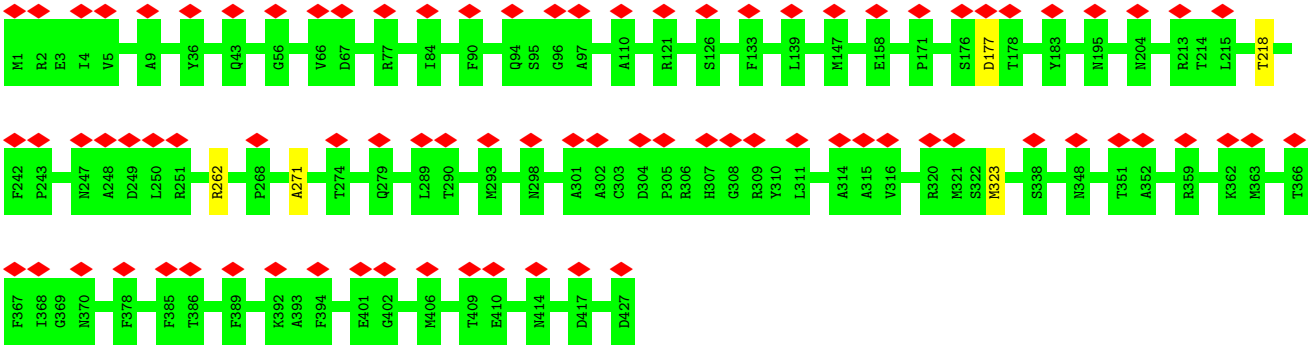




• Molecule 3: Tubulin beta-4B chain

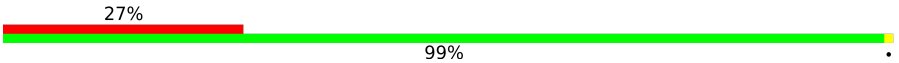
Chain HD:

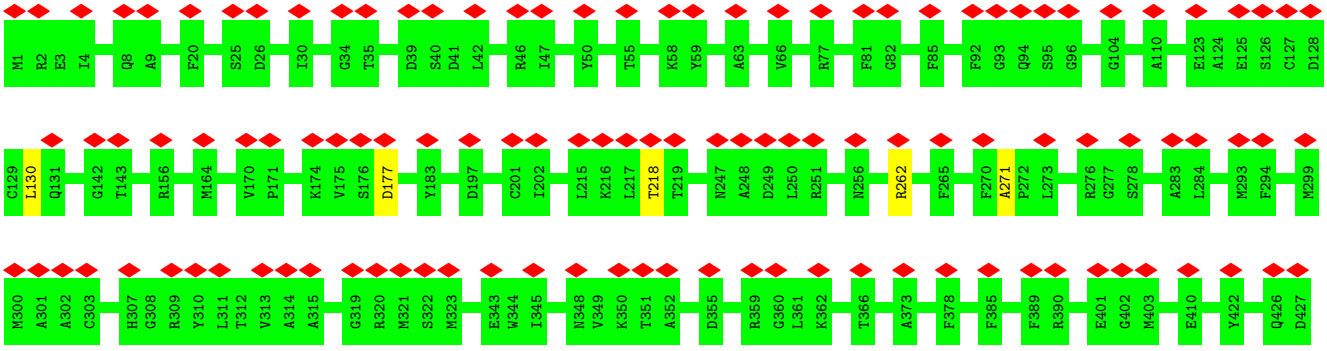




• Molecule 3: Tubulin beta-4B chain

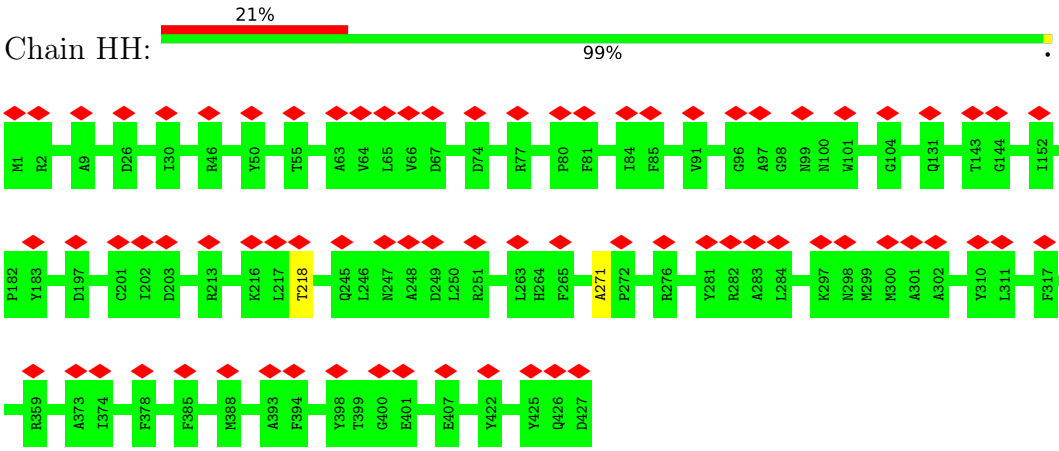
Chain HF:





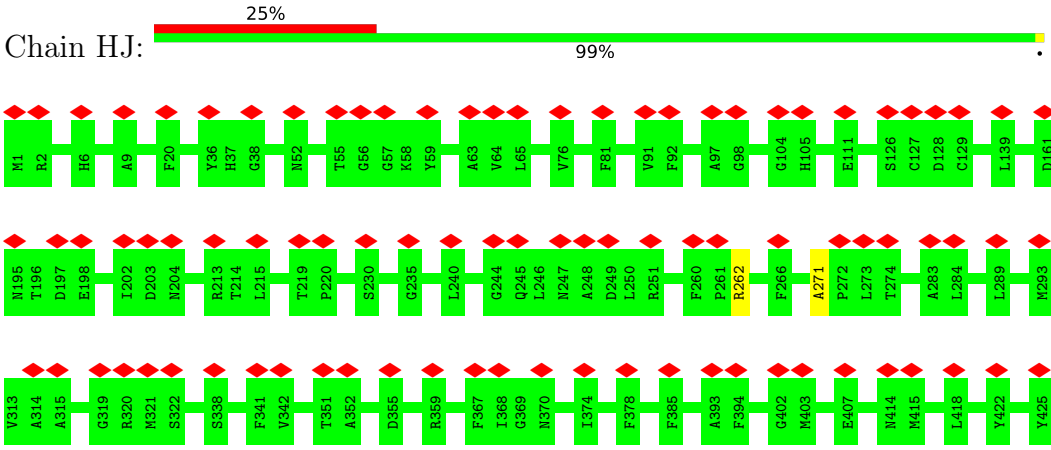
• Molecule 3: Tubulin beta-4B chain

Chain HH:



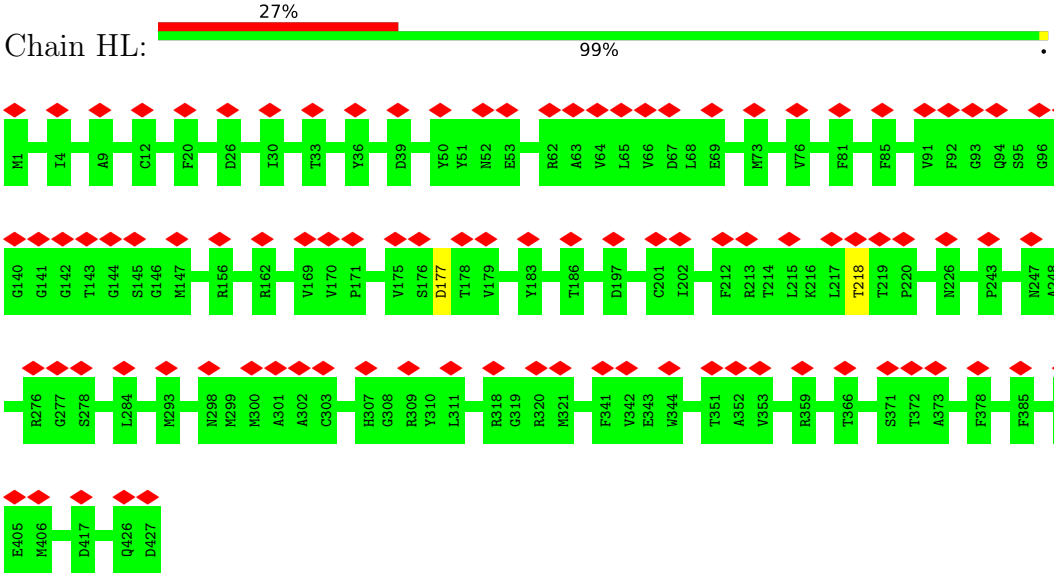
• Molecule 3: Tubulin beta-4B chain

Chain HJ:



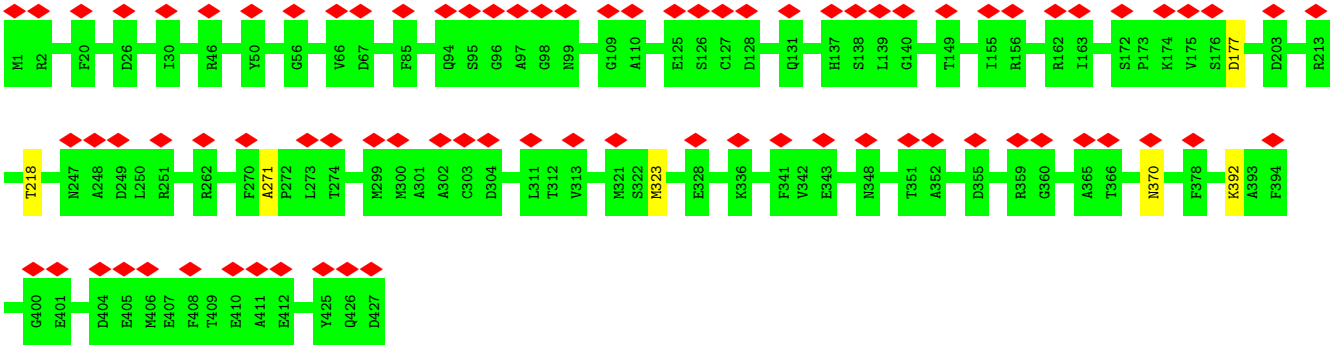
• Molecule 3: Tubulin beta-4B chain

Chain HL:

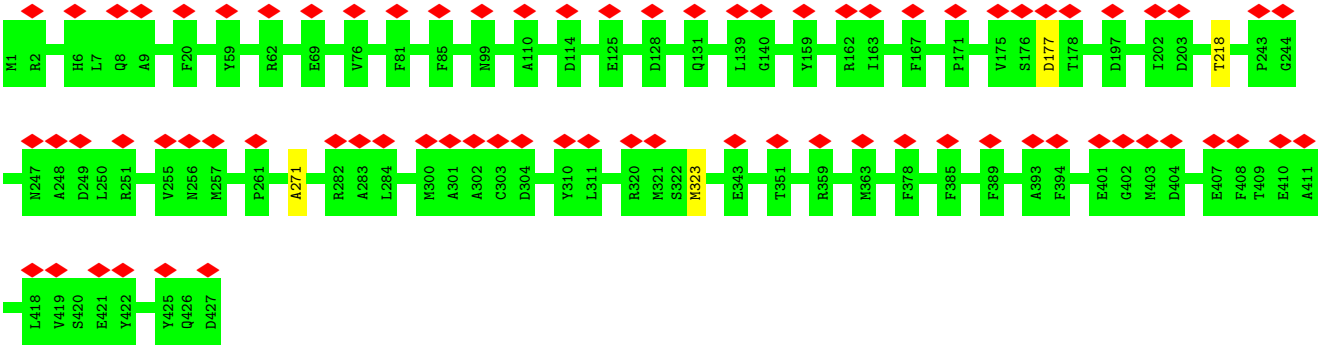


• Molecule 3: Tubulin beta-4B chain

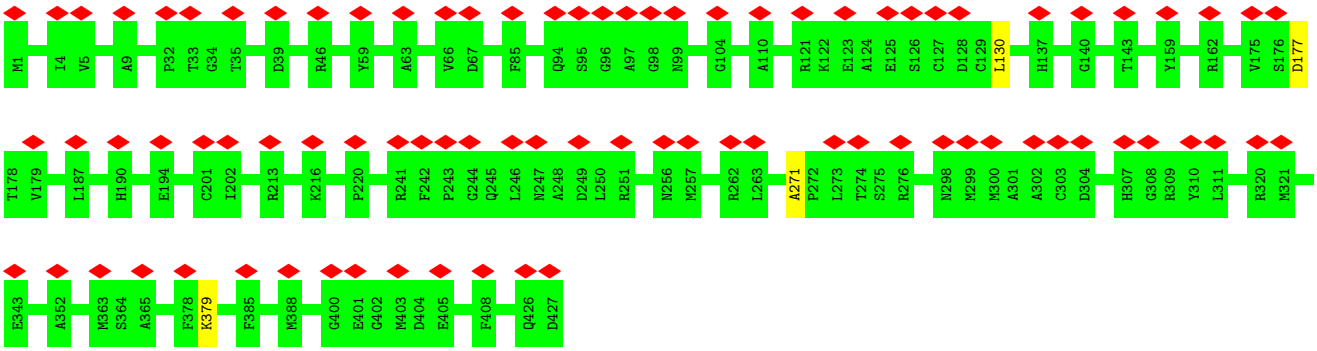
Chain IB:



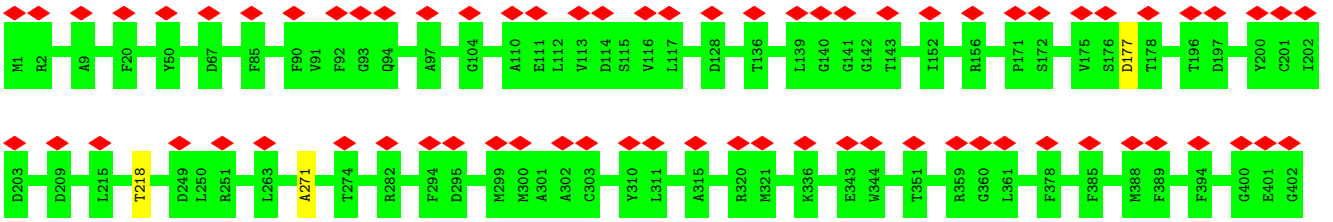
• Molecule 3: Tubulin beta-4B chain

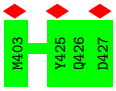


• Molecule 3: Tubulin beta-4B chain



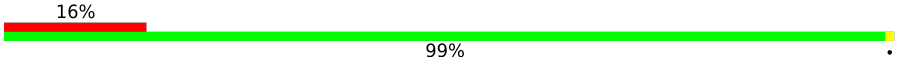
• Molecule 3: Tubulin beta-4B chain

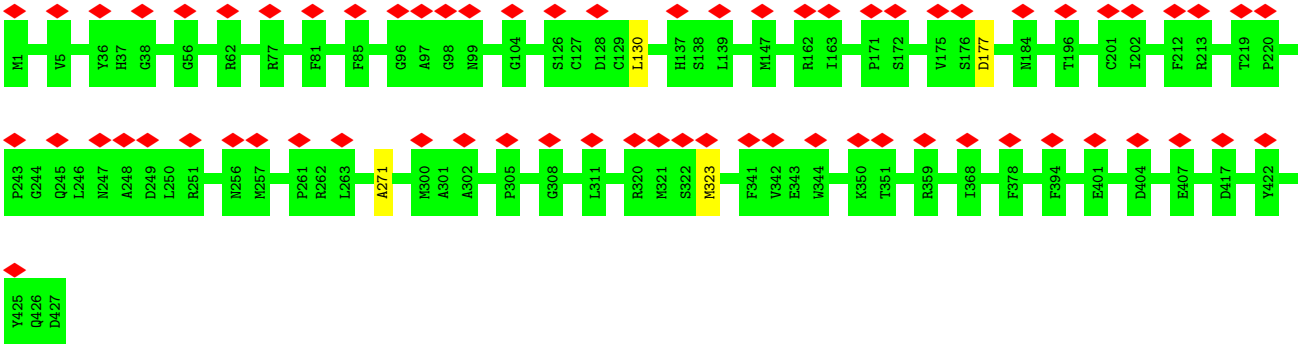




• Molecule 3: Tubulin beta-4B chain

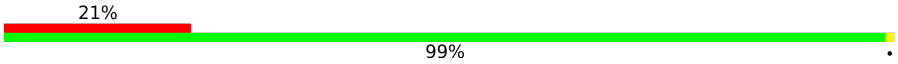
Chain IJ:

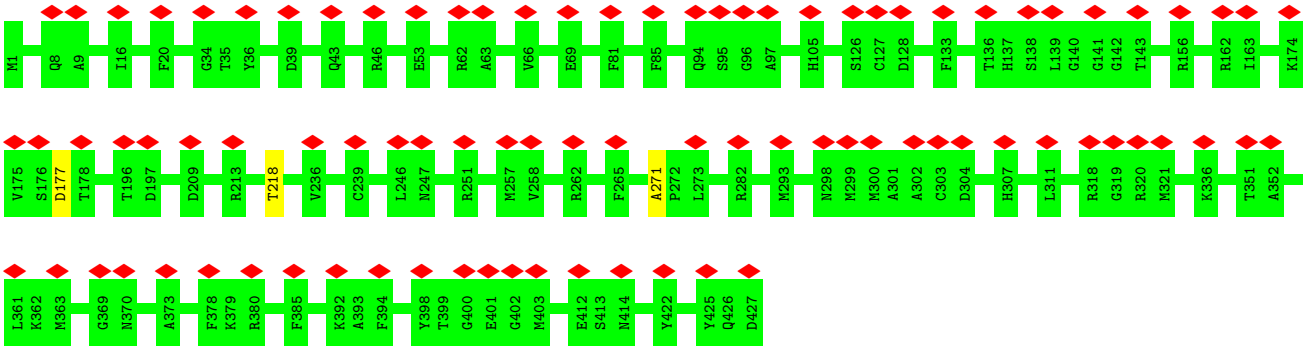




• Molecule 3: Tubulin beta-4B chain

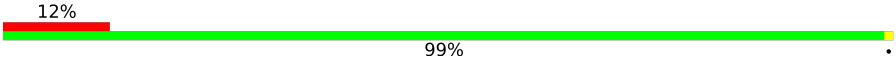
Chain IL:

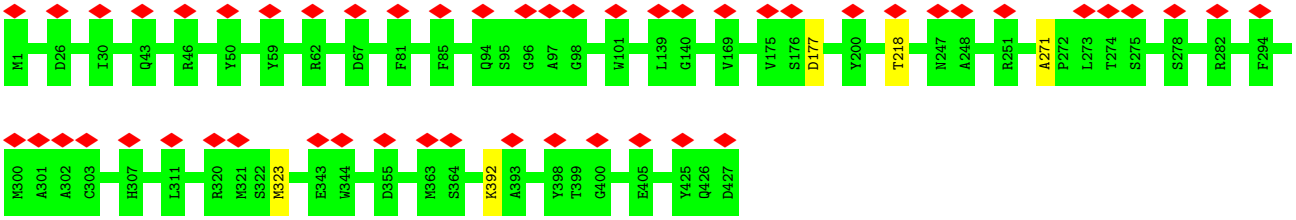




• Molecule 3: Tubulin beta-4B chain

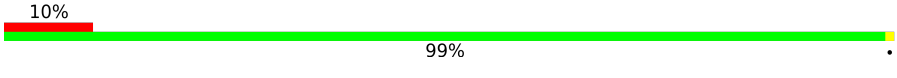
Chain JB:

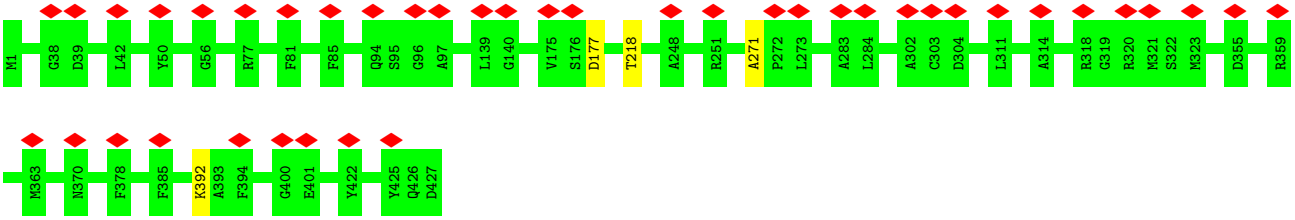




• Molecule 3: Tubulin beta-4B chain

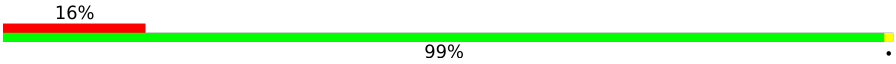
Chain JD:

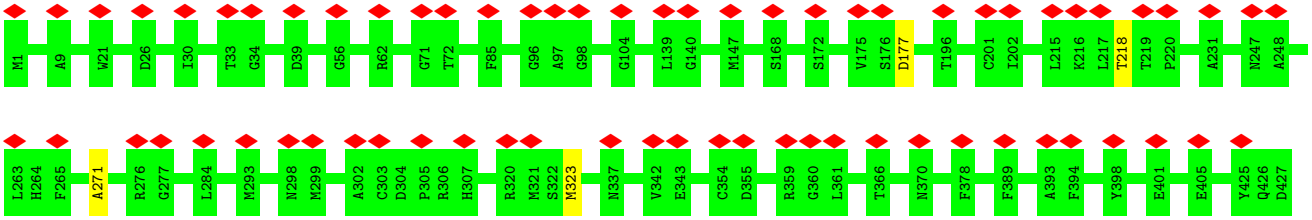




• Molecule 3: Tubulin beta-4B chain

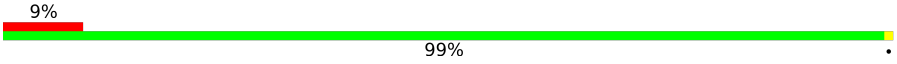
Chain JF:

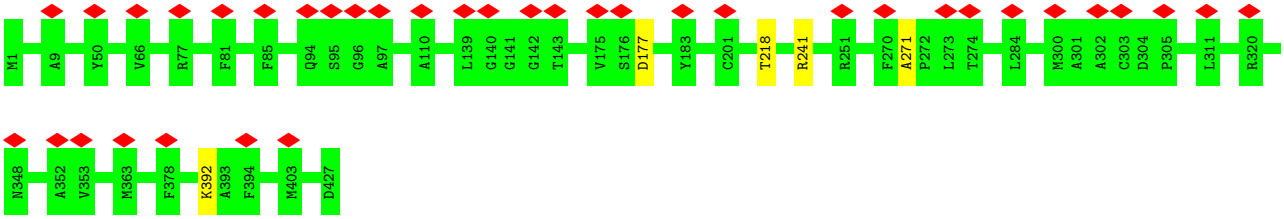




• Molecule 3: Tubulin beta-4B chain

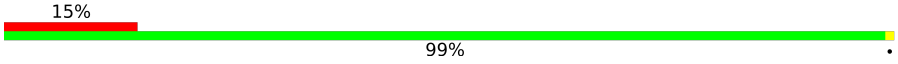
Chain JH:

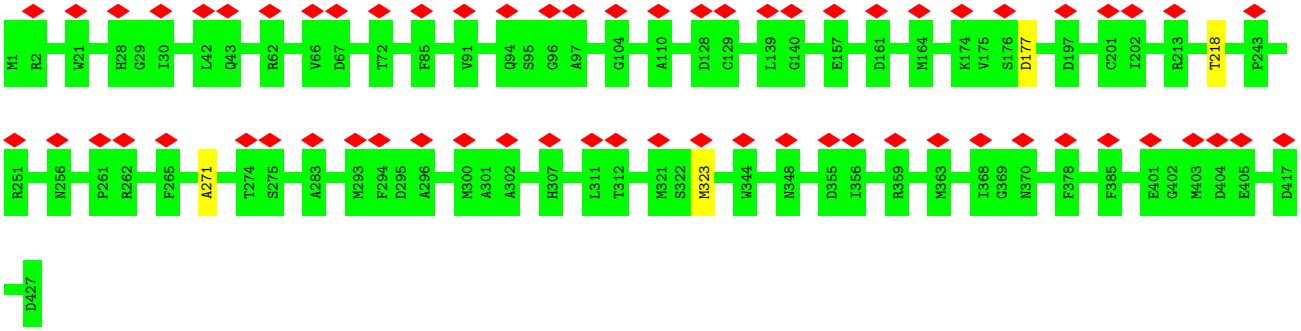




• Molecule 3: Tubulin beta-4B chain

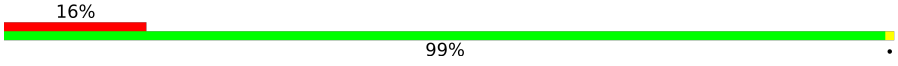
Chain JJ:

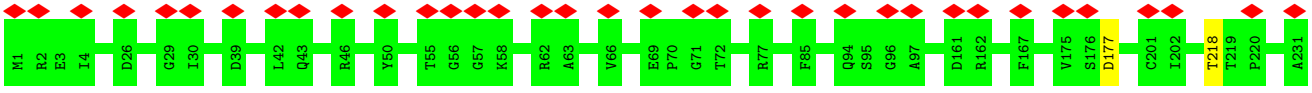


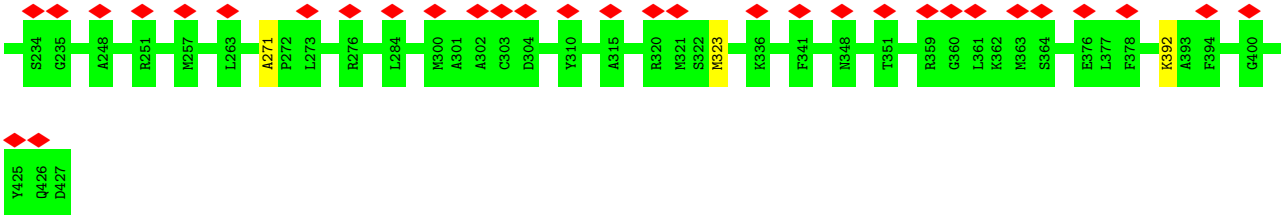


• Molecule 3: Tubulin beta-4B chain

Chain JL:

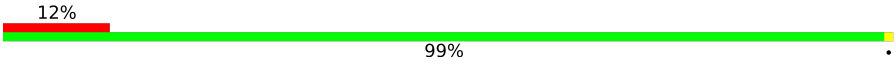


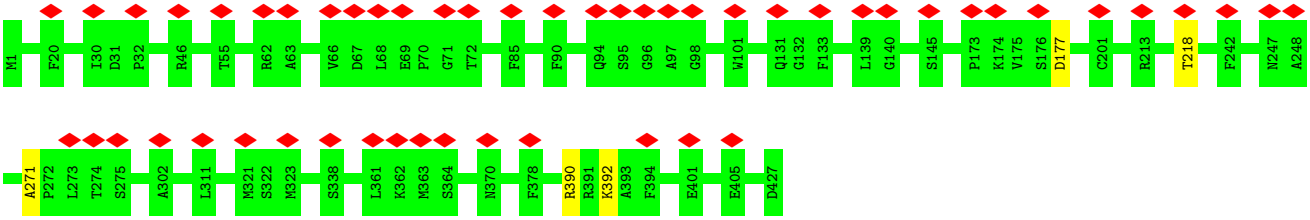




• Molecule 3: Tubulin beta-4B chain

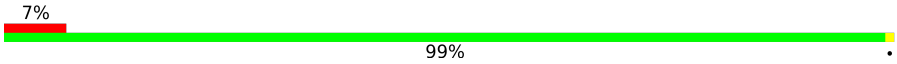
Chain KB:

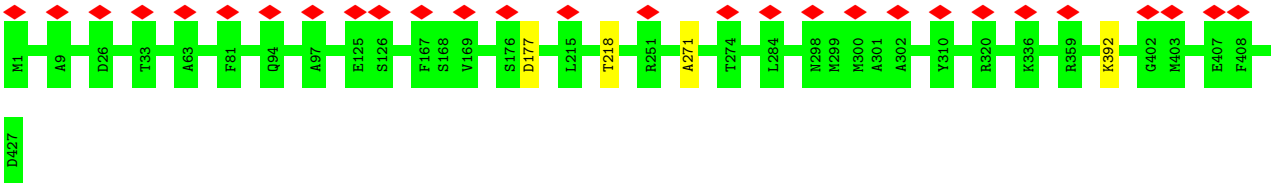




• Molecule 3: Tubulin beta-4B chain

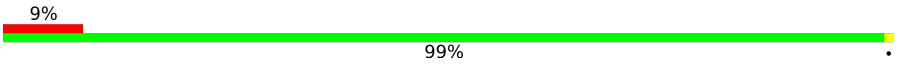
Chain KD:

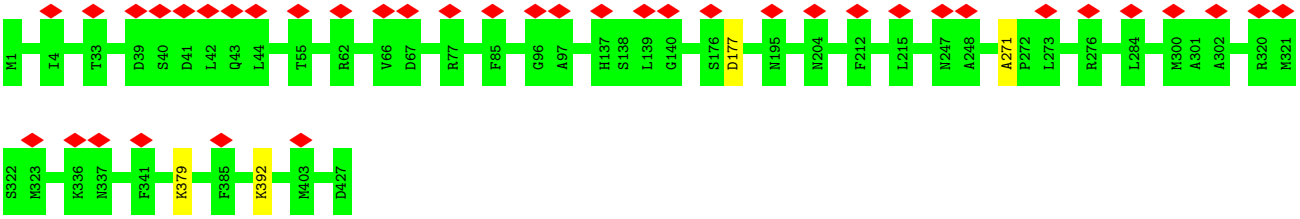




• Molecule 3: Tubulin beta-4B chain

Chain KF:





• Molecule 3: Tubulin beta-4B chain

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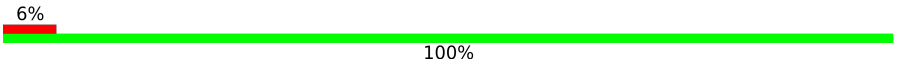
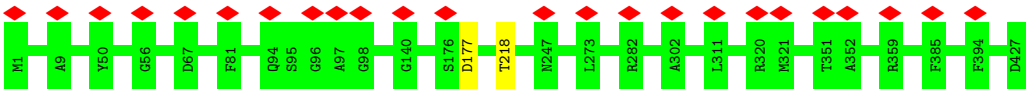
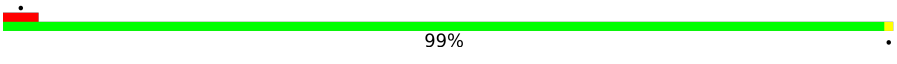
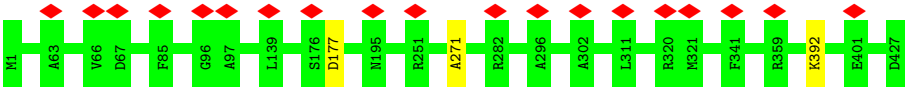




• Molecule 3: Tubulin beta-4B chain

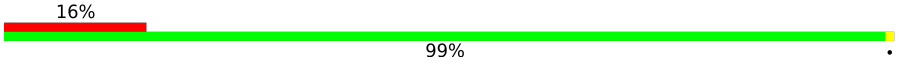
Chain KJ:

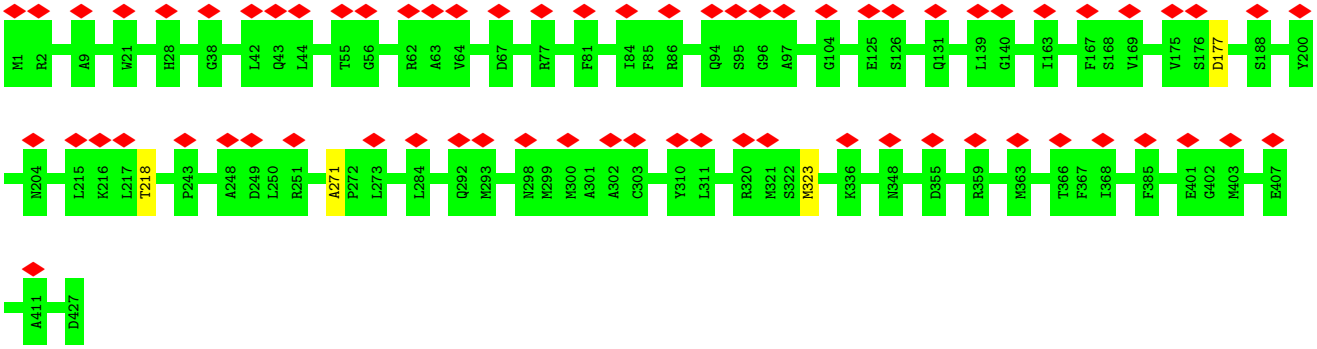




• Molecule 3: Tubulin beta-4B chain

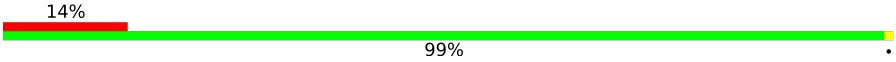
Chain KL:

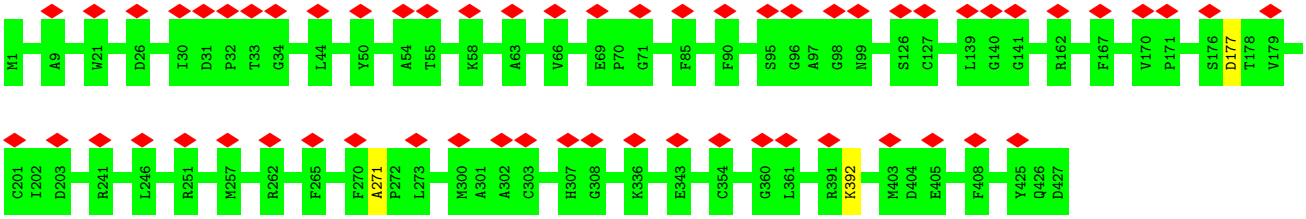




• Molecule 3: Tubulin beta-4B chain

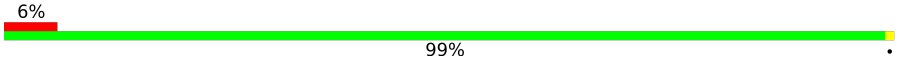
Chain LB:

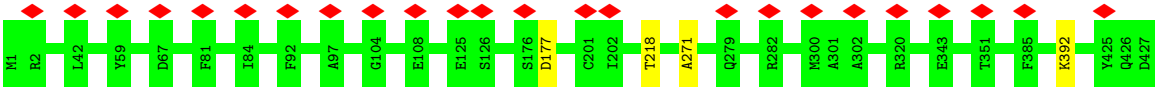




• Molecule 3: Tubulin beta-4B chain

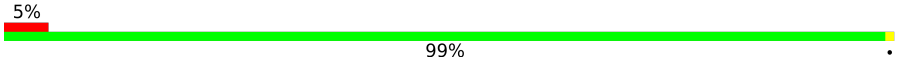
Chain LD:





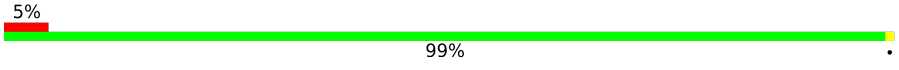
• Molecule 3: Tubulin beta-4B chain

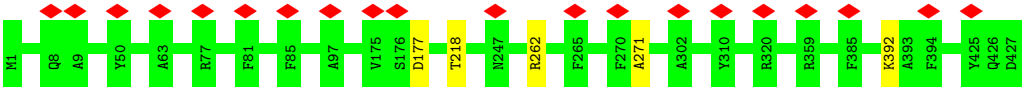
Chain LF:



• Molecule 3: Tubulin beta-4B chain

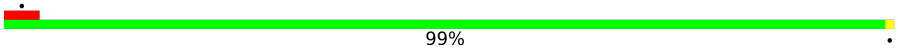
Chain LH:

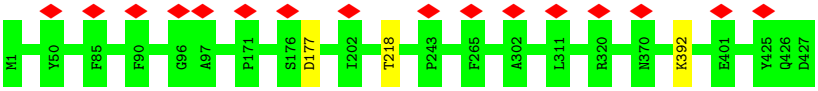




• Molecule 3: Tubulin beta-4B chain

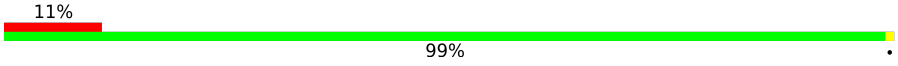
Chain LJ:

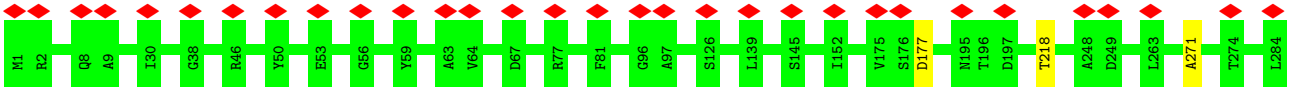


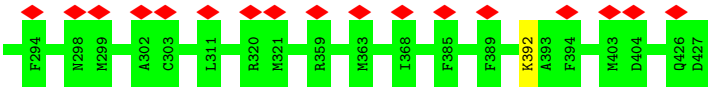


• Molecule 3: Tubulin beta-4B chain

Chain LL:

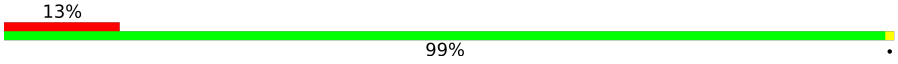


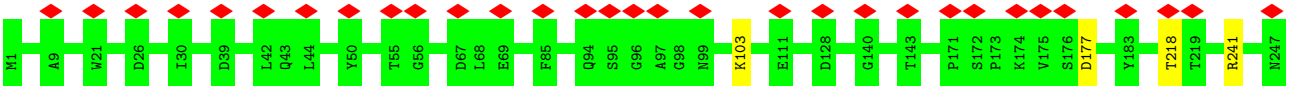


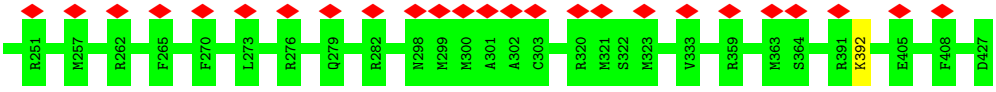


• Molecule 3: Tubulin beta-4B chain

Chain MB:

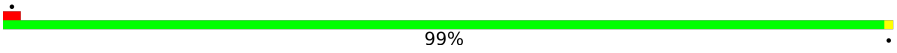






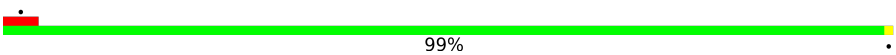
• Molecule 3: Tubulin beta-4B chain

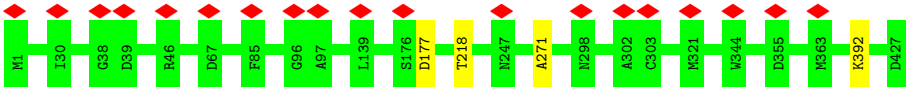
Chain MD:



• Molecule 3: Tubulin beta-4B chain

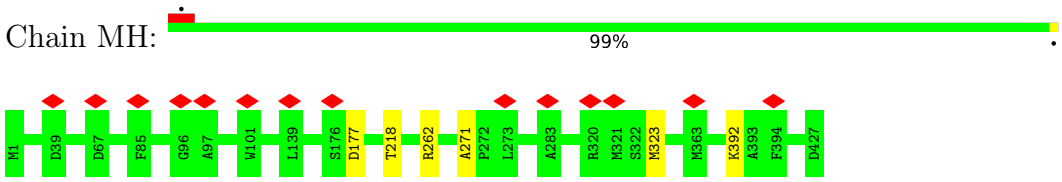
Chain MF:





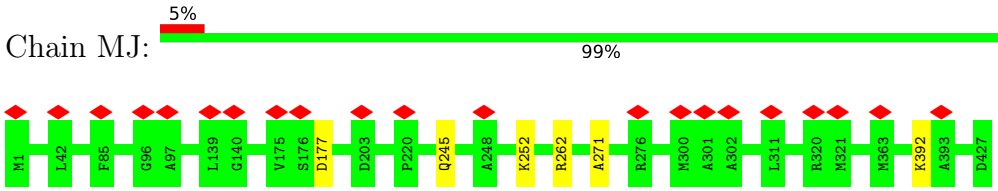
• Molecule 3: Tubulin beta-4B chain

Chain MH:



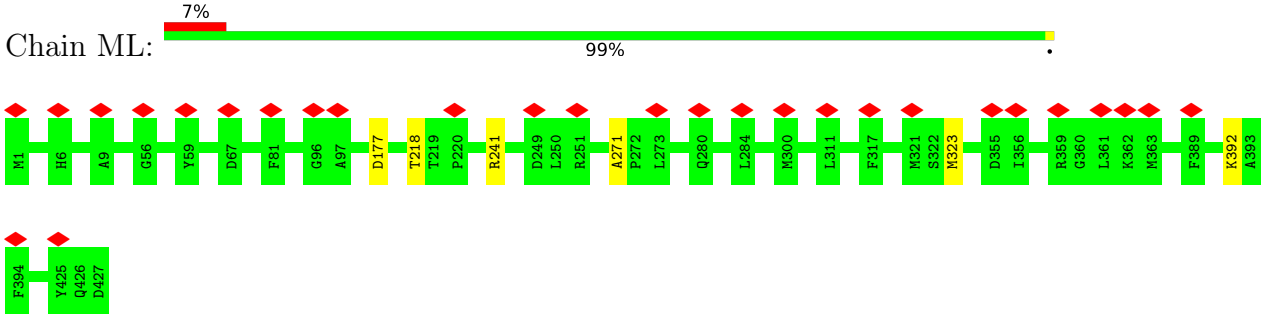
• Molecule 3: Tubulin beta-4B chain

Chain MJ:



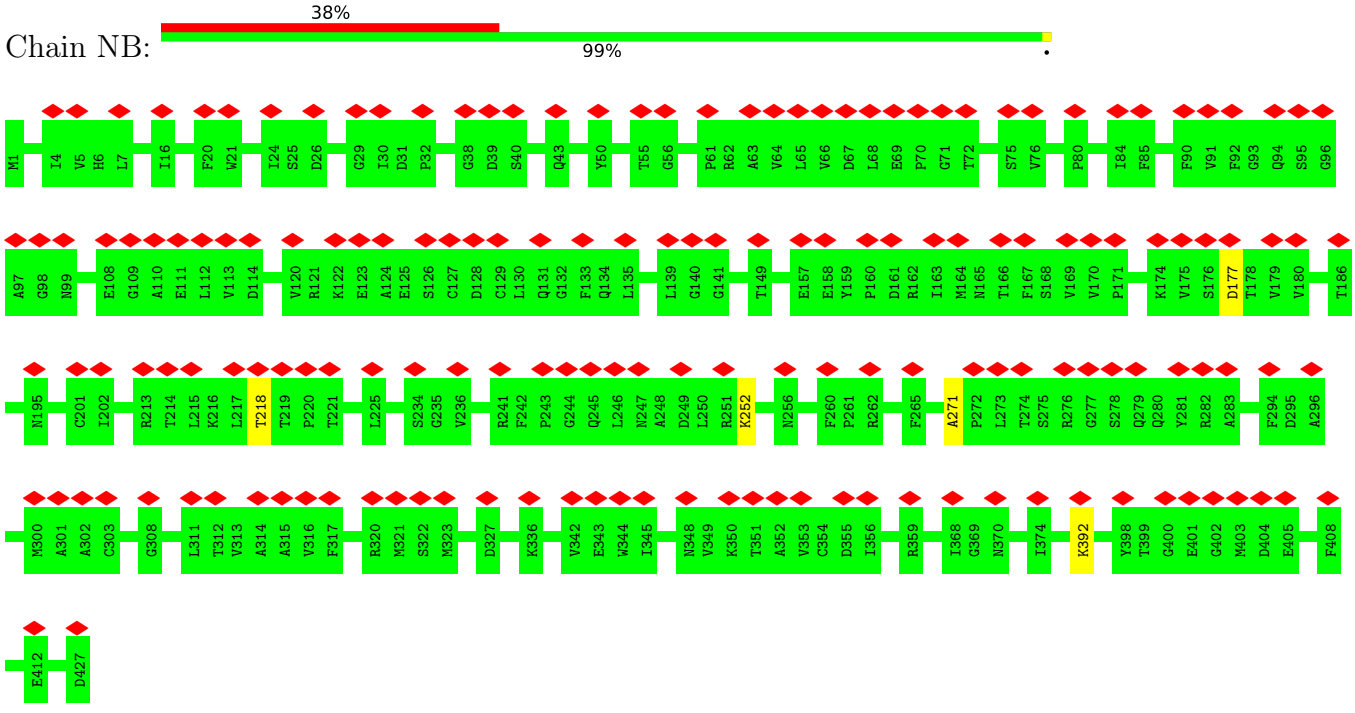
• Molecule 3: Tubulin beta-4B chain

Chain ML:



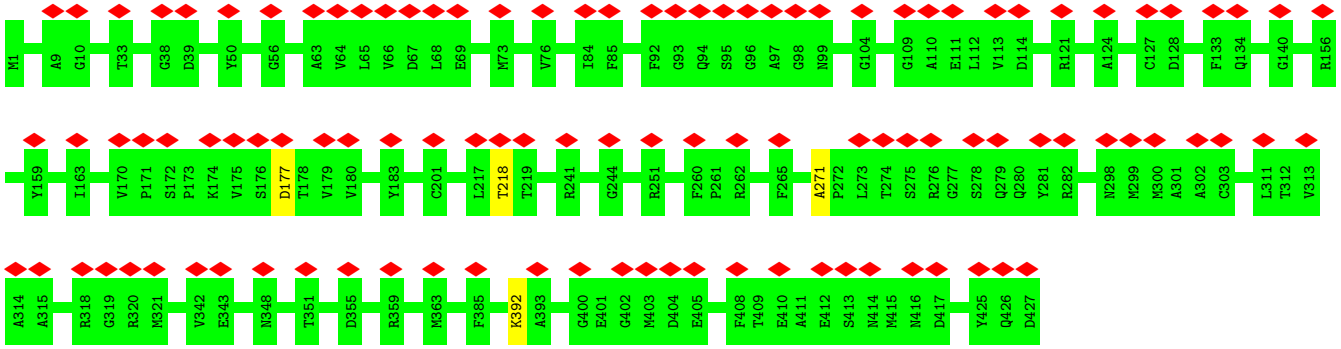
• Molecule 3: Tubulin beta-4B chain

Chain NB:



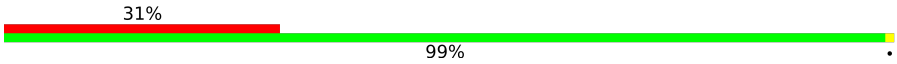
• Molecule 3: Tubulin beta-4B chain

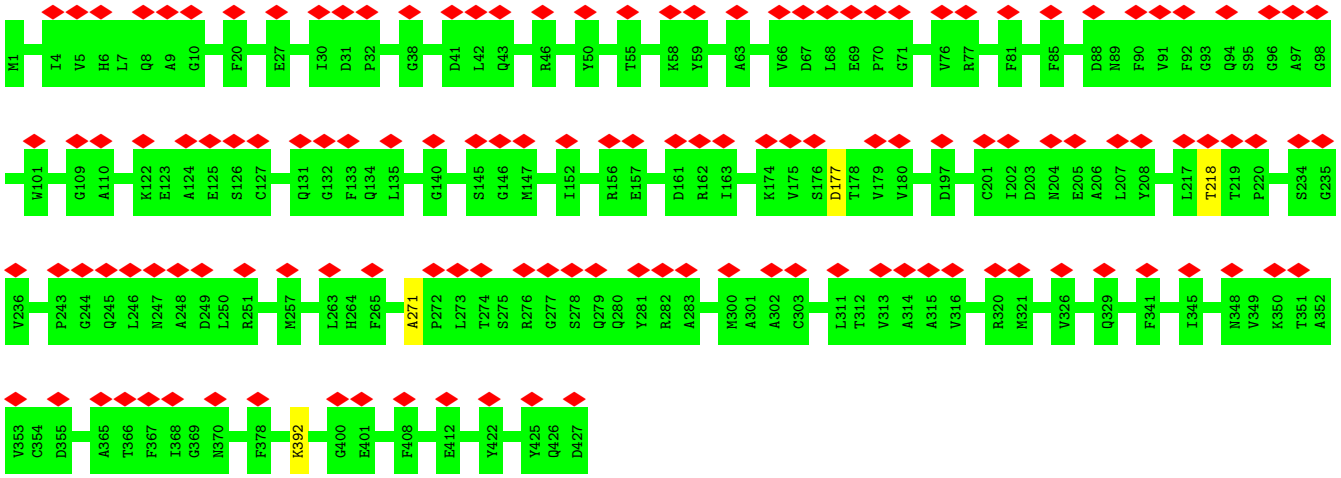
Chain ND:



• Molecule 3: Tubulin beta-4B chain

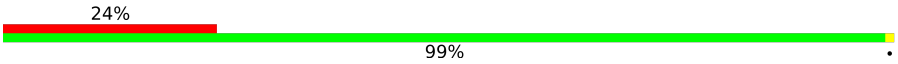
Chain NF:

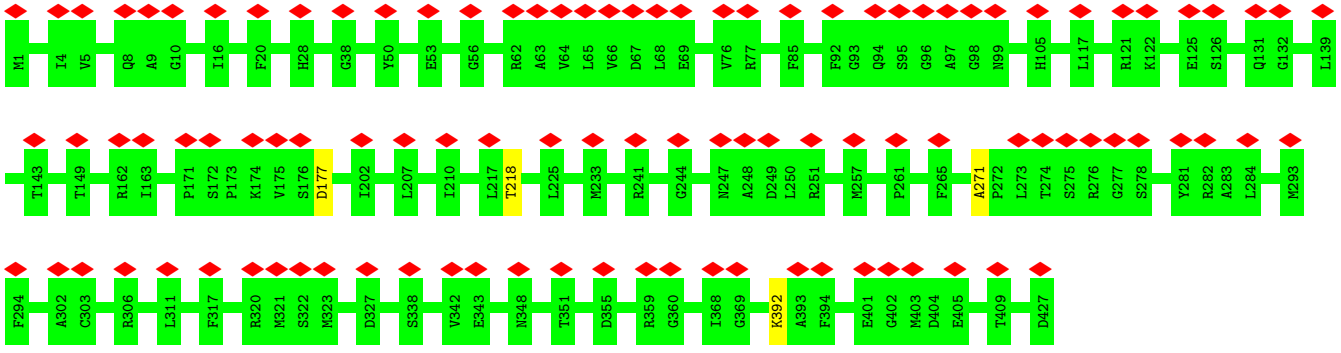




• Molecule 3: Tubulin beta-4B chain

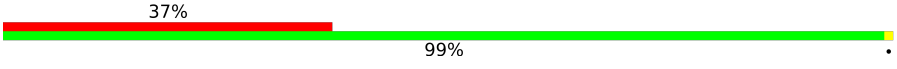
Chain NH:

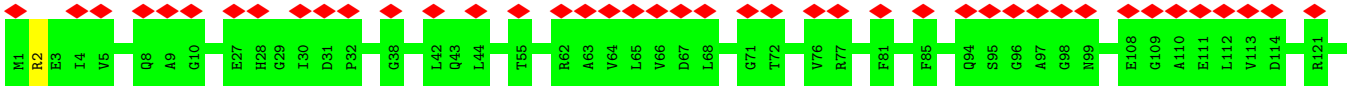


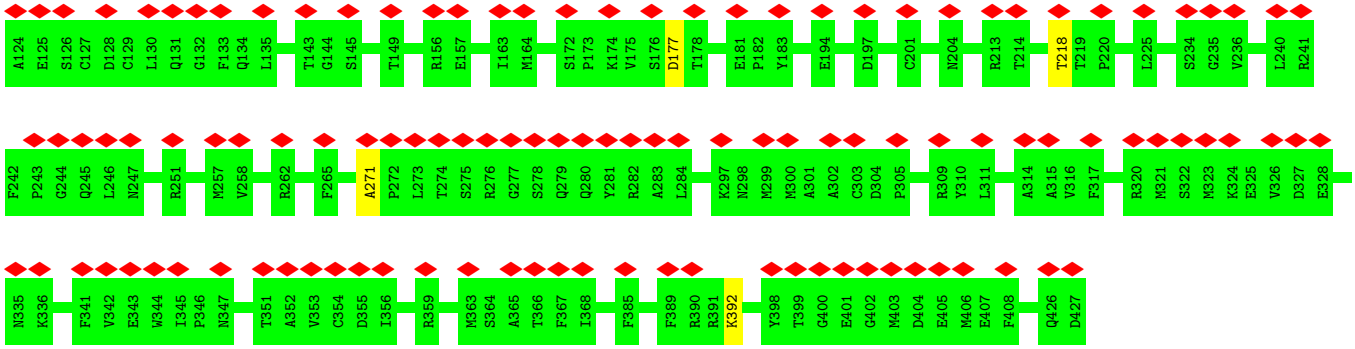


• Molecule 3: Tubulin beta-4B chain

Chain NJ:

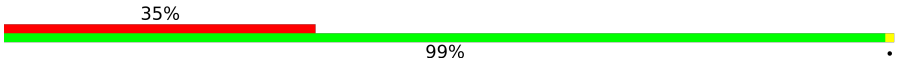


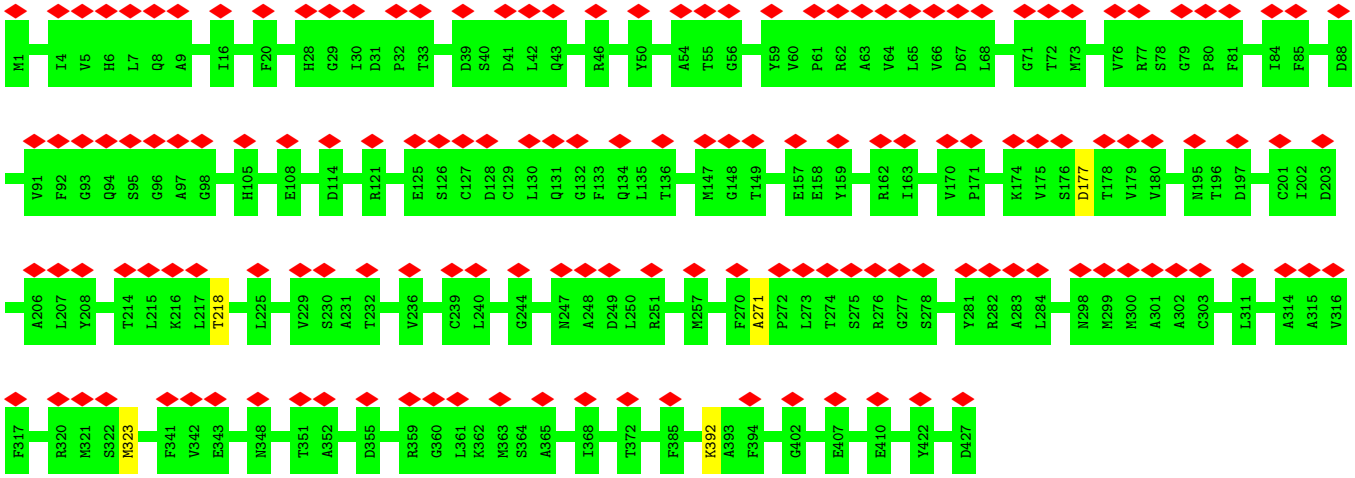




• Molecule 3: Tubulin beta-4B chain

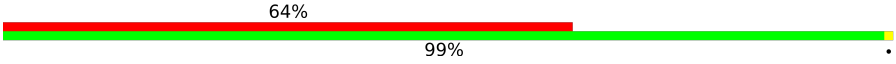
Chain NL:

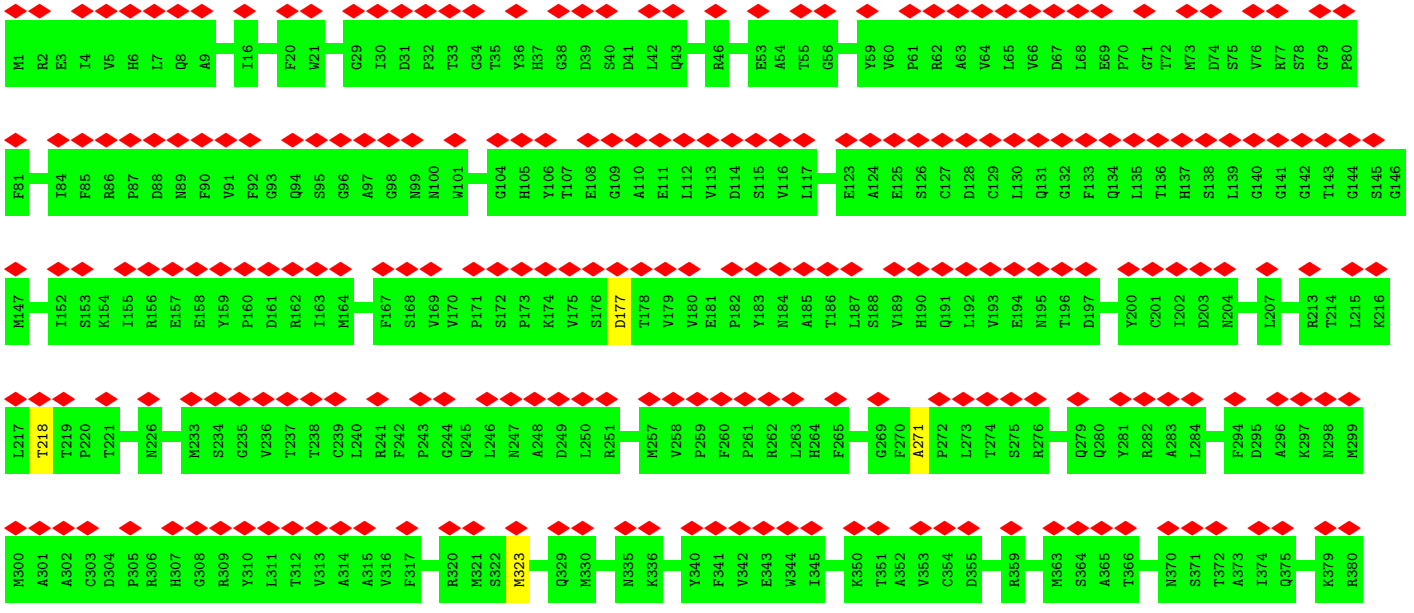


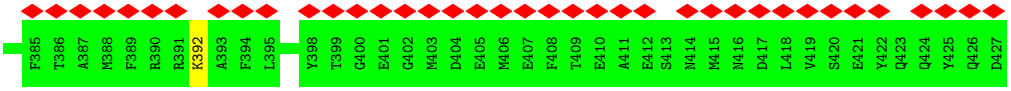


• Molecule 3: Tubulin beta-4B chain

Chain OB:

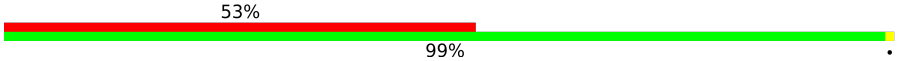


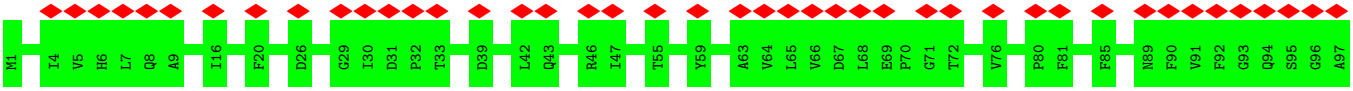


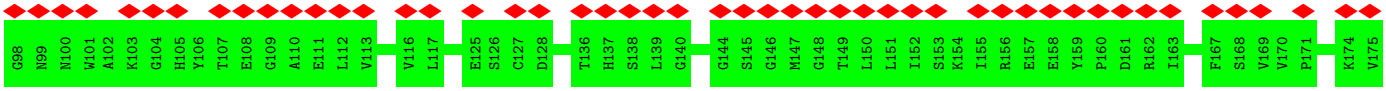


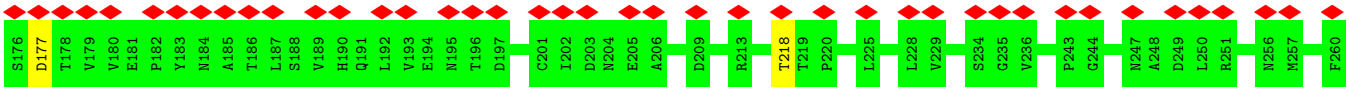
• Molecule 3: Tubulin beta-4B chain

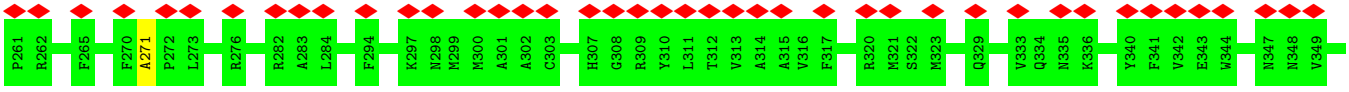
Chain OD:

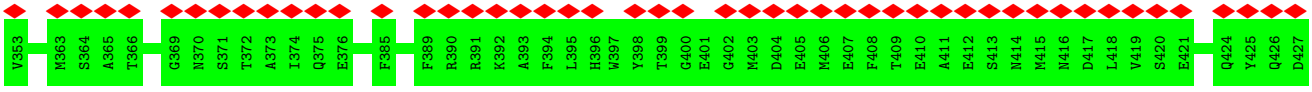






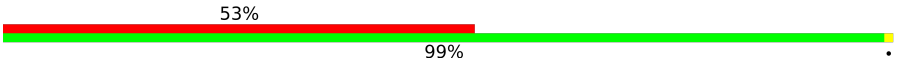


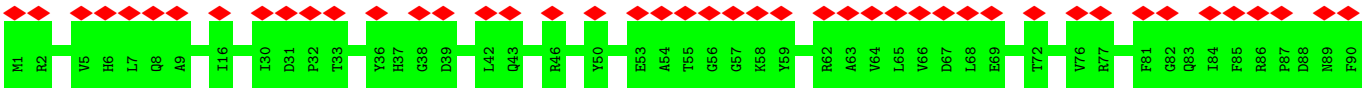


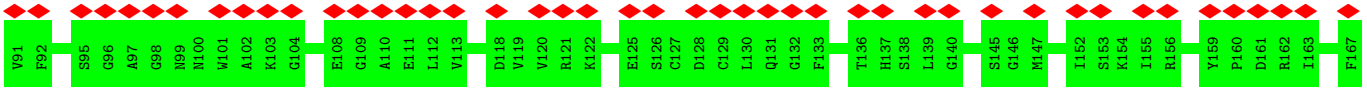


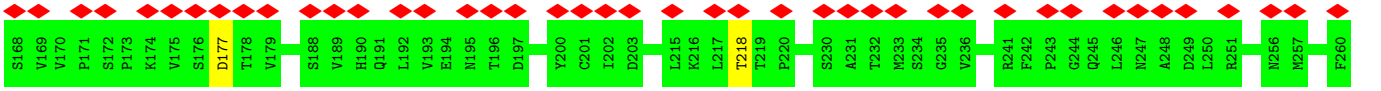
• Molecule 3: Tubulin beta-4B chain

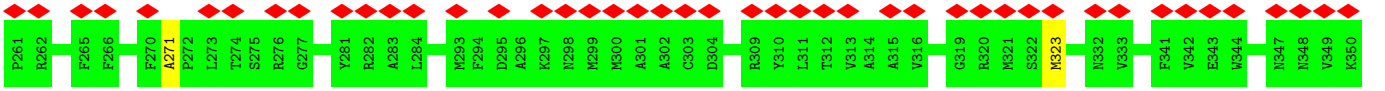
Chain OF:

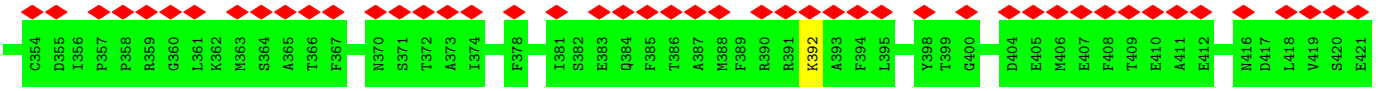


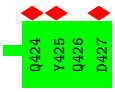






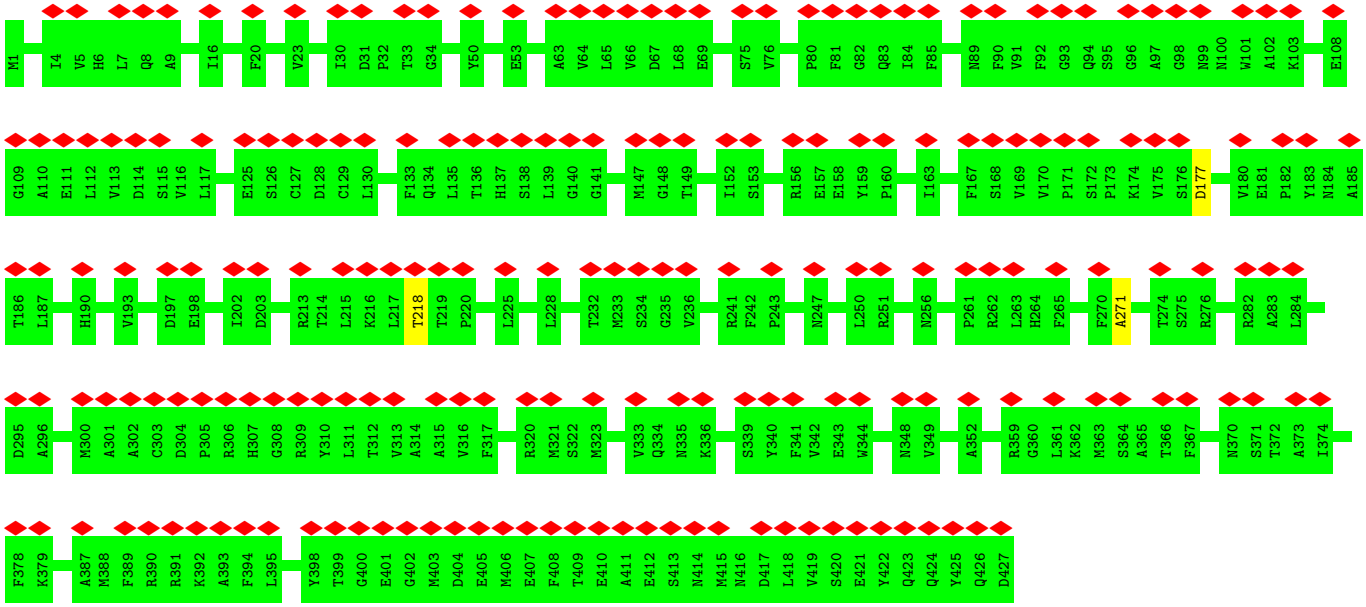






• Molecule 3: Tubulin beta-4B chain

Chain OH:



• Molecule 3: Tubulin beta-4B chain

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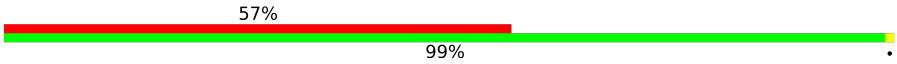
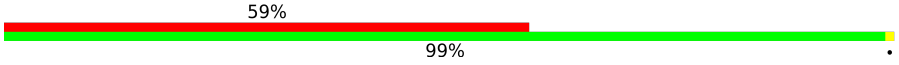


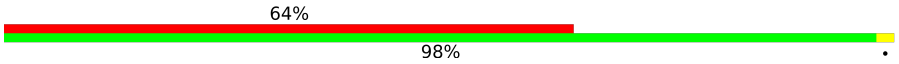
• Molecule 3: Tubulin beta-4B chain

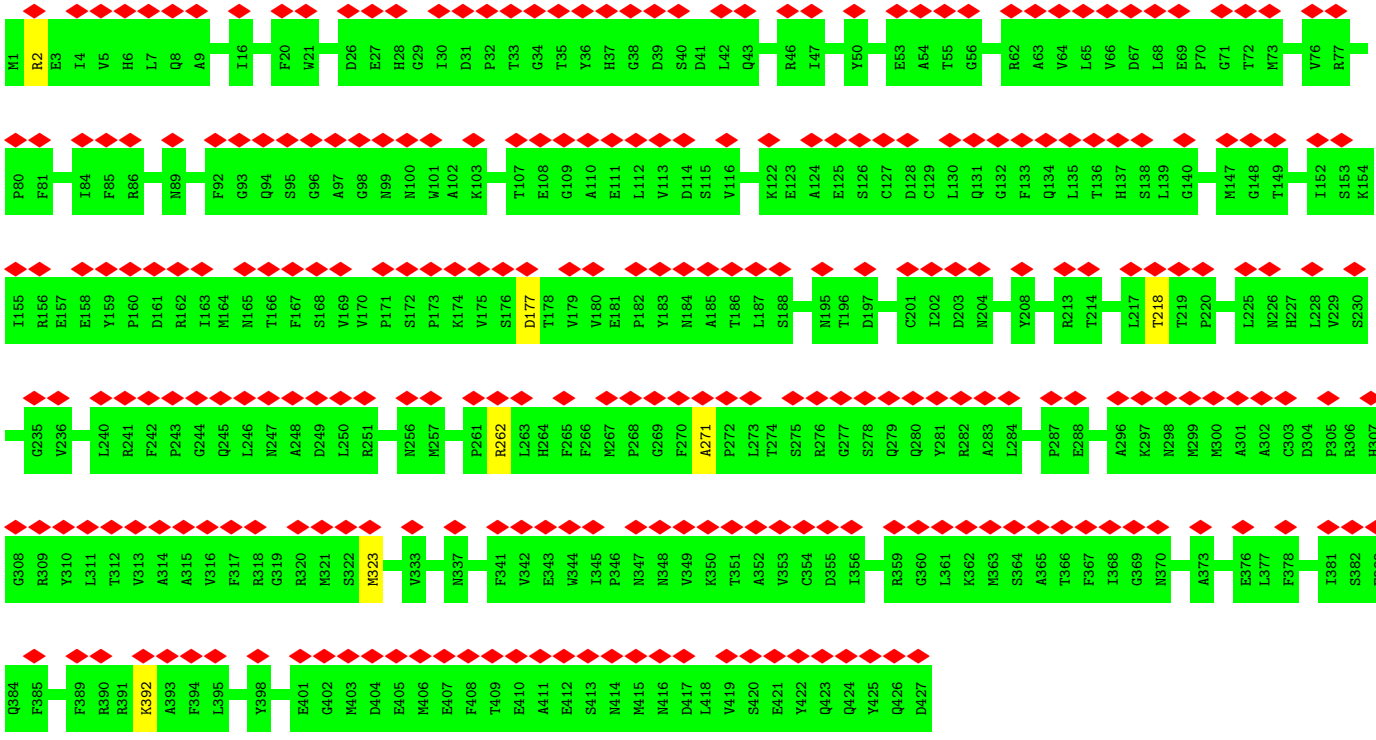
Chain OL:



• Molecule 3: Tubulin beta-4B chain

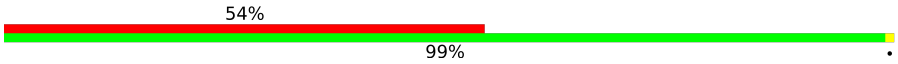
Chain PB:

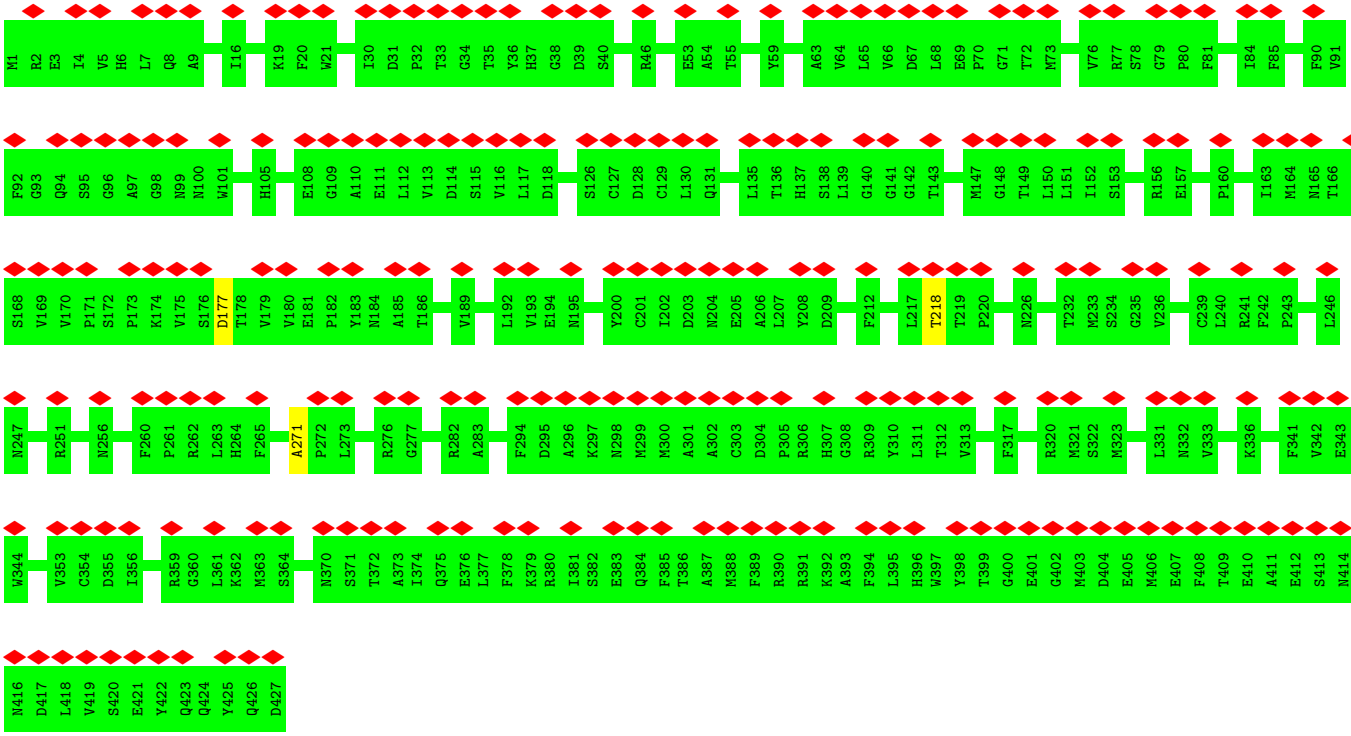




• Molecule 3: Tubulin beta-4B chain

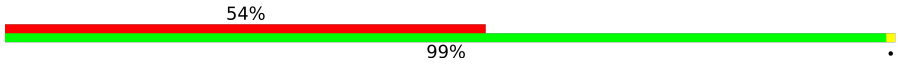
Chain PD:

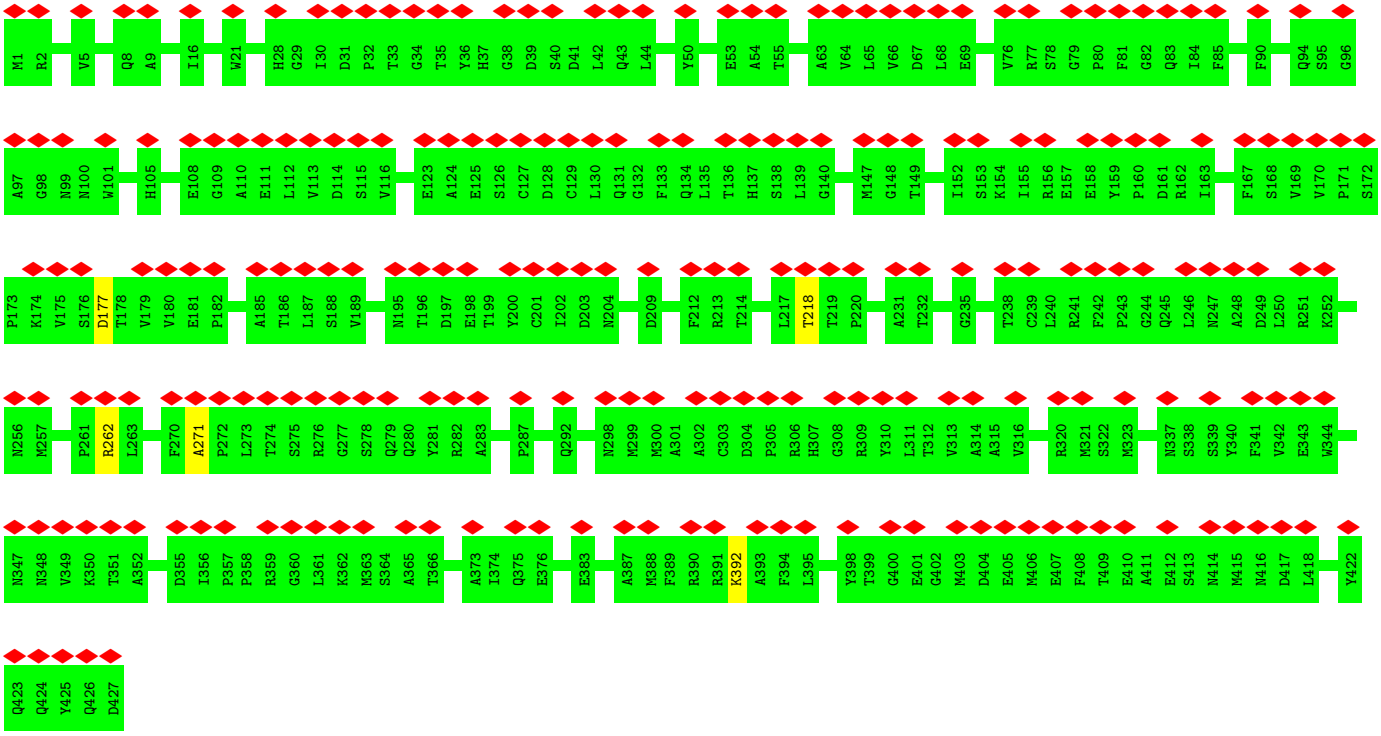




• Molecule 3: Tubulin beta-4B chain

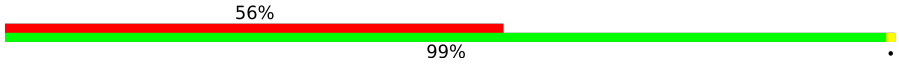
Chain PF:

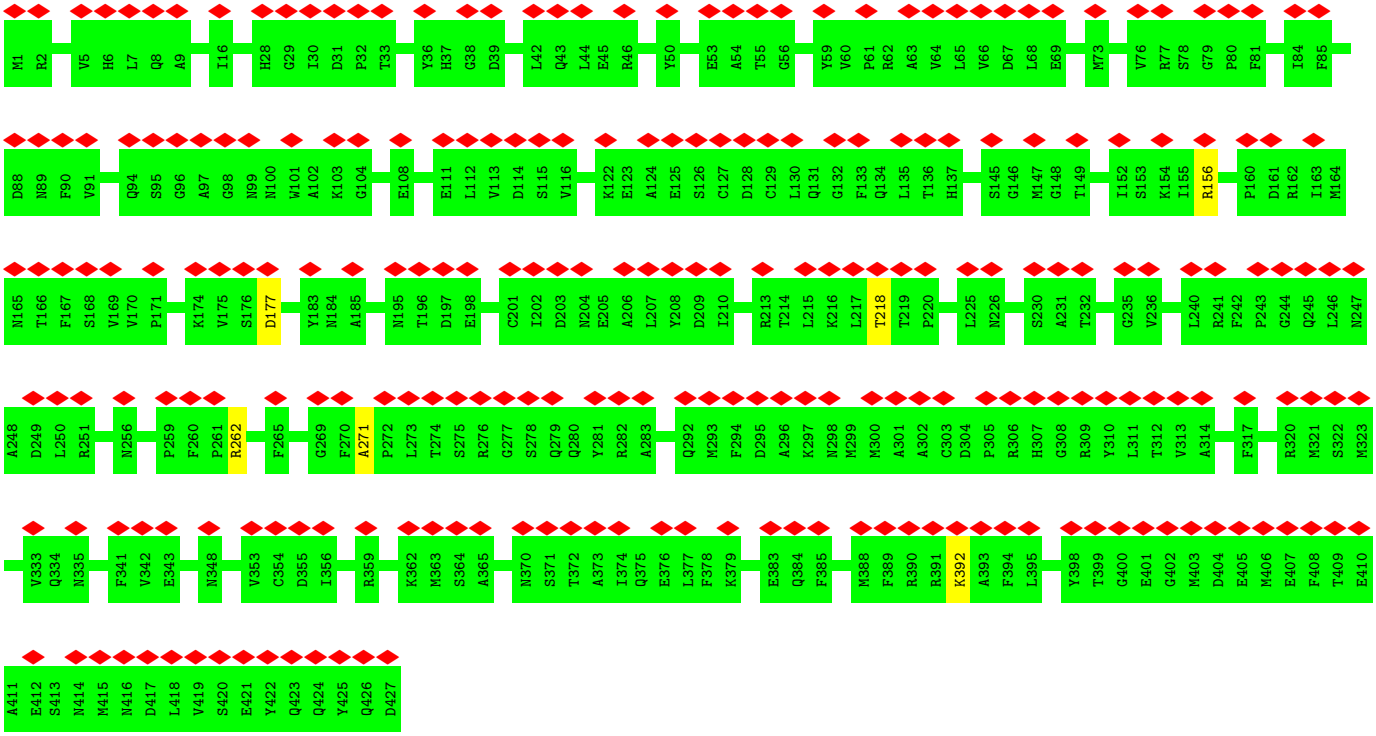




• Molecule 3: Tubulin beta-4B chain

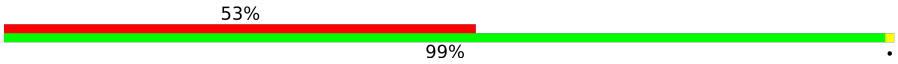
Chain PH:

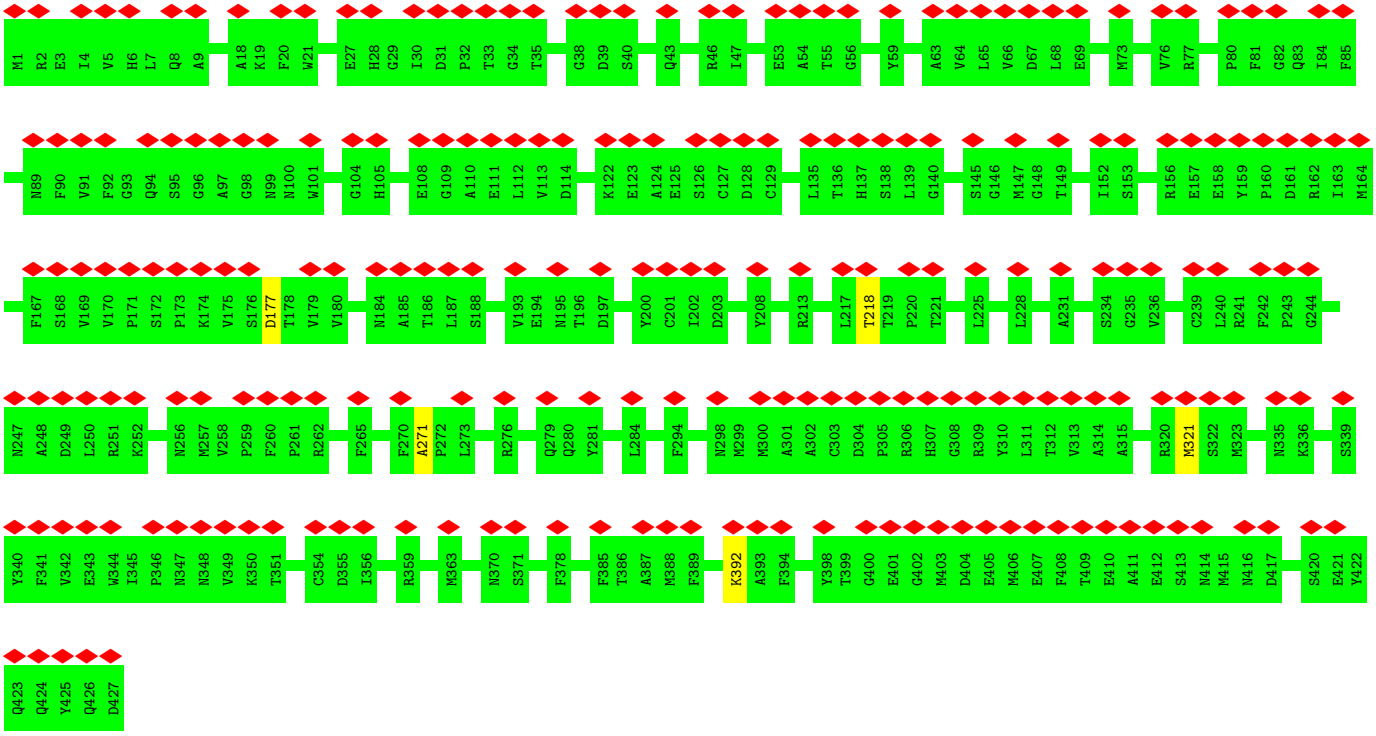




• Molecule 3: Tubulin beta-4B chain

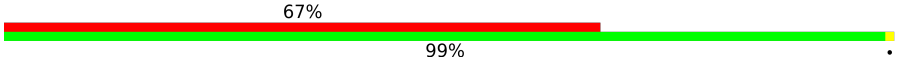
Chain PJ:

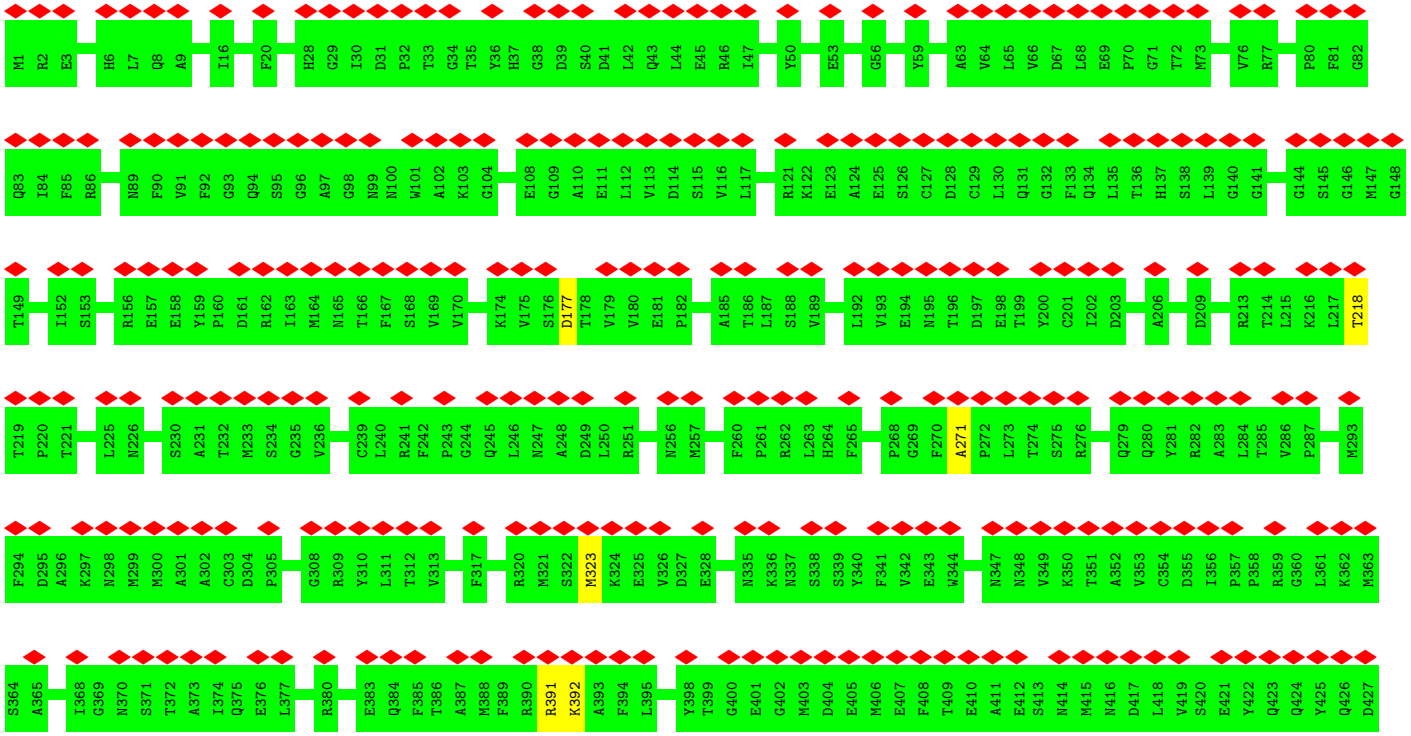




• Molecule 3: Tubulin beta-4B chain

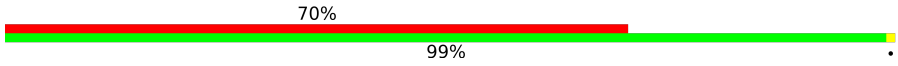
Chain PL:

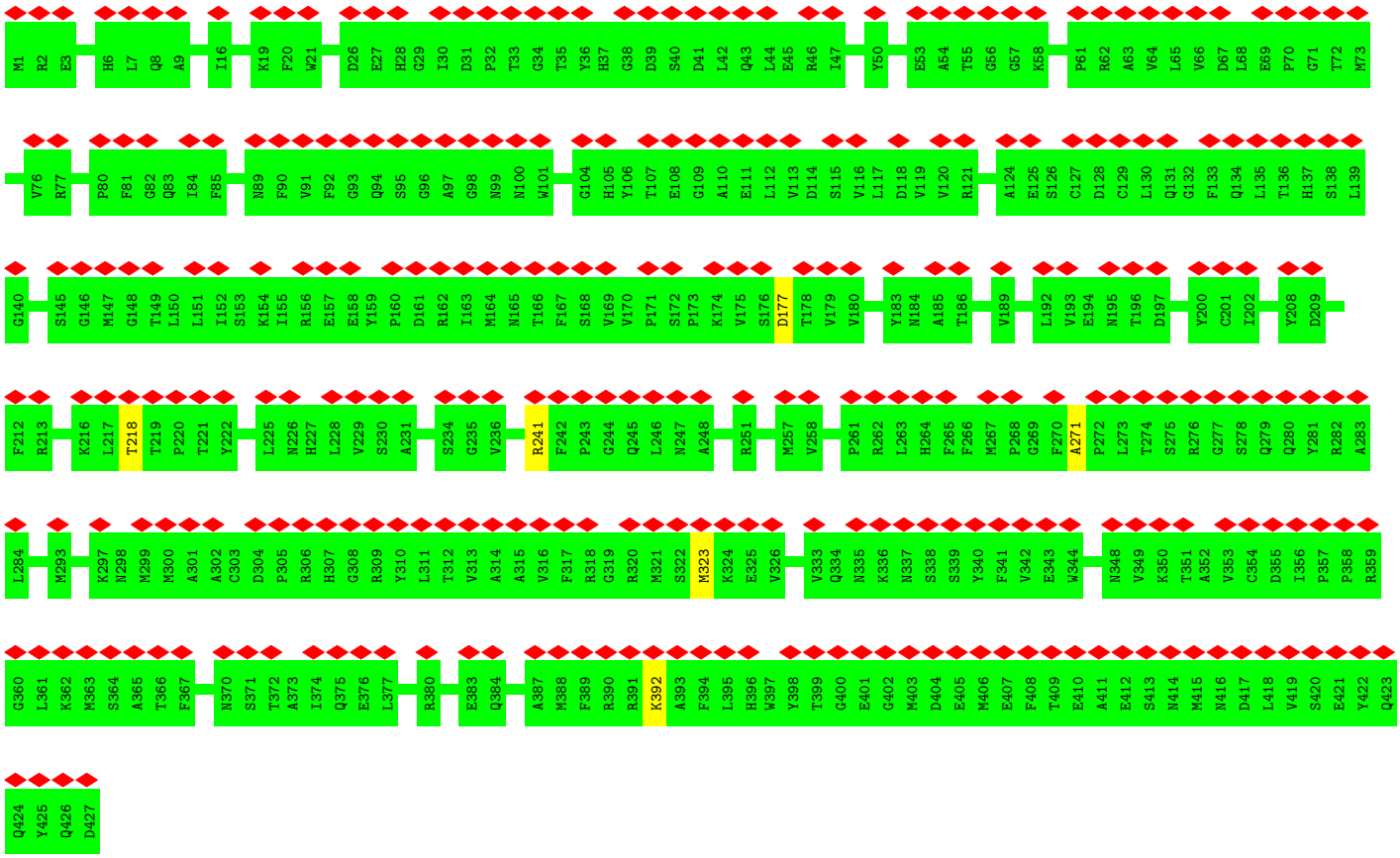




• Molecule 3: Tubulin beta-4B chain

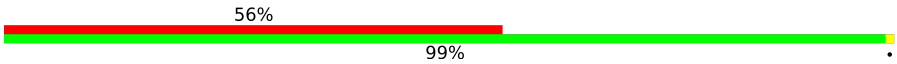
Chain QB:

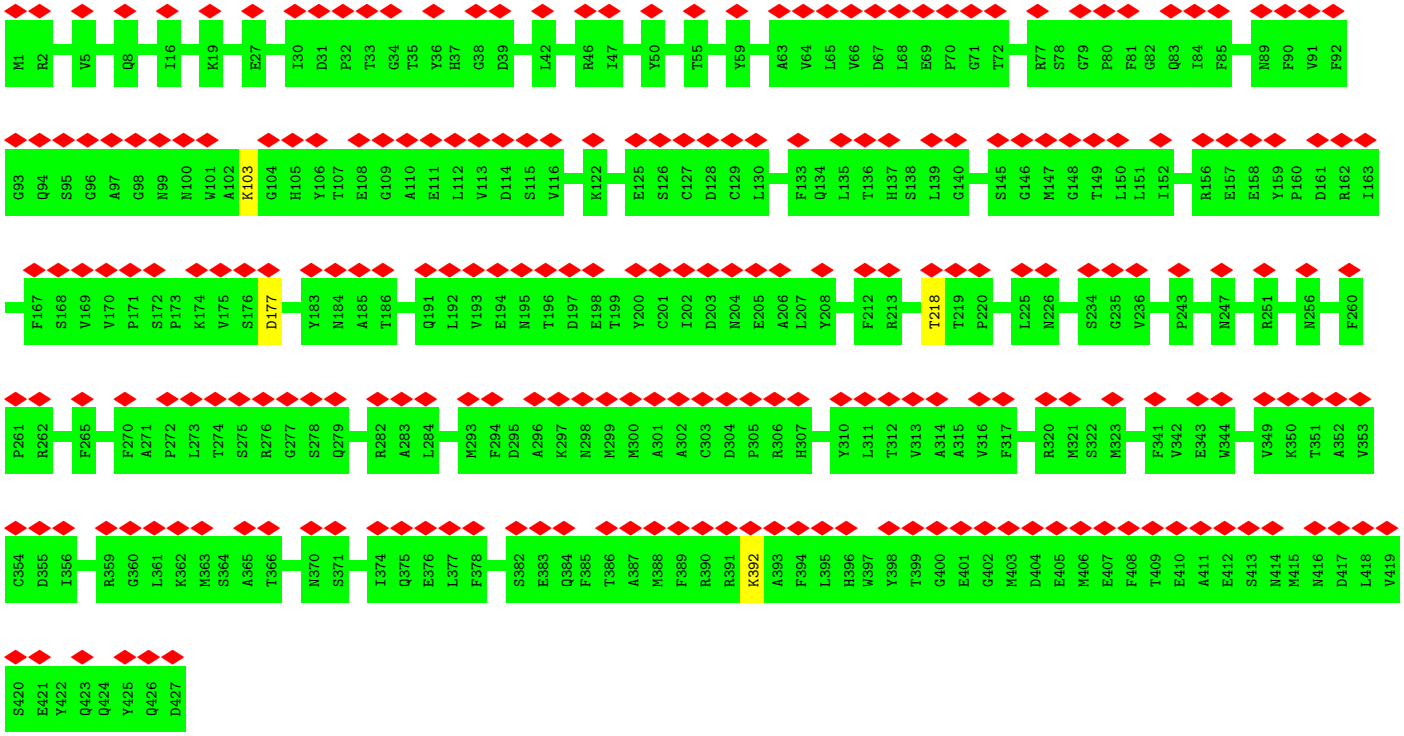




• Molecule 3: Tubulin beta-4B chain

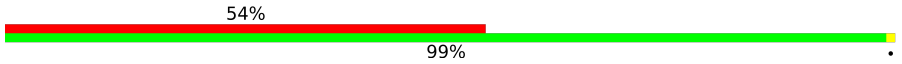
Chain QD:

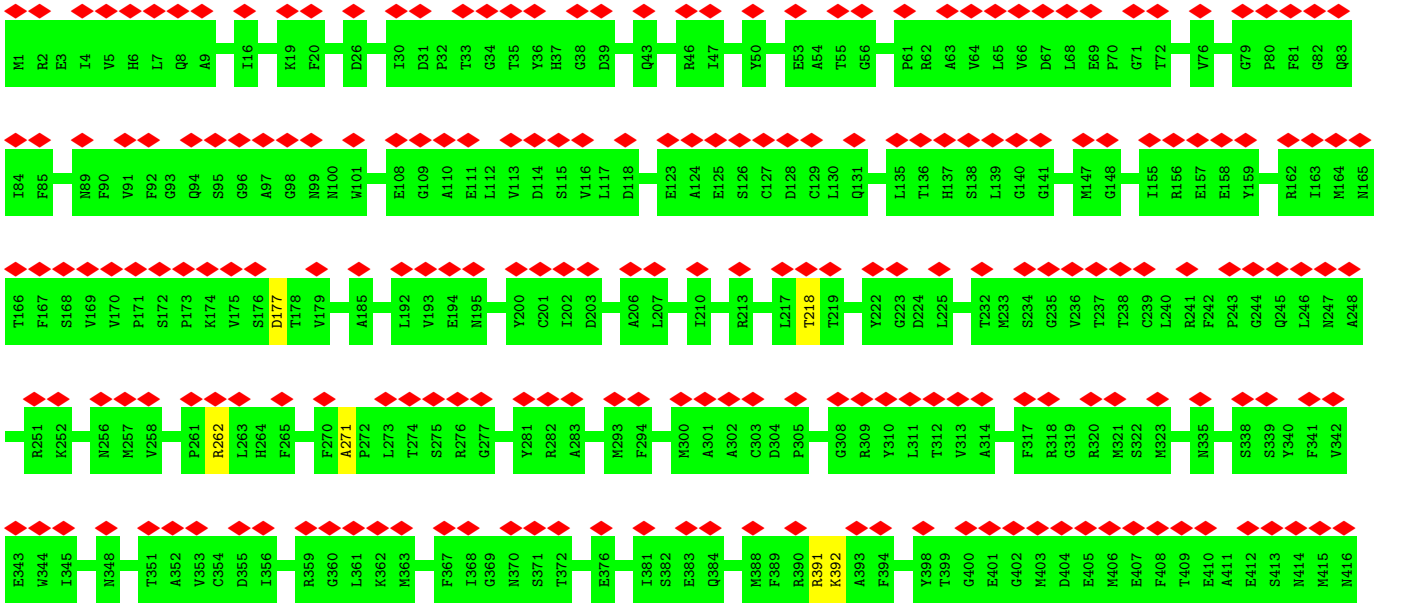


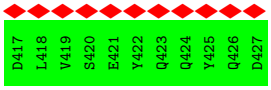


• Molecule 3: Tubulin beta-4B chain

Chain QF:

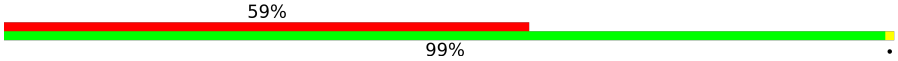


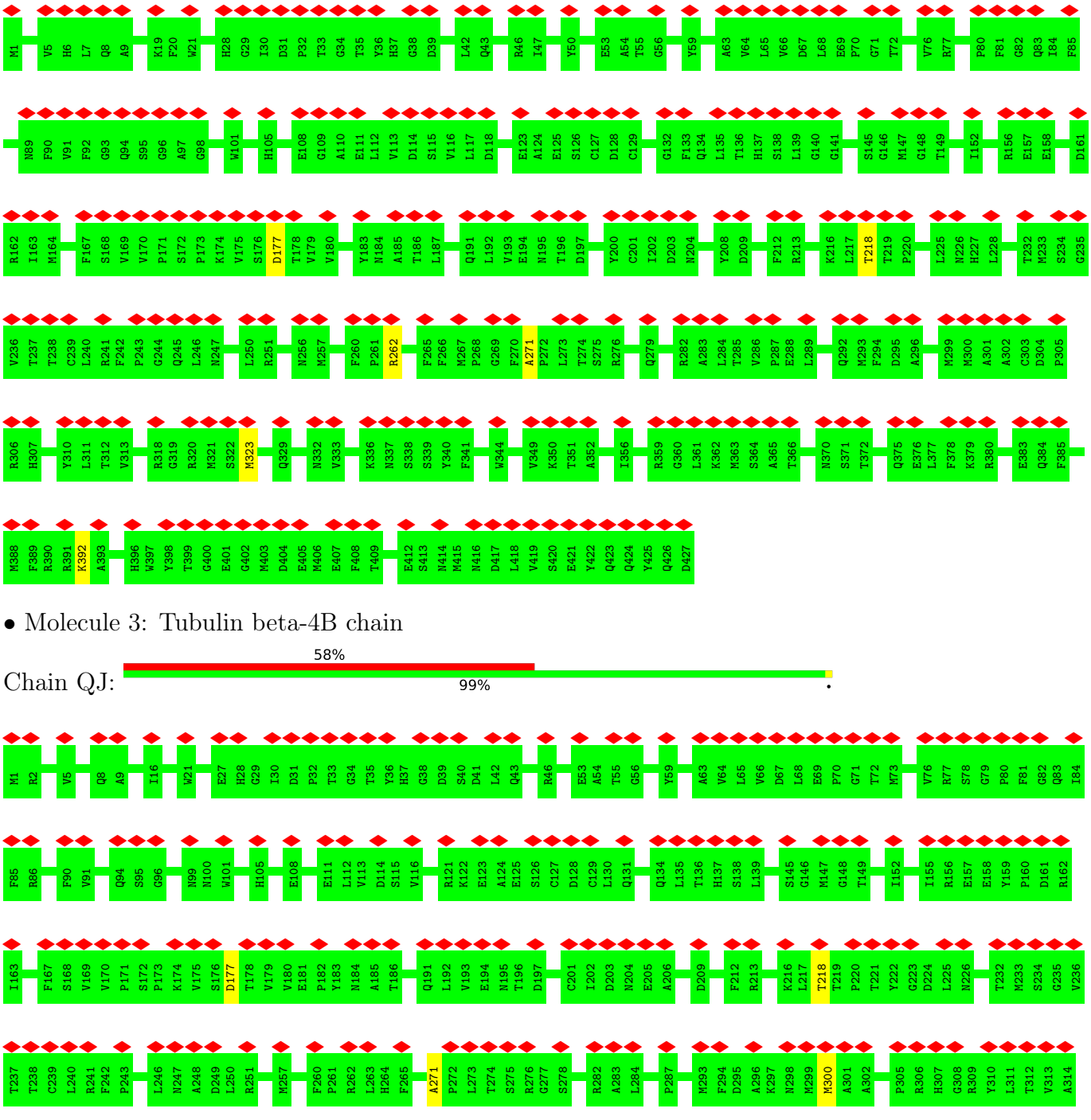




• Molecule 3: Tubulin beta-4B chain

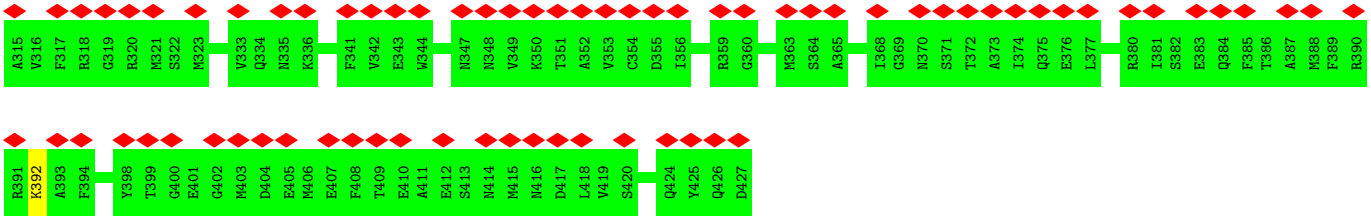
Chain QH:





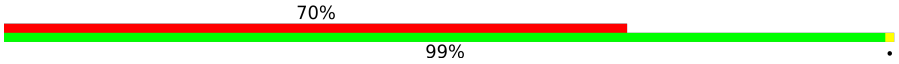
• Molecule 3: Tubulin beta-4B chain

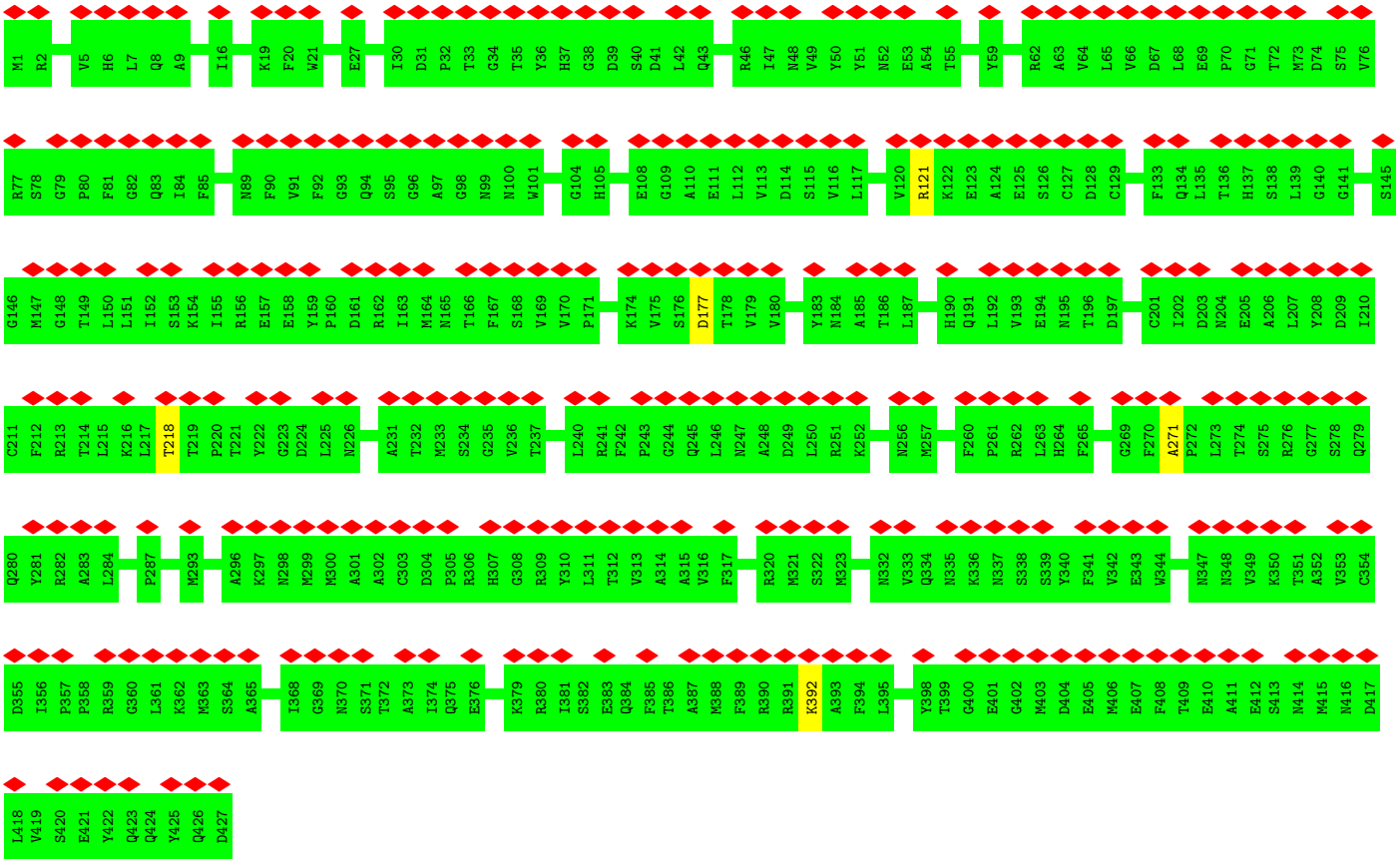
Chain QJ:



• Molecule 3: Tubulin beta-4B chain

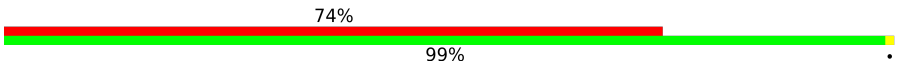
Chain QL:

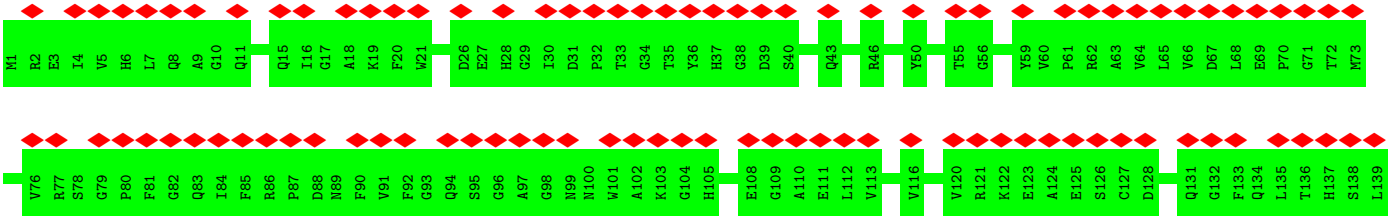


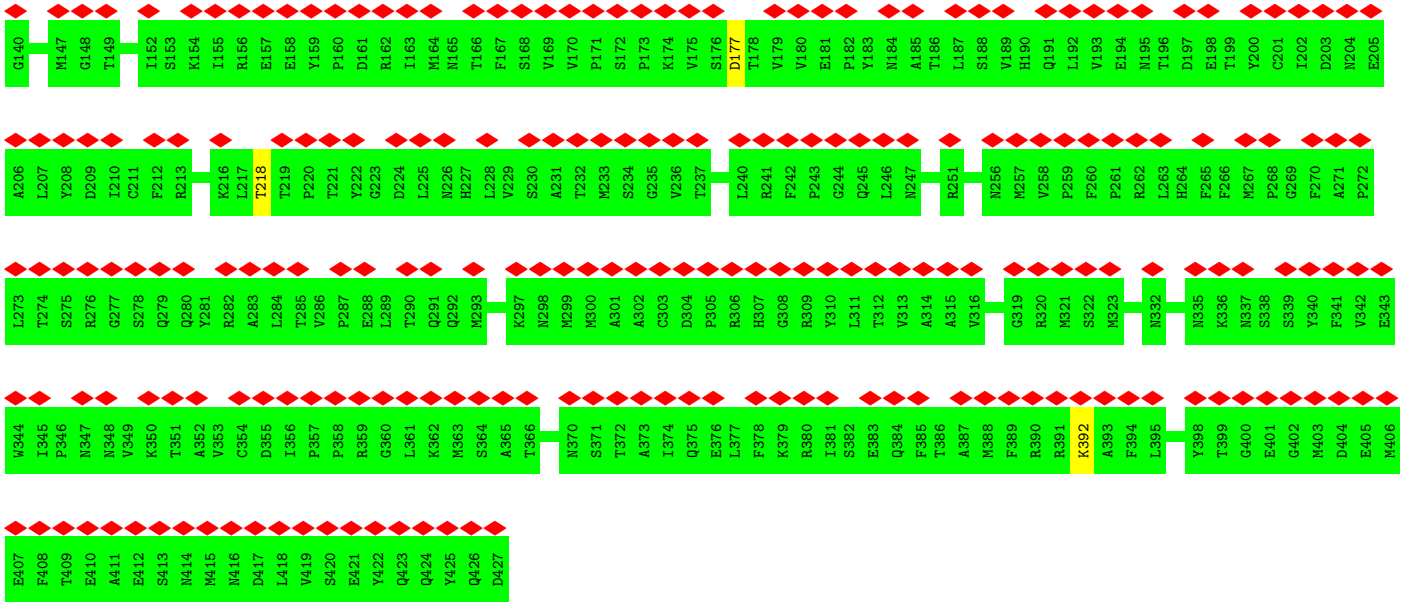


• Molecule 3: Tubulin beta-4B chain

Chain RB:

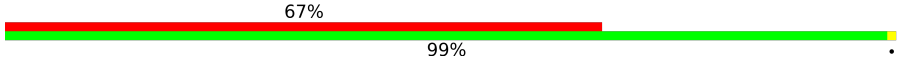


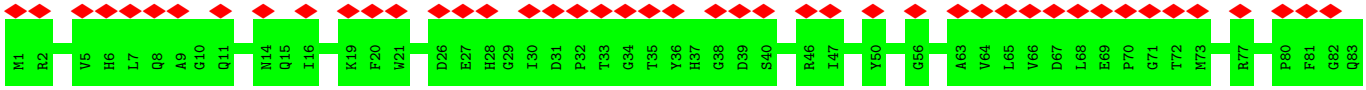


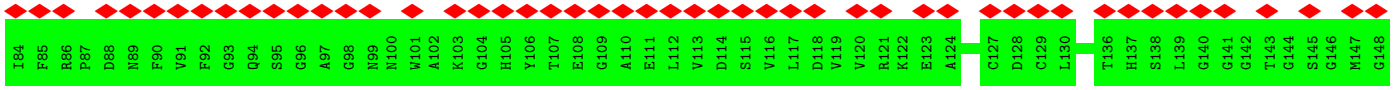


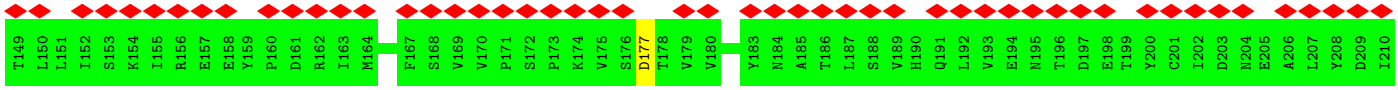
- Molecule 3: Tubulin beta-4B chain

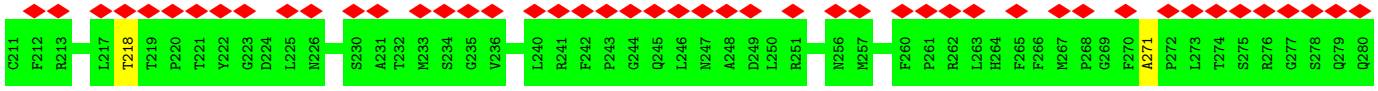
Chain RD:

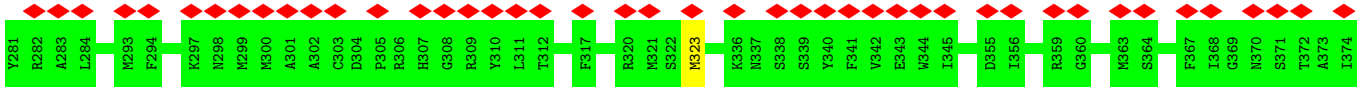


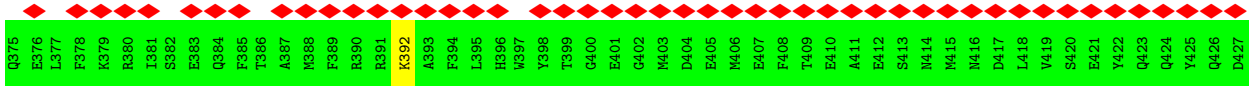






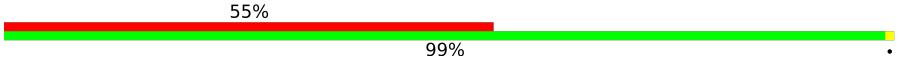


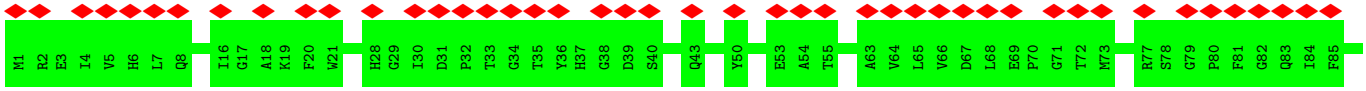


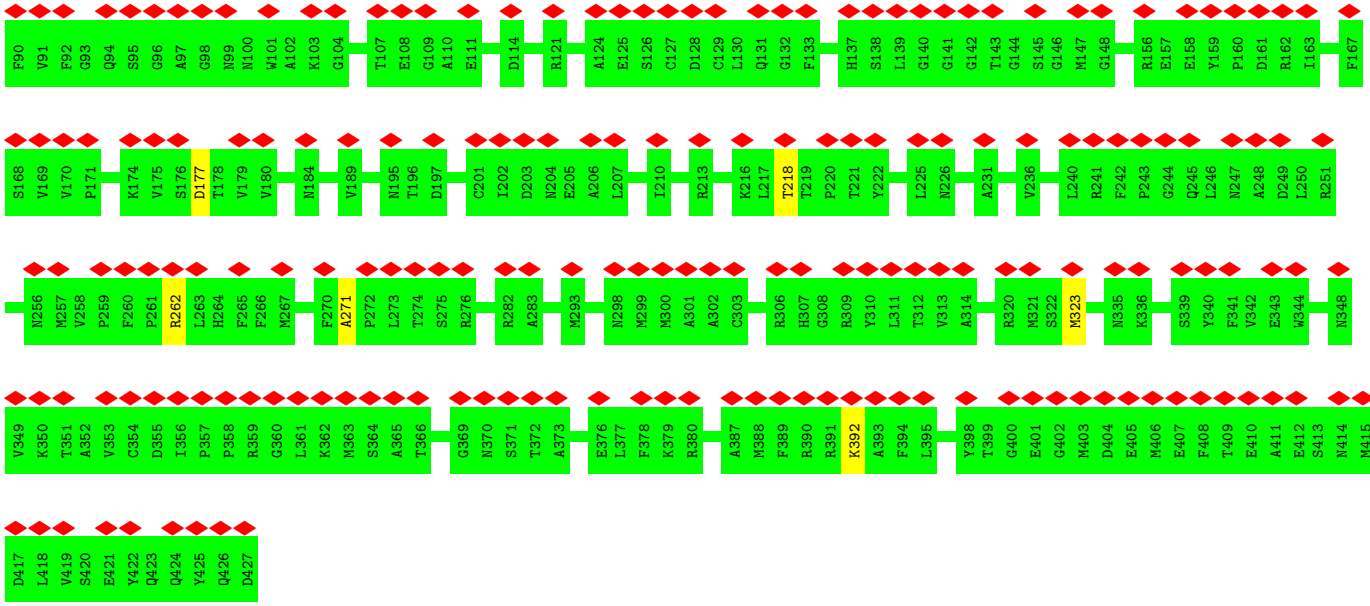


- Molecule 3: Tubulin beta-4B chain

Chain RF:

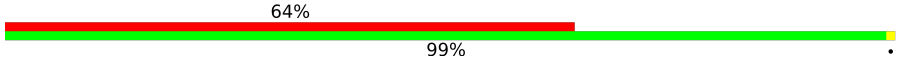


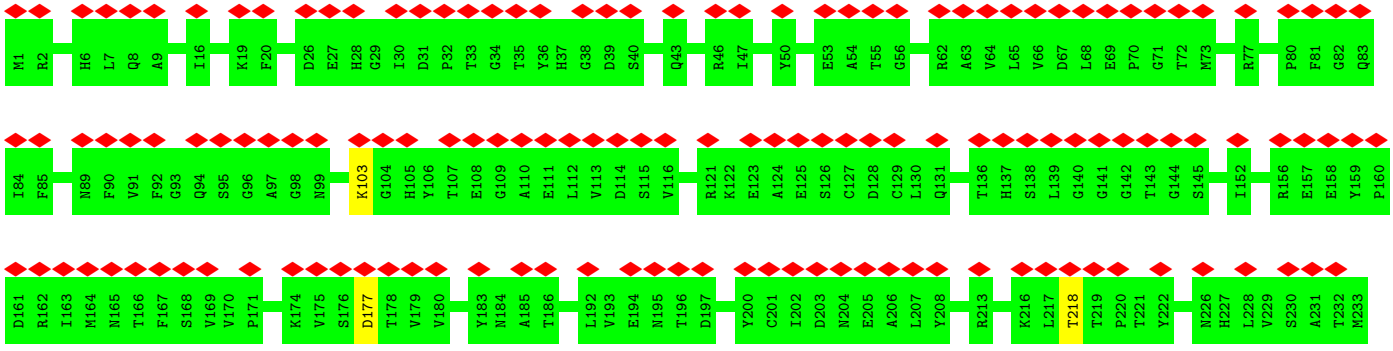




• Molecule 3: Tubulin beta-4B chain

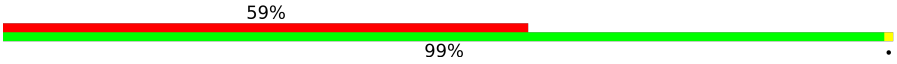
Chain RH:

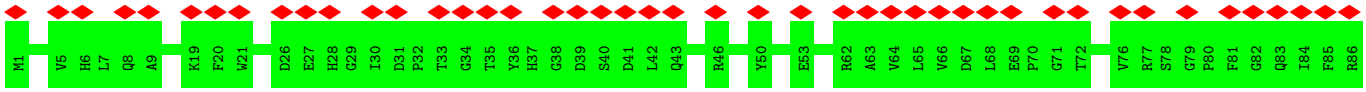


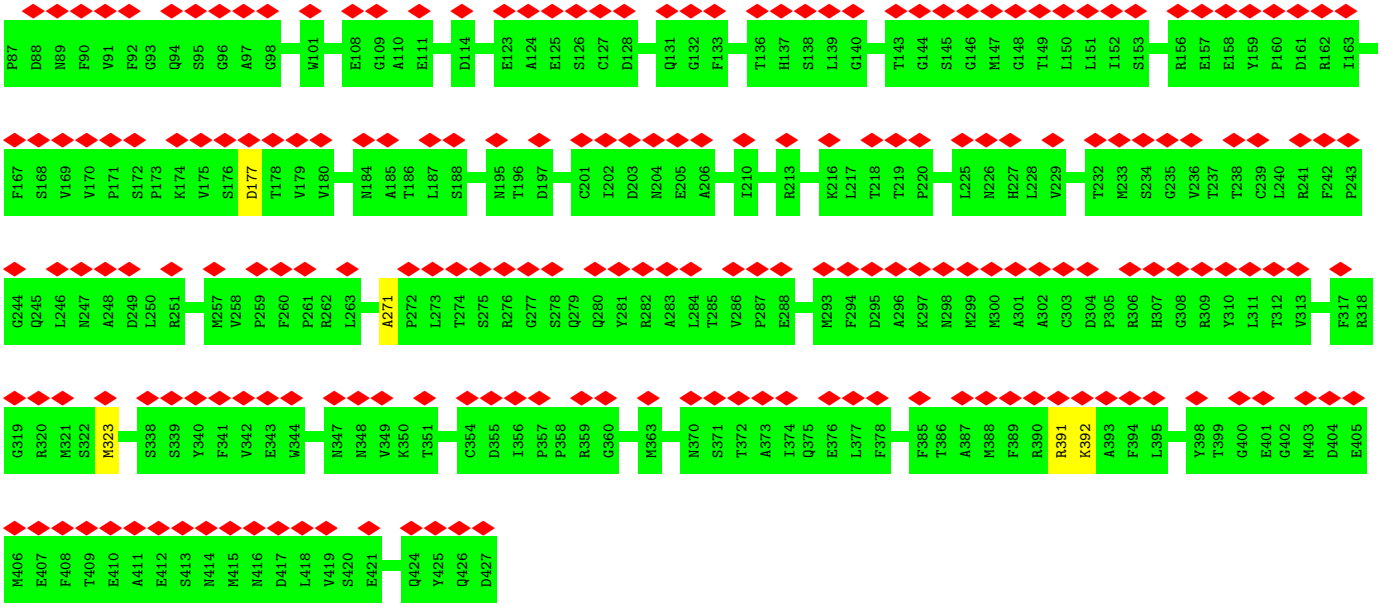


• Molecule 3: Tubulin beta-4B chain

Chain RJ:

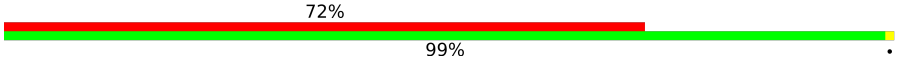


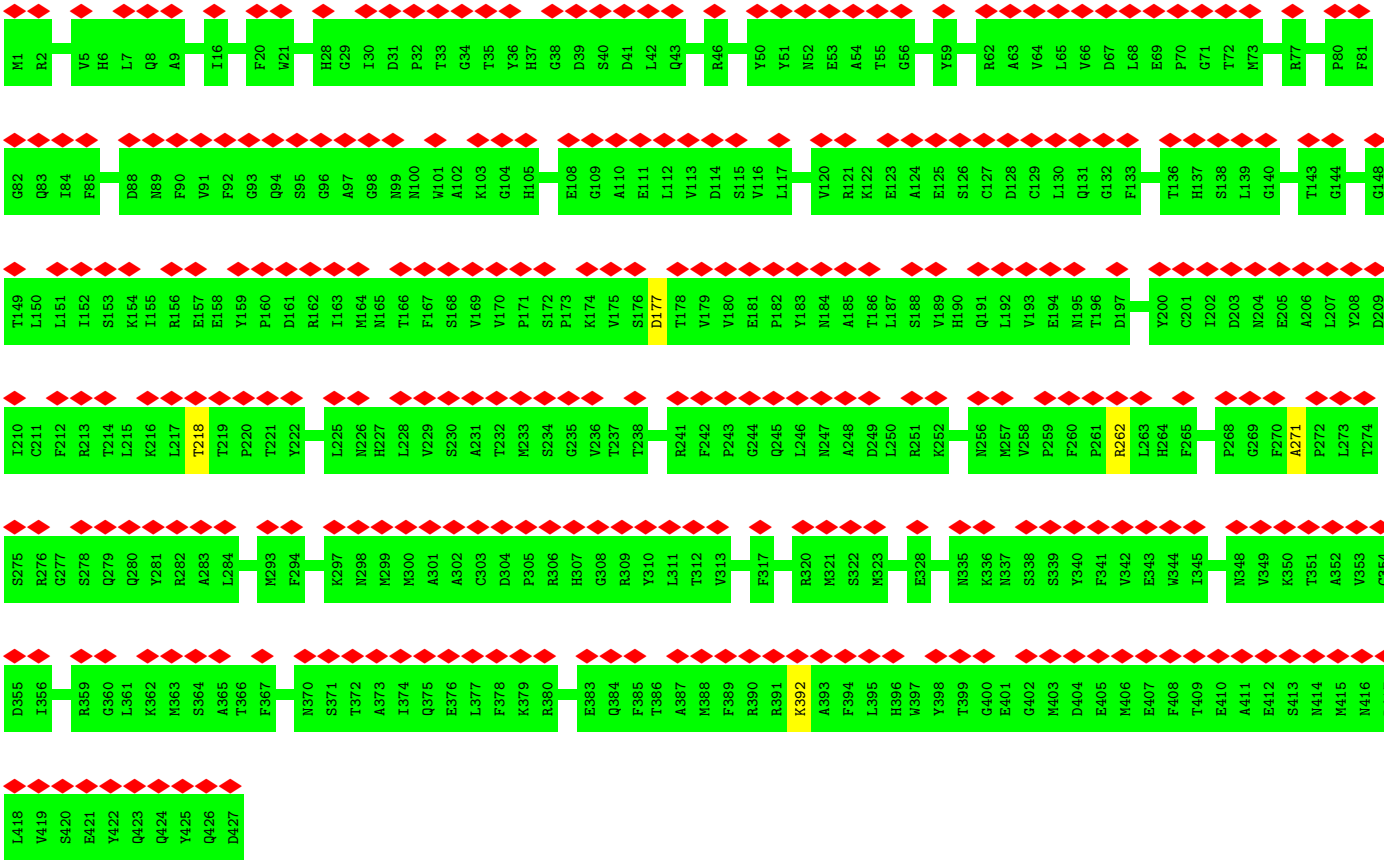




• Molecule 3: Tubulin beta-4B chain

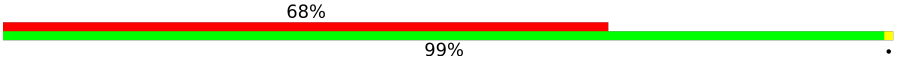
Chain RL:

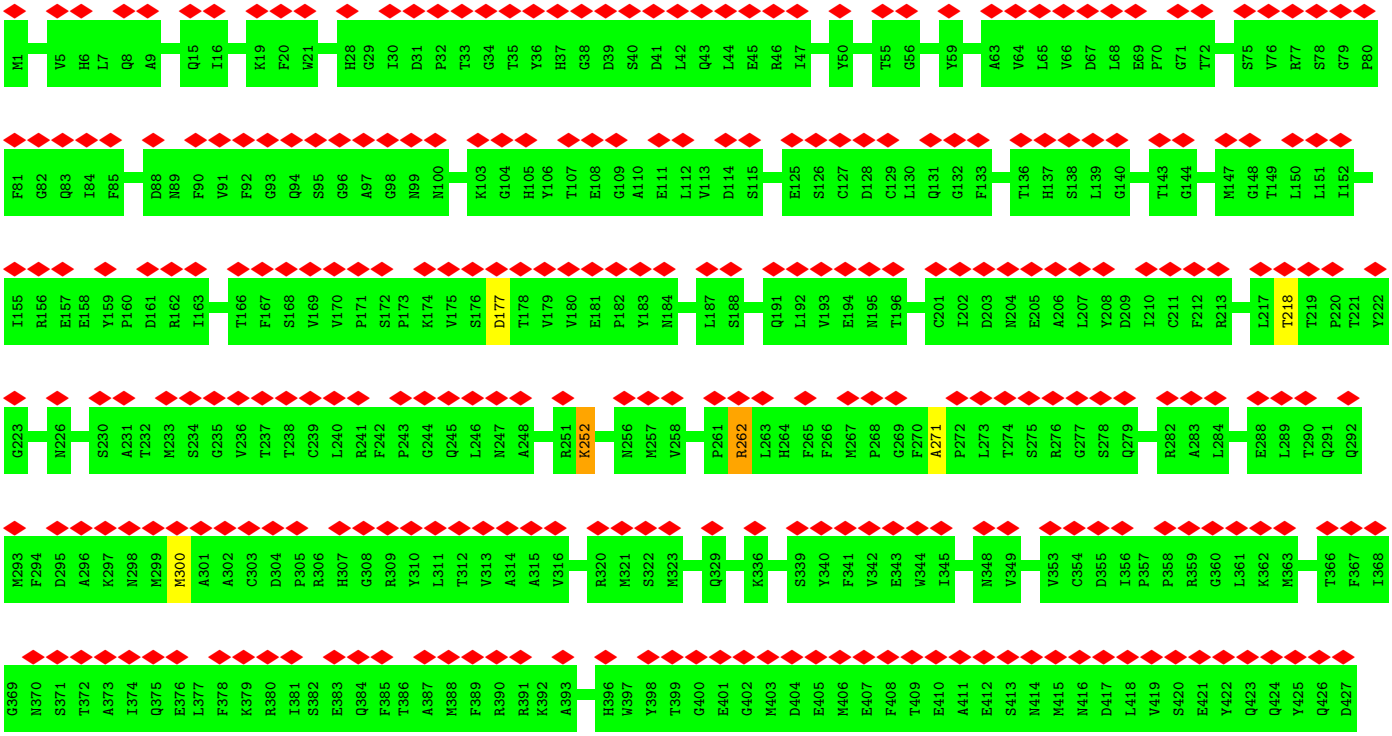




• Molecule 3: Tubulin beta-4B chain

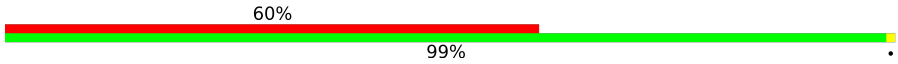
Chain SB:

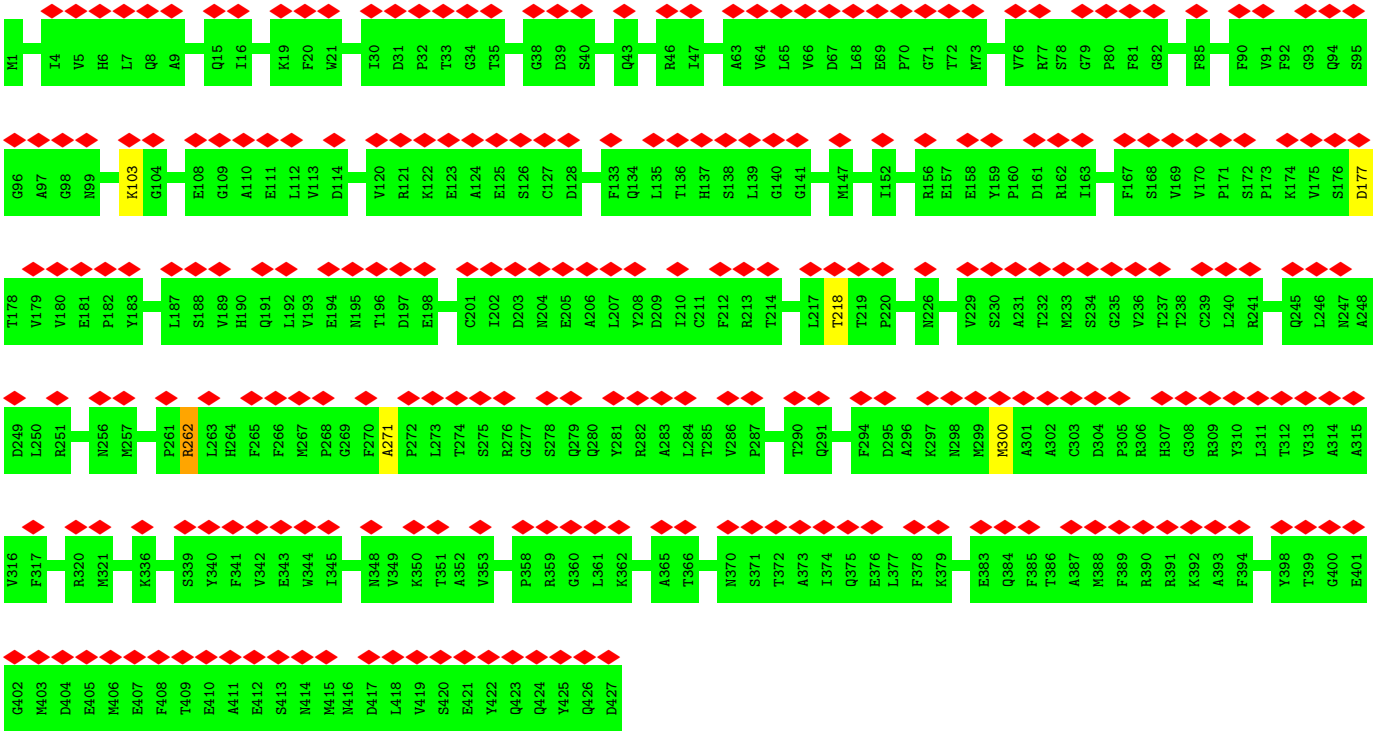




• Molecule 3: Tubulin beta-4B chain

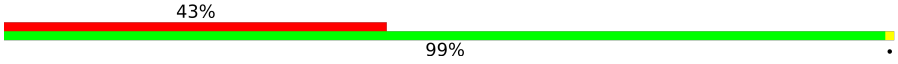
Chain SD:

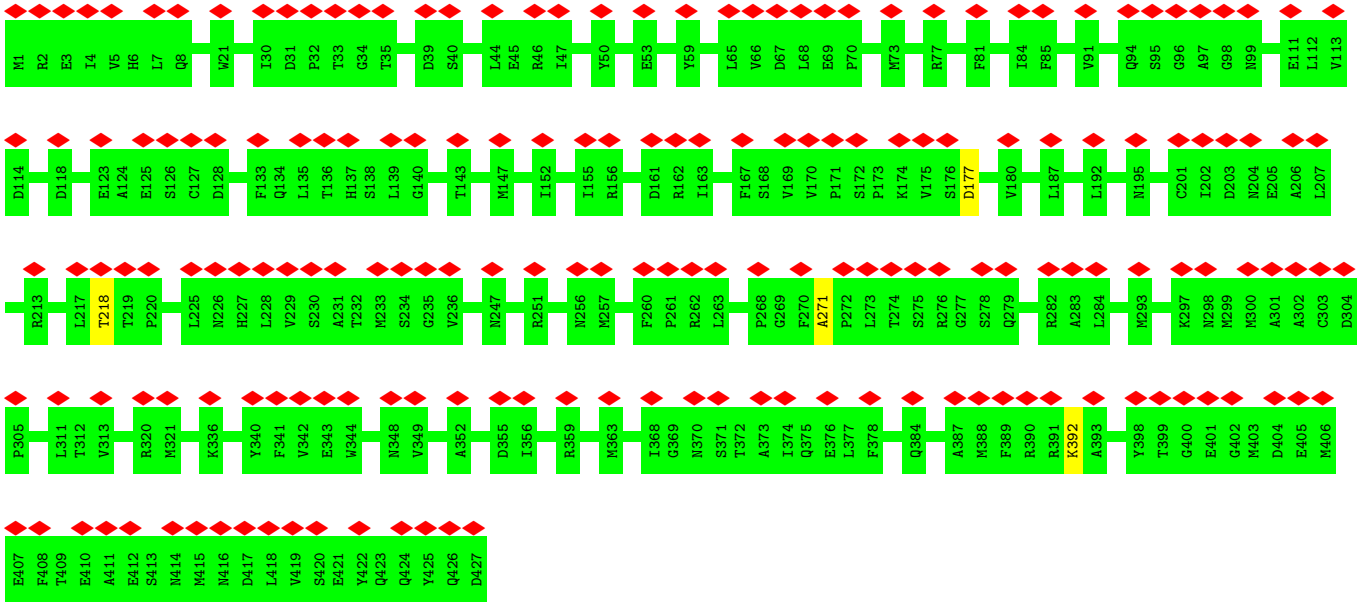




• Molecule 3: Tubulin beta-4B chain

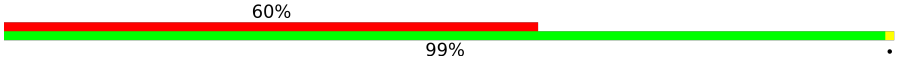
Chain SF:

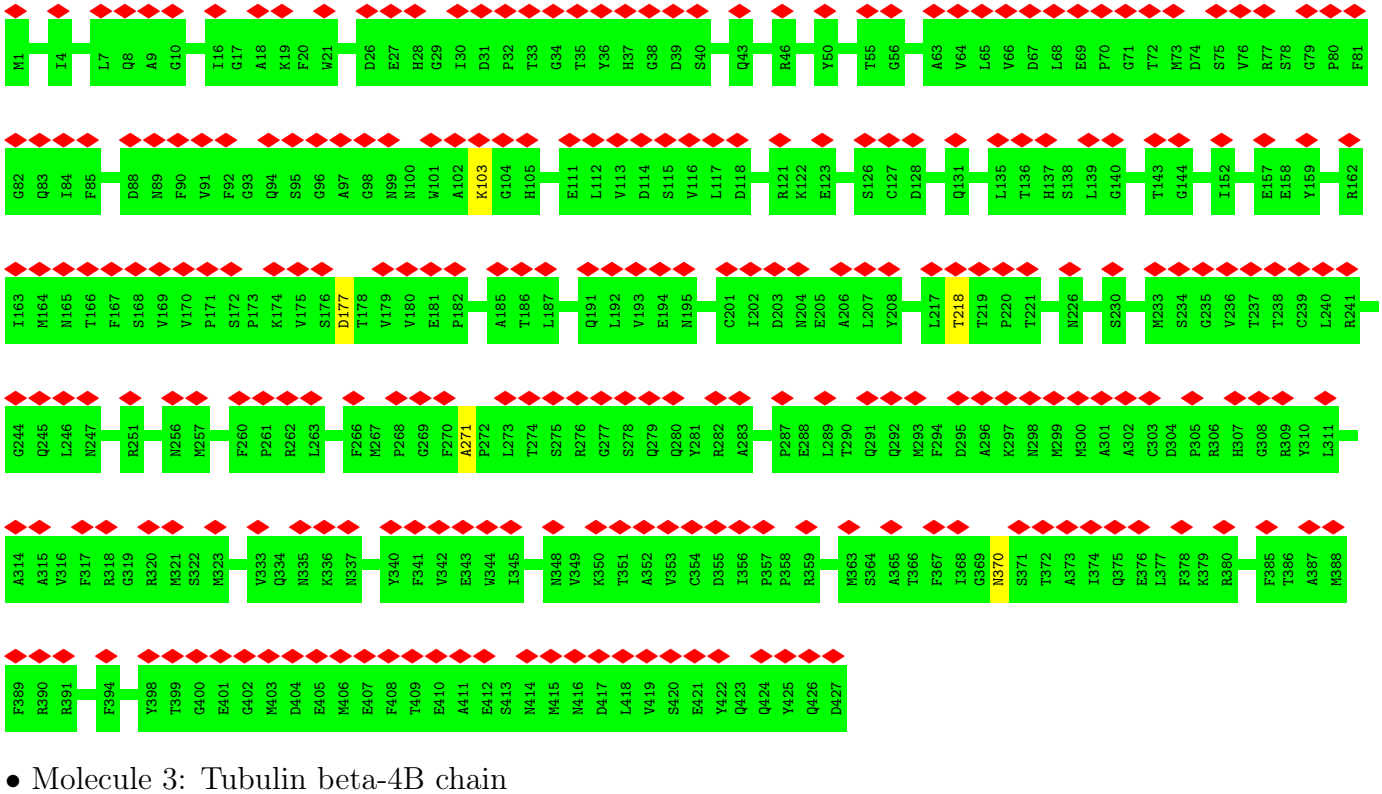




• Molecule 3: Tubulin beta-4B chain

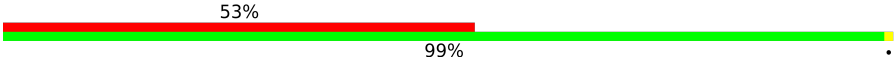
Chain SH:

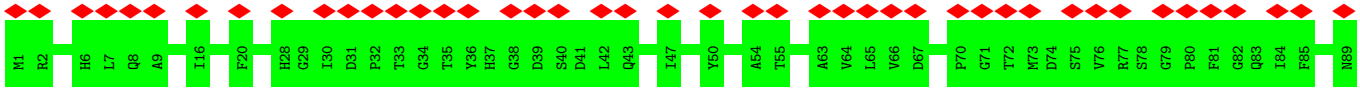


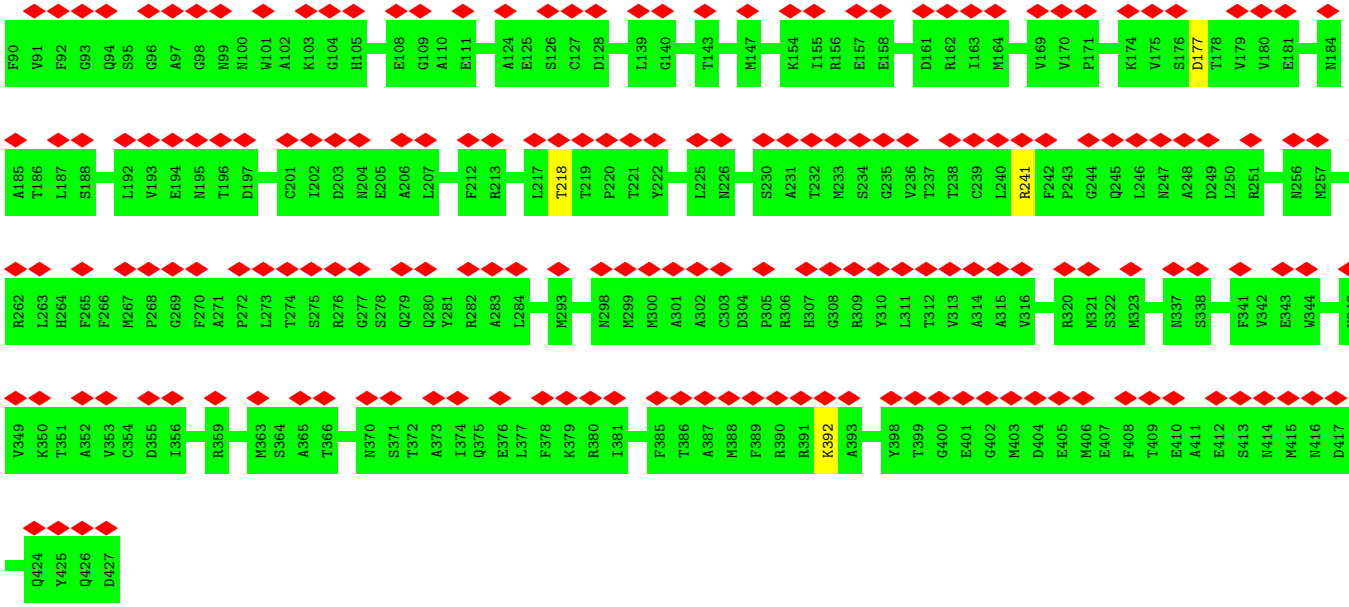


• Molecule 3: Tubulin beta-4B chain

Chain SJ:

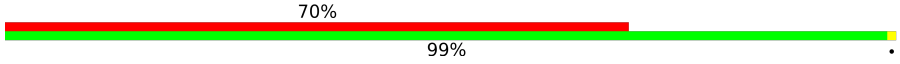


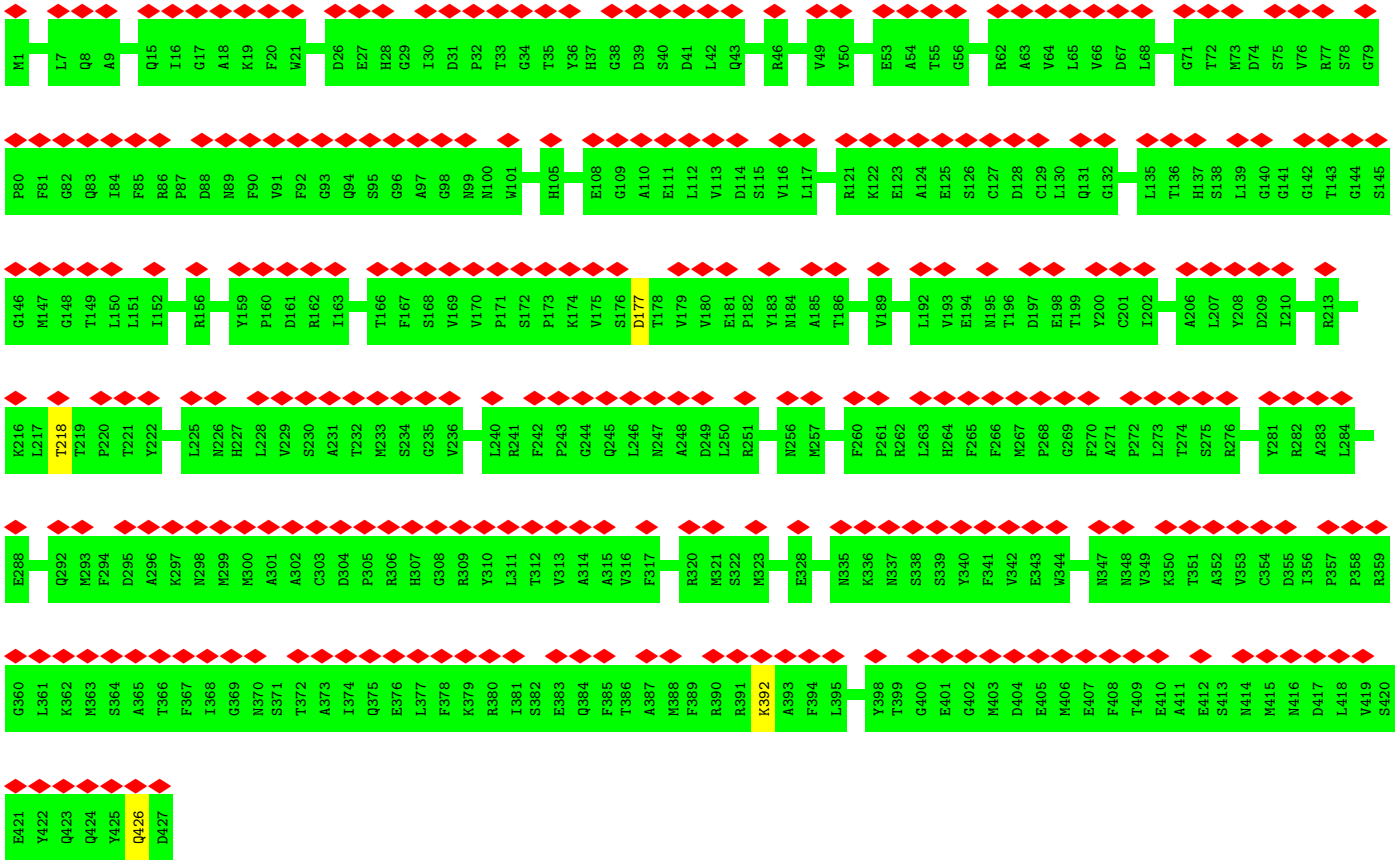




• Molecule 3: Tubulin beta-4B chain

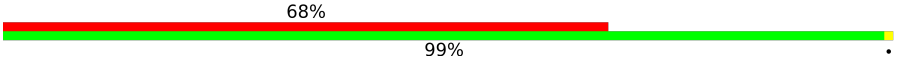
Chain SL:

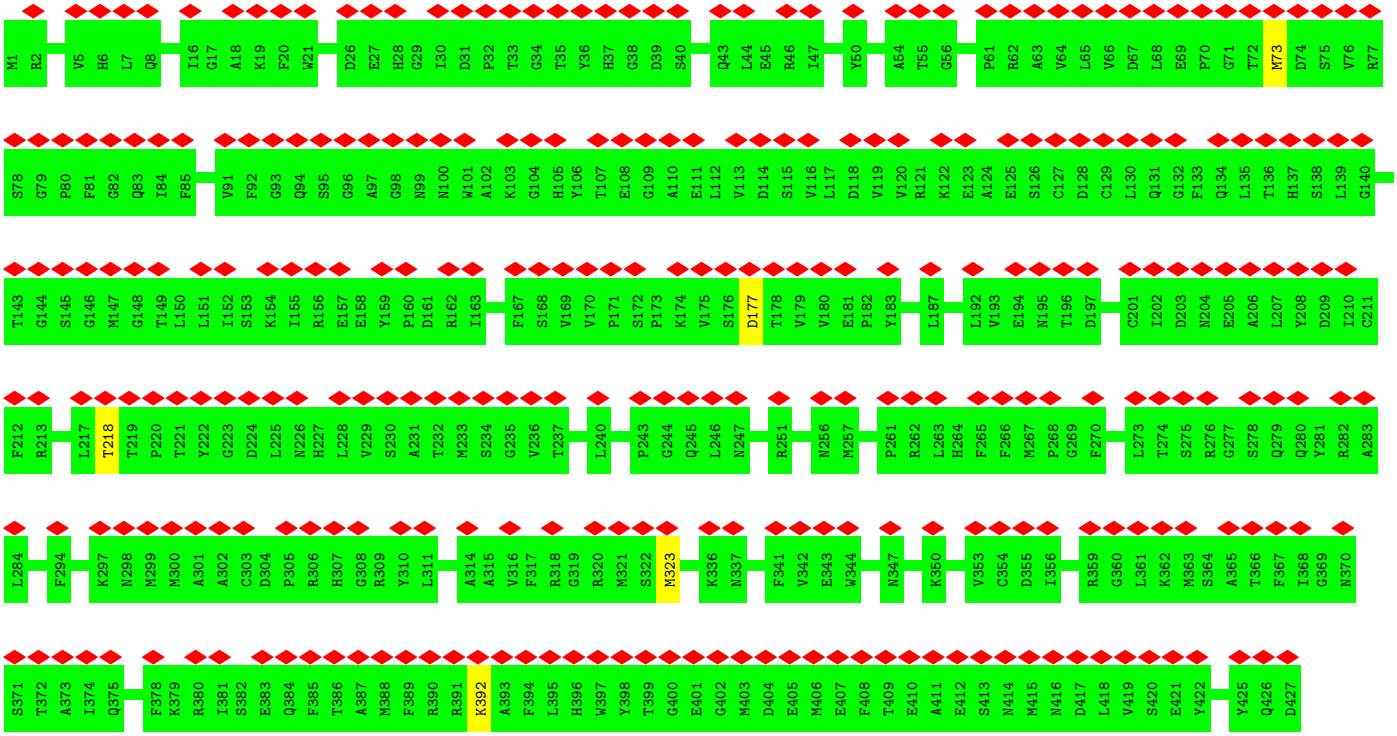




• Molecule 3: Tubulin beta-4B chain

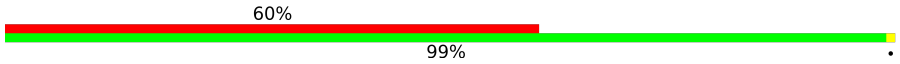
Chain TB:

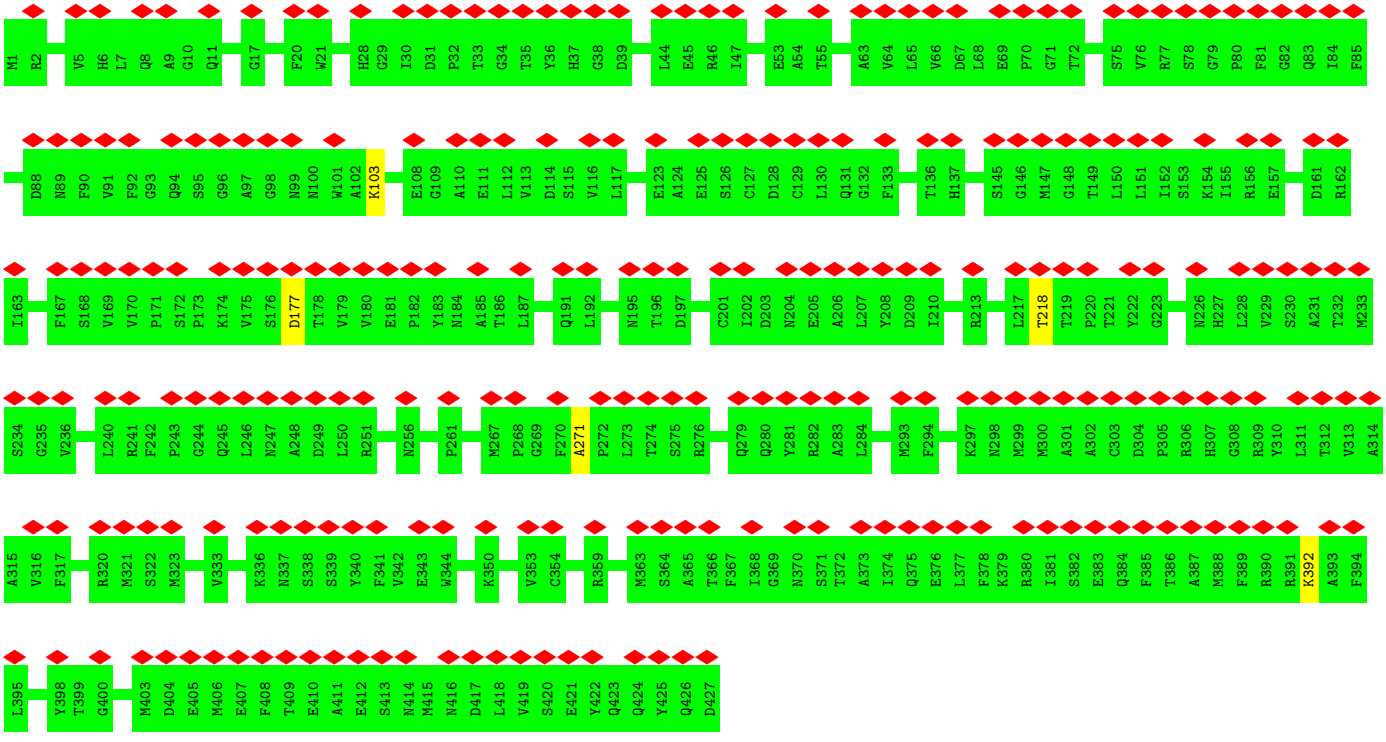




• Molecule 3: Tubulin beta-4B chain

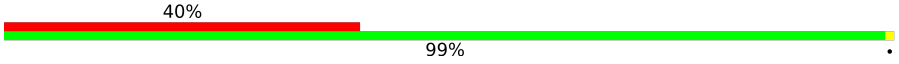
Chain TD:

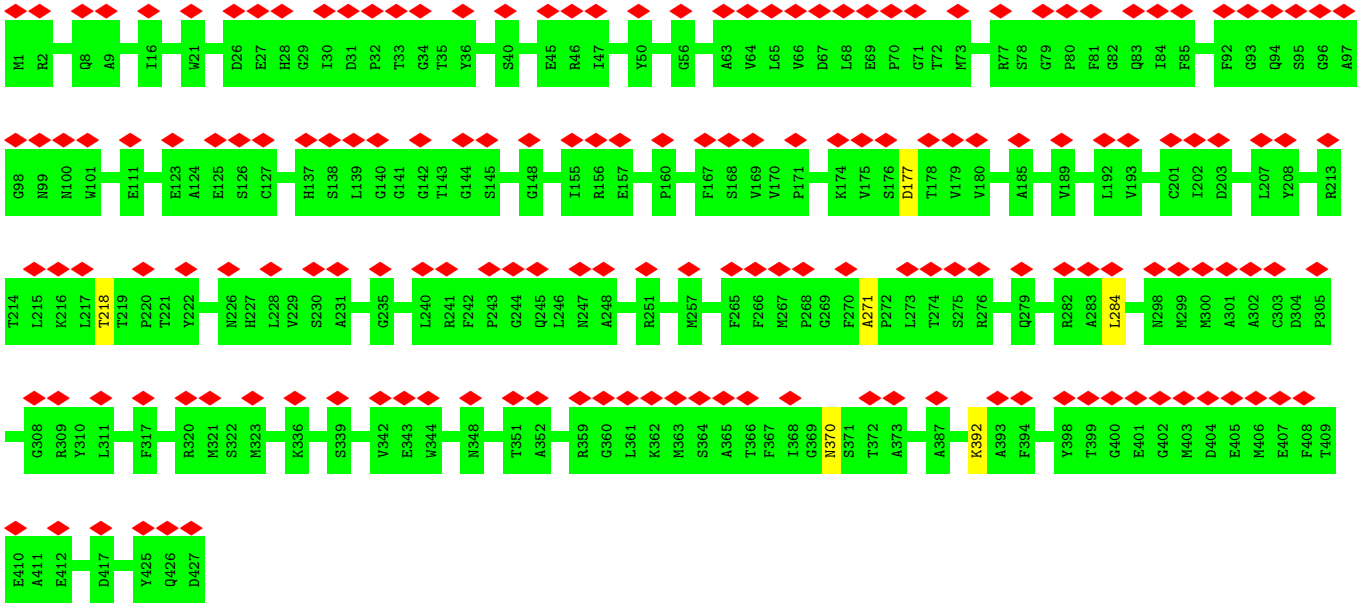




• Molecule 3: Tubulin beta-4B chain

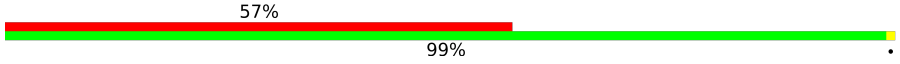
Chain TF:

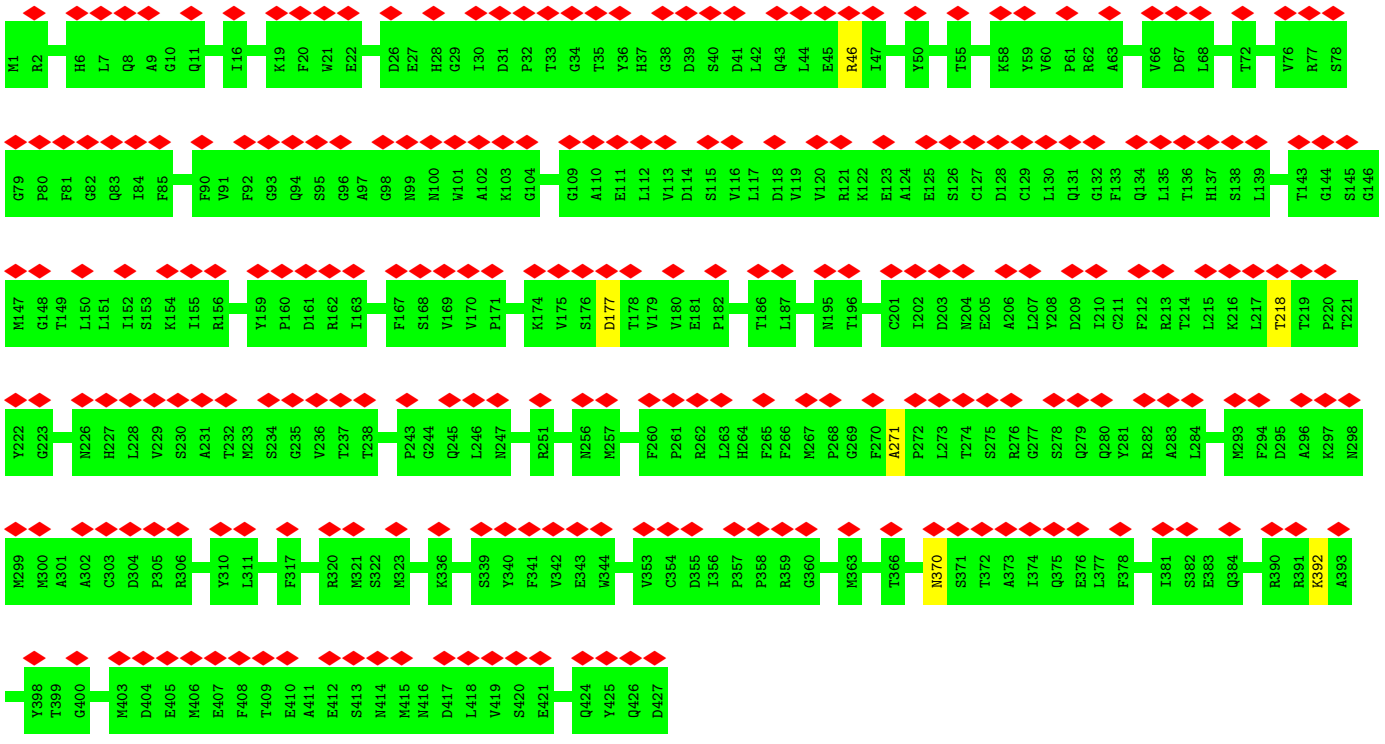




• Molecule 3: Tubulin beta-4B chain

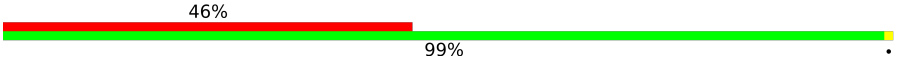
Chain TH:

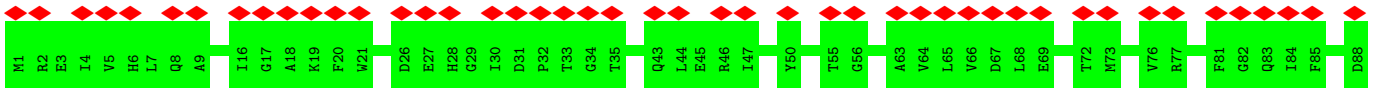


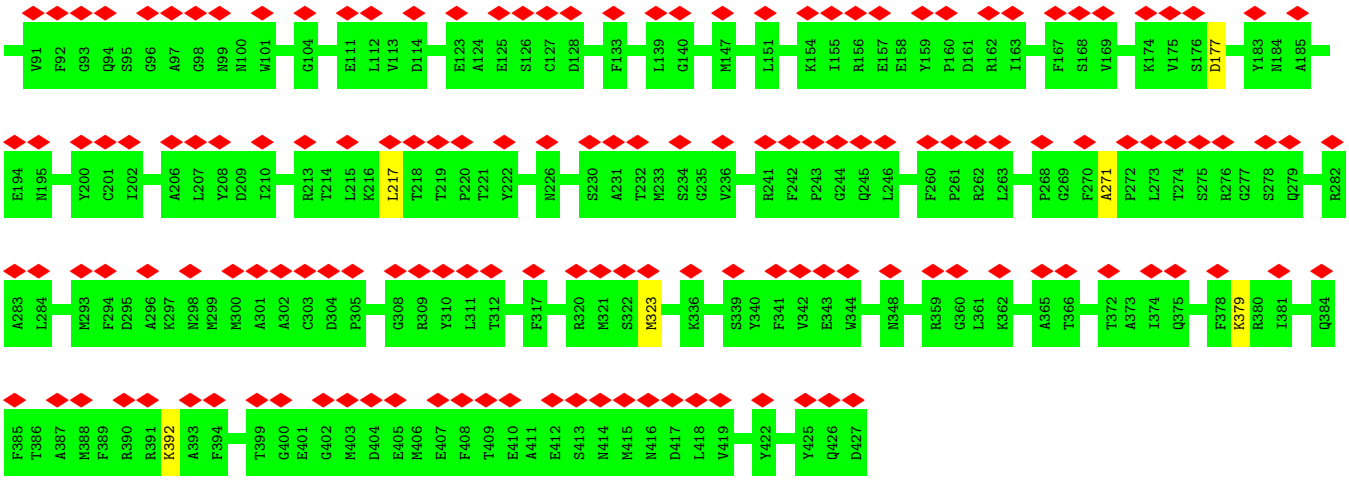


• Molecule 3: Tubulin beta-4B chain

Chain TJ:

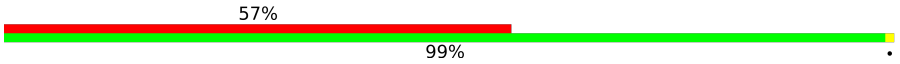


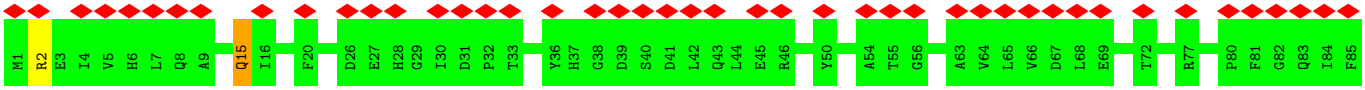


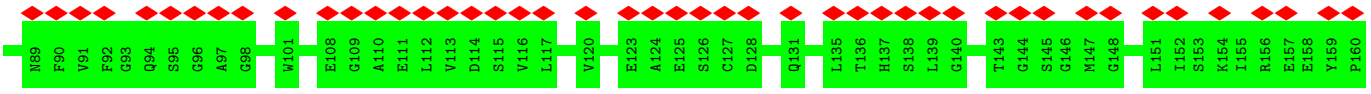


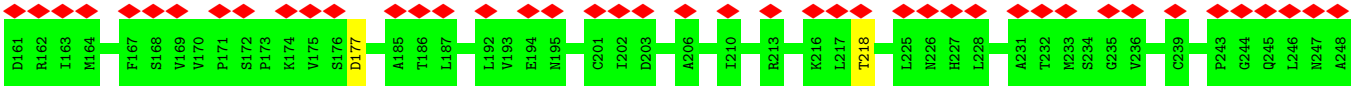
• Molecule 3: Tubulin beta-4B chain

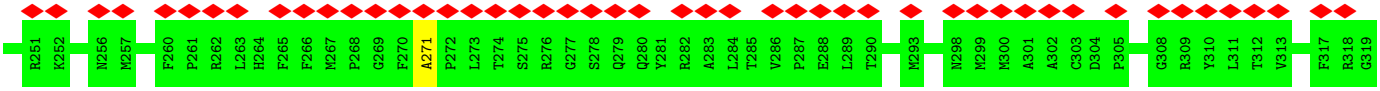
Chain TL:

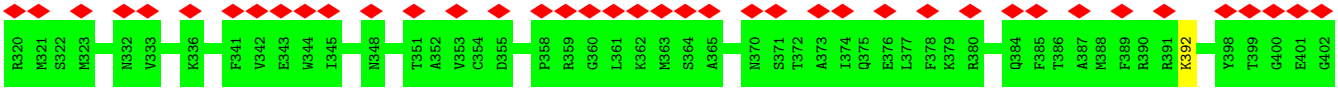


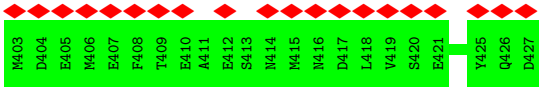






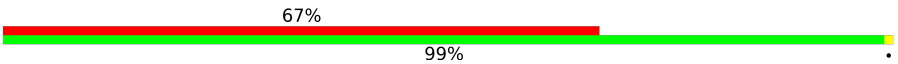


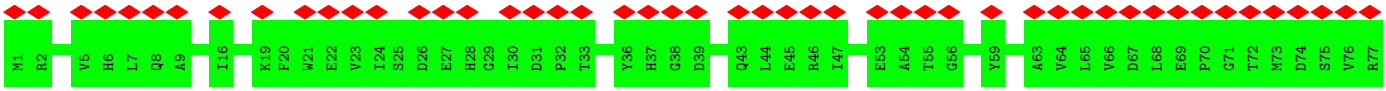


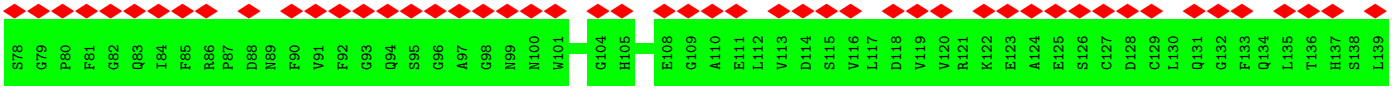


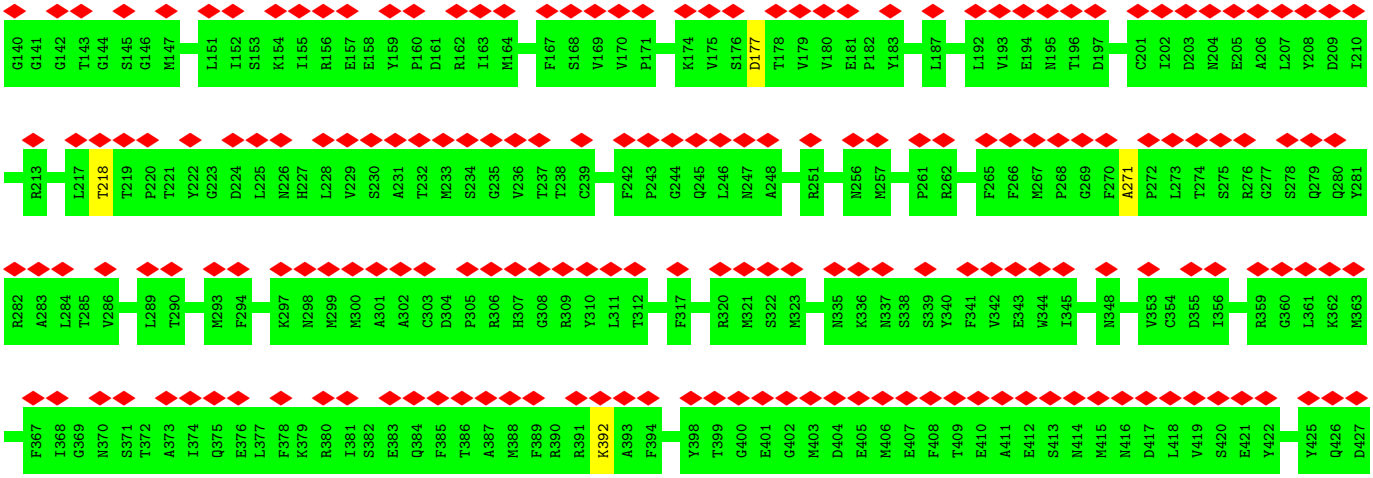
• Molecule 3: Tubulin beta-4B chain

Chain TN:



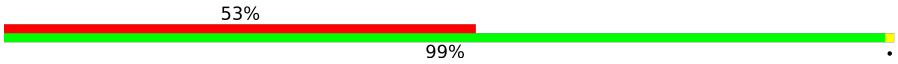


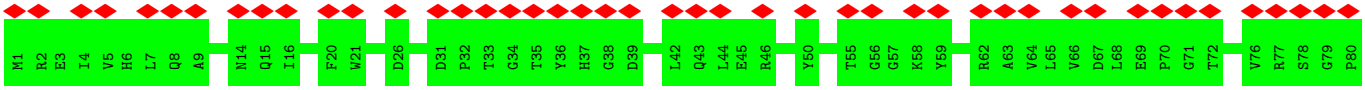




• Molecule 3: Tubulin beta-4B chain

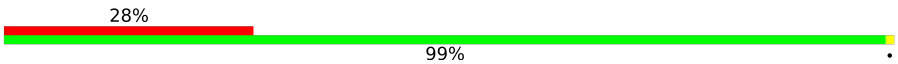
Chain UB:

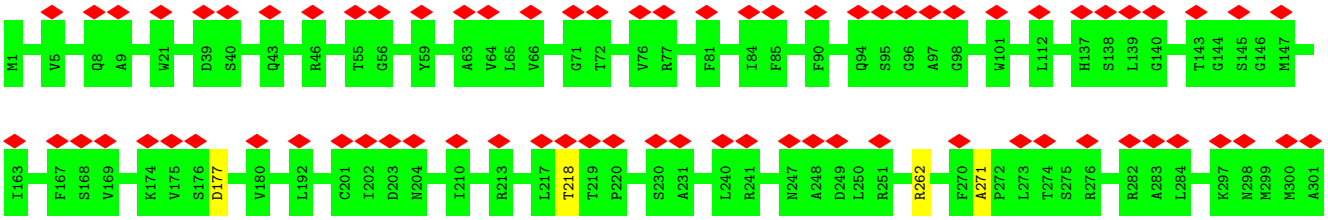


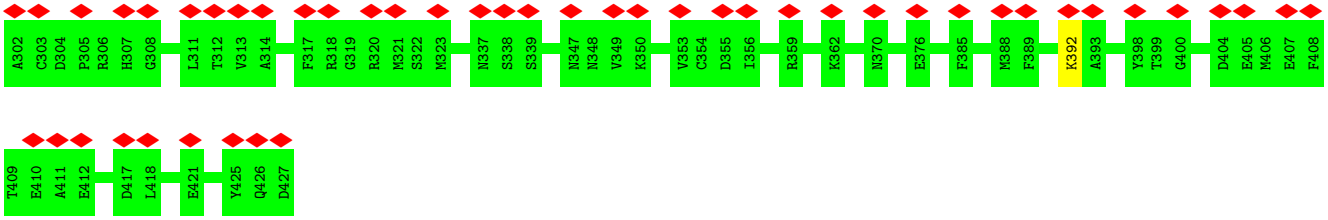


• Molecule 3: Tubulin beta-4B chain

Chain UD:

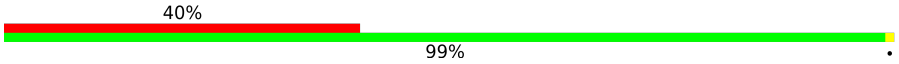


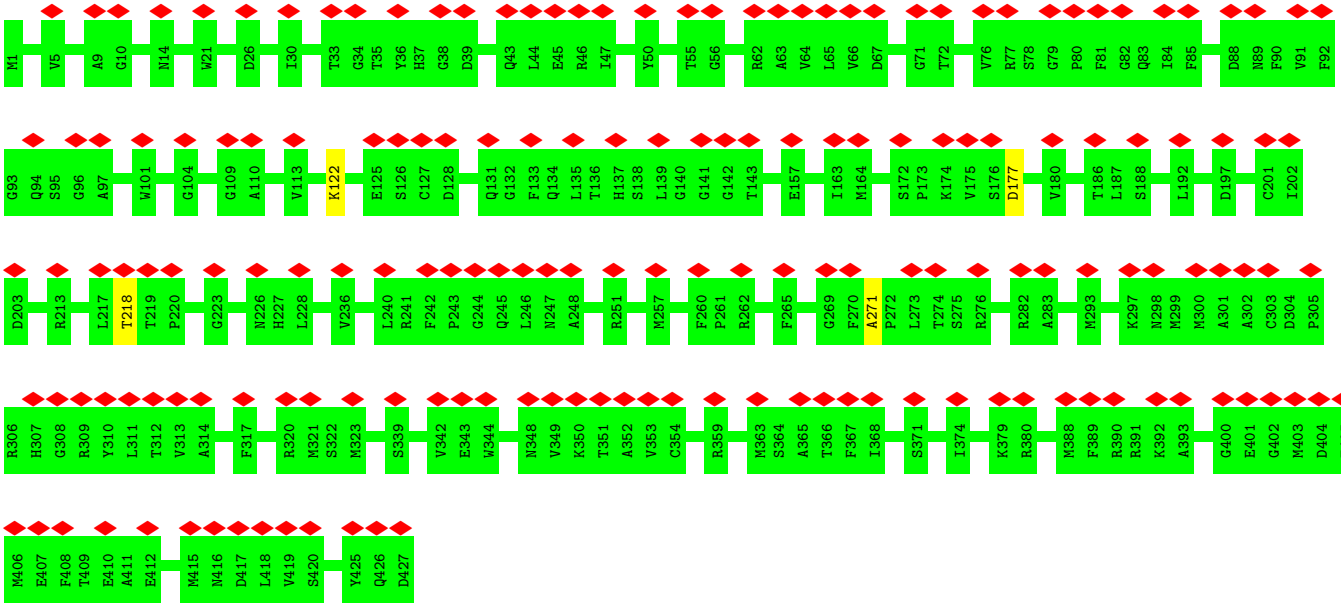




• Molecule 3: Tubulin beta-4B chain

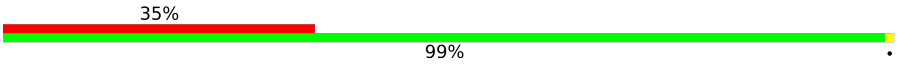
Chain UF:

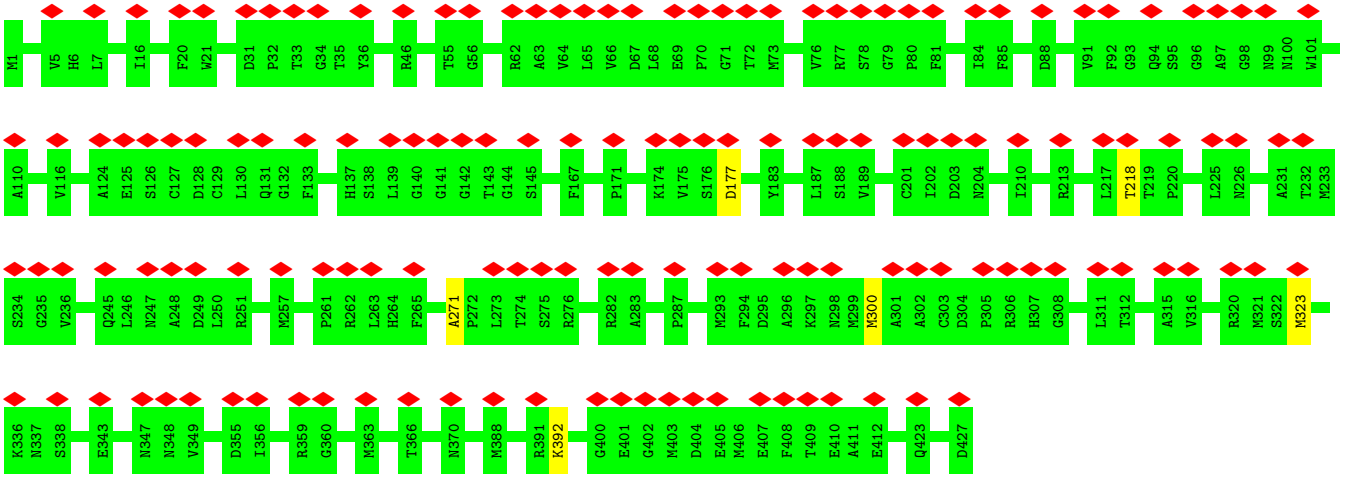




• Molecule 3: Tubulin beta-4B chain

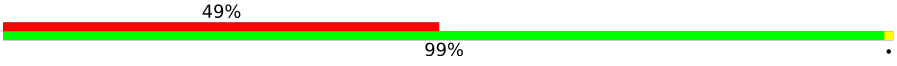
Chain UH:

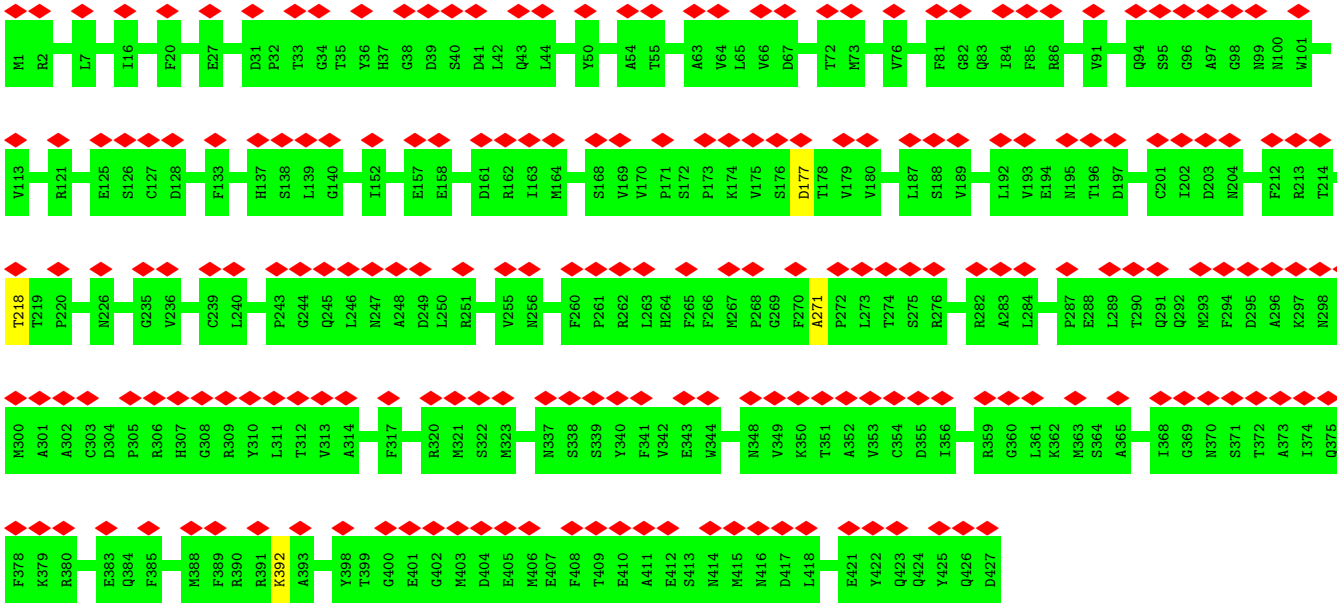




• Molecule 3: Tubulin beta-4B chain

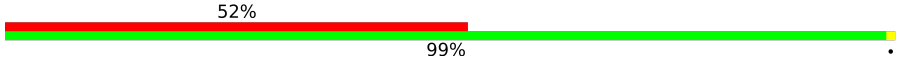
Chain UJ:

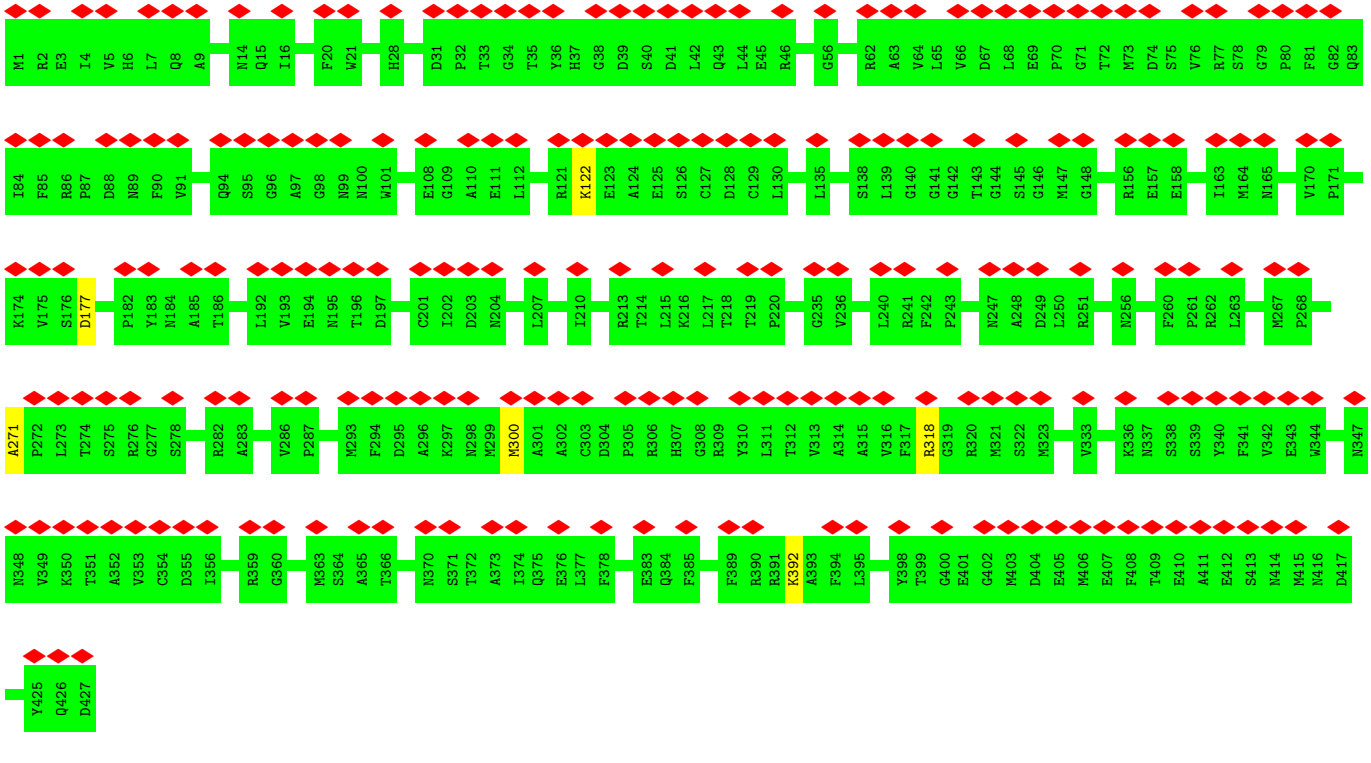




• Molecule 3: Tubulin beta-4B chain

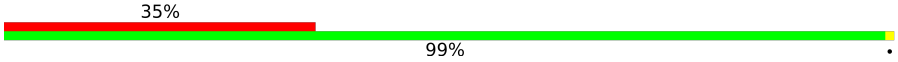
Chain UL:

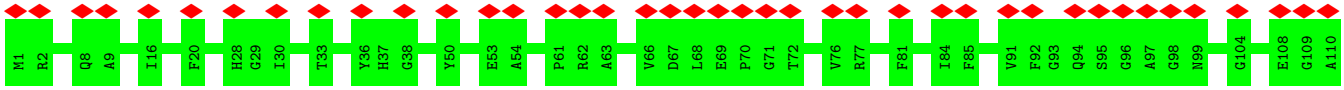


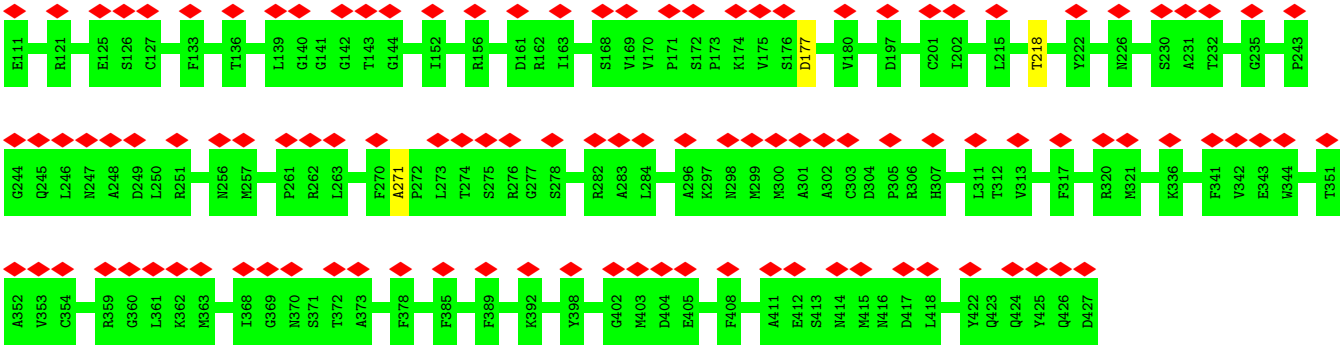


• Molecule 3: Tubulin beta-4B chain

Chain VB:

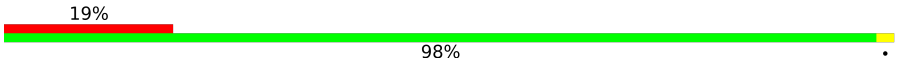


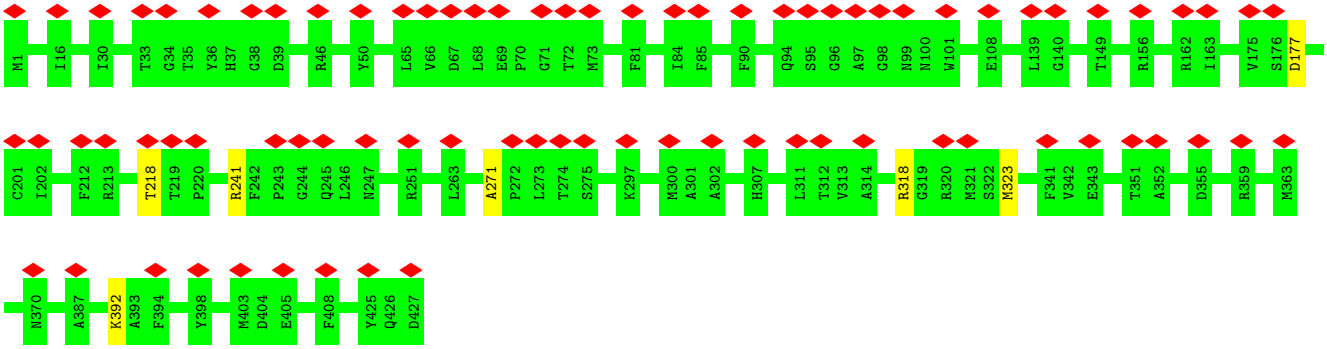




• Molecule 3: Tubulin beta-4B chain

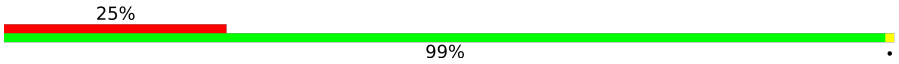
Chain VD:

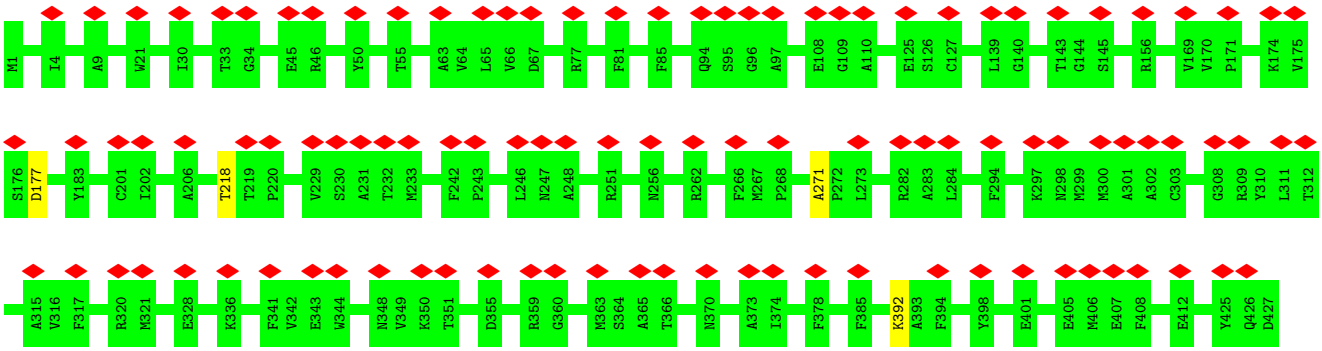




• Molecule 3: Tubulin beta-4B chain

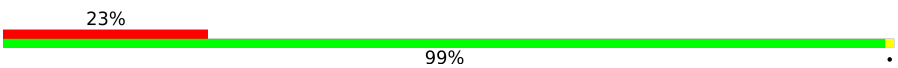
Chain VF:

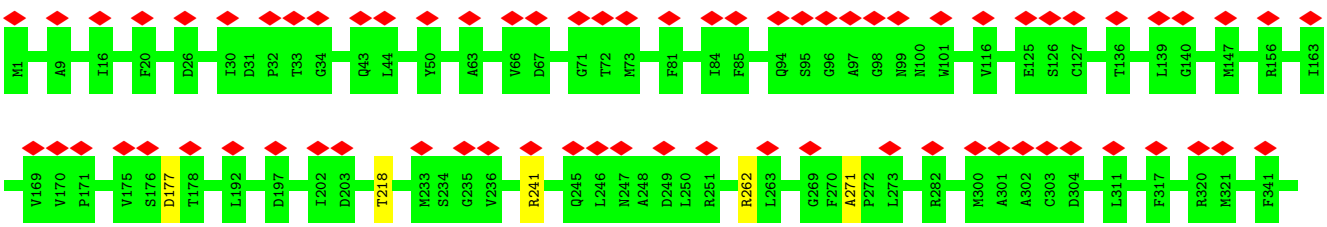


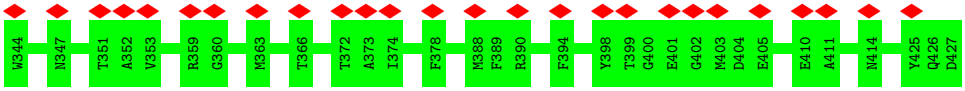


• Molecule 3: Tubulin beta-4B chain

Chain VH:

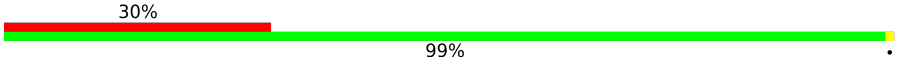


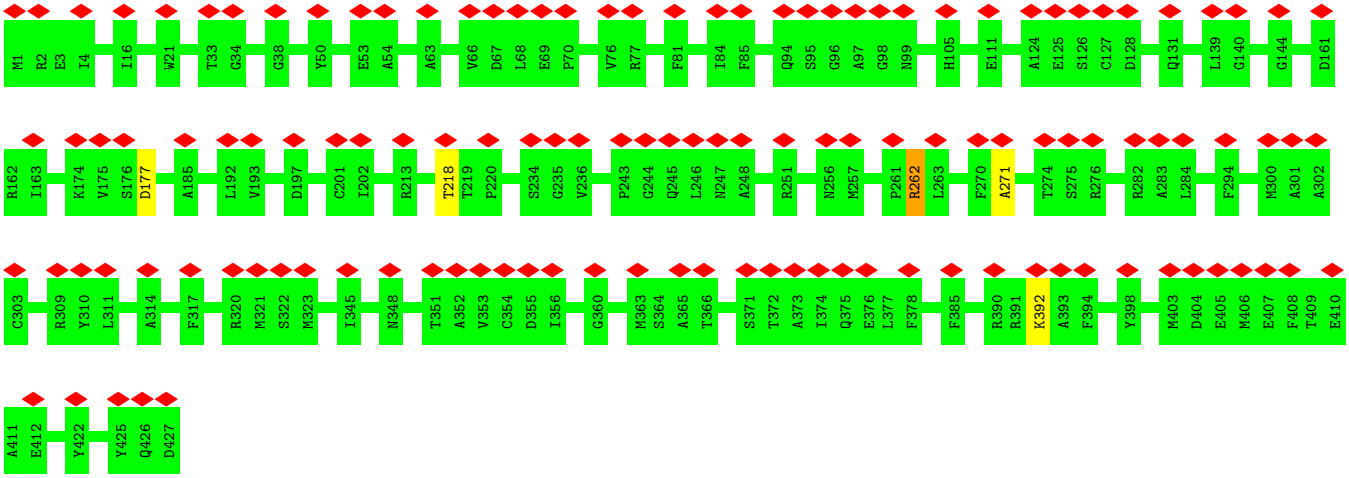




• Molecule 3: Tubulin beta-4B chain

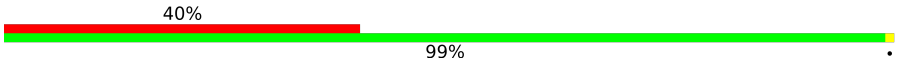
Chain VJ:

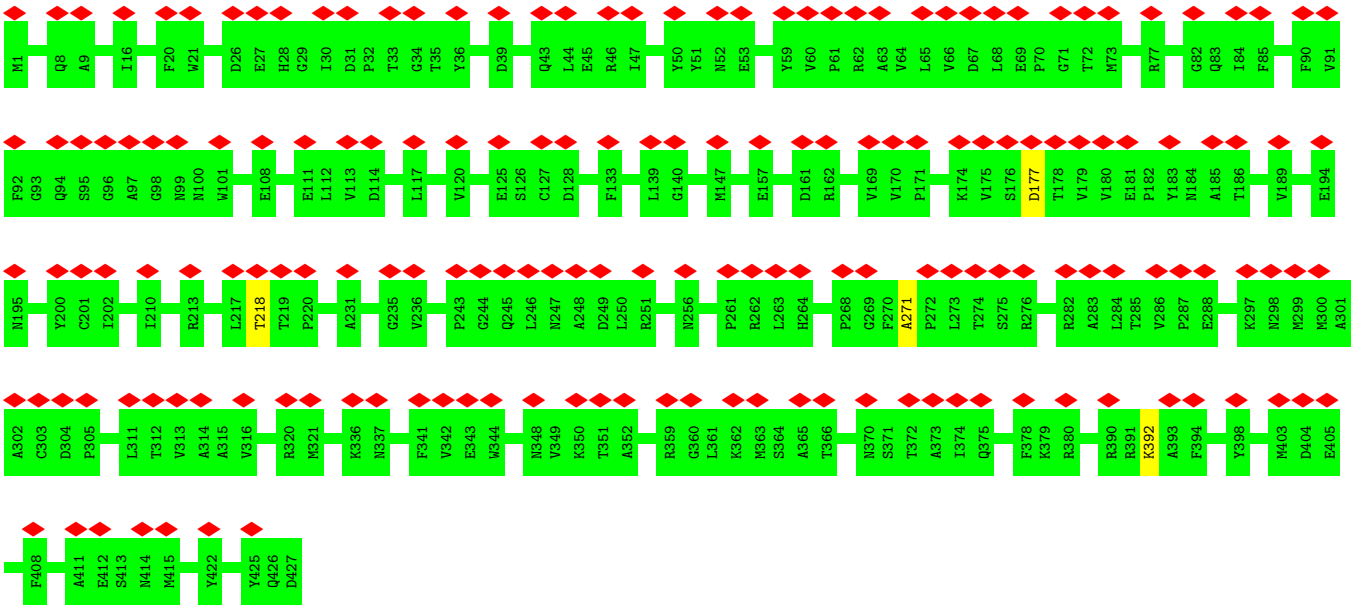




• Molecule 3: Tubulin beta-4B chain

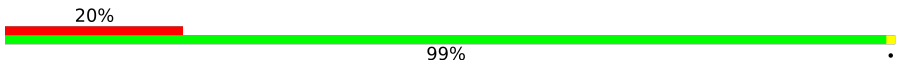
Chain VL:

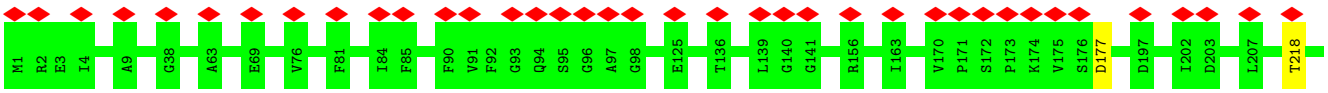


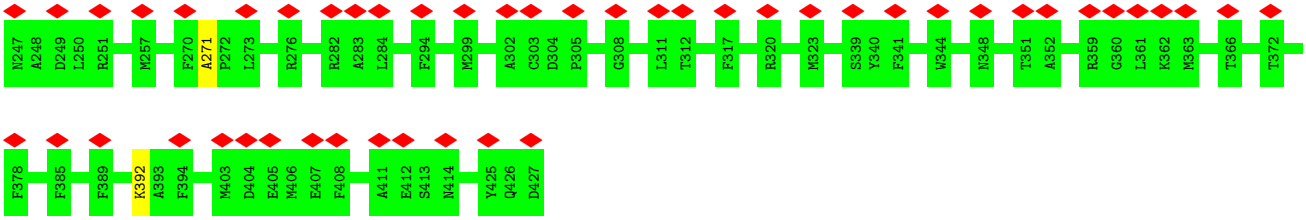


• Molecule 3: Tubulin beta-4B chain

Chain WB:

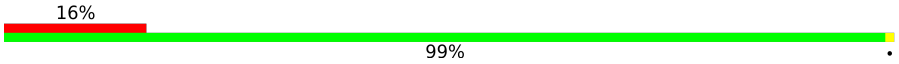


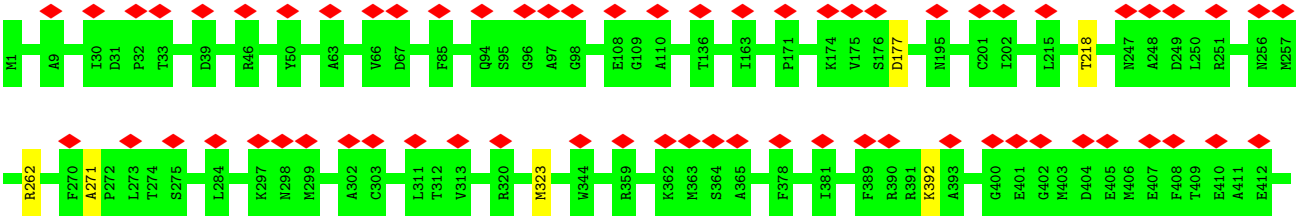




• Molecule 3: Tubulin beta-4B chain

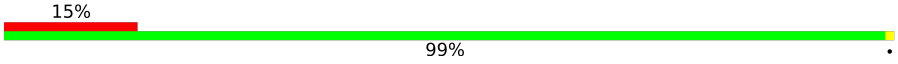
Chain WD:

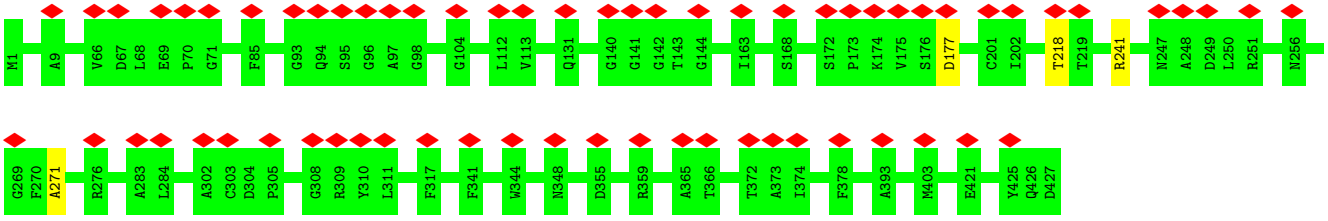




• Molecule 3: Tubulin beta-4B chain

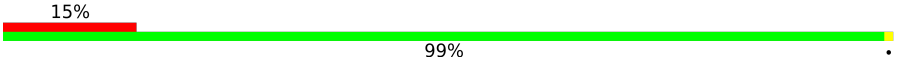
Chain WF:

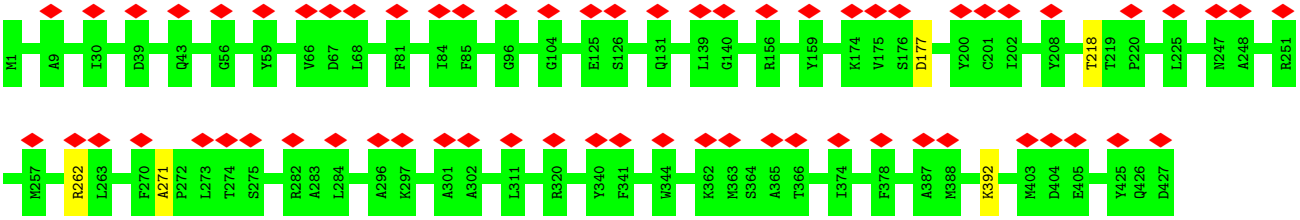




• Molecule 3: Tubulin beta-4B chain

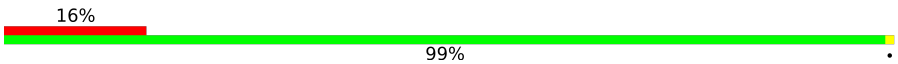
Chain WH:

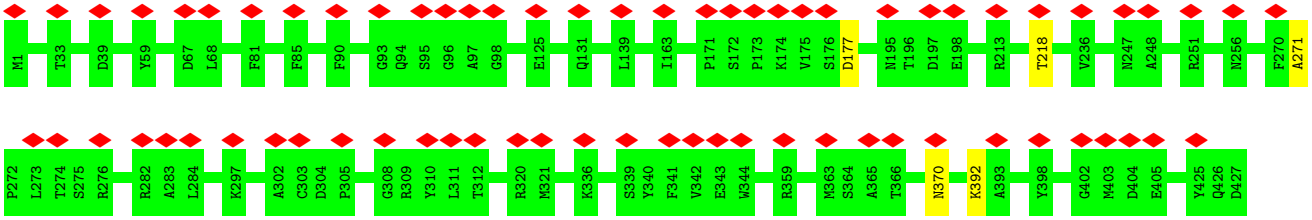




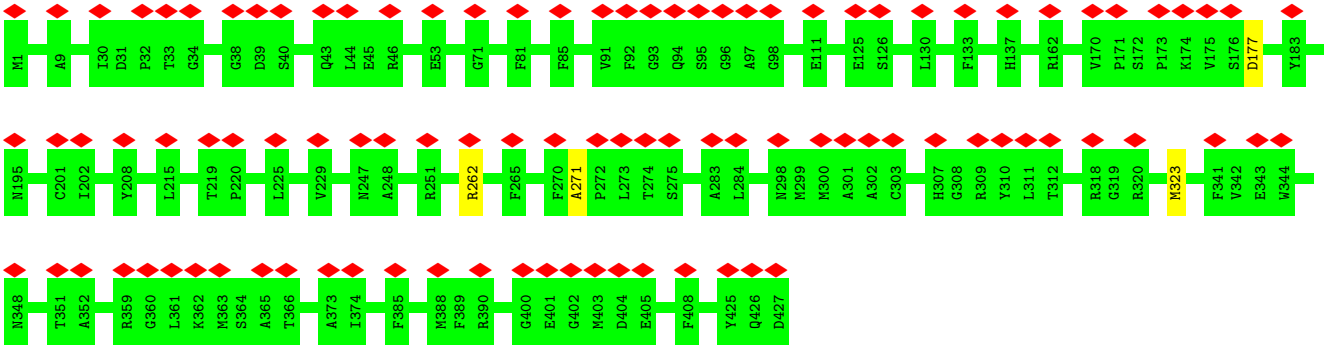
• Molecule 3: Tubulin beta-4B chain

Chain WJ:

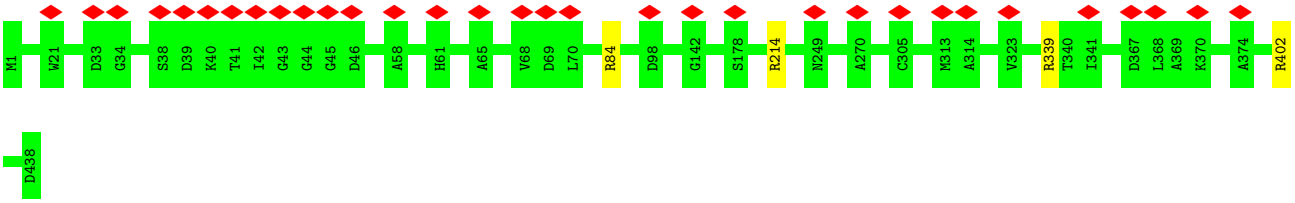




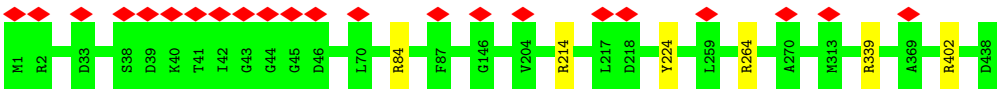
• Molecule 3: Tubulin beta-4B chain



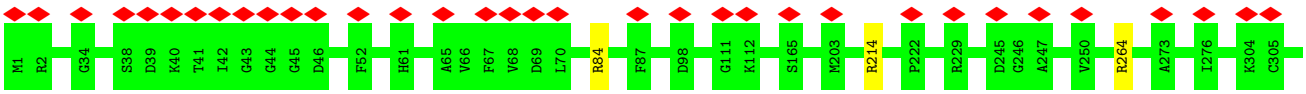
• Molecule 4: Detyrosinated tubulin alpha-3 chain

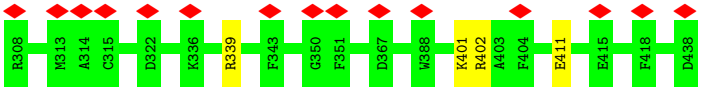


• Molecule 4: Detyrosinated tubulin alpha-3 chain



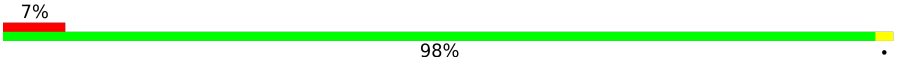
• Molecule 4: Detyrosinated tubulin alpha-3 chain

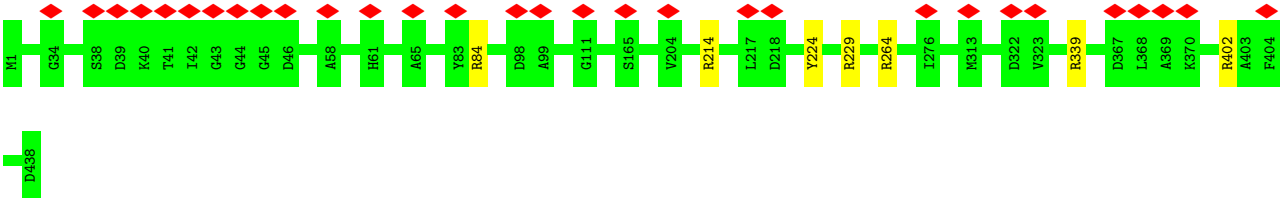




• Molecule 4: Detyrosinated tubulin alpha-3 chain

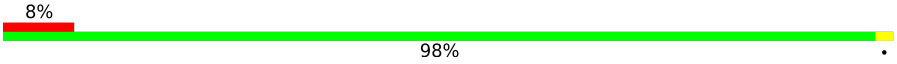
Chain AI:

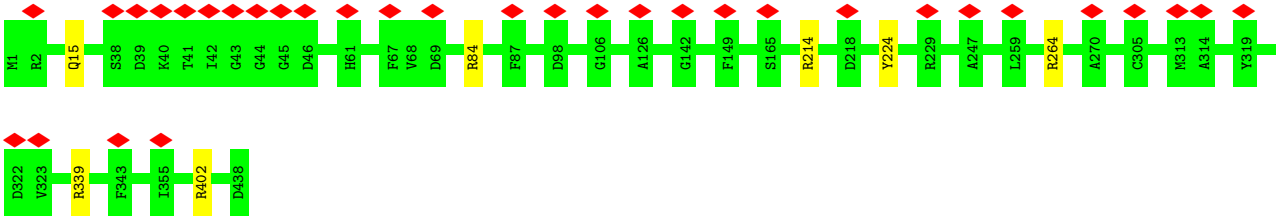




• Molecule 4: Detyrosinated tubulin alpha-3 chain

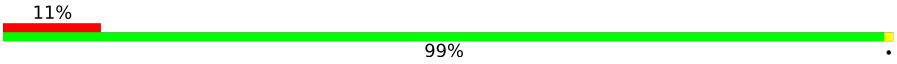
Chain AK:

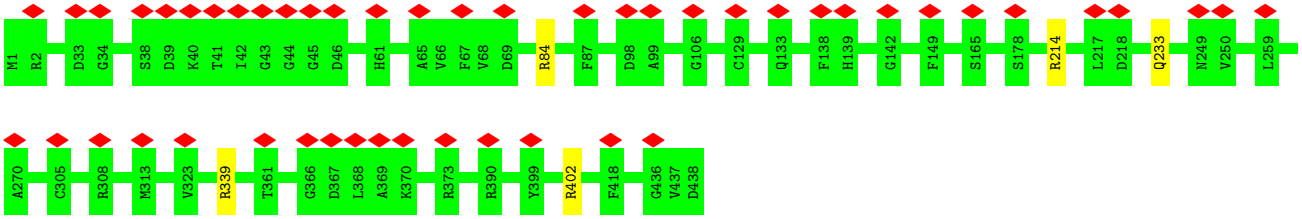




• Molecule 4: Detyrosinated tubulin alpha-3 chain

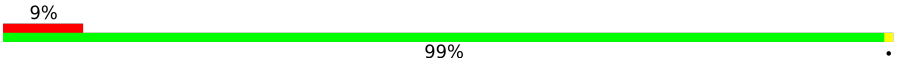
Chain AM:

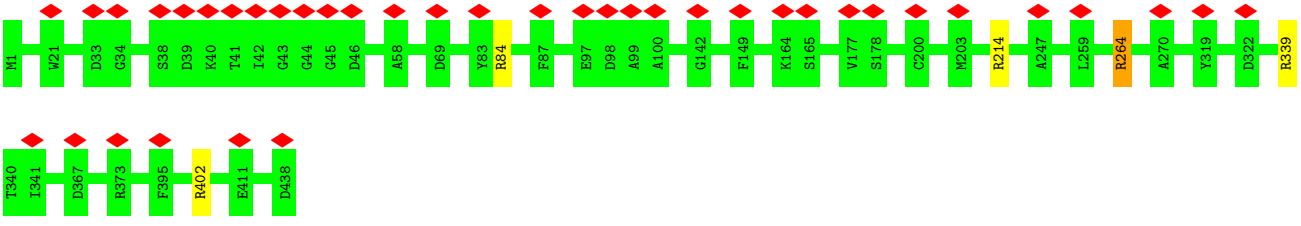




• Molecule 4: Detyrosinated tubulin alpha-3 chain

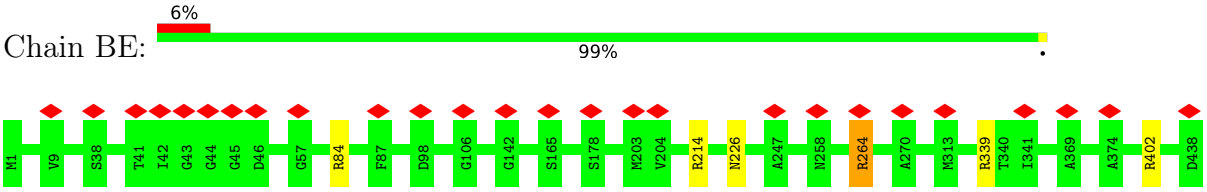
Chain BC:





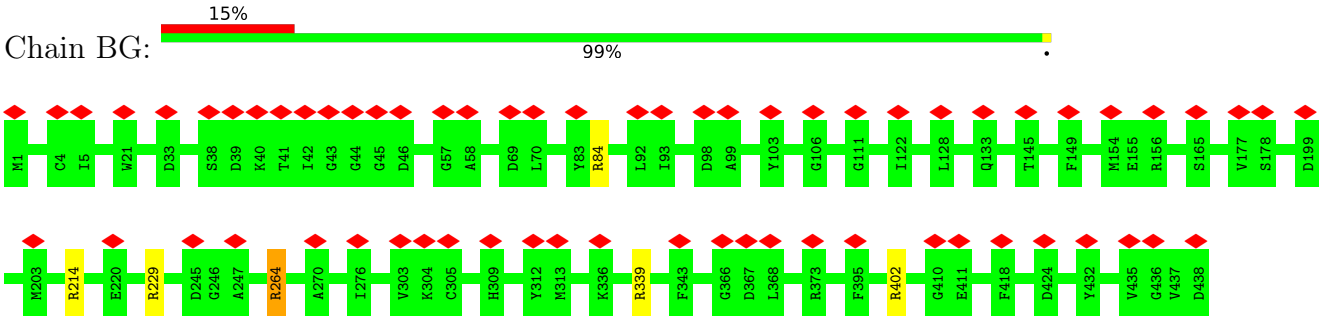
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BE:



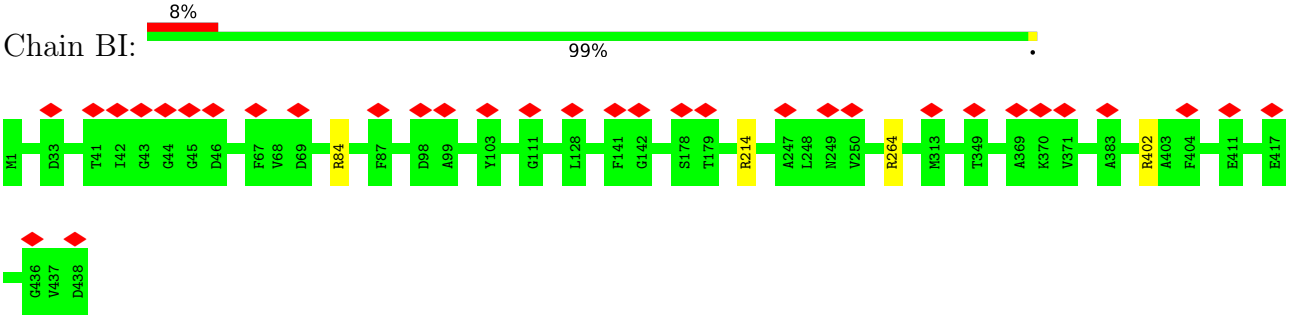
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BG:



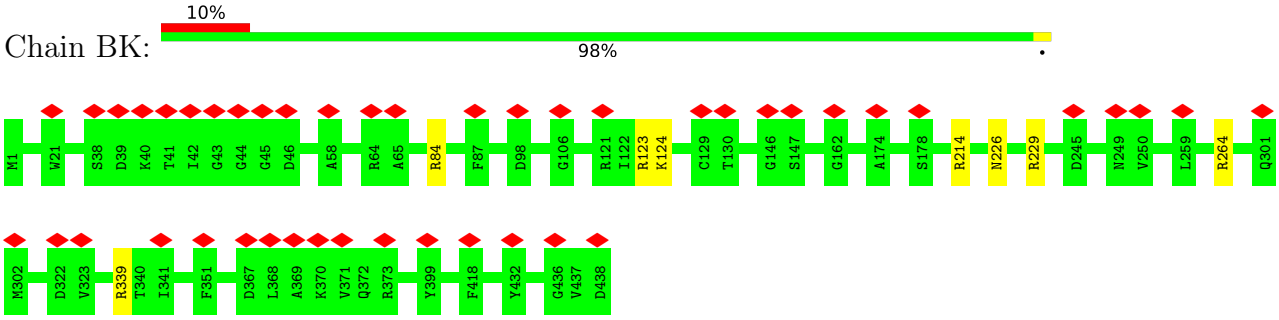
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BI:



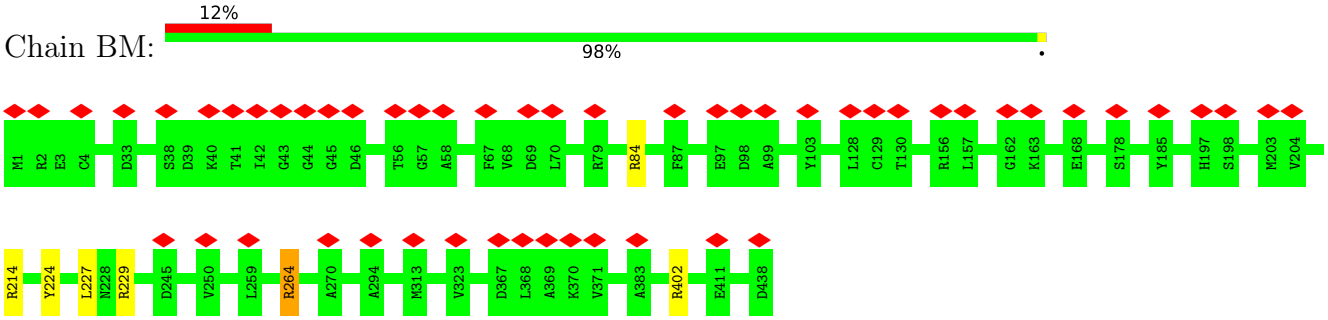
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BK:



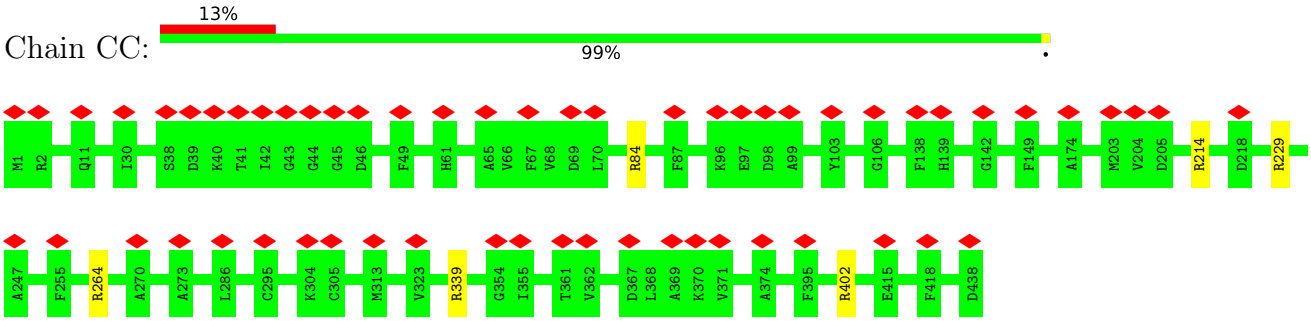
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain BM:



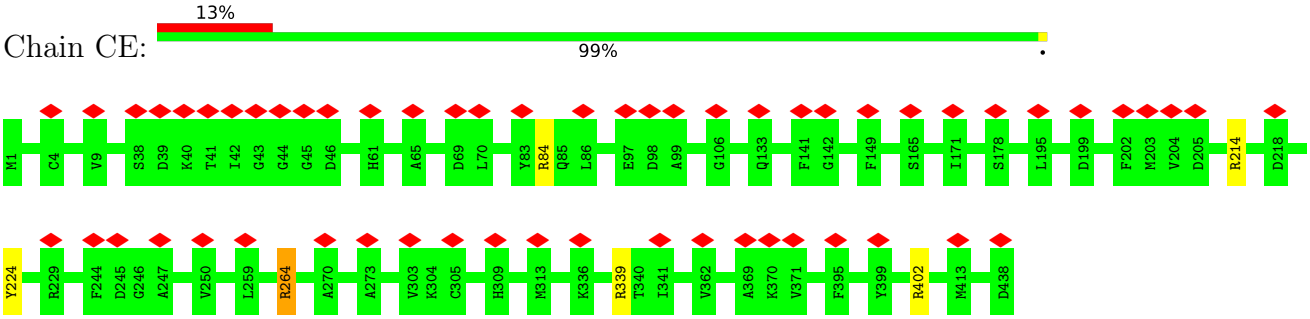
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CC:



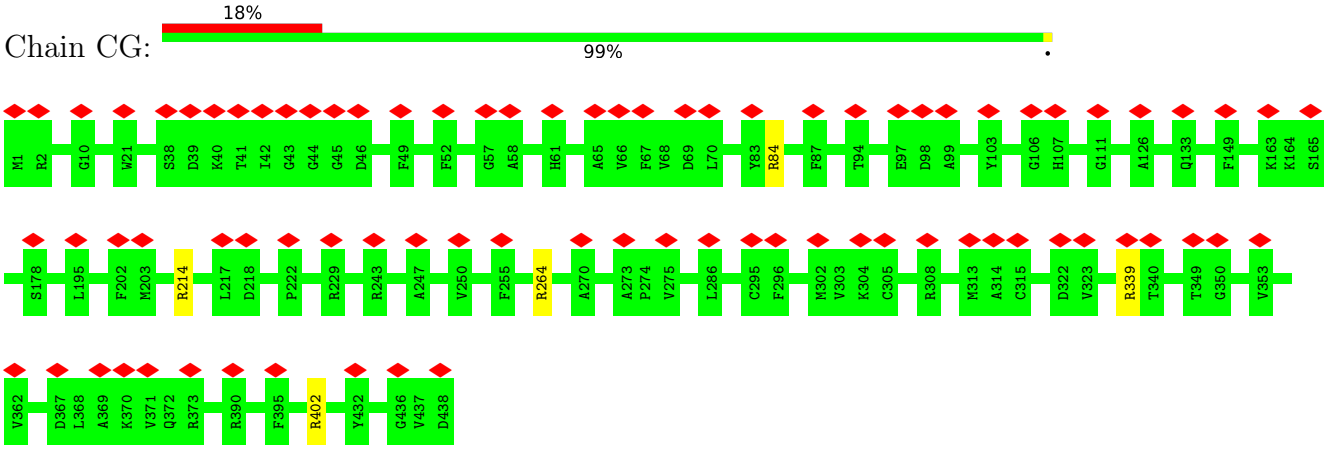
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CE:



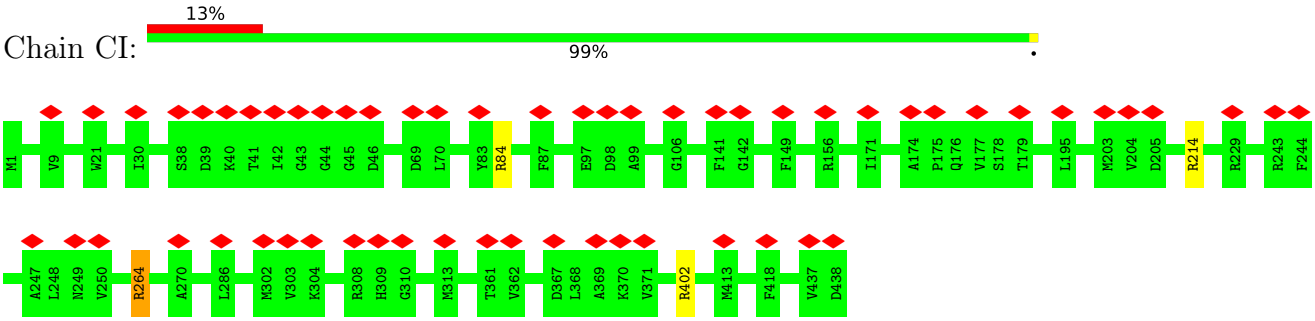
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CG:



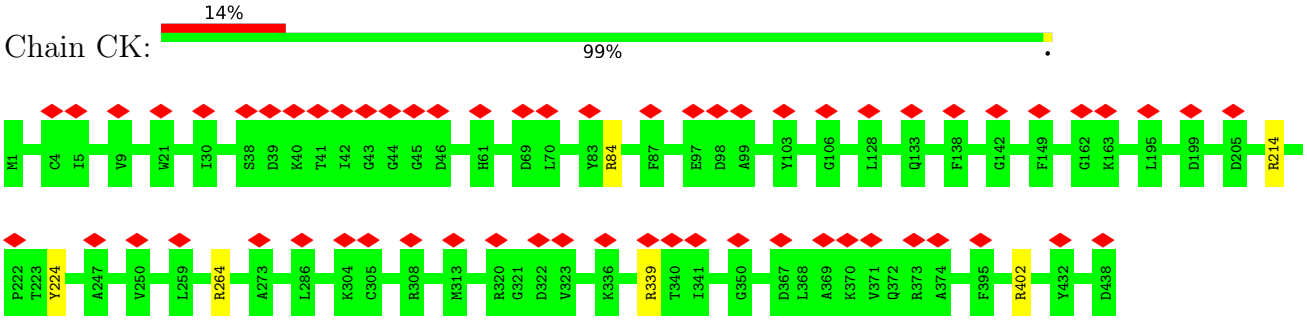
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CI:



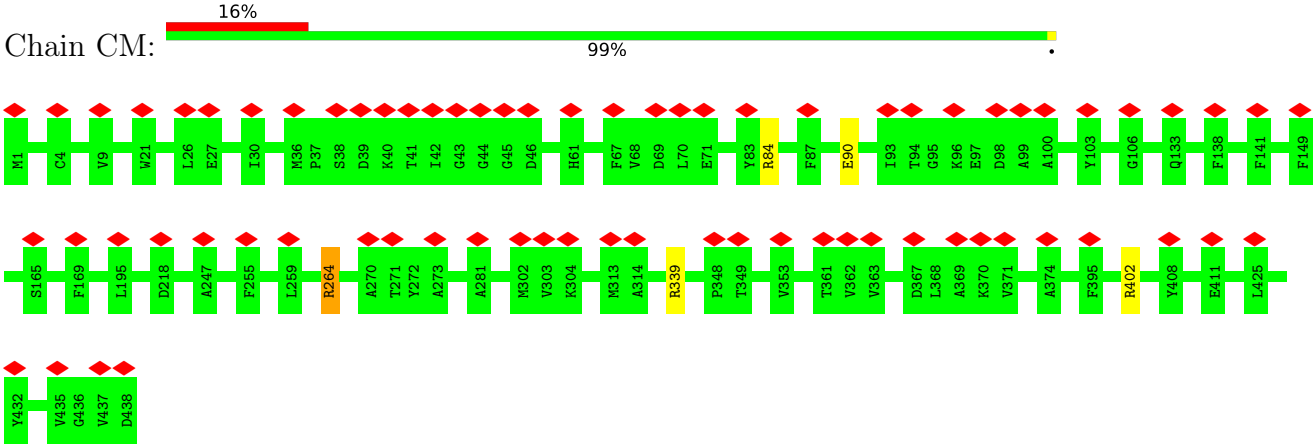
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CK:



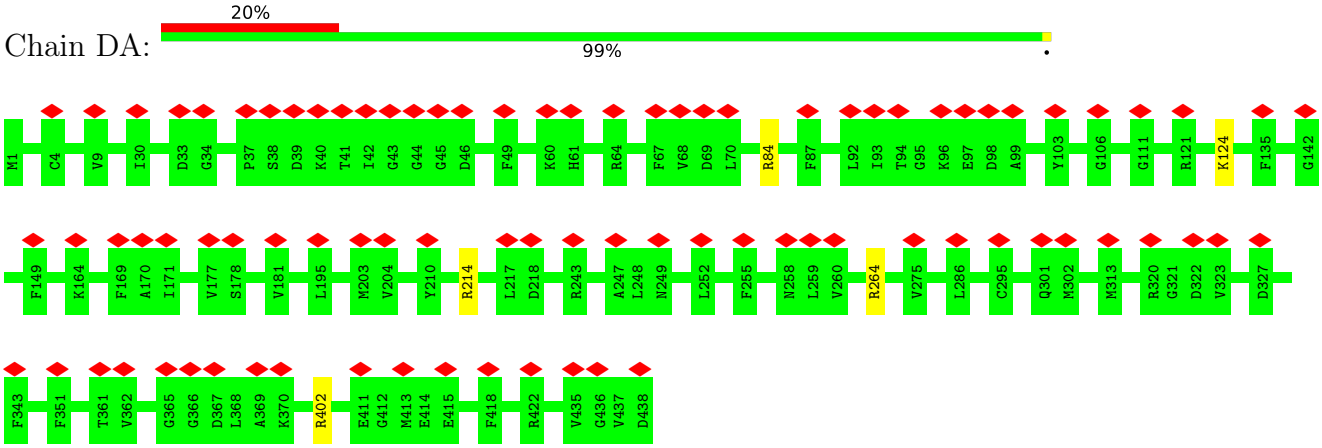
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain CM:



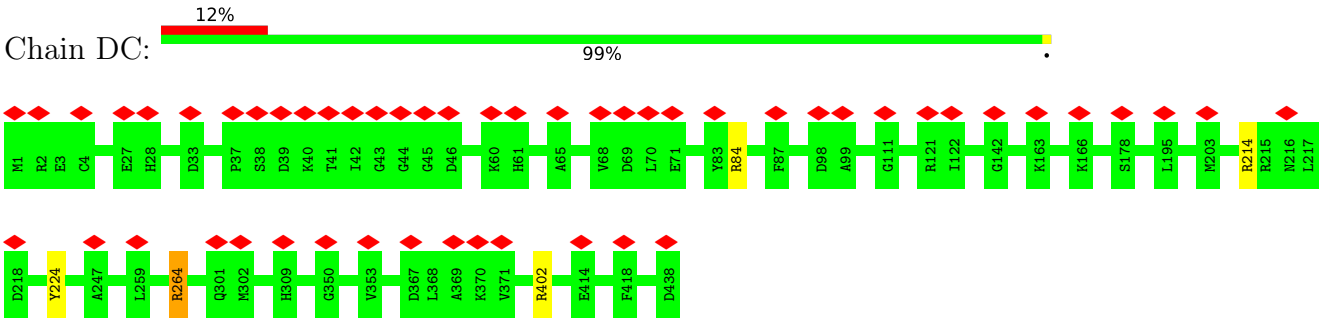
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain DA:



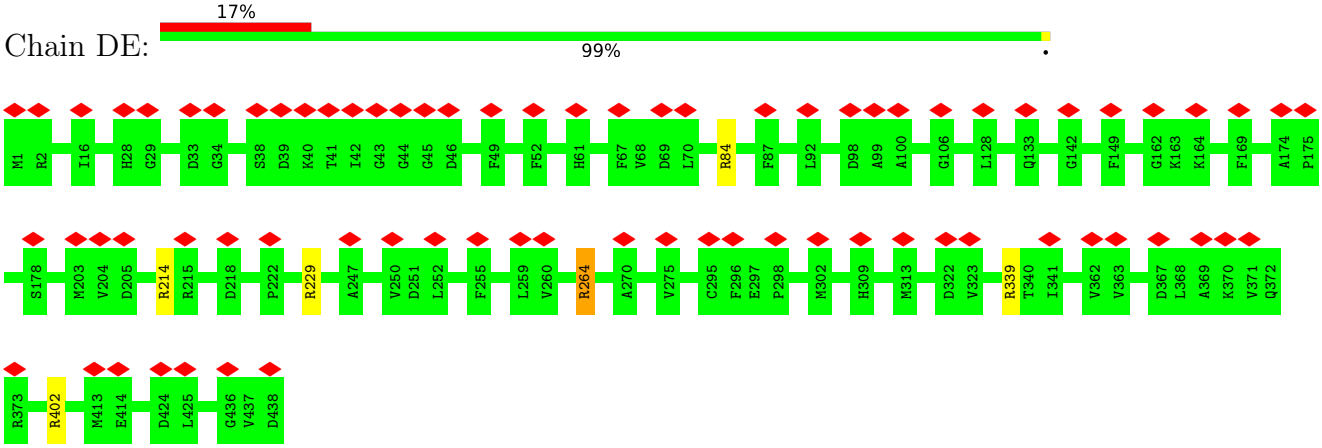
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain DC:



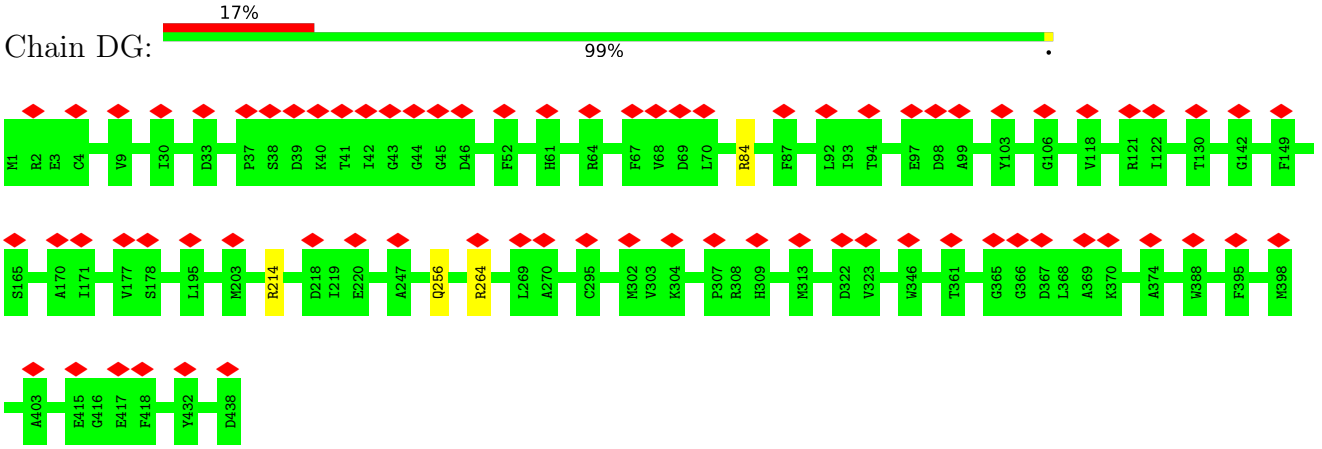
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain DE:



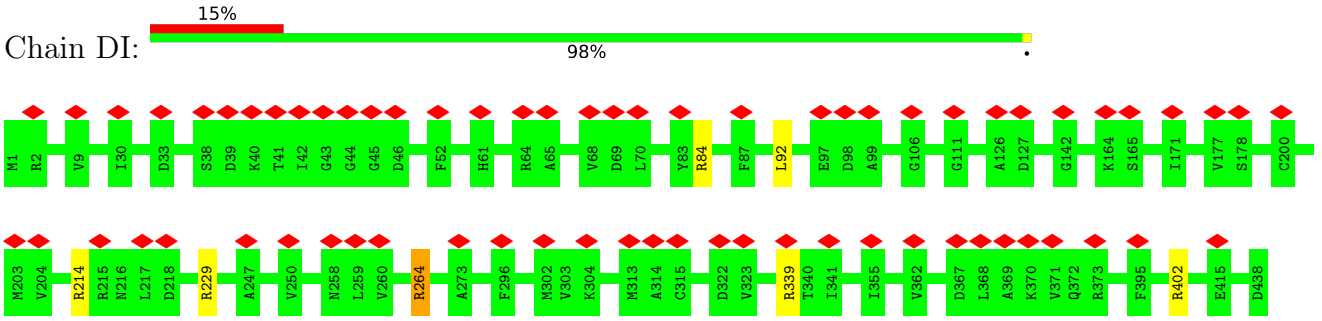
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain DG:



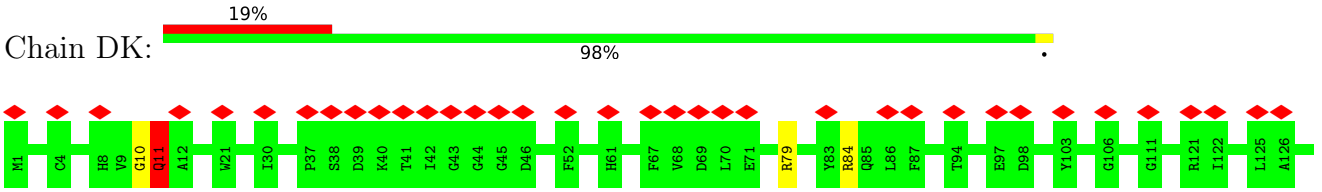
• Molecule 4: Detyrosinated tubulin alpha-3 chain

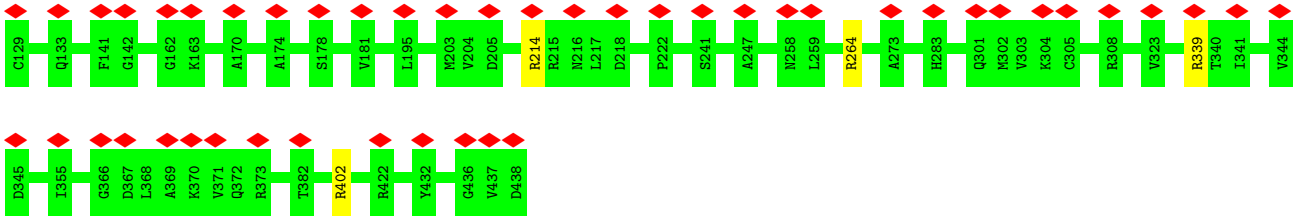
Chain DI:



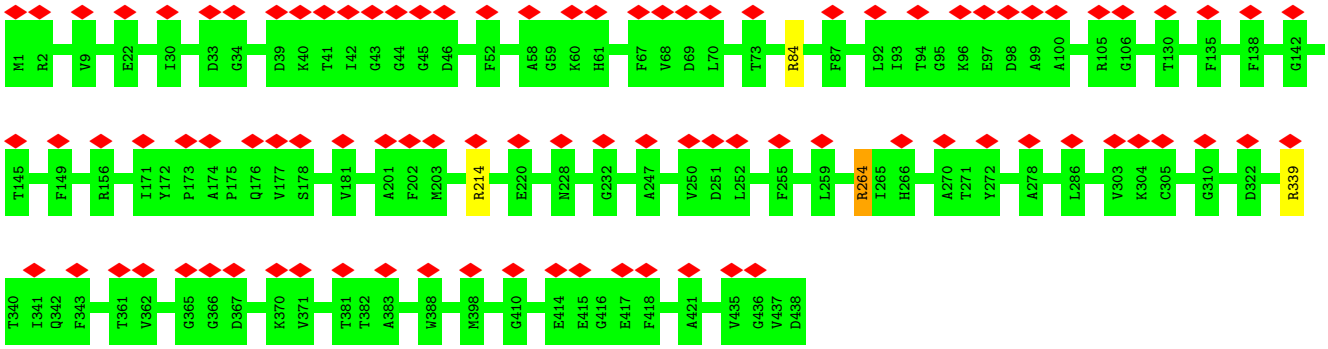
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain DK:

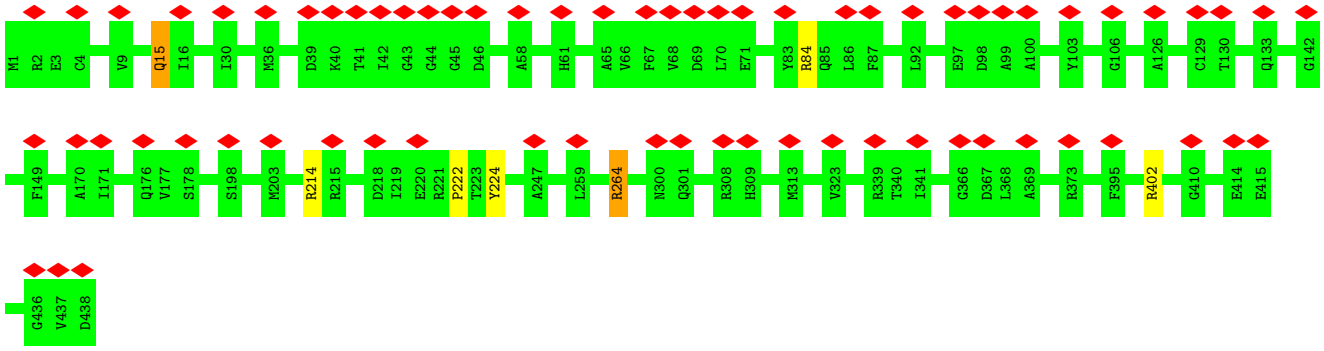




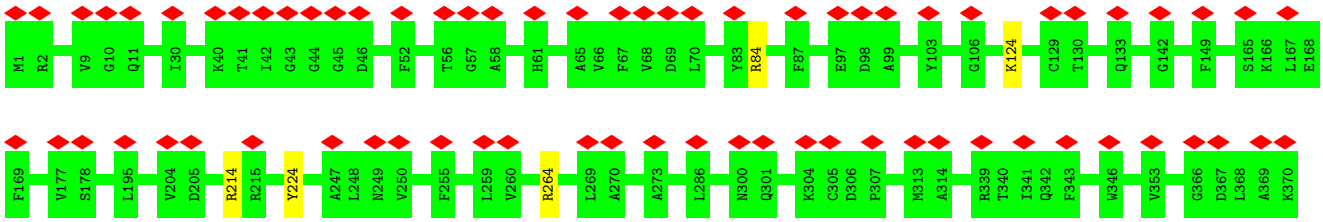
• Molecule 4: Detyrosinated tubulin alpha-3 chain

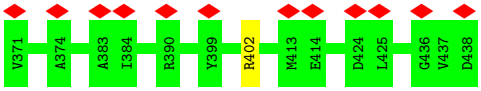


• Molecule 4: Detyrosinated tubulin alpha-3 chain



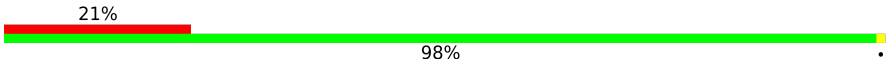
• Molecule 4: Detyrosinated tubulin alpha-3 chain

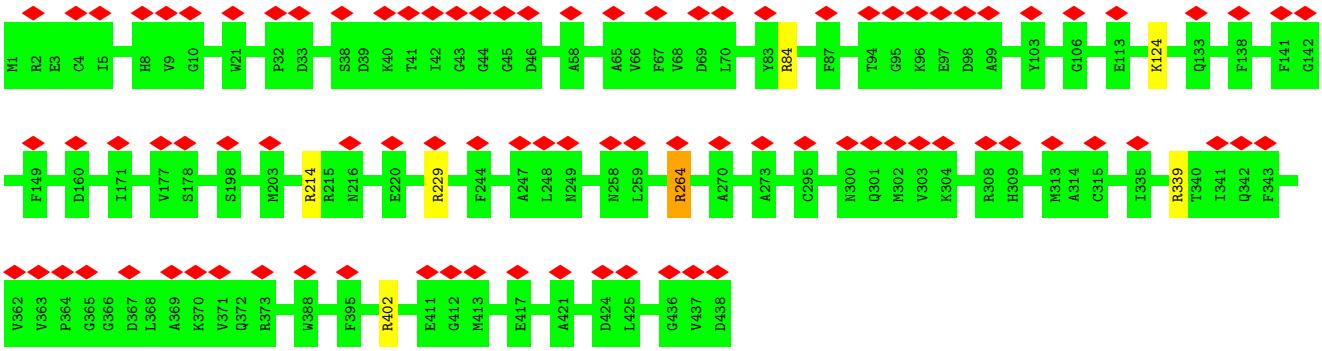




• Molecule 4: Detyrosinated tubulin alpha-3 chain

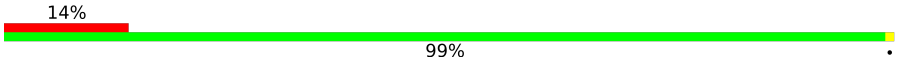
Chain EG:

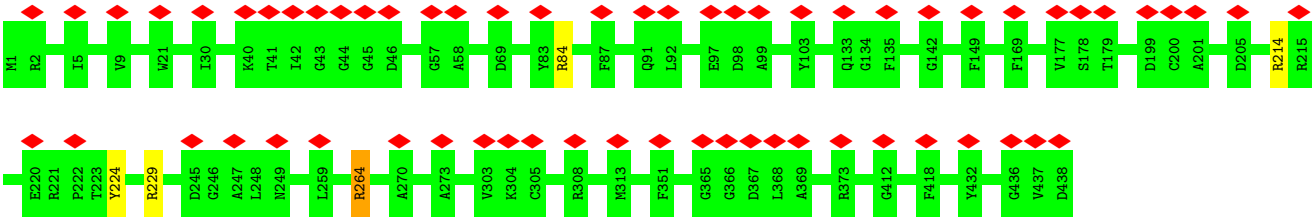




• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain EI:





• Molecule 4: Detyrosinated tubulin alpha-3 chain

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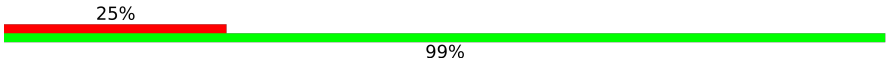
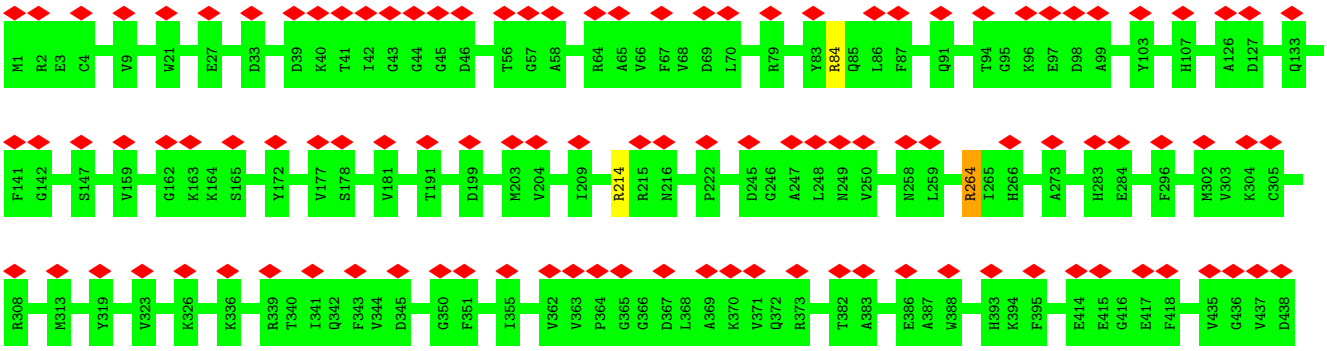
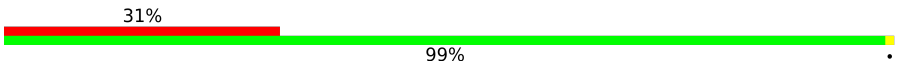
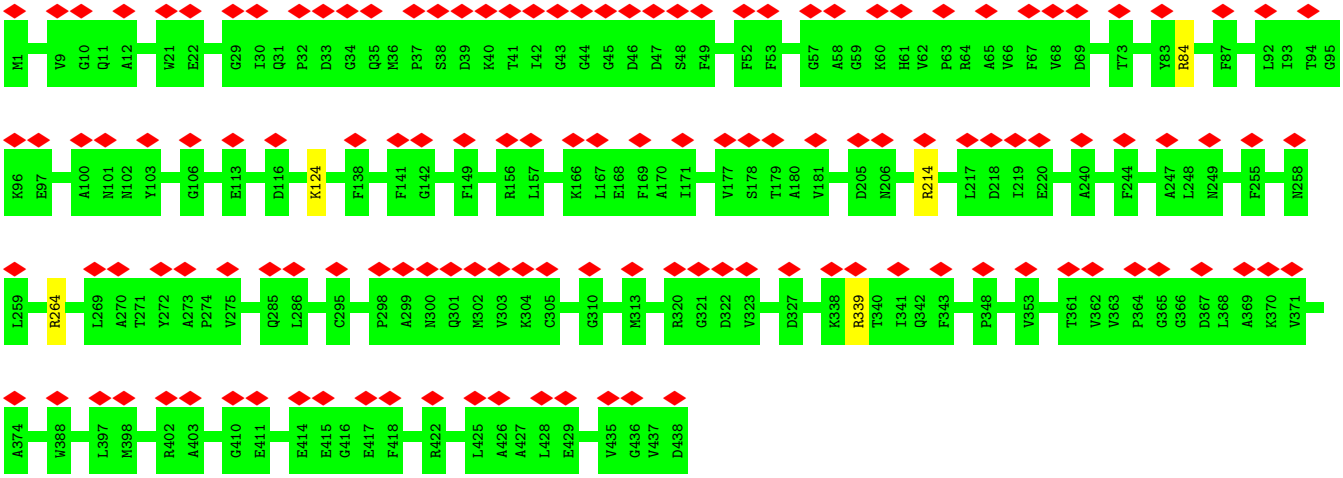




• Molecule 4: Detyrosinated tubulin alpha-3 chain

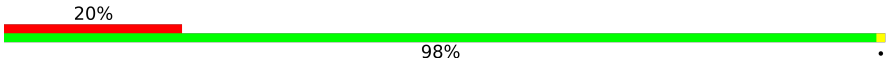
Chain FA:

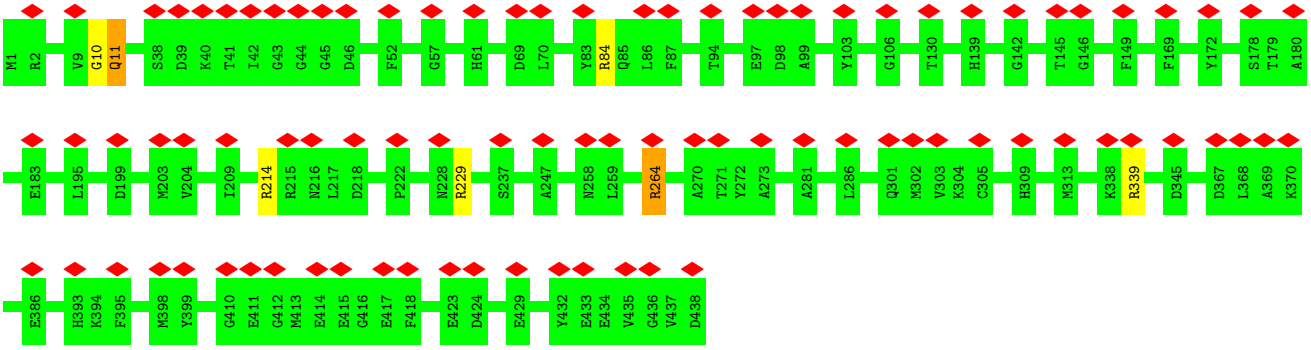




• Molecule 4: Detyrosinated tubulin alpha-3 chain

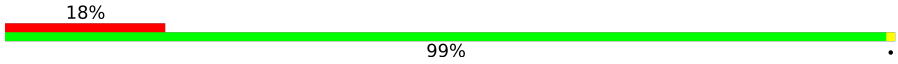
Chain FC:

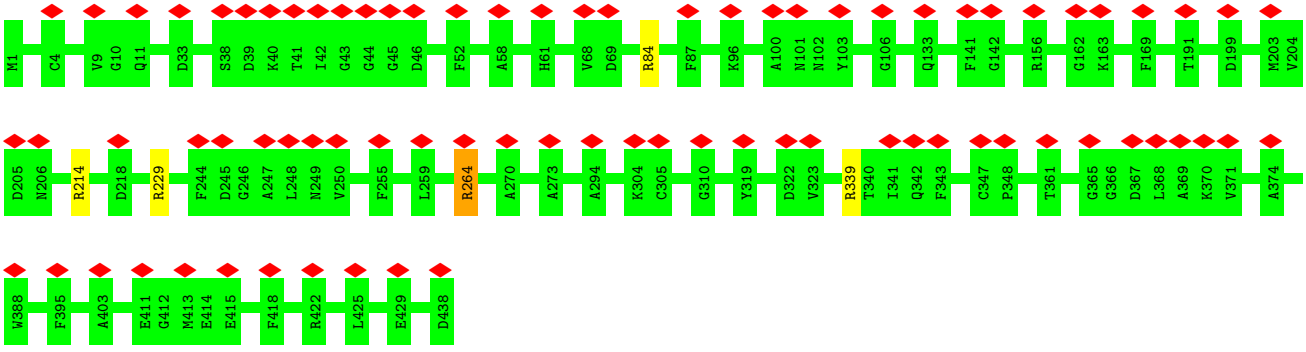




• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain FE:





• Molecule 4: Detyrosinated tubulin alpha-3 chain

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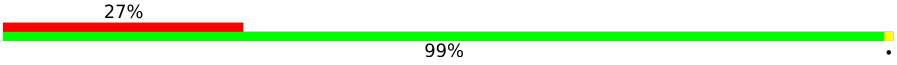

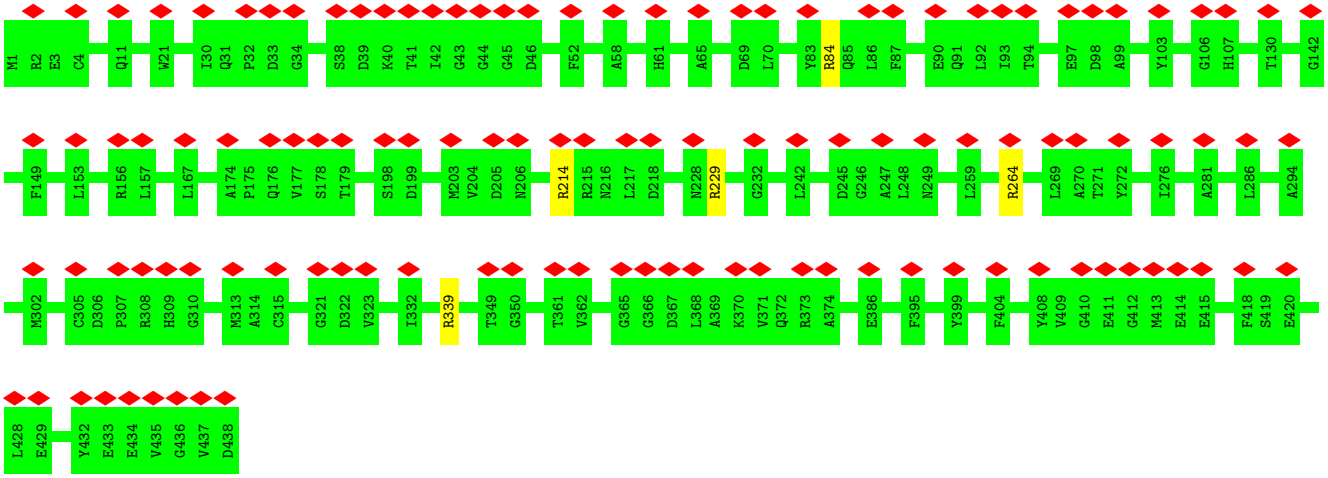

• Molecule 4: Detyrosinated tubulin alpha-3 chain

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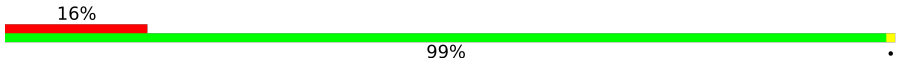

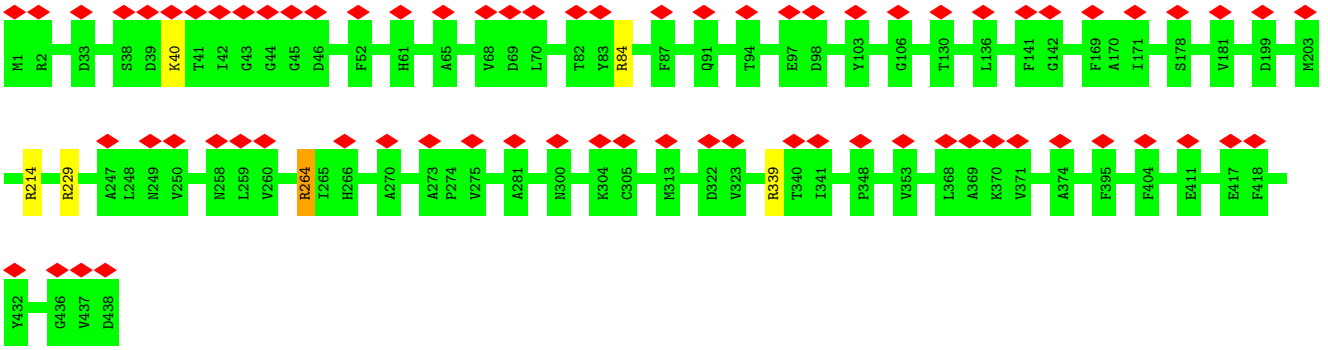

• Molecule 4: Detyrosinated tubulin alpha-3 chain

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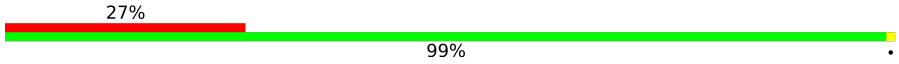

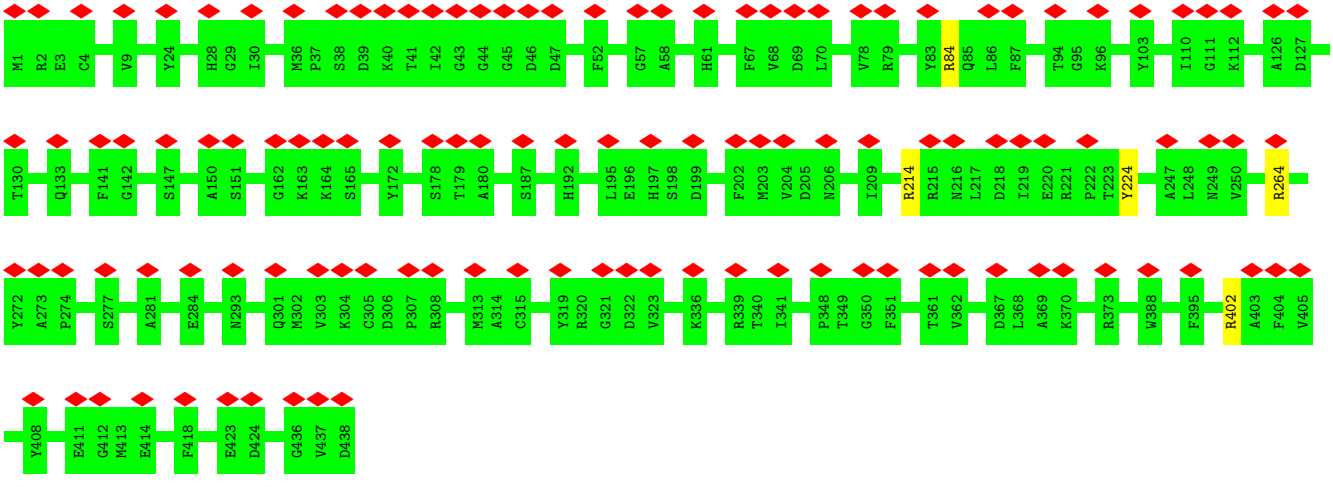

• Molecule 4: Detyrosinated tubulin alpha-3 chain

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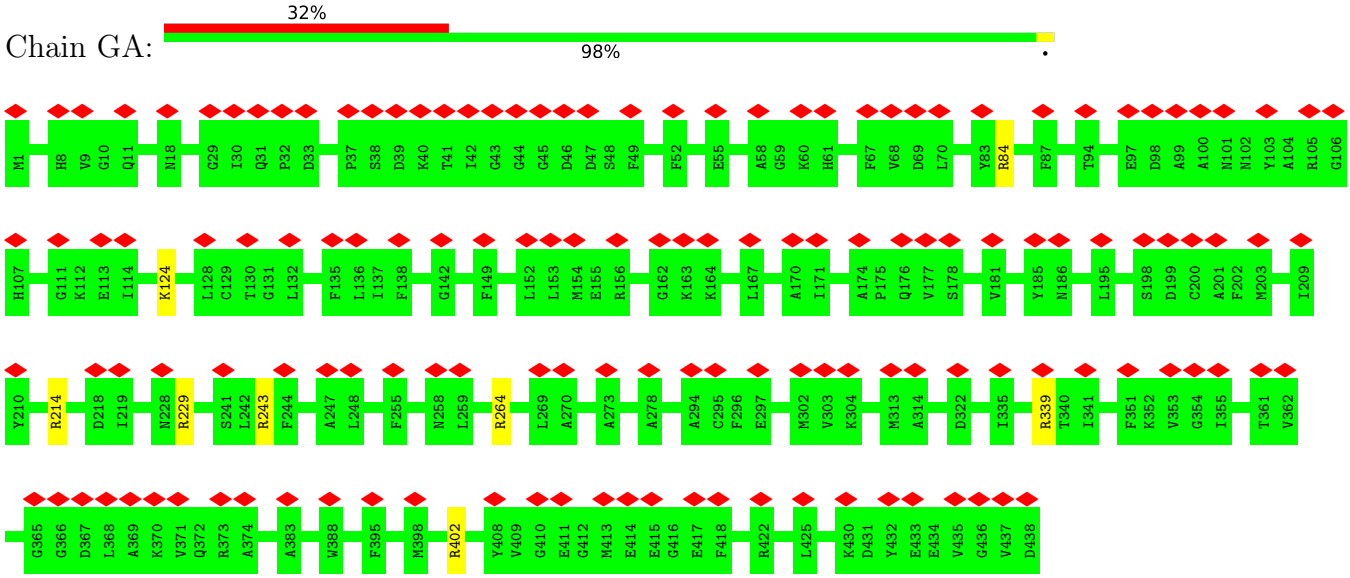

• Molecule 4: Detyrosinated tubulin alpha-3 chain

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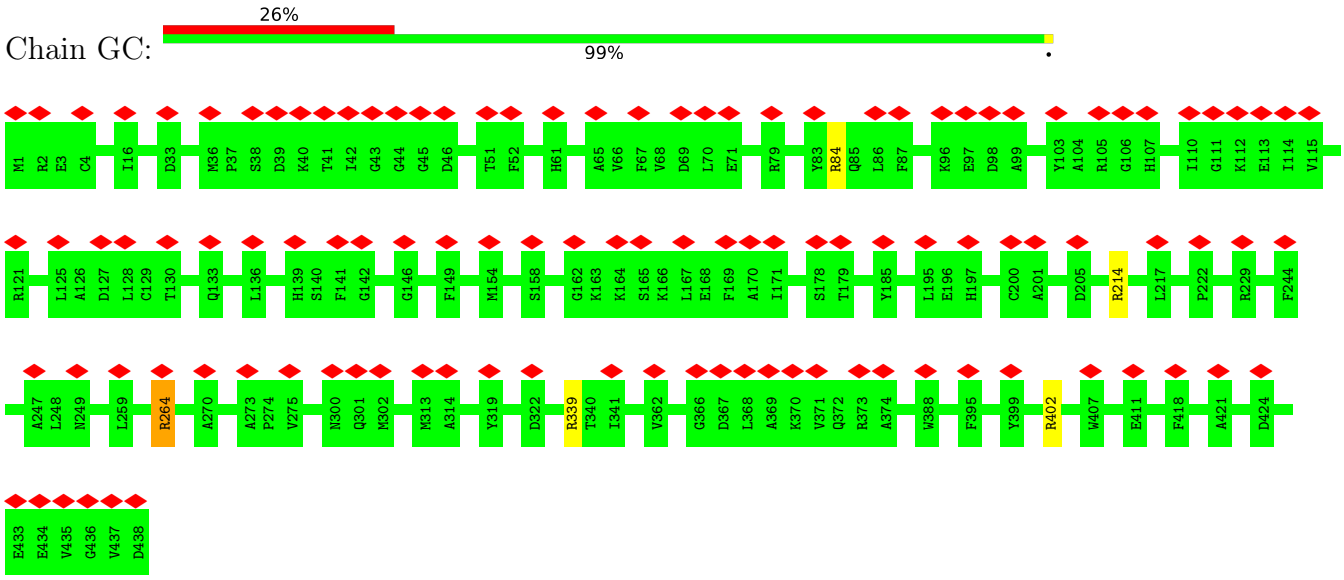
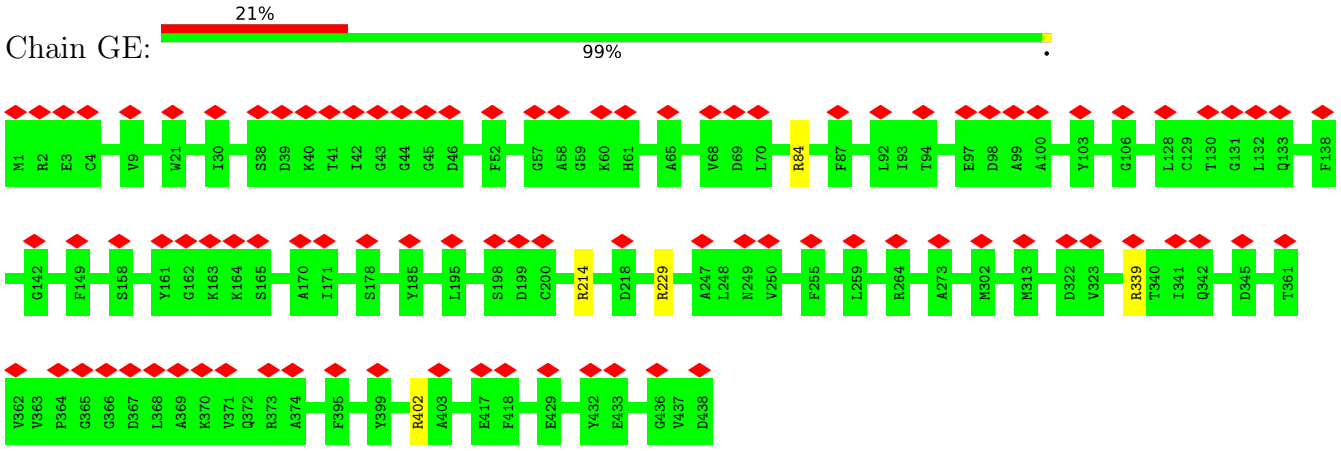


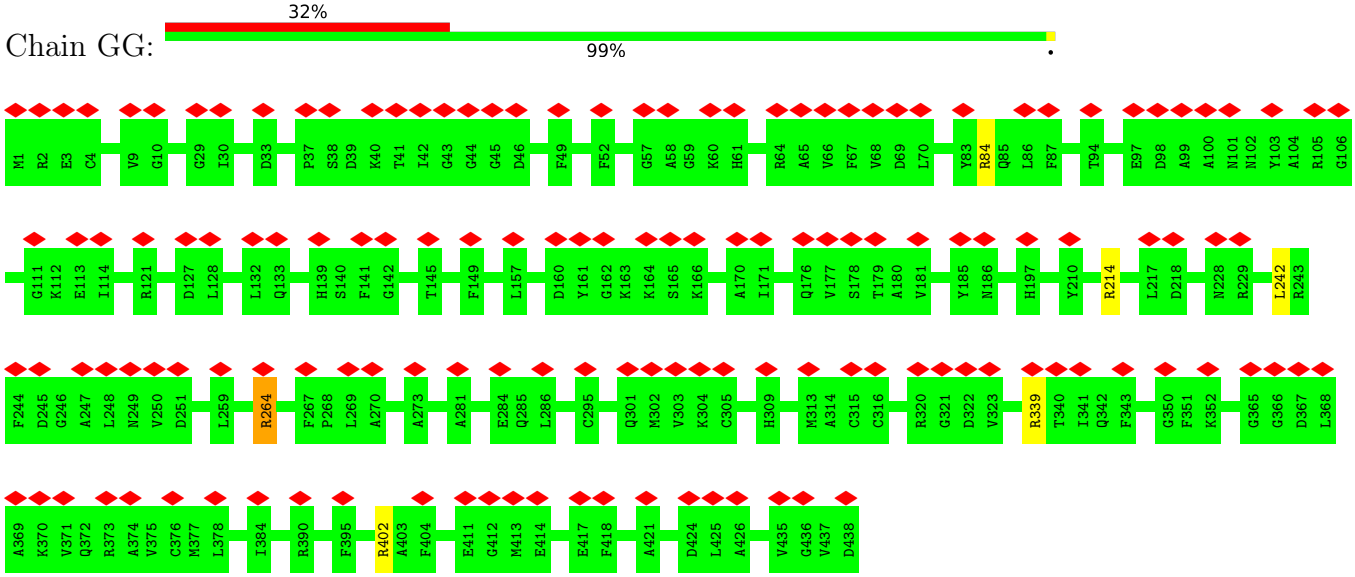
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain GE:



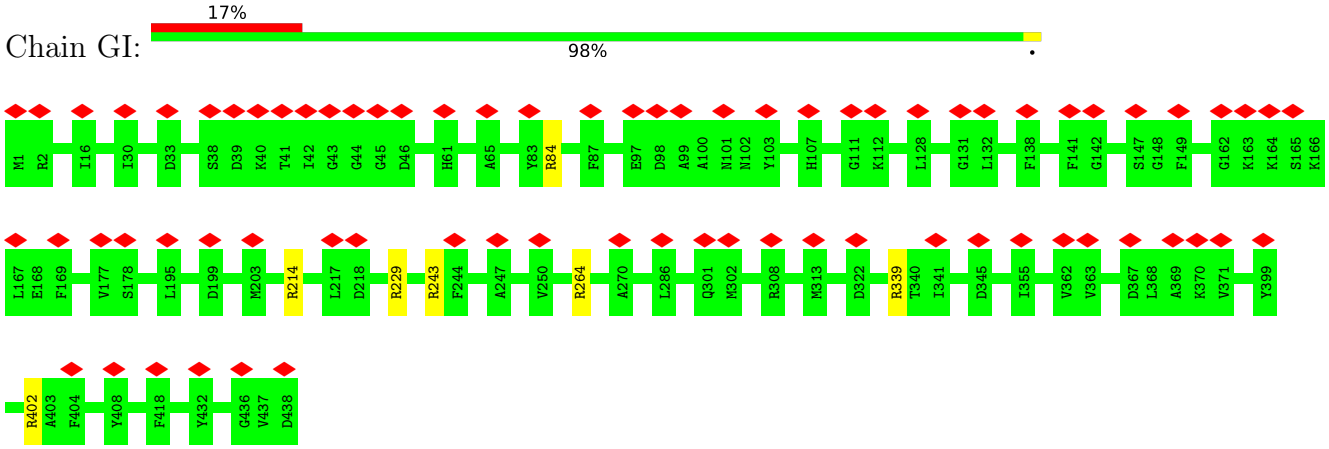
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain GG:



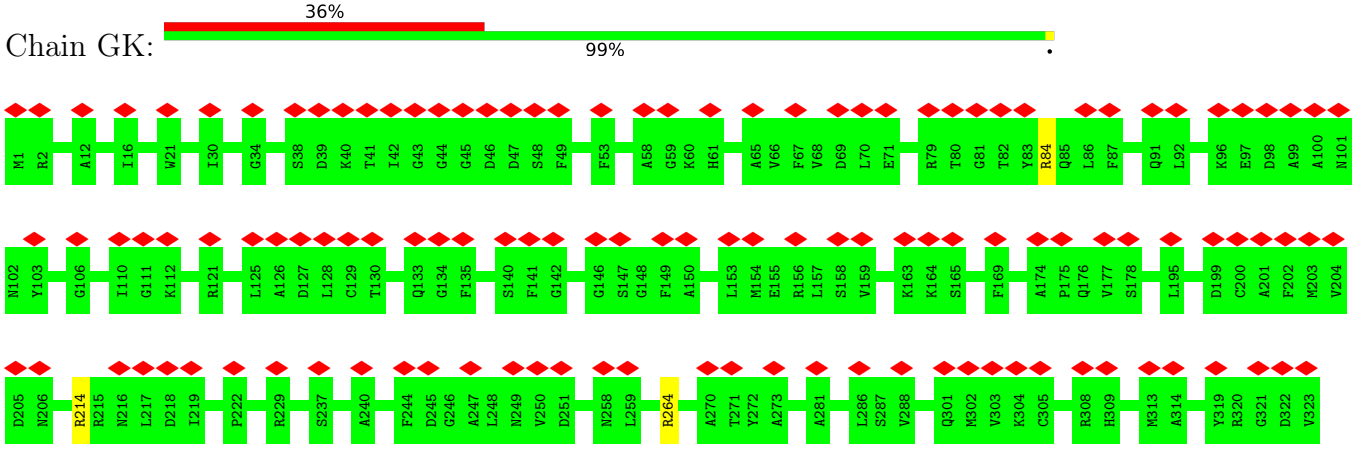
• Molecule 4: Detyrosinated tubulin alpha-3 chain

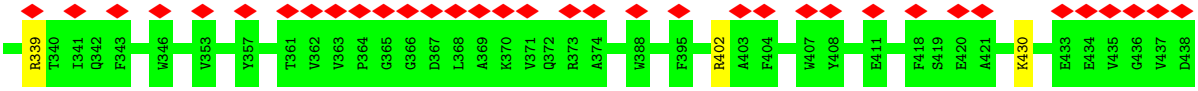
Chain GI:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

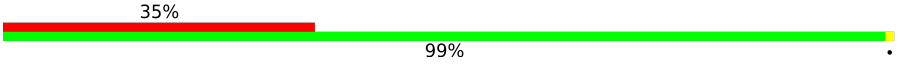
Chain GK:

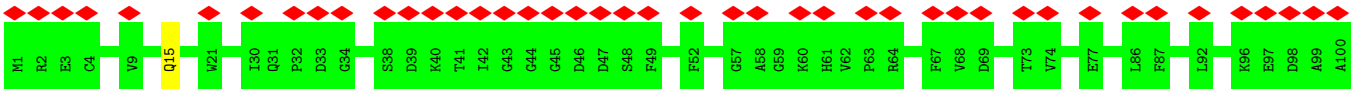


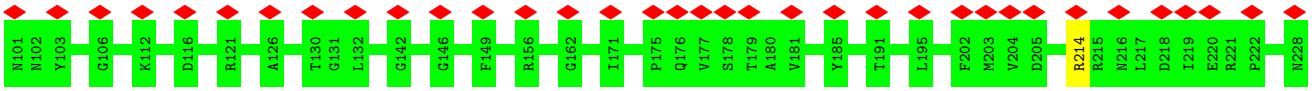


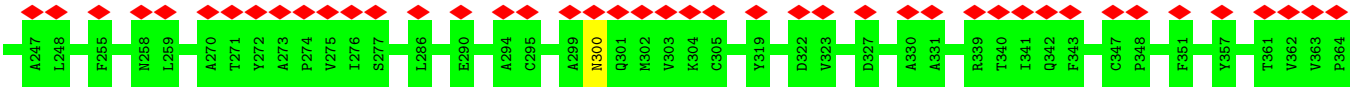
• Molecule 4: Detyrosinated tubulin alpha-3 chain

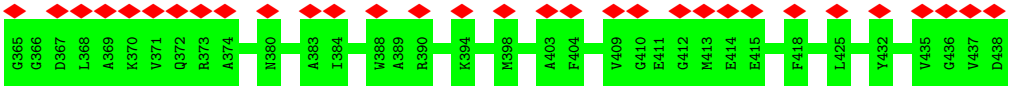
Chain HA:





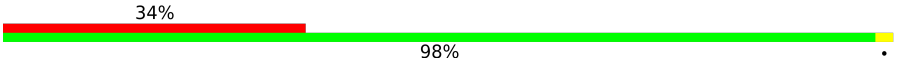


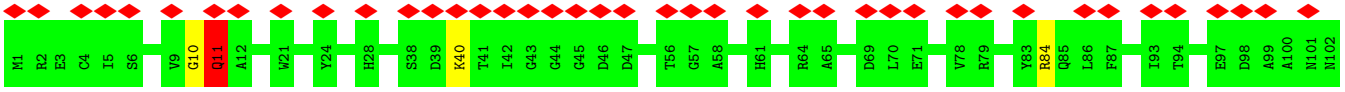


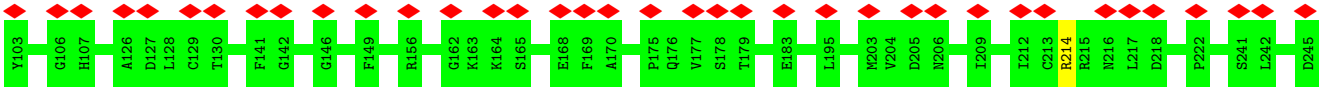


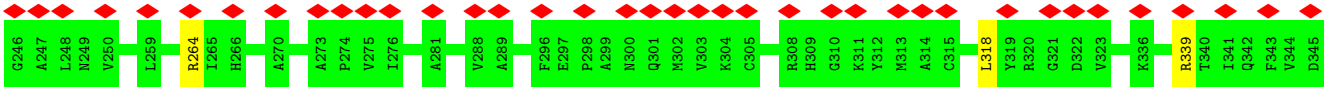
• Molecule 4: Detyrosinated tubulin alpha-3 chain

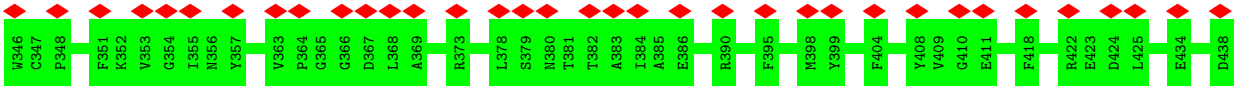
Chain HC:





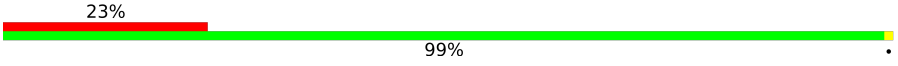


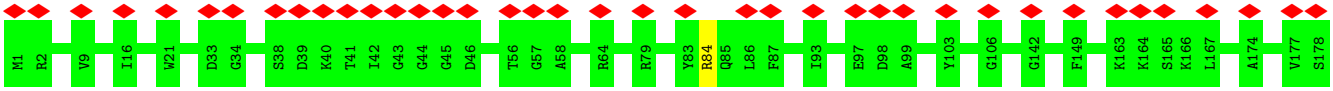


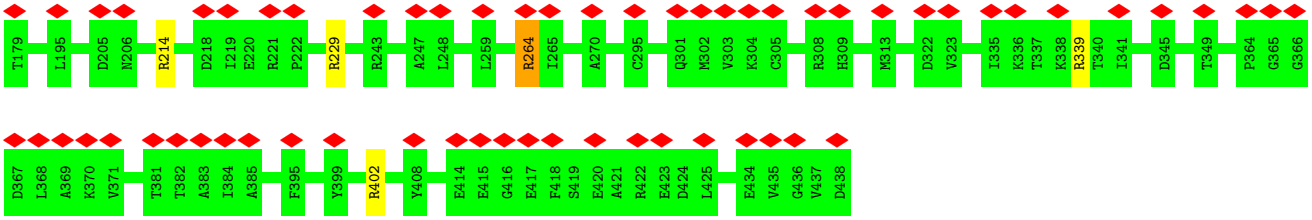


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain HE:

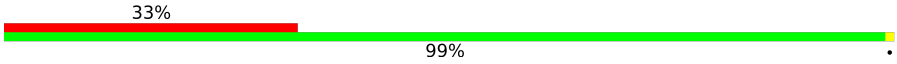


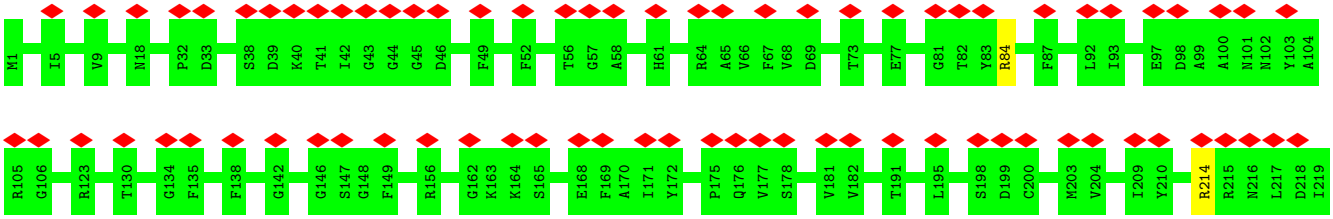




• Molecule 4: Detyrosinated tubulin alpha-3 chain

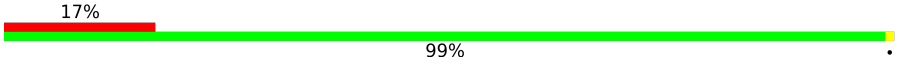
Chain HG:

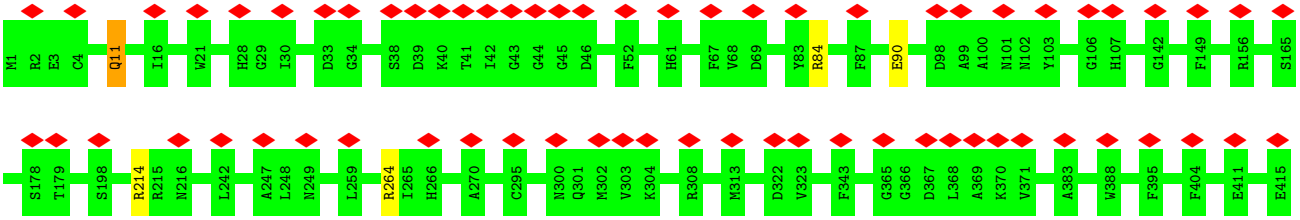




• Molecule 4: Detyrosinated tubulin alpha-3 chain

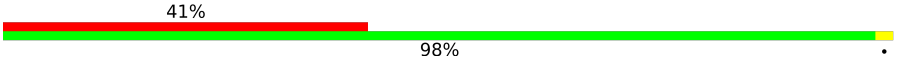
Chain HI:

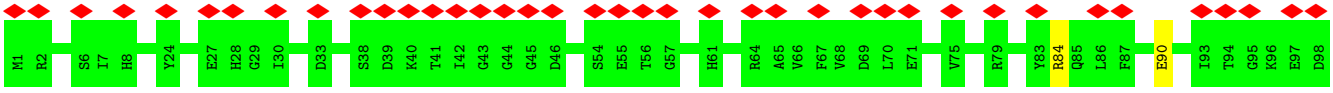


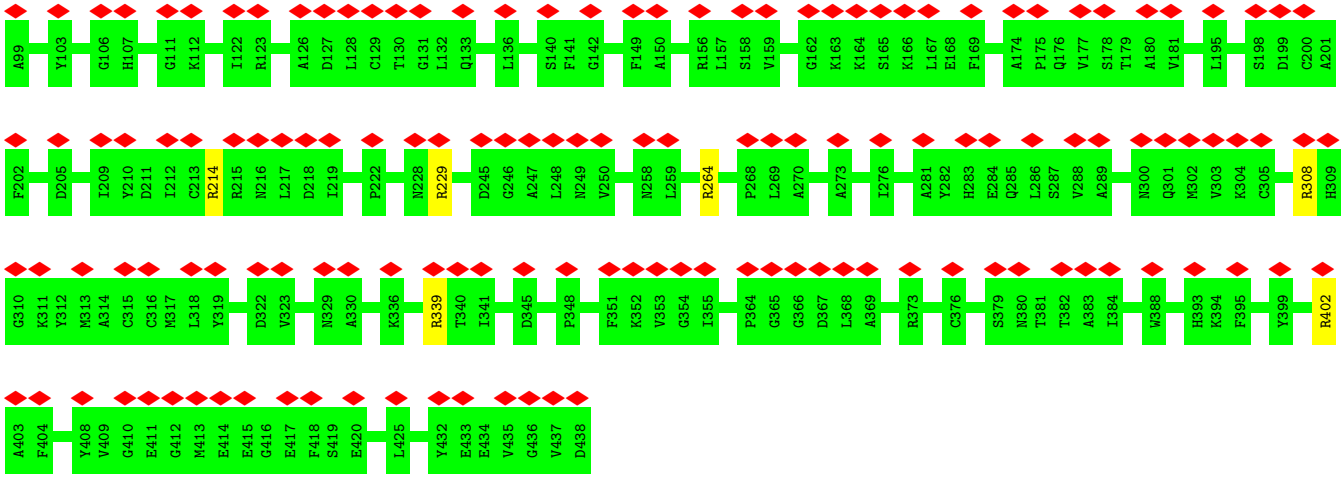


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain HK:

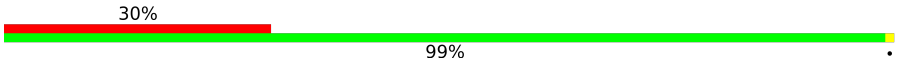


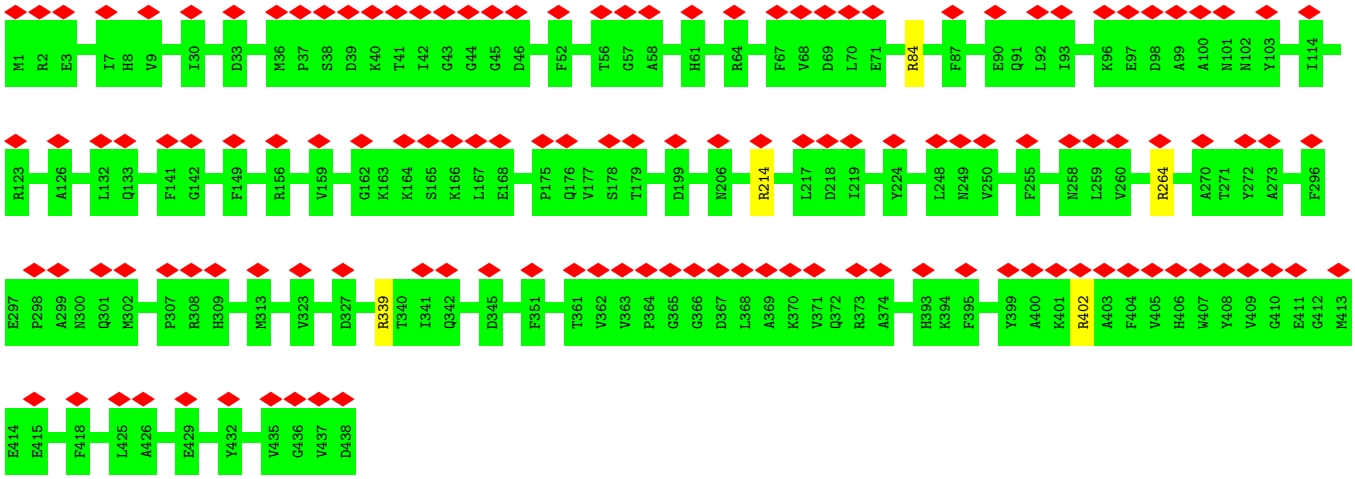




• Molecule 4: Detyrosinated tubulin alpha-3 chain

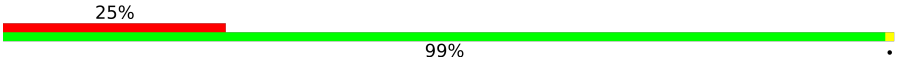
Chain IA:

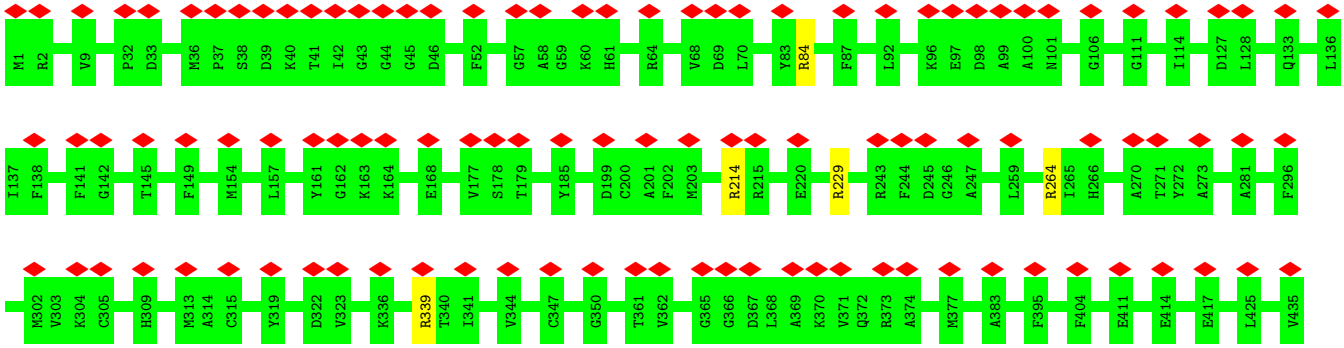




• Molecule 4: Detyrosinated tubulin alpha-3 chain

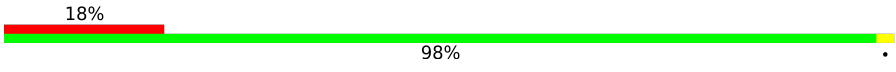
Chain IC:

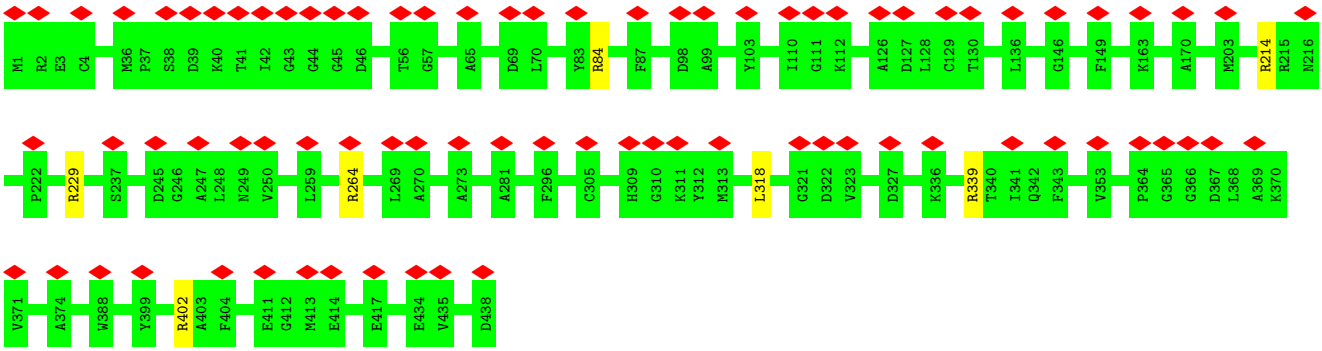




• Molecule 4: Detyrosinated tubulin alpha-3 chain

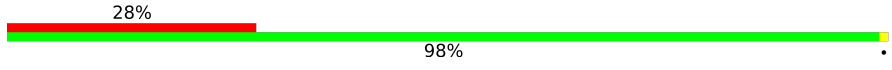
Chain IE:

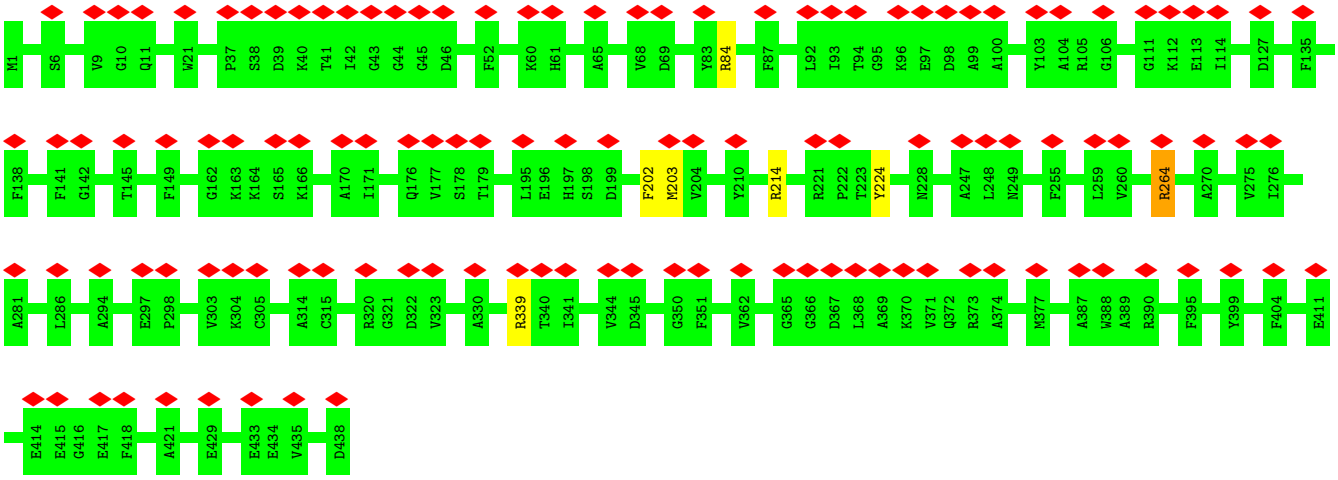




• Molecule 4: Detyrosinated tubulin alpha-3 chain

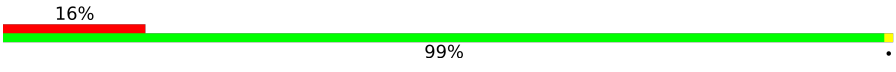
Chain IG:

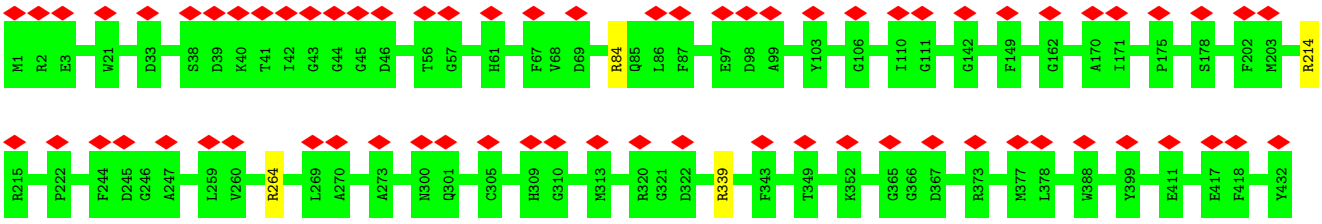


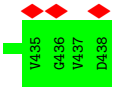


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain II:

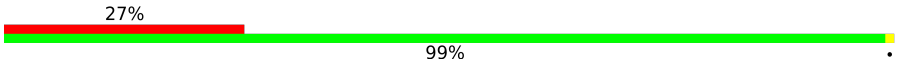


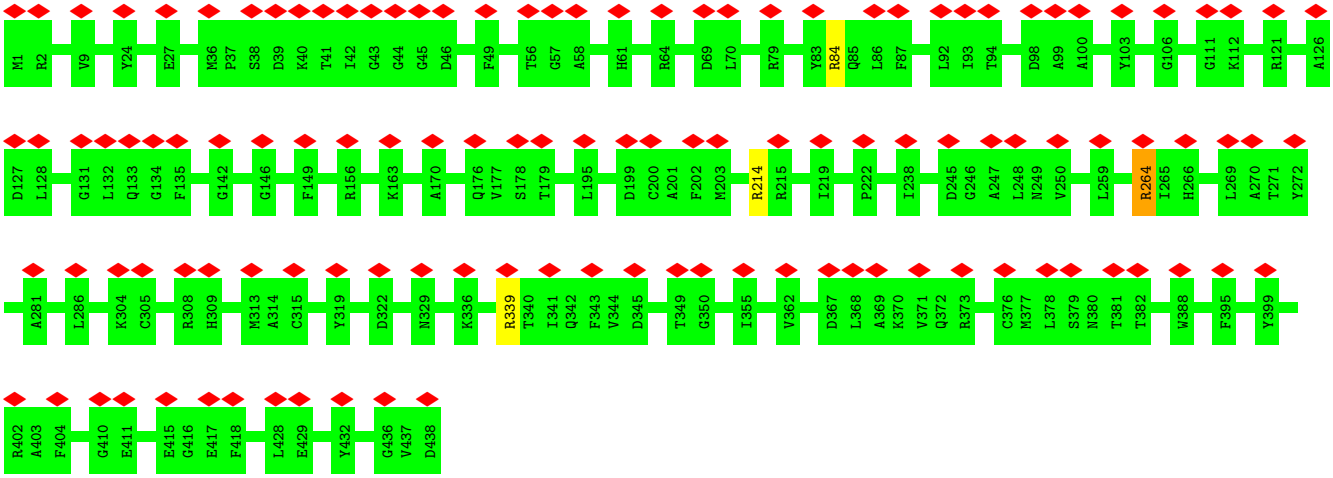




• Molecule 4: Detyrosinated tubulin alpha-3 chain

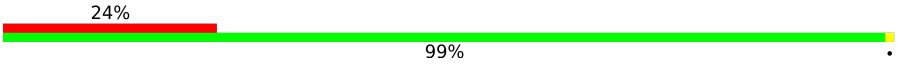
Chain IK:

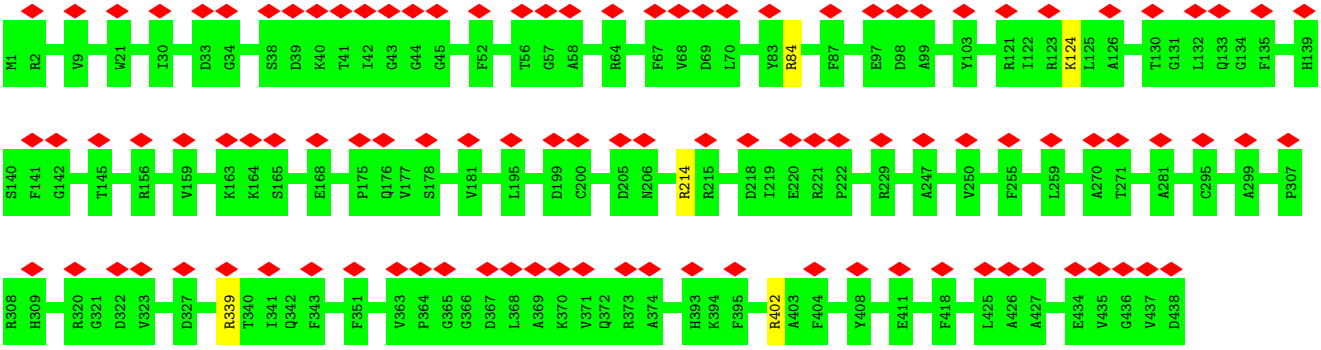




• Molecule 4: Detyrosinated tubulin alpha-3 chain

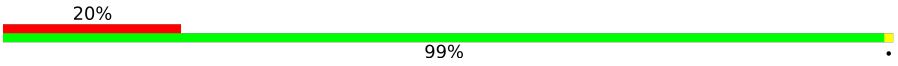
Chain IM:

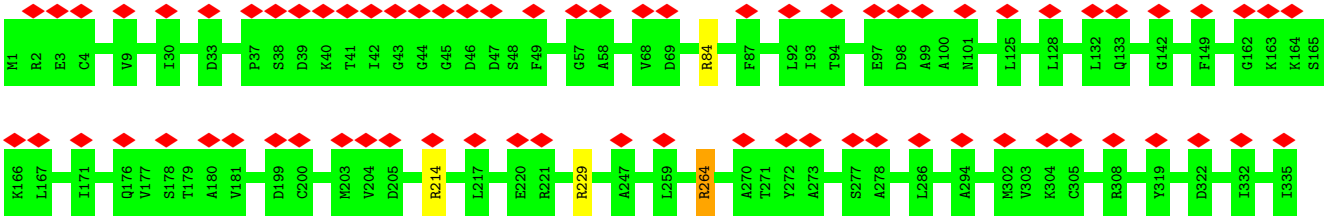


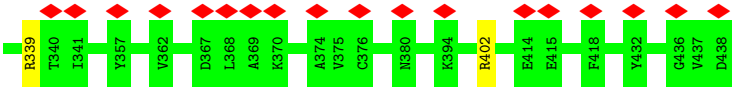


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain JA:

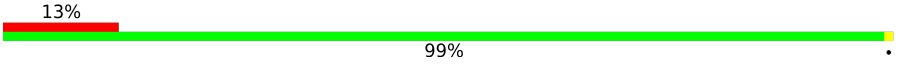


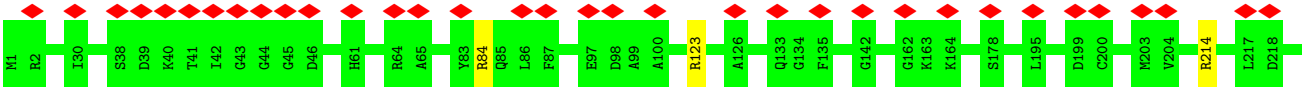


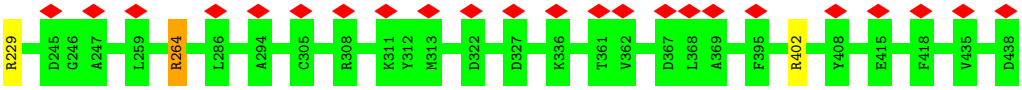


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain JC:

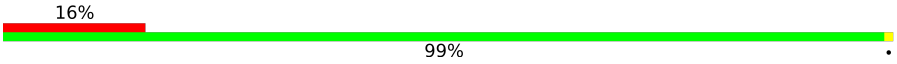


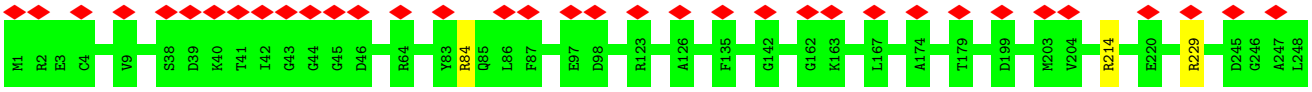


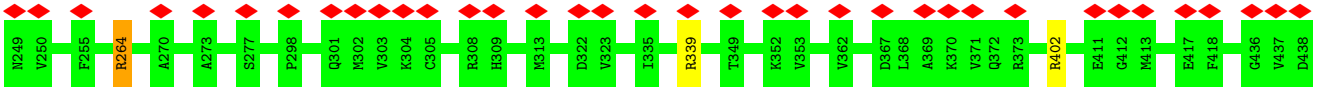


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain JE:

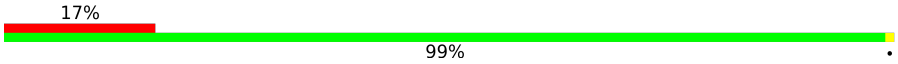


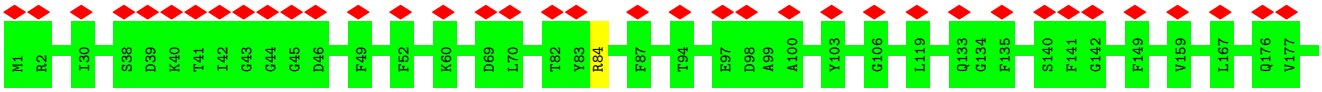


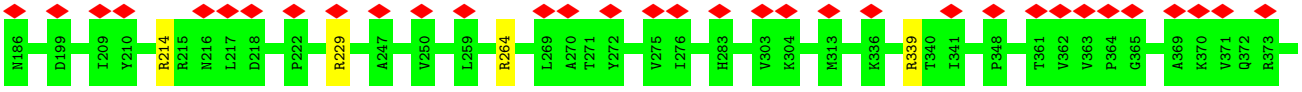


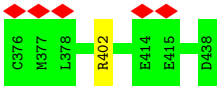
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain JG:



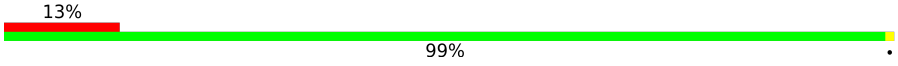


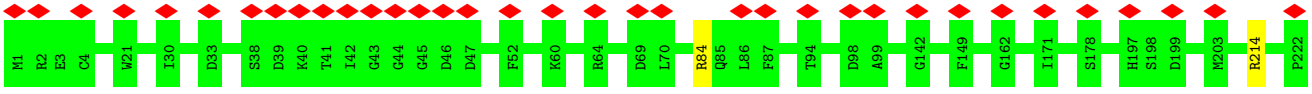


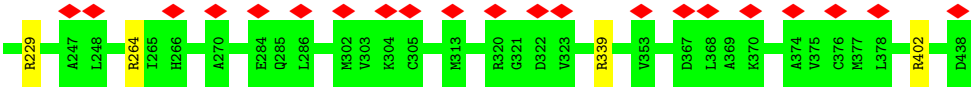


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain JI:

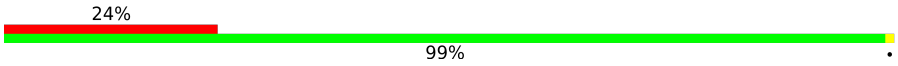


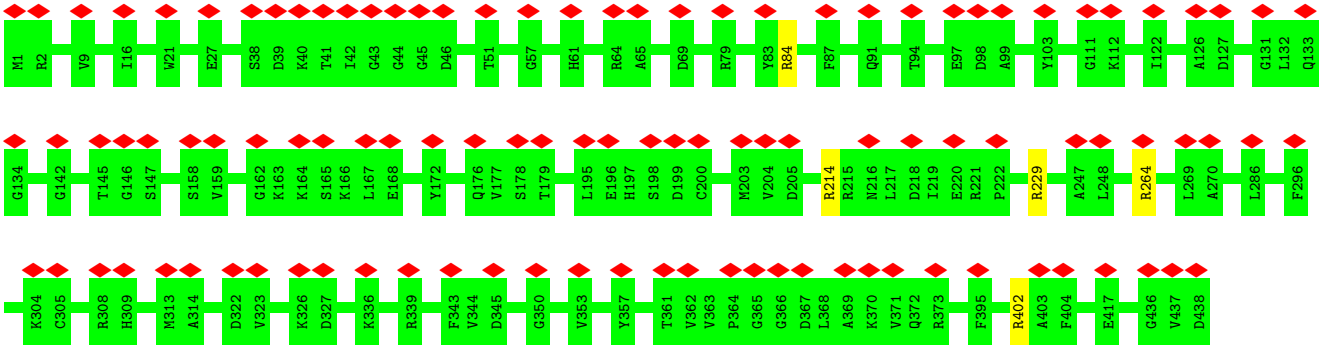




• Molecule 4: Detyrosinated tubulin alpha-3 chain

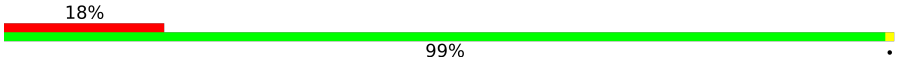
Chain JK:

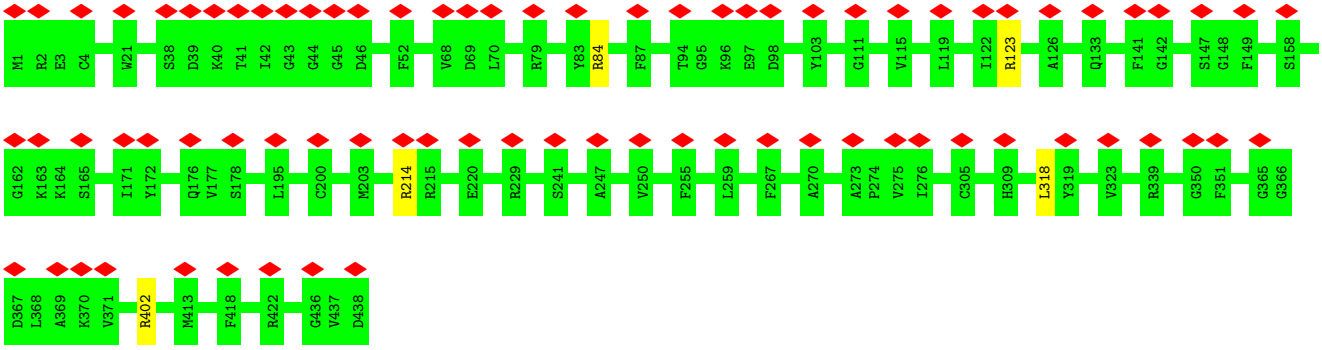




• Molecule 4: Detyrosinated tubulin alpha-3 chain

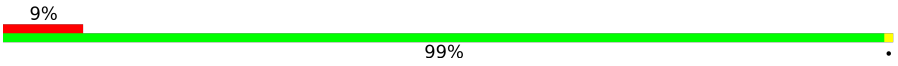
Chain KA:

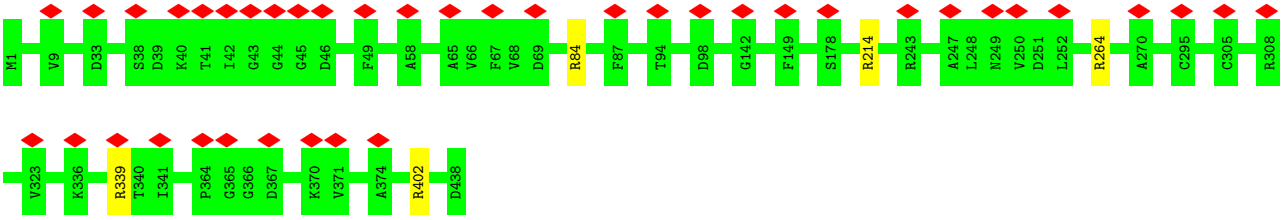




• Molecule 4: Detyrosinated tubulin alpha-3 chain

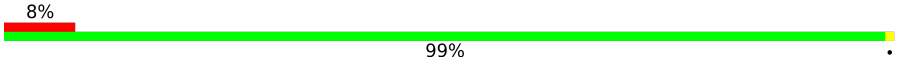
Chain KC:

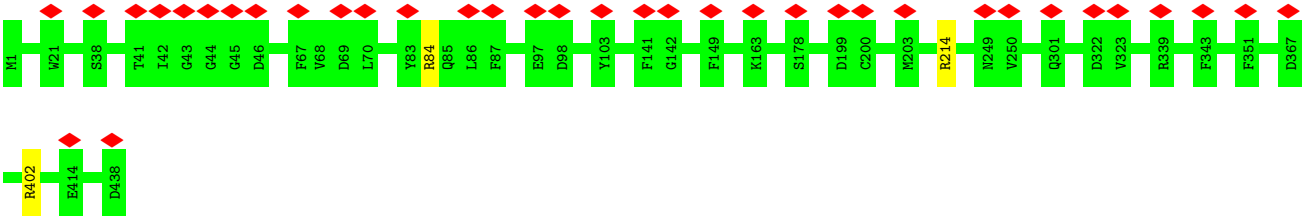




• Molecule 4: Detyrosinated tubulin alpha-3 chain

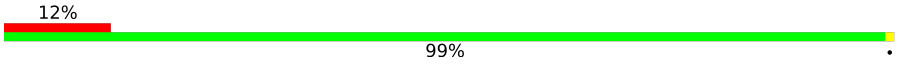
Chain KE:

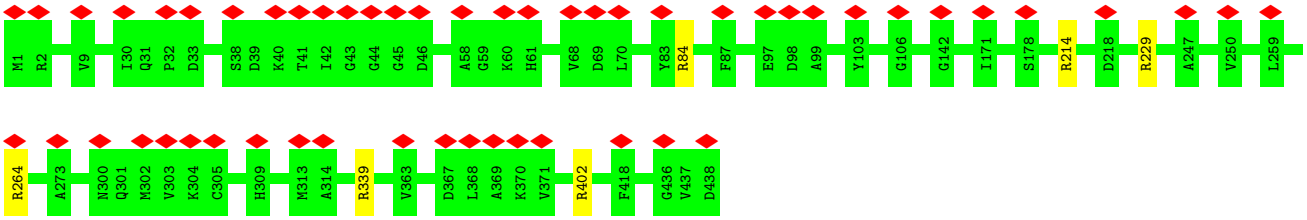




• Molecule 4: Detyrosinated tubulin alpha-3 chain

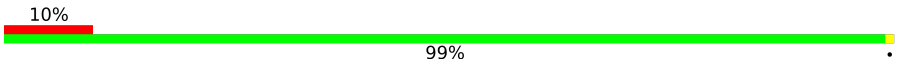
Chain KG:

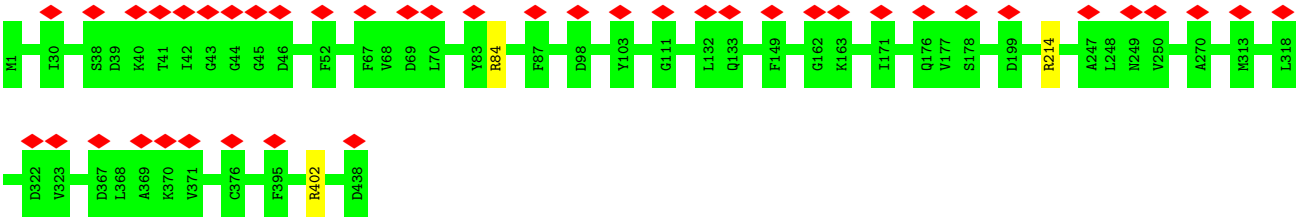




• Molecule 4: Detyrosinated tubulin alpha-3 chain

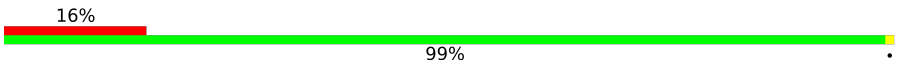
Chain KI:

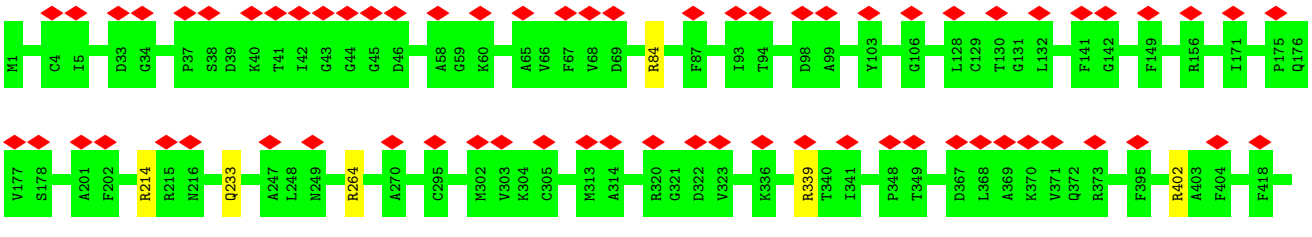




• Molecule 4: Detyrosinated tubulin alpha-3 chain

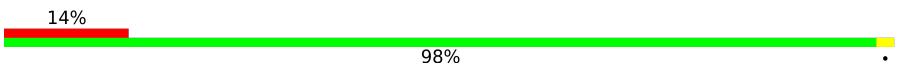
Chain KK:

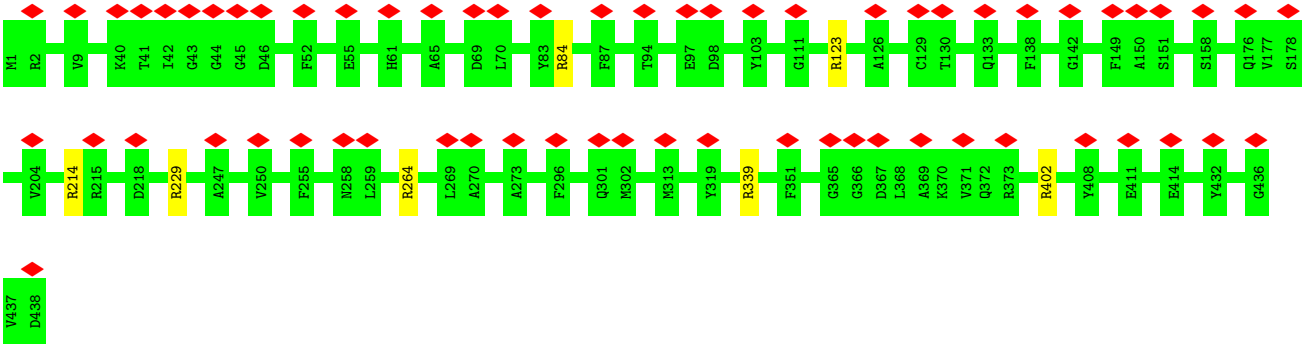




• Molecule 4: Detyrosinated tubulin alpha-3 chain

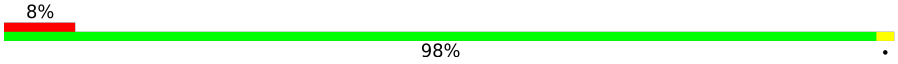
Chain LA:

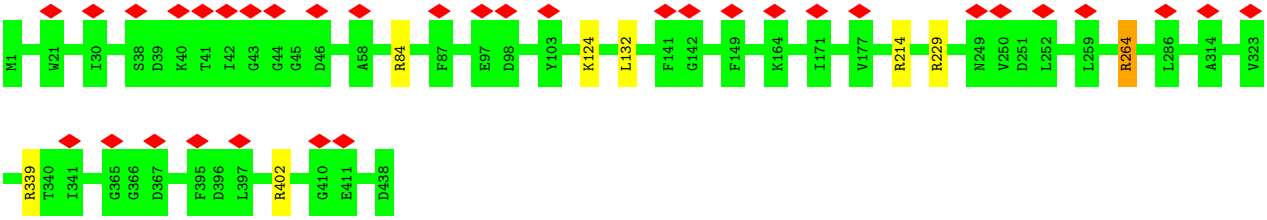




• Molecule 4: Detyrosinated tubulin alpha-3 chain

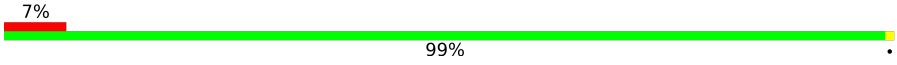
Chain LC:

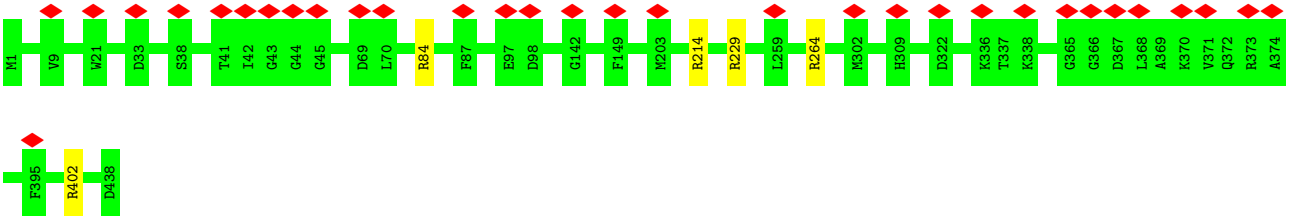




• Molecule 4: Detyrosinated tubulin alpha-3 chain

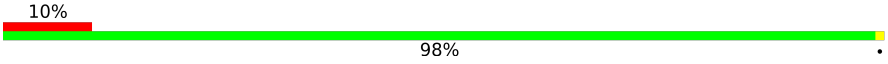
Chain LE:

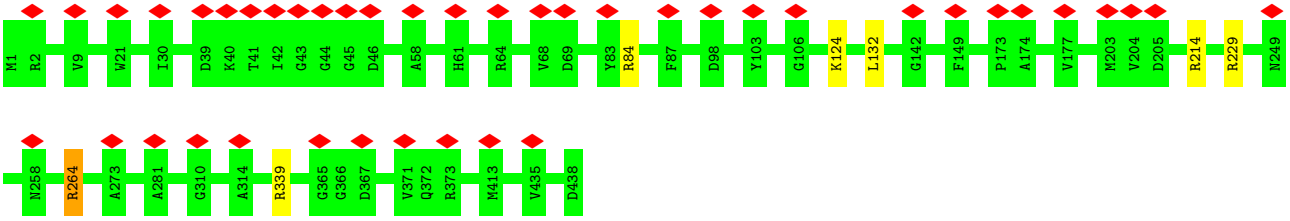




• Molecule 4: Detyrosinated tubulin alpha-3 chain

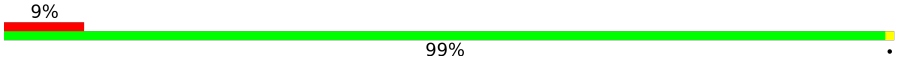
Chain LG:

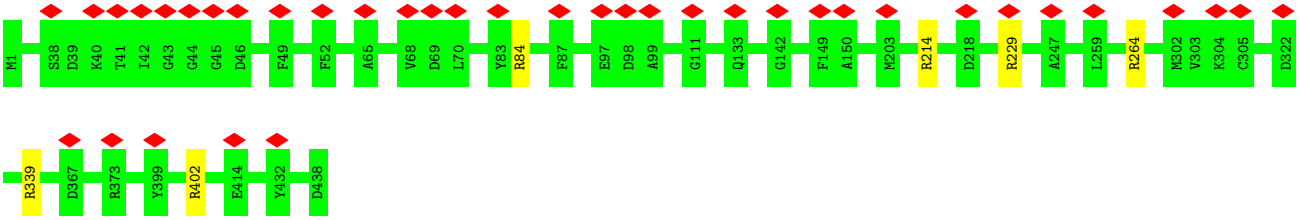




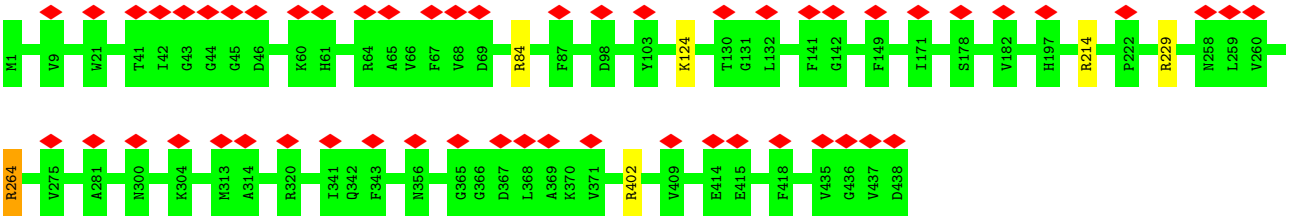
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain LI:

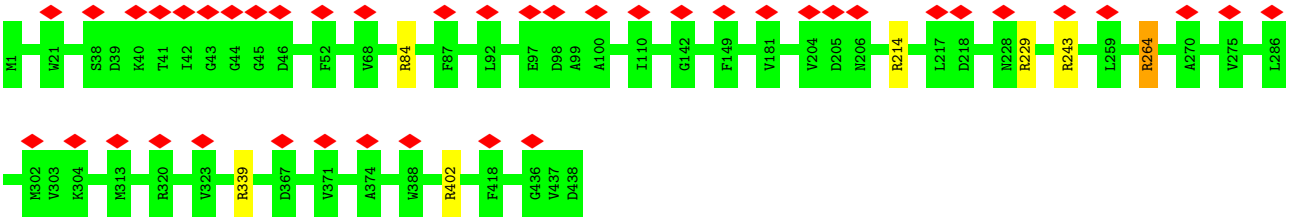




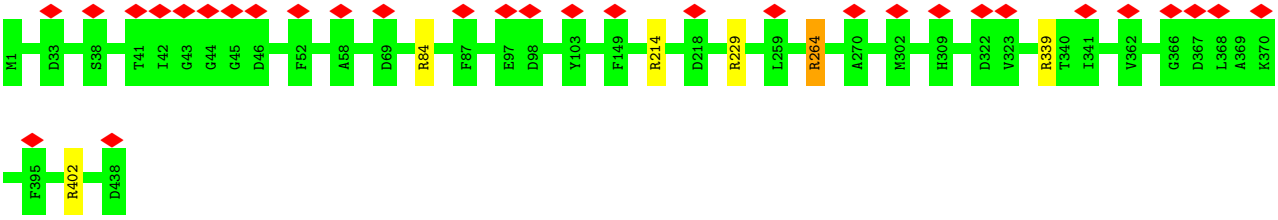
• Molecule 4: Detyrosinated tubulin alpha-3 chain



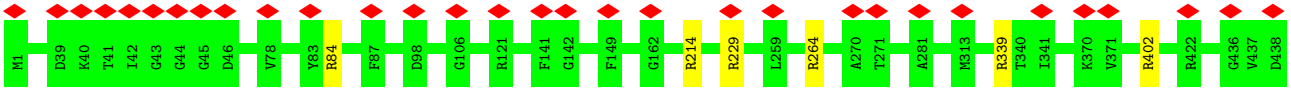
• Molecule 4: Detyrosinated tubulin alpha-3 chain



• Molecule 4: Detyrosinated tubulin alpha-3 chain

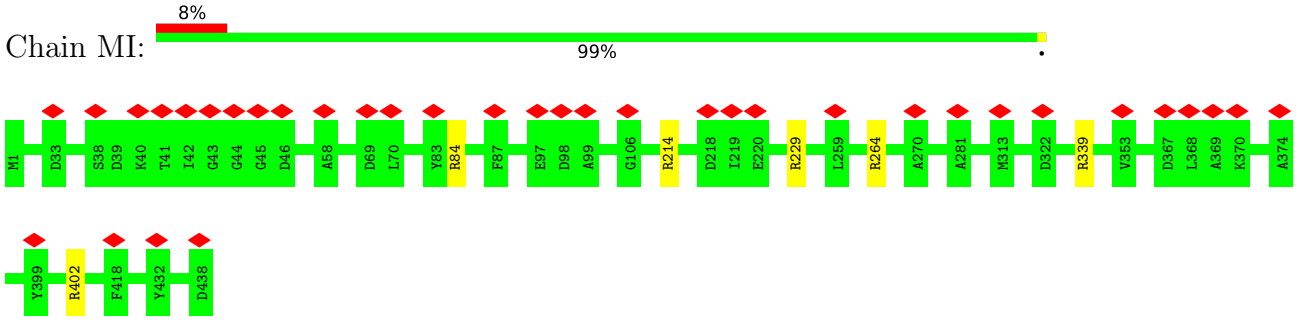


• Molecule 4: Detyrosinated tubulin alpha-3 chain



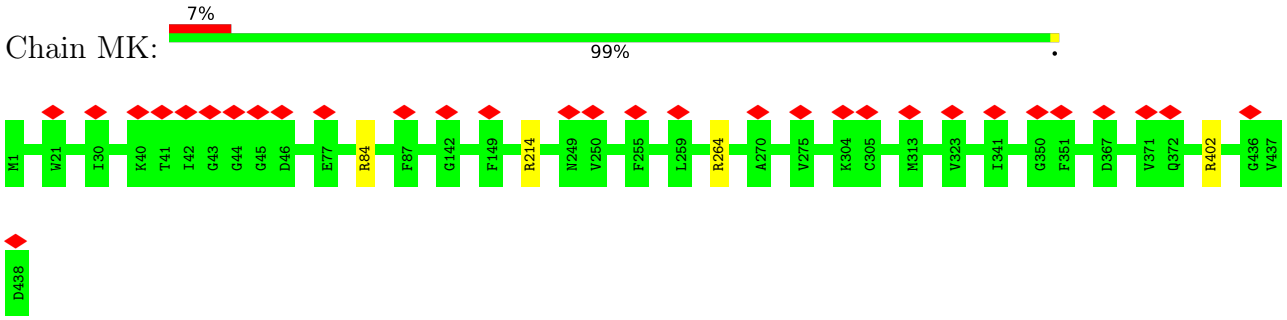
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain MI:



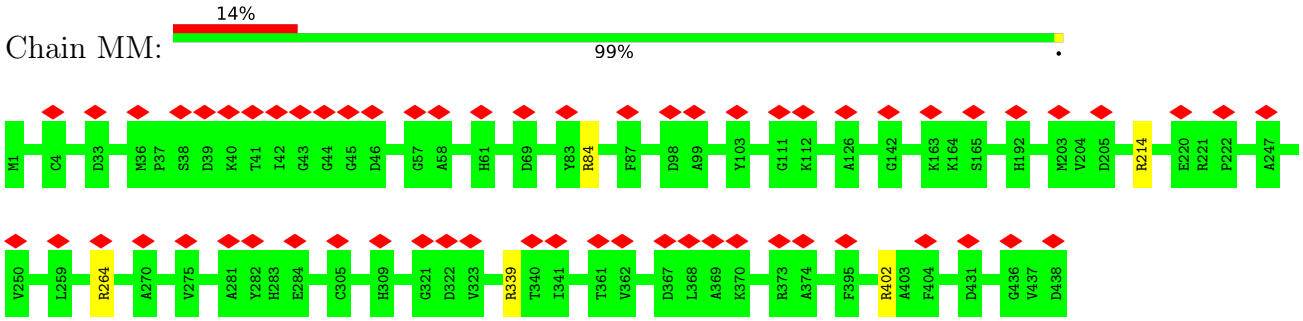
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain MK:



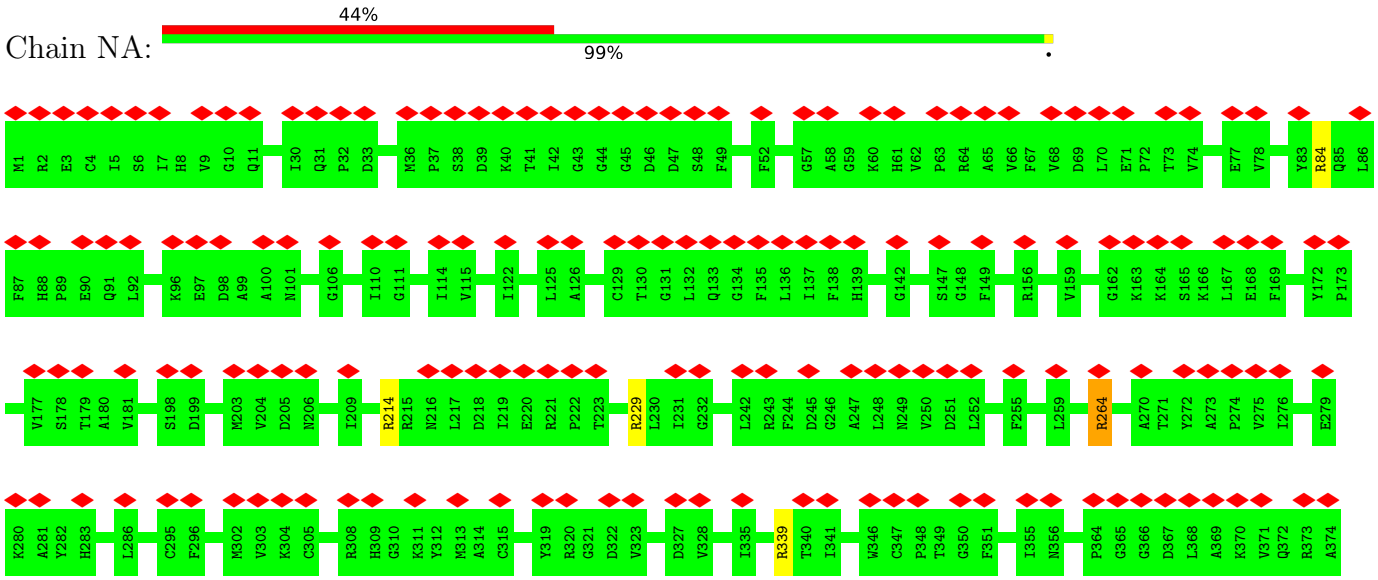
• Molecule 4: Detyrosinated tubulin alpha-3 chain

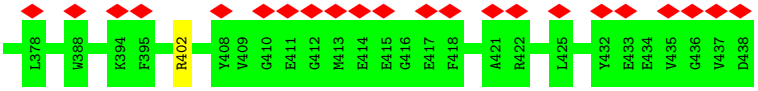
Chain MM:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

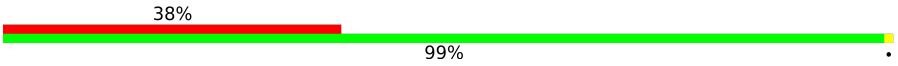
Chain NA:

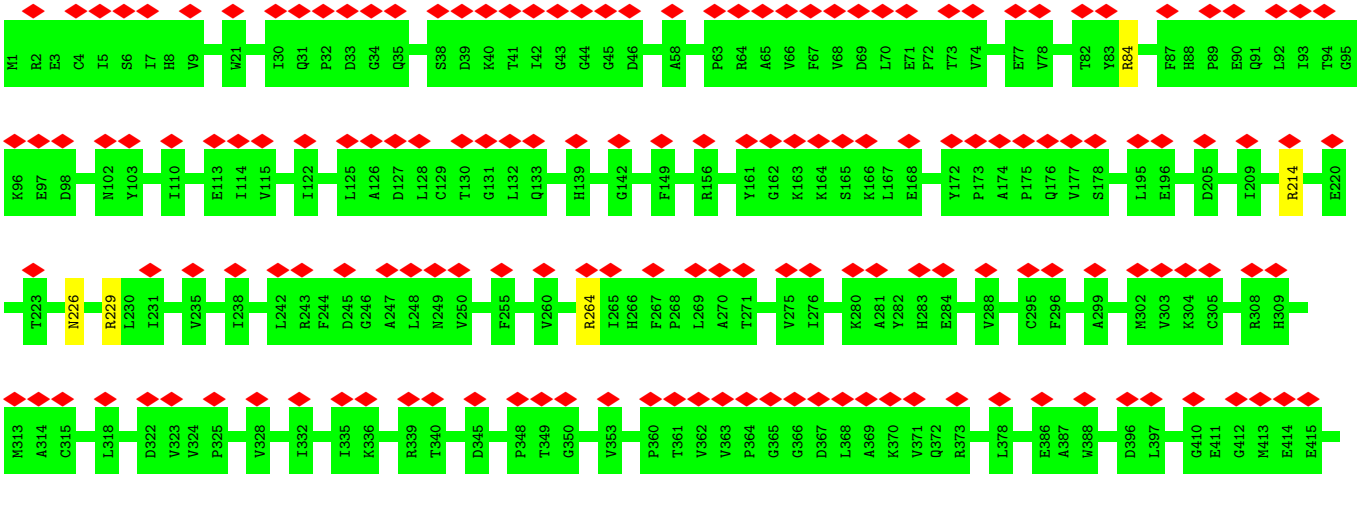




• Molecule 4: Detyrosinated tubulin alpha-3 chain

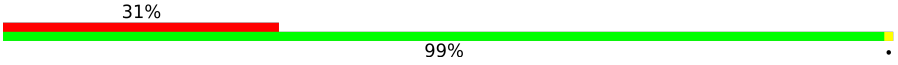
Chain NC:

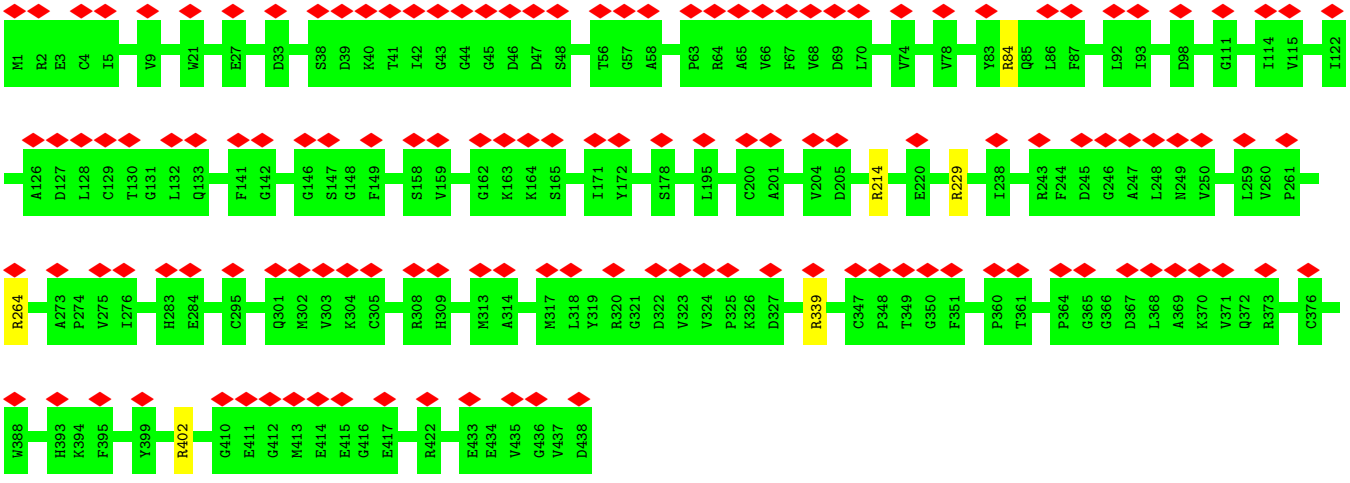




• Molecule 4: Detyrosinated tubulin alpha-3 chain

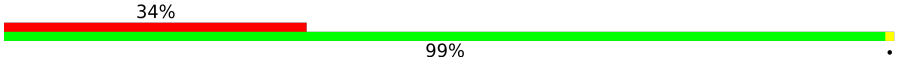
Chain NE:

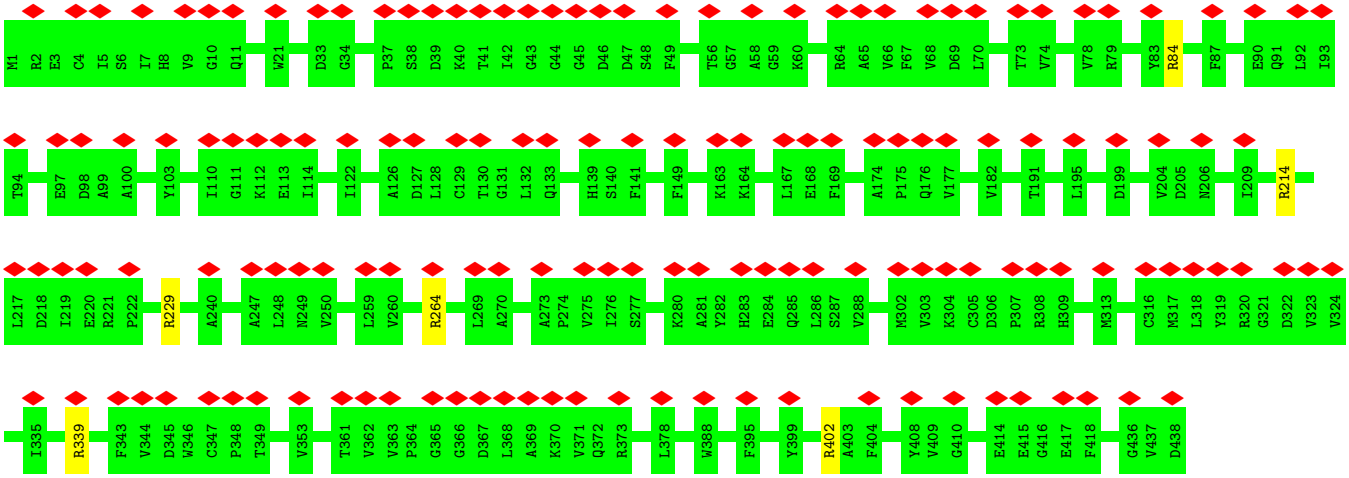




• Molecule 4: Detyrosinated tubulin alpha-3 chain

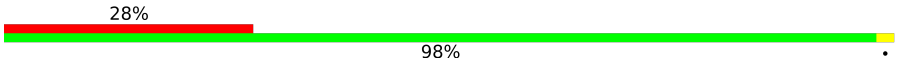
Chain NG:

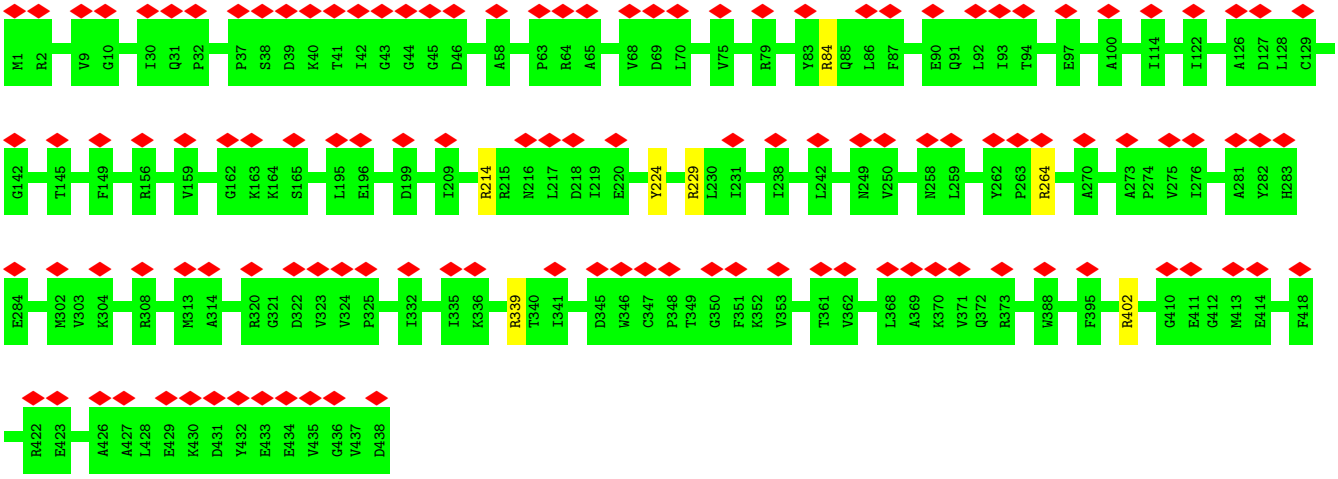




• Molecule 4: Detyrosinated tubulin alpha-3 chain

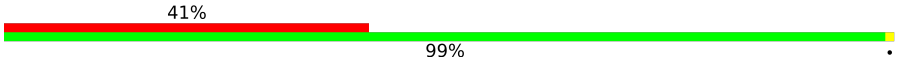
Chain NI:

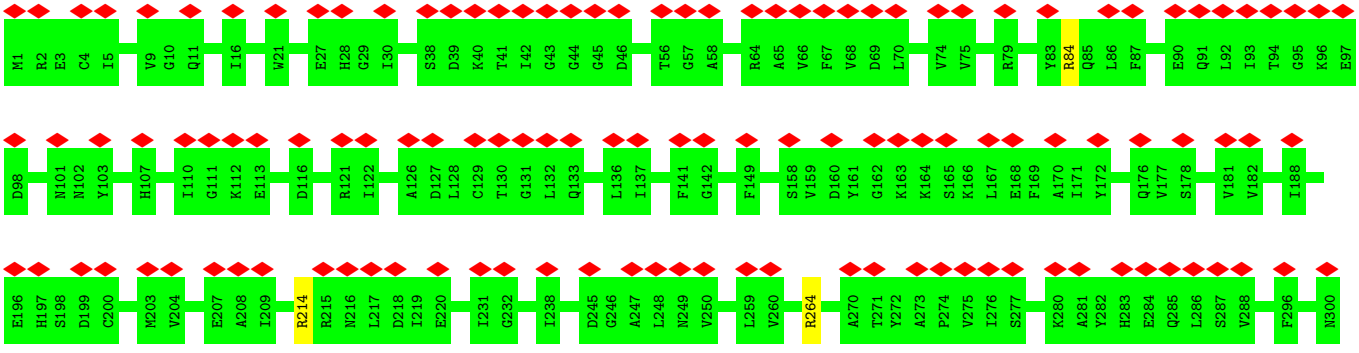


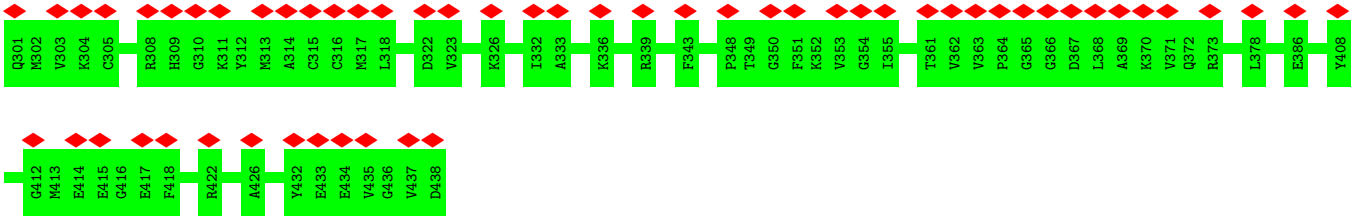


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain NK:

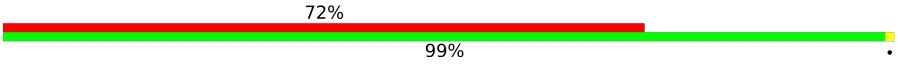


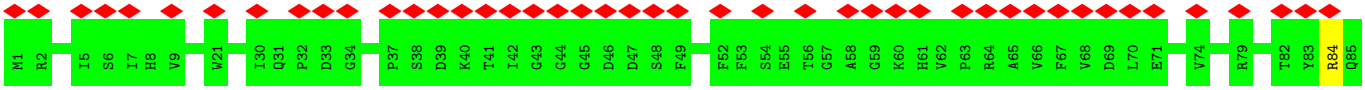




• Molecule 4: Detyrosinated tubulin alpha-3 chain

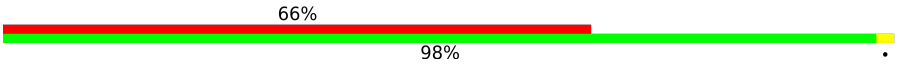
Chain OA:

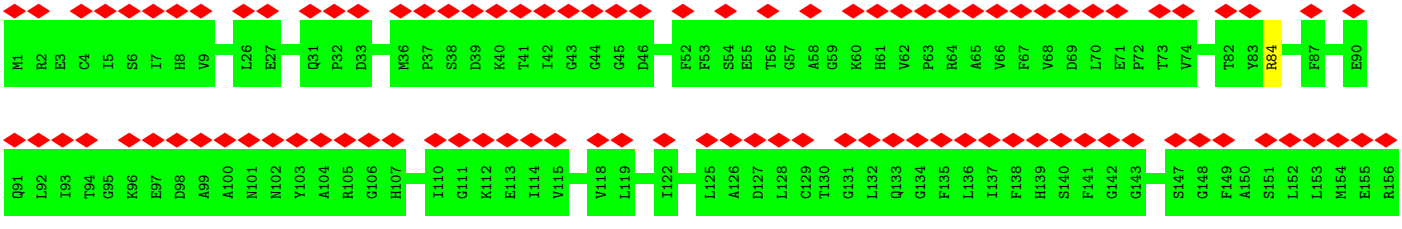


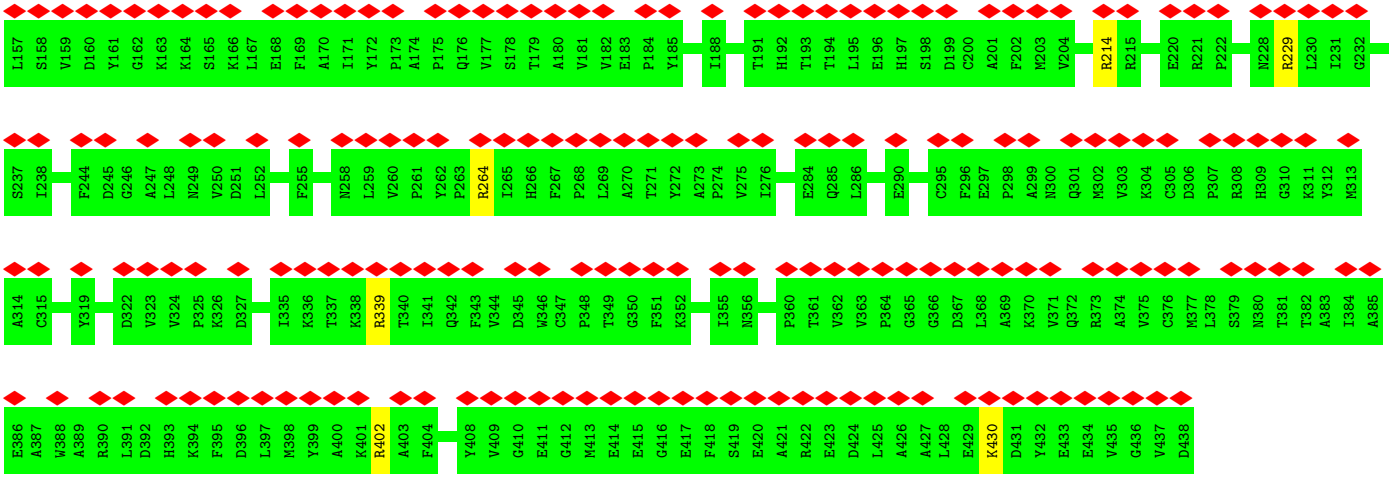


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain OC:

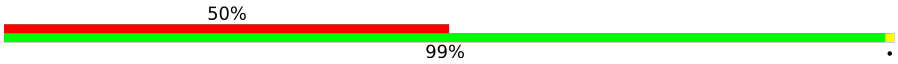


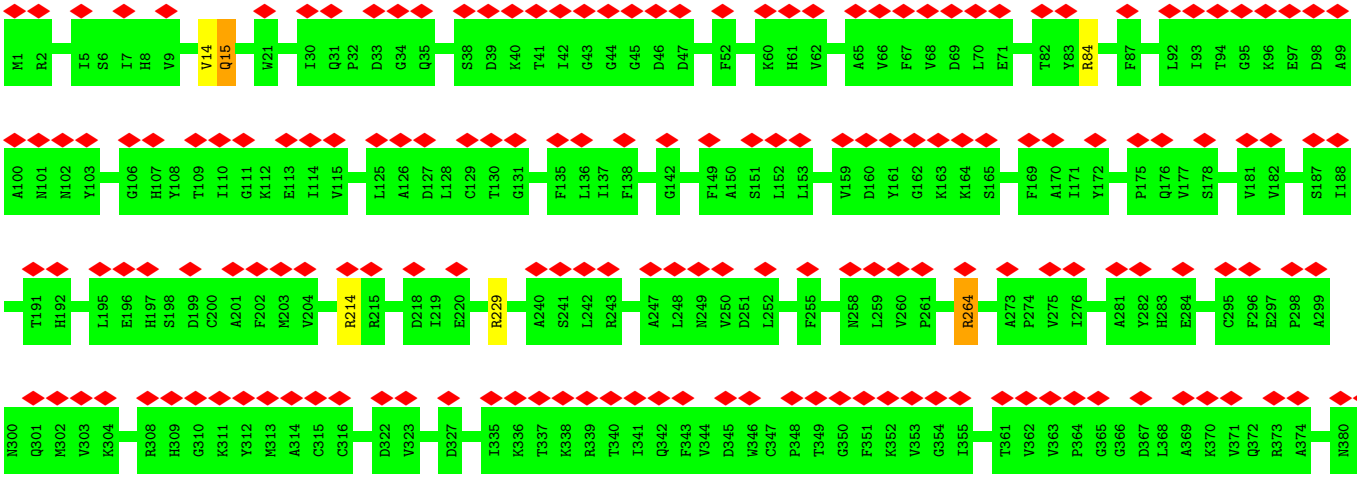




• Molecule 4: Detyrosinated tubulin alpha-3 chain

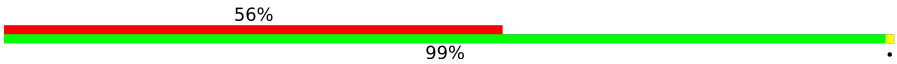
Chain OE:

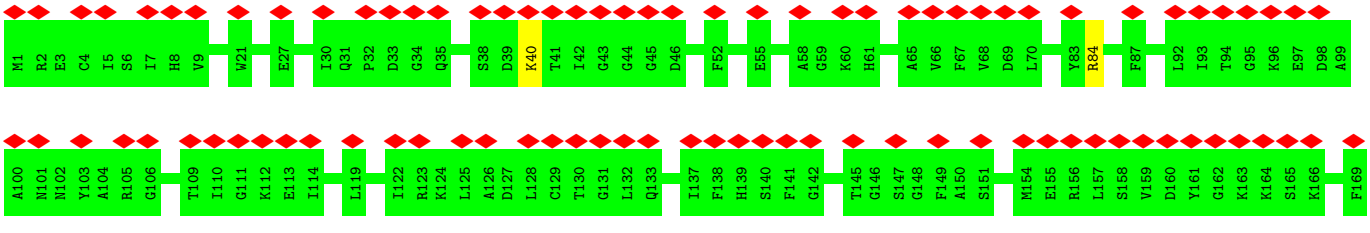


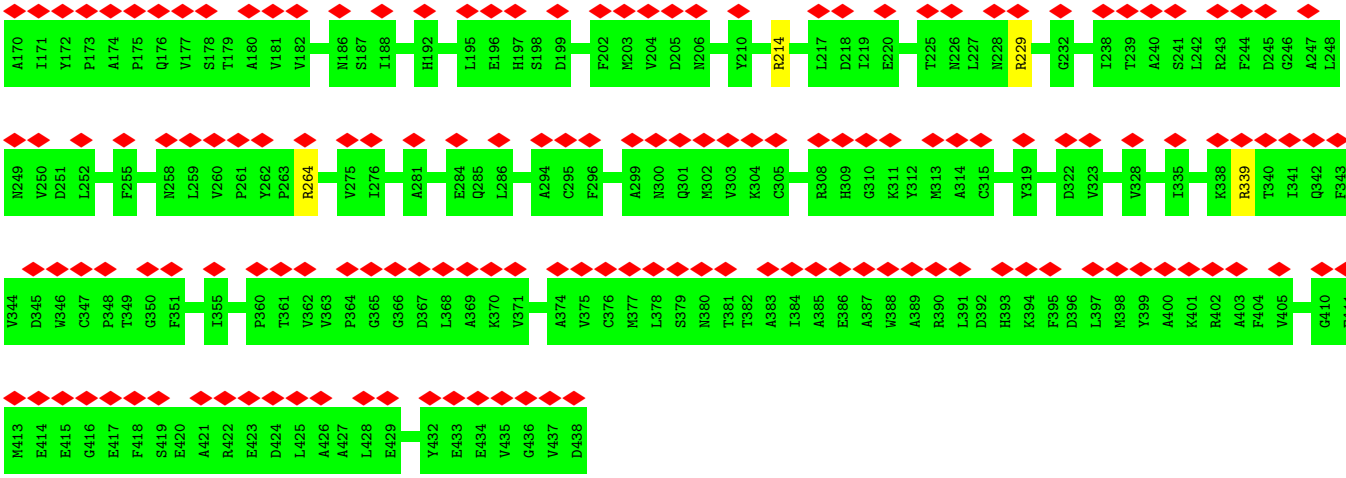


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain OG:

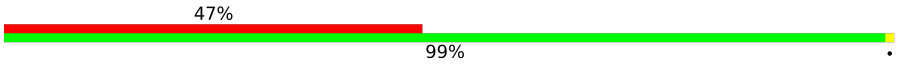


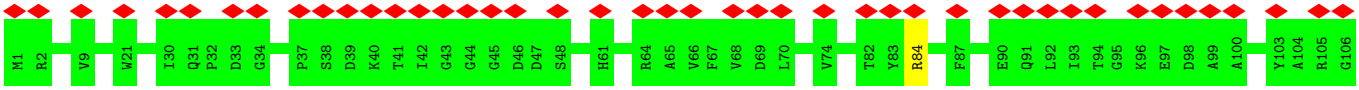




• Molecule 4: Detyrosinated tubulin alpha-3 chain

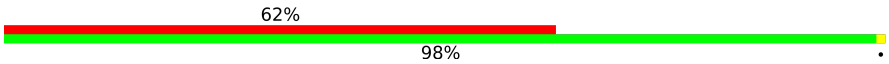
Chain OI:

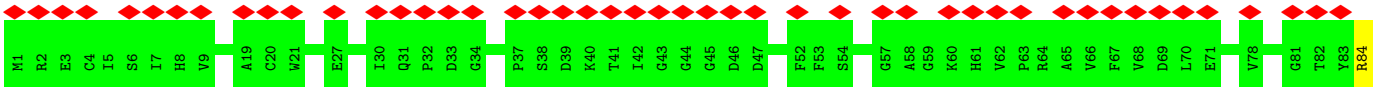


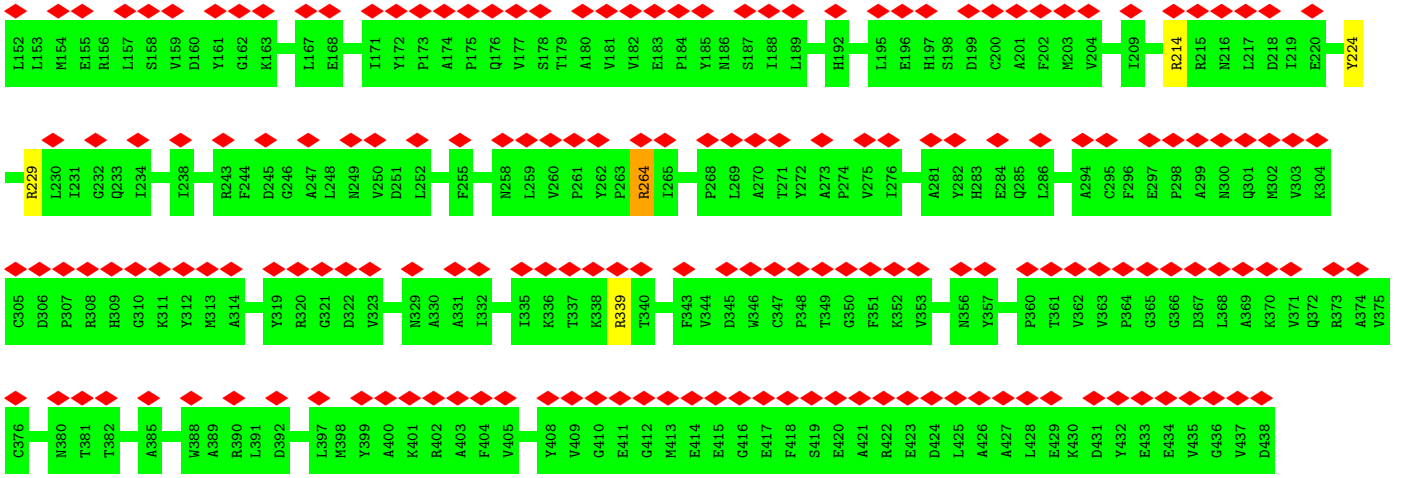


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain OK:

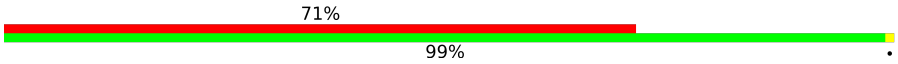


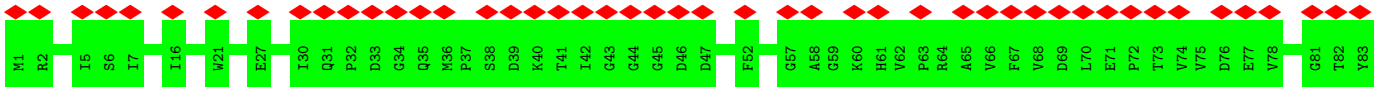


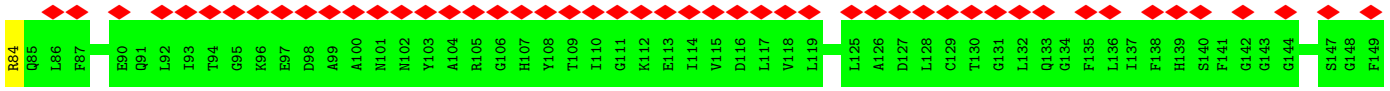


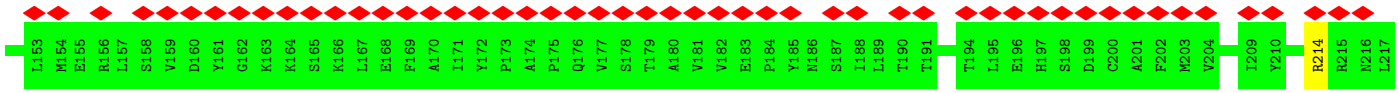
• Molecule 4: Detyrosinated tubulin alpha-3 chain

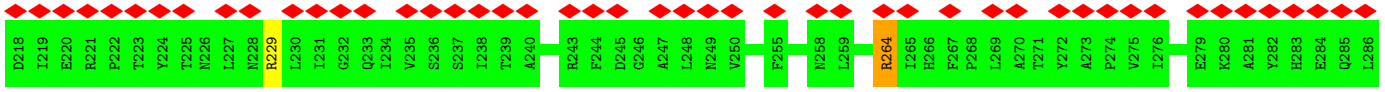
Chain PA:

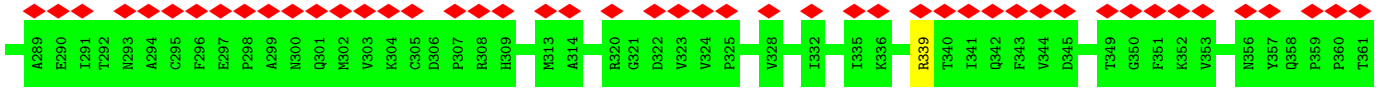


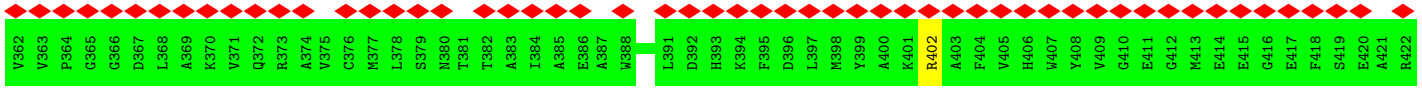


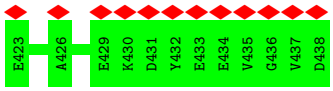






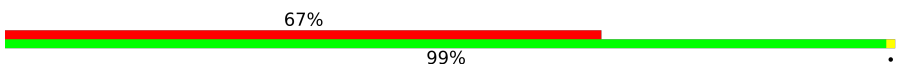


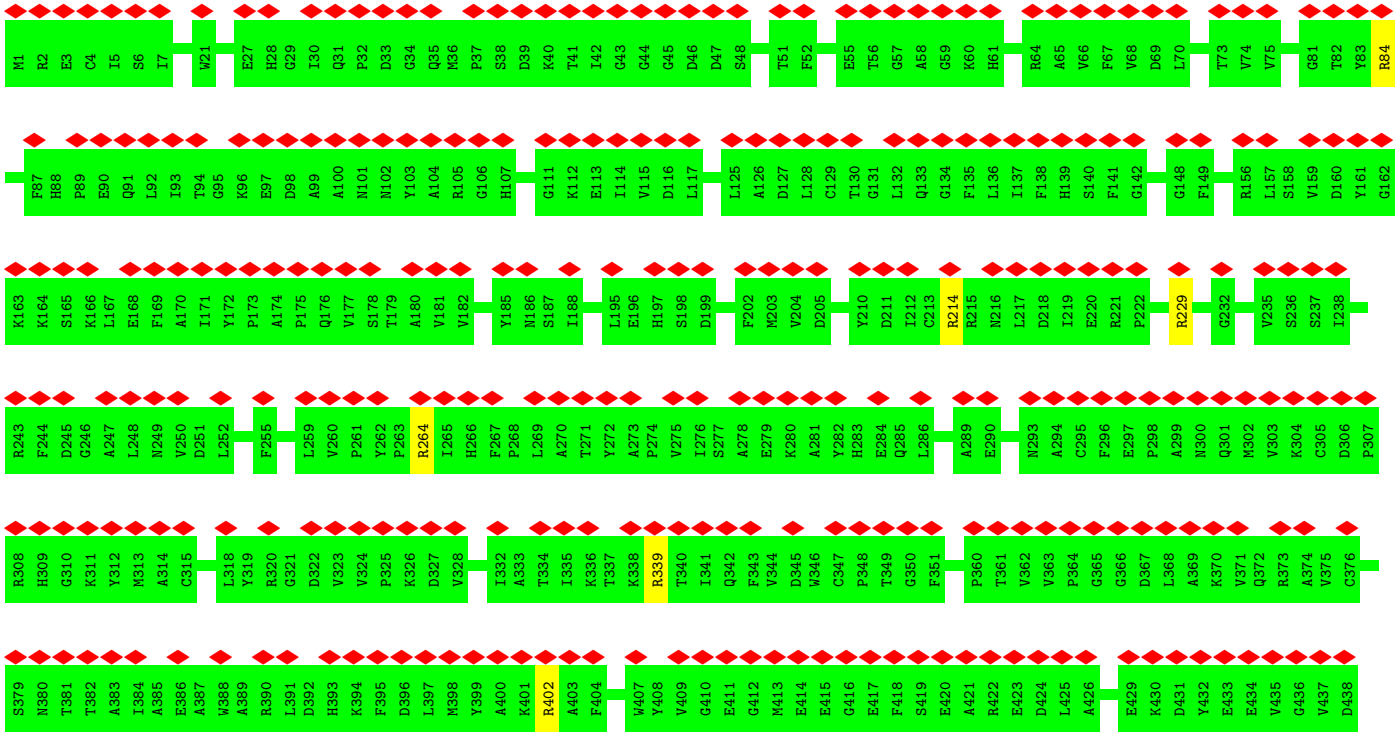




• Molecule 4: Detyrosinated tubulin alpha-3 chain

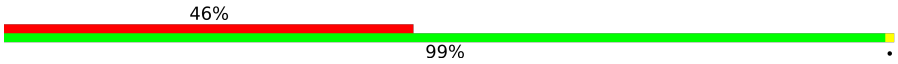
Chain PC:

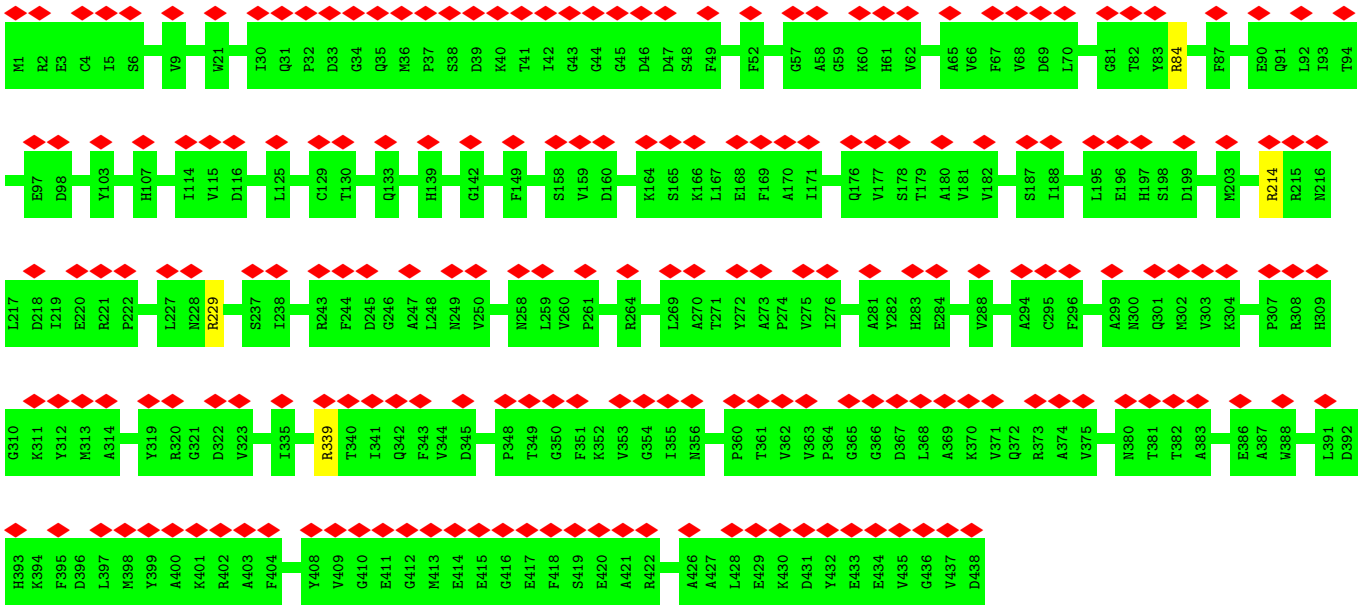




• Molecule 4: Detyrosinated tubulin alpha-3 chain

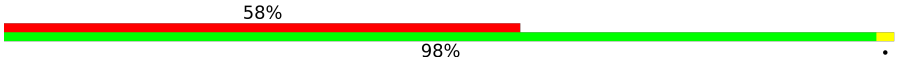
Chain PE:

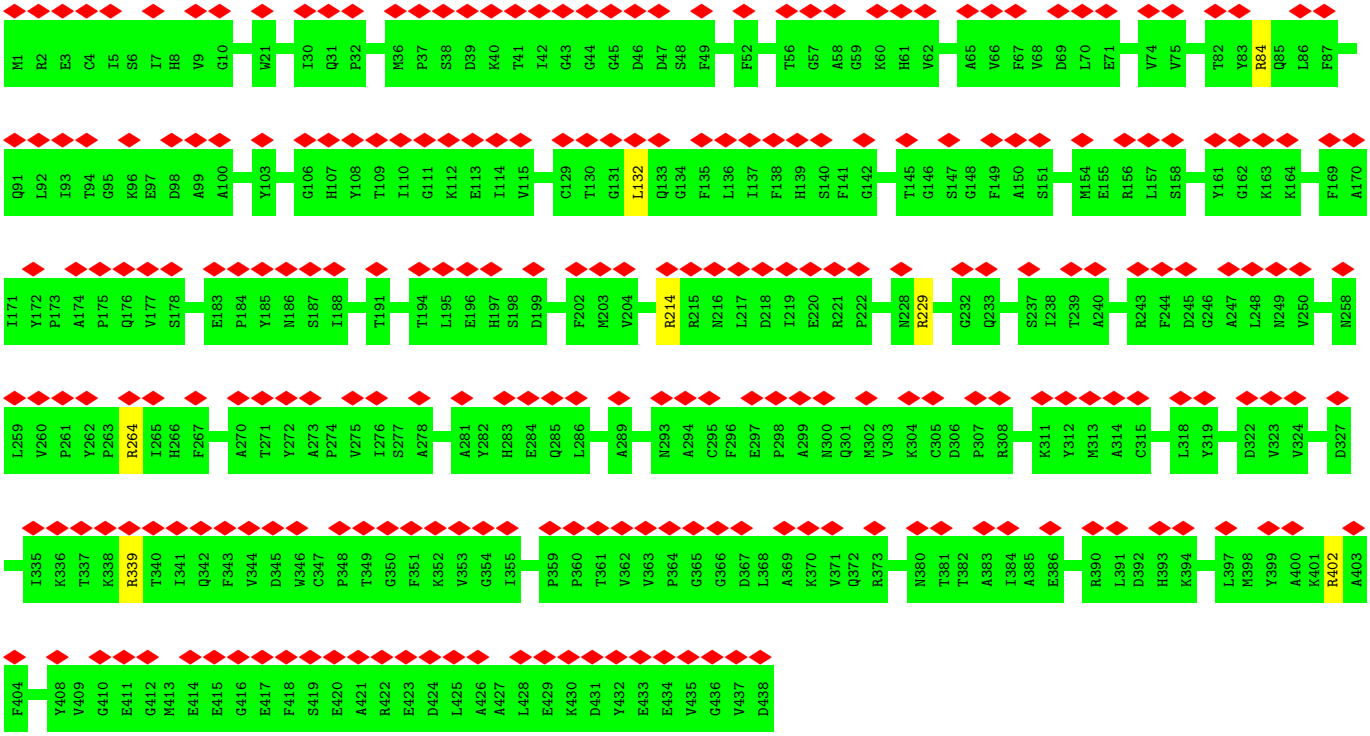




• Molecule 4: Detyrosinated tubulin alpha-3 chain

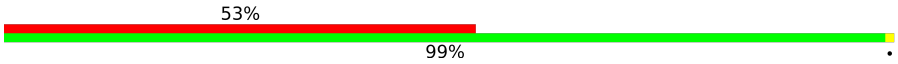
Chain PG:

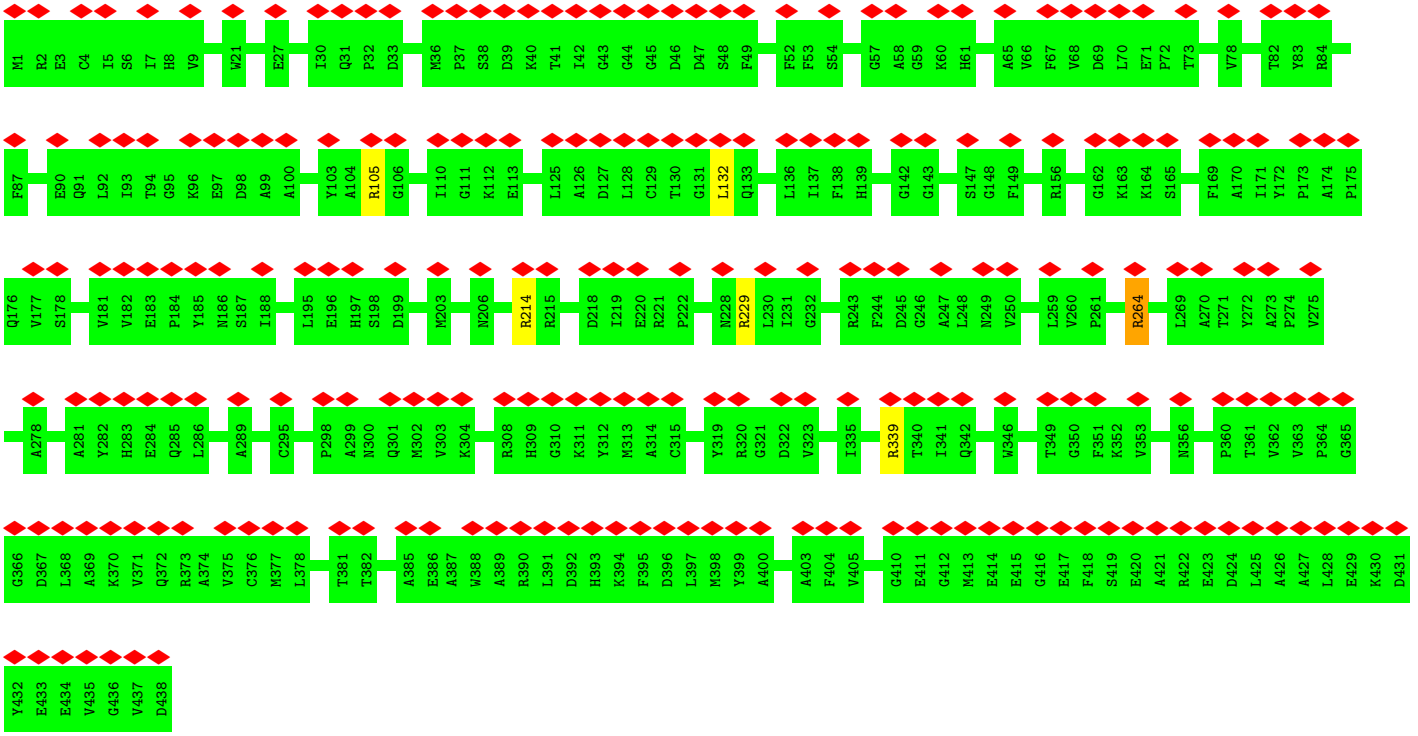




• Molecule 4: Detyrosinated tubulin alpha-3 chain

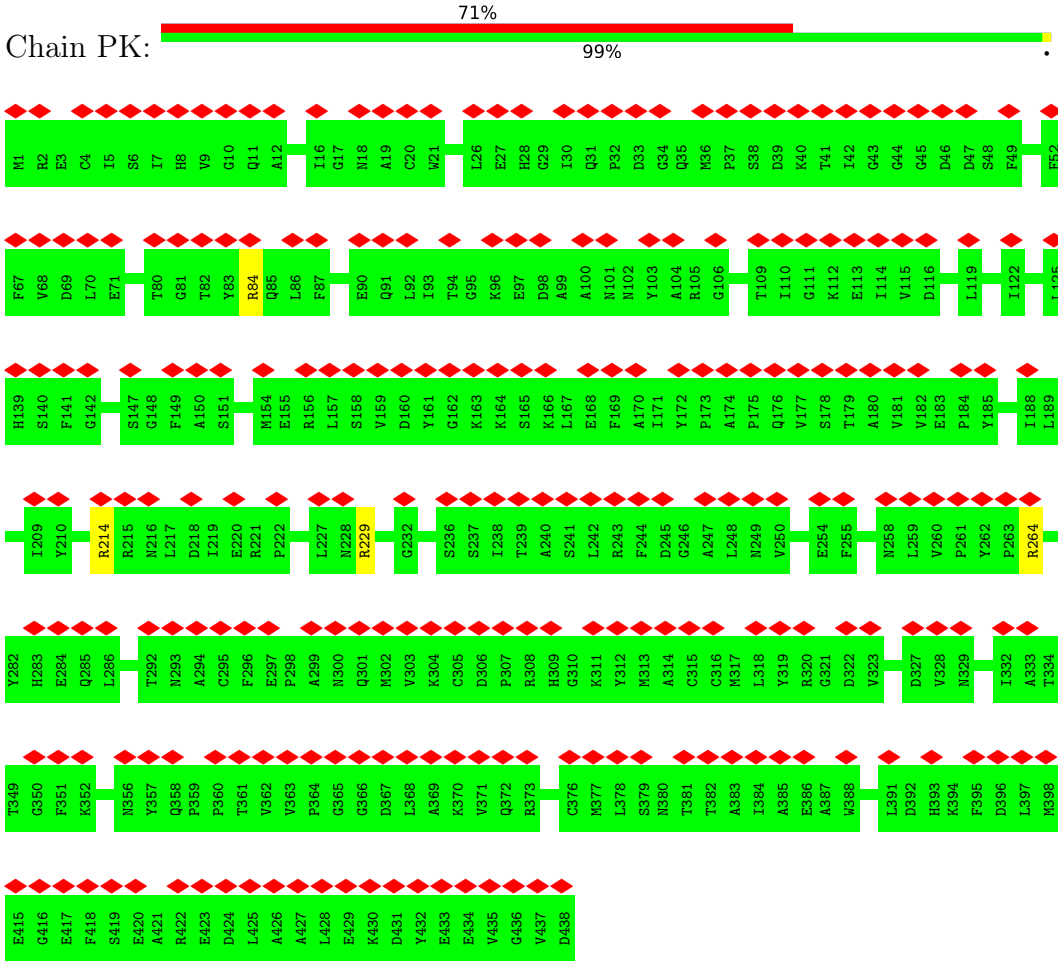
Chain PI:





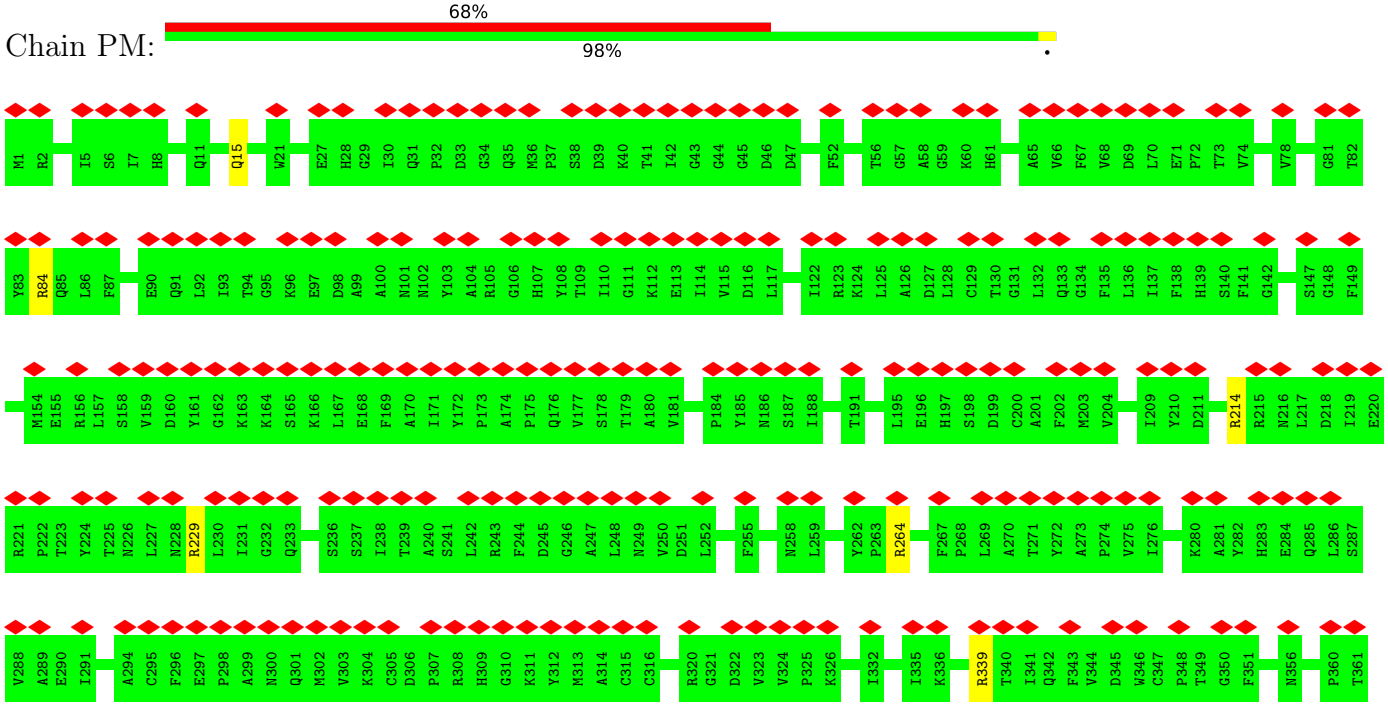
• Molecule 4: Detyrosinated tubulin alpha-3 chain

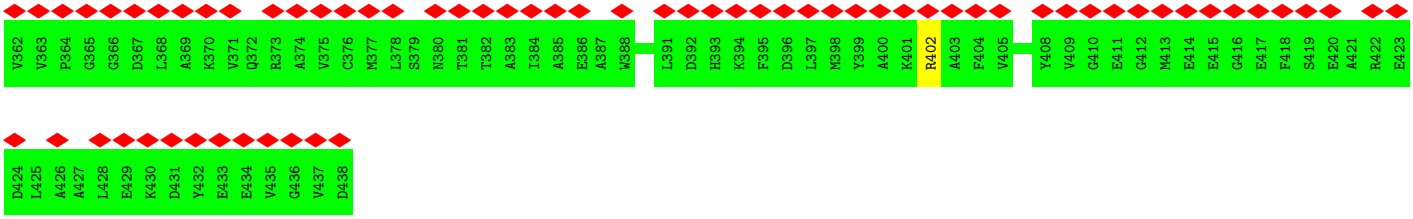
Chain PK:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

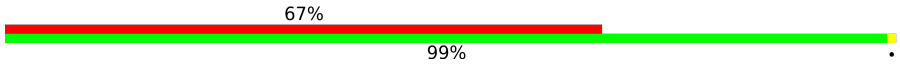
Chain PM:

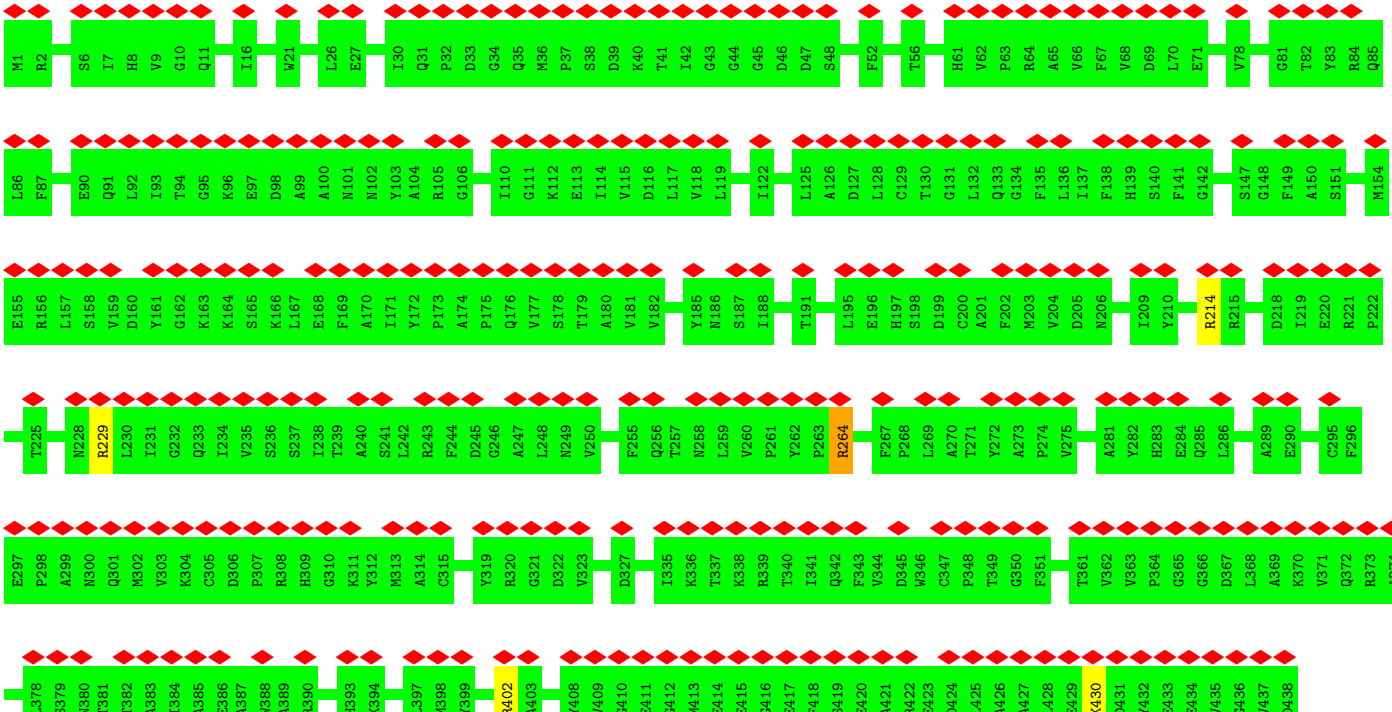




• Molecule 4: Detyrosinated tubulin alpha-3 chain

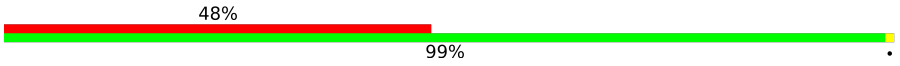
Chain QC:

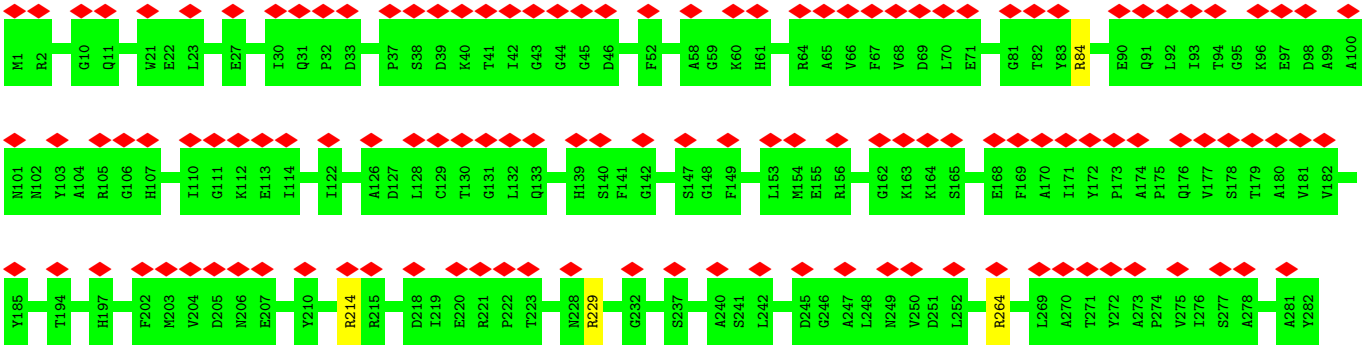


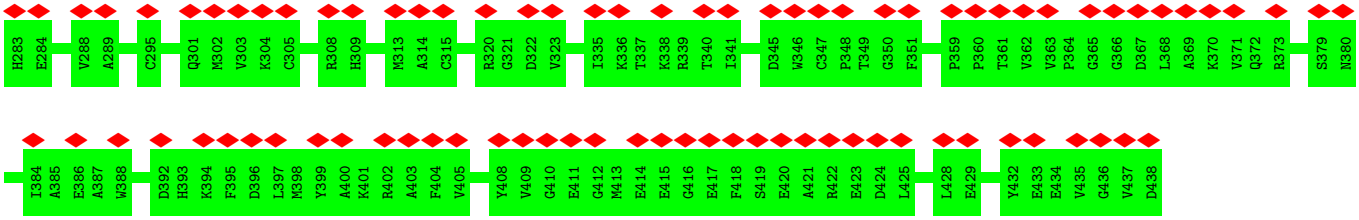


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain QE:

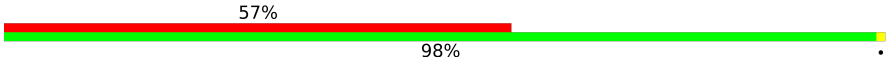


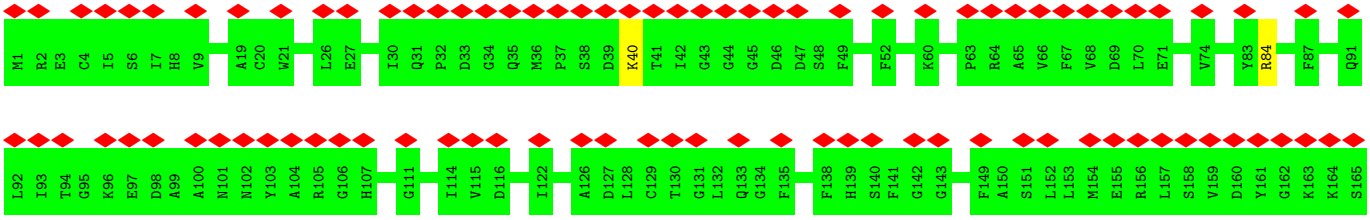




• Molecule 4: Detyrosinated tubulin alpha-3 chain

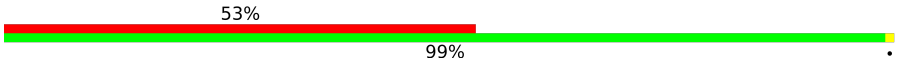
Chain QG:

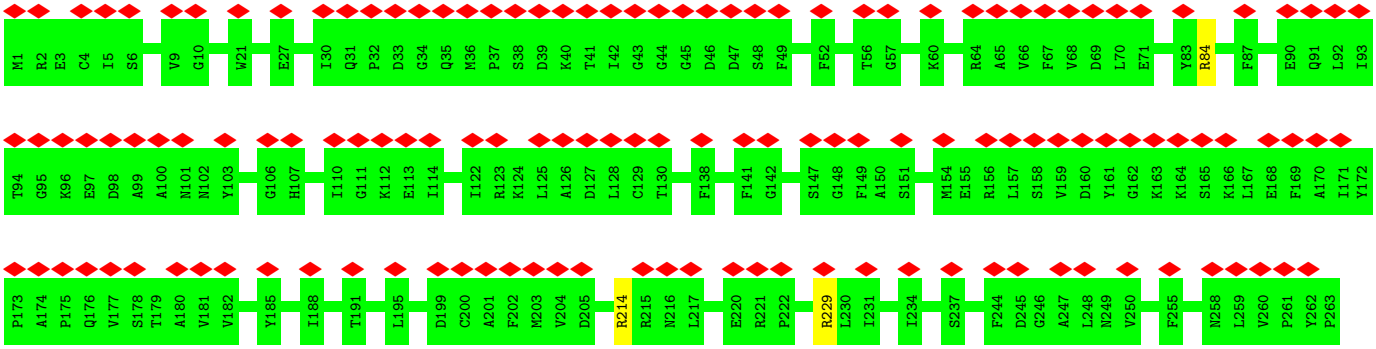


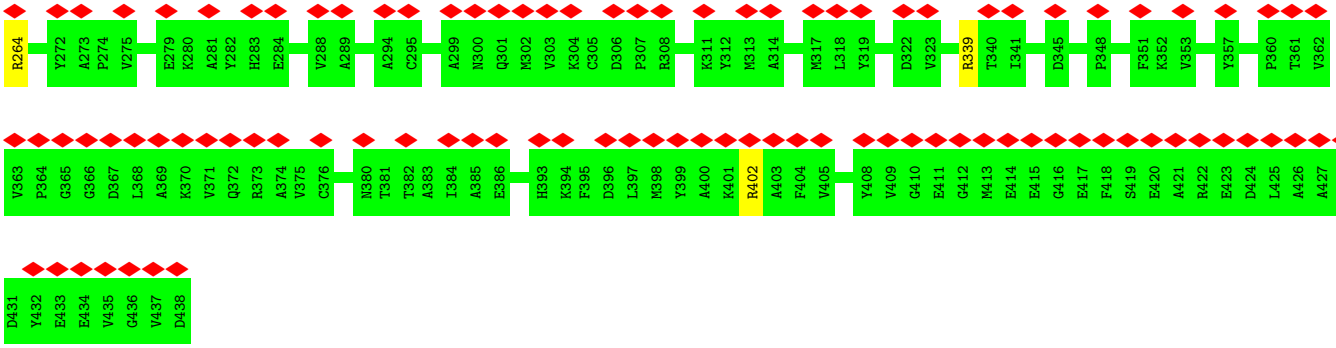


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain QI:

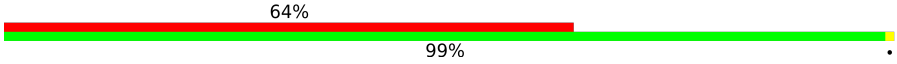


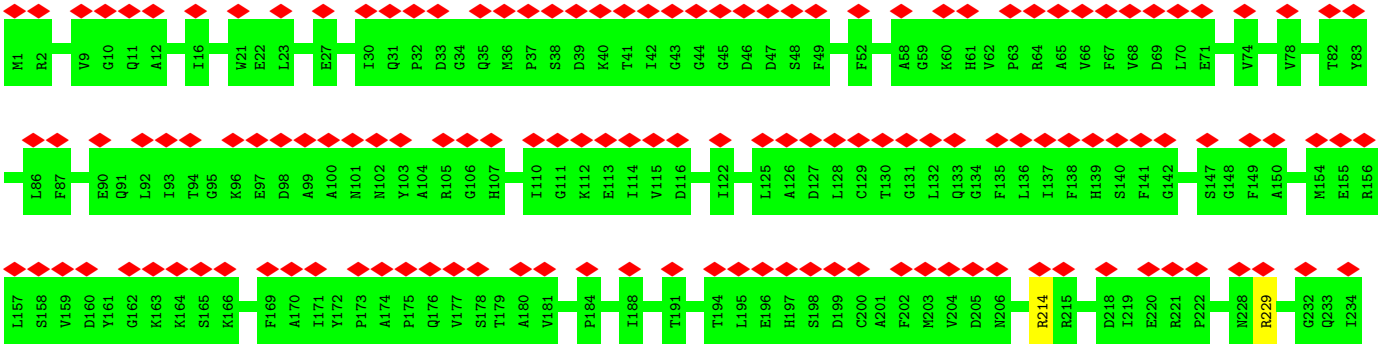




• Molecule 4: Detyrosinated tubulin alpha-3 chain

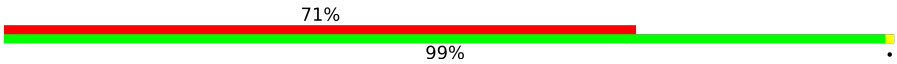
Chain QK:

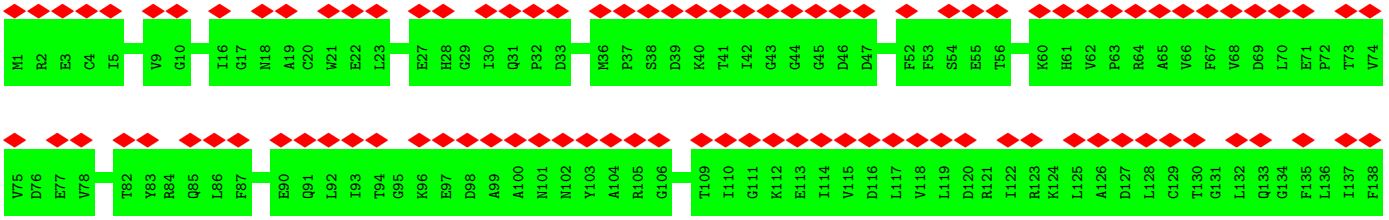


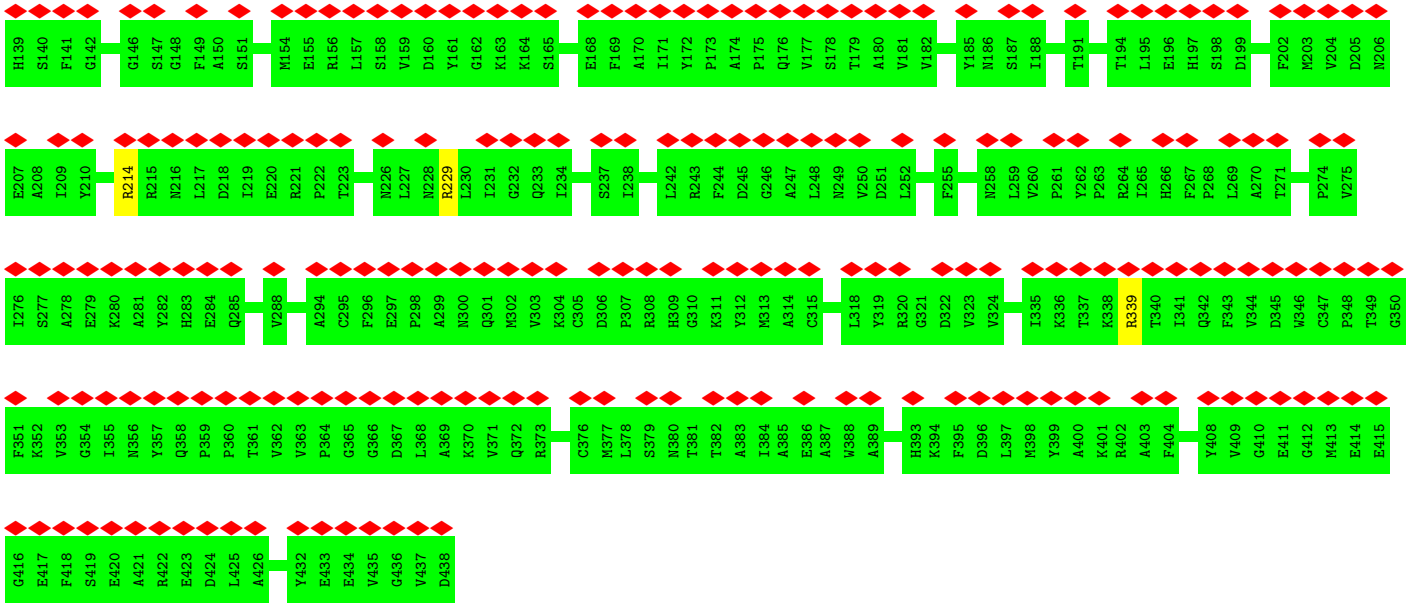


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain QM:

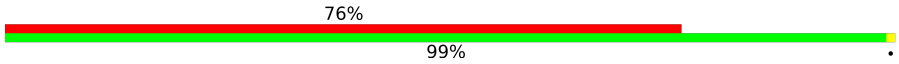


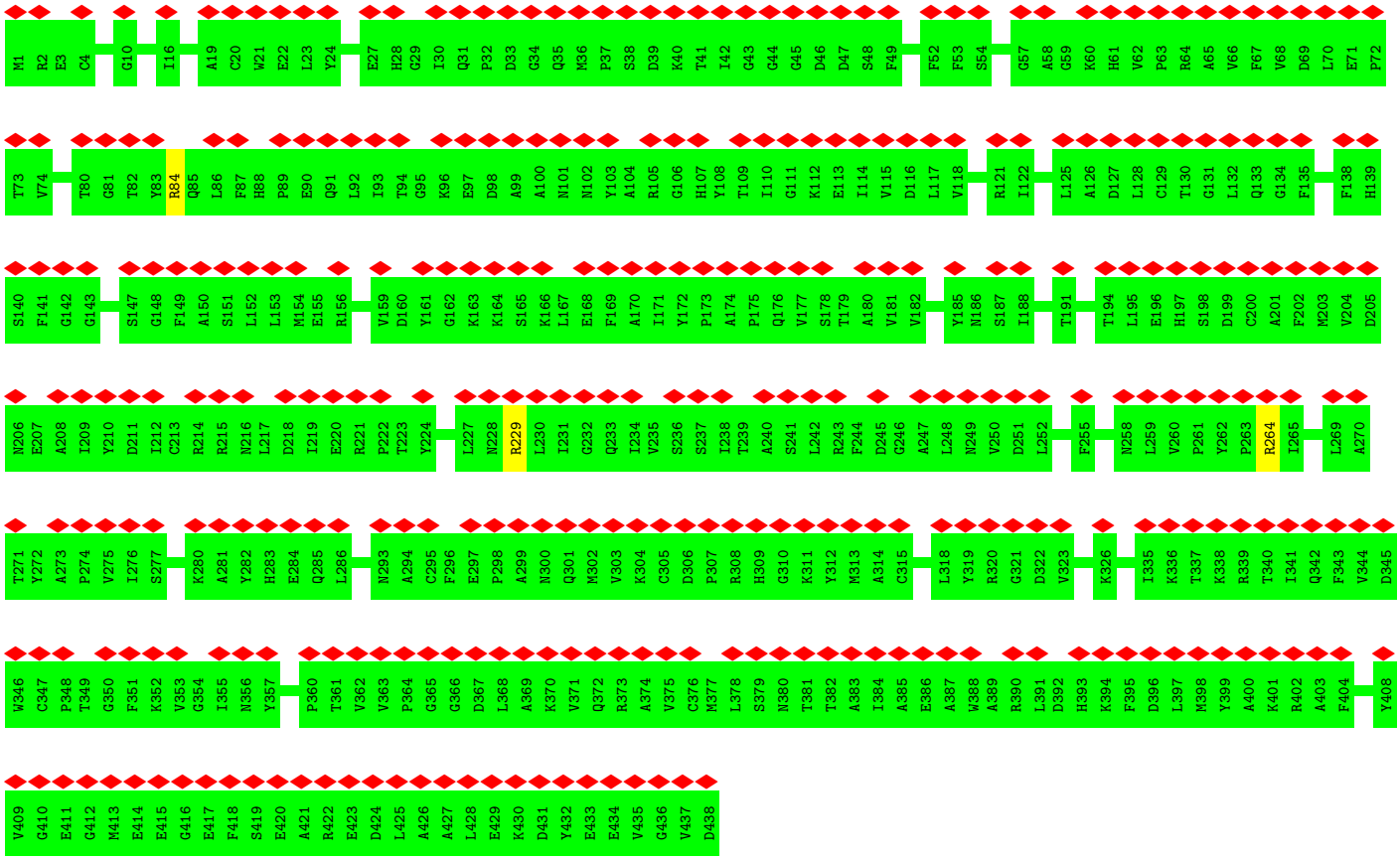




• Molecule 4: Detyrosinated tubulin alpha-3 chain

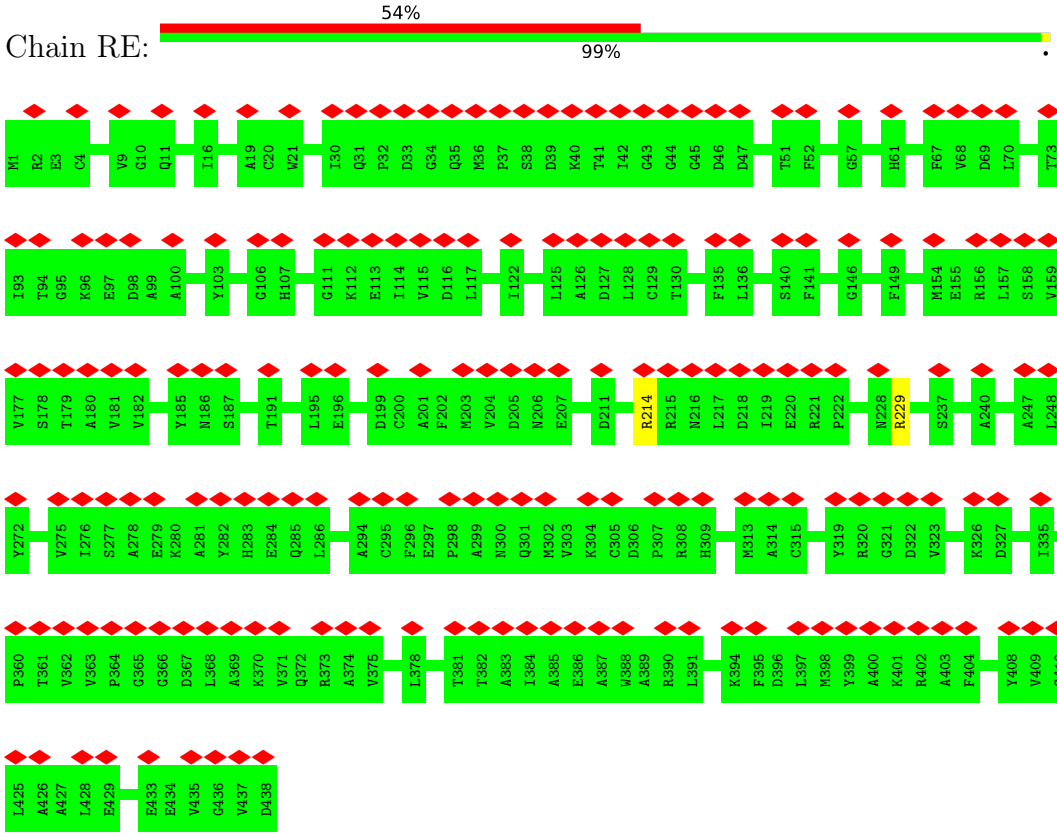
Chain RC:





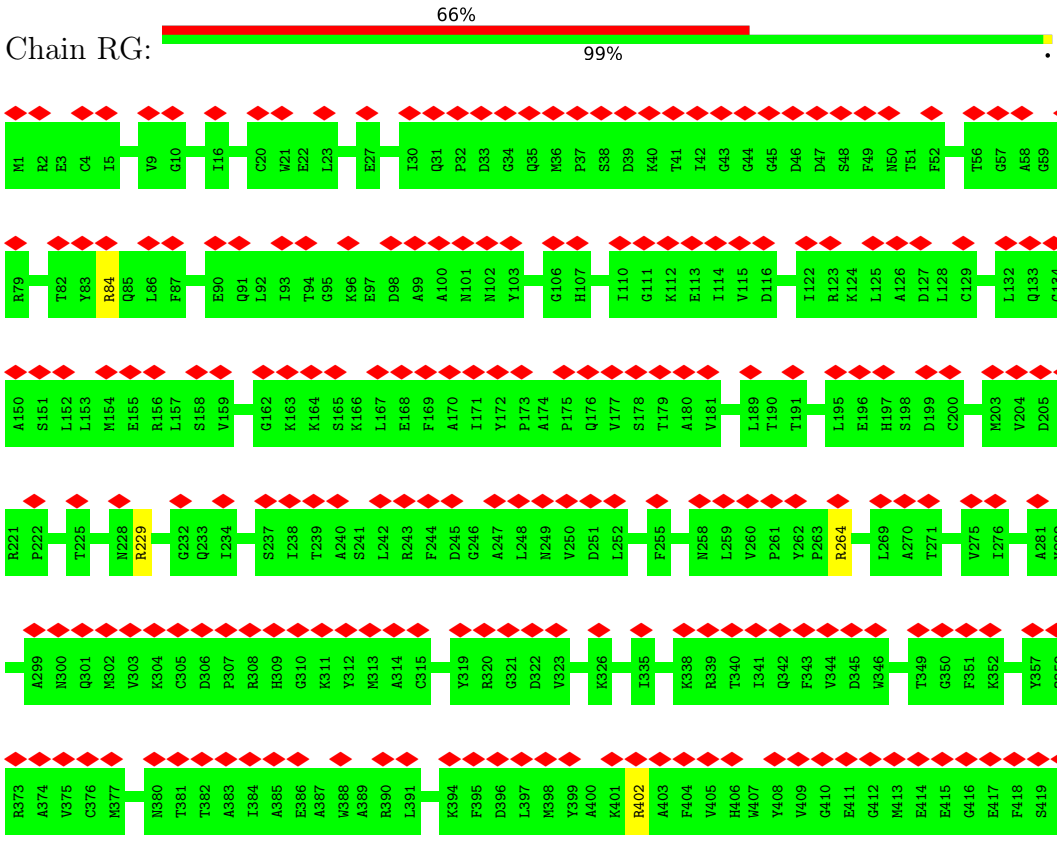
• Molecule 4: Detyrosinated tubulin alpha-3 chain

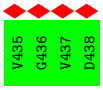
Chain RE:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

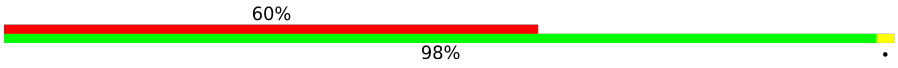
Chain RG:

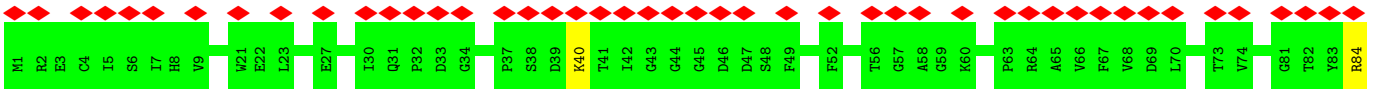


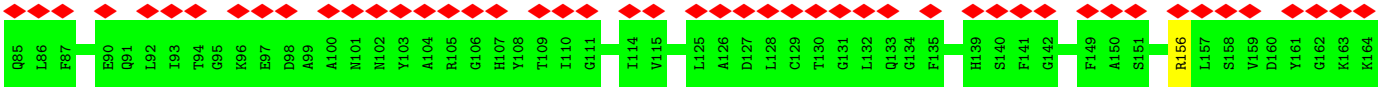


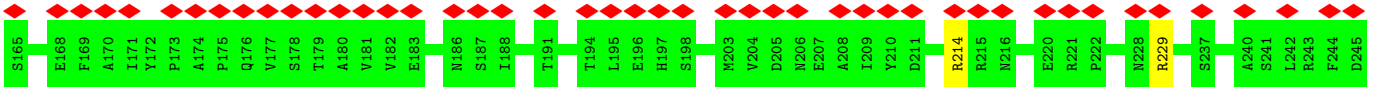
• Molecule 4: Detyrosinated tubulin alpha-3 chain

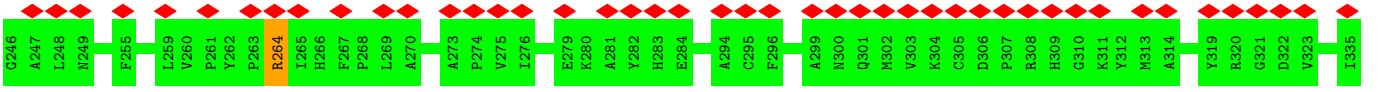
Chain RI:

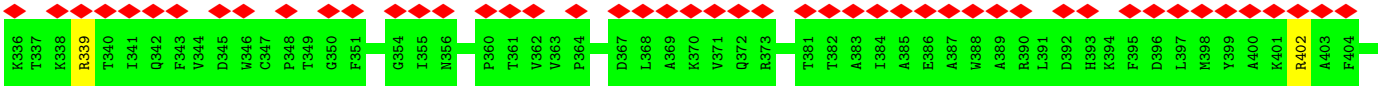


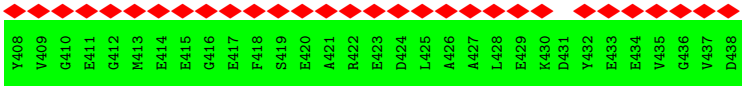






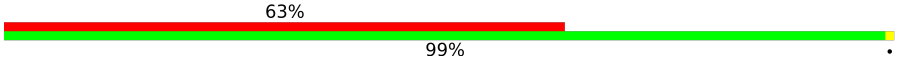


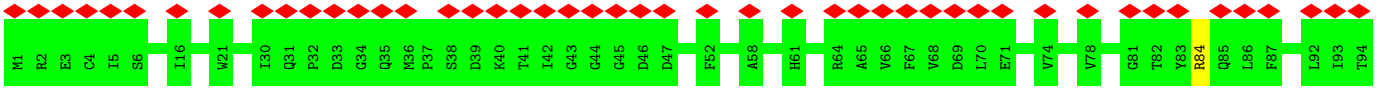


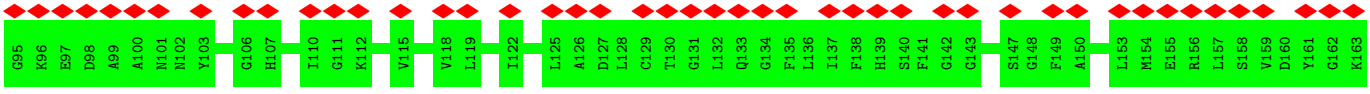


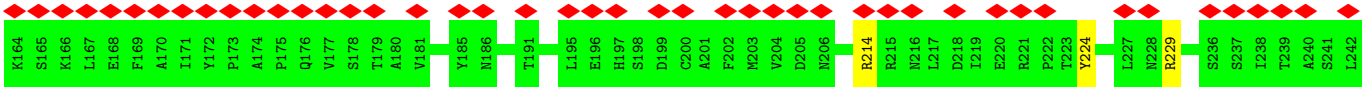
• Molecule 4: Detyrosinated tubulin alpha-3 chain

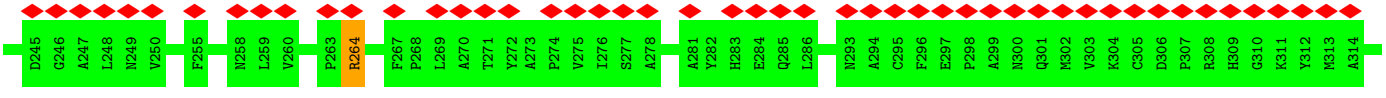
Chain RK:

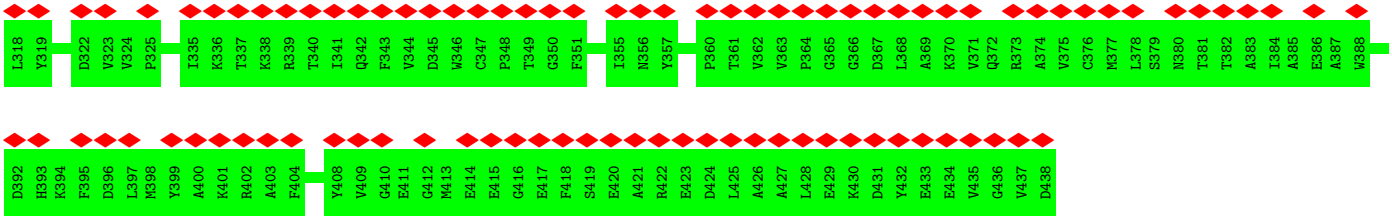






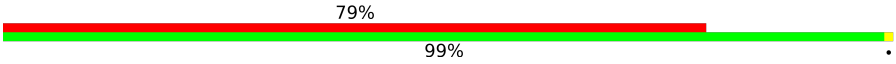


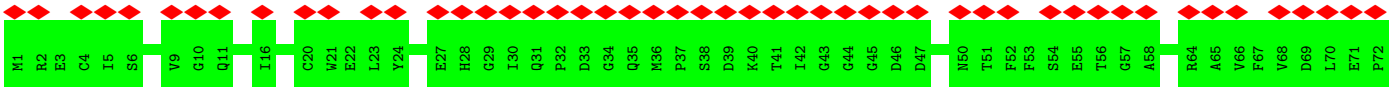


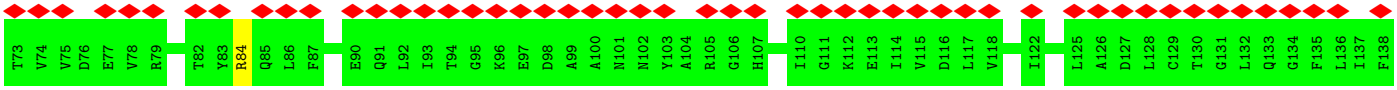


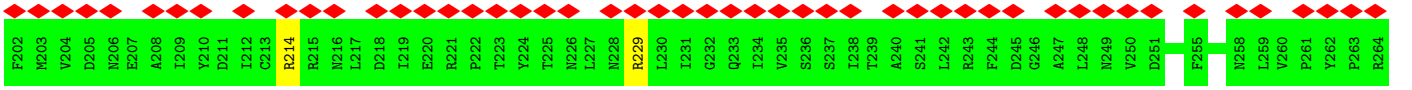
• Molecule 4: Detyrosinated tubulin alpha-3 chain

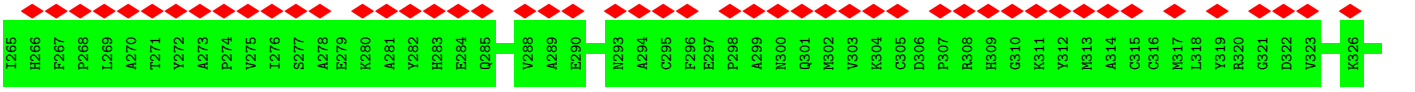
Chain RM:

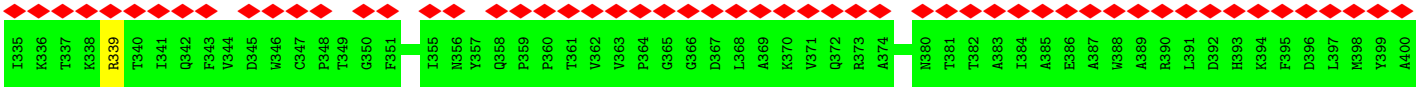


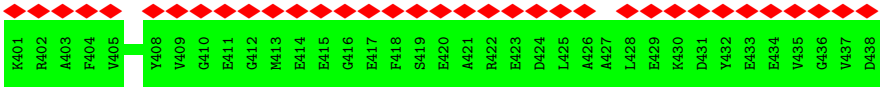






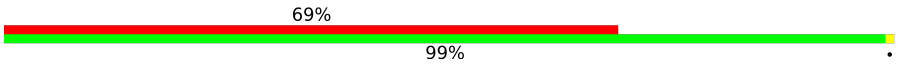


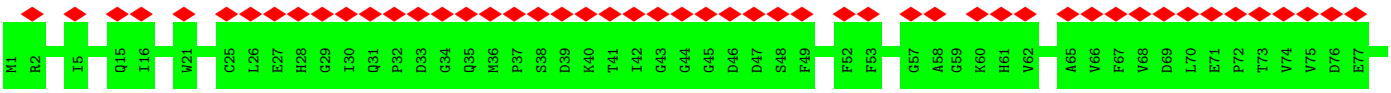


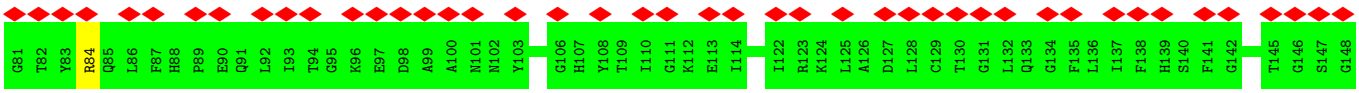


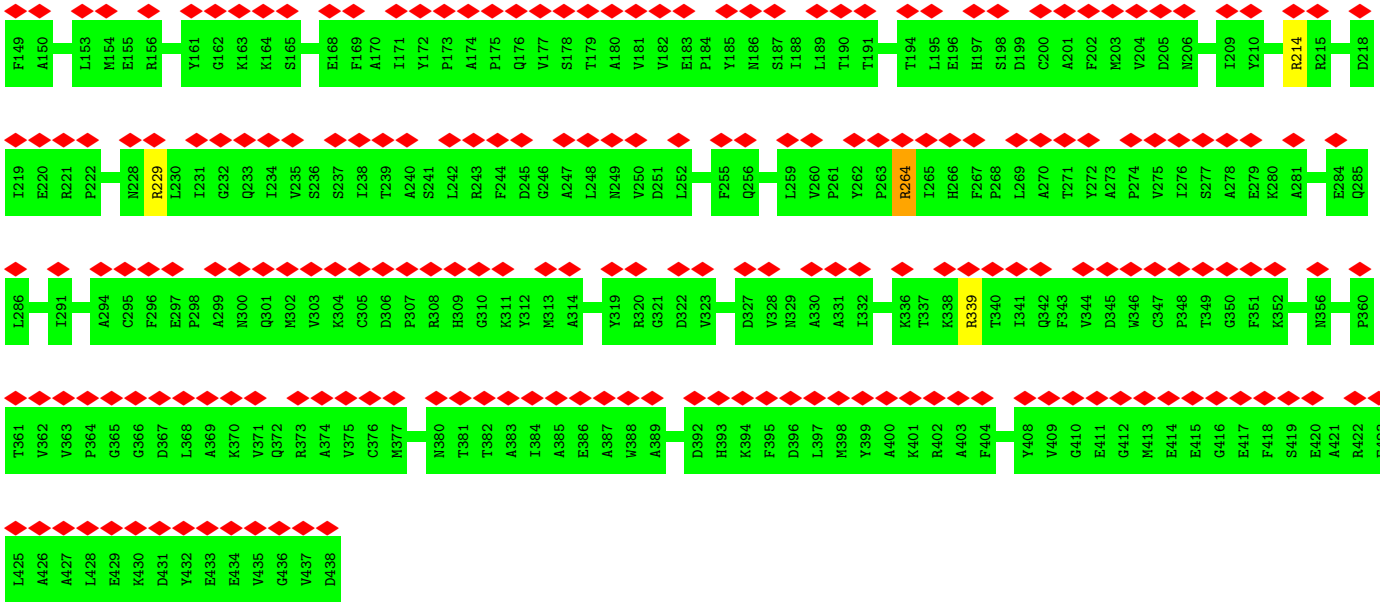
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain SC:



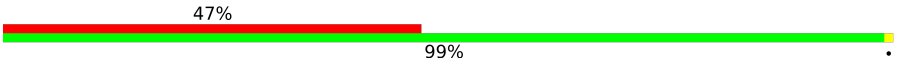


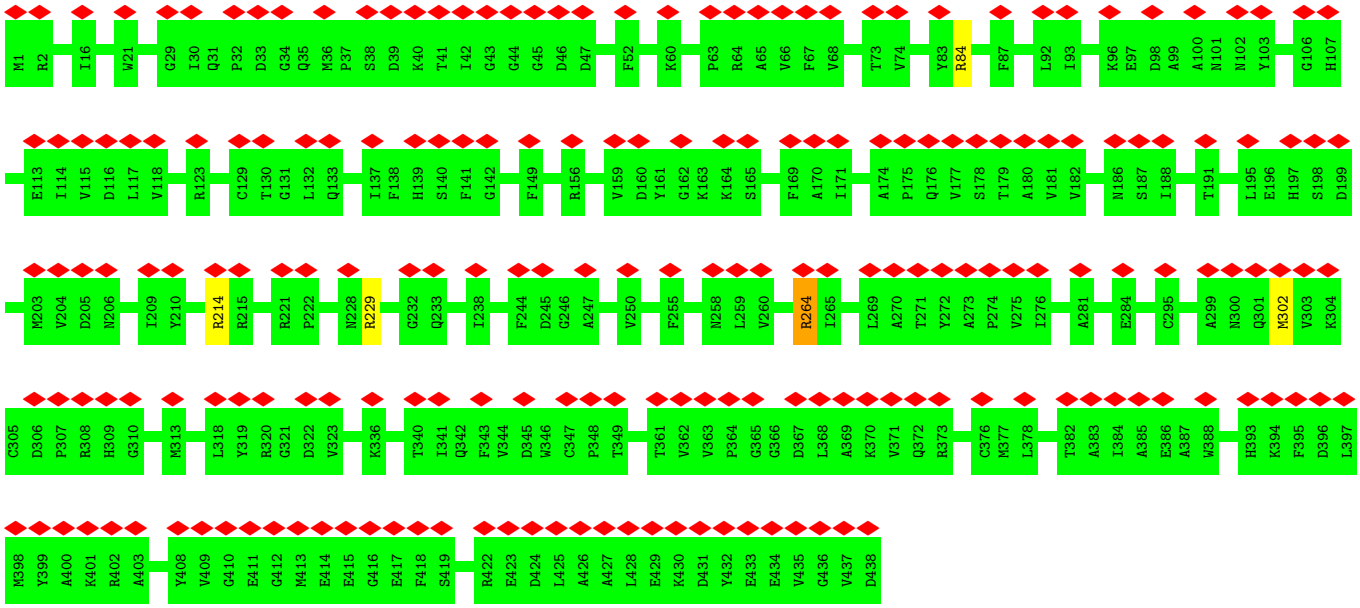




• Molecule 4: Detyrosinated tubulin alpha-3 chain

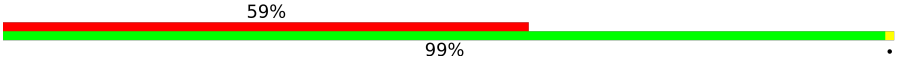
Chain SE:

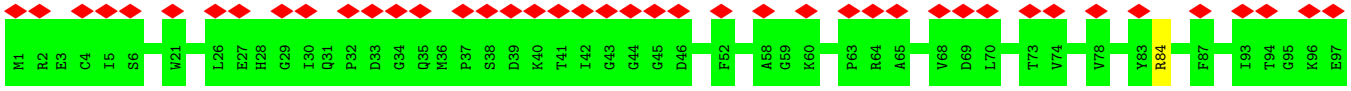


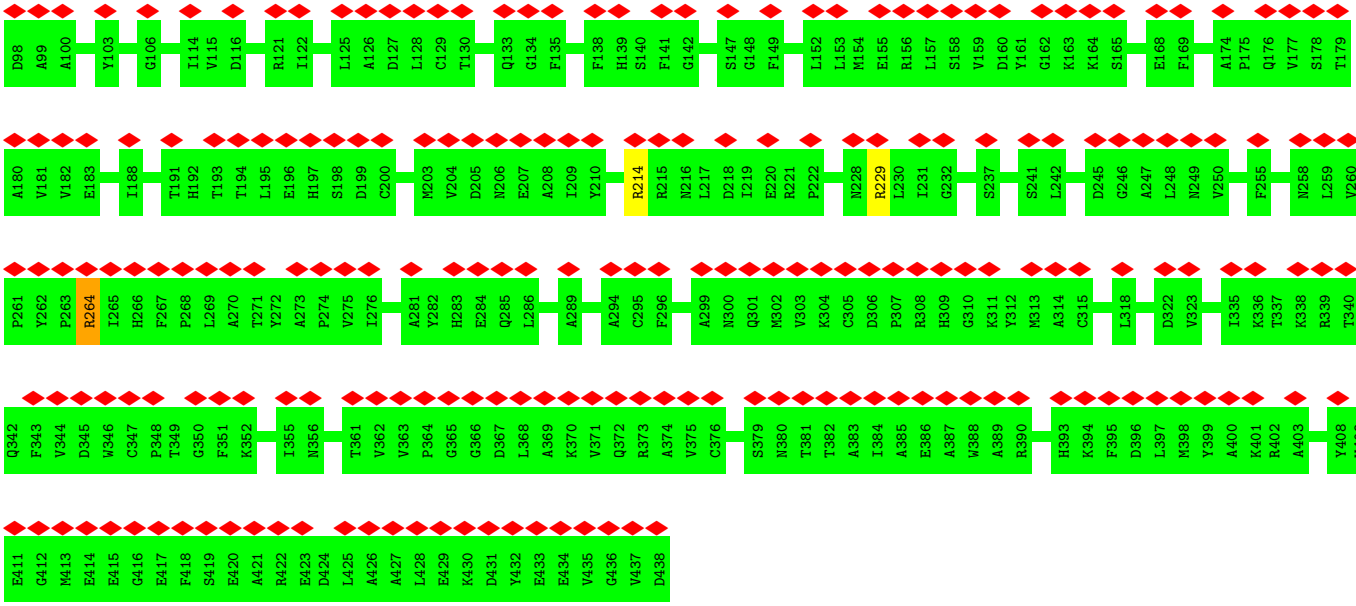


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain SG:

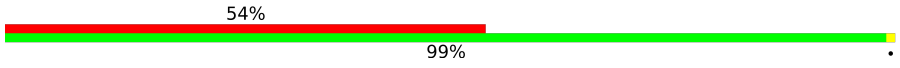


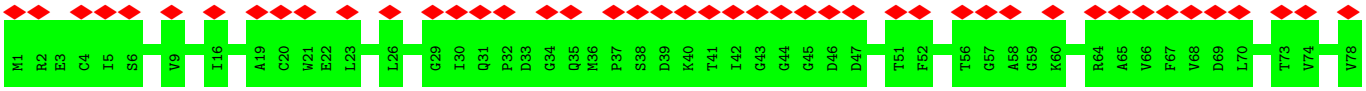




• Molecule 4: Detyrosinated tubulin alpha-3 chain

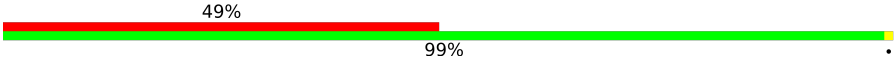
Chain SI:

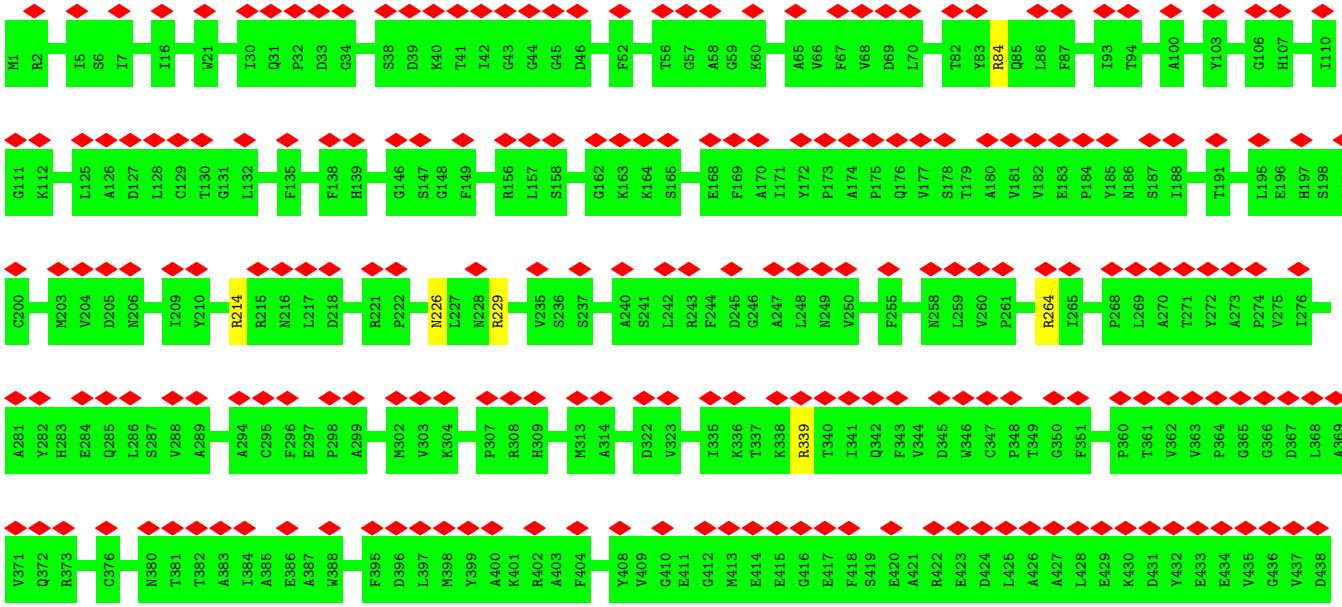




• Molecule 4: Detyrosinated tubulin alpha-3 chain

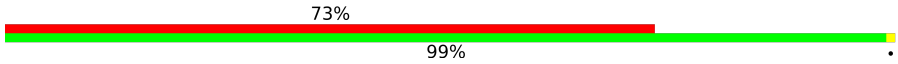
Chain SK:

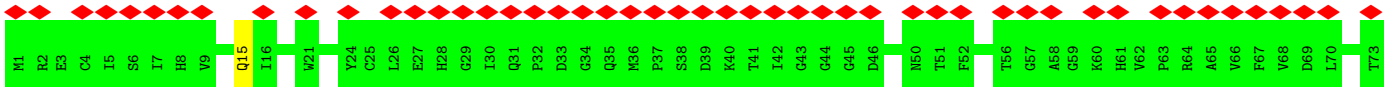


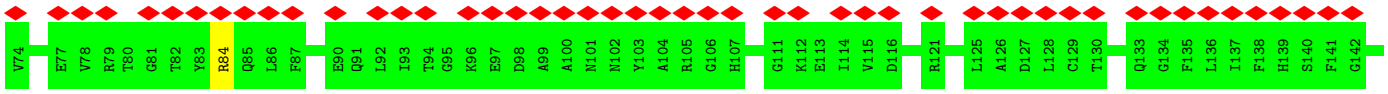


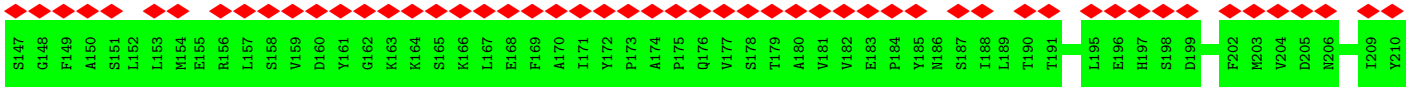
• Molecule 4: Detyrosinated tubulin alpha-3 chain

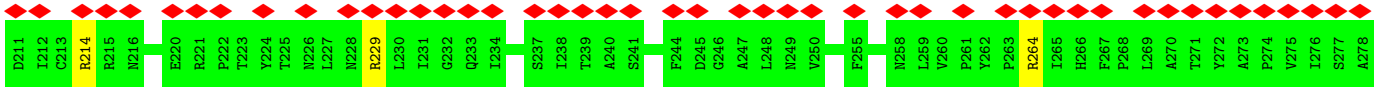
Chain SM:

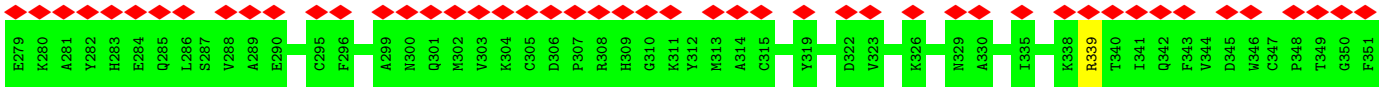


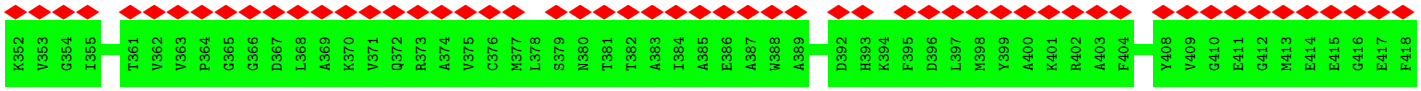


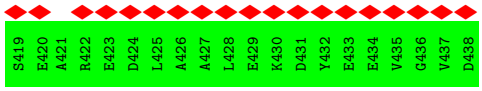






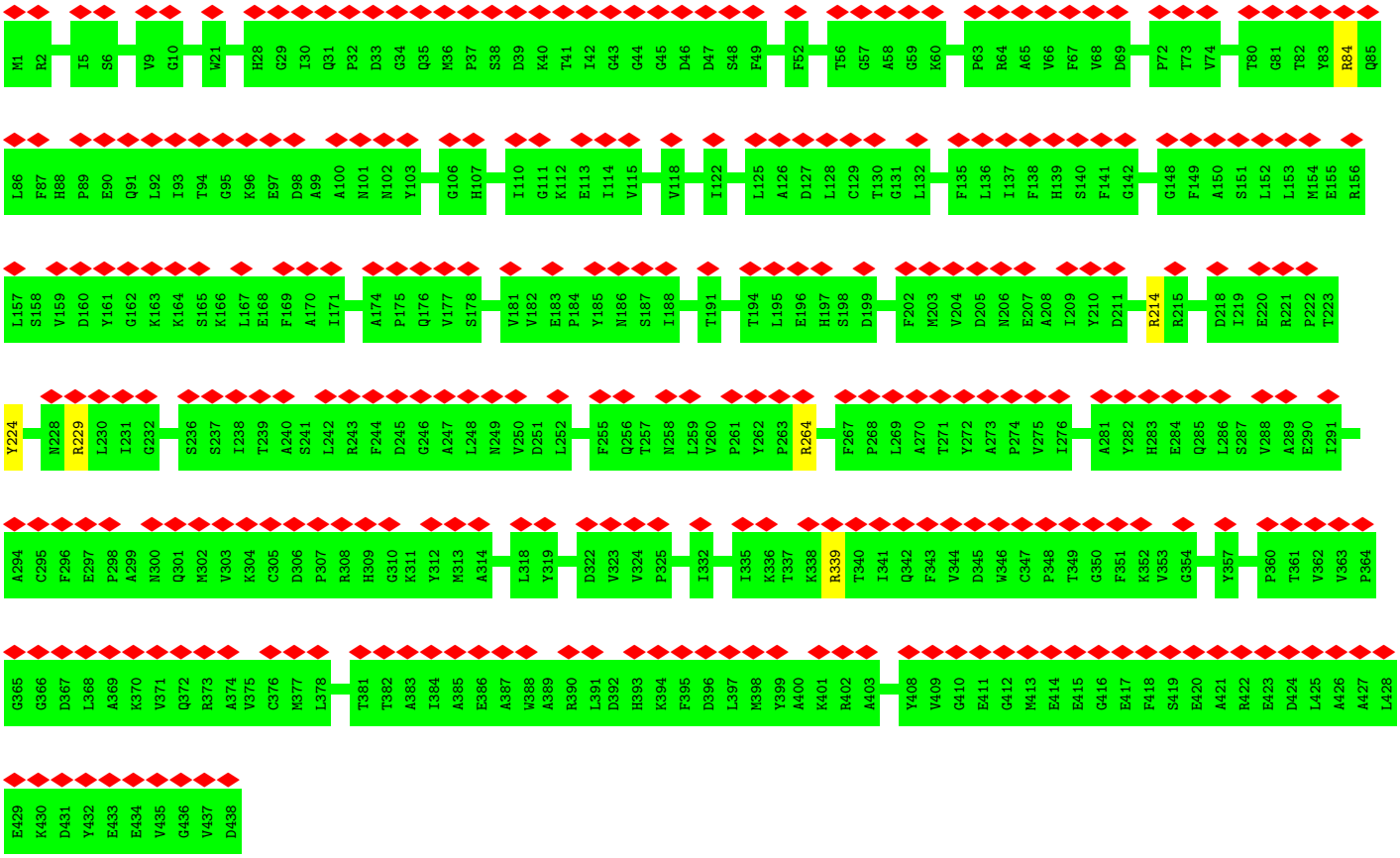






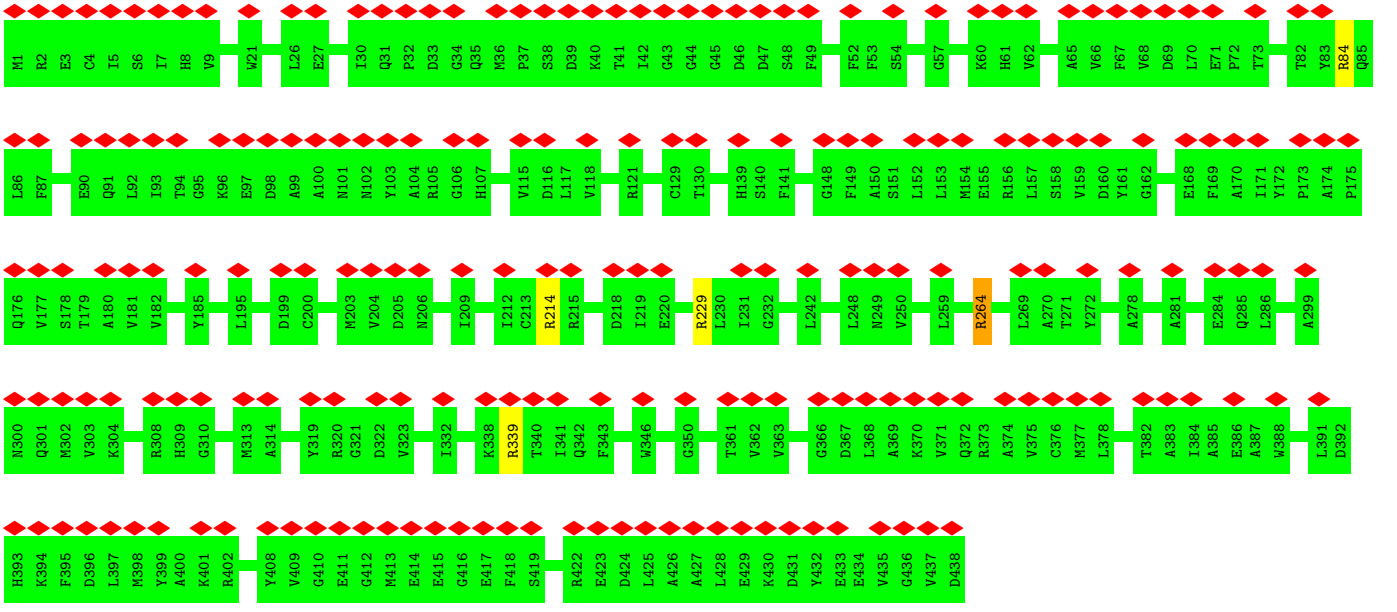
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain TC:



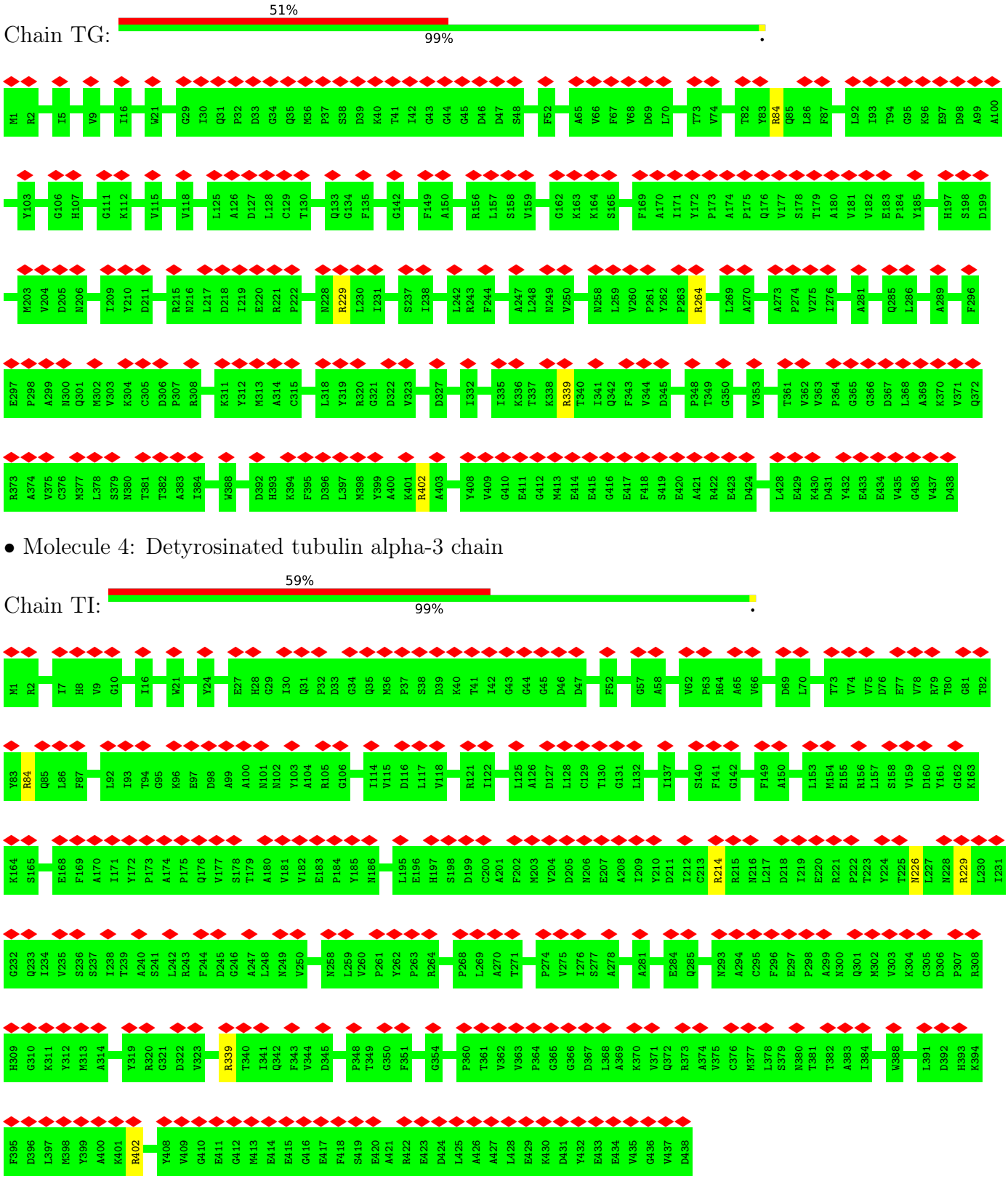
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain TE:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain TG:

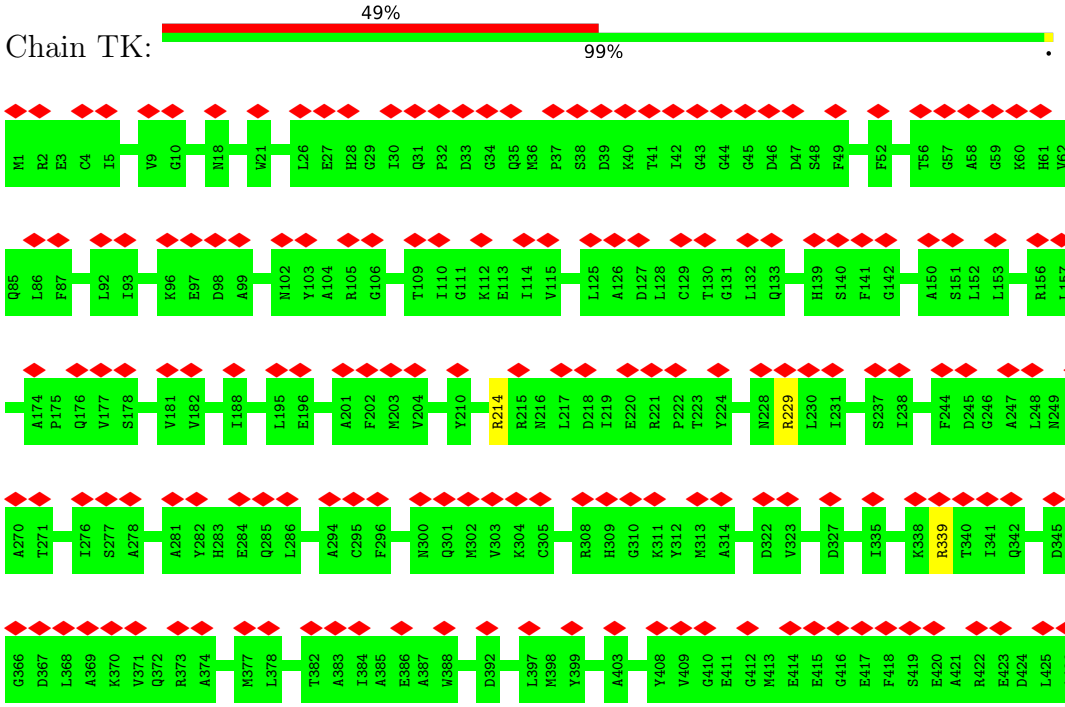


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain TI:

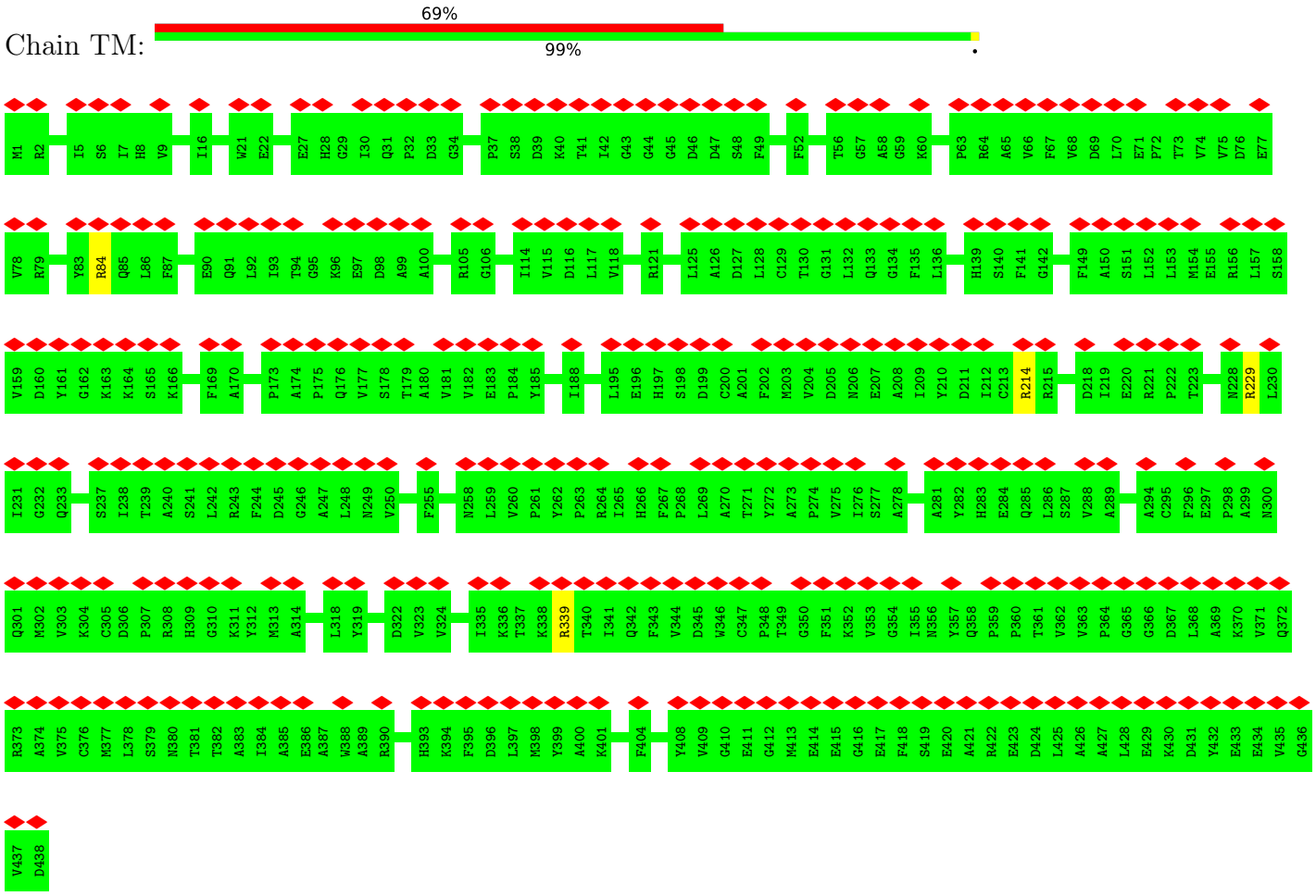
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain TK:



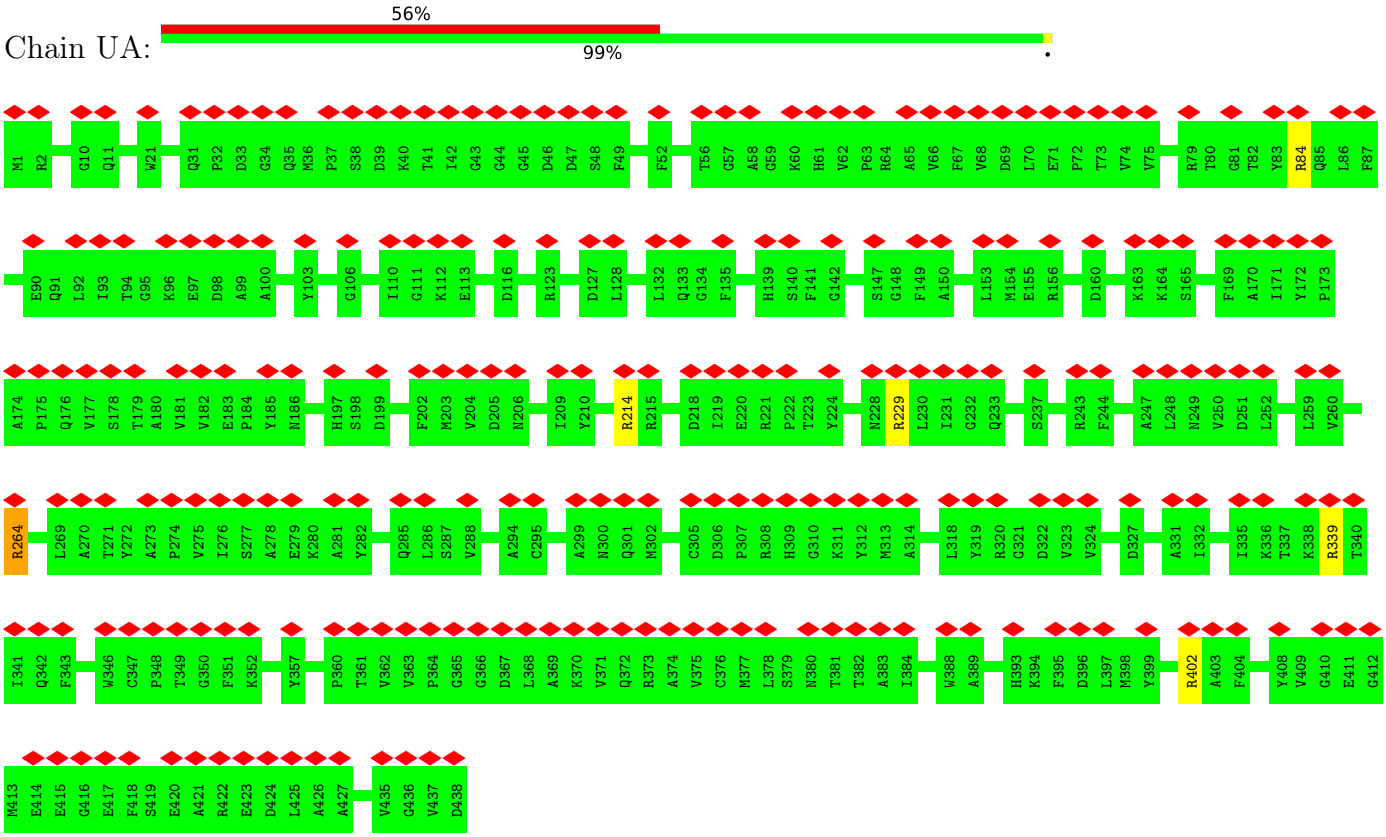
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain TM:



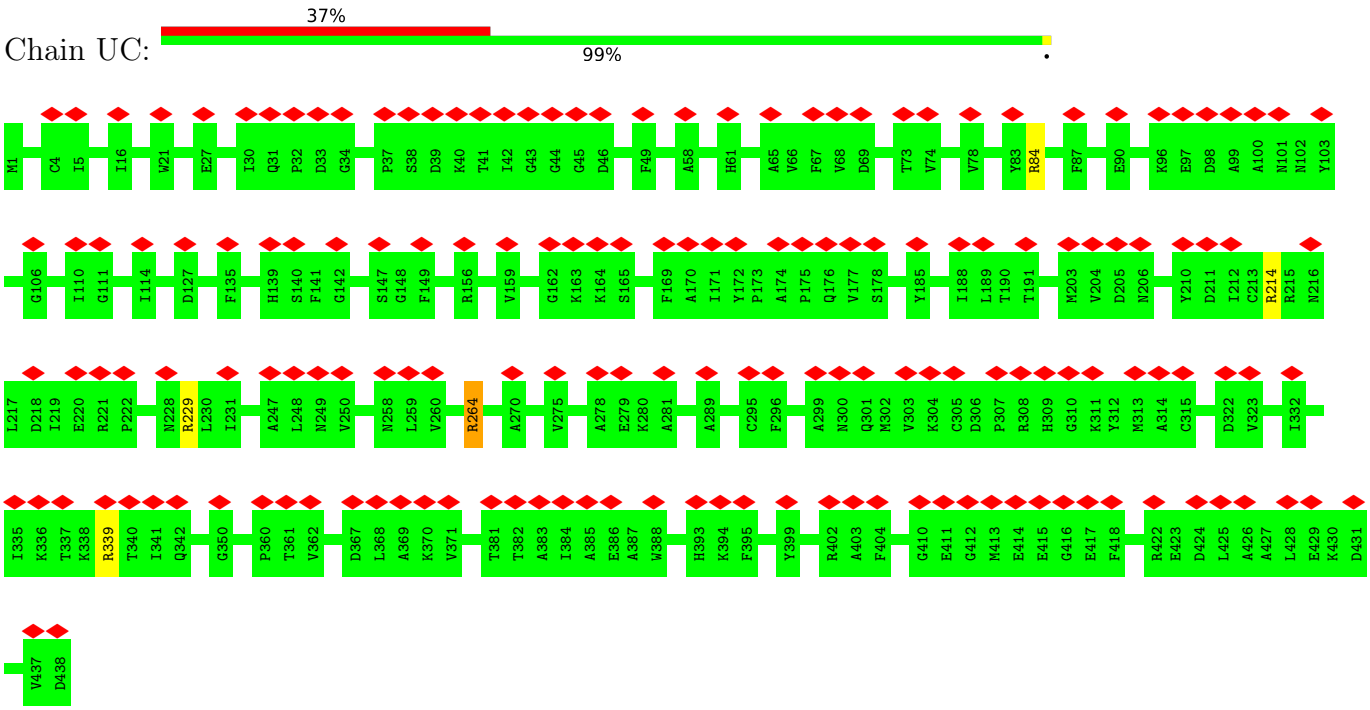
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain UA:



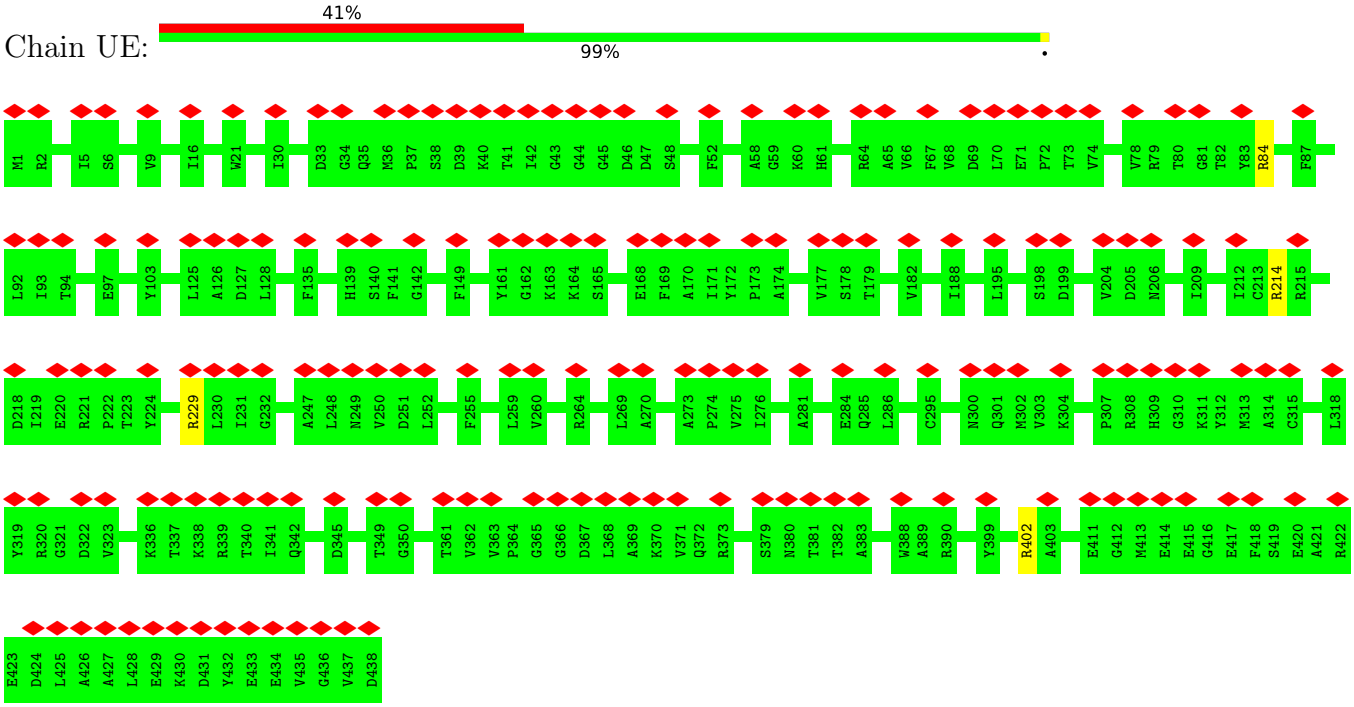
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain UC:



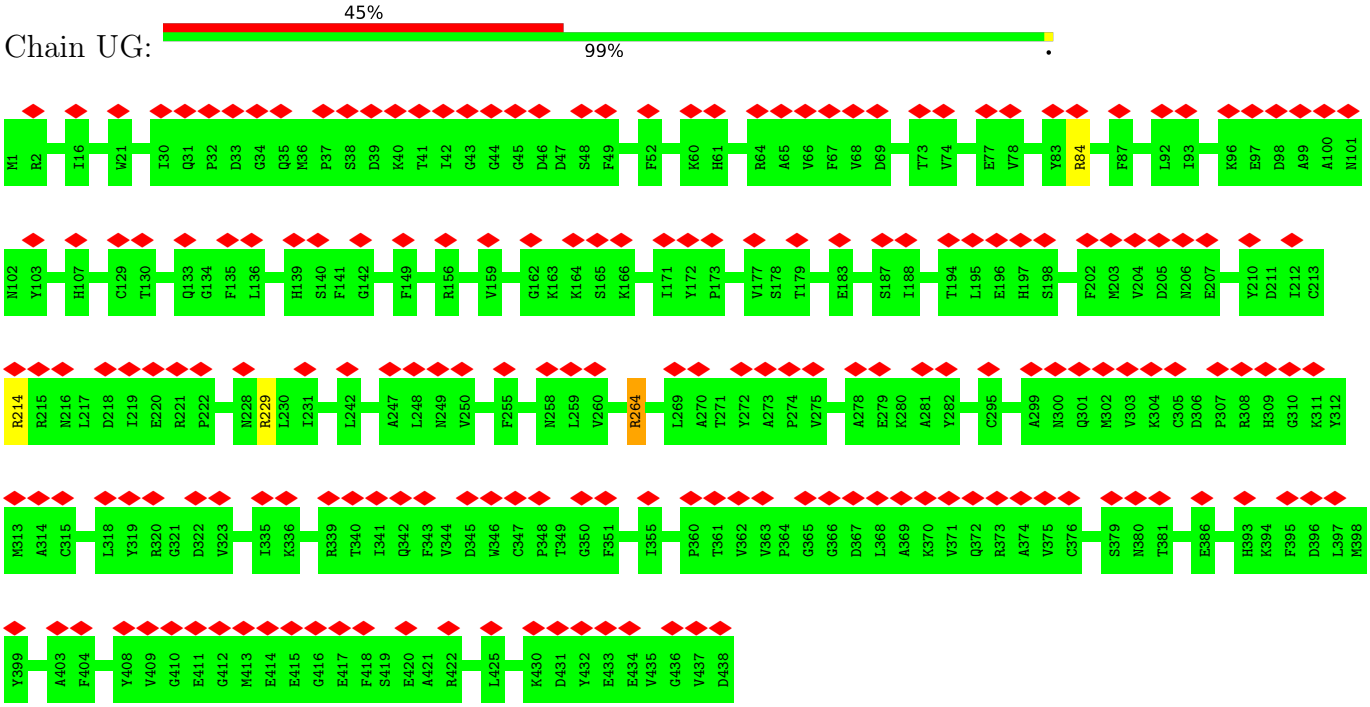
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain UE:



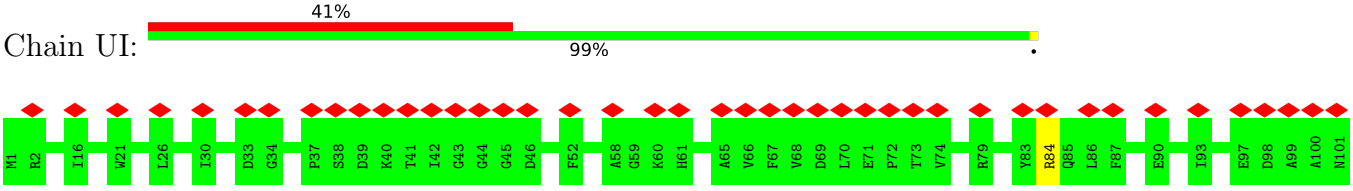
• Molecule 4: Detyrosinated tubulin alpha-3 chain

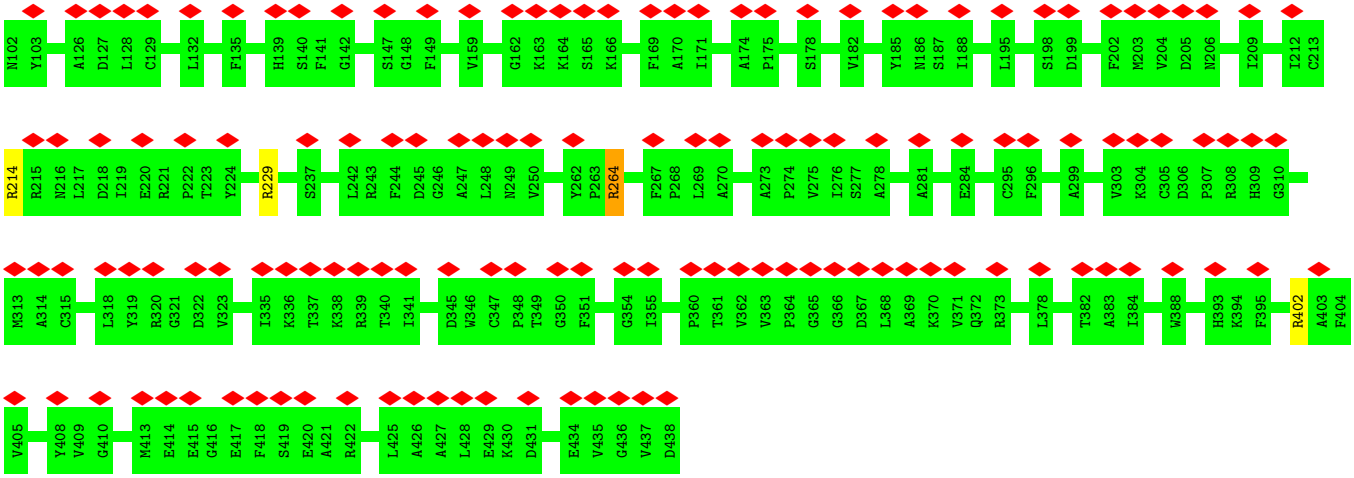
Chain UG:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

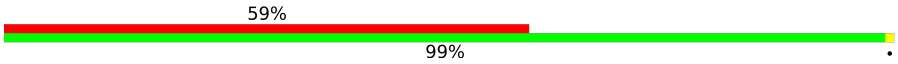
Chain UI:

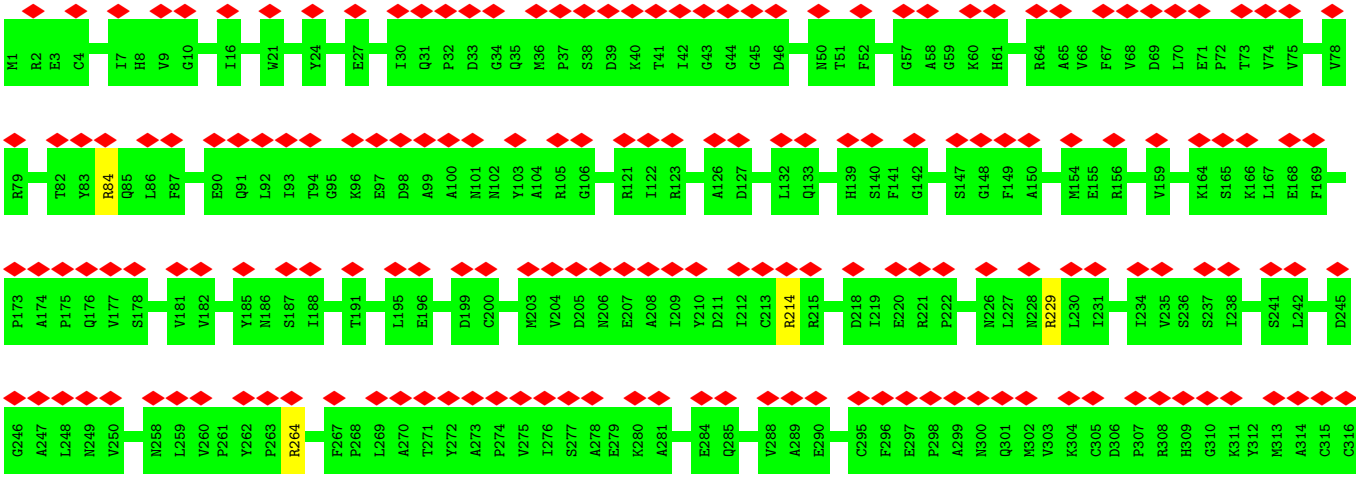




• Molecule 4: Detyrosinated tubulin alpha-3 chain

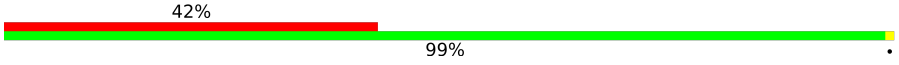
Chain UK:

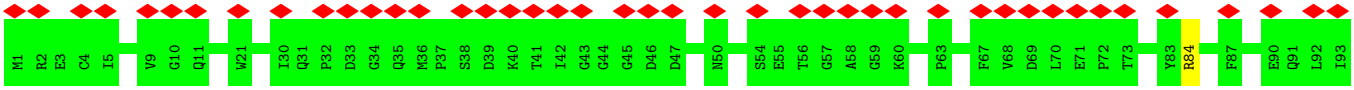


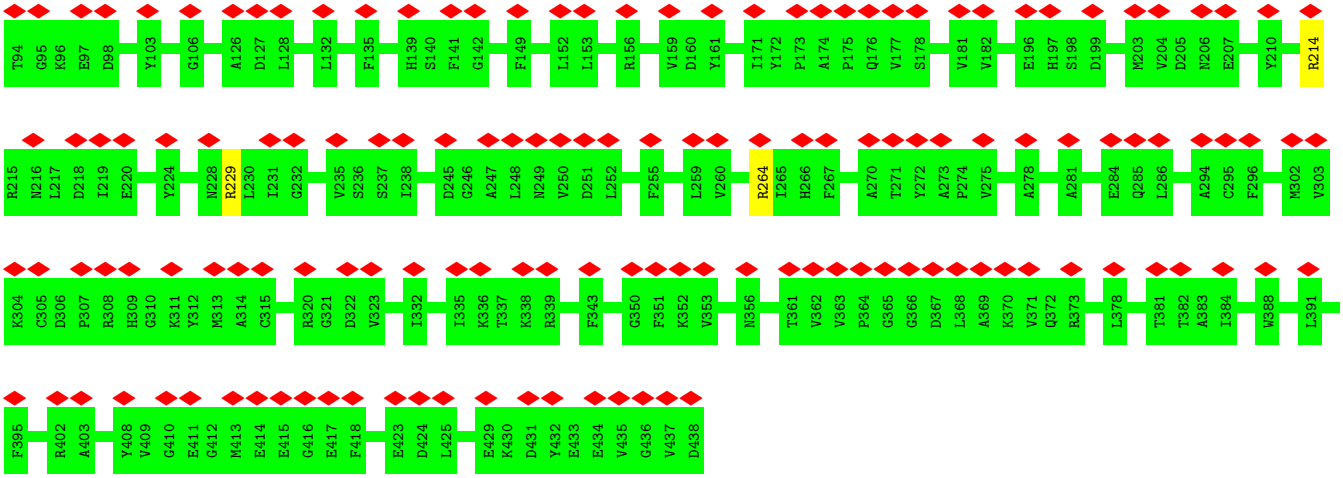


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain VA:

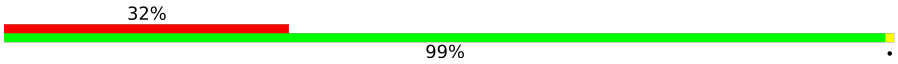


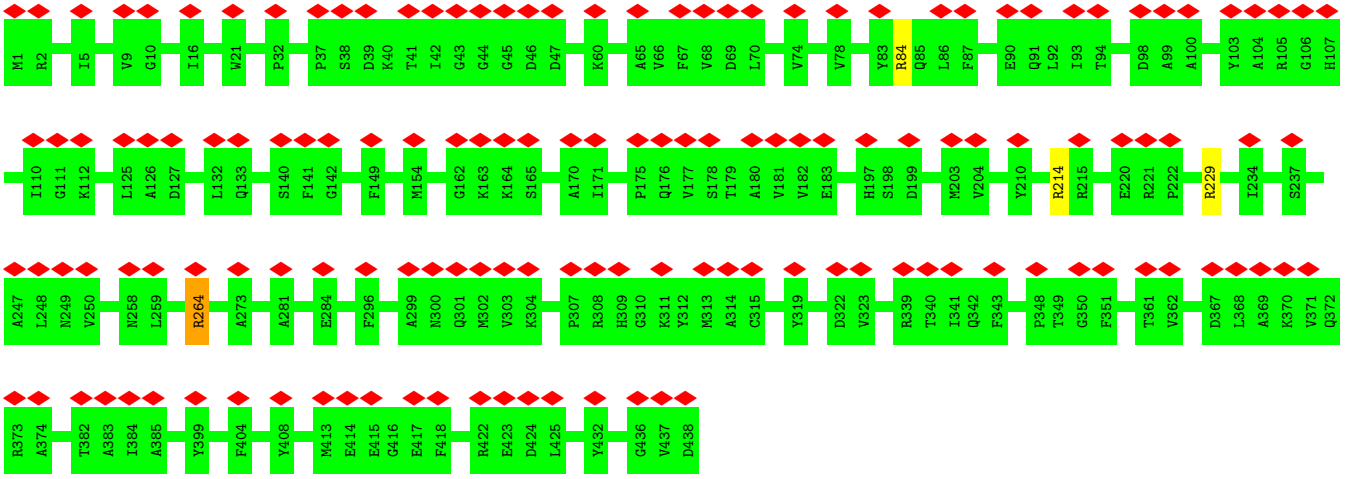




• Molecule 4: Detyrosinated tubulin alpha-3 chain

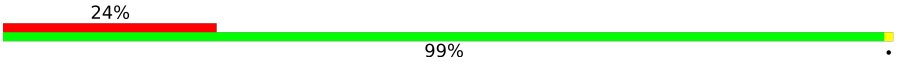
Chain VC:

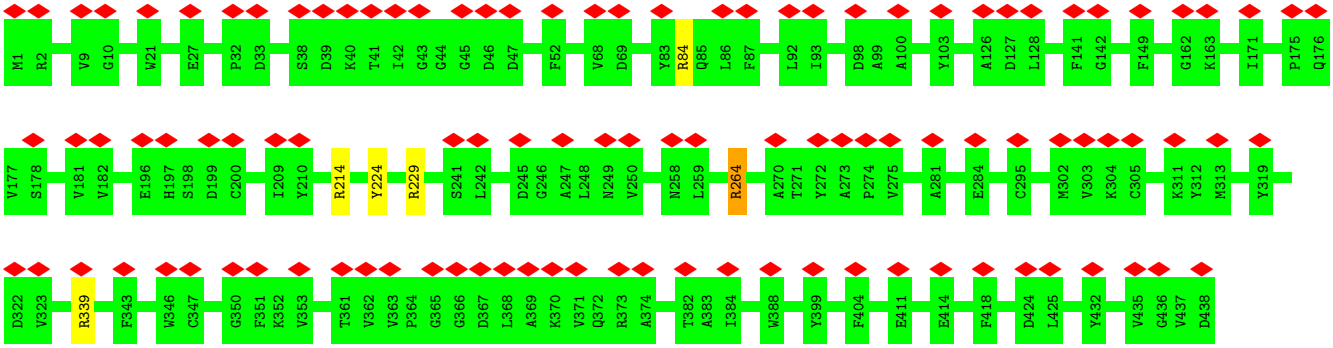




• Molecule 4: Detyrosinated tubulin alpha-3 chain

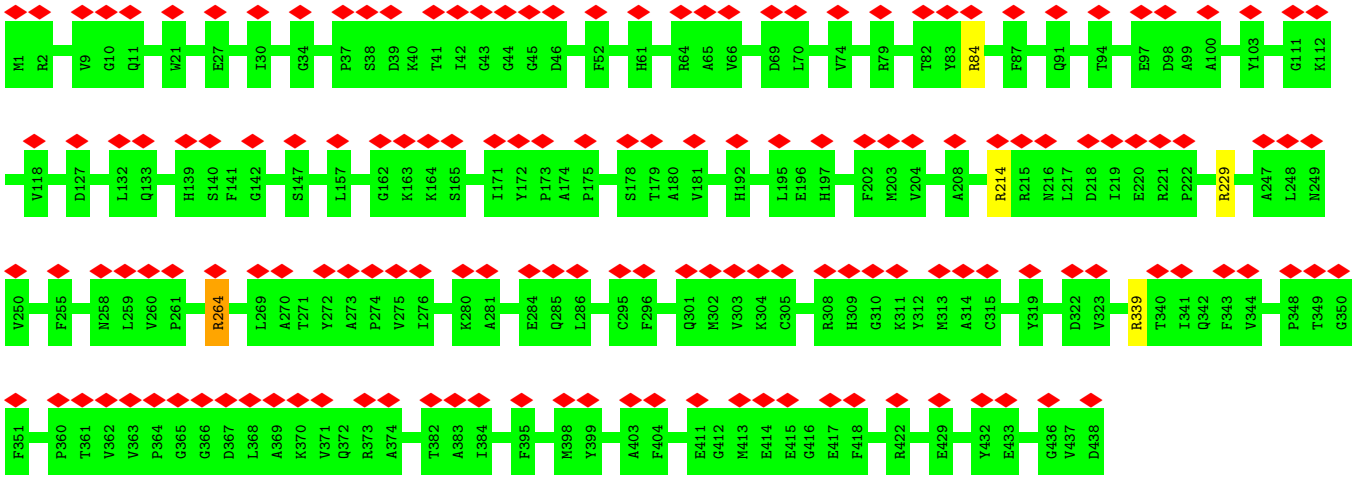
Chain VE:





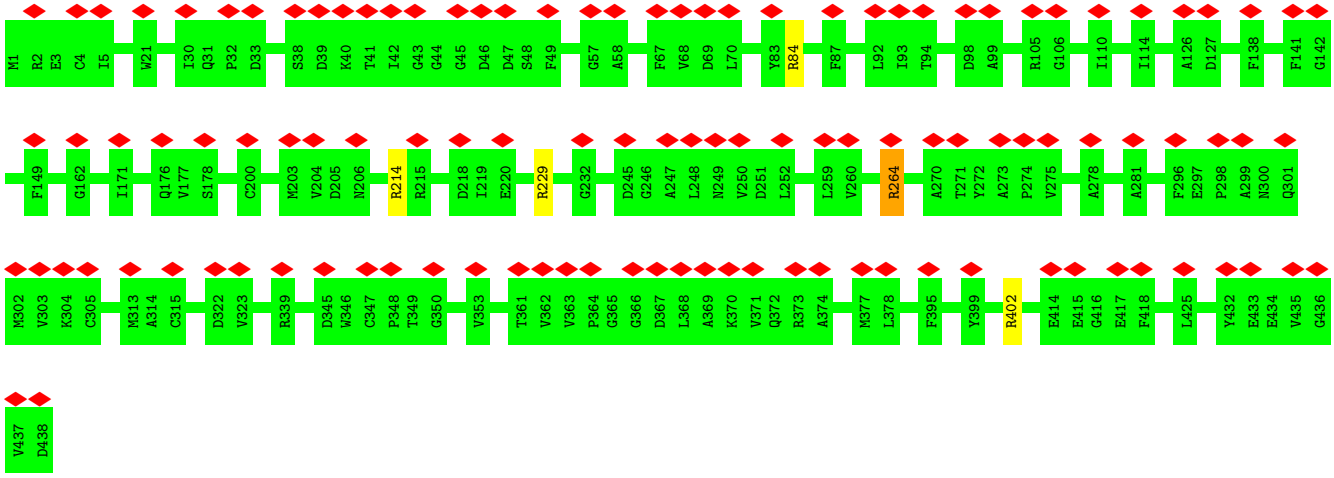
• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain VG:



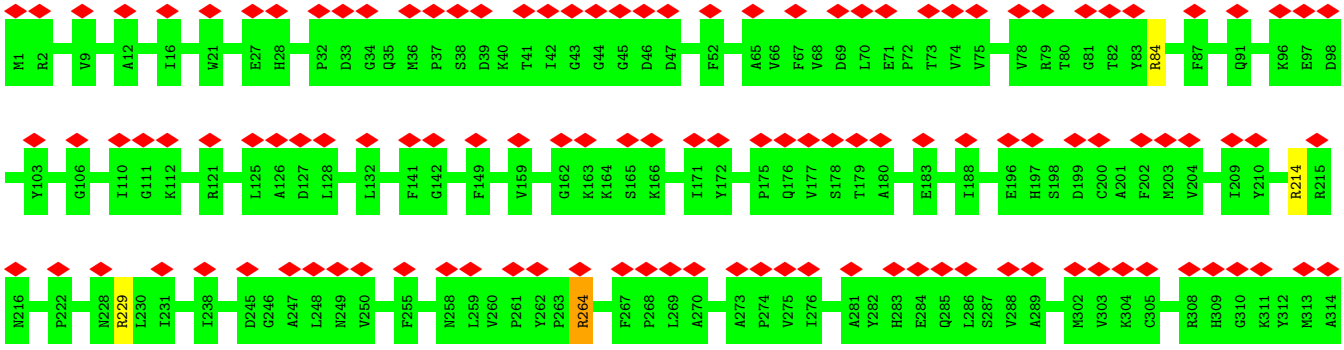
• Molecule 4: Detyrosinated tubulin alpha-3 chain

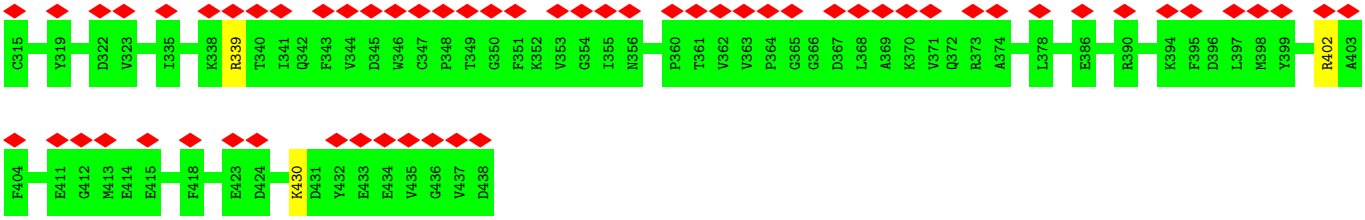
Chain VI:



• Molecule 4: Detyrosinated tubulin alpha-3 chain

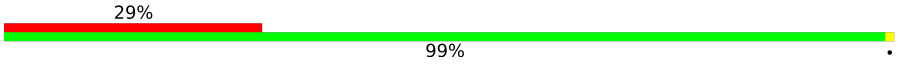
Chain VK:

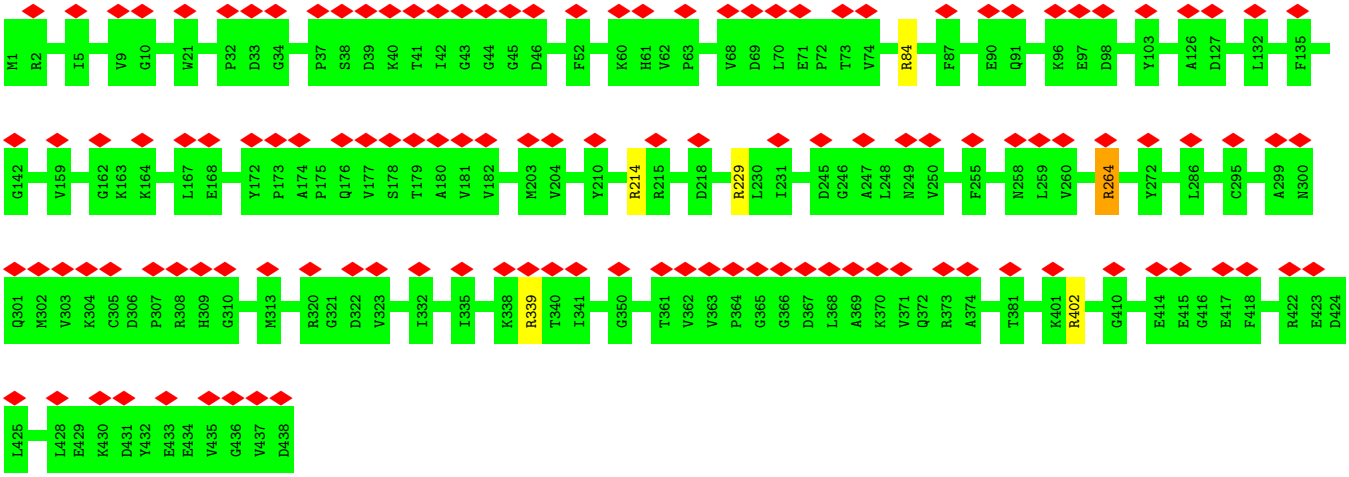




• Molecule 4: Detyrosinated tubulin alpha-3 chain

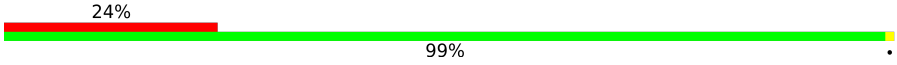
Chain WA:

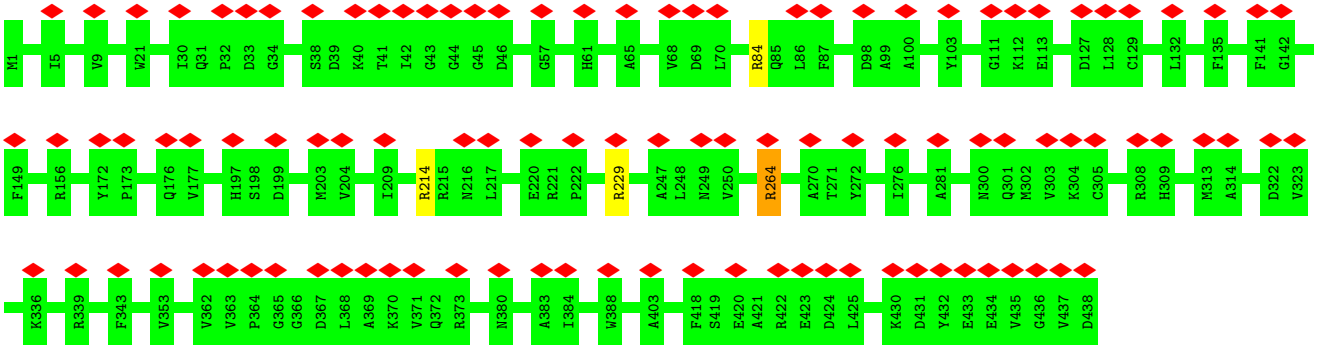




• Molecule 4: Detyrosinated tubulin alpha-3 chain

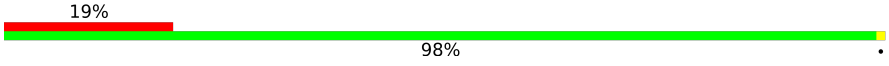
Chain WC:

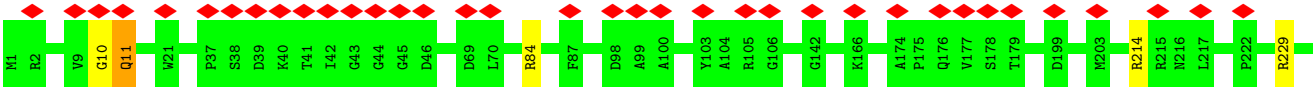


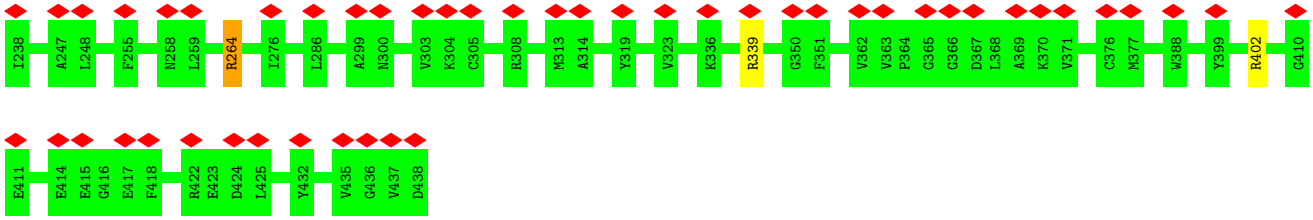


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain WE:

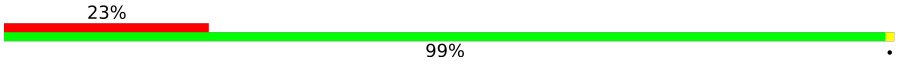


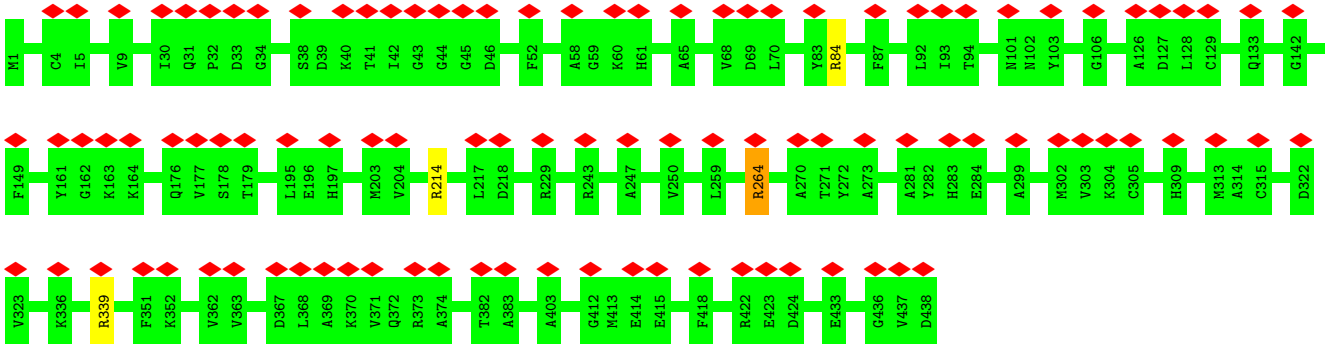




• Molecule 4: Detyrosinated tubulin alpha-3 chain

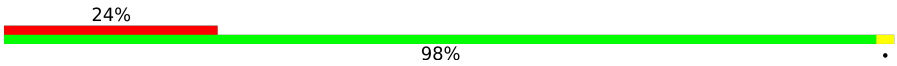
Chain WG:

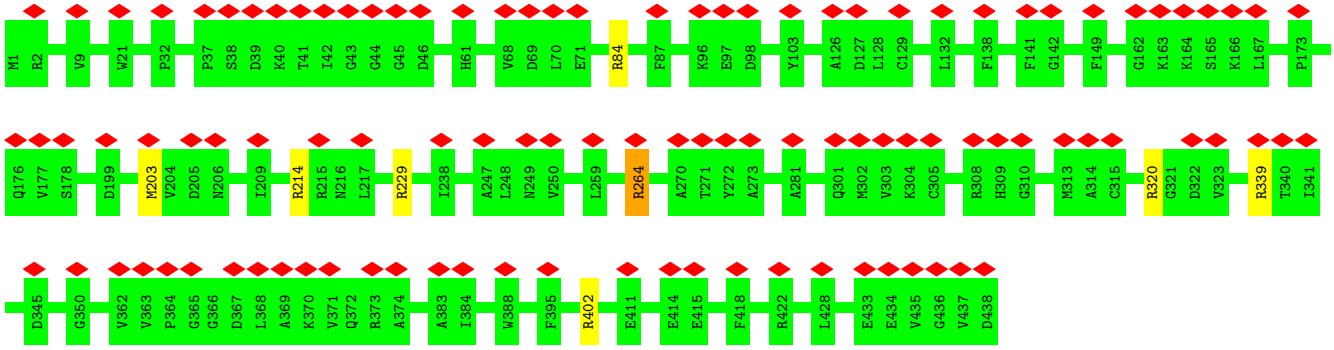




• Molecule 4: Detyrosinated tubulin alpha-3 chain

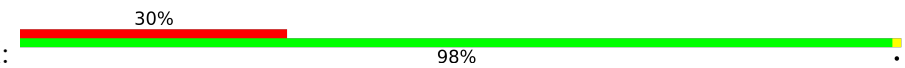
Chain WI:

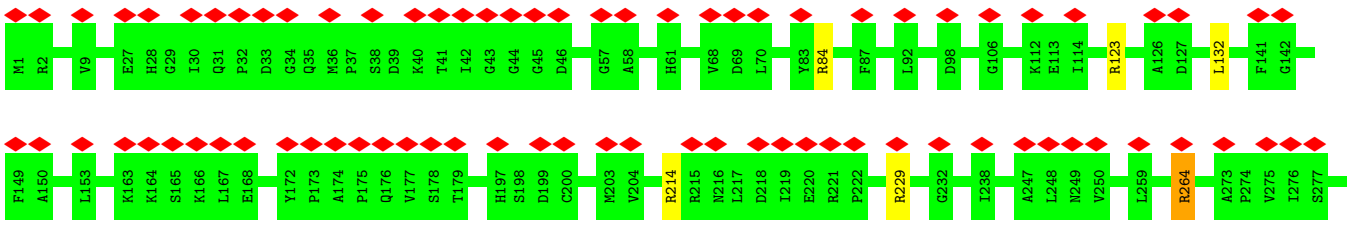


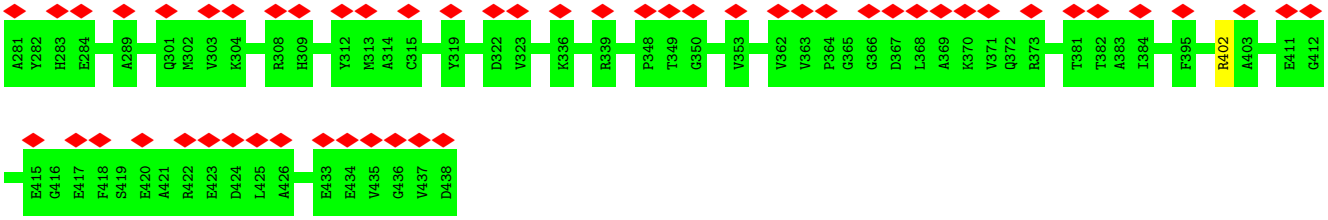


• Molecule 4: Detyrosinated tubulin alpha-3 chain

Chain WK:

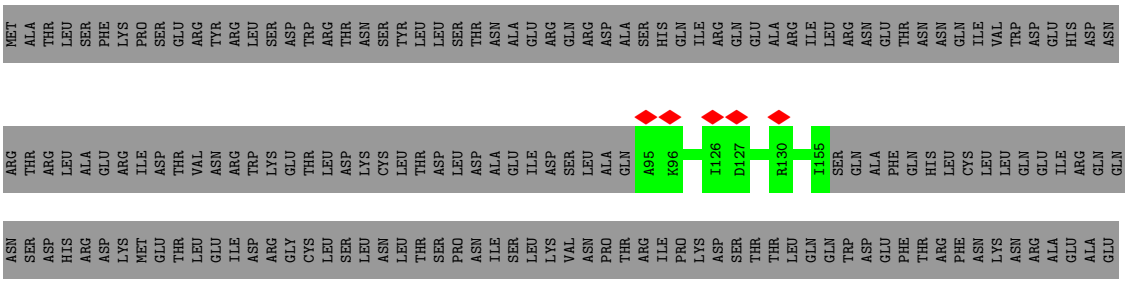






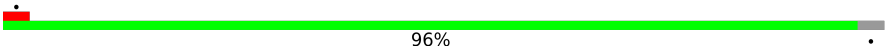
• Molecule 5: Tektin-2

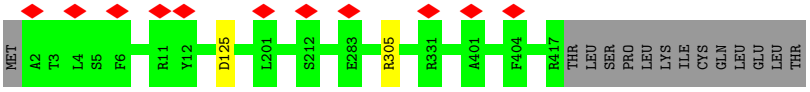
Chain B1:



• Molecule 5: Tektin-2

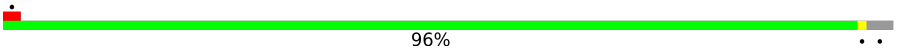
Chain B2:

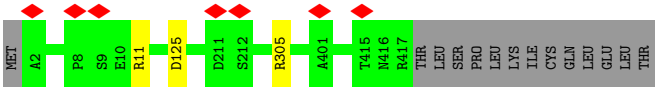




• Molecule 5: Tektin-2

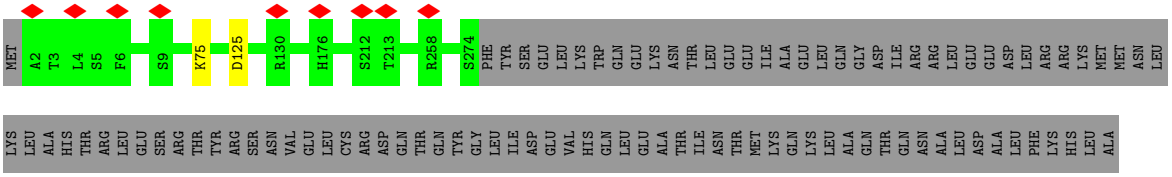
Chain B3:

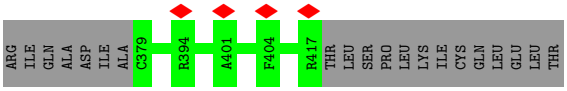




• Molecule 5: Tektin-2

Chain B4:



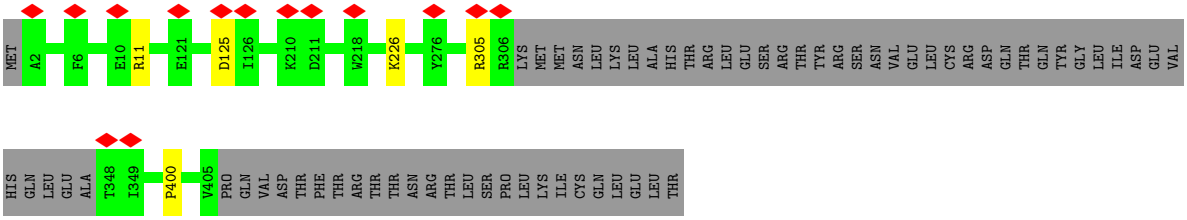


• Molecule 5: Tektin-2

Chain B5:

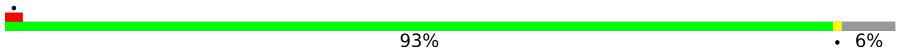
• Molecule 5: Tektin-2

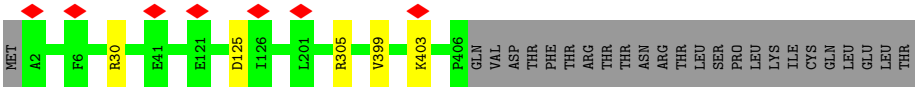
Chain B6:



• Molecule 5: Tektin-2

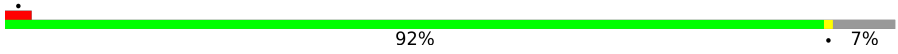
Chain B7:

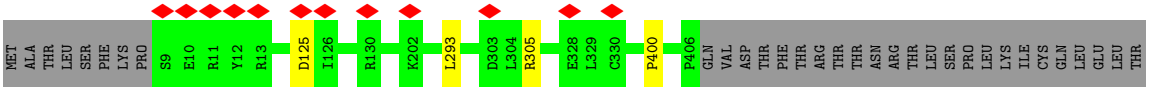




• Molecule 5: Tektin-2

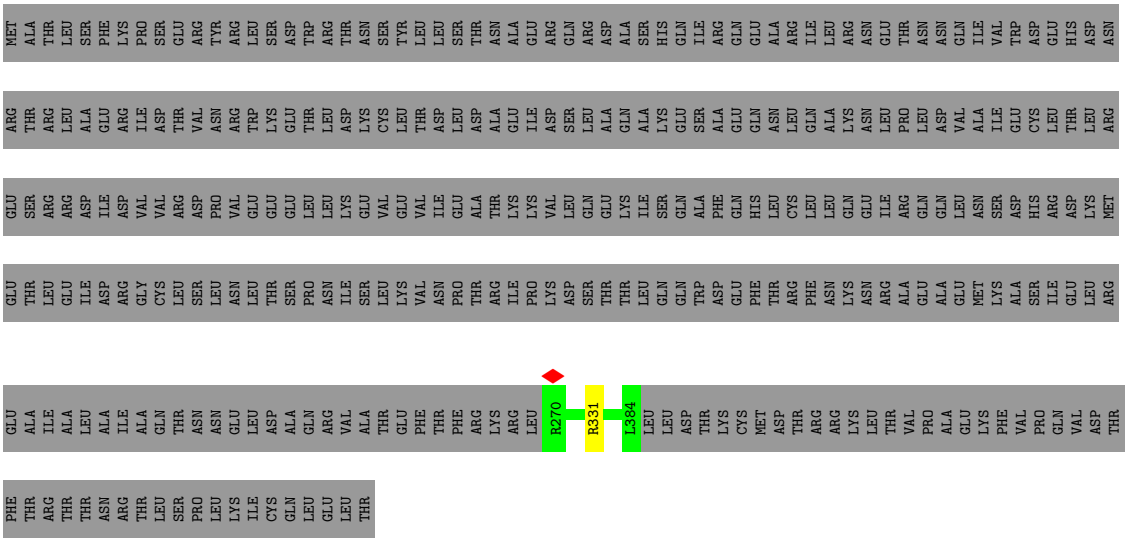
Chain B8:





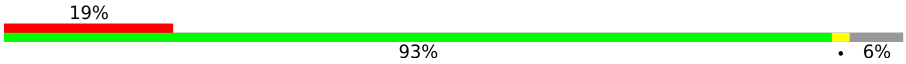
• Molecule 5: Tektin-2

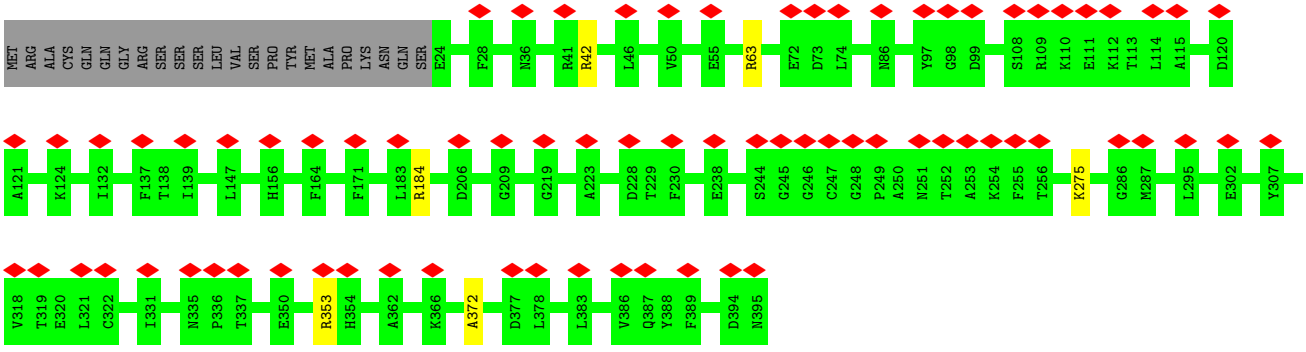
Chain B9:



• Molecule 6: Nucleoside diphosphate kinase 7

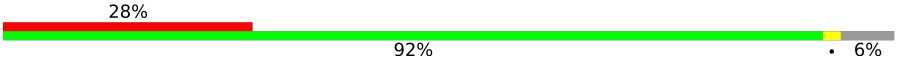
Chain C:

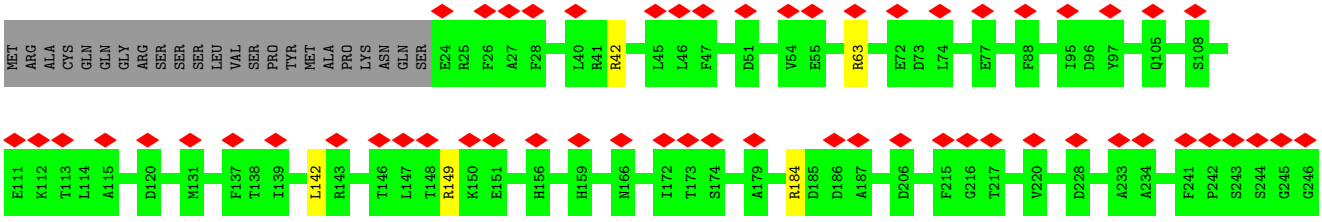


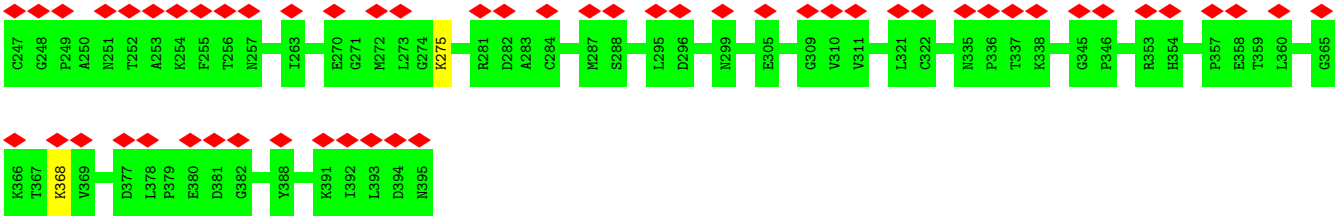


• Molecule 6: Nucleoside diphosphate kinase 7

Chain D:

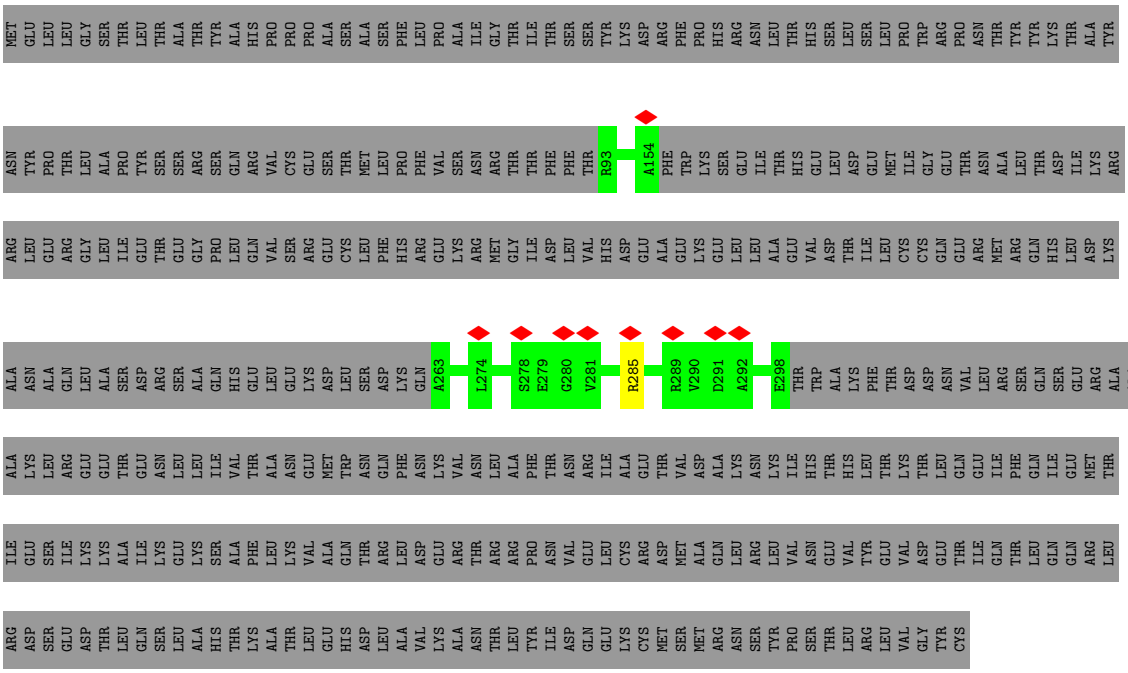






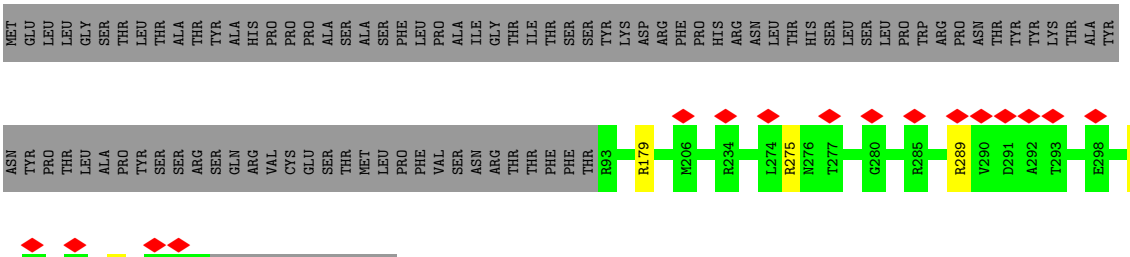
• Molecule 7: Tektin-3

Chain C1:



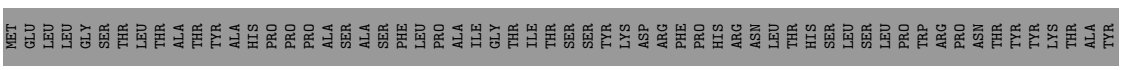
• Molecule 7: Tektin-3

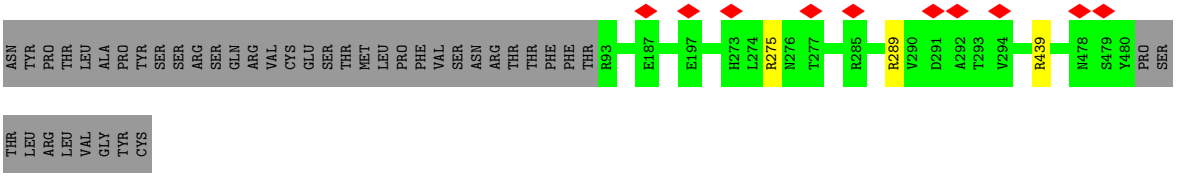
Chain C2:



• Molecule 7: Tektin-3

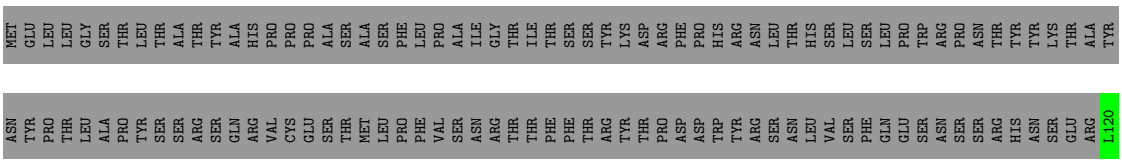
Chain C3:

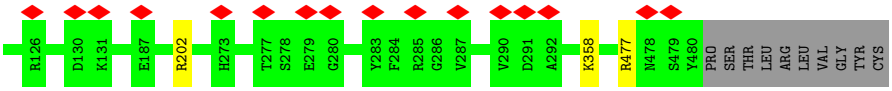




• Molecule 7: Tektin-3

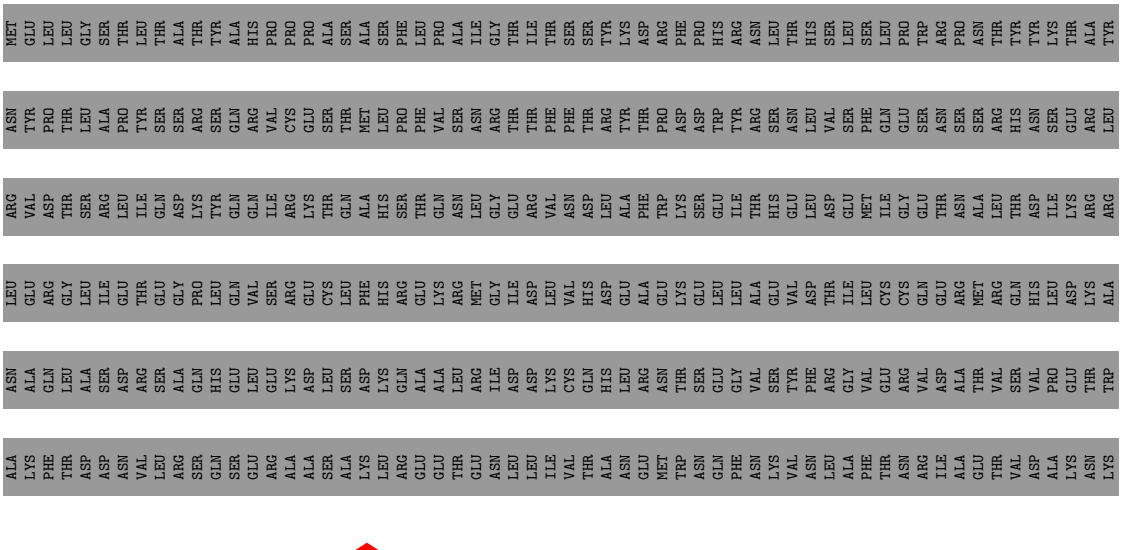
Chain C4:

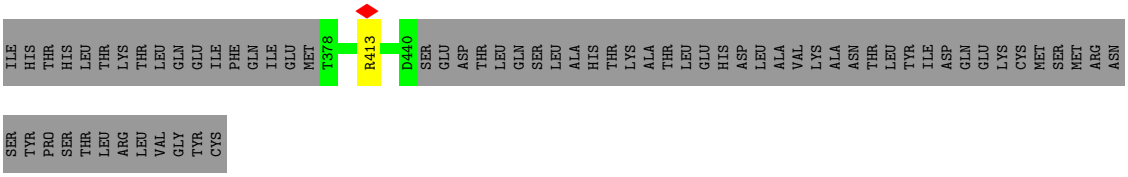




• Molecule 7: Tektin-3

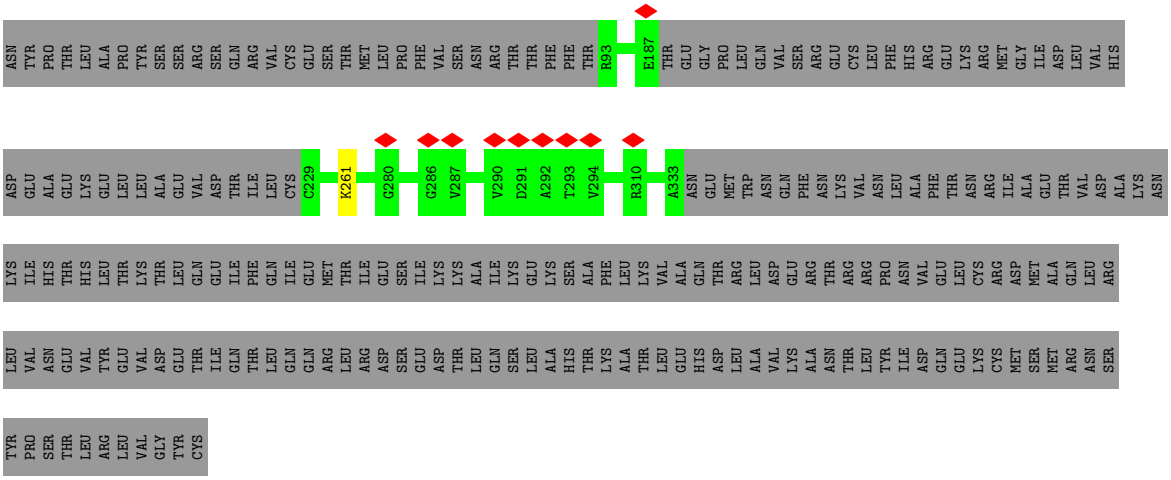
Chain C5:





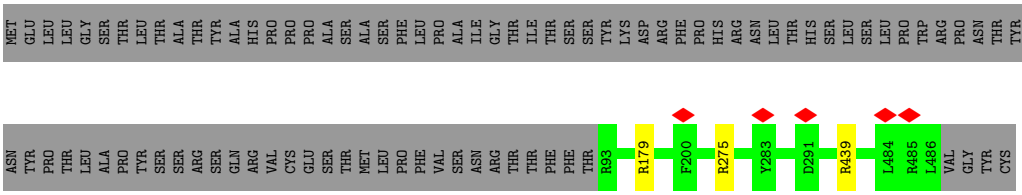
• Molecule 7: Tektin-3

Chain C6:



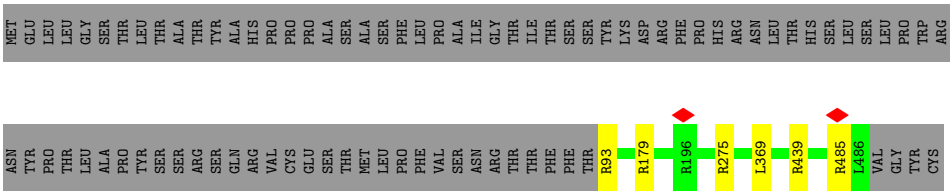
• Molecule 7: Tektin-3

Chain C7:



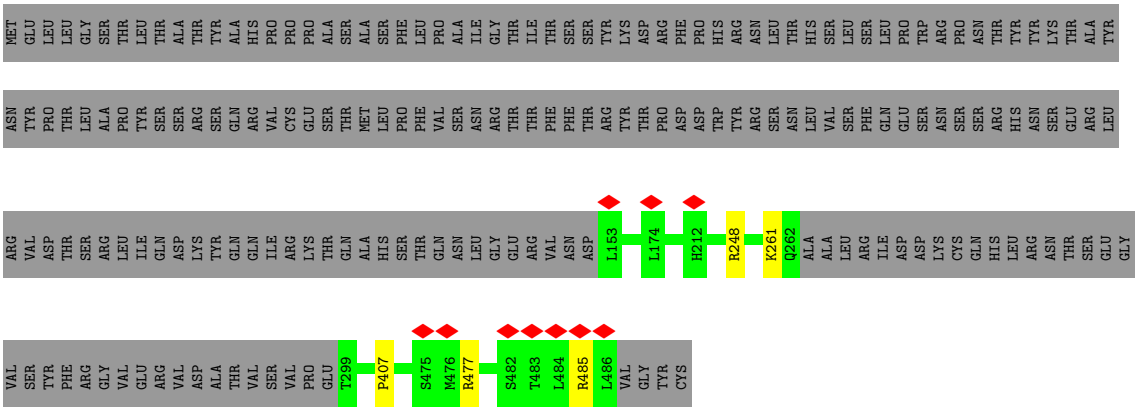
• Molecule 7: Tektin-3

Chain C8:



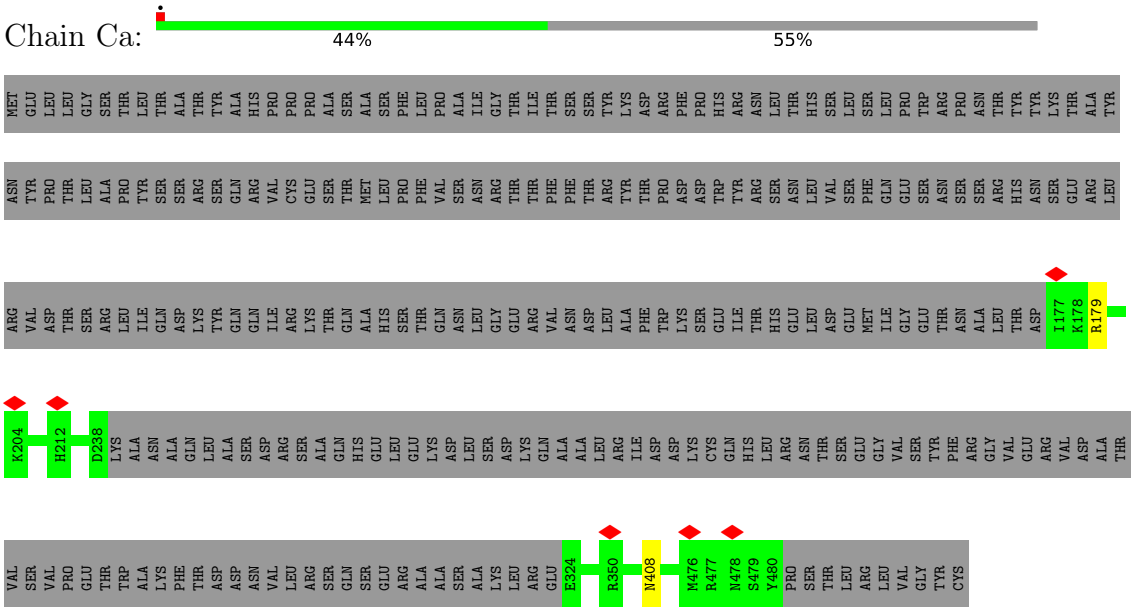
• Molecule 7: Tektin-3

Chain C9:



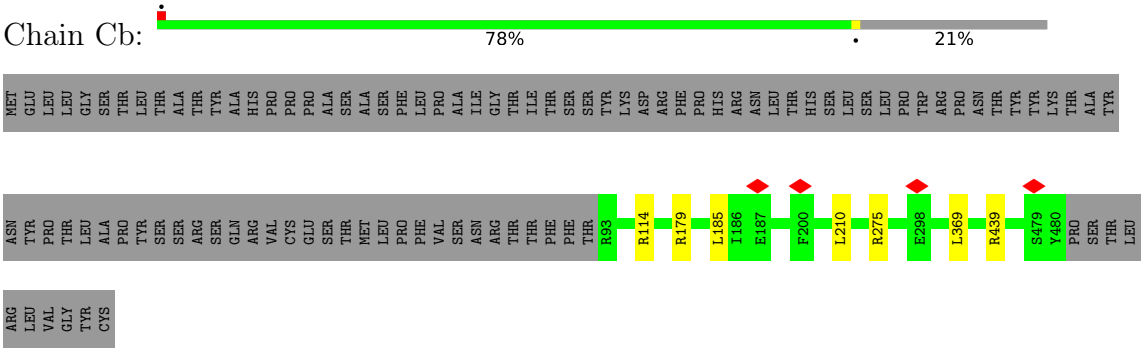
• Molecule 7: Tektin-3

Chain Ca:



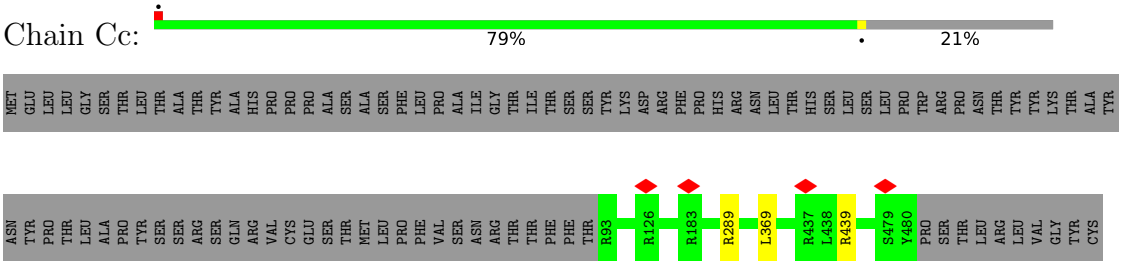
• Molecule 7: Tektin-3

Chain Cb:



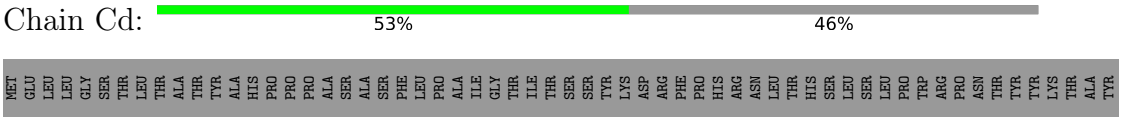
• Molecule 7: Tektin-3

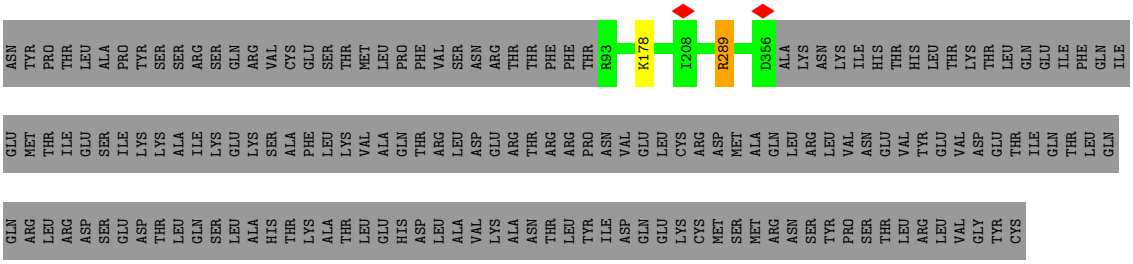
Chain Cc:



• Molecule 7: Tektin-3

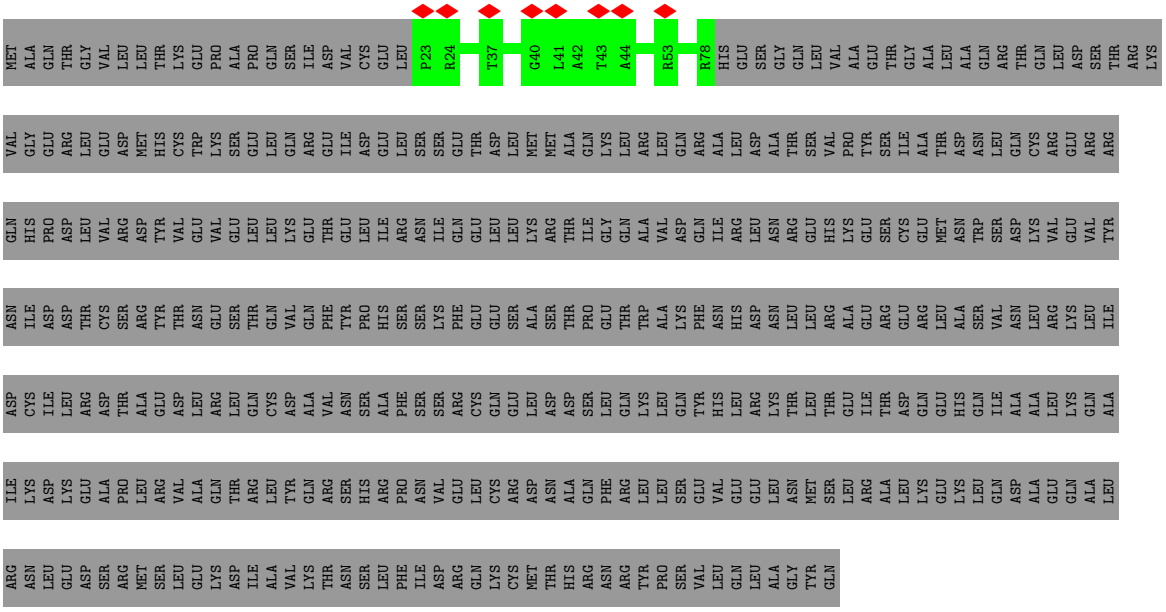
Chain Cd:





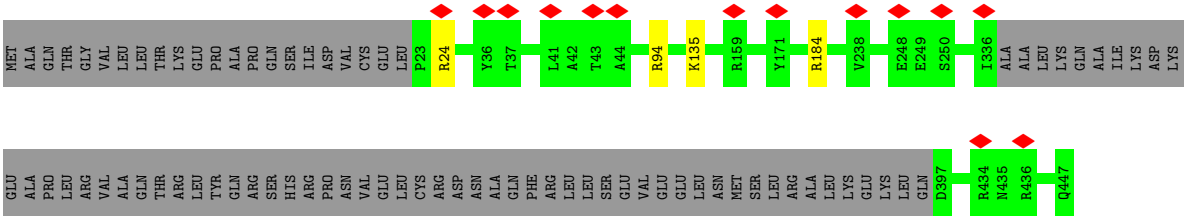
• Molecule 8: Tektin-4

Chain D1:



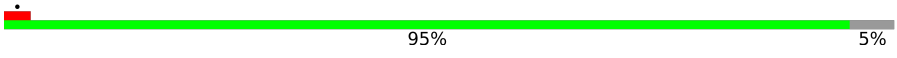
• Molecule 8: Tektin-4

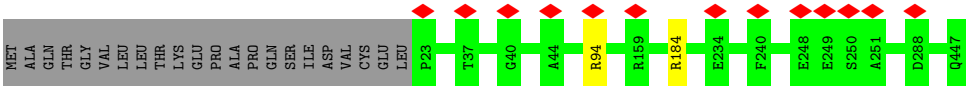
Chain D2:



• Molecule 8: Tektin-4

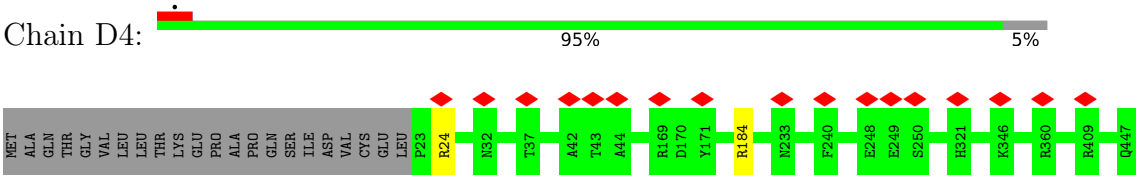
Chain D3:





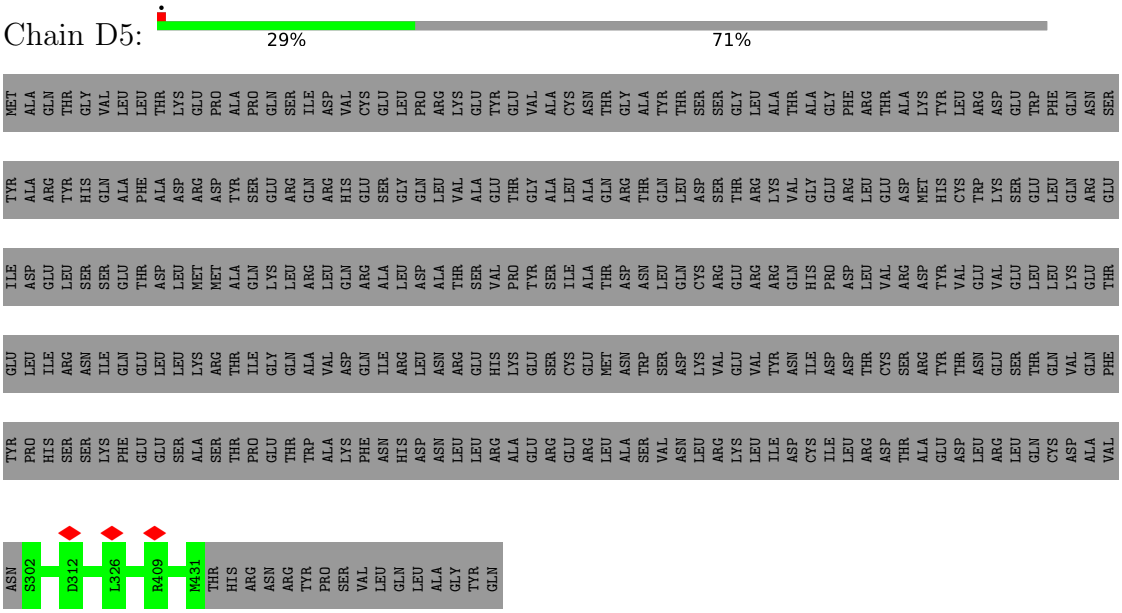
• Molecule 8: Tektin-4

Chain D4:



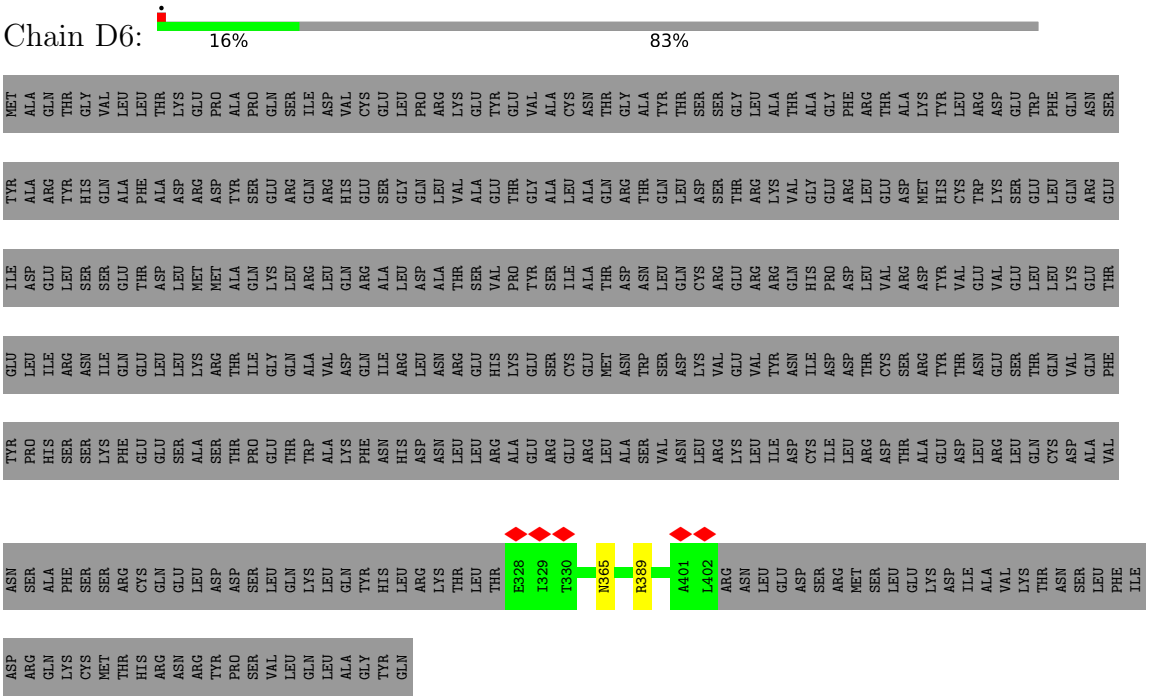
• Molecule 8: Tektin-4

Chain D5:



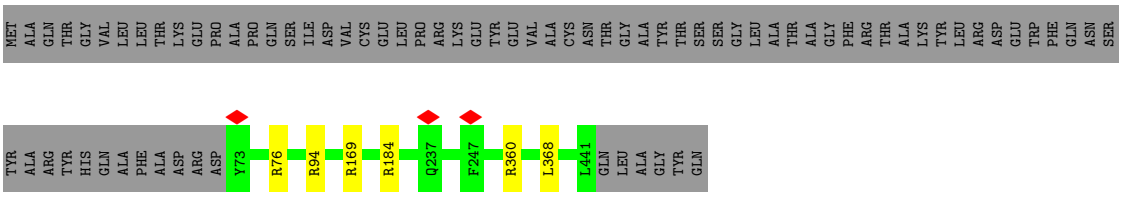
• Molecule 8: Tektin-4

Chain D6:



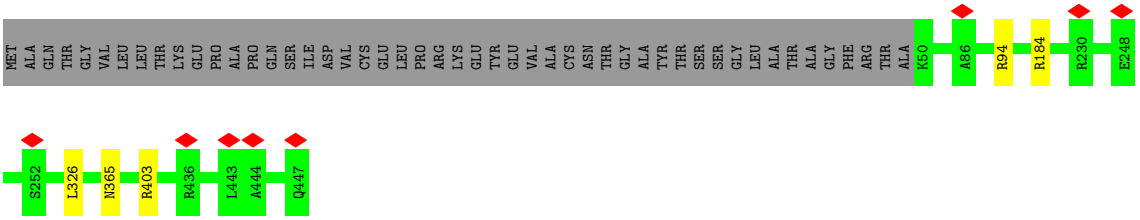
• Molecule 8: Tektin-4

Chain D7:



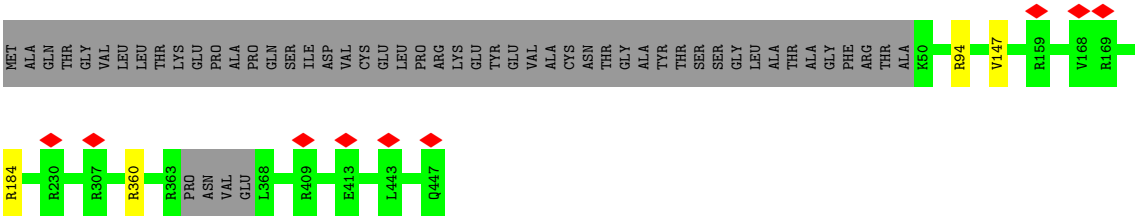
• Molecule 8: Tektin-4

Chain D8:



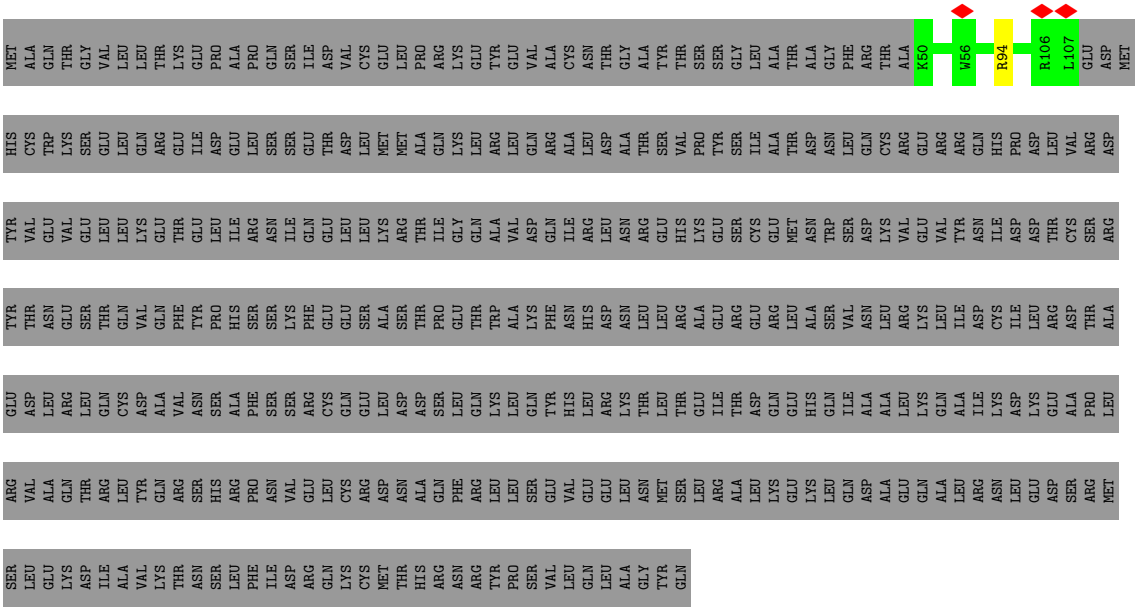
• Molecule 8: Tektin-4

Chain D9:



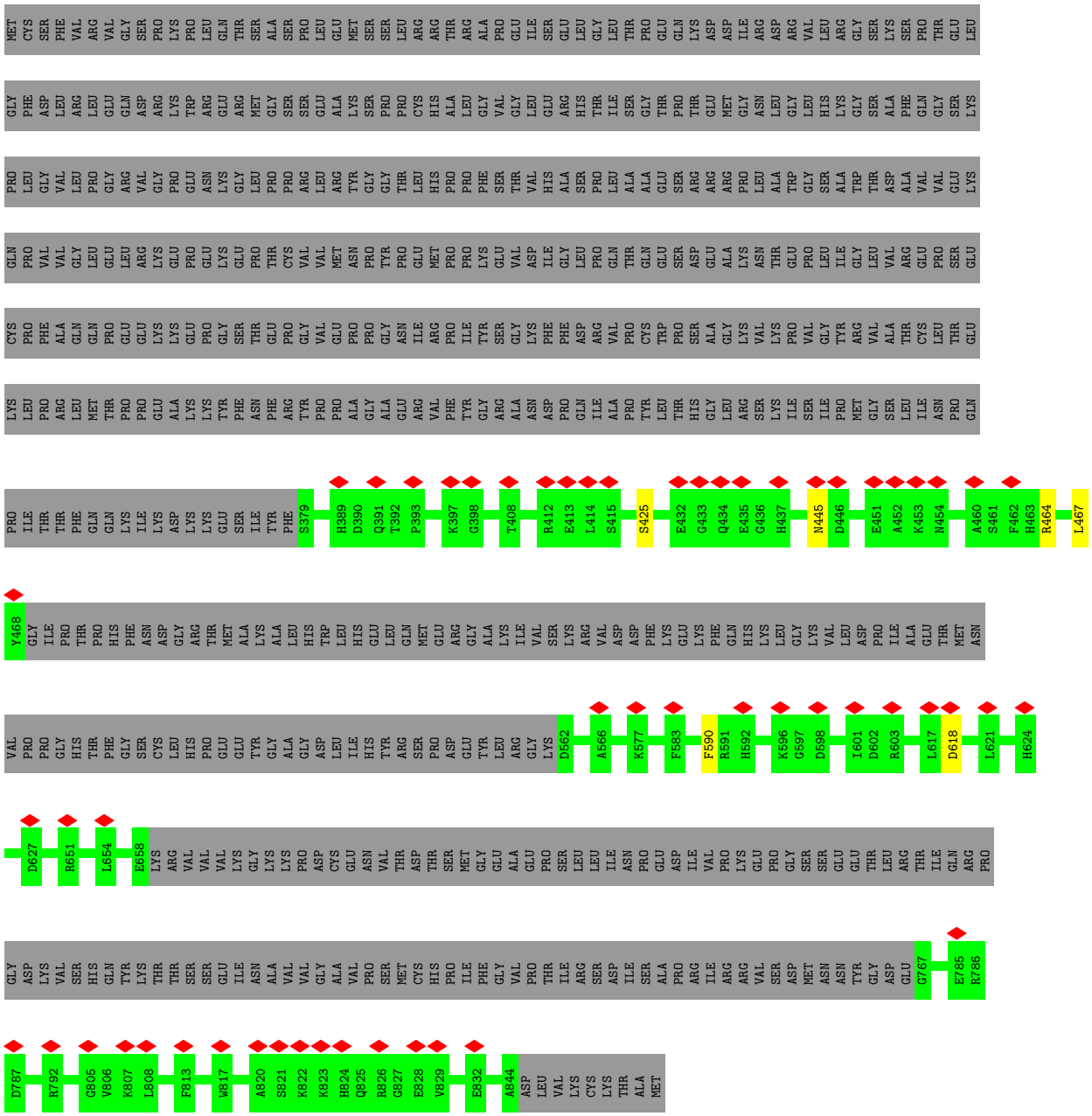
• Molecule 8: Tektin-4

Chain Da:



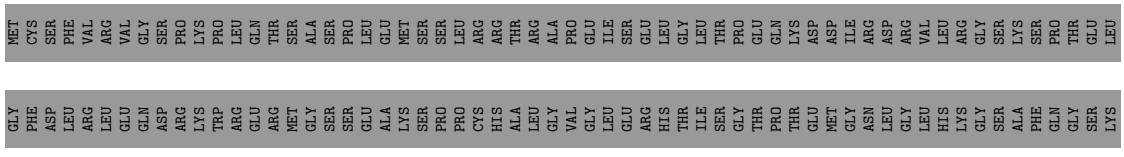
• Molecule 9: EF-hand domain-containing family member B

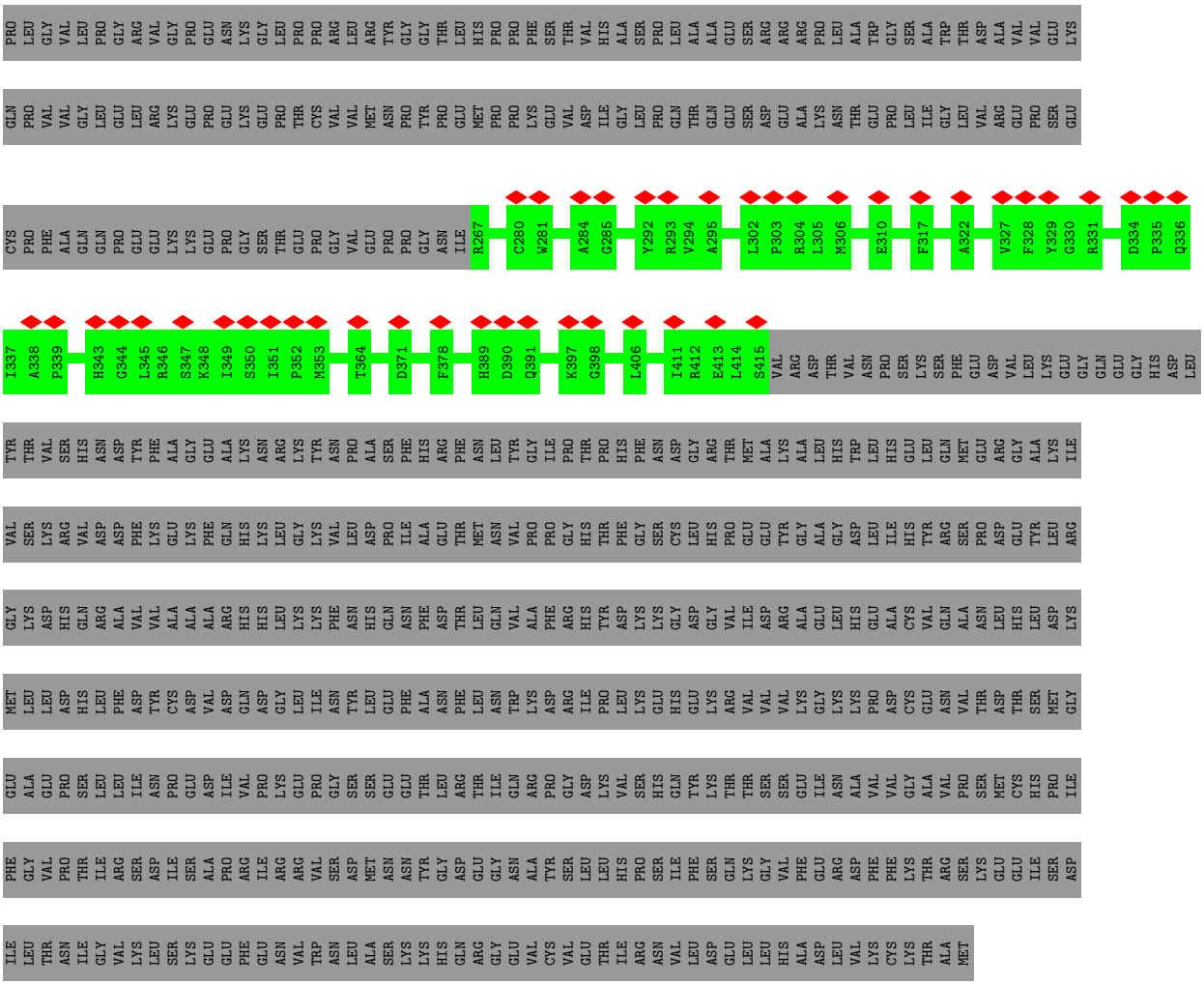
Chain E:



• Molecule 9: EF-hand domain-containing family member B

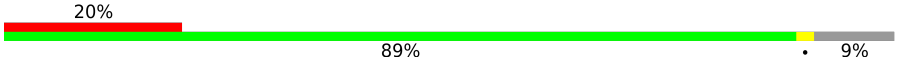
Chain F:

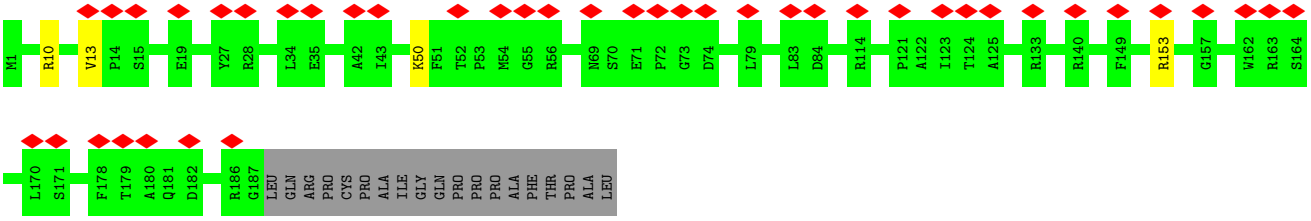




• Molecule 10: Tektin bundle-interacting protein 1

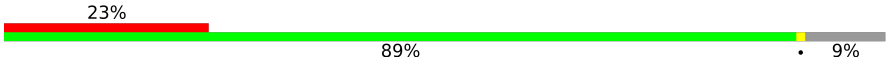
Chain E1:

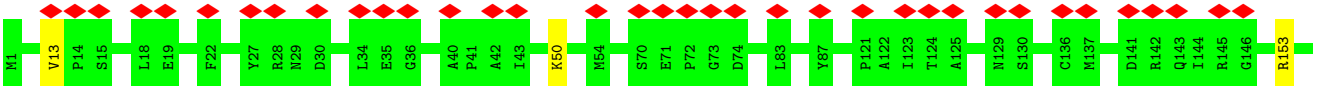


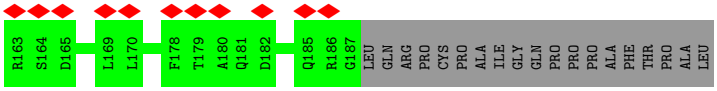


• Molecule 10: Tektin bundle-interacting protein 1

Chain E2:

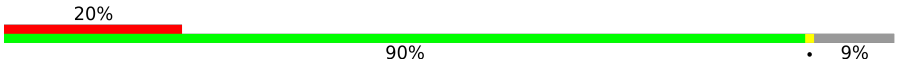


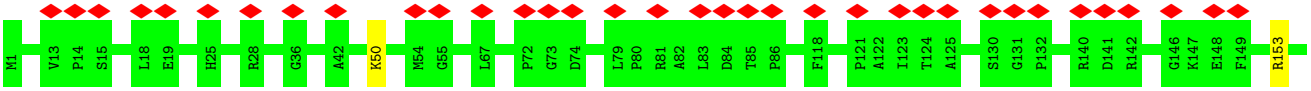


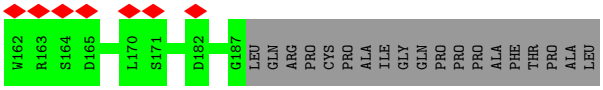


• Molecule 10: Tektin bundle-interacting protein 1

Chain E3:

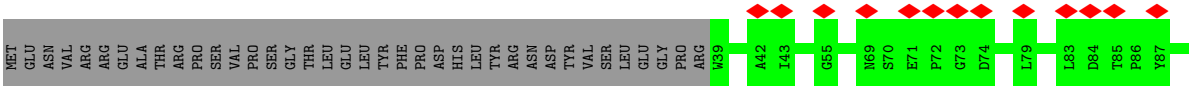


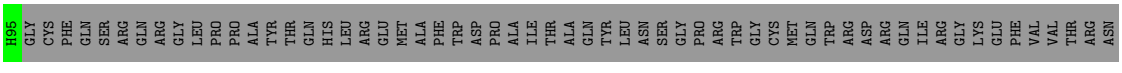




• Molecule 10: Tektin bundle-interacting protein 1

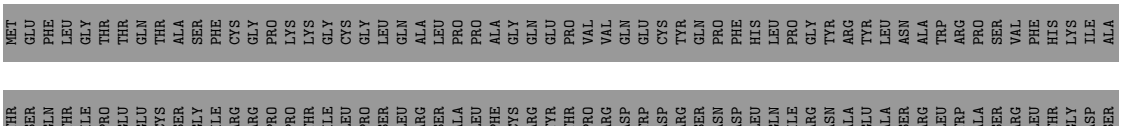
Chain E4:

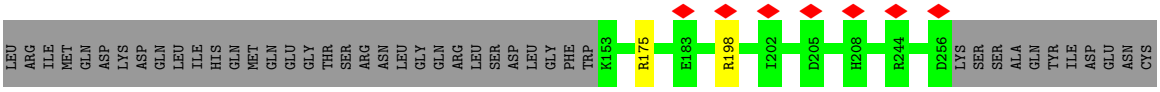


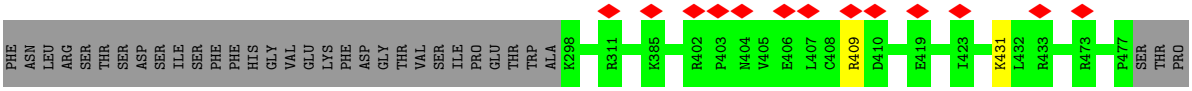


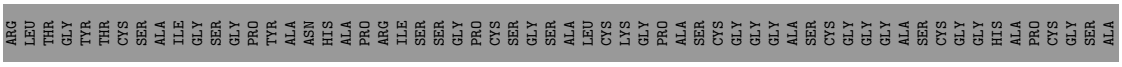
• Molecule 11: Tektin-5

Chain F1:



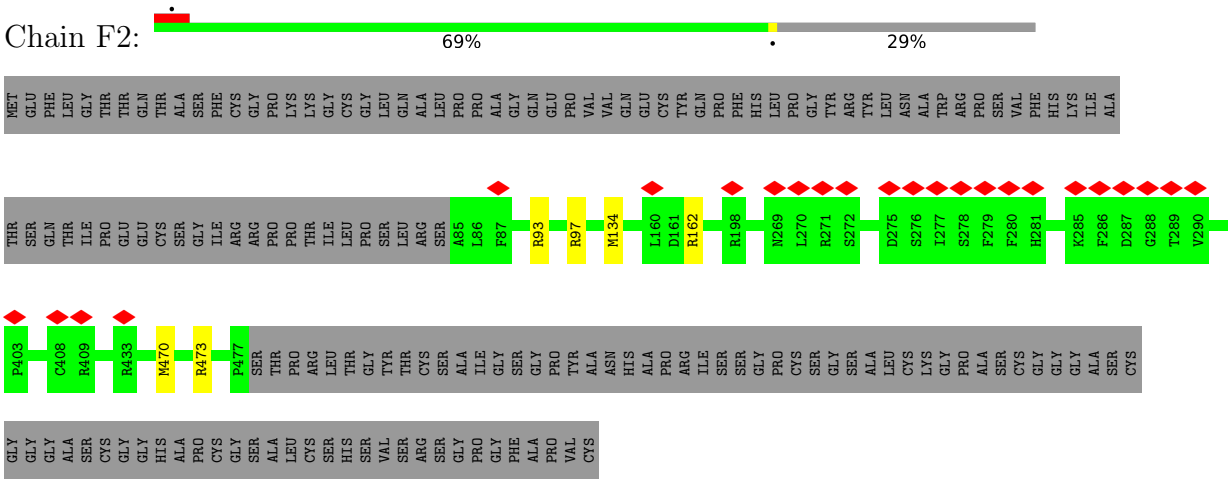






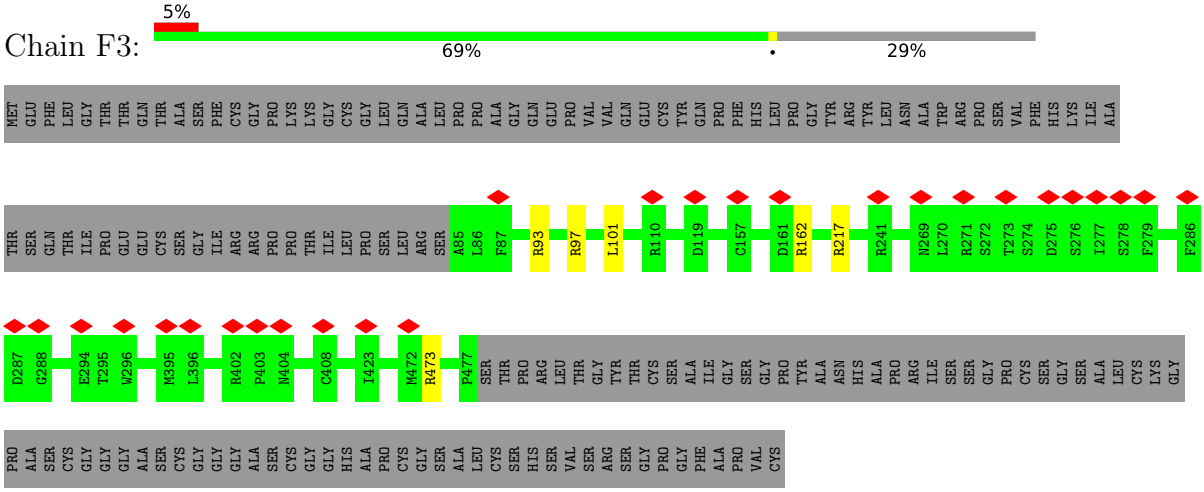
• Molecule 11: Tektin-5

Chain F2:



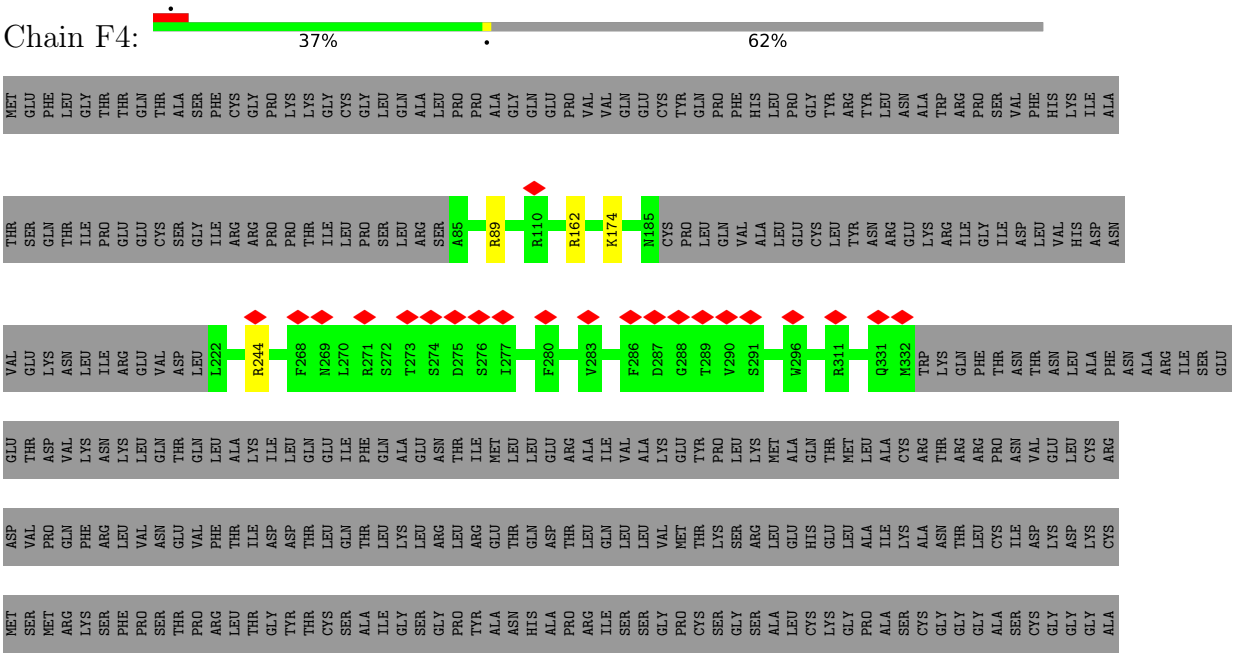
• Molecule 11: Tektin-5

Chain F3:



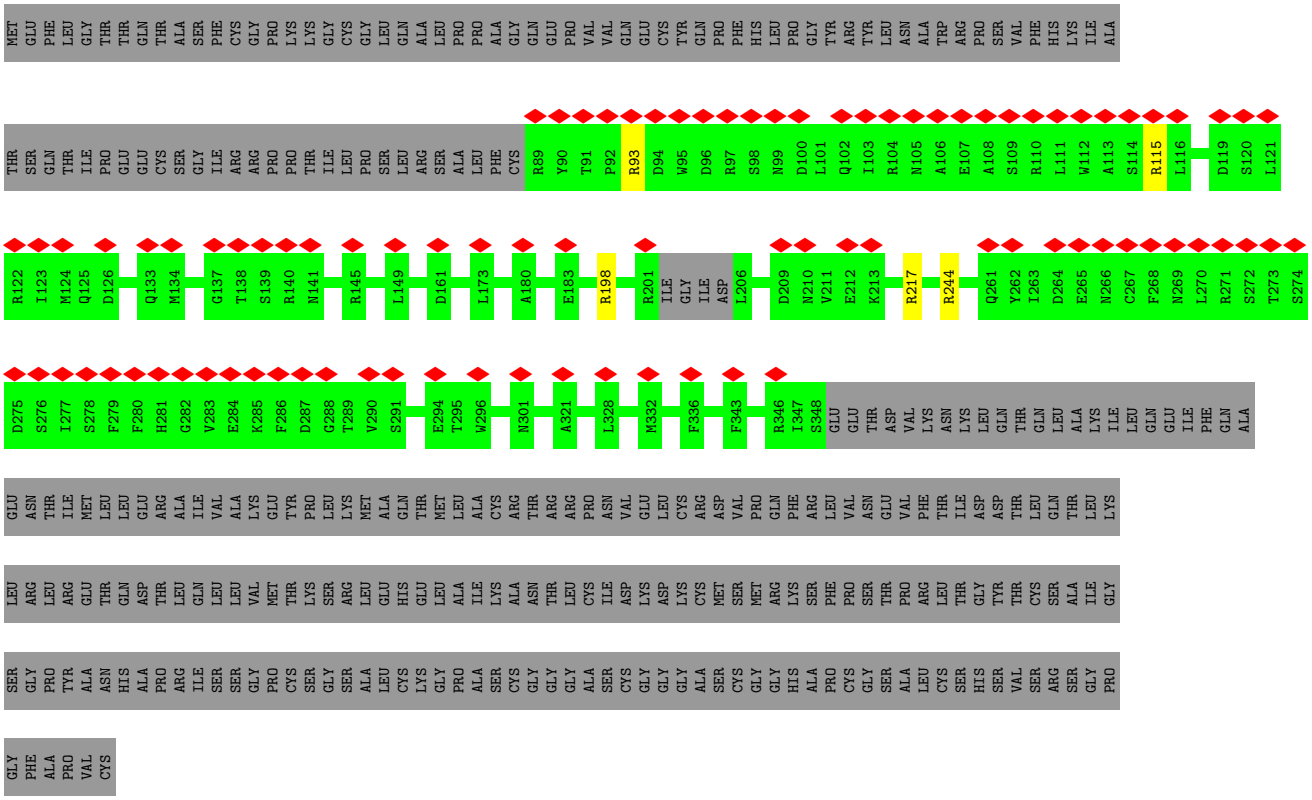
• Molecule 11: Tektin-5

Chain F4:



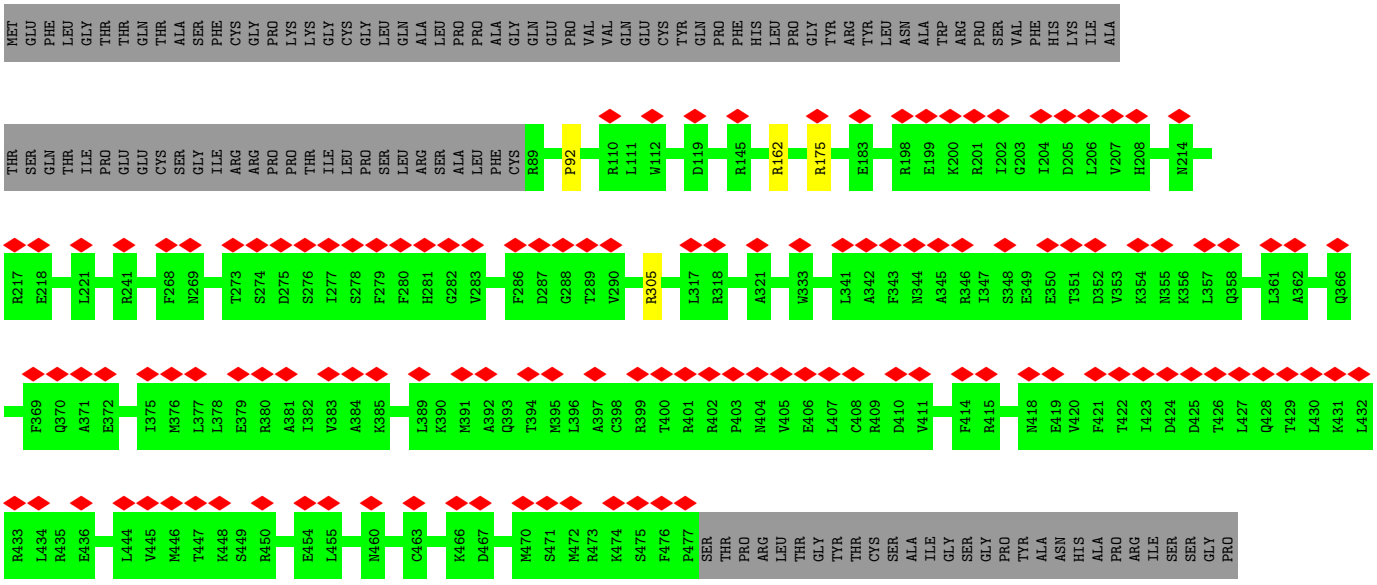
• Molecule 11: Tektin-5

Chain F5:



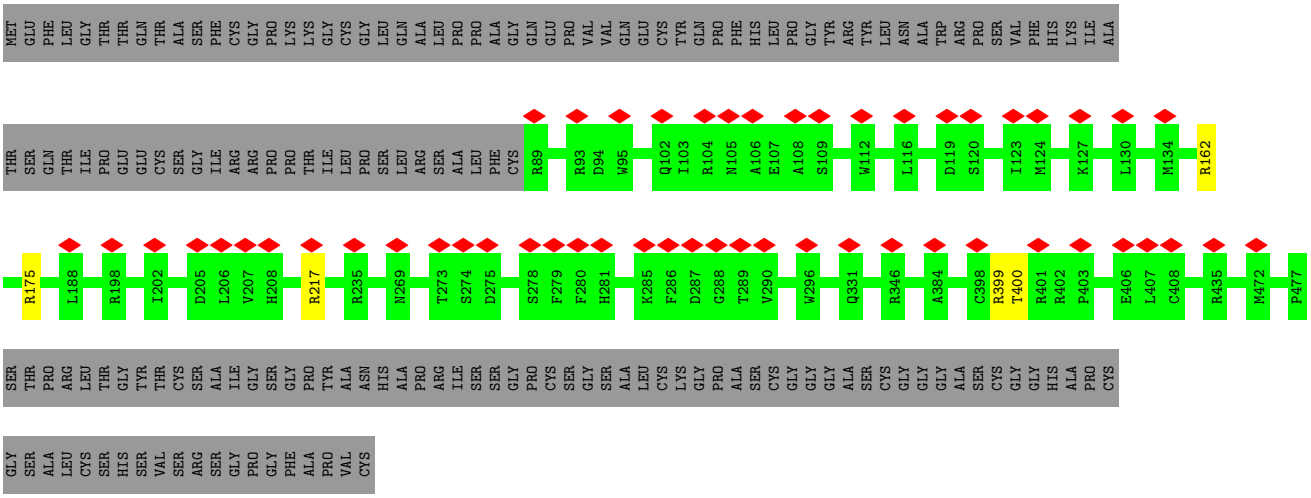
• Molecule 11: Tektin-5

Chain F6:



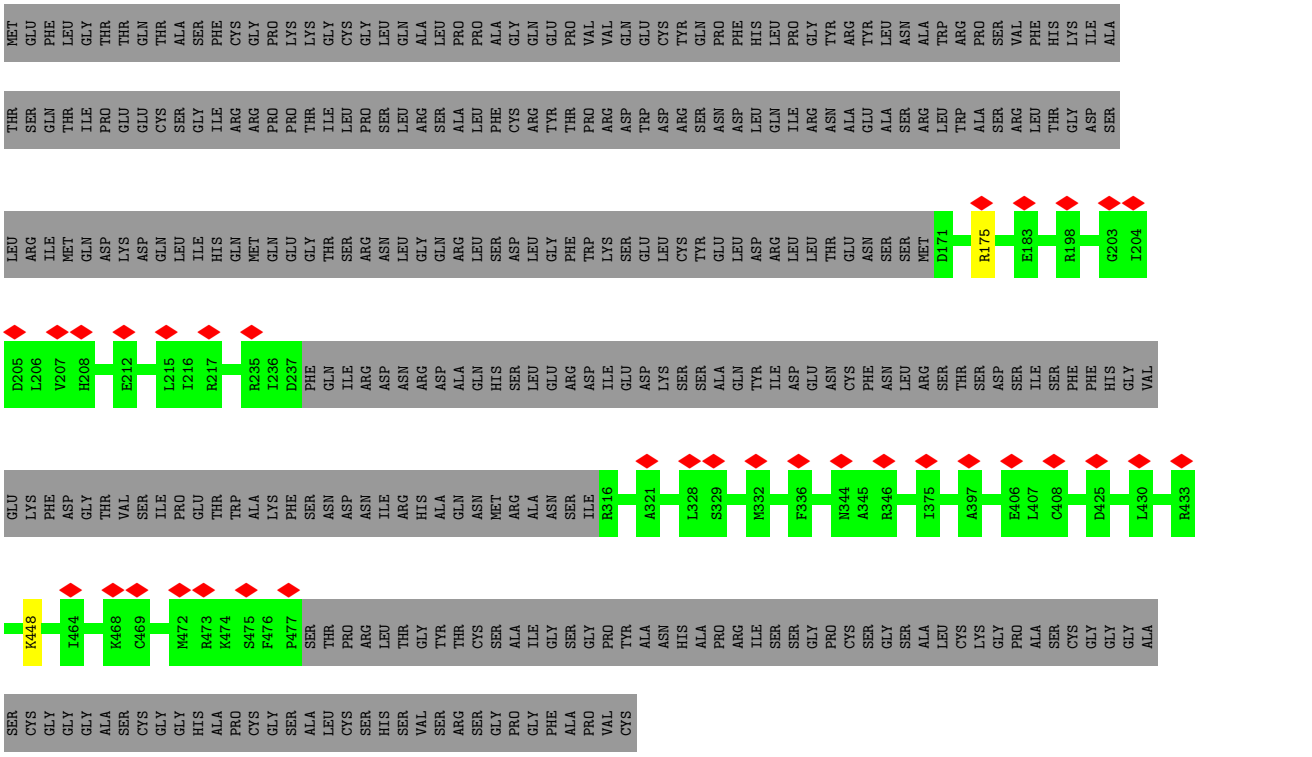
• Molecule 11: Tektin-5

Chain F7:



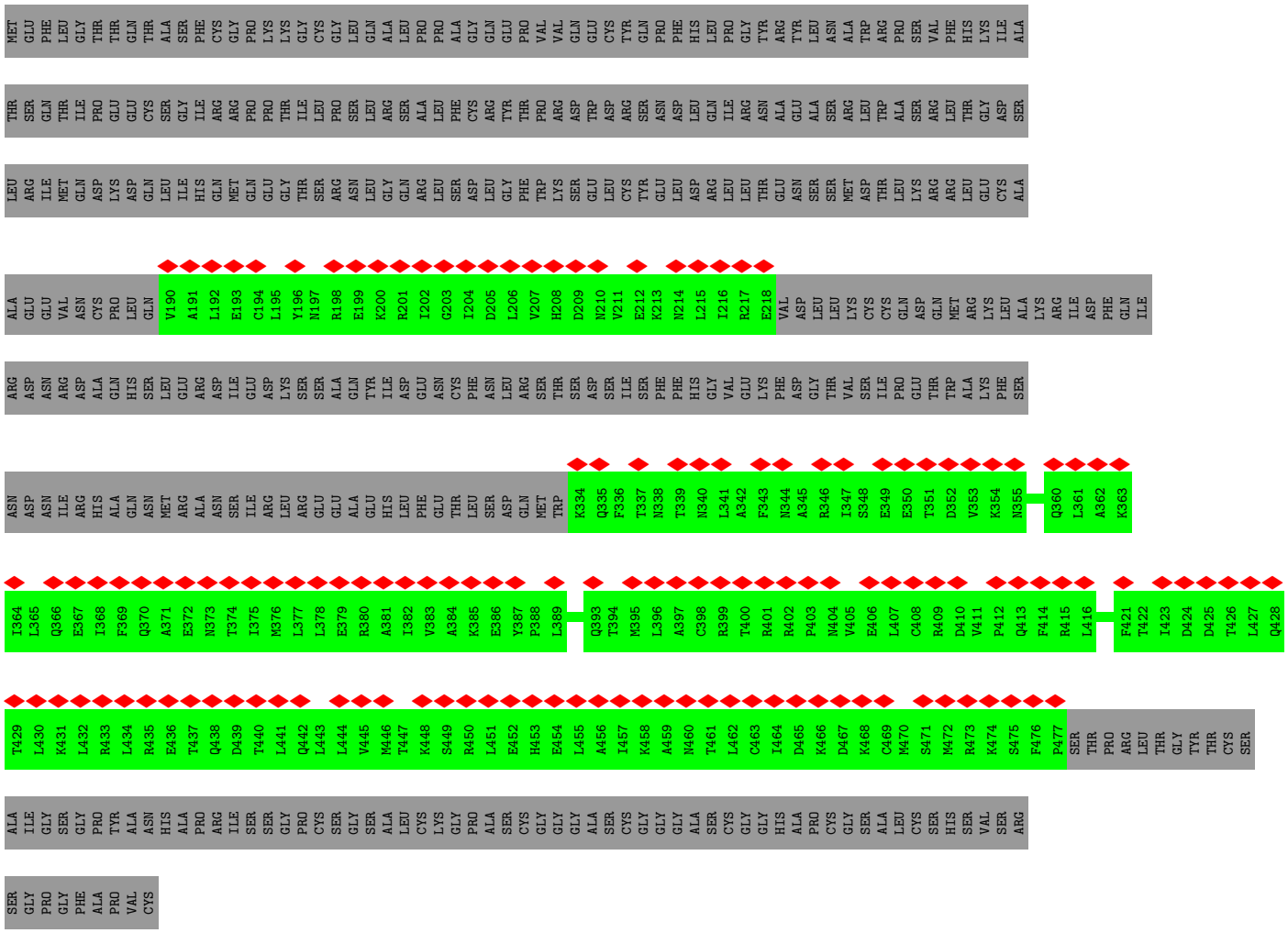
• Molecule 11: Tektin-5

Chain F8:



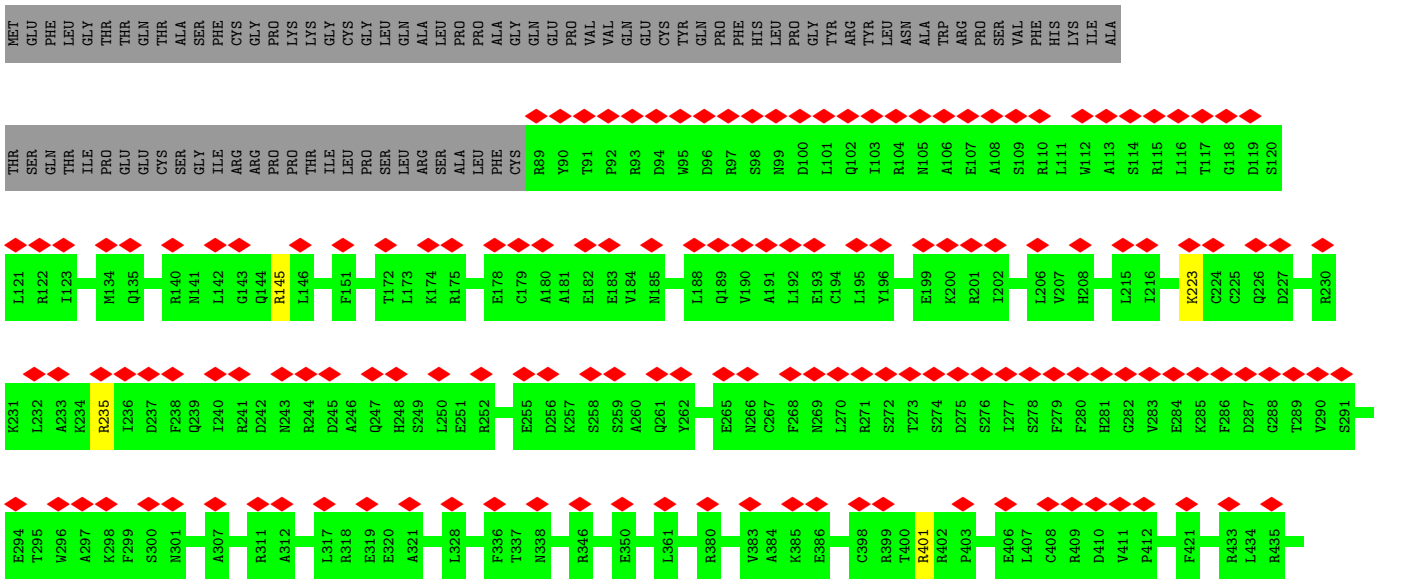
• Molecule 11: Tektin-5

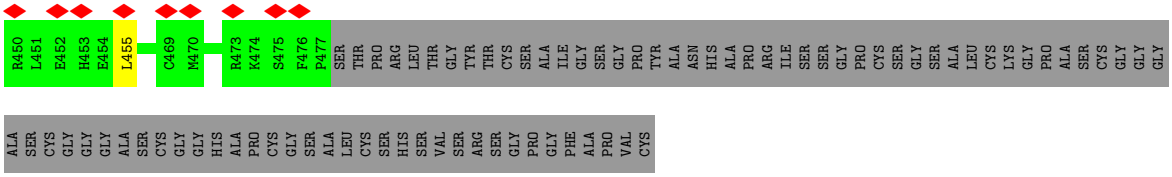
Chain F9:



• Molecule 11: Tektin-5

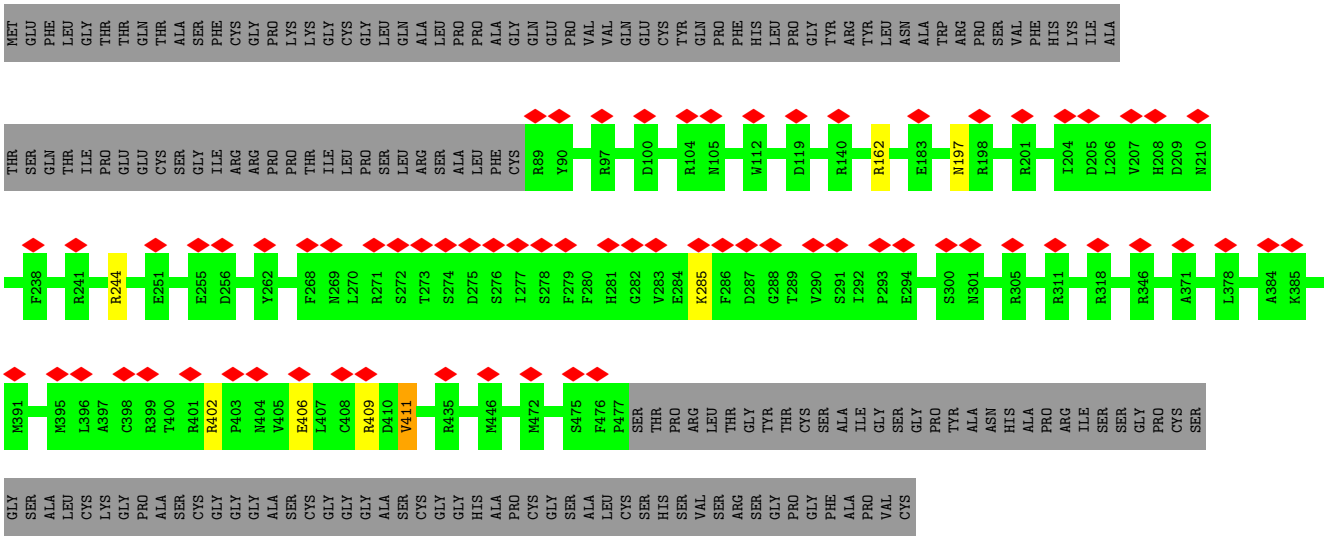
Chain Fa:





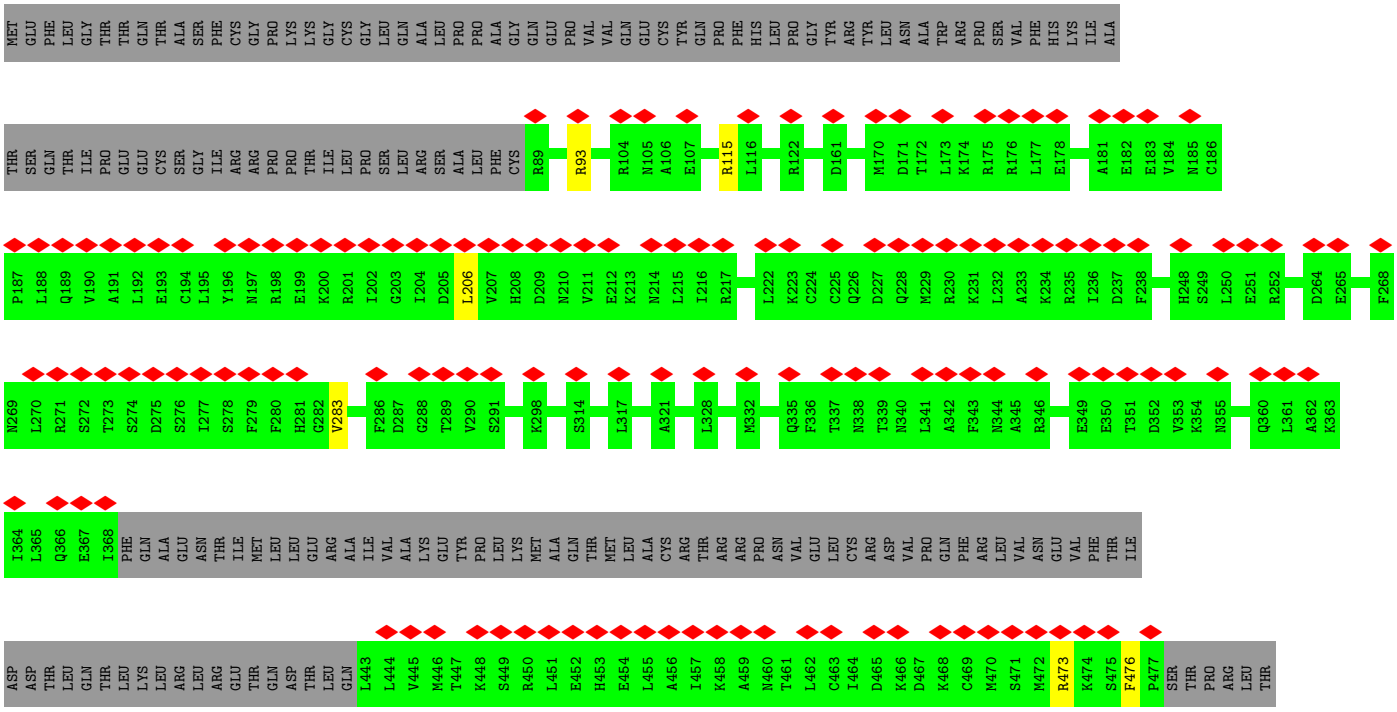
• Molecule 11: Tektin-5

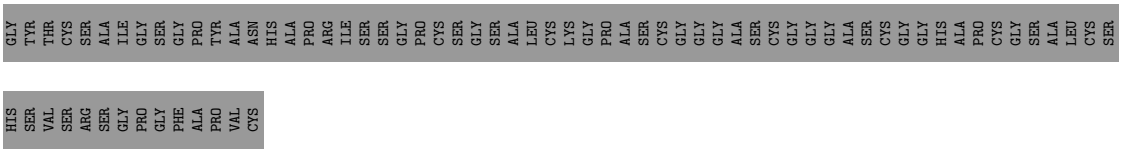
Chain Fb:



• Molecule 11: Tektin-5

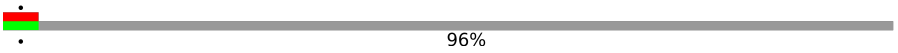
Chain Fc:

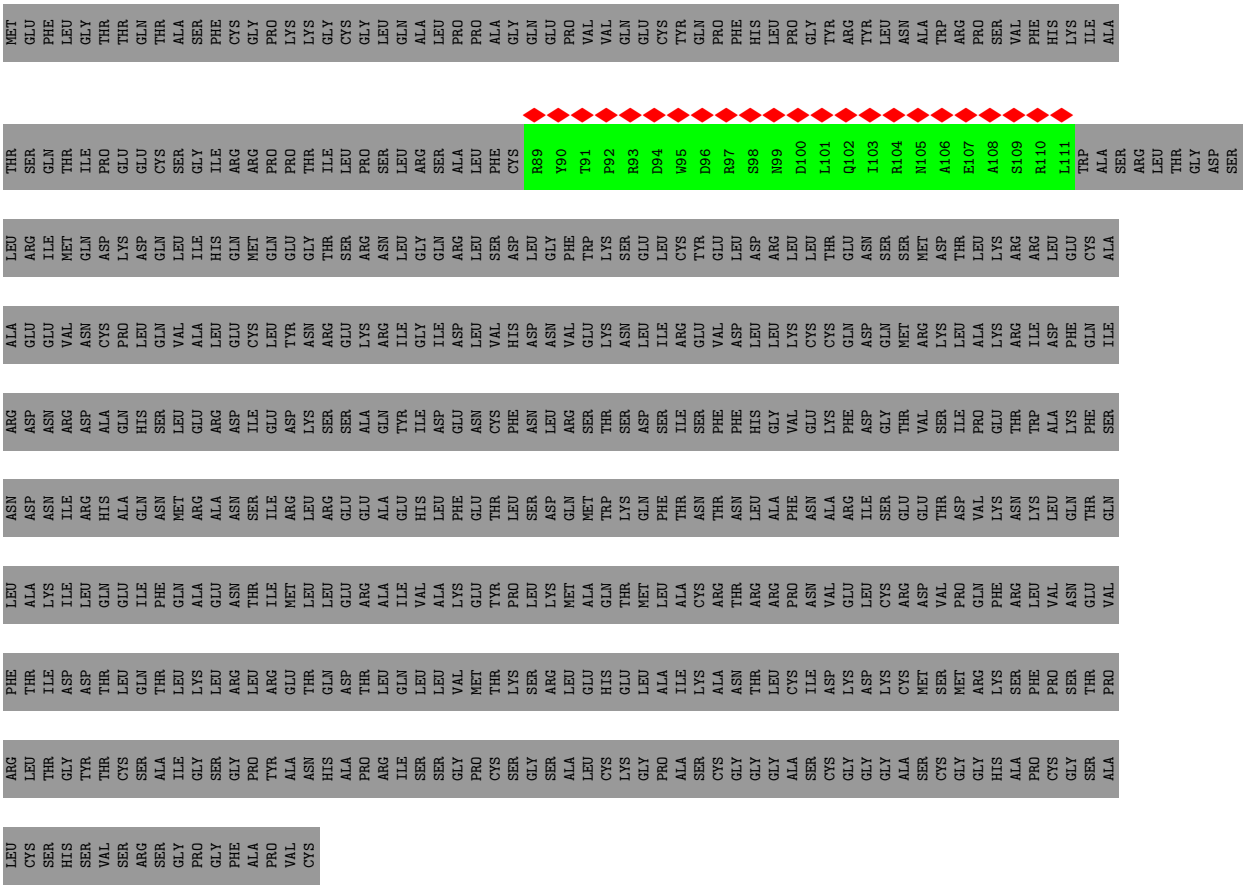




• Molecule 11: Tektin-5

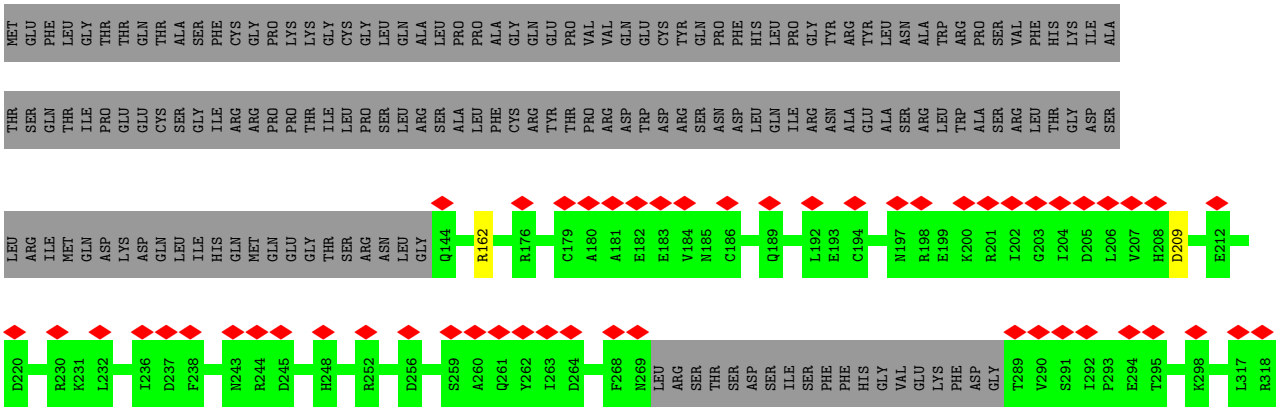
Chain Fd:

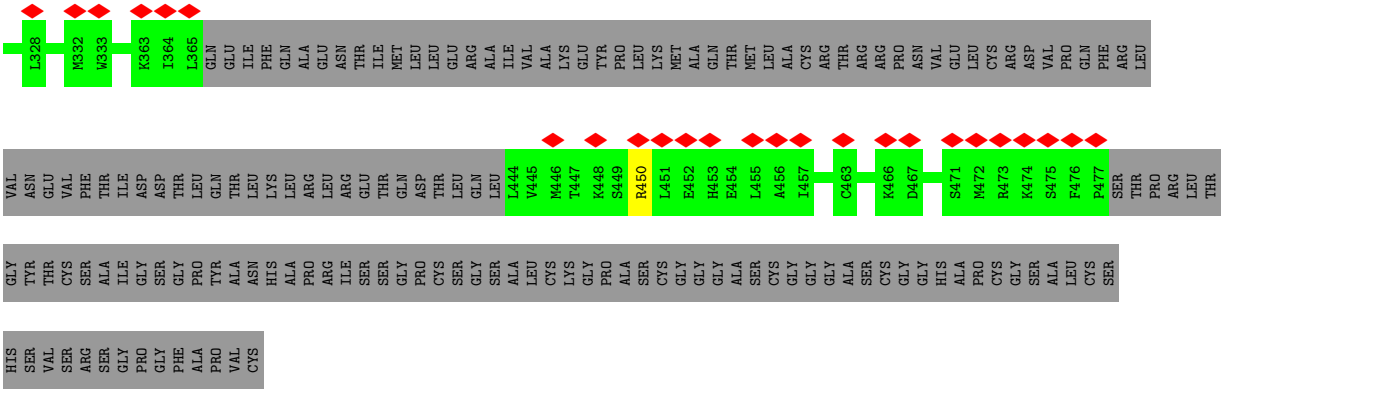




• Molecule 11: Tektin-5

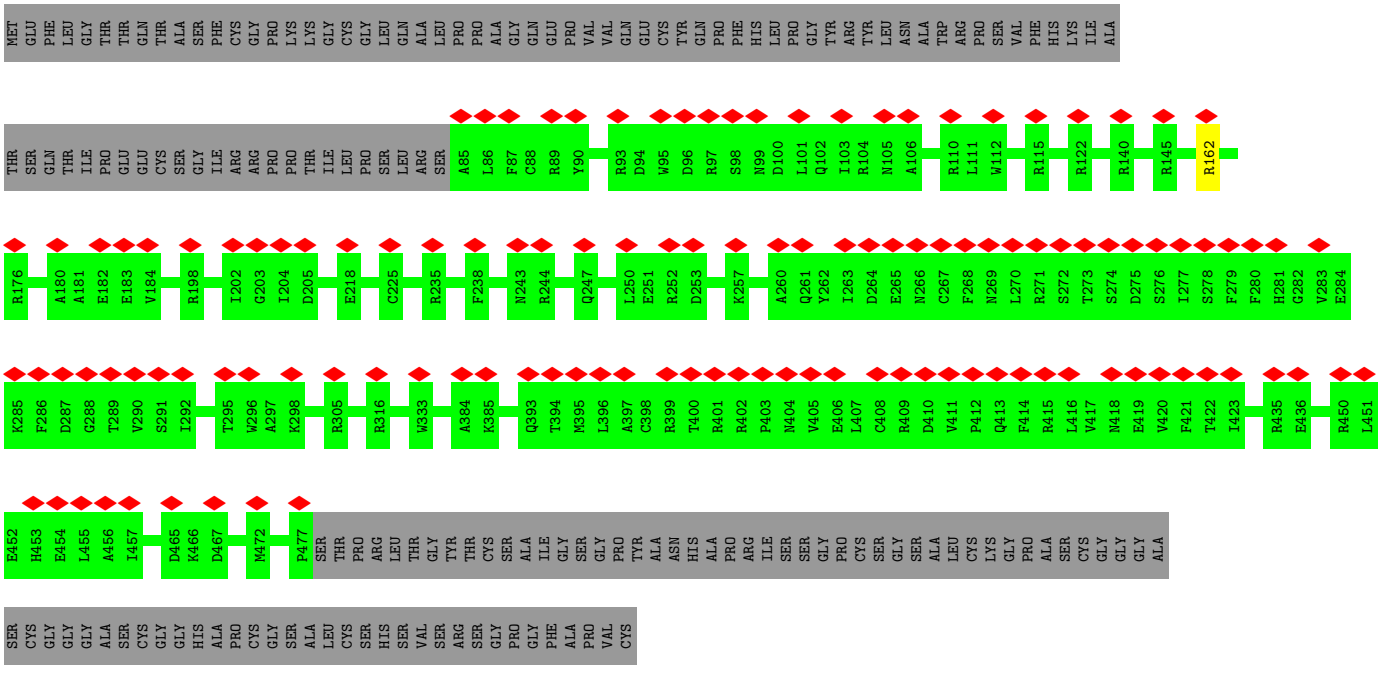
Chain Fe:





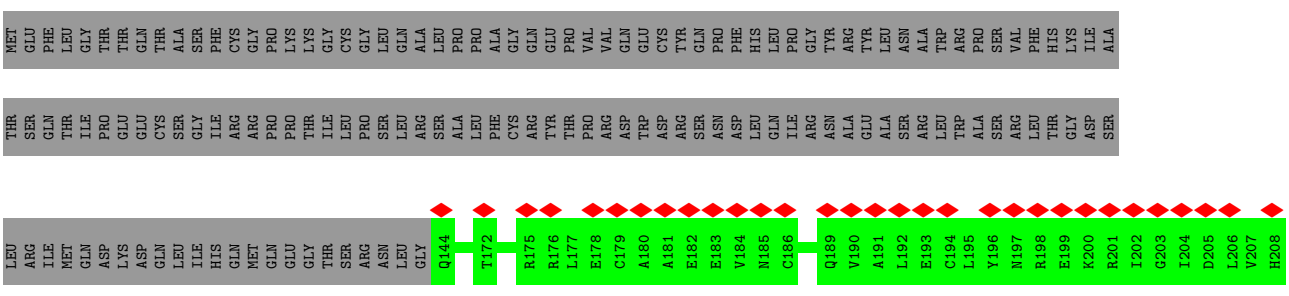
• Molecule 11: Tektin-5

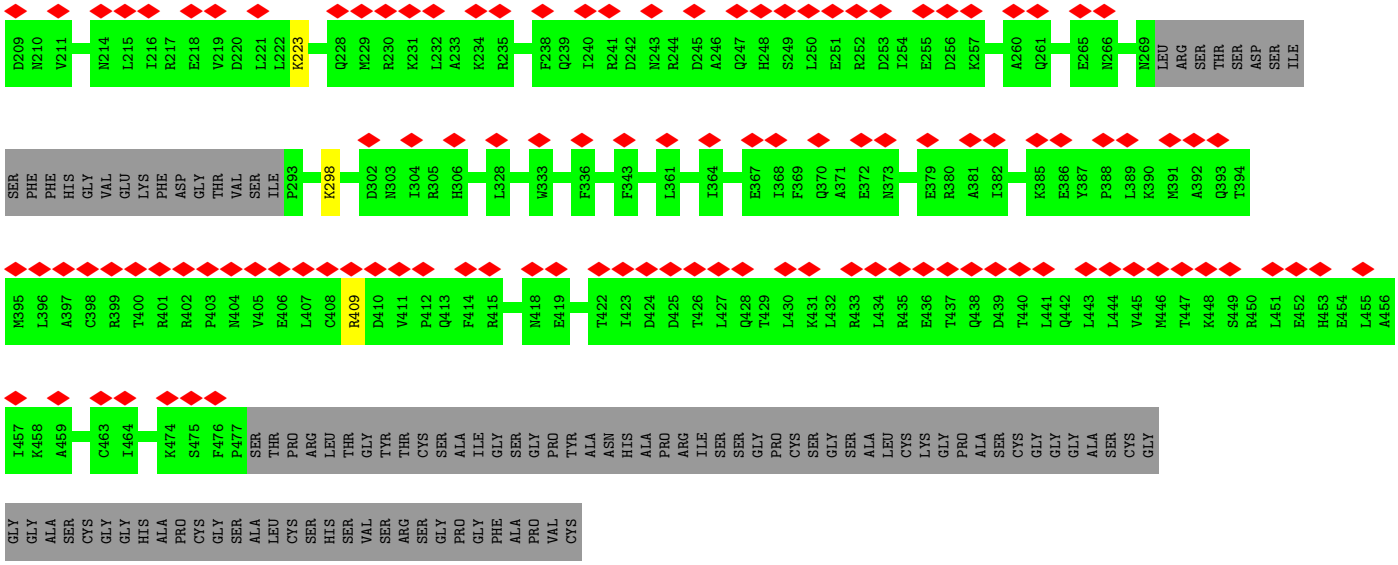
Chain Ff:



• Molecule 11: Tektin-5

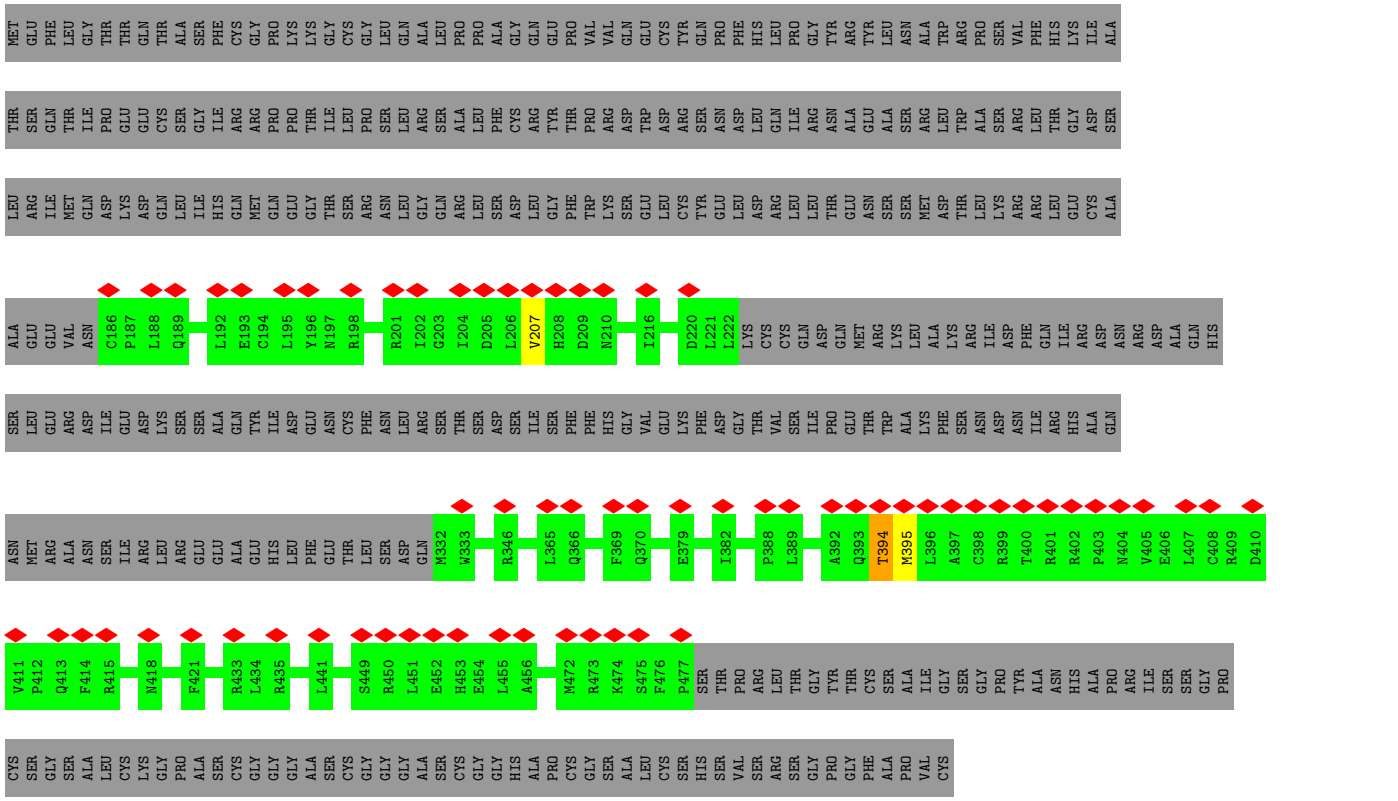
Chain Fg:





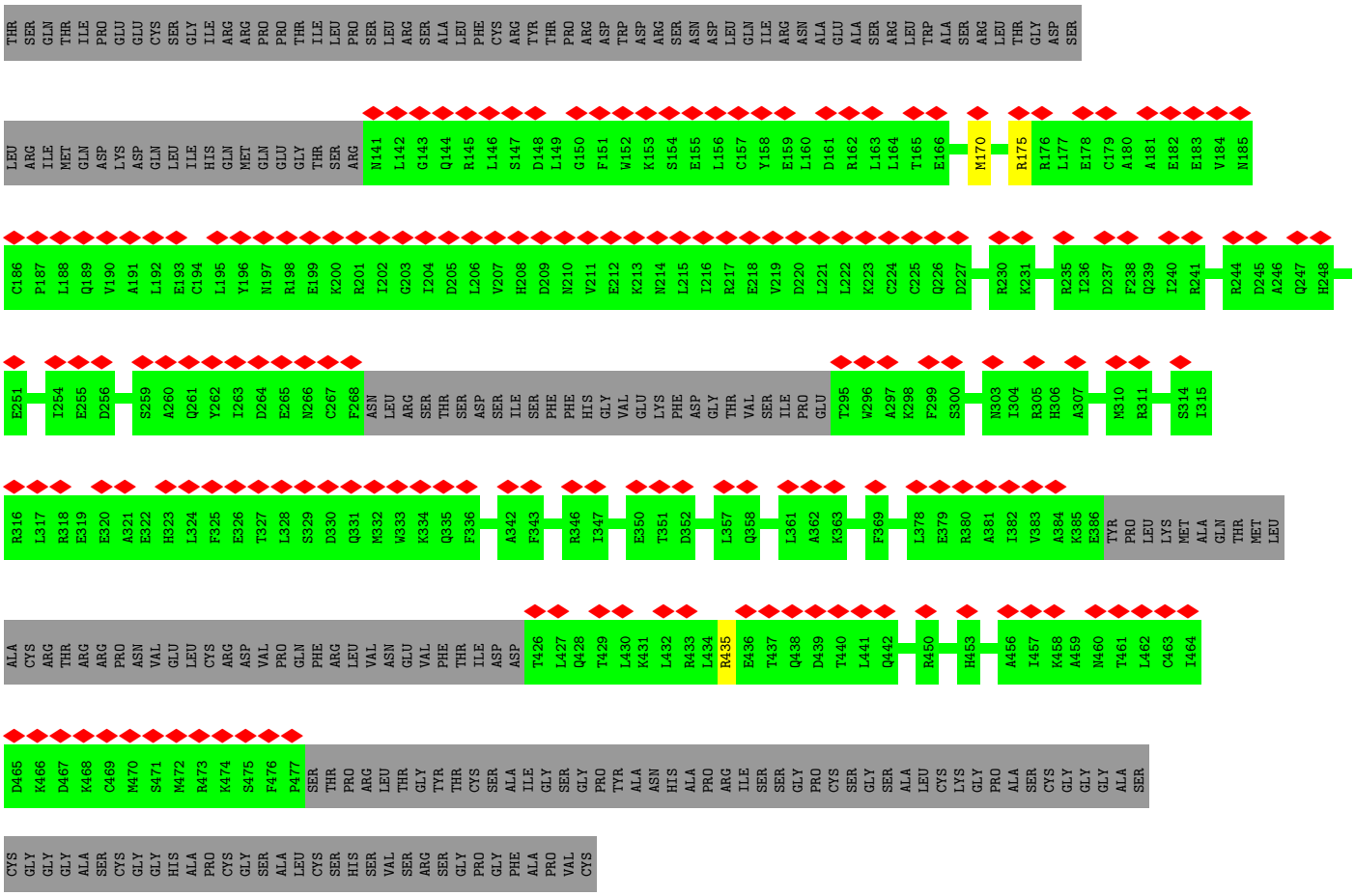
• Molecule 11: Tektin-5

Chain Fh:



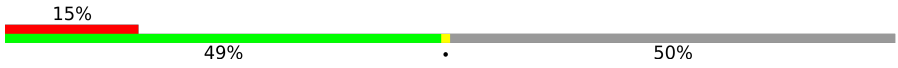
• Molecule 11: Tektin-5

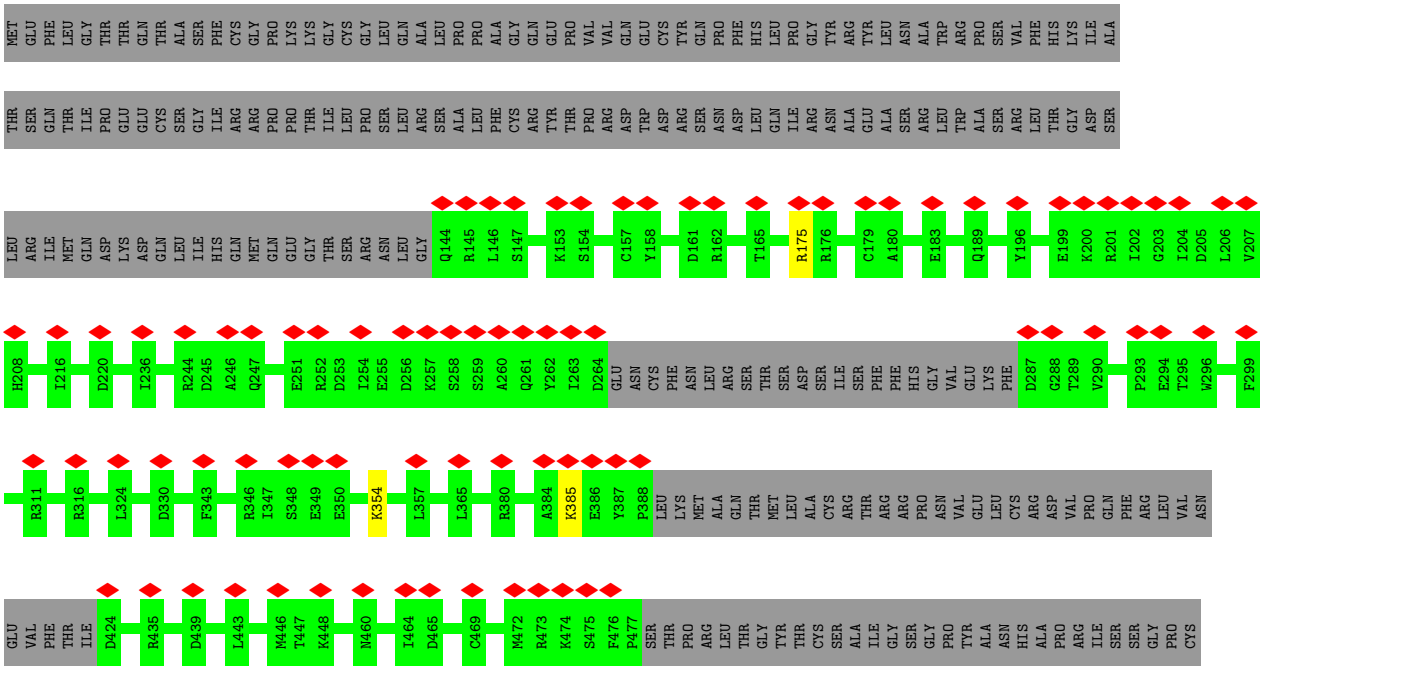
Chain Fi:



• Molecule 11: Tektin-5

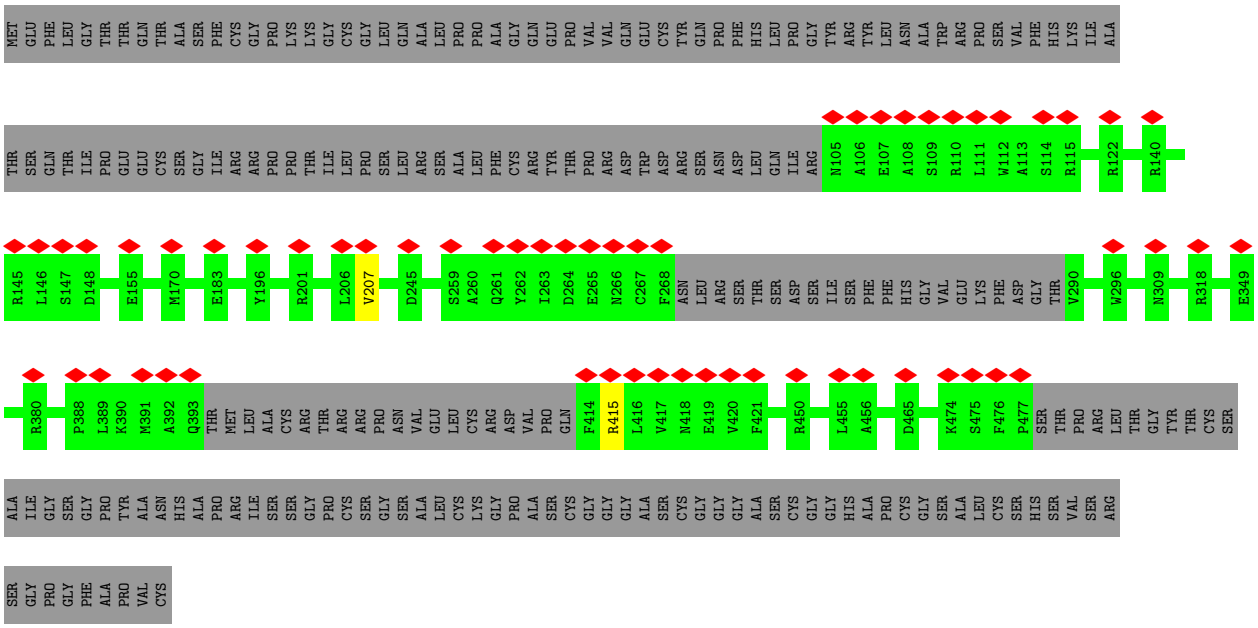
Chain Fj:





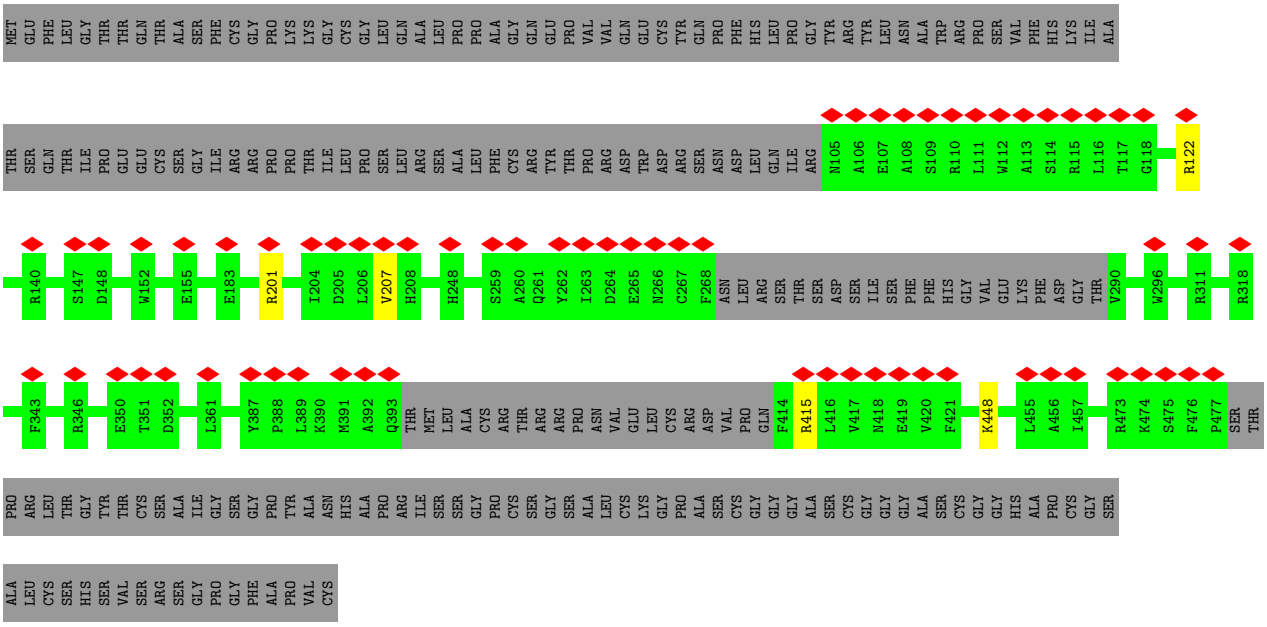
• Molecule 11: Tektin-5

Chain Fk:



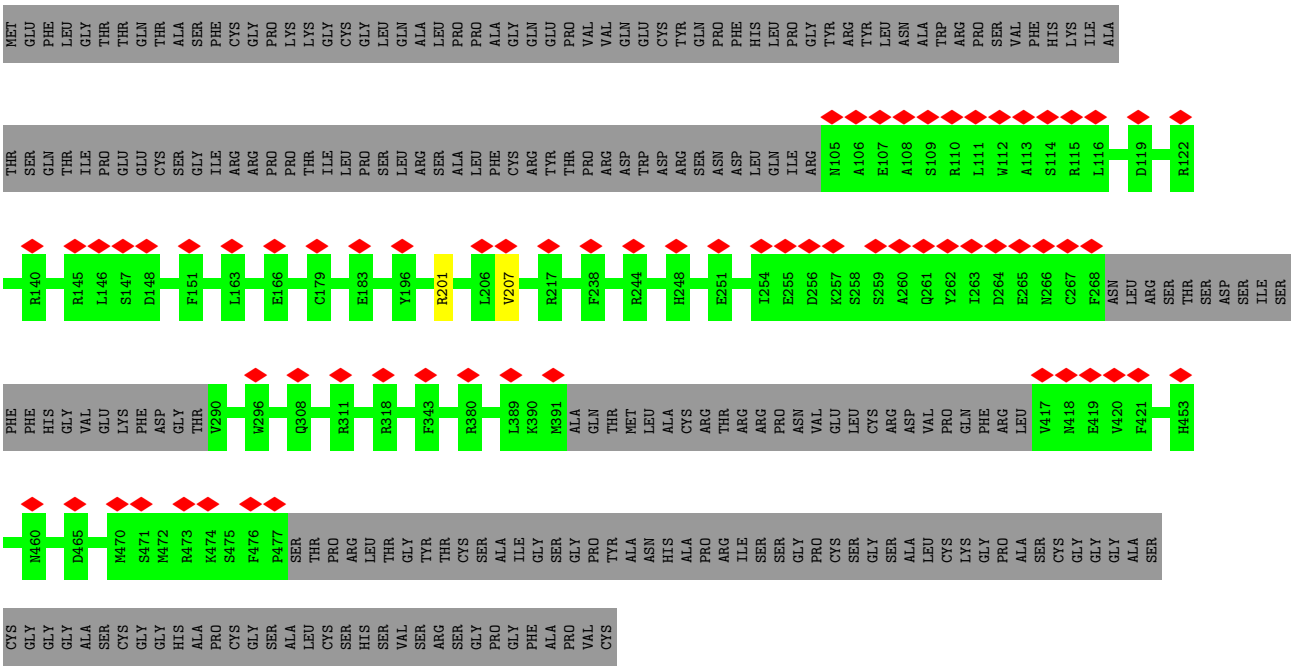
• Molecule 11: Tektin-5

Chain Fl:



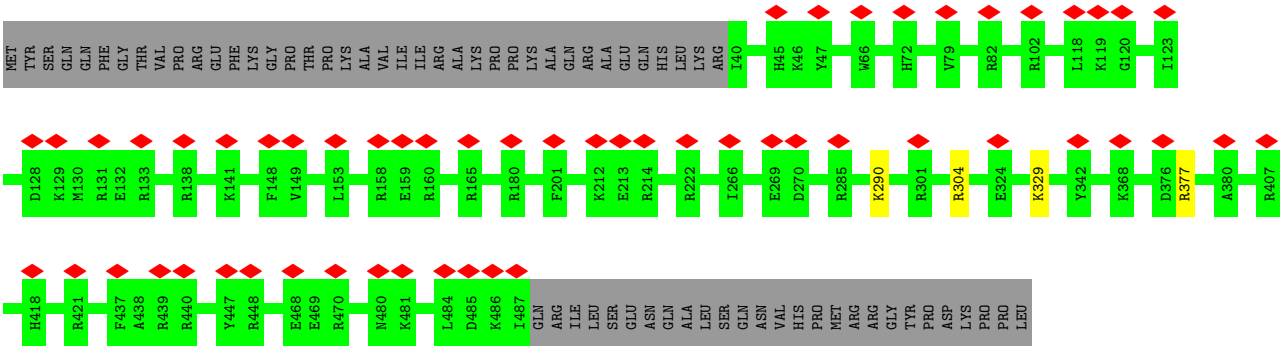
• Molecule 11: Tektin-5

Chain Fm:



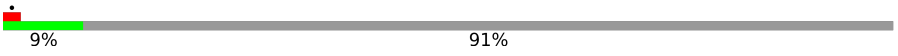
• Molecule 12: Cilia- and flagella-associated protein 53

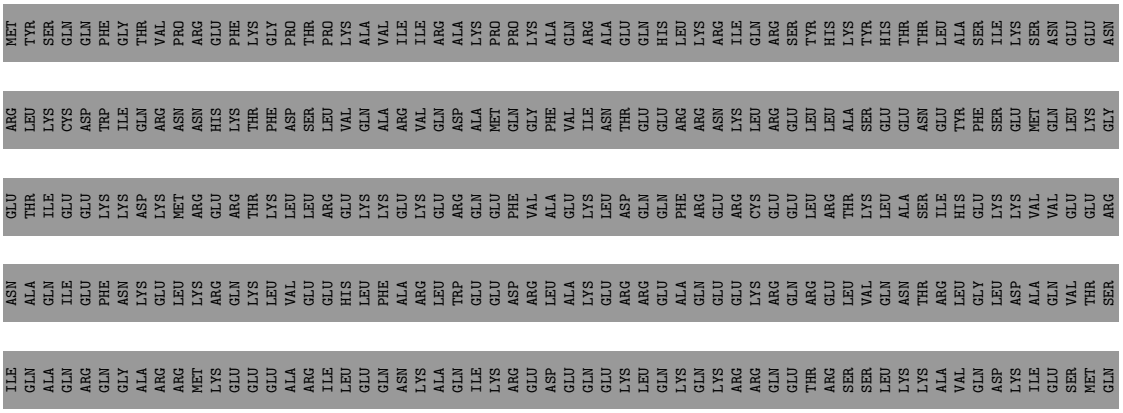
Chain G:

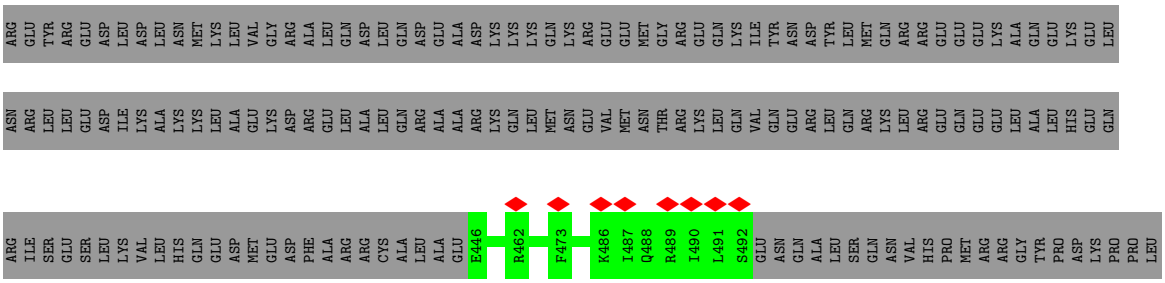


• Molecule 12: Cilia- and flagella-associated protein 53

Chain H:

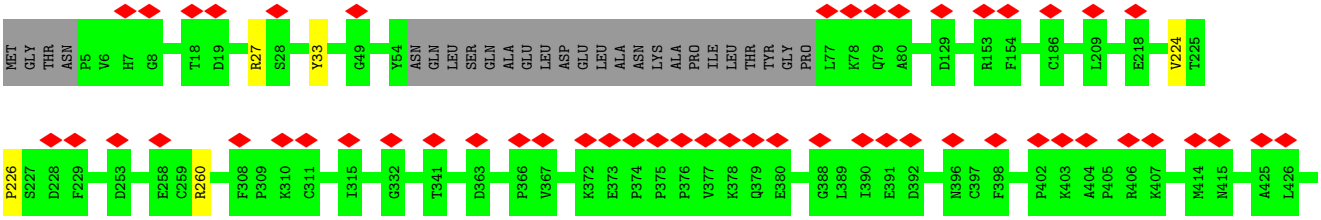






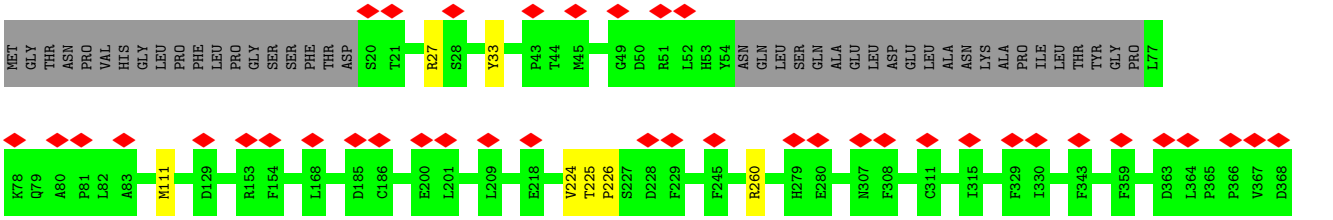
• Molecule 13: EF-hand domain-containing protein 1

Chain G1:



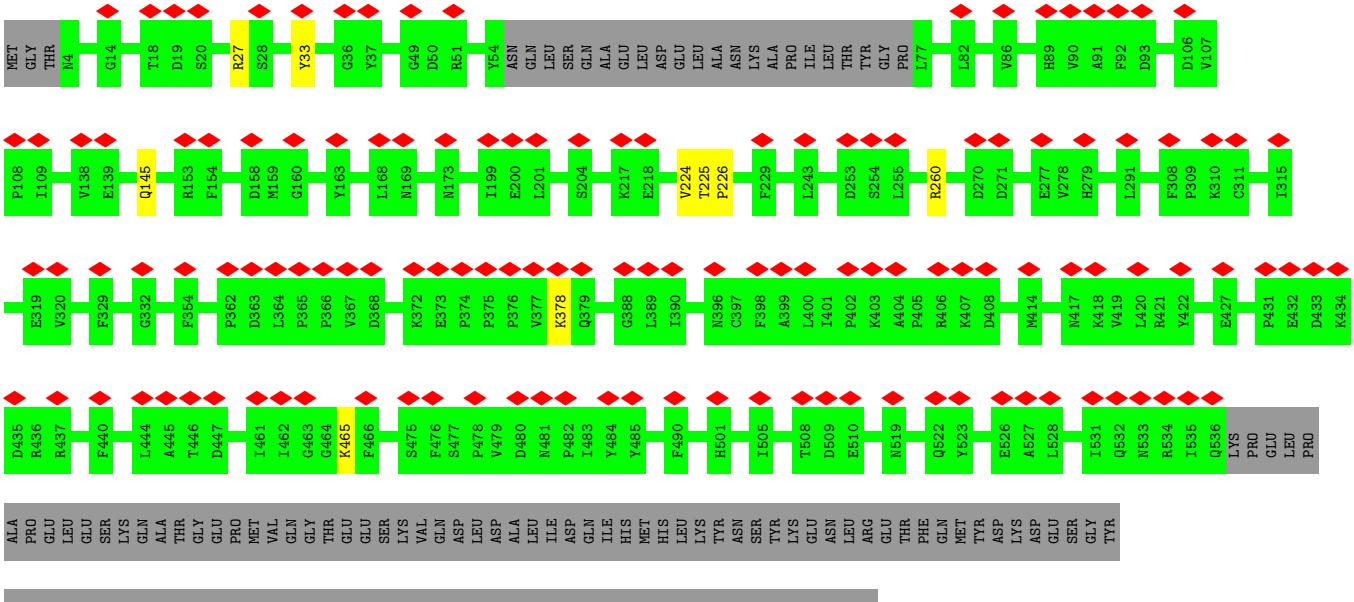
• Molecule 13: EF-hand domain-containing protein 1

Chain G2:



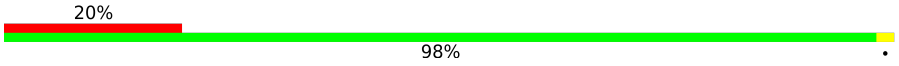
• Molecule 13: EF-hand domain-containing protein 1

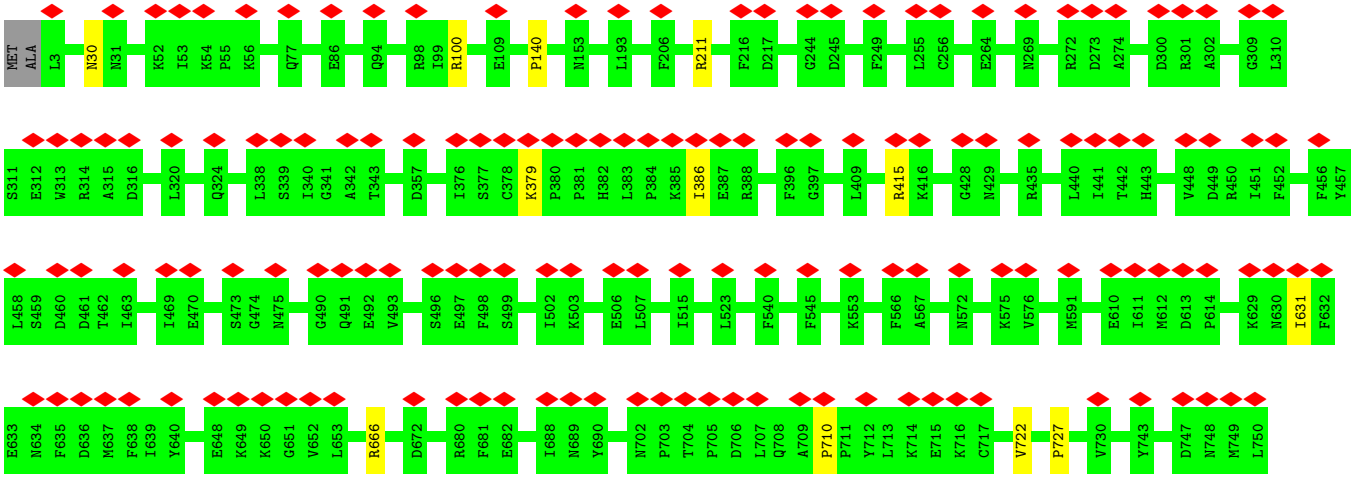
Chain G3:



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

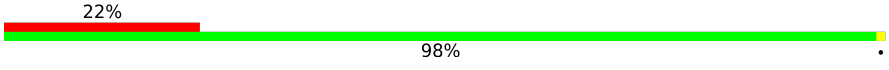
Chain G4:

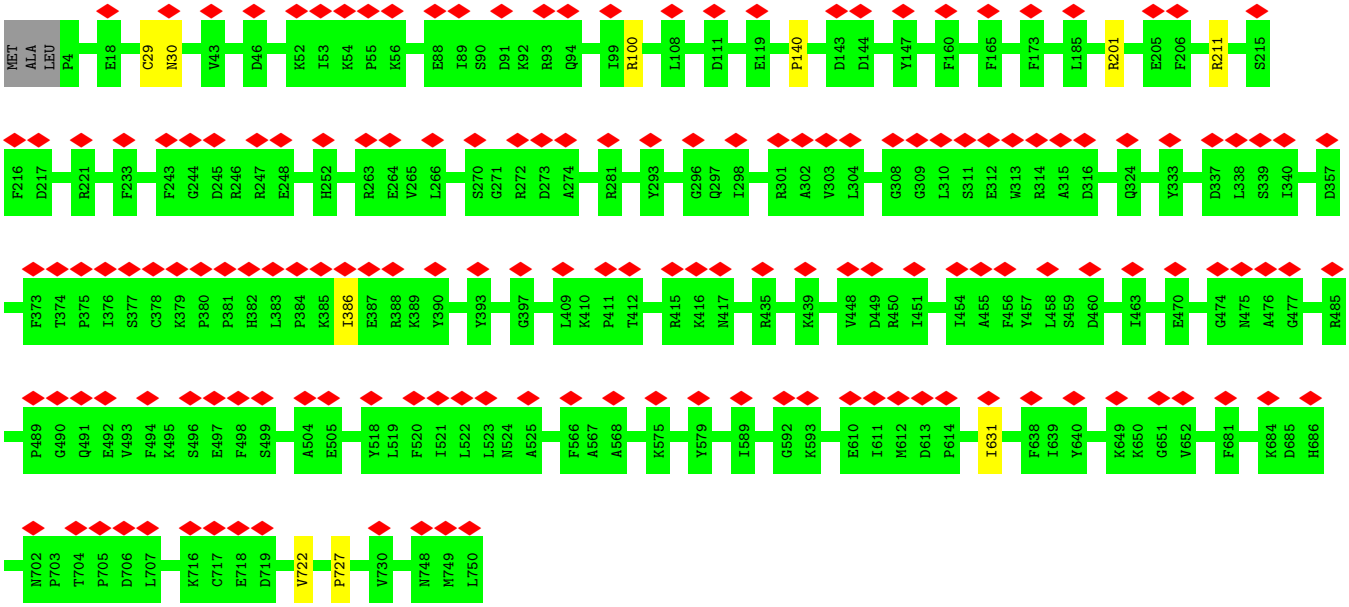




• Molecule 14: EF-hand domain-containing family member C2

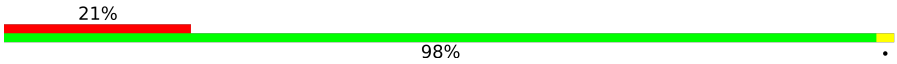
Chain G5:

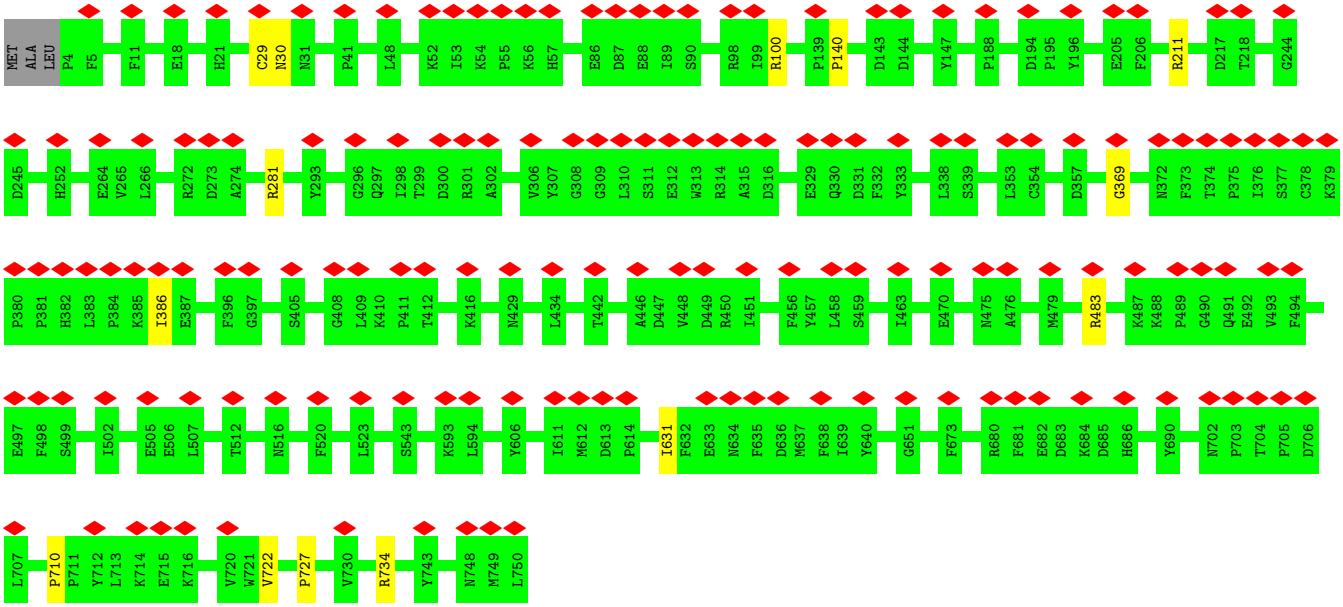




• Molecule 14: EF-hand domain-containing family member C2

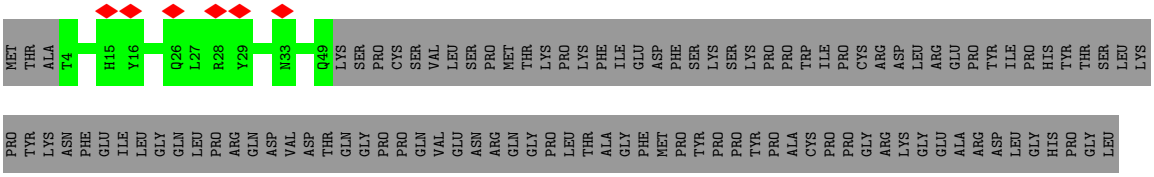
Chain G6:

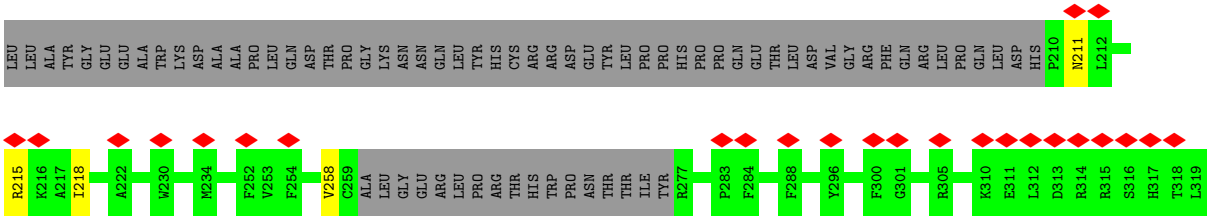




• Molecule 15: Protein FAM166A

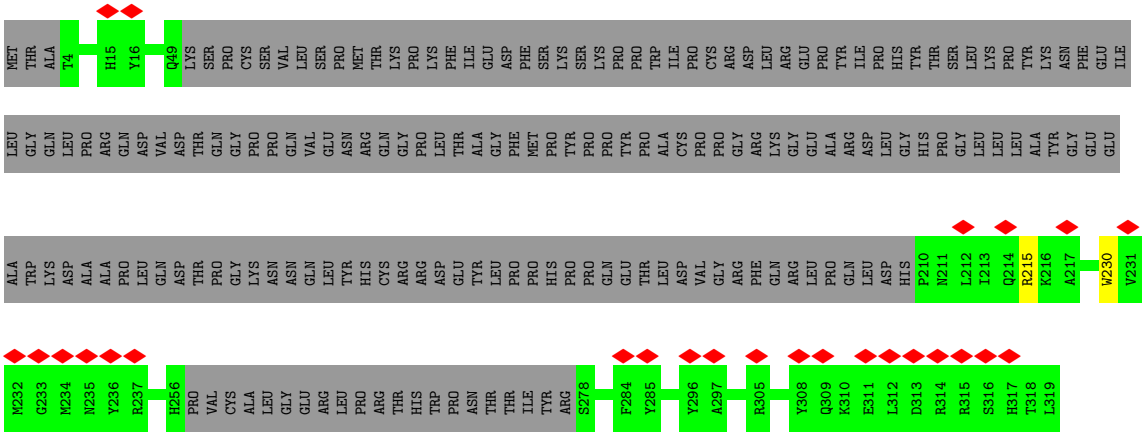
Chain H1:





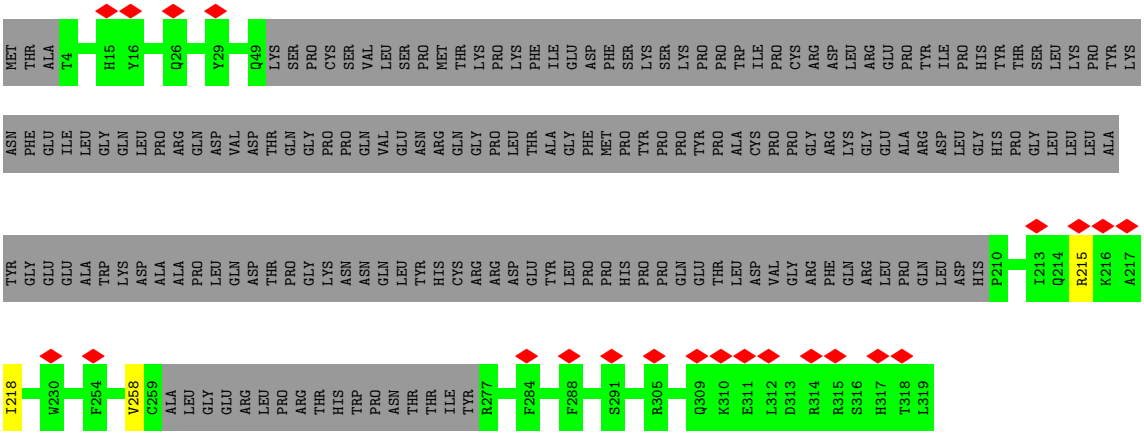
• Molecule 15: Protein FAM166A

Chain H2:



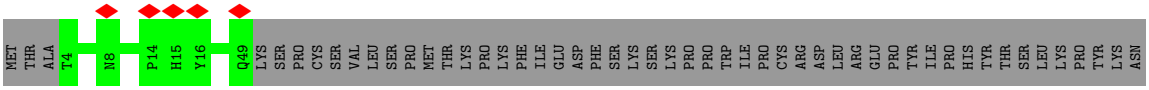
• Molecule 15: Protein FAM166A

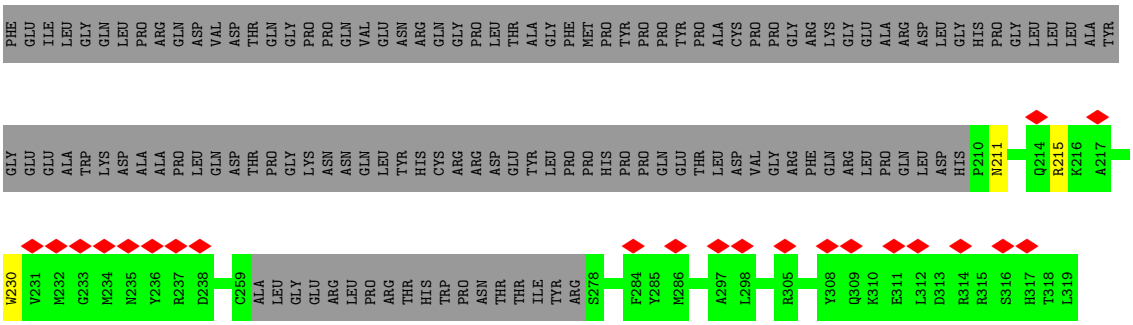
Chain H3:



• Molecule 15: Protein FAM166A

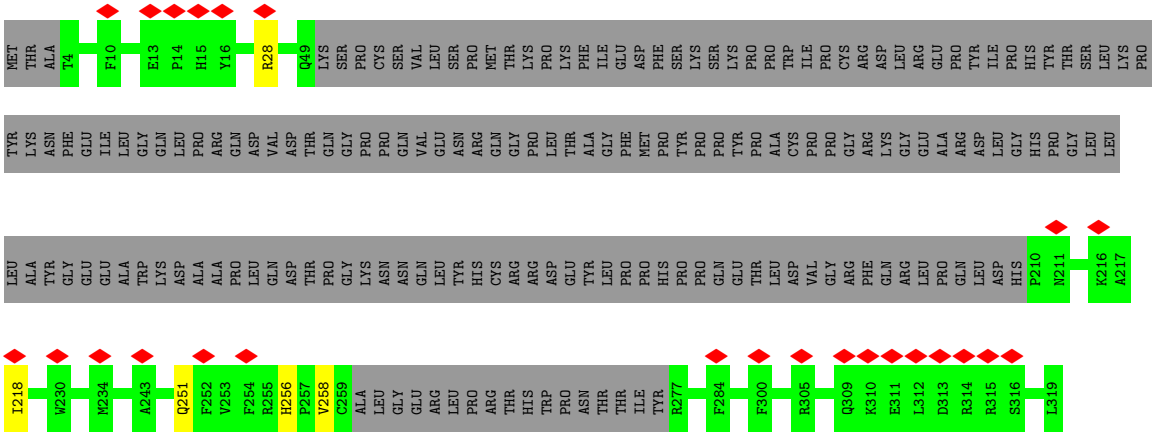
Chain H4:





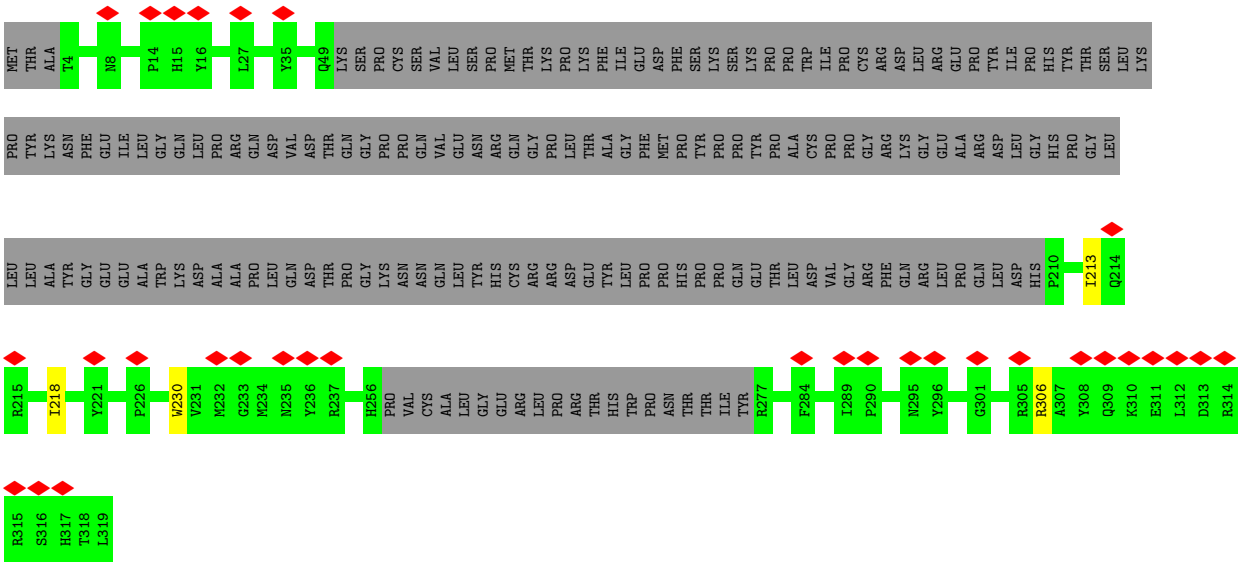
• Molecule 15: Protein FAM166A

Chain H5:



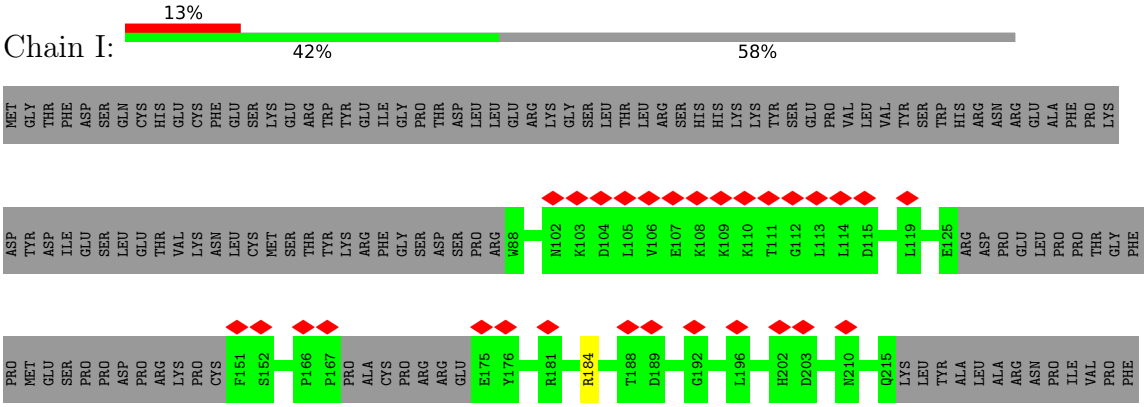
• Molecule 15: Protein FAM166A

Chain H6:



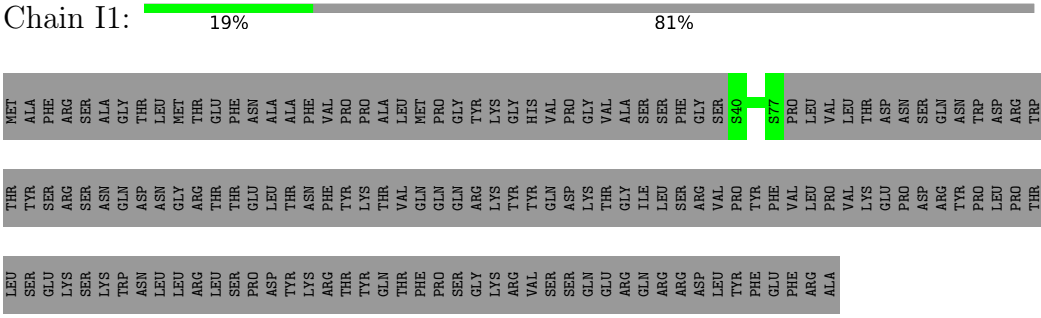
• Molecule 16: Cilia- and flagella-associated protein 95

Chain I:



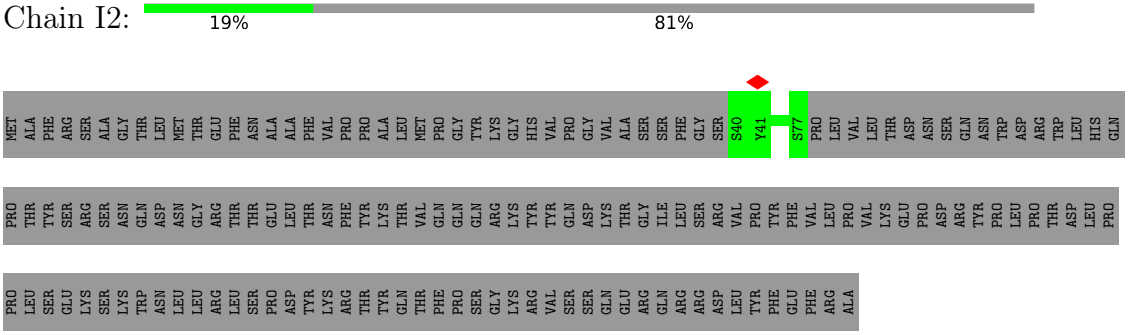
• Molecule 17: Protein FAM166C

Chain I1:



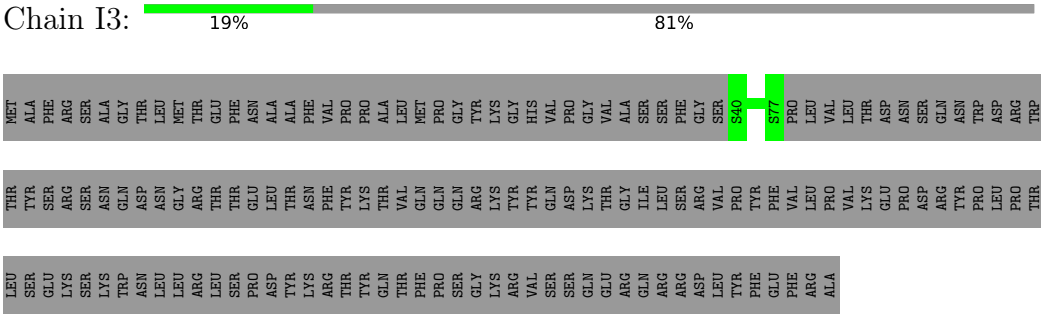
• Molecule 17: Protein FAM166C

Chain I2:



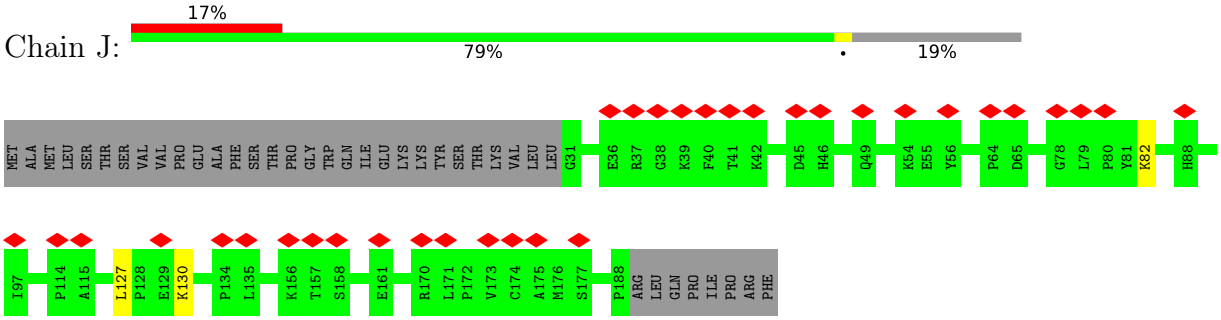
• Molecule 17: Protein FAM166C

Chain I3:



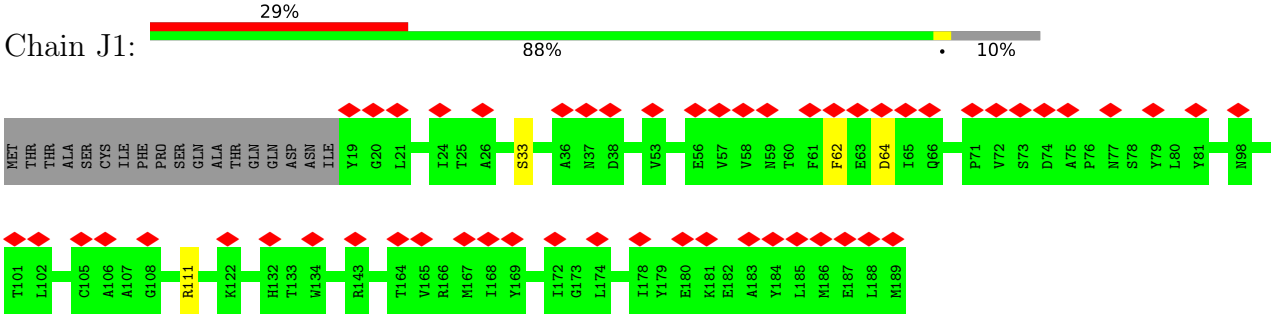
• Molecule 18: Cilia- and flagella-associated protein 107

Chain J:



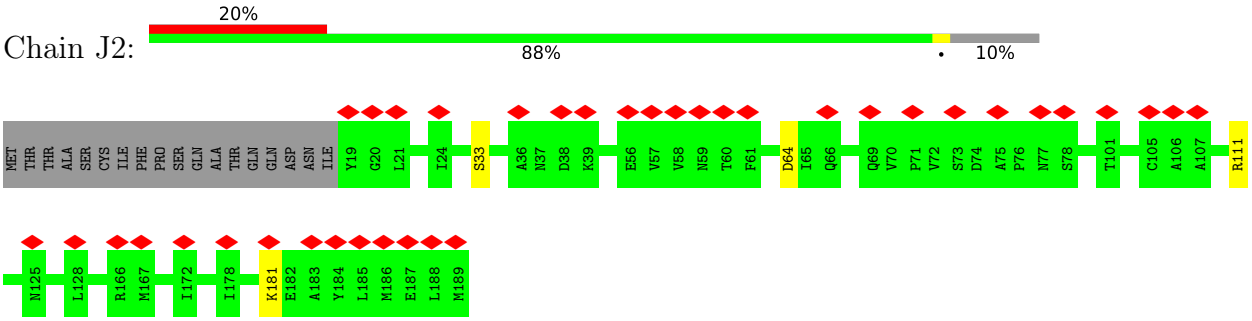
• Molecule 19: Dual specificity phosphatase 21

Chain J1:



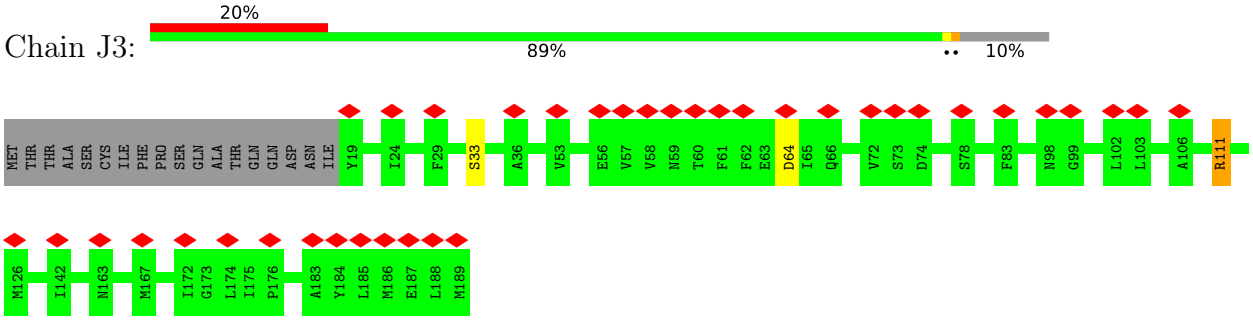
• Molecule 19: Dual specificity phosphatase 21

Chain J2:



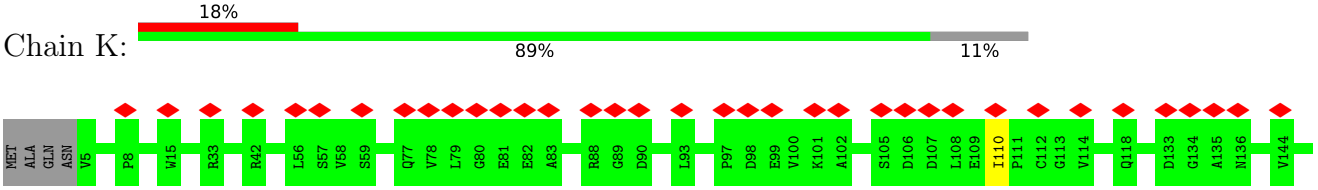
• Molecule 19: Dual specificity phosphatase 21

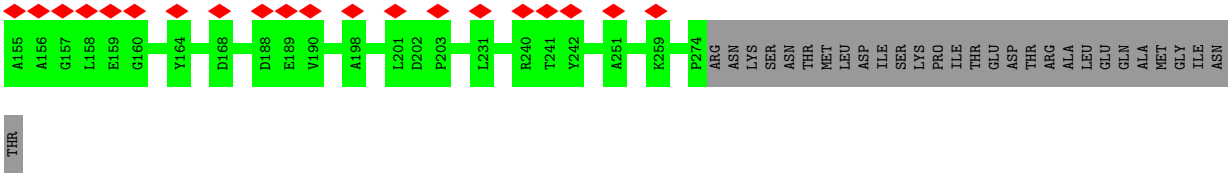
Chain J3:



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

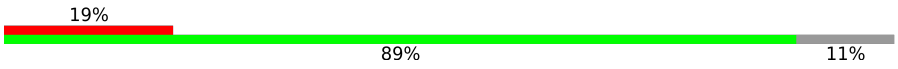
Chain K:

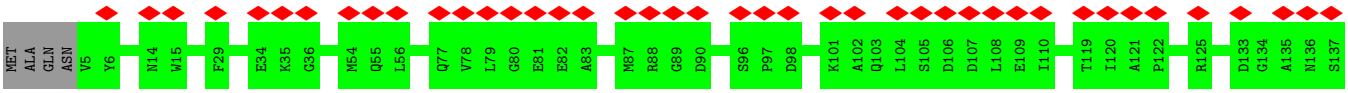


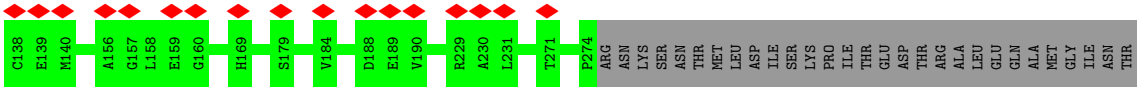


• Molecule 20: Cilia- and flagella-associated protein 161

Chain L:

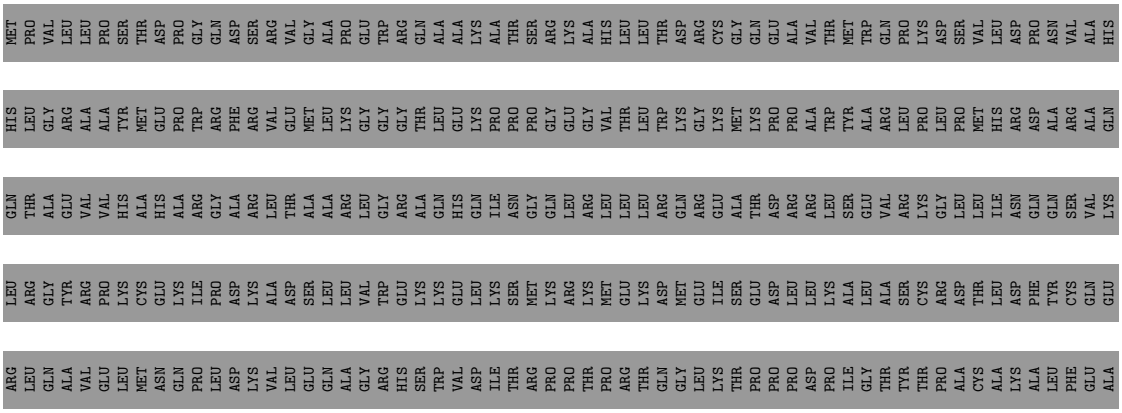






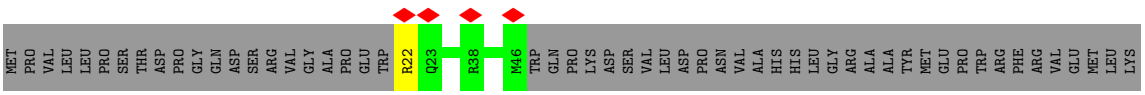
• Molecule 21: Coiled-coil domain-containing protein 105

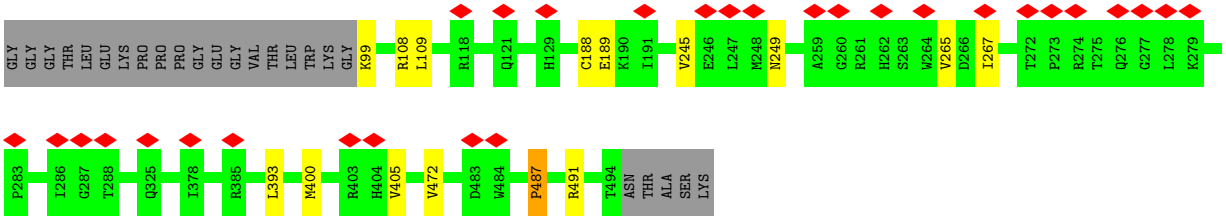
Chain K1:



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

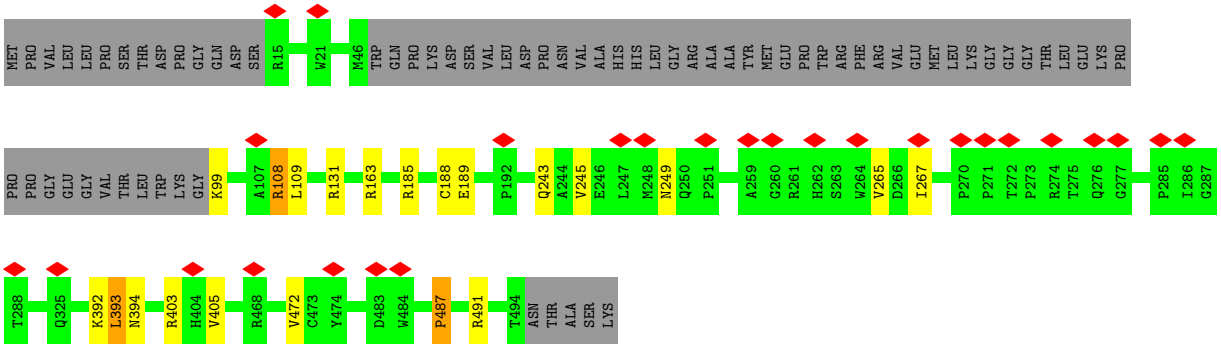
Chain K2:





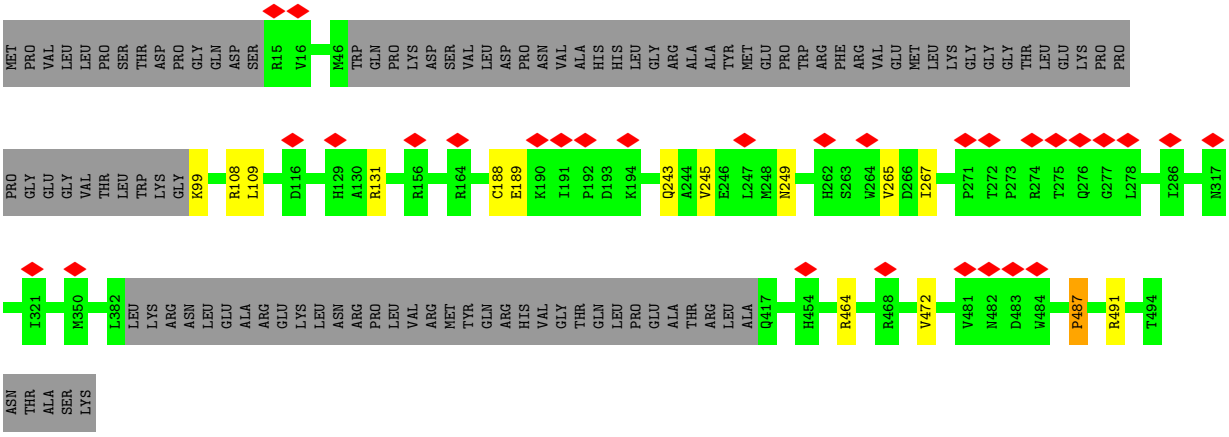
• Molecule 21: Coiled-coil domain-containing protein 105

Chain K3:



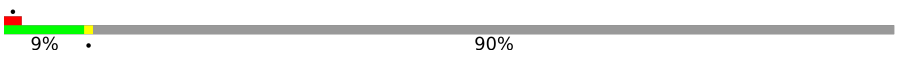
• Molecule 21: Coiled-coil domain-containing protein 105

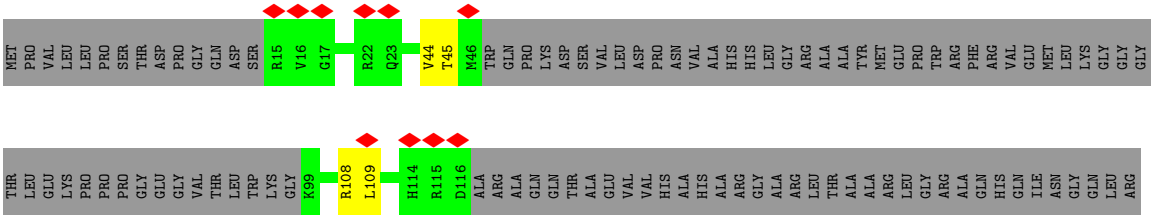
Chain K4:

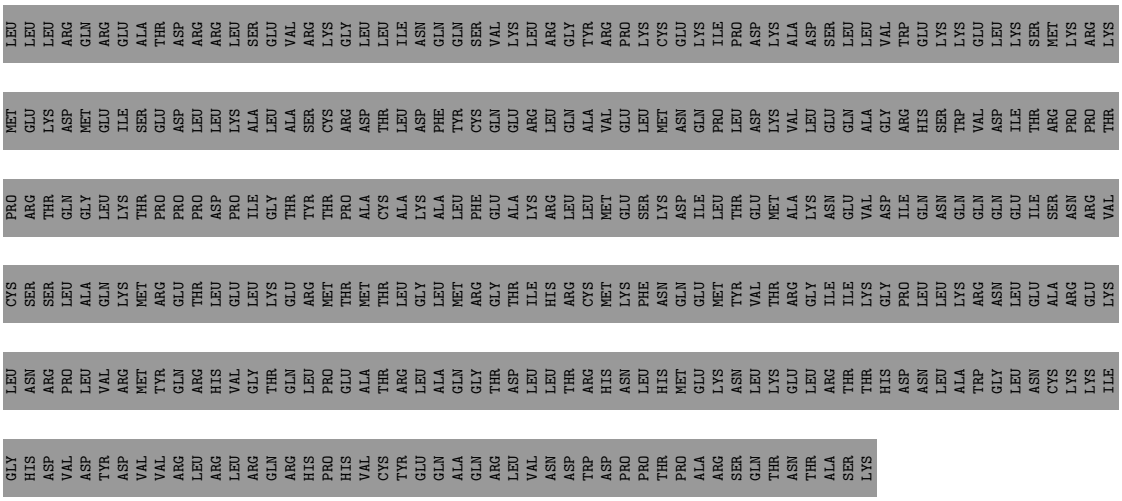


• Molecule 21: Coiled-coil domain-containing protein 105

Chain K5:

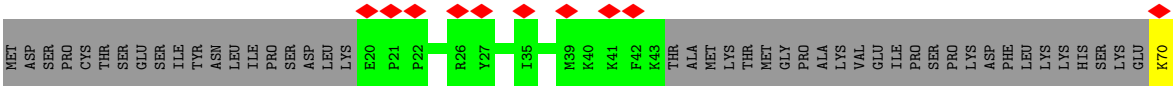


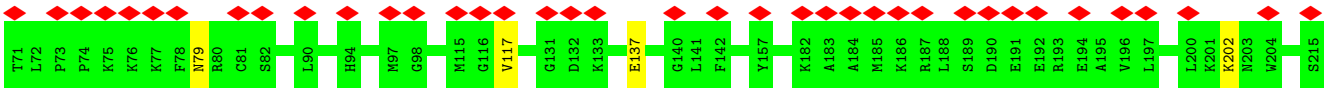


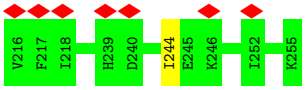


• Molecule 22: Enkurin

Chain L1:

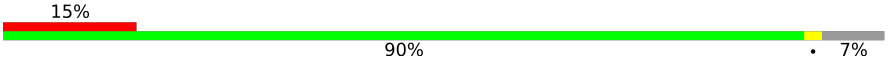


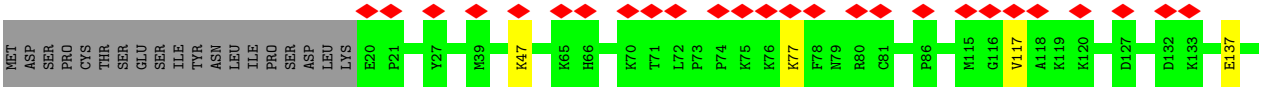


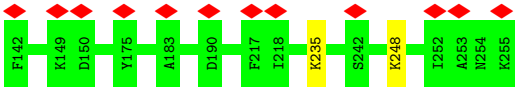


• Molecule 22: Enkurin

Chain L2:

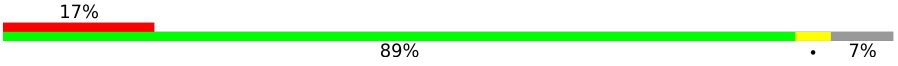


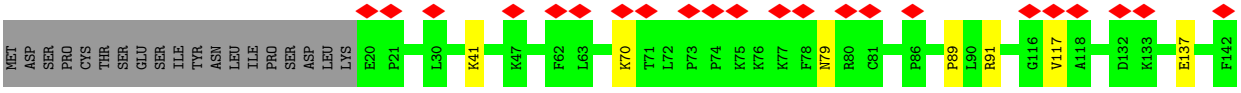


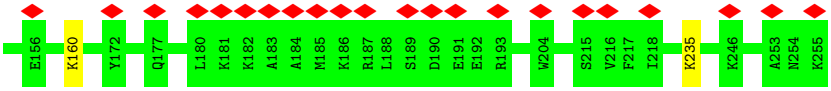


• Molecule 22: Enkurin

Chain L3:

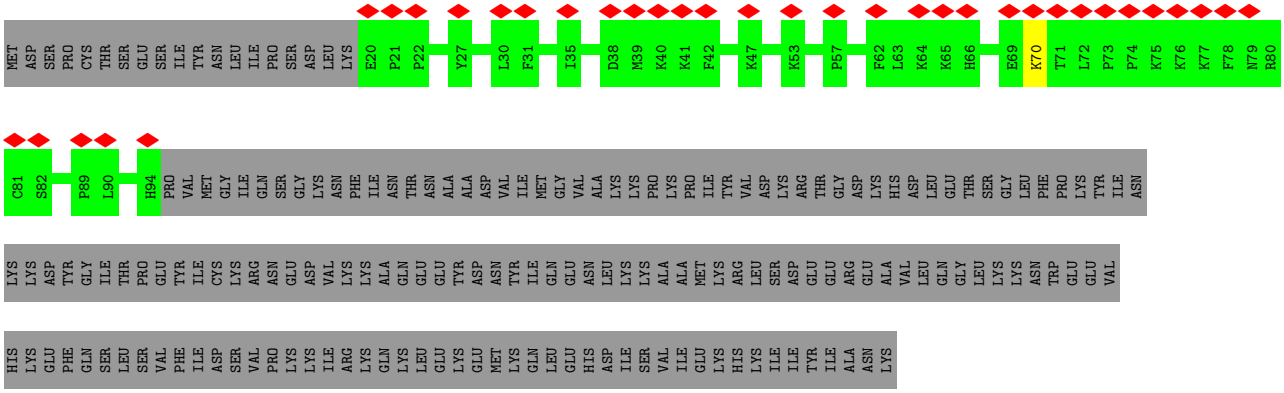






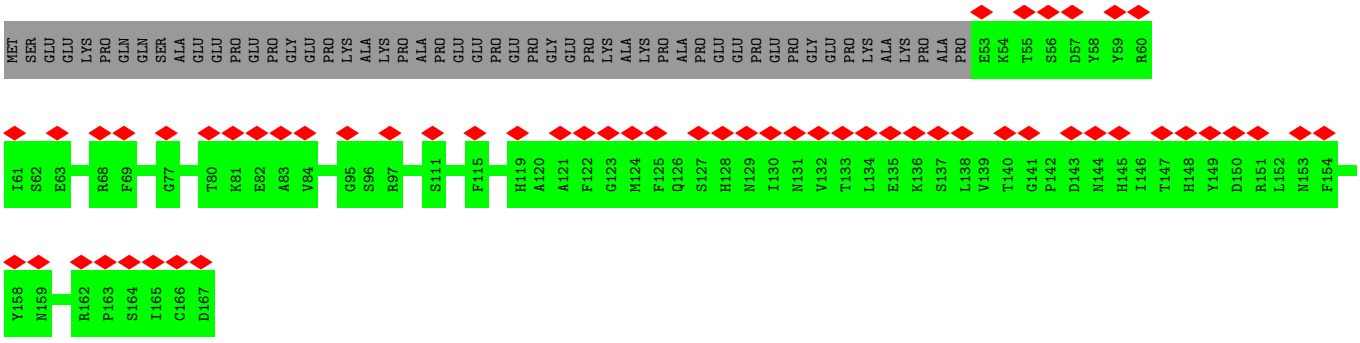
• Molecule 22: Enkurin

Chain L4:



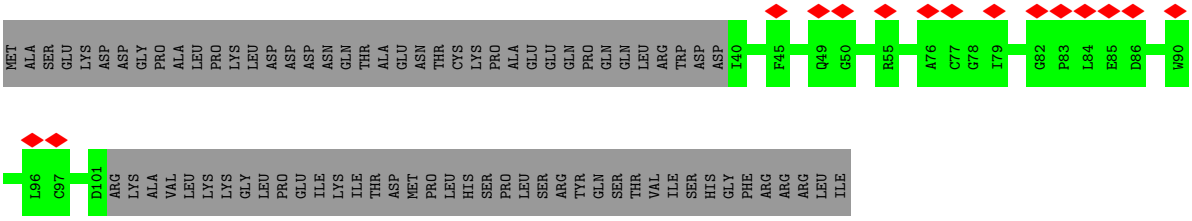
• Molecule 23: Piercer of microtubule wall 1 protein

Chain M:



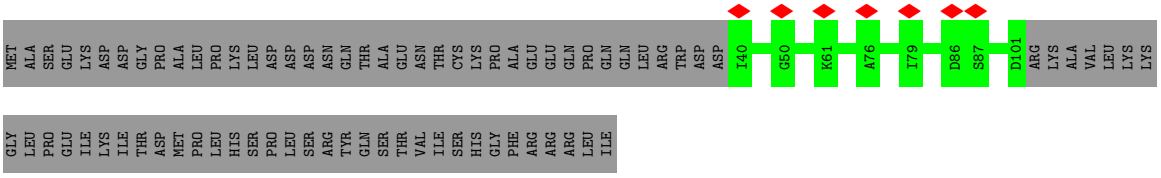
• Molecule 24: Testis-expressed protein 43

Chain M1:



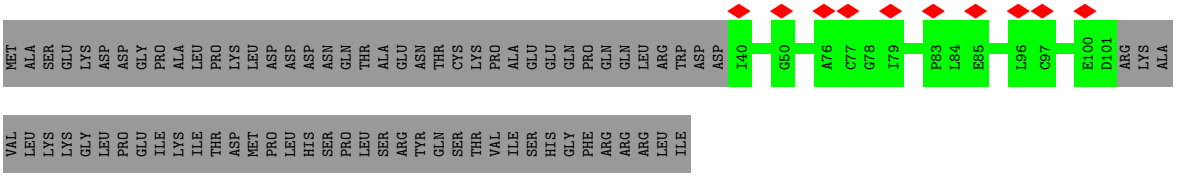
• Molecule 24: Testis-expressed protein 43

Chain M2:



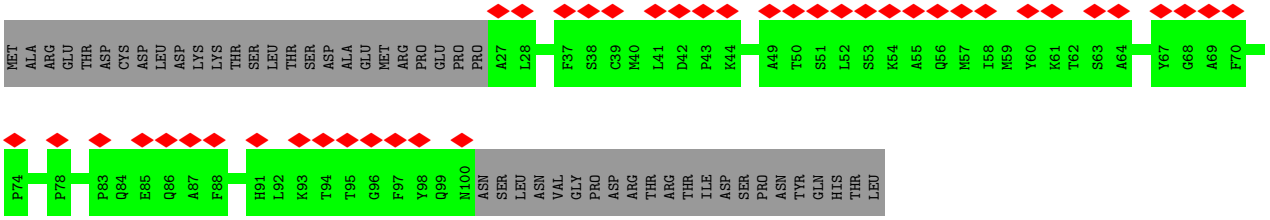
• Molecule 24: Testis-expressed protein 43

Chain M3:



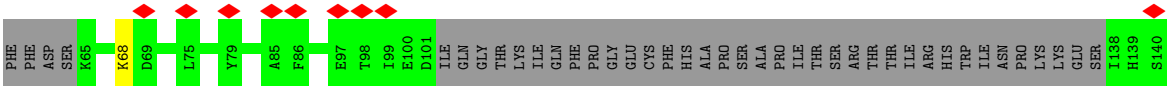
• Molecule 25: Piercer of microtubule wall 2 protein

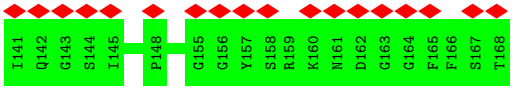
Chain N:



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

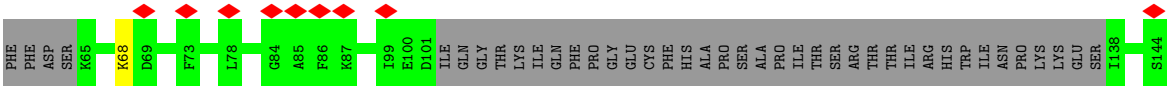
Chain N1:

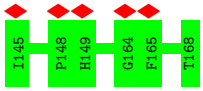




• Molecule 26: Cilia- and flagella-associated protein 276

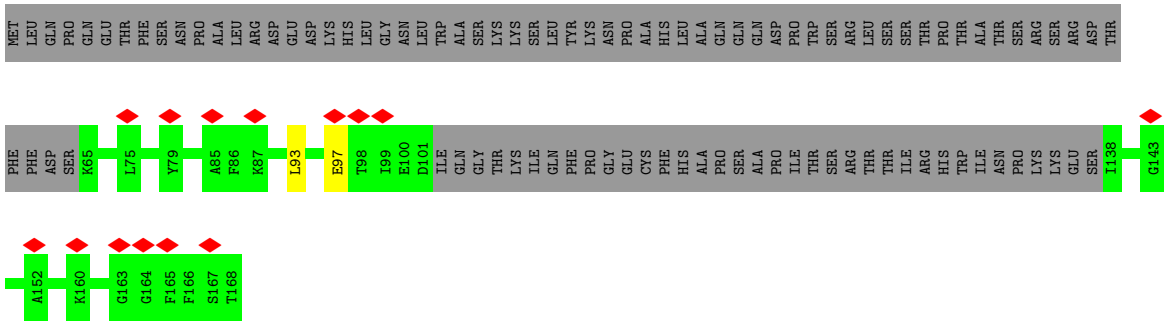
Chain N2:





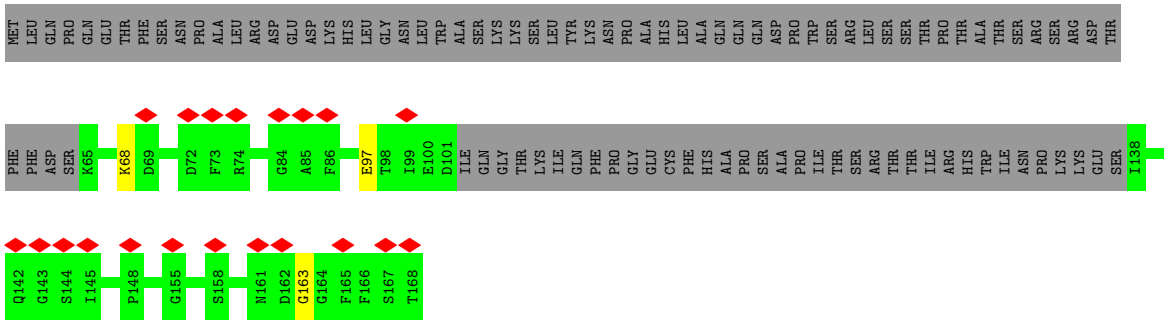
• Molecule 26: Cilia- and flagella-associated protein 276

Chain N3:



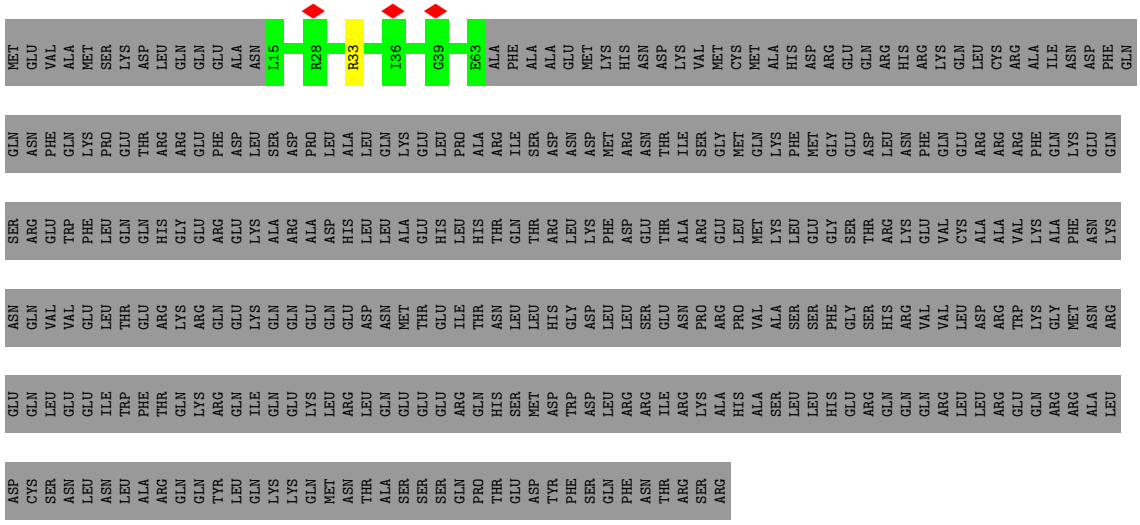
• Molecule 26: Cilia- and flagella-associated protein 276

Chain N4:

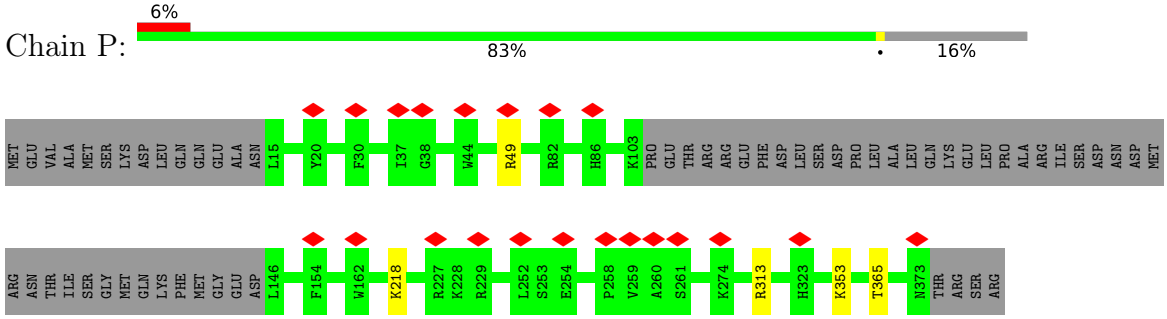


• Molecule 27: RIB43A-like with coiled-coils protein 2

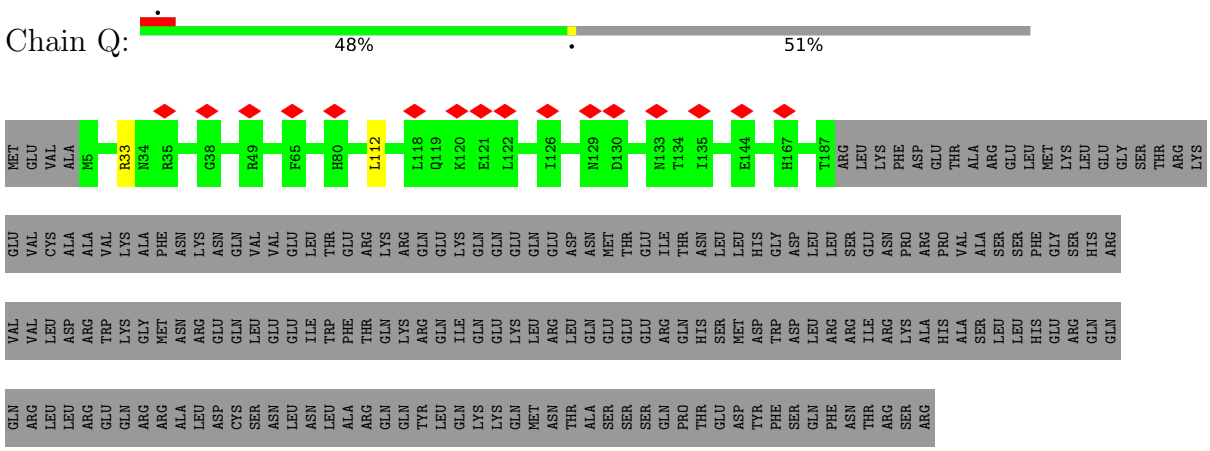
Chain O:



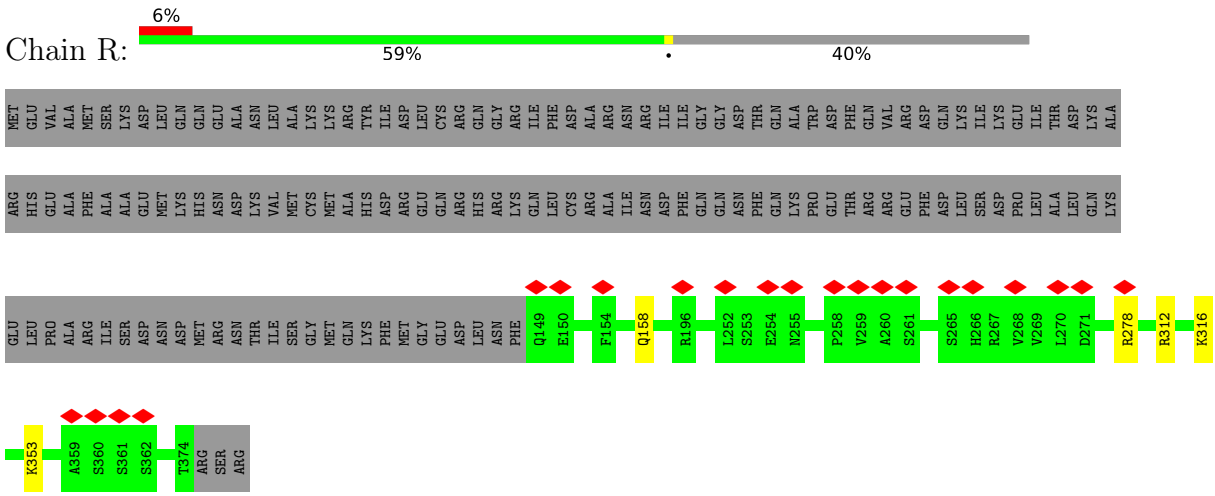
• Molecule 27: RIB43A-like with coiled-coils protein 2



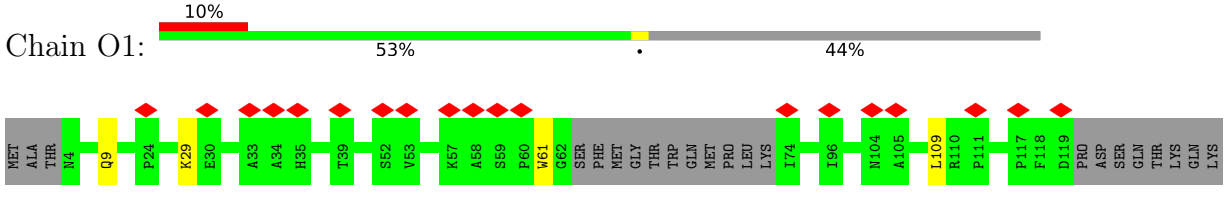
• Molecule 27: RIB43A-like with coiled-coils protein 2

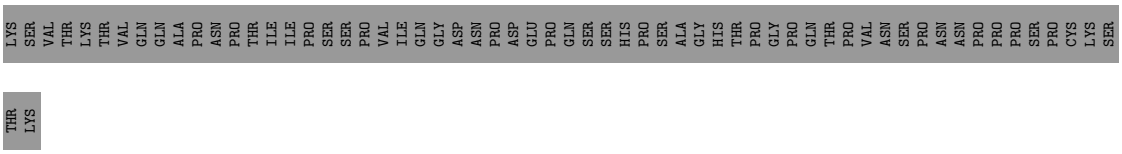


• Molecule 27: RIB43A-like with coiled-coils protein 2



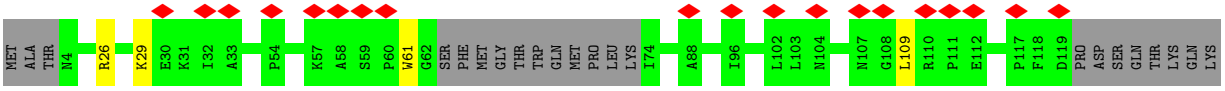
• Molecule 28: Protein Flattop





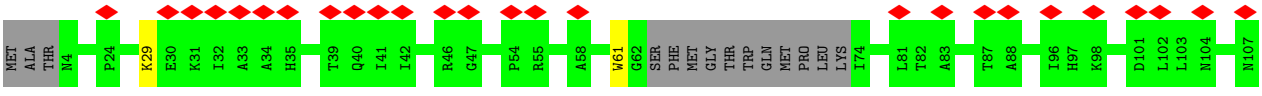
• Molecule 28: Protein Flattop

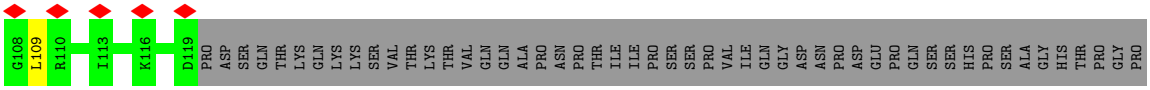
Chain O2:



• Molecule 28: Protein Flattop

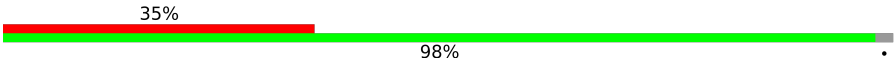
Chain O3:

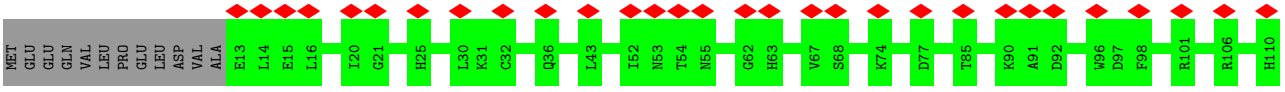


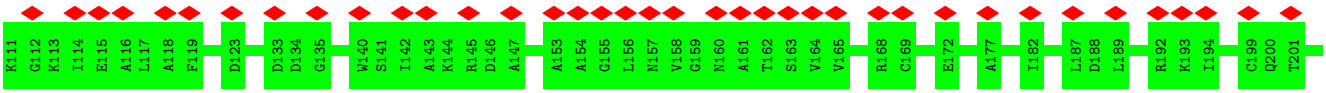


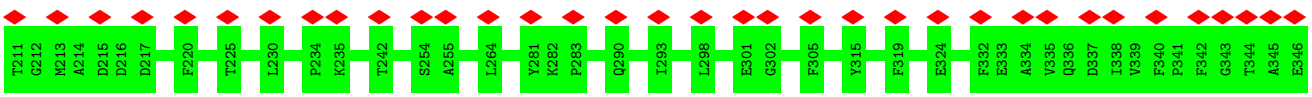
• Molecule 29: Cilia- and flagella-associated protein 52

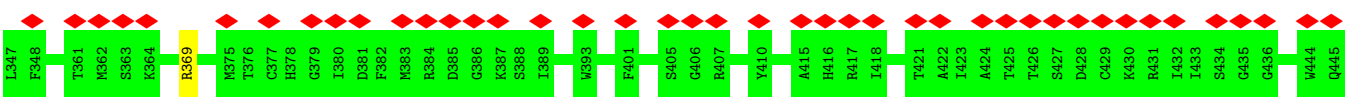
Chain P1:

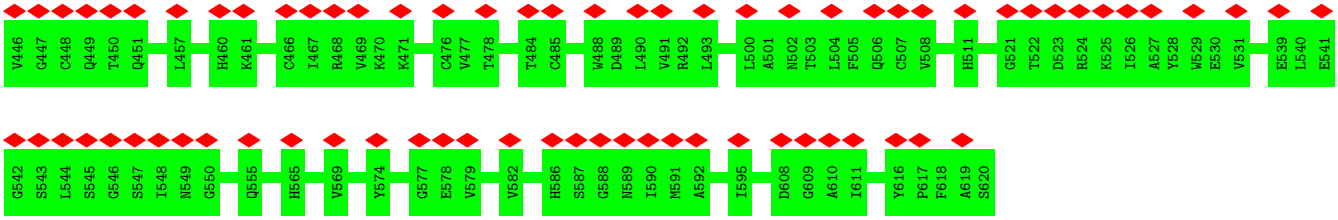






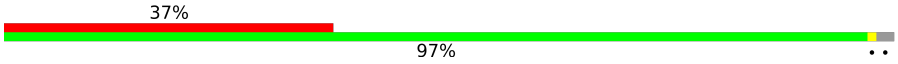


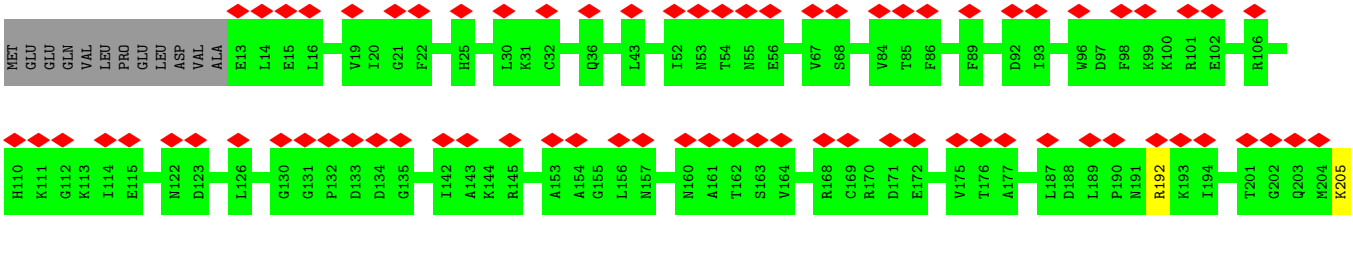




• Molecule 29: Cilia- and flagella-associated protein 52

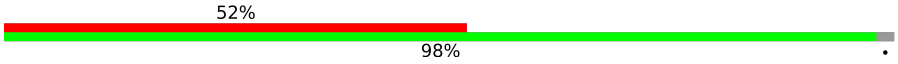
Chain P2:

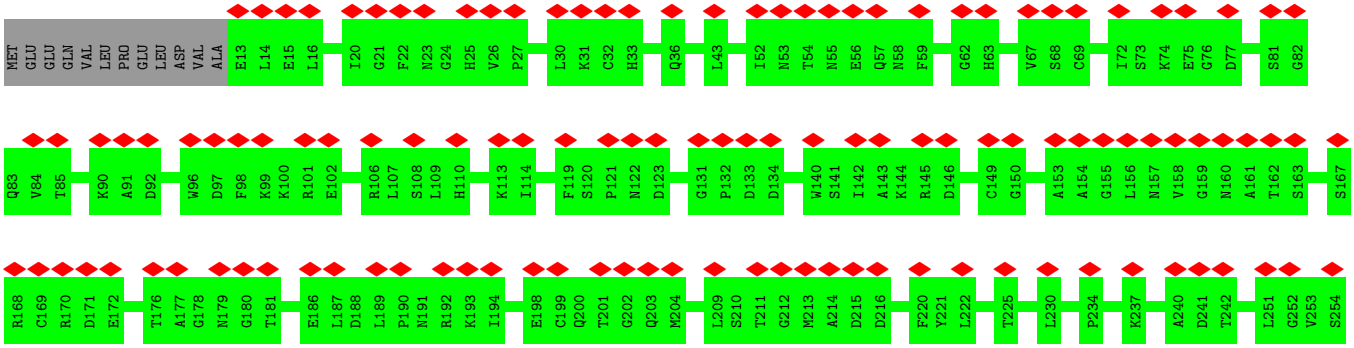


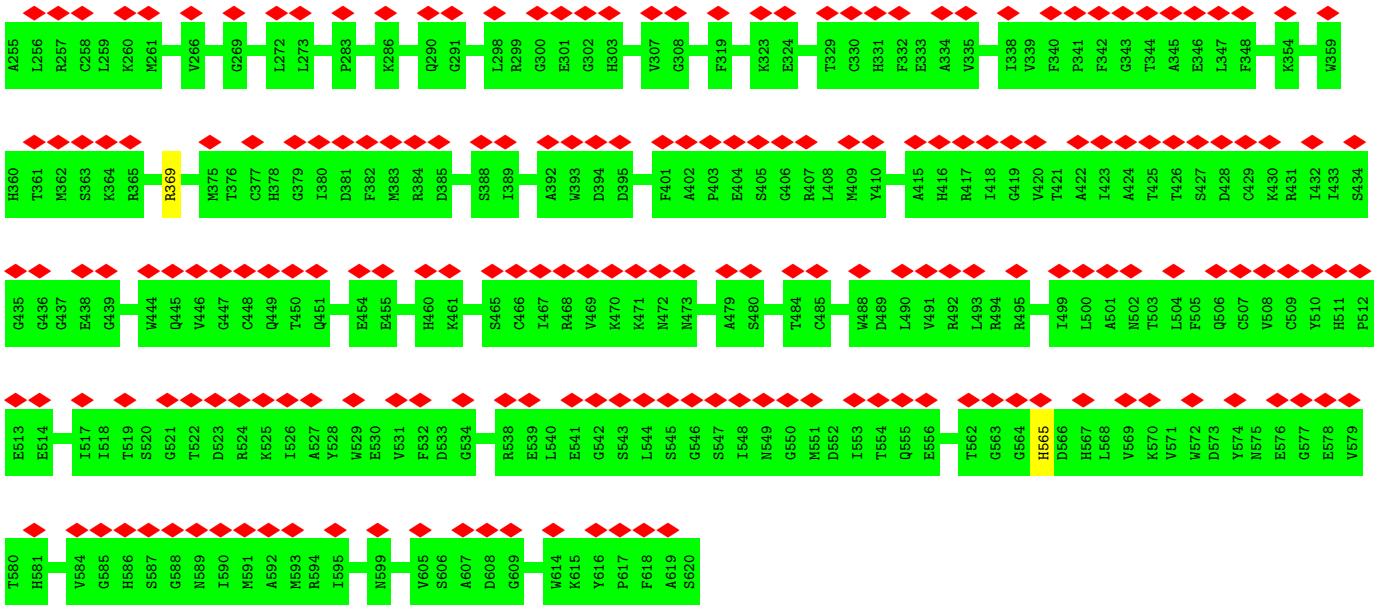


• Molecule 29: Cilia- and flagella-associated protein 52

Chain P3:

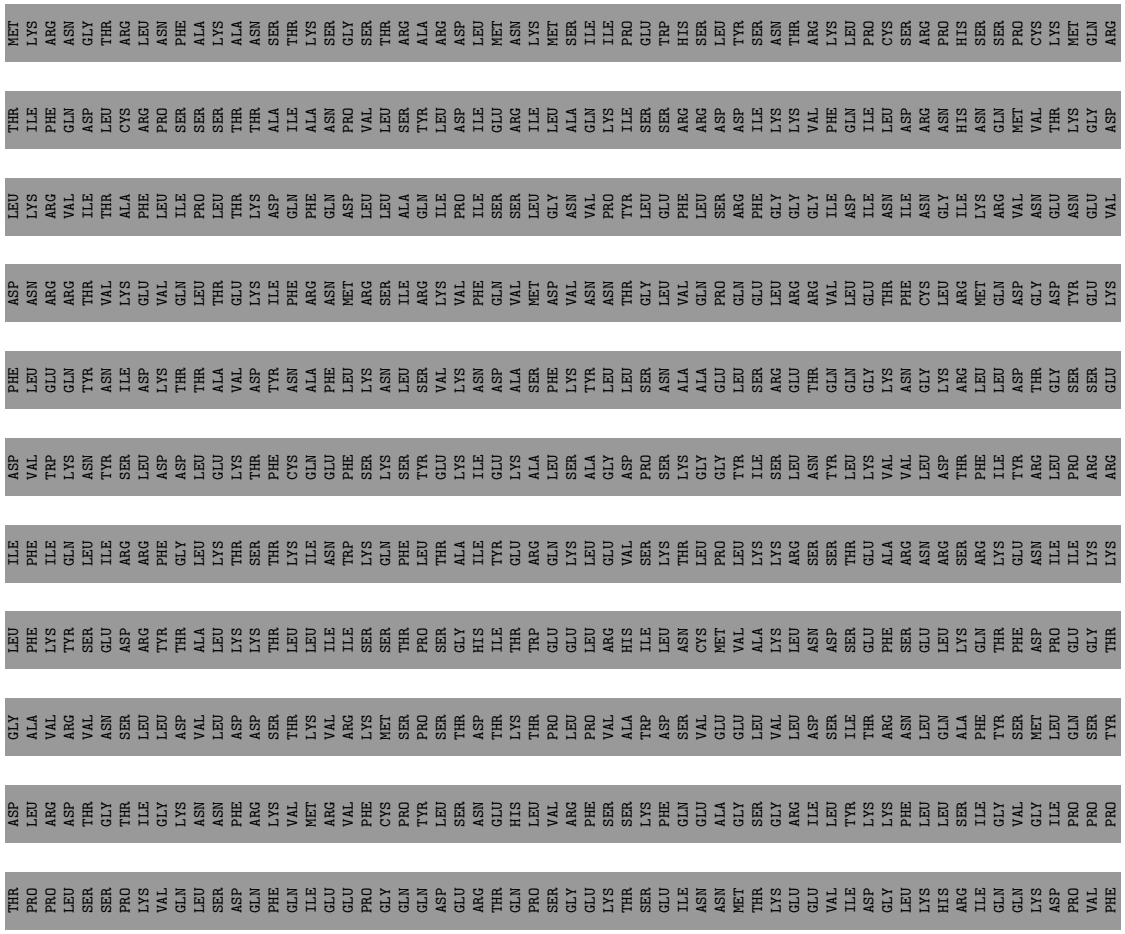


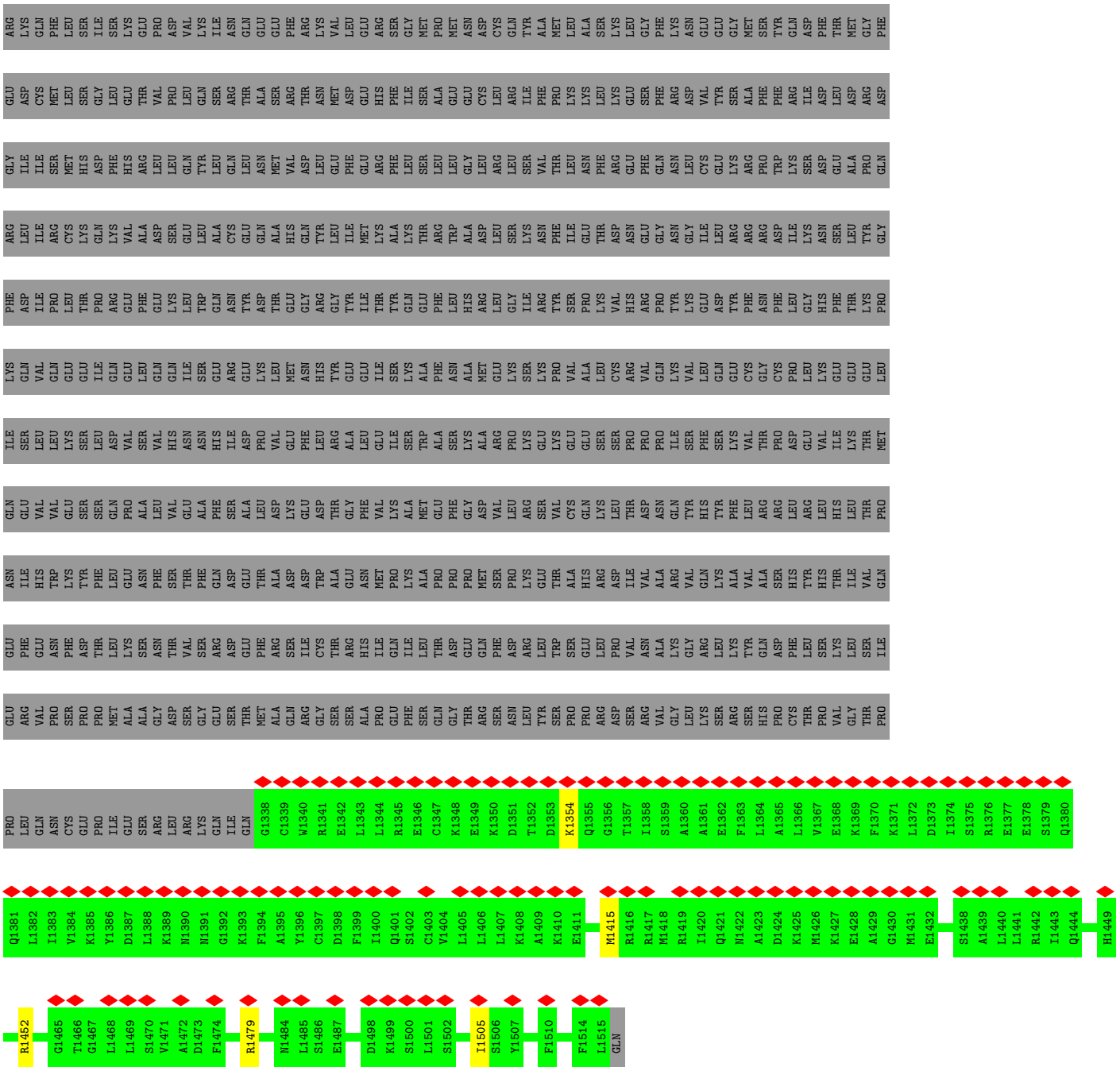




• Molecule 30: EF-hand calcium-binding domain-containing protein 6

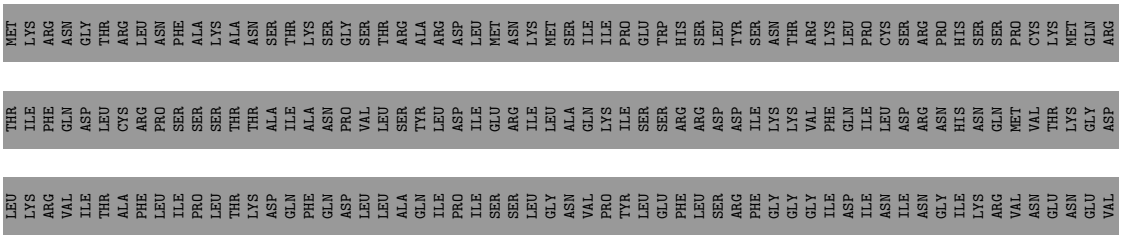
Chain Q1:

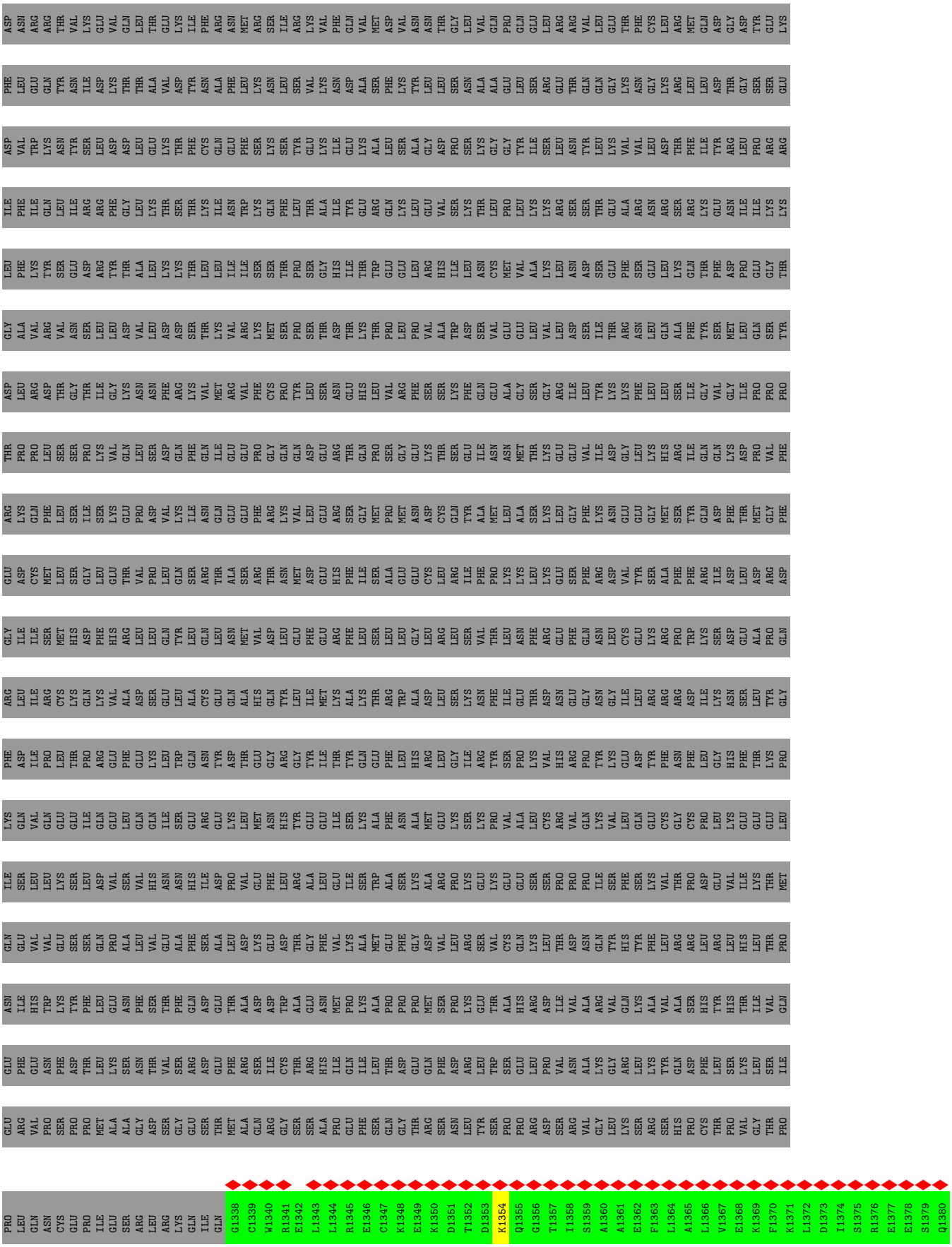




• Molecule 30: EF-hand calcium-binding domain-containing protein 6

Chain Q2:

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W1340
R1341
E1342
L1343
L1344
R1345
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C1347
K1348
E1349
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D1351
T1352
D1353
K1354
Q1355
G1356
T1357
I1358
S1359
A1360
A1361
E1362
F1363
L1364
A1365
L1366
V1367
E1368
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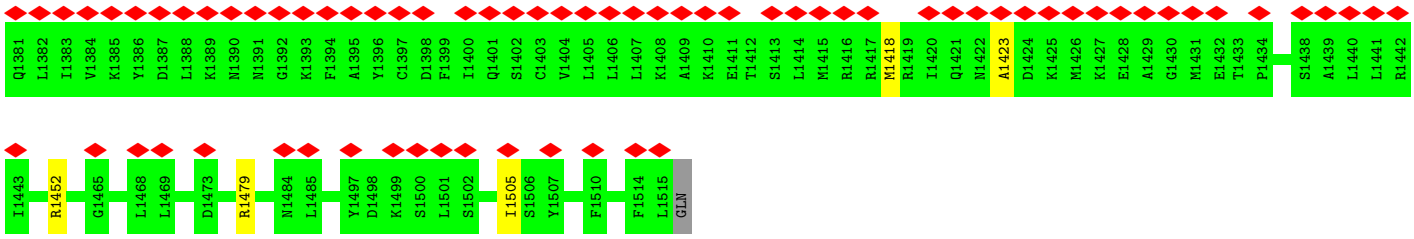
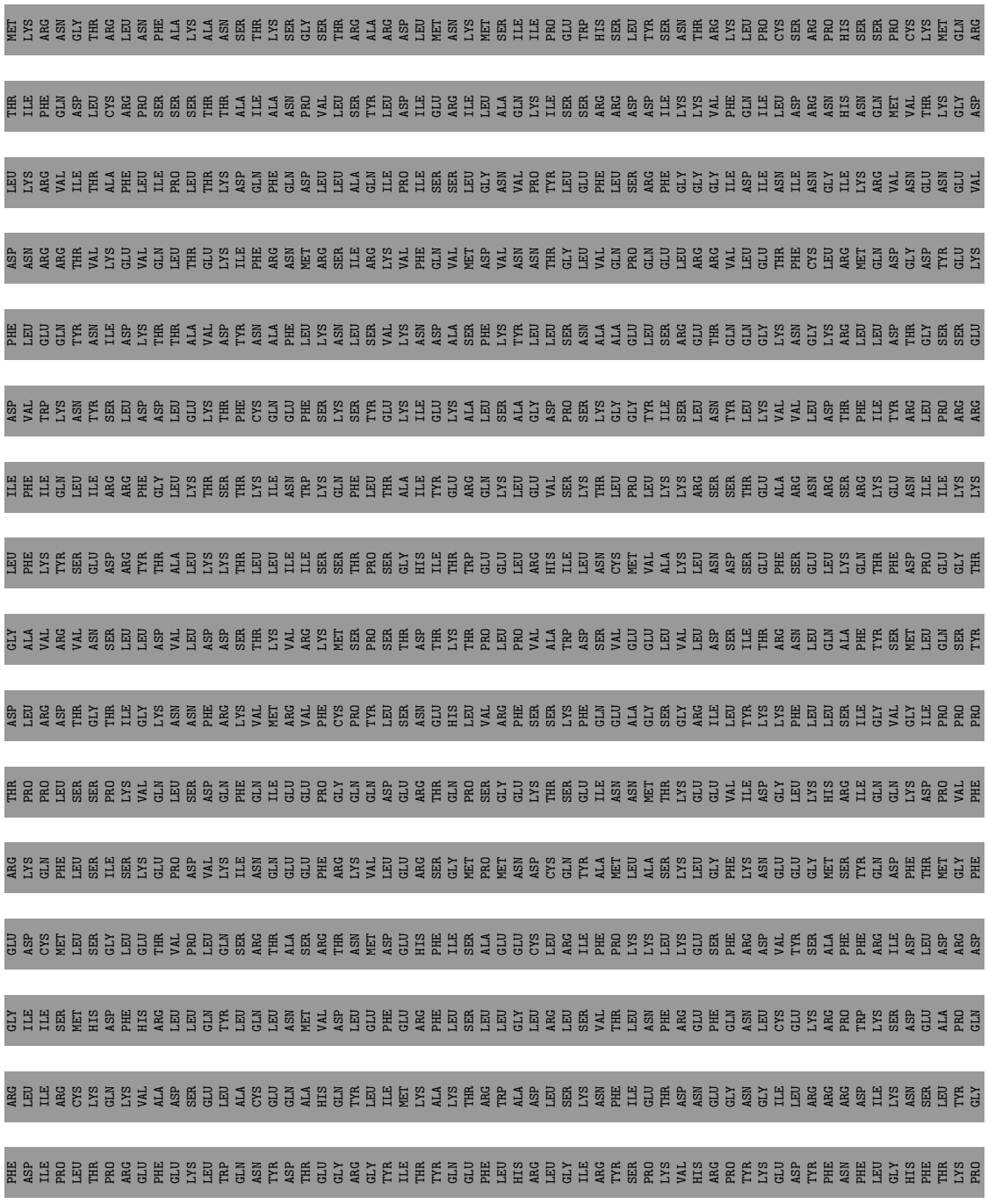
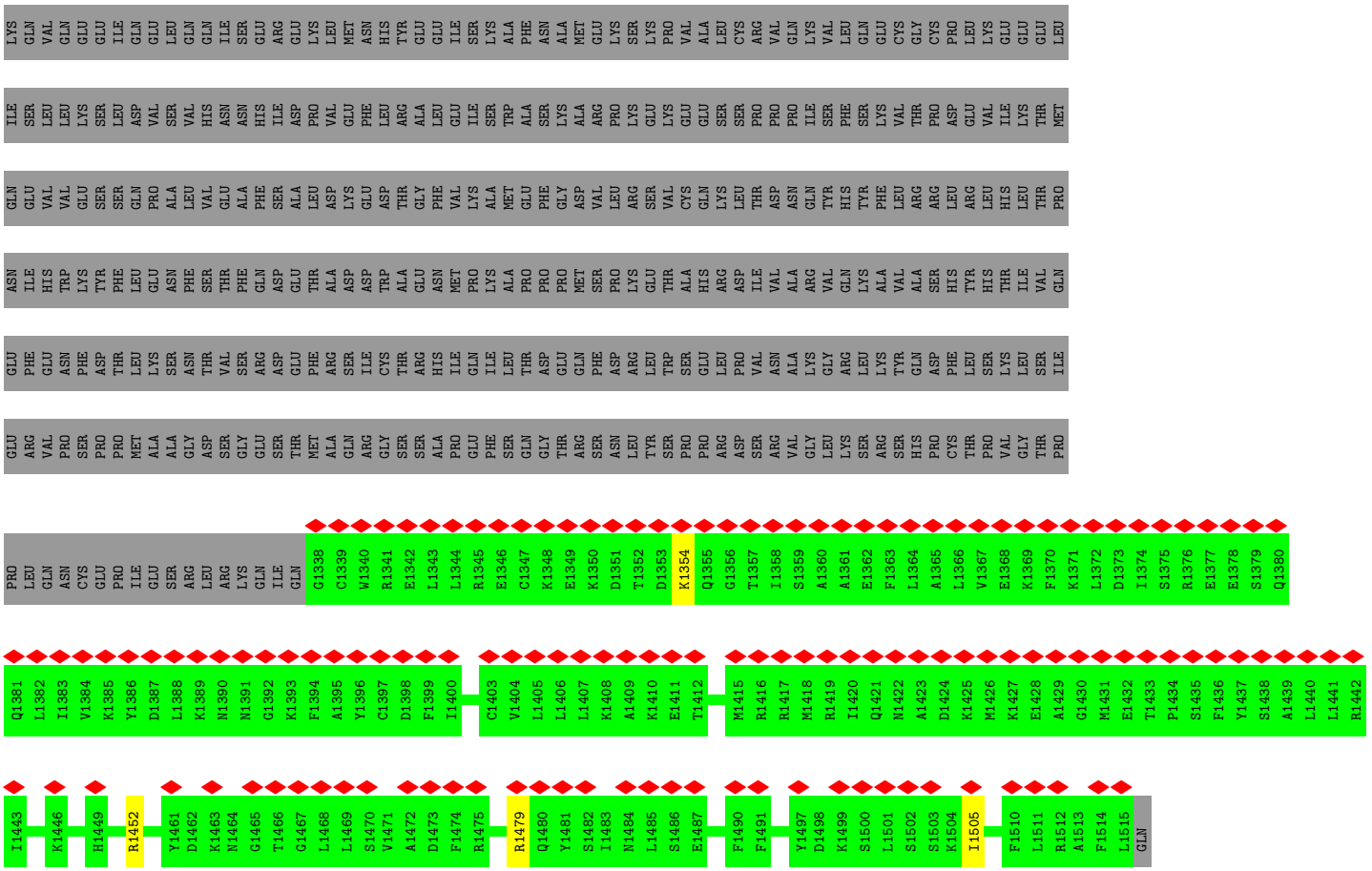


• Molecule 30: EF-hand calcium-binding domain-containing protein 6

Chain Q3:



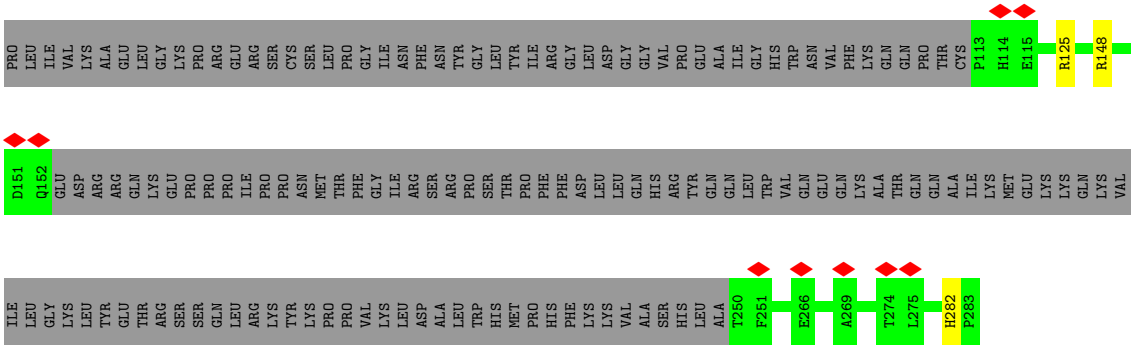


• Molecule 31: Cilia and flagella-associated protein 77

Chain R1:

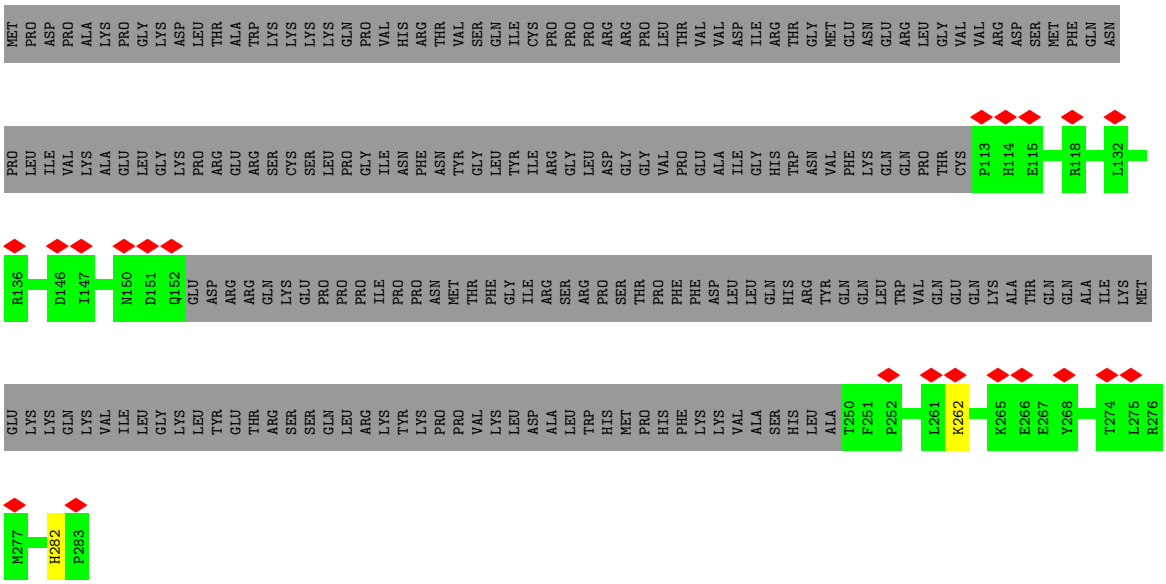
• Molecule 31: Cilia and flagella-associated protein 77

Chain R2:



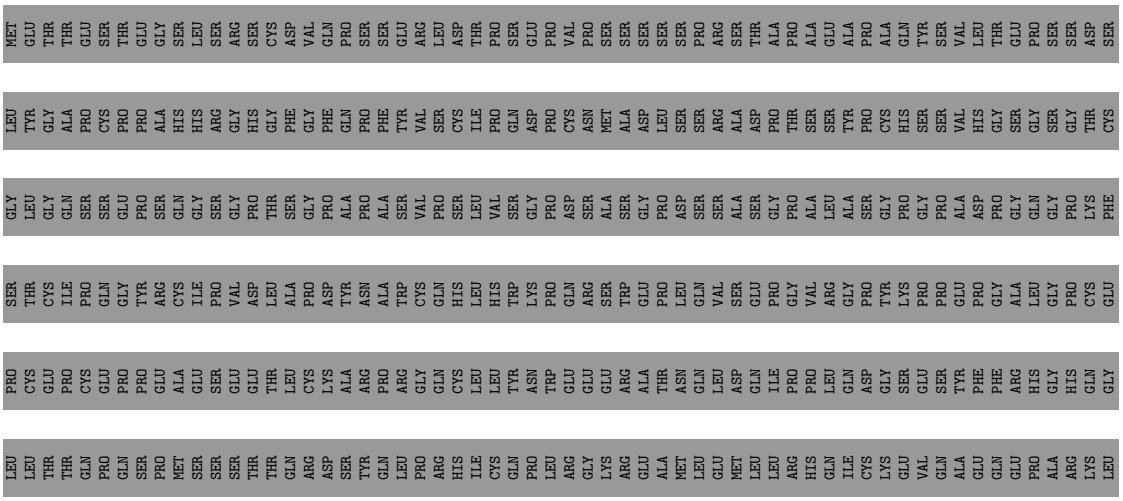
• Molecule 31: Cilia and flagella-associated protein 77

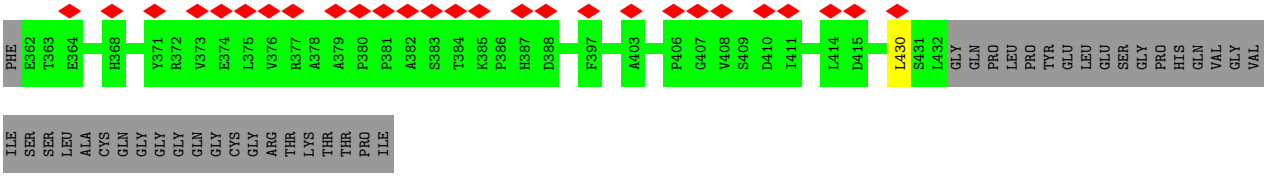
Chain R3:



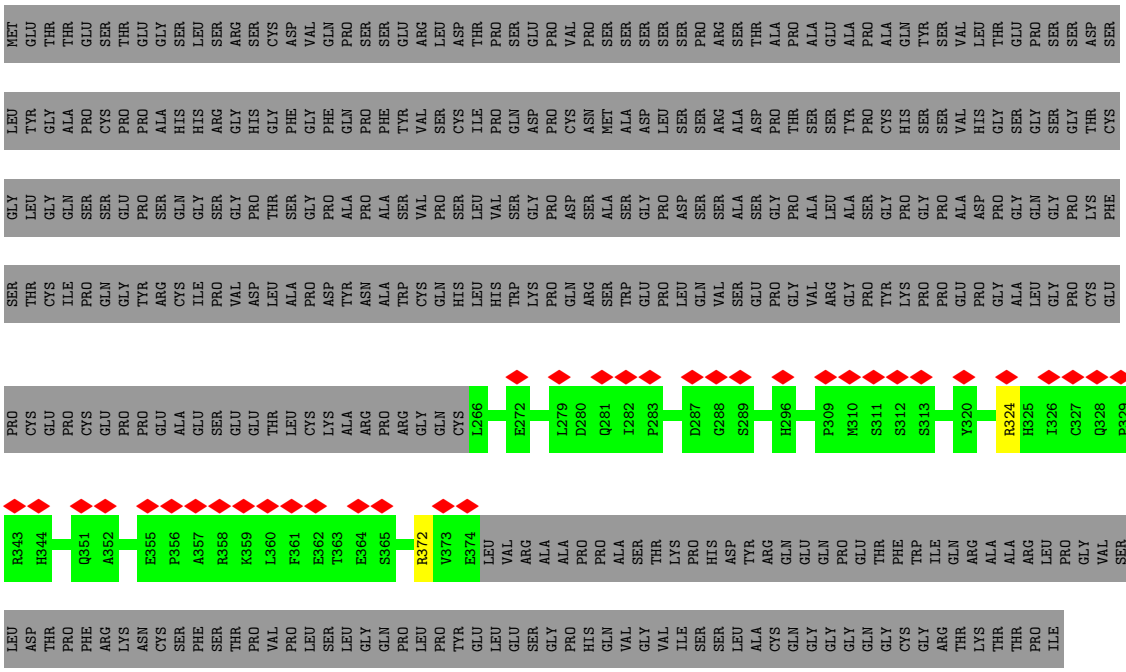
• Molecule 32: Sperm-associated antigen 8

Chain S:

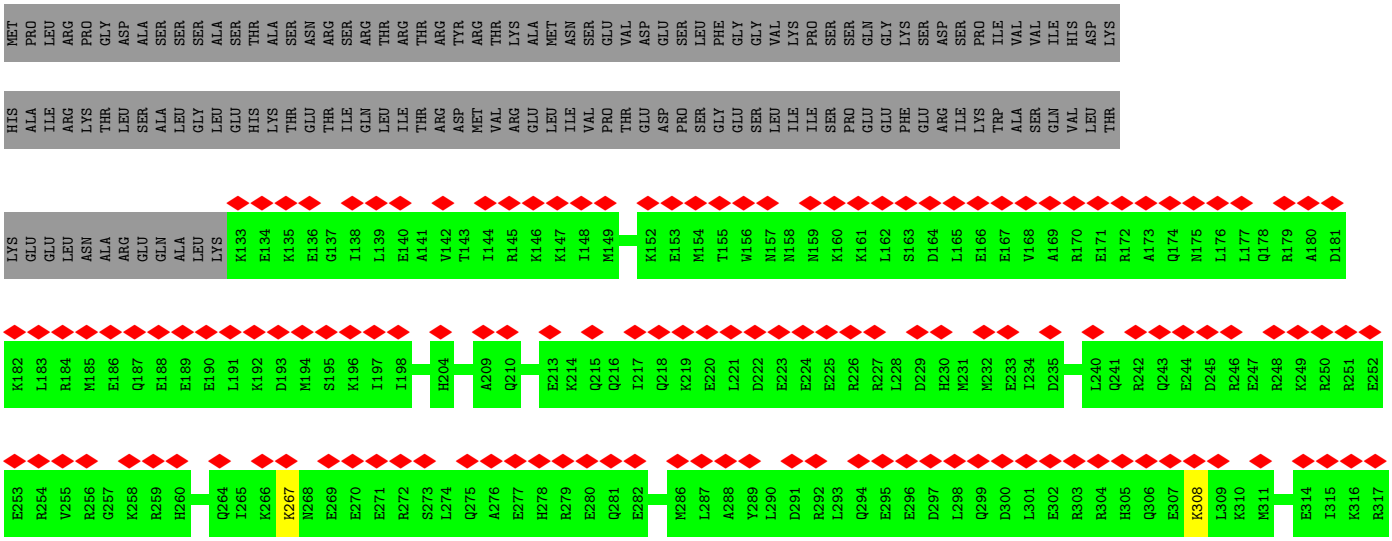


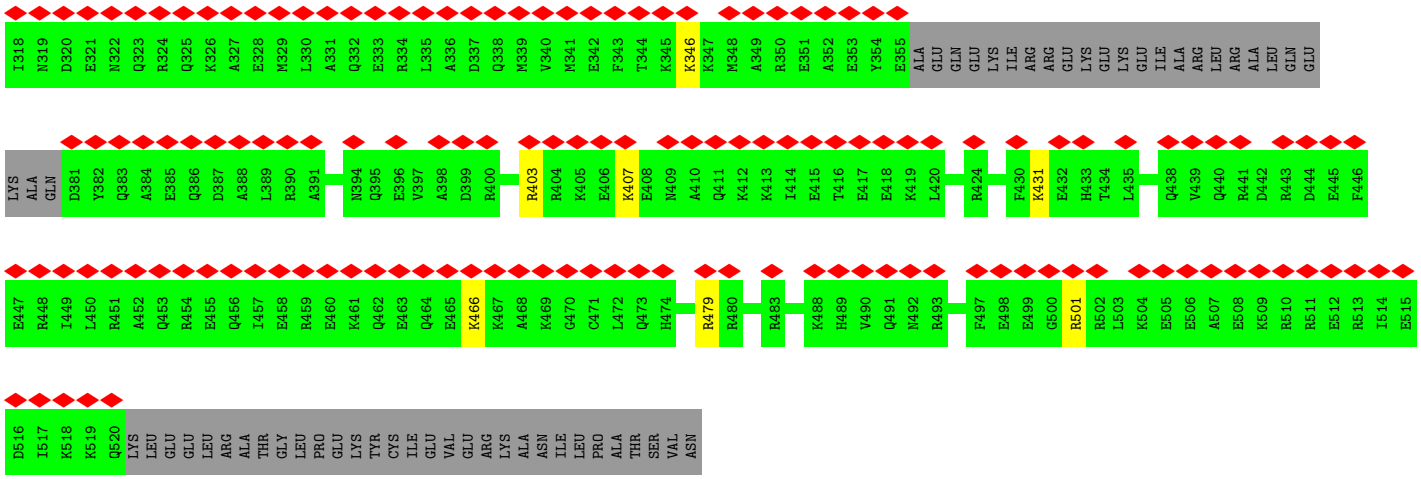


• Molecule 32: Sperm-associated antigen 8



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



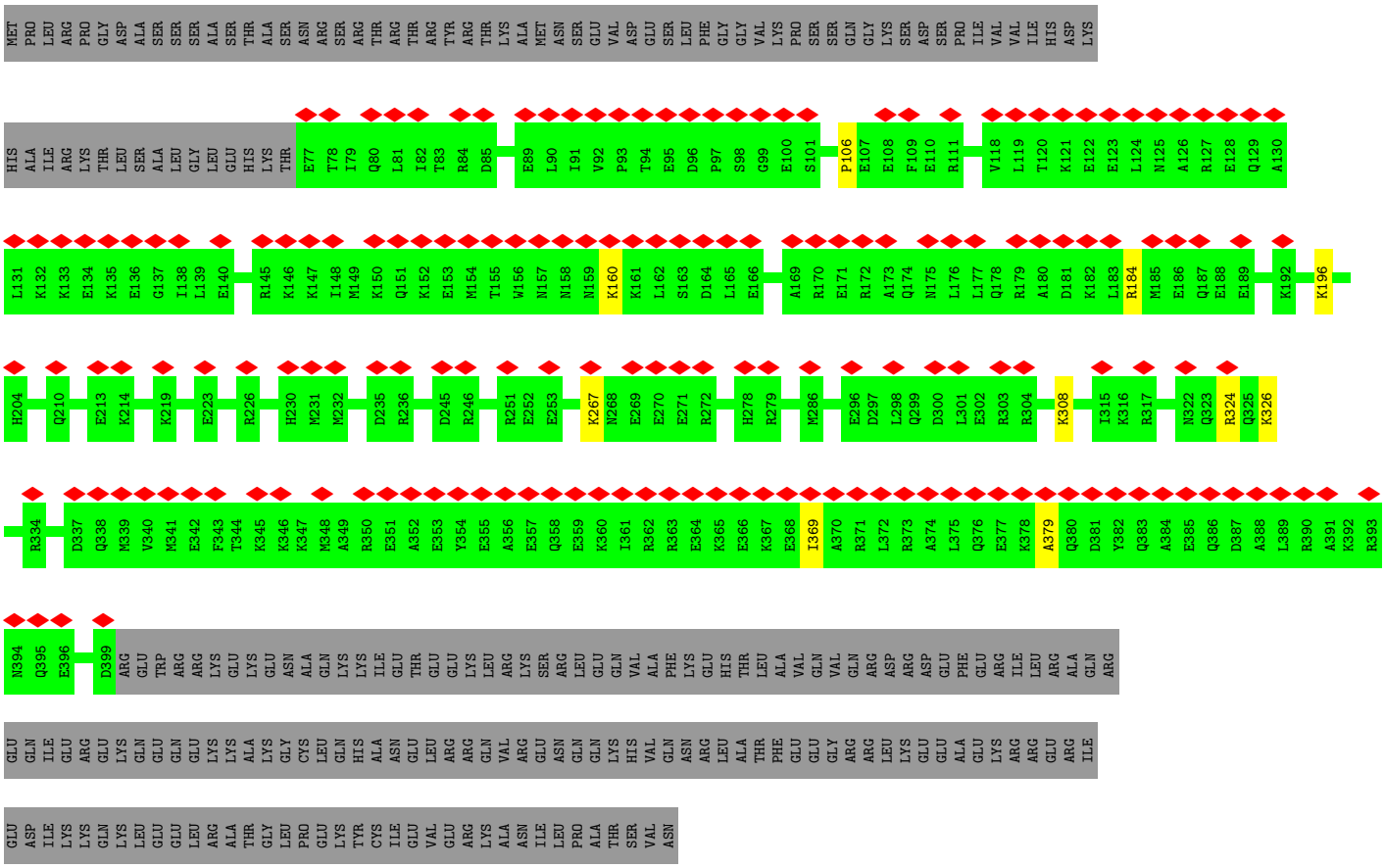


• Molecule 33: Cilia- and flagella-associated protein 45

Chain V:

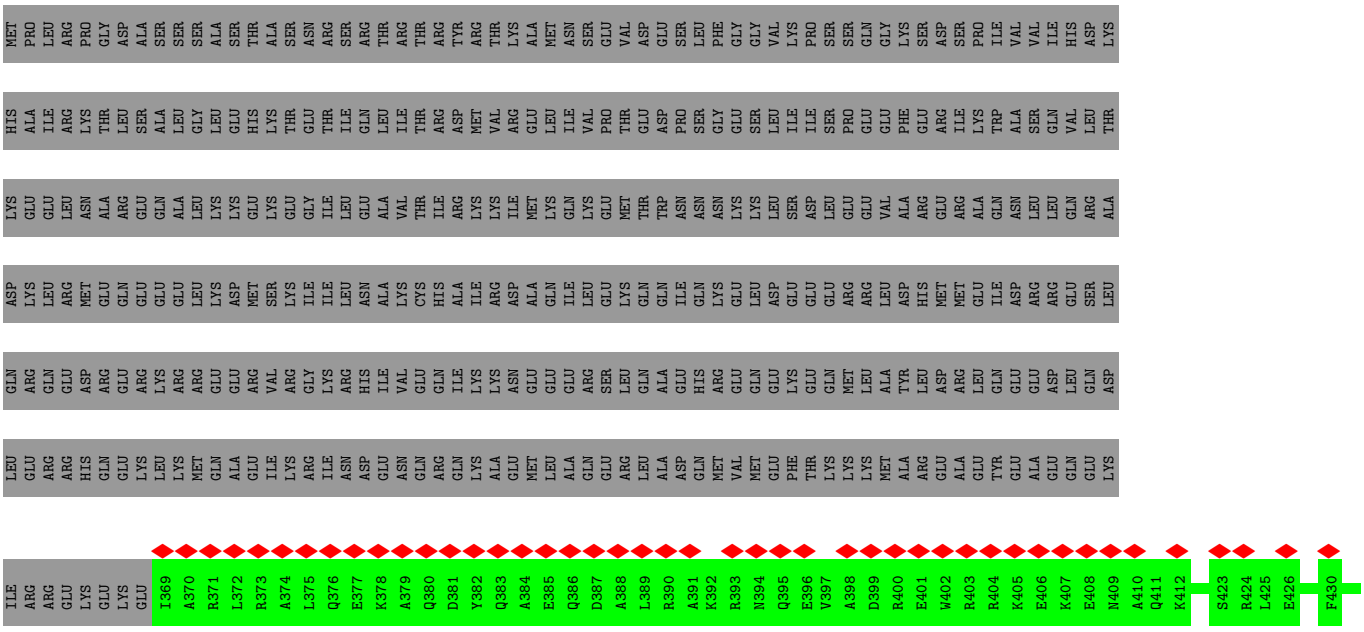
• Molecule 33: Cilia- and flagella-associated protein 45

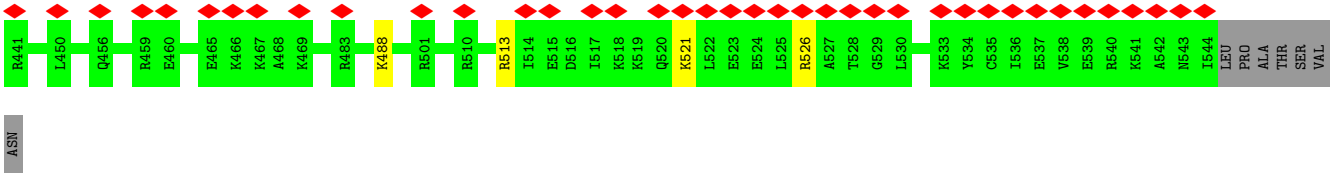
Chain W:



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

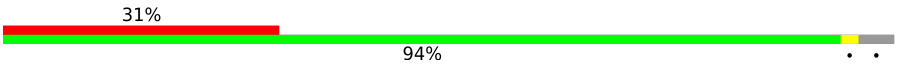
Chain X:

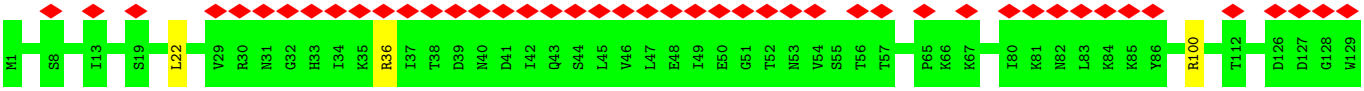


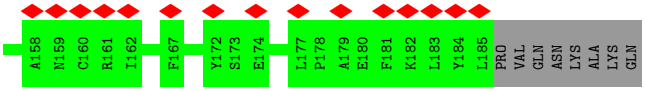


• Molecule 34: Cilia- and flagella-associated protein 20

Chain XA:

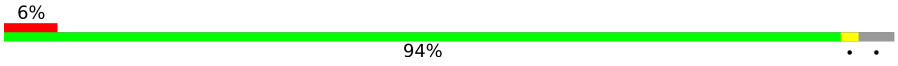


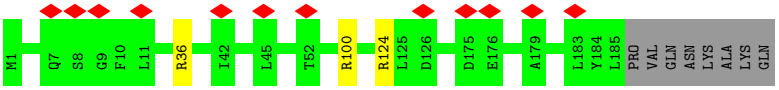




• Molecule 34: Cilia- and flagella-associated protein 20

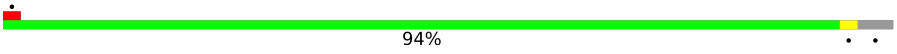
Chain XB:

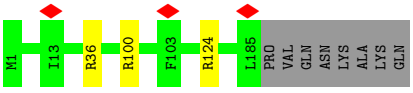




• Molecule 34: Cilia- and flagella-associated protein 20

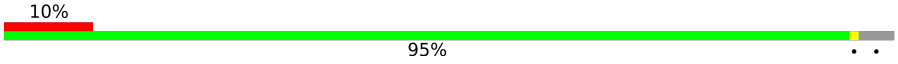
Chain XC:

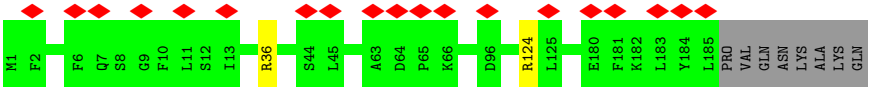




• Molecule 34: Cilia- and flagella-associated protein 20

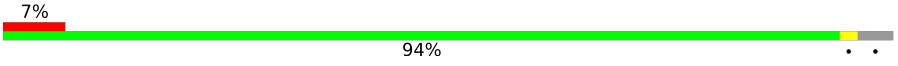
Chain XD:

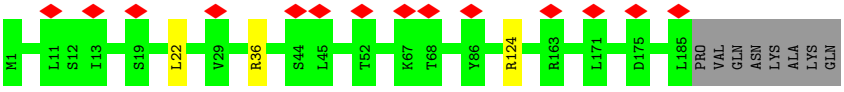




• Molecule 34: Cilia- and flagella-associated protein 20

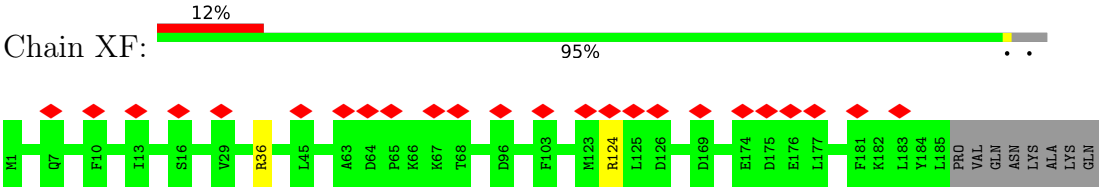
Chain XE:





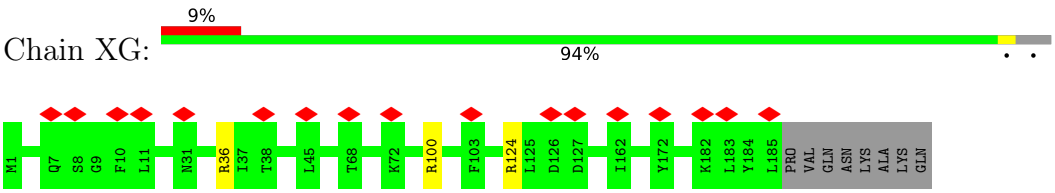
• Molecule 34: Cilia- and flagella-associated protein 20

Chain XF:



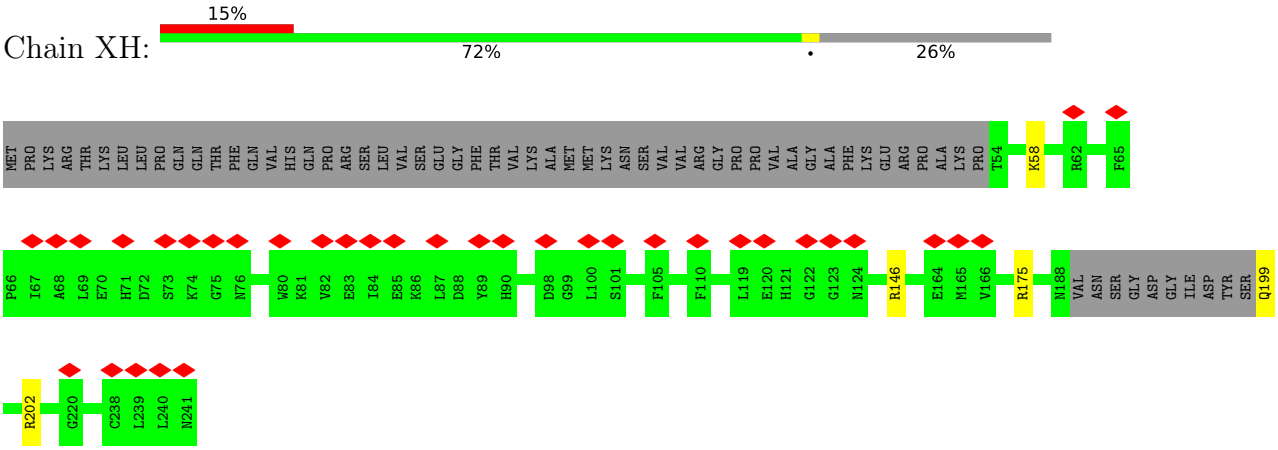
• Molecule 34: Cilia- and flagella-associated protein 20

Chain XG:



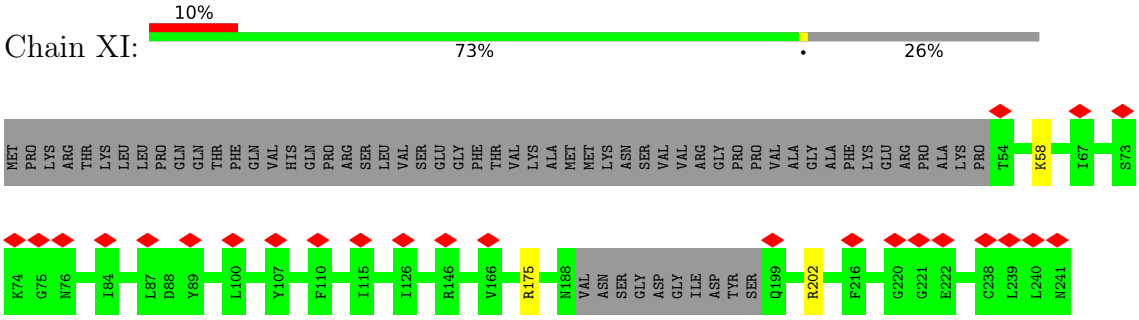
• Molecule 35: Parkin coregulated gene protein homolog

Chain XH:



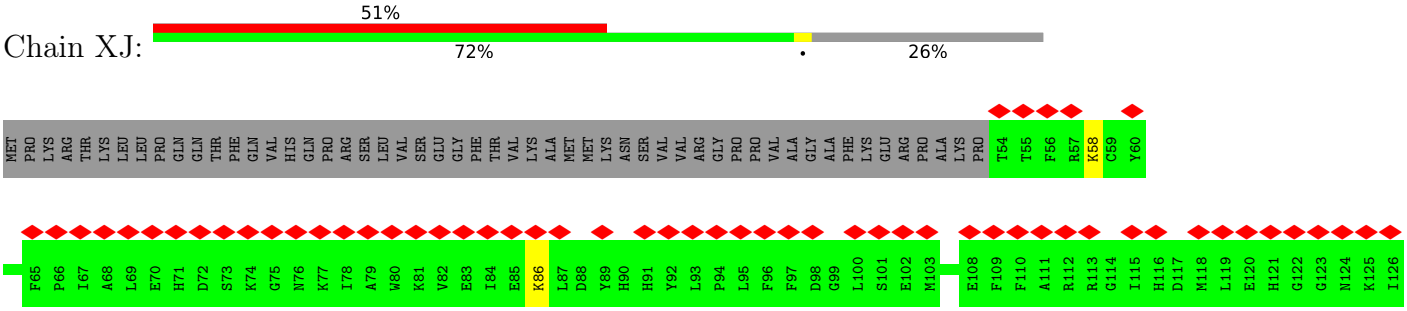
• Molecule 35: Parkin coregulated gene protein homolog

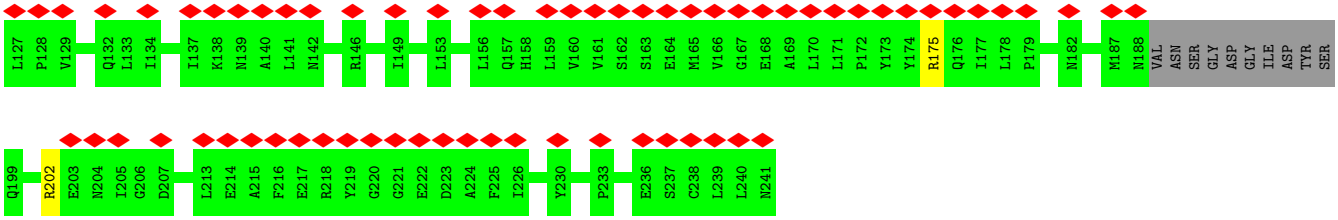
Chain XI:



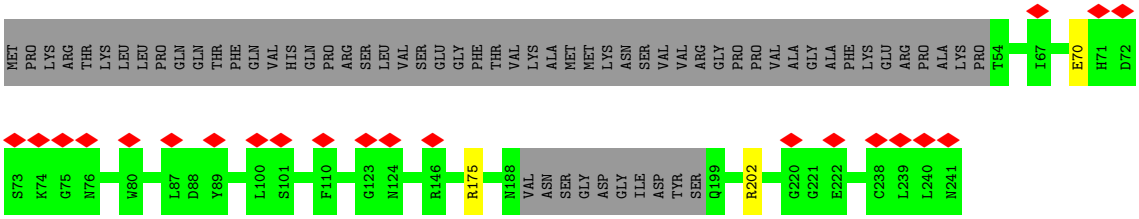
• Molecule 35: Parkin coregulated gene protein homolog

Chain XJ:

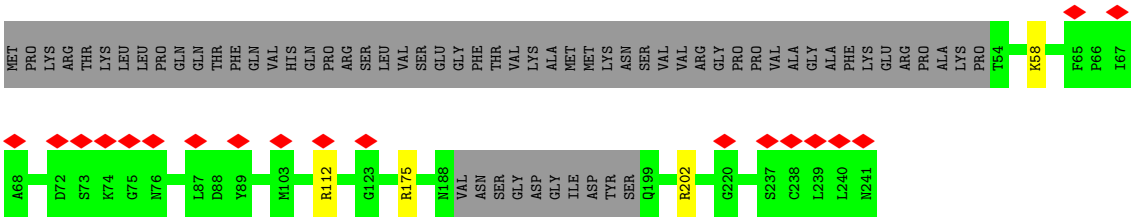




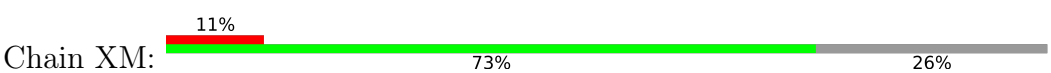
• Molecule 35: Parkin coregulated gene protein homolog

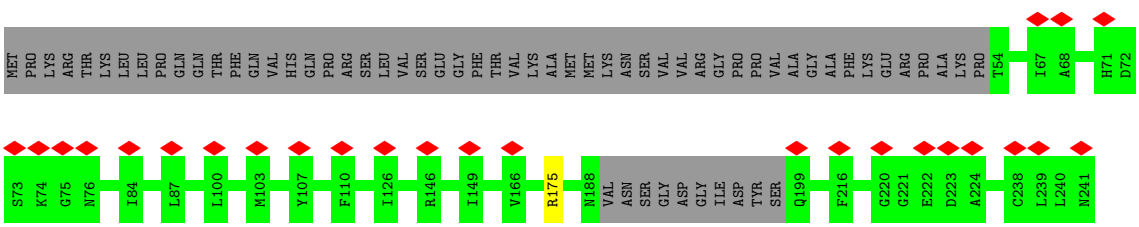


• Molecule 35: Parkin coregulated gene protein homolog

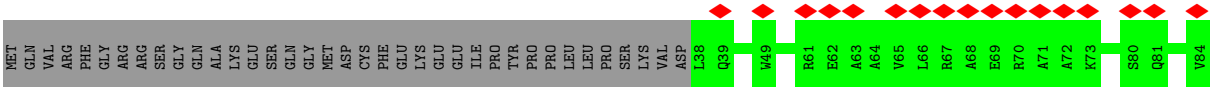


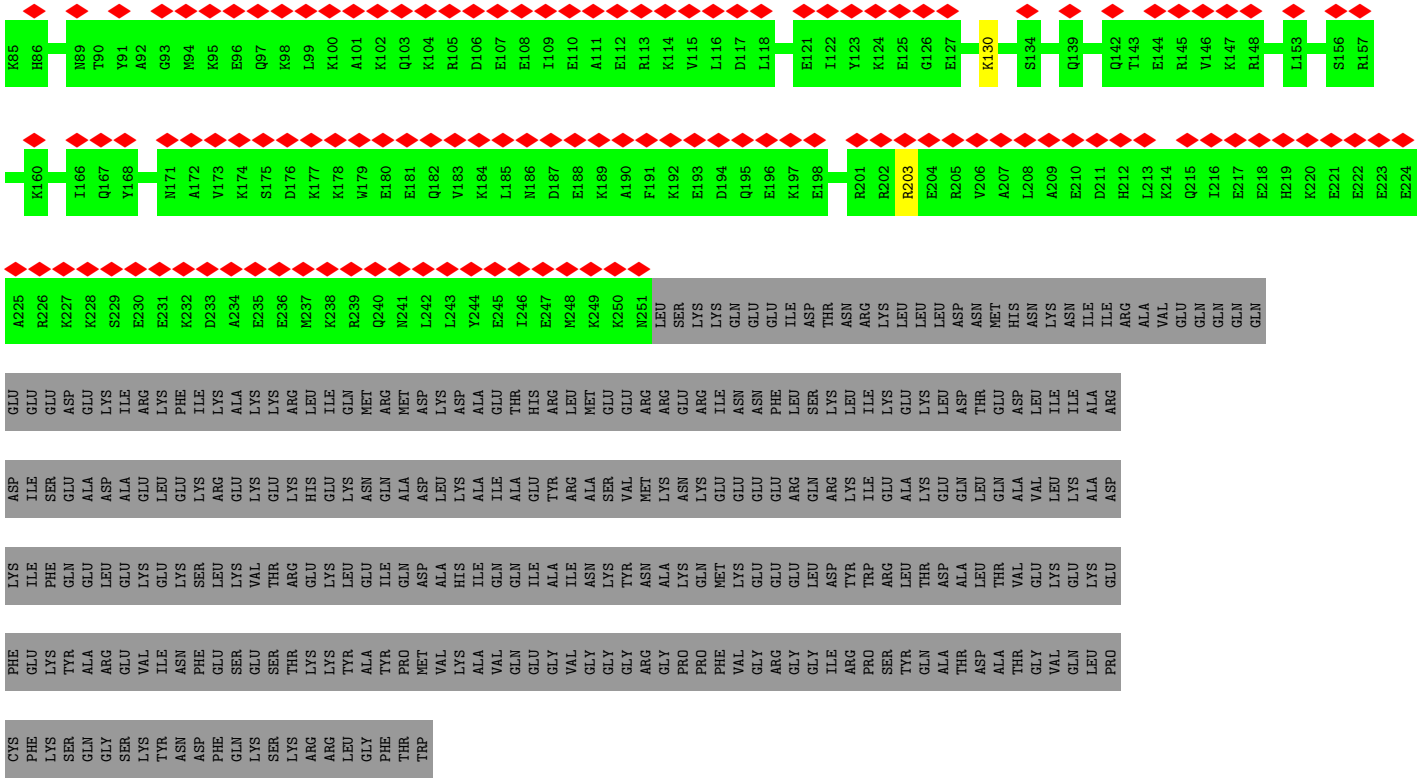
• Molecule 35: Parkin coregulated gene protein homolog





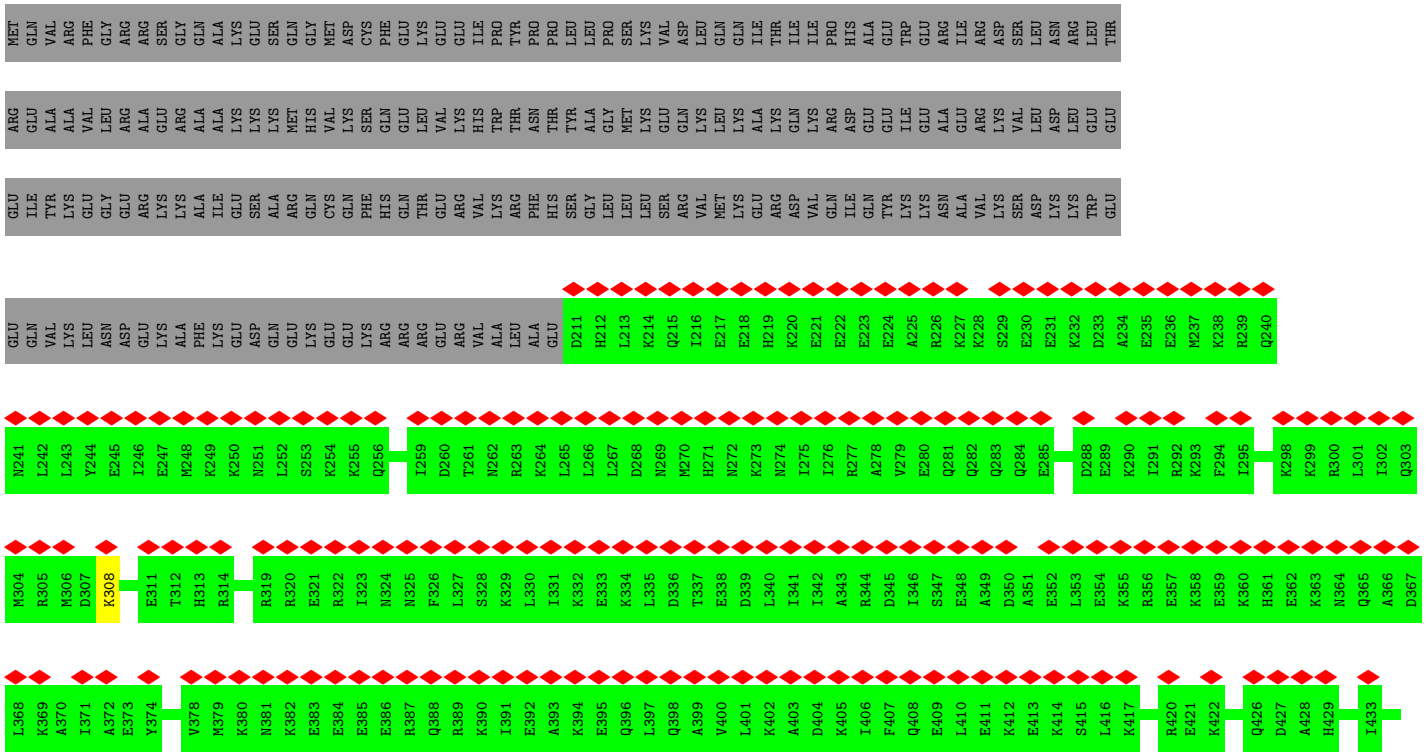
• Molecule 36: Cilia- and flagella-associated protein 210

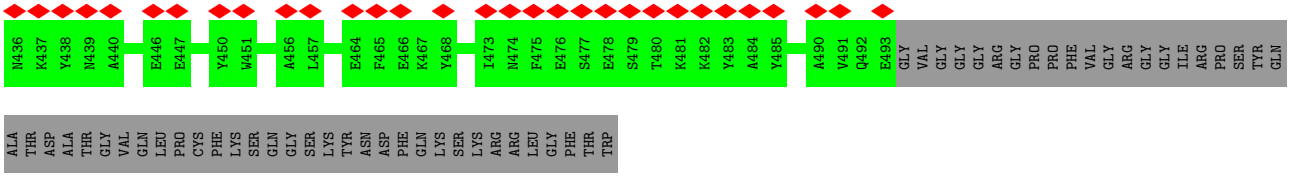




• Molecule 36: Cilia- and flagella-associated protein 210

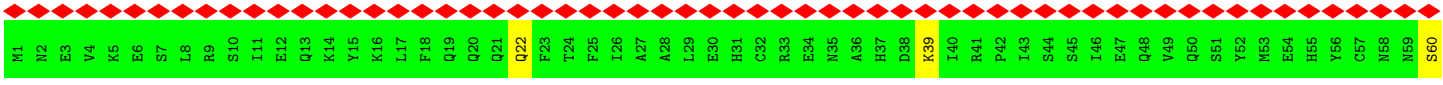
Chain Z:

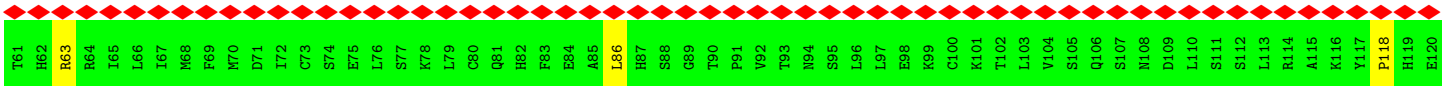


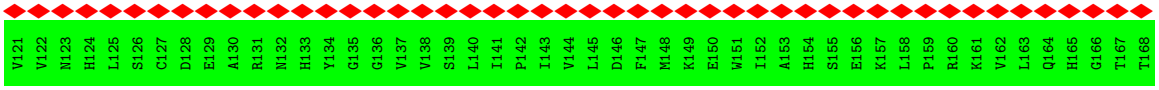


• Molecule 37: Sperm acrosome-associated protein 9

Chain YA:

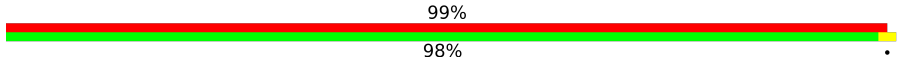


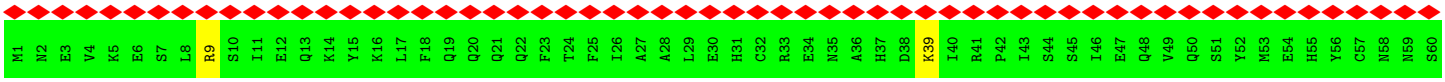


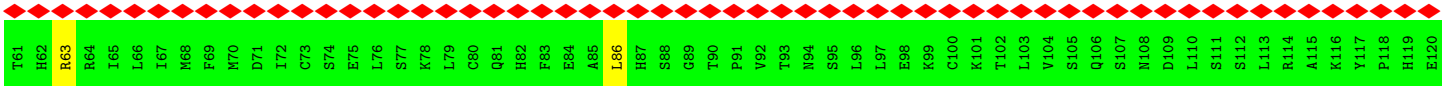


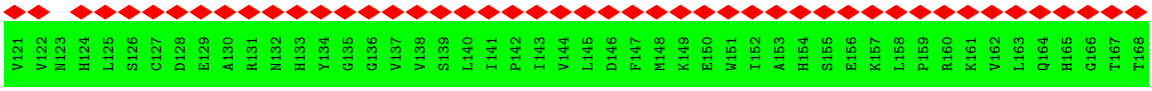
• Molecule 37: Sperm acrosome-associated protein 9

Chain YB:



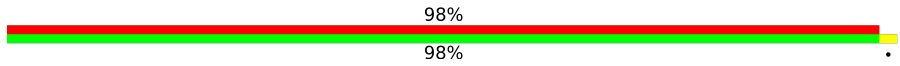


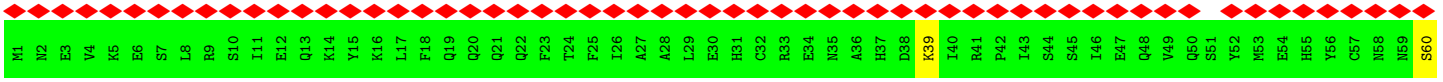


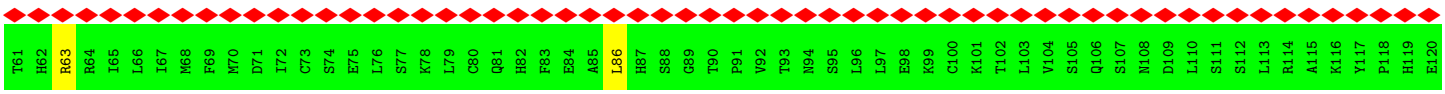


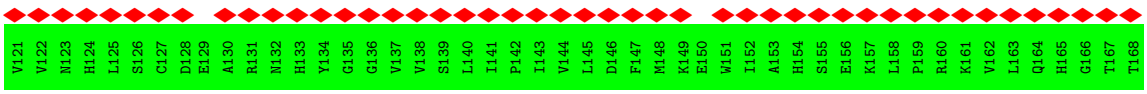
• Molecule 37: Sperm acrosome-associated protein 9

Chain YC:



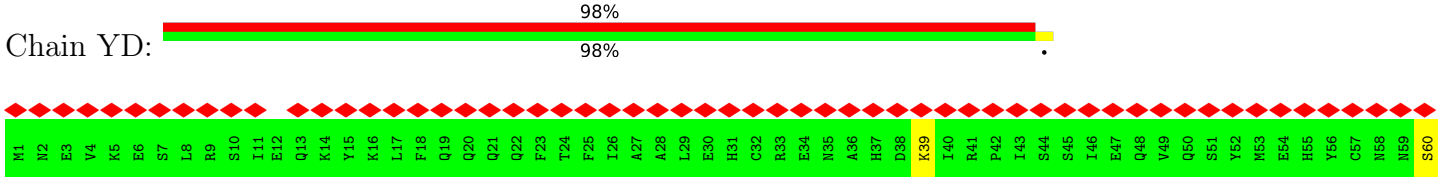






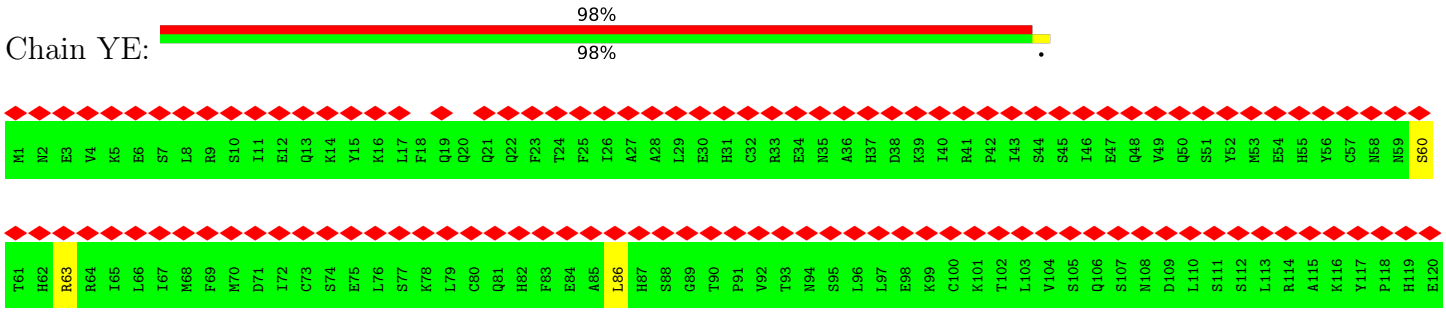
• Molecule 37: Sperm acrosome-associated protein 9

Chain YD:



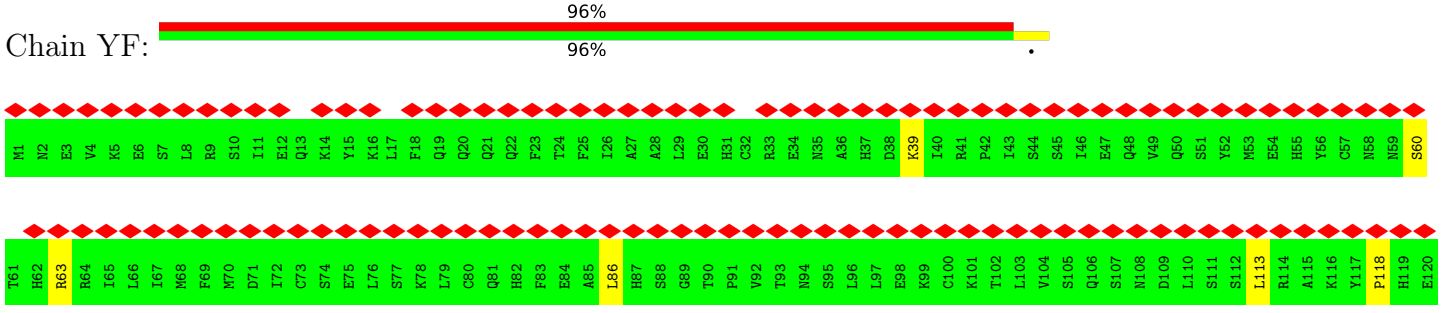
• Molecule 37: Sperm acrosome-associated protein 9

Chain YE:



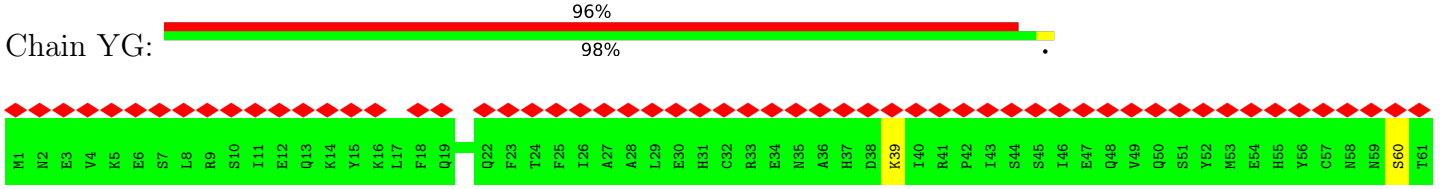
• Molecule 37: Sperm acrosome-associated protein 9

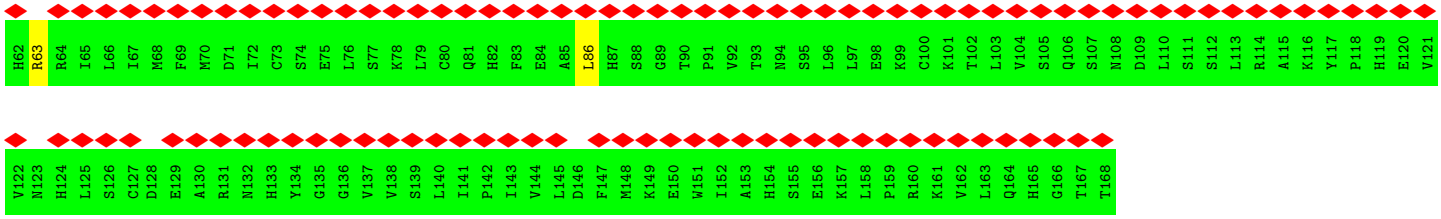
Chain YF:



• Molecule 37: Sperm acrosome-associated protein 9

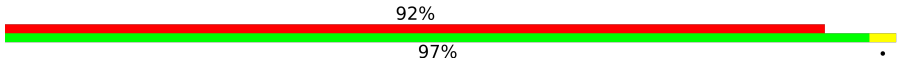
Chain YG:

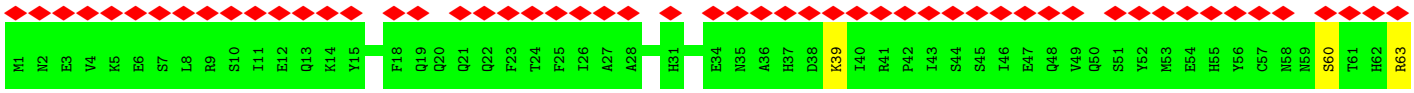




• Molecule 37: Sperm acrosome-associated protein 9

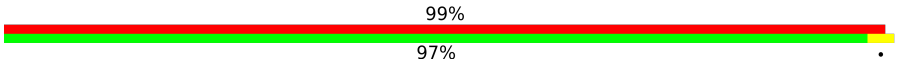
Chain YH:

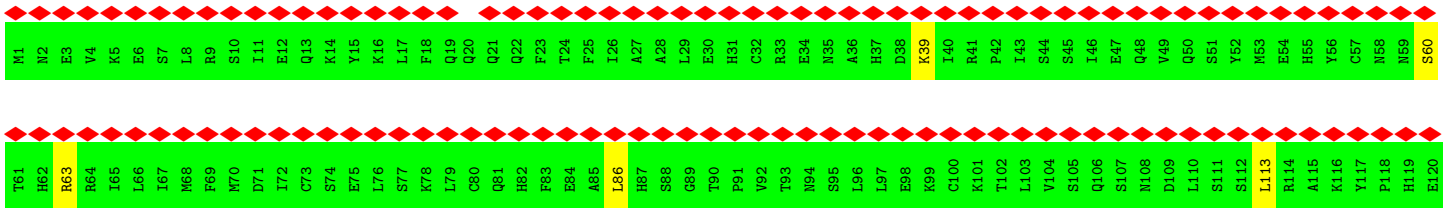




• Molecule 37: Sperm acrosome-associated protein 9

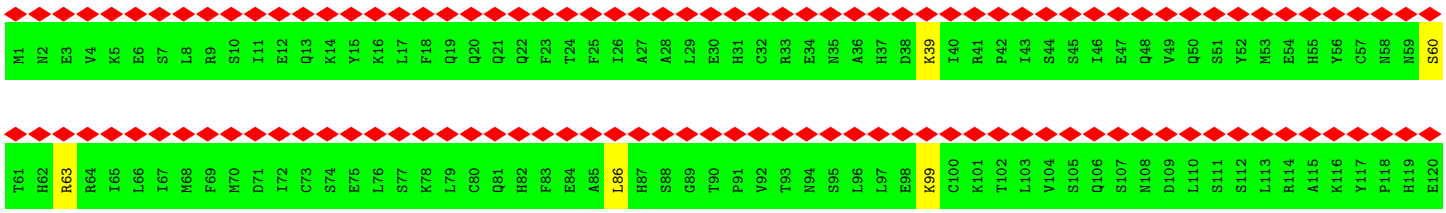
Chain YI:





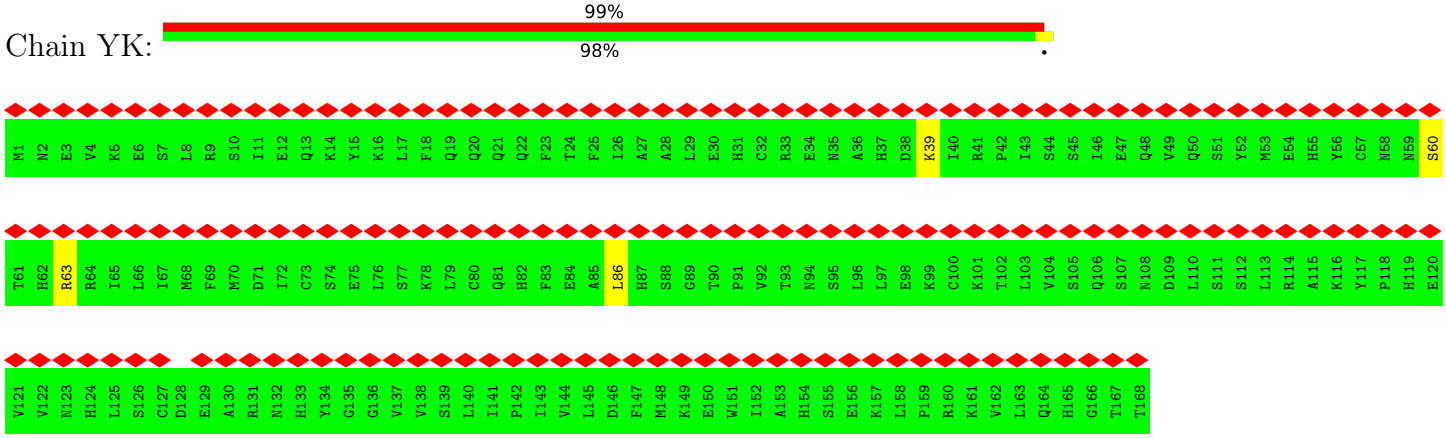
• Molecule 37: Sperm acrosome-associated protein 9

Chain YJ:



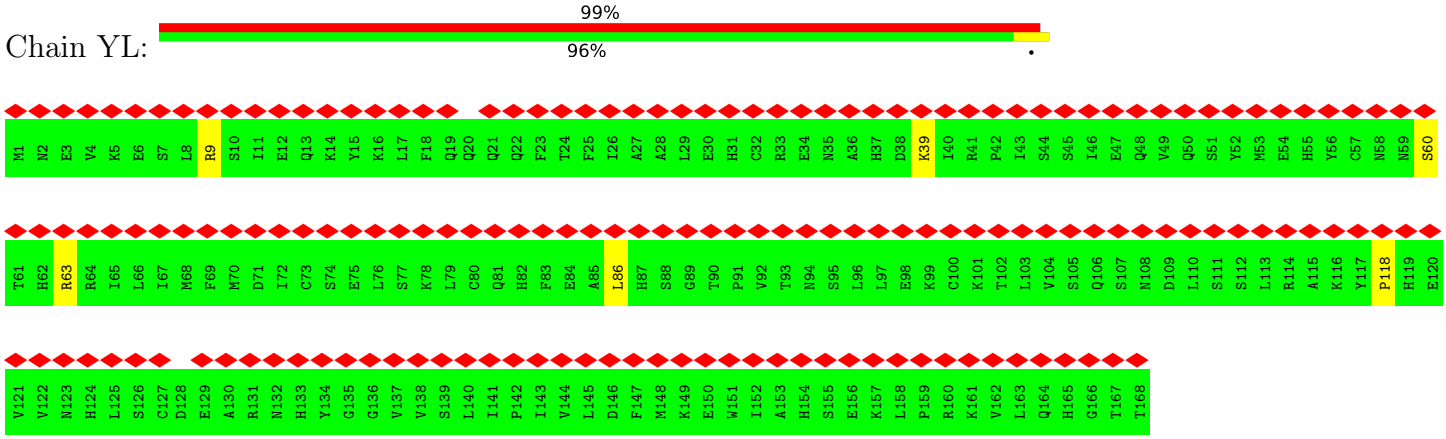
• Molecule 37: Sperm acrosome-associated protein 9

Chain YK:



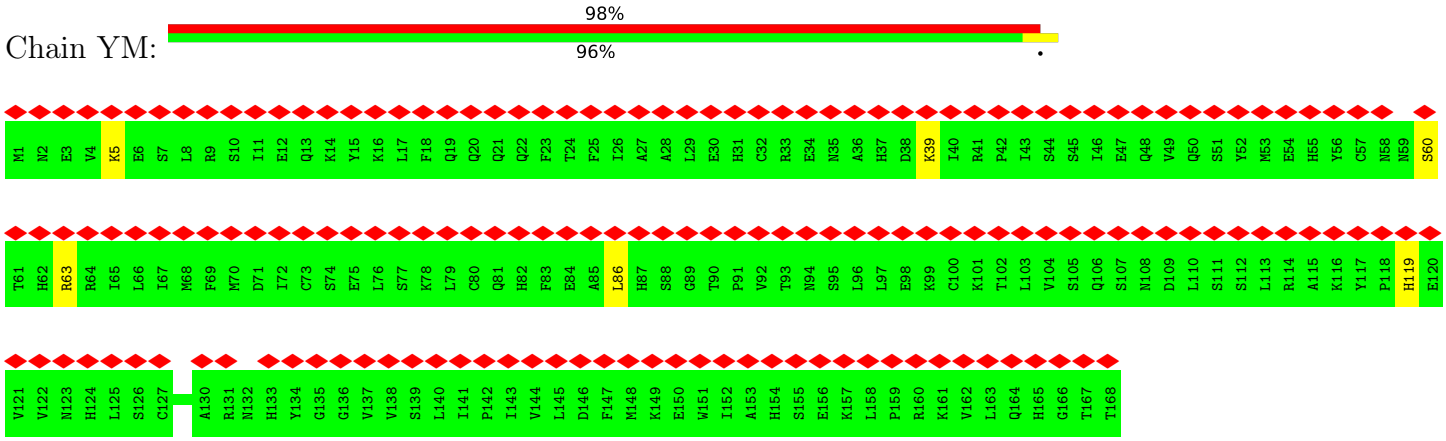
• Molecule 37: Sperm acrosome-associated protein 9

Chain YL:



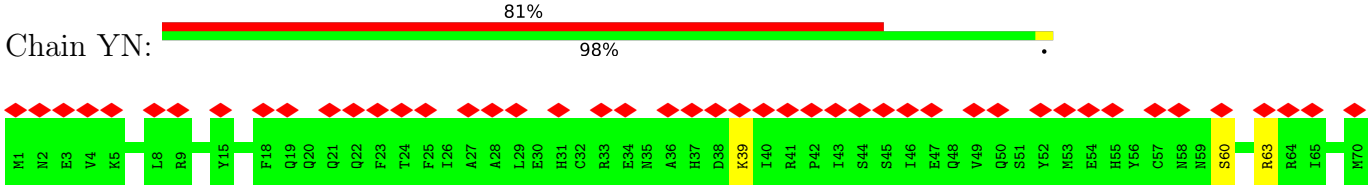
• Molecule 37: Sperm acrosome-associated protein 9

Chain YM:



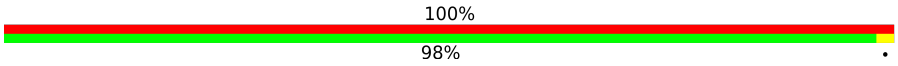
• Molecule 37: Sperm acrosome-associated protein 9

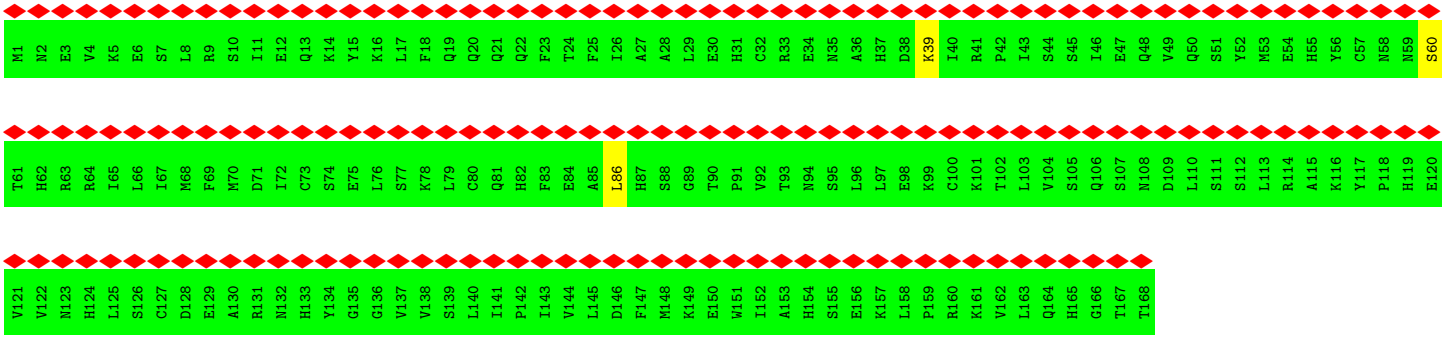
Chain YN:



• Molecule 37: Sperm acrosome-associated protein 9

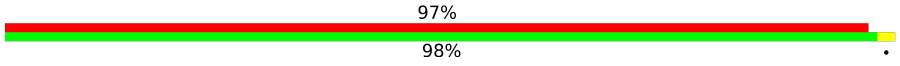
Chain YO:

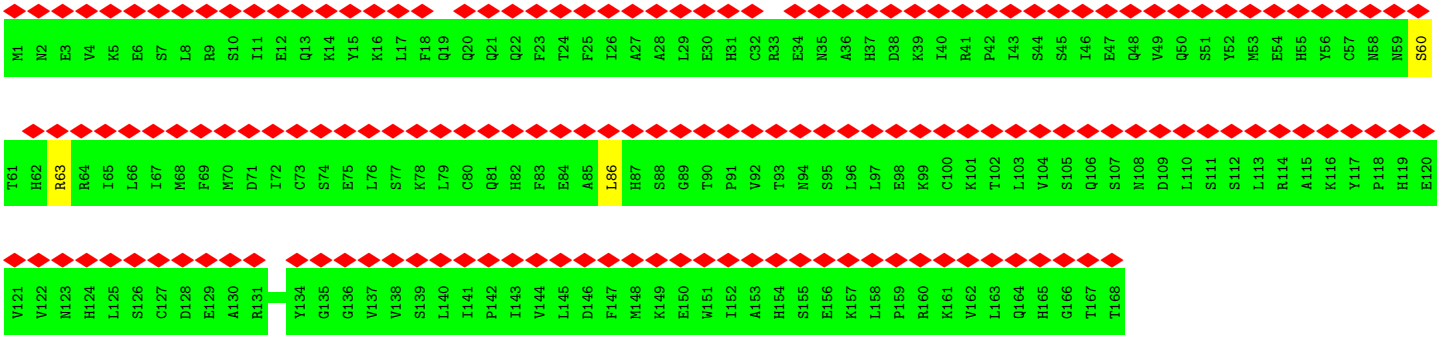




• Molecule 37: Sperm acrosome-associated protein 9

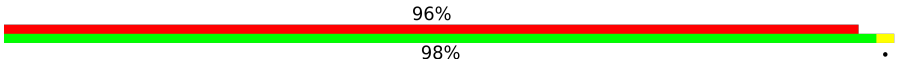
Chain YP:

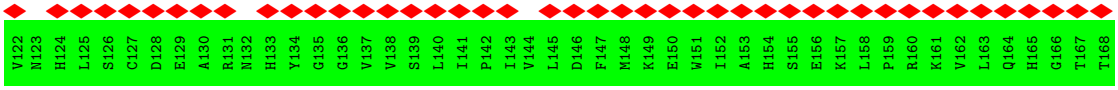




• Molecule 37: Sperm acrosome-associated protein 9

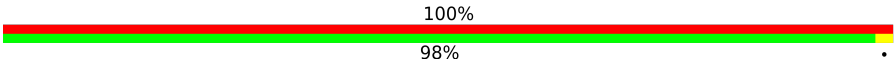
Chain YQ:

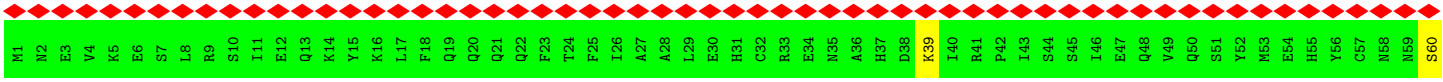


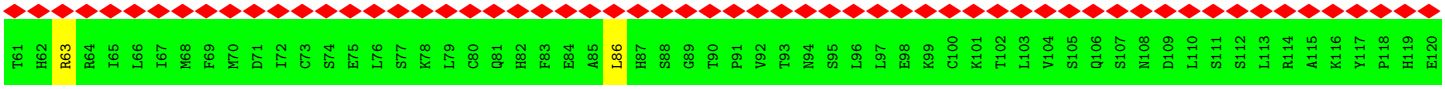


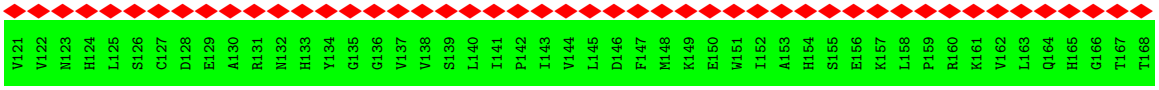
• Molecule 37: Sperm acrosome-associated protein 9

Chain YR:



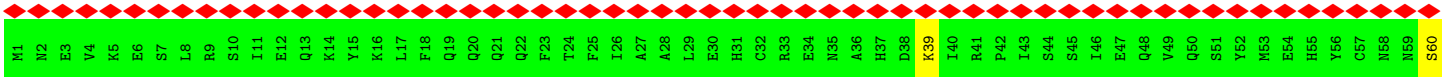


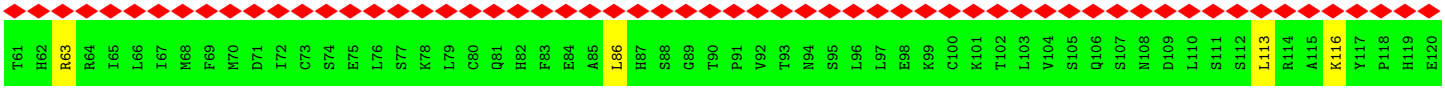


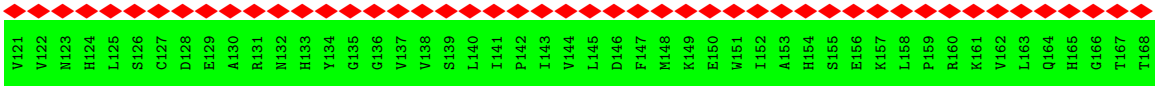


• Molecule 37: Sperm acrosome-associated protein 9

Chain YS:

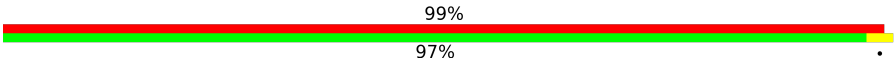


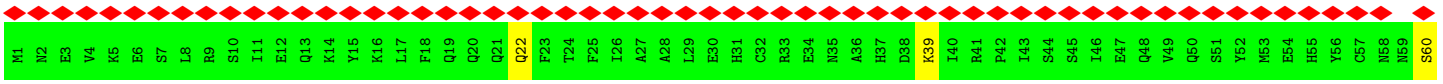


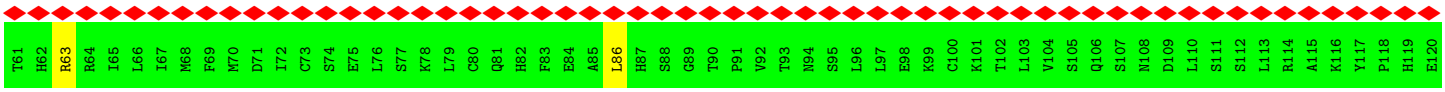


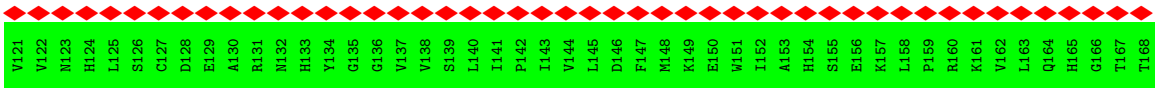
• Molecule 37: Sperm acrosome-associated protein 9

Chain YT:



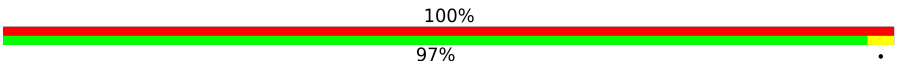


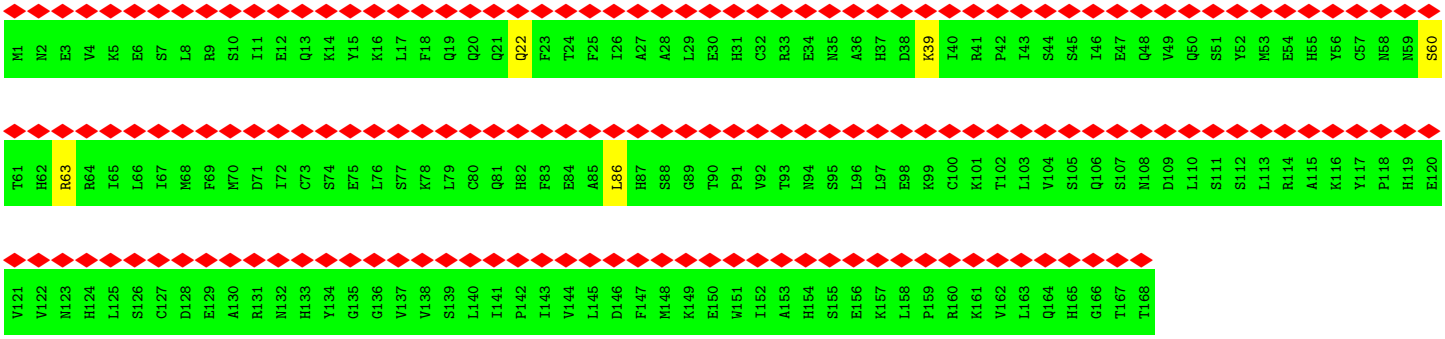




• Molecule 37: Sperm acrosome-associated protein 9

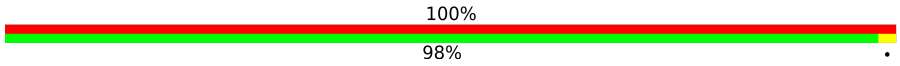
Chain YU:

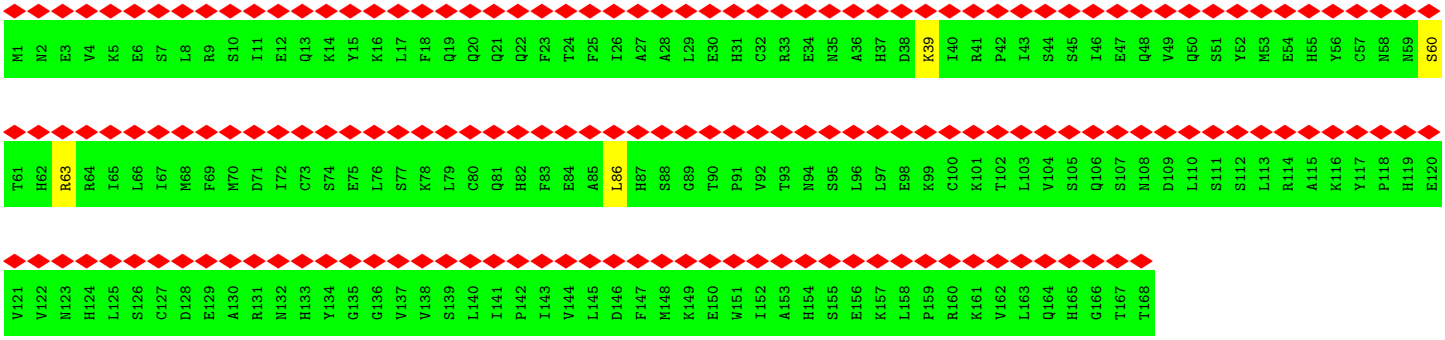




• Molecule 37: Sperm acrosome-associated protein 9

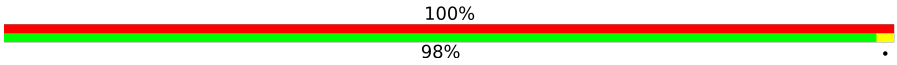
Chain YV:

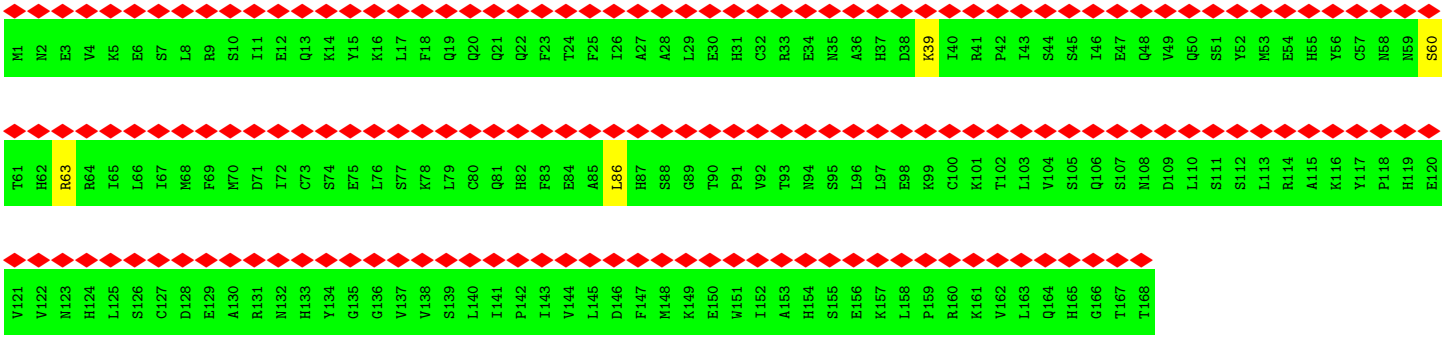




• Molecule 37: Sperm acrosome-associated protein 9

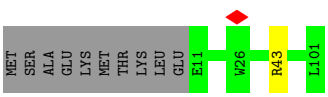
Chain YW:





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

Chain a:



4 Experimental information (i)

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

5 Model quality (i)

5.1 Standard geometry (i)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

All (1) bond length outliers are listed below:

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

The worst 5 of 125 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	C8	369	LEU	CA-CB-CG	12.25	143.47	115.30
3	BJ	15	GLN	CA-CB-CG	10.49	136.47	113.40
3	TL	15	GLN	CA-CB-CG	-8.81	94.02	113.40
4	EC	224	TYR	CB-CG-CD2	-8.61	115.83	121.00
4	EC	222	PRO	CA-N-CD	-8.22	99.99	111.50

There are no chirality outliers.

5 of 184 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	A2	206	ARG	Peptide
2	A4	31	ARG	Sidechain
3	AB	271	ALA	Peptide
3	AD	271	ALA	Peptide
3	AF	271	ALA	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

5 of 585 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A2	209	PRO
5	B2	125	ASP
5	B3	125	ASP
5	B6	125	ASP
5	B6	400	PRO

5.3.2 Protein sidechains (i)

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

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

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

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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	FF	367/367 (100%)	367 (100%)	0	100	100
3	FH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	FJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	FL	367/367 (100%)	363 (99%)	4 (1%)	73	84
3	GB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	GD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	GF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	GH	367/367 (100%)	367 (100%)	0	100	100
3	GJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	GL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	HB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	HD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	HF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	HH	367/367 (100%)	367 (100%)	0	100	100
3	HJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	HL	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	ID	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IH	367/367 (100%)	367 (100%)	0	100	100
3	IJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	IL	367/367 (100%)	367 (100%)	0	100	100
3	JB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	JD	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JH	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	JL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	KB	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	KD	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	KF	367/367 (100%)	365 (100%)	2 (0%)	88	93

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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	PJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	PL	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	QB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	QD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	QF	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	QH	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	QJ	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	QL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	RB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	RD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	RF	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	RH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	RJ	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	RL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	SB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	SD	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	SF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	SH	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	SJ	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	SL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TB	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	TD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TF	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TH	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	TJ	367/367 (100%)	364 (99%)	3 (1%)	81	89
3	TL	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	TN	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	UB	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	UD	367/367 (100%)	365 (100%)	2 (0%)	88	93
3	UF	367/367 (100%)	366 (100%)	1 (0%)	92	95
3	UH	367/367 (100%)	364 (99%)	3 (1%)	81	89

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

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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	IA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	IC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	IE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	IG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	II	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	IK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	IM	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	JA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JC	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JE	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	JI	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	JK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	KA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	KC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	KE	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	KG	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	KI	366/366 (100%)	363 (99%)	3 (1%)	81	89
4	KK	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	LA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	LC	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	LE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	LG	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	LI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	LK	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	MC	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	ME	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	MG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	MI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	MK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	MM	366/366 (100%)	362 (99%)	4 (1%)	73	84

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

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	SC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	SE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	SG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	SI	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	SK	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	SM	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	TC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	TE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	TG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	TI	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	TK	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	TM	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	UA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	UC	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	UE	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	UG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	UI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	UK	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VA	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	VC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	VE	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VG	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VI	366/366 (100%)	361 (99%)	5 (1%)	67	80
4	VK	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	WA	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	WC	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	WE	366/366 (100%)	360 (98%)	6 (2%)	62	79
4	WG	366/366 (100%)	362 (99%)	4 (1%)	73	84
4	WI	366/366 (100%)	359 (98%)	7 (2%)	57	75
4	WK	366/366 (100%)	360 (98%)	6 (2%)	62	79
5	B1	215/395 (54%)	213 (99%)	2 (1%)	78	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	B2	381/395 (96%)	380 (100%)	1 (0%)	92 95
5	B3	381/395 (96%)	379 (100%)	2 (0%)	88 93
5	B4	288/395 (73%)	287 (100%)	1 (0%)	92 95
5	B5	44/395 (11%)	44 (100%)	0	100 100
5	B6	331/395 (84%)	328 (99%)	3 (1%)	78 88
5	B7	370/395 (94%)	367 (99%)	3 (1%)	81 89
5	B8	364/395 (92%)	363 (100%)	1 (0%)	92 95
5	B9	104/395 (26%)	103 (99%)	1 (1%)	76 86
6	C	317/337 (94%)	312 (98%)	5 (2%)	62 79
6	D	317/337 (94%)	311 (98%)	6 (2%)	57 75
7	C1	90/445 (20%)	89 (99%)	1 (1%)	73 84
7	C2	353/445 (79%)	349 (99%)	4 (1%)	73 84
7	C3	353/445 (79%)	350 (99%)	3 (1%)	81 89
7	C4	326/445 (73%)	323 (99%)	3 (1%)	78 88
7	C5	59/445 (13%)	58 (98%)	1 (2%)	60 78
7	C6	180/445 (40%)	179 (99%)	1 (1%)	86 92
7	C7	359/445 (81%)	356 (99%)	3 (1%)	81 89
7	C8	359/445 (81%)	354 (99%)	5 (1%)	67 80
7	C9	270/445 (61%)	266 (98%)	4 (2%)	65 80
7	Ca	202/445 (45%)	201 (100%)	1 (0%)	88 93
7	Cb	353/445 (79%)	349 (99%)	4 (1%)	73 84
7	Cc	353/445 (79%)	351 (99%)	2 (1%)	86 92
7	Cd	238/445 (54%)	236 (99%)	2 (1%)	81 89
8	D1	45/402 (11%)	45 (100%)	0	100 100
8	D2	330/402 (82%)	326 (99%)	4 (1%)	71 83
8	D3	383/402 (95%)	381 (100%)	2 (0%)	88 93
8	D4	383/402 (95%)	381 (100%)	2 (0%)	88 93
8	D5	119/402 (30%)	119 (100%)	0	100 100
8	D6	66/402 (16%)	65 (98%)	1 (2%)	65 80
8	D7	340/402 (85%)	335 (98%)	5 (2%)	65 80
8	D8	364/402 (90%)	361 (99%)	3 (1%)	81 89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
8	D9	360/402 (90%)	357 (99%)	3 (1%)	81 89
8	Da	49/402 (12%)	48 (98%)	1 (2%)	55 74
9	E	235/745 (32%)	233 (99%)	2 (1%)	78 88
9	F	130/745 (17%)	130 (100%)	0	100 100
10	E1	159/174 (91%)	157 (99%)	2 (1%)	69 82
10	E2	159/174 (91%)	158 (99%)	1 (1%)	86 92
10	E3	159/174 (91%)	158 (99%)	1 (1%)	86 92
10	E4	45/174 (26%)	45 (100%)	0	100 100
11	F1	265/487 (54%)	261 (98%)	4 (2%)	65 80
11	F2	362/487 (74%)	358 (99%)	4 (1%)	73 84
11	F3	362/487 (74%)	357 (99%)	5 (1%)	67 80
11	F4	193/487 (40%)	189 (98%)	4 (2%)	53 72
11	F5	235/487 (48%)	230 (98%)	5 (2%)	53 72
11	F6	359/487 (74%)	356 (99%)	3 (1%)	81 89
11	F7	359/487 (74%)	355 (99%)	4 (1%)	73 84
11	F8	213/487 (44%)	211 (99%)	2 (1%)	78 88
11	F9	161/487 (33%)	161 (100%)	0	100 100
11	Fa	359/487 (74%)	355 (99%)	4 (1%)	73 84
11	Fb	359/487 (74%)	355 (99%)	4 (1%)	73 84
11	Fc	290/487 (60%)	287 (99%)	3 (1%)	76 86
11	Fd	21/487 (4%)	21 (100%)	0	100 100
11	Fe	220/487 (45%)	218 (99%)	2 (1%)	78 88
11	Ff	362/487 (74%)	361 (100%)	1 (0%)	92 95
11	Fg	289/487 (59%)	286 (99%)	3 (1%)	76 86
11	Fh	171/487 (35%)	171 (100%)	0	100 100
11	Fi	251/487 (52%)	249 (99%)	2 (1%)	81 89
11	Fj	256/487 (53%)	253 (99%)	3 (1%)	71 83
11	Fk	305/487 (63%)	305 (100%)	0	100 100
11	Fl	305/487 (63%)	302 (99%)	3 (1%)	76 86
11	Fm	301/487 (62%)	300 (100%)	1 (0%)	92 95
12	G	406/464 (88%)	402 (99%)	4 (1%)	76 86

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
12	H	39/464 (8%)	39 (100%)	0	100	100
13	G1	465/589 (79%)	463 (100%)	2 (0%)	91	94
13	G2	452/589 (77%)	450 (100%)	2 (0%)	91	94
13	G3	466/589 (79%)	461 (99%)	5 (1%)	73	84
14	G4	682/683 (100%)	677 (99%)	5 (1%)	84	90
14	G5	681/683 (100%)	678 (100%)	3 (0%)	91	94
14	G6	681/683 (100%)	677 (99%)	4 (1%)	86	92
15	H1	120/279 (43%)	119 (99%)	1 (1%)	81	89
15	H2	116/279 (42%)	115 (99%)	1 (1%)	78	88
15	H3	120/279 (43%)	119 (99%)	1 (1%)	81	89
15	H4	119/279 (43%)	118 (99%)	1 (1%)	81	89
15	H5	120/279 (43%)	118 (98%)	2 (2%)	60	78
15	H6	117/279 (42%)	116 (99%)	1 (1%)	78	88
16	I	87/210 (41%)	86 (99%)	1 (1%)	73	84
17	I1	33/180 (18%)	33 (100%)	0	100	100
17	I2	33/180 (18%)	33 (100%)	0	100	100
17	I3	33/180 (18%)	33 (100%)	0	100	100
18	J	146/181 (81%)	144 (99%)	2 (1%)	67	80
19	J1	153/169 (90%)	152 (99%)	1 (1%)	84	90
19	J2	153/169 (90%)	151 (99%)	2 (1%)	69	82
19	J3	153/169 (90%)	152 (99%)	1 (1%)	84	90
20	K	236/265 (89%)	235 (100%)	1 (0%)	91	94
20	L	236/265 (89%)	236 (100%)	0	100	100
21	K1	92/434 (21%)	90 (98%)	2 (2%)	52	71
21	K2	370/434 (85%)	368 (100%)	2 (0%)	88	93
21	K3	375/434 (86%)	370 (99%)	5 (1%)	69	82
21	K4	345/434 (80%)	342 (99%)	3 (1%)	78	88
21	K5	40/434 (9%)	40 (100%)	0	100	100
22	L1	193/235 (82%)	191 (99%)	2 (1%)	76	86
22	L2	216/235 (92%)	214 (99%)	2 (1%)	78	88
22	L3	216/235 (92%)	211 (98%)	5 (2%)	50	70

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
22	L4	70/235 (30%)	69 (99%)	1 (1%)	67 80
23	M	105/147 (71%)	105 (100%)	0	100 100
24	M1	54/125 (43%)	54 (100%)	0	100 100
24	M2	54/125 (43%)	54 (100%)	0	100 100
24	M3	54/125 (43%)	54 (100%)	0	100 100
25	N	65/110 (59%)	65 (100%)	0	100 100
26	N1	58/148 (39%)	57 (98%)	1 (2%)	60 78
26	N2	58/148 (39%)	57 (98%)	1 (2%)	60 78
26	N3	58/148 (39%)	58 (100%)	0	100 100
26	N4	58/148 (39%)	57 (98%)	1 (2%)	60 78
27	O	42/341 (12%)	41 (98%)	1 (2%)	49 69
27	P	287/341 (84%)	283 (99%)	4 (1%)	67 80
27	Q	162/341 (48%)	161 (99%)	1 (1%)	86 92
27	R	208/341 (61%)	203 (98%)	5 (2%)	49 69
28	O1	88/165 (53%)	87 (99%)	1 (1%)	73 84
28	O2	88/165 (53%)	86 (98%)	2 (2%)	50 70
28	O3	88/165 (53%)	87 (99%)	1 (1%)	73 84
29	P1	511/522 (98%)	510 (100%)	1 (0%)	93 96
29	P2	511/522 (98%)	507 (99%)	4 (1%)	81 89
29	P3	511/522 (98%)	509 (100%)	2 (0%)	91 94
30	Q1	162/1391 (12%)	160 (99%)	2 (1%)	71 83
30	Q2	162/1391 (12%)	160 (99%)	2 (1%)	71 83
30	Q3	162/1391 (12%)	160 (99%)	2 (1%)	71 83
31	R1	62/250 (25%)	61 (98%)	1 (2%)	62 79
31	R2	62/250 (25%)	60 (97%)	2 (3%)	39 61
31	R3	62/250 (25%)	61 (98%)	1 (2%)	62 79
32	S	65/401 (16%)	65 (100%)	0	100 100
32	T	101/401 (25%)	99 (98%)	2 (2%)	55 74
33	U	332/497 (67%)	323 (97%)	9 (3%)	44 65
33	V	57/497 (12%)	54 (95%)	3 (5%)	22 47
33	W	294/497 (59%)	287 (98%)	7 (2%)	49 69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	X	156/497 (31%)	152 (97%)	4 (3%)	46	66
34	XA	173/180 (96%)	171 (99%)	2 (1%)	71	83
34	XB	173/180 (96%)	170 (98%)	3 (2%)	60	78
34	XC	173/180 (96%)	170 (98%)	3 (2%)	60	78
34	XD	173/180 (96%)	171 (99%)	2 (1%)	71	83
34	XE	173/180 (96%)	171 (99%)	2 (1%)	71	83
34	XF	173/180 (96%)	171 (99%)	2 (1%)	71	83
34	XG	173/180 (96%)	170 (98%)	3 (2%)	60	78
35	XH	161/215 (75%)	156 (97%)	5 (3%)	40	62
35	XI	161/215 (75%)	158 (98%)	3 (2%)	57	75
35	XJ	161/215 (75%)	157 (98%)	4 (2%)	47	68
35	XK	161/215 (75%)	159 (99%)	2 (1%)	71	83
35	XL	161/215 (75%)	157 (98%)	4 (2%)	47	68
35	XM	161/215 (75%)	160 (99%)	1 (1%)	86	92
36	Y	194/490 (40%)	192 (99%)	2 (1%)	76	86
36	Z	261/490 (53%)	260 (100%)	1 (0%)	91	94
37	YA	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YB	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YC	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YD	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YE	157/157 (100%)	156 (99%)	1 (1%)	86	92
37	YF	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YG	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YH	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YI	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YJ	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YK	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YL	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YM	157/157 (100%)	154 (98%)	3 (2%)	57	75
37	YN	157/157 (100%)	155 (99%)	2 (1%)	69	82
37	YO	157/157 (100%)	156 (99%)	1 (1%)	86	92

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
37	YP	157/157 (100%)	156 (99%)	1 (1%)	86 92
37	YQ	157/157 (100%)	156 (99%)	1 (1%)	86 92
37	YR	157/157 (100%)	155 (99%)	2 (1%)	69 82
37	YS	157/157 (100%)	154 (98%)	3 (2%)	57 75
37	YT	157/157 (100%)	154 (98%)	3 (2%)	57 75
37	YU	157/157 (100%)	154 (98%)	3 (2%)	57 75
37	YV	157/157 (100%)	155 (99%)	2 (1%)	69 82
37	YW	157/157 (100%)	155 (99%)	2 (1%)	69 82
38	a	82/91 (90%)	81 (99%)	1 (1%)	71 83
All	All	138680/162697 (85%)	137404 (99%)	1276 (1%)	79 88

5 of 1276 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	RE	339	ARG
4	WC	84	ARG
3	RL	392	LYS
4	RE	264	ARG
3	TN	392	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 939 such sidechains are listed below:

Mol	Chain	Res	Type
4	JC	283	HIS
3	WF	256	ASN
3	MJ	426	GLN
3	WB	256	ASN
4	TM	283	HIS

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

279 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
39	GTP	DB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	MB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	CI	501	4	26,34,34	1.04	2 (7%)	32,54,54	1.56	6 (18%)
39	GTP	DG	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.51	6 (18%)
39	GTP	AD	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	FI	501	3,4	26,34,34	1.02	1 (3%)	32,54,54	1.55	7 (21%)
39	GTP	HE	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.66	9 (28%)
39	GTP	IM	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.64	8 (25%)
39	GTP	RD	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	UL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	HK	501	3,4	26,34,34	1.02	2 (7%)	32,54,54	1.53	8 (25%)
39	GTP	PJ	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	QF	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.54	8 (25%)
39	GTP	RI	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	NI	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.65	8 (25%)
39	GTP	NC	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	NK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.46	6 (18%)
39	GTP	DE	501	3,4	26,34,34	1.02	1 (3%)	32,54,54	1.58	7 (21%)
39	GTP	FA	501	4	26,34,34	1.04	1 (3%)	32,54,54	1.45	7 (21%)
39	GTP	DH	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	PI	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	VD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.49	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	CL	501	3	26,34,34	1.52	3 (11%)	32,54,54	2.44	11 (34%)
39	GTP	IF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.47	8 (25%)
39	GTP	TG	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	CK	501	3,4	26,34,34	1.08	1 (3%)	32,54,54	1.68	9 (28%)
39	GTP	QL	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	TK	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.43	5 (15%)
39	GTP	HA	501	4	26,34,34	1.01	1 (3%)	32,54,54	1.47	5 (15%)
39	GTP	TN	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	JB	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.54	7 (21%)
39	GTP	RH	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	MM	501	3,4	26,34,34	0.98	2 (7%)	32,54,54	1.70	6 (18%)
39	GTP	UD	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	UE	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.56	8 (25%)
39	GTP	PK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.48	5 (15%)
39	GTP	JI	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.44	7 (21%)
39	GTP	BD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.40	7 (21%)
39	GTP	SG	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.51	5 (15%)
39	GTP	PH	501	3	26,34,34	1.22	2 (7%)	32,54,54	1.45	8 (25%)
39	GTP	IA	501	4	26,34,34	1.03	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	WH	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.57	8 (25%)
39	GTP	CE	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.54	8 (25%)
39	GTP	VL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	SI	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.48	5 (15%)
39	GTP	GK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.57	8 (25%)
39	GTP	WC	501	3,4	26,34,34	1.02	2 (7%)	32,54,54	1.50	6 (18%)
39	GTP	RB	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.41	4 (12%)
39	GTP	HB	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.54	7 (21%)
39	GTP	WI	501	3,4	26,34,34	0.99	2 (7%)	32,54,54	1.69	8 (25%)
39	GTP	HG	501	3,4	26,34,34	1.16	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	AC	501	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.52	6 (18%)
39	GTP	DI	501	3,4	26,34,34	0.94	1 (3%)	32,54,54	1.85	7 (21%)
39	GTP	OG	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	LF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	VJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	OA	501	4	26,34,34	0.98	2 (7%)	32,54,54	1.65	8 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	AK	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.45	5 (15%)
39	GTP	WB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	GA	501	4	26,34,34	1.08	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	OL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	LB	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	VE	501	3,4	26,34,34	1.14	3 (11%)	32,54,54	1.81	9 (28%)
39	GTP	JF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.42	6 (18%)
39	GTP	CH	501	3	26,34,34	1.23	2 (7%)	32,54,54	1.44	5 (15%)
39	GTP	CF	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	IC	501	3,4	26,34,34	0.96	1 (3%)	32,54,54	1.79	7 (21%)
39	GTP	UJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	JJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	CG	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.58	6 (18%)
39	GTP	IB	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	OH	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	LG	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.50	6 (18%)
39	GTP	KE	501	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	DD	501	3	26,34,34	1.25	2 (7%)	32,54,54	1.54	5 (15%)
39	GTP	DF	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.52	8 (25%)
39	GTP	JL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	VF	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.37	6 (18%)
39	GTP	JG	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.59	5 (15%)
39	GTP	KB	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.53	6 (18%)
39	GTP	JH	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.45	7 (21%)
39	GTP	EH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	IK	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.57	7 (21%)
39	GTP	CC	501	4	26,34,34	1.07	1 (3%)	32,54,54	1.40	5 (15%)
39	GTP	PC	501	3,4	26,34,34	1.08	1 (3%)	32,54,54	1.51	5 (15%)
39	GTP	RJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.42	6 (18%)
39	GTP	BB	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	DK	501	3,4	26,34,34	1.14	1 (3%)	32,54,54	1.65	9 (28%)
39	GTP	GF	501	3	26,34,34	1.18	2 (7%)	32,54,54	1.51	9 (28%)
39	GTP	BF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)
39	GTP	ID	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	FD	501	3	26,34,34	1.21	2 (7%)	32,54,54	1.61	8 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	QD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.61	6 (18%)
39	GTP	GB	501	3	26,34,34	1.37	2 (7%)	32,54,54	1.53	6 (18%)
39	GTP	SL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	AI	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.49	7 (21%)
39	GTP	CB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	BL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	QL	502	3,4	26,34,34	1.08	2 (7%)	32,54,54	1.43	4 (12%)
39	GTP	KK	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.48	6 (18%)
39	GTP	AH	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.52	7 (21%)
39	GTP	BM	501	3,4	26,34,34	1.17	1 (3%)	32,54,54	1.86	10 (31%)
39	GTP	QK	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.38	6 (18%)
39	GTP	TJ	501	3	26,34,34	1.45	3 (11%)	32,54,54	1.67	6 (18%)
39	GTP	NB	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	GD	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	QI	501	3,4	26,34,34	1.00	1 (3%)	32,54,54	1.89	7 (21%)
39	GTP	QJ	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	MJ	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.39	6 (18%)
39	GTP	HL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	RF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	RL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	LH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	PD	501	3	26,34,34	1.29	3 (11%)	32,54,54	1.64	8 (25%)
39	GTP	BC	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	AF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	BE	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.49	6 (18%)
39	GTP	AE	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.48	6 (18%)
39	GTP	PA	501	4	26,34,34	0.99	2 (7%)	32,54,54	1.66	7 (21%)
39	GTP	AB	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.45	7 (21%)
39	GTP	TF	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	FF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.46	8 (25%)
39	GTP	VH	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	DJ	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.55	8 (25%)
39	GTP	MK	501	3,4	26,34,34	1.13	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	OC	501	3,4	26,34,34	0.97	2 (7%)	32,54,54	1.62	5 (15%)
39	GTP	RC	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.55	6 (18%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	VG	501	3,4	26,34,34	1.08	1 (3%)	32,54,54	1.56	9 (28%)
39	GTP	TM	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.47	6 (18%)
39	GTP	NE	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.54	6 (18%)
39	GTP	NL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.33	5 (15%)
39	GTP	QB	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	UI	501	3,4	26,34,34	1.00	2 (7%)	32,54,54	1.94	7 (21%)
39	GTP	FG	501	3,4	26,34,34	1.02	1 (3%)	32,54,54	1.57	7 (21%)
39	GTP	WG	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.50	6 (18%)
39	GTP	MC	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.47	5 (15%)
39	GTP	II	501	3,4	26,34,34	0.97	1 (3%)	32,54,54	1.77	8 (25%)
39	GTP	VB	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)
39	GTP	LC	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.48	7 (21%)
39	GTP	KI	501	3,4	26,34,34	0.97	2 (7%)	32,54,54	1.79	7 (21%)
39	GTP	AL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.42	8 (25%)
39	GTP	SD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	6 (18%)
39	GTP	SB	501	3	26,34,34	1.28	2 (7%)	32,54,54	1.61	8 (25%)
39	GTP	EC	501	3,4	26,34,34	1.14	2 (7%)	32,54,54	1.64	6 (18%)
39	GTP	JD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	SE	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.41	5 (15%)
39	GTP	GC	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.32	5 (15%)
39	GTP	CM	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.57	6 (18%)
39	GTP	MH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)
39	GTP	DA	501	4	26,34,34	1.05	2 (7%)	32,54,54	1.48	6 (18%)
39	GTP	FE	501	4	26,34,34	1.05	2 (7%)	32,54,54	1.46	5 (15%)
39	GTP	RK	501	3,4	26,34,34	1.01	1 (3%)	32,54,54	1.77	10 (31%)
39	GTP	JE	501	3,4	26,34,34	0.99	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	DC	501	3,4	26,34,34	0.97	1 (3%)	32,54,54	1.45	7 (21%)
39	GTP	HD	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.54	8 (25%)
39	GTP	IL	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	KA	501	4	26,34,34	1.09	2 (7%)	32,54,54	1.53	9 (28%)
39	GTP	OK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.80	8 (25%)
39	GTP	RE	501	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	GE	501	4	26,34,34	0.97	1 (3%)	32,54,54	1.57	6 (18%)
39	GTP	SJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	KH	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.57	11 (34%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	WJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	WK	501	4	26,34,34	1.01	1 (3%)	32,54,54	1.47	6 (18%)
39	GTP	BH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	HF	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.38	6 (18%)
39	GTP	TB	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	IJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.48	8 (25%)
39	GTP	KL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	TC	501	3,4	26,34,34	1.10	1 (3%)	32,54,54	1.51	7 (21%)
39	GTP	TI	501	3,4	26,34,34	1.03	1 (3%)	32,54,54	1.65	7 (21%)
39	GTP	BI	501	3,4	26,34,34	0.94	1 (3%)	32,54,54	1.82	7 (21%)
39	GTP	MG	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.46	6 (18%)
39	GTP	SF	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.52	6 (18%)
39	GTP	NH	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.46	7 (21%)
39	GTP	LL	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.45	7 (21%)
39	GTP	QD	502	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.46	6 (18%)
39	GTP	WD	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.46	8 (25%)
39	GTP	NA	501	4	26,34,34	1.00	2 (7%)	32,54,54	1.59	8 (25%)
39	GTP	EB	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.50	8 (25%)
39	GTP	ML	501	3	26,34,34	1.17	2 (7%)	32,54,54	1.52	8 (25%)
39	GTP	EE	501	4	26,34,34	1.04	1 (3%)	32,54,54	1.66	6 (18%)
39	GTP	RM	501	3,4	26,34,34	1.04	2 (7%)	32,54,54	1.50	6 (18%)
39	GTP	LI	501	3,4	26,34,34	0.98	2 (7%)	32,54,54	1.70	7 (21%)
39	GTP	WF	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.49	8 (25%)
39	GTP	OF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	HC	501	3,4	26,34,34	1.07	1 (3%)	32,54,54	1.67	9 (28%)
39	GTP	LK	501	3,4	26,34,34	1.12	2 (7%)	32,54,54	1.42	5 (15%)
39	GTP	VI	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.60	7 (21%)
39	GTP	NJ	501	3	26,34,34	1.21	2 (7%)	32,54,54	1.57	8 (25%)
39	GTP	KC	501	3,4	26,34,34	1.09	2 (7%)	32,54,54	1.45	6 (18%)
39	GTP	CD	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	HI	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.54	8 (25%)
39	GTP	KG	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	UB	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	UH	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	OI	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.53	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	GG	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.53	7 (21%)
39	GTP	EK	501	4	26,34,34	1.00	1 (3%)	32,54,54	1.54	6 (18%)
39	GTP	PM	501	3,4	26,34,34	1.07	2 (7%)	32,54,54	1.66	7 (21%)
39	GTP	RG	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.51	6 (18%)
39	GTP	IE	501	3,4	26,34,34	0.96	2 (7%)	32,54,54	1.72	7 (21%)
39	GTP	GJ	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.51	8 (25%)
39	GTP	VA	501	4	26,34,34	1.04	2 (7%)	32,54,54	1.40	7 (21%)
39	GTP	TH	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.53	7 (21%)
39	GTP	SH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	CJ	501	3	26,34,34	1.11	2 (7%)	32,54,54	1.56	7 (21%)
39	GTP	WL	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.42	7 (21%)
39	GTP	KJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	EG	501	3,4	26,34,34	0.97	2 (7%)	32,54,54	1.80	6 (18%)
39	GTP	LA	501	4	26,34,34	0.99	2 (7%)	32,54,54	1.63	7 (21%)
39	GTP	AG	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.54	7 (21%)
39	GTP	FC	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.47	7 (21%)
39	GTP	NG	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.59	7 (21%)
39	GTP	KD	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	EF	501	3	26,34,34	1.22	2 (7%)	32,54,54	1.50	8 (25%)
39	GTP	FJ	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.44	5 (15%)
39	GTP	OE	501	3,4	26,34,34	0.96	1 (3%)	32,54,54	1.62	6 (18%)
39	GTP	AJ	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.55	8 (25%)
39	GTP	FK	501	4	26,34,34	1.02	1 (3%)	32,54,54	1.55	8 (25%)
39	GTP	GI	501	3,4	26,34,34	1.09	1 (3%)	32,54,54	1.44	4 (12%)
39	GTP	IH	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	9 (28%)
39	GTP	PG	501	3,4	26,34,34	1.07	2 (7%)	32,54,54	1.47	6 (18%)
39	GTP	OJ	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	TL	501	3	26,34,34	1.66	2 (7%)	32,54,54	1.65	6 (18%)
39	GTP	UC	501	3,4	26,34,34	1.10	2 (7%)	32,54,54	1.52	8 (25%)
39	GTP	SM	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.41	5 (15%)
39	GTP	UG	501	3,4	26,34,34	1.09	2 (7%)	32,54,54	1.48	6 (18%)
39	GTP	VC	501	3,4	26,34,34	0.94	1 (3%)	32,54,54	1.86	8 (25%)
39	GTP	WE	501	4	26,34,34	1.16	1 (3%)	32,54,54	1.80	8 (25%)
39	GTP	AM	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.55	7 (21%)
39	GTP	MD	502	3,4	26,34,34	1.03	2 (7%)	32,54,54	1.52	8 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	LE	501	3,4	26,34,34	1.11	2 (7%)	32,54,54	1.41	5 (15%)
39	GTP	HJ	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	8 (25%)
39	GTP	IG	501	3,4	26,34,34	1.02	2 (7%)	32,54,54	1.54	6 (18%)
39	GTP	KF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.56	7 (21%)
39	GTP	UA	501	4	26,34,34	0.99	2 (7%)	32,54,54	1.61	7 (21%)
39	GTP	BJ	501	3	26,34,34	1.42	3 (11%)	32,54,54	2.26	10 (31%)
39	GTP	EL	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.40	7 (21%)
39	GTP	PL	501	3	26,34,34	1.23	2 (7%)	32,54,54	1.47	9 (28%)
39	GTP	QC	501	3,4	26,34,34	0.96	2 (7%)	32,54,54	1.69	7 (21%)
39	GTP	QG	501	3,4	26,34,34	1.10	3 (11%)	32,54,54	1.68	5 (15%)
39	GTP	FL	501	3	26,34,34	1.25	2 (7%)	32,54,54	1.53	8 (25%)
39	GTP	MF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	7 (21%)
39	GTP	PF	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	JA	501	4	26,34,34	1.04	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	HH	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	JC	501	3,4	26,34,34	1.09	2 (7%)	32,54,54	1.45	6 (18%)
39	GTP	FH	501	3	26,34,34	1.36	3 (11%)	32,54,54	1.64	7 (21%)
39	GTP	QH	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.37	6 (18%)
39	GTP	TE	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.48	5 (15%)
39	GTP	UF	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.39	6 (18%)
39	GTP	BK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.43	6 (18%)
39	GTP	LJ	501	3	26,34,34	1.19	2 (7%)	32,54,54	1.59	9 (28%)
39	GTP	SK	501	3,4	26,34,34	1.07	2 (7%)	32,54,54	1.49	4 (12%)
39	GTP	EJ	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.43	7 (21%)
39	GTP	TD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	EA	501	4	26,34,34	0.99	1 (3%)	32,54,54	1.65	7 (21%)
39	GTP	JK	501	3,4	26,34,34	1.05	2 (7%)	32,54,54	1.45	6 (18%)
39	GTP	SC	501	3,4	26,34,34	1.04	1 (3%)	32,54,54	1.54	7 (21%)
39	GTP	BG	501	3,4	26,34,34	0.99	2 (7%)	32,54,54	1.58	6 (18%)
39	GTP	MI	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.49	7 (21%)
39	GTP	MD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.41	7 (21%)
39	GTP	WA	501	4	26,34,34	1.05	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	VK	501	3,4	26,34,34	1.01	2 (7%)	32,54,54	1.58	7 (21%)
39	GTP	GL	501	3	26,34,34	1.32	2 (7%)	32,54,54	1.66	8 (25%)
39	GTP	OB	501	3	26,34,34	1.12	2 (7%)	32,54,54	1.45	8 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
39	GTP	NF	501	3	26,34,34	1.14	2 (7%)	32,54,54	1.50	7 (21%)
39	GTP	ND	501	3	26,34,34	1.25	2 (7%)	32,54,54	1.64	8 (25%)
39	GTP	UK	501	3,4	26,34,34	1.06	2 (7%)	32,54,54	1.59	8 (25%)
39	GTP	FB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.47	8 (25%)
39	GTP	PB	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	ED	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	8 (25%)
39	GTP	GH	501	3	26,34,34	1.24	2 (7%)	32,54,54	1.47	8 (25%)
39	GTP	OD	501	3	26,34,34	1.13	2 (7%)	32,54,54	1.44	7 (21%)
39	GTP	LD	501	3	26,34,34	1.15	2 (7%)	32,54,54	1.48	7 (21%)
39	GTP	DL	501	3	26,34,34	1.16	2 (7%)	32,54,54	1.51	7 (21%)
39	GTP	PE	501	3,4	26,34,34	1.06	1 (3%)	32,54,54	1.46	7 (21%)
39	GTP	EI	501	3,4	26,34,34	1.05	1 (3%)	32,54,54	1.56	7 (21%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	DB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	MB	501	3	-	6/18/38/38	0/3/3/3
39	GTP	CI	501	4	-	9/18/38/38	0/3/3/3
39	GTP	DG	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	AD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	FI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	HE	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	IM	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	RD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	UL	501	3	-	6/18/38/38	0/3/3/3
39	GTP	HK	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	PJ	501	3	-	3/18/38/38	0/3/3/3
39	GTP	QF	501	3	-	5/18/38/38	0/3/3/3
39	GTP	RI	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	NI	501	3,4	-	8/18/38/38	0/3/3/3
39	GTP	NC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	NK	501	3,4	-	4/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	DE	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	FA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	DH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	PI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	VD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	CL	501	3	-	3/18/38/38	0/3/3/3
39	GTP	IF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	TG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	CK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	QL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	TK	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	HA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	TN	501	3	-	6/18/38/38	0/3/3/3
39	GTP	JB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	RH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	MM	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	UD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	UE	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	PK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	JI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	BD	501	3	-	1/18/38/38	0/3/3/3
39	GTP	SG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	PH	501	3	-	1/18/38/38	0/3/3/3
39	GTP	IA	501	4	-	2/18/38/38	0/3/3/3
39	GTP	WH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	CE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	VL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	SI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	GK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	WC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	RB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	HB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	WI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	HG	501	3,4	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	AC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	DI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	OG	501	3,4	-	8/18/38/38	0/3/3/3
39	GTP	LF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	VJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OA	501	4	-	3/18/38/38	0/3/3/3
39	GTP	AK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	WB	501	3	-	1/18/38/38	0/3/3/3
39	GTP	GA	501	4	-	4/18/38/38	0/3/3/3
39	GTP	OL	501	3	-	6/18/38/38	0/3/3/3
39	GTP	LB	501	3	-	2/18/38/38	0/3/3/3
39	GTP	VE	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	JF	501	3	-	3/18/38/38	0/3/3/3
39	GTP	CH	501	3	-	2/18/38/38	0/3/3/3
39	GTP	CF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	IC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	UJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	JJ	501	3	-	4/18/38/38	0/3/3/3
39	GTP	CG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	IB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	LG	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	KE	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	DD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	DF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	JL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	VF	501	3	-	2/18/38/38	0/3/3/3
39	GTP	JG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	KB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	JH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	EH	501	3	-	6/18/38/38	0/3/3/3
39	GTP	IK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	CC	501	4	-	9/18/38/38	0/3/3/3
39	GTP	PC	501	3,4	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	RJ	501	3	-	4/18/38/38	0/3/3/3
39	GTP	BB	501	3	-	3/18/38/38	0/3/3/3
39	GTP	DK	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	GF	501	3	-	2/18/38/38	0/3/3/3
39	GTP	BF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	ID	501	3	-	1/18/38/38	0/3/3/3
39	GTP	FD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	QD	501	3	-	4/18/38/38	0/3/3/3
39	GTP	GB	501	3	-	3/18/38/38	0/3/3/3
39	GTP	SL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	AI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	CB	501	3	-	3/18/38/38	0/3/3/3
39	GTP	BL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	QL	502	3,4	-	5/18/38/38	0/3/3/3
39	GTP	KK	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	AH	501	3	-	4/18/38/38	0/3/3/3
39	GTP	BM	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	QK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	TJ	501	3	-	2/18/38/38	0/3/3/3
39	GTP	NB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	GD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	QI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	QJ	501	3	-	1/18/38/38	0/3/3/3
39	GTP	MJ	501	3	-	7/18/38/38	0/3/3/3
39	GTP	HL	501	3	-	2/18/38/38	0/3/3/3
39	GTP	RF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	RL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	LH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	PD	501	3	-	3/18/38/38	0/3/3/3
39	GTP	BC	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	AF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	BE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	AE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	PA	501	4	-	3/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	AB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	TF	501	3	-	4/18/38/38	0/3/3/3
39	GTP	FF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	VH	501	3	-	2/18/38/38	0/3/3/3
39	GTP	DJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	MK	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	OC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	RC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	VG	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	TM	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	NE	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	NL	501	3	-	1/18/38/38	0/3/3/3
39	GTP	QB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	UI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	FG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	WG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	MC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	II	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	VB	501	3	-	4/18/38/38	0/3/3/3
39	GTP	LC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	KI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	AL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	SD	501	3	-	7/18/38/38	0/3/3/3
39	GTP	SB	501	3	-	1/18/38/38	0/3/3/3
39	GTP	EC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	JD	501	3	-	8/18/38/38	0/3/3/3
39	GTP	SE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	CM	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	MH	501	3	-	3/18/38/38	0/3/3/3
39	GTP	DA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	FE	501	4	-	2/18/38/38	0/3/3/3
39	GTP	RK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	JE	501	3,4	-	5/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	DC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	HD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	IL	501	3	-	0/18/38/38	0/3/3/3
39	GTP	KA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	OK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	RE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GE	501	4	-	4/18/38/38	0/3/3/3
39	GTP	SJ	501	3	-	0/18/38/38	0/3/3/3
39	GTP	KH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	WJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	WK	501	4	-	7/18/38/38	0/3/3/3
39	GTP	BH	501	3	-	2/18/38/38	0/3/3/3
39	GTP	HF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	TB	501	3	-	6/18/38/38	0/3/3/3
39	GTP	IJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	KL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	TC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	TI	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	BI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	MG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	SF	501	3	-	0/18/38/38	0/3/3/3
39	GTP	NH	501	3	-	7/18/38/38	0/3/3/3
39	GTP	LL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	QD	502	3,4	-	5/18/38/38	0/3/3/3
39	GTP	WD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	NA	501	4	-	3/18/38/38	0/3/3/3
39	GTP	EB	501	3	-	5/18/38/38	0/3/3/3
39	GTP	ML	501	3	-	1/18/38/38	0/3/3/3
39	GTP	EE	501	4	-	3/18/38/38	0/3/3/3
39	GTP	RM	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	LI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	WF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	OF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	HC	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	LK	501	3,4	-	4/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	VI	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	NJ	501	3	-	2/18/38/38	0/3/3/3
39	GTP	KC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	CD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	HI	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	KG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	UB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	UH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OI	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	GG	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	EK	501	4	-	4/18/38/38	0/3/3/3
39	GTP	PM	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	RG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	IE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	VA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	TH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	SH	501	3	-	7/18/38/38	0/3/3/3
39	GTP	CJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	WL	501	3	-	7/18/38/38	0/3/3/3
39	GTP	KJ	501	3	-	7/18/38/38	0/3/3/3
39	GTP	EG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	LA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	AG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	FC	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	NG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	KD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	EF	501	3	-	2/18/38/38	0/3/3/3
39	GTP	FJ	501	3	-	2/18/38/38	0/3/3/3
39	GTP	OE	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	AJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	FK	501	4	-	5/18/38/38	0/3/3/3
39	GTP	GI	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	IH	501	3	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	PG	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	OJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	TL	501	3	-	4/18/38/38	0/3/3/3
39	GTP	UC	501	3,4	-	6/18/38/38	0/3/3/3
39	GTP	SM	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	UG	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	VC	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	WE	501	4	-	7/18/38/38	0/3/3/3
39	GTP	AM	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	MD	502	3,4	-	6/18/38/38	0/3/3/3
39	GTP	LE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	HJ	501	3	-	5/18/38/38	0/3/3/3
39	GTP	IG	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	KF	501	3	-	4/18/38/38	0/3/3/3
39	GTP	UA	501	4	-	2/18/38/38	0/3/3/3
39	GTP	BJ	501	3	-	1/18/38/38	0/3/3/3
39	GTP	EL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	PL	501	3	-	4/18/38/38	0/3/3/3
39	GTP	QC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	QG	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	FL	501	3	-	5/18/38/38	0/3/3/3
39	GTP	MF	501	3	-	7/18/38/38	0/3/3/3
39	GTP	PF	501	3	-	1/18/38/38	0/3/3/3
39	GTP	JA	501	4	-	5/18/38/38	0/3/3/3
39	GTP	HH	501	3	-	7/18/38/38	0/3/3/3
39	GTP	JC	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	FH	501	3	-	3/18/38/38	0/3/3/3
39	GTP	QH	501	3	-	4/18/38/38	0/3/3/3
39	GTP	TE	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	UF	501	3	-	4/18/38/38	0/3/3/3
39	GTP	BK	501	3,4	-	2/18/38/38	0/3/3/3
39	GTP	LJ	501	3	-	6/18/38/38	0/3/3/3
39	GTP	SK	501	3,4	-	7/18/38/38	0/3/3/3
39	GTP	EJ	501	3	-	4/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
39	GTP	TD	501	3	-	5/18/38/38	0/3/3/3
39	GTP	EA	501	4	-	3/18/38/38	0/3/3/3
39	GTP	JK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	SC	501	3,4	-	5/18/38/38	0/3/3/3
39	GTP	BG	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	MI	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	MD	501	3	-	6/18/38/38	0/3/3/3
39	GTP	WA	501	4	-	6/18/38/38	0/3/3/3
39	GTP	VK	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	GL	501	3	-	0/18/38/38	0/3/3/3
39	GTP	OB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	NF	501	3	-	6/18/38/38	0/3/3/3
39	GTP	ND	501	3	-	0/18/38/38	0/3/3/3
39	GTP	UK	501	3,4	-	4/18/38/38	0/3/3/3
39	GTP	FB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	PB	501	3	-	7/18/38/38	0/3/3/3
39	GTP	ED	501	3	-	7/18/38/38	0/3/3/3
39	GTP	GH	501	3	-	5/18/38/38	0/3/3/3
39	GTP	OD	501	3	-	7/18/38/38	0/3/3/3
39	GTP	LD	501	3	-	2/18/38/38	0/3/3/3
39	GTP	DL	501	3	-	4/18/38/38	0/3/3/3
39	GTP	PE	501	3,4	-	3/18/38/38	0/3/3/3
39	GTP	EI	501	3,4	-	3/18/38/38	0/3/3/3

The worst 5 of 505 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	TL	501	GTP	C5-C6	-5.41	1.36	1.47
39	CL	501	GTP	C5-C6	-5.13	1.37	1.47
39	TJ	501	GTP	C5-C6	-5.03	1.37	1.47
39	GB	501	GTP	C5-C6	-4.88	1.37	1.47
39	DD	501	GTP	C5-C6	-4.64	1.38	1.47

The worst 5 of 1930 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
39	CL	501	GTP	C5-C6-N1	7.16	126.59	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
39	QI	501	GTP	O6-C6-N1	-6.50	112.97	120.65
39	UI	501	GTP	O6-C6-N1	-6.45	113.04	120.65
39	BI	501	GTP	O6-C6-N1	-6.15	113.38	120.65
39	DI	501	GTP	O6-C6-N1	-6.13	113.41	120.65

There are no chirality outliers.

5 of 1275 torsion outliers are listed below:

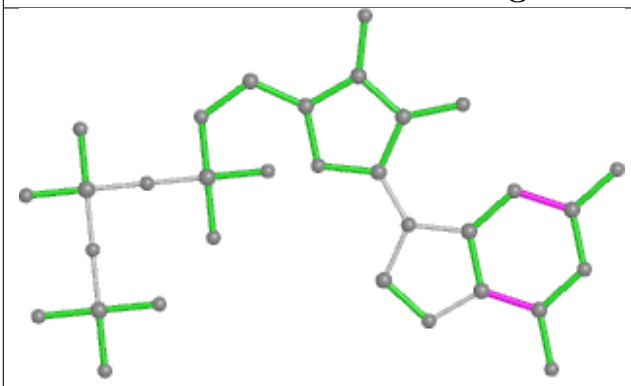
Mol	Chain	Res	Type	Atoms
39	AB	501	GTP	C5'-O5'-PA-O1A
39	AB	501	GTP	C5'-O5'-PA-O2A
39	AF	501	GTP	C5'-O5'-PA-O2A
39	AG	501	GTP	C3'-C4'-C5'-O5'
39	AK	501	GTP	PB-O3B-PG-O2G

There are no ring outliers.

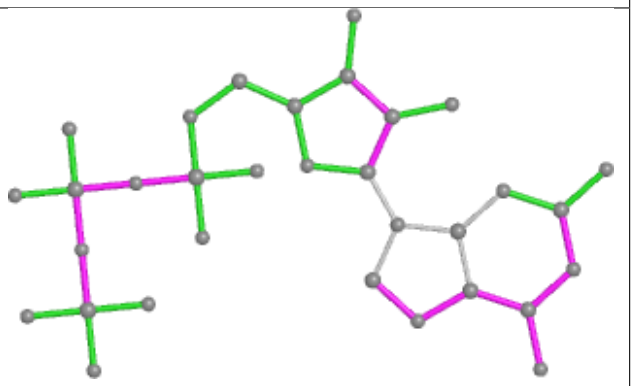
No monomer is involved in short contacts.

