wwPDB EM Validation Summary Report

Jun 22, 2023 – 08:07 PM EDT

PDB ID	:	8SNB
EMDB ID	:	EMD-40619
Title	:	atomic model of sea urchin sperm doublet microtubule (48-nm periodicity)
Authors	:	Zeng, J.; Zhang, R.
Deposited on	:	2023-04-26
Resolution	:	3.30 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:

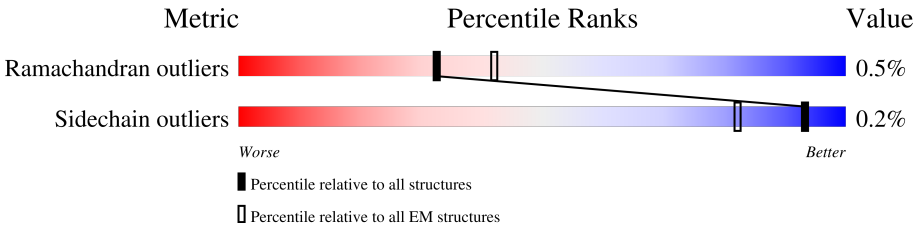
EMDB validation analysis	:	0.0.1.dev50
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.33

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.30 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	1A	309	11% 13% 86%
1	1B	309	72% 84% 14%
2	1E	448	91% 93% 6%
2	1F	448	38% 38% 62%
2	1G	448	64% 65% 34%
2	1H	448	94% 92% 6%
3	1K	696	25% 25% 75%
3	1L	696	25% 25% 75%
3	1M	696	25% 25% 75%

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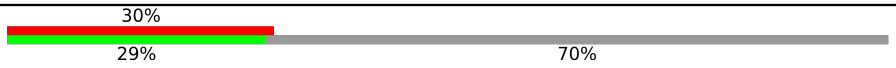
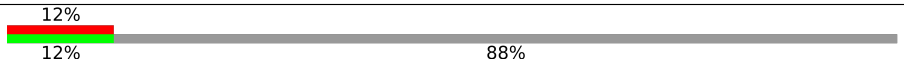
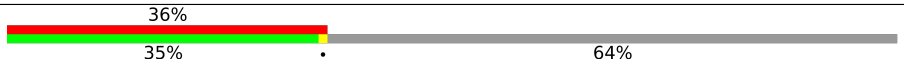
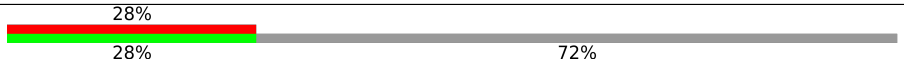
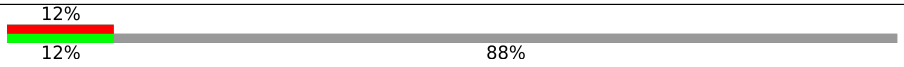
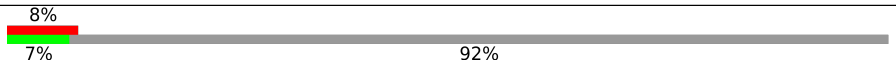
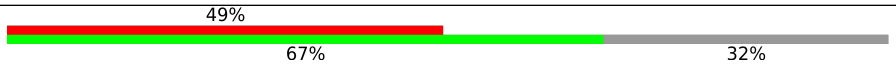
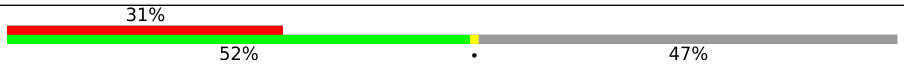
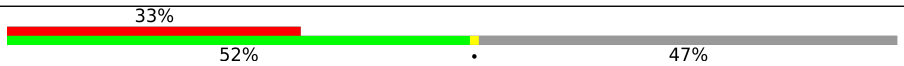
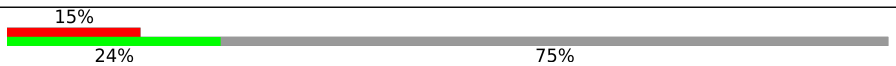
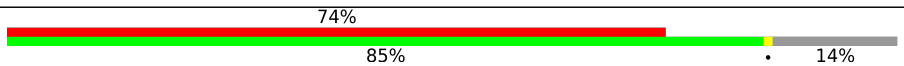
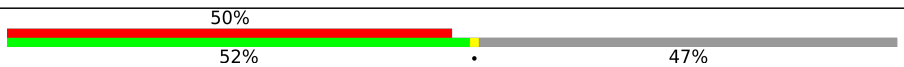
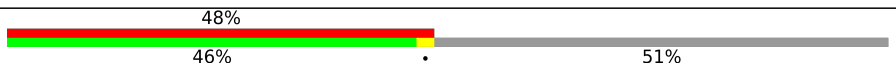
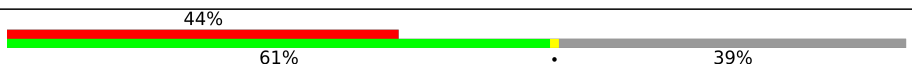
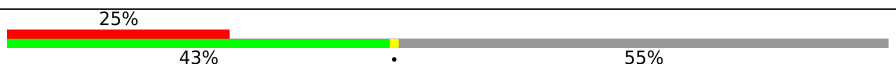
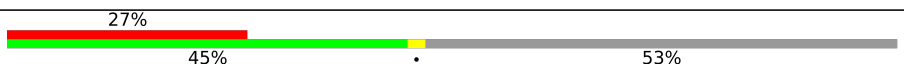
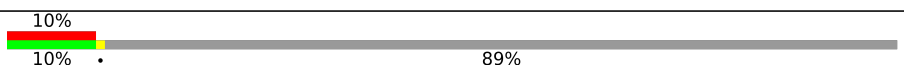
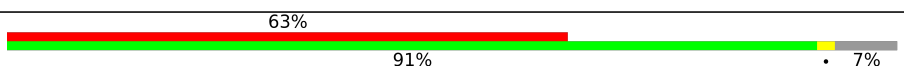
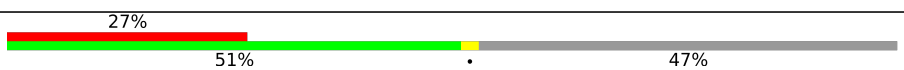
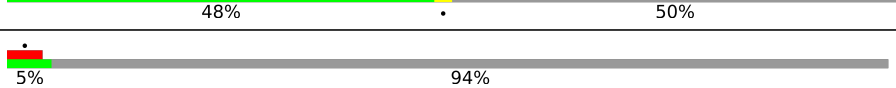
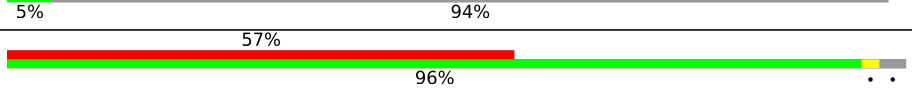
Mol	Chain	Length	Quality of chain
3	1v	696	
3	1w	696	
3	1x	696	
3	1y	696	
3	1z	696	
3	2a	696	
4	1P	204	
4	1Q	204	
5	1T	429	
5	1U	429	
5	1V	429	
5	1W	429	
6	1Y	139	
7	1a	251	
7	1b	251	
7	5E	251	
7	5F	251	
7	5G	251	
7	5H	251	
7	5I	251	
7	5J	251	
7	5K	251	
7	5L	251	
7	5M	251	
7	5N	251	

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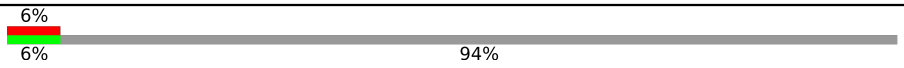
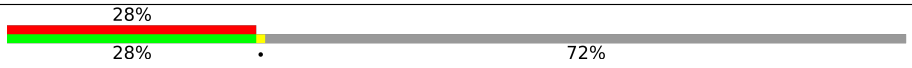
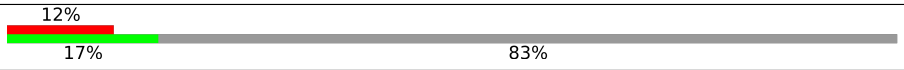
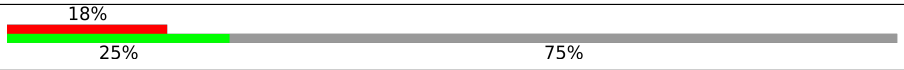
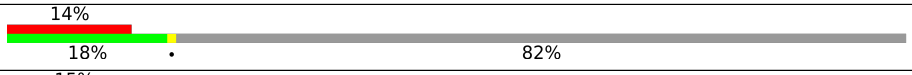
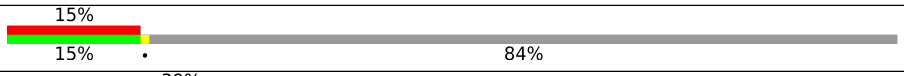
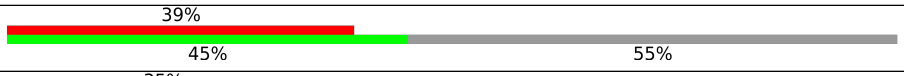
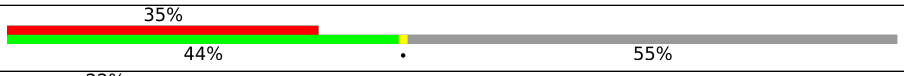
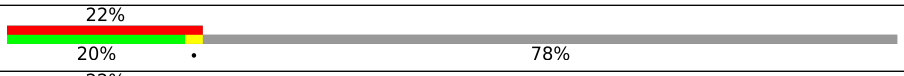
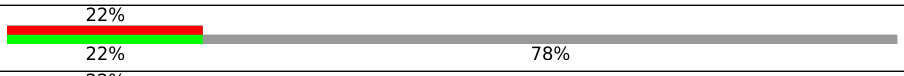
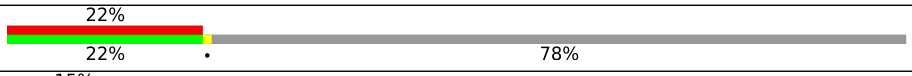
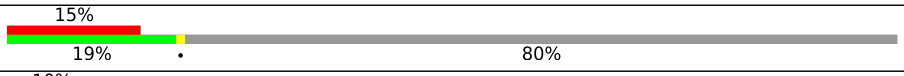
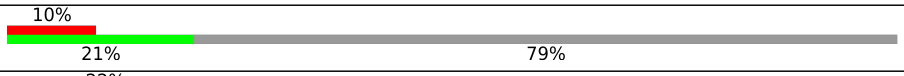
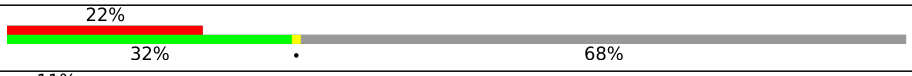
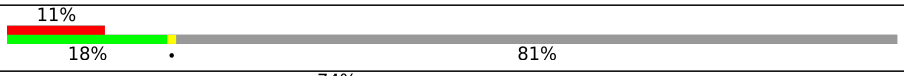
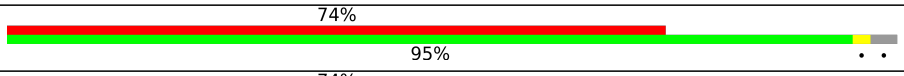
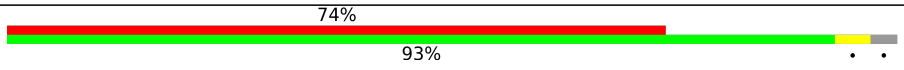
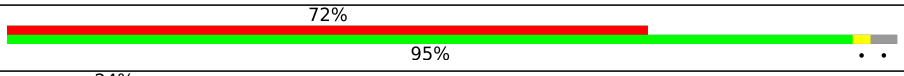
Mol	Chain	Length	Quality of chain
7	5O	251	
8	1d	359	
9	1f	206	
9	1g	206	
10	1i	188	
10	1j	188	
10	9M	188	
10	9N	188	
10	9O	188	
11	1l	176	
11	1m	176	
12	1o	142	
12	1p	142	
12	1q	142	
12	1r	142	
13	2A	258	
13	2B	258	
13	2C	258	
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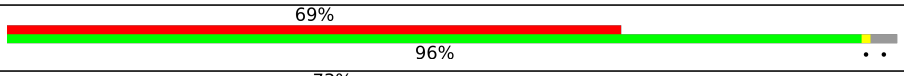
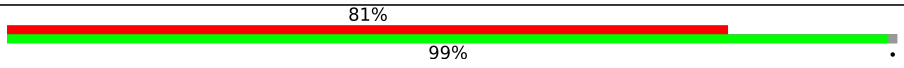
14	2G	235	
15	2J	141	
15	2K	141	
15	2L	141	
16	2O	120	
17	2R	499	

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Mol	Chain	Length	Quality of chain
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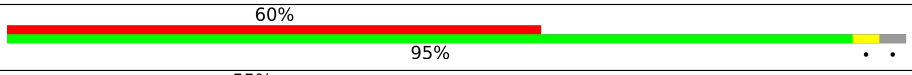
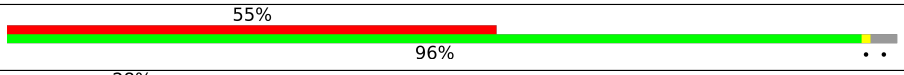
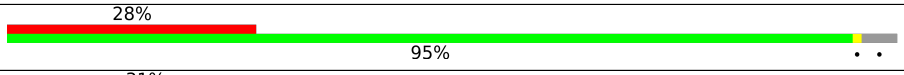
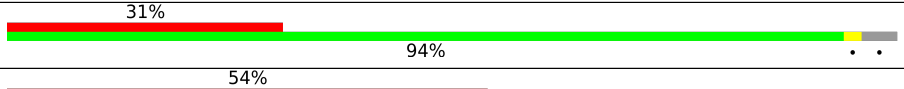
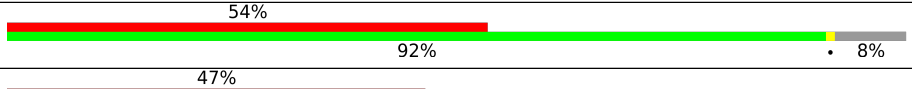
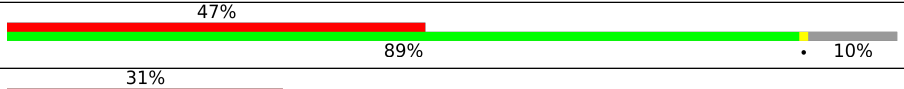
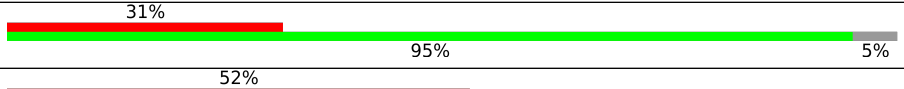
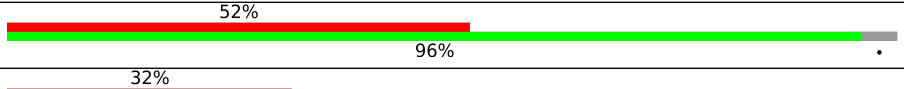
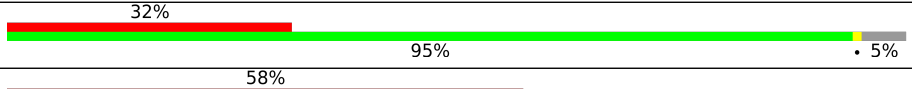
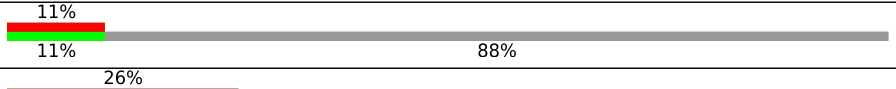
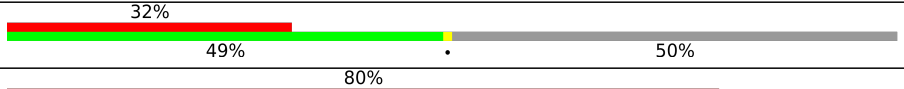
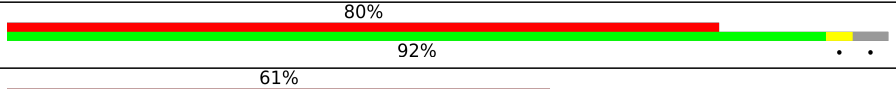
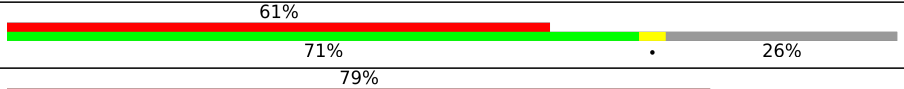
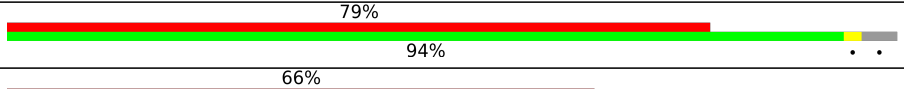
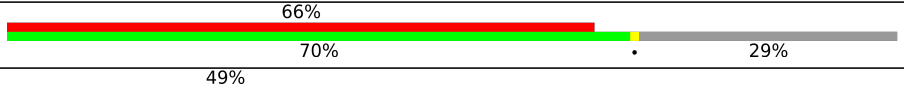
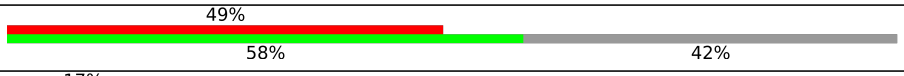
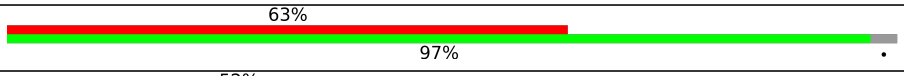
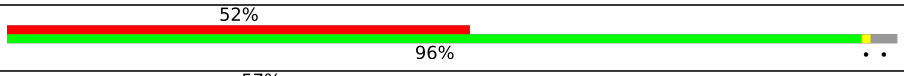
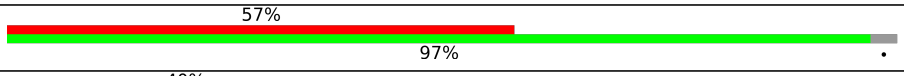
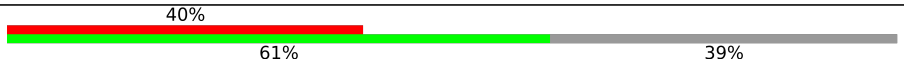
18	2V	292	
18	2W	292	
19	3A	195	
19	3B	195	
19	3C	195	
19	3D	195	
19	3E	195	
19	3F	195	
19	3G	195	
20	3J	592	
20	3K	592	
21	3N	560	
21	3O	560	
22	3R	172	
22	3S	172	
22	3T	172	
23	3W	541	
23	3X	541	
23	3Y	541	
23	3Z	541	
24	4A	635	
24	4B	635	
24	4C	635	
25	4F	516	

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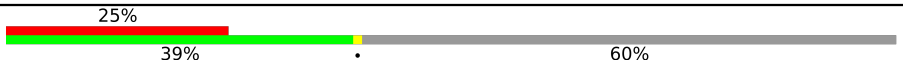
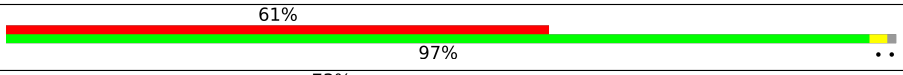
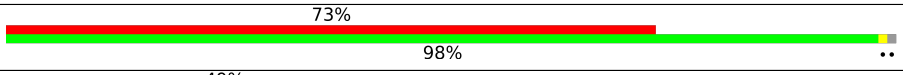
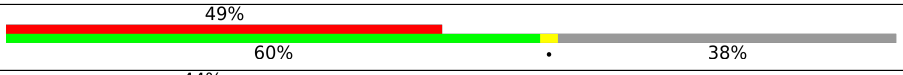
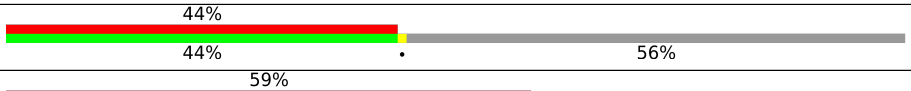
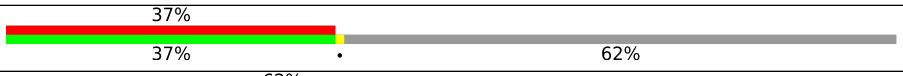
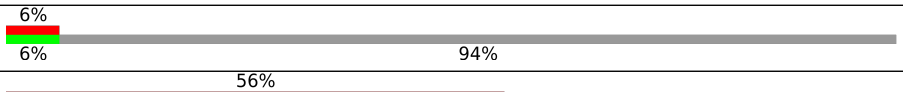
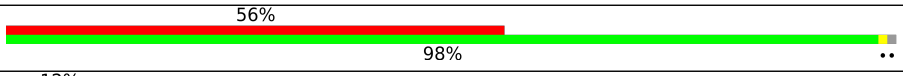
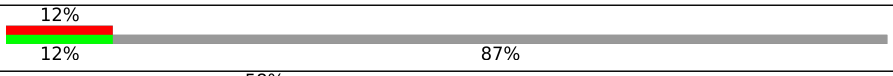
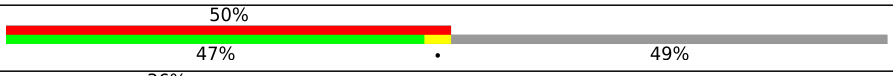
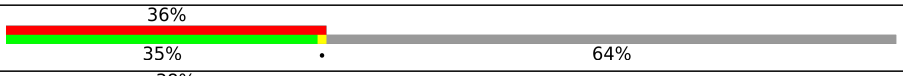
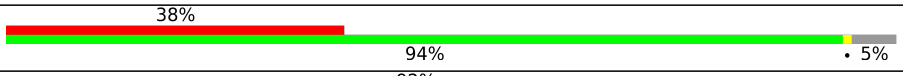
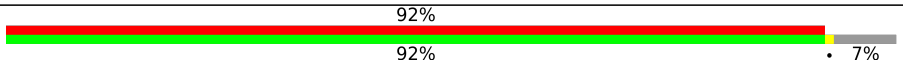
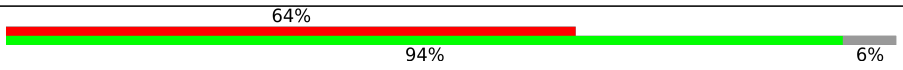
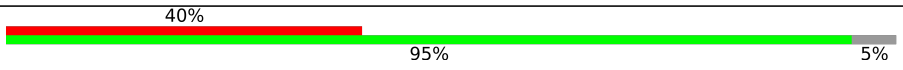
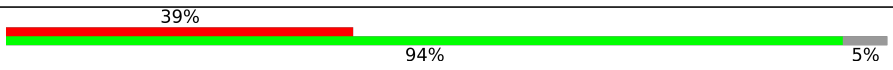
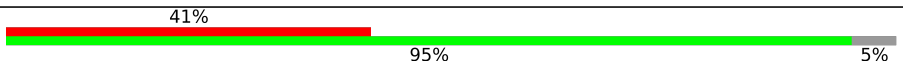
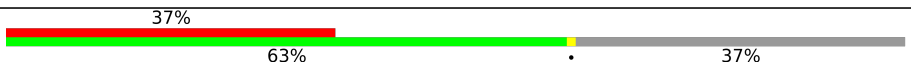
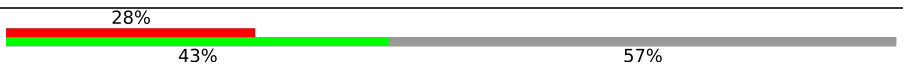
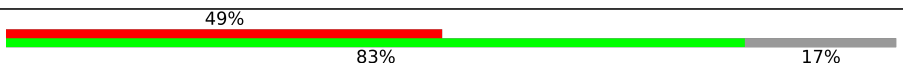
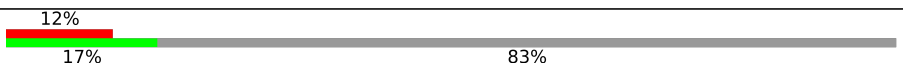
Mol	Chain	Length	Quality of chain
25	4G	516	
26	4J	380	
26	4K	380	
27	4N	243	
27	4O	243	
27	4P	243	
27	4Q	243	
28	4T	231	
28	4U	231	
28	4V	231	
29	4Y	302	
30	5A	277	
30	5B	277	
30	9Y	277	
30	9Z	277	
31	6A	236	
31	6B	236	
31	6C	236	
31	6D	236	
31	6E	236	
31	6F	236	
32	6I	123	
32	6J	123	
33	6M	469	
33	6N	469	

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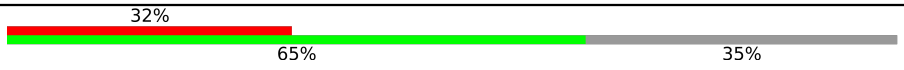
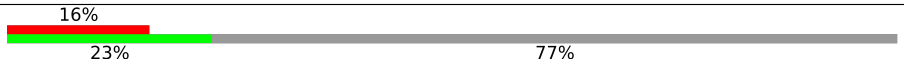
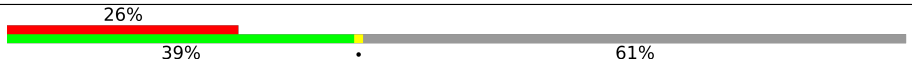
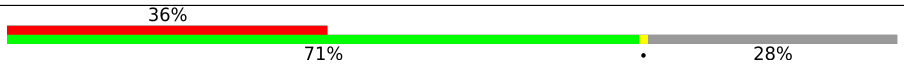
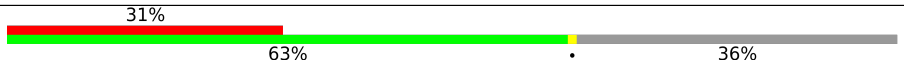
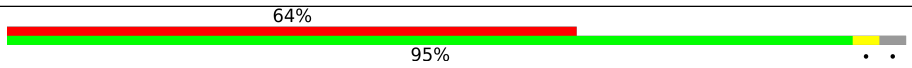
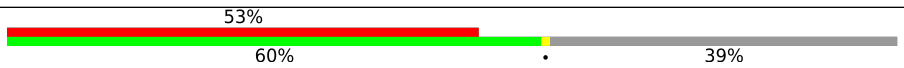
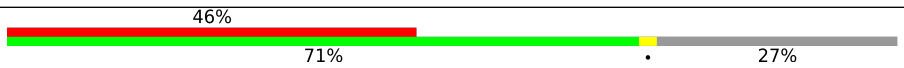
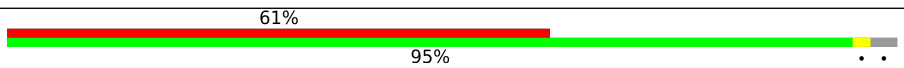
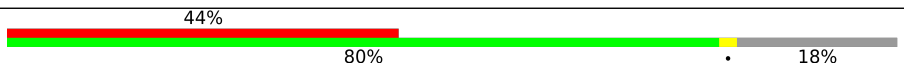
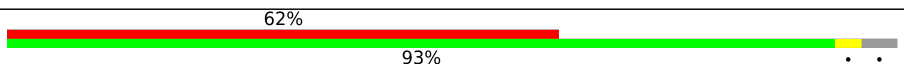
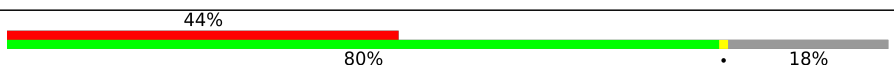
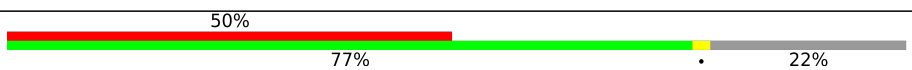
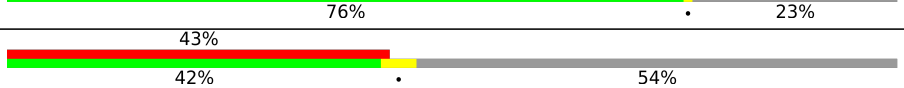
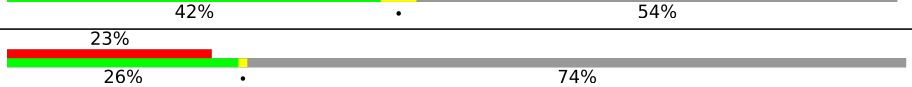
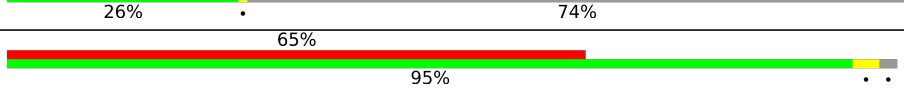
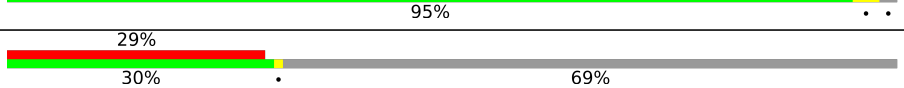
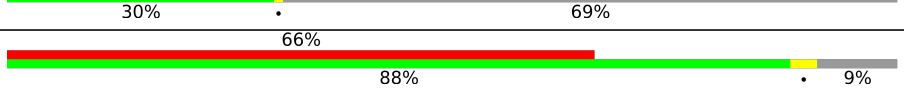
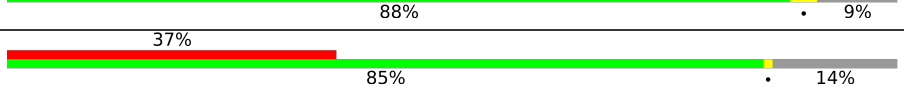
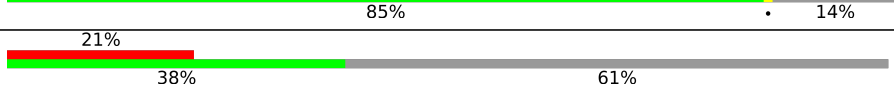
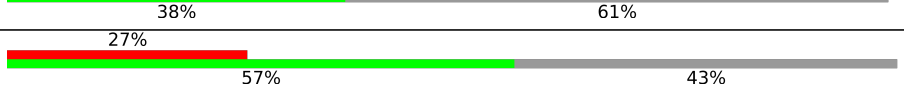
Mol	Chain	Length	Quality of chain
34	6Q	310	
34	6R	310	
35	6U	379	
35	6V	379	
35	6W	379	
35	6X	379	
36	7A	744	
36	7B	744	
36	7C	744	
36	7D	744	
37	7G	645	
37	7H	645	
37	7I	645	
38	7M	322	
38	7N	322	
39	7Q	185	
39	7R	185	
40	7U	200	
40	7V	200	
41	7Y	204	
41	7Z	204	
42	8A	268	
43	8D	462	
43	8E	462	
43	8F	462	

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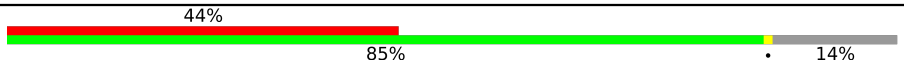
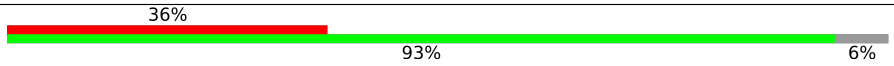
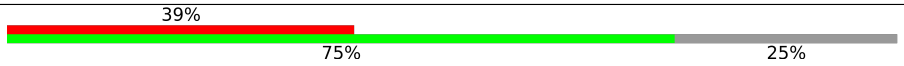
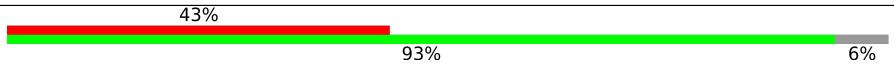
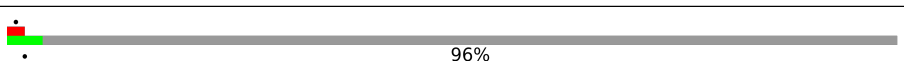
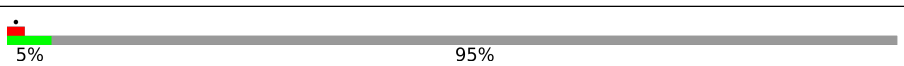
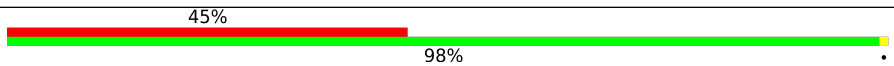
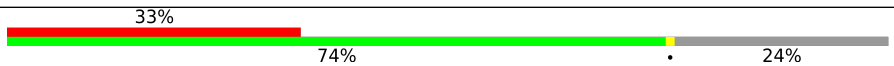
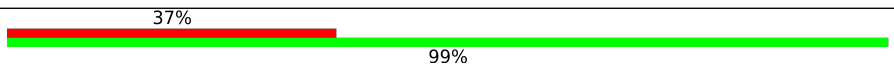
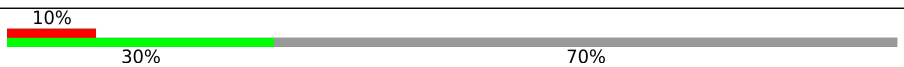
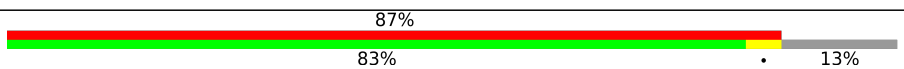
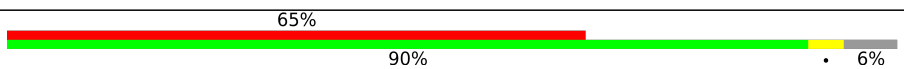
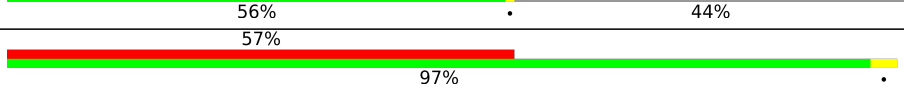
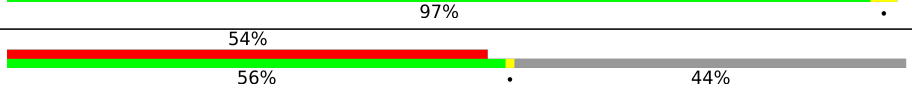
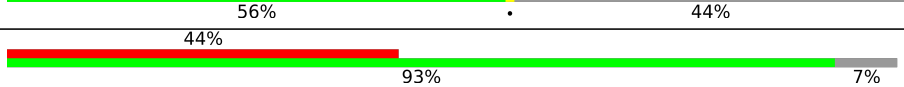
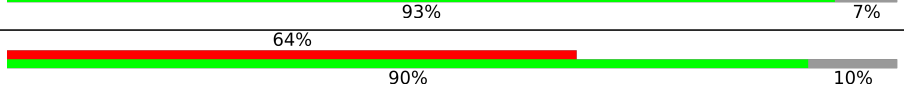
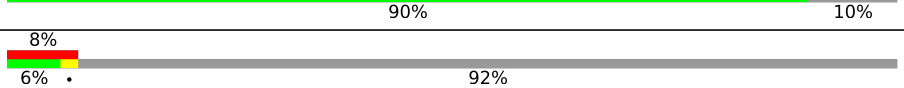
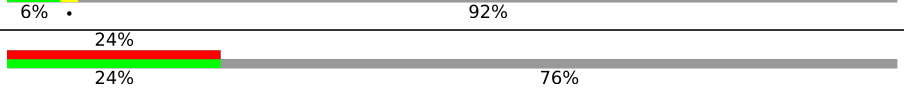
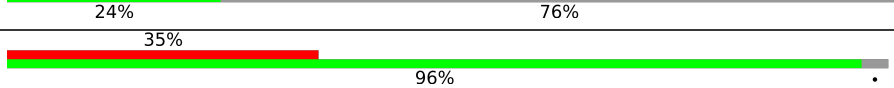
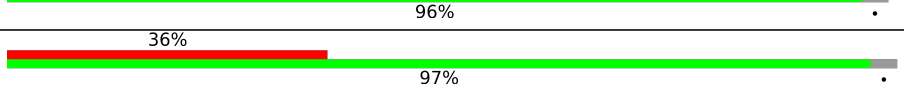
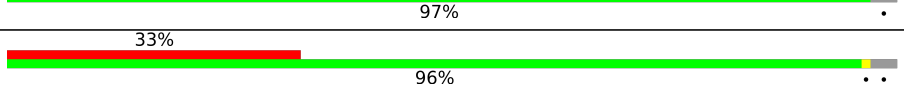
Mol	Chain	Length	Quality of chain
43	8G	462	
44	8J	430	
44	8K	430	
44	8L	430	
44	8M	430	
44	8N	430	
45	8Q	402	
45	8R	402	
45	8S	402	
45	8T	402	
45	8U	402	
46	8X	119	
46	8Y	119	
46	8Z	119	
47	9A	220	
48	9D	171	
49	9G	150	
50	9J	179	
51	9R	153	
52	9T	83	
53	9V	294	
53	9W	294	
54	AA	451	
54	AB	451	
54	AE	451	

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Mol	Chain	Length	Quality of chain
54	AG	451	40% 96%
54	AI	451	26% 97%
54	AK	451	56% 96%
54	AM	451	61% 97%
54	BA	451	42% 96%
54	BB	451	49% 96%
54	BE	451	45% 96%
54	BG	451	57% 96%
54	BI	451	48% 96%
54	BK	451	68% 96%
54	BM	451	53% 96%
54	CA	451	34% 96%
54	CB	451	37% 96%
54	CE	451	33% 96%
54	CG	451	61% 96%
54	CI	451	39% 96%
54	CK	451	79% 96%
54	CM	451	54% 96%
54	DA	451	51% 97%
54	DB	451	59% 96%
54	DE	451	44% 96%
54	DG	451	63% 96%
54	DI	451	56% 96%
54	DK	451	93% 96%
54	DM	451	56% 96%

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Mol	Chain	Length	Quality of chain
54	EA	451	53% 96%
54	EC	451	57% 96%
54	EE	451	56% 96%
54	EG	451	62% 96%
54	EI	451	63% 96%
54	EK	451	53% 96%
54	FA	451	41% 96%
54	FB	451	42% 96%
54	FE	451	44% 95%
54	FG	451	43% 96%
54	FI	451	51% 95%
54	FK	451	43% 96%
54	GA	451	42% 96%
54	GB	451	34% 96%
54	GE	451	47% 96%
54	GG	451	39% 96%
54	GI	451	45% 96%
54	GK	451	41% 96%
54	HA	451	43% 96%
54	HB	451	30% 96%
54	HE	451	47% 95%
54	HG	451	34% 95%
54	HI	451	38% 97%
54	HK	451	25% 96%
54	IA	451	51% 96%

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Mol	Chain	Length	Quality of chain
54	IB	451	35% 96%
54	IE	451	70% 97%
54	IG	451	40% 96%
54	II	451	45% 96%
54	IK	451	37% 96%
54	IM	451	90% 96%
54	JA	451	39% 95%
54	JB	451	37% 96%
54	JE	451	42% 96%
54	JG	451	52% 96%
54	JI	451	45% 96%
54	JK	451	45% 97%
54	KA	451	34% 96%
54	KB	451	32% 95%
54	KE	451	40% 96%
54	KG	451	34% 96%
54	KI	451	47% 96%
54	KK	451	32% 97%
54	LA	451	33% 96%
54	LB	451	33% 96%
54	LE	451	41% 96%
54	LG	451	37% 96%
54	LI	451	32% 96%
54	LK	451	34% 97%
54	MA	451	33% 96%

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Mol	Chain	Length	Quality of chain
54	MB	451	37% 96%
54	ME	451	37% 96%
54	MG	451	37% 97%
54	MI	451	21% 96%
54	MK	451	79% 96%
54	ML	451	38% 97%
54	NA	451	46% 96%
54	NB	451	55% 96%
54	NE	451	50% 97%
54	NG	451	74% 96%
54	NI	451	57% 96%
54	NL	451	52% 96%
54	OA	451	20% 96%
54	OB	451	31% 95%
54	OE	451	19% 96%
54	OG	451	27% 96%
54	OI	451	20% 96%
54	OK	451	83% 96%
54	OL	451	22% 97%
54	PA	451	20% 96%
54	PB	451	37% 96%
54	PE	451	19% 96%
54	PG	451	33% 96%
54	PI	451	25% 96%
54	PK	451	67% 96%

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Mol	Chain	Length	Quality of chain
54	PL	451	35% 97%
54	QA	451	20% 96%
54	QB	451	36% 96%
54	QE	451	24% 96%
54	QG	451	29% 96%
54	QI	451	17% 96%
54	QK	451	36% 95%
54	QL	451	54% 96%
54	RA	451	22% 96%
54	RB	451	31% 95%
54	RE	451	23% 95%
54	RG	451	27% 96%
54	RI	451	22% 96%
54	RK	451	28% 96%
54	RL	451	74% 96%
54	SA	451	22% 96%
54	SB	451	28% 96%
54	SE	451	16% 96%
54	SG	451	22% 96%
54	SI	451	17% 96%
54	SK	451	19% 96%
54	TA	451	23% 96%
54	TB	451	23% 96%
54	TE	451	23% 96%
54	TG	451	26% 96%

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Mol	Chain	Length	Quality of chain
54	TI	451	20% 96%
54	TK	451	16% 96%
54	UA	451	50% 96%
54	UB	451	47% 95%
54	UE	451	57% 96%
54	UG	451	59% 96%
54	UI	451	54% 96%
54	UK	451	38% 96%
54	VA	451	51% 96%
54	VB	451	41% 97%
54	VE	451	51% 96%
54	VG	451	45% 96%
54	VI	451	54% 96%
54	VK	451	47% 96%
54	WA	451	44% 96%
54	WB	451	34% 96%
54	WE	451	52% 96%
54	WG	451	39% 96%
54	WI	451	39% 96%
54	WK	451	36% 95%
55	AC	447	40% 95%
55	AD	447	32% 96%
55	AF	447	35% 95%
55	AH	447	30% 95%
55	AJ	447	26% 95%

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Mol	Chain	Length	Quality of chain
55	AL	447	31% 95%
55	BC	447	41% 95%
55	BD	447	42% 95%
55	BF	447	55% 95%
55	BH	447	44% 96%
55	BJ	447	47% 96%
55	BL	447	46% 95%
55	CC	447	37% 95%
55	CD	447	37% 94%
55	CF	447	45% 96%
55	CH	447	36% 95%
55	CJ	447	46% 95%
55	CL	447	37% 95%
55	DC	447	46% 95%
55	DD	447	52% 95%
55	DF	447	53% 95%
55	DH	447	60% 95%
55	DJ	447	50% 95%
55	DL	447	54% 95%
55	EB	447	50% 95%
55	ED	447	62% 94%
55	EF	447	51% 95%
55	EH	447	67% 95%
55	EJ	447	45% 96%
55	EL	447	86% 95%

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Mol	Chain	Length	Quality of chain
55	EM	447	66% 94%
55	FC	447	36% 95%
55	FD	447	51% 95%
55	FF	447	37% 96%
55	FH	447	66% 96%
55	FJ	447	38% 94%
55	FL	447	73% 94%
55	FM	447	63% 95%
55	GC	447	34% 96%
55	GD	447	59% 96%
55	GF	447	33% 95%
55	GH	447	61% 95%
55	GJ	447	44% 96%
55	GL	447	65% 96%
55	GM	447	70% 96%
55	HC	447	37% 95%
55	HD	447	62% 95%
55	HF	447	35% 95%
55	HH	447	49% 95%
55	HJ	447	33% 95%
55	HL	447	62% 95%
55	HM	447	84% 95%
55	IC	447	43% 96%
55	ID	447	47% 95%
55	IF	447	36% 96%

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Mol	Chain	Length	Quality of chain
55	IH	447	59% 96%
55	IJ	447	40% 95%
55	IL	447	68% 95%
55	JC	447	30% 95%
55	JD	447	53% 95%
55	JF	447	37% 94%
55	JH	447	34% 94%
55	JJ	447	32% 95%
55	JL	447	72% 95%
55	JM	447	51% 95%
55	KC	447	34% 95%
55	KD	447	38% 95%
55	KF	447	34% 96%
55	KH	447	35% 95%
55	KJ	447	43% 95%
55	KL	447	54% 96%
55	KM	447	64% 96%
55	LC	447	38% 95%
55	LD	447	32% 96%
55	LF	447	35% 95%
55	LH	447	29% 96%
55	LJ	447	31% 95%
55	LL	447	33% 95%
55	LM	447	81% 95%
55	MC	447	40% 95%

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Mol	Chain	Length	Quality of chain
55	MD	447	30% 95%
55	MF	447	35% 96%
55	MH	447	29% 95%
55	MJ	447	32% 95%
55	MM	447	36% 95%
55	NC	447	58% 95%
55	ND	447	48% 95%
55	NF	447	48% 95%
55	NH	447	51% 95%
55	NJ	447	70% 94%
55	NK	447	84% 95%
55	NM	447	49% 95%
55	OC	447	30% 95%
55	OD	447	26% 96%
55	OF	447	17% 95%
55	OH	447	19% 95%
55	OJ	447	34% 95%
55	OM	447	26% 95%
55	PC	447	34% 94%
55	PD	447	22% 95%
55	PF	447	22% 95%
55	PH	447	26% 95%
55	PJ	447	42% 95%
55	PM	447	28% 95%
55	QC	447	27% 94%

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Mol	Chain	Length	Quality of chain
55	QD	447	24% 96%
55	QF	447	27% 95%
55	QH	447	27% 95%
55	QJ	447	24% 95%
55	QM	447	17% 95%
55	RC	447	23% 95%
55	RD	447	26% 95%
55	RF	447	21% 95%
55	RH	447	23% 96%
55	RJ	447	17% 95%
55	RM	447	24% 95%
55	SC	447	21% 95%
55	SD	447	18% 95%
55	SF	447	21% 95%
55	SH	447	24% 96%
55	SJ	447	17% 95%
55	SL	447	83% 95%
55	SM	447	28% 95%
55	TC	447	23% 95%
55	TD	447	24% 95%
55	TF	447	20% 96%
55	TH	447	30% 95%
55	TJ	447	16% 95%
55	TL	447	70% 96%
55	TM	447	36% 95%

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Mol	Chain	Length	Quality of chain
55	UC	447	54% 94%
55	UD	447	57% 95%
55	UF	447	54% 95%
55	UH	447	66% 94%
55	UJ	447	53% 95%
55	UL	447	75% 95%
55	UM	447	71% 95%
55	VC	447	41% 95%
55	VD	447	49% 95%
55	VF	447	45% 96%
55	VH	447	64% 94%
55	VJ	447	57% 95%
55	VL	447	57% 94%
55	VM	447	69% 95%
55	WC	447	34% 95%
55	WD	447	42% 95%
55	WF	447	35% 94%
55	WH	447	51% 96%
55	WJ	447	30% 96%
55	WL	447	36% 95%

2 Entry composition (i)

There are 58 unique types of molecules in this entry. The entry contains 1270878 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 CFAP96(C4orf47).

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1A	42	Total 324	C 205	N 55	O 61	S 3	0	0
1	1B	267	Total 2033	C 1284	N 371	O 373	S 5	0	0

- Molecule 2 is a protein called Coiled-coil domain-containing protein 105.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1E	419	Total 3281	C 2005	N 647	O 619	S 10	0	0
2	1F	170	Total 1281	C 781	N 237	O 257	S 6	0	0
2	1G	294	Total 2355	C 1440	N 478	O 432	S 5	0	0
2	1H	420	Total 3294	C 2012	N 649	O 623	S 10	0	0

- Molecule 3 is a protein called Coiled-coil domain-containing protein 81.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	1K	175	Total 1406	C 897	N 246	O 257	S 6	0	0
3	1L	175	Total 1406	C 897	N 246	O 257	S 6	0	0
3	1M	175	Total 1393	C 889	N 244	O 254	S 6	0	0
3	1v	207	Total 1719	C 1051	N 329	O 333	S 6	0	0
3	1w	87	Total 727	C 441	N 145	O 138	S 3	0	0
3	1x	250	Total 2088	C 1276	N 406	O 401	S 5	0	0
3	1y	198	Total 1639	C 999	N 315	O 319	S 6	0	0

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Mol	Chain	Residues	Atoms	AltConf	Trace
3	1z	87	Total C N O S 727 441 145 138 3	0	0
3	2a	54	Total C N O S 452 276 83 90 3	0	0

- Molecule 4 is a protein called FAM166C.

Mol	Chain	Residues	Atoms	AltConf	Trace
4	1P	203	Total C N O S 1628 993 310 317 8	0	0
4	1Q	138	Total C N O S 1130 686 223 217 4	0	0

- Molecule 5 is a protein called Protein FAM166B.

Mol	Chain	Residues	Atoms	AltConf	Trace
5	1T	228	Total C N O S 1845 1171 328 337 9	0	0
5	1U	111	Total C N O S 898 575 158 161 4	0	0
5	1V	229	Total C N O S 1857 1180 329 339 9	0	0
5	1W	107	Total C N O S 871 549 156 162 4	0	0

- Molecule 6 is a protein called CFAP144(FAM183A).

Mol	Chain	Residues	Atoms	AltConf	Trace
6	1Y	119	Total C N O S 1009 638 176 191 4	0	0

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

Mol	Chain	Residues	Atoms	AltConf	Trace
7	1a	134	Total C N O S 1030 647 184 193 6	0	0
7	1b	122	Total C N O S 922 578 169 171 4	0	0
7	5E	154	Total C N O S 1158 727 211 215 5	0	0
7	5F	112	Total C N O S 861 542 153 160 6	0	0

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Mol	Chain	Residues	Atoms	AltConf	Trace
7	5G	142	Total C N O S 1074 675 194 201 4	0	0
7	5H	117	Total C N O S 896 563 160 167 6	0	0
7	5I	27	Total C N O S 198 126 35 36 1	0	0
7	5J	233	Total C N O S 1776 1115 321 330 10	0	0
7	5K	134	Total C N O S 1011 635 184 188 4	0	0
7	5L	125	Total C N O S 958 603 170 179 6	0	0
7	5M	14	Total C N O 112 71 18 23	0	0
7	5N	244	Total C N O S 1856 1166 335 345 10	0	0
7	5O	15	Total C N O 117 78 20 19	0	0

- Molecule 8 is a protein called Tex33.

Mol	Chain	Residues	Atoms	AltConf	Trace
8	1d	101	Total C N O S 808 521 136 148 3	0	0

- Molecule 9 is a protein called C20Orf85.

Mol	Chain	Residues	Atoms	AltConf	Trace
9	1f	36	Total C N O 339 216 70 53	0	0
9	1g	51	Total C N O S 473 300 91 81 1	0	0

- Molecule 10 is a protein called ATP6V1FNB.

Mol	Chain	Residues	Atoms	AltConf	Trace
10	1i	34	Total C N O 304 197 52 55	0	0
10	1j	31	Total C N O 275 177 48 50	0	0
10	9M	84	Total C N O S 705 453 125 124 3	0	0

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Mol	Chain	Residues	Atoms	AltConf	Trace
10	9N	84	Total C N O S 705 453 125 124 3	0	0
10	9O	41	Total C N O 344 222 62 60	0	0

- Molecule 11 is a protein called Tex26(LOC100888047).

Mol	Chain	Residues	Atoms	AltConf	Trace
11	1l	39	Total C N O S 300 193 50 55 2	0	0
11	1m	39	Total C N O S 300 193 50 55 2	0	0

- Molecule 12 is a protein called Meiosis-specific nuclear structural protein 1.

Mol	Chain	Residues	Atoms	AltConf	Trace
12	1o	29	Total C N O S 252 155 51 44 2	0	0
12	1p	30	Total C N O S 261 160 52 47 2	0	0
12	1q	46	Total C N O S 382 240 69 72 1	0	0
12	1r	27	Total C N O S 235 146 49 38 2	0	0

- Molecule 13 is a protein called Enkurin domain-containing protein.

Mol	Chain	Residues	Atoms	AltConf	Trace
13	2A	250	Total C N O S 2045 1285 363 388 9	0	0
13	2B	251	Total C N O S 2051 1289 366 387 9	0	0
13	2C	251	Total C N O S 2054 1290 365 390 9	0	0
13	2D	79	Total C N O S 637 402 110 123 2	0	0

- Molecule 14 is a protein called CFAP107.

Mol	Chain	Residues	Atoms	AltConf	Trace
14	2G	227	Total C N O S 1874 1159 364 346 5	0	0

- Molecule 15 is a protein called Cilia- and flagella-associated protein 126.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	2J	107	Total	C	N	O	S	0	0
			862	534	161	164	3		
15	2K	107	Total	C	N	O	S	0	0
			862	534	161	164	3		
15	2L	107	Total	C	N	O	S	0	0
			862	534	161	164	3		

- Molecule 16 is a protein called Flagellar FliJ protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	2O	119	Total	C	N	O	S	0	0
			978	611	184	182	1		

- Molecule 17 is a protein called Meiosis-specific nuclear structural protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	2R	120	Total	C	N	O	S	0	0
			1035	628	200	202	5		
17	2S	376	Total	C	N	O	S	0	0
			3254	1957	631	647	19		

- Molecule 18 is a protein called Cilia- and flagella-associated protein 161.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	2V	284	Total	C	N	O	S	0	0
			2215	1382	392	427	14		
18	2W	284	Total	C	N	O	S	0	0
			2215	1382	392	427	14		

- Molecule 19 is a protein called CFA20 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	3A	187	Total	C	N	O	S	0	0
			1550	996	273	274	7		
19	3B	187	Total	C	N	O	S	0	0
			1550	996	273	274	7		
19	3C	180	Total	C	N	O	S	0	0
			1496	963	265	261	7		
19	3D	176	Total	C	N	O	S	0	0
			1463	942	259	255	7		

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Mol	Chain	Residues	Atoms					AltConf	Trace
19	3E	186	Total	C	N	O	S	0	0
			1542	990	272	273	7		
19	3F	187	Total	C	N	O	S	0	0
			1550	996	273	274	7		
19	3G	186	Total	C	N	O	S	0	0
			1542	990	272	273	7		

- Molecule 20 is a protein called CFAP21.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	3J	495	Total	C	N	O	S	0	0
			3931	2458	699	763	11		
20	3K	70	Total	C	N	O	S	0	0
			550	340	103	103	4		

- Molecule 21 is a protein called Trichohyalin-plectin-homology domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	3N	258	Total	C	N	O	S	0	0
			2125	1306	406	404	9		
21	3O	278	Total	C	N	O	S	0	0
			2325	1427	444	448	6		

- Molecule 22 is a protein called CFAP276.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	3R	165	Total	C	N	O	S	0	0
			1317	820	242	252	3		
22	3S	127	Total	C	N	O	S	0	0
			1006	625	191	188	2		
22	3T	165	Total	C	N	O	S	0	0
			1317	820	242	252	3		

- Molecule 23 is a protein called Cilia- and flagella-associated protein 45.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	3W	384	Total	C	N	O	S	0	0
			3220	1969	600	639	12		
23	3X	315	Total	C	N	O	S	0	0
			2661	1623	506	523	9		
23	3Y	104	Total	C	N	O	S	0	0
			862	523	168	168	3		

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Mol	Chain	Residues	Atoms					AltConf	Trace
23	3Z	172	Total	C	N	O	S	0	0
			1415	865	259	284	7		

- Molecule 24 is a protein called Cilia- and flagella-associated protein 52.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	4A	617	Total	C	N	O	S	0	0
			4804	3030	841	902	31		
24	4B	615	Total	C	N	O	S	0	0
			4792	3022	839	901	30		
24	4C	617	Total	C	N	O	S	0	0
			4804	3030	841	902	31		

- Molecule 25 is a protein called Trichohyalin-plectin-homology domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	4F	313	Total	C	N	O	S	0	0
			2613	1593	502	502	16		
25	4G	206	Total	C	N	O	S	0	0
			1753	1065	343	333	12		

- Molecule 26 is a protein called Nucleoside diphosphate kinase.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	4J	378	Total	C	N	O	S	0	0
			2983	1874	520	566	23		
26	4K	376	Total	C	N	O	S	0	0
			2972	1868	518	563	23		

- Molecule 27 is a protein called Cilia- and flagella-associated protein 77.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	4N	151	Total	C	N	O	S	0	0
			1237	772	235	224	6		
27	4O	108	Total	C	N	O	S	0	0
			878	553	162	159	4		
27	4P	150	Total	C	N	O	S	0	0
			1220	761	230	223	6		
27	4Q	93	Total	C	N	O	S	0	0
			744	462	146	133	3		

- Molecule 28 is a protein called Cilia- and flagella-associated protein 97.

Mol	Chain	Residues	Atoms	AltConf	Trace
28	4T	143	Total C N O S 1221 767 234 211 9	0	0
28	4U	143	Total C N O S 1221 767 234 211 9	0	0
28	4V	14	Total C N O S 116 77 19 19 1	0	0

- Molecule 29 is a protein called HeLo_like_N(LOC577943).

Mol	Chain	Residues	Atoms	AltConf	Trace
29	4Y	300	Total C N O S 2422 1513 448 453 8	0	0

- Molecule 30 is a protein called Outer dense fiber protein 3.

Mol	Chain	Residues	Atoms	AltConf	Trace
30	5A	35	Total C N O S 265 168 50 46 1	0	0
30	5B	213	Total C N O S 1650 1038 306 299 7	0	0
30	9Y	140	Total C N O S 1083 677 208 193 5	0	0
30	9Z	101	Total C N O S 783 495 145 140 3	0	0

- Molecule 31 is a protein called PACRG.

Mol	Chain	Residues	Atoms	AltConf	Trace
31	6A	225	Total C N O S 1792 1151 310 323 8	0	0
31	6B	219	Total C N O S 1737 1116 299 314 8	0	0
31	6C	223	Total C N O S 1769 1139 304 318 8	0	0
31	6D	224	Total C N O S 1784 1147 308 321 8	0	0
31	6E	224	Total C N O S 1784 1147 308 321 8	0	0
31	6F	224	Total C N O S 1784 1147 308 321 8	0	0

- Molecule 32 is a protein called Pierce1.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	6I	78	Total	C	N	O	S	0	0
			632	397	112	119	4		
32	6J	53	Total	C	N	O	S	0	0
			410	258	69	78	5		

- Molecule 33 is a protein called Protein phosphatase 1 regulatory subunit 32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	6M	391	Total	C	N	O	S	0	0
			3107	1936	567	593	11		
33	6N	80	Total	C	N	O	S	0	0
			648	406	121	119	2		

- Molecule 34 is a protein called RIB35.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	6Q	201	Total	C	N	O	S	0	0
			1634	1028	292	306	8		
34	6R	72	Total	C	N	O	S	0	0
			598	384	107	104	3		

- Molecule 35 is a protein called RIB43A-like with coiled-coils protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	6U	149	Total	C	N	O	S	0	0
			1242	750	239	249	4		
35	6V	274	Total	C	N	O	S	0	0
			2273	1370	435	458	10		
35	6W	243	Total	C	N	O	S	0	0
			2035	1227	391	408	9		
35	6X	121	Total	C	N	O	S	0	0
			1030	627	200	200	3		

- Molecule 36 is a protein called EF-hand domain-containing family member C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	7A	725	Total	C	N	O	S	0	0
			5901	3763	1025	1093	20		
36	7B	455	Total	C	N	O	S	0	0
			3734	2386	641	694	13		
36	7C	543	Total	C	N	O	S	0	0
			4414	2816	773	810	15		

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Mol	Chain	Residues	Atoms					AltConf	Trace
36	7D	724	Total	C	N	O	S	0	0
			5894	3758	1024	1092	20		

- Molecule 37 is a protein called Flagellar protofilament ribbon protein rib74.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	7G	529	Total	C	N	O	S	0	0
			4301	2746	733	805	17		
37	7H	529	Total	C	N	O	S	0	0
			4301	2746	733	805	17		
37	7I	616	Total	C	N	O	S	0	0
			4996	3177	856	942	21		

- Molecule 38 is a protein called SAXO3(LOC115918676).

Mol	Chain	Residues	Atoms					AltConf	Trace
38	7M	263	Total	C	N	O	S	0	0
			2153	1350	401	391	11		
38	7N	68	Total	C	N	O	S	0	0
			527	339	82	101	5		

- Molecule 39 is a protein called TEPP protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	7Q	145	Total	C	N	O	S	0	0
			1199	760	220	215	4		
39	7R	142	Total	C	N	O	S	0	0
			1140	713	213	210	4		

- Molecule 40 is a protein called SPATA48.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	7U	93	Total	C	N	O	S	0	0
			755	476	136	134	9		
40	7V	53	Total	C	N	O		0	0
			456	289	89	78			

- Molecule 41 is a protein called Sperm-associated antigen 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	7Y	200	Total	C	N	O	S	0	0
			1593	991	270	327	5		

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Mol	Chain	Residues	Atoms	AltConf	Trace
41	7Z	64	Total C N O S 491 297 89 103 2	0	0

- Molecule 42 is a protein called Testicular haploid expressed gene protein-like.

Mol	Chain	Residues	Atoms	AltConf	Trace
42	8A	243	Total C N O S 1931 1213 359 354 5	0	0

- Molecule 43 is a protein called Tektin A1.

Mol	Chain	Residues	Atoms	AltConf	Trace
43	8D	397	Total C N O S 3244 1990 594 640 20	0	0
43	8E	178	Total C N O S 1476 906 268 295 7	0	0
43	8F	265	Total C N O S 2142 1309 397 421 15	0	0
43	8G	397	Total C N O S 3244 1990 594 640 20	0	0

- Molecule 44 is a protein called Tektin B1.

Mol	Chain	Residues	Atoms	AltConf	Trace
44	8J	403	Total C N O S 3272 1986 606 668 12	0	0
44	8K	322	Total C N O S 2623 1594 485 534 10	0	0
44	8L	403	Total C N O S 3272 1986 606 668 12	0	0
44	8M	128	Total C N O S 1041 632 190 216 3	0	0
44	8N	17	Total C N O S 144 84 30 29 1	0	0

- Molecule 45 is a protein called Tektin C1.

Mol	Chain	Residues	Atoms	AltConf	Trace
45	8Q	21	Total C N O 176 112 34 30	0	0
45	8R	400	Total C N O S 3241 1979 597 650 15	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
45	8S	304	Total	C	N	O	S	0	0
			2476	1513	453	499	11		
45	8T	400	Total	C	N	O	S	0	0
			3241	1979	597	650	15		
45	8U	120	Total	C	N	O	S	0	0
			958	584	180	189	5		

- Molecule 46 is a protein called Tex43.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	8X	104	Total	C	N	O	S	0	0
			879	553	164	157	5		
46	8Y	104	Total	C	N	O	S	0	0
			879	553	164	157	5		
46	8Z	104	Total	C	N	O	S	0	0
			879	553	164	157	5		

- Molecule 47 is a protein called Tex36(CFAP95, C9orf135).

Mol	Chain	Residues	Atoms					AltConf	Trace
47	9A	207	Total	C	N	O	S	0	0
			1704	1053	314	334	3		

- Molecule 48 is a protein called CFAP90(C5orf49).

Mol	Chain	Residues	Atoms					AltConf	Trace
48	9D	96	Total	C	N	O	S	0	0
			808	504	157	145	2		

- Molecule 49 is a protein called Tex49.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	9G	150	Total	C	N	O	S	0	0
			1229	787	216	221	5		

- Molecule 50 is a protein called Tex49_homologue(LOC580808).

Mol	Chain	Residues	Atoms					AltConf	Trace
50	9J	101	Total	C	N	O	S	0	0
			822	513	157	147	5		

- Molecule 51 is a protein called CFAP68(UPF0686, C11orf1).

Mol	Chain	Residues	Atoms					AltConf	Trace
51	9R	142	Total	C	N	O	S	0	0
			1166	736	208	220	2		

- Molecule 52 is a protein called SPATA45.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	9T	75	Total	C	N	O	S	0	0
			629	388	119	117	5		

- Molecule 53 is a protein called C4orf45.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	9V	24	Total	C	N	O	0	0
			190	117	39	34		
53	9W	70	Total	C	N	O	0	0
			602	391	107	104		

- Molecule 54 is a protein called Tubulin alpha chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	AA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	AB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	AE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	AG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	AI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	AK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	AM	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	BA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	BB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	BE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
54	BG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	BI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	BK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	BM	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	CA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	CB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	CE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	CG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	CI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	CK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	CM	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	DA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	DB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	DE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	DG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	DI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	DK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	DM	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	EA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	EC	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	EE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
54	EG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	EI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	EK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	FA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	FB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	FE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	FG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	FI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	FK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	GA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	GB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	GE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	GG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	GI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	GK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	HA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	HB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	HE	432	Total	C	N	O	S	0	0
			3382	2144	575	641	22		
54	HG	435	Total	C	N	O	S	0	0
			3406	2160	579	645	22		
54	HI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	HK	435	Total	C	N	O	S	0	0
			3406	2160	579	645	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
54	IA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	IB	434	Total	C	N	O	S	0	0
			3398	2154	578	644	22		
54	IE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	IG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	II	435	Total	C	N	O	S	0	0
			3402	2156	579	645	22		
54	IK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	IM	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	JA	432	Total	C	N	O	S	0	0
			3387	2148	576	641	22		
54	JB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	JE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	JG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	JI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	JK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	KA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	KB	434	Total	C	N	O	S	0	0
			3398	2154	578	644	22		
54	KE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	KG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	KI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	KK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	LA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	LB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
54	LE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	LG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	LI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	LK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	MA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	MB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	ME	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	MG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	MI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	MK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	ML	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	NA	435	Total	C	N	O	S	0	0
			3406	2160	579	645	22		
54	NB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	NE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	NG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	NI	434	Total	C	N	O	S	0	0
			3398	2154	578	644	22		
54	NL	433	Total	C	N	O	S	0	0
			3391	2150	577	642	22		
54	OA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	OB	434	Total	C	N	O	S	0	0
			3398	2154	578	644	22		
54	OE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	OG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
54	OI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	OK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	OL	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	PA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	PB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	PE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	PG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	PI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	PK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	PL	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	QA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	QB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	QE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	QG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	QI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	QK	433	Total	C	N	O	S	0	0
			3391	2150	577	642	22		
54	QL	436	Total	C	N	O	S	0	0
			3410	2162	580	646	22		
54	RA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	RB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	RE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	RG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
54	RI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	RK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	RL	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	SA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	SB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	SE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	SG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	SI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	SK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	TA	436	Total	C	N	O	S	0	0
			3410	2162	580	646	22		
54	TB	436	Total	C	N	O	S	0	0
			3410	2162	580	646	22		
54	TE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	TG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	TI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	TK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	UA	436	Total	C	N	O	S	0	0
			3410	2162	580	646	22		
54	UB	434	Total	C	N	O	S	0	0
			3395	2152	578	643	22		
54	UE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	UG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	UI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	UK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		

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Mol	Chain	Residues	Atoms					AltConf	Trace
54	VA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	VB	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	VE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	VG	435	Total	C	N	O	S	0	0
			3406	2160	579	645	22		
54	VI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	VK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	WA	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	WB	436	Total	C	N	O	S	0	0
			3410	2162	580	646	22		
54	WE	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	WG	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	WI	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		
54	WK	437	Total	C	N	O	S	0	0
			3414	2164	581	647	22		

- Molecule 55 is a protein called Tubulin beta chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	AC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	AD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	AF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	AH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	AJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	AL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	BC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

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Mol	Chain	Residues	Atoms					AltConf	Trace
55	BD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	BF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	BH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	BJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	BL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	CC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	CD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	CF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	CH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	CJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	CL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	DC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	DD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	DF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	DH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	DJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	DL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	EB	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	ED	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	EF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	EH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

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Mol	Chain	Residues	Atoms					AltConf	Trace
55	EJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	EL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	EM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	FC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	FD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	FF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	FH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	FJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	FL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	FM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	GC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	GD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	GF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	GH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	GJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	GL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	GM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	HC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	HD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	HF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	HH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

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Mol	Chain	Residues	Atoms					AltConf	Trace
55	HJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	HL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	HM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	IC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	ID	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	IF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	IH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	IJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	IL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	JC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	JD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	JF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	JH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	JJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	JL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	JM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	KC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	KD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	KF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	KH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	KJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

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Mol	Chain	Residues	Atoms					AltConf	Trace
55	KL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	KM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	LC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	LD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	LF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	LH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	LJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	LL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	LM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	MC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	MD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	MF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	MH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	MJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	MM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	NC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	ND	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	NF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	NH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	NJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	NK	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

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Mol	Chain	Residues	Atoms					AltConf	Trace
55	NM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	OC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	OD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	OF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	OH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	OJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	OM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	PC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	PD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	PF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	PH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	PJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	PM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	QC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	QD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	QF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	QH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	QJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	QM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	RC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	RD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

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Mol	Chain	Residues	Atoms					AltConf	Trace
55	RF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	RH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	RJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	RM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	SC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	SD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	SF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	SH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	SJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	SL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	SM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	TC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	TD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	TF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	TH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	TJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	TL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	TM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	UC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	UD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	UF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

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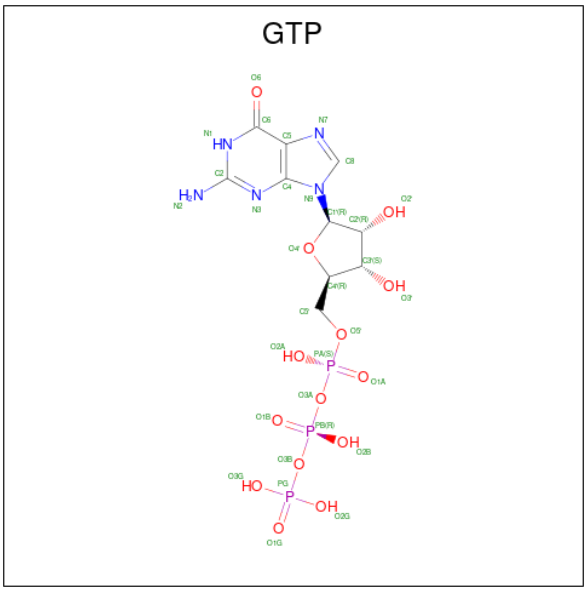
Mol	Chain	Residues	Atoms					AltConf	Trace
55	UH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	UJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	UL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	UM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	VC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	VD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	VF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	VH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	VJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	VL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	VM	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	WC	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	WD	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	WF	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	WH	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	WJ	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		
55	WL	431	Total	C	N	O	S	0	0
			3383	2124	579	653	27		

- Molecule 56 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$) (labeled as "Ligand of Interest" by depositor).



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

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Mol	Chain	Residues	Atoms					AltConf
56	CA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	CB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	CE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	CG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	CI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	CK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	CM	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	DA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	DB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	DE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	DG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	DI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	DK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	DM	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	EA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	EC	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	EE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	EG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	EI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	EK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	FB	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
56	FE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	FG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	FI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	FK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	FM	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	GA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	GB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	GE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	GG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	GI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	GK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	HA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	HB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	HE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	HG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	HI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	HK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	IA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	IB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	IE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	IG	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
56	II	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	IK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	IM	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	JA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	JB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	JE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	JG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	JI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	JK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	KA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	KB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	KE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	KG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	KI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	KK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	LA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	LB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	LE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	LG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	LI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	LK	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
56	MA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	MB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	ME	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	MG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	MI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	MK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	ML	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	NA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	NB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	NE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	NG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	NI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	NL	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	OA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	OB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	OE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	OG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	OI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	OK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	OL	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	PA	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
56	PB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	PE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	PG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	PI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	PK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	PL	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	QA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	QB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	QE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	QG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	QI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	QK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	QL	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	RA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	RB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	RE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	RG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	RI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	RK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	RL	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	SA	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
56	SB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	SE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	SG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	SI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	SK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	TA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	TB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	TE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	TG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	TI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	TK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	UA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	UB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	UE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	UG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	UI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	UK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	VA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	VB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	VE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	VG	1	Total	C	N	O	P	0
			32	10	5	14	3	

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Mol	Chain	Residues	Atoms					AltConf
56	VI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	VK	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	WA	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	WB	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	WE	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	WG	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	WI	1	Total	C	N	O	P	0
			32	10	5	14	3	
56	WK	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
57	AA	1	Total	Mg	0
			1	1	
57	AB	1	Total	Mg	0
			1	1	
57	AE	1	Total	Mg	0
			1	1	
57	AF	1	Total	Mg	0
			1	1	
57	AI	1	Total	Mg	0
			1	1	
57	AK	1	Total	Mg	0
			1	1	
57	AM	1	Total	Mg	0
			1	1	
57	BA	1	Total	Mg	0
			1	1	
57	BB	1	Total	Mg	0
			1	1	
57	BE	1	Total	Mg	0
			1	1	
57	BF	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms	AltConf
57	BI	1	Total Mg 1 1	0
57	BJ	1	Total Mg 1 1	0
57	BK	1	Total Mg 1 1	0
57	CA	1	Total Mg 1 1	0
57	CB	1	Total Mg 1 1	0
57	CE	1	Total Mg 1 1	0
57	CG	1	Total Mg 1 1	0
57	CI	1	Total Mg 1 1	0
57	CK	1	Total Mg 1 1	0
57	CM	1	Total Mg 1 1	0
57	DA	1	Total Mg 1 1	0
57	DB	1	Total Mg 1 1	0
57	DE	1	Total Mg 1 1	0
57	DG	1	Total Mg 1 1	0
57	DI	1	Total Mg 1 1	0
57	DK	1	Total Mg 1 1	0
57	DM	1	Total Mg 1 1	0
57	EA	1	Total Mg 1 1	0
57	EC	1	Total Mg 1 1	0
57	ED	1	Total Mg 1 1	0
57	EG	1	Total Mg 1 1	0

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Mol	Chain	Residues	Atoms	AltConf
57	EI	1	Total Mg 1 1	0
57	EJ	1	Total Mg 1 1	0
57	FA	1	Total Mg 1 1	0
57	FB	1	Total Mg 1 1	0
57	FE	1	Total Mg 1 1	0
57	FG	1	Total Mg 1 1	0
57	FI	1	Total Mg 1 1	0
57	FK	1	Total Mg 1 1	0
57	GA	1	Total Mg 1 1	0
57	GB	1	Total Mg 1 1	0
57	GE	1	Total Mg 1 1	0
57	GG	1	Total Mg 1 1	0
57	GI	1	Total Mg 1 1	0
57	GK	1	Total Mg 1 1	0
57	HA	1	Total Mg 1 1	0
57	HB	1	Total Mg 1 1	0
57	HE	1	Total Mg 1 1	0
57	HG	1	Total Mg 1 1	0
57	HI	1	Total Mg 1 1	0
57	HK	1	Total Mg 1 1	0
57	IA	1	Total Mg 1 1	0

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Mol	Chain	Residues	Atoms	AltConf
57	IB	1	Total Mg 1 1	0
57	IE	1	Total Mg 1 1	0
57	IG	1	Total Mg 1 1	0
57	II	1	Total Mg 1 1	0
57	IK	1	Total Mg 1 1	0
57	IM	1	Total Mg 1 1	0
57	JA	1	Total Mg 1 1	0
57	JB	1	Total Mg 1 1	0
57	JE	1	Total Mg 1 1	0
57	JG	1	Total Mg 1 1	0
57	JI	1	Total Mg 1 1	0
57	JK	1	Total Mg 1 1	0
57	KA	1	Total Mg 1 1	0
57	KB	1	Total Mg 1 1	0
57	KE	1	Total Mg 1 1	0
57	KG	1	Total Mg 1 1	0
57	KI	1	Total Mg 1 1	0
57	KK	1	Total Mg 1 1	0
57	LA	1	Total Mg 1 1	0
57	LB	1	Total Mg 1 1	0
57	LE	1	Total Mg 1 1	0

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Mol	Chain	Residues	Atoms	AltConf
57	LG	1	Total Mg 1 1	0
57	LI	1	Total Mg 1 1	0
57	LK	1	Total Mg 1 1	0
57	MA	1	Total Mg 1 1	0
57	MB	1	Total Mg 1 1	0
57	ME	1	Total Mg 1 1	0
57	MG	1	Total Mg 1 1	0
57	MI	1	Total Mg 1 1	0
57	MK	1	Total Mg 1 1	0
57	ML	1	Total Mg 1 1	0
57	NA	1	Total Mg 1 1	0
57	NB	1	Total Mg 1 1	0
57	NE	1	Total Mg 1 1	0
57	NG	1	Total Mg 1 1	0
57	NI	1	Total Mg 1 1	0
57	NL	1	Total Mg 1 1	0
57	OA	1	Total Mg 1 1	0
57	OB	1	Total Mg 1 1	0
57	OE	1	Total Mg 1 1	0
57	OG	1	Total Mg 1 1	0
57	OI	1	Total Mg 1 1	0

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Mol	Chain	Residues	Atoms	AltConf
57	OK	1	Total Mg 1 1	0
57	OL	1	Total Mg 1 1	0
57	PA	1	Total Mg 1 1	0
57	PB	1	Total Mg 1 1	0
57	PE	1	Total Mg 1 1	0
57	PG	1	Total Mg 1 1	0
57	PI	1	Total Mg 1 1	0
57	PK	1	Total Mg 1 1	0
57	PL	1	Total Mg 1 1	0
57	QA	1	Total Mg 1 1	0
57	QB	1	Total Mg 1 1	0
57	QE	1	Total Mg 1 1	0
57	QG	1	Total Mg 1 1	0
57	QI	1	Total Mg 1 1	0
57	QK	1	Total Mg 1 1	0
57	QL	1	Total Mg 1 1	0
57	RA	1	Total Mg 1 1	0
57	RB	1	Total Mg 1 1	0
57	RE	1	Total Mg 1 1	0
57	RG	1	Total Mg 1 1	0
57	RH	1	Total Mg 1 1	0

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Mol	Chain	Residues	Atoms	AltConf
57	RK	1	Total Mg 1 1	0
57	RL	1	Total Mg 1 1	0
57	SA	1	Total Mg 1 1	0
57	SB	1	Total Mg 1 1	0
57	SE	1	Total Mg 1 1	0
57	SG	1	Total Mg 1 1	0
57	SI	1	Total Mg 1 1	0
57	SK	1	Total Mg 1 1	0
57	TA	1	Total Mg 1 1	0
57	TB	1	Total Mg 1 1	0
57	TE	1	Total Mg 1 1	0
57	TG	1	Total Mg 1 1	0
57	TI	1	Total Mg 1 1	0
57	TJ	1	Total Mg 1 1	0
57	UA	1	Total Mg 1 1	0
57	UB	1	Total Mg 1 1	0
57	UD	1	Total Mg 1 1	0
57	UG	1	Total Mg 1 1	0
57	UI	1	Total Mg 1 1	0
57	UK	1	Total Mg 1 1	0
57	VA	1	Total Mg 1 1	0

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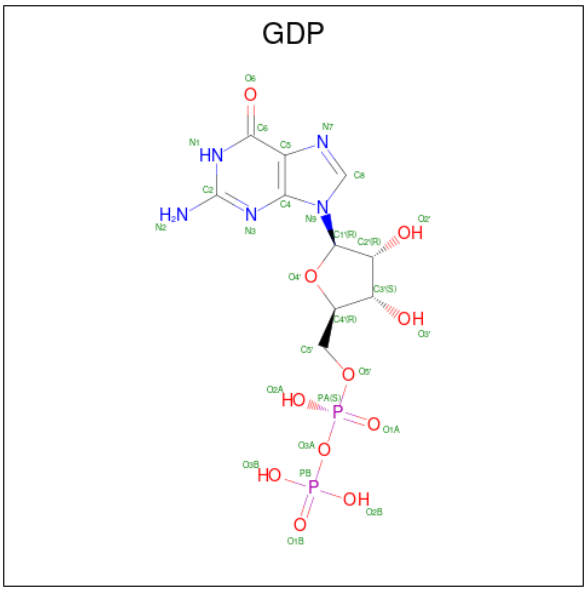
Mol	Chain	Residues	Atoms	AltConf
57	VB	1	Total Mg 1 1	0
57	VE	1	Total Mg 1 1	0
57	VG	1	Total Mg 1 1	0
57	VI	1	Total Mg 1 1	0
57	VK	1	Total Mg 1 1	0
57	WA	1	Total Mg 1 1	0
57	WB	1	Total Mg 1 1	0
57	WE	1	Total Mg 1 1	0
57	WG	1	Total Mg 1 1	0
57	WI	1	Total Mg 1 1	0
57	WK	1	Total Mg 1 1	0

- Molecule 58 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
58	AC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	AD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	AF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	AH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	AJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	AL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	BC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	BD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	BF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	BH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	BJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	BL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	CC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	CD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	CF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	CH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	CJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	CL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	DC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	DD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	DF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	DH	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
58	DJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	DL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	EB	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	ED	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	EF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	EH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	EJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	EL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	EM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	FC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	FD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	FF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	FH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	FJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	FL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	FM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	GC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	GD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	GF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	GH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	GJ	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
58	GL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	GM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	HC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	HD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	HF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	HH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	HJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	HL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	HM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	IC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	ID	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	IF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	IH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	IJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	IL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	JC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	JD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	JF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	JH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	JJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	JL	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
58	JM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	KC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	KD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	KF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	KH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	KJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	KL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	KM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	LC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	LD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	LF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	LH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	LJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	LL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	LM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	MC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	MD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	MF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	MH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	MJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	MM	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
58	NC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	ND	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	NF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	NH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	NJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	NK	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	NM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	OC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	OD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	OF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	OH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	OJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	OM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	PC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	PD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	PF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	PH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	PJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	PM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	QC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	QD	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
58	QF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	QH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	QJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	QM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	RC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	RD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	RF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	RH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	RJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	RM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	SC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	SD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	SF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	SH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	SJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	SL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	SM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	TC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	TD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	TF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	TH	1	Total	C	N	O	P	0
			28	10	5	11	2	

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Mol	Chain	Residues	Atoms					AltConf
58	TJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	TL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	TM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	UC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	UD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	UF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	UH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	UJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	UL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	UM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	VC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	VD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	VF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	VH	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	VJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	VL	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	VM	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	WC	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	WD	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	WF	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	WH	1	Total	C	N	O	P	0
			28	10	5	11	2	

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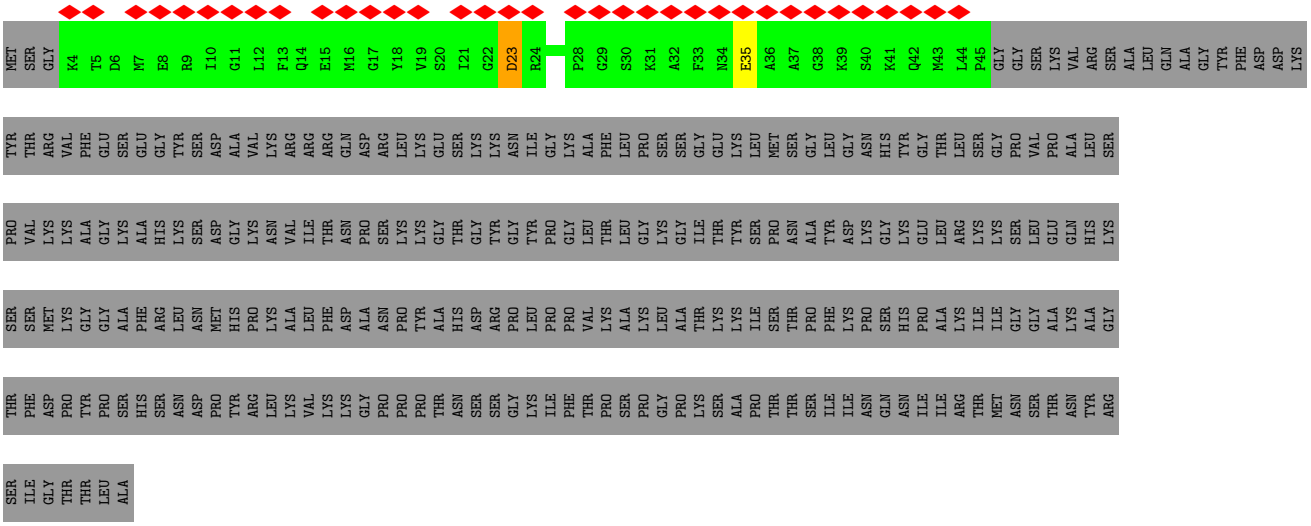
Mol	Chain	Residues	Atoms					AltConf
58	WJ	1	Total	C	N	O	P	0
			28	10	5	11	2	
58	WL	1	Total	C	N	O	P	0
			28	10	5	11	2	

3 Residue-property plots

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

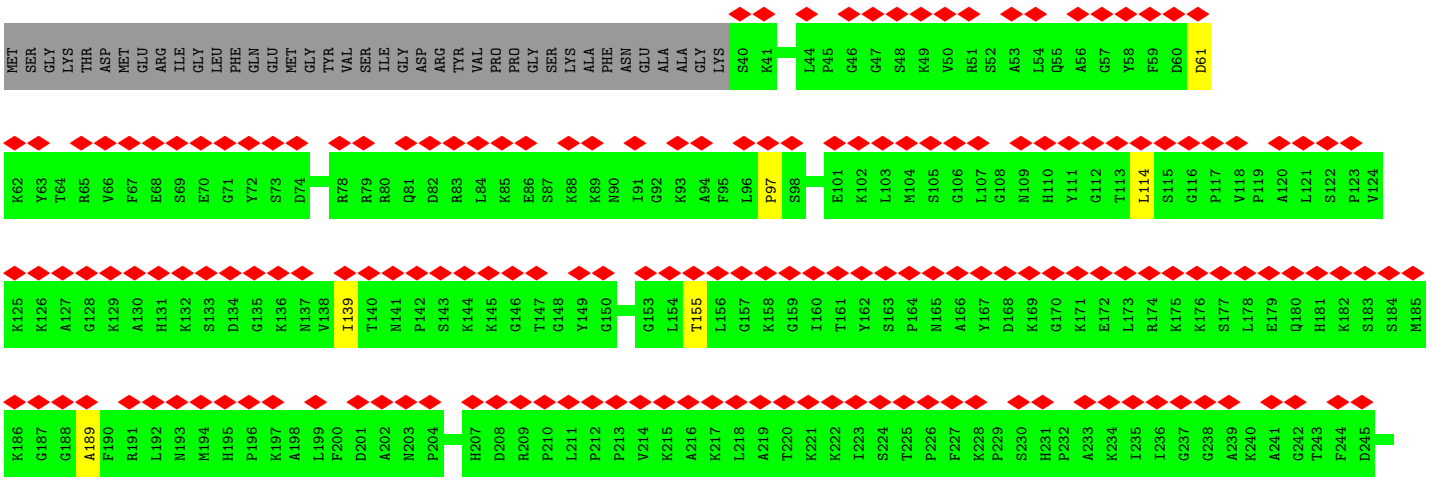
- Molecule 1: CFAP96(C4orf47)

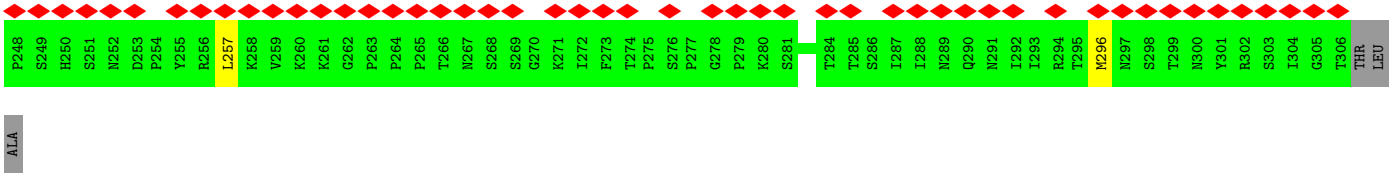
Chain 1A:



- Molecule 1: CFAP96(C4orf47)

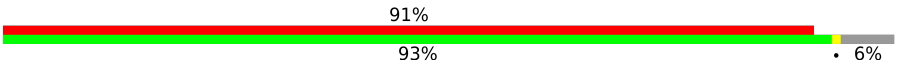
Chain 1B:

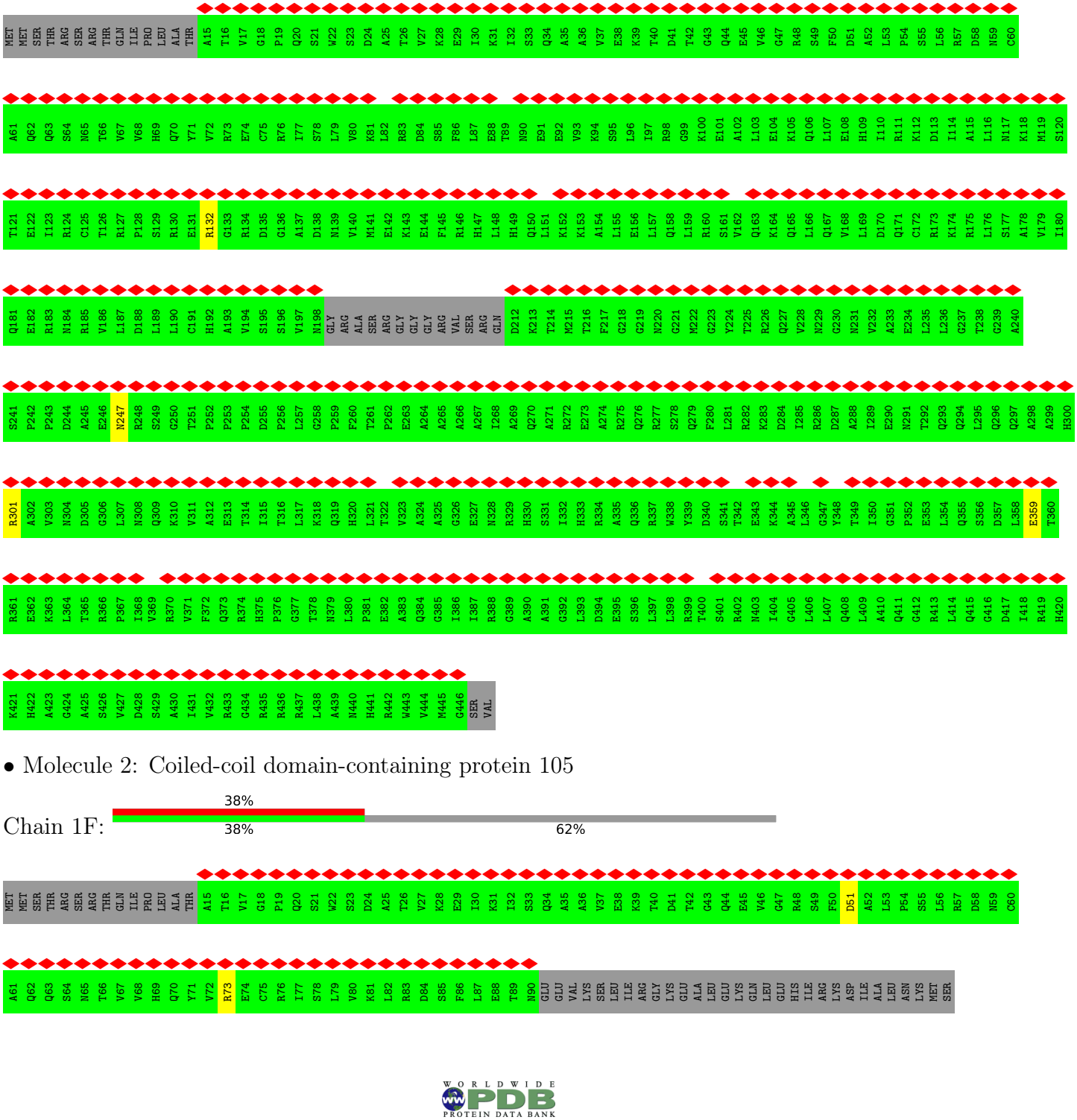




• Molecule 2: Coiled-coil domain-containing protein 105

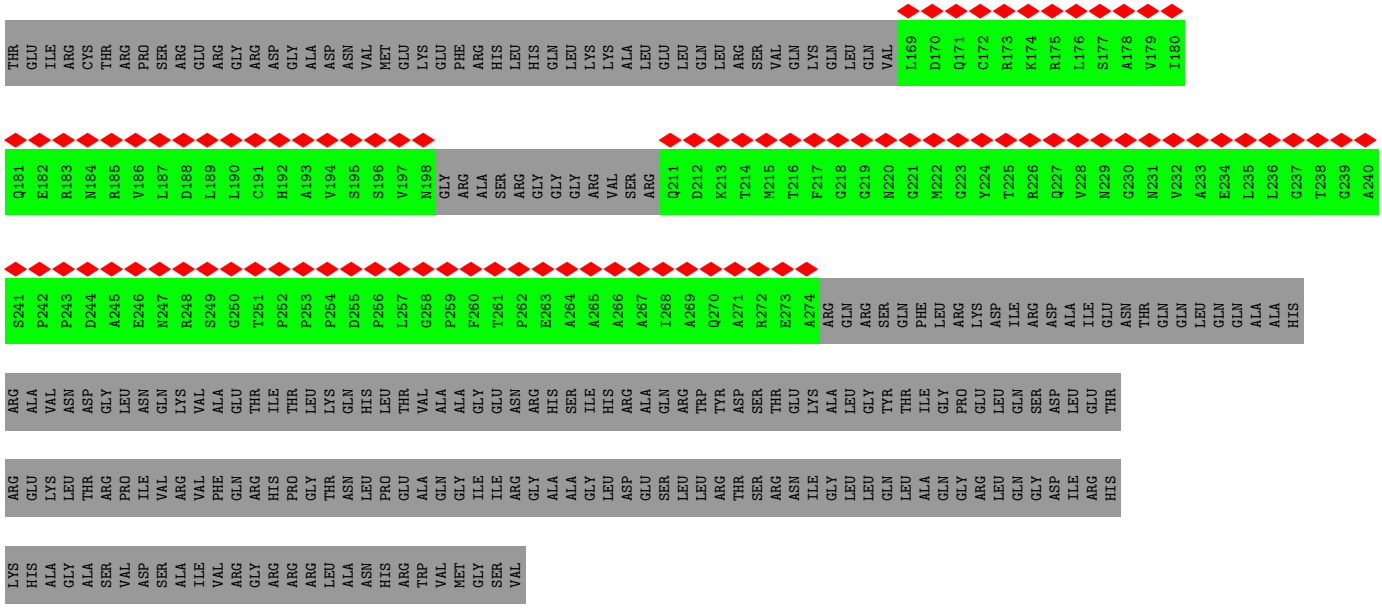
Chain 1E:





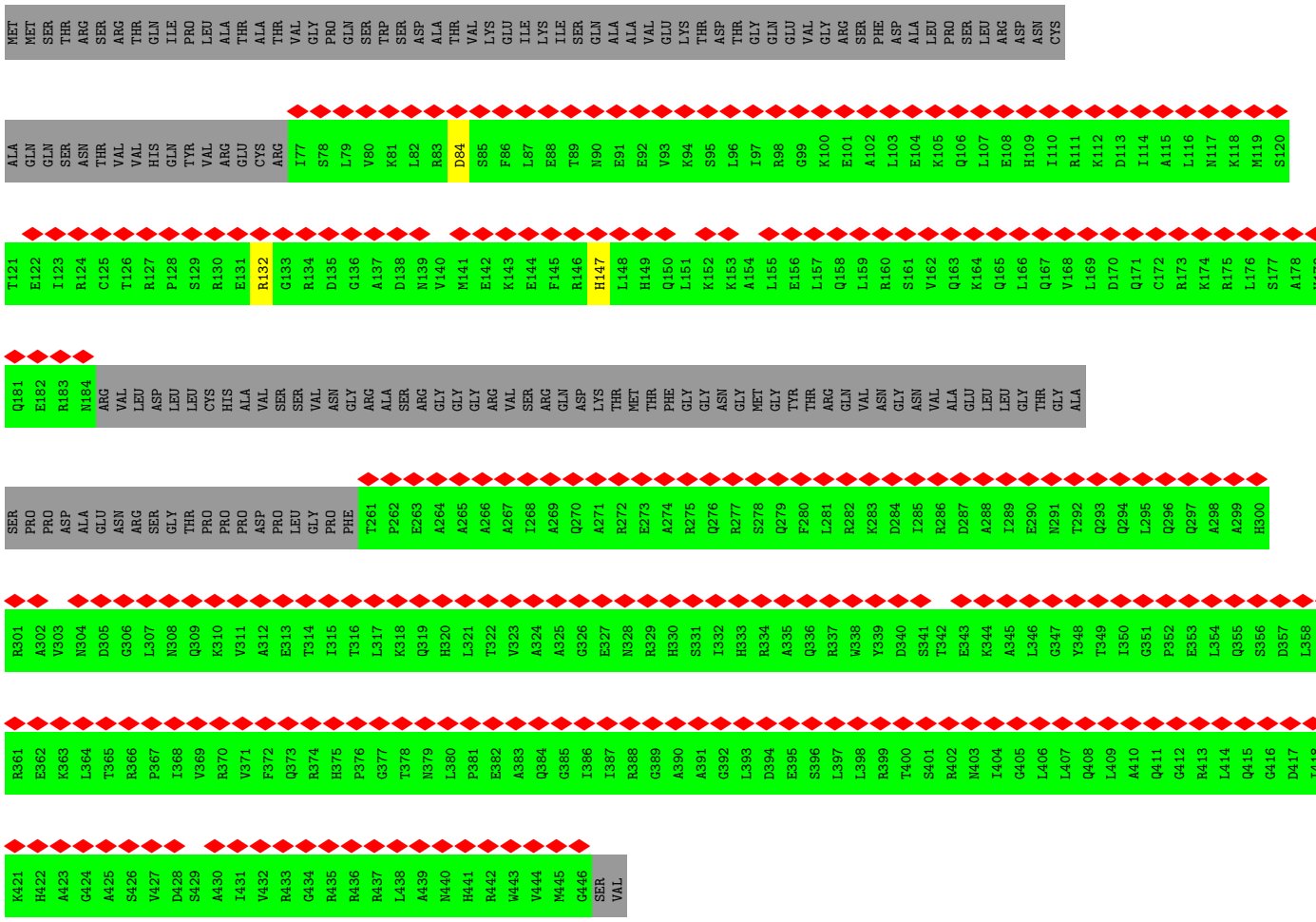
• Molecule 2: Coiled-coil domain-containing protein 105

Chain 1F:



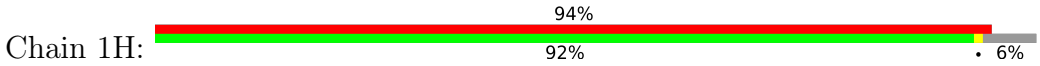
• Molecule 2: Coiled-coil domain-containing protein 105

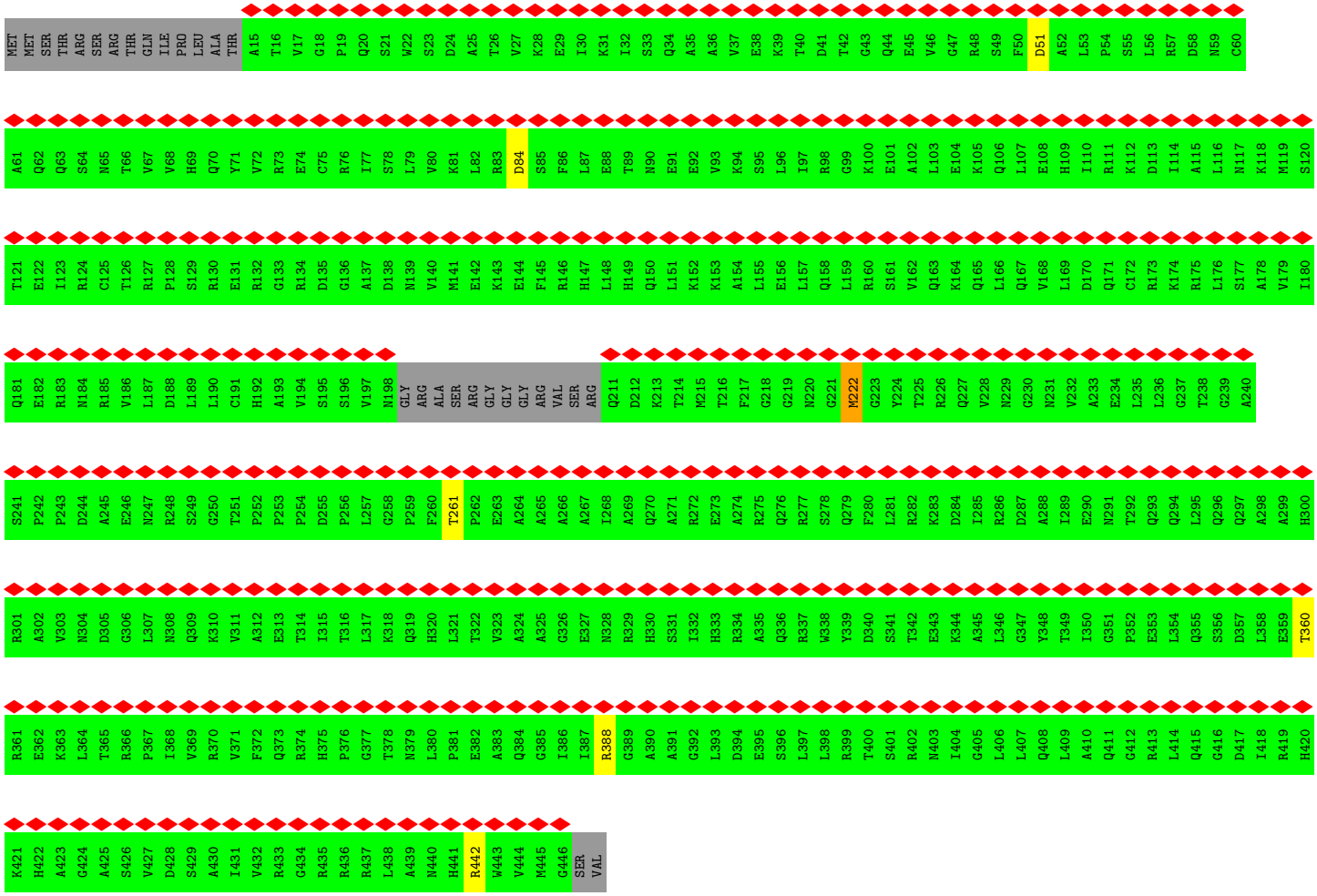
Chain 1G:



• Molecule 2: Coiled-coil domain-containing protein 105

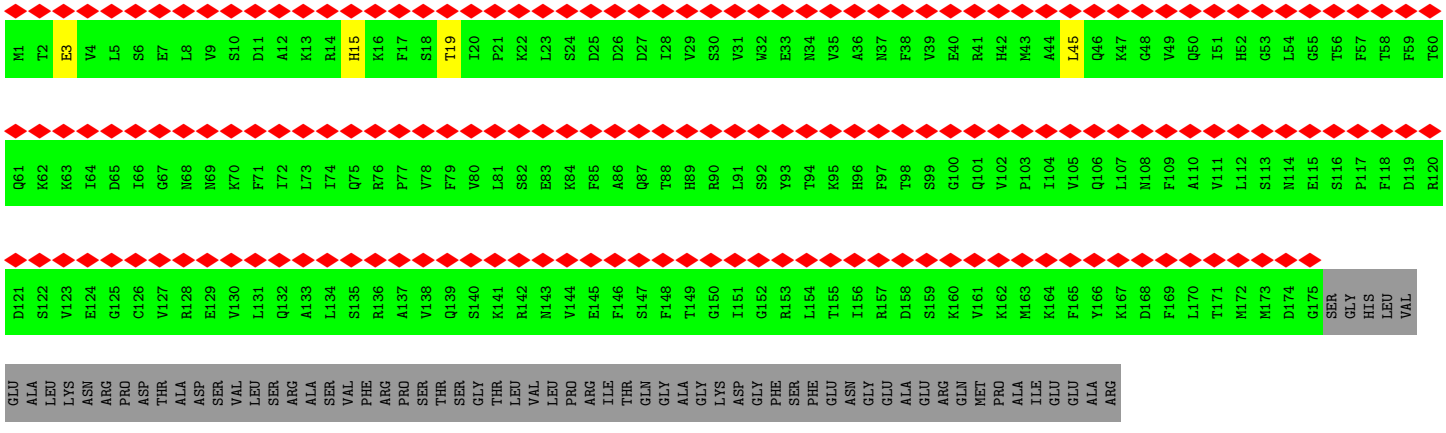
Chain 1H:

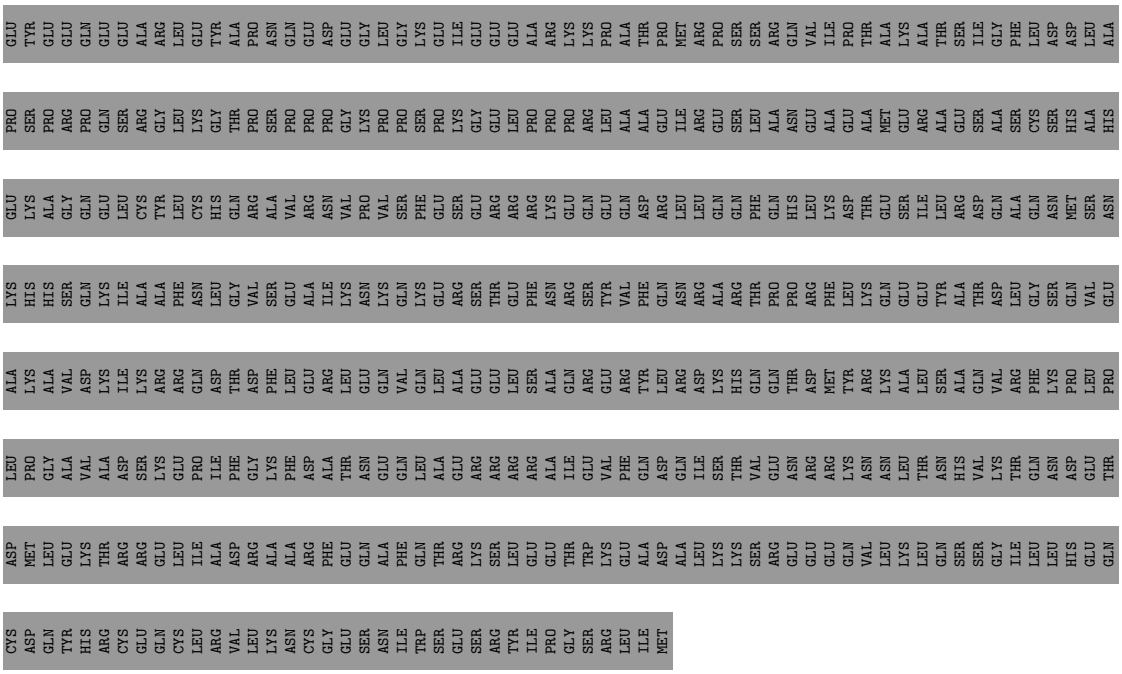




• Molecule 3: Coiled-coil domain-containing protein 81

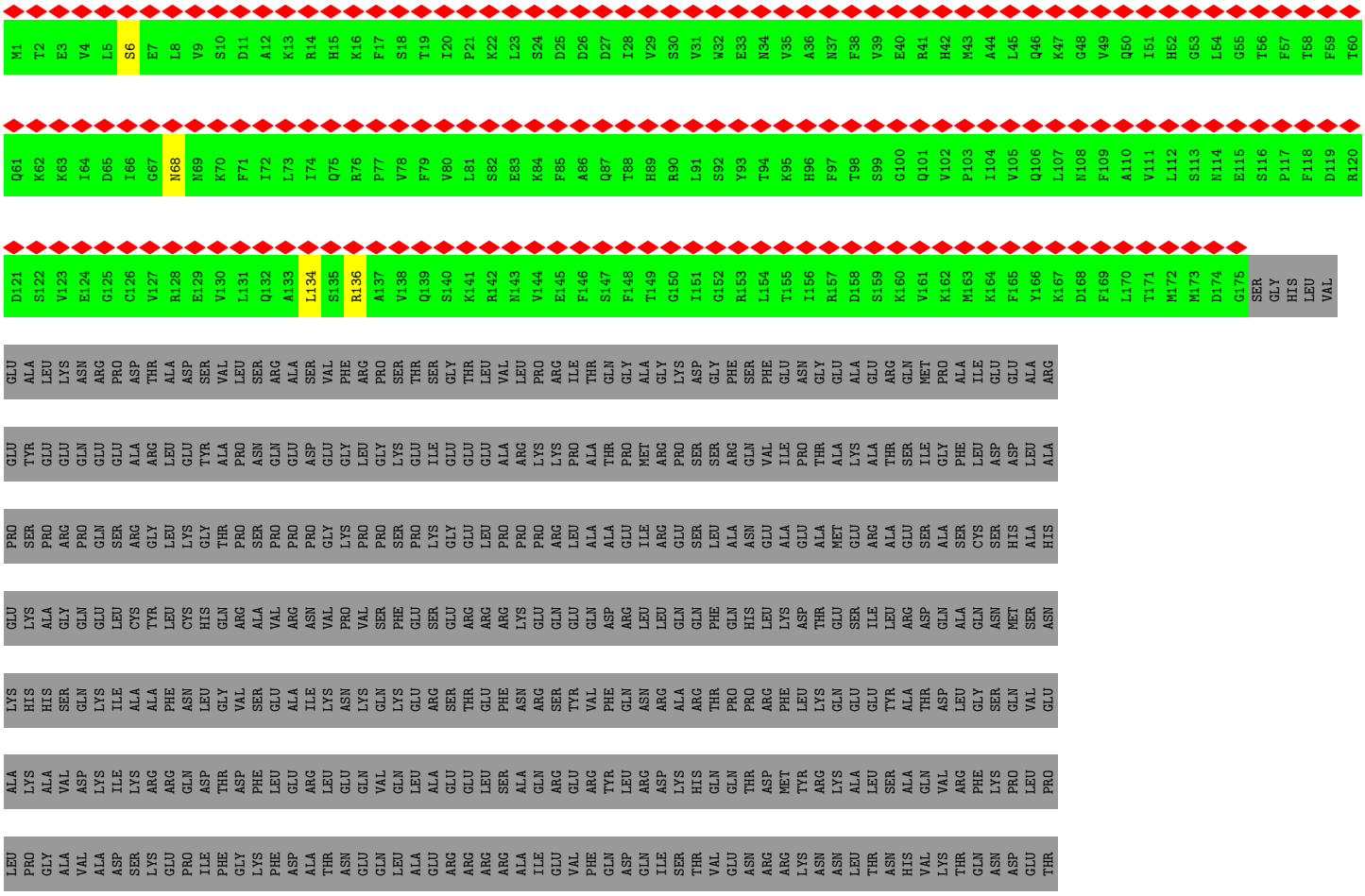
Chain 1K:

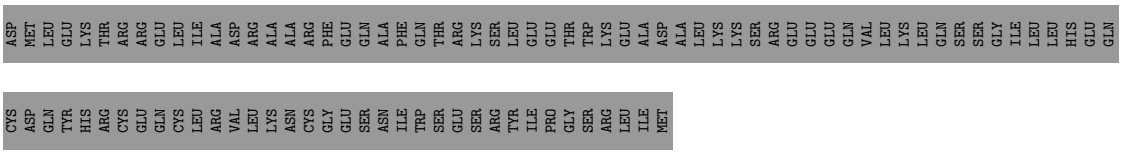




• Molecule 3: Coiled-coil domain-containing protein 81

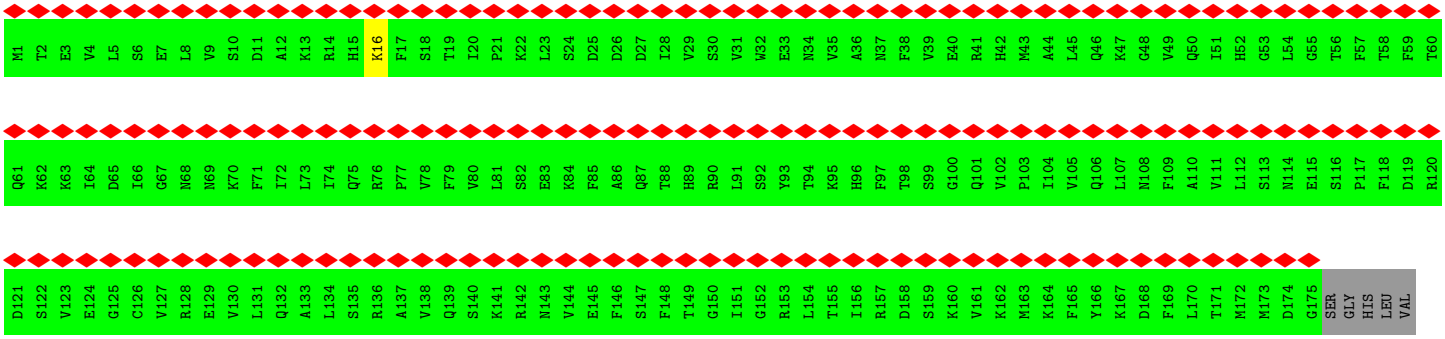
Chain 1L:

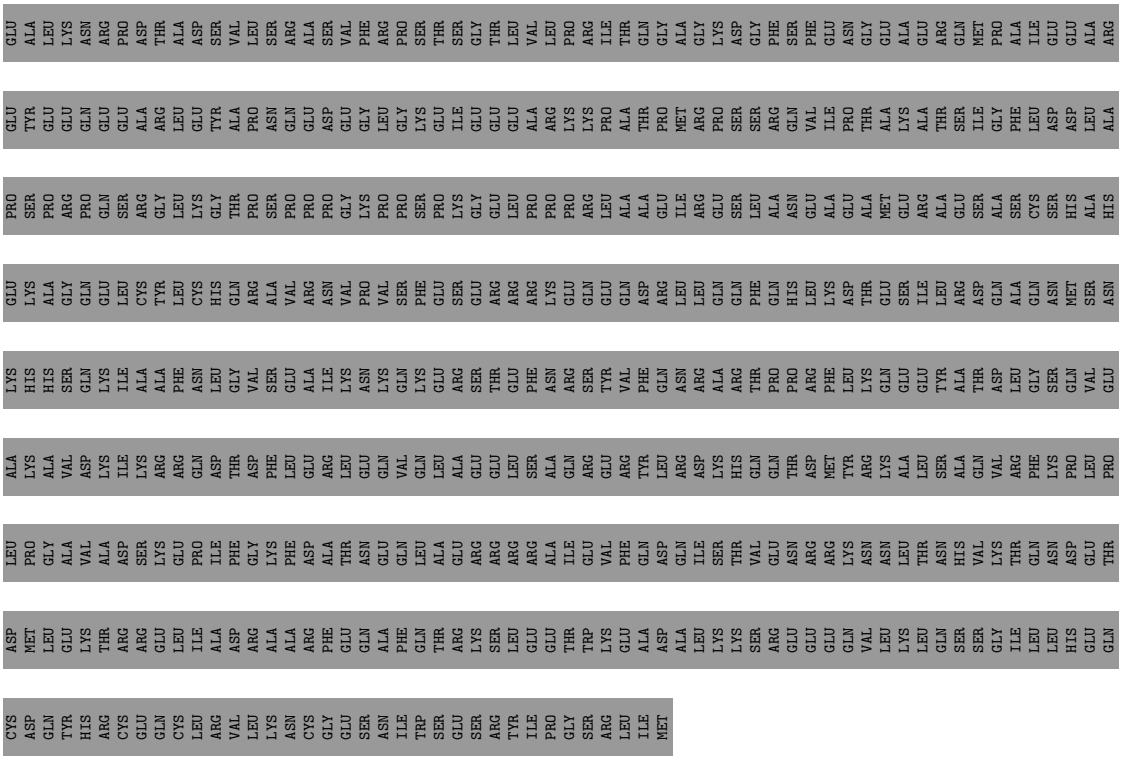




• Molecule 3: Coiled-coil domain-containing protein 81

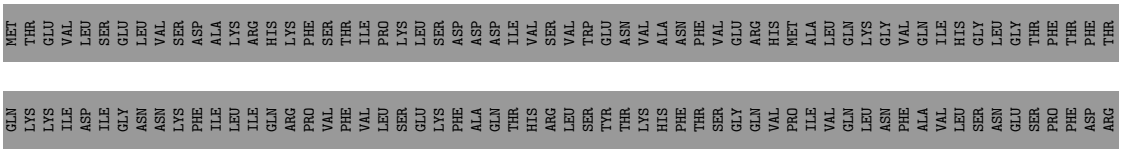
Chain 1M:

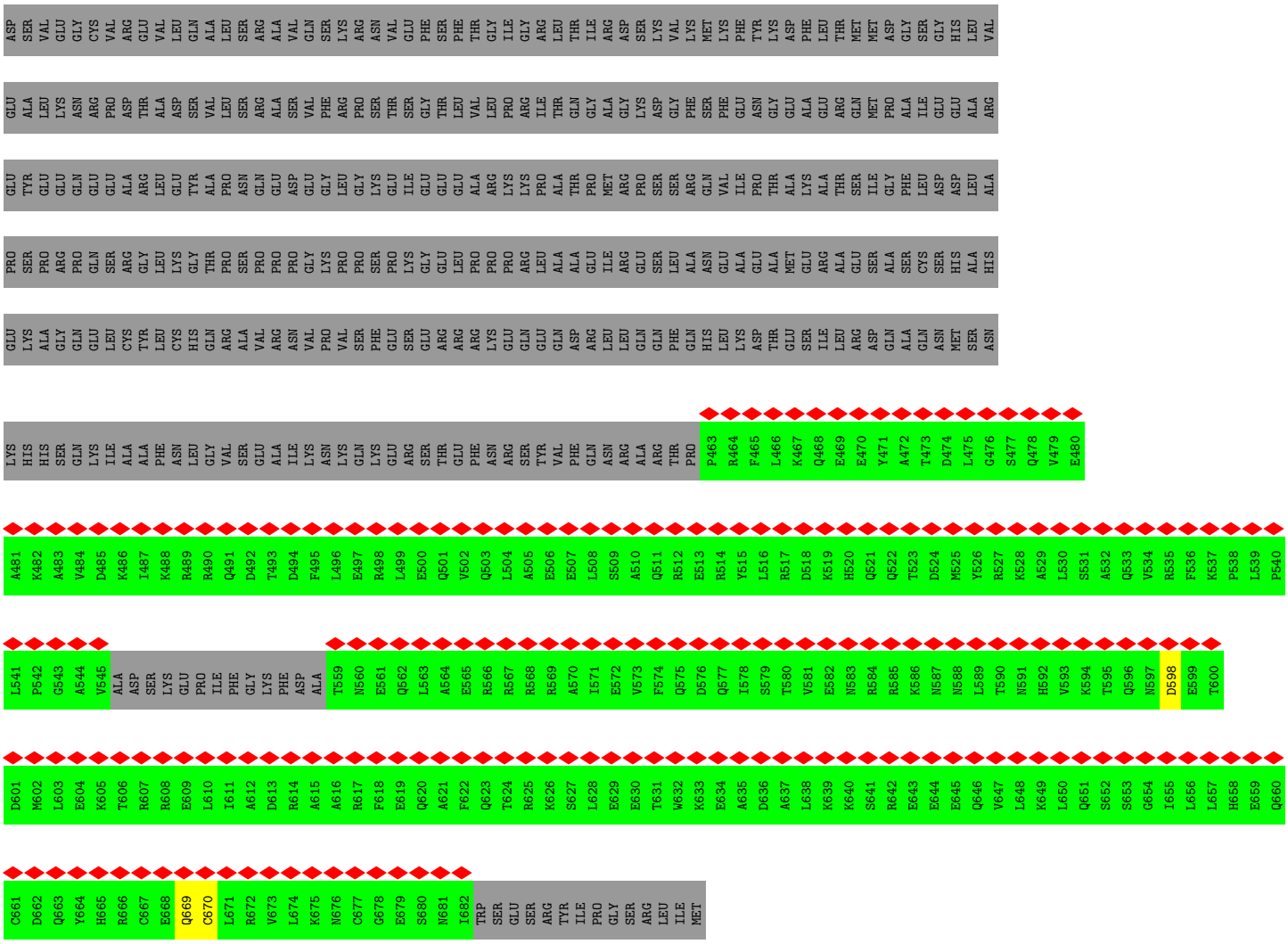




• Molecule 3: Coiled-coil domain-containing protein 81

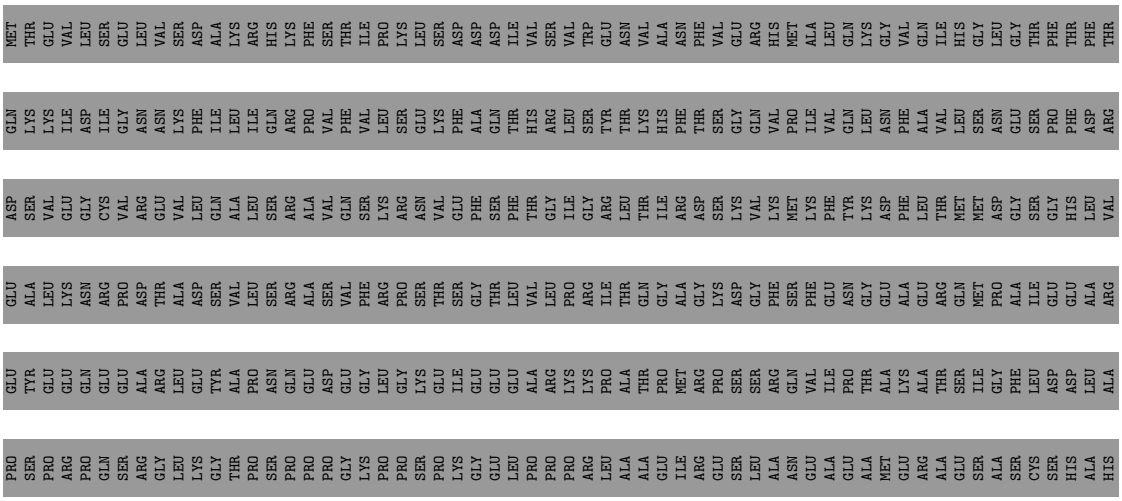
Chain 1v:

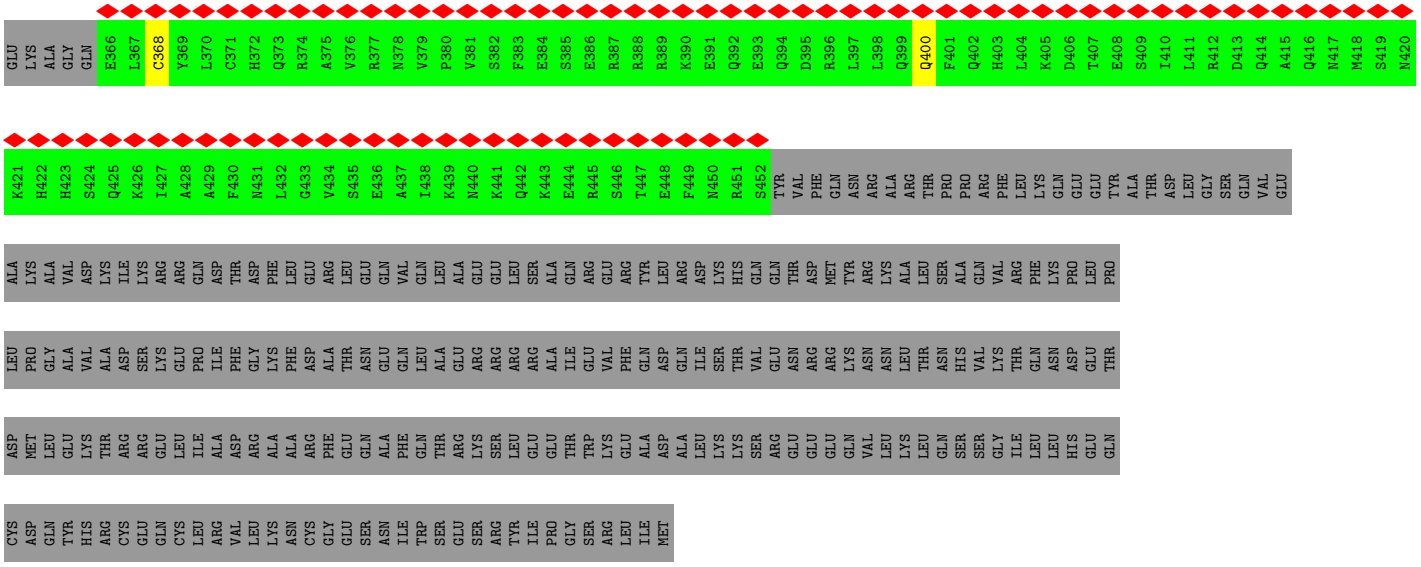




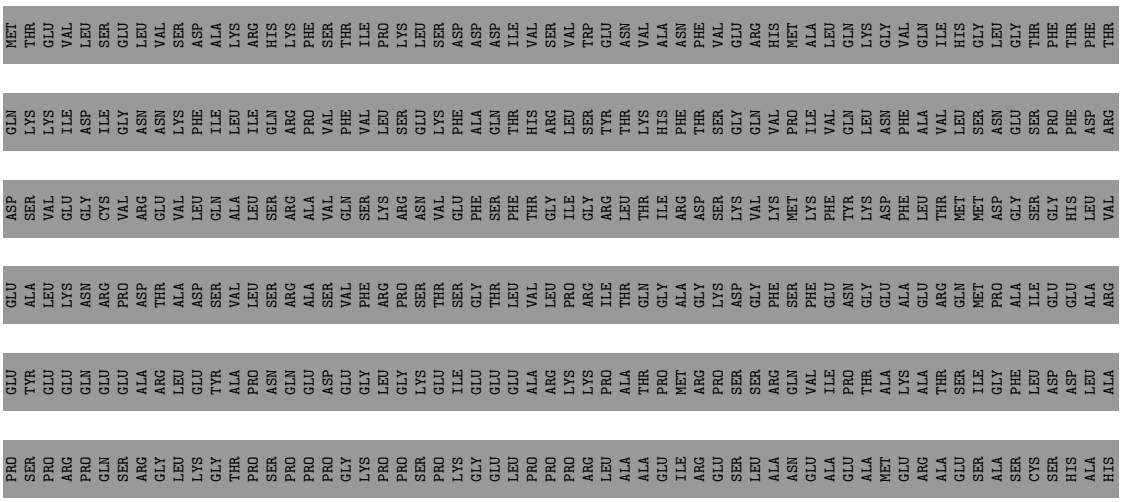
• Molecule 3: Coiled-coil domain-containing protein 81

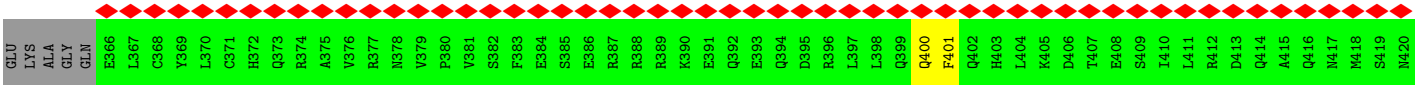
Chain 1w:

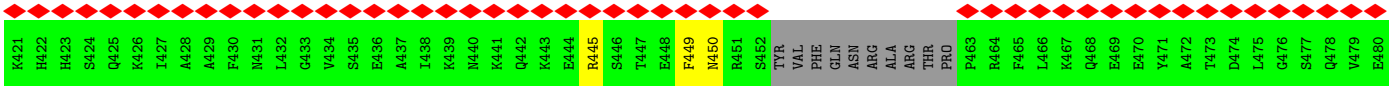


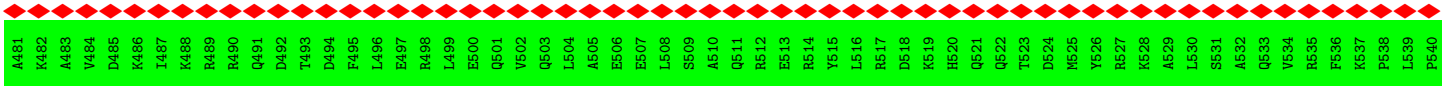


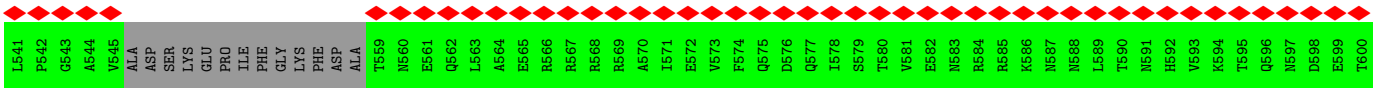
• Molecule 3: Coiled-coil domain-containing protein 81

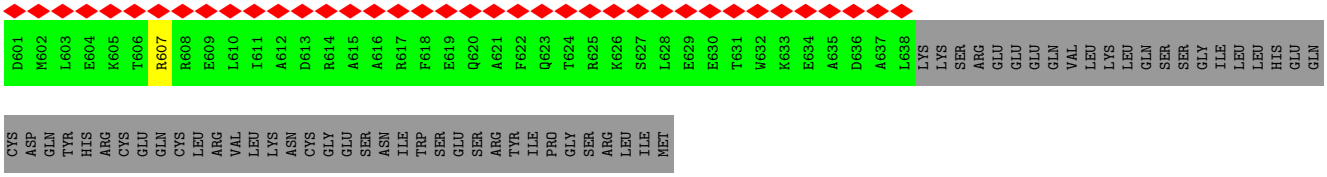






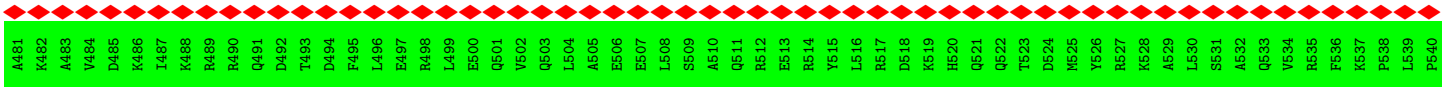


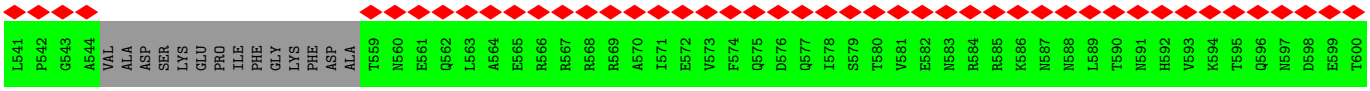


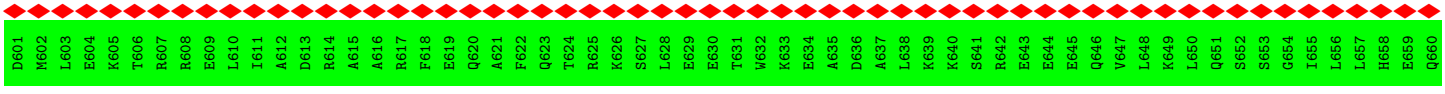


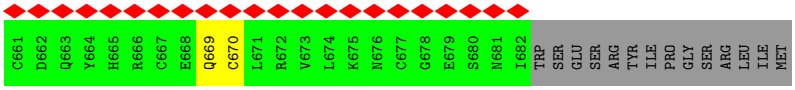
• Molecule 3: Coiled-coil domain-containing protein 81

Chain 1y:



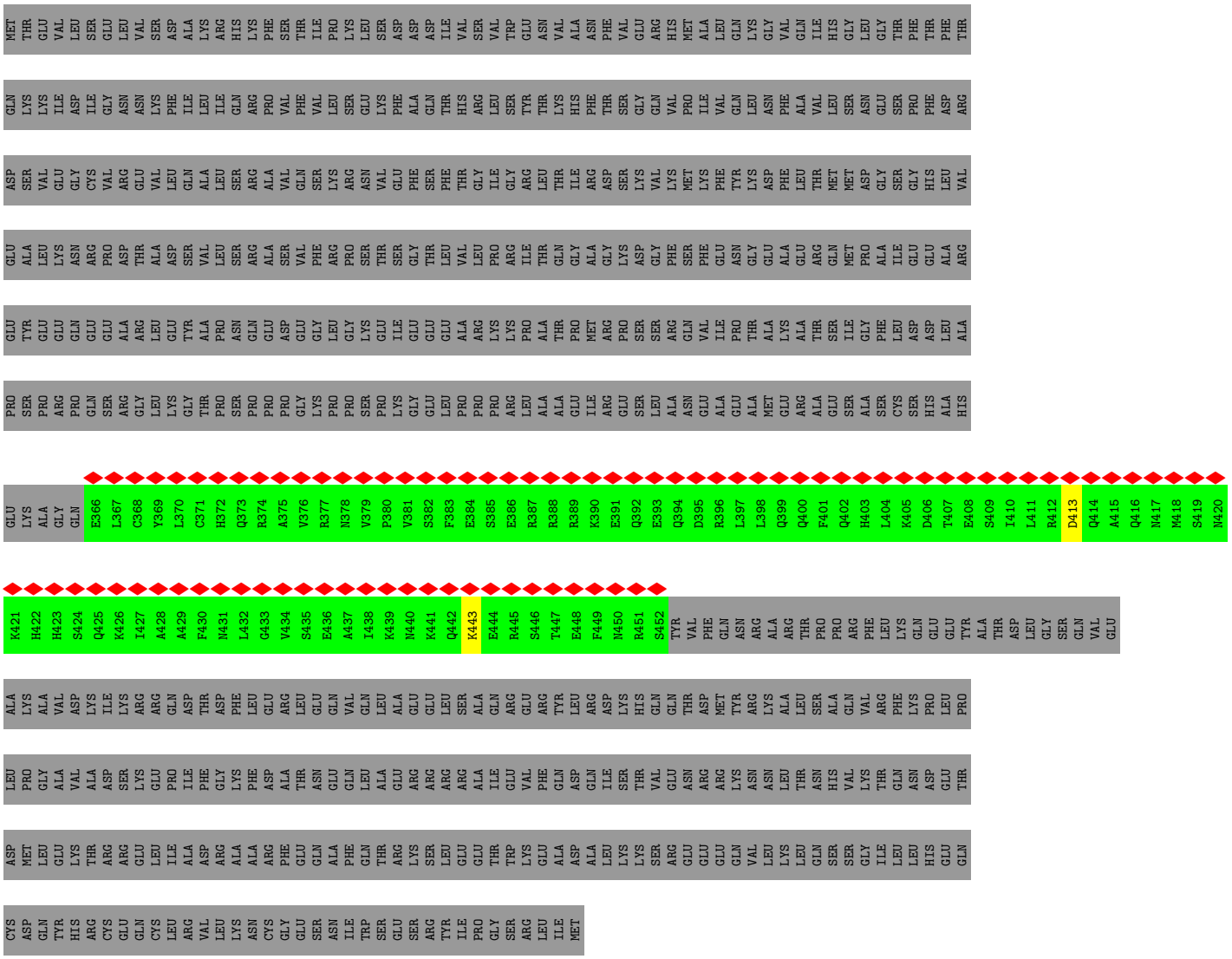






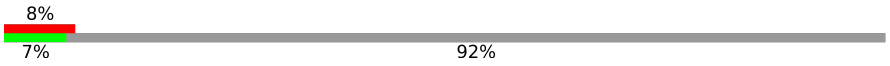
• Molecule 3: Coiled-coil domain-containing protein 81

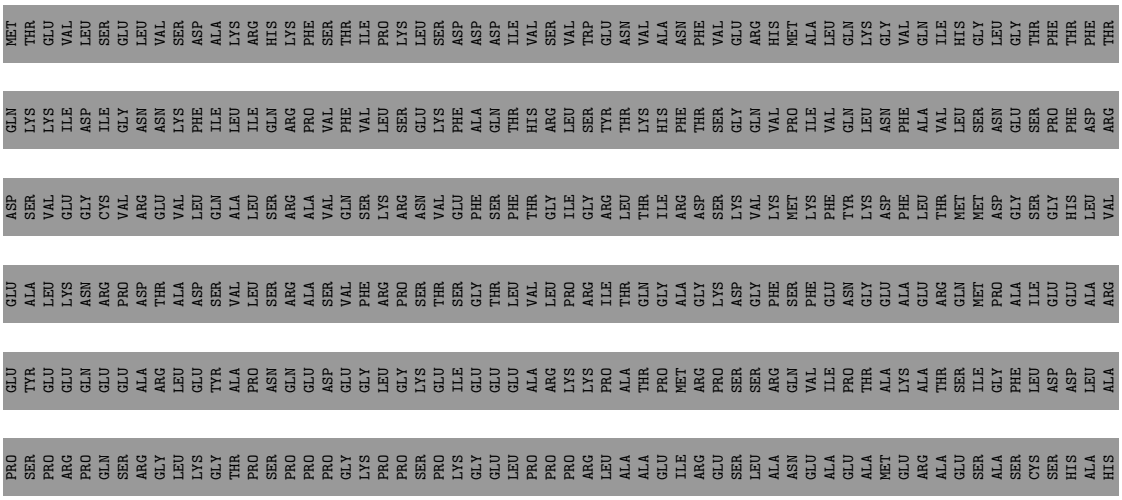
Chain 1z:

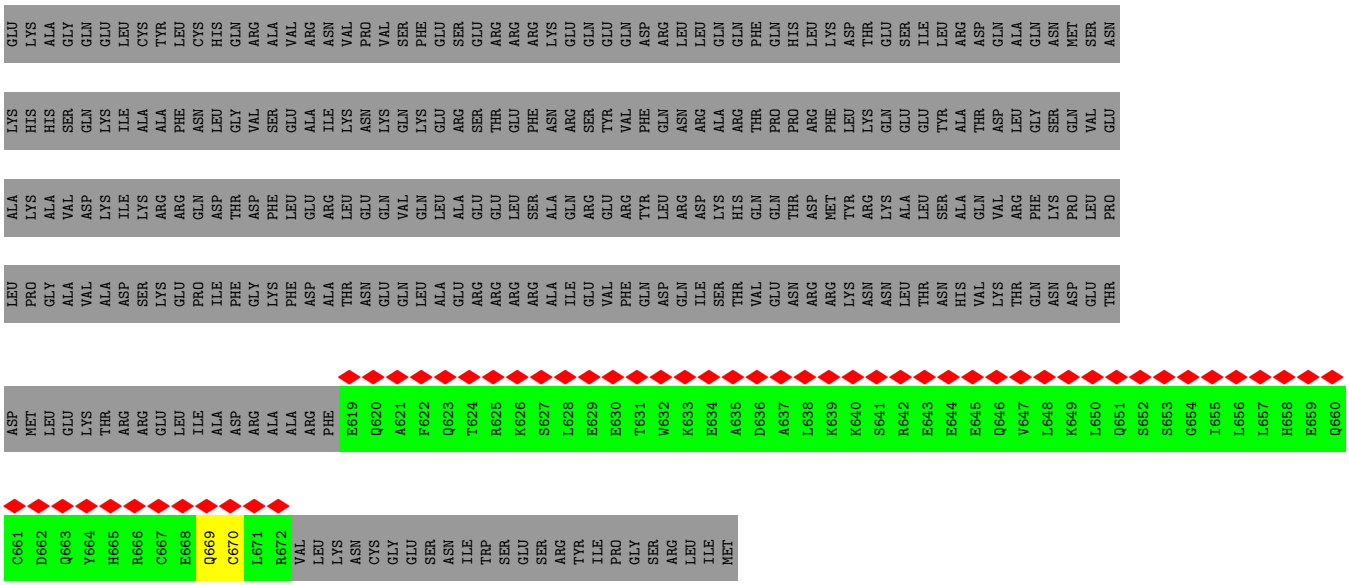


• Molecule 3: Coiled-coil domain-containing protein 81

Chain 2a:

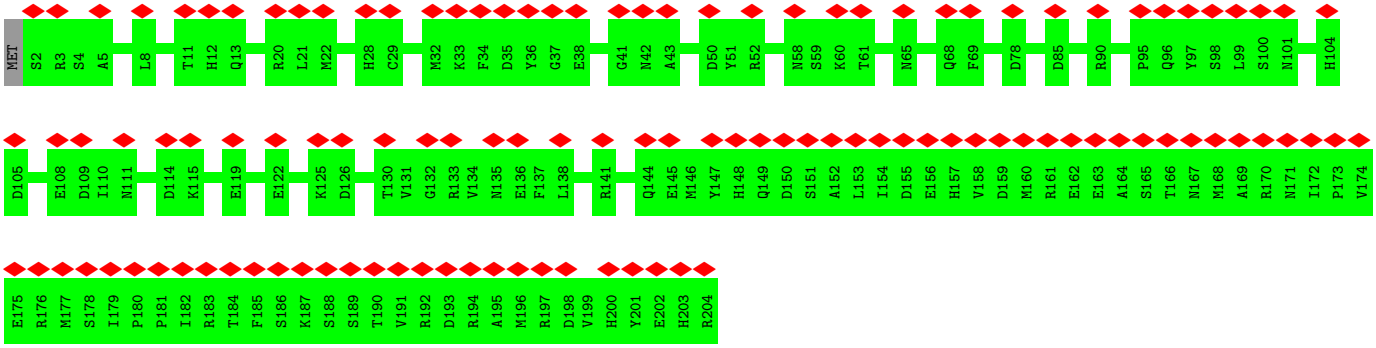






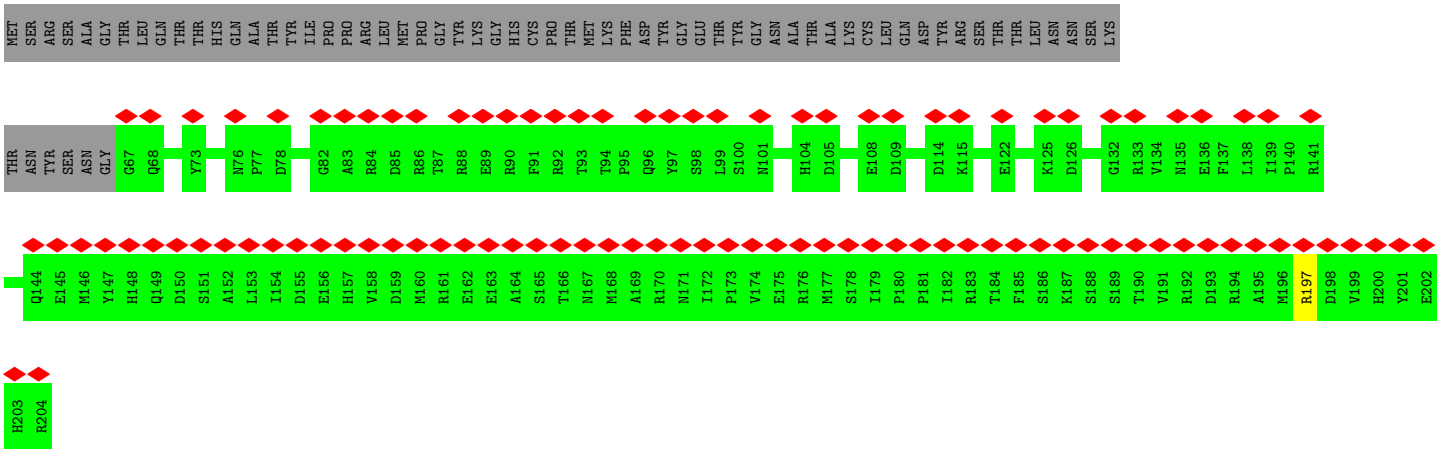
• Molecule 4: FAM166C

Chain 1P:



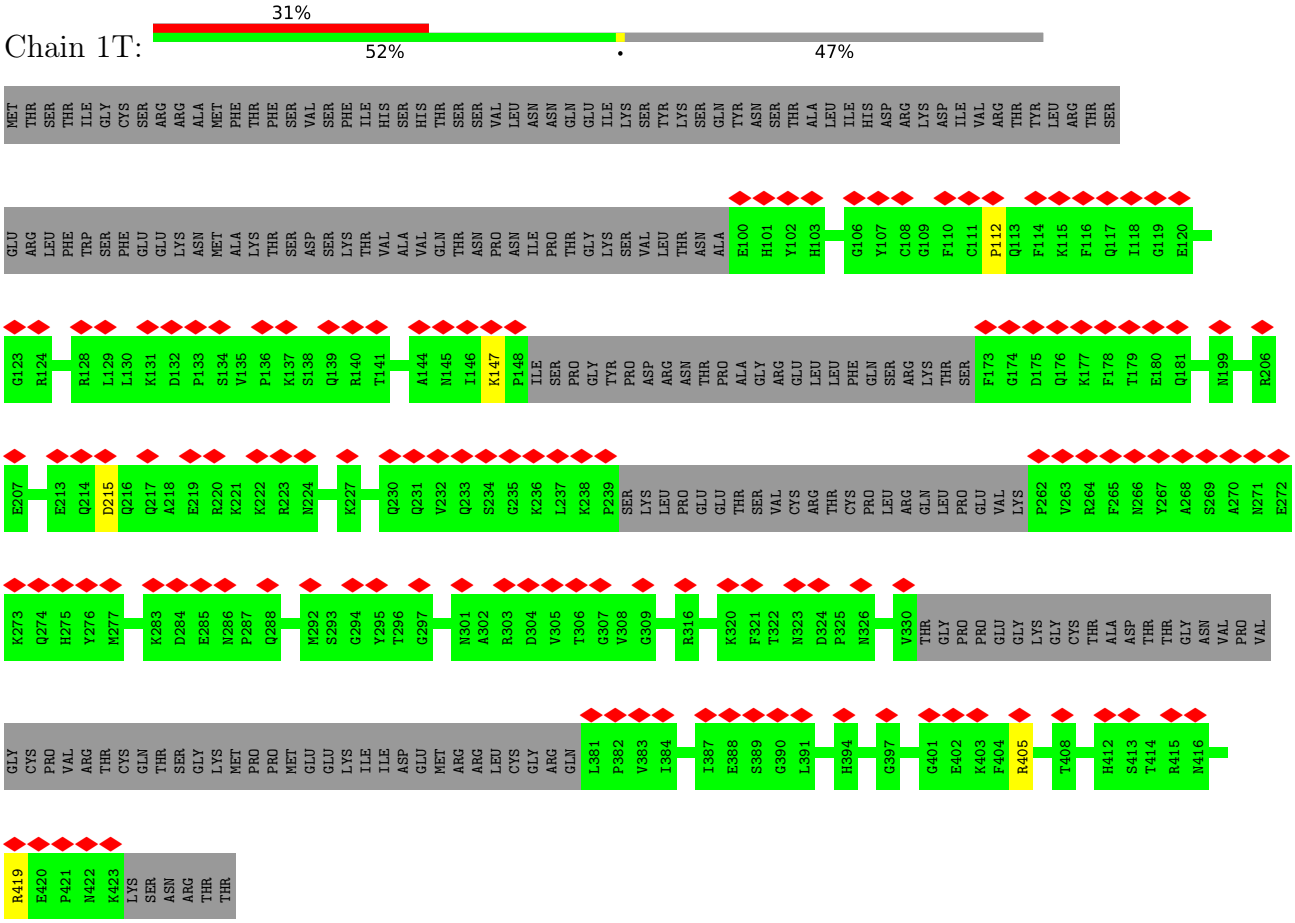
• Molecule 4: FAM166C

Chain 1Q:



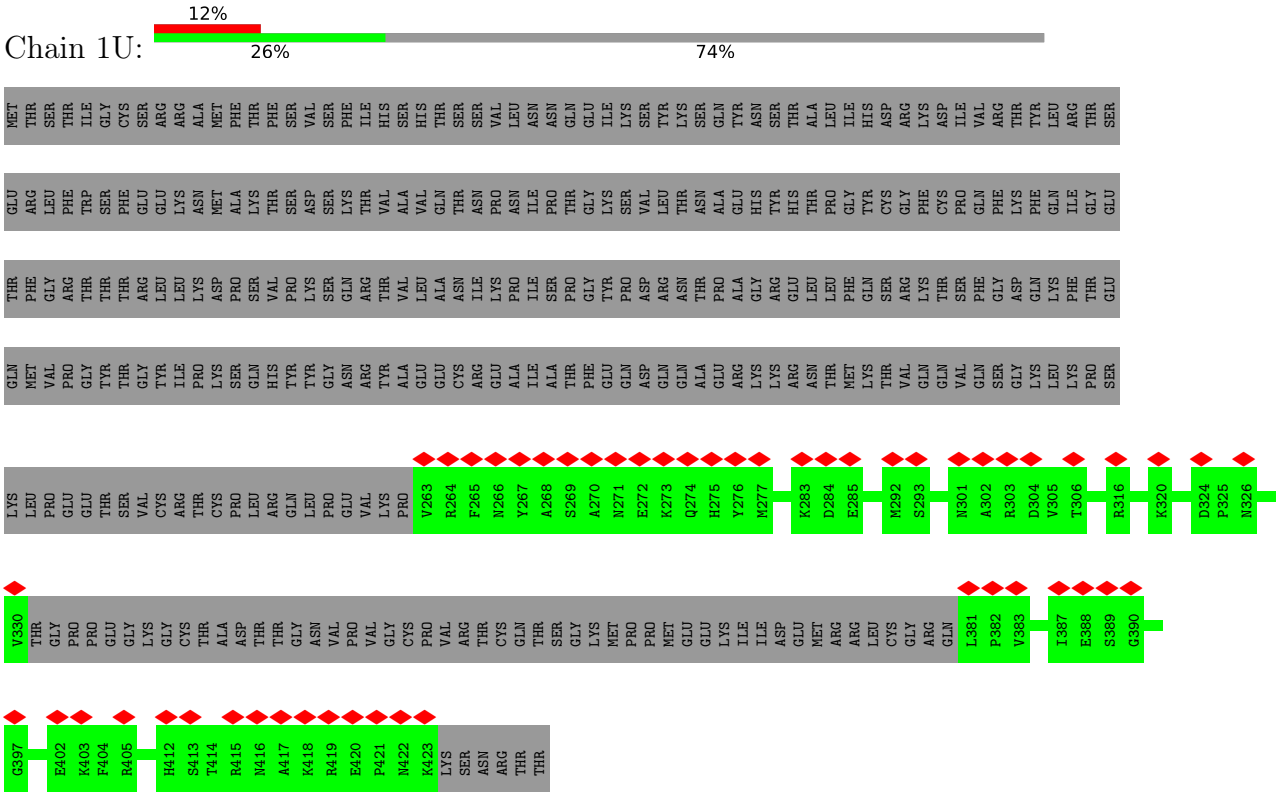
• Molecule 5: Protein FAM166B

Chain 1T:



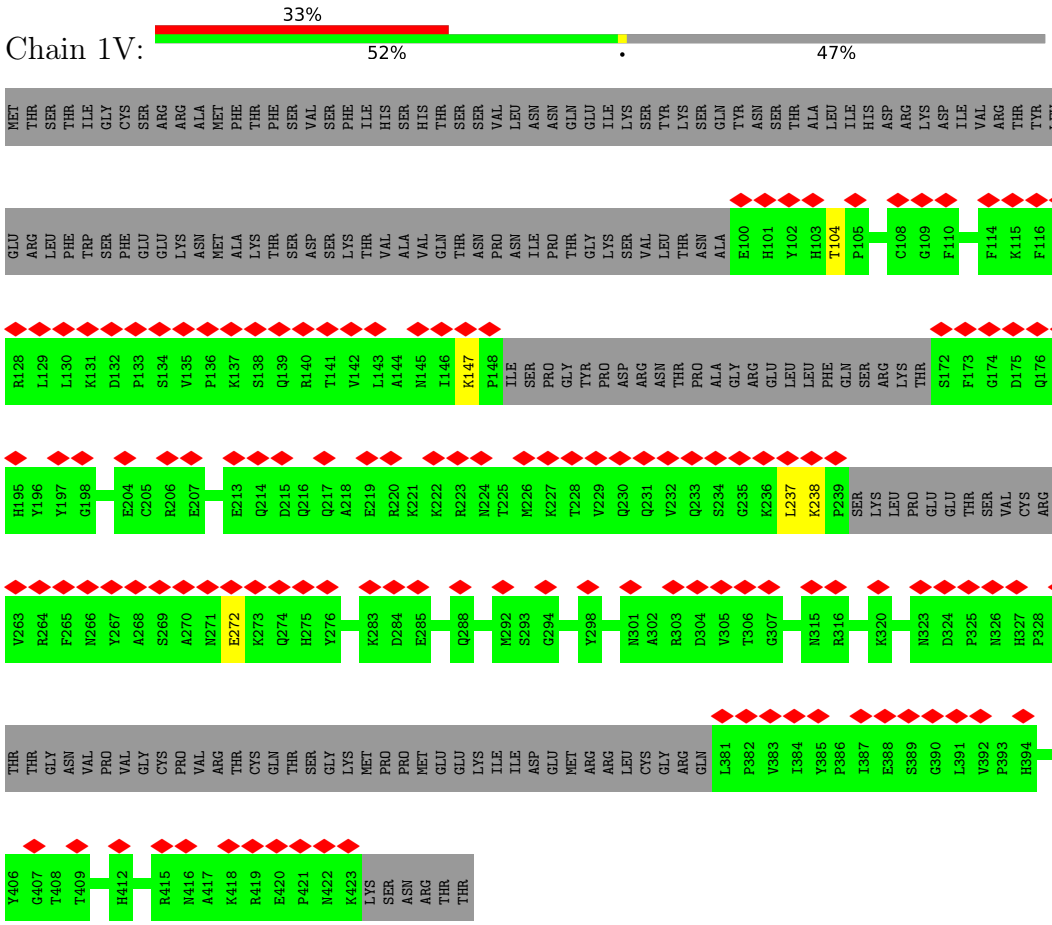
• Molecule 5: Protein FAM166B

Chain 1U:



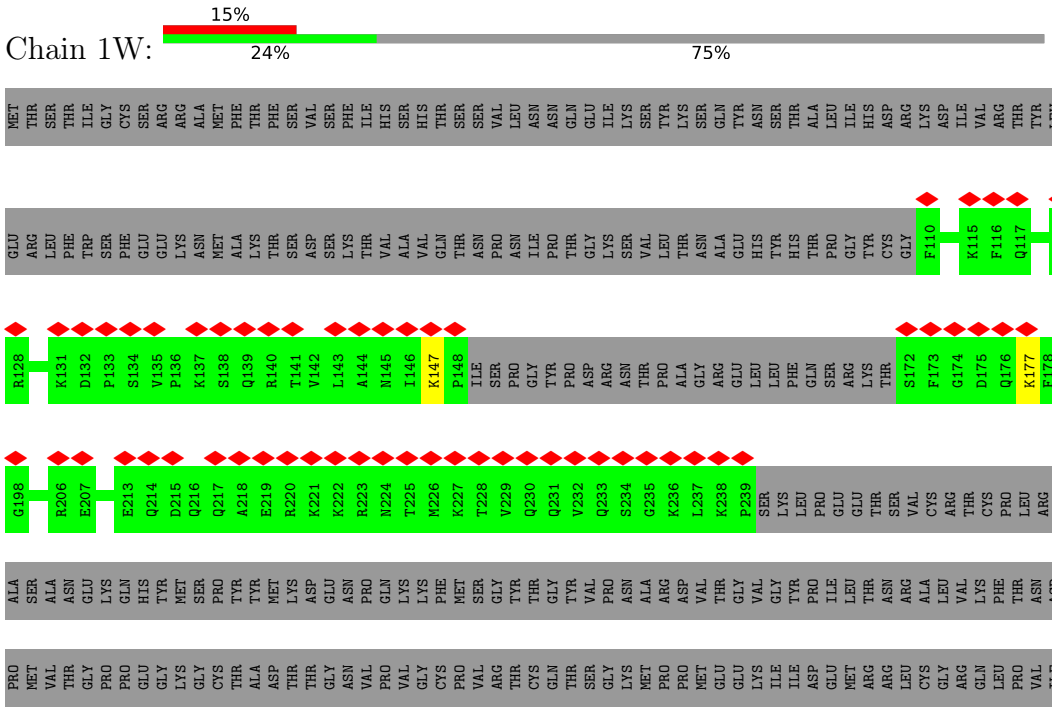
• Molecule 5: Protein FAM166B

Chain 1V:



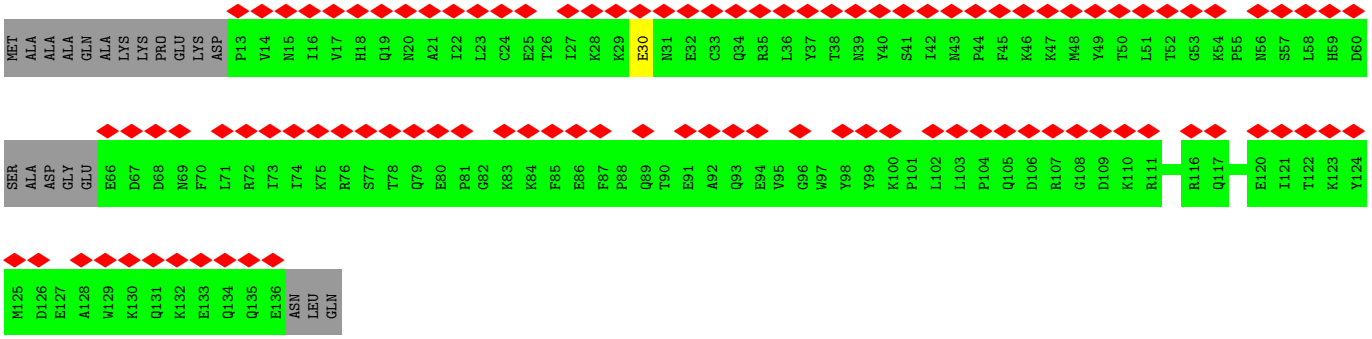
• Molecule 5: Protein FAM166B

Chain 1W:



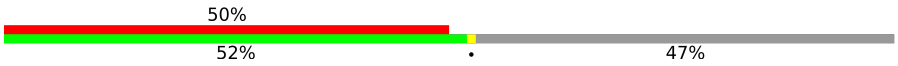
• Molecule 6: CFAP144(FAM183A)

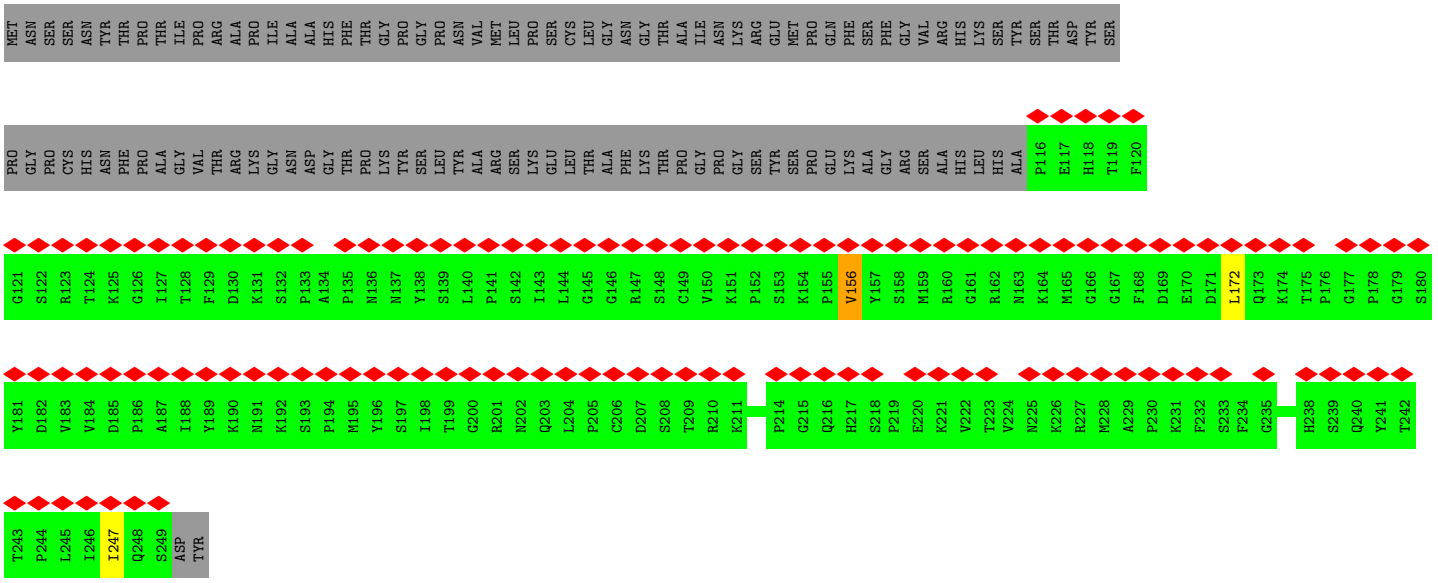
Chain 1Y:



• Molecule 7: Outer dense fiber protein 3

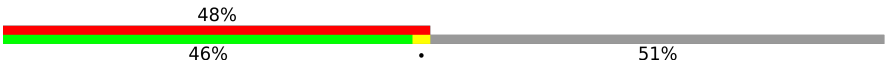
Chain 1a:

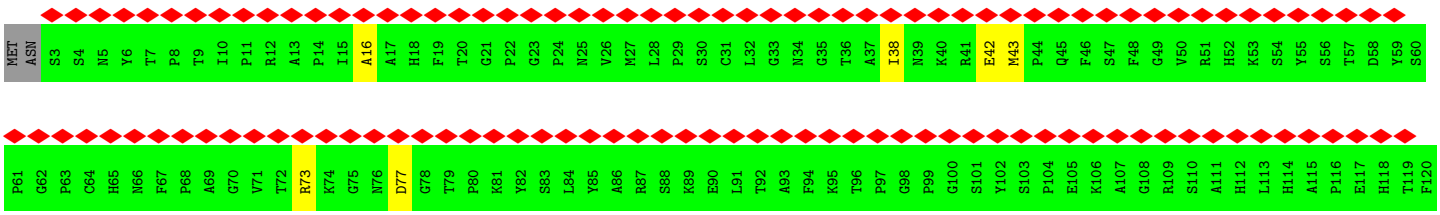


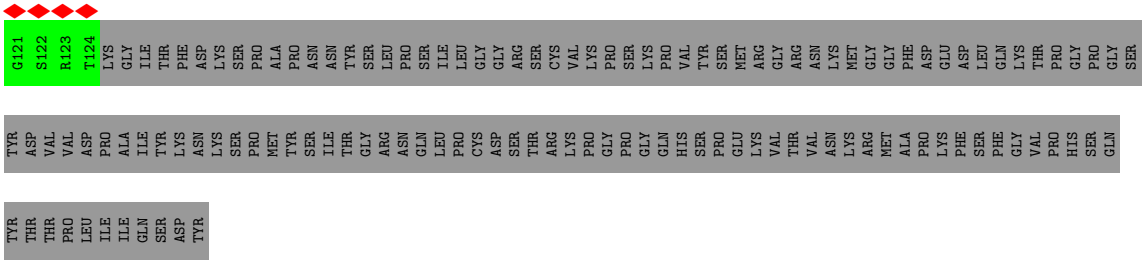


• Molecule 7: Outer dense fiber protein 3

Chain 1b:

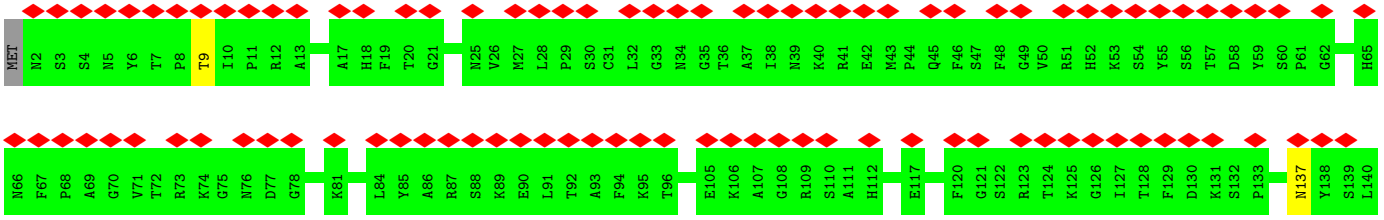






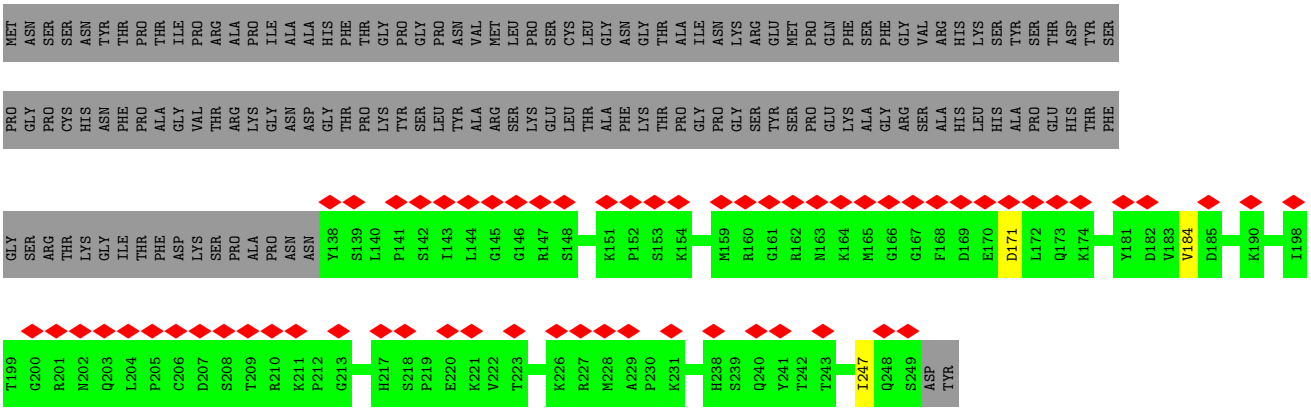
• Molecule 7: Outer dense fiber protein 3

Chain 5E:



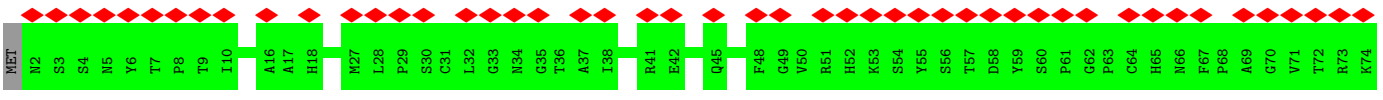
• Molecule 7: Outer dense fiber protein 3

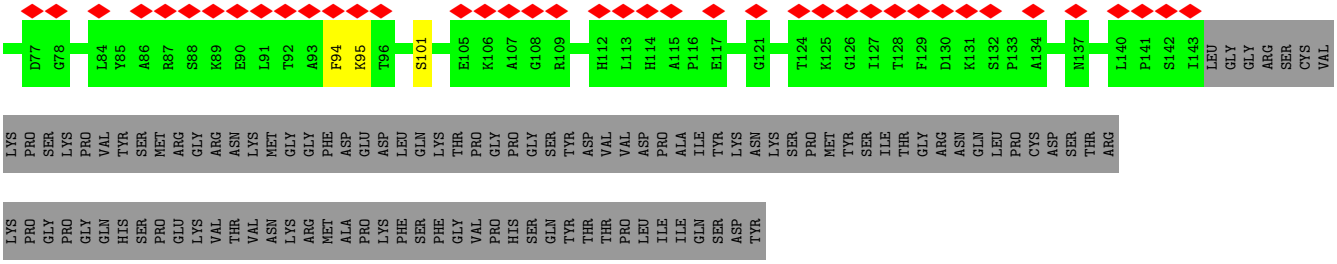
Chain 5F:



• Molecule 7: Outer dense fiber protein 3

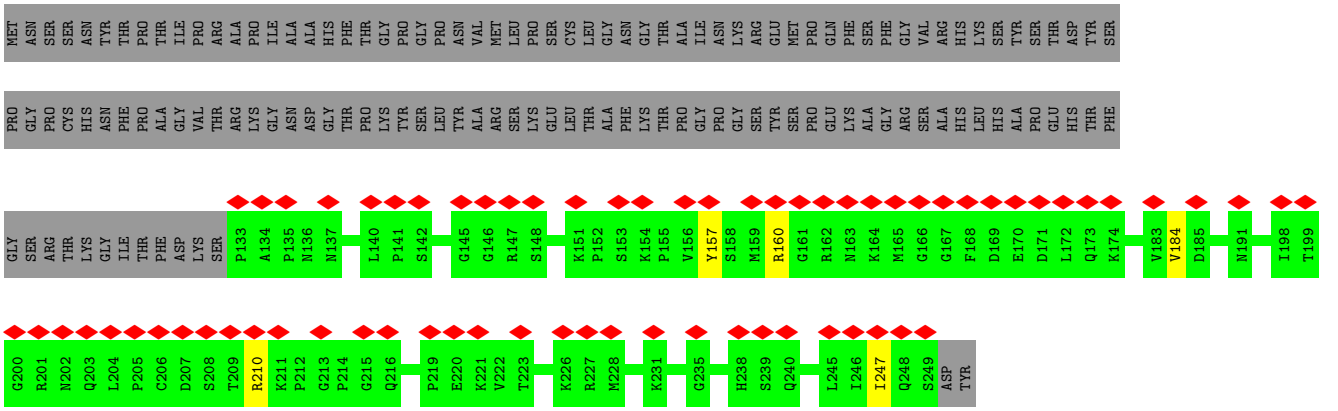
Chain 5G:





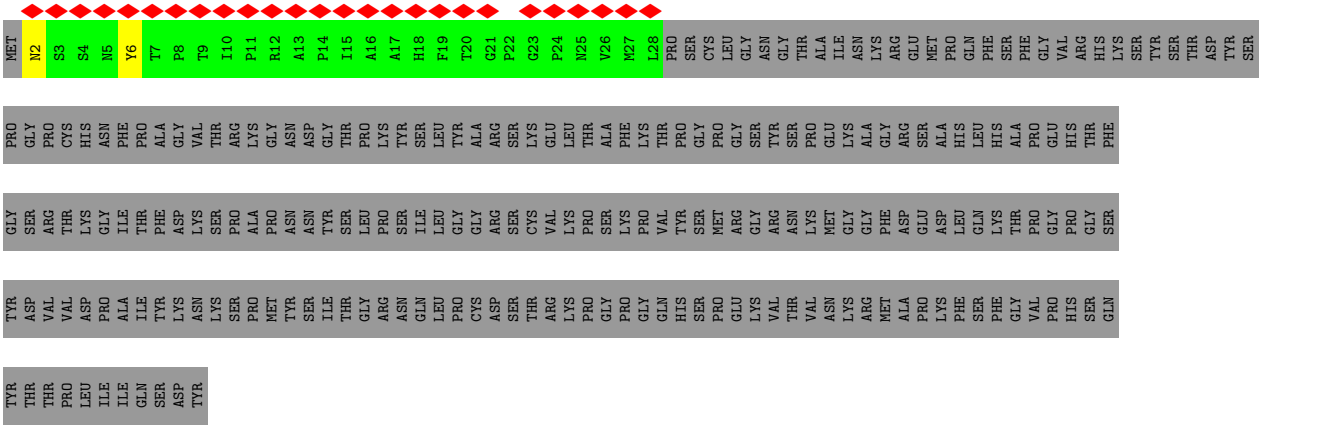
• Molecule 7: Outer dense fiber protein 3

Chain 5H:



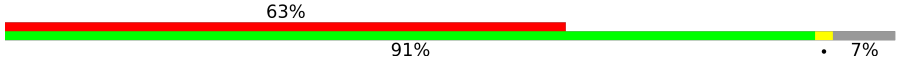
• Molecule 7: Outer dense fiber protein 3

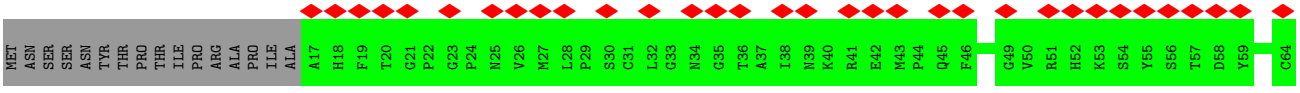
Chain 5I:

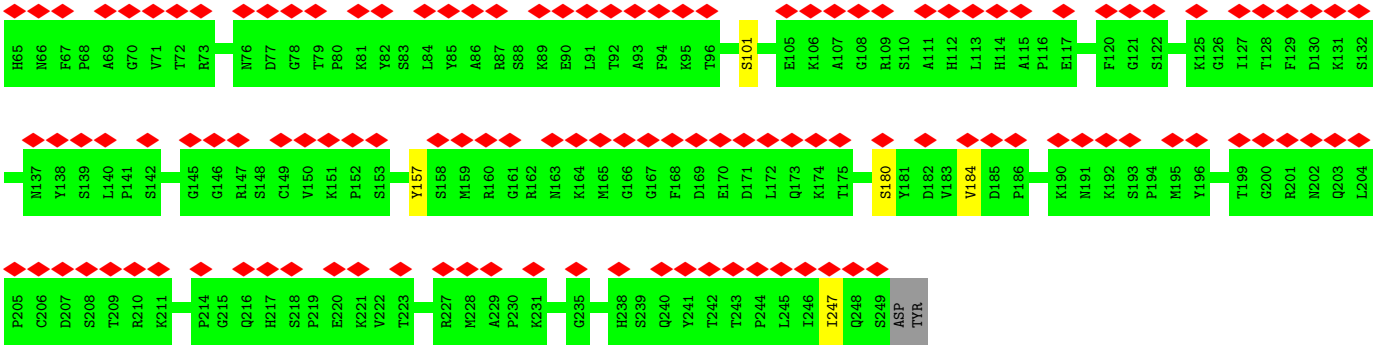


• Molecule 7: Outer dense fiber protein 3

Chain 5J:

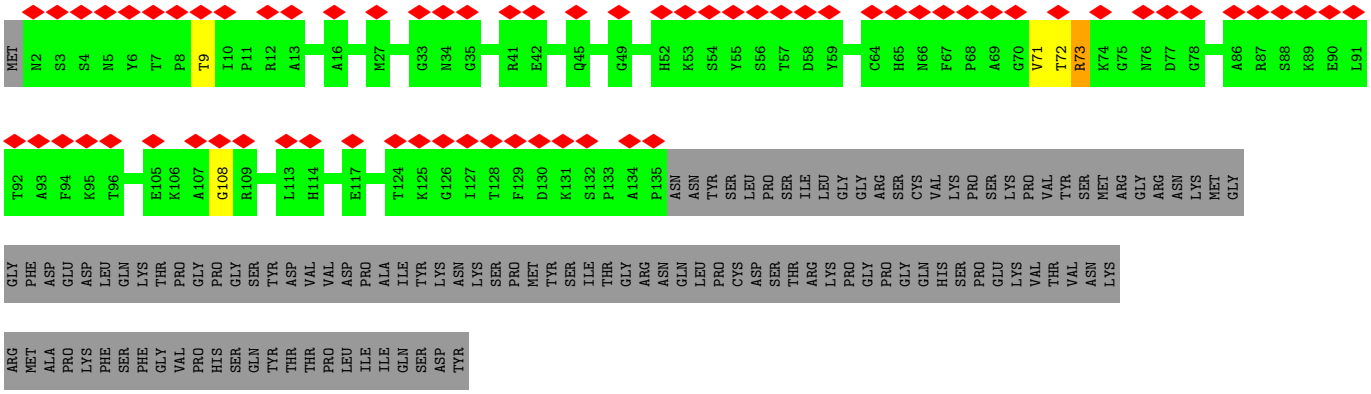






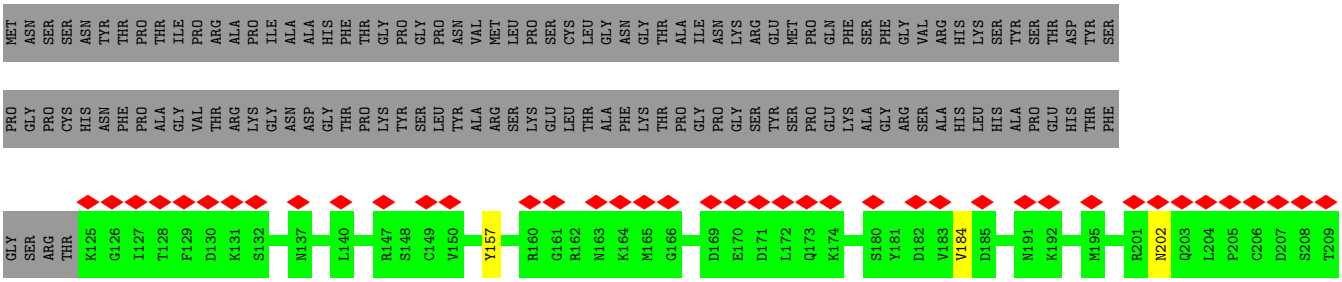
• Molecule 7: Outer dense fiber protein 3

Chain 5K:



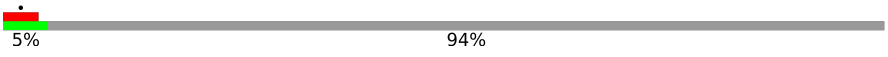
• Molecule 7: Outer dense fiber protein 3

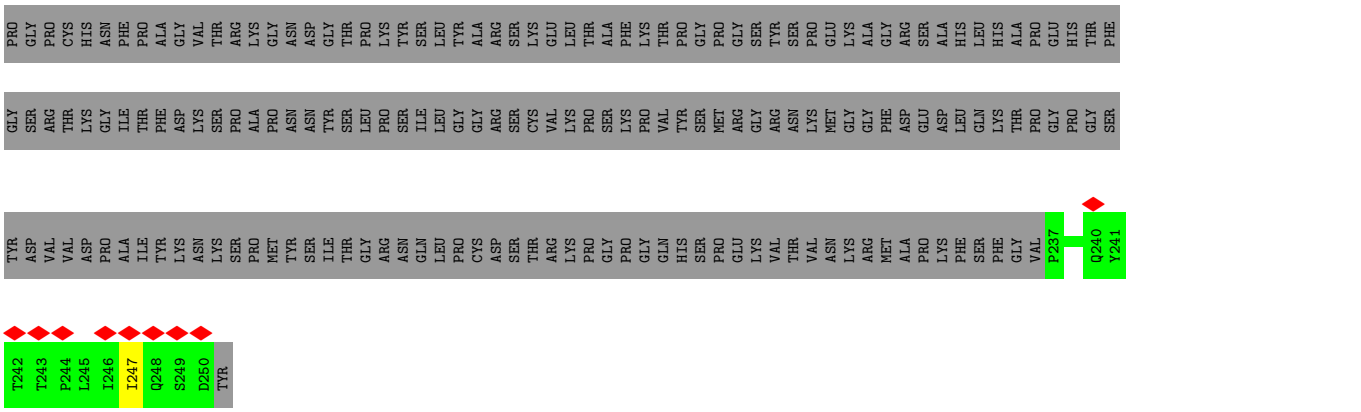
Chain 5L:



• Molecule 7: Outer dense fiber protein 3

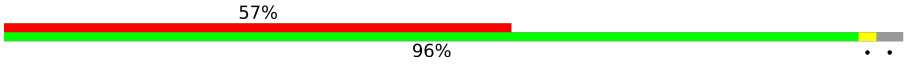
Chain 5M:

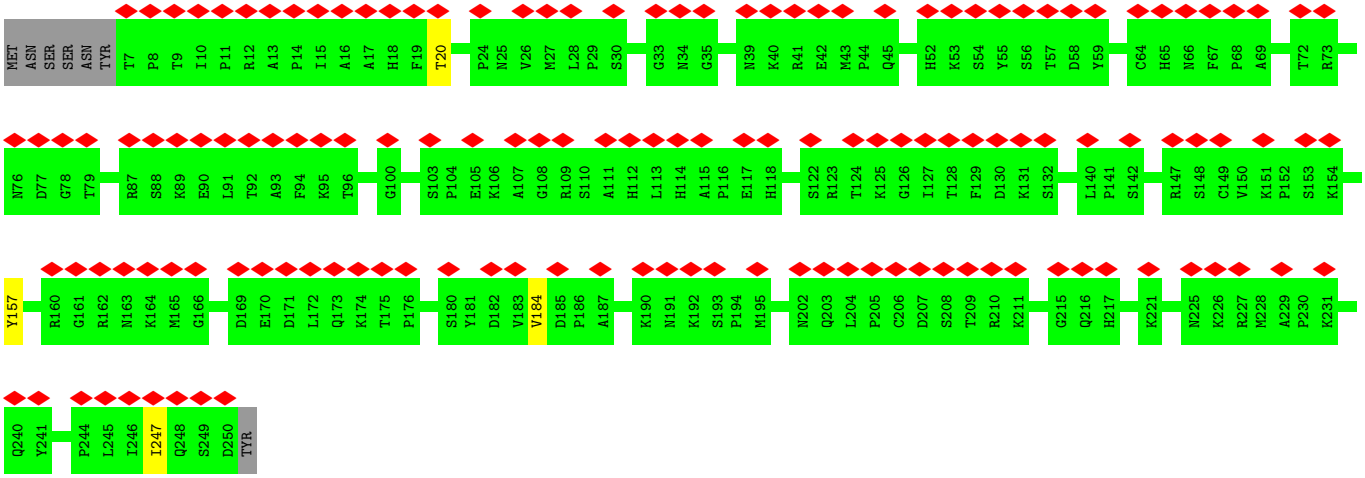




• Molecule 7: Outer dense fiber protein 3

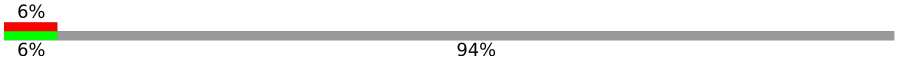
Chain 5N:

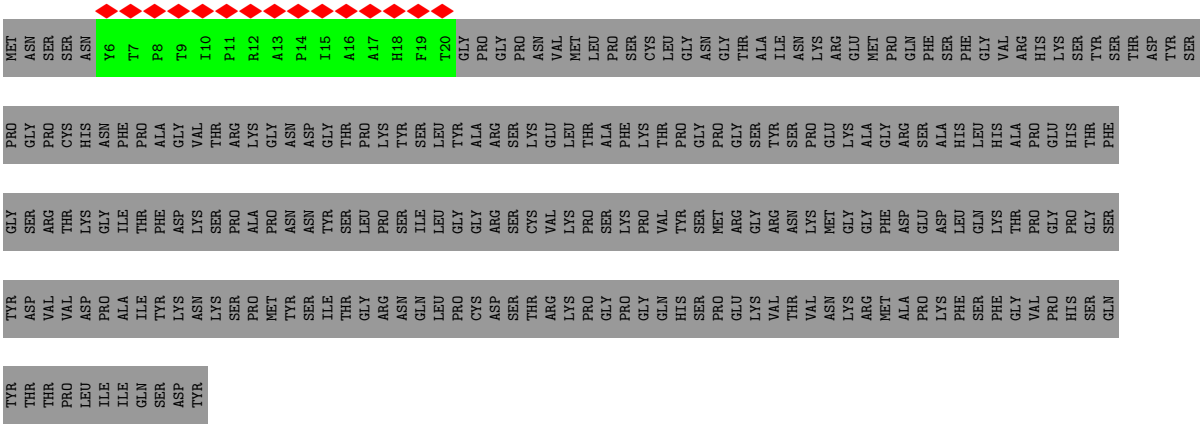




• Molecule 7: Outer dense fiber protein 3

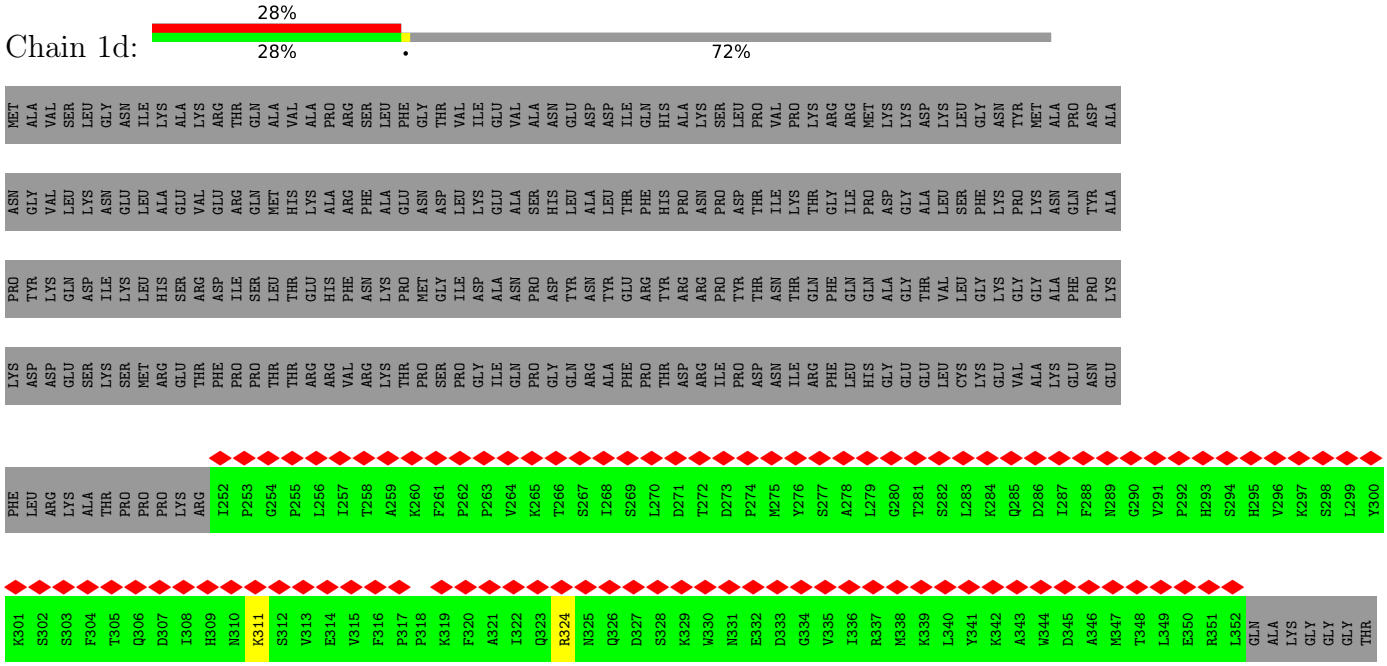
Chain 5O:





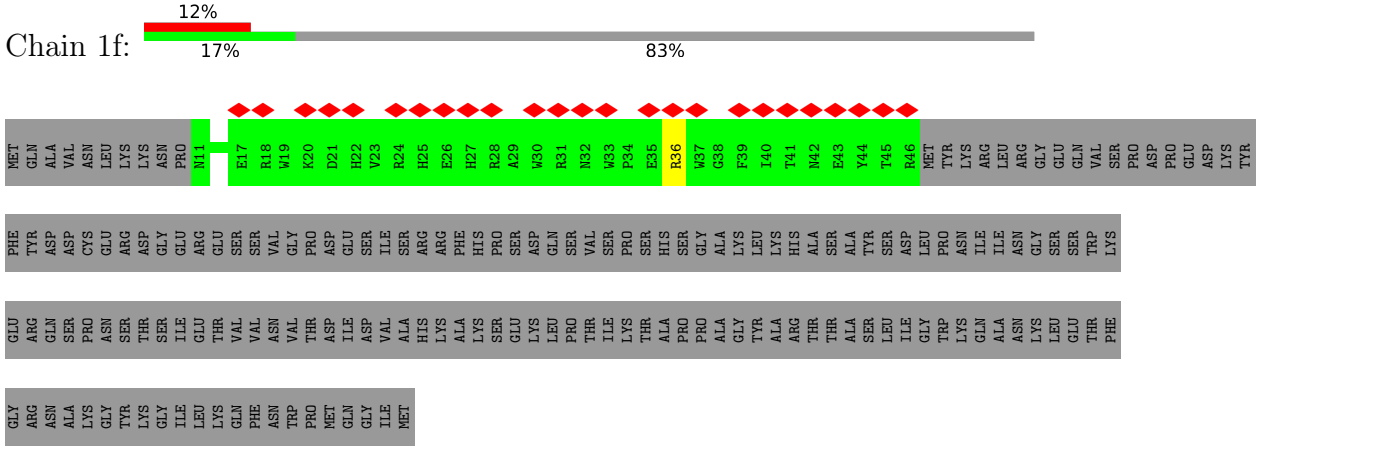
• Molecule 8: Tex33

Chain 1d:



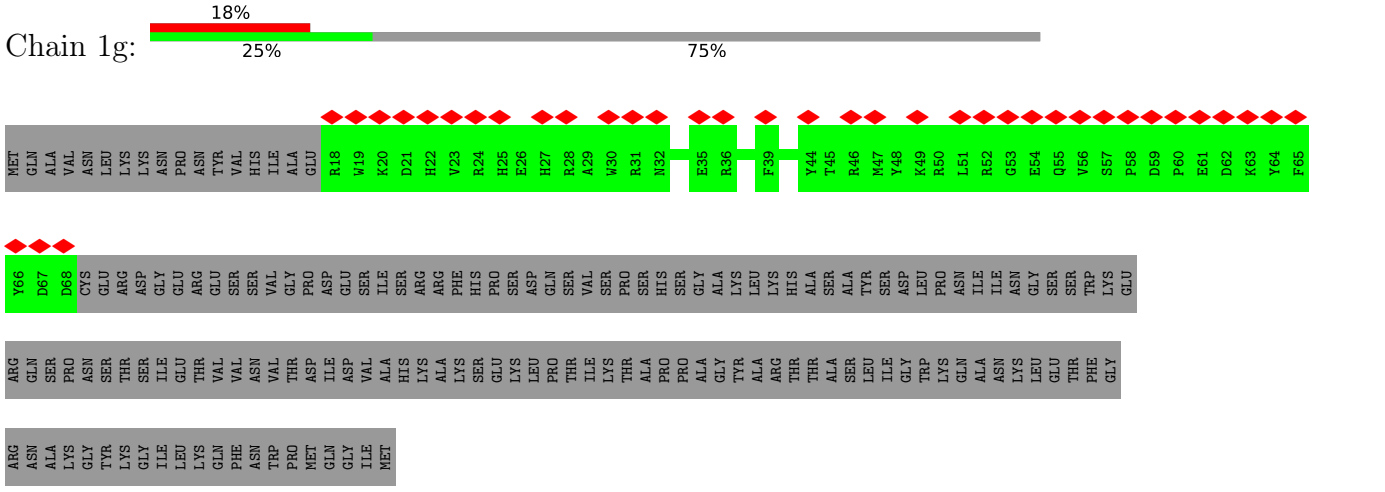
- Molecule 9: C20Orf85

Chain 1f:



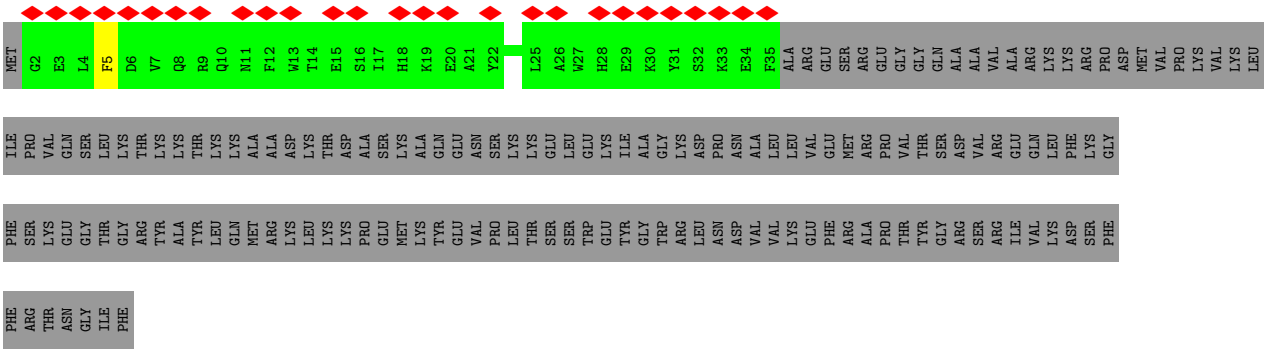
- Molecule 9: C20Orf85

Chain 1g:



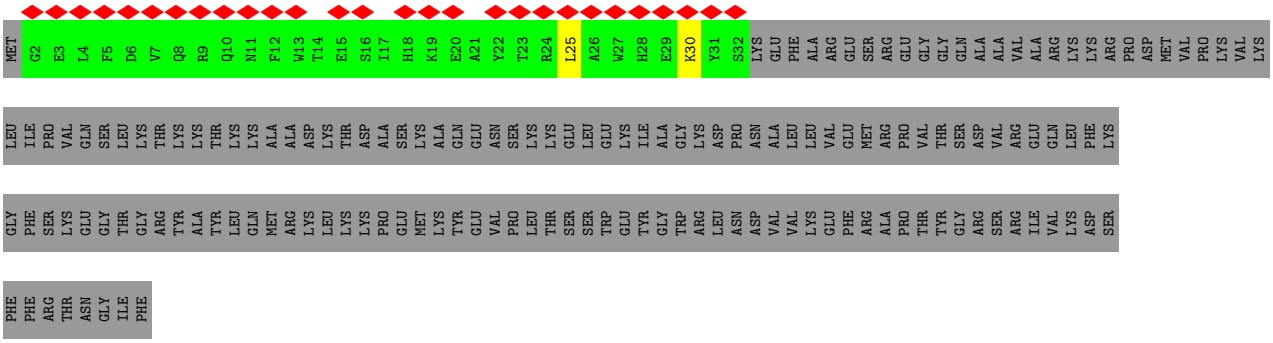
• Molecule 10: ATP6V1FNB

Chain 1i:



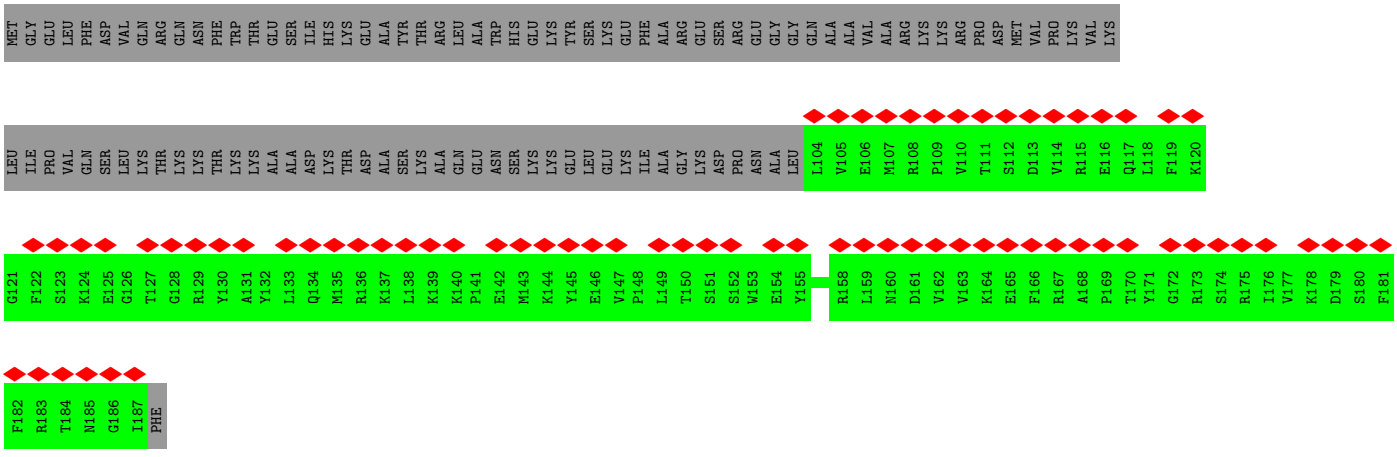
• Molecule 10: ATP6V1FNB

Chain 1j:



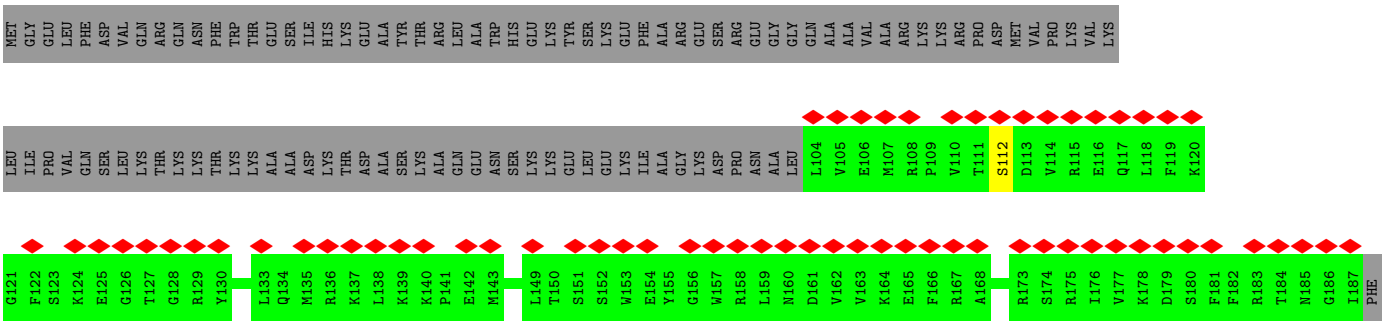
• Molecule 10: ATP6V1FNB

Chain 9M:

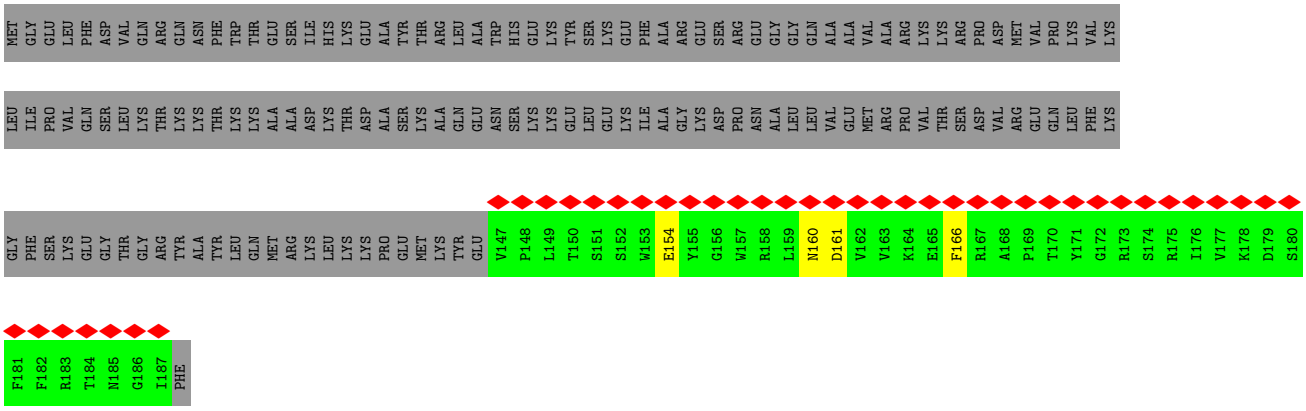


• Molecule 10: ATP6V1FNB

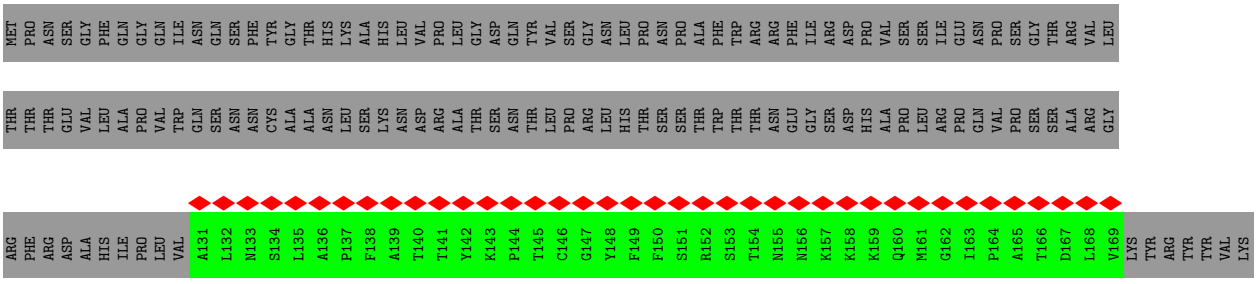
Chain 9N:



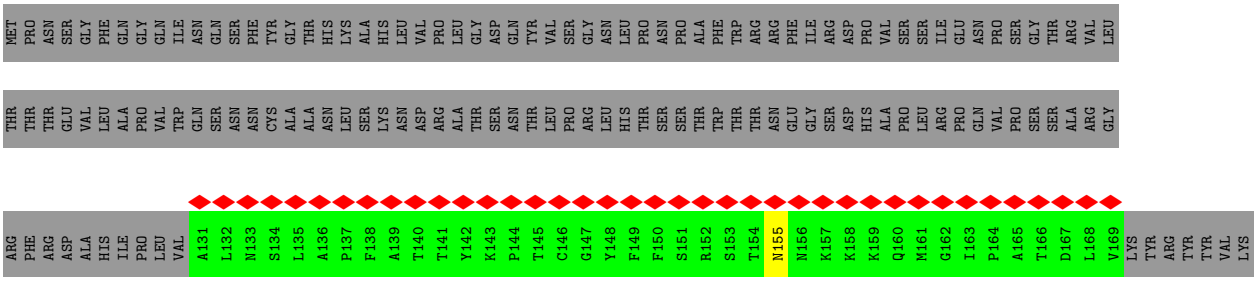
• Molecule 10: ATP6V1FNB



• Molecule 11: Tex26(LOC100888047)

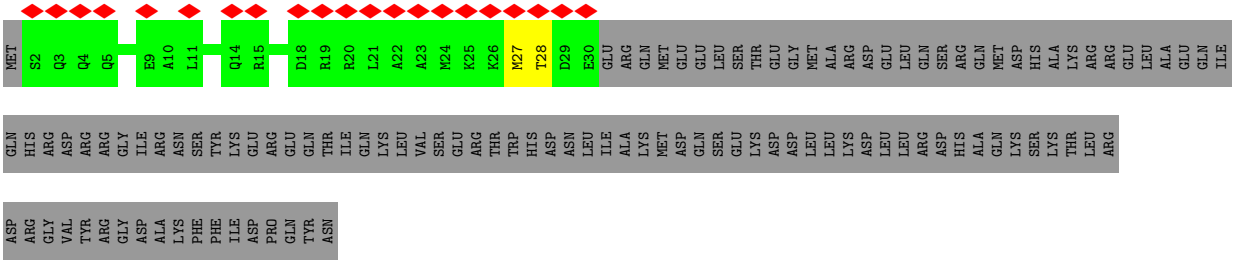


• Molecule 11: Tex26(LOC100888047)



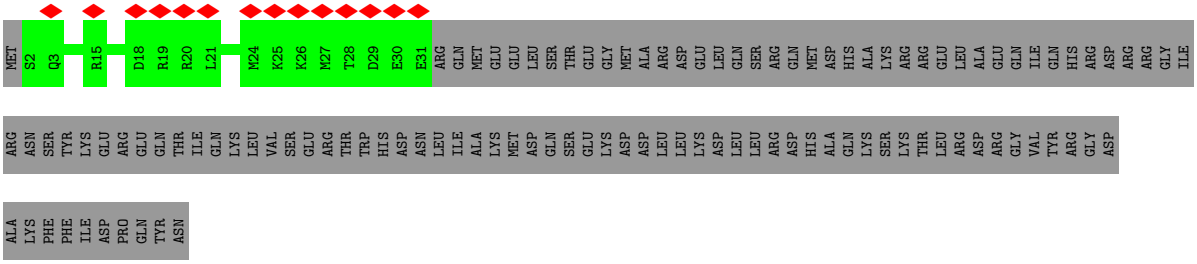
• Molecule 12: Meiosis-specific nuclear structural protein 1

Chain 1o:



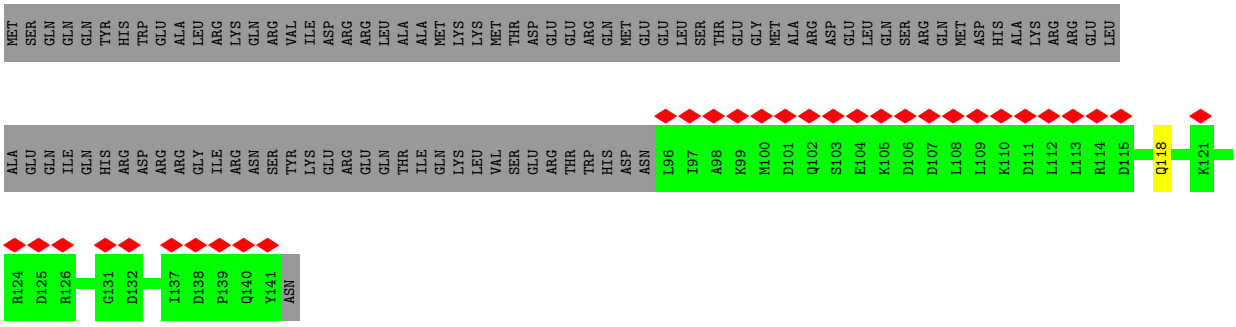
• Molecule 12: Meiosis-specific nuclear structural protein 1

Chain 1p:



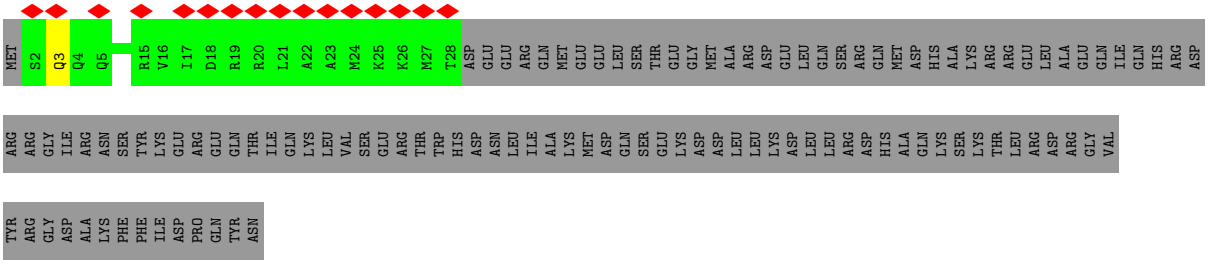
• Molecule 12: Meiosis-specific nuclear structural protein 1

Chain 1q:



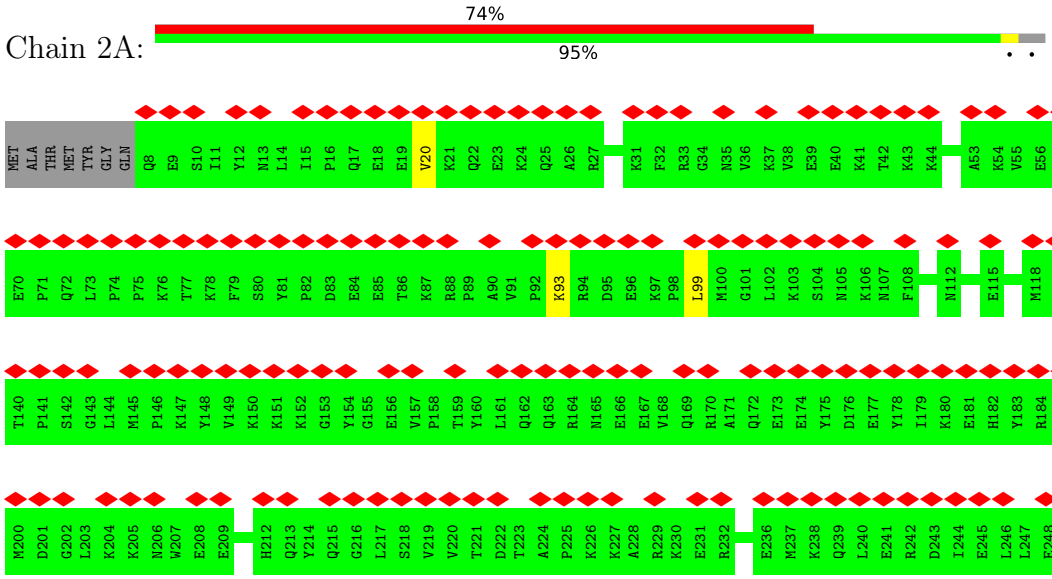
• Molecule 12: Meiosis-specific nuclear structural protein 1