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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

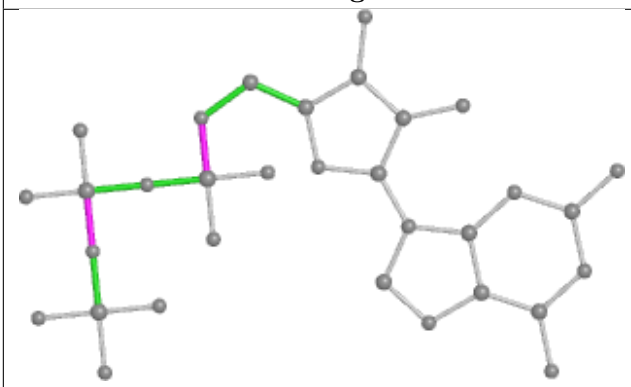
Ligand GTP DB 501



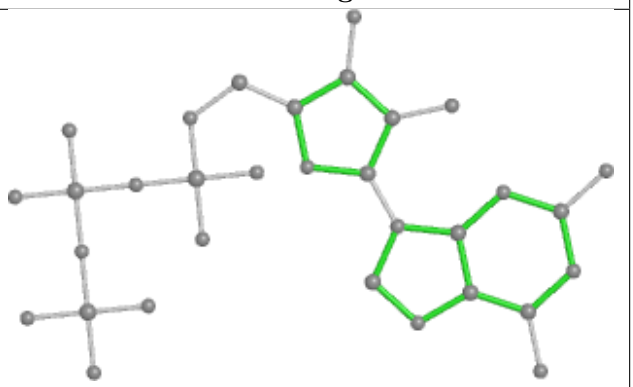
Bond lengths



Bond angles

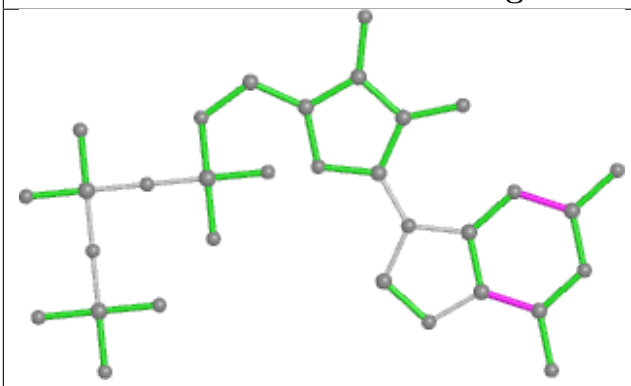


Torsions

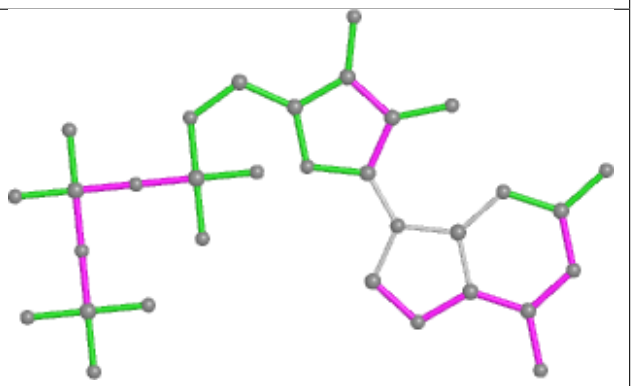


Rings

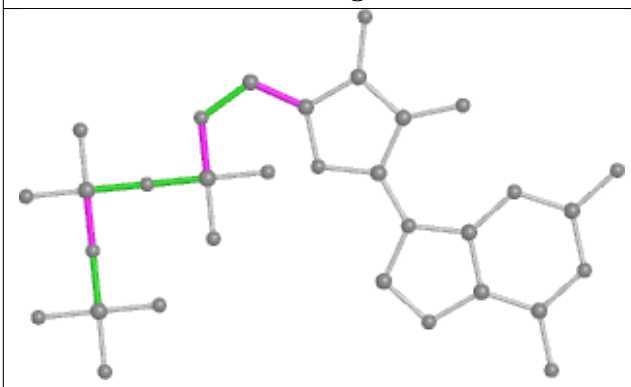
Ligand GTP MB 501



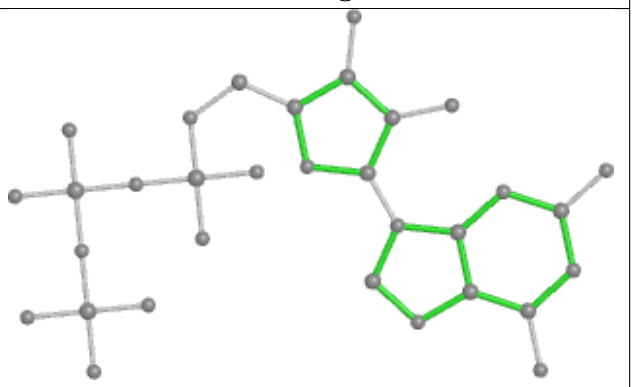
Bond lengths



Bond angles

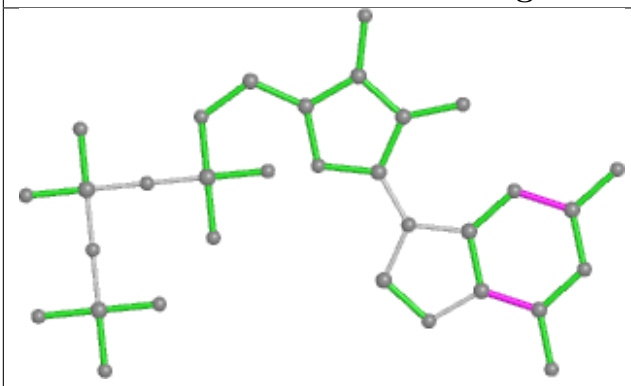


Torsions

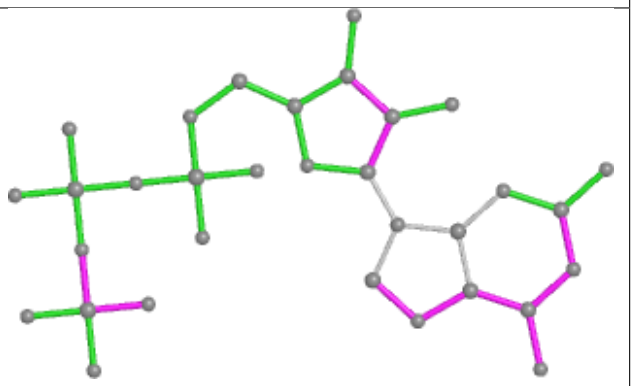


Rings

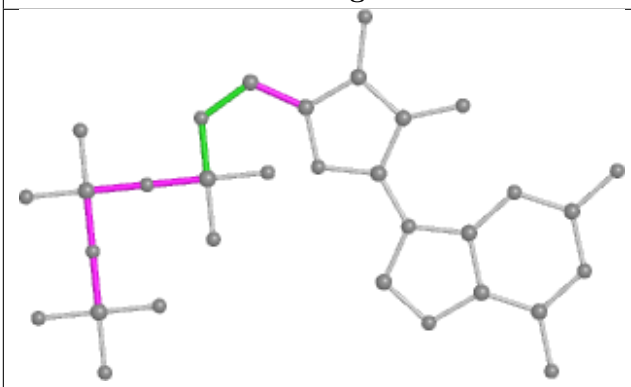
Ligand GTP CI 501



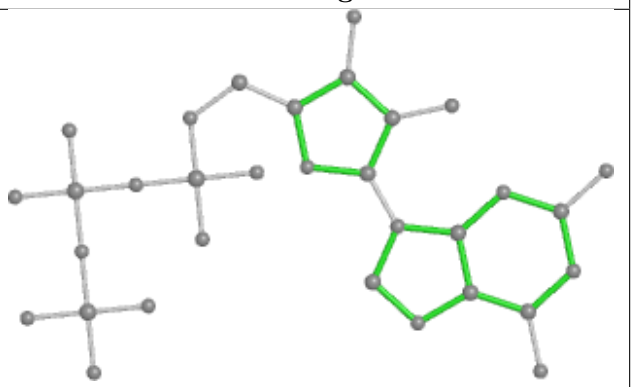
Bond lengths



Bond angles

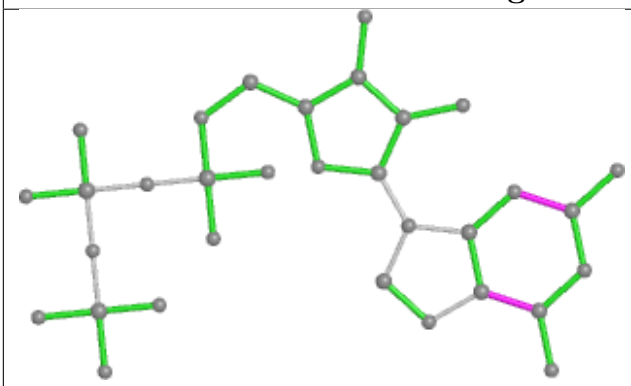


Torsions

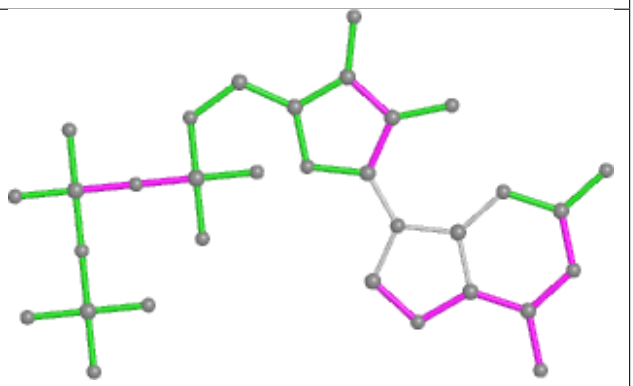


Rings

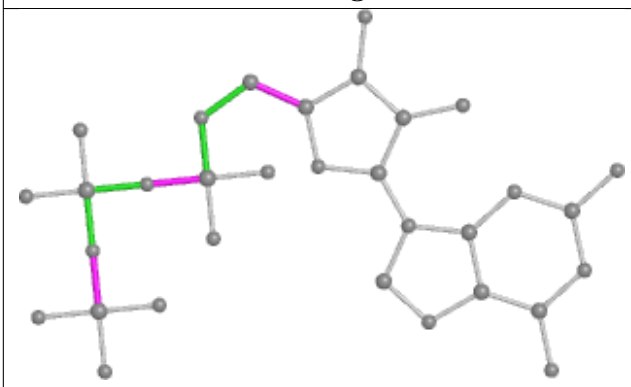
Ligand GTP DG 501



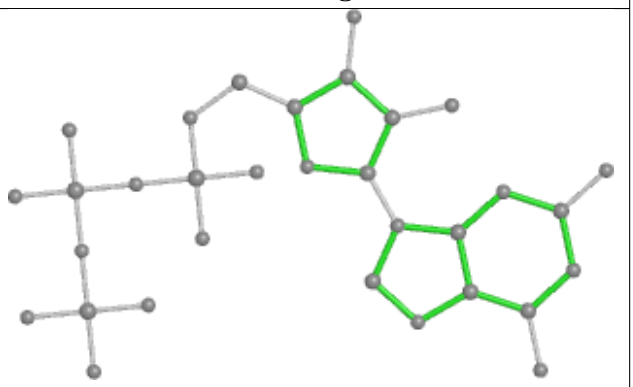
Bond lengths



Bond angles

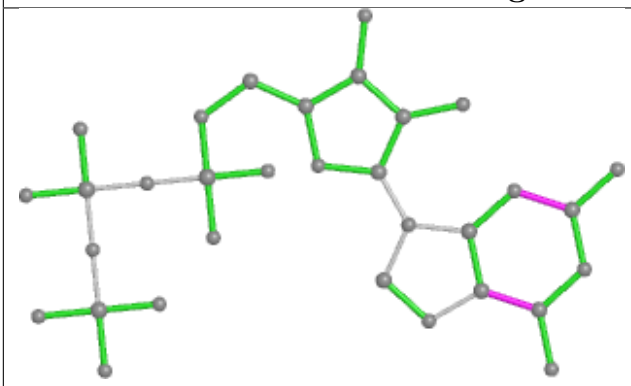


Torsions

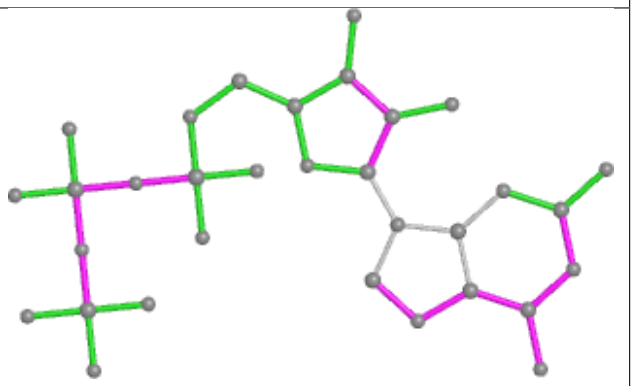


Rings

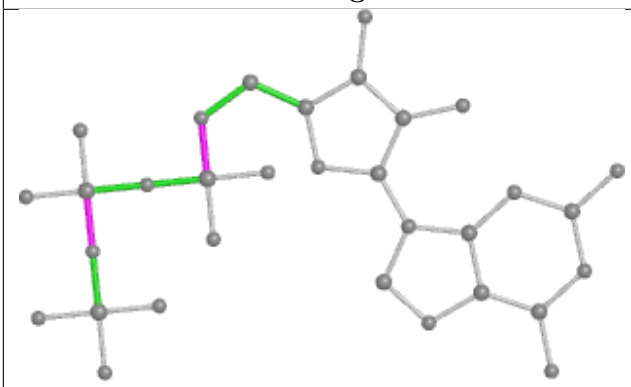
Ligand GTP AD 501



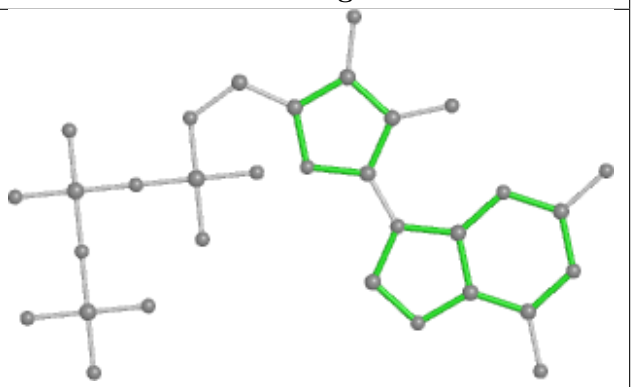
Bond lengths



Bond angles

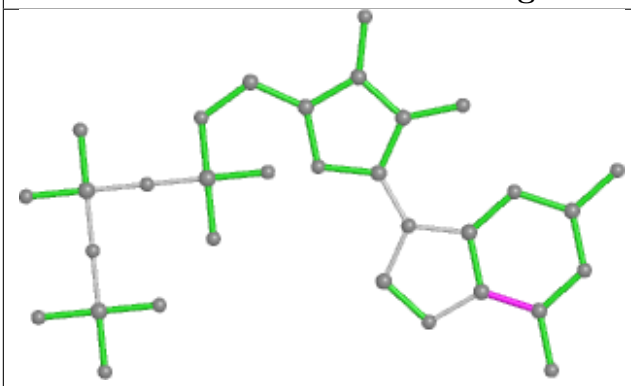


Torsions

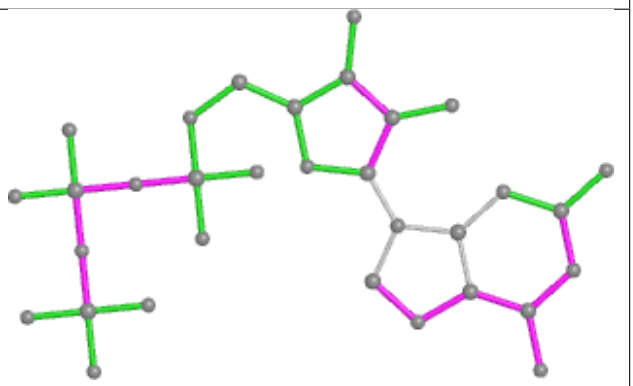


Rings

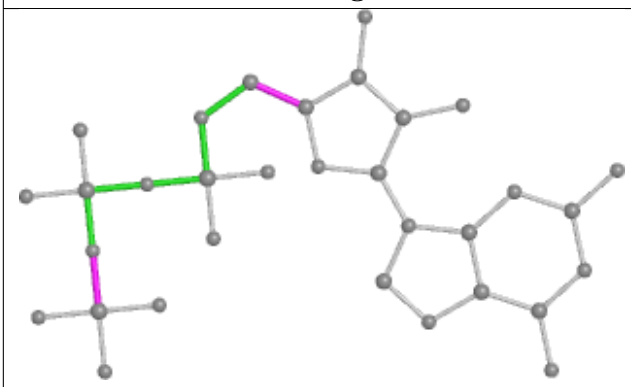
Ligand GTP FI 501



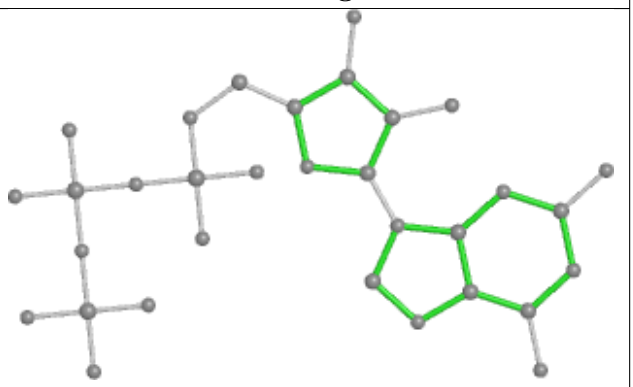
Bond lengths



Bond angles

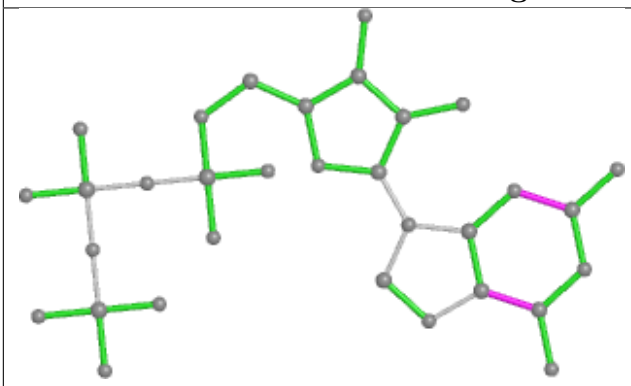


Torsions

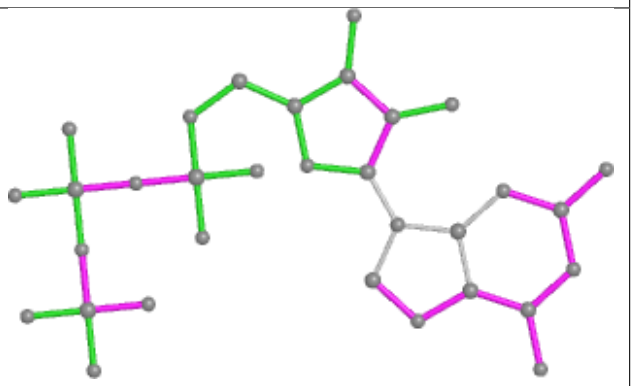


Rings

Ligand GTP HE 501



Bond lengths



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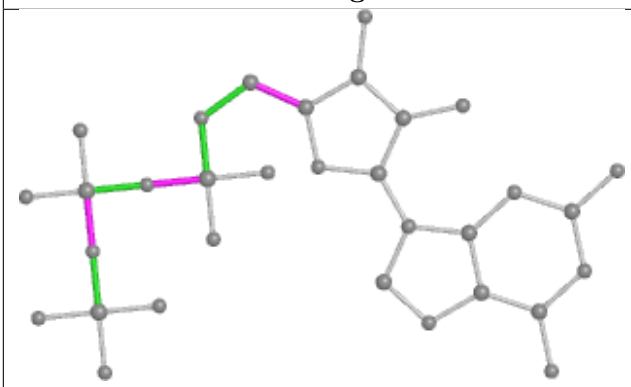
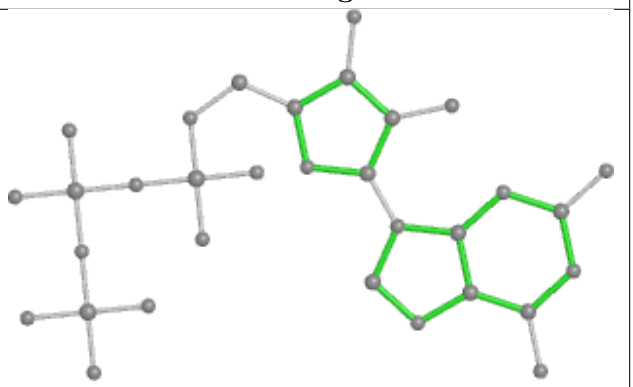
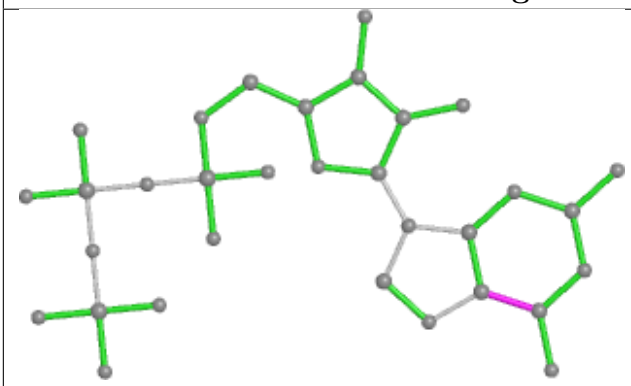


Torsions



Rings

Ligand GTP IM 501



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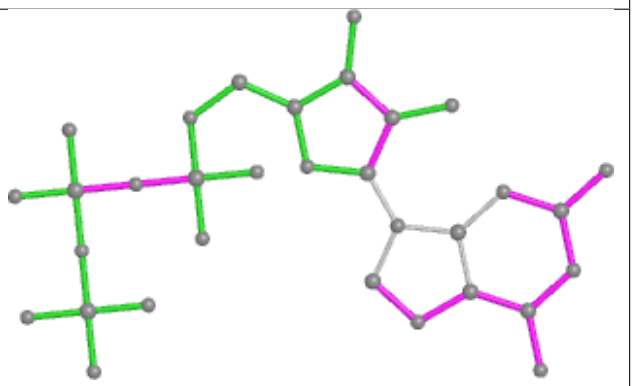

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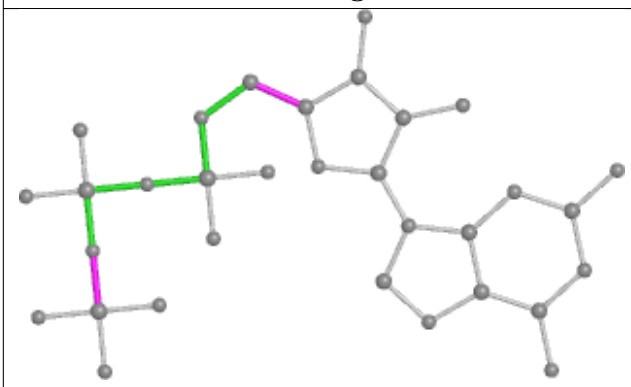

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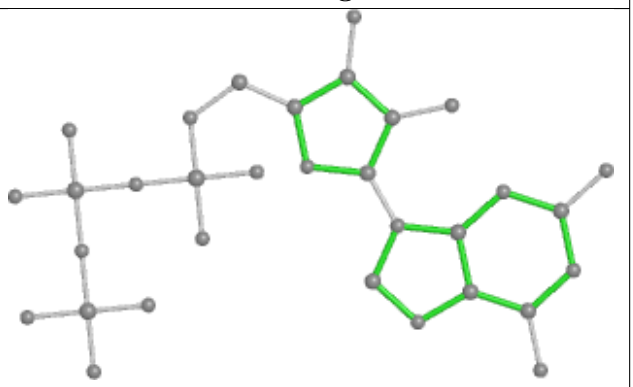
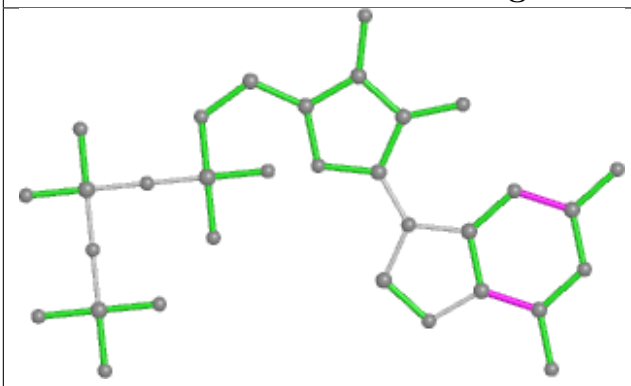


Rings

Ligand GTP RD 501



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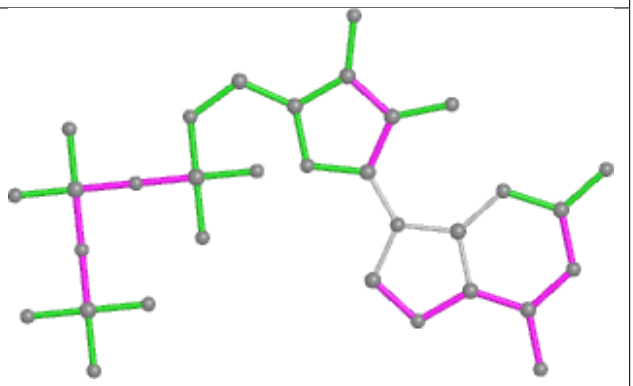

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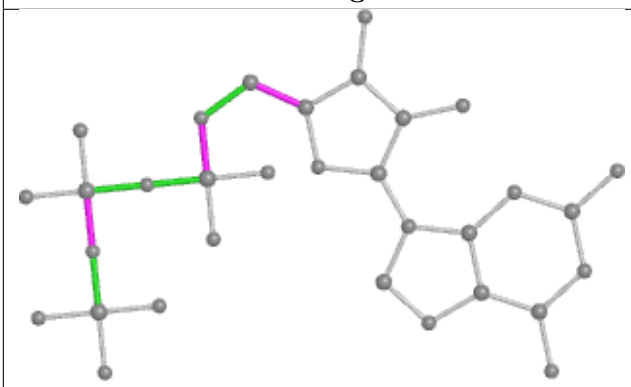

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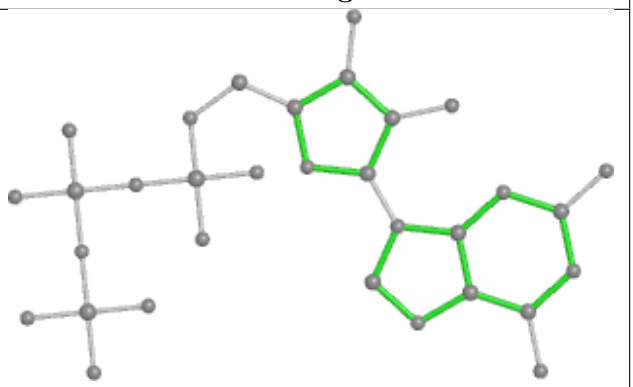
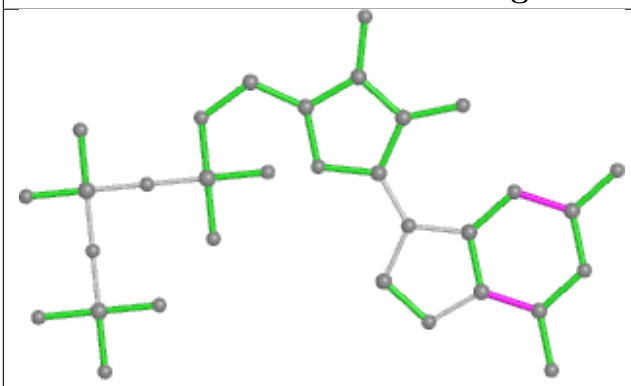


Rings

Ligand GTP UL 501



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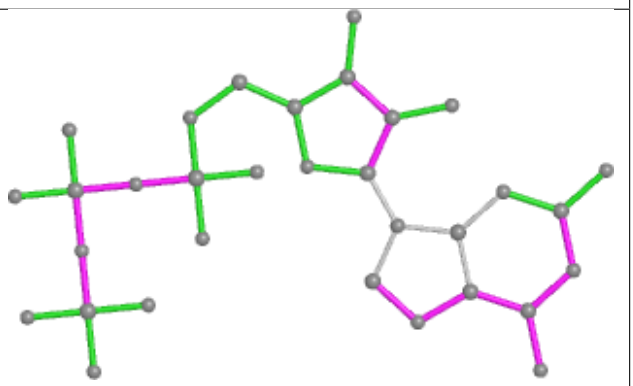

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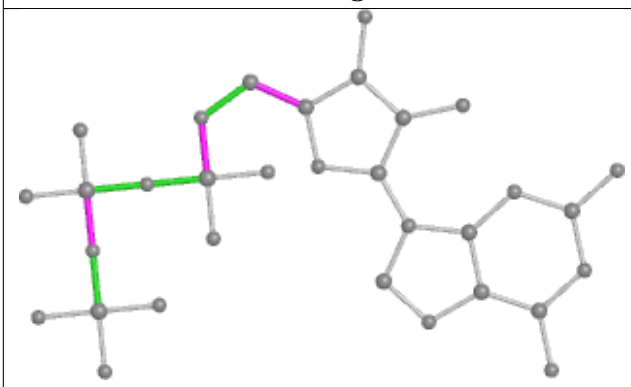

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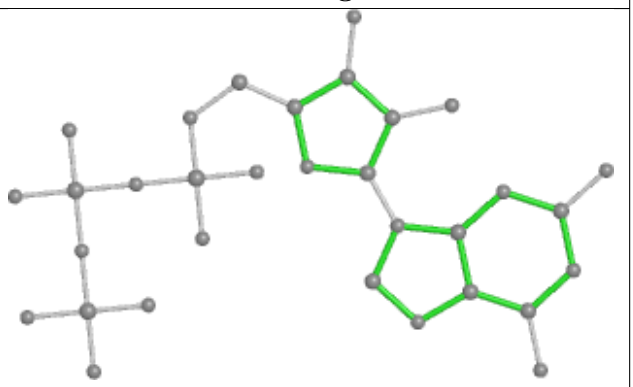
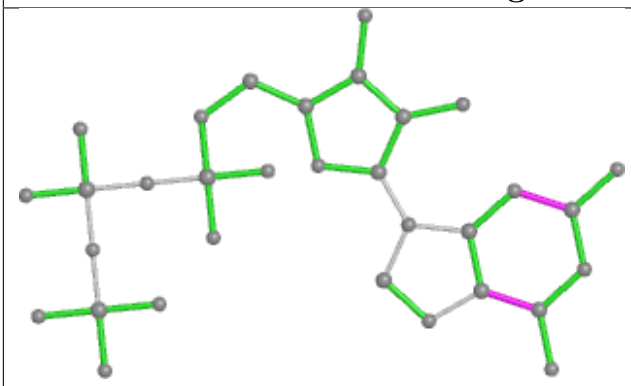


Rings

Ligand GTP HK 501



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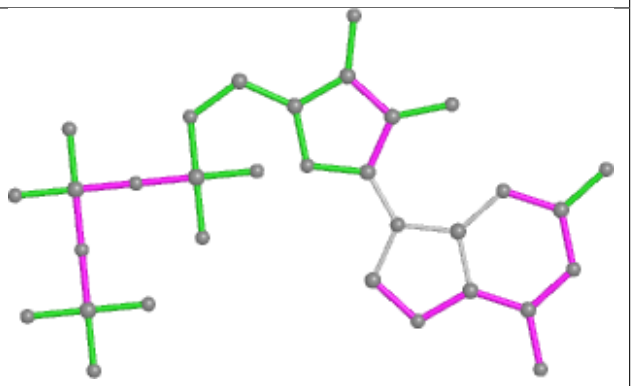

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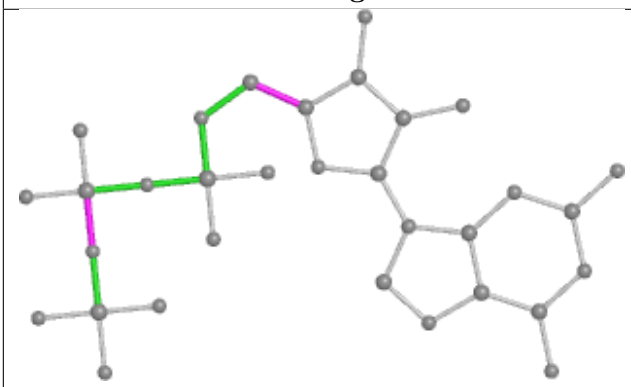

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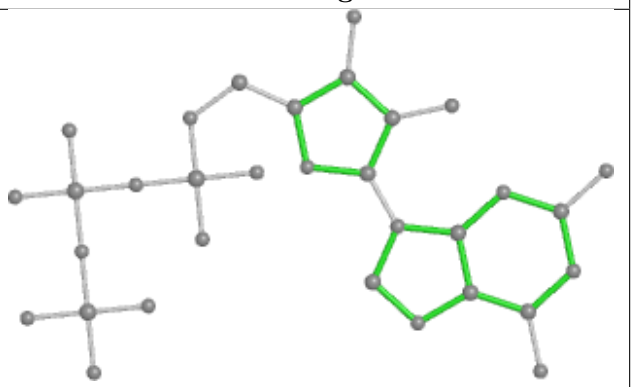
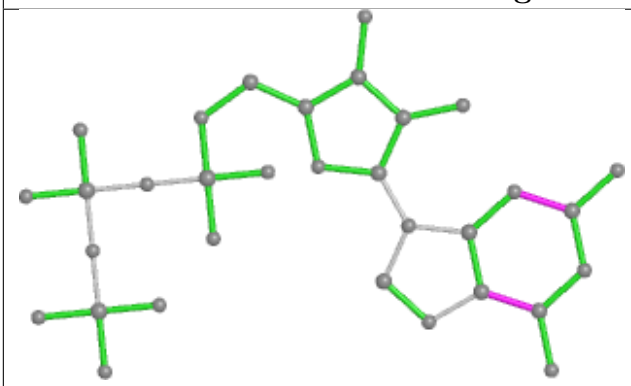


Rings

Ligand GTP PJ 501



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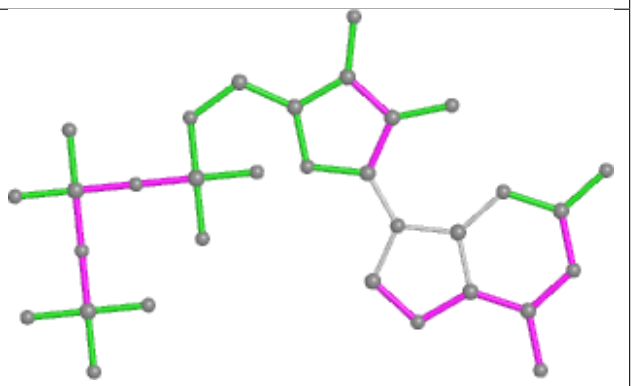

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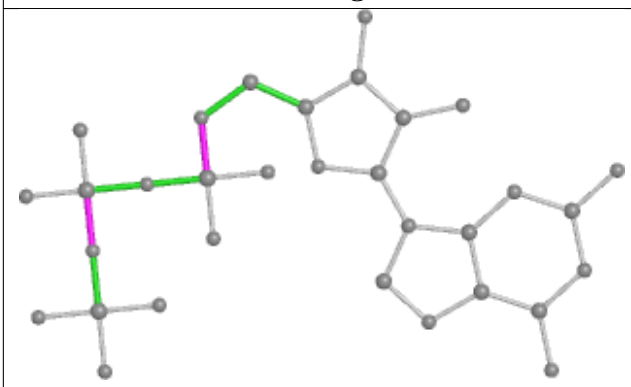

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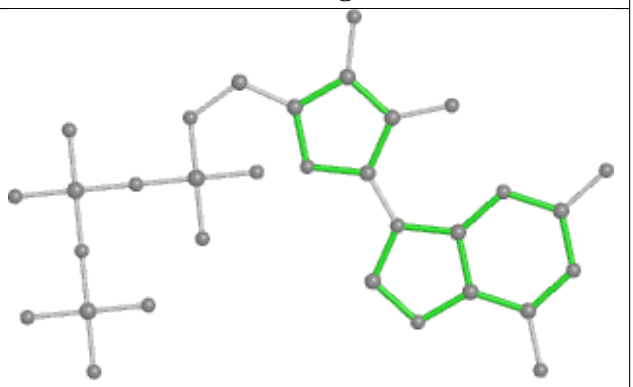

Rings

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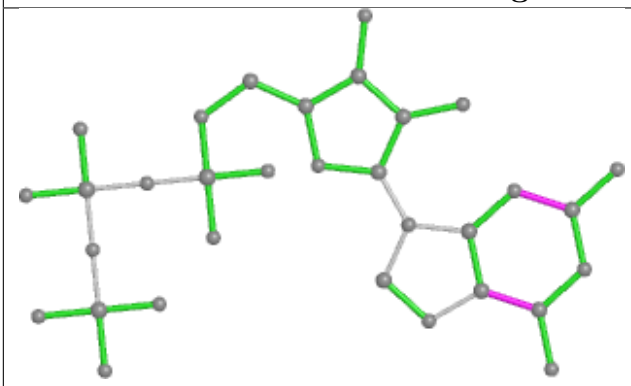

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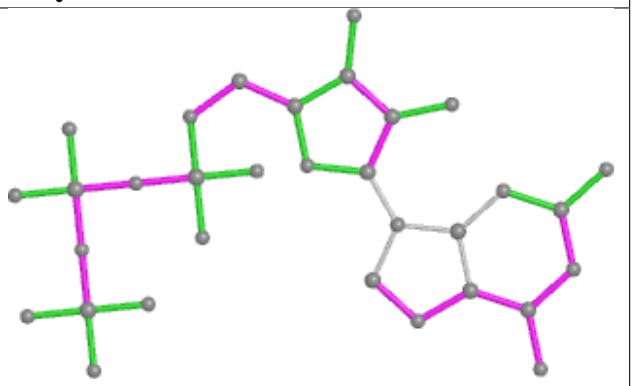

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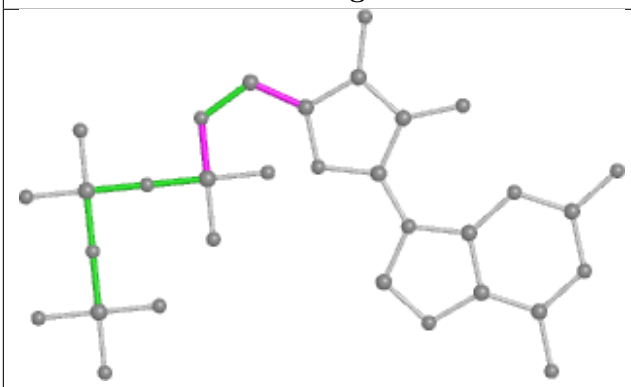

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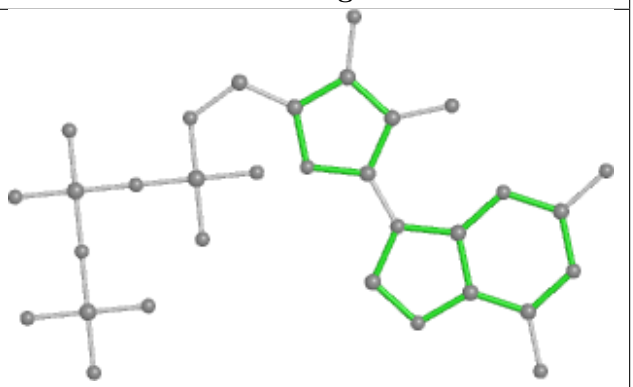
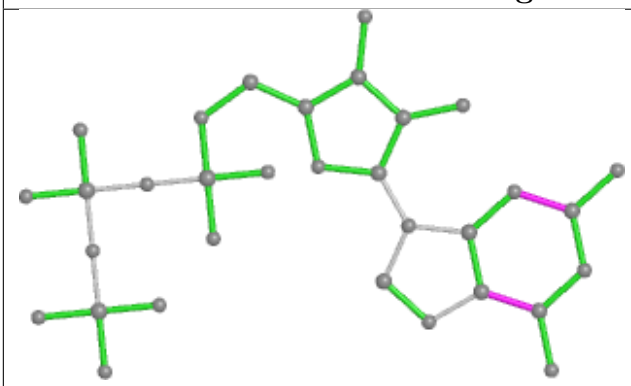


Rings

Ligand GTP RI 501



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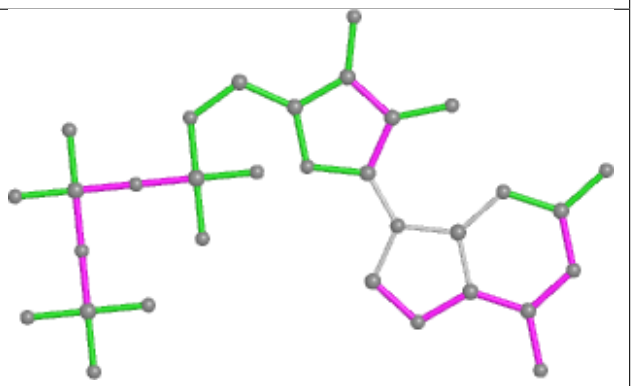

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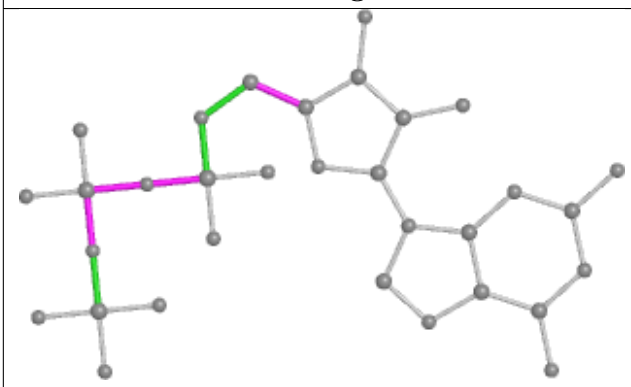

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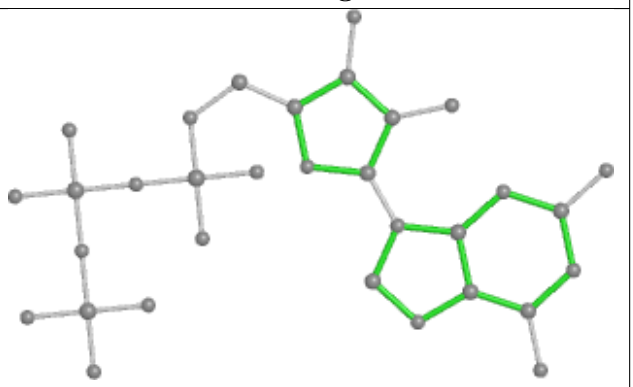

Rings

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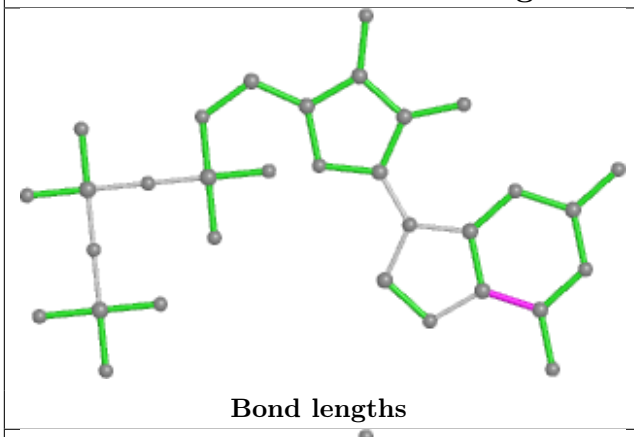

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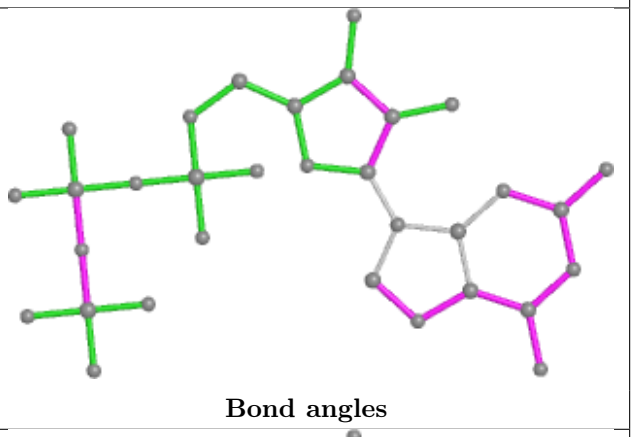

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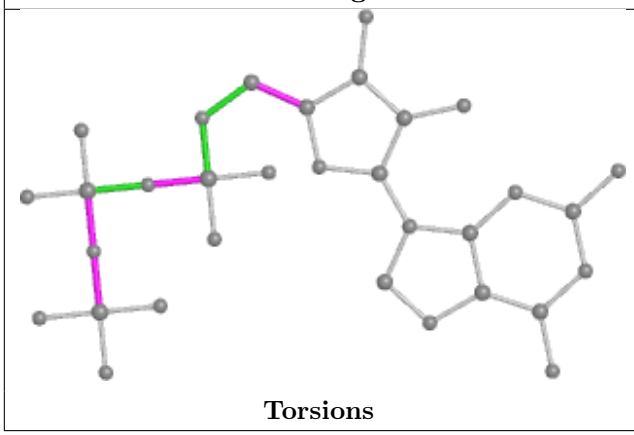

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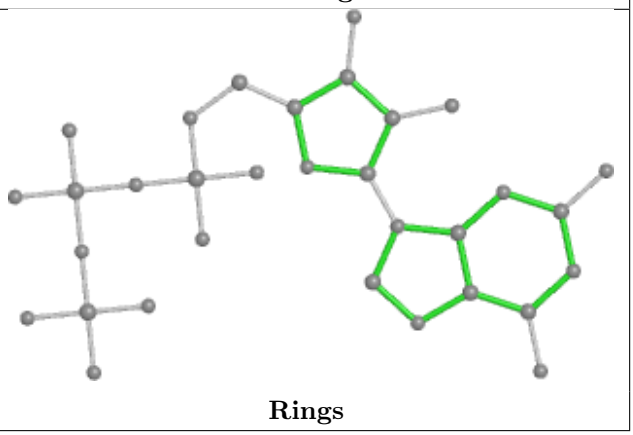

Rings

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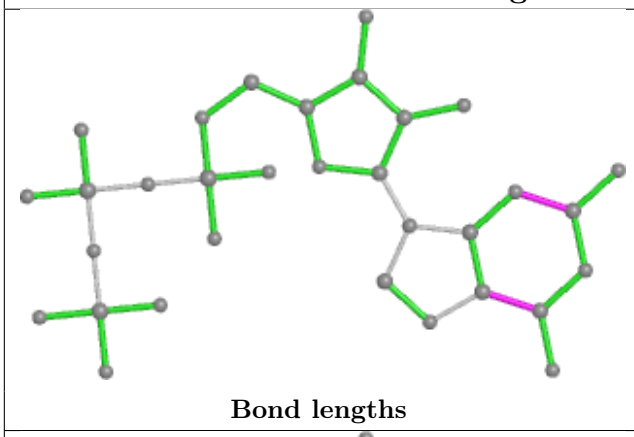

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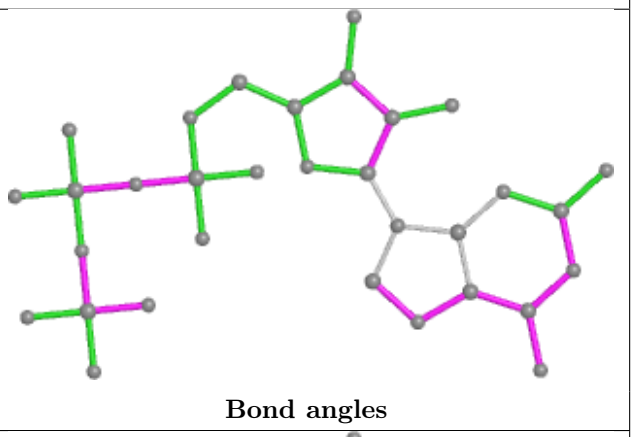

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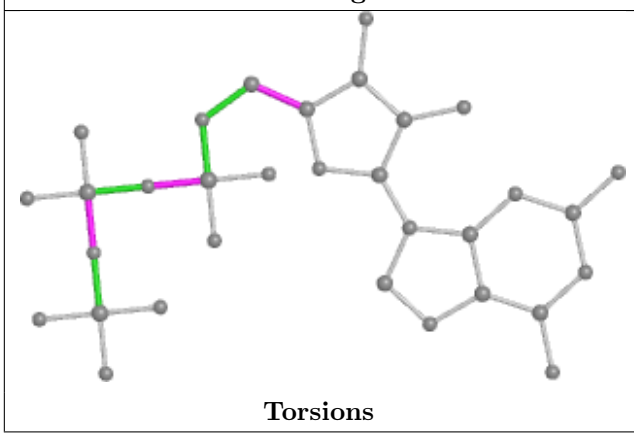

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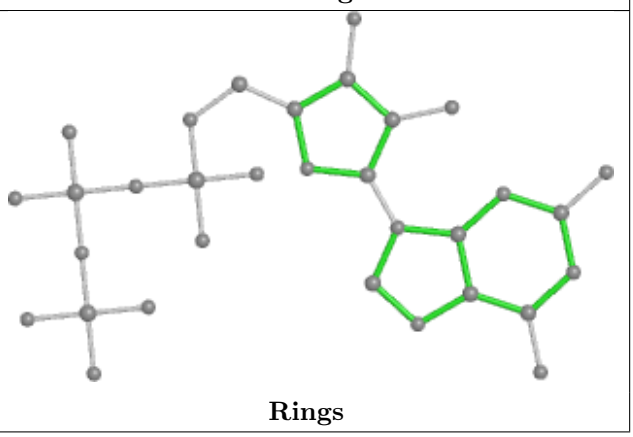

Rings

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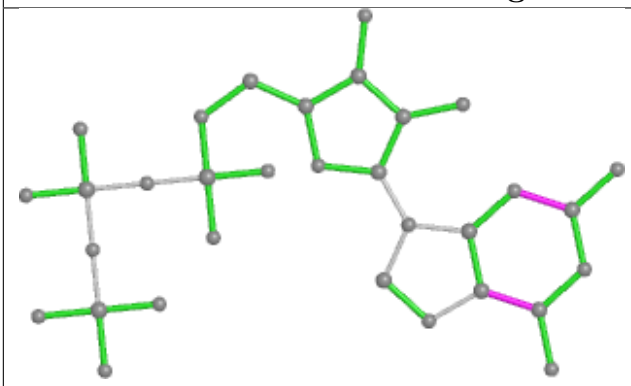

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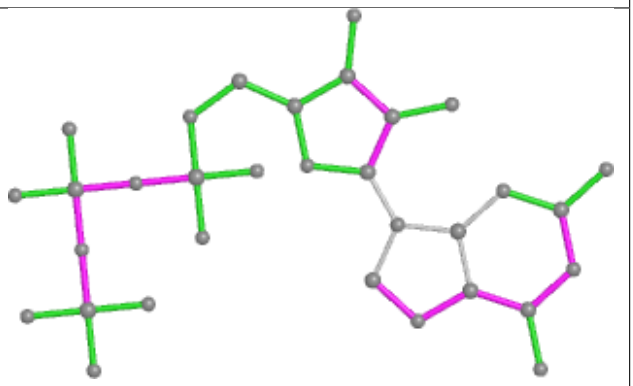

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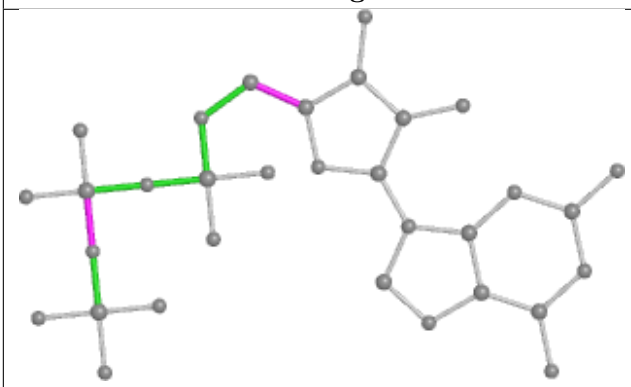

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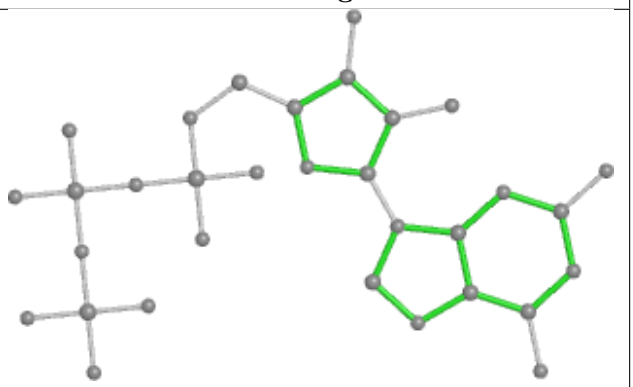

Rings

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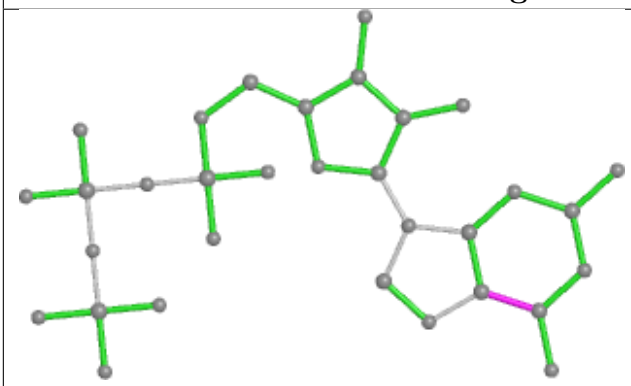

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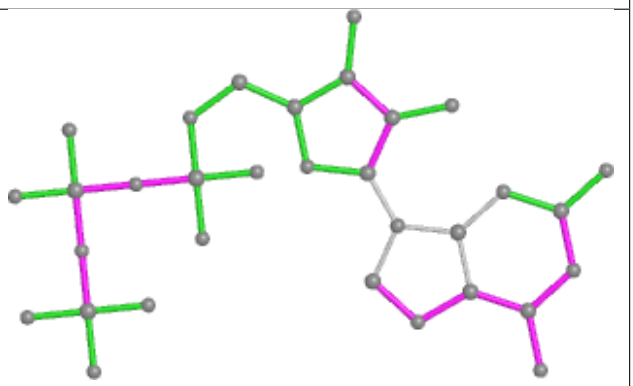

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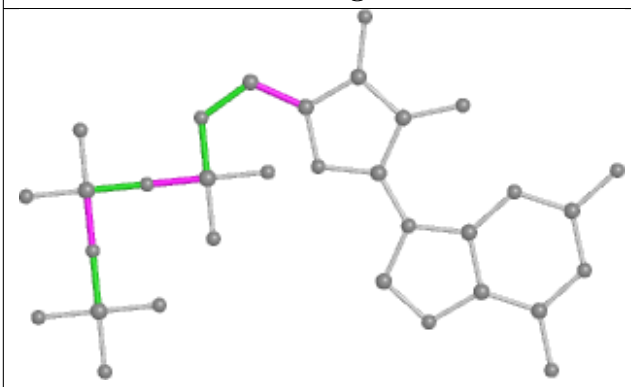

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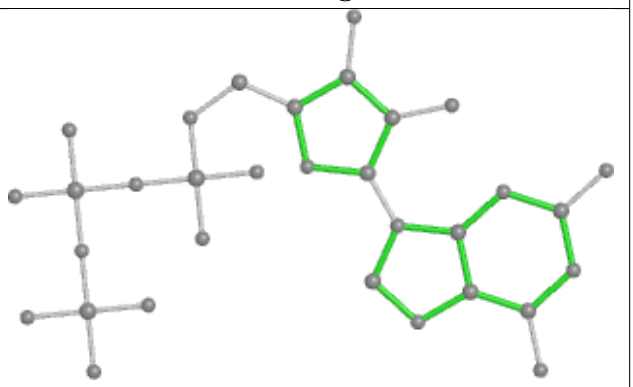
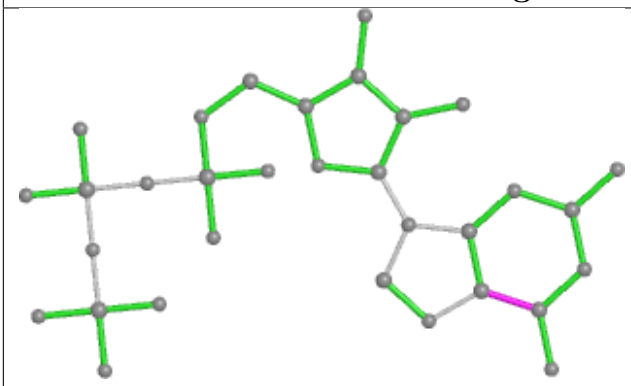


Rings

Ligand GTP FA 501



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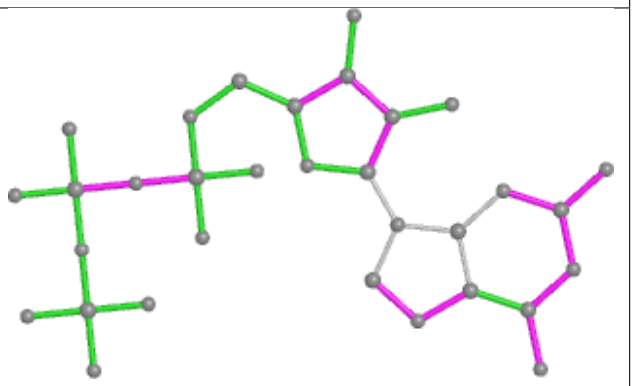

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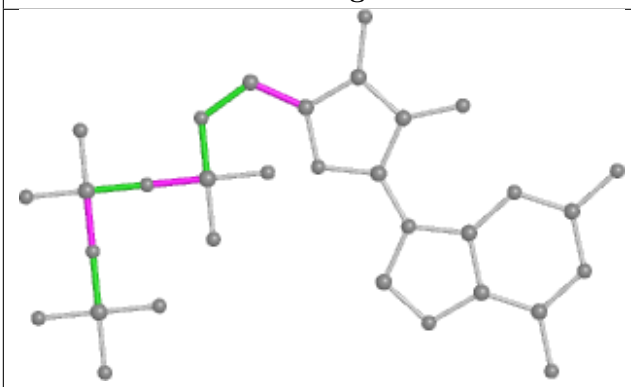

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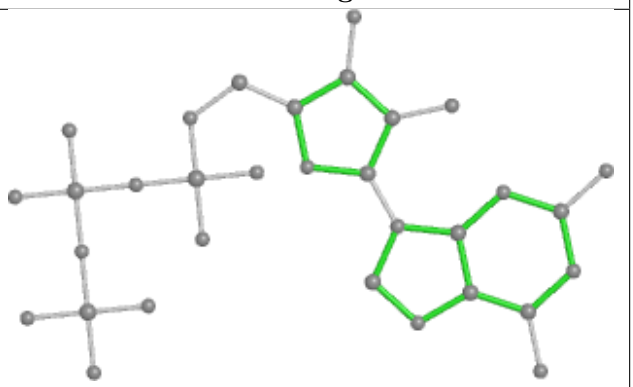
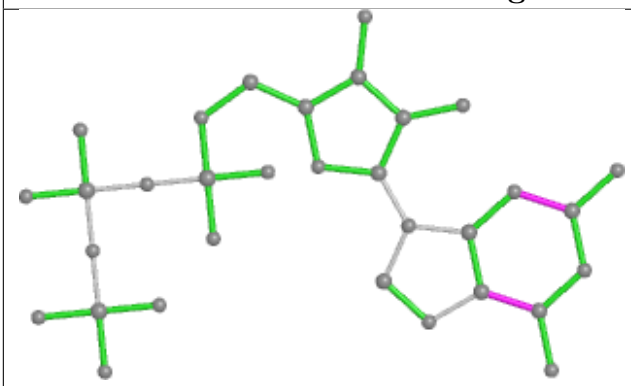


Rings

Ligand GTP DH 501



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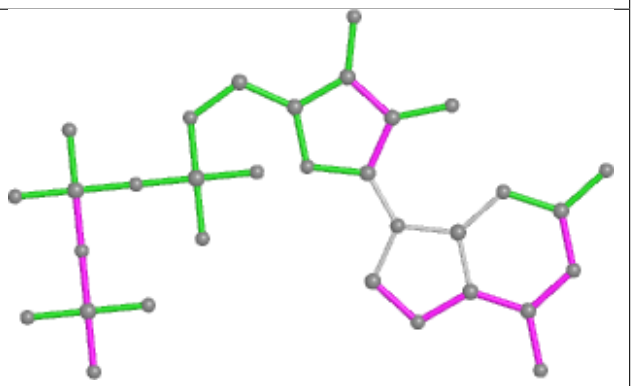
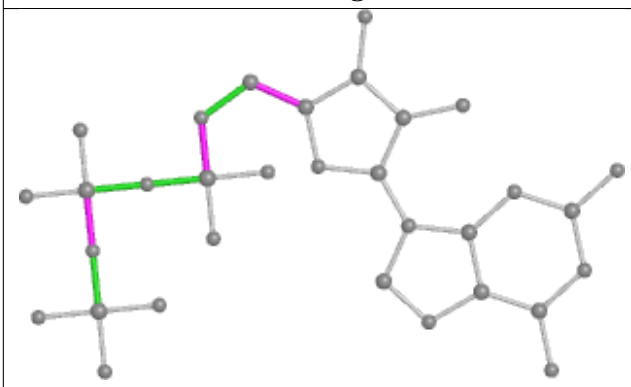
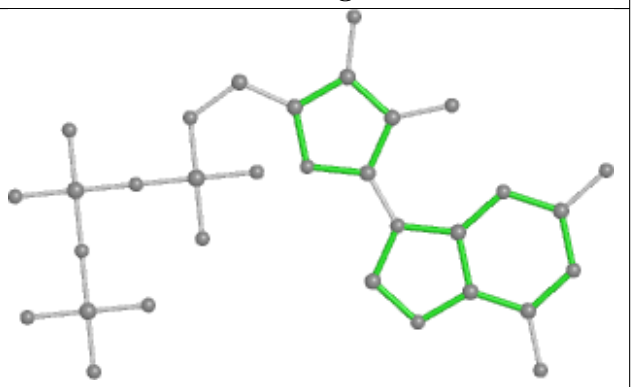


Bond angles

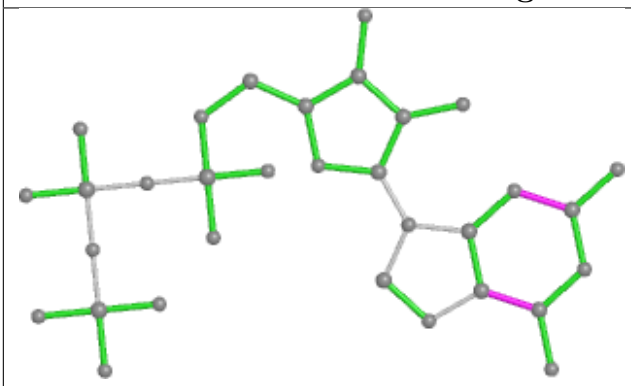


Torsions



Rings

Ligand GTP PI 501



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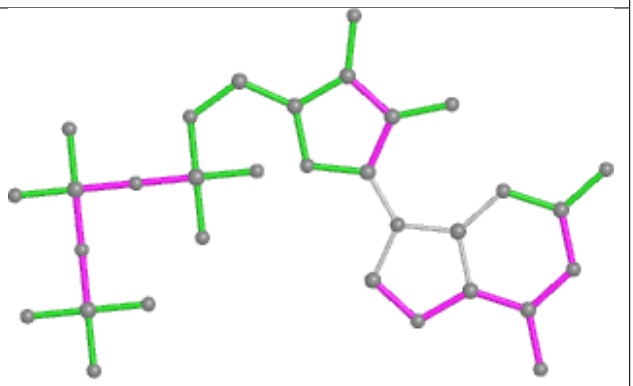

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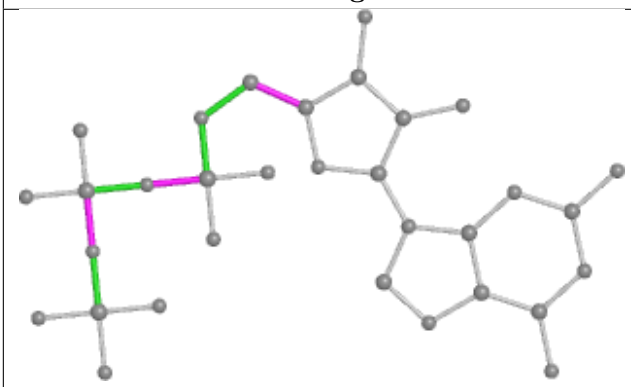
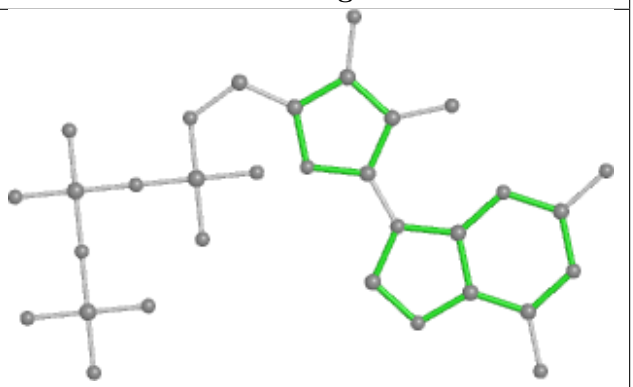
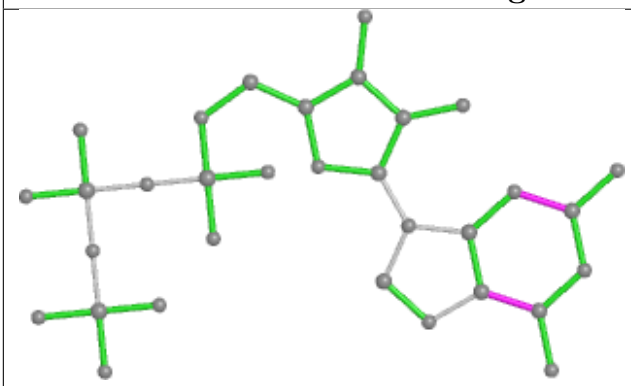


Torsions



Rings

Ligand GTP VD 501



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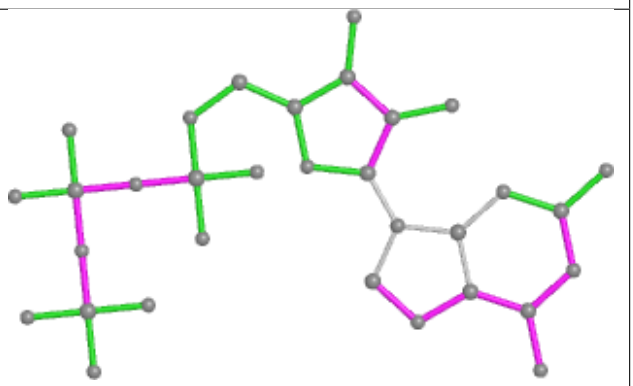

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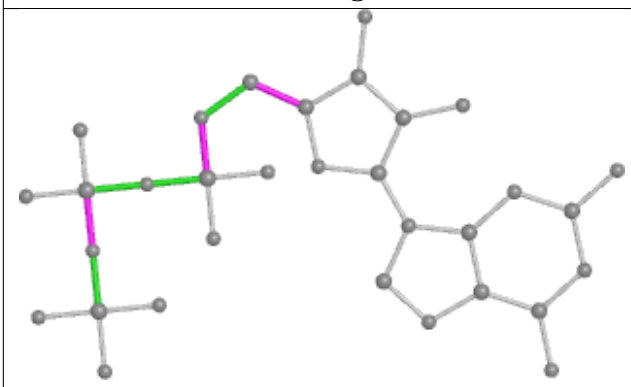

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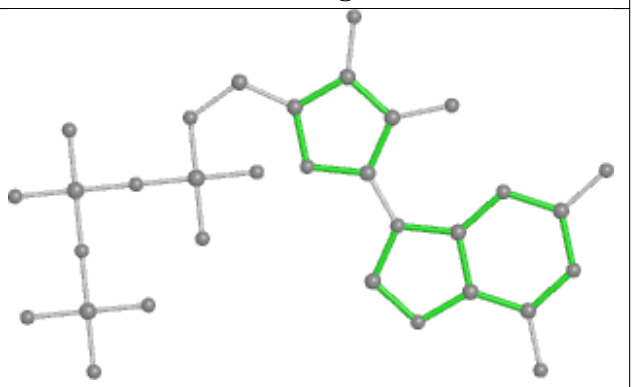
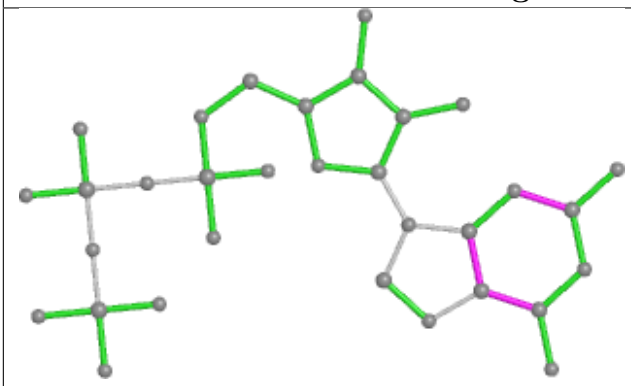


Rings

Ligand GTP CL 501



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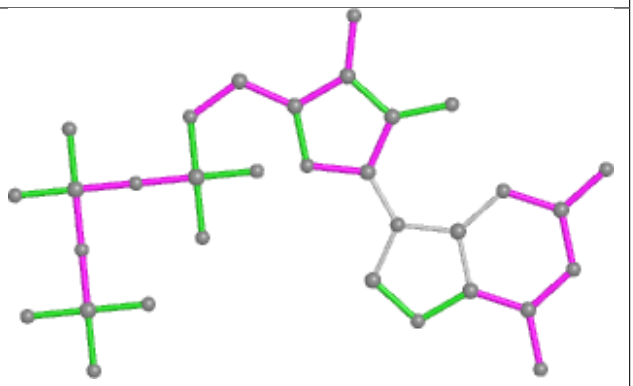

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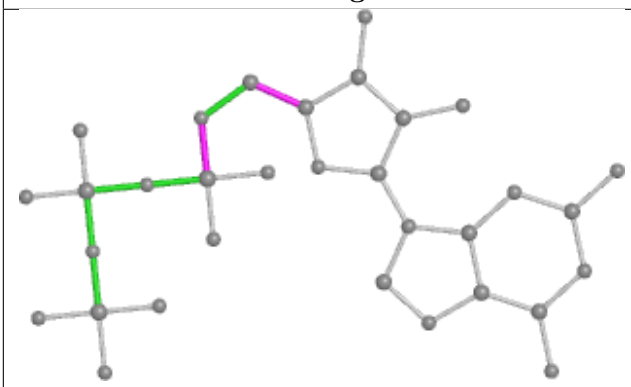

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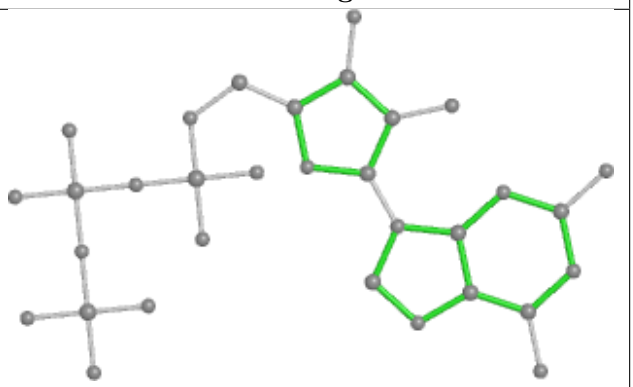
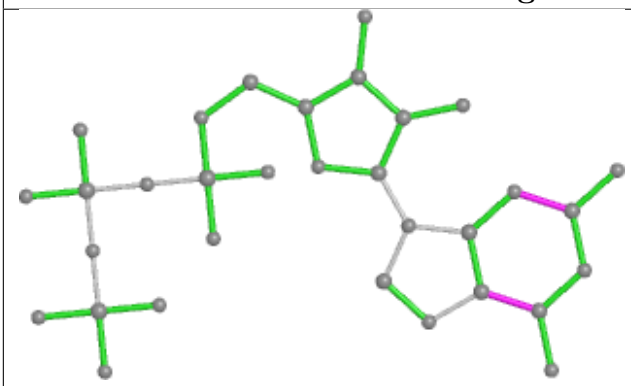


Rings

Ligand GTP IF 501



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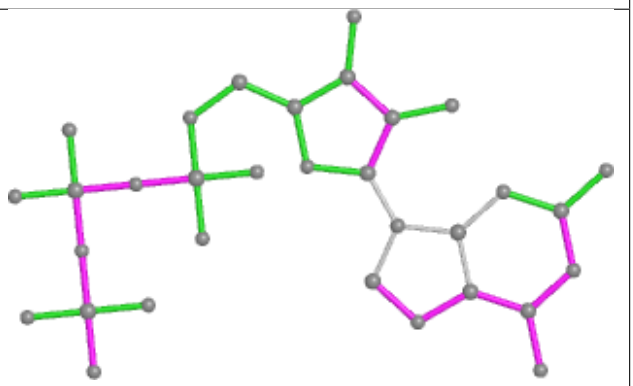

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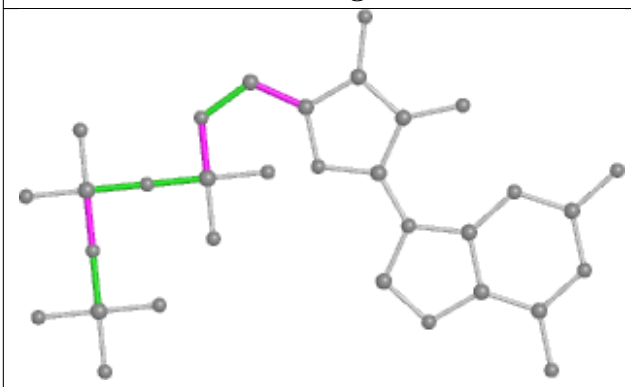

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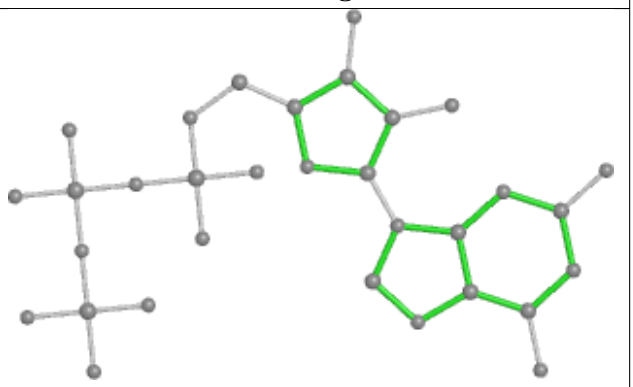
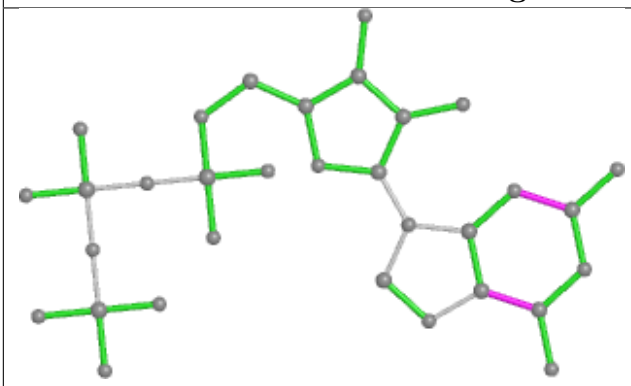


Rings

Ligand GTP TG 501



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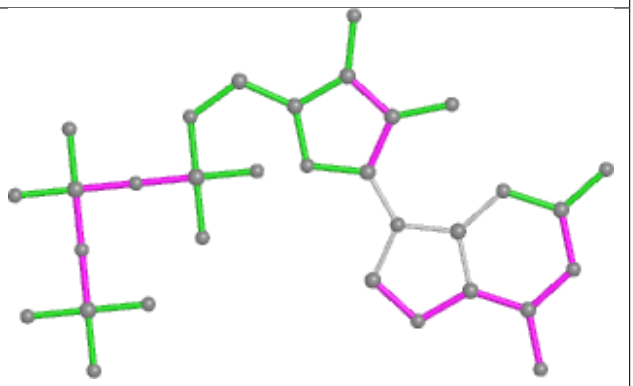

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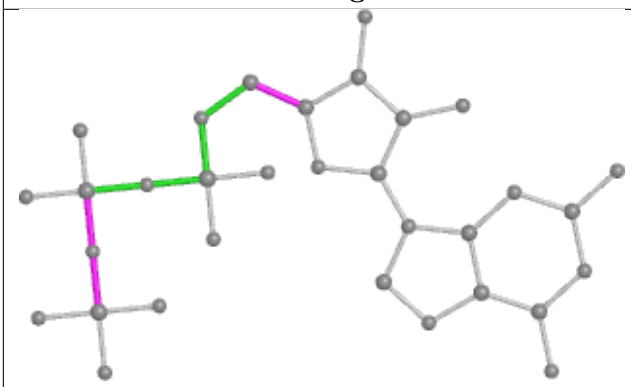

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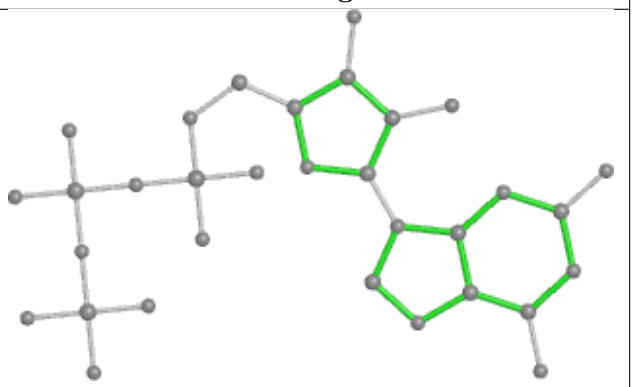
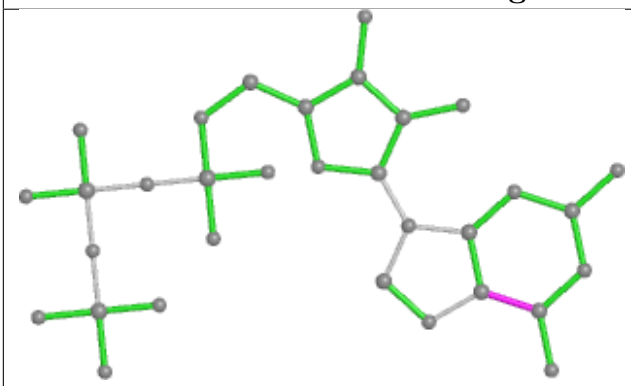


Rings

Ligand GTP CK 501



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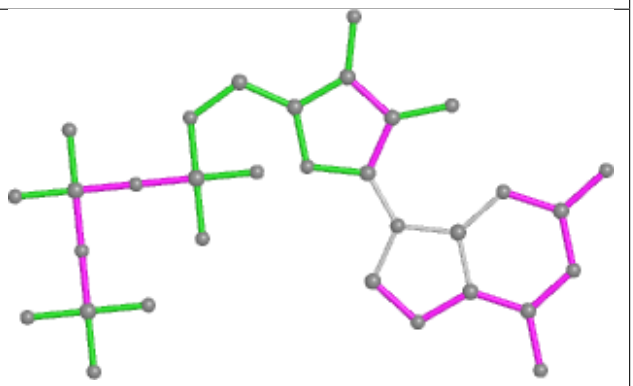

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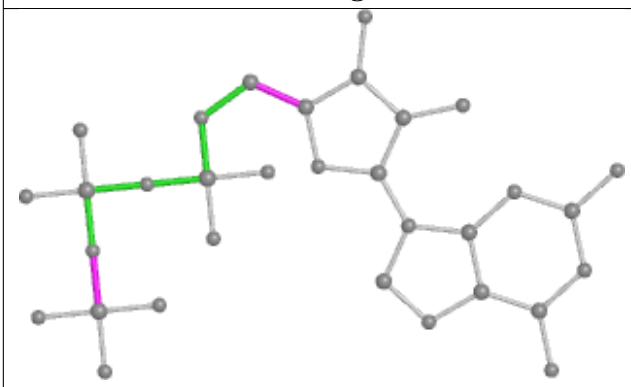

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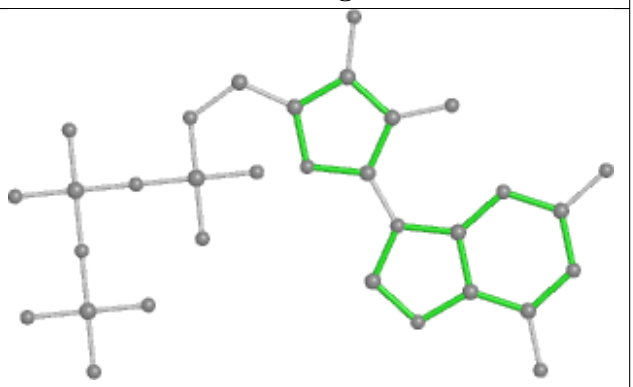
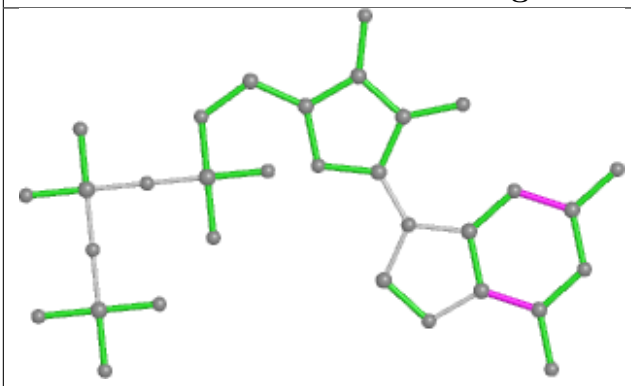


Rings

Ligand GTP QL 501



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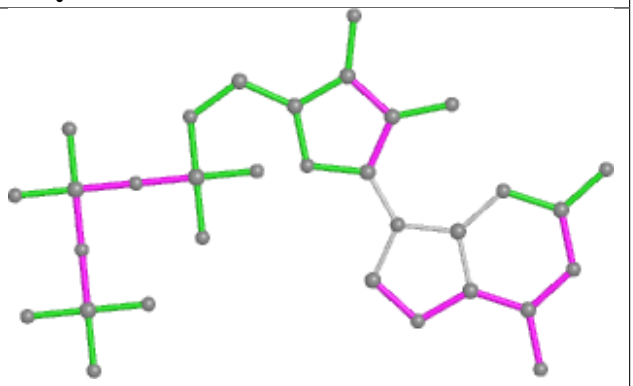

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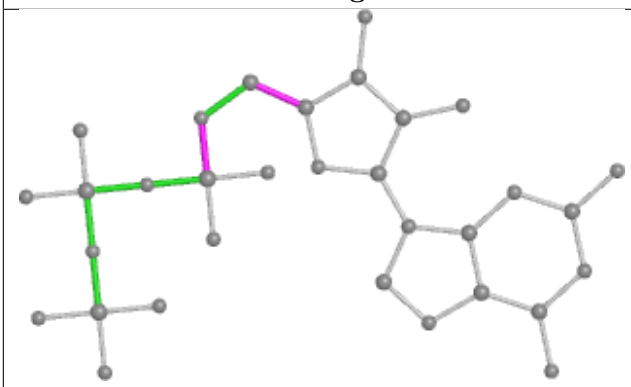

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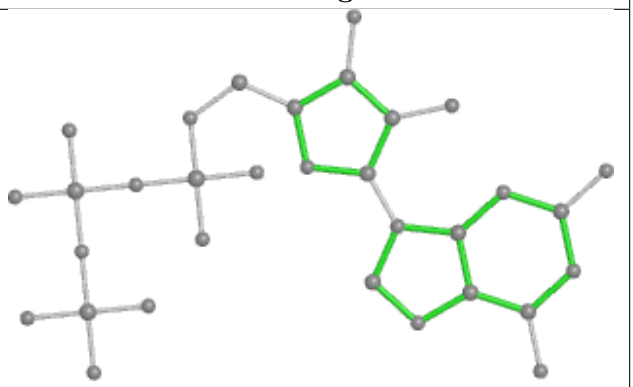
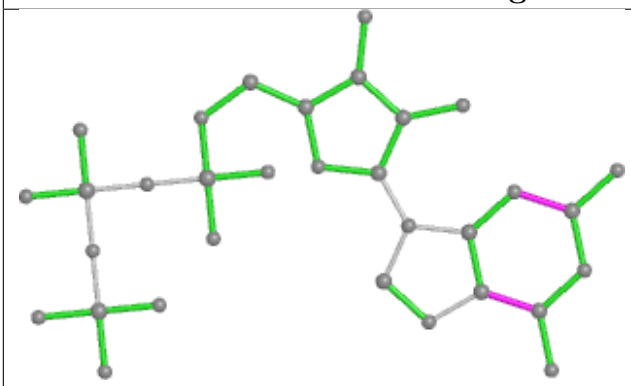


Rings

Ligand GTP TK 501



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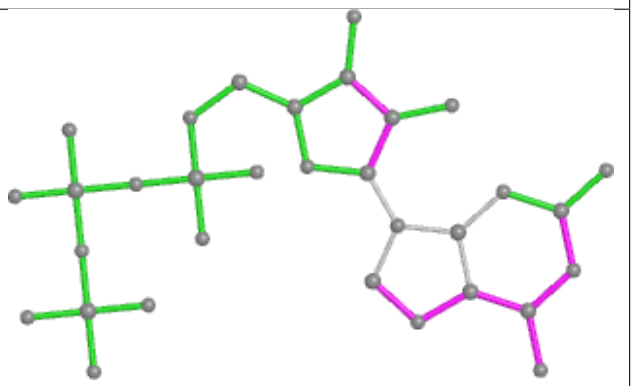

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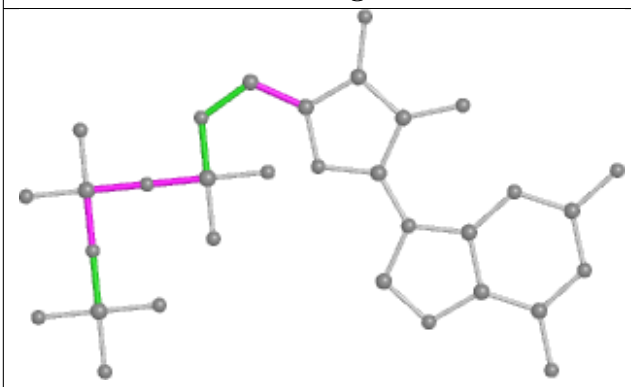

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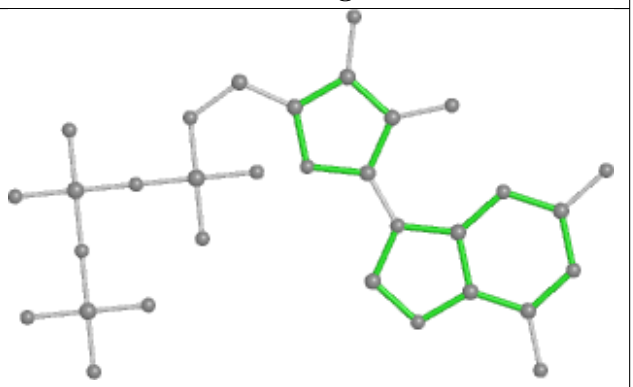
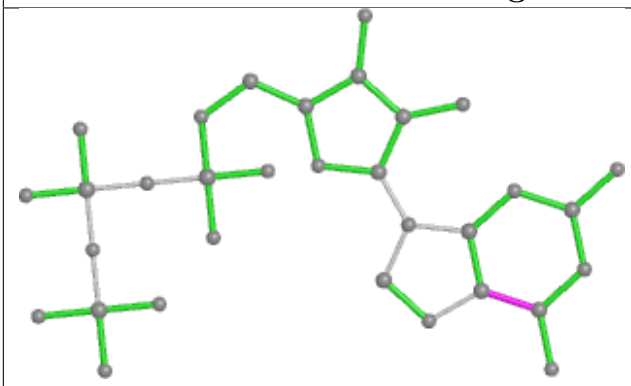


Rings

Ligand GTP HA 501



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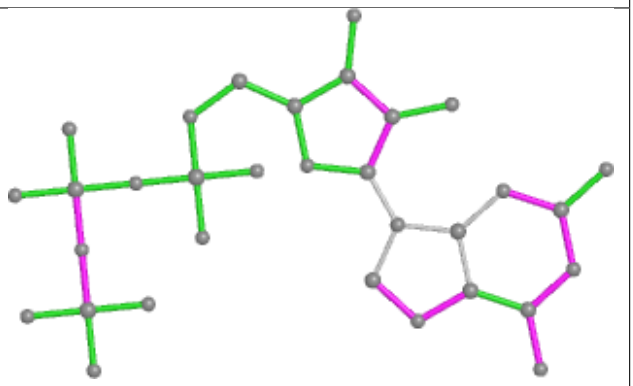

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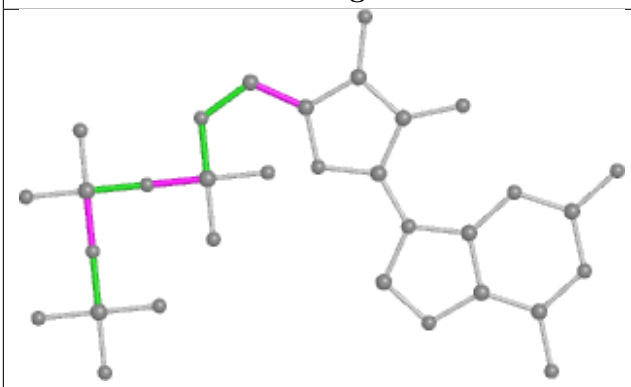

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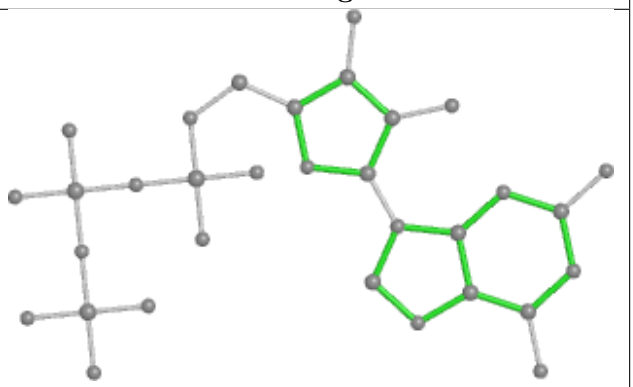

Rings

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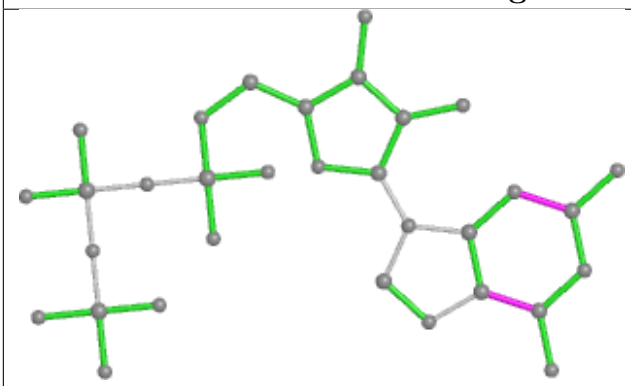

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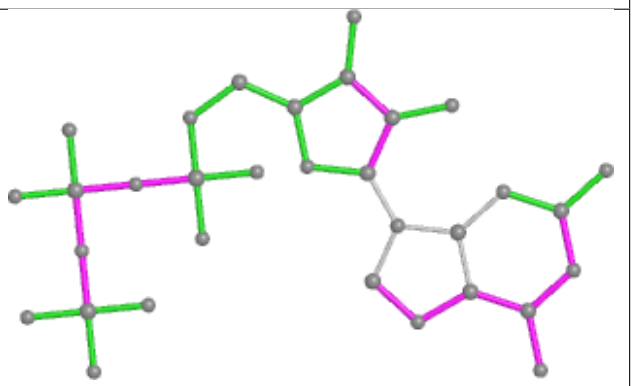

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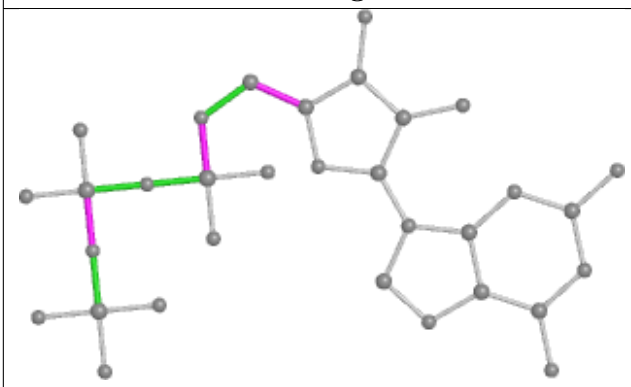

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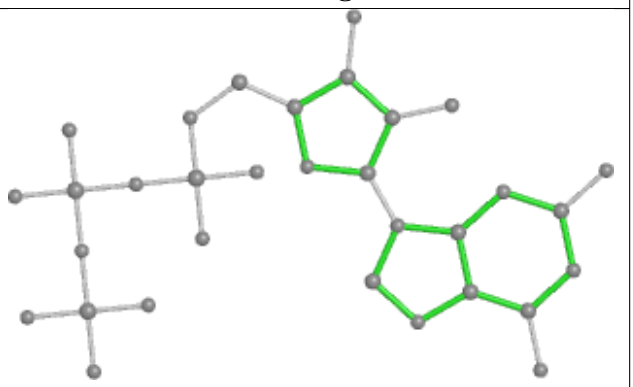
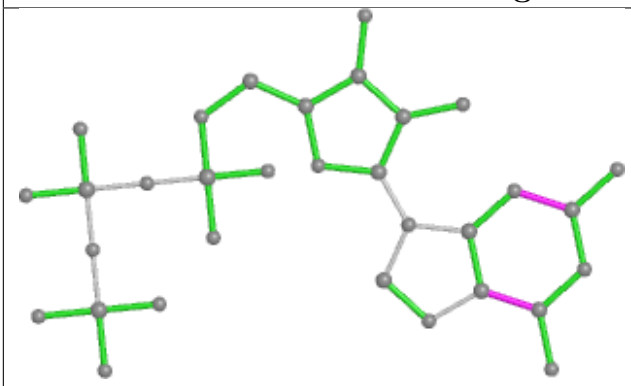


Rings

Ligand GTP JB 501



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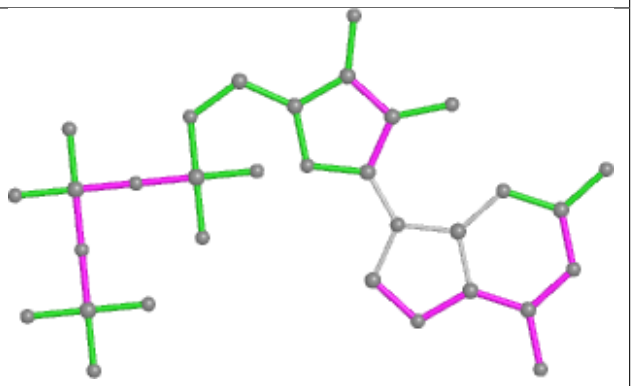

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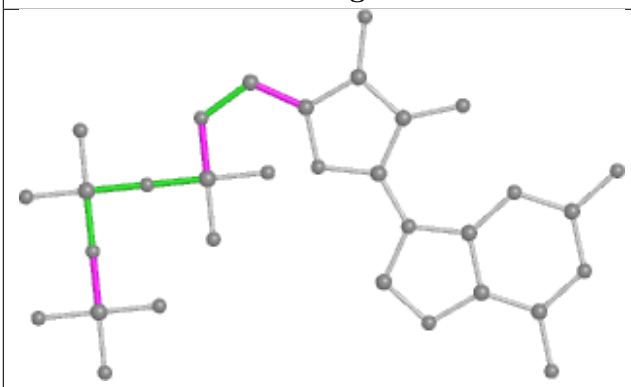

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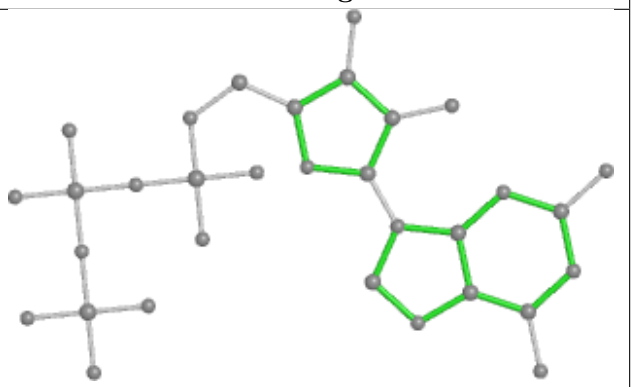
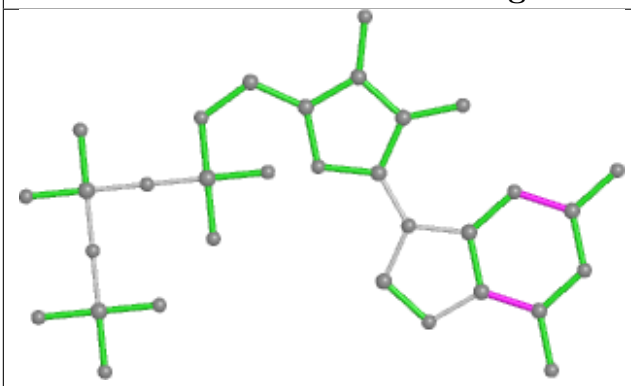


Rings

Ligand GTP RH 501



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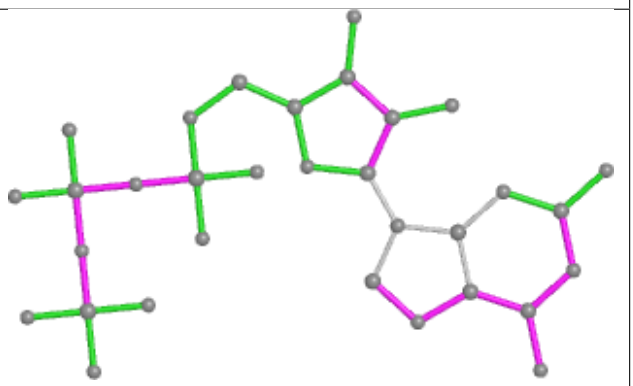

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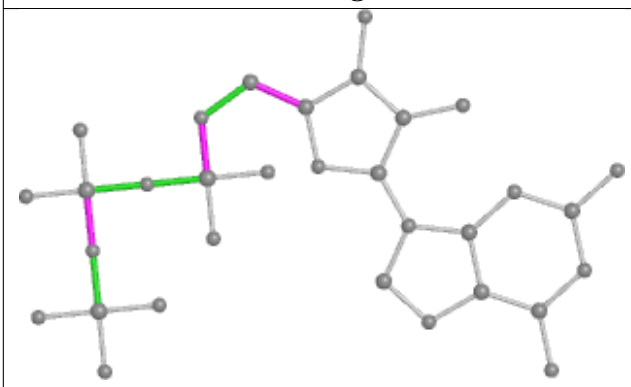

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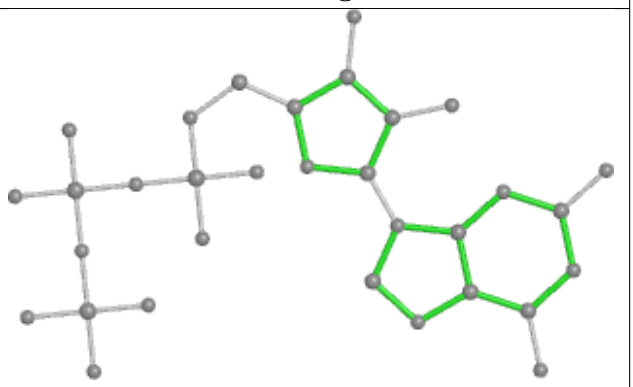
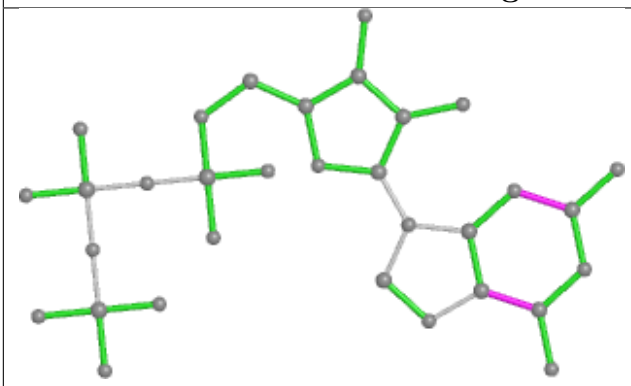


Rings

Ligand GTP MM 501



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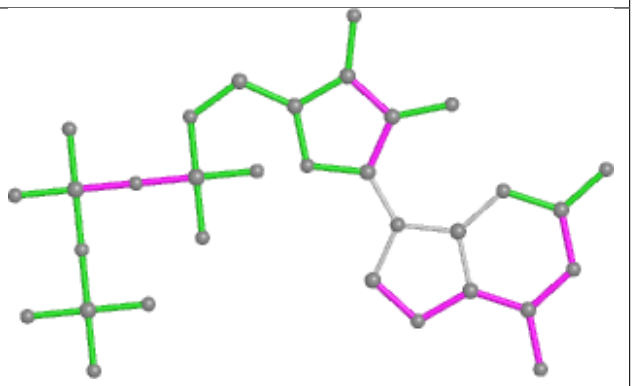

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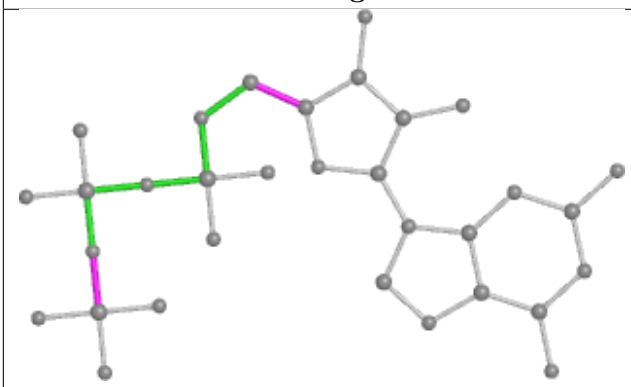

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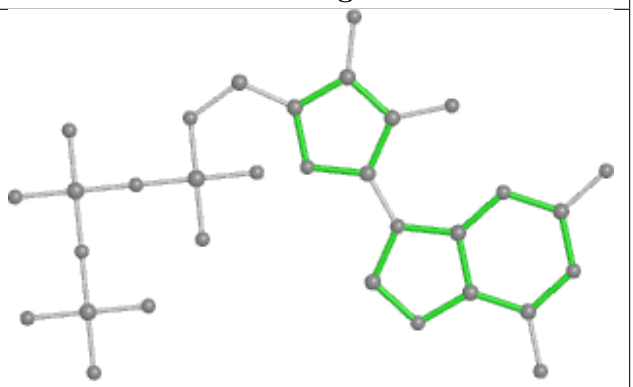

Rings

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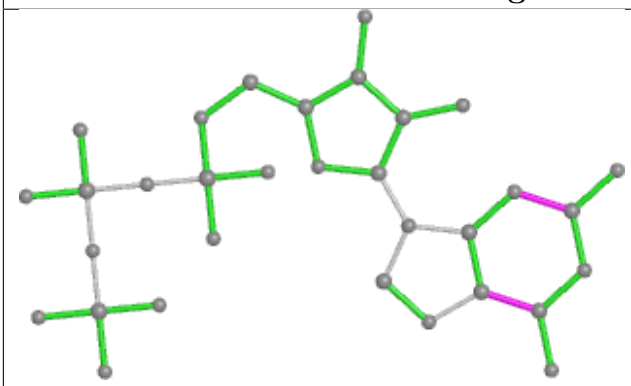

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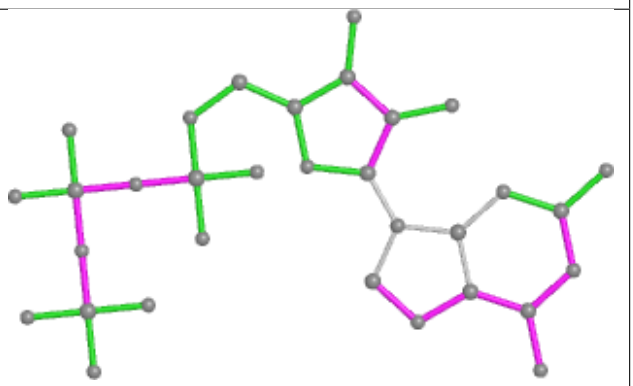
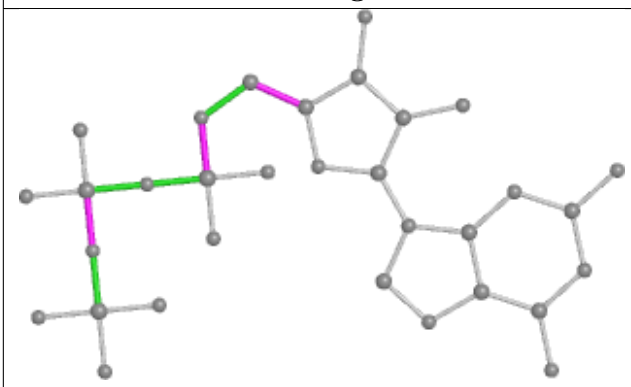


Bond angles



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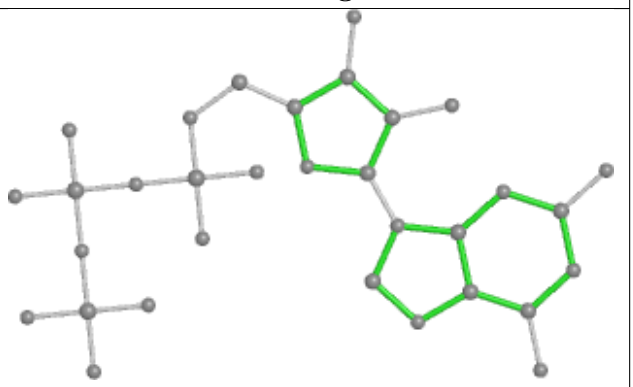
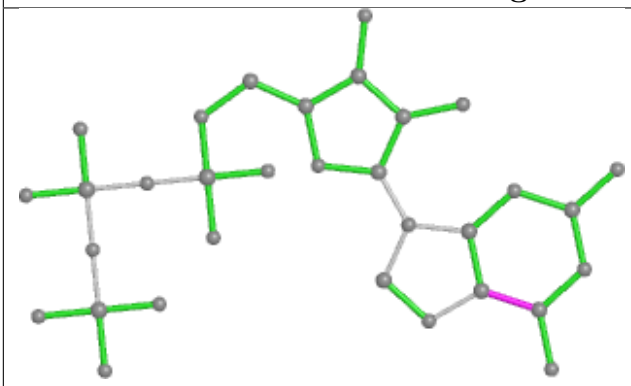


Rings

Ligand GTP UE 501



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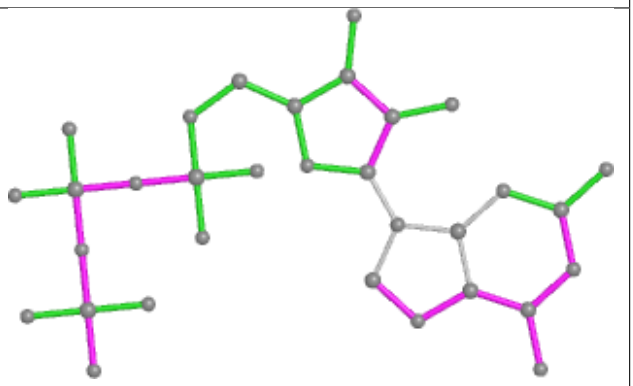

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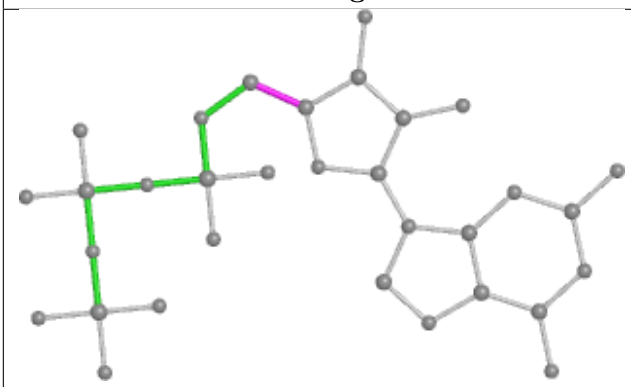

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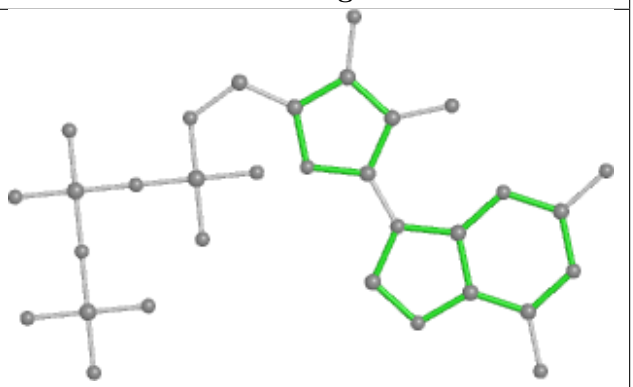

Rings

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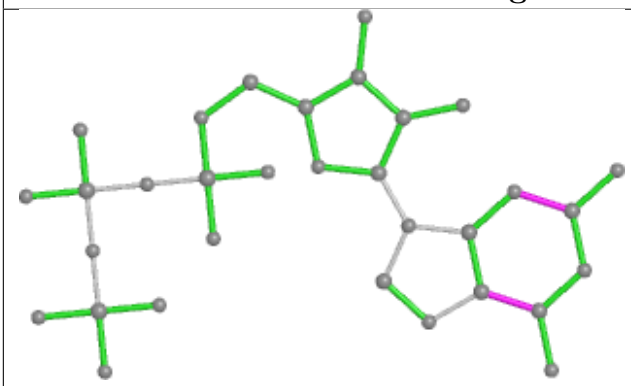
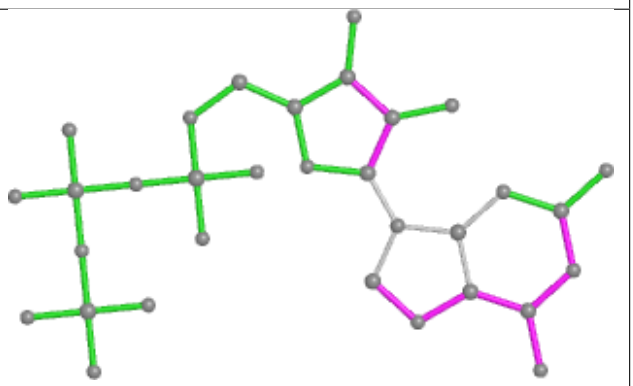
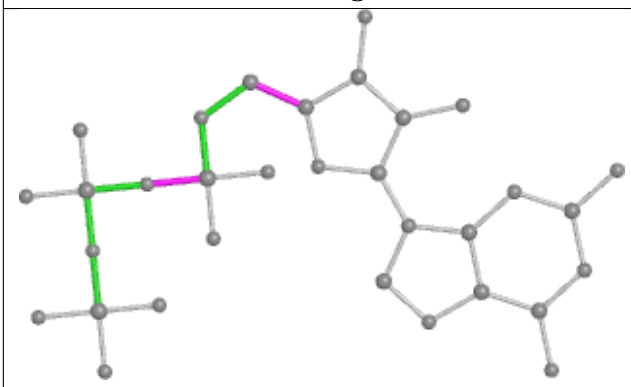


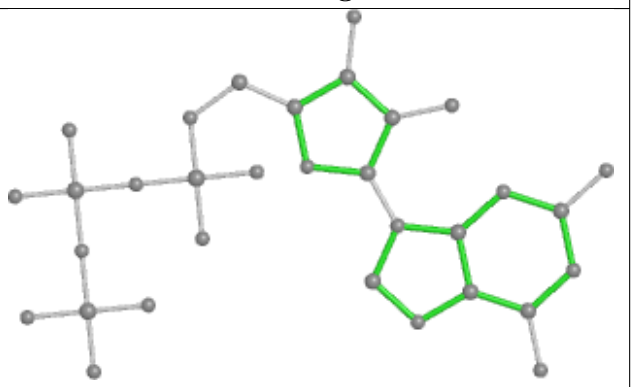
Bond lengths



Bond angles

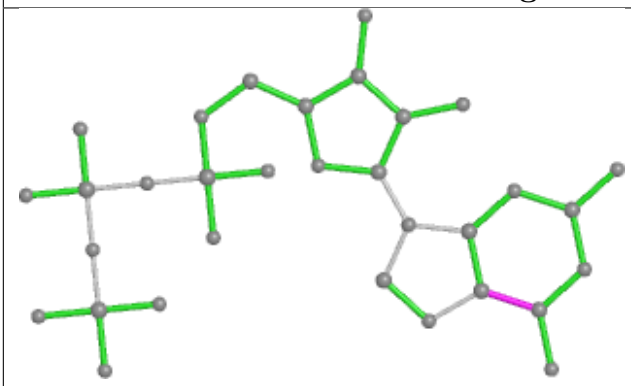


Torsions



Rings

Ligand GTP JI 501



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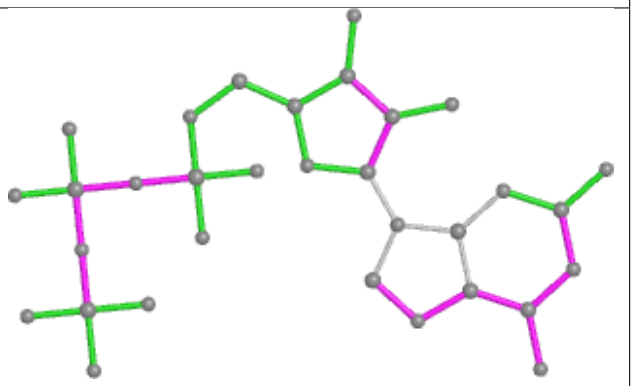

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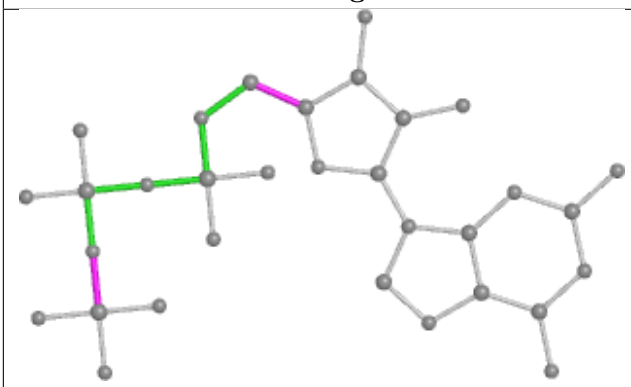

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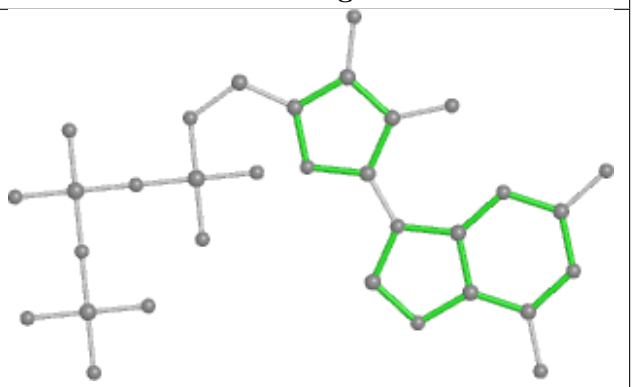
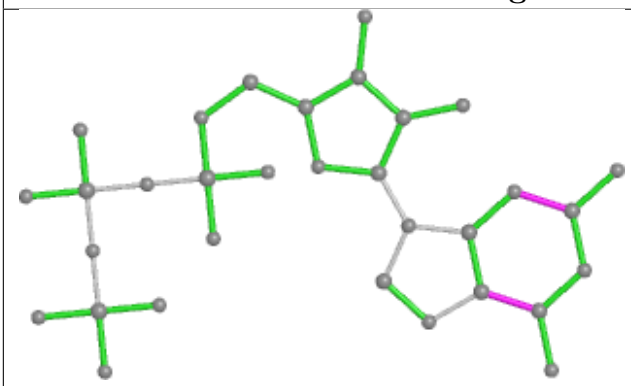


Rings

Ligand GTP BD 501



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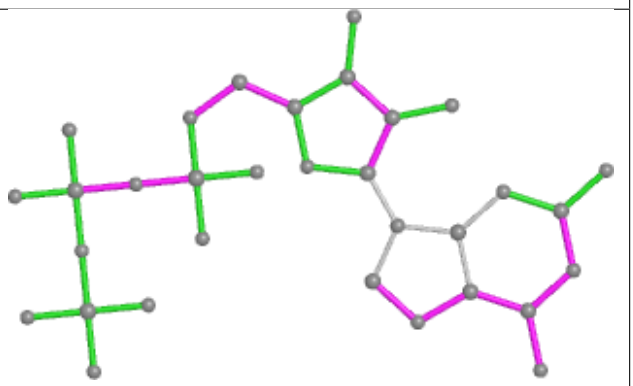

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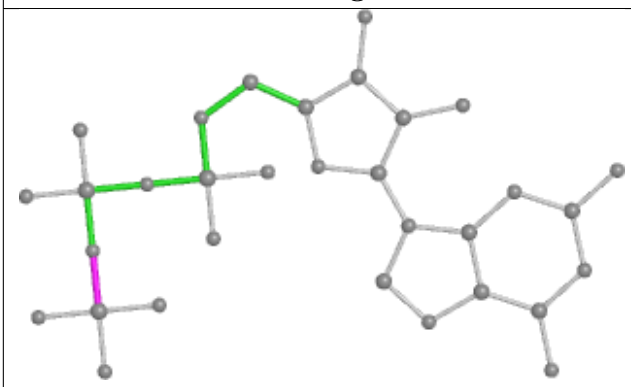

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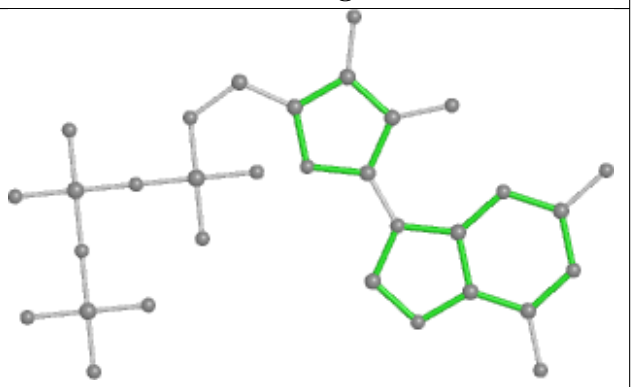
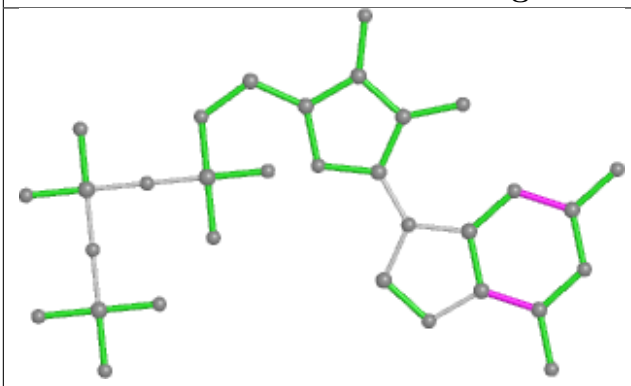


Rings

Ligand GTP SG 501



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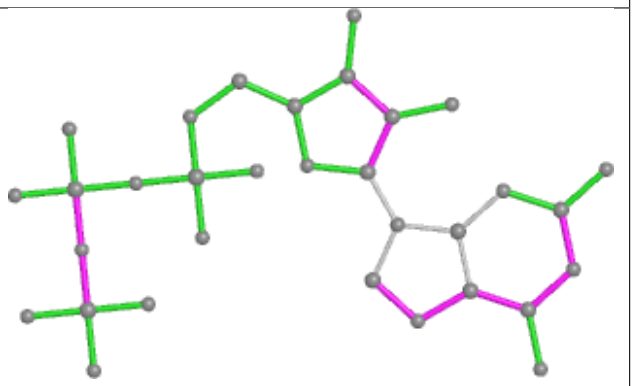

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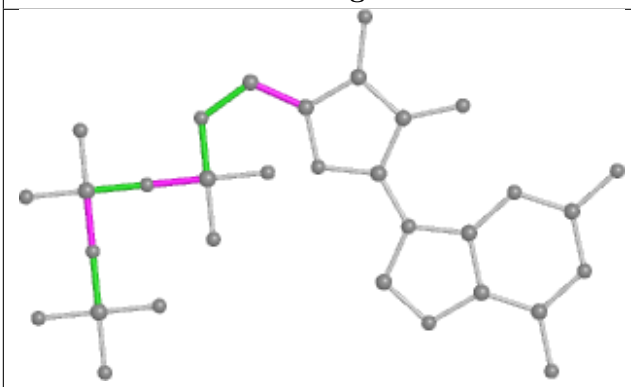

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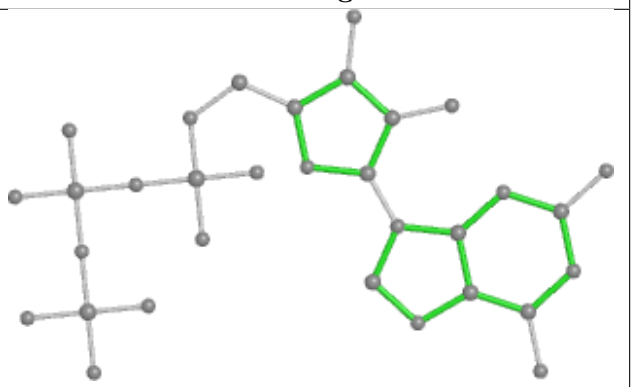
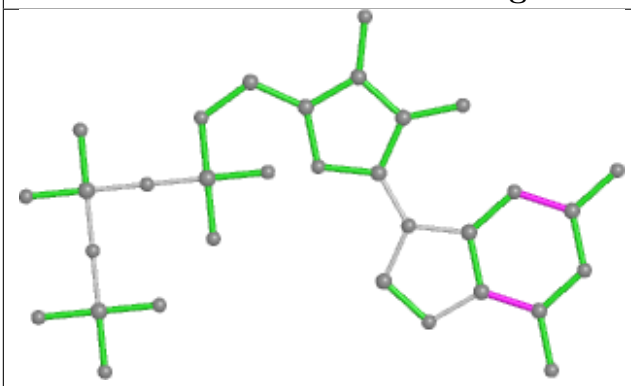


Rings

Ligand GTP PH 501



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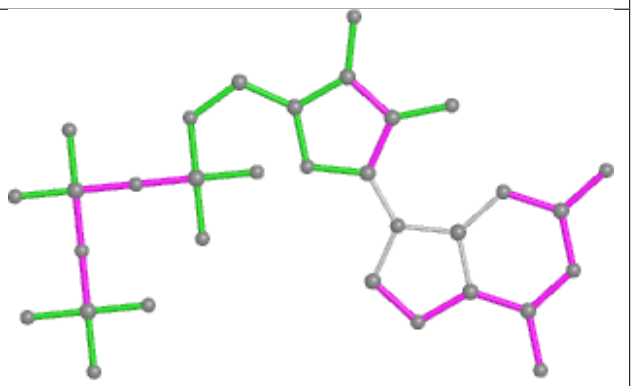

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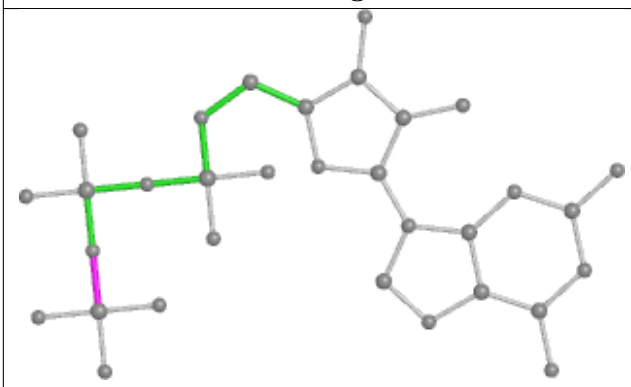

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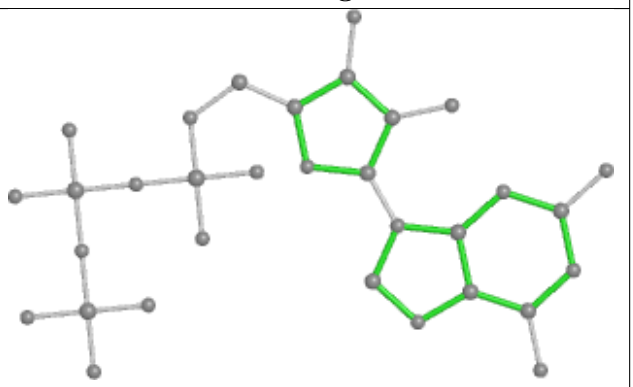
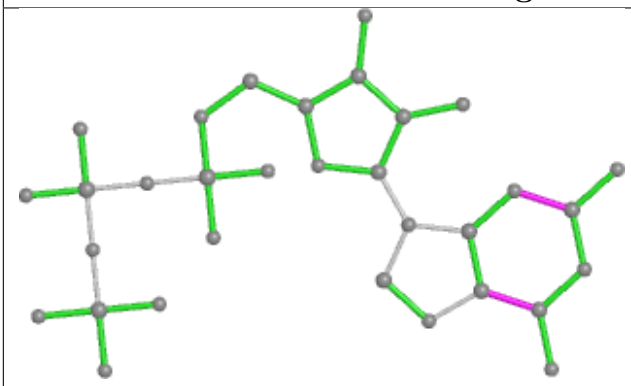


Rings

Ligand GTP IA 501



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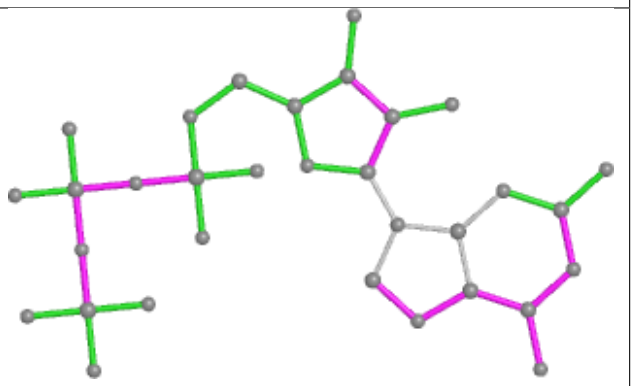

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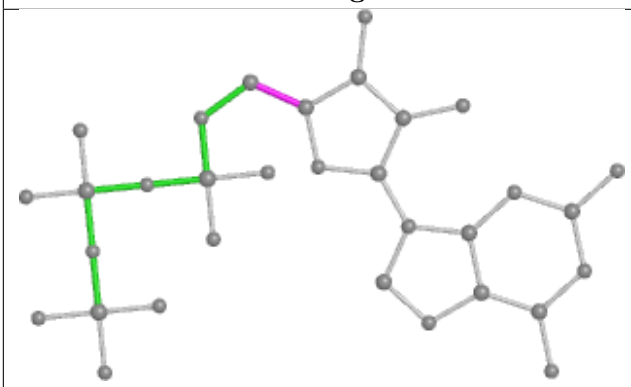

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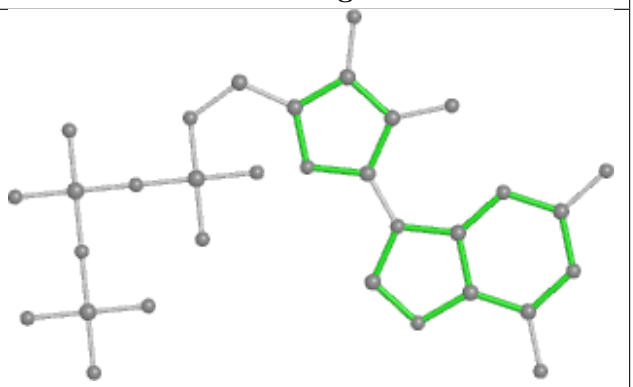
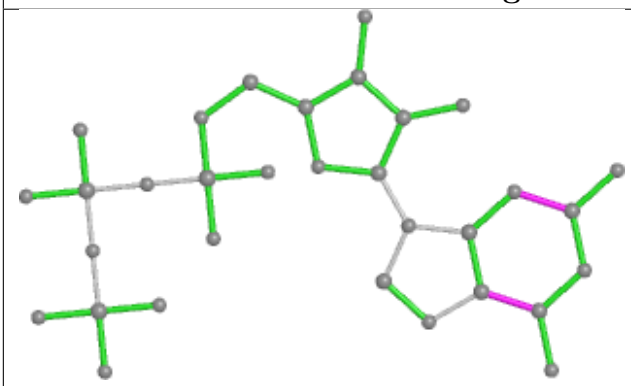


Rings

Ligand GTP WH 501



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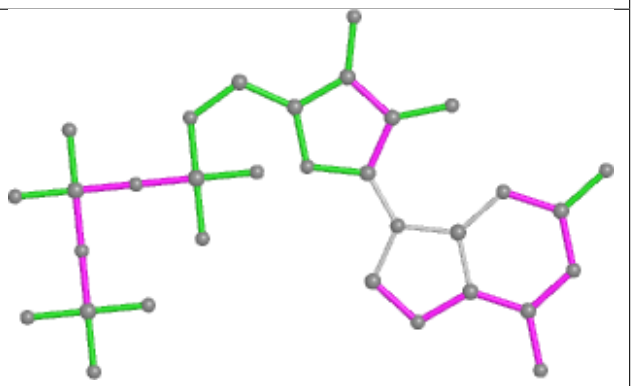

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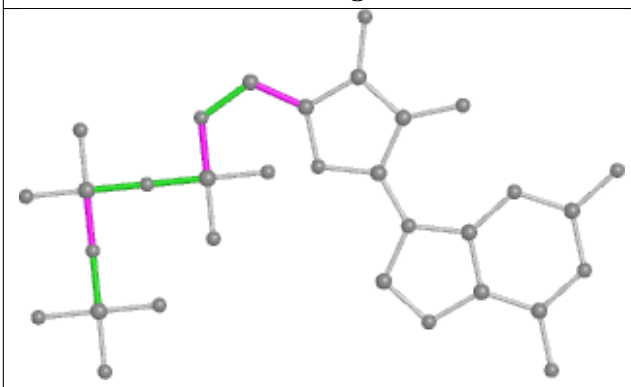

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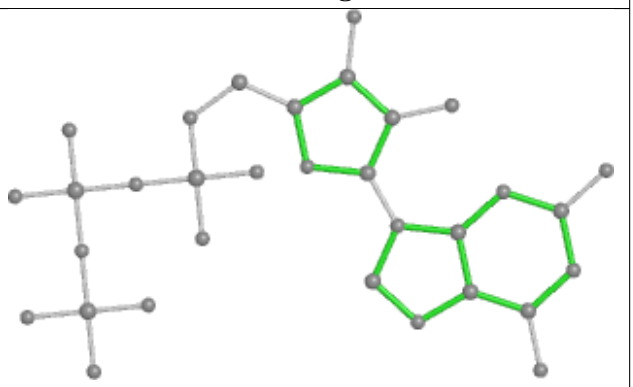
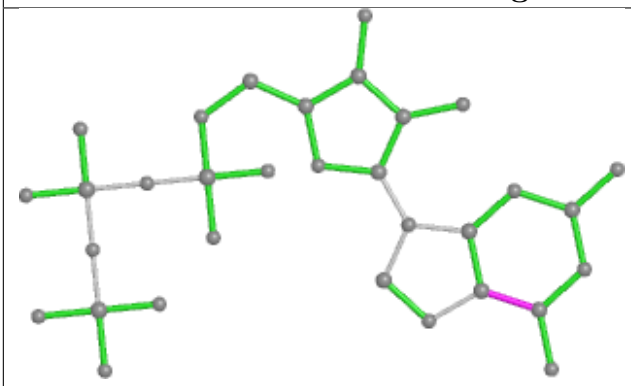


Rings

Ligand GTP CE 501



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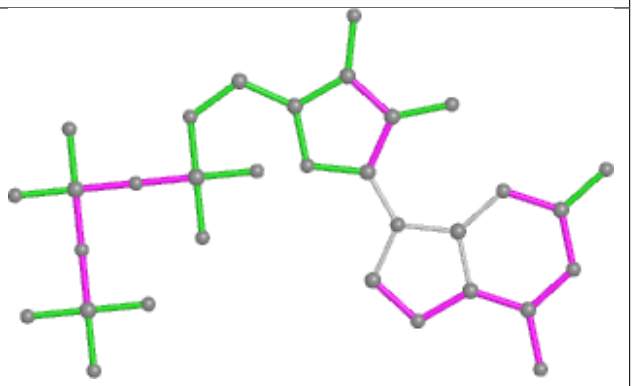

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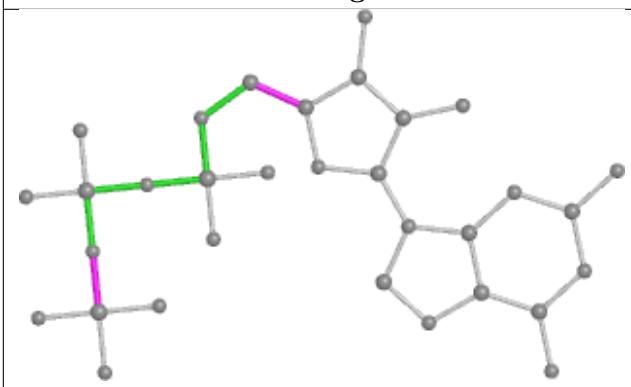

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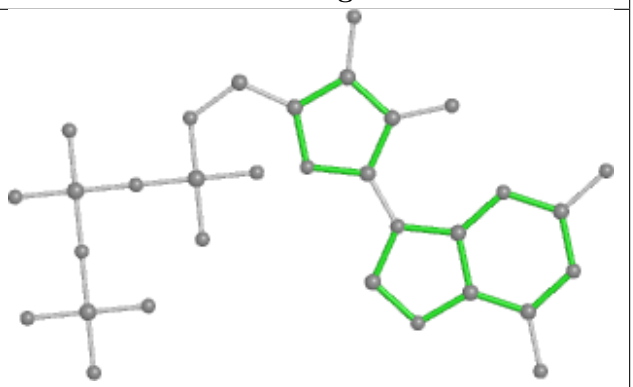
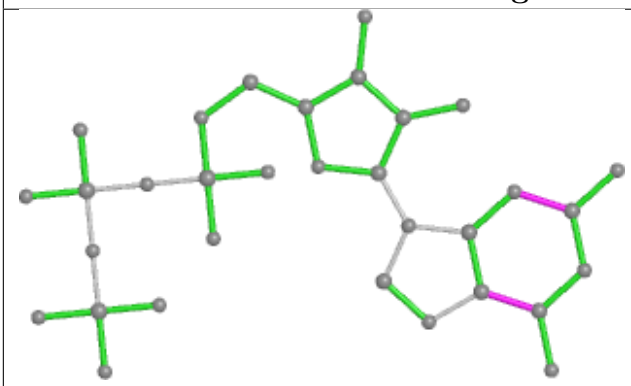


Rings

Ligand GTP VL 501



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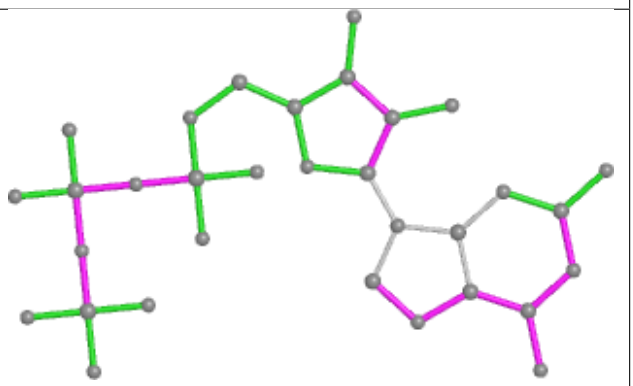

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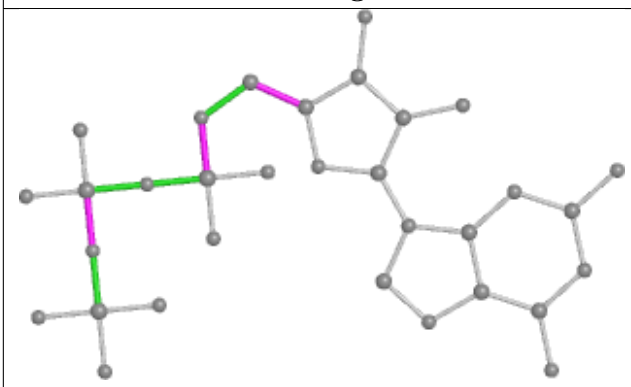

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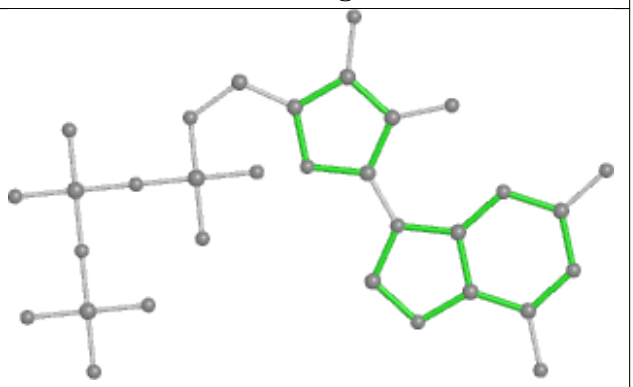
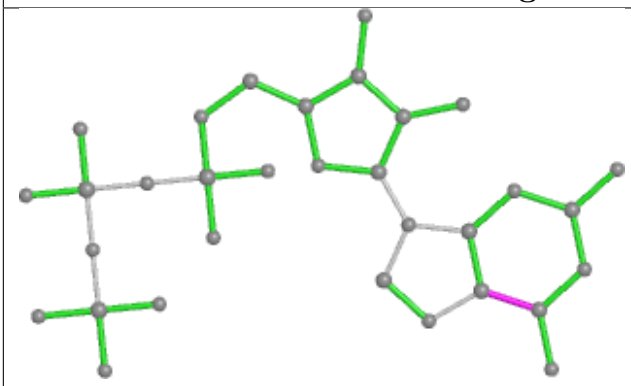


Rings

Ligand GTP SI 501



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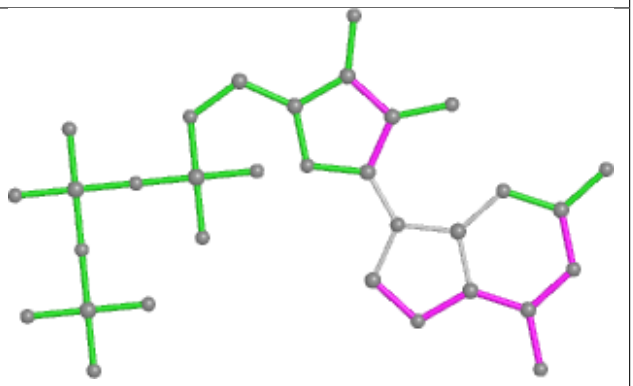

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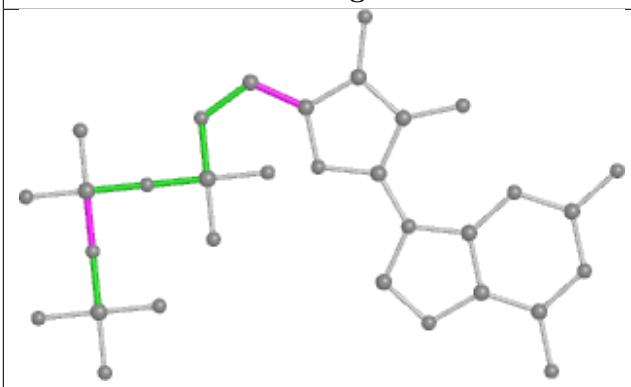

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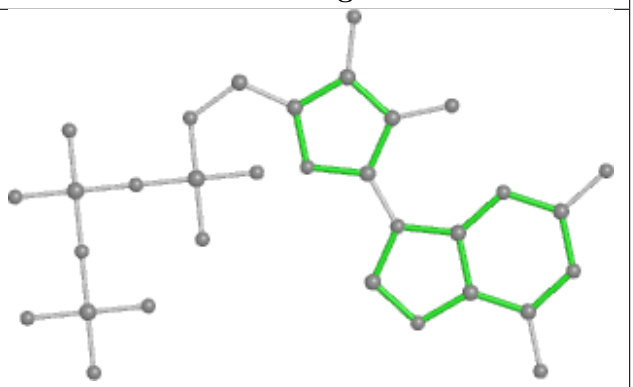
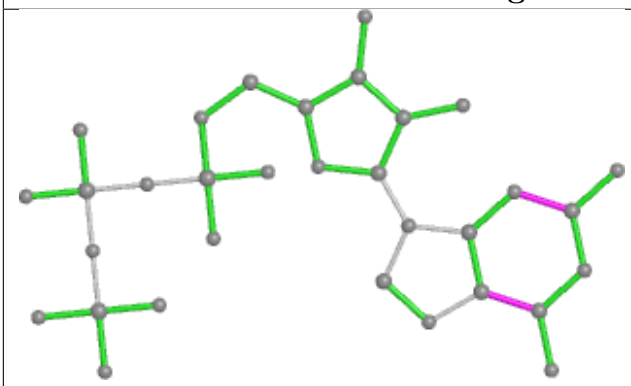


Rings

Ligand GTP GK 501



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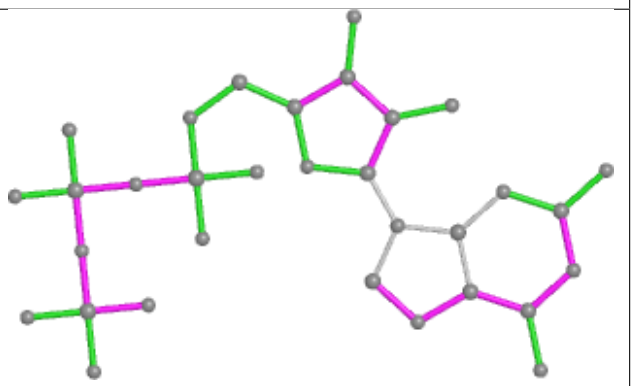

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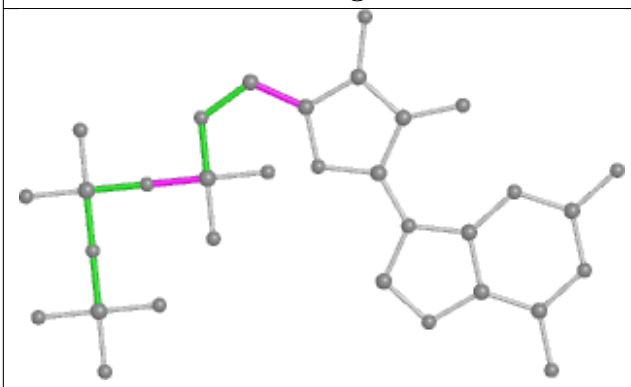

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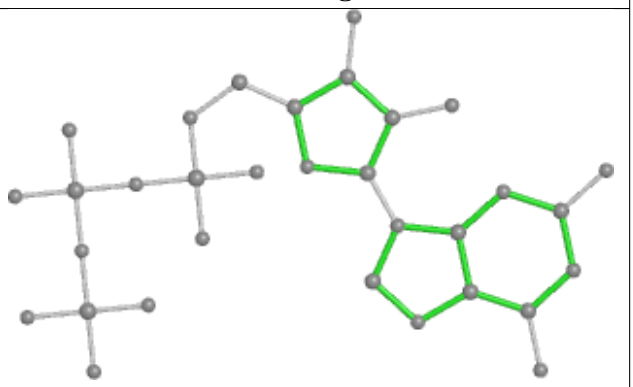
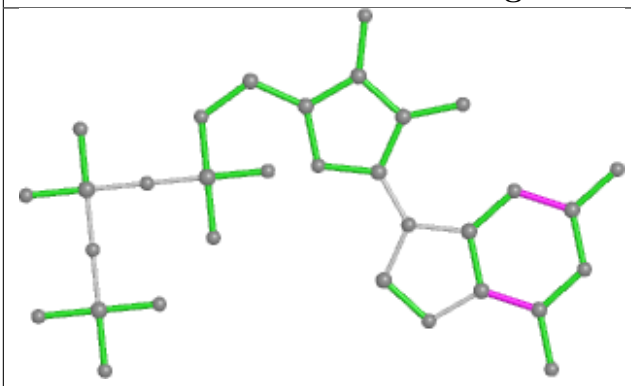


Rings

Ligand GTP WC 501



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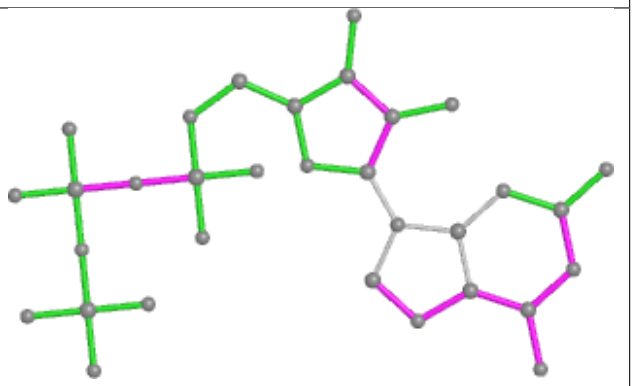

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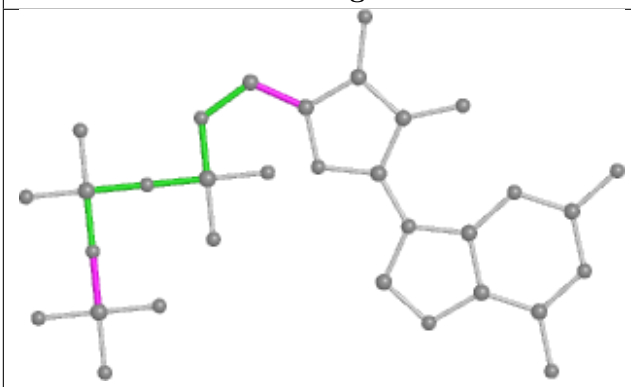

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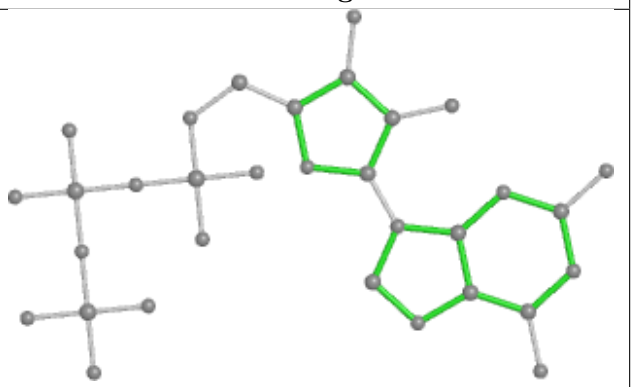
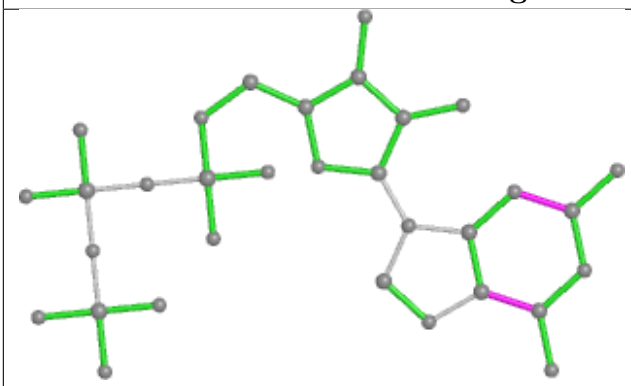


Rings

Ligand GTP RB 501



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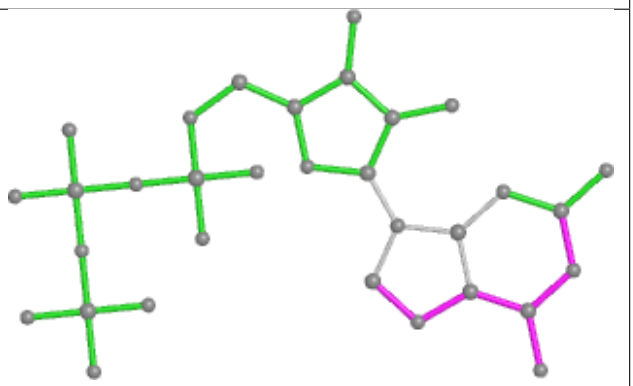

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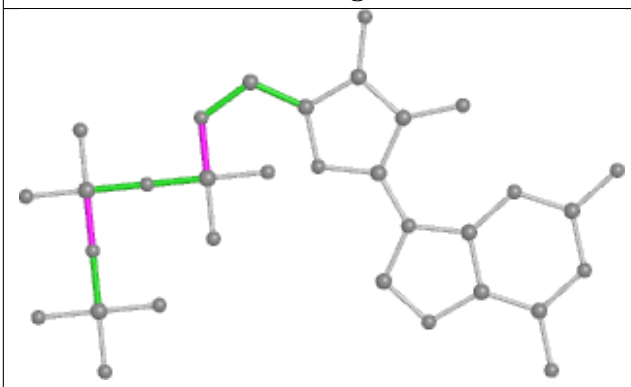

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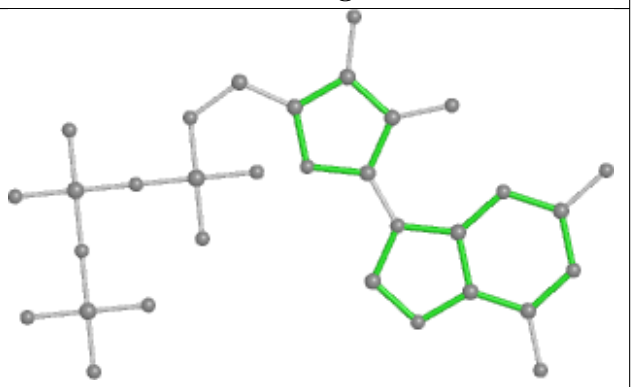
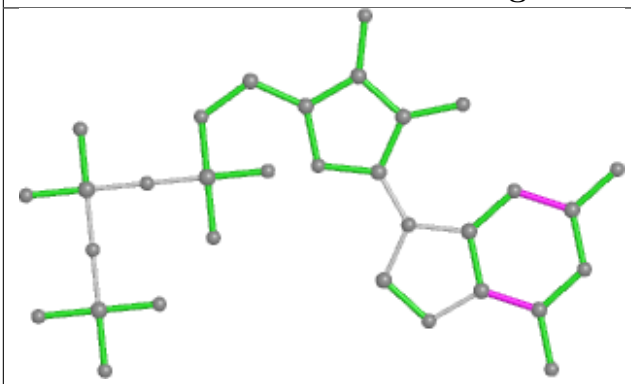


Rings

Ligand GTP HB 501



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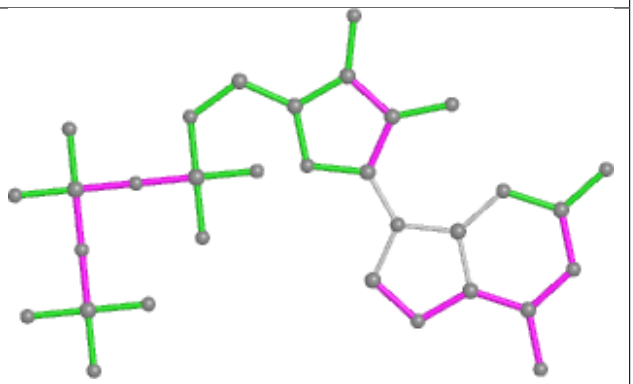

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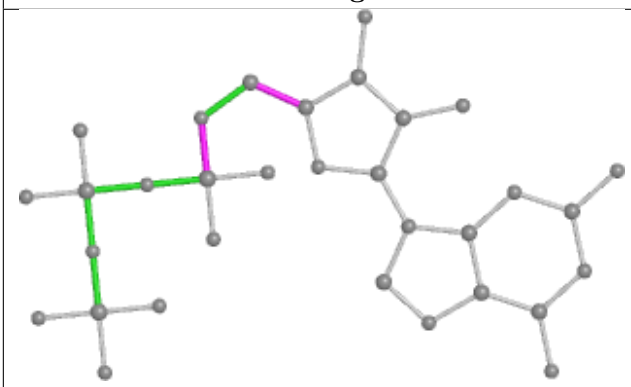

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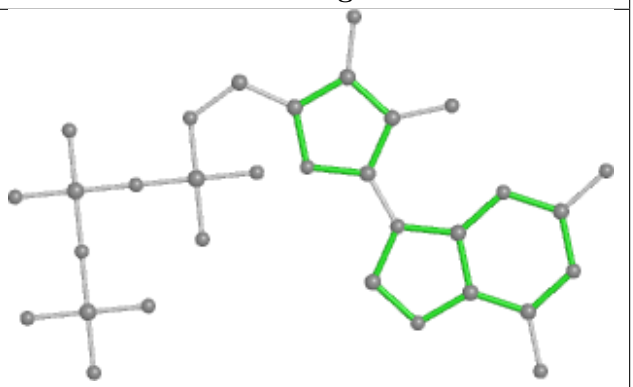
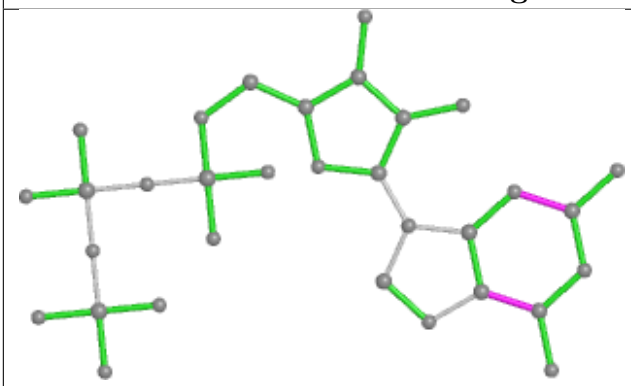


Rings

Ligand GTP WI 501



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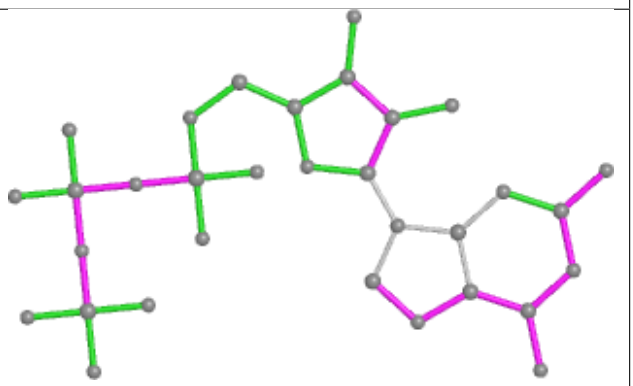

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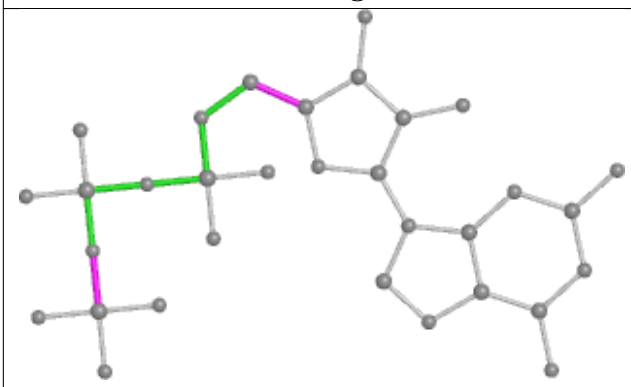
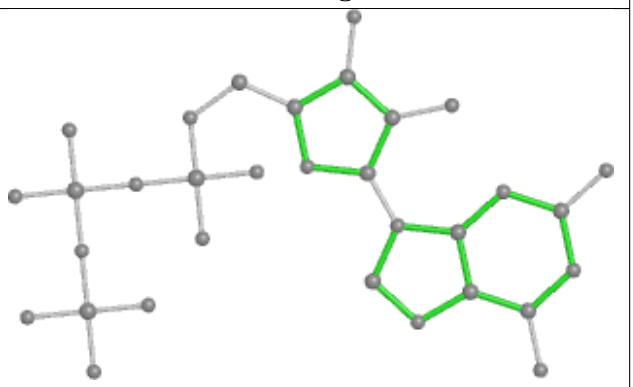
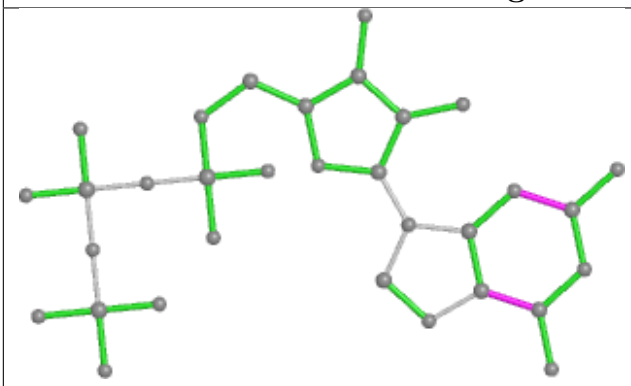


Torsions



Rings

Ligand GTP HG 501



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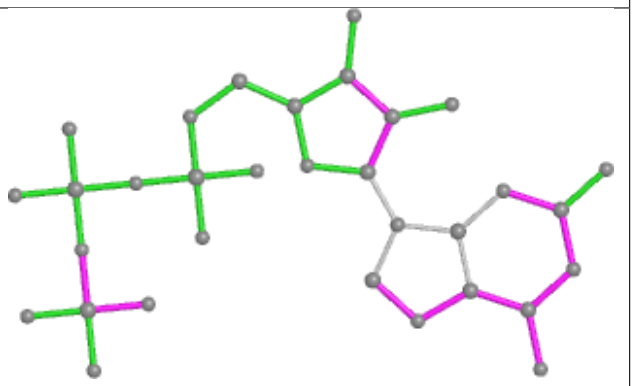

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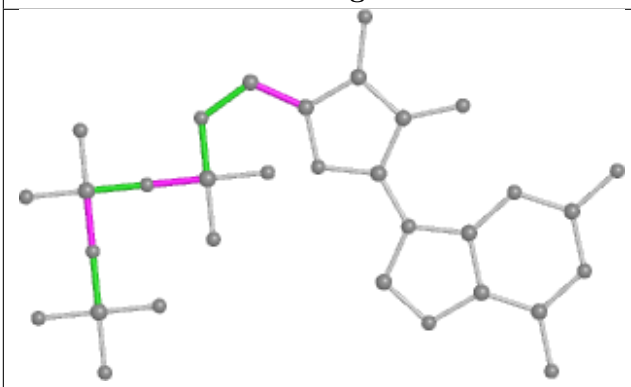

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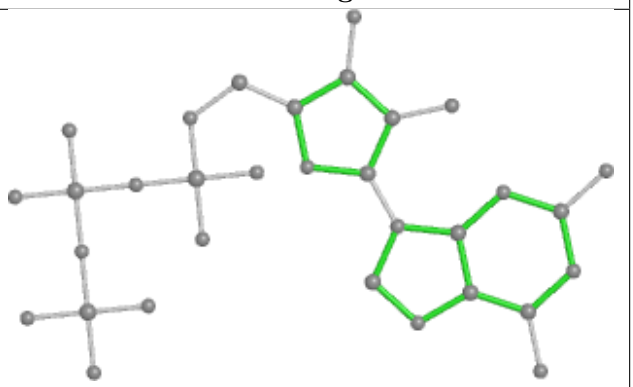
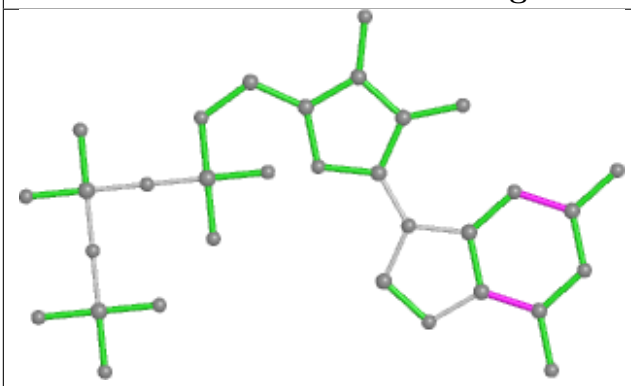


Rings

Ligand GTP AC 501



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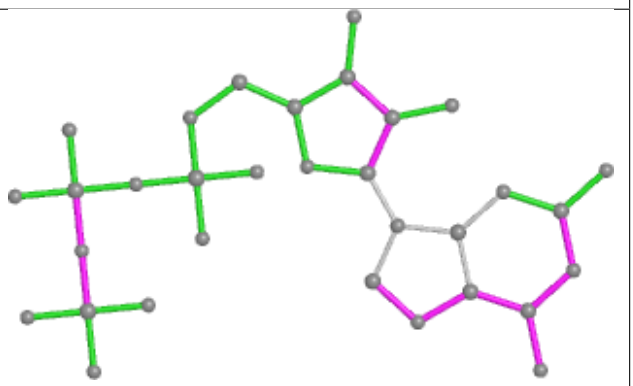

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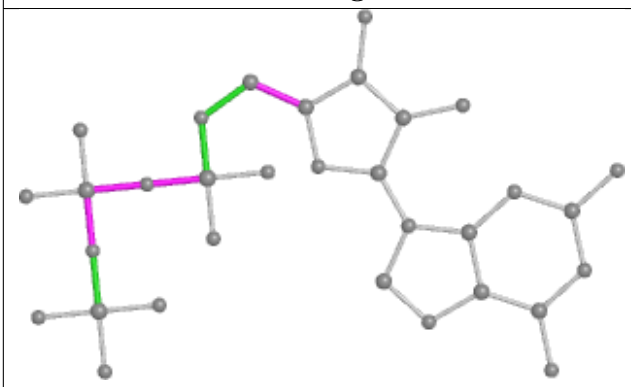

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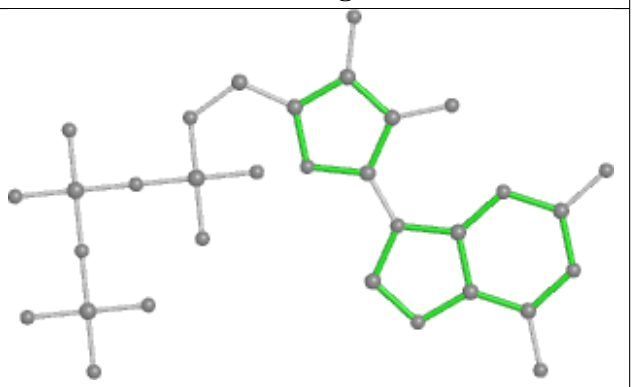
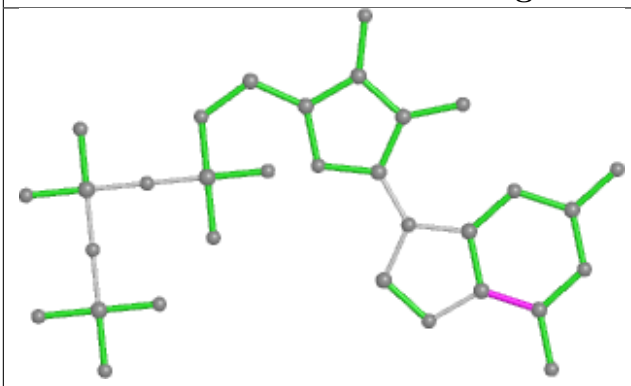


Rings

Ligand GTP DI 501



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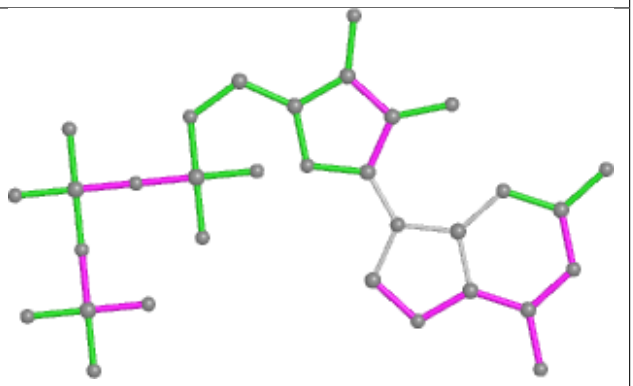

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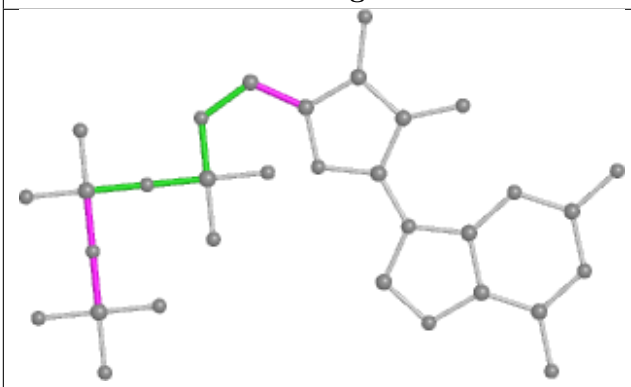

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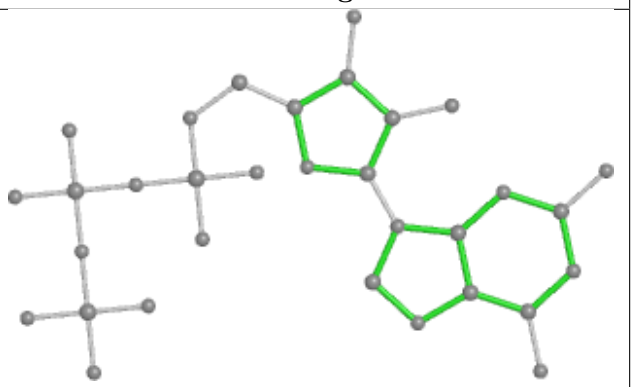
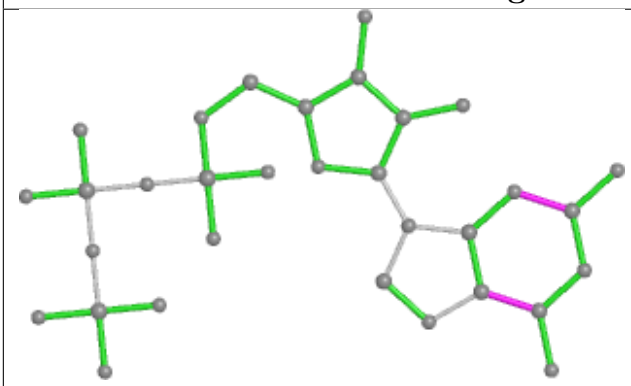


Rings

Ligand GTP OG 501



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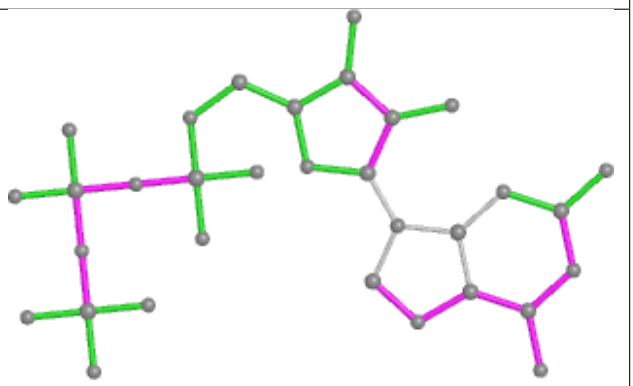

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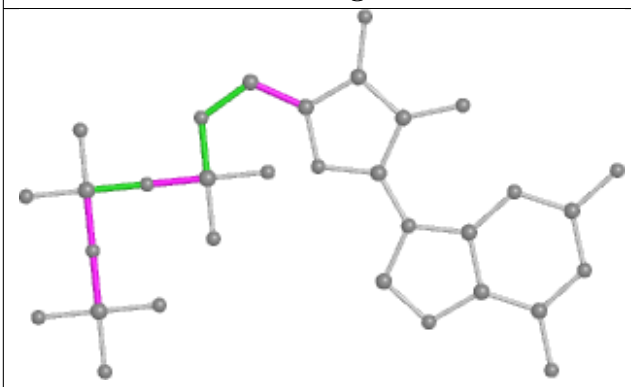

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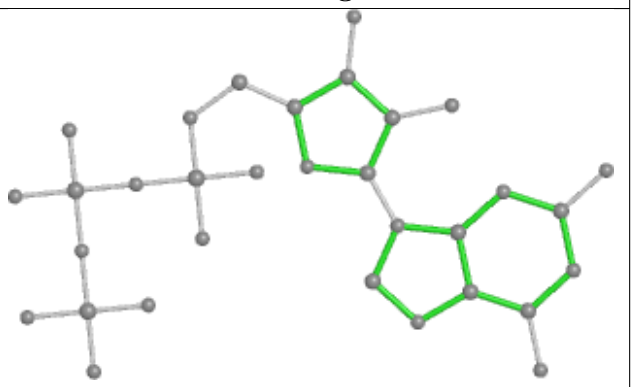
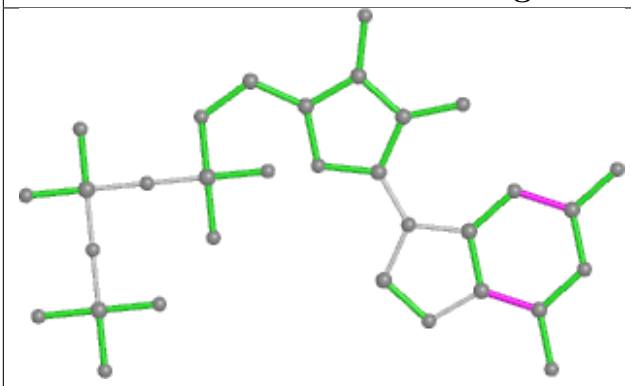


Rings

Ligand GTP LF 501



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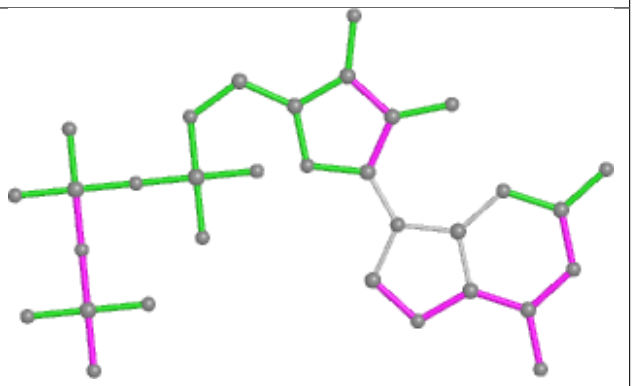

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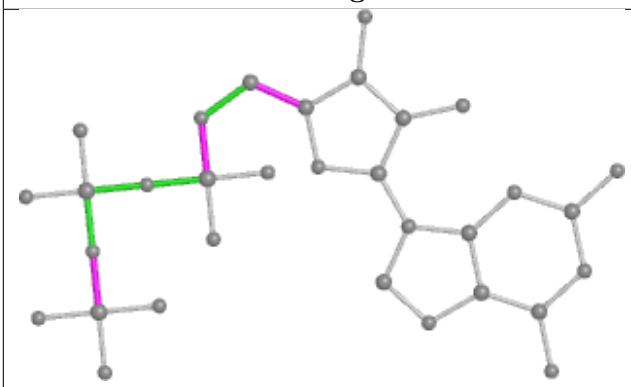

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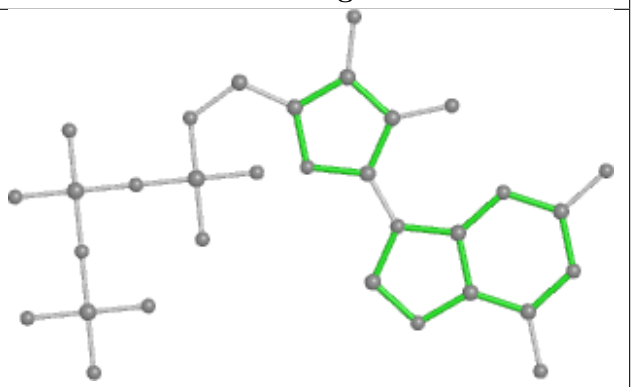
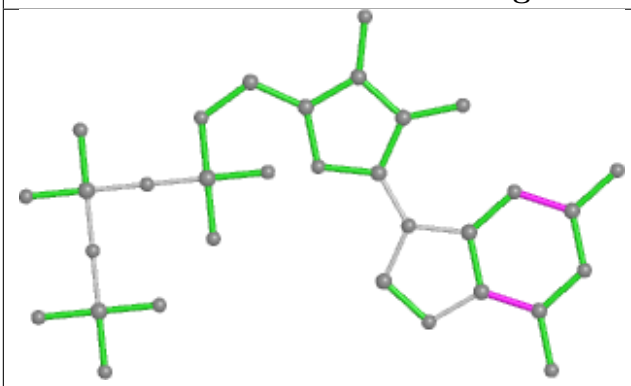


Rings

Ligand GTP VJ 501



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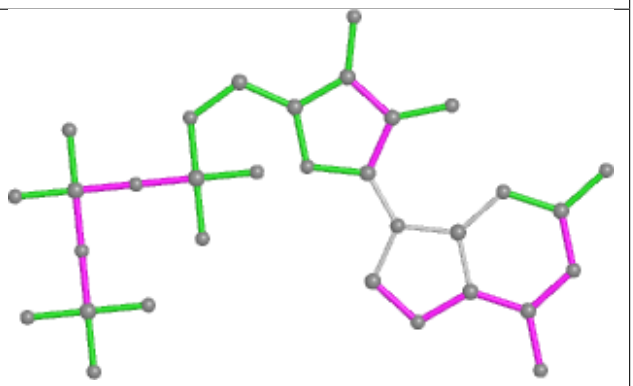

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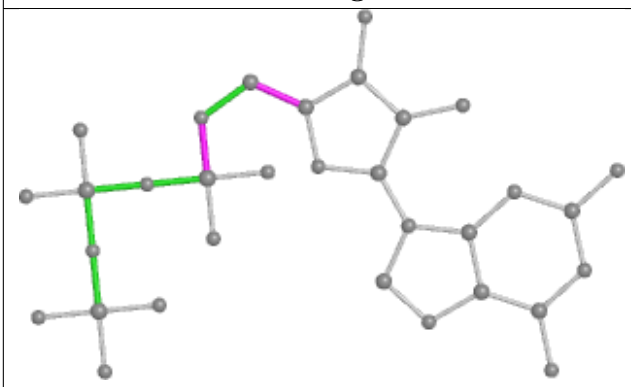

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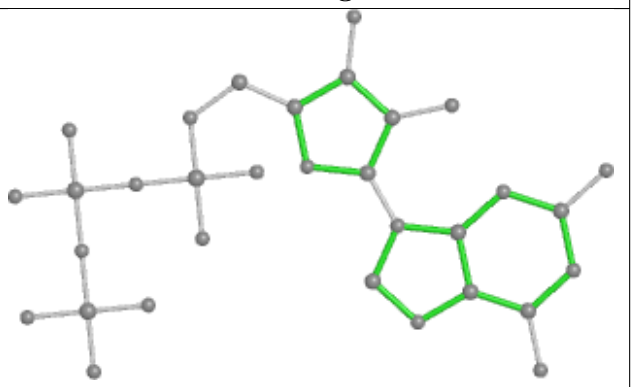
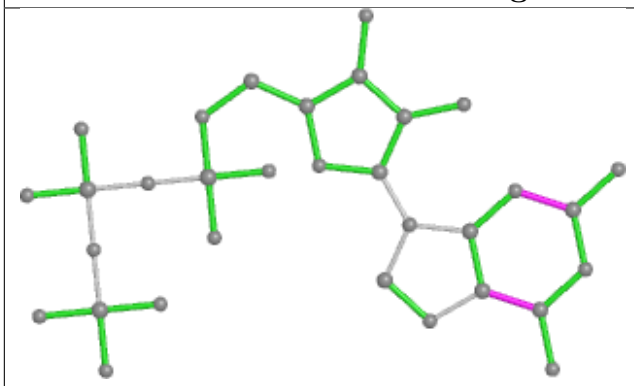


Rings

Ligand GTP OA 501



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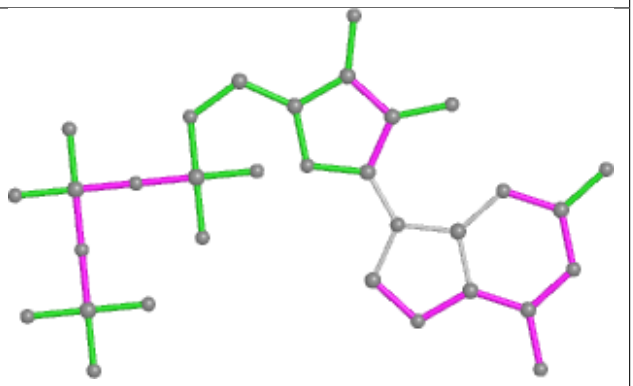

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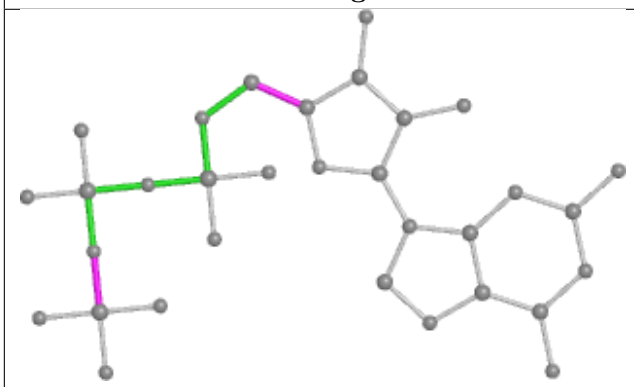

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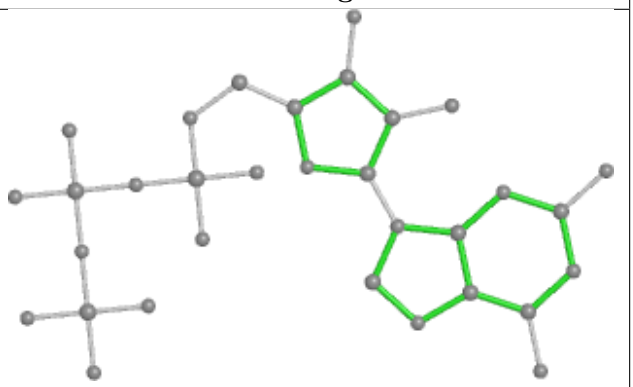
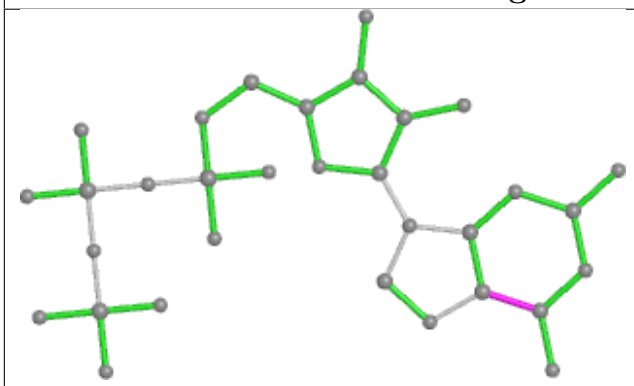


Rings

Ligand GTP AK 501



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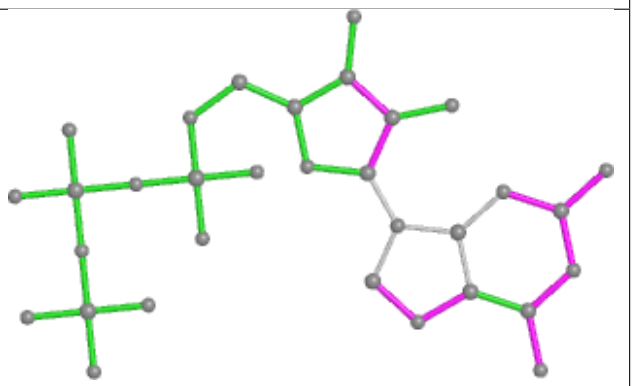

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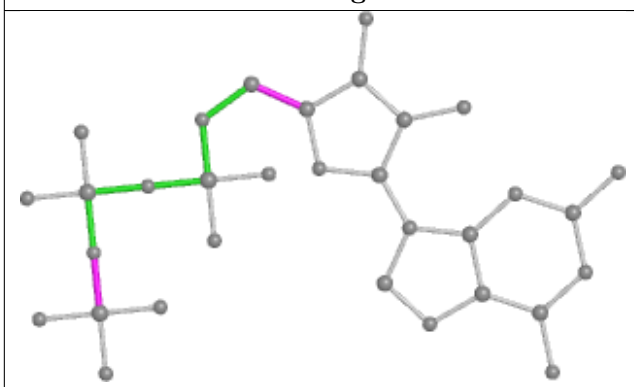

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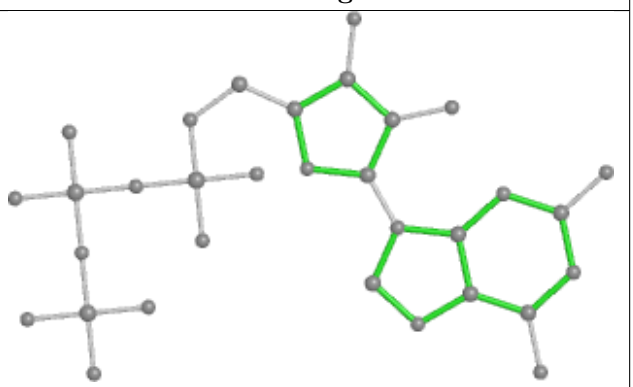
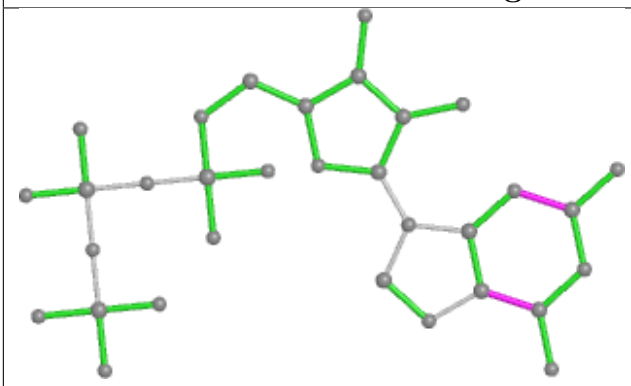


Rings

Ligand GTP WB 501



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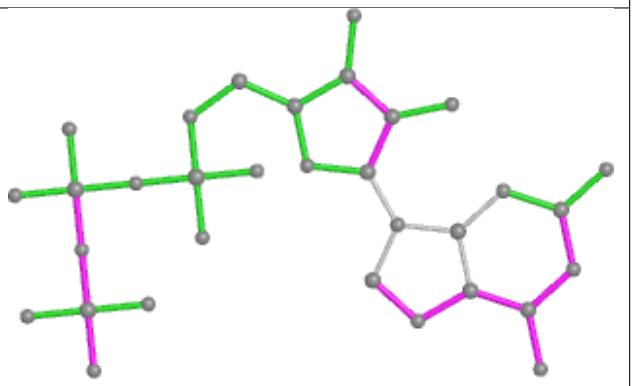

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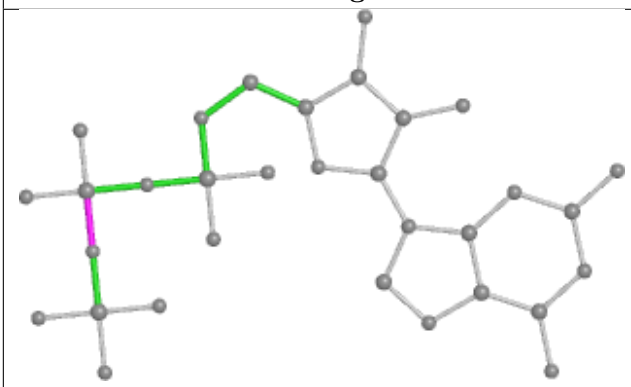

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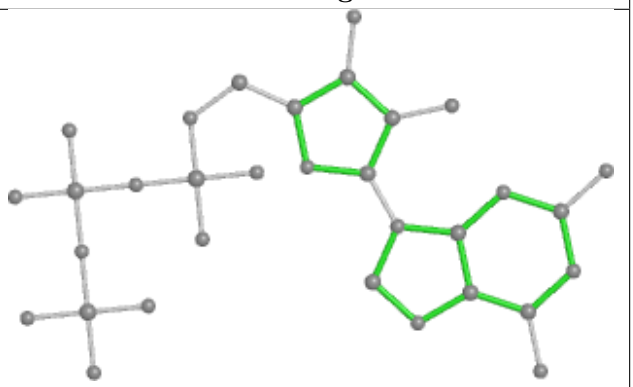
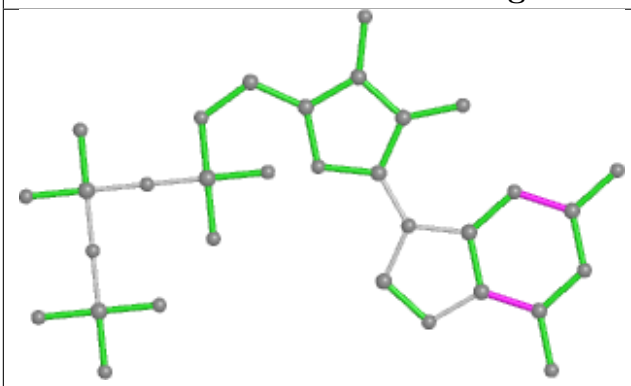


Rings

Ligand GTP GA 501



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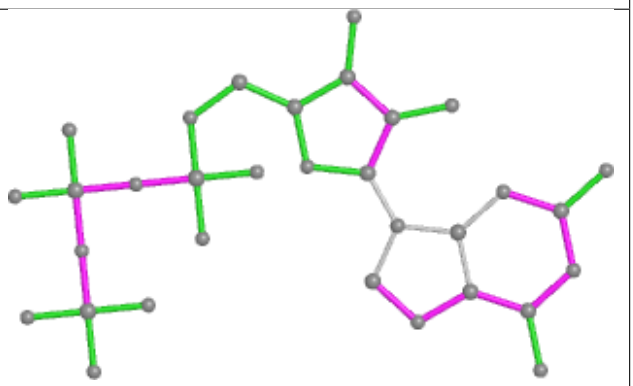

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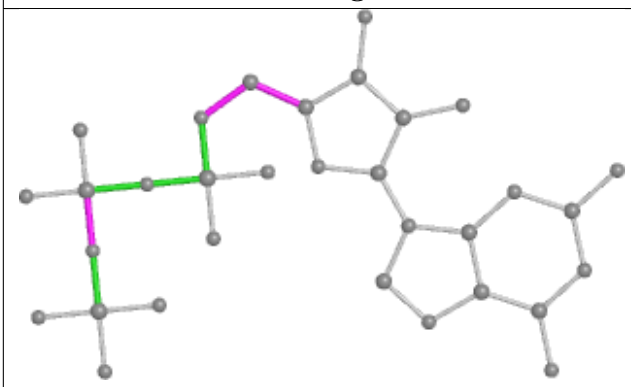

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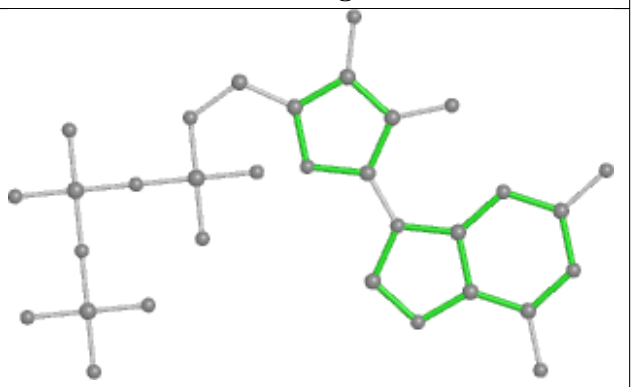
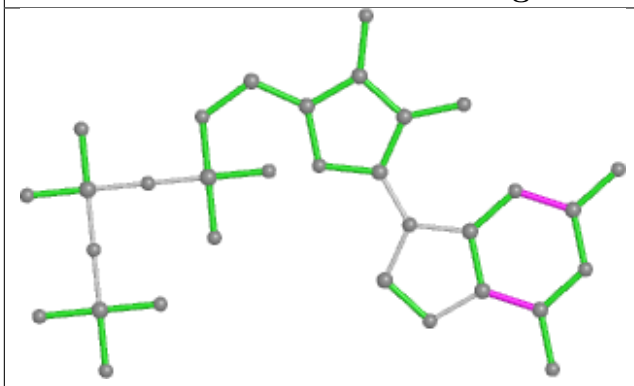


Rings

Ligand GTP OL 501



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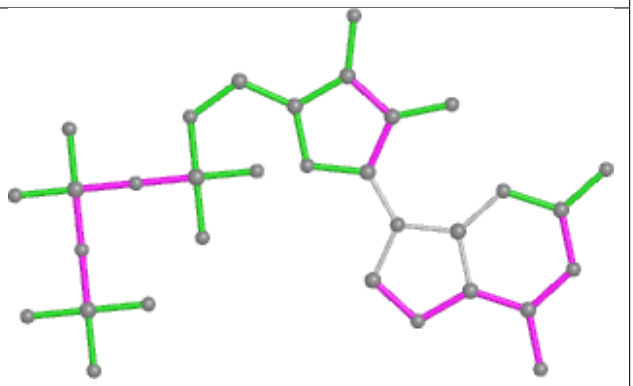

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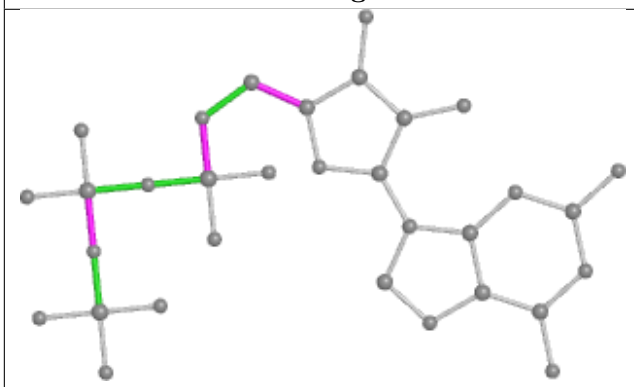

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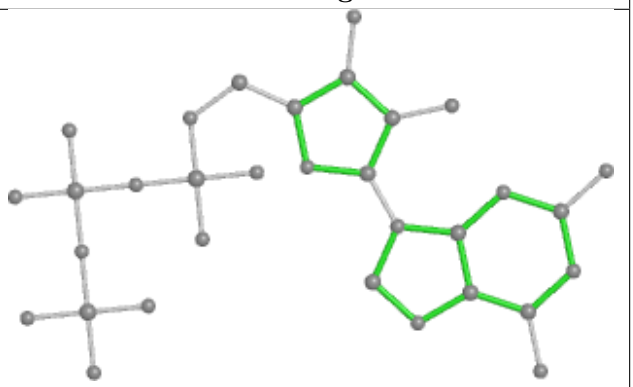
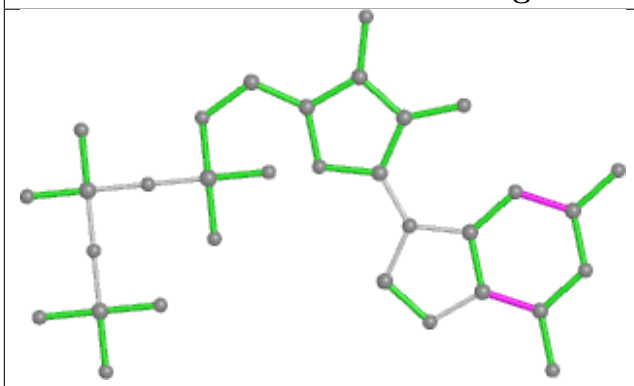


Rings

Ligand GTP LB 501



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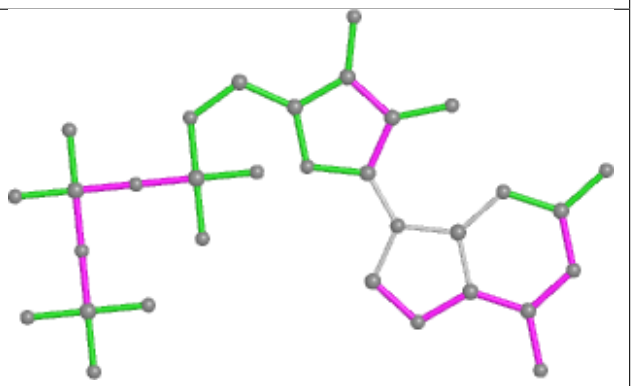

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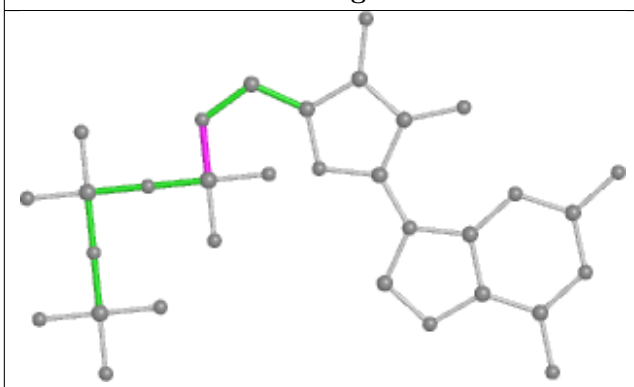

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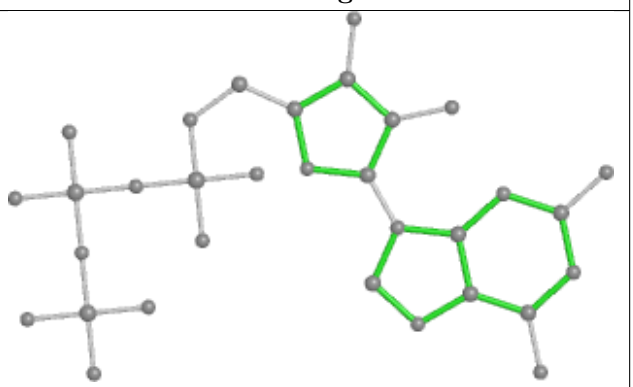
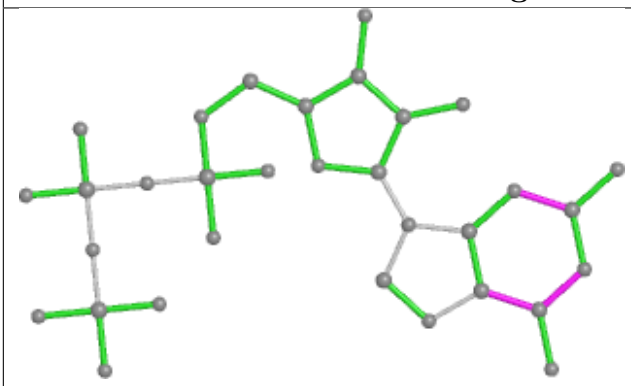


Rings

Ligand GTP VE 501



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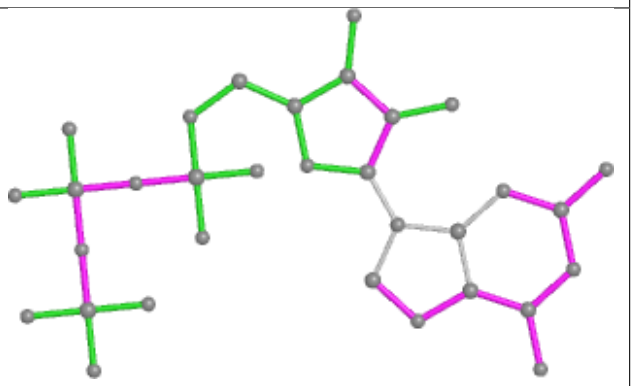

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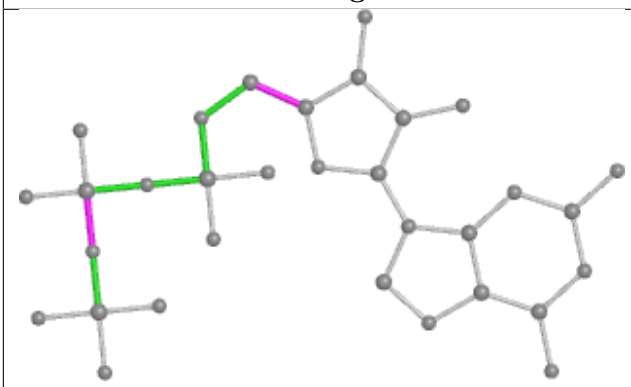

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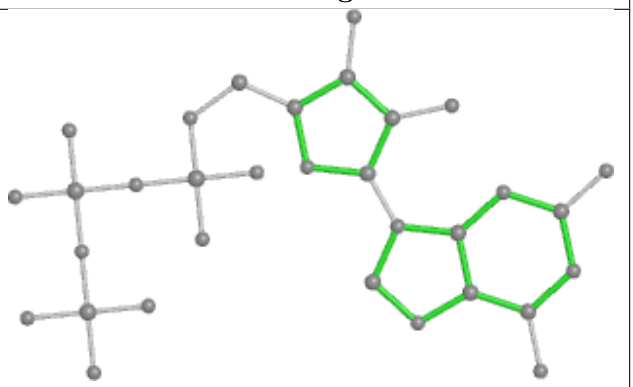
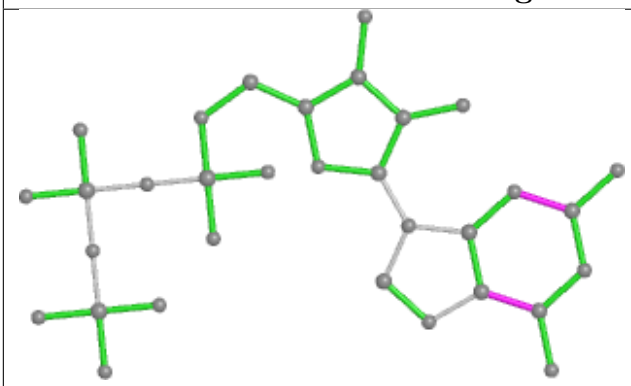


Rings

Ligand GTP JF 501



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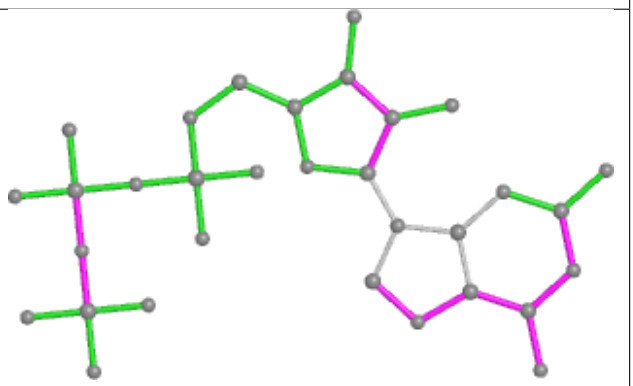
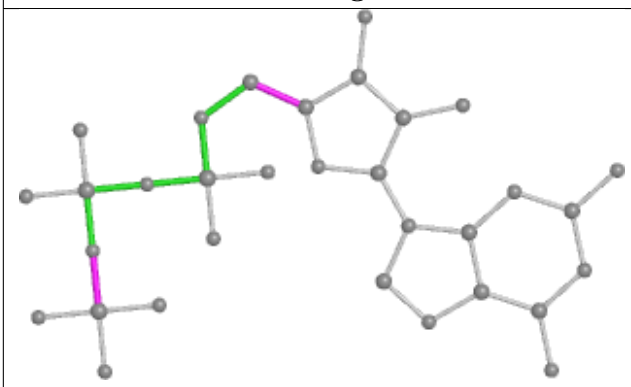


Bond angles



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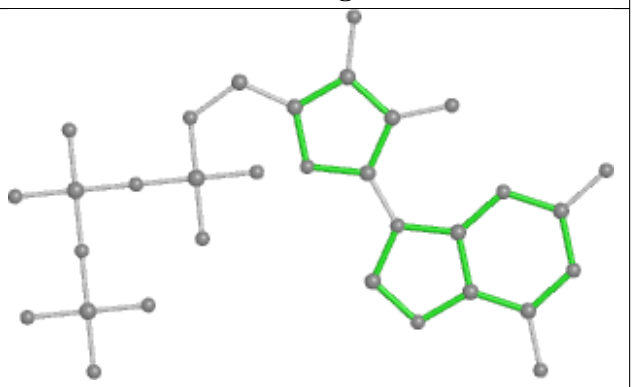
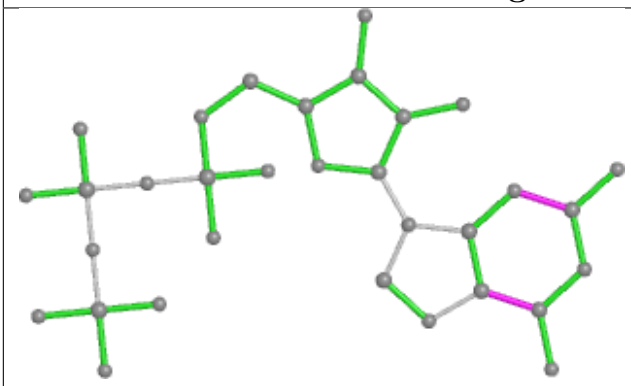
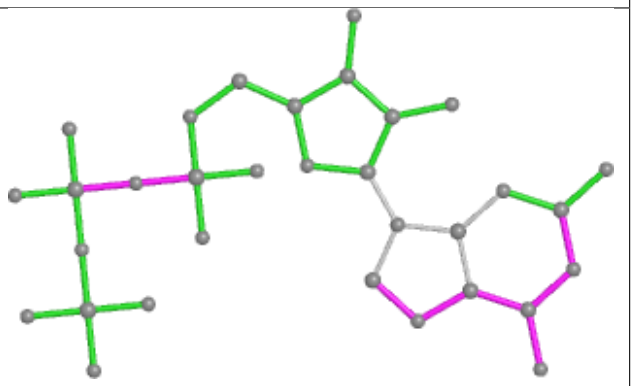


Rings

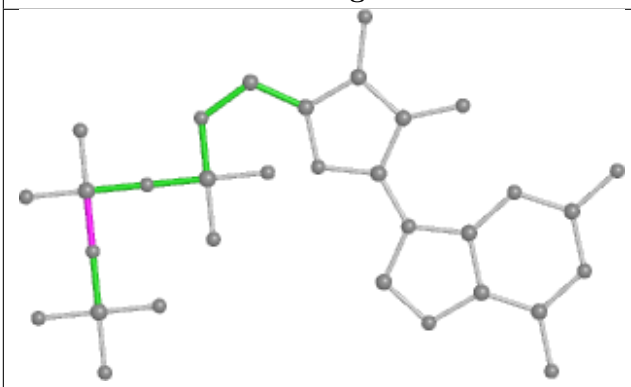
Ligand GTP CH 501



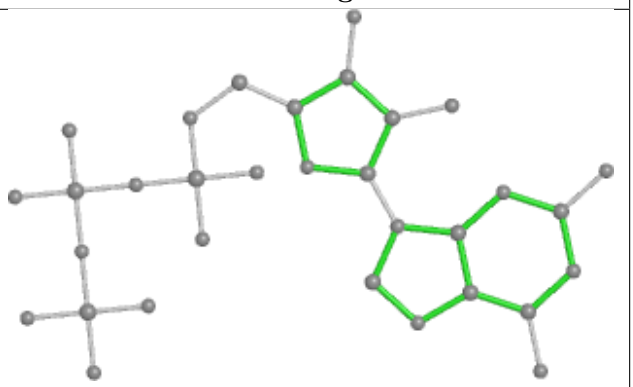
Bond lengths



Bond angles

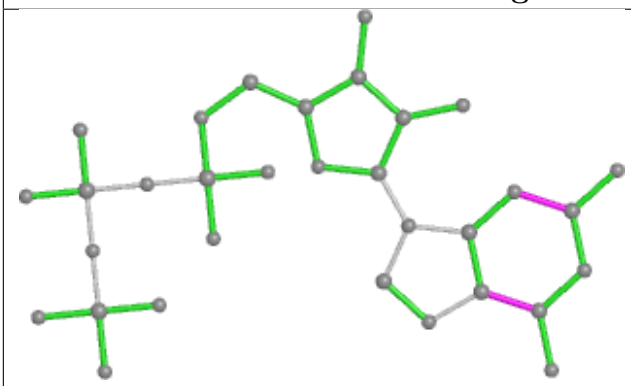


Torsions



Rings

Ligand GTP CF 501



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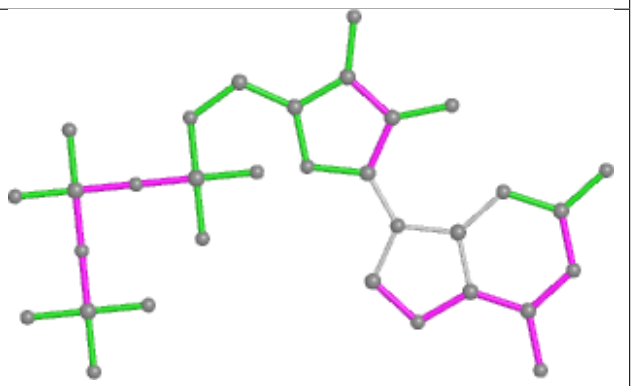

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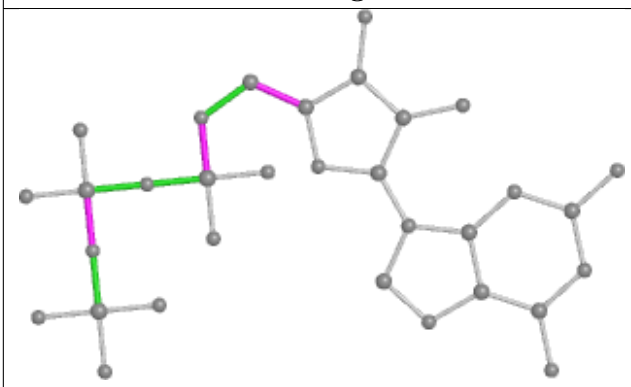

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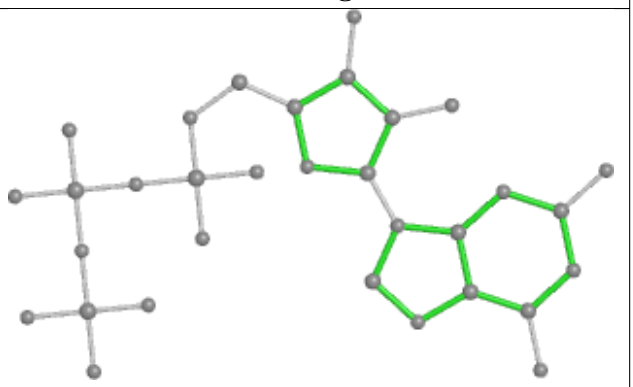
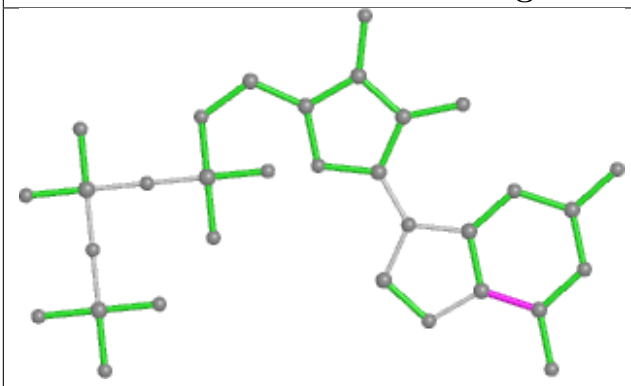


Rings

Ligand GTP IC 501



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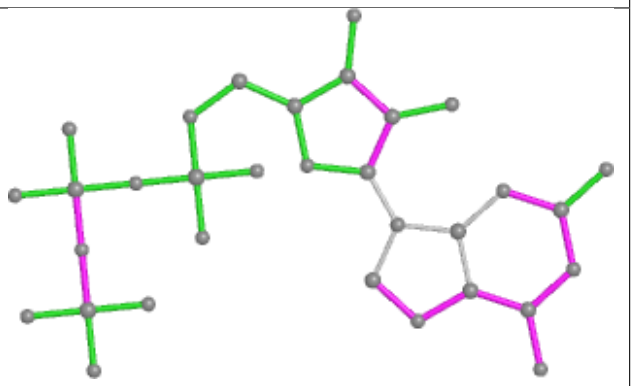

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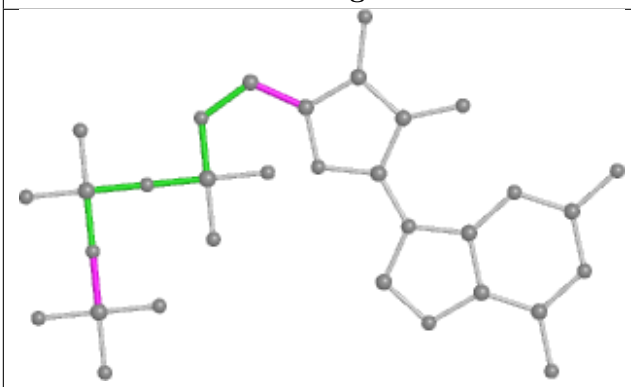

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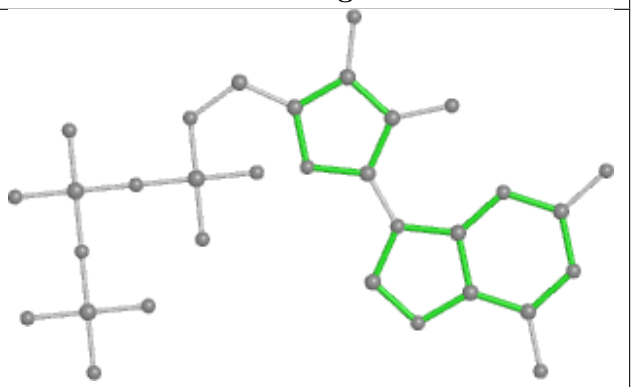
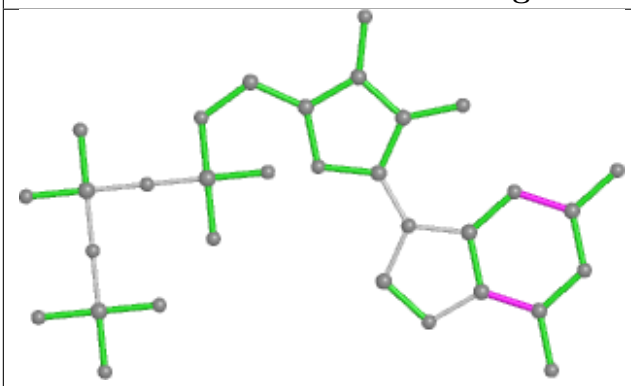


Rings

Ligand GTP UJ 501



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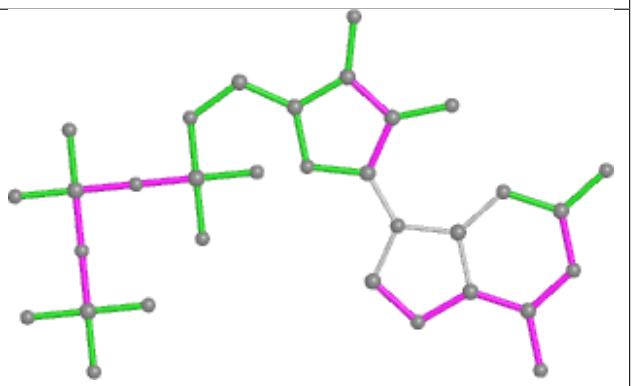

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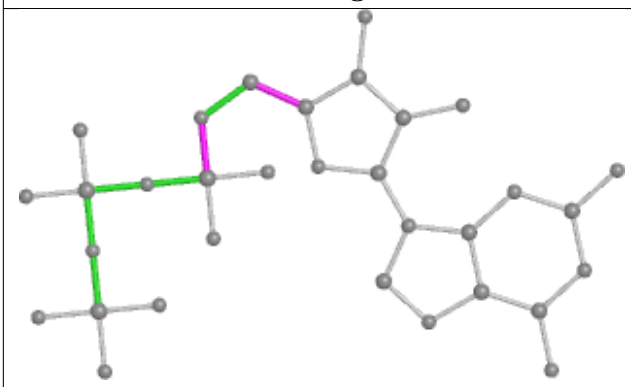

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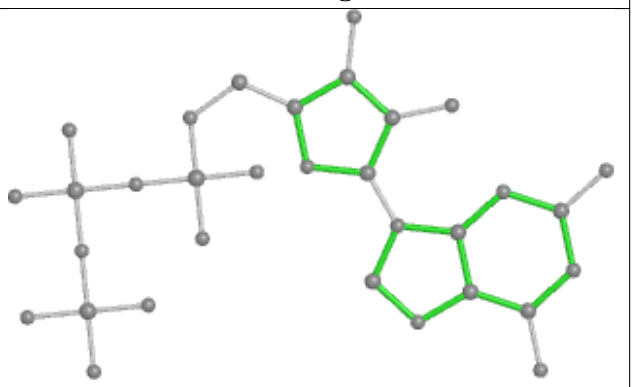
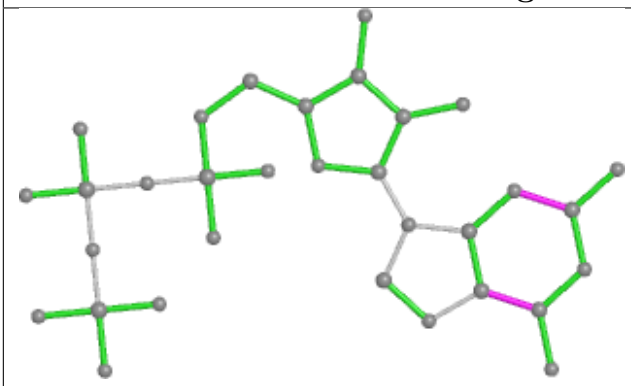


Rings

Ligand GTP JJ 501



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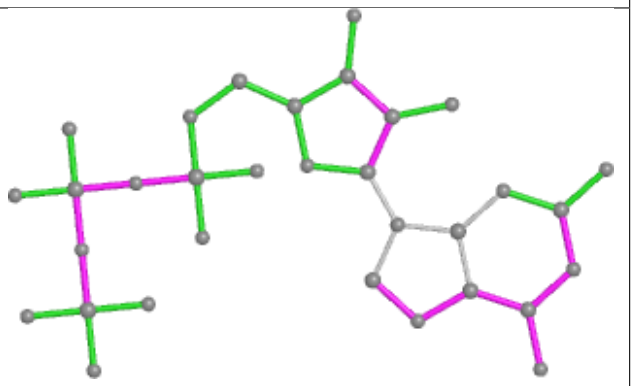

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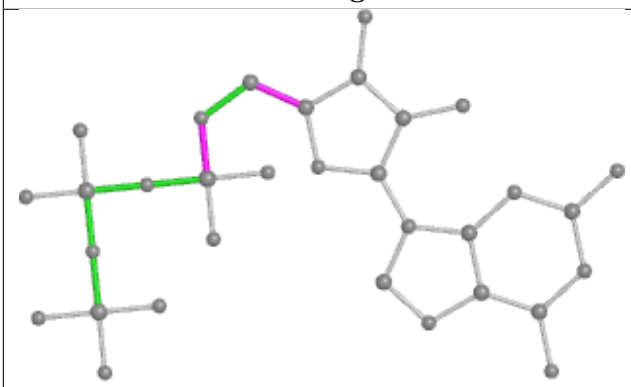

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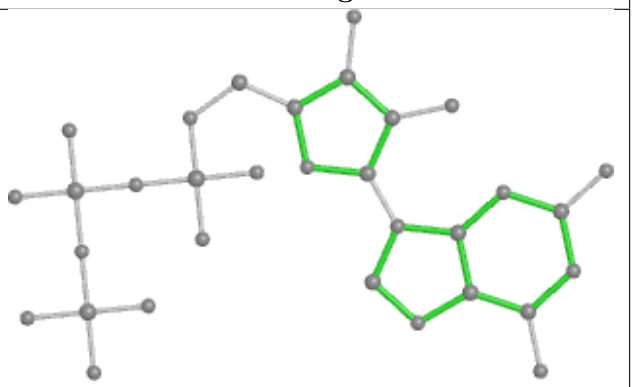
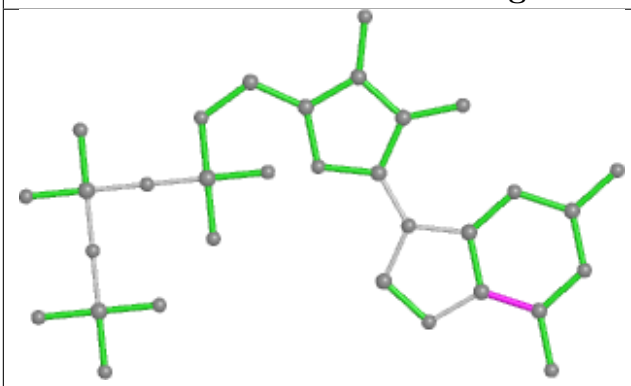


Rings

Ligand GTP CG 501



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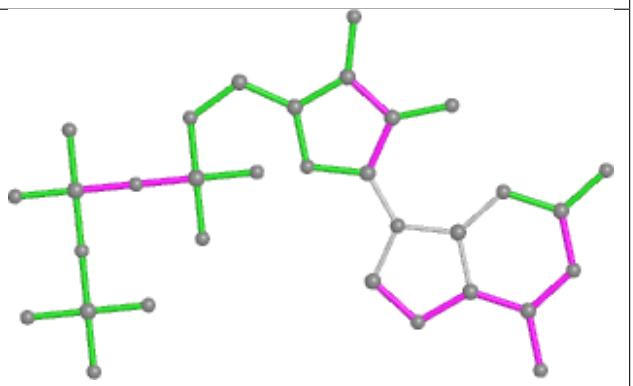

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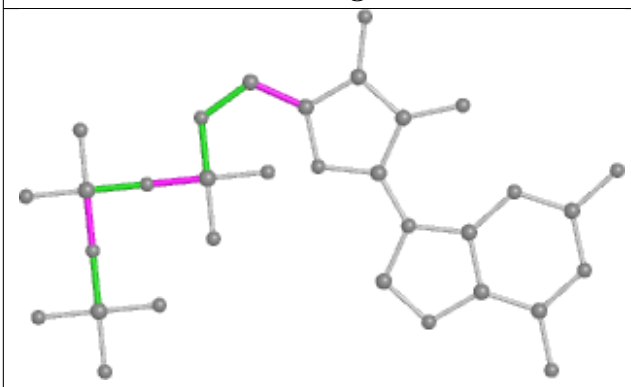

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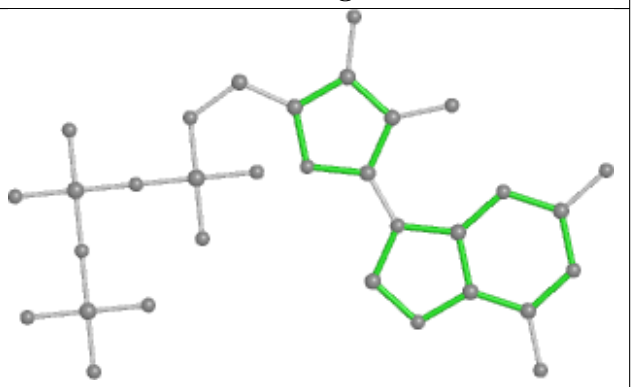
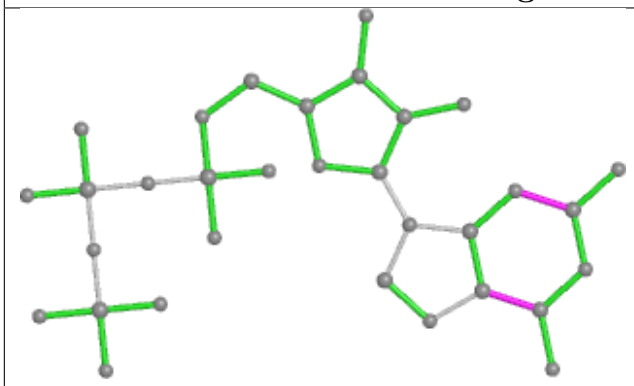


Rings

Ligand GTP IB 501



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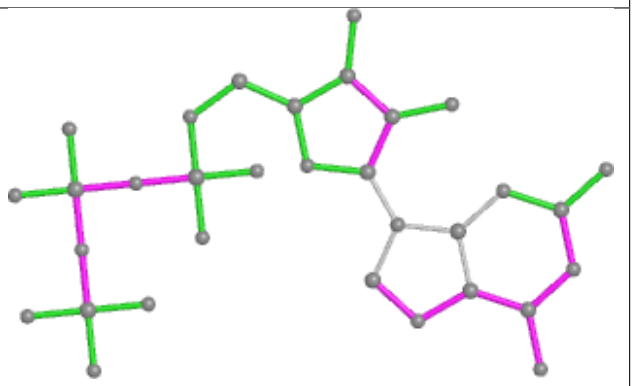

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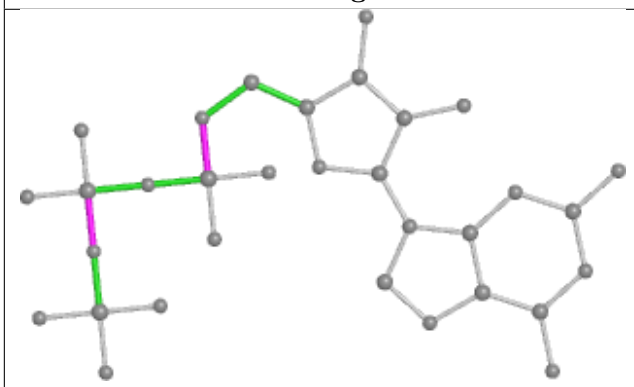

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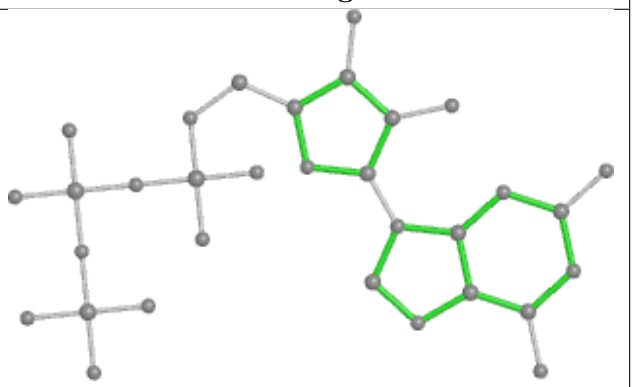
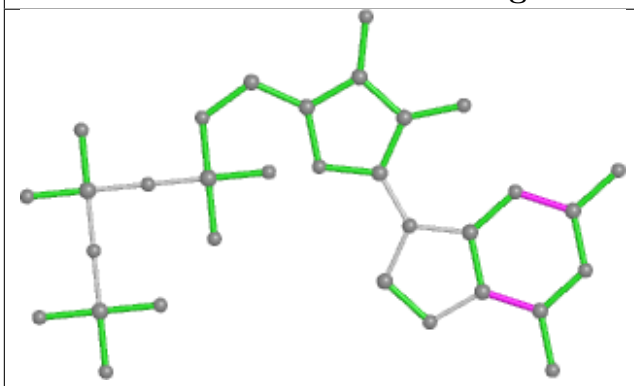


Rings

Ligand GTP OH 501



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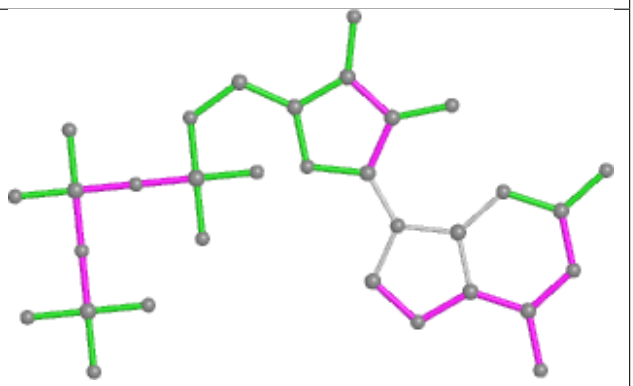

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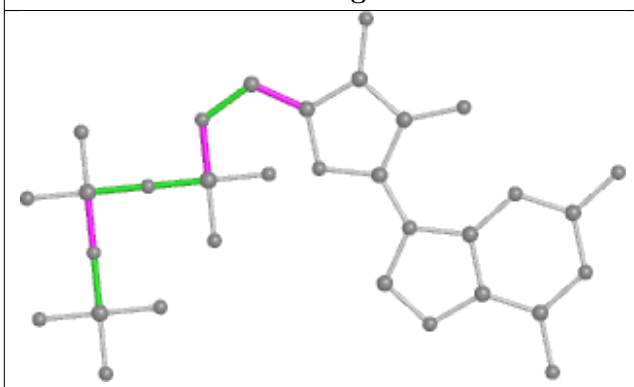

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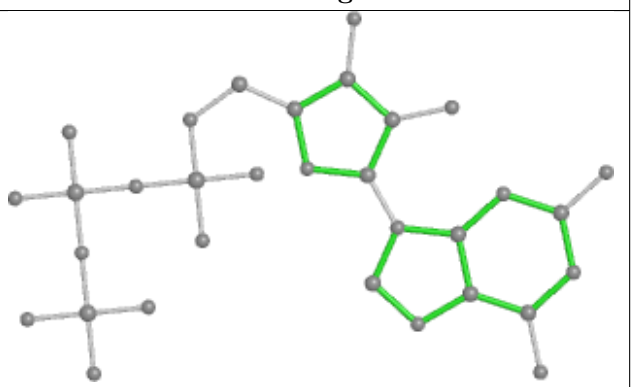
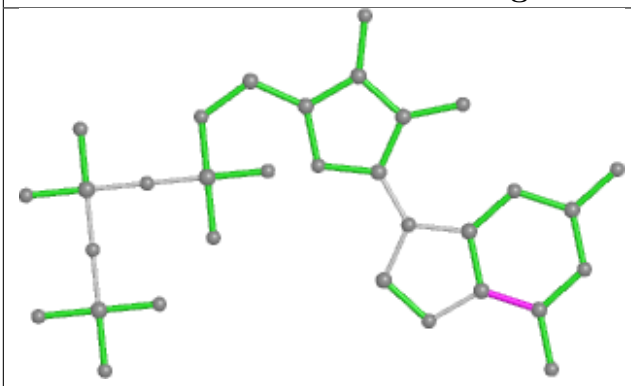


Rings

Ligand GTP LG 501



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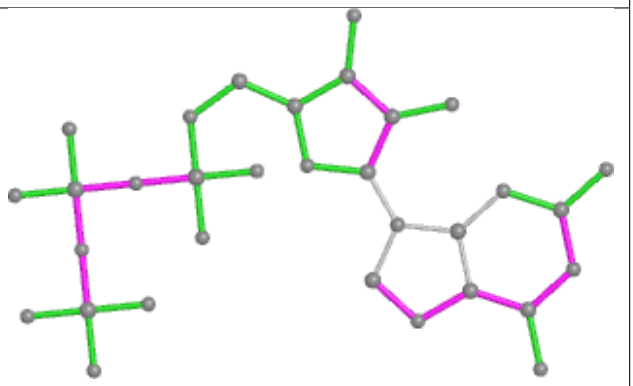

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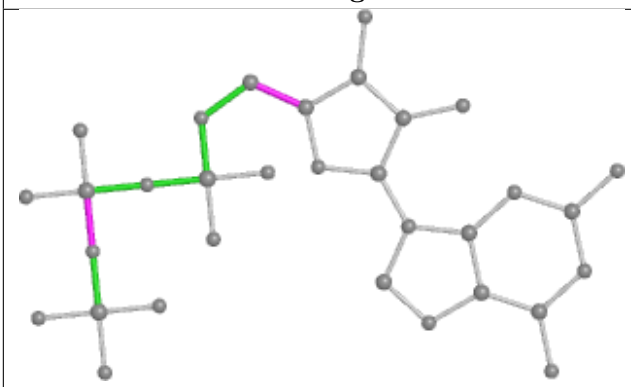

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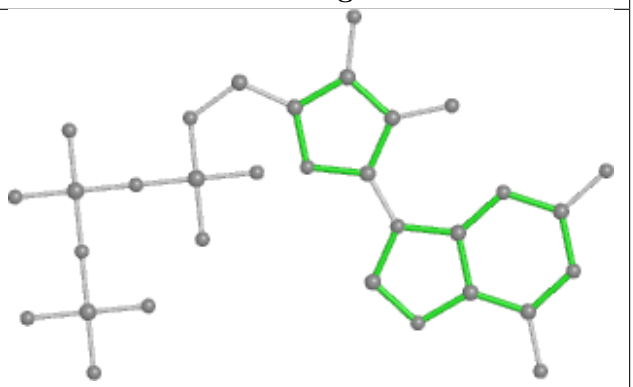
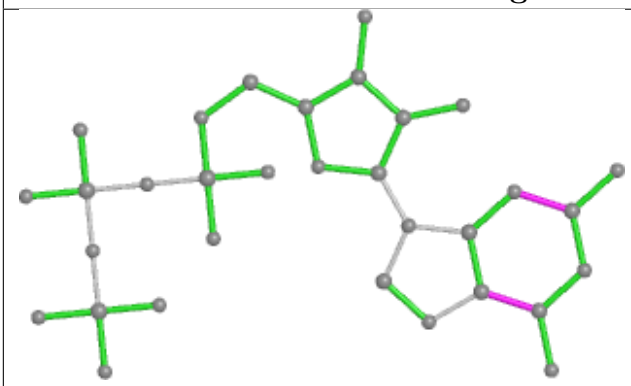


Rings

Ligand GTP KE 501



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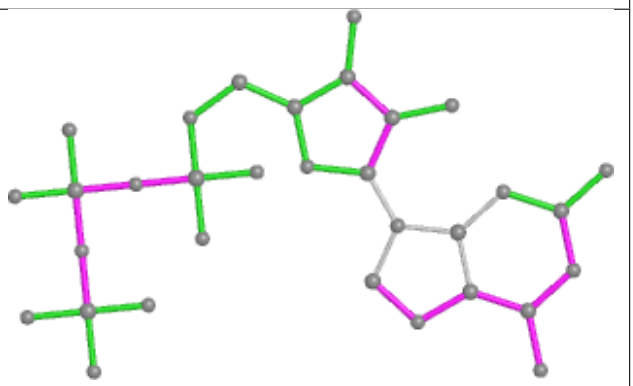

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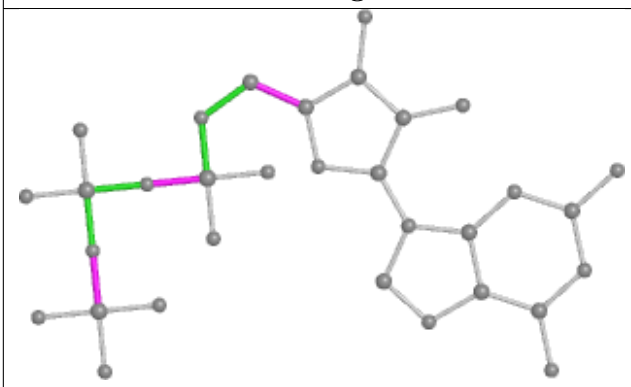

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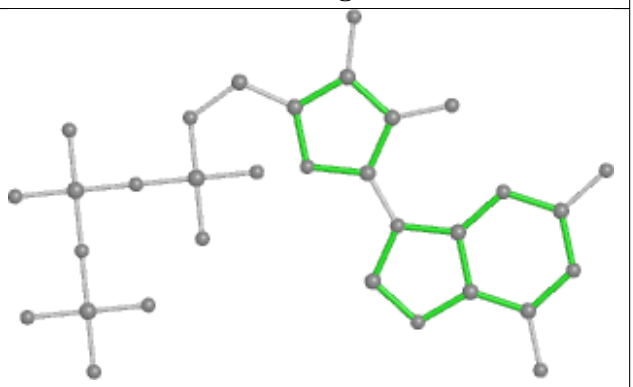
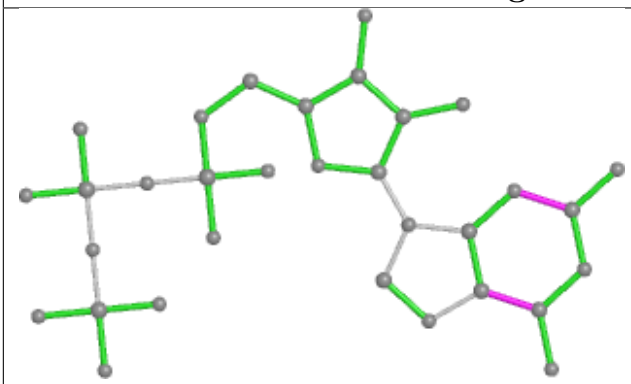


Rings

Ligand GTP DD 501



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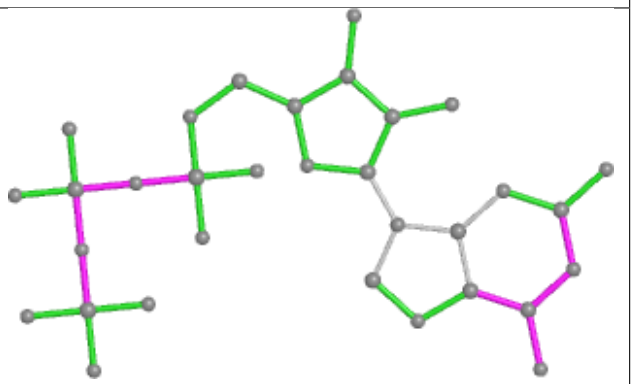

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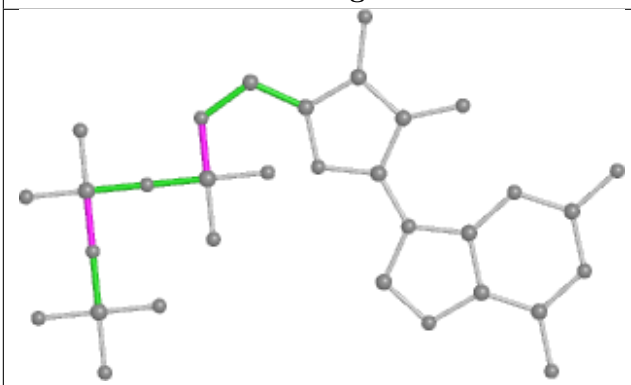

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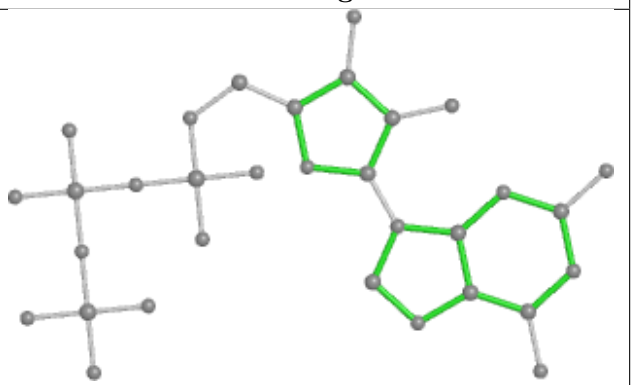
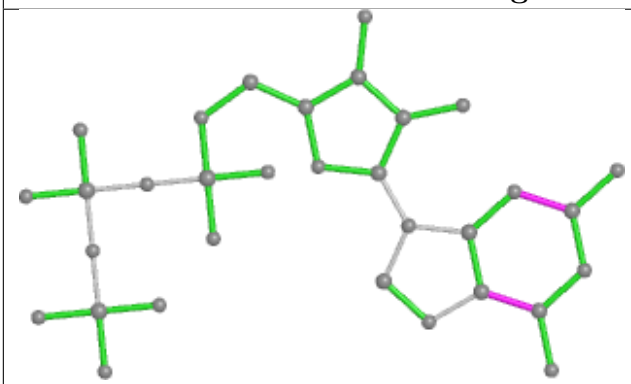


Rings

Ligand GTP DF 501



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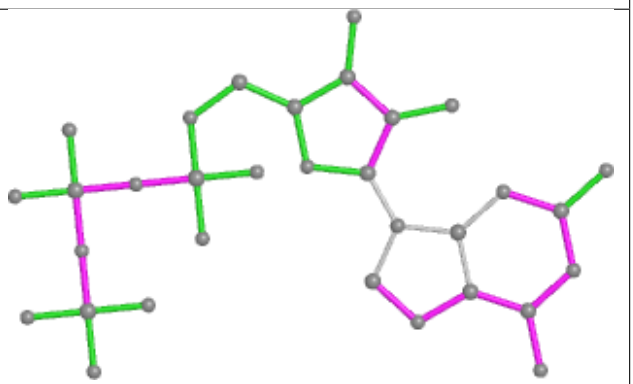

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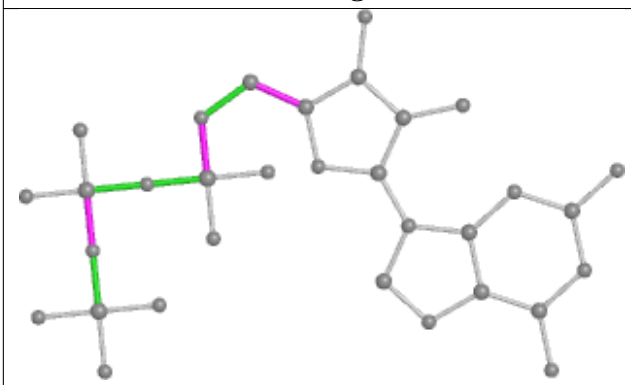

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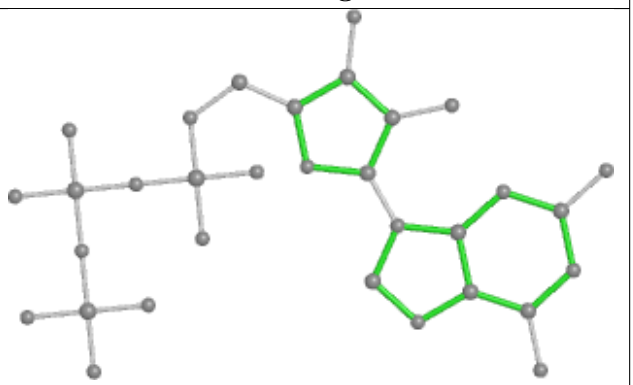
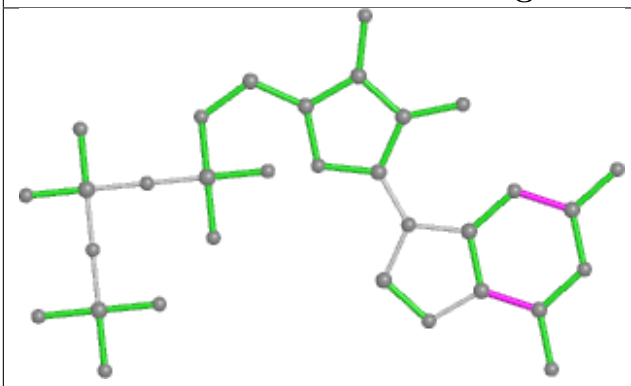


Rings

Ligand GTP JL 501



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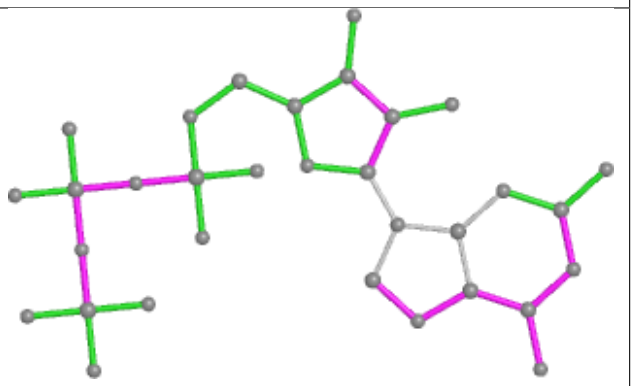

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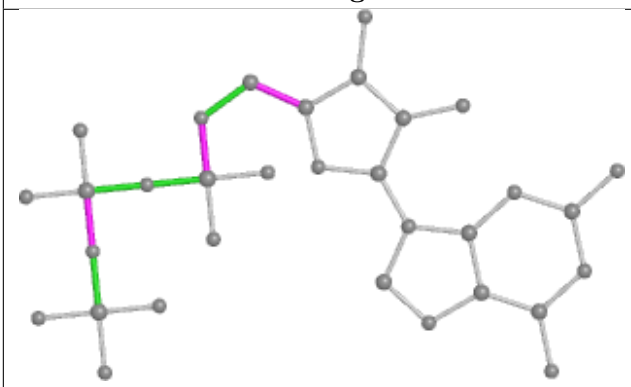

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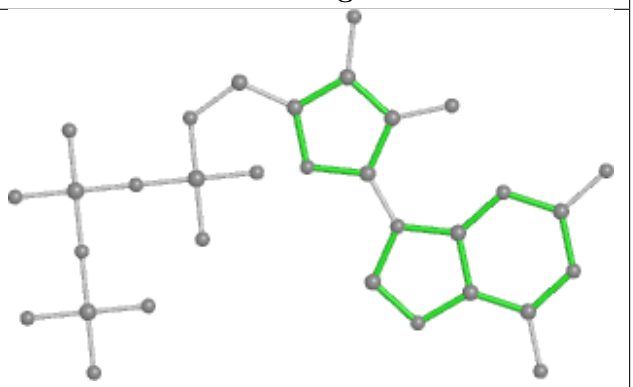
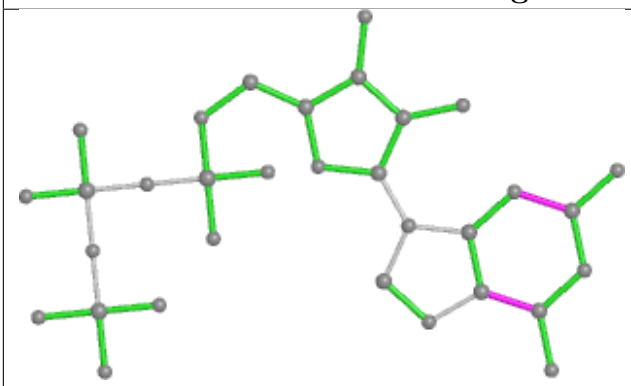


Rings

Ligand GTP VF 501



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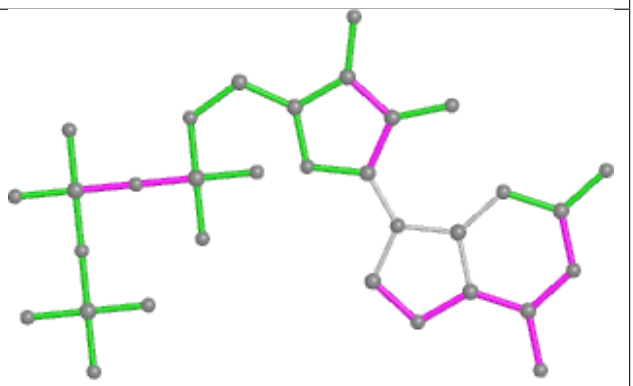

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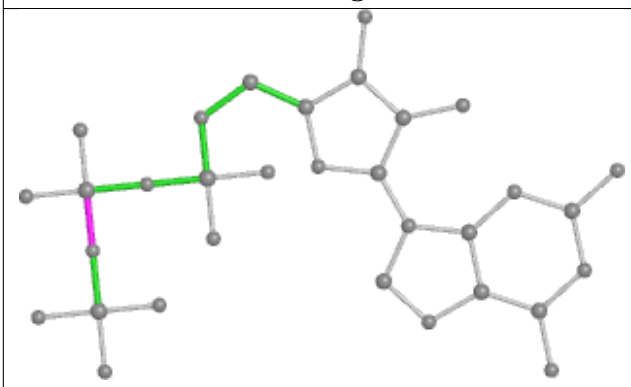

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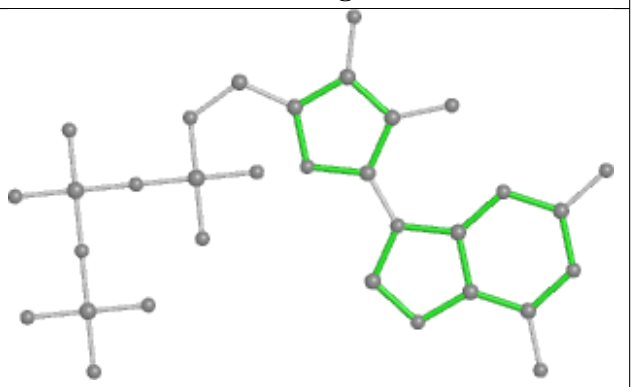
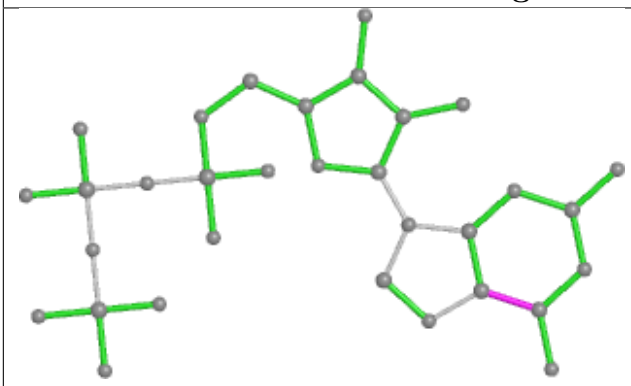


Rings

Ligand GTP JG 501



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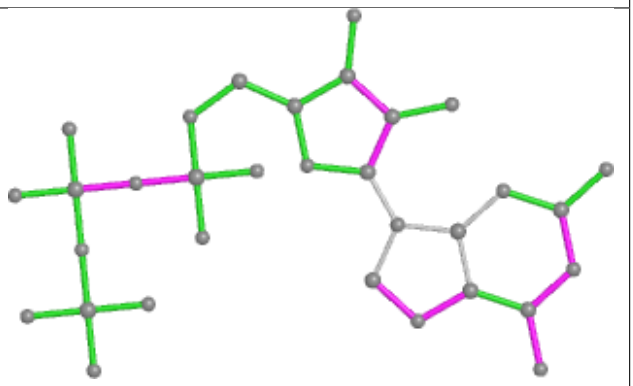

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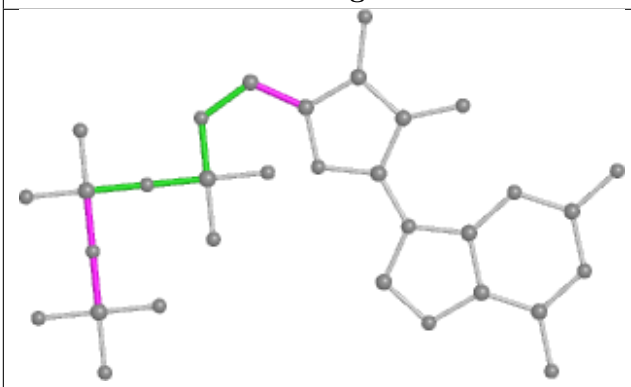
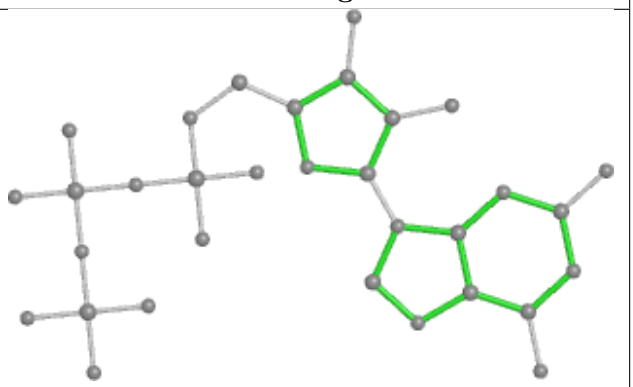
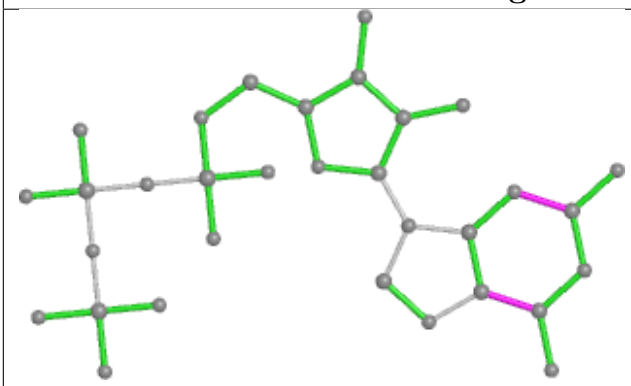


Torsions



Rings

Ligand GTP KB 501



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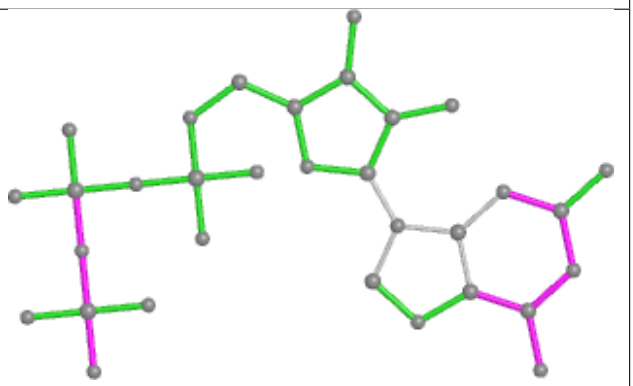

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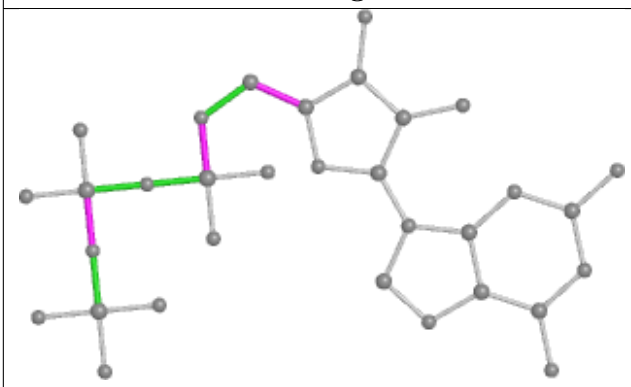

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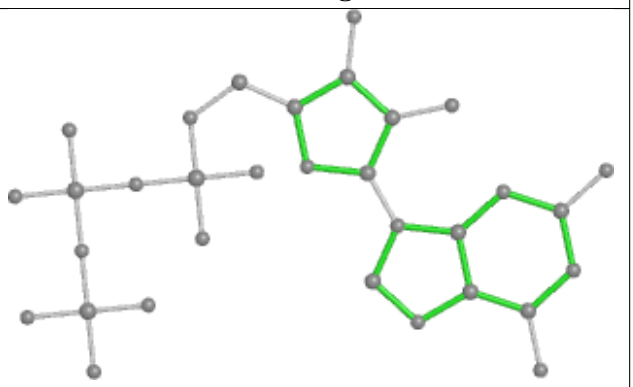
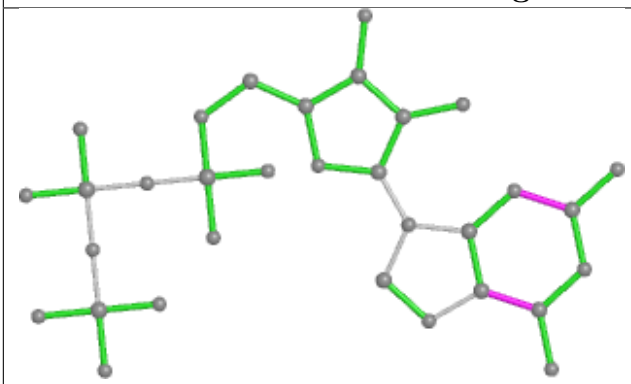


Rings

Ligand GTP JH 501



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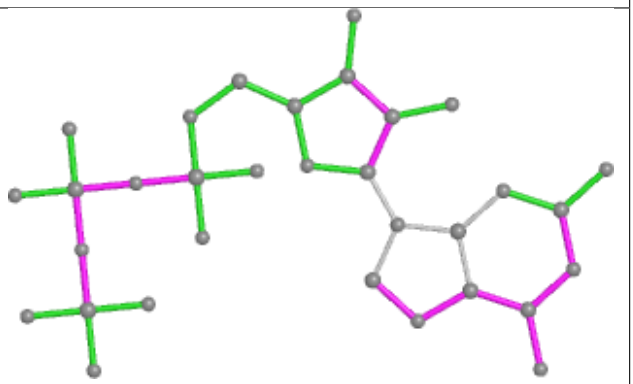

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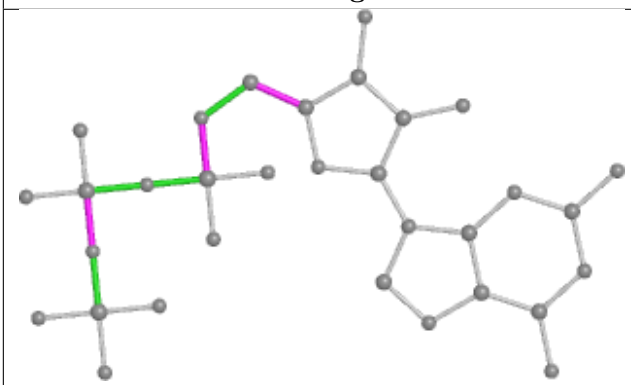

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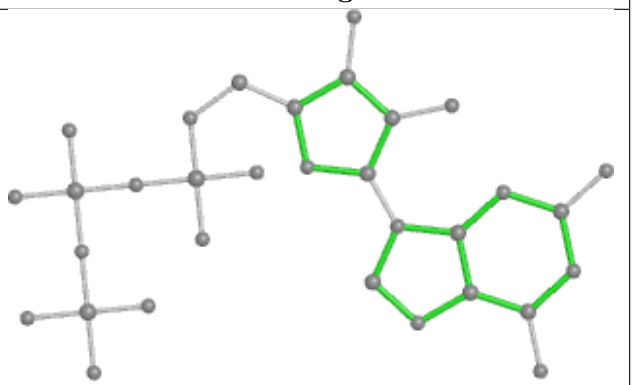
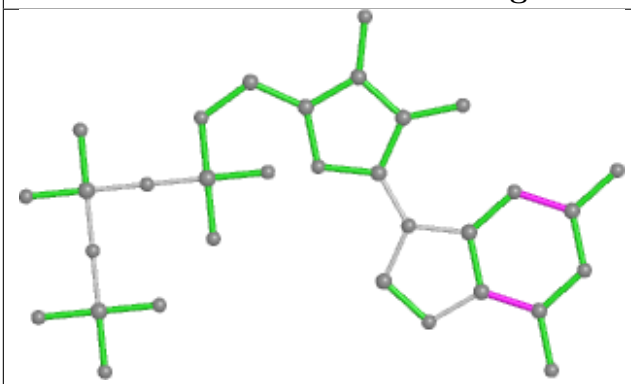


Rings

Ligand GTP EH 501



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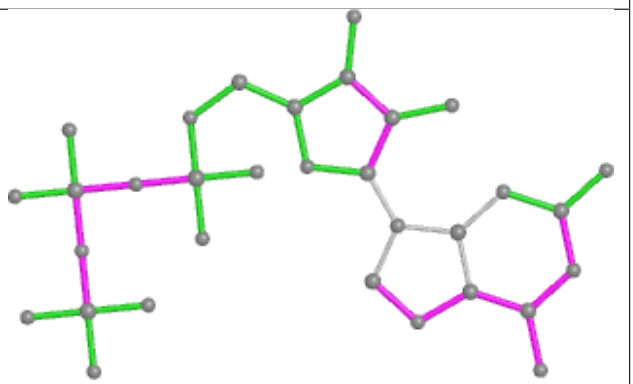

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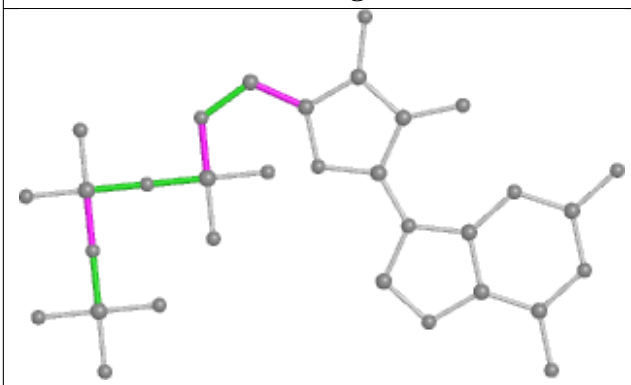

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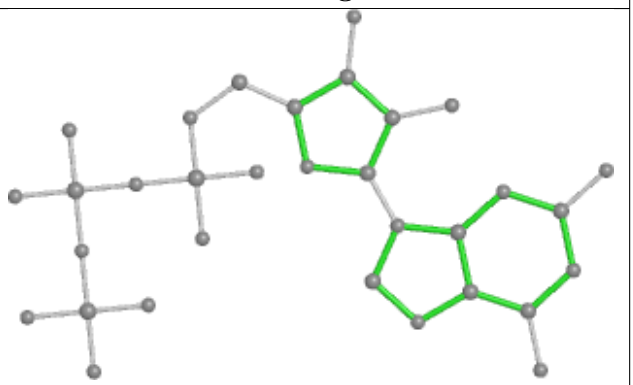
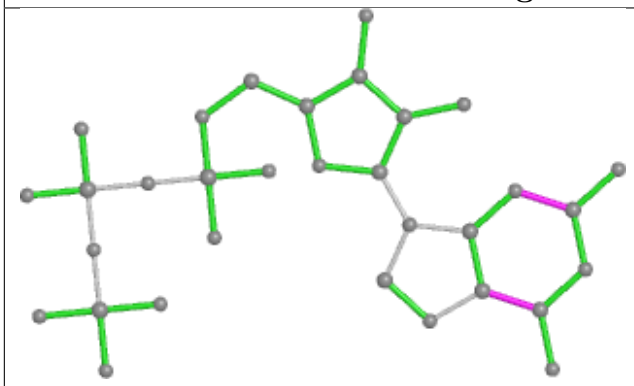


Rings

Ligand GTP IK 501



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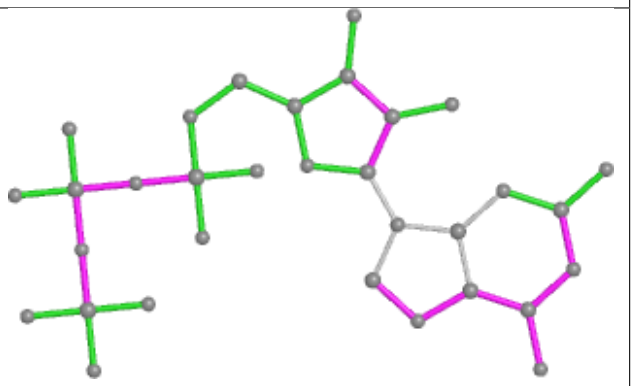

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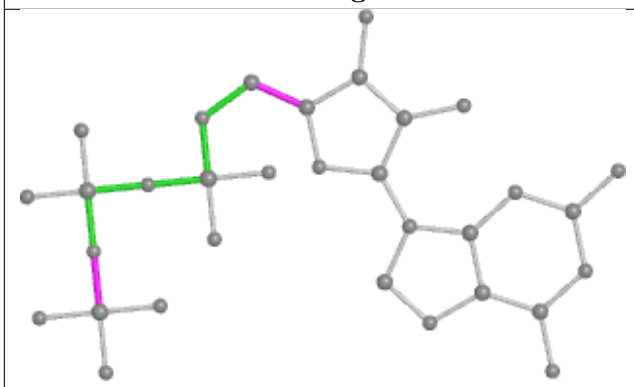

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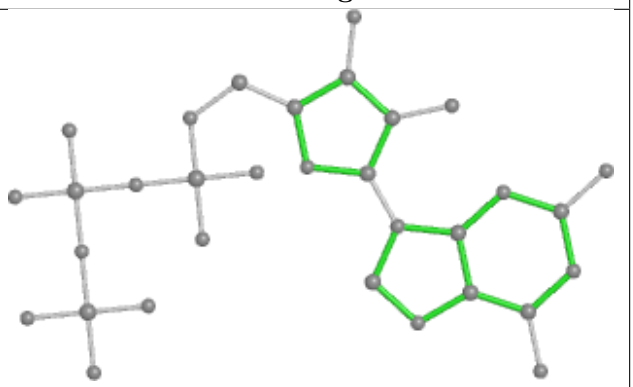
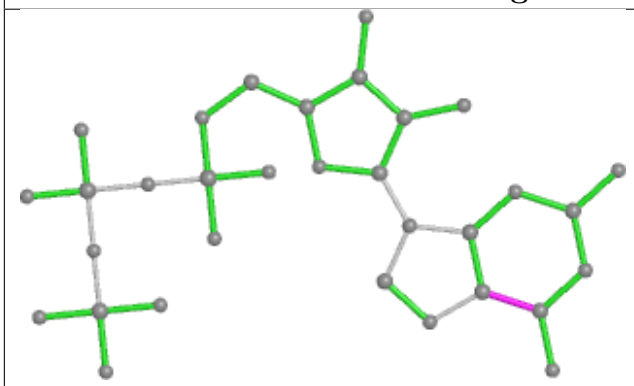


Rings

Ligand GTP CC 501



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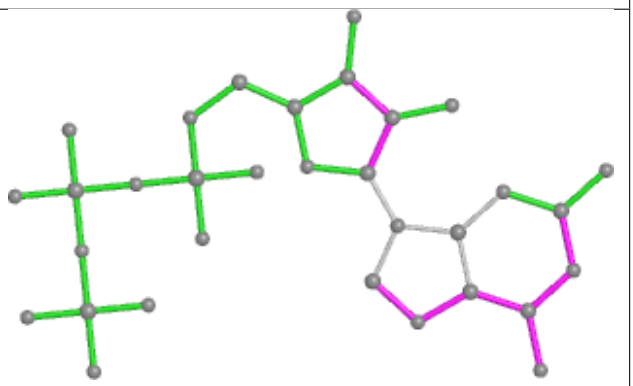

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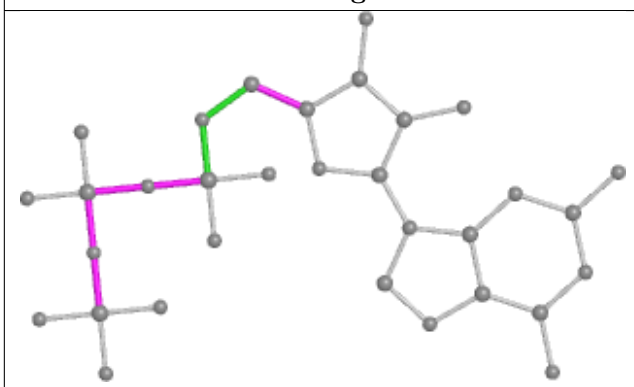

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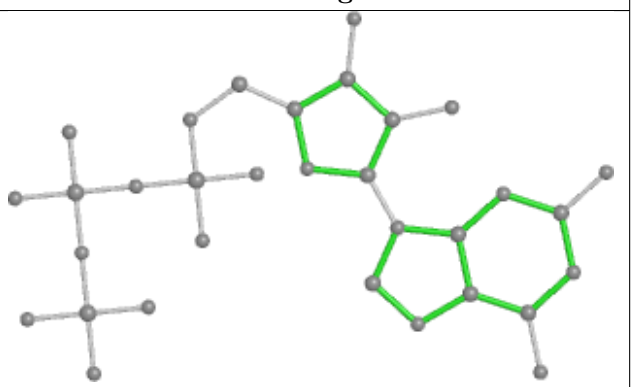
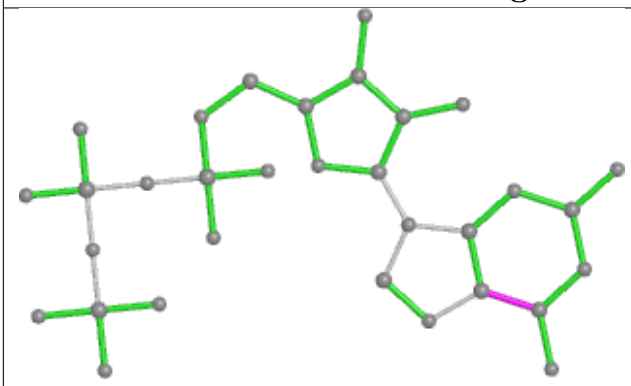


Rings

Ligand GTP PC 501



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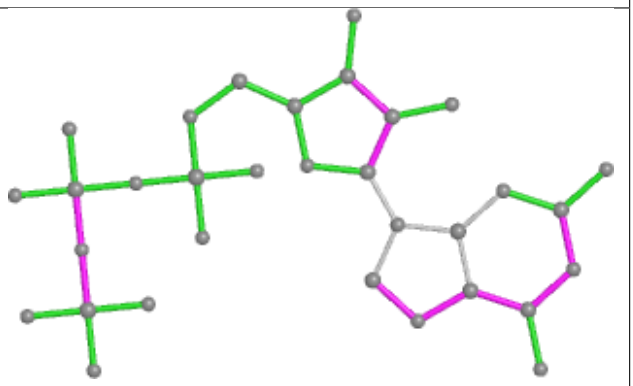

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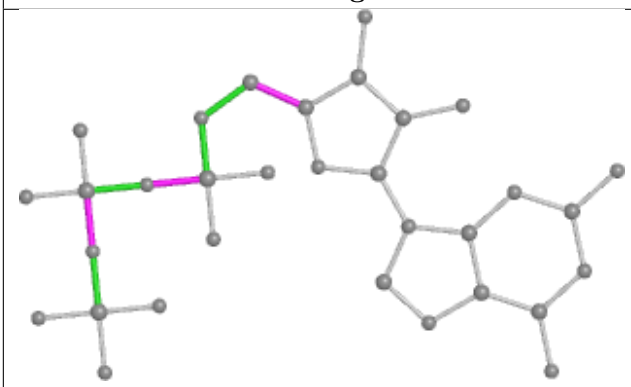

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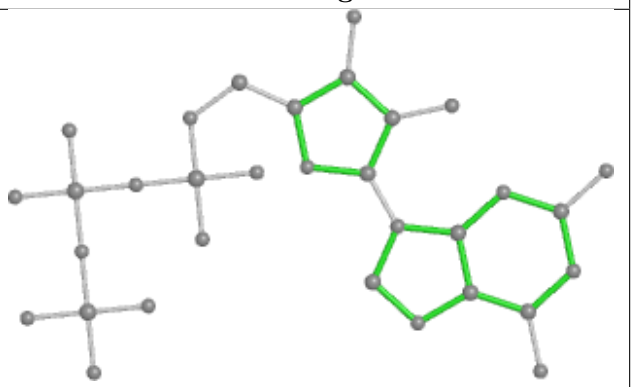
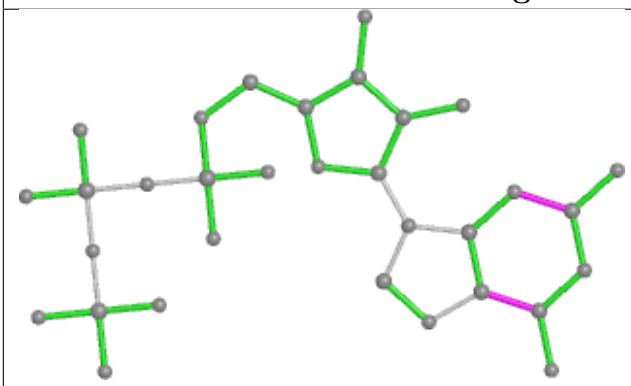


Rings

Ligand GTP RJ 501



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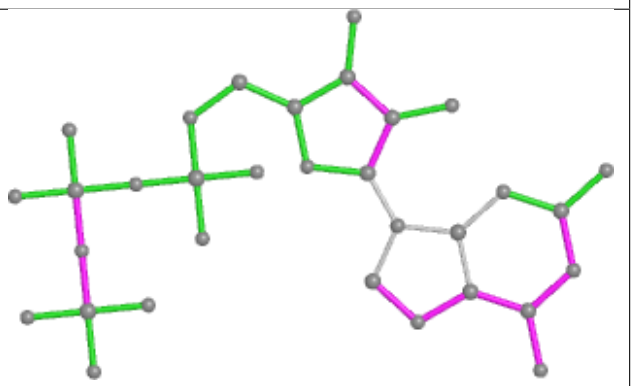

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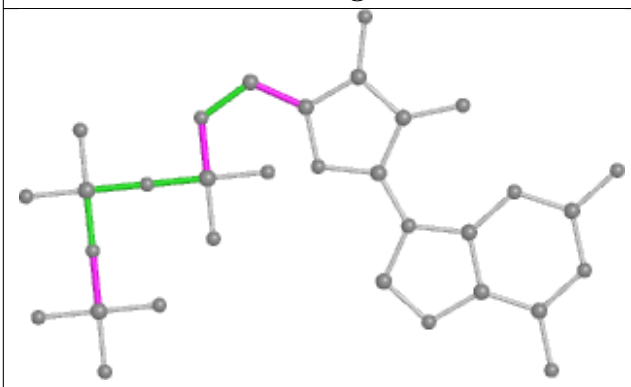

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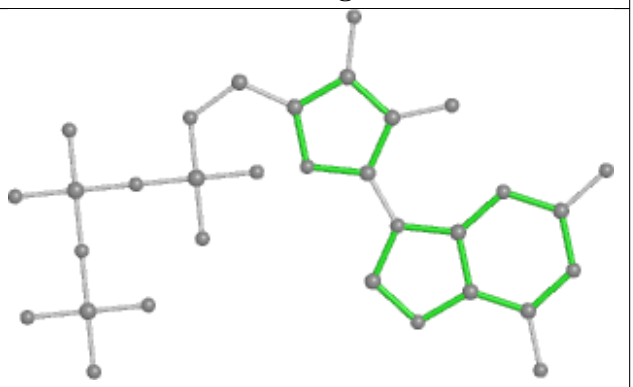
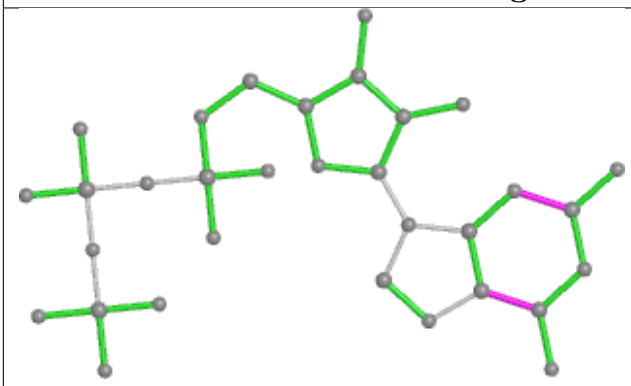


Rings

Ligand GTP BB 501



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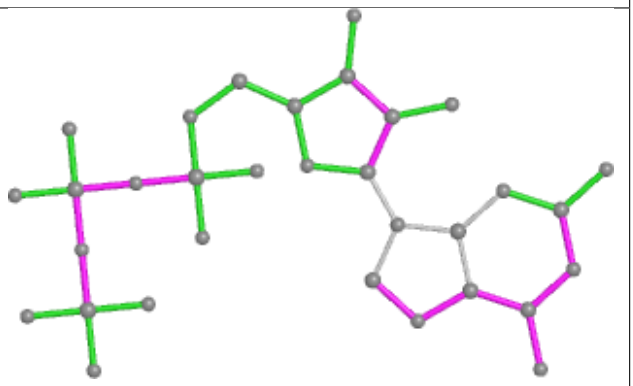

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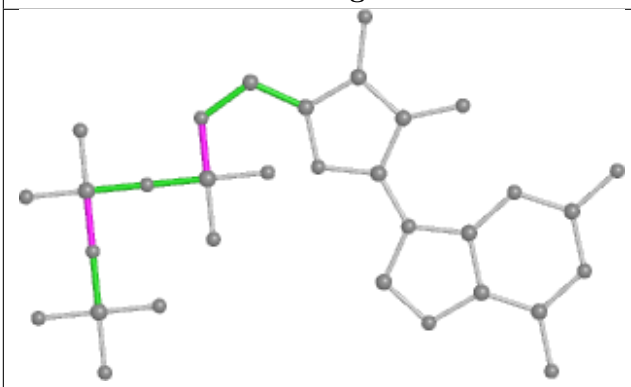

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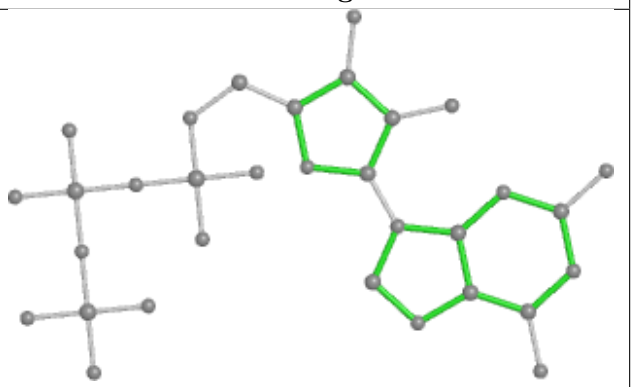
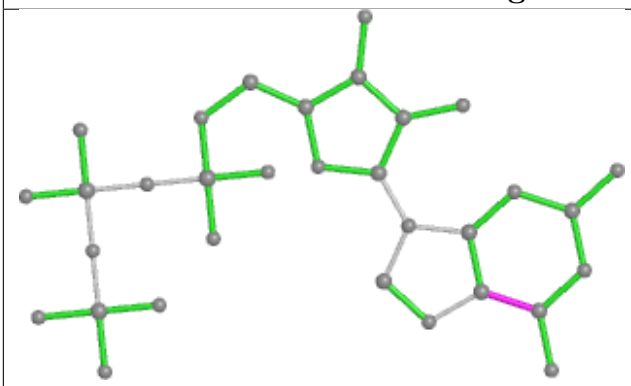


Rings

Ligand GTP DK 501



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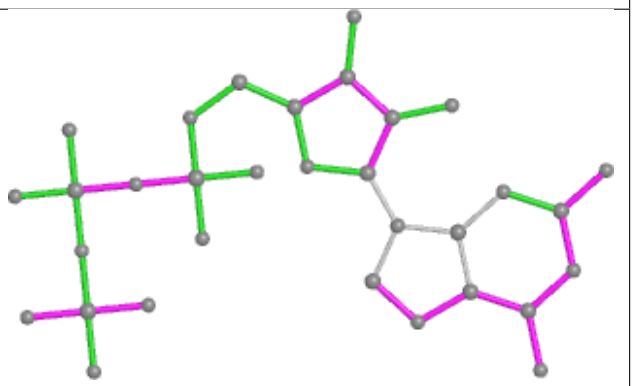

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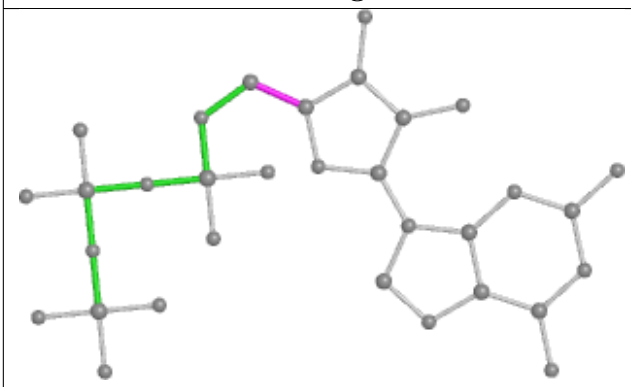

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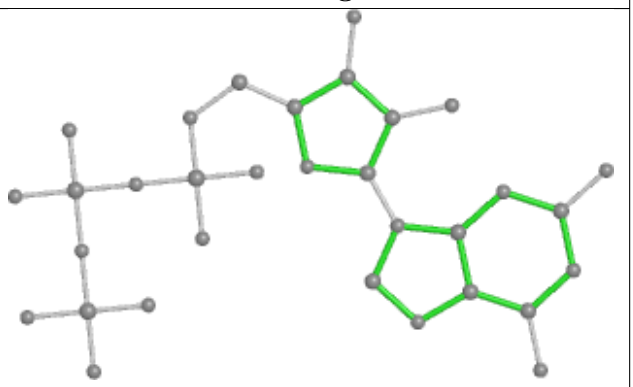

Rings

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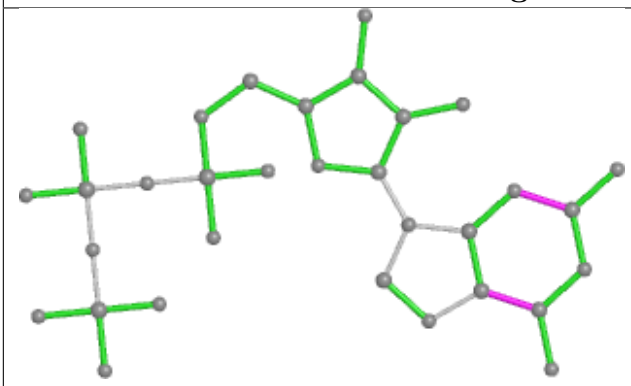

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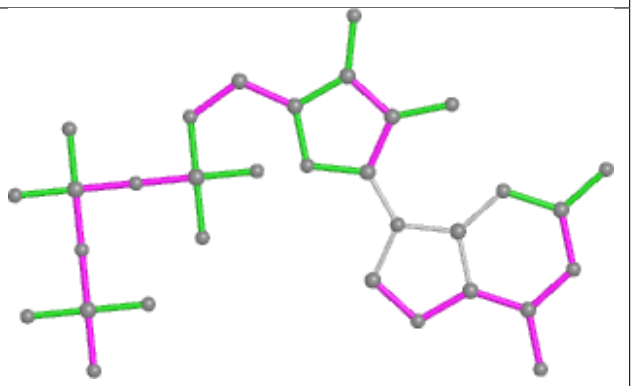

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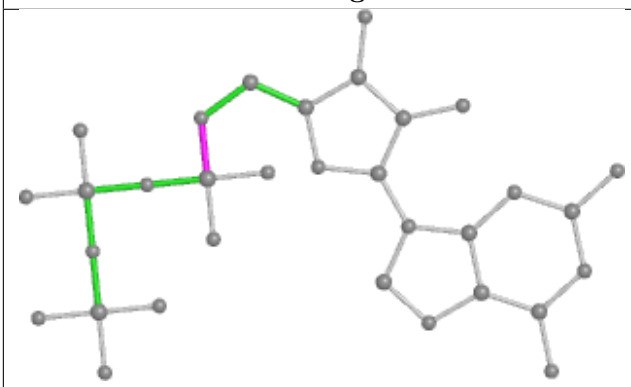

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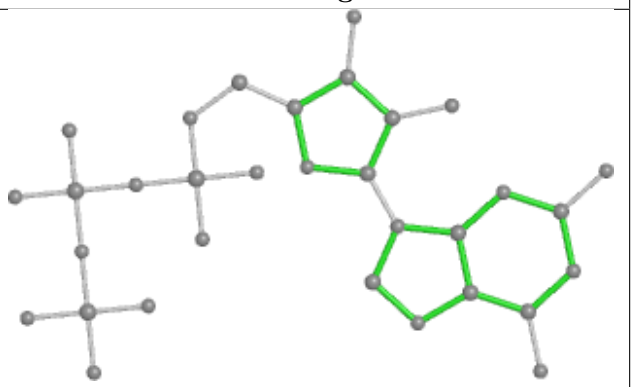
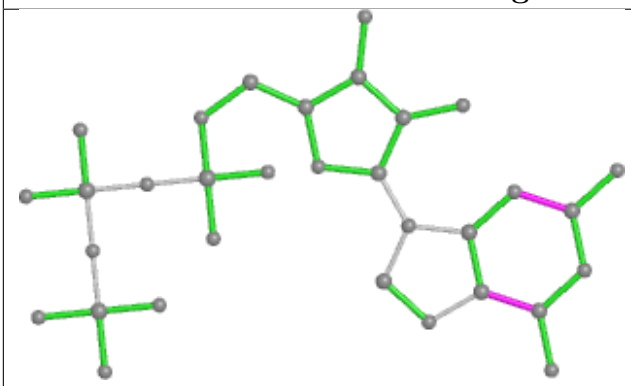


Rings

Ligand GTP BF 501



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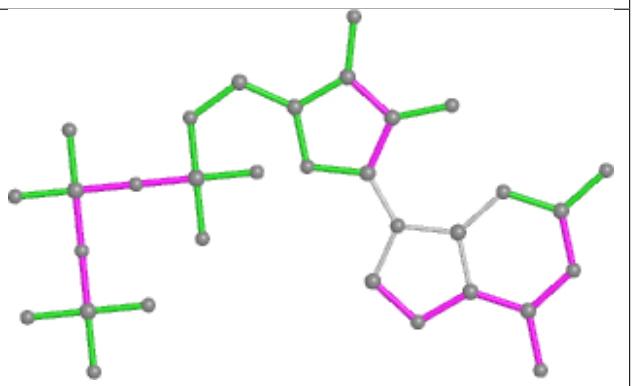

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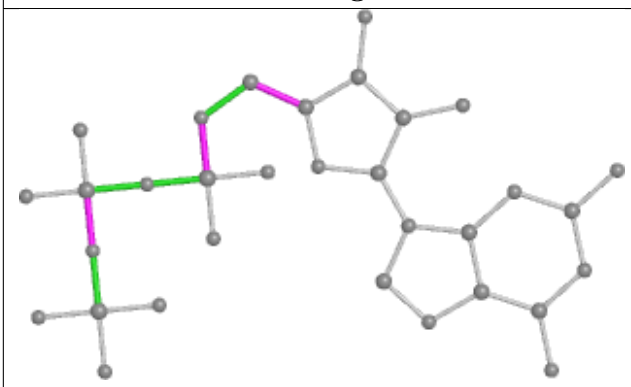

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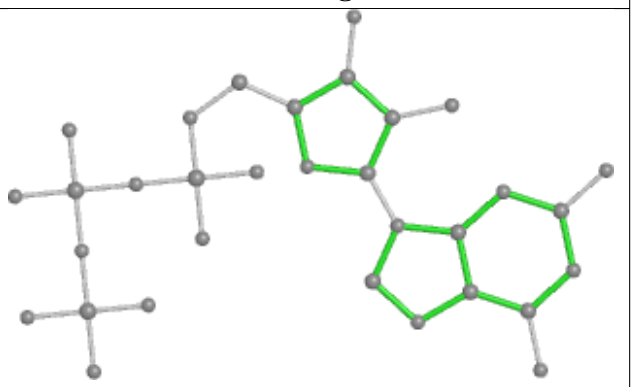
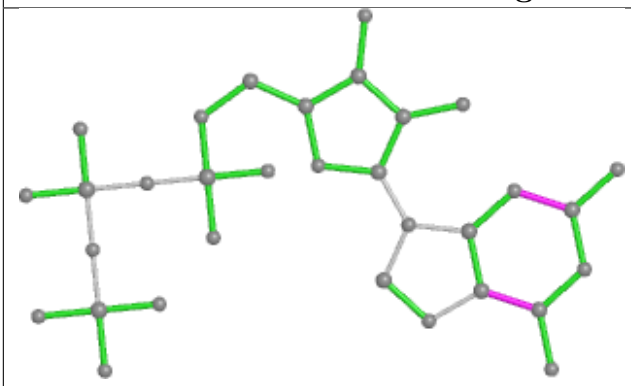


Rings

Ligand GTP ID 501



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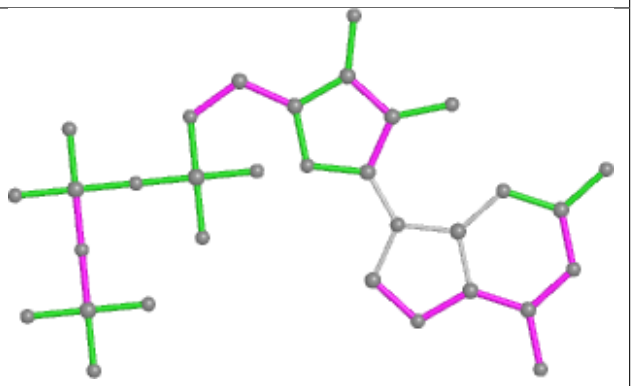

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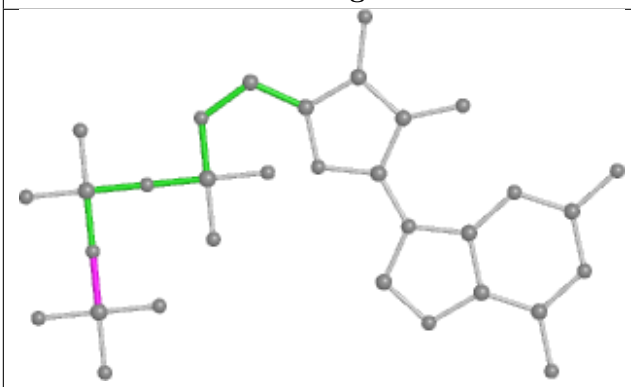

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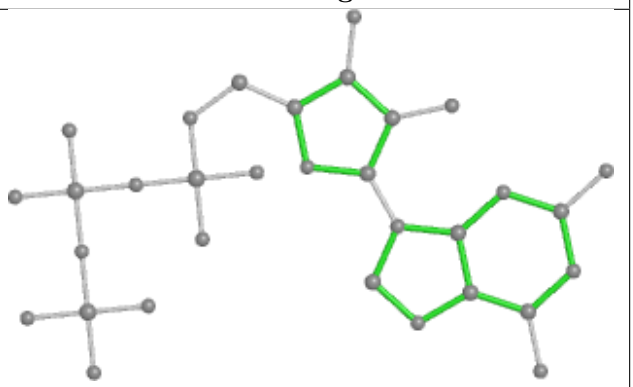
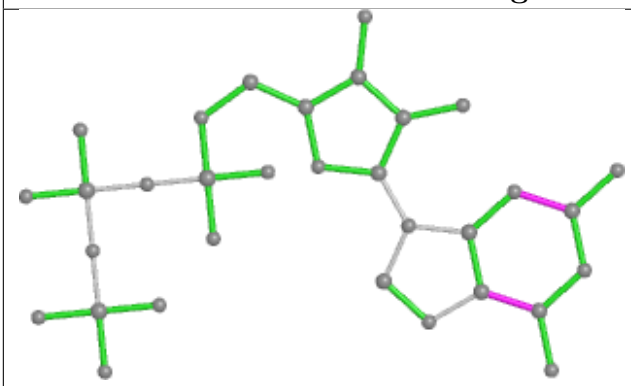


Rings

Ligand GTP FD 501



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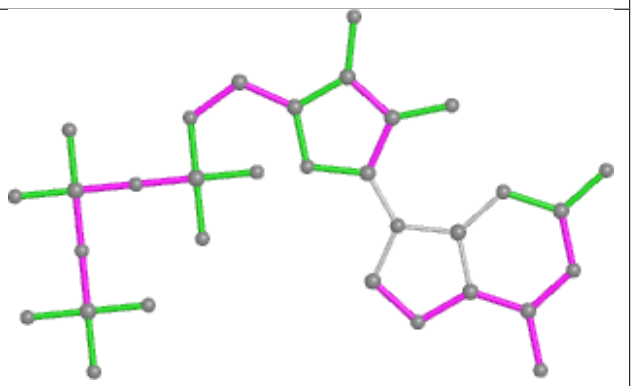
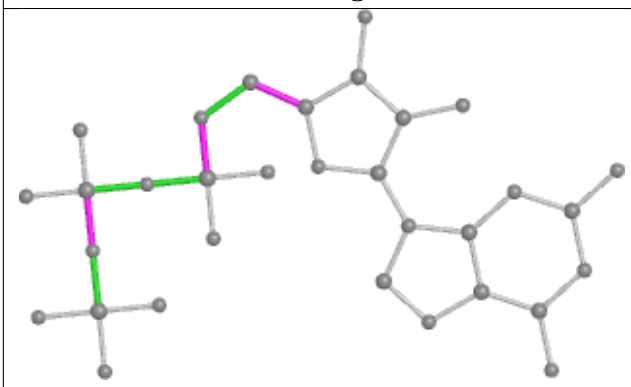


Bond angles



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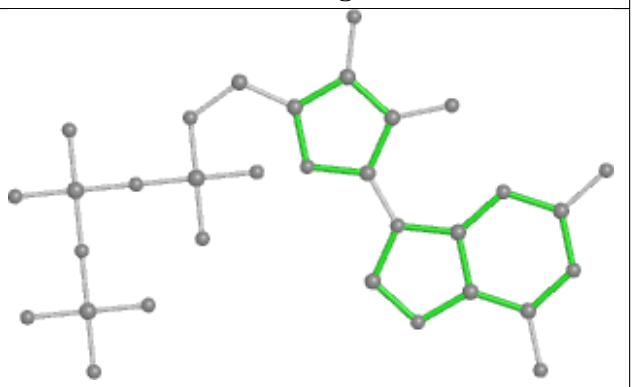
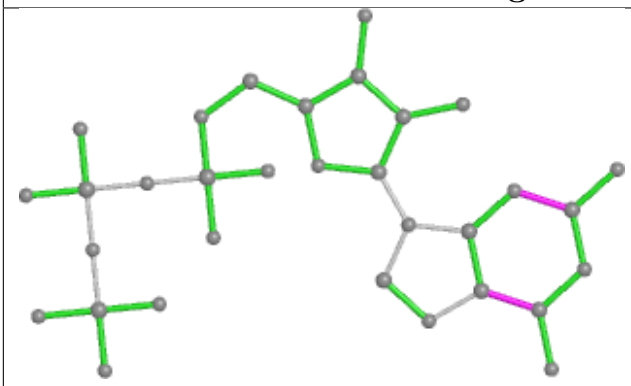


Rings

Ligand GTP QD 501



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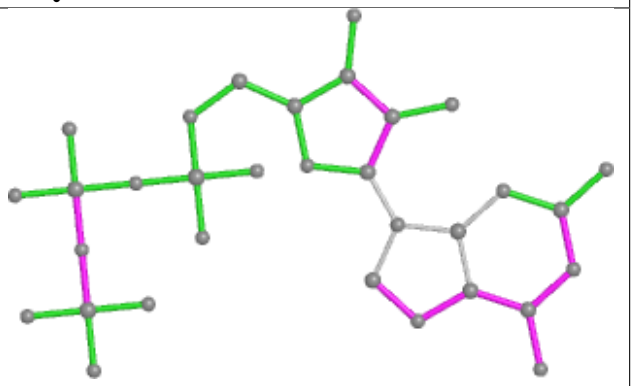
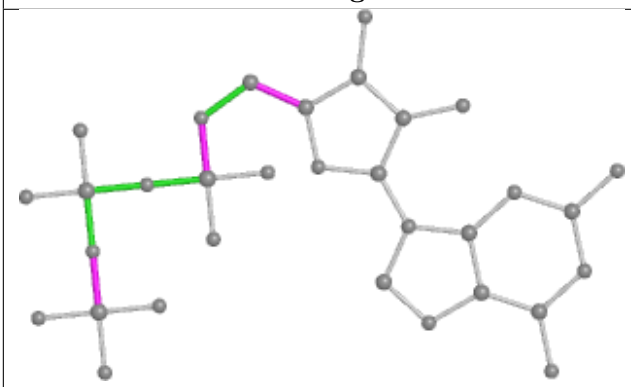


Bond angles



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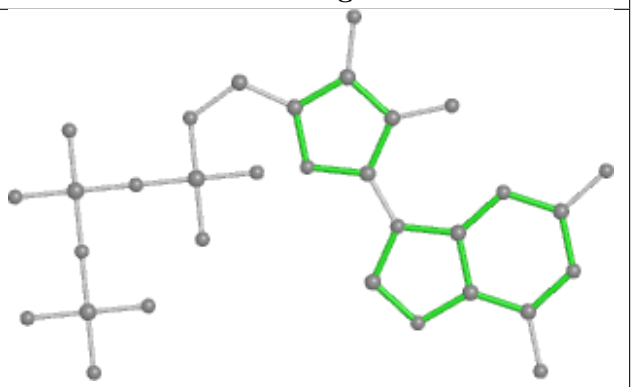
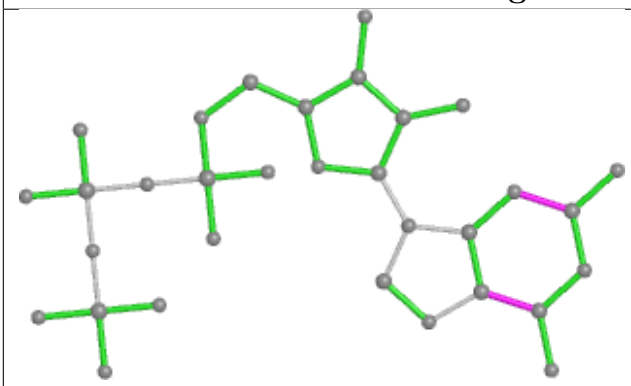
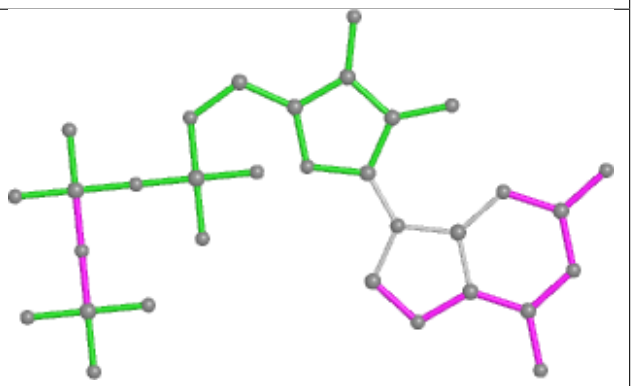


Rings

Ligand GTP GB 501



Bond lengths



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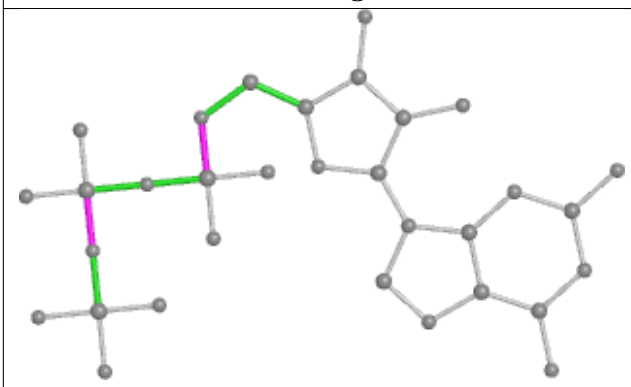
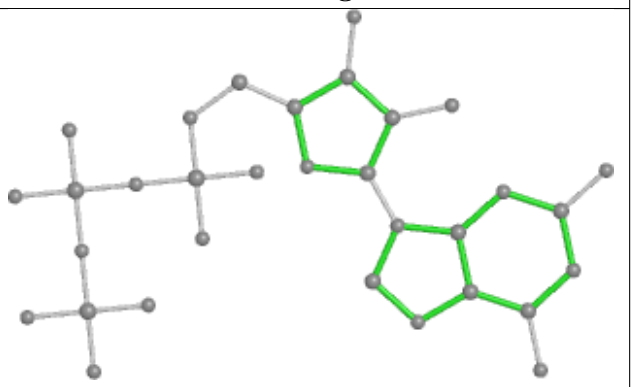
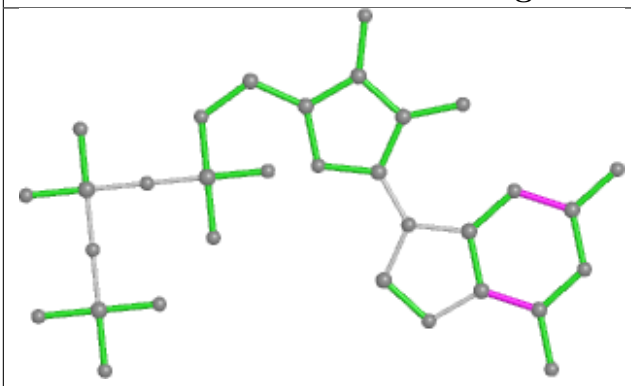


Torsions



Rings

Ligand GTP SL 501



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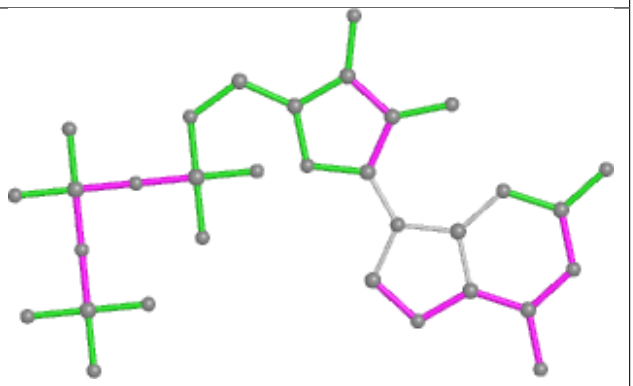

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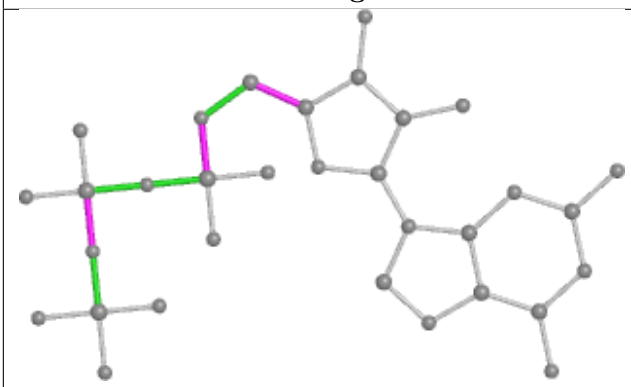

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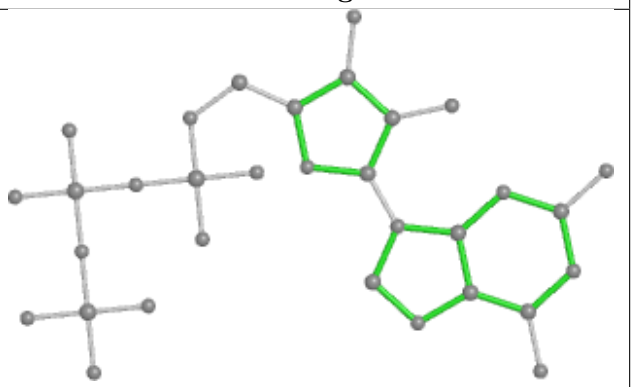
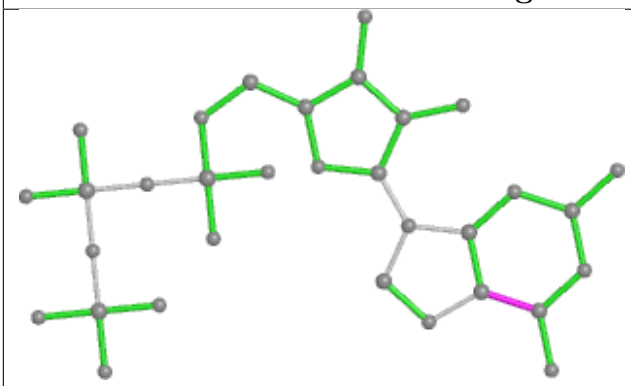


Rings

Ligand GTP AI 501



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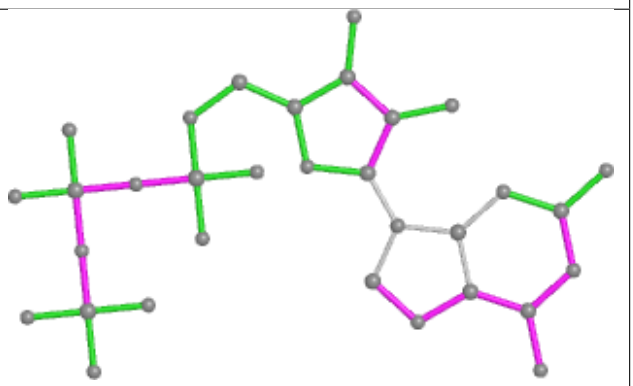

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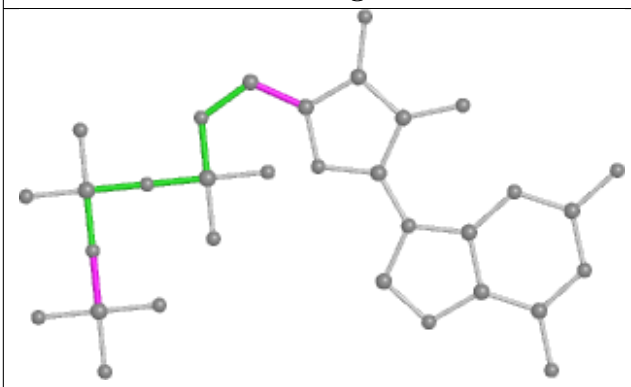

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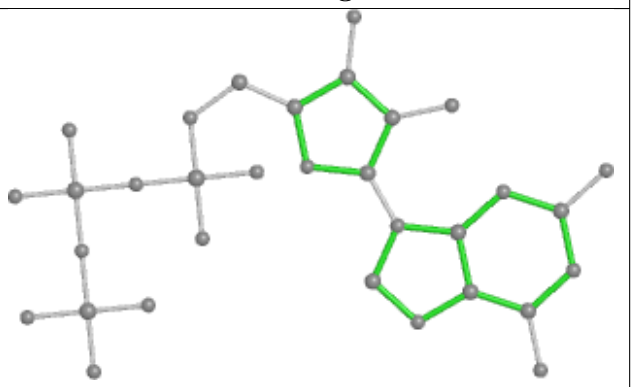
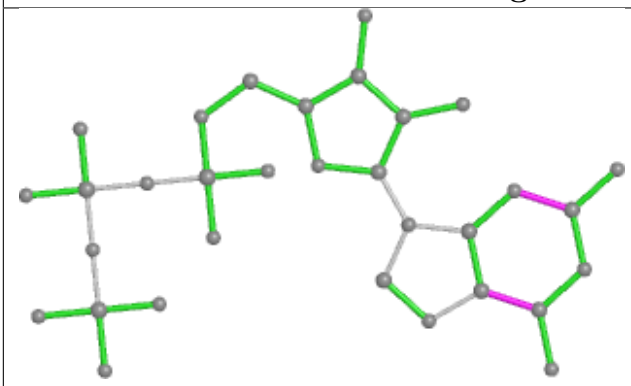


Rings

Ligand GTP CB 501



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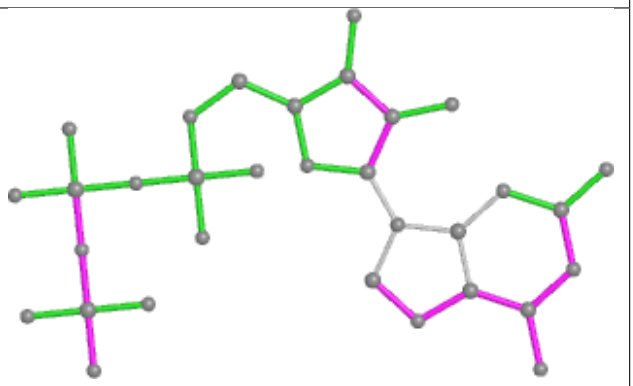

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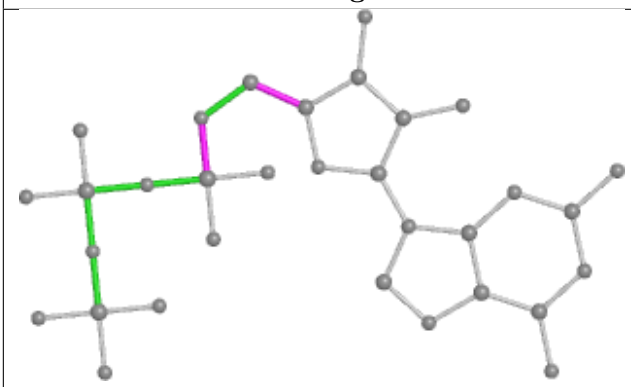

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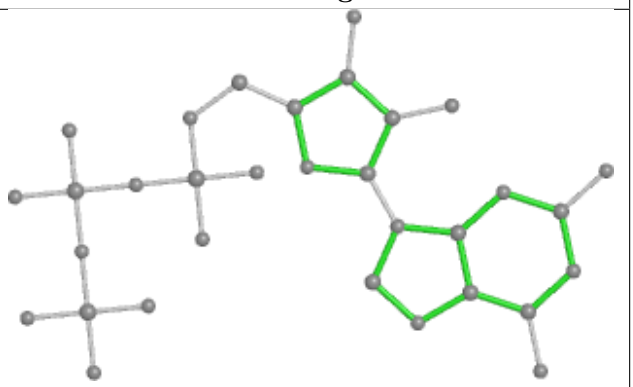
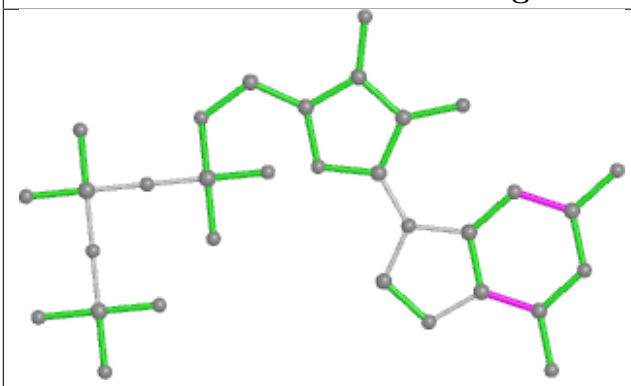


Rings

Ligand GTP BL 501



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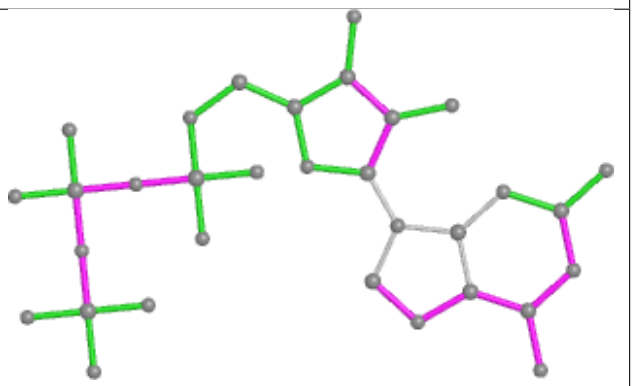

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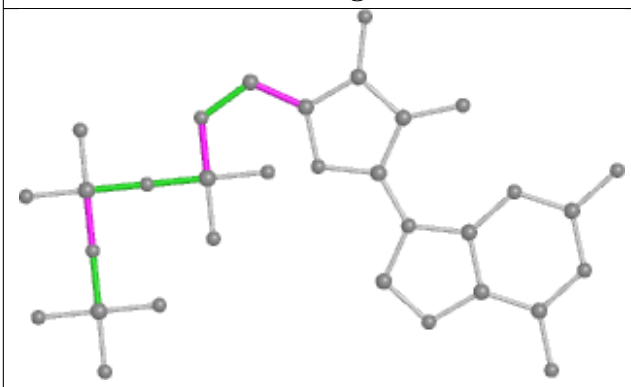

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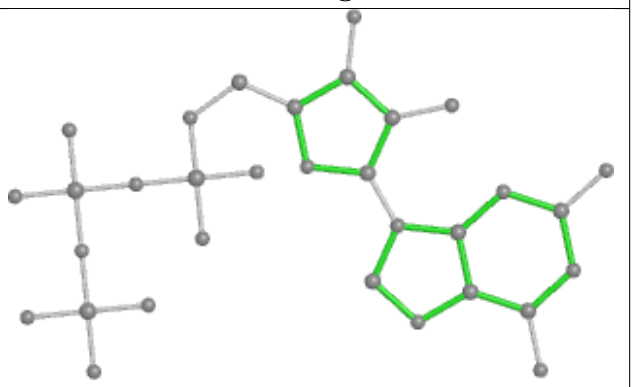
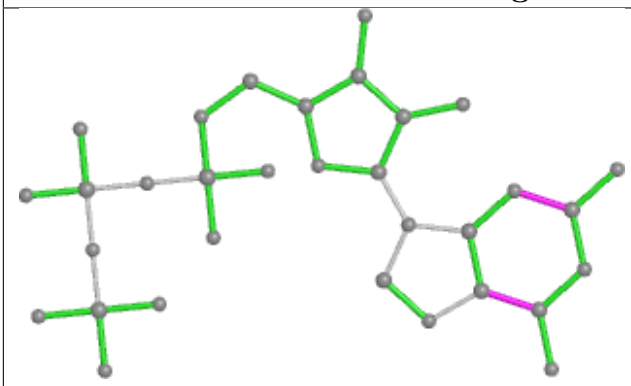


Rings

Ligand GTP QL 502



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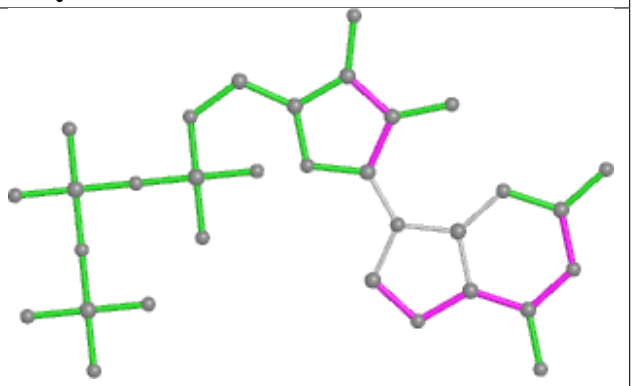

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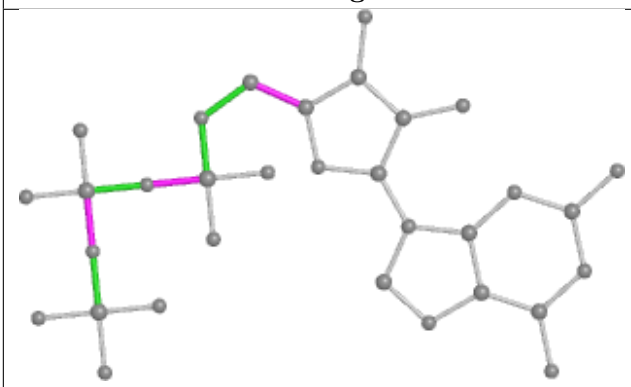

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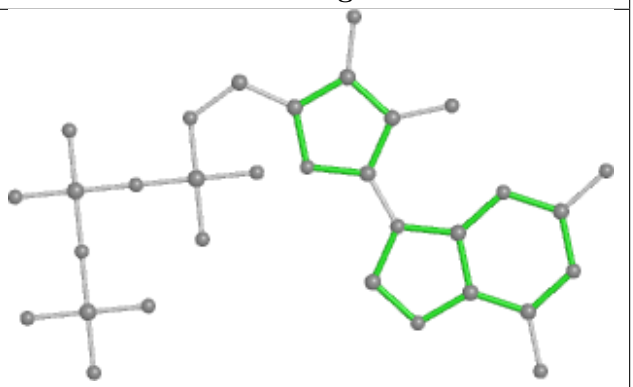
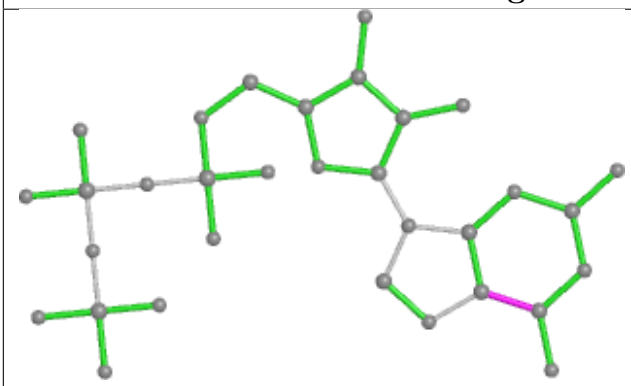


Rings

Ligand GTP KK 501



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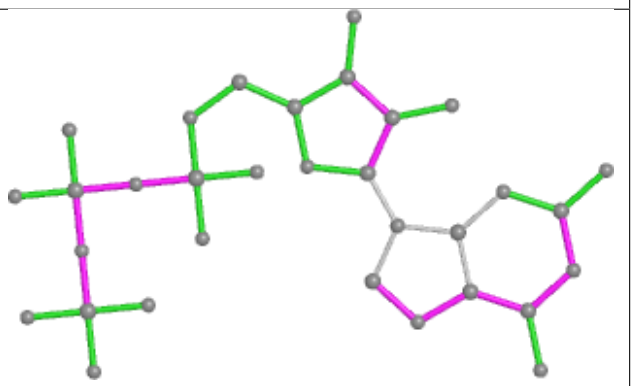

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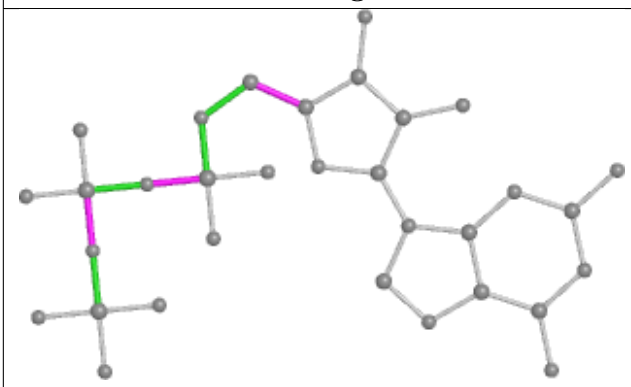

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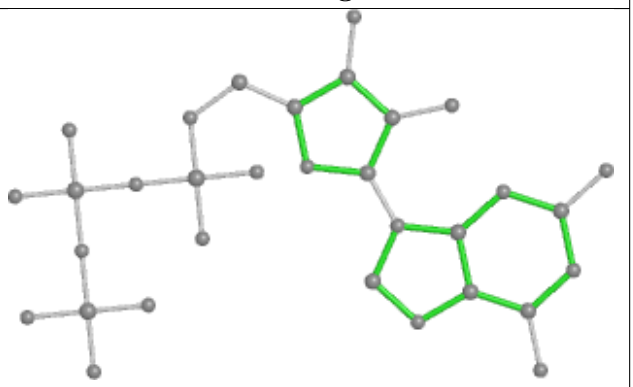
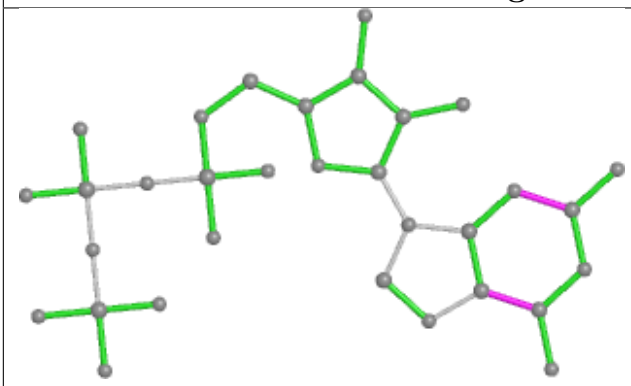


Rings

Ligand GTP AH 501



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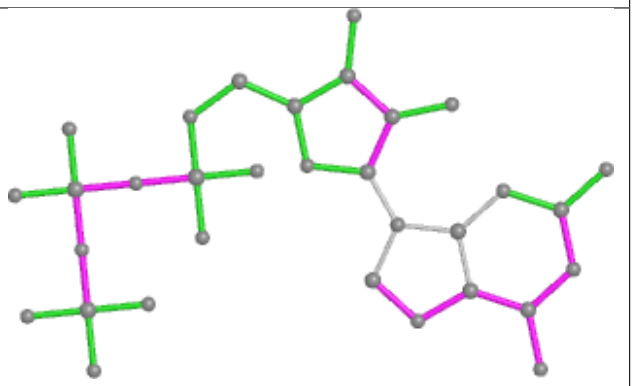

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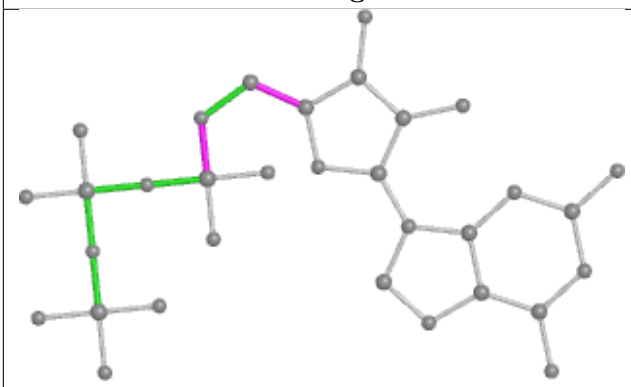

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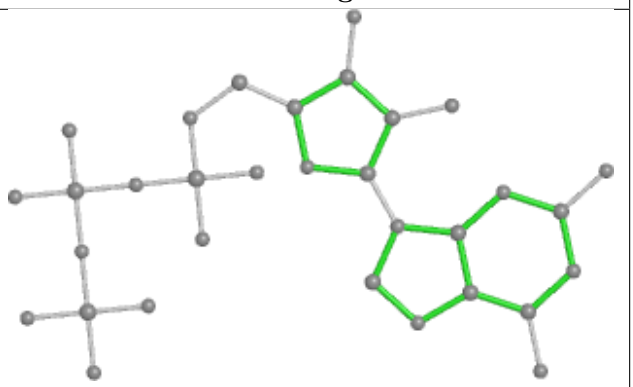
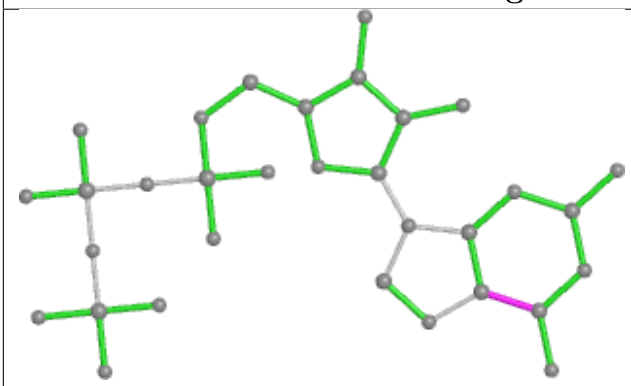


Rings

Ligand GTP BM 501



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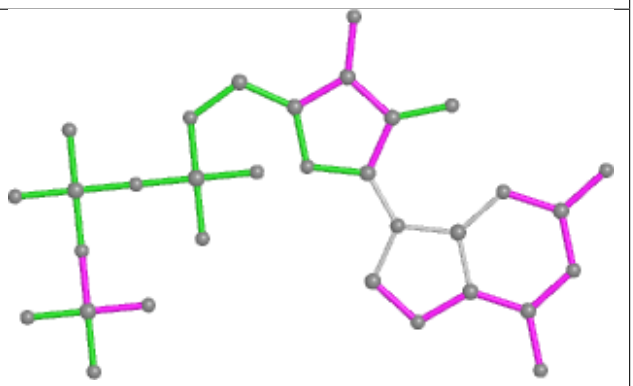

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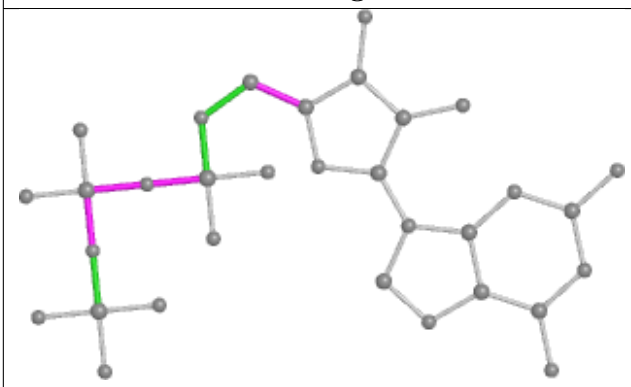

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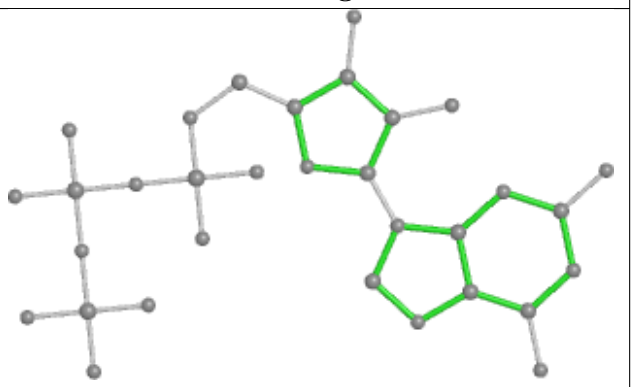
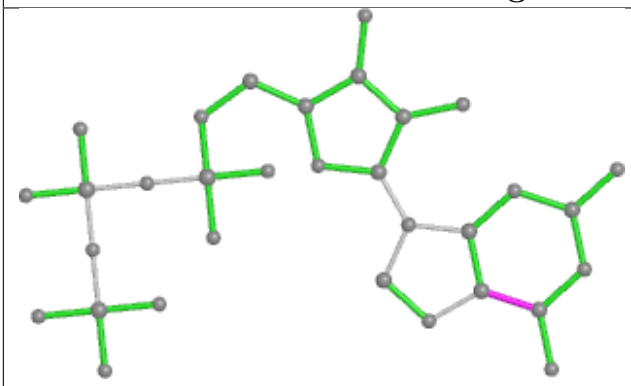


Rings

Ligand GTP QK 501



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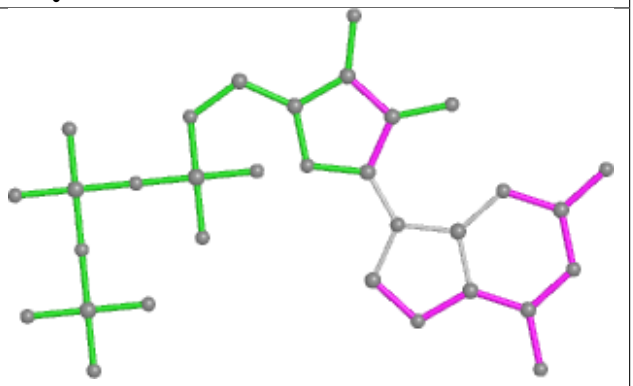

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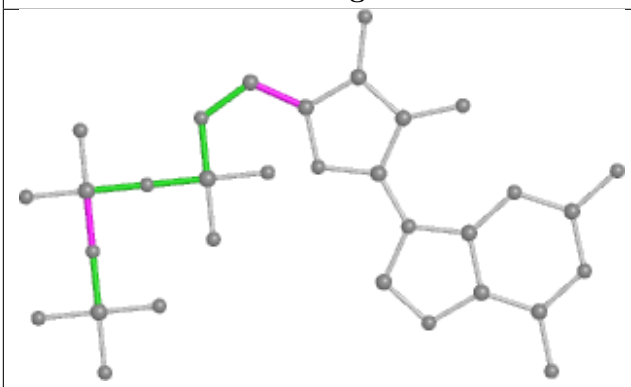

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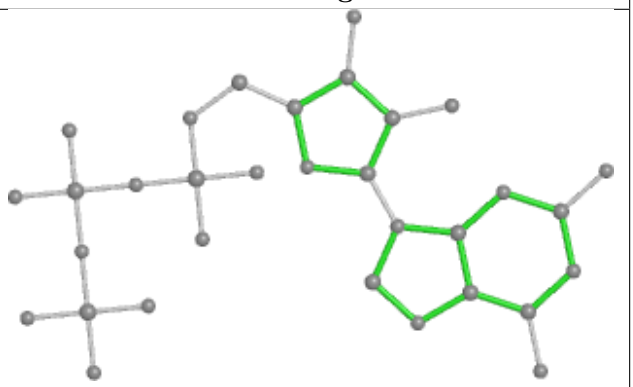

Rings

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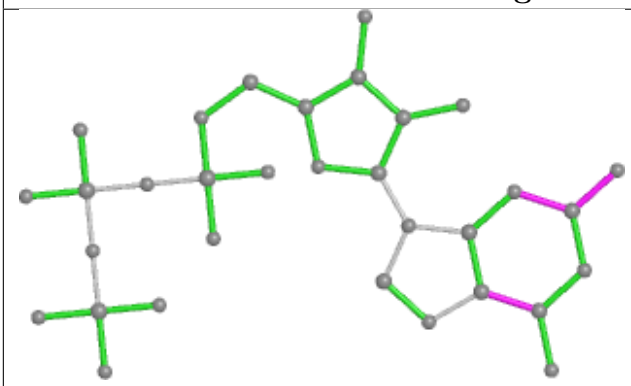

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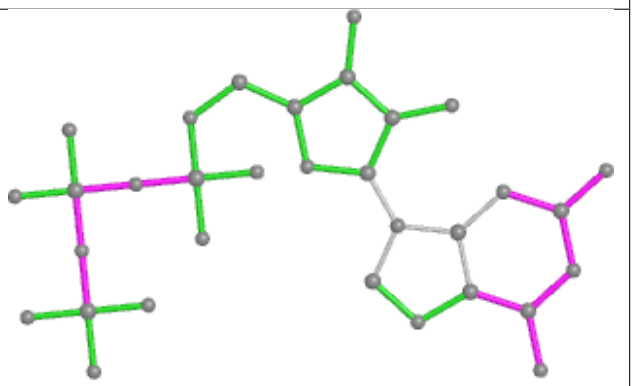

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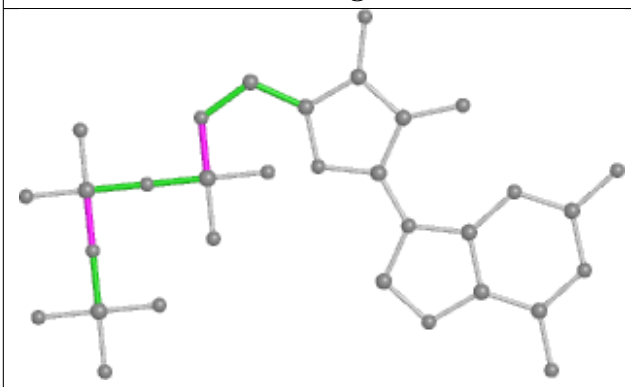

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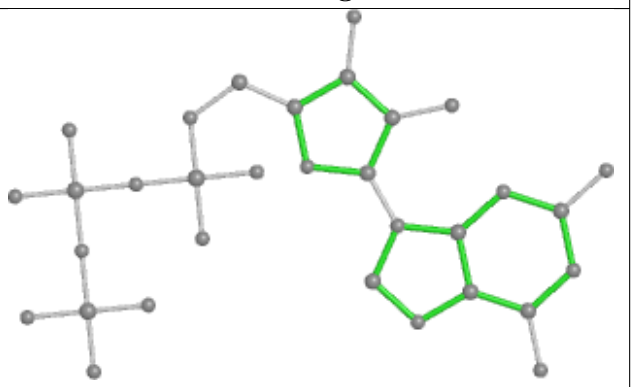
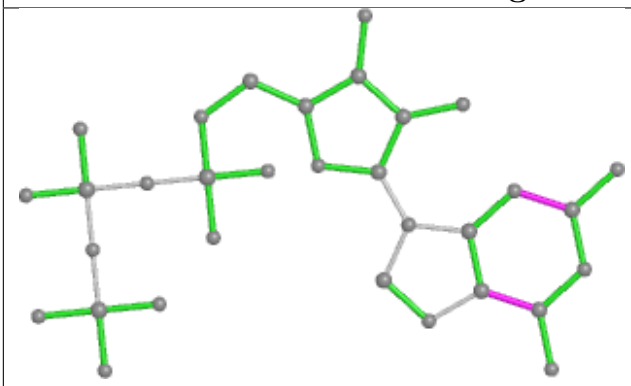


Rings

Ligand GTP NB 501



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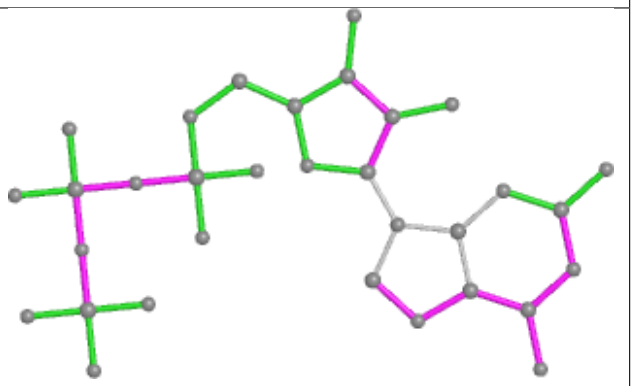

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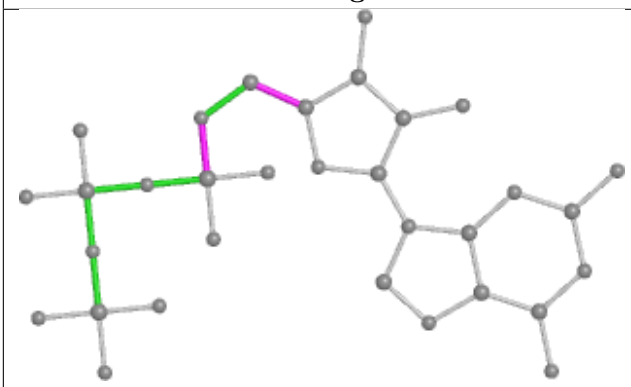

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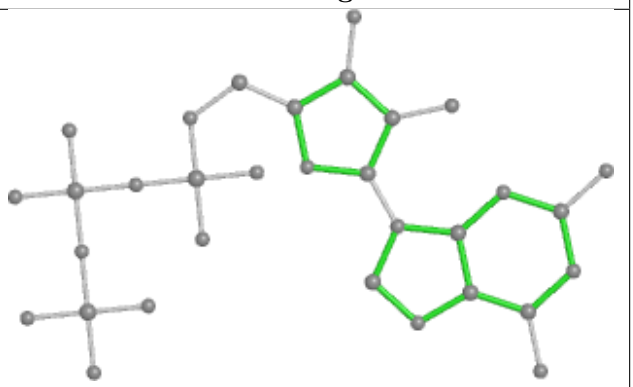
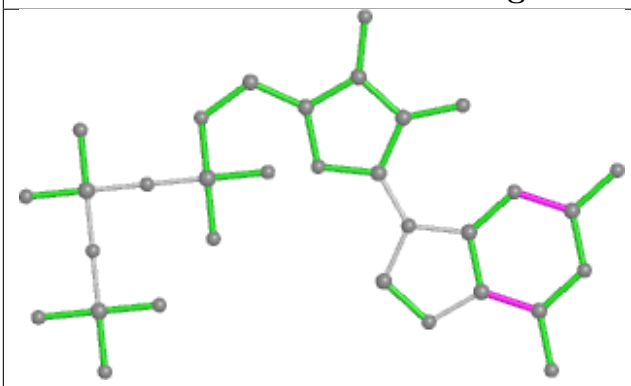


Rings

Ligand GTP GD 501



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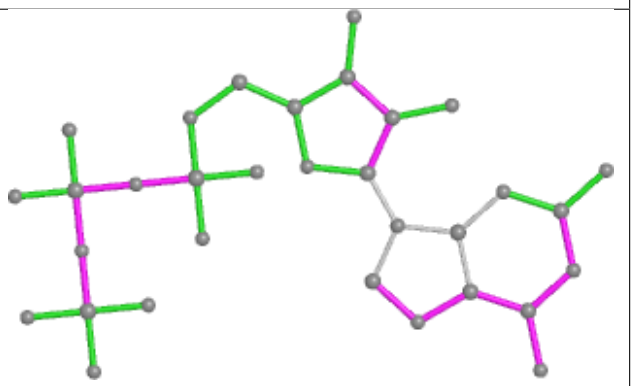

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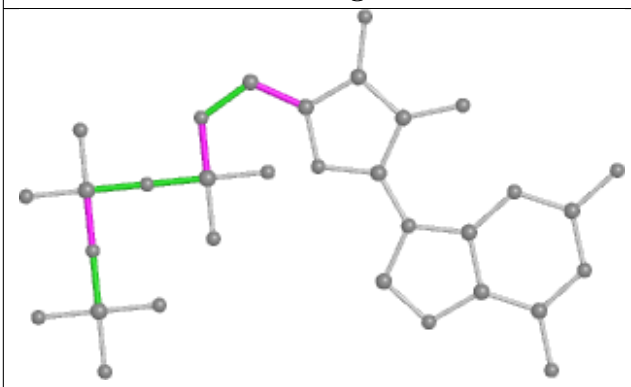

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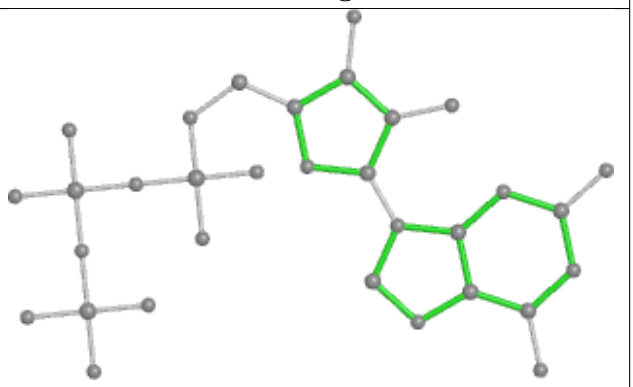
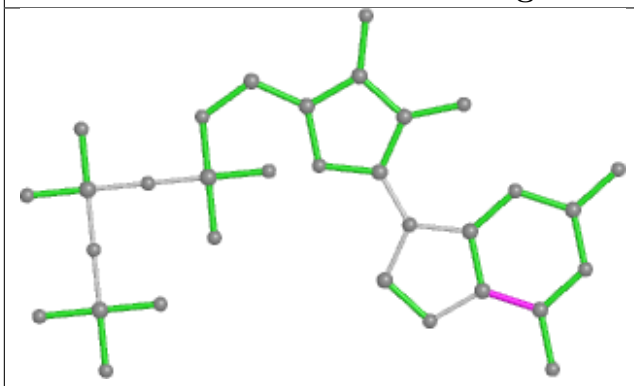


Rings

Ligand GTP QI 501



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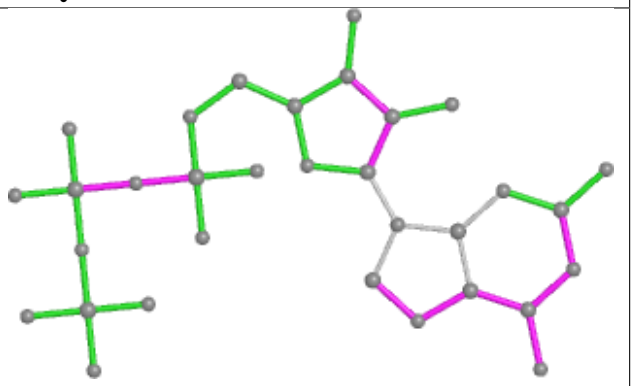

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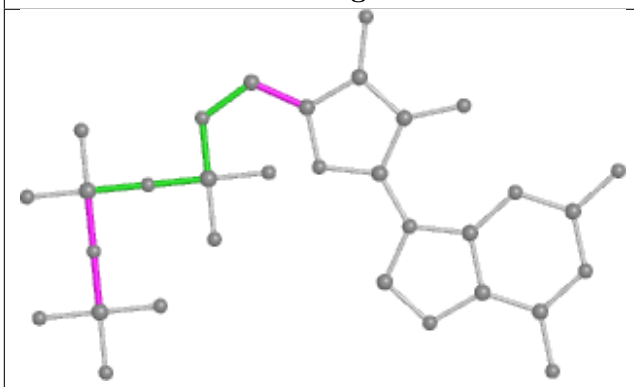

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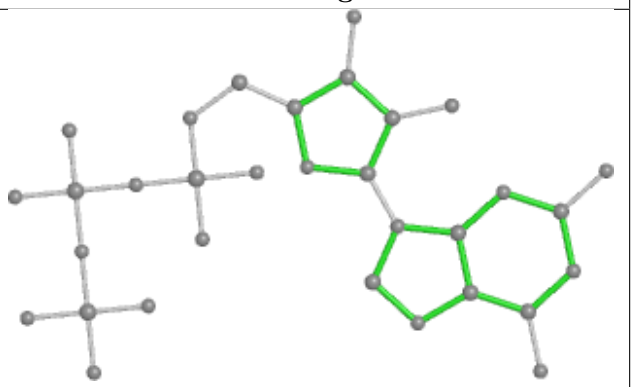
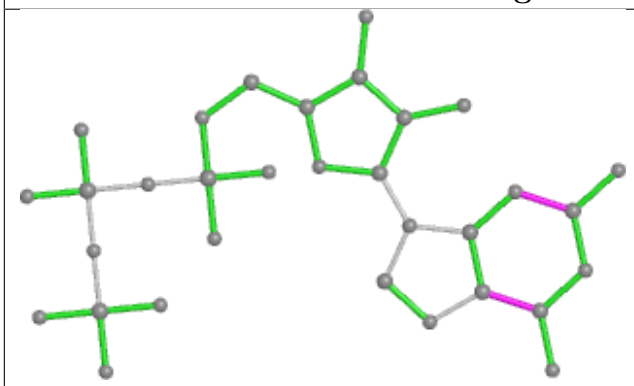


Rings

Ligand GTP QJ 501



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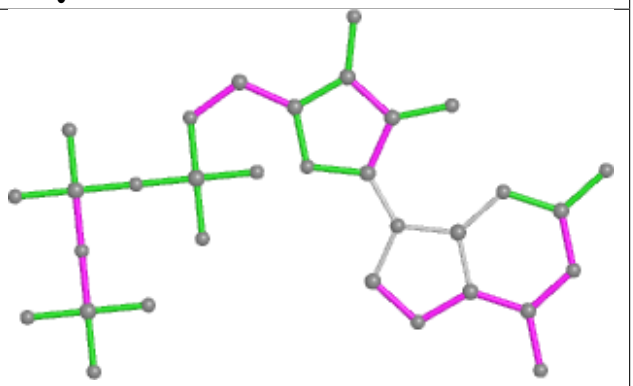

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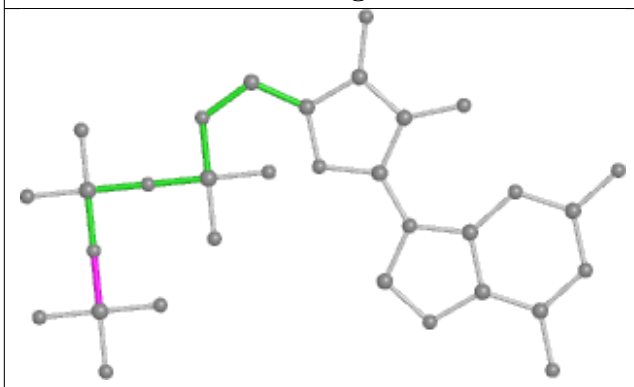
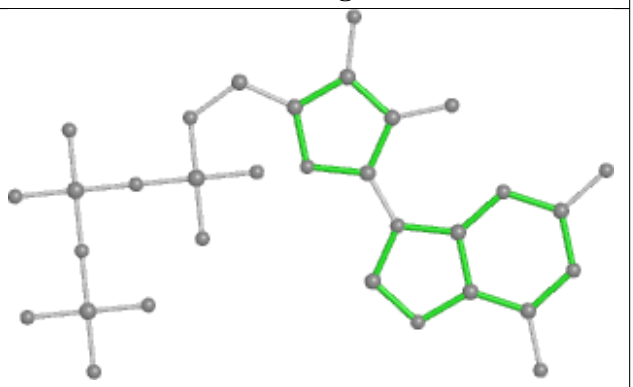
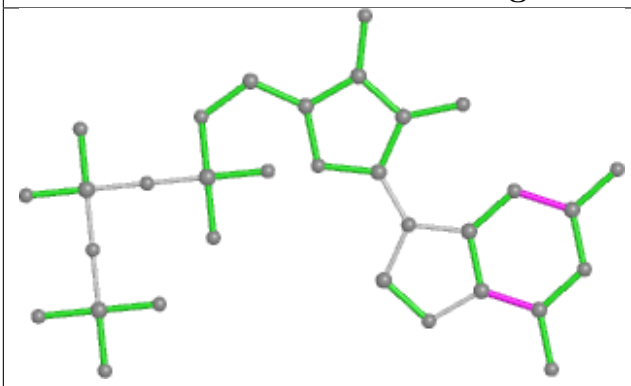


Torsions



Rings

Ligand GTP MJ 501



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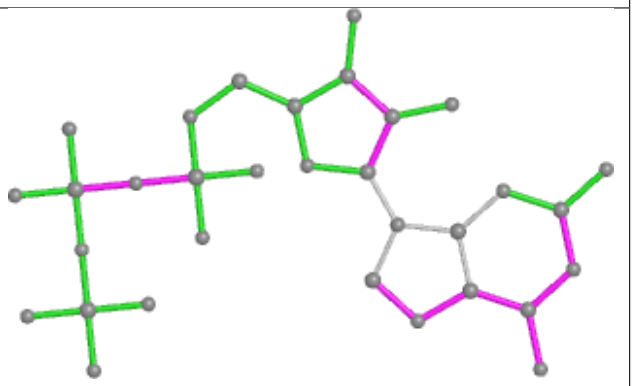

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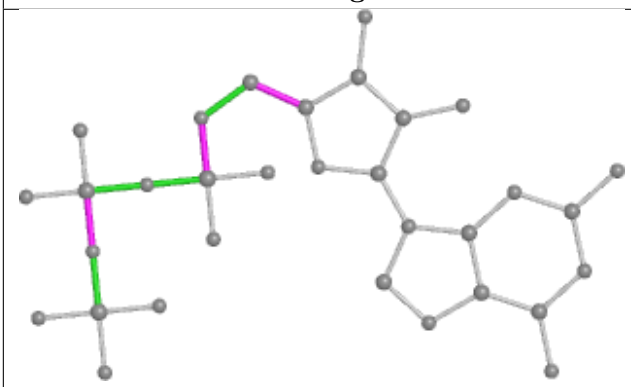

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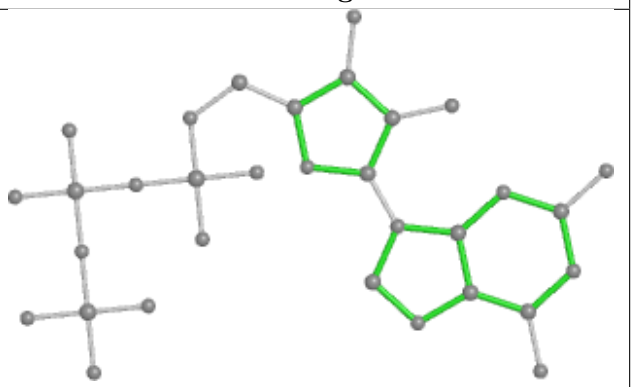
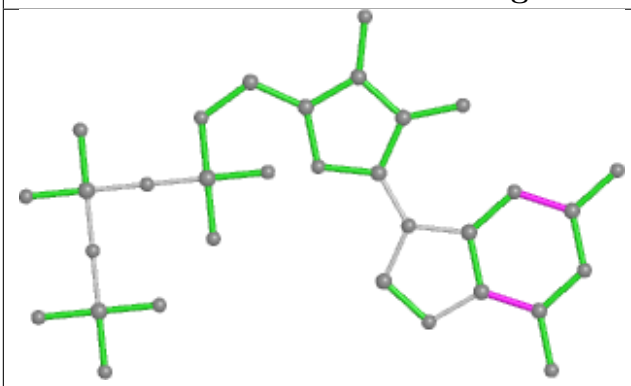


Rings

Ligand GTP HL 501



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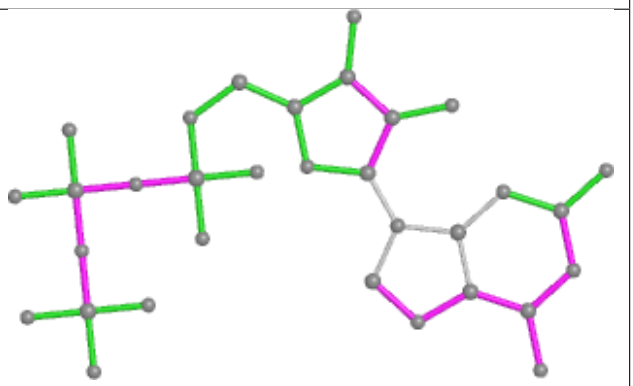

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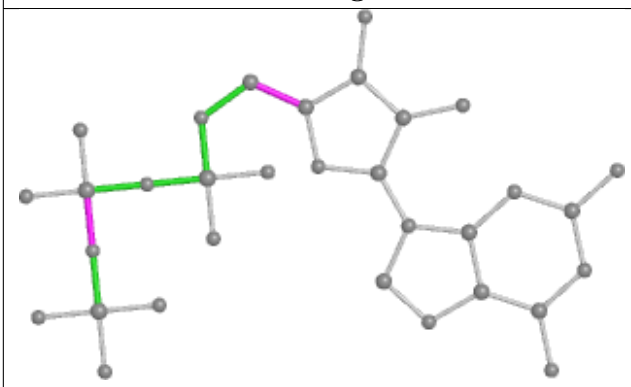

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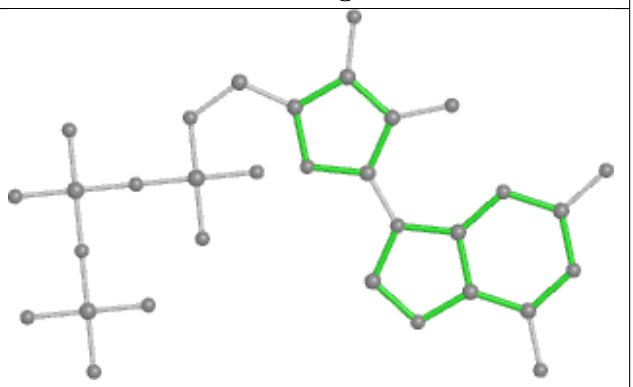
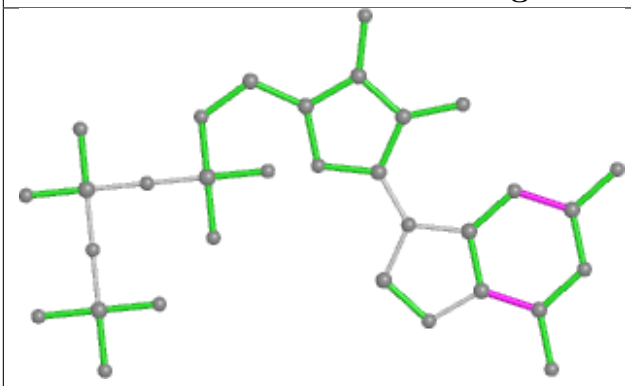


Rings

Ligand GTP RF 501



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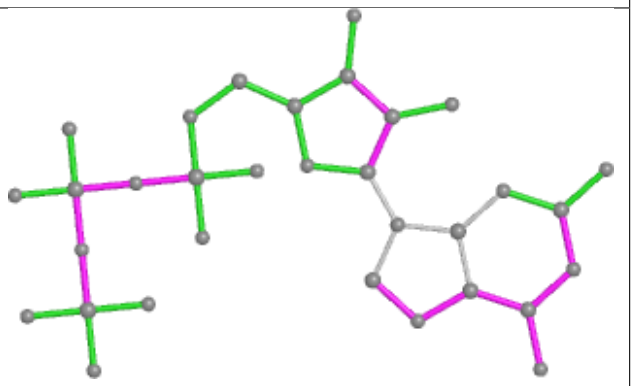

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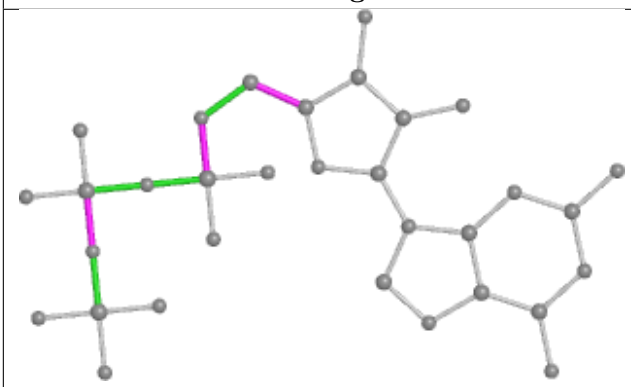

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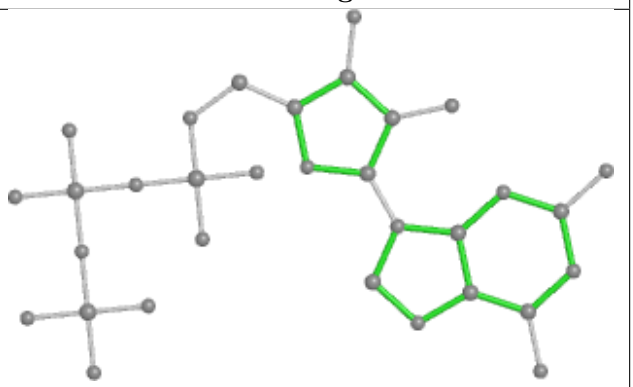
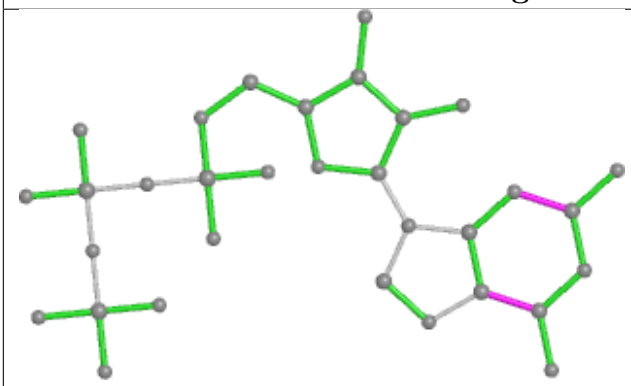


Rings

Ligand GTP RL 501



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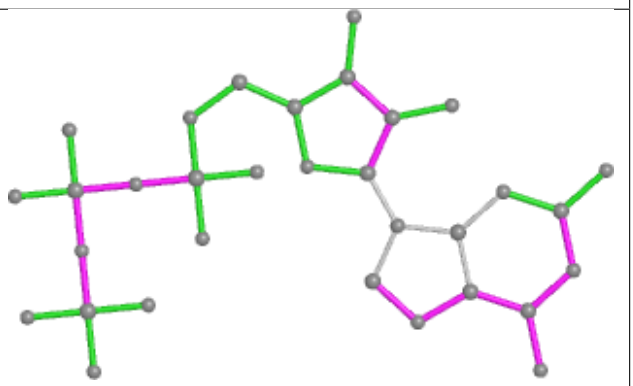

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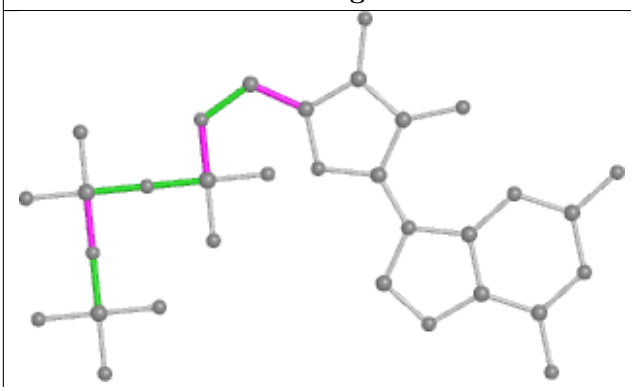

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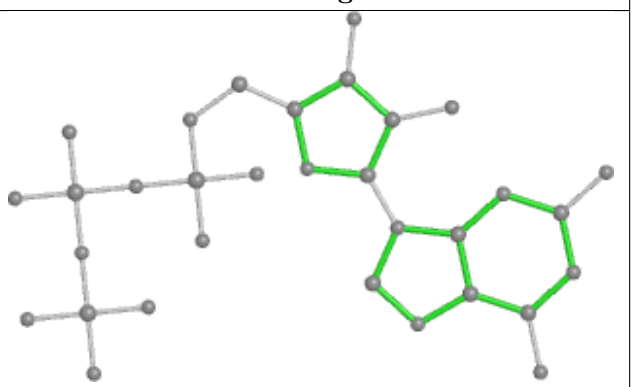
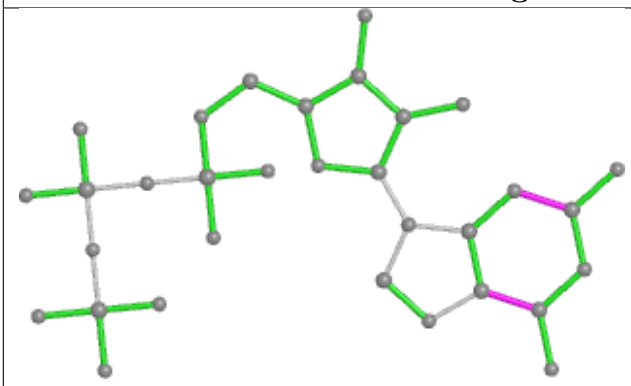


Rings

Ligand GTP LH 501



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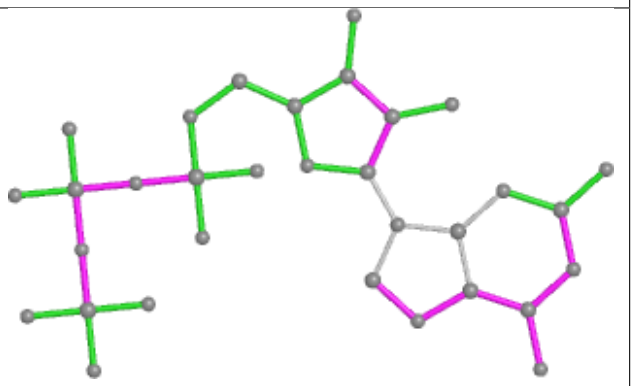

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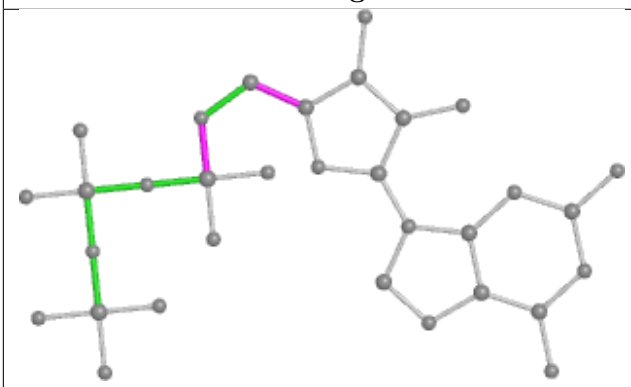

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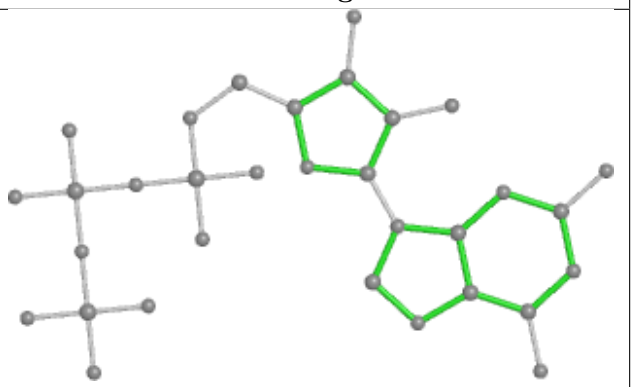
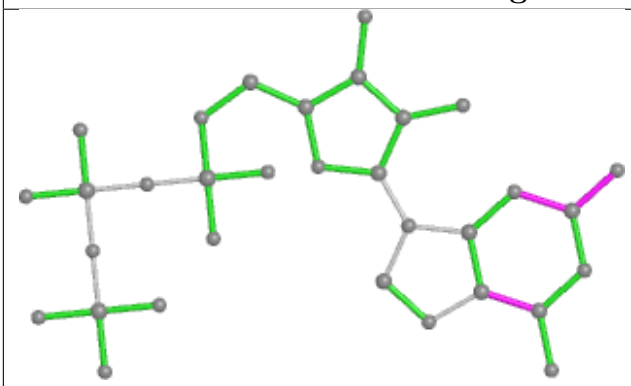


Rings

Ligand GTP PD 501



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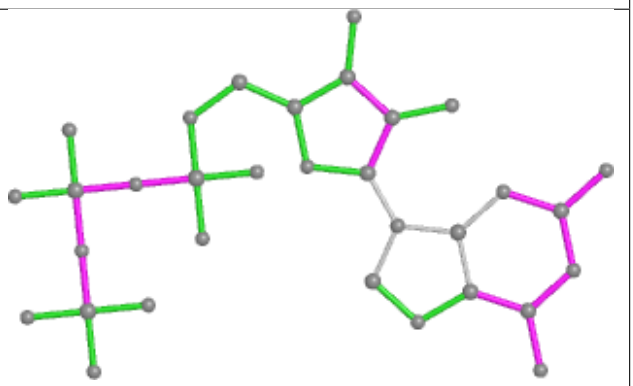

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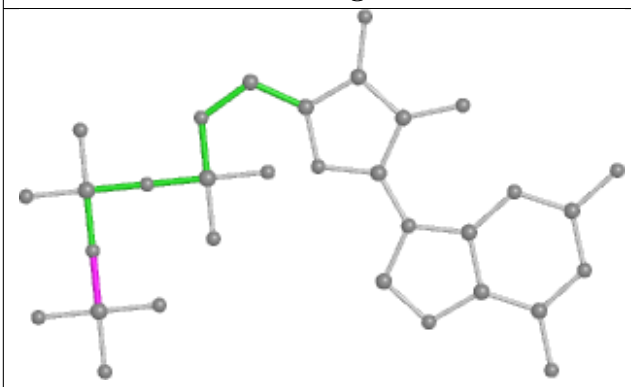

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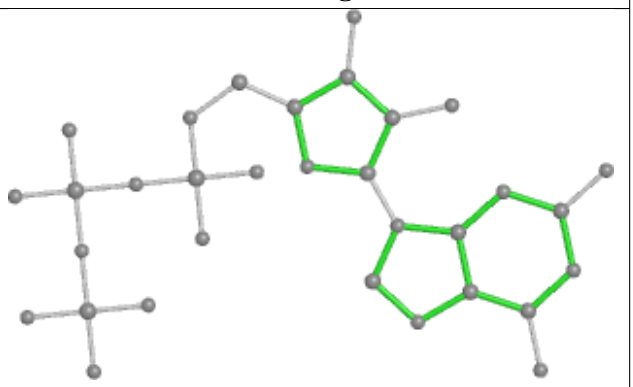
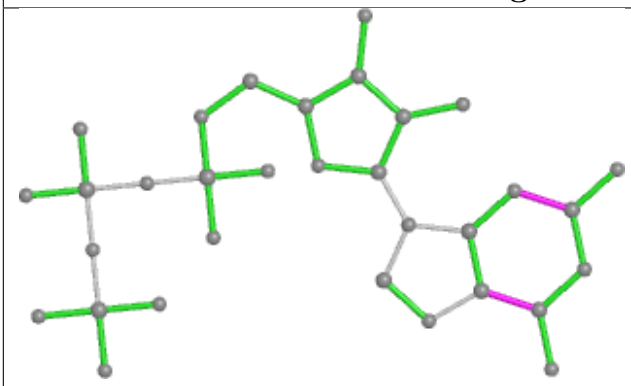


Rings

Ligand GTP BC 501



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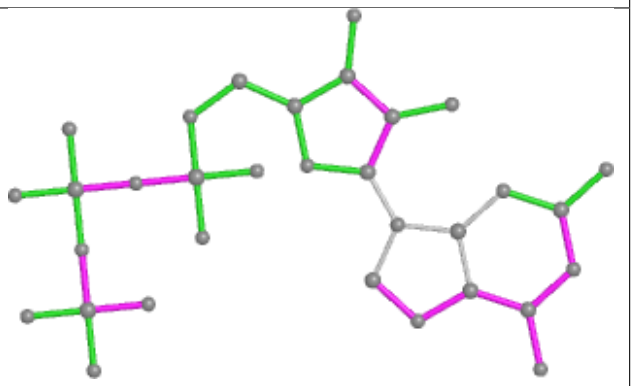

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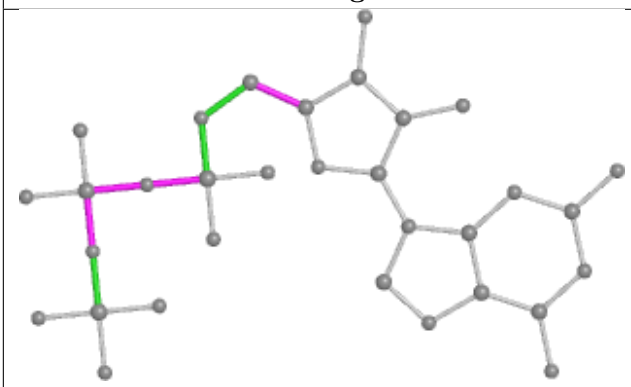

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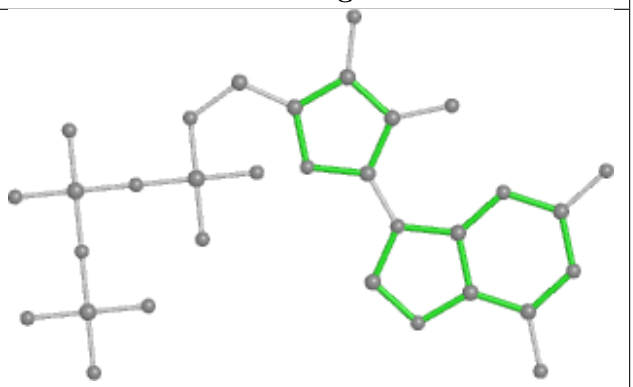
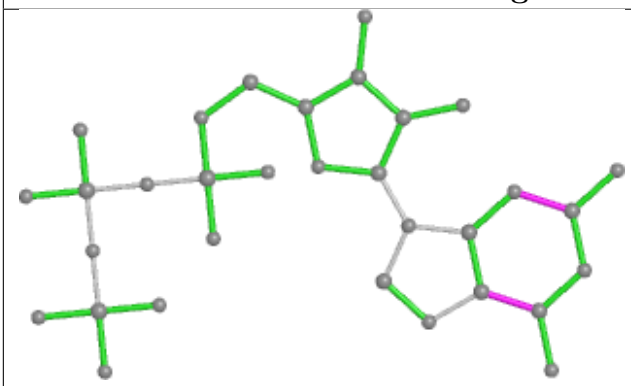


Rings

Ligand GTP AF 501



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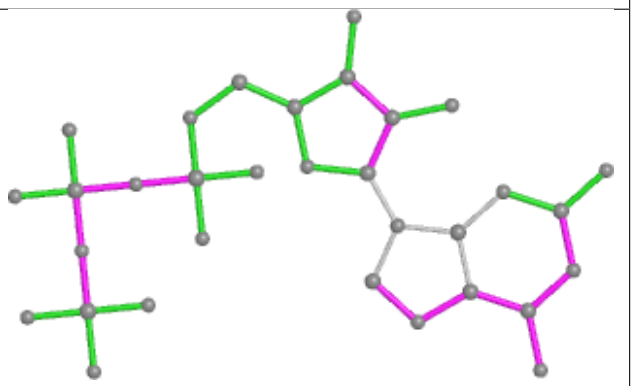

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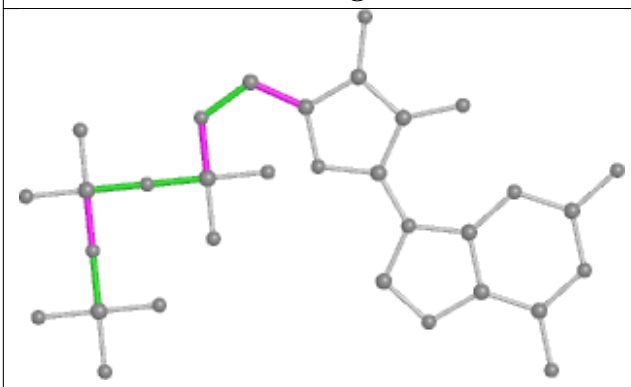

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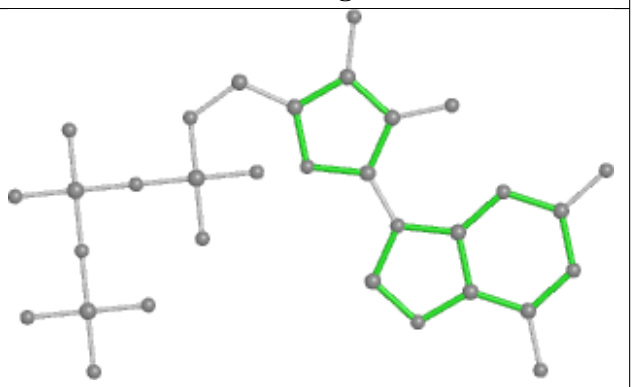
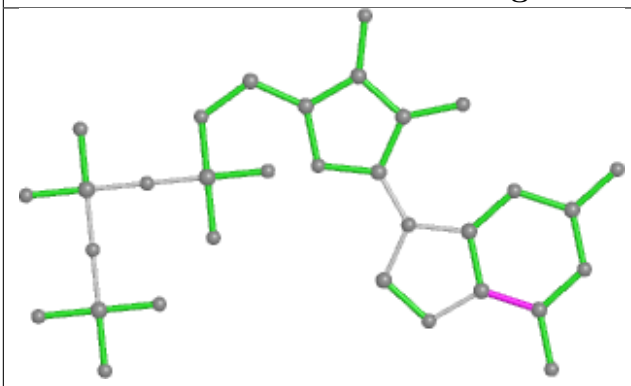


Rings

Ligand GTP BE 501



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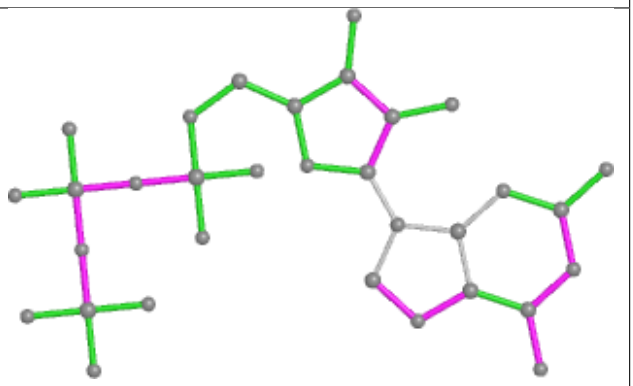

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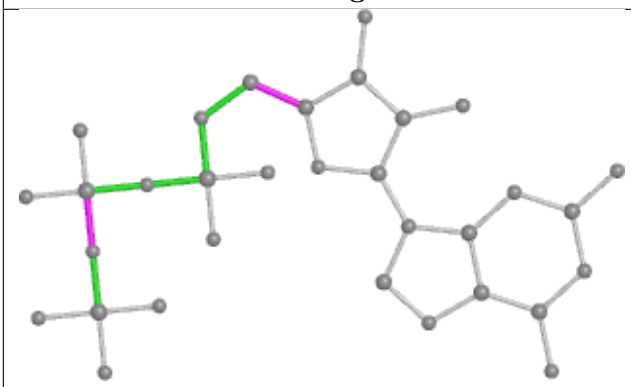

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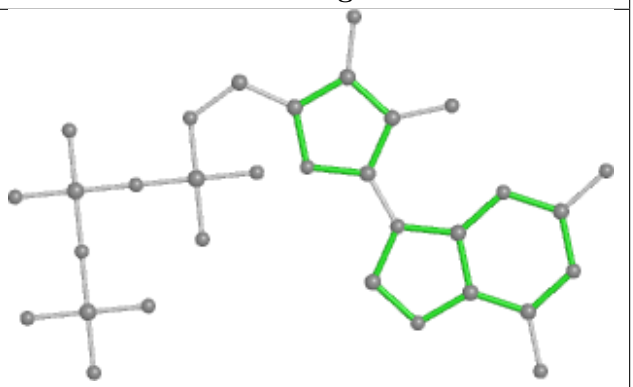
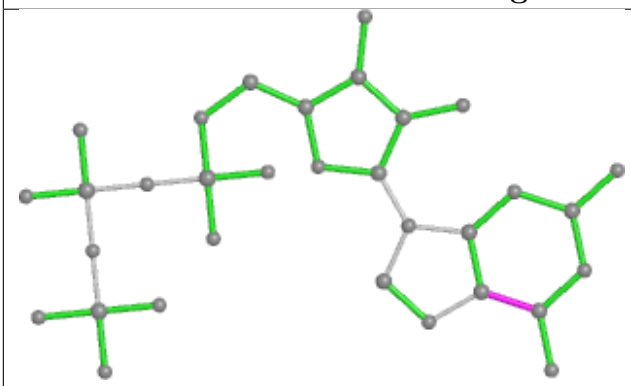


Rings

Ligand GTP AE 501



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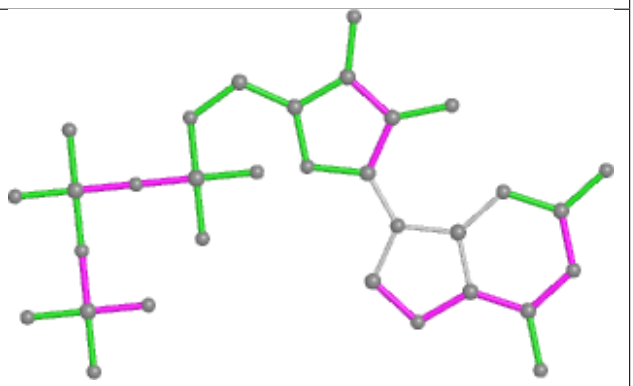

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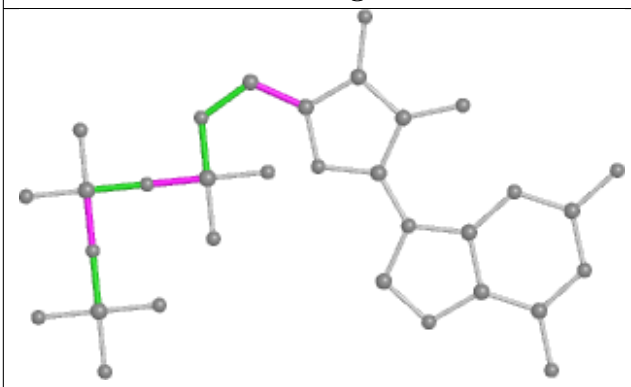

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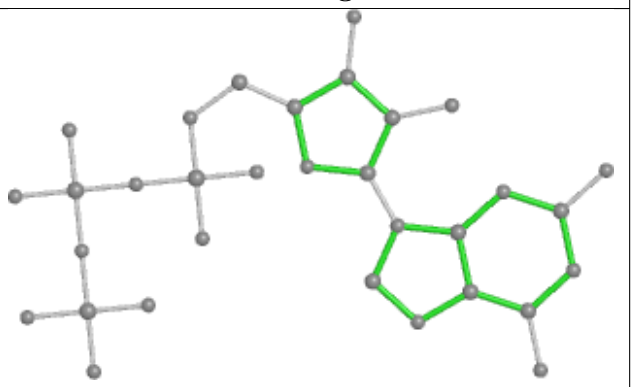
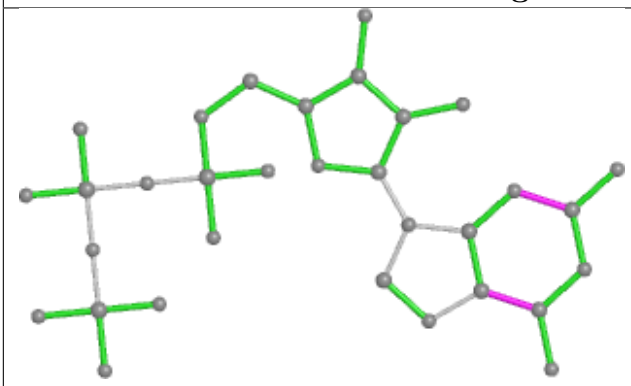


Rings

Ligand GTP PA 501



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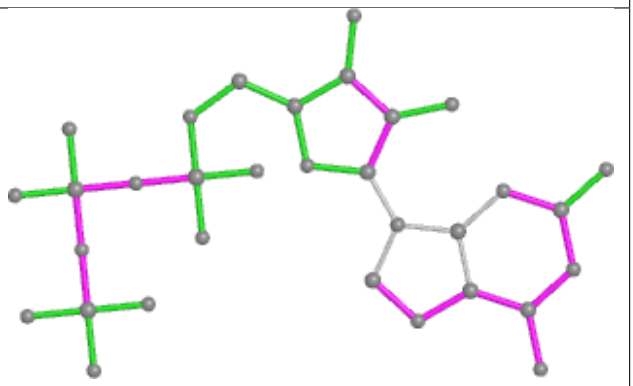

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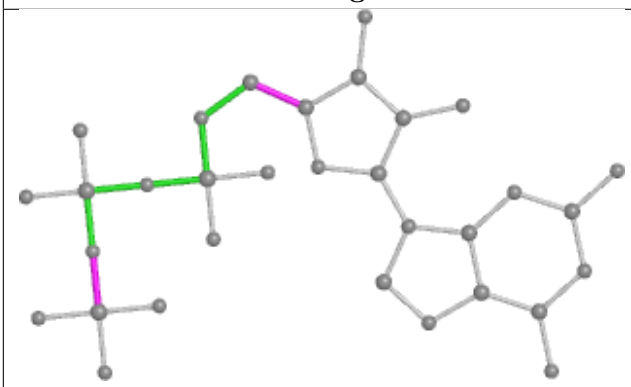

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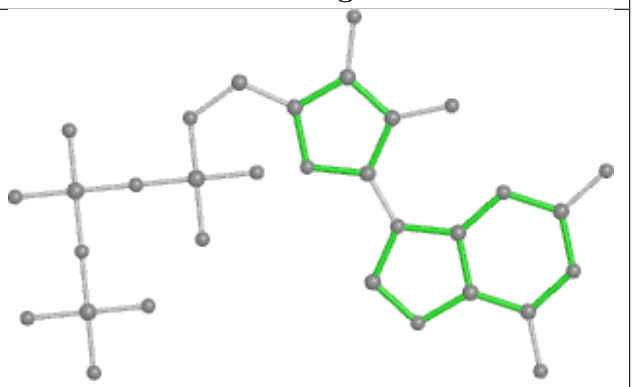
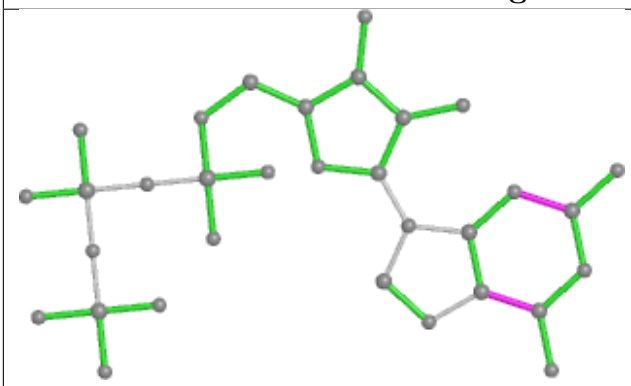


Rings

Ligand GTP AB 501



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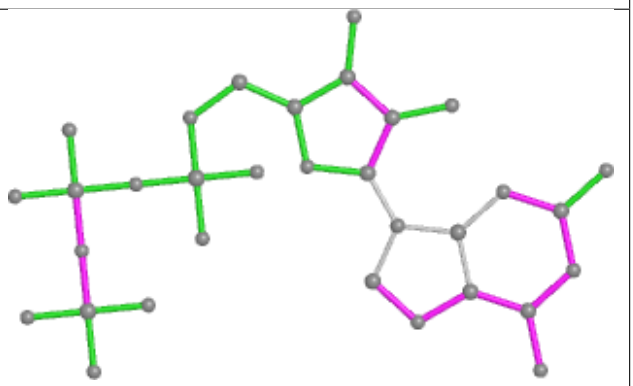

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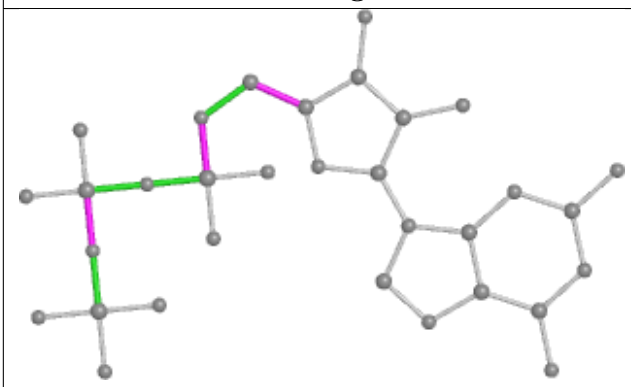

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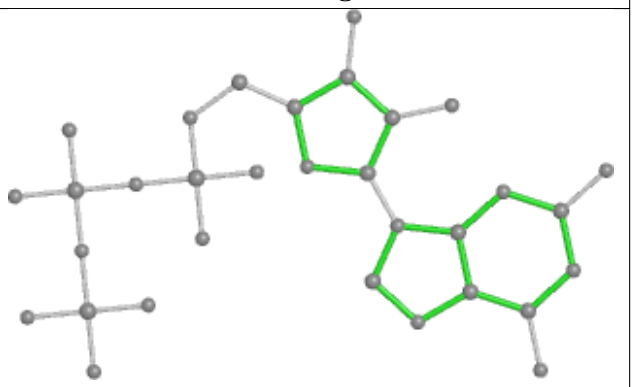
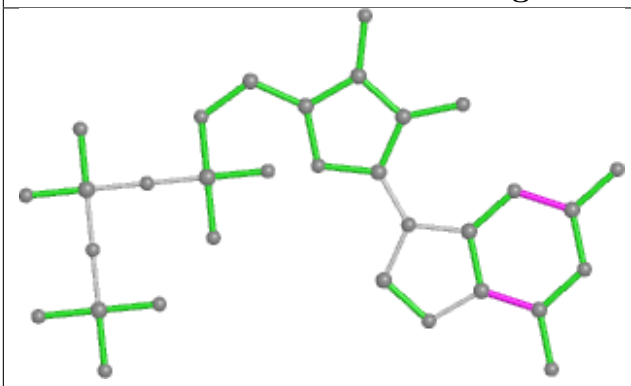


Rings

Ligand GTP TF 501



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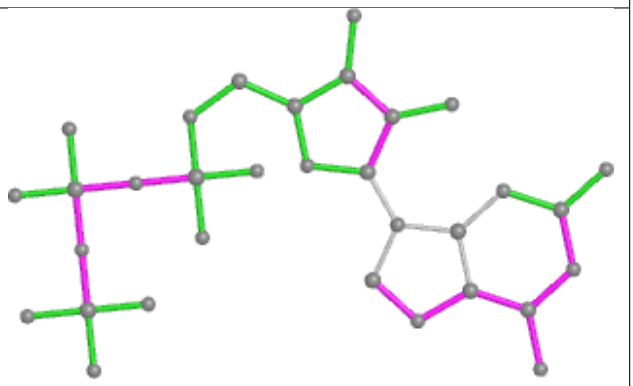
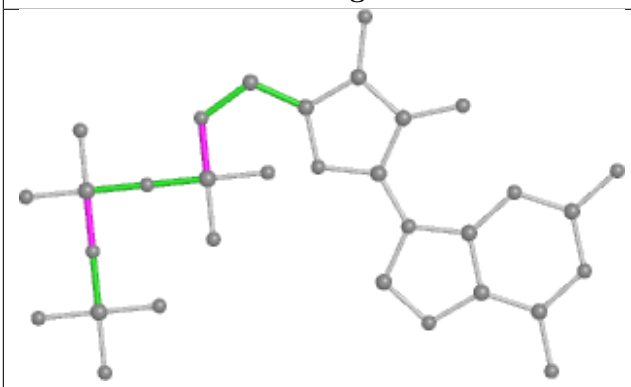


Bond angles



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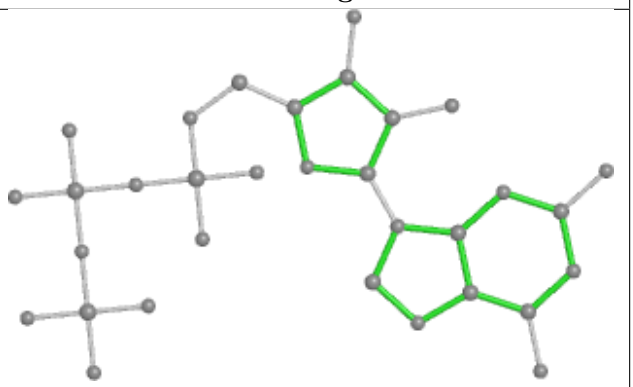
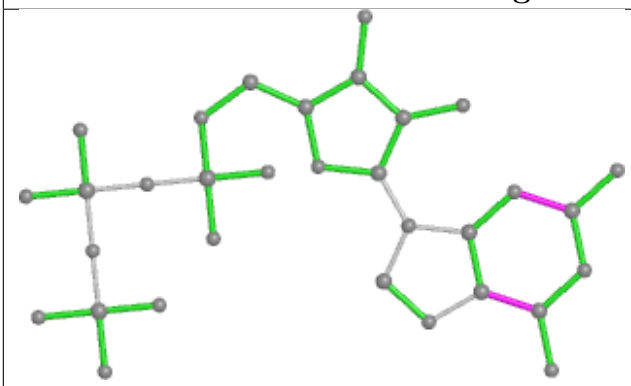


Rings

Ligand GTP FF 501



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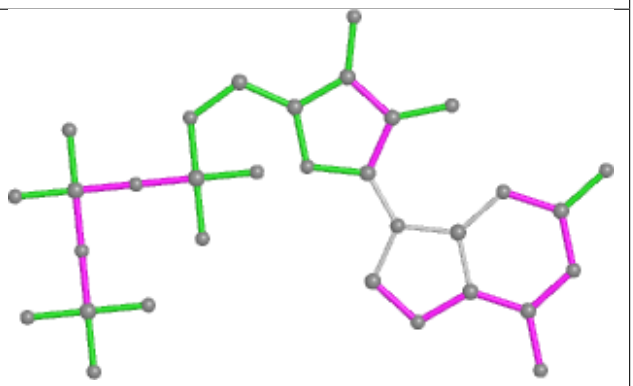
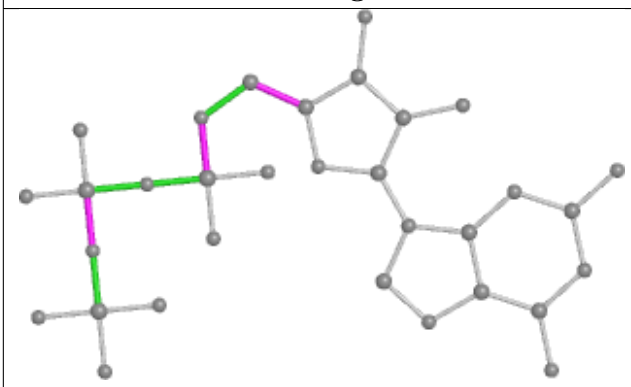


Bond angles



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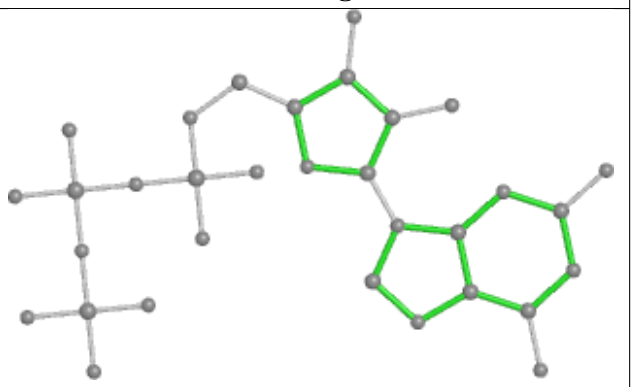
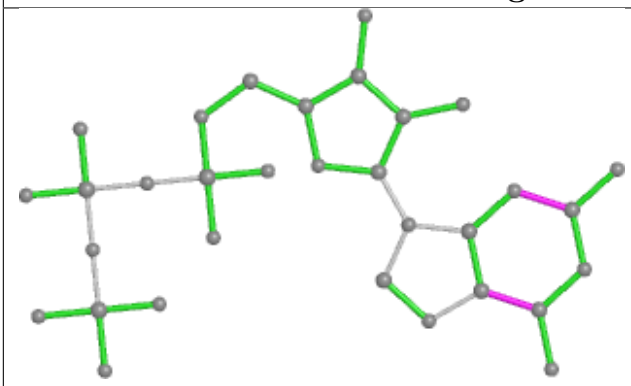
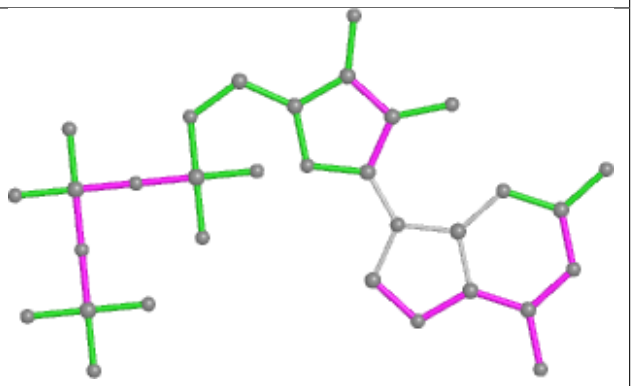


Rings

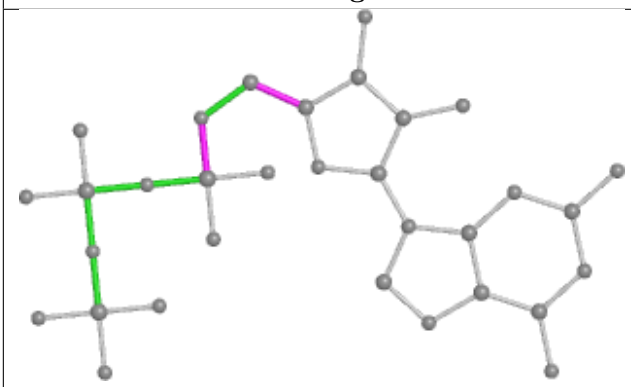
Ligand GTP VH 501



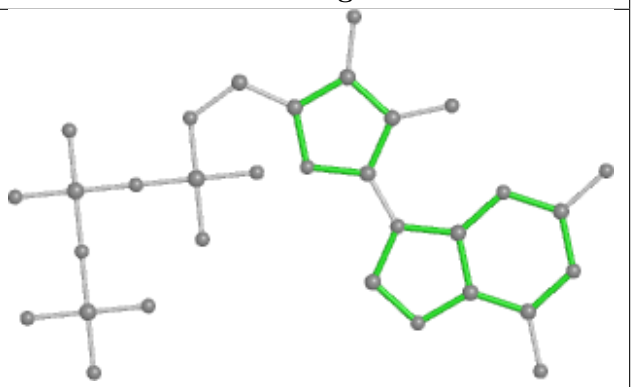
Bond lengths



Bond angles

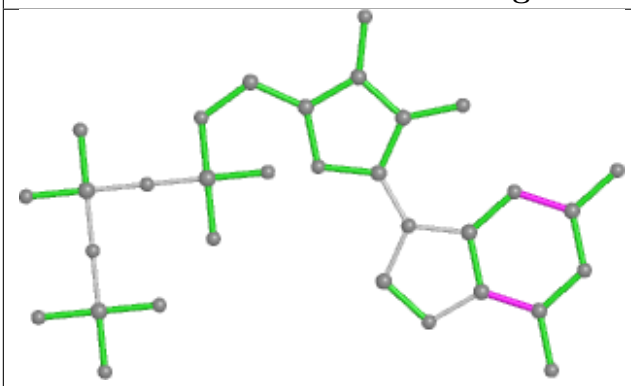


Torsions



Rings

Ligand GTP DJ 501



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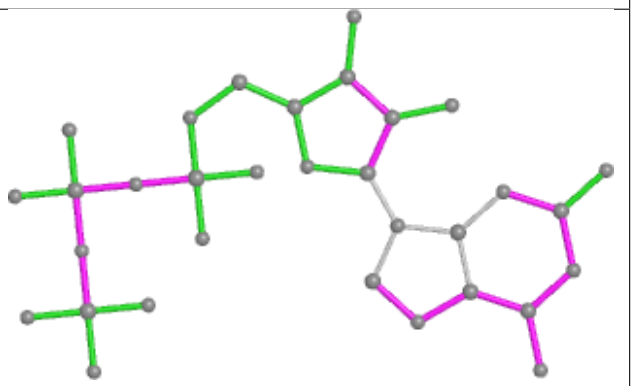

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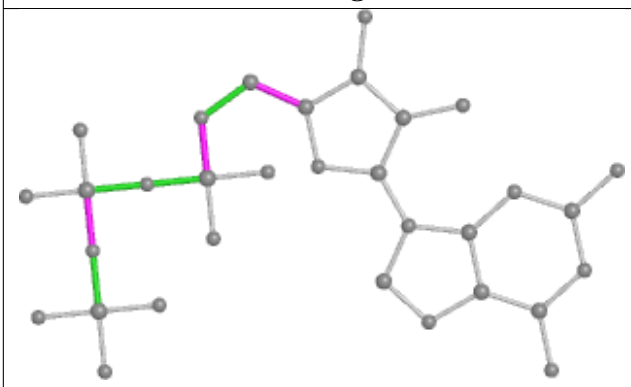

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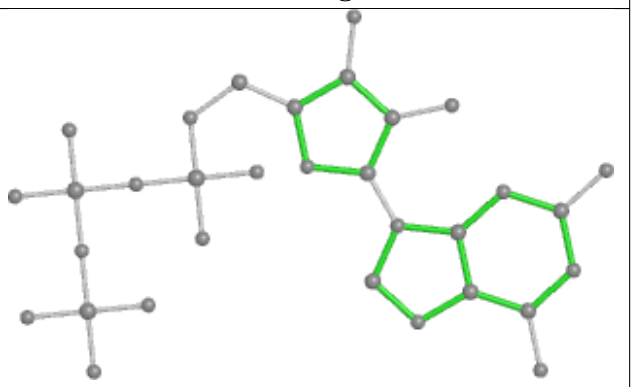
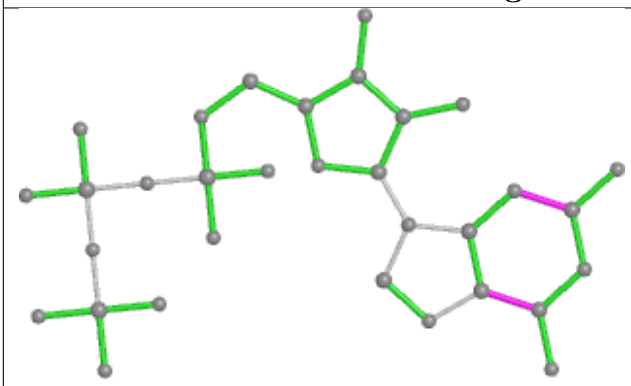


Rings

Ligand GTP MK 501



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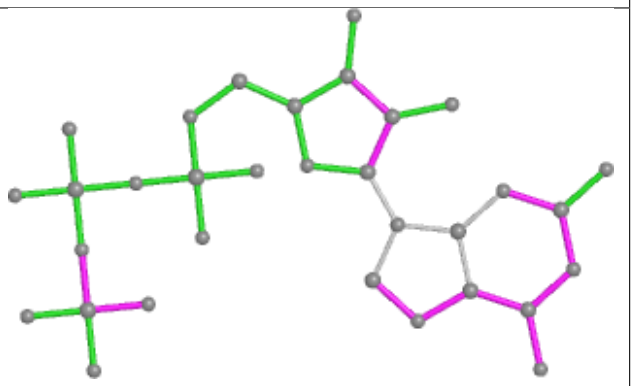

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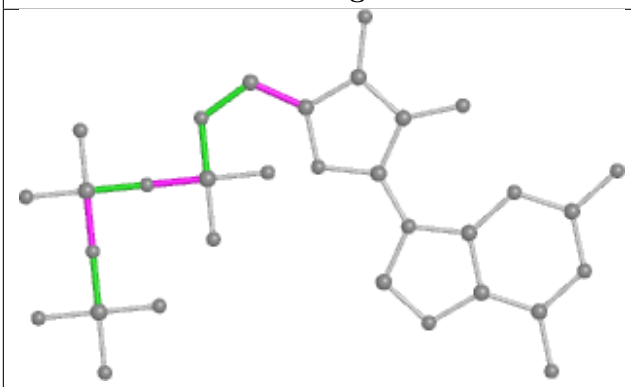

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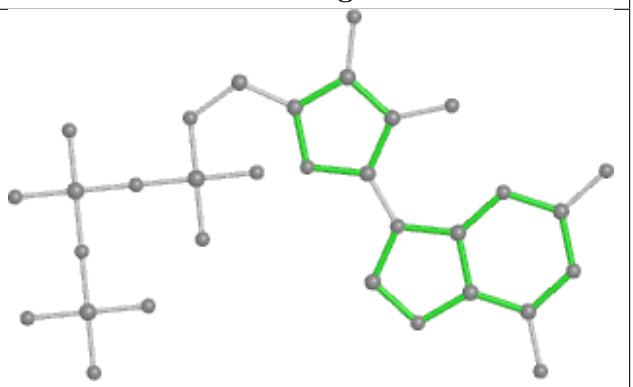
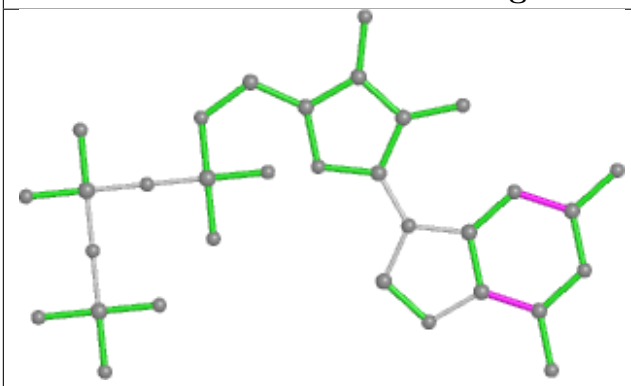


Rings

Ligand GTP OC 501



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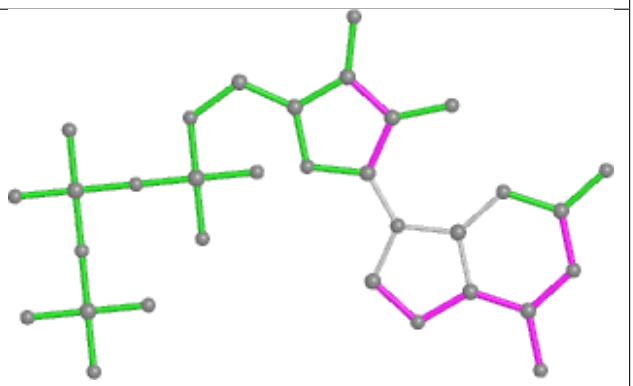

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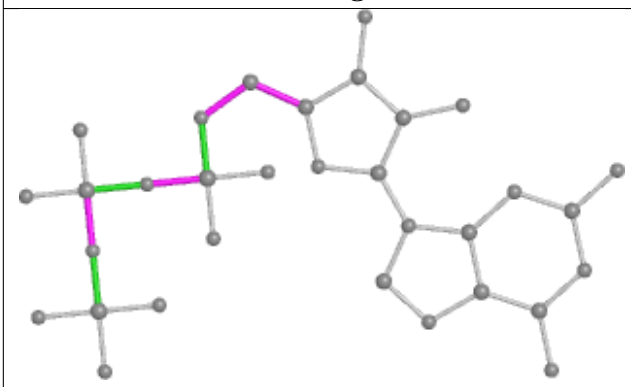

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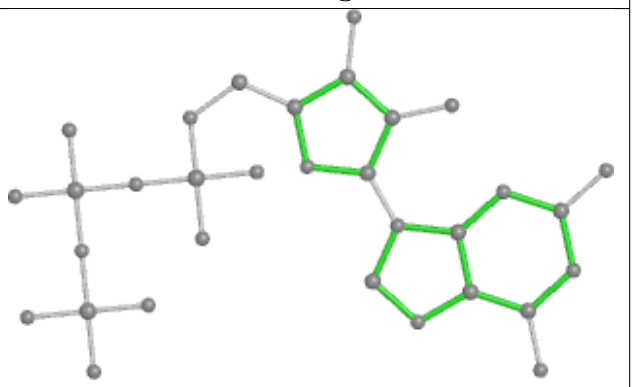
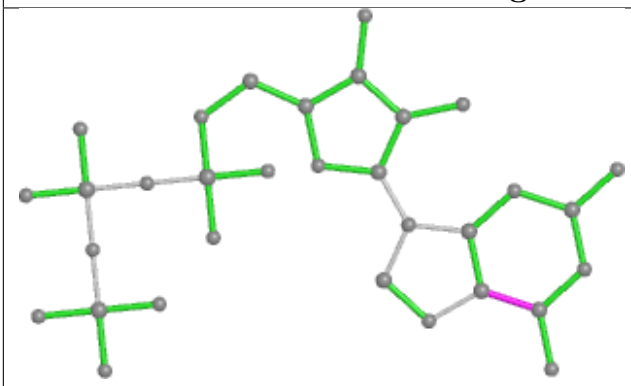


Rings

Ligand GTP RC 501



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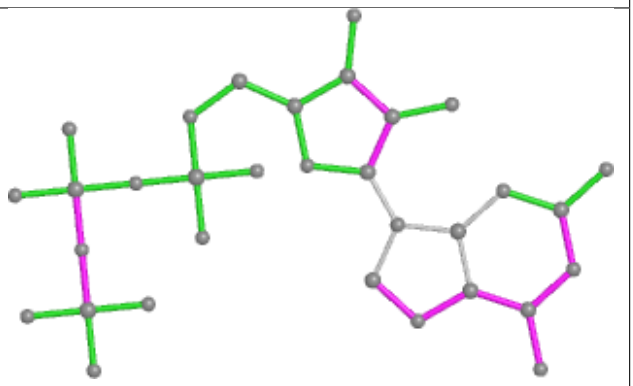

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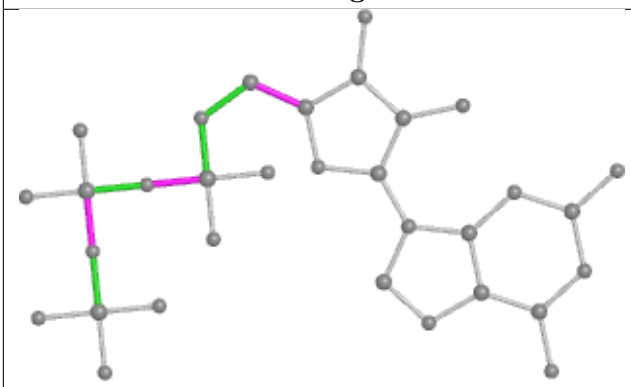

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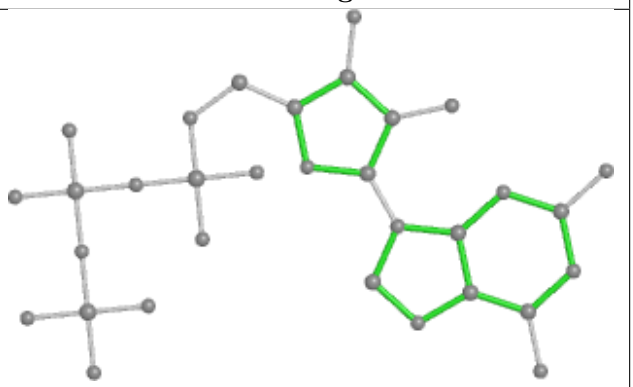
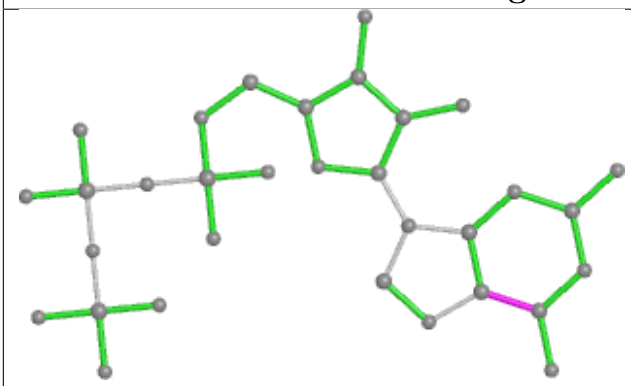


Rings

Ligand GTP VG 501



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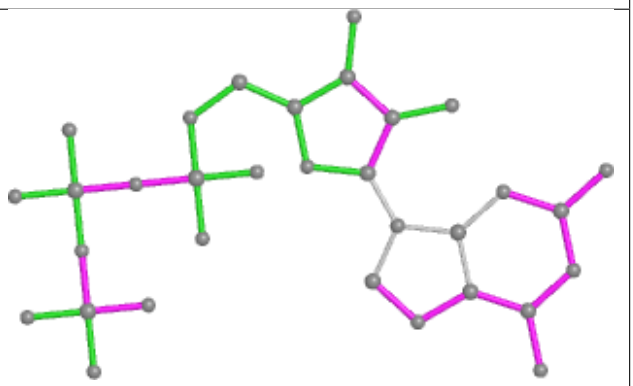

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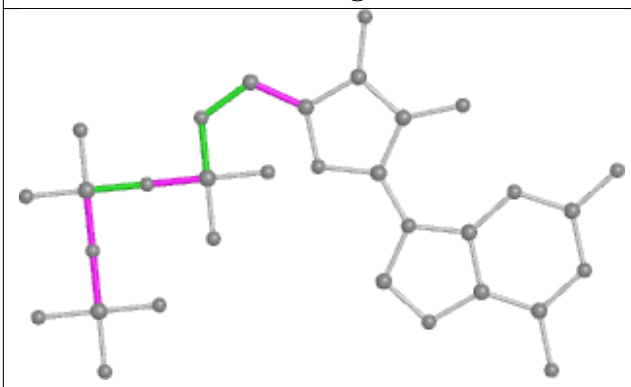

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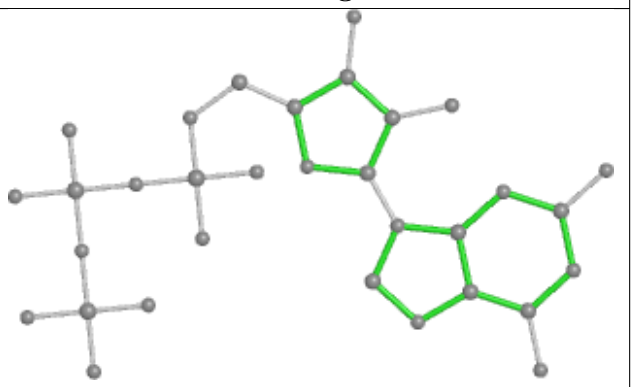
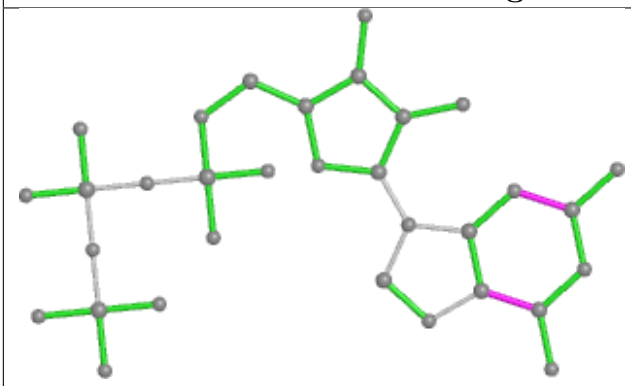


Rings

Ligand GTP TM 501



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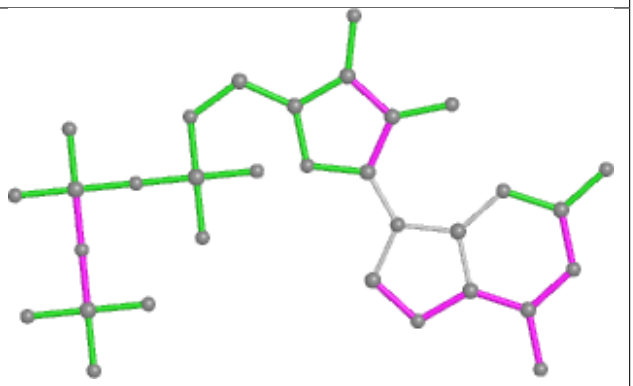

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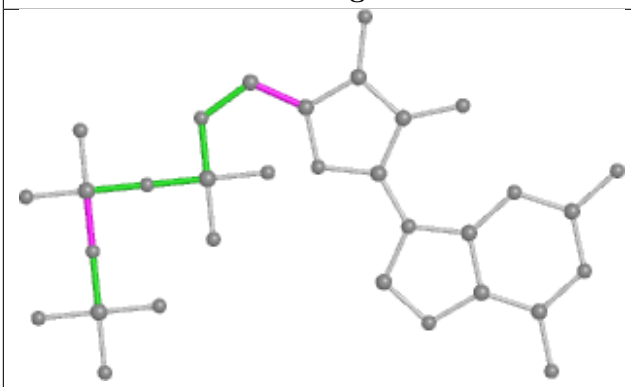

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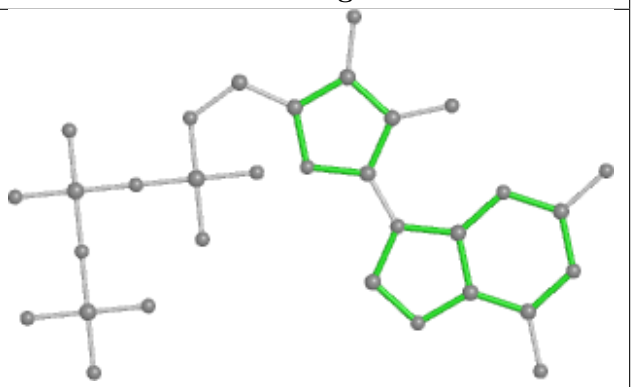
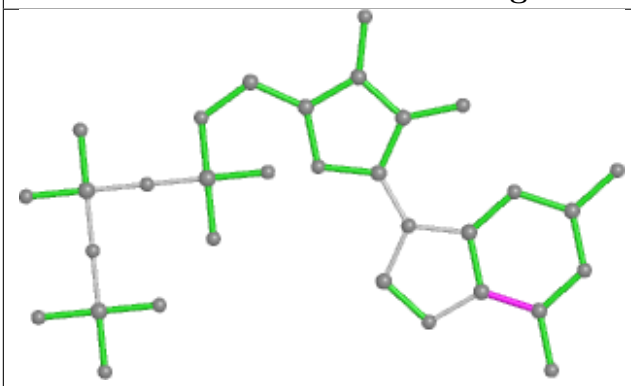


Rings

Ligand GTP NE 501



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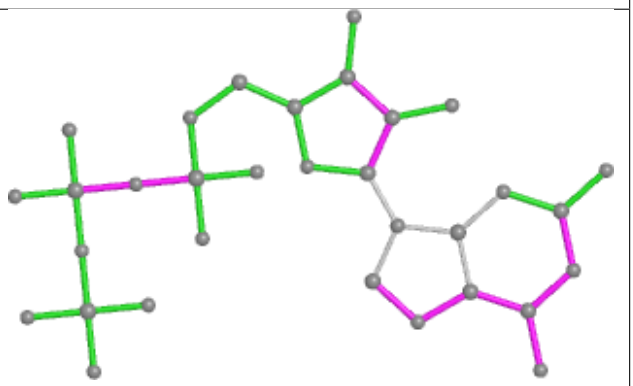

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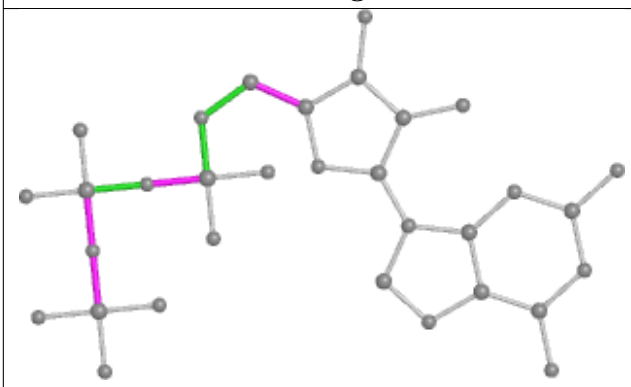

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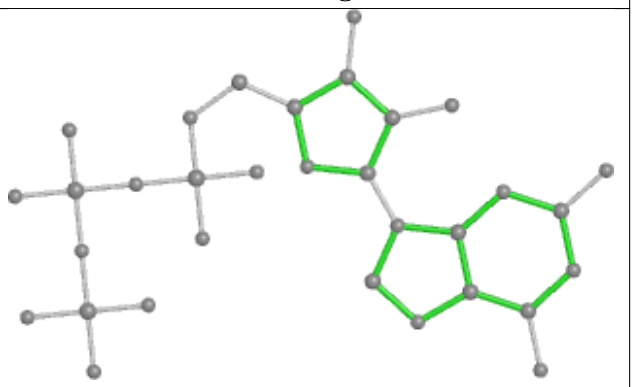
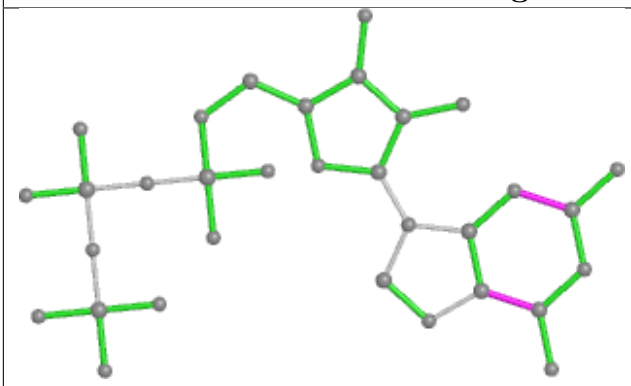


Rings

Ligand GTP NL 501



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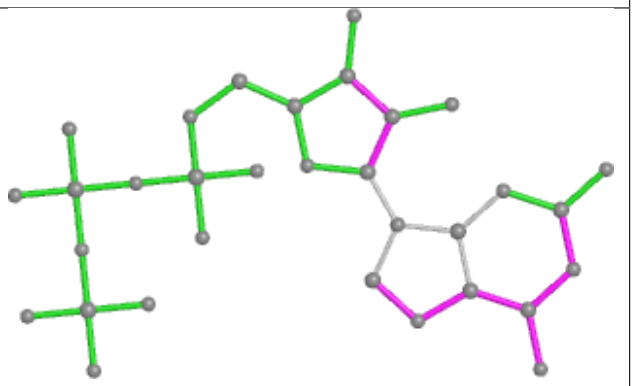

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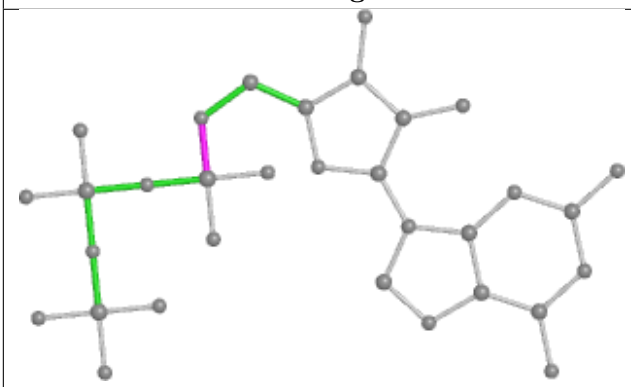

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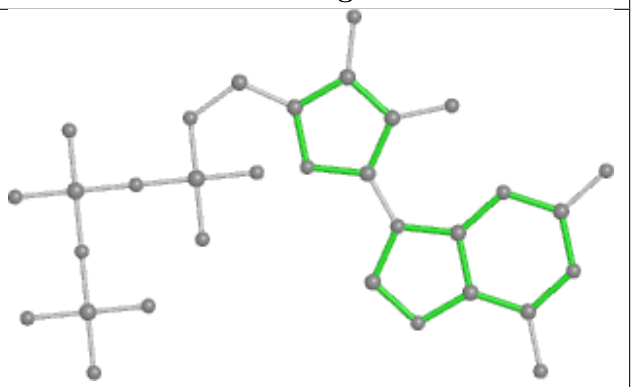
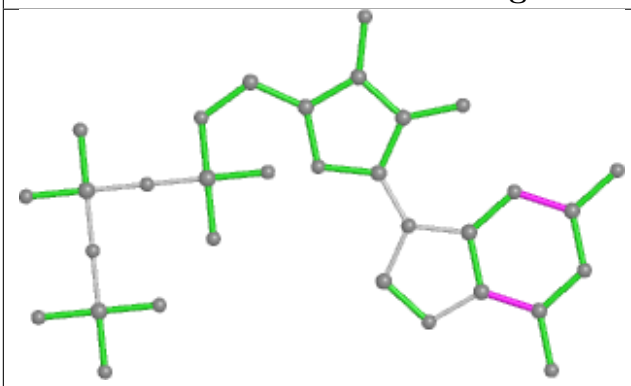


Rings

Ligand GTP QB 501



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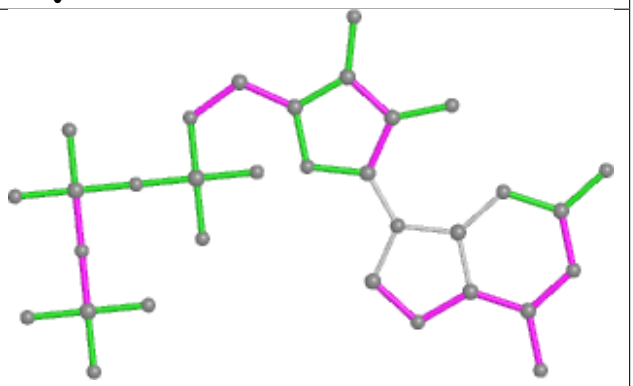

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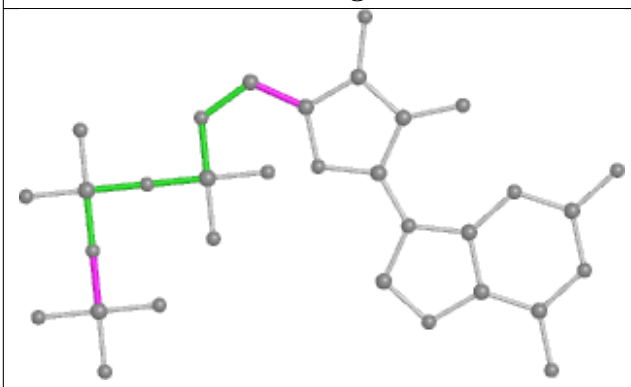

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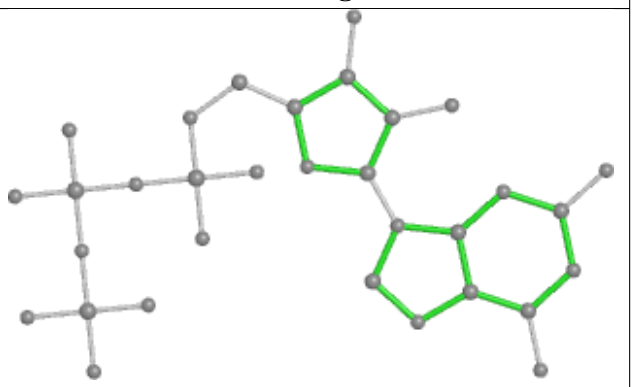
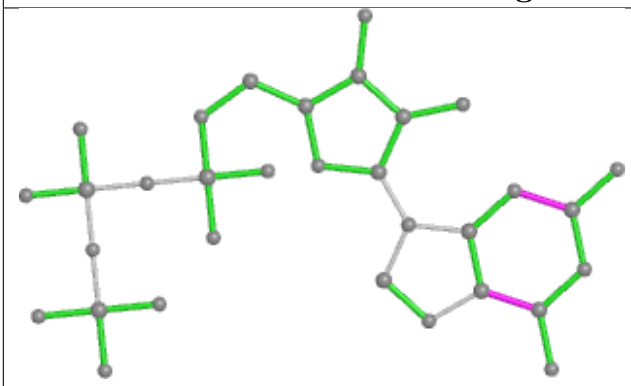


Rings

Ligand GTP UI 501



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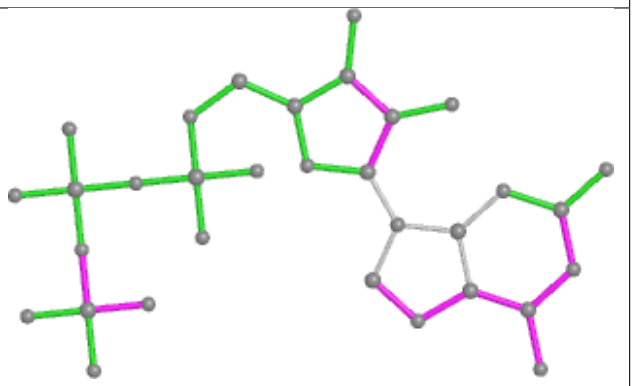

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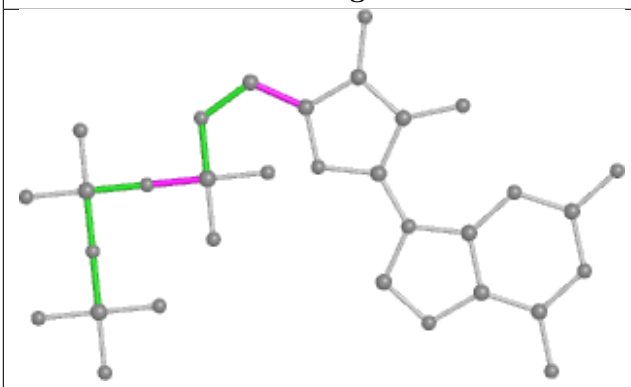

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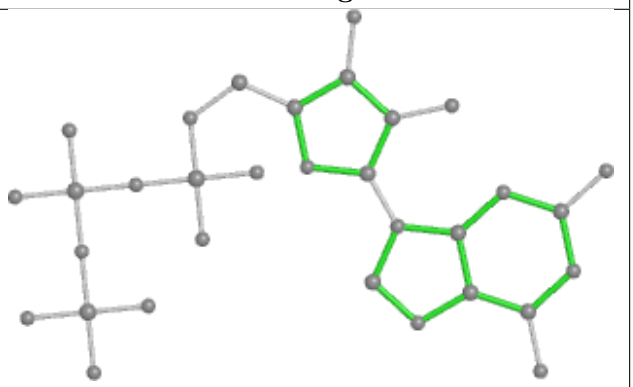
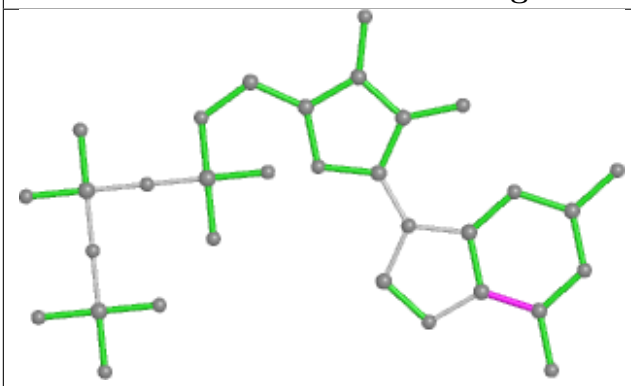


Rings

Ligand GTP FG 501



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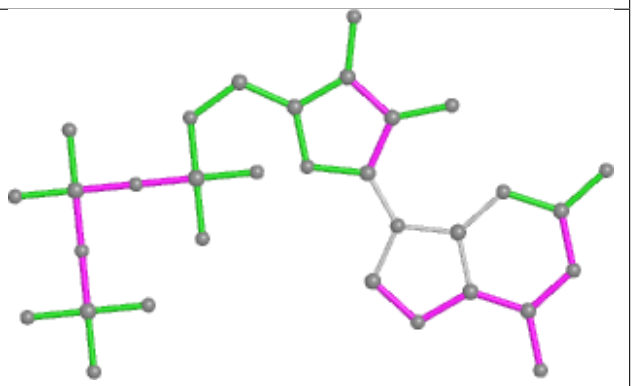

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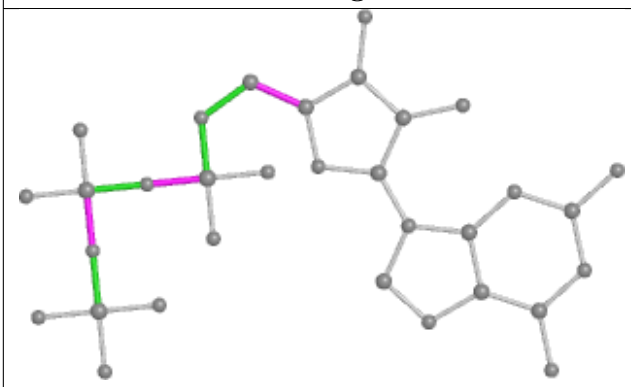

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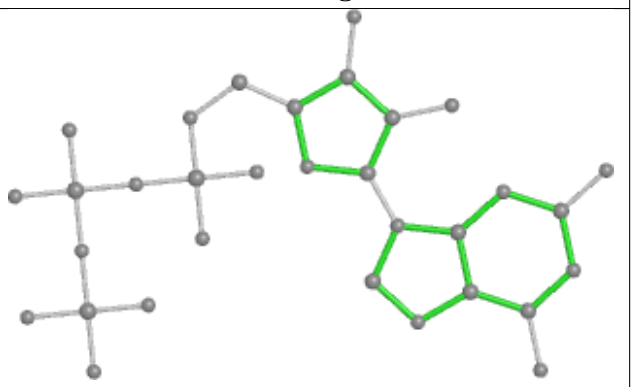
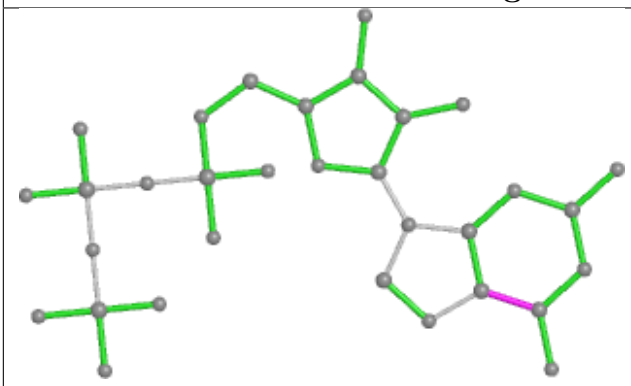


Rings

Ligand GTP WG 501



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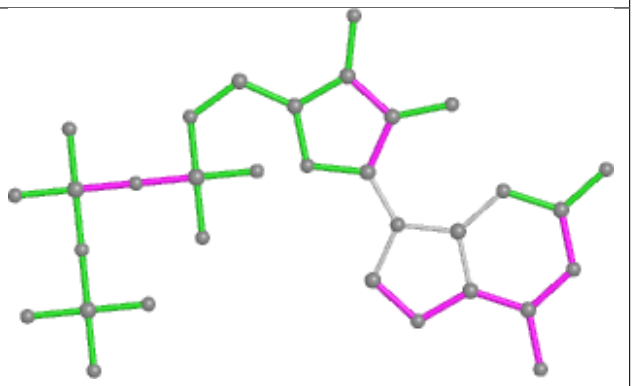

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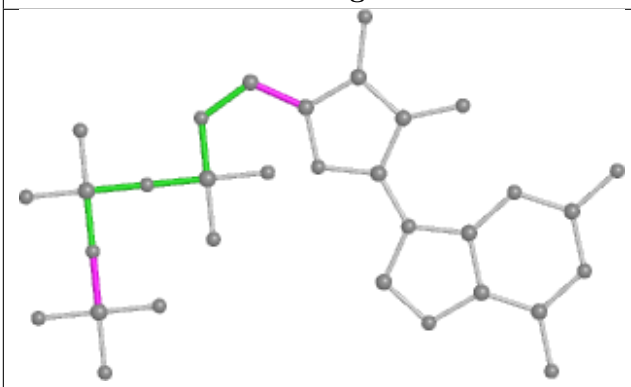

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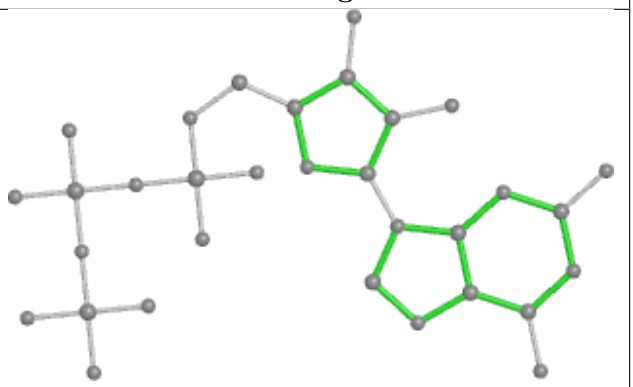
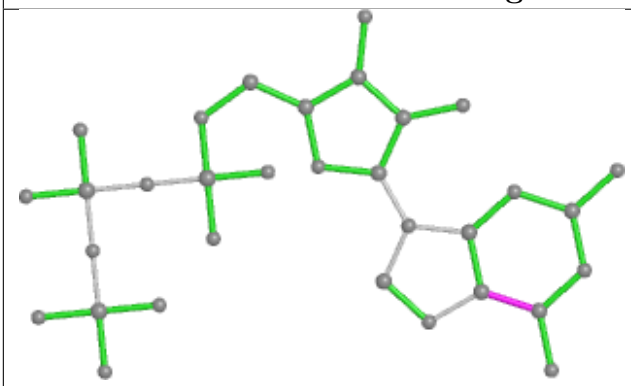


Rings

Ligand GTP MC 501



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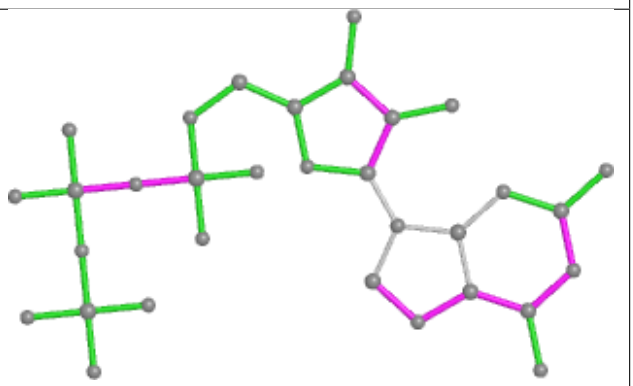
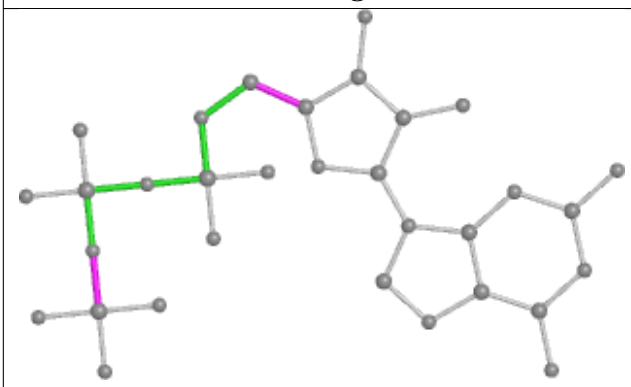


Bond angles



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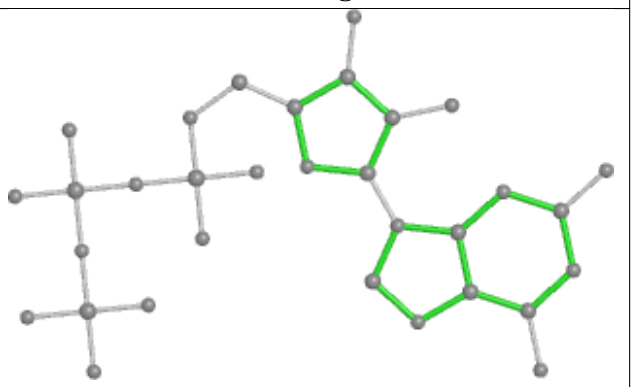
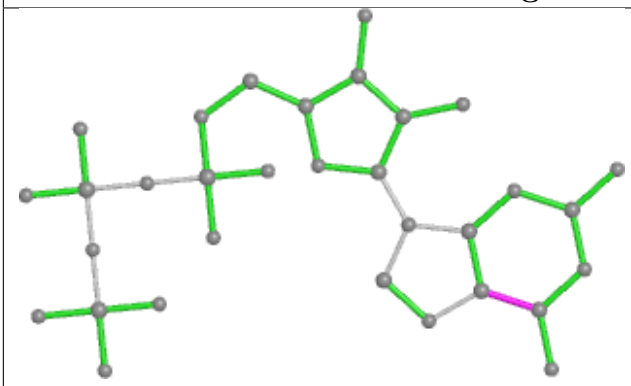


Rings

Ligand GTP II 501



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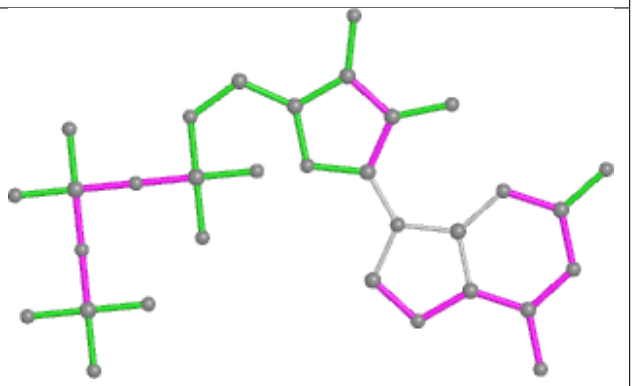

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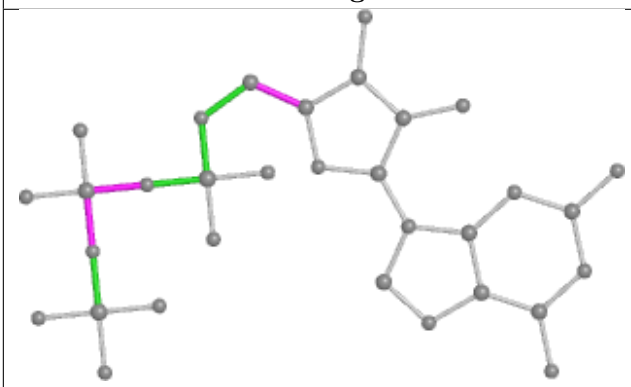
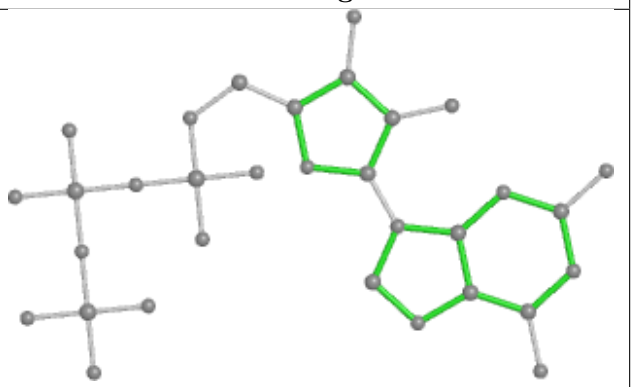
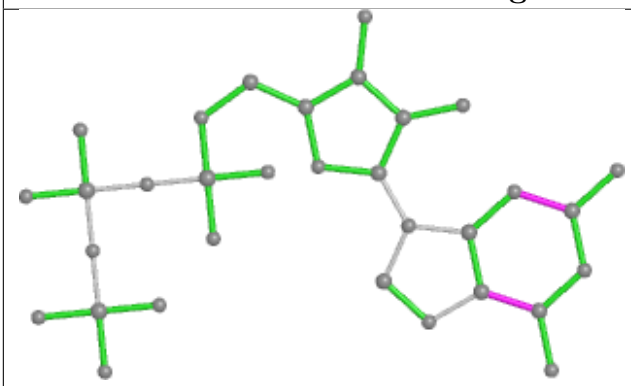


Torsions



Rings

Ligand GTP VB 501



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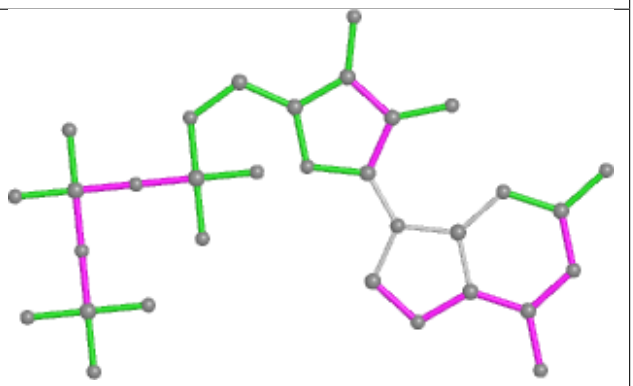

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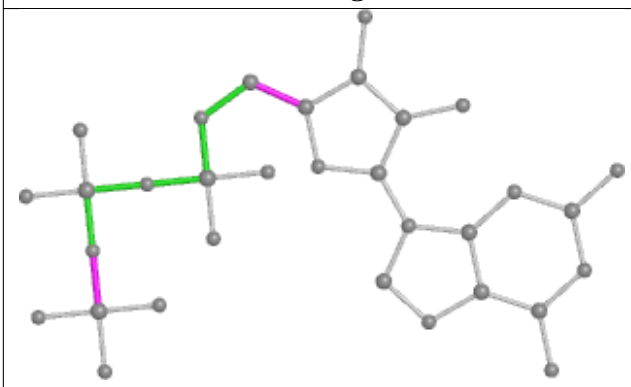

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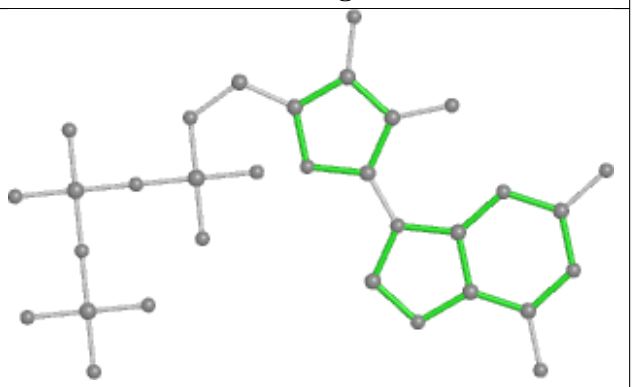
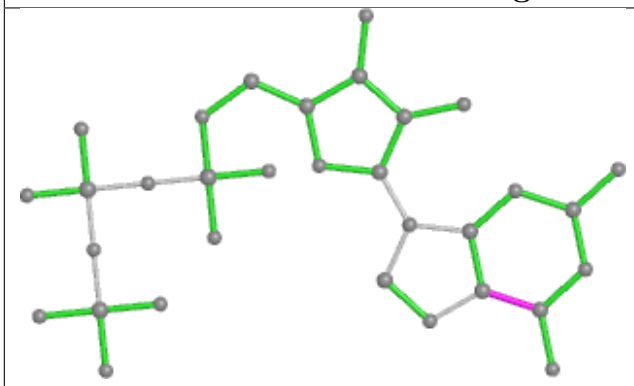


Rings

Ligand GTP LC 501



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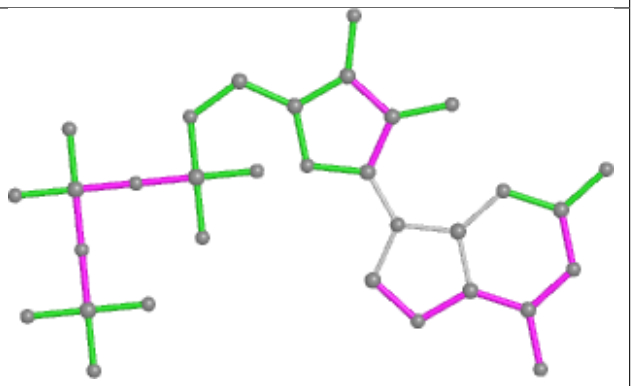

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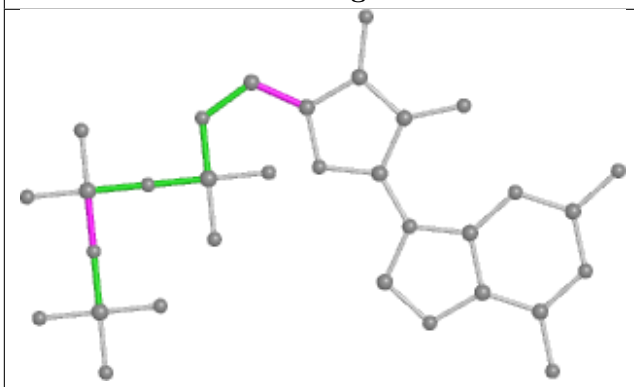

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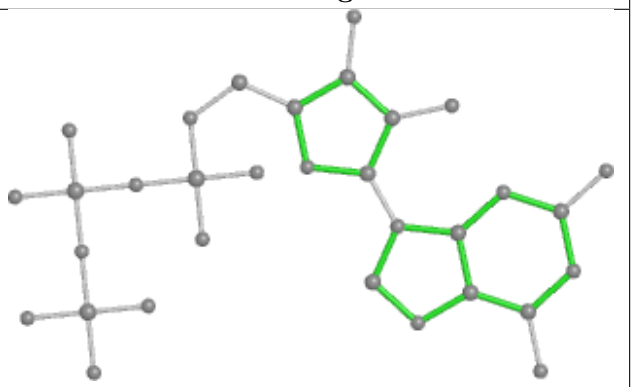
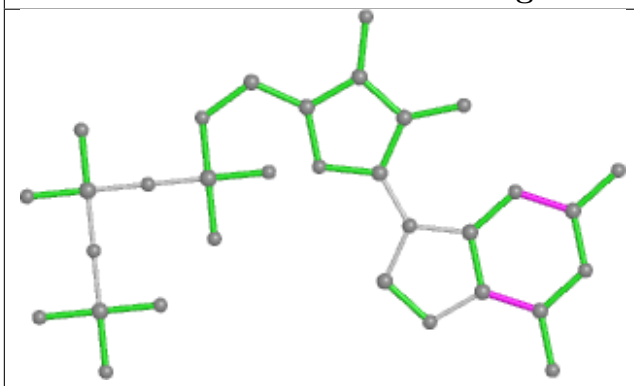


Rings

Ligand GTP KI 501



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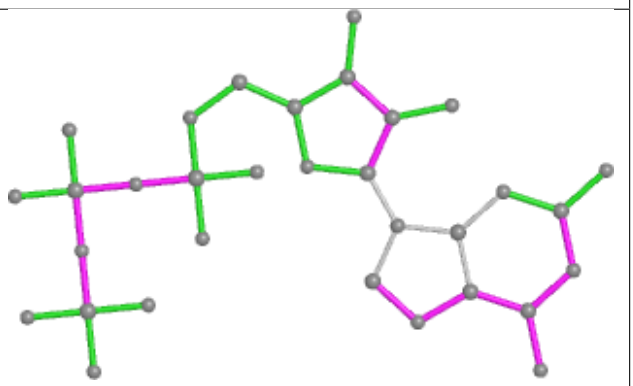

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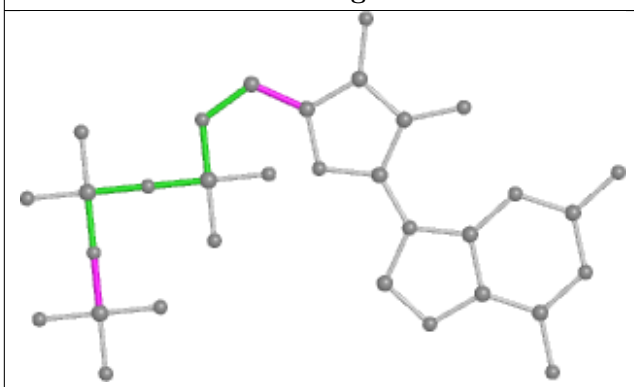

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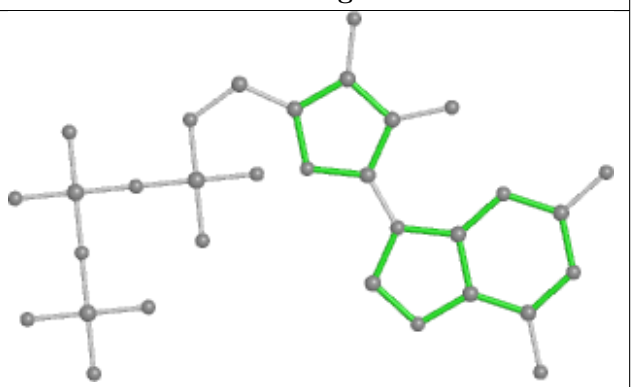
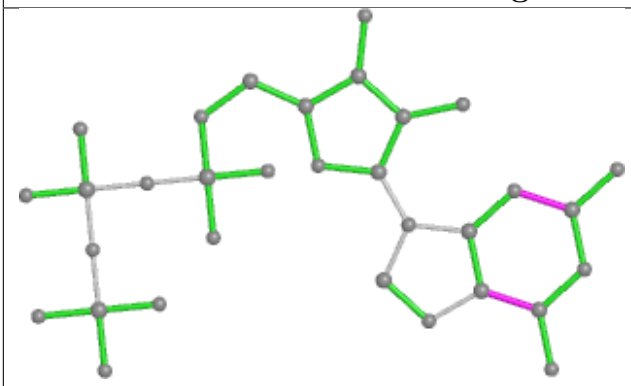


Rings

Ligand GTP AL 501



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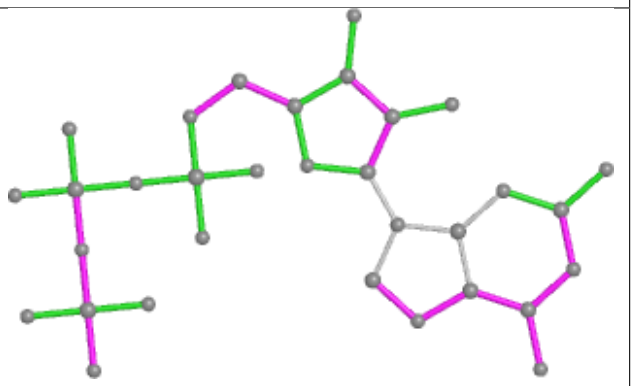

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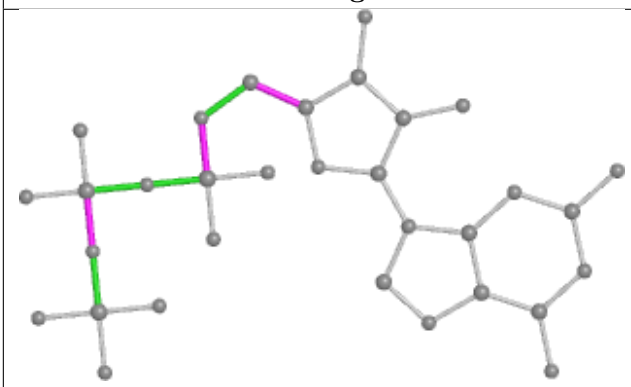

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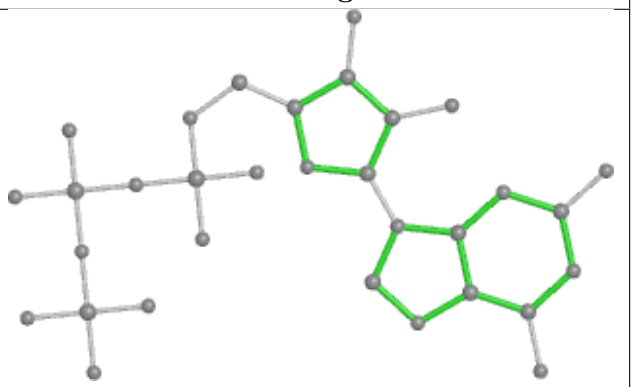

Rings

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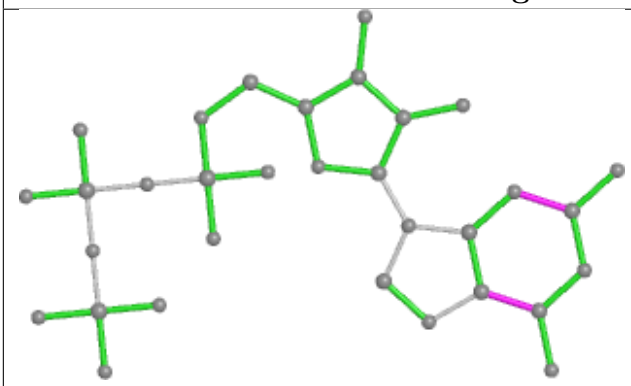

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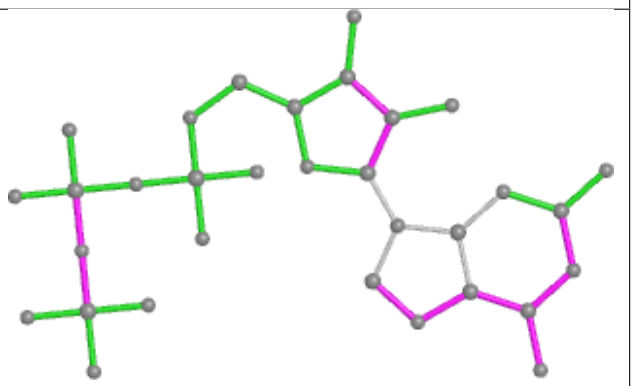

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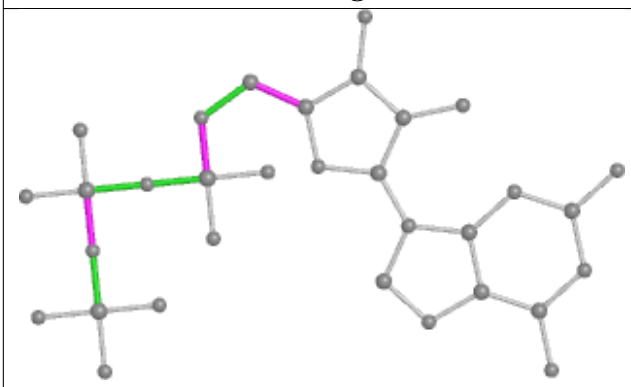

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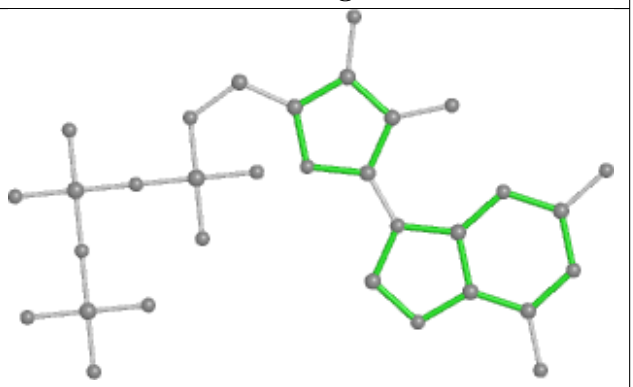
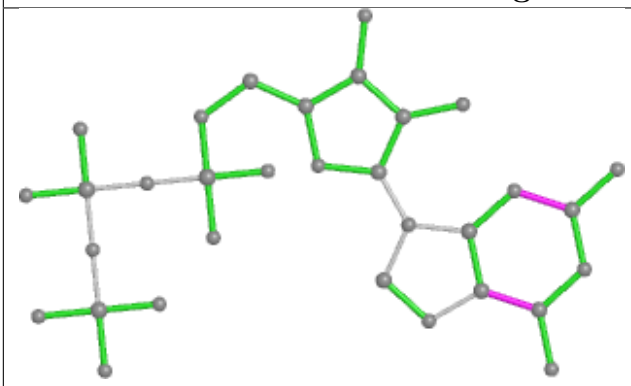


Rings

Ligand GTP SB 501



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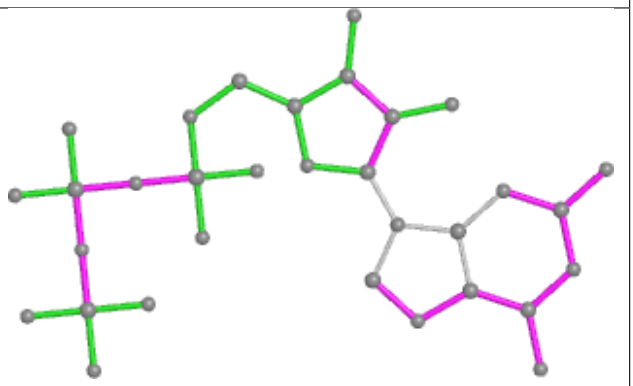

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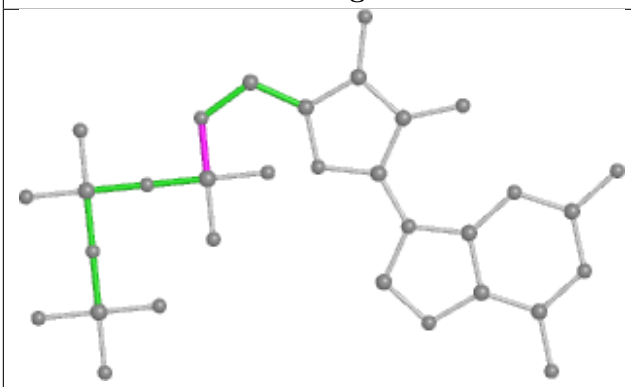

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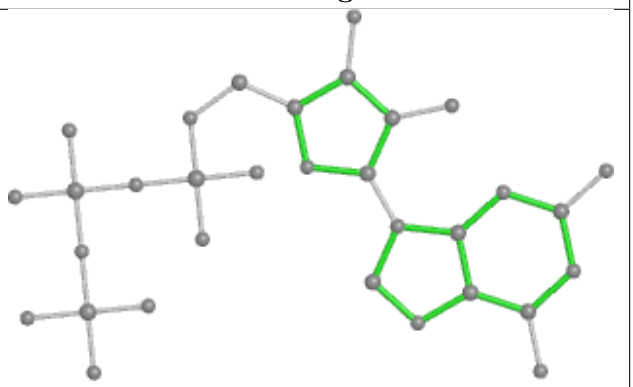

Rings

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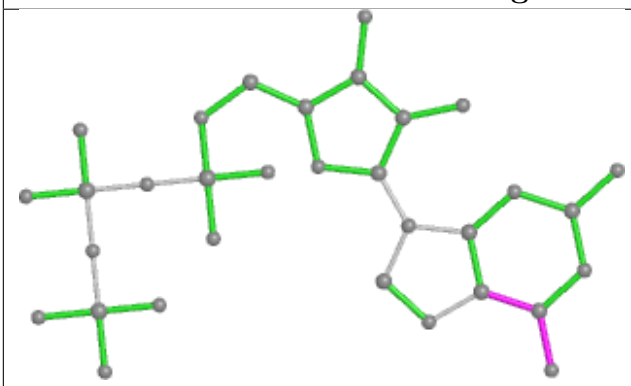

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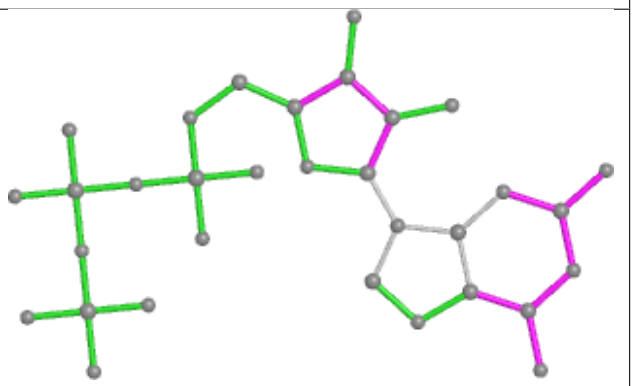

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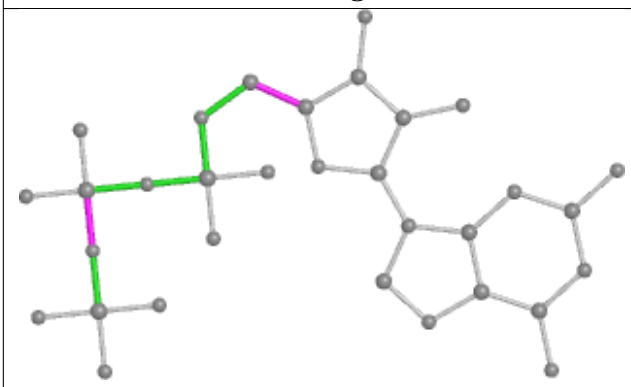

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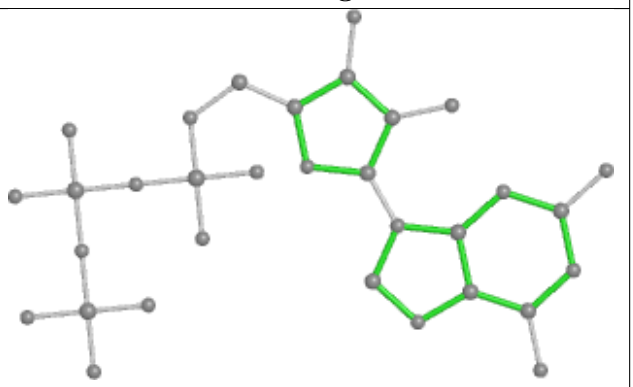
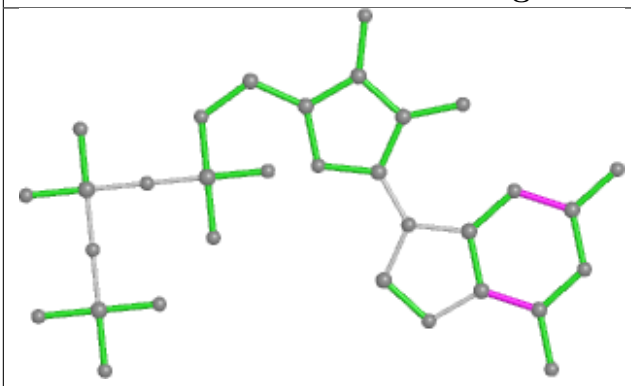


Rings

Ligand GTP JD 501



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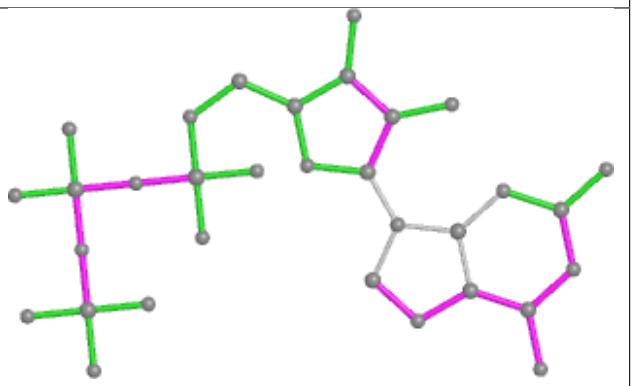
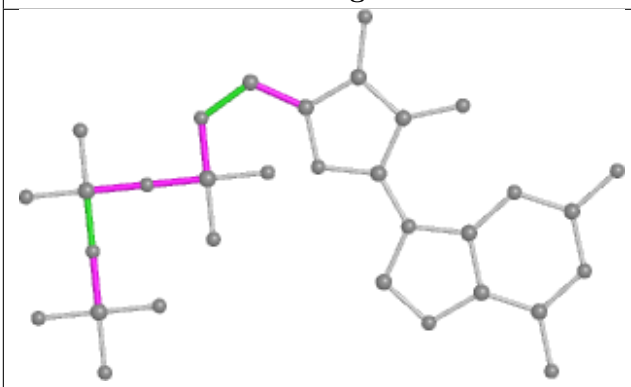


Bond angles



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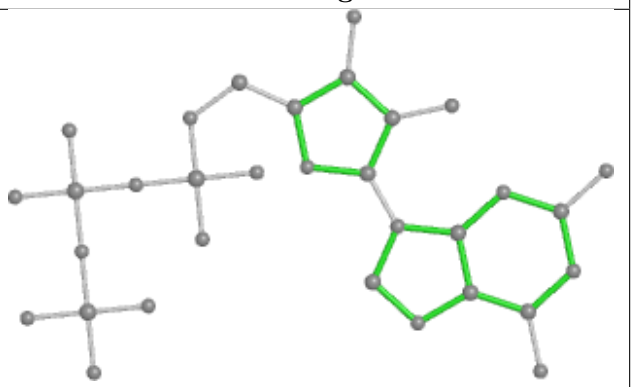
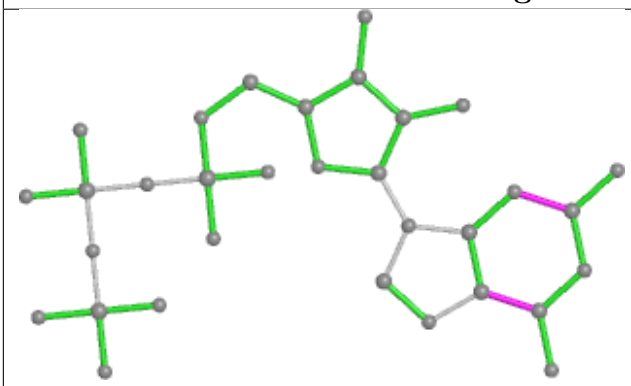


Rings

Ligand GTP SE 501



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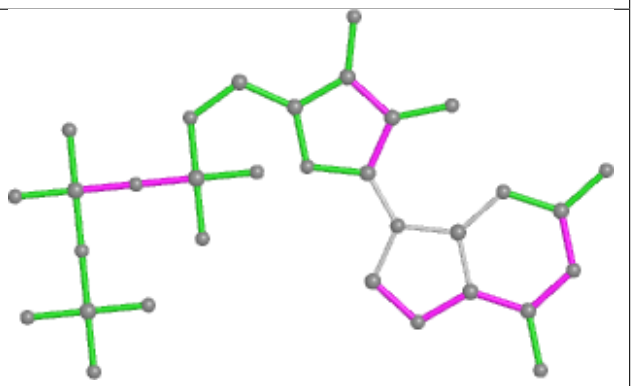

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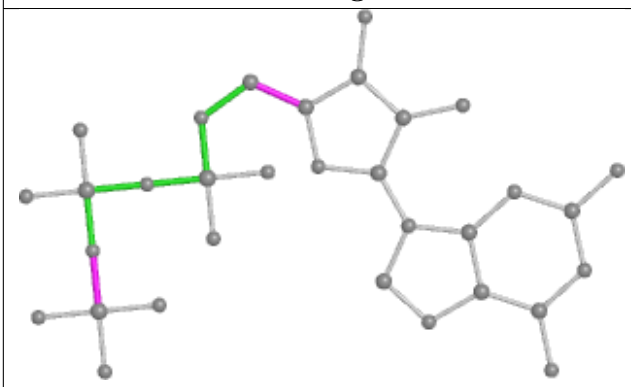

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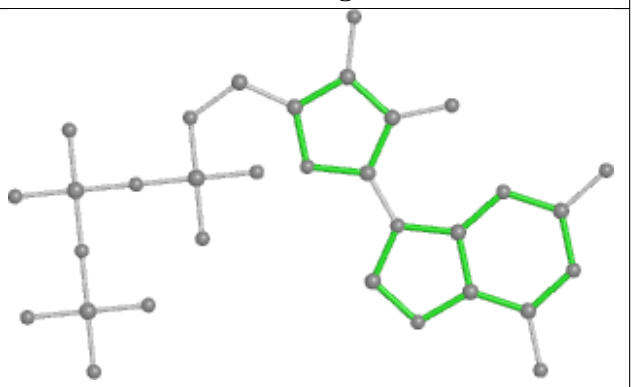
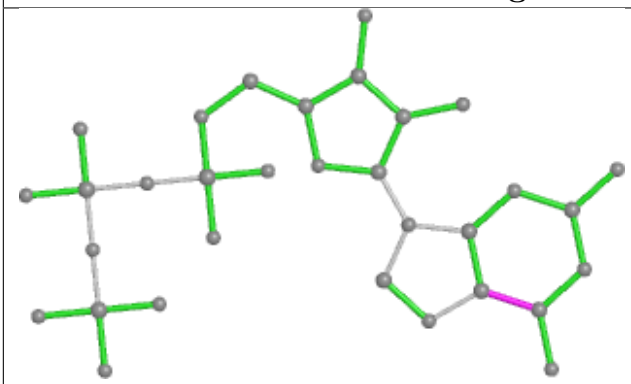


Rings

Ligand GTP GC 501



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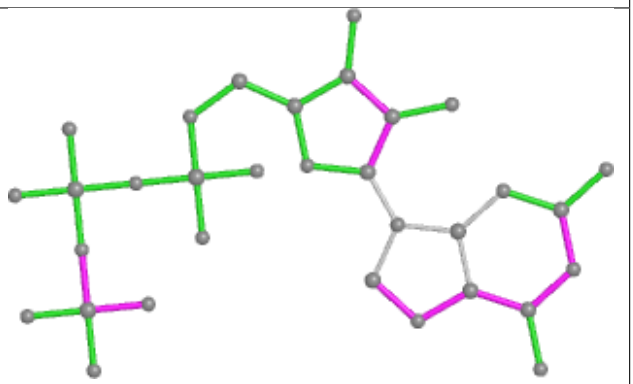

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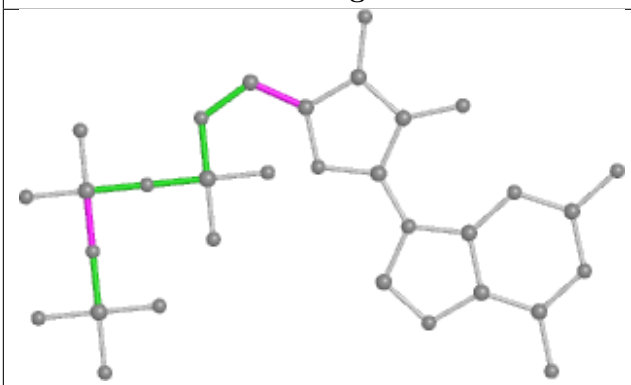

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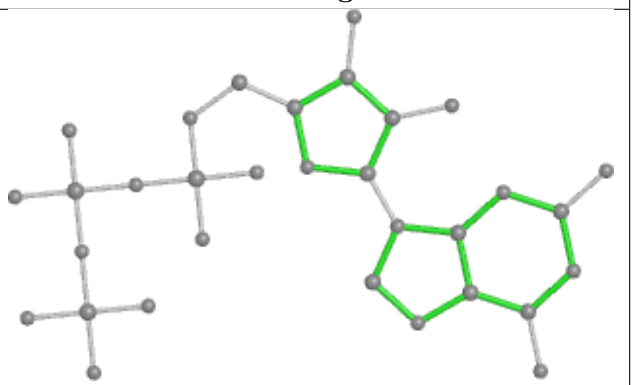
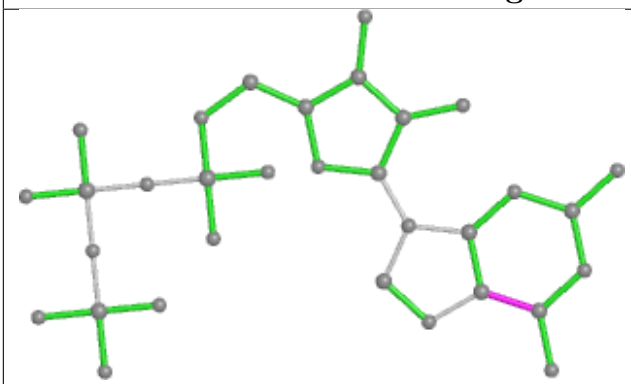


Rings

Ligand GTP CM 501



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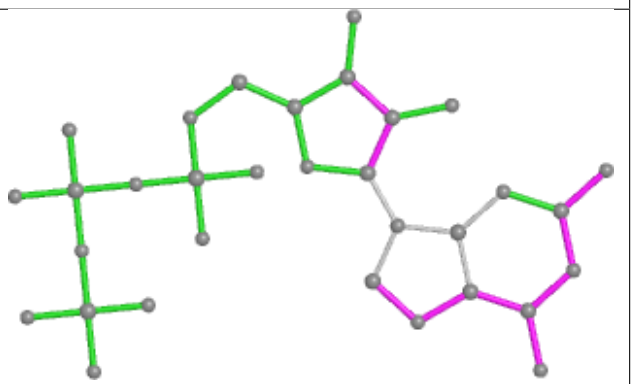

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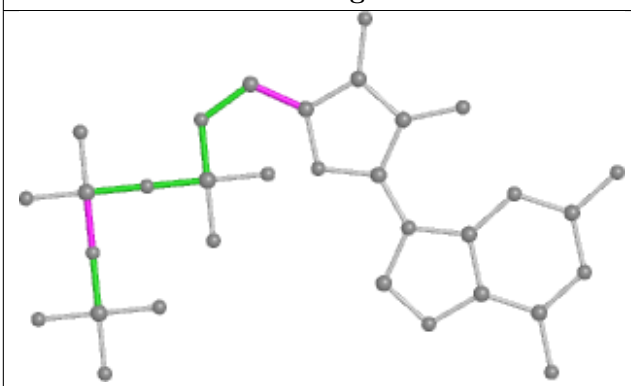

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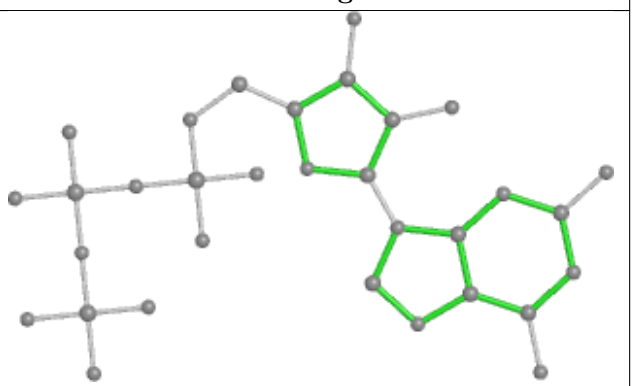
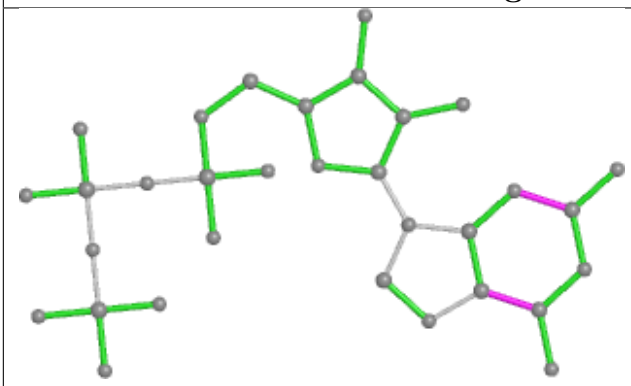


Rings

Ligand GTP MH 501



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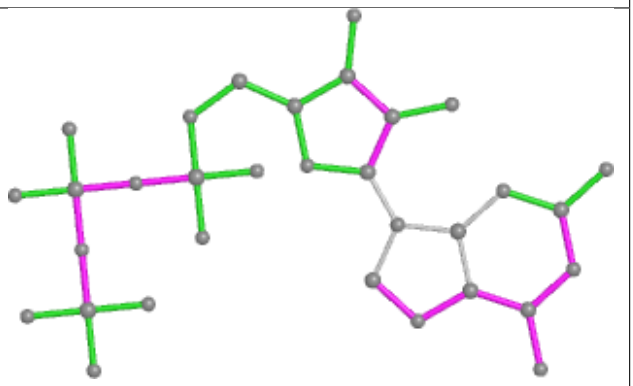