Chain 1r:



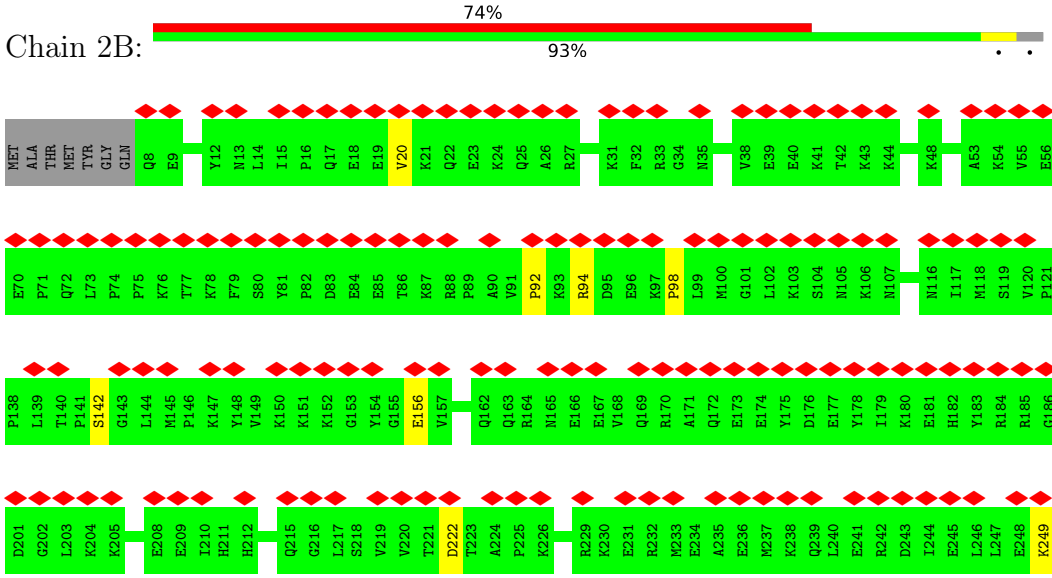
• Molecule 13: Enkurin domain-containing protein

Chain 2A:



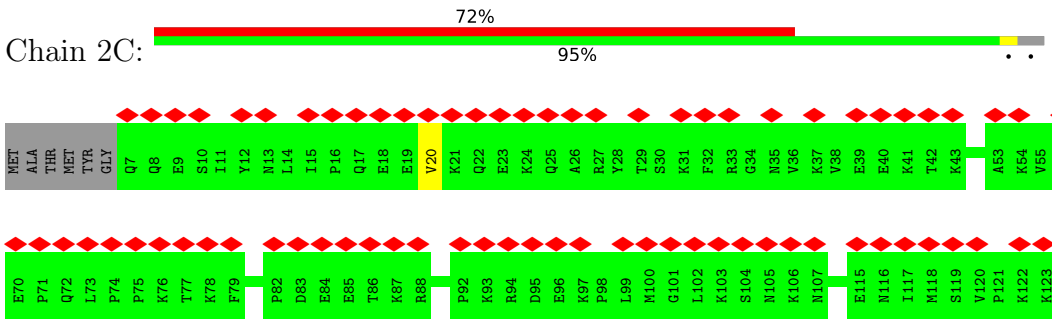
• Molecule 13: Enkurin domain-containing protein

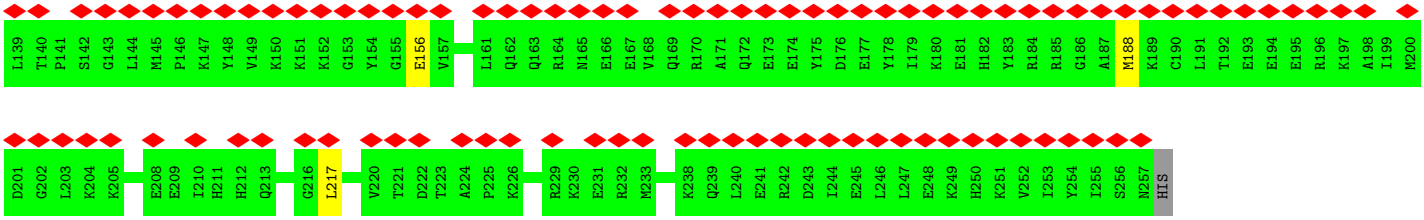
Chain 2B:



• Molecule 13: Enkurin domain-containing protein

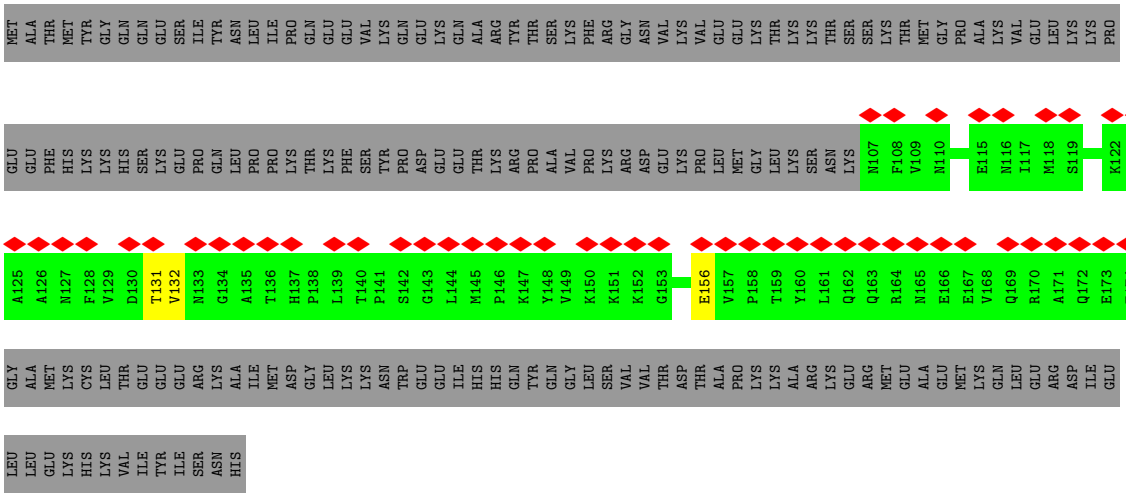
Chain 2C:





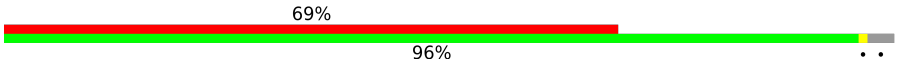
• Molecule 13: Enkurin domain-containing protein

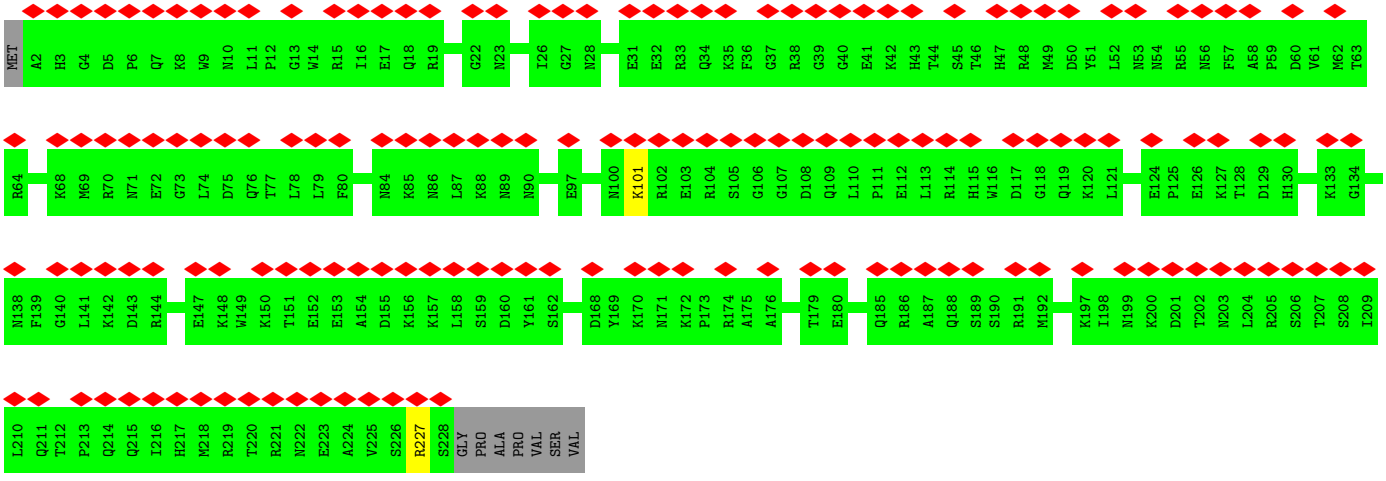
Chain 2D:



• Molecule 14: CFAP107

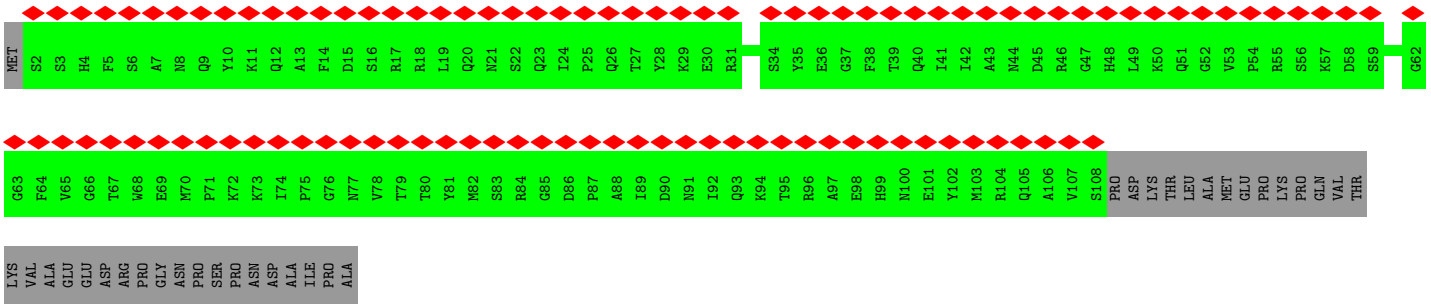
Chain 2G:



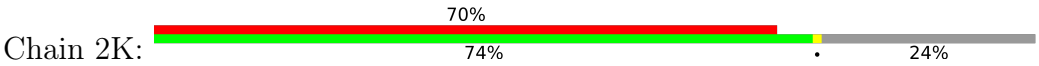


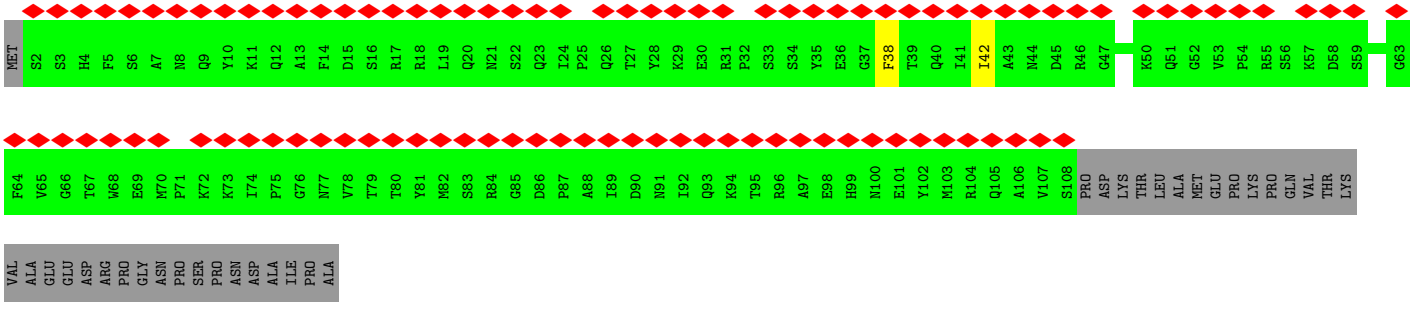
• Molecule 15: Cilia- and flagella-associated protein 126

Chain 2J:

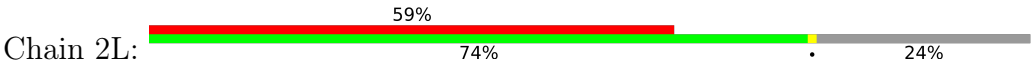


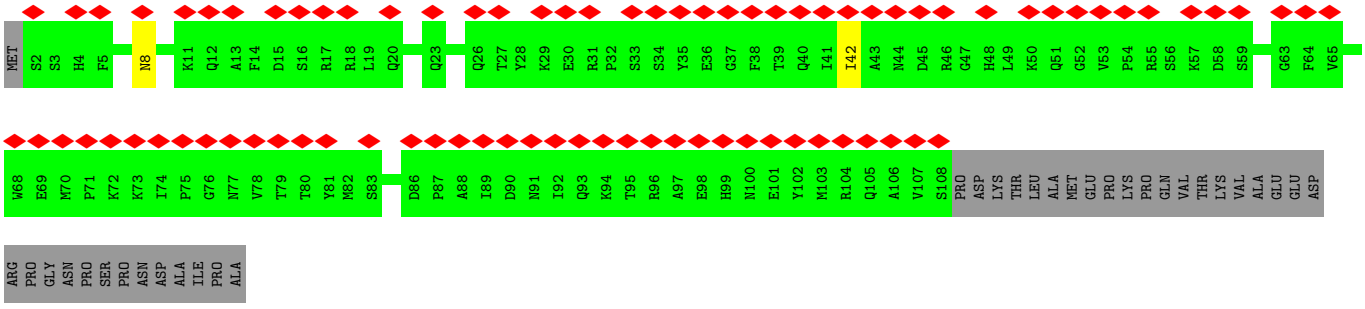
• Molecule 15: Cilia- and flagella-associated protein 126



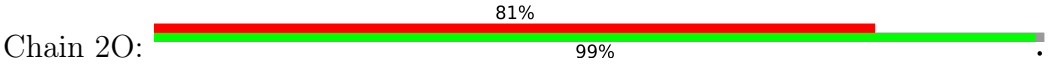


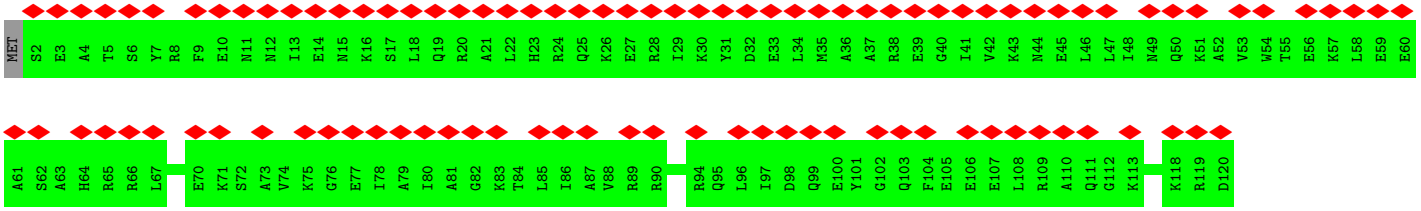
• Molecule 15: Cilia- and flagella-associated protein 126





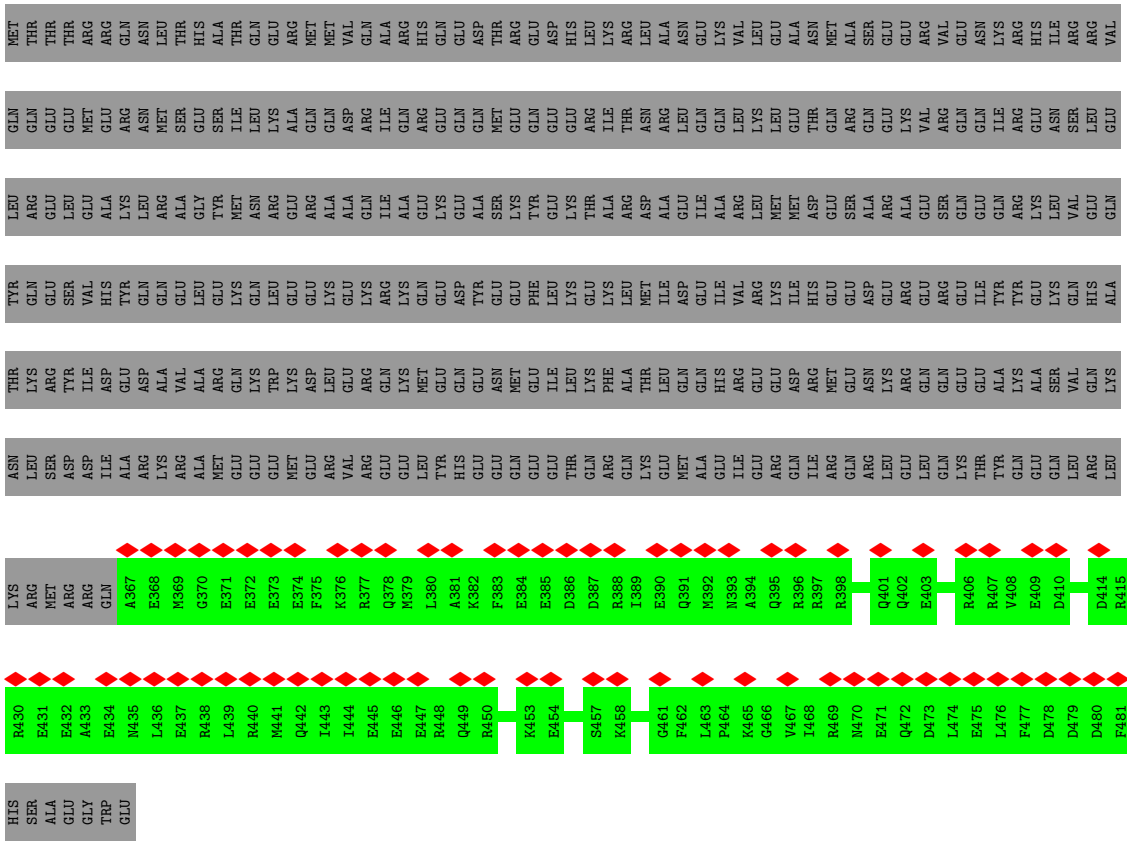
• Molecule 16: Flagellar FliJ protein

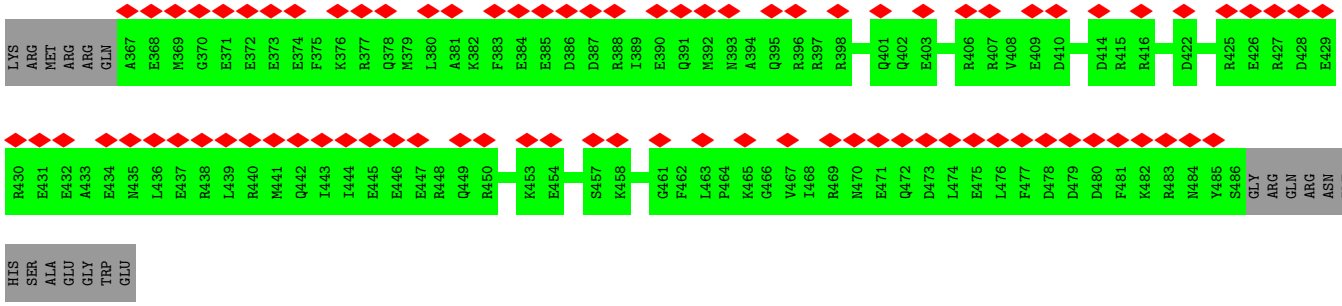




• Molecule 17: Meiosis-specific nuclear structural protein 1

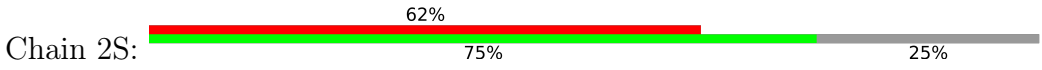
Chain 2R:

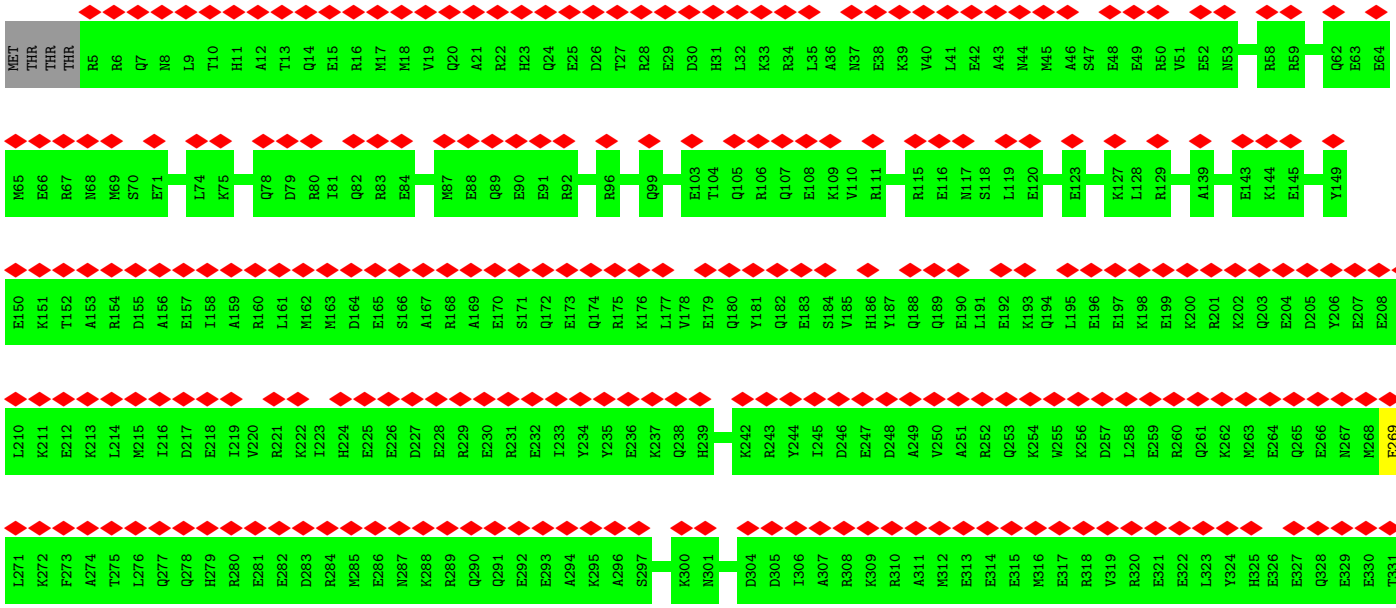


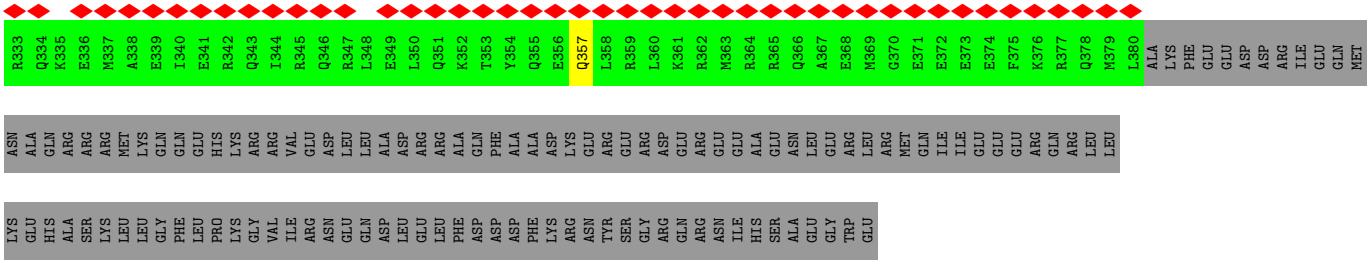


• Molecule 17: Meiosis-specific nuclear structural protein 1

Chain 2S:

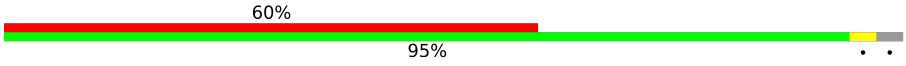


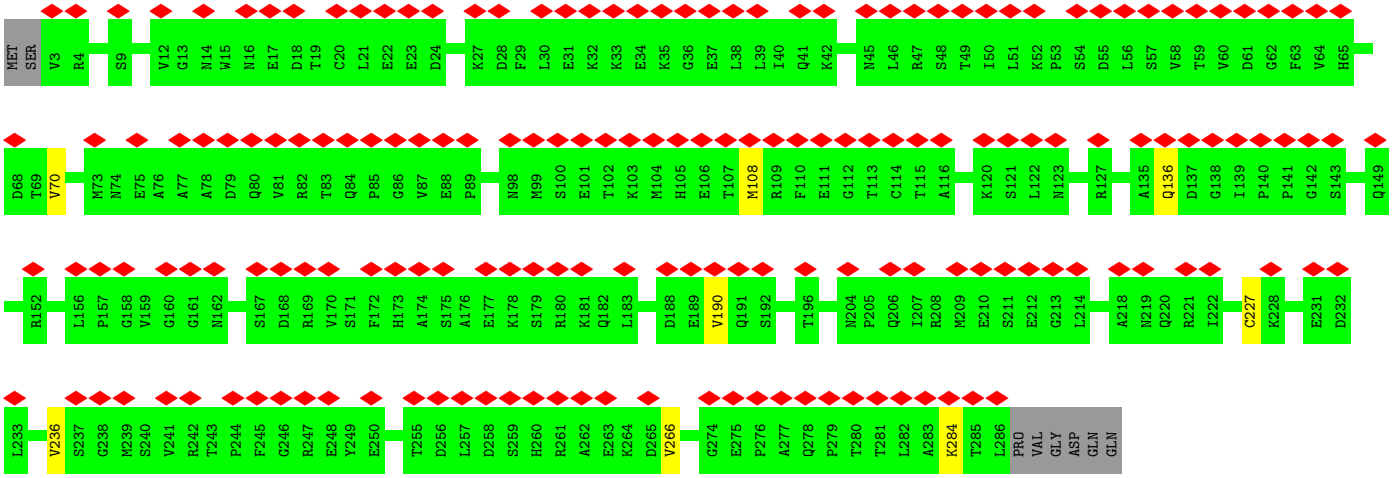




• Molecule 18: Cilia- and flagella-associated protein 161

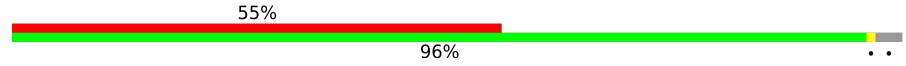
Chain 2V:

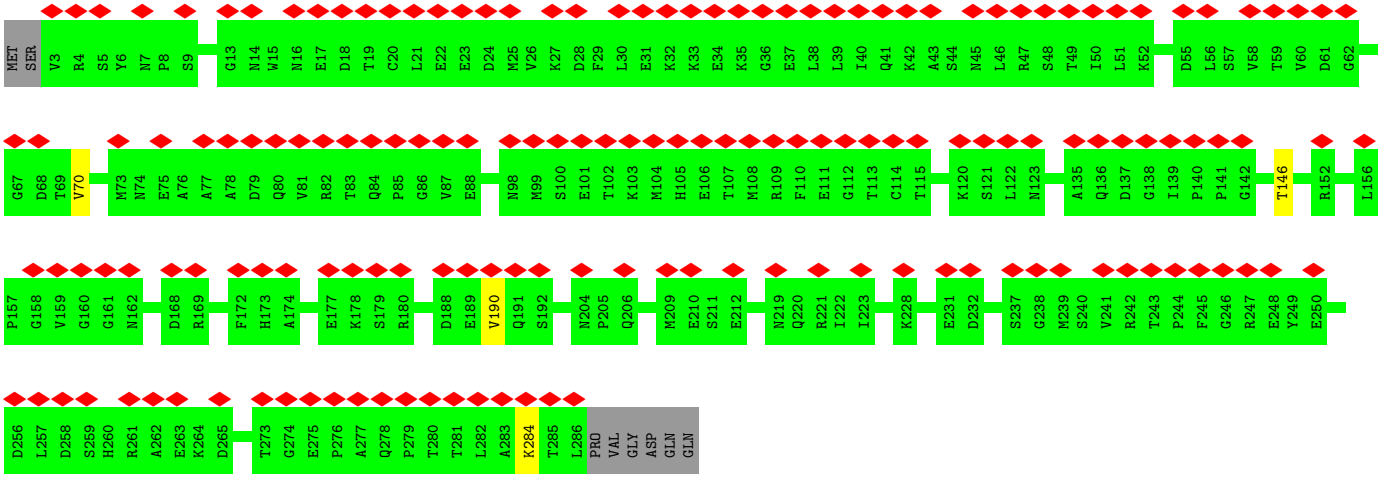




• Molecule 18: Cilia- and flagella-associated protein 161

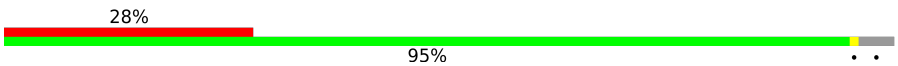
Chain 2W:

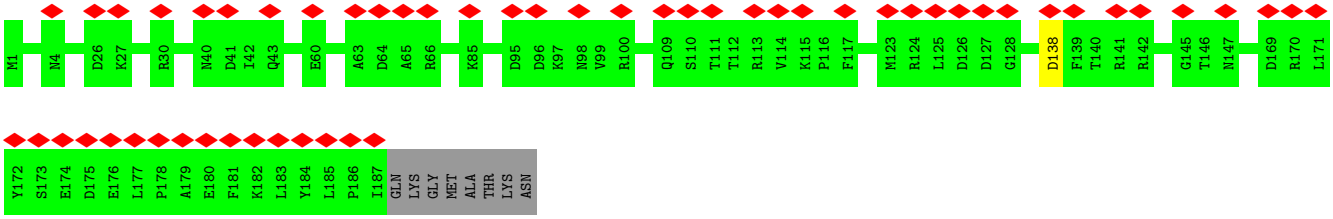




• Molecule 19: CFA20 domain-containing protein

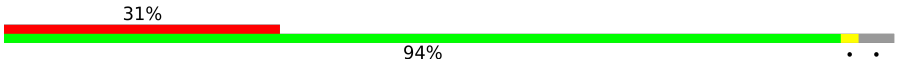
Chain 3A:

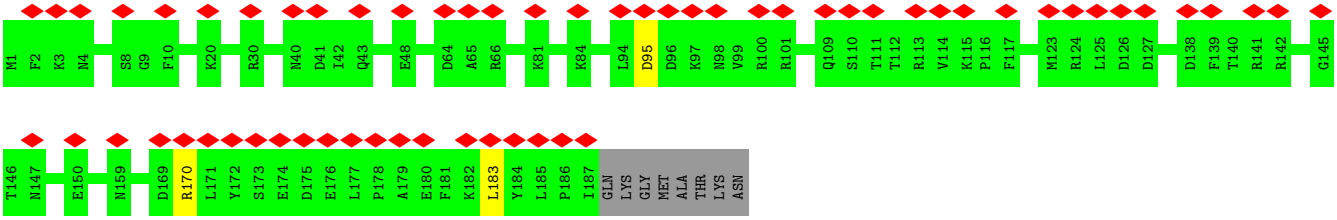




• Molecule 19: CFA20 domain-containing protein

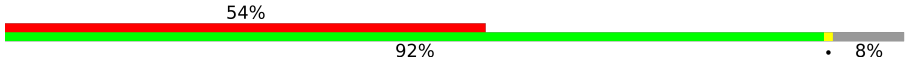
Chain 3B:

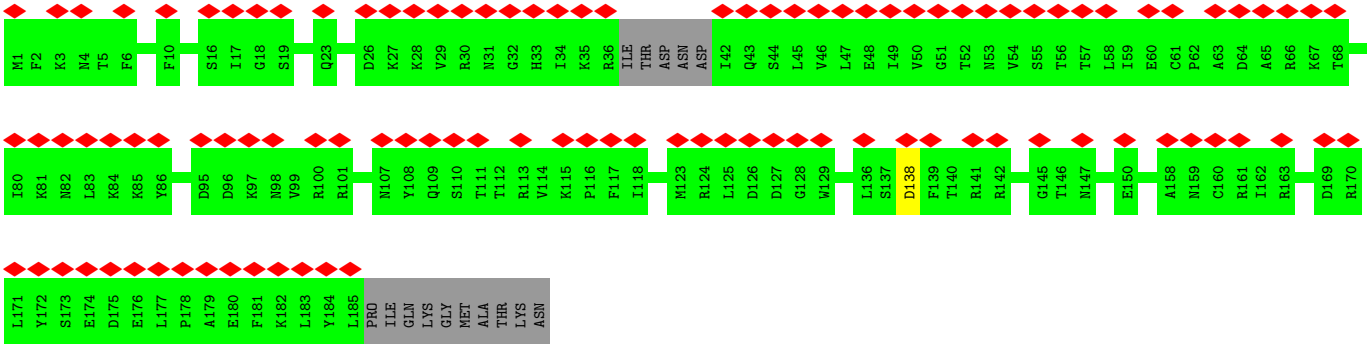




• Molecule 19: CFA20 domain-containing protein

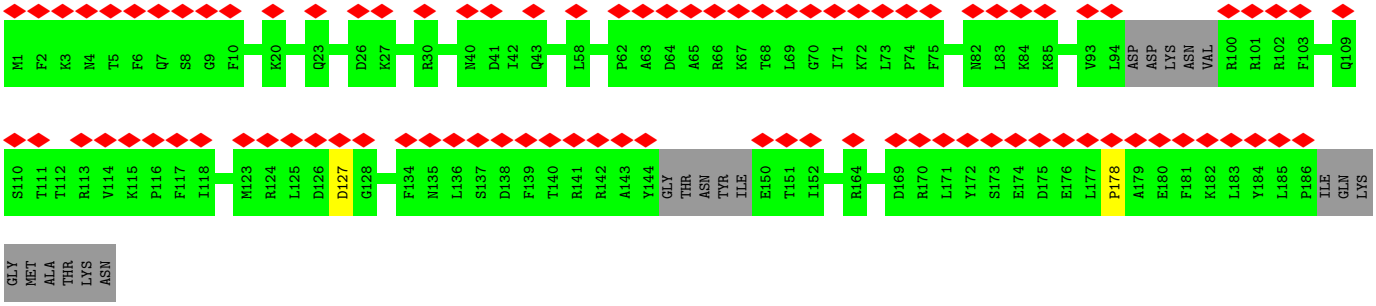
Chain 3C:





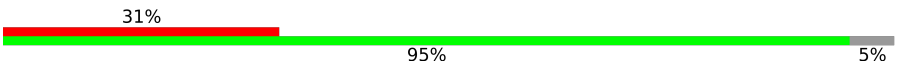
• Molecule 19: CFA20 domain-containing protein

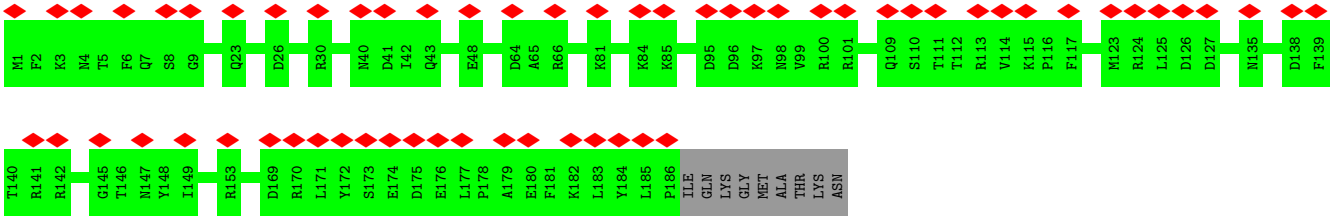
Chain 3D:



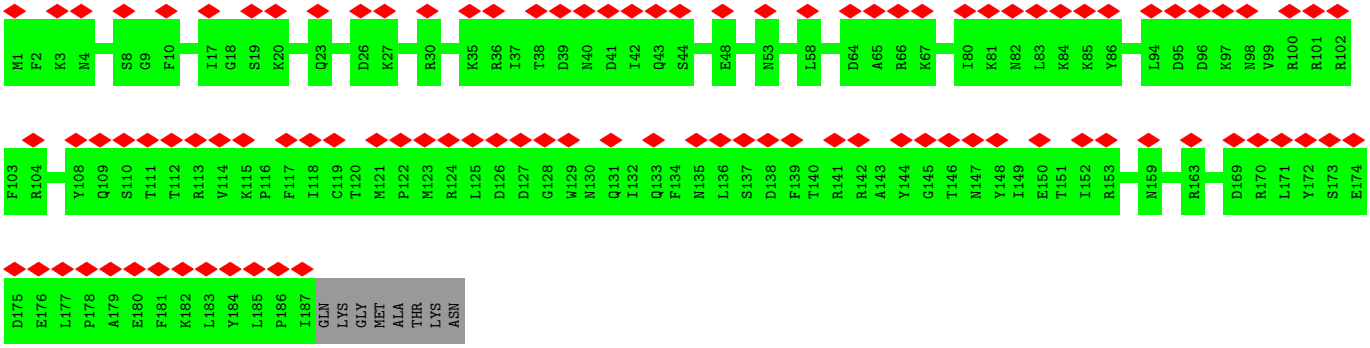
• Molecule 19: CFA20 domain-containing protein

Chain 3E:

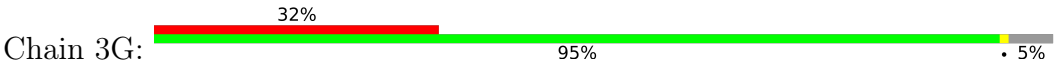


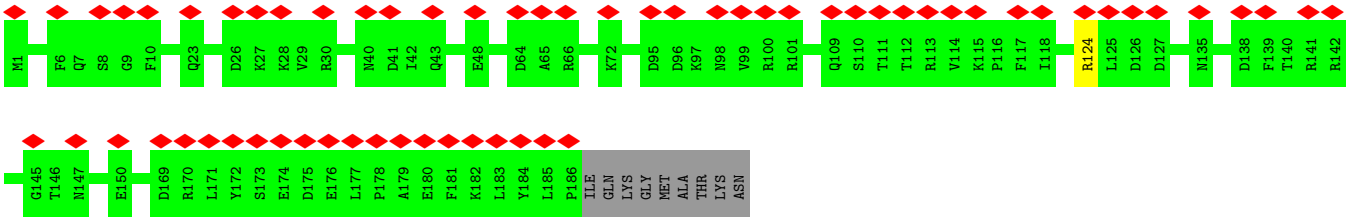


• Molecule 19: CFA20 domain-containing protein

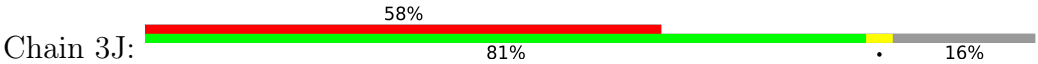


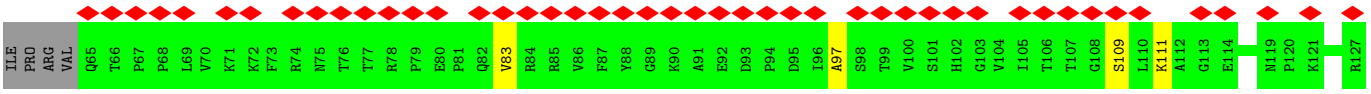
• Molecule 19: CFA20 domain-containing protein

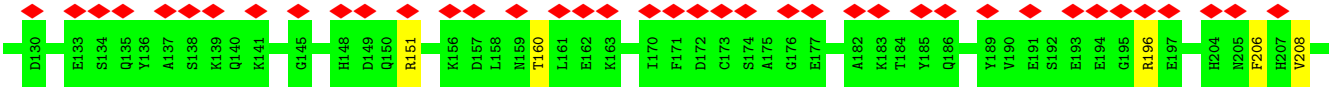


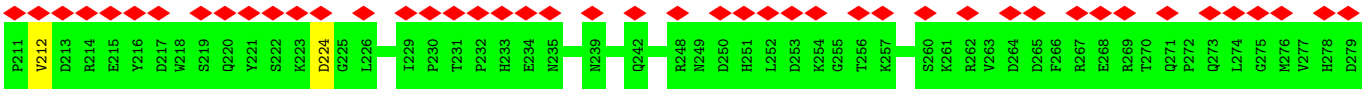


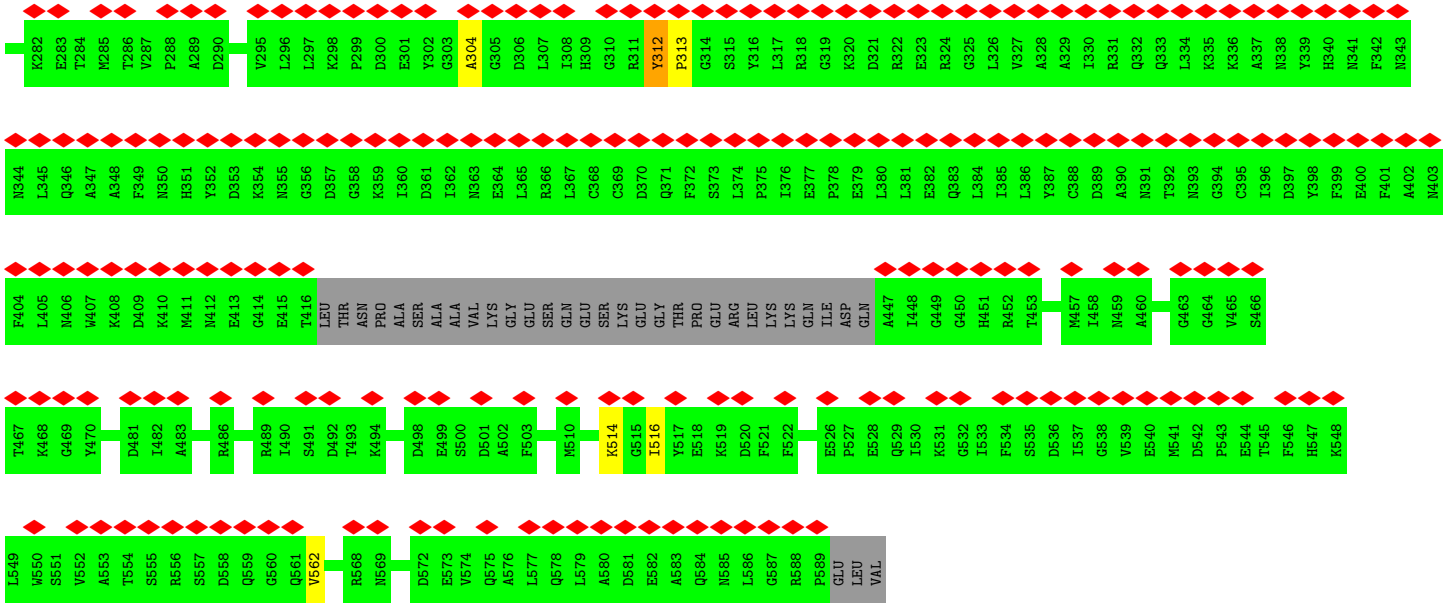
• Molecule 20: CFAP21





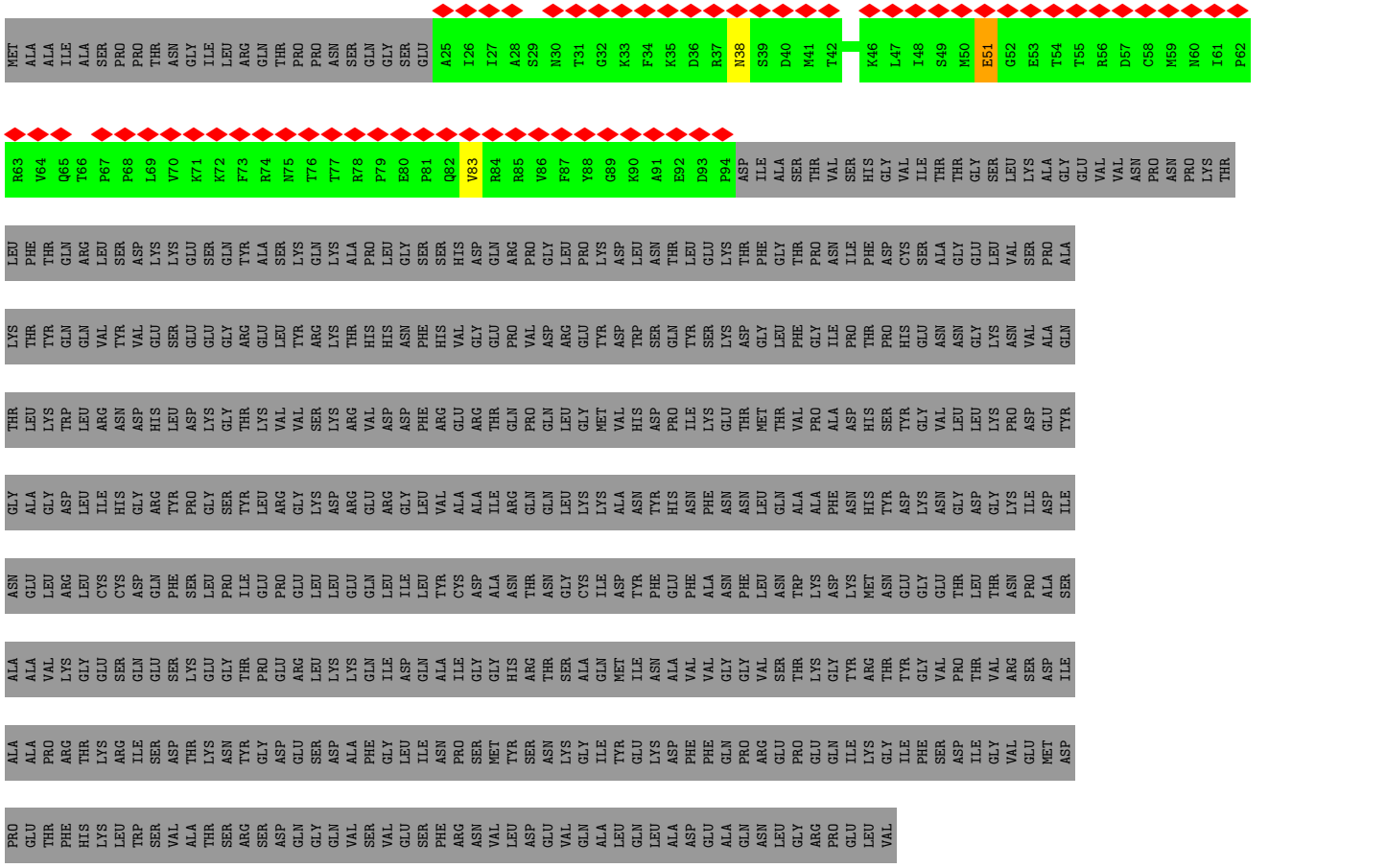






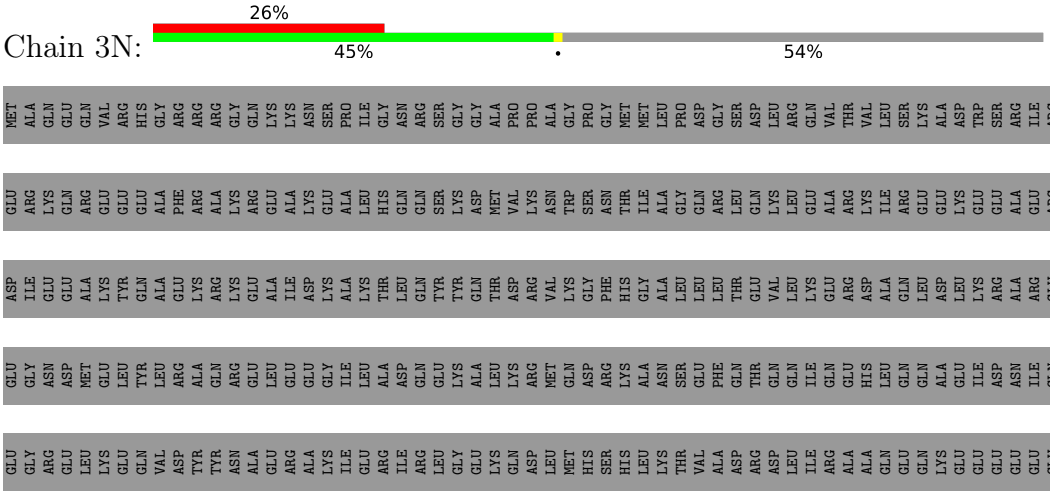
- Molecule 20: CFAP21

Chain 3K:



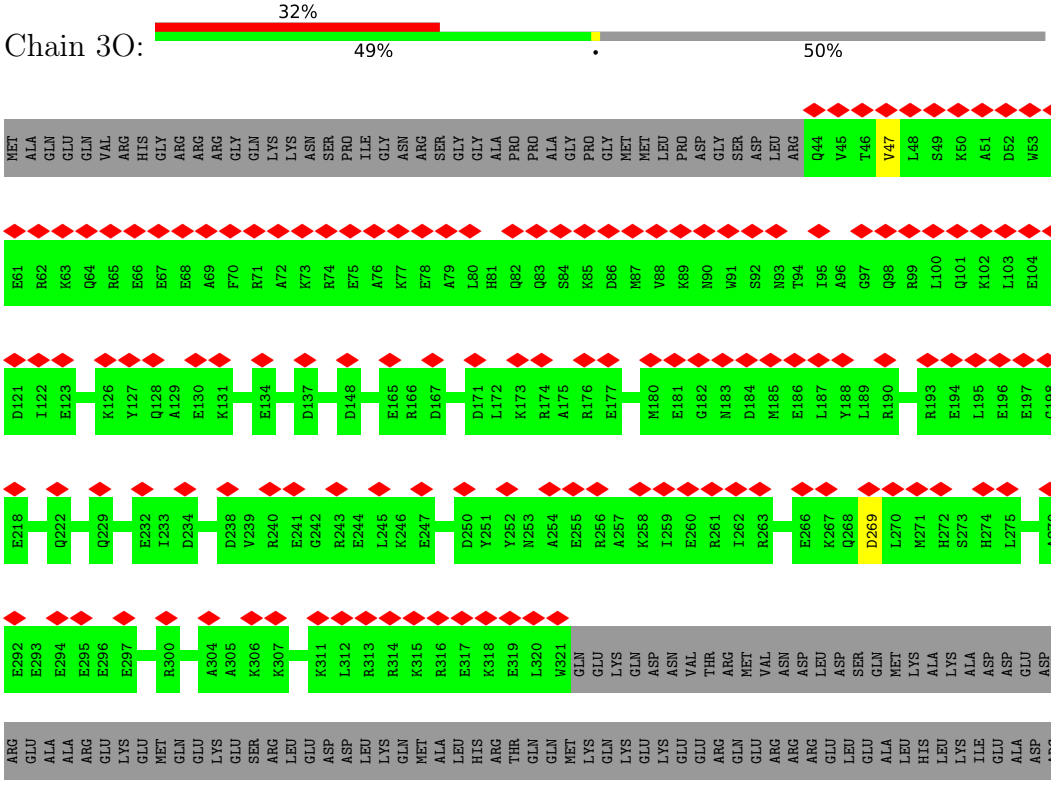
- Molecule 21: Trichohyalin-plectin-homology domain-containing protein

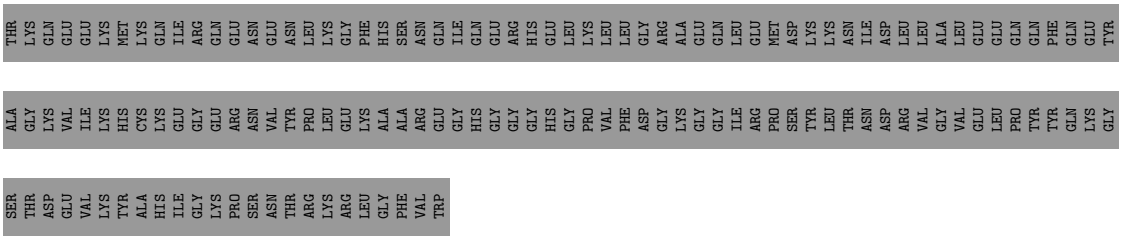
Chain 3N:



• Molecule 21: Trichohyalin-plectin-homology domain-containing protein

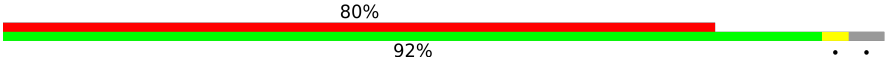
Chain 3O:

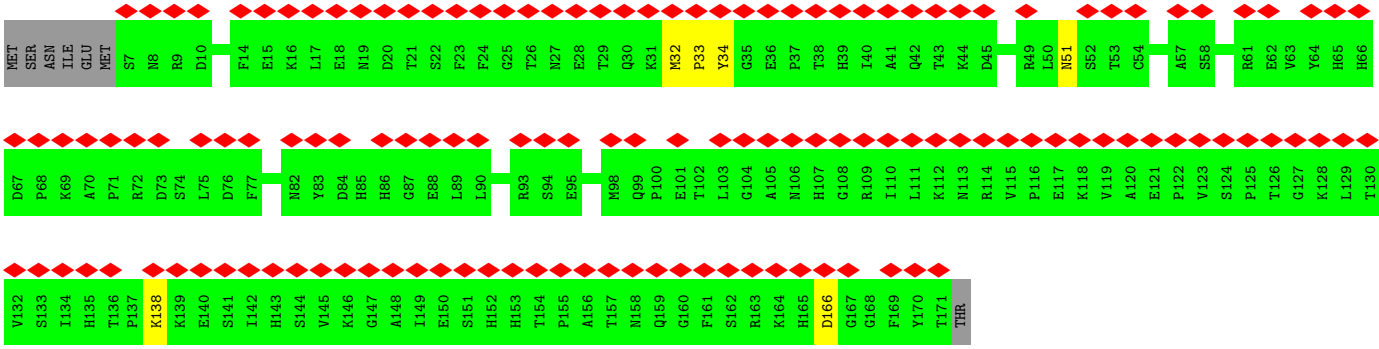




• Molecule 22: CFAP276

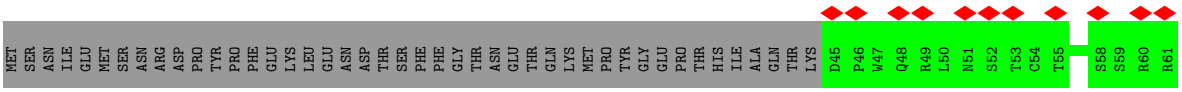
Chain 3R:

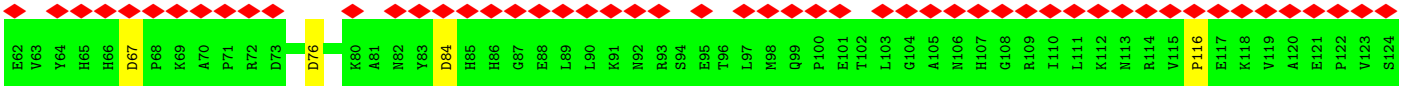


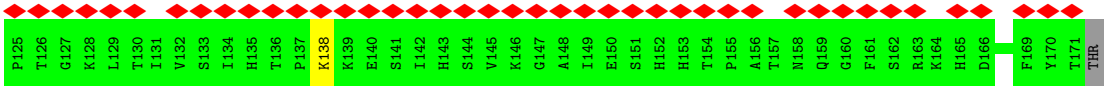


• Molecule 22: CFAP276

Chain 3S:

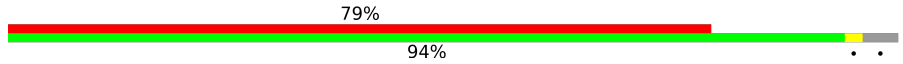


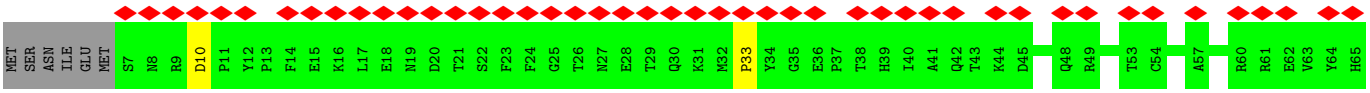


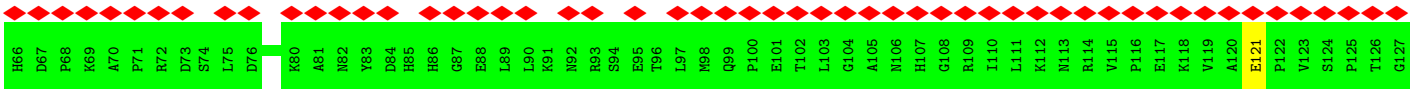


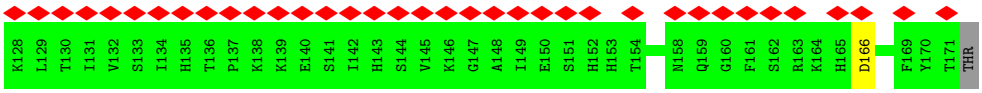
• Molecule 22: CFAP276

Chain 3T:



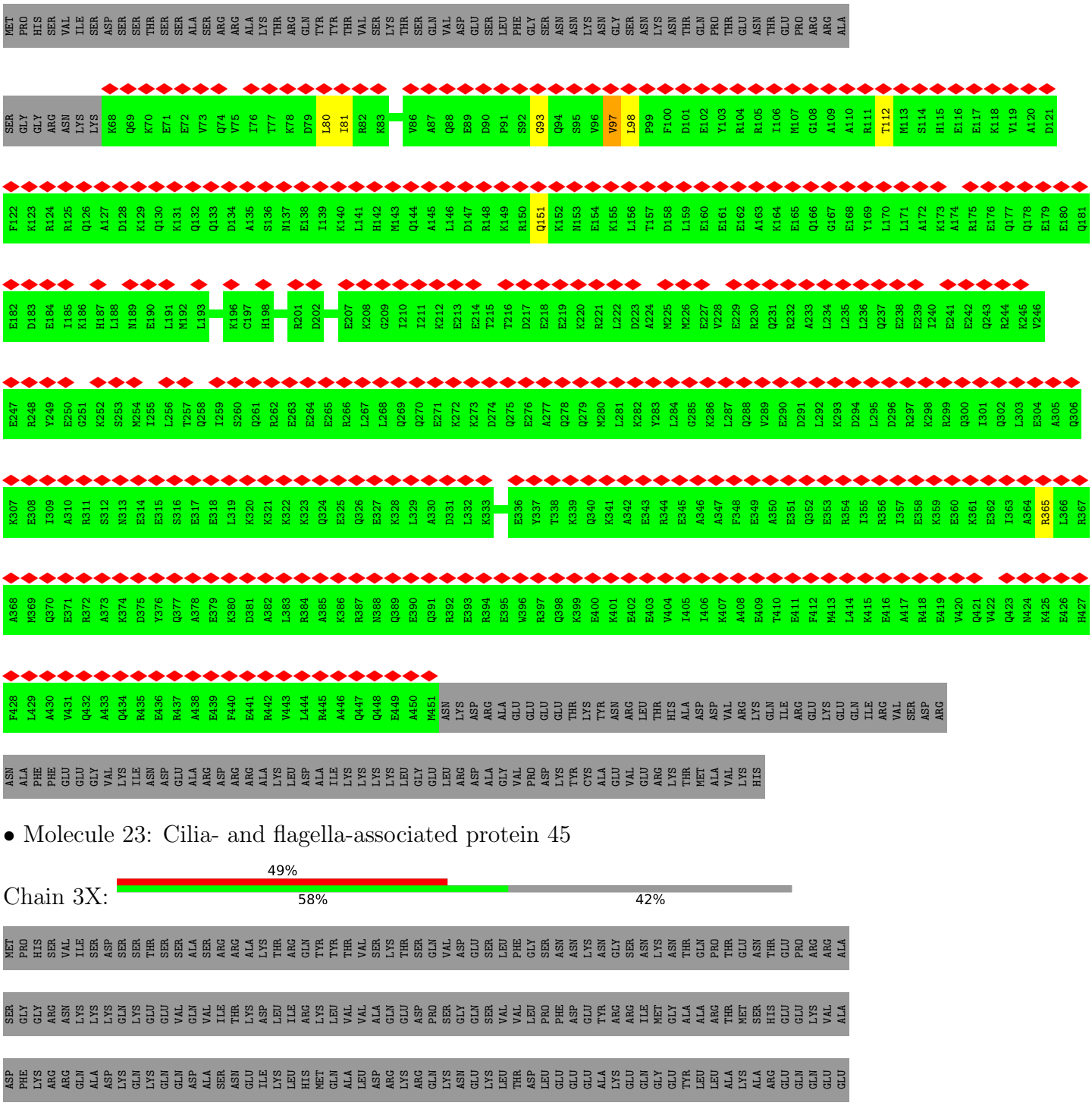






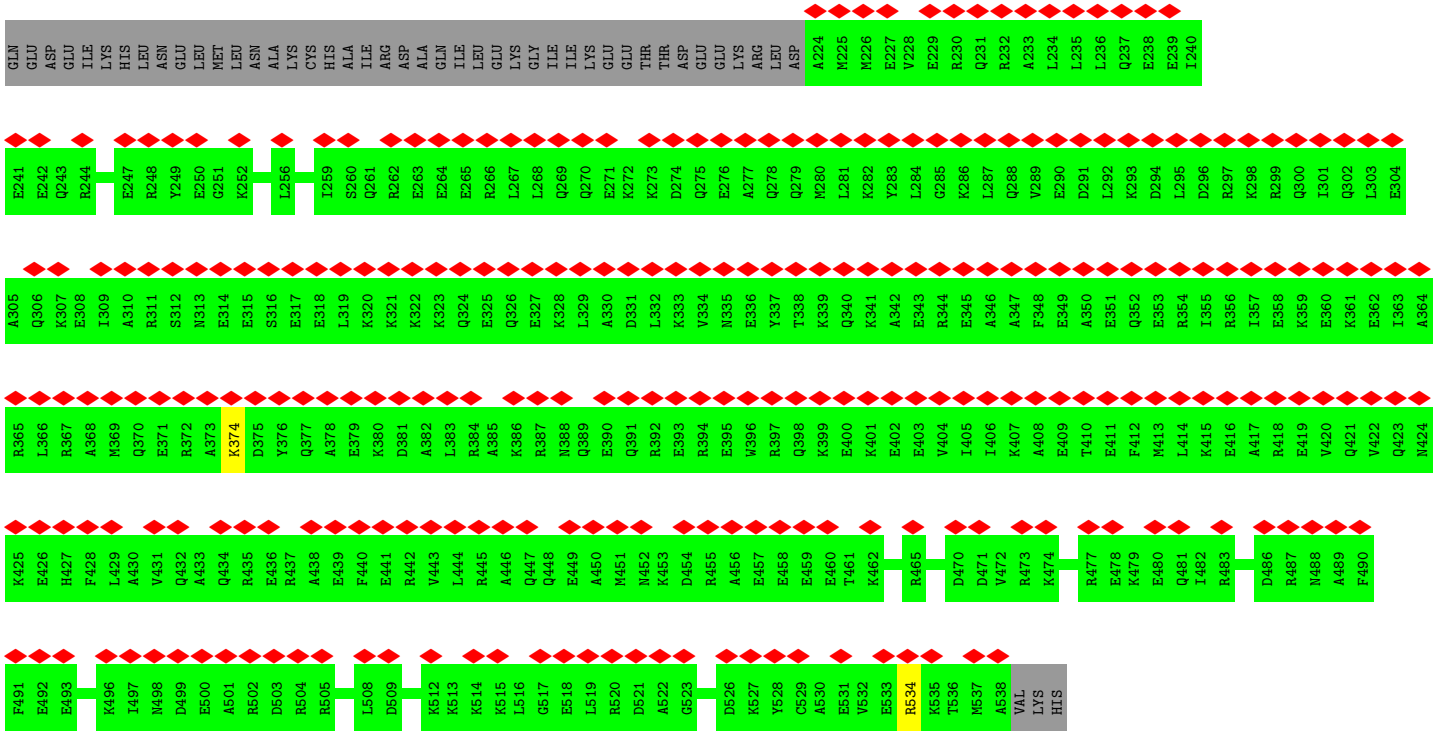
• Molecule 23: Cilia- and flagella-associated protein 45

Chain 3W:



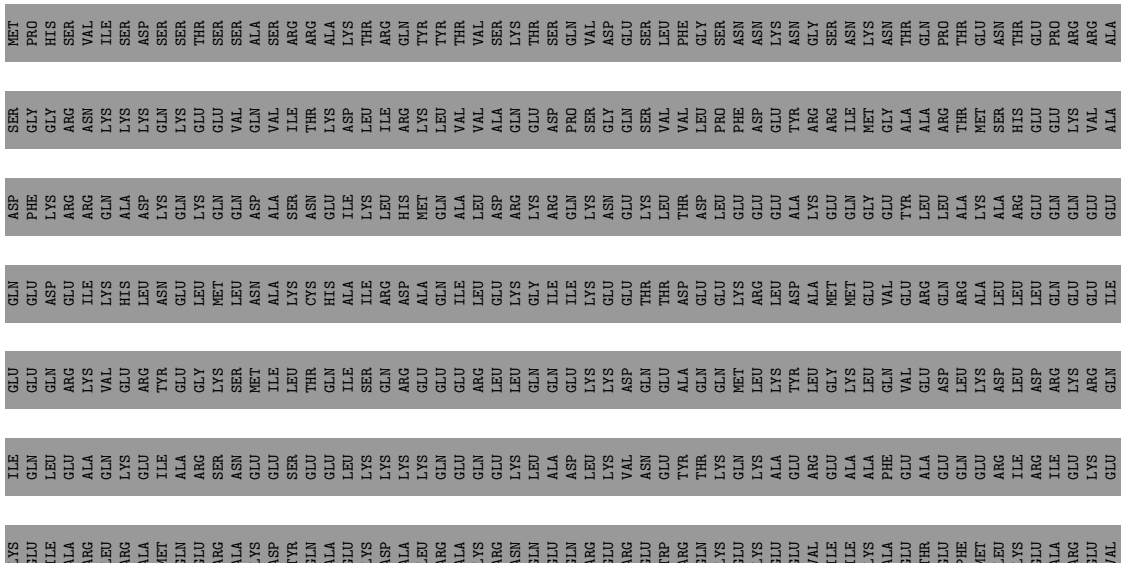
• Molecule 23: Cilia- and flagella-associated protein 45

Chain 3X:



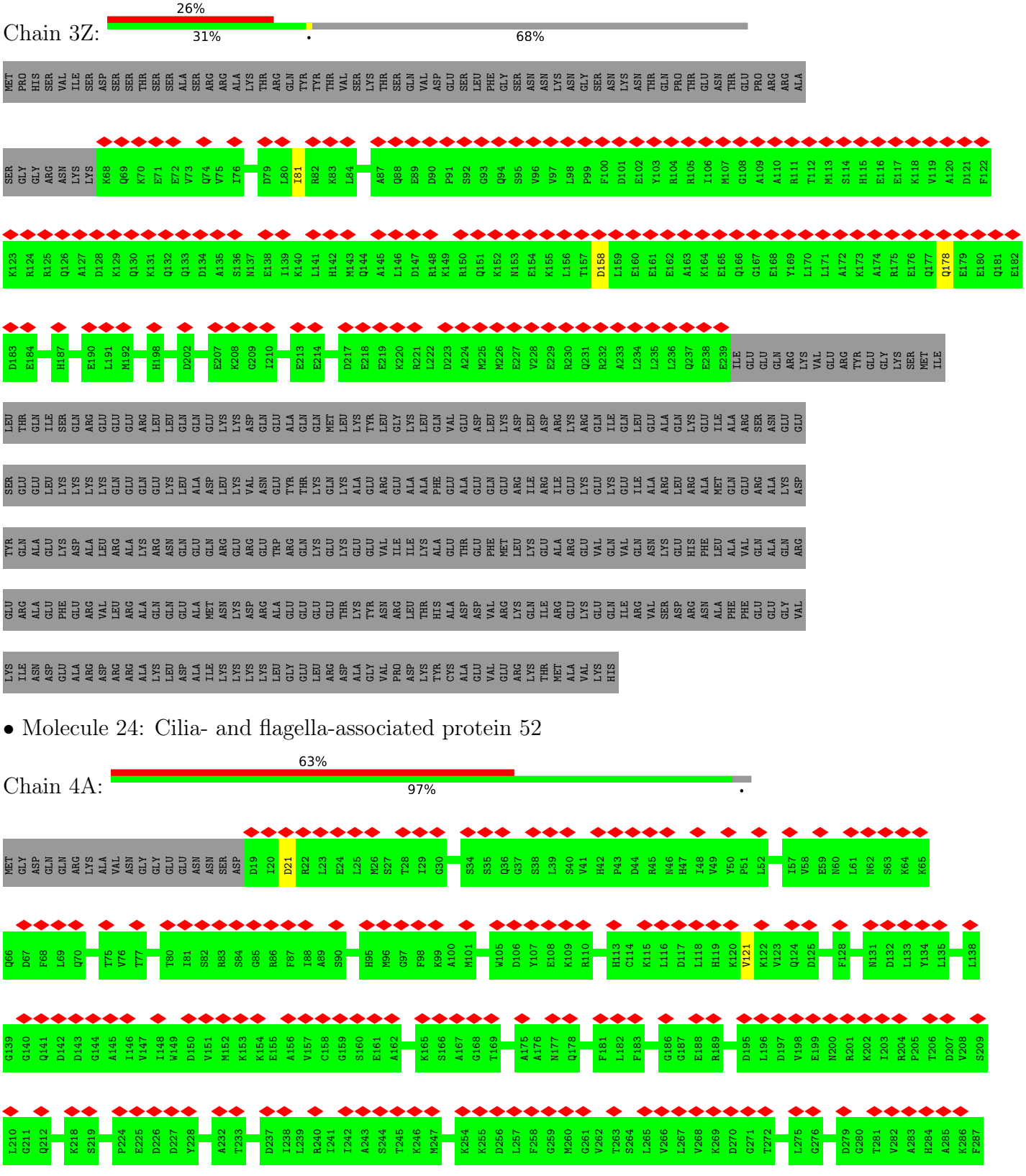
• Molecule 23: Cilia- and flagella-associated protein 45

Chain 3Y:



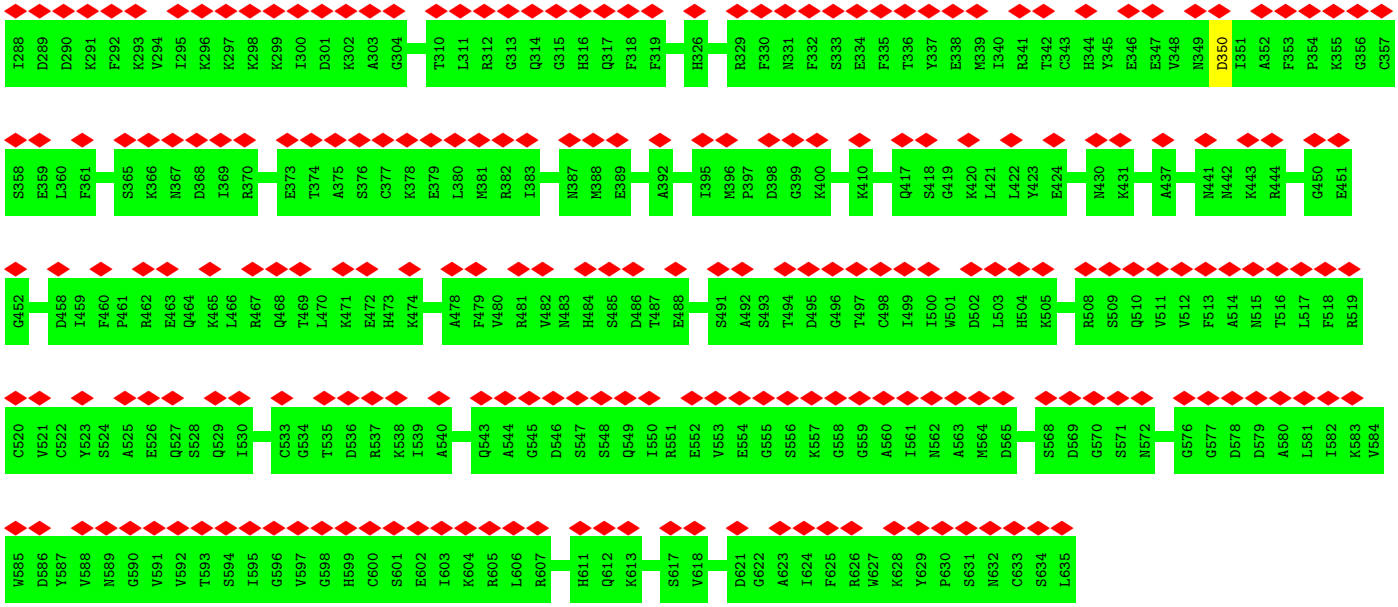
• Molecule 23: Cilia- and flagella-associated protein 45

Chain 3Z:



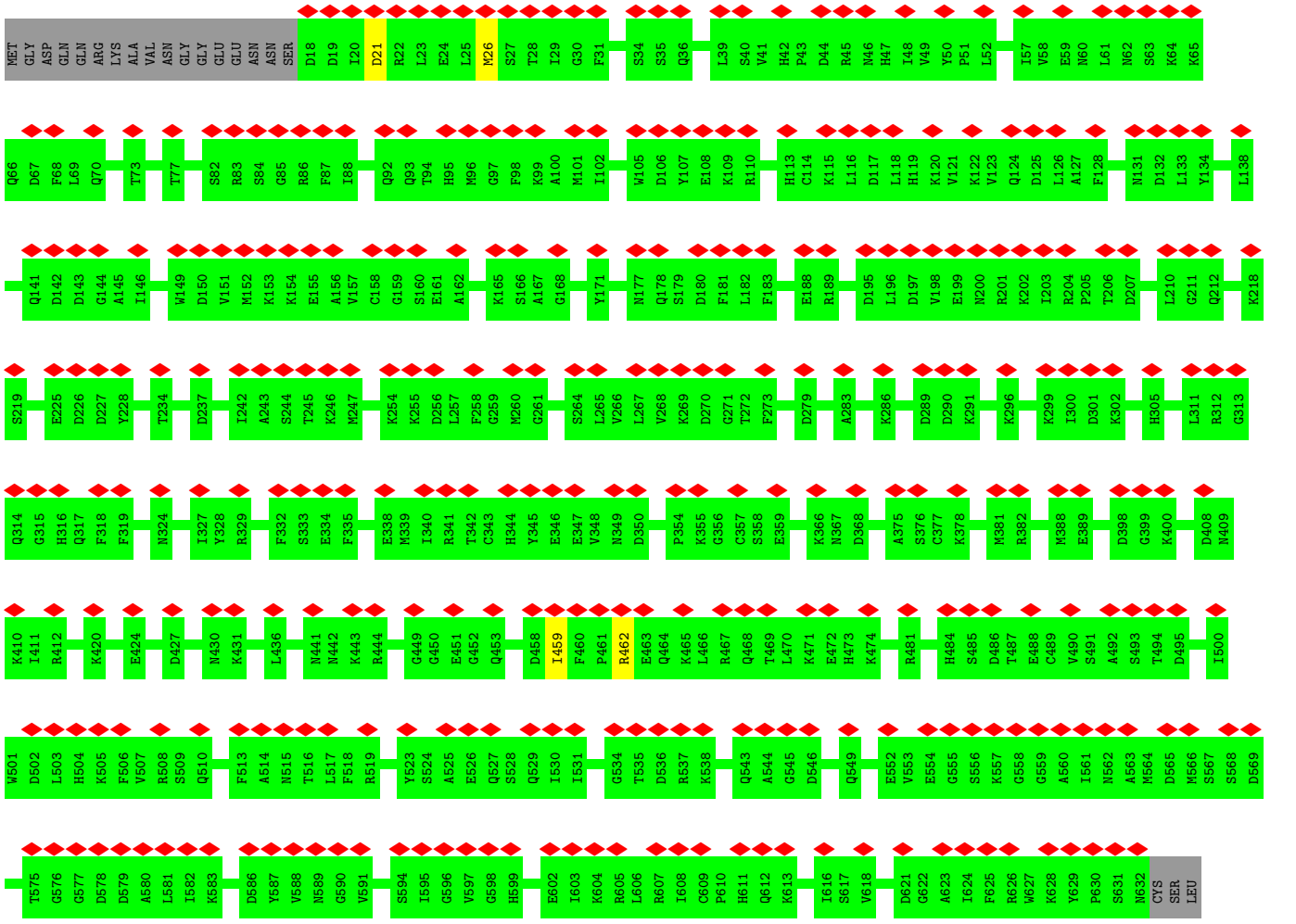
• Molecule 24: Cilia- and flagella-associated protein 52

Chain 4A:



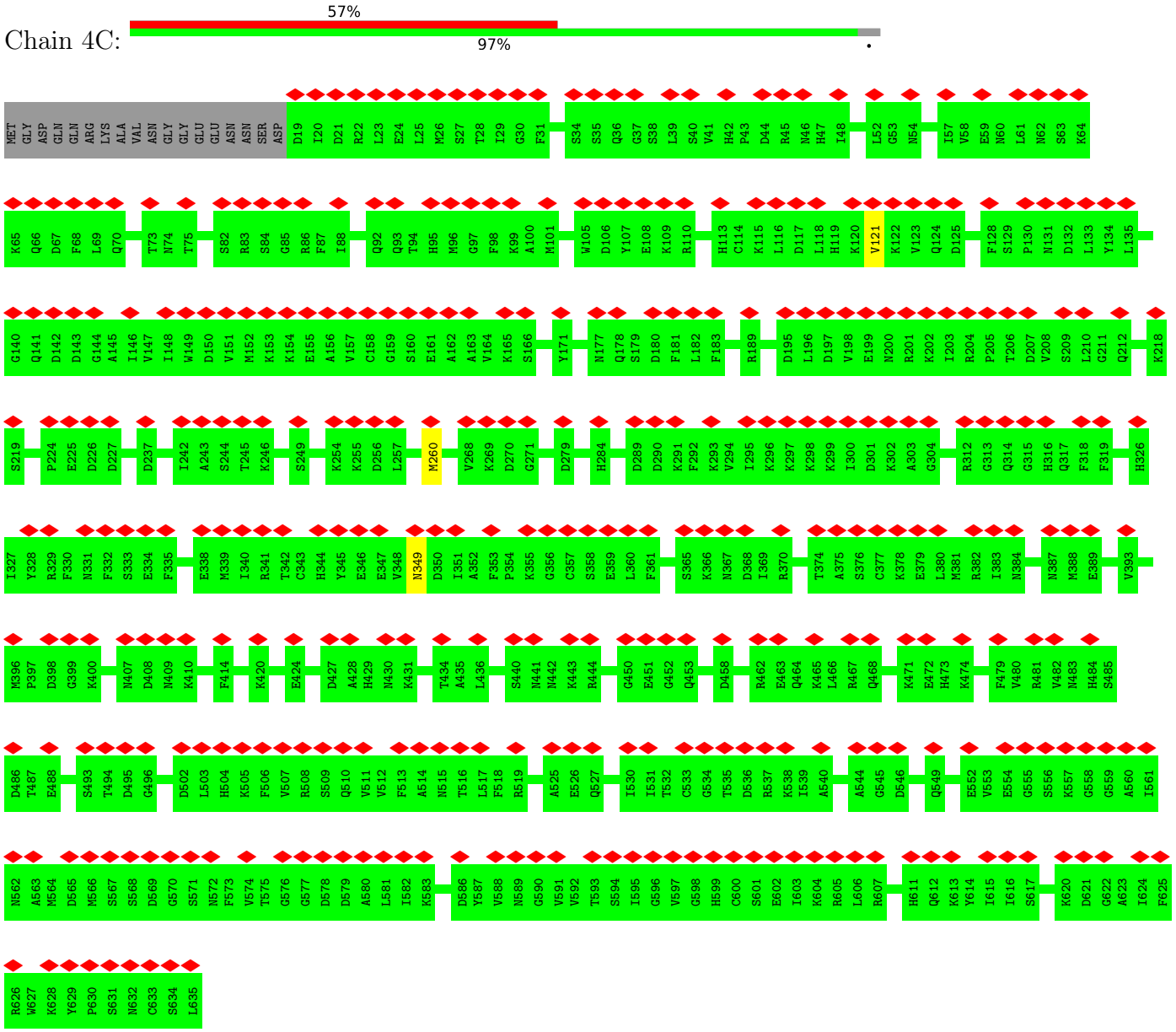
• Molecule 24: Cilia- and flagella-associated protein 52

Chain 4B:



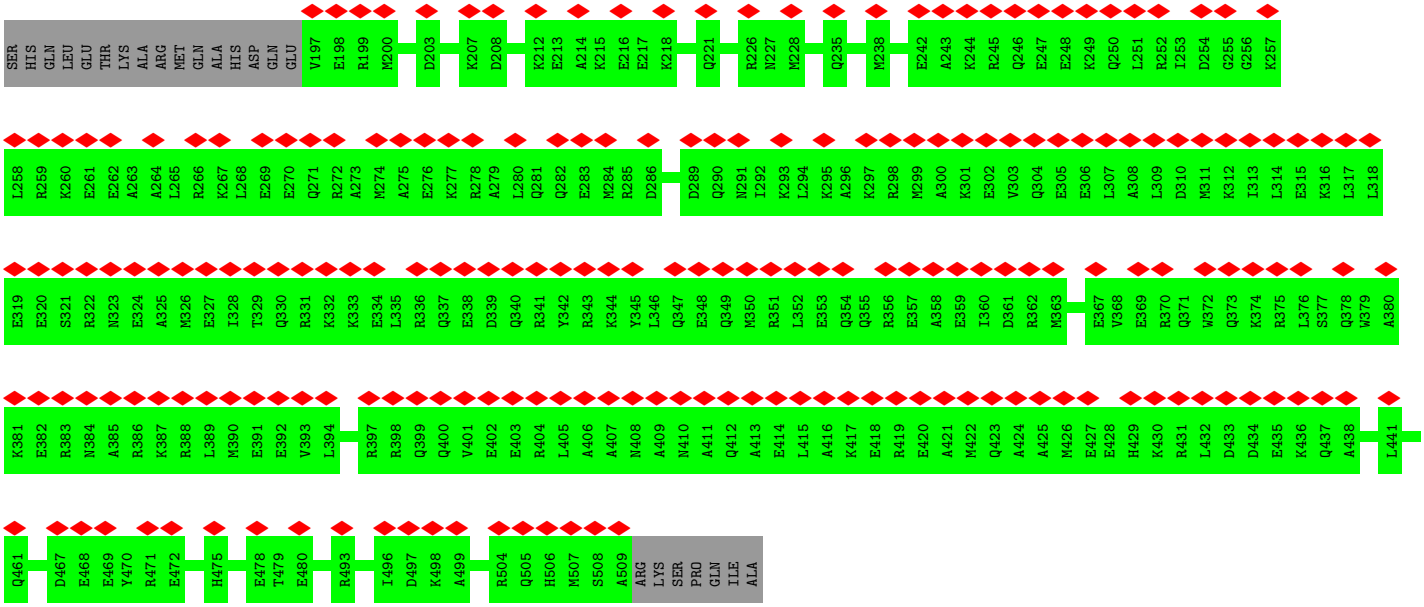
• Molecule 24: Cilia- and flagella-associated protein 52

Chain 4C:



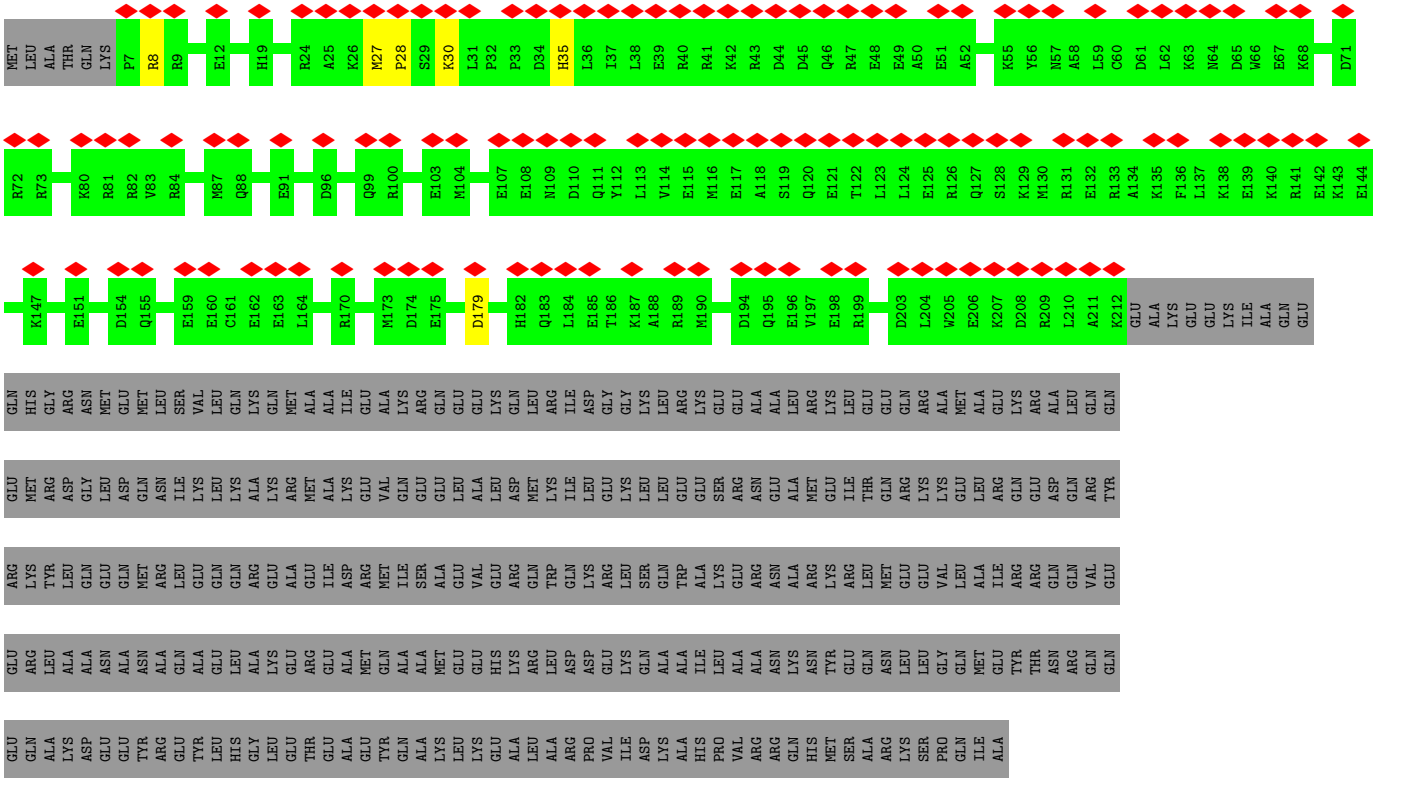
• Molecule 25: Trichohyalin-plectin-homology domain-containing protein

Chain 4F:



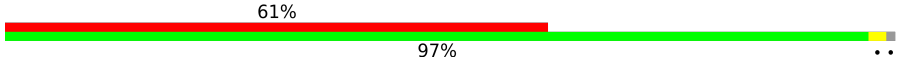
• Molecule 25: Trichohyalin-plectin-homology domain-containing protein

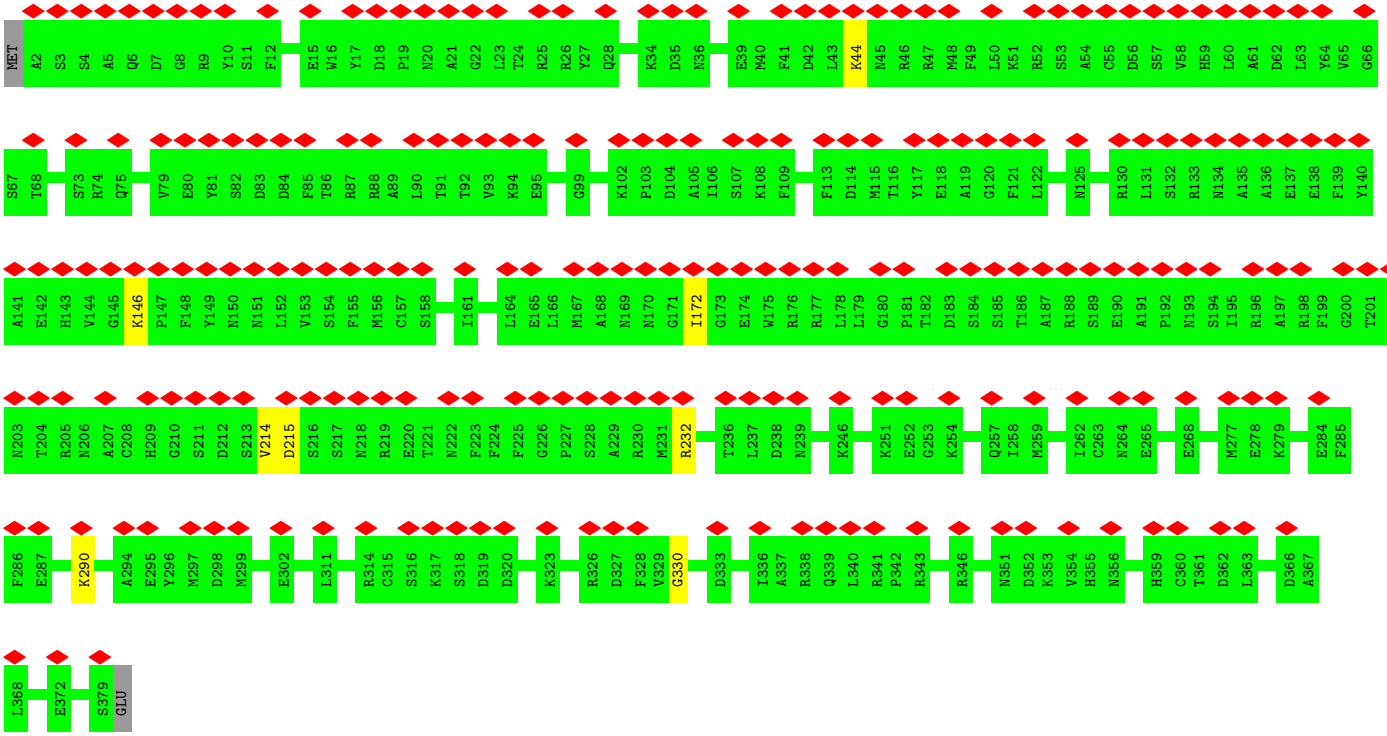
Chain 4G:



• Molecule 26: Nucleoside diphosphate kinase

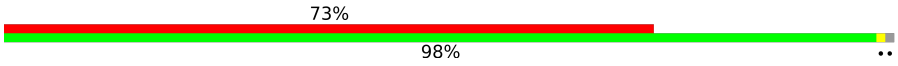
Chain 4J:

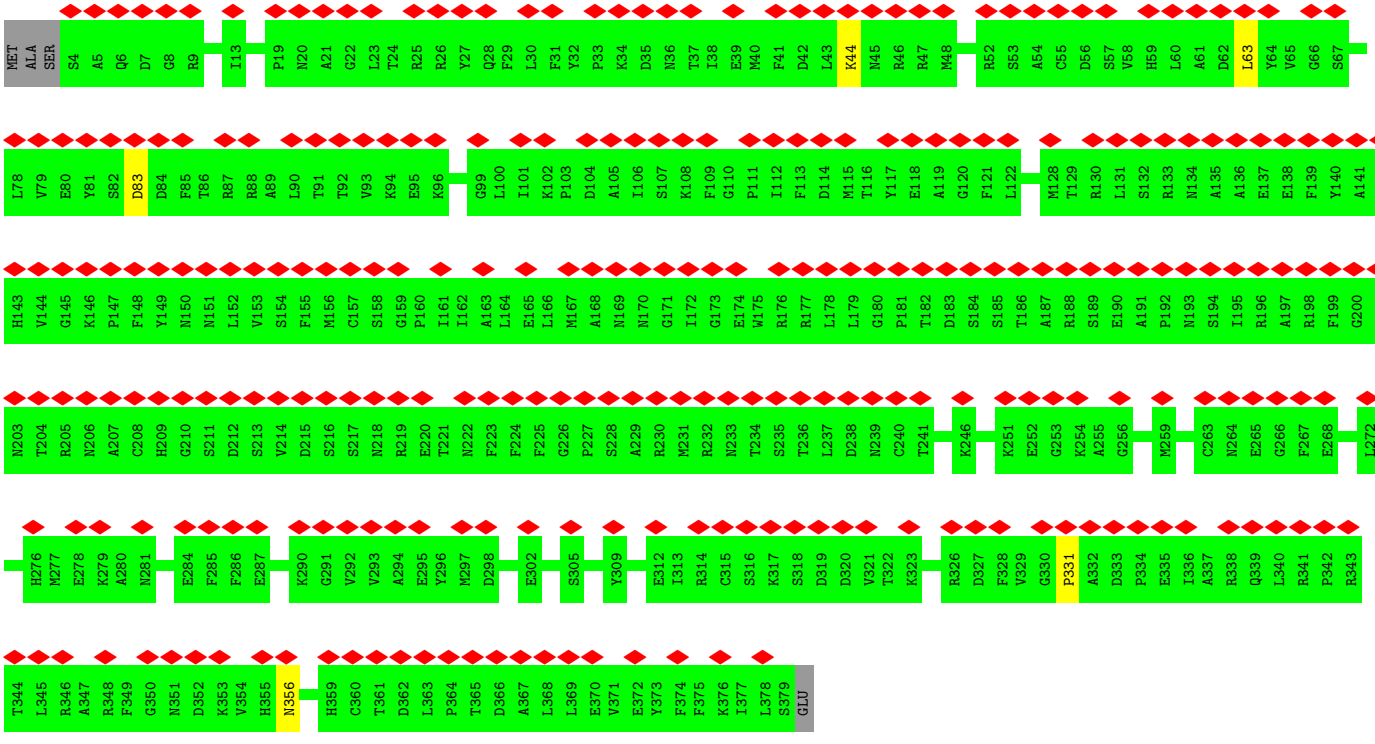




• Molecule 26: Nucleoside diphosphate kinase

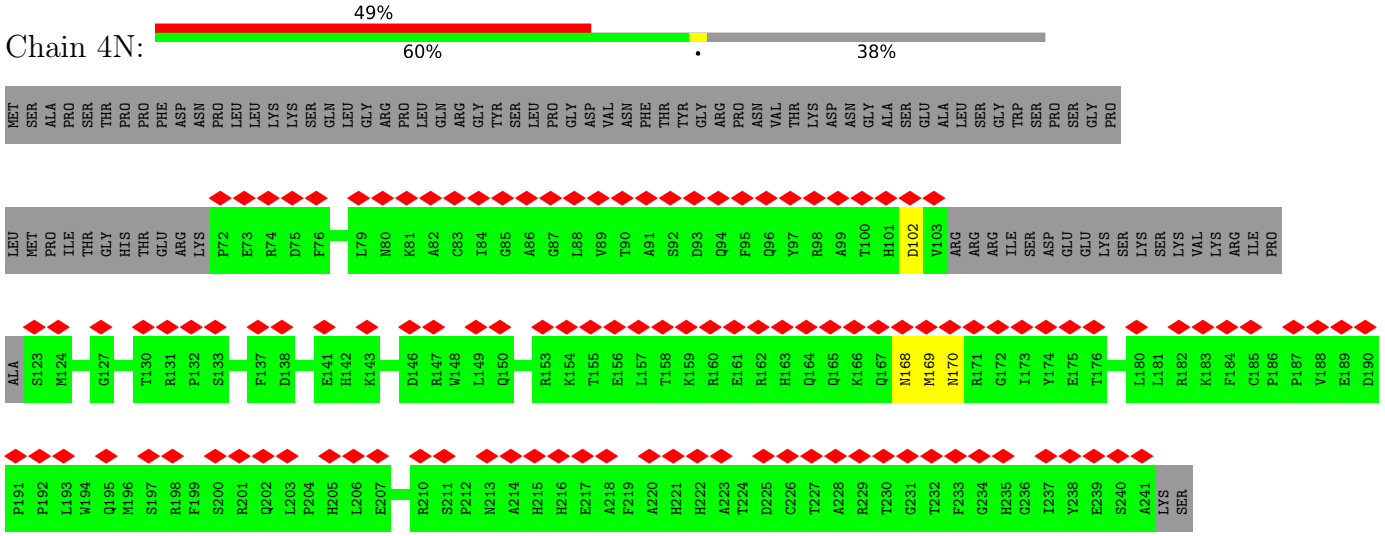
Chain 4K:





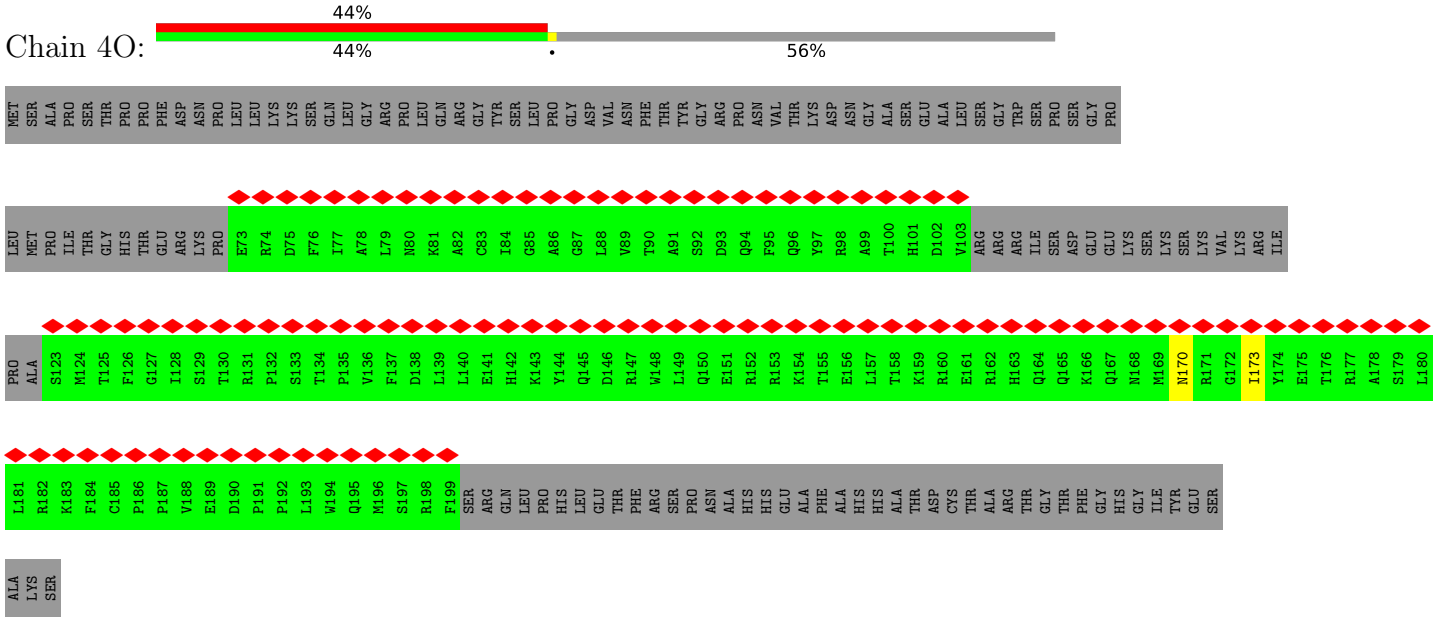
• Molecule 27: Cilia- and flagella-associated protein 77

Chain 4N:



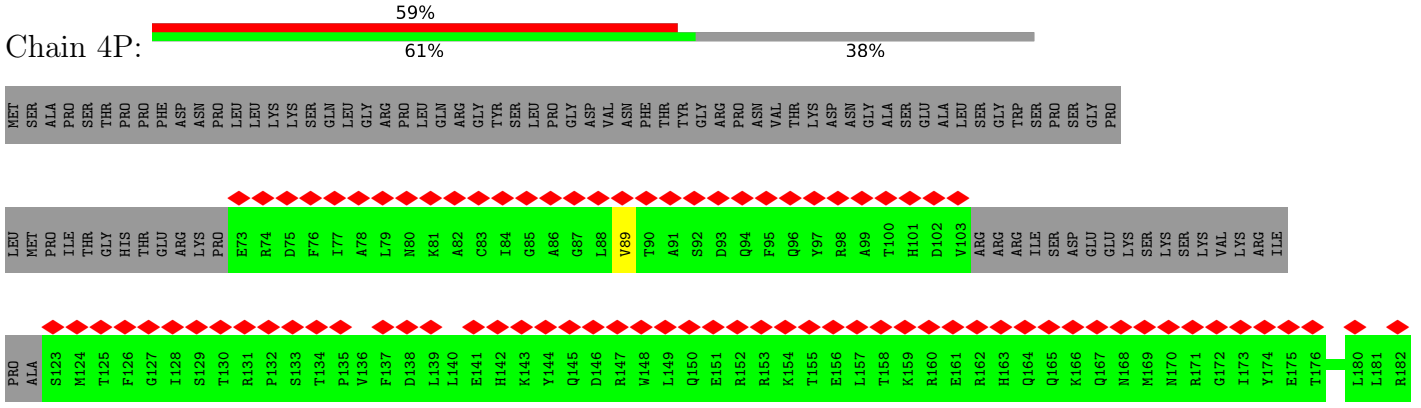
• Molecule 27: Cilia- and flagella-associated protein 77

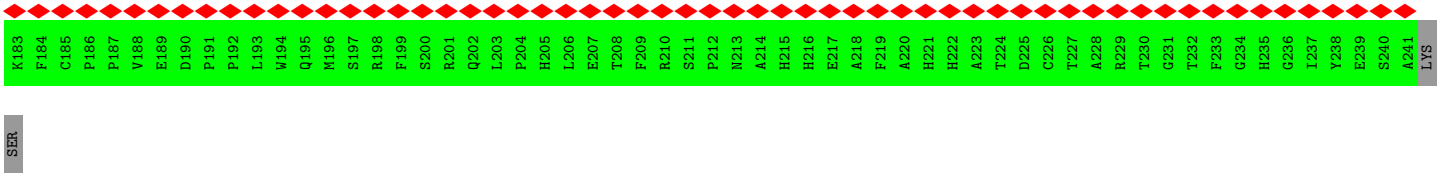
Chain 4O:



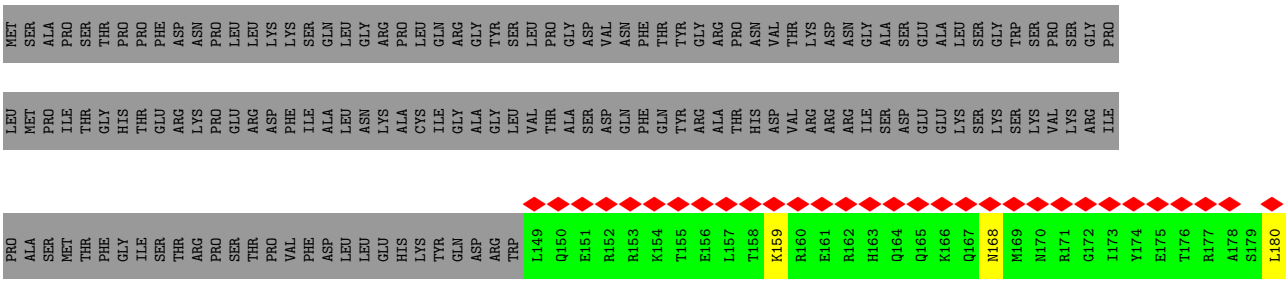
• Molecule 27: Cilia- and flagella-associated protein 77

Chain 4P:

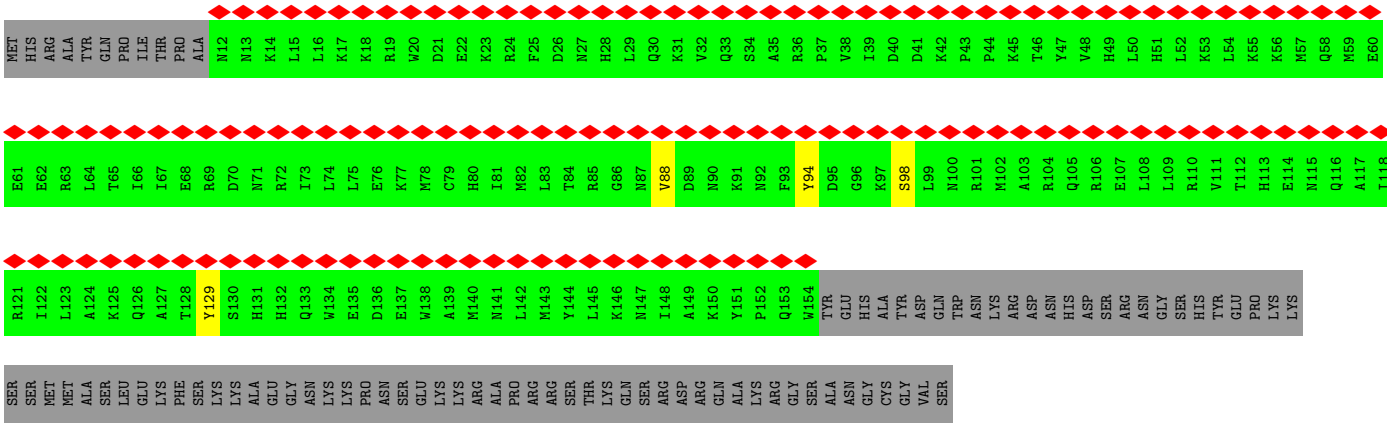




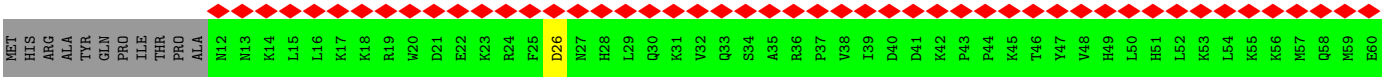
• Molecule 27: Cilia- and flagella-associated protein 77

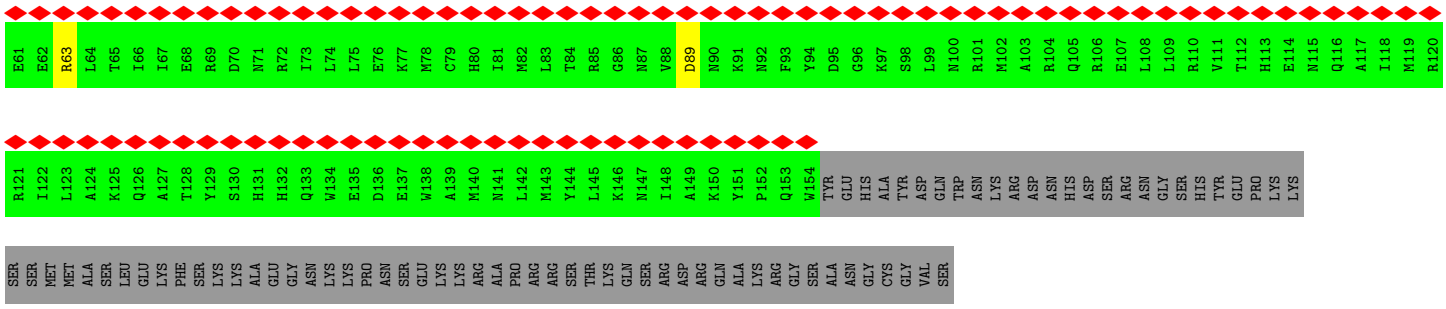


• Molecule 28: Cilia- and flagella-associated protein 97



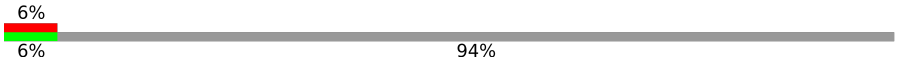
• Molecule 28: Cilia- and flagella-associated protein 97

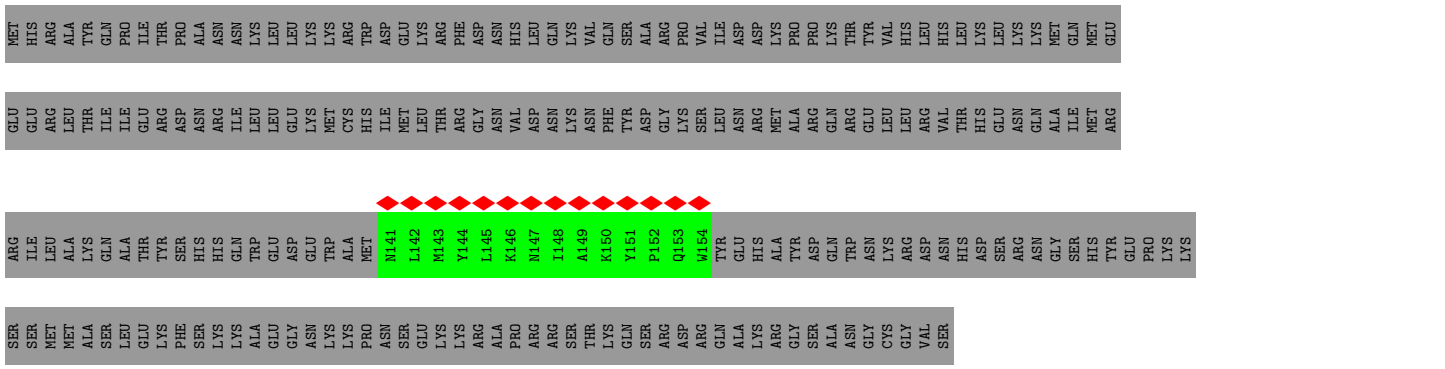




• Molecule 28: Cilia- and flagella-associated protein 97

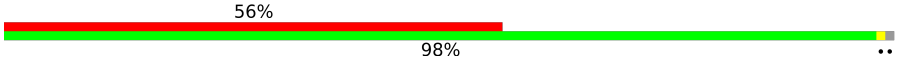
Chain 4V:

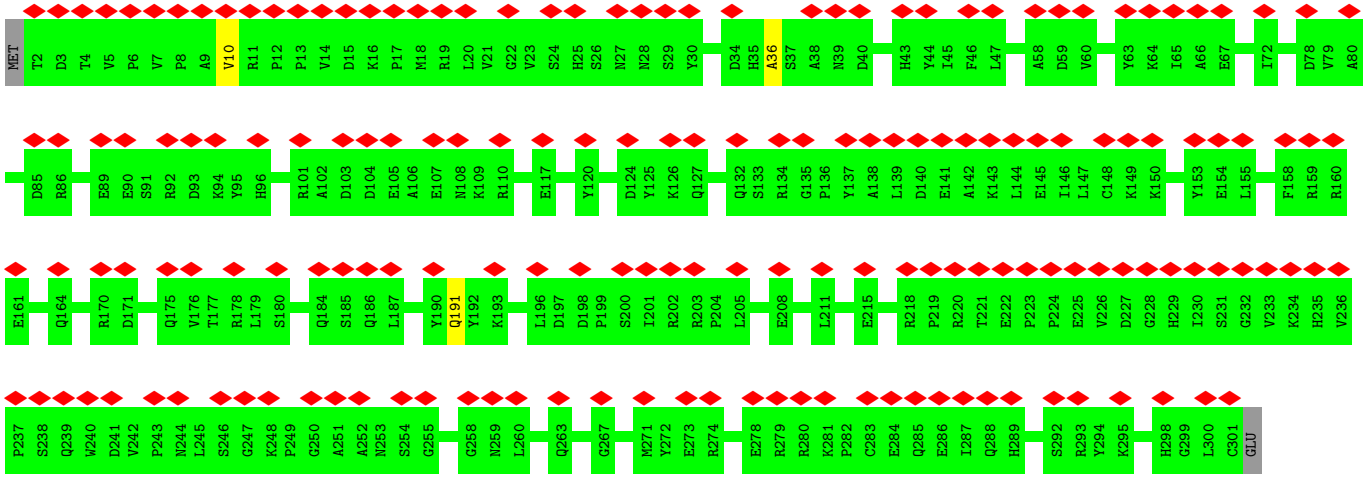




• Molecule 29: HeLo_like_N(LOC577943)

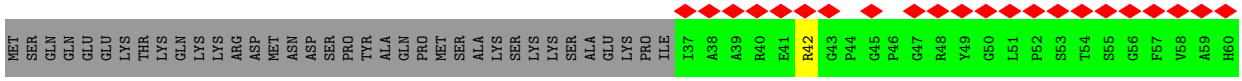
Chain 4Y:

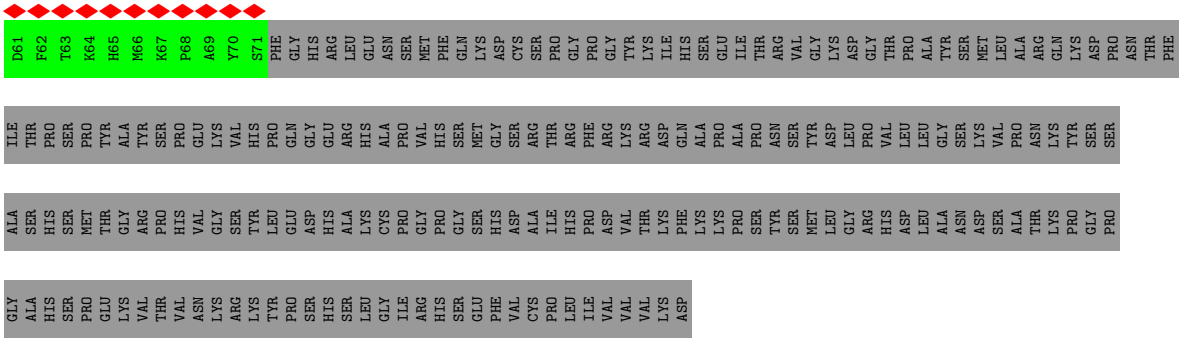




• Molecule 30: Outer dense fiber protein 3

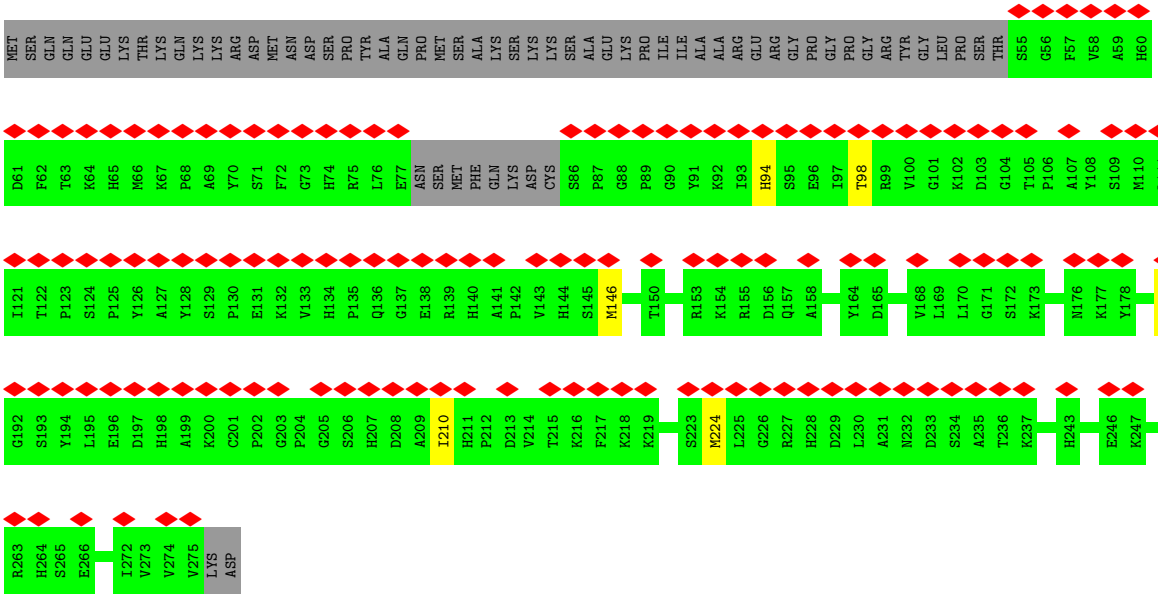
Chain 5A:





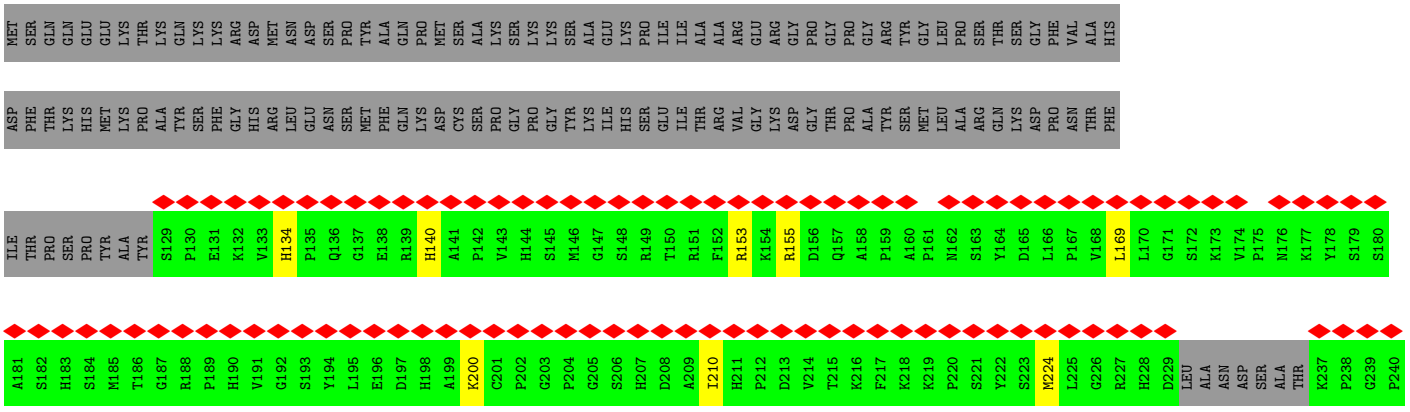
• Molecule 30: Outer dense fiber protein 3

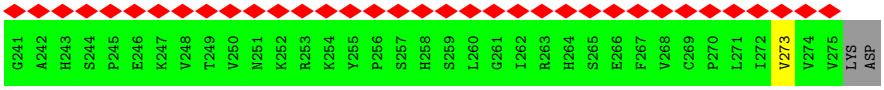
Chain 5B:



• Molecule 30: Outer dense fiber protein 3

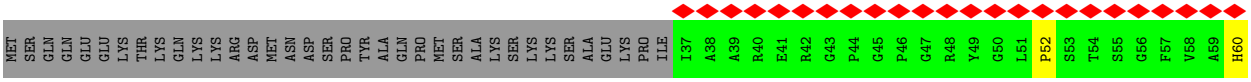
Chain 9Y:

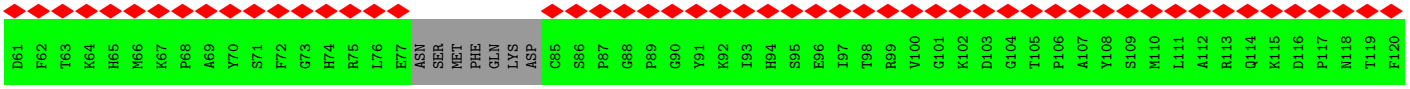


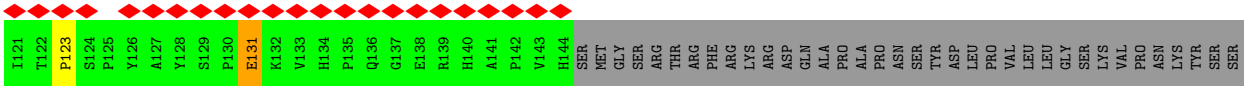


• Molecule 30: Outer dense fiber protein 3

Chain 9Z:

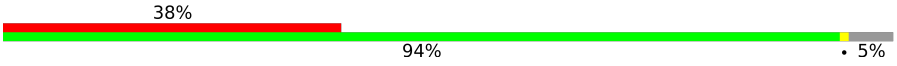


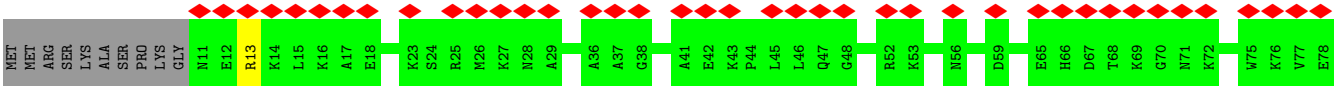


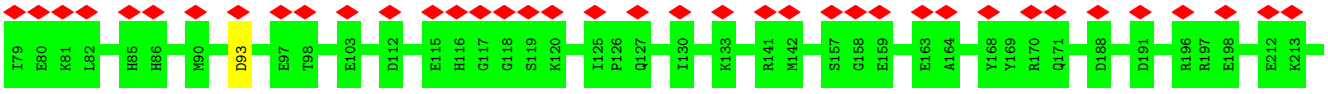


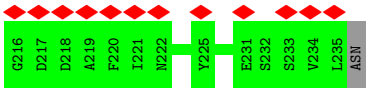
• Molecule 31: PACRG

Chain 6A:



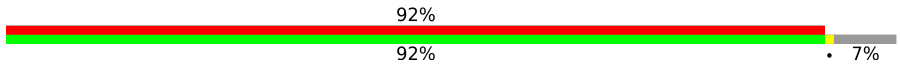


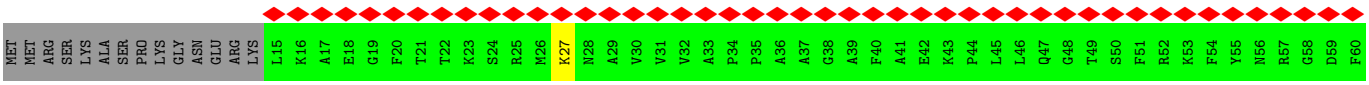


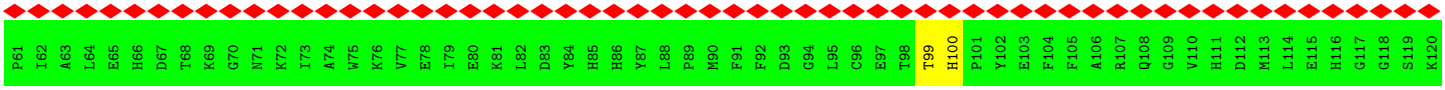


• Molecule 31: PACRG

Chain 6B:

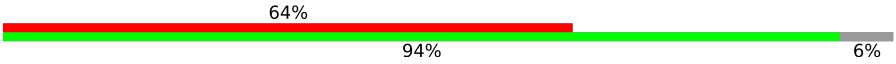


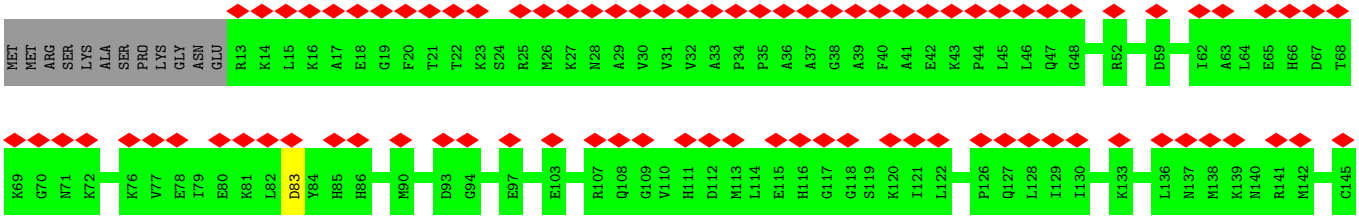




• Molecule 31: PACRG

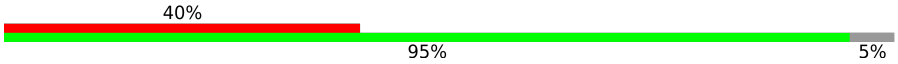
Chain 6C:

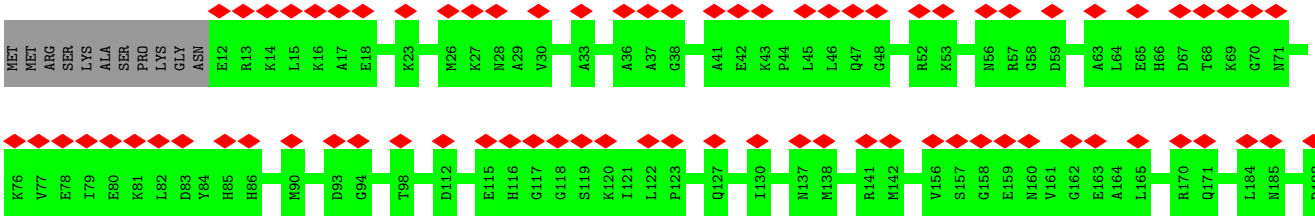




• Molecule 31: PACRG

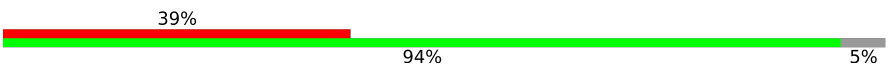
Chain 6D:

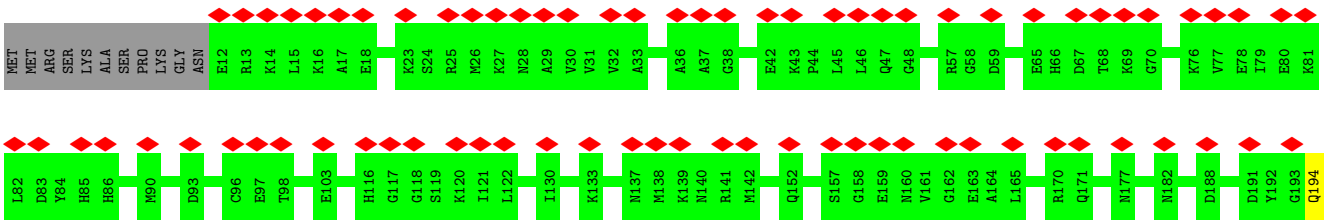


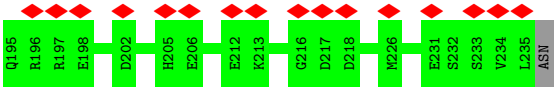


• Molecule 31: PACRG

Chain 6E:

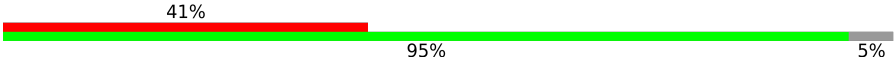


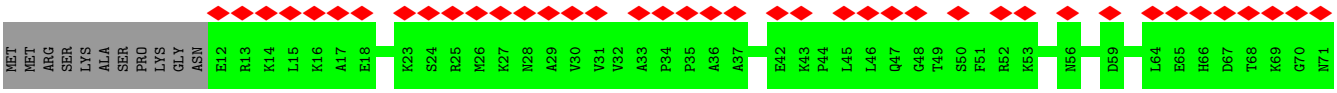


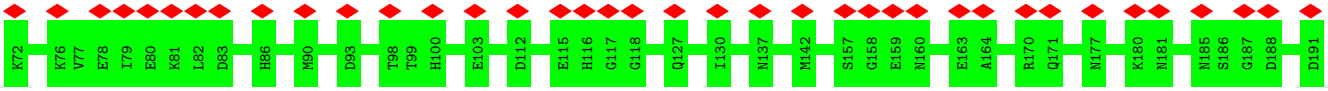


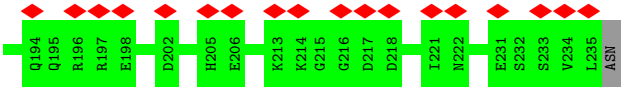
• Molecule 31: PACRG

Chain 6F:



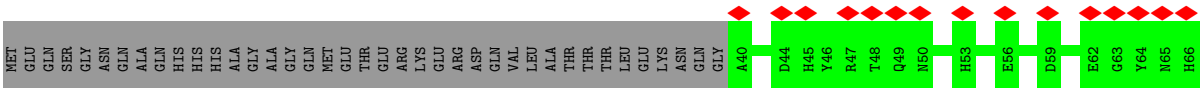


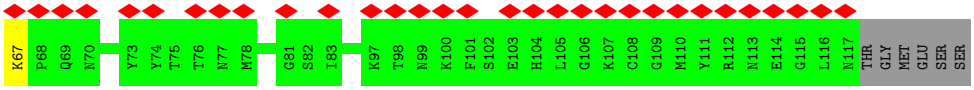




• Molecule 32: Pierce1

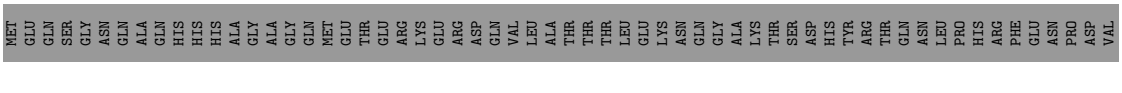
Chain 6I:

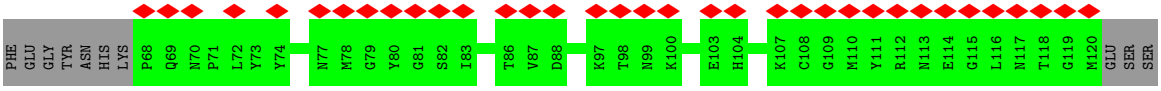




• Molecule 32: Pierce1

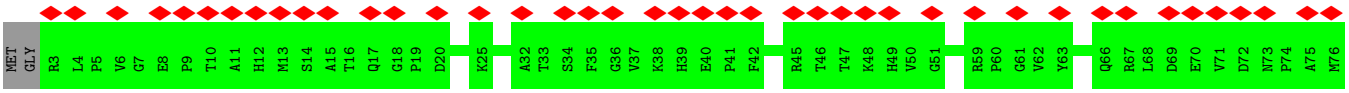
Chain 6J:

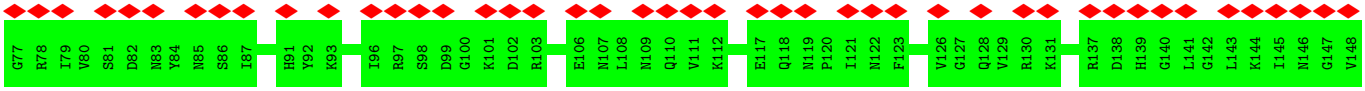


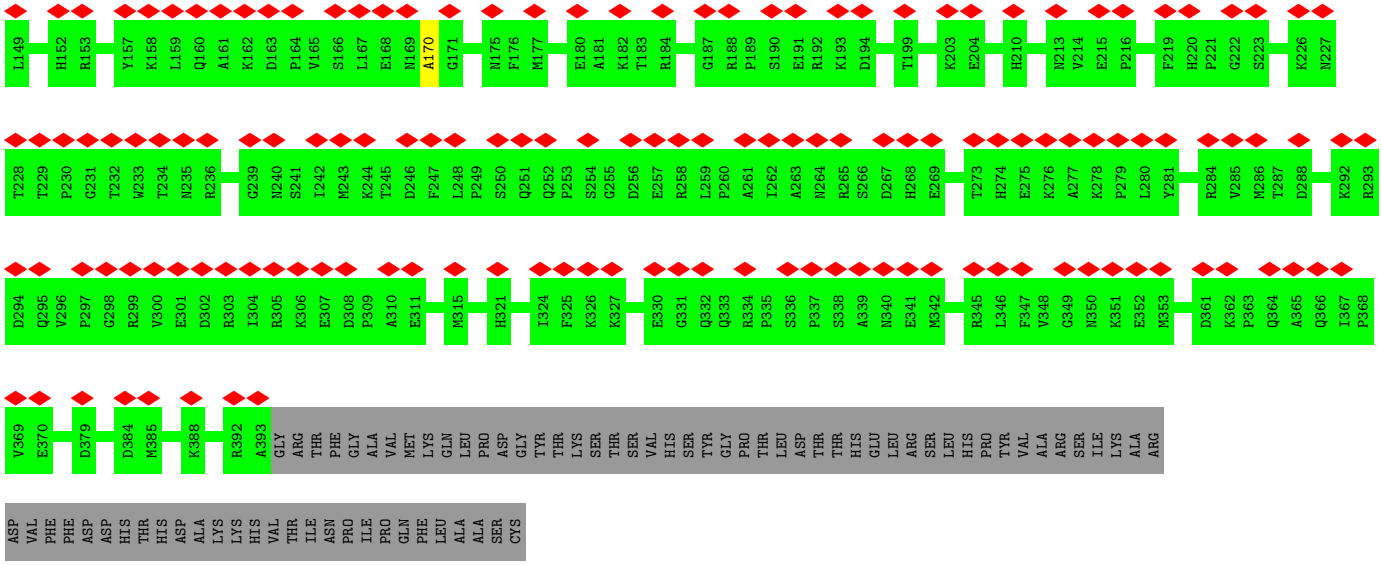


• Molecule 33: Protein phosphatase 1 regulatory subunit 32

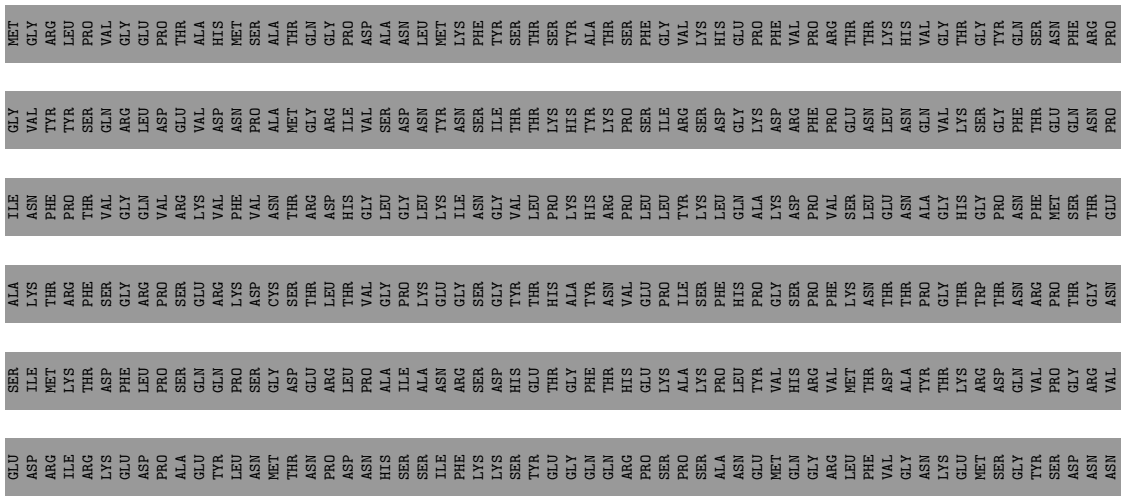
Chain 6M:

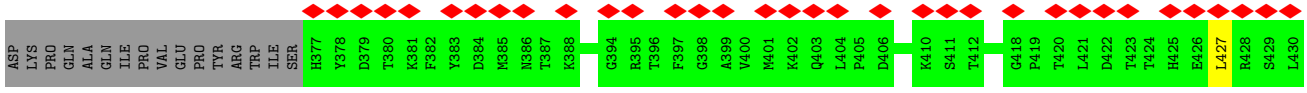


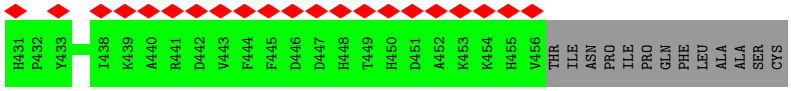




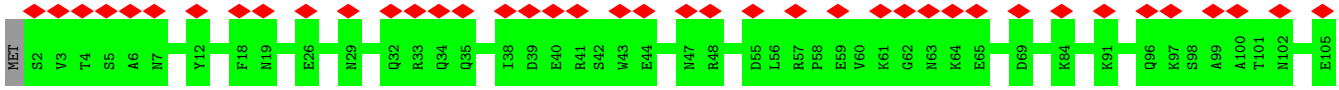
• Molecule 33: Protein phosphatase 1 regulatory subunit 32

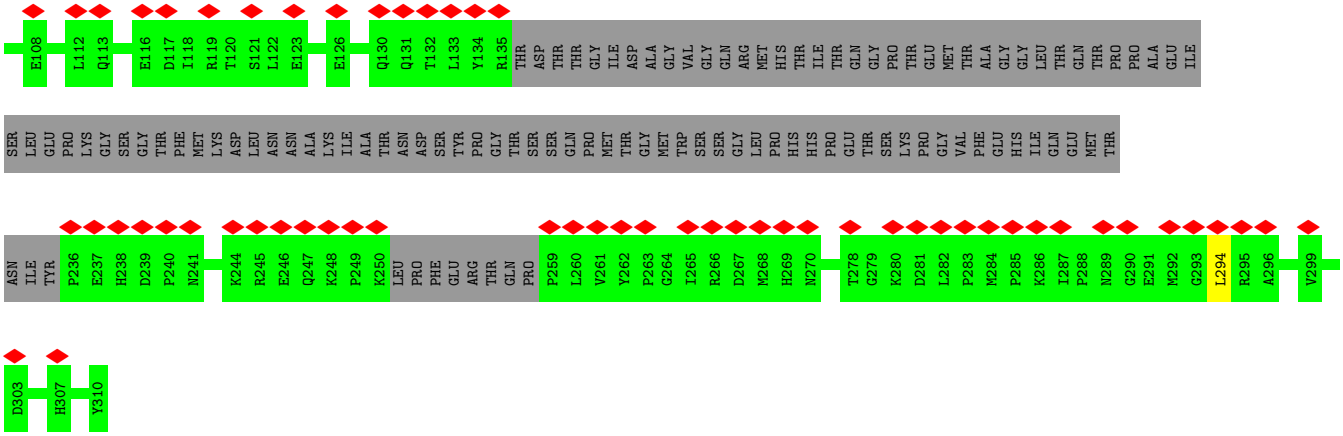






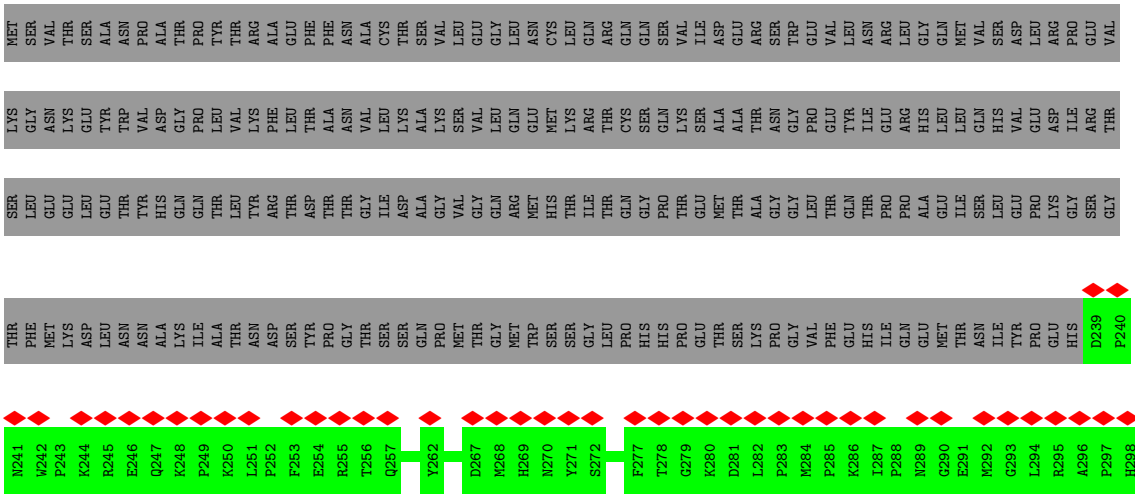
• Molecule 34: RIB35

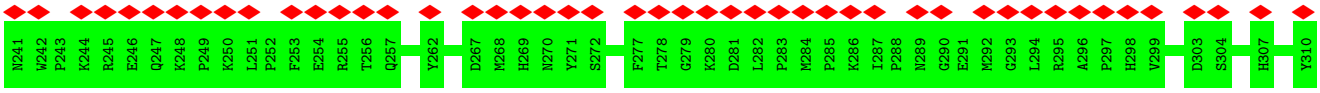




• Molecule 34: RIB35

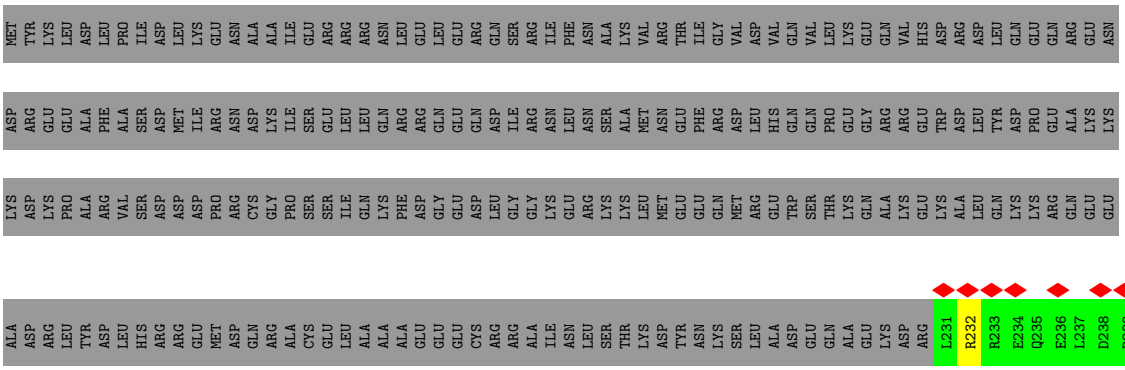
Chain 6R:

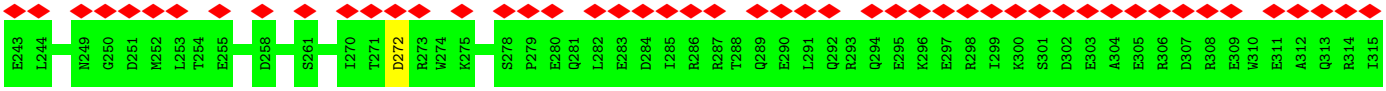


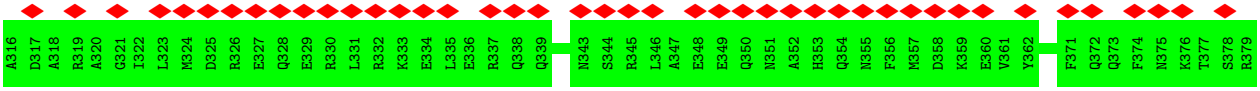


• Molecule 35: RIB43A-like with coiled-coils protein 2

Chain 6U:

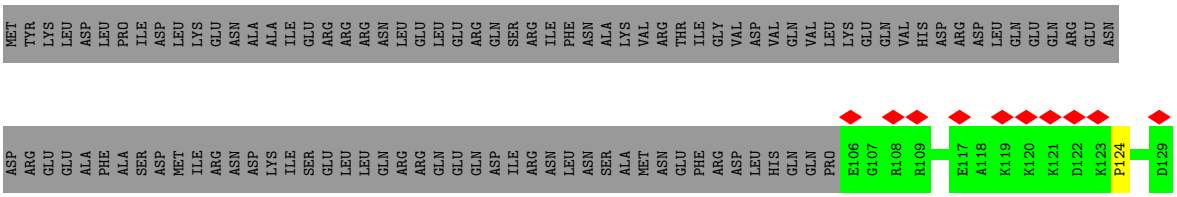






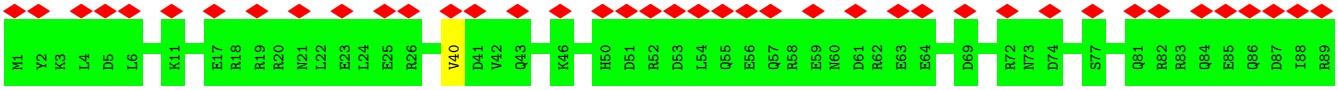
• Molecule 35: RIB43A-like with coiled-coils protein 2

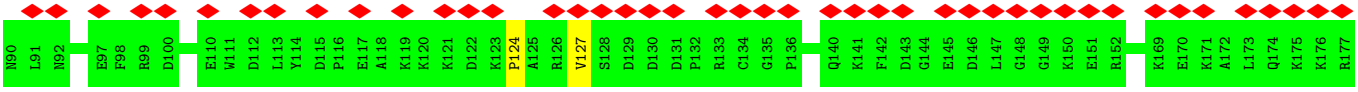
Chain 6V:

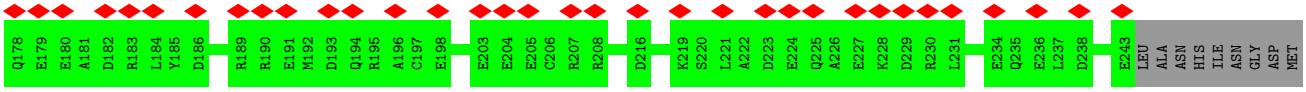


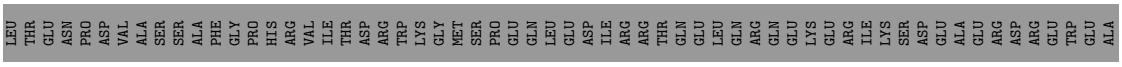
• Molecule 35: RIB43A-like with coiled-coils protein 2

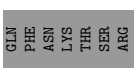
Chain 6W:





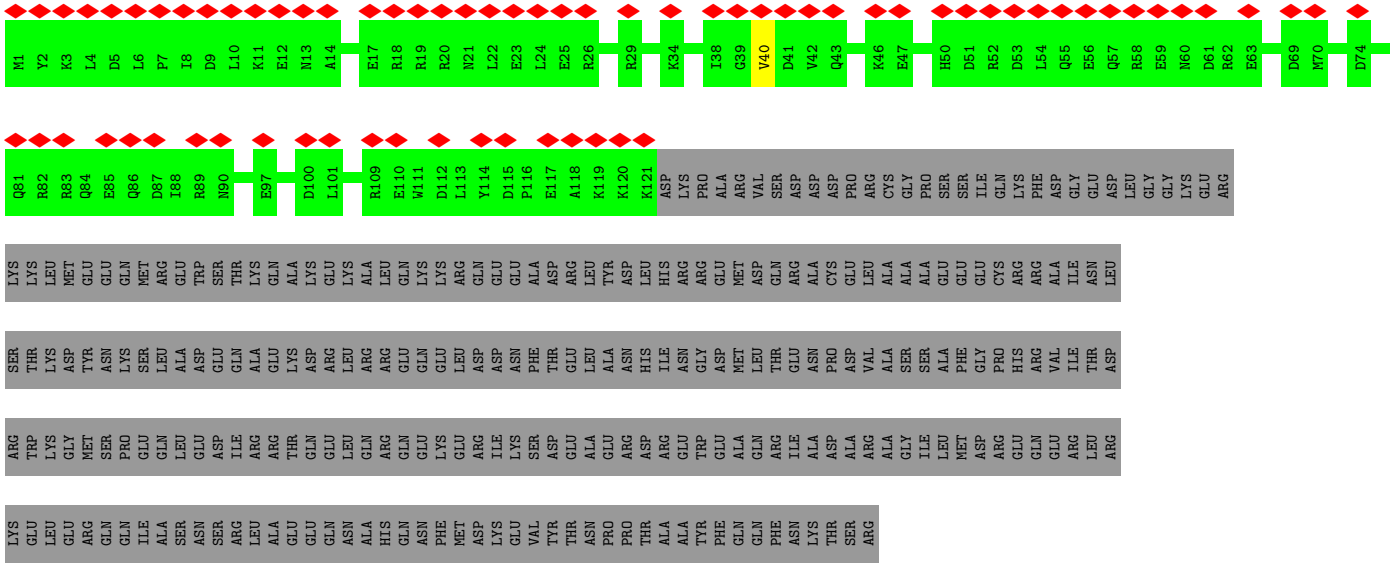






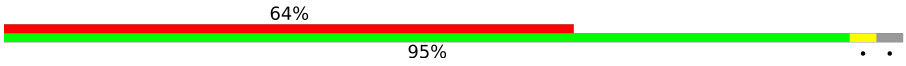
• Molecule 35: RIB43A-like with coiled-coils protein 2

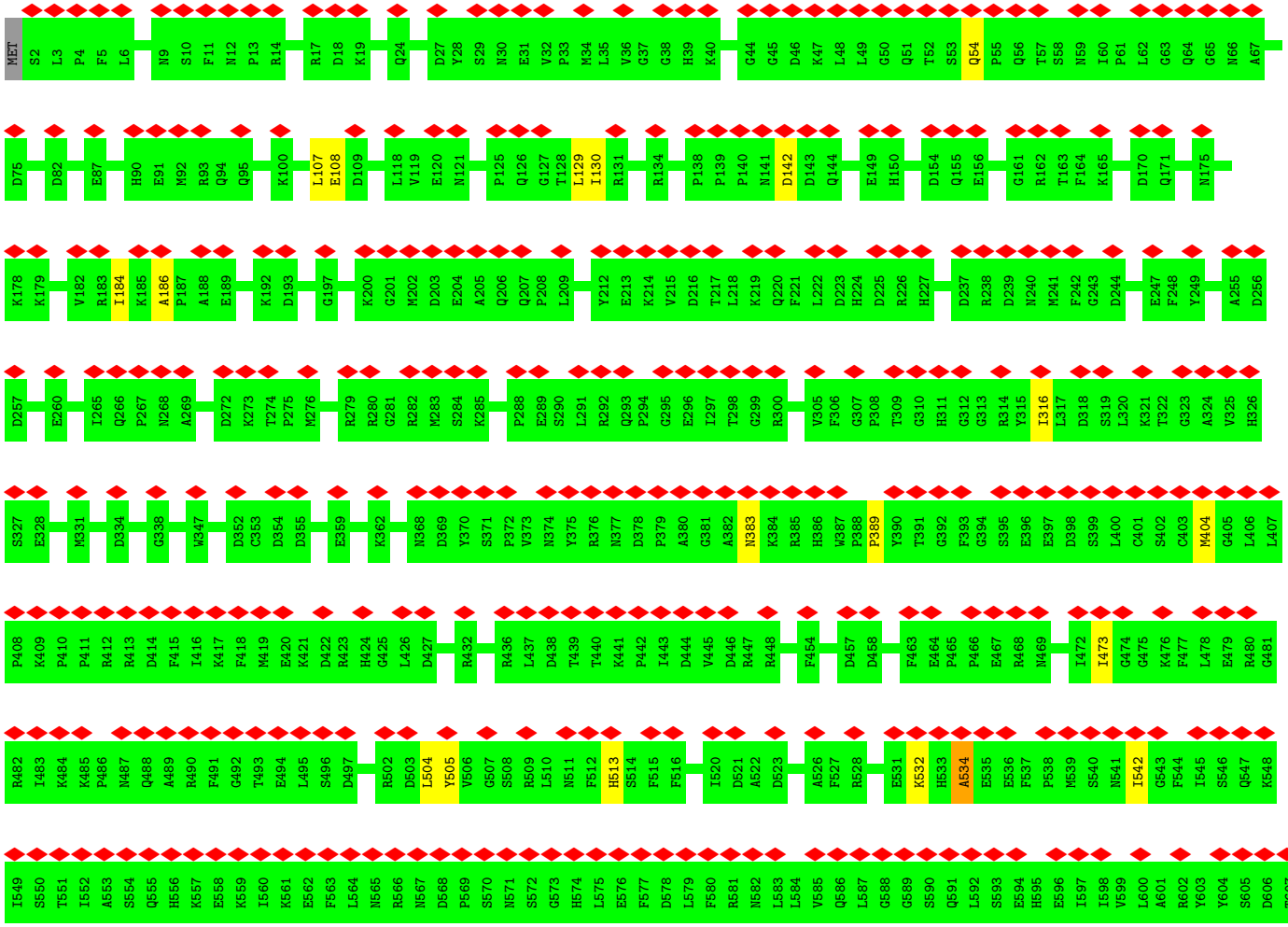
Chain 6X:

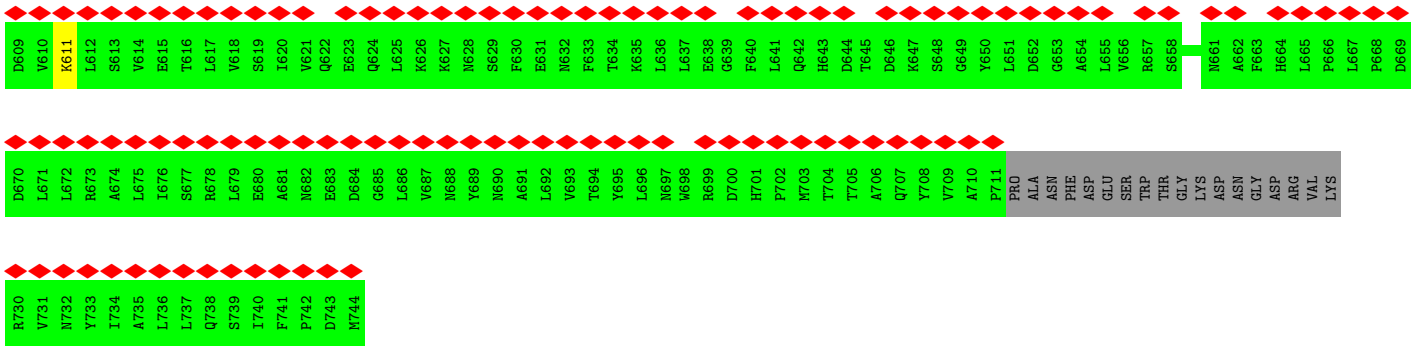


• Molecule 36: EF-hand domain-containing family member C2

Chain 7A:

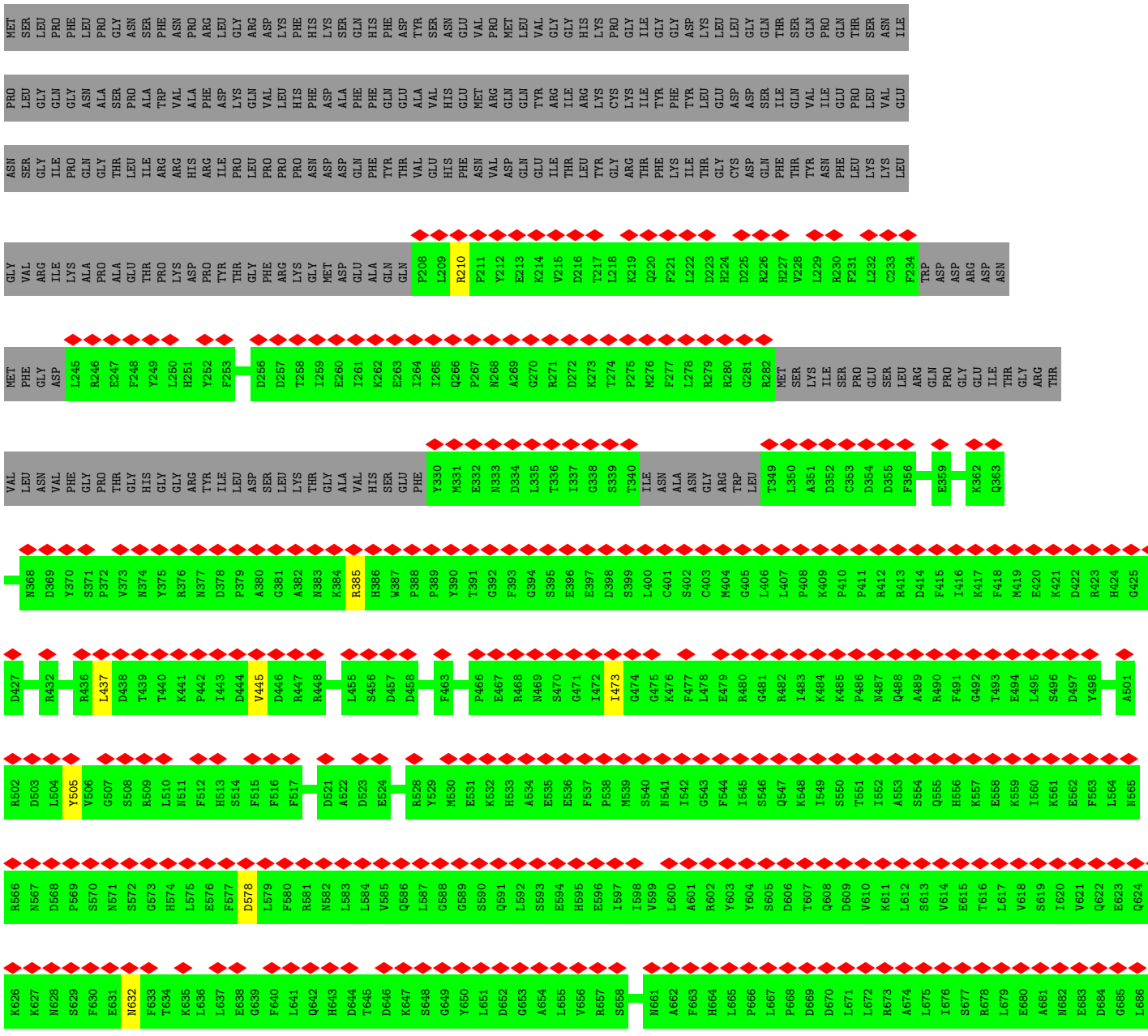


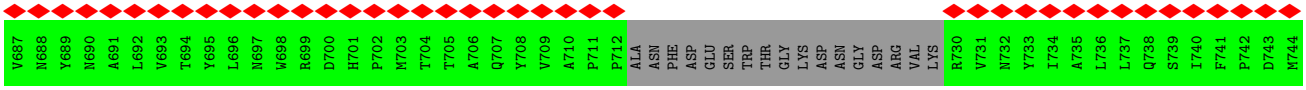




• Molecule 36: EF-hand domain-containing family member C2

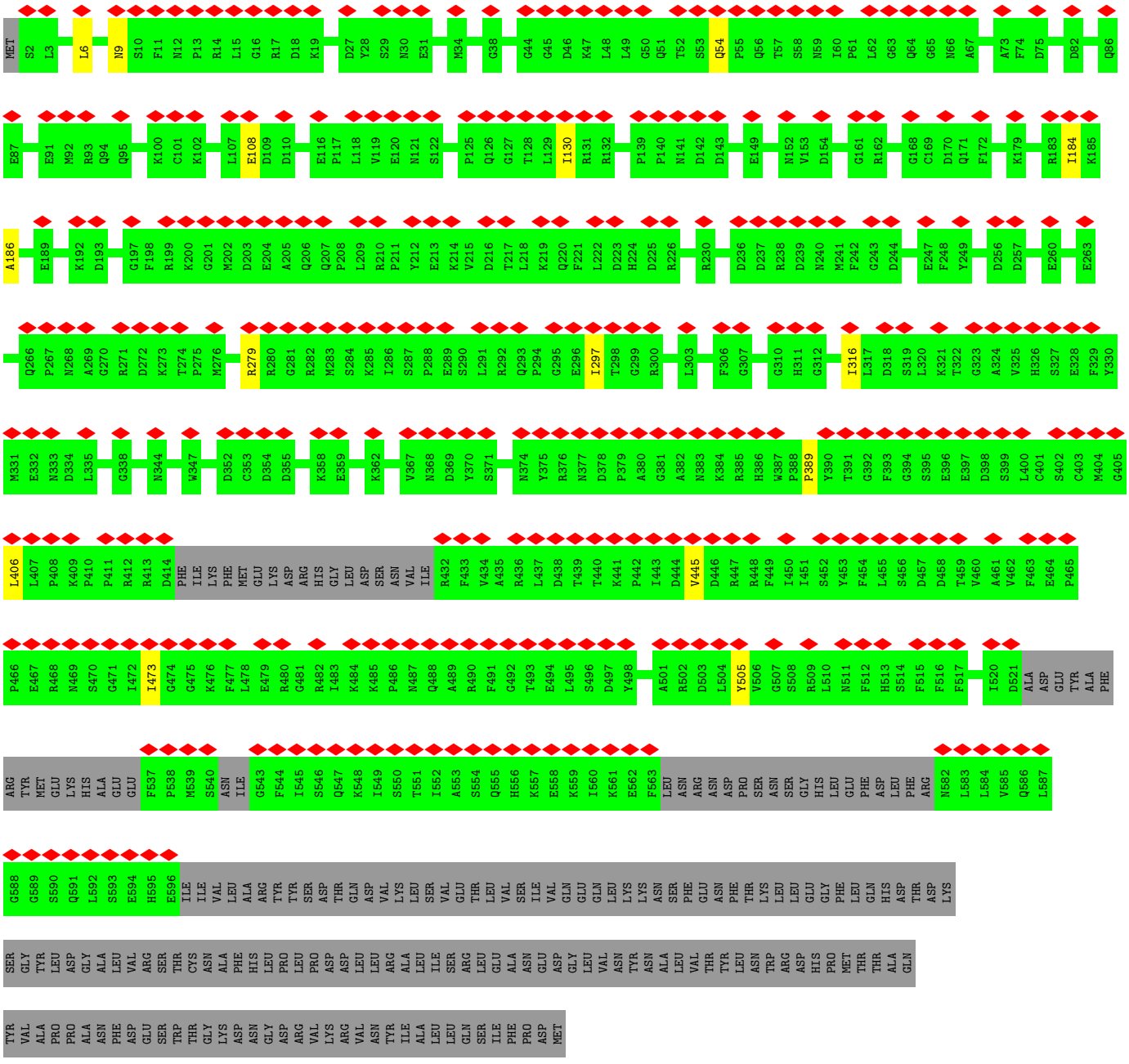
Chain 7B:





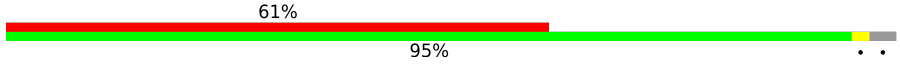
• Molecule 36: EF-hand domain-containing family member C2

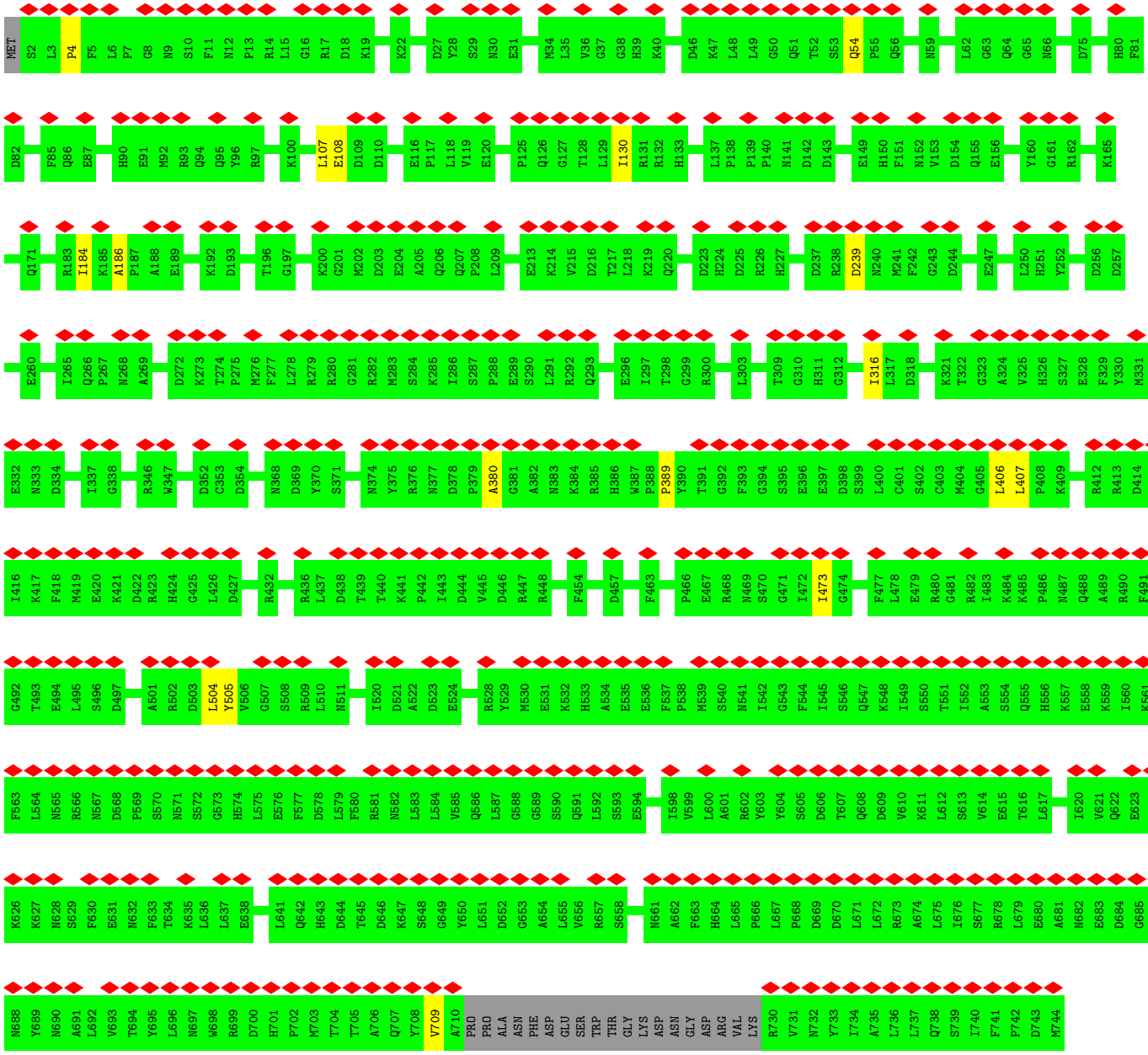
Chain 7C:



• Molecule 36: EF-hand domain-containing family member C2

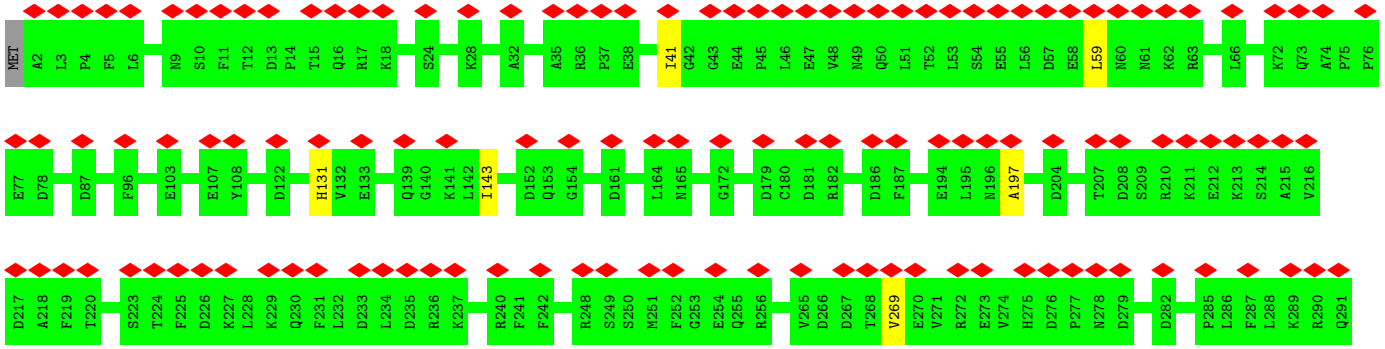
Chain 7D:

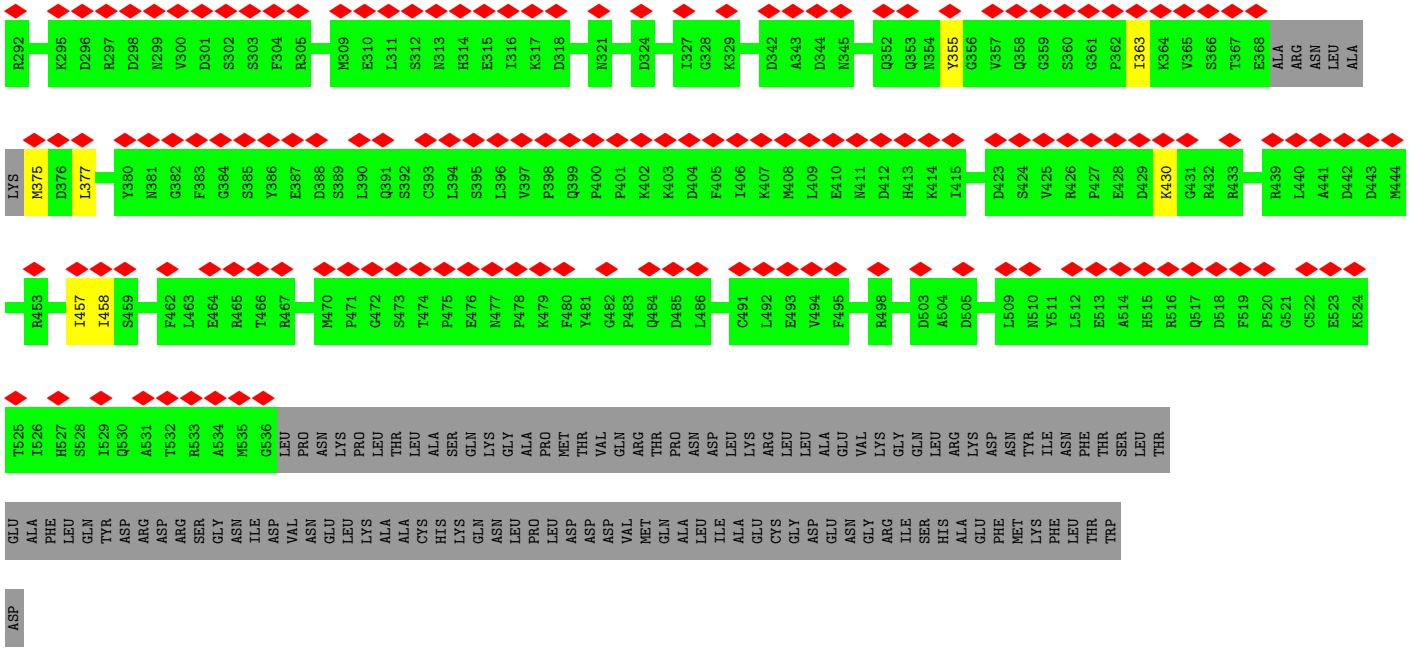




• Molecule 37: Flagellar protofilament ribbon protein rib74

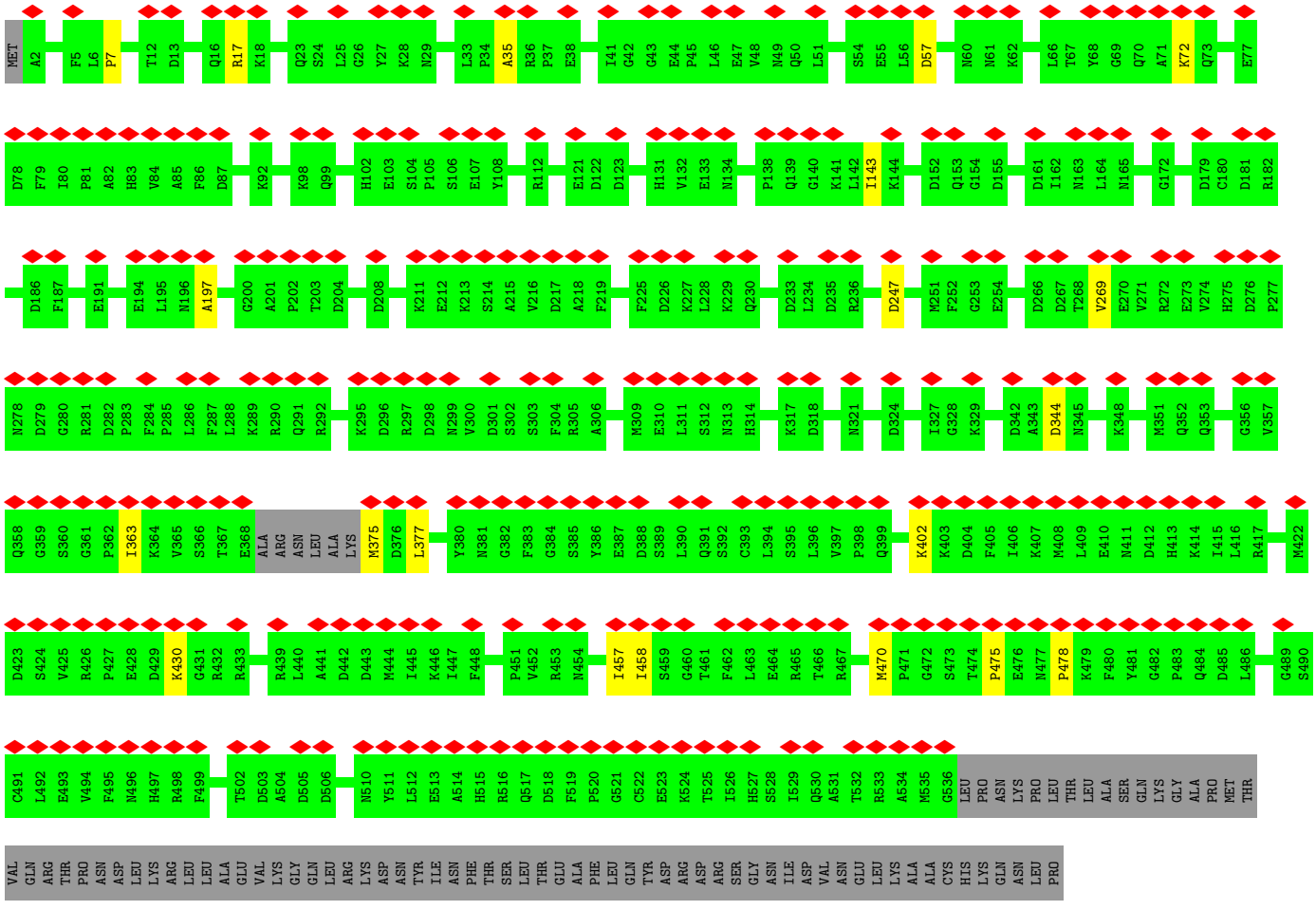
Chain 7G:





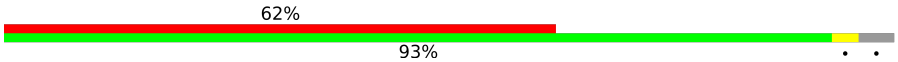
• Molecule 37: Flagellar protofilament ribbon protein rib74

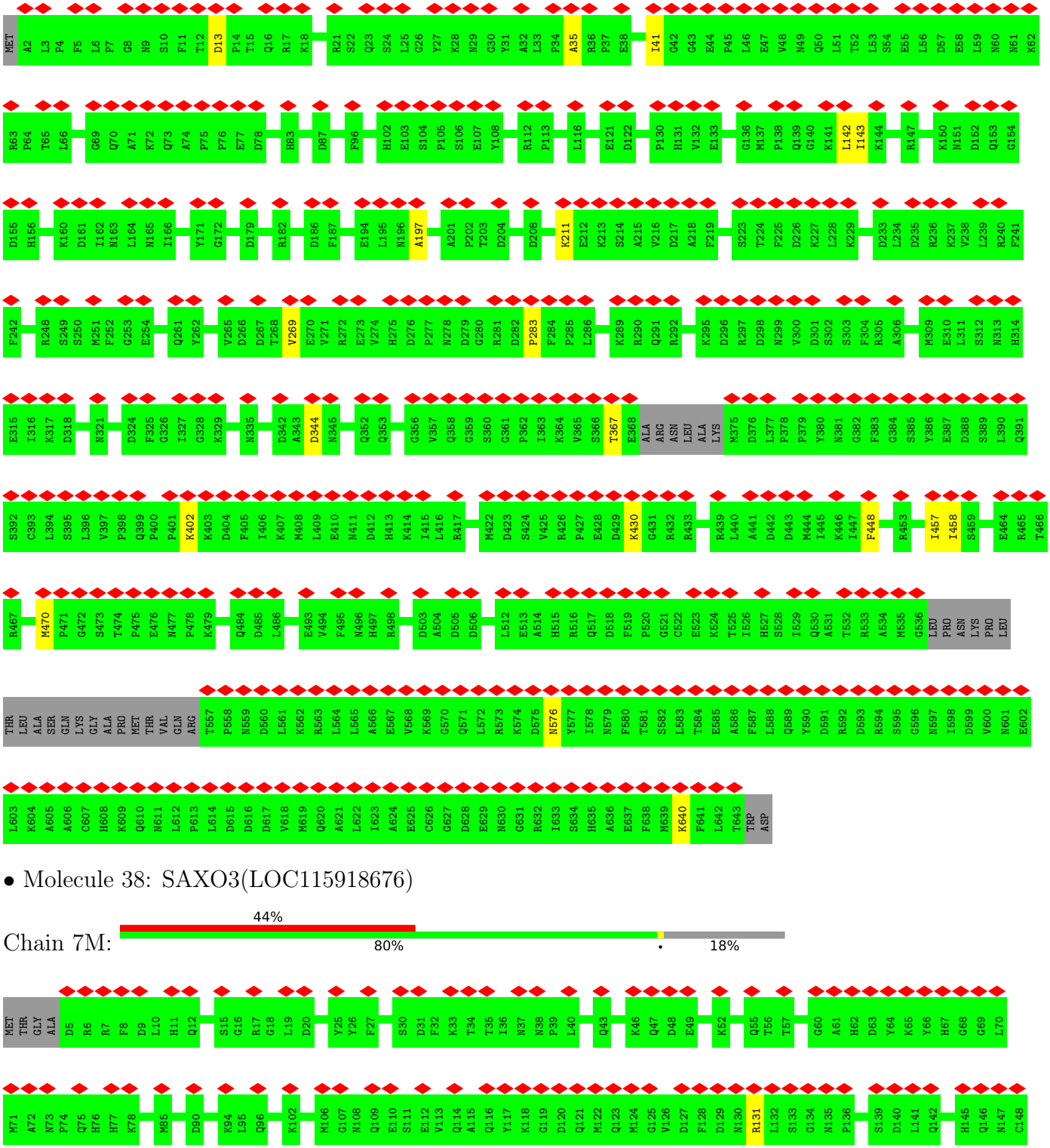
Chain 7H:



• Molecule 37: Flagellar protofilament ribbon protein rib74

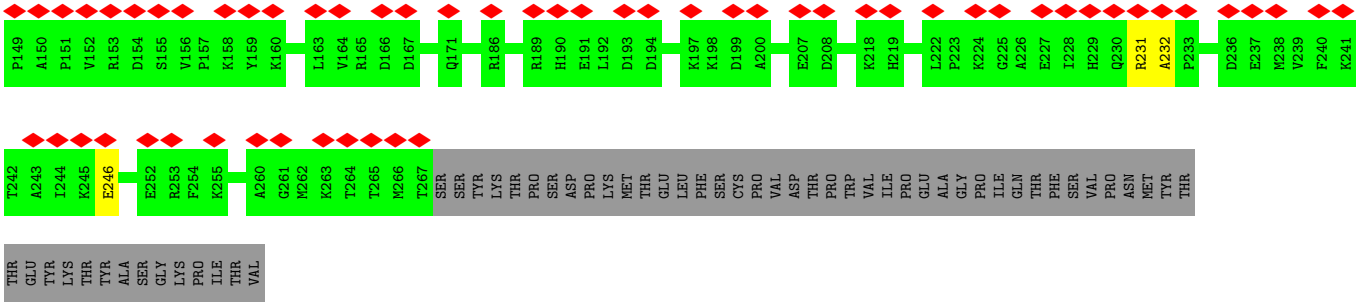
Chain 7I:





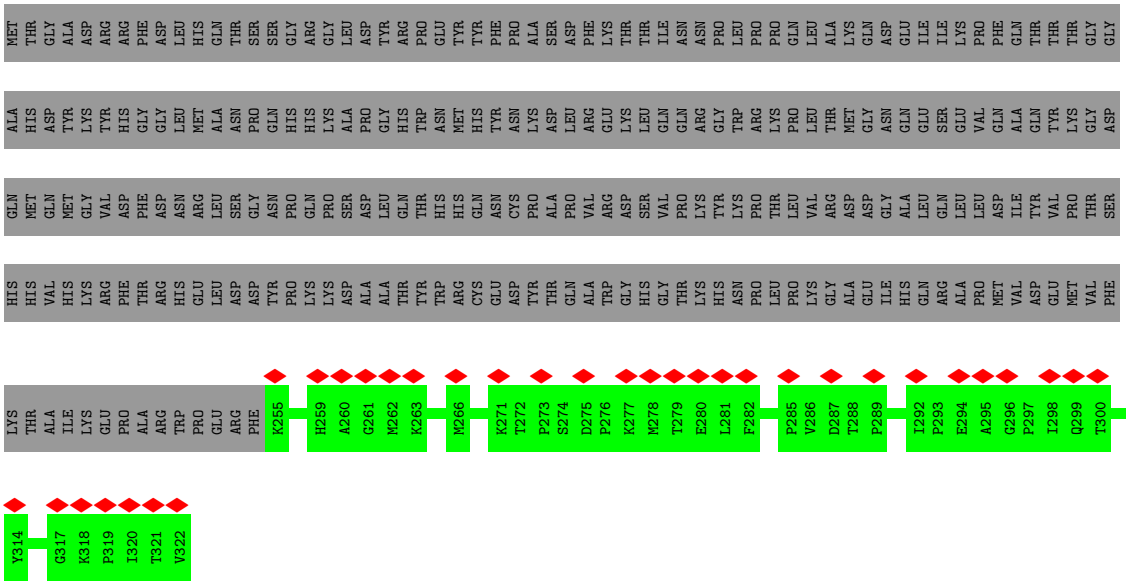
• Molecule 38: SAXO3(LOC115918676)

Chain 7M:



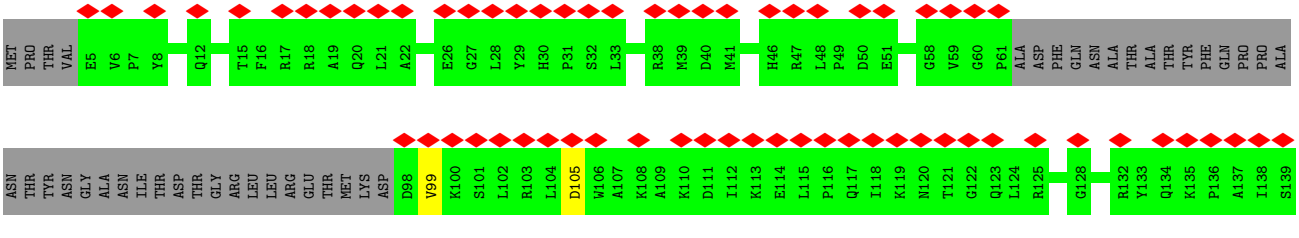
• Molecule 38: SAXO3(LOC115918676)

Chain 7N:



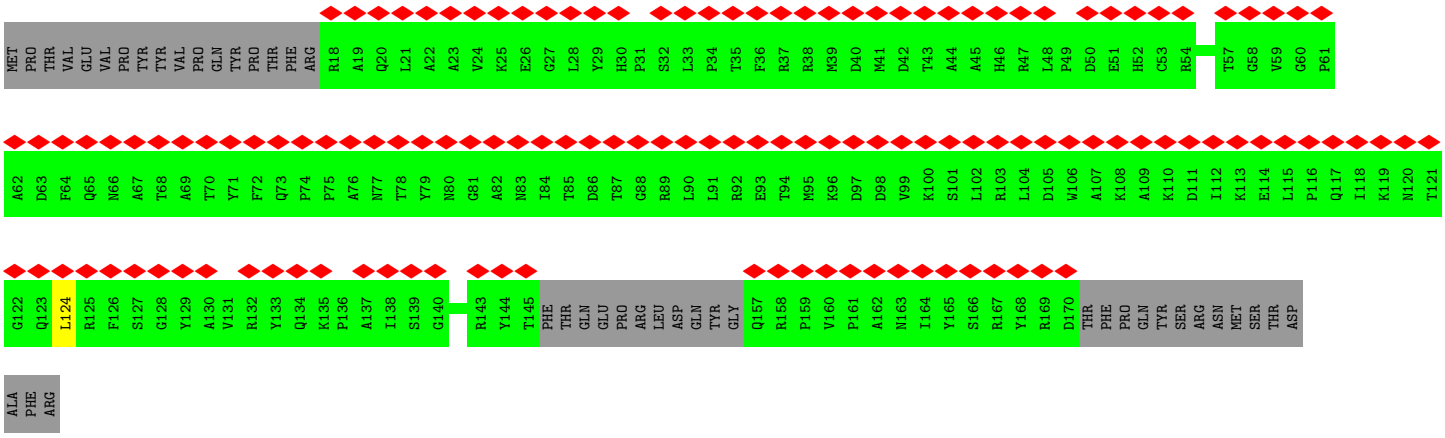
• Molecule 39: TEPP protein

Chain 7Q:



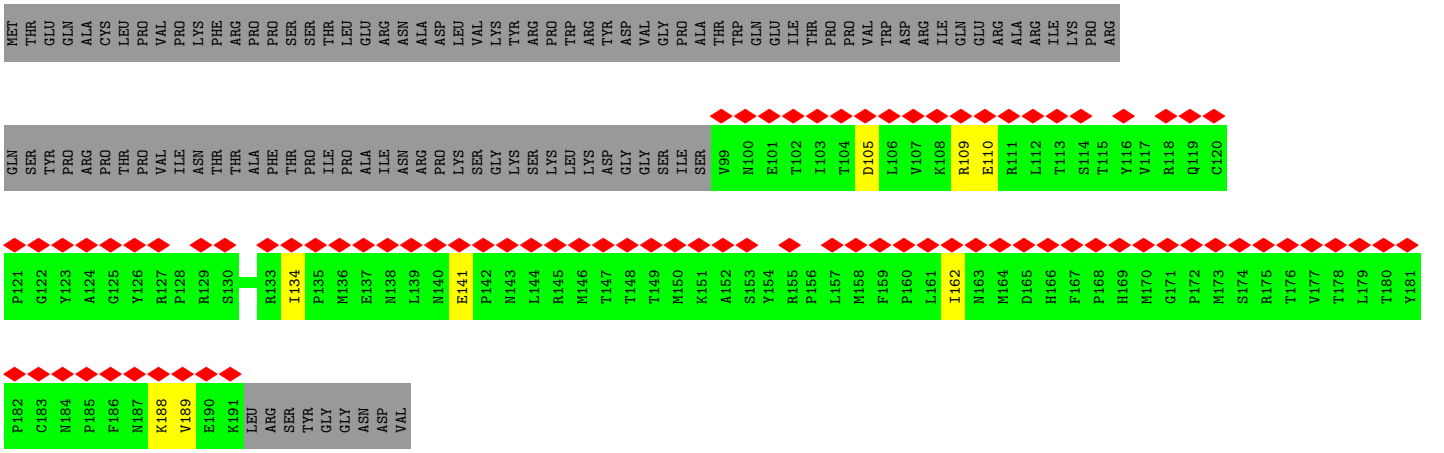
• Molecule 39: TEPP protein

Chain 7R:



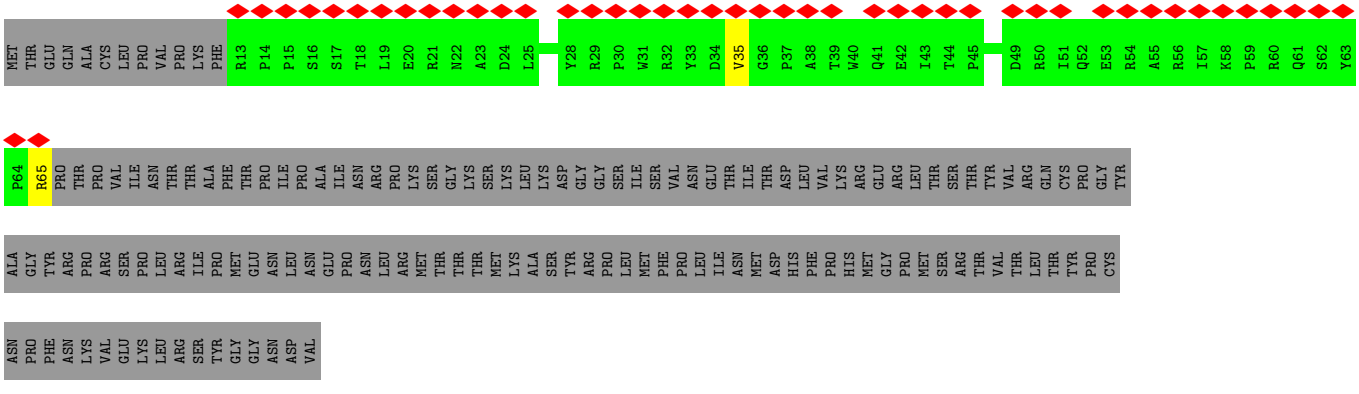
• Molecule 40: SPATA48

Chain 7U:



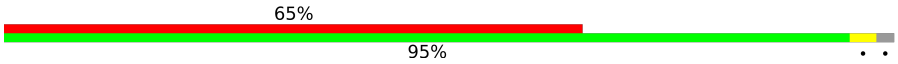
• Molecule 40: SPATA48

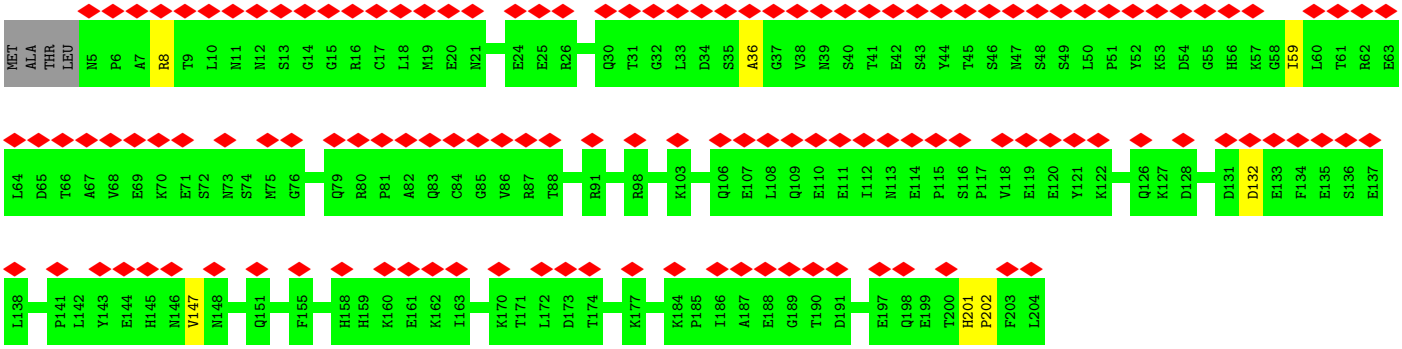
Chain 7V:



• Molecule 41: Sperm-associated antigen 8

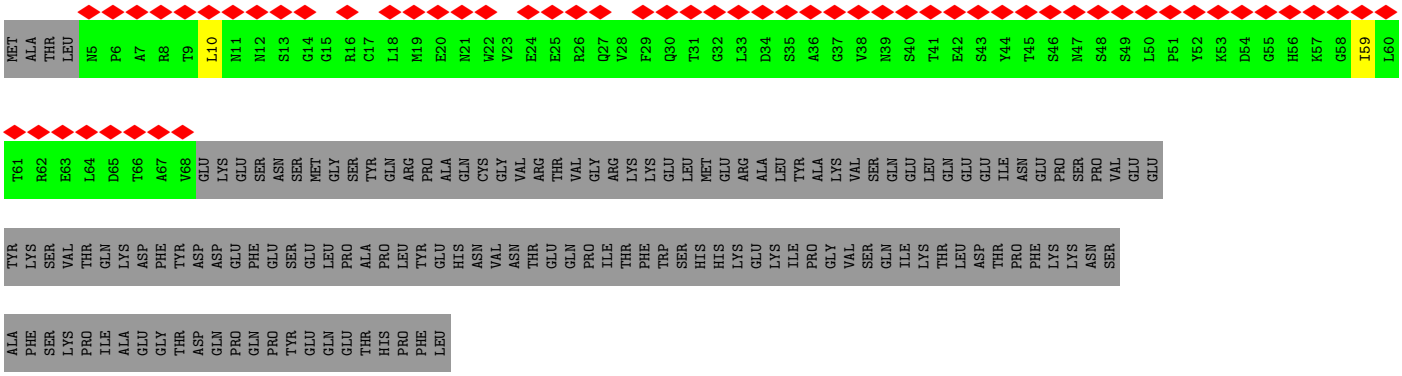
Chain 7Y:





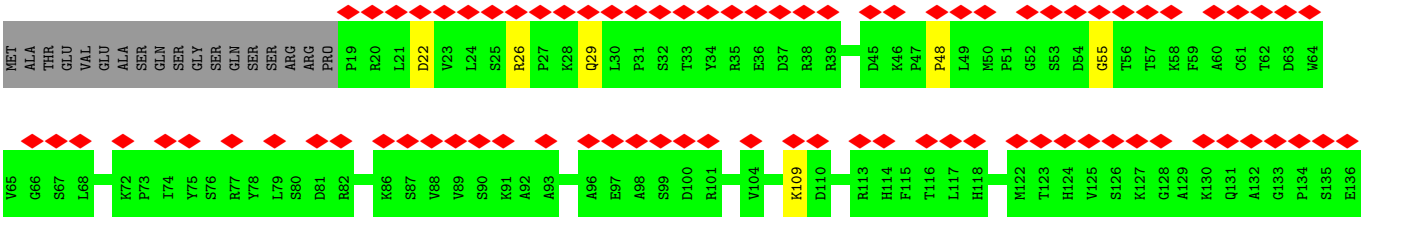
• Molecule 41: Sperm-associated antigen 8

Chain 7Z:



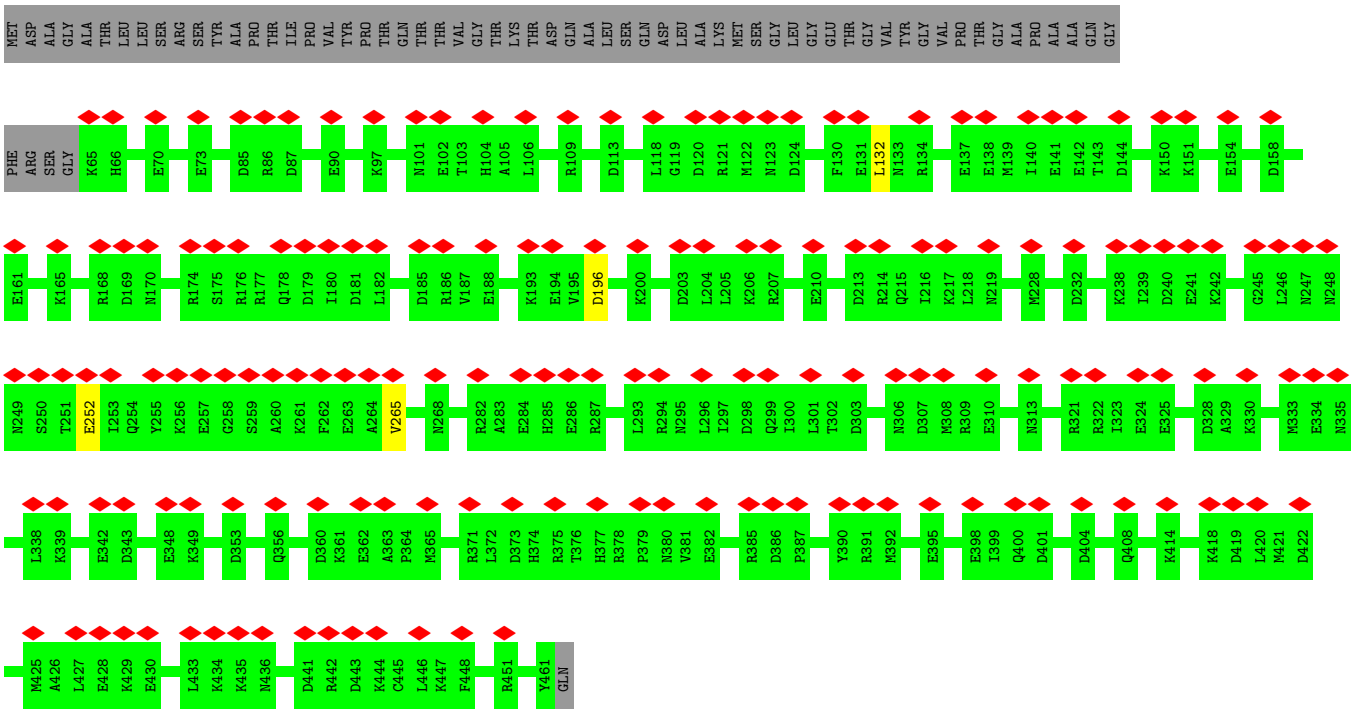
• Molecule 42: Testicular haploid expressed gene protein-like

Chain 8A:



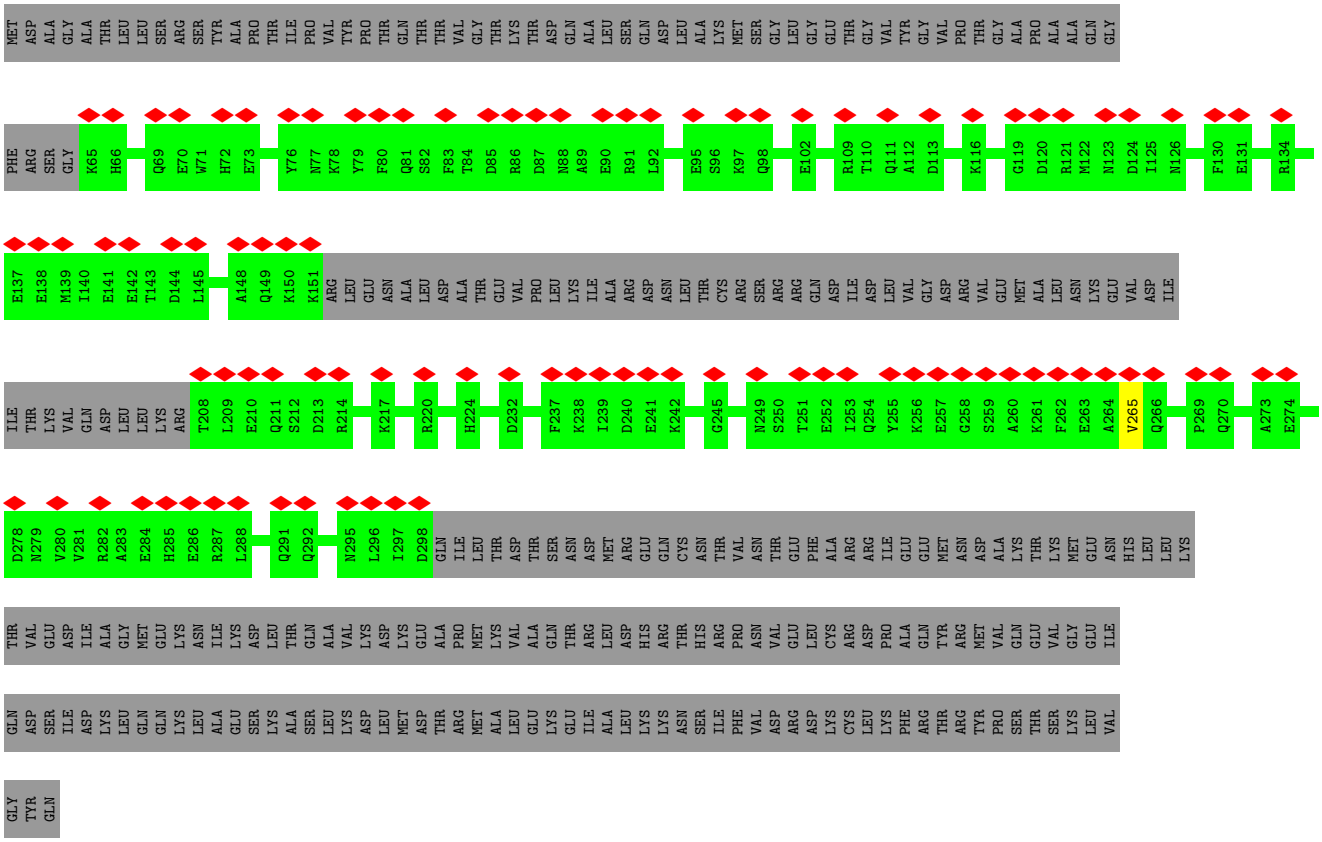
• Molecule 43: Tektin A1

Chain 8D:



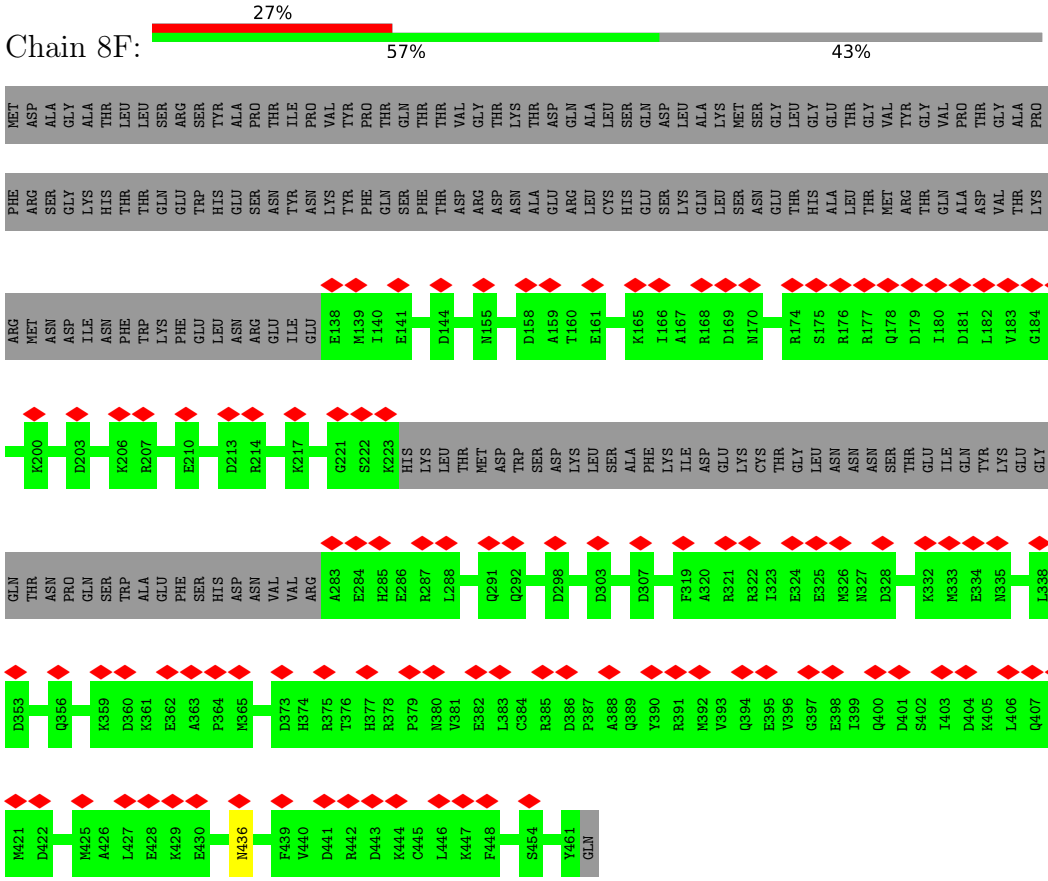
• Molecule 43: Tektin A1

Chain 8E:



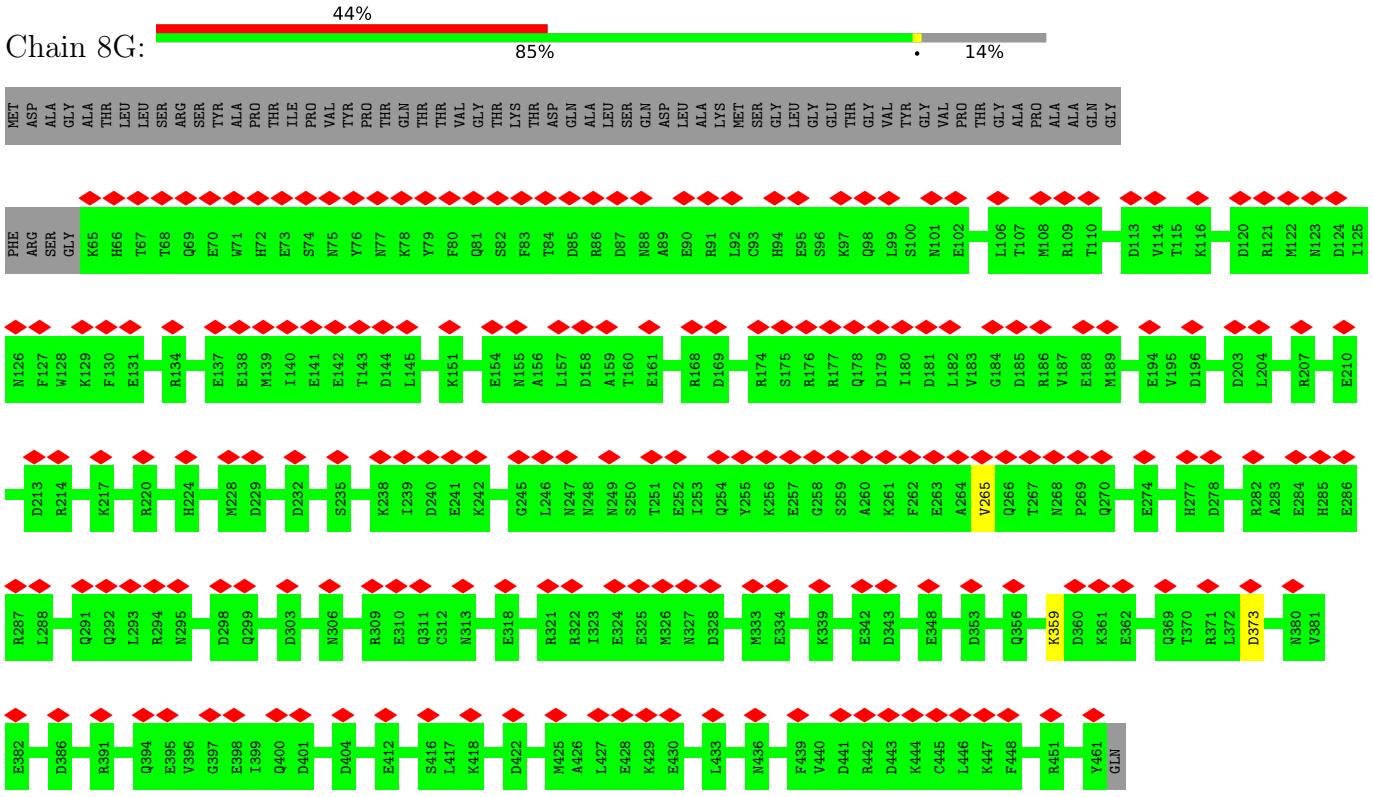
• Molecule 43: Tektin A1

Chain 8F:



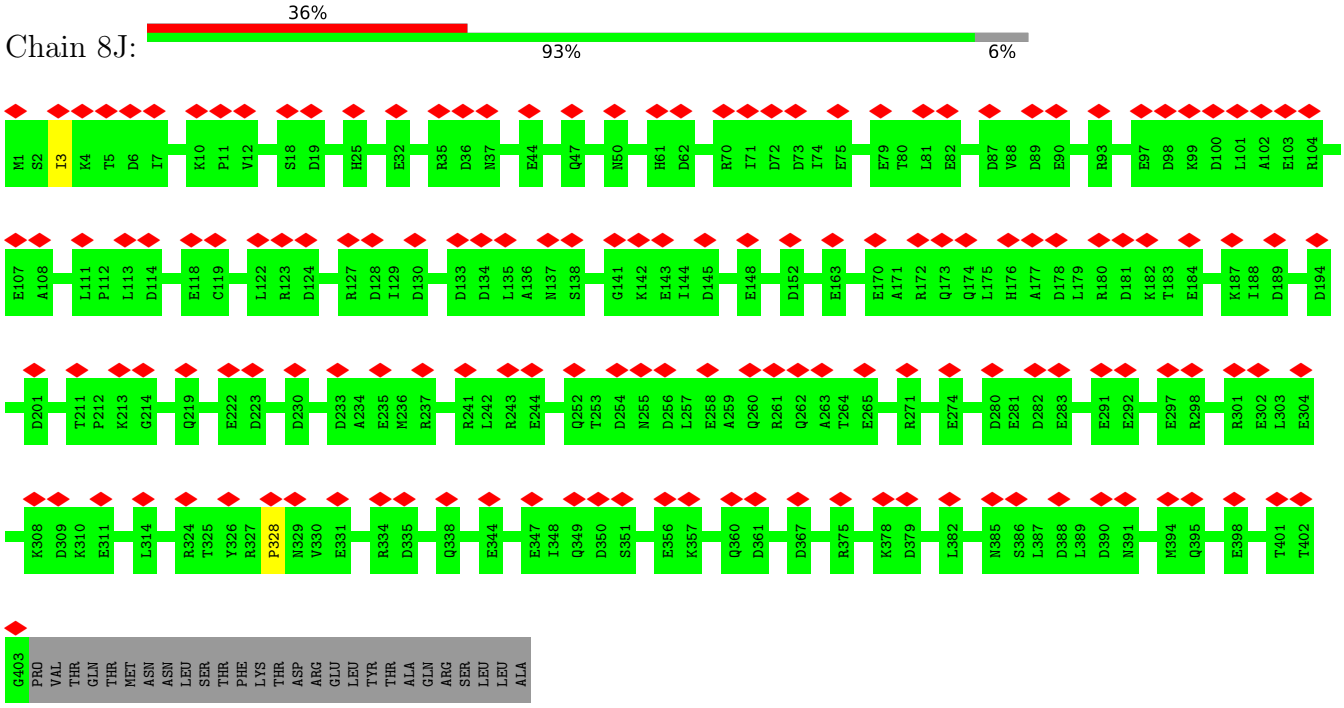
• Molecule 43: Tektin A1

Chain 8G:



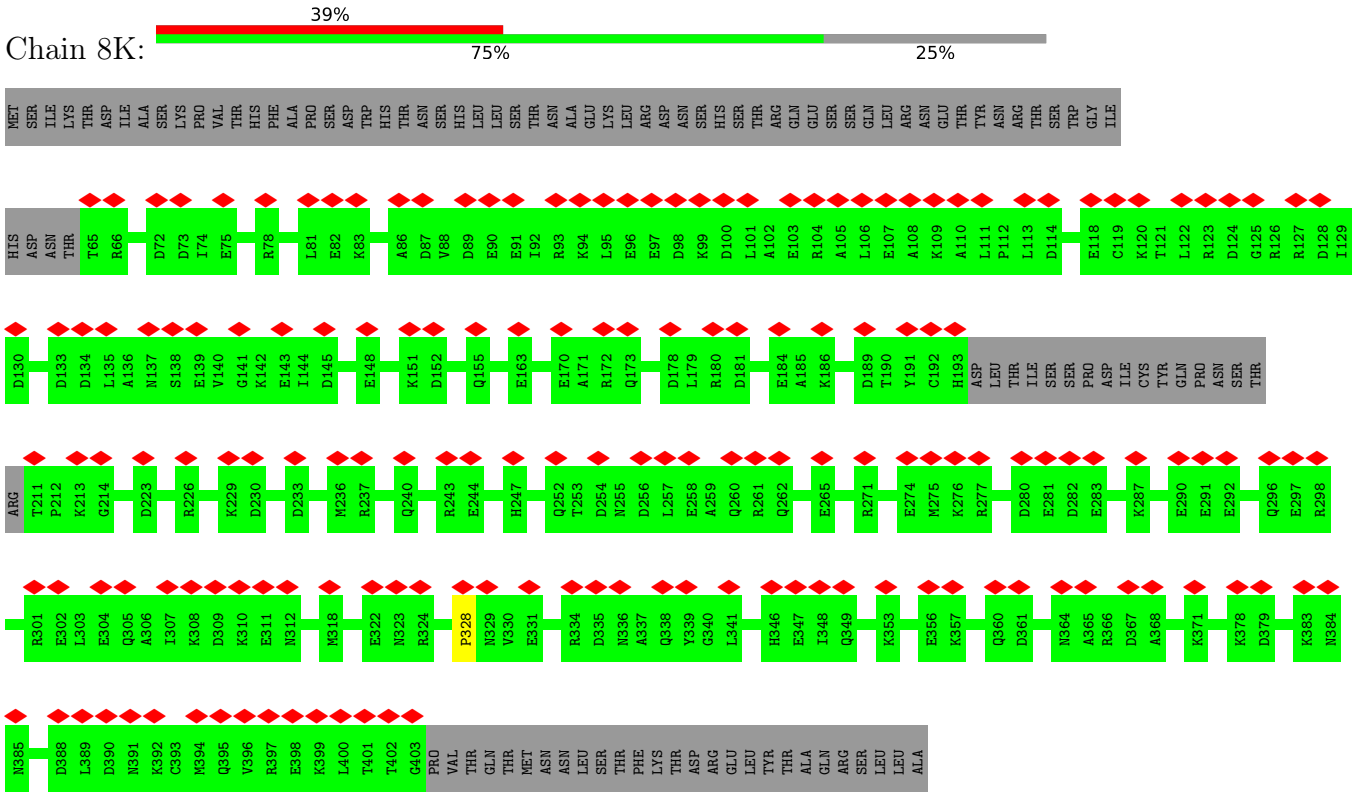
• Molecule 44: Tektin B1

Chain 8J:



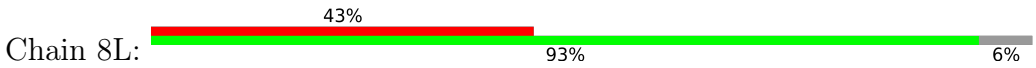
• Molecule 44: Tektin B1

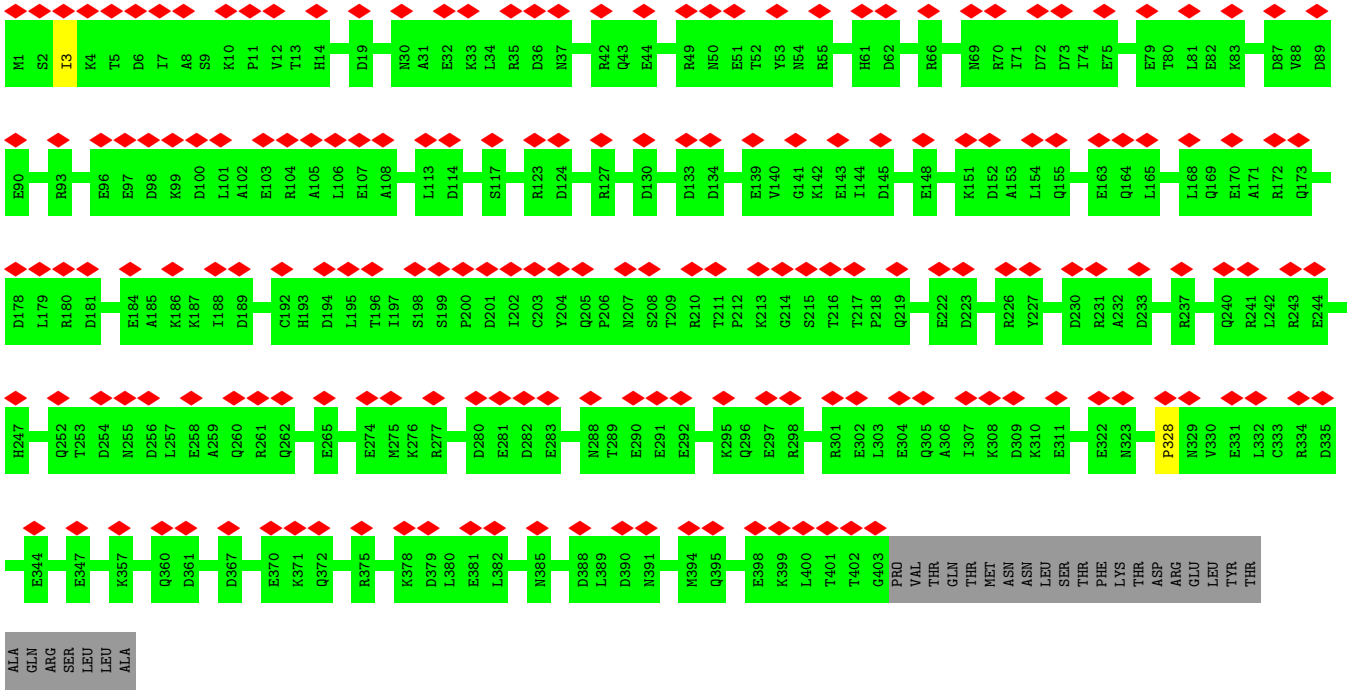
Chain 8K:



• Molecule 44: Tektin B1

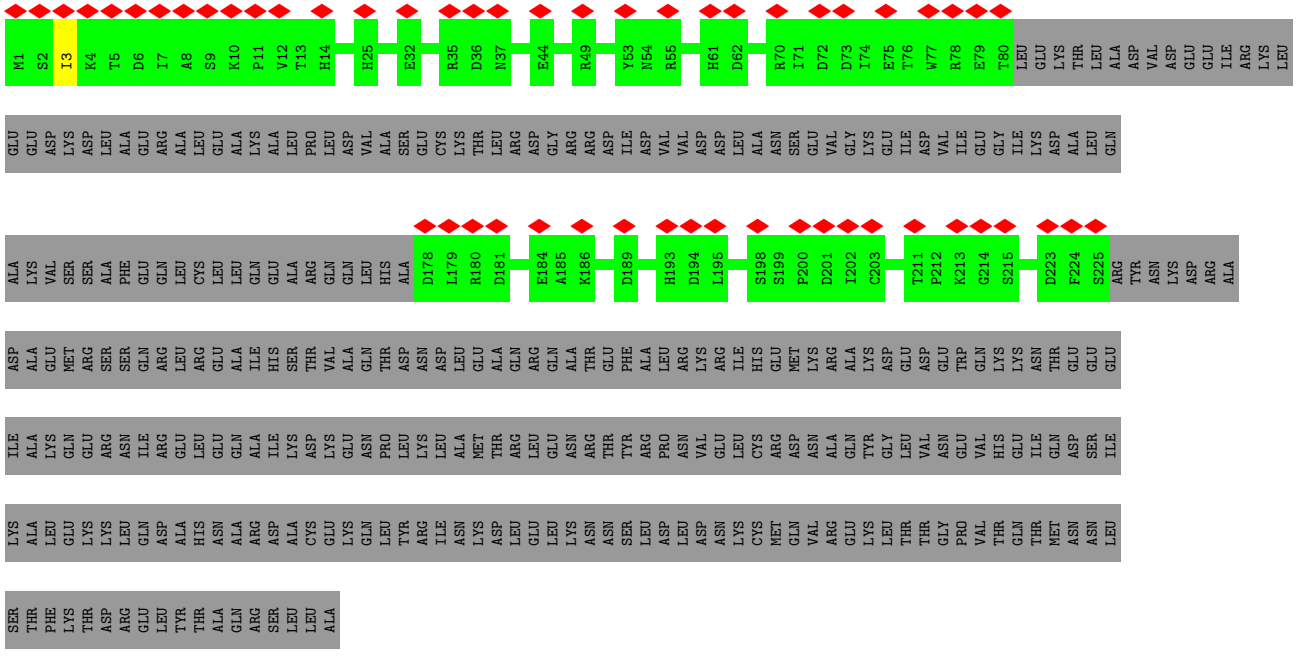
Chain 8L:





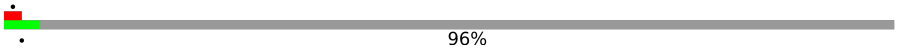
• Molecule 44: Tektin B1

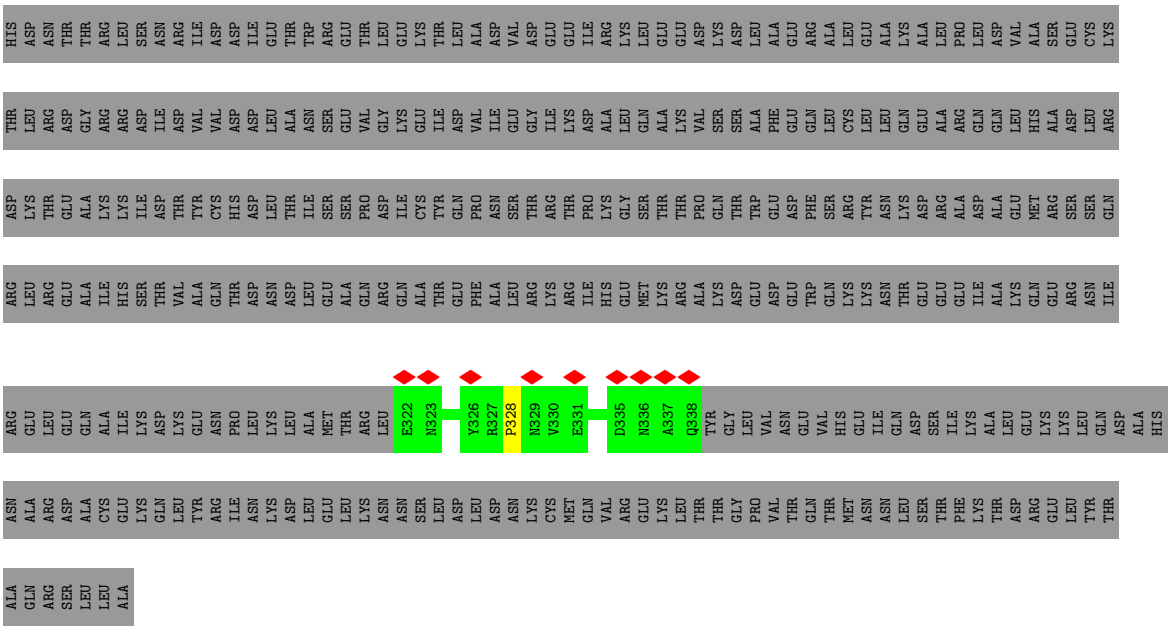
Chain 8M:



• Molecule 44: Tektin B1

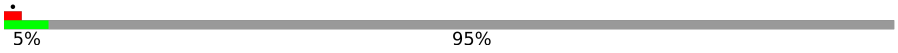
Chain 8N:





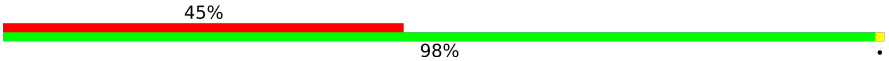
• Molecule 45: Tektin C1

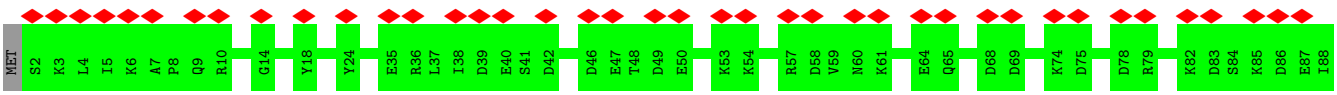
Chain 8Q:

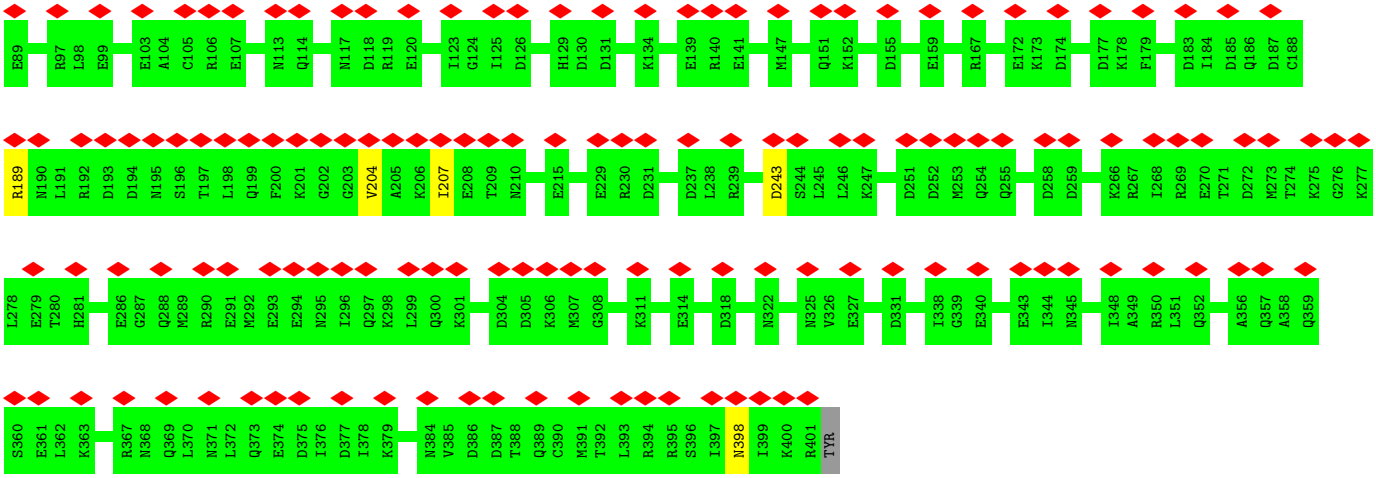


• Molecule 45: Tektin C1

Chain 8R:

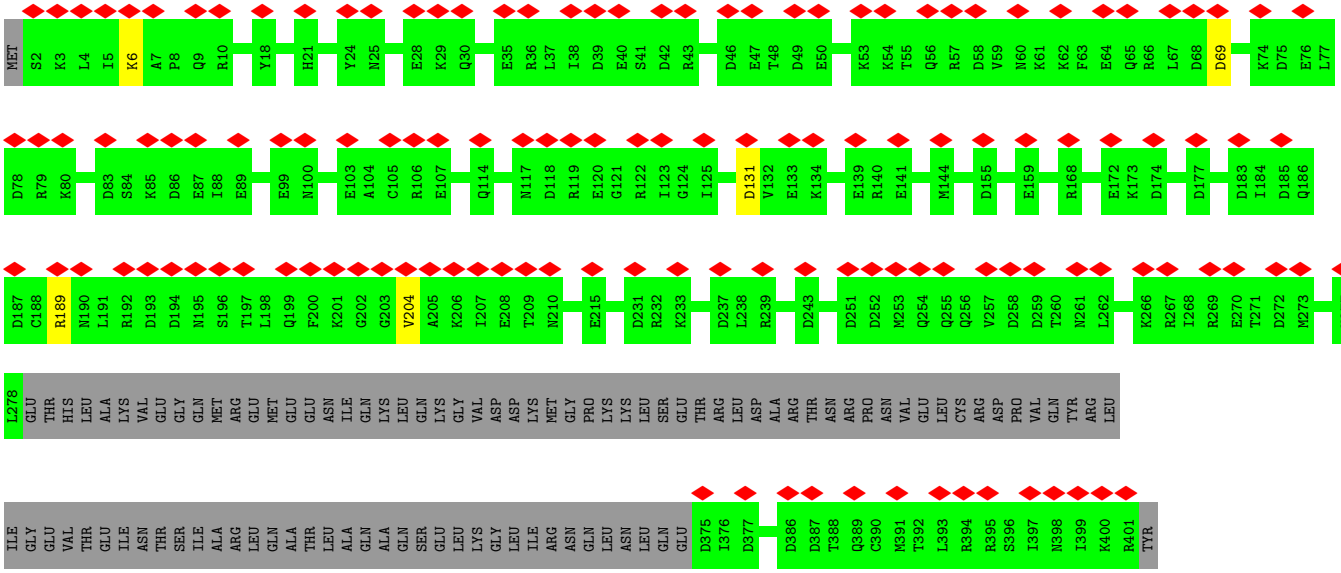






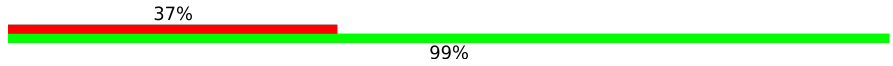
• Molecule 45: Tektin C1

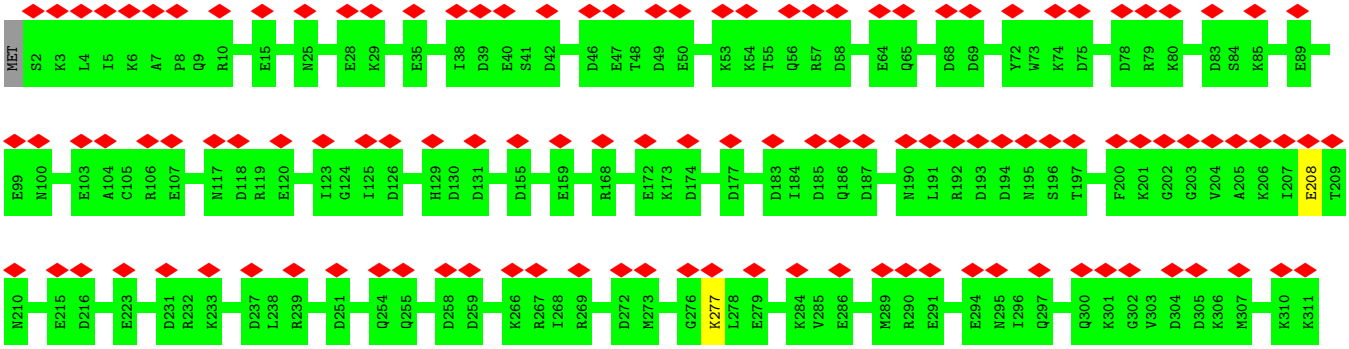
Chain 8S:

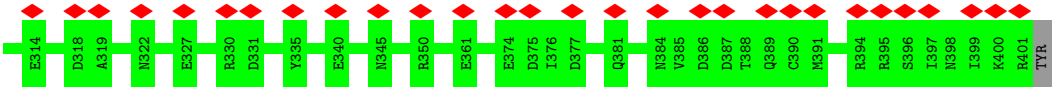


• Molecule 45: Tektin C1

Chain 8T:

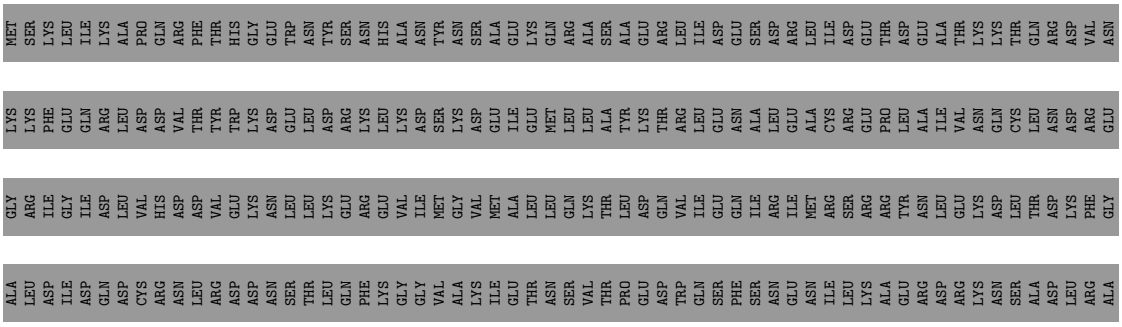


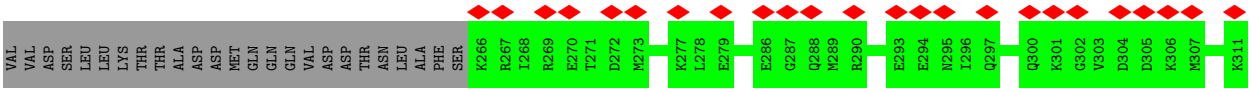


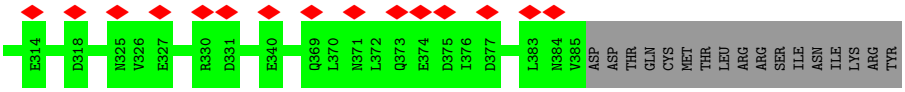


• Molecule 45: Tektin C1

Chain 8U:

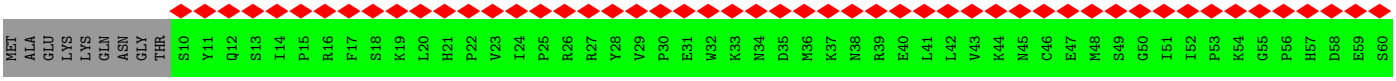


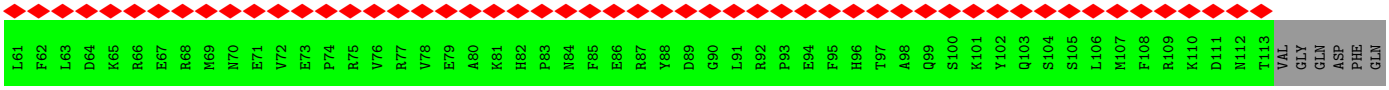




• Molecule 46: Tex43

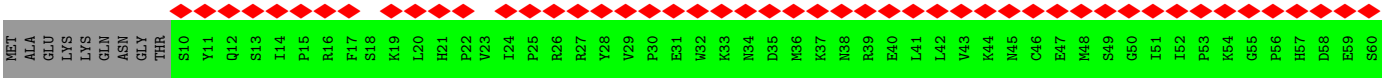
Chain 8X:

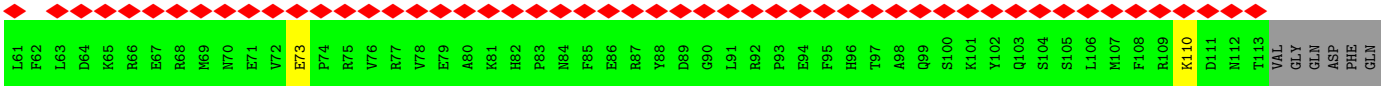




• Molecule 46: Tex43

Chain 8Y:



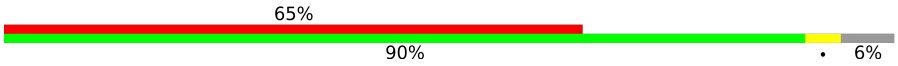


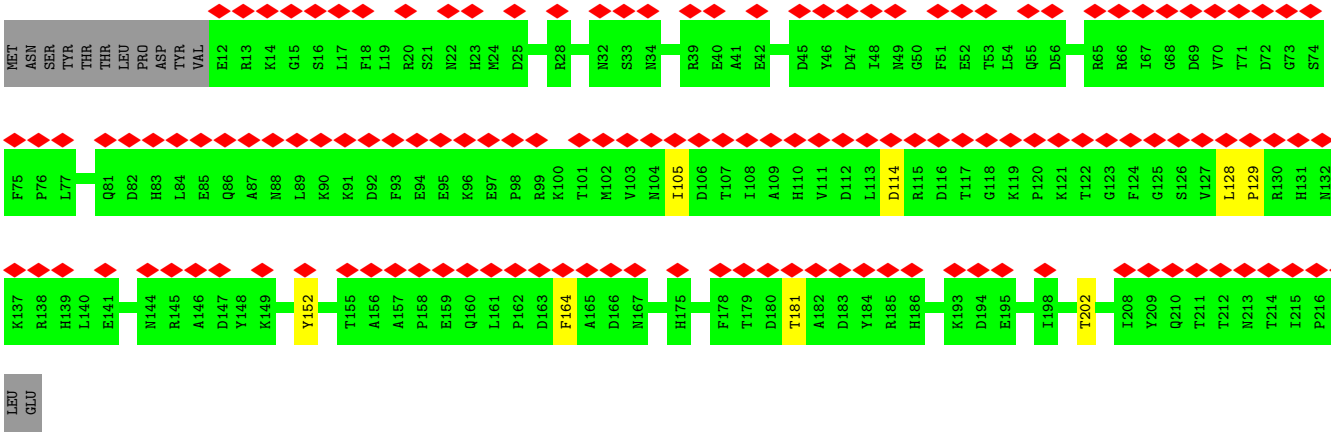
• Molecule 46: Tex43

Chain 8Z:

• Molecule 47: Tex36(CFAP95, C9orf135)

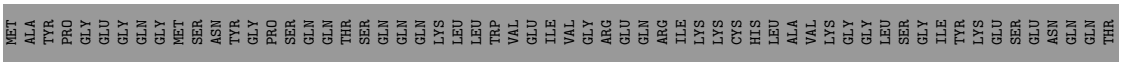
Chain 9A:

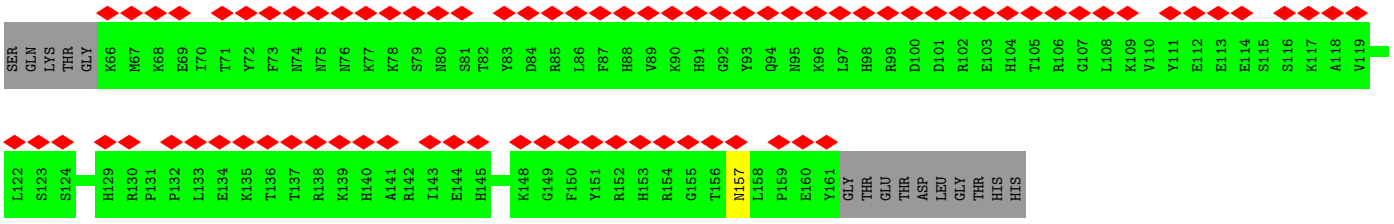




• Molecule 48: CFAP90(C5orf49)

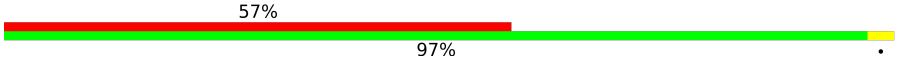
Chain 9D:

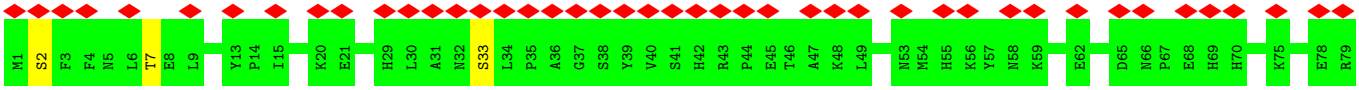


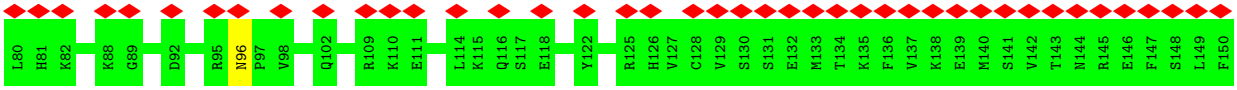


• Molecule 49: Tex49

Chain 9G:

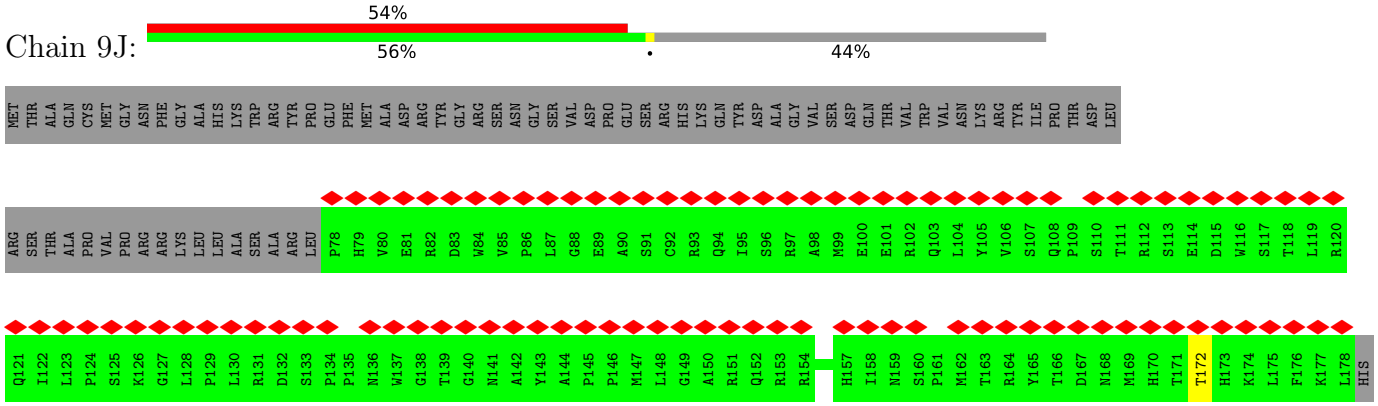






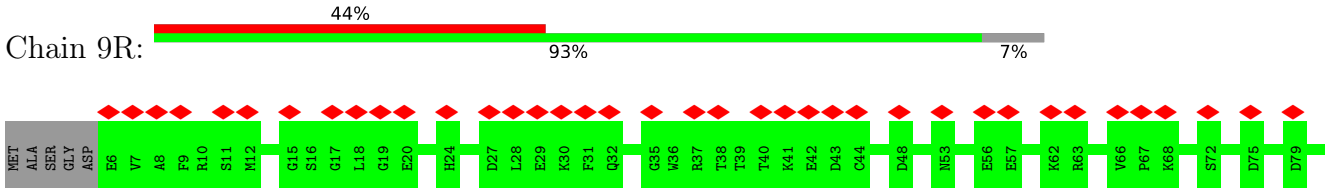
• Molecule 50: Tex49_homologue(LOC580808)

Chain 9J:



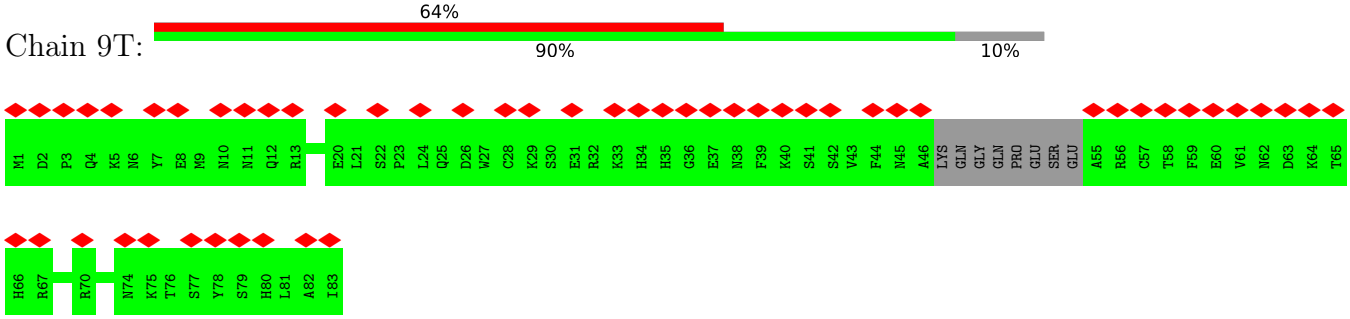
• Molecule 51: CFAP68(UPF0686, C11orf1)

Chain 9R:



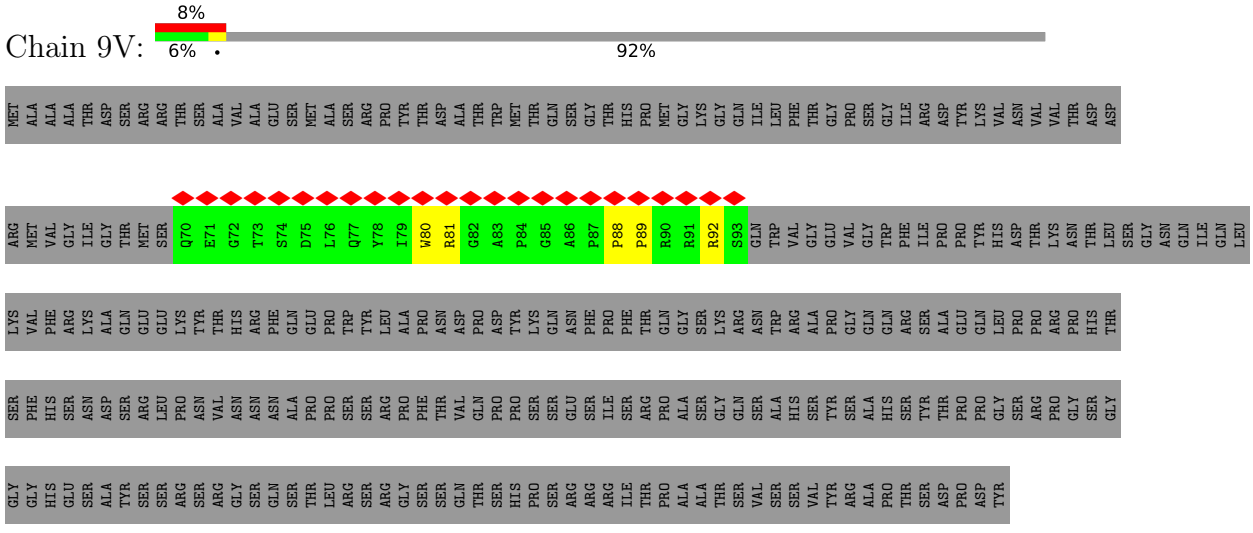
• Molecule 52: SPATA45

Chain 9T:



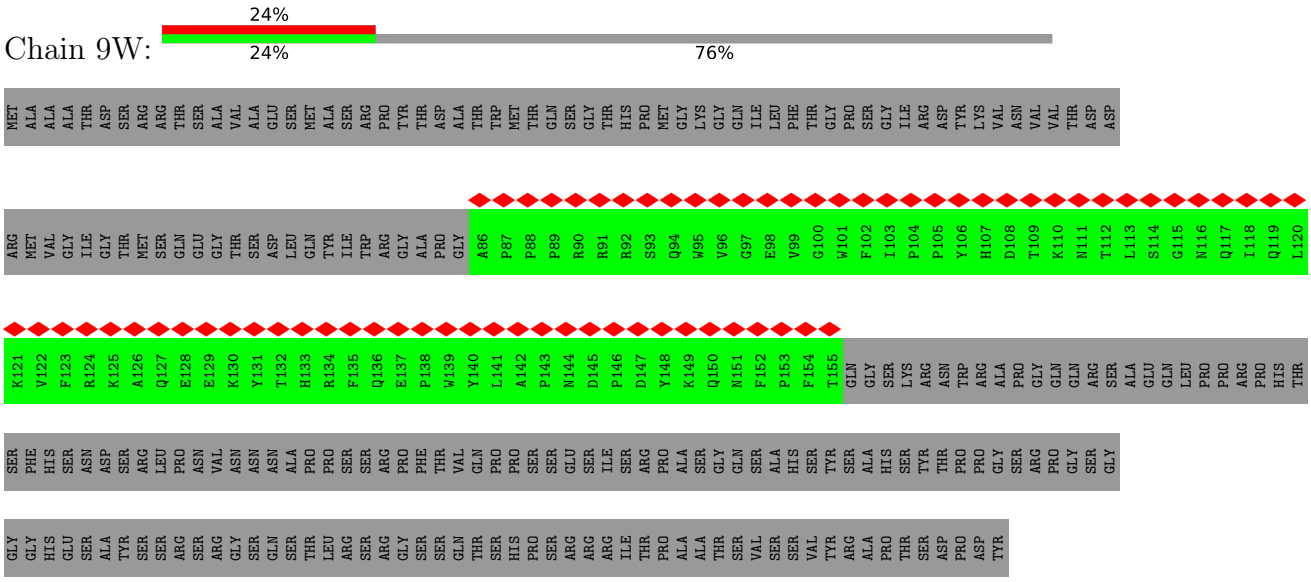
• Molecule 53: C4orf45

Chain 9V:



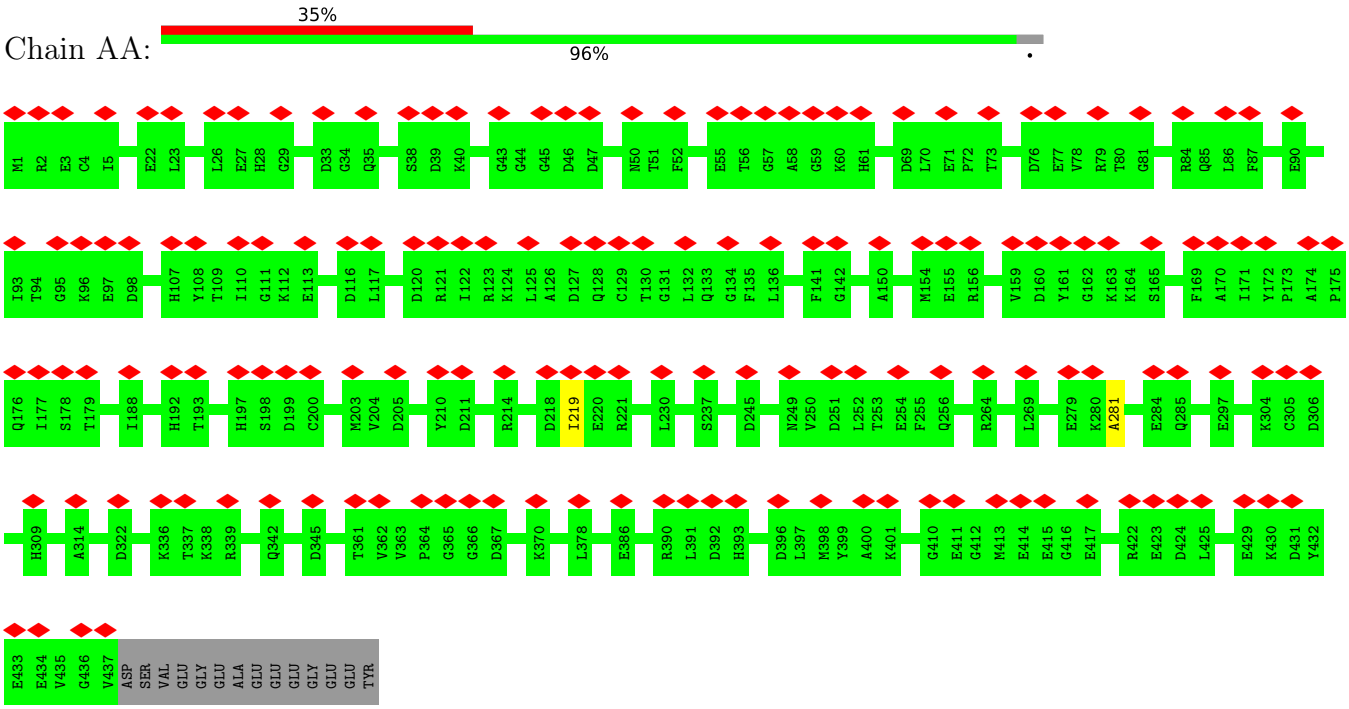
• Molecule 53: C4orf45

Chain 9W:



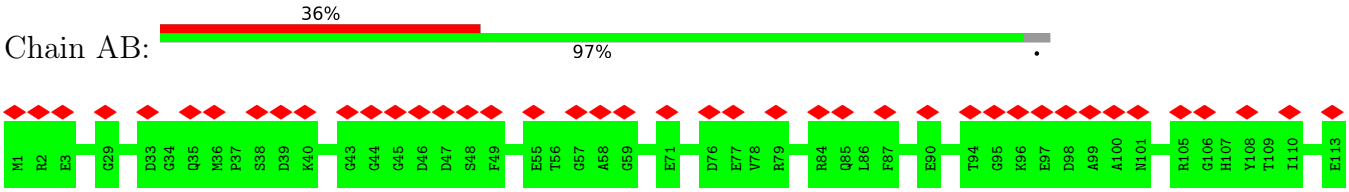
• Molecule 54: Tubulin alpha chain

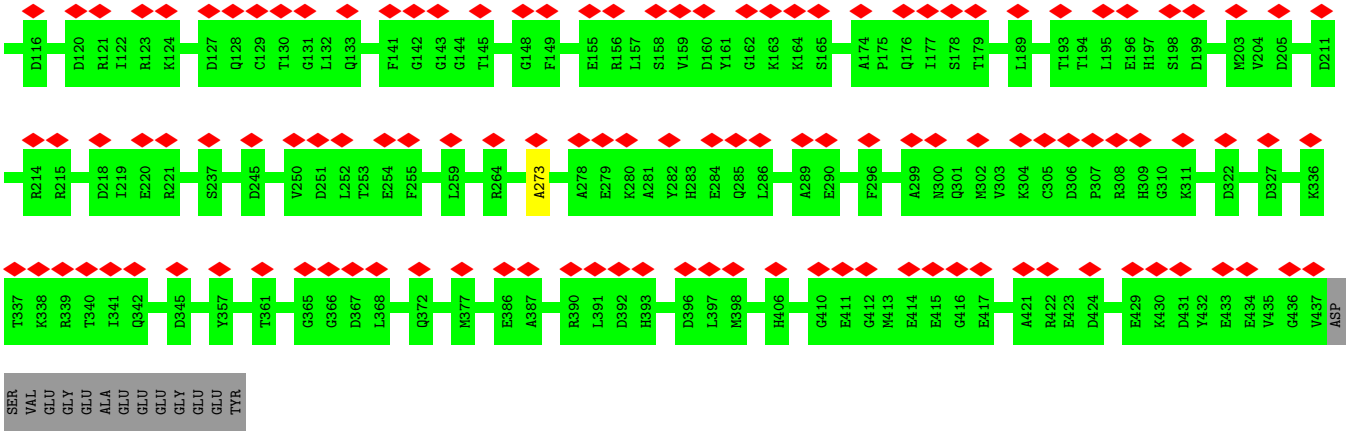
Chain AA:



• Molecule 54: Tubulin alpha chain

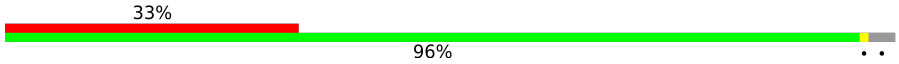
Chain AB:

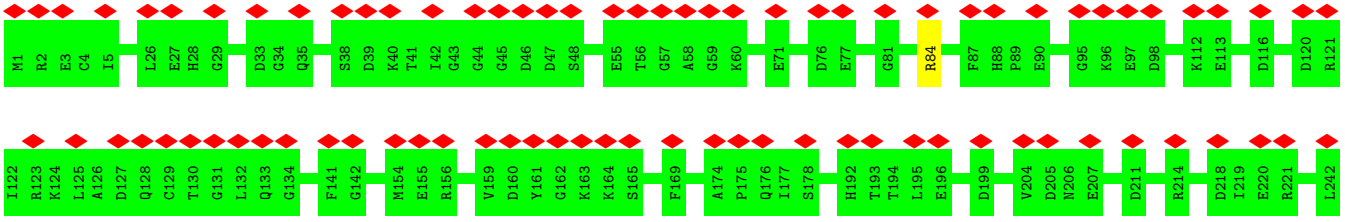




• Molecule 54: Tubulin alpha chain

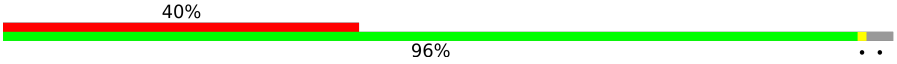
Chain AE:

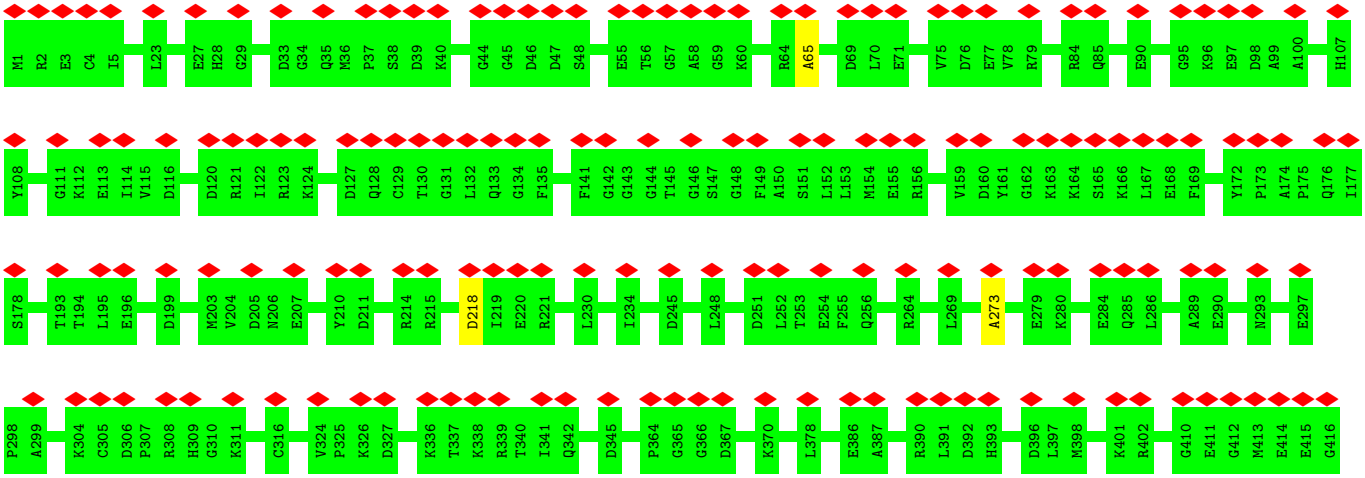


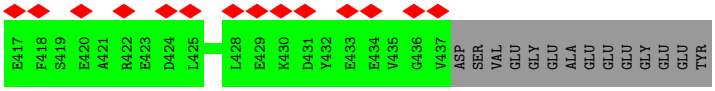


• Molecule 54: Tubulin alpha chain

Chain AG:

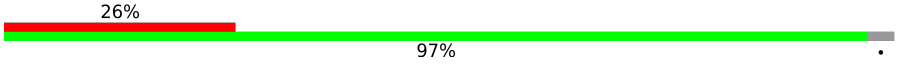


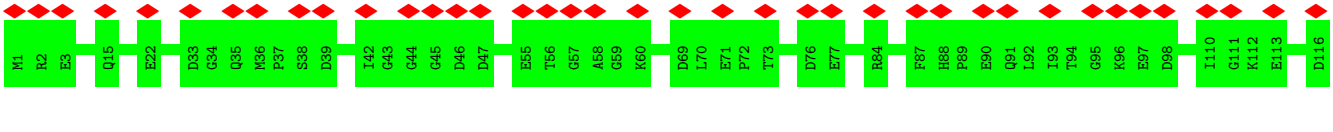




• Molecule 54: Tubulin alpha chain

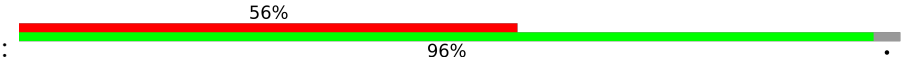
Chain AI:

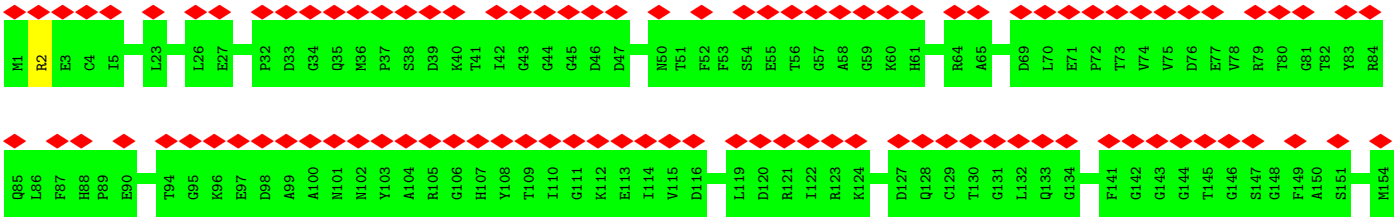




• Molecule 54: Tubulin alpha chain

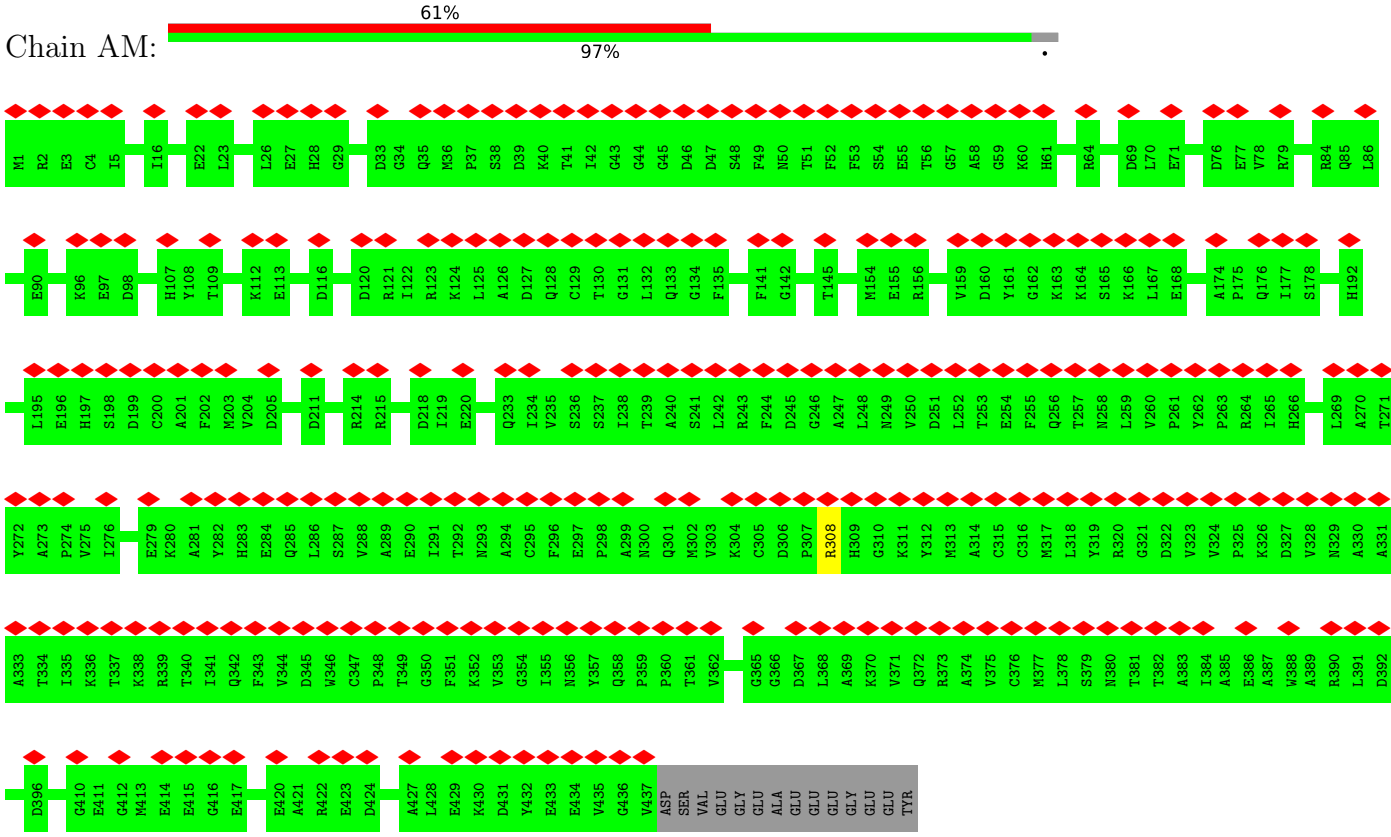
Chain AK:





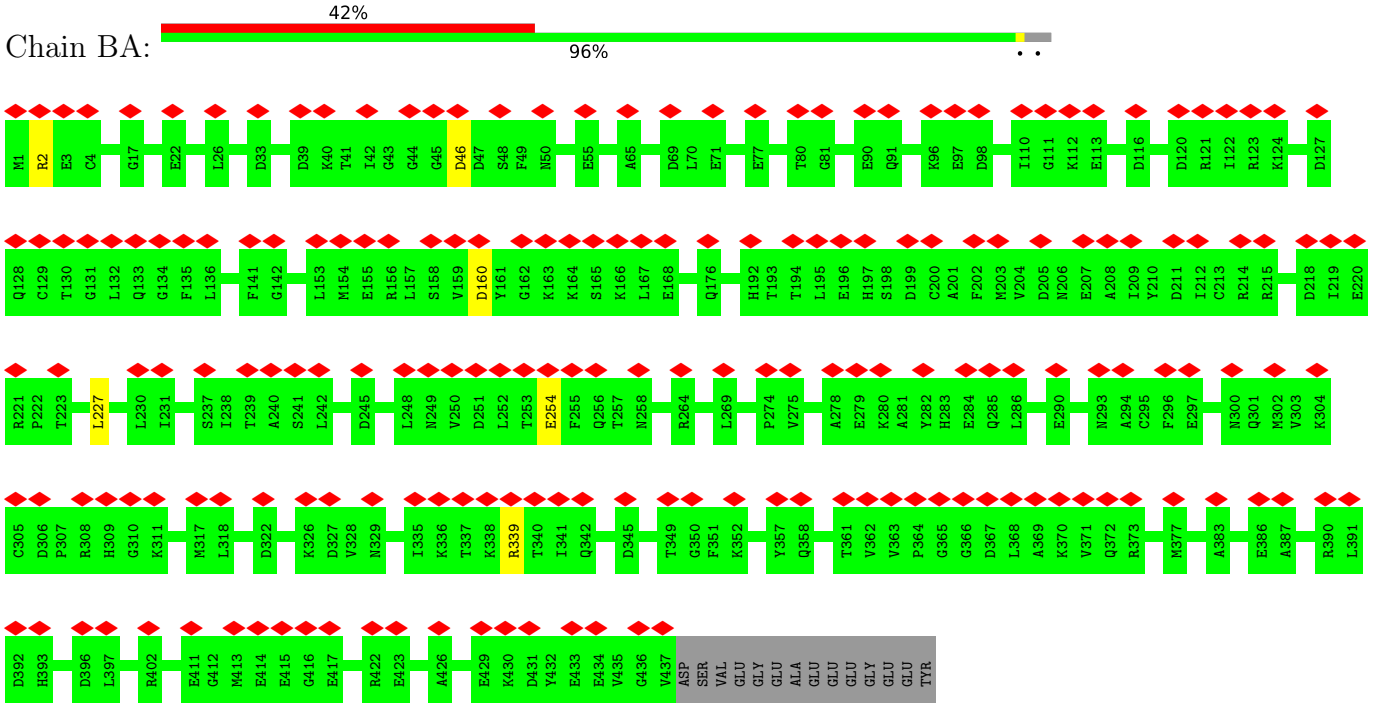
• Molecule 54: Tubulin alpha chain

Chain AM:



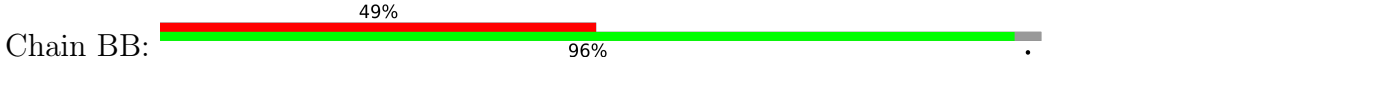
• Molecule 54: Tubulin alpha chain

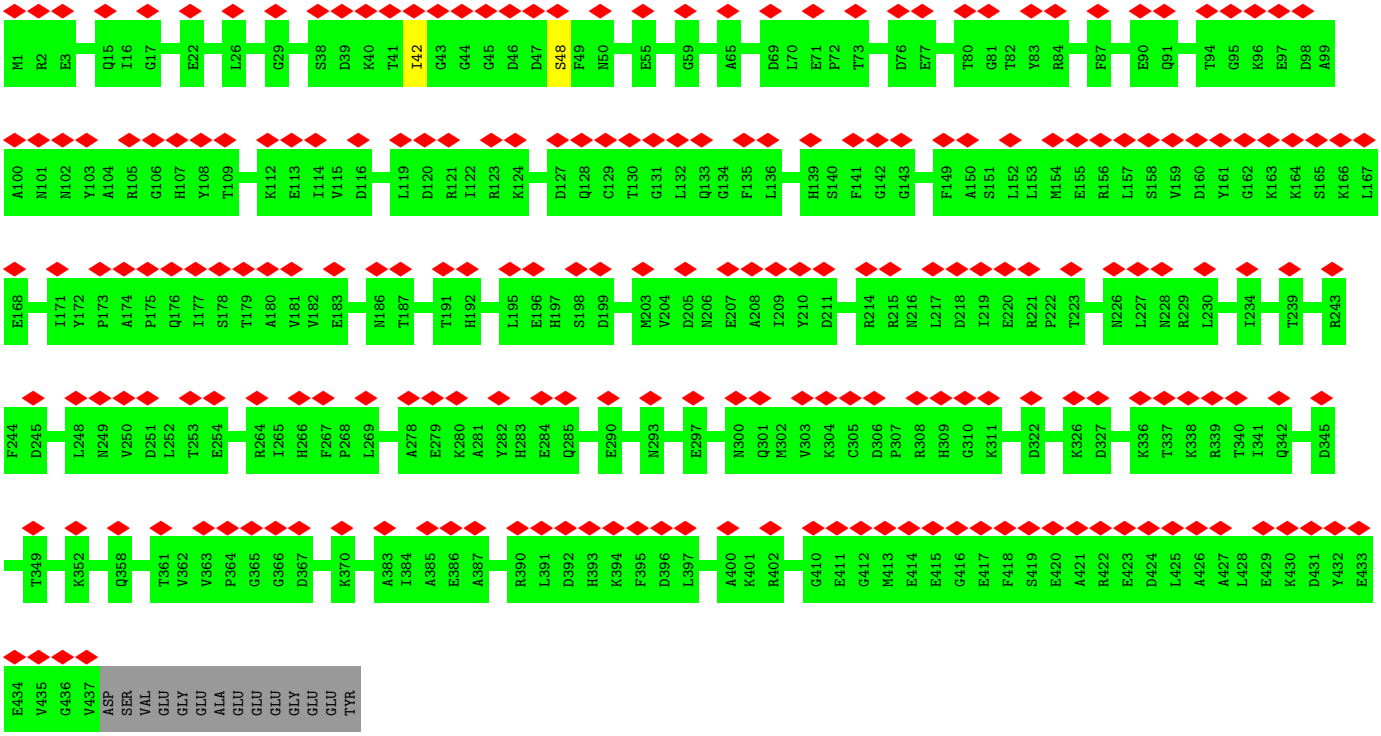
Chain BA:



• Molecule 54: Tubulin alpha chain

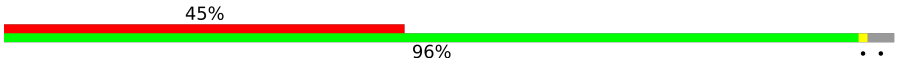
Chain BB:





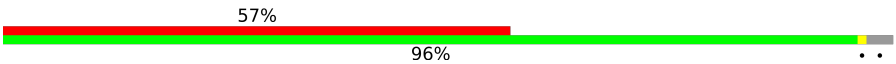
• Molecule 54: Tubulin alpha chain

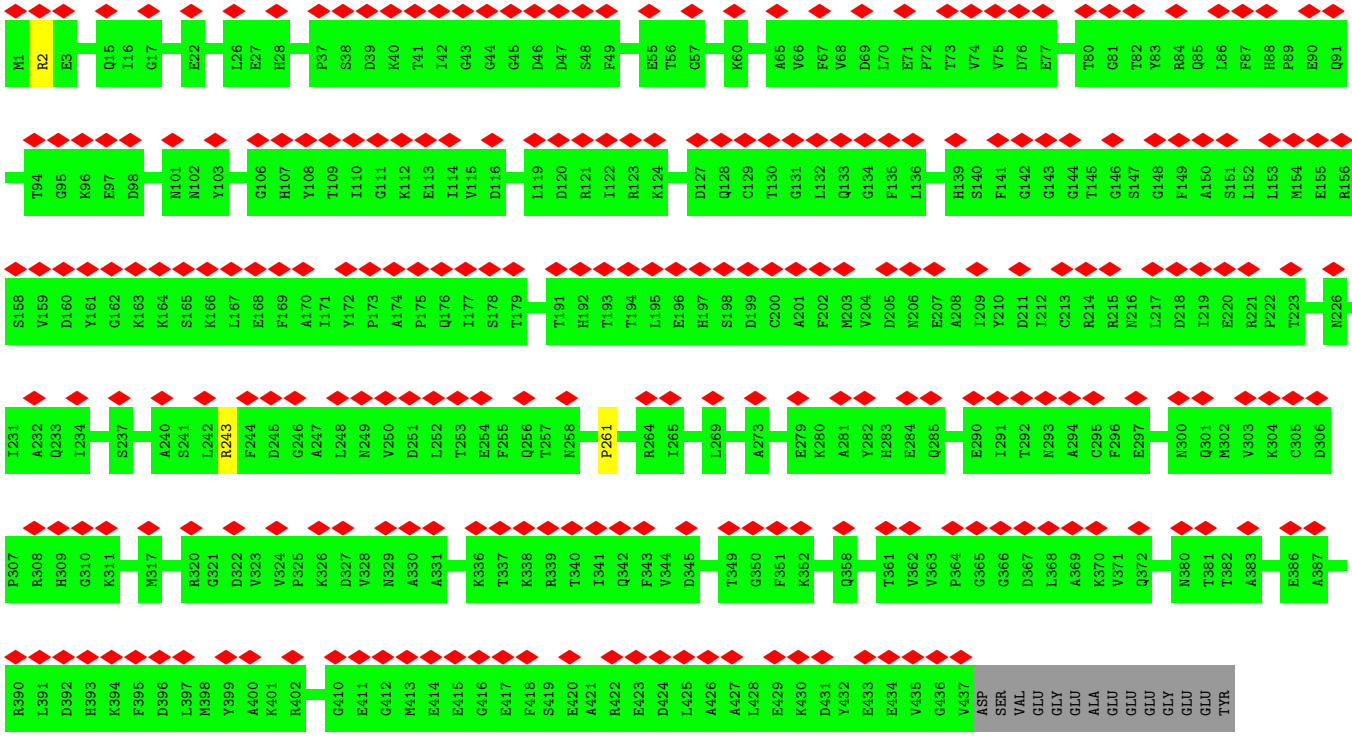
Chain BE:



• Molecule 54: Tubulin alpha chain

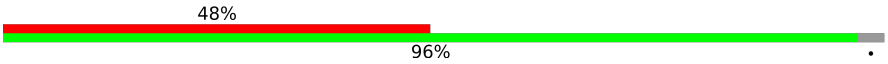
Chain BG:

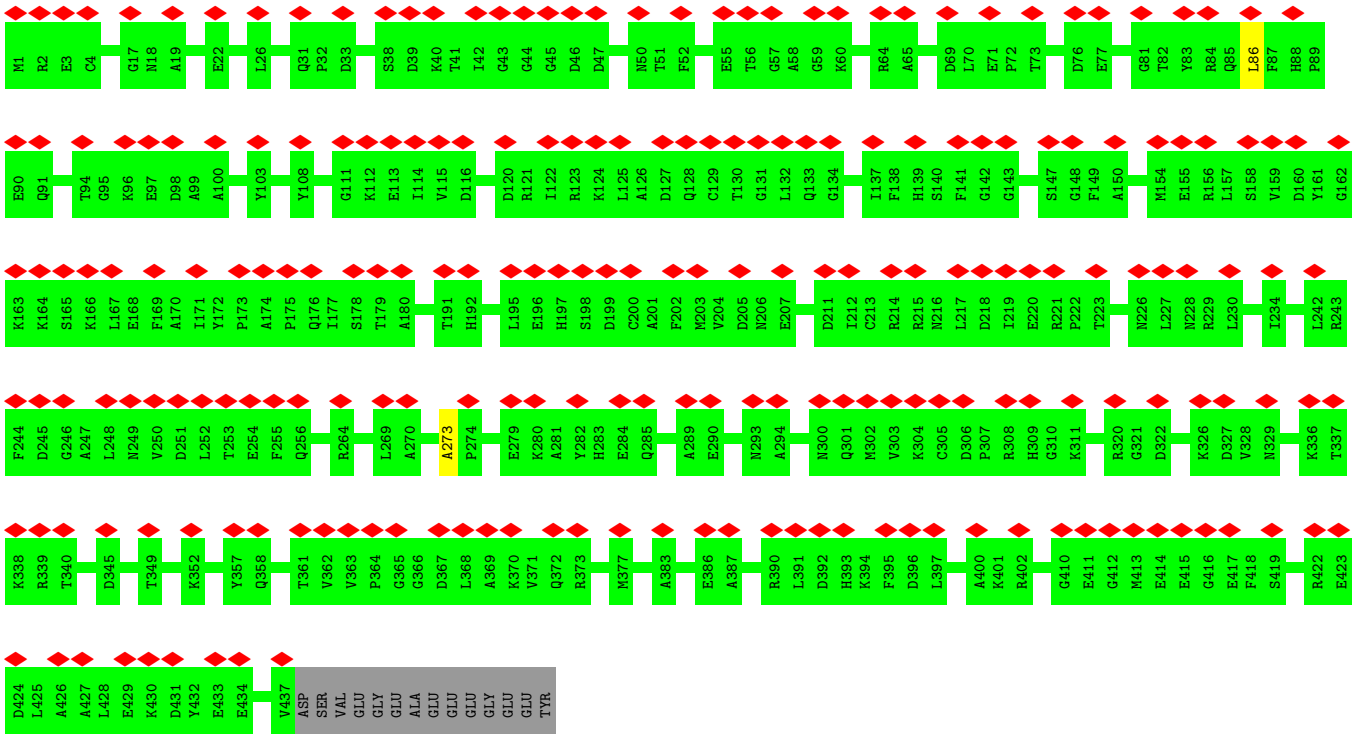




• Molecule 54: Tubulin alpha chain

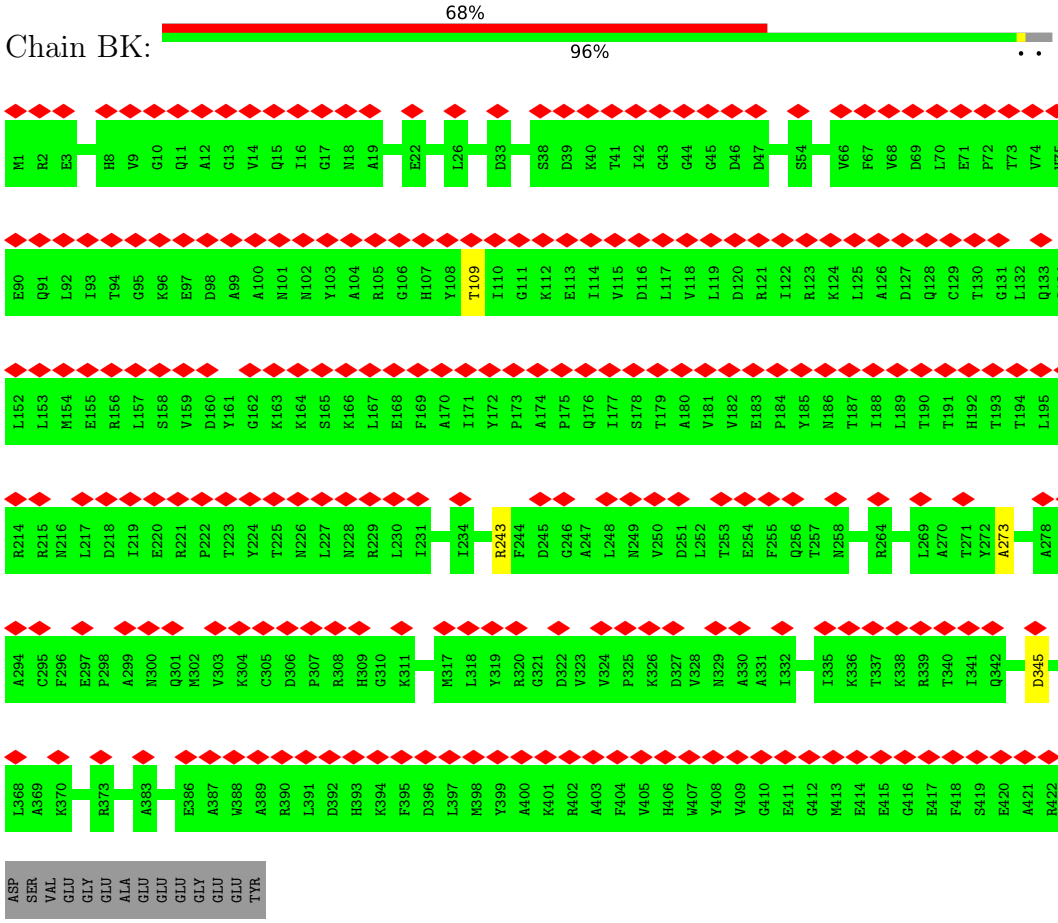
Chain BI:





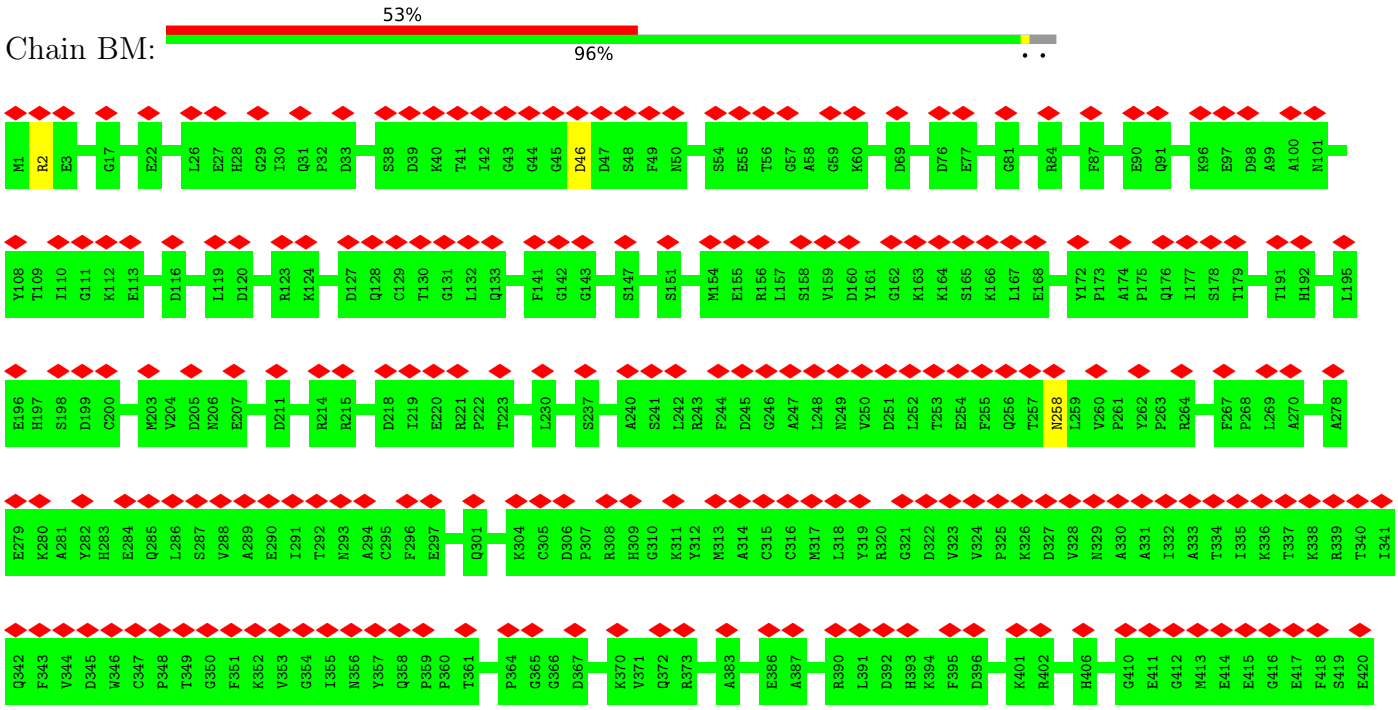
• Molecule 54: Tubulin alpha chain

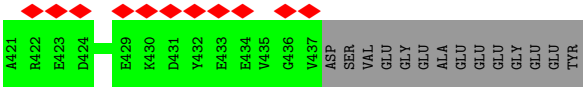
Chain BK:



• Molecule 54: Tubulin alpha chain

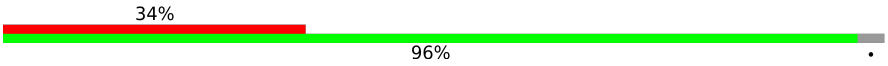
Chain BM:

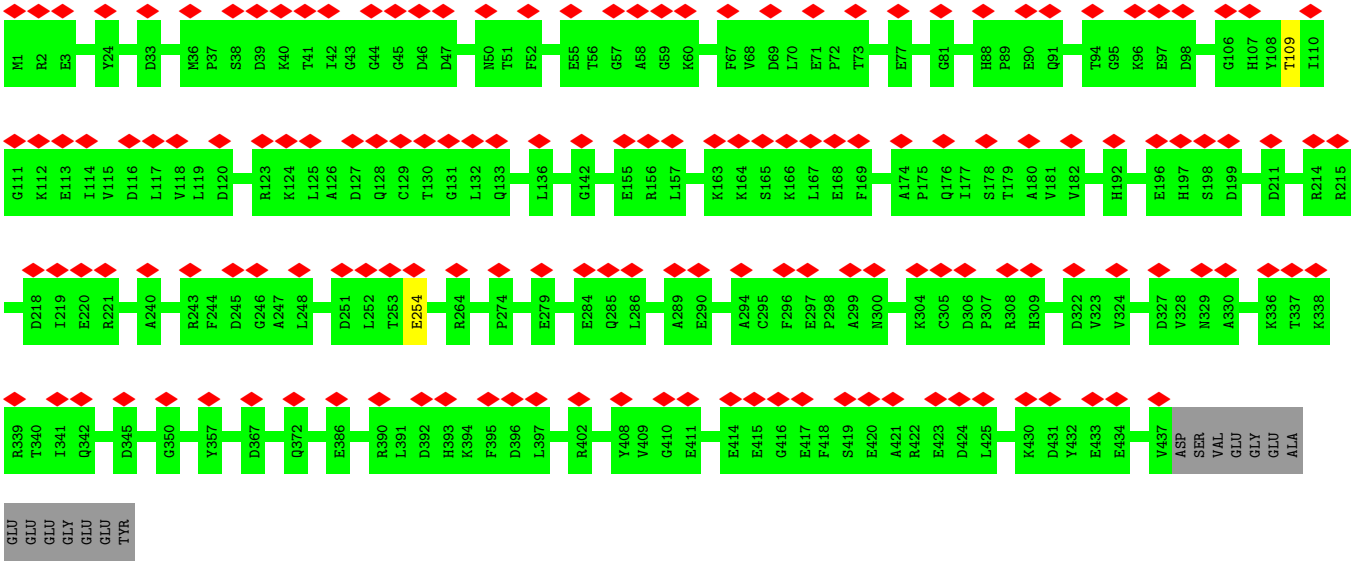




• Molecule 54: Tubulin alpha chain

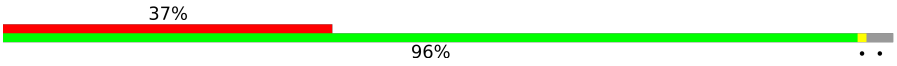
Chain CA:

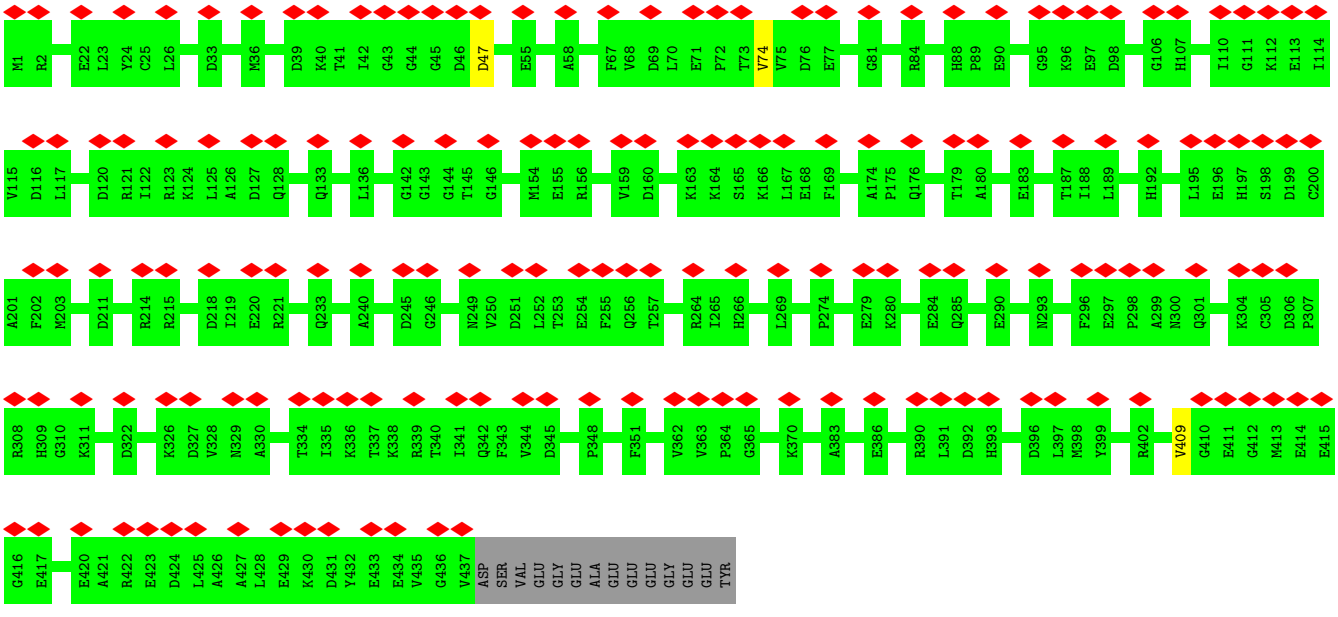




• Molecule 54: Tubulin alpha chain

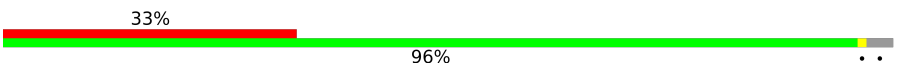
Chain CB:

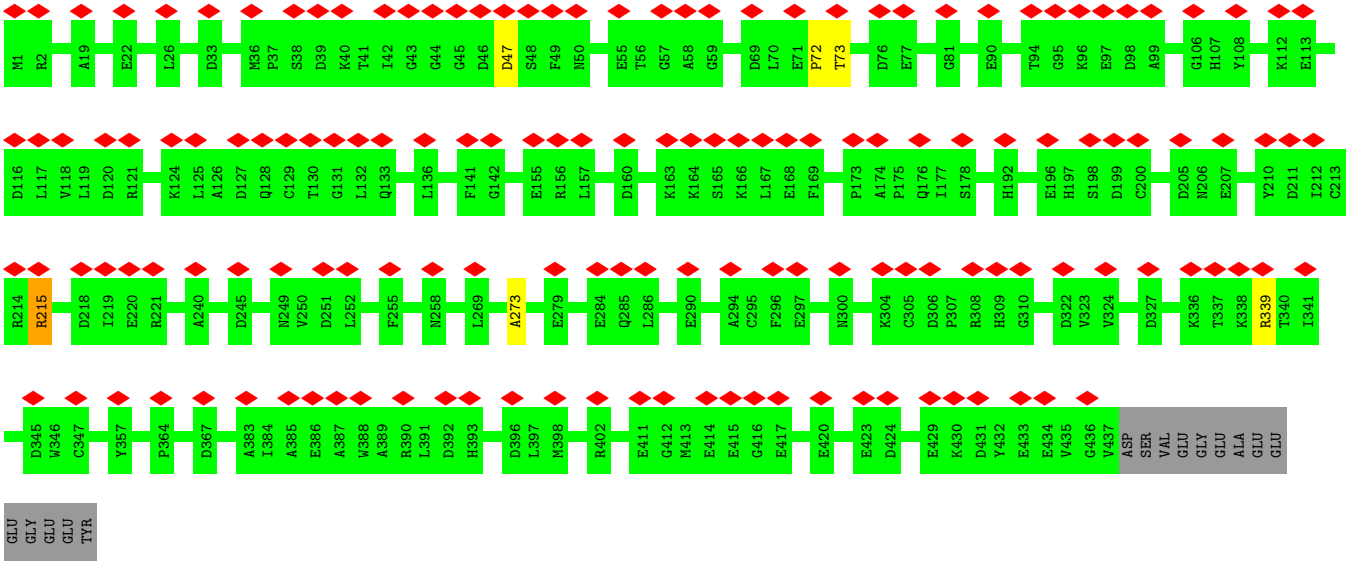




• Molecule 54: Tubulin alpha chain

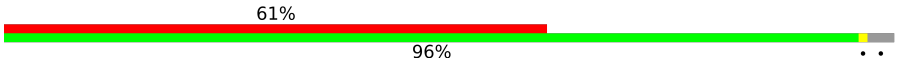
Chain CE:

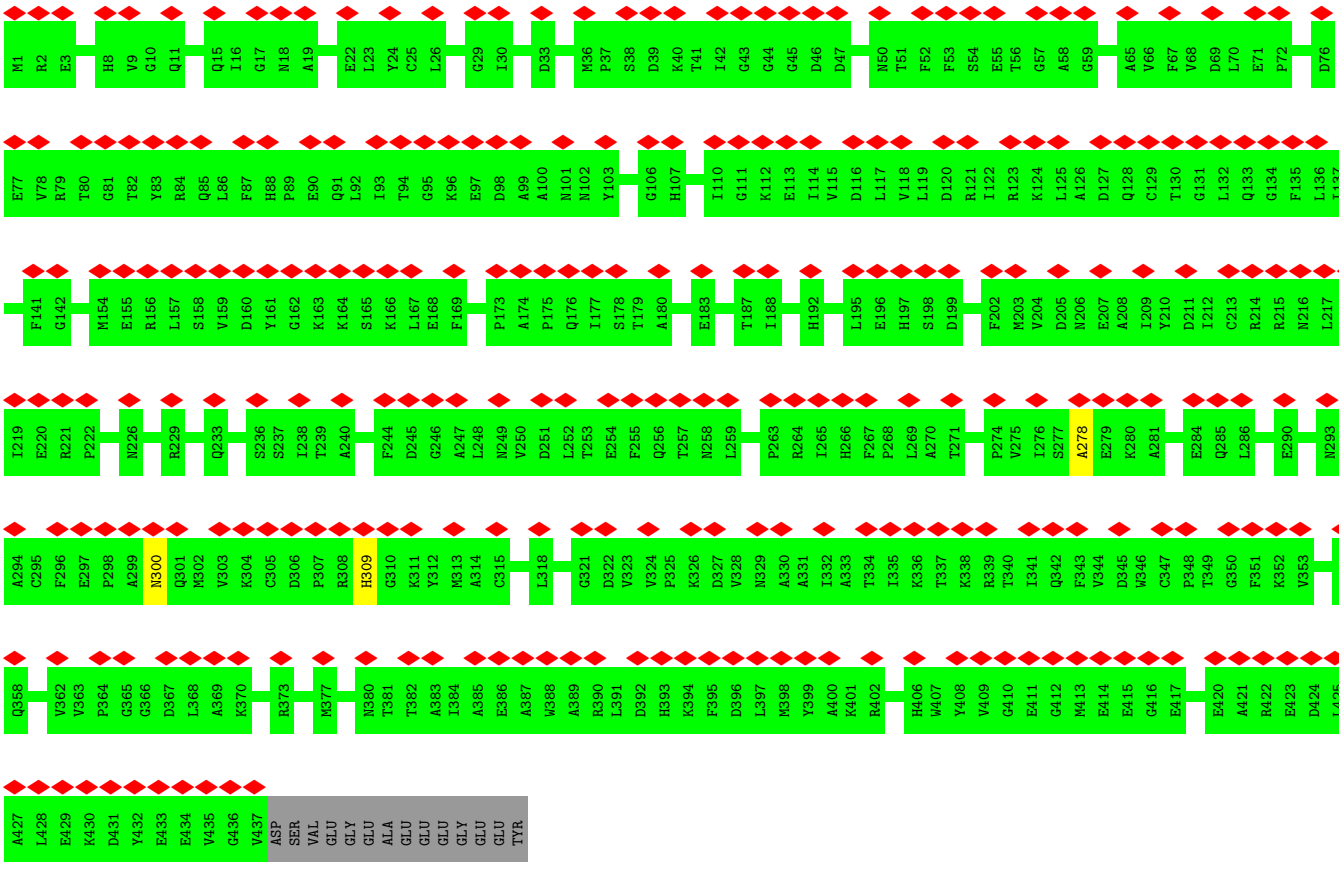




• Molecule 54: Tubulin alpha chain

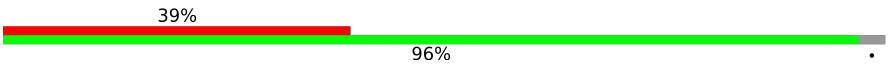
Chain CG:

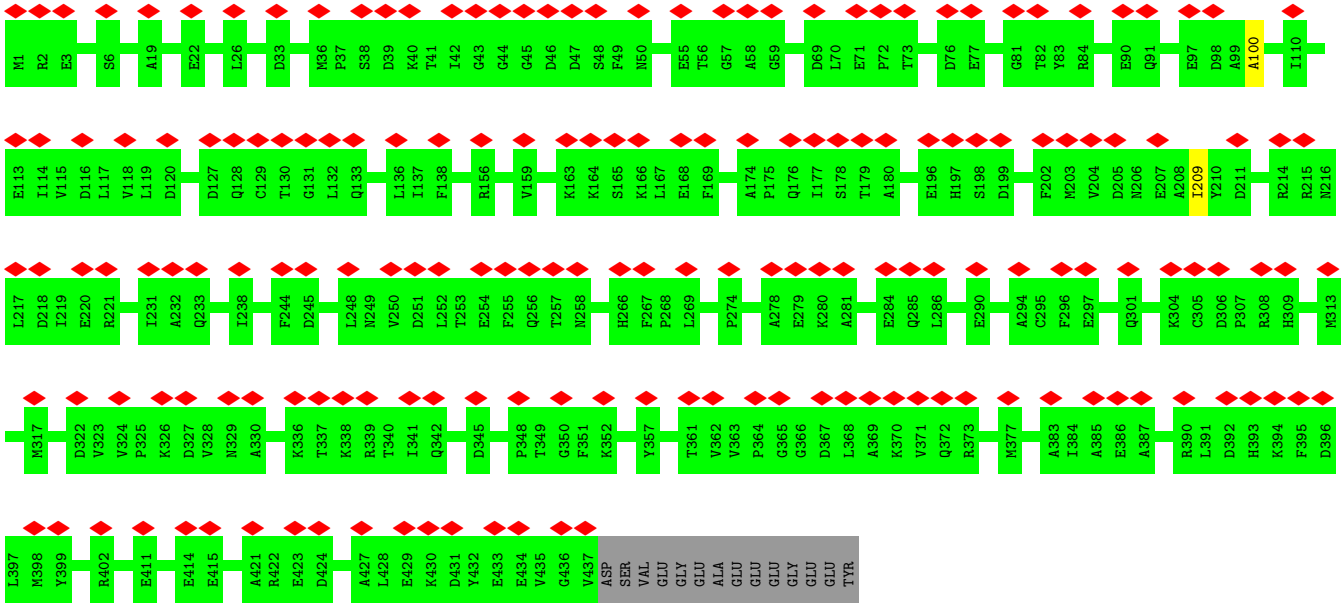




• Molecule 54: Tubulin alpha chain

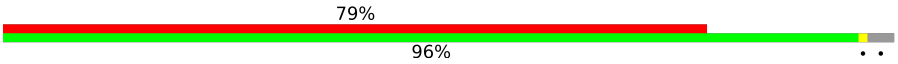
Chain CI:

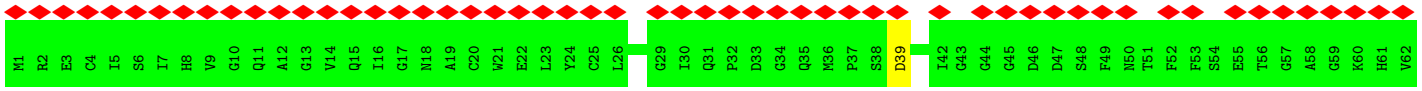


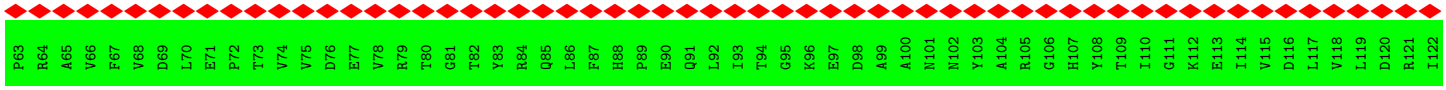


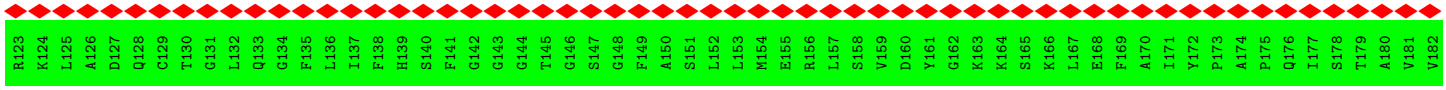
• Molecule 54: Tubulin alpha chain

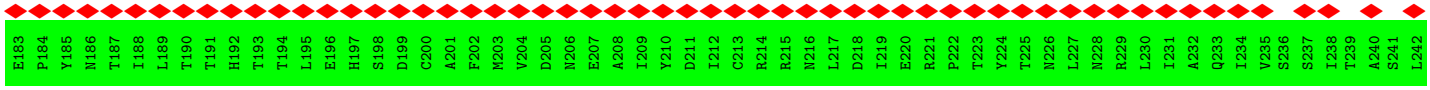
Chain CK:

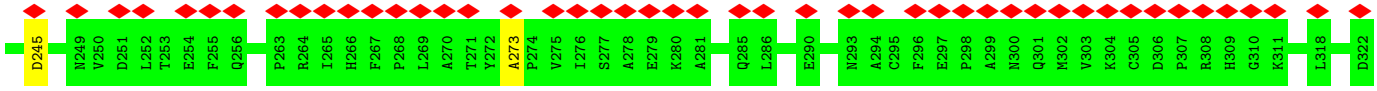


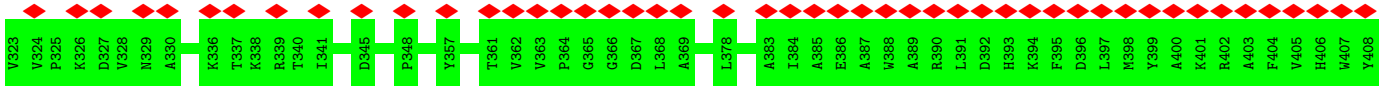


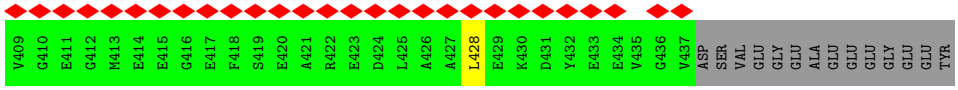






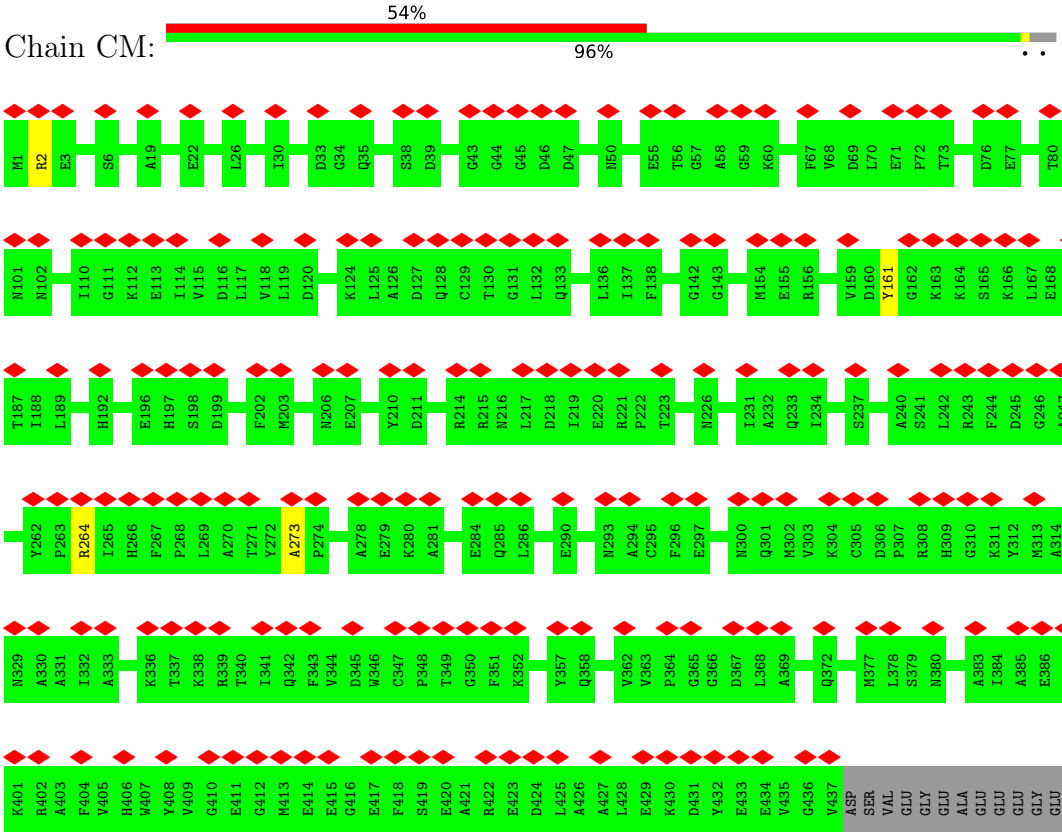






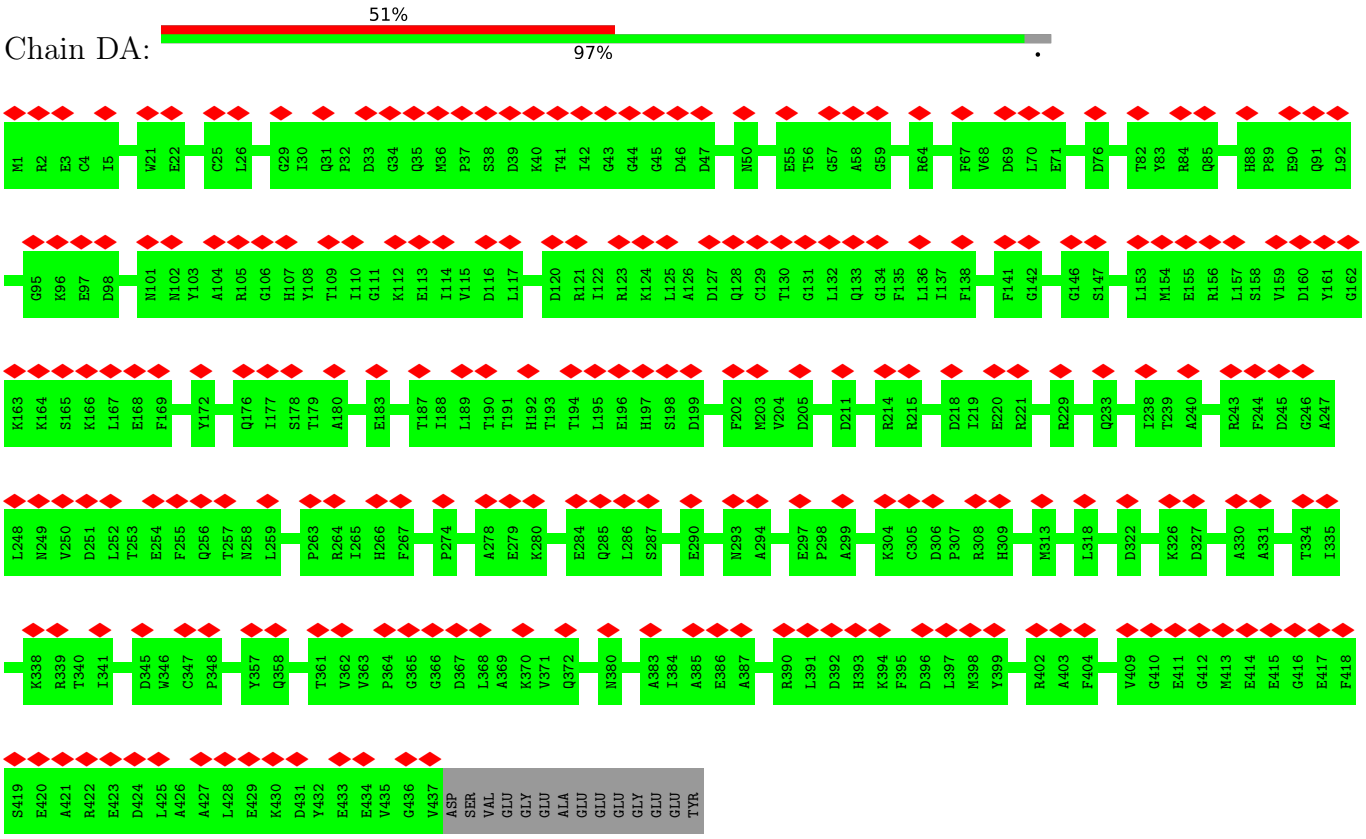
• Molecule 54: Tubulin alpha chain

Chain CM:



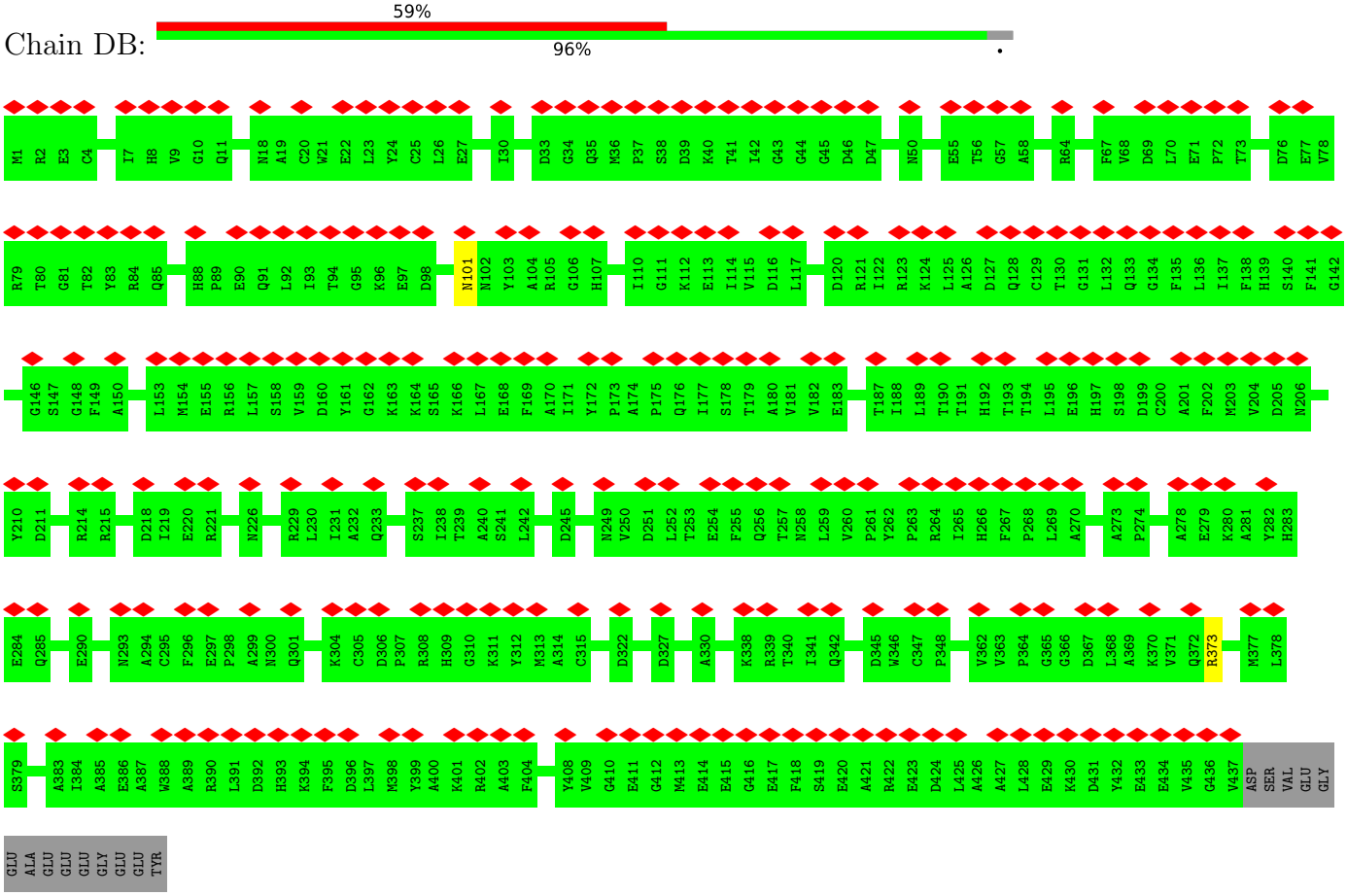
• Molecule 54: Tubulin alpha chain

Chain DA:



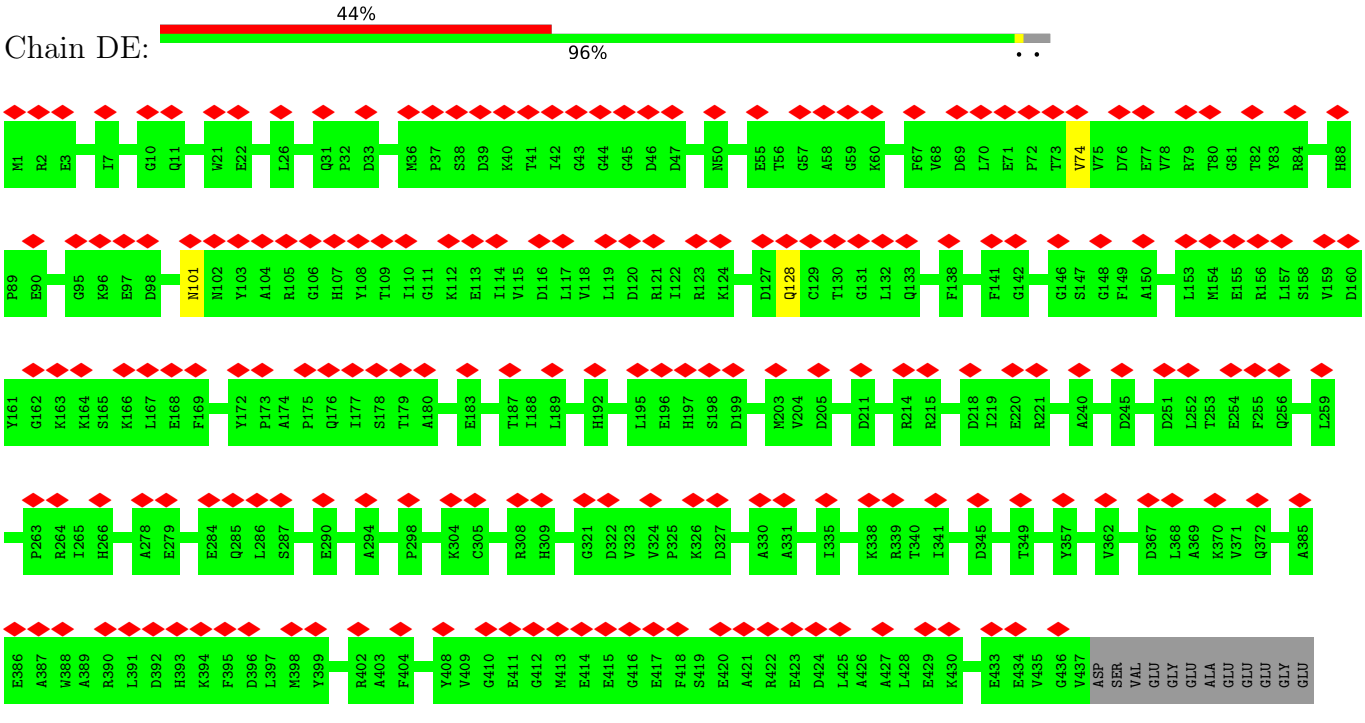
• Molecule 54: Tubulin alpha chain

Chain DB:



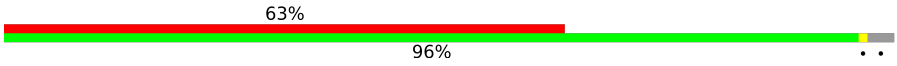
• Molecule 54: Tubulin alpha chain

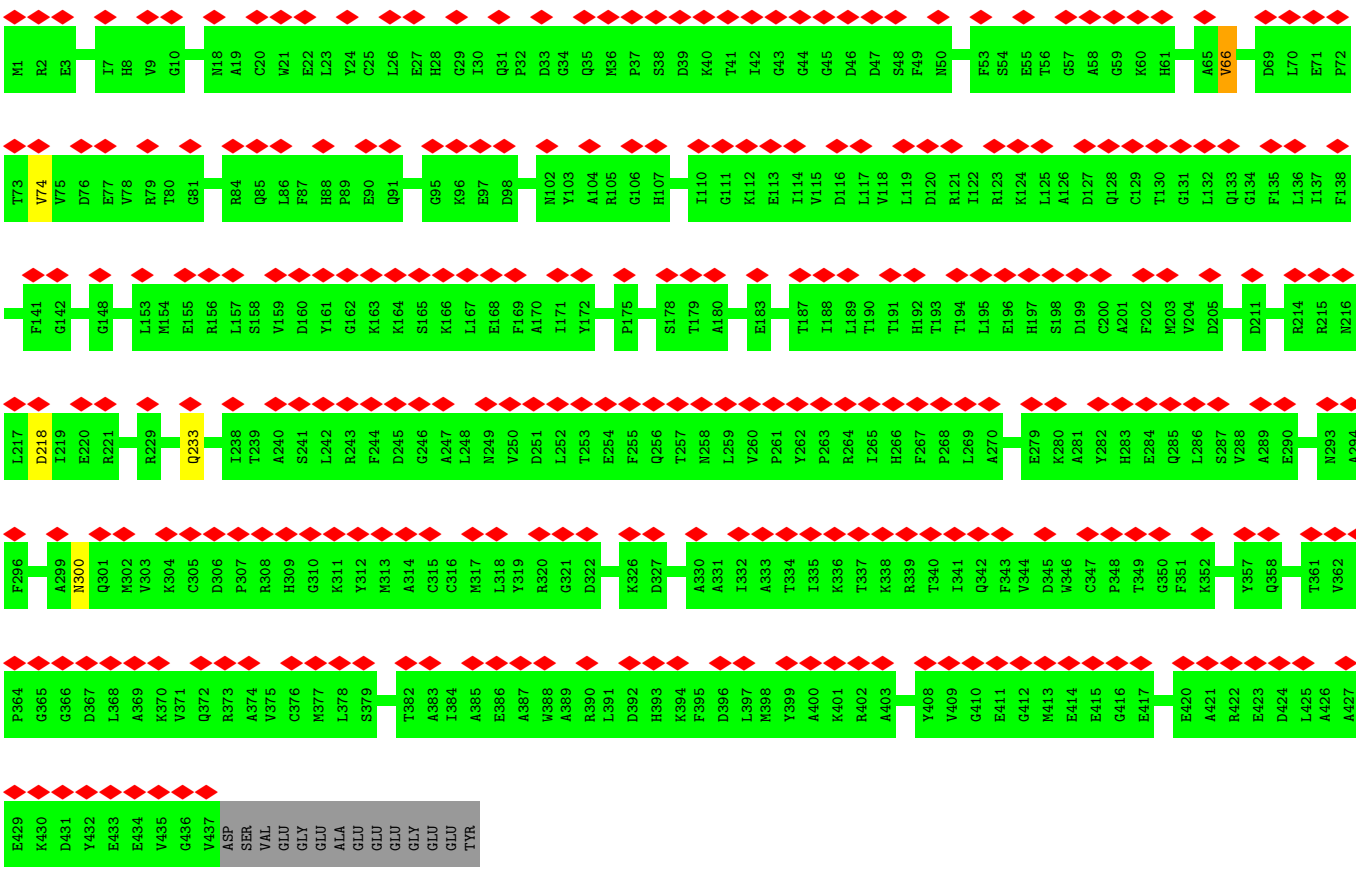
Chain DE:



• Molecule 54: Tubulin alpha chain

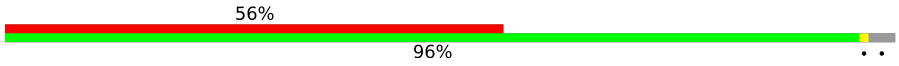
Chain DG:

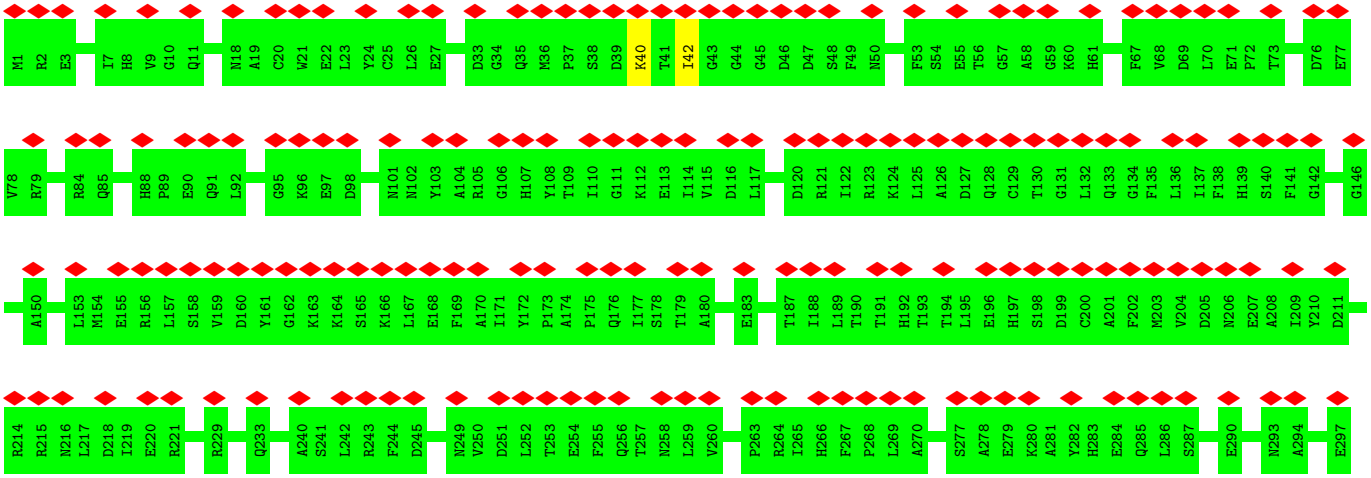


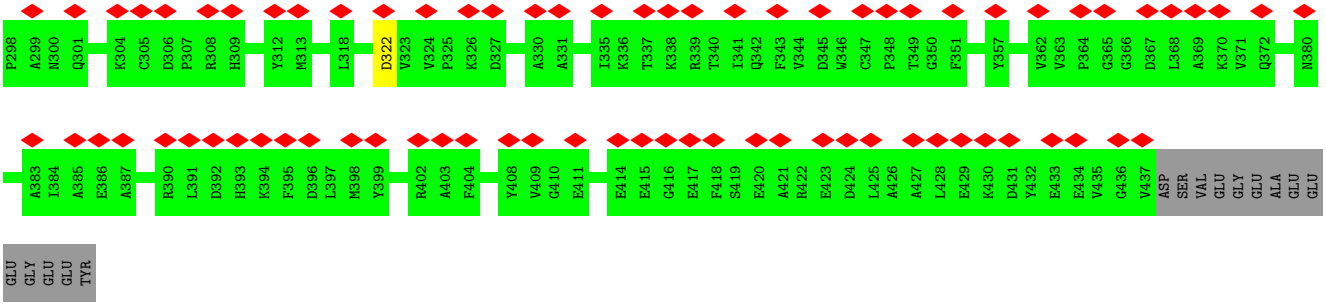


• Molecule 54: Tubulin alpha chain

Chain DI:

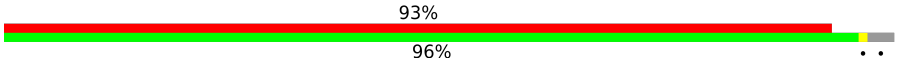


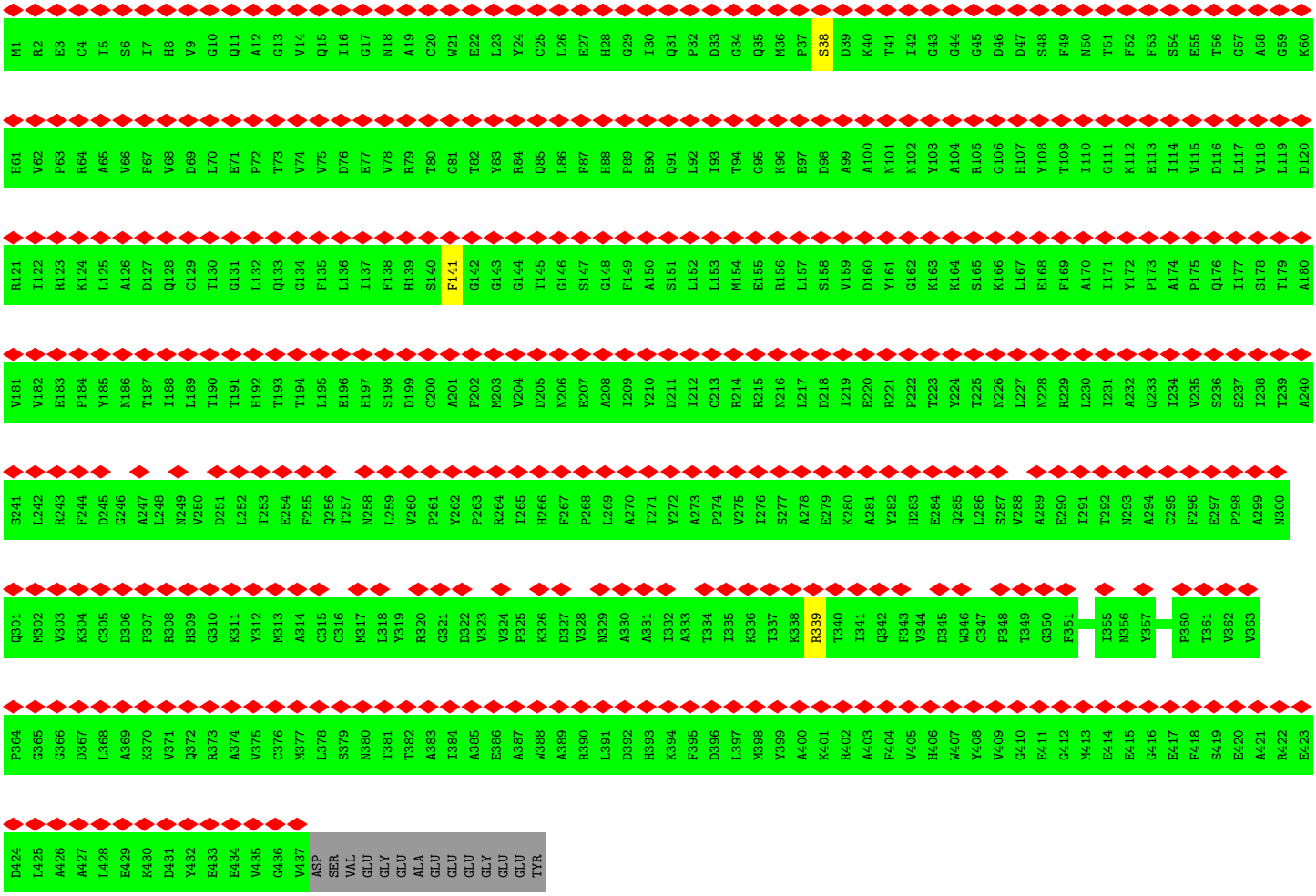




• Molecule 54: Tubulin alpha chain

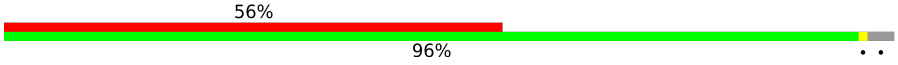
Chain DK:

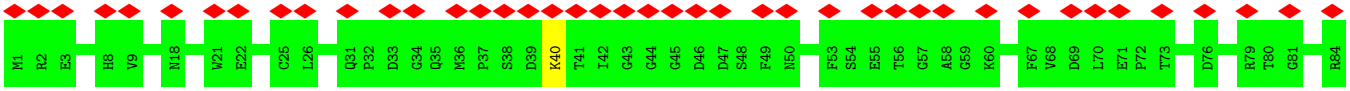


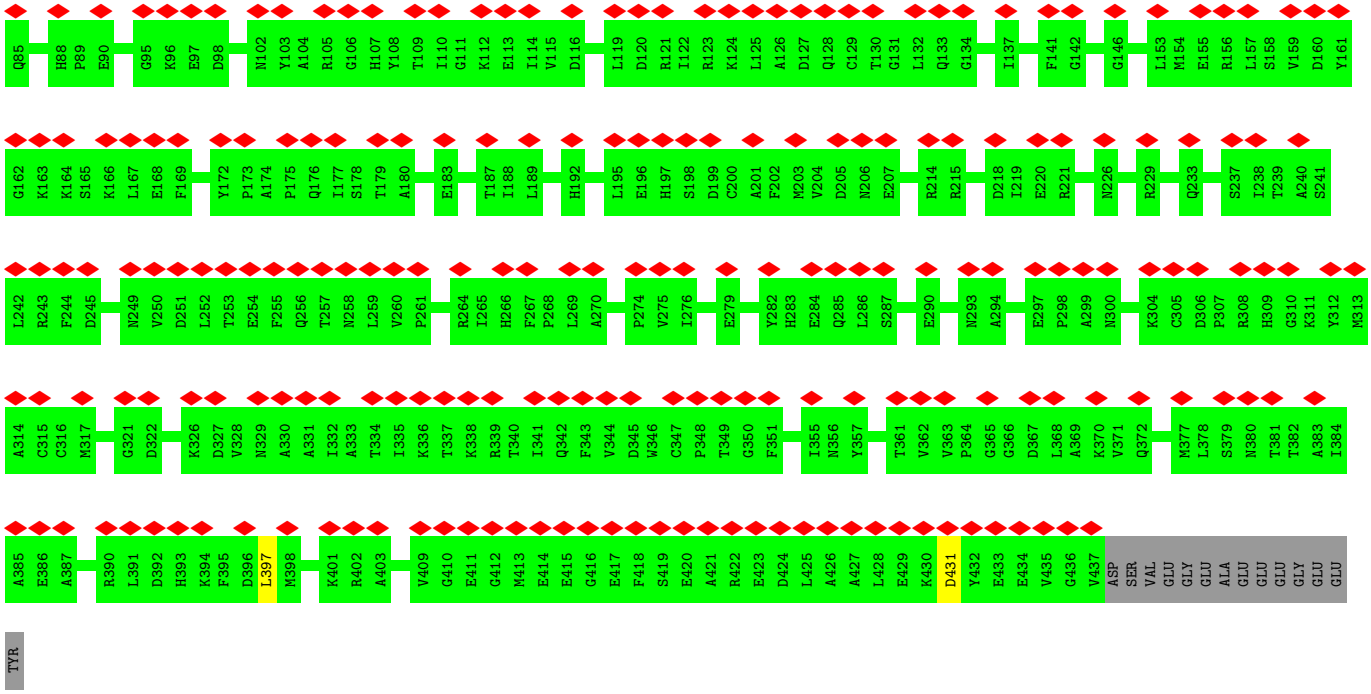


• Molecule 54: Tubulin alpha chain

Chain DM:

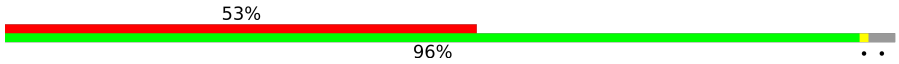


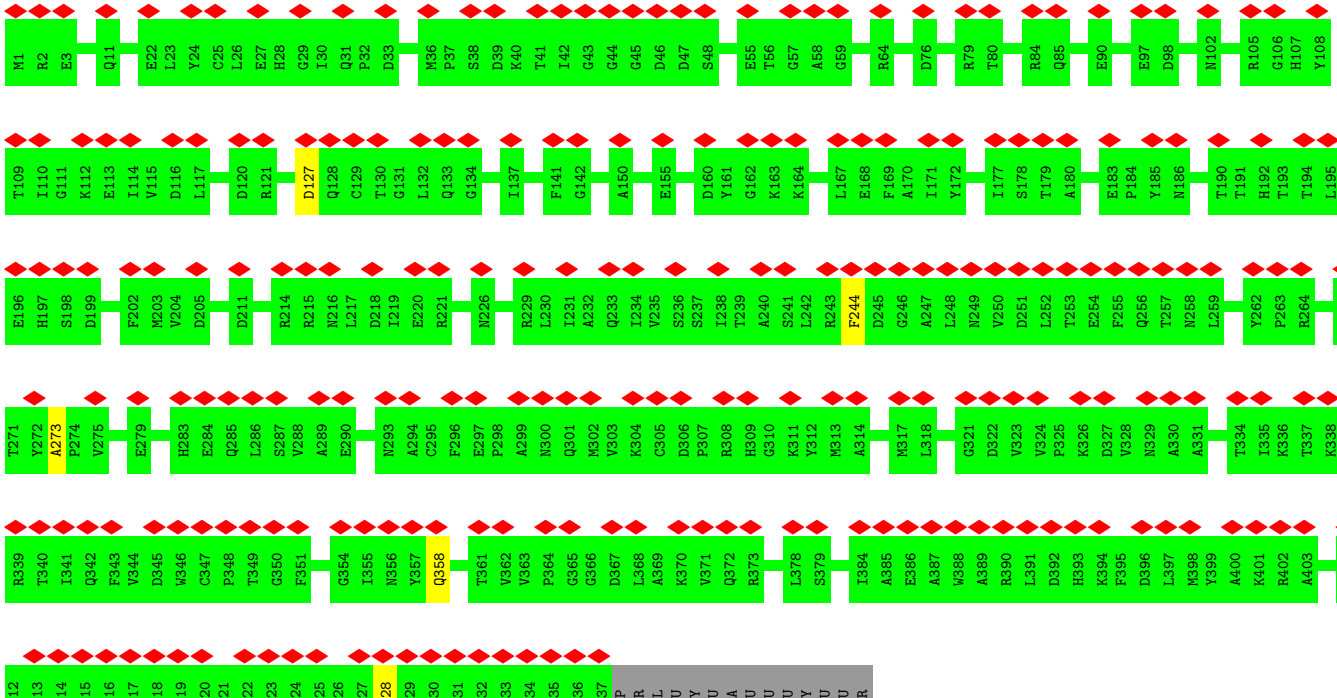




• Molecule 54: Tubulin alpha chain

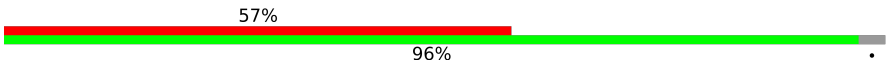
Chain EA:

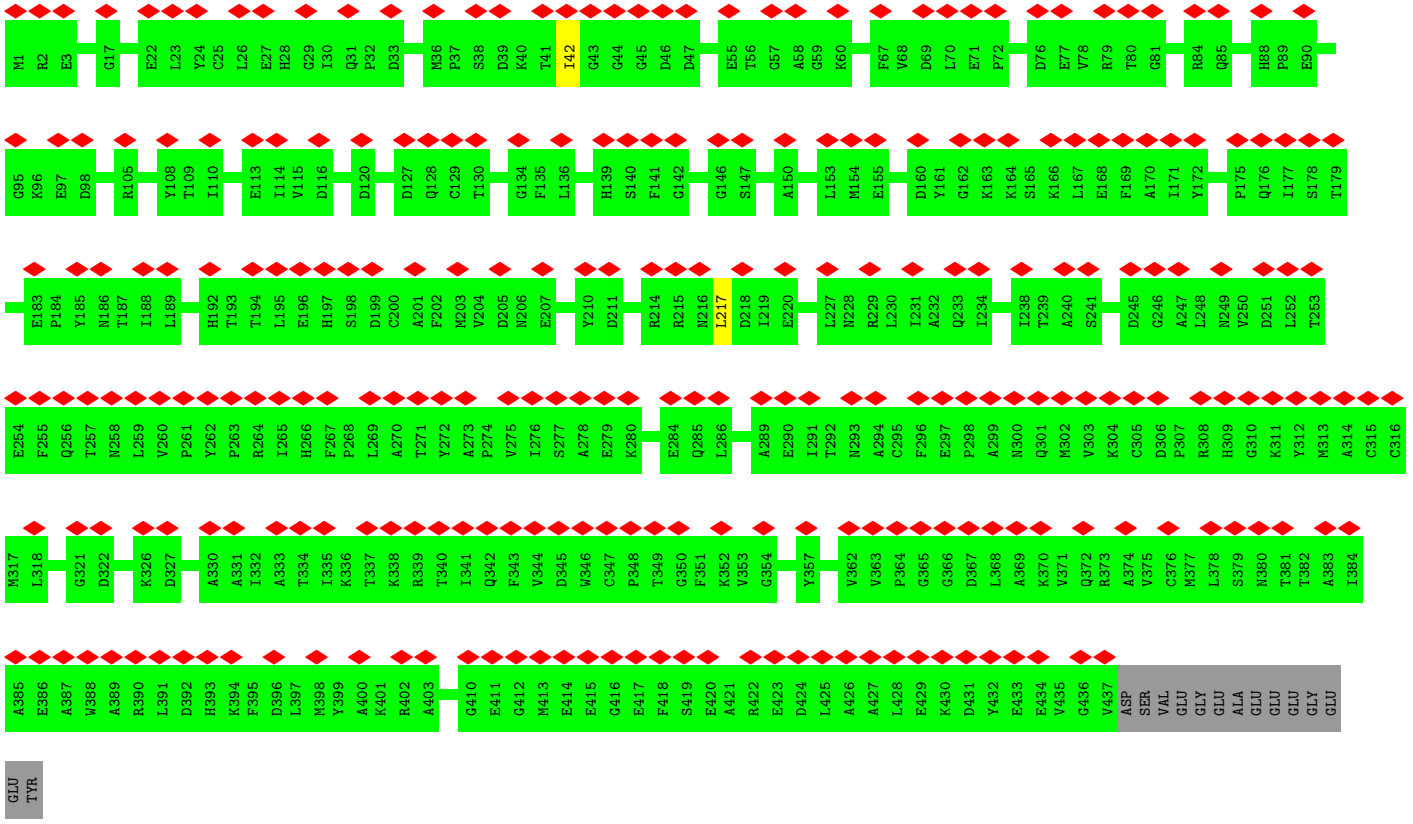




• Molecule 54: Tubulin alpha chain

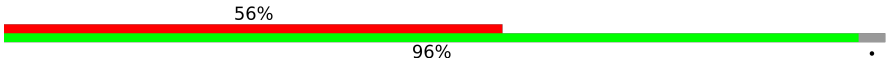
Chain EC:

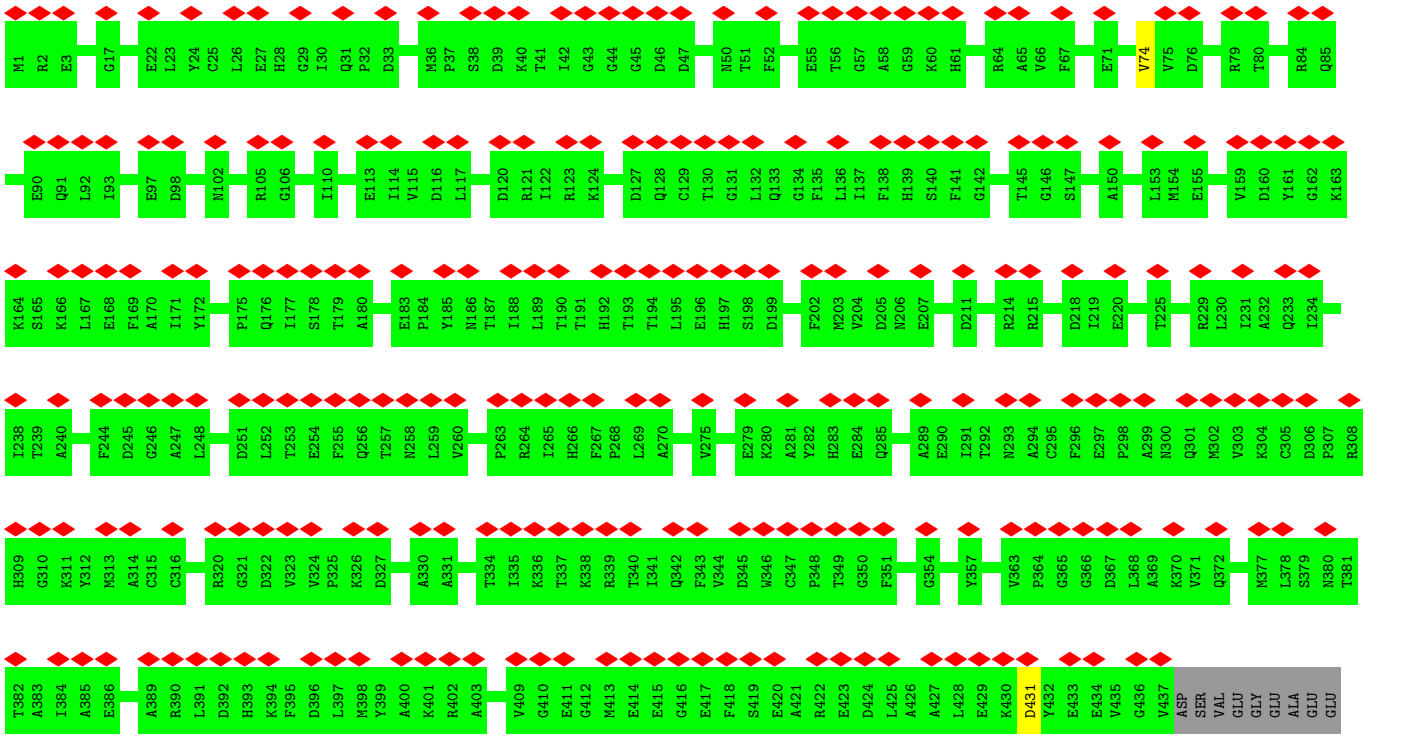




• Molecule 54: Tubulin alpha chain

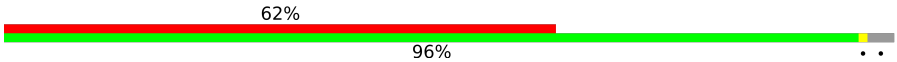
Chain EE:

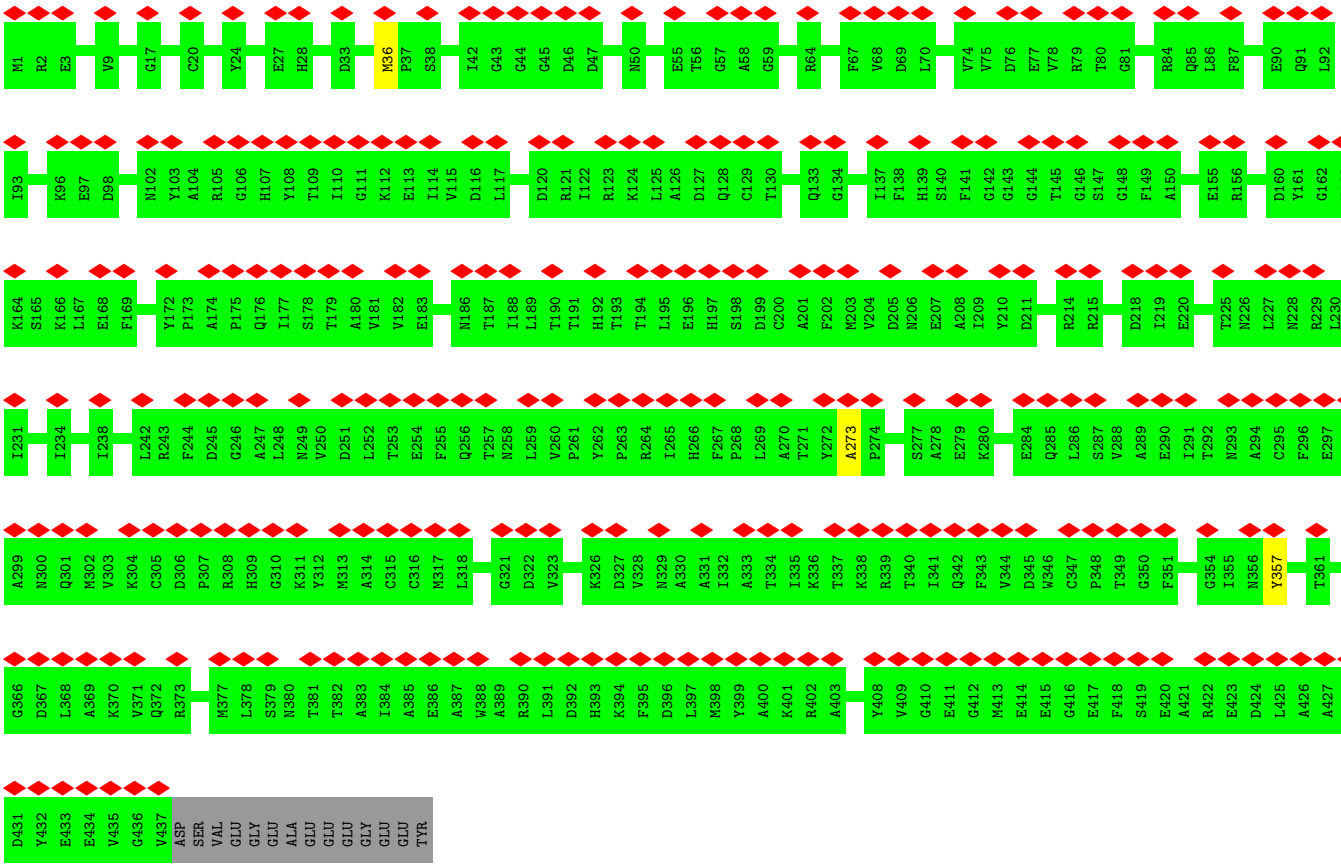




• Molecule 54: Tubulin alpha chain

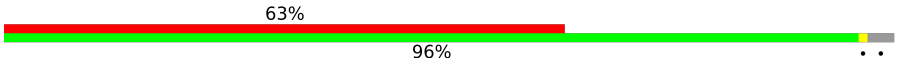
Chain EG:

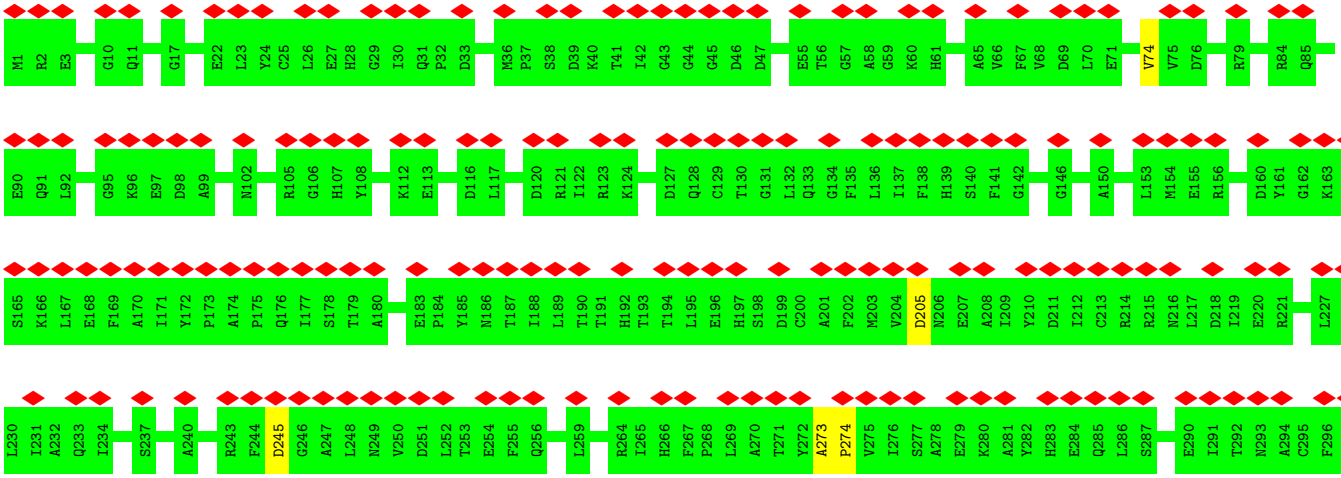




• Molecule 54: Tubulin alpha chain

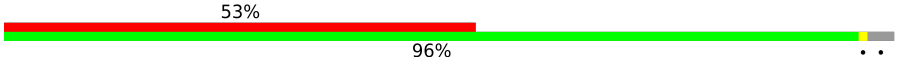
Chain EI:

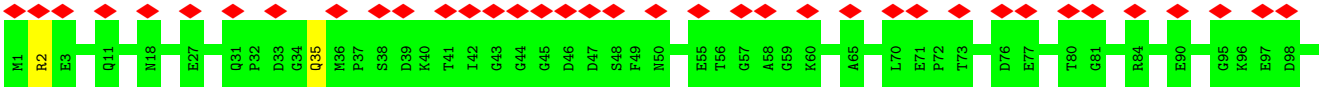




• Molecule 54: Tubulin alpha chain

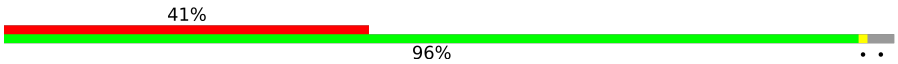
Chain EK:

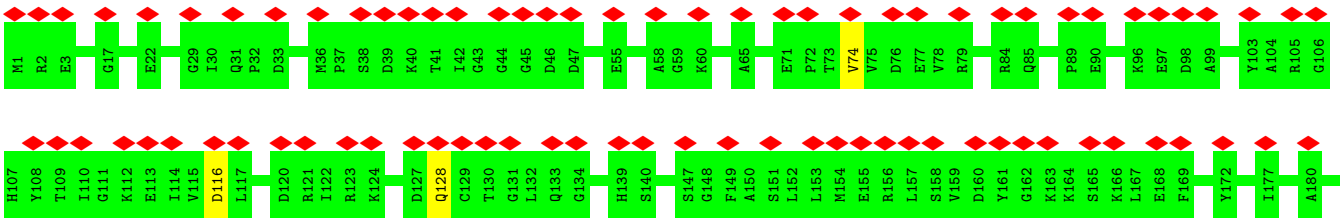


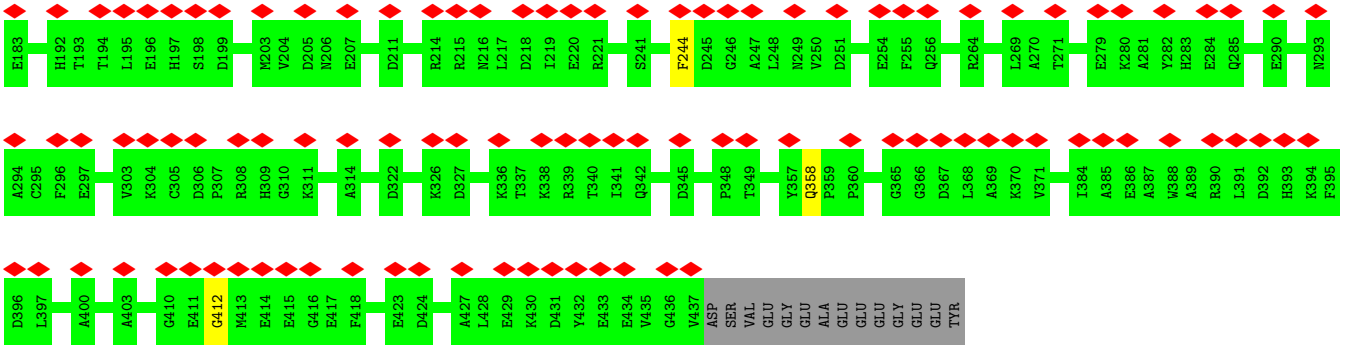


• Molecule 54: Tubulin alpha chain

Chain FA:

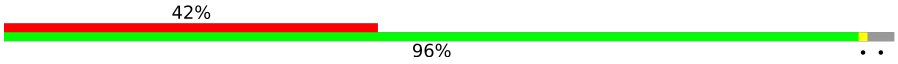


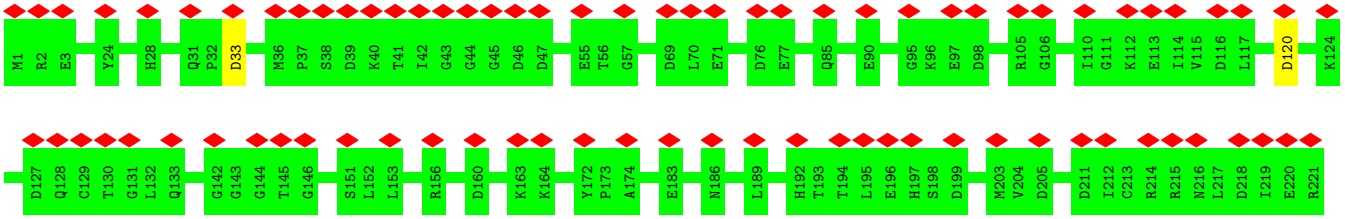




• Molecule 54: Tubulin alpha chain

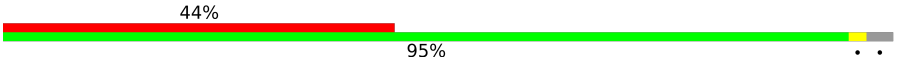
Chain FB:

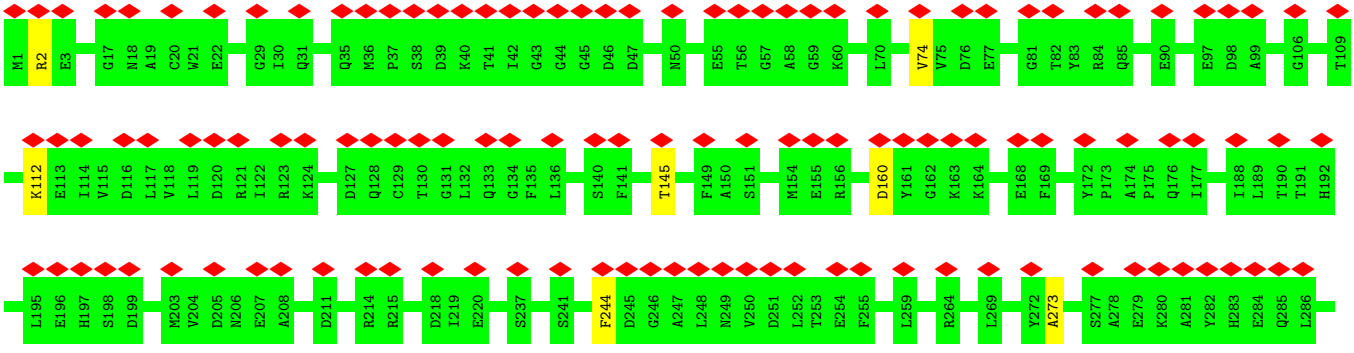


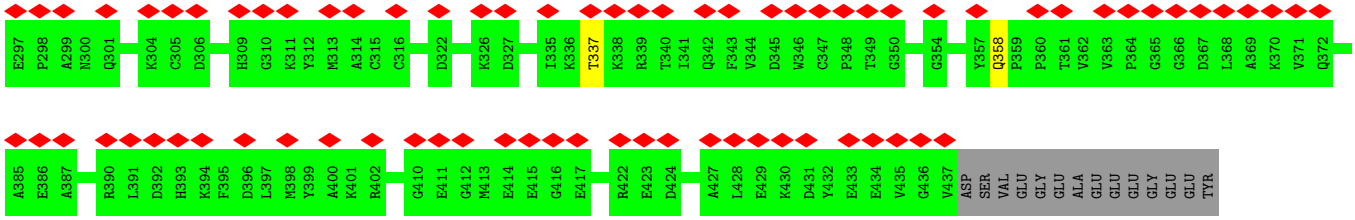


• Molecule 54: Tubulin alpha chain

Chain FE:

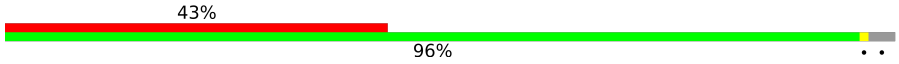


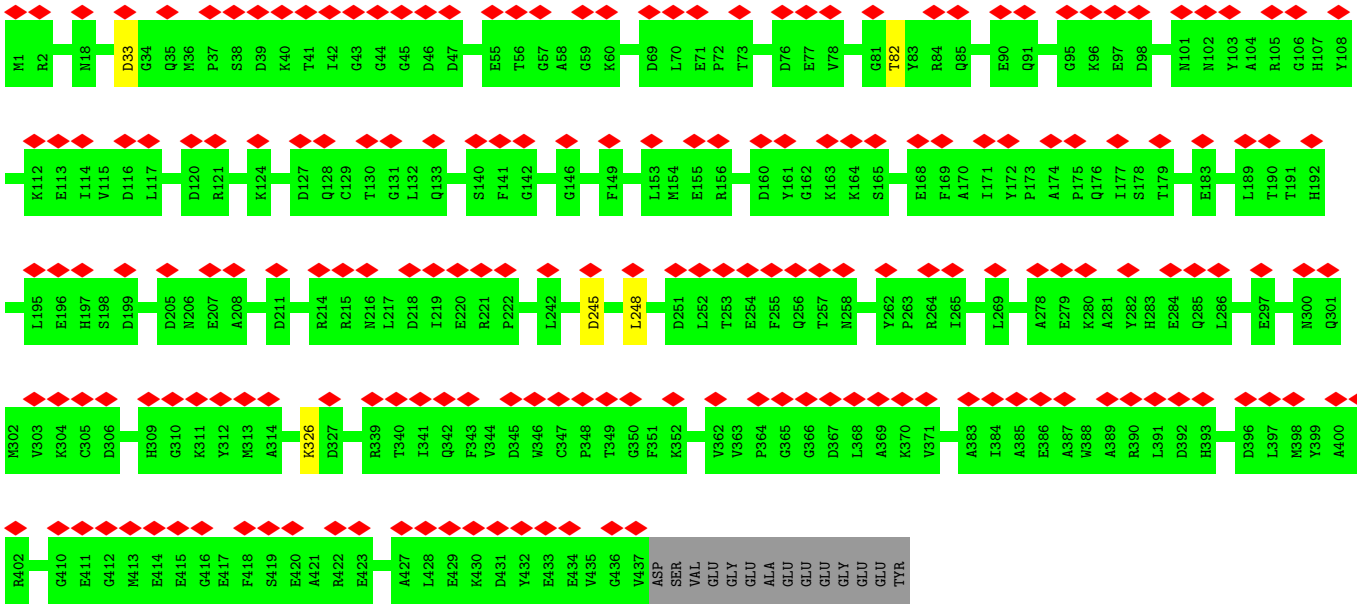




• Molecule 54: Tubulin alpha chain

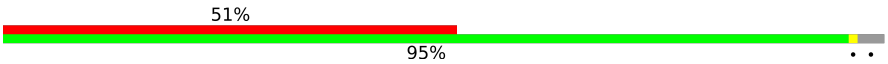
Chain FG:

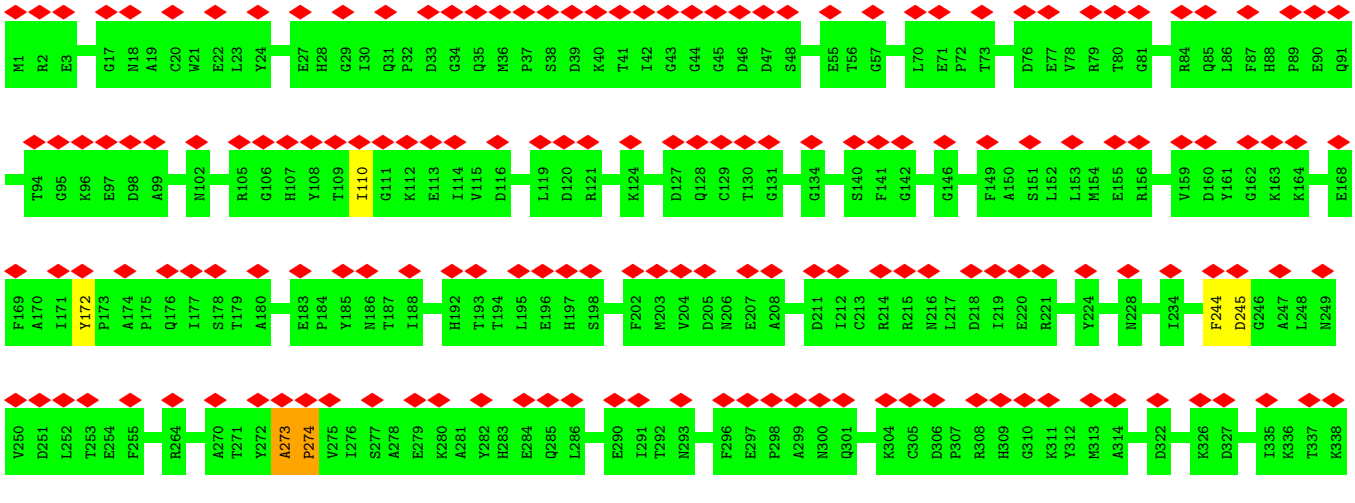


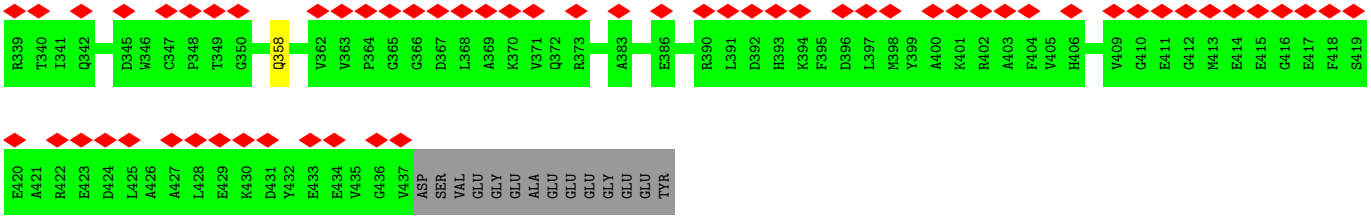


• Molecule 54: Tubulin alpha chain

Chain FI:

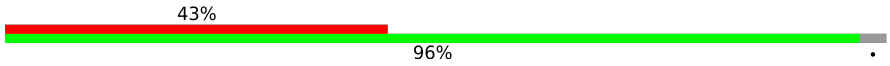


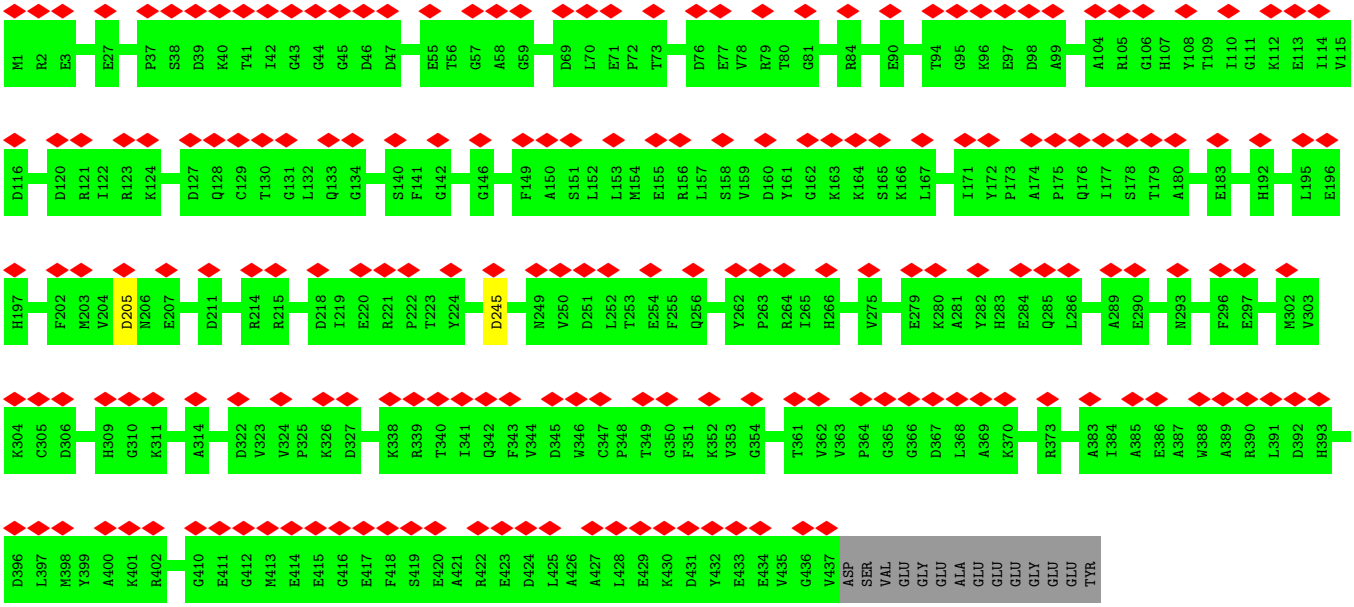




• Molecule 54: Tubulin alpha chain

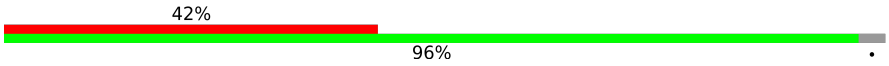
Chain FK:

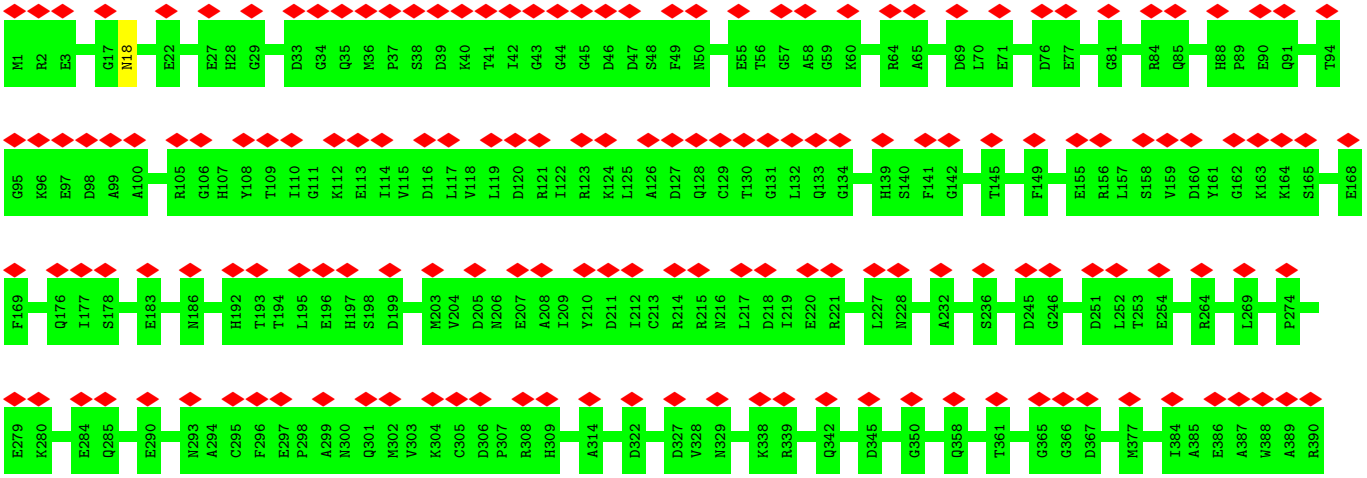


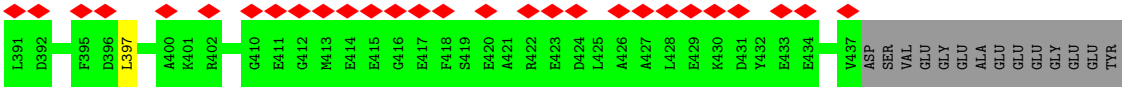


• Molecule 54: Tubulin alpha chain

Chain GA:

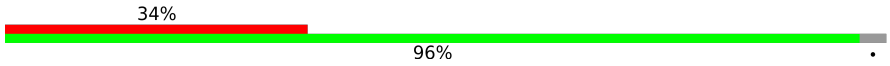


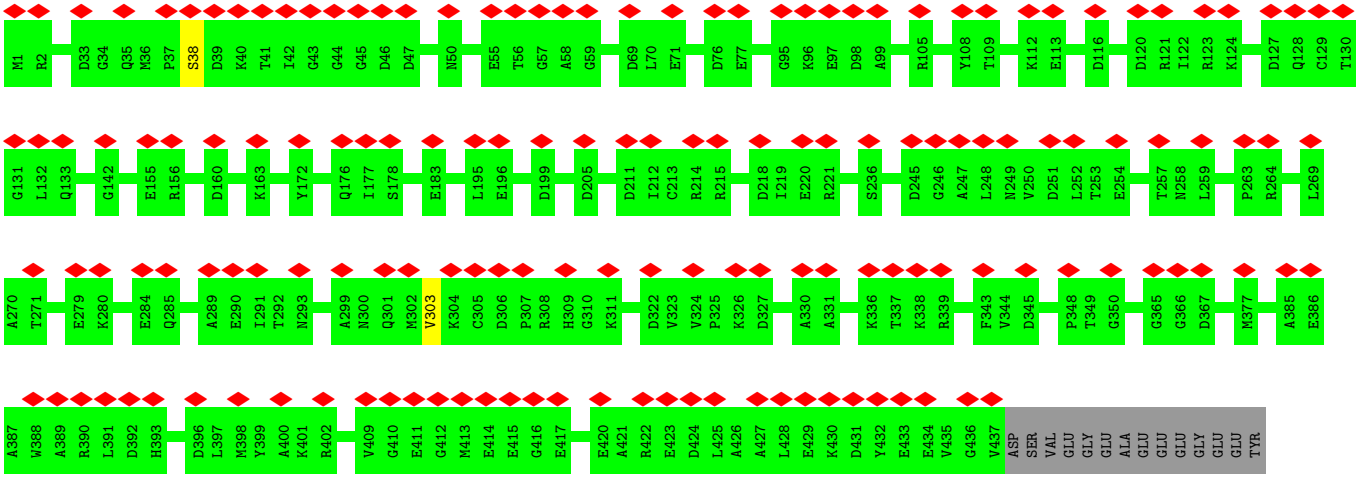




• Molecule 54: Tubulin alpha chain

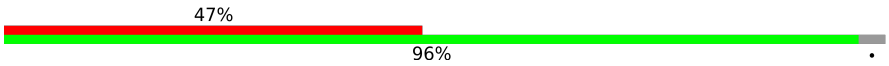
Chain GB:

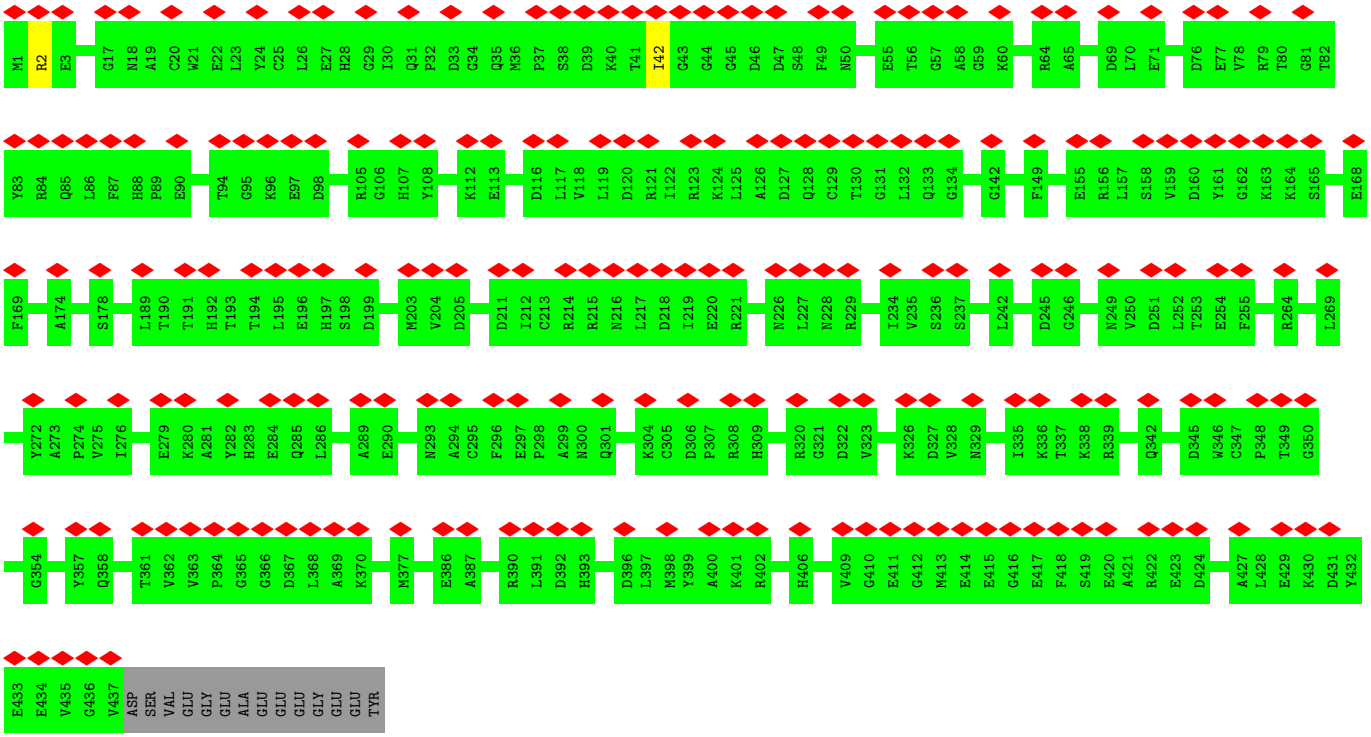




• Molecule 54: Tubulin alpha chain

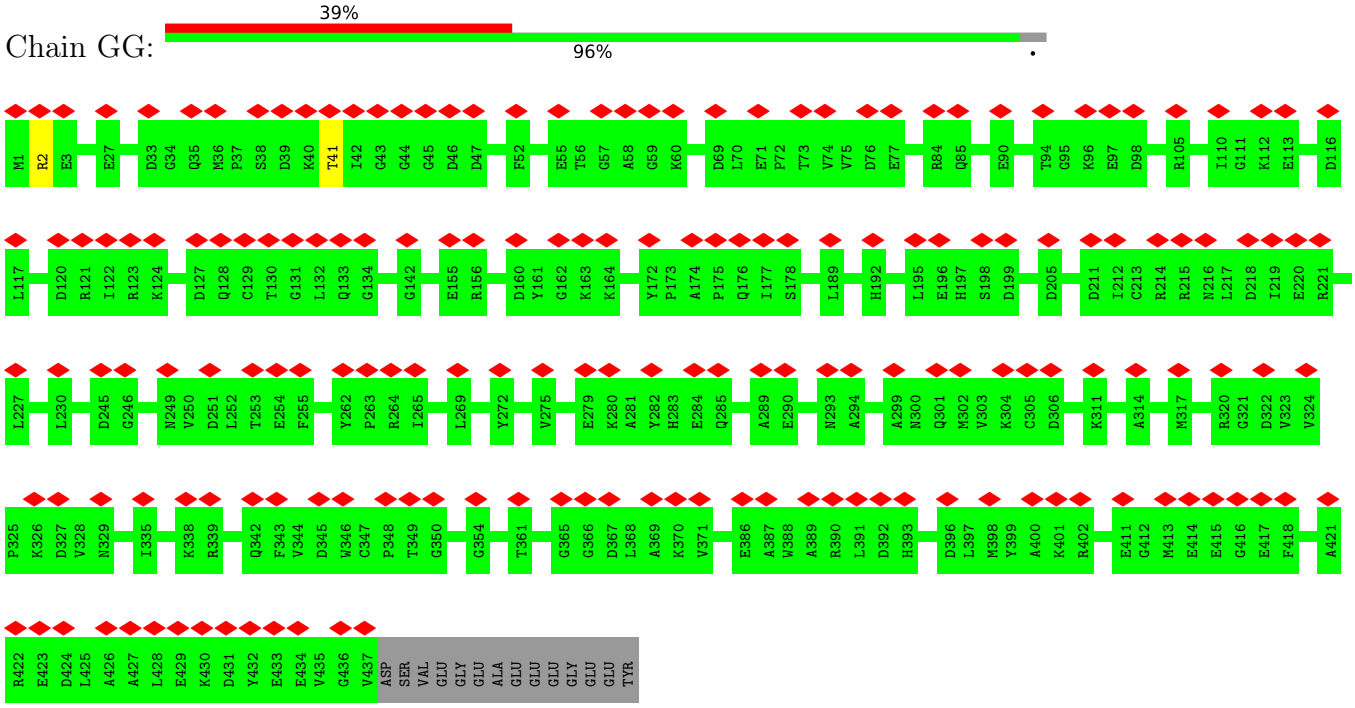
Chain GE:





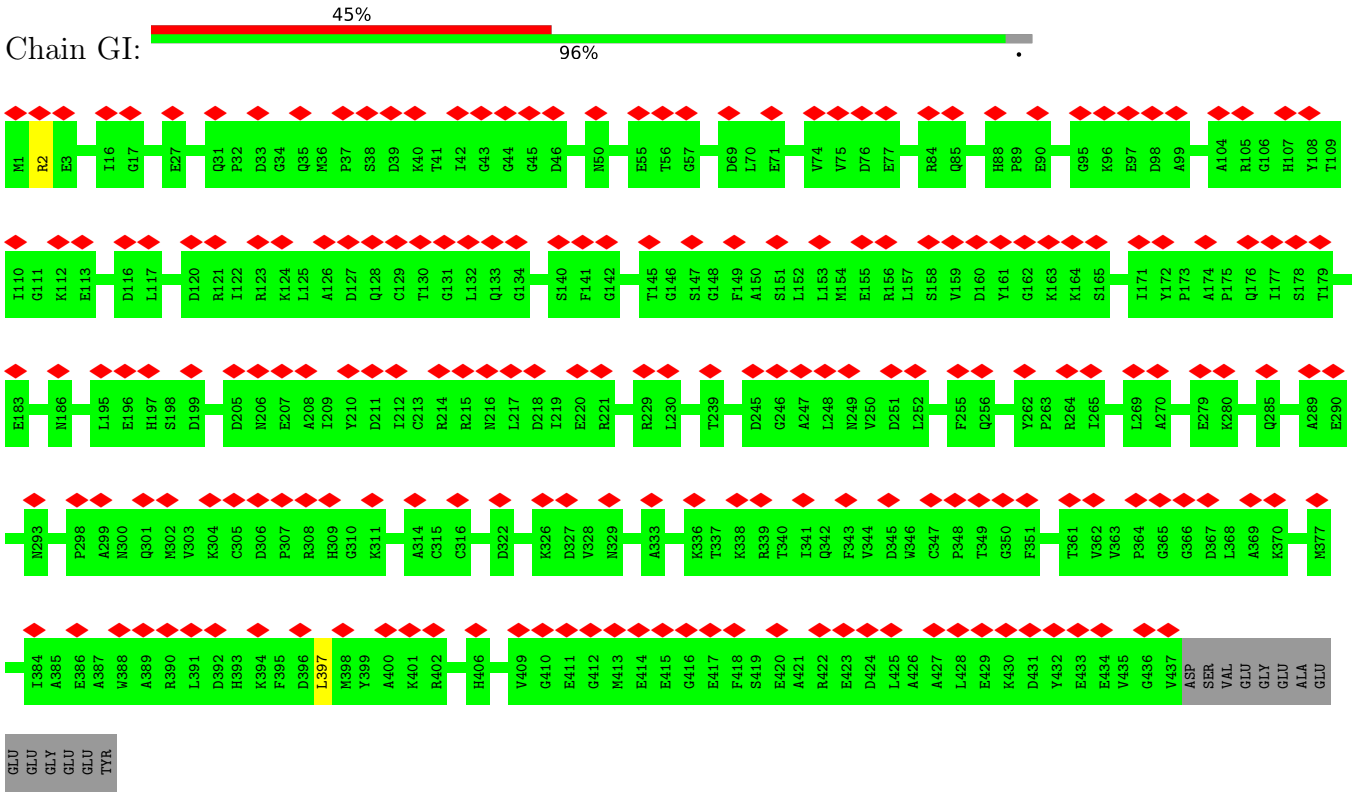
• Molecule 54: Tubulin alpha chain

Chain GG:



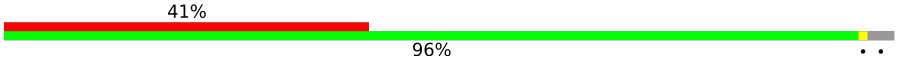
• Molecule 54: Tubulin alpha chain

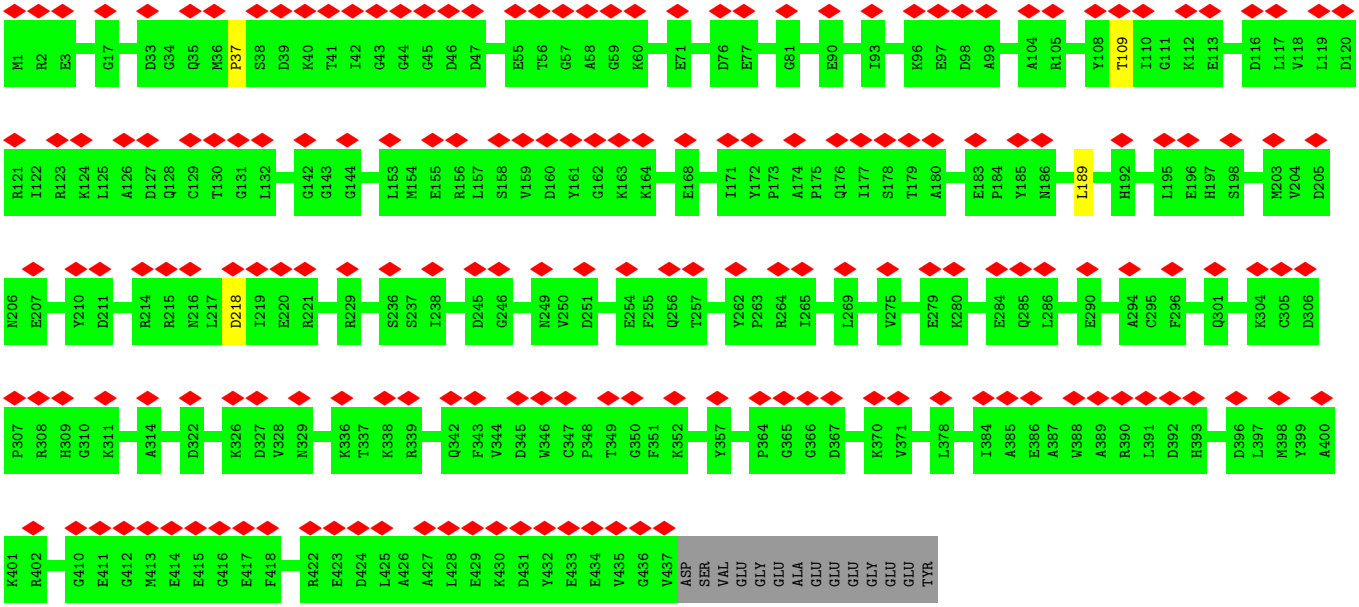
Chain GI:



• Molecule 54: Tubulin alpha chain

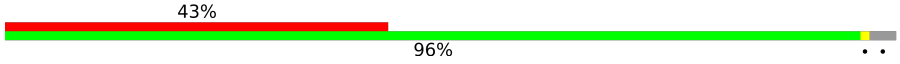
Chain GK:

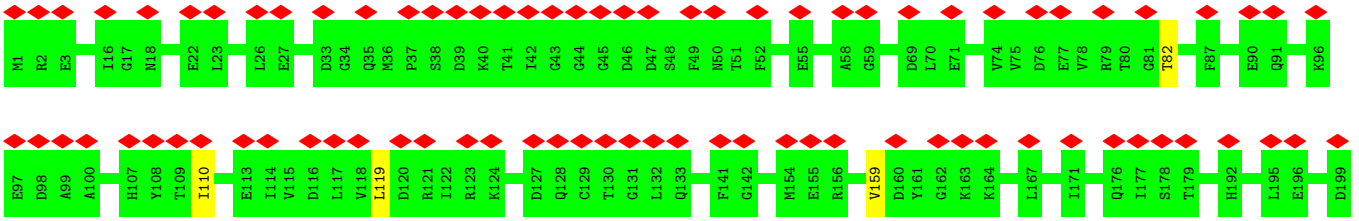




• Molecule 54: Tubulin alpha chain

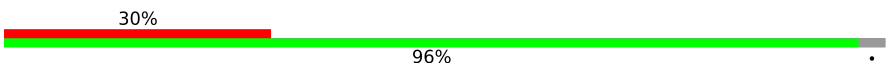
Chain HA:

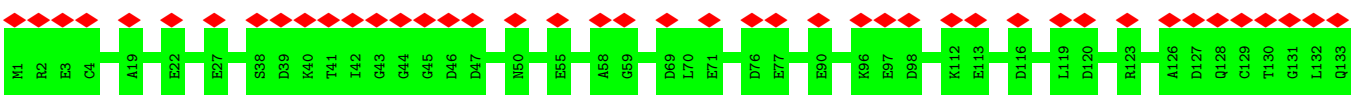


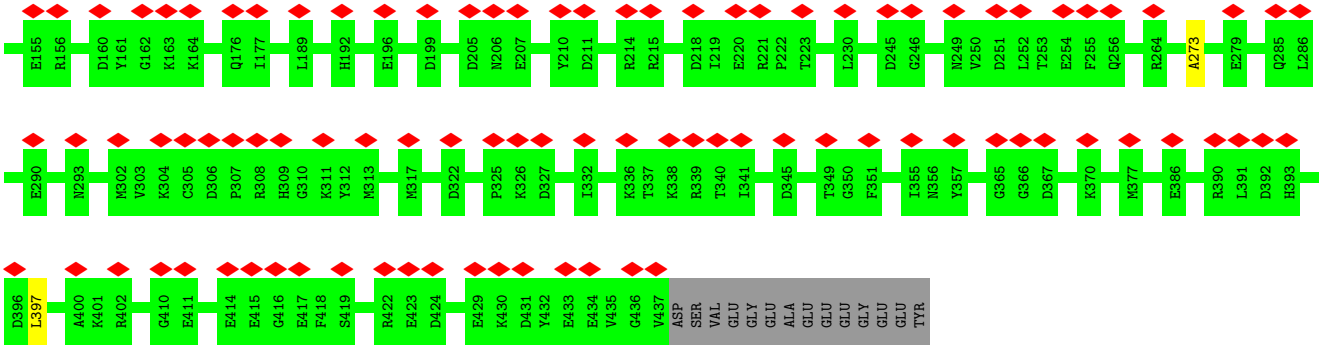


• Molecule 54: Tubulin alpha chain

Chain HB:

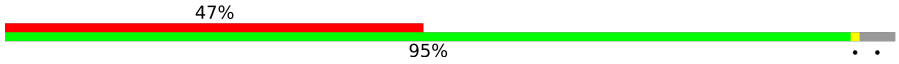


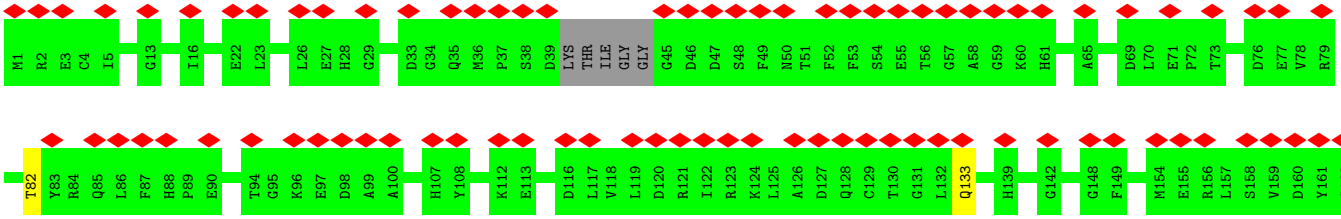




• Molecule 54: Tubulin alpha chain

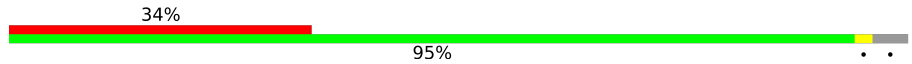
Chain HE:

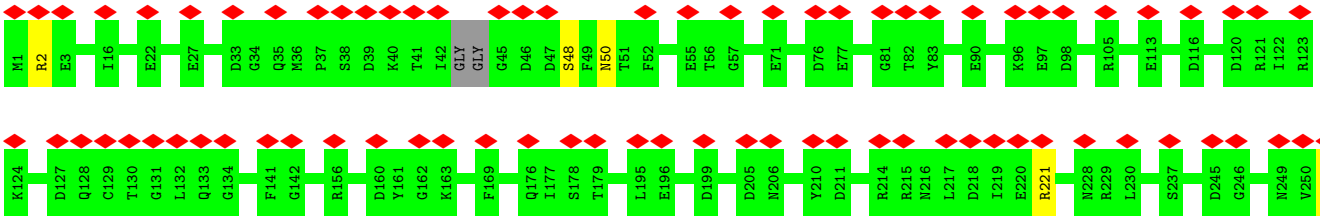


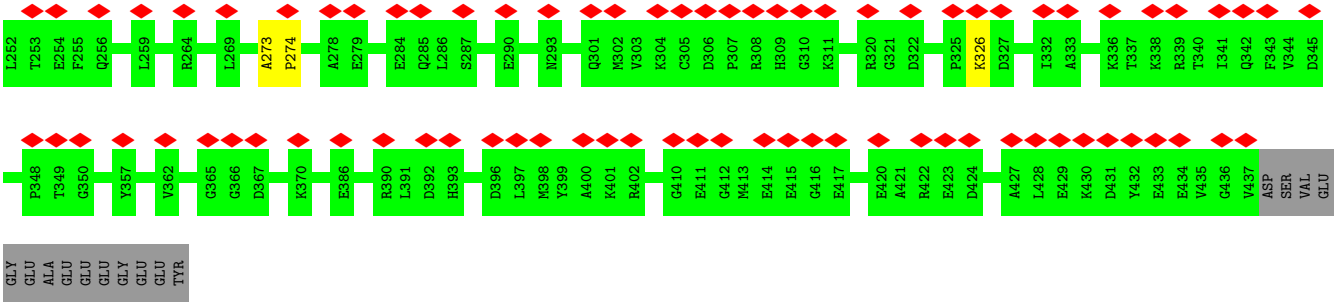


• Molecule 54: Tubulin alpha chain

Chain HG:

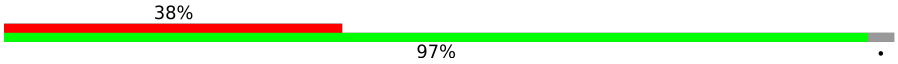


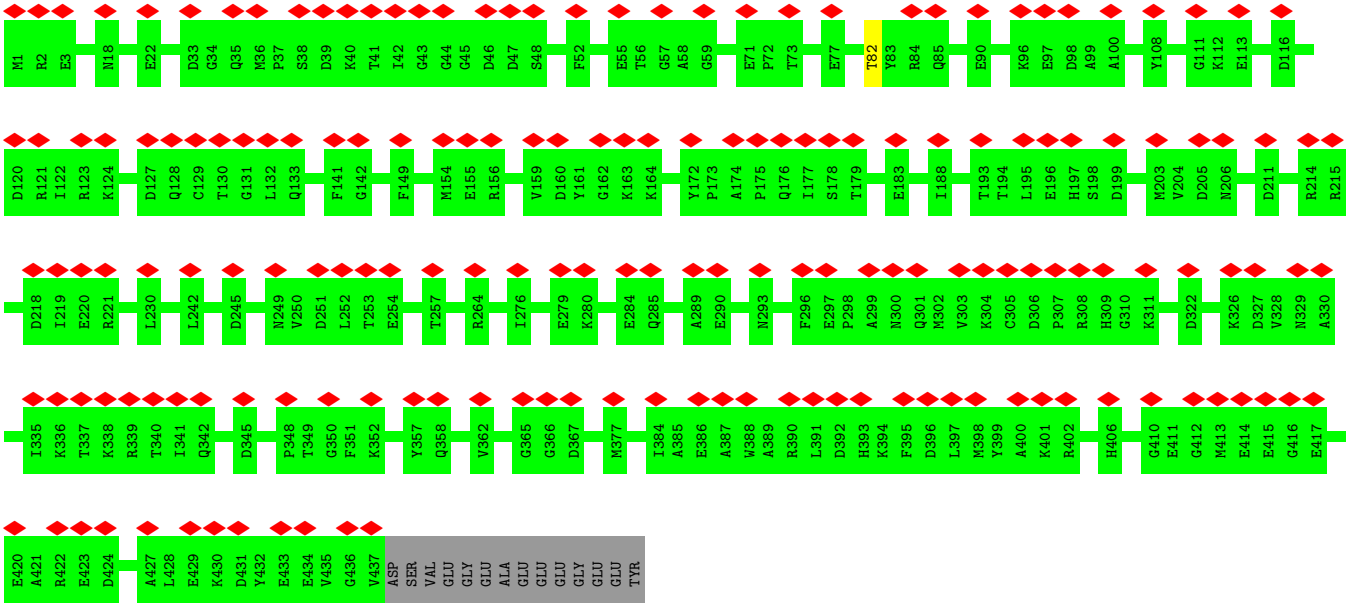




• Molecule 54: Tubulin alpha chain

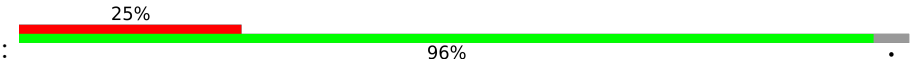
Chain HI:

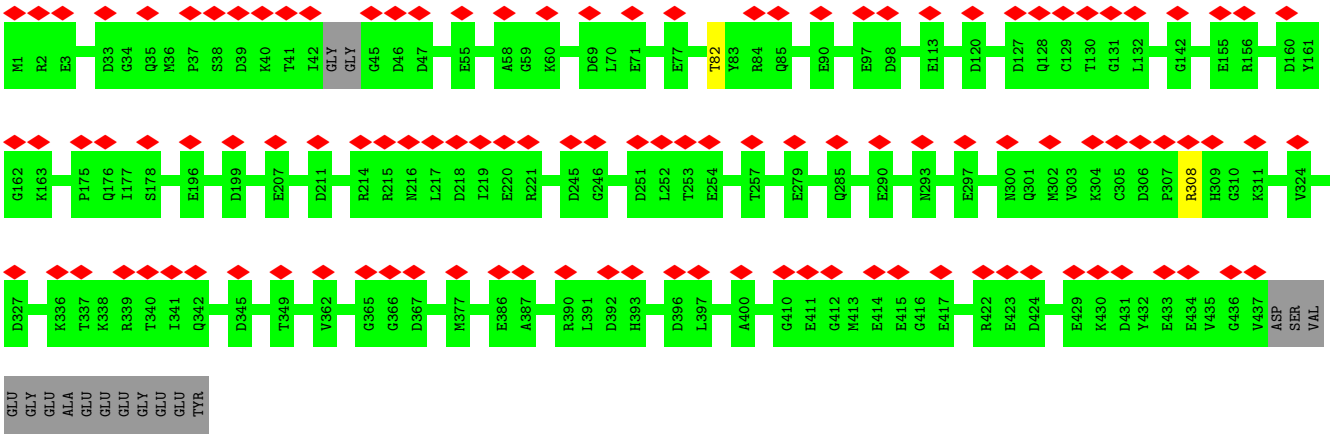




• Molecule 54: Tubulin alpha chain

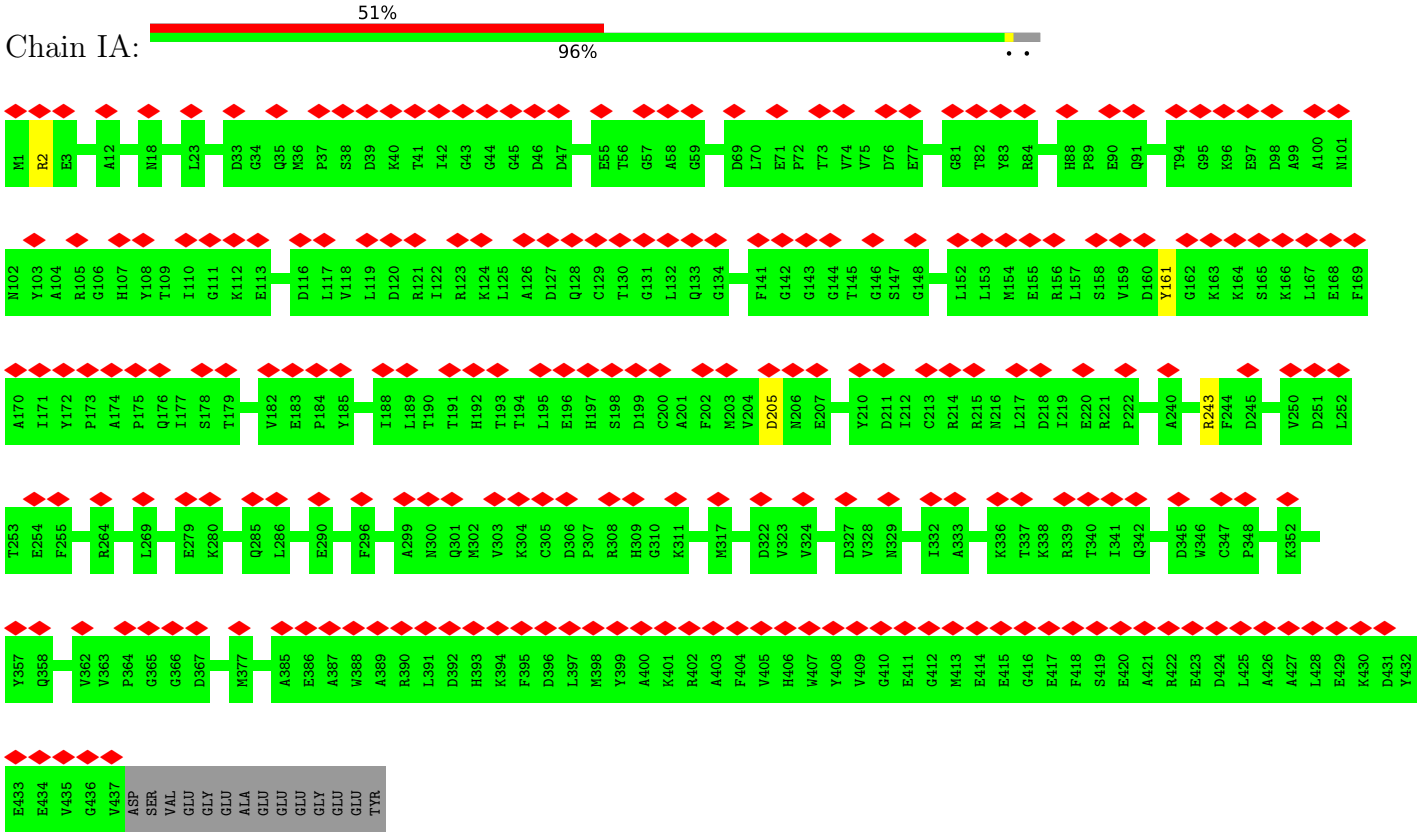
Chain HK:





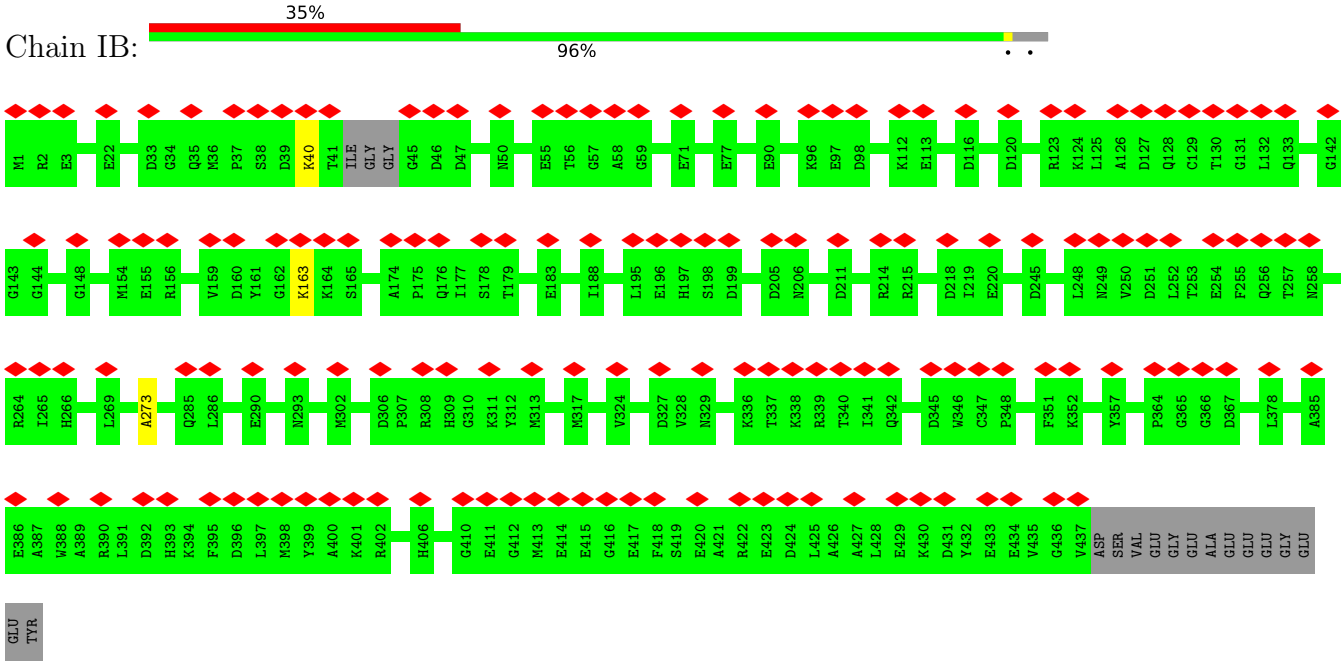
• Molecule 54: Tubulin alpha chain

Chain IA:



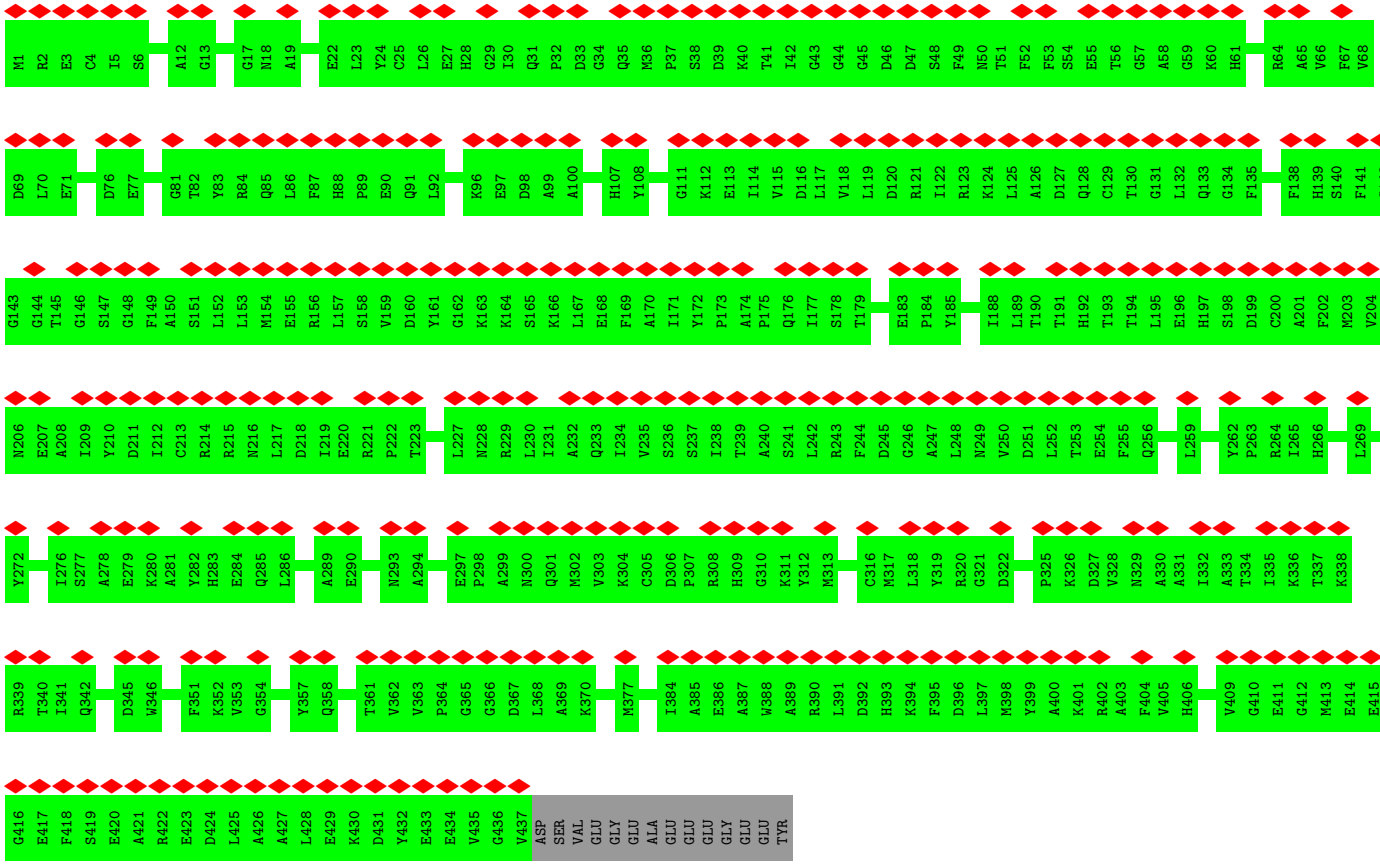
• Molecule 54: Tubulin alpha chain

Chain IB:



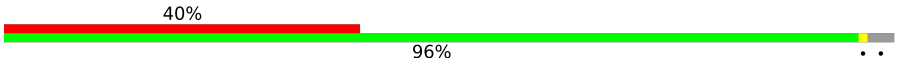
• Molecule 54: Tubulin alpha chain

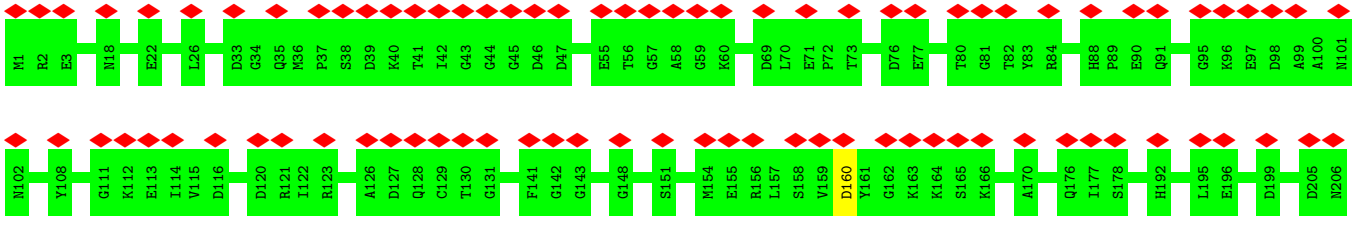
Chain IE:



• Molecule 54: Tubulin alpha chain

Chain IG:



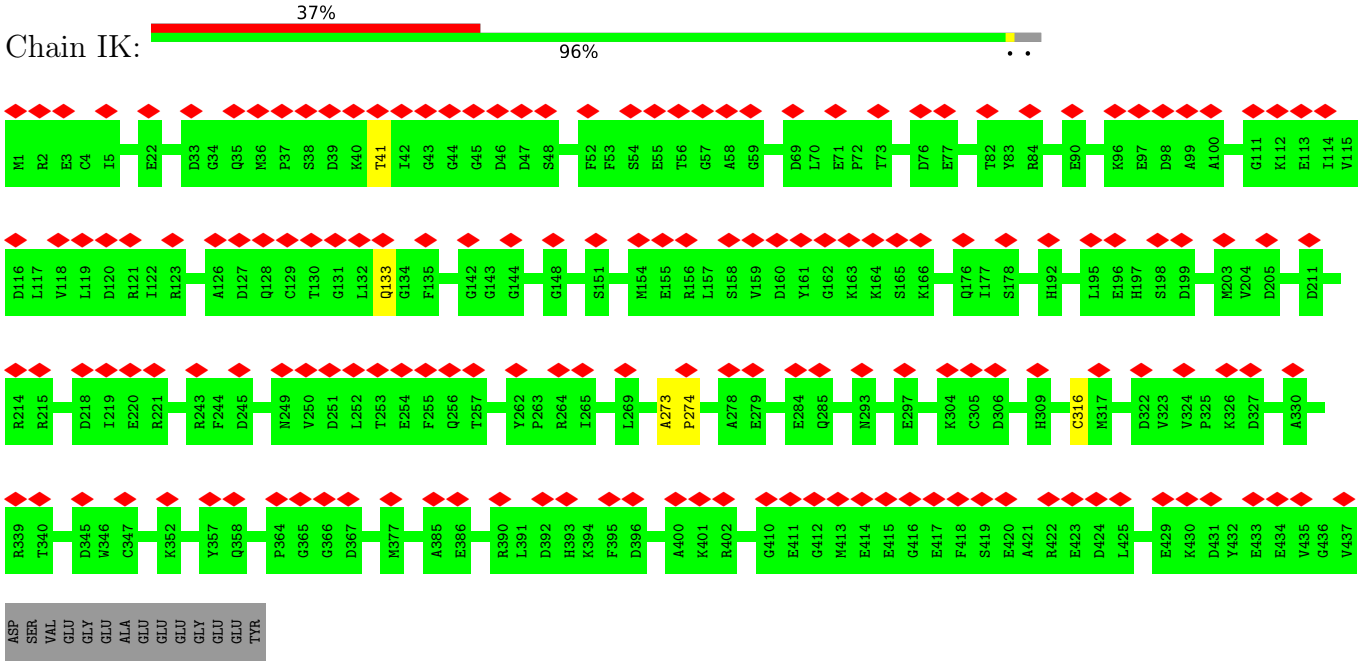


• Molecule 54: Tubulin alpha chain

Chain II:

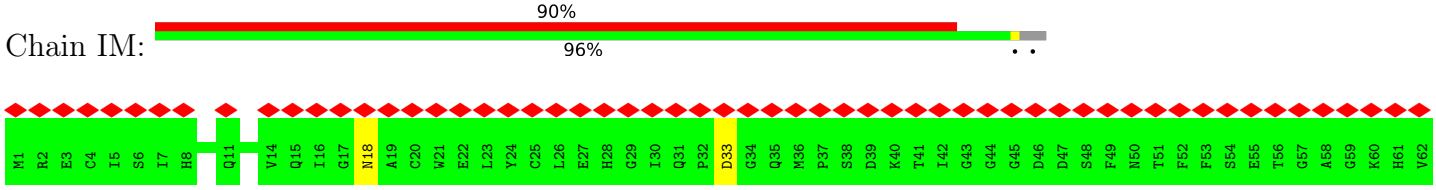
• Molecule 54: Tubulin alpha chain

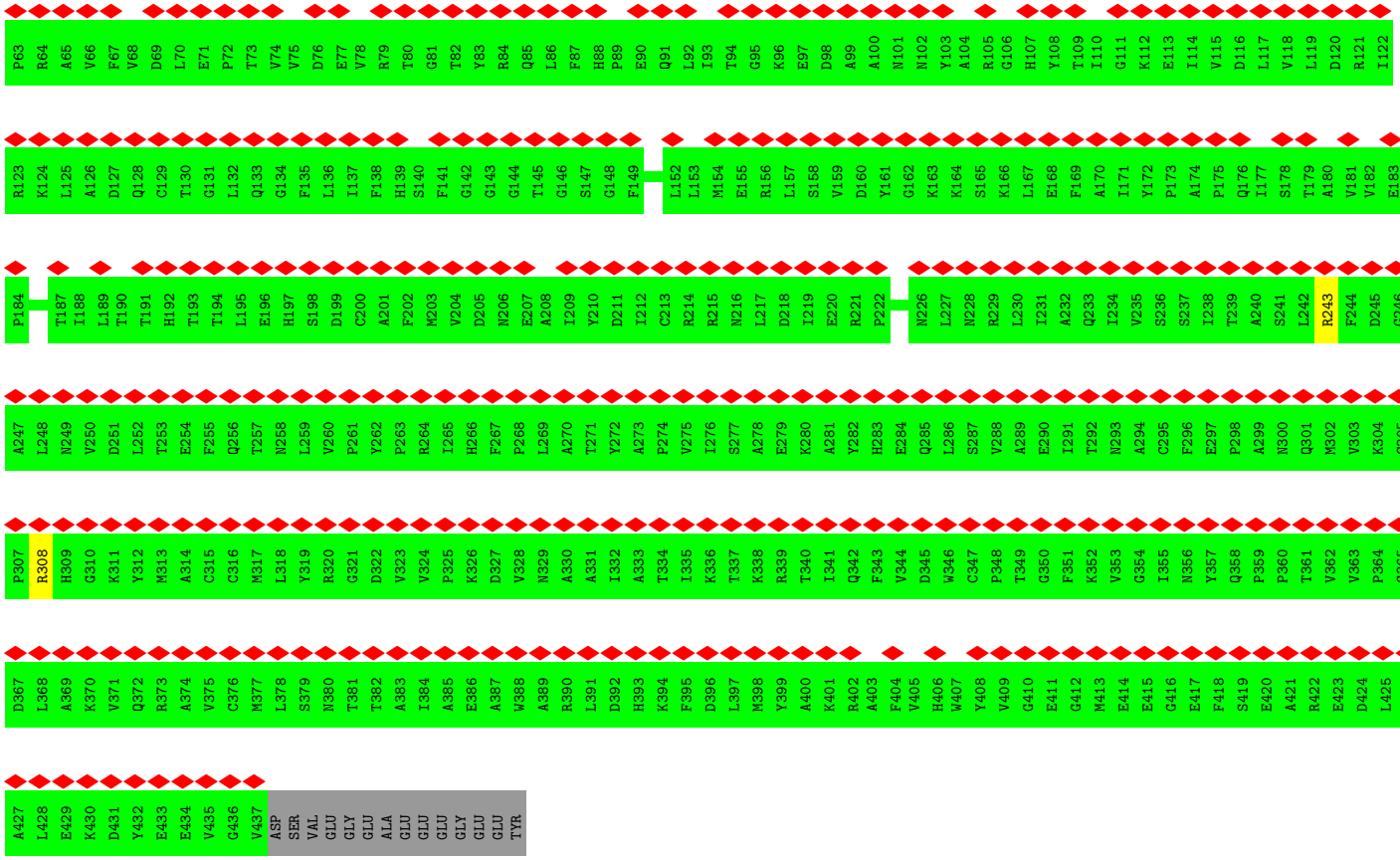
Chain IK:



• Molecule 54: Tubulin alpha chain

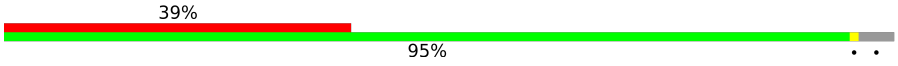
Chain IM:

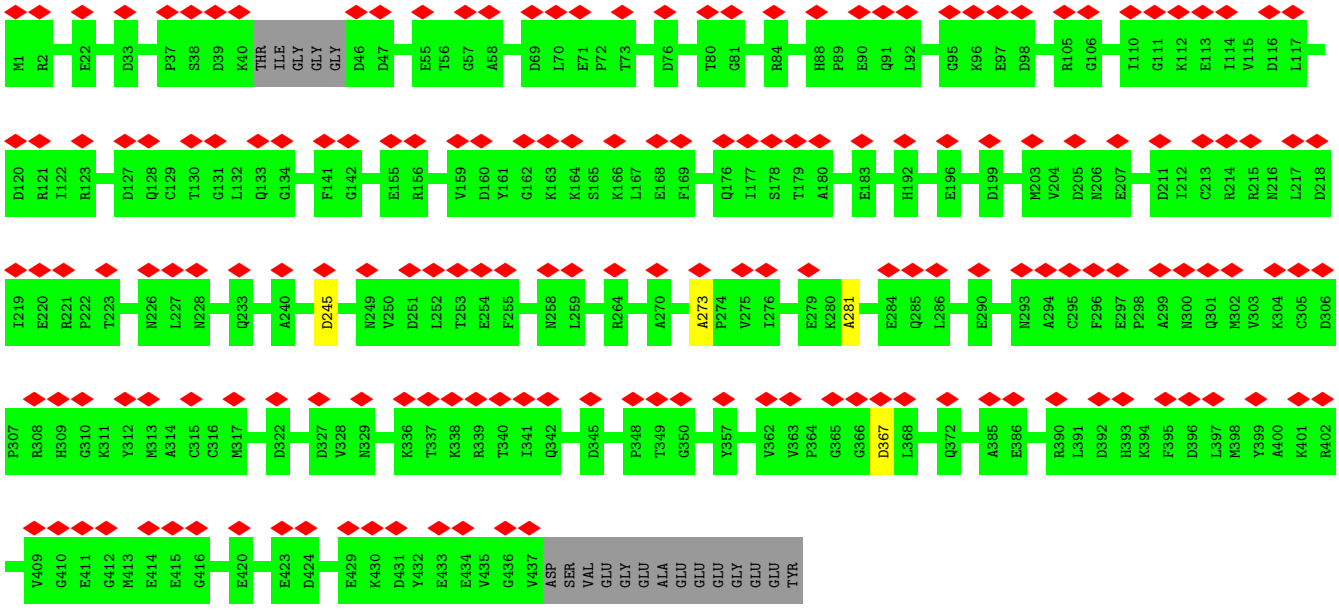




• Molecule 54: Tubulin alpha chain

Chain JA:



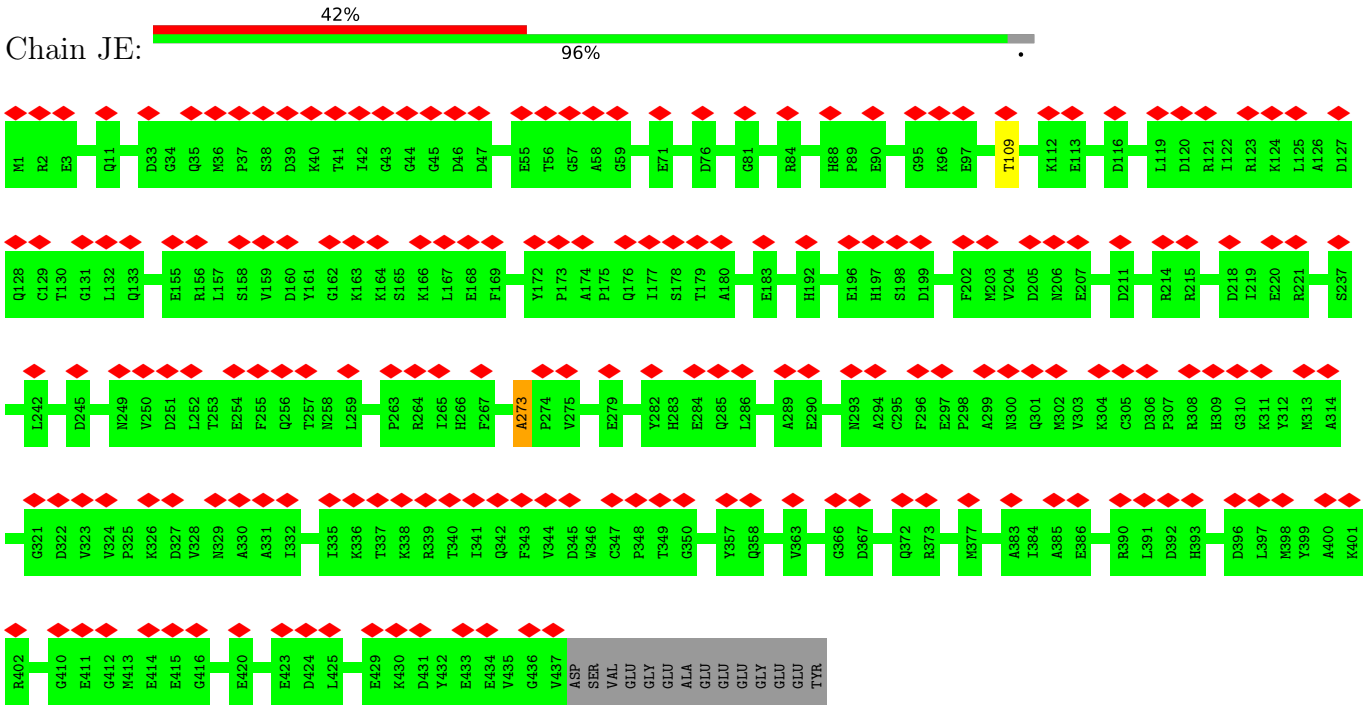


• Molecule 54: Tubulin alpha chain

Chain JB:

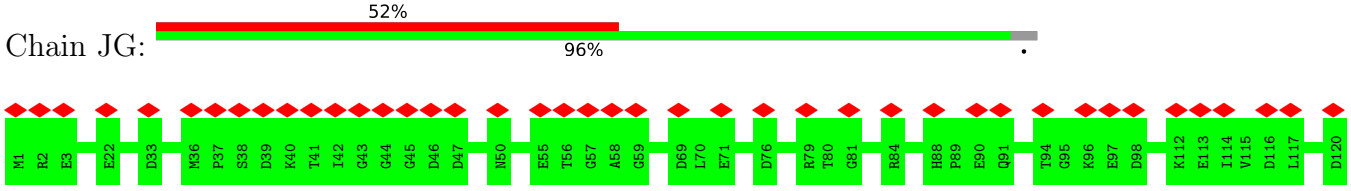
• Molecule 54: Tubulin alpha chain

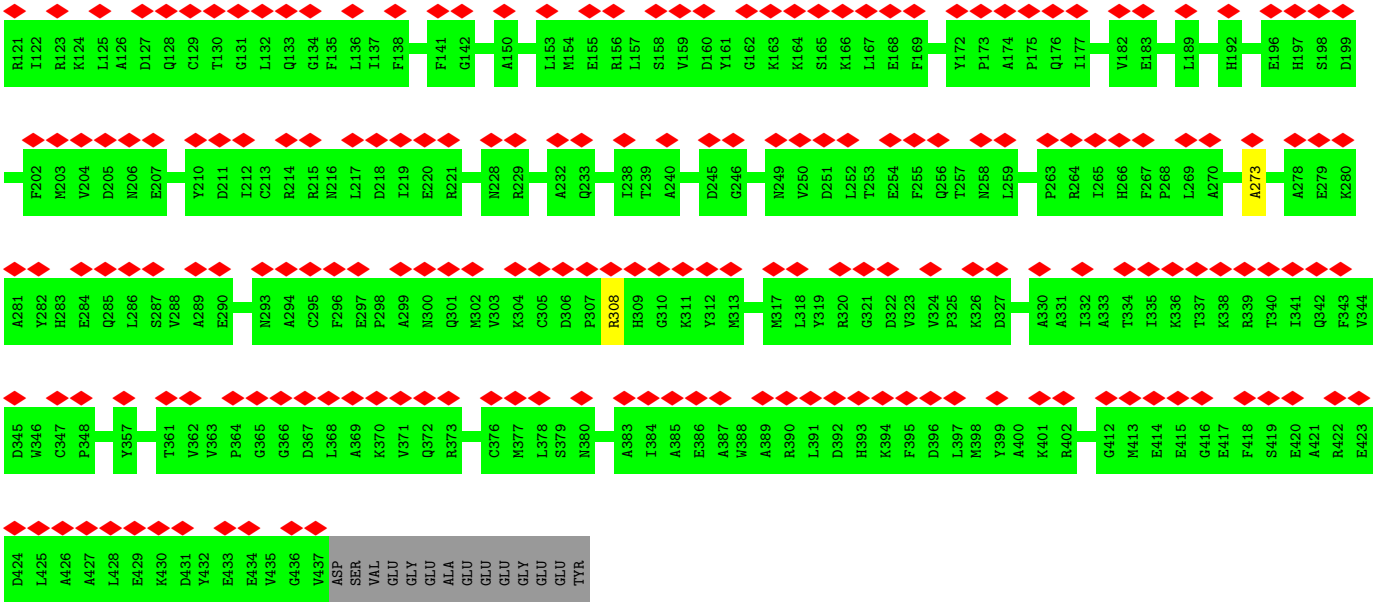
Chain JE:



• Molecule 54: Tubulin alpha chain

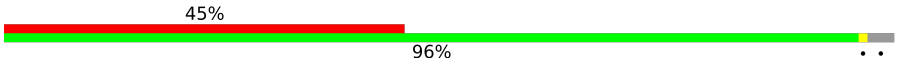
Chain JG:

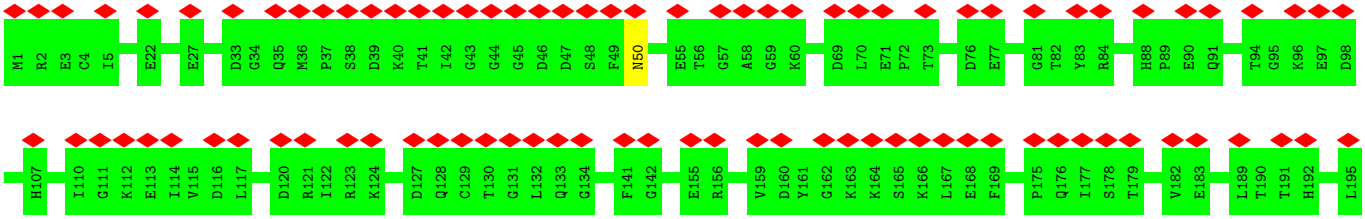




• Molecule 54: Tubulin alpha chain

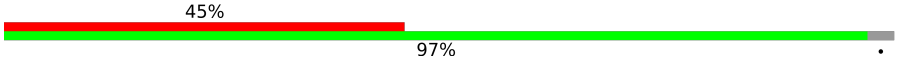
Chain JI:

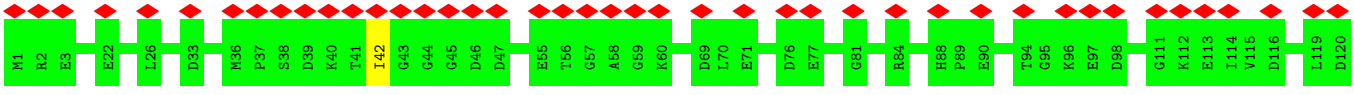


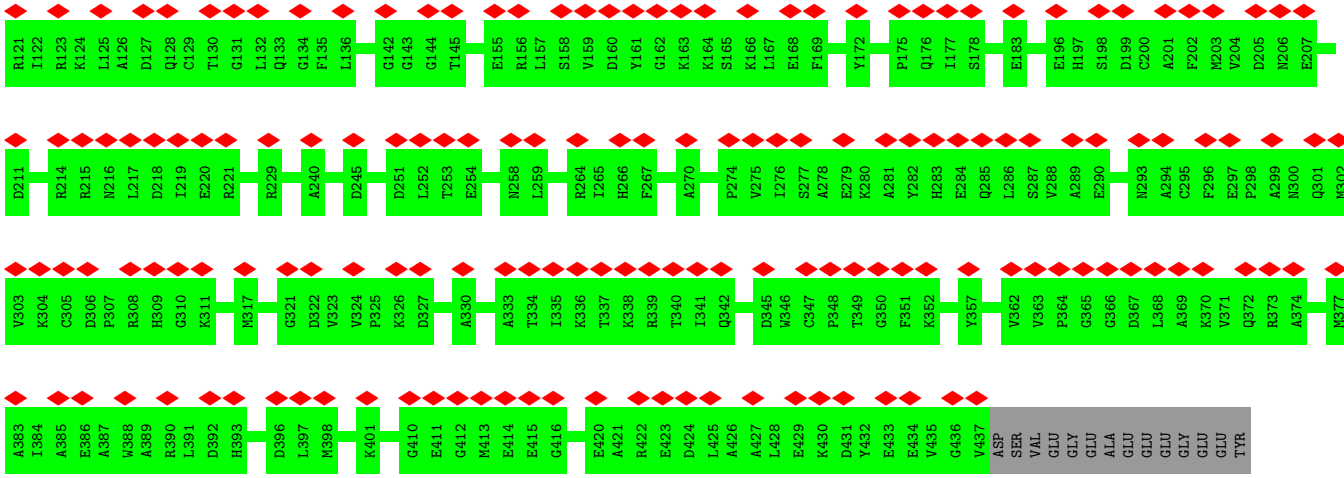


• Molecule 54: Tubulin alpha chain

Chain JK:

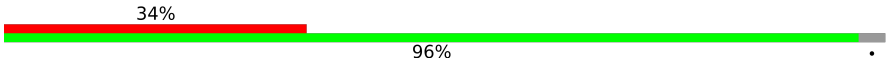


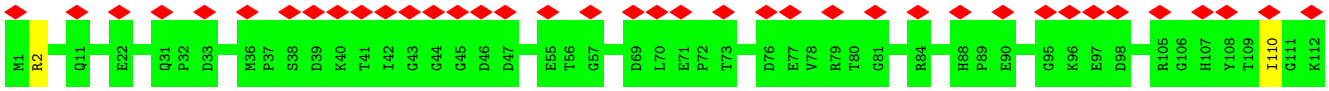




• Molecule 54: Tubulin alpha chain

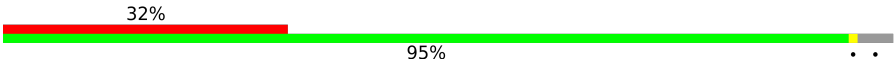
Chain KA:

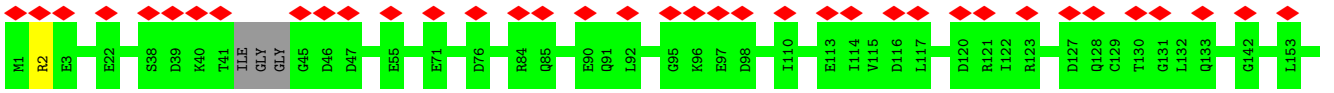


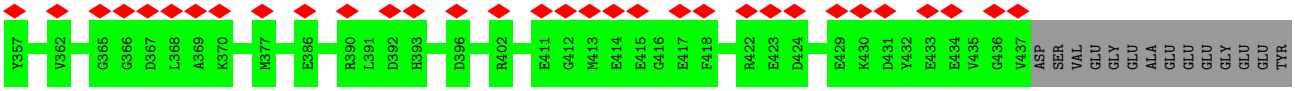


• Molecule 54: Tubulin alpha chain

Chain KB:

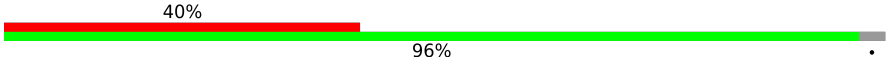


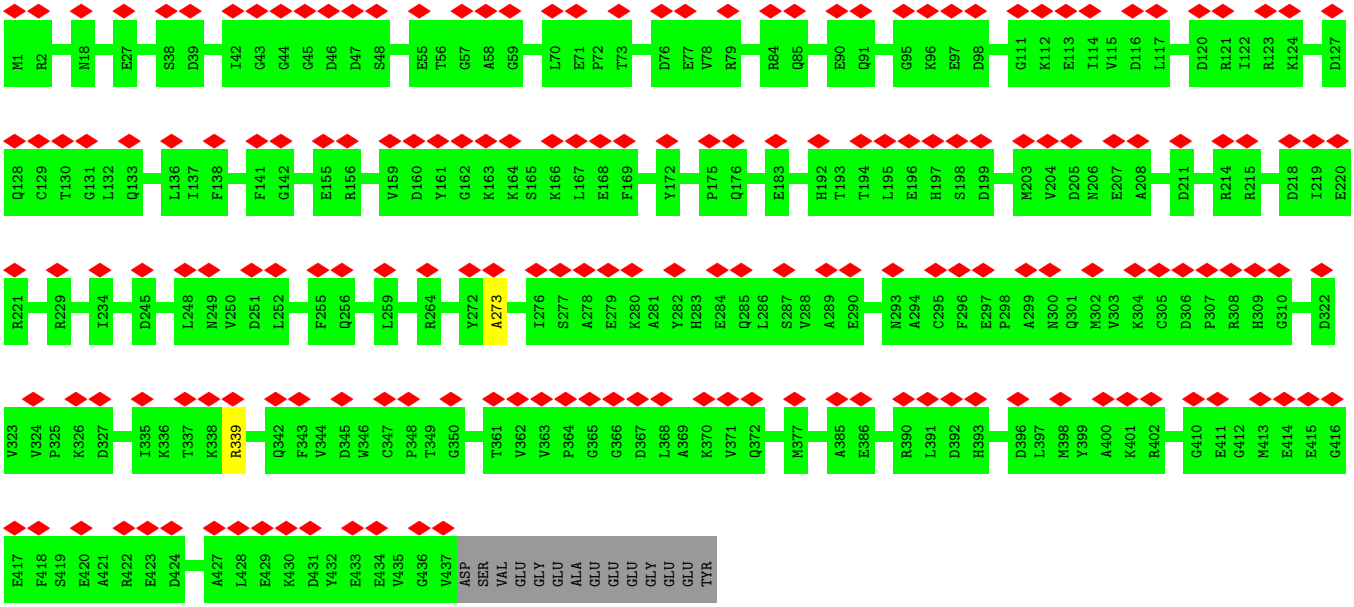




• Molecule 54: Tubulin alpha chain

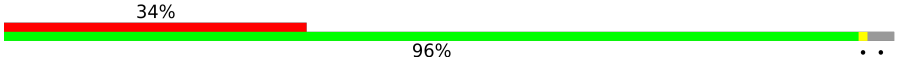
Chain KE:

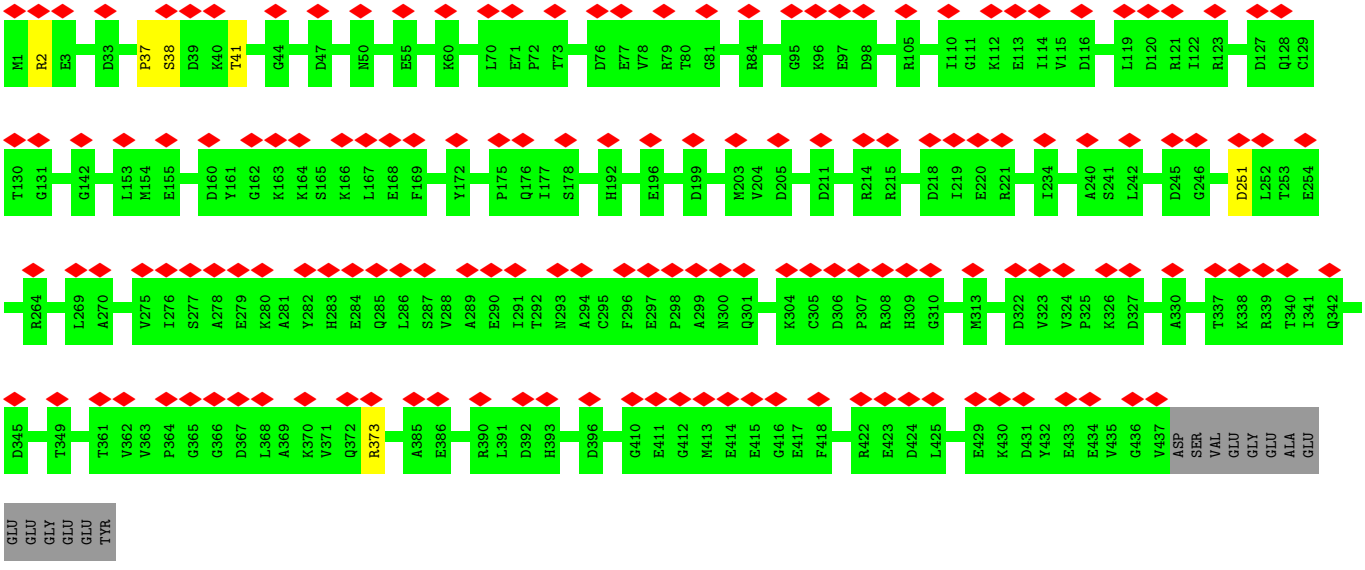




• Molecule 54: Tubulin alpha chain

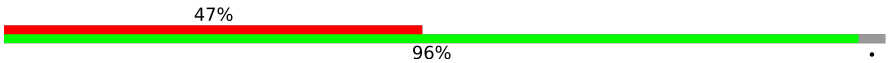
Chain KG:

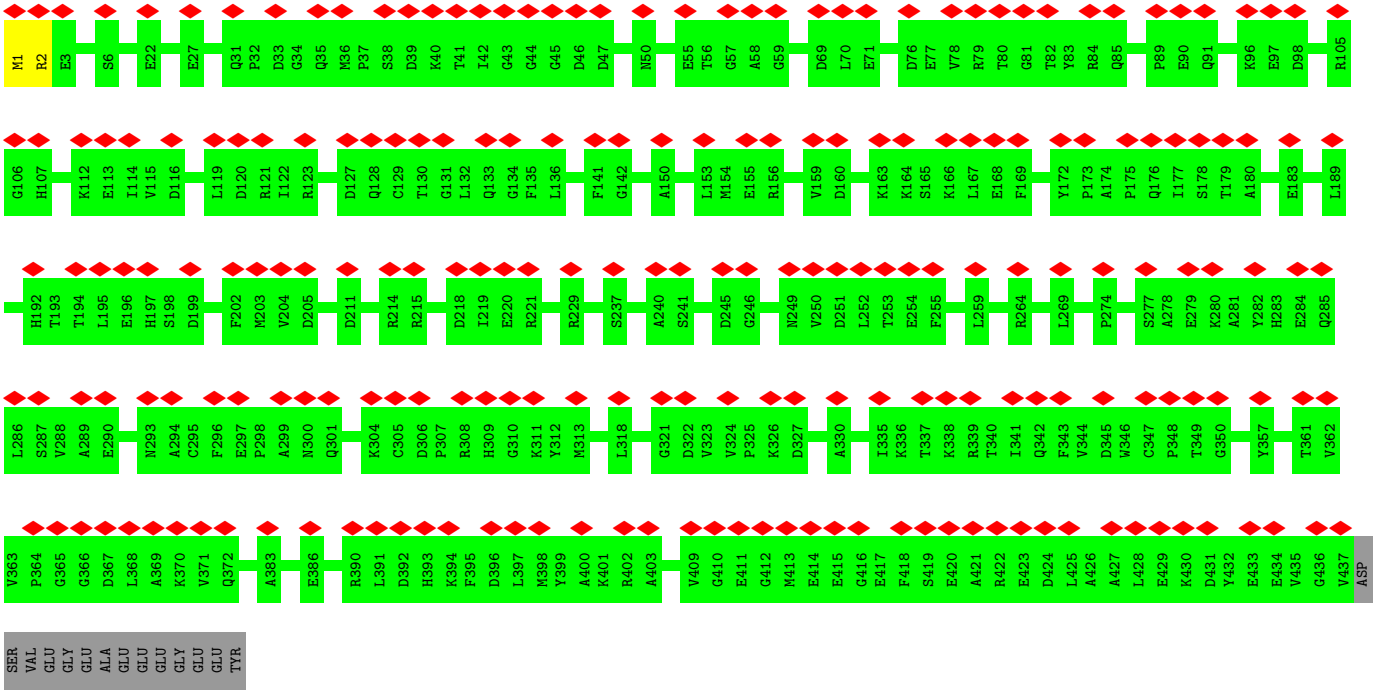




• Molecule 54: Tubulin alpha chain

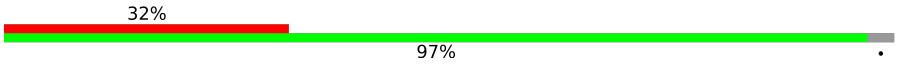
Chain KI:

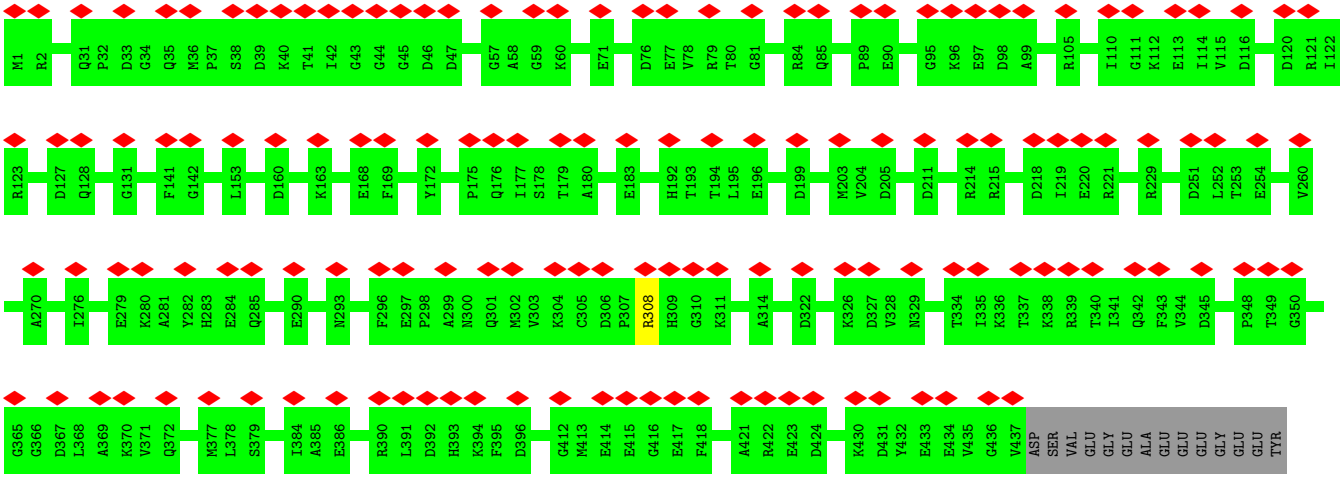




• Molecule 54: Tubulin alpha chain

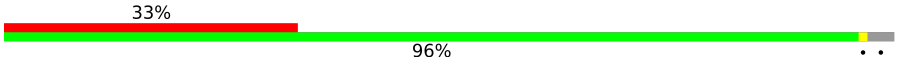
Chain KK:

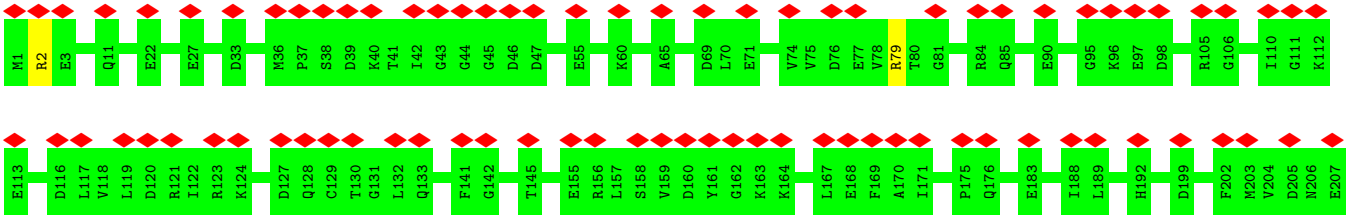


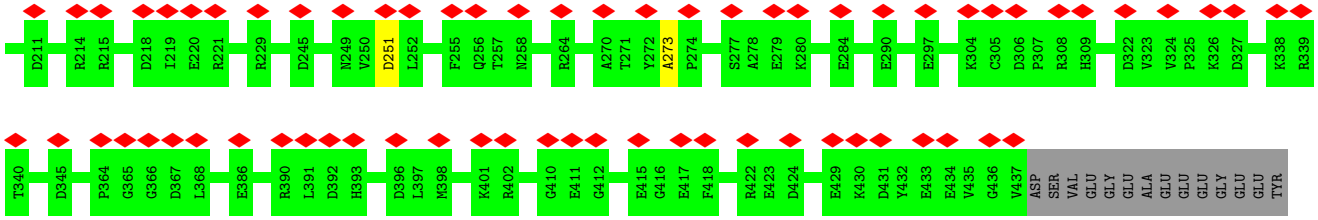


• Molecule 54: Tubulin alpha chain

Chain LA:

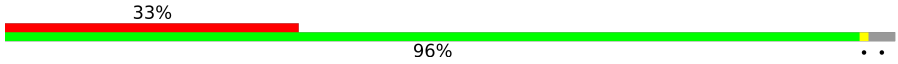


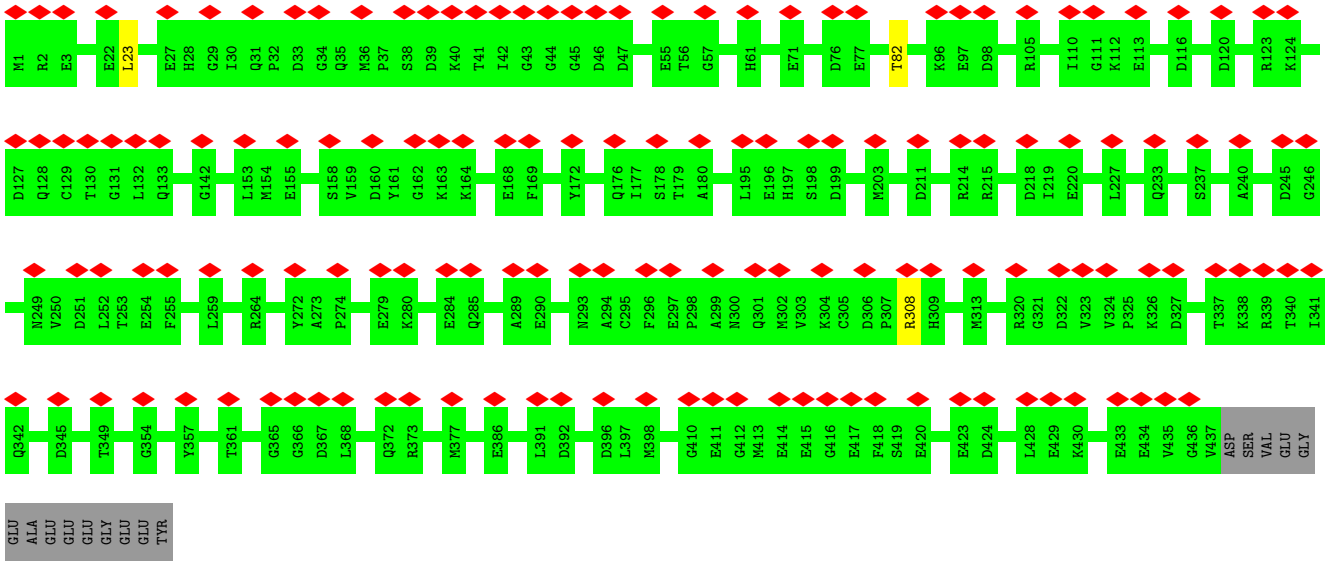




• Molecule 54: Tubulin alpha chain

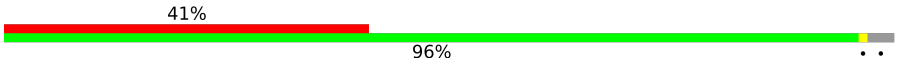
Chain LB:

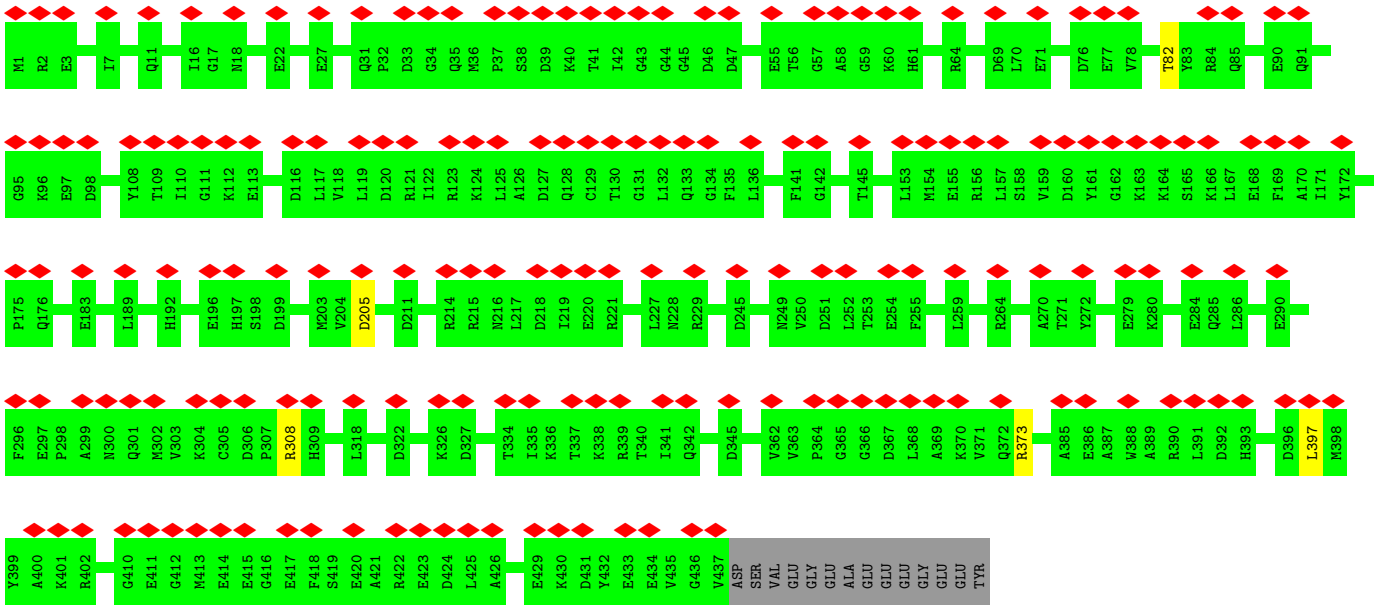




• Molecule 54: Tubulin alpha chain

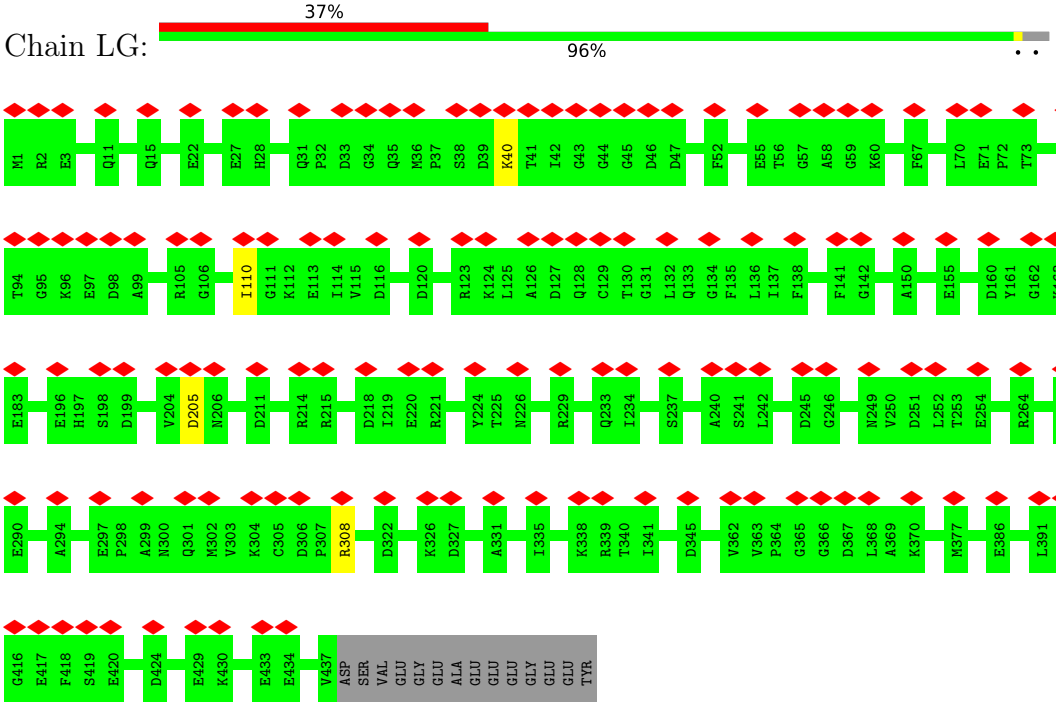
Chain LE:





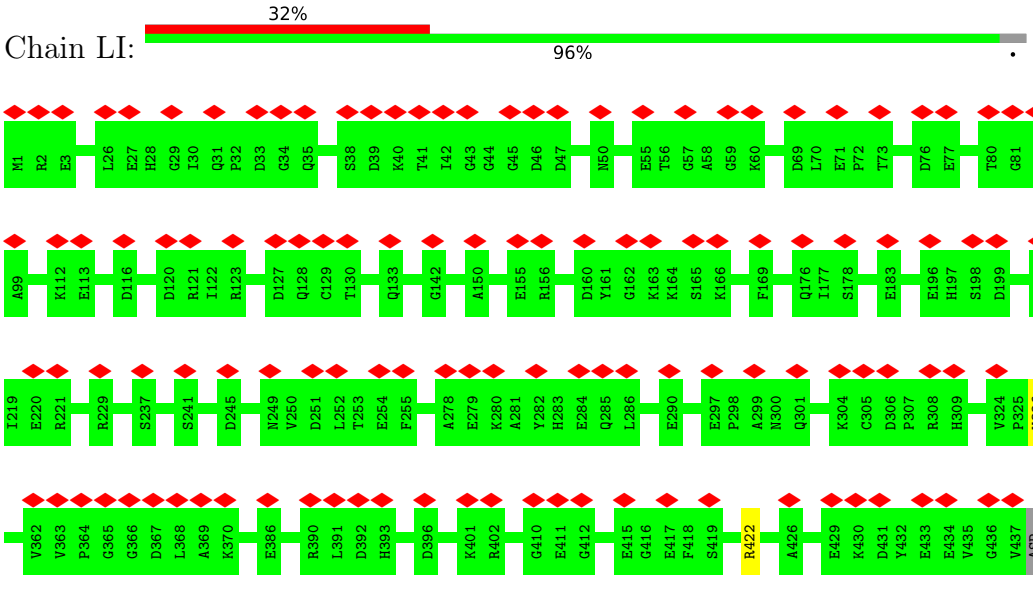
• Molecule 54: Tubulin alpha chain

Chain LG:



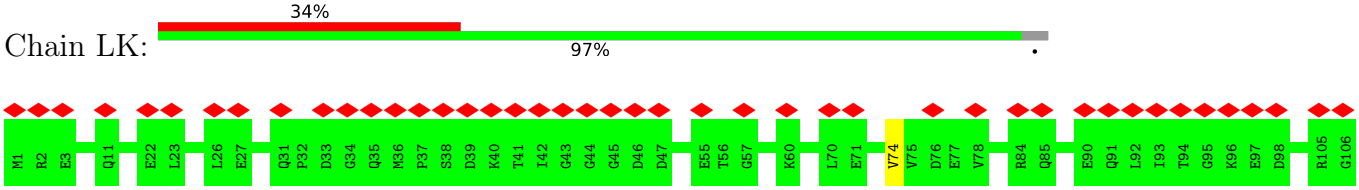
• Molecule 54: Tubulin alpha chain

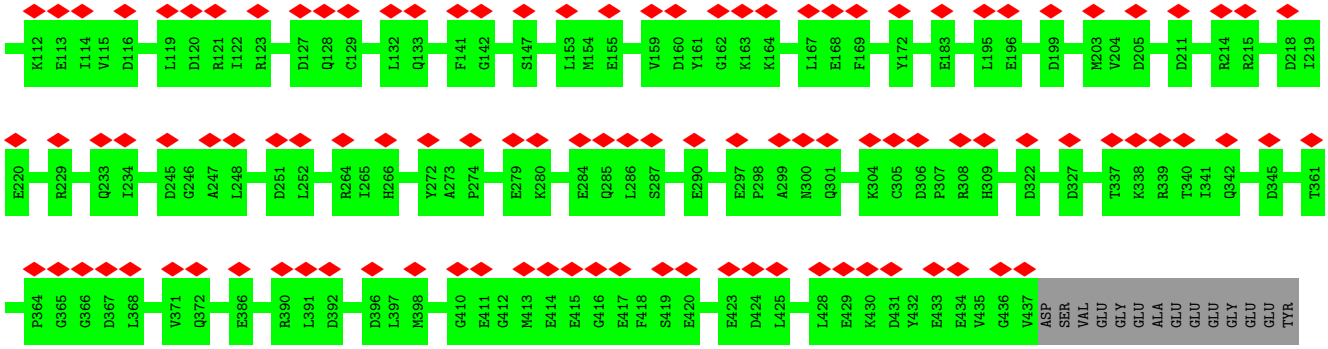
Chain LI:



• Molecule 54: Tubulin alpha chain

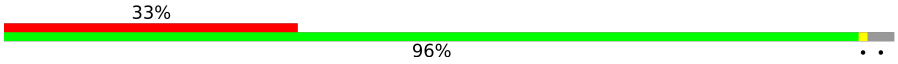
Chain LK:

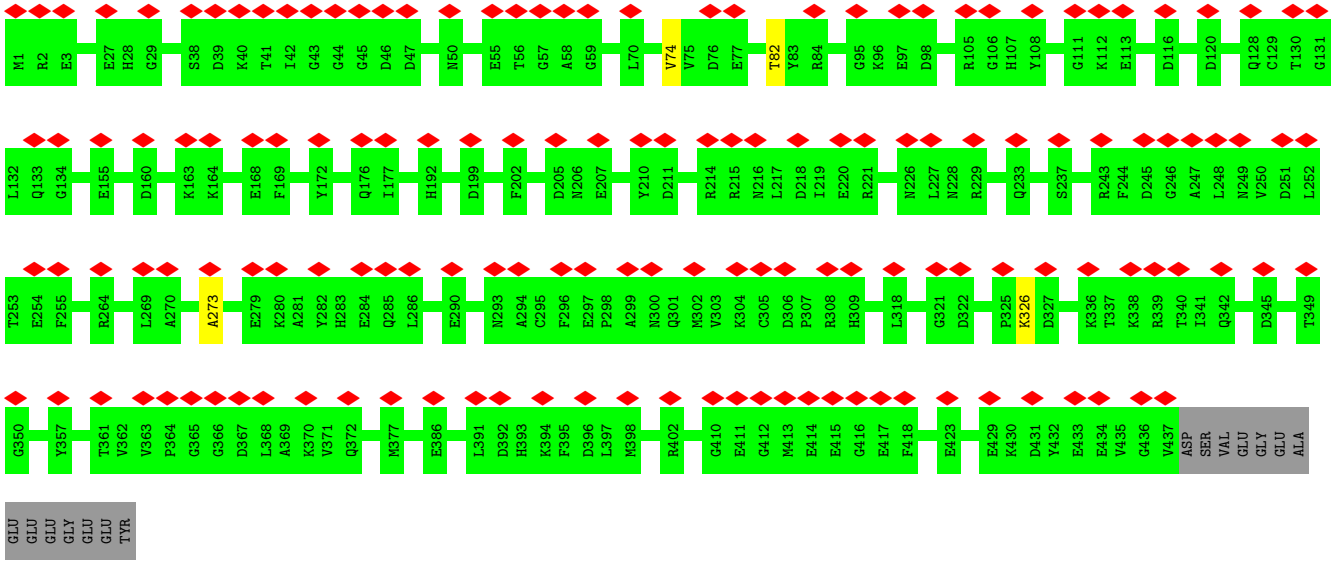




• Molecule 54: Tubulin alpha chain

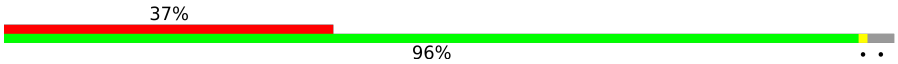
Chain MA:

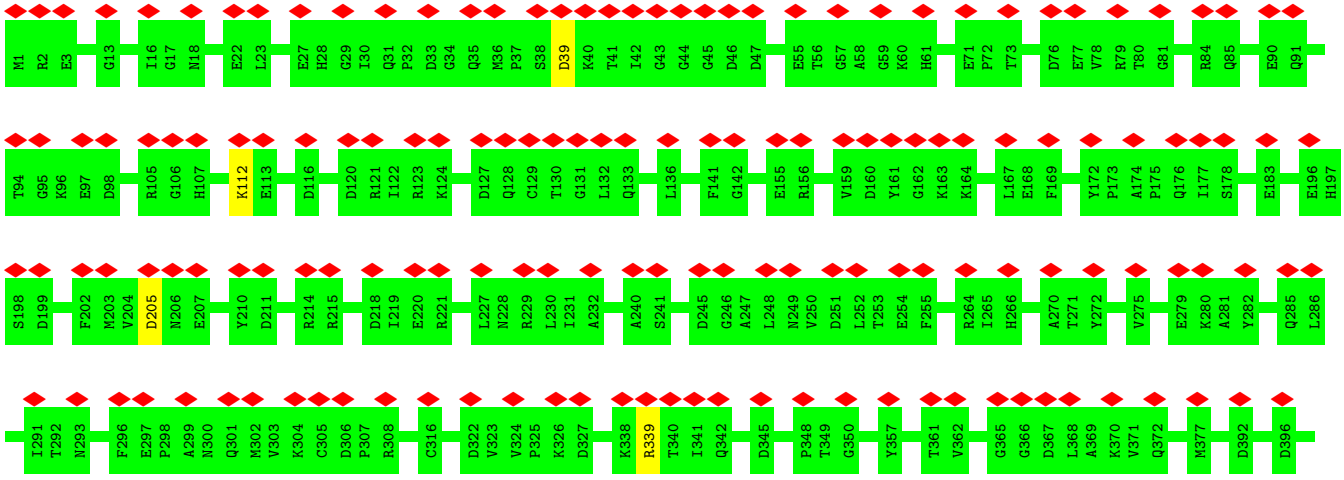


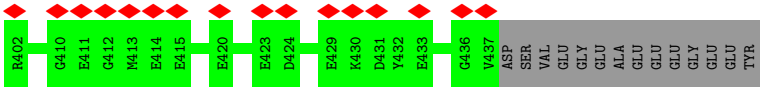


• Molecule 54: Tubulin alpha chain

Chain MB:

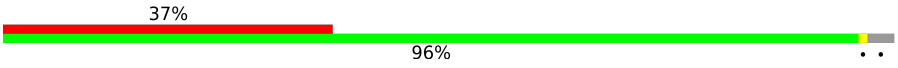


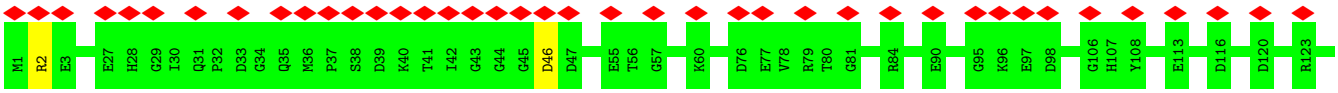


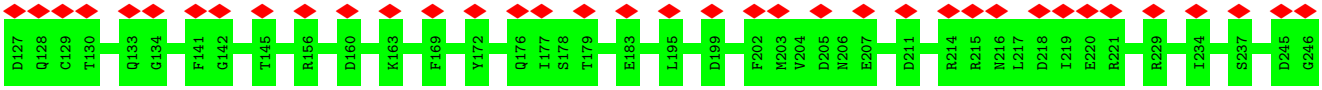


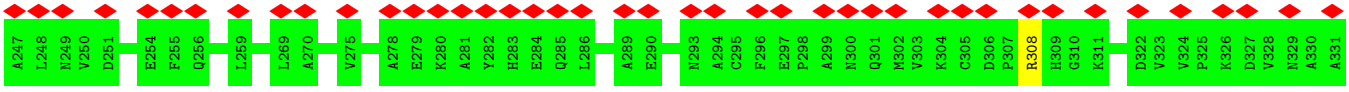
• Molecule 54: Tubulin alpha chain

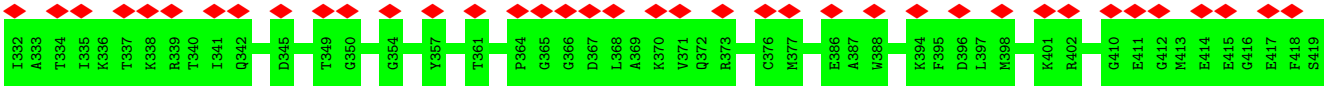
Chain ME:

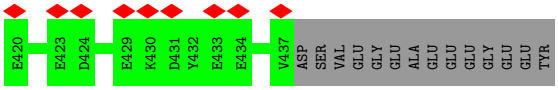






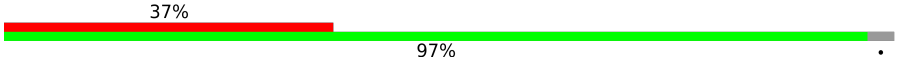


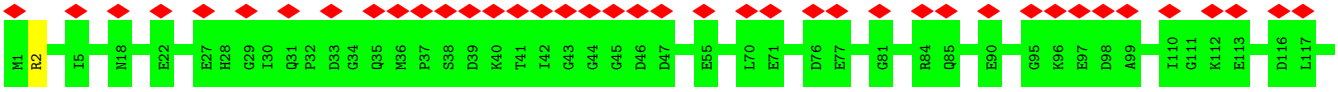


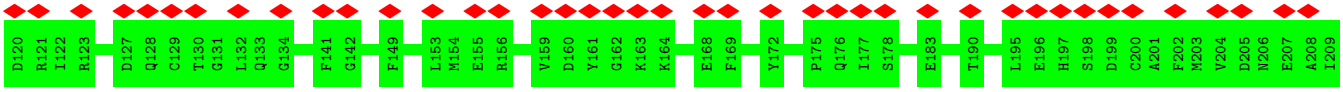


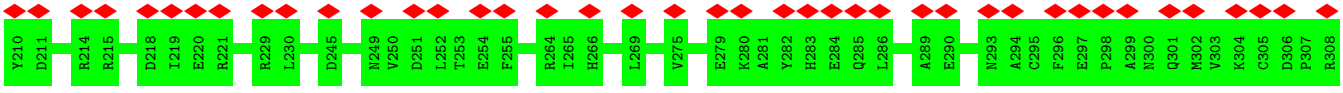
• Molecule 54: Tubulin alpha chain

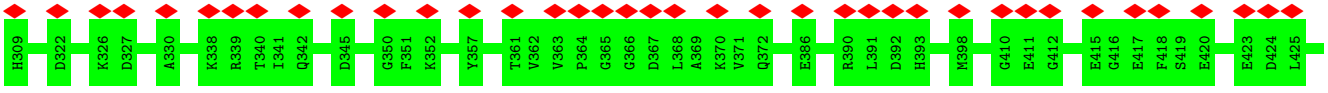
Chain MG:

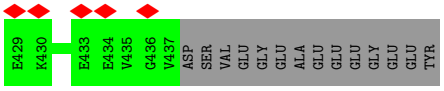






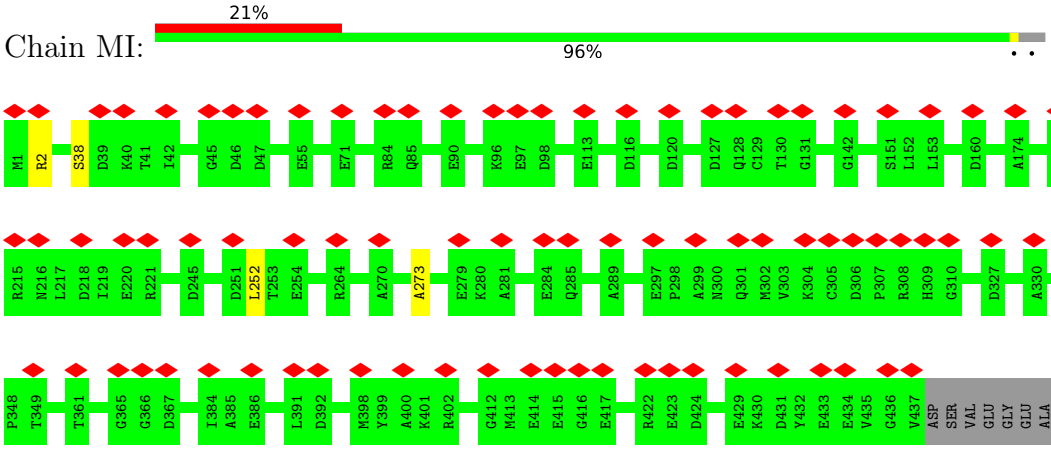






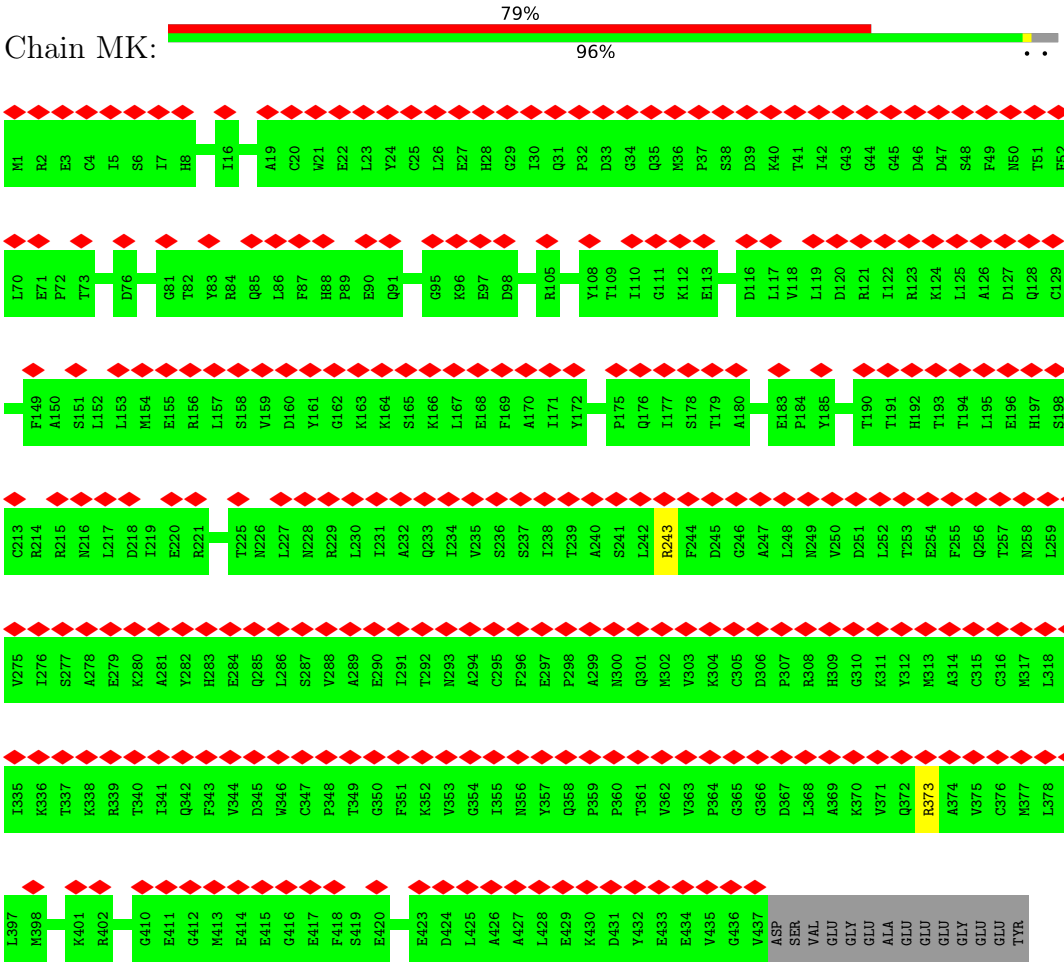
• Molecule 54: Tubulin alpha chain

Chain MI:



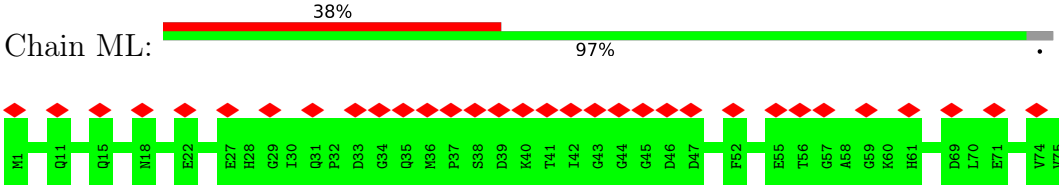
• Molecule 54: Tubulin alpha chain

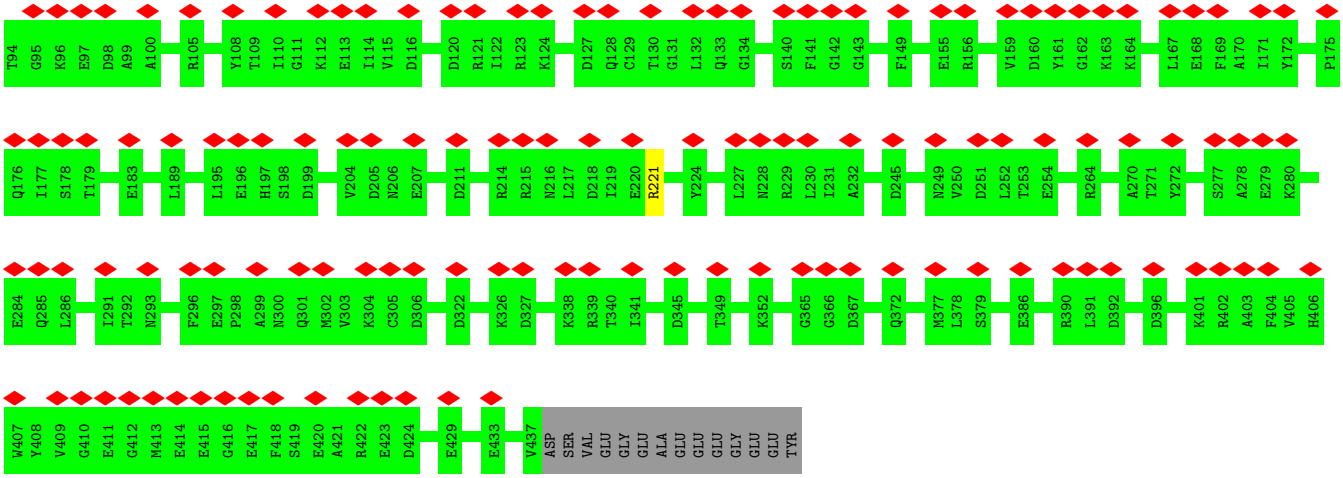
Chain MK:



• Molecule 54: Tubulin alpha chain

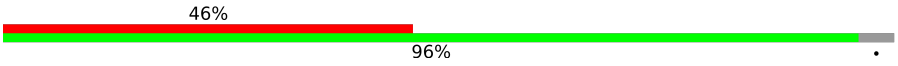
Chain ML:

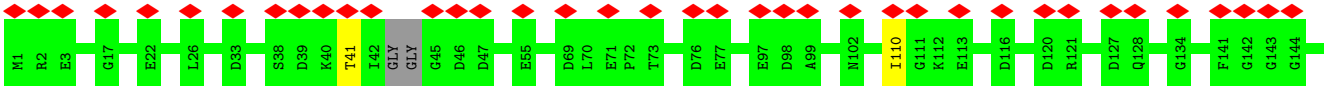


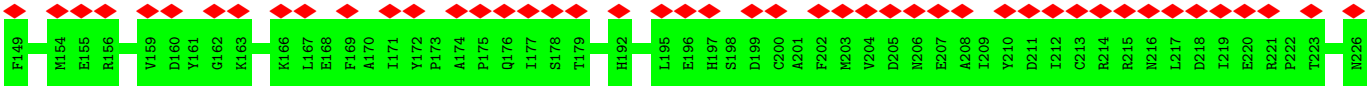


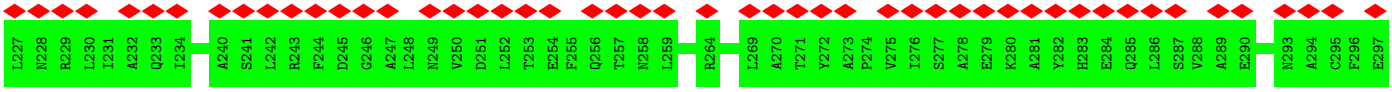
• Molecule 54: Tubulin alpha chain

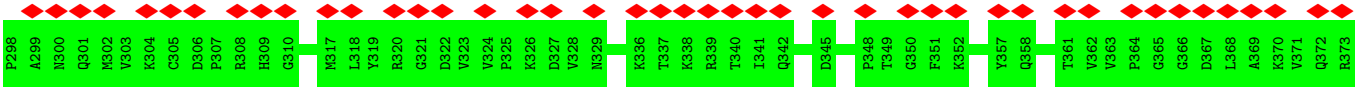
Chain NA:

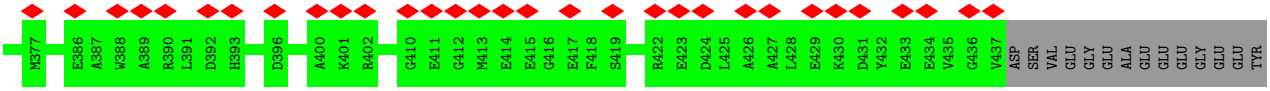






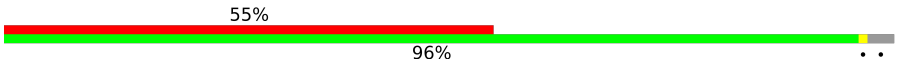


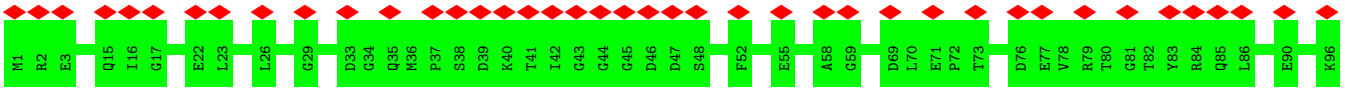


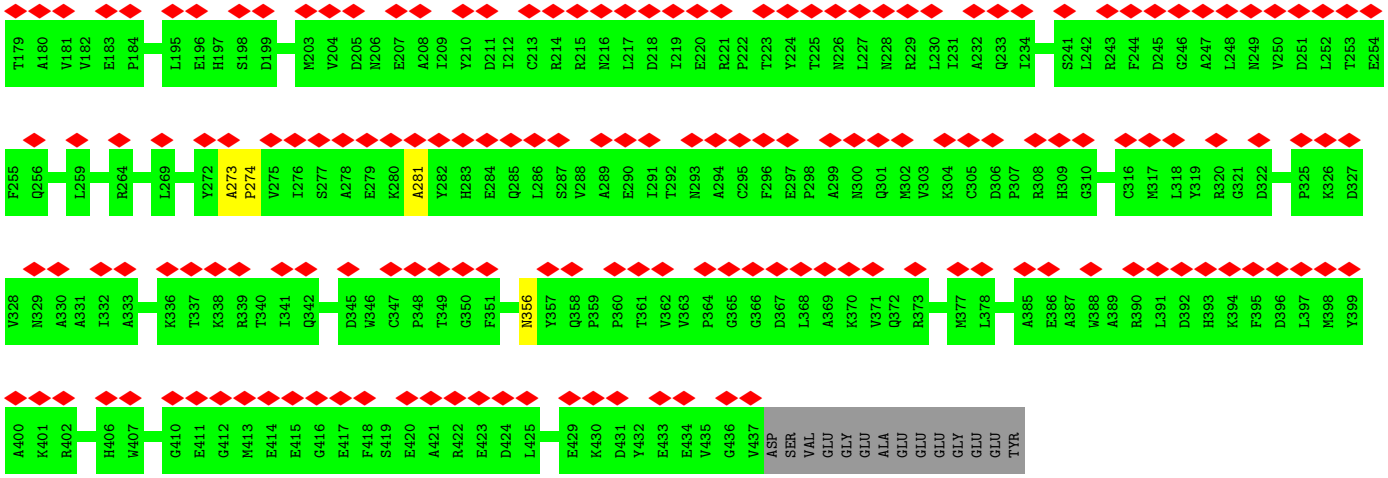


• Molecule 54: Tubulin alpha chain

Chain NB:

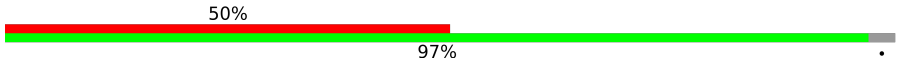


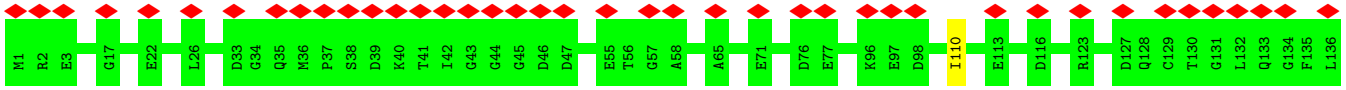


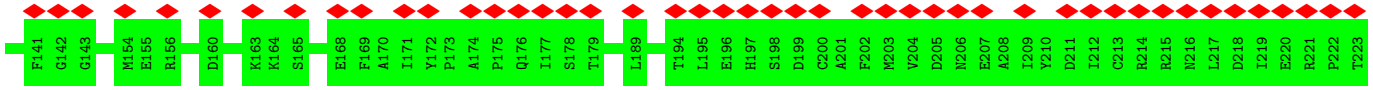


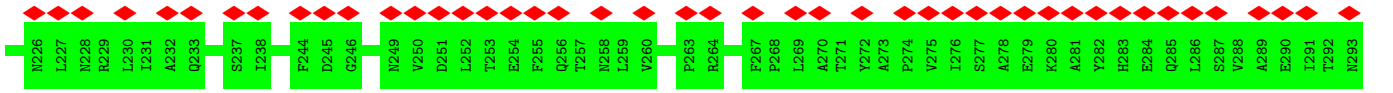
- Molecule 54: Tubulin alpha chain

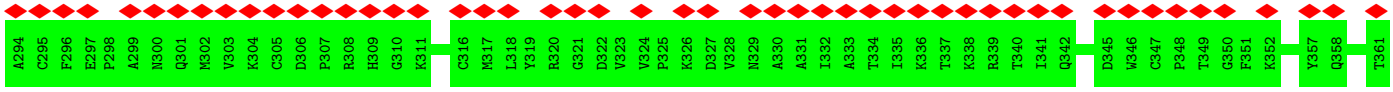
Chain NE:

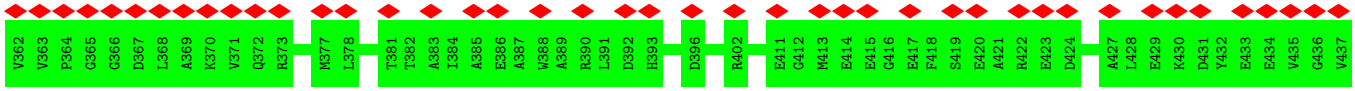






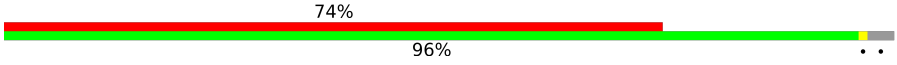


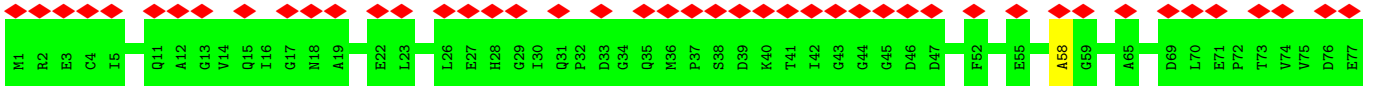


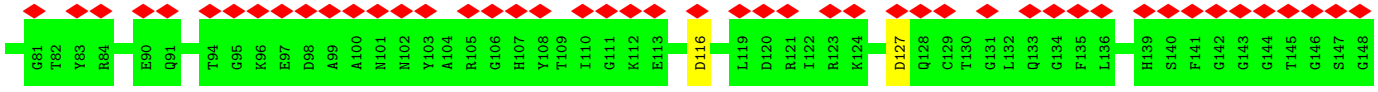


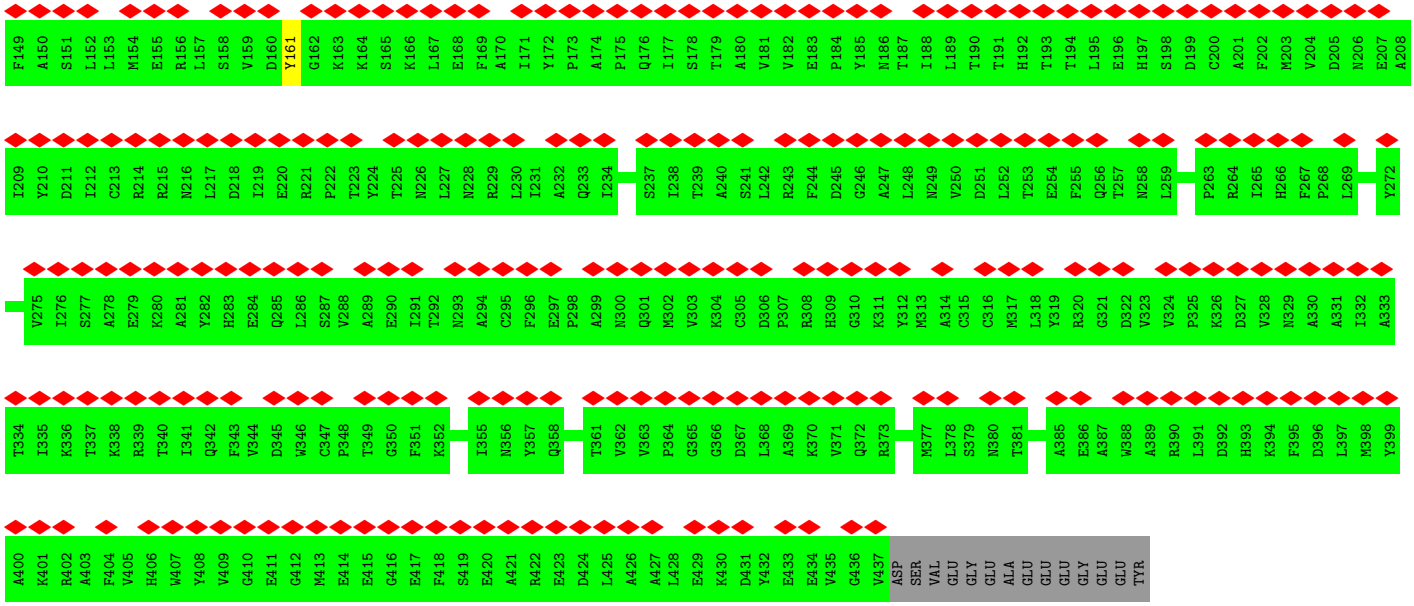
- Molecule 54: Tubulin alpha chain

Chain NG:



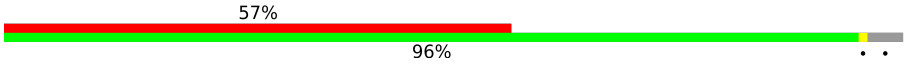


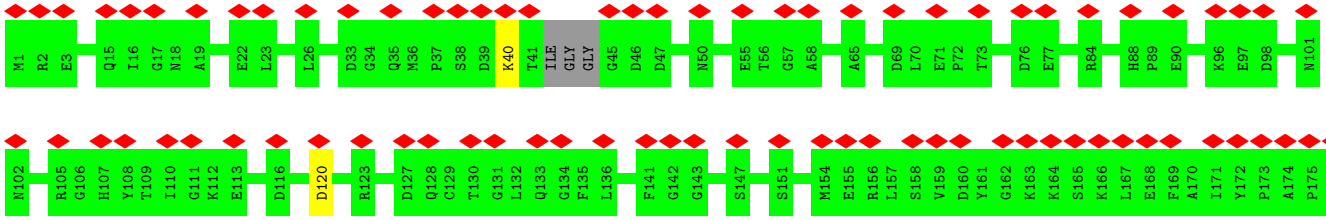




• Molecule 54: Tubulin alpha chain

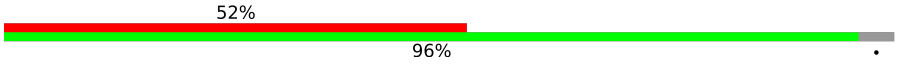
Chain NI:

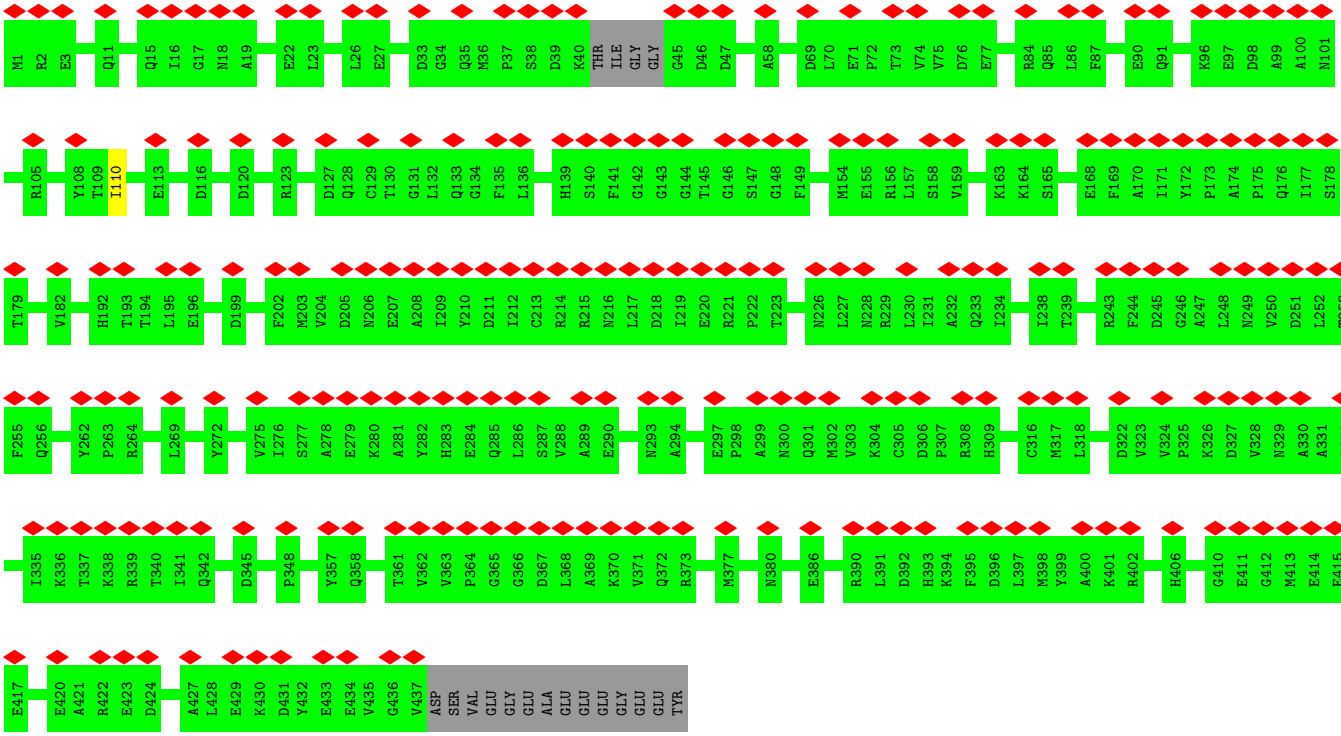




• Molecule 54: Tubulin alpha chain

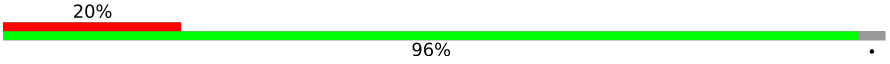
Chain NL:

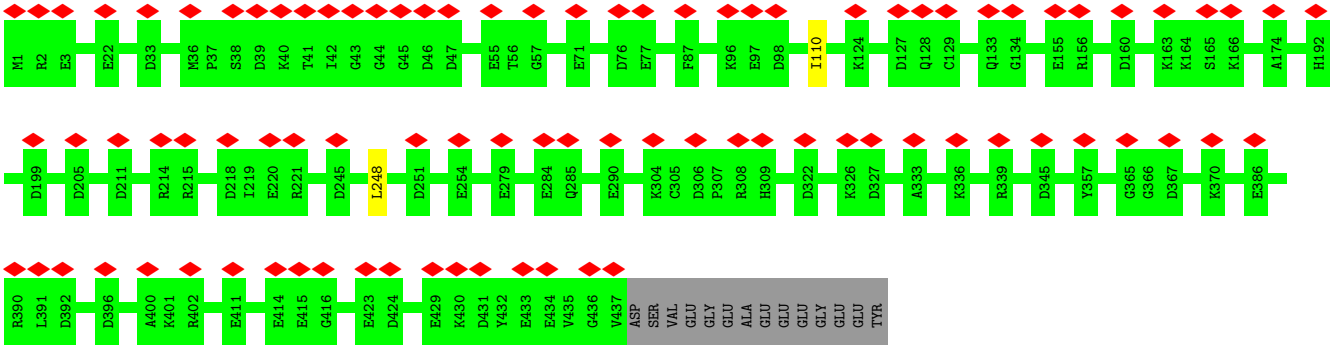




• Molecule 54: Tubulin alpha chain

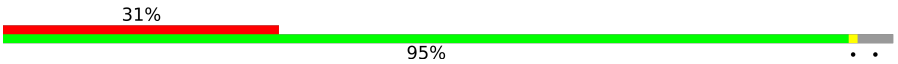
Chain OA:

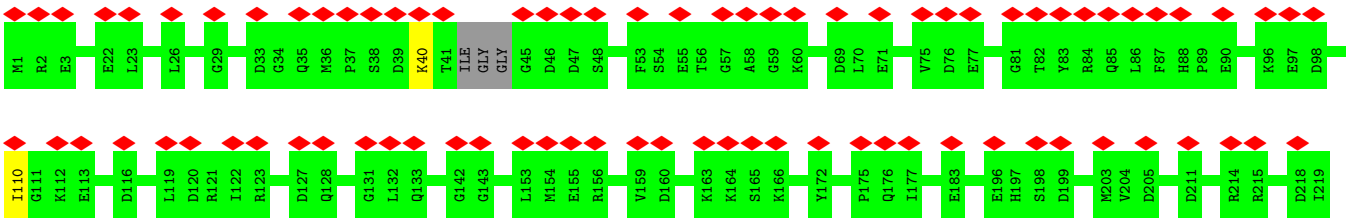


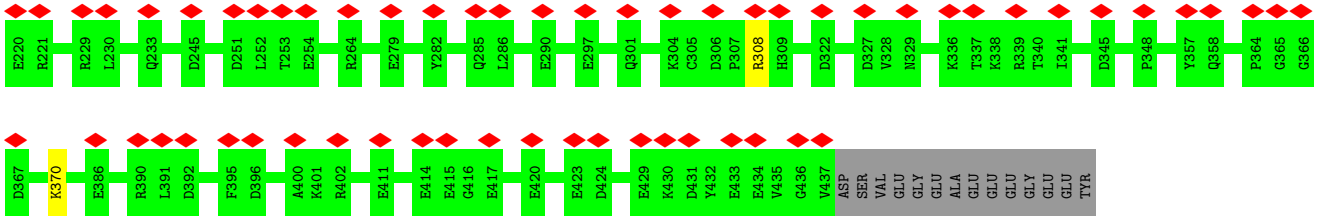


• Molecule 54: Tubulin alpha chain

Chain OB:

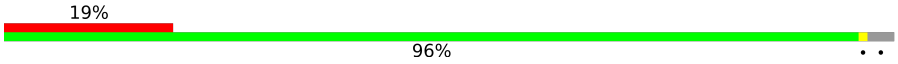


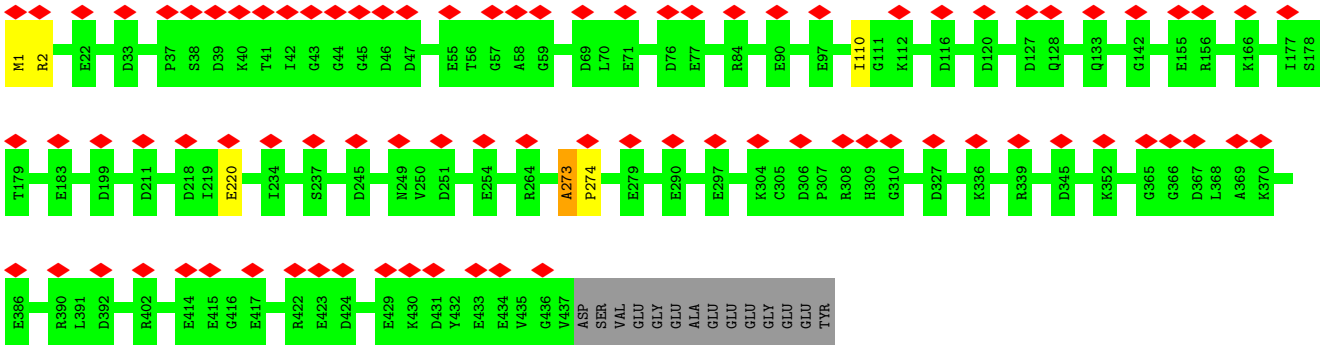




• Molecule 54: Tubulin alpha chain

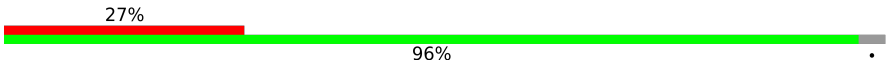
Chain OE:

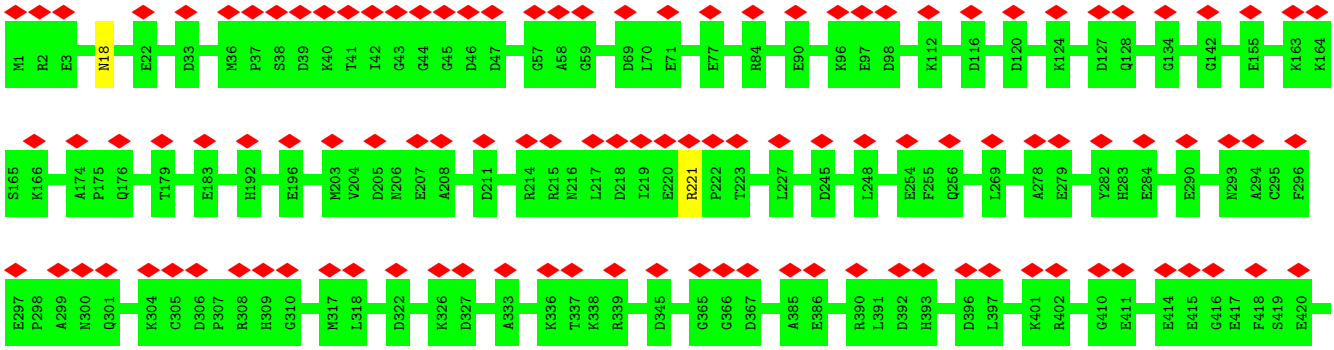




• Molecule 54: Tubulin alpha chain

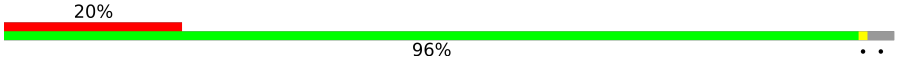
Chain OG:

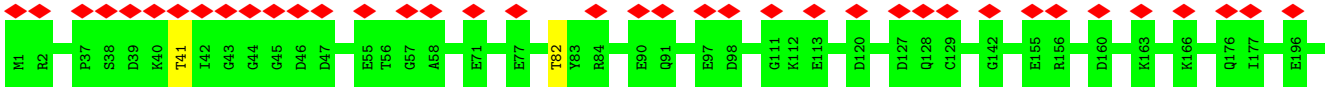


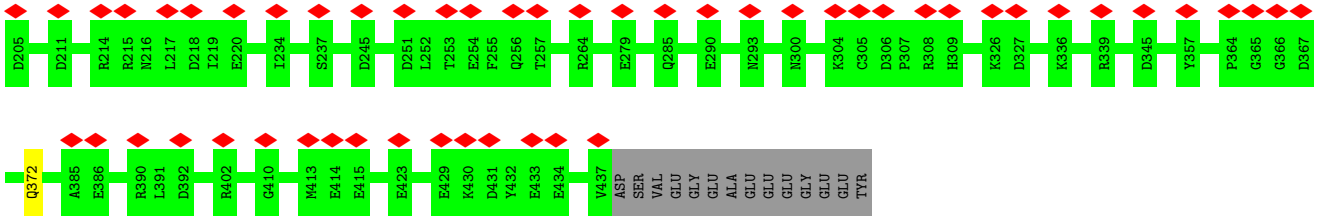


• Molecule 54: Tubulin alpha chain

Chain OI:

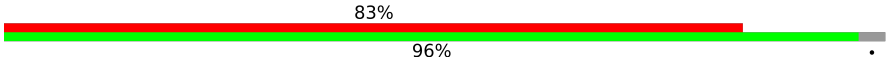


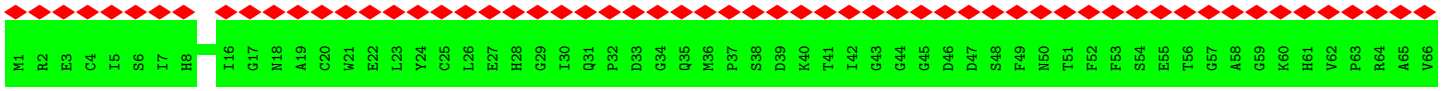


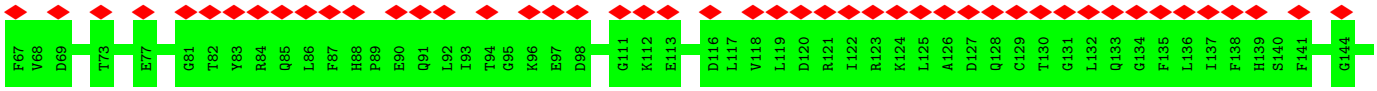


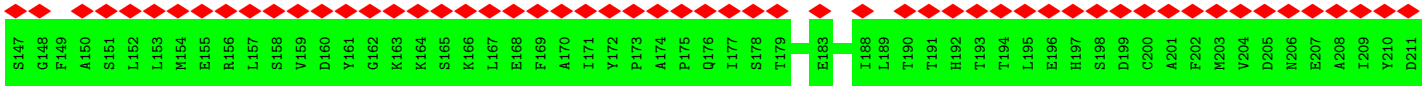
• Molecule 54: Tubulin alpha chain

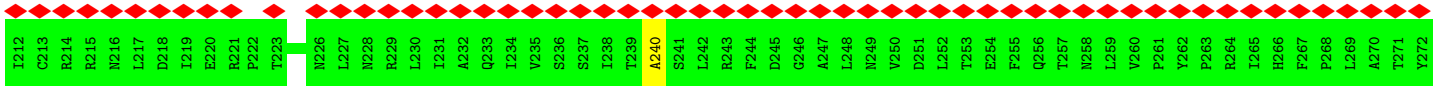
Chain OK:

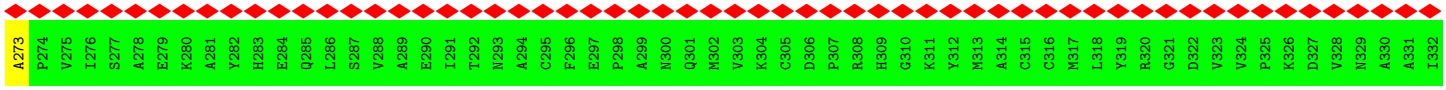


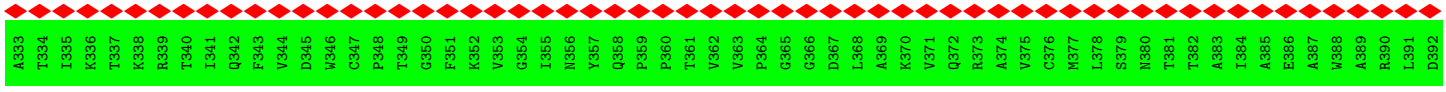


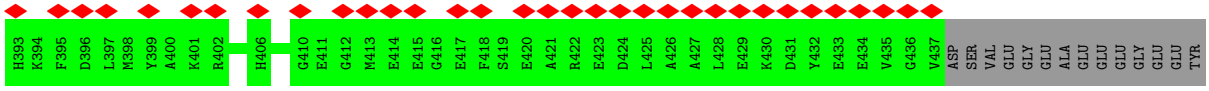






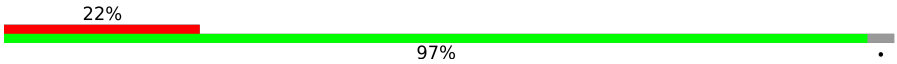


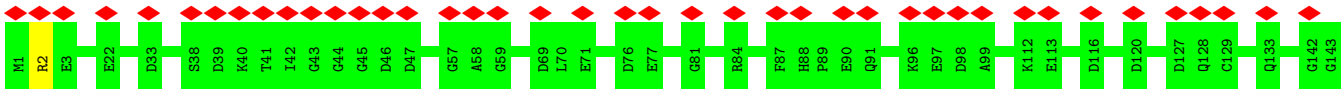


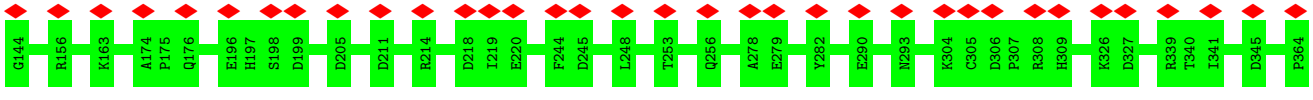


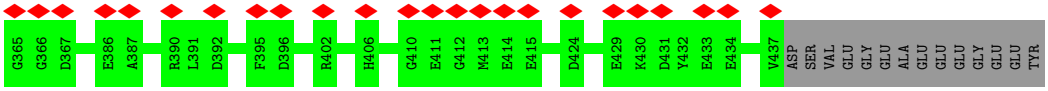
• Molecule 54: Tubulin alpha chain

Chain OL:



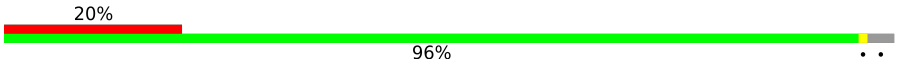


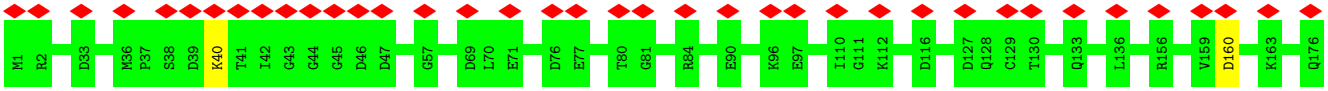


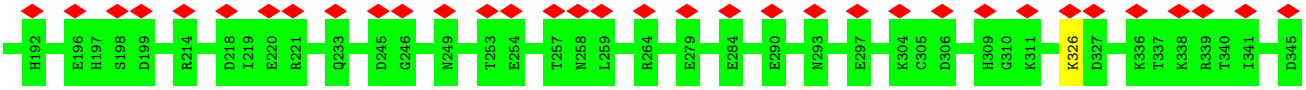


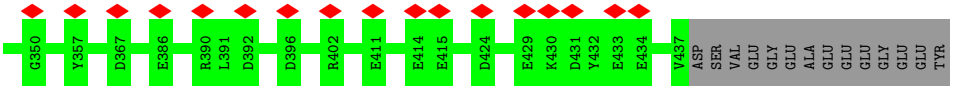
• Molecule 54: Tubulin alpha chain

Chain PA:



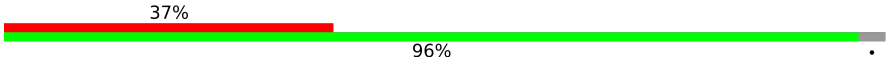


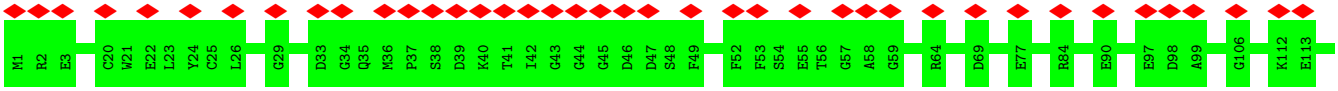


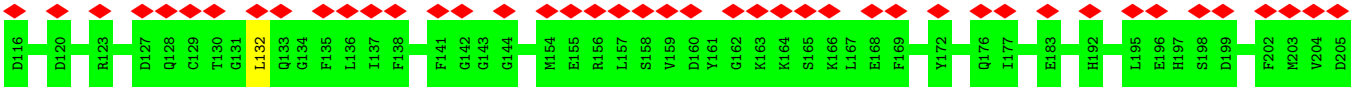


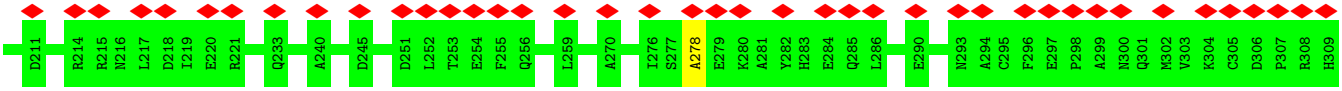
• Molecule 54: Tubulin alpha chain

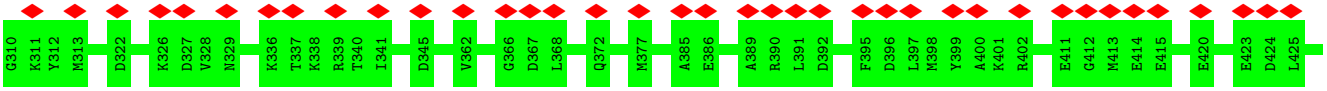
Chain PB:

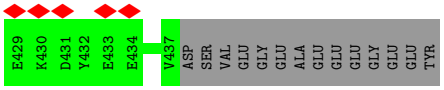






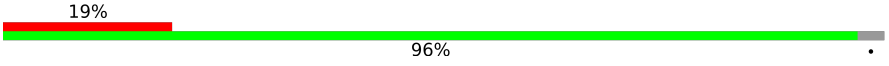


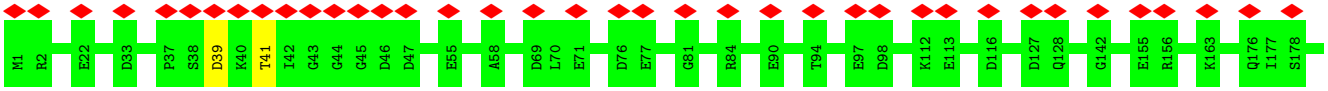


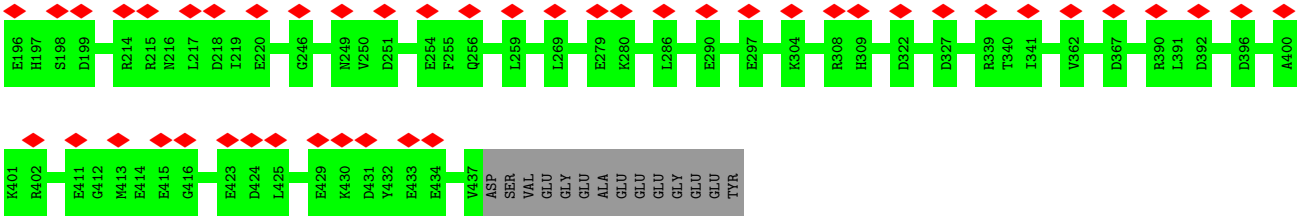


• Molecule 54: Tubulin alpha chain

Chain PE:

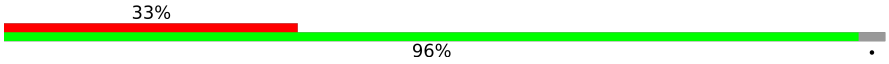


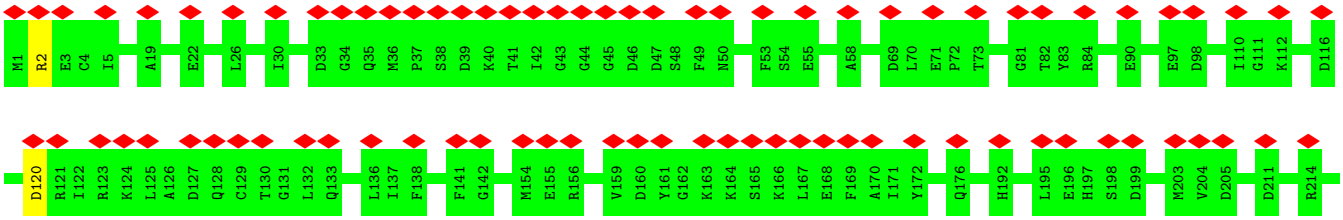




• Molecule 54: Tubulin alpha chain

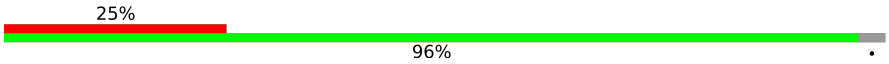
Chain PG:

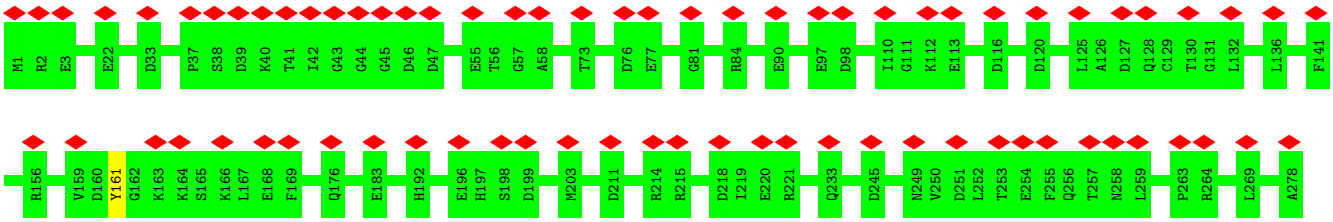




• Molecule 54: Tubulin alpha chain

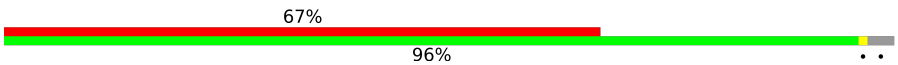
Chain PI:

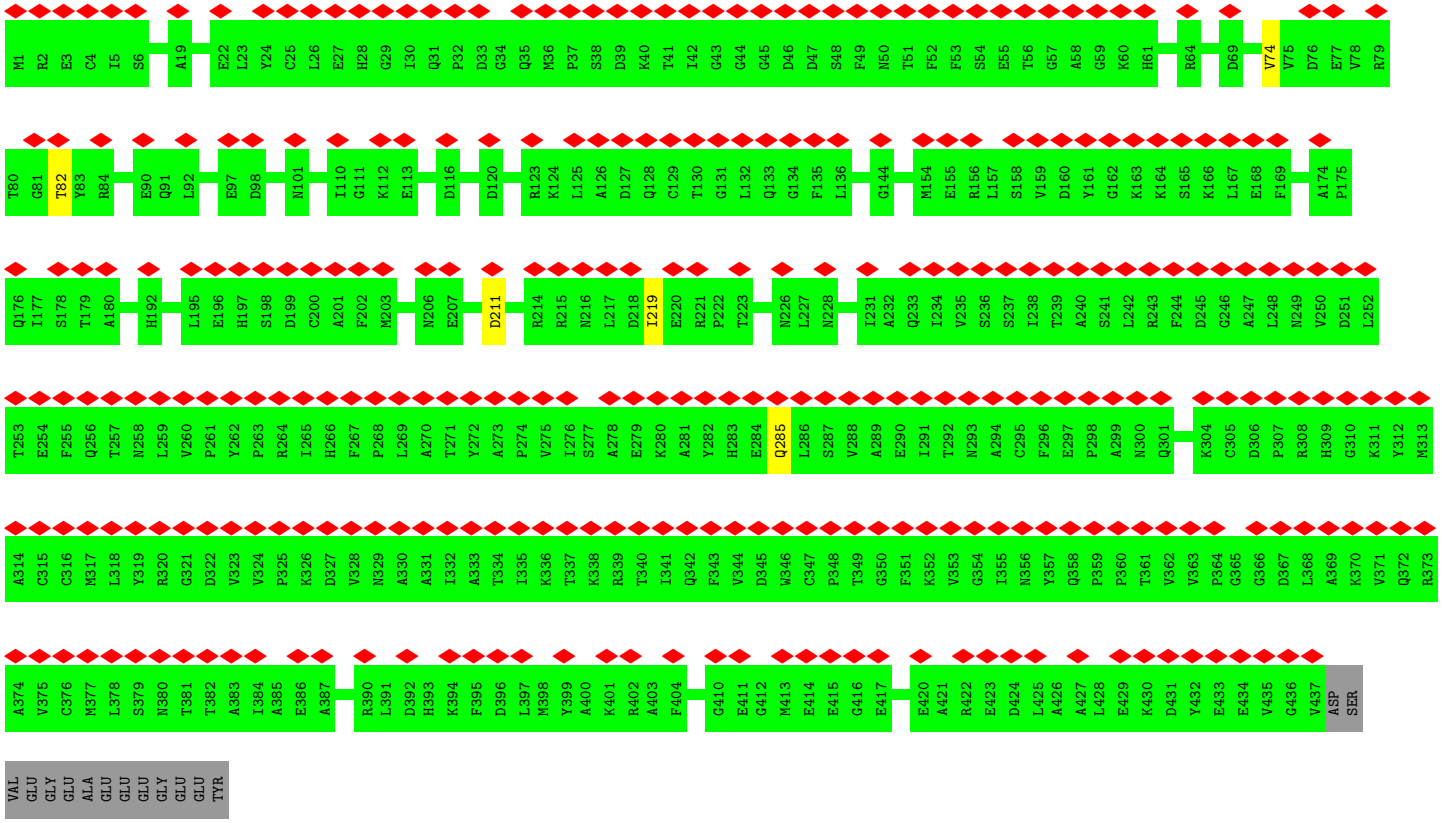




• Molecule 54: Tubulin alpha chain

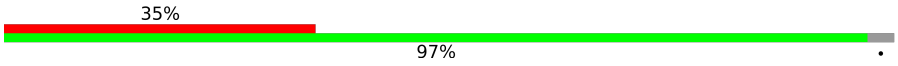
Chain PK:





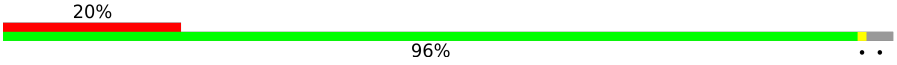
• Molecule 54: Tubulin alpha chain

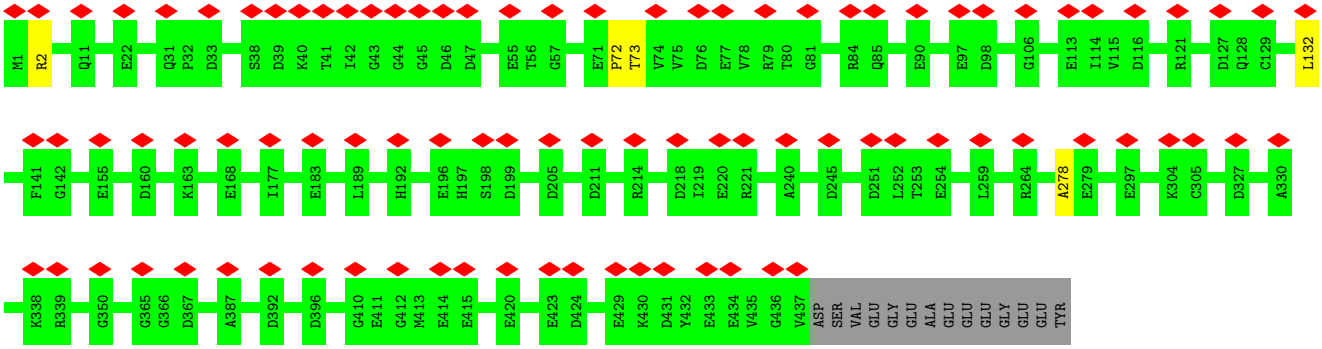
Chain PL:



• Molecule 54: Tubulin alpha chain

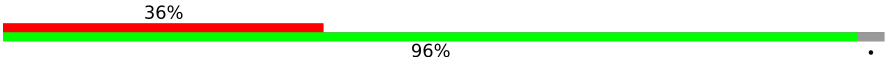
Chain QA:

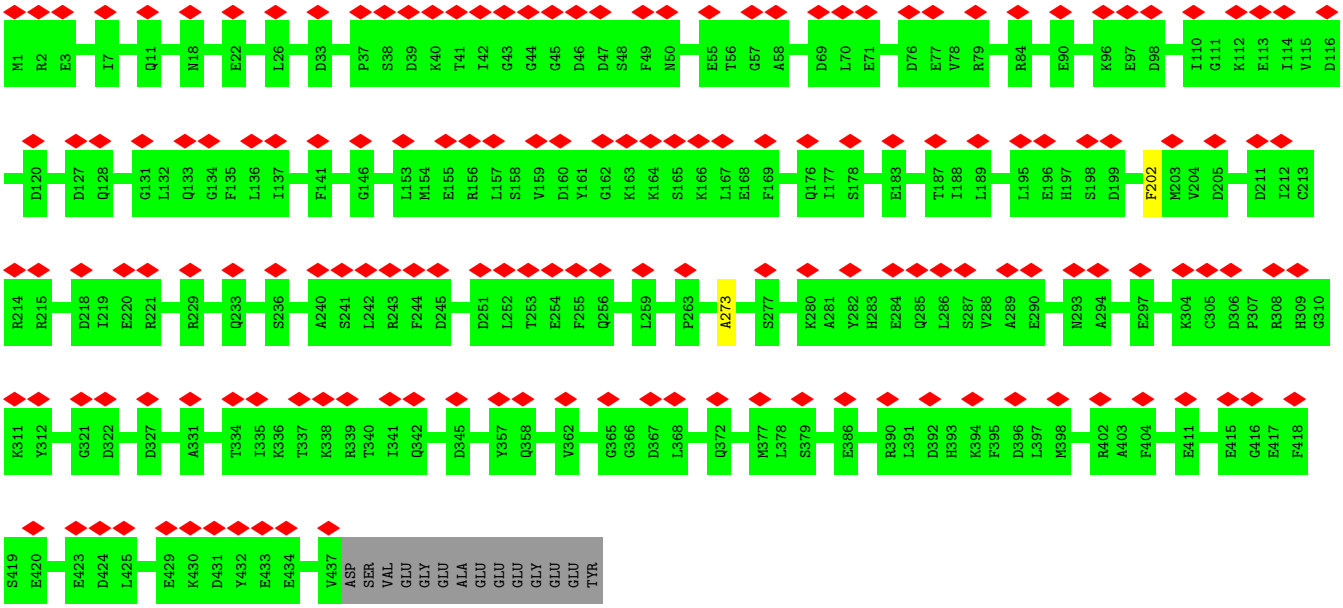




• Molecule 54: Tubulin alpha chain

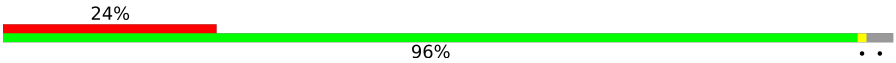
Chain QB:

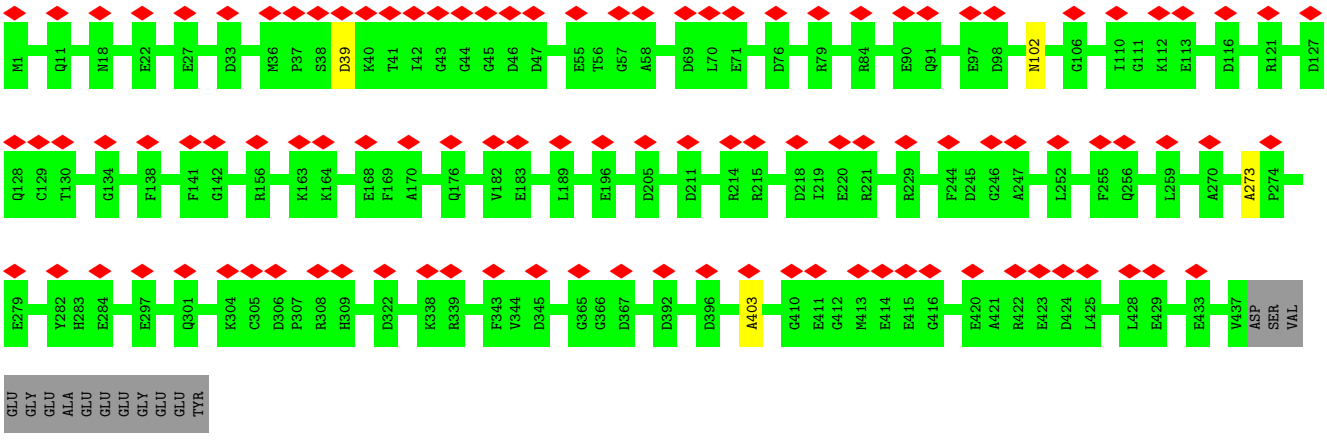




• Molecule 54: Tubulin alpha chain

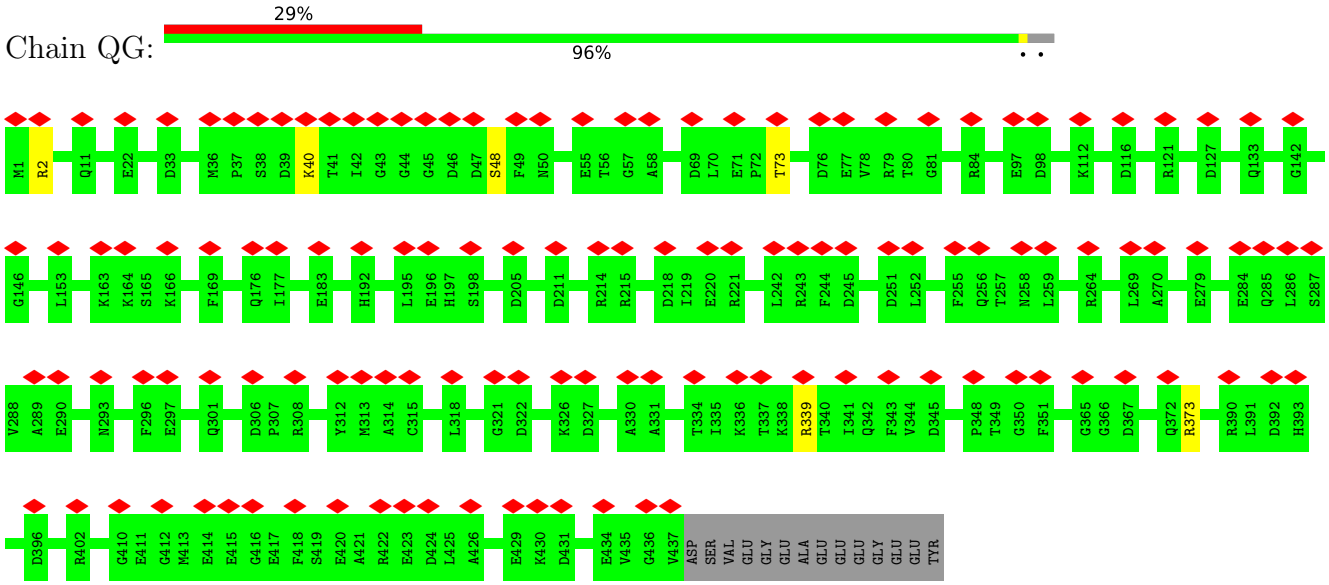
Chain QE:





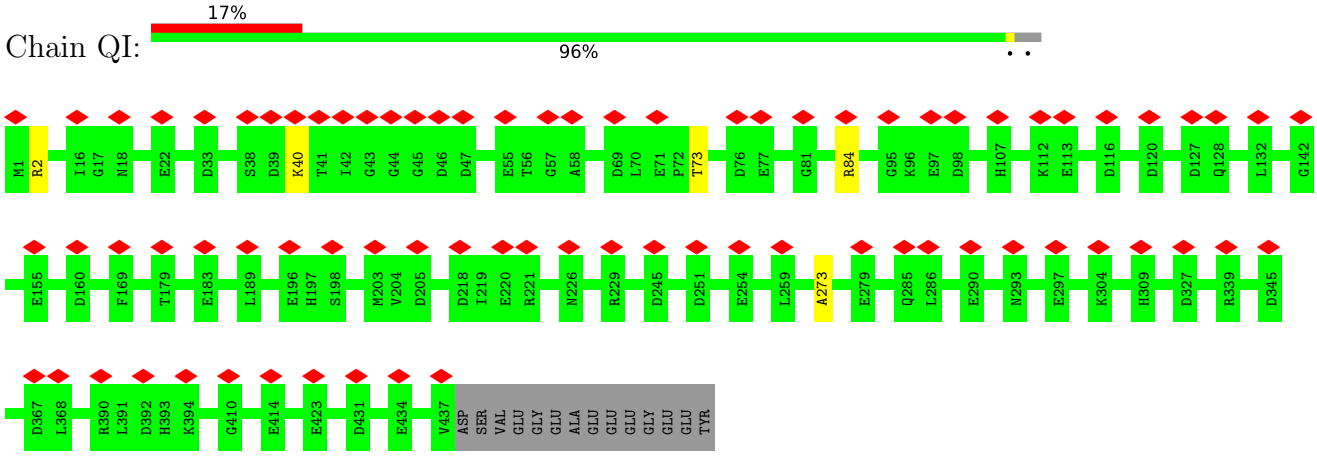
• Molecule 54: Tubulin alpha chain

Chain QG:



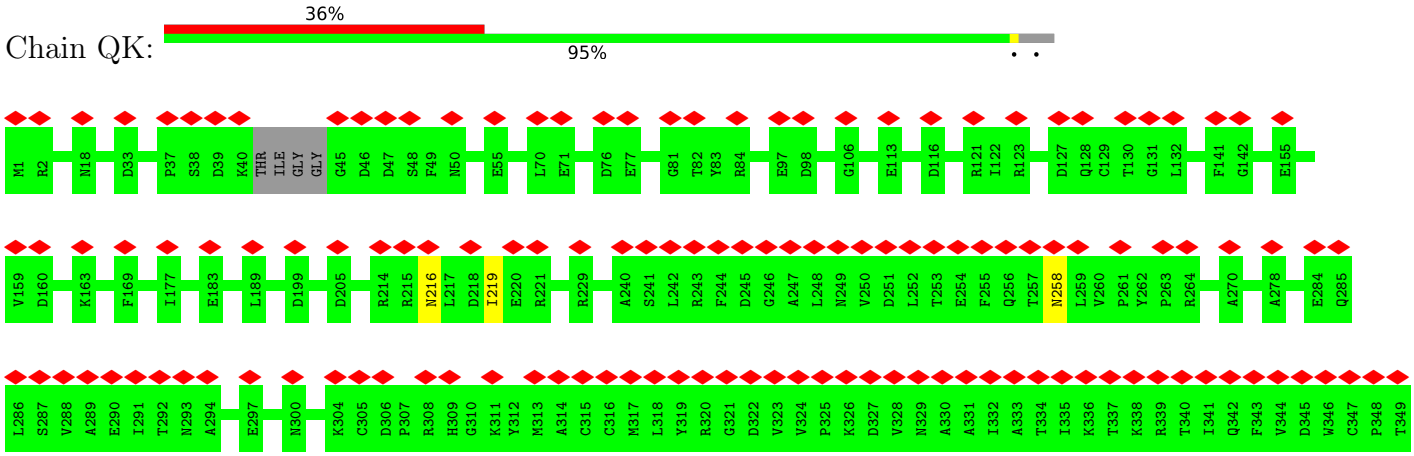
• Molecule 54: Tubulin alpha chain

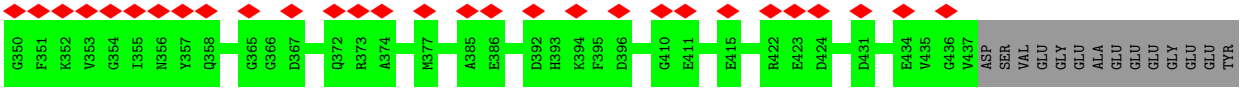
Chain QI:



• Molecule 54: Tubulin alpha chain

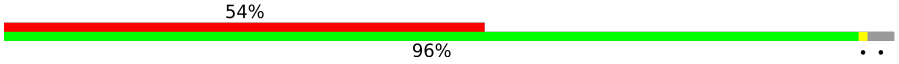
Chain QK:

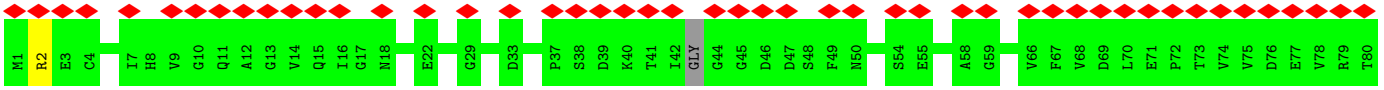


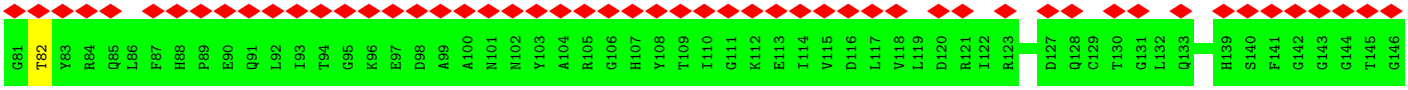


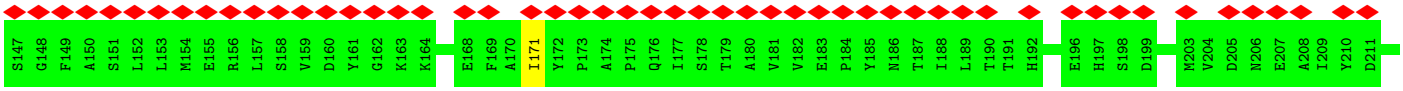
• Molecule 54: Tubulin alpha chain

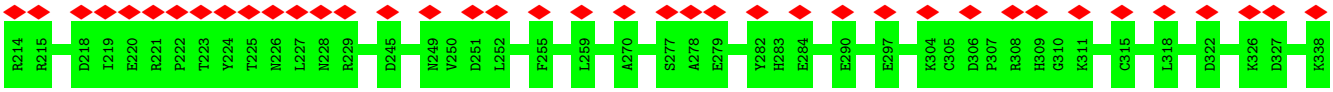
Chain QL:

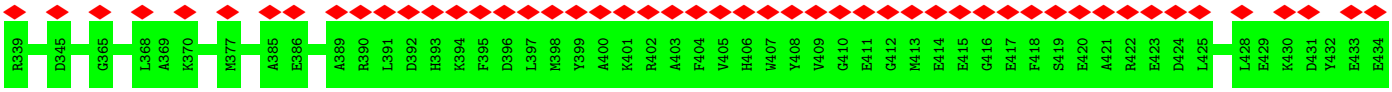






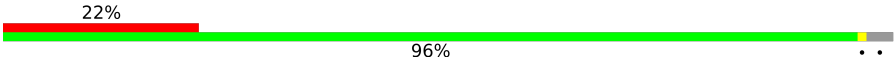


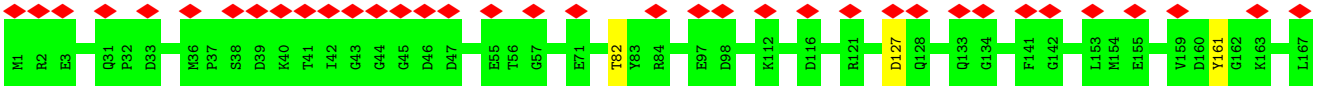


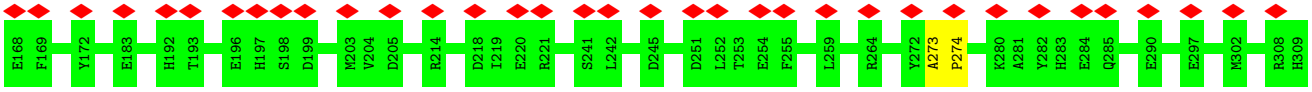


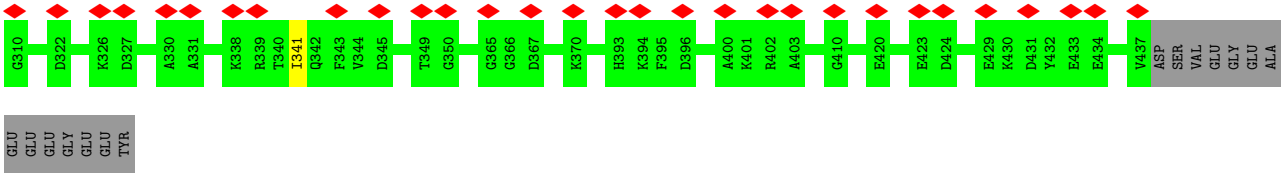
• Molecule 54: Tubulin alpha chain

Chain RA:



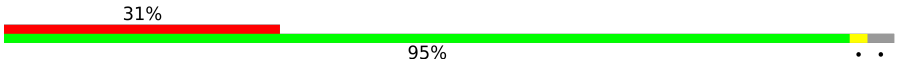


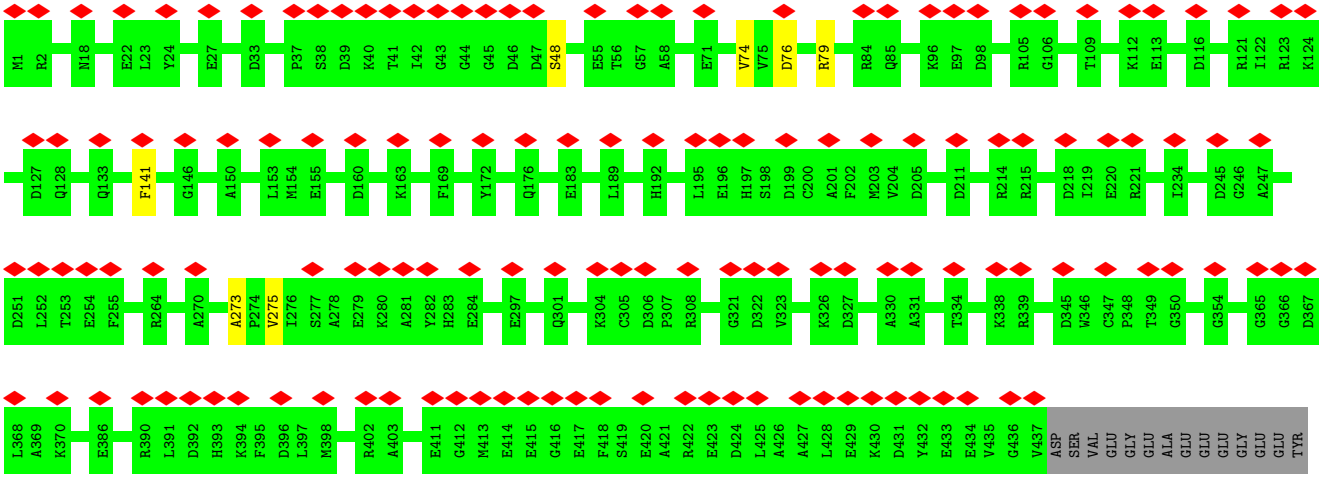




• Molecule 54: Tubulin alpha chain

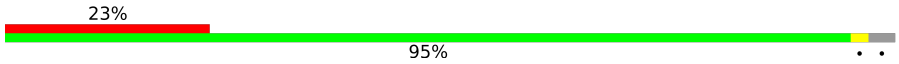
Chain RB:

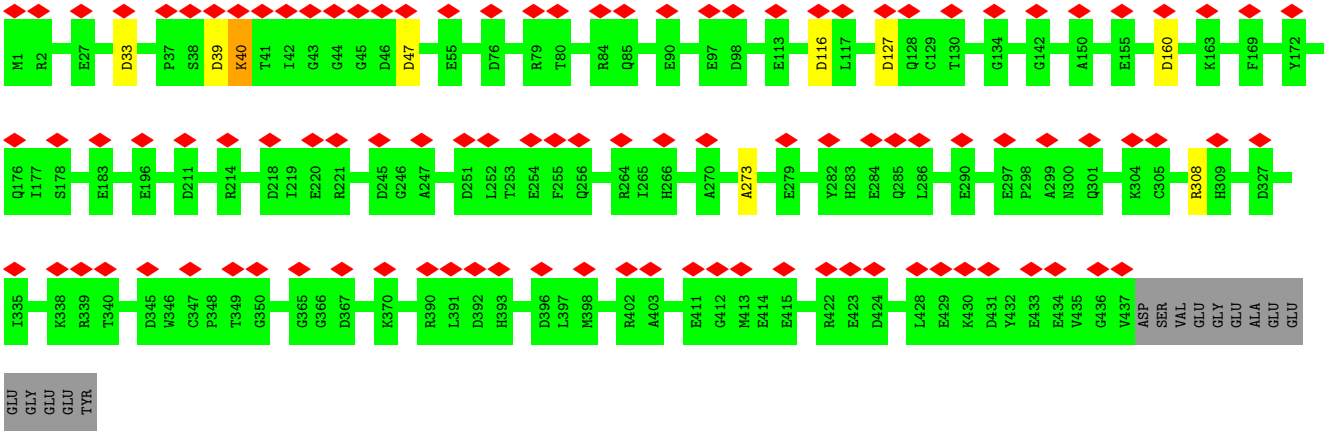




• Molecule 54: Tubulin alpha chain

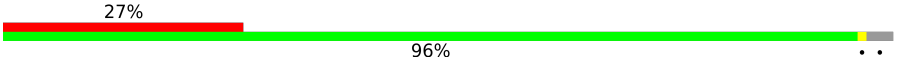
Chain RE:

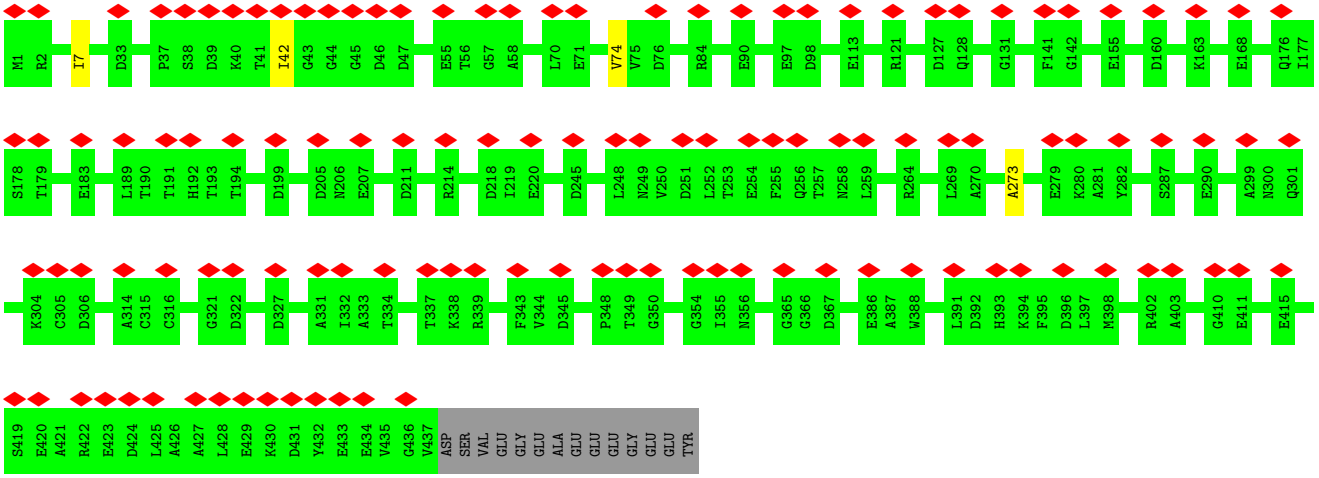




• Molecule 54: Tubulin alpha chain

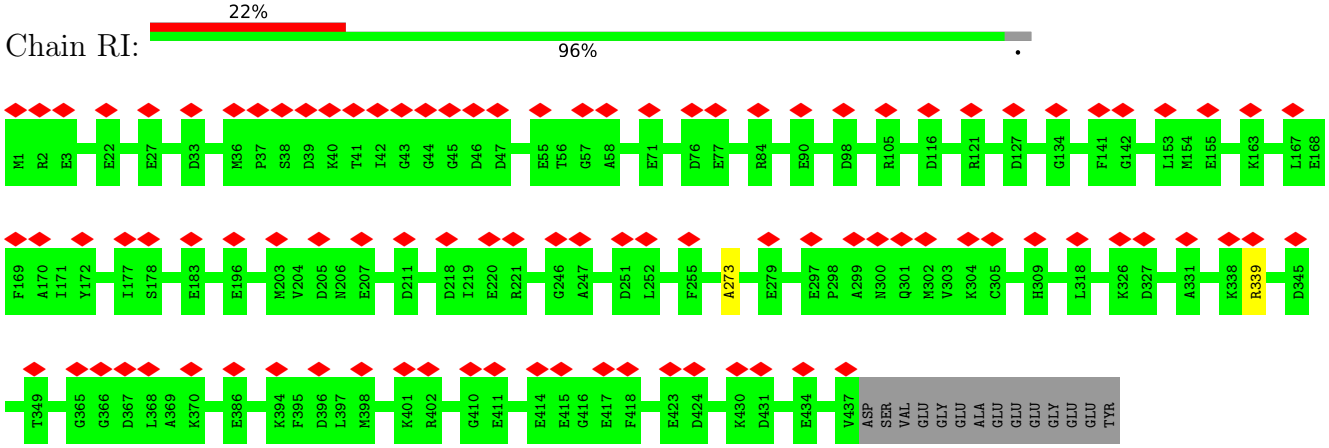
Chain RG:





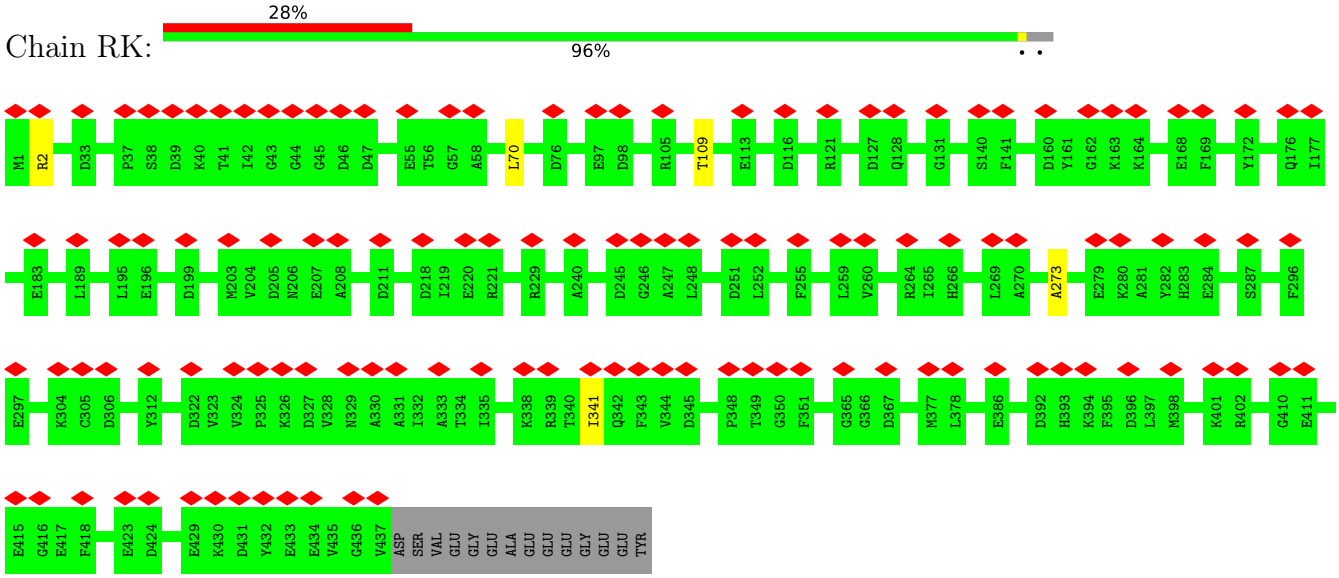
• Molecule 54: Tubulin alpha chain

Chain RI:



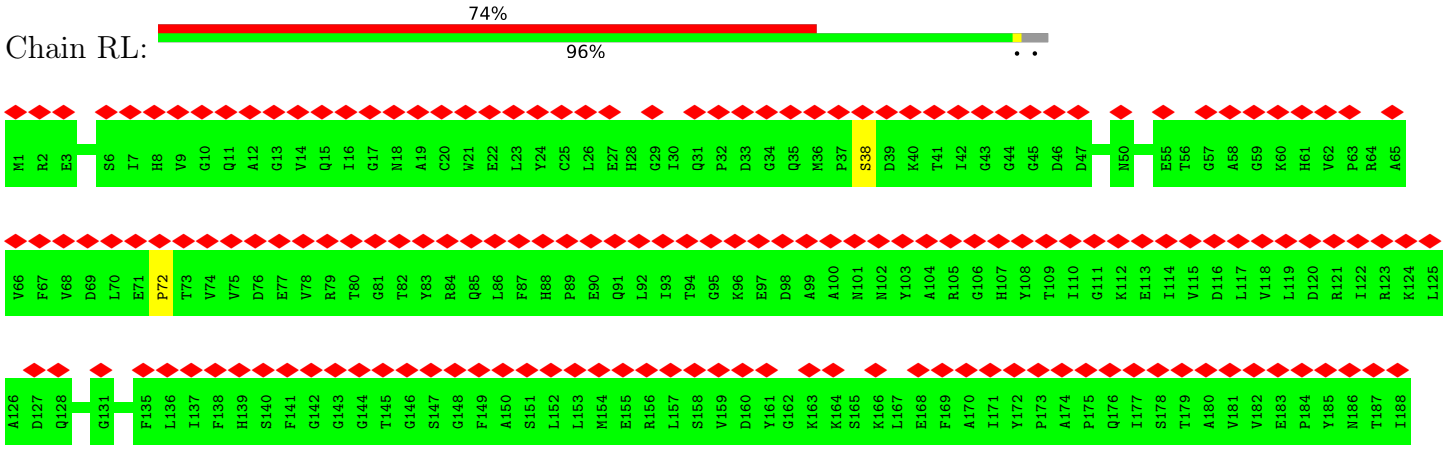
• Molecule 54: Tubulin alpha chain

Chain RK:



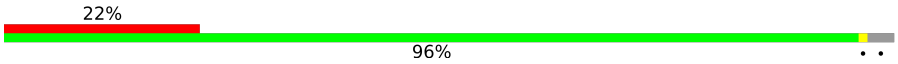
• Molecule 54: Tubulin alpha chain

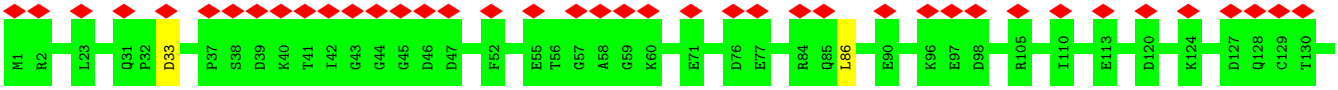
Chain RL:



• Molecule 54: Tubulin alpha chain

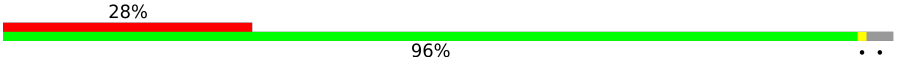
Chain SA:

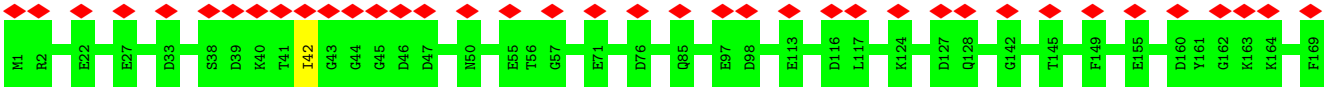




• Molecule 54: Tubulin alpha chain

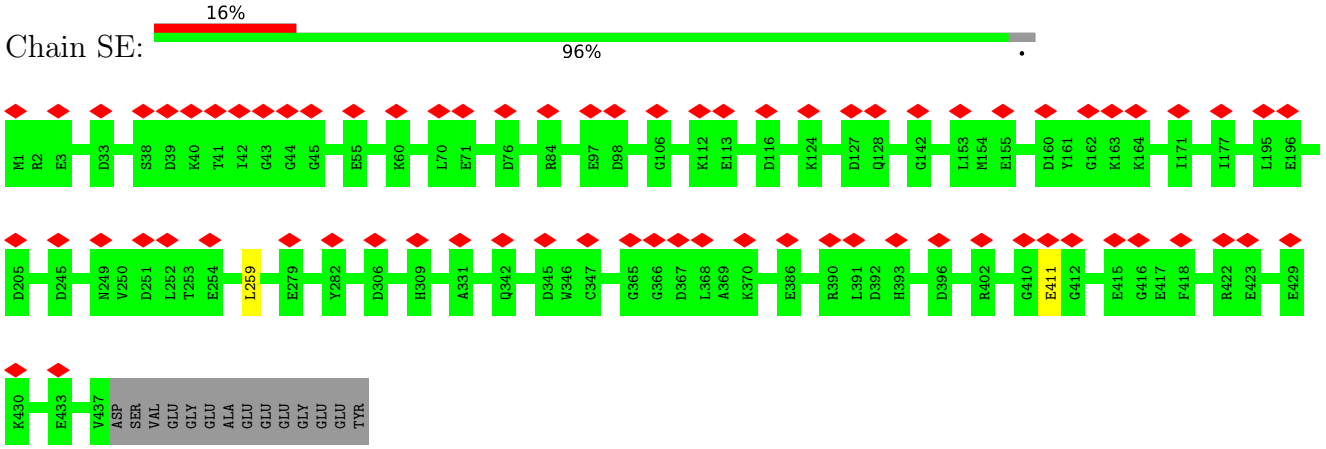
Chain SB:





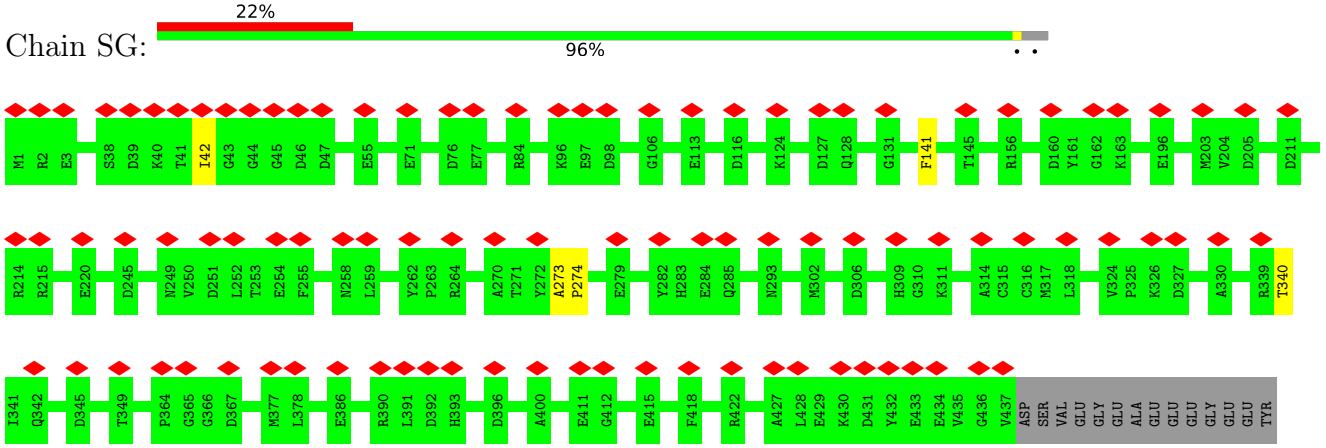
• Molecule 54: Tubulin alpha chain

Chain SE:



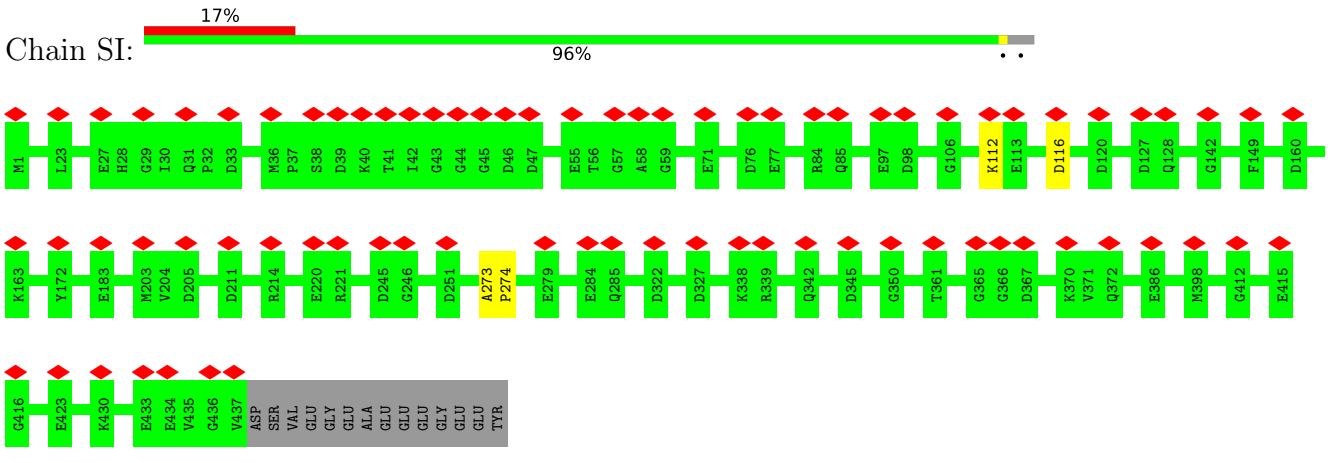
• Molecule 54: Tubulin alpha chain

Chain SG:



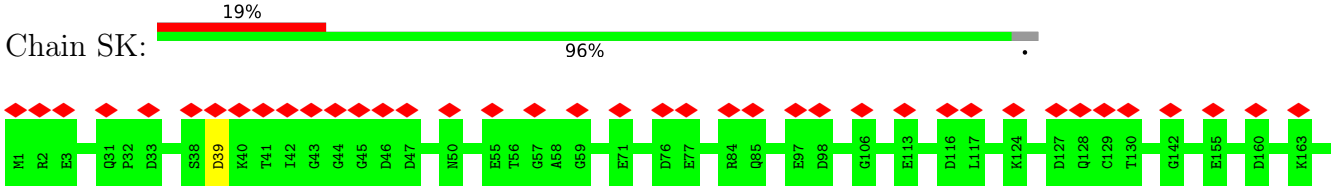
• Molecule 54: Tubulin alpha chain

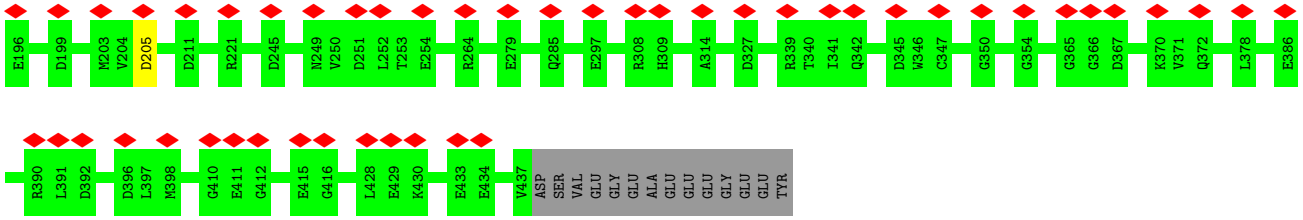
Chain SI:



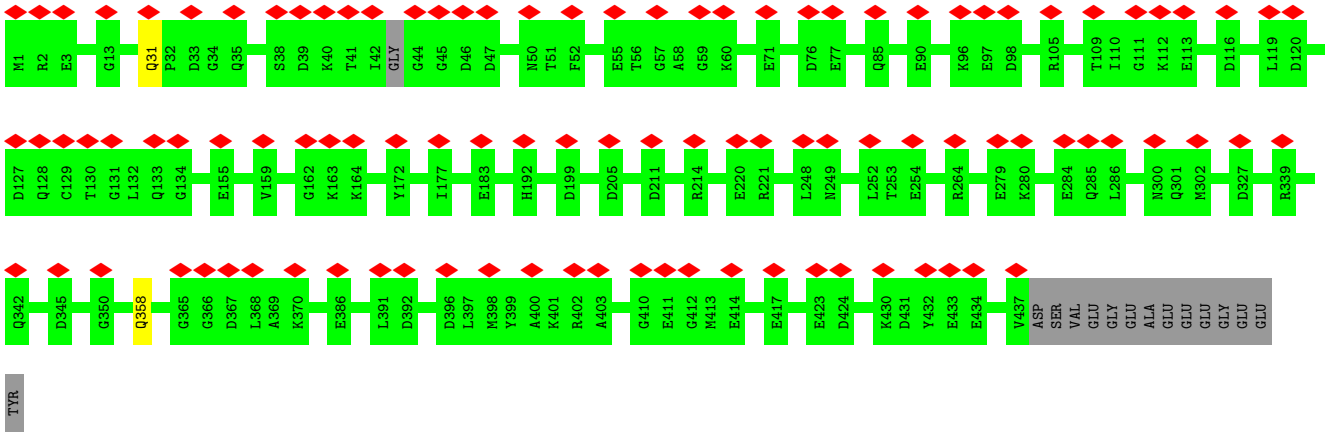
• Molecule 54: Tubulin alpha chain

Chain SK:

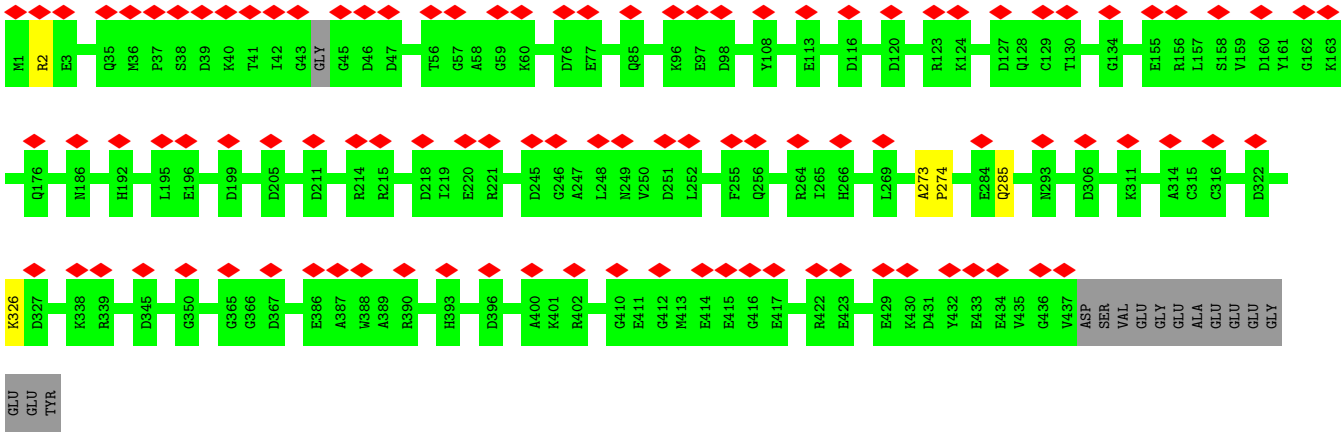




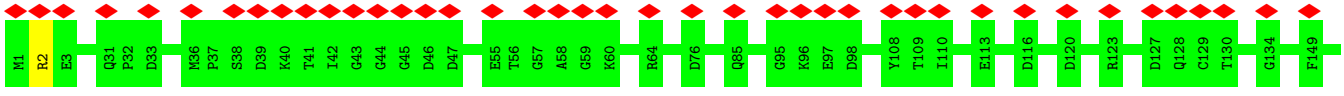
• Molecule 54: Tubulin alpha chain

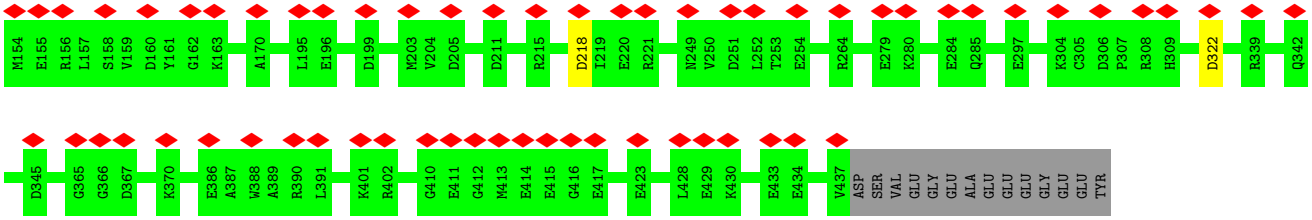


• Molecule 54: Tubulin alpha chain



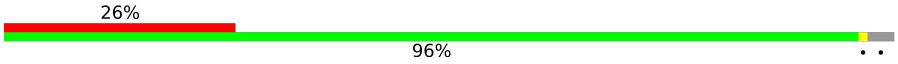
• Molecule 54: Tubulin alpha chain

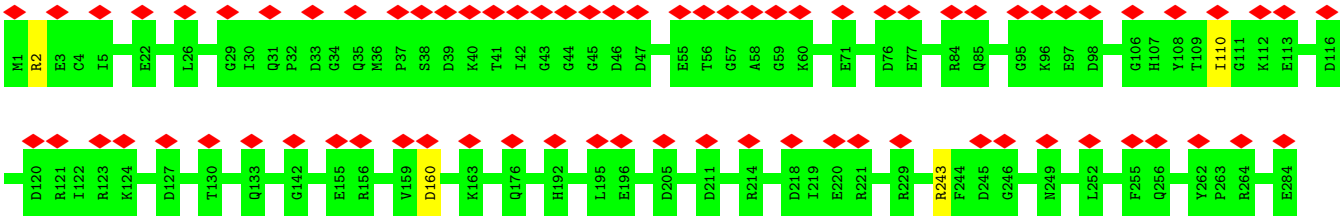




• Molecule 54: Tubulin alpha chain

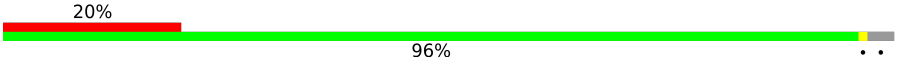
Chain TG:

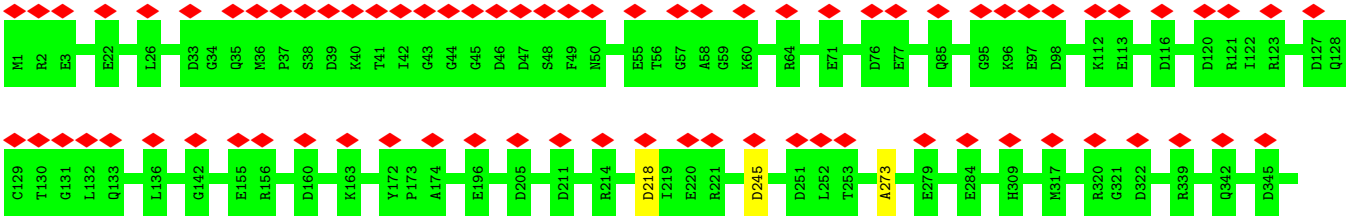




• Molecule 54: Tubulin alpha chain

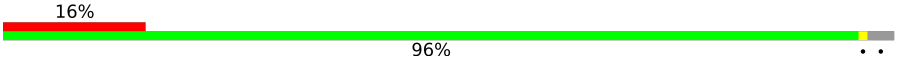
Chain TI:

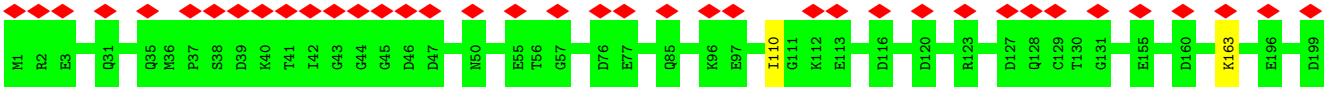


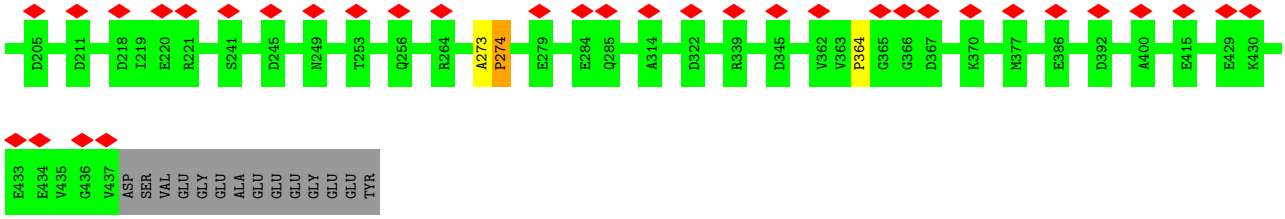


• Molecule 54: Tubulin alpha chain

Chain TK:

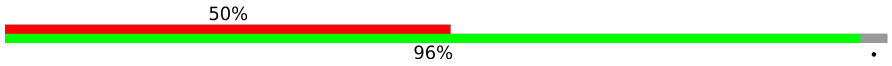


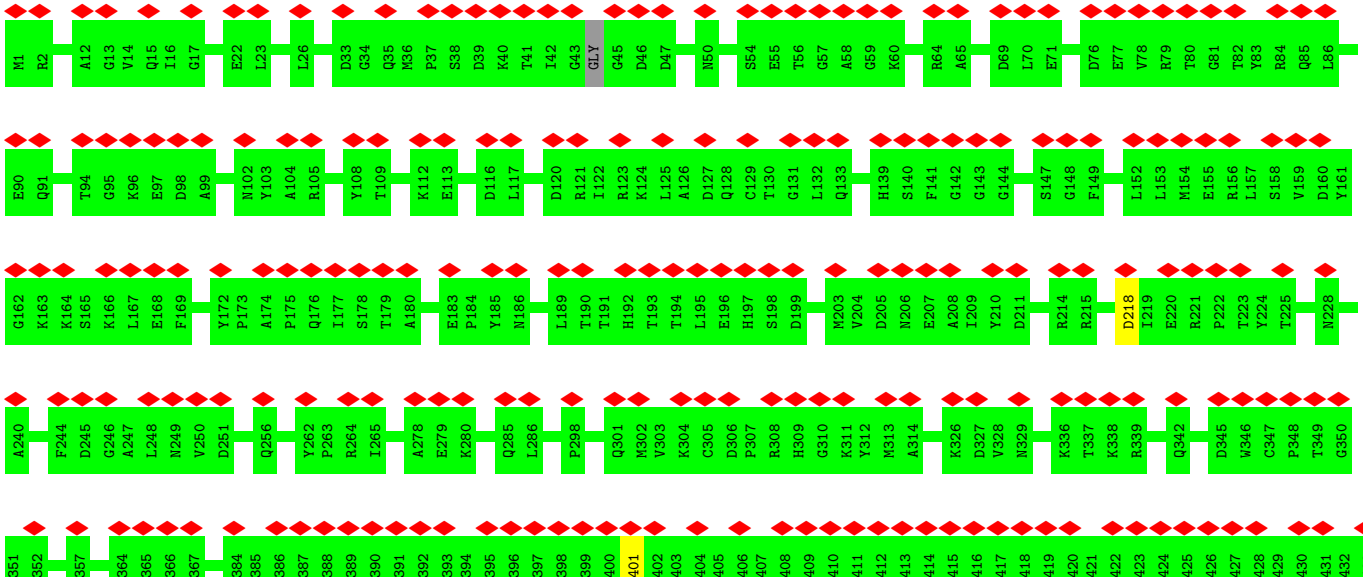




• Molecule 54: Tubulin alpha chain

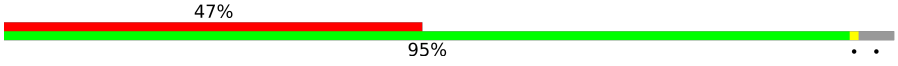
Chain UA:

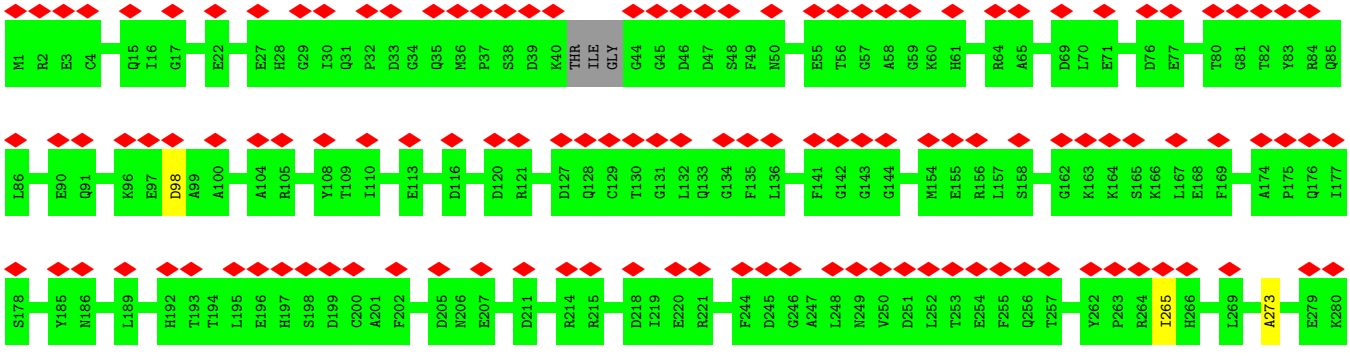


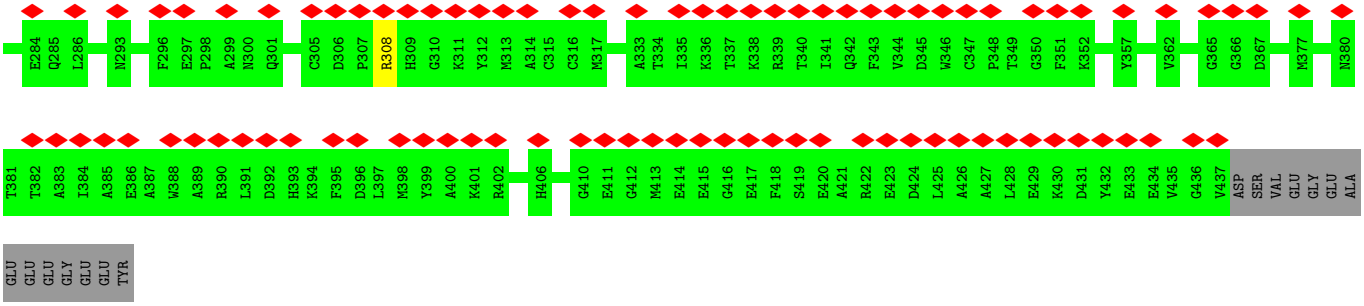


• Molecule 54: Tubulin alpha chain

Chain UB:

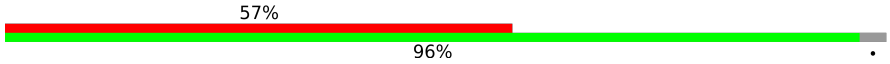


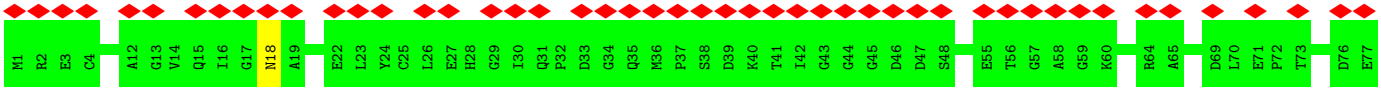




• Molecule 54: Tubulin alpha chain

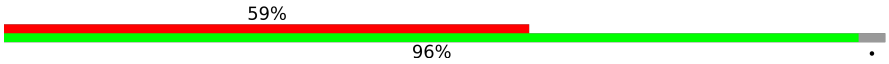
Chain UE:

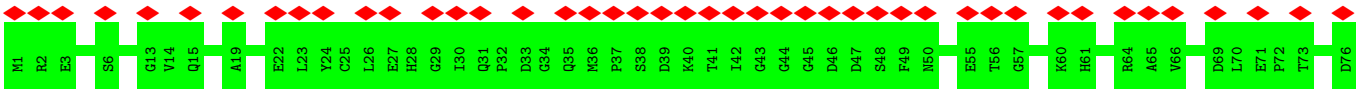


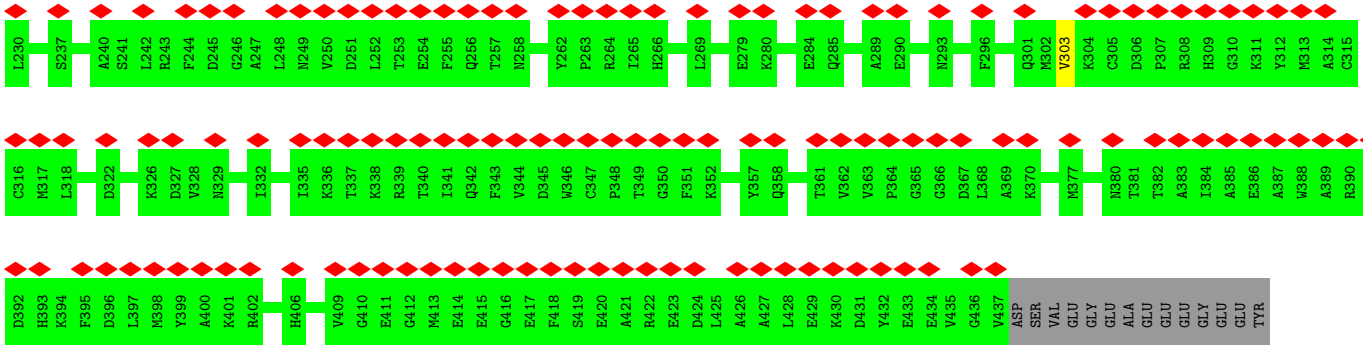


• Molecule 54: Tubulin alpha chain

Chain UG:

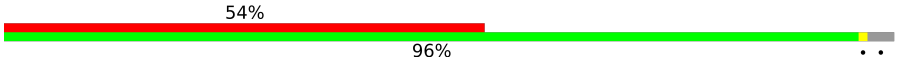


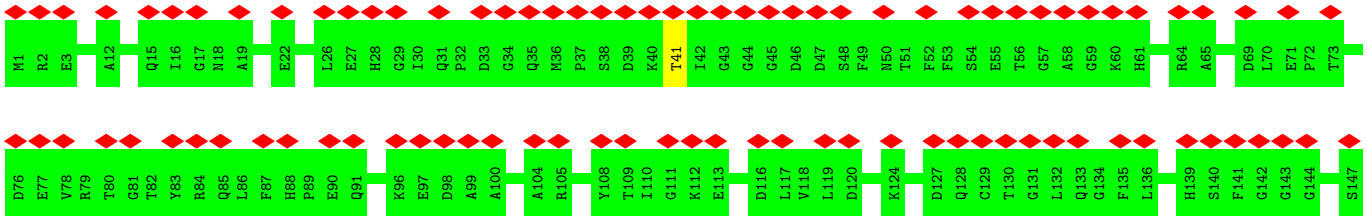


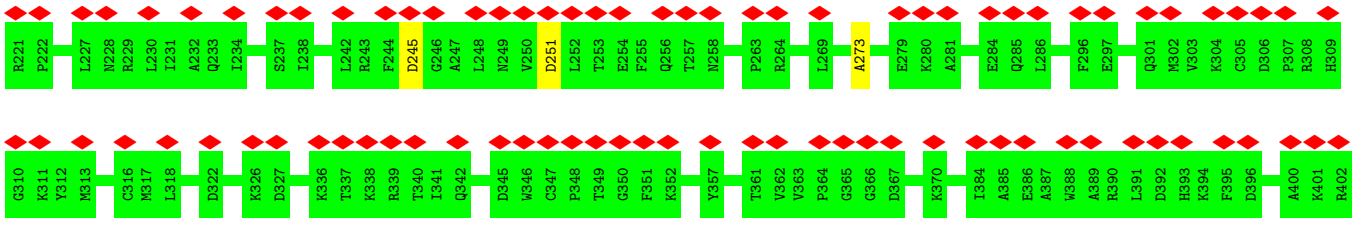


• Molecule 54: Tubulin alpha chain

Chain UI:

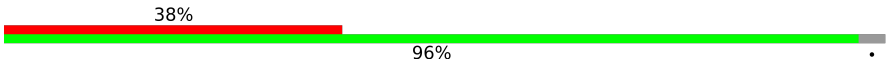


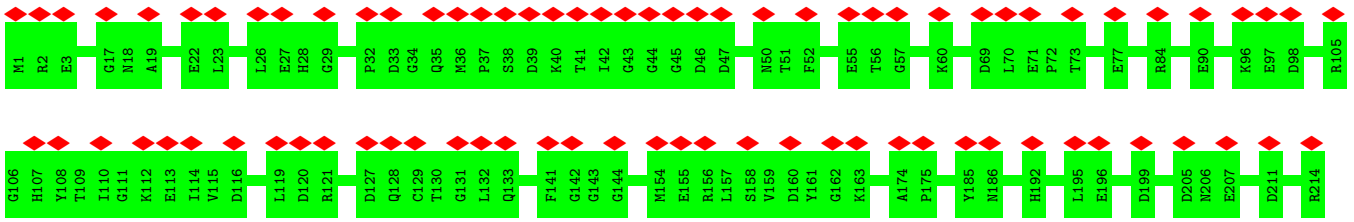


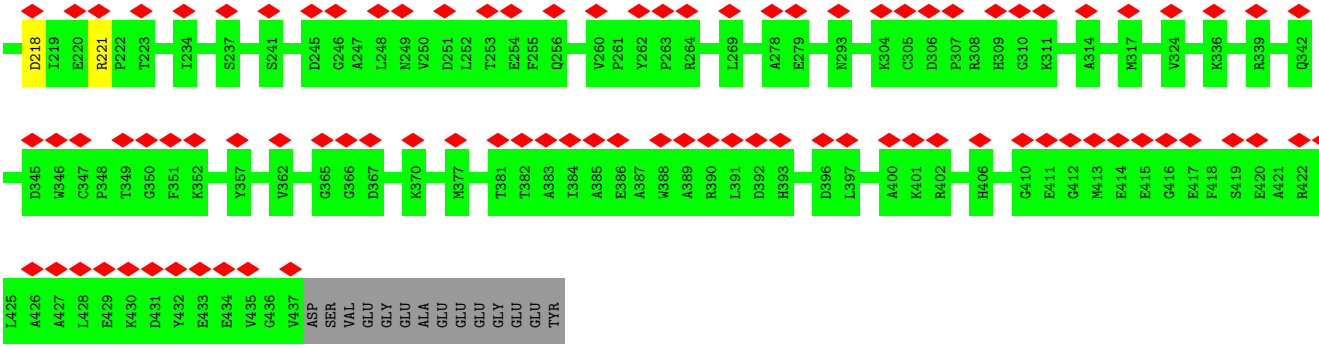


• Molecule 54: Tubulin alpha chain

Chain UK:

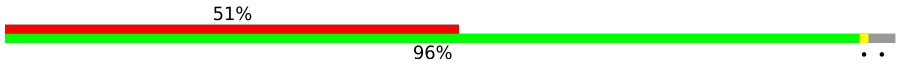


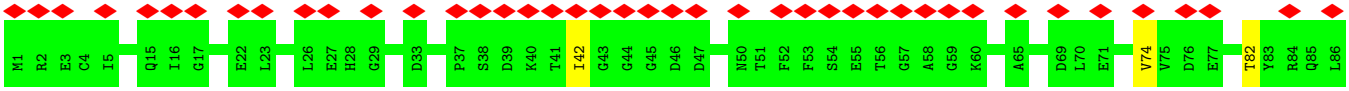


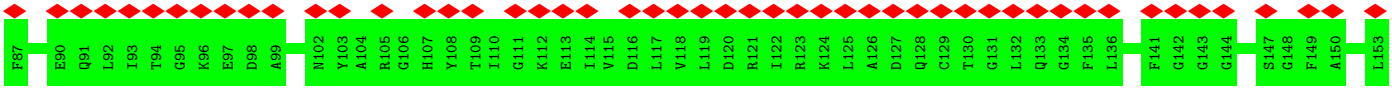


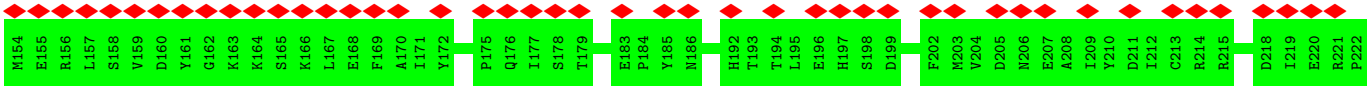
• Molecule 54: Tubulin alpha chain

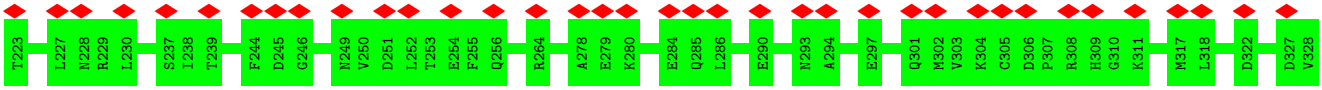
Chain VA:

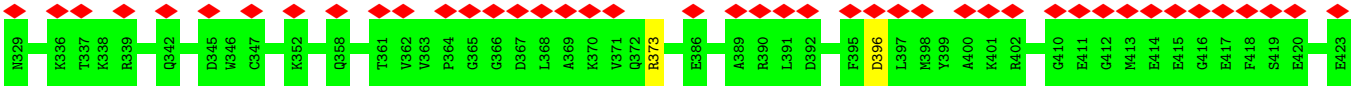


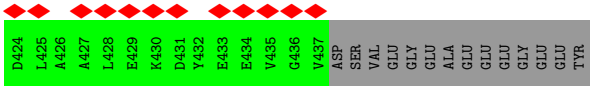






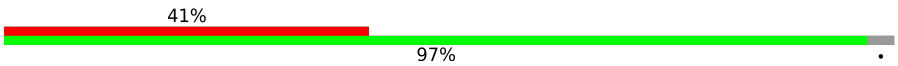


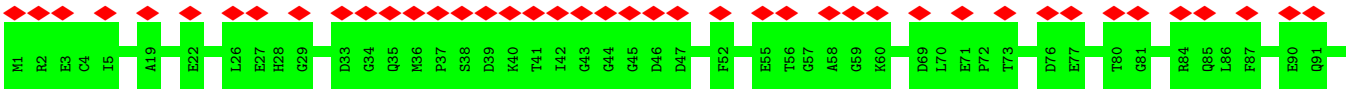


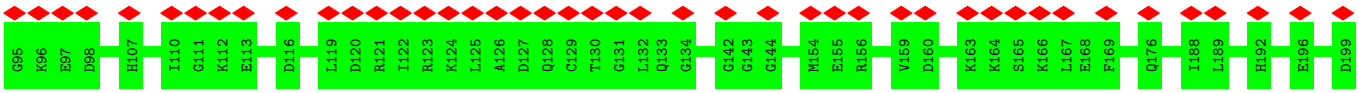


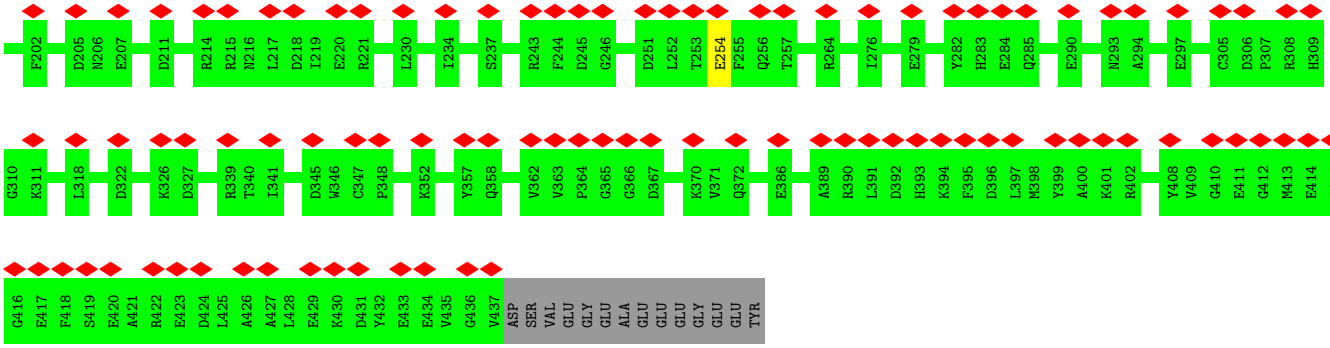
• Molecule 54: Tubulin alpha chain

Chain VB:



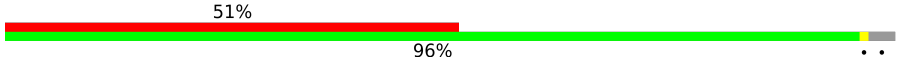


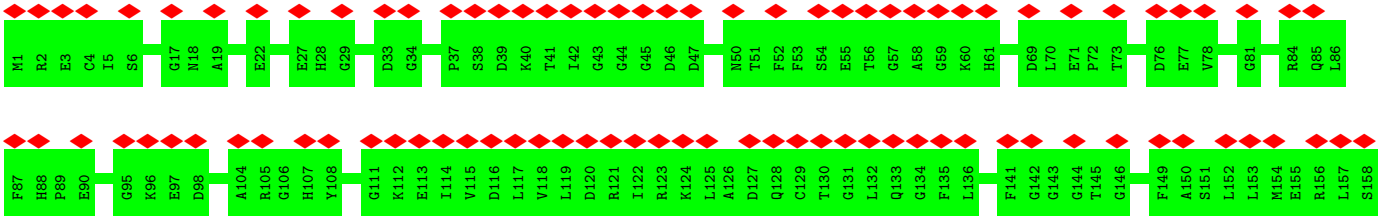




• Molecule 54: Tubulin alpha chain

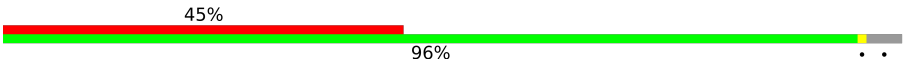
Chain VE:

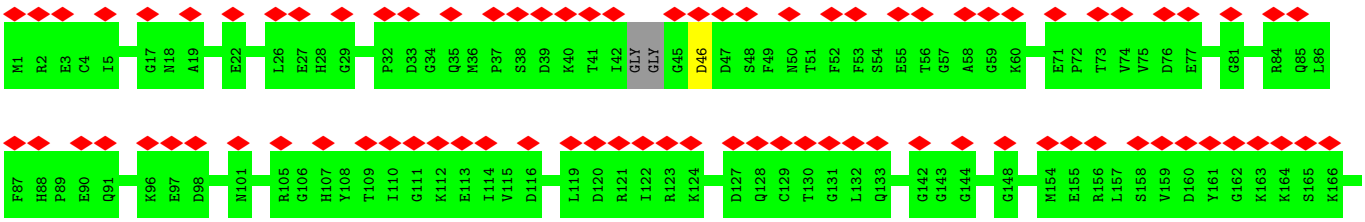


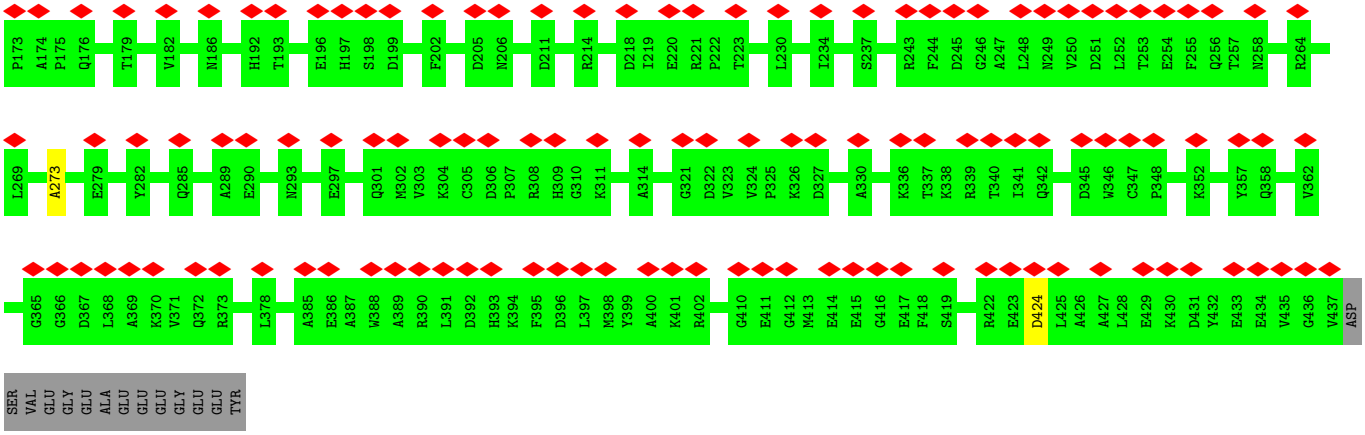


• Molecule 54: Tubulin alpha chain

Chain VG:

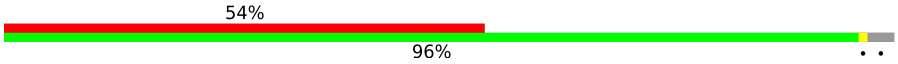


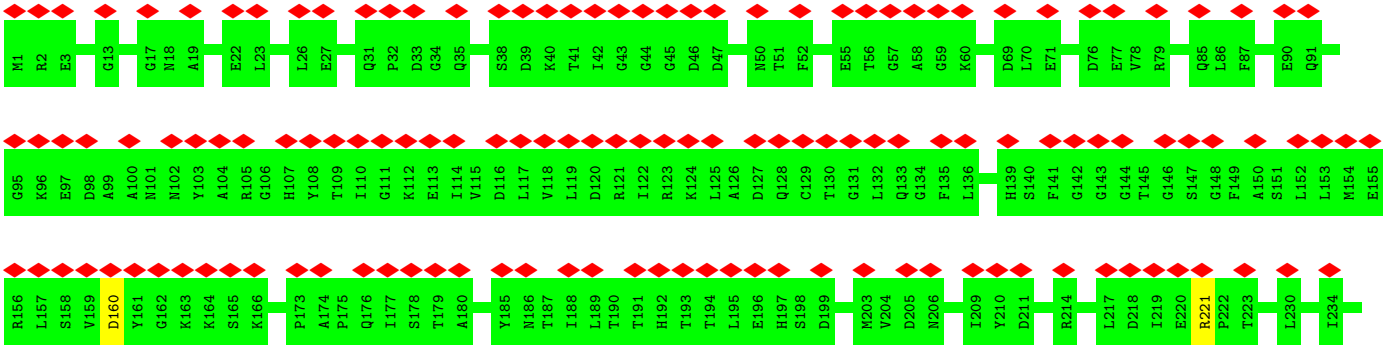




• Molecule 54: Tubulin alpha chain

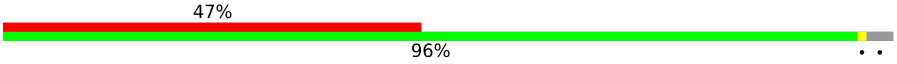
Chain VI:

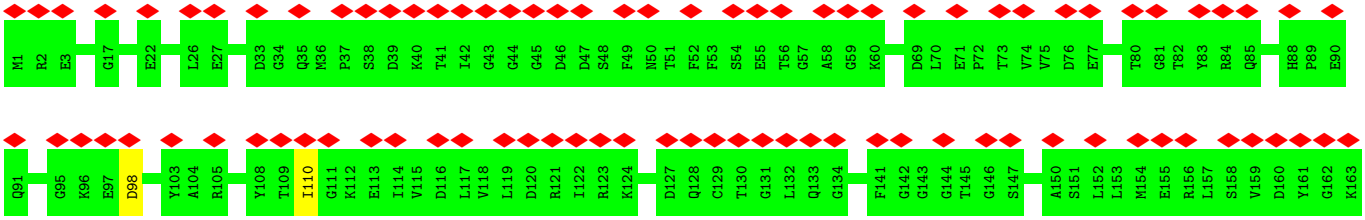


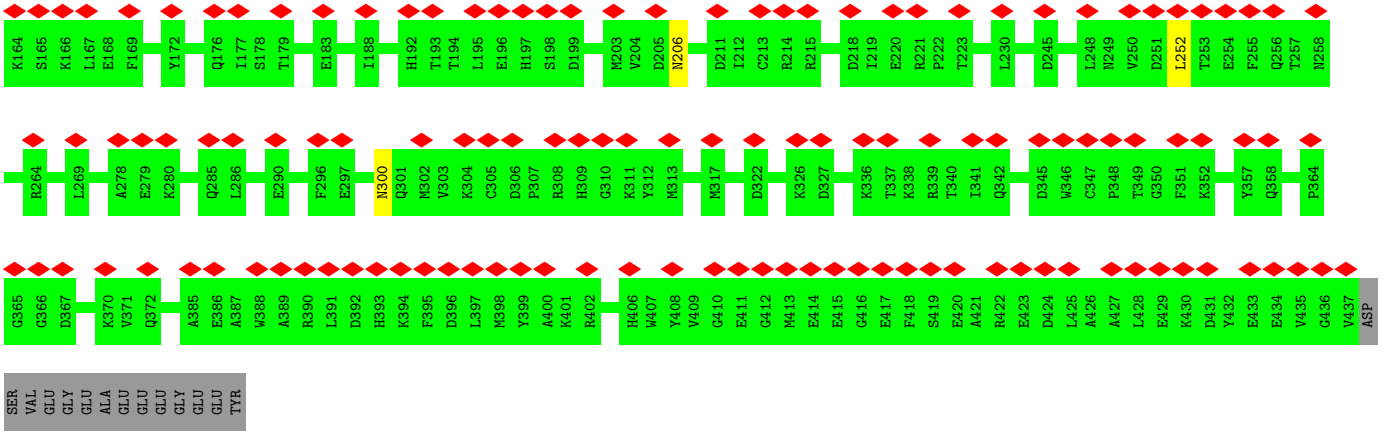


• Molecule 54: Tubulin alpha chain

Chain VK:

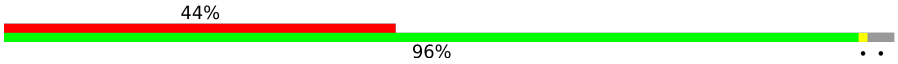


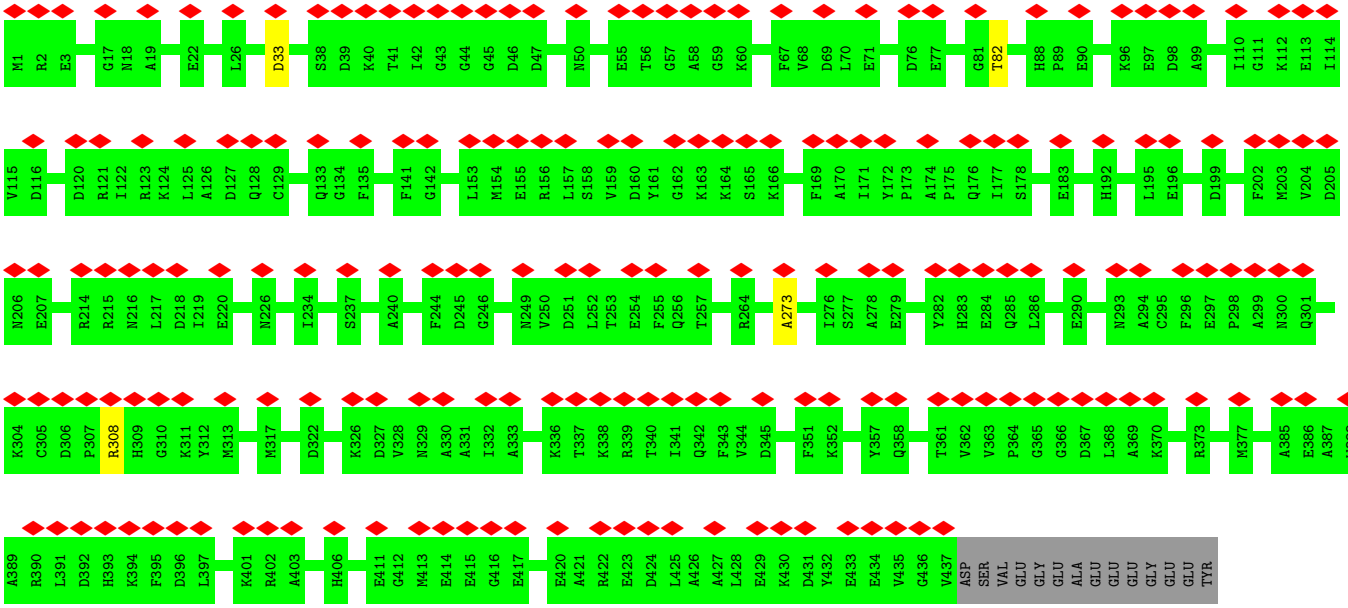




• Molecule 54: Tubulin alpha chain

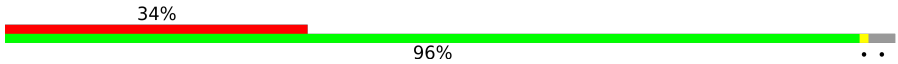
Chain WA:

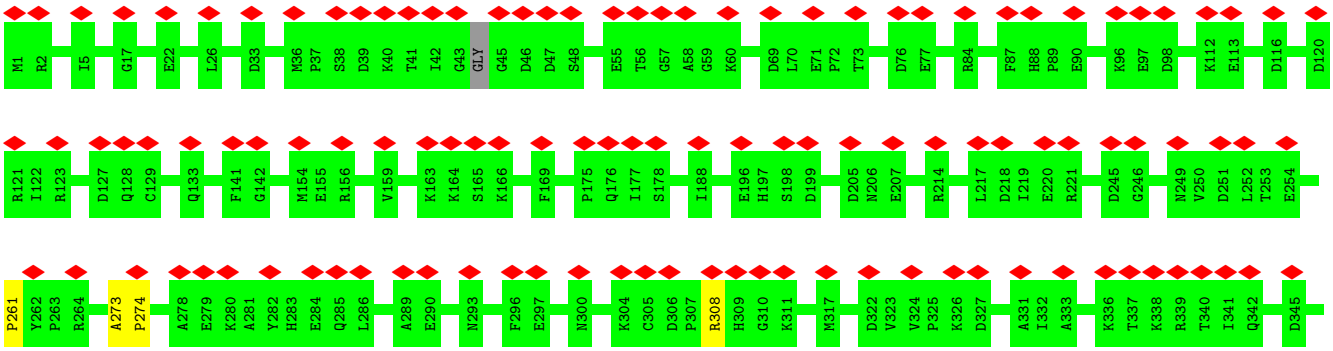


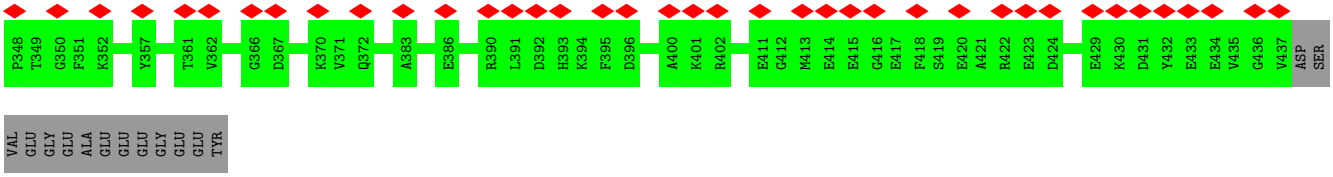


• Molecule 54: Tubulin alpha chain

Chain WB:

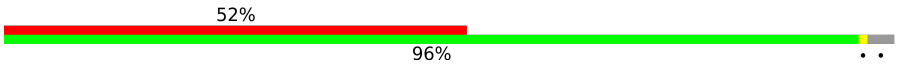


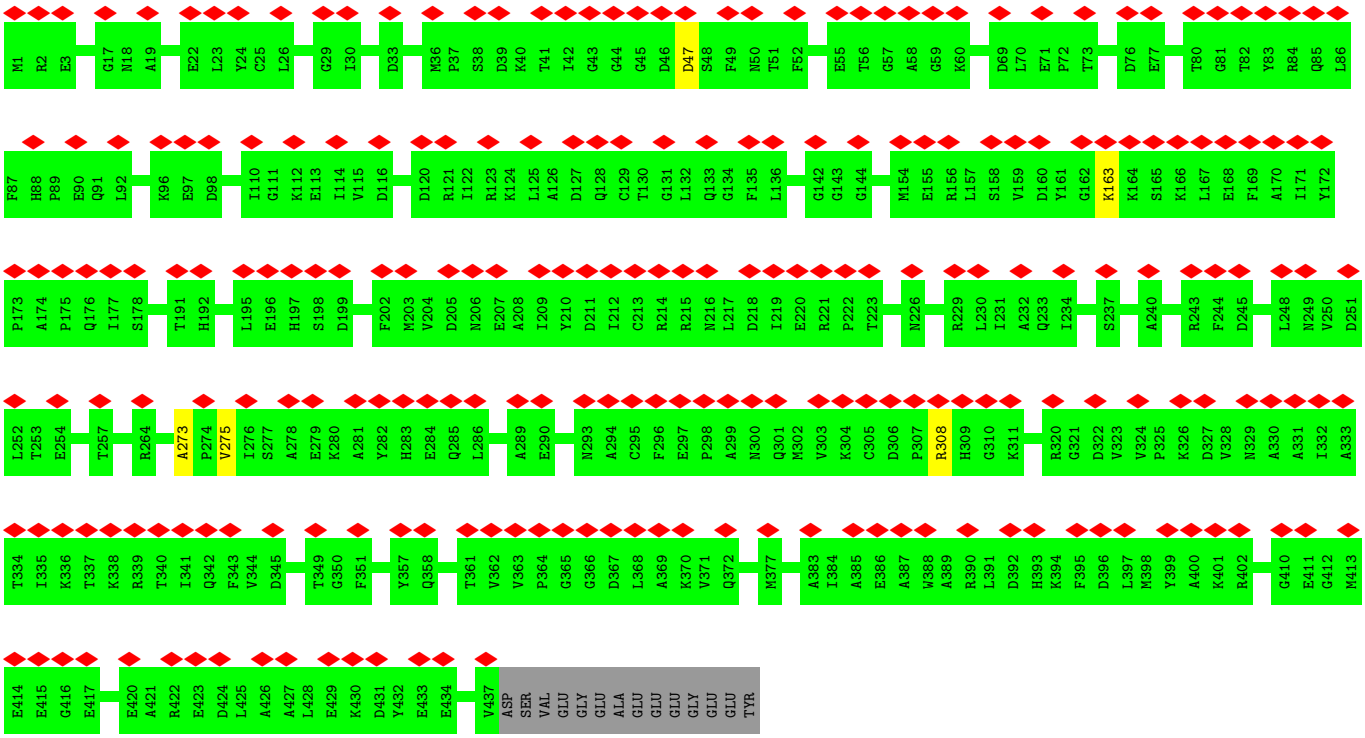




• Molecule 54: Tubulin alpha chain

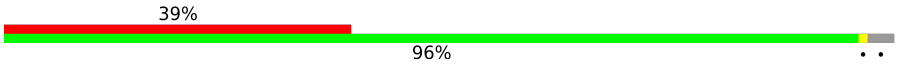
Chain WE:

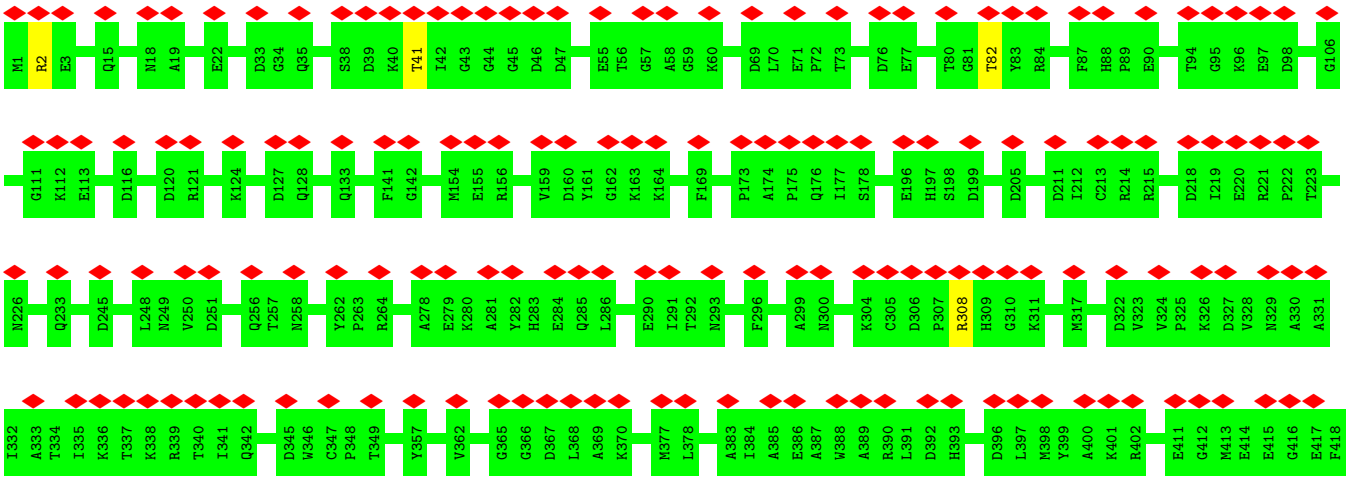


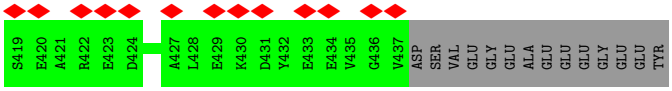


• Molecule 54: Tubulin alpha chain

Chain WG:

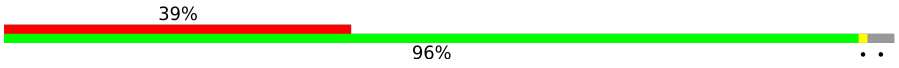


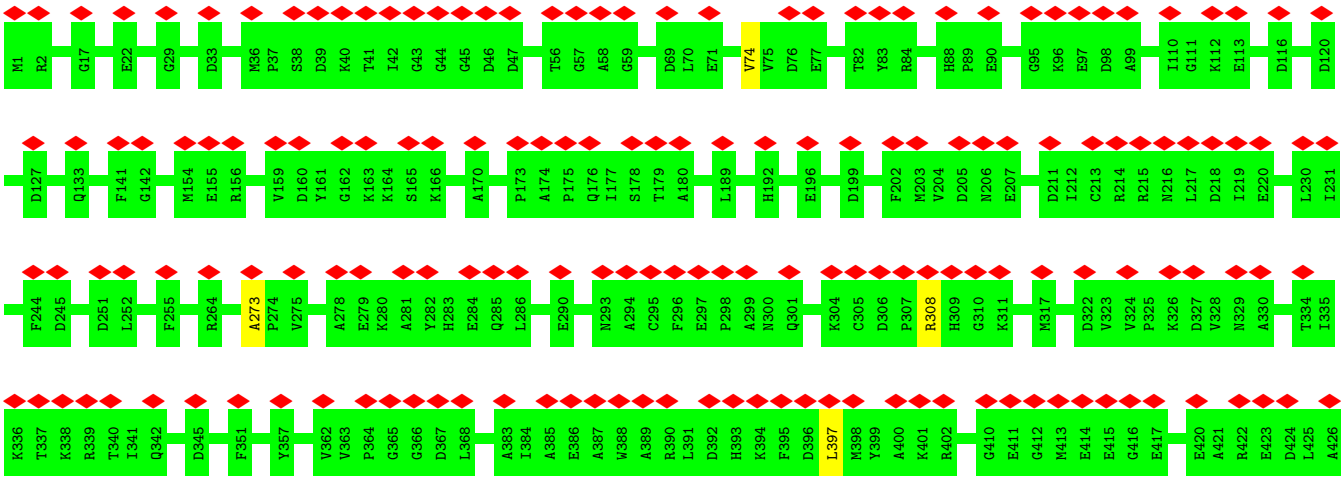




• Molecule 54: Tubulin alpha chain

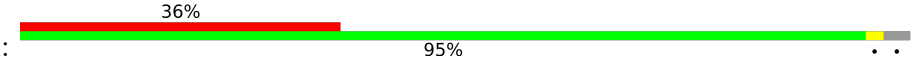
Chain WI:

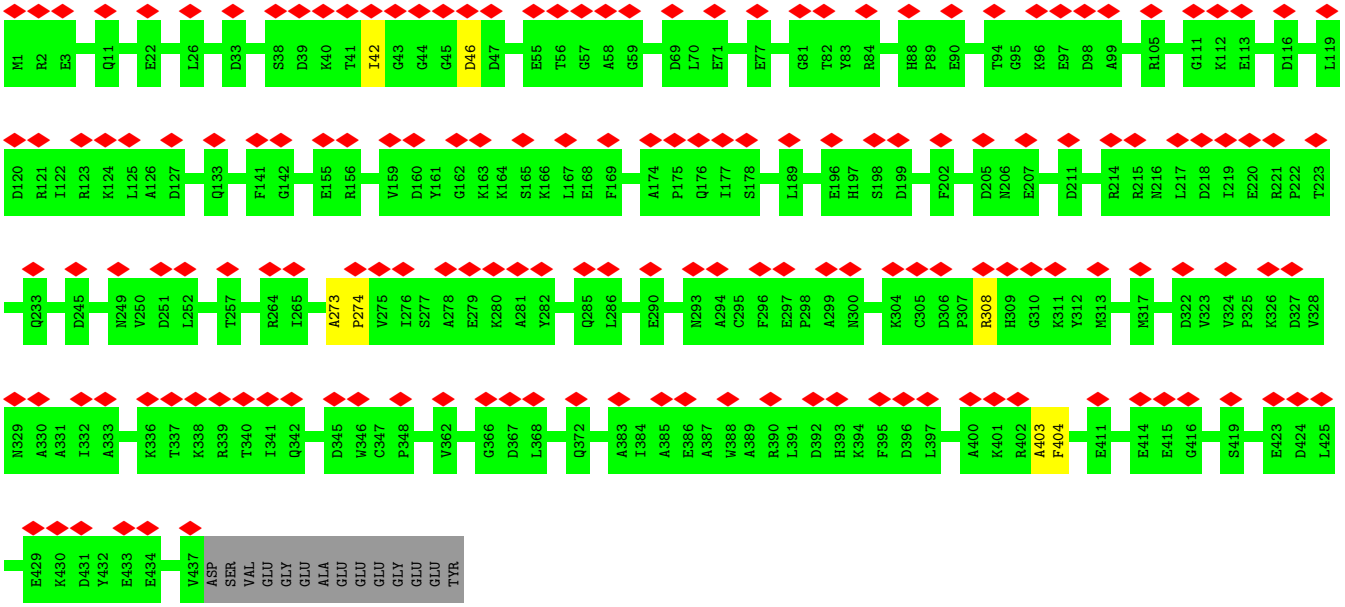




• Molecule 54: Tubulin alpha chain

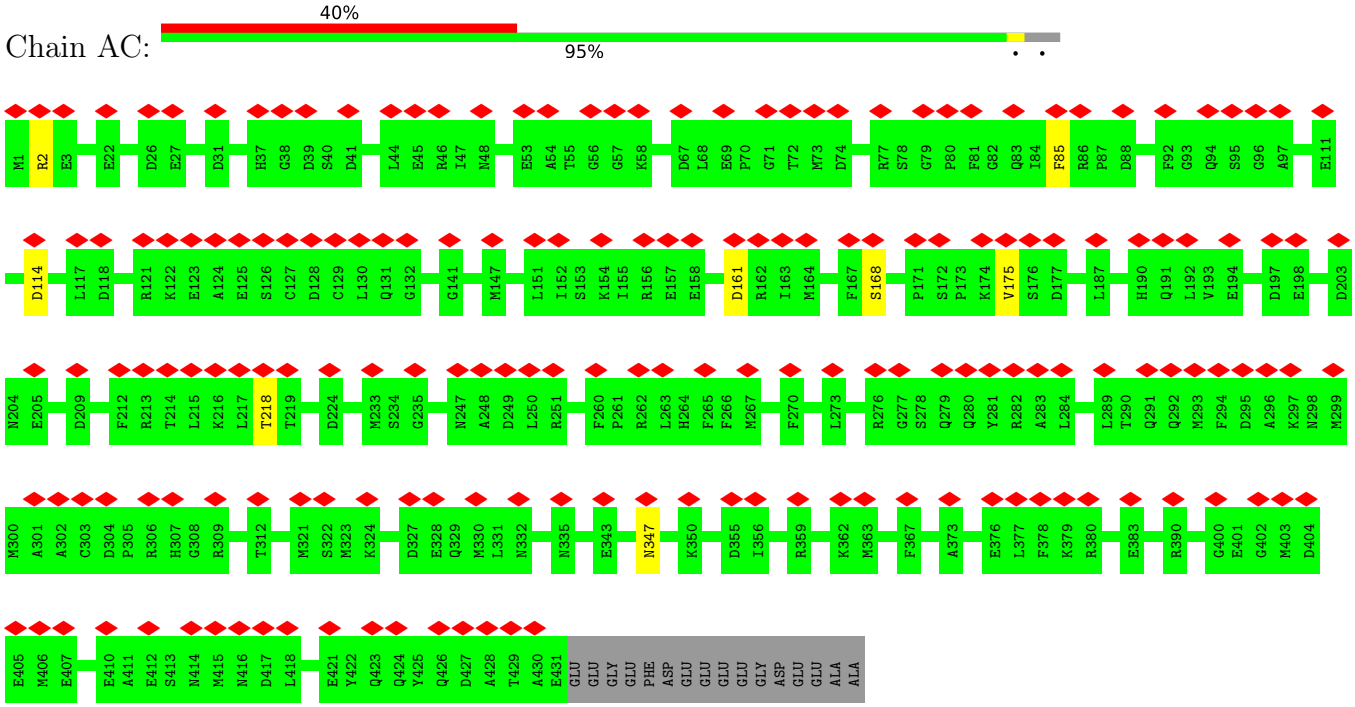
Chain WK:





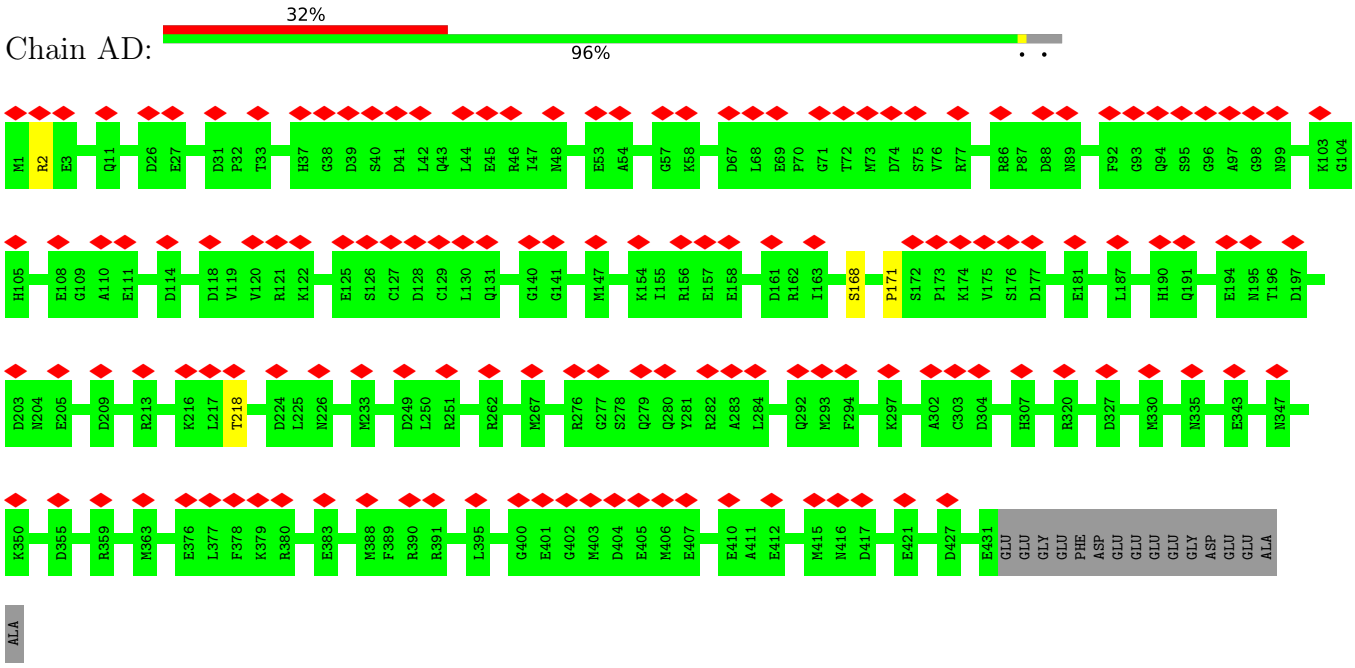
• Molecule 55: Tubulin beta chain

Chain AC:



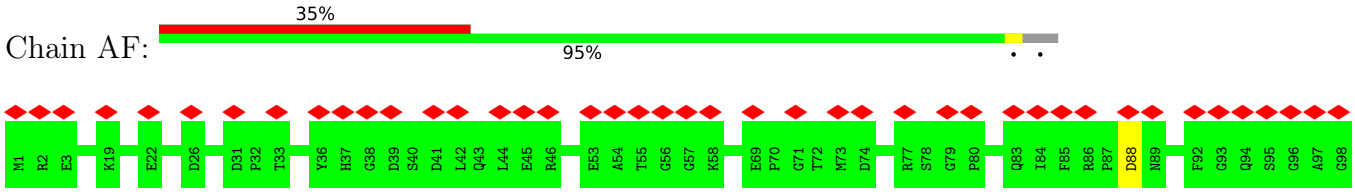
• Molecule 55: Tubulin beta chain

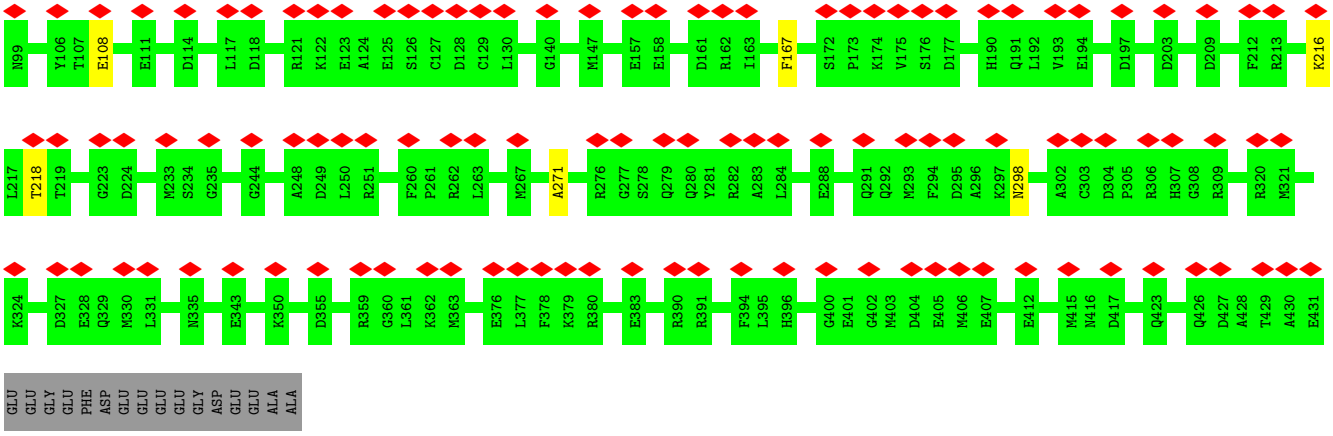
Chain AD:



• Molecule 55: Tubulin beta chain

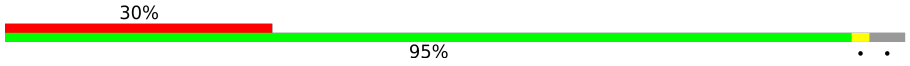
Chain AF:

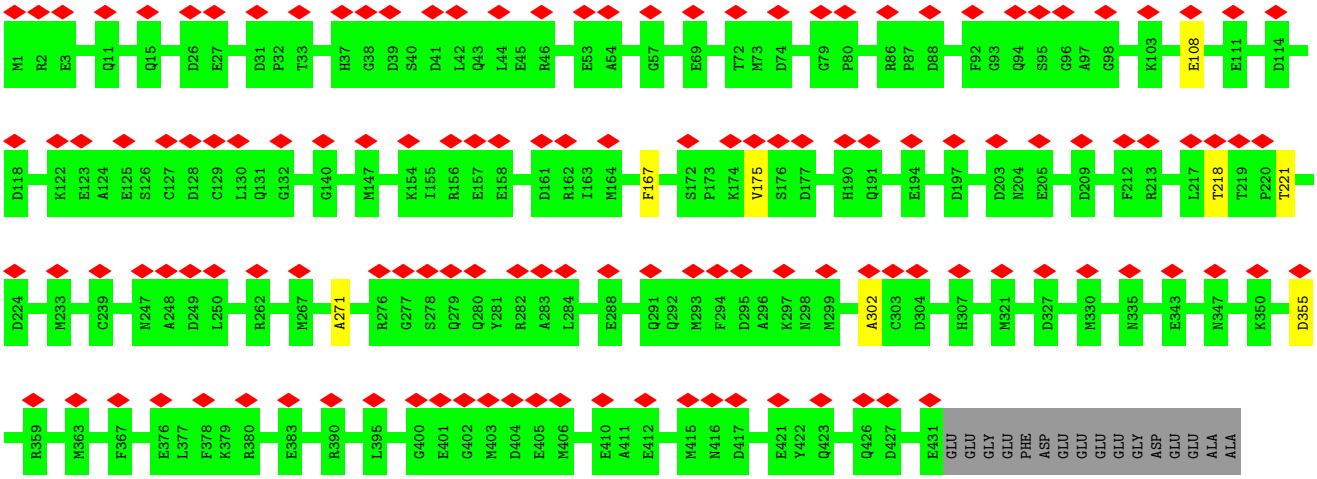




• Molecule 55: Tubulin beta chain

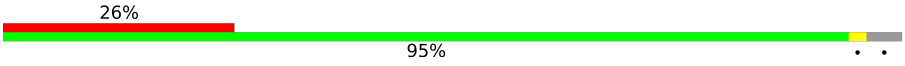
Chain AH:

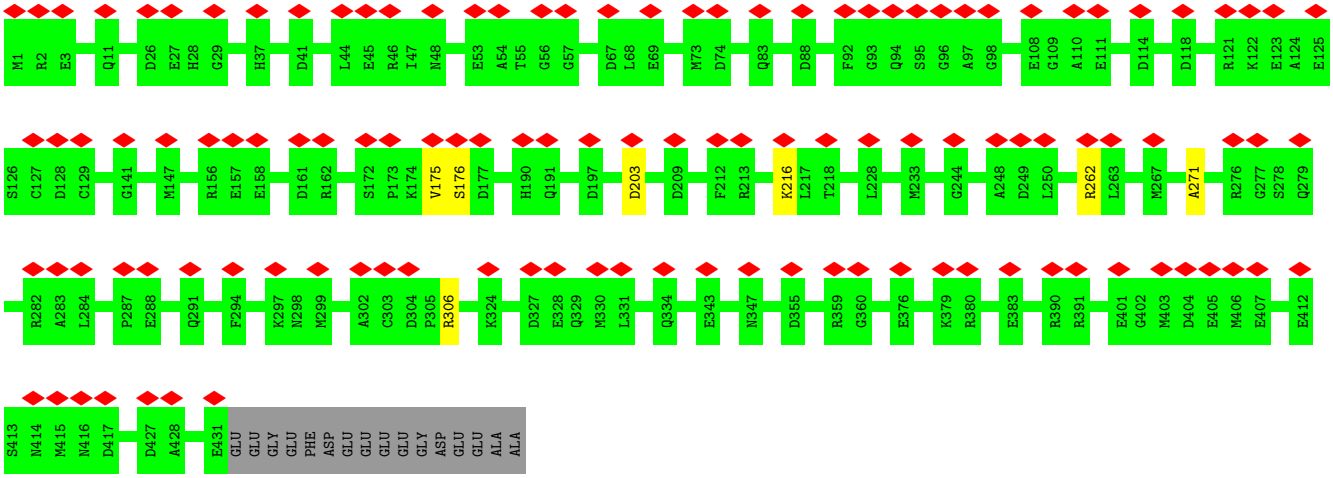




• Molecule 55: Tubulin beta chain

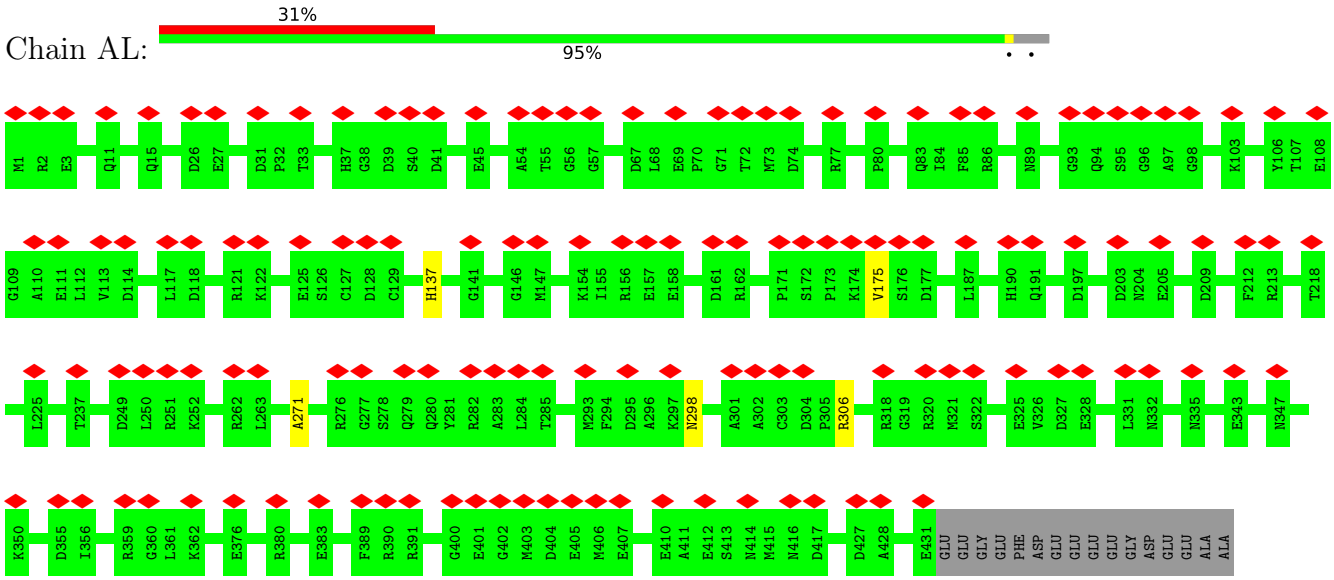
Chain AJ:





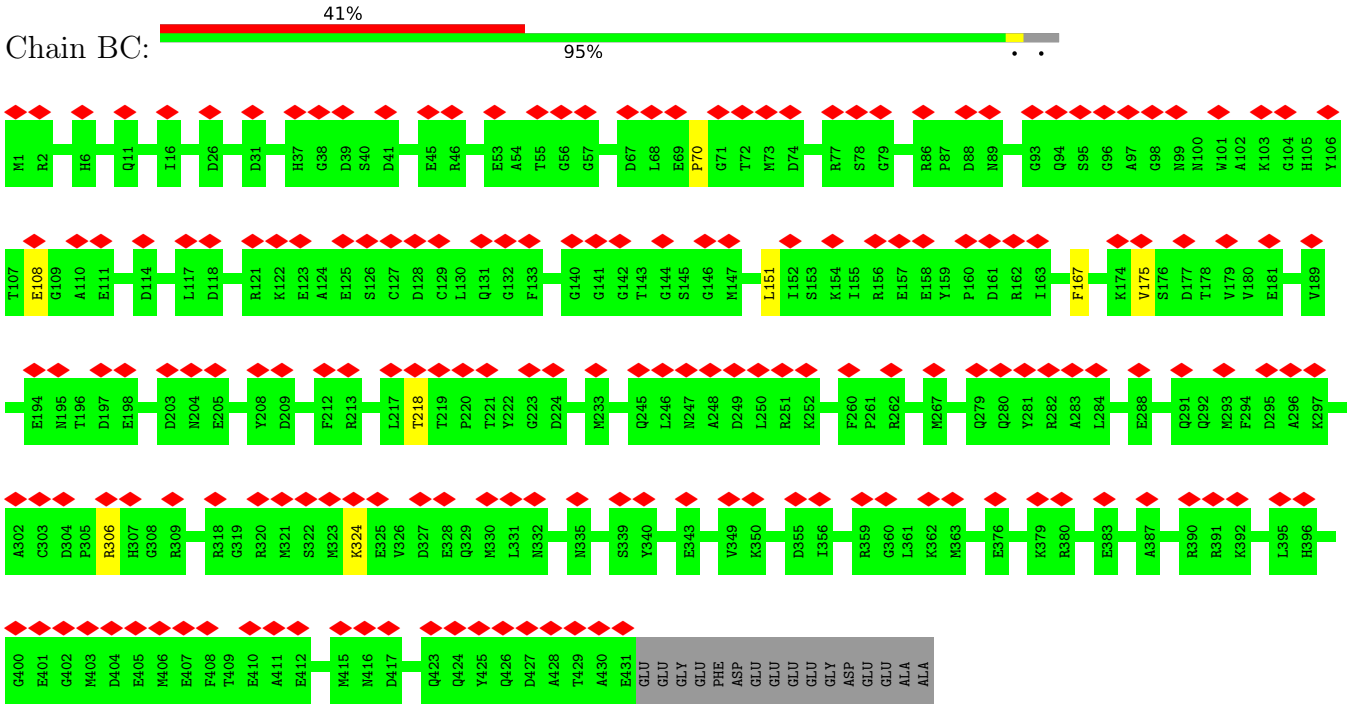
• Molecule 55: Tubulin beta chain

Chain AL:



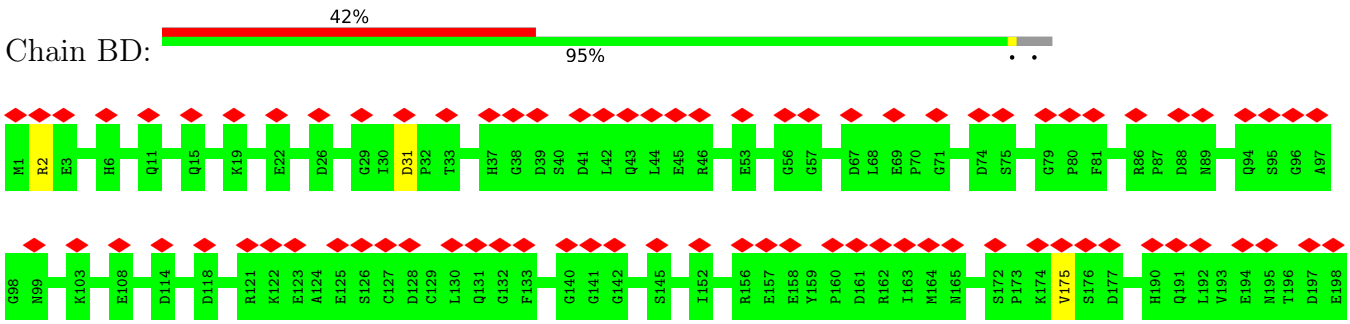
• Molecule 55: Tubulin beta chain

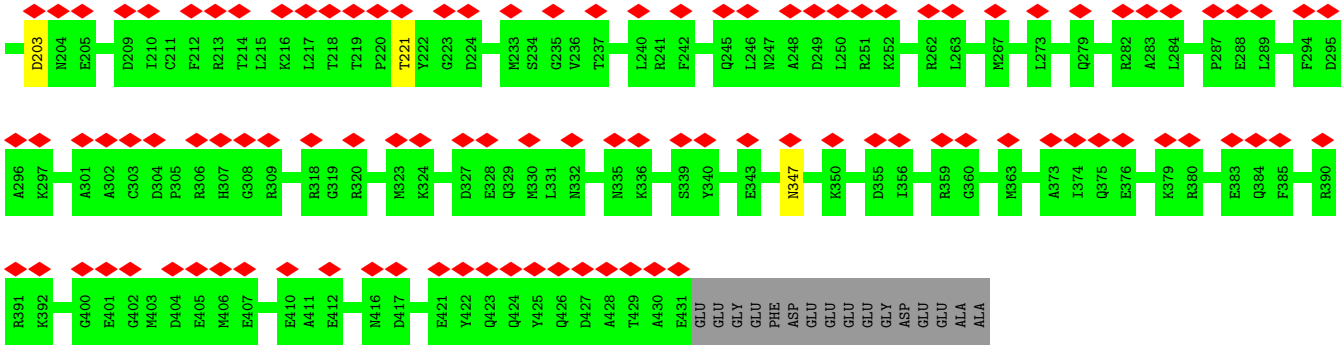
Chain BC:



• Molecule 55: Tubulin beta chain

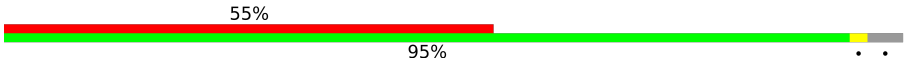
Chain BD:

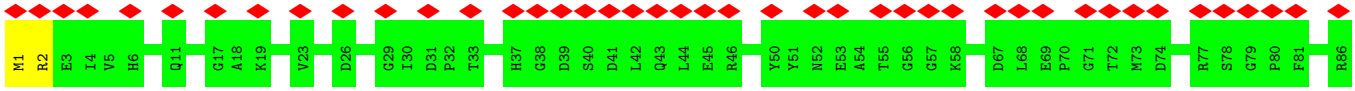


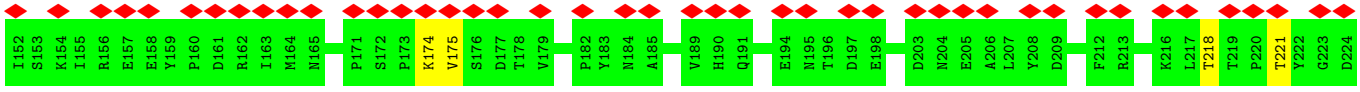


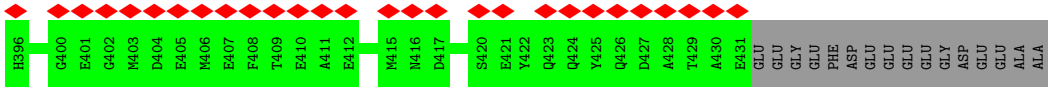
• Molecule 55: Tubulin beta chain

Chain BF:



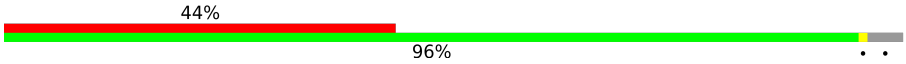


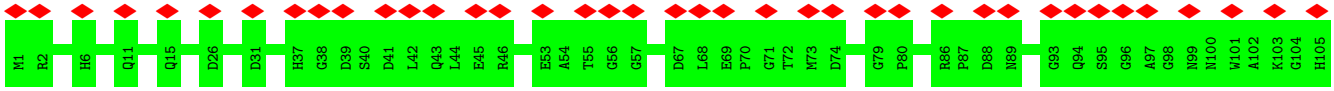


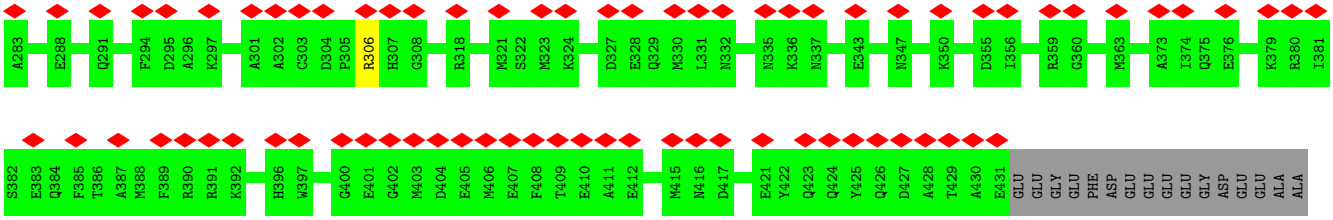


• Molecule 55: Tubulin beta chain

Chain BH:

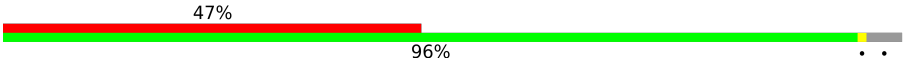


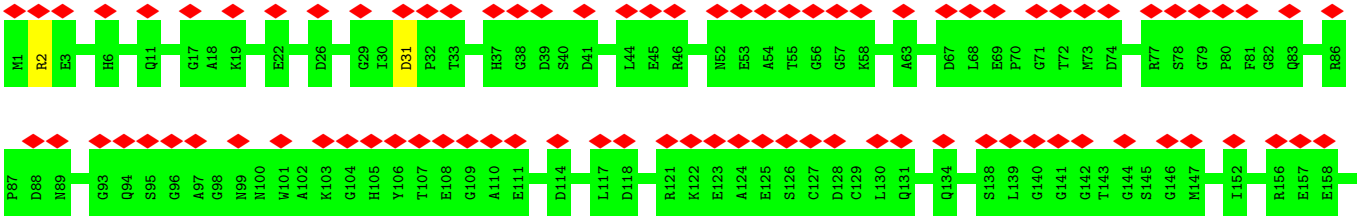




• Molecule 55: Tubulin beta chain

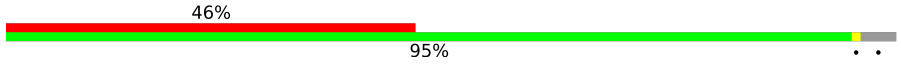
Chain BJ:

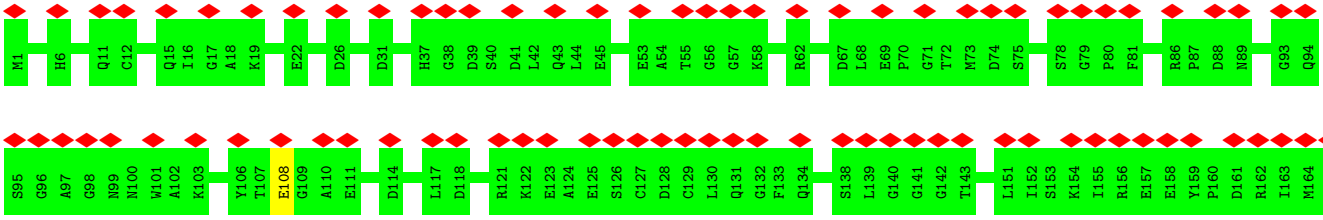


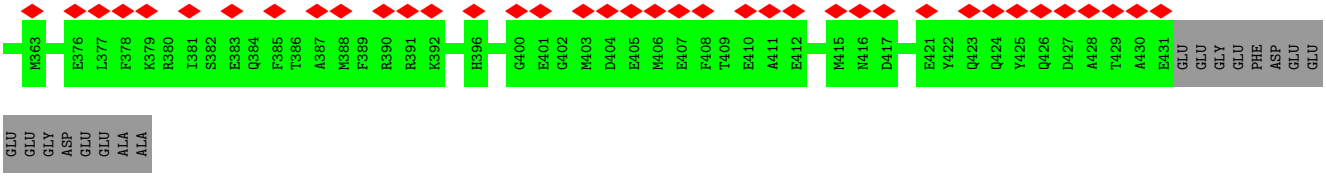


• Molecule 55: Tubulin beta chain

Chain BL:

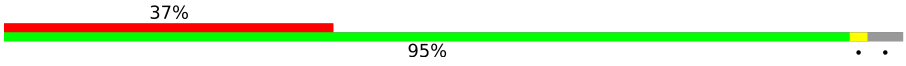


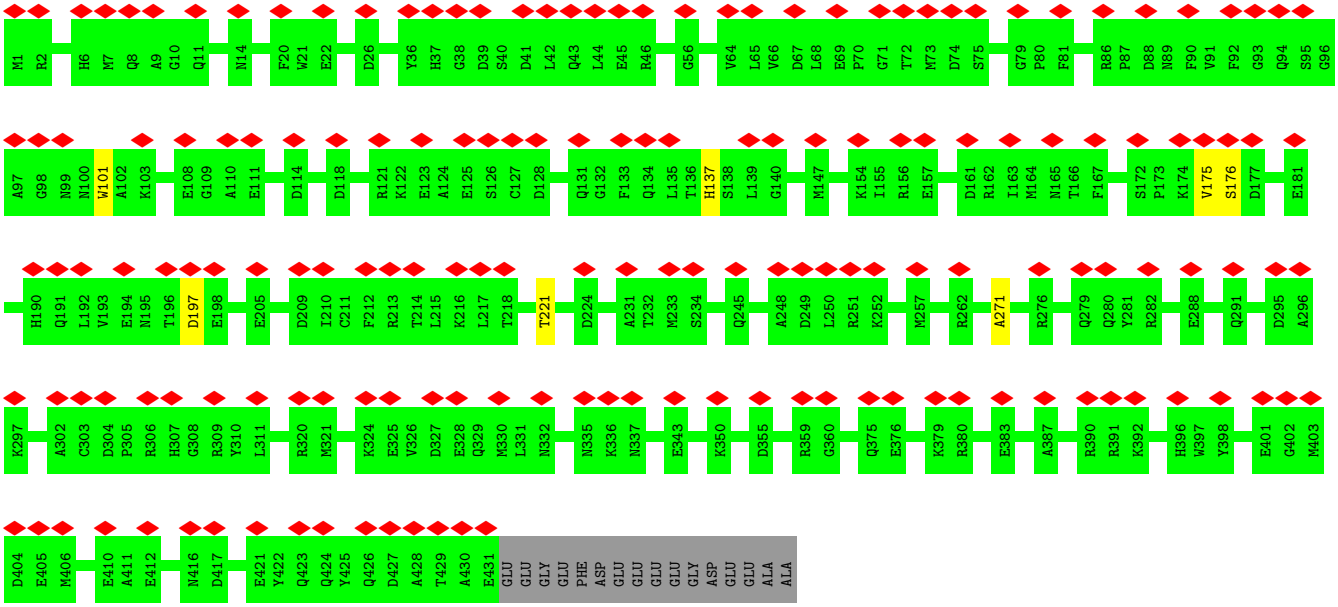




• Molecule 55: Tubulin beta chain

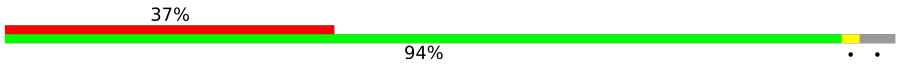
Chain CC:

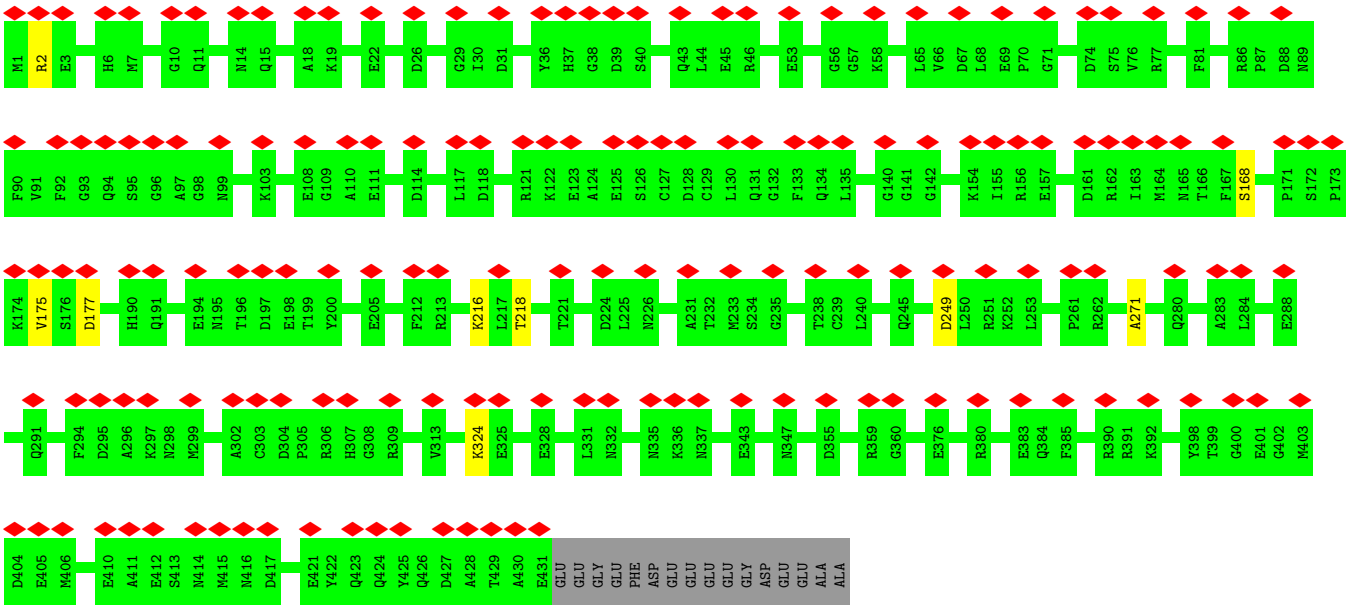




• Molecule 55: Tubulin beta chain

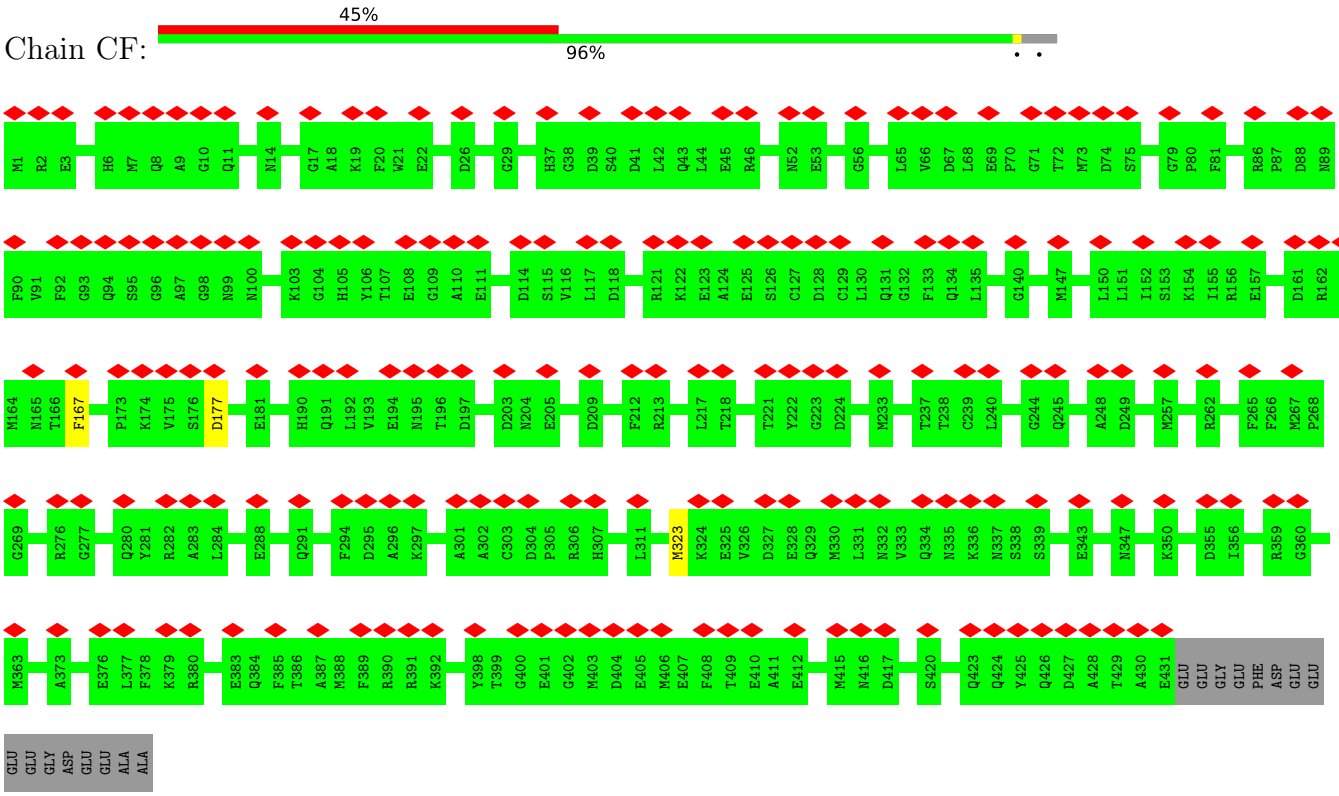
Chain CD:





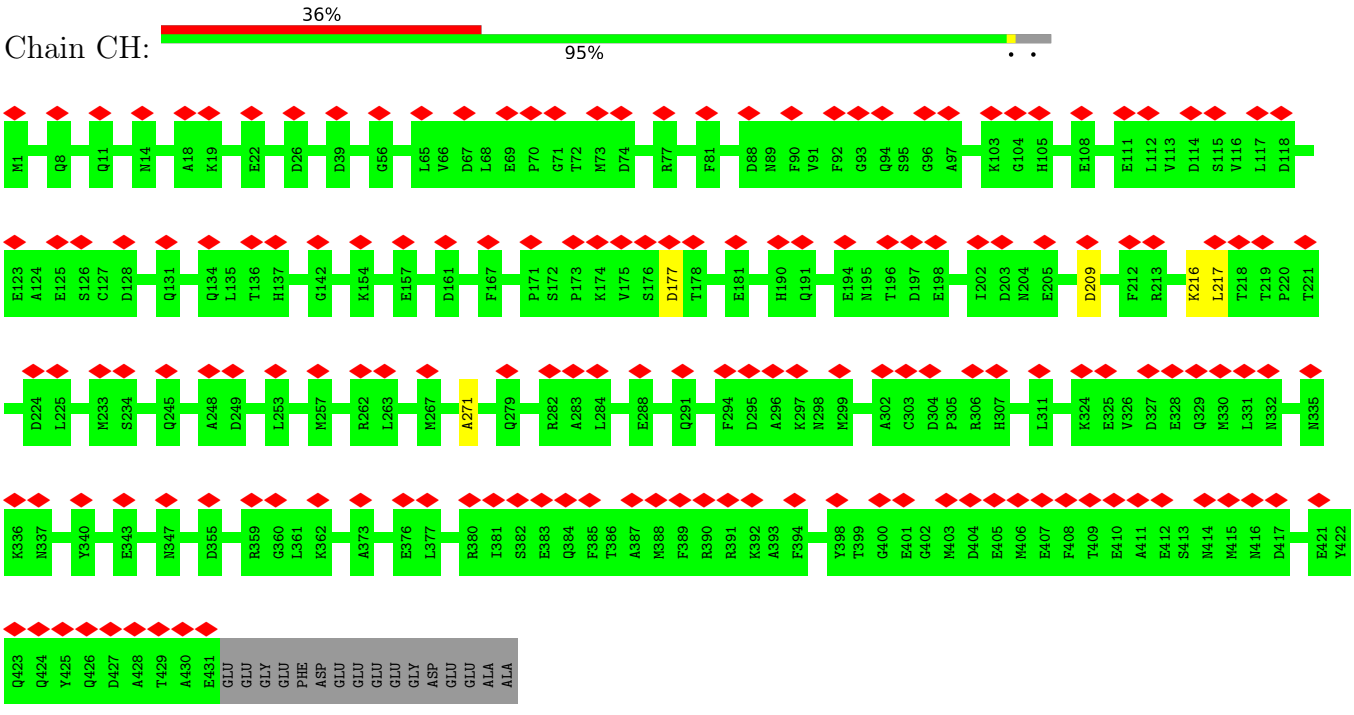
• Molecule 55: Tubulin beta chain

Chain CF:



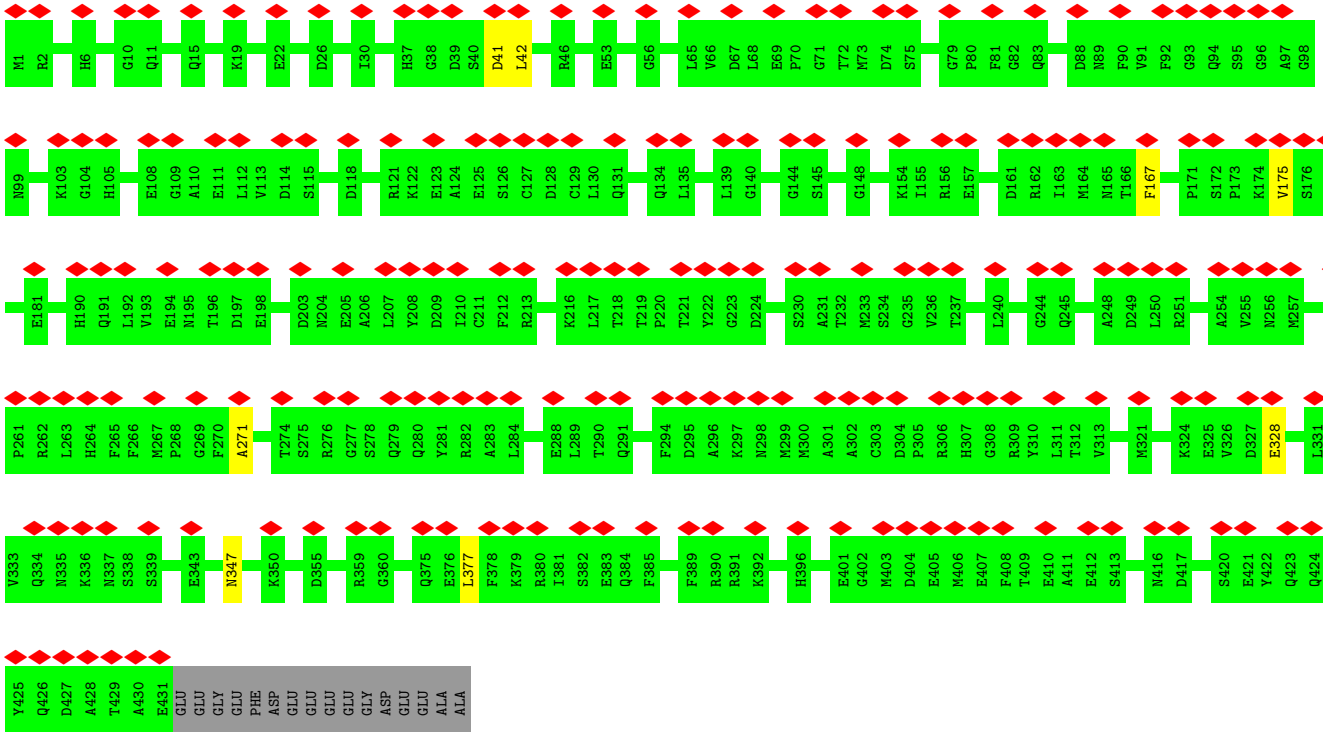
• Molecule 55: Tubulin beta chain

Chain CH:



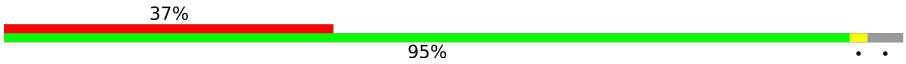
• Molecule 55: Tubulin beta chain

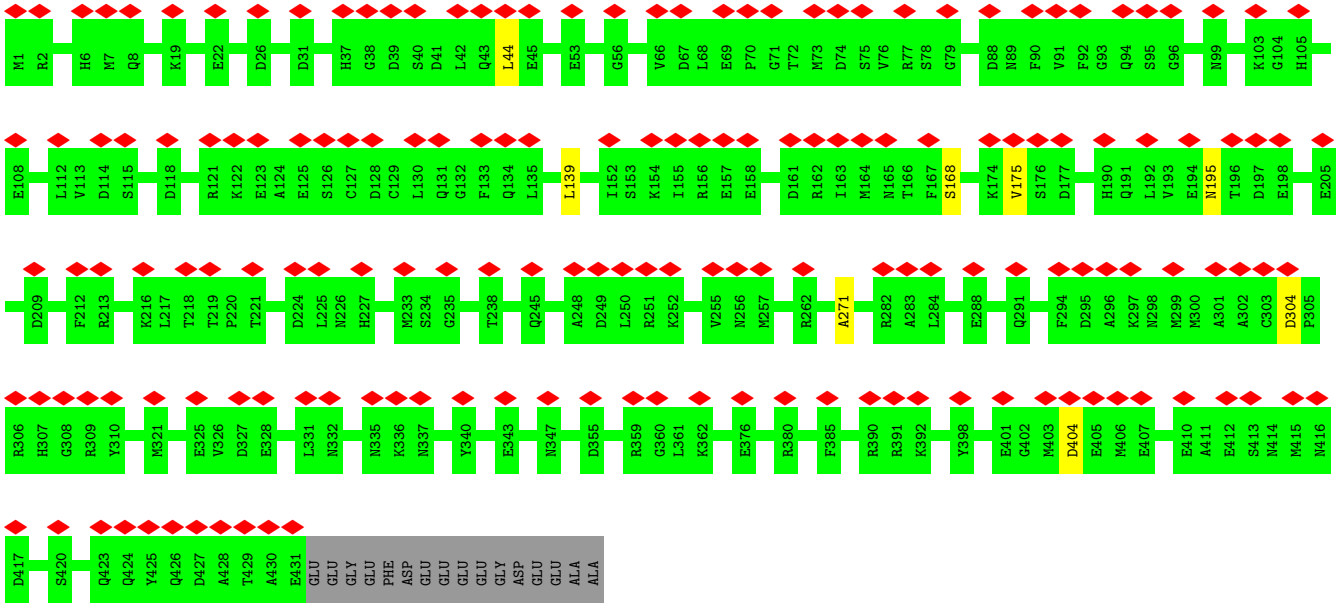
Chain CJ:



• Molecule 55: Tubulin beta chain

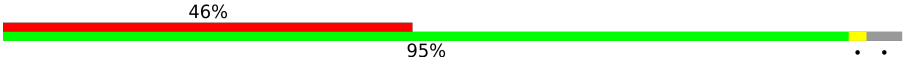
Chain CL:

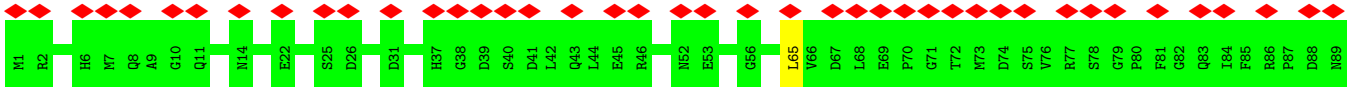


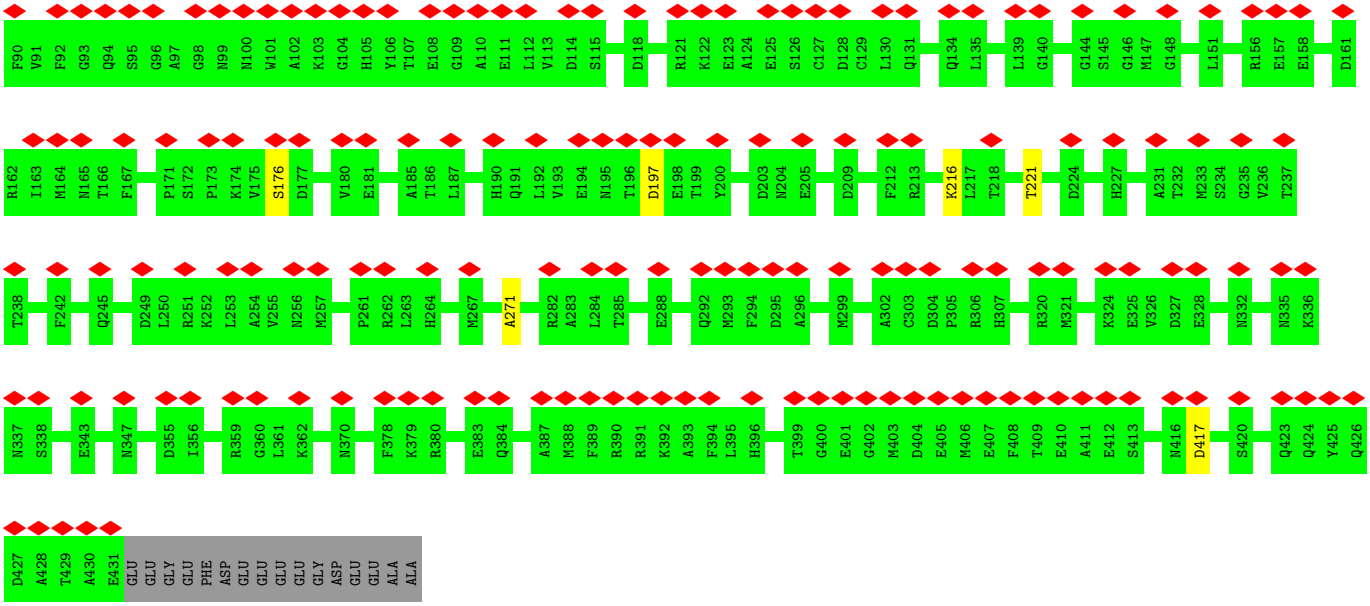


• Molecule 55: Tubulin beta chain

Chain DC:

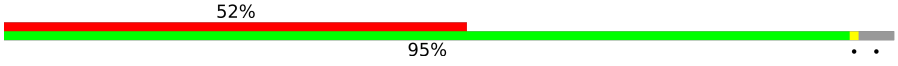


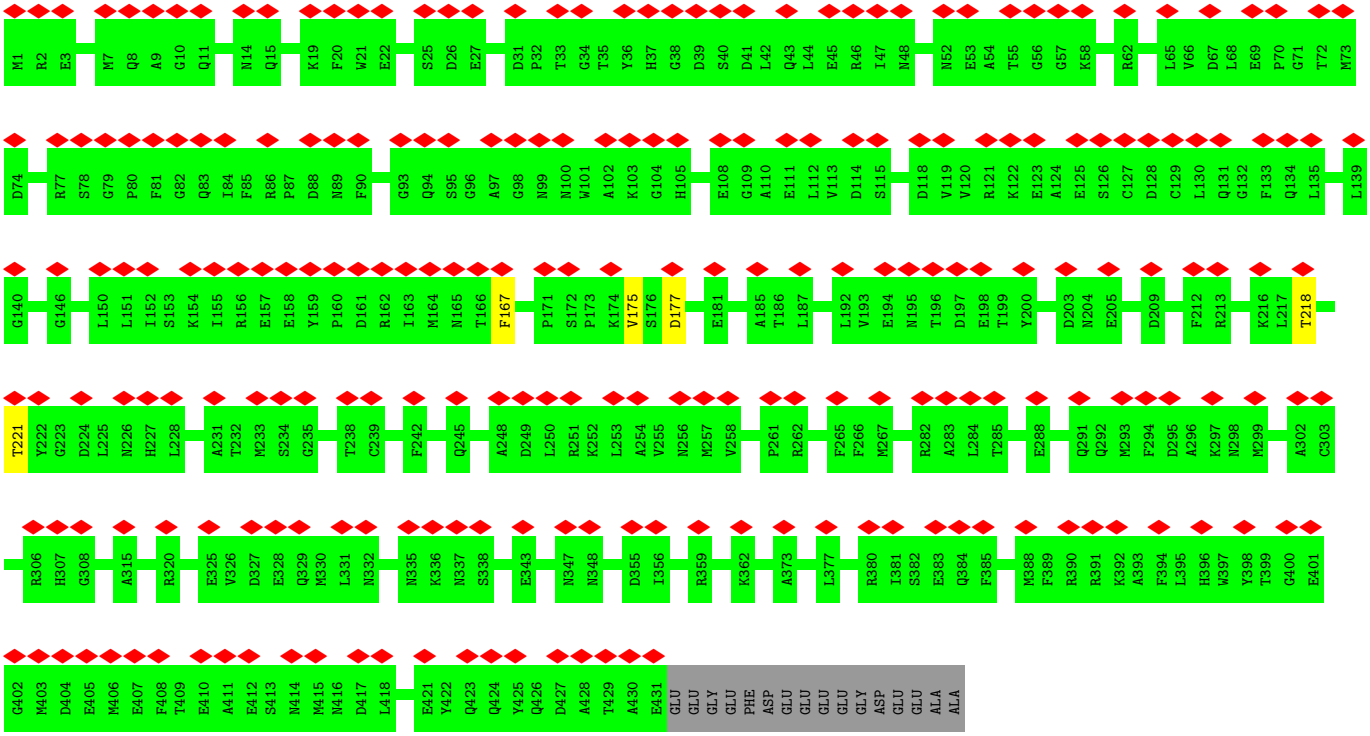




• Molecule 55: Tubulin beta chain

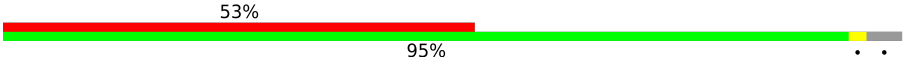
Chain DD:

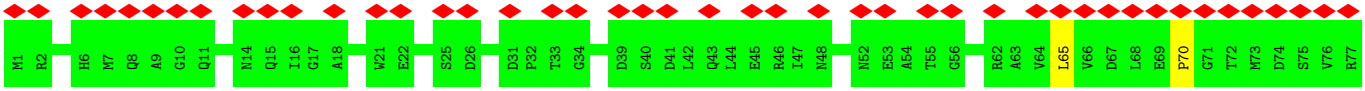


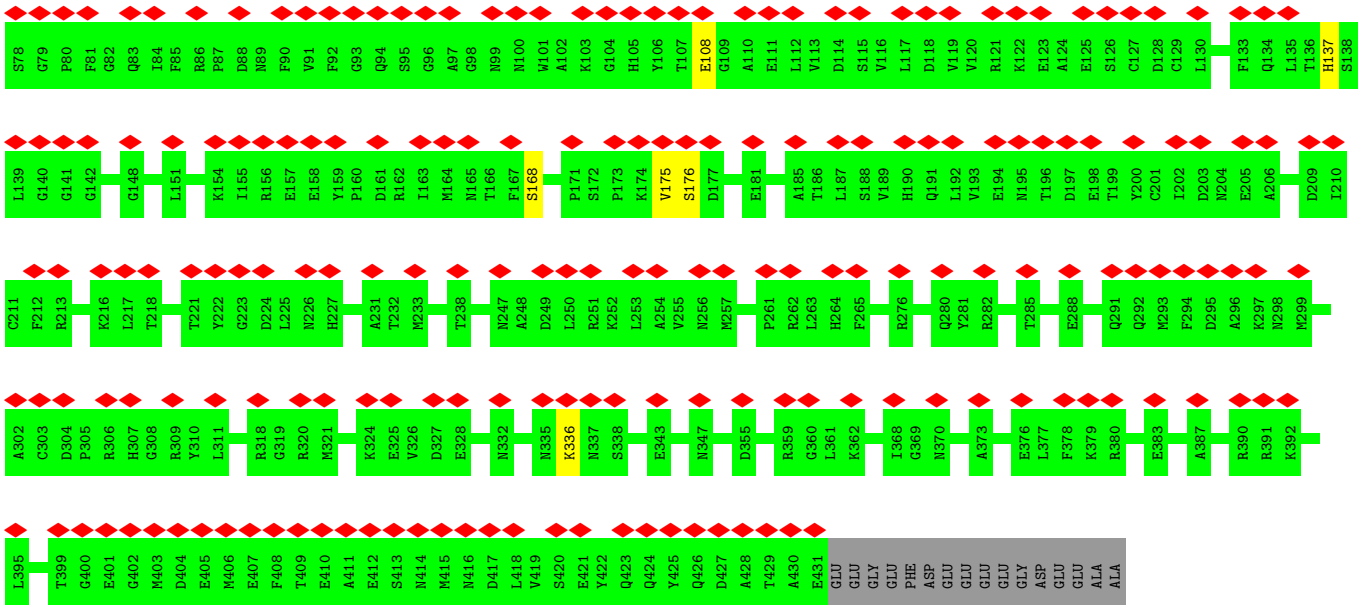


• Molecule 55: Tubulin beta chain

Chain DF:

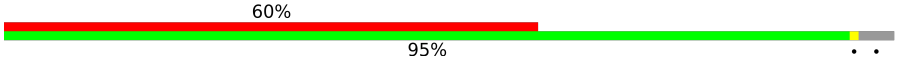


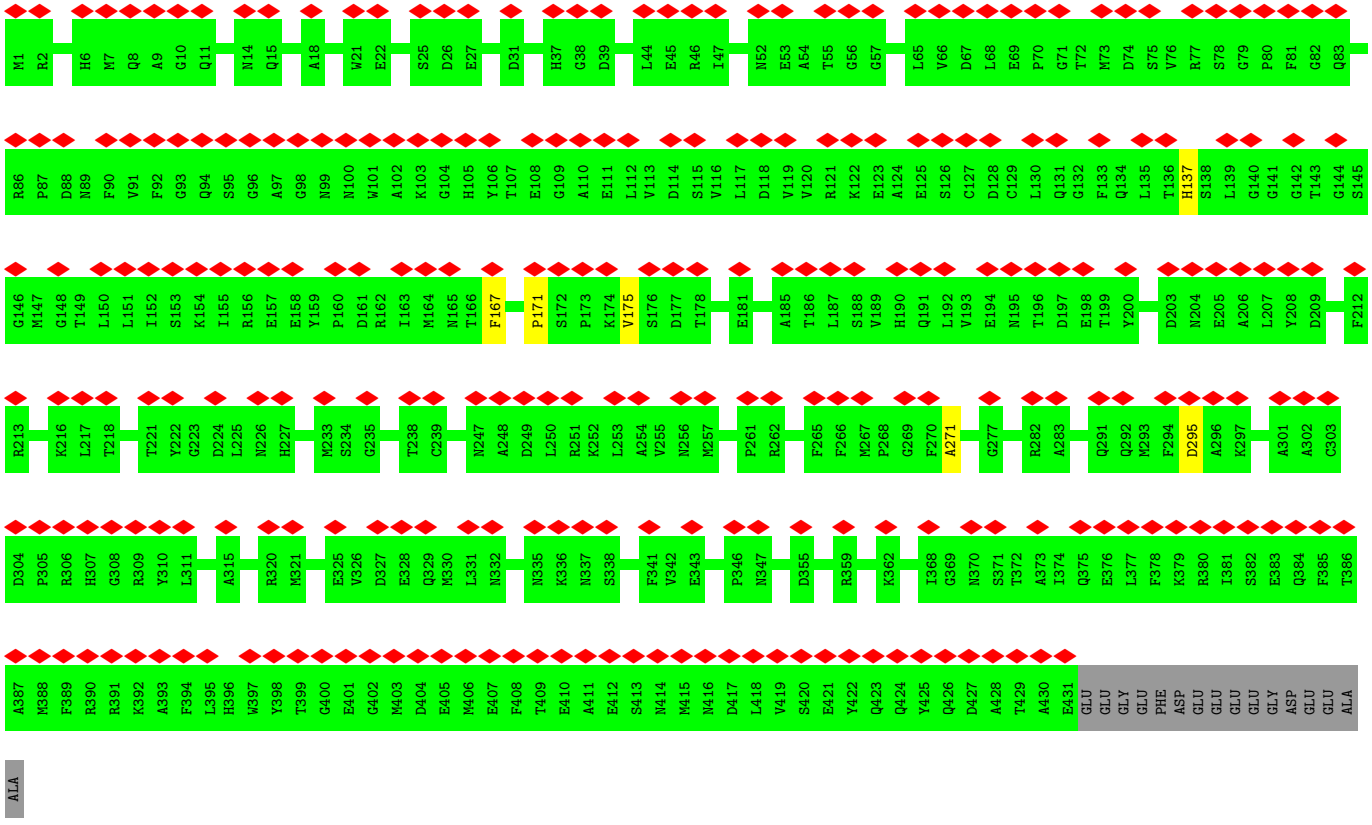




• Molecule 55: Tubulin beta chain

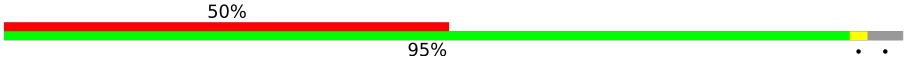
Chain DH:

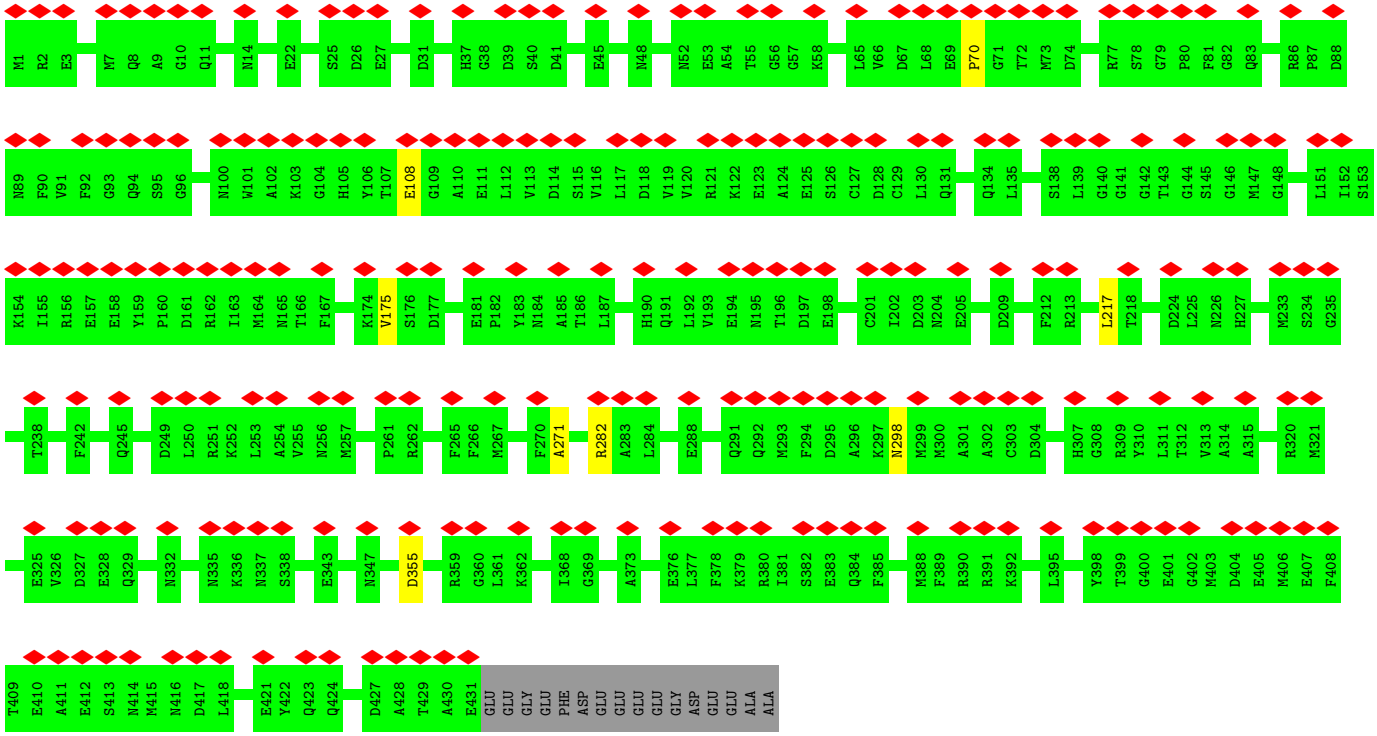




• Molecule 55: Tubulin beta chain

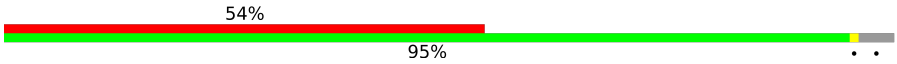
Chain DJ:

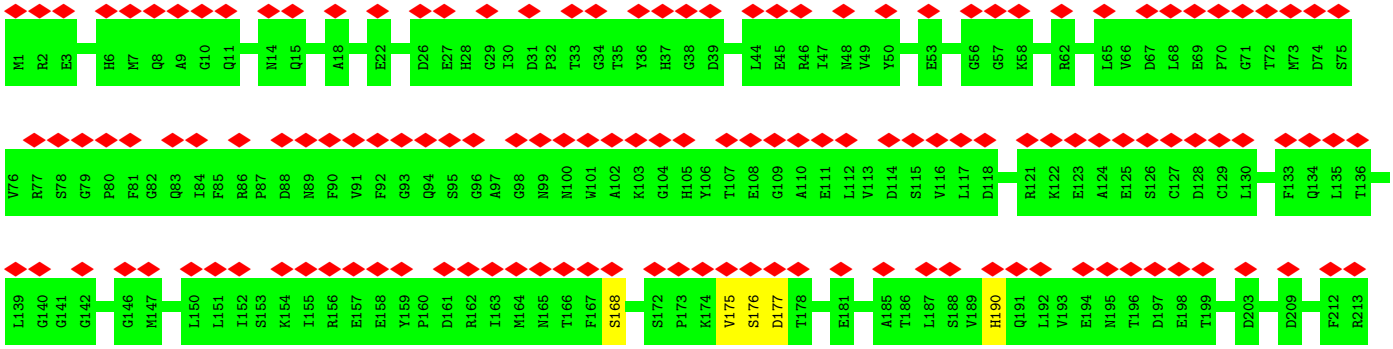




• Molecule 55: Tubulin beta chain

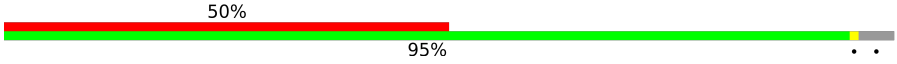
Chain DL:

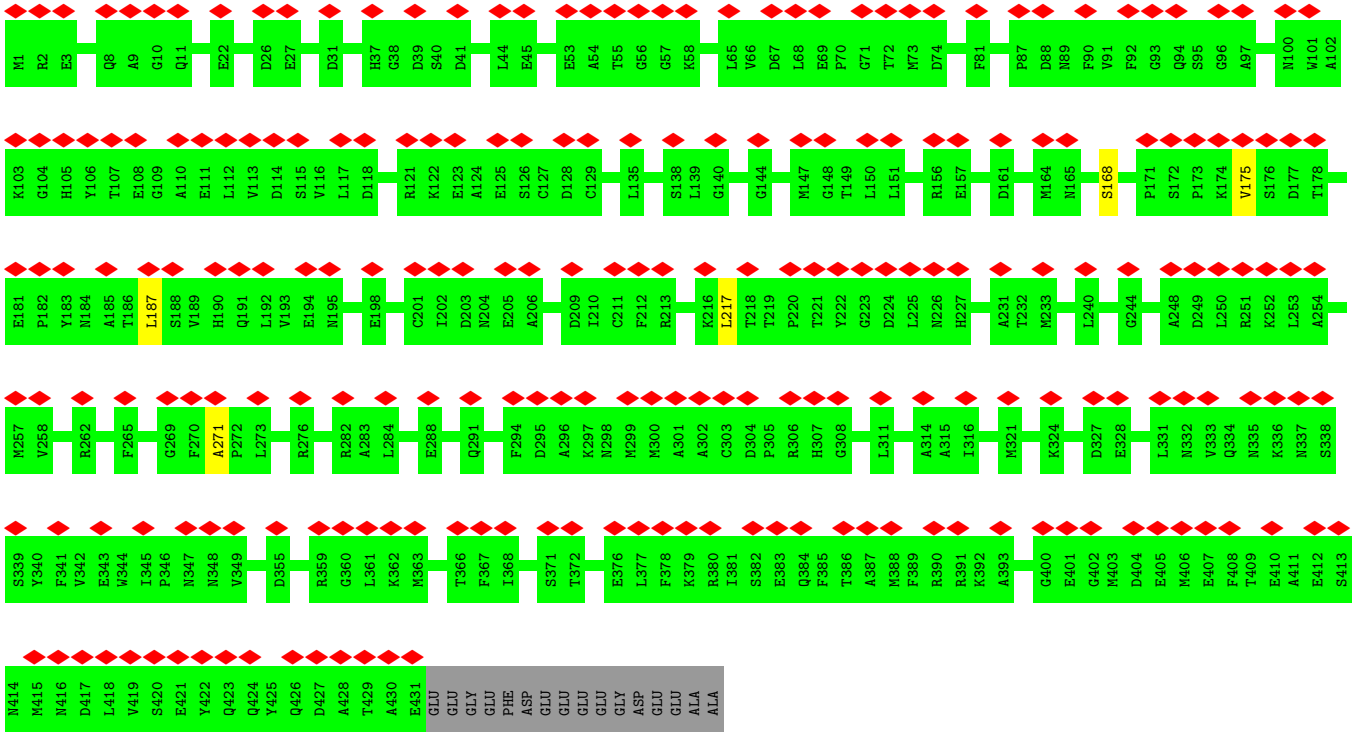




• Molecule 55: Tubulin beta chain

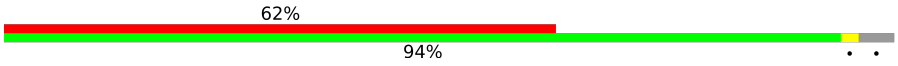
Chain EB:

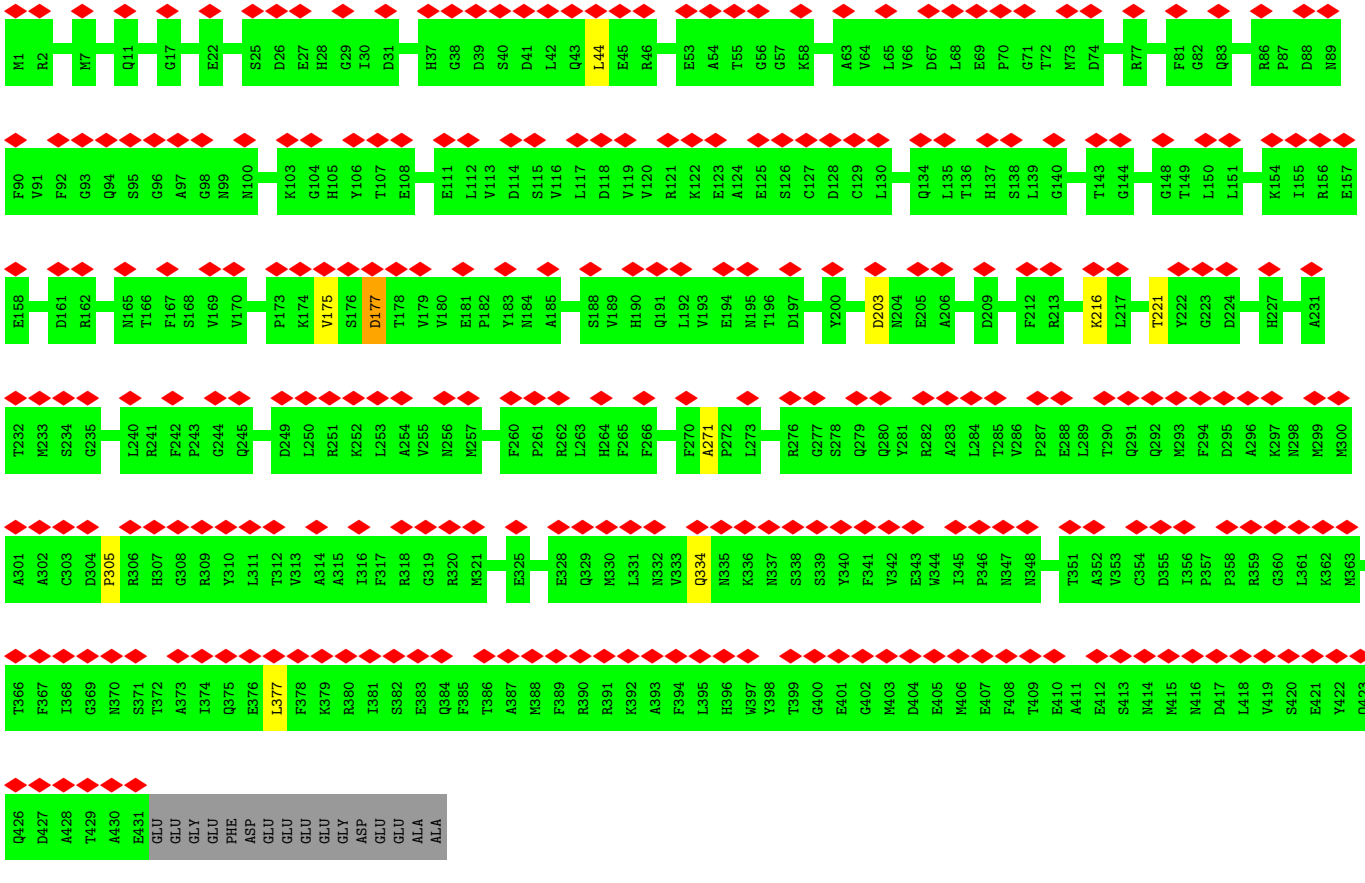




- Molecule 55: Tubulin beta chain

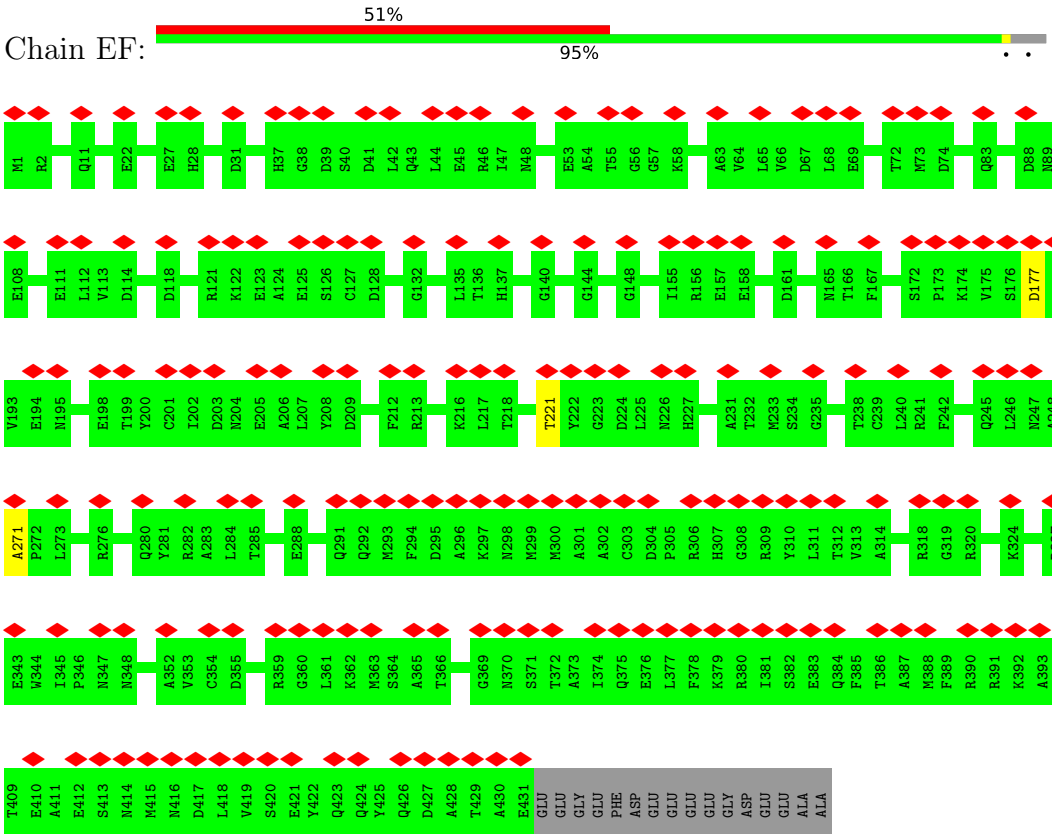
Chain ED:





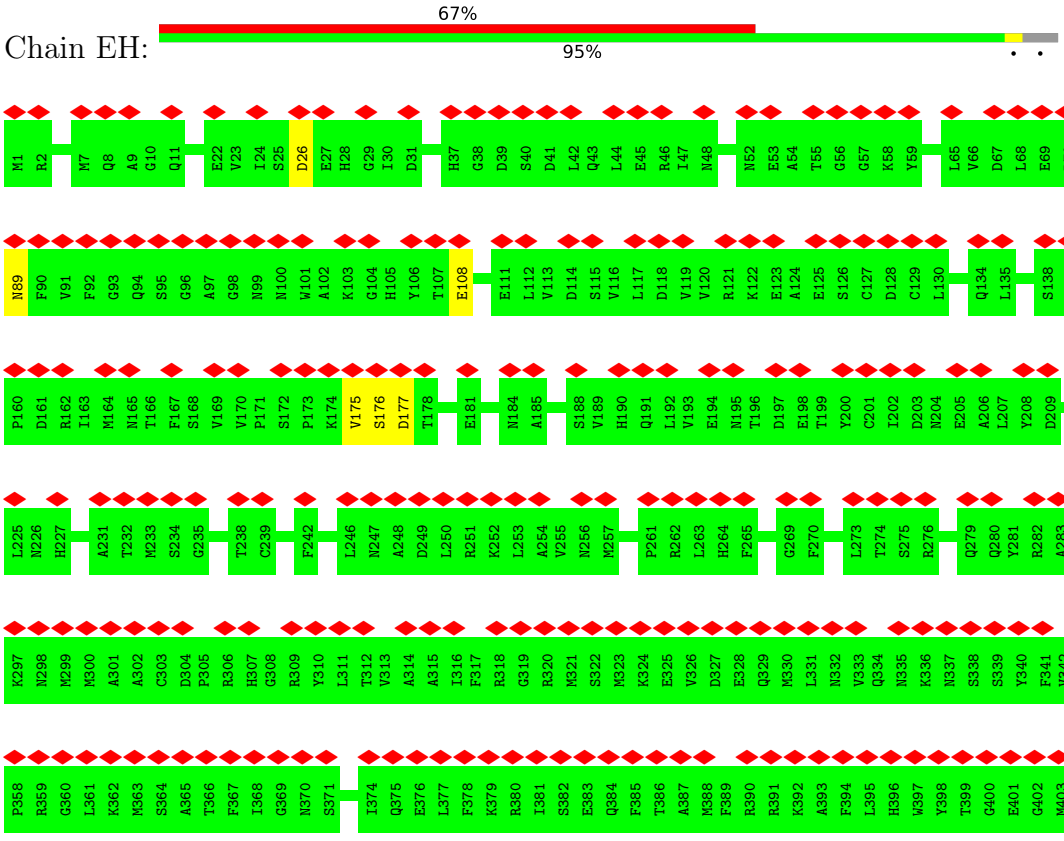
• Molecule 55: Tubulin beta chain

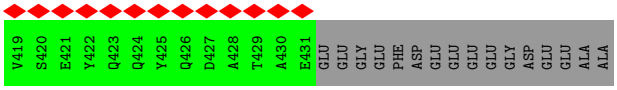
Chain EF:



• Molecule 55: Tubulin beta chain

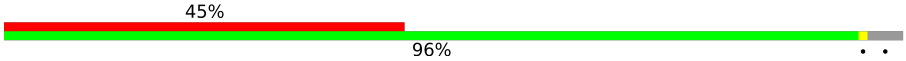
Chain EH:

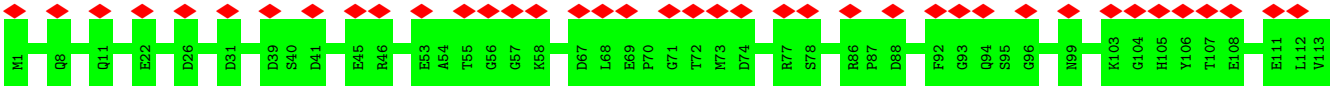


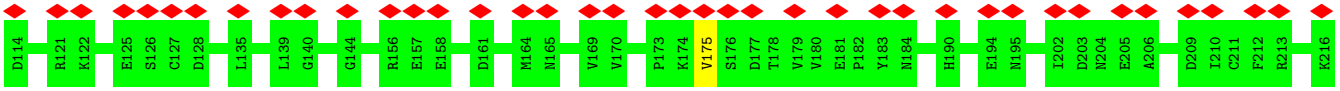


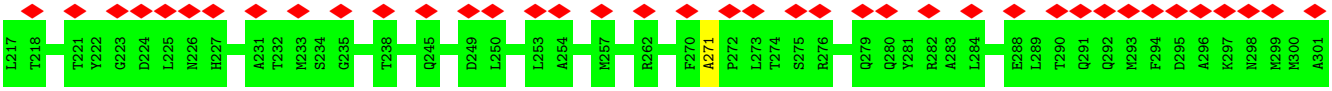
• Molecule 55: Tubulin beta chain

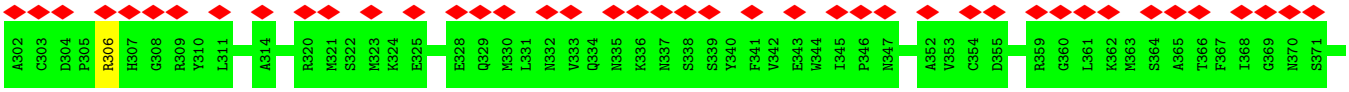
Chain EJ:

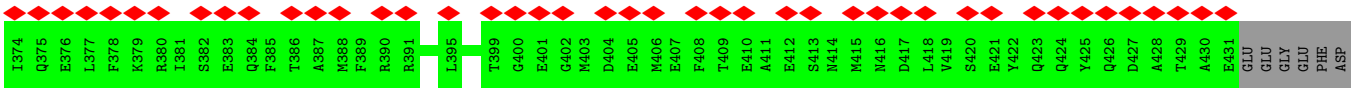


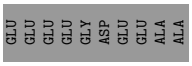






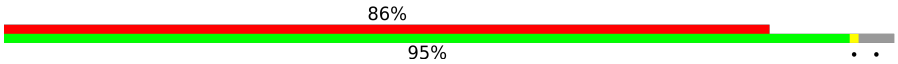


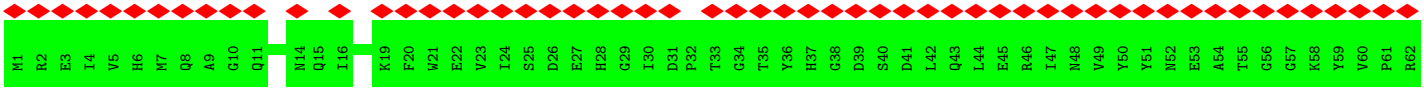


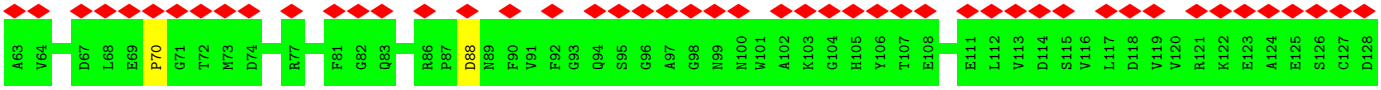


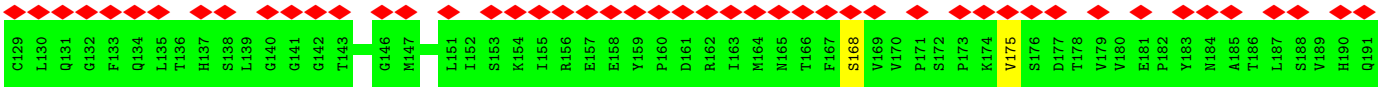
• Molecule 55: Tubulin beta chain

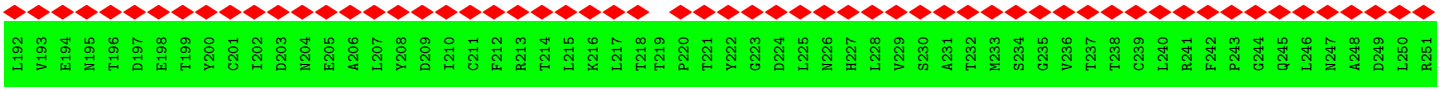
Chain EL:

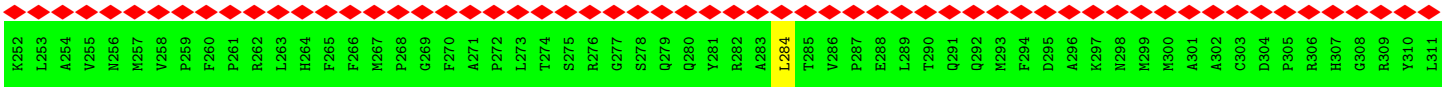


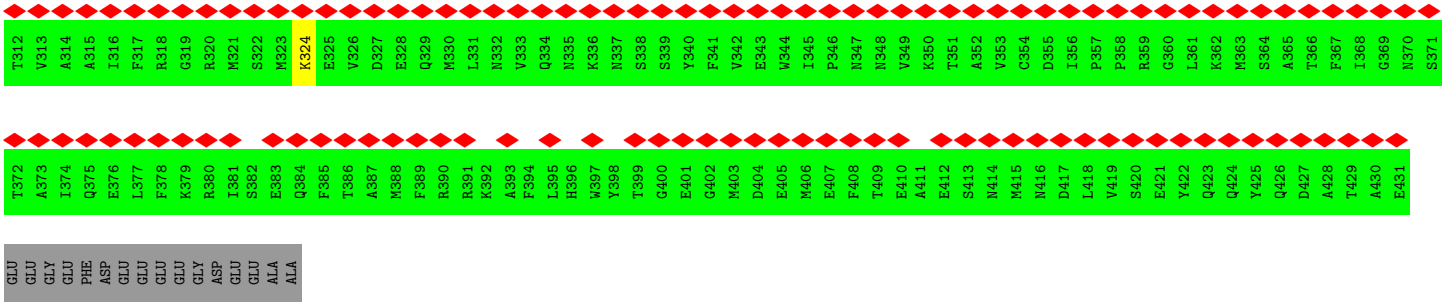






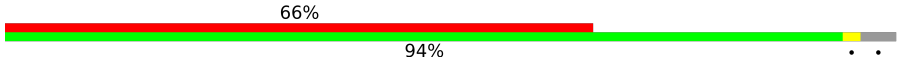


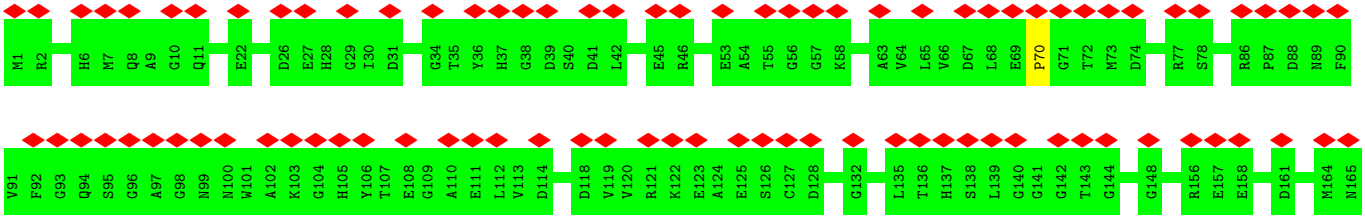




• Molecule 55: Tubulin beta chain

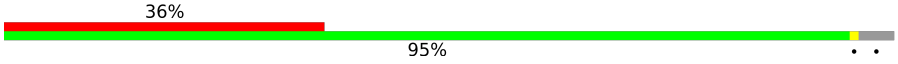
Chain EM:

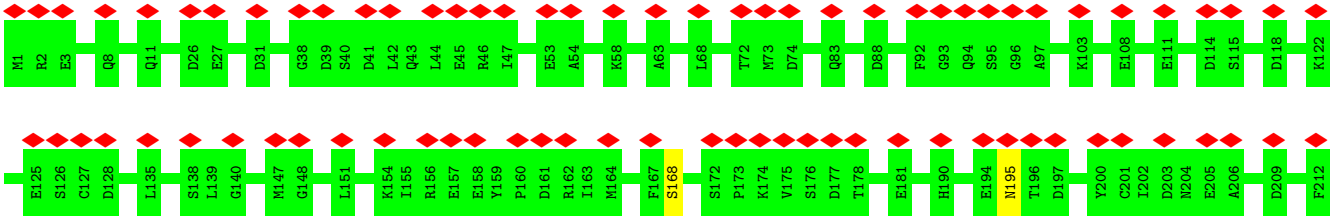


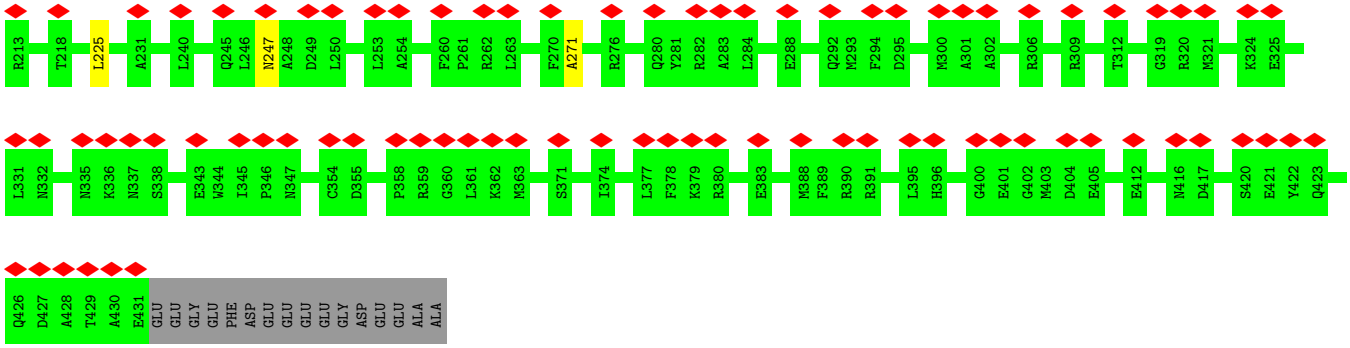


• Molecule 55: Tubulin beta chain

Chain FC:

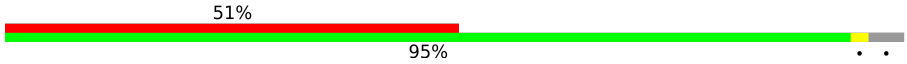


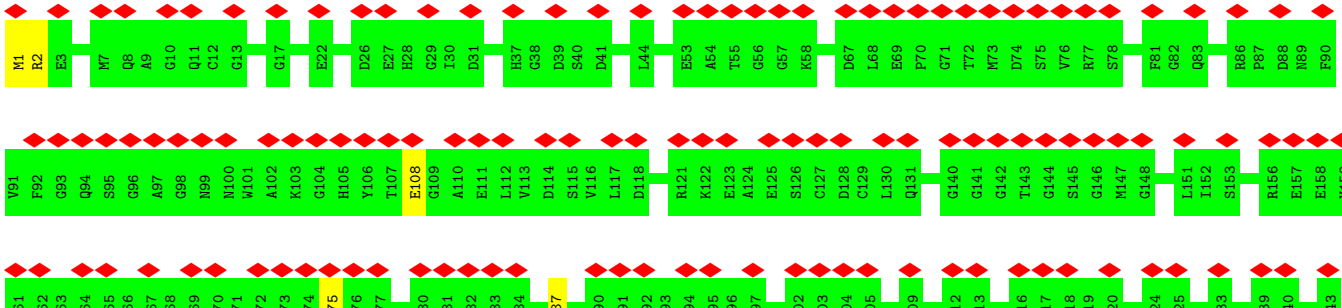




• Molecule 55: Tubulin beta chain

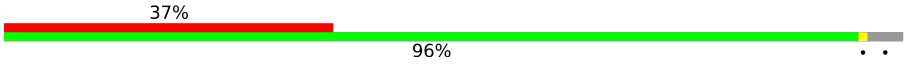
Chain FD:

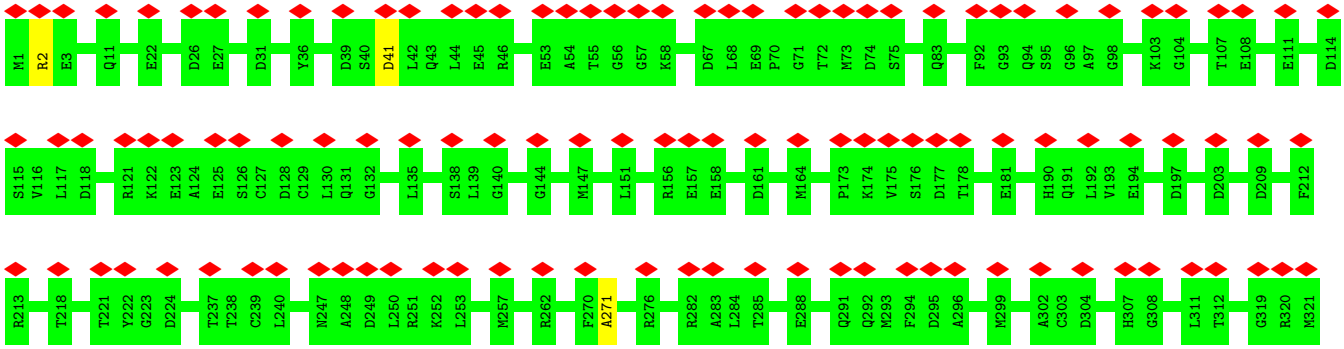


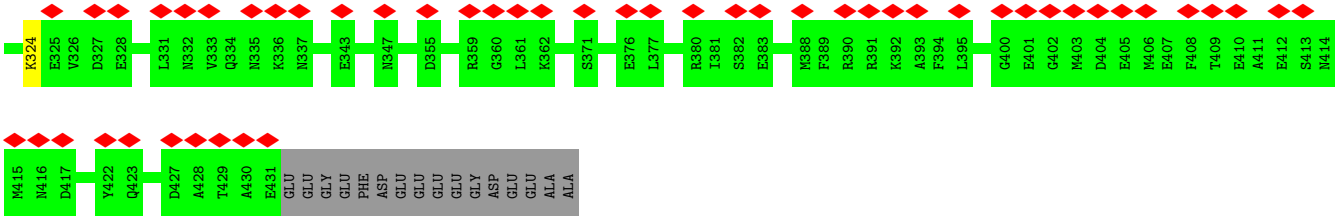


• Molecule 55: Tubulin beta chain

Chain FF:

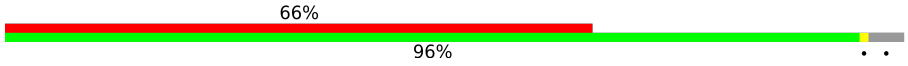


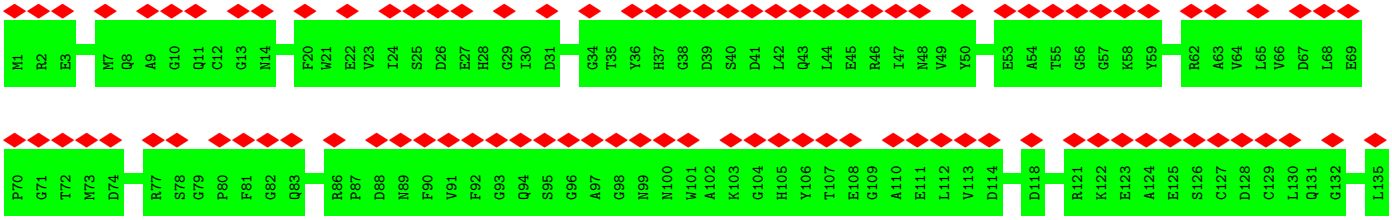




• Molecule 55: Tubulin beta chain

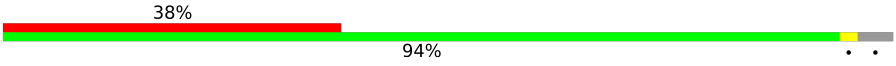
Chain FH:

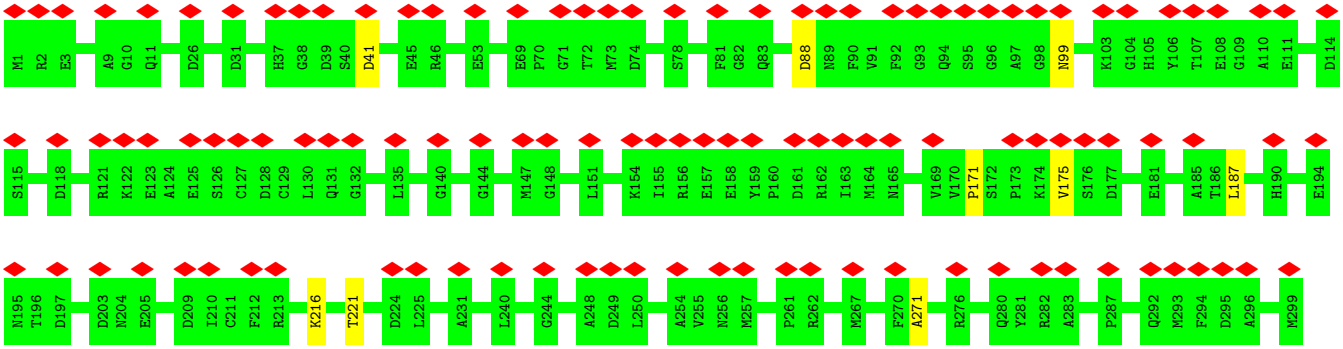


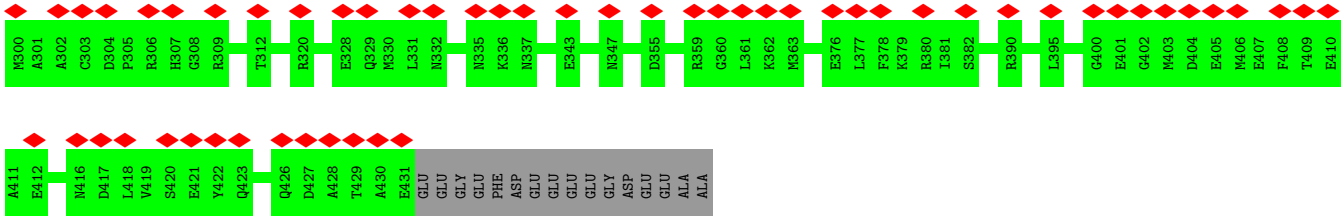


• Molecule 55: Tubulin beta chain

Chain FJ:

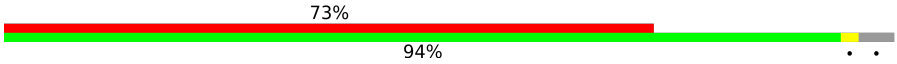


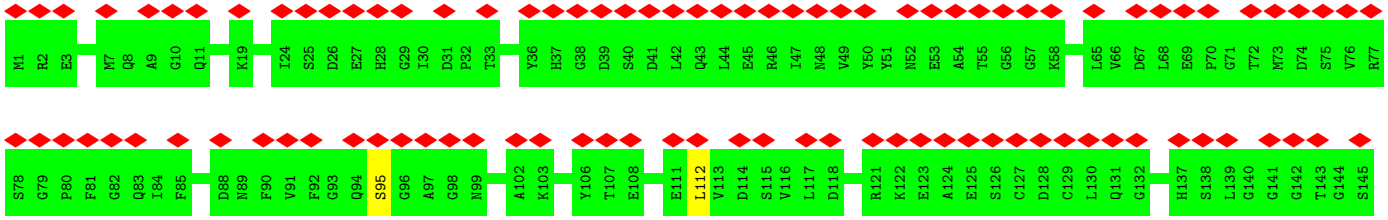




• Molecule 55: Tubulin beta chain

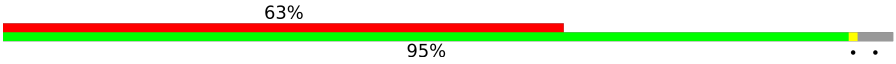
Chain FL:

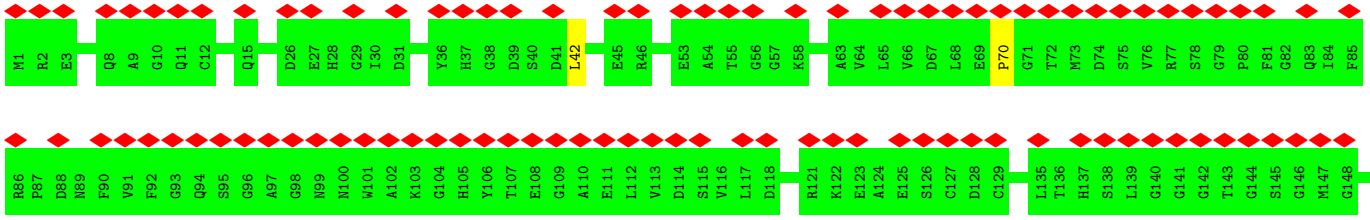




• Molecule 55: Tubulin beta chain

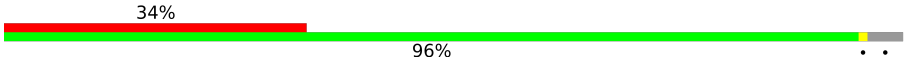
Chain FM:

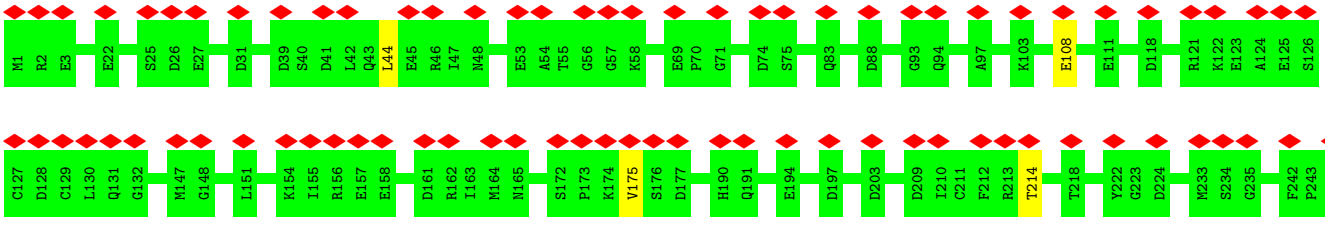




• Molecule 55: Tubulin beta chain

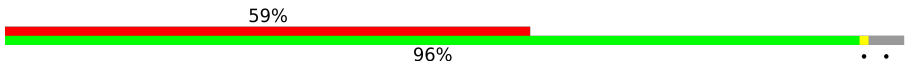
Chain GC:

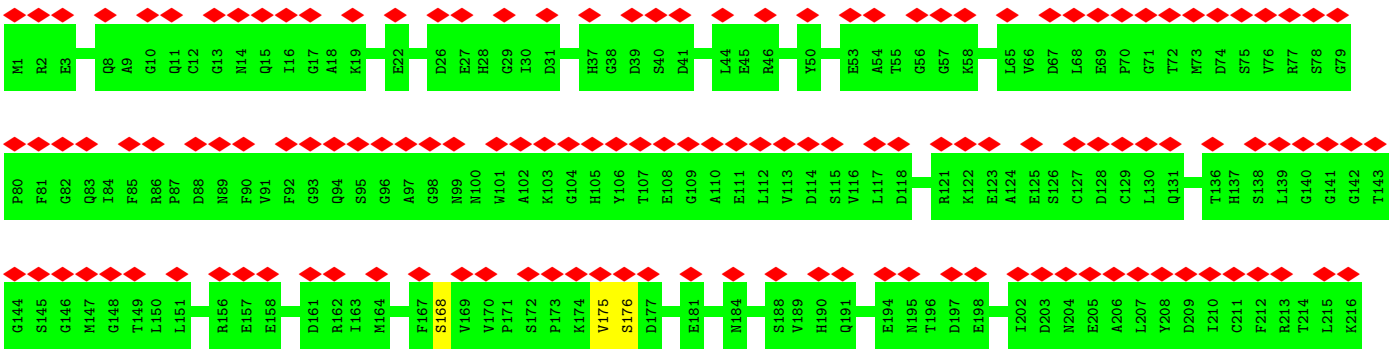


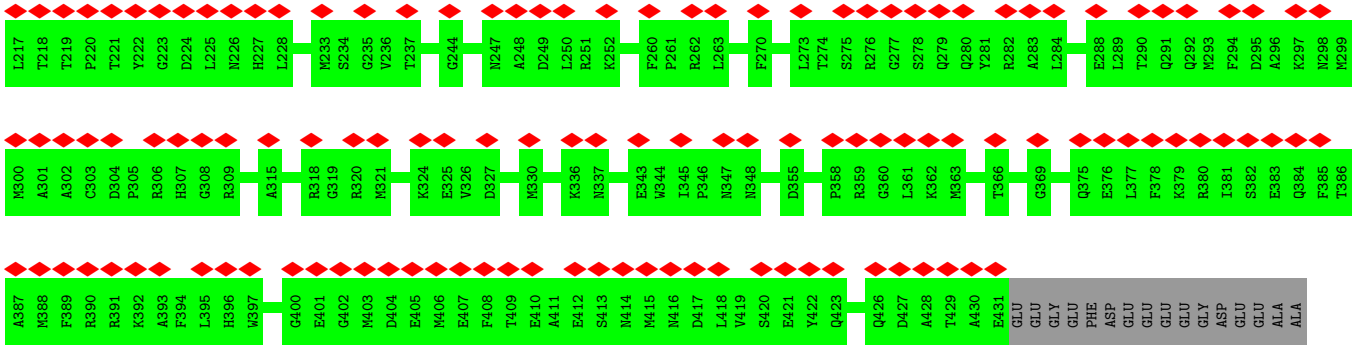


• Molecule 55: Tubulin beta chain

Chain GD:

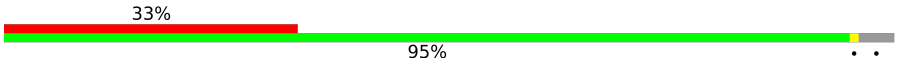


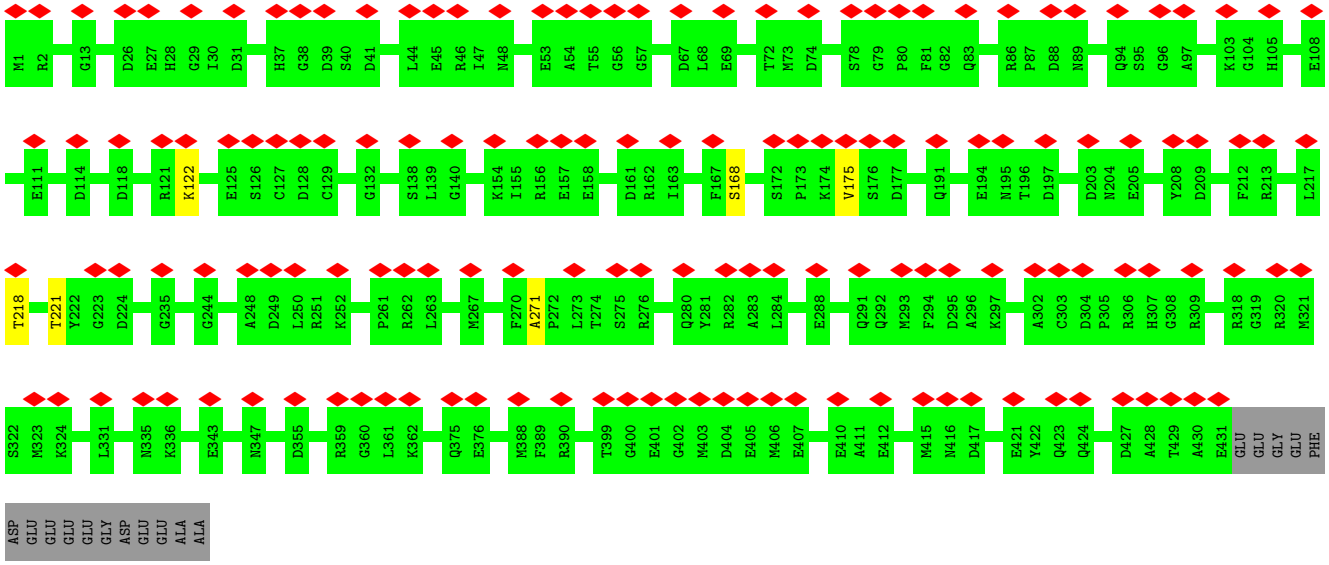




• Molecule 55: Tubulin beta chain

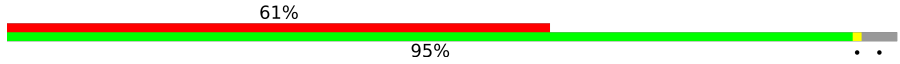
Chain GF:

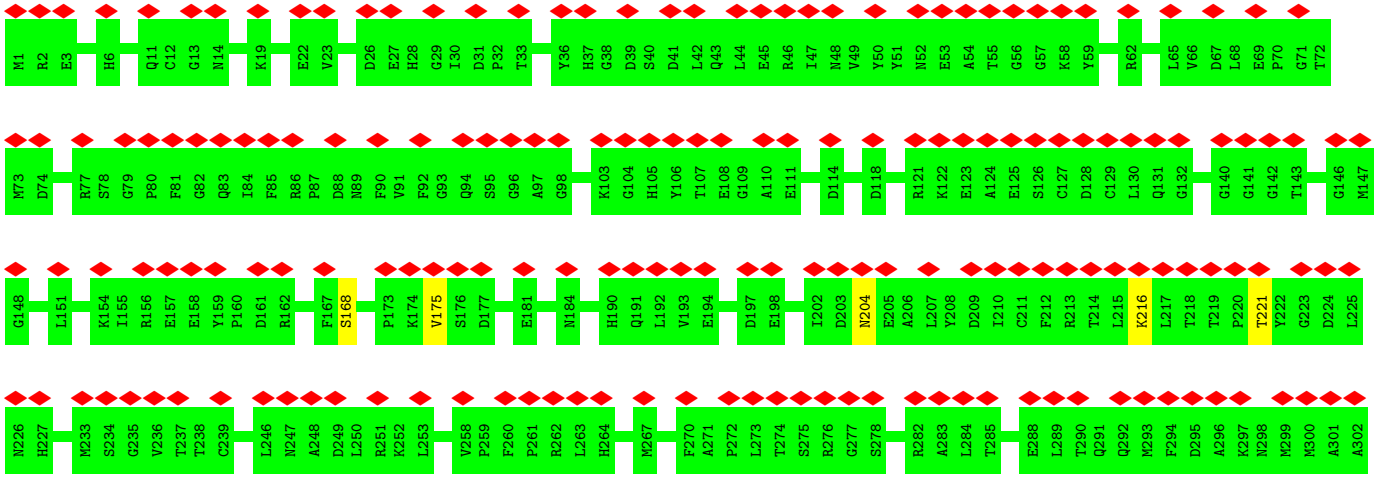


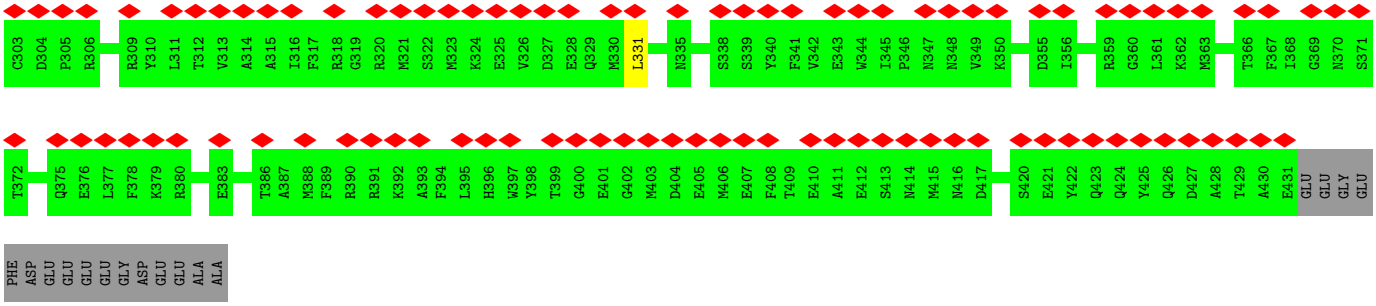


• Molecule 55: Tubulin beta chain

Chain GH:

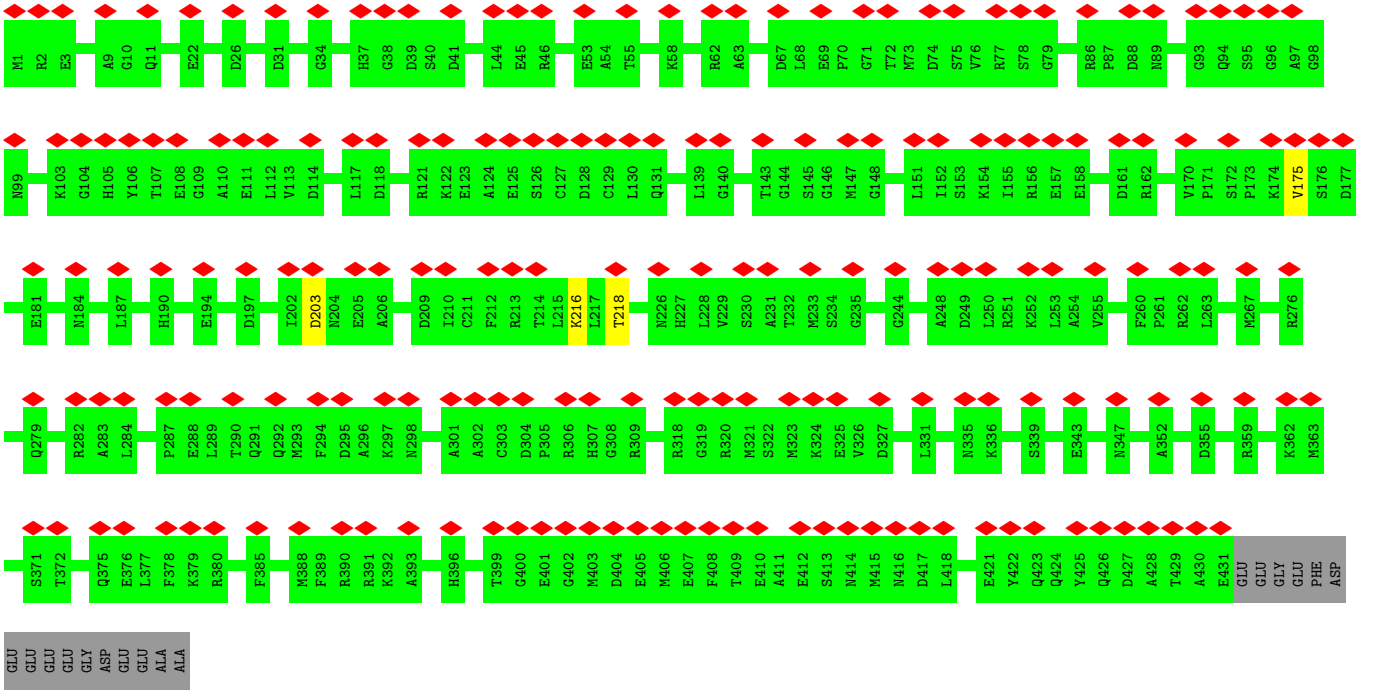






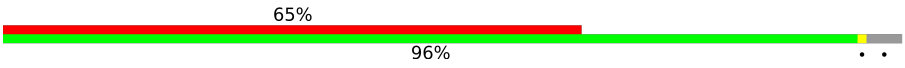
• Molecule 55: Tubulin beta chain

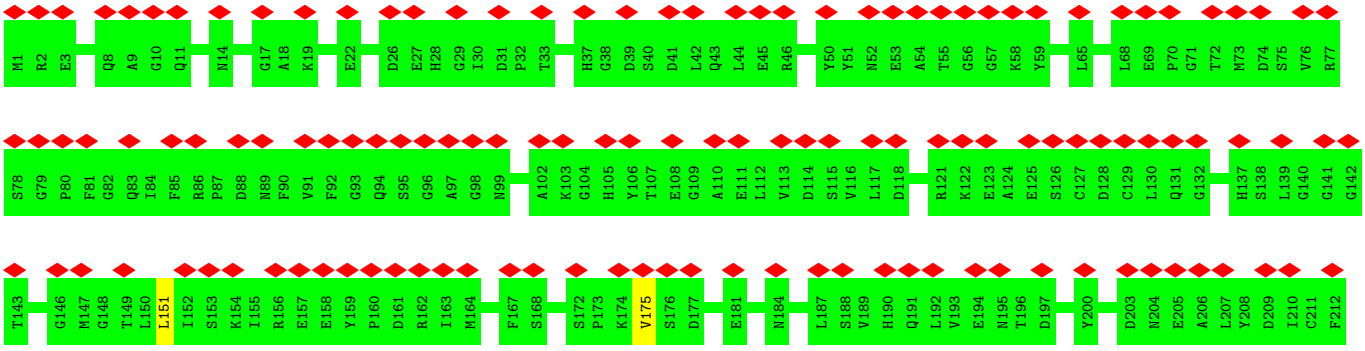
Chain GJ:

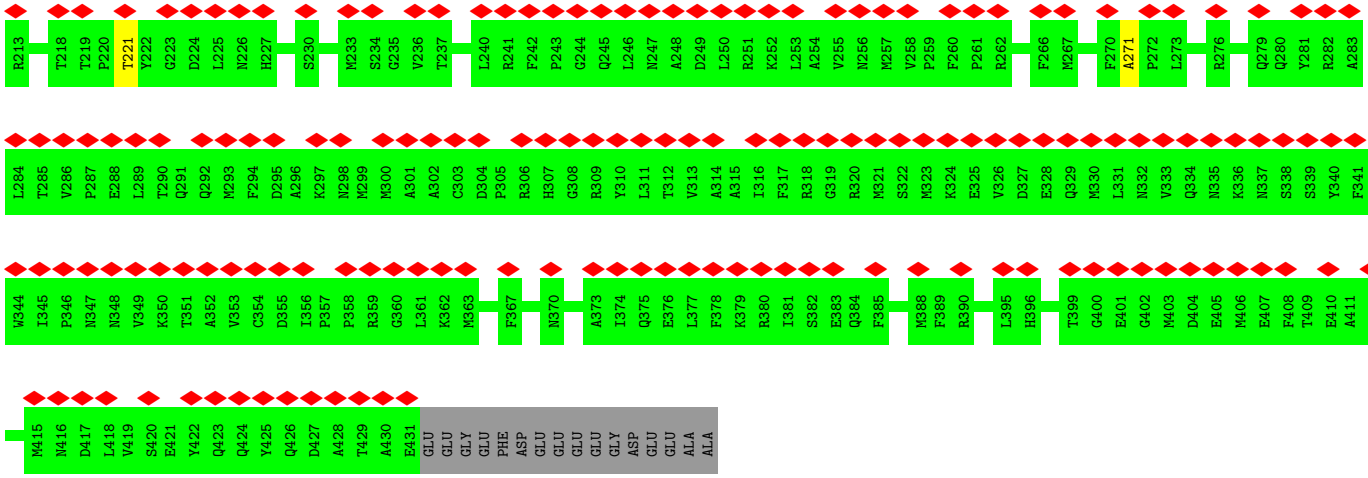


• Molecule 55: Tubulin beta chain

Chain GL:

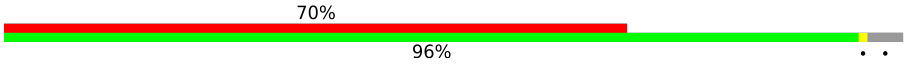


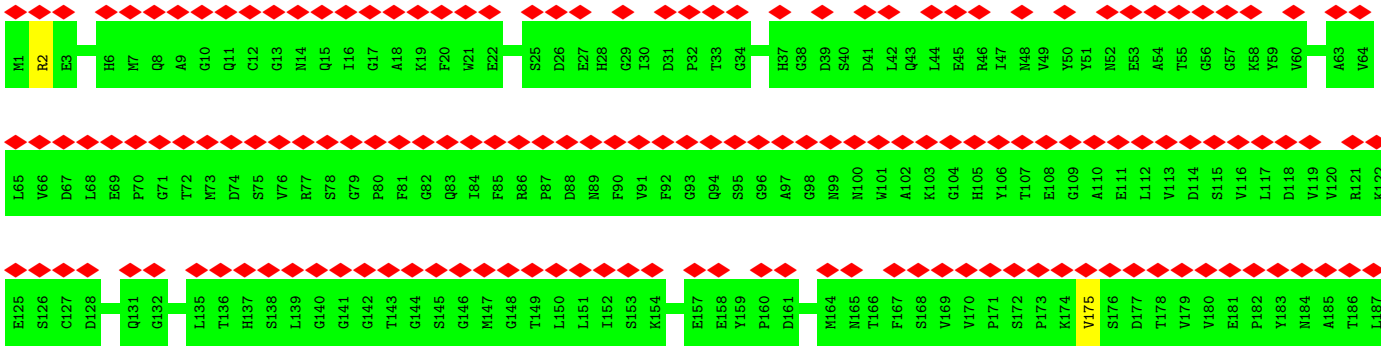




• Molecule 55: Tubulin beta chain

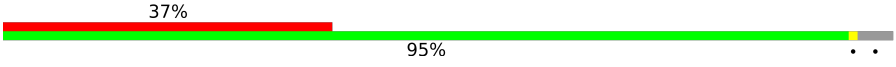
Chain GM:

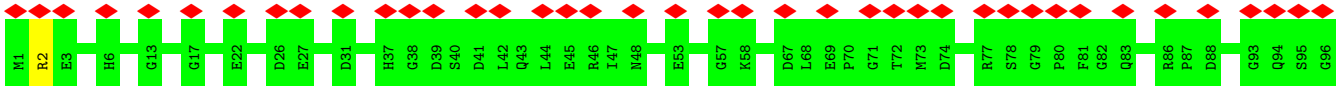


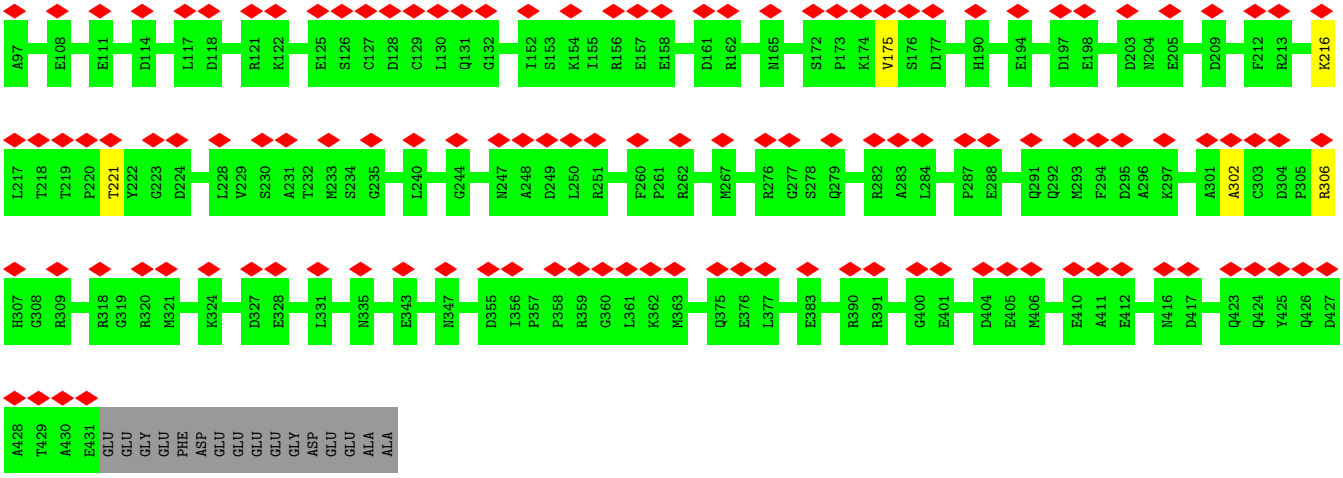


• Molecule 55: Tubulin beta chain

Chain HC:

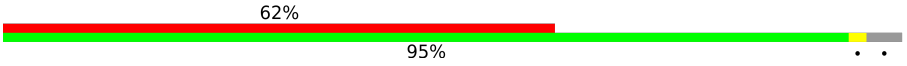


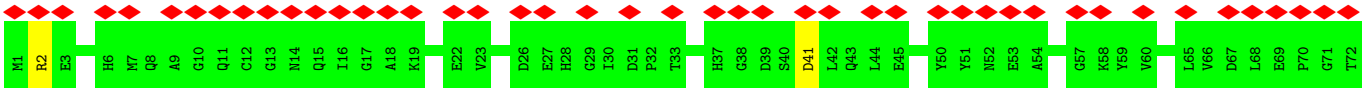




• Molecule 55: Tubulin beta chain

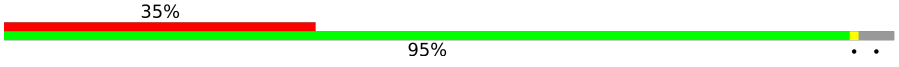
Chain HD:

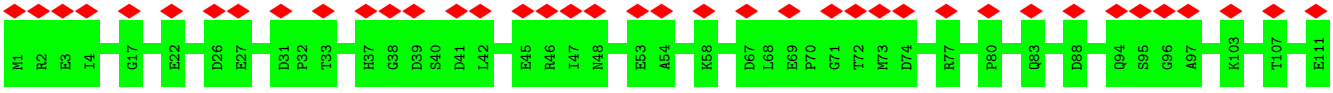


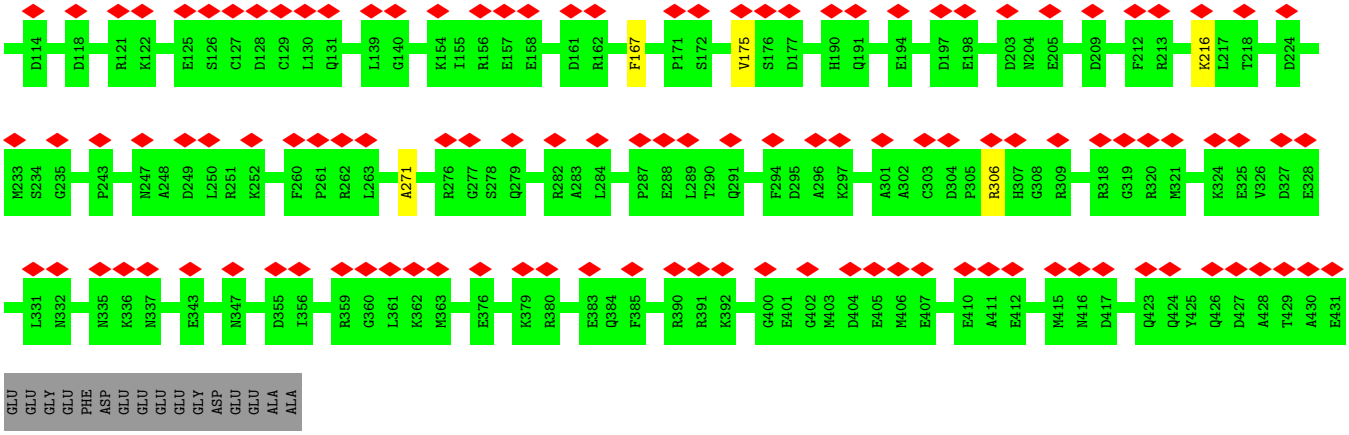


• Molecule 55: Tubulin beta chain

Chain HF:

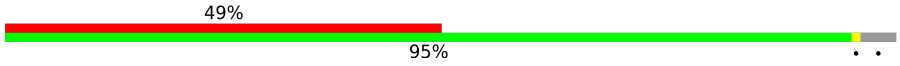


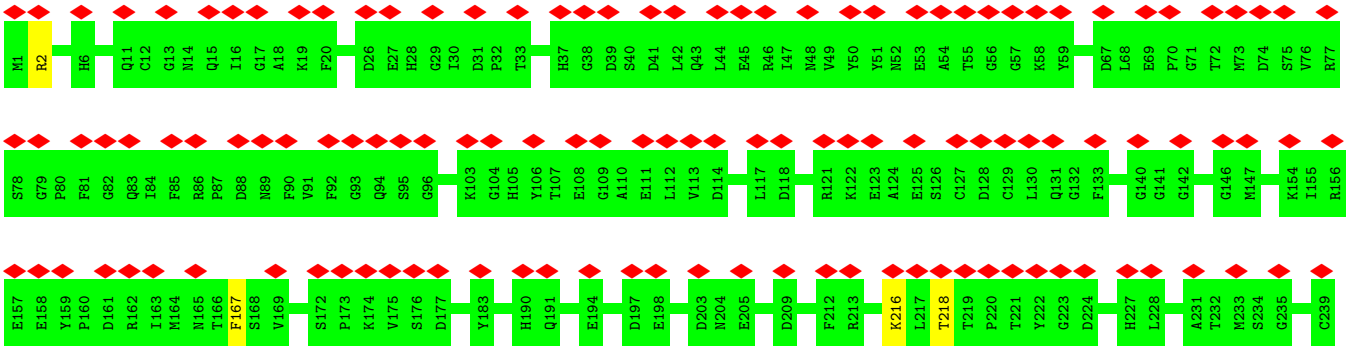




• Molecule 55: Tubulin beta chain

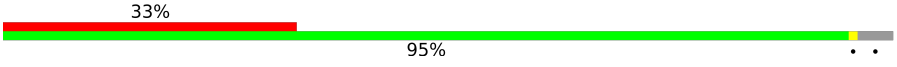
Chain HH:

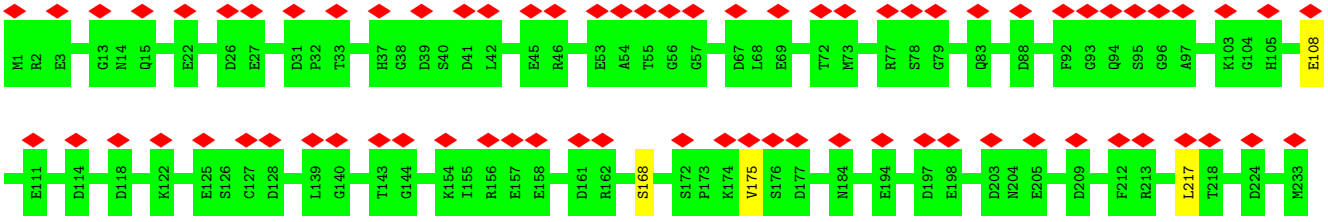


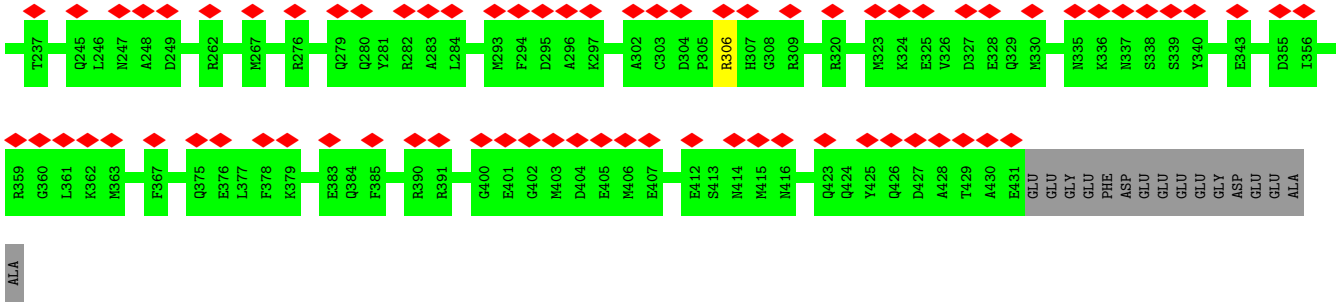


• Molecule 55: Tubulin beta chain

Chain HJ:

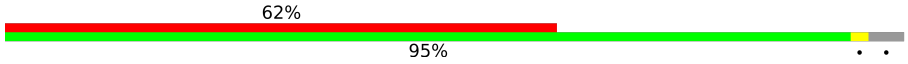


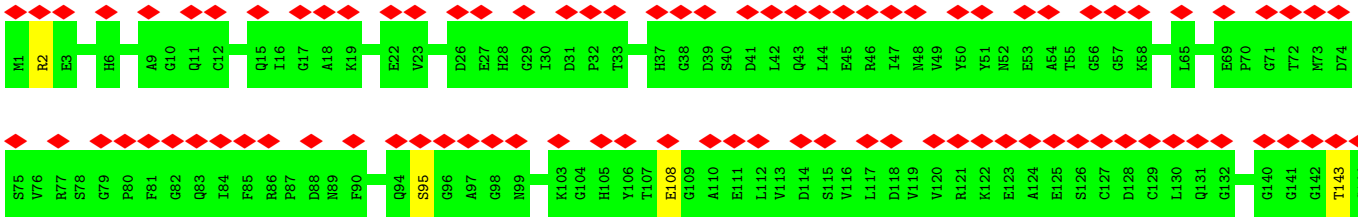




• Molecule 55: Tubulin beta chain

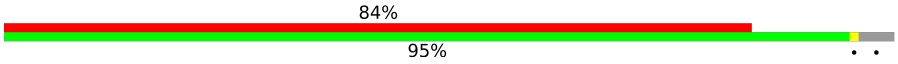
Chain HL:

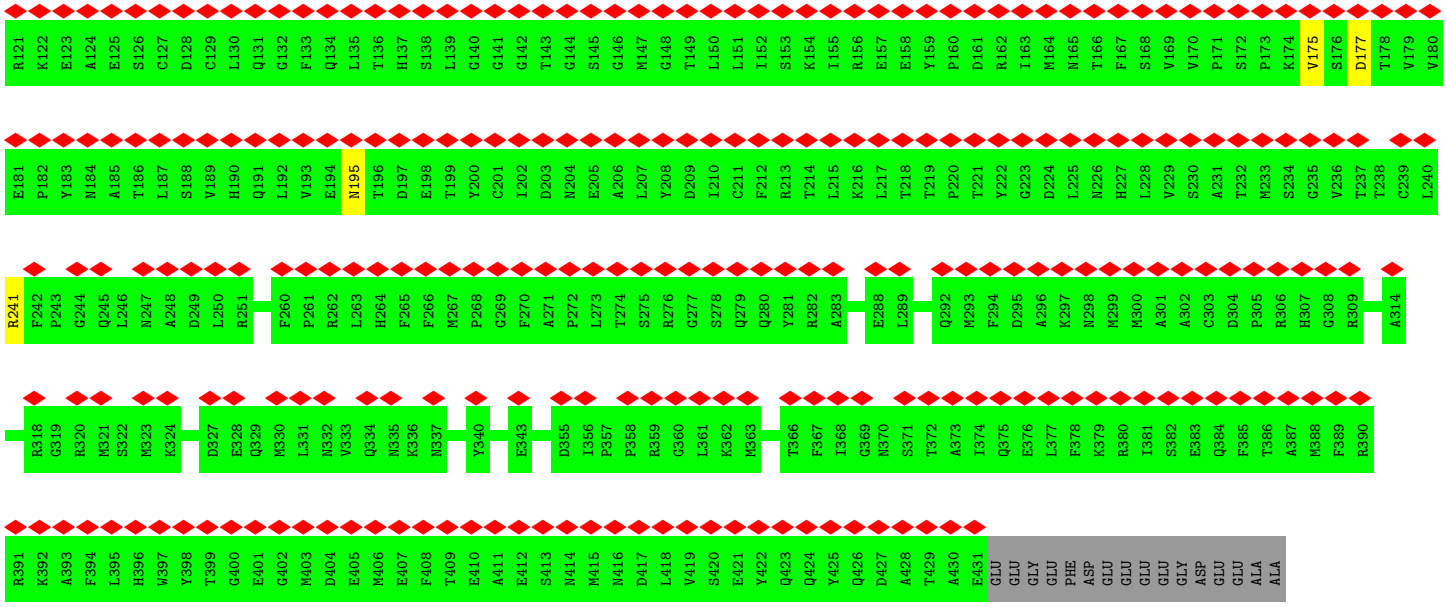




• Molecule 55: Tubulin beta chain

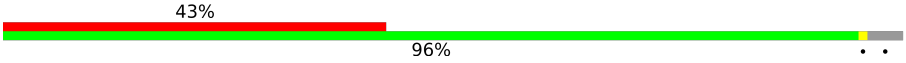
Chain HM:

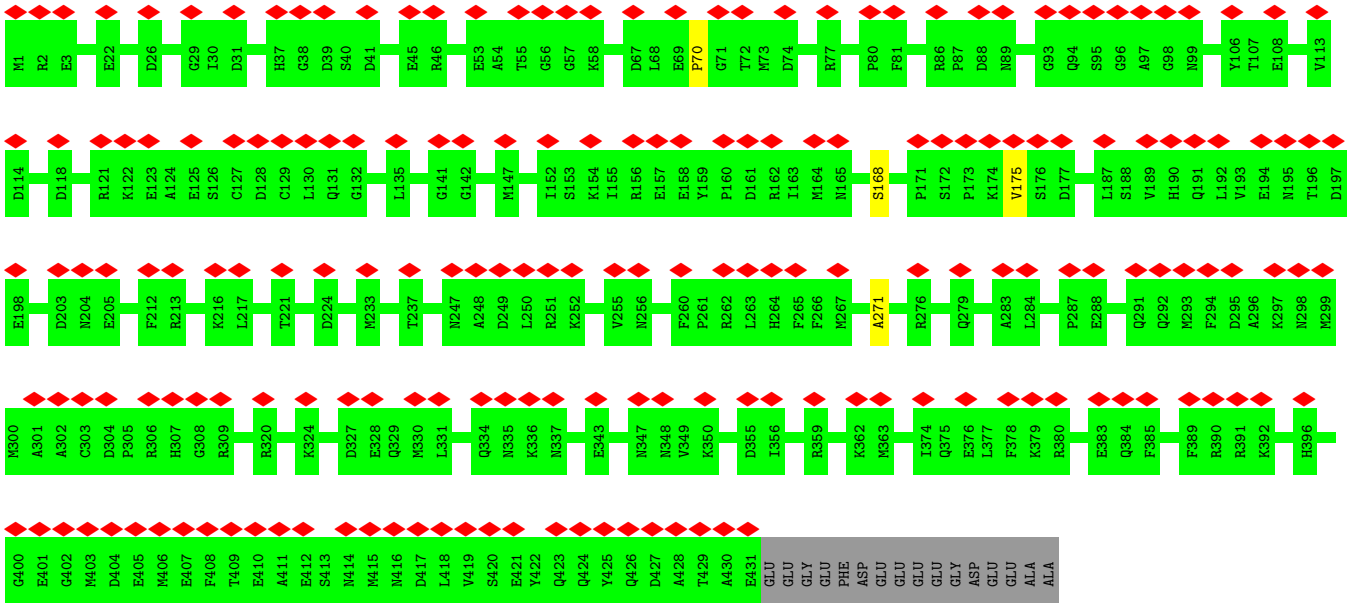




• Molecule 55: Tubulin beta chain

Chain IC:





• Molecule 55: Tubulin beta chain

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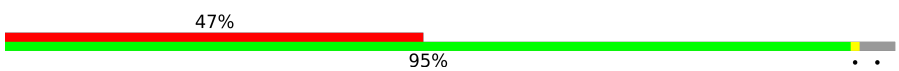
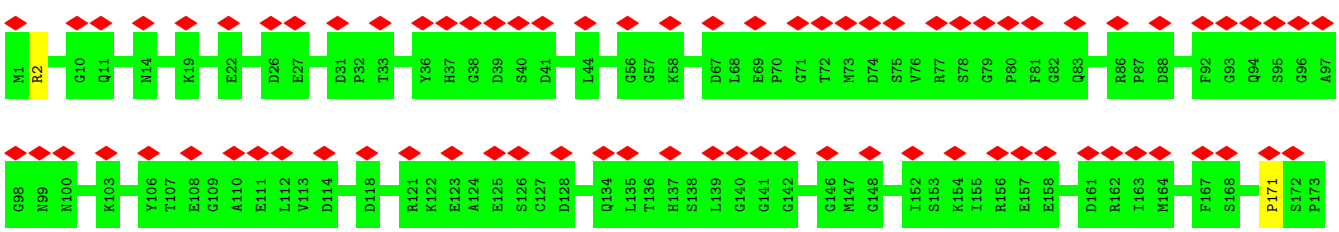
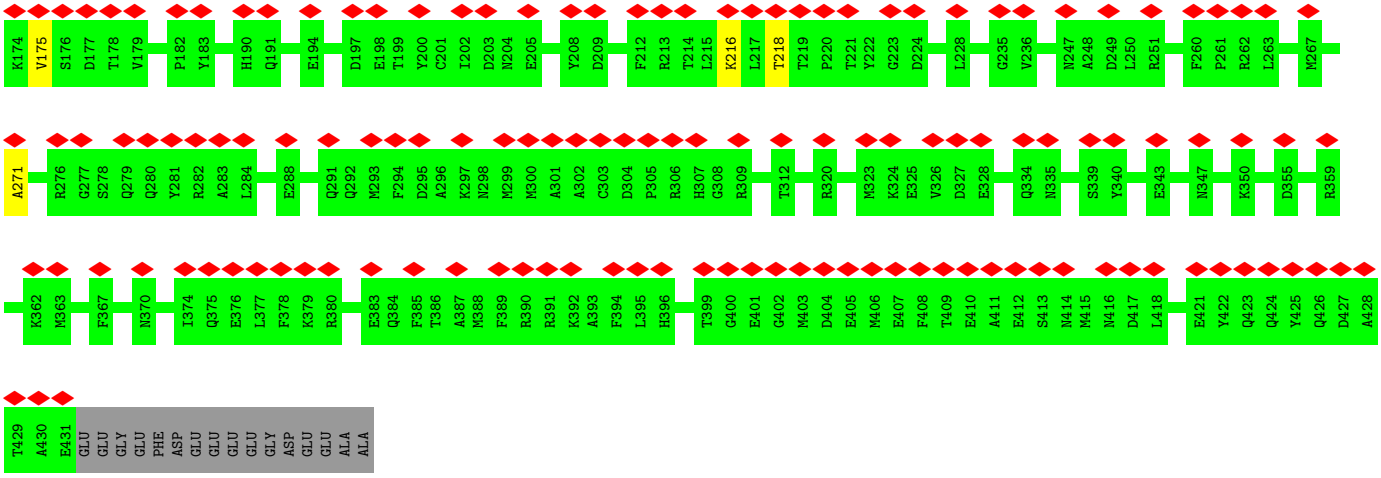
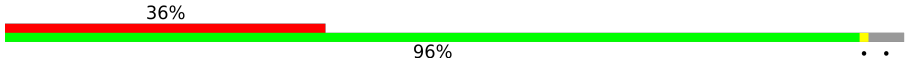


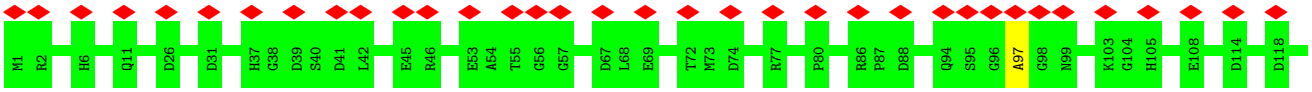




• Molecule 55: Tubulin beta chain

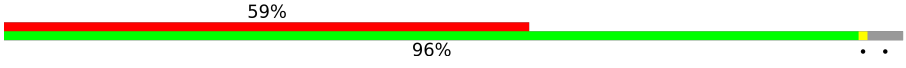
Chain IF:

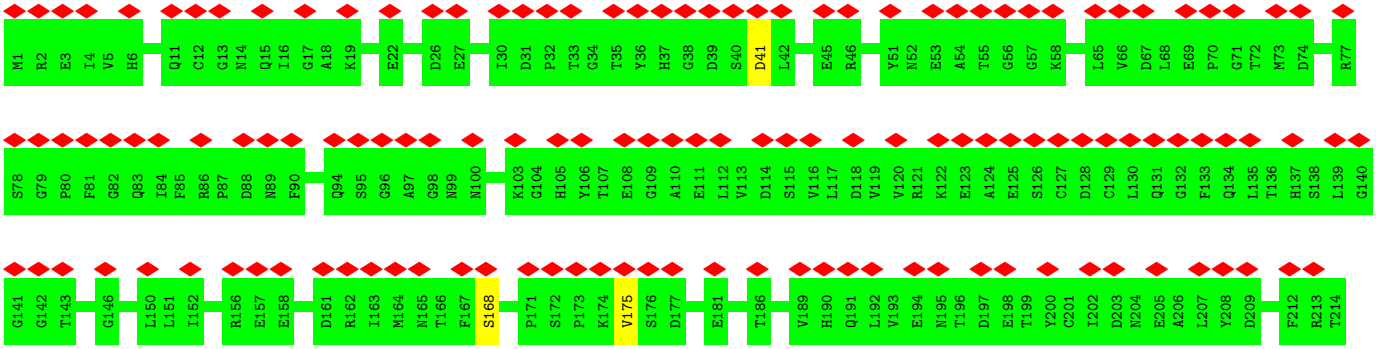


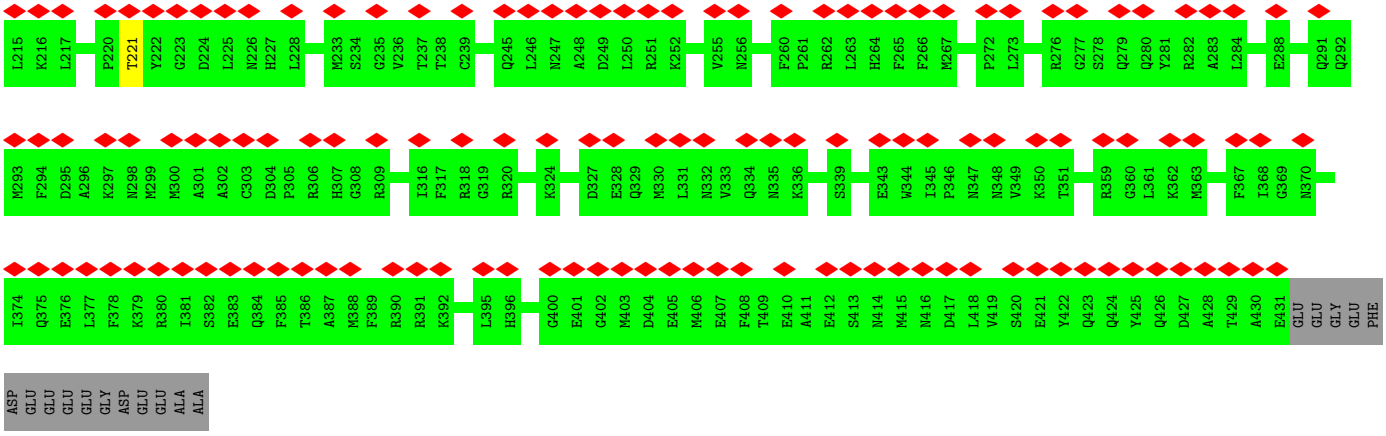


• Molecule 55: Tubulin beta chain

Chain IH:

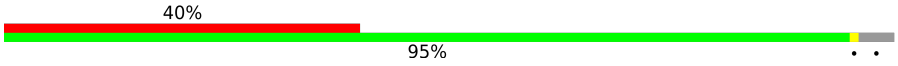


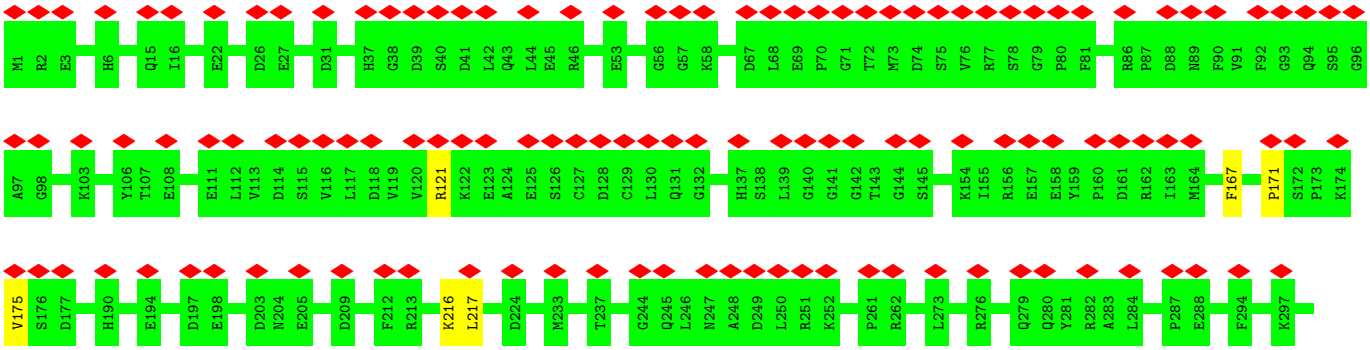




• Molecule 55: Tubulin beta chain

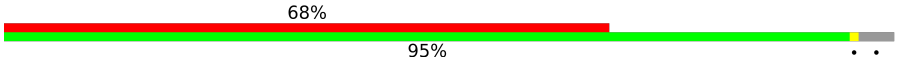
Chain IJ:

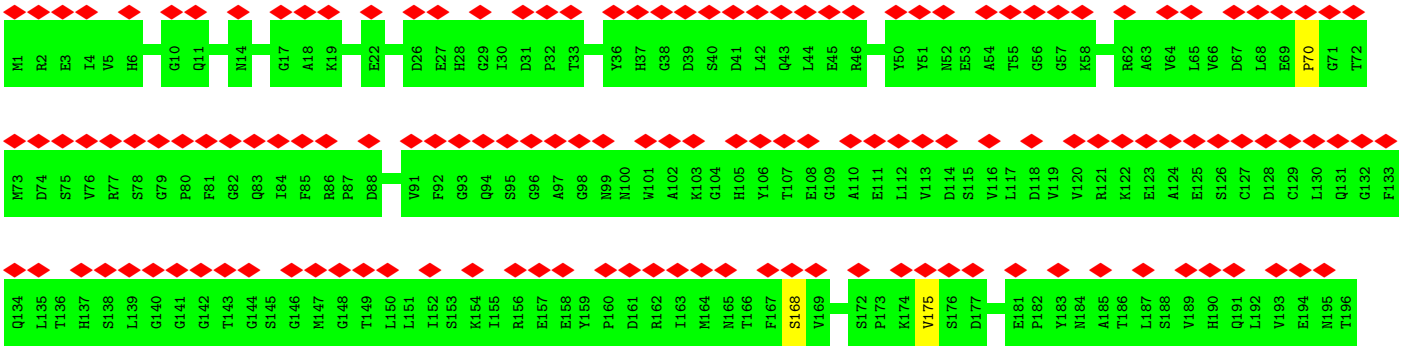


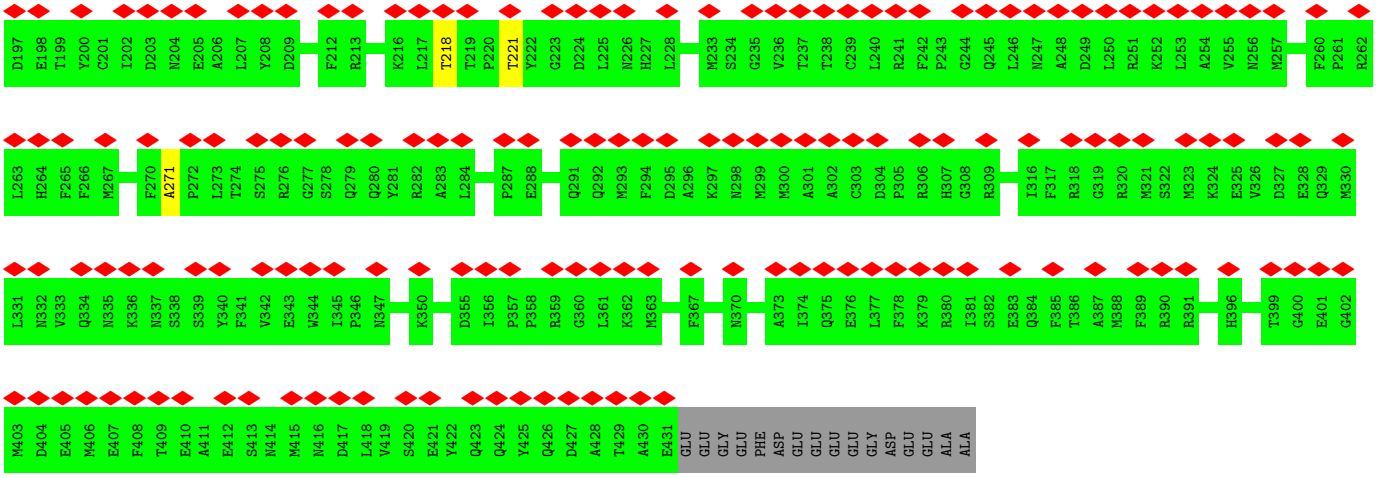


• Molecule 55: Tubulin beta chain

Chain IL:

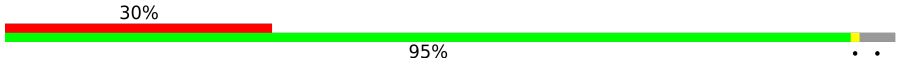


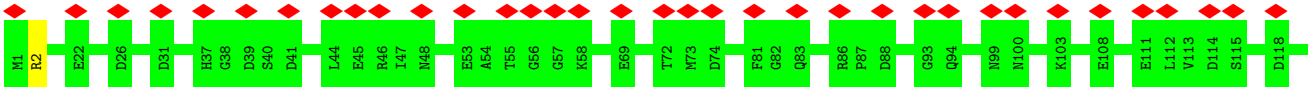




• Molecule 55: Tubulin beta chain

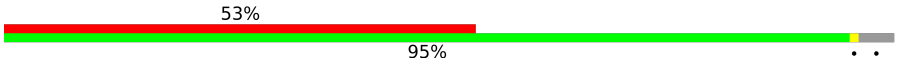
Chain JC:

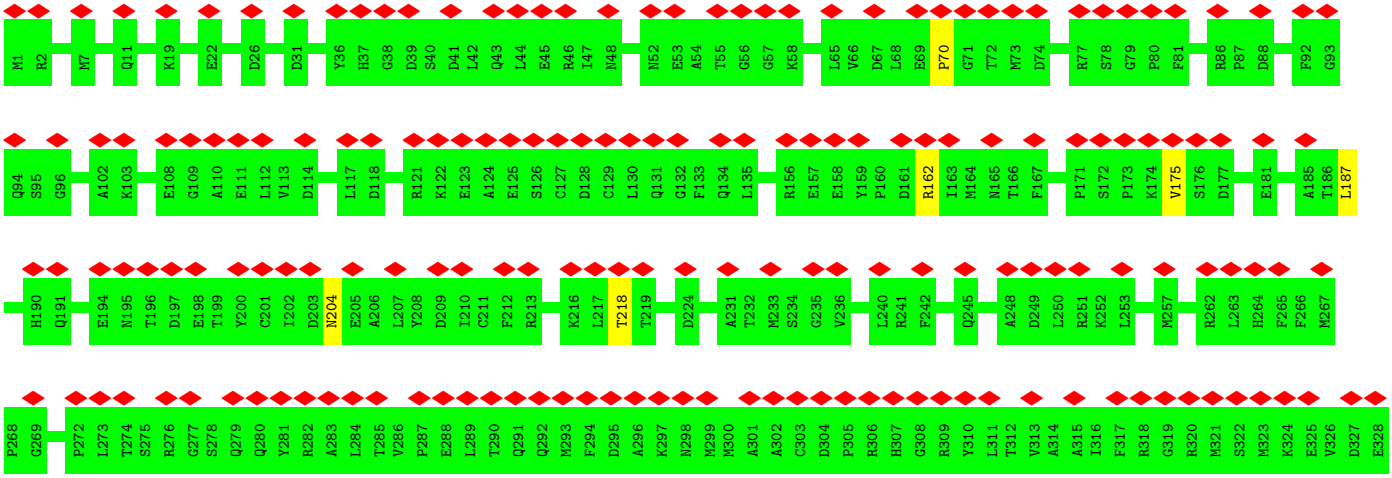


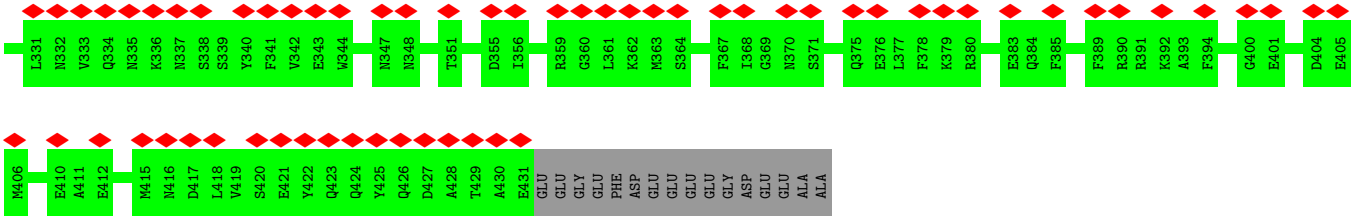


• Molecule 55: Tubulin beta chain

Chain JD:

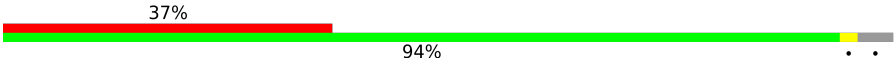


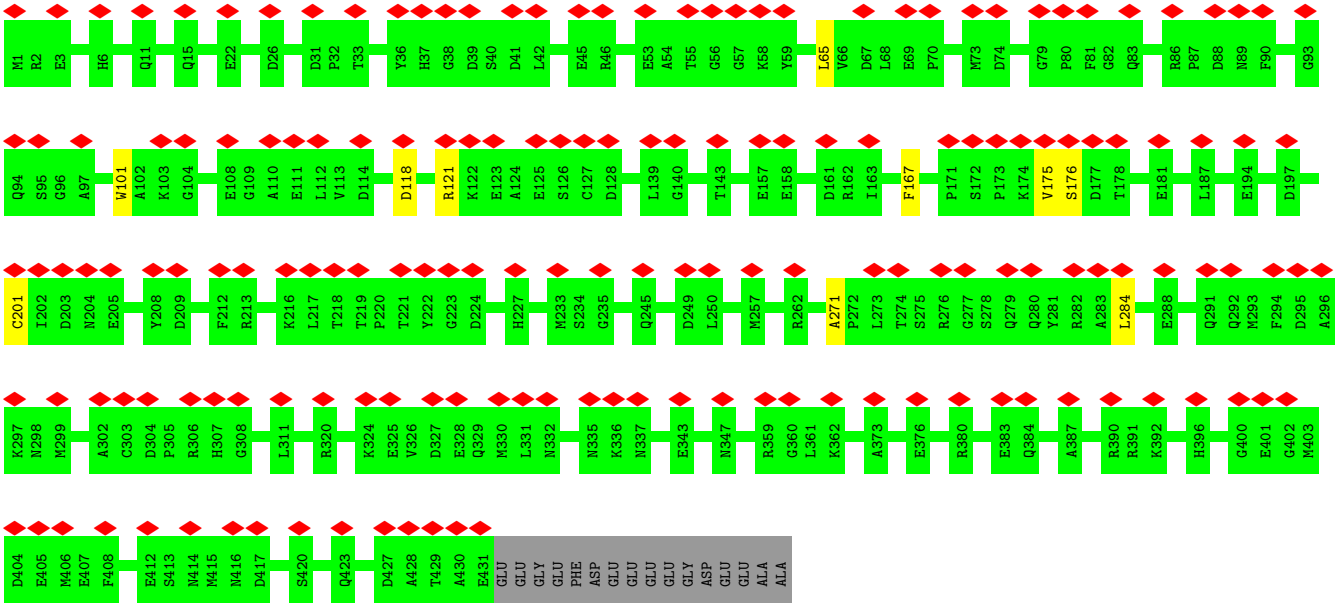




• Molecule 55: Tubulin beta chain

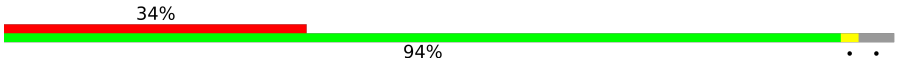
Chain JF:

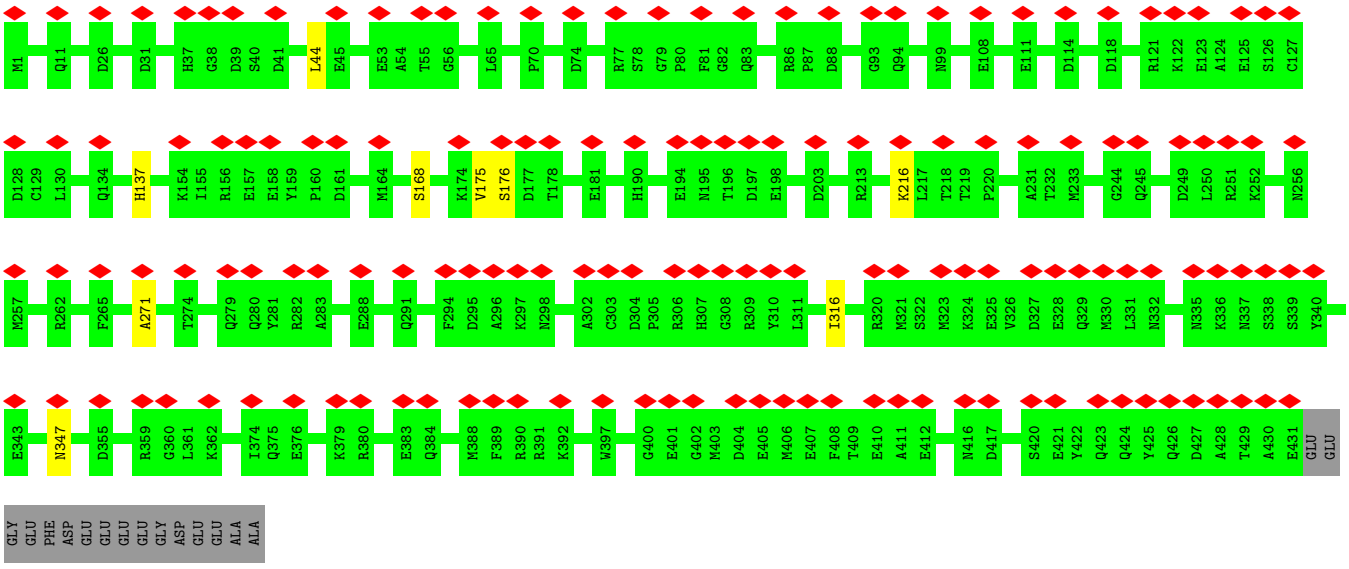




• Molecule 55: Tubulin beta chain

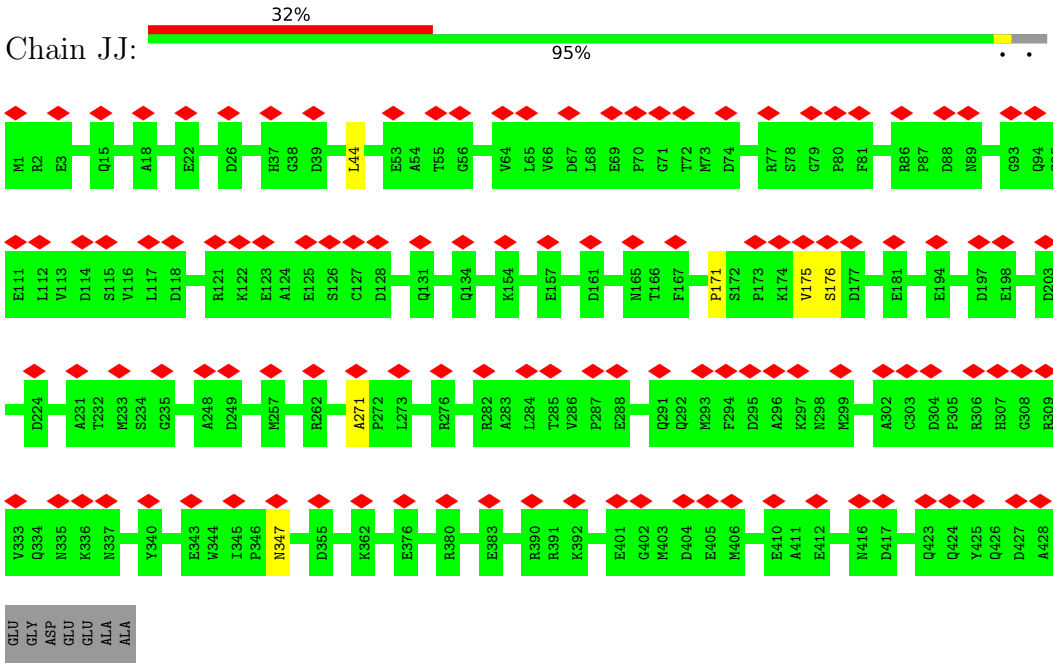
Chain JH:





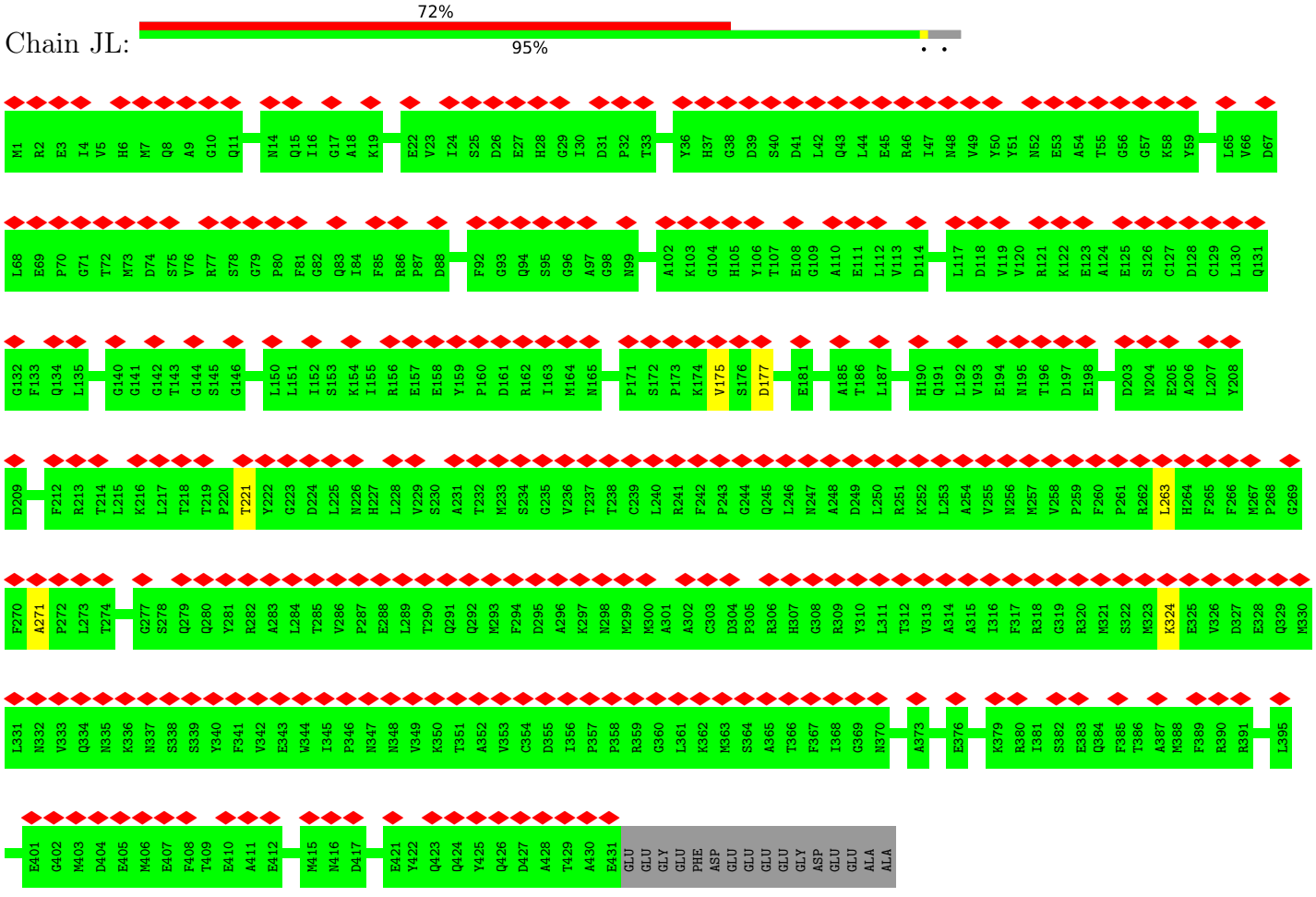
• Molecule 55: Tubulin beta chain

Chain JJ:



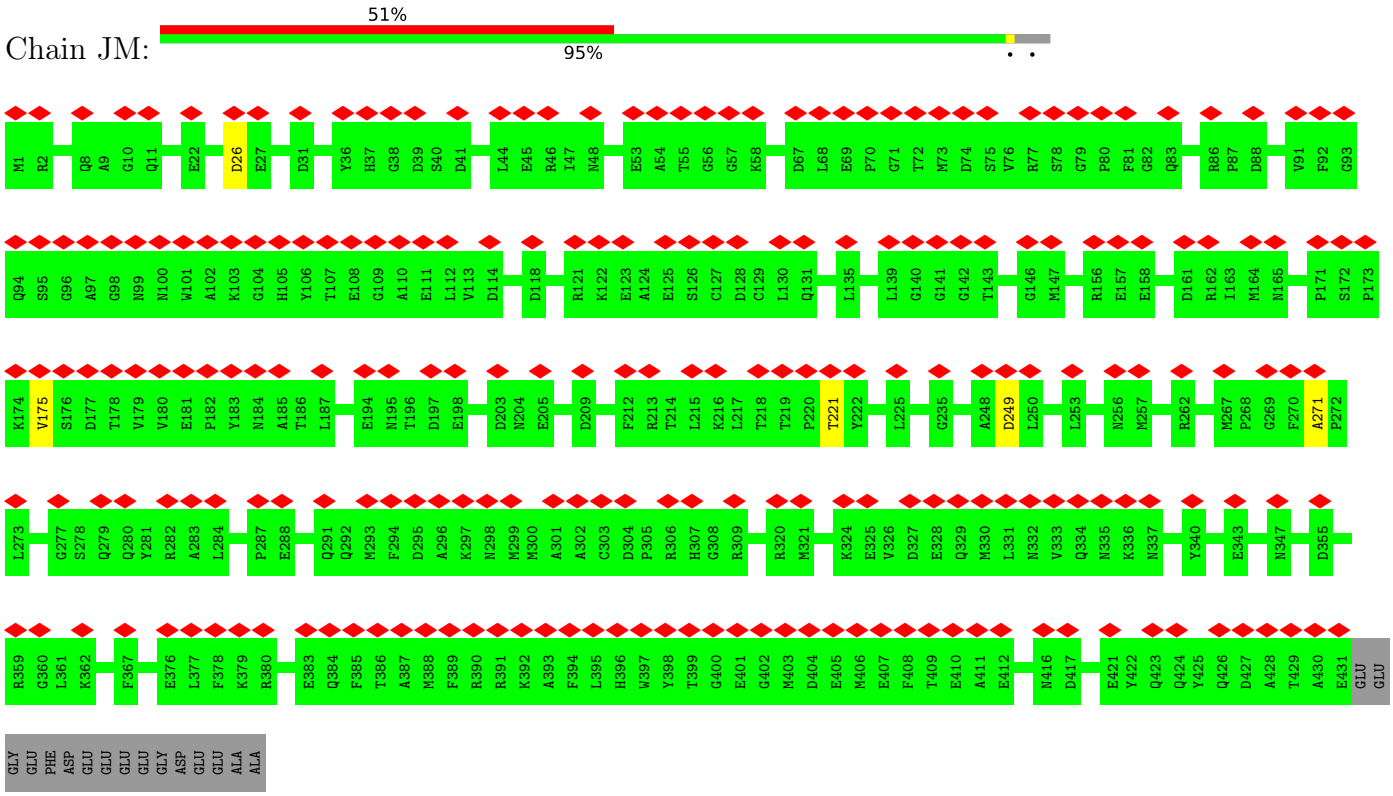
• Molecule 55: Tubulin beta chain

Chain JL:



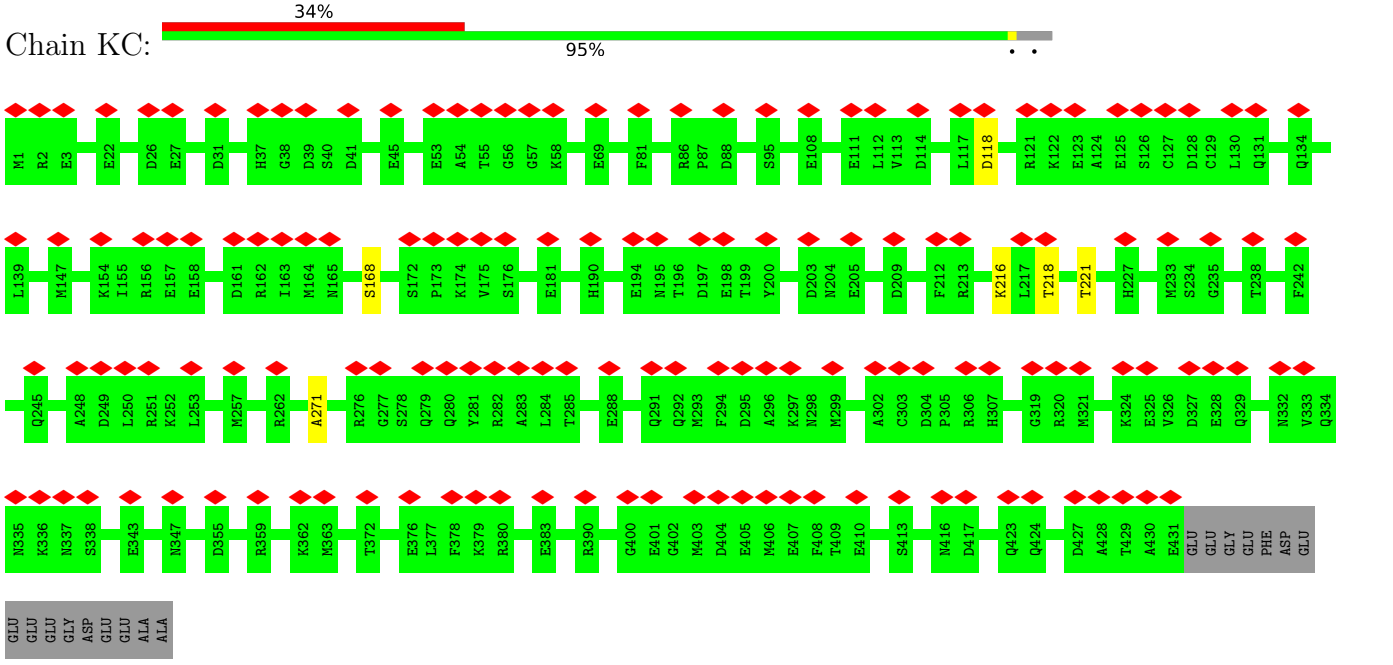
• Molecule 55: Tubulin beta chain

Chain JM:



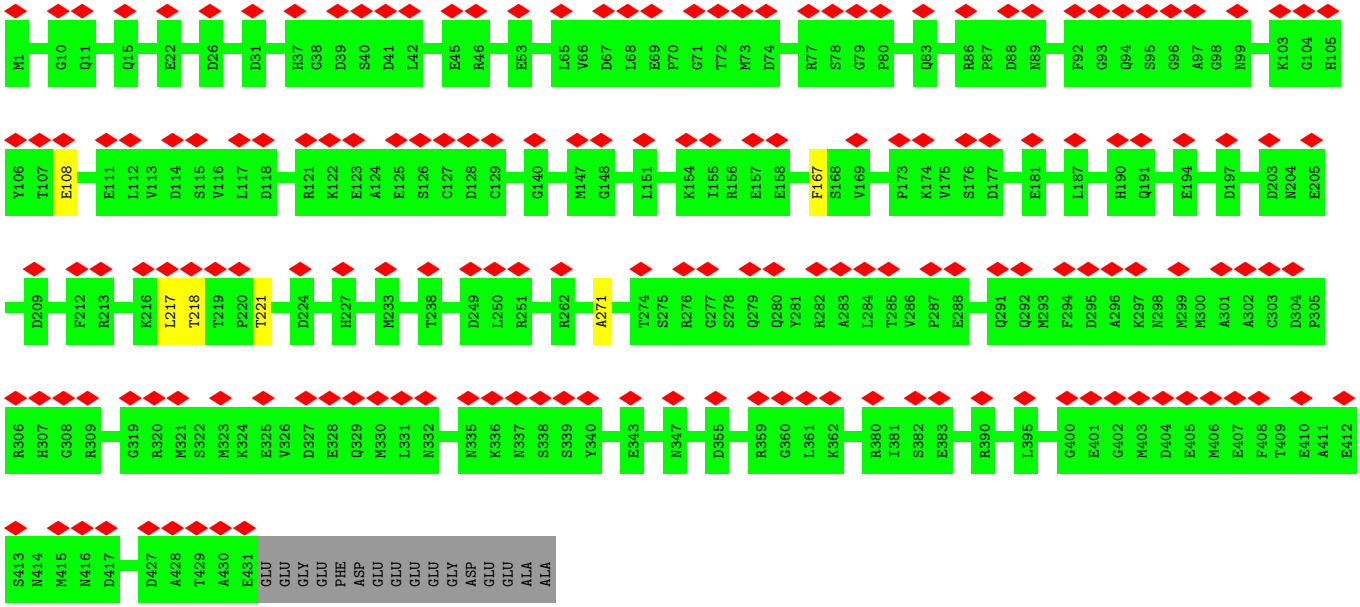
• Molecule 55: Tubulin beta chain

Chain KC:



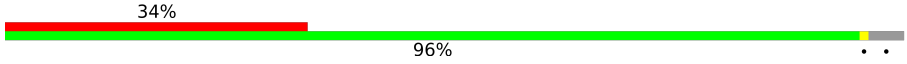
• Molecule 55: Tubulin beta chain

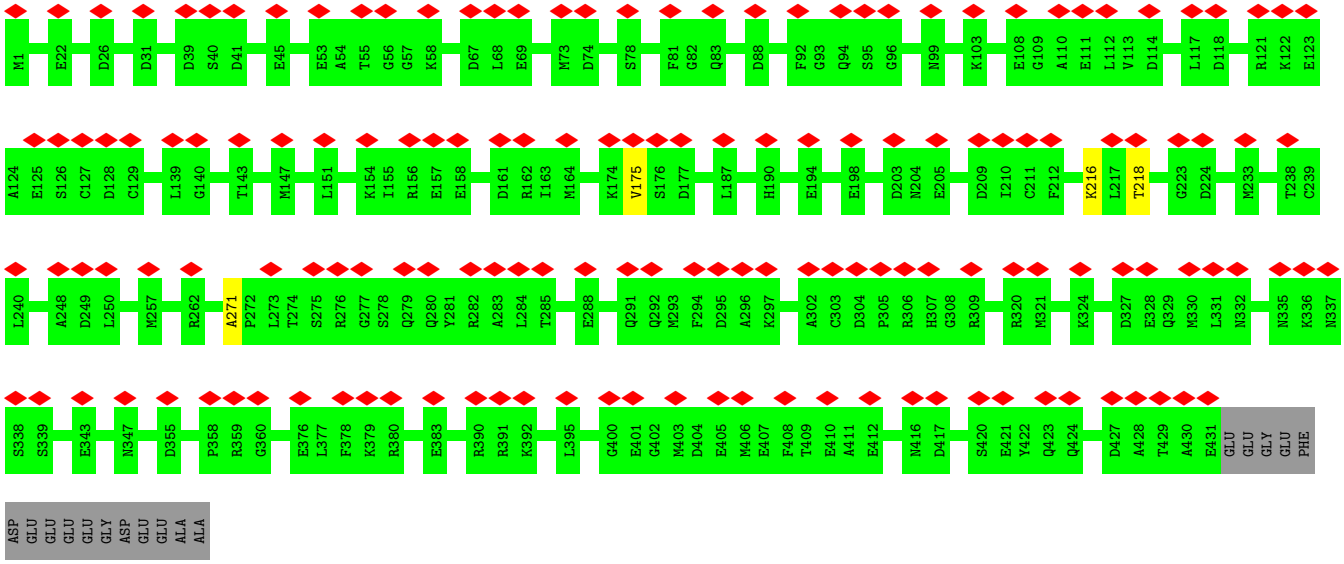
Chain KD:



• Molecule 55: Tubulin beta chain

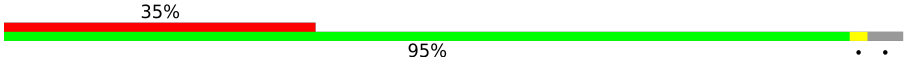
Chain KF:

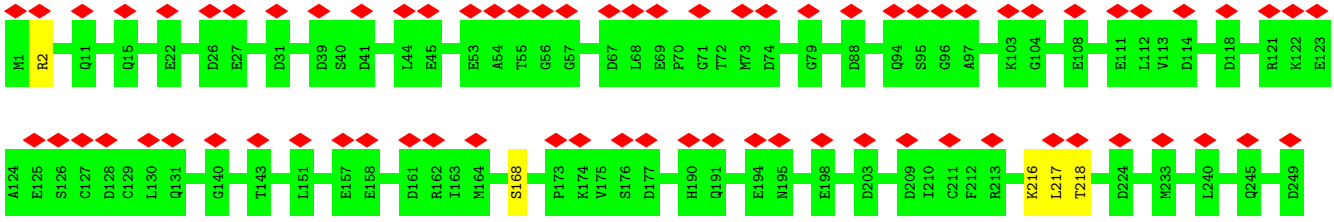


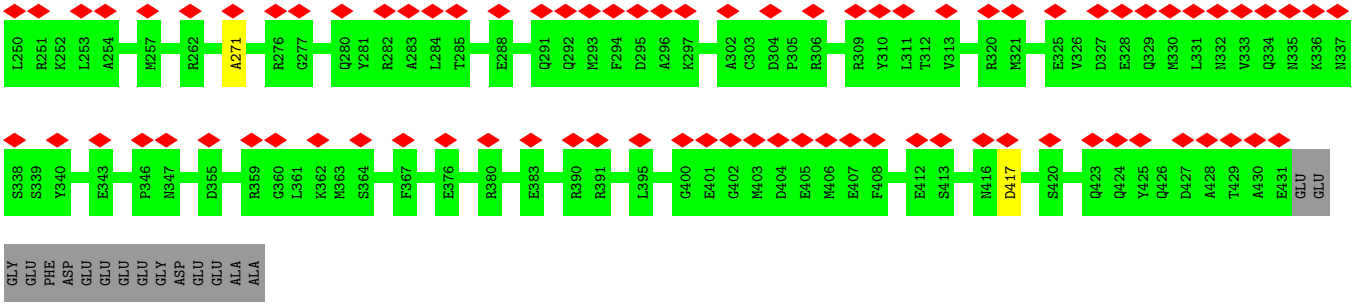


• Molecule 55: Tubulin beta chain

Chain KH:

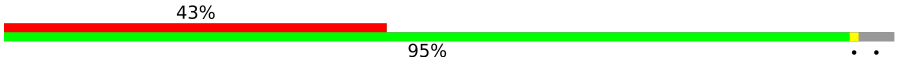


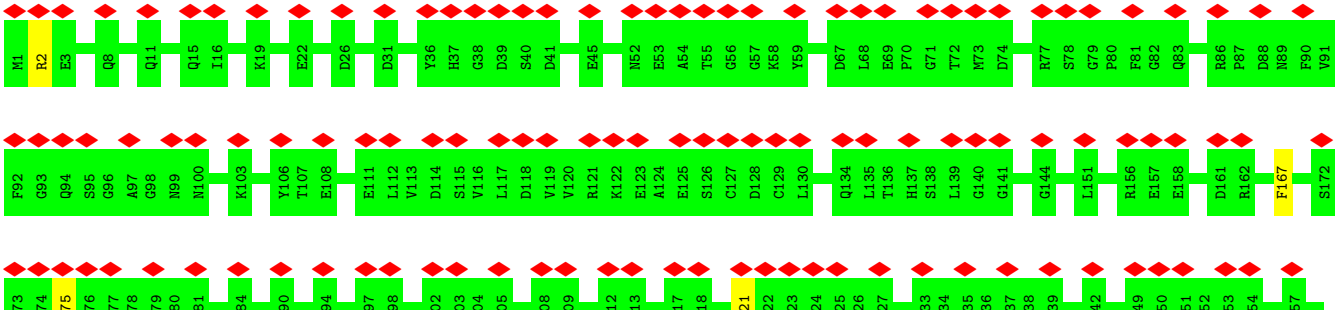




• Molecule 55: Tubulin beta chain

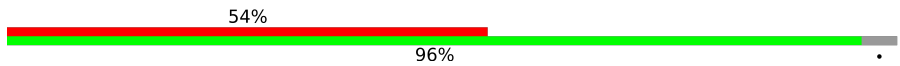
Chain KJ:

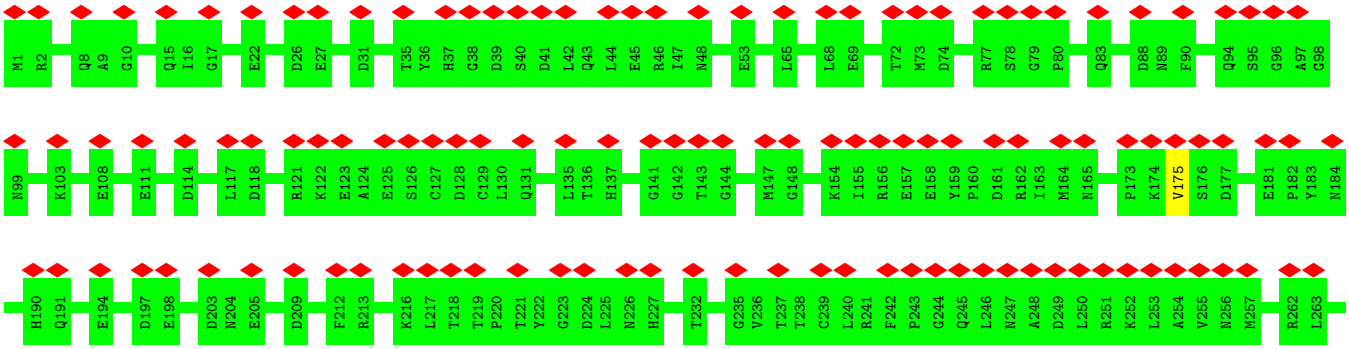


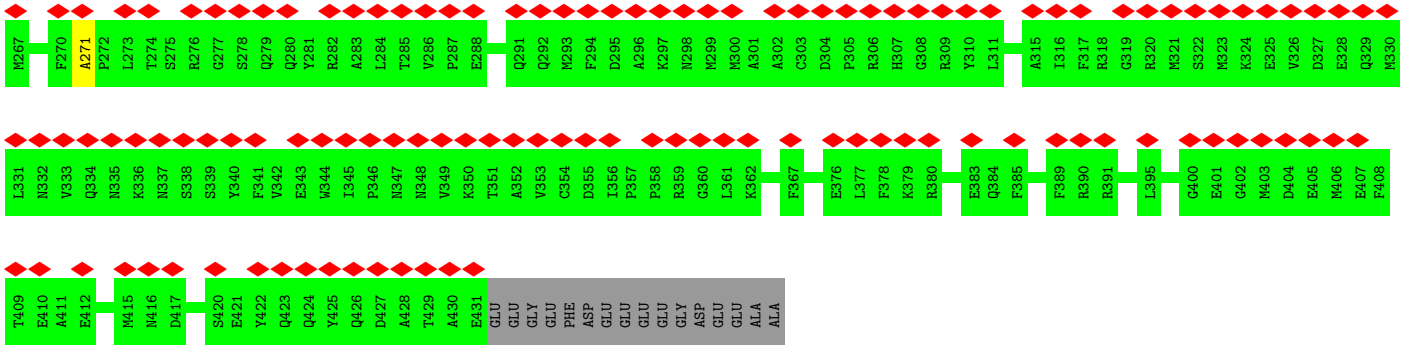


• Molecule 55: Tubulin beta chain

Chain KL:

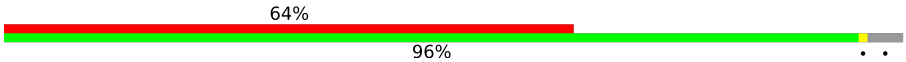


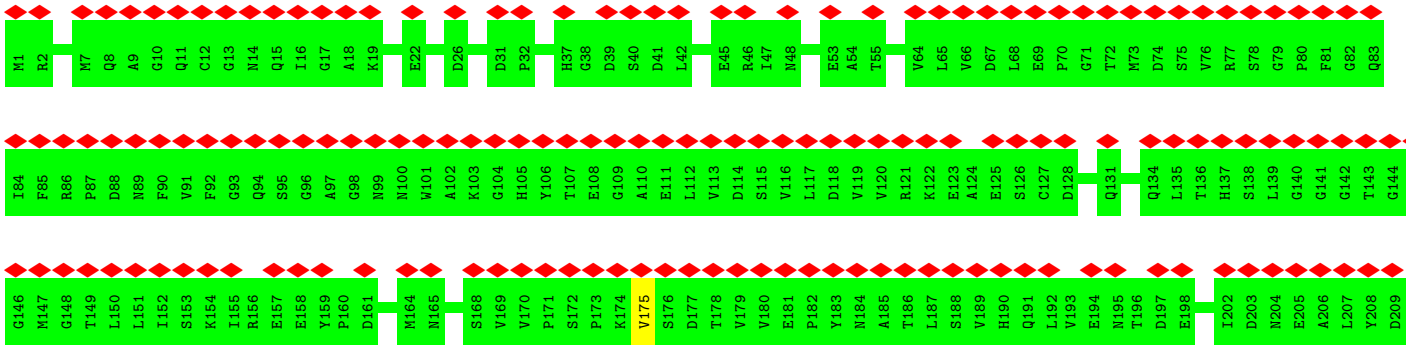




• Molecule 55: Tubulin beta chain

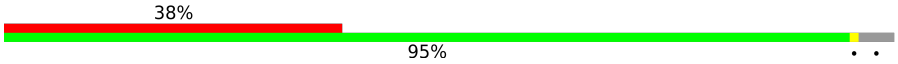
Chain KM:

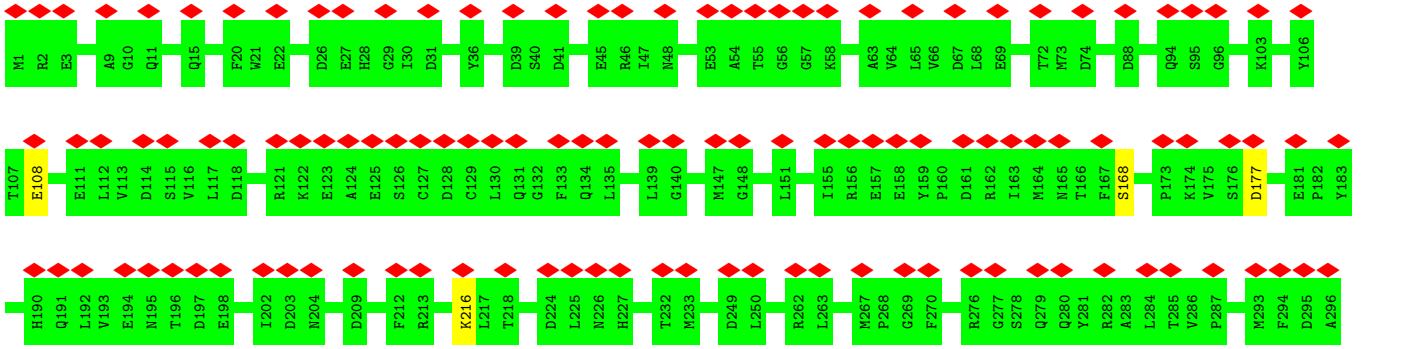


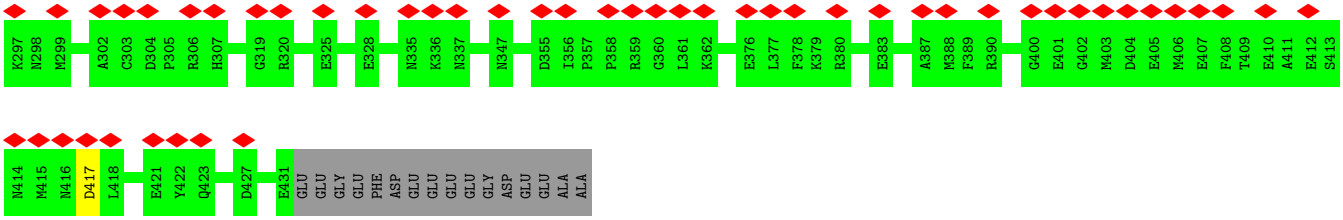


• Molecule 55: Tubulin beta chain

Chain LC:

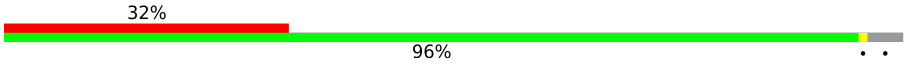


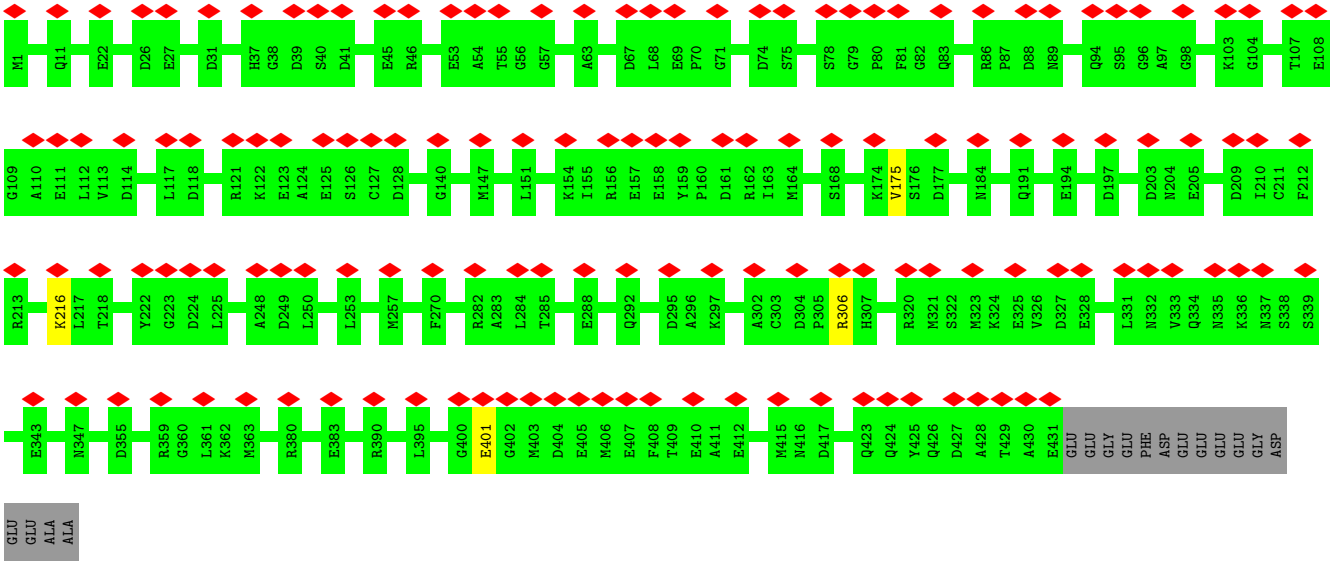




• Molecule 55: Tubulin beta chain

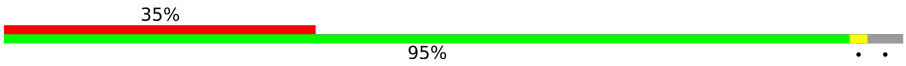
Chain LD:

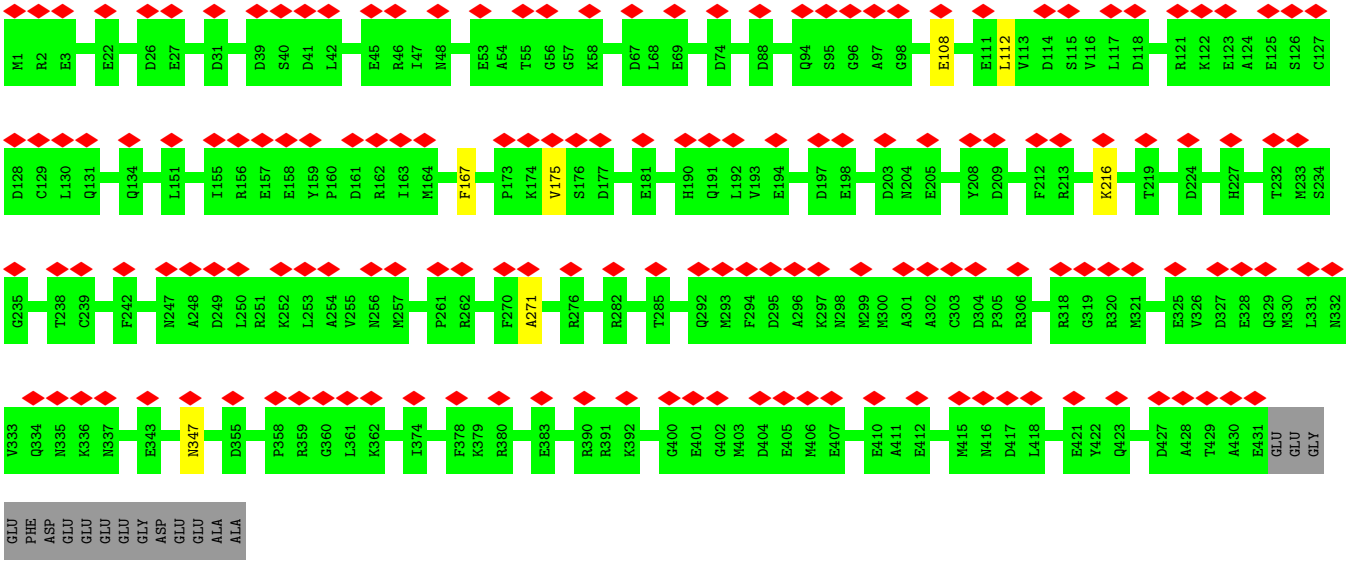




• Molecule 55: Tubulin beta chain

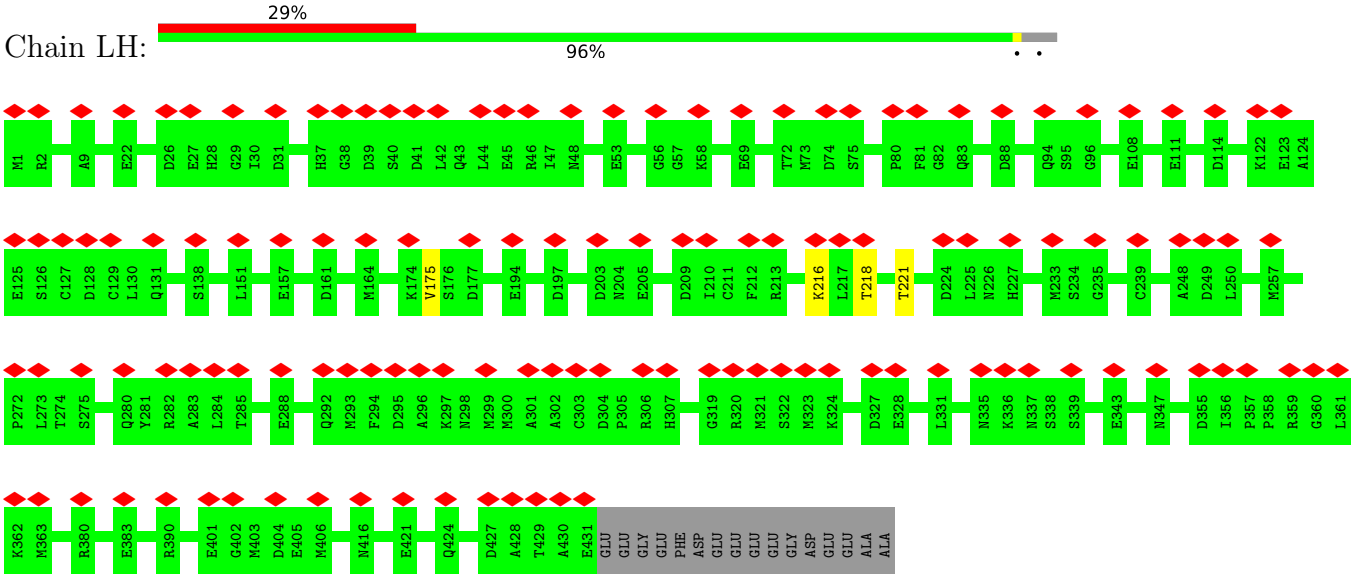
Chain LF:





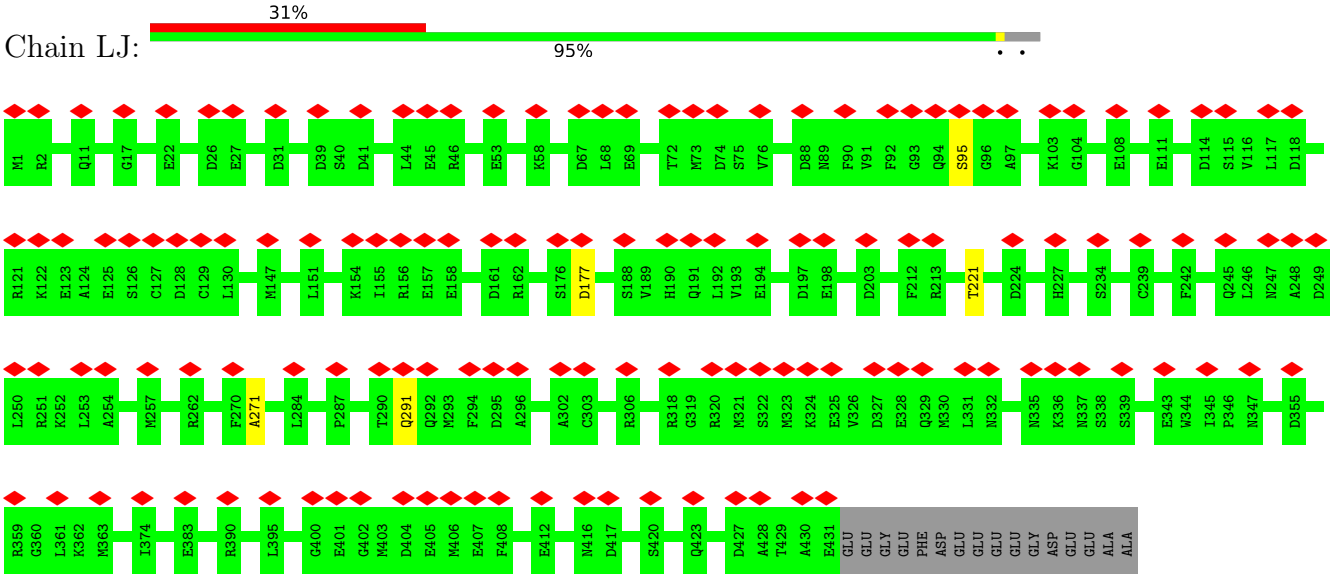
• Molecule 55: Tubulin beta chain

Chain LH:



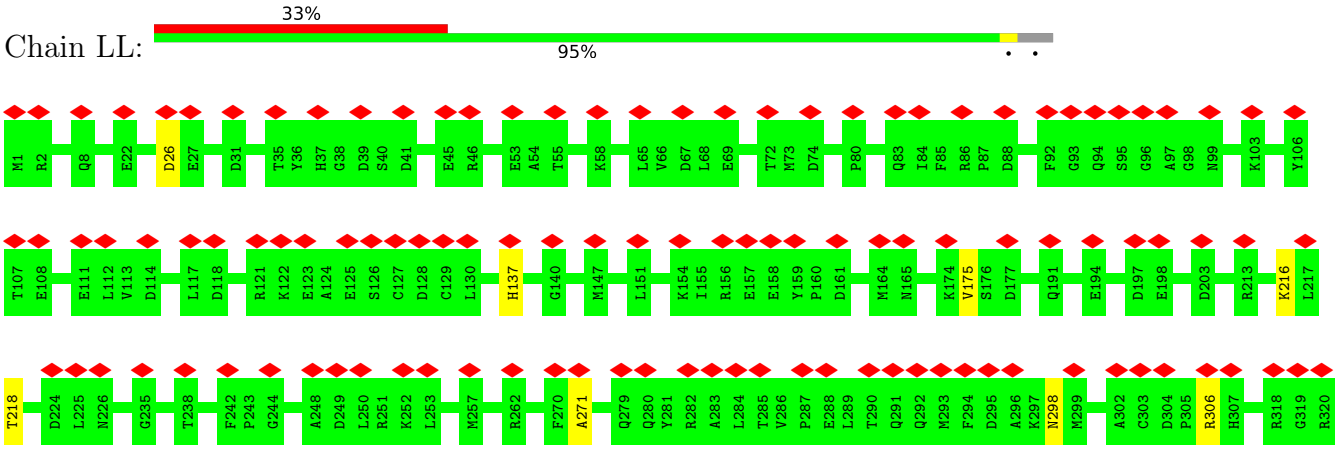
• Molecule 55: Tubulin beta chain

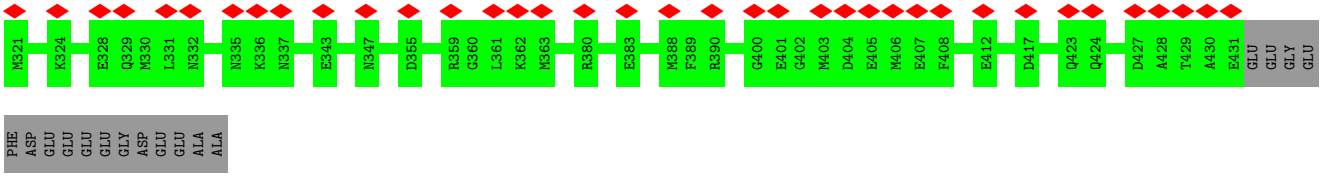
Chain LJ:



• Molecule 55: Tubulin beta chain

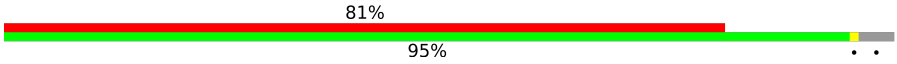
Chain LL:

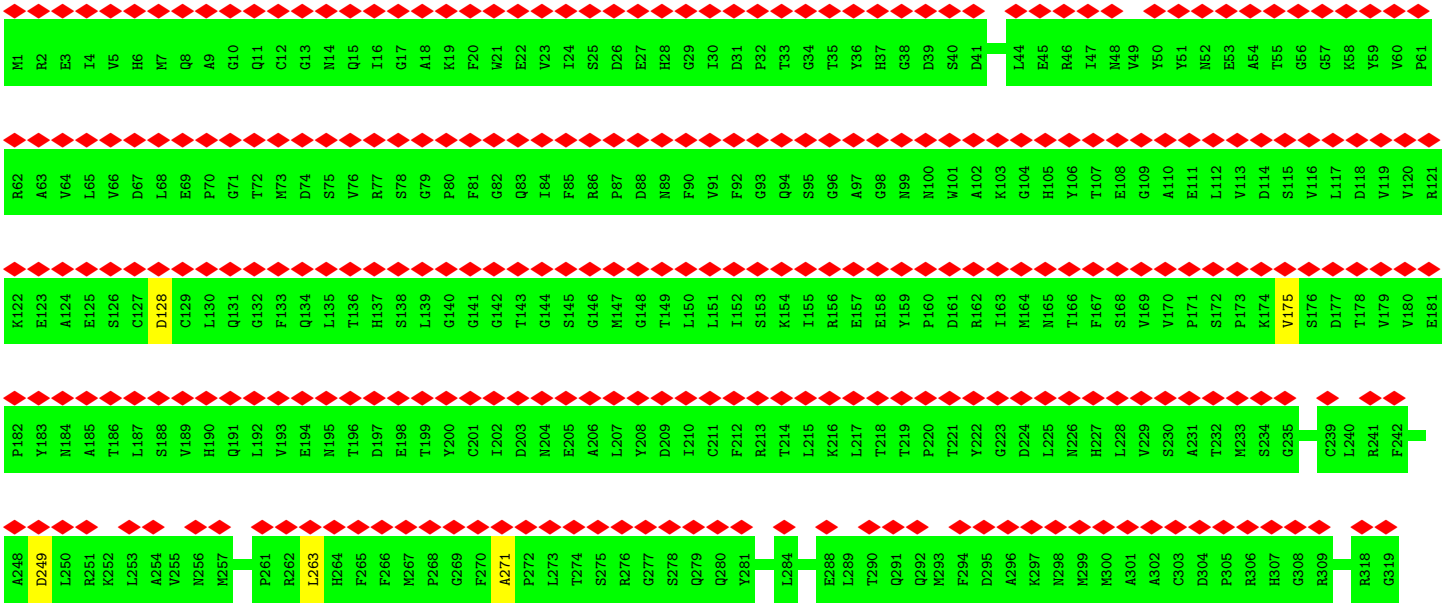




• Molecule 55: Tubulin beta chain

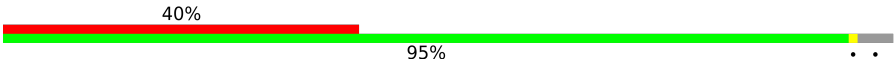
Chain LM:

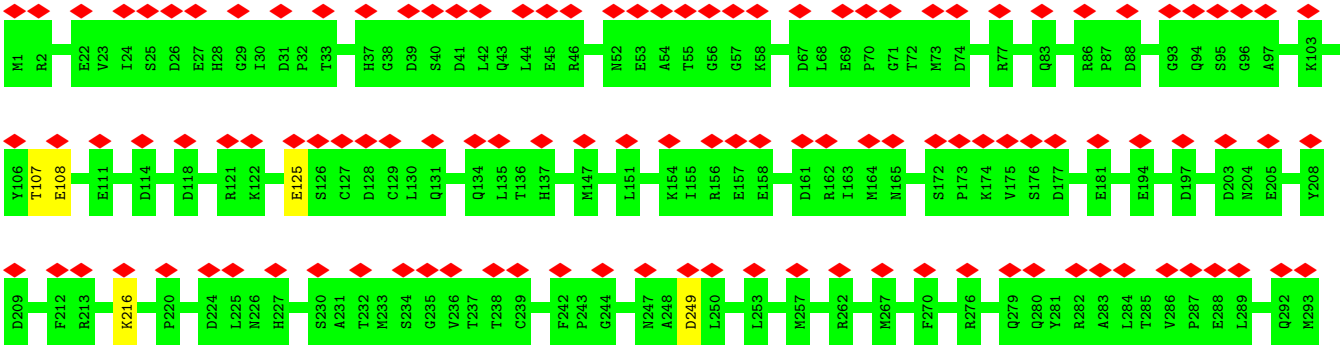


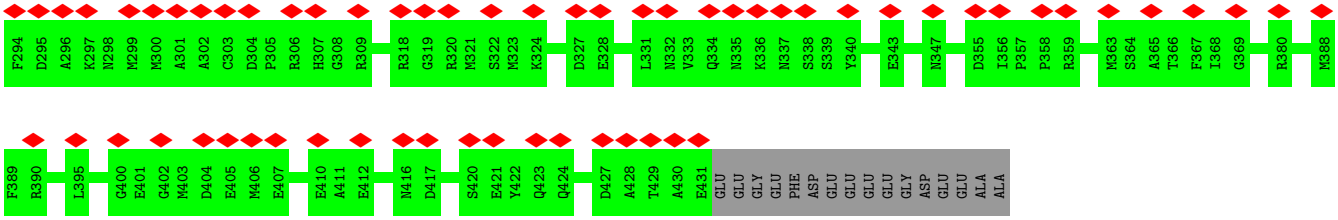


• Molecule 55: Tubulin beta chain

Chain MC:

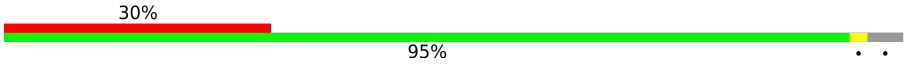


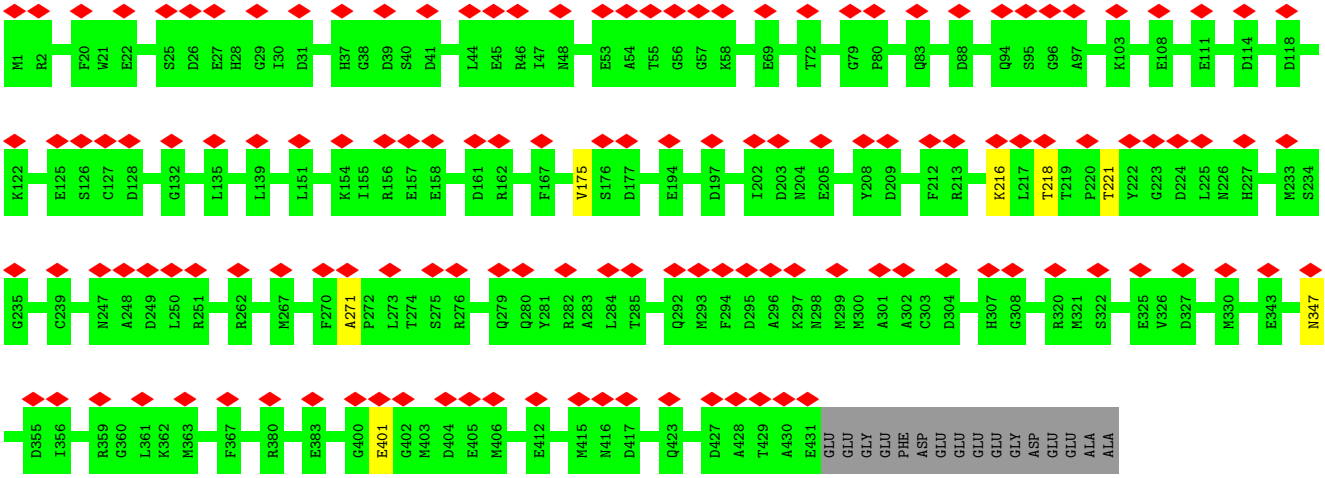




• Molecule 55: Tubulin beta chain

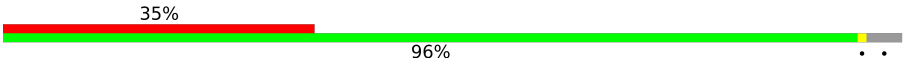
Chain MD:

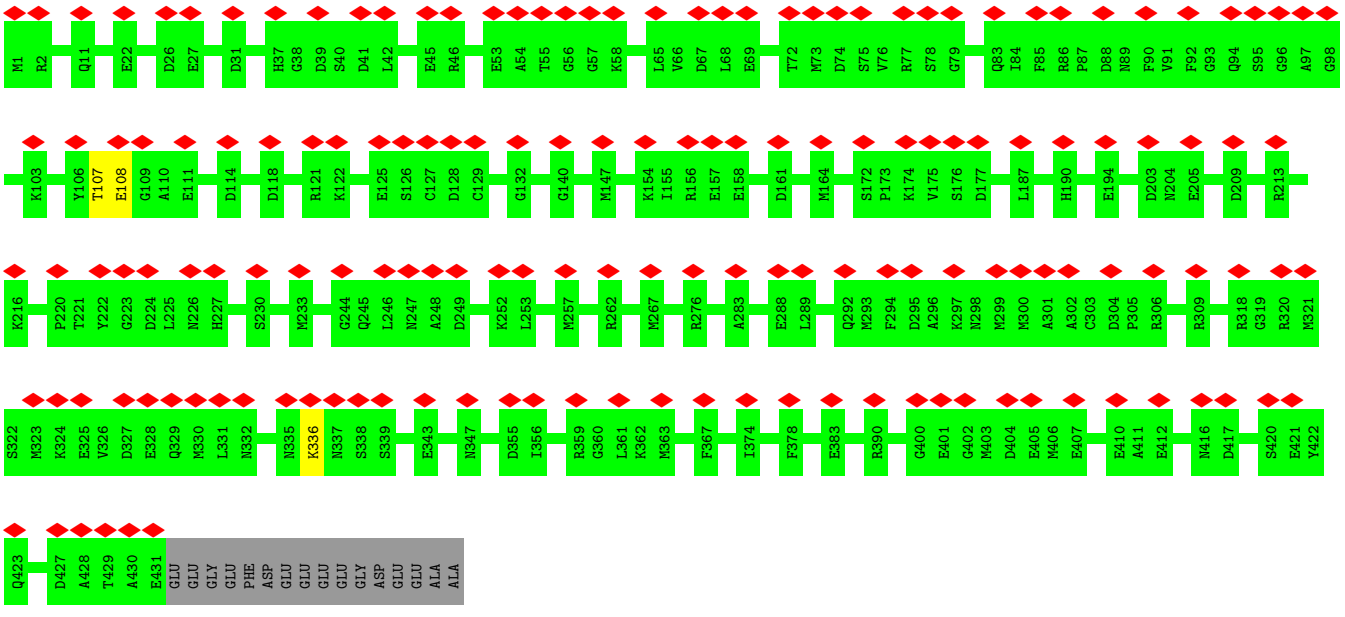




• Molecule 55: Tubulin beta chain

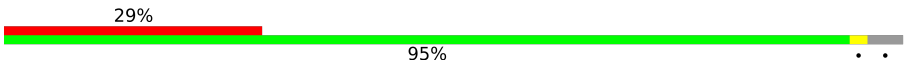
Chain MF:

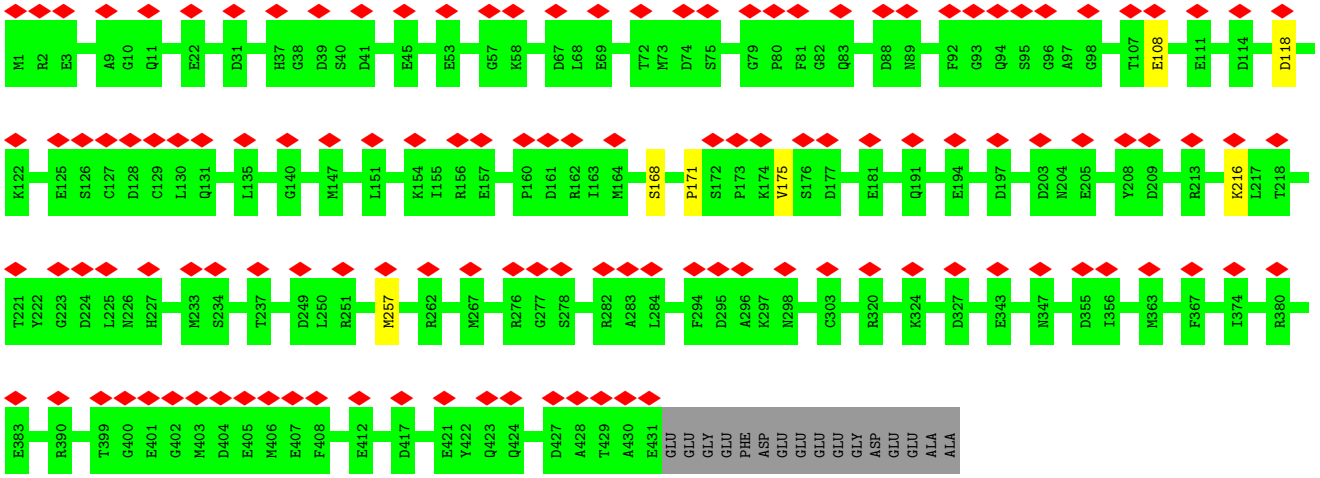




• Molecule 55: Tubulin beta chain

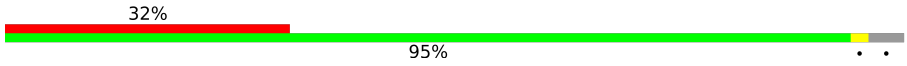
Chain MH:

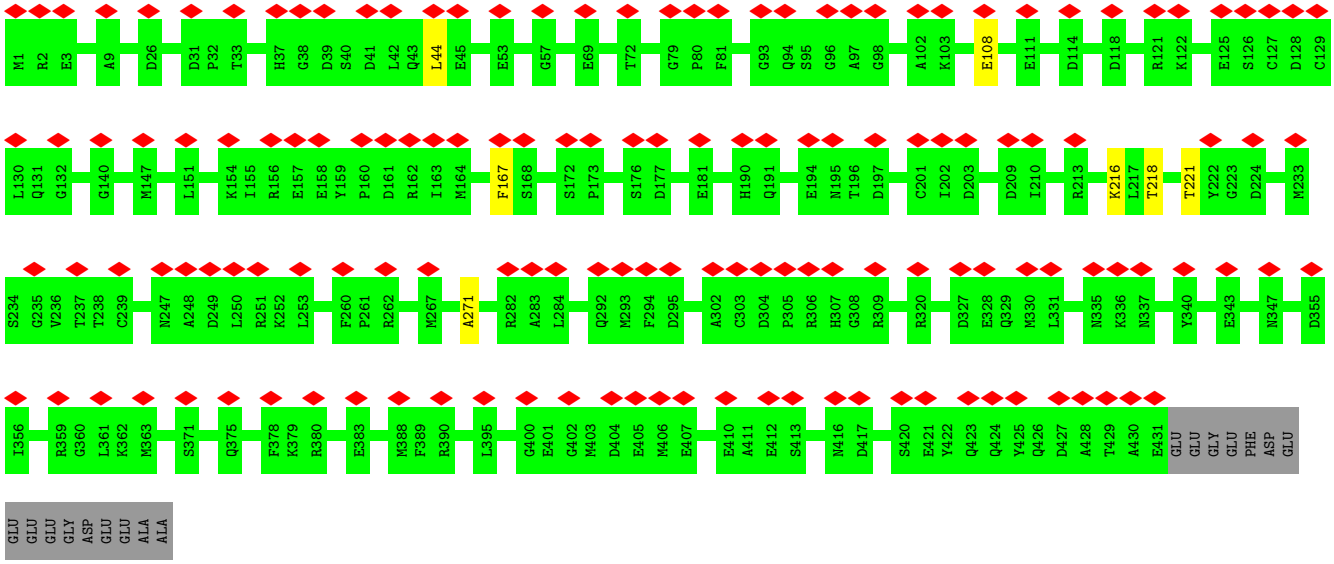




• Molecule 55: Tubulin beta chain

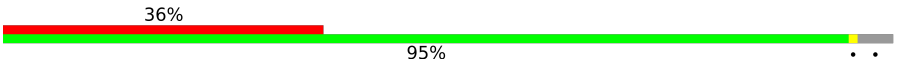
Chain MJ:

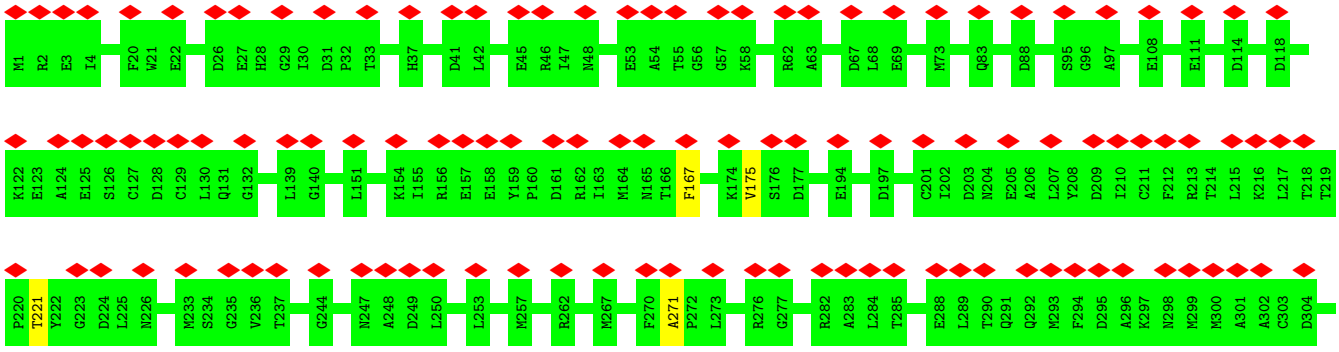


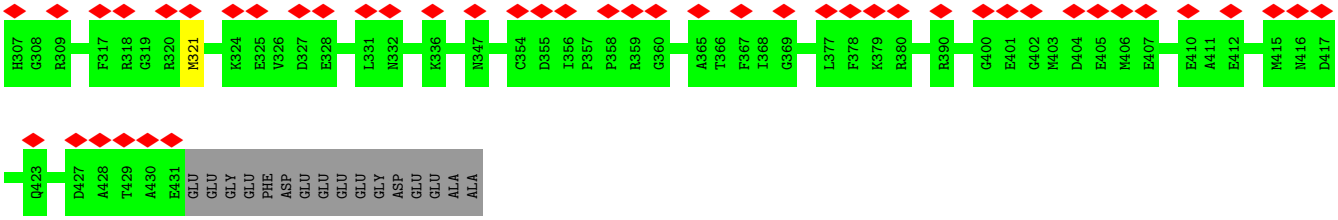


• Molecule 55: Tubulin beta chain

Chain MM:

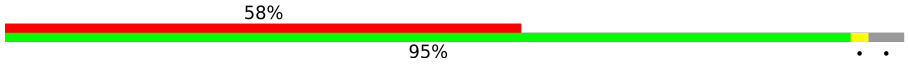


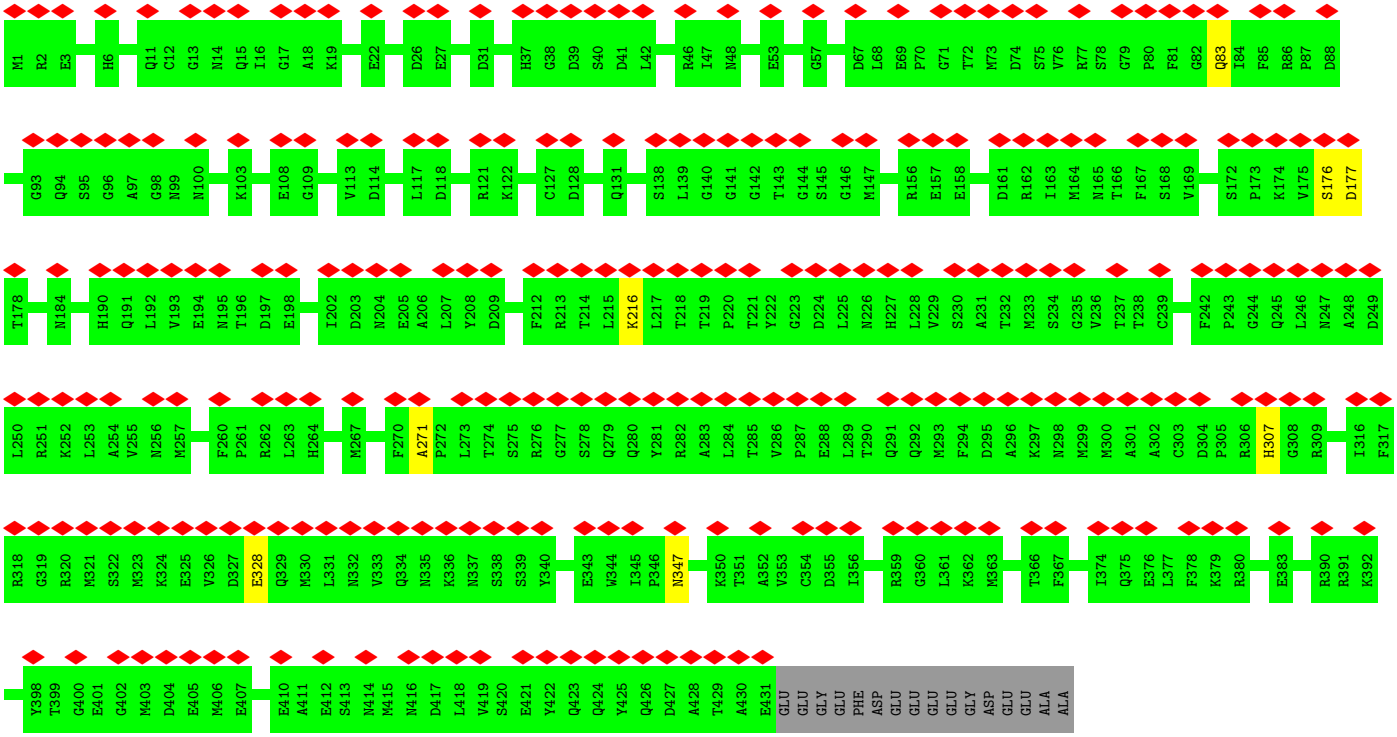




• Molecule 55: Tubulin beta chain

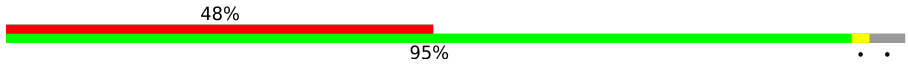
Chain NC:

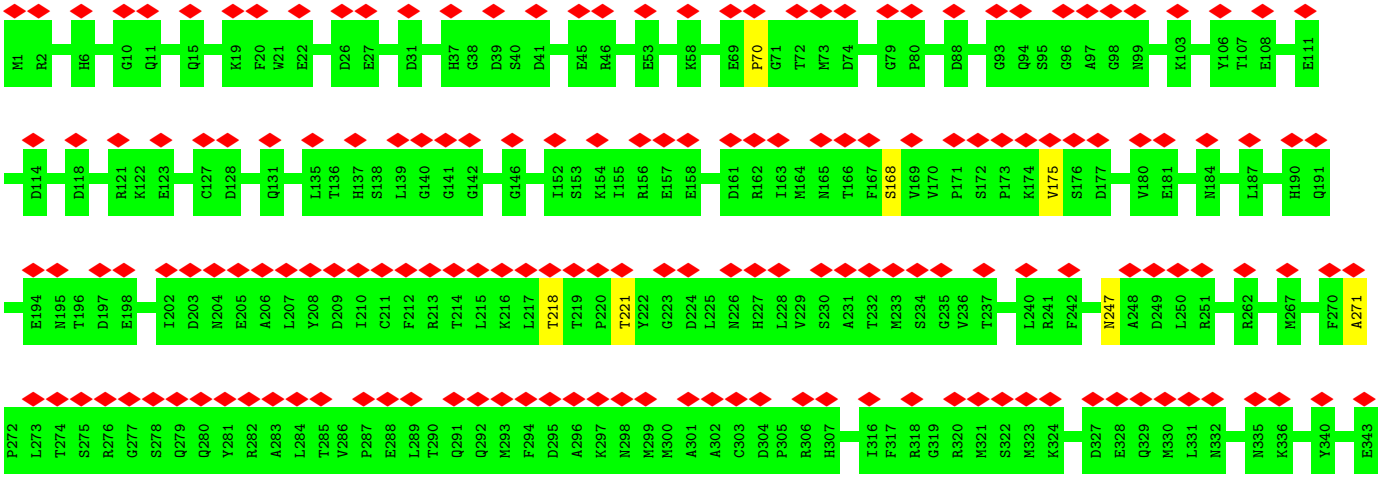


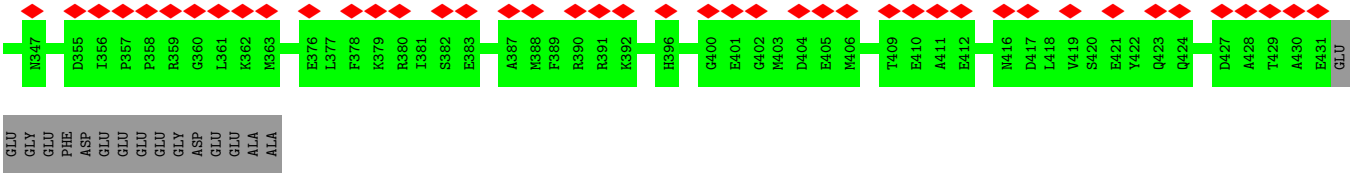


• Molecule 55: Tubulin beta chain

Chain ND:

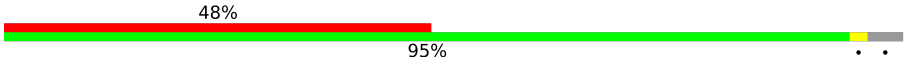


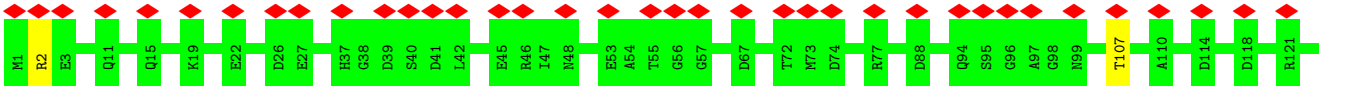


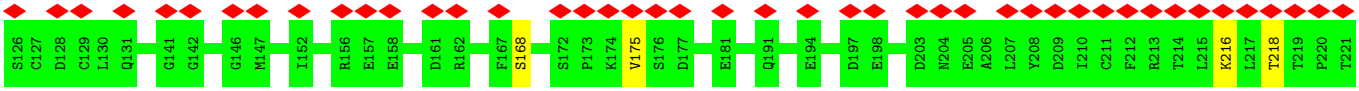


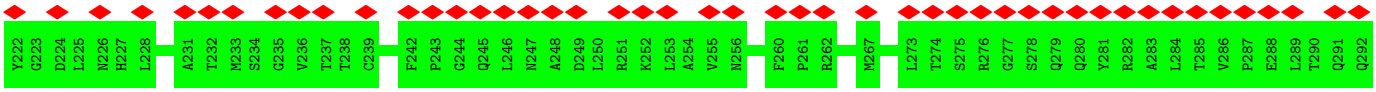
• Molecule 55: Tubulin beta chain

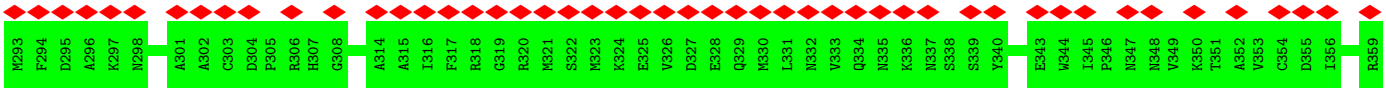
Chain NF:

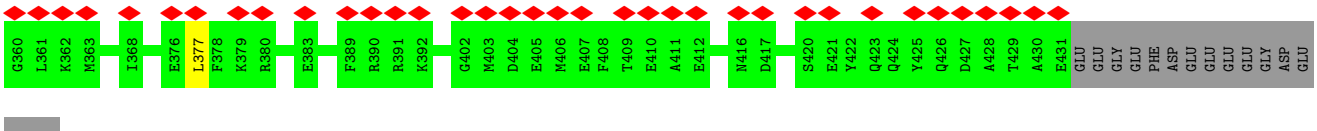






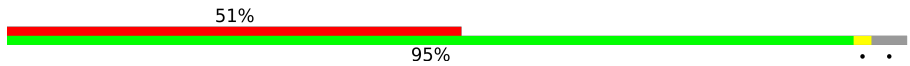


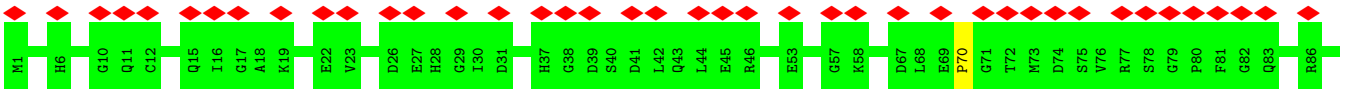


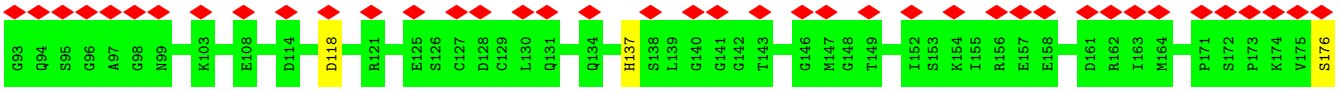


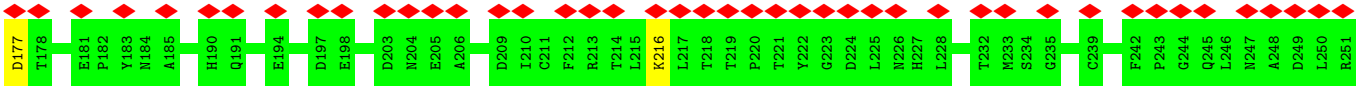
• Molecule 55: Tubulin beta chain

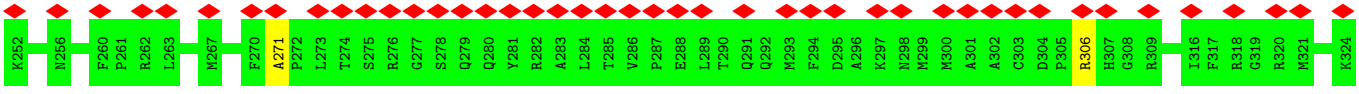
Chain NH:

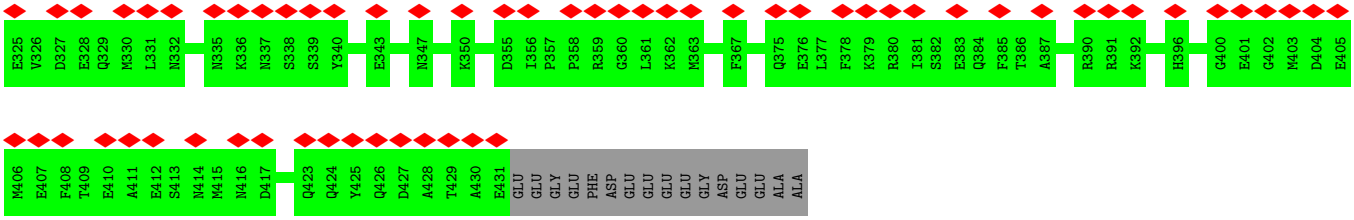






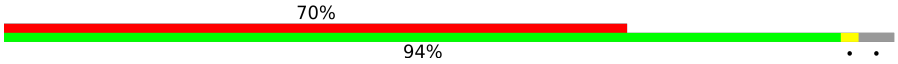


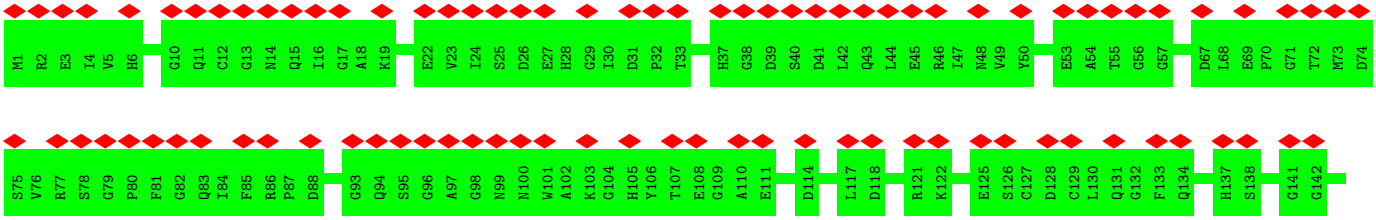




• Molecule 55: Tubulin beta chain

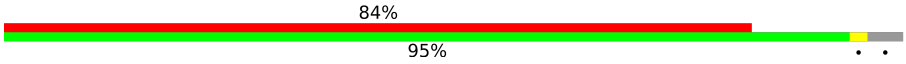
Chain NJ:

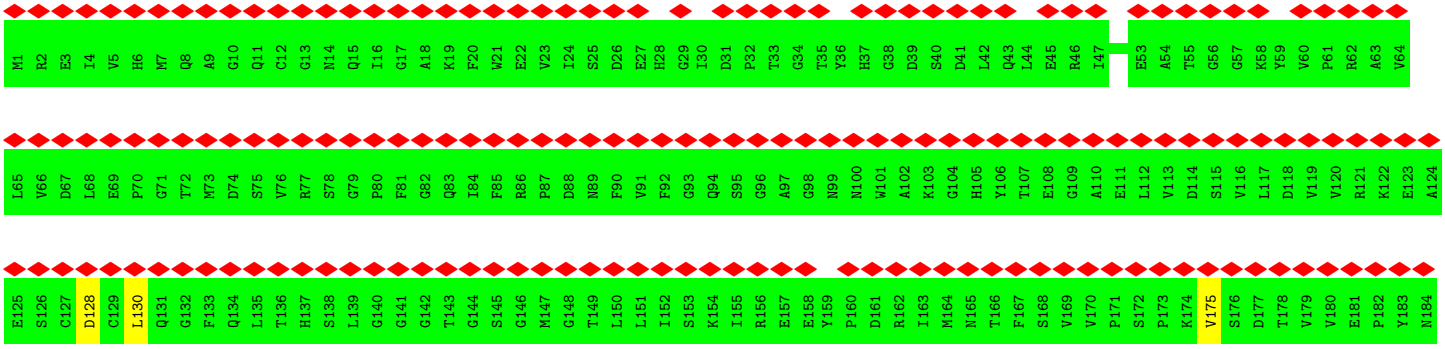


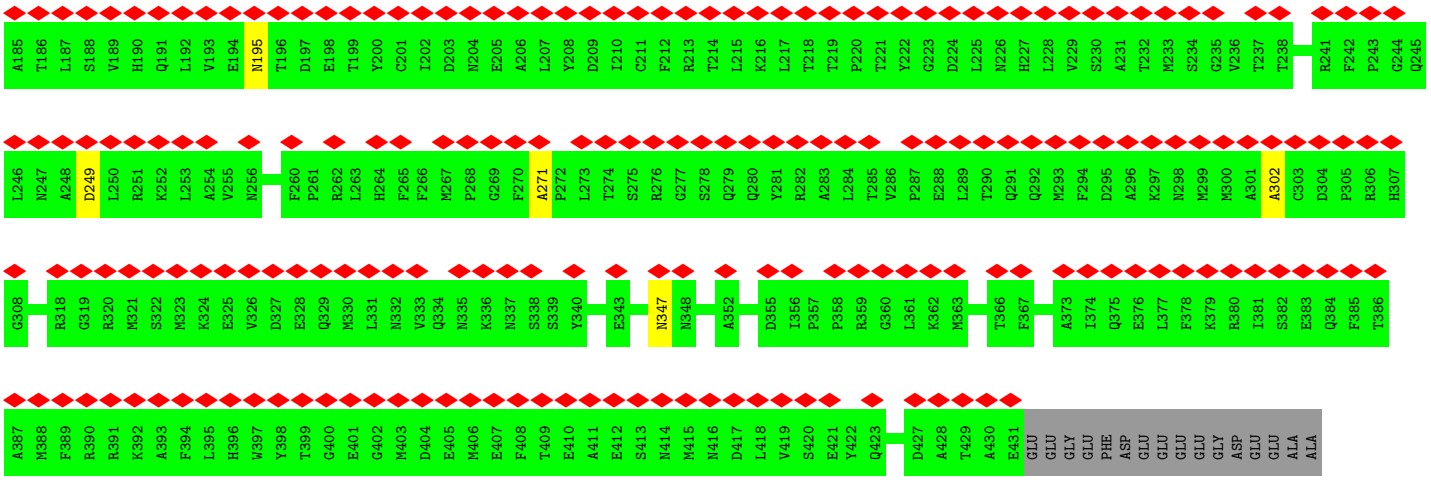


• Molecule 55: Tubulin beta chain

Chain NK:

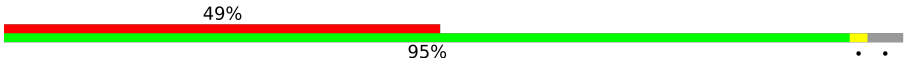


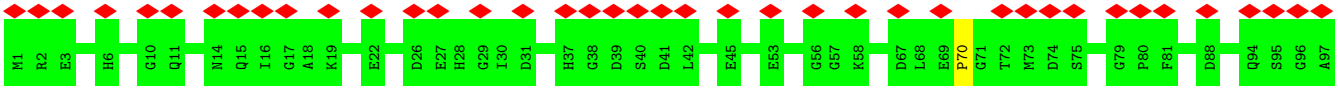




• Molecule 55: Tubulin beta chain

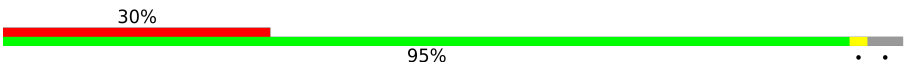
Chain NM:

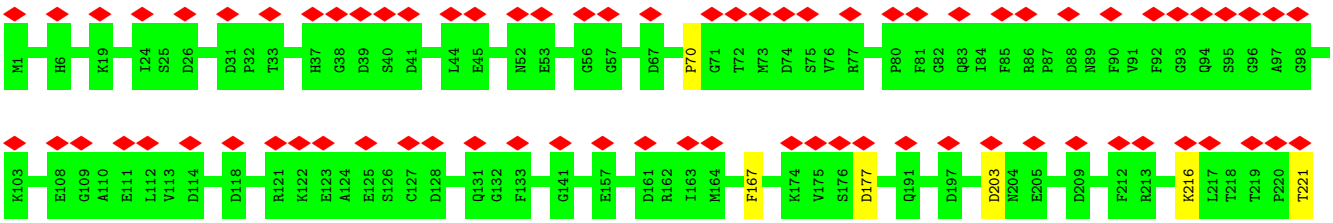


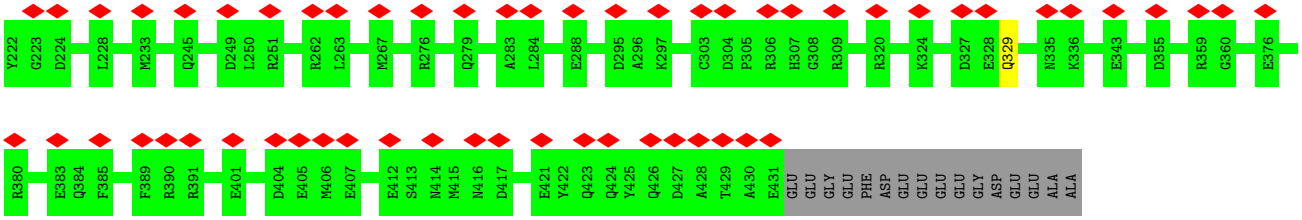


• Molecule 55: Tubulin beta chain

Chain OC:

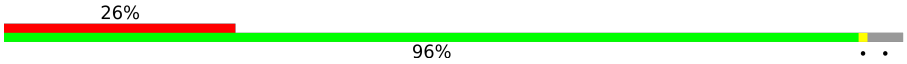


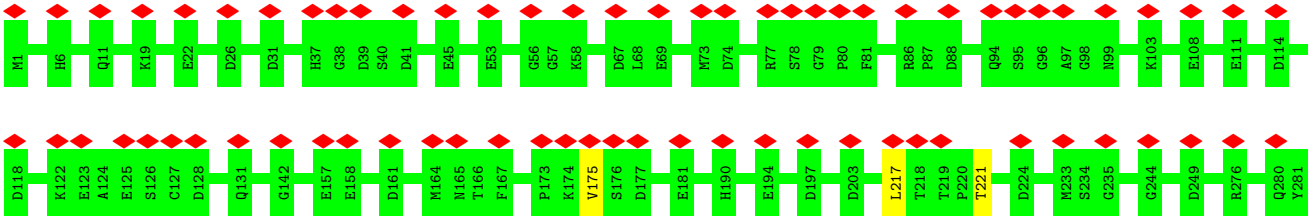




• Molecule 55: Tubulin beta chain

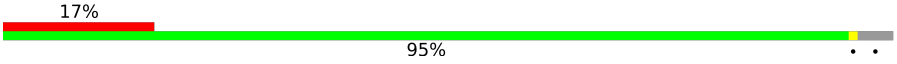
Chain OD:

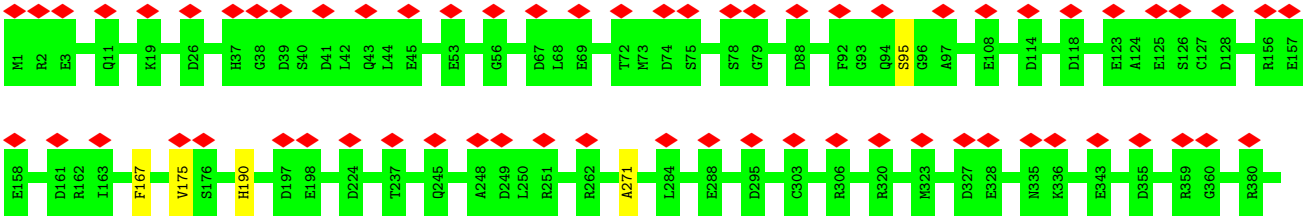




• Molecule 55: Tubulin beta chain

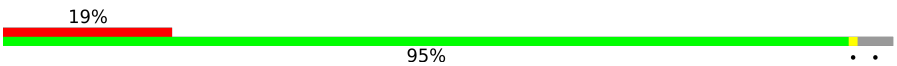
Chain OF:

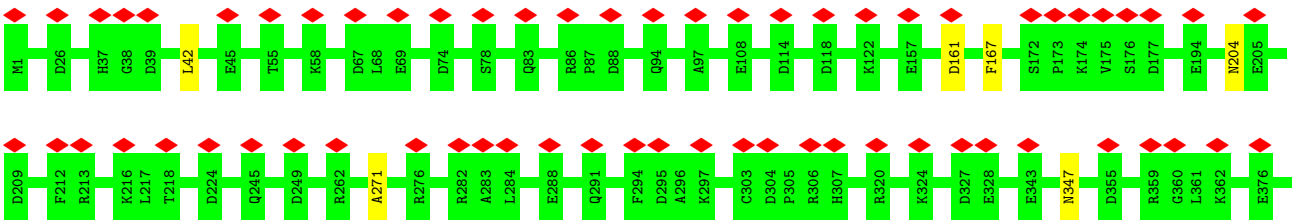


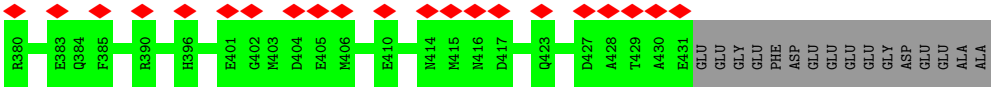


• Molecule 55: Tubulin beta chain

Chain OH:

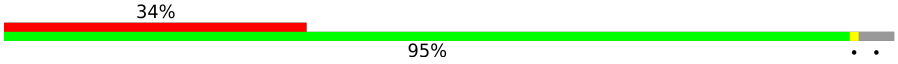


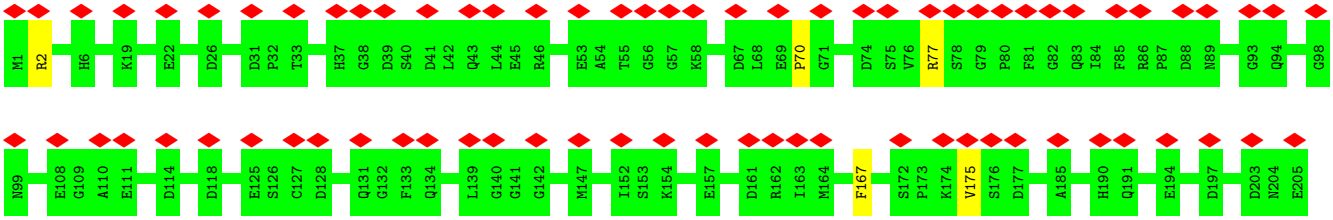




• Molecule 55: Tubulin beta chain

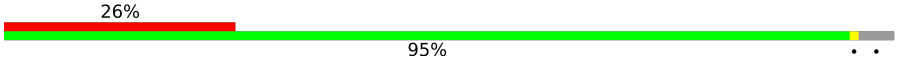
Chain OJ:

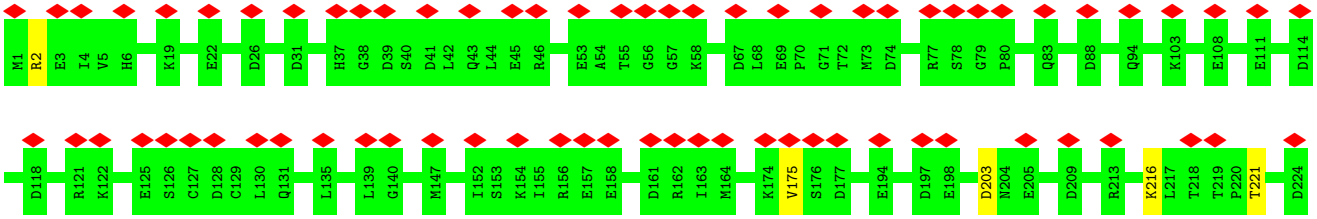




• Molecule 55: Tubulin beta chain

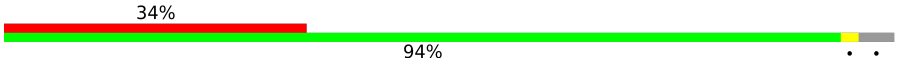
Chain OM:

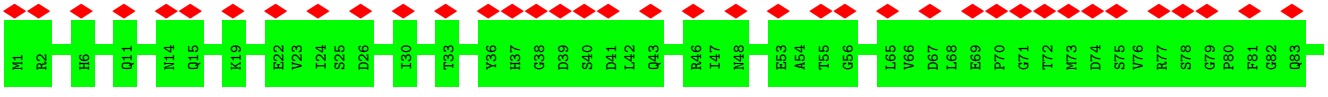


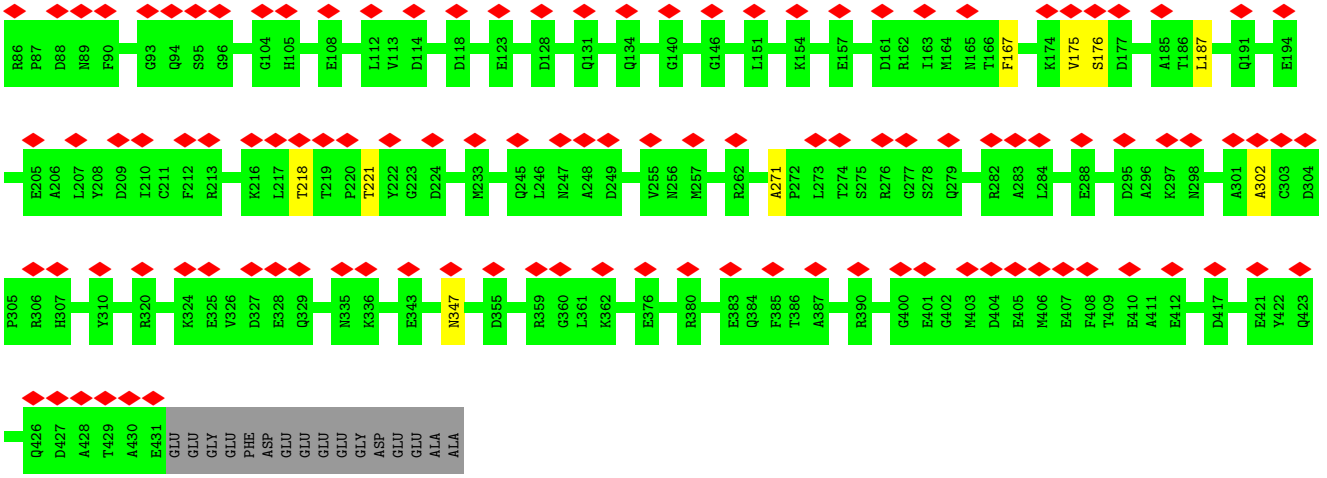


• Molecule 55: Tubulin beta chain

Chain PC:

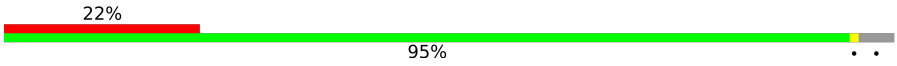


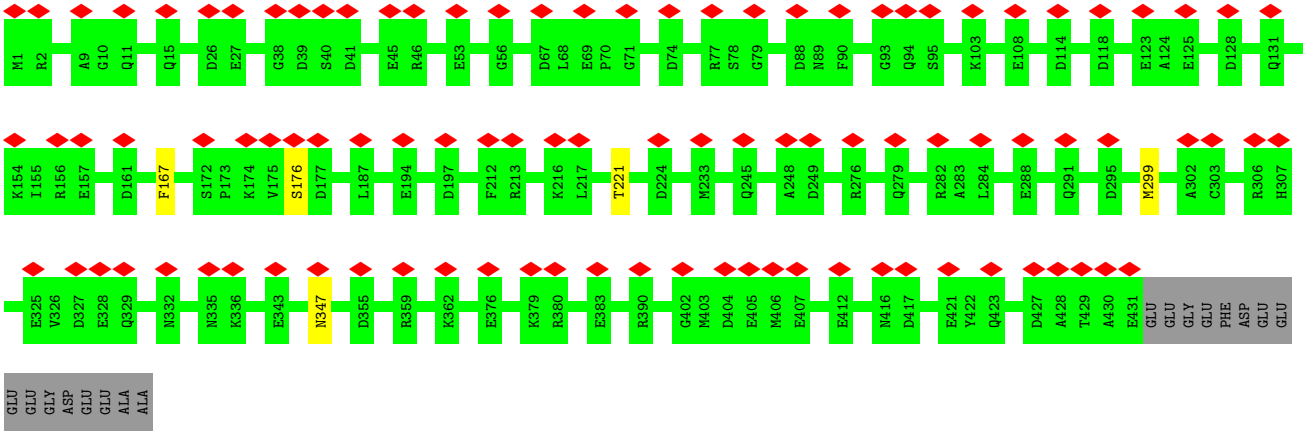




• Molecule 55: Tubulin beta chain

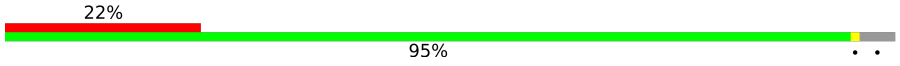
Chain PD:

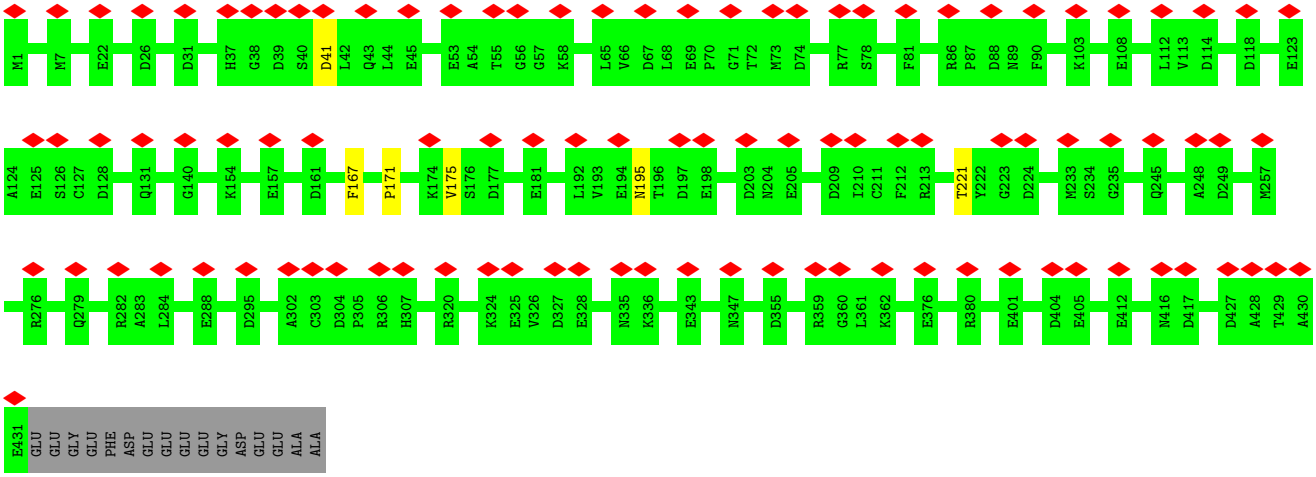




• Molecule 55: Tubulin beta chain

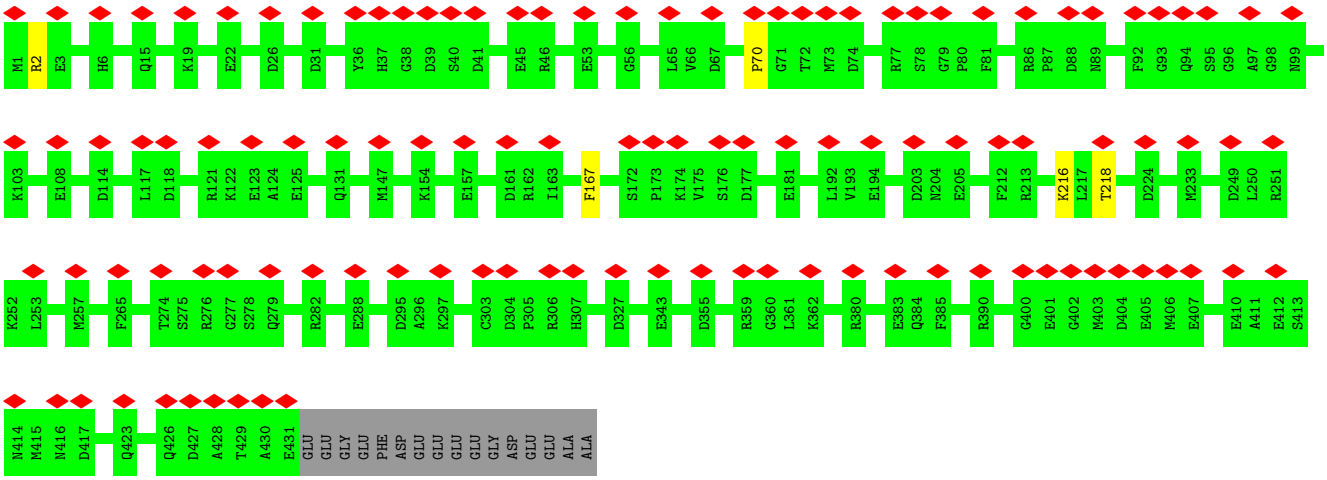
Chain PF:





• Molecule 55: Tubulin beta chain

Chain PH:

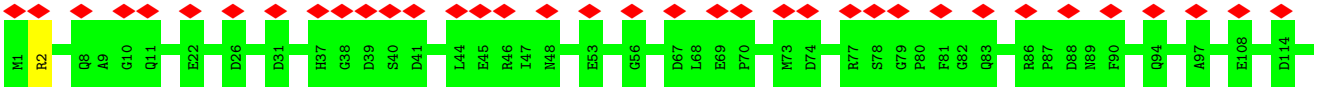


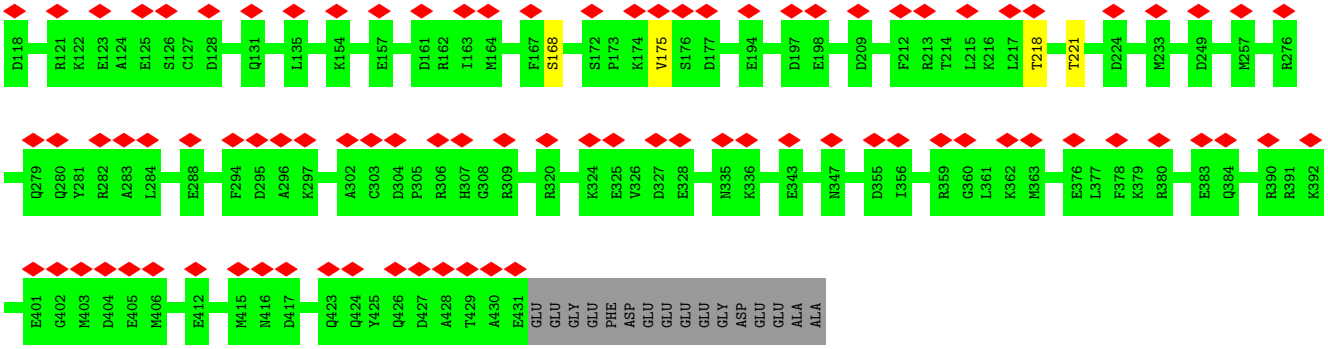
• Molecule 55: Tubulin beta chain

Chain PJ:

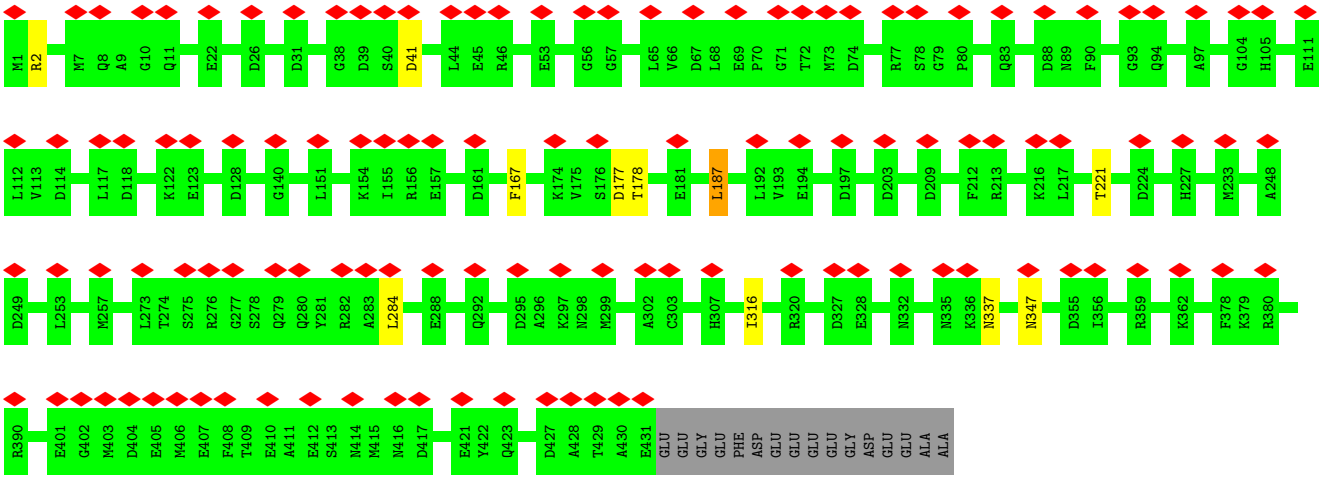
• Molecule 55: Tubulin beta chain

Chain PM:

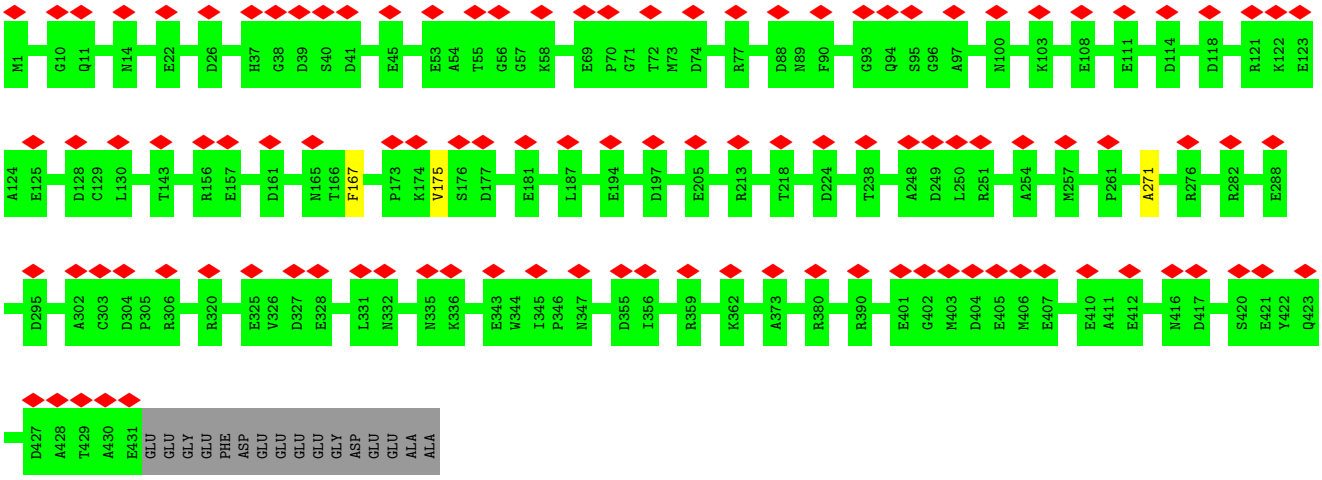




• Molecule 55: Tubulin beta chain

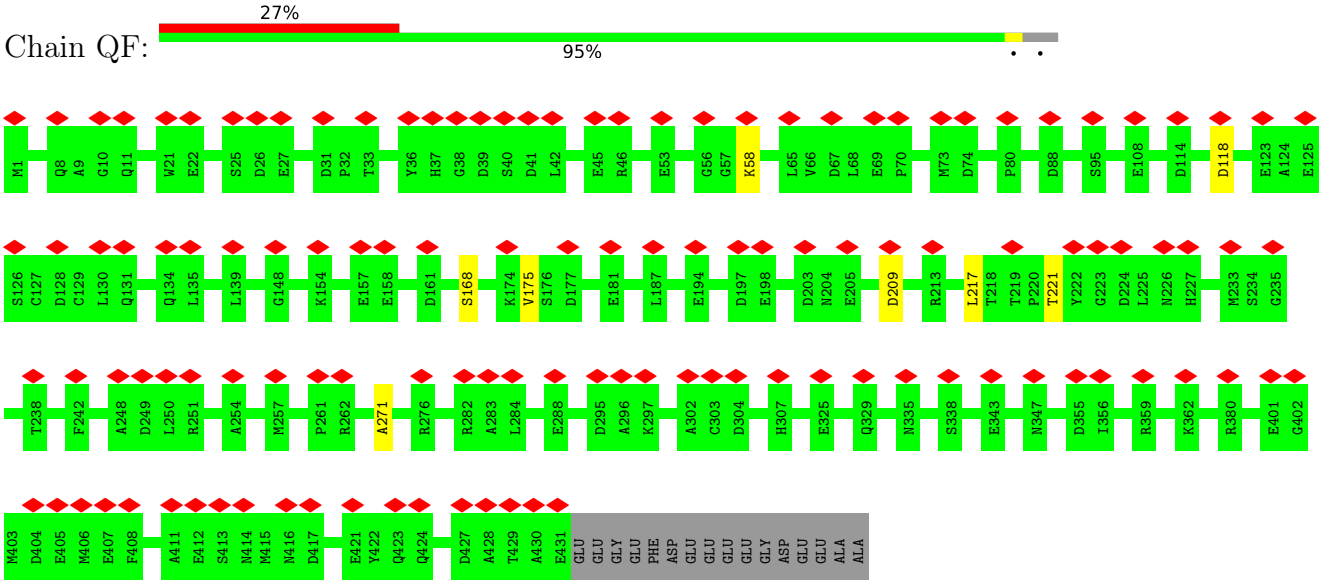


• Molecule 55: Tubulin beta chain



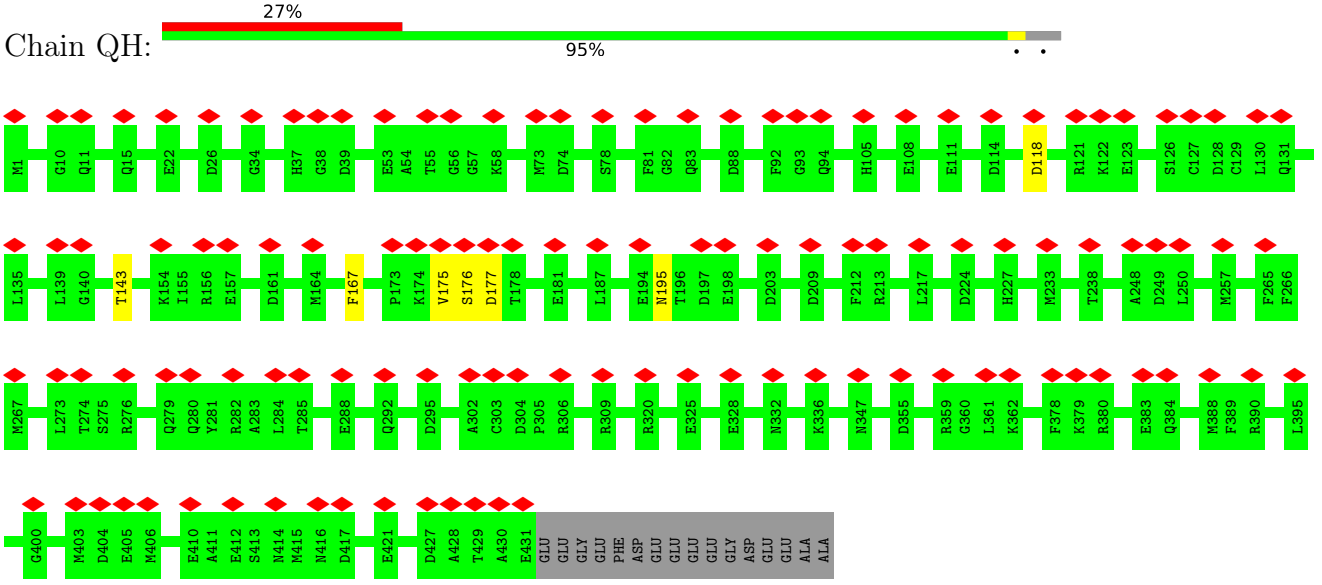
• Molecule 55: Tubulin beta chain

Chain QF:



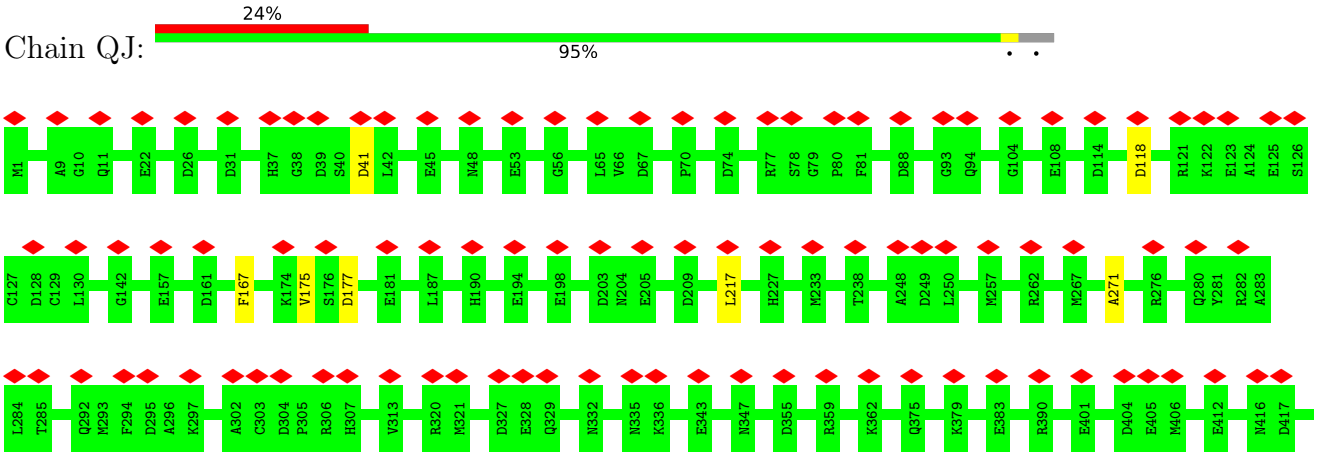
• Molecule 55: Tubulin beta chain

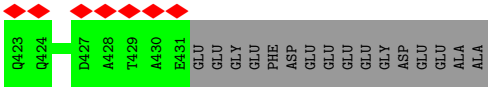
Chain QH:



• Molecule 55: Tubulin beta chain

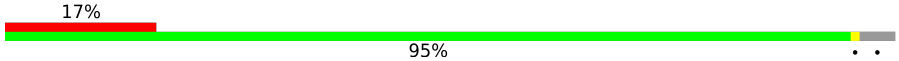
Chain QJ:

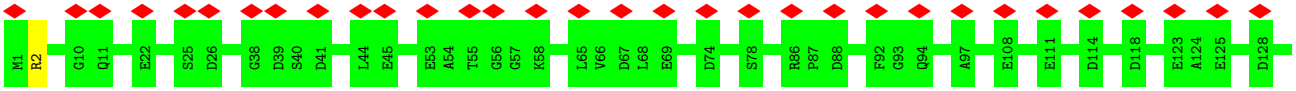


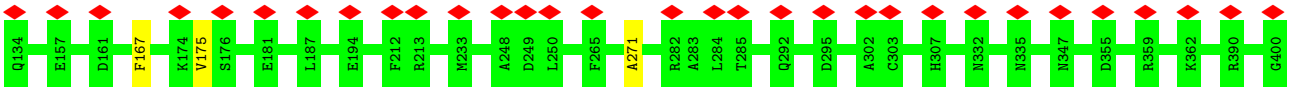


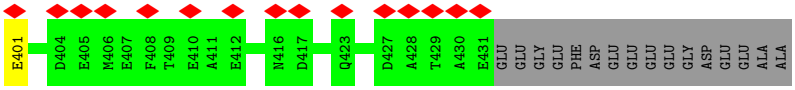
• Molecule 55: Tubulin beta chain

Chain QM:



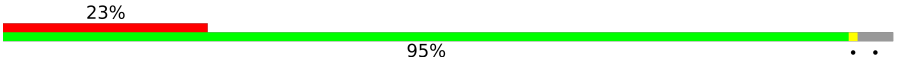


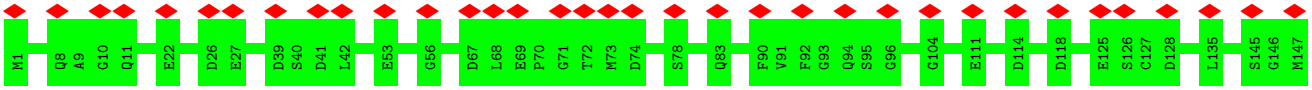


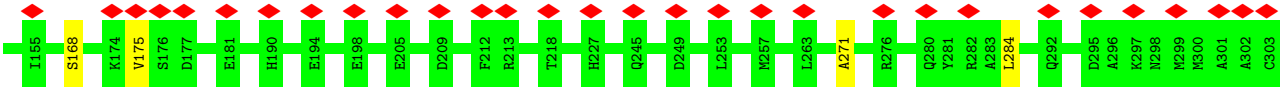


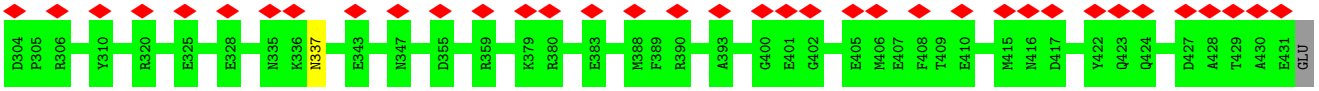
• Molecule 55: Tubulin beta chain

Chain RC:



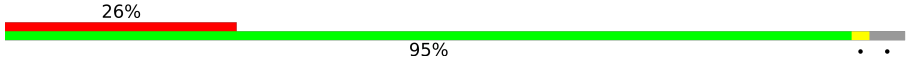


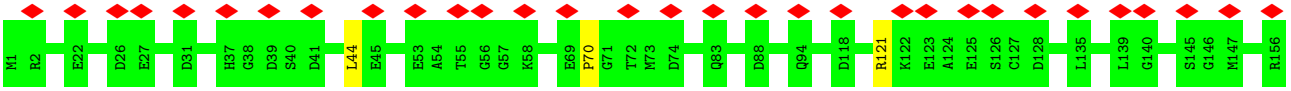


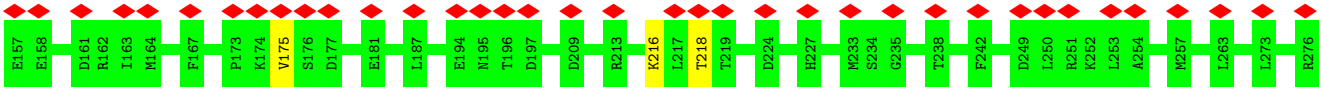


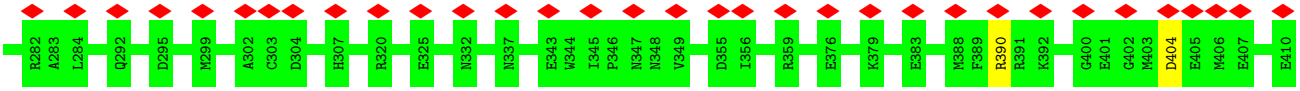
• Molecule 55: Tubulin beta chain

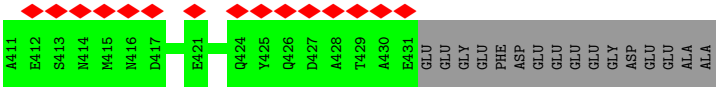
Chain RD:





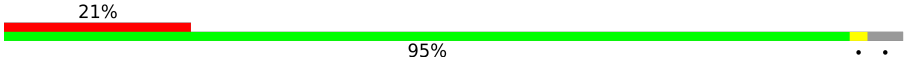


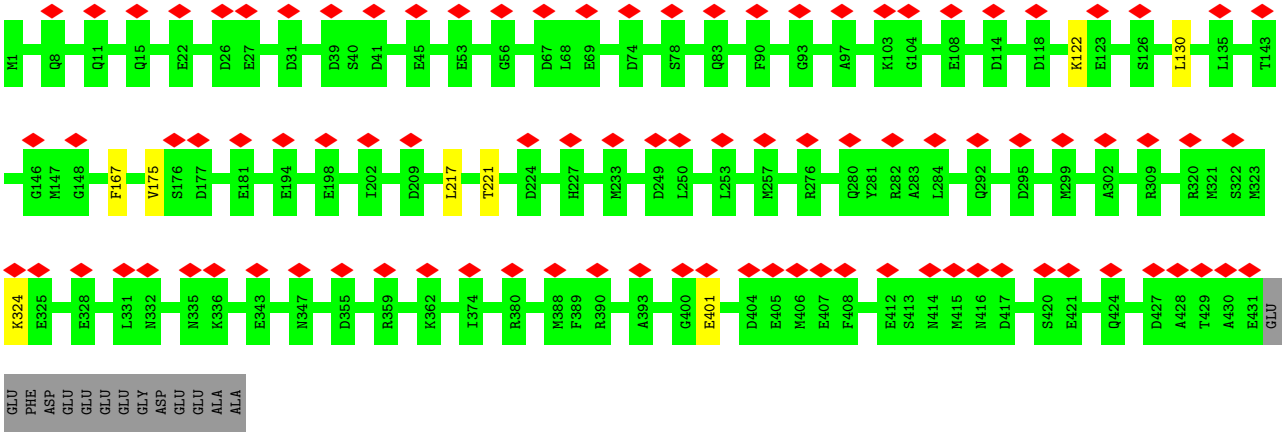




• Molecule 55: Tubulin beta chain

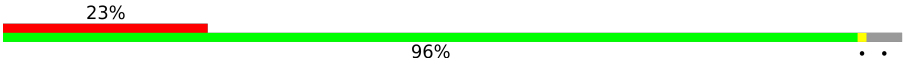
Chain RF:

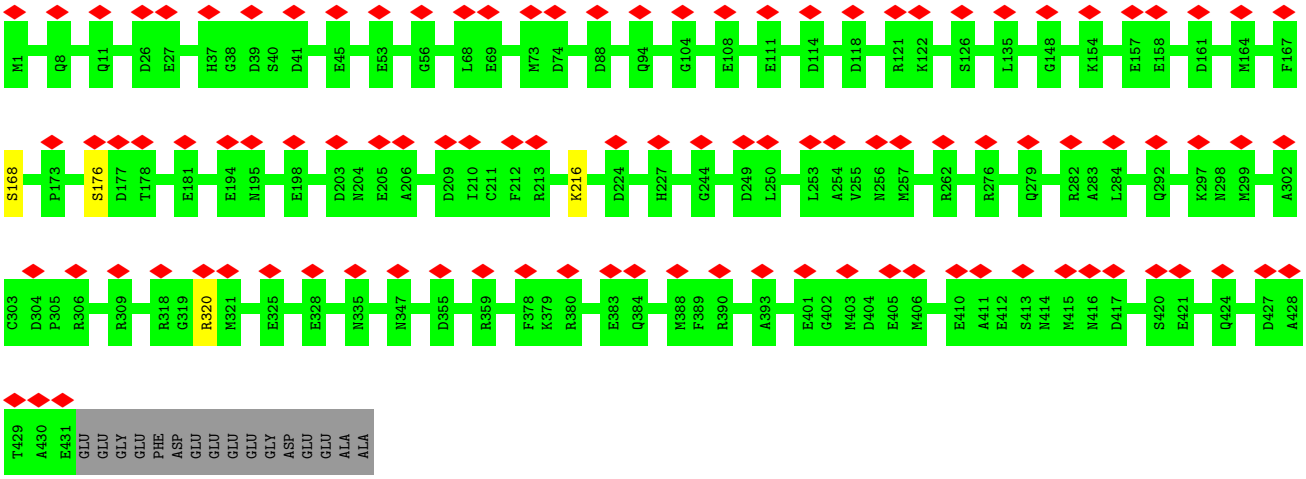




• Molecule 55: Tubulin beta chain

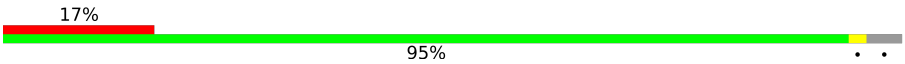
Chain RH:

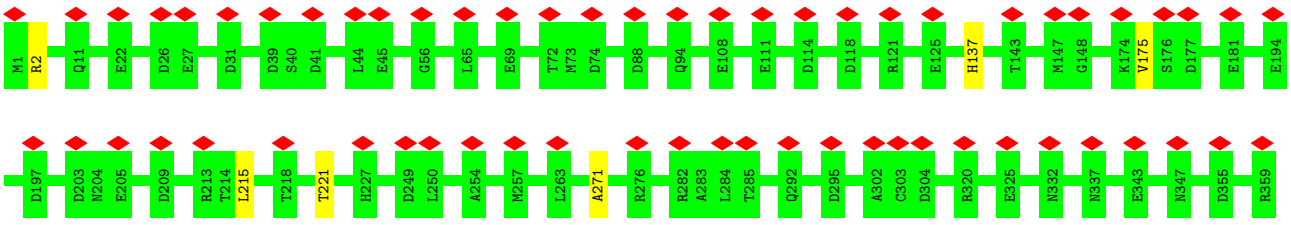


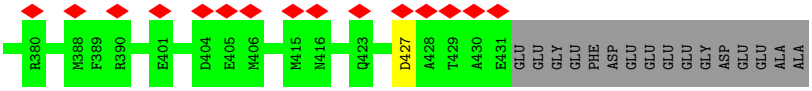


• Molecule 55: Tubulin beta chain

Chain RJ:

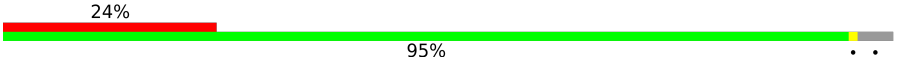


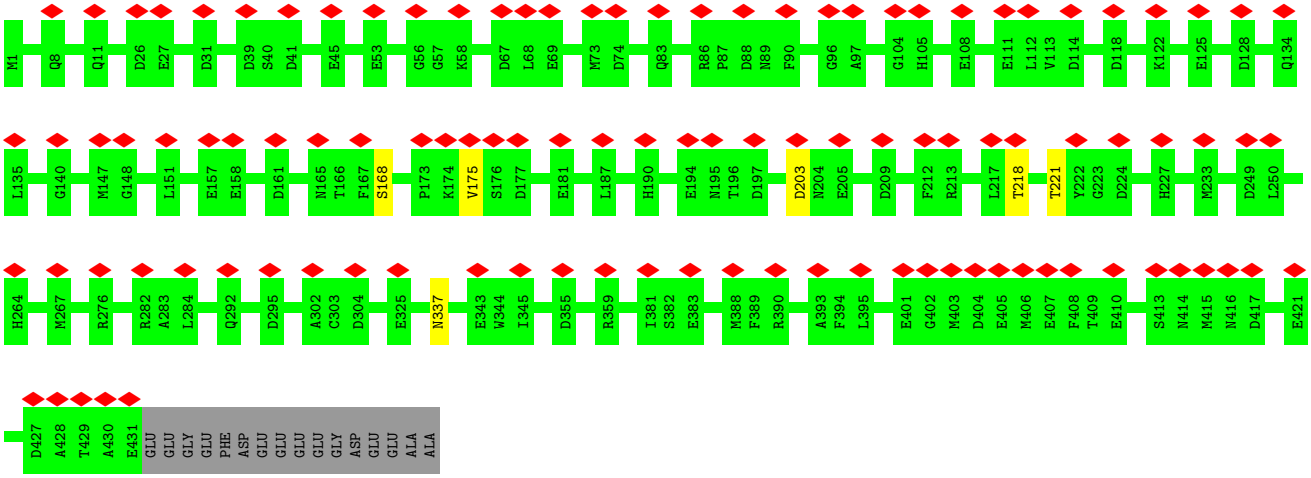




• Molecule 55: Tubulin beta chain

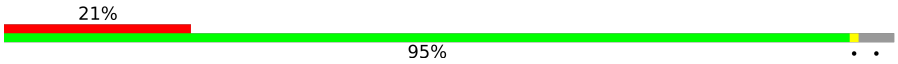
Chain RM:

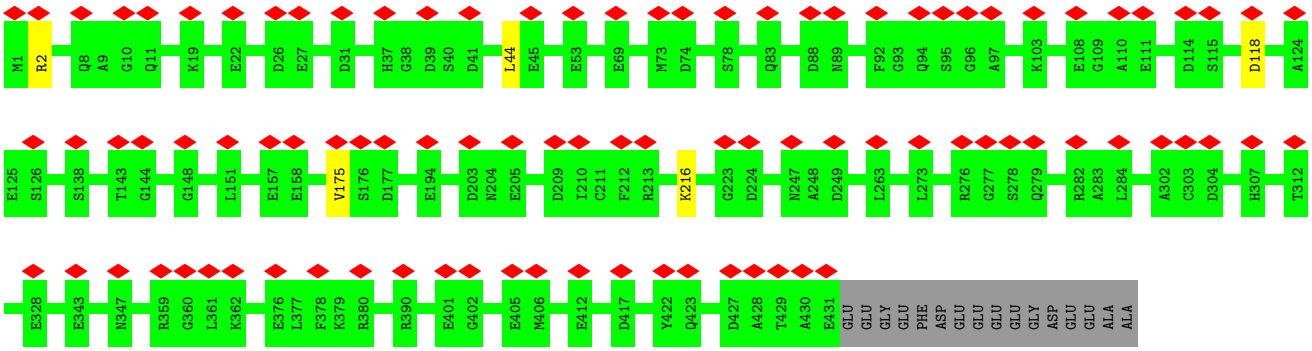




• Molecule 55: Tubulin beta chain

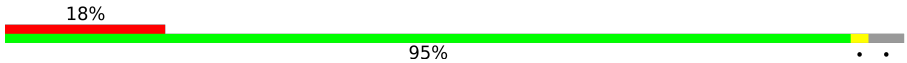
Chain SC:

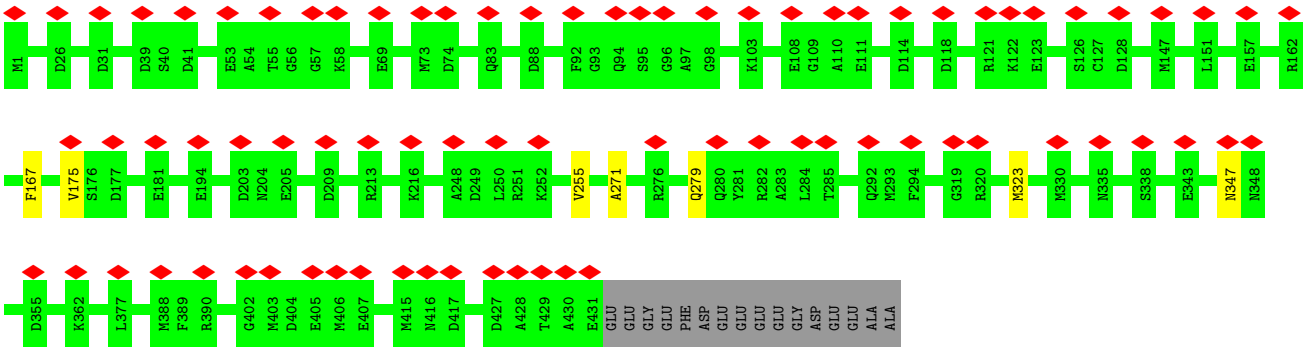




• Molecule 55: Tubulin beta chain

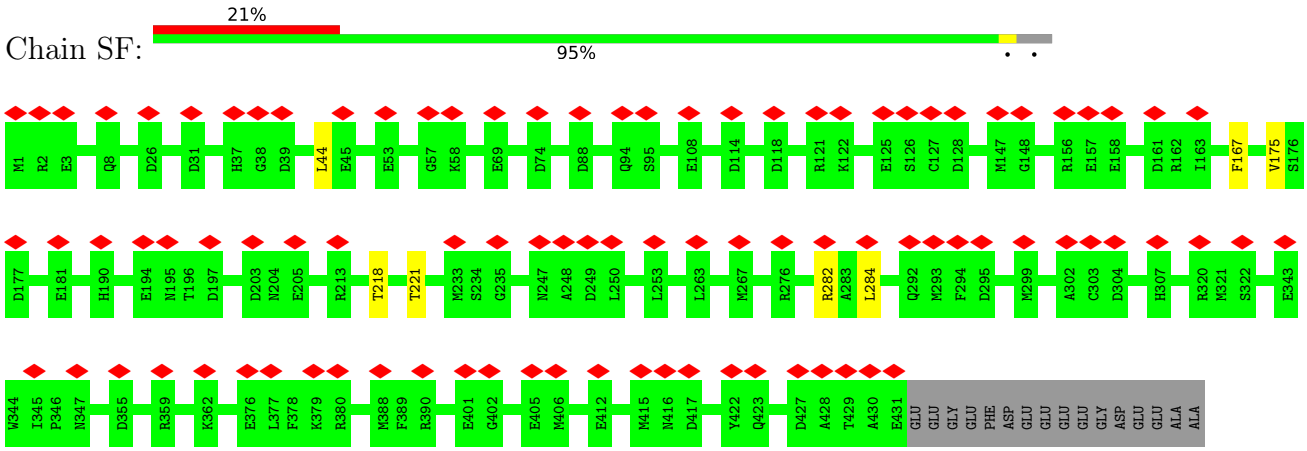
Chain SD:





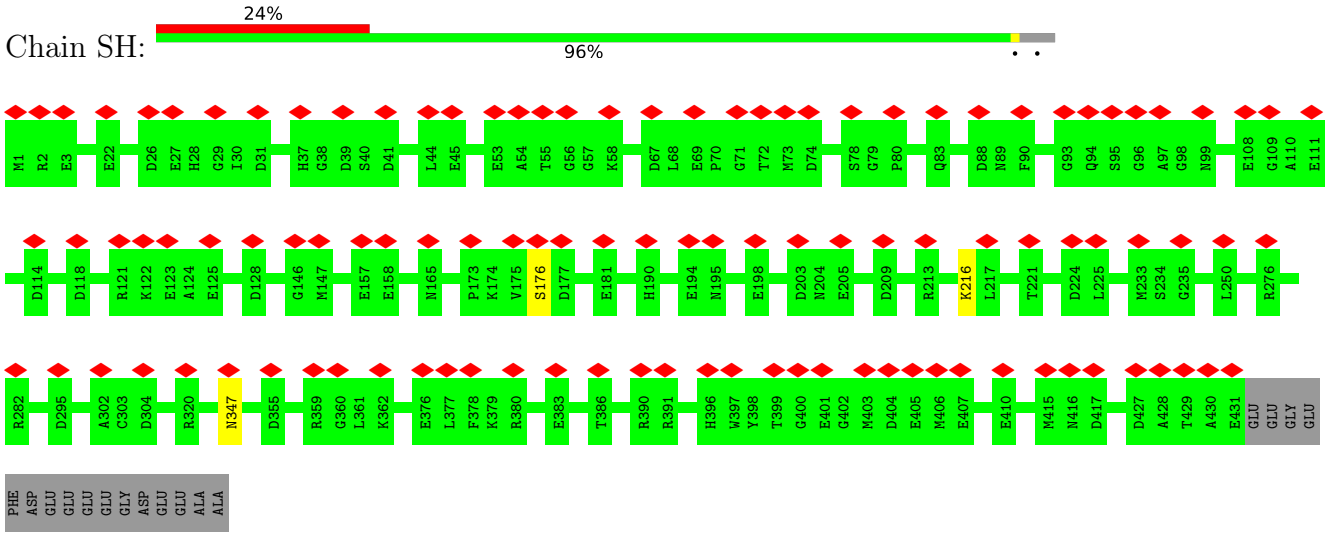
• Molecule 55: Tubulin beta chain

Chain SF:



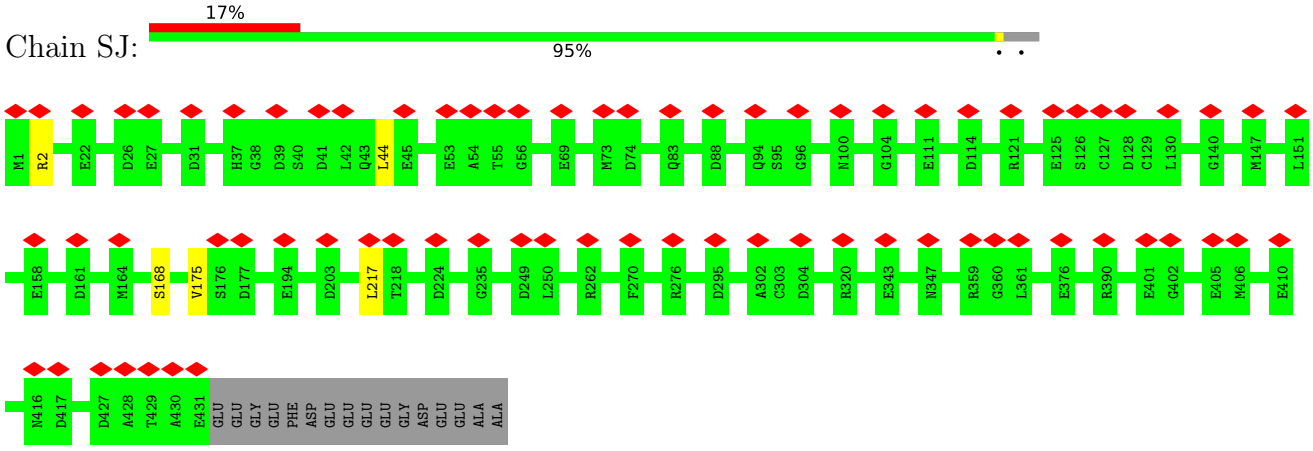
• Molecule 55: Tubulin beta chain

Chain SH:



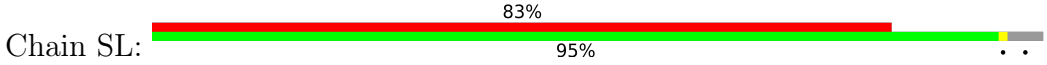
• Molecule 55: Tubulin beta chain

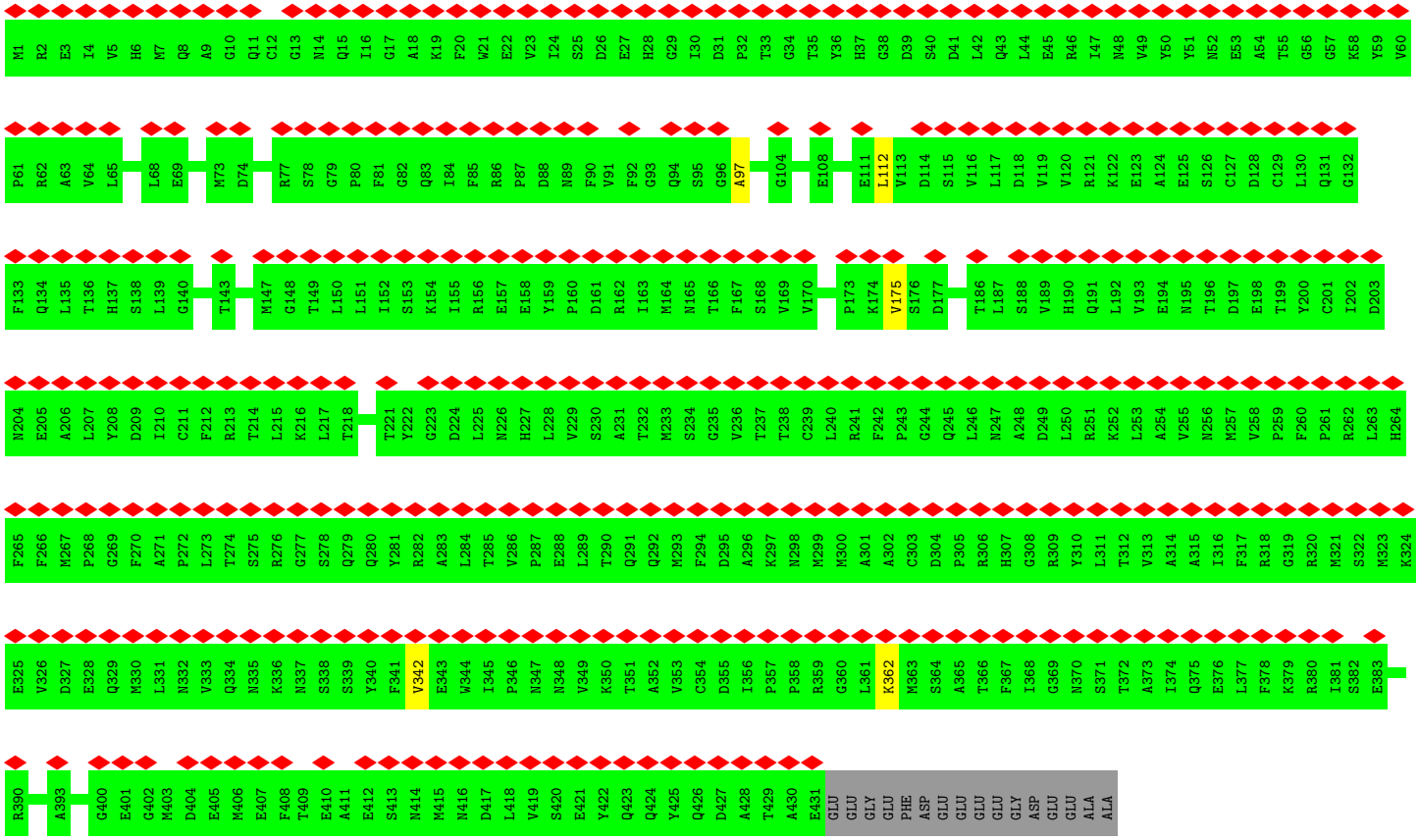
Chain SJ:



• Molecule 55: Tubulin beta chain

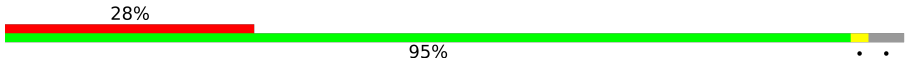
Chain SL:

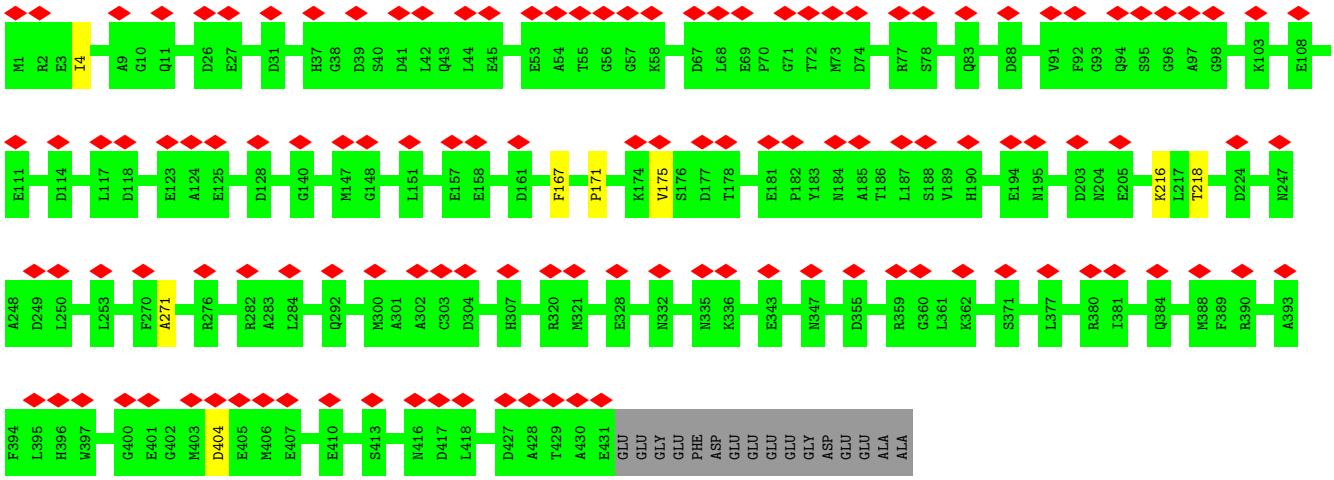




• Molecule 55: Tubulin beta chain

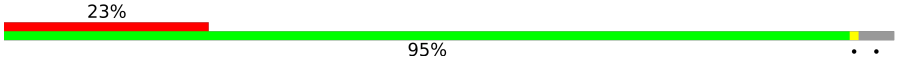
Chain SM:

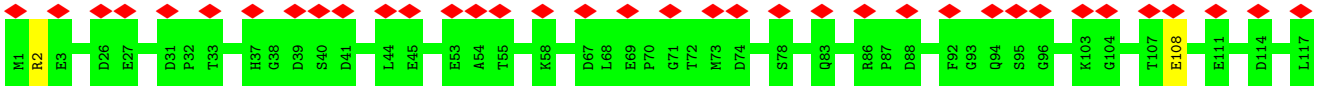


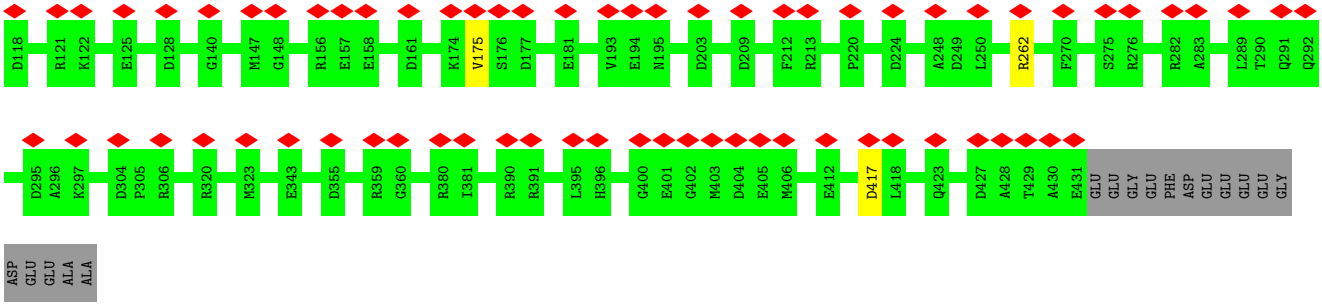


• Molecule 55: Tubulin beta chain

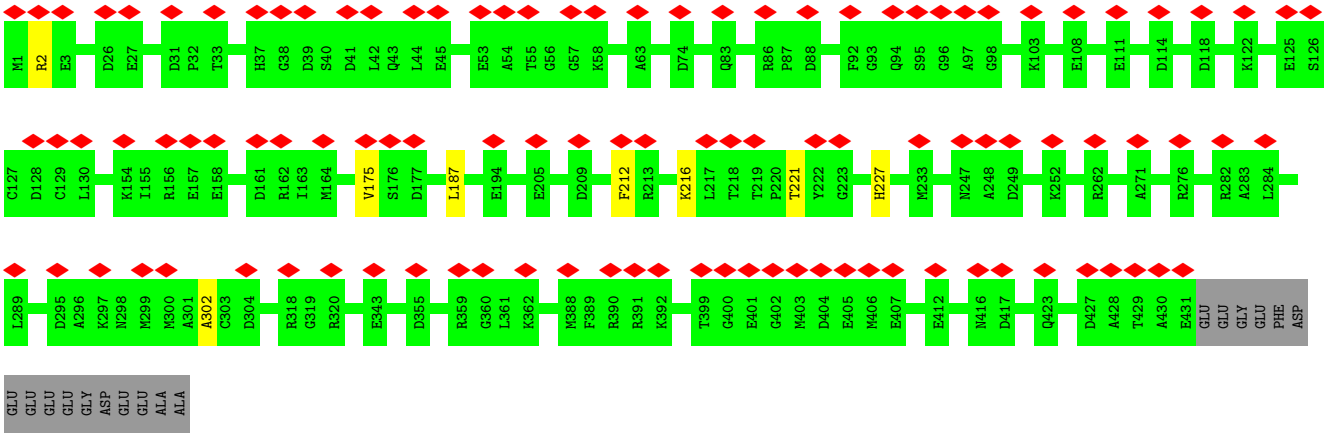
Chain TC:



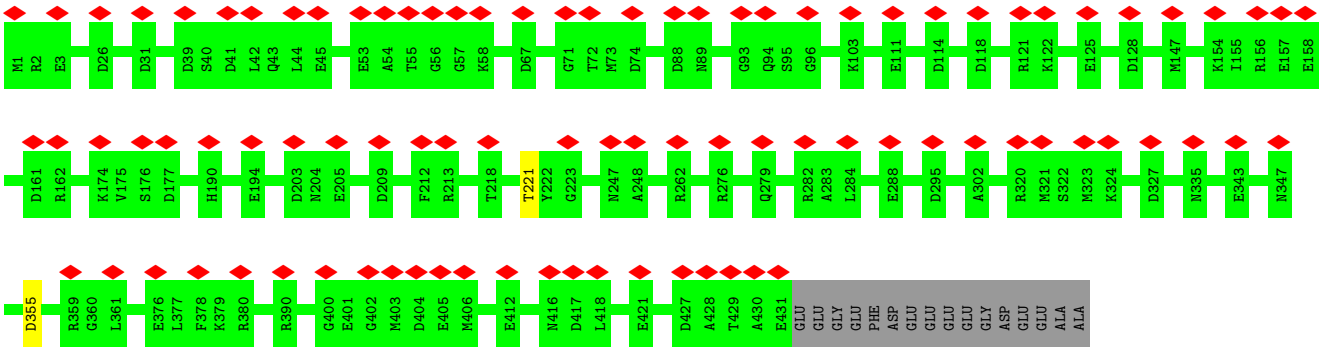




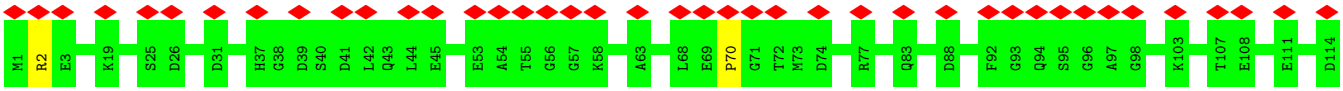
• Molecule 55: Tubulin beta chain

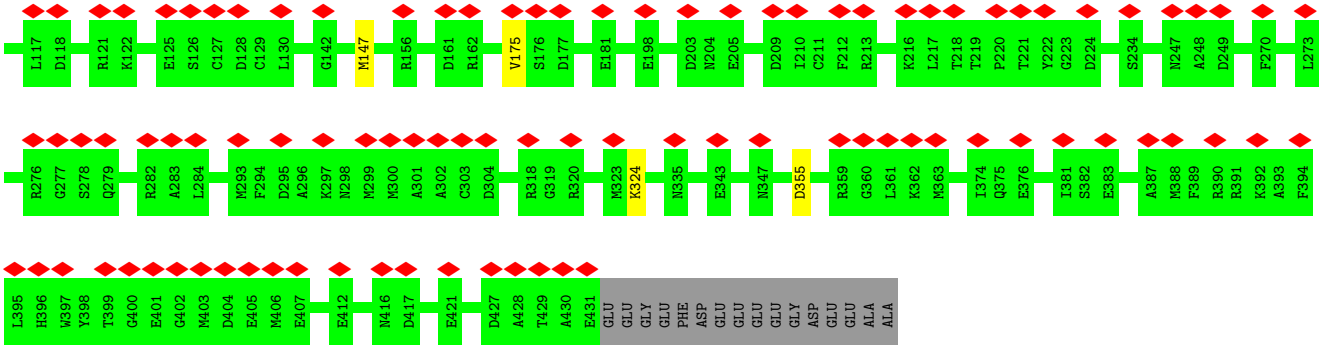


• Molecule 55: Tubulin beta chain



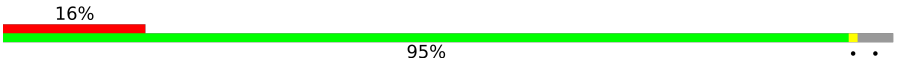
• Molecule 55: Tubulin beta chain

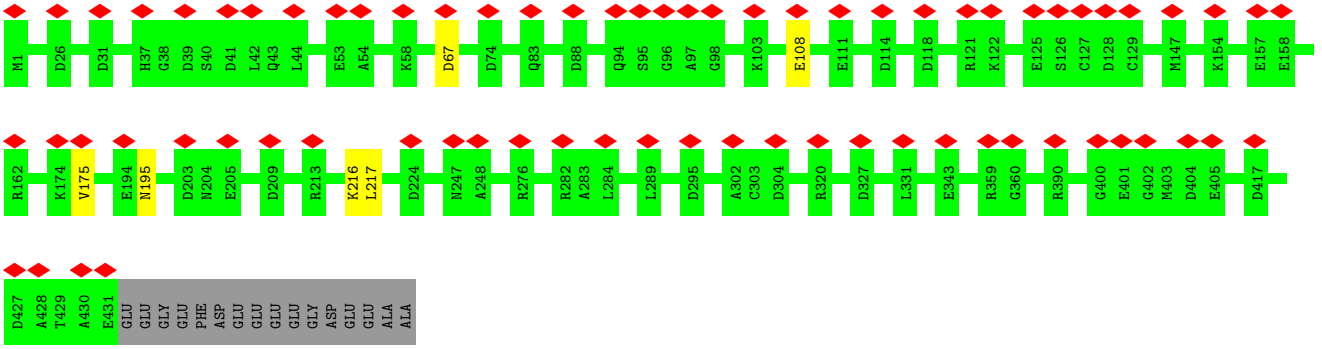




• Molecule 55: Tubulin beta chain

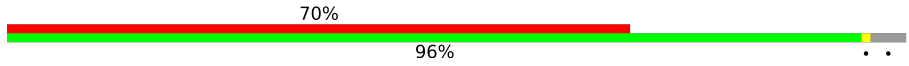
Chain TJ:

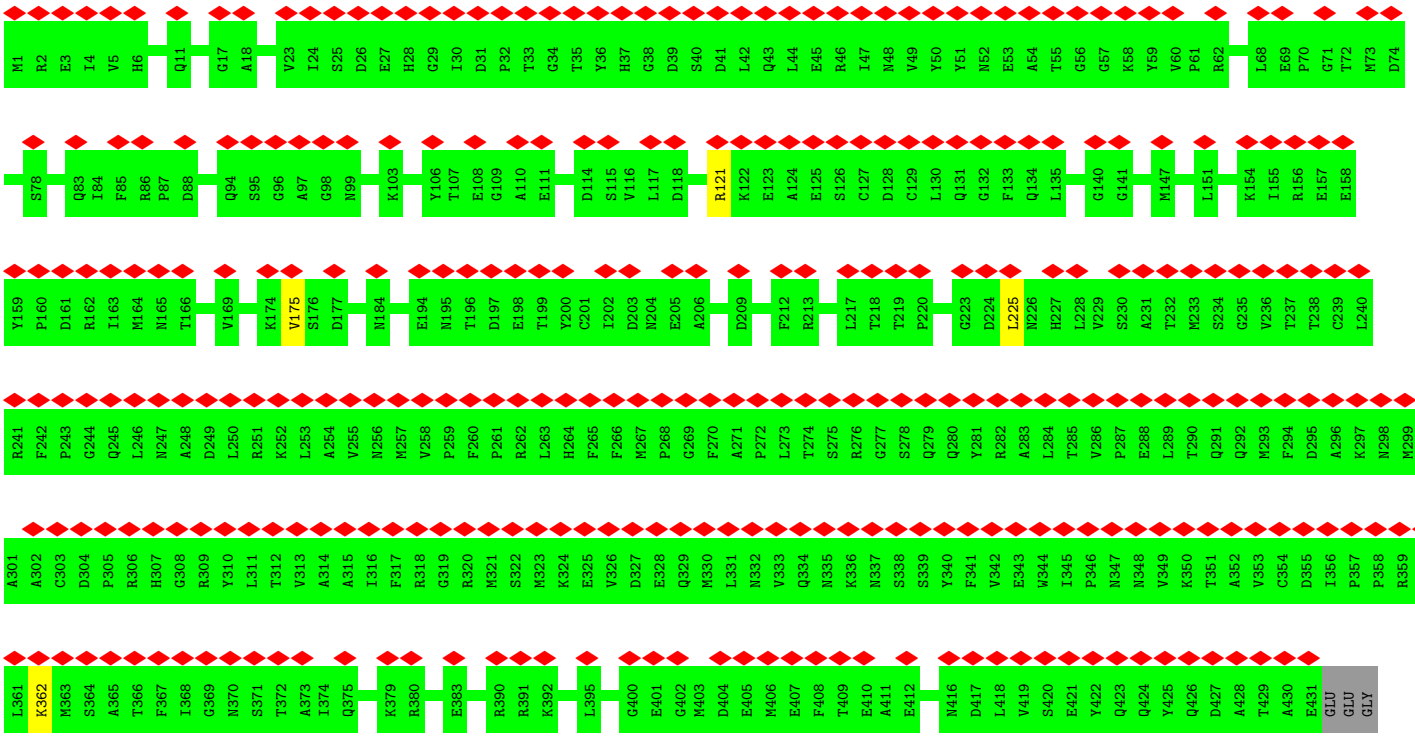




• Molecule 55: Tubulin beta chain

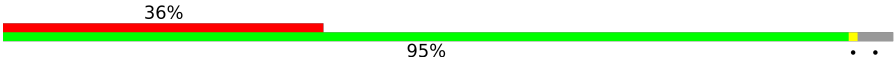
Chain TL:

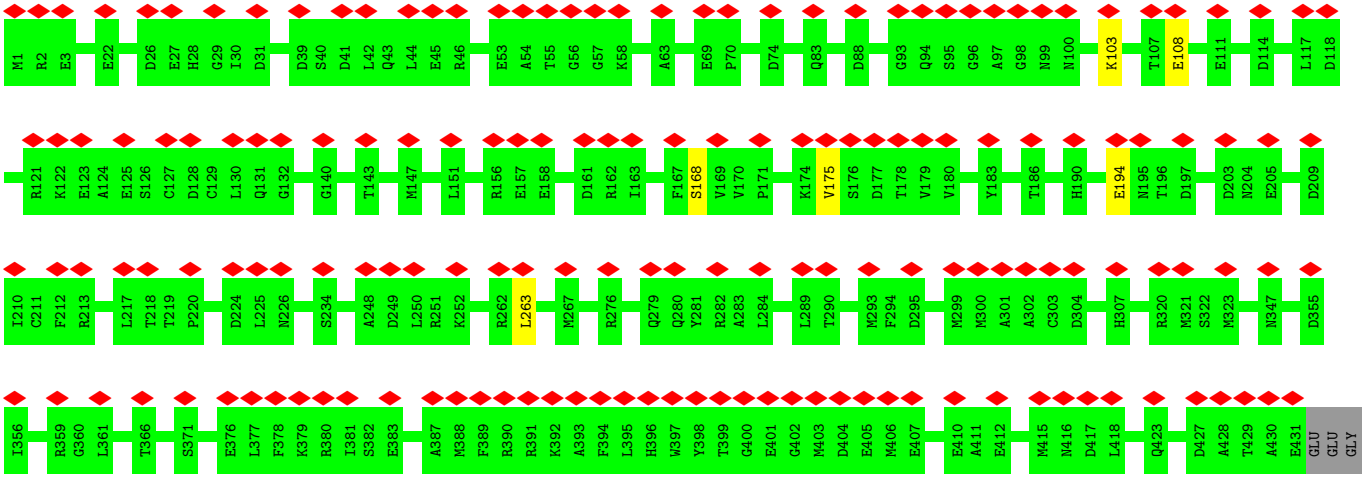


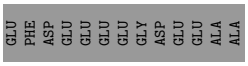


• Molecule 55: Tubulin beta chain

Chain TM:

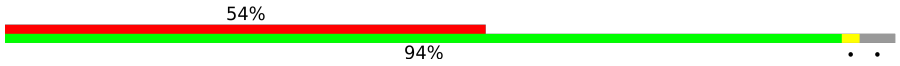


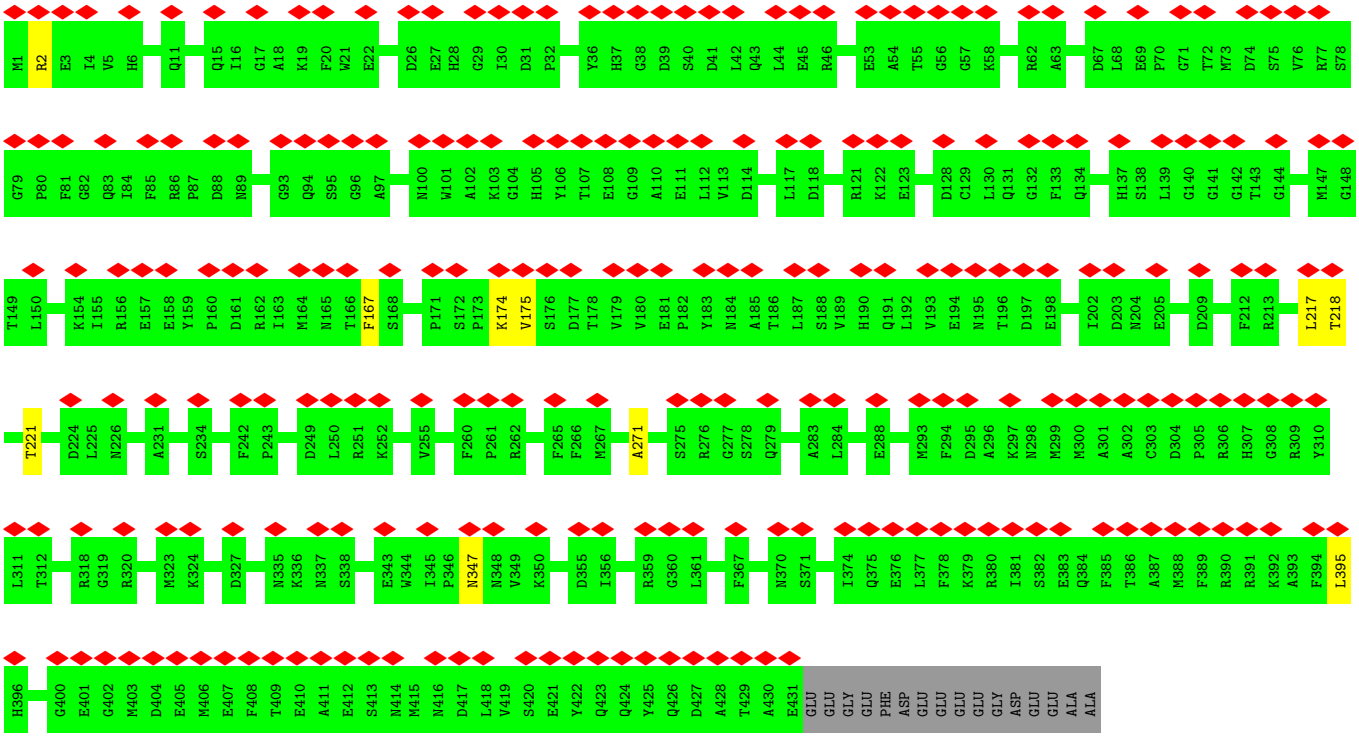




• Molecule 55: Tubulin beta chain

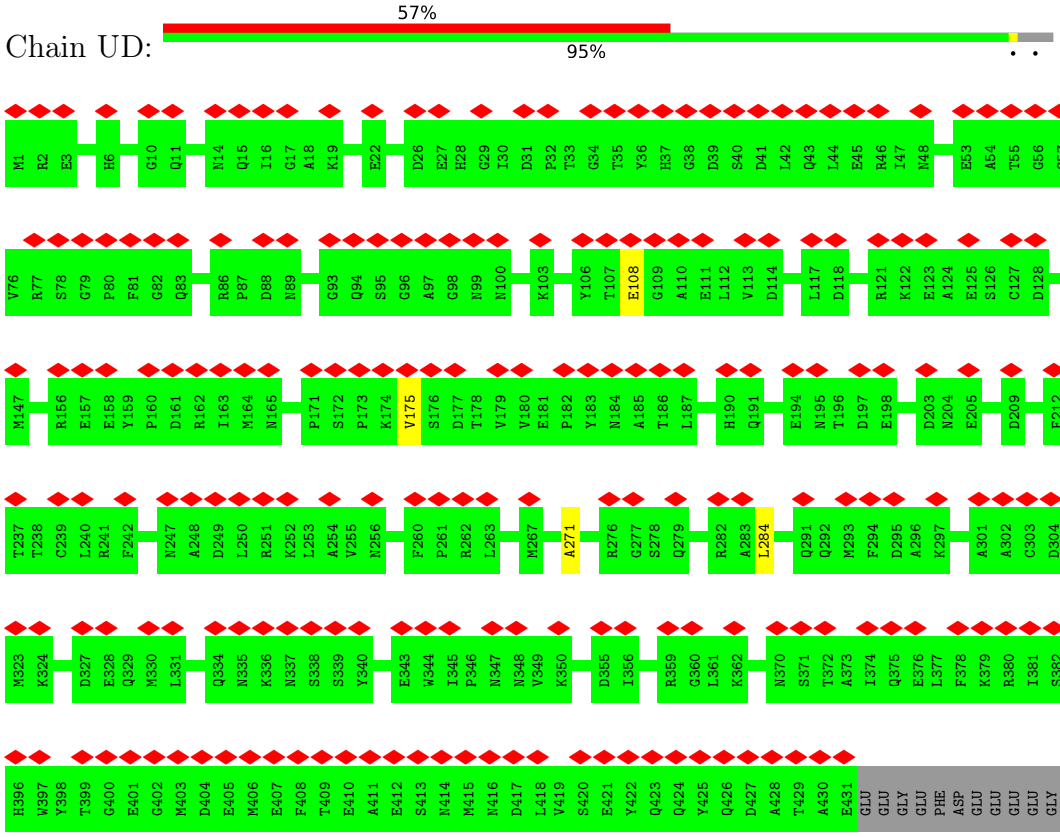
Chain UC:





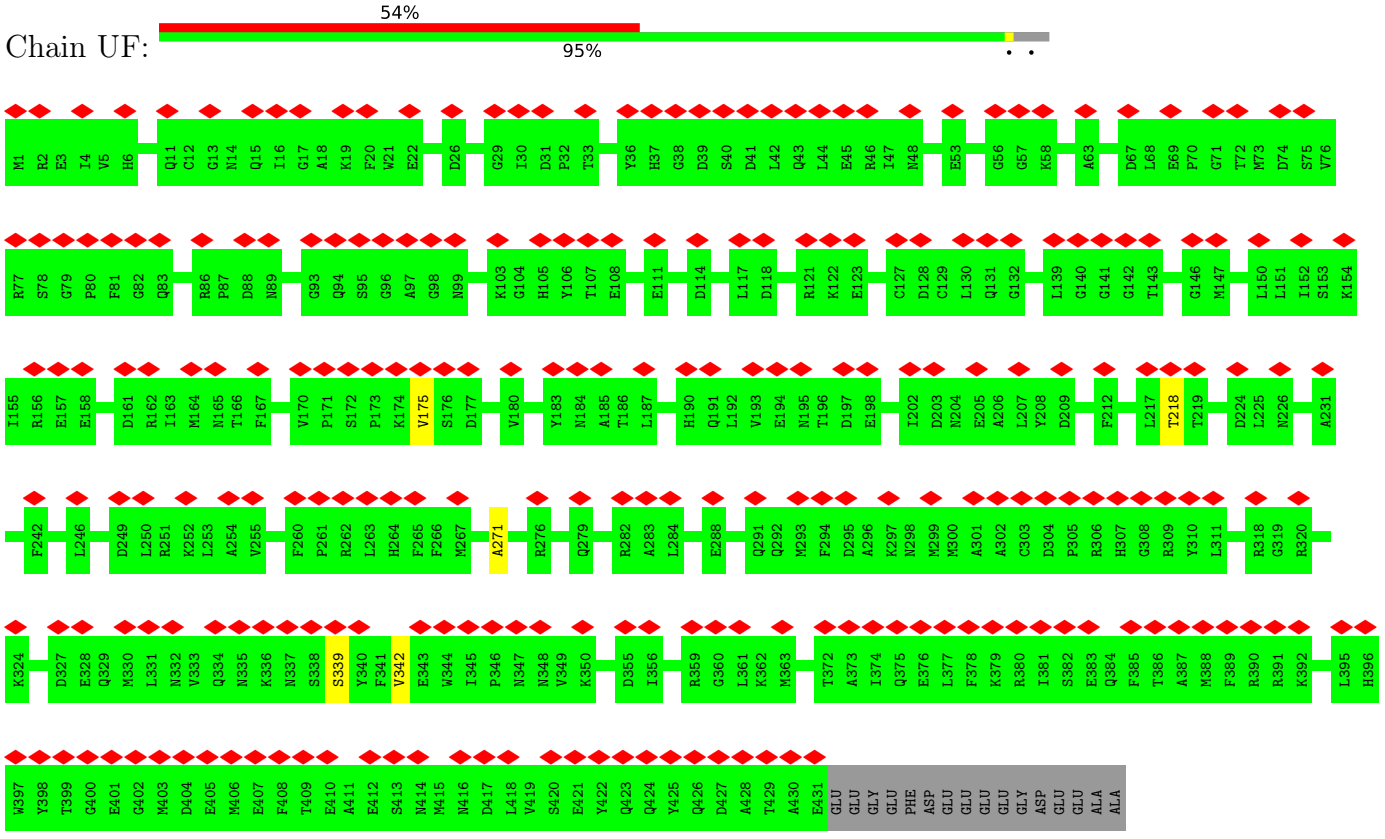
• Molecule 55: Tubulin beta chain

Chain UD:



• Molecule 55: Tubulin beta chain

Chain UF:

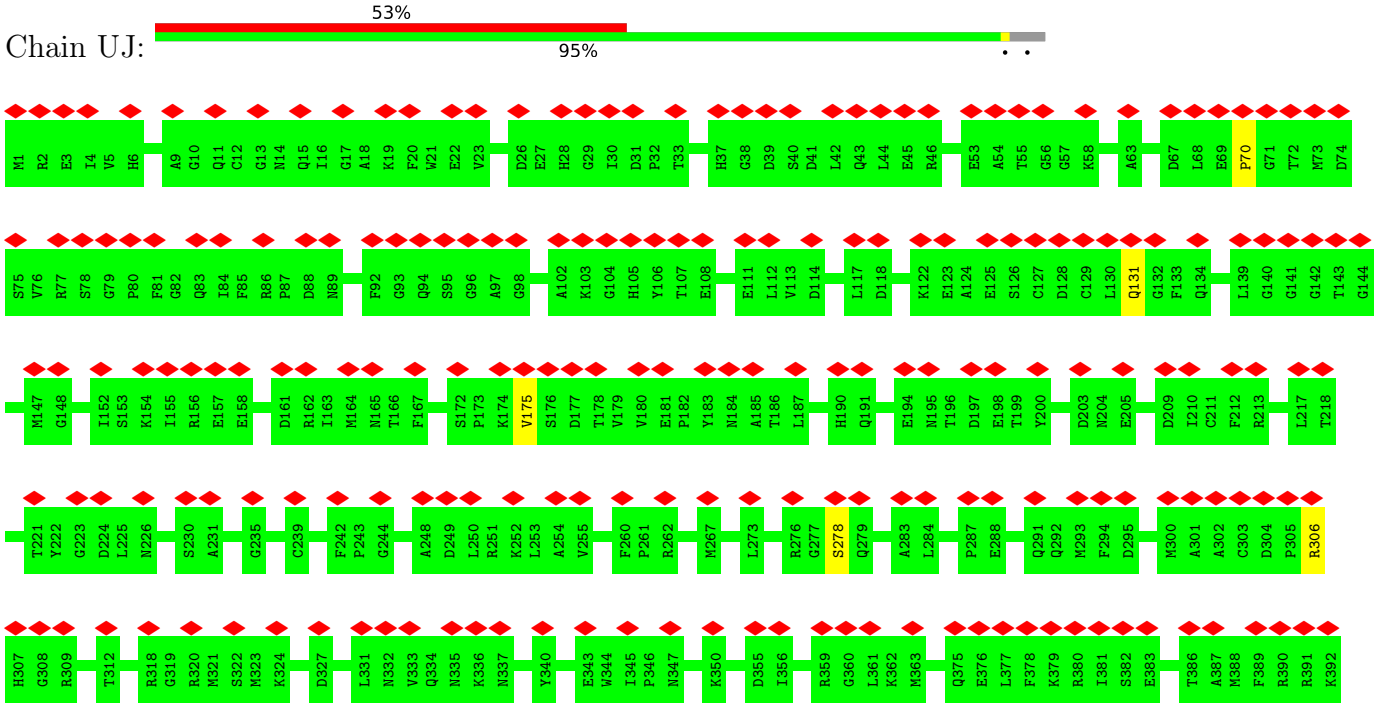


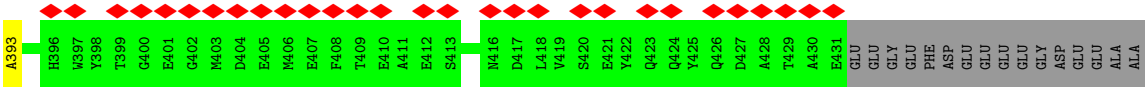
• Molecule 55: Tubulin beta chain

Chain UH:

• Molecule 55: Tubulin beta chain

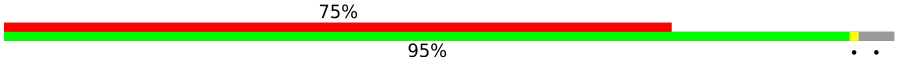
Chain UJ:

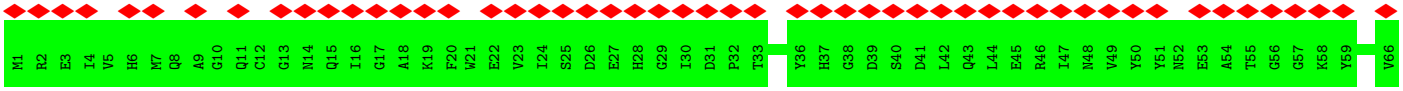


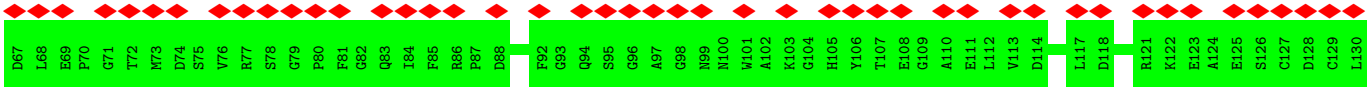


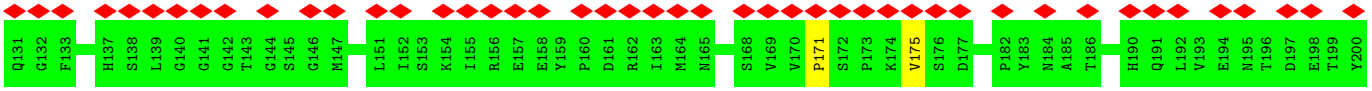
• Molecule 55: Tubulin beta chain

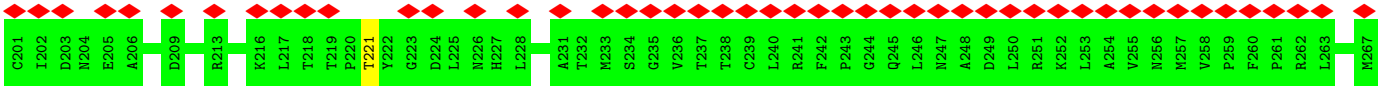
Chain UL:

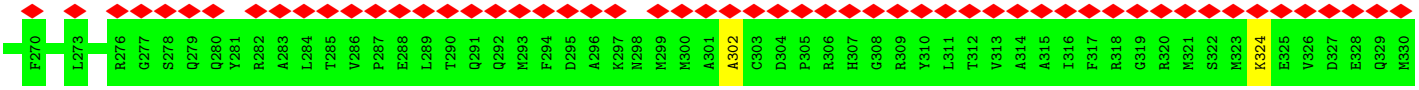


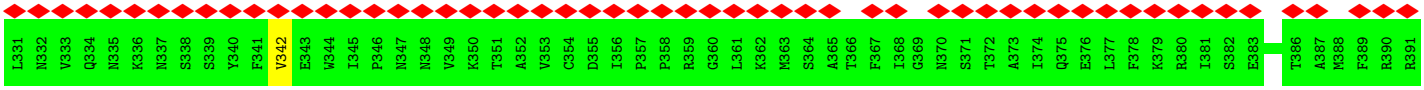


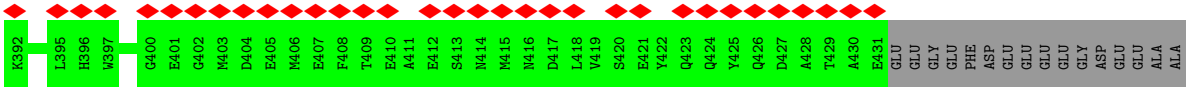






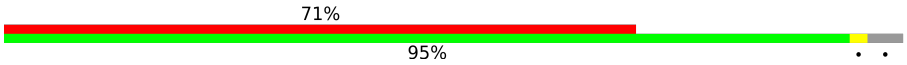


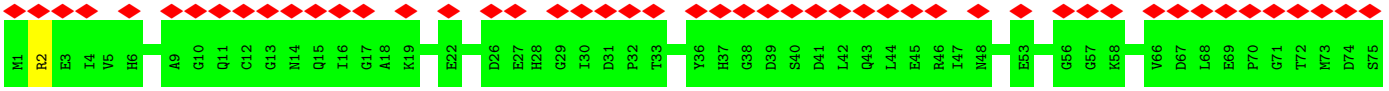


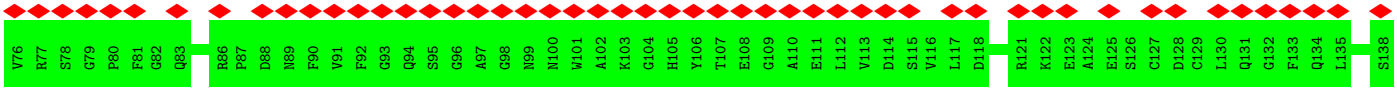


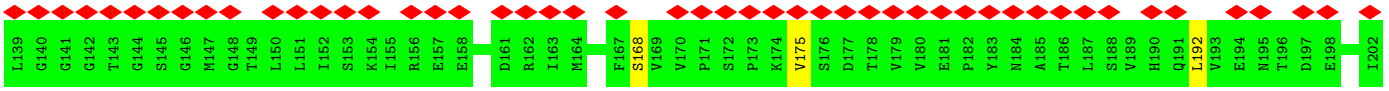
• Molecule 55: Tubulin beta chain

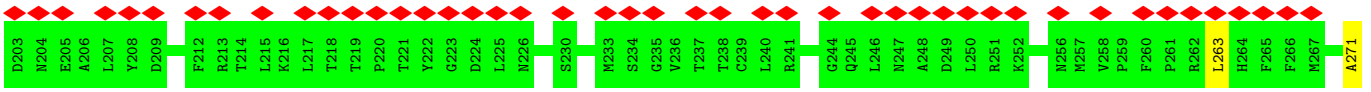
Chain UM:

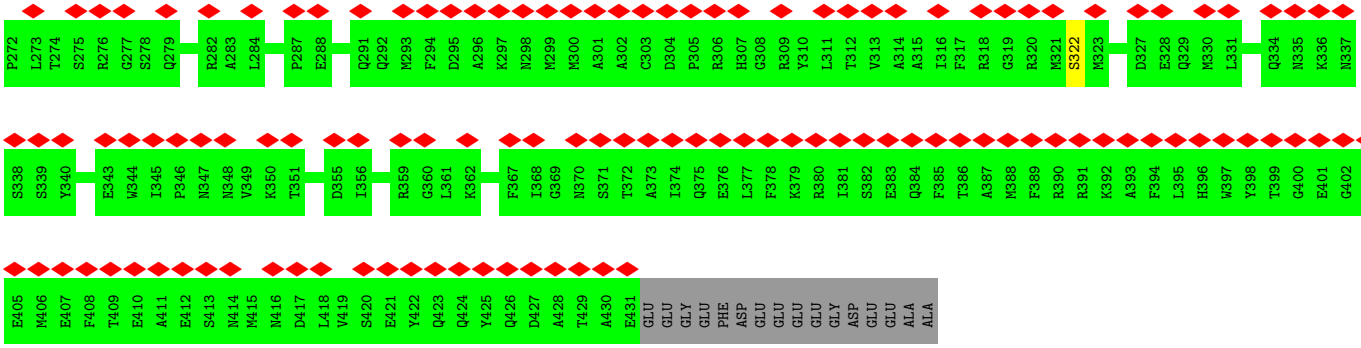






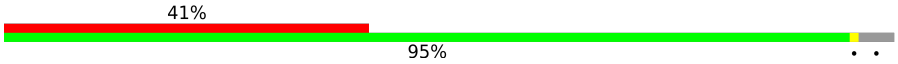


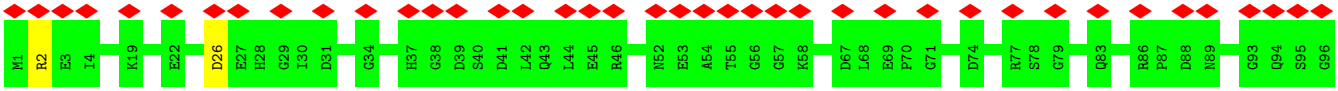




• Molecule 55: Tubulin beta chain

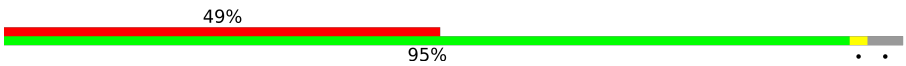
Chain VC:

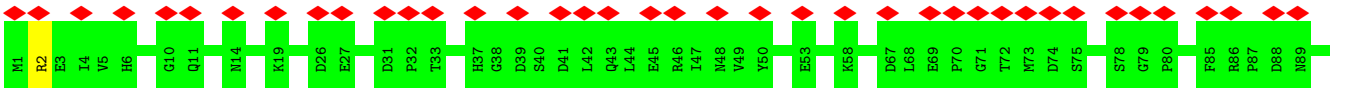


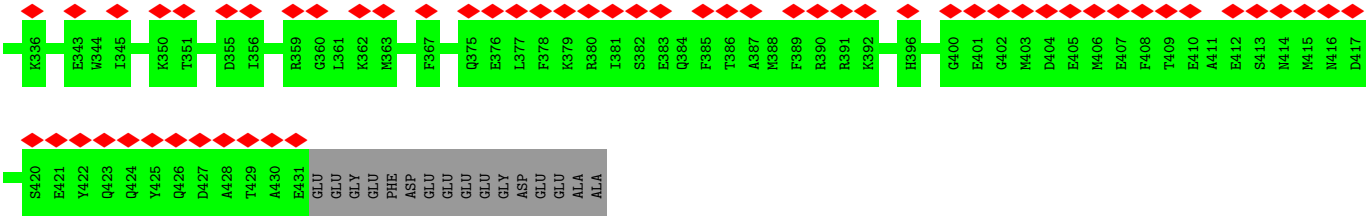


• Molecule 55: Tubulin beta chain

Chain VD:

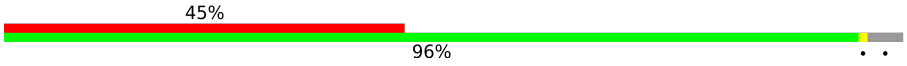






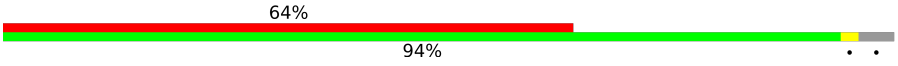
• Molecule 55: Tubulin beta chain

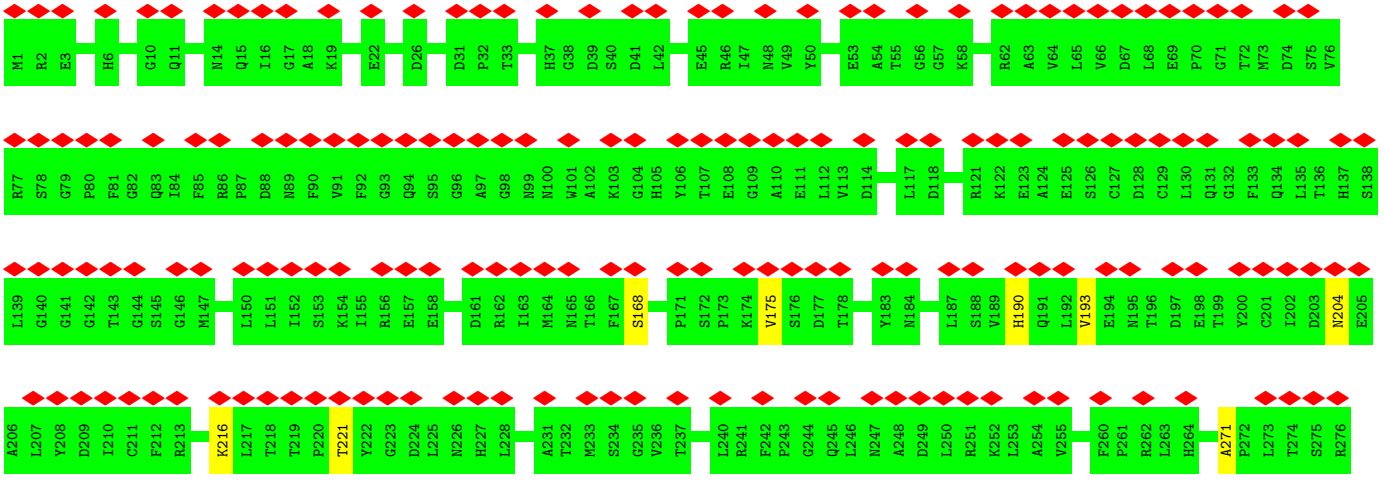
Chain VF:

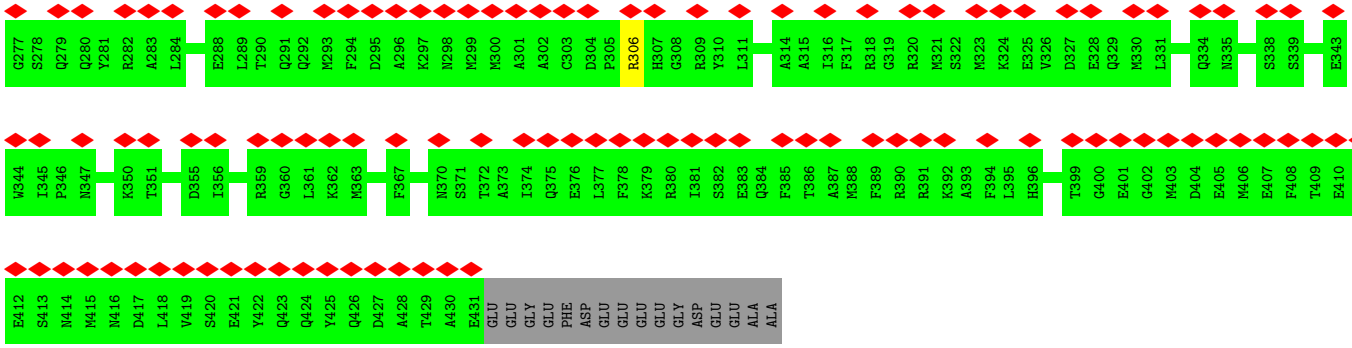


• Molecule 55: Tubulin beta chain

Chain VH:

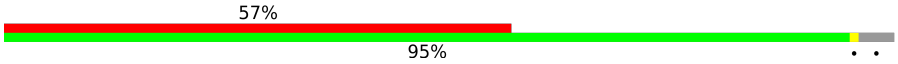


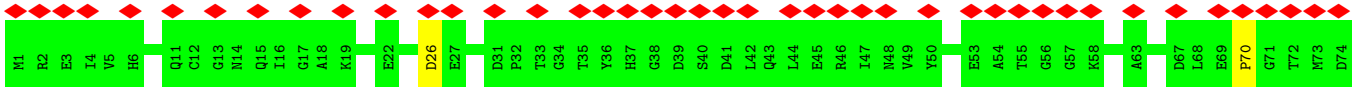




• Molecule 55: Tubulin beta chain

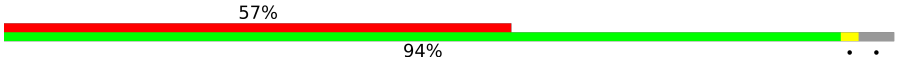
Chain VJ:

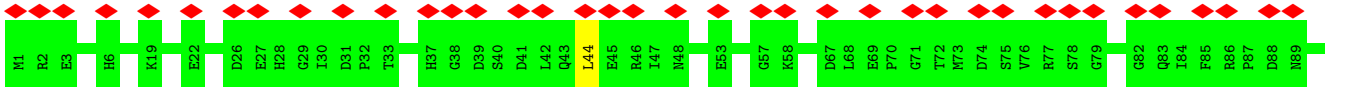


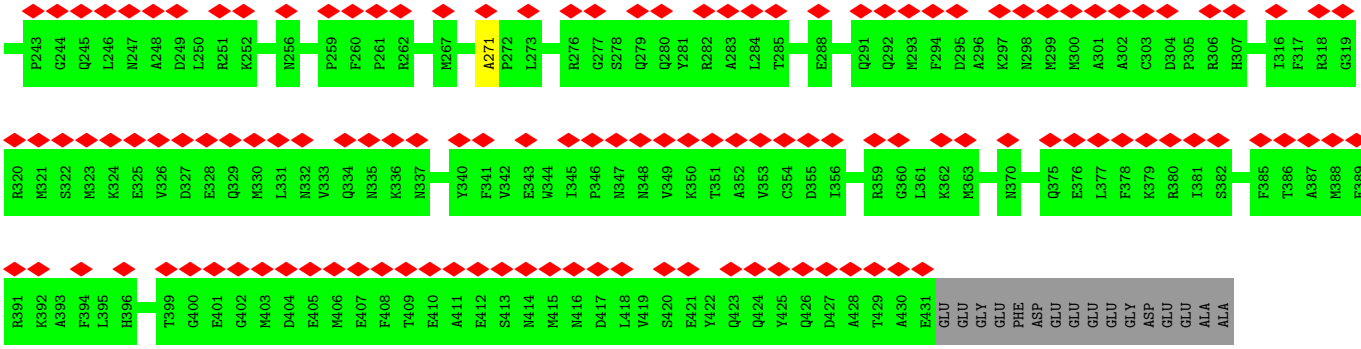


• Molecule 55: Tubulin beta chain

Chain VL:

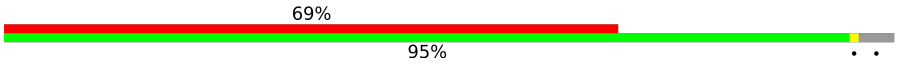


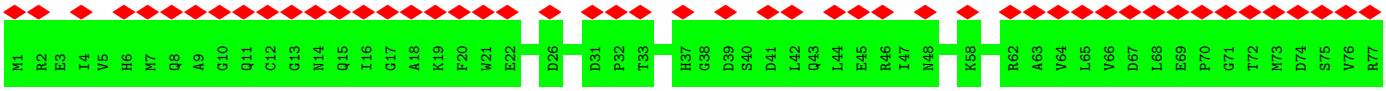




• Molecule 55: Tubulin beta chain

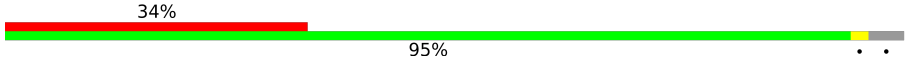
Chain VM:

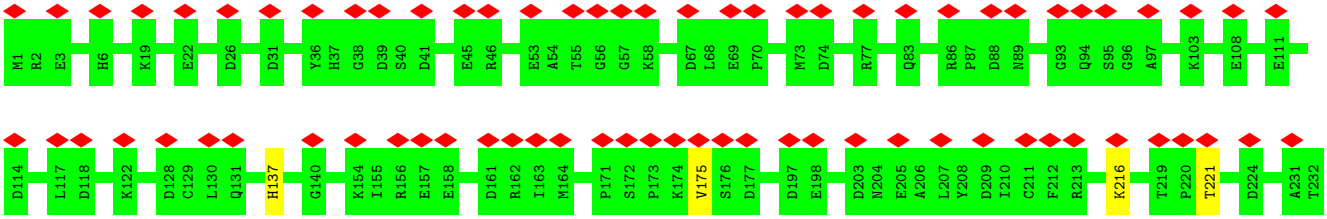


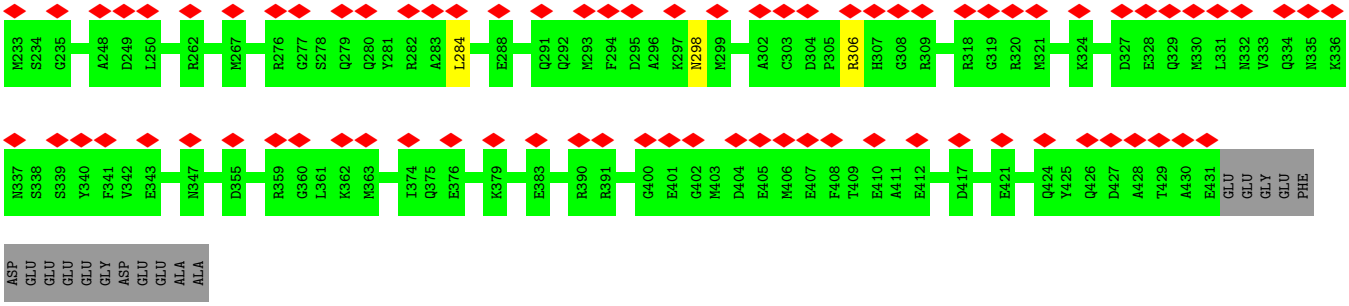


• Molecule 55: Tubulin beta chain

Chain WC:

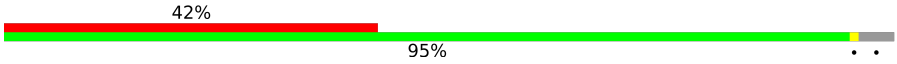


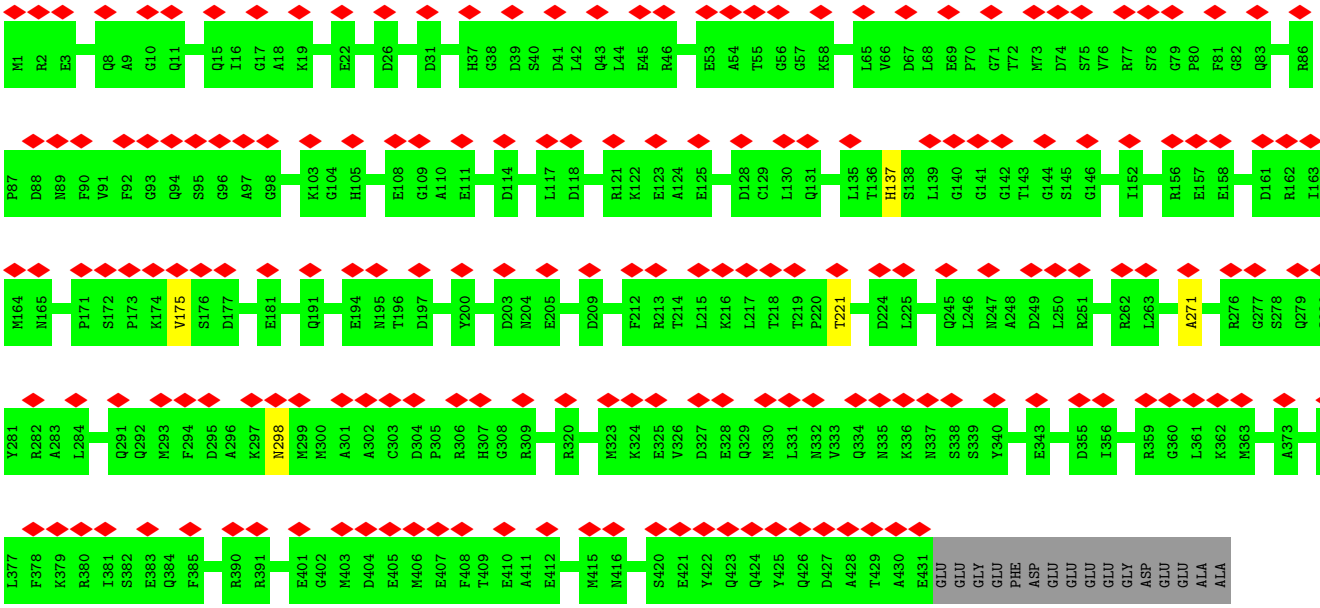




• Molecule 55: Tubulin beta chain

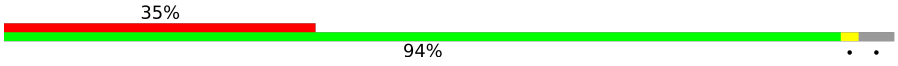
Chain WD:

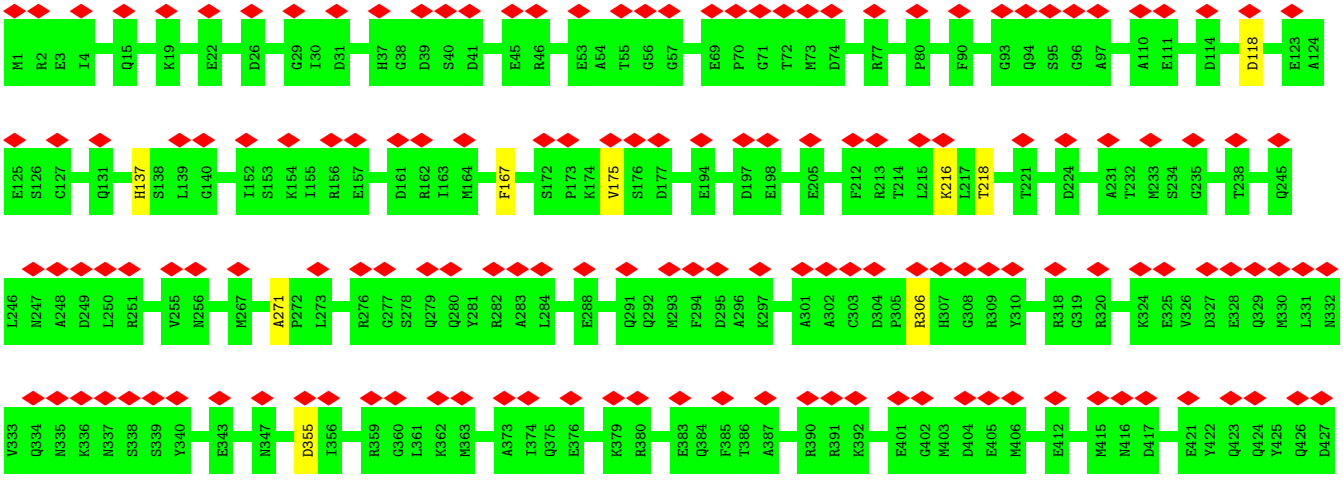


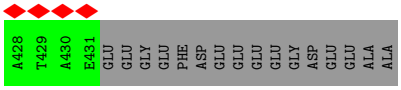


• Molecule 55: Tubulin beta chain

Chain WF:

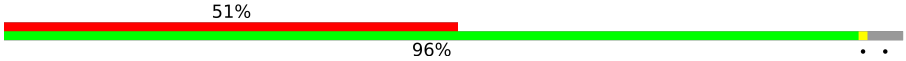


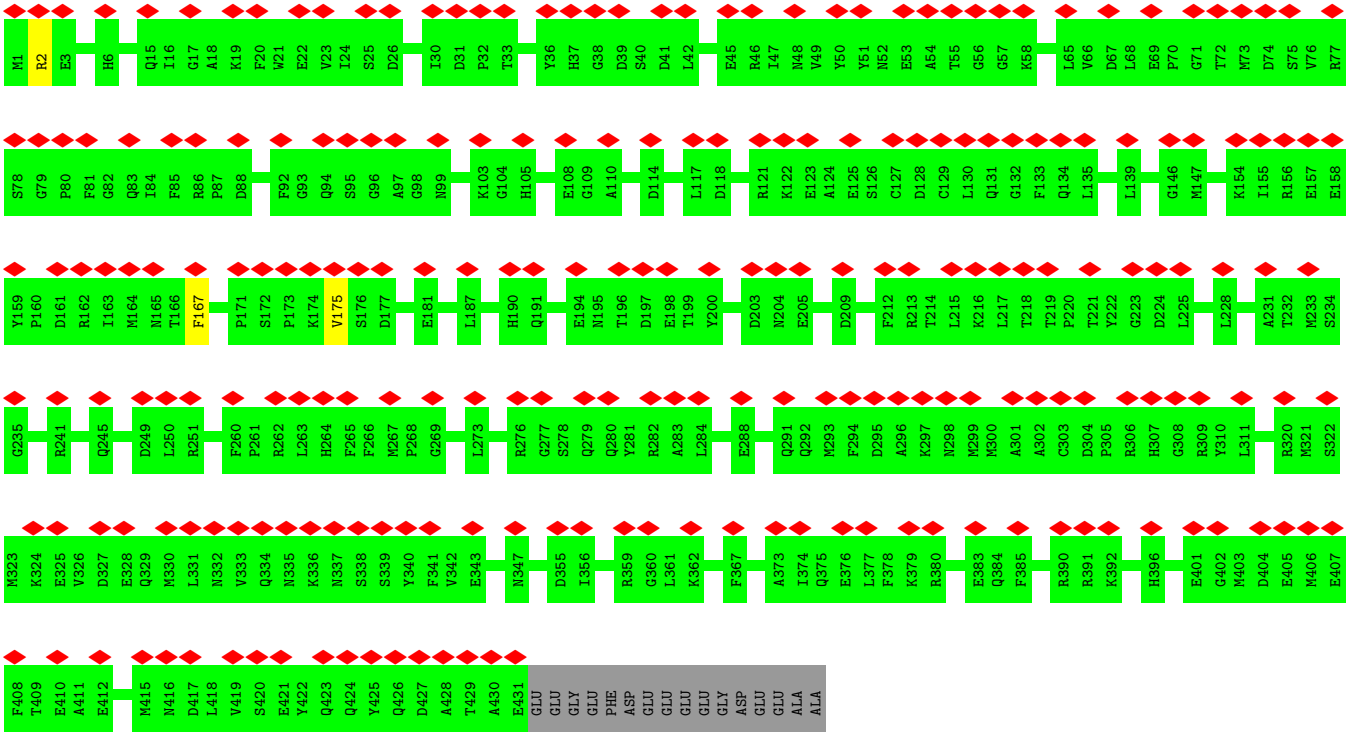




• Molecule 55: Tubulin beta chain

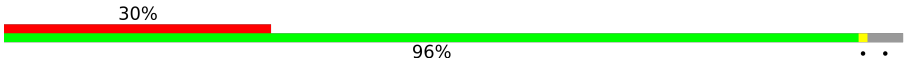
Chain WH:

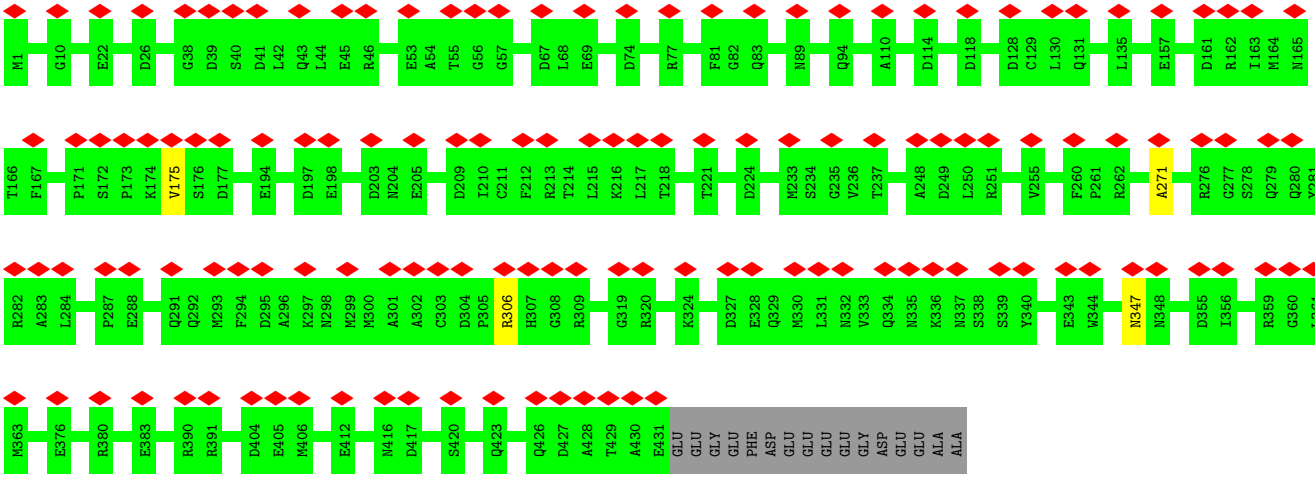




• Molecule 55: Tubulin beta chain

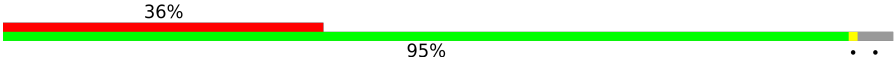
Chain WJ:

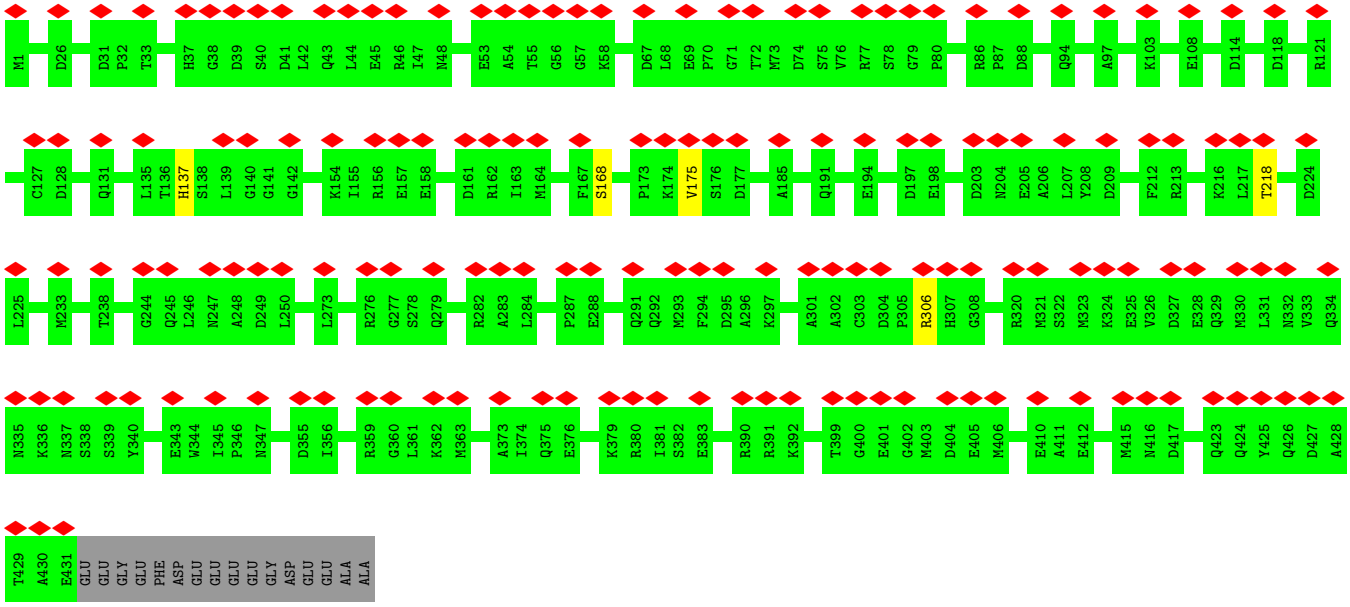




• Molecule 55: Tubulin beta chain

Chain WL:




M1 D26 D31 P32 T33 H37 G38 D39 S40 D41 L42 Q43 L44 E45 R46 I47 N48 E53 A54 T55 G56 G57 K58 D67 L68 E69 P70 G71 T72 M73 D74 S75 V76 R77 S78 G79 P80 R86 P87 D88 Q94 A97 K103 E108 D114 D118 R121
C127 D128 Q131 L135 T136 H137 S138 L139 G140 G141 G142 K154 I155 R156 E157 E158 D161 R162 I163 M164 F167 S168 P173 K174 V175 S176 D177 A185 Q191 E194 D197 E198 D203 N204 E205 A206 L207 Y208 D209 F212 R213 K216 L217 T218 D224
L225 M233 T238 G244 Q245 L246 N247 A248 D249 L250 L273 R276 G277 S278 Q279 R282 A283 L284 P287 E288 Q291 Q292 M293 F294 D295 A296 K297 A301 A302 C303 D304 P305 R306 H307 G308 R320 M321 S322 M323 K324 E325 V326 D327 E328 Q329 M330 L331 N332 V333 Q334
N335 K336 N337 S338 S339 Y340 E343 W344 I345 P346 N347 D355 I356 R359 G360 L361 K362 M363 A373 I374 Q375 E376 K379 R380 I381 S382 E383 R390 R391 K392 T399 G400 E401 G402 M403 D404 E405 M406 E410 A411 E412 M415 N416 D417 Q423 Q424 Y425 Q426 D427 A428
T429 A430 E431 GLU GLU GLY GLU PHE ASP GLU GLU GLU GLU GLY ASP GLU GLU ALA ALA

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	127673	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 ($e^-/Å^2$)	34	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	26.701	Depositor
Minimum map value	0.000	Depositor
Average map value	0.244	Depositor
Map value standard deviation	1.144	Depositor
Recommended contour level	6.63	Depositor
Map size (Å)	686.08, 686.08, 686.08	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.34, 1.34, 1.34	Depositor

5 Model quality

5.1 Standard geometry

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

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	1A	0.32	0/330	0.83	1/440 (0.2%)
1	1B	0.30	0/2085	0.66	2/2806 (0.1%)
2	1E	0.31	0/3324	0.60	0/4478
2	1F	0.30	0/1298	0.57	0/1759
2	1G	0.28	0/2380	0.60	1/3191 (0.0%)
2	1H	0.30	0/3337	0.63	2/4495 (0.0%)
3	1K	0.28	0/1432	0.62	1/1926 (0.1%)
3	1L	0.30	0/1432	0.62	1/1926 (0.1%)
3	1M	0.29	0/1419	0.63	0/1910
3	1v	0.35	1/1737 (0.1%)	0.73	1/2324 (0.0%)
3	1w	0.31	0/736	0.69	1/981 (0.1%)
3	1x	0.30	0/2112	0.70	1/2824 (0.0%)
3	1y	0.35	1/1655 (0.1%)	0.68	0/2215
3	1z	0.31	0/736	0.68	1/981 (0.1%)
3	2a	0.24	0/457	0.61	0/609
4	1P	0.32	0/1665	0.64	0/2254
4	1Q	0.28	0/1154	0.63	0/1559
5	1T	0.29	0/1897	0.61	2/2561 (0.1%)
5	1U	0.30	0/927	0.61	0/1257
5	1V	0.32	0/1910	0.65	1/2578 (0.0%)
5	1W	0.29	0/889	0.62	0/1192
6	1Y	0.30	0/1033	0.66	0/1391
7	1a	0.32	0/1060	0.67	0/1434
7	1b	0.34	0/954	0.68	1/1297 (0.1%)
7	5E	0.30	0/1197	0.67	0/1627
7	5F	0.30	0/885	0.66	1/1197 (0.1%)
7	5G	0.31	0/1111	0.65	1/1512 (0.1%)
7	5H	0.31	0/922	0.70	1/1249 (0.1%)
7	5I	0.33	0/205	0.62	0/283
7	5J	0.30	0/1832	0.62	0/2482
7	5K	0.31	0/1046	0.66	0/1422
7	5L	0.30	0/985	0.62	0/1333

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
7	5M	0.26	0/115	0.51	0/157
7	5N	0.29	0/1915	0.63	0/2599
7	5O	0.32	0/122	0.62	0/169
8	1d	0.32	0/830	0.62	0/1125
9	1f	0.29	0/354	0.77	1/481 (0.2%)
9	1g	0.31	0/492	0.64	0/665
10	1i	0.27	0/314	0.64	0/422
10	1j	0.27	0/284	0.65	1/383 (0.3%)
10	9M	0.28	0/722	0.62	0/968
10	9N	0.27	0/722	0.58	0/968
10	9O	0.40	0/354	0.79	0/479
11	1l	0.29	0/307	0.63	0/415
11	1m	0.29	0/307	0.60	0/415
12	1o	0.33	0/255	0.80	0/338
12	1p	0.31	0/264	0.83	0/350
12	1q	0.27	0/387	0.77	0/515
12	1r	0.28	0/238	0.77	0/315
13	2A	0.30	0/2086	0.65	1/2797 (0.0%)
13	2B	0.31	0/2093	0.65	1/2807 (0.0%)
13	2C	0.31	0/2095	0.65	0/2809
13	2D	0.40	0/652	0.78	1/884 (0.1%)
14	2G	0.26	0/1920	0.59	0/2588
15	2J	0.29	0/884	0.61	0/1192
15	2K	0.29	0/884	0.60	0/1192
15	2L	0.28	0/884	0.62	0/1192
16	2O	0.35	0/989	0.63	0/1319
17	2R	0.32	0/1044	0.66	0/1382
17	2S	0.31	0/3277	0.62	0/4347
18	2V	0.28	0/2260	0.63	2/3067 (0.1%)
18	2W	0.28	0/2260	0.60	0/3067
19	3A	0.29	0/1582	0.63	1/2135 (0.0%)
19	3B	0.30	0/1582	0.66	1/2135 (0.0%)
19	3C	0.29	0/1526	0.69	1/2055 (0.0%)
19	3D	0.28	0/1492	0.66	1/2009 (0.0%)
19	3E	0.28	0/1574	0.65	0/2124
19	3F	0.29	0/1582	0.63	0/2135
19	3G	0.29	0/1574	0.61	0/2124
20	3J	0.27	0/4020	0.63	1/5438 (0.0%)
20	3K	0.31	0/559	0.74	1/752 (0.1%)
21	3N	0.40	0/2152	0.78	4/2862 (0.1%)
21	3O	0.32	0/2345	0.65	2/3121 (0.1%)
22	3R	0.30	0/1353	0.70	3/1833 (0.2%)
22	3S	0.30	0/1032	0.73	3/1397 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
22	3T	0.30	0/1353	0.68	2/1833 (0.1%)
23	3W	0.34	0/3240	0.72	3/4304 (0.1%)
23	3X	0.34	0/2677	0.63	0/3550
23	3Y	0.30	0/868	0.68	0/1153
23	3Z	0.28	0/1424	0.66	1/1897 (0.1%)
24	4A	0.28	0/4898	0.62	2/6616 (0.0%)
24	4B	0.28	0/4886	0.61	2/6600 (0.0%)
24	4C	0.29	0/4898	0.62	1/6616 (0.0%)
25	4F	0.33	0/2633	0.63	0/3500
25	4G	0.30	0/1775	0.66	1/2367 (0.0%)
26	4J	0.29	0/3046	0.63	2/4115 (0.0%)
26	4K	0.29	0/3035	0.65	0/4100
27	4N	0.31	0/1270	0.67	0/1714
27	4O	0.29	0/898	0.64	0/1212
27	4P	0.30	0/1252	0.65	0/1692
27	4Q	0.27	0/765	0.72	1/1035 (0.1%)
28	4T	0.26	0/1244	0.61	0/1666
28	4U	0.28	0/1244	0.66	1/1666 (0.1%)
28	4V	0.24	0/118	0.46	0/158
29	4Y	0.26	0/2480	0.56	0/3364
30	5A	0.28	0/274	0.59	0/369
30	5B	0.29	0/1705	0.62	0/2311
30	9Y	0.28	0/1118	0.68	1/1513 (0.1%)
30	9Z	0.32	0/811	0.66	0/1099
31	6A	0.29	0/1834	0.58	1/2479 (0.0%)
31	6B	0.33	0/1779	0.65	0/2406
31	6C	0.29	0/1811	0.58	1/2449 (0.0%)
31	6D	0.29	0/1826	0.56	0/2468
31	6E	0.28	0/1826	0.56	0/2468
31	6F	0.29	0/1826	0.57	0/2468
32	6I	0.28	0/653	0.60	0/887
32	6J	0.29	0/422	0.58	0/572
33	6M	0.27	0/3193	0.56	0/4326
33	6N	0.28	0/666	0.68	1/898 (0.1%)
34	6Q	0.29	0/1677	0.56	1/2275 (0.0%)
34	6R	0.33	0/624	0.58	0/853
35	6U	0.30	0/1260	0.63	1/1692 (0.1%)
35	6V	0.28	0/2304	0.57	0/3081
35	6W	0.29	0/2056	0.64	0/2743
35	6X	0.30	0/1041	0.65	0/1392
36	7A	0.29	0/6054	0.65	5/8189 (0.1%)
36	7B	0.28	0/3823	0.64	1/5163 (0.0%)
36	7C	0.28	0/4531	0.63	1/6118 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
36	7D	0.29	0/6046	0.65	4/8177 (0.0%)
37	7G	0.28	0/4421	0.61	0/5995
37	7H	0.30	0/4421	0.66	3/5995 (0.1%)
37	7I	0.29	0/5125	0.61	3/6942 (0.0%)
38	7M	0.28	0/2222	0.56	0/3012
38	7N	0.28	0/544	0.52	0/744
39	7Q	0.29	0/1234	0.67	1/1673 (0.1%)
39	7R	0.30	0/1167	0.67	1/1581 (0.1%)
40	7U	0.35	0/775	0.90	1/1052 (0.1%)
40	7V	0.35	0/472	0.78	0/645
41	7Y	0.29	0/1630	0.65	1/2209 (0.0%)
41	7Z	0.32	0/498	0.74	0/674
42	8A	0.28	0/1983	0.66	2/2694 (0.1%)
43	8D	0.25	0/3283	0.54	2/4406 (0.0%)
43	8E	0.29	0/1500	0.55	0/2013
43	8F	0.27	0/2155	0.54	0/2884
43	8G	0.28	0/3283	0.56	2/4406 (0.0%)
44	8J	0.26	0/3312	0.53	0/4461
44	8K	0.29	0/2646	0.55	0/3551
44	8L	0.27	0/3312	0.56	0/4461
44	8M	0.27	0/1064	0.55	0/1446
44	8N	0.29	0/145	0.63	0/195
45	8Q	0.24	0/182	0.50	0/245
45	8R	0.24	0/3268	0.54	1/4387 (0.0%)
45	8S	0.29	0/2497	0.58	2/3350 (0.1%)
45	8T	0.28	0/3268	0.58	0/4387
45	8U	0.29	0/962	0.58	0/1287
46	8X	0.28	0/902	0.68	0/1212
46	8Y	0.28	0/902	0.66	0/1212
46	8Z	0.28	0/902	0.71	2/1212 (0.2%)
47	9A	0.32	0/1747	0.71	3/2367 (0.1%)
48	9D	0.30	0/829	0.70	0/1110
49	9G	0.28	0/1270	0.57	0/1728
50	9J	0.26	0/847	0.60	0/1150
51	9R	0.26	0/1201	0.56	0/1631
52	9T	0.33	0/645	0.62	0/865
53	9V	0.34	0/196	0.74	0/266
53	9W	0.27	0/627	0.56	0/855
54	AA	0.29	0/3492	0.56	0/4742
54	AB	0.28	0/3492	0.54	0/4742
54	AE	0.29	0/3492	0.58	1/4742 (0.0%)
54	AG	0.28	0/3492	0.58	1/4742 (0.0%)
54	AI	0.29	0/3492	0.55	0/4742

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
54	AK	0.29	0/3492	0.58	0/4742
54	AM	0.28	0/3492	0.56	0/4742
54	BA	0.29	0/3492	0.60	2/4742 (0.0%)
54	BB	0.30	0/3492	0.59	0/4742
54	BE	0.30	0/3492	0.59	1/4742 (0.0%)
54	BG	0.29	0/3492	0.59	0/4742
54	BI	0.29	0/3492	0.59	1/4742 (0.0%)
54	BK	0.29	0/3492	0.60	1/4742 (0.0%)
54	BM	0.30	0/3492	0.59	0/4742
54	CA	0.29	0/3492	0.56	0/4742
54	CB	0.28	0/3492	0.59	1/4742 (0.0%)
54	CE	0.29	0/3492	0.59	1/4742 (0.0%)
54	CG	0.28	0/3492	0.58	0/4742
54	CI	0.30	0/3492	0.60	1/4742 (0.0%)
54	CK	0.29	0/3492	0.64	3/4742 (0.1%)
54	CM	0.31	0/3492	0.58	1/4742 (0.0%)
54	DA	0.29	0/3492	0.57	0/4742
54	DB	0.30	0/3492	0.58	0/4742
54	DE	0.29	0/3492	0.59	0/4742
54	DG	0.29	0/3492	0.63	3/4742 (0.1%)
54	DI	0.30	0/3492	0.58	1/4742 (0.0%)
54	DK	0.28	0/3492	0.56	0/4742
54	DM	0.29	0/3492	0.58	2/4742 (0.0%)
54	EA	2.37	7/3492 (0.2%)	0.63	5/4742 (0.1%)
54	EC	0.29	0/3492	0.59	1/4742 (0.0%)
54	EE	0.28	0/3492	0.59	1/4742 (0.0%)
54	EG	0.30	0/3492	0.60	1/4742 (0.0%)
54	EI	0.30	0/3492	0.62	2/4742 (0.0%)
54	EK	0.30	0/3492	0.59	0/4742
54	FA	2.37	7/3492 (0.2%)	0.64	5/4742 (0.1%)
54	FB	0.29	0/3492	0.61	2/4742 (0.0%)
54	FE	2.37	7/3492 (0.2%)	0.67	5/4742 (0.1%)
54	FG	0.31	0/3492	0.62	3/4742 (0.1%)
54	FI	2.37	8/3492 (0.2%)	0.70	7/4742 (0.1%)
54	FK	0.29	0/3492	0.59	2/4742 (0.0%)
54	GA	0.30	0/3492	0.60	1/4742 (0.0%)
54	GB	0.30	0/3492	0.57	0/4742
54	GE	0.29	0/3492	0.57	0/4742
54	GG	0.29	0/3492	0.58	0/4742
54	GI	0.30	0/3492	0.59	1/4742 (0.0%)
54	GK	0.30	0/3492	0.61	2/4742 (0.0%)
54	HA	0.29	0/3492	0.59	1/4742 (0.0%)
54	HB	0.29	0/3492	0.57	1/4742 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
54	HE	0.28	0/3459	0.57	0/4697
54	HG	0.29	0/3483	0.57	2/4729 (0.0%)
54	HI	0.29	0/3492	0.56	0/4742
54	HK	0.29	0/3483	0.55	0/4729
54	IA	0.29	0/3492	0.58	1/4742 (0.0%)
54	IB	0.29	0/3475	0.56	0/4718
54	IE	0.31	0/3492	0.60	0/4742
54	IG	0.29	0/3492	0.57	1/4742 (0.0%)
54	II	0.29	0/3479	0.59	0/4723
54	IK	0.29	0/3492	0.56	0/4742
54	IM	0.28	0/3492	0.58	1/4742 (0.0%)
54	JA	0.29	0/3464	0.59	2/4703 (0.0%)
54	JB	0.28	0/3492	0.56	0/4742
54	JE	0.29	0/3492	0.57	1/4742 (0.0%)
54	JG	0.29	0/3492	0.57	0/4742
54	JI	0.30	0/3492	0.57	2/4742 (0.0%)
54	JK	0.28	0/3492	0.57	0/4742
54	KA	0.28	0/3492	0.55	0/4742
54	KB	0.31	0/3475	0.61	2/4718 (0.0%)
54	KE	0.30	0/3492	0.59	0/4742
54	KG	0.29	0/3492	0.60	1/4742 (0.0%)
54	KI	0.28	0/3492	0.56	0/4742
54	KK	0.29	0/3492	0.56	0/4742
54	LA	0.29	0/3492	0.54	1/4742 (0.0%)
54	LB	0.29	0/3492	0.59	1/4742 (0.0%)
54	LE	0.29	0/3492	0.57	2/4742 (0.0%)
54	LG	0.30	0/3492	0.58	1/4742 (0.0%)
54	LI	0.29	0/3492	0.55	0/4742
54	LK	0.29	0/3492	0.56	0/4742
54	MA	0.29	0/3492	0.56	0/4742
54	MB	0.29	0/3492	0.59	1/4742 (0.0%)
54	ME	0.29	0/3492	0.56	0/4742
54	MG	0.29	0/3492	0.57	0/4742
54	MI	0.30	0/3492	0.57	0/4742
54	MK	0.28	0/3492	0.57	1/4742 (0.0%)
54	ML	0.28	0/3492	0.55	0/4742
54	NA	0.30	0/3483	0.60	0/4729
54	NB	0.30	0/3492	0.60	0/4742
54	NE	0.29	0/3492	0.59	0/4742
54	NG	0.29	0/3492	0.60	2/4742 (0.0%)
54	NI	0.30	0/3475	0.61	1/4718 (0.0%)
54	NL	0.29	0/3468	0.59	0/4708
54	OA	0.30	0/3492	0.58	1/4742 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
54	OB	0.28	0/3475	0.57	0/4718
54	OE	0.30	0/3492	0.61	2/4742 (0.0%)
54	OG	0.30	0/3492	0.61	0/4742
54	OI	0.30	0/3492	0.59	0/4742
54	OK	0.29	0/3492	0.58	0/4742
54	OL	0.31	0/3492	0.59	0/4742
54	PA	0.29	0/3492	0.58	0/4742
54	PB	0.30	0/3492	0.58	1/4742 (0.0%)
54	PE	0.28	0/3492	0.55	0/4742
54	PG	0.30	0/3492	0.58	1/4742 (0.0%)
54	PI	0.30	0/3492	0.59	0/4742
54	PK	0.29	0/3492	0.61	1/4742 (0.0%)
54	PL	0.28	0/3492	0.59	0/4742
54	QA	0.29	0/3492	0.56	1/4742 (0.0%)
54	QB	0.29	0/3492	0.59	0/4742
54	QE	0.31	0/3492	0.58	0/4742
54	QG	0.31	0/3492	0.59	0/4742
54	QI	0.31	0/3492	0.60	0/4742
54	QK	0.29	0/3468	0.58	0/4708
54	QL	0.27	0/3487	0.58	1/4734 (0.0%)
54	RA	0.30	0/3492	0.59	2/4742 (0.0%)
54	RB	0.30	0/3492	0.61	2/4742 (0.0%)
54	RE	0.31	0/3492	0.65	5/4742 (0.1%)
54	RG	0.30	0/3492	0.59	1/4742 (0.0%)
54	RI	0.30	0/3492	0.61	0/4742
54	RK	0.30	0/3492	0.60	2/4742 (0.0%)
54	RL	0.29	0/3492	0.62	0/4742
54	SA	0.29	0/3492	0.62	4/4742 (0.1%)
54	SB	0.30	0/3492	0.59	1/4742 (0.0%)
54	SE	0.31	0/3492	0.59	1/4742 (0.0%)
54	SG	0.32	0/3492	0.62	0/4742
54	SI	0.31	0/3492	0.59	1/4742 (0.0%)
54	SK	0.29	0/3492	0.57	1/4742 (0.0%)
54	TA	0.29	0/3487	0.58	0/4734
54	TB	0.29	0/3487	0.58	0/4734
54	TE	0.31	0/3492	0.60	2/4742 (0.0%)
54	TG	0.30	0/3492	0.59	0/4742
54	TI	0.29	0/3492	0.60	2/4742 (0.0%)
54	TK	0.32	0/3492	0.64	1/4742 (0.0%)
54	UA	0.29	0/3487	0.60	1/4734 (0.0%)
54	UB	0.29	0/3472	0.59	2/4713 (0.0%)
54	UE	0.29	0/3492	0.59	0/4742
54	UG	0.28	0/3492	0.59	1/4742 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
54	UI	0.30	0/3492	0.62	2/4742 (0.0%)
54	UK	0.30	0/3492	0.61	1/4742 (0.0%)
54	VA	0.30	0/3492	0.62	1/4742 (0.0%)
54	VB	0.29	0/3492	0.59	0/4742
54	VE	0.30	0/3492	0.60	0/4742
54	VG	0.29	0/3483	0.63	2/4729 (0.0%)
54	VI	0.30	0/3492	0.60	1/4742 (0.0%)
54	VK	0.29	0/3492	0.60	2/4742 (0.0%)
54	WA	0.30	0/3492	0.62	1/4742 (0.0%)
54	WB	0.28	0/3487	0.58	0/4734
54	WE	0.30	0/3492	0.63	1/4742 (0.0%)
54	WG	0.30	0/3492	0.59	0/4742
54	WI	0.28	0/3492	0.59	1/4742 (0.0%)
54	WK	0.29	0/3492	0.56	1/4742 (0.0%)
55	AC	0.29	0/3458	0.60	2/4685 (0.0%)
55	AD	0.29	0/3458	0.60	1/4685 (0.0%)
55	AF	0.28	0/3458	0.59	1/4685 (0.0%)
55	AH	0.28	0/3458	0.59	0/4685
55	AJ	0.28	0/3458	0.58	1/4685 (0.0%)
55	AL	0.29	0/3458	0.58	0/4685
55	BC	0.30	0/3458	0.63	1/4685 (0.0%)
55	BD	0.30	0/3458	0.64	2/4685 (0.0%)
55	BF	0.30	0/3458	0.61	1/4685 (0.0%)
55	BH	0.33	0/3458	0.62	1/4685 (0.0%)
55	BJ	0.30	0/3458	0.62	1/4685 (0.0%)
55	BL	0.28	0/3458	0.60	0/4685
55	CC	0.30	0/3458	0.65	1/4685 (0.0%)
55	CD	0.30	0/3458	0.63	3/4685 (0.1%)
55	CF	0.29	0/3458	0.60	1/4685 (0.0%)
55	CH	0.30	0/3458	0.64	2/4685 (0.0%)
55	CJ	0.32	0/3458	0.67	4/4685 (0.1%)
55	CL	0.29	0/3458	0.62	4/4685 (0.1%)
55	DC	0.28	0/3458	0.61	3/4685 (0.1%)
55	DD	0.29	0/3458	0.60	1/4685 (0.0%)
55	DF	0.31	0/3458	0.61	1/4685 (0.0%)
55	DH	0.28	0/3458	0.61	2/4685 (0.0%)
55	DJ	0.28	0/3458	0.63	1/4685 (0.0%)
55	DL	0.30	0/3458	0.59	0/4685
55	EB	0.29	0/3458	0.62	2/4685 (0.0%)
55	ED	0.29	0/3458	0.65	6/4685 (0.1%)
55	EF	0.29	0/3458	0.62	3/4685 (0.1%)
55	EH	0.29	0/3458	0.65	2/4685 (0.0%)
55	EJ	0.29	0/3458	0.61	0/4685

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
55	EL	0.28	0/3458	0.63	2/4685 (0.0%)
55	EM	0.27	0/3458	0.60	2/4685 (0.0%)
55	FC	0.29	0/3458	0.64	1/4685 (0.0%)
55	FD	0.28	0/3458	0.59	1/4685 (0.0%)
55	FF	0.29	0/3458	0.62	2/4685 (0.0%)
55	FH	0.32	1/3458 (0.0%)	0.65	3/4685 (0.1%)
55	FJ	0.29	0/3458	0.64	4/4685 (0.1%)
55	FL	0.28	0/3458	0.63	3/4685 (0.1%)
55	FM	0.29	0/3458	0.60	1/4685 (0.0%)
55	GC	0.29	0/3458	0.60	1/4685 (0.0%)
55	GD	0.28	0/3458	0.58	0/4685
55	GF	0.28	0/3458	0.58	0/4685
55	GH	0.30	0/3458	0.59	1/4685 (0.0%)
55	GJ	0.31	0/3458	0.61	1/4685 (0.0%)
55	GL	0.28	0/3458	0.61	1/4685 (0.0%)
55	GM	0.28	0/3458	0.59	0/4685
55	HC	0.28	0/3458	0.57	0/4685
55	HD	0.29	0/3458	0.61	1/4685 (0.0%)
55	HF	0.28	0/3458	0.58	0/4685
55	HH	0.28	0/3458	0.57	0/4685
55	HJ	0.28	0/3458	0.57	0/4685
55	HL	0.29	0/3458	0.59	1/4685 (0.0%)
55	HM	0.27	0/3458	0.57	1/4685 (0.0%)
55	IC	0.28	0/3458	0.56	0/4685
55	ID	0.29	0/3458	0.60	1/4685 (0.0%)
55	IF	0.28	0/3458	0.56	0/4685
55	IH	0.28	0/3458	0.60	1/4685 (0.0%)
55	IJ	0.29	0/3458	0.59	1/4685 (0.0%)
55	IL	0.29	0/3458	0.61	0/4685
55	JC	0.29	0/3458	0.57	0/4685
55	JD	0.28	0/3458	0.60	1/4685 (0.0%)
55	JF	0.29	0/3458	0.62	3/4685 (0.1%)
55	JH	0.28	0/3458	0.59	1/4685 (0.0%)
55	JJ	0.28	0/3458	0.58	2/4685 (0.0%)
55	JL	0.29	0/3458	0.61	2/4685 (0.0%)
55	JM	0.29	0/3458	0.59	2/4685 (0.0%)
55	KC	0.29	0/3458	0.61	1/4685 (0.0%)
55	KD	0.29	0/3458	0.59	1/4685 (0.0%)
55	KF	0.28	0/3458	0.59	0/4685
55	KH	0.28	0/3458	0.60	2/4685 (0.0%)
55	KJ	0.28	0/3458	0.58	0/4685
55	KL	0.28	0/3458	0.61	0/4685
55	KM	0.28	0/3458	0.57	2/4685 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
55	LC	0.29	0/3458	0.59	2/4685 (0.0%)
55	LD	0.30	0/3458	0.57	0/4685
55	LF	0.29	0/3458	0.60	1/4685 (0.0%)
55	LH	0.28	0/3458	0.60	0/4685
55	LJ	0.30	0/3458	0.58	1/4685 (0.0%)
55	LL	0.30	0/3458	0.62	1/4685 (0.0%)
55	LM	0.28	0/3458	0.58	3/4685 (0.1%)
55	MC	0.29	0/3458	0.59	1/4685 (0.0%)
55	MD	0.29	0/3458	0.57	1/4685 (0.0%)
55	MF	0.28	0/3458	0.56	0/4685
55	MH	0.28	0/3458	0.58	2/4685 (0.0%)
55	MJ	0.28	0/3458	0.57	1/4685 (0.0%)
55	MM	0.29	0/3458	0.60	0/4685
55	NC	0.29	0/3458	0.63	3/4685 (0.1%)
55	ND	0.29	0/3458	0.59	0/4685
55	NF	0.29	0/3458	0.58	1/4685 (0.0%)
55	NH	0.28	0/3458	0.61	2/4685 (0.0%)
55	NJ	0.28	0/3458	0.60	2/4685 (0.0%)
55	NK	0.30	0/3458	0.65	3/4685 (0.1%)
55	NM	0.29	0/3458	0.61	0/4685
55	OC	0.29	0/3458	0.62	2/4685 (0.0%)
55	OD	0.29	0/3458	0.61	1/4685 (0.0%)
55	OF	0.30	0/3458	0.62	0/4685
55	OH	0.30	0/3458	0.63	2/4685 (0.0%)
55	OJ	0.29	0/3458	0.60	0/4685
55	OM	0.30	0/3458	0.61	1/4685 (0.0%)
55	PC	0.29	0/3458	0.63	1/4685 (0.0%)
55	PD	0.28	0/3458	0.59	1/4685 (0.0%)
55	PF	0.30	0/3458	0.63	2/4685 (0.0%)
55	PH	0.28	0/3458	0.57	0/4685
55	PJ	0.29	0/3458	0.60	1/4685 (0.0%)
55	PM	0.30	0/3458	0.58	0/4685
55	QC	0.30	0/3458	0.64	3/4685 (0.1%)
55	QD	0.30	0/3458	0.59	0/4685
55	QF	0.32	0/3458	0.66	3/4685 (0.1%)
55	QH	0.29	0/3458	0.64	2/4685 (0.0%)
55	QJ	0.31	0/3458	0.65	4/4685 (0.1%)
55	QM	0.29	0/3458	0.60	0/4685
55	RC	0.30	0/3458	0.64	1/4685 (0.0%)
55	RD	0.29	0/3458	0.63	2/4685 (0.0%)
55	RF	0.30	0/3458	0.62	3/4685 (0.1%)
55	RH	0.30	0/3458	0.63	0/4685
55	RJ	0.30	0/3458	0.63	2/4685 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
55	RM	0.31	0/3458	0.63	1/4685 (0.0%)
55	SC	0.30	0/3458	0.62	2/4685 (0.0%)
55	SD	0.30	0/3458	0.63	0/4685
55	SF	0.31	0/3458	0.63	2/4685 (0.0%)
55	SH	0.30	0/3458	0.61	0/4685
55	SJ	0.29	0/3458	0.62	1/4685 (0.0%)
55	SL	0.29	0/3458	0.63	1/4685 (0.0%)
55	SM	0.30	0/3458	0.64	3/4685 (0.1%)
55	TC	0.28	0/3458	0.59	1/4685 (0.0%)
55	TD	0.29	0/3458	0.62	1/4685 (0.0%)
55	TF	0.29	0/3458	0.62	0/4685
55	TH	0.29	0/3458	0.61	0/4685
55	TJ	0.30	0/3458	0.62	1/4685 (0.0%)
55	TL	0.28	0/3458	0.59	1/4685 (0.0%)
55	TM	0.30	1/3458 (0.0%)	0.61	1/4685 (0.0%)
55	UC	0.28	0/3458	0.61	2/4685 (0.0%)
55	UD	0.29	0/3458	0.61	1/4685 (0.0%)
55	UF	0.31	0/3458	0.67	0/4685
55	UH	0.31	0/3458	0.64	1/4685 (0.0%)
55	UJ	0.29	0/3458	0.62	0/4685
55	UL	0.30	0/3458	0.62	1/4685 (0.0%)
55	UM	0.30	0/3458	0.65	2/4685 (0.0%)
55	VC	0.30	0/3458	0.61	1/4685 (0.0%)
55	VD	0.30	0/3458	0.64	2/4685 (0.0%)
55	VF	0.31	0/3458	0.64	1/4685 (0.0%)
55	VH	0.31	0/3458	0.63	0/4685
55	VJ	0.29	0/3458	0.62	1/4685 (0.0%)
55	VL	0.29	0/3458	0.61	4/4685 (0.1%)
55	VM	0.30	0/3458	0.65	4/4685 (0.1%)
55	WC	0.30	0/3458	0.60	1/4685 (0.0%)
55	WD	0.30	0/3458	0.60	0/4685
55	WF	0.29	0/3458	0.60	1/4685 (0.0%)
55	WH	0.30	0/3458	0.62	0/4685
55	WJ	0.28	0/3458	0.59	0/4685
55	WL	0.29	0/3458	0.60	0/4685
All	All	0.38	33/1289671 (0.0%)	0.61	419/1747055 (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
1	1B	0	2
3	1v	0	1
3	1w	0	1
3	1y	0	1
3	2a	0	1
5	1V	0	1
6	1Y	0	1
7	1a	0	1
7	1b	0	2
7	5K	0	2
10	9O	0	1
12	1r	0	1
19	3B	0	1
20	3J	0	2
22	3S	0	1
23	3W	0	2
25	4G	0	1
26	4J	0	1
30	5B	0	1
30	9Z	0	2
31	6B	0	2
36	7A	0	1
36	7C	0	1
36	7D	0	1
37	7G	0	1
37	7H	0	1
37	7I	0	1
38	7M	0	2
40	7U	0	1
41	7Y	0	1
42	8A	0	1
43	8D	0	1
47	9A	0	1
48	9D	0	1
53	9V	0	2
54	AB	0	1
54	AE	0	1
54	AG	0	1
54	BA	0	1
54	BI	0	1
54	BK	0	1
54	CA	0	1
54	CB	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
54	CE	0	2
54	CI	0	1
54	CK	0	1
54	CM	0	1
54	DK	0	1
54	EA	0	1
54	EG	0	2
54	EI	0	1
54	EK	0	1
54	FA	0	1
54	FB	0	2
54	FE	0	2
54	FI	0	3
54	GB	0	1
54	HA	0	1
54	HB	0	1
54	HG	0	1
54	IA	0	1
54	IB	0	1
54	IG	0	2
54	II	0	1
54	IK	0	2
54	JA	0	1
54	JB	0	1
54	JE	0	1
54	JG	0	1
54	KB	0	1
54	KE	0	1
54	KG	0	1
54	KI	0	1
54	LA	0	1
54	MA	0	1
54	MB	0	1
54	MI	0	1
54	MK	0	1
54	NB	0	1
54	OE	0	2
54	OK	0	1
54	PA	0	1
54	PI	0	1
54	QB	0	2
54	QE	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
54	QI	0	1
54	QK	0	1
54	RA	0	1
54	RB	0	2
54	RE	0	1
54	RG	0	1
54	RI	0	1
54	RK	0	1
54	RL	0	2
54	SB	0	1
54	SE	0	1
54	SG	0	2
54	SI	0	1
54	TA	0	1
54	TB	0	2
54	TG	0	1
54	TI	0	1
54	TK	0	2
54	UB	0	1
54	UG	0	1
54	UI	0	1
54	UK	0	1
54	VB	0	1
54	VE	0	1
54	VG	0	1
54	WA	0	1
54	WB	0	1
54	WE	0	1
54	WI	0	1
54	WK	0	1
55	AC	0	1
55	AF	0	2
55	AH	0	2
55	AJ	0	1
55	AL	0	2
55	BC	0	3
55	CC	0	2
55	CD	0	1
55	CF	0	1
55	CH	0	1
55	CJ	0	2
55	CL	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
55	DC	0	1
55	DD	0	1
55	DF	0	2
55	DH	0	3
55	DJ	0	2
55	DL	0	1
55	EB	0	1
55	ED	0	1
55	EF	0	1
55	EH	0	1
55	EJ	0	1
55	EL	0	1
55	EM	0	2
55	FC	0	1
55	FD	0	1
55	FF	0	1
55	FJ	0	1
55	FL	0	1
55	FM	0	2
55	GF	0	1
55	GL	0	1
55	GM	0	1
55	HC	0	1
55	HD	0	2
55	HF	0	2
55	HH	0	1
55	HM	0	1
55	IC	0	2
55	ID	0	1
55	IF	0	1
55	IJ	0	1
55	IL	0	1
55	JC	0	2
55	JD	0	1
55	JF	0	2
55	JH	0	2
55	JJ	0	1
55	JL	0	1
55	JM	0	1
55	KC	0	1
55	KD	0	2
55	KF	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
55	KH	0	1
55	KJ	0	2
55	KL	0	1
55	LD	0	1
55	LF	0	3
55	LJ	0	1
55	LL	0	2
55	LM	0	1
55	MC	0	2
55	MD	0	1
55	MF	0	1
55	MH	0	1
55	MJ	0	2
55	MM	0	2
55	NC	0	1
55	ND	0	2
55	NH	0	4
55	NJ	0	2
55	NK	0	2
55	NM	0	3
55	OC	0	2
55	OF	0	2
55	OH	0	2
55	OJ	0	2
55	OM	0	1
55	PC	0	3
55	PD	0	1
55	PF	0	1
55	PH	0	2
55	PJ	0	1
55	QC	0	2
55	QD	0	2
55	QF	0	2
55	QH	0	1
55	QJ	0	2
55	QM	0	3
55	RC	0	1
55	RF	0	3
55	RH	0	1
55	RJ	0	2
55	SD	0	4
55	SF	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
55	SJ	0	1
55	SM	0	2
55	TD	0	2
55	TH	0	1
55	TJ	0	1
55	UC	0	2
55	UD	0	1
55	UF	0	1
55	UH	0	3
55	UJ	0	2
55	UL	0	1
55	UM	0	2
55	VC	0	1
55	VF	0	1
55	VH	0	3
55	VJ	0	2
55	VL	0	1
55	VM	0	1
55	WC	0	1
55	WD	0	2
55	WF	0	4
55	WH	0	1
55	WJ	0	1
55	WL	0	1
All	All	0	328

The worst 5 of 33 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	FI	358	GLN	CG-CD	80.78	3.36	1.51
54	FA	358	GLN	CG-CD	80.26	3.35	1.51
54	EA	358	GLN	CG-CD	79.66	3.34	1.51
54	FE	358	GLN	CG-CD	79.33	3.33	1.51
54	FE	244	PHE	CD2-CE2	54.52	2.48	1.39

The worst 5 of 419 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	3J	312	TYR	C-N-CD	-10.17	98.22	120.60
55	FH	171	PRO	N-CD-CG	-9.84	88.45	103.20
55	VD	171	PRO	C-N-CA	9.69	145.92	121.70
55	ED	177	ASP	CB-CG-OD1	9.50	126.85	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	QC	187	LEU	CA-CB-CG	9.37	136.85	115.30

There are no chirality outliers.

5 of 328 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1B	189	ALA	Peptide
1	1B	296	MET	Peptide
5	1V	104	THR	Peptide
6	1Y	30	GLU	Peptide
7	1a	156	VAL	Peptide

5.2 Too-close contacts

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

5.3 Torsion angles

5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	1A	40/309 (13%)	29 (72%)	9 (22%)	2 (5%)	2 14
1	1B	265/309 (86%)	219 (83%)	42 (16%)	4 (2%)	10 38
2	1E	415/448 (93%)	390 (94%)	22 (5%)	3 (1%)	22 54
2	1F	164/448 (37%)	149 (91%)	14 (8%)	1 (1%)	25 57
2	1G	290/448 (65%)	279 (96%)	10 (3%)	1 (0%)	41 71
2	1H	416/448 (93%)	379 (91%)	33 (8%)	4 (1%)	15 46
3	1K	173/696 (25%)	154 (89%)	16 (9%)	3 (2%)	9 35
3	1L	173/696 (25%)	156 (90%)	15 (9%)	2 (1%)	13 42
3	1M	173/696 (25%)	160 (92%)	12 (7%)	1 (1%)	25 57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
3	1v	203/696 (29%)	181 (89%)	22 (11%)	0	100 100
3	1w	85/696 (12%)	76 (89%)	9 (11%)	0	100 100
3	1x	244/696 (35%)	220 (90%)	20 (8%)	4 (2%)	9 36
3	1y	194/696 (28%)	181 (93%)	13 (7%)	0	100 100
3	1z	85/696 (12%)	83 (98%)	2 (2%)	0	100 100
3	2a	52/696 (8%)	45 (86%)	6 (12%)	1 (2%)	8 34
4	1P	201/204 (98%)	195 (97%)	6 (3%)	0	100 100
4	1Q	136/204 (67%)	122 (90%)	14 (10%)	0	100 100
5	1T	220/429 (51%)	193 (88%)	25 (11%)	2 (1%)	17 48
5	1U	107/429 (25%)	97 (91%)	10 (9%)	0	100 100
5	1V	221/429 (52%)	190 (86%)	28 (13%)	3 (1%)	11 38
5	1W	103/429 (24%)	91 (88%)	10 (10%)	2 (2%)	8 34
6	1Y	115/139 (83%)	98 (85%)	17 (15%)	0	100 100
7	1a	132/251 (53%)	106 (80%)	23 (17%)	3 (2%)	6 29
7	1b	120/251 (48%)	95 (79%)	22 (18%)	3 (2%)	5 27
7	5E	152/251 (61%)	115 (76%)	35 (23%)	2 (1%)	12 40
7	5F	110/251 (44%)	89 (81%)	19 (17%)	2 (2%)	8 35
7	5G	140/251 (56%)	109 (78%)	29 (21%)	2 (1%)	11 38
7	5H	115/251 (46%)	90 (78%)	21 (18%)	4 (4%)	3 21
7	5I	25/251 (10%)	20 (80%)	4 (16%)	1 (4%)	3 18
7	5J	231/251 (92%)	189 (82%)	37 (16%)	5 (2%)	6 30
7	5K	132/251 (53%)	99 (75%)	30 (23%)	3 (2%)	6 29
7	5L	123/251 (49%)	99 (80%)	21 (17%)	3 (2%)	6 28
7	5M	12/251 (5%)	11 (92%)	0	1 (8%)	1 5
7	5N	242/251 (96%)	194 (80%)	44 (18%)	4 (2%)	9 35
7	5O	13/251 (5%)	9 (69%)	4 (31%)	0	100 100
8	1d	99/359 (28%)	91 (92%)	8 (8%)	0	100 100
9	1f	34/206 (16%)	28 (82%)	6 (18%)	0	100 100
9	1g	49/206 (24%)	43 (88%)	6 (12%)	0	100 100
10	1i	32/188 (17%)	29 (91%)	2 (6%)	1 (3%)	4 23
10	1j	29/188 (15%)	24 (83%)	4 (14%)	1 (3%)	3 22

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	9M	82/188 (44%)	67 (82%)	15 (18%)	0	100	100
10	9N	82/188 (44%)	71 (87%)	10 (12%)	1 (1%)	13	42
10	9O	39/188 (21%)	25 (64%)	11 (28%)	3 (8%)	1	6
11	1l	37/176 (21%)	25 (68%)	12 (32%)	0	100	100
11	1m	37/176 (21%)	26 (70%)	11 (30%)	0	100	100
12	1o	27/142 (19%)	24 (89%)	1 (4%)	2 (7%)	1	7
12	1p	28/142 (20%)	27 (96%)	1 (4%)	0	100	100
12	1q	44/142 (31%)	40 (91%)	4 (9%)	0	100	100
12	1r	25/142 (18%)	23 (92%)	2 (8%)	0	100	100
13	2A	248/258 (96%)	216 (87%)	29 (12%)	3 (1%)	13	42
13	2B	249/258 (96%)	212 (85%)	30 (12%)	7 (3%)	5	25
13	2C	249/258 (96%)	209 (84%)	35 (14%)	5 (2%)	7	32
13	2D	77/258 (30%)	67 (87%)	8 (10%)	2 (3%)	5	27
14	2G	225/235 (96%)	187 (83%)	36 (16%)	2 (1%)	17	48
15	2J	105/141 (74%)	91 (87%)	14 (13%)	0	100	100
15	2K	105/141 (74%)	93 (89%)	10 (10%)	2 (2%)	8	34
15	2L	105/141 (74%)	95 (90%)	8 (8%)	2 (2%)	8	34
16	2O	117/120 (98%)	113 (97%)	4 (3%)	0	100	100
17	2R	118/499 (24%)	112 (95%)	6 (5%)	0	100	100
17	2S	374/499 (75%)	366 (98%)	7 (2%)	1 (0%)	41	71
18	2V	282/292 (97%)	239 (85%)	38 (14%)	5 (2%)	8	35
18	2W	282/292 (97%)	243 (86%)	35 (12%)	4 (1%)	11	38
19	3A	185/195 (95%)	169 (91%)	16 (9%)	0	100	100
19	3B	185/195 (95%)	161 (87%)	24 (13%)	0	100	100
19	3C	176/195 (90%)	160 (91%)	16 (9%)	0	100	100
19	3D	170/195 (87%)	151 (89%)	18 (11%)	1 (1%)	25	57
19	3E	184/195 (94%)	163 (89%)	21 (11%)	0	100	100
19	3F	185/195 (95%)	170 (92%)	15 (8%)	0	100	100
19	3G	184/195 (94%)	168 (91%)	16 (9%)	0	100	100
20	3J	491/592 (83%)	406 (83%)	72 (15%)	13 (3%)	5	27
20	3K	68/592 (12%)	52 (76%)	14 (21%)	2 (3%)	4	24

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
21	3N	256/560 (46%)	246 (96%)	8 (3%)	2 (1%)	19 51
21	3O	276/560 (49%)	265 (96%)	9 (3%)	2 (1%)	22 54
22	3R	163/172 (95%)	130 (80%)	31 (19%)	2 (1%)	13 42
22	3S	125/172 (73%)	105 (84%)	19 (15%)	1 (1%)	19 51
22	3T	163/172 (95%)	137 (84%)	24 (15%)	2 (1%)	13 42
23	3W	382/541 (71%)	357 (94%)	22 (6%)	3 (1%)	19 51
23	3X	313/541 (58%)	311 (99%)	2 (1%)	0	100 100
23	3Y	102/541 (19%)	101 (99%)	1 (1%)	0	100 100
23	3Z	170/541 (31%)	160 (94%)	9 (5%)	1 (1%)	25 57
24	4A	615/635 (97%)	549 (89%)	65 (11%)	1 (0%)	47 77
24	4B	613/635 (96%)	564 (92%)	49 (8%)	0	100 100
24	4C	615/635 (97%)	551 (90%)	63 (10%)	1 (0%)	47 77
25	4F	311/516 (60%)	301 (97%)	10 (3%)	0	100 100
25	4G	204/516 (40%)	188 (92%)	12 (6%)	4 (2%)	7 32
26	4J	376/380 (99%)	323 (86%)	49 (13%)	4 (1%)	14 45
26	4K	374/380 (98%)	314 (84%)	55 (15%)	5 (1%)	12 40
27	4N	147/243 (60%)	130 (88%)	13 (9%)	4 (3%)	5 26
27	4O	104/243 (43%)	93 (89%)	9 (9%)	2 (2%)	8 34
27	4P	146/243 (60%)	131 (90%)	14 (10%)	1 (1%)	22 54
27	4Q	91/243 (37%)	74 (81%)	16 (18%)	1 (1%)	14 45
28	4T	141/231 (61%)	126 (89%)	11 (8%)	4 (3%)	5 25
28	4U	141/231 (61%)	128 (91%)	12 (8%)	1 (1%)	22 54
28	4V	12/231 (5%)	12 (100%)	0	0	100 100
29	4Y	298/302 (99%)	272 (91%)	23 (8%)	3 (1%)	15 46
30	5A	33/277 (12%)	28 (85%)	4 (12%)	1 (3%)	4 24
30	5B	209/277 (76%)	170 (81%)	34 (16%)	5 (2%)	6 28
30	9Y	136/277 (49%)	102 (75%)	28 (21%)	6 (4%)	2 16
30	9Z	97/277 (35%)	65 (67%)	29 (30%)	3 (3%)	4 23
31	6A	223/236 (94%)	213 (96%)	10 (4%)	0	100 100
31	6B	217/236 (92%)	194 (89%)	23 (11%)	0	100 100
31	6C	221/236 (94%)	208 (94%)	13 (6%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	6D	222/236 (94%)	204 (92%)	18 (8%)	0	100	100
31	6E	222/236 (94%)	213 (96%)	9 (4%)	0	100	100
31	6F	222/236 (94%)	204 (92%)	18 (8%)	0	100	100
32	6I	76/123 (62%)	65 (86%)	11 (14%)	0	100	100
32	6J	51/123 (42%)	46 (90%)	5 (10%)	0	100	100
33	6M	389/469 (83%)	370 (95%)	18 (5%)	1 (0%)	41	71
33	6N	78/469 (17%)	69 (88%)	9 (12%)	0	100	100
34	6Q	195/310 (63%)	182 (93%)	13 (7%)	0	100	100
34	6R	70/310 (23%)	59 (84%)	11 (16%)	0	100	100
35	6U	147/379 (39%)	143 (97%)	4 (3%)	0	100	100
35	6V	272/379 (72%)	256 (94%)	14 (5%)	2 (1%)	22	54
35	6W	241/379 (64%)	229 (95%)	9 (4%)	3 (1%)	13	42
35	6X	119/379 (31%)	111 (93%)	7 (6%)	1 (1%)	19	51
36	7A	721/744 (97%)	612 (85%)	96 (13%)	13 (2%)	8	35
36	7B	445/744 (60%)	372 (84%)	68 (15%)	5 (1%)	14	45
36	7C	533/744 (72%)	441 (83%)	81 (15%)	11 (2%)	7	31
36	7D	720/744 (97%)	621 (86%)	87 (12%)	12 (2%)	9	35
37	7G	525/645 (81%)	437 (83%)	77 (15%)	11 (2%)	7	31
37	7H	525/645 (81%)	432 (82%)	80 (15%)	13 (2%)	5	27
37	7I	610/645 (95%)	519 (85%)	79 (13%)	12 (2%)	7	32
38	7M	261/322 (81%)	239 (92%)	21 (8%)	1 (0%)	34	66
38	7N	66/322 (20%)	64 (97%)	2 (3%)	0	100	100
39	7Q	141/185 (76%)	118 (84%)	21 (15%)	2 (1%)	11	38
39	7R	138/185 (75%)	122 (88%)	16 (12%)	0	100	100
40	7U	91/200 (46%)	61 (67%)	25 (28%)	5 (6%)	2	11
40	7V	51/200 (26%)	44 (86%)	6 (12%)	1 (2%)	7	32
41	7Y	198/204 (97%)	162 (82%)	31 (16%)	5 (2%)	5	27
41	7Z	62/204 (30%)	40 (64%)	20 (32%)	2 (3%)	4	22
42	8A	241/268 (90%)	203 (84%)	35 (14%)	3 (1%)	13	42
43	8D	395/462 (86%)	383 (97%)	11 (3%)	1 (0%)	41	71
43	8E	174/462 (38%)	170 (98%)	3 (2%)	1 (1%)	25	57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	8F	261/462 (56%)	252 (97%)	9 (3%)	0	100	100
43	8G	395/462 (86%)	379 (96%)	15 (4%)	1 (0%)	41	71
44	8J	401/430 (93%)	380 (95%)	19 (5%)	2 (0%)	29	61
44	8K	318/430 (74%)	307 (96%)	10 (3%)	1 (0%)	41	71
44	8L	401/430 (93%)	383 (96%)	16 (4%)	2 (0%)	29	61
44	8M	124/430 (29%)	112 (90%)	11 (9%)	1 (1%)	19	51
44	8N	15/430 (4%)	12 (80%)	2 (13%)	1 (7%)	1	8
45	8Q	19/402 (5%)	19 (100%)	0	0	100	100
45	8R	398/402 (99%)	386 (97%)	10 (2%)	2 (0%)	29	61
45	8S	300/402 (75%)	290 (97%)	8 (3%)	2 (1%)	22	54
45	8T	398/402 (99%)	384 (96%)	13 (3%)	1 (0%)	41	71
45	8U	118/402 (29%)	116 (98%)	2 (2%)	0	100	100
46	8X	102/119 (86%)	82 (80%)	20 (20%)	0	100	100
46	8Y	102/119 (86%)	84 (82%)	16 (16%)	2 (2%)	7	32
46	8Z	102/119 (86%)	85 (83%)	15 (15%)	2 (2%)	7	32
47	9A	205/220 (93%)	163 (80%)	37 (18%)	5 (2%)	6	28
48	9D	94/171 (55%)	79 (84%)	15 (16%)	0	100	100
49	9G	148/150 (99%)	133 (90%)	12 (8%)	3 (2%)	7	32
50	9J	99/179 (55%)	95 (96%)	3 (3%)	1 (1%)	15	46
51	9R	140/153 (92%)	120 (86%)	20 (14%)	0	100	100
52	9T	71/83 (86%)	62 (87%)	9 (13%)	0	100	100
53	9V	22/294 (8%)	17 (77%)	2 (9%)	3 (14%)	0	1
53	9W	68/294 (23%)	62 (91%)	6 (9%)	0	100	100
54	AA	435/451 (96%)	407 (94%)	26 (6%)	2 (0%)	29	61
54	AB	435/451 (96%)	406 (93%)	29 (7%)	0	100	100
54	AE	435/451 (96%)	402 (92%)	33 (8%)	0	100	100
54	AG	435/451 (96%)	399 (92%)	35 (8%)	1 (0%)	47	77
54	AI	435/451 (96%)	410 (94%)	25 (6%)	0	100	100
54	AK	435/451 (96%)	400 (92%)	35 (8%)	0	100	100
54	AM	435/451 (96%)	407 (94%)	28 (6%)	0	100	100
54	BA	435/451 (96%)	407 (94%)	27 (6%)	1 (0%)	47	77

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	BB	435/451 (96%)	409 (94%)	24 (6%)	2 (0%)	29	61
54	BE	435/451 (96%)	406 (93%)	29 (7%)	0	100	100
54	BG	435/451 (96%)	409 (94%)	25 (6%)	1 (0%)	47	77
54	BI	435/451 (96%)	407 (94%)	28 (6%)	0	100	100
54	BK	435/451 (96%)	401 (92%)	33 (8%)	1 (0%)	47	77
54	BM	435/451 (96%)	403 (93%)	31 (7%)	1 (0%)	47	77
54	CA	435/451 (96%)	402 (92%)	32 (7%)	1 (0%)	47	77
54	CB	435/451 (96%)	397 (91%)	37 (8%)	1 (0%)	47	77
54	CE	435/451 (96%)	401 (92%)	32 (7%)	2 (0%)	29	61
54	CG	435/451 (96%)	409 (94%)	25 (6%)	1 (0%)	47	77
54	CI	435/451 (96%)	409 (94%)	26 (6%)	0	100	100
54	CK	435/451 (96%)	399 (92%)	36 (8%)	0	100	100
54	CM	435/451 (96%)	402 (92%)	31 (7%)	2 (0%)	29	61
54	DA	435/451 (96%)	406 (93%)	29 (7%)	0	100	100
54	DB	435/451 (96%)	403 (93%)	32 (7%)	0	100	100
54	DE	435/451 (96%)	395 (91%)	39 (9%)	1 (0%)	47	77
54	DG	435/451 (96%)	385 (88%)	48 (11%)	2 (0%)	29	61
54	DI	435/451 (96%)	395 (91%)	39 (9%)	1 (0%)	47	77
54	DK	435/451 (96%)	395 (91%)	39 (9%)	1 (0%)	47	77
54	DM	435/451 (96%)	398 (92%)	36 (8%)	1 (0%)	47	77
54	EA	435/451 (96%)	406 (93%)	29 (7%)	0	100	100
54	EC	435/451 (96%)	411 (94%)	23 (5%)	1 (0%)	47	77
54	EE	435/451 (96%)	402 (92%)	32 (7%)	1 (0%)	47	77
54	EG	435/451 (96%)	408 (94%)	27 (6%)	0	100	100
54	EI	435/451 (96%)	398 (92%)	35 (8%)	2 (0%)	29	61
54	EK	435/451 (96%)	404 (93%)	31 (7%)	0	100	100
54	FA	435/451 (96%)	404 (93%)	30 (7%)	1 (0%)	47	77
54	FB	435/451 (96%)	409 (94%)	25 (6%)	1 (0%)	47	77
54	FE	435/451 (96%)	387 (89%)	46 (11%)	2 (0%)	29	61
54	FG	435/451 (96%)	397 (91%)	37 (8%)	1 (0%)	47	77
54	FI	435/451 (96%)	394 (91%)	39 (9%)	2 (0%)	29	61

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	FK	435/451 (96%)	392 (90%)	43 (10%)	0	100	100
54	GA	435/451 (96%)	393 (90%)	42 (10%)	0	100	100
54	GB	435/451 (96%)	400 (92%)	34 (8%)	1 (0%)	47	77
54	GE	435/451 (96%)	411 (94%)	23 (5%)	1 (0%)	47	77
54	GG	435/451 (96%)	408 (94%)	26 (6%)	1 (0%)	47	77
54	GI	435/451 (96%)	396 (91%)	39 (9%)	0	100	100
54	GK	435/451 (96%)	388 (89%)	45 (10%)	2 (0%)	29	61
54	HA	435/451 (96%)	402 (92%)	31 (7%)	2 (0%)	29	61
54	HB	435/451 (96%)	399 (92%)	36 (8%)	0	100	100
54	HE	428/451 (95%)	395 (92%)	31 (7%)	2 (0%)	29	61
54	HG	431/451 (96%)	400 (93%)	29 (7%)	2 (0%)	29	61
54	HI	435/451 (96%)	401 (92%)	33 (8%)	1 (0%)	47	77
54	HK	431/451 (96%)	404 (94%)	26 (6%)	1 (0%)	47	77
54	IA	435/451 (96%)	399 (92%)	35 (8%)	1 (0%)	47	77
54	IB	430/451 (95%)	400 (93%)	28 (6%)	2 (0%)	29	61
54	IE	435/451 (96%)	404 (93%)	31 (7%)	0	100	100
54	IG	435/451 (96%)	402 (92%)	33 (8%)	0	100	100
54	II	431/451 (96%)	403 (94%)	28 (6%)	0	100	100
54	IK	435/451 (96%)	401 (92%)	32 (7%)	2 (0%)	29	61
54	IM	435/451 (96%)	392 (90%)	43 (10%)	0	100	100
54	JA	428/451 (95%)	397 (93%)	30 (7%)	1 (0%)	47	77
54	JB	435/451 (96%)	406 (93%)	28 (6%)	1 (0%)	47	77
54	JE	435/451 (96%)	410 (94%)	24 (6%)	1 (0%)	47	77
54	JG	435/451 (96%)	404 (93%)	31 (7%)	0	100	100
54	JI	435/451 (96%)	401 (92%)	33 (8%)	1 (0%)	47	77
54	JK	435/451 (96%)	409 (94%)	25 (6%)	1 (0%)	47	77
54	KA	435/451 (96%)	416 (96%)	18 (4%)	1 (0%)	47	77
54	KB	430/451 (95%)	401 (93%)	29 (7%)	0	100	100
54	KE	435/451 (96%)	405 (93%)	29 (7%)	1 (0%)	47	77
54	KG	435/451 (96%)	404 (93%)	29 (7%)	2 (0%)	29	61
54	KI	435/451 (96%)	410 (94%)	25 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	KK	435/451 (96%)	415 (95%)	20 (5%)	0	100	100
54	LA	435/451 (96%)	412 (95%)	23 (5%)	0	100	100
54	LB	435/451 (96%)	405 (93%)	29 (7%)	1 (0%)	47	77
54	LE	435/451 (96%)	414 (95%)	20 (5%)	1 (0%)	47	77
54	LG	435/451 (96%)	408 (94%)	25 (6%)	2 (0%)	29	61
54	LI	435/451 (96%)	414 (95%)	21 (5%)	0	100	100
54	LK	435/451 (96%)	416 (96%)	18 (4%)	1 (0%)	47	77
54	MA	435/451 (96%)	403 (93%)	30 (7%)	2 (0%)	29	61
54	MB	435/451 (96%)	412 (95%)	22 (5%)	1 (0%)	47	77
54	ME	435/451 (96%)	409 (94%)	25 (6%)	1 (0%)	47	77
54	MG	435/451 (96%)	412 (95%)	23 (5%)	0	100	100
54	MI	435/451 (96%)	401 (92%)	32 (7%)	2 (0%)	29	61
54	MK	435/451 (96%)	401 (92%)	34 (8%)	0	100	100
54	ML	435/451 (96%)	414 (95%)	21 (5%)	0	100	100
54	NA	431/451 (96%)	401 (93%)	28 (6%)	2 (0%)	29	61
54	NB	435/451 (96%)	387 (89%)	44 (10%)	4 (1%)	17	48
54	NE	435/451 (96%)	402 (92%)	32 (7%)	1 (0%)	47	77
54	NG	435/451 (96%)	401 (92%)	32 (7%)	2 (0%)	29	61
54	NI	430/451 (95%)	395 (92%)	34 (8%)	1 (0%)	47	77
54	NL	429/451 (95%)	389 (91%)	39 (9%)	1 (0%)	47	77
54	OA	435/451 (96%)	396 (91%)	38 (9%)	1 (0%)	47	77
54	OB	430/451 (95%)	405 (94%)	23 (5%)	2 (0%)	29	61
54	OE	435/451 (96%)	401 (92%)	32 (7%)	2 (0%)	29	61
54	OG	435/451 (96%)	404 (93%)	31 (7%)	0	100	100
54	OI	435/451 (96%)	405 (93%)	28 (6%)	2 (0%)	29	61
54	OK	435/451 (96%)	402 (92%)	32 (7%)	1 (0%)	47	77
54	OL	435/451 (96%)	393 (90%)	42 (10%)	0	100	100
54	PA	435/451 (96%)	403 (93%)	31 (7%)	1 (0%)	47	77
54	PB	435/451 (96%)	399 (92%)	35 (8%)	1 (0%)	47	77
54	PE	435/451 (96%)	400 (92%)	33 (8%)	2 (0%)	29	61
54	PG	435/451 (96%)	402 (92%)	33 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
54	PI	435/451 (96%)	398 (92%)	36 (8%)	1 (0%)	47 77
54	PK	435/451 (96%)	392 (90%)	40 (9%)	3 (1%)	22 54
54	PL	435/451 (96%)	403 (93%)	32 (7%)	0	100 100
54	QA	435/451 (96%)	407 (94%)	25 (6%)	3 (1%)	22 54
54	QB	435/451 (96%)	392 (90%)	43 (10%)	0	100 100
54	QE	435/451 (96%)	390 (90%)	44 (10%)	1 (0%)	47 77
54	QG	435/451 (96%)	388 (89%)	45 (10%)	2 (0%)	29 61
54	QI	435/451 (96%)	398 (92%)	35 (8%)	2 (0%)	29 61
54	QK	429/451 (95%)	404 (94%)	24 (6%)	1 (0%)	47 77
54	QL	432/451 (96%)	389 (90%)	42 (10%)	1 (0%)	47 77
54	RA	435/451 (96%)	414 (95%)	18 (4%)	3 (1%)	22 54
54	RB	435/451 (96%)	391 (90%)	42 (10%)	2 (0%)	29 61
54	RE	435/451 (96%)	392 (90%)	41 (9%)	2 (0%)	29 61
54	RG	435/451 (96%)	395 (91%)	38 (9%)	2 (0%)	29 61
54	RI	435/451 (96%)	400 (92%)	35 (8%)	0	100 100
54	RK	435/451 (96%)	404 (93%)	30 (7%)	1 (0%)	47 77
54	RL	435/451 (96%)	399 (92%)	35 (8%)	1 (0%)	47 77
54	SA	435/451 (96%)	398 (92%)	37 (8%)	0	100 100
54	SB	435/451 (96%)	411 (94%)	23 (5%)	1 (0%)	47 77
54	SE	435/451 (96%)	402 (92%)	33 (8%)	0	100 100
54	SG	435/451 (96%)	409 (94%)	23 (5%)	3 (1%)	22 54
54	SI	435/451 (96%)	408 (94%)	26 (6%)	1 (0%)	47 77
54	SK	435/451 (96%)	399 (92%)	35 (8%)	1 (0%)	47 77
54	TA	432/451 (96%)	404 (94%)	28 (6%)	0	100 100
54	TB	432/451 (96%)	410 (95%)	21 (5%)	1 (0%)	47 77
54	TE	435/451 (96%)	406 (93%)	29 (7%)	0	100 100
54	TG	435/451 (96%)	402 (92%)	31 (7%)	2 (0%)	29 61
54	TI	435/451 (96%)	404 (93%)	31 (7%)	0	100 100
54	TK	435/451 (96%)	399 (92%)	34 (8%)	2 (0%)	29 61
54	UA	432/451 (96%)	395 (91%)	37 (9%)	0	100 100
54	UB	430/451 (95%)	398 (93%)	32 (7%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	UE	435/451 (96%)	409 (94%)	26 (6%)	0	100	100
54	UG	435/451 (96%)	397 (91%)	38 (9%)	0	100	100
54	UI	435/451 (96%)	395 (91%)	39 (9%)	1 (0%)	47	77
54	UK	435/451 (96%)	394 (91%)	41 (9%)	0	100	100
54	VA	435/451 (96%)	399 (92%)	33 (8%)	3 (1%)	22	54
54	VB	435/451 (96%)	401 (92%)	34 (8%)	0	100	100
54	VE	435/451 (96%)	407 (94%)	26 (6%)	2 (0%)	29	61
54	VG	431/451 (96%)	395 (92%)	36 (8%)	0	100	100
54	VI	435/451 (96%)	399 (92%)	36 (8%)	0	100	100
54	VK	435/451 (96%)	407 (94%)	27 (6%)	1 (0%)	47	77
54	WA	435/451 (96%)	408 (94%)	26 (6%)	1 (0%)	47	77
54	WB	432/451 (96%)	397 (92%)	33 (8%)	2 (0%)	29	61
54	WE	435/451 (96%)	394 (91%)	40 (9%)	1 (0%)	47	77
54	WG	435/451 (96%)	400 (92%)	33 (8%)	2 (0%)	29	61
54	WI	435/451 (96%)	389 (89%)	45 (10%)	1 (0%)	47	77
54	WK	435/451 (96%)	392 (90%)	39 (9%)	4 (1%)	17	48
55	AC	429/447 (96%)	396 (92%)	30 (7%)	3 (1%)	22	54
55	AD	429/447 (96%)	398 (93%)	29 (7%)	2 (0%)	29	61
55	AF	429/447 (96%)	396 (92%)	30 (7%)	3 (1%)	22	54
55	AH	429/447 (96%)	391 (91%)	32 (8%)	6 (1%)	11	38
55	AJ	429/447 (96%)	395 (92%)	31 (7%)	3 (1%)	22	54
55	AL	429/447 (96%)	398 (93%)	30 (7%)	1 (0%)	47	77
55	BC	429/447 (96%)	394 (92%)	32 (8%)	3 (1%)	22	54
55	BD	429/447 (96%)	385 (90%)	42 (10%)	2 (0%)	29	61
55	BF	429/447 (96%)	388 (90%)	38 (9%)	3 (1%)	22	54
55	BH	429/447 (96%)	393 (92%)	34 (8%)	2 (0%)	29	61
55	BJ	429/447 (96%)	387 (90%)	40 (9%)	2 (0%)	29	61
55	BL	429/447 (96%)	392 (91%)	33 (8%)	4 (1%)	17	48
55	CC	429/447 (96%)	371 (86%)	54 (13%)	4 (1%)	17	48
55	CD	429/447 (96%)	385 (90%)	40 (9%)	4 (1%)	17	48
55	CF	429/447 (96%)	390 (91%)	38 (9%)	1 (0%)	47	77

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
55	CH	429/447 (96%)	390 (91%)	37 (9%)	2 (0%)	29	61
55	CJ	429/447 (96%)	382 (89%)	45 (10%)	2 (0%)	29	61
55	CL	429/447 (96%)	386 (90%)	41 (10%)	2 (0%)	29	61
55	DC	429/447 (96%)	391 (91%)	35 (8%)	3 (1%)	22	54
55	DD	429/447 (96%)	386 (90%)	40 (9%)	3 (1%)	22	54
55	DF	429/447 (96%)	380 (89%)	44 (10%)	5 (1%)	13	42
55	DH	429/447 (96%)	393 (92%)	35 (8%)	1 (0%)	47	77
55	DJ	429/447 (96%)	389 (91%)	36 (8%)	4 (1%)	17	48
55	DL	429/447 (96%)	389 (91%)	36 (8%)	4 (1%)	17	48
55	EB	429/447 (96%)	387 (90%)	40 (9%)	2 (0%)	29	61
55	ED	429/447 (96%)	383 (89%)	42 (10%)	4 (1%)	17	48
55	EF	429/447 (96%)	394 (92%)	34 (8%)	1 (0%)	47	77
55	EH	429/447 (96%)	387 (90%)	36 (8%)	6 (1%)	11	38
55	EJ	429/447 (96%)	389 (91%)	39 (9%)	1 (0%)	47	77
55	EL	429/447 (96%)	389 (91%)	38 (9%)	2 (0%)	29	61
55	EM	429/447 (96%)	385 (90%)	40 (9%)	4 (1%)	17	48
55	FC	429/447 (96%)	386 (90%)	42 (10%)	1 (0%)	47	77
55	FD	429/447 (96%)	394 (92%)	32 (8%)	3 (1%)	22	54
55	FF	429/447 (96%)	403 (94%)	26 (6%)	0	100	100
55	FH	429/447 (96%)	384 (90%)	44 (10%)	1 (0%)	47	77
55	FJ	429/447 (96%)	390 (91%)	35 (8%)	4 (1%)	17	48
55	FL	429/447 (96%)	384 (90%)	40 (9%)	5 (1%)	13	42
55	FM	429/447 (96%)	387 (90%)	40 (9%)	2 (0%)	29	61
55	GC	429/447 (96%)	382 (89%)	44 (10%)	3 (1%)	22	54
55	GD	429/447 (96%)	376 (88%)	50 (12%)	3 (1%)	22	54
55	GF	429/447 (96%)	386 (90%)	39 (9%)	4 (1%)	17	48
55	GH	429/447 (96%)	391 (91%)	34 (8%)	4 (1%)	17	48
55	GJ	429/447 (96%)	393 (92%)	33 (8%)	3 (1%)	22	54
55	GL	429/447 (96%)	390 (91%)	37 (9%)	2 (0%)	29	61
55	GM	429/447 (96%)	399 (93%)	29 (7%)	1 (0%)	47	77
55	HC	429/447 (96%)	398 (93%)	28 (6%)	3 (1%)	22	54

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
55	HD	429/447 (96%)	382 (89%)	45 (10%)	2 (0%)	29	61
55	HF	429/447 (96%)	395 (92%)	32 (8%)	2 (0%)	29	61
55	HH	429/447 (96%)	393 (92%)	32 (8%)	4 (1%)	17	48
55	HJ	429/447 (96%)	398 (93%)	27 (6%)	4 (1%)	17	48
55	HL	429/447 (96%)	384 (90%)	40 (9%)	5 (1%)	13	42
55	HM	429/447 (96%)	393 (92%)	33 (8%)	3 (1%)	22	54
55	IC	429/447 (96%)	385 (90%)	42 (10%)	2 (0%)	29	61
55	ID	429/447 (96%)	390 (91%)	36 (8%)	3 (1%)	22	54
55	IF	429/447 (96%)	393 (92%)	34 (8%)	2 (0%)	29	61
55	IH	429/447 (96%)	396 (92%)	30 (7%)	3 (1%)	22	54
55	IJ	429/447 (96%)	386 (90%)	40 (9%)	3 (1%)	22	54
55	IL	429/447 (96%)	385 (90%)	39 (9%)	5 (1%)	13	42
55	JC	429/447 (96%)	407 (95%)	20 (5%)	2 (0%)	29	61
55	JD	429/447 (96%)	391 (91%)	36 (8%)	2 (0%)	29	61
55	JF	429/447 (96%)	385 (90%)	40 (9%)	4 (1%)	17	48
55	JH	429/447 (96%)	379 (88%)	45 (10%)	5 (1%)	13	42
55	JJ	429/447 (96%)	393 (92%)	32 (8%)	4 (1%)	17	48
55	JL	429/447 (96%)	382 (89%)	45 (10%)	2 (0%)	29	61
55	JM	429/447 (96%)	400 (93%)	27 (6%)	2 (0%)	29	61
55	KC	429/447 (96%)	389 (91%)	36 (8%)	4 (1%)	17	48
55	KD	429/447 (96%)	388 (90%)	38 (9%)	3 (1%)	22	54
55	KF	429/447 (96%)	399 (93%)	27 (6%)	3 (1%)	22	54
55	KH	429/447 (96%)	398 (93%)	28 (6%)	3 (1%)	22	54
55	KJ	429/447 (96%)	390 (91%)	37 (9%)	2 (0%)	29	61
55	KL	429/447 (96%)	386 (90%)	42 (10%)	1 (0%)	47	77
55	KM	429/447 (96%)	409 (95%)	19 (4%)	1 (0%)	47	77
55	LC	429/447 (96%)	396 (92%)	30 (7%)	3 (1%)	22	54
55	LD	429/447 (96%)	397 (92%)	30 (7%)	2 (0%)	29	61
55	LF	429/447 (96%)	395 (92%)	32 (8%)	2 (0%)	29	61
55	LH	429/447 (96%)	388 (90%)	37 (9%)	4 (1%)	17	48
55	LJ	429/447 (96%)	397 (92%)	30 (7%)	2 (0%)	29	61

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
55	LL	429/447 (96%)	392 (91%)	34 (8%)	3 (1%)	22	54
55	LM	429/447 (96%)	397 (92%)	31 (7%)	1 (0%)	47	77
55	MC	429/447 (96%)	392 (91%)	35 (8%)	2 (0%)	29	61
55	MD	429/447 (96%)	402 (94%)	23 (5%)	4 (1%)	17	48
55	MF	429/447 (96%)	407 (95%)	21 (5%)	1 (0%)	47	77
55	MH	429/447 (96%)	385 (90%)	40 (9%)	4 (1%)	17	48
55	MJ	429/447 (96%)	395 (92%)	30 (7%)	4 (1%)	17	48
55	MM	429/447 (96%)	389 (91%)	38 (9%)	2 (0%)	29	61
55	NC	429/447 (96%)	383 (89%)	44 (10%)	2 (0%)	29	61
55	ND	429/447 (96%)	391 (91%)	33 (8%)	5 (1%)	13	42
55	NF	429/447 (96%)	388 (90%)	36 (8%)	5 (1%)	13	42
55	NH	429/447 (96%)	386 (90%)	42 (10%)	1 (0%)	47	77
55	NJ	429/447 (96%)	381 (89%)	44 (10%)	4 (1%)	17	48
55	NK	429/447 (96%)	388 (90%)	40 (9%)	1 (0%)	47	77
55	NM	429/447 (96%)	381 (89%)	45 (10%)	3 (1%)	22	54
55	OC	429/447 (96%)	391 (91%)	36 (8%)	2 (0%)	29	61
55	OD	429/447 (96%)	386 (90%)	41 (10%)	2 (0%)	29	61
55	OF	429/447 (96%)	395 (92%)	32 (8%)	2 (0%)	29	61
55	OH	429/447 (96%)	391 (91%)	38 (9%)	0	100	100
55	OJ	429/447 (96%)	392 (91%)	34 (8%)	3 (1%)	22	54
55	OM	429/447 (96%)	393 (92%)	33 (8%)	3 (1%)	22	54
55	PC	429/447 (96%)	389 (91%)	36 (8%)	4 (1%)	17	48
55	PD	429/447 (96%)	396 (92%)	31 (7%)	2 (0%)	29	61
55	PF	429/447 (96%)	389 (91%)	38 (9%)	2 (0%)	29	61
55	PH	429/447 (96%)	391 (91%)	36 (8%)	2 (0%)	29	61
55	PJ	429/447 (96%)	377 (88%)	49 (11%)	3 (1%)	22	54
55	PM	429/447 (96%)	387 (90%)	38 (9%)	4 (1%)	17	48
55	QC	429/447 (96%)	386 (90%)	39 (9%)	4 (1%)	17	48
55	QD	429/447 (96%)	391 (91%)	37 (9%)	1 (0%)	47	77
55	QF	429/447 (96%)	383 (89%)	43 (10%)	3 (1%)	22	54
55	QH	429/447 (96%)	388 (90%)	38 (9%)	3 (1%)	22	54

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
55	QJ	429/447 (96%)	379 (88%)	49 (11%)	1 (0%)	47	77
55	QM	429/447 (96%)	393 (92%)	35 (8%)	1 (0%)	47	77
55	RC	429/447 (96%)	383 (89%)	44 (10%)	2 (0%)	29	61
55	RD	429/447 (96%)	395 (92%)	30 (7%)	4 (1%)	17	48
55	RF	429/447 (96%)	391 (91%)	36 (8%)	2 (0%)	29	61
55	RH	429/447 (96%)	388 (90%)	38 (9%)	3 (1%)	22	54
55	RJ	429/447 (96%)	381 (89%)	46 (11%)	2 (0%)	29	61
55	RM	429/447 (96%)	396 (92%)	29 (7%)	4 (1%)	17	48
55	SC	429/447 (96%)	396 (92%)	31 (7%)	2 (0%)	29	61
55	SD	429/447 (96%)	380 (89%)	48 (11%)	1 (0%)	47	77
55	SF	429/447 (96%)	405 (94%)	21 (5%)	3 (1%)	22	54
55	SH	429/447 (96%)	387 (90%)	40 (9%)	2 (0%)	29	61
55	SJ	429/447 (96%)	389 (91%)	38 (9%)	2 (0%)	29	61
55	SL	429/447 (96%)	384 (90%)	42 (10%)	3 (1%)	22	54
55	SM	429/447 (96%)	390 (91%)	36 (8%)	3 (1%)	22	54
55	TC	429/447 (96%)	386 (90%)	40 (9%)	3 (1%)	22	54
55	TD	429/447 (96%)	384 (90%)	42 (10%)	3 (1%)	22	54
55	TF	429/447 (96%)	395 (92%)	32 (8%)	2 (0%)	29	61
55	TH	429/447 (96%)	385 (90%)	41 (10%)	3 (1%)	22	54
55	TJ	429/447 (96%)	386 (90%)	39 (9%)	4 (1%)	17	48
55	TL	429/447 (96%)	381 (89%)	47 (11%)	1 (0%)	47	77
55	TM	429/447 (96%)	384 (90%)	42 (10%)	3 (1%)	22	54
55	UC	429/447 (96%)	380 (89%)	46 (11%)	3 (1%)	22	54
55	UD	429/447 (96%)	392 (91%)	33 (8%)	4 (1%)	17	48
55	UF	429/447 (96%)	379 (88%)	46 (11%)	4 (1%)	17	48
55	UH	429/447 (96%)	380 (89%)	45 (10%)	4 (1%)	17	48
55	UJ	429/447 (96%)	387 (90%)	40 (9%)	2 (0%)	29	61
55	UL	429/447 (96%)	381 (89%)	45 (10%)	3 (1%)	22	54
55	UM	429/447 (96%)	387 (90%)	40 (9%)	2 (0%)	29	61
55	VC	429/447 (96%)	378 (88%)	48 (11%)	3 (1%)	22	54
55	VD	429/447 (96%)	386 (90%)	39 (9%)	4 (1%)	17	48

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
55	VF	429/447 (96%)	388 (90%)	39 (9%)	2 (0%)	29 61
55	VH	429/447 (96%)	372 (87%)	53 (12%)	4 (1%)	17 48
55	VJ	429/447 (96%)	384 (90%)	44 (10%)	1 (0%)	47 77
55	VL	429/447 (96%)	377 (88%)	48 (11%)	4 (1%)	17 48
55	VM	429/447 (96%)	397 (92%)	31 (7%)	1 (0%)	47 77
55	WC	429/447 (96%)	396 (92%)	30 (7%)	3 (1%)	22 54
55	WD	429/447 (96%)	392 (91%)	35 (8%)	2 (0%)	29 61
55	WF	429/447 (96%)	390 (91%)	36 (8%)	3 (1%)	22 54
55	WH	429/447 (96%)	394 (92%)	34 (8%)	1 (0%)	47 77
55	WJ	429/447 (96%)	405 (94%)	23 (5%)	1 (0%)	47 77
55	WL	429/447 (96%)	390 (91%)	36 (8%)	3 (1%)	22 54
All	All	159050/186788 (85%)	144892 (91%)	13287 (8%)	871 (0%)	32 61

5 of 871 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	1E	132	ARG
2	1E	359	GLU
2	1F	51	ASP
2	1H	222	MET
3	1L	68	ASN

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	1A	34/253 (13%)	34 (100%)	0	100 100
1	1B	221/253 (87%)	221 (100%)	0	100 100
2	1E	350/374 (94%)	349 (100%)	1 (0%)	92 96
2	1F	140/374 (37%)	139 (99%)	1 (1%)	84 90
2	1G	248/374 (66%)	247 (100%)	1 (0%)	91 95

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	1H	352/374 (94%)	350 (99%)	2 (1%)	86 91
3	1K	159/612 (26%)	159 (100%)	0	100 100
3	1L	159/612 (26%)	158 (99%)	1 (1%)	86 91
3	1M	155/612 (25%)	155 (100%)	0	100 100
3	1v	187/612 (31%)	187 (100%)	0	100 100
3	1w	81/612 (13%)	81 (100%)	0	100 100
3	1x	226/612 (37%)	225 (100%)	1 (0%)	91 95
3	1y	178/612 (29%)	178 (100%)	0	100 100
3	1z	81/612 (13%)	80 (99%)	1 (1%)	71 83
3	2a	50/612 (8%)	50 (100%)	0	100 100
4	1P	175/183 (96%)	175 (100%)	0	100 100
4	1Q	121/183 (66%)	120 (99%)	1 (1%)	81 89
5	1T	199/383 (52%)	198 (100%)	1 (0%)	88 93
5	1U	97/383 (25%)	97 (100%)	0	100 100
5	1V	201/383 (52%)	201 (100%)	0	100 100
5	1W	95/383 (25%)	95 (100%)	0	100 100
6	1Y	112/126 (89%)	112 (100%)	0	100 100
7	1a	118/213 (55%)	118 (100%)	0	100 100
7	1b	99/213 (46%)	99 (100%)	0	100 100
7	5E	127/213 (60%)	127 (100%)	0	100 100
7	5F	99/213 (46%)	99 (100%)	0	100 100
7	5G	117/213 (55%)	117 (100%)	0	100 100
7	5H	103/213 (48%)	103 (100%)	0	100 100
7	5I	22/213 (10%)	21 (96%)	1 (4%)	27 58
7	5J	197/213 (92%)	197 (100%)	0	100 100
7	5K	109/213 (51%)	108 (99%)	1 (1%)	78 87
7	5L	110/213 (52%)	109 (99%)	1 (1%)	78 87
7	5M	14/213 (7%)	14 (100%)	0	100 100
7	5N	206/213 (97%)	206 (100%)	0	100 100
7	5O	12/213 (6%)	12 (100%)	0	100 100
8	1d	92/311 (30%)	90 (98%)	2 (2%)	52 74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
9	1f	33/180 (18%)	33 (100%)	0	100 100
9	1g	48/180 (27%)	48 (100%)	0	100 100
10	1i	31/164 (19%)	31 (100%)	0	100 100
10	1j	28/164 (17%)	28 (100%)	0	100 100
10	9M	76/164 (46%)	76 (100%)	0	100 100
10	9N	76/164 (46%)	76 (100%)	0	100 100
10	9O	37/164 (23%)	37 (100%)	0	100 100
11	1l	33/153 (22%)	33 (100%)	0	100 100
11	1m	33/153 (22%)	32 (97%)	1 (3%)	41 68
12	1o	26/129 (20%)	26 (100%)	0	100 100
12	1p	27/129 (21%)	27 (100%)	0	100 100
12	1q	41/129 (32%)	40 (98%)	1 (2%)	49 73
12	1r	24/129 (19%)	24 (100%)	0	100 100
13	2A	226/233 (97%)	226 (100%)	0	100 100
13	2B	226/233 (97%)	224 (99%)	2 (1%)	78 87
13	2C	227/233 (97%)	227 (100%)	0	100 100
13	2D	69/233 (30%)	69 (100%)	0	100 100
14	2G	199/205 (97%)	199 (100%)	0	100 100
15	2J	93/122 (76%)	93 (100%)	0	100 100
15	2K	93/122 (76%)	93 (100%)	0	100 100
15	2L	93/122 (76%)	93 (100%)	0	100 100
16	2O	99/100 (99%)	99 (100%)	0	100 100
17	2R	108/457 (24%)	108 (100%)	0	100 100
17	2S	347/457 (76%)	346 (100%)	1 (0%)	92 96
18	2V	252/259 (97%)	251 (100%)	1 (0%)	91 95
18	2W	252/259 (97%)	252 (100%)	0	100 100
19	3A	174/180 (97%)	174 (100%)	0	100 100
19	3B	174/180 (97%)	173 (99%)	1 (1%)	86 91
19	3C	167/180 (93%)	167 (100%)	0	100 100
19	3D	164/180 (91%)	164 (100%)	0	100 100
19	3E	173/180 (96%)	173 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
19	3F	174/180 (97%)	174 (100%)	0	100 100
19	3G	173/180 (96%)	172 (99%)	1 (1%)	86 91
20	3J	428/509 (84%)	426 (100%)	2 (0%)	88 93
20	3K	61/509 (12%)	60 (98%)	1 (2%)	62 79
21	3N	221/478 (46%)	218 (99%)	3 (1%)	67 82
21	3O	239/478 (50%)	239 (100%)	0	100 100
22	3R	147/154 (96%)	146 (99%)	1 (1%)	84 90
22	3S	112/154 (73%)	112 (100%)	0	100 100
22	3T	147/154 (96%)	147 (100%)	0	100 100
23	3W	341/480 (71%)	340 (100%)	1 (0%)	92 96
23	3X	278/480 (58%)	276 (99%)	2 (1%)	84 90
23	3Y	89/480 (18%)	89 (100%)	0	100 100
23	3Z	153/480 (32%)	152 (99%)	1 (1%)	84 90
24	4A	532/546 (97%)	532 (100%)	0	100 100
24	4B	530/546 (97%)	528 (100%)	2 (0%)	91 95
24	4C	532/546 (97%)	531 (100%)	1 (0%)	93 97
25	4F	266/454 (59%)	266 (100%)	0	100 100
25	4G	191/454 (42%)	191 (100%)	0	100 100
26	4J	323/327 (99%)	322 (100%)	1 (0%)	92 96
26	4K	322/327 (98%)	322 (100%)	0	100 100
27	4N	132/212 (62%)	132 (100%)	0	100 100
27	4O	92/212 (43%)	92 (100%)	0	100 100
27	4P	129/212 (61%)	129 (100%)	0	100 100
27	4Q	75/212 (35%)	74 (99%)	1 (1%)	69 82
28	4T	133/209 (64%)	133 (100%)	0	100 100
28	4U	133/209 (64%)	132 (99%)	1 (1%)	81 89
28	4V	12/209 (6%)	12 (100%)	0	100 100
29	4Y	265/267 (99%)	265 (100%)	0	100 100
30	5A	26/237 (11%)	26 (100%)	0	100 100
30	5B	182/237 (77%)	180 (99%)	2 (1%)	73 85
30	9Y	122/237 (52%)	120 (98%)	2 (2%)	62 79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
30	9Z	82/237 (35%)	82 (100%)	0	100 100
31	6A	195/204 (96%)	194 (100%)	1 (0%)	88 93
31	6B	188/204 (92%)	187 (100%)	1 (0%)	88 93
31	6C	192/204 (94%)	192 (100%)	0	100 100
31	6D	194/204 (95%)	194 (100%)	0	100 100
31	6E	194/204 (95%)	193 (100%)	1 (0%)	88 93
31	6F	194/204 (95%)	194 (100%)	0	100 100
32	6I	70/106 (66%)	69 (99%)	1 (1%)	67 82
32	6J	46/106 (43%)	46 (100%)	0	100 100
33	6M	343/410 (84%)	343 (100%)	0	100 100
33	6N	69/410 (17%)	69 (100%)	0	100 100
34	6Q	183/275 (66%)	183 (100%)	0	100 100
34	6R	67/275 (24%)	67 (100%)	0	100 100
35	6U	132/338 (39%)	131 (99%)	1 (1%)	81 89
35	6V	240/338 (71%)	238 (99%)	2 (1%)	81 89
35	6W	219/338 (65%)	219 (100%)	0	100 100
35	6X	112/338 (33%)	112 (100%)	0	100 100
36	7A	644/660 (98%)	642 (100%)	2 (0%)	92 96
36	7B	410/660 (62%)	408 (100%)	2 (0%)	88 93
36	7C	480/660 (73%)	478 (100%)	2 (0%)	91 95
36	7D	643/660 (97%)	643 (100%)	0	100 100
37	7G	477/577 (83%)	476 (100%)	1 (0%)	93 97
37	7H	477/577 (83%)	474 (99%)	3 (1%)	86 91
37	7I	553/577 (96%)	550 (100%)	3 (0%)	88 93
38	7M	230/283 (81%)	229 (100%)	1 (0%)	91 95
38	7N	62/283 (22%)	62 (100%)	0	100 100
39	7Q	127/160 (79%)	127 (100%)	0	100 100
39	7R	119/160 (74%)	119 (100%)	0	100 100
40	7U	87/183 (48%)	86 (99%)	1 (1%)	73 85
40	7V	49/183 (27%)	48 (98%)	1 (2%)	55 76
41	7Y	179/183 (98%)	179 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
41	7Z	55/183 (30%)	55 (100%)	0	100 100
42	8A	210/231 (91%)	209 (100%)	1 (0%)	88 93
43	8D	364/412 (88%)	364 (100%)	0	100 100
43	8E	164/412 (40%)	164 (100%)	0	100 100
43	8F	242/412 (59%)	241 (100%)	1 (0%)	91 95
43	8G	364/412 (88%)	364 (100%)	0	100 100
44	8J	364/389 (94%)	364 (100%)	0	100 100
44	8K	287/389 (74%)	287 (100%)	0	100 100
44	8L	364/389 (94%)	364 (100%)	0	100 100
44	8M	122/389 (31%)	122 (100%)	0	100 100
44	8N	16/389 (4%)	16 (100%)	0	100 100
45	8Q	18/365 (5%)	18 (100%)	0	100 100
45	8R	363/365 (100%)	361 (99%)	2 (1%)	86 91
45	8S	278/365 (76%)	277 (100%)	1 (0%)	91 95
45	8T	363/365 (100%)	362 (100%)	1 (0%)	92 96
45	8U	108/365 (30%)	108 (100%)	0	100 100
46	8X	99/111 (89%)	99 (100%)	0	100 100
46	8Y	99/111 (89%)	99 (100%)	0	100 100
46	8Z	99/111 (89%)	98 (99%)	1 (1%)	76 86
47	9A	187/200 (94%)	187 (100%)	0	100 100
48	9D	87/149 (58%)	87 (100%)	0	100 100
49	9G	138/139 (99%)	137 (99%)	1 (1%)	84 90
50	9J	91/157 (58%)	91 (100%)	0	100 100
51	9R	130/139 (94%)	130 (100%)	0	100 100
52	9T	70/77 (91%)	70 (100%)	0	100 100
53	9V	19/250 (8%)	19 (100%)	0	100 100
53	9W	64/250 (26%)	64 (100%)	0	100 100
54	AA	365/376 (97%)	365 (100%)	0	100 100
54	AB	365/376 (97%)	365 (100%)	0	100 100
54	AE	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	AG	365/376 (97%)	365 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
54	AI	365/376 (97%)	365 (100%)	0	100 100
54	AK	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	AM	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	BA	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	BB	365/376 (97%)	365 (100%)	0	100 100
54	BE	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	BG	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	BI	365/376 (97%)	365 (100%)	0	100 100
54	BK	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	BM	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	CA	365/376 (97%)	365 (100%)	0	100 100
54	CB	365/376 (97%)	365 (100%)	0	100 100
54	CE	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	CG	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	CI	365/376 (97%)	365 (100%)	0	100 100
54	CK	365/376 (97%)	365 (100%)	0	100 100
54	CM	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	DA	365/376 (97%)	365 (100%)	0	100 100
54	DB	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	DE	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	DG	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	DI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	DK	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	DM	365/376 (97%)	365 (100%)	0	100 100
54	EA	365/376 (97%)	365 (100%)	0	100 100
54	EC	365/376 (97%)	365 (100%)	0	100 100
54	EE	365/376 (97%)	365 (100%)	0	100 100
54	EG	365/376 (97%)	365 (100%)	0	100 100
54	EI	365/376 (97%)	365 (100%)	0	100 100
54	EK	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	FA	365/376 (97%)	364 (100%)	1 (0%)	92 96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
54	FB	365/376 (97%)	365 (100%)	0	100 100
54	FE	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	FG	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	FI	365/376 (97%)	365 (100%)	0	100 100
54	FK	365/376 (97%)	365 (100%)	0	100 100
54	GA	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	GB	365/376 (97%)	365 (100%)	0	100 100
54	GE	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	GG	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	GI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	GK	365/376 (97%)	365 (100%)	0	100 100
54	HA	365/376 (97%)	365 (100%)	0	100 100
54	HB	365/376 (97%)	365 (100%)	0	100 100
54	HE	362/376 (96%)	361 (100%)	1 (0%)	92 96
54	HG	365/376 (97%)	362 (99%)	3 (1%)	81 89
54	HI	365/376 (97%)	365 (100%)	0	100 100
54	HK	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	IA	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	IB	364/376 (97%)	364 (100%)	0	100 100
54	IE	365/376 (97%)	365 (100%)	0	100 100
54	IG	365/376 (97%)	365 (100%)	0	100 100
54	II	364/376 (97%)	364 (100%)	0	100 100
54	IK	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	IM	365/376 (97%)	362 (99%)	3 (1%)	81 89
54	JA	363/376 (96%)	363 (100%)	0	100 100
54	JB	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	JE	365/376 (97%)	365 (100%)	0	100 100
54	JG	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	JI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	JK	365/376 (97%)	365 (100%)	0	100 100
54	KA	365/376 (97%)	364 (100%)	1 (0%)	92 96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
54	KB	364/376 (97%)	362 (100%)	2 (0%)	88 93
54	KE	365/376 (97%)	365 (100%)	0	100 100
54	KG	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	KI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	KK	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	LA	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	LB	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	LE	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	LG	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	LI	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	LK	365/376 (97%)	365 (100%)	0	100 100
54	MA	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	MB	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	ME	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	MG	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	MI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	MK	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	ML	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	NA	365/376 (97%)	365 (100%)	0	100 100
54	NB	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	NE	365/376 (97%)	365 (100%)	0	100 100
54	NG	365/376 (97%)	365 (100%)	0	100 100
54	NI	364/376 (97%)	363 (100%)	1 (0%)	92 96
54	NL	363/376 (96%)	363 (100%)	0	100 100
54	OA	365/376 (97%)	365 (100%)	0	100 100
54	OB	364/376 (97%)	362 (100%)	2 (0%)	88 93
54	OE	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	OG	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	OI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	OK	365/376 (97%)	365 (100%)	0	100 100
54	OL	365/376 (97%)	364 (100%)	1 (0%)	92 96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
54	PA	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	PB	365/376 (97%)	365 (100%)	0	100 100
54	PE	365/376 (97%)	365 (100%)	0	100 100
54	PG	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	PI	365/376 (97%)	365 (100%)	0	100 100
54	PK	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	PL	365/376 (97%)	365 (100%)	0	100 100
54	QA	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	QB	365/376 (97%)	365 (100%)	0	100 100
54	QE	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	QG	365/376 (97%)	361 (99%)	4 (1%)	73 85
54	QI	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	QK	363/376 (96%)	362 (100%)	1 (0%)	92 96
54	QL	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	RA	365/376 (97%)	365 (100%)	0	100 100
54	RB	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	RE	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	RG	365/376 (97%)	365 (100%)	0	100 100
54	RI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	RK	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	RL	365/376 (97%)	365 (100%)	0	100 100
54	SA	365/376 (97%)	365 (100%)	0	100 100
54	SB	365/376 (97%)	365 (100%)	0	100 100
54	SE	365/376 (97%)	365 (100%)	0	100 100
54	SG	365/376 (97%)	365 (100%)	0	100 100
54	SI	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	SK	365/376 (97%)	365 (100%)	0	100 100
54	TA	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	TB	365/376 (97%)	363 (100%)	2 (0%)	88 93
54	TE	365/376 (97%)	364 (100%)	1 (0%)	92 96
54	TG	365/376 (97%)	364 (100%)	1 (0%)	92 96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	TI	365/376 (97%)	365 (100%)	0	100	100
54	TK	365/376 (97%)	364 (100%)	1 (0%)	92	96
54	UA	365/376 (97%)	364 (100%)	1 (0%)	92	96
54	UB	363/376 (96%)	362 (100%)	1 (0%)	92	96
54	UE	365/376 (97%)	363 (100%)	2 (0%)	88	93
54	UG	365/376 (97%)	365 (100%)	0	100	100
54	UI	365/376 (97%)	365 (100%)	0	100	100
54	UK	365/376 (97%)	365 (100%)	0	100	100
54	VA	365/376 (97%)	364 (100%)	1 (0%)	92	96
54	VB	365/376 (97%)	365 (100%)	0	100	100
54	VE	365/376 (97%)	365 (100%)	0	100	100
54	VG	365/376 (97%)	365 (100%)	0	100	100
54	VI	365/376 (97%)	363 (100%)	2 (0%)	88	93
54	VK	365/376 (97%)	363 (100%)	2 (0%)	88	93
54	WA	365/376 (97%)	364 (100%)	1 (0%)	92	96
54	WB	365/376 (97%)	364 (100%)	1 (0%)	92	96
54	WE	365/376 (97%)	363 (100%)	2 (0%)	88	93
54	WG	365/376 (97%)	363 (100%)	2 (0%)	88	93
54	WI	365/376 (97%)	364 (100%)	1 (0%)	92	96
54	WK	365/376 (97%)	364 (100%)	1 (0%)	92	96
55	AC	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	AD	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	AF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	AH	369/381 (97%)	369 (100%)	0	100	100
55	AJ	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	AL	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	BC	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	BD	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	BF	369/381 (97%)	366 (99%)	3 (1%)	81	89
55	BH	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	BJ	369/381 (97%)	368 (100%)	1 (0%)	92	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
55	BL	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	CC	369/381 (97%)	369 (100%)	0	100 100
55	CD	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	CF	369/381 (97%)	369 (100%)	0	100 100
55	CH	369/381 (97%)	369 (100%)	0	100 100
55	CJ	369/381 (97%)	369 (100%)	0	100 100
55	CL	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	DC	369/381 (97%)	369 (100%)	0	100 100
55	DD	369/381 (97%)	369 (100%)	0	100 100
55	DF	369/381 (97%)	369 (100%)	0	100 100
55	DH	369/381 (97%)	369 (100%)	0	100 100
55	DJ	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	DL	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	EB	369/381 (97%)	369 (100%)	0	100 100
55	ED	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	EF	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	EH	369/381 (97%)	369 (100%)	0	100 100
55	EJ	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	EL	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	EM	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	FC	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	FD	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	FF	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	FH	369/381 (97%)	369 (100%)	0	100 100
55	FJ	369/381 (97%)	369 (100%)	0	100 100
55	FL	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	FM	369/381 (97%)	369 (100%)	0	100 100
55	GC	369/381 (97%)	369 (100%)	0	100 100
55	GD	369/381 (97%)	369 (100%)	0	100 100
55	GF	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	GH	369/381 (97%)	368 (100%)	1 (0%)	92 96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
55	GJ	369/381 (97%)	369 (100%)	0	100	100
55	GL	369/381 (97%)	369 (100%)	0	100	100
55	GM	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	HC	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	HD	369/381 (97%)	366 (99%)	3 (1%)	81	89
55	HF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	HH	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	HJ	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	HL	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	HM	369/381 (97%)	369 (100%)	0	100	100
55	IC	369/381 (97%)	369 (100%)	0	100	100
55	ID	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	IF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	IH	369/381 (97%)	369 (100%)	0	100	100
55	IJ	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	IL	369/381 (97%)	369 (100%)	0	100	100
55	JC	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	JD	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	JF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	JH	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	JJ	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	JL	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	JM	369/381 (97%)	369 (100%)	0	100	100
55	KC	369/381 (97%)	369 (100%)	0	100	100
55	KD	369/381 (97%)	369 (100%)	0	100	100
55	KF	369/381 (97%)	369 (100%)	0	100	100
55	KH	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	KJ	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	KL	369/381 (97%)	369 (100%)	0	100	100
55	KM	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	LC	369/381 (97%)	369 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
55	LD	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	LF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	LH	369/381 (97%)	369 (100%)	0	100	100
55	LJ	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	LL	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	LM	369/381 (97%)	369 (100%)	0	100	100
55	MC	369/381 (97%)	369 (100%)	0	100	100
55	MD	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	MF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	MH	369/381 (97%)	369 (100%)	0	100	100
55	MJ	369/381 (97%)	369 (100%)	0	100	100
55	MM	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	NC	369/381 (97%)	366 (99%)	3 (1%)	81	89
55	ND	369/381 (97%)	369 (100%)	0	100	100
55	NF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	NH	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	NJ	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	NK	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	NM	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	OC	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	OD	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	OF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	OH	369/381 (97%)	367 (100%)	2 (0%)	88	93
55	OJ	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	OM	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	PC	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	PD	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	PF	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	PH	369/381 (97%)	368 (100%)	1 (0%)	92	96
55	PJ	369/381 (97%)	369 (100%)	0	100	100
55	PM	369/381 (97%)	368 (100%)	1 (0%)	92	96

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
55	QC	369/381 (97%)	366 (99%)	3 (1%)	81 89
55	QD	369/381 (97%)	369 (100%)	0	100 100
55	QF	369/381 (97%)	369 (100%)	0	100 100
55	QH	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	QJ	369/381 (97%)	369 (100%)	0	100 100
55	QM	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	RC	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	RD	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	RF	369/381 (97%)	369 (100%)	0	100 100
55	RH	369/381 (97%)	369 (100%)	0	100 100
55	RJ	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	RM	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	SC	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	SD	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	SF	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	SH	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	SJ	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	SL	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	SM	369/381 (97%)	369 (100%)	0	100 100
55	TC	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	TD	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	TF	369/381 (97%)	369 (100%)	0	100 100
55	TH	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	TJ	369/381 (97%)	369 (100%)	0	100 100
55	TL	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	TM	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	UC	369/381 (97%)	366 (99%)	3 (1%)	81 89
55	UD	369/381 (97%)	369 (100%)	0	100 100
55	UF	369/381 (97%)	369 (100%)	0	100 100
55	UH	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	UJ	369/381 (97%)	367 (100%)	2 (0%)	88 93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
55	UL	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	UM	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	VC	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	VD	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	VF	369/381 (97%)	369 (100%)	0	100 100
55	VH	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	VJ	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	VL	369/381 (97%)	369 (100%)	0	100 100
55	VM	369/381 (97%)	369 (100%)	0	100 100
55	WC	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	WD	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	WF	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	WH	369/381 (97%)	368 (100%)	1 (0%)	92 96
55	WJ	369/381 (97%)	367 (100%)	2 (0%)	88 93
55	WL	369/381 (97%)	368 (100%)	1 (0%)	92 96
All	All	136631/159445 (86%)	136293 (100%)	338 (0%)	93 97

5 of 338 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
55	OC	329	GLN
54	TB	326	LYS
55	OH	347	ASN
55	QH	195	ASN
55	UC	2	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 385 such sidechains are listed below:

Mol	Chain	Res	Type
54	NE	101	ASN
54	QK	133	GLN
54	NI	356	ASN
55	PD	131	GLN
55	RH	256	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 446 ligands modelled in this entry, 148 are monoatomic - leaving 298 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
56	GTP	II	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	LI	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.64	7 (21%)
58	GDP	TF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	EL	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	FG	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.58	7 (21%)
56	GTP	GE	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.67	7 (21%)
58	GDP	QJ	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.34	5 (16%)
56	GTP	DE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	WH	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	QC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	CH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.38	4 (13%)
58	GDP	VM	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	QB	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.66	7 (21%)
56	GTP	VB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	GTP	IG	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.58	7 (21%)
58	GDP	TD	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.39	5 (16%)
56	GTP	UA	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.67	7 (21%)
56	GTP	RA	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.64	7 (21%)
56	GTP	NB	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.58	7 (21%)
58	GDP	FJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	AA	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.59	7 (21%)
56	GTP	TG	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	QA	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	IF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	JM	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	AI	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.70	7 (21%)
56	GTP	CK	501	-	26,34,34	1.13	2 (7%)	32,54,54	1.56	8 (25%)
58	GDP	DJ	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	KH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	KF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
56	GTP	RE	501	57	26,34,34	1.19	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	VJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
56	GTP	BI	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	EI	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
56	GTP	IE	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	UE	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.77	7 (21%)
58	GDP	MD	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
56	GTP	BA	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	EM	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	EK	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.63	7 (21%)
58	GDP	AL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	OH	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.37	4 (13%)
56	GTP	ML	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	FM	502	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	5 (16%)
58	GDP	ND	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	NH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	NG	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.62	7 (21%)
56	GTP	NL	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
58	GDP	BH	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.35	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
58	GDP	JD	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
56	GTP	VE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.59	7 (21%)
58	GDP	PC	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	4 (13%)
56	GTP	FI	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
56	GTP	HA	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.64	7 (21%)
56	GTP	PG	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.59	7 (21%)
58	GDP	EJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	UJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	KD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	SJ	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	MM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.27	4 (13%)
58	GDP	OM	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	5 (16%)
56	GTP	ME	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.56	7 (21%)
56	GTP	KB	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	TM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)
56	GTP	KG	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.68	7 (21%)
58	GDP	IC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
56	GTP	AE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	LE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.61	6 (18%)
56	GTP	BG	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.53	8 (25%)
56	GTP	QI	501	57,54	26,34,34	1.17	2 (7%)	32,54,54	1.60	7 (21%)
58	GDP	DF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.16	3 (10%)
58	GDP	LC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	LM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.32	4 (13%)
56	GTP	TB	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	HB	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.60	7 (21%)
58	GDP	JC	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.35	5 (16%)
56	GTP	RI	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.54	7 (21%)
58	GDP	ED	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
58	GDP	IH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	QK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.69	7 (21%)
56	GTP	GK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.69	7 (21%)
58	GDP	LF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.29	4 (13%)
58	GDP	RJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	VL	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.21	3 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	GTP	JE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
56	GTP	LK	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	NI	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	OK	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	RF	501	-	24,30,30	0.92	1 (4%)	30,47,47	1.21	3 (10%)
58	GDP	TH	501	-	24,30,30	0.98	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	KE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
56	GTP	UK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	VD	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.41	6 (20%)
56	GTP	WG	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.64	7 (21%)
58	GDP	QD	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.30	4 (13%)
56	GTP	VI	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	HD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	LG	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.64	7 (21%)
56	GTP	KI	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.64	7 (21%)
56	GTP	HK	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.62	7 (21%)
56	GTP	QE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
58	GDP	GF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	QM	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	VK	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	AF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	AJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
56	GTP	DG	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.56	7 (21%)
56	GTP	OE	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.61	7 (21%)
58	GDP	UD	501	-	24,30,30	0.91	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	WJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	QF	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.32	3 (10%)
58	GDP	WC	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	TE	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.75	7 (21%)
56	GTP	GA	501	57	26,34,34	1.12	2 (7%)	32,54,54	1.57	6 (18%)
56	GTP	GG	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.70	6 (18%)
56	GTP	SI	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	OA	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.68	7 (21%)
56	GTP	QG	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.54	7 (21%)
58	GDP	SM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
58	GDP	OD	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	LL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	KM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.29	4 (13%)
56	GTP	AB	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.67	7 (21%)
56	GTP	VA	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
56	GTP	BK	501	57	26,34,34	1.11	2 (7%)	32,54,54	1.58	8 (25%)
56	GTP	JI	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	HJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	FK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	CM	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	OB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.67	7 (21%)
56	GTP	PI	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
58	GDP	BF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	CJ	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	TJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	NF	501	-	24,30,30	0.98	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	RG	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.64	7 (21%)
56	GTP	UI	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.62	7 (21%)
56	GTP	NE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
56	GTP	SK	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	QL	501	57,54	26,34,34	1.12	2 (7%)	32,54,54	1.57	7 (21%)
56	GTP	OG	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	QH	501	55	24,30,30	0.99	1 (4%)	30,47,47	1.29	4 (13%)
58	GDP	UC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	LJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	KK	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.58	7 (21%)
56	GTP	WB	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.60	7 (21%)
58	GDP	BD	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.30	5 (16%)
58	GDP	FH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	IJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	RH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.38	4 (13%)
56	GTP	MG	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.57	7 (21%)
56	GTP	JA	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.64	7 (21%)
58	GDP	SH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	CF	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.35	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
58	GDP	IL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	MH	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	LA	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	MB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.57	7 (21%)
56	GTP	IK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	WE	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	CD	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	GH	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.37	4 (13%)
56	GTP	JK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.59	7 (21%)
58	GDP	NK	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
56	GTP	DK	501	57	26,34,34	1.11	2 (7%)	32,54,54	1.54	7 (21%)
56	GTP	TI	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
58	GDP	GJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	EF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.38	4 (13%)
56	GTP	BE	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.74	7 (21%)
56	GTP	KA	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.66	7 (21%)
58	GDP	JL	501	-	24,30,30	0.99	1 (4%)	30,47,47	1.15	2 (6%)
58	GDP	KC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
58	GDP	GM	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	KJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	BB	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.65	7 (21%)
56	GTP	NA	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.67	7 (21%)
58	GDP	BJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	DC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	HM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	MF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
56	GTP	FB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.68	7 (21%)
58	GDP	SL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	EB	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.30	4 (13%)
58	GDP	BC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
58	GDP	PM	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
56	GTP	WA	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.67	7 (21%)
56	GTP	JG	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.63	7 (21%)
56	GTP	UG	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	CB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	GTP	RL	501	57,54	26,34,34	1.12	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	PB	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.70	7 (21%)
58	GDP	UH	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	MA	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.66	7 (21%)
56	GTP	GB	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.68	7 (21%)
56	GTP	PE	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.64	7 (21%)
58	GDP	FF	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.39	4 (13%)
58	GDP	DH	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	OC	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	HE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
58	GDP	BL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.38	4 (13%)
56	GTP	EG	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
56	GTP	CG	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
58	GDP	KL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	NJ	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.32	4 (13%)
56	GTP	IB	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.67	7 (21%)
56	GTP	TA	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.58	7 (21%)
56	GTP	RK	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.64	7 (21%)
58	GDP	SF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	HC	501	-	24,30,30	0.99	1 (4%)	30,47,47	1.26	3 (10%)
56	GTP	IA	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.64	7 (21%)
56	GTP	CE	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.67	6 (18%)
56	GTP	AK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.56	7 (21%)
58	GDP	TC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	TL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	MC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
56	GTP	DI	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
56	GTP	MI	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
56	GTP	MK	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.57	6 (18%)
58	GDP	NM	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	JF	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.35	5 (16%)
56	GTP	PL	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
58	GDP	LD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	FD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.32	4 (13%)
58	GDP	FL	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.35	4 (13%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
58	GDP	HF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	WL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	5 (16%)
56	GTP	OL	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.59	7 (21%)
58	GDP	RM	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.46	5 (16%)
58	GDP	AC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
56	GTP	RB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.54	7 (21%)
58	GDP	HH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
56	GTP	WI	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.58	7 (21%)
56	GTP	PK	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.64	7 (21%)
58	GDP	PD	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.28	4 (13%)
56	GTP	UB	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	JJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	TK	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.67	7 (21%)
56	GTP	SE	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.61	7 (21%)
58	GDP	RD	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.31	4 (13%)
56	GTP	BM	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.57	8 (25%)
56	GTP	DB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.61	7 (21%)
58	GDP	SD	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.31	4 (13%)
58	GDP	DL	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.23	3 (10%)
58	GDP	GD	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.29	4 (13%)
56	GTP	FM	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.69	7 (21%)
58	GDP	UL	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.21	5 (16%)
58	GDP	HL	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.32	4 (13%)
56	GTP	DM	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.62	7 (21%)
56	GTP	CI	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.63	7 (21%)
56	GTP	CA	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.67	6 (18%)
58	GDP	MJ	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.37	4 (13%)
56	GTP	HI	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	OI	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.63	7 (21%)
58	GDP	RC	501	-	24,30,30	0.97	1 (4%)	30,47,47	1.32	4 (13%)
56	GTP	LB	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.62	7 (21%)
56	GTP	AG	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
56	GTP	AM	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.59	7 (21%)
56	GTP	IM	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.58	7 (21%)
56	GTP	DA	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.63	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	GTP	EC	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.62	7 (21%)
58	GDP	DD	501	-	24,30,30	0.98	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	FC	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.38	4 (13%)
56	GTP	EA	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.65	7 (21%)
56	GTP	JB	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.66	7 (21%)
58	GDP	PF	501	55	24,30,30	0.85	0	30,47,47	1.67	7 (23%)
58	GDP	SC	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	LH	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.35	4 (13%)
56	GTP	PA	501	57	26,34,34	1.23	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	HG	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.63	7 (21%)
56	GTP	WK	501	57	26,34,34	1.14	2 (7%)	32,54,54	1.63	7 (21%)
58	GDP	AD	501	-	24,30,30	0.99	1 (4%)	30,47,47	1.30	4 (13%)
58	GDP	AH	501	-	24,30,30	0.93	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	UF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.38	4 (13%)
58	GDP	VC	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	OJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
58	GDP	PJ	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	GC	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	WF	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	GL	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.30	4 (13%)
56	GTP	FE	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.64	7 (21%)
58	GDP	EH	501	-	24,30,30	0.96	1 (4%)	30,47,47	1.37	5 (16%)
58	GDP	UM	501	55	24,30,30	0.93	1 (4%)	30,47,47	1.35	4 (13%)
58	GDP	PH	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.33	4 (13%)
56	GTP	SA	502	57	26,34,34	1.15	2 (7%)	32,54,54	1.58	7 (21%)
58	GDP	JH	501	-	24,30,30	0.95	1 (4%)	30,47,47	1.30	4 (13%)
58	GDP	NC	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.30	4 (13%)
58	GDP	VF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
58	GDP	WD	501	-	24,30,30	0.99	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	SB	501	57	26,34,34	1.17	2 (7%)	32,54,54	1.66	7 (21%)
58	GDP	VH	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.39	4 (13%)
56	GTP	SG	501	57	26,34,34	1.16	2 (7%)	32,54,54	1.60	7 (21%)
56	GTP	VG	501	57	26,34,34	1.15	2 (7%)	32,54,54	1.65	7 (21%)
58	GDP	CL	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	EE	501	57	26,34,34	1.18	2 (7%)	32,54,54	1.69	7 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
58	GDP	OF	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.32	4 (13%)
58	GDP	CC	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.36	4 (13%)
58	GDP	ID	501	-	24,30,30	0.94	1 (4%)	30,47,47	1.34	4 (13%)
56	GTP	GI	501	57	26,34,34	1.13	2 (7%)	32,54,54	1.58	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
56	GTP	II	501	57	-	8/18/38/38	0/3/3/3
56	GTP	LI	501	57	-	2/18/38/38	0/3/3/3
58	GDP	TF	501	-	-	1/12/32/32	0/3/3/3
58	GDP	EL	501	-	-	1/12/32/32	0/3/3/3
56	GTP	FG	501	57	-	5/18/38/38	0/3/3/3
56	GTP	GE	501	57	-	2/18/38/38	0/3/3/3
58	GDP	QJ	501	-	-	1/12/32/32	0/3/3/3
56	GTP	DE	501	57	-	3/18/38/38	0/3/3/3
58	GDP	WH	501	-	-	2/12/32/32	0/3/3/3
58	GDP	QC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	CH	501	-	-	2/12/32/32	0/3/3/3
58	GDP	VM	501	-	-	3/12/32/32	0/3/3/3
56	GTP	QB	501	57	-	2/18/38/38	0/3/3/3
56	GTP	VB	501	57	-	6/18/38/38	0/3/3/3
56	GTP	IG	501	57	-	6/18/38/38	0/3/3/3
58	GDP	TD	501	-	-	3/12/32/32	0/3/3/3
56	GTP	UA	501	57	-	7/18/38/38	0/3/3/3
56	GTP	RA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	NB	501	57	-	10/18/38/38	0/3/3/3
58	GDP	FJ	501	-	-	2/12/32/32	0/3/3/3
56	GTP	AA	501	57	-	7/18/38/38	0/3/3/3
56	GTP	TG	501	57	-	6/18/38/38	0/3/3/3
56	GTP	QA	501	57	-	6/18/38/38	0/3/3/3
58	GDP	IF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	JM	501	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	GTP	AI	501	57	-	3/18/38/38	0/3/3/3
56	GTP	CK	501	-	-	7/18/38/38	0/3/3/3
58	GDP	DJ	501	-	-	4/12/32/32	0/3/3/3
58	GDP	KH	501	-	-	2/12/32/32	0/3/3/3
58	GDP	KF	501	-	-	2/12/32/32	0/3/3/3
56	GTP	RE	501	57	-	3/18/38/38	0/3/3/3
58	GDP	VJ	501	-	-	2/12/32/32	0/3/3/3
56	GTP	BI	501	57	-	7/18/38/38	0/3/3/3
56	GTP	EI	501	57	-	2/18/38/38	0/3/3/3
56	GTP	IE	501	57	-	6/18/38/38	0/3/3/3
56	GTP	UE	501	57	-	4/18/38/38	0/3/3/3
58	GDP	MD	501	-	-	1/12/32/32	0/3/3/3
56	GTP	BA	501	57	-	3/18/38/38	0/3/3/3
58	GDP	EM	501	-	-	2/12/32/32	0/3/3/3
56	GTP	EK	501	57	-	2/18/38/38	0/3/3/3
58	GDP	AL	501	-	-	2/12/32/32	0/3/3/3
58	GDP	OH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	ML	501	57	-	3/18/38/38	0/3/3/3
58	GDP	FM	502	-	-	1/12/32/32	0/3/3/3
58	GDP	ND	501	-	-	2/12/32/32	0/3/3/3
58	GDP	NH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	NG	501	57	-	6/18/38/38	0/3/3/3
56	GTP	NL	501	57	-	4/18/38/38	0/3/3/3
58	GDP	BH	501	-	-	2/12/32/32	0/3/3/3
58	GDP	JD	501	-	-	2/12/32/32	0/3/3/3
56	GTP	VE	501	57	-	4/18/38/38	0/3/3/3
58	GDP	PC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	FI	501	57	-	3/18/38/38	0/3/3/3
56	GTP	HA	501	57	-	4/18/38/38	0/3/3/3
56	GTP	PG	501	57	-	7/18/38/38	0/3/3/3
58	GDP	EJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	UJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	KD	501	-	-	2/12/32/32	0/3/3/3
58	GDP	SJ	501	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	GDP	MM	501	-	-	2/12/32/32	0/3/3/3
58	GDP	OM	501	-	-	2/12/32/32	0/3/3/3
56	GTP	ME	501	57	-	6/18/38/38	0/3/3/3
56	GTP	KB	501	57	-	3/18/38/38	0/3/3/3
58	GDP	TM	501	-	-	2/12/32/32	0/3/3/3
56	GTP	KG	501	57	-	3/18/38/38	0/3/3/3
58	GDP	IC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	AE	501	57	-	6/18/38/38	0/3/3/3
56	GTP	LE	501	57	-	3/18/38/38	0/3/3/3
56	GTP	BG	501	57	-	8/18/38/38	0/3/3/3
56	GTP	QI	501	57,54	-	3/18/38/38	0/3/3/3
58	GDP	DF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	LC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	LM	501	-	-	1/12/32/32	0/3/3/3
56	GTP	TB	501	57	-	8/18/38/38	0/3/3/3
56	GTP	HB	501	57	-	3/18/38/38	0/3/3/3
58	GDP	JC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	RI	501	57	-	4/18/38/38	0/3/3/3
58	GDP	ED	501	-	-	2/12/32/32	0/3/3/3
58	GDP	IH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	QK	501	57	-	3/18/38/38	0/3/3/3
56	GTP	GK	501	57	-	4/18/38/38	0/3/3/3
58	GDP	LF	501	-	-	3/12/32/32	0/3/3/3
58	GDP	RJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	VL	501	-	-	5/12/32/32	0/3/3/3
56	GTP	JE	501	57	-	3/18/38/38	0/3/3/3
56	GTP	LK	501	57	-	6/18/38/38	0/3/3/3
56	GTP	NI	501	57	-	6/18/38/38	0/3/3/3
56	GTP	OK	501	57	-	6/18/38/38	0/3/3/3
58	GDP	RF	501	-	-	5/12/32/32	0/3/3/3
58	GDP	TH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	KE	501	57	-	2/18/38/38	0/3/3/3
56	GTP	UK	501	57	-	9/18/38/38	0/3/3/3
58	GDP	VD	501	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	GTP	WG	501	57	-	3/18/38/38	0/3/3/3
58	GDP	QD	501	-	-	2/12/32/32	0/3/3/3
56	GTP	VI	501	57	-	3/18/38/38	0/3/3/3
58	GDP	HD	501	-	-	2/12/32/32	0/3/3/3
56	GTP	LG	501	57	-	3/18/38/38	0/3/3/3
56	GTP	KI	501	57	-	2/18/38/38	0/3/3/3
56	GTP	HK	501	57	-	10/18/38/38	0/3/3/3
56	GTP	QE	501	57	-	3/18/38/38	0/3/3/3
58	GDP	GF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	QM	501	-	-	2/12/32/32	0/3/3/3
56	GTP	VK	501	57	-	7/18/38/38	0/3/3/3
58	GDP	AF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	AJ	501	-	-	2/12/32/32	0/3/3/3
56	GTP	DG	501	57	-	5/18/38/38	0/3/3/3
56	GTP	OE	501	57	-	7/18/38/38	0/3/3/3
58	GDP	UD	501	-	-	3/12/32/32	0/3/3/3
58	GDP	WJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	QF	501	-	-	3/12/32/32	0/3/3/3
58	GDP	WC	501	-	-	1/12/32/32	0/3/3/3
56	GTP	TE	501	57	-	4/18/38/38	0/3/3/3
56	GTP	GA	501	57	-	6/18/38/38	0/3/3/3
56	GTP	GG	501	57	-	3/18/38/38	0/3/3/3
56	GTP	SI	501	57	-	2/18/38/38	0/3/3/3
56	GTP	OA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	QG	501	57	-	6/18/38/38	0/3/3/3
58	GDP	SM	501	-	-	2/12/32/32	0/3/3/3
58	GDP	OD	501	-	-	4/12/32/32	0/3/3/3
58	GDP	LL	501	-	-	2/12/32/32	0/3/3/3
58	GDP	KM	501	-	-	2/12/32/32	0/3/3/3
56	GTP	AB	501	57	-	3/18/38/38	0/3/3/3
56	GTP	VA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	BK	501	57	-	5/18/38/38	0/3/3/3
56	GTP	JI	501	57	-	2/18/38/38	0/3/3/3
58	GDP	HJ	501	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	GTP	FK	501	57	-	7/18/38/38	0/3/3/3
56	GTP	CM	501	57	-	4/18/38/38	0/3/3/3
56	GTP	OB	501	57	-	3/18/38/38	0/3/3/3
56	GTP	PI	501	57	-	3/18/38/38	0/3/3/3
58	GDP	BF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	CJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	TJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	NF	501	-	-	2/12/32/32	0/3/3/3
56	GTP	RG	501	57	-	3/18/38/38	0/3/3/3
56	GTP	UI	501	57	-	3/18/38/38	0/3/3/3
56	GTP	NE	501	57	-	3/18/38/38	0/3/3/3
56	GTP	SK	501	57	-	3/18/38/38	0/3/3/3
56	GTP	QL	501	57,54	-	8/18/38/38	0/3/3/3
56	GTP	OG	501	57	-	3/18/38/38	0/3/3/3
58	GDP	QH	501	55	-	5/12/32/32	0/3/3/3
58	GDP	UC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	LJ	501	-	-	4/12/32/32	0/3/3/3
56	GTP	KK	501	57	-	4/18/38/38	0/3/3/3
56	GTP	WB	501	57	-	7/18/38/38	0/3/3/3
58	GDP	BD	501	-	-	3/12/32/32	0/3/3/3
58	GDP	FH	501	-	-	3/12/32/32	0/3/3/3
58	GDP	IJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	RH	501	-	-	1/12/32/32	0/3/3/3
56	GTP	MG	501	57	-	3/18/38/38	0/3/3/3
56	GTP	JA	501	57	-	3/18/38/38	0/3/3/3
58	GDP	SH	501	-	-	2/12/32/32	0/3/3/3
58	GDP	CF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	IL	501	-	-	2/12/32/32	0/3/3/3
58	GDP	MH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	LA	501	57	-	6/18/38/38	0/3/3/3
56	GTP	MB	501	57	-	5/18/38/38	0/3/3/3
56	GTP	IK	501	57	-	4/18/38/38	0/3/3/3
56	GTP	WE	501	57	-	4/18/38/38	0/3/3/3
58	GDP	CD	501	-	-	3/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	GDP	GH	501	-	-	1/12/32/32	0/3/3/3
56	GTP	JK	501	57	-	7/18/38/38	0/3/3/3
58	GDP	NK	501	-	-	1/12/32/32	0/3/3/3
56	GTP	DK	501	57	-	4/18/38/38	0/3/3/3
56	GTP	TI	501	57	-	7/18/38/38	0/3/3/3
58	GDP	GJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	EF	501	-	-	2/12/32/32	0/3/3/3
56	GTP	BE	501	57	-	3/18/38/38	0/3/3/3
56	GTP	KA	501	57	-	2/18/38/38	0/3/3/3
58	GDP	JL	501	-	-	4/12/32/32	0/3/3/3
58	GDP	KC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	GM	501	-	-	2/12/32/32	0/3/3/3
58	GDP	KJ	501	-	-	2/12/32/32	0/3/3/3
56	GTP	BB	501	57	-	4/18/38/38	0/3/3/3
56	GTP	NA	501	57	-	3/18/38/38	0/3/3/3
58	GDP	BJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	DC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	HM	501	-	-	1/12/32/32	0/3/3/3
58	GDP	MF	501	-	-	2/12/32/32	0/3/3/3
56	GTP	FB	501	57	-	3/18/38/38	0/3/3/3
58	GDP	SL	501	-	-	2/12/32/32	0/3/3/3
58	GDP	EB	501	-	-	1/12/32/32	0/3/3/3
58	GDP	BC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	PM	501	-	-	2/12/32/32	0/3/3/3
56	GTP	WA	501	57	-	2/18/38/38	0/3/3/3
56	GTP	JG	501	57	-	3/18/38/38	0/3/3/3
56	GTP	UG	501	57	-	6/18/38/38	0/3/3/3
56	GTP	CB	501	57	-	2/18/38/38	0/3/3/3
56	GTP	RL	501	57,54	-	8/18/38/38	0/3/3/3
56	GTP	PB	501	57	-	3/18/38/38	0/3/3/3
58	GDP	UH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	MA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	GB	501	57	-	3/18/38/38	0/3/3/3
56	GTP	PE	501	57	-	3/18/38/38	0/3/3/3
58	GDP	FF	501	-	-	2/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	GDP	DH	501	-	-	1/12/32/32	0/3/3/3
58	GDP	OC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	HE	501	57	-	6/18/38/38	0/3/3/3
58	GDP	BL	501	-	-	2/12/32/32	0/3/3/3
56	GTP	EG	501	57	-	3/18/38/38	0/3/3/3
56	GTP	CG	501	57	-	4/18/38/38	0/3/3/3
58	GDP	KL	501	-	-	2/12/32/32	0/3/3/3
58	GDP	NJ	501	-	-	2/12/32/32	0/3/3/3
56	GTP	IB	501	57	-	4/18/38/38	0/3/3/3
56	GTP	TA	501	57	-	8/18/38/38	0/3/3/3
56	GTP	RK	501	57	-	3/18/38/38	0/3/3/3
58	GDP	SF	501	-	-	3/12/32/32	0/3/3/3
58	GDP	HC	501	-	-	5/12/32/32	0/3/3/3
56	GTP	IA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	CE	501	57	-	3/18/38/38	0/3/3/3
56	GTP	AK	501	57	-	5/18/38/38	0/3/3/3
58	GDP	TC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	TL	501	-	-	2/12/32/32	0/3/3/3
58	GDP	MC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	DI	501	57	-	2/18/38/38	0/3/3/3
56	GTP	MI	501	57	-	3/18/38/38	0/3/3/3
56	GTP	MK	501	57	-	6/18/38/38	0/3/3/3
58	GDP	NM	501	-	-	2/12/32/32	0/3/3/3
58	GDP	JF	501	-	-	2/12/32/32	0/3/3/3
56	GTP	PL	501	57	-	3/18/38/38	0/3/3/3
58	GDP	LD	501	-	-	2/12/32/32	0/3/3/3
58	GDP	FD	501	-	-	1/12/32/32	0/3/3/3
58	GDP	FL	501	-	-	2/12/32/32	0/3/3/3
58	GDP	HF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	WL	501	-	-	2/12/32/32	0/3/3/3
56	GTP	OL	501	57	-	7/18/38/38	0/3/3/3
58	GDP	RM	501	-	-	2/12/32/32	0/3/3/3
58	GDP	AC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	RB	501	57	-	6/18/38/38	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	GDP	HH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	WI	501	57	-	6/18/38/38	0/3/3/3
56	GTP	PK	501	57	-	1/18/38/38	0/3/3/3
58	GDP	PD	501	-	-	1/12/32/32	0/3/3/3
56	GTP	UB	501	57	-	3/18/38/38	0/3/3/3
58	GDP	JJ	501	-	-	3/12/32/32	0/3/3/3
56	GTP	TK	501	57	-	4/18/38/38	0/3/3/3
56	GTP	SE	501	57	-	6/18/38/38	0/3/3/3
58	GDP	RD	501	-	-	2/12/32/32	0/3/3/3
56	GTP	BM	501	57	-	9/18/38/38	0/3/3/3
56	GTP	DB	501	57	-	1/18/38/38	0/3/3/3
58	GDP	SD	501	-	-	3/12/32/32	0/3/3/3
58	GDP	DL	501	-	-	0/12/32/32	0/3/3/3
58	GDP	GD	501	-	-	1/12/32/32	0/3/3/3
56	GTP	FM	501	57	-	4/18/38/38	0/3/3/3
58	GDP	UL	501	-	-	3/12/32/32	0/3/3/3
58	GDP	HL	501	-	-	3/12/32/32	0/3/3/3
56	GTP	DM	501	57	-	3/18/38/38	0/3/3/3
56	GTP	CI	501	57	-	2/18/38/38	0/3/3/3
56	GTP	CA	501	57	-	3/18/38/38	0/3/3/3
58	GDP	MJ	501	-	-	2/12/32/32	0/3/3/3
56	GTP	HI	501	57	-	6/18/38/38	0/3/3/3
56	GTP	OI	501	57	-	4/18/38/38	0/3/3/3
58	GDP	RC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	LB	501	57	-	3/18/38/38	0/3/3/3
56	GTP	AG	501	57	-	4/18/38/38	0/3/3/3
56	GTP	AM	501	57	-	6/18/38/38	0/3/3/3
56	GTP	IM	501	57	-	7/18/38/38	0/3/3/3
56	GTP	DA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	EC	501	57	-	3/18/38/38	0/3/3/3
58	GDP	DD	501	-	-	4/12/32/32	0/3/3/3
58	GDP	FC	501	-	-	2/12/32/32	0/3/3/3
56	GTP	EA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	JB	501	57	-	3/18/38/38	0/3/3/3
58	GDP	PF	501	55	-	1/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	GDP	SC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	LH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	PA	501	57	-	3/18/38/38	0/3/3/3
56	GTP	HG	501	57	-	3/18/38/38	0/3/3/3
56	GTP	WK	501	57	-	6/18/38/38	0/3/3/3
58	GDP	AD	501	-	-	5/12/32/32	0/3/3/3
58	GDP	AH	501	-	-	3/12/32/32	0/3/3/3
58	GDP	UF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	VC	501	-	-	1/12/32/32	0/3/3/3
58	GDP	OJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	PJ	501	-	-	2/12/32/32	0/3/3/3
58	GDP	GC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	WF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	GL	501	-	-	1/12/32/32	0/3/3/3
56	GTP	FE	501	57	-	8/18/38/38	0/3/3/3
58	GDP	EH	501	-	-	2/12/32/32	0/3/3/3
58	GDP	UM	501	55	-	2/12/32/32	0/3/3/3
58	GDP	PH	501	-	-	2/12/32/32	0/3/3/3
56	GTP	SA	502	57	-	4/18/38/38	0/3/3/3
58	GDP	JH	501	-	-	1/12/32/32	0/3/3/3
58	GDP	NC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	VF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	WD	501	-	-	1/12/32/32	0/3/3/3
56	GTP	SB	501	57	-	2/18/38/38	0/3/3/3
58	GDP	VH	501	-	-	3/12/32/32	0/3/3/3
56	GTP	SG	501	57	-	7/18/38/38	0/3/3/3
56	GTP	VG	501	57	-	4/18/38/38	0/3/3/3
58	GDP	CL	501	-	-	2/12/32/32	0/3/3/3
56	GTP	EE	501	57	-	2/18/38/38	0/3/3/3
58	GDP	OF	501	-	-	2/12/32/32	0/3/3/3
58	GDP	CC	501	-	-	2/12/32/32	0/3/3/3
58	GDP	ID	501	-	-	2/12/32/32	0/3/3/3
56	GTP	GI	501	57	-	3/18/38/38	0/3/3/3

The worst 5 of 445 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	PA	501	GTP	C5-C6	-4.40	1.38	1.47
56	RE	501	GTP	C5-C6	-4.28	1.38	1.47
56	RG	501	GTP	C5-C6	-4.18	1.38	1.47
56	EE	501	GTP	C5-C6	-4.17	1.38	1.47
56	KG	501	GTP	C5-C6	-4.17	1.38	1.47

The worst 5 of 1642 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
56	TE	501	GTP	PA-O3A-PB	-4.96	115.82	132.83
56	GK	501	GTP	PA-O3A-PB	-4.70	116.68	132.83
56	UE	501	GTP	PA-O3A-PB	-4.70	116.70	132.83
56	BB	501	GTP	PA-O3A-PB	-4.57	117.13	132.83
56	AI	501	GTP	PA-O3A-PB	-4.52	117.30	132.83

There are no chirality outliers.

5 of 958 torsion outliers are listed below:

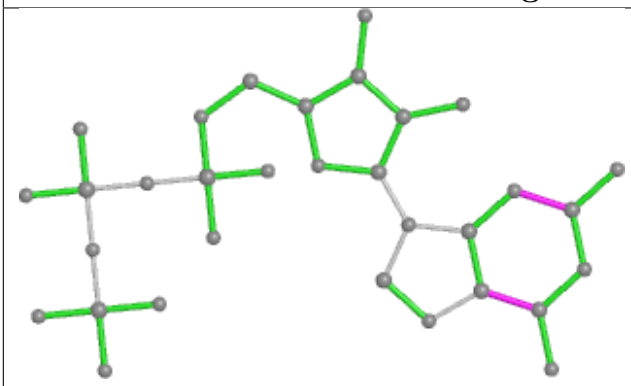
Mol	Chain	Res	Type	Atoms
56	AA	501	GTP	C5'-O5'-PA-O1A
56	AA	501	GTP	C5'-O5'-PA-O2A
56	AA	501	GTP	C3'-C4'-C5'-O5'
56	AB	501	GTP	C5'-O5'-PA-O3A
56	AE	501	GTP	C5'-O5'-PA-O3A

There are no ring outliers.

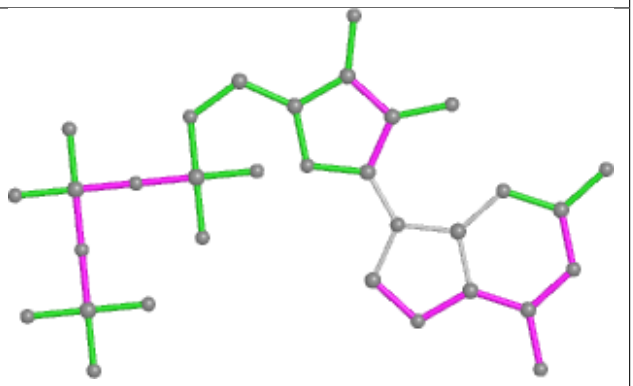
No monomer is involved in short contacts.

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

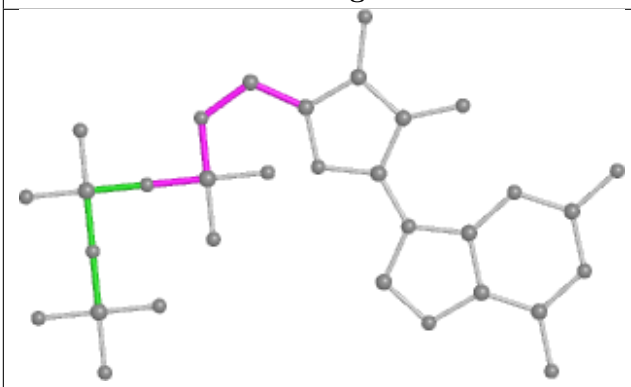
Ligand GTP II 501



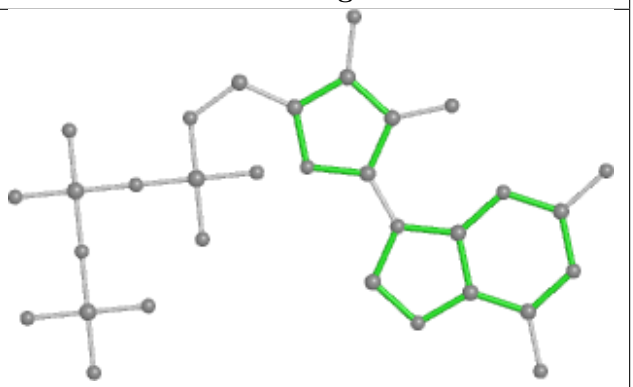
Bond lengths



Bond angles

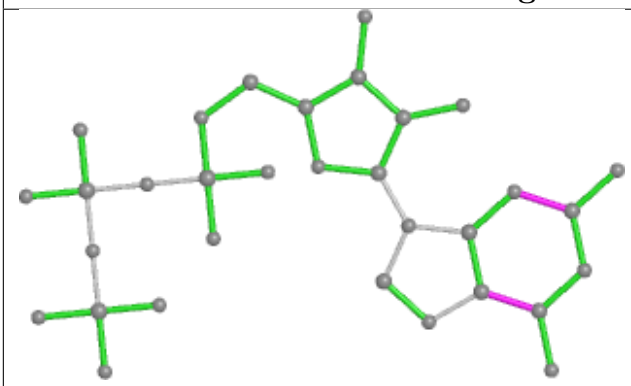


Torsions

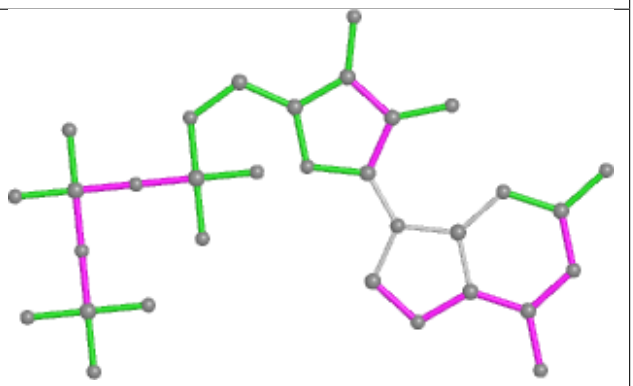


Rings

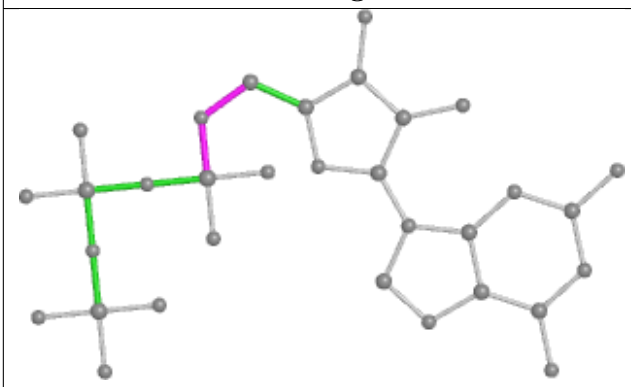
Ligand GTP LI 501



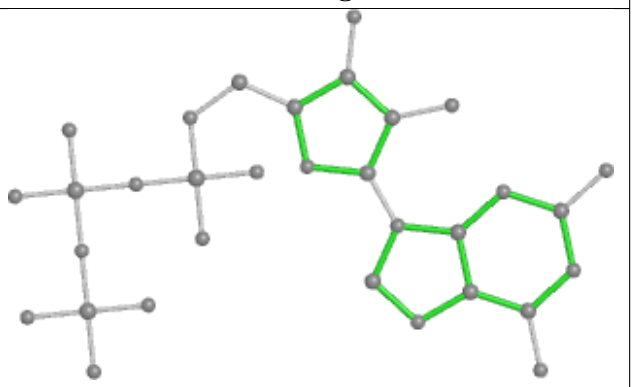
Bond lengths



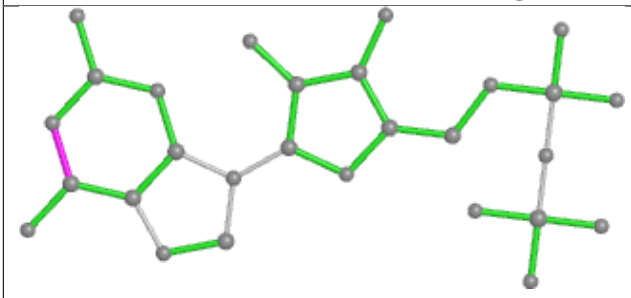
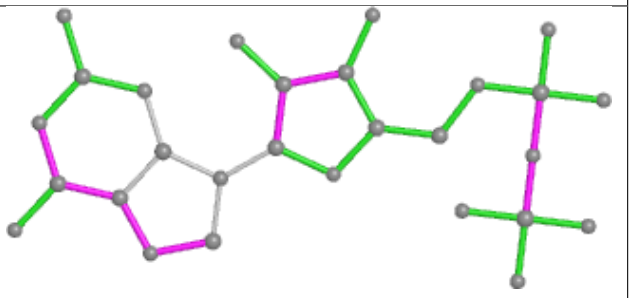
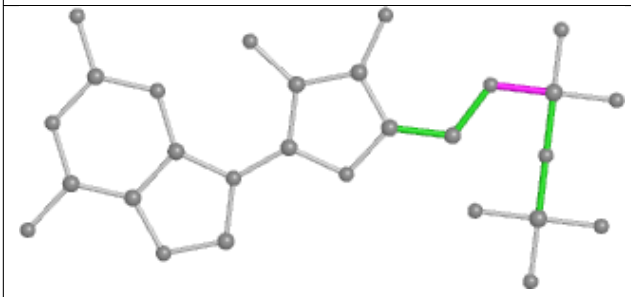
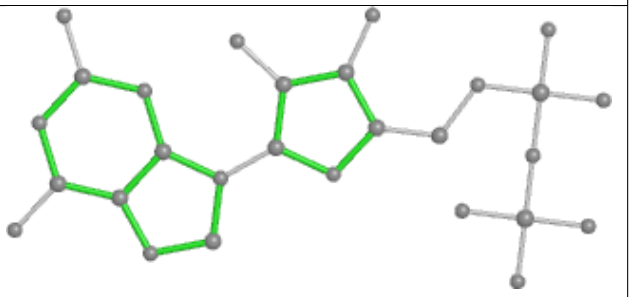
Bond angles



Torsions



Rings

Ligand GDP TF 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

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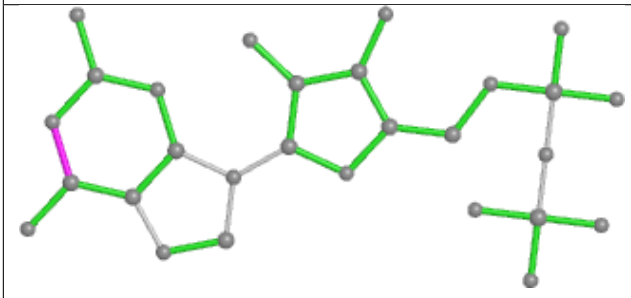
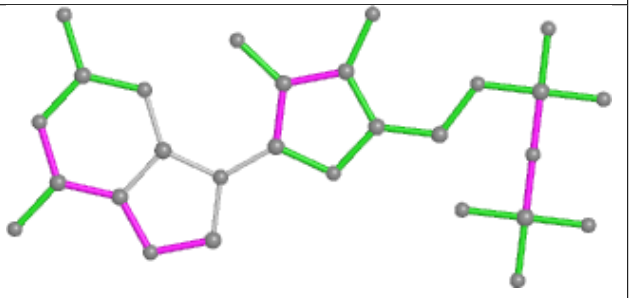
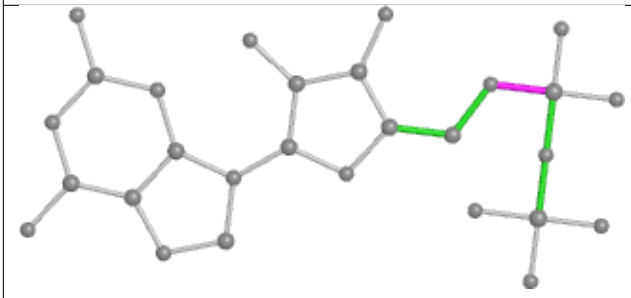
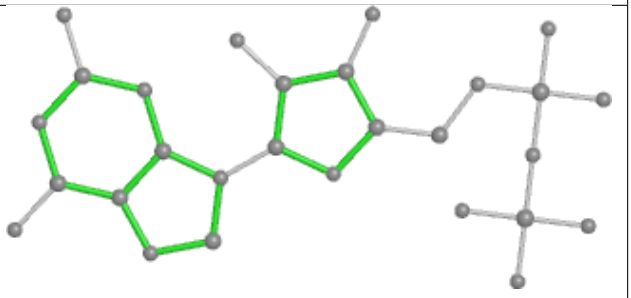
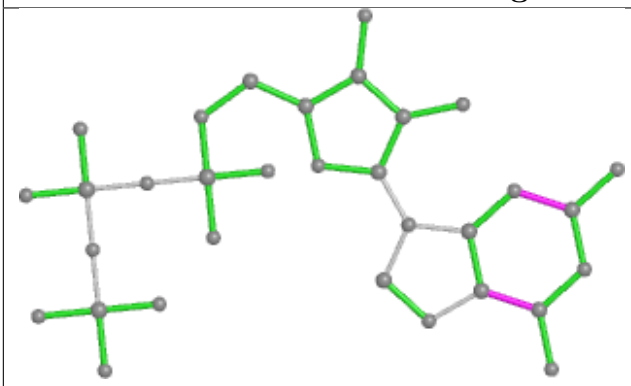
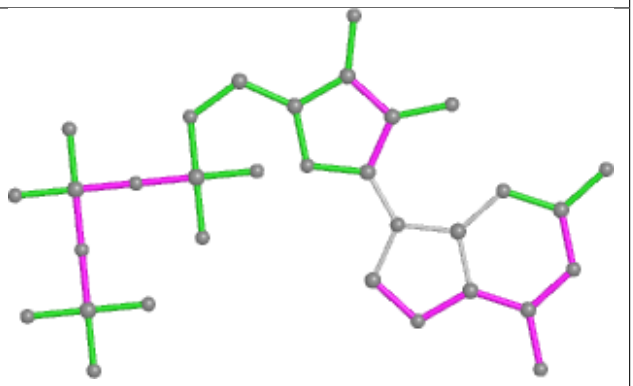
	
Bond lengths	Bond angles
	
Torsions	Rings

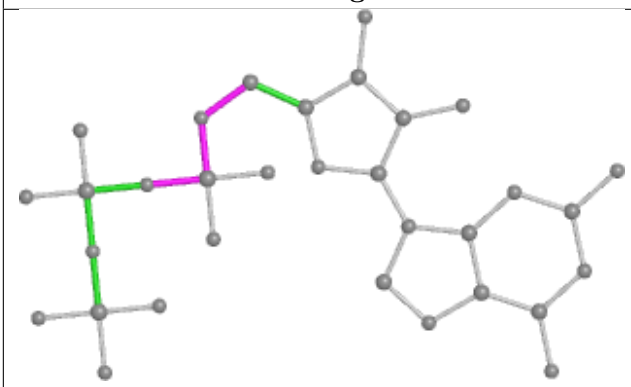
Ligand GTP FG 501



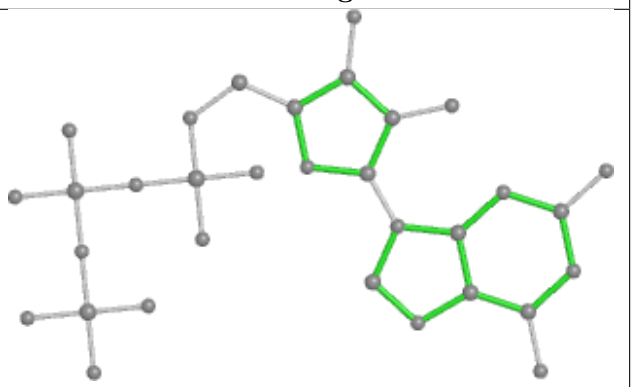
Bond lengths



Bond angles

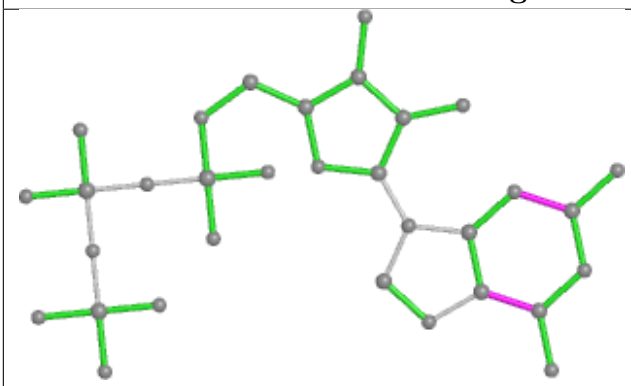


Torsions

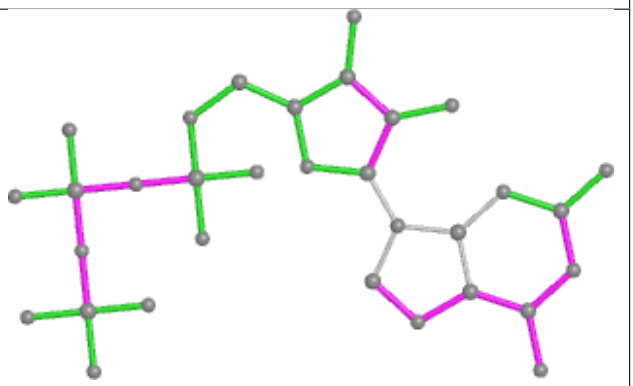


Rings

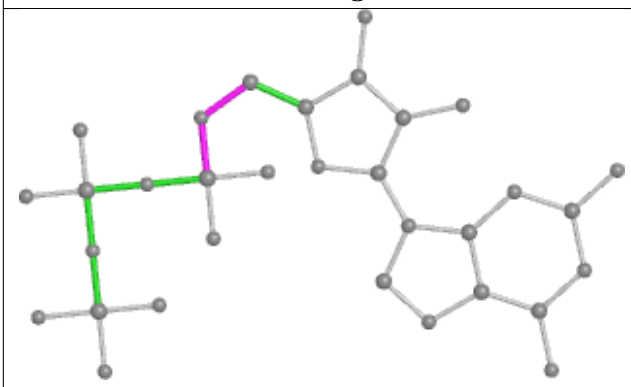
Ligand GTP GE 501



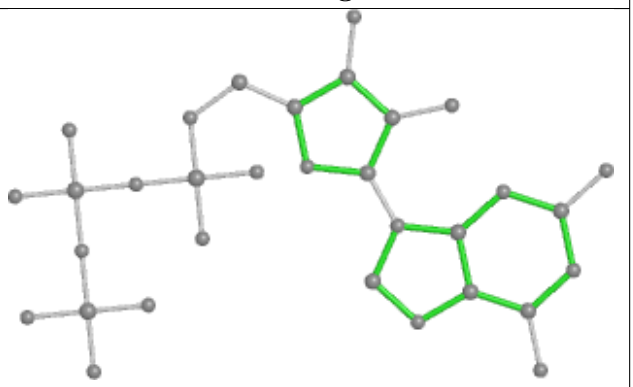
Bond lengths



Bond angles

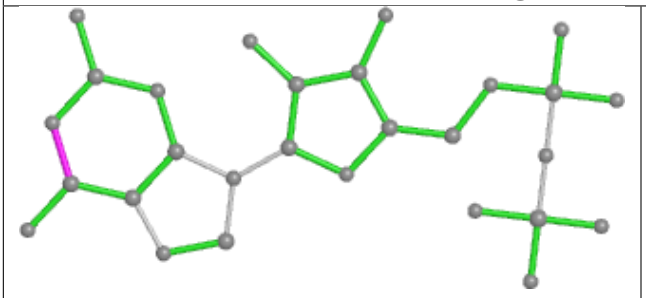


Torsions

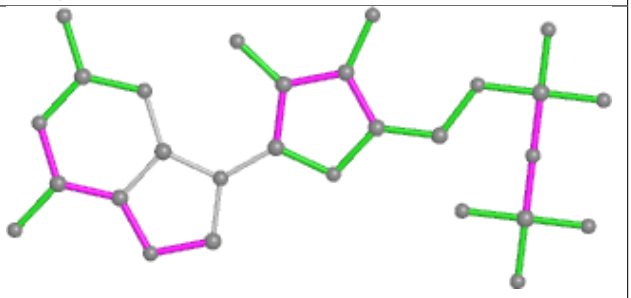


Rings

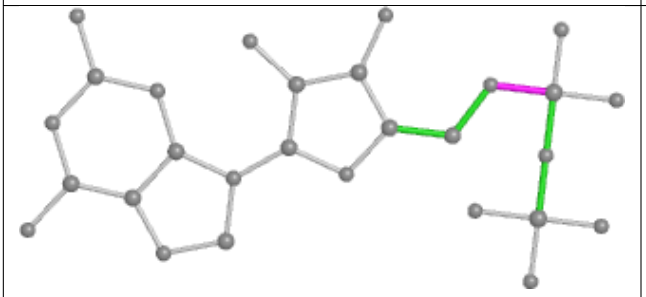
Ligand GDP QJ 501



Bond lengths



Bond angles



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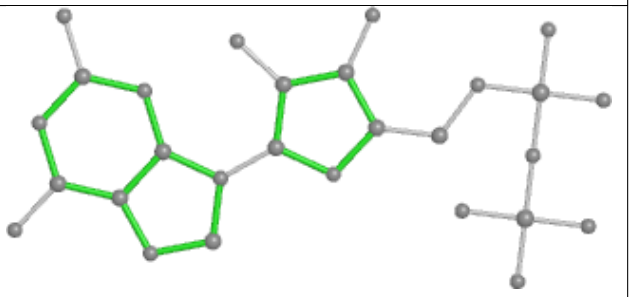

Rings

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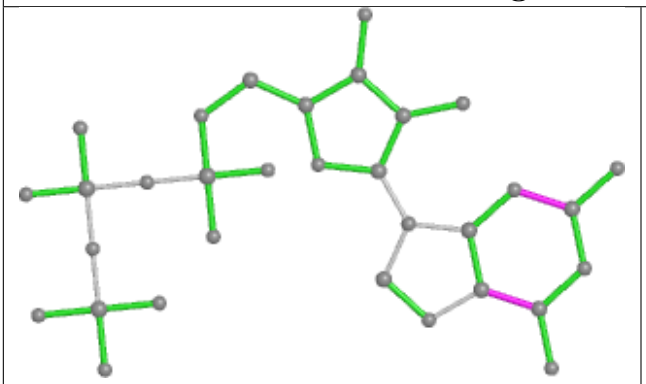
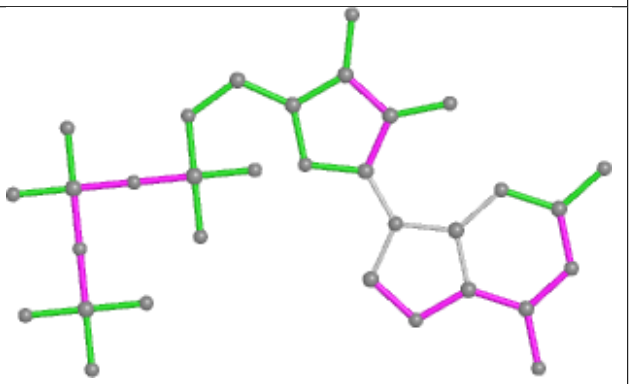
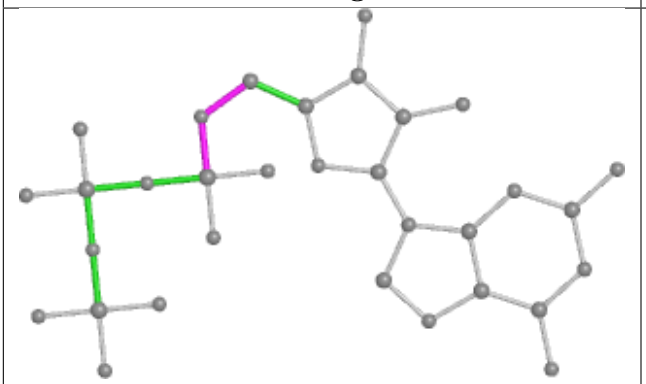


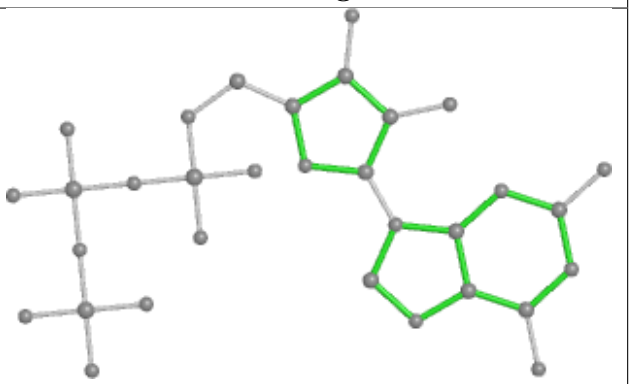
Bond lengths



Bond angles

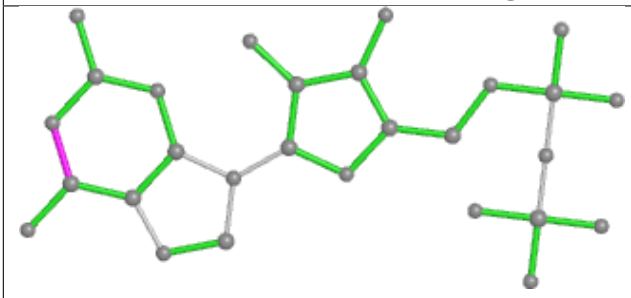


Torsions



Rings

Ligand GDP WH 501



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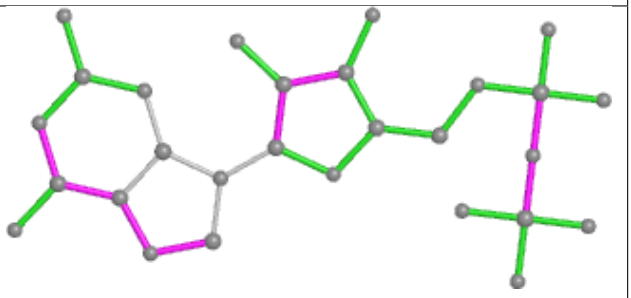

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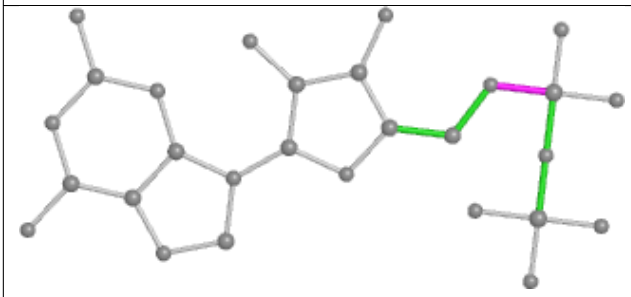

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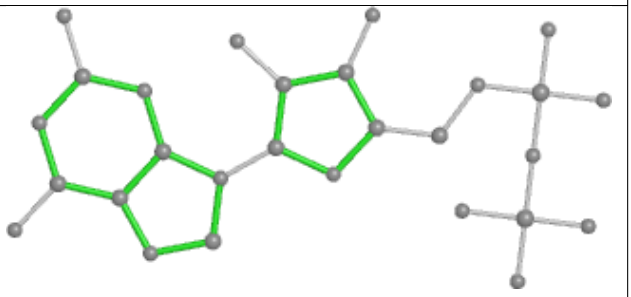
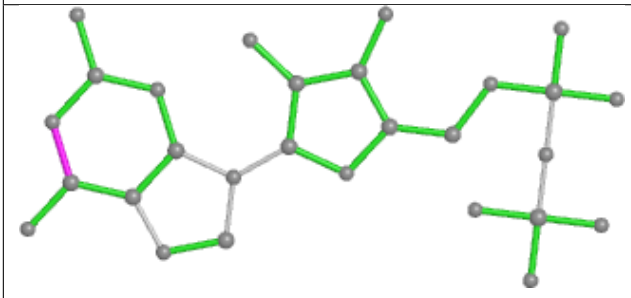


Rings

Ligand GDP QC 501



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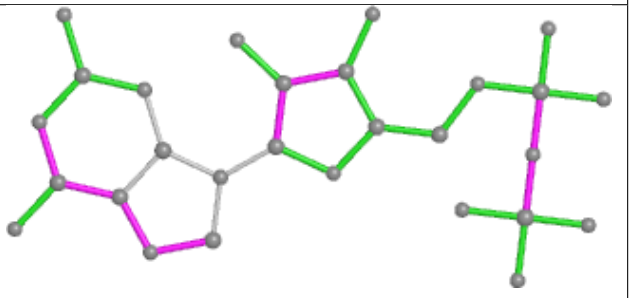

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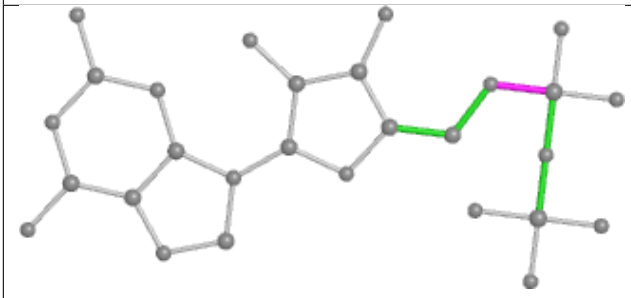

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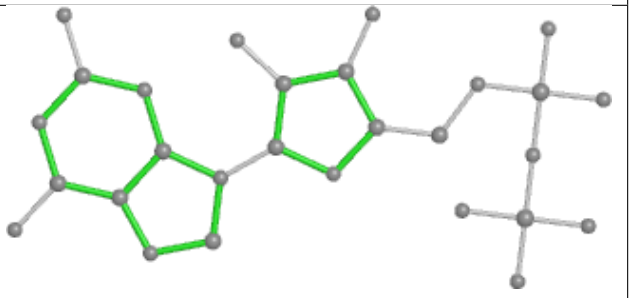
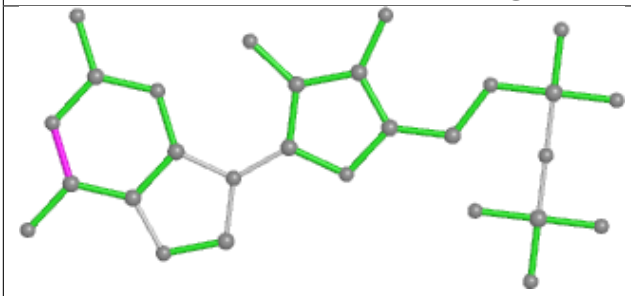


Rings

Ligand GDP CH 501



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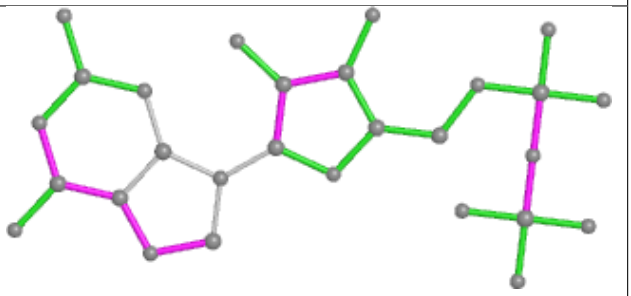

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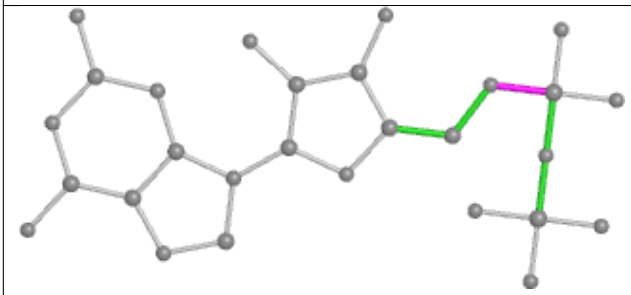

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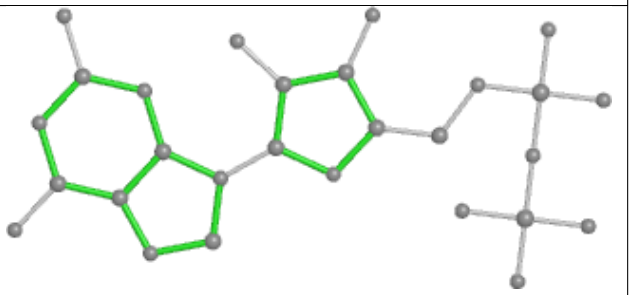
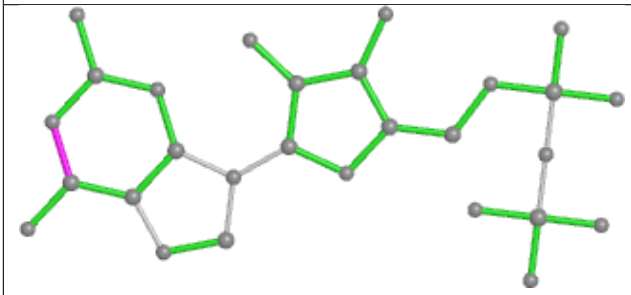


Rings

Ligand GDP VM 501



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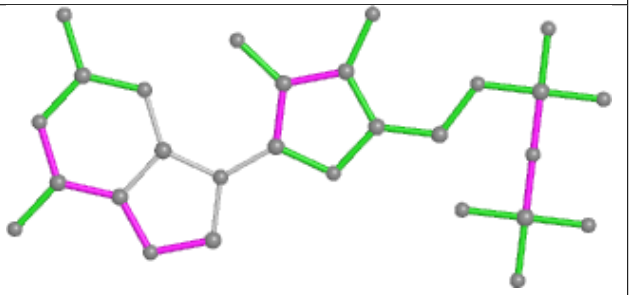

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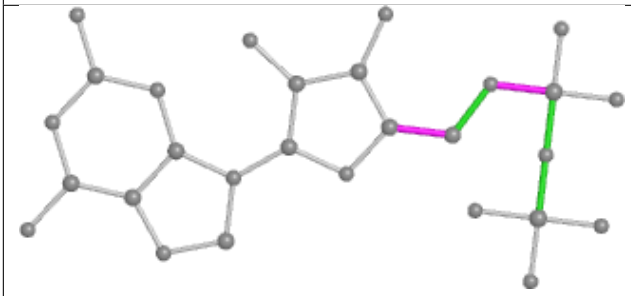

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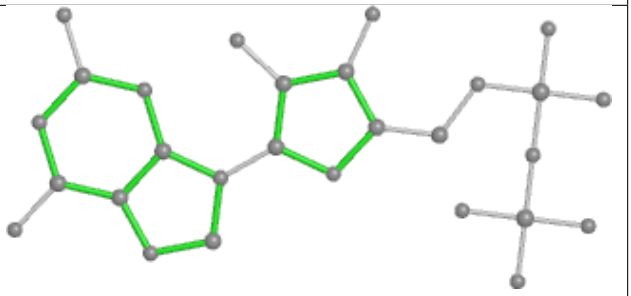
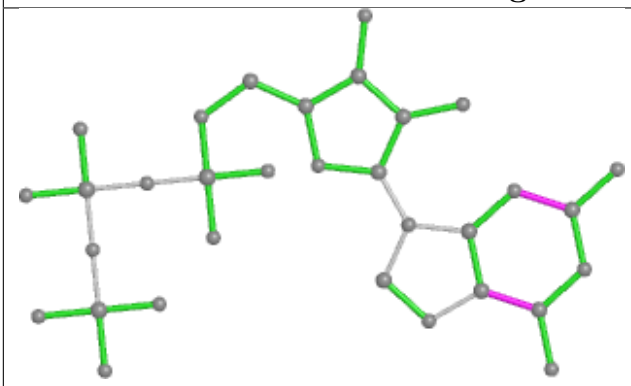


Rings

Ligand GTP QB 501



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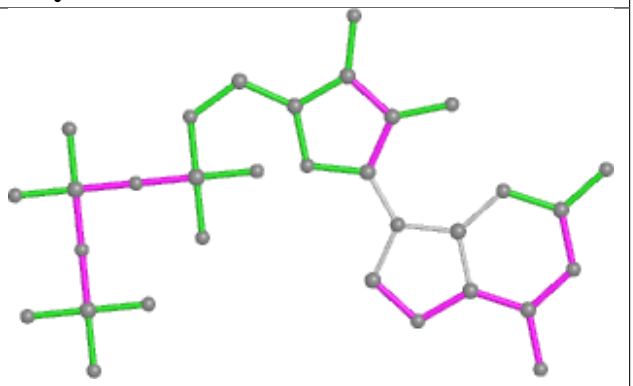

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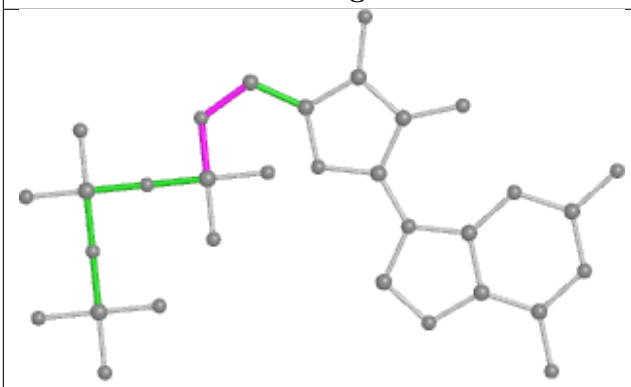

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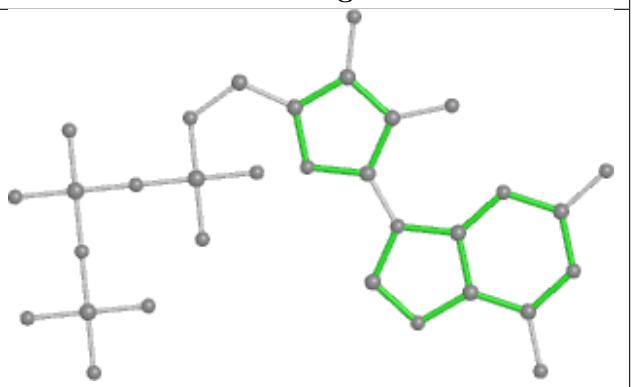

Rings

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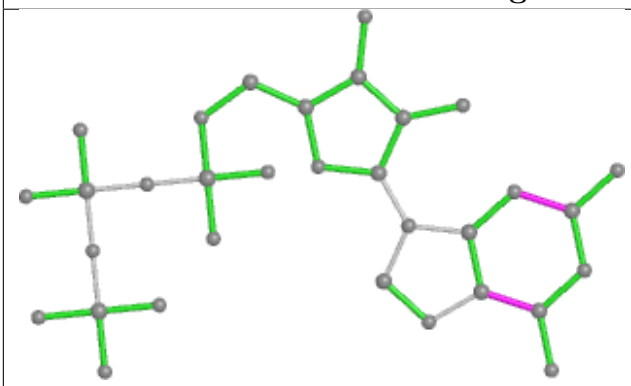

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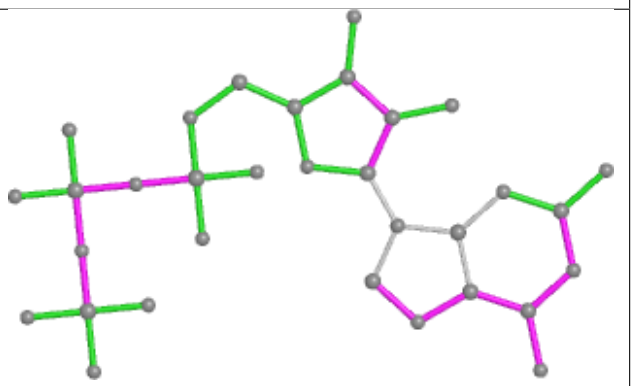

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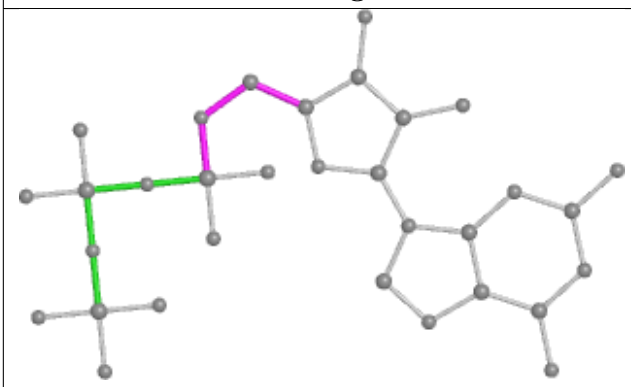

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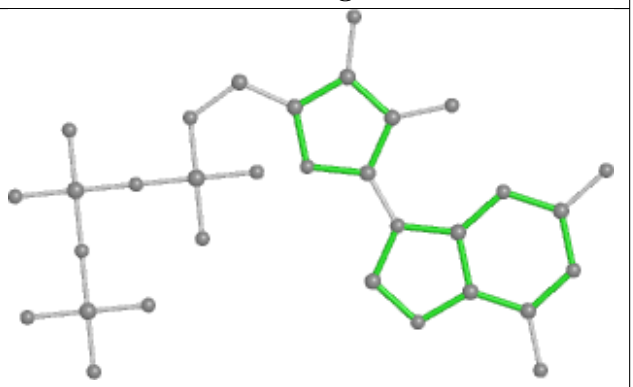

Rings

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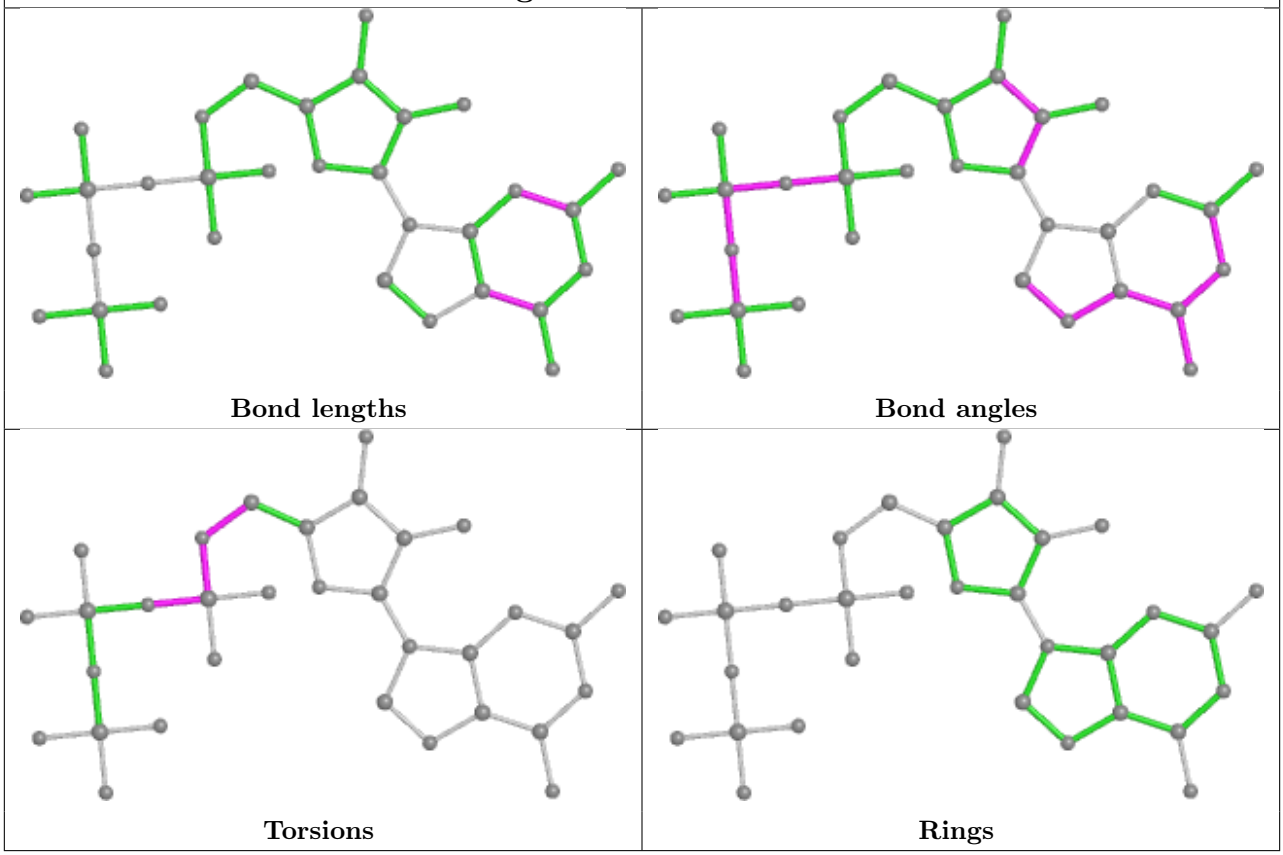

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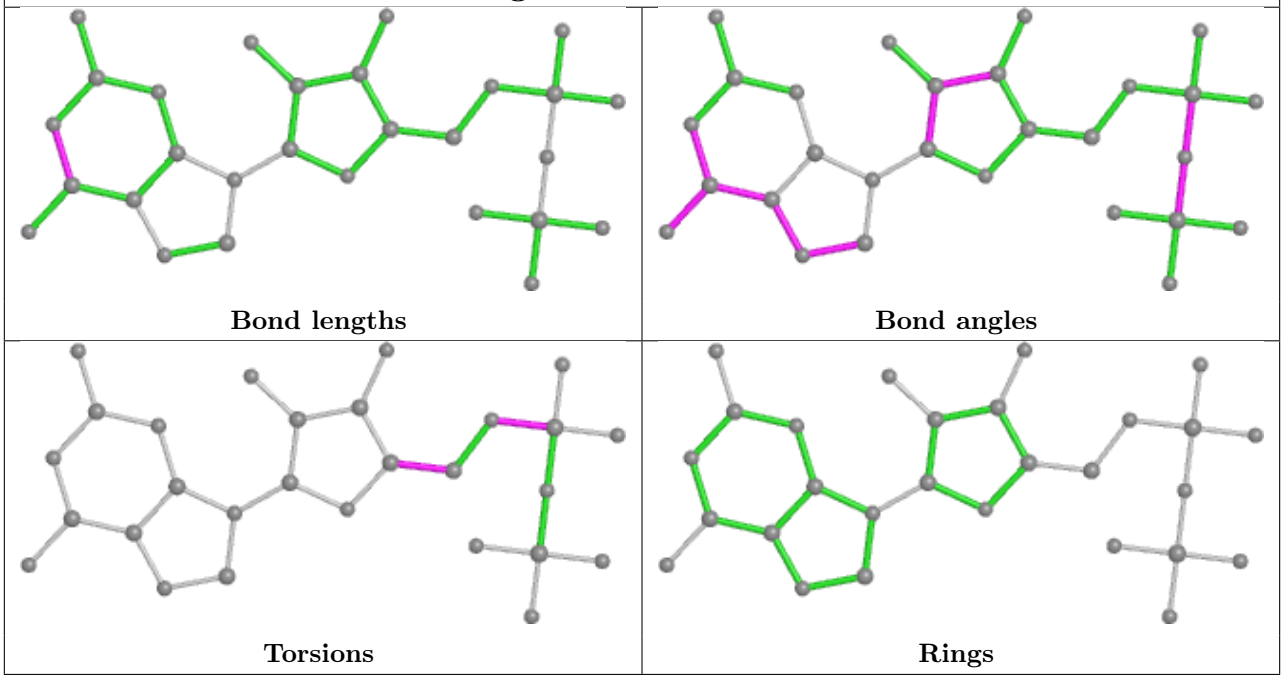

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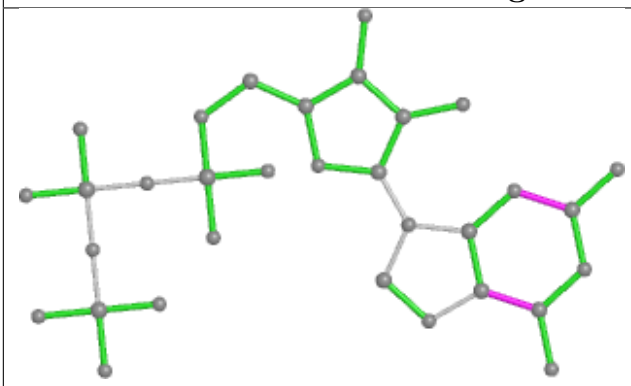

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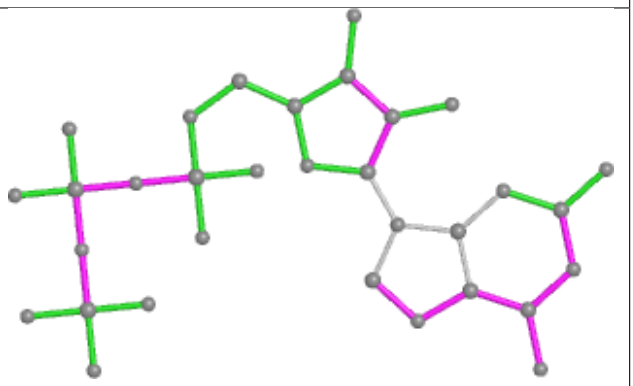

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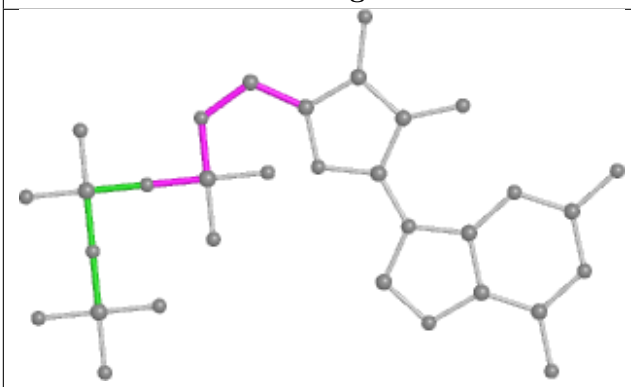

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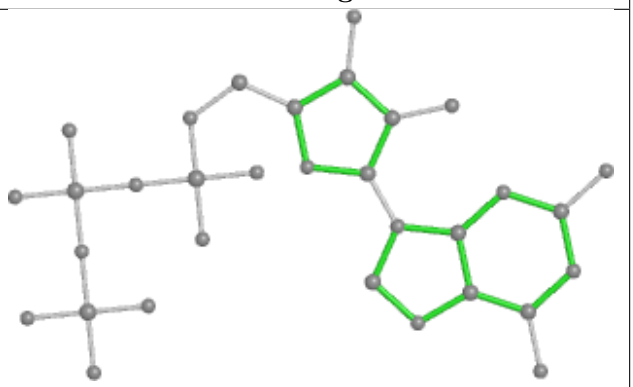
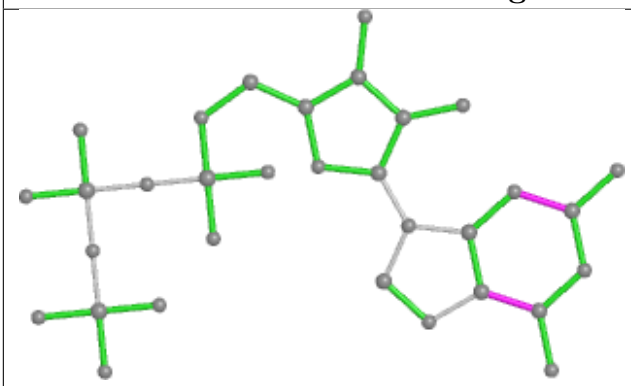


Rings

Ligand GTP RA 501



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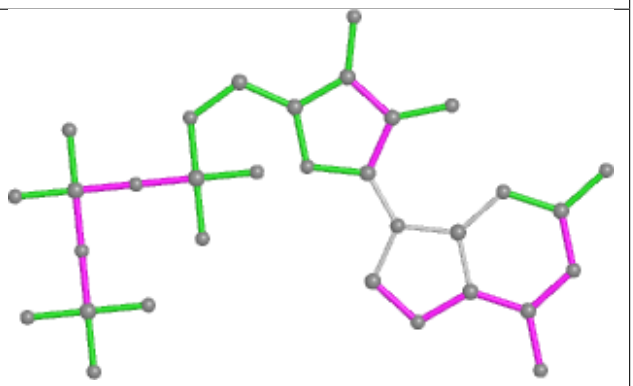

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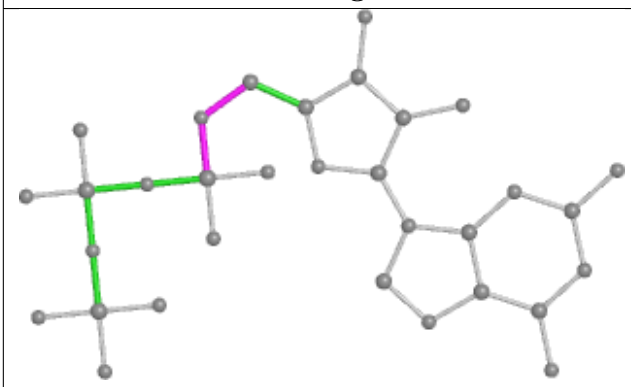

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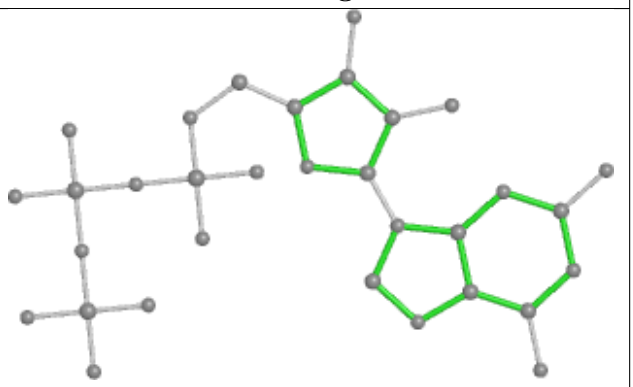

Rings

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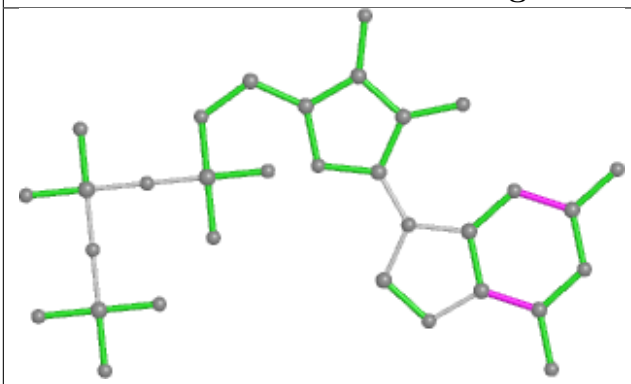

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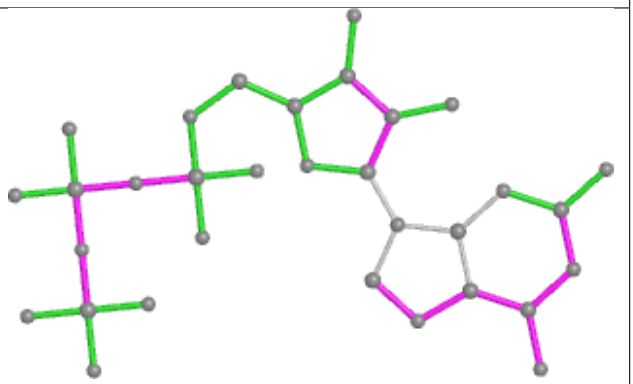

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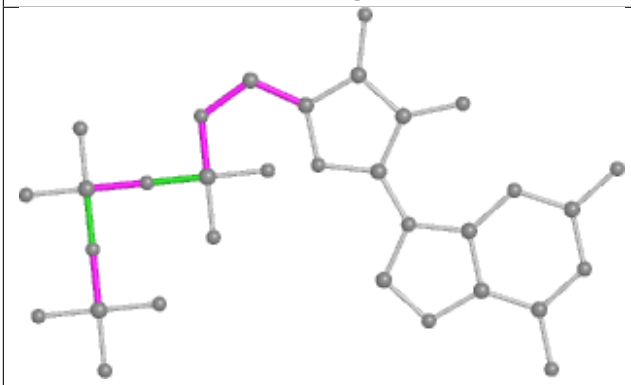

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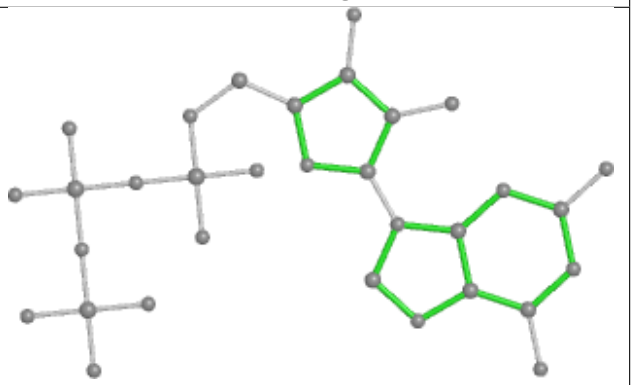
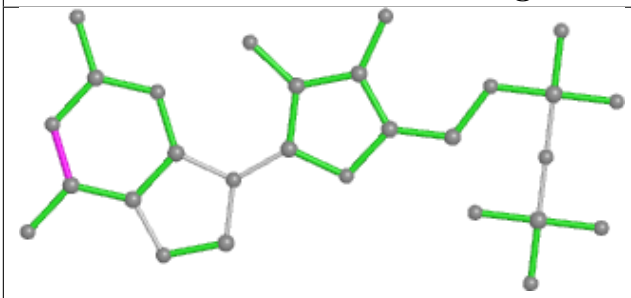


Rings

Ligand GDP FJ 501



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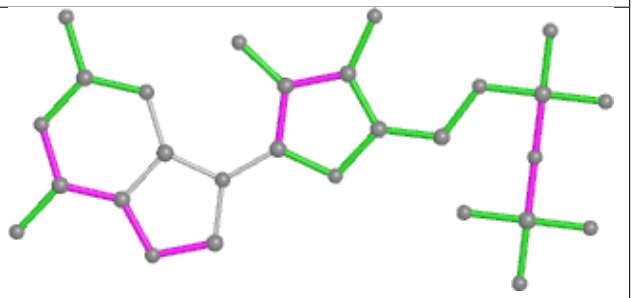

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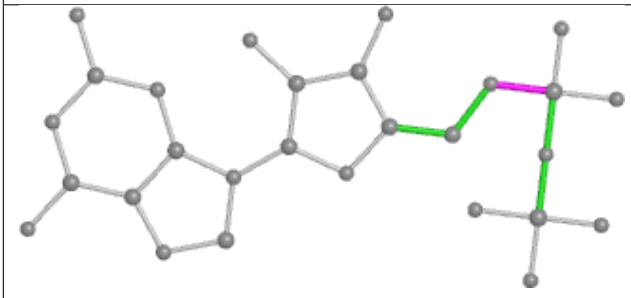

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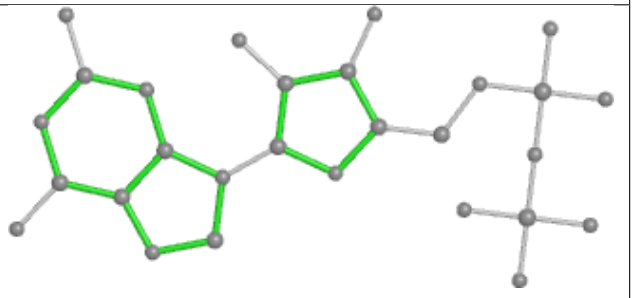
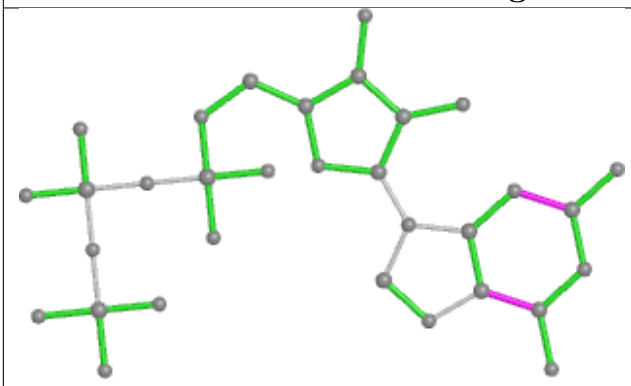


Rings

Ligand GTP AA 501



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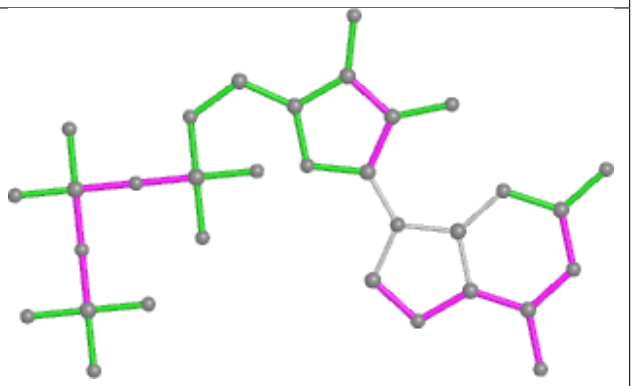

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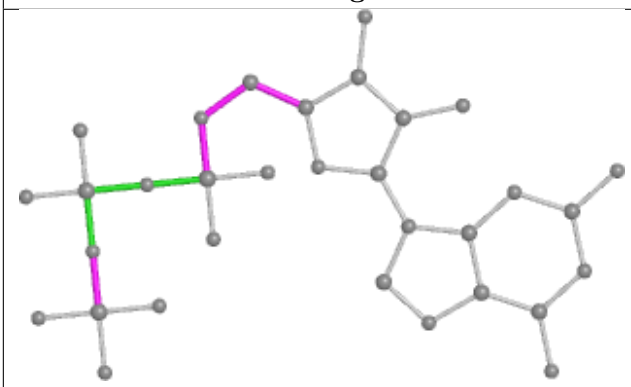

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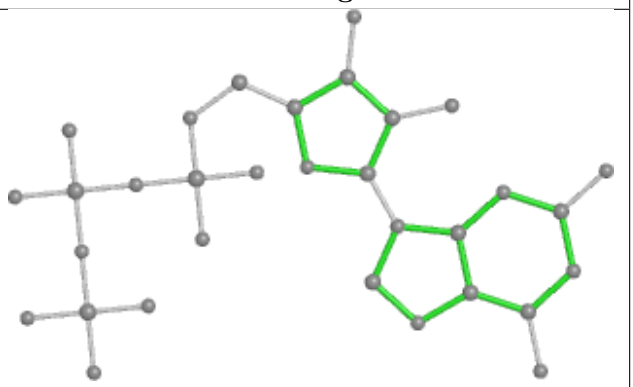
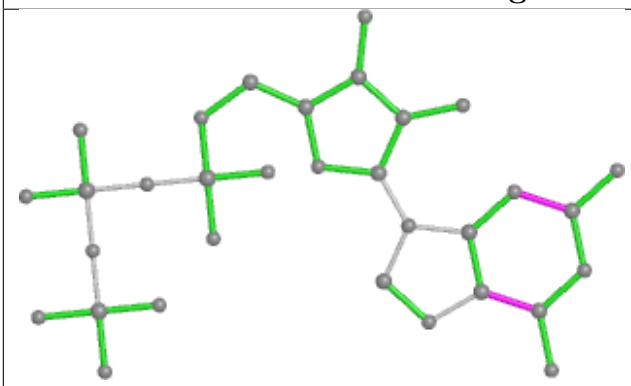


Rings

Ligand GTP TG 501



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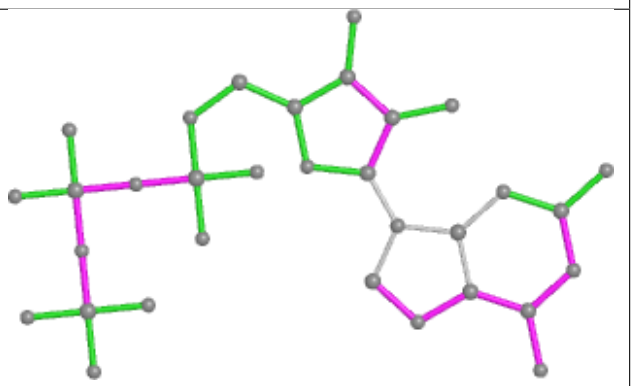

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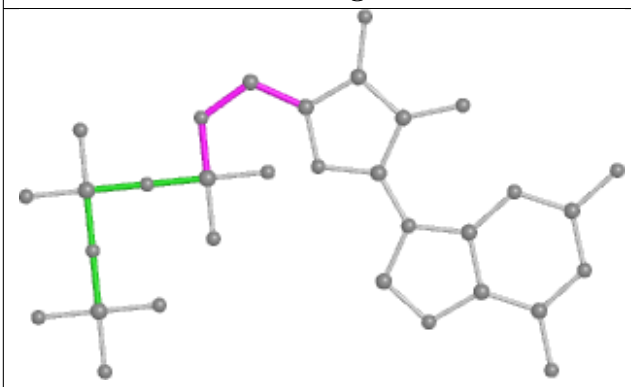

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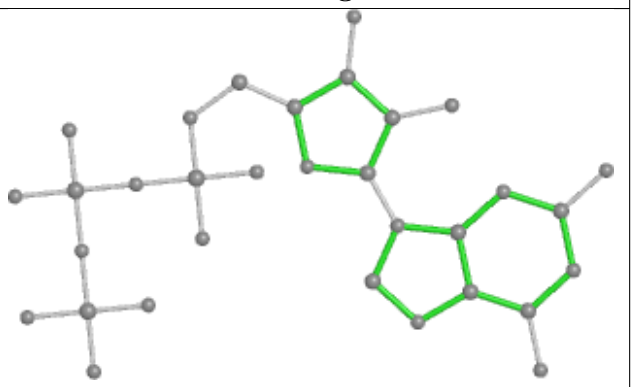
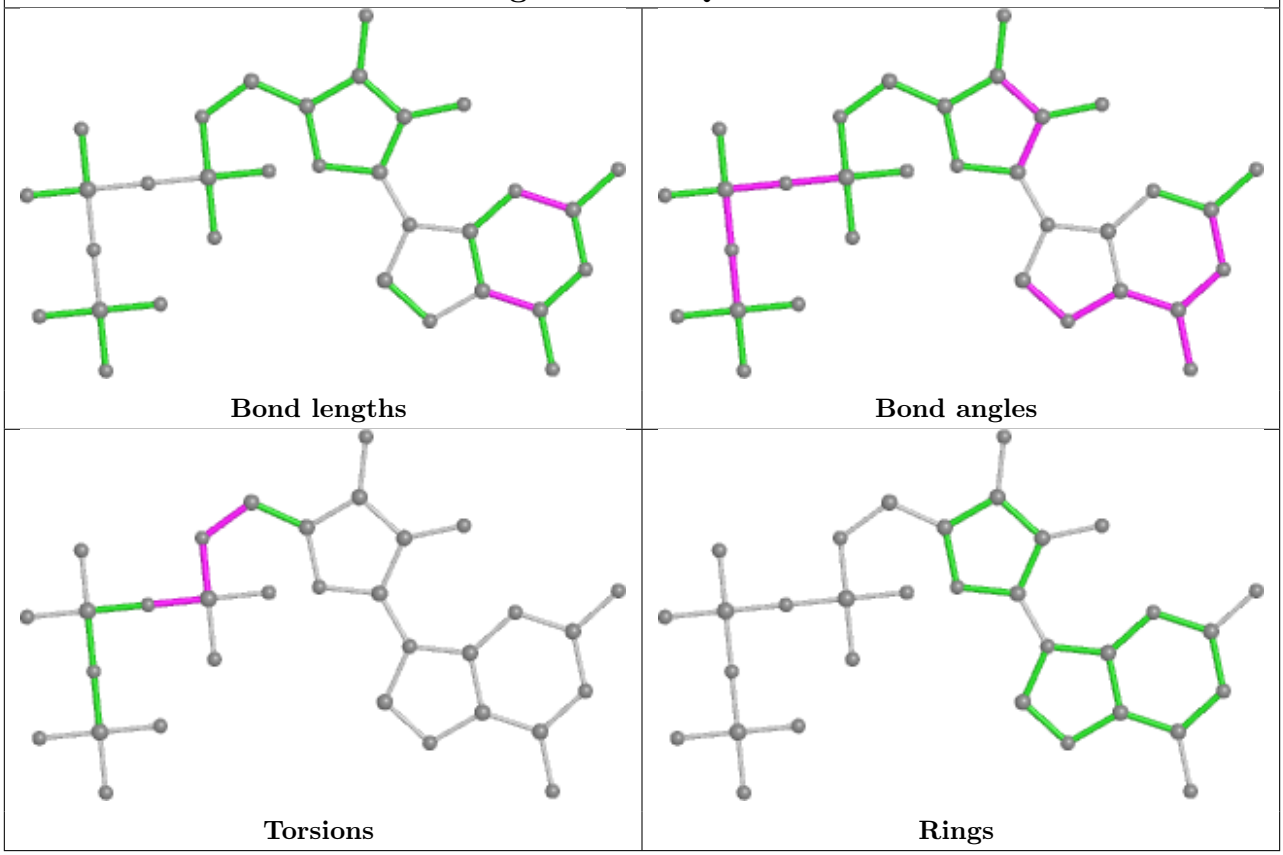


Rings

Ligand GTP QA 501



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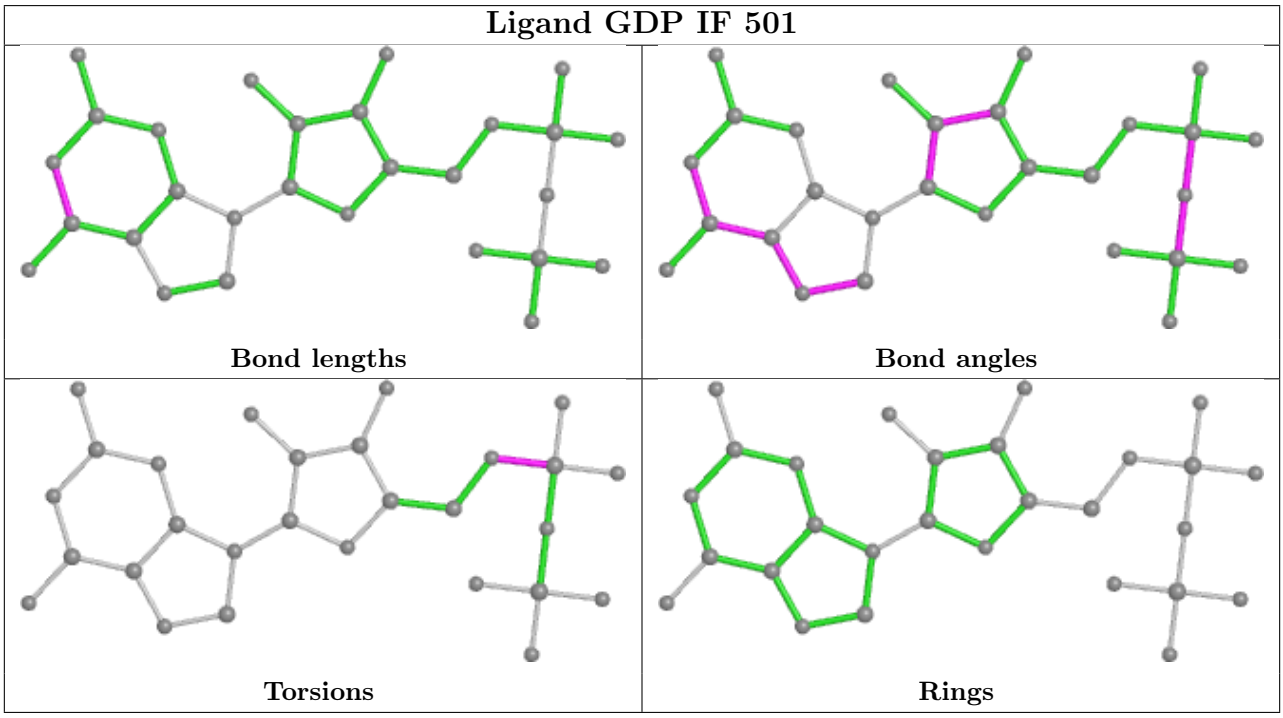

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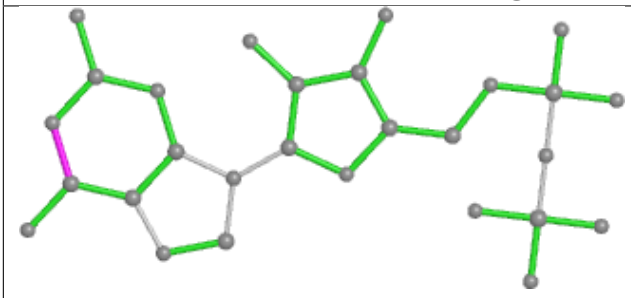

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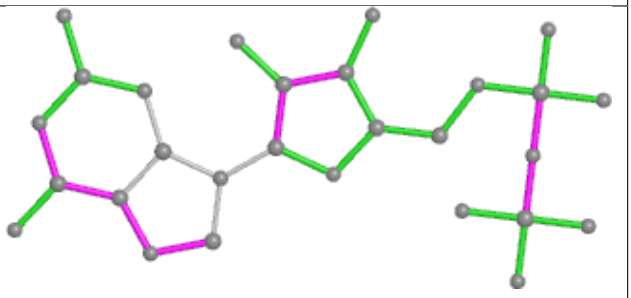

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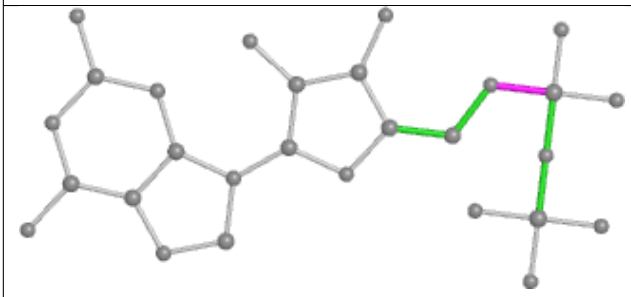

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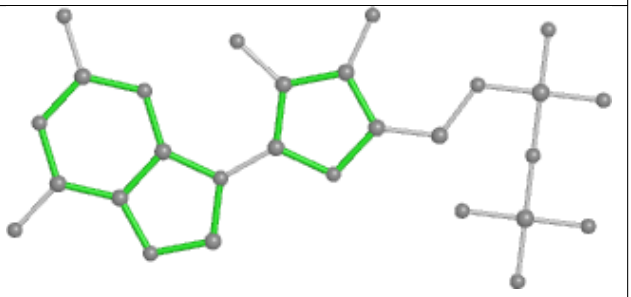
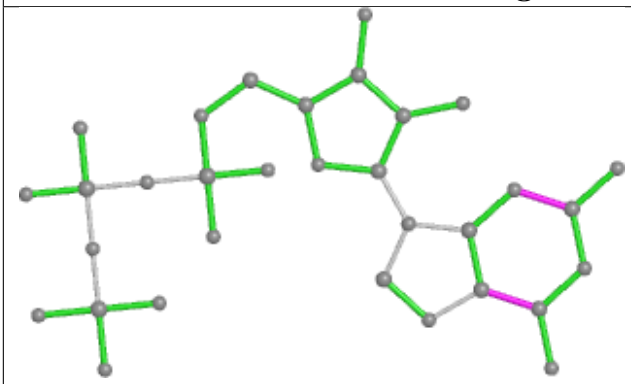


Rings

Ligand GTP AI 501



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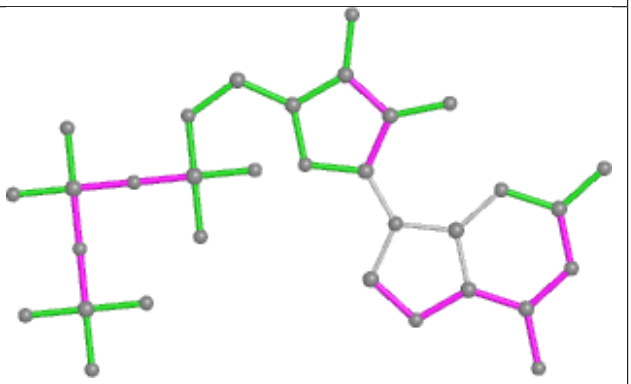

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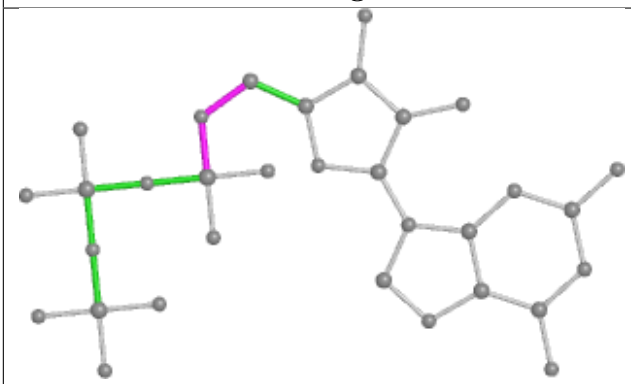
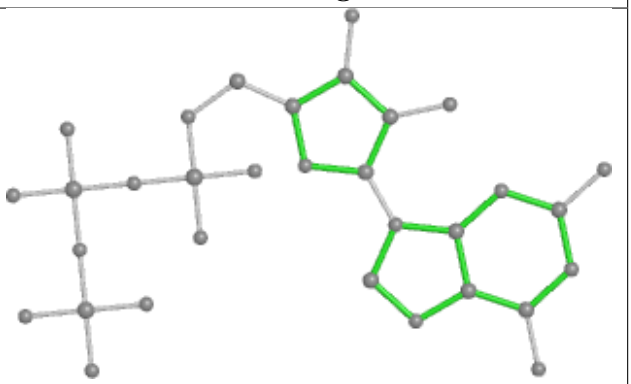
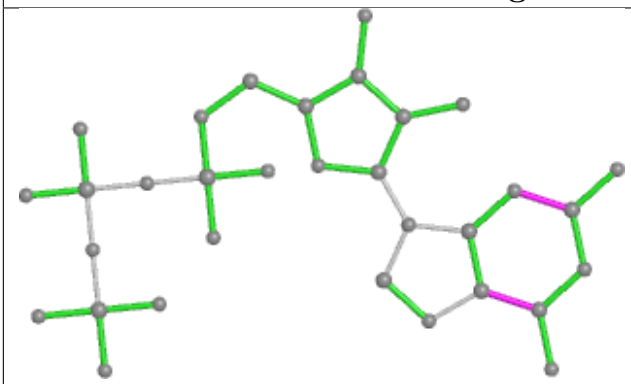


Torsions



Rings

Ligand GTP CK 501



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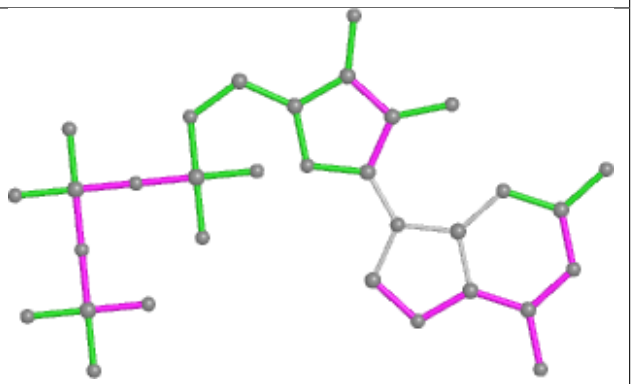

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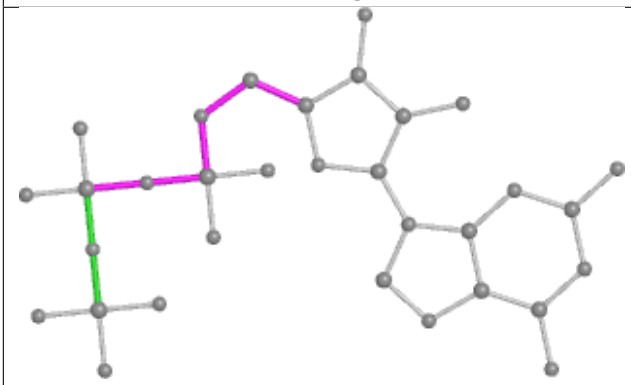

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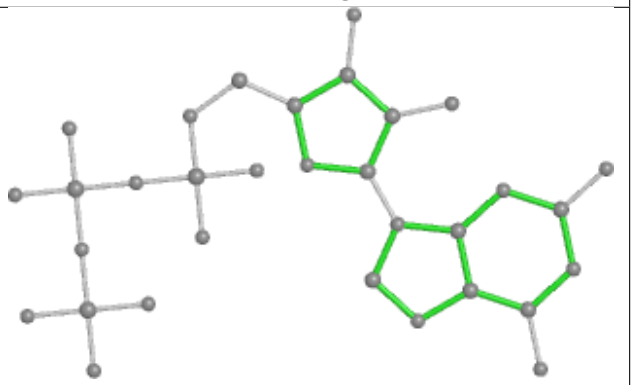
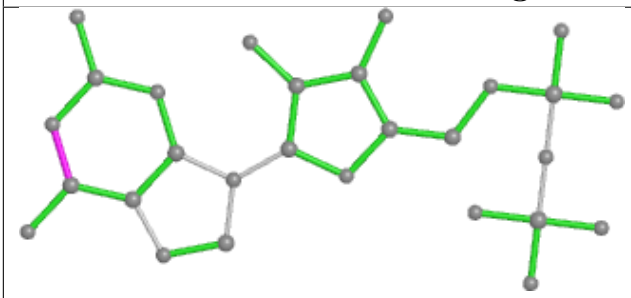


Rings

Ligand GDP DJ 501



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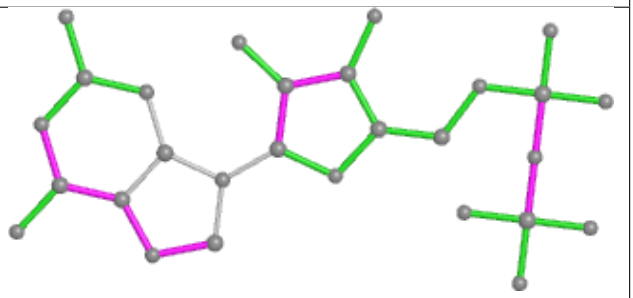

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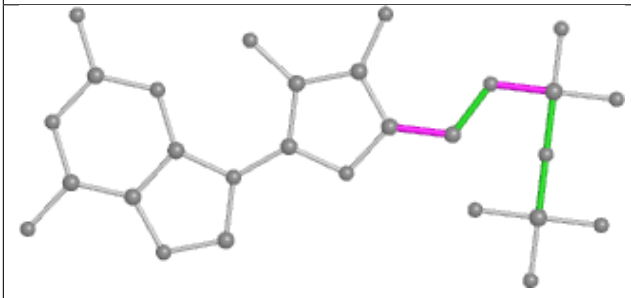

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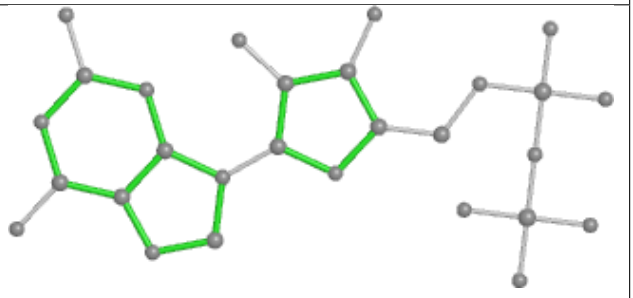
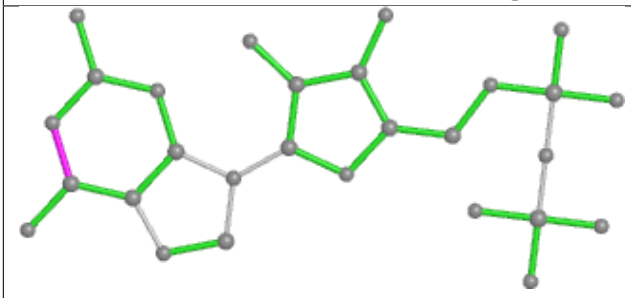


Rings

Ligand GDP KH 501



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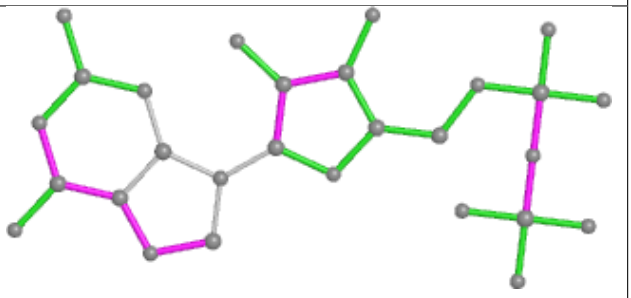

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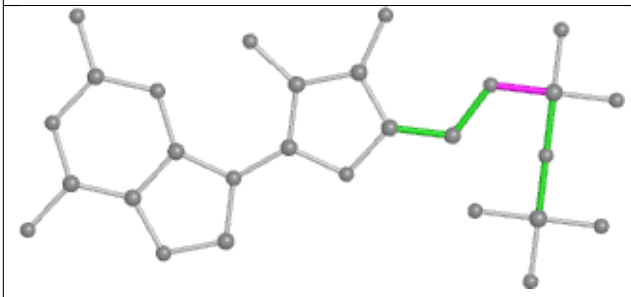

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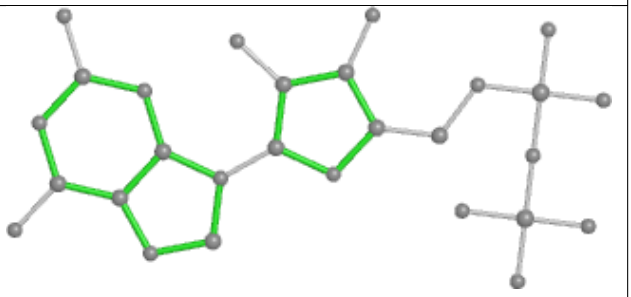
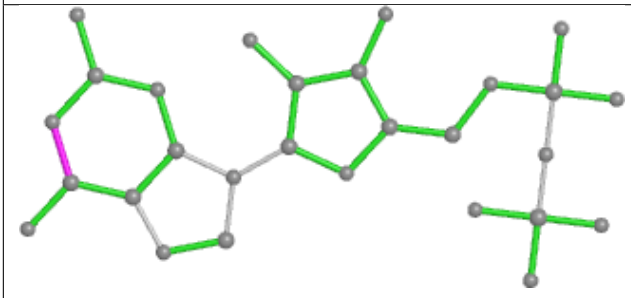


Rings

Ligand GDP KF 501



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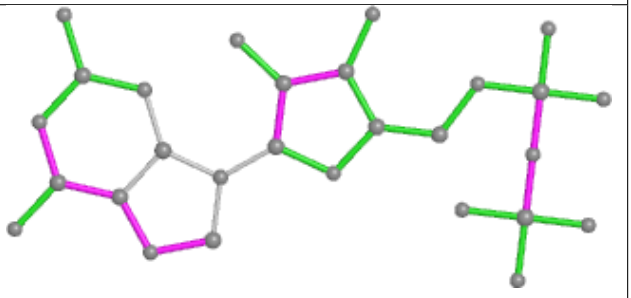

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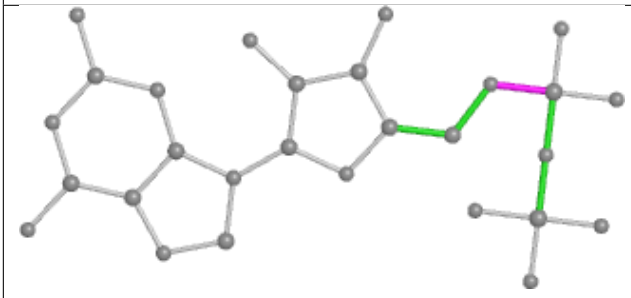

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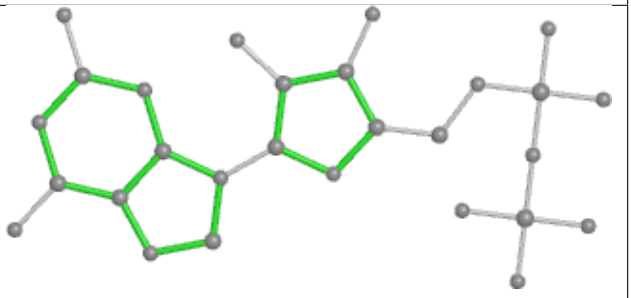
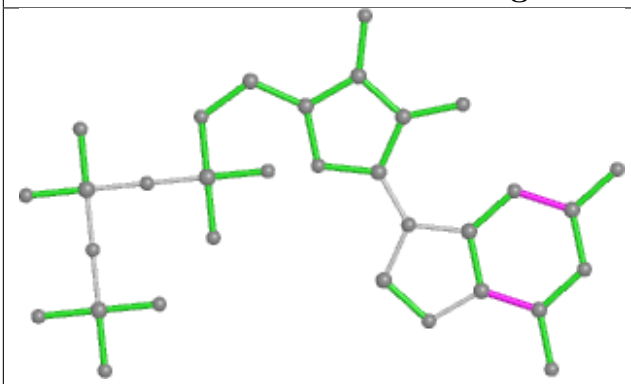


Rings

Ligand GTP RE 501



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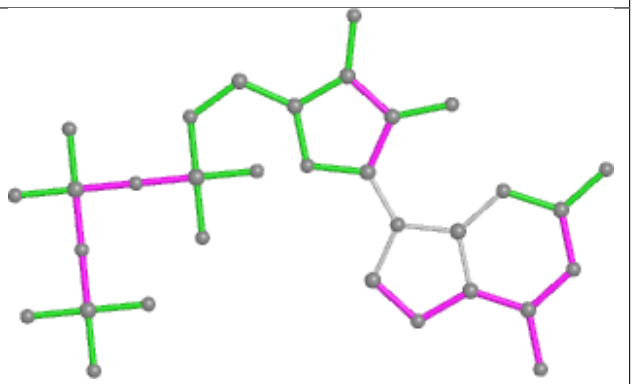

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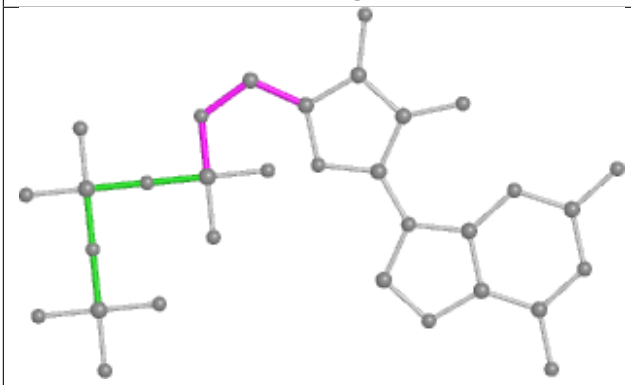

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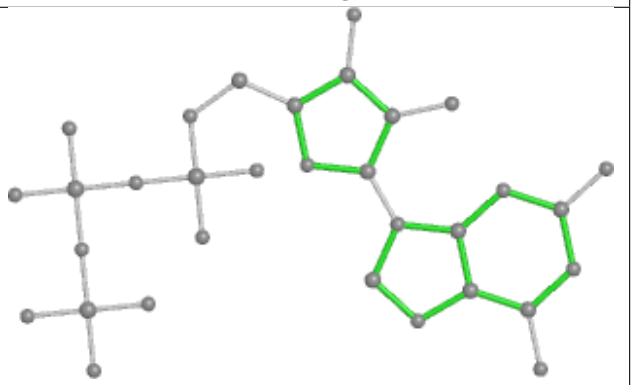
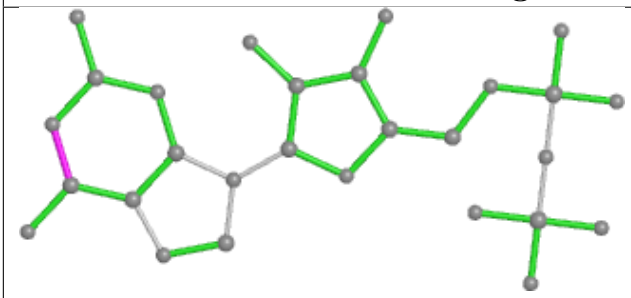


Rings

Ligand GDP VJ 501



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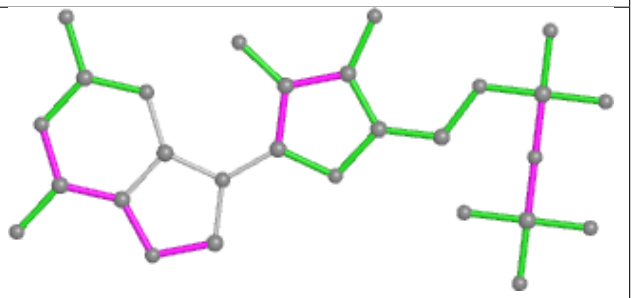

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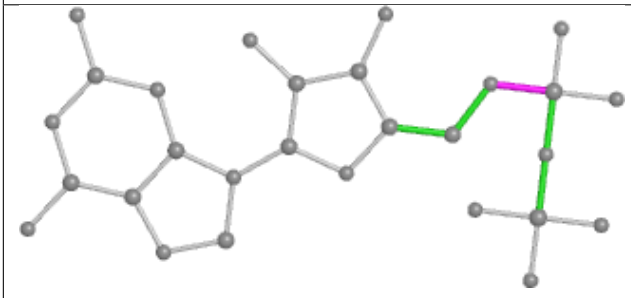

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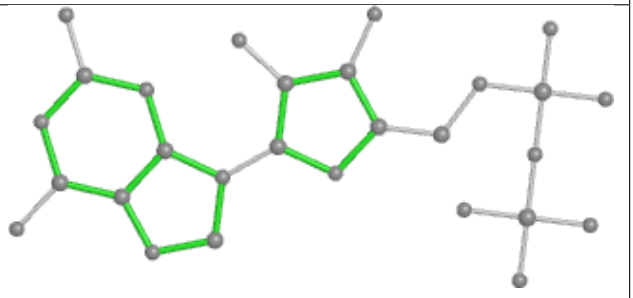
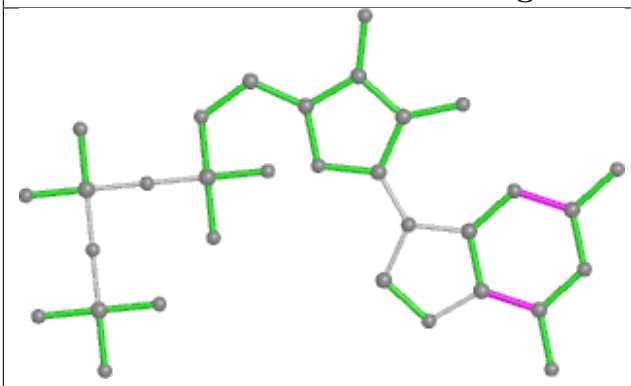


Rings

Ligand GTP BI 501



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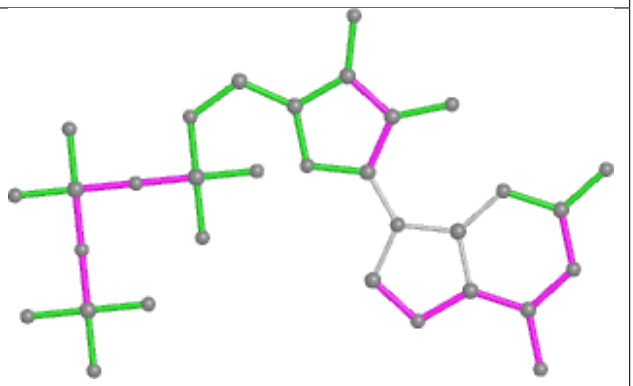

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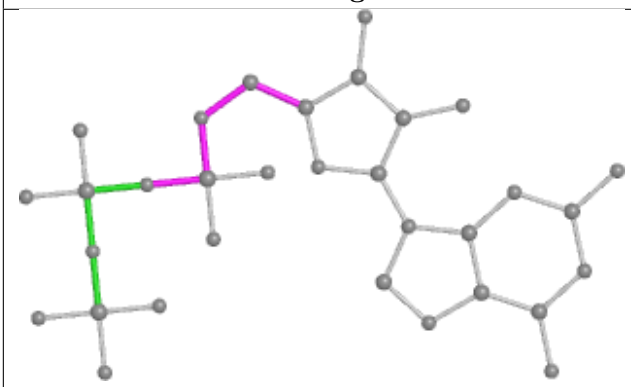

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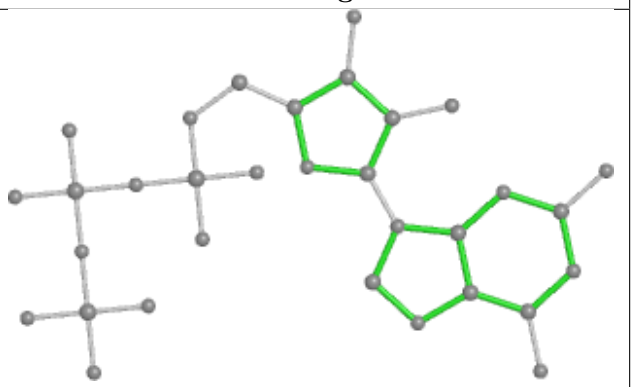
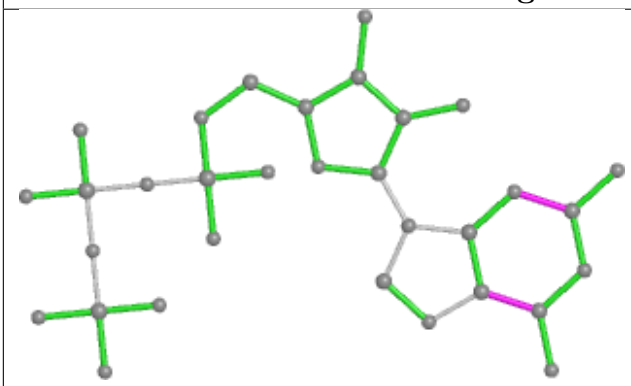


Rings

Ligand GTP EI 501



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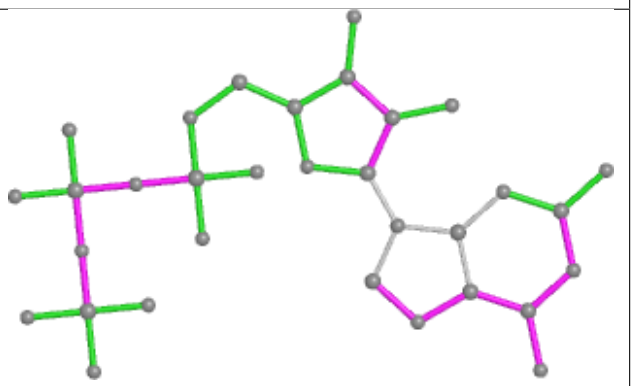

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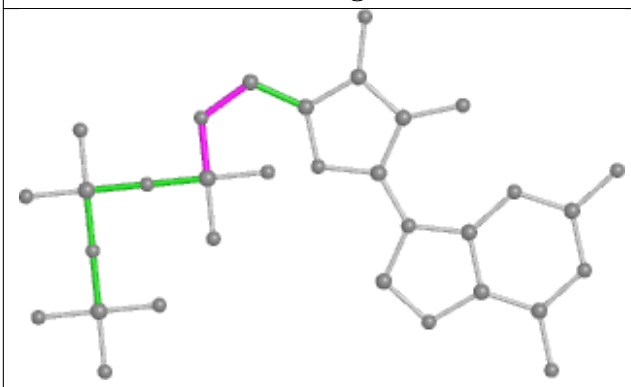

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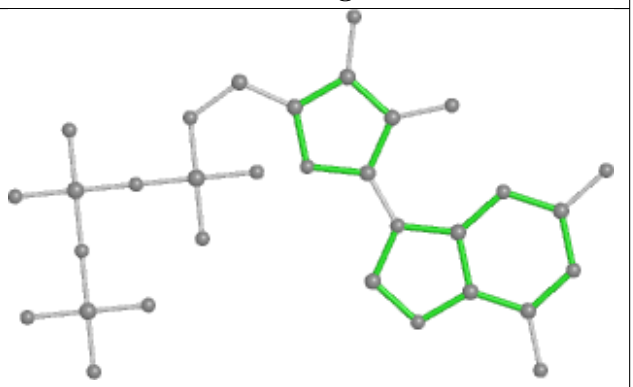

Rings

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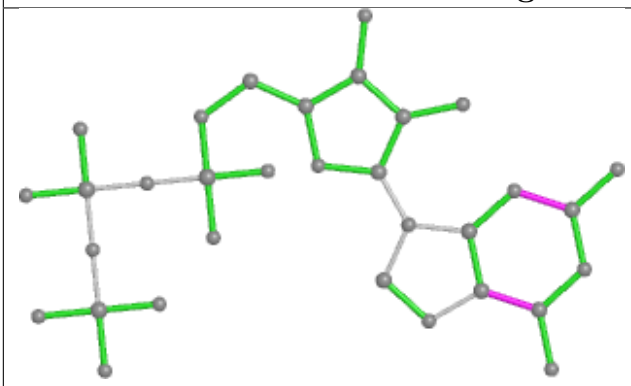

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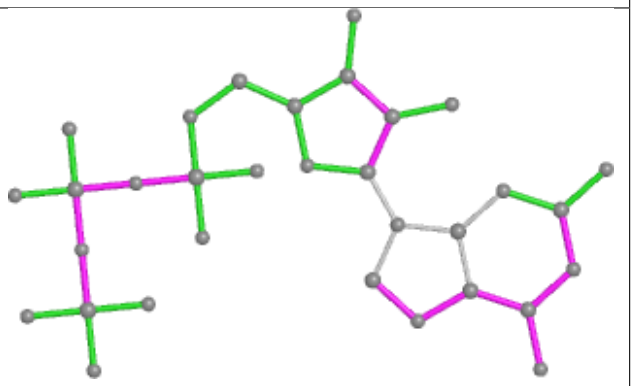

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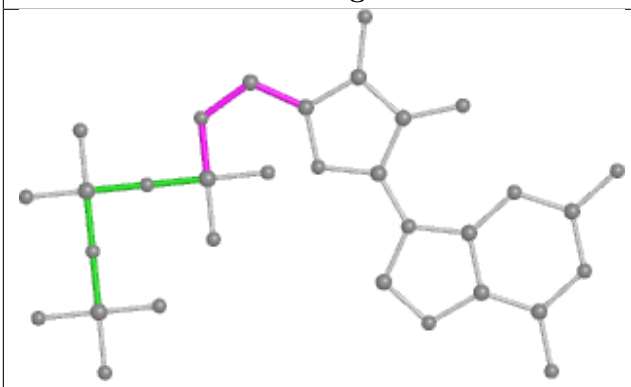

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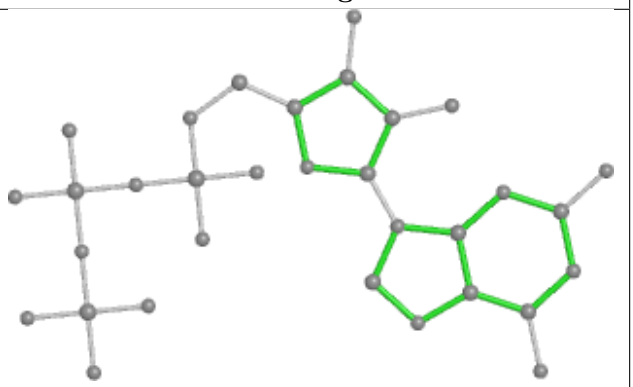

Rings

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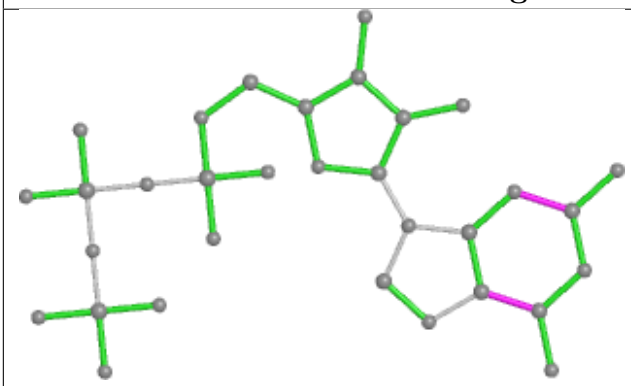

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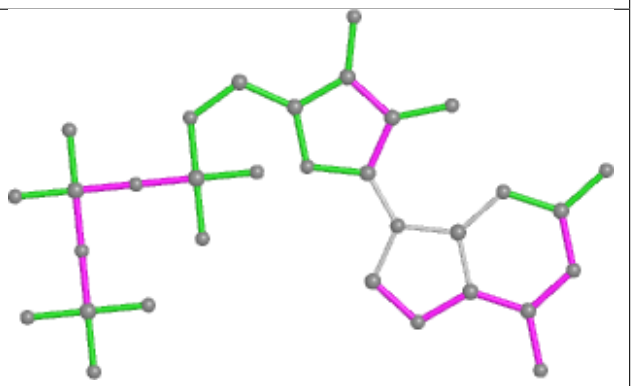

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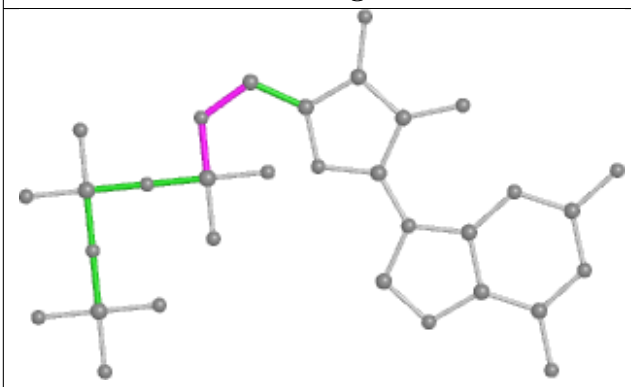

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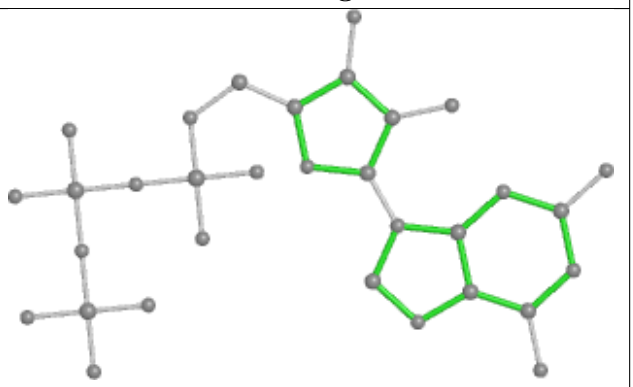
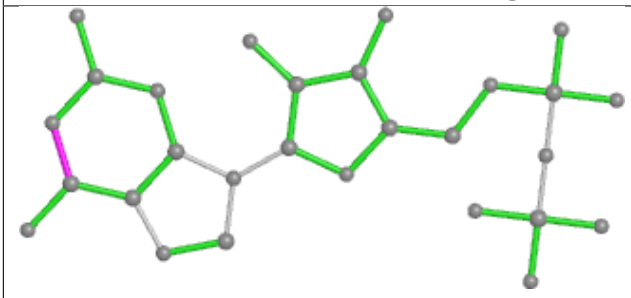


Rings

Ligand GDP MD 501



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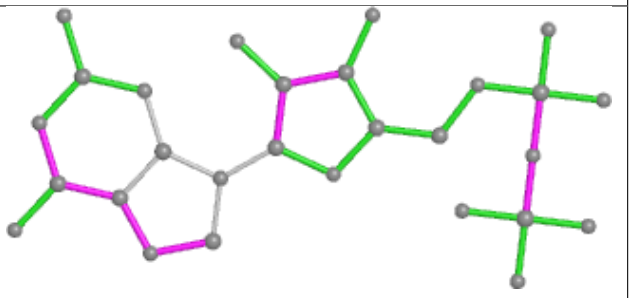

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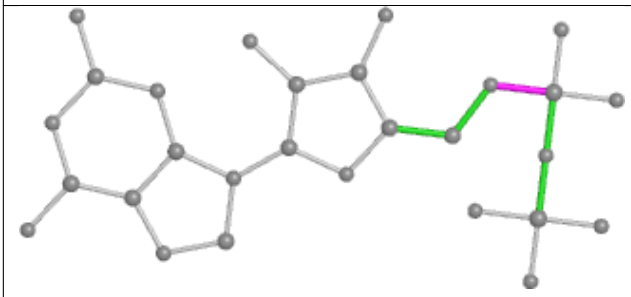

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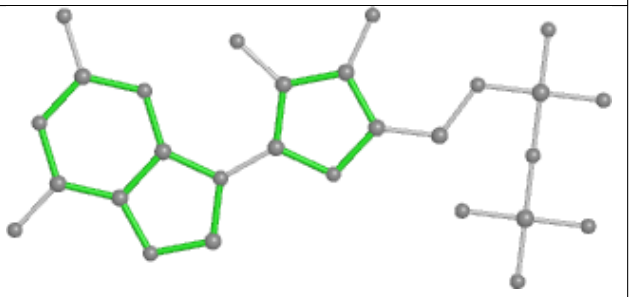
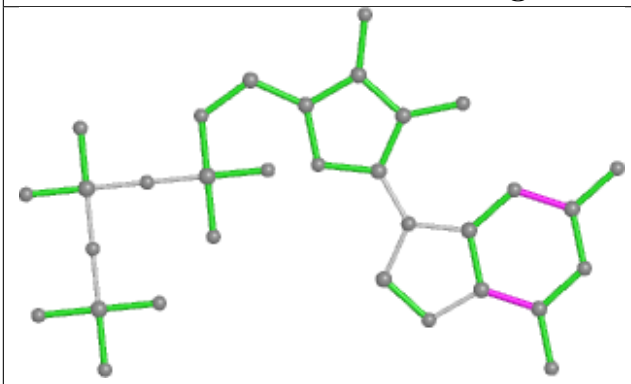


Rings

Ligand GTP BA 501



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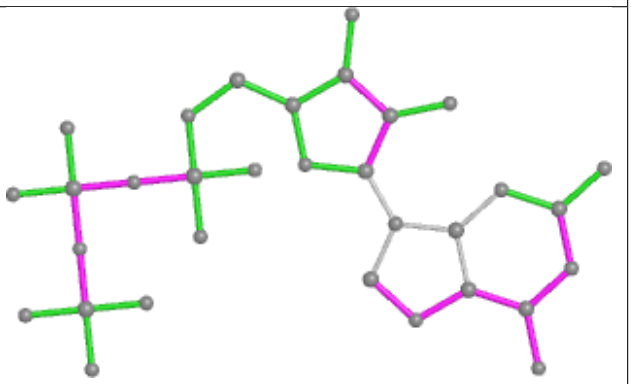

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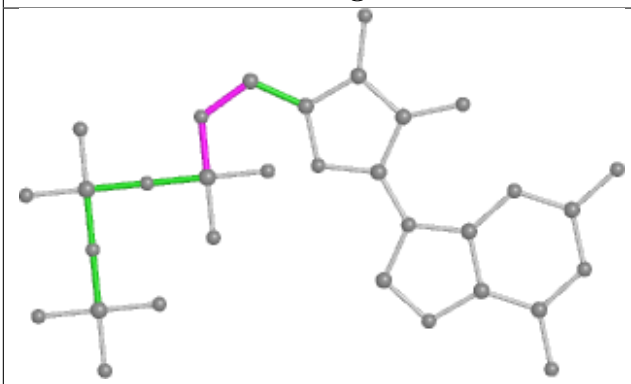

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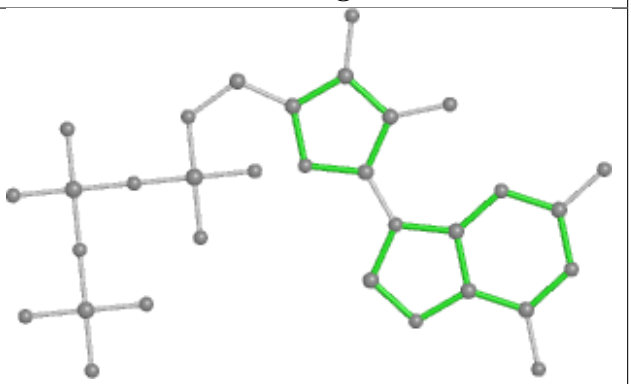
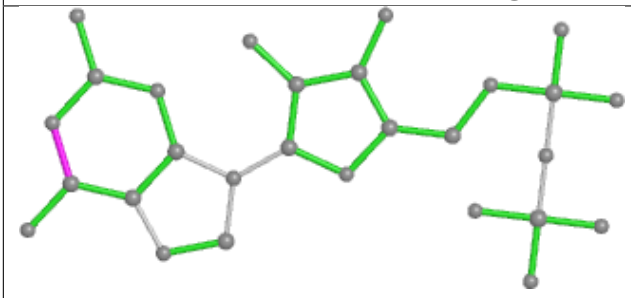


Rings

Ligand GDP EM 501



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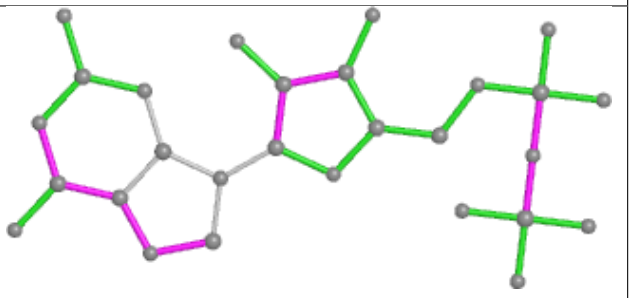

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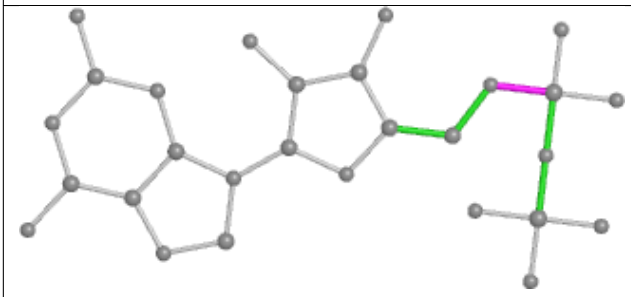

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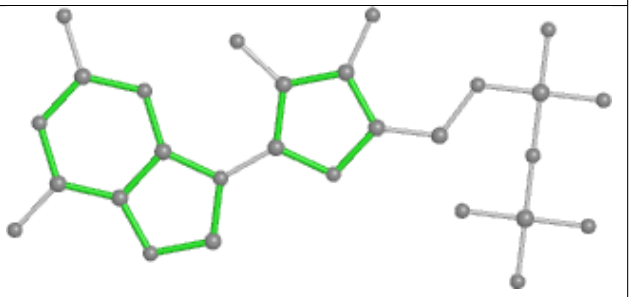
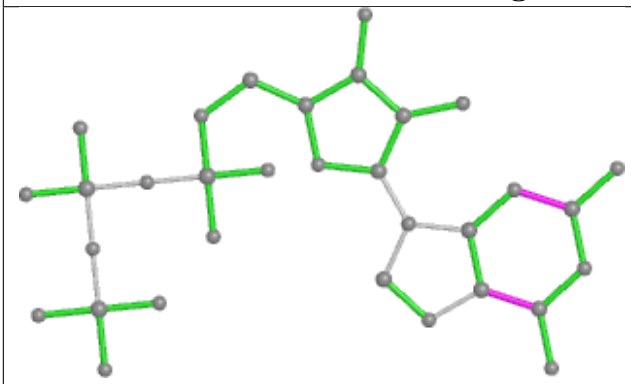


Rings

Ligand GTP EK 501



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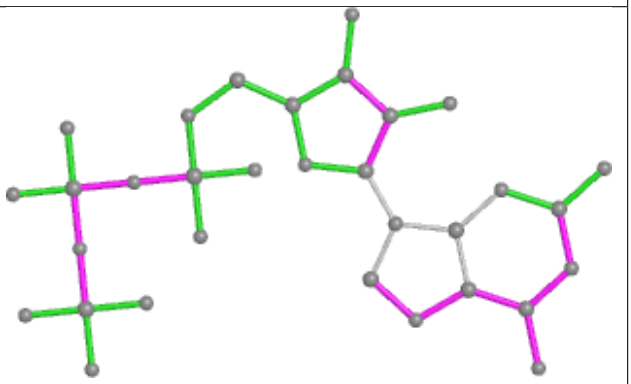

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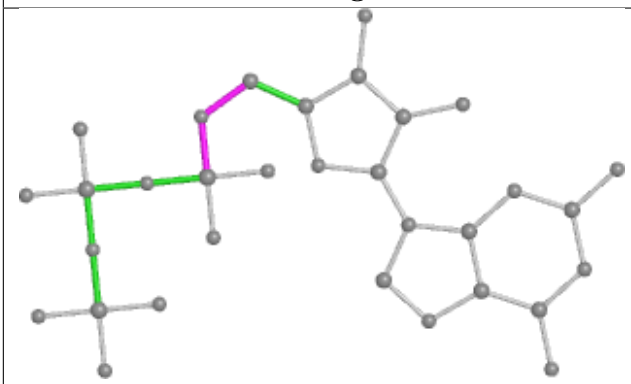
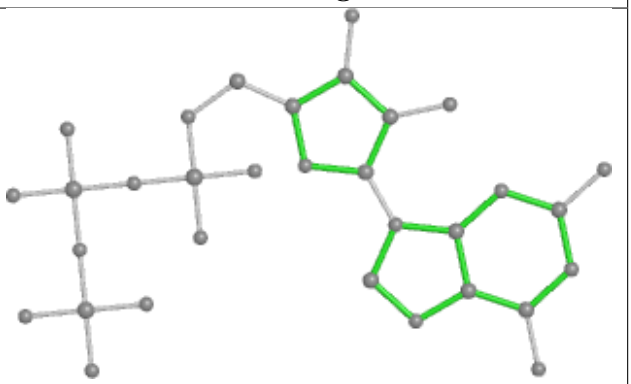


Torsions



Rings

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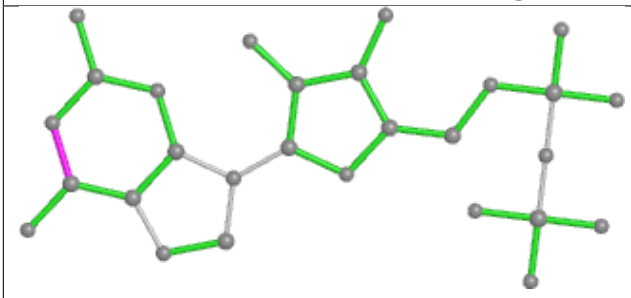	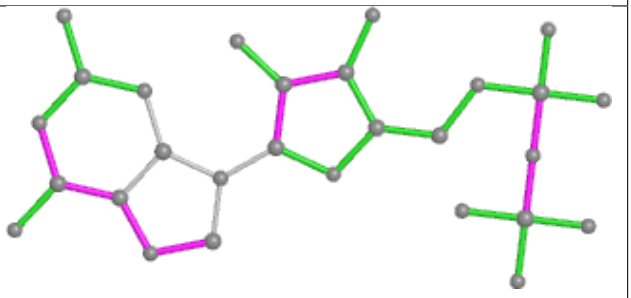
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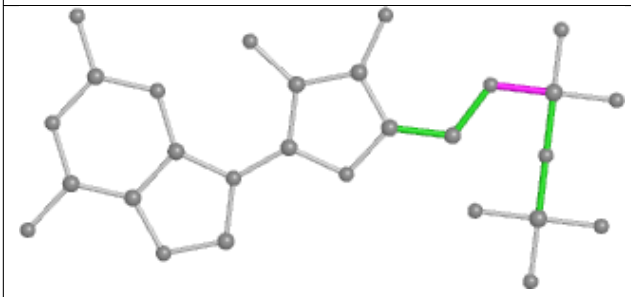
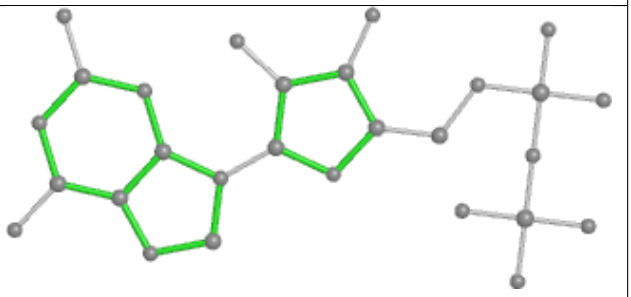
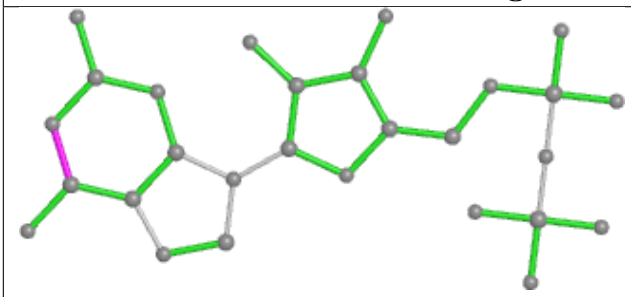
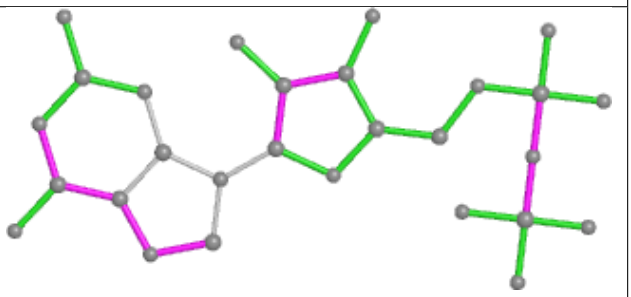
	
Torsions	Rings

Ligand GDP OH 501	
	
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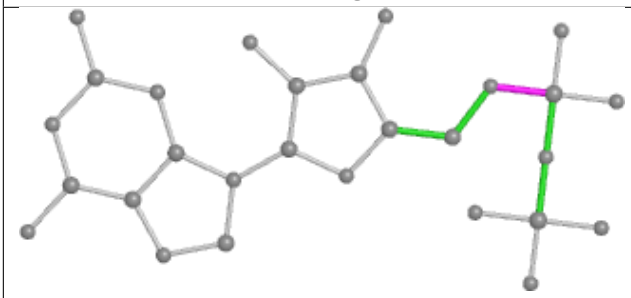
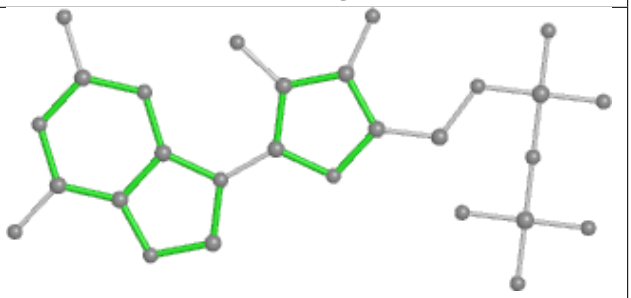
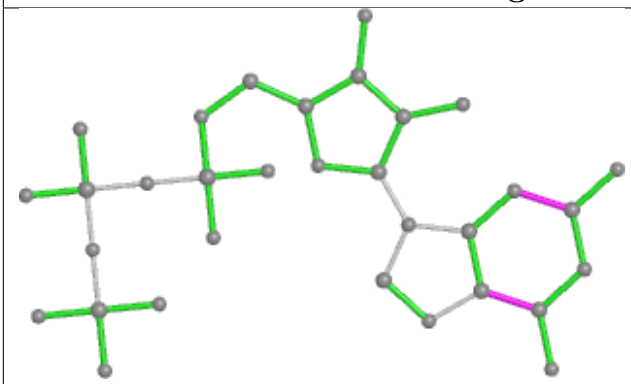
	
Torsions	Rings

Ligand GTP ML 501



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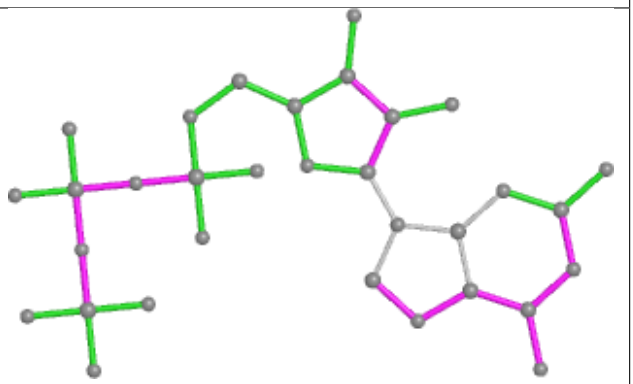

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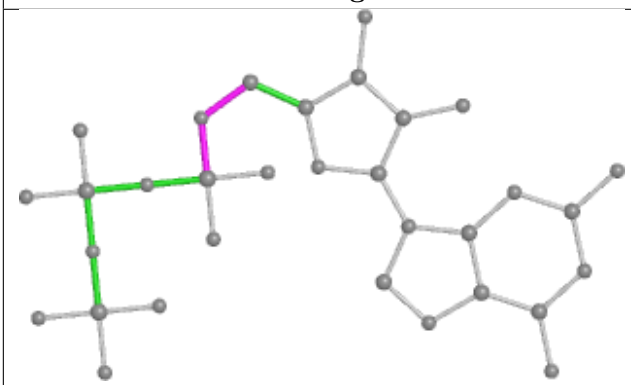

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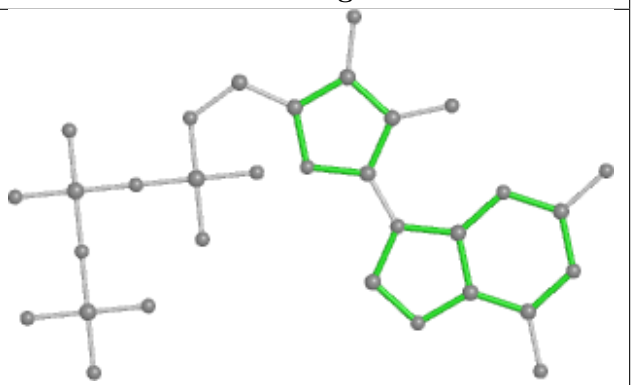

Rings

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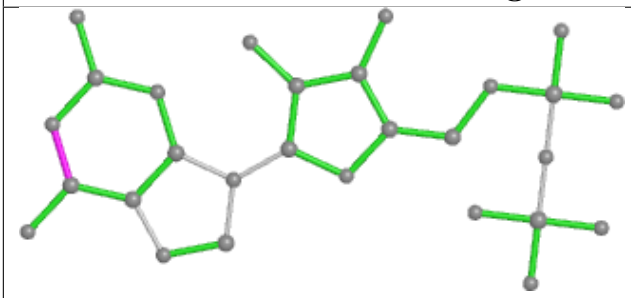

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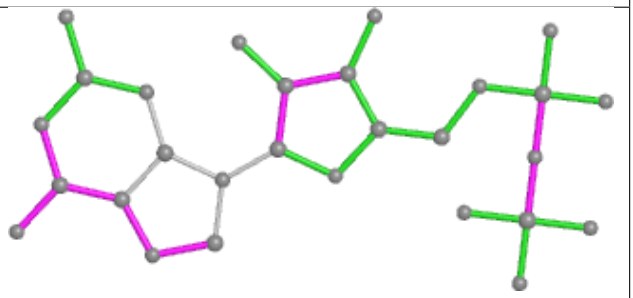

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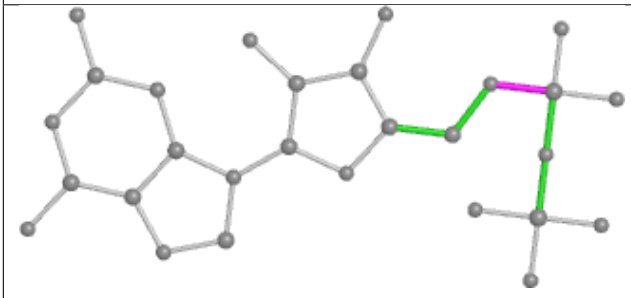

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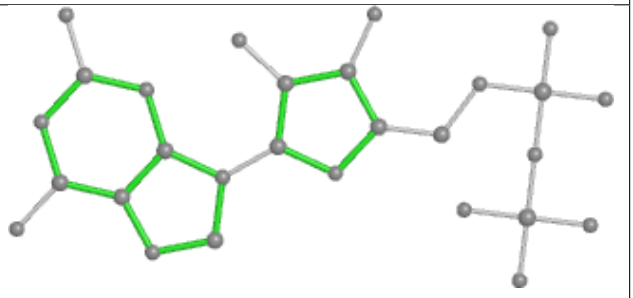

Rings

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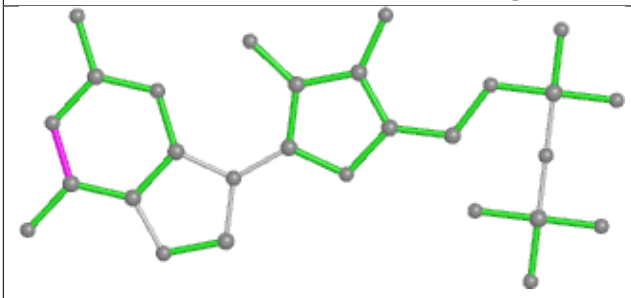

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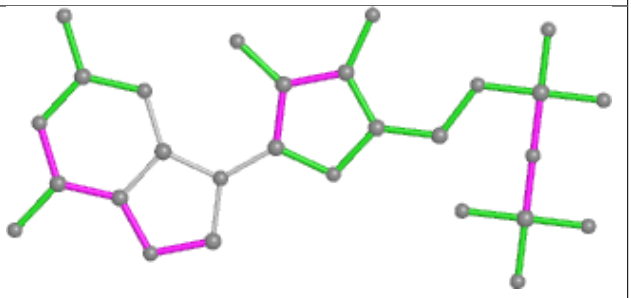

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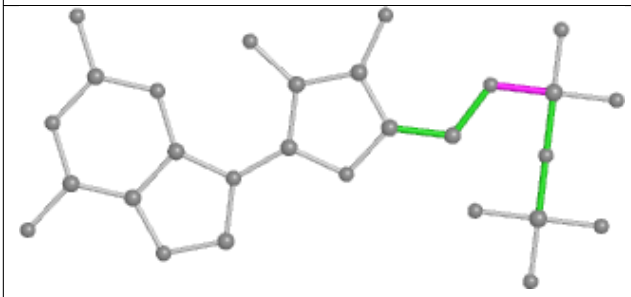

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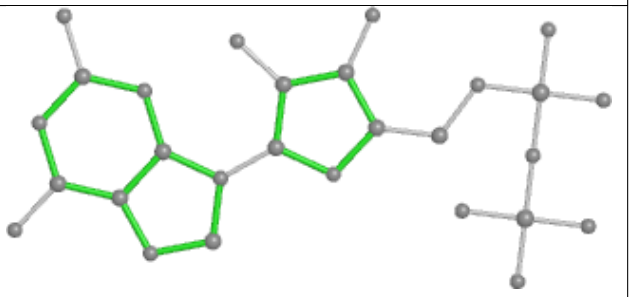

Rings

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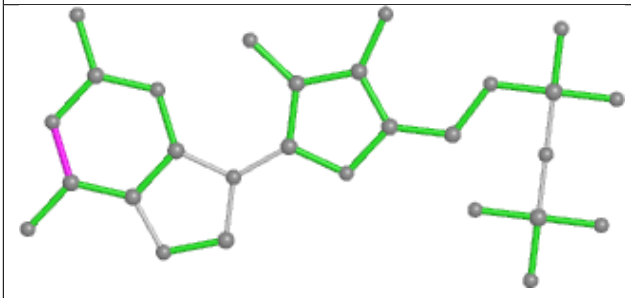

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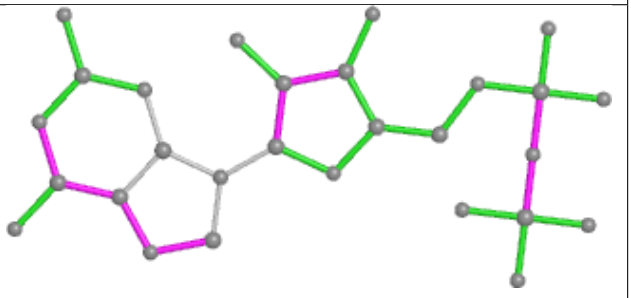

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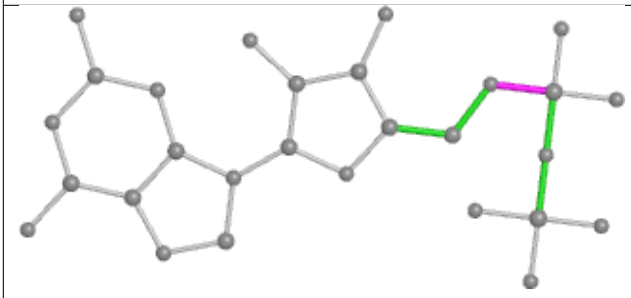

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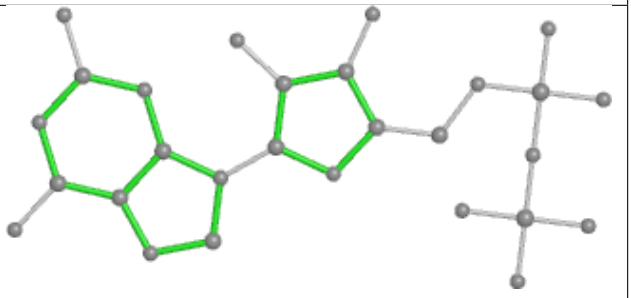

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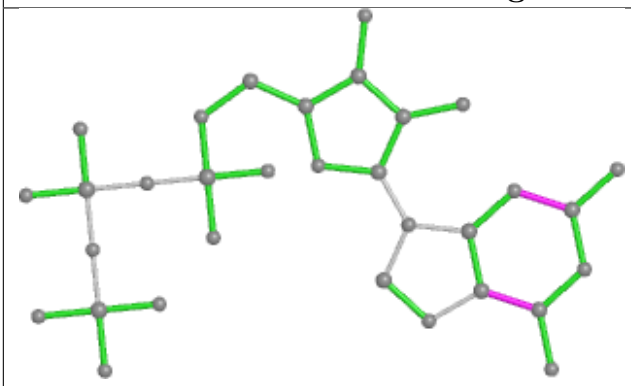

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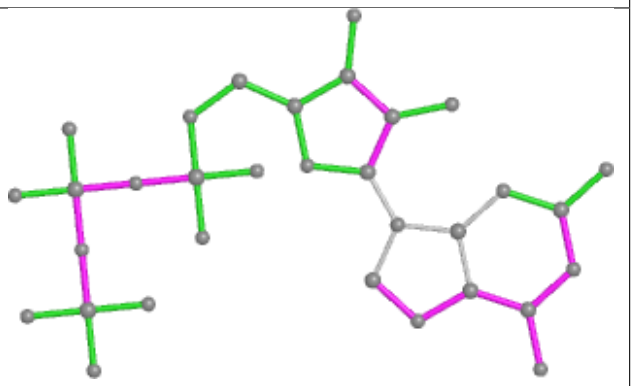

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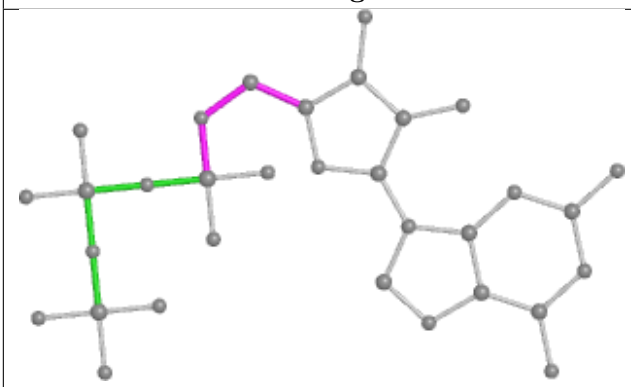

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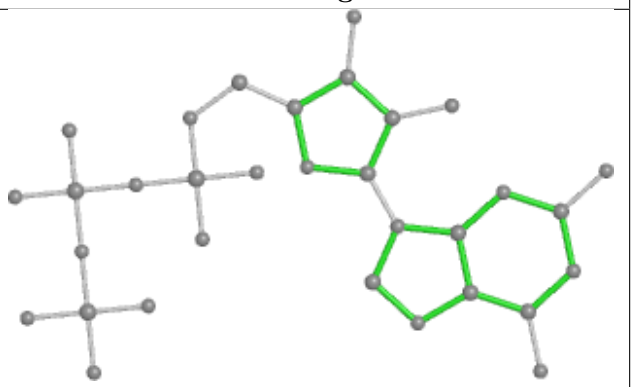

Rings

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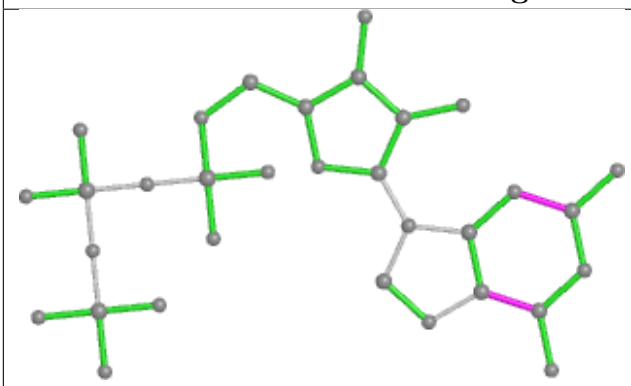

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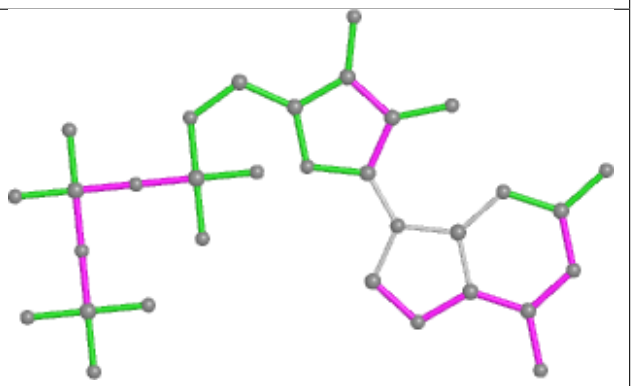

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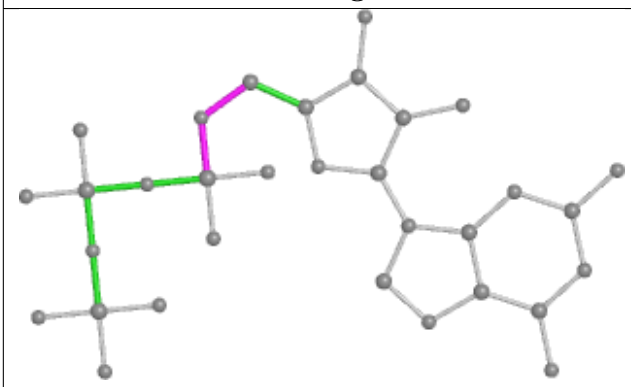

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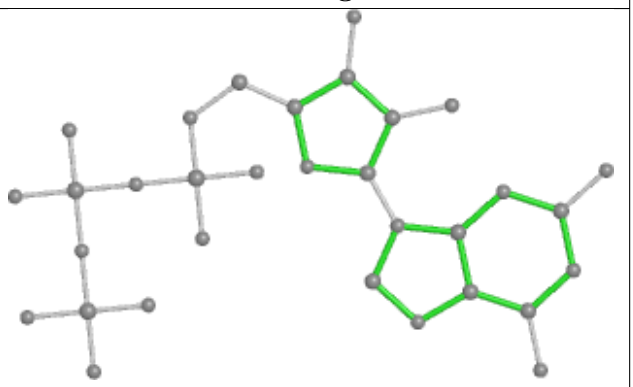

Rings

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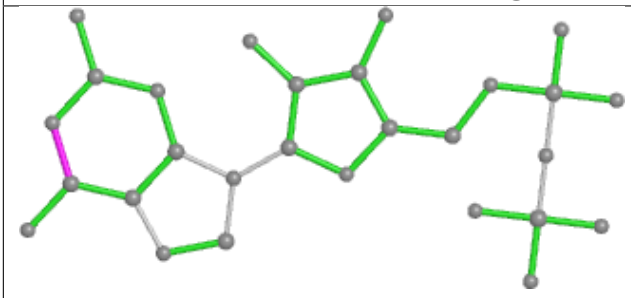

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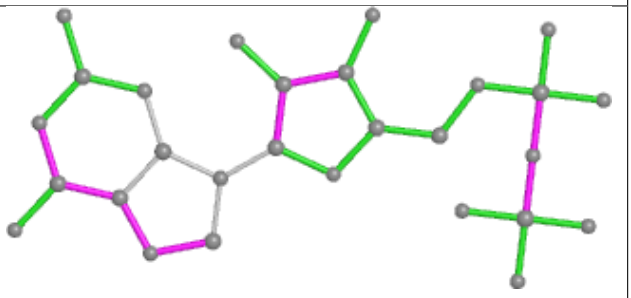

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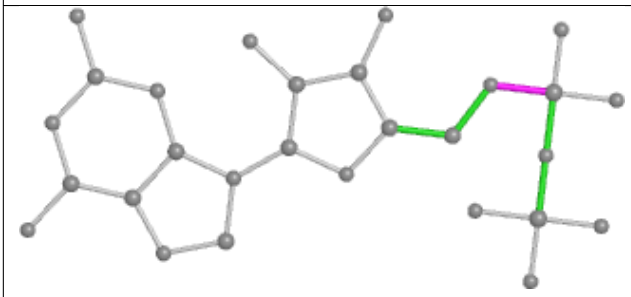

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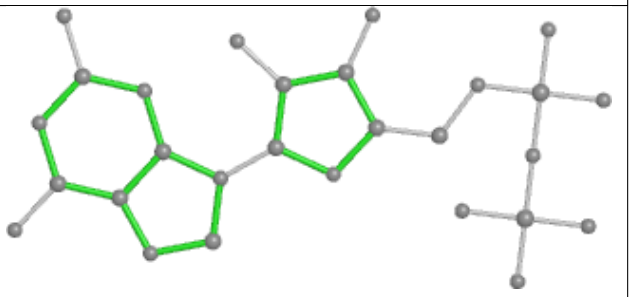

Rings

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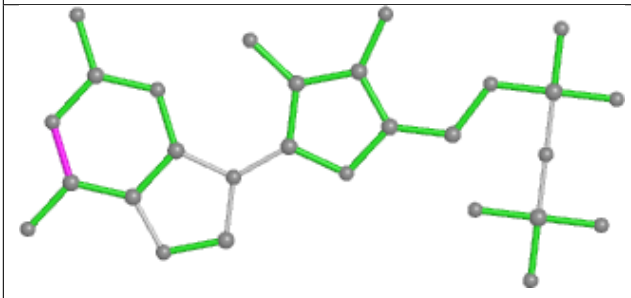

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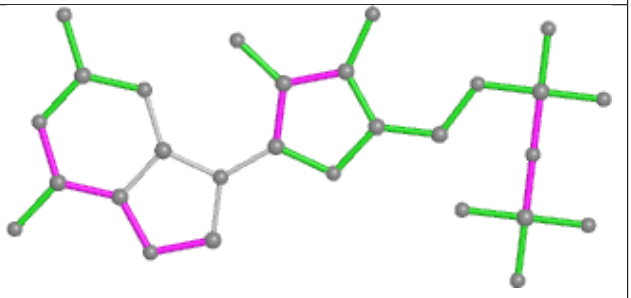

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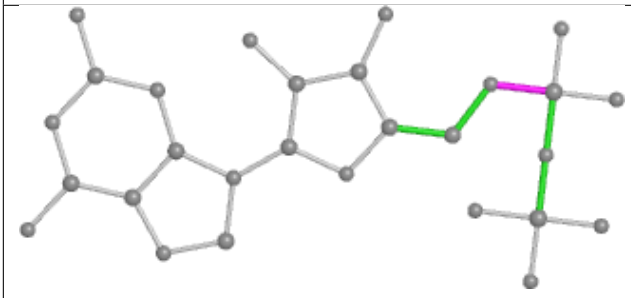

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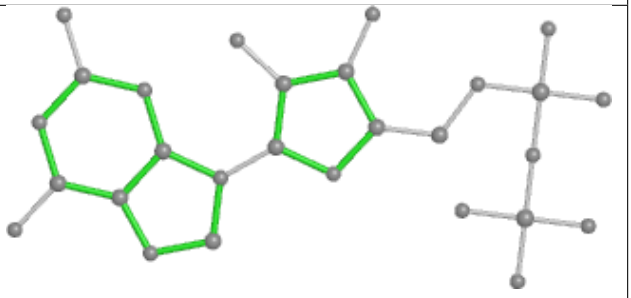

Rings

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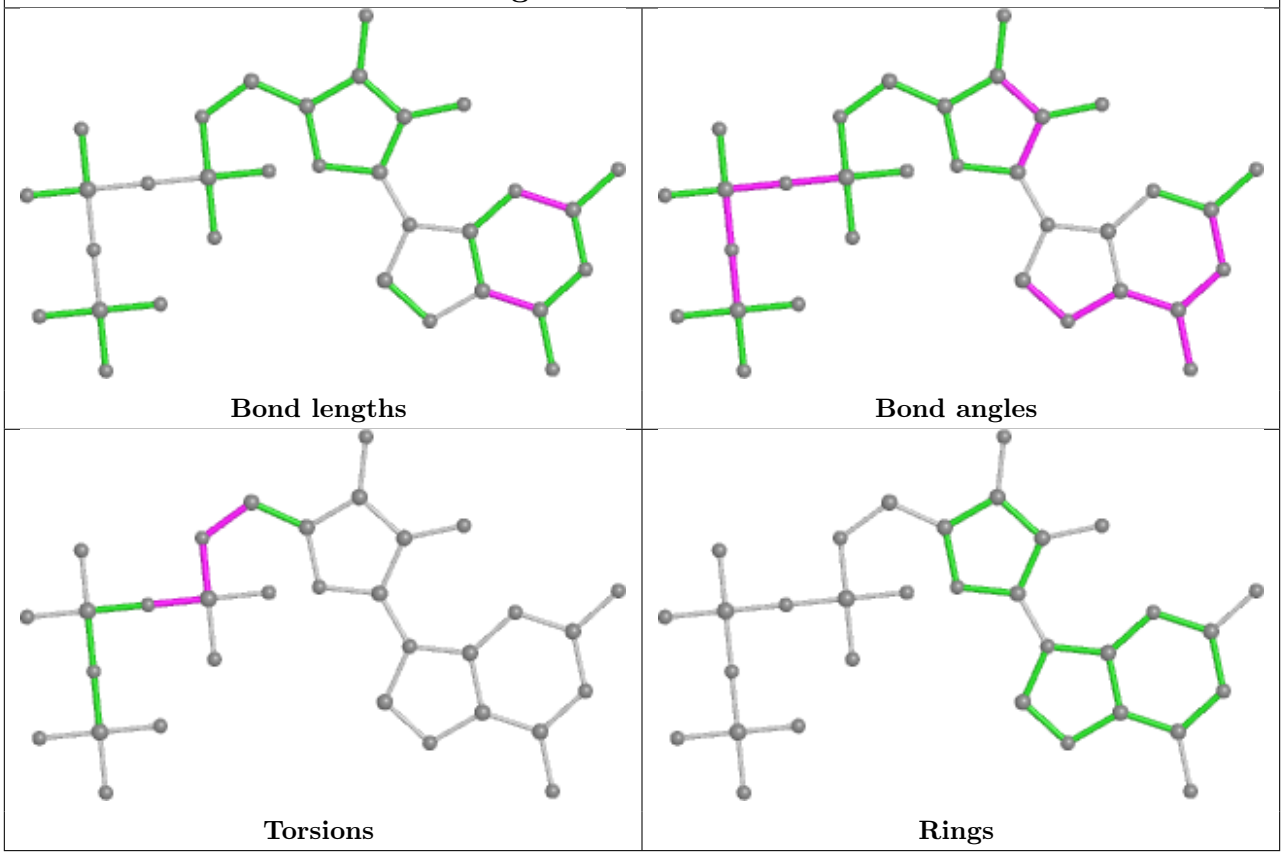

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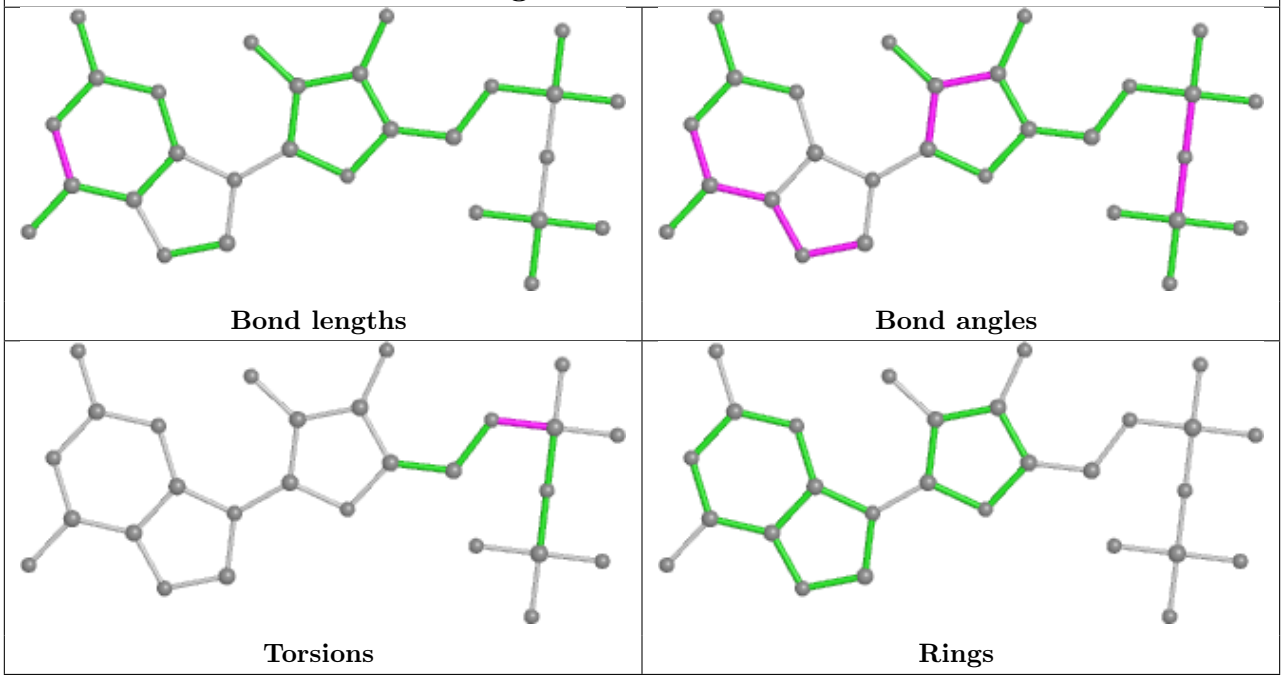

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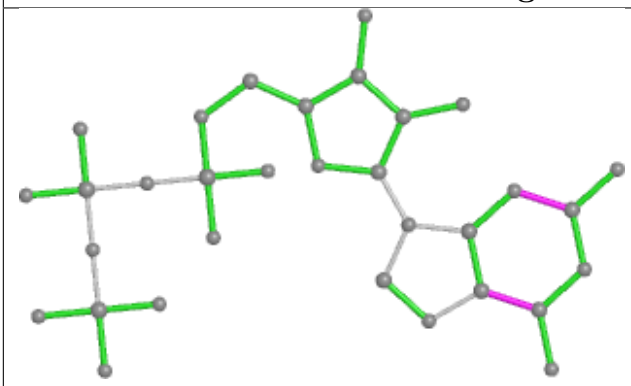

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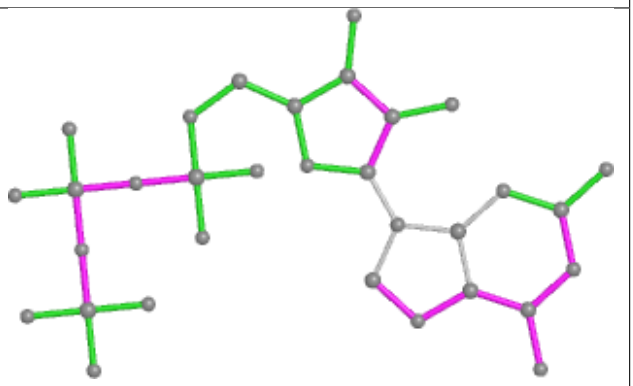

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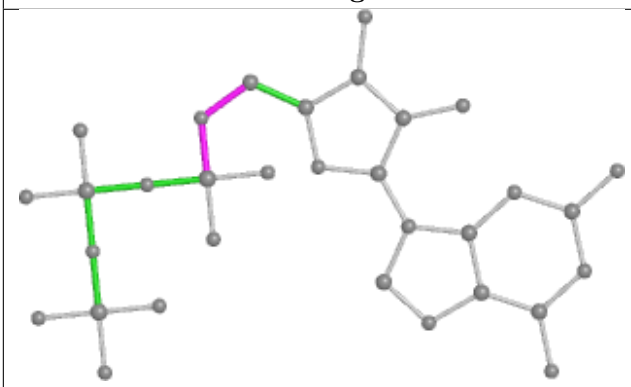

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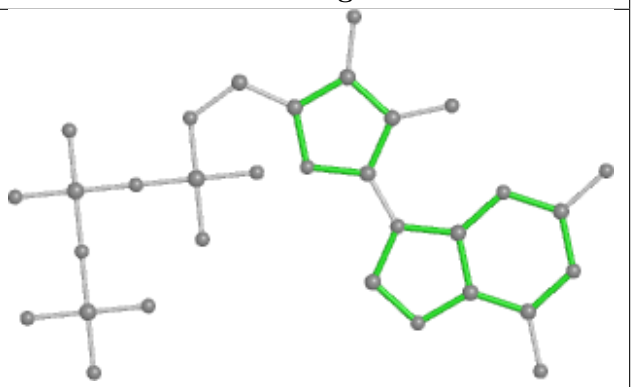

Rings

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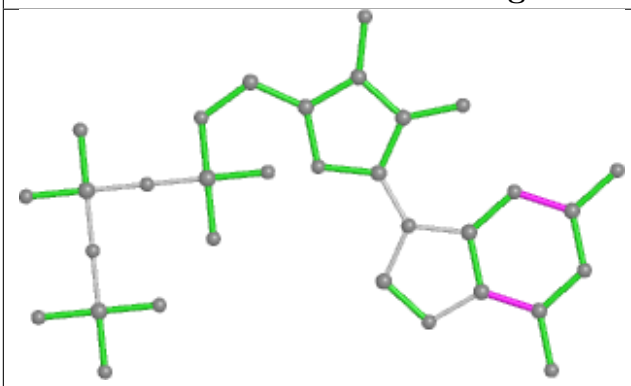

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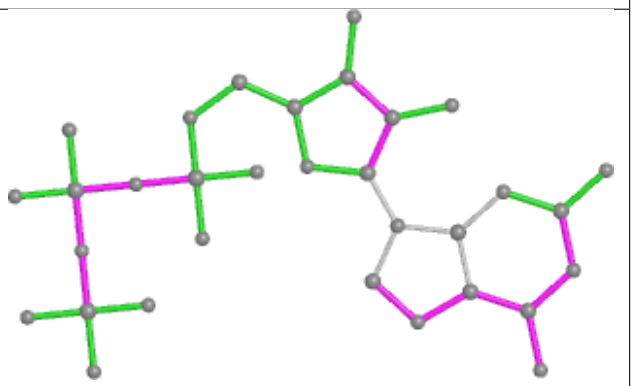

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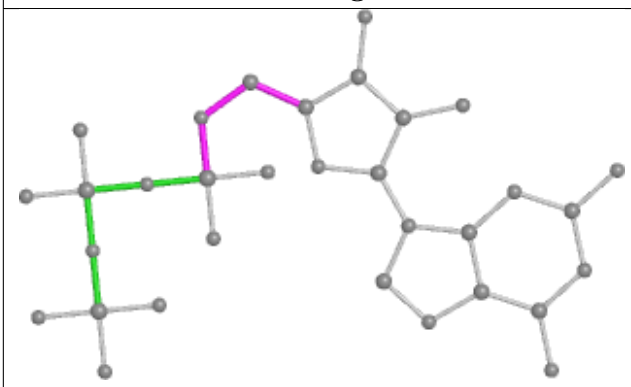

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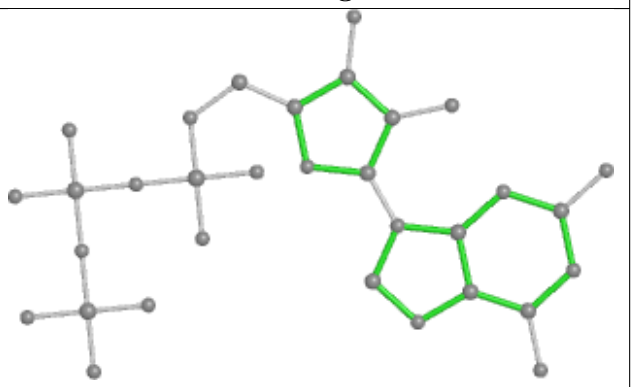

Rings

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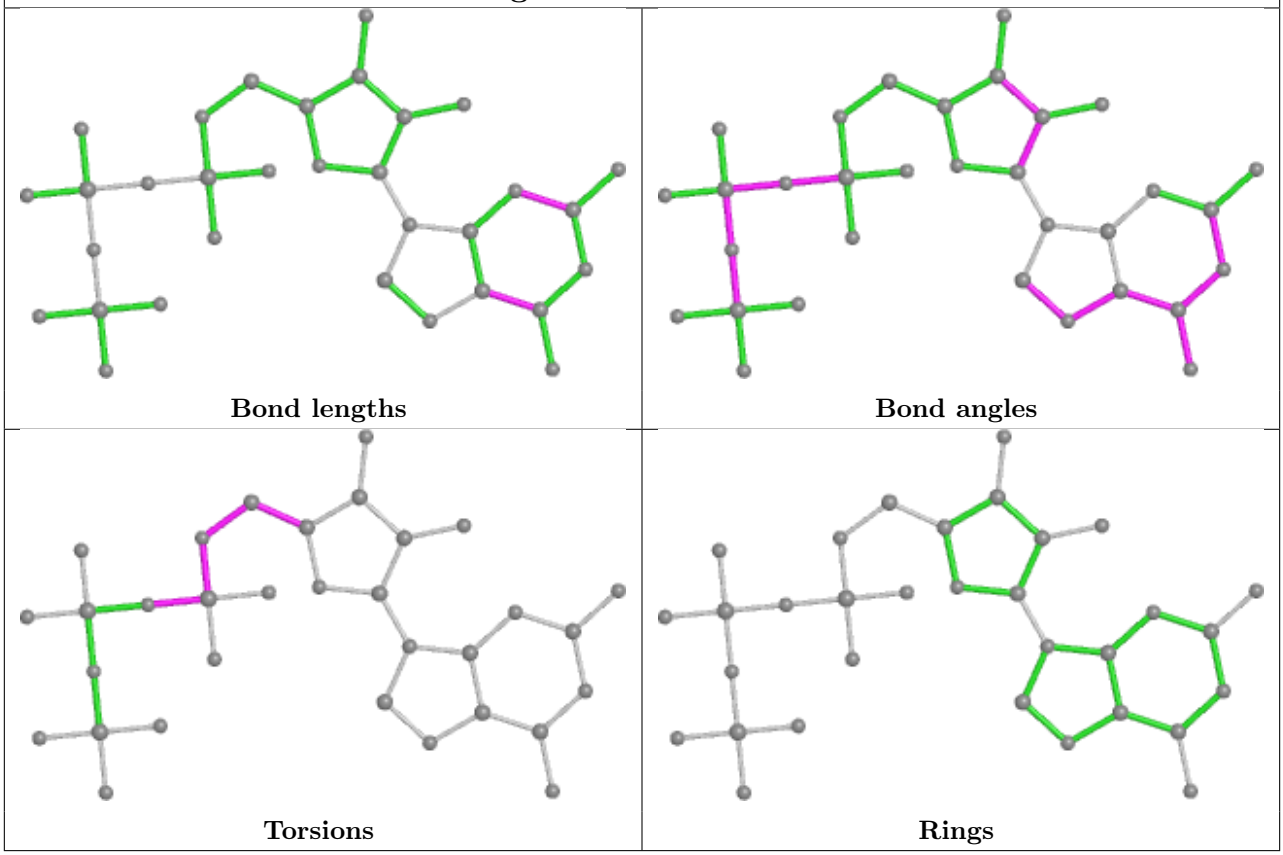

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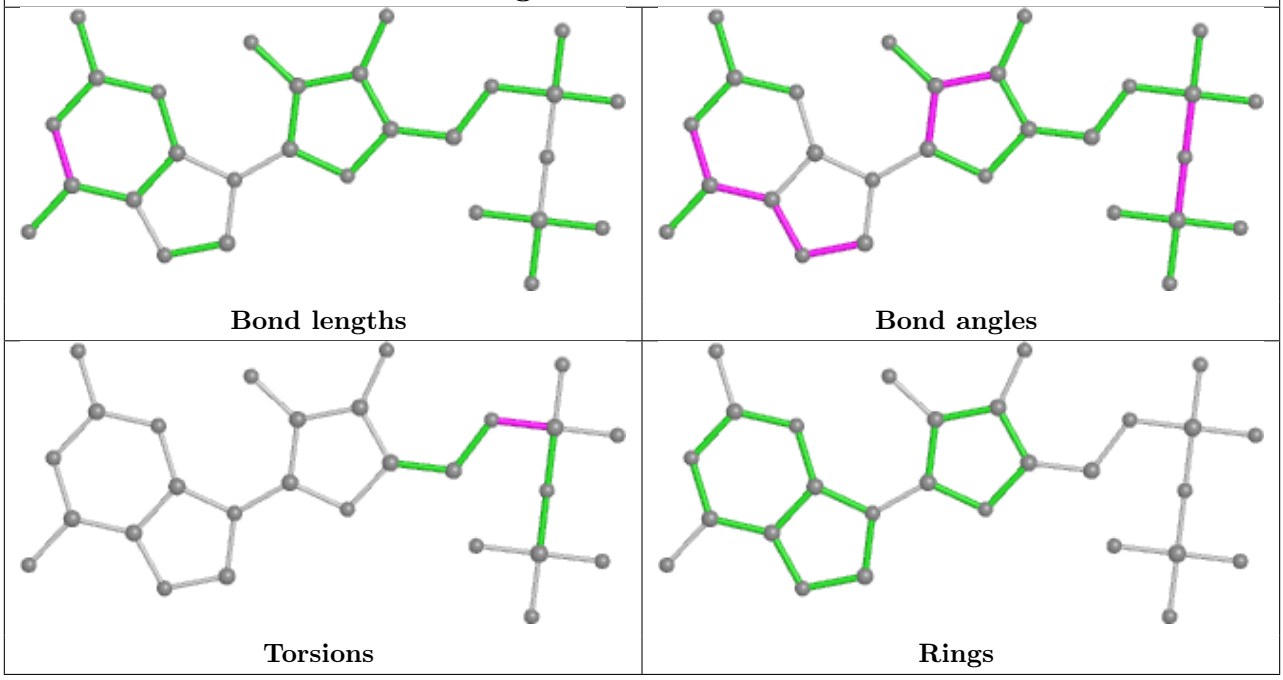

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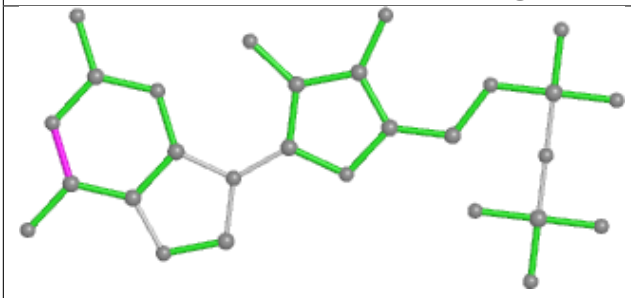

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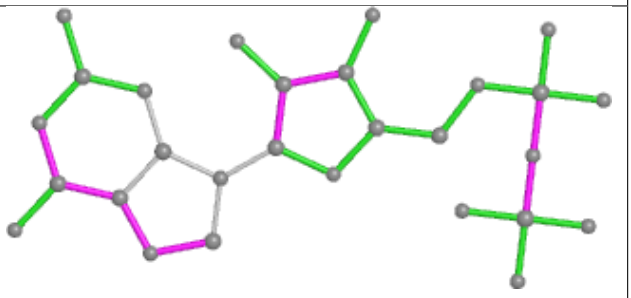

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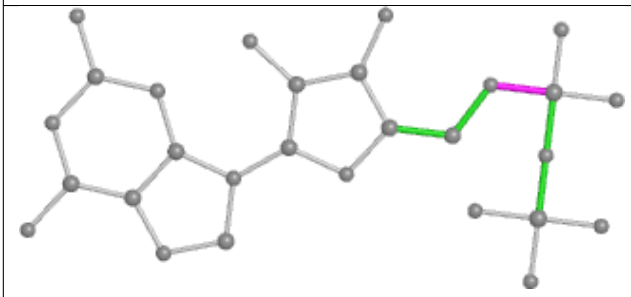

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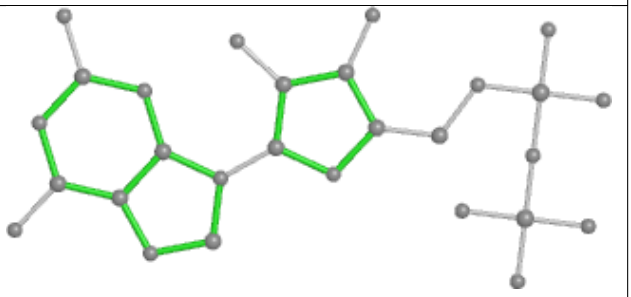

Rings

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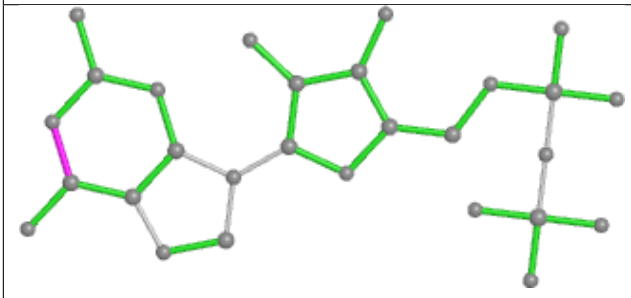
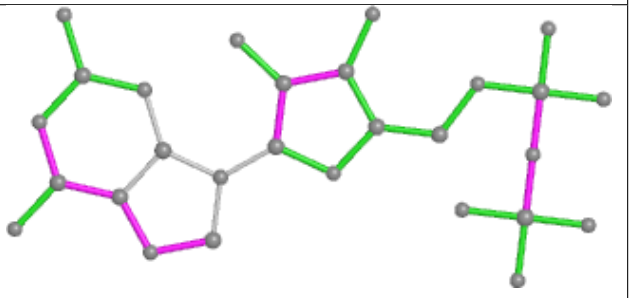


Bond lengths



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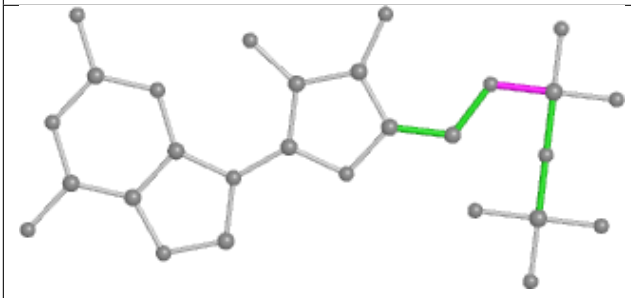
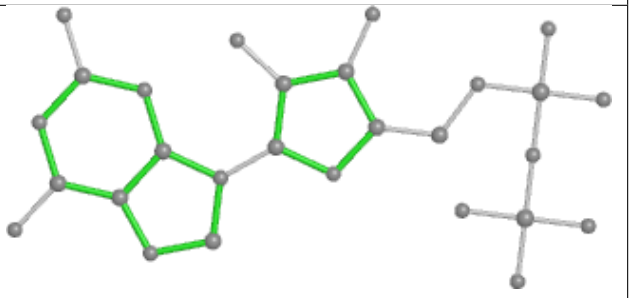
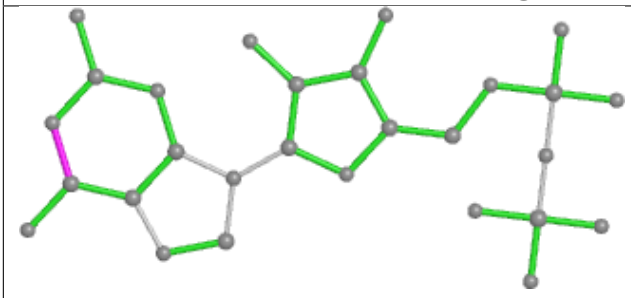
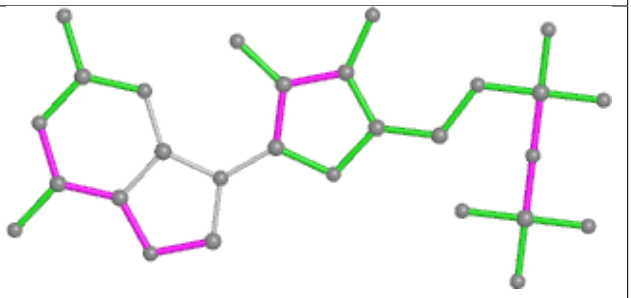
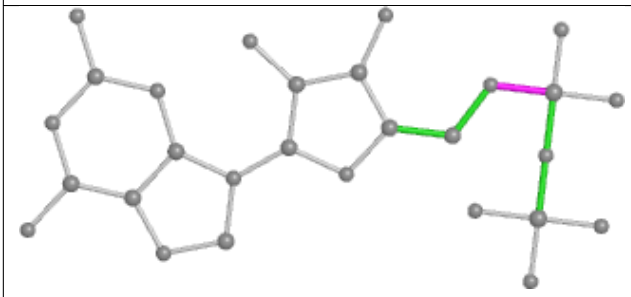
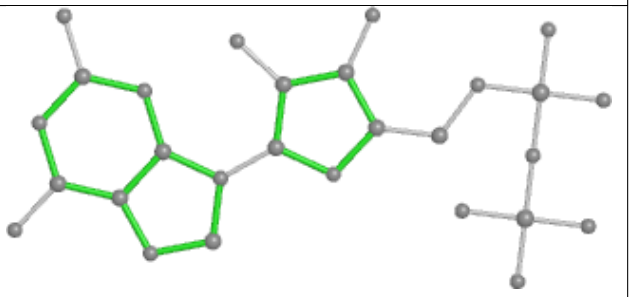


Torsions



Rings

Ligand GDP SJ 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

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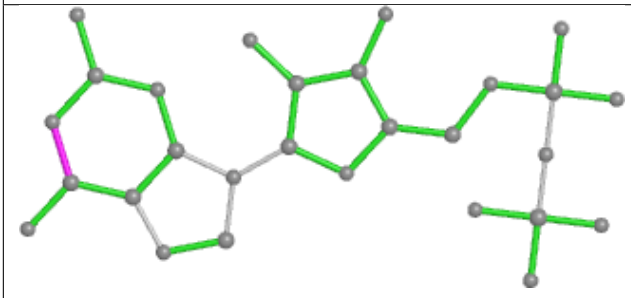
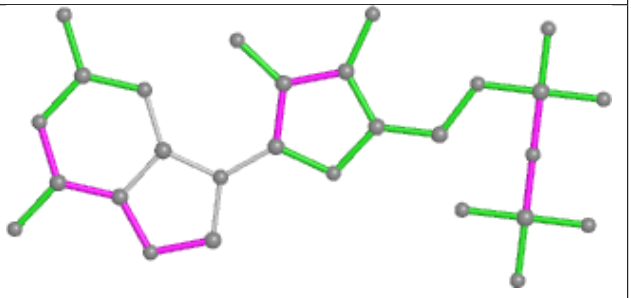
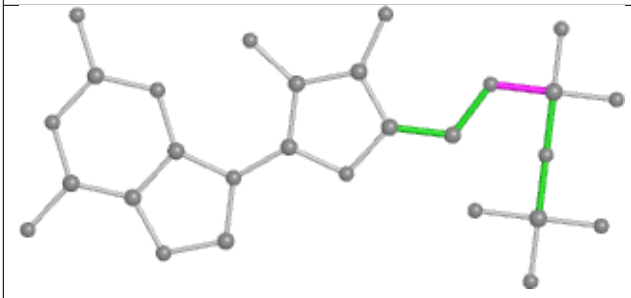
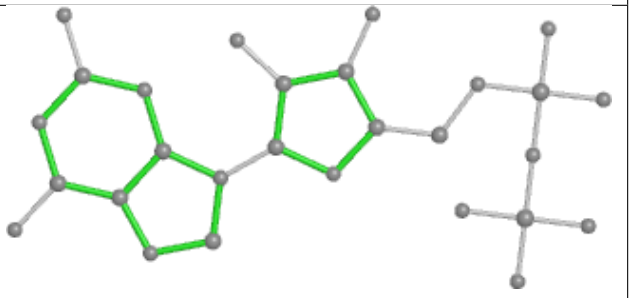
 Bond lengths	 Bond angles
 Torsions	 Rings

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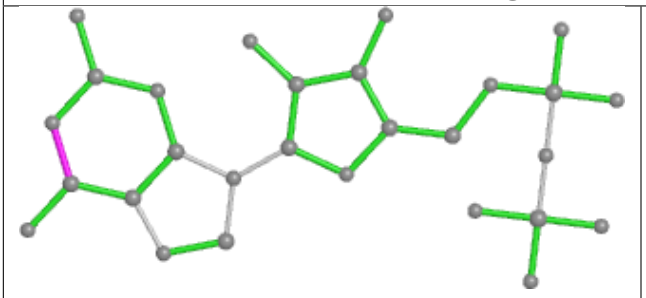

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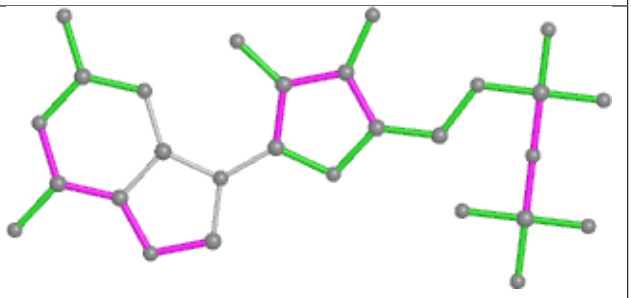

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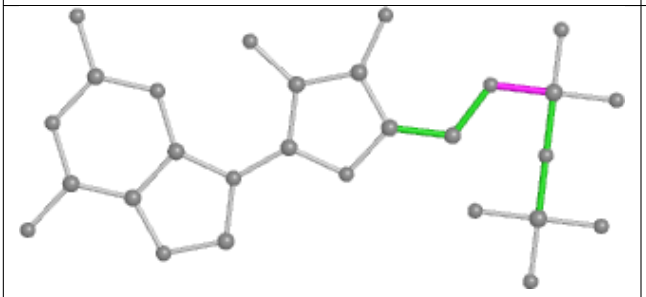

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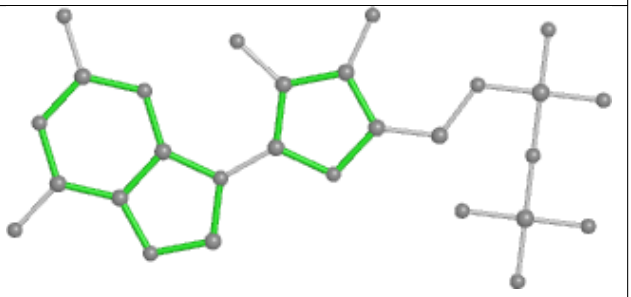

Rings

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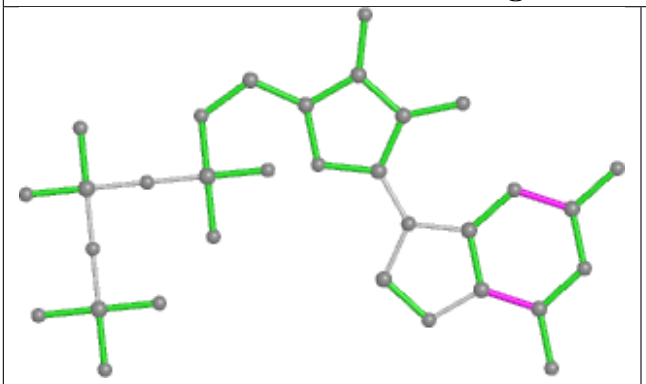

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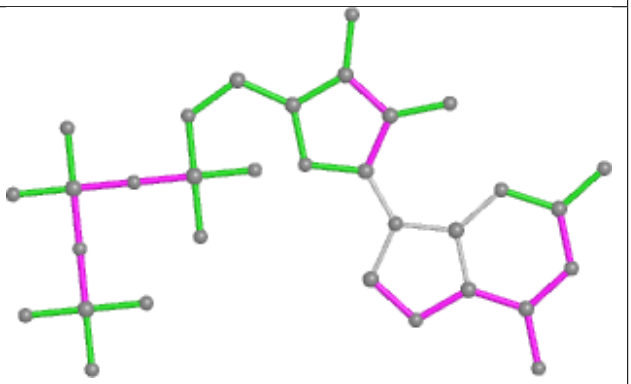

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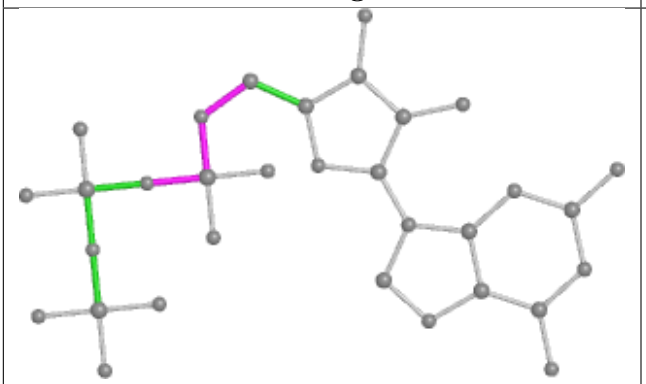

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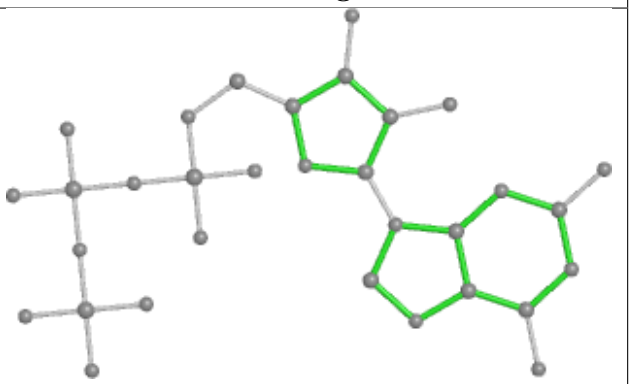

Rings

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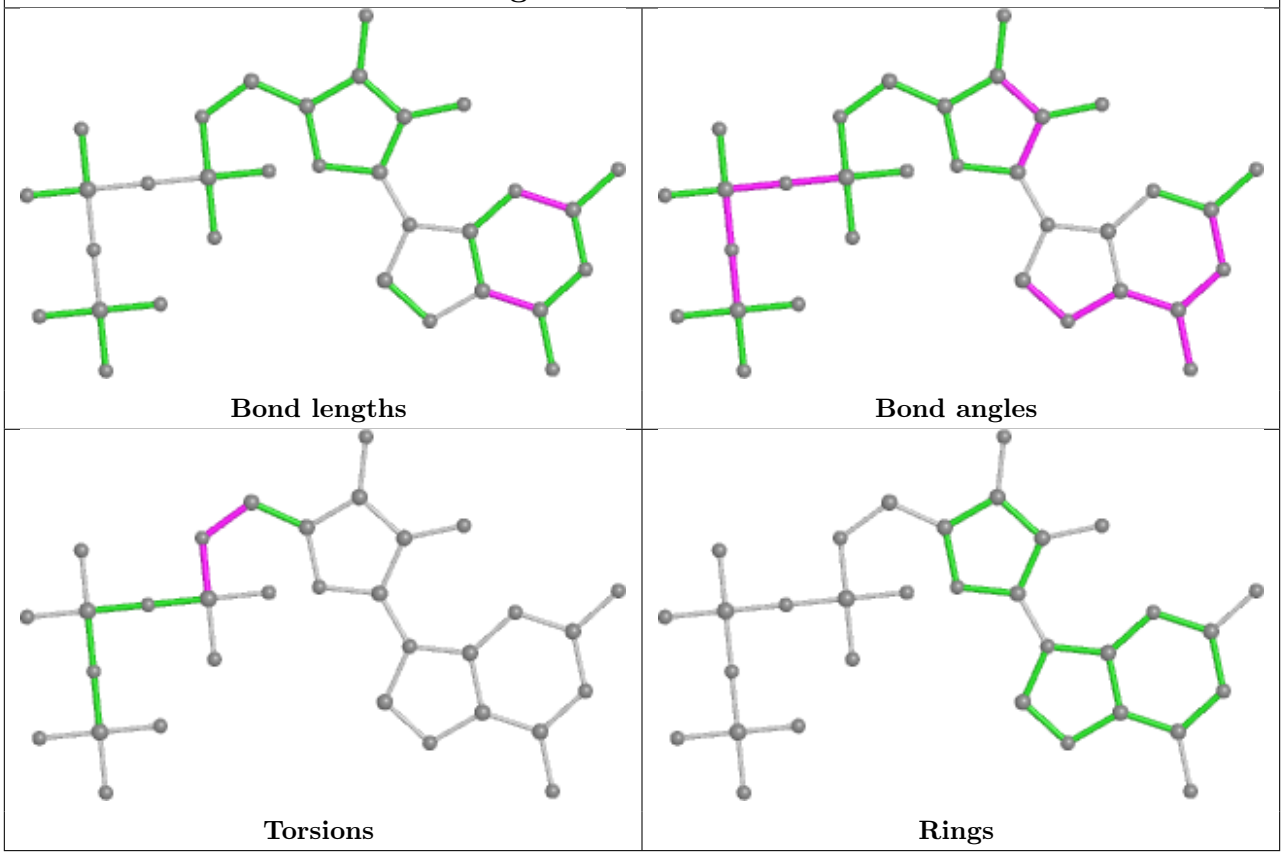

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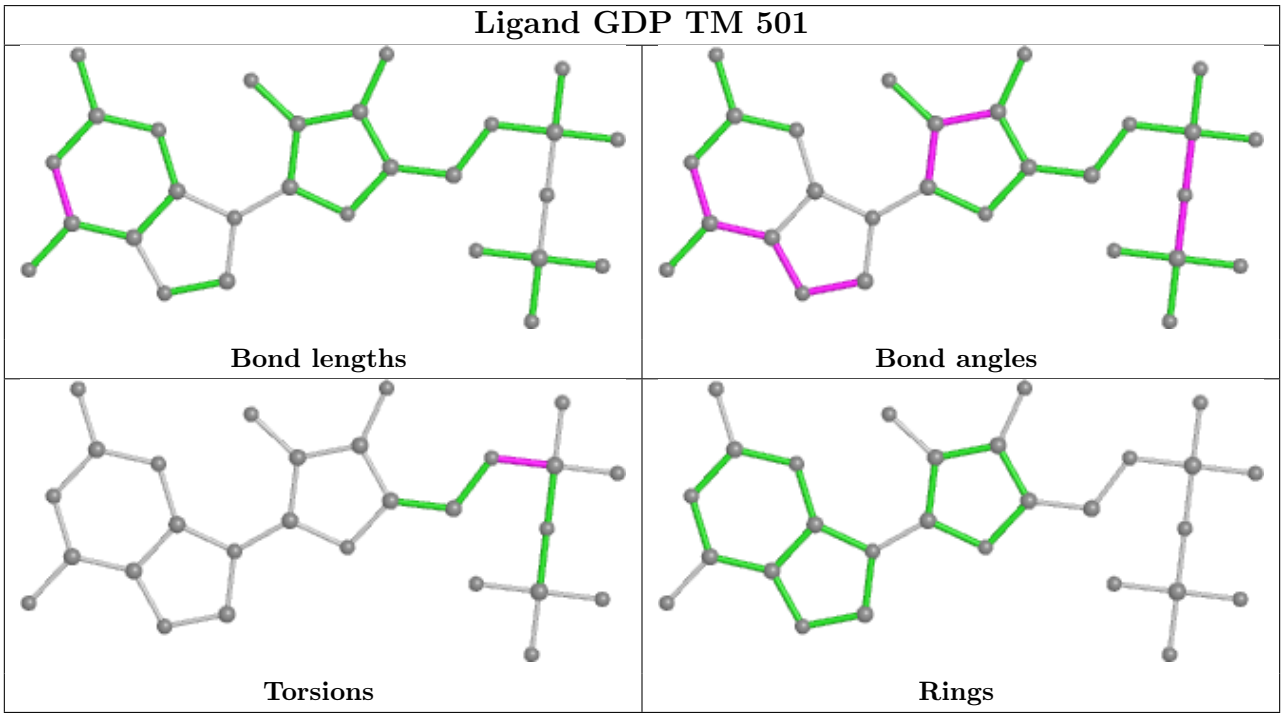

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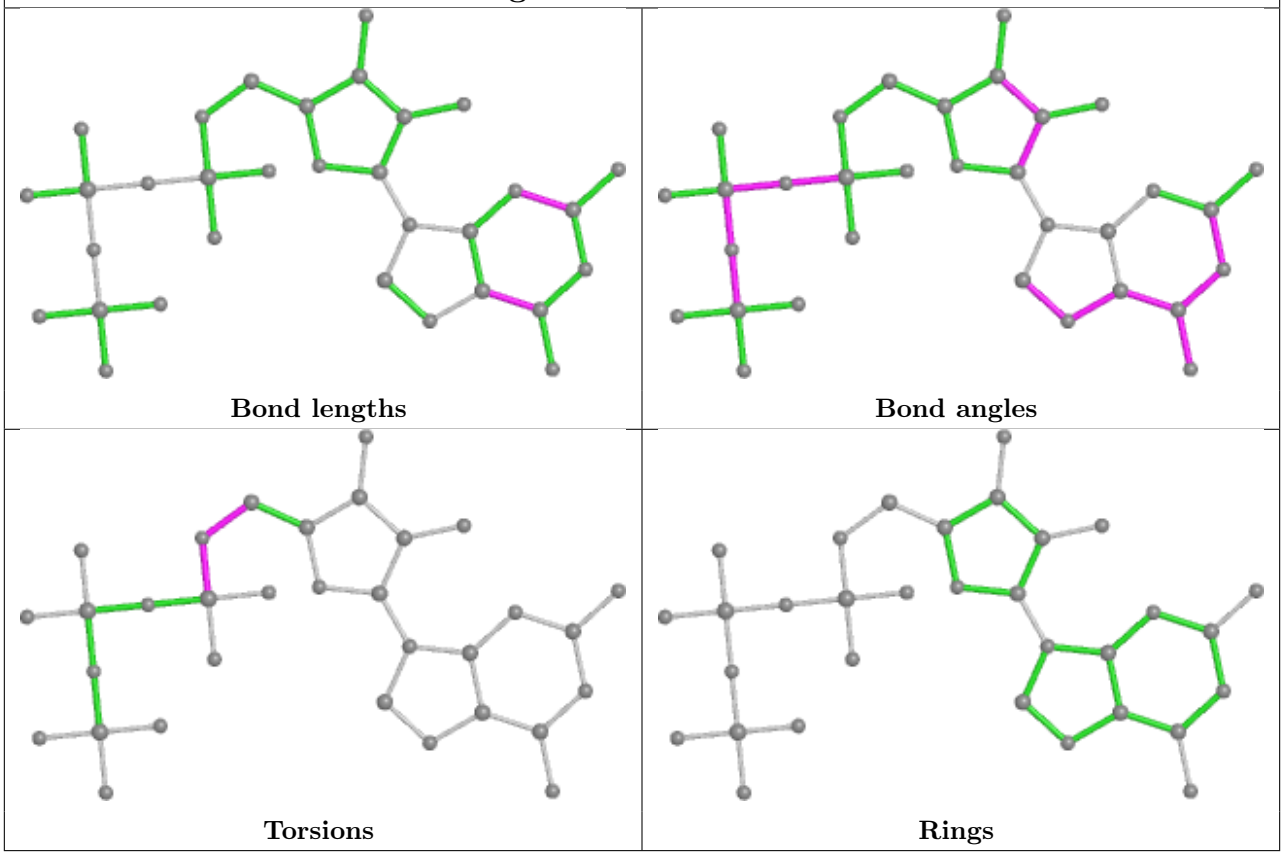

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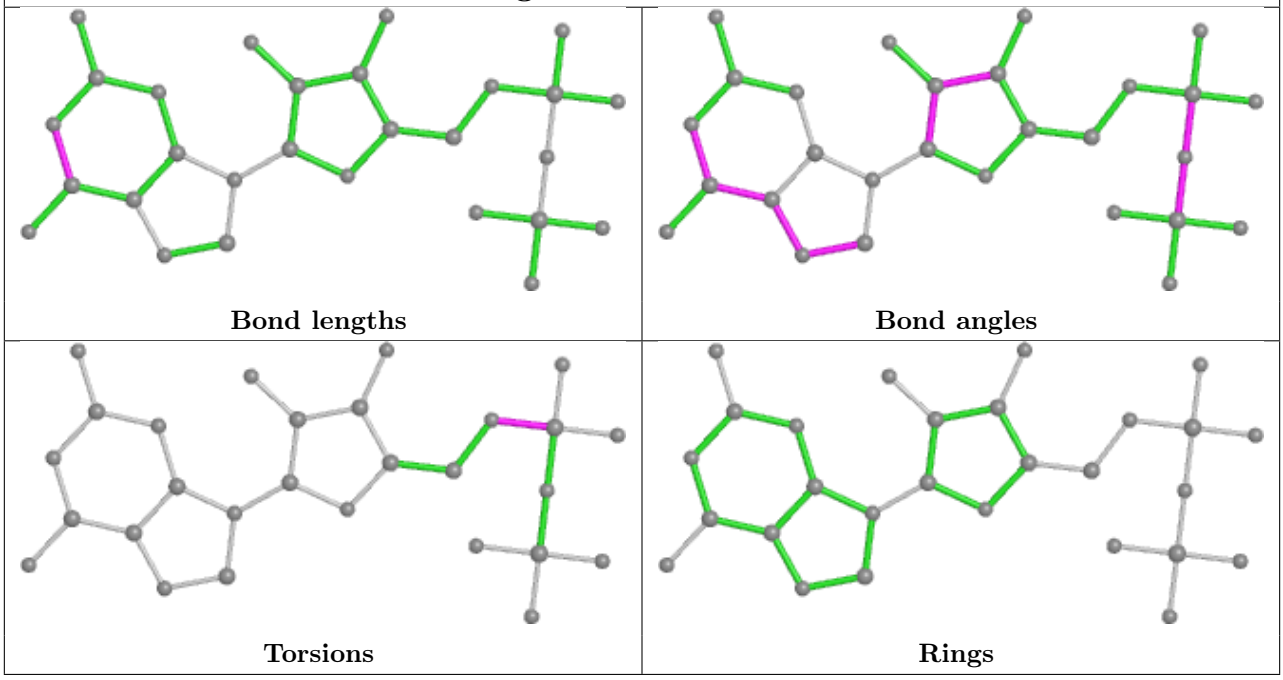

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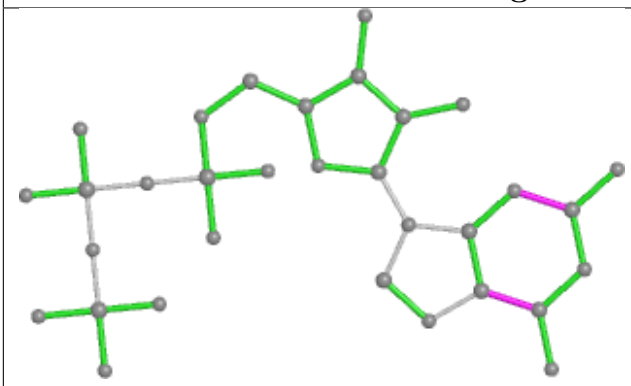
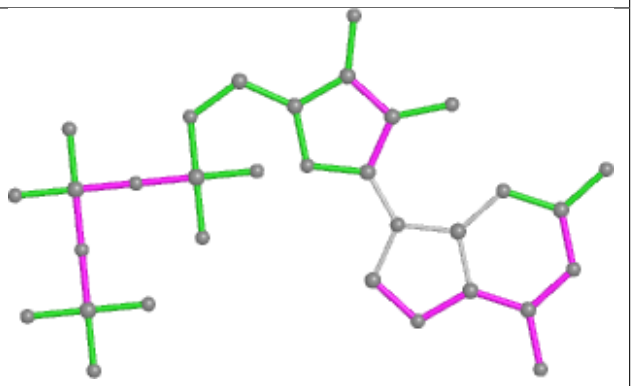


Bond lengths



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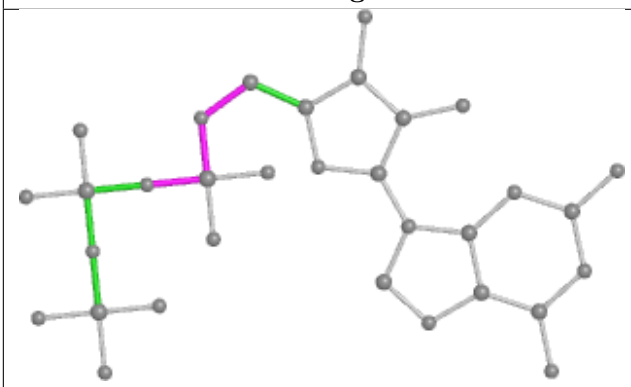

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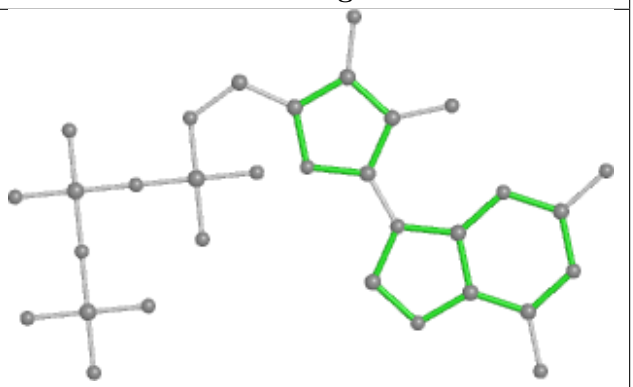

Rings

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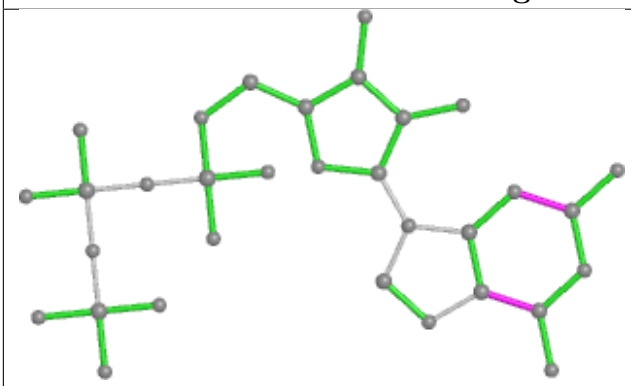

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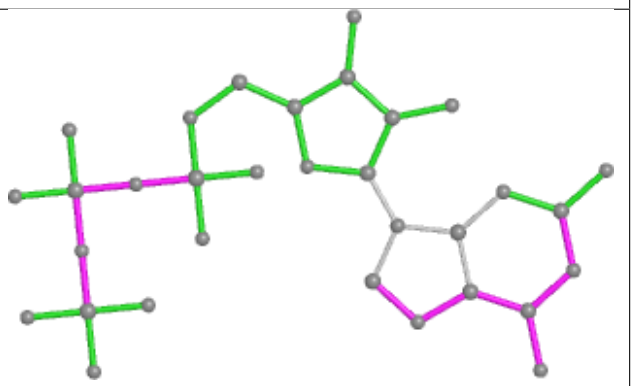

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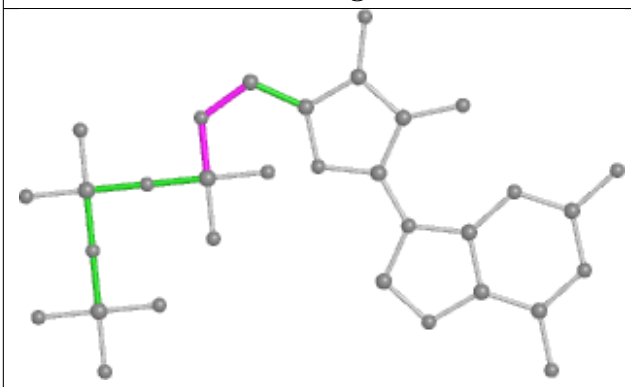

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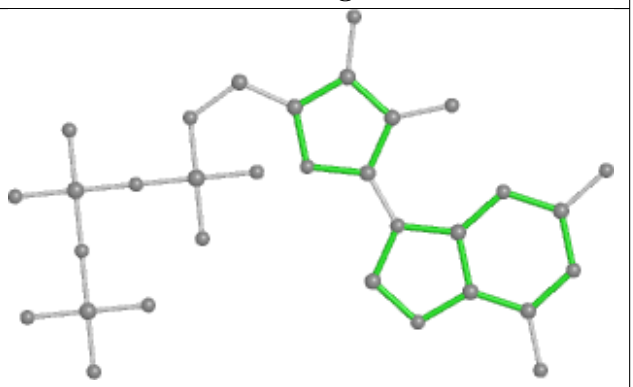

Rings

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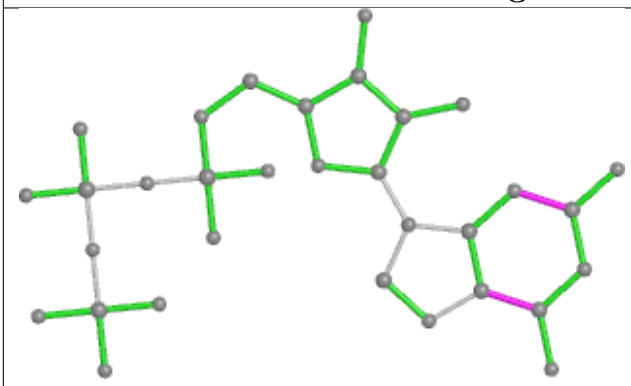

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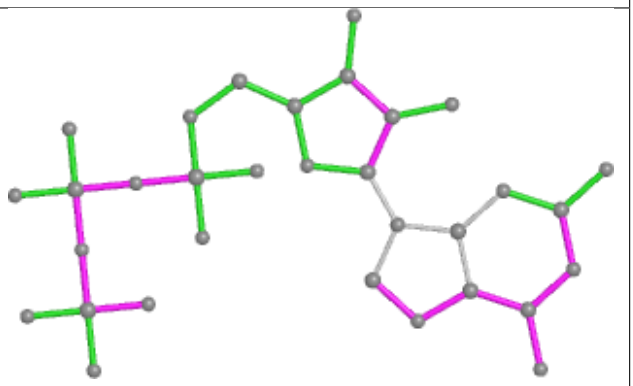

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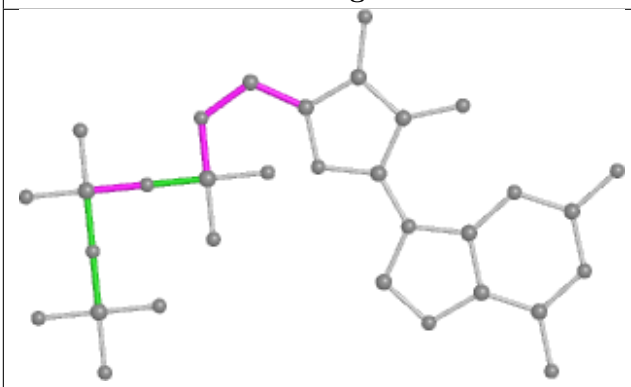

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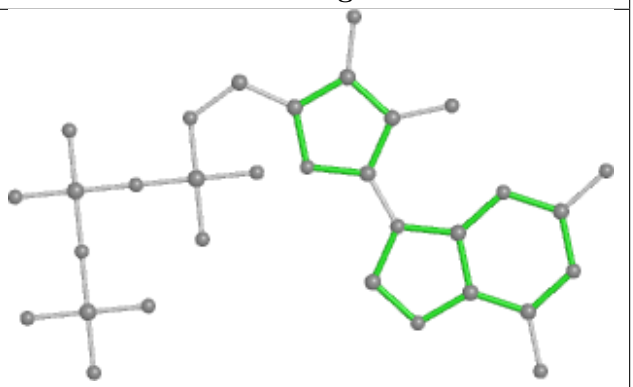

Rings

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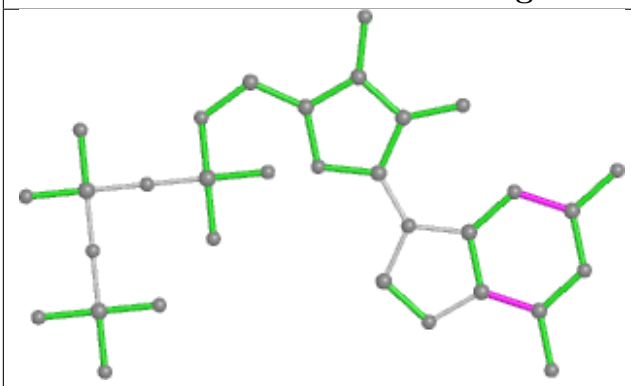

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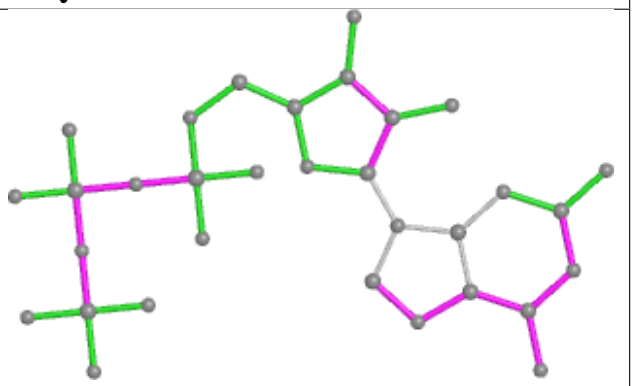

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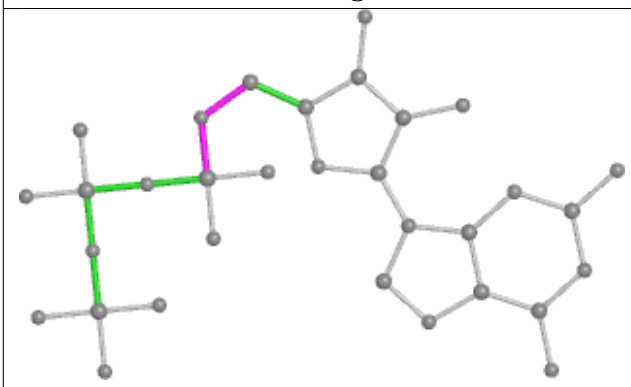

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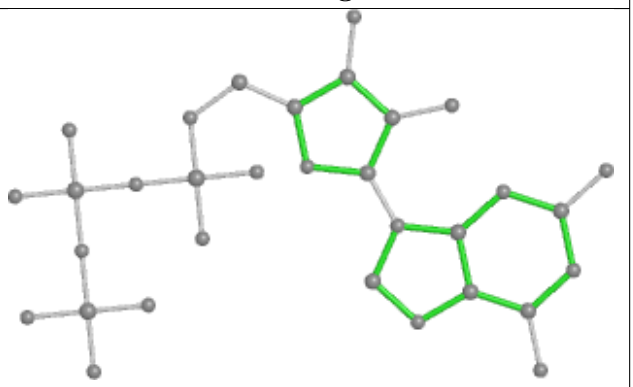

Rings

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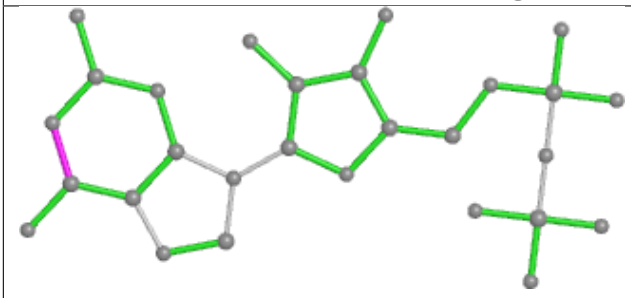

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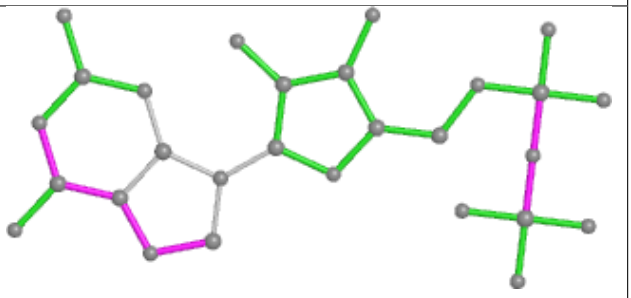

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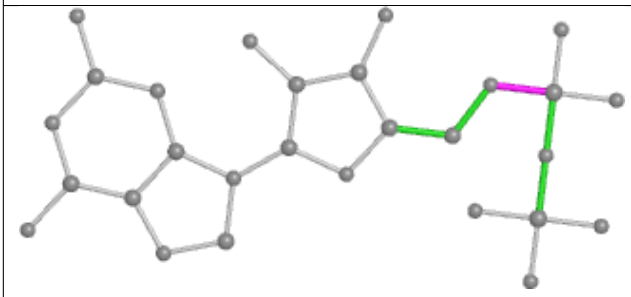

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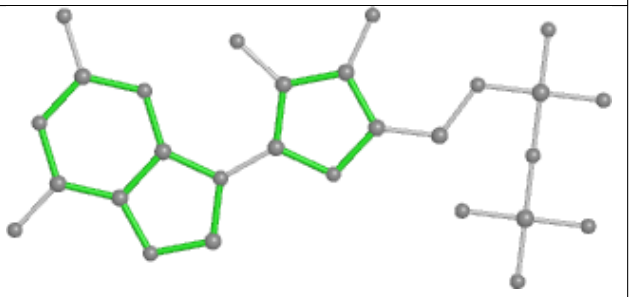

Rings

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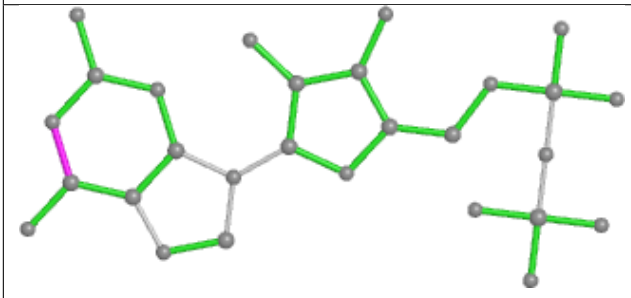

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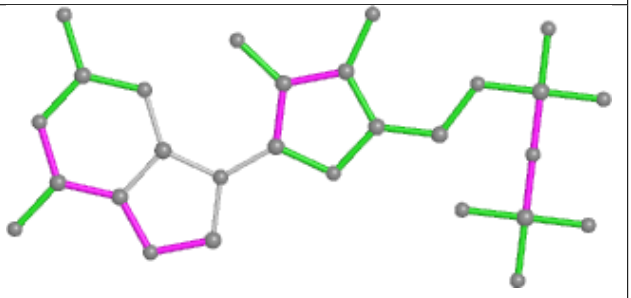

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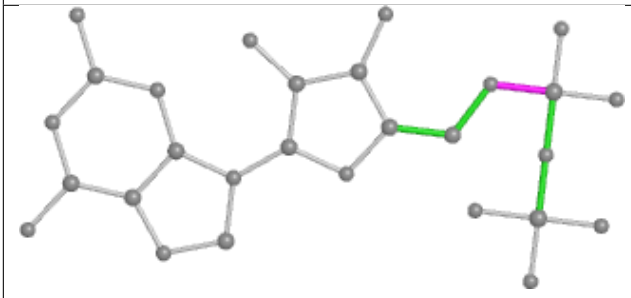

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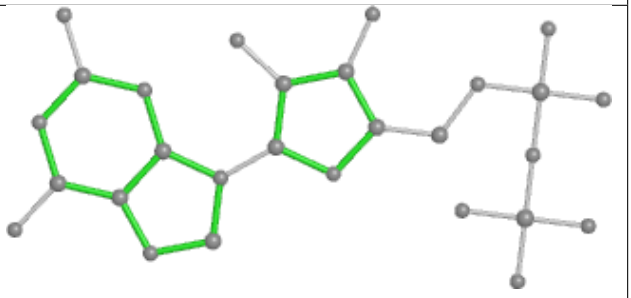

Rings

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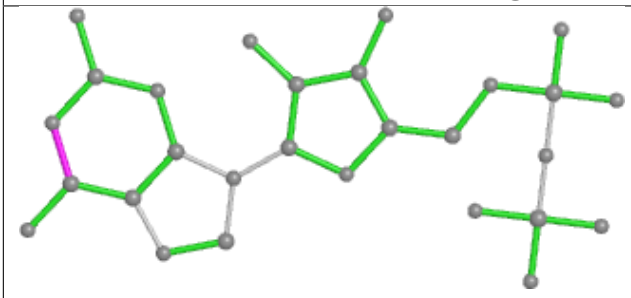
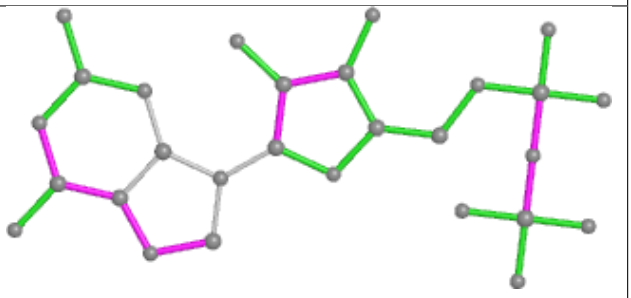
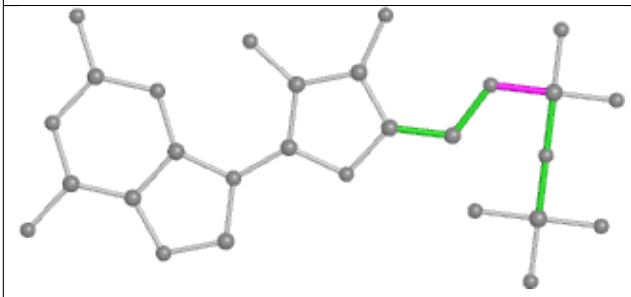
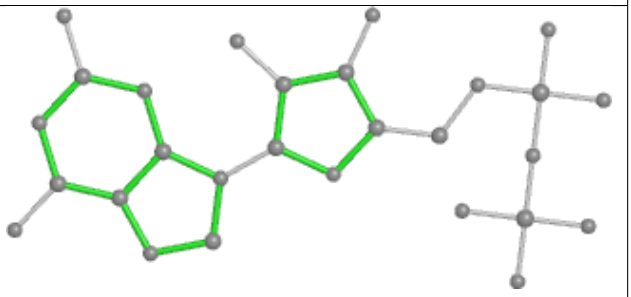
	
Bond lengths	Bond angles
	
Torsions	Rings

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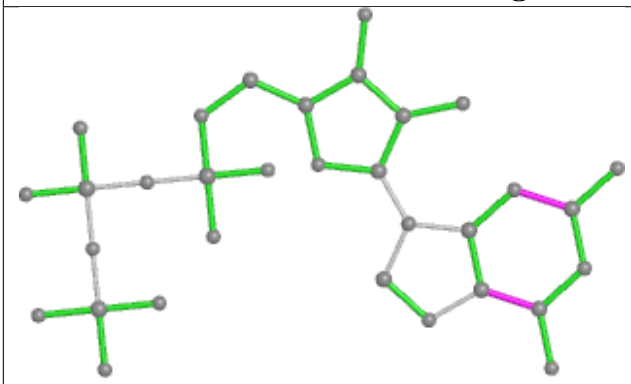
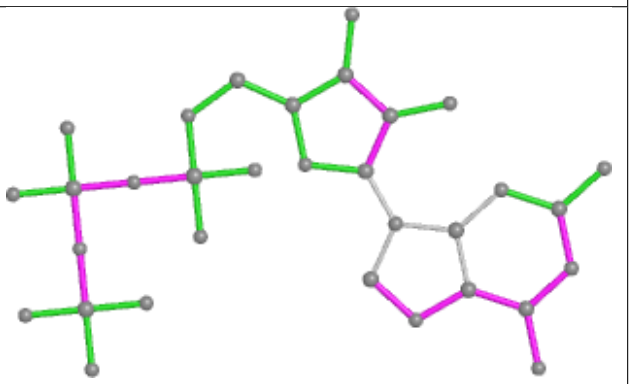
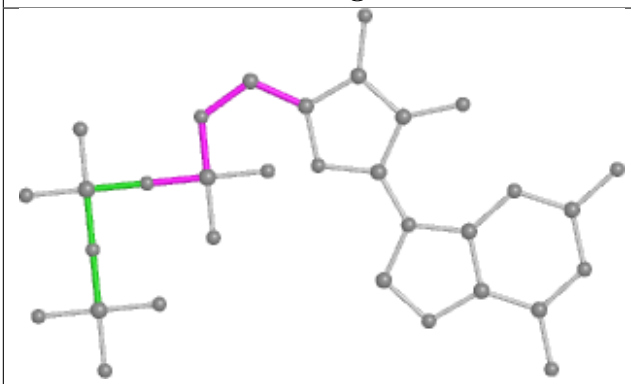
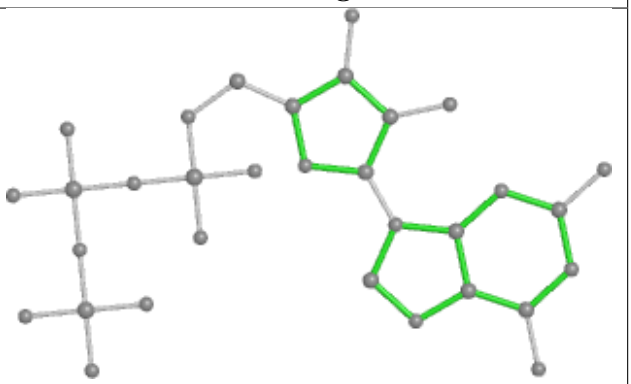
	
Bond lengths	Bond angles
	
Torsions	Rings

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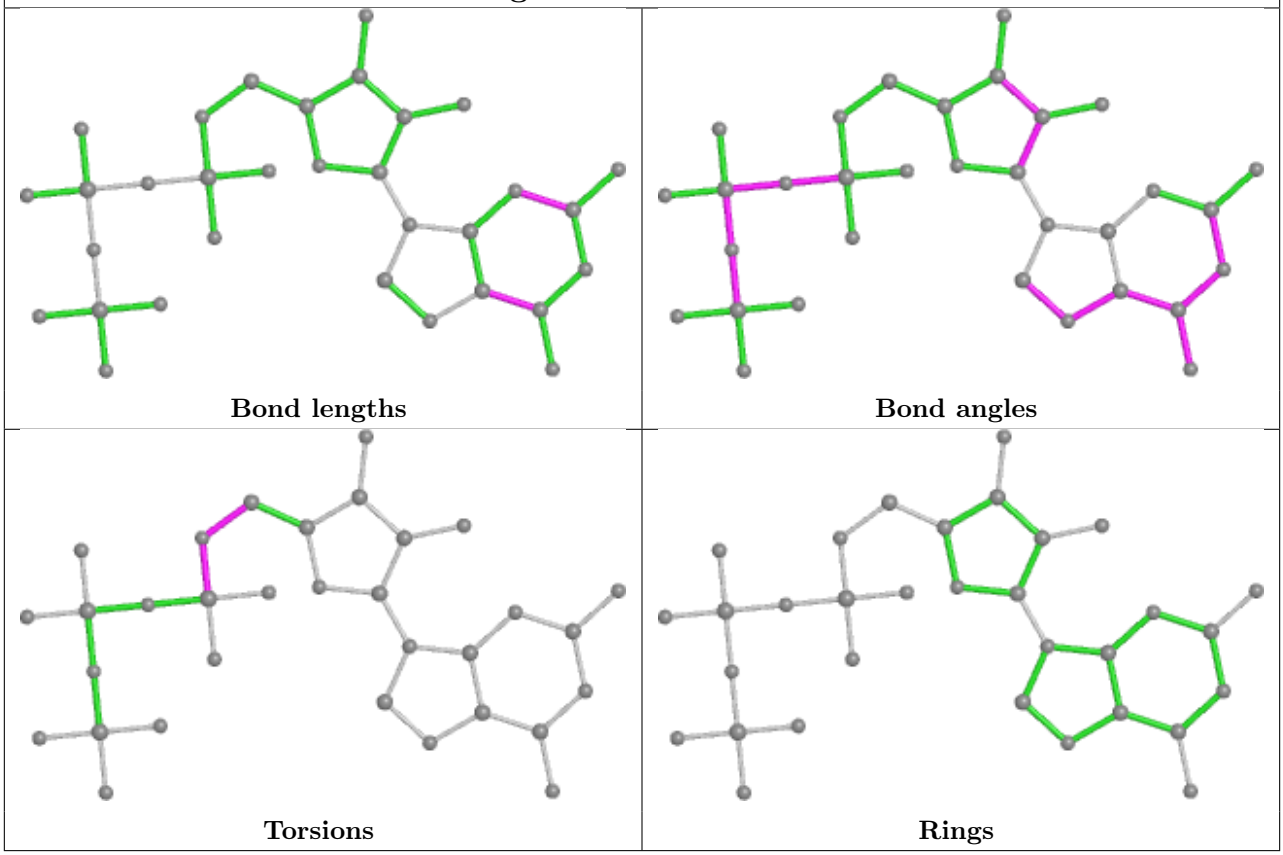

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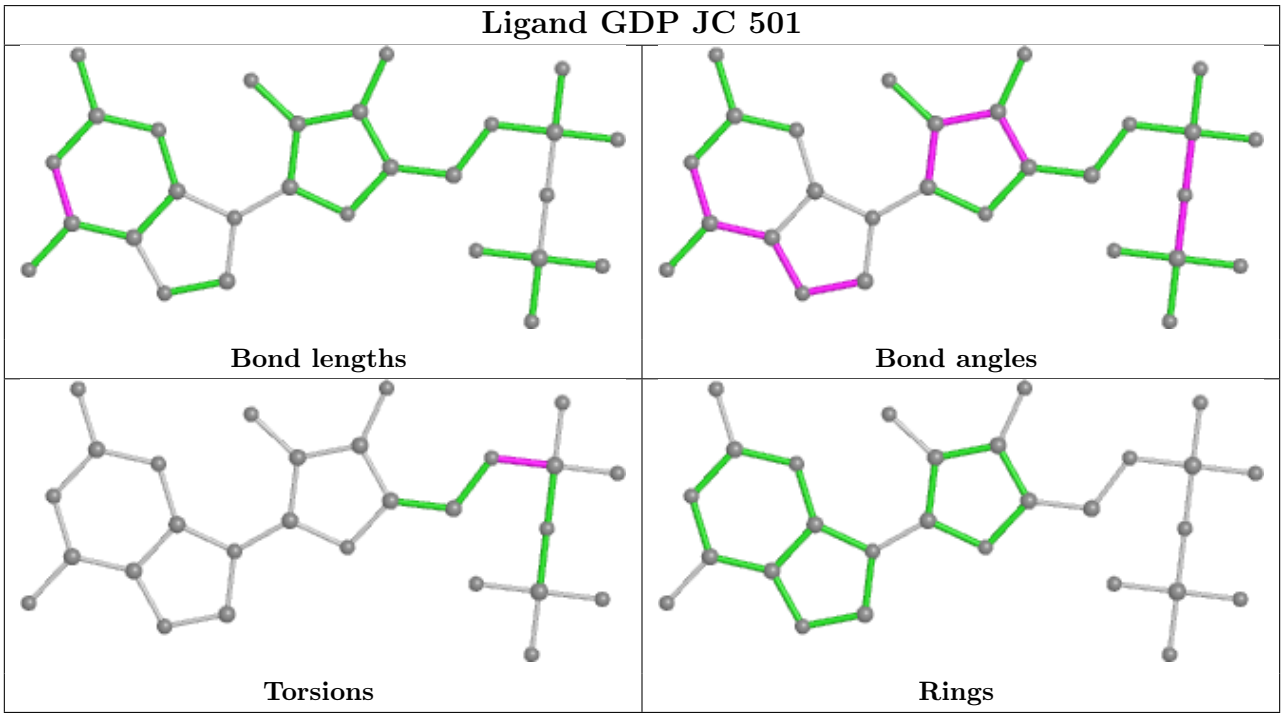

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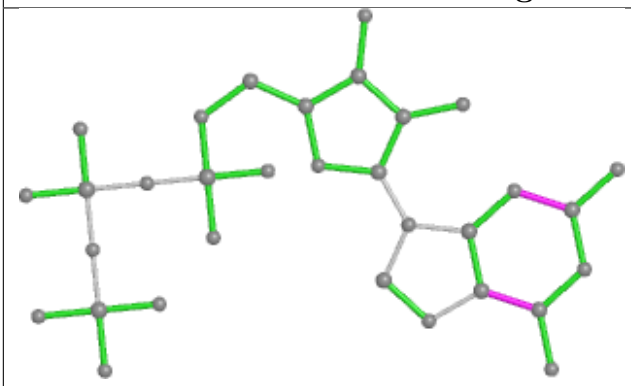
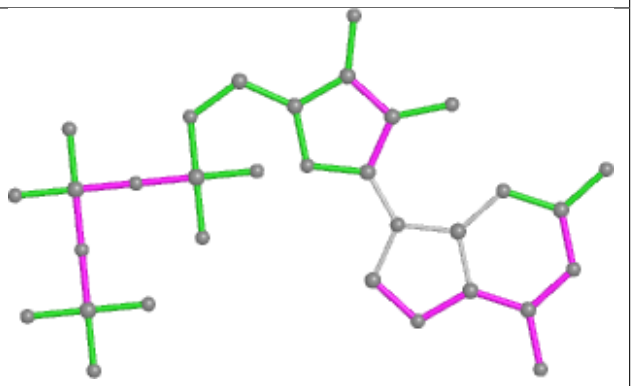


Bond lengths



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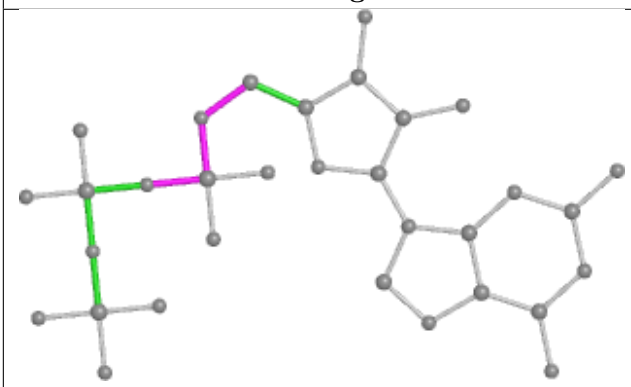
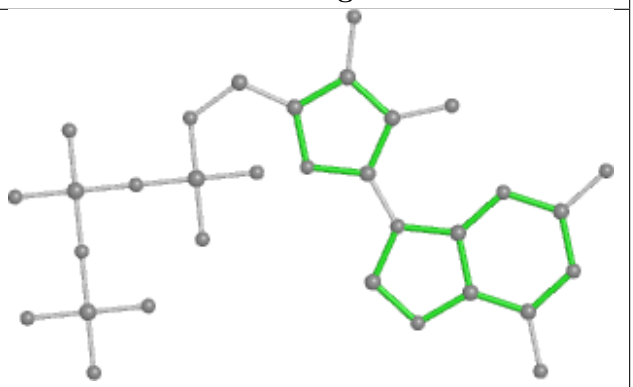
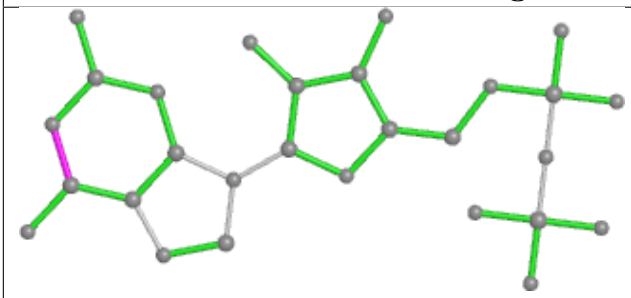


Torsions



Rings

Ligand GDP ED 501



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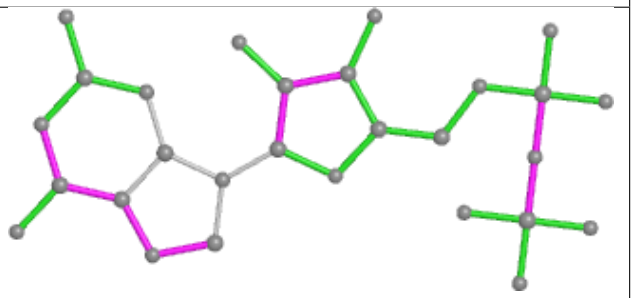

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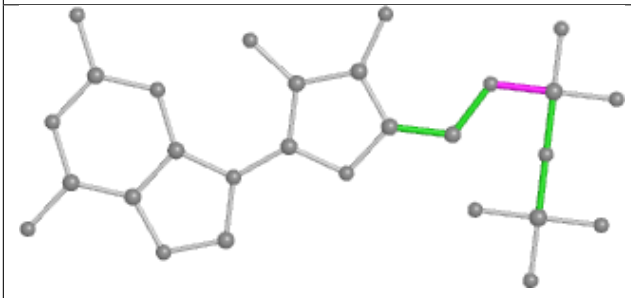

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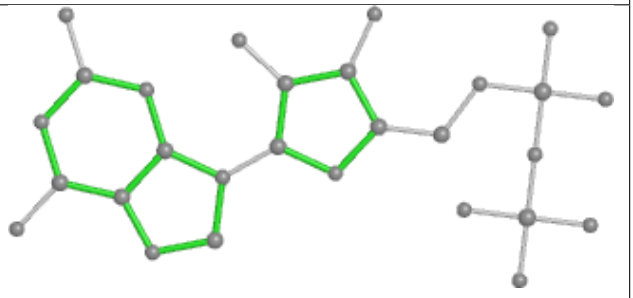

Rings

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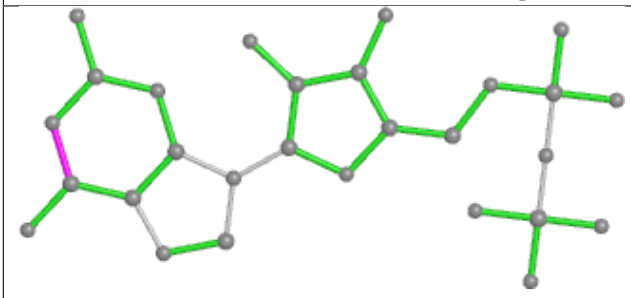

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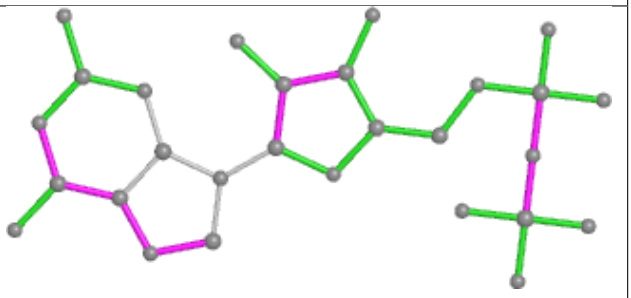

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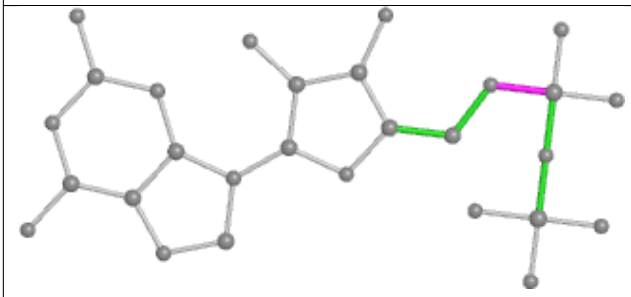

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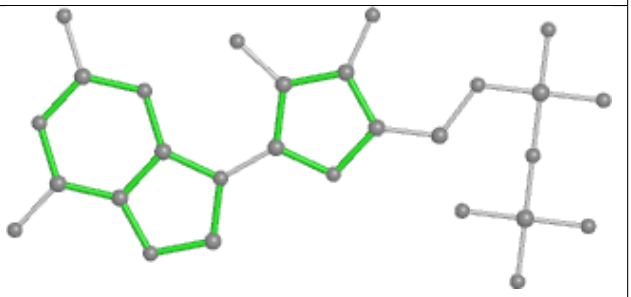
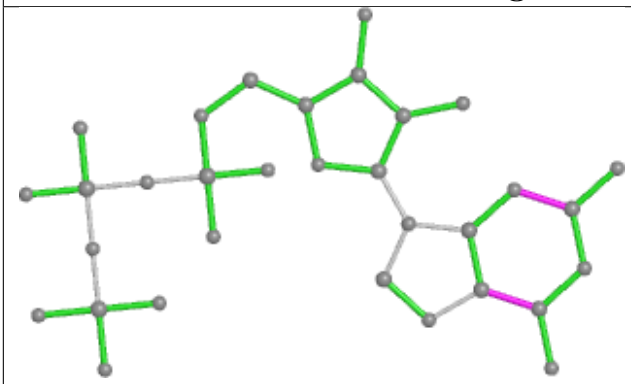


Rings

Ligand GTP QK 501



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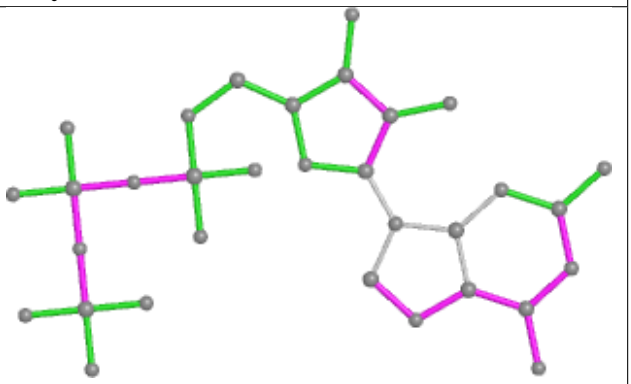

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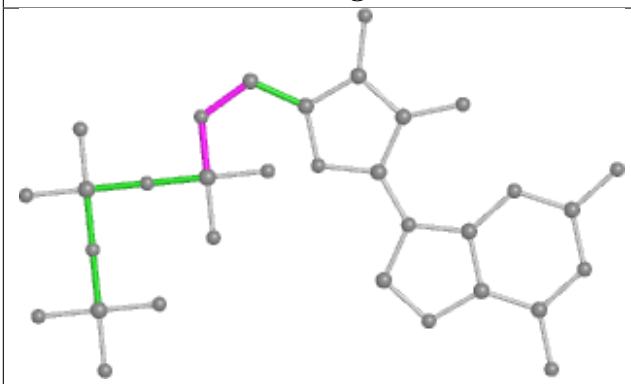

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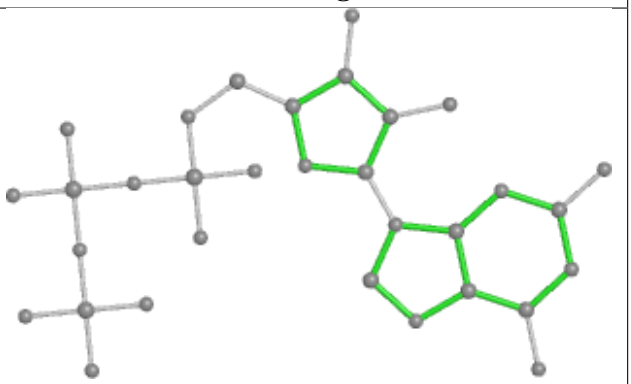
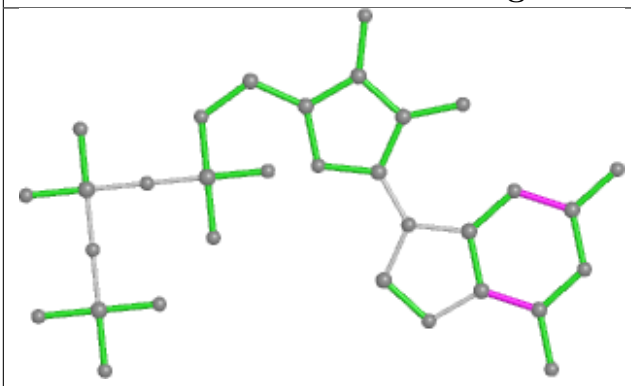


Rings

Ligand GTP GK 501



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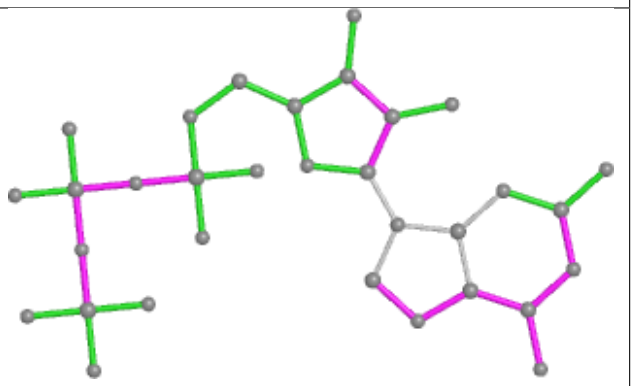

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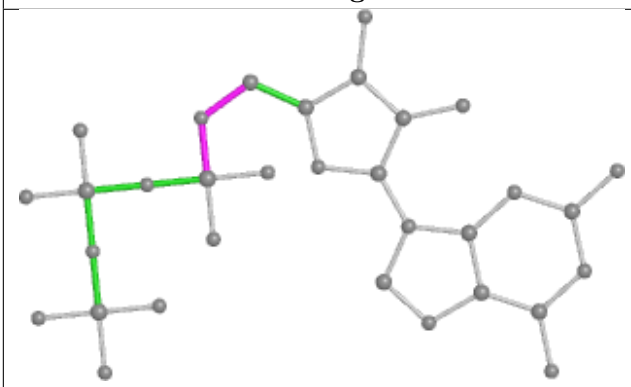

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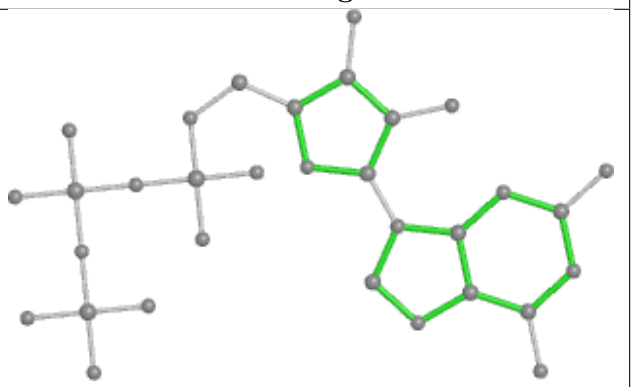
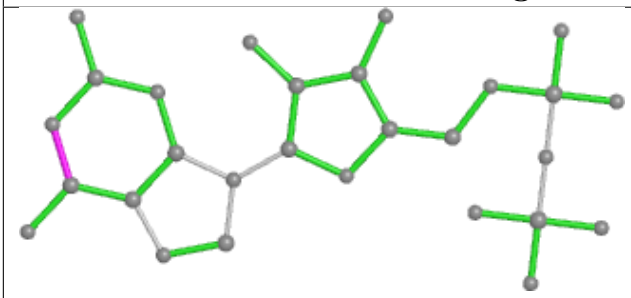


Rings

Ligand GDP LF 501



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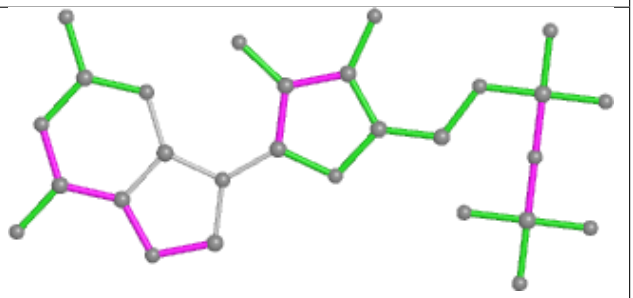

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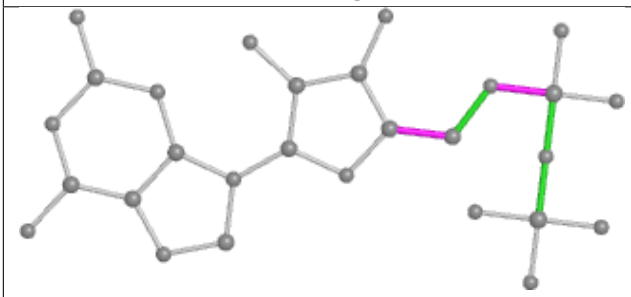

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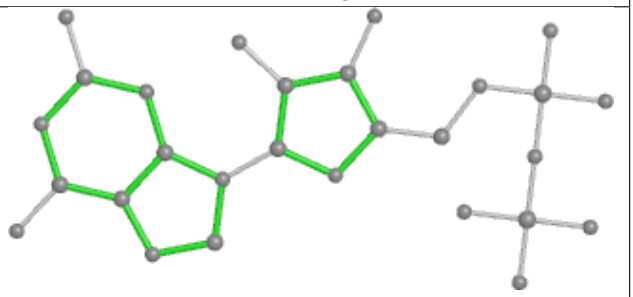

Rings

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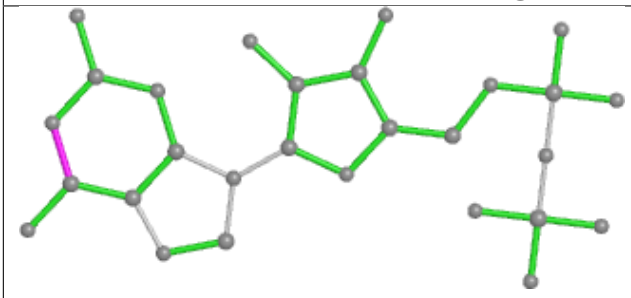

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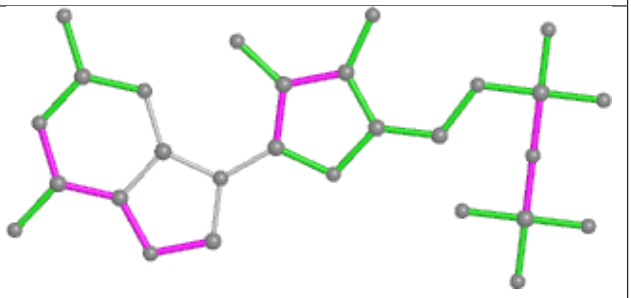

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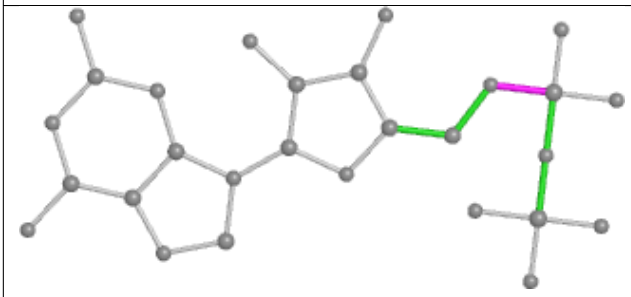

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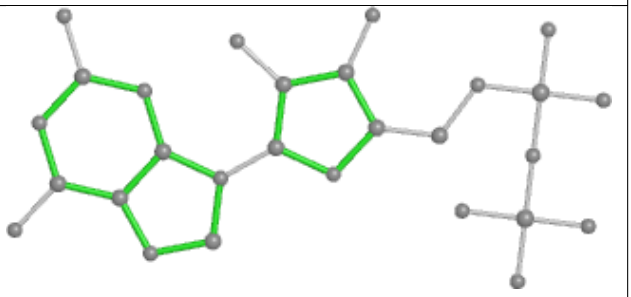

Rings

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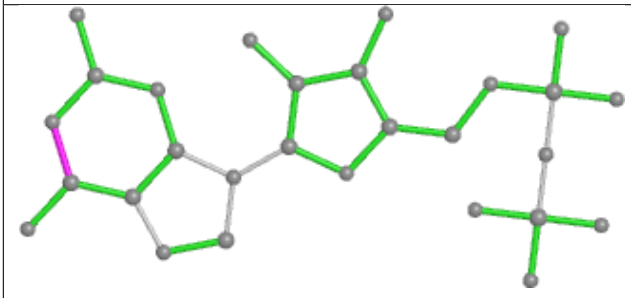

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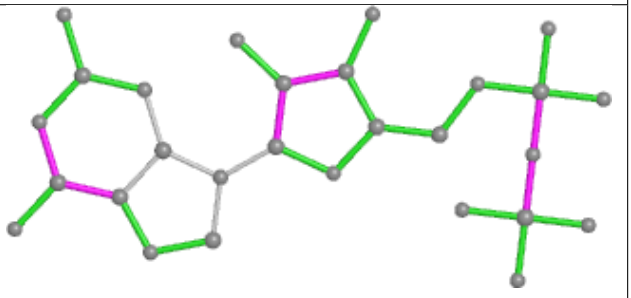

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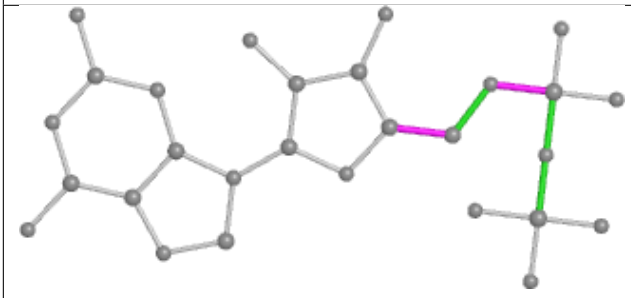

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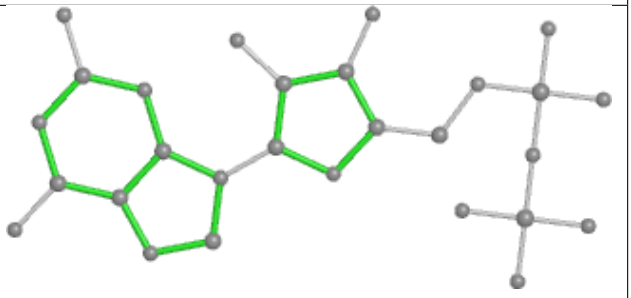

Rings

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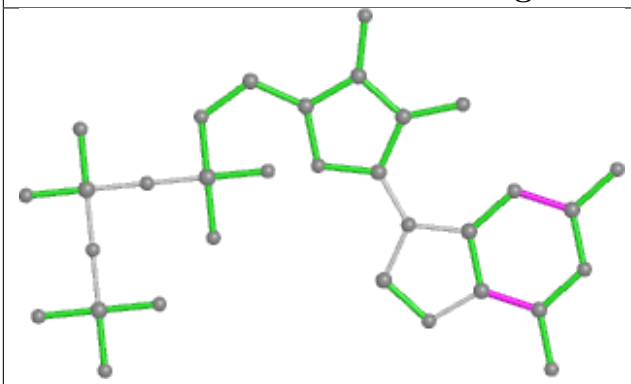

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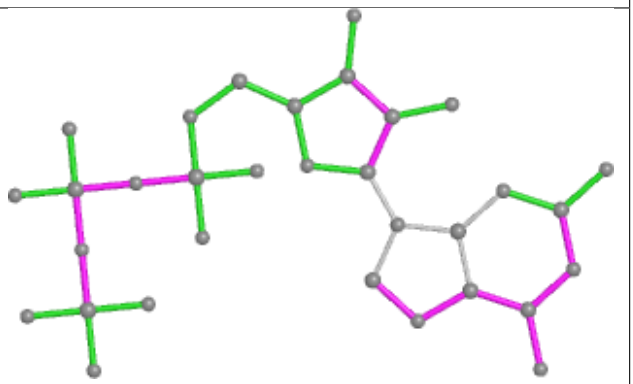

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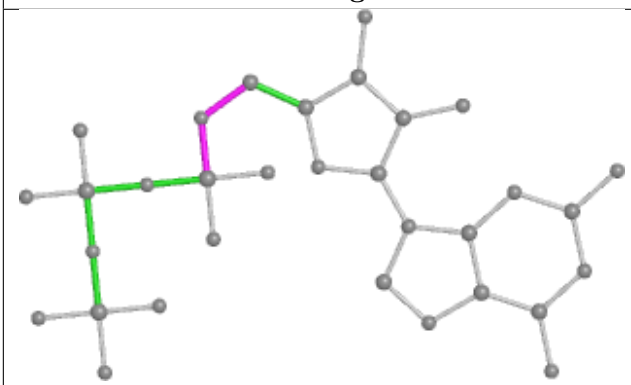

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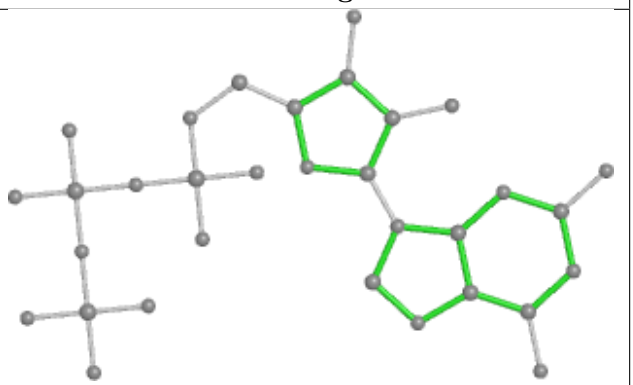

Rings

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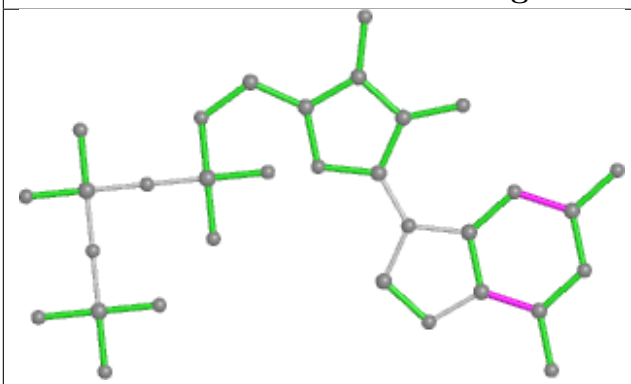

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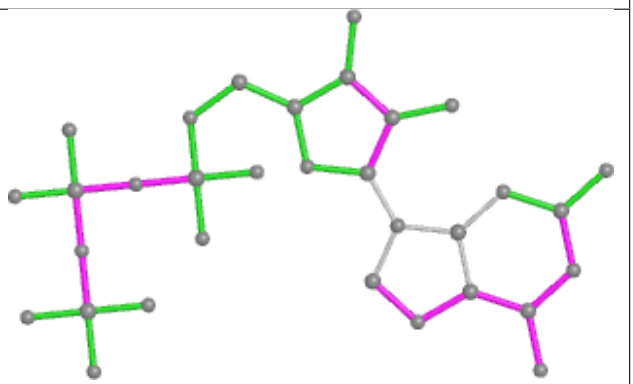

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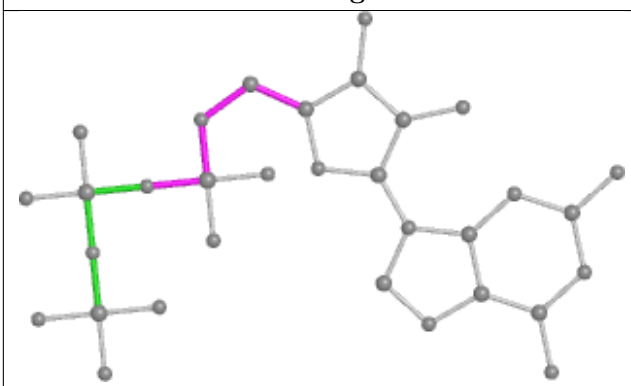

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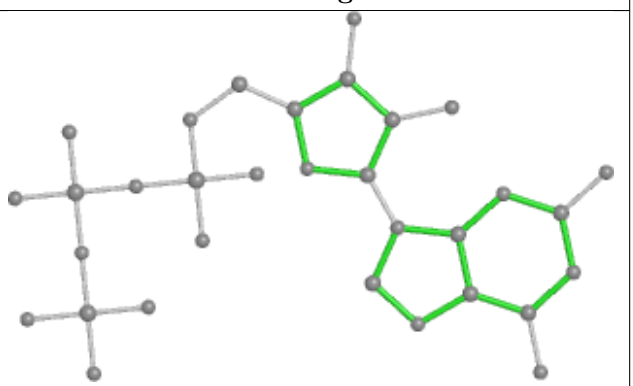

Rings

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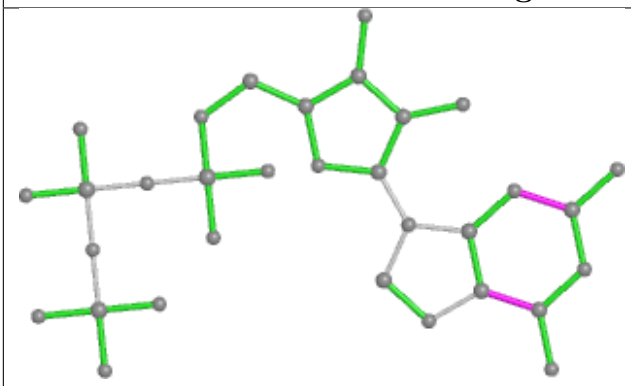

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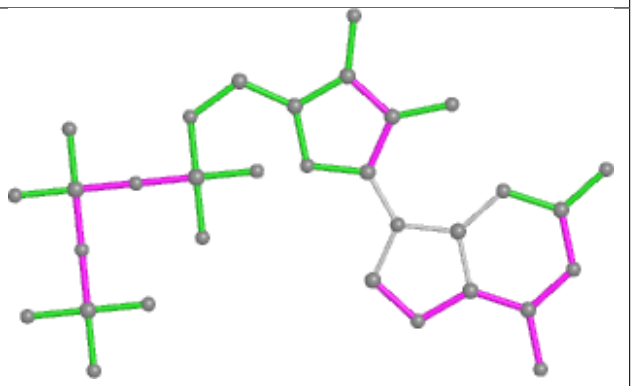

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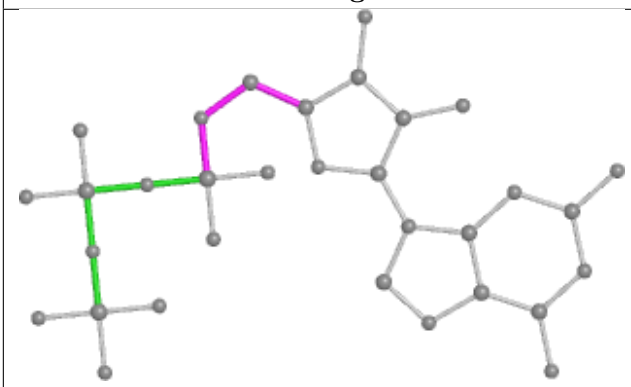

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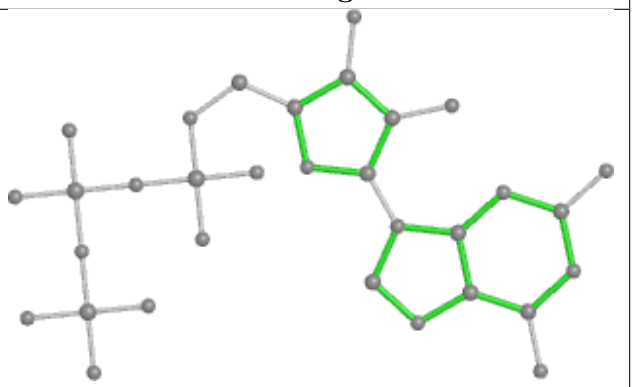

Rings

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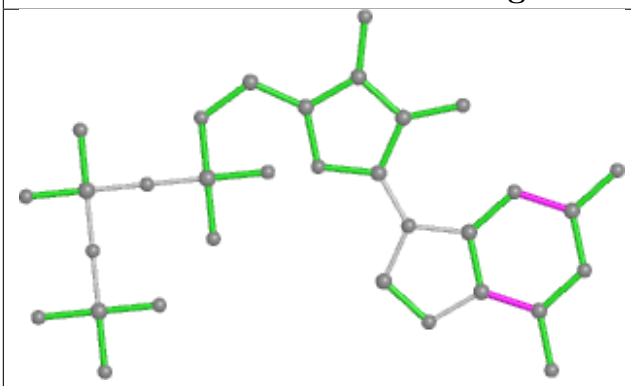

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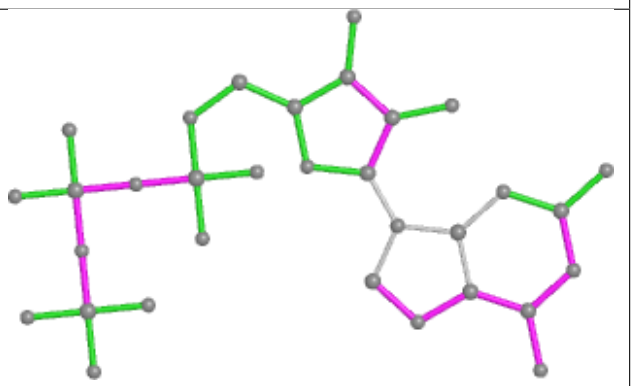

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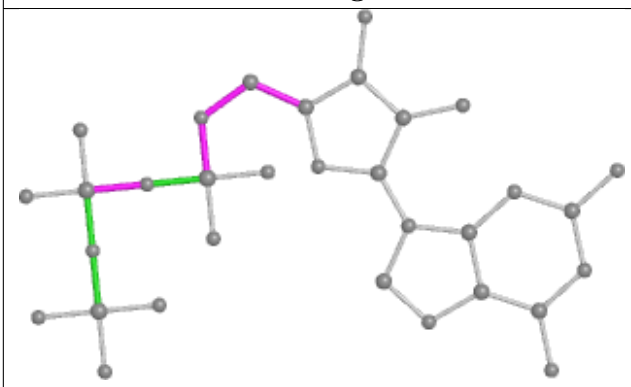

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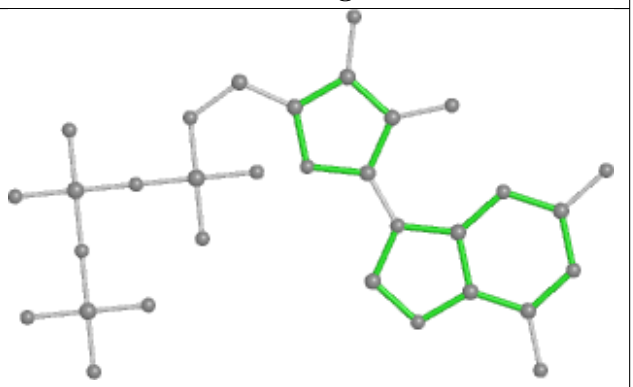

Rings

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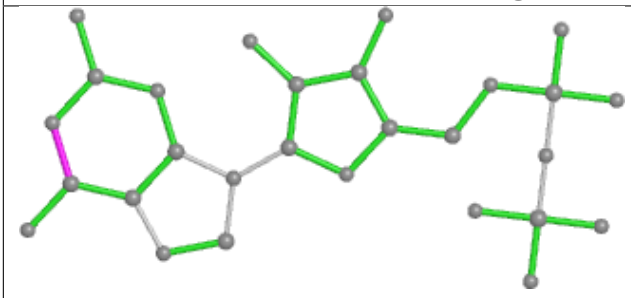

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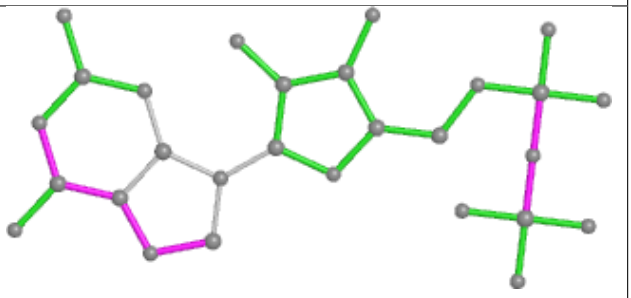

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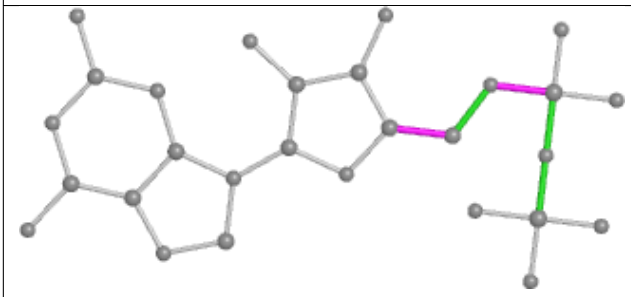

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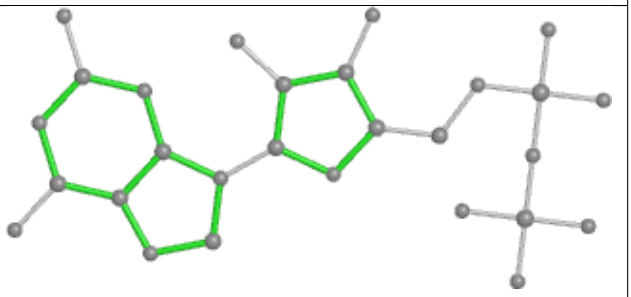
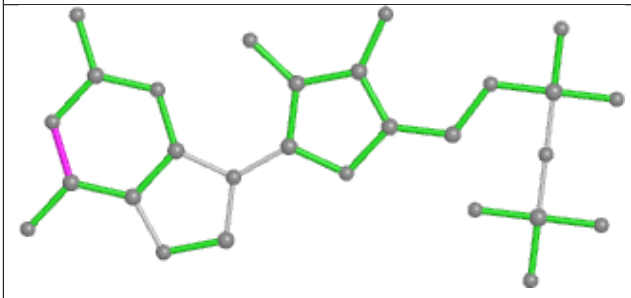


Rings

Ligand GDP TH 501



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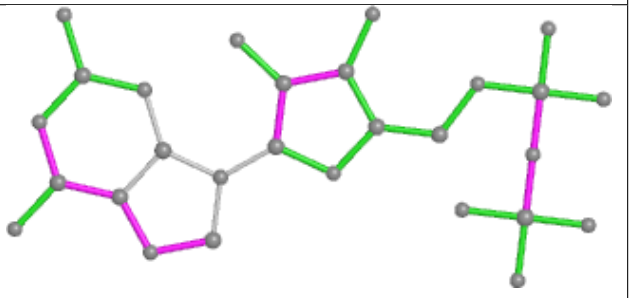

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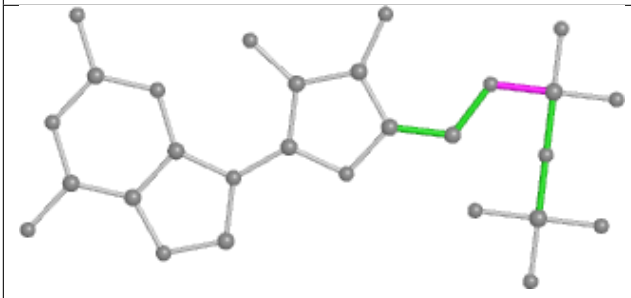

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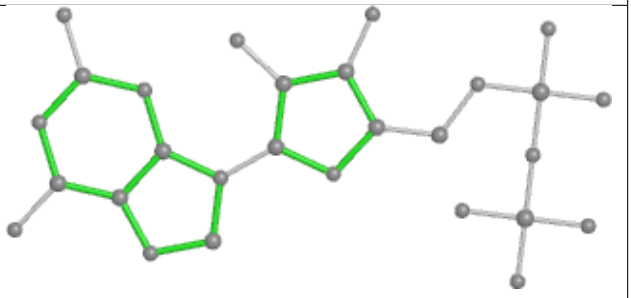
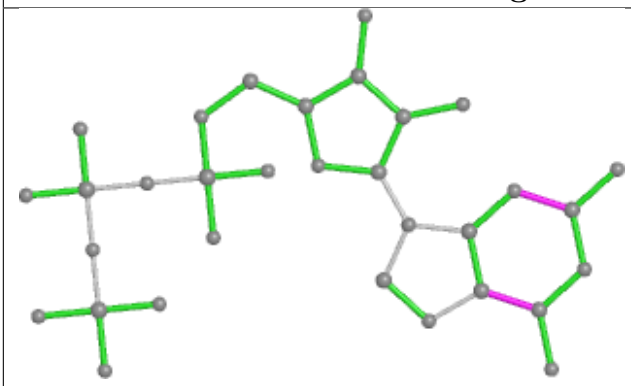


Rings

Ligand GTP KE 501



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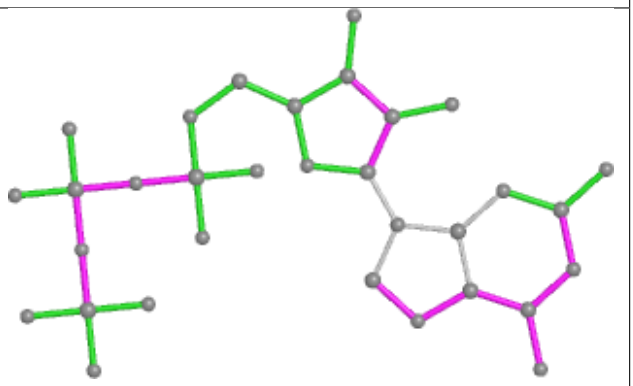

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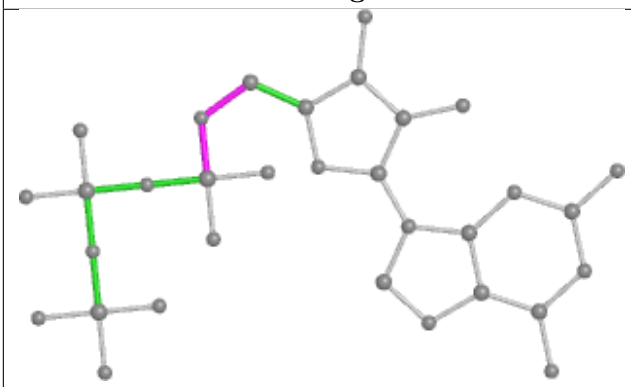
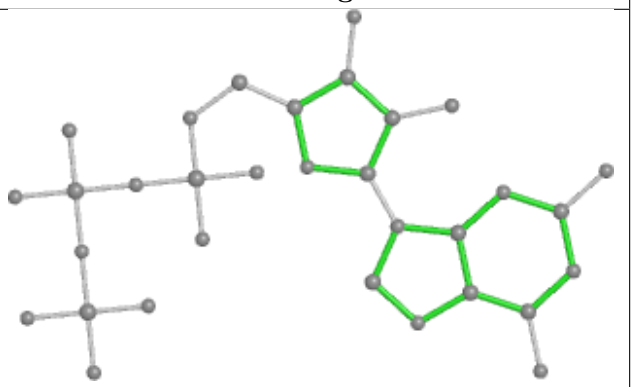
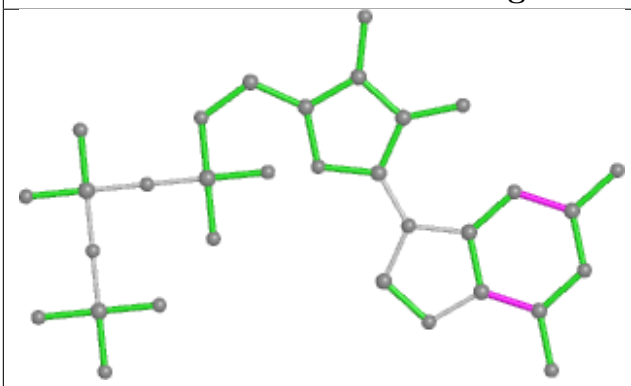


Torsions



Rings

Ligand GTP UK 501



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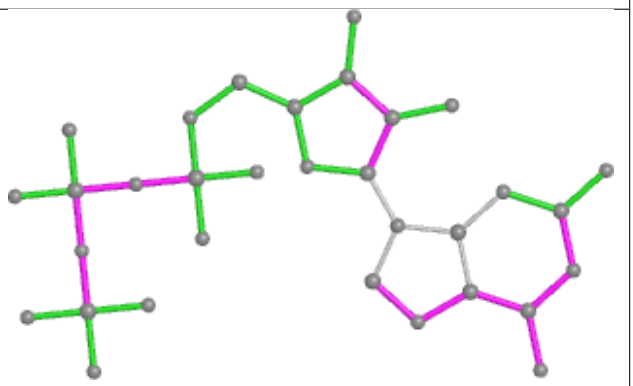

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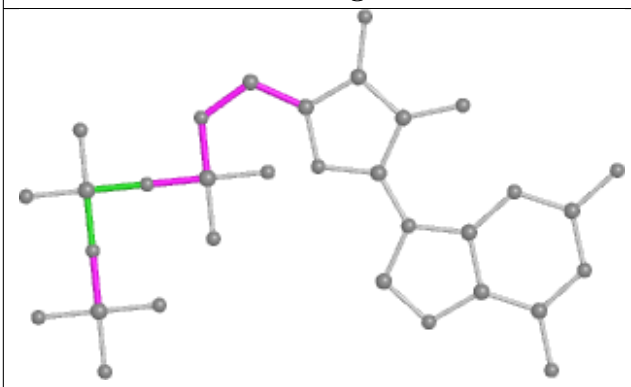

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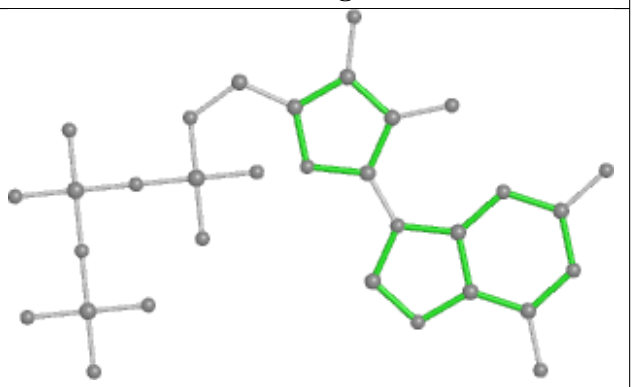

Rings

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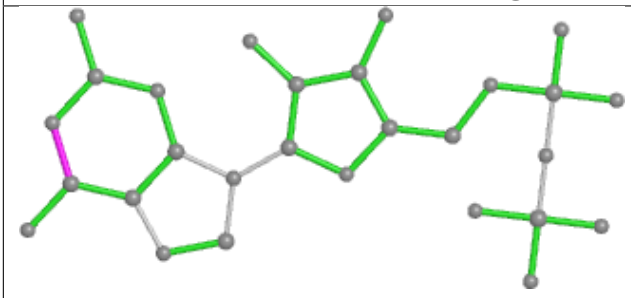

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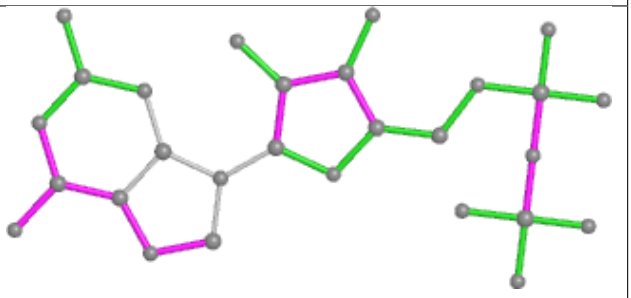

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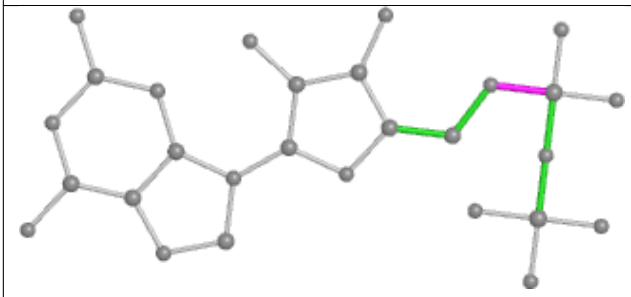

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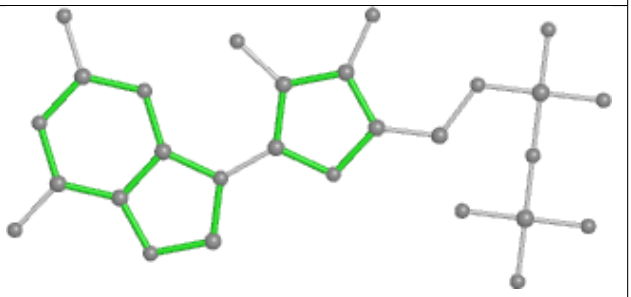

Rings

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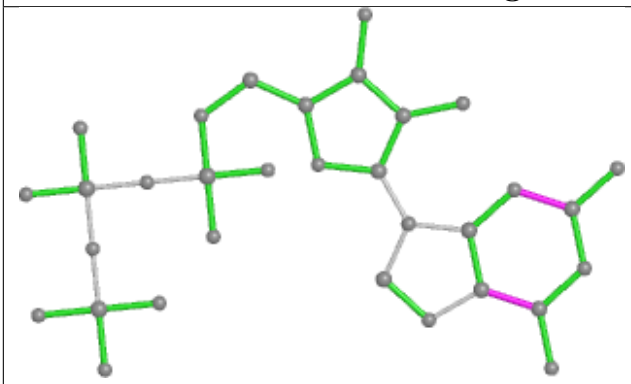

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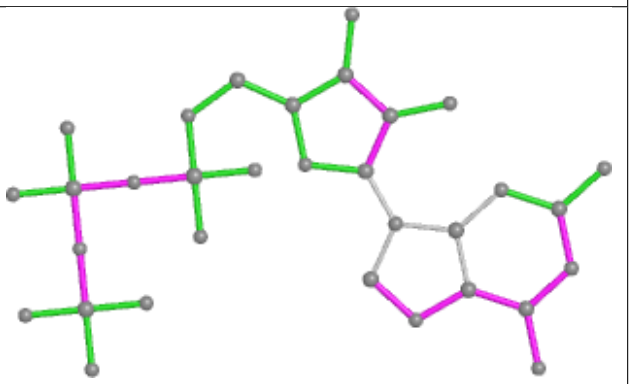

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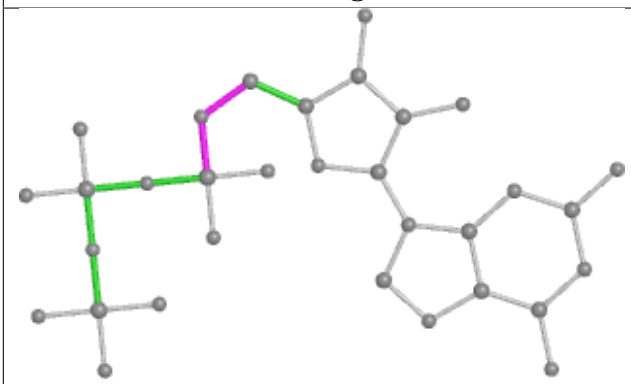

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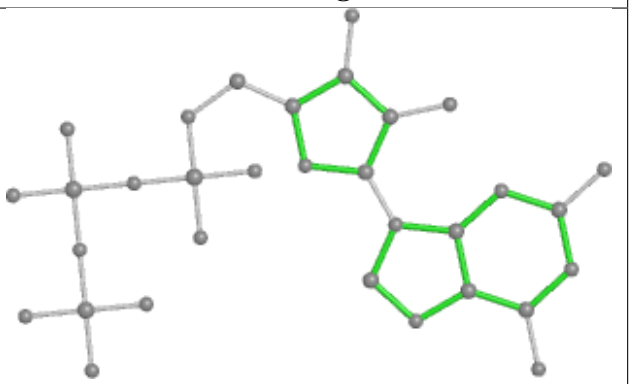
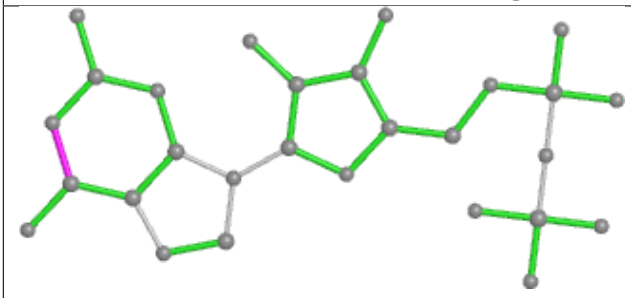


Rings

Ligand GDP QD 501



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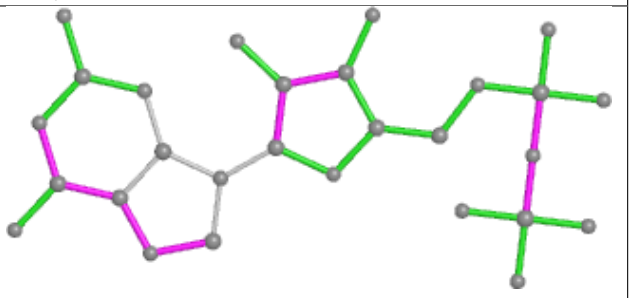

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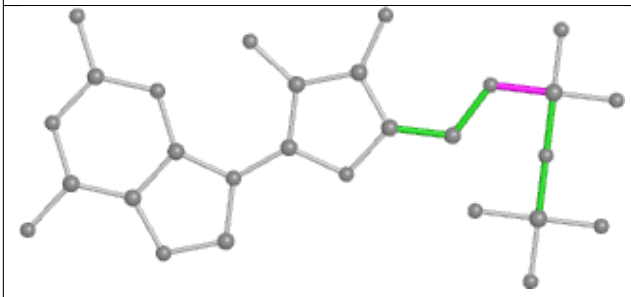

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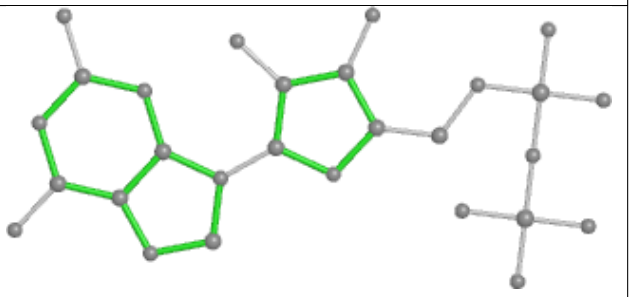
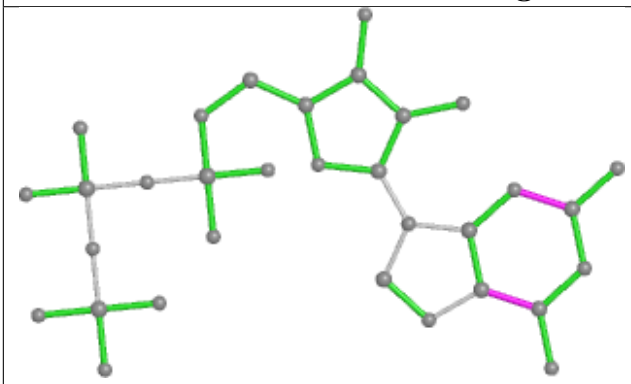


Rings

Ligand GTP VI 501



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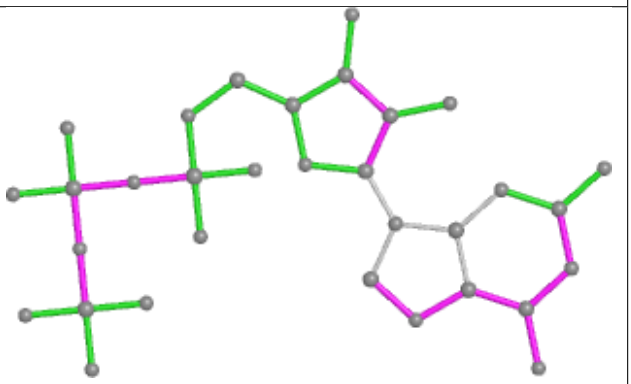

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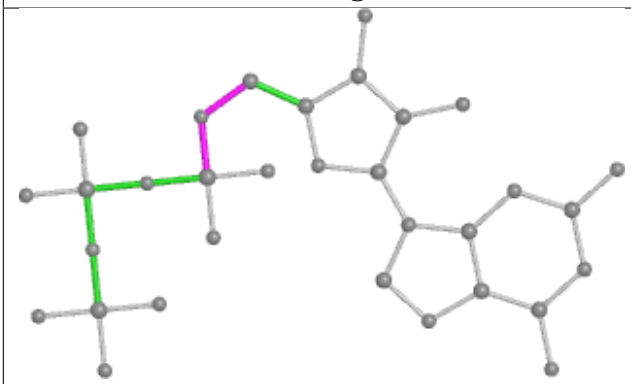

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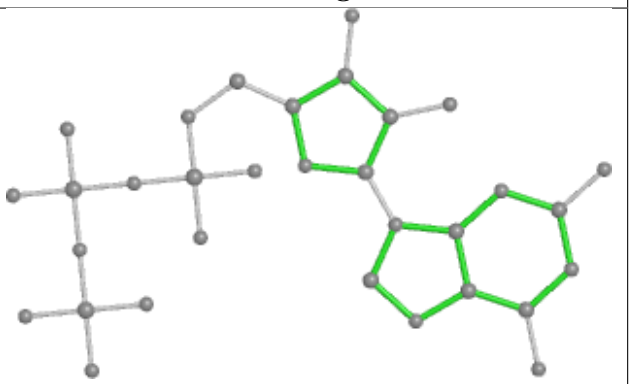
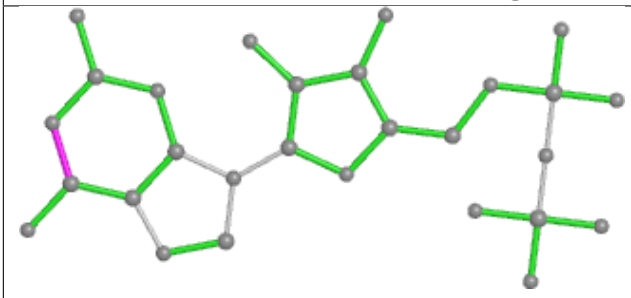


Rings

Ligand GDP HD 501



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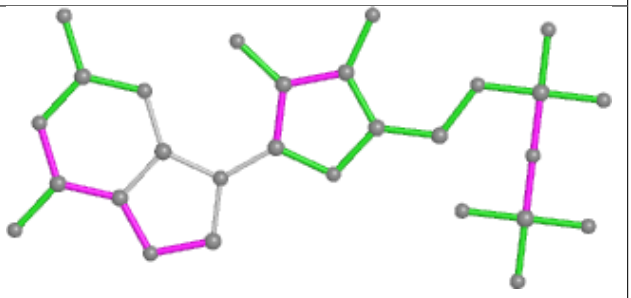

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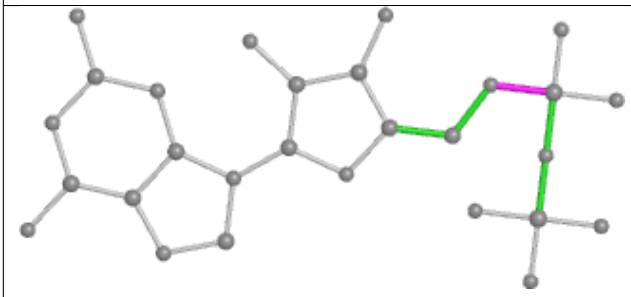

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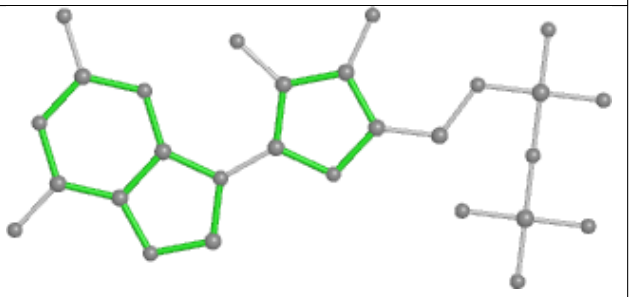
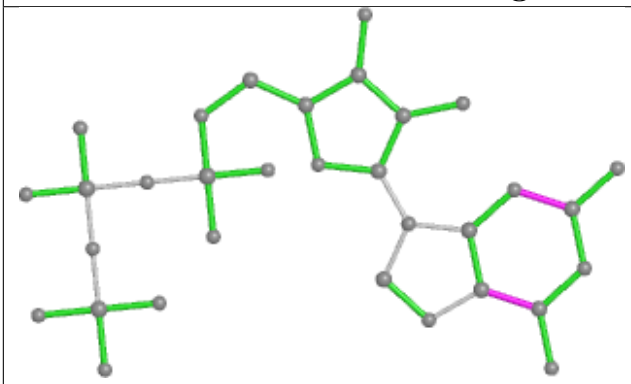


Rings

Ligand GTP LG 501



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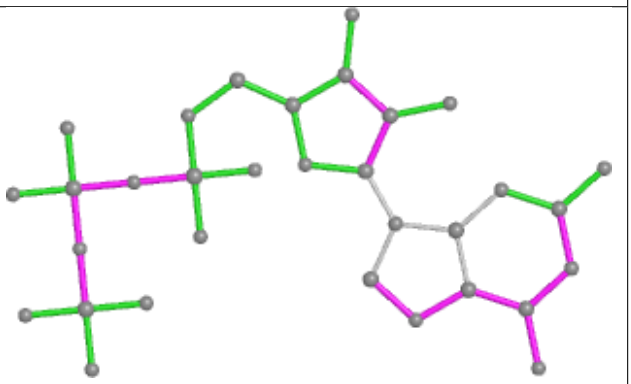

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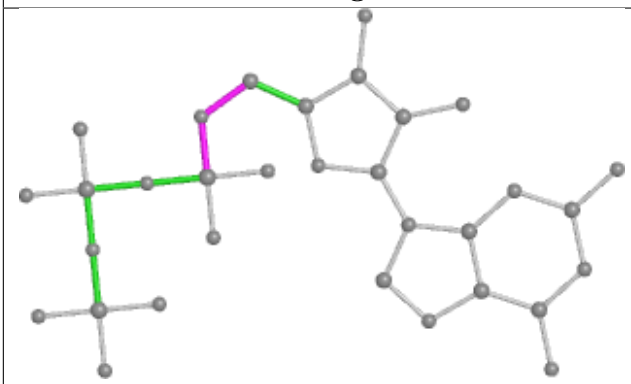

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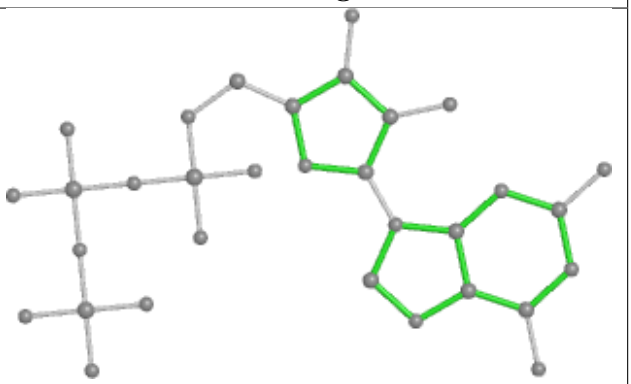
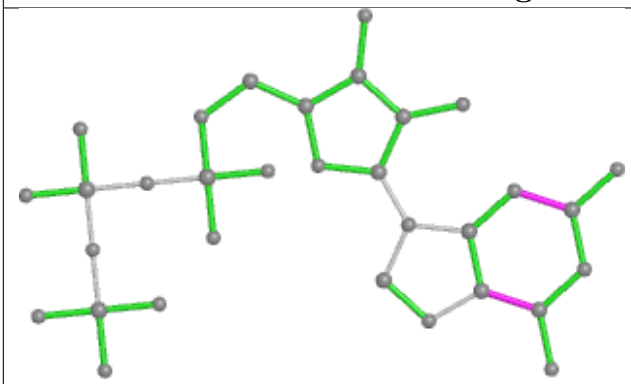


Rings

Ligand GTP KI 501



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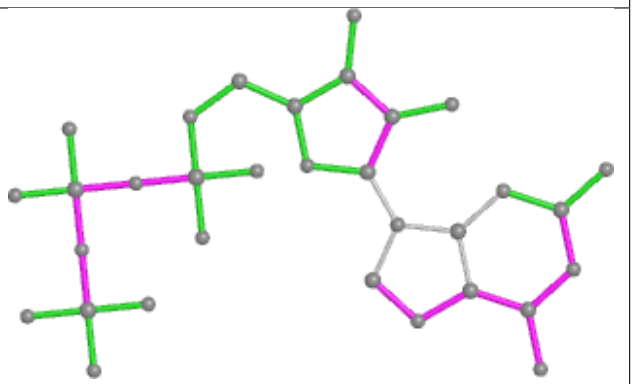

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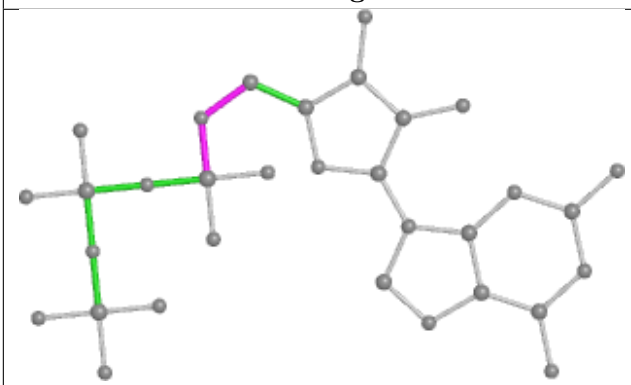

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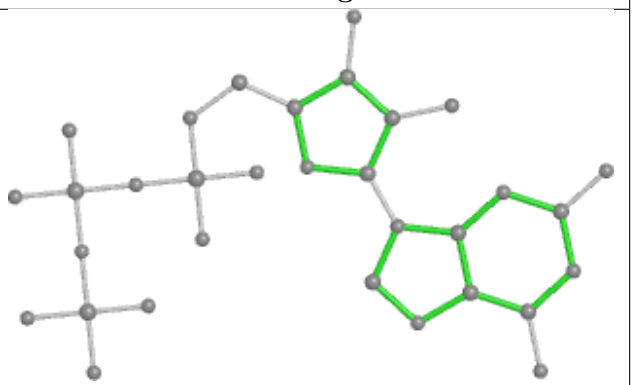

Rings

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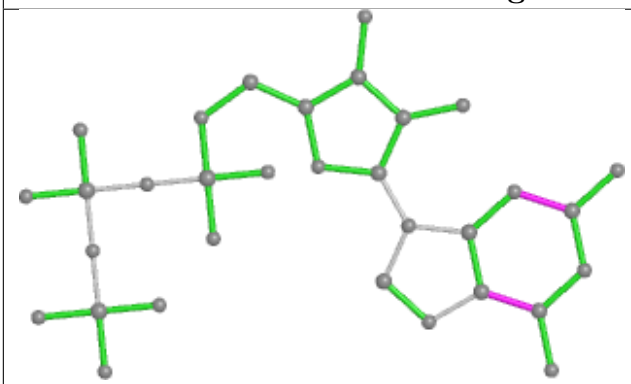

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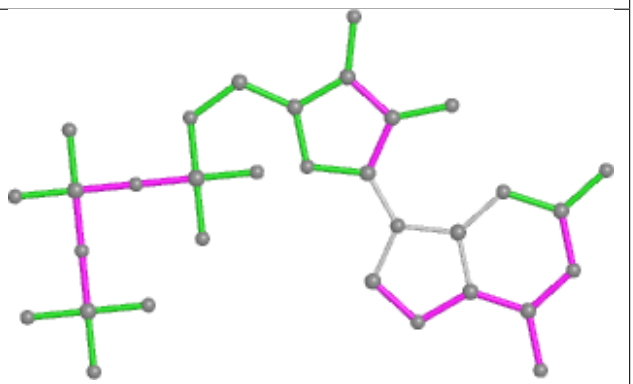

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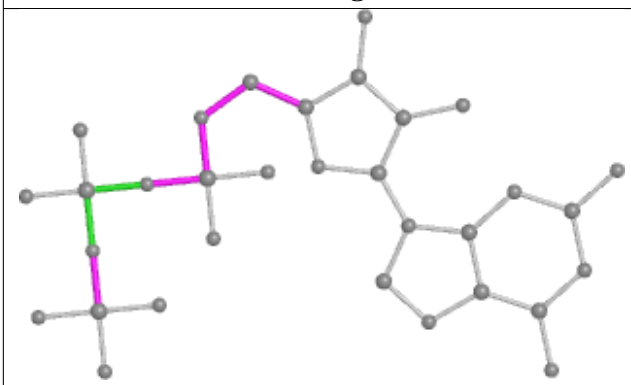

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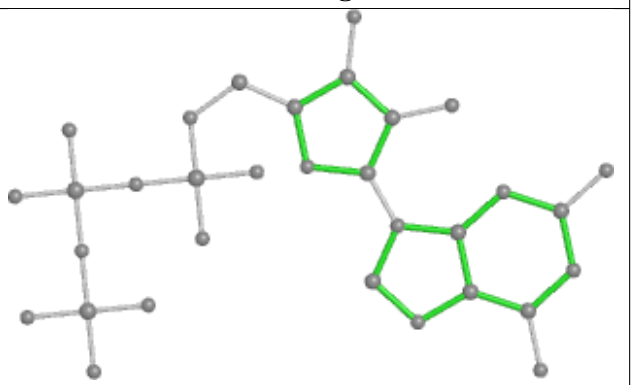

Rings

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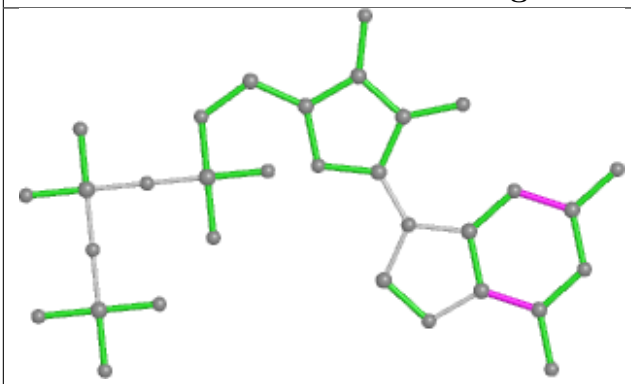

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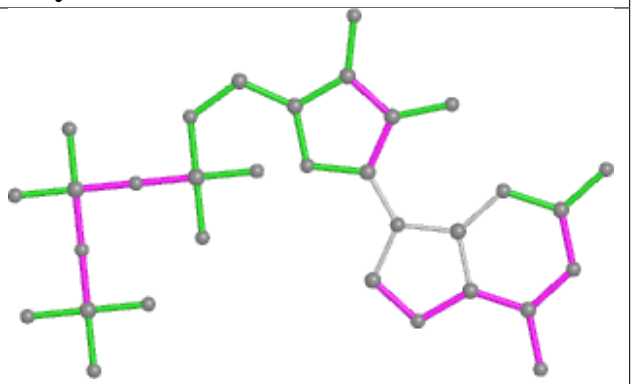

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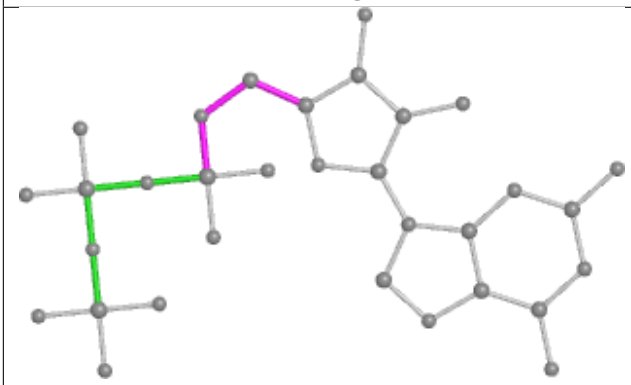

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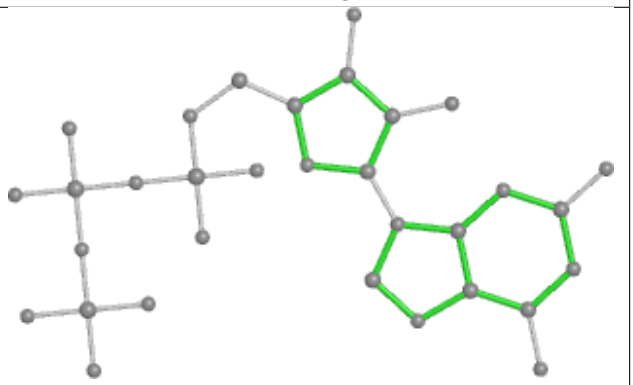
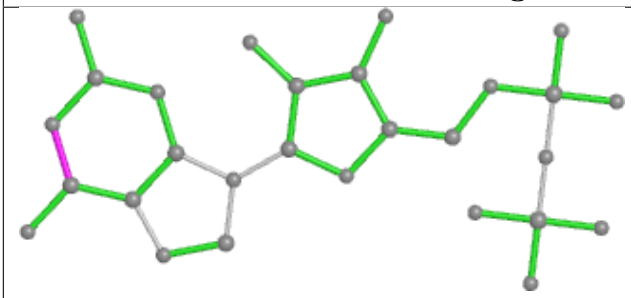


Rings

Ligand GDP GF 501



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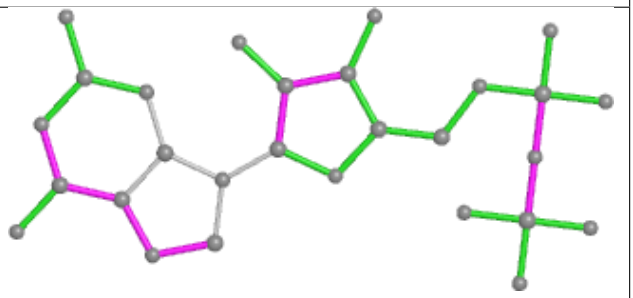

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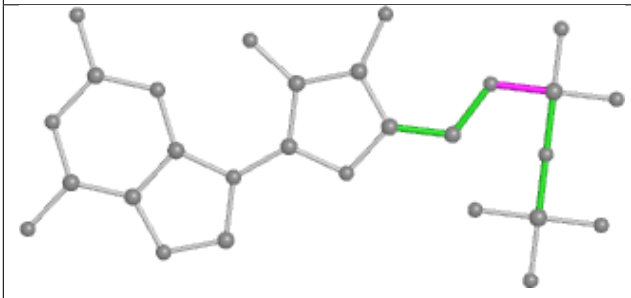

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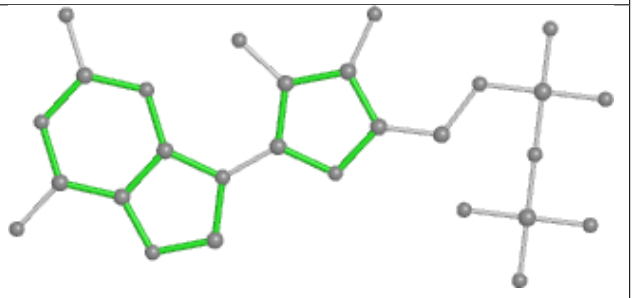
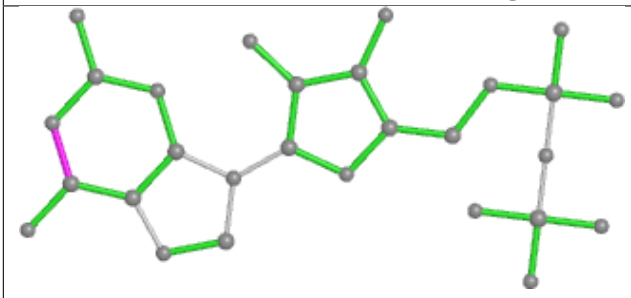


Rings

Ligand GDP QM 501



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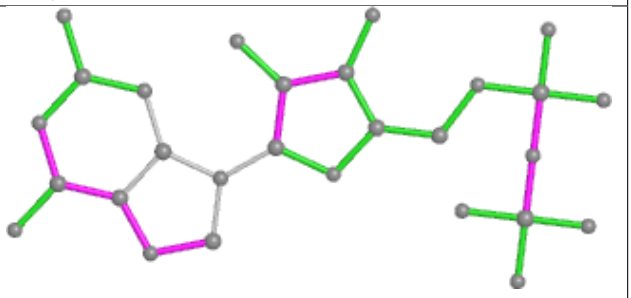

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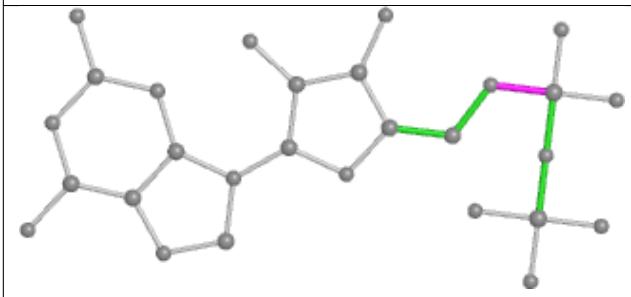

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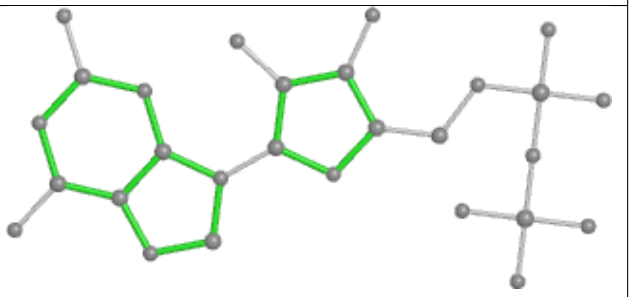
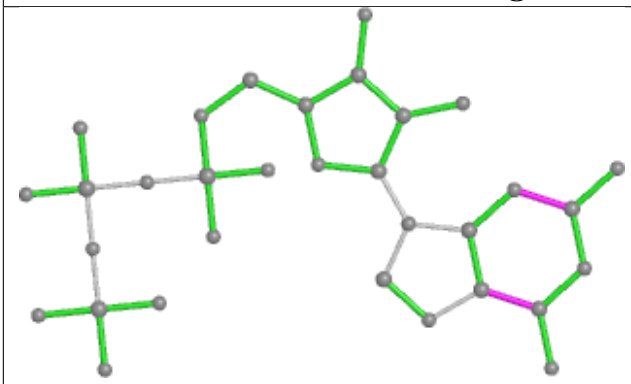


Rings

Ligand GTP VK 501



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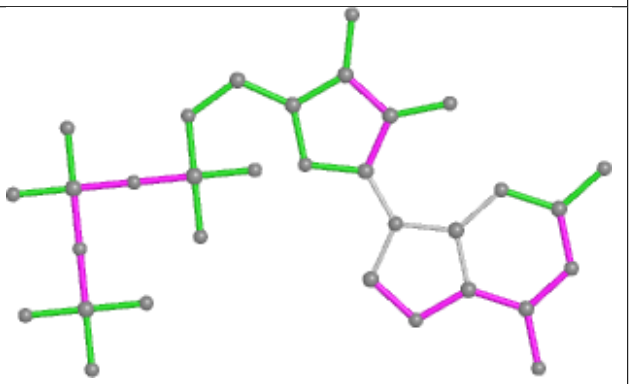

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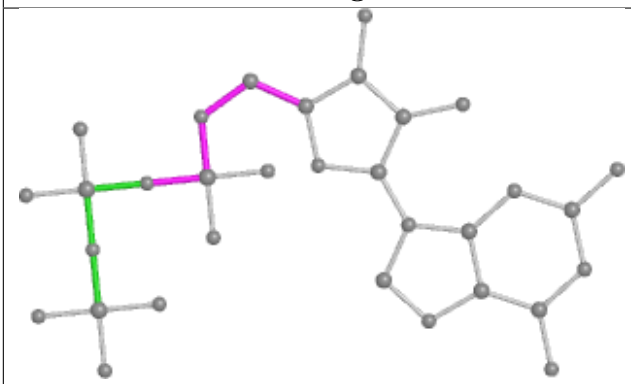

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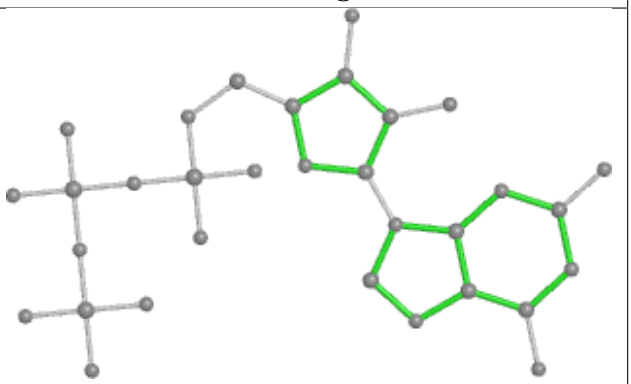
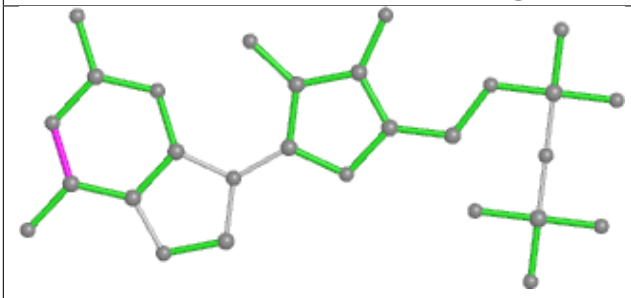


Rings

Ligand GDP AF 501



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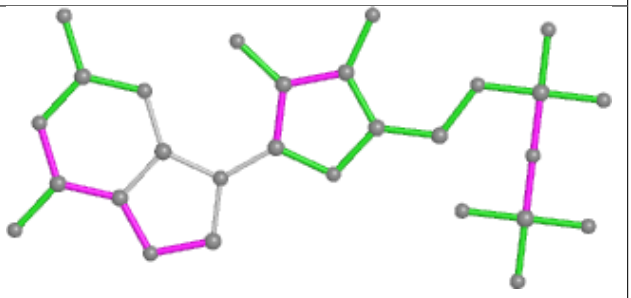

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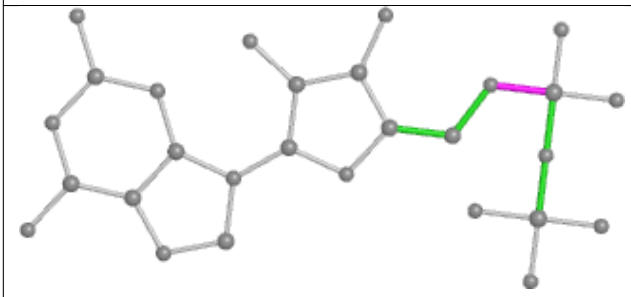

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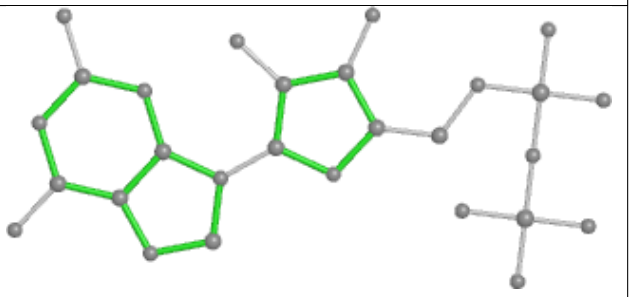
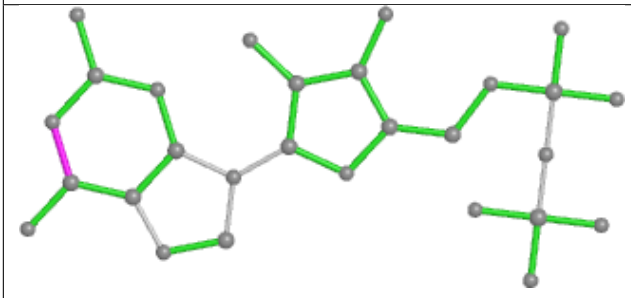
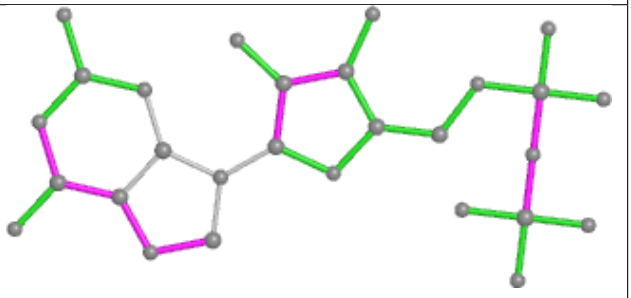


Rings

Ligand GDP AJ 501



Bond lengths



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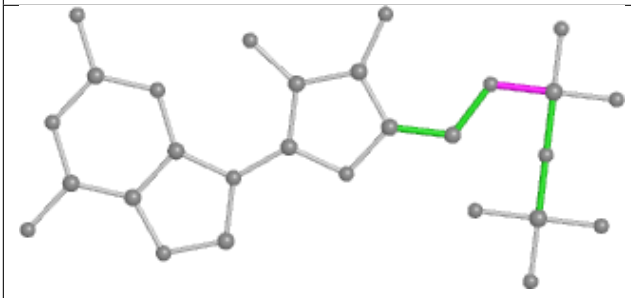

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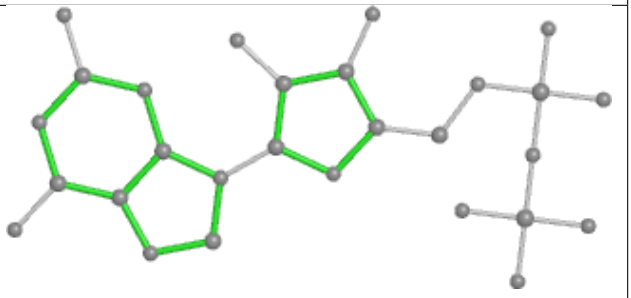
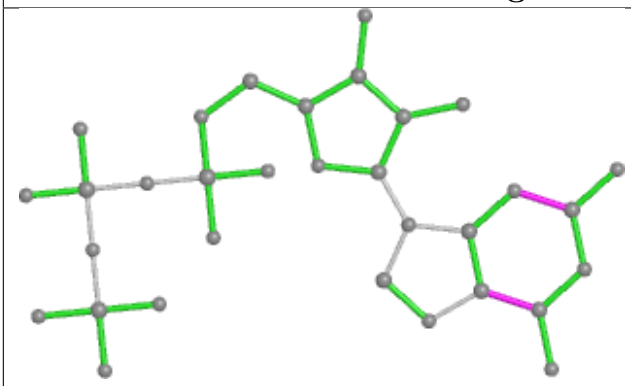


Rings

Ligand GTP DG 501



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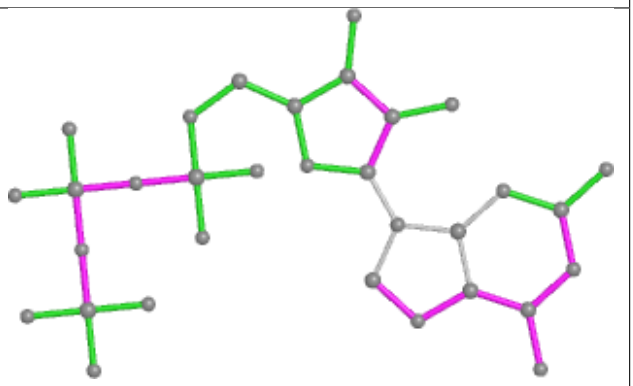

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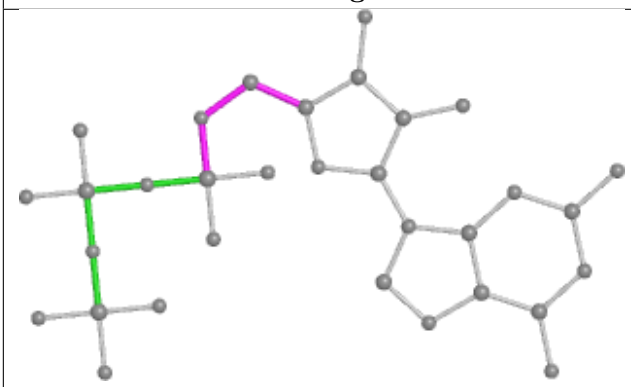

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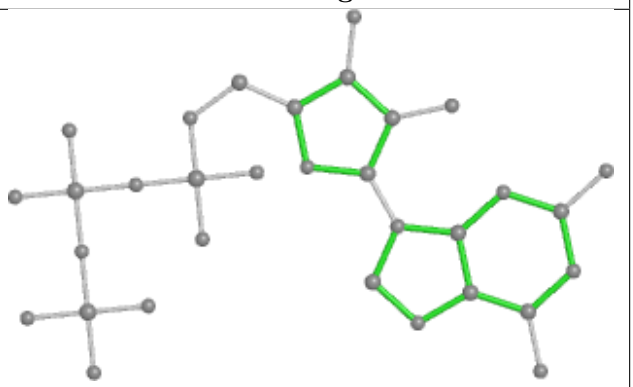
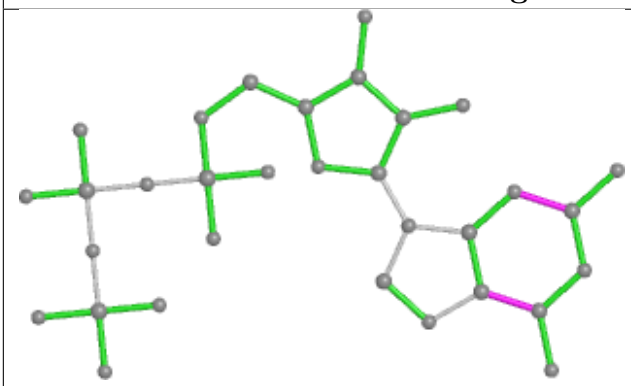


Rings

Ligand GTP OE 501



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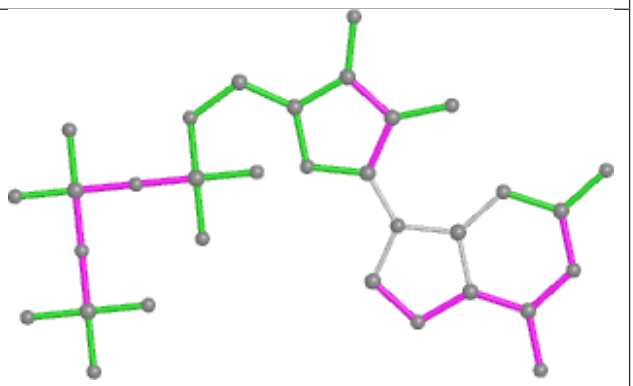

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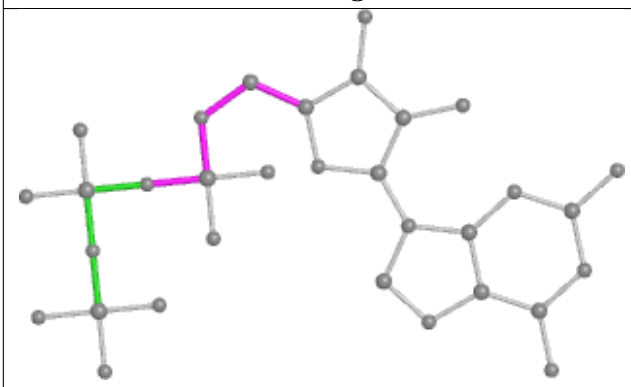

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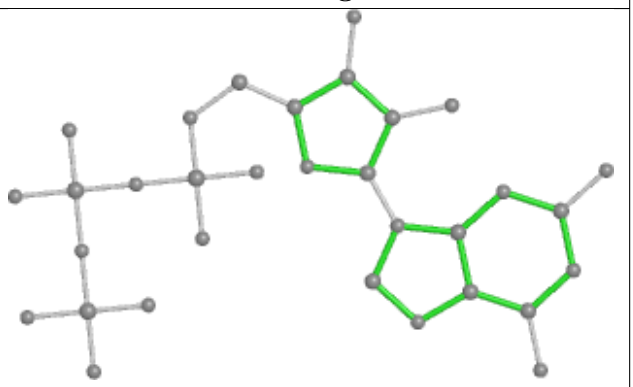
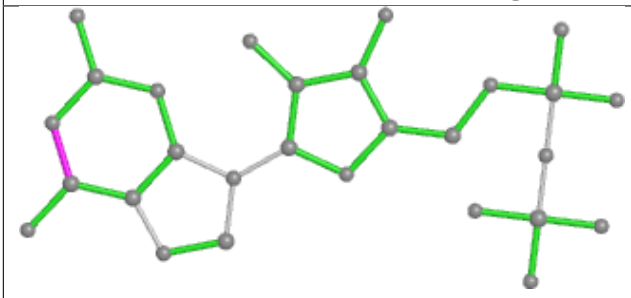


Rings

Ligand GDP UD 501



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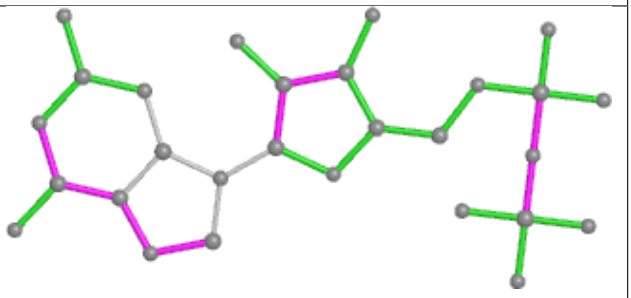

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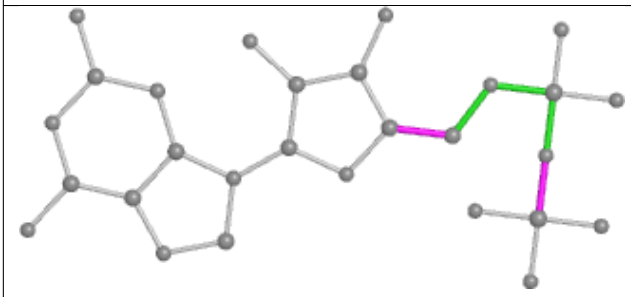

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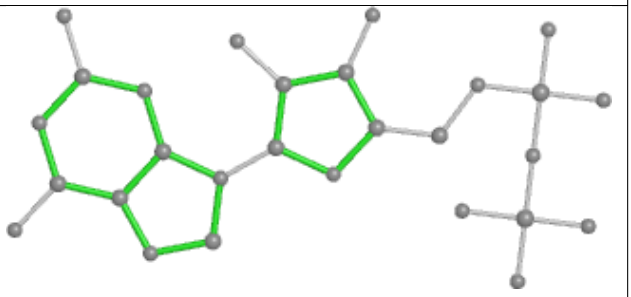
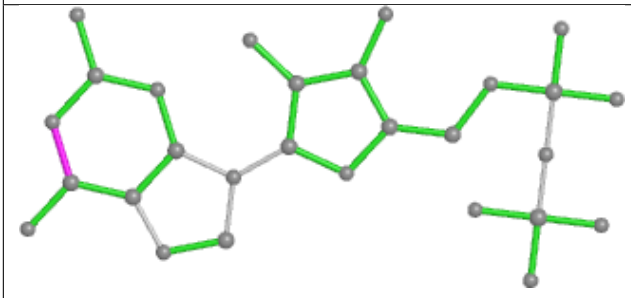


Rings

Ligand GDP WJ 501



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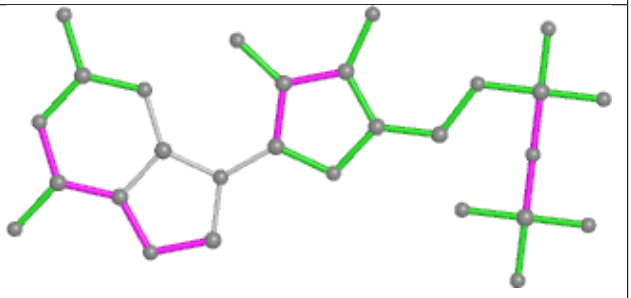

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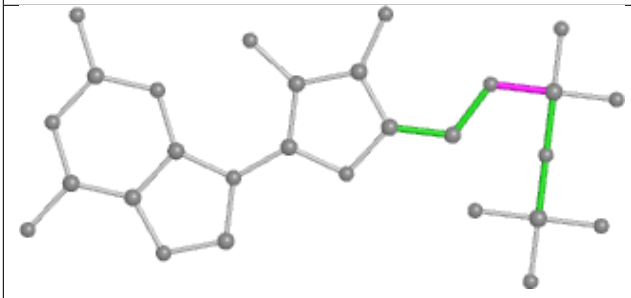

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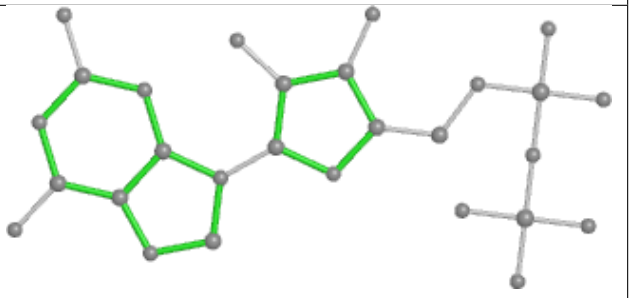
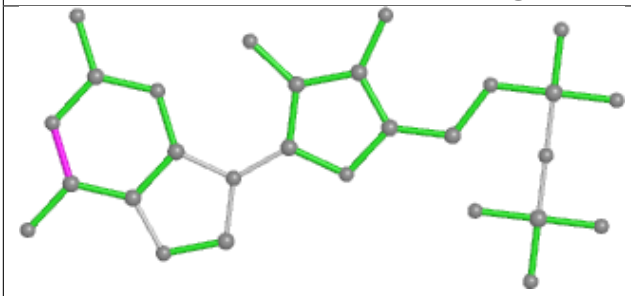


Rings

Ligand GDP QF 501



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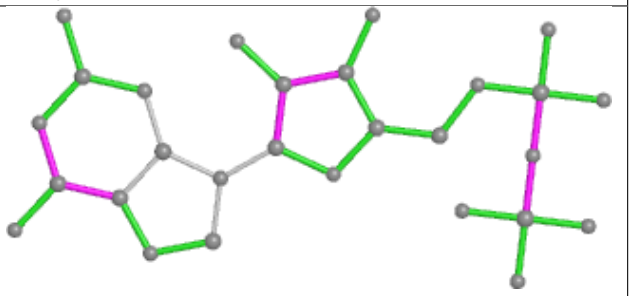

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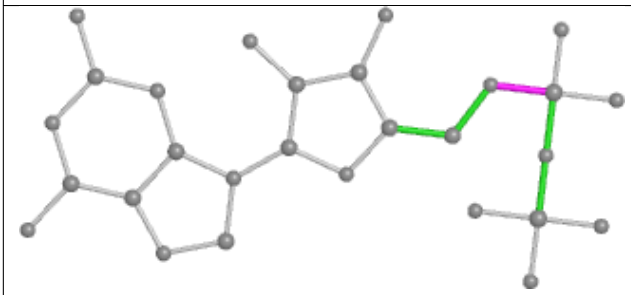

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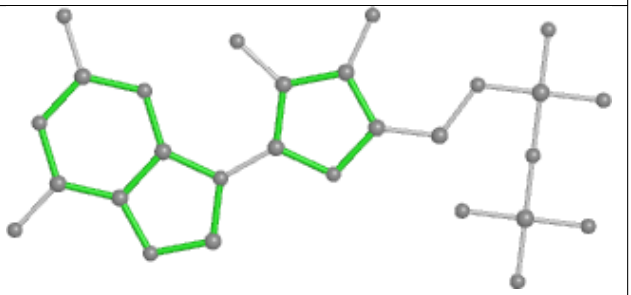
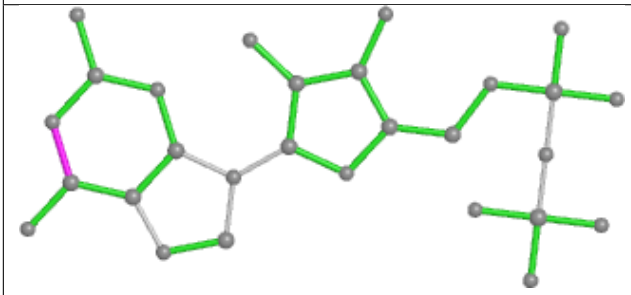


Rings

Ligand GDP WC 501



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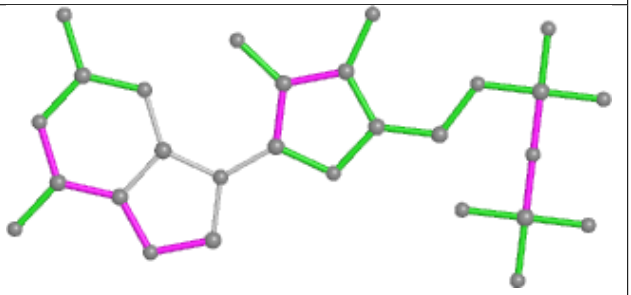

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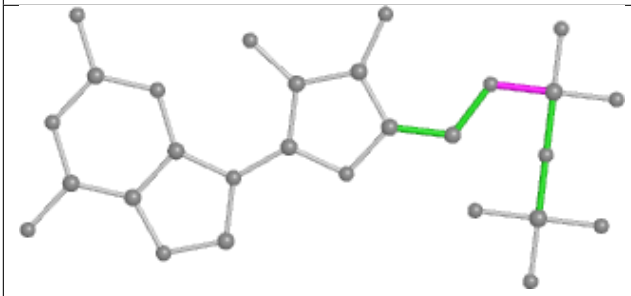

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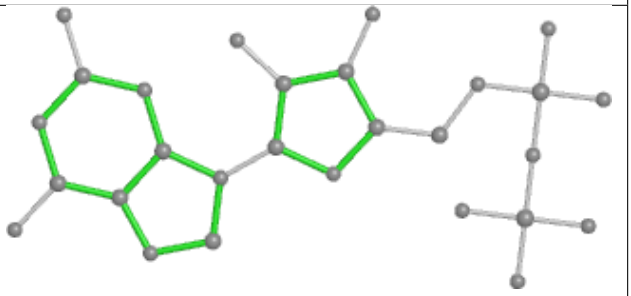
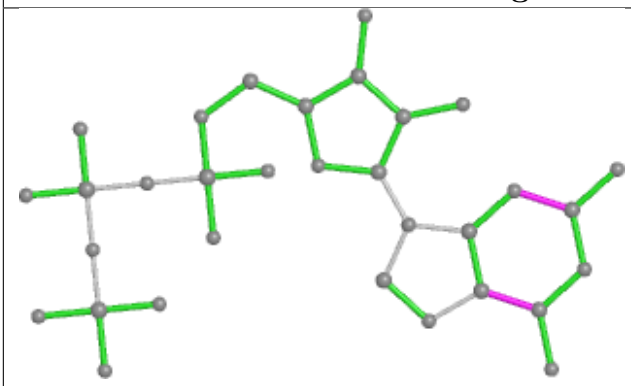


Rings

Ligand GTP TE 501



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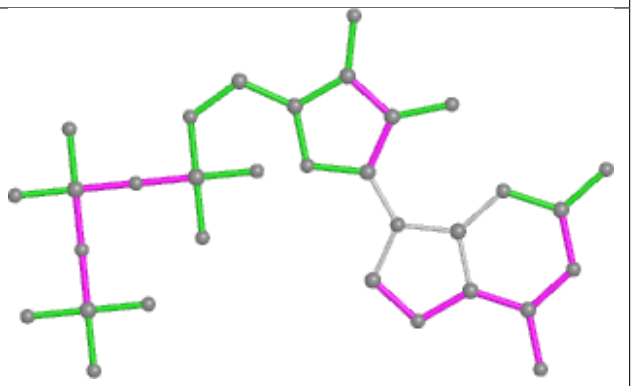

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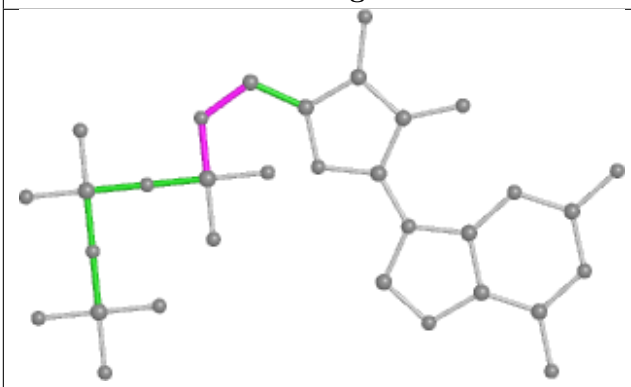

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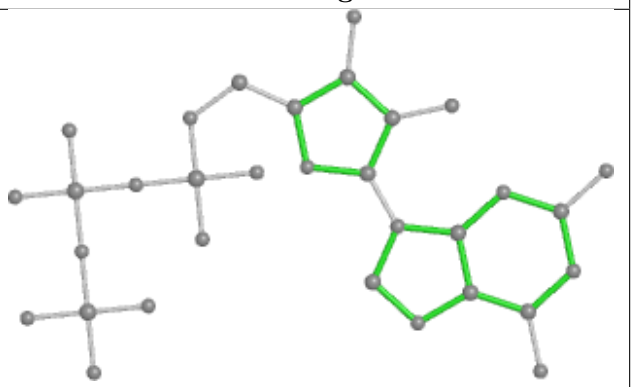
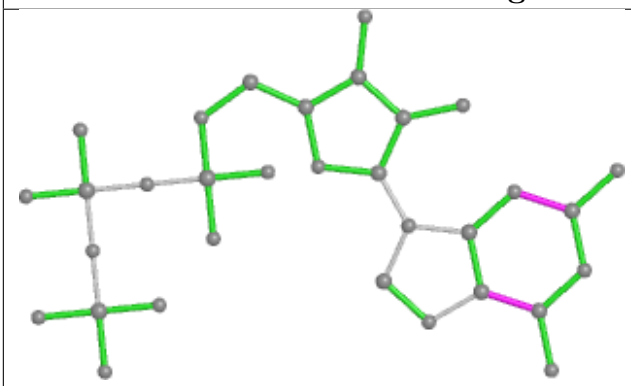


Rings

Ligand GTP GA 501



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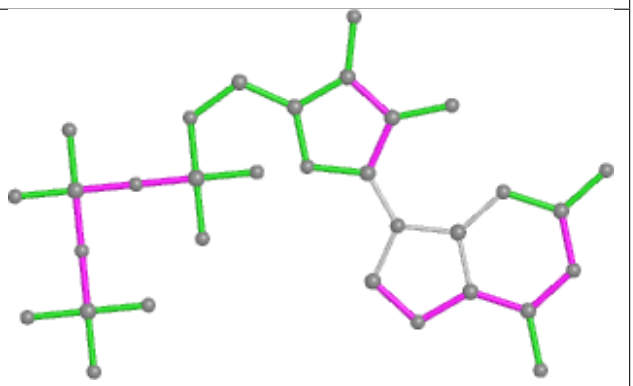

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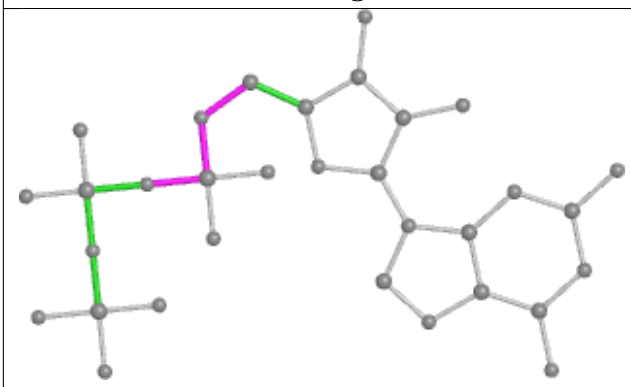

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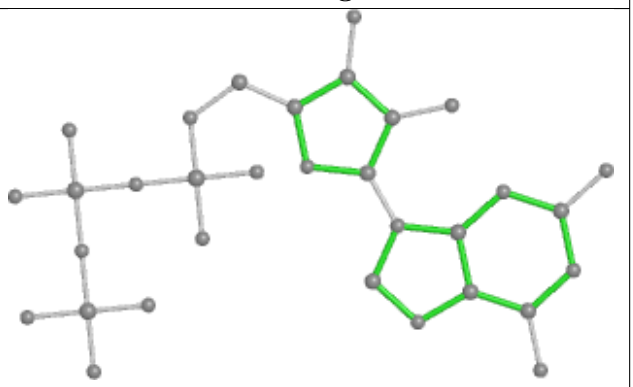
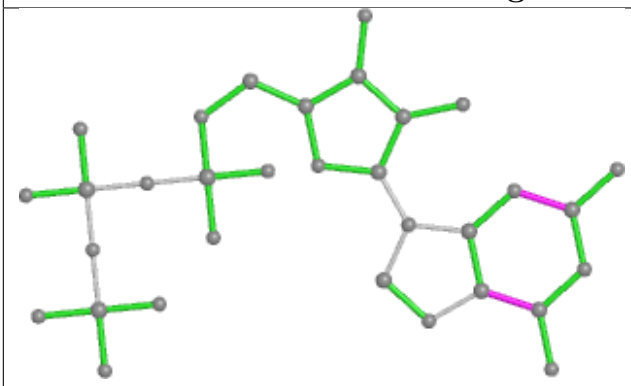


Rings

Ligand GTP GG 501



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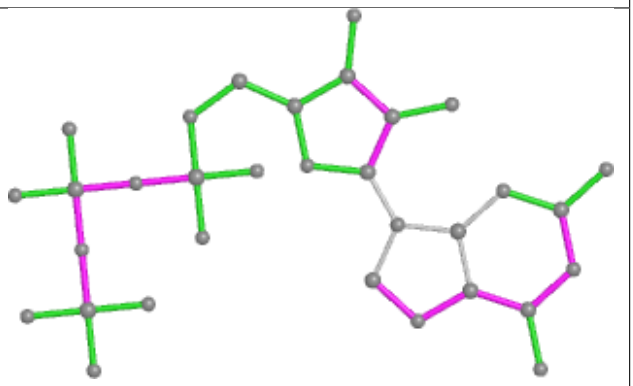

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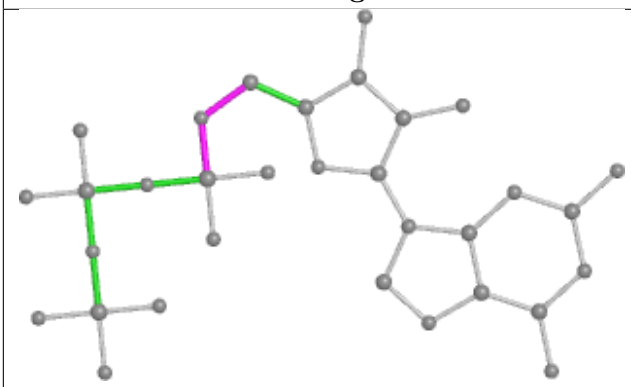

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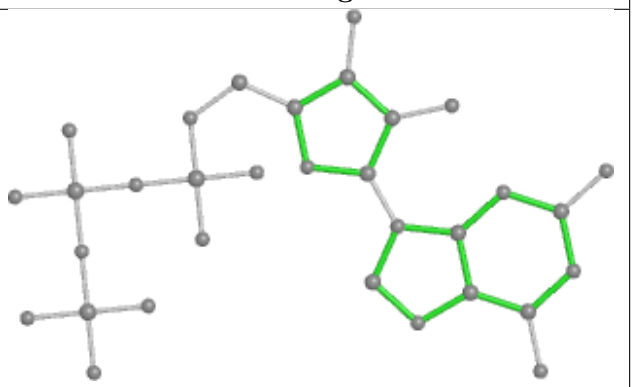