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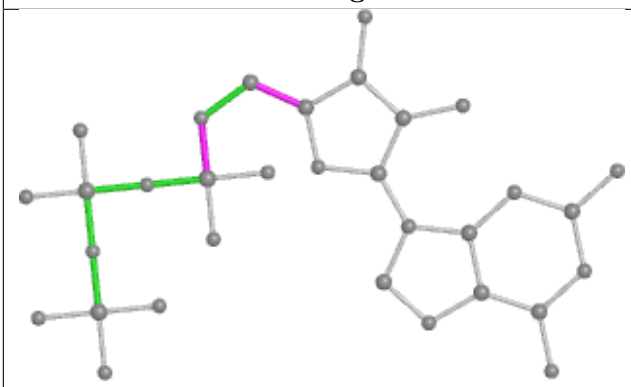

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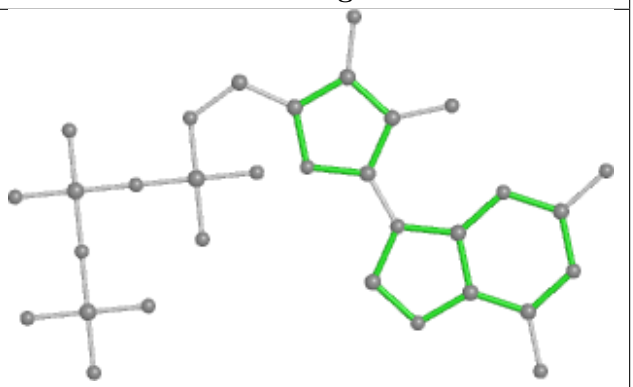
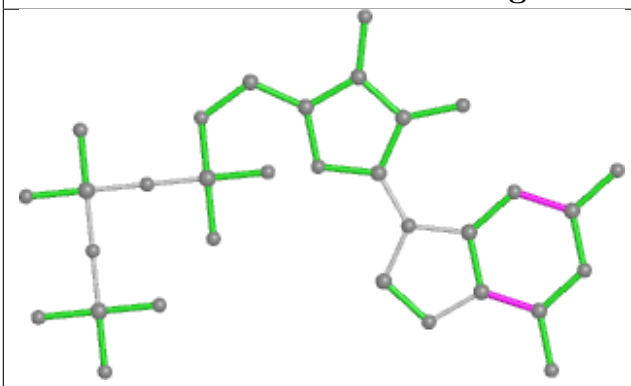


Rings

Ligand GTP DA 501



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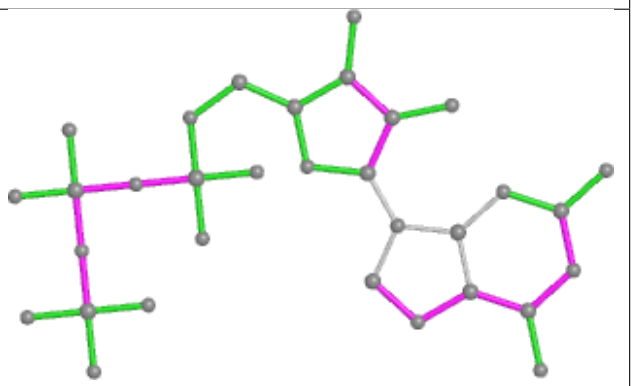

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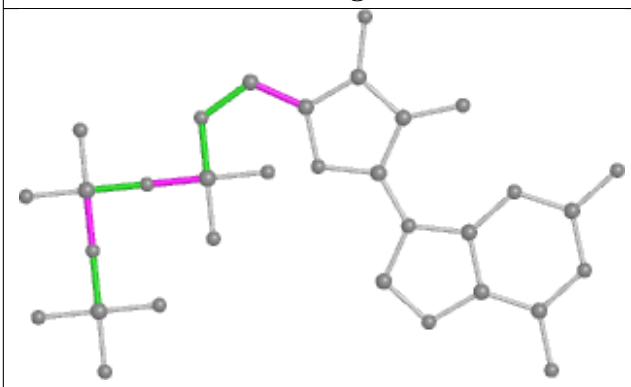

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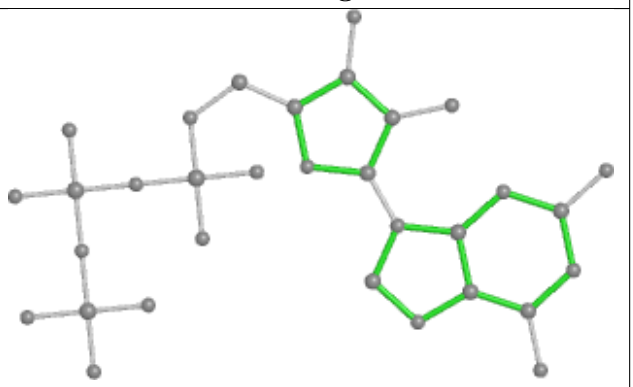

Rings

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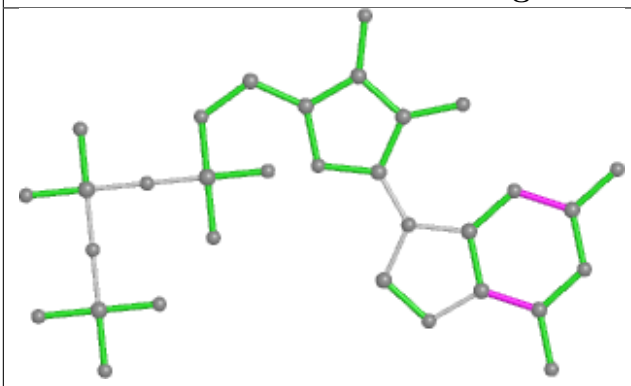

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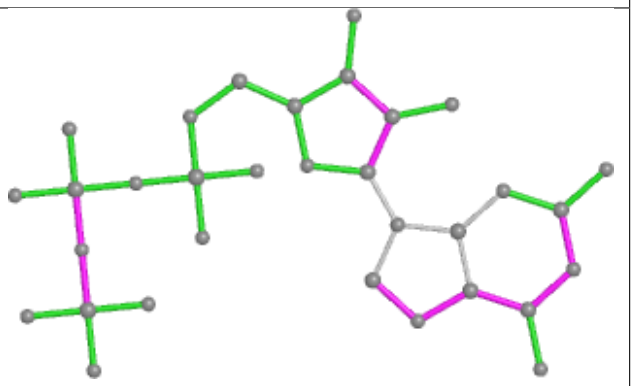
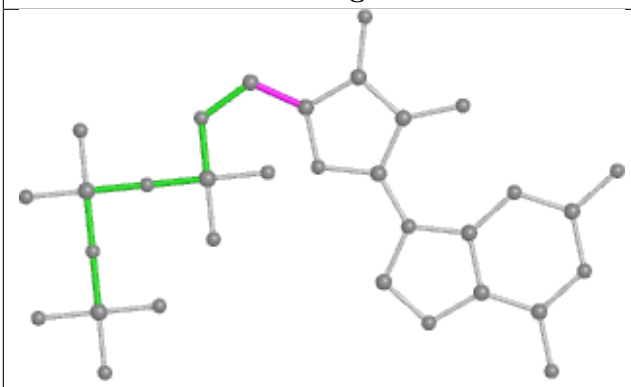


Bond angles



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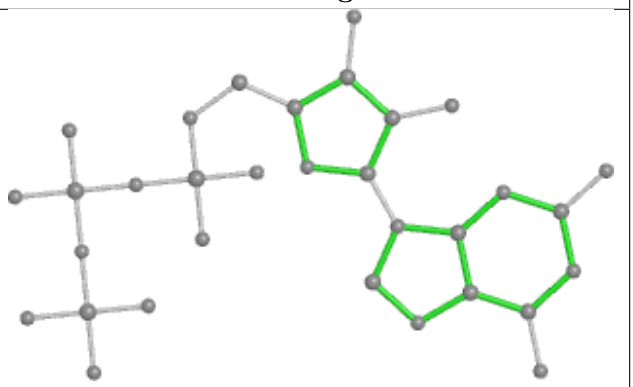
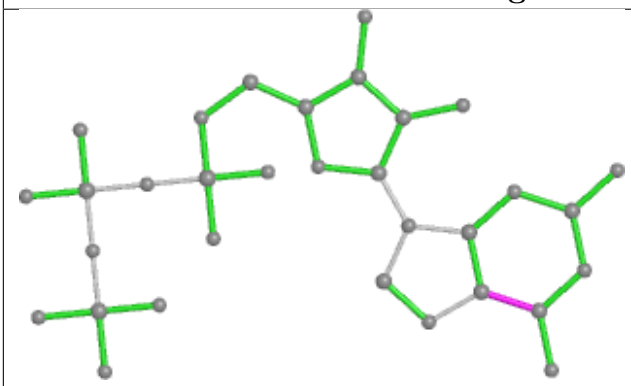
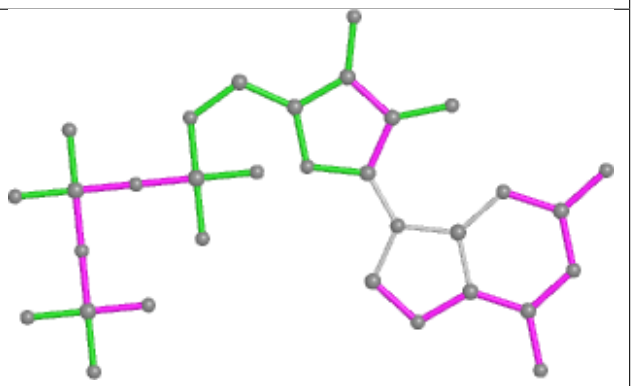


Rings

Ligand GTP RK 501



Bond lengths



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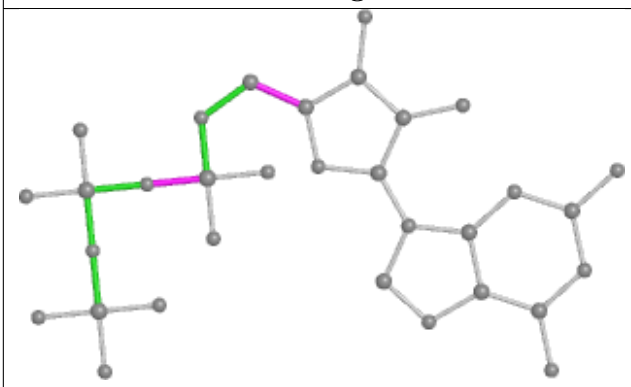
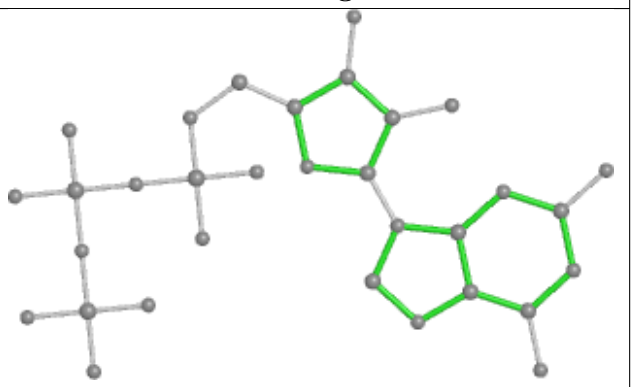
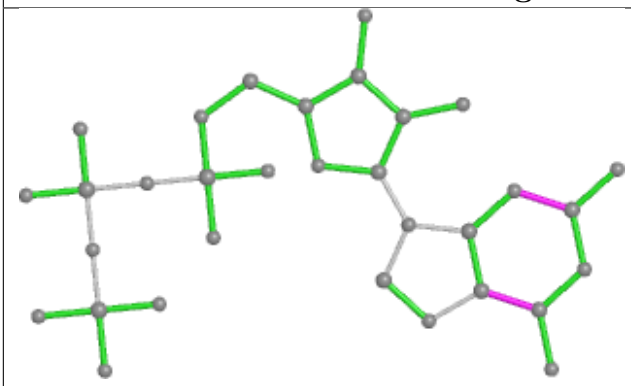


Torsions



Rings

Ligand GTP JE 501



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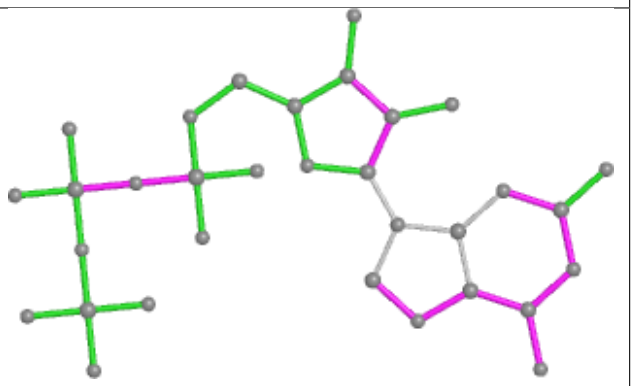

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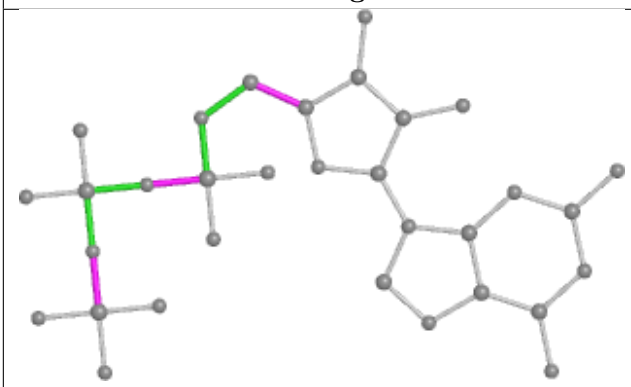

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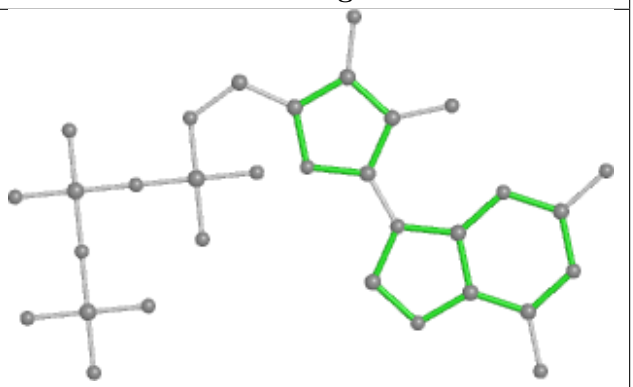
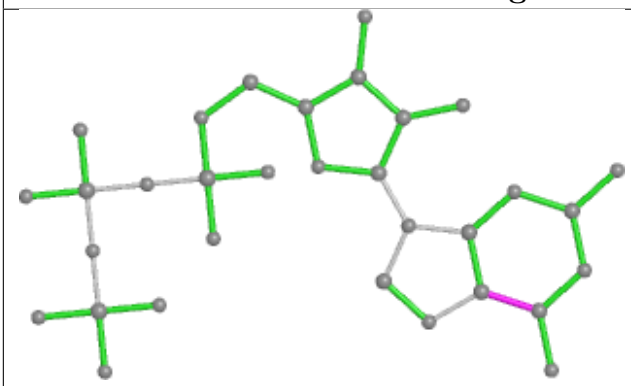


Rings

Ligand GTP DC 501



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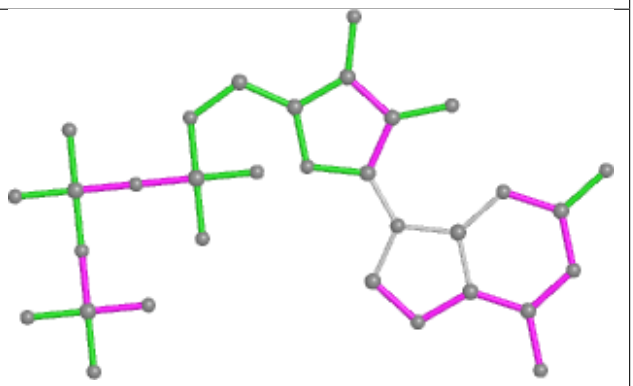

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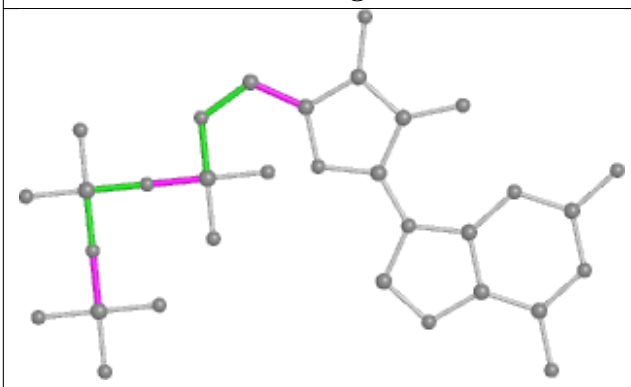

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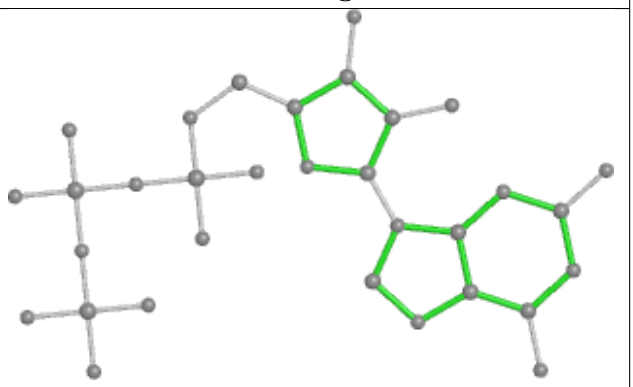

Rings

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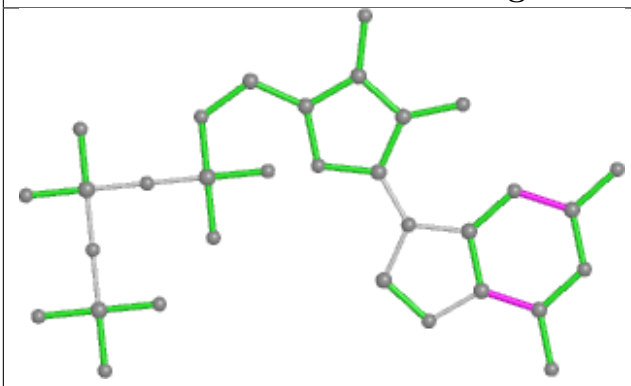

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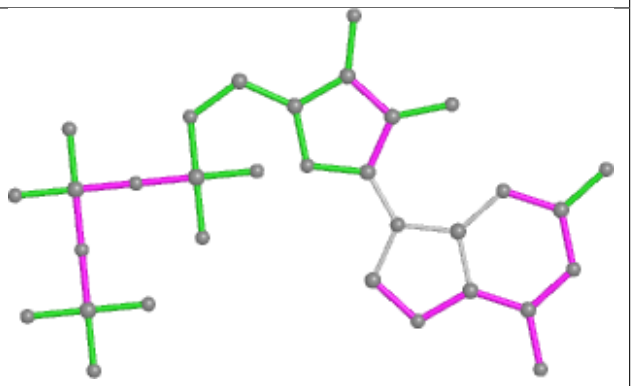

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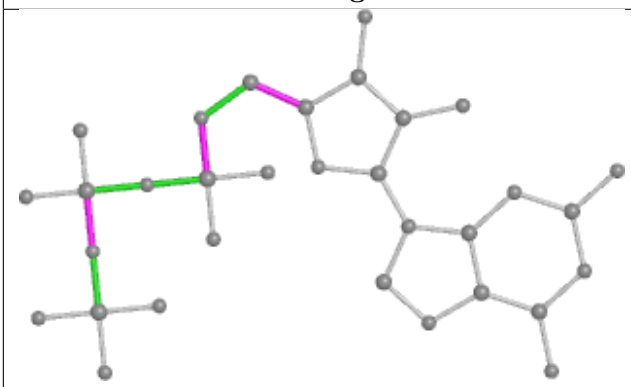

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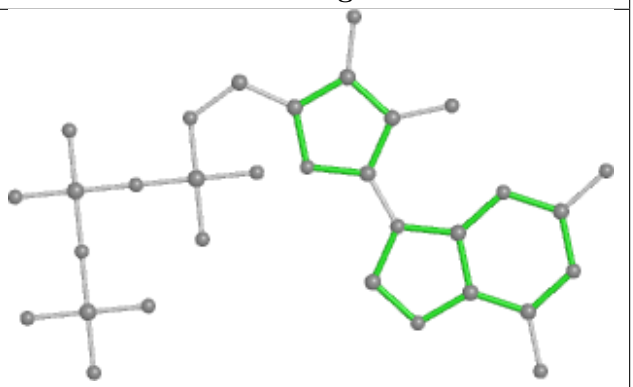
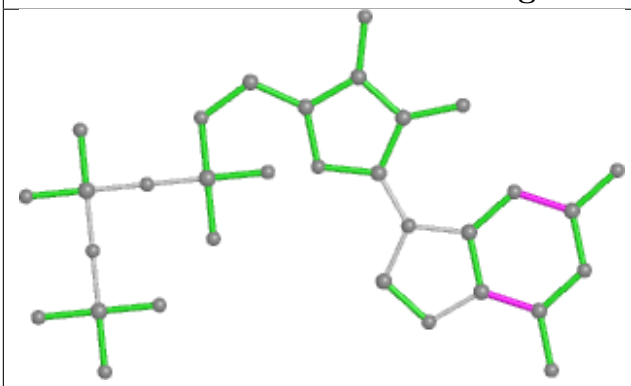


Rings

Ligand GTP IL 501



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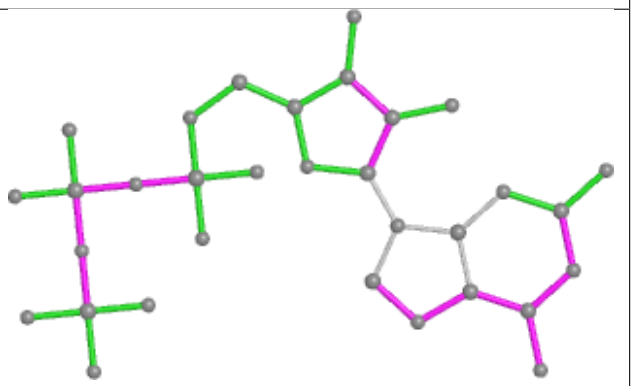

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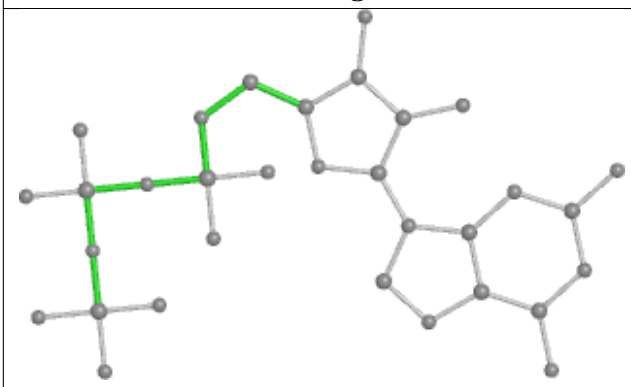

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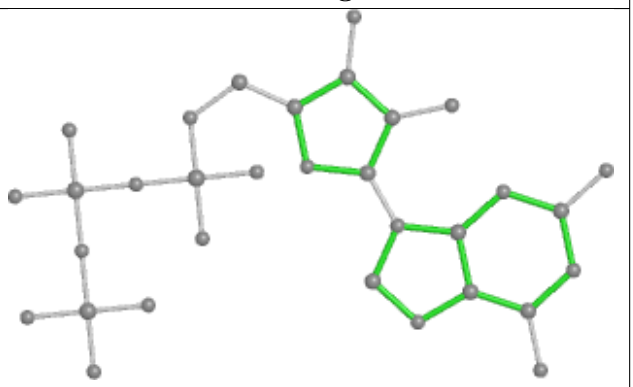
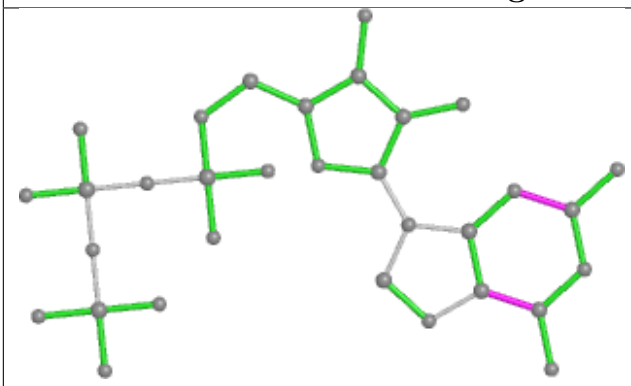


Rings

Ligand GTP KA 501



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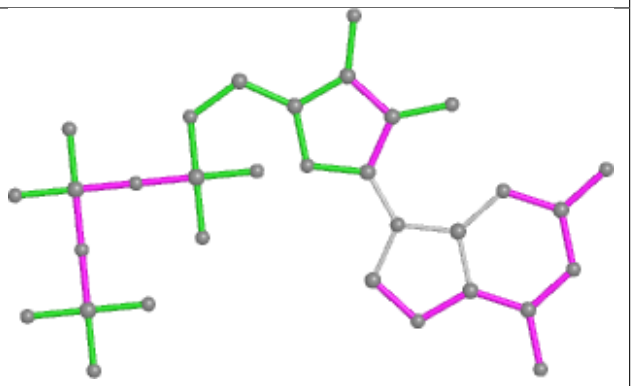

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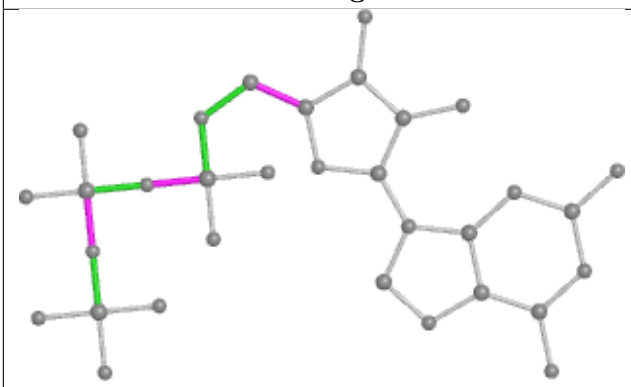

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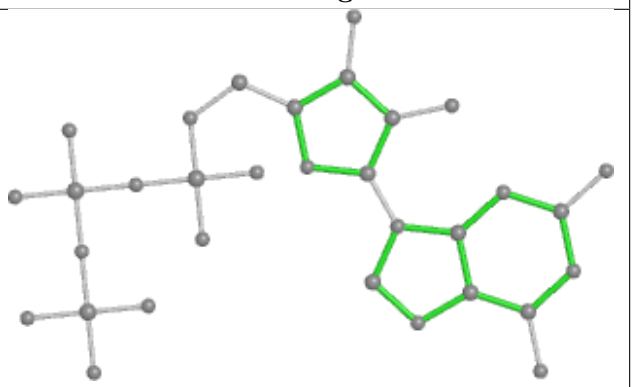
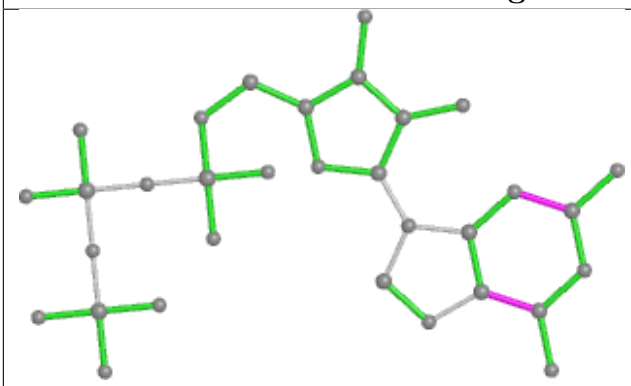


Rings

Ligand GTP OK 501



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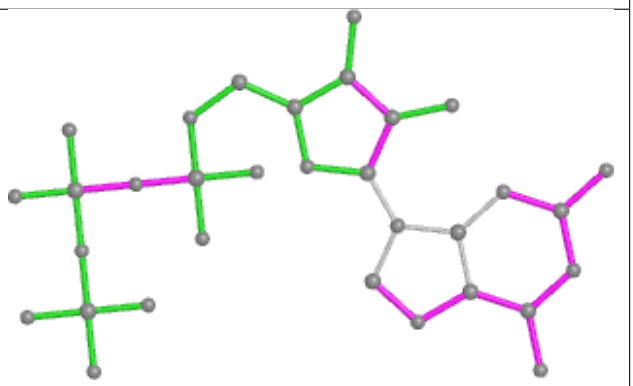

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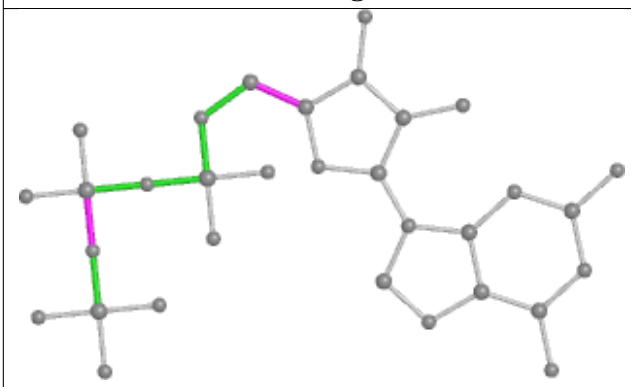

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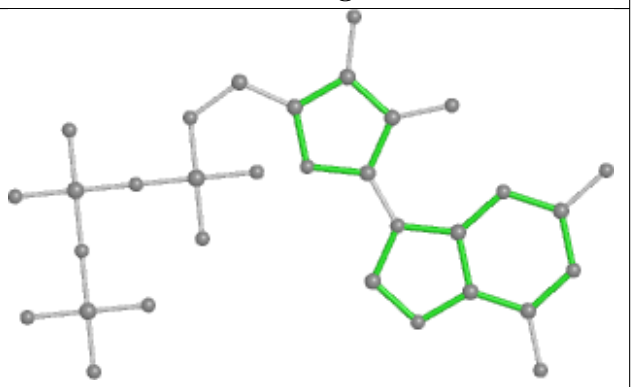
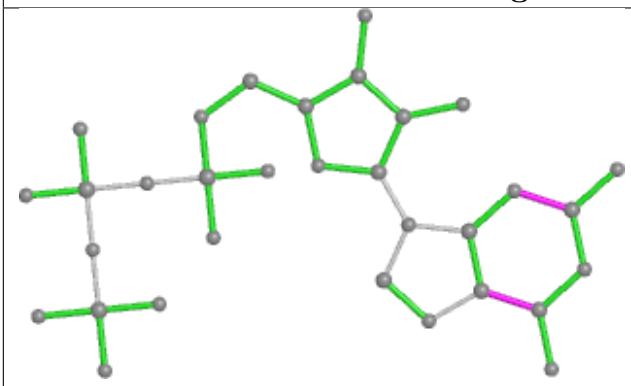


Rings

Ligand GTP RE 501



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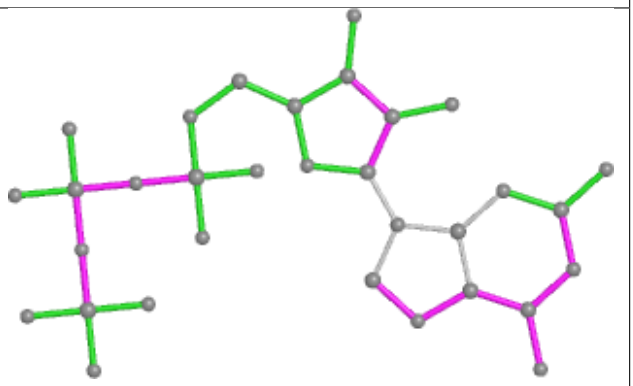

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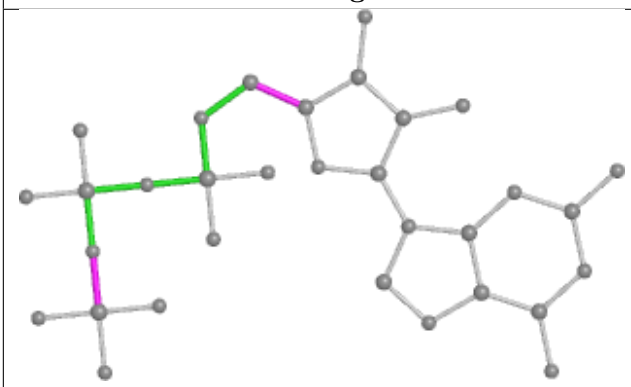

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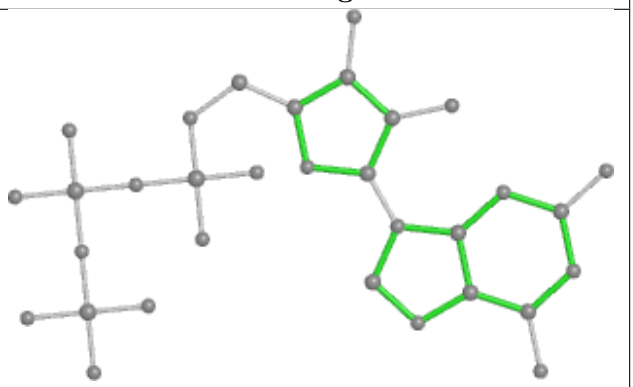
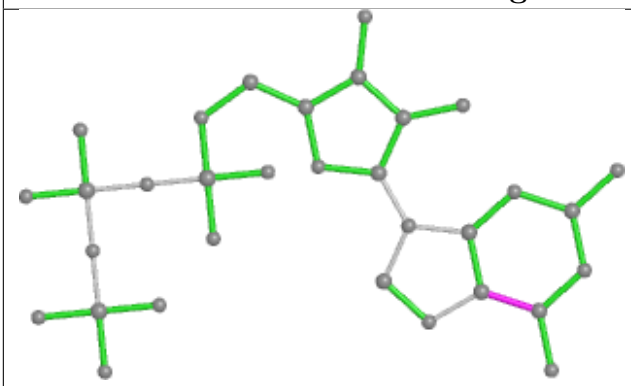


Rings

Ligand GTP GE 501



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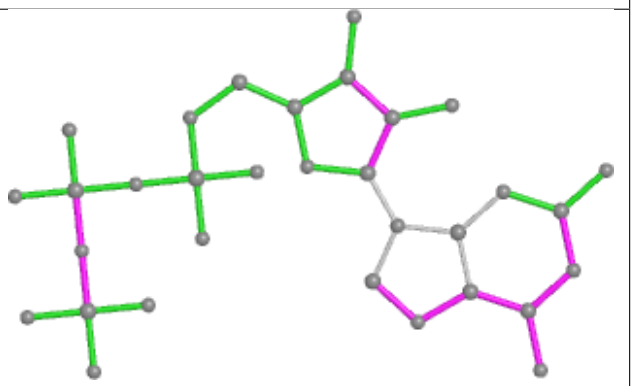

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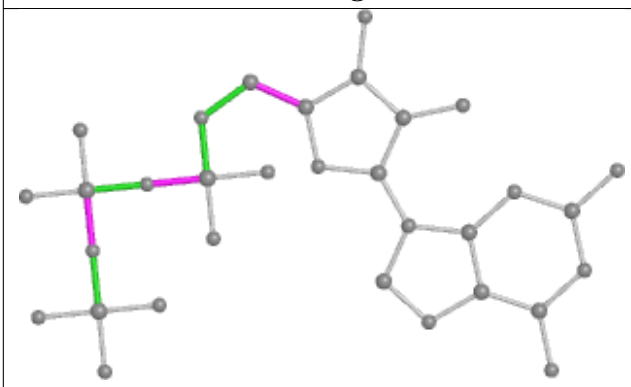

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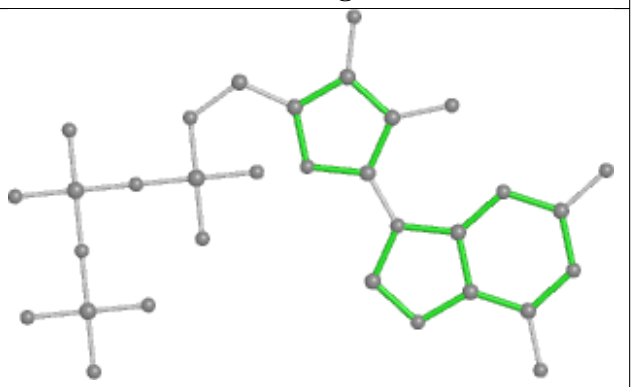
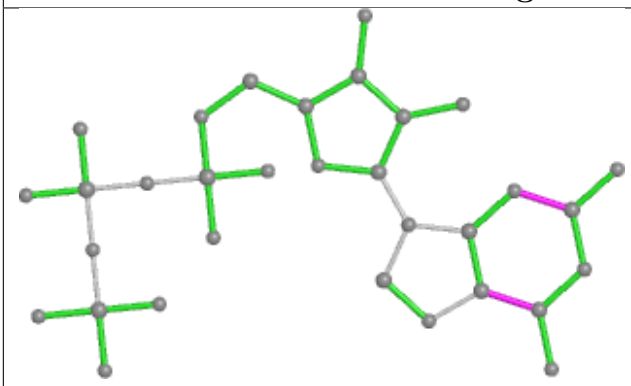


Rings

Ligand GTP SJ 501



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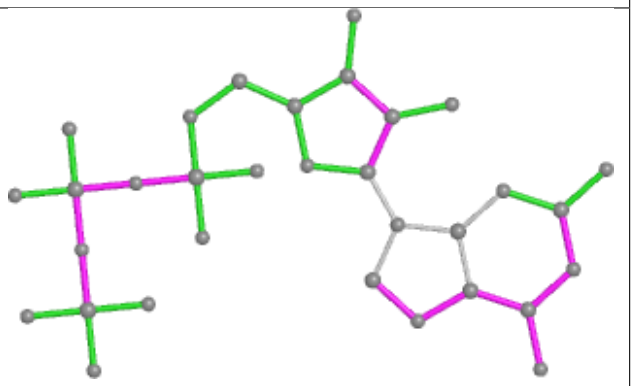

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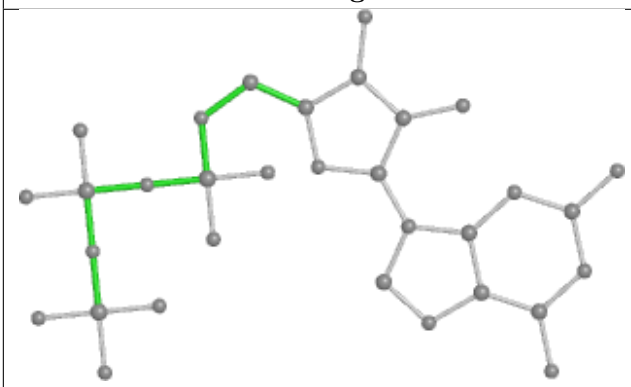

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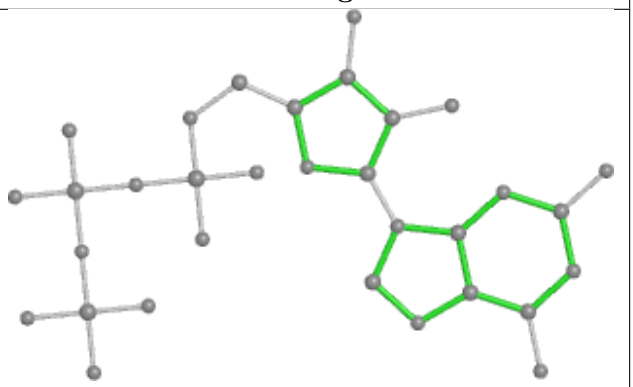

Rings

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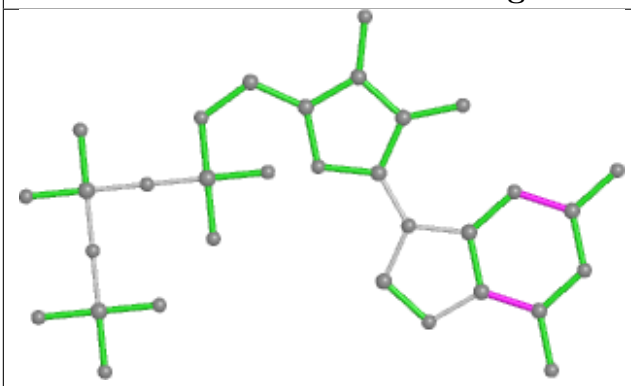

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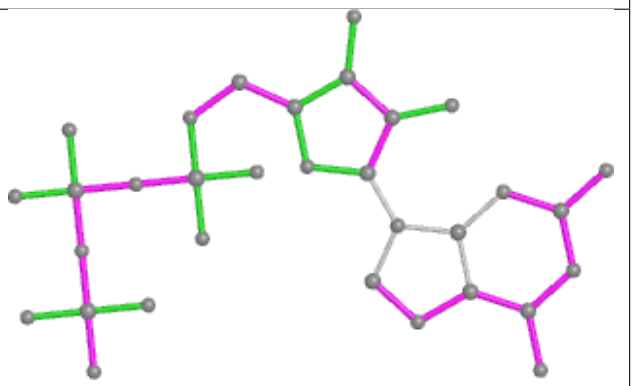

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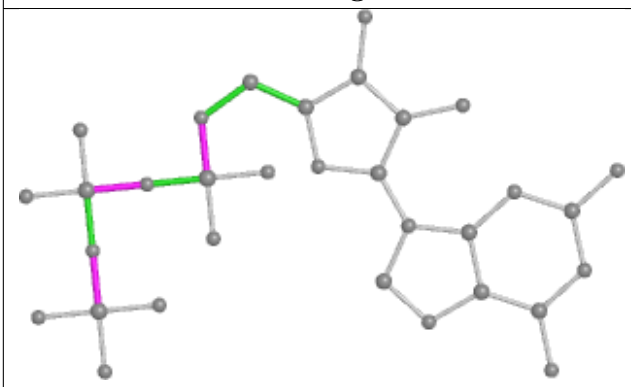

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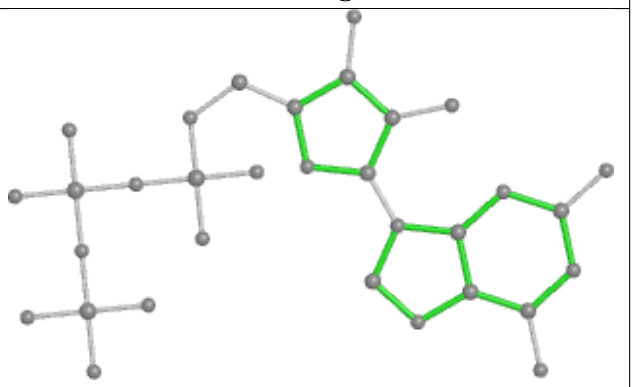
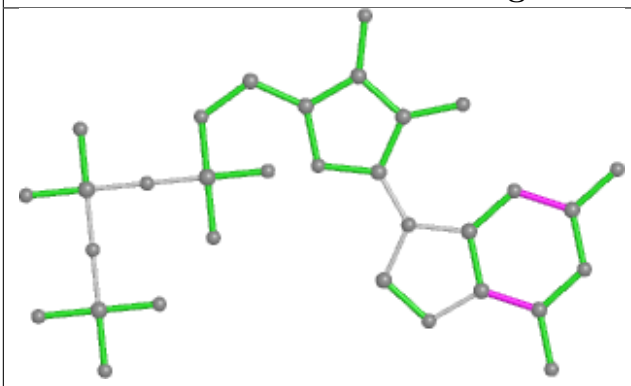


Rings

Ligand GTP WJ 501



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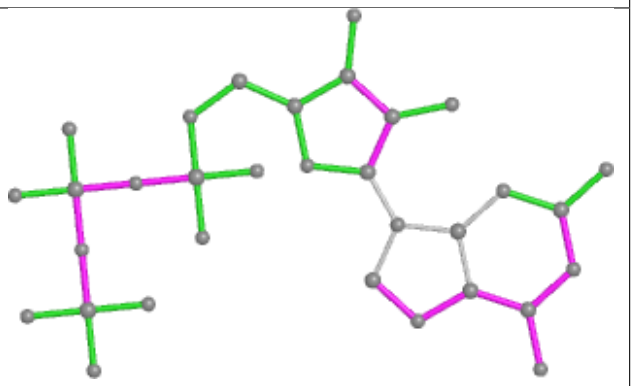

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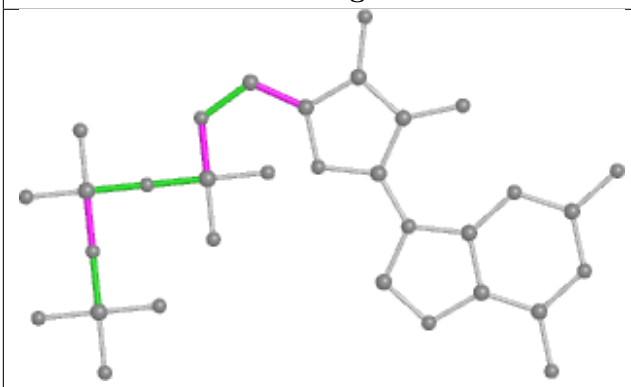

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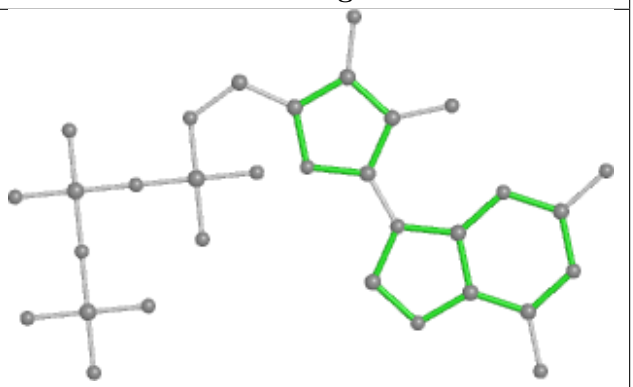
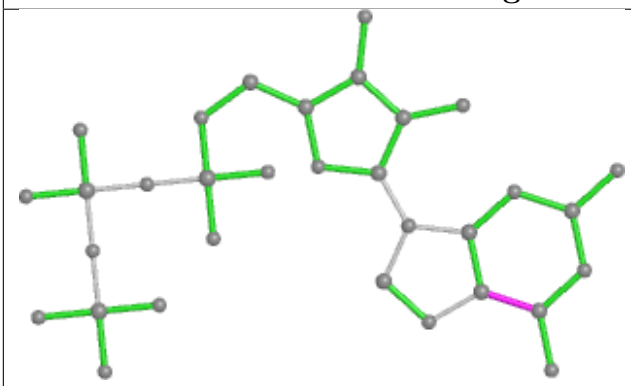


Rings

Ligand GTP WK 501



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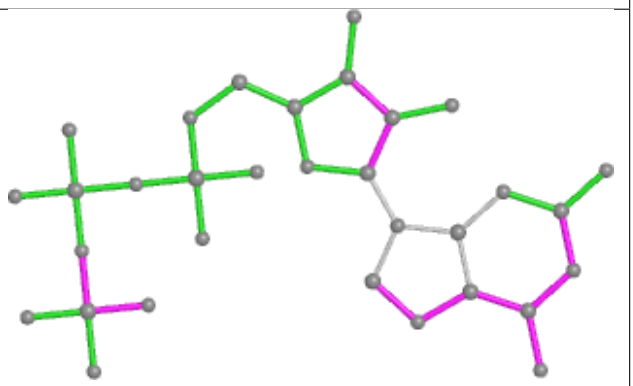

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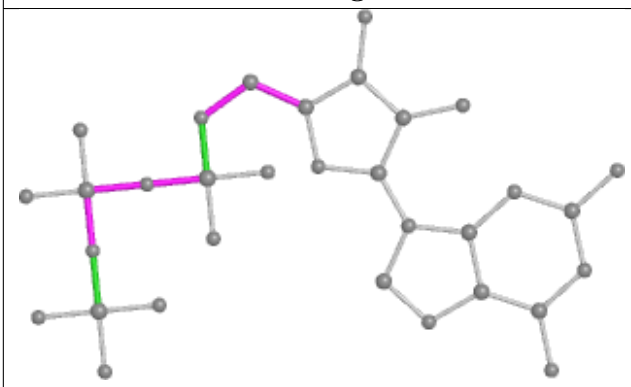

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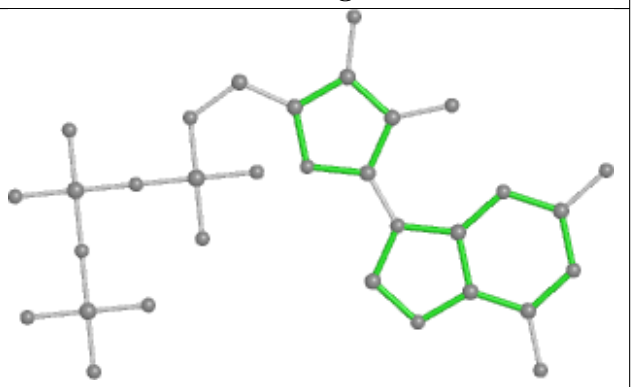
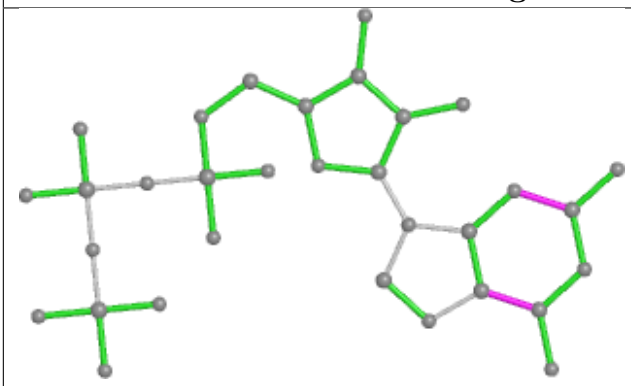


Rings

Ligand GTP BH 501



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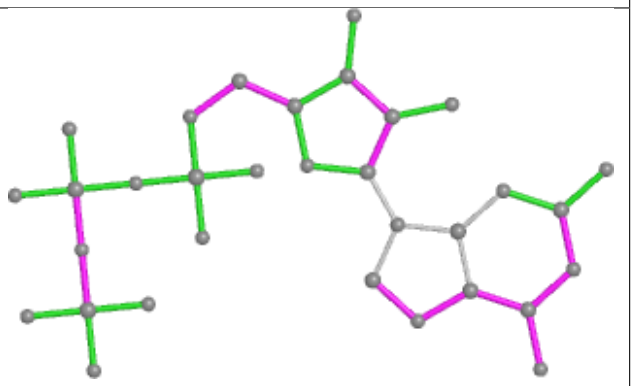
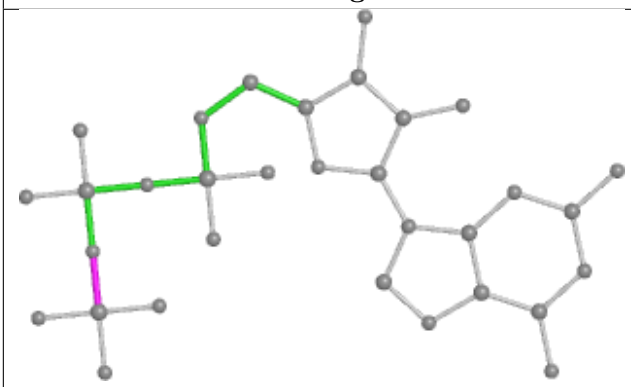


Bond angles



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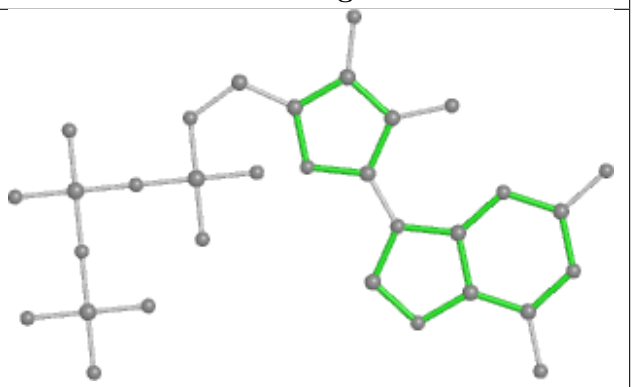
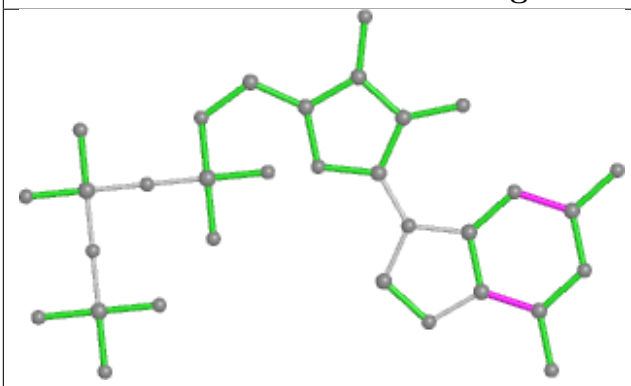


Rings

Ligand GTP HF 501



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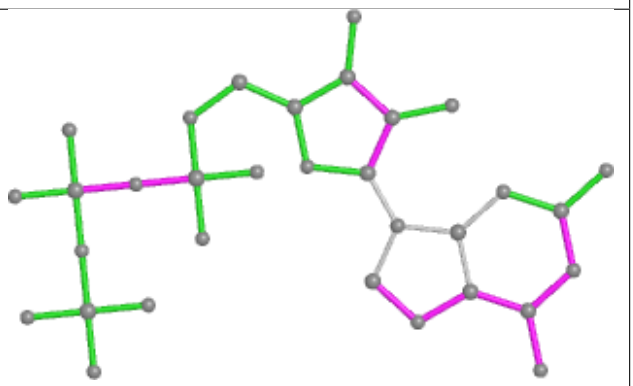
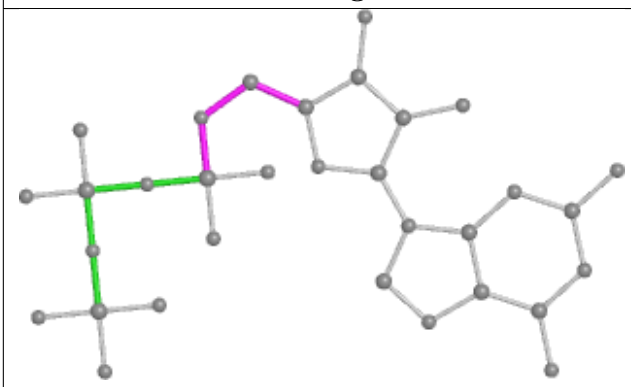
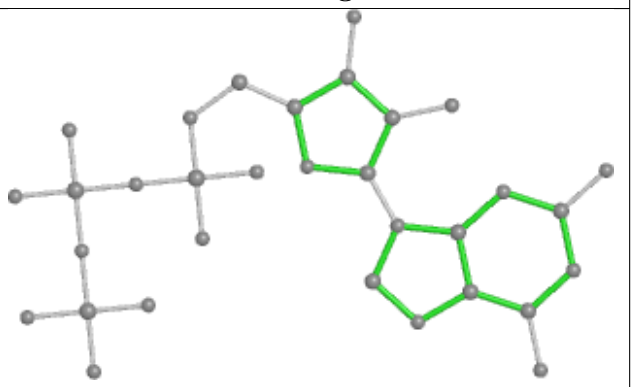


Bond angles

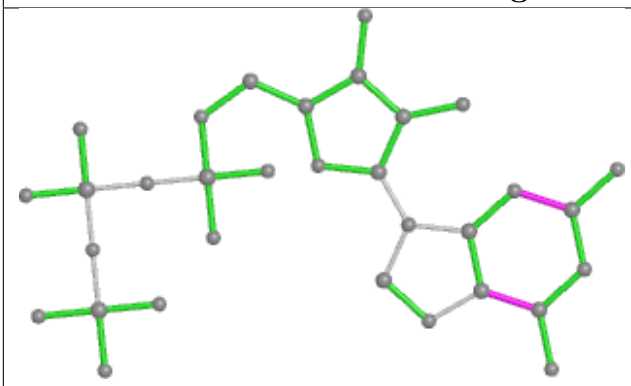


Torsions



Rings

Ligand GTP TB 501



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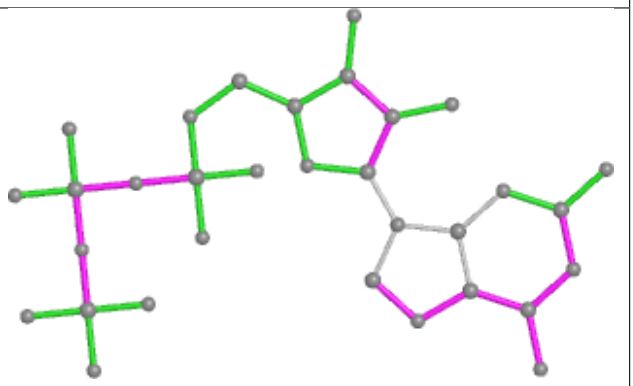

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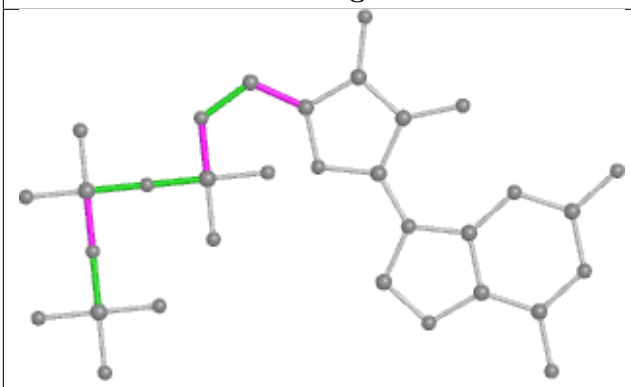

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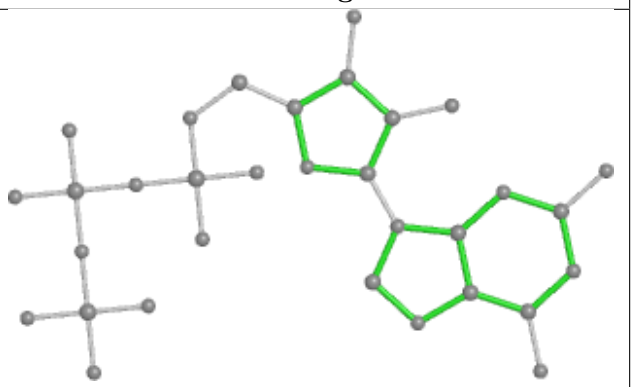
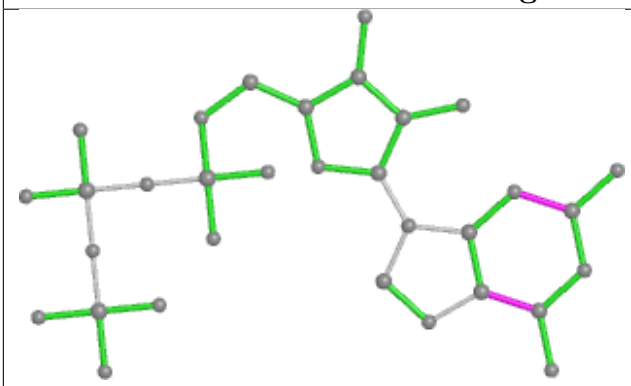


Rings

Ligand GTP IJ 501



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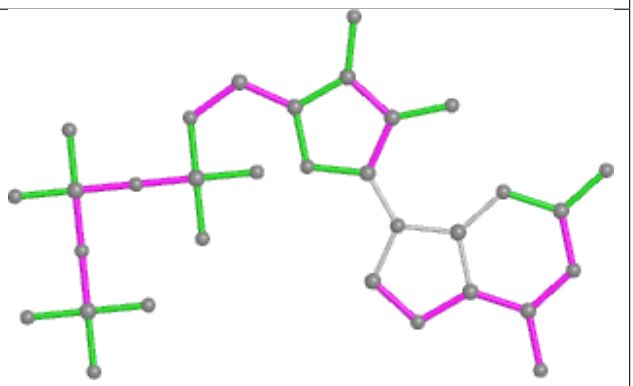

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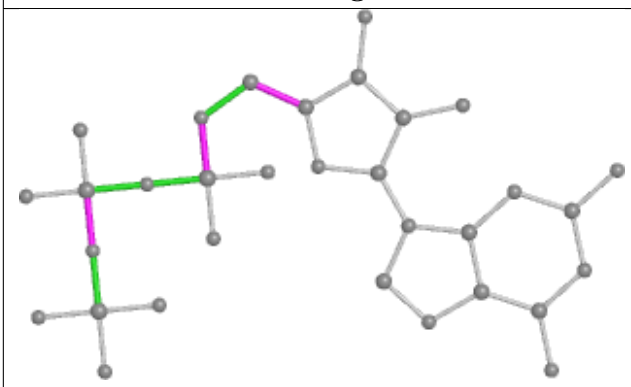

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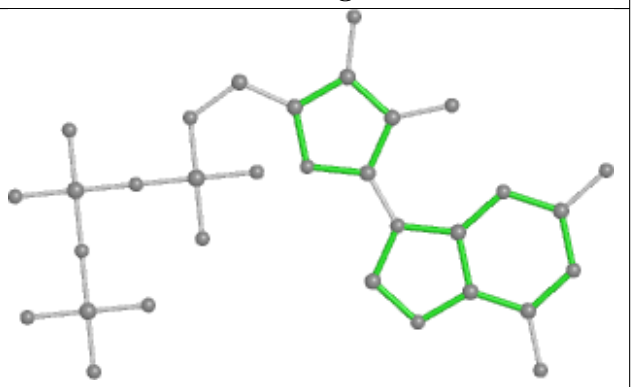
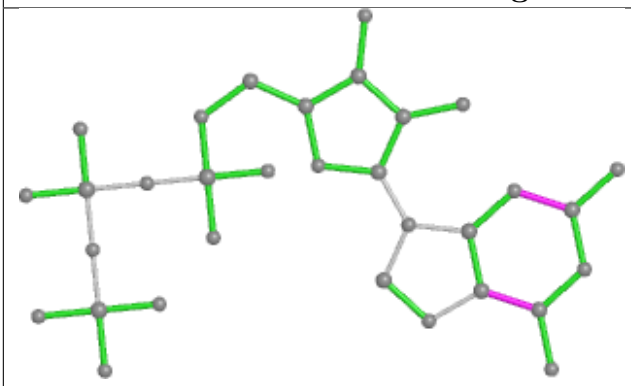


Rings

Ligand GTP KL 501



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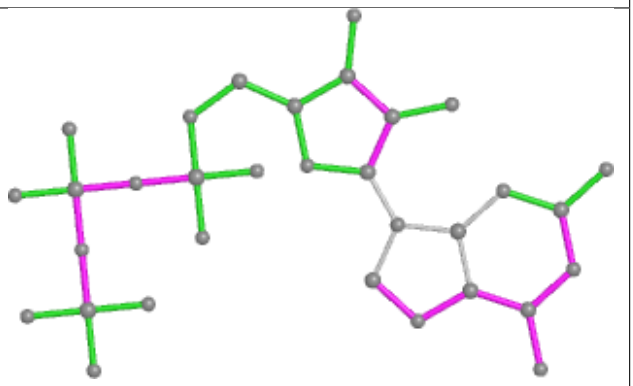

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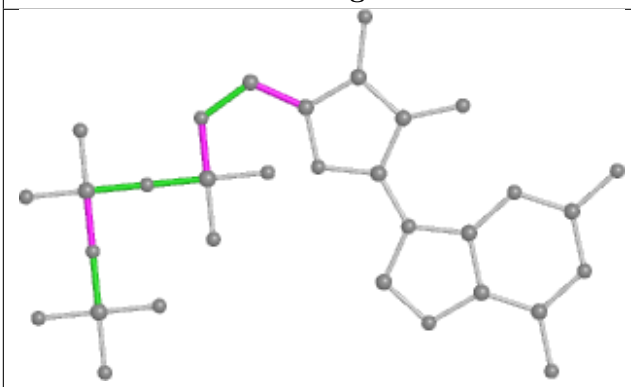

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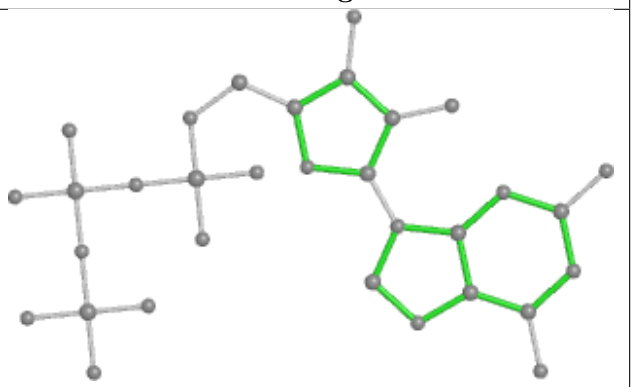

Rings

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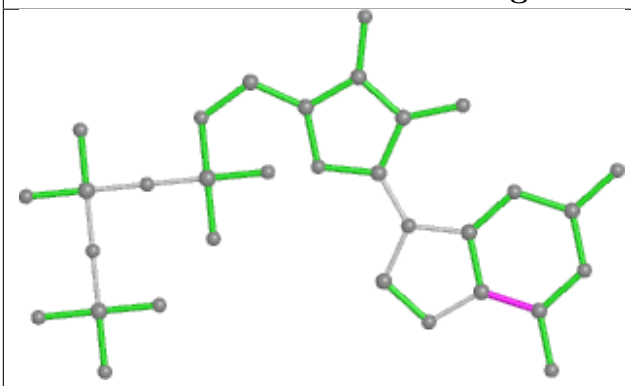

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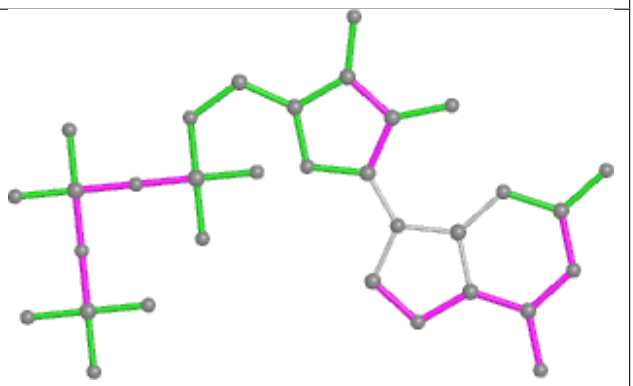

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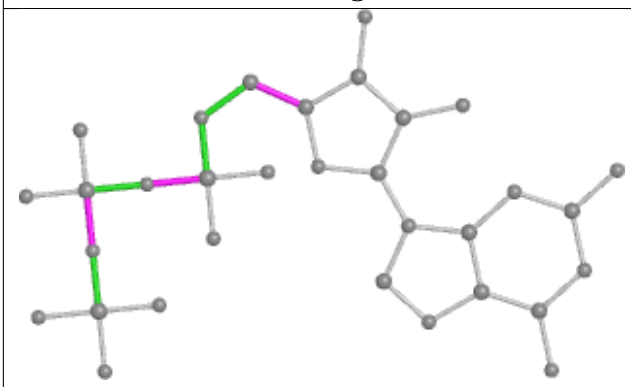

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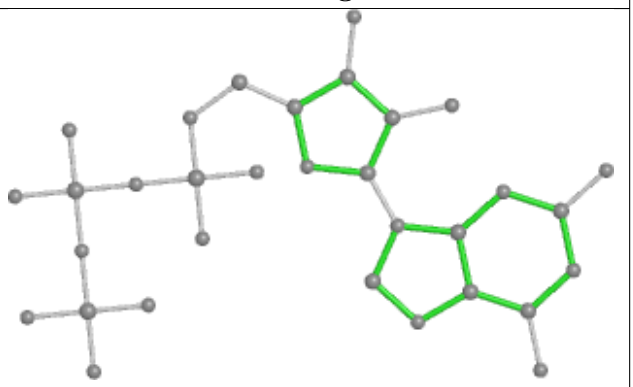

Rings

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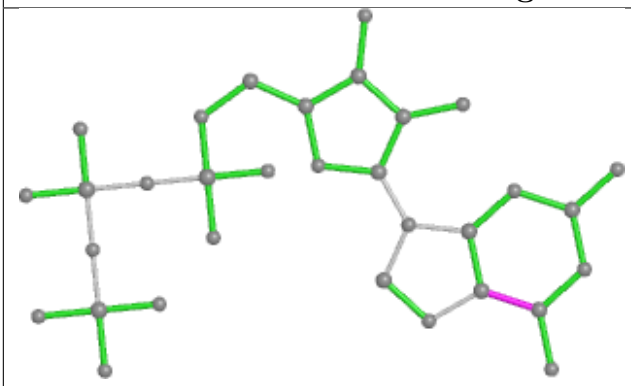

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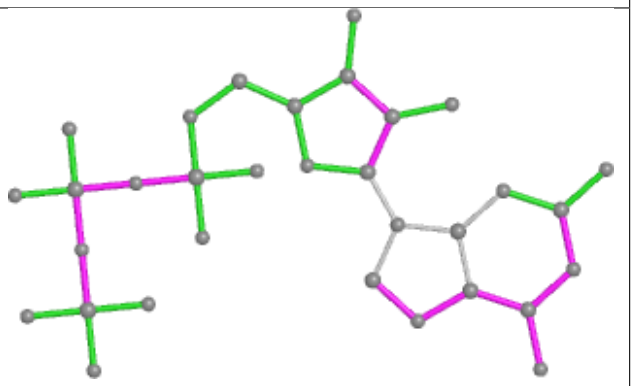

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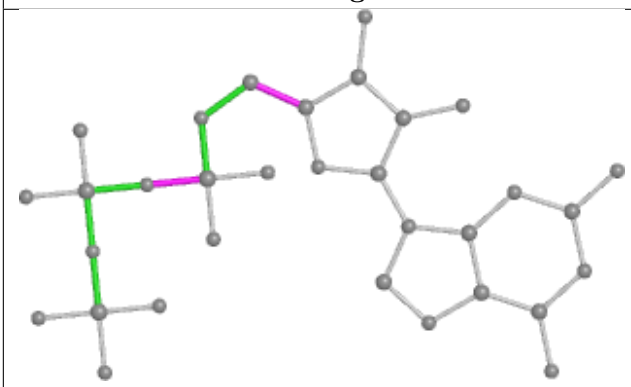

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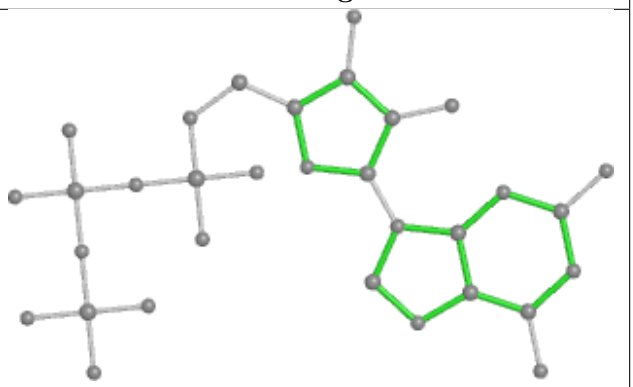

Rings

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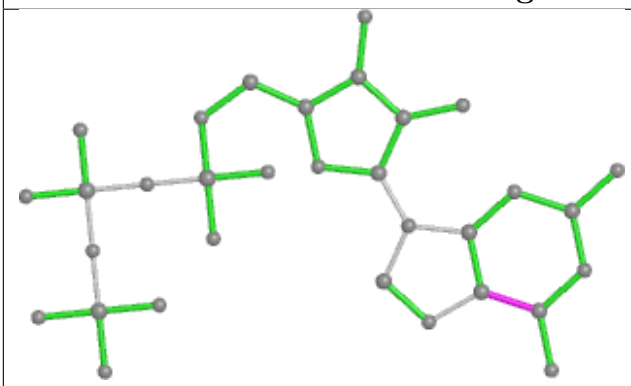

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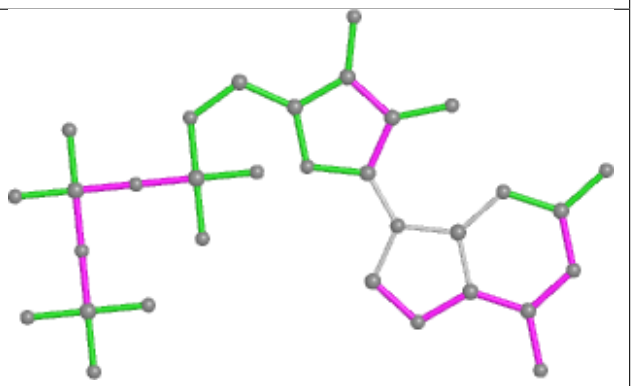

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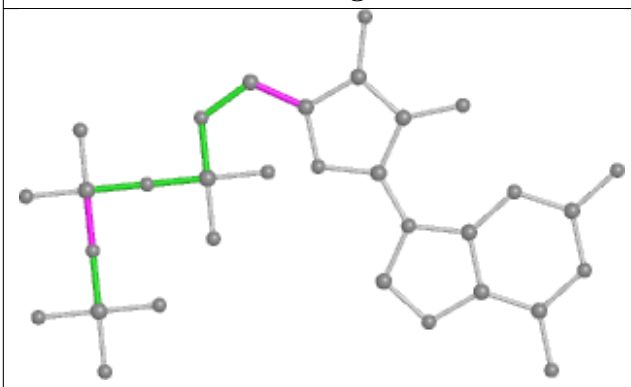

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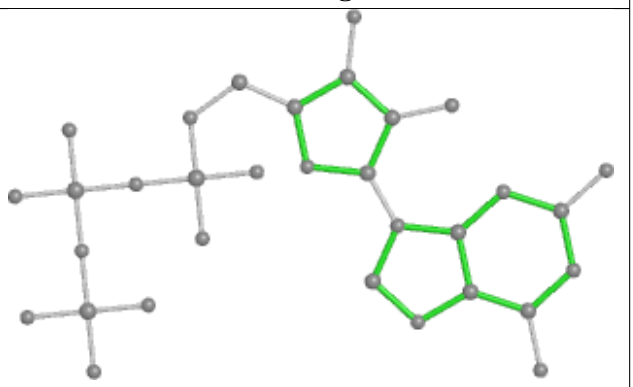

Rings

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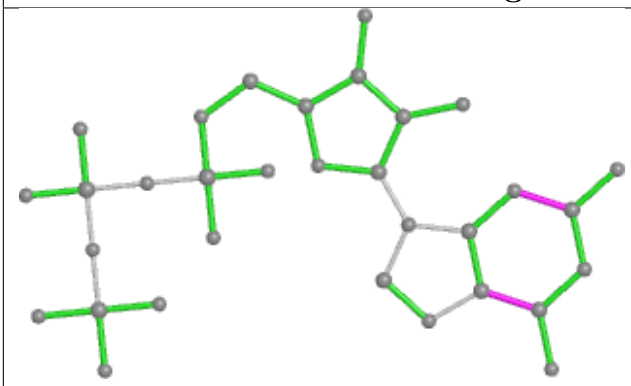

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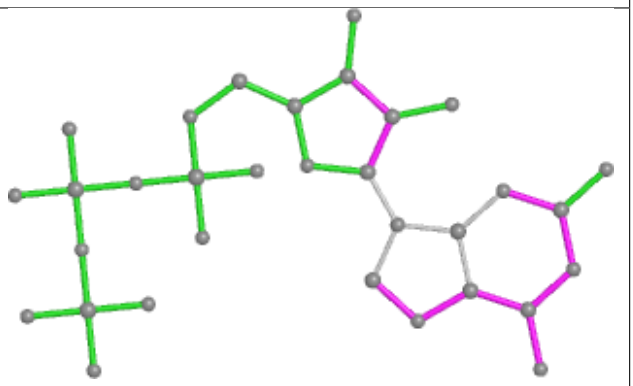

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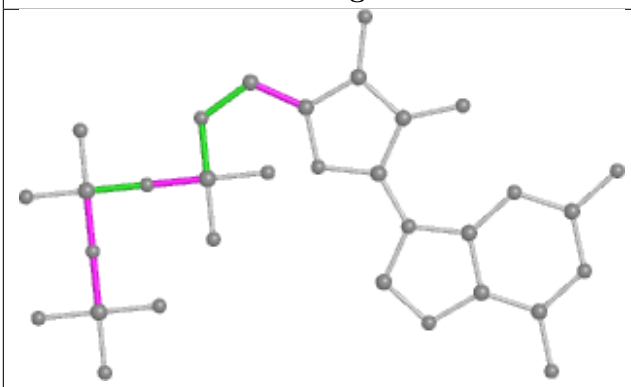

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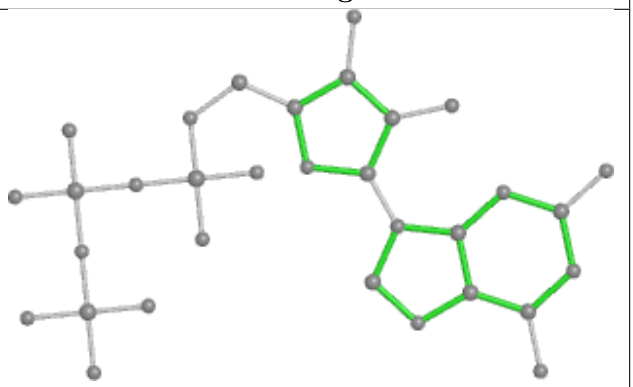

Rings

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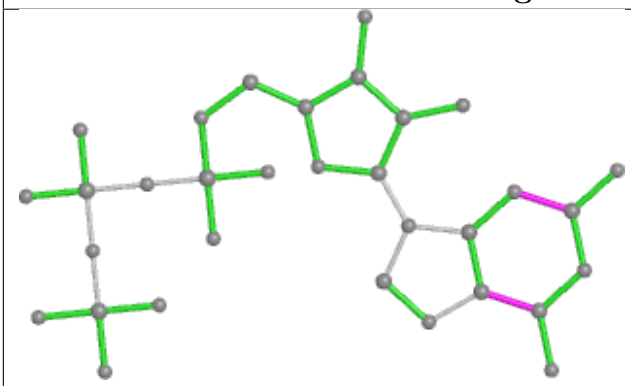

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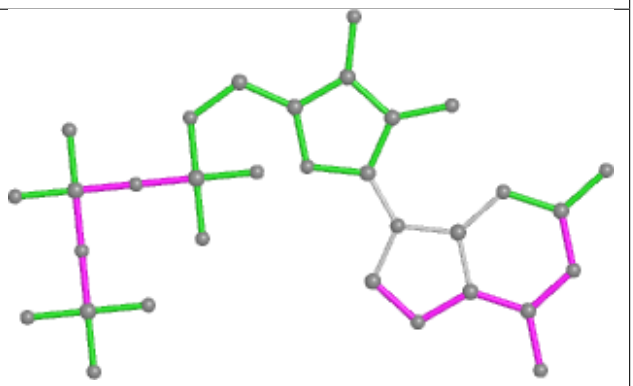

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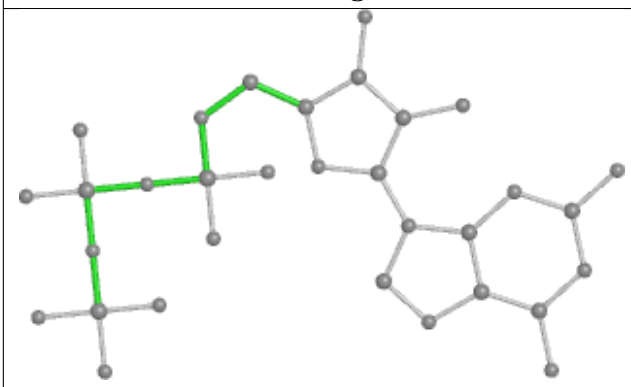

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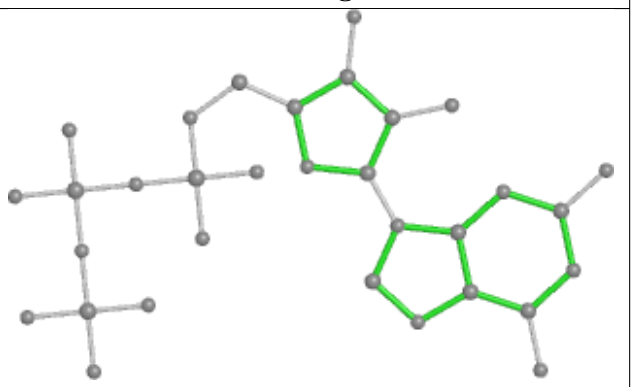
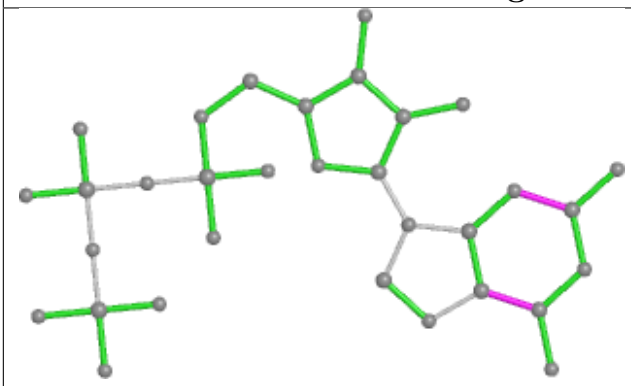


Rings

Ligand GTP NH 501



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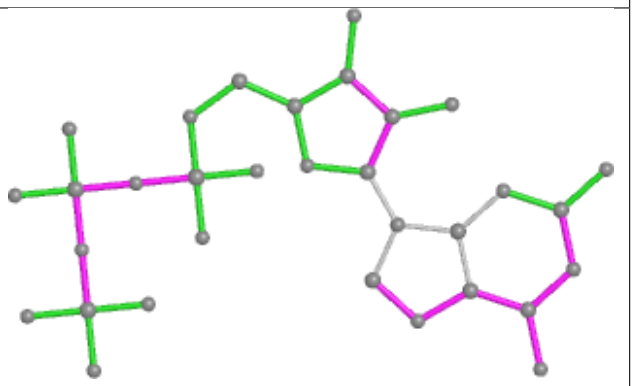

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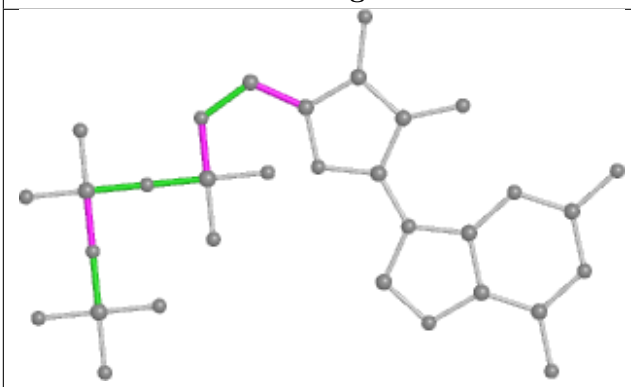

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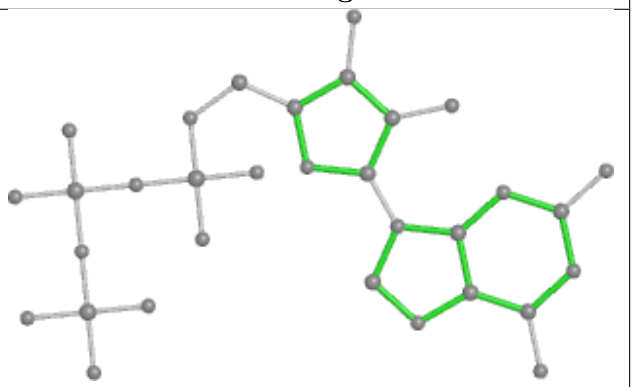

Rings

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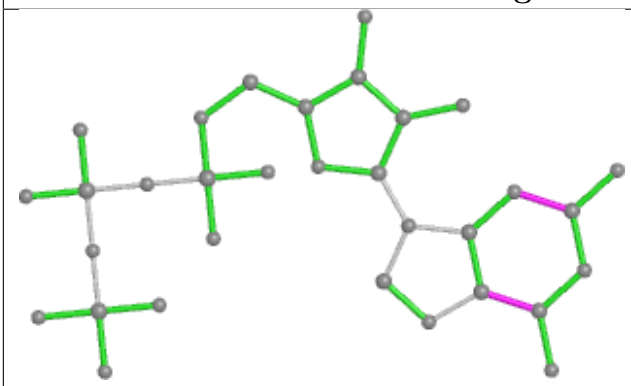

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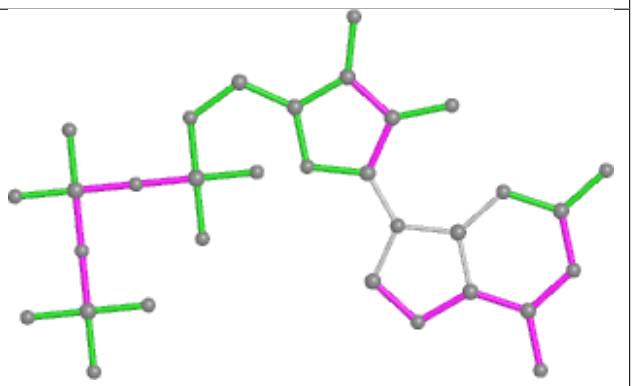

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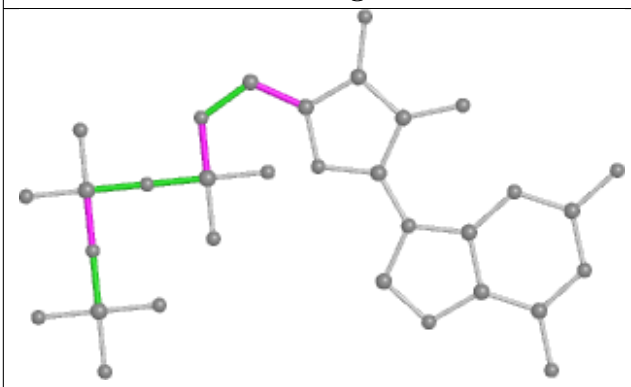

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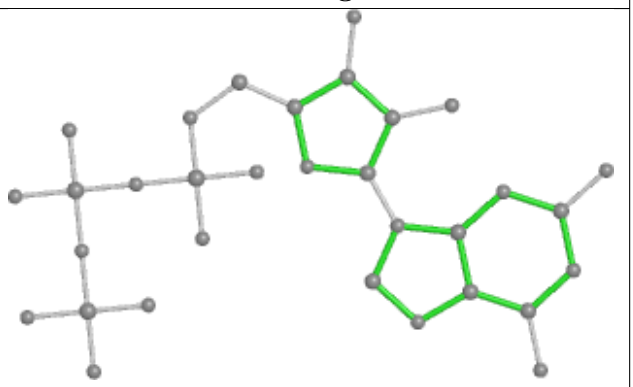
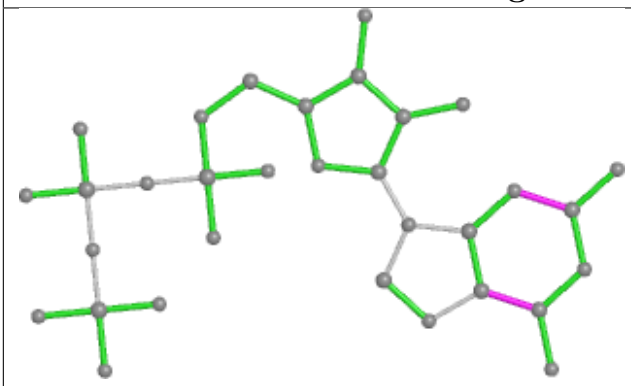


Rings

Ligand GTP QD 502



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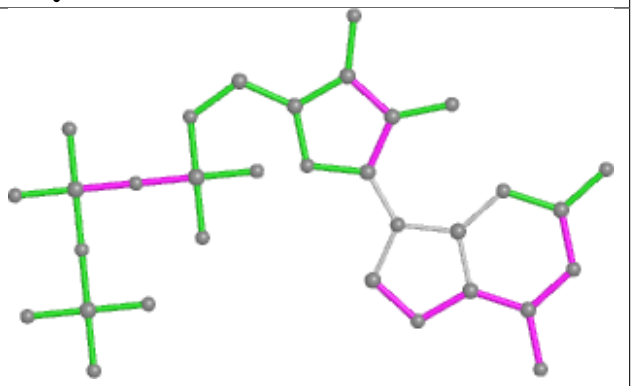

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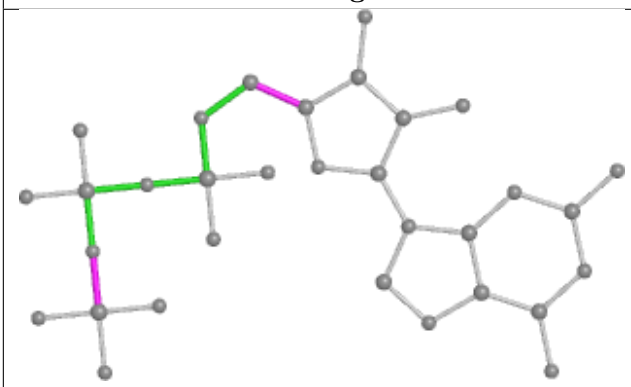

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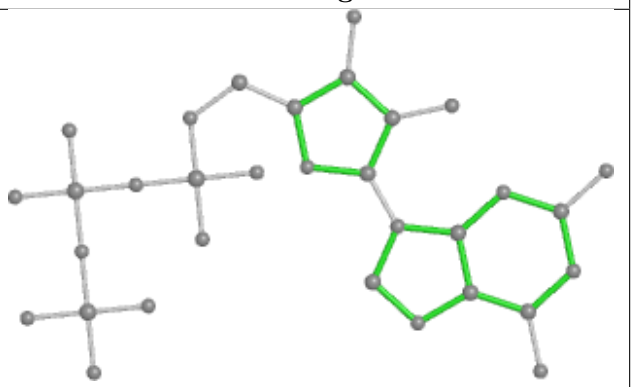
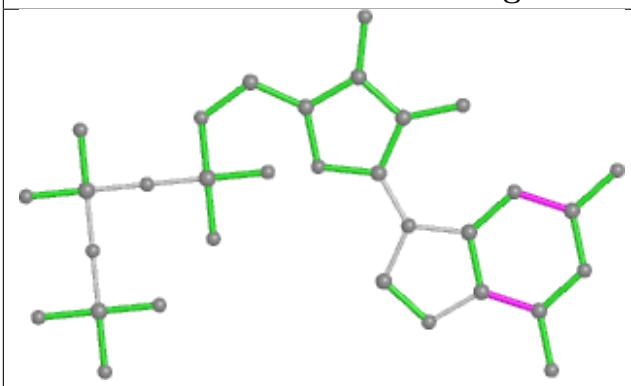


Rings

Ligand GTP WD 501



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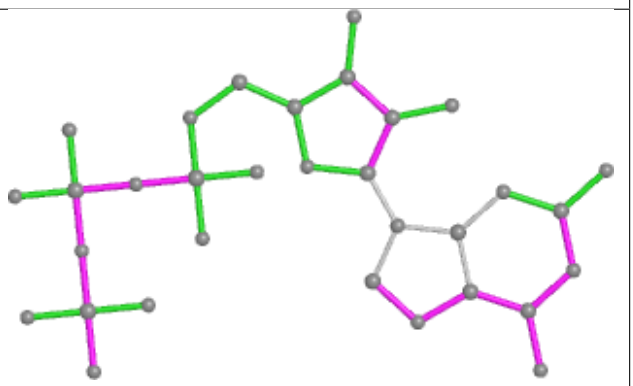

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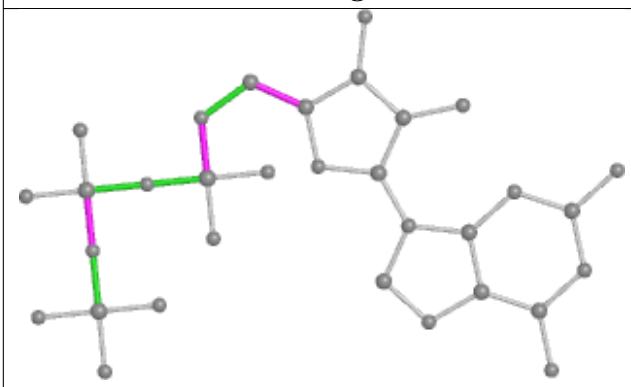

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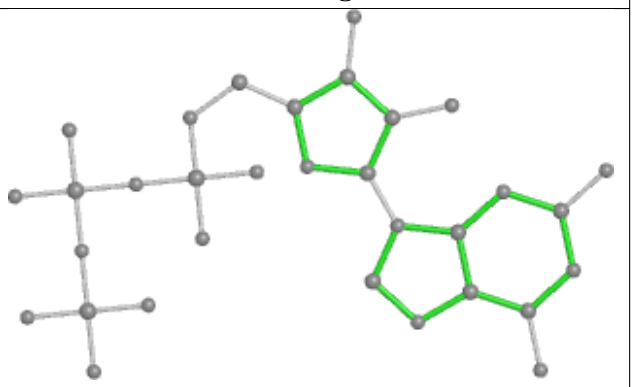
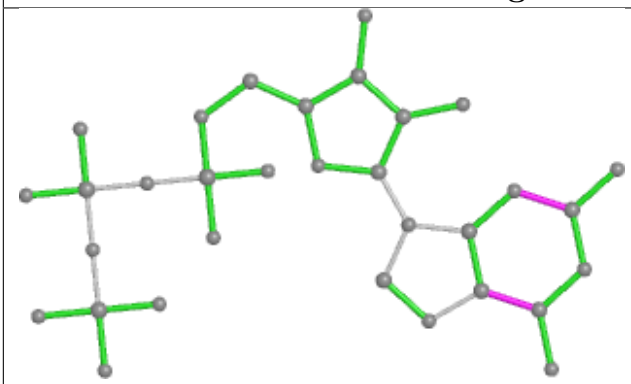


Rings

Ligand GTP NA 501



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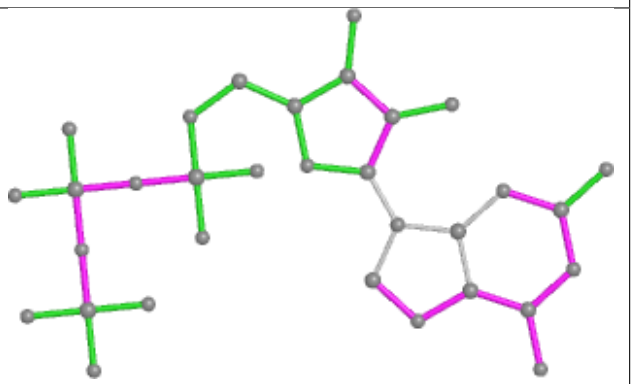

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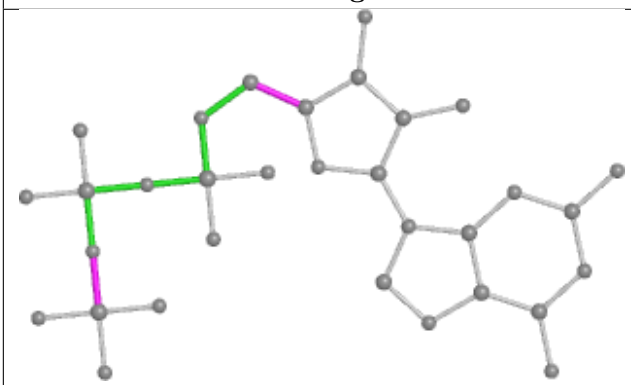

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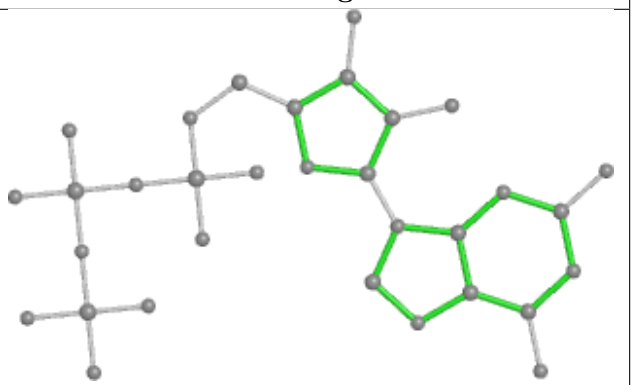
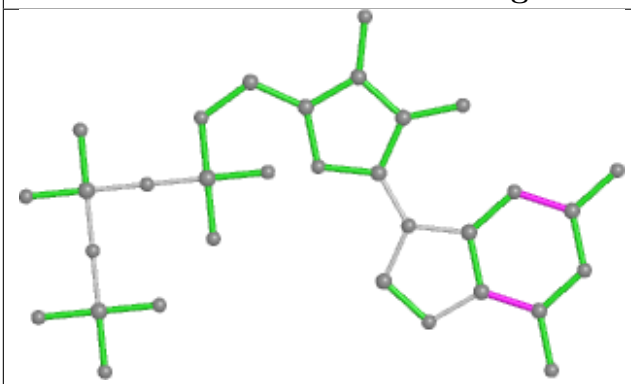


Rings

Ligand GTP EB 501



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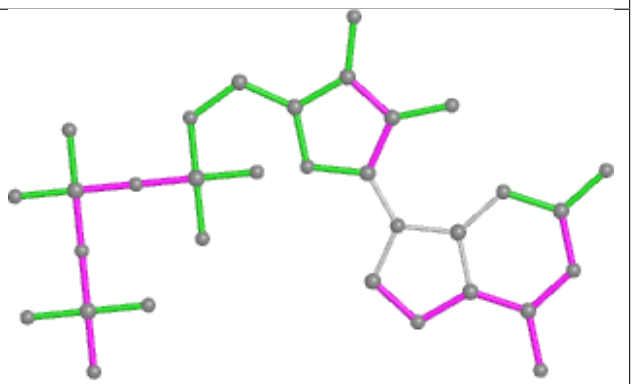
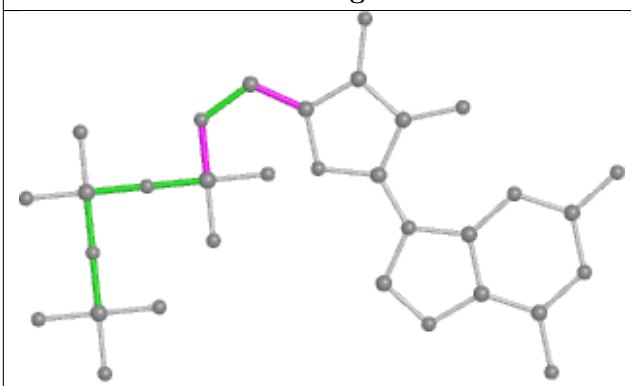


Bond angles



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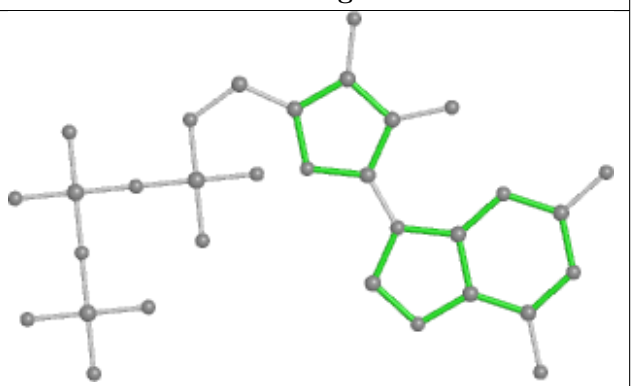
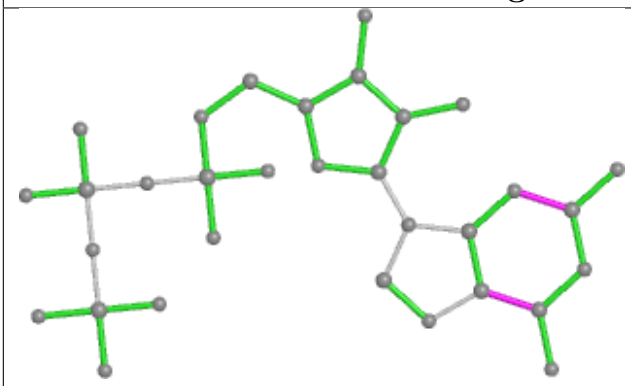
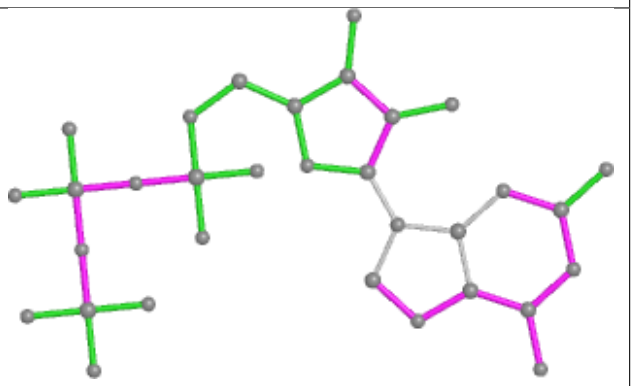


Rings

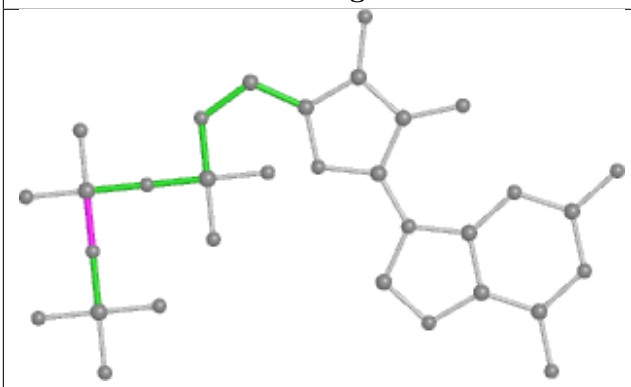
Ligand GTP ML 501



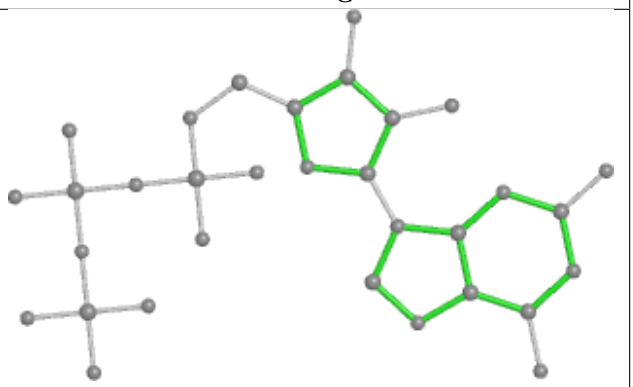
Bond lengths



Bond angles

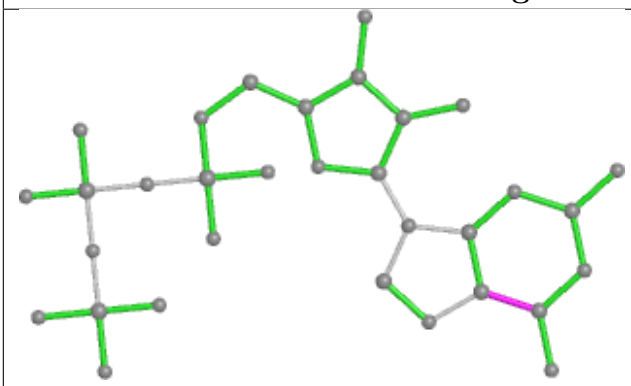


Torsions



Rings

Ligand GTP EE 501



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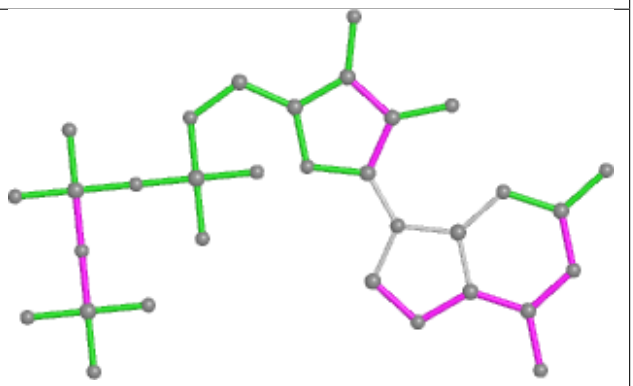

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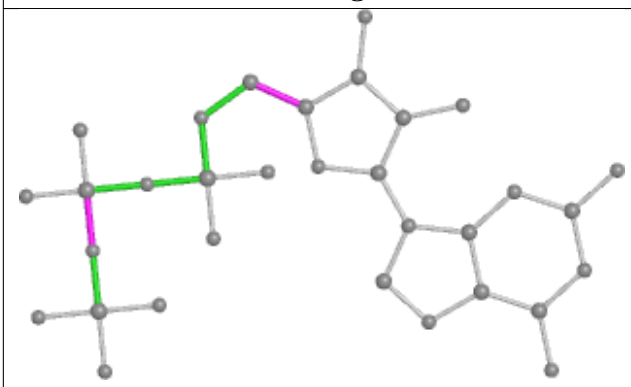

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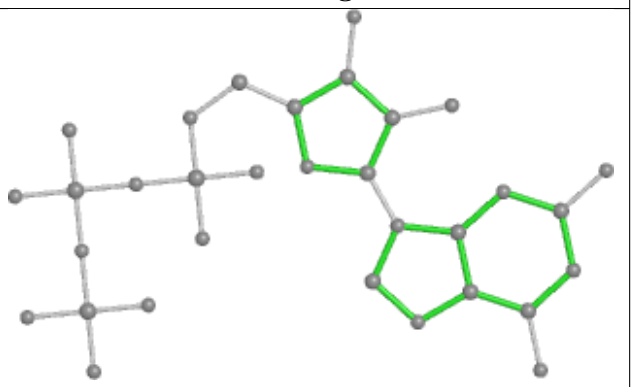
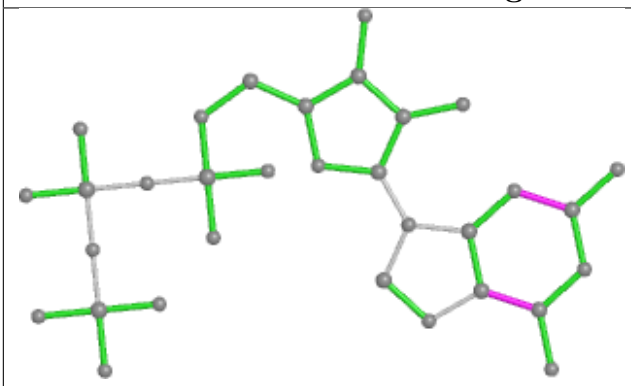


Rings

Ligand GTP RM 501



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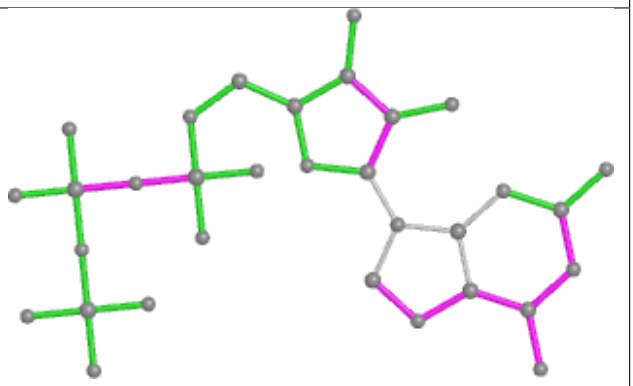

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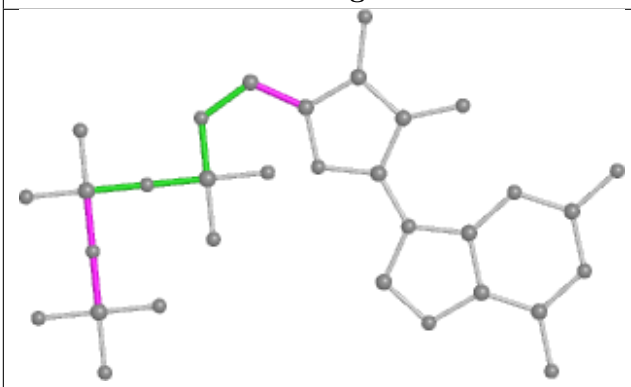

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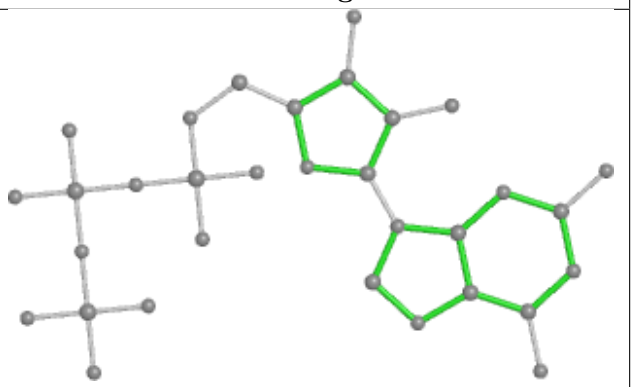
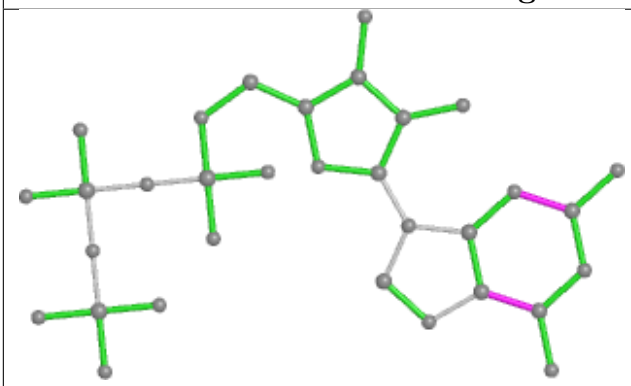


Rings

Ligand GTP LI 501



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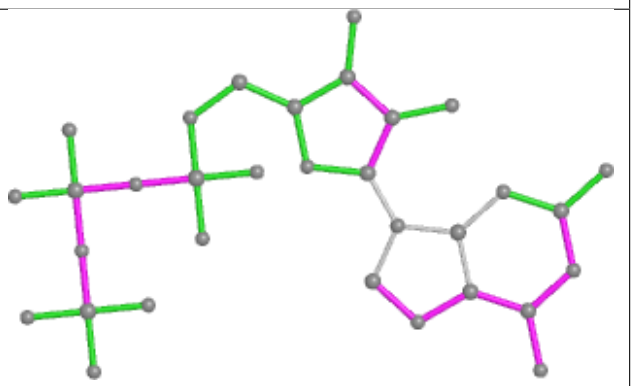

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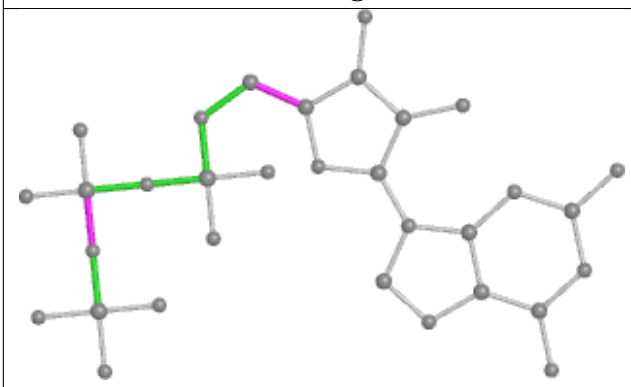

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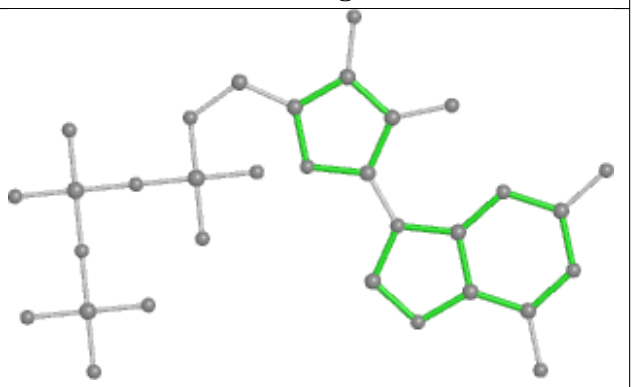
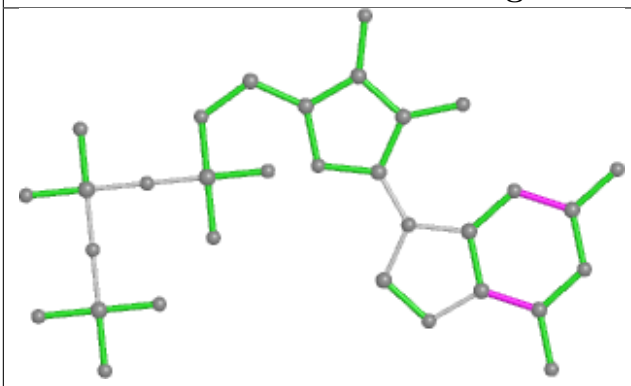


Rings

Ligand GTP WF 501



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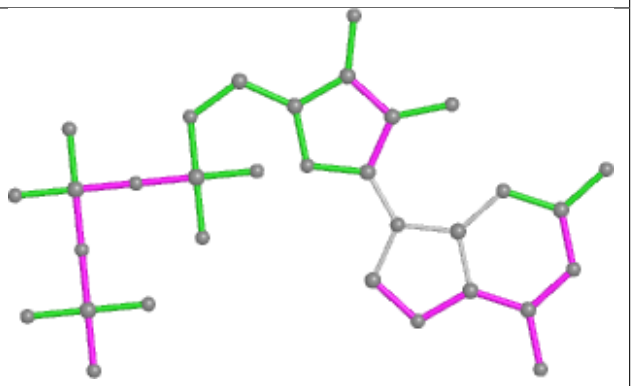

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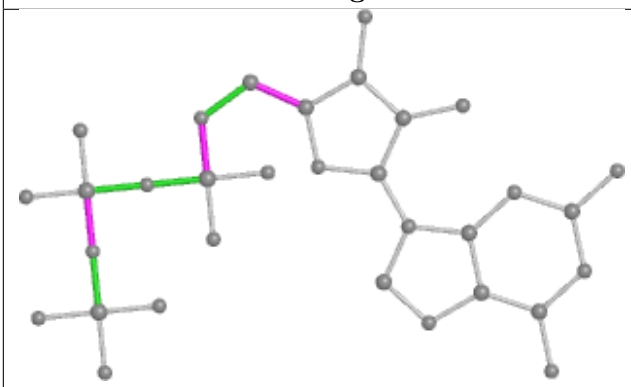

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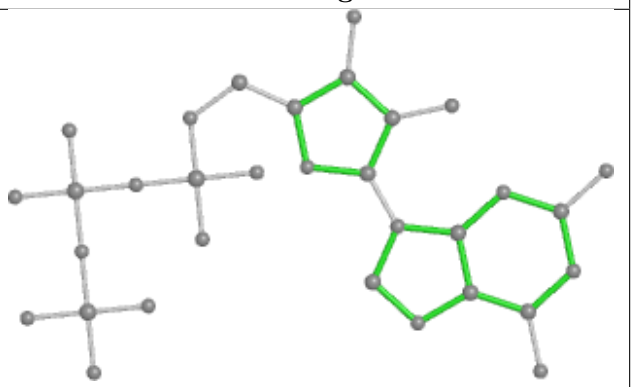
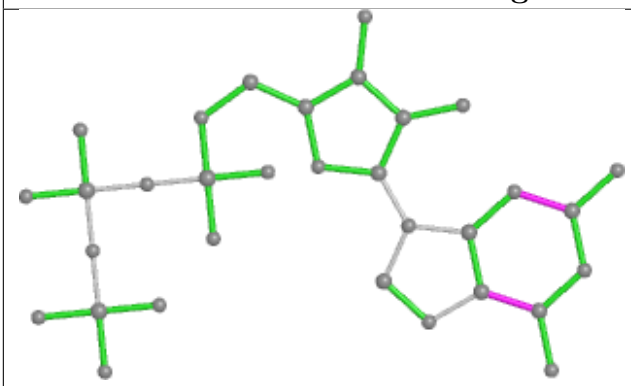


Rings

Ligand GTP OF 501



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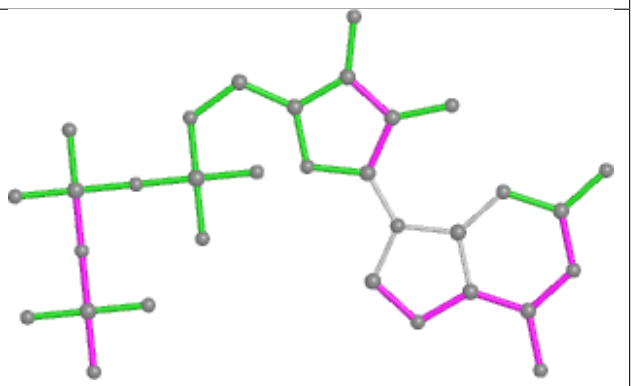

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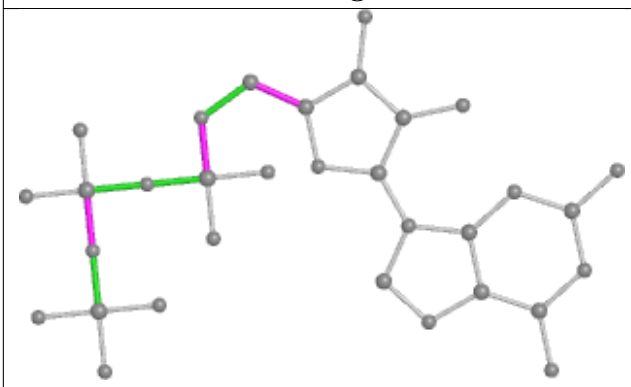

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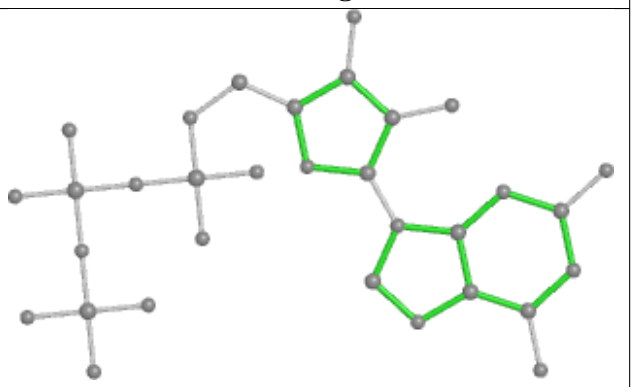
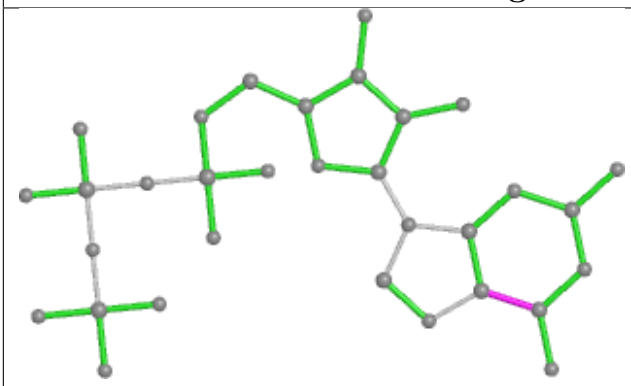


Rings

Ligand GTP HC 501



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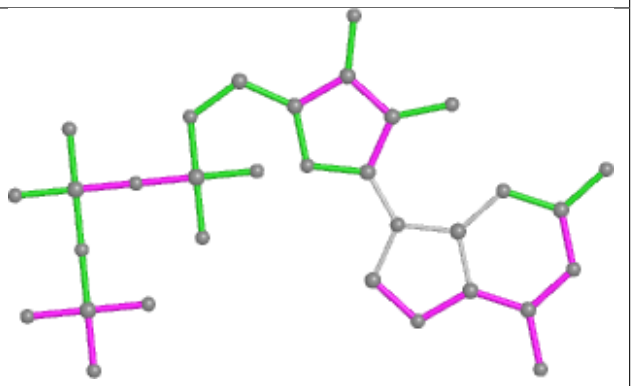

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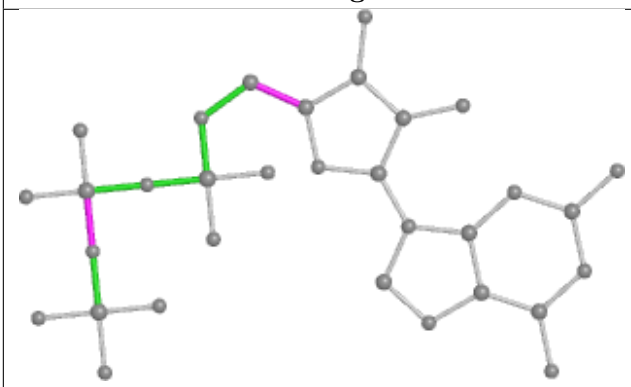

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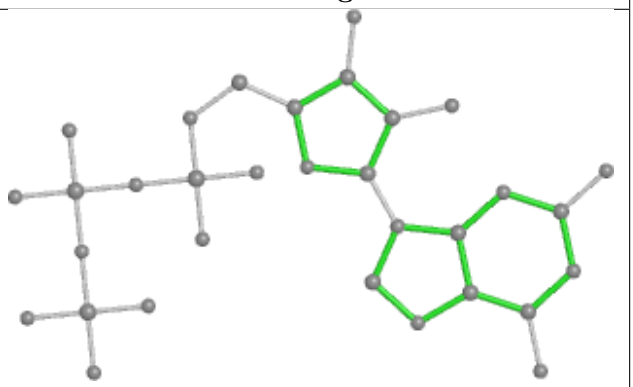
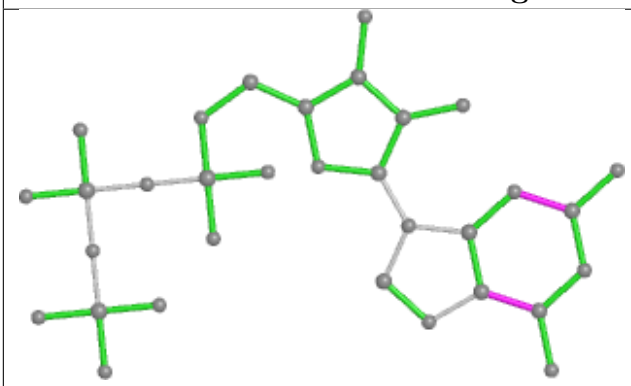


Rings

Ligand GTP LK 501



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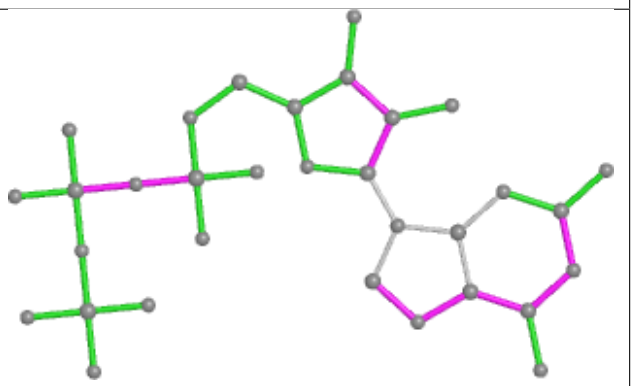

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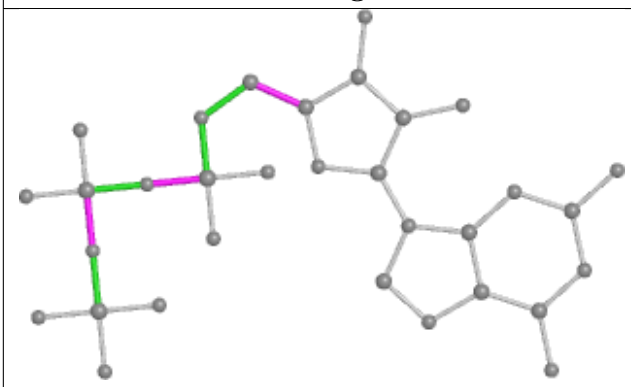

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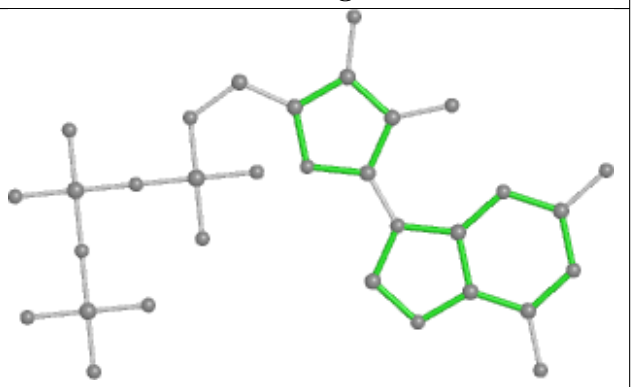
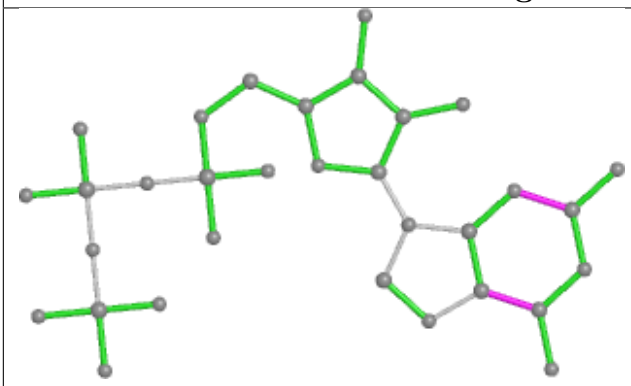


Rings

Ligand GTP VI 501



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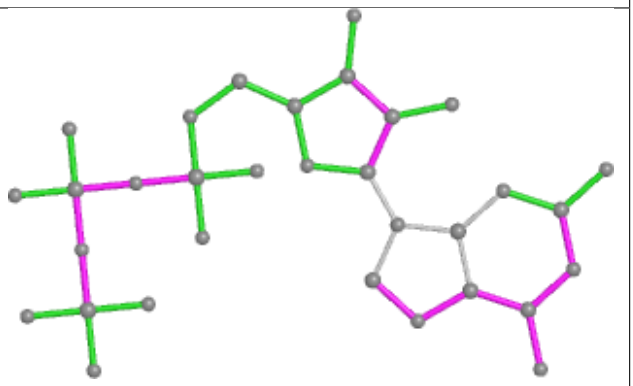

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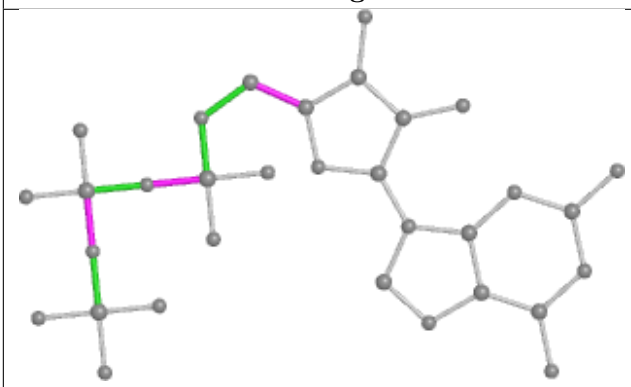

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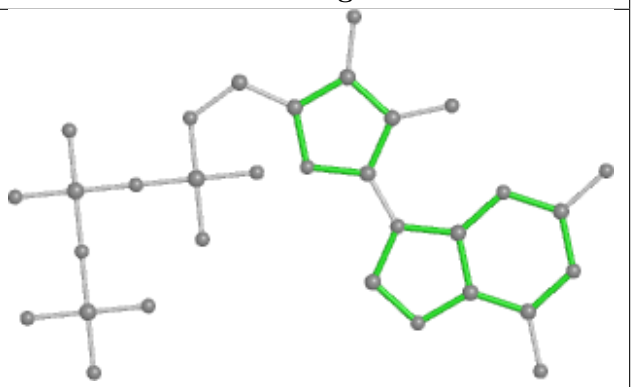
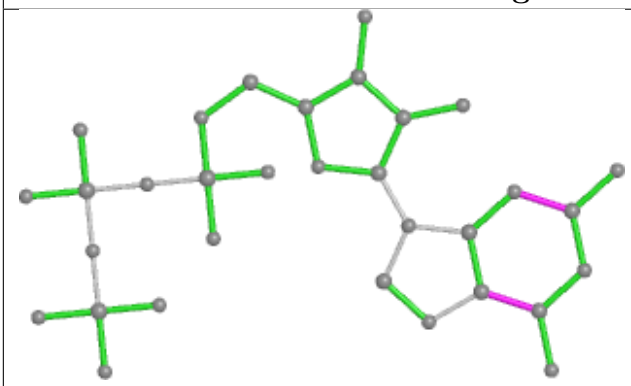


Rings

Ligand GTP NJ 501



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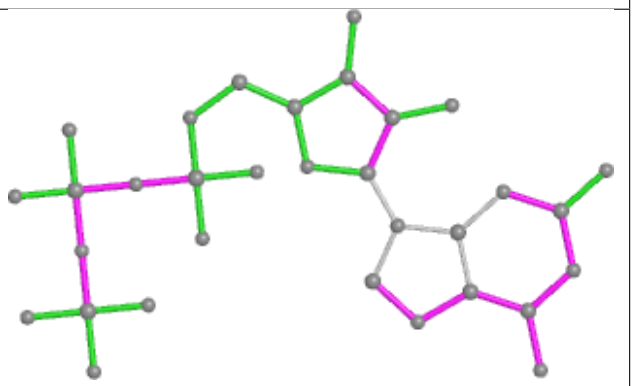

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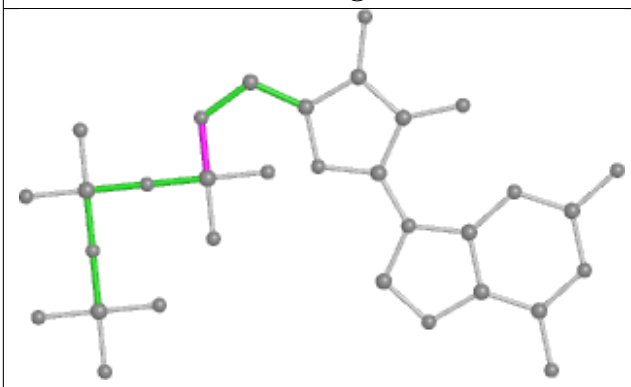

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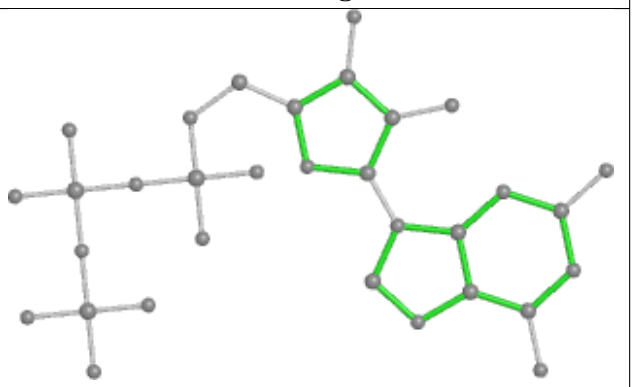
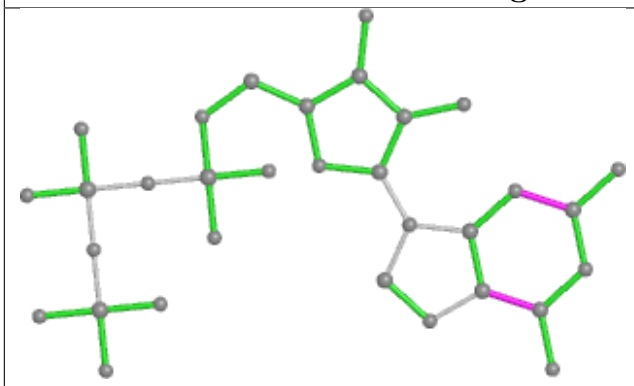


Rings

Ligand GTP KC 501



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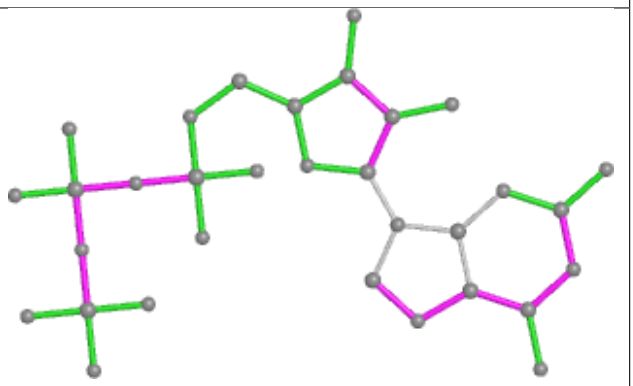

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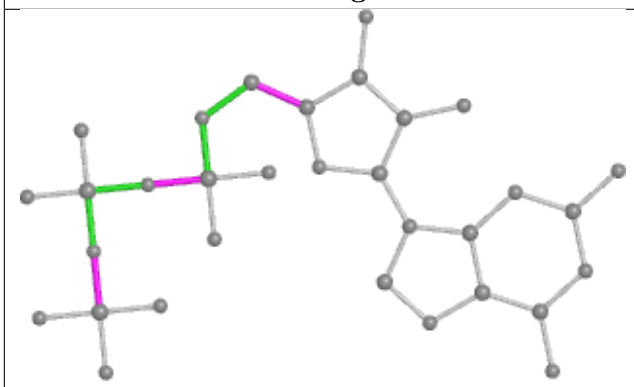

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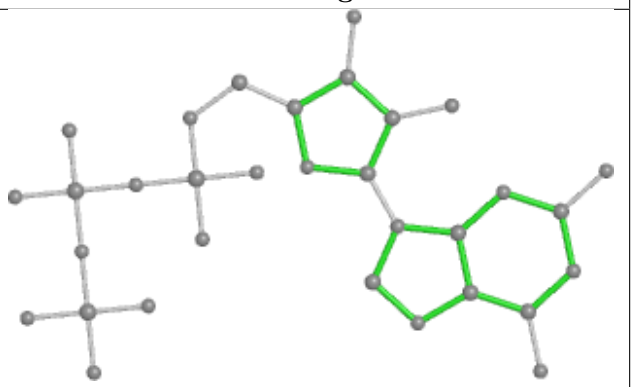
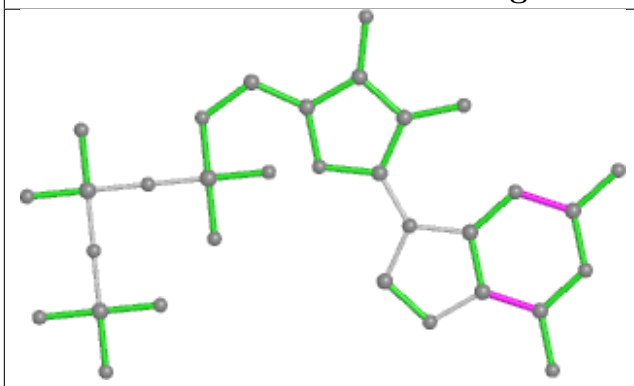


Rings

Ligand GTP CD 501



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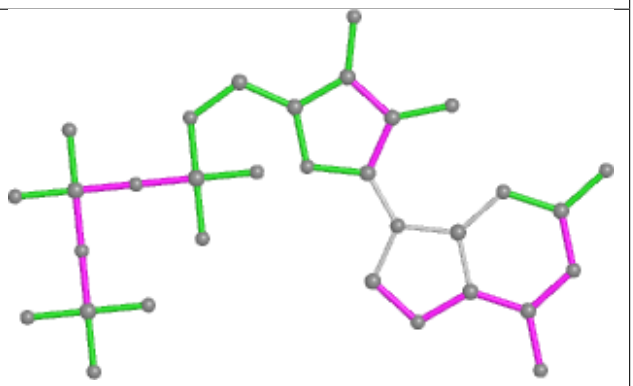

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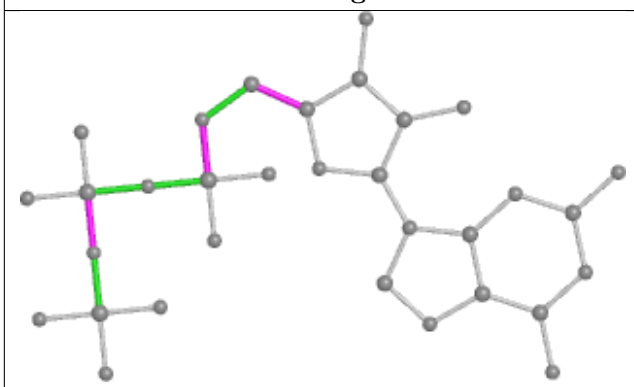

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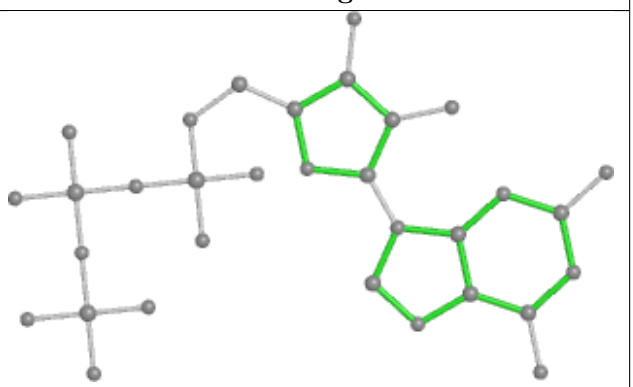
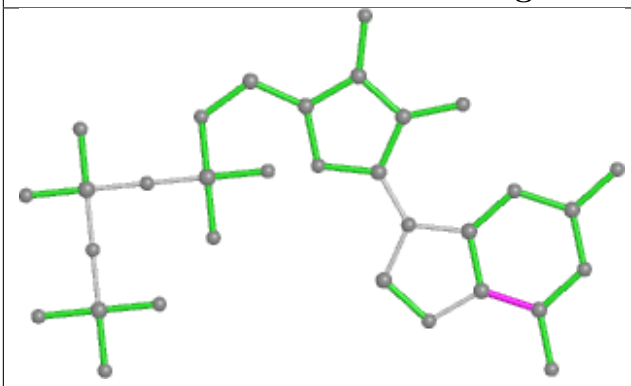


Rings

Ligand GTP HI 501



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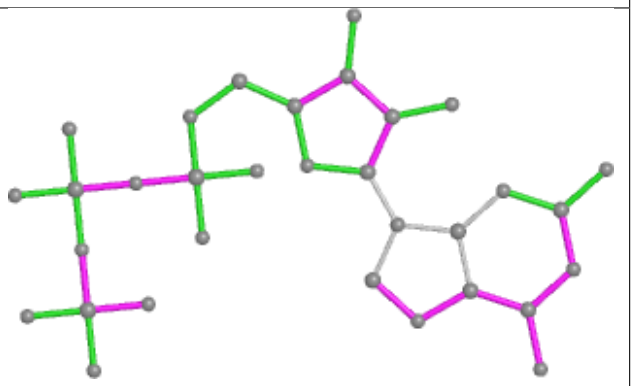

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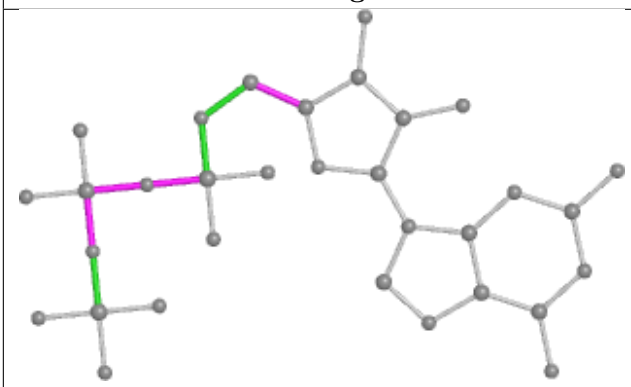

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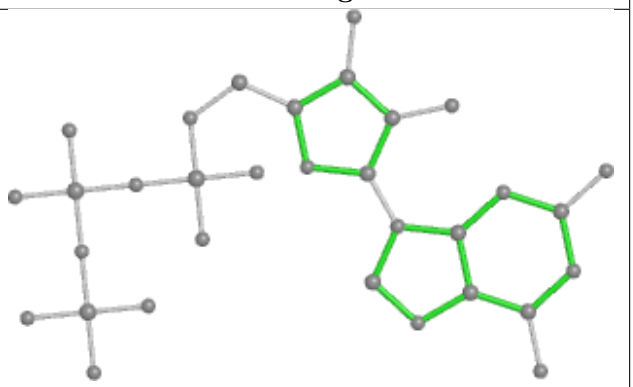
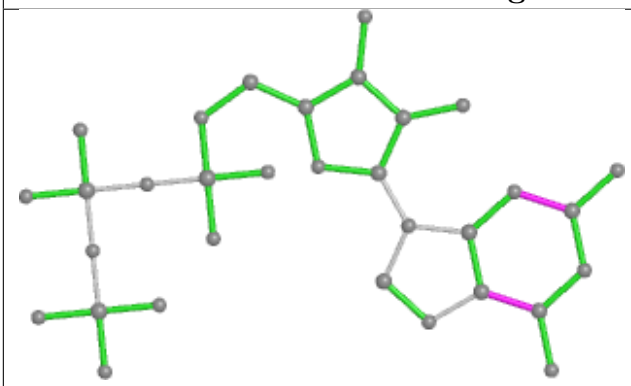


Rings

Ligand GTP KG 501



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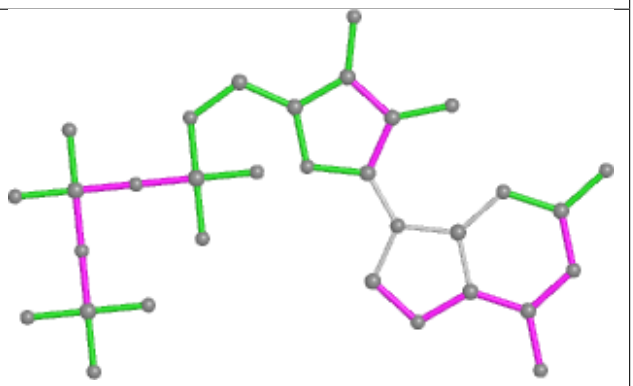
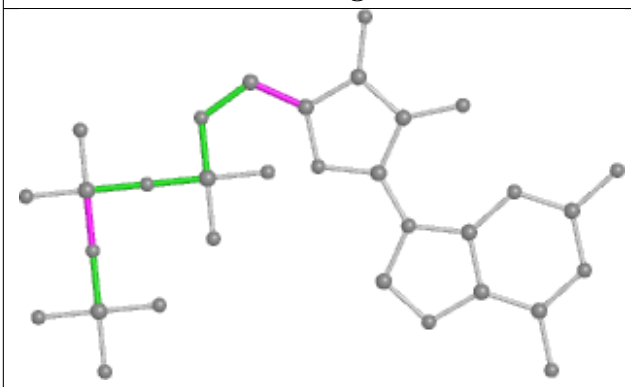
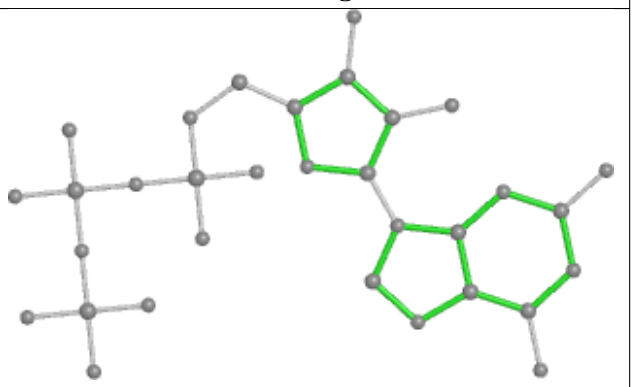


Bond angles

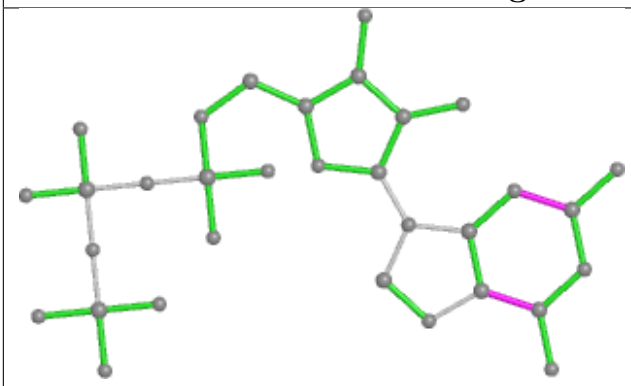


Torsions

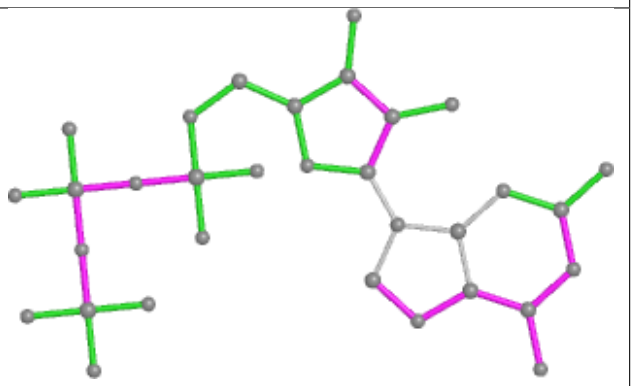


Rings

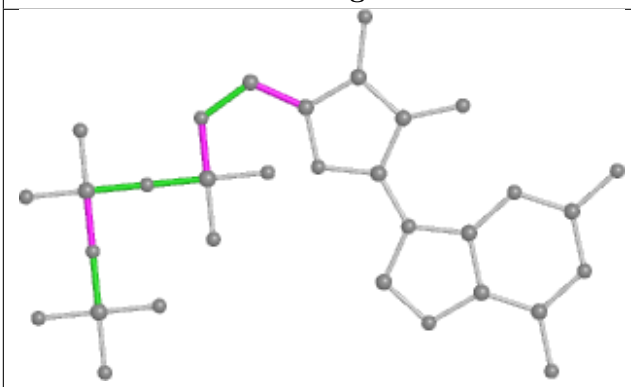
Ligand GTP UB 501



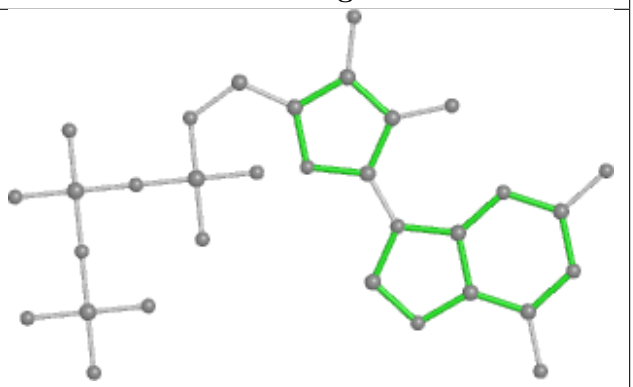
Bond lengths



Bond angles

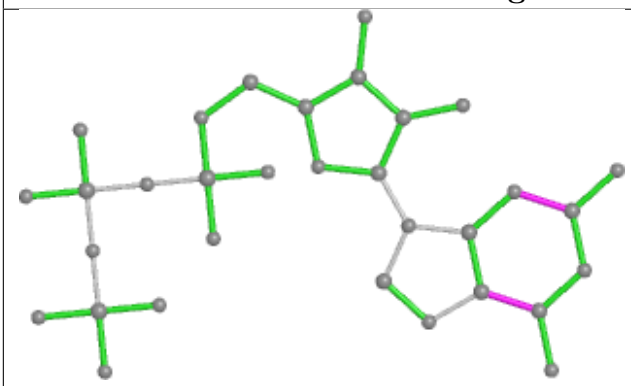


Torsions



Rings

Ligand GTP UH 501



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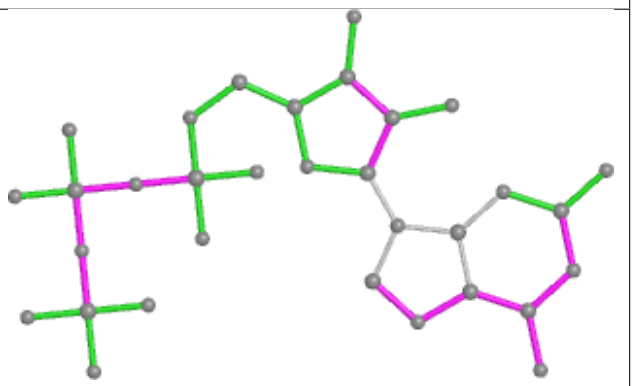

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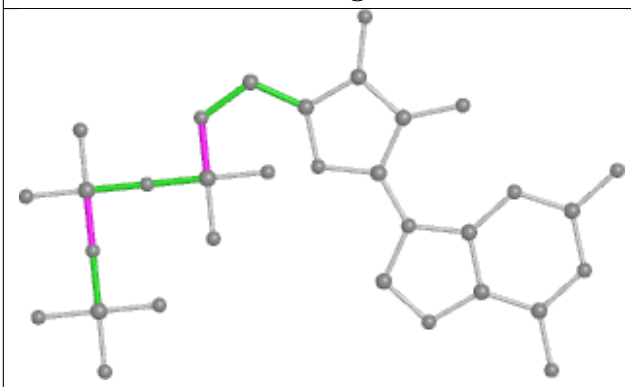

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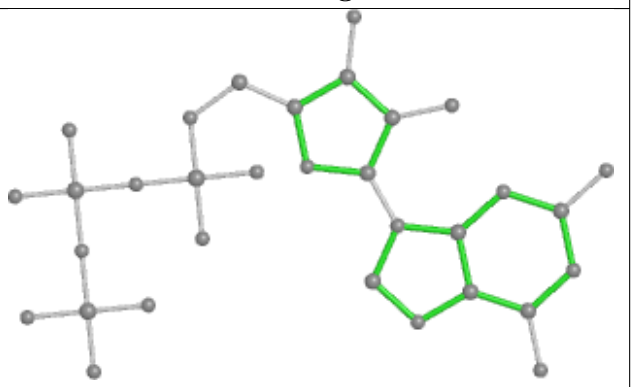
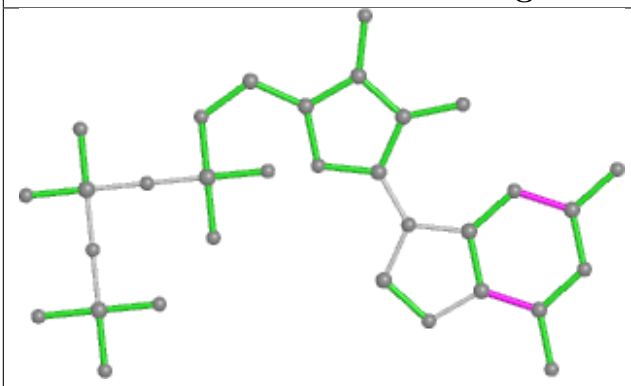


Rings

Ligand GTP OI 501



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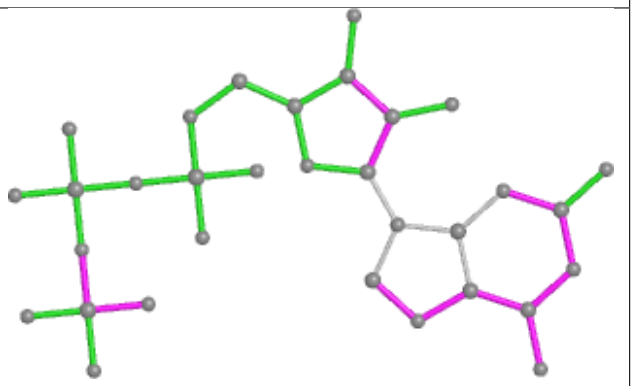

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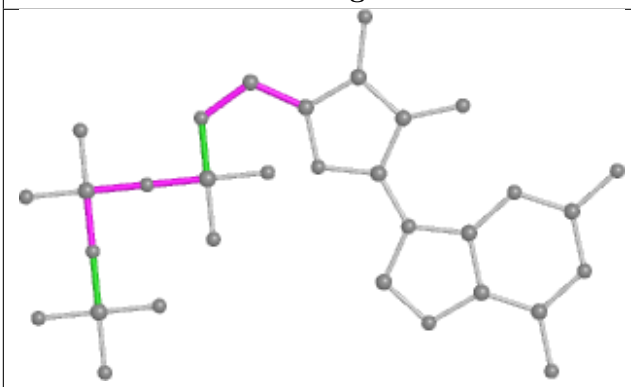

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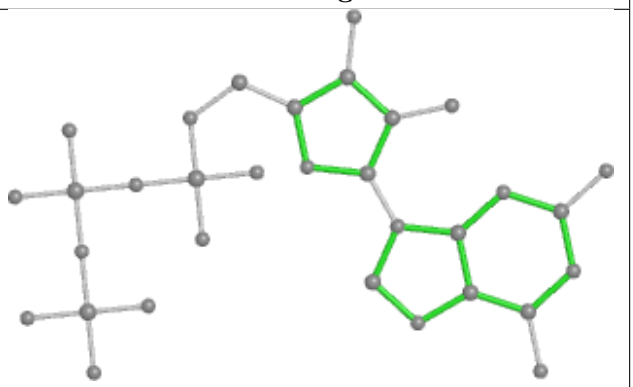
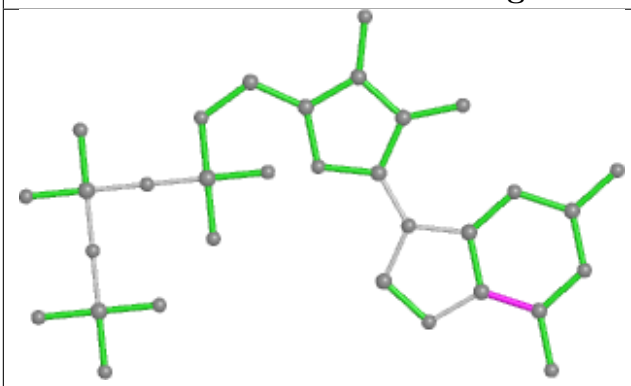


Rings

Ligand GTP GG 501



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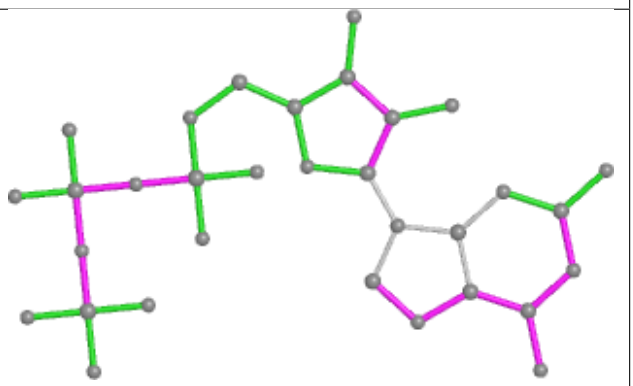

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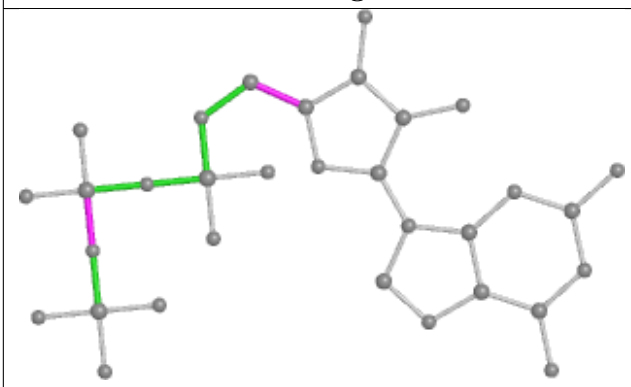

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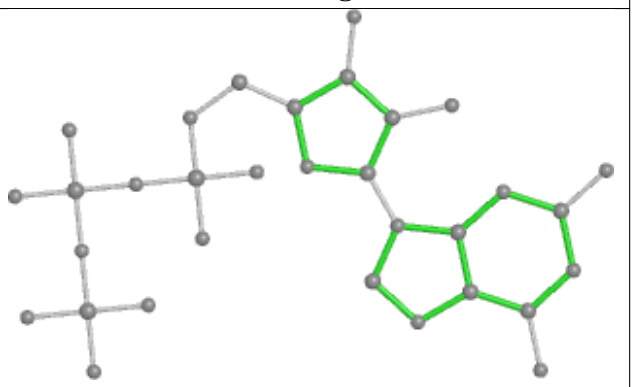
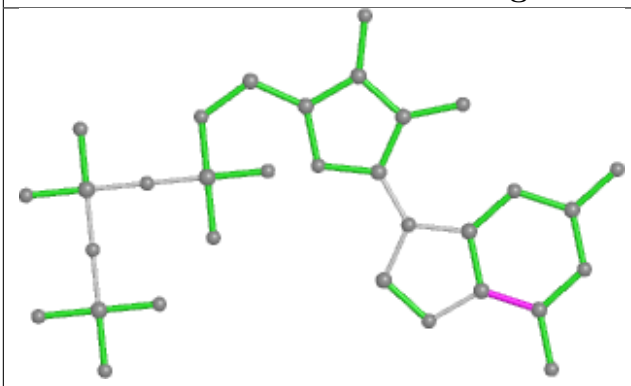


Rings

Ligand GTP EK 501



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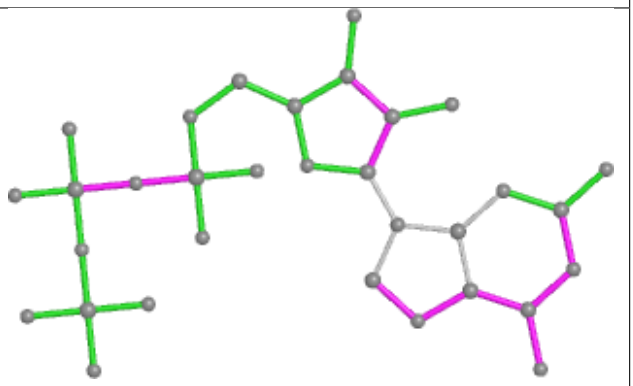

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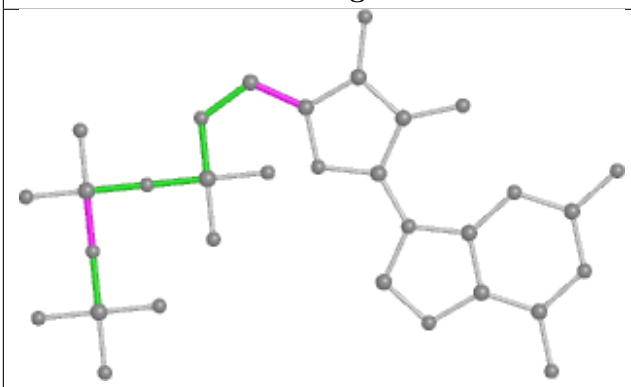

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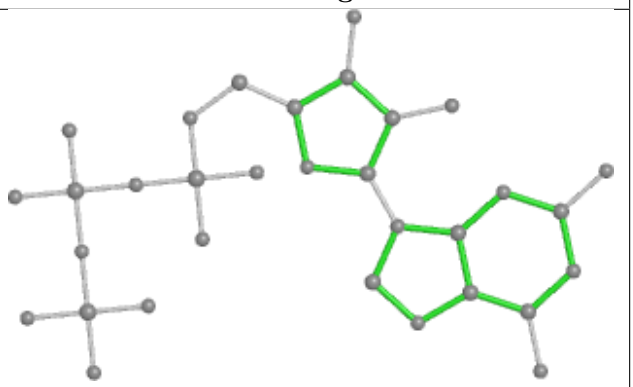
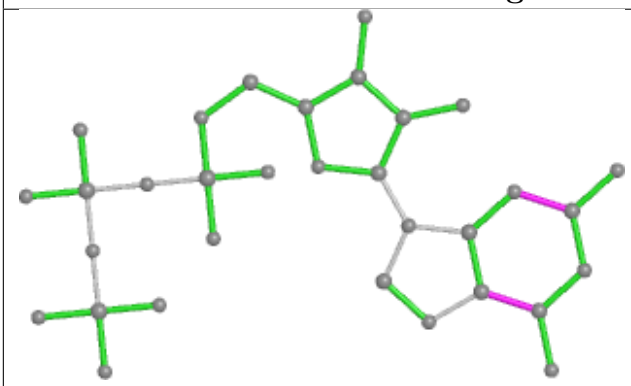


Rings

Ligand GTP PM 501



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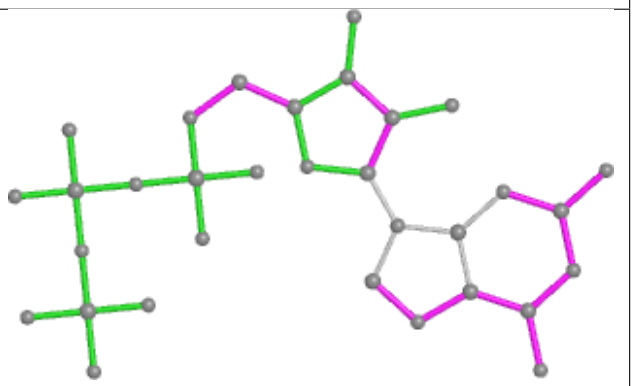

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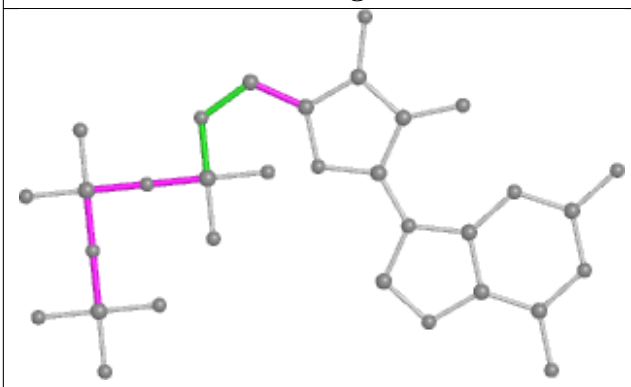

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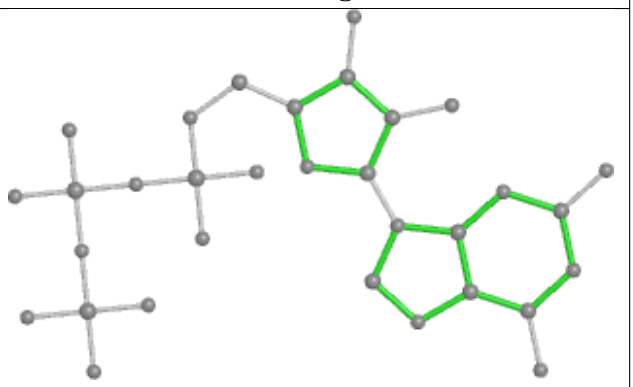
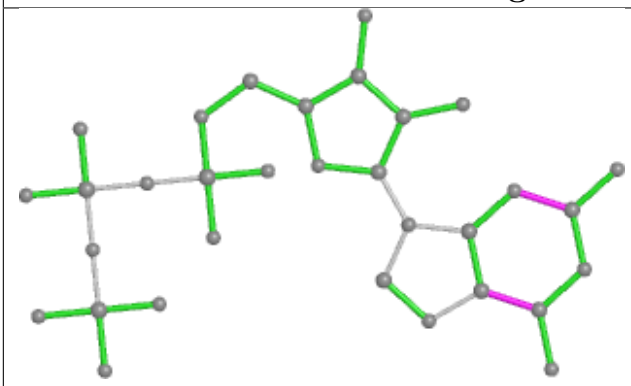


Rings

Ligand GTP RG 501



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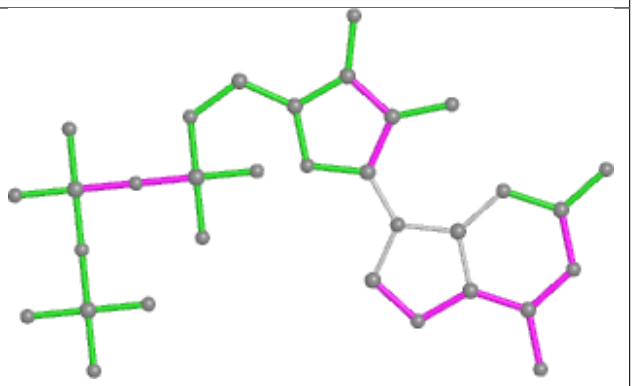

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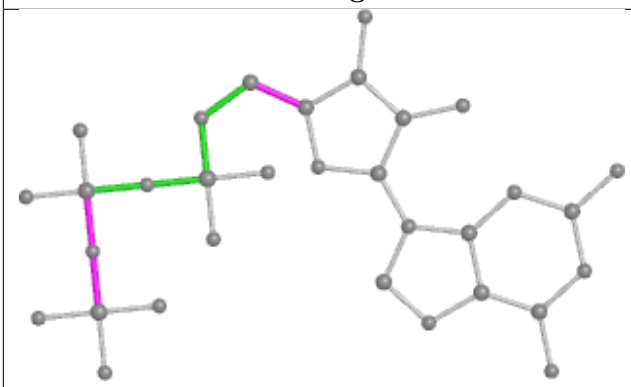

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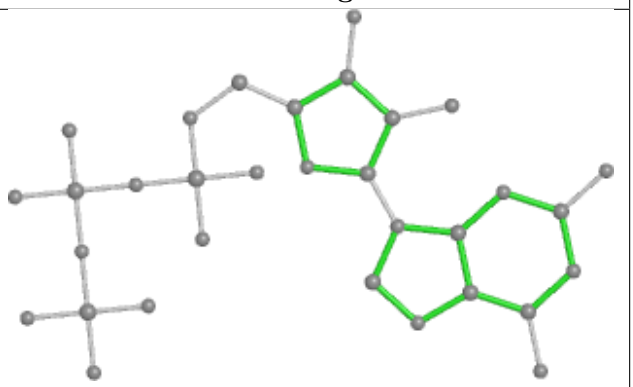
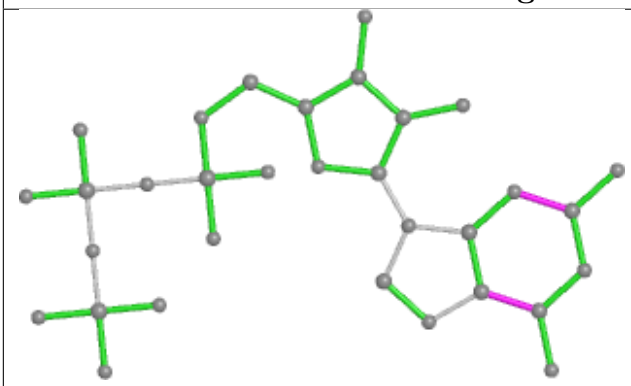


Rings

Ligand GTP IE 501



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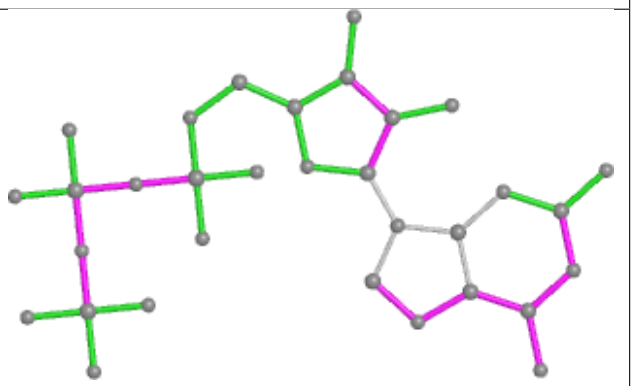

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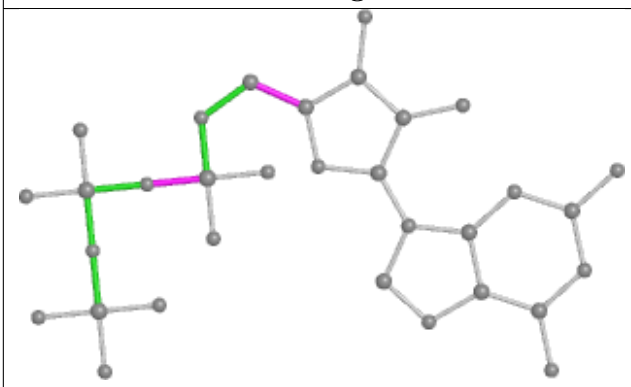

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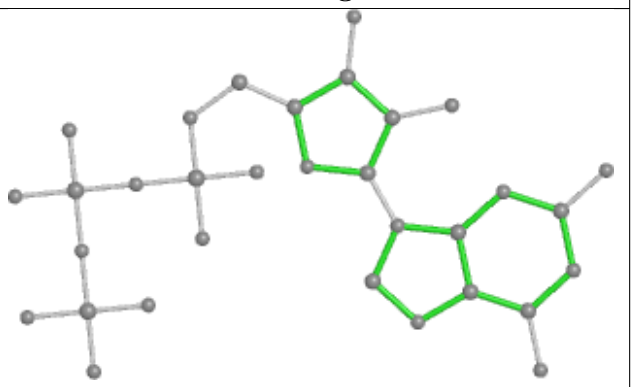
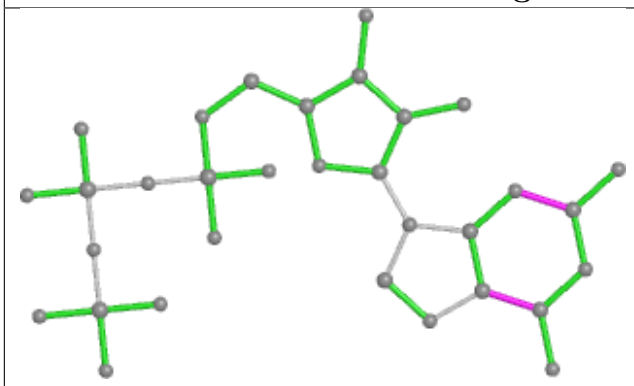


Rings

Ligand GTP GJ 501



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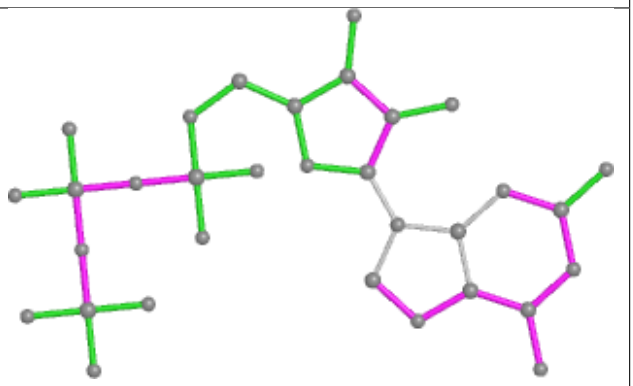

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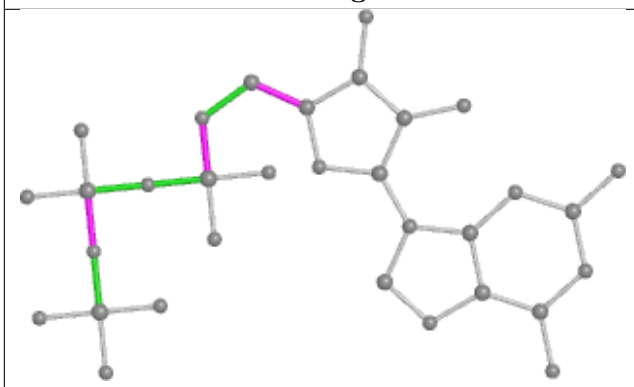

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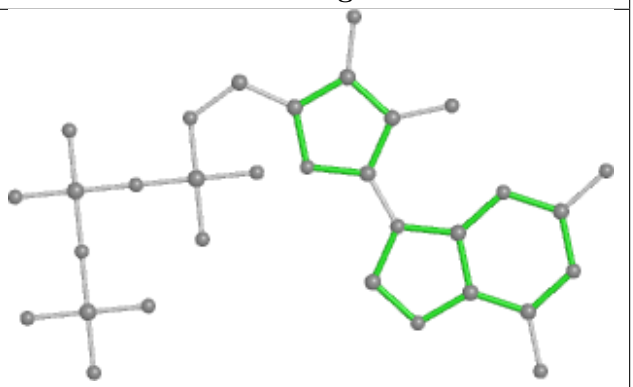
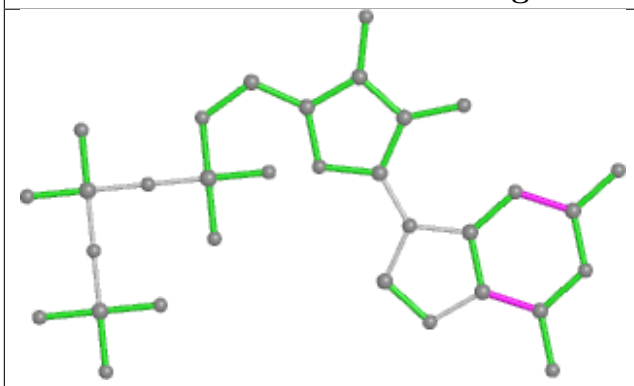


Rings

Ligand GTP VA 501



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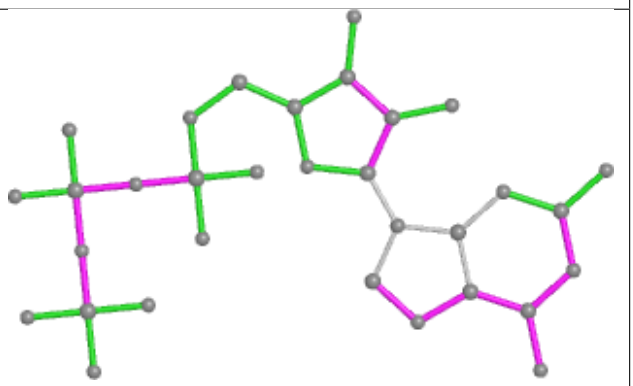

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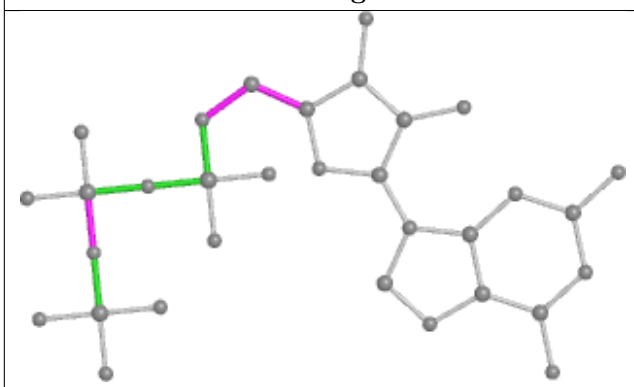

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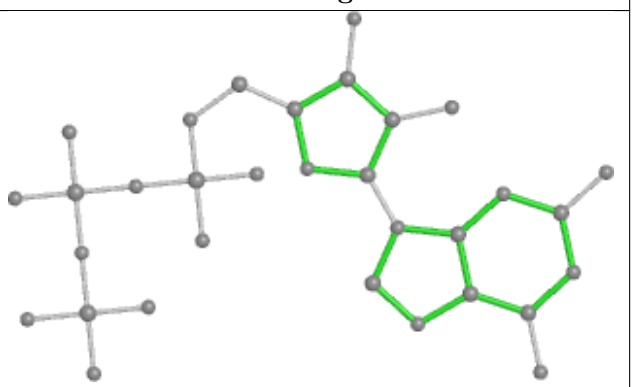
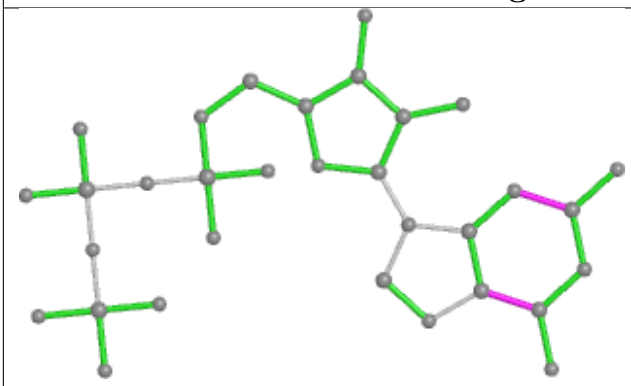


Rings

Ligand GTP TH 501



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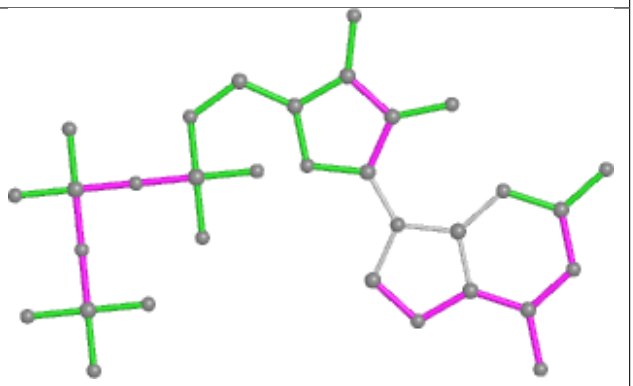

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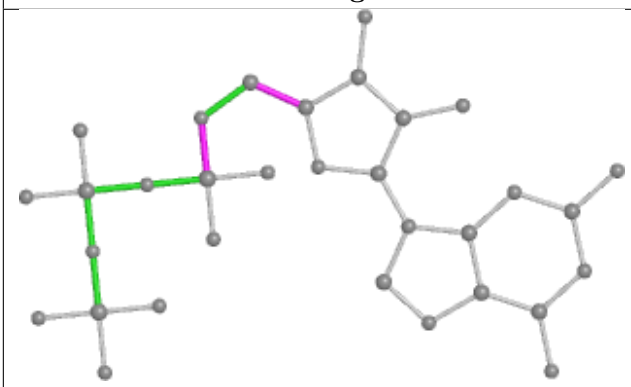

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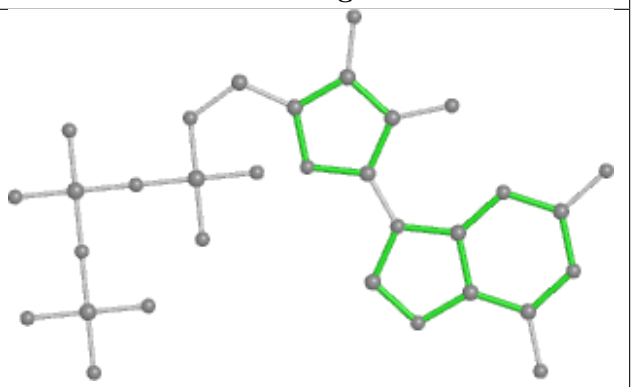
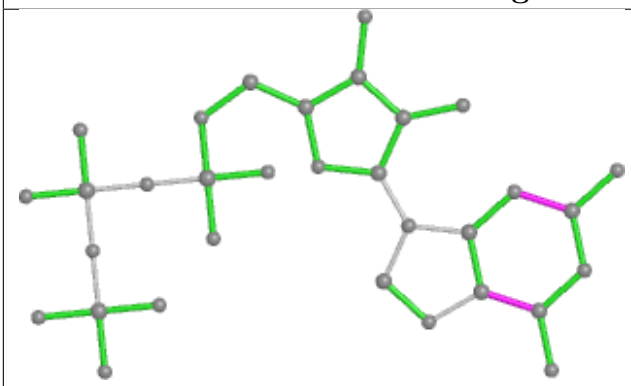


Rings

Ligand GTP SH 501



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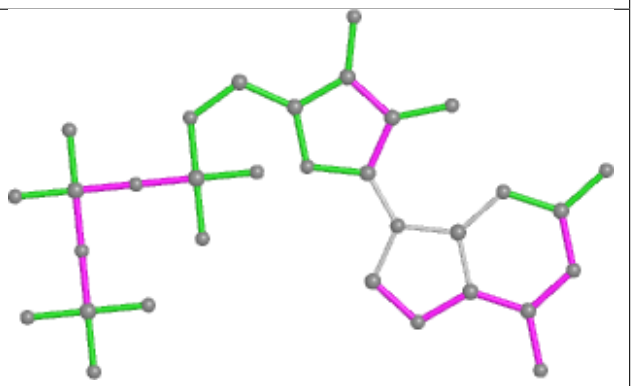

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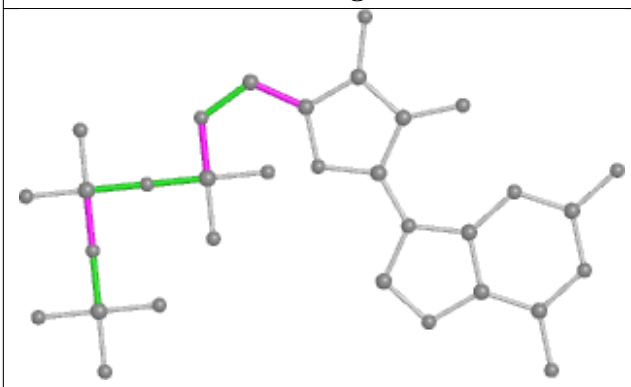

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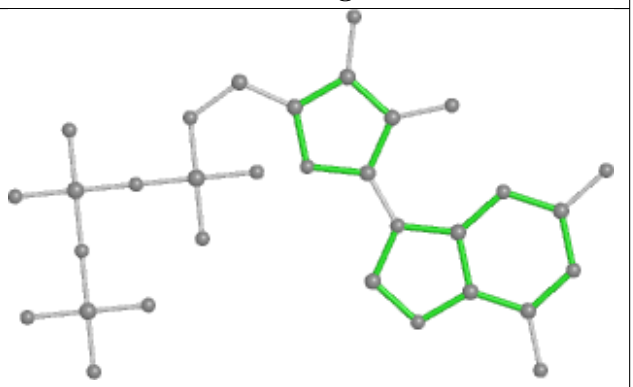
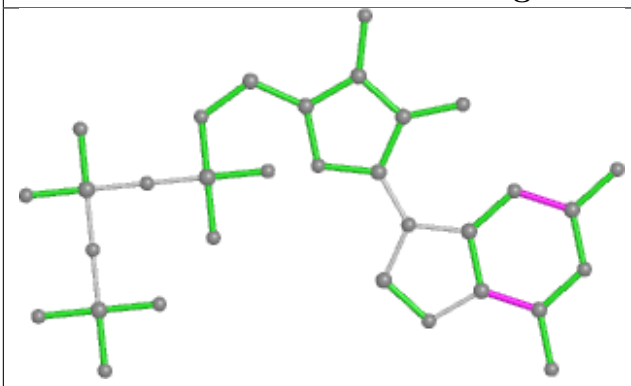


Rings

Ligand GTP CJ 501



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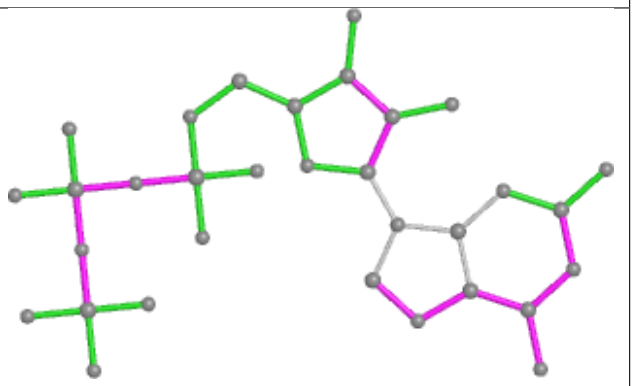

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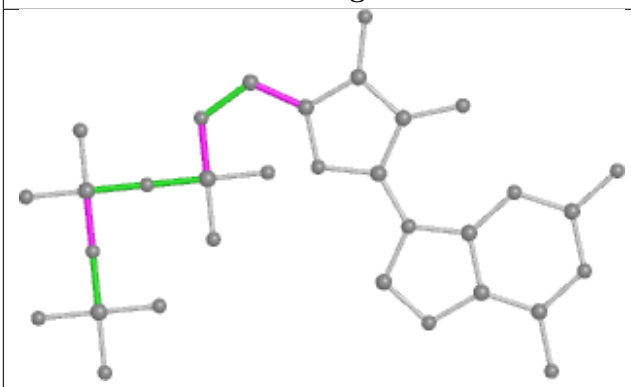

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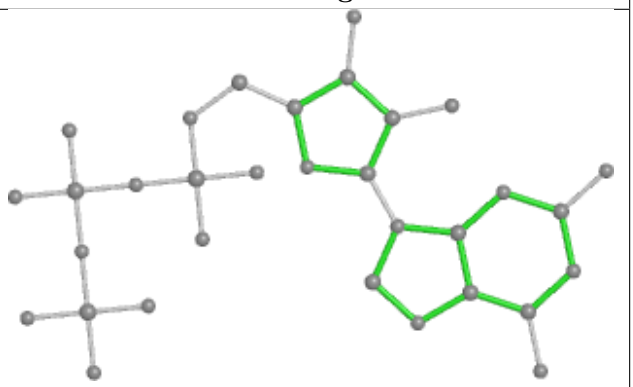
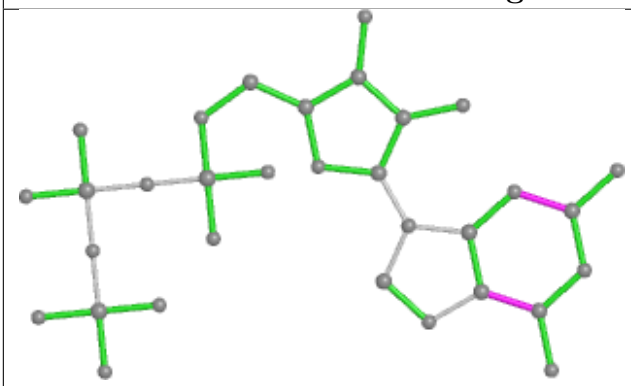


Rings

Ligand GTP WL 501



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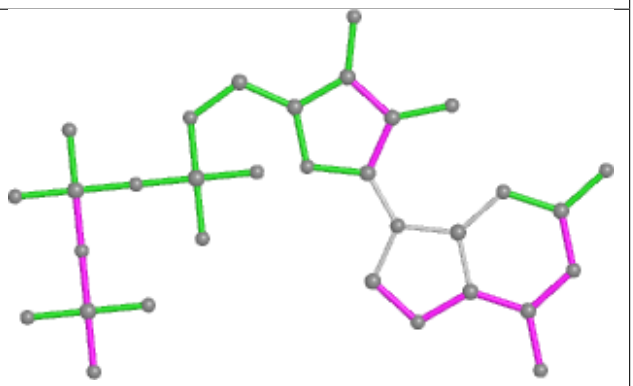

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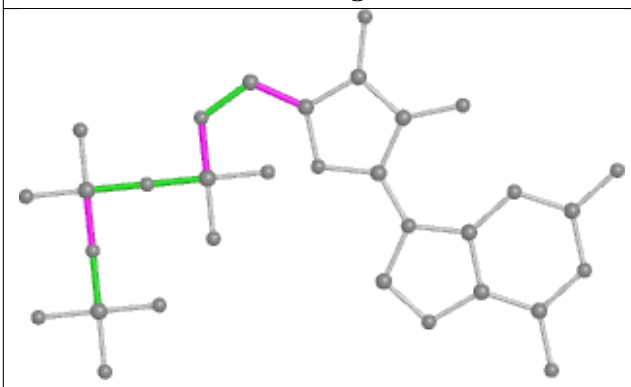

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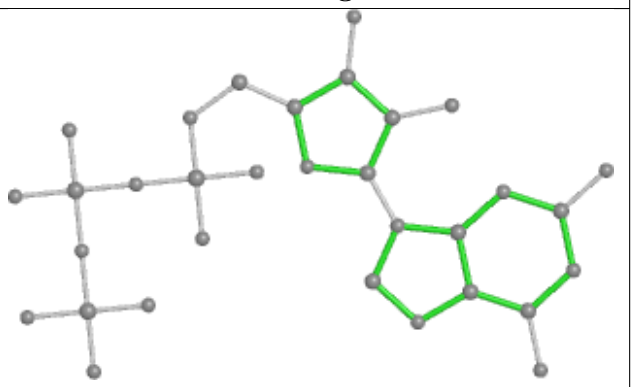
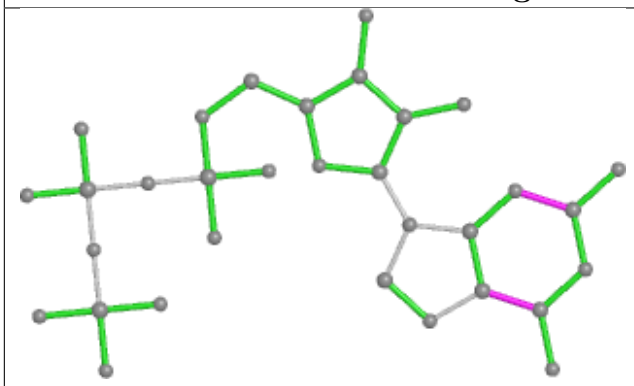


Rings

Ligand GTP KJ 501



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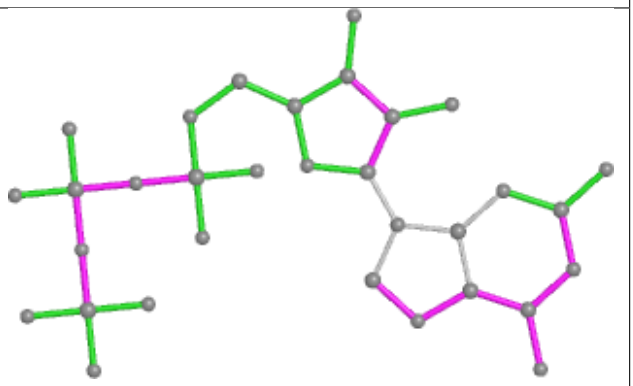
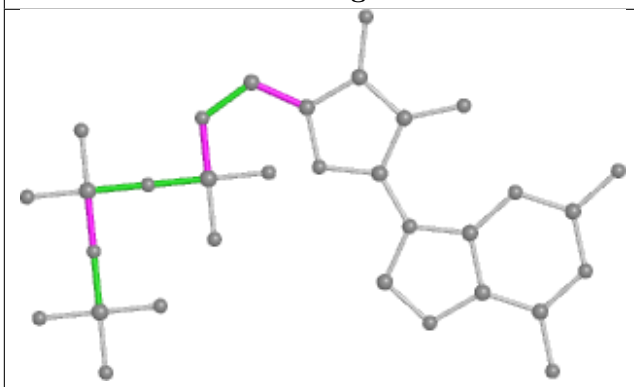


Bond angles



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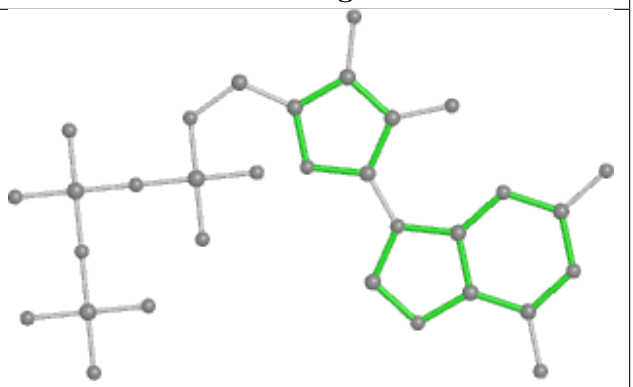
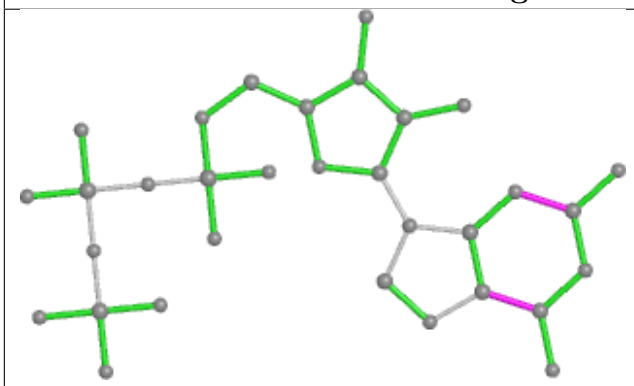
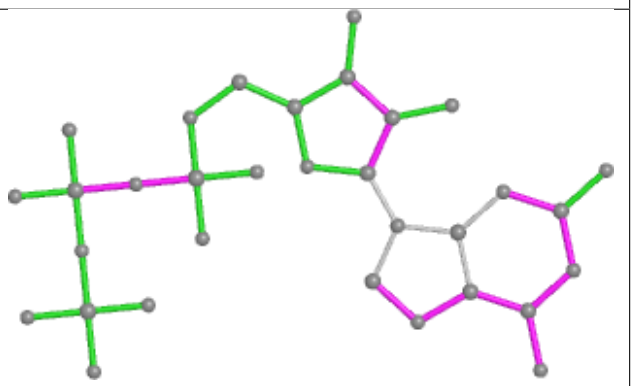


Rings

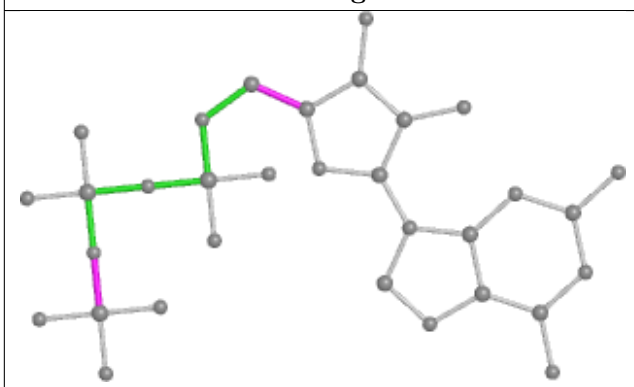
Ligand GTP EG 501



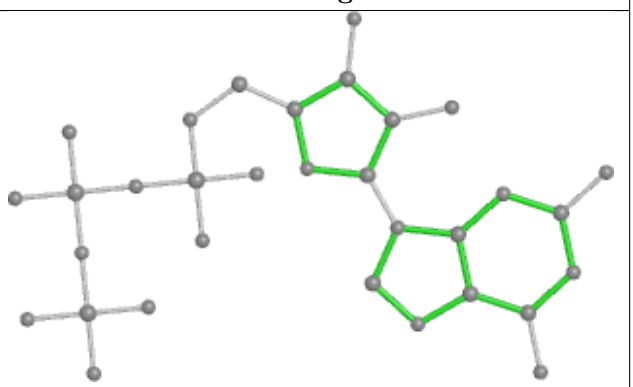
Bond lengths



Bond angles

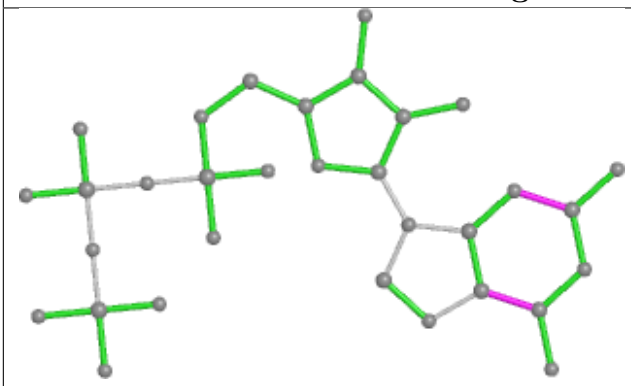


Torsions



Rings

Ligand GTP LA 501



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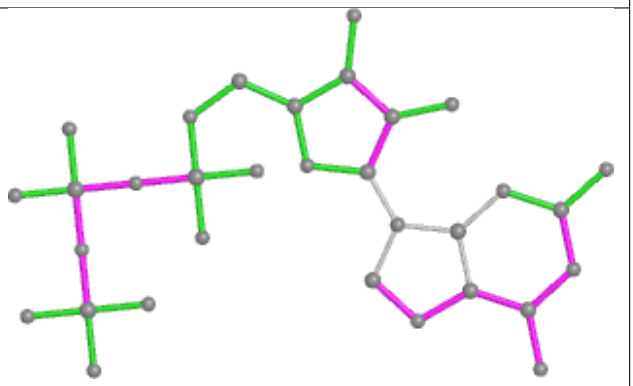

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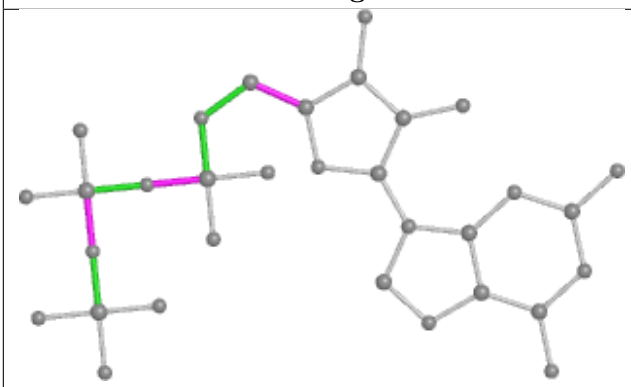

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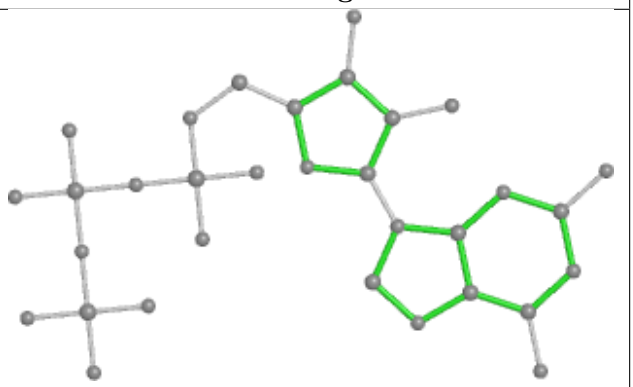
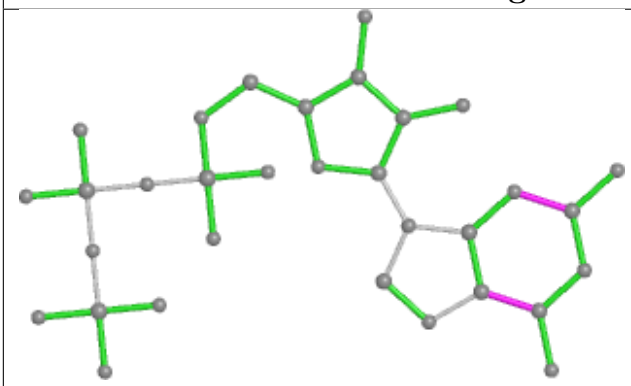


Rings

Ligand GTP AG 501



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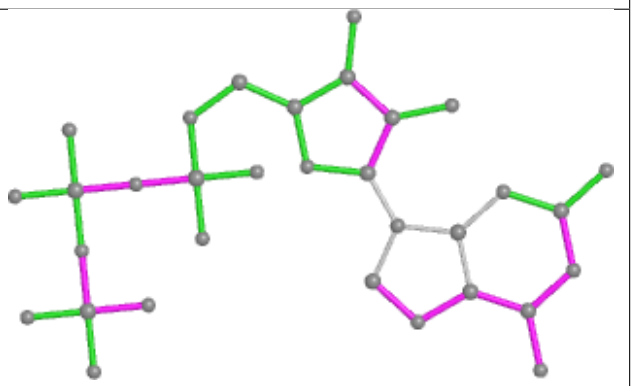

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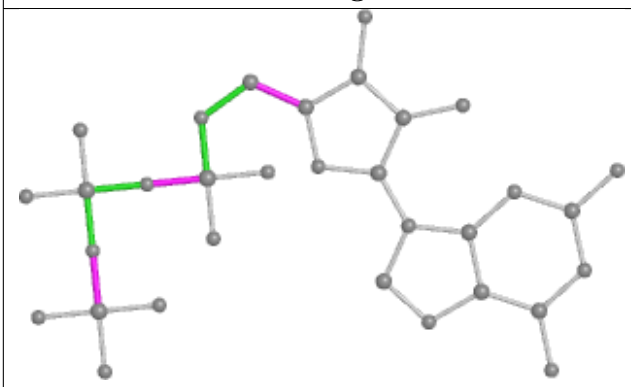

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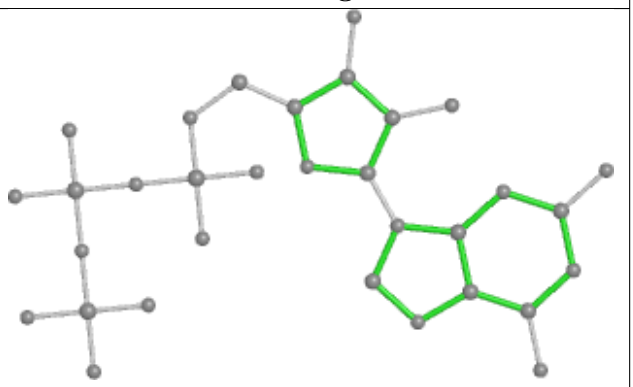
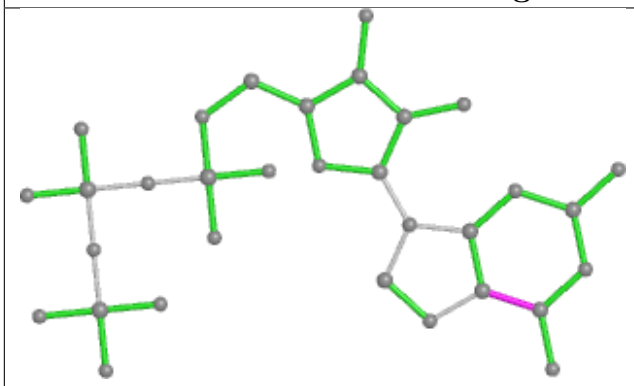


Rings

Ligand GTP FC 501



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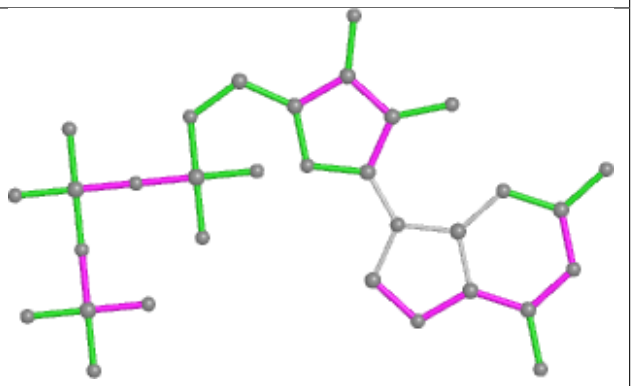

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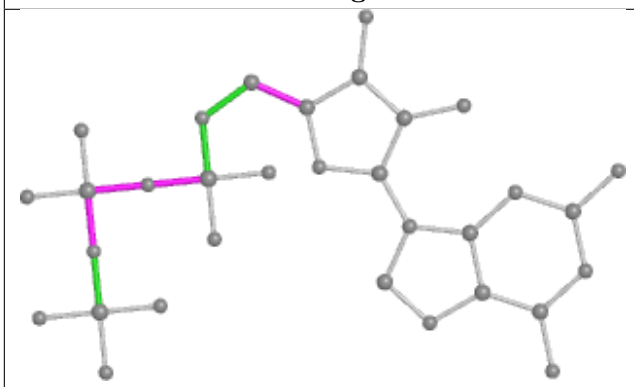

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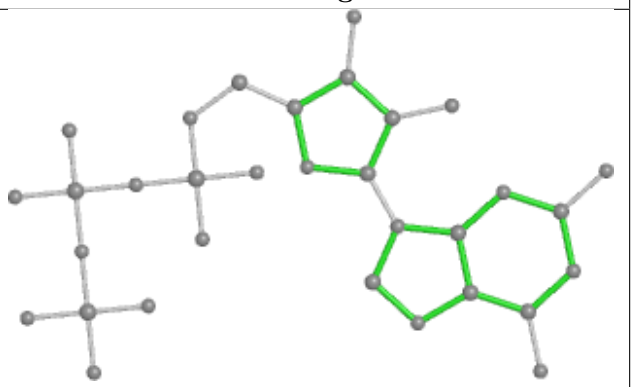
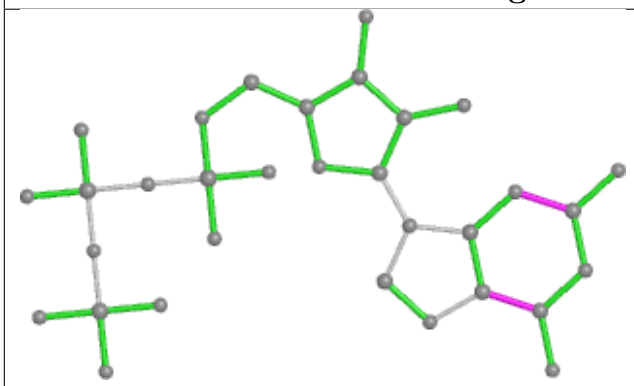


Rings

Ligand GTP NG 501



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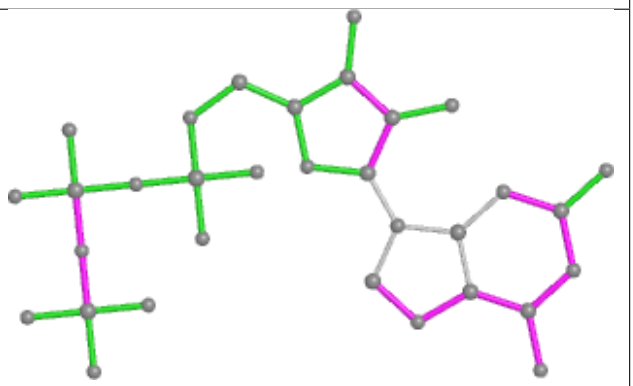

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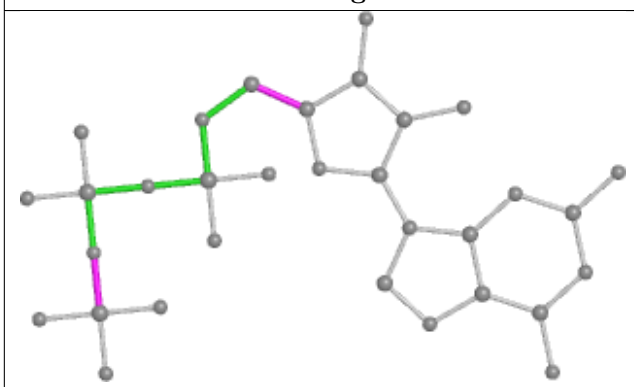

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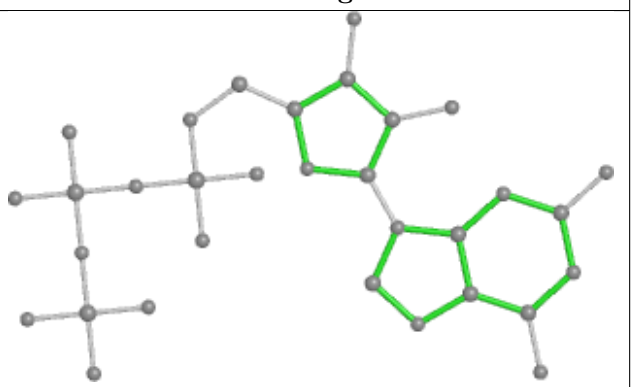
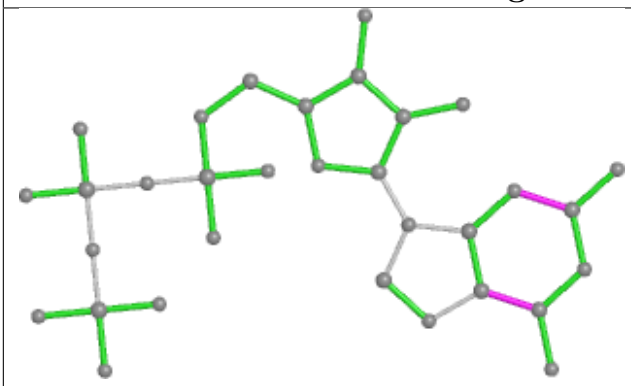


Rings

Ligand GTP KD 501



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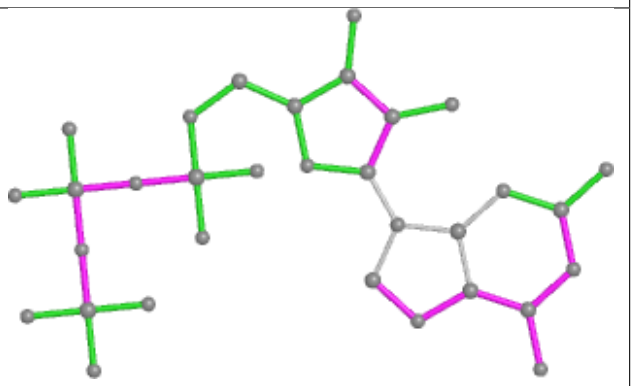

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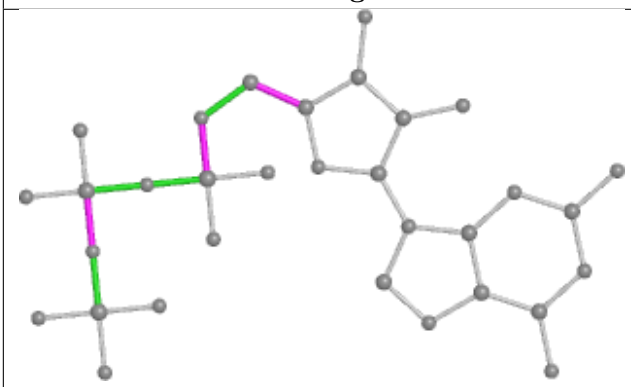

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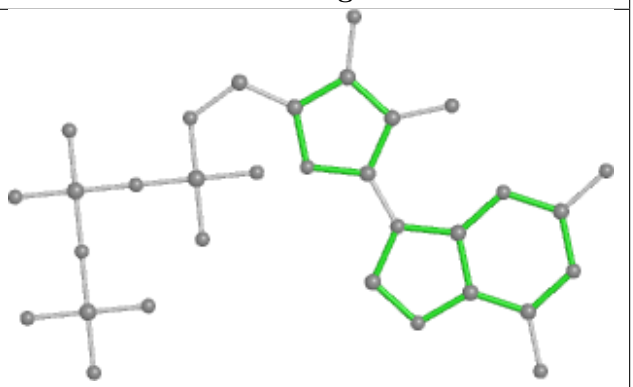
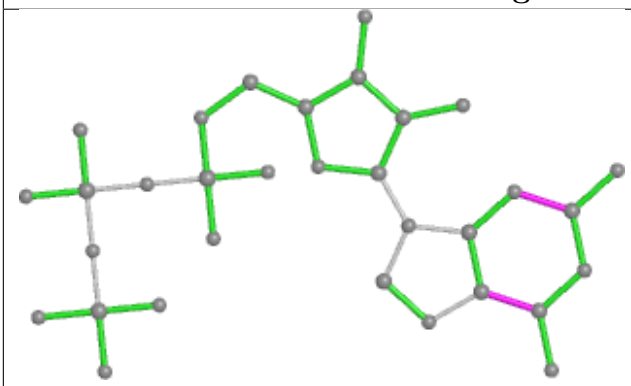


Rings

Ligand GTP EF 501



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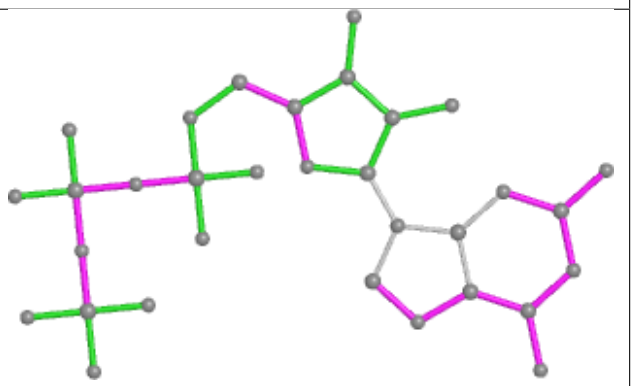

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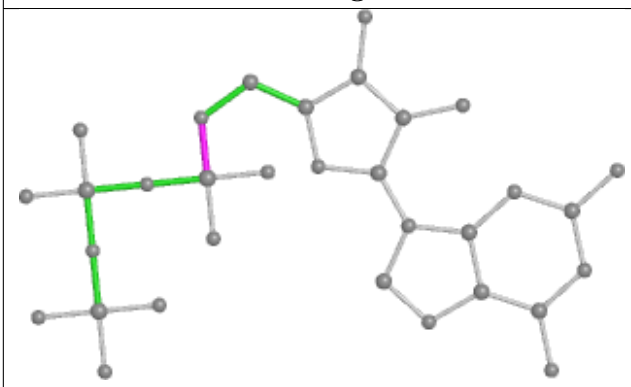

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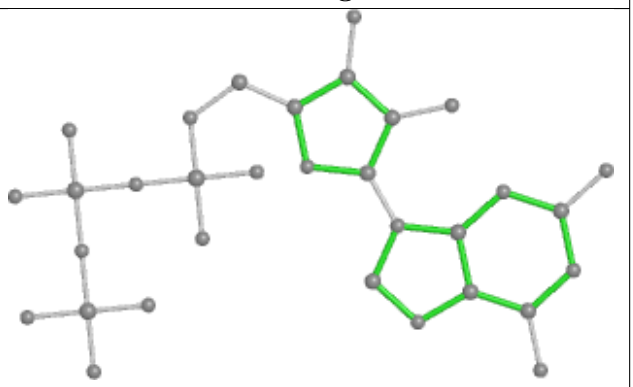
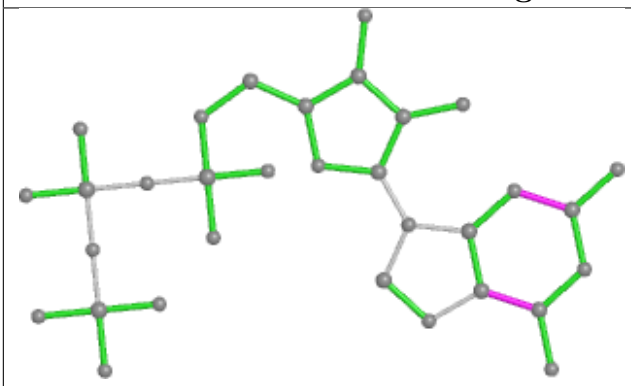


Rings

Ligand GTP FJ 501



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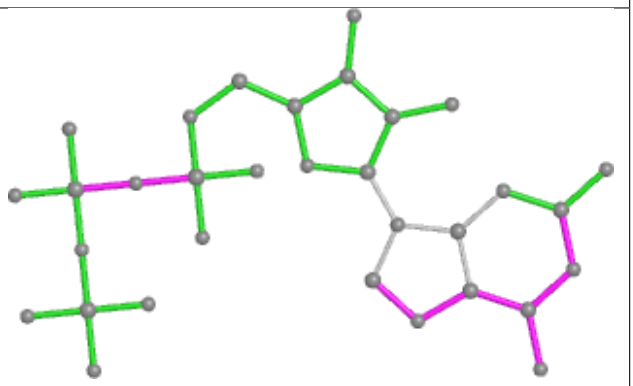

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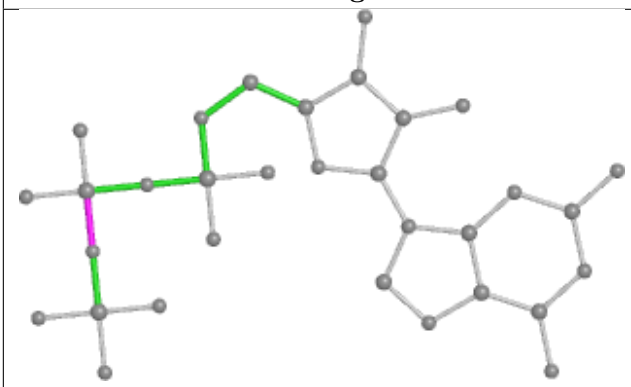

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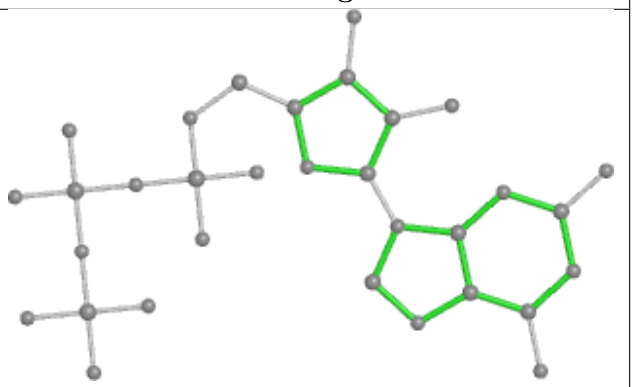
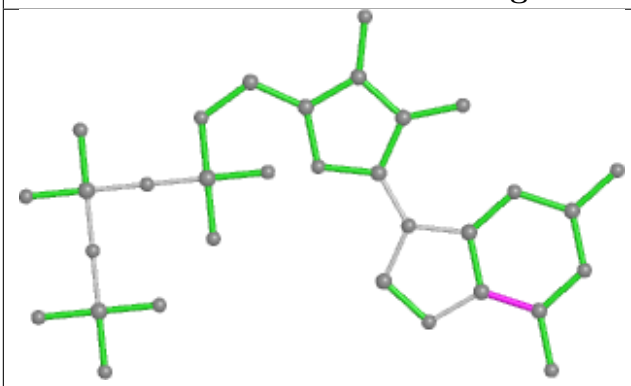


Rings

Ligand GTP OE 501



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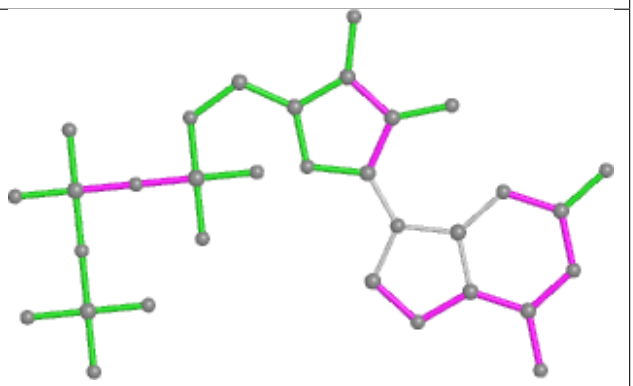

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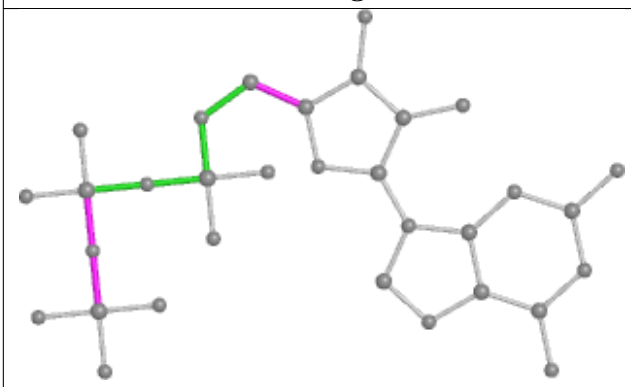

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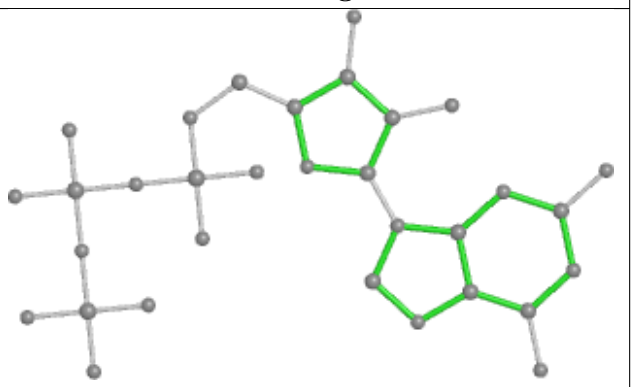
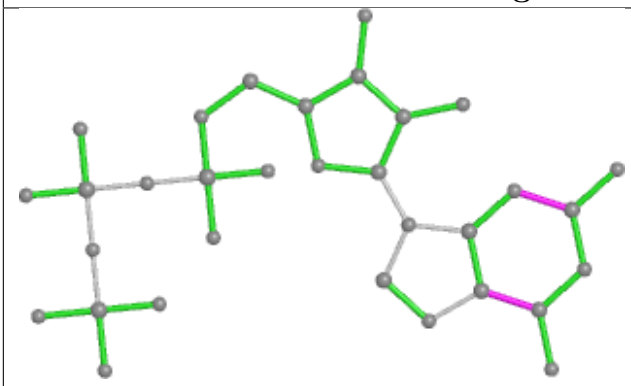


Rings

Ligand GTP AJ 501



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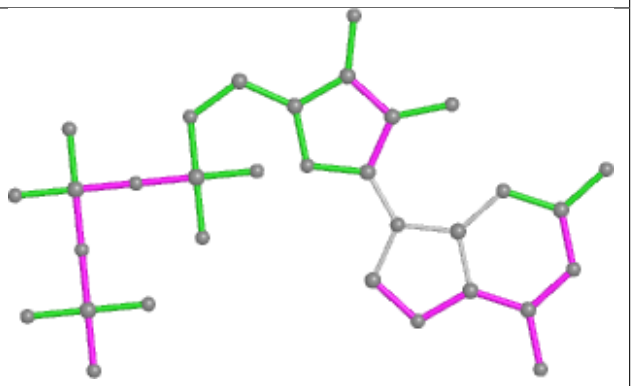

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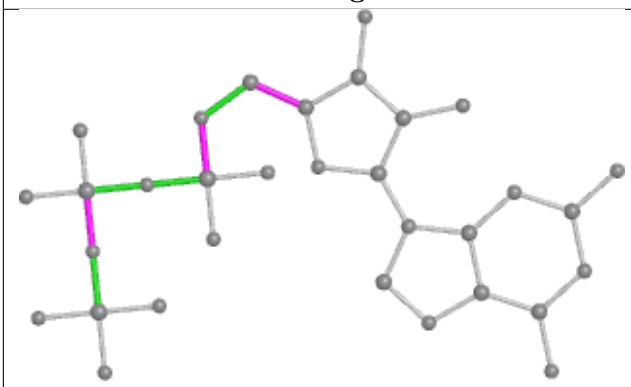

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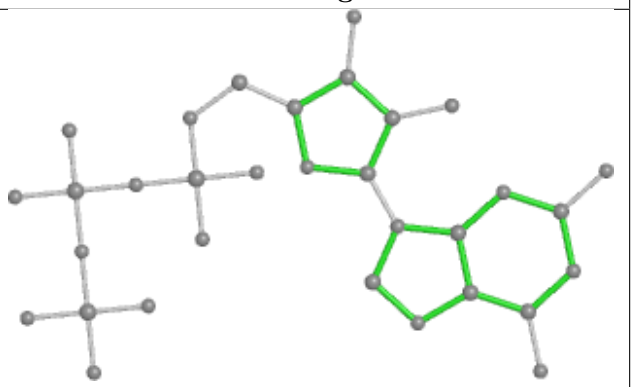

Rings

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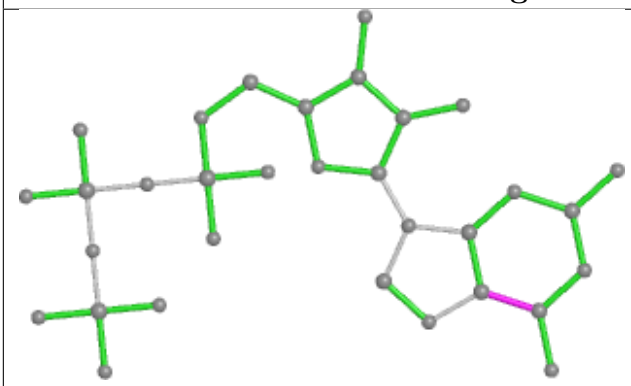

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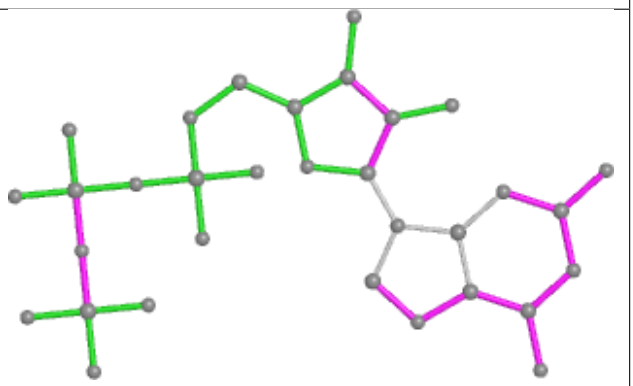

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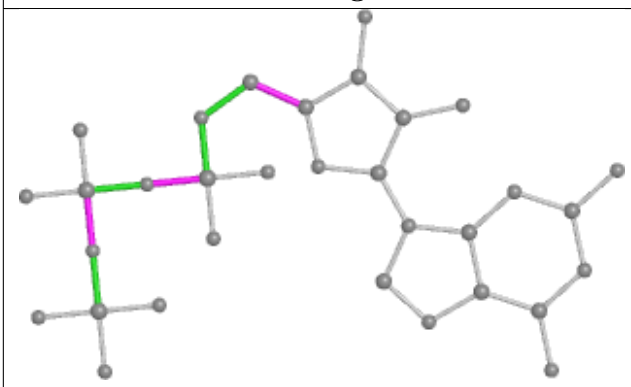

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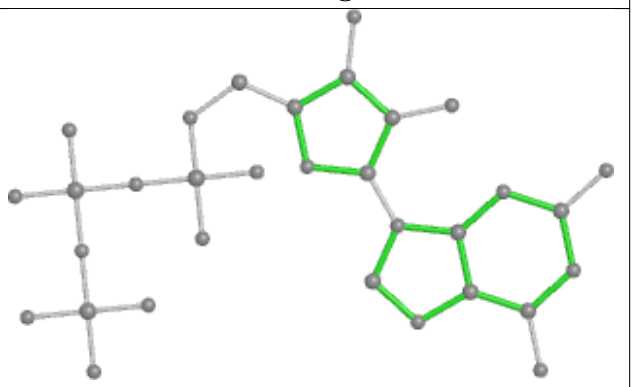
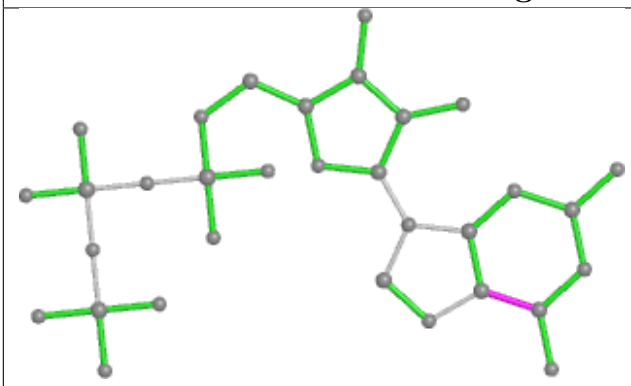


Rings

Ligand GTP GI 501



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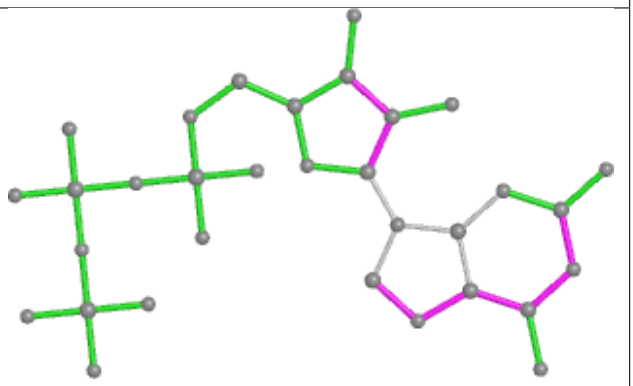

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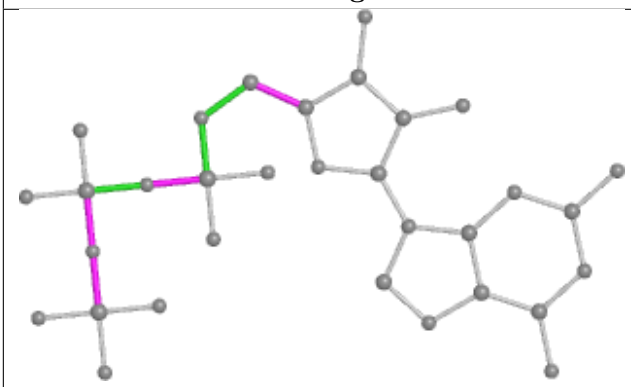

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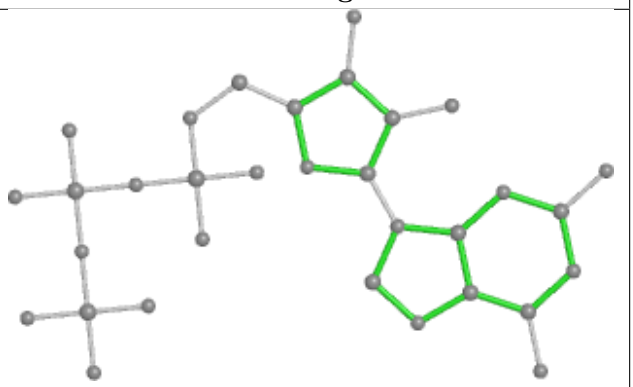
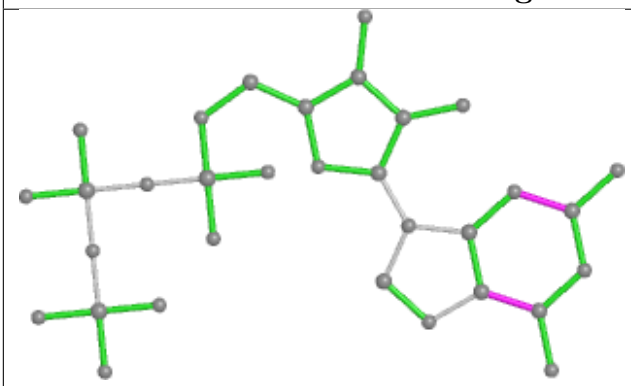


Rings

Ligand GTP IH 501



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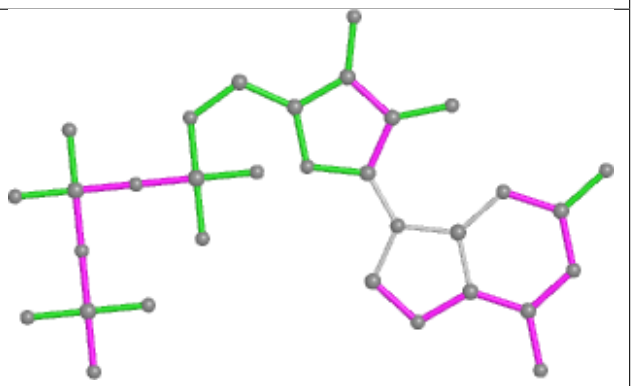

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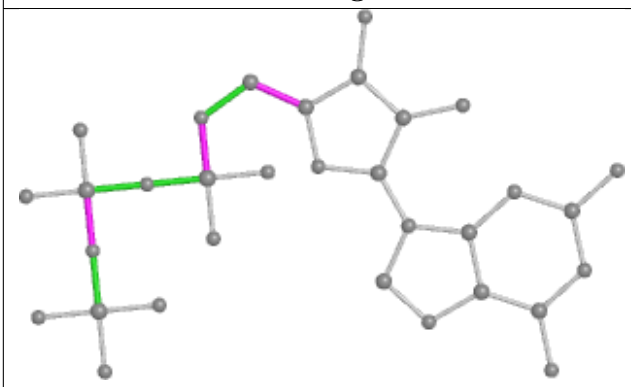

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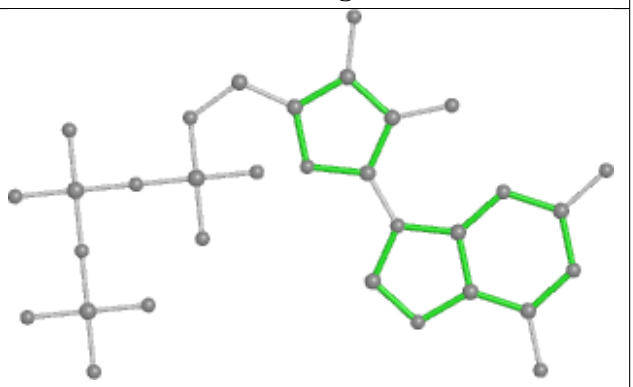
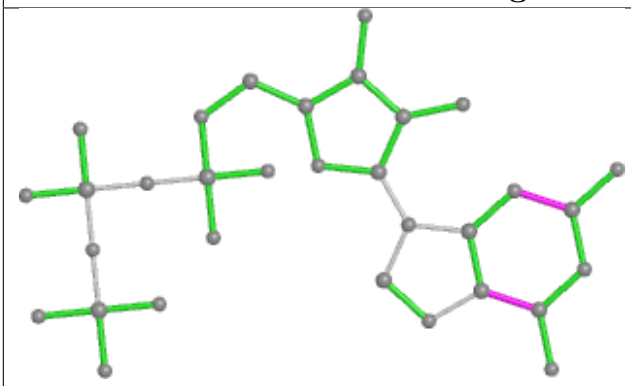


Rings

Ligand GTP PG 501



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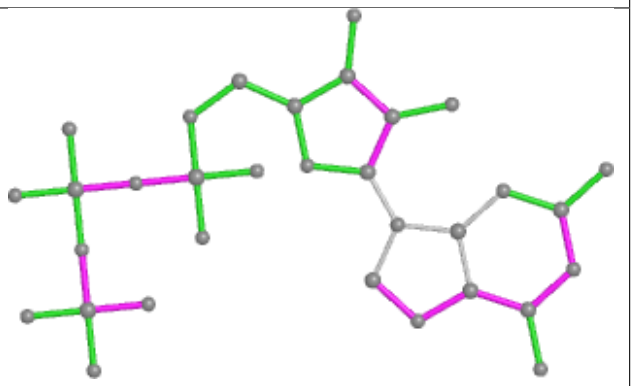
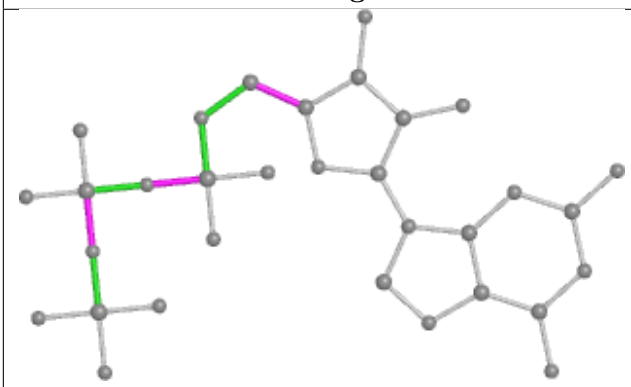


Bond angles



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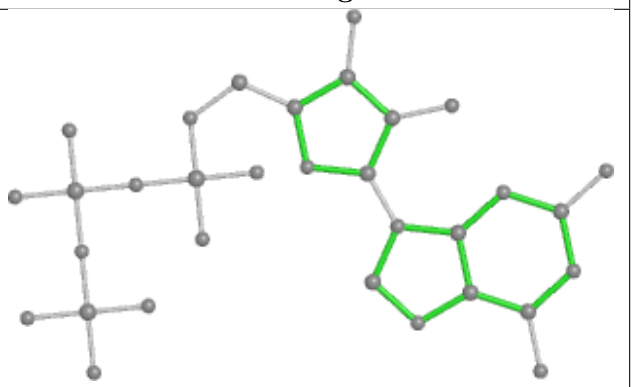
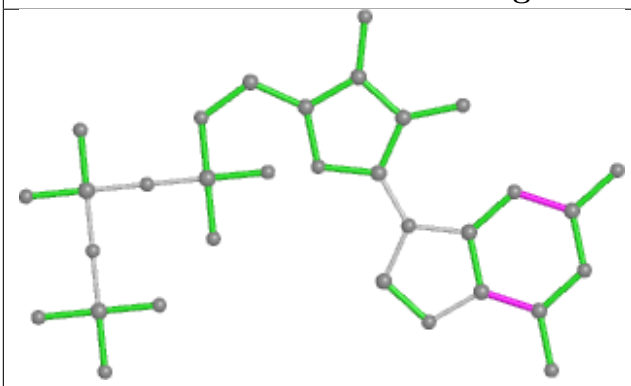


Rings

Ligand GTP OJ 501



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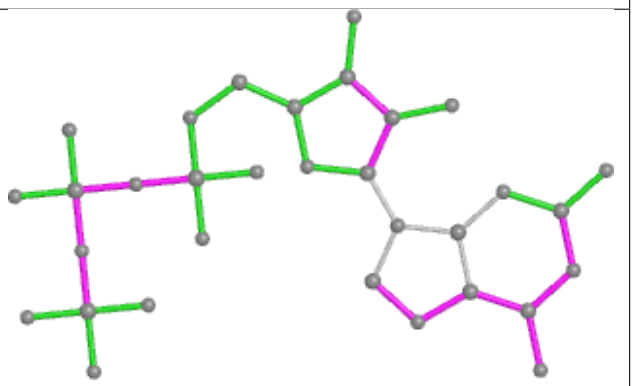
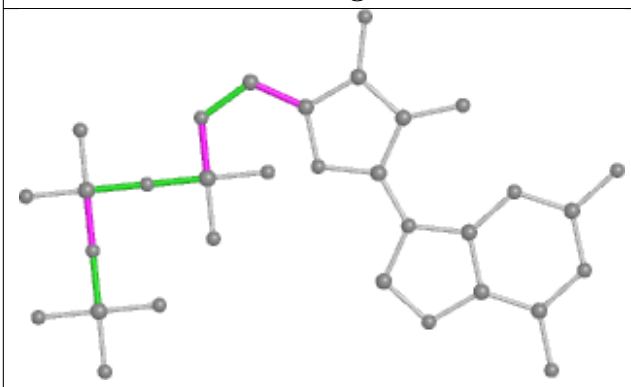
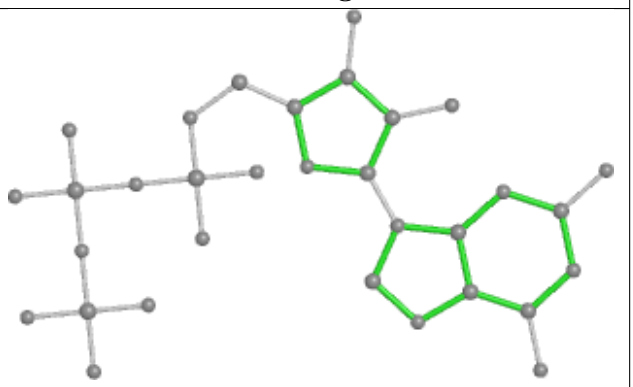


Bond angles

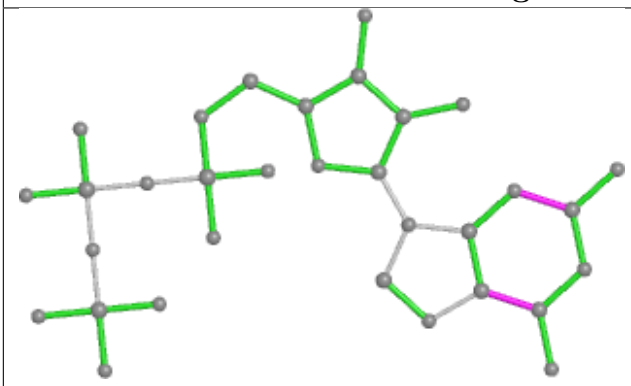


Torsions



Rings

Ligand GTP TL 501



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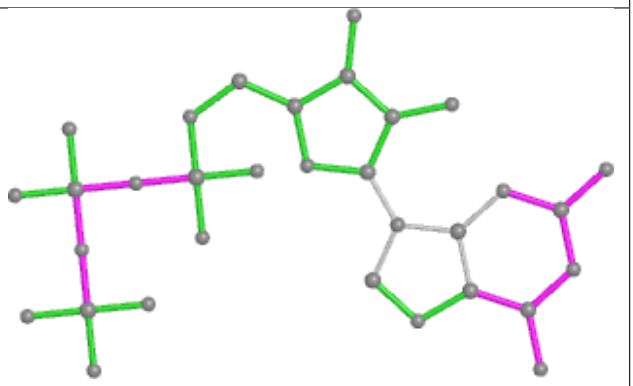

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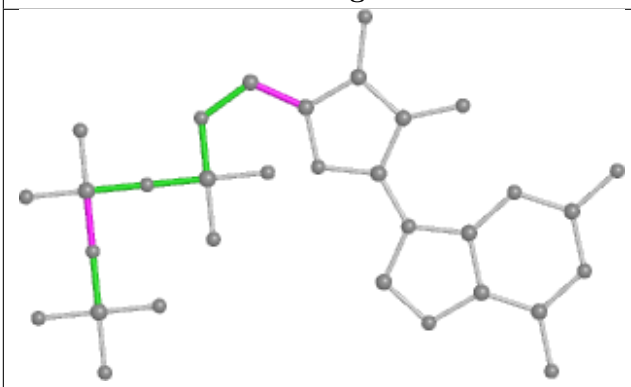

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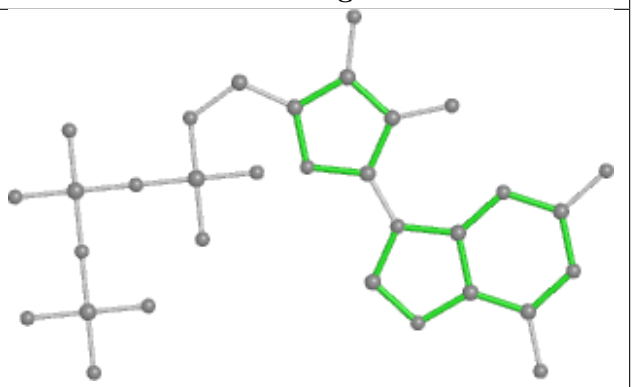
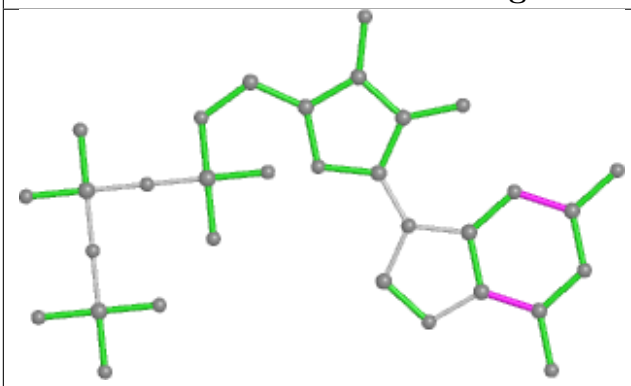


Rings

Ligand GTP UC 501



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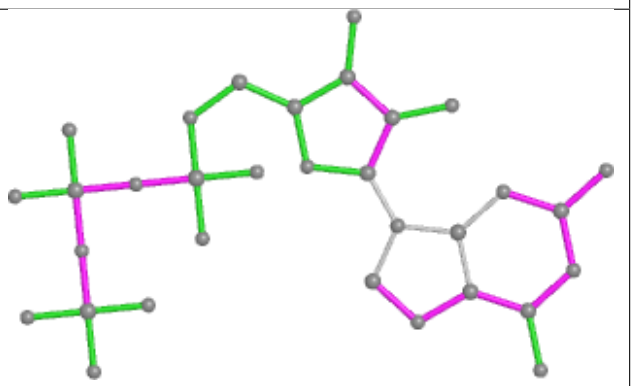

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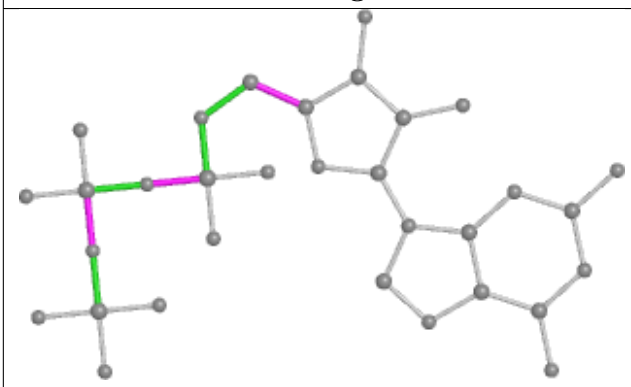

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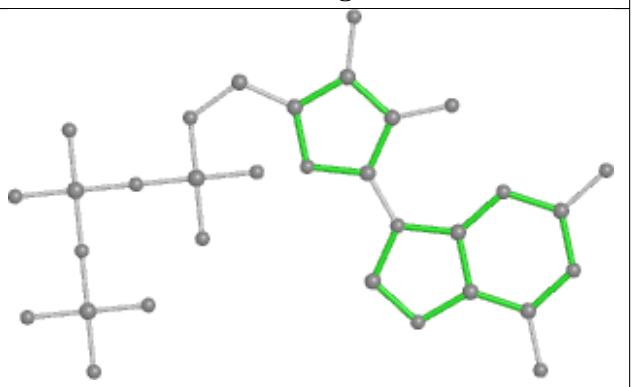
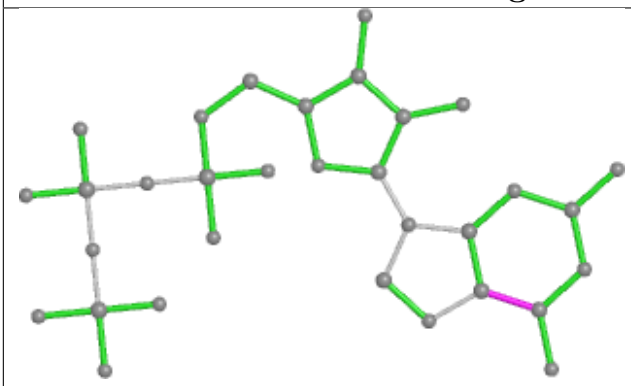


Rings

Ligand GTP SM 501



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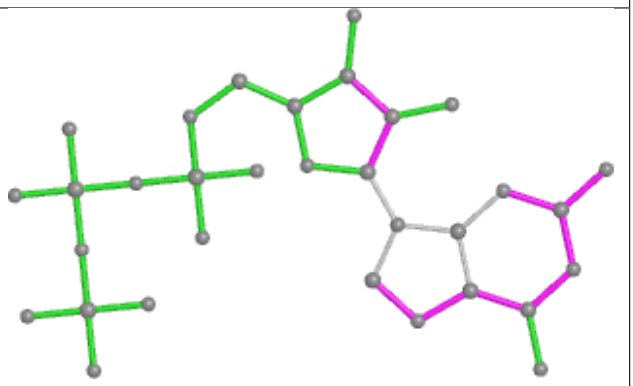

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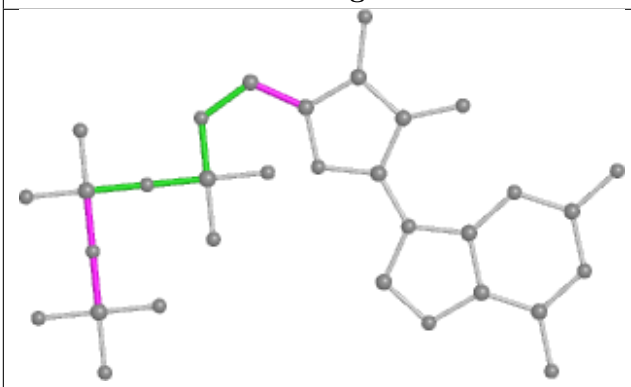

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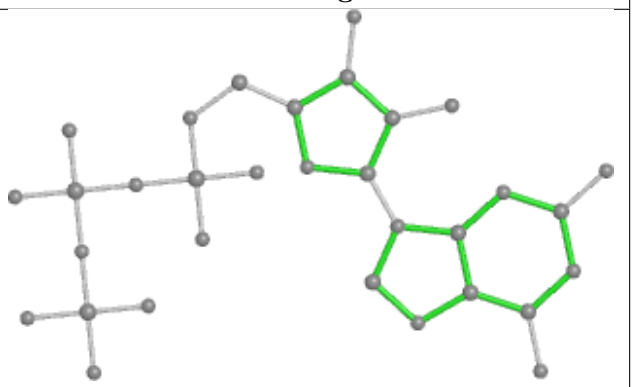
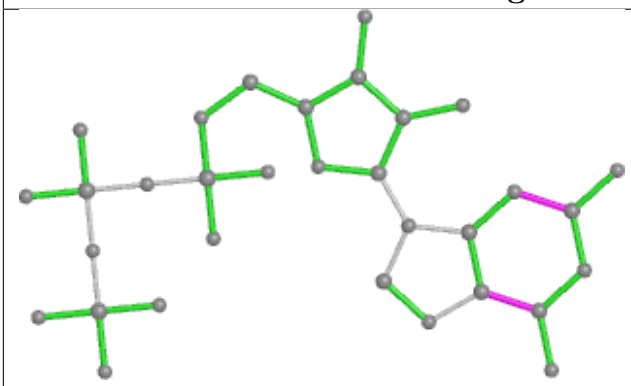


Rings

Ligand GTP UG 501



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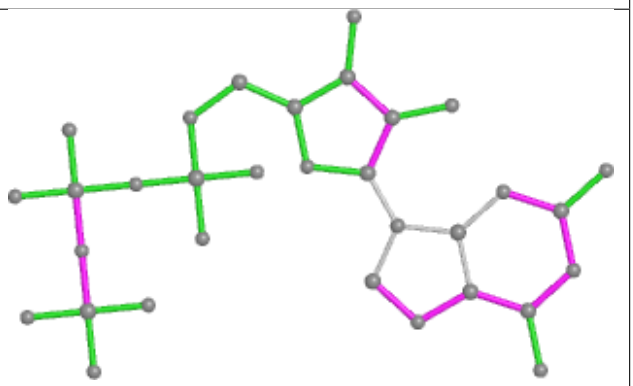

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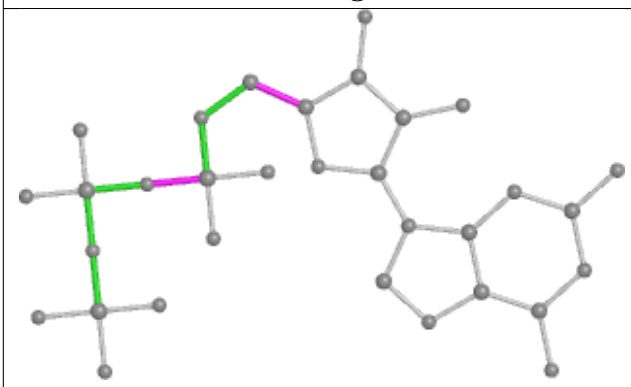

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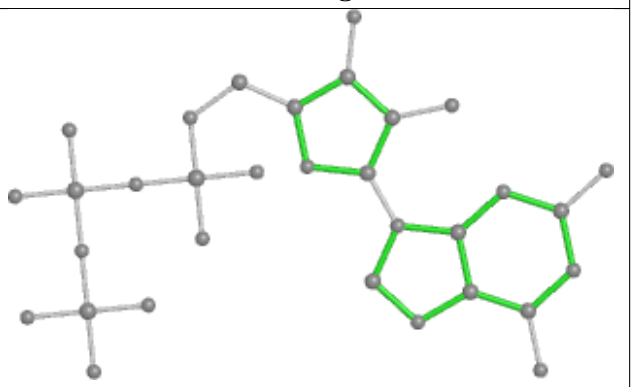
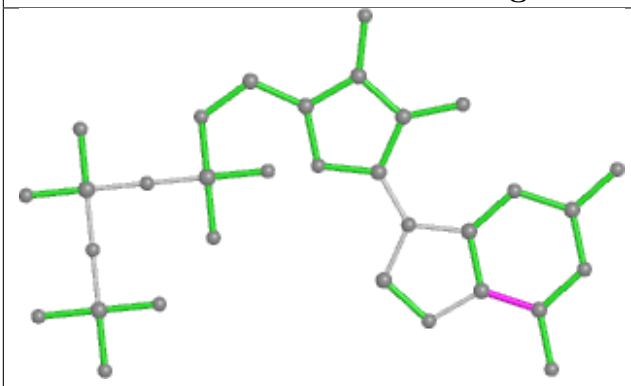


Rings

Ligand GTP VC 501



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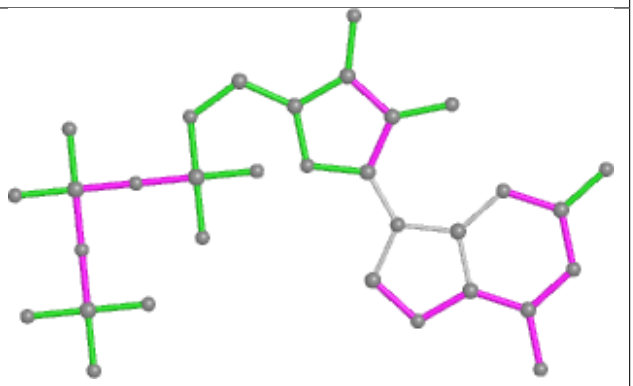

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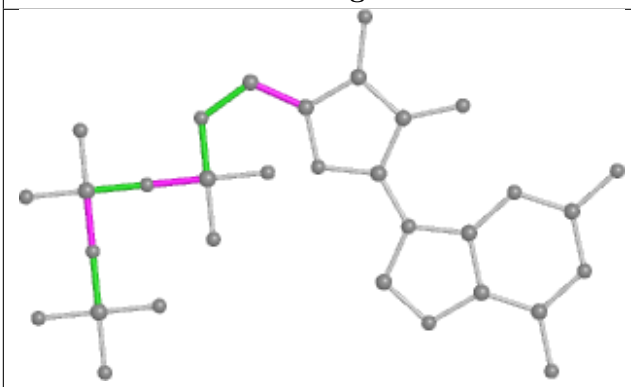

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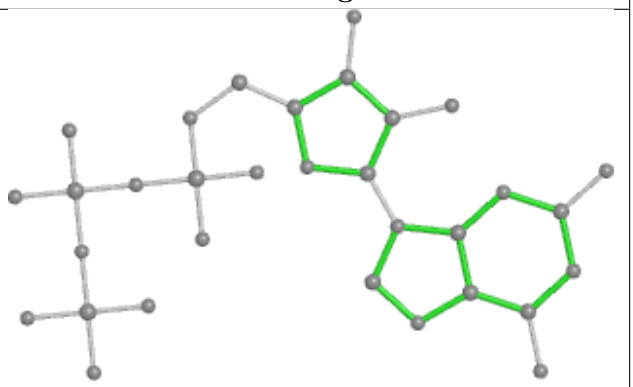

Rings

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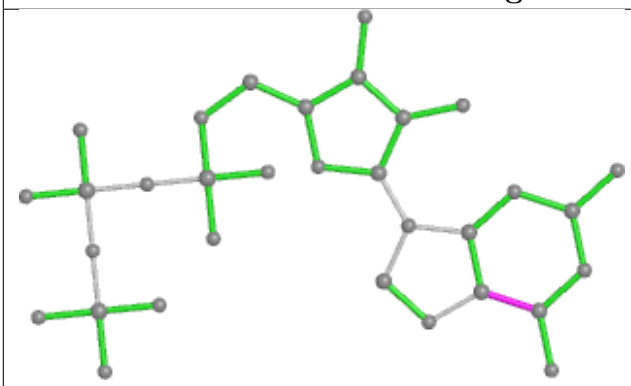

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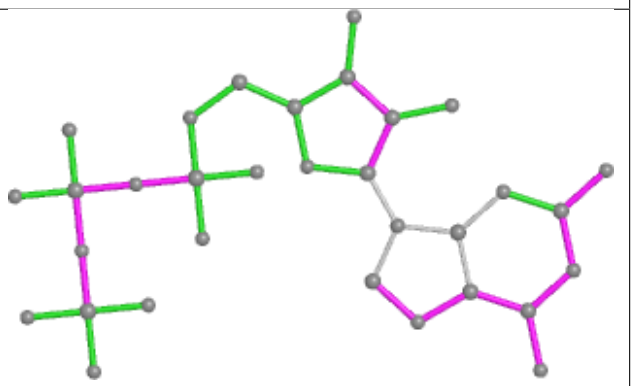

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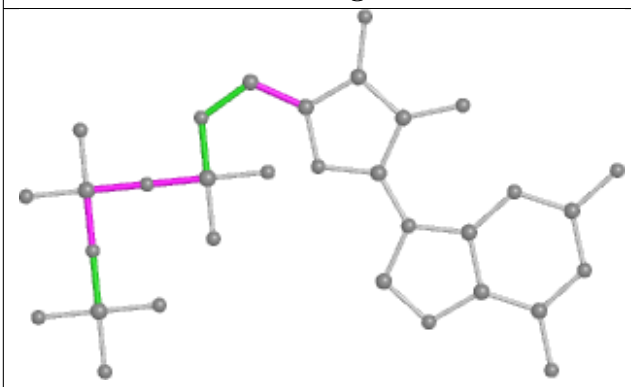

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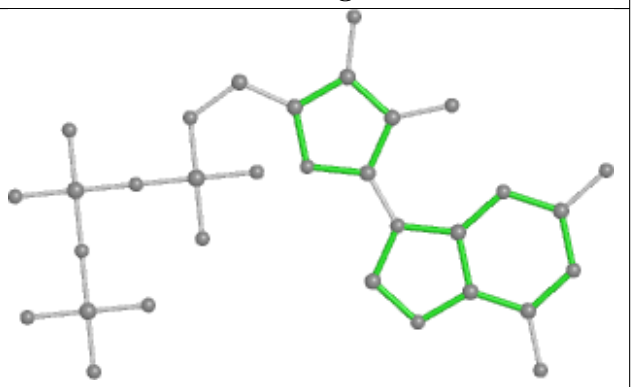
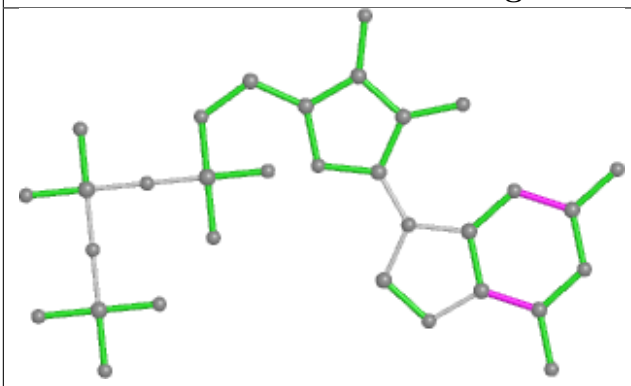


Rings

Ligand GTP AM 501



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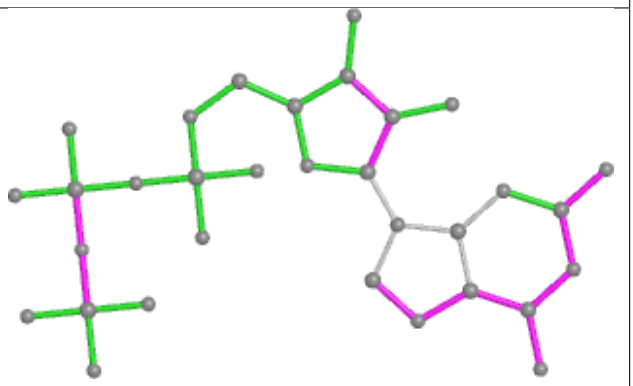

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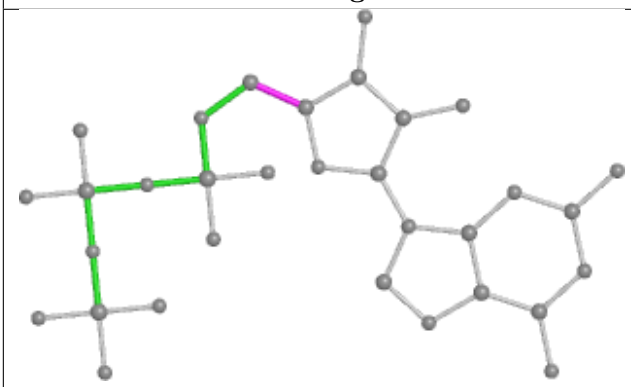

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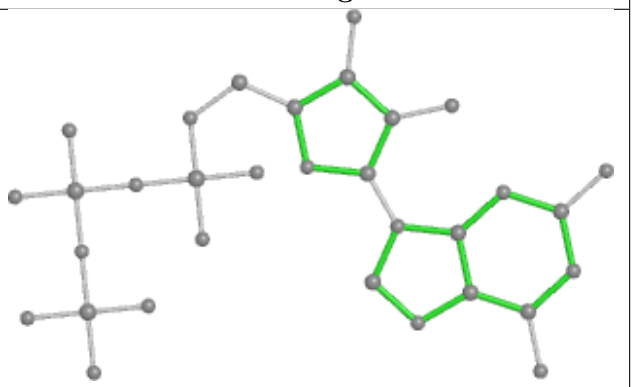
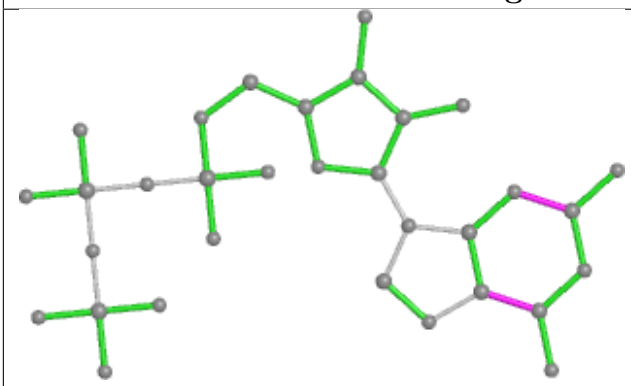


Rings

Ligand GTP MD 502



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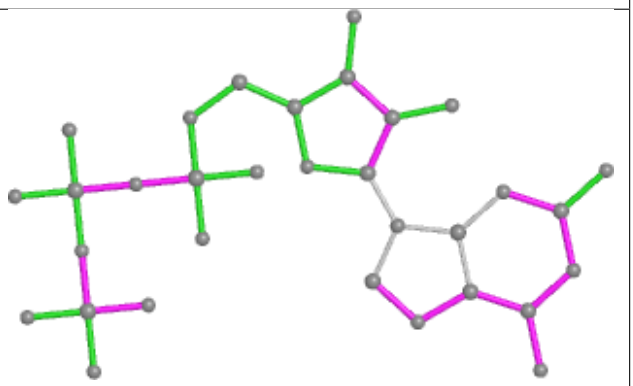

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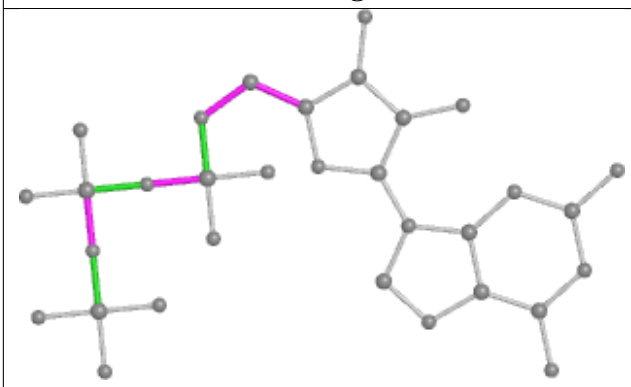

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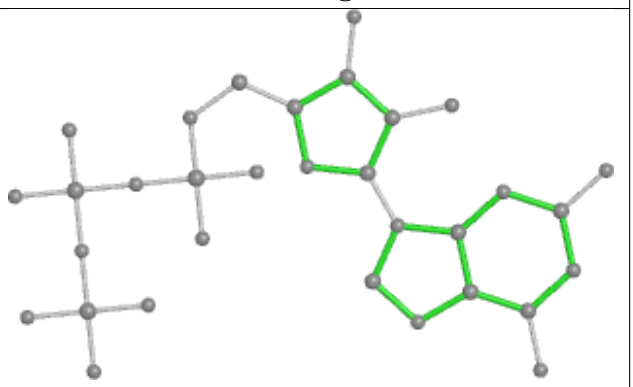
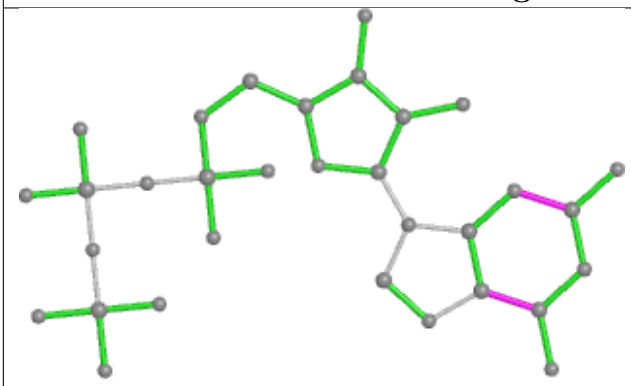


Rings

Ligand GTP LE 501



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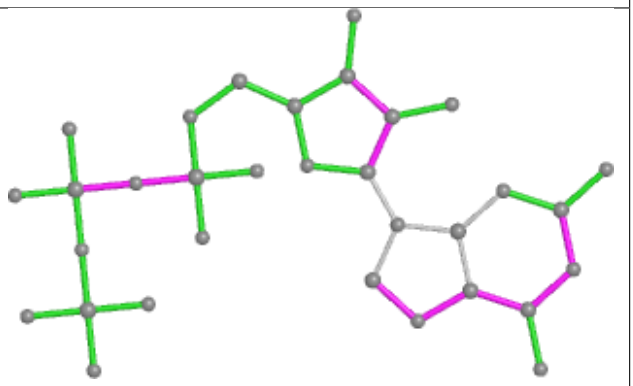

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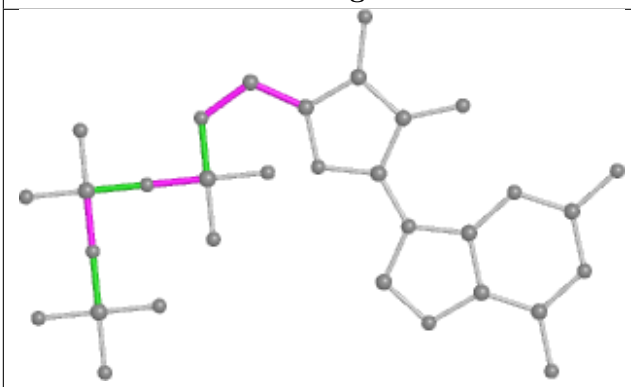

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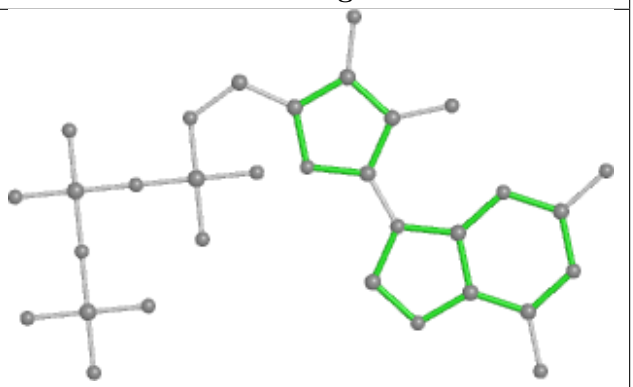
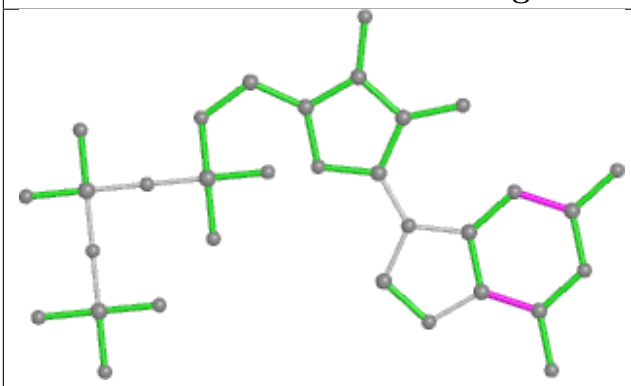


Rings

Ligand GTP HJ 501



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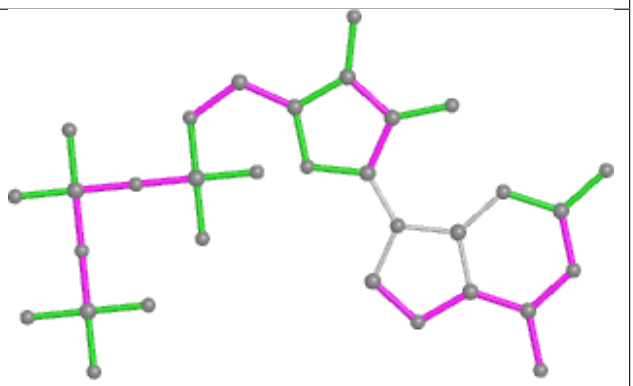

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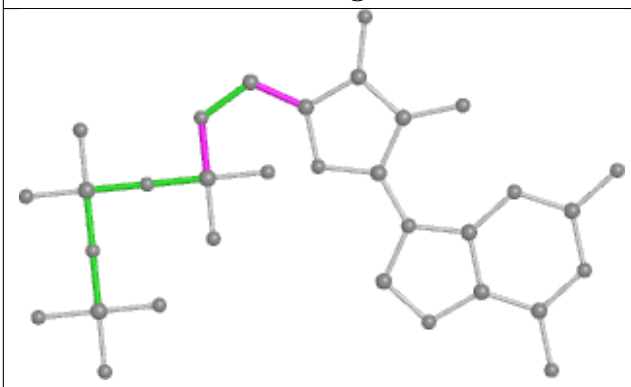

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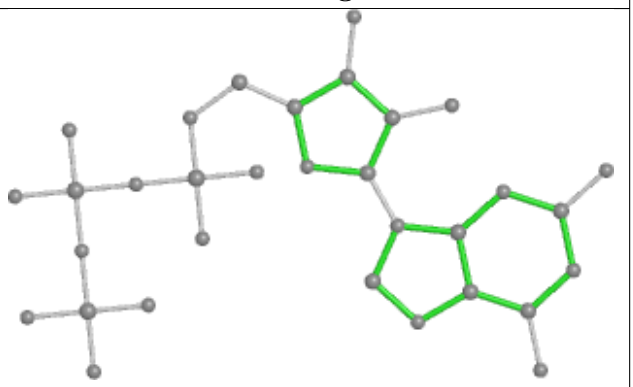
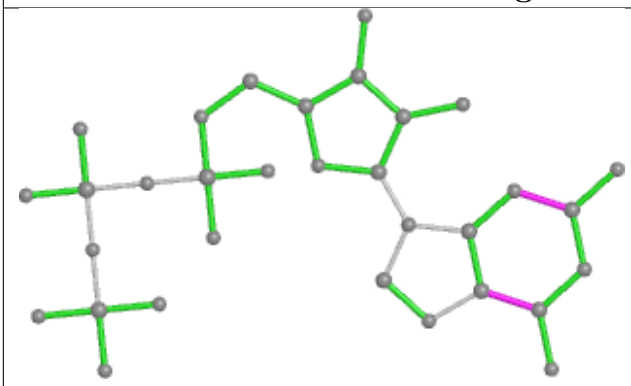


Rings

Ligand GTP IG 501



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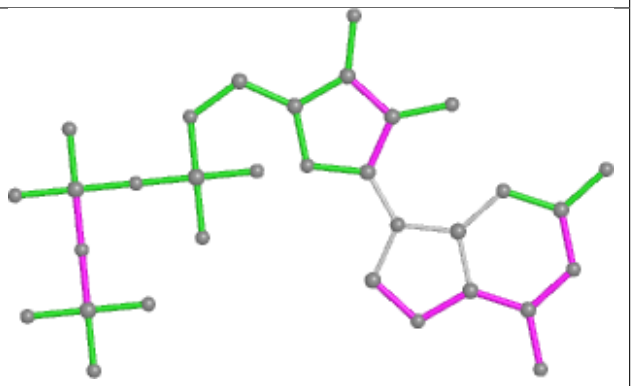

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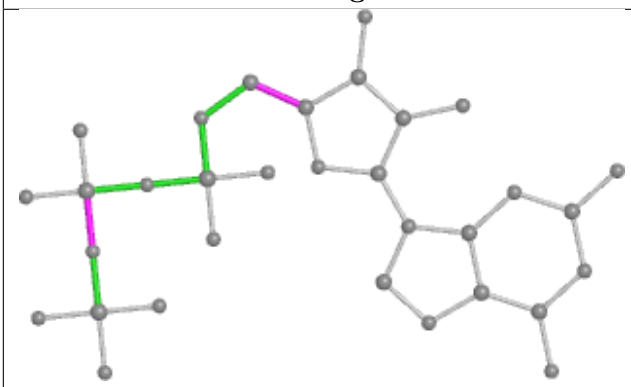

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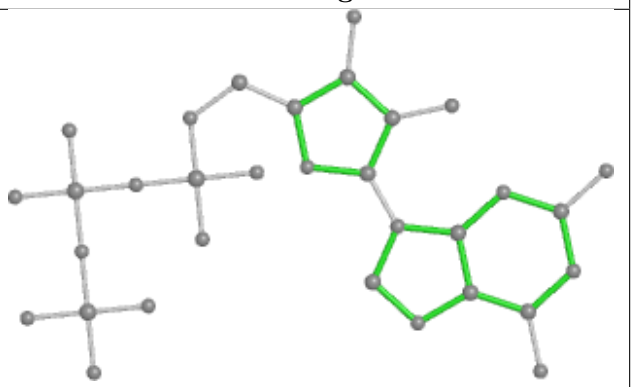
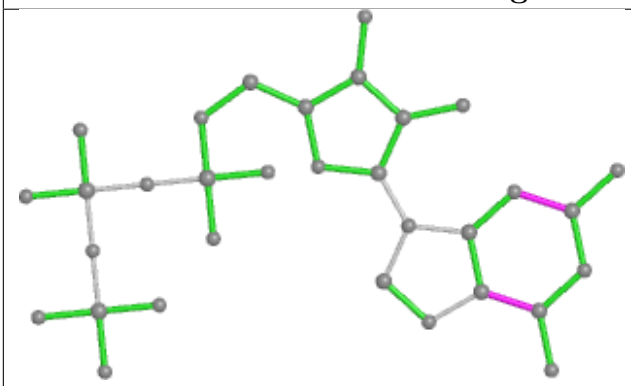


Rings

Ligand GTP KF 501



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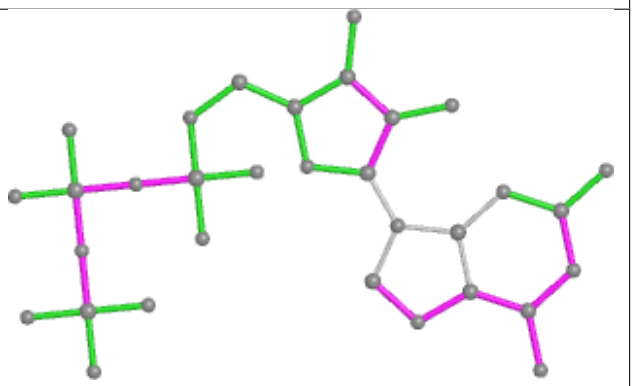

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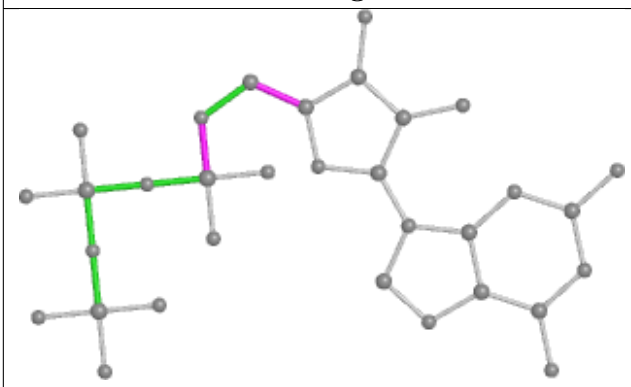

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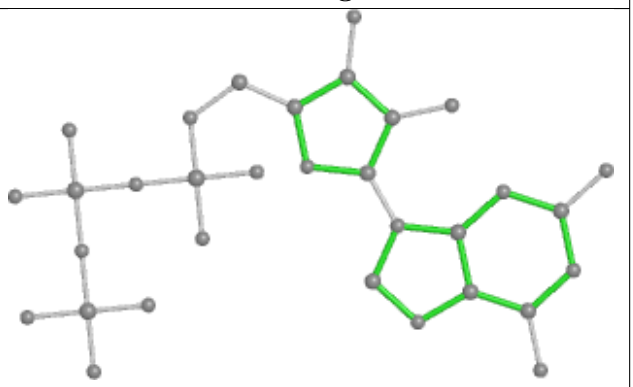
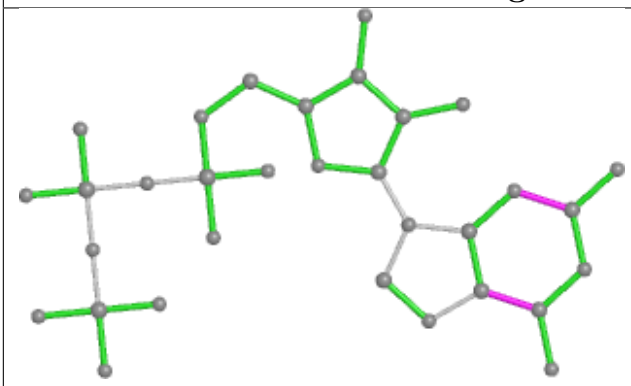


Rings

Ligand GTP UA 501



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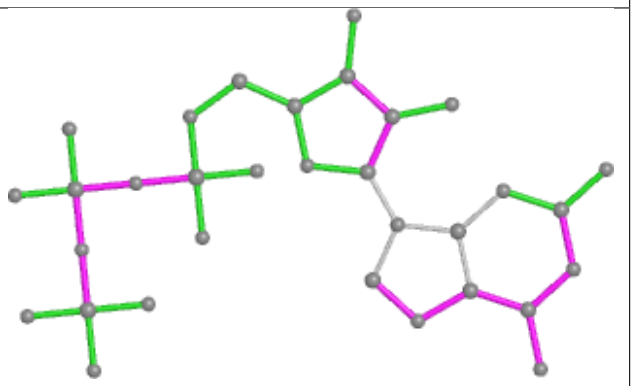
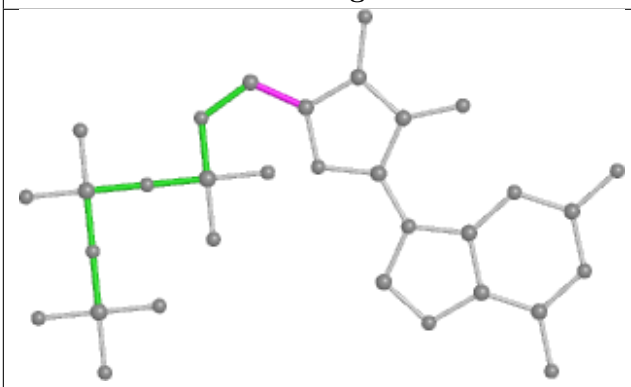


Bond angles



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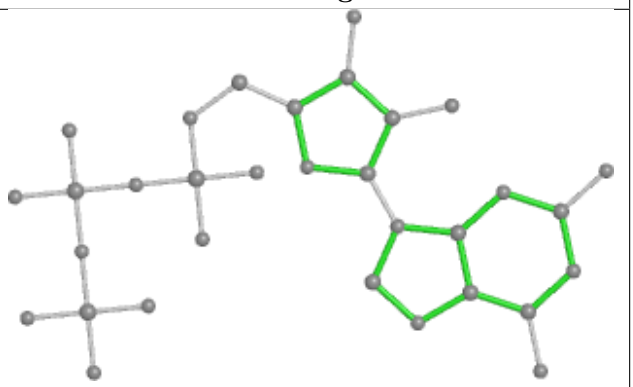
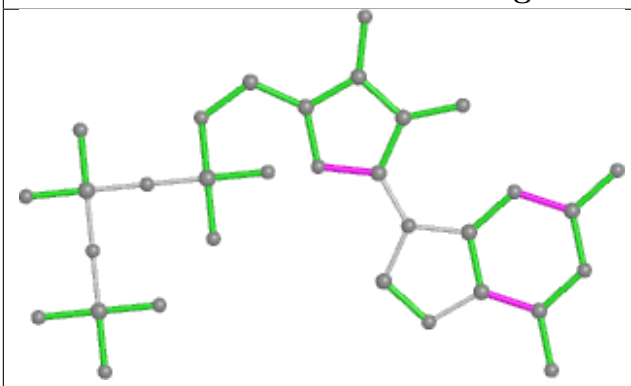


Rings

Ligand GTP BJ 501



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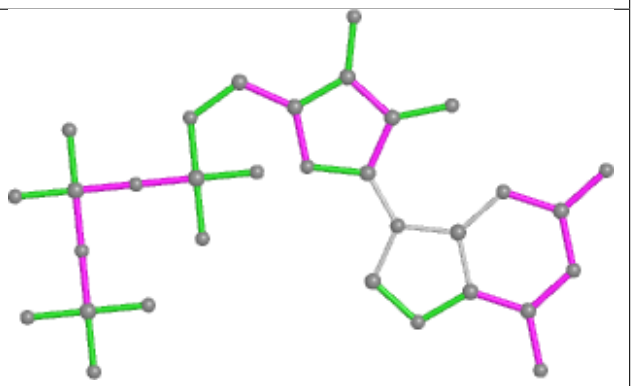
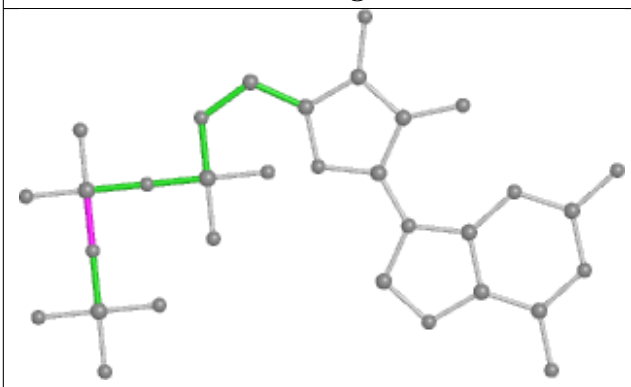


Bond angles



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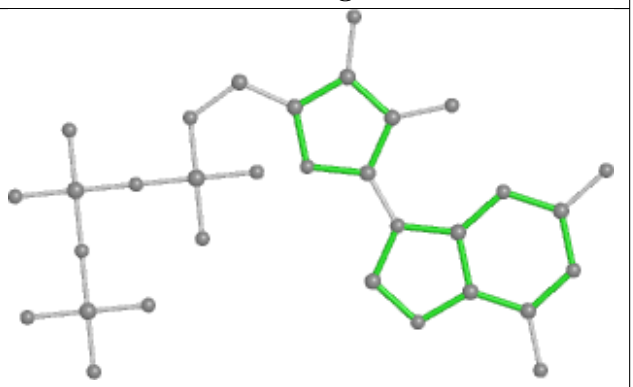
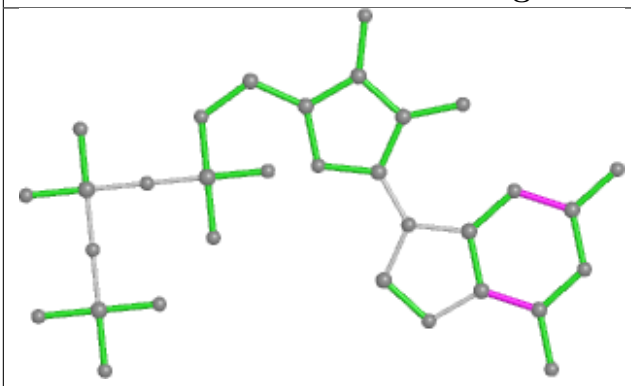
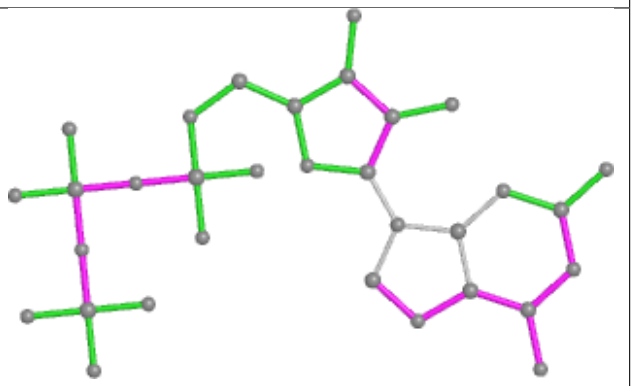


Rings

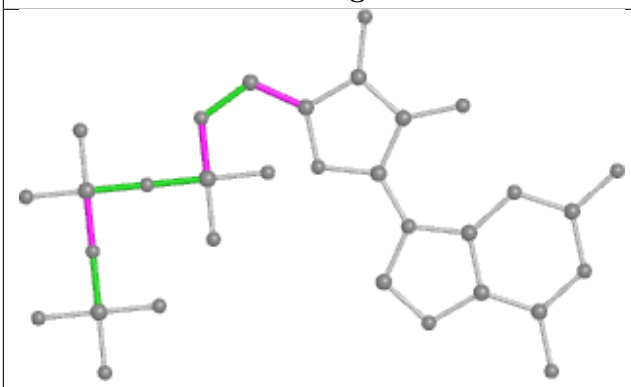
Ligand GTP EL 501



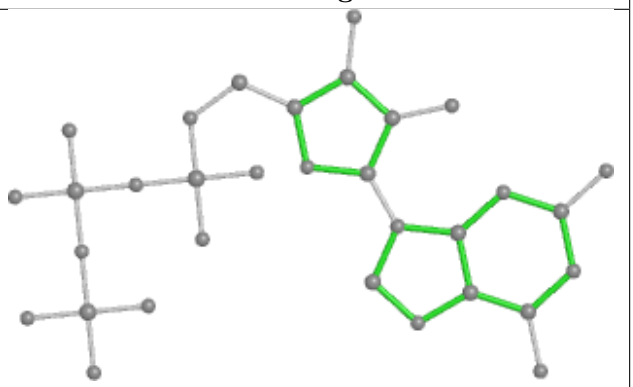
Bond lengths



Bond angles

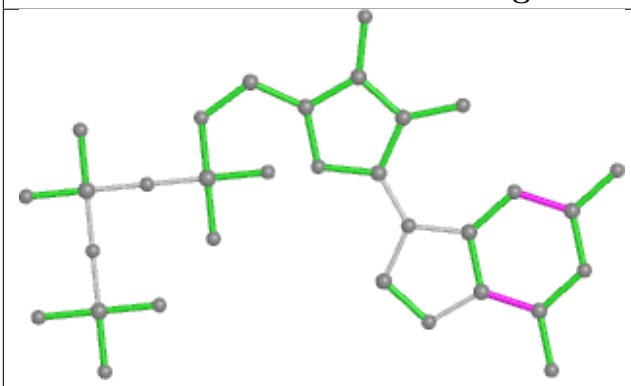


Torsions



Rings

Ligand GTP PL 501



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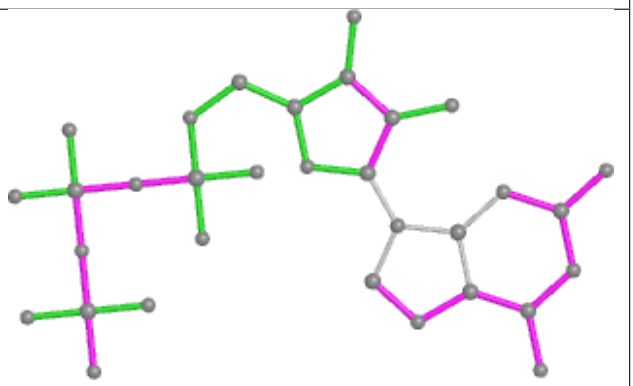

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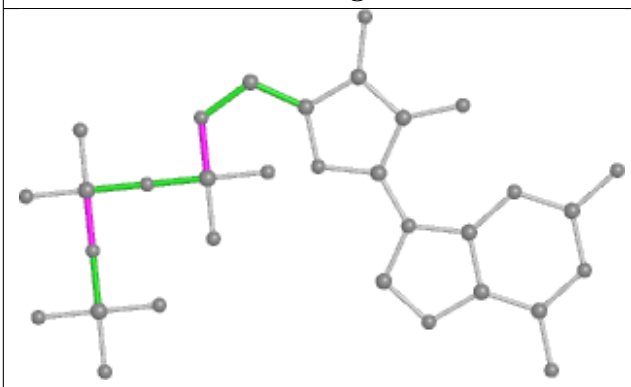

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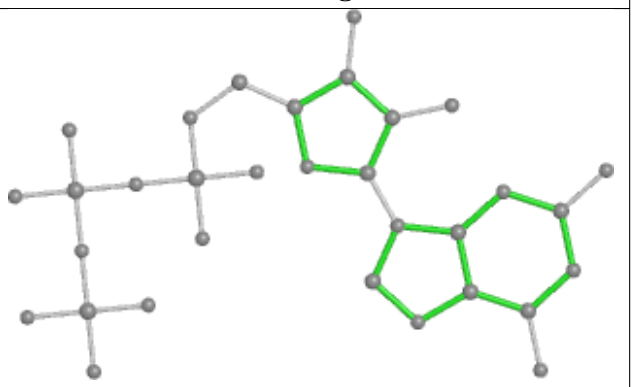
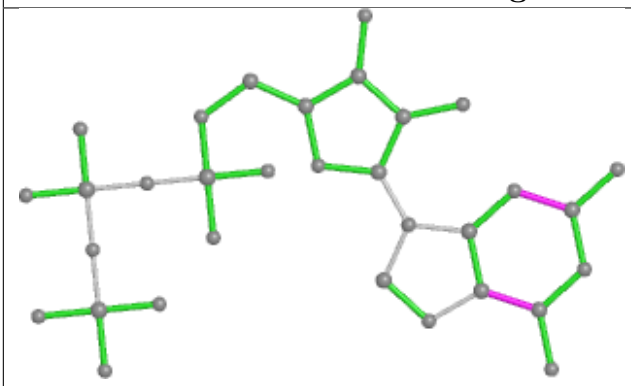


Rings

Ligand GTP QC 501



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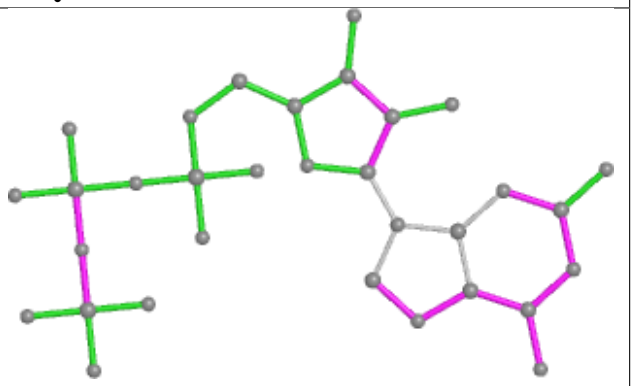

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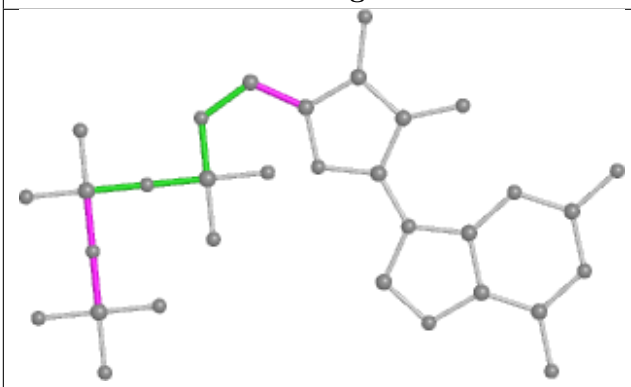

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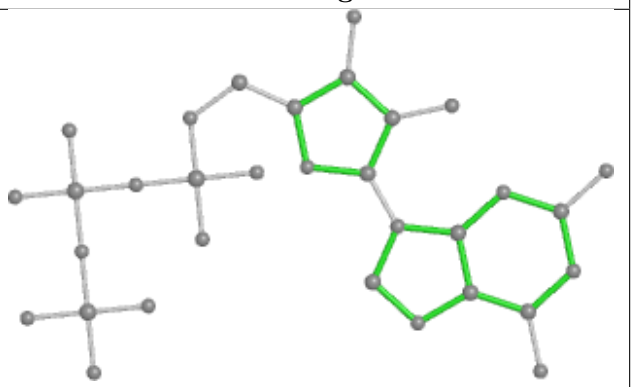
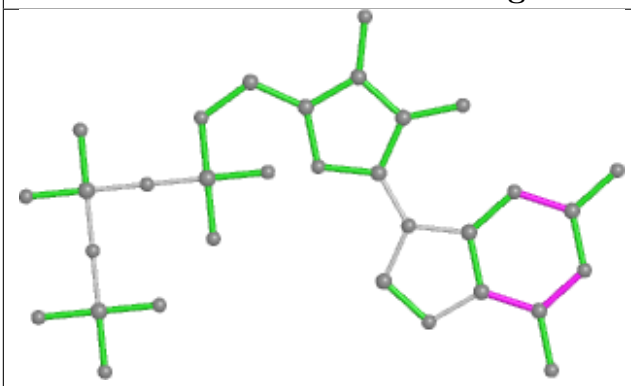


Rings

Ligand GTP QG 501



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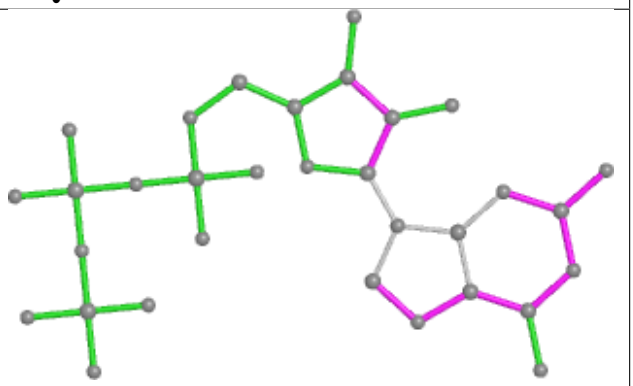

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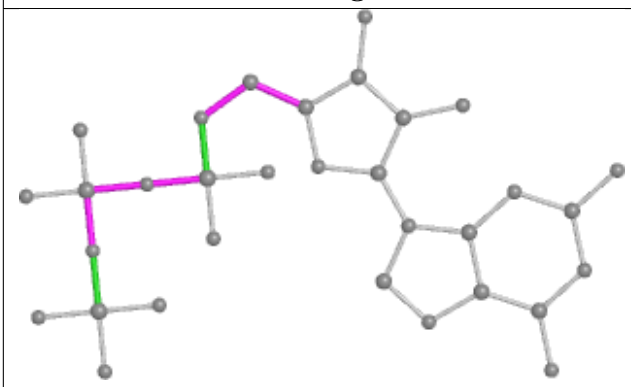

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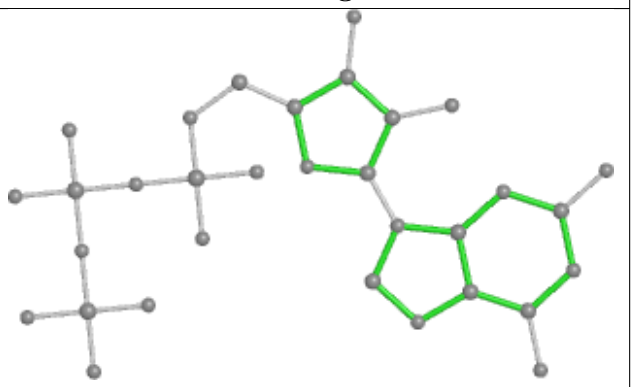
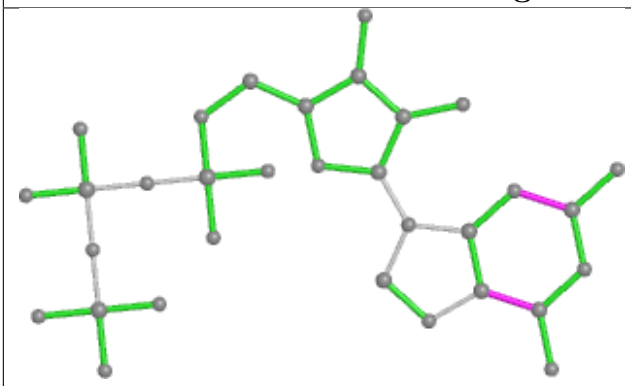


Rings

Ligand GTP FL 501



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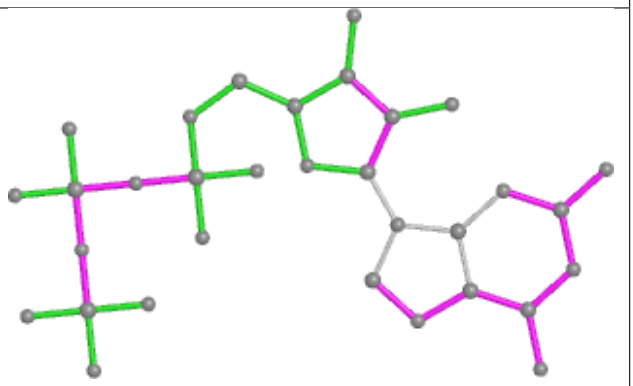

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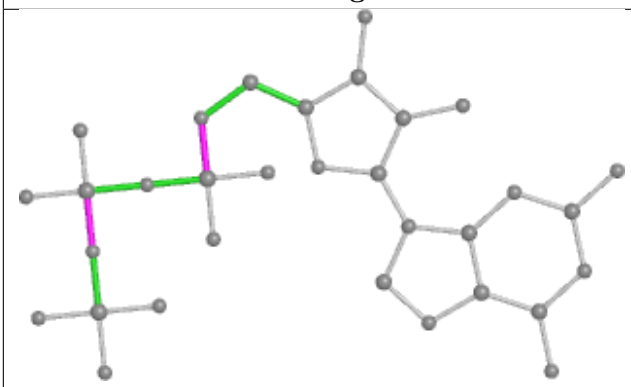

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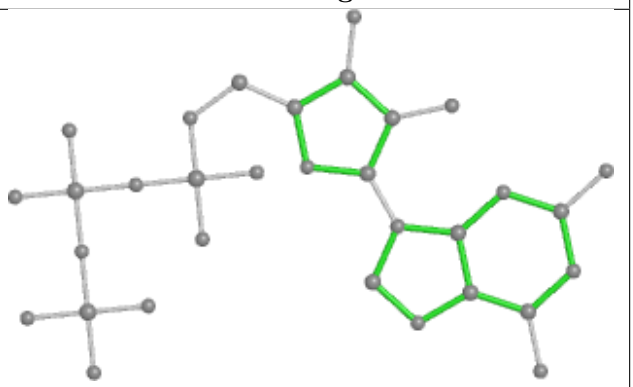
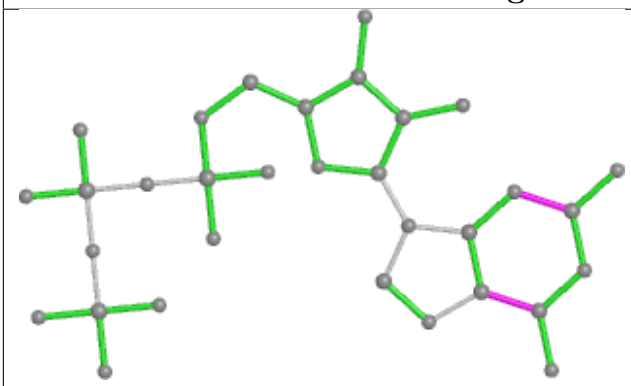


Rings

Ligand GTP MF 501



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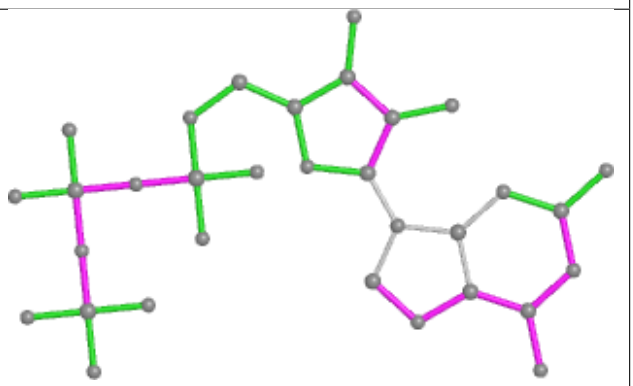

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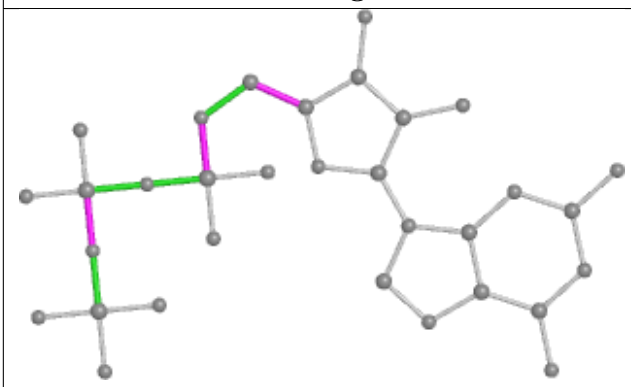

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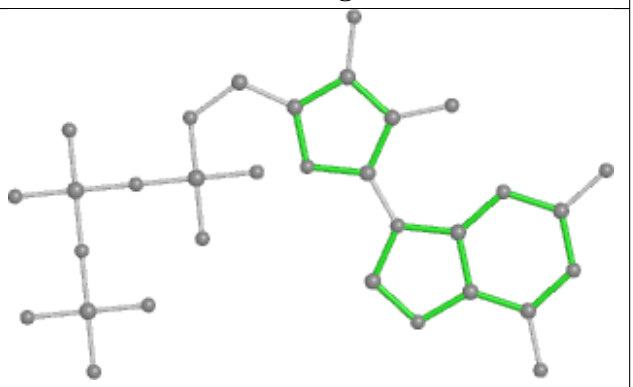
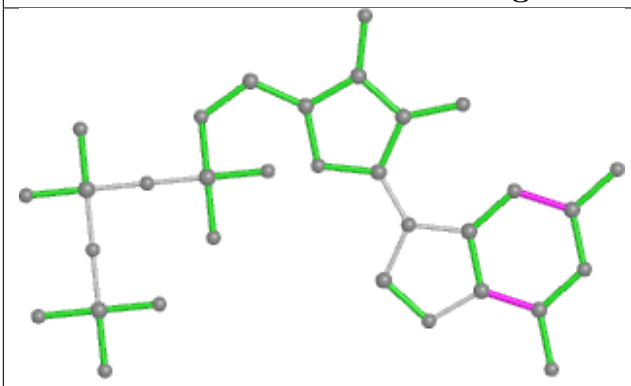


Rings

Ligand GTP PF 501



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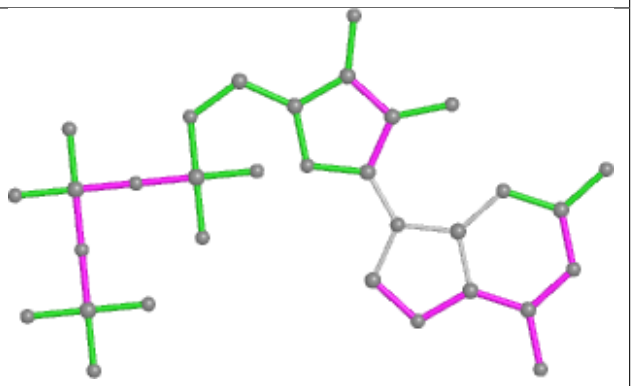

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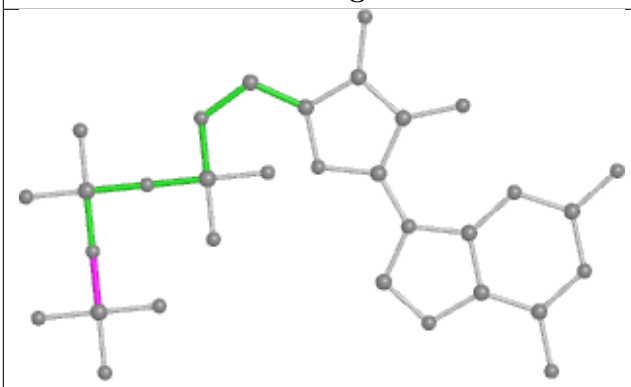

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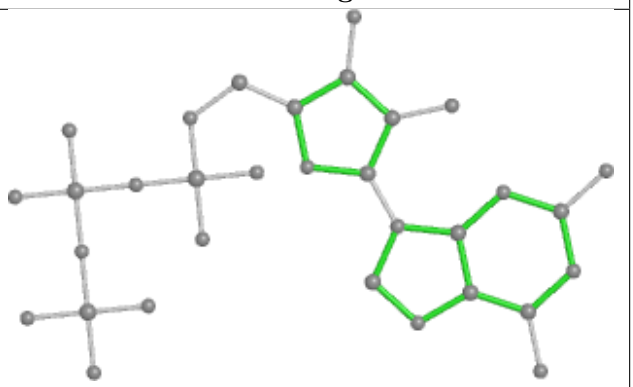
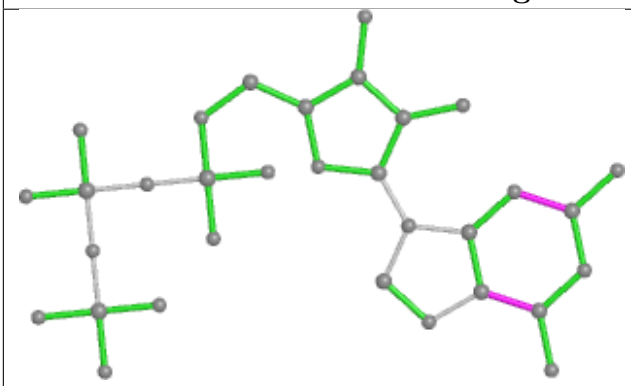


Rings

Ligand GTP JA 501



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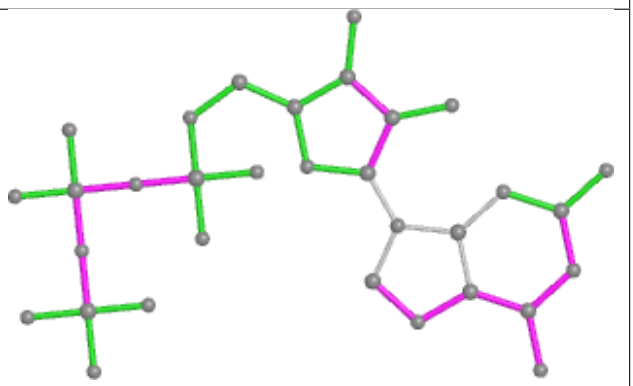

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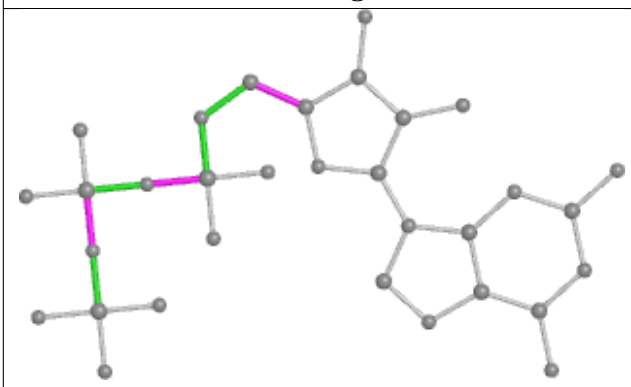

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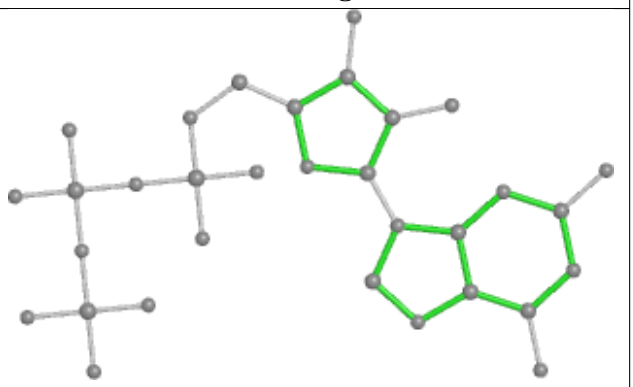
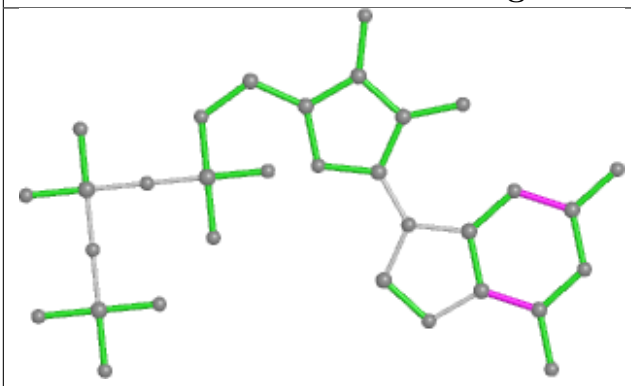


Rings

Ligand GTP HH 501



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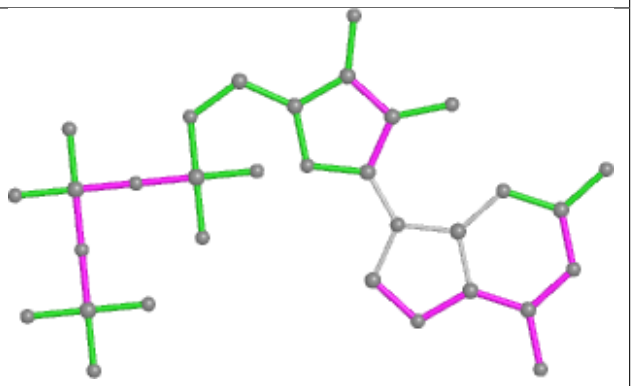

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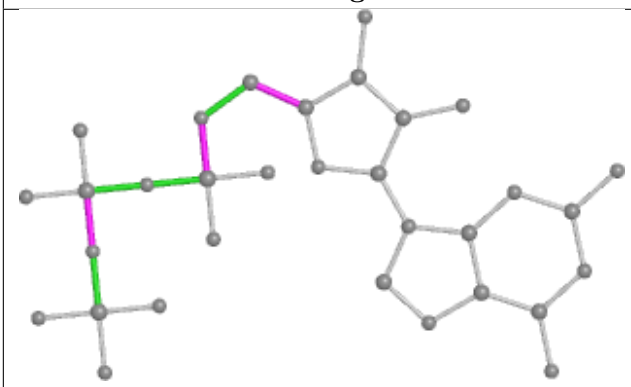

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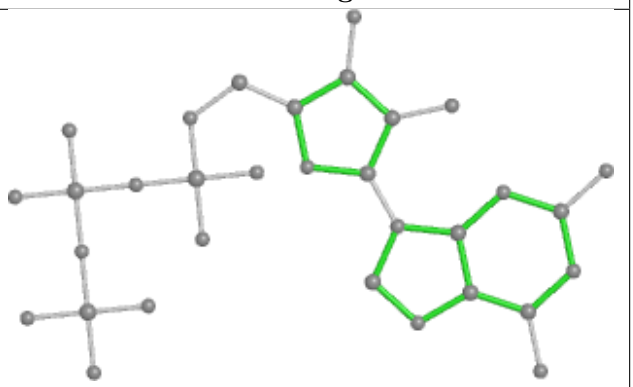
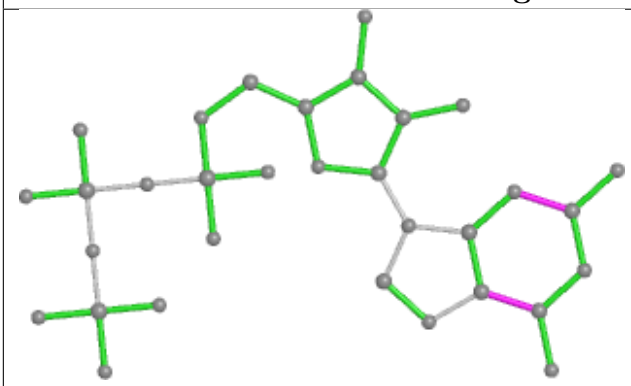


Rings

Ligand GTP JC 501



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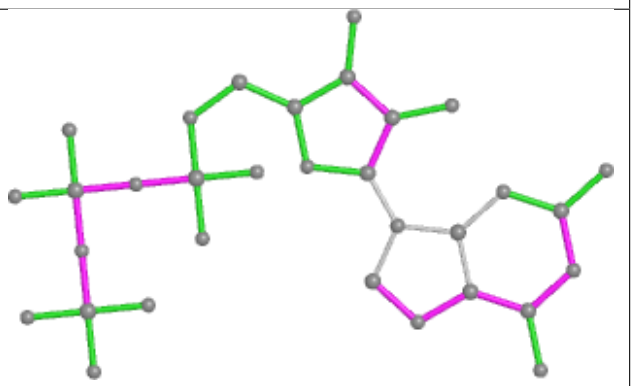

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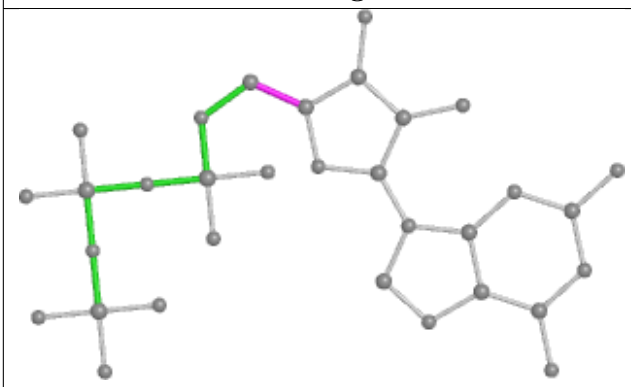

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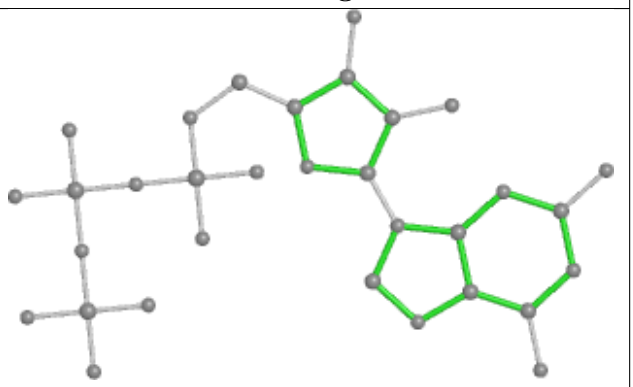
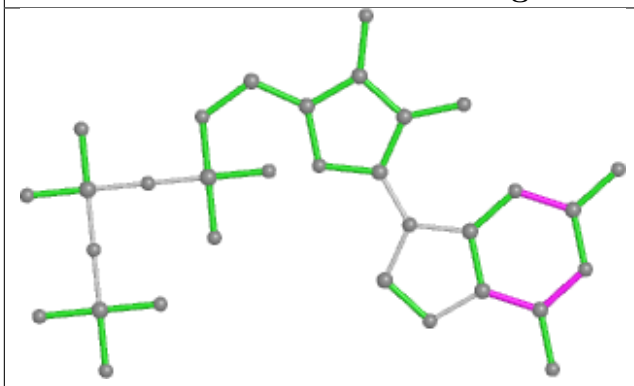


Rings

Ligand GTP FH 501



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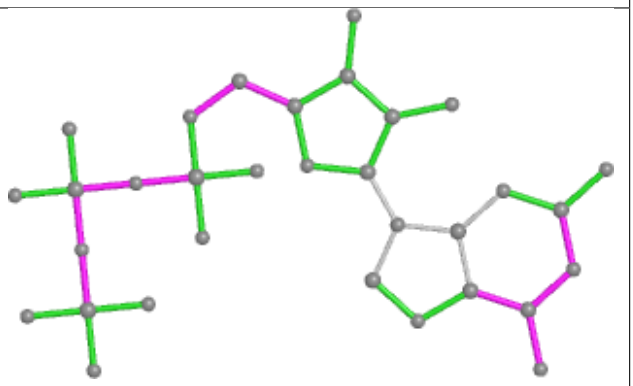

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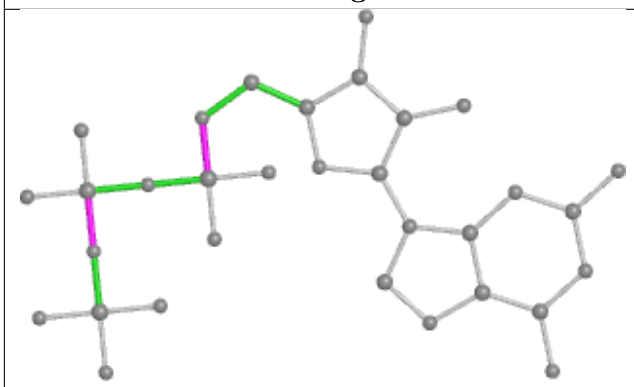

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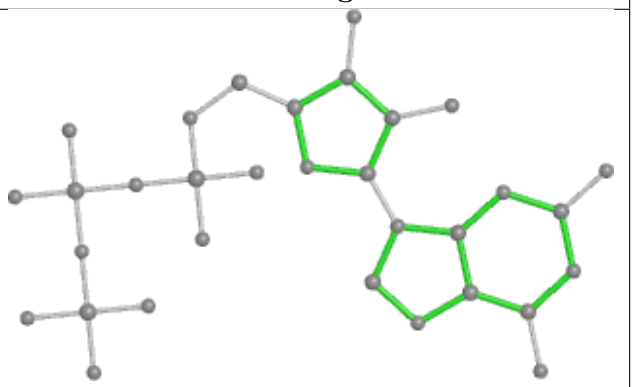
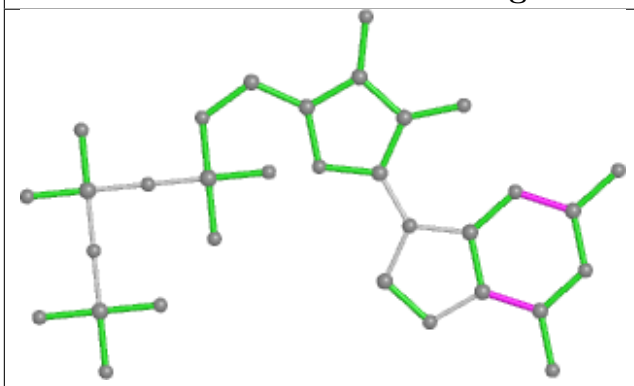


Rings

Ligand GTP QH 501



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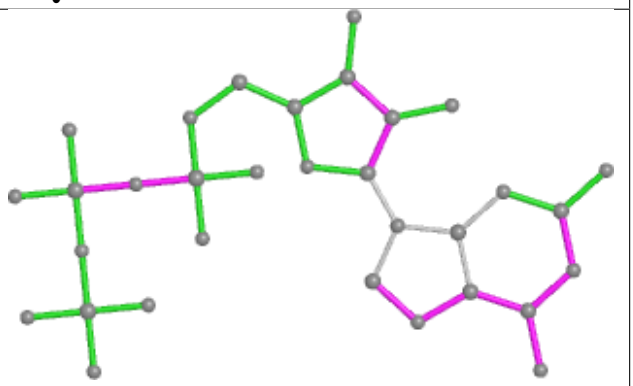

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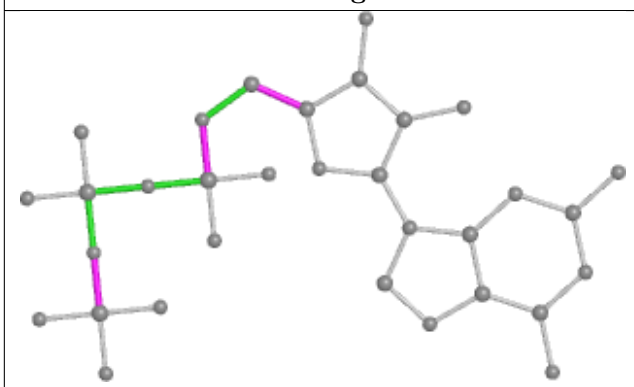

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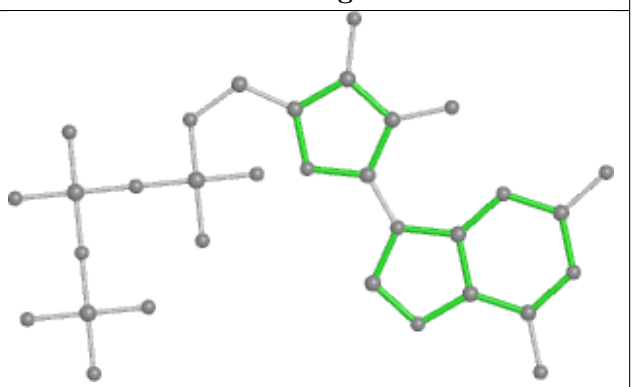
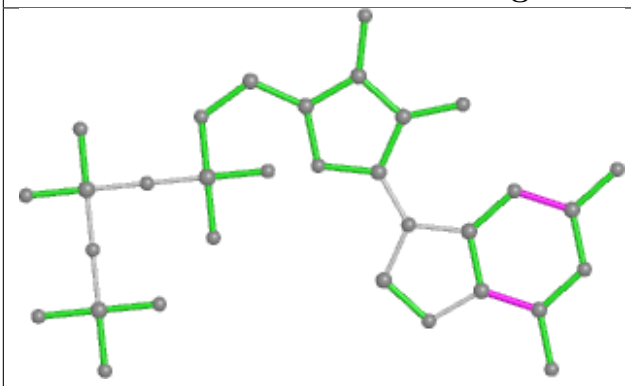


Rings

Ligand GTP TE 501



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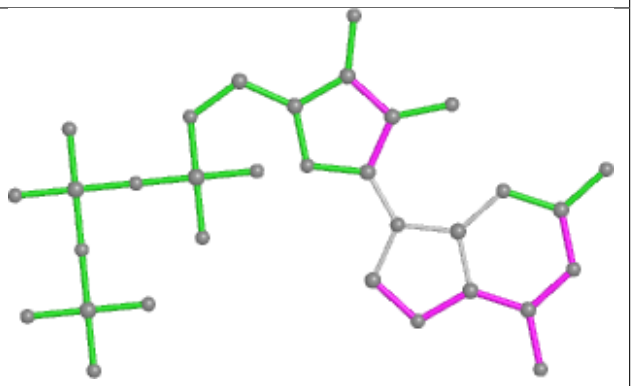

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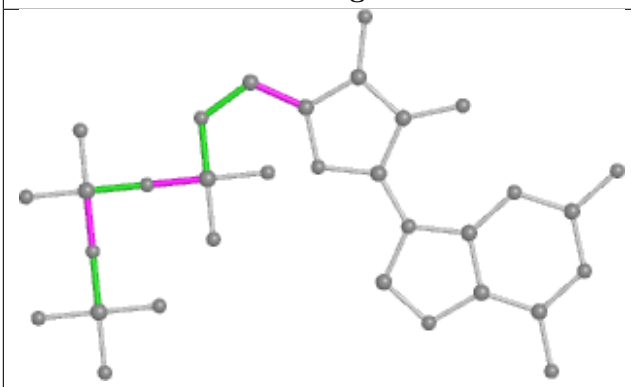

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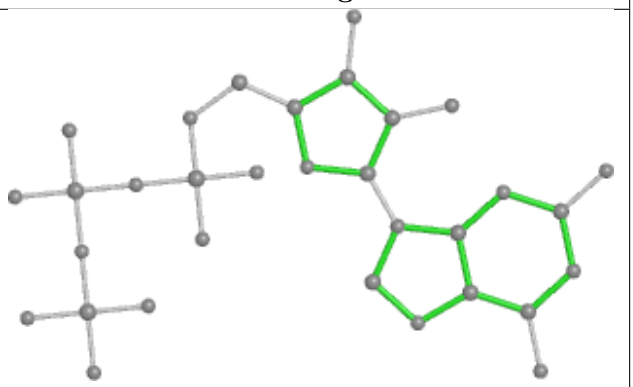
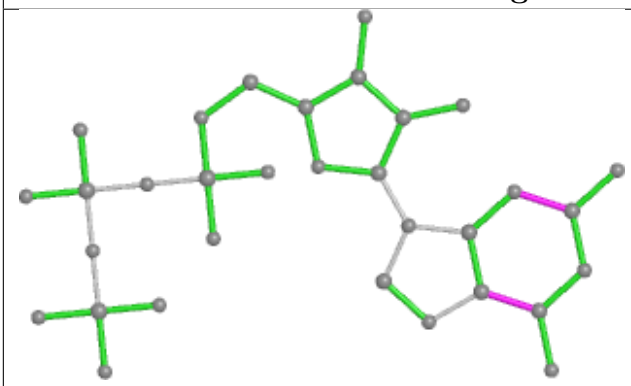


Rings

Ligand GTP UF 501



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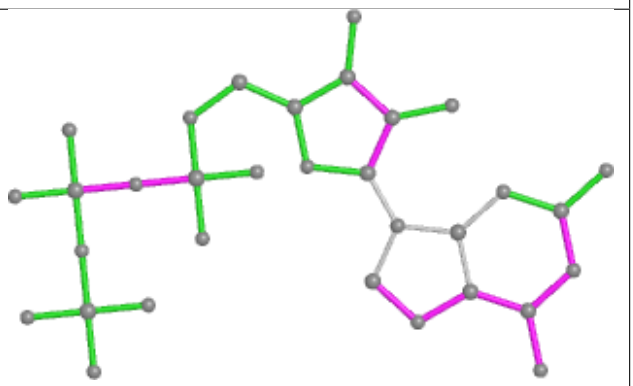
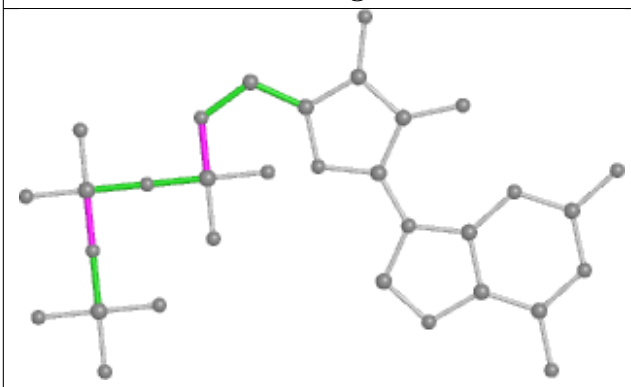


Bond angles



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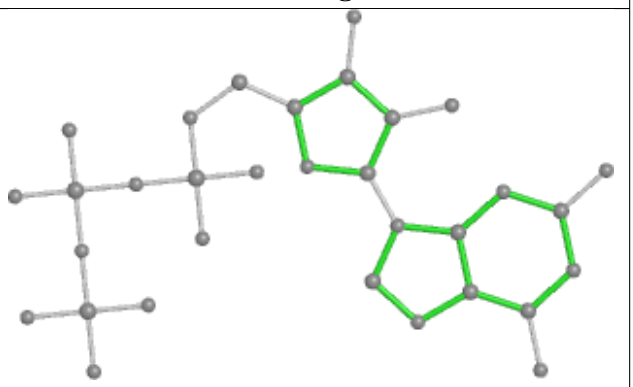
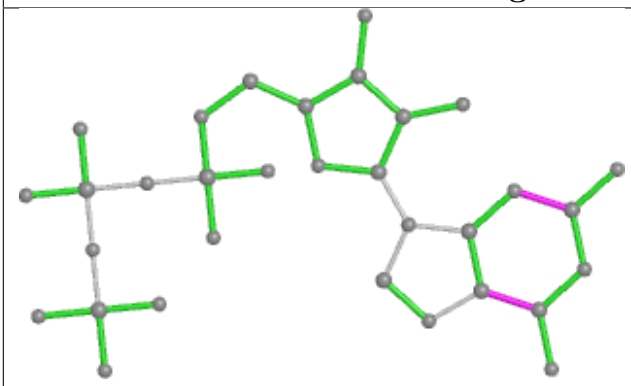
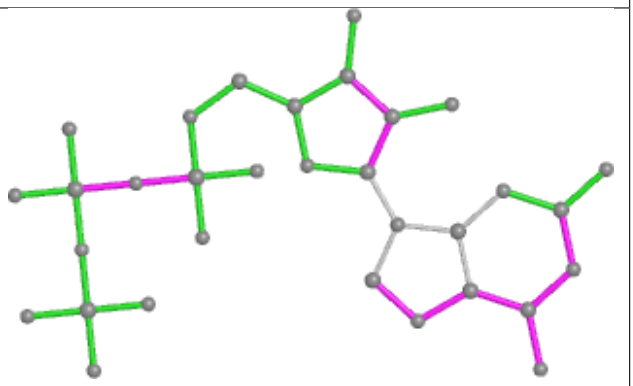


Rings

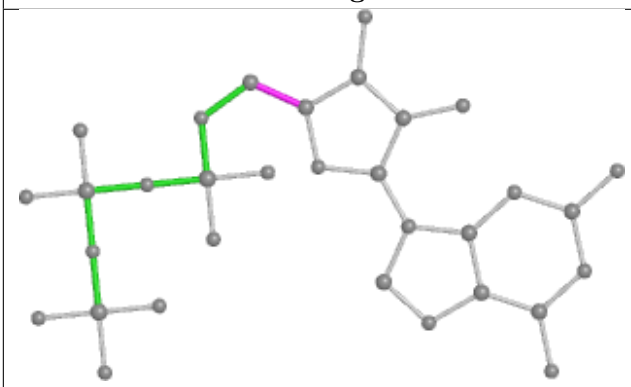
Ligand GTP BK 501



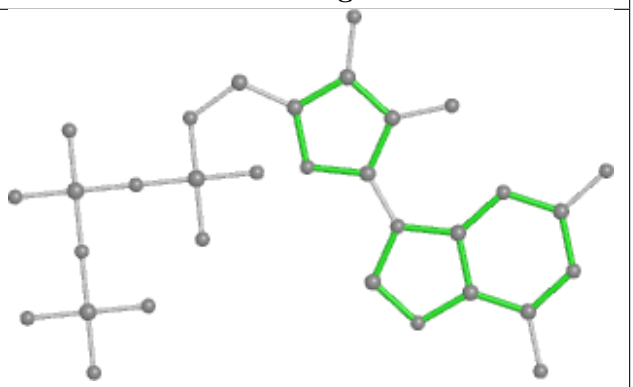
Bond lengths



Bond angles

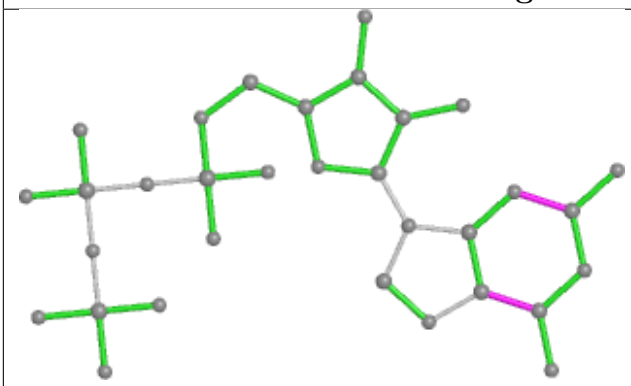


Torsions



Rings

Ligand GTP LJ 501



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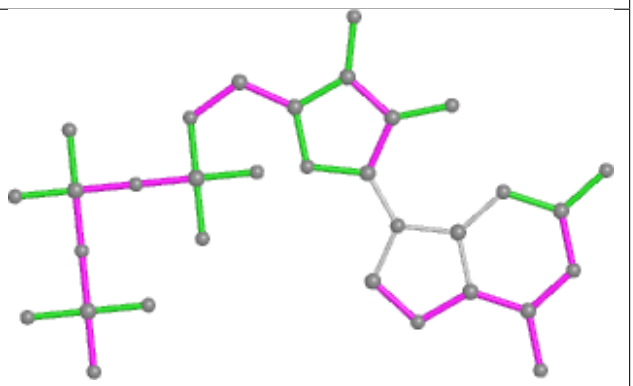
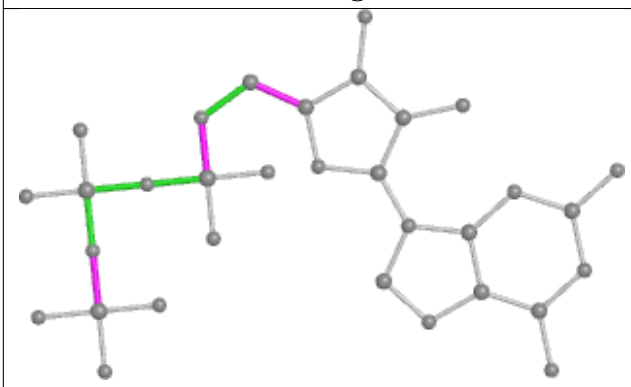


Bond angles



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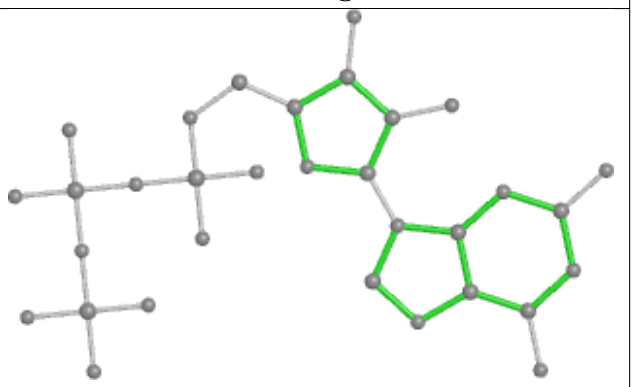
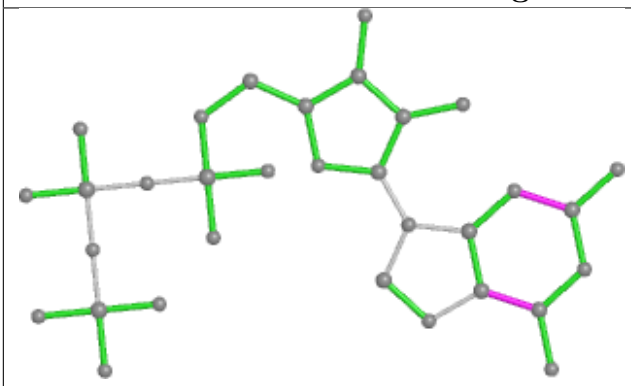


Rings

Ligand GTP SK 501



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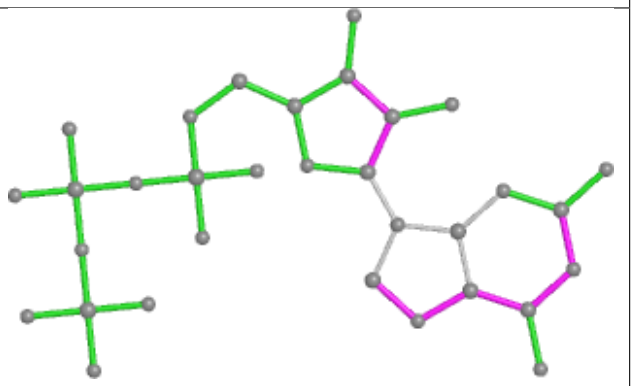

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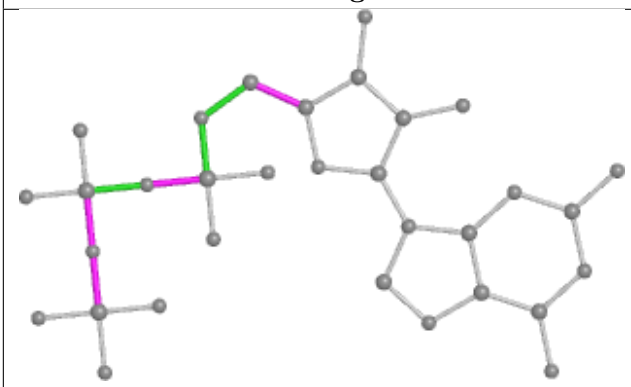

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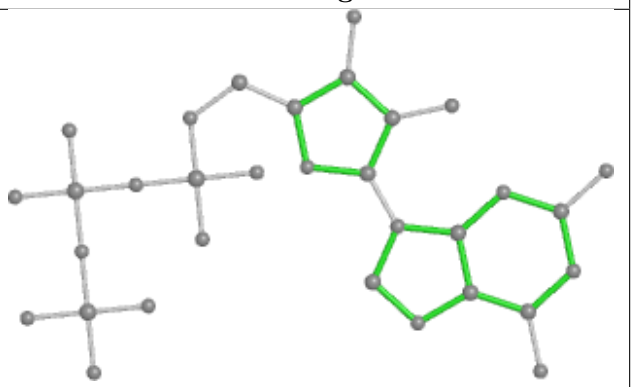
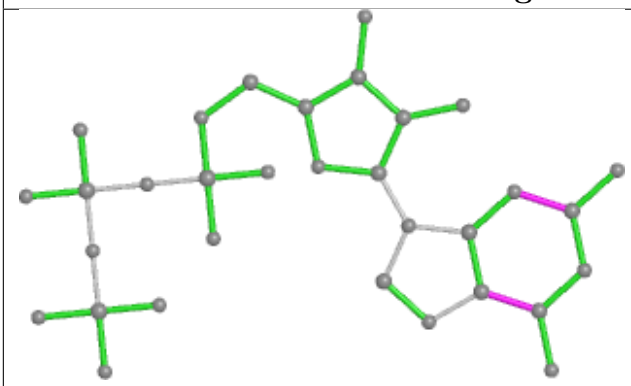


Rings

Ligand GTP EJ 501



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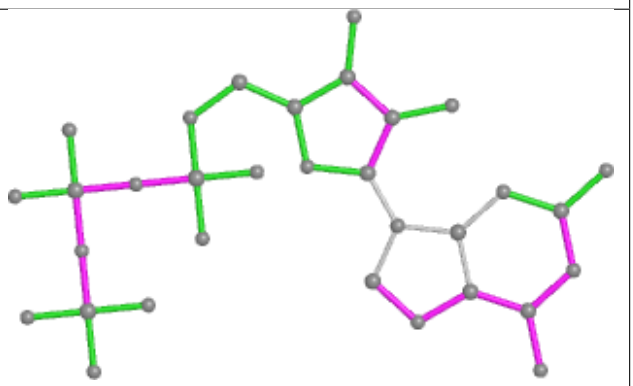

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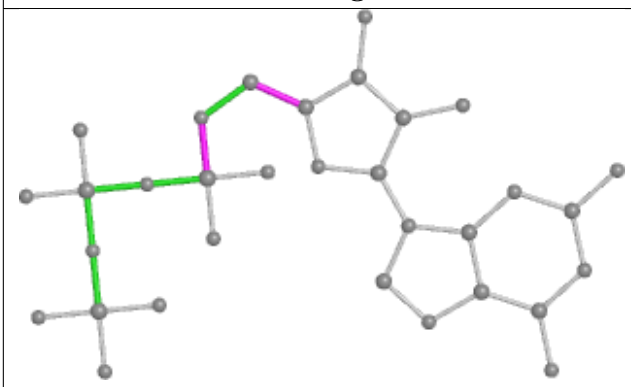

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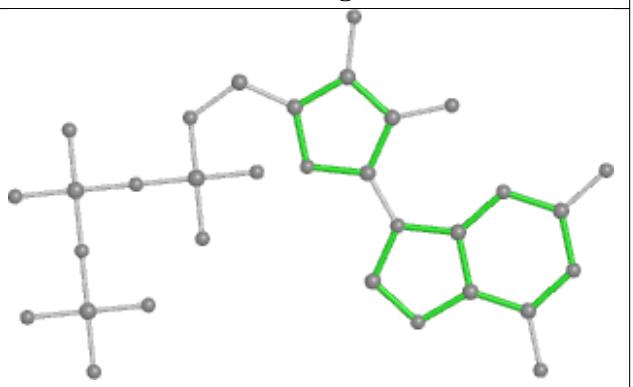
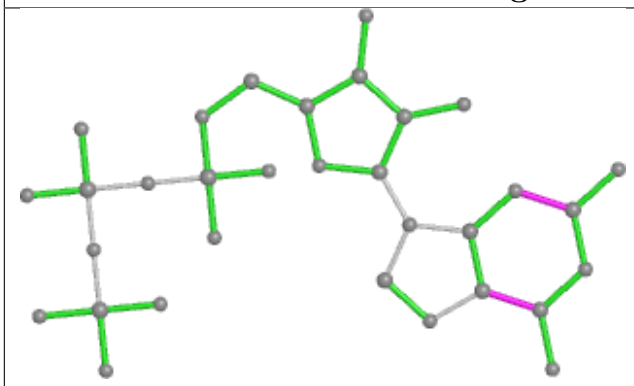


Rings

Ligand GTP TD 501



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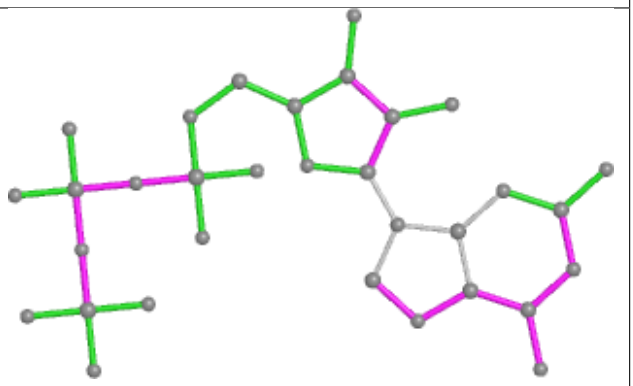

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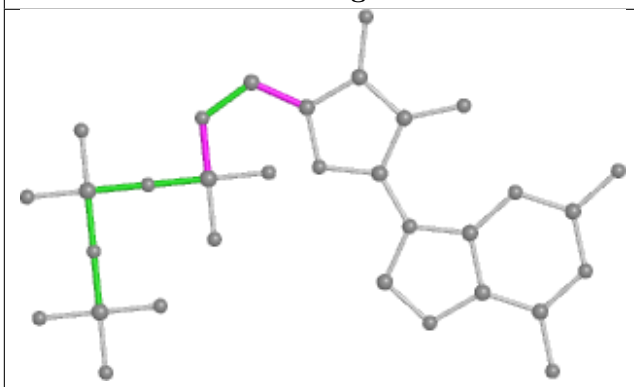

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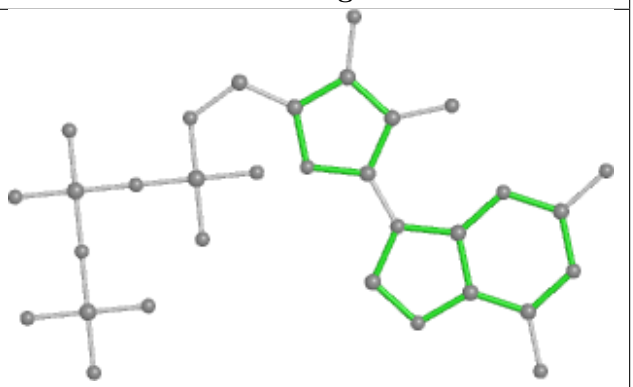
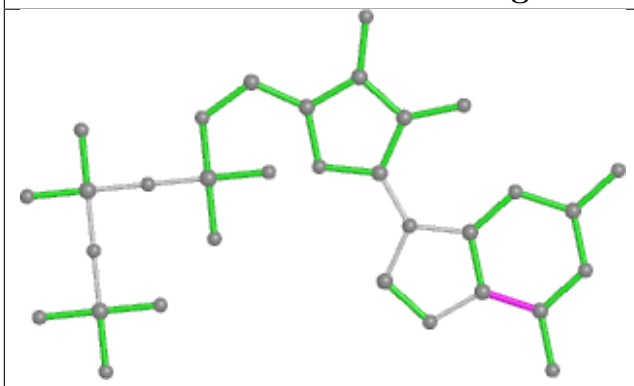


Rings

Ligand GTP EA 501



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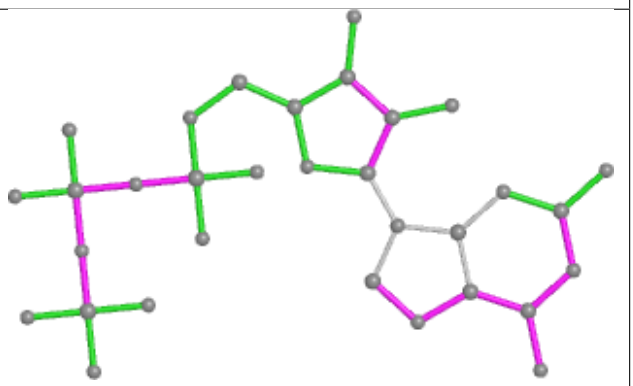

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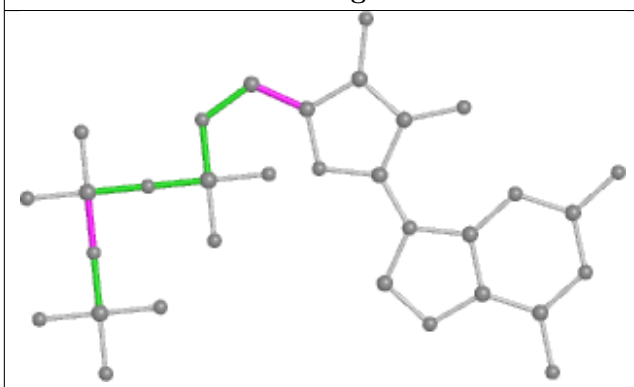

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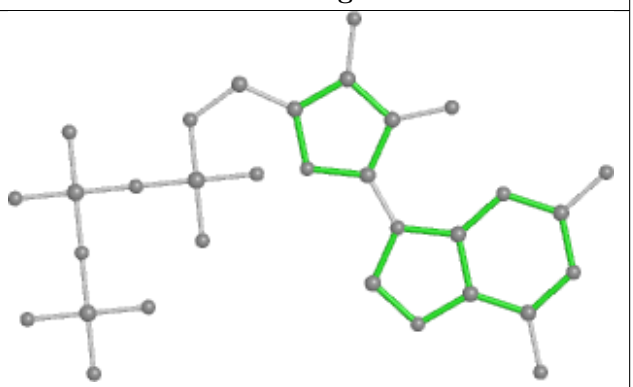
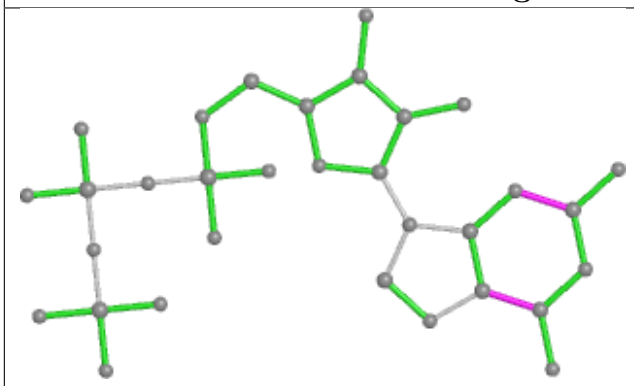


Rings

Ligand GTP JK 501



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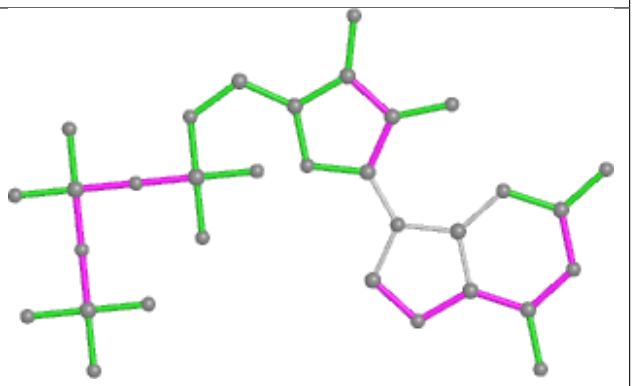

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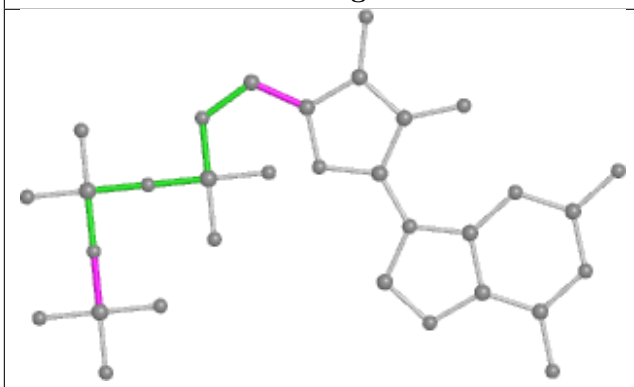

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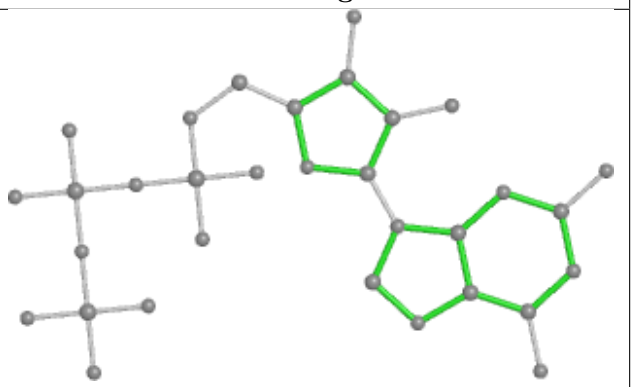
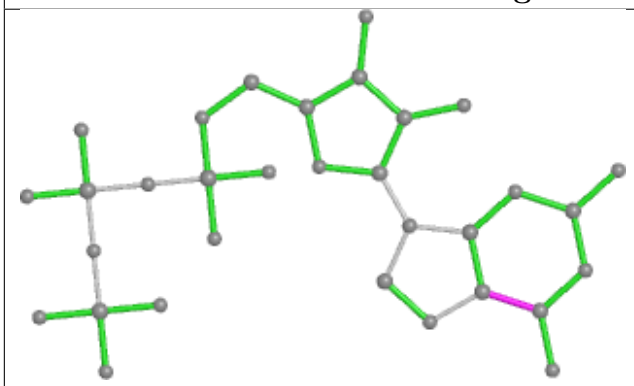


Rings

Ligand GTP SC 501



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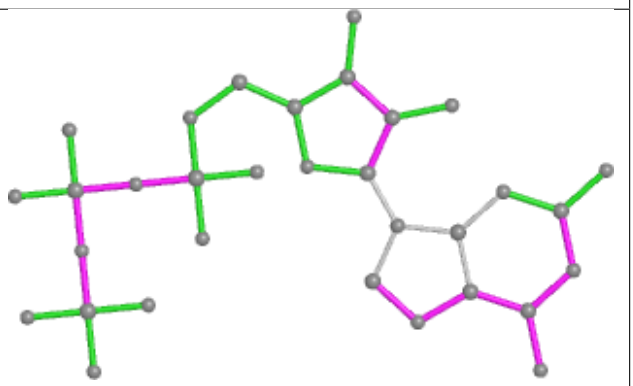

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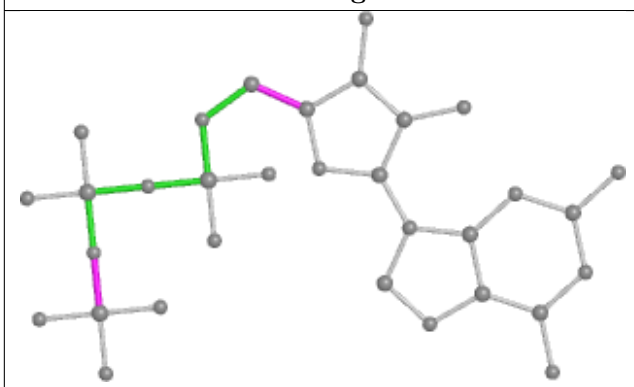

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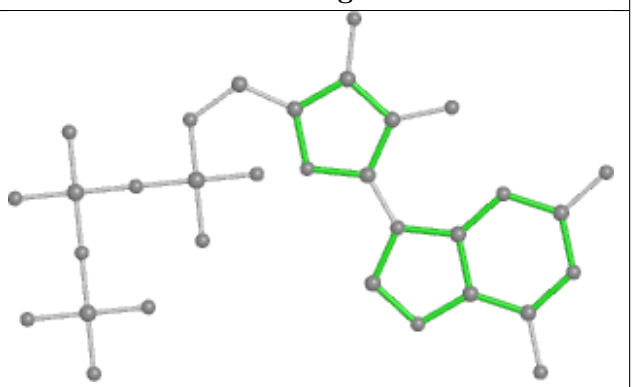
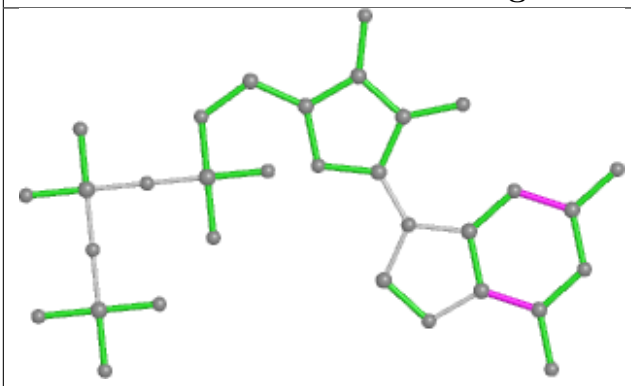


Rings

Ligand GTP BG 501



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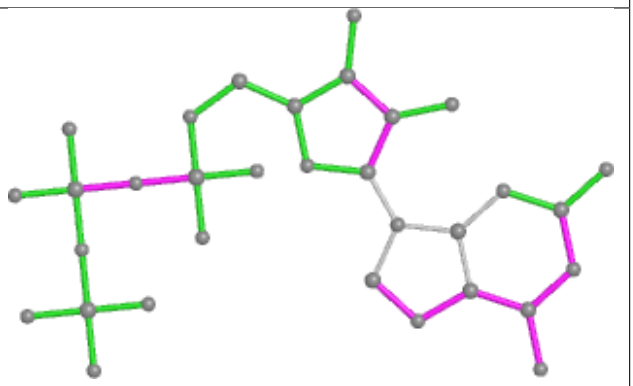

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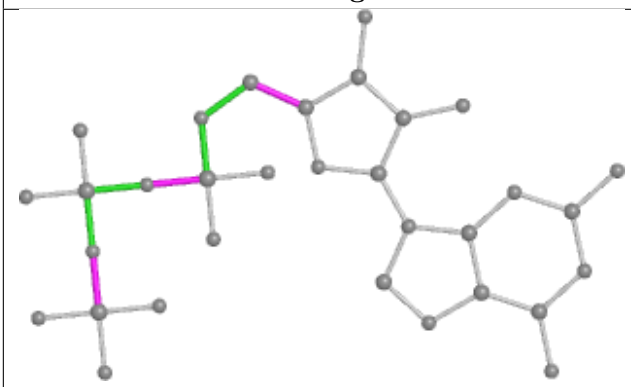

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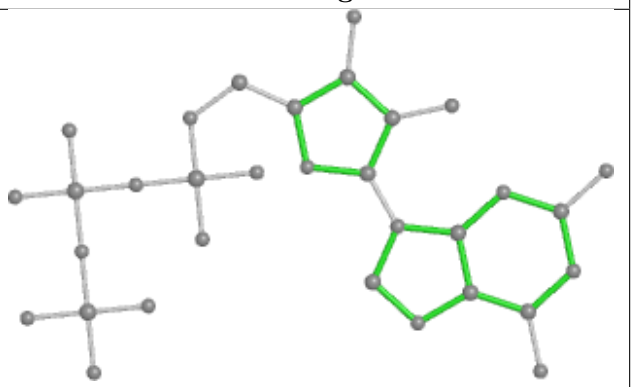
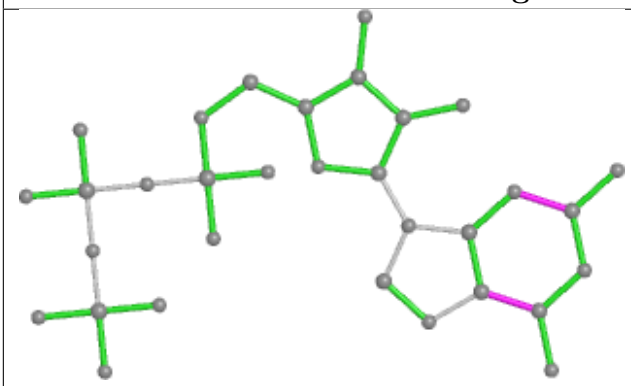


Rings

Ligand GTP MI 501



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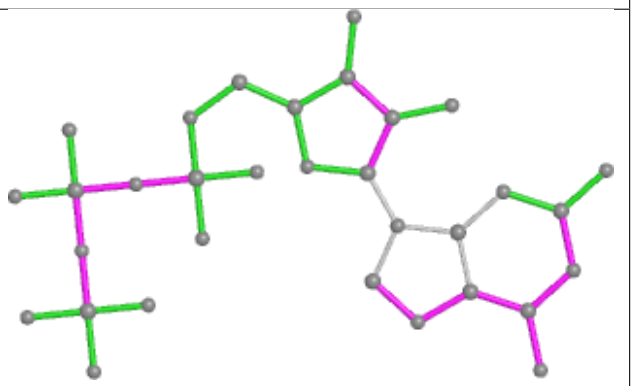

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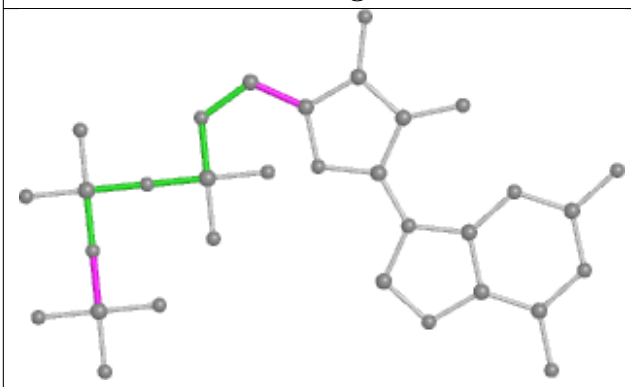

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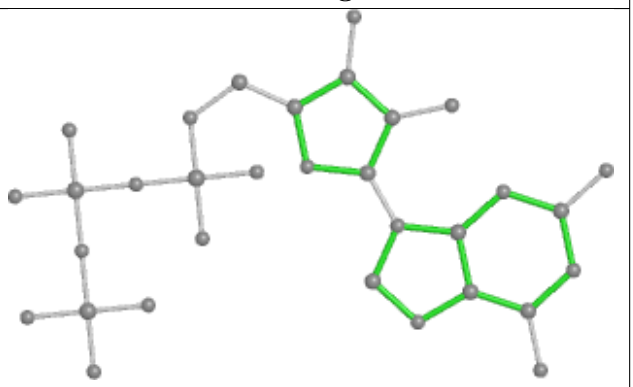
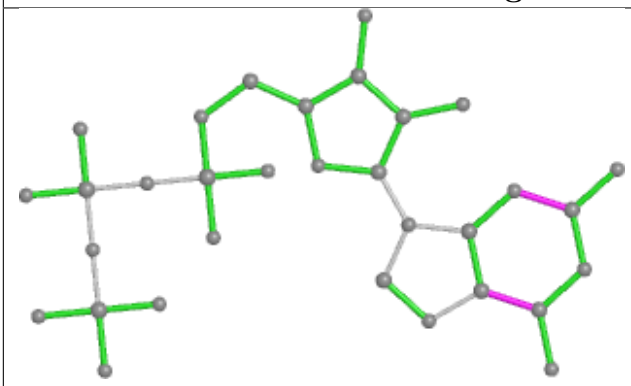


Rings

Ligand GTP MD 501



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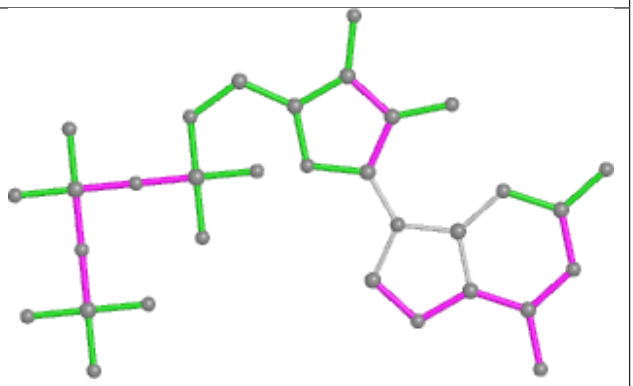

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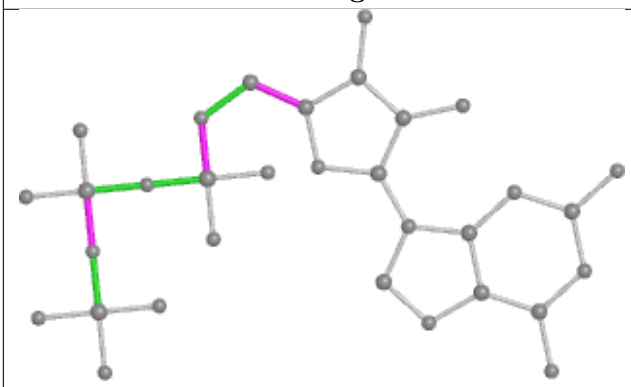

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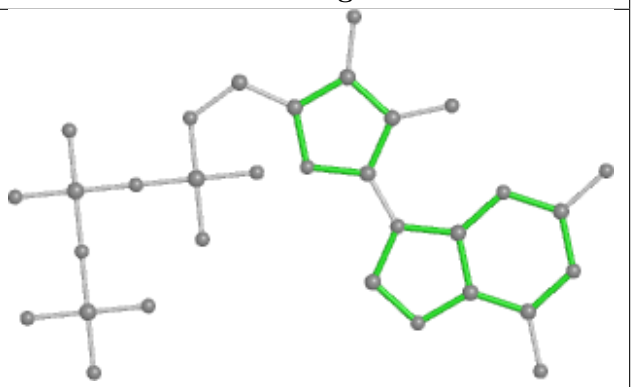
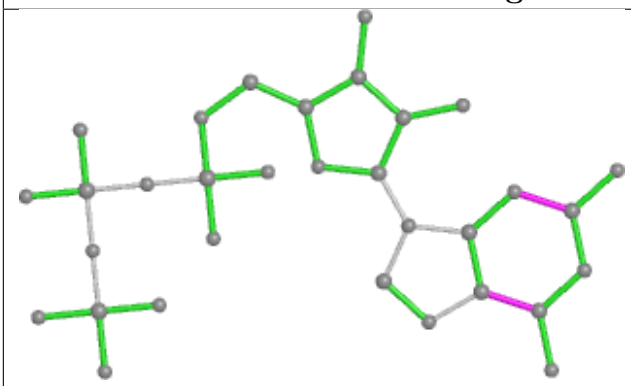


Rings

Ligand GTP WA 501



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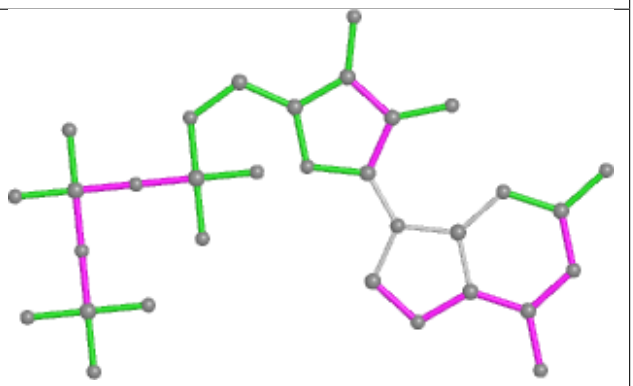

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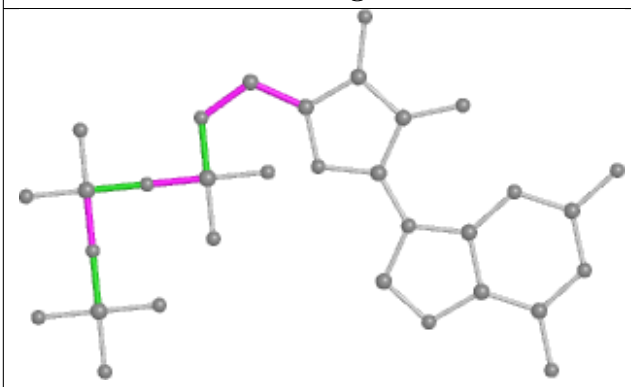

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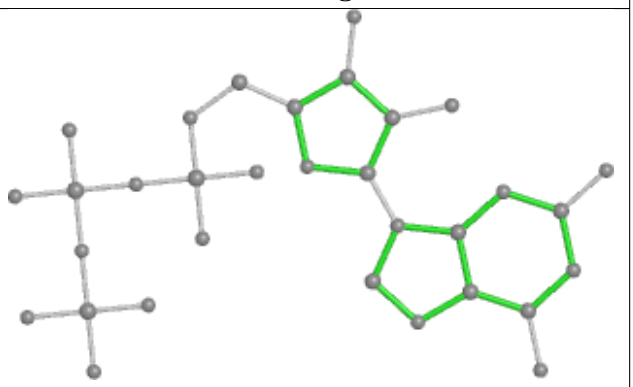
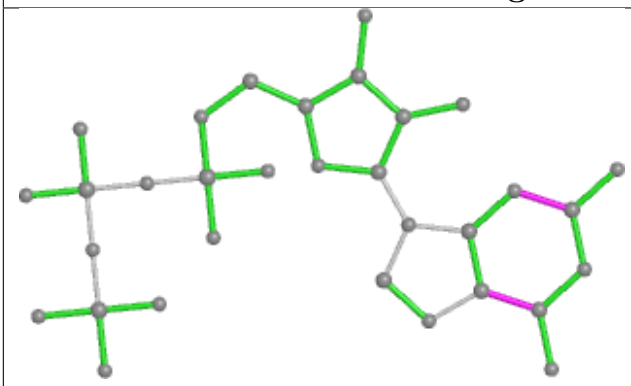


Rings

Ligand GTP VK 501



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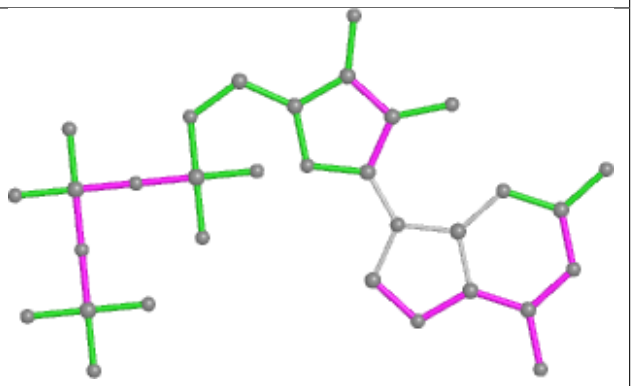

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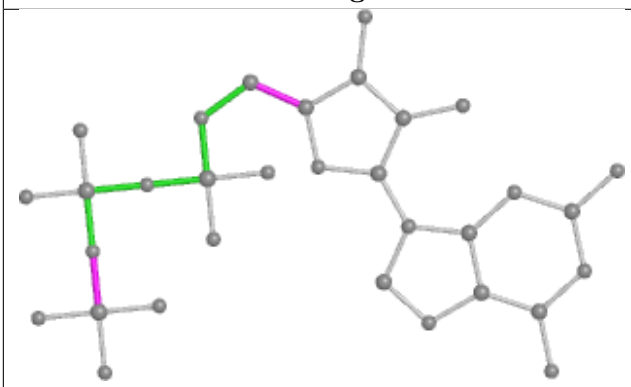

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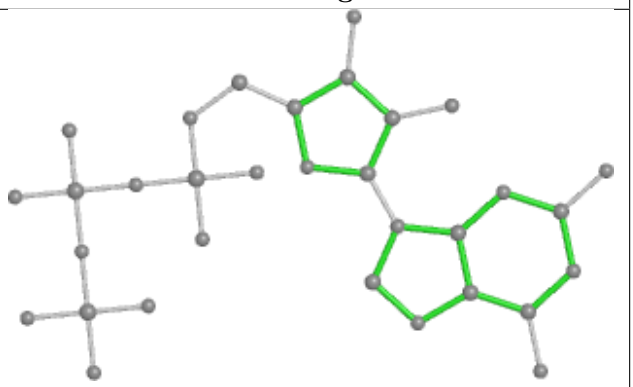
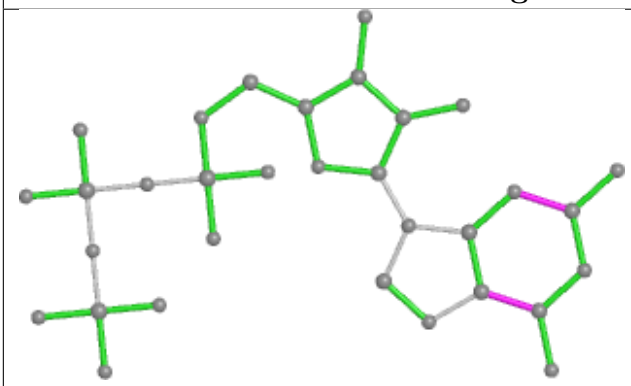


Rings

Ligand GTP GL 501



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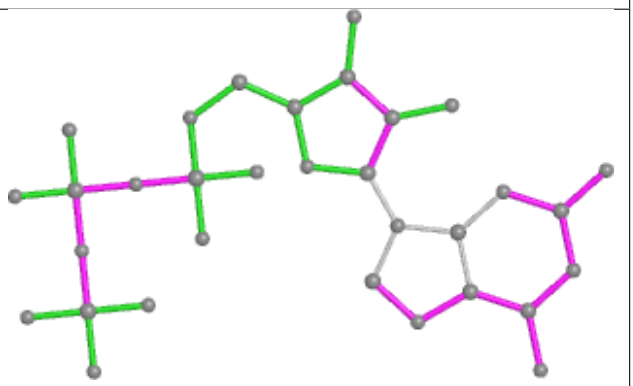
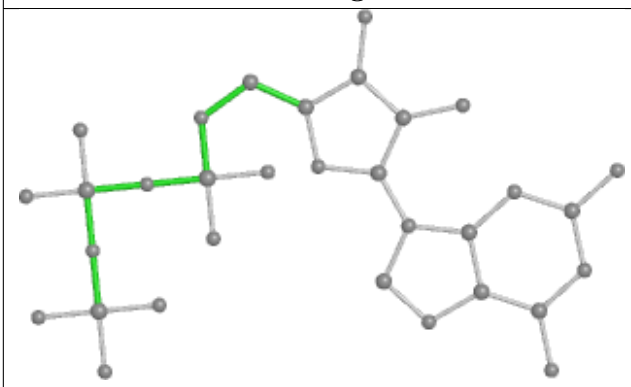


Bond angles



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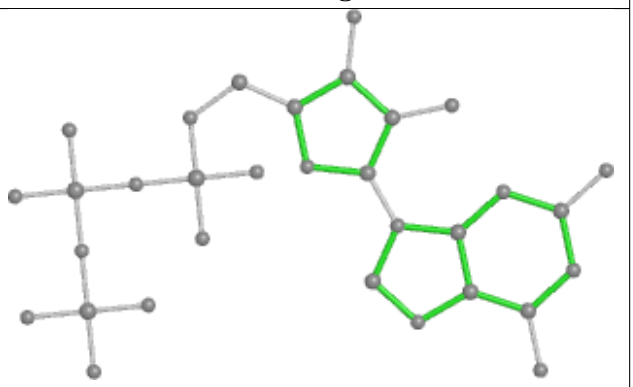
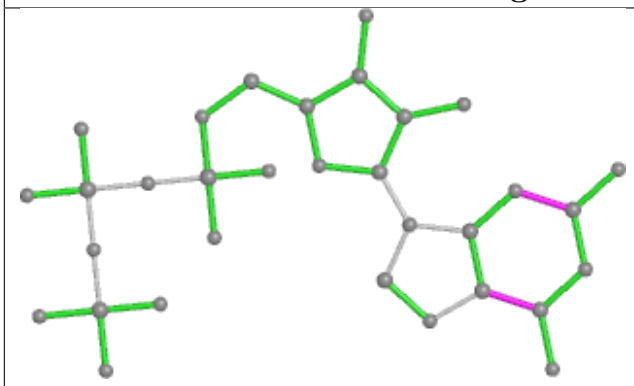


Rings

Ligand GTP OB 501



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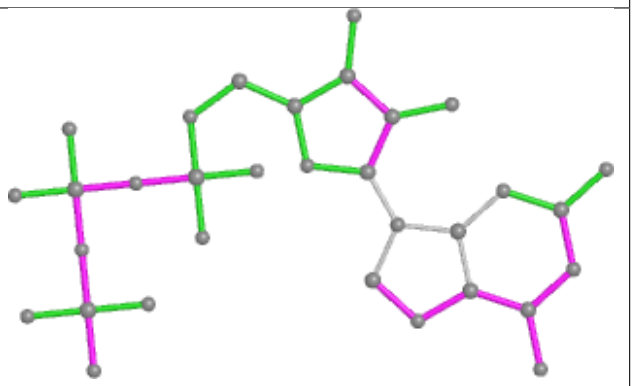
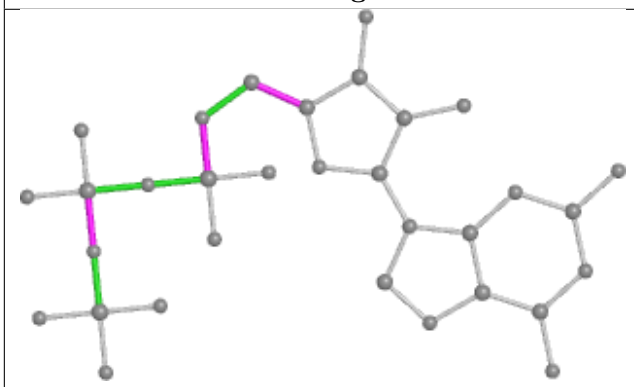


Bond angles



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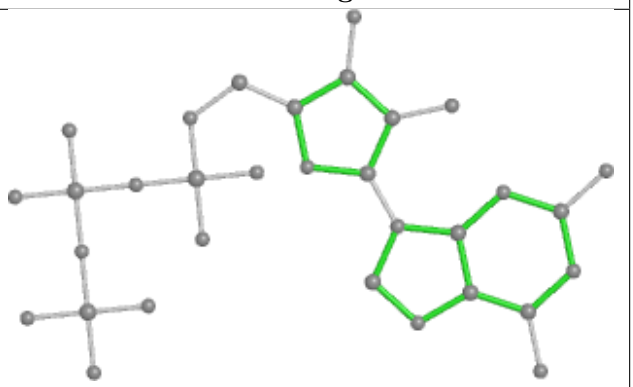
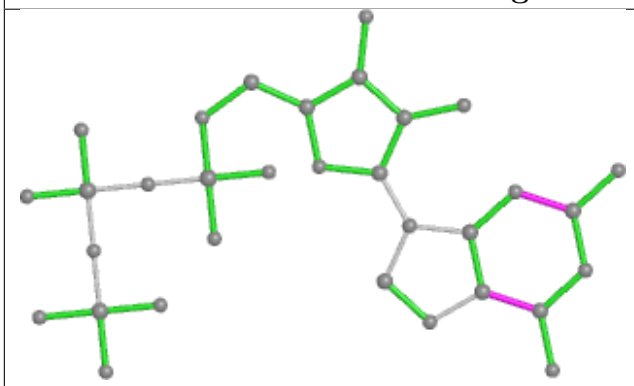
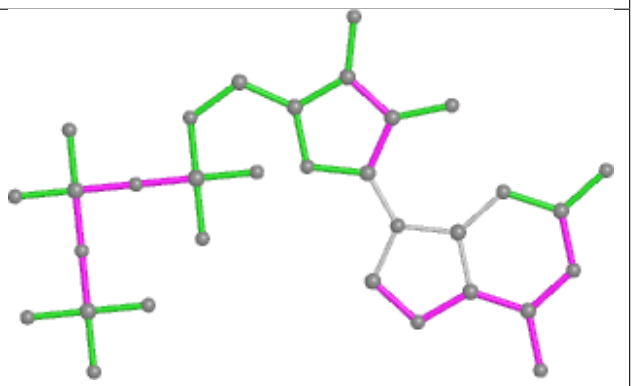


Rings

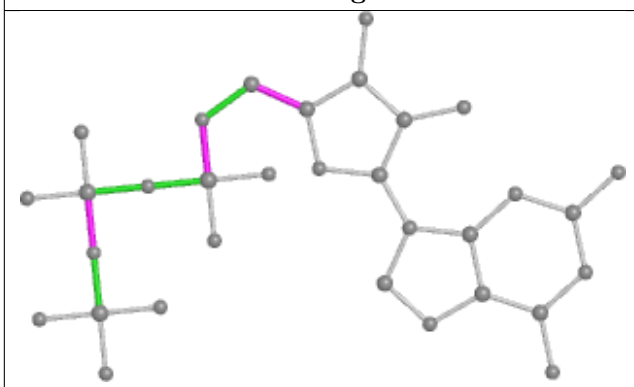
Ligand GTP NF 501



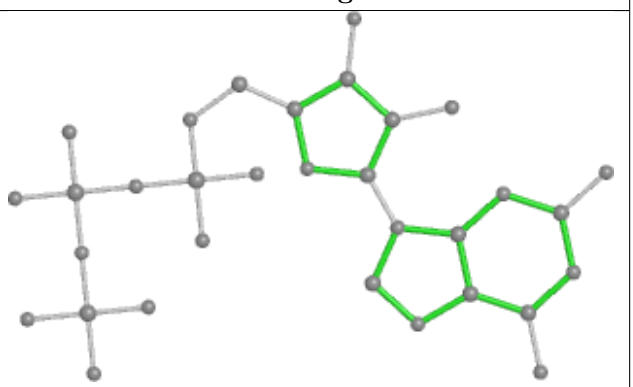
Bond lengths



Bond angles

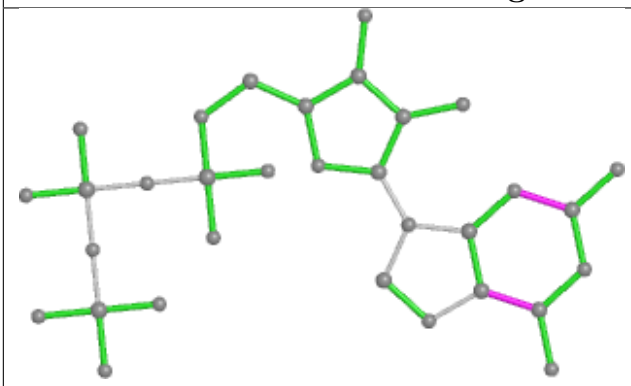


Torsions



Rings

Ligand GTP ND 501



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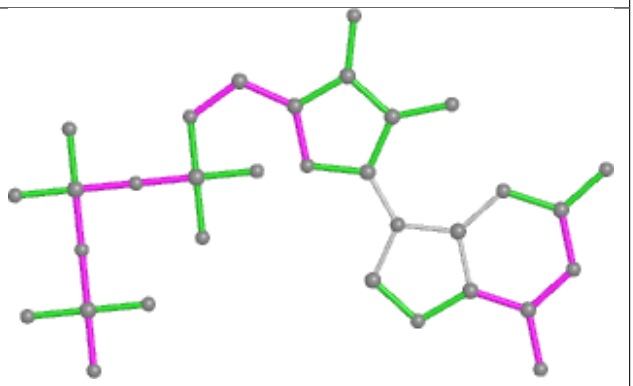
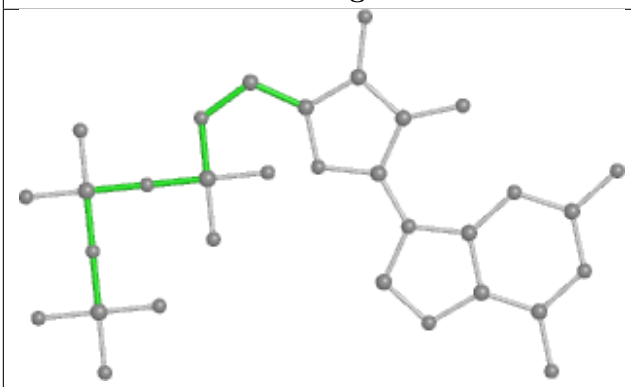
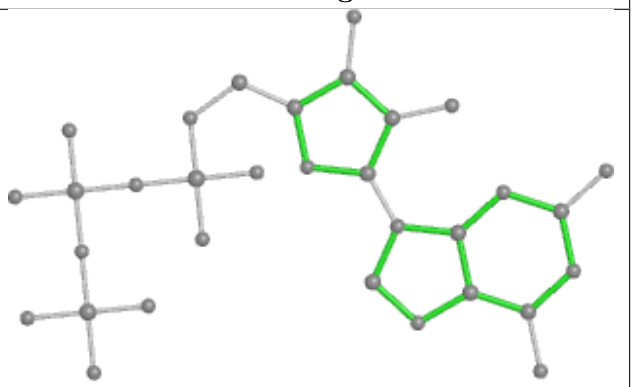


Bond angles

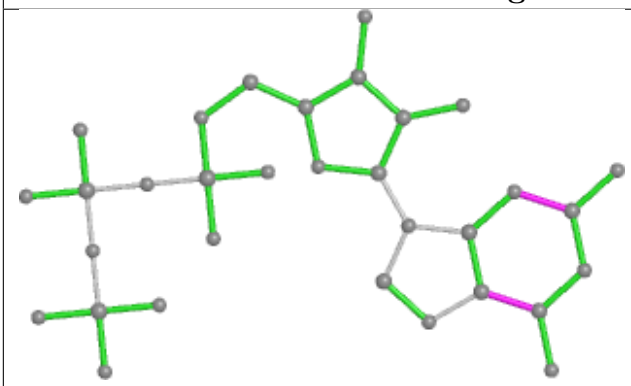


Torsions

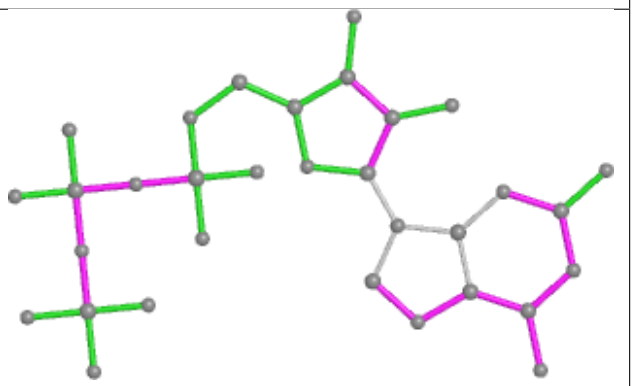


Rings

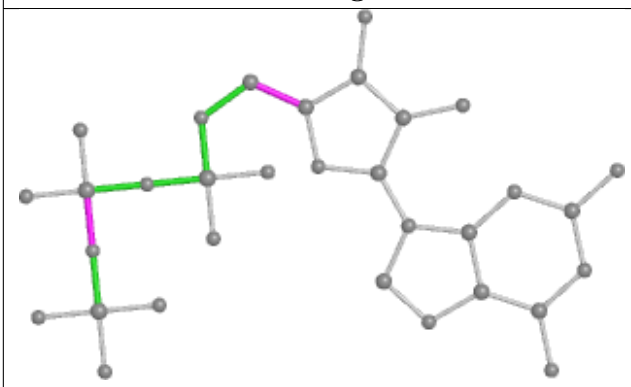
Ligand GTP UK 501



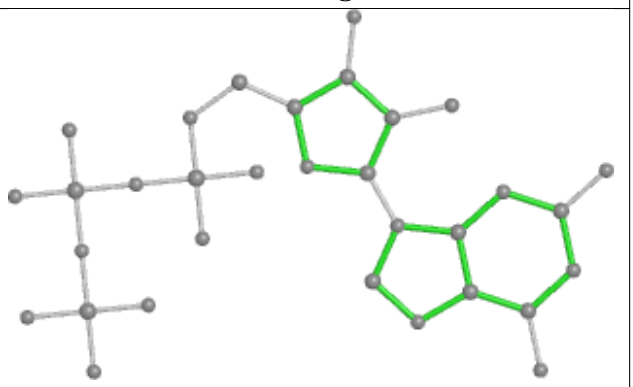
Bond lengths



Bond angles

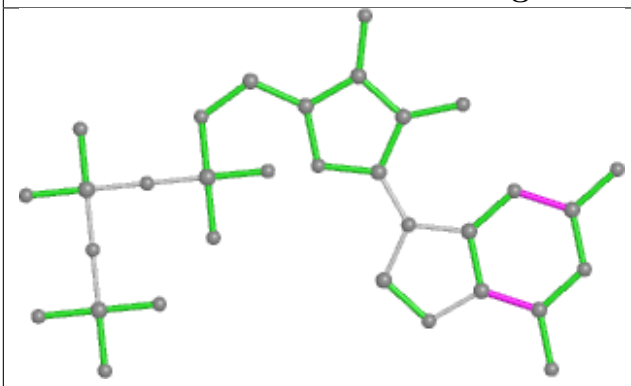


Torsions

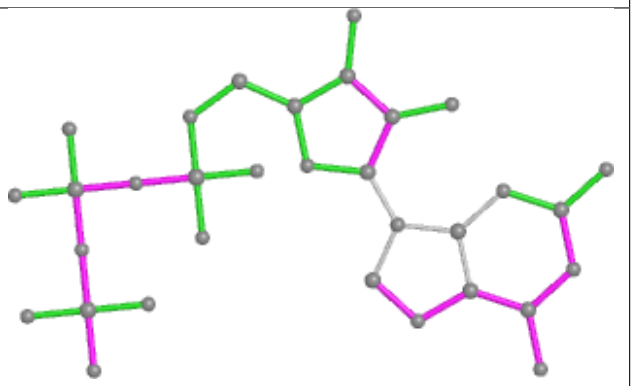


Rings

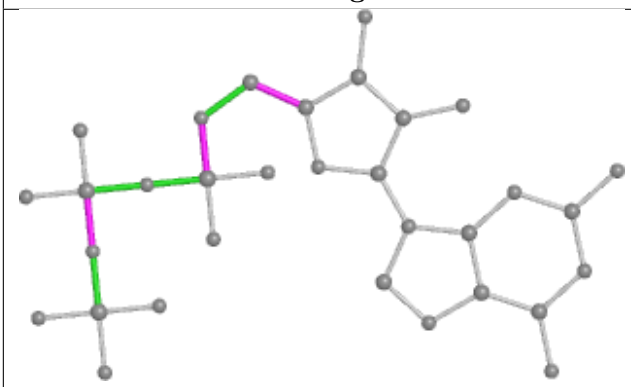
Ligand GTP FB 501



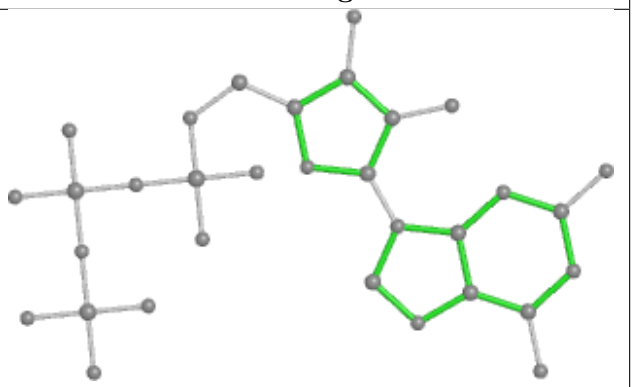
Bond lengths



Bond angles

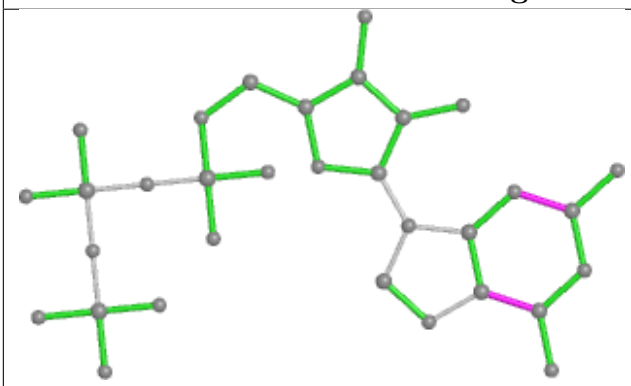


Torsions

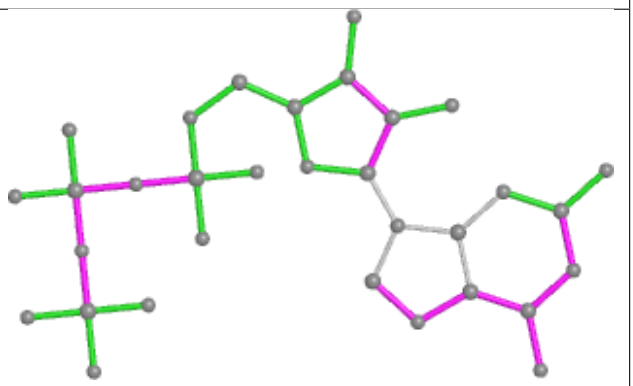


Rings

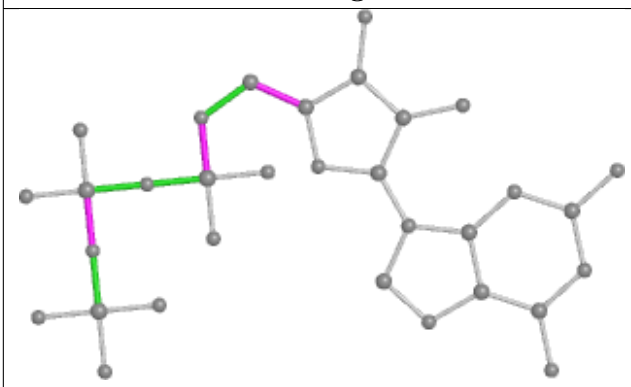
Ligand GTP PB 501



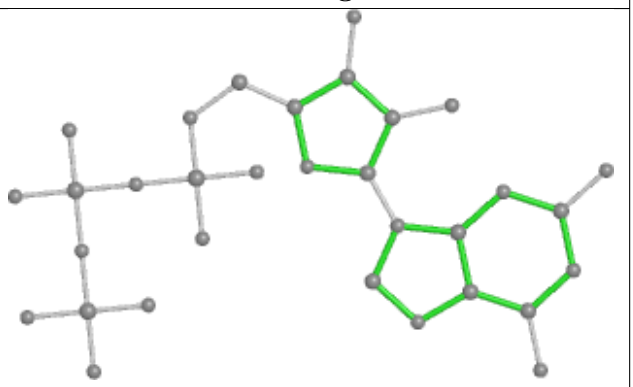
Bond lengths



Bond angles

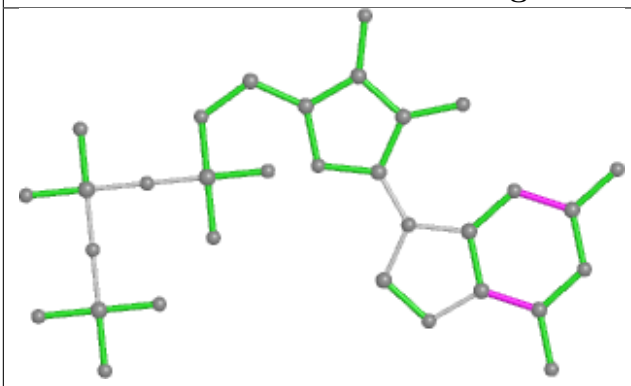


Torsions

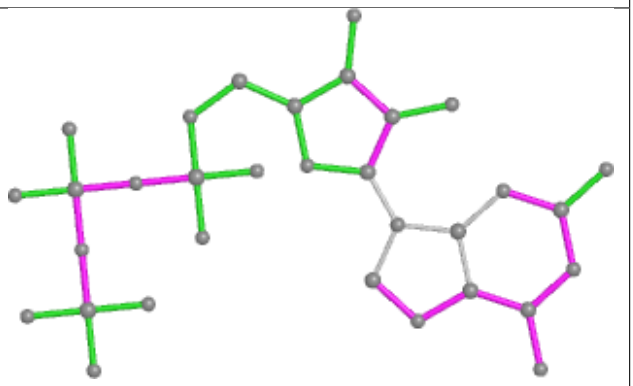


Rings

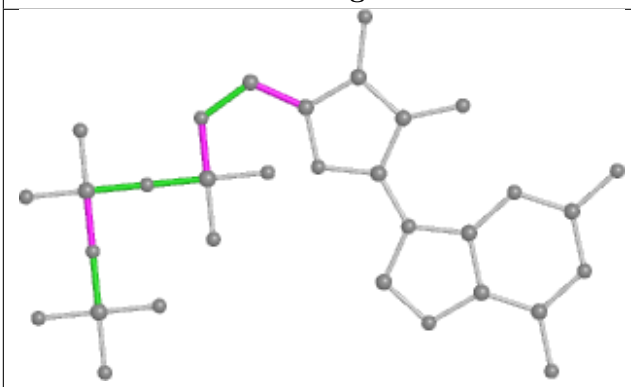
Ligand GTP ED 501



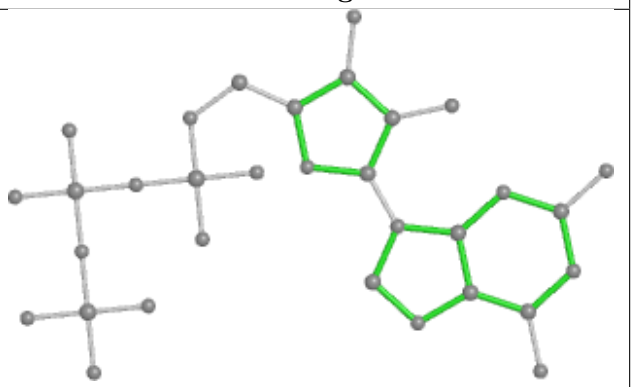
Bond lengths



Bond angles

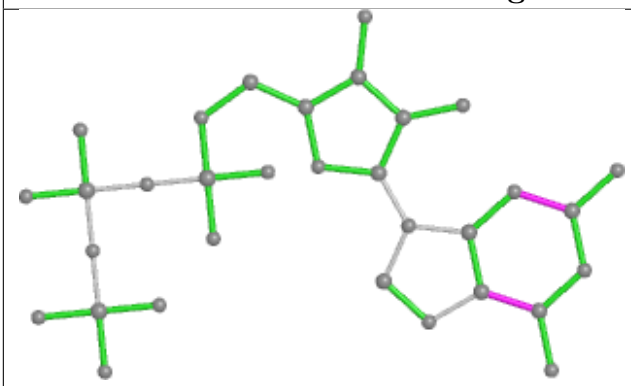


Torsions

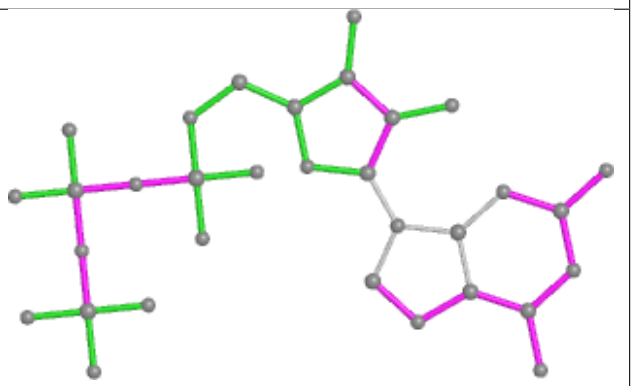


Rings

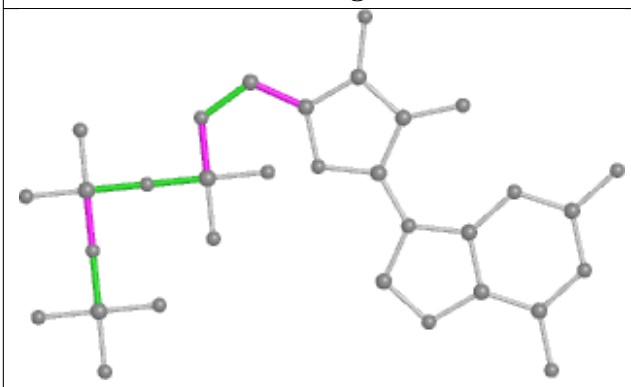
Ligand GTP GH 501



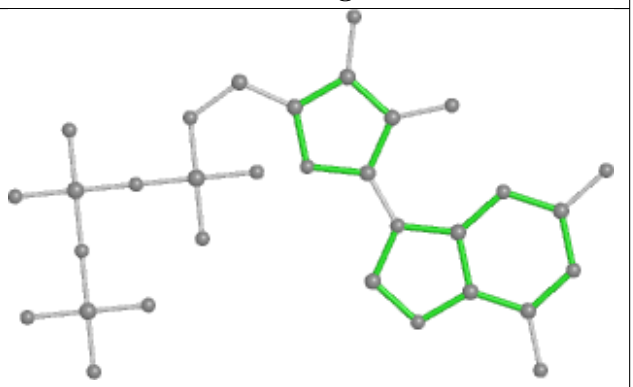
Bond lengths



Bond angles

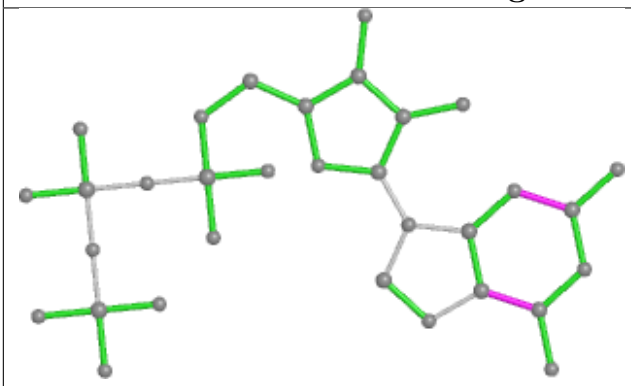


Torsions

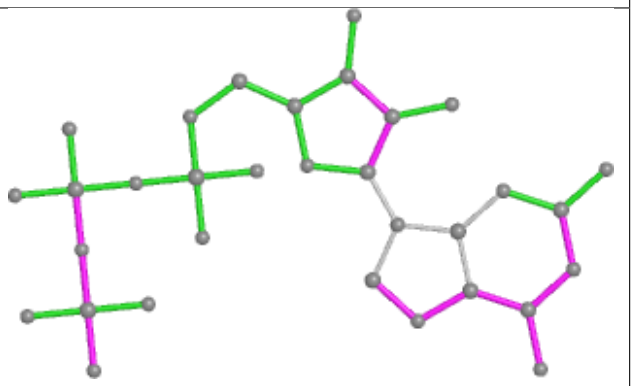


Rings

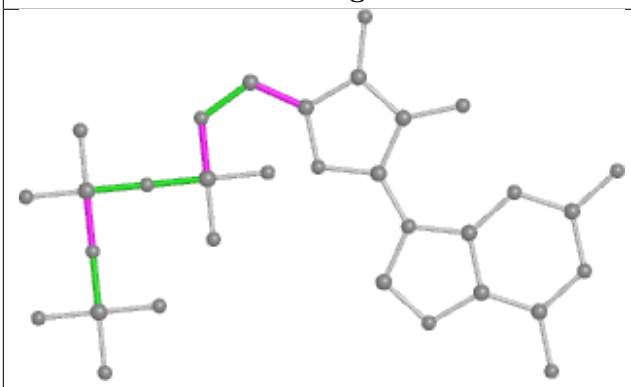
Ligand GTP OD 501



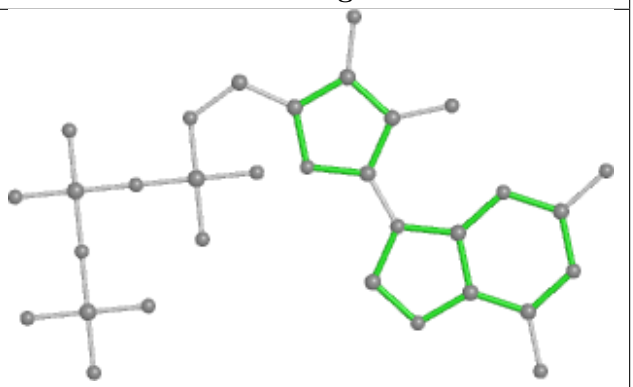
Bond lengths



Bond angles

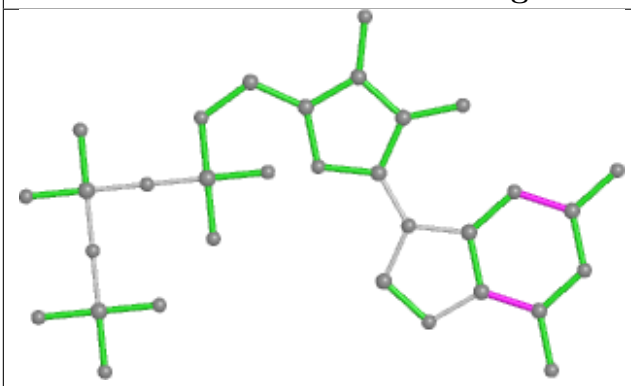


Torsions

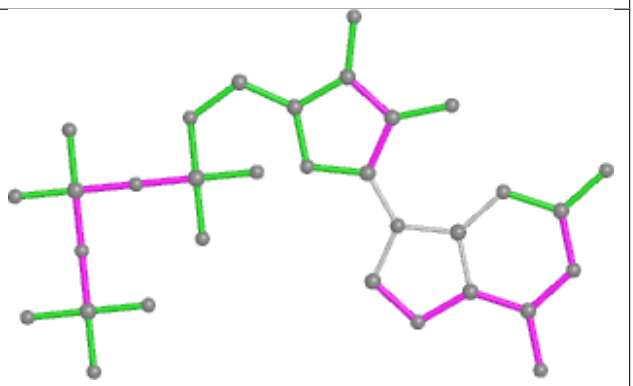


Rings

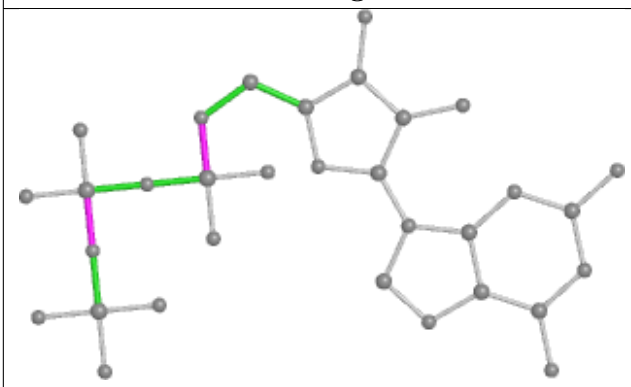
Ligand GTP LD 501



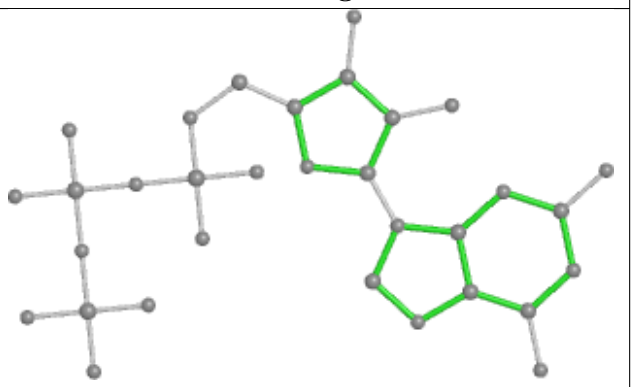
Bond lengths



Bond angles

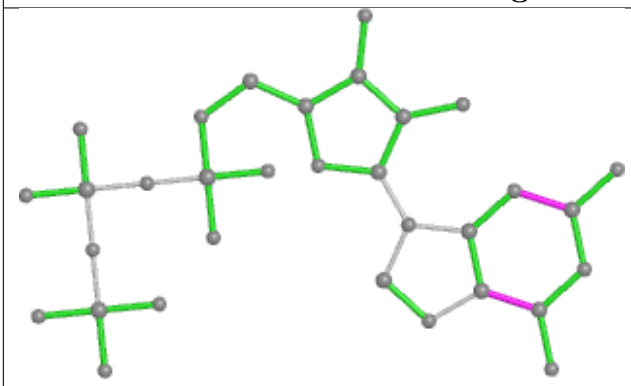


Torsions

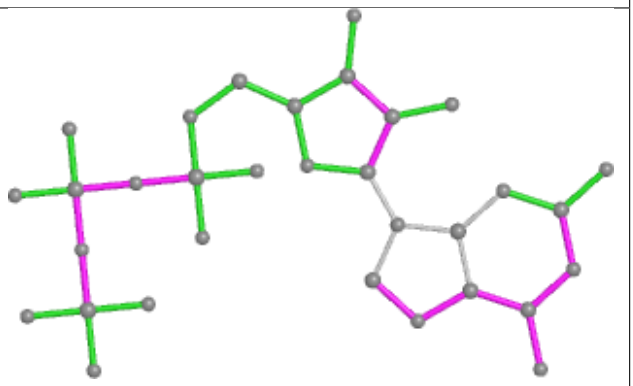


Rings

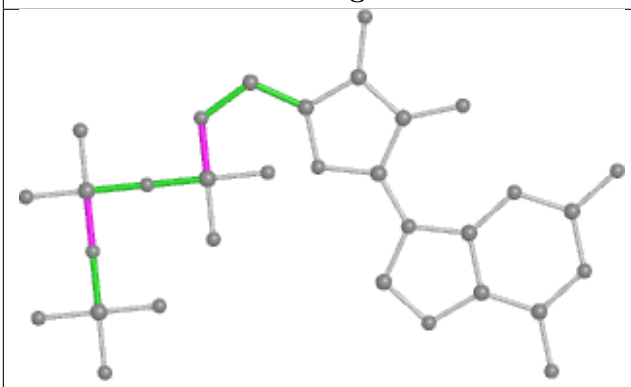
Ligand GTP DL 501



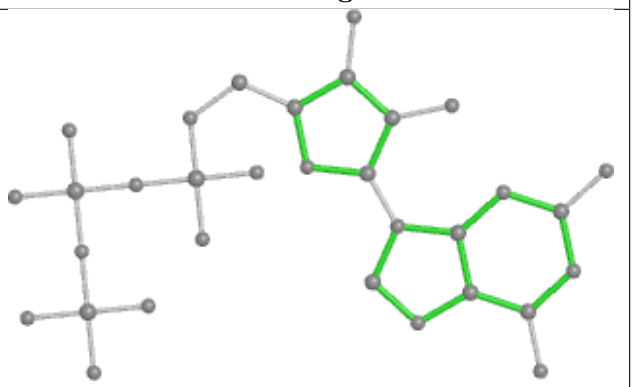
Bond lengths



Bond angles

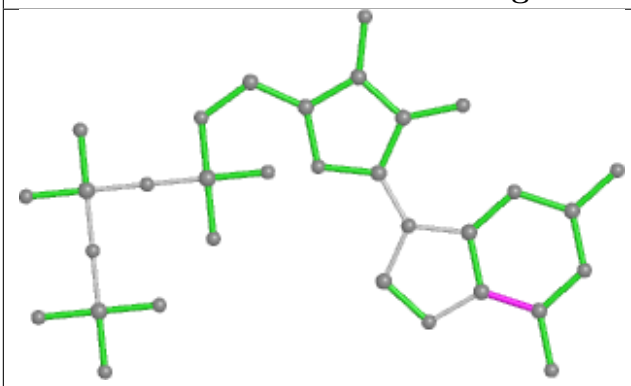


Torsions

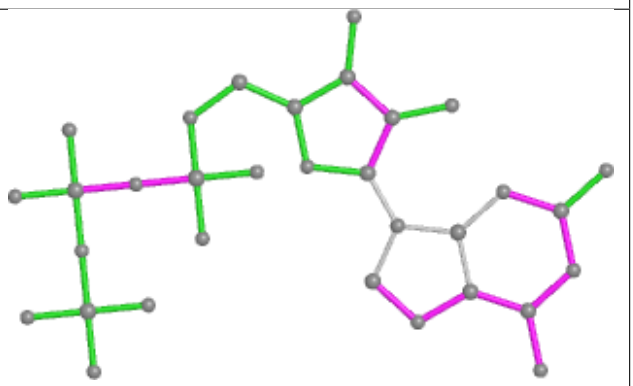


Rings

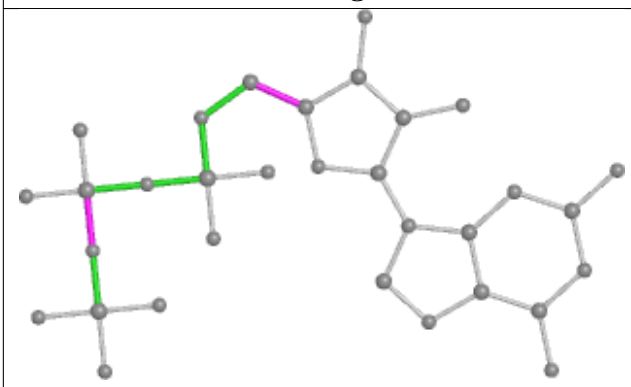
Ligand GTP PE 501



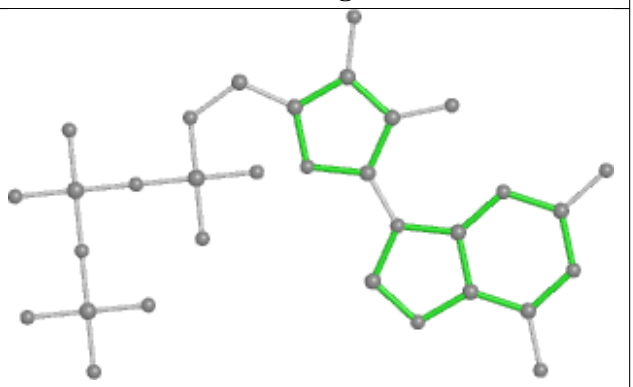
Bond lengths



Bond angles

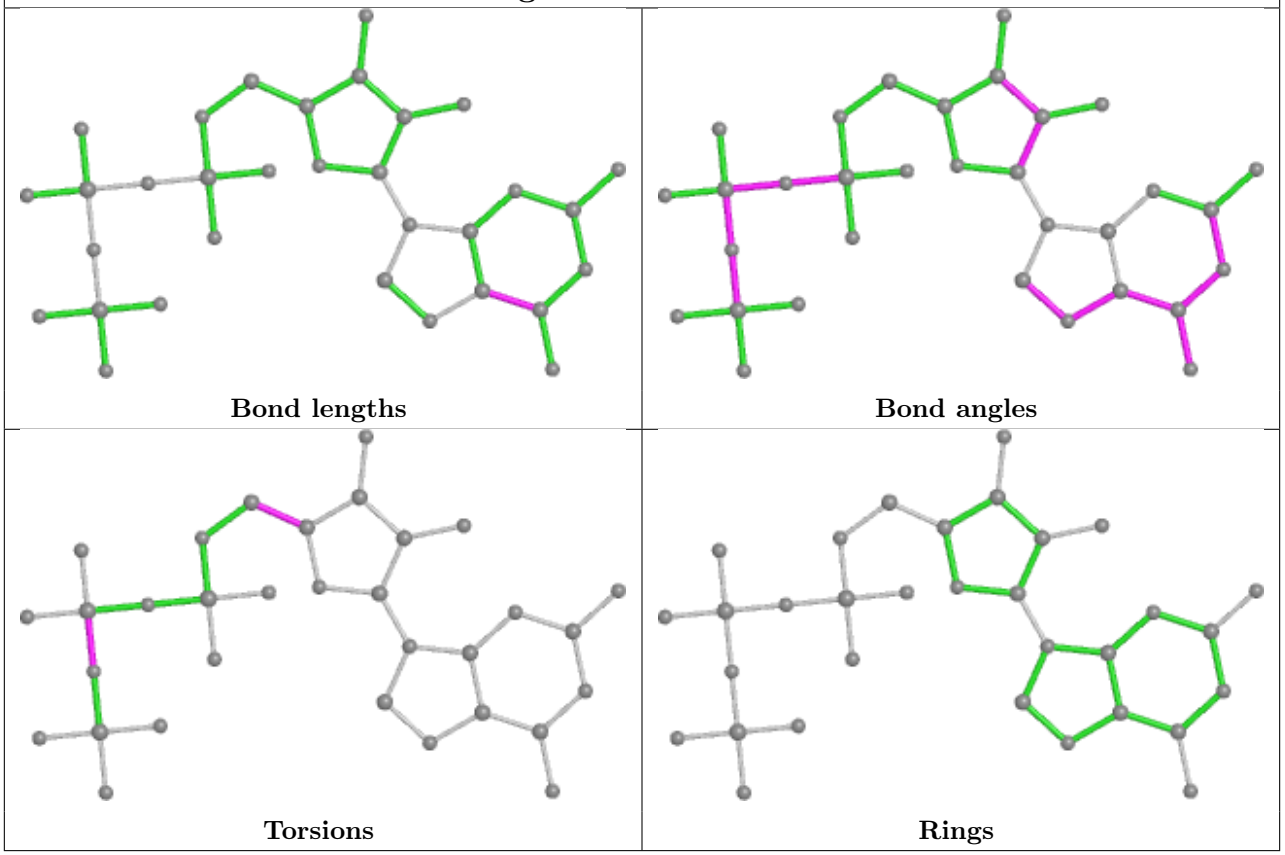


Torsions



Rings

Ligand GTP EI 501



5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

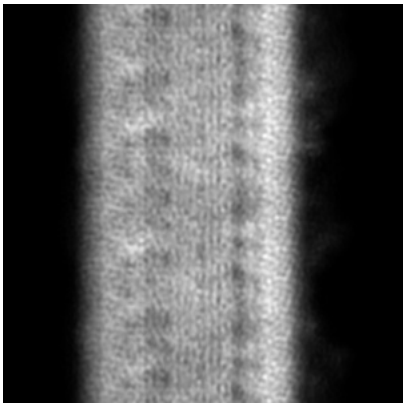
6 Map visualisation

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

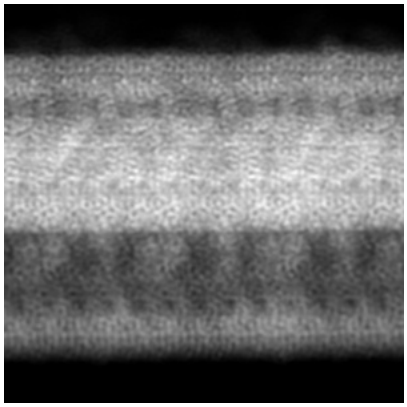
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

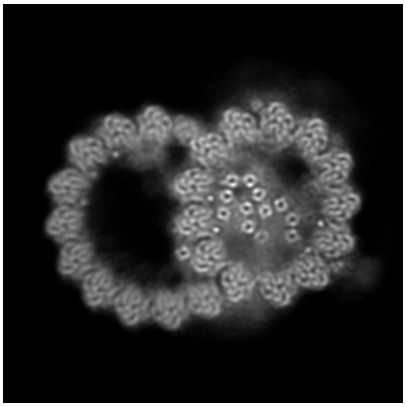
6.1.1 Primary map



X



Y

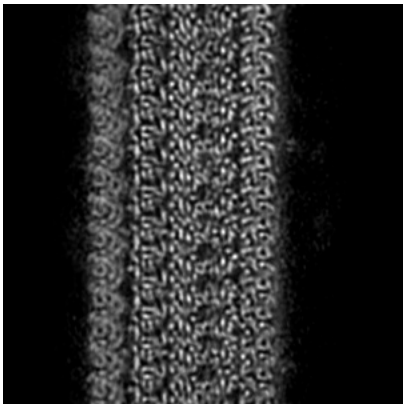


Z

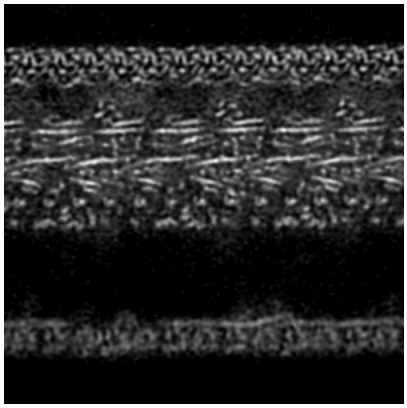
The images above show the map projected in three orthogonal directions.

6.2 Central slices

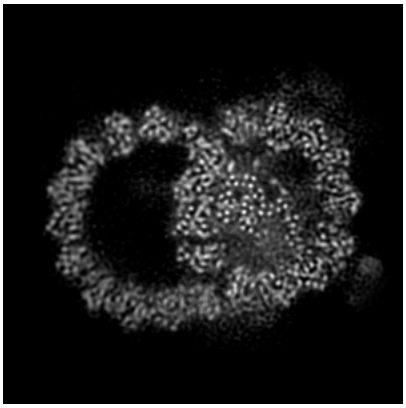
6.2.1 Primary map



X Index: 160



Y Index: 160

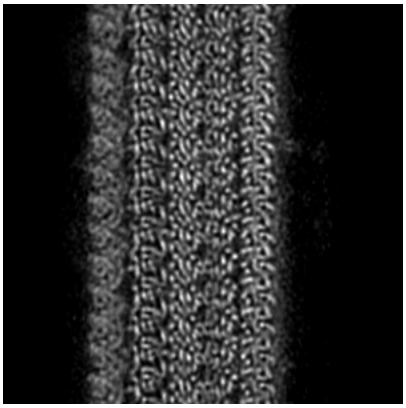


Z Index: 160

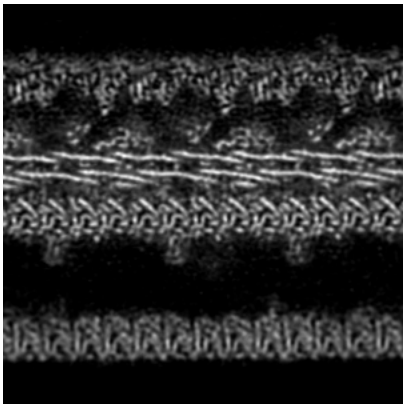
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

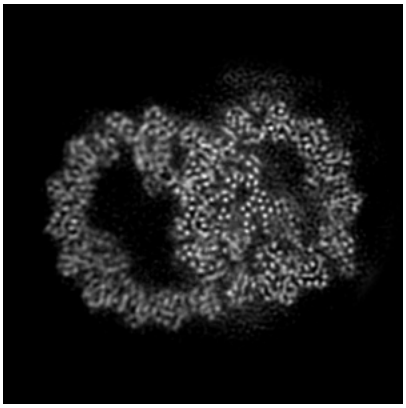
6.3.1 Primary map



X Index: 159



Y Index: 175

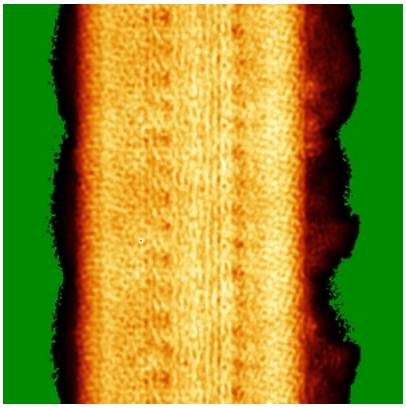


Z Index: 232

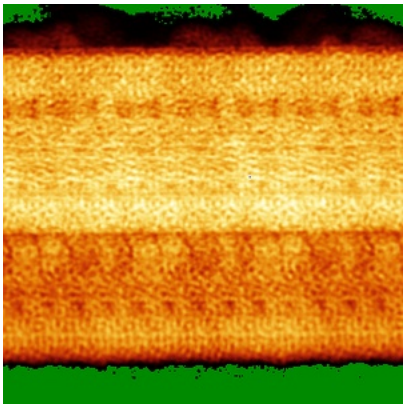
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

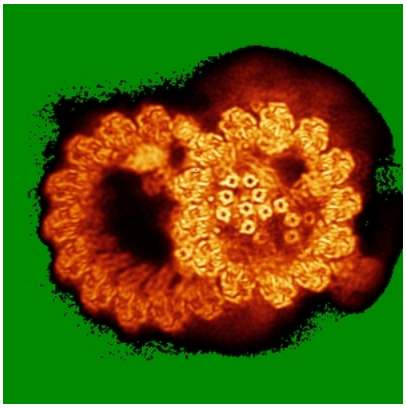
6.4.1 Primary map



X



Y

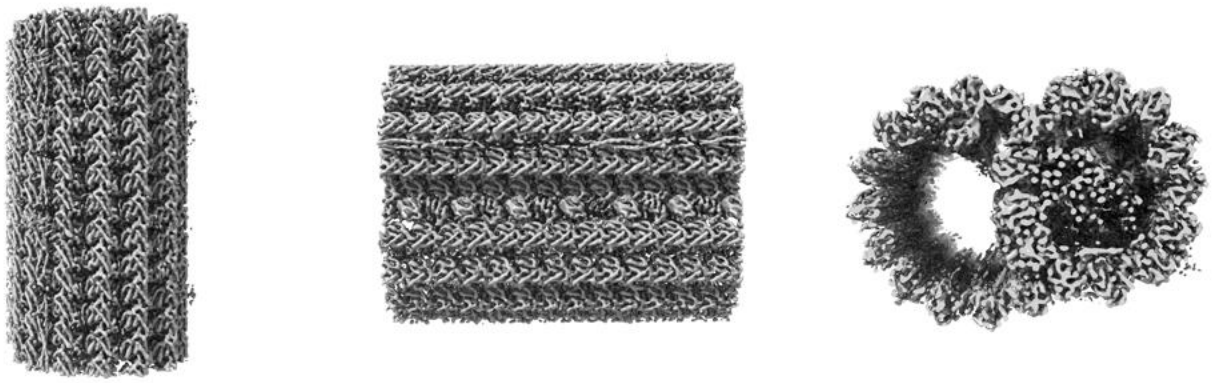


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.003. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

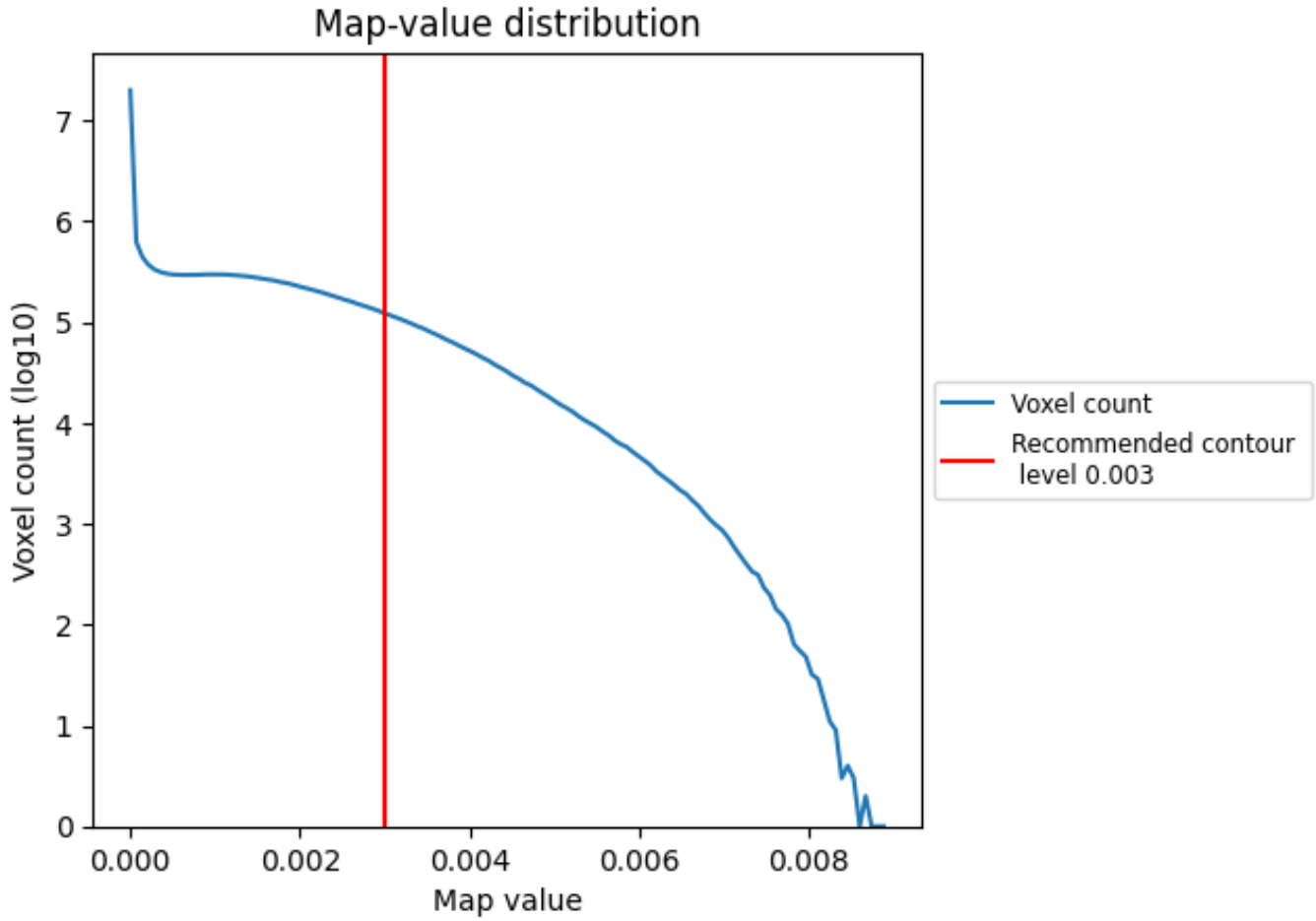
6.6 Mask visualisation (i)

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

7 Map analysis

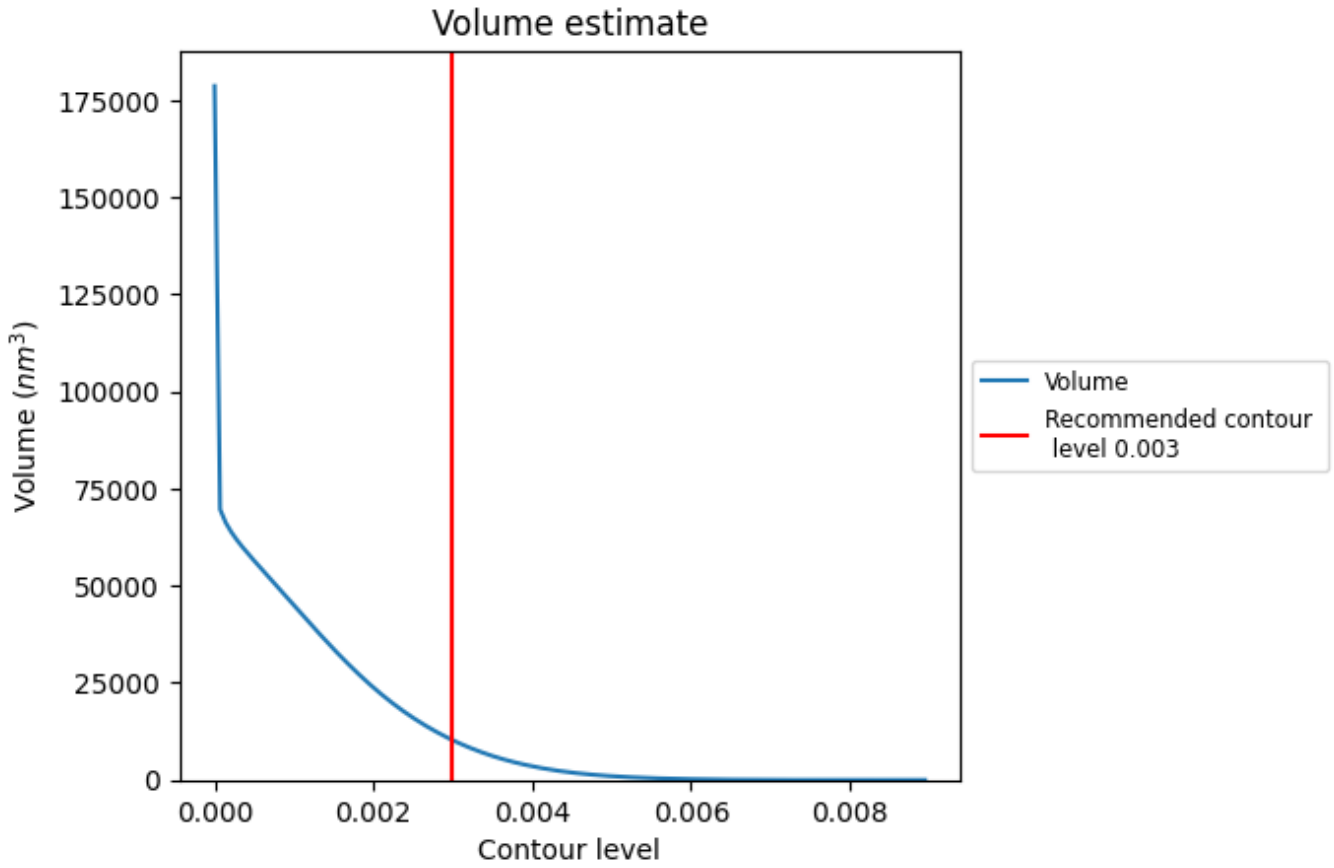
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

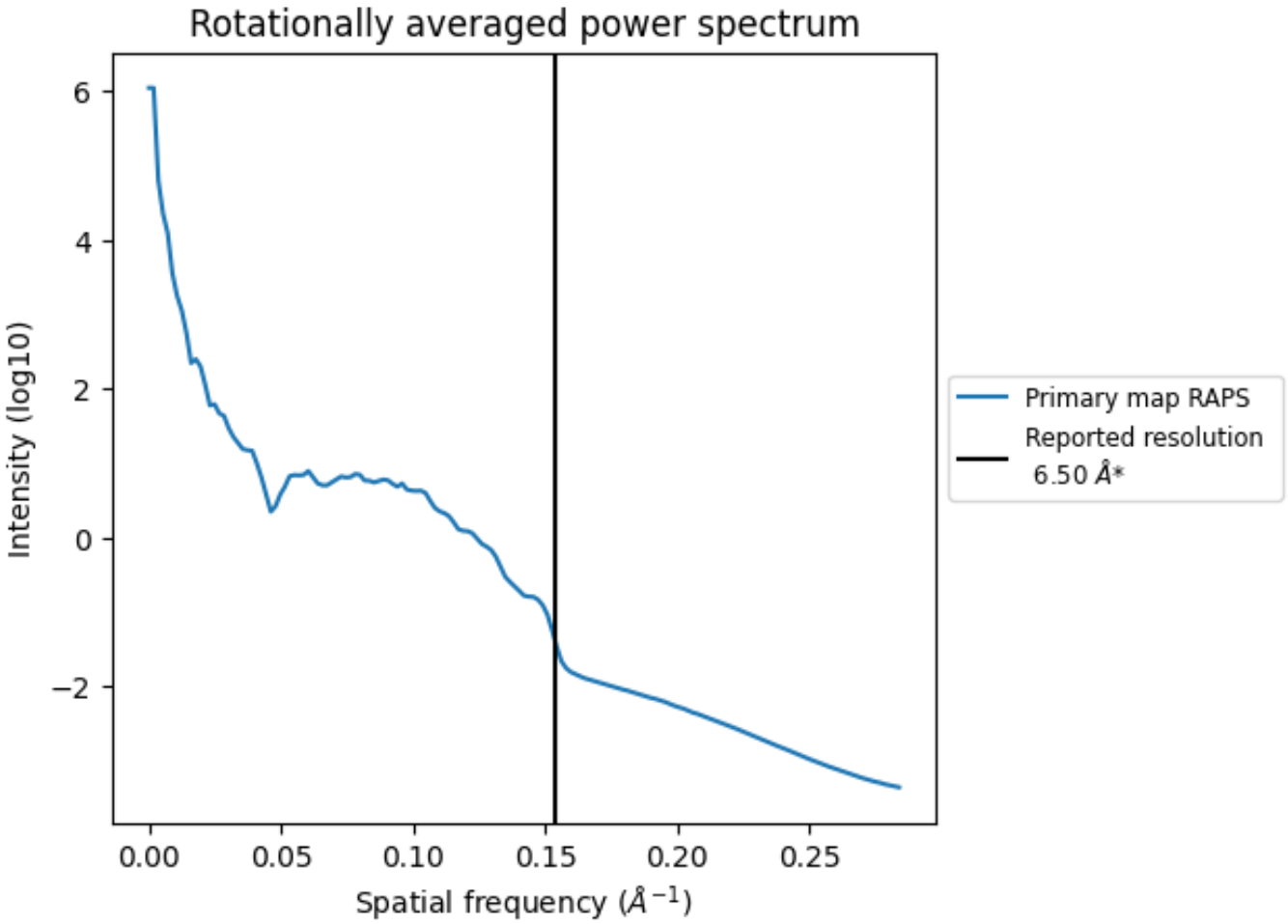
7.2 Volume estimate



The volume at the recommended contour level is 10233 nm^3; this corresponds to an approximate mass of 9243 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.154 $Å^{-1}$

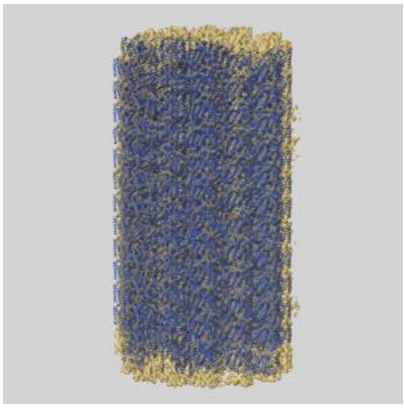
8 Fourier-Shell correlation (i)

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

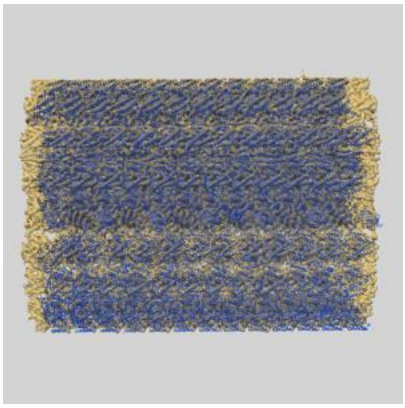
9 Map-model fit

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

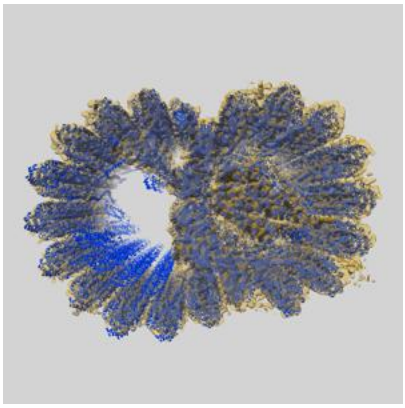
9.1 Map-model overlay



X



Y



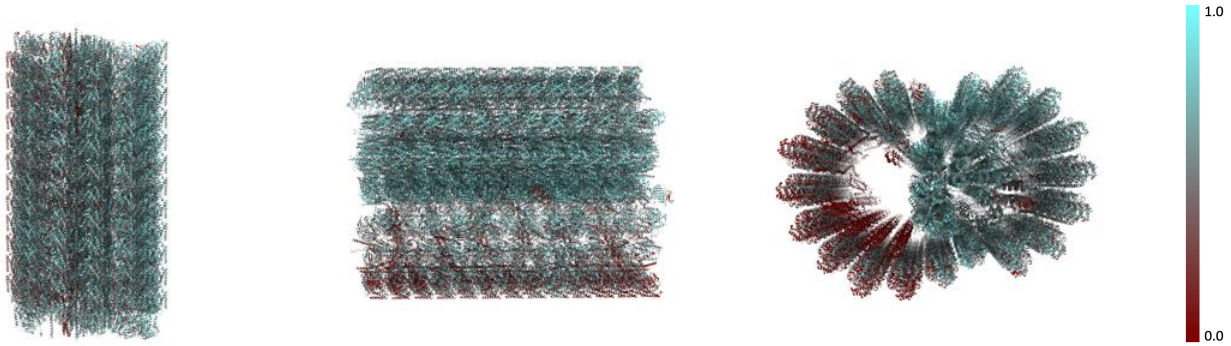
Z

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

9.2 Q-score mapped to coordinate model

This section was not generated.

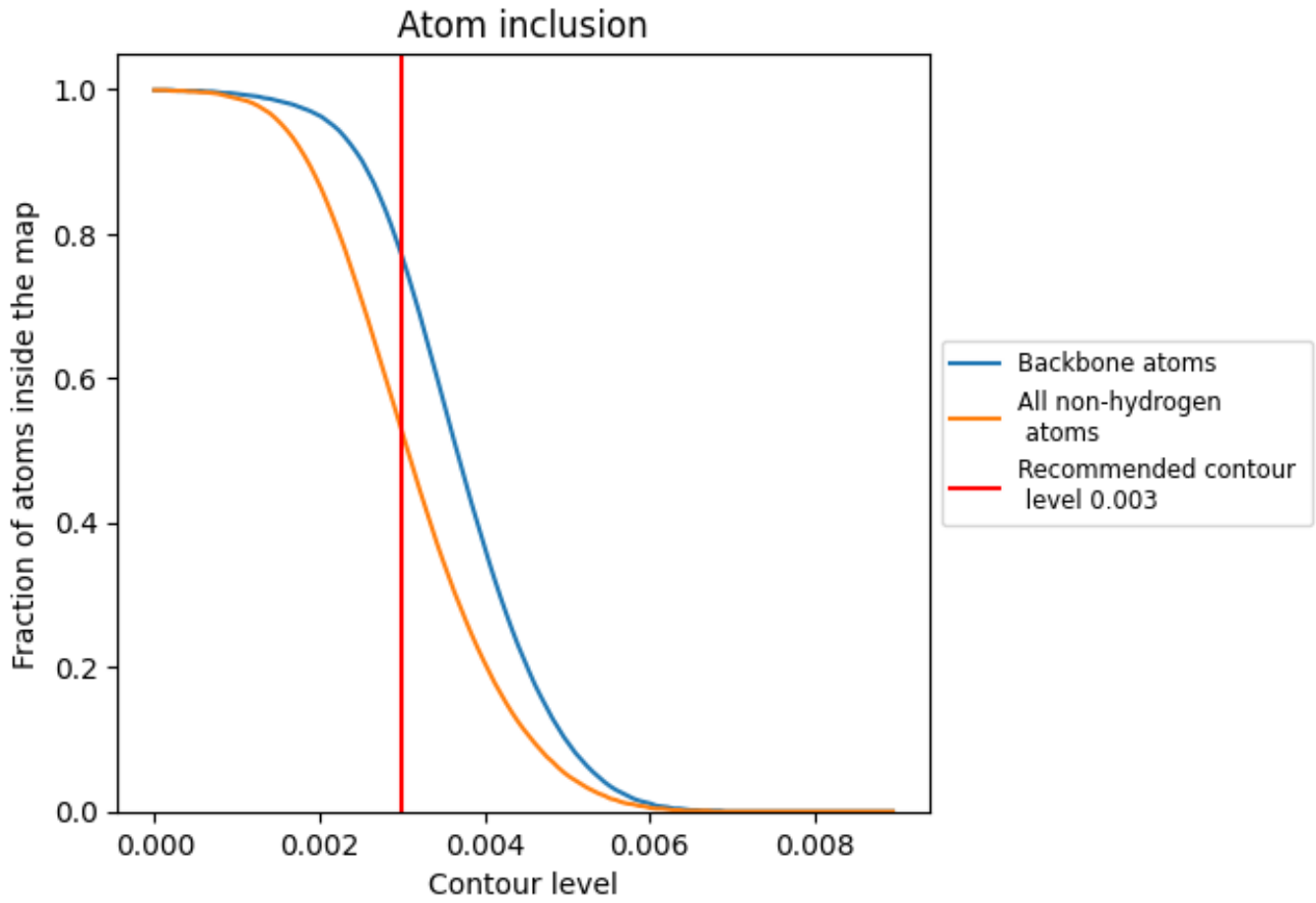
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.003).

9.4 Atom inclusion (i)



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

9.5 Map-model fit summary

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

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

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

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

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

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

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

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

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

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

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

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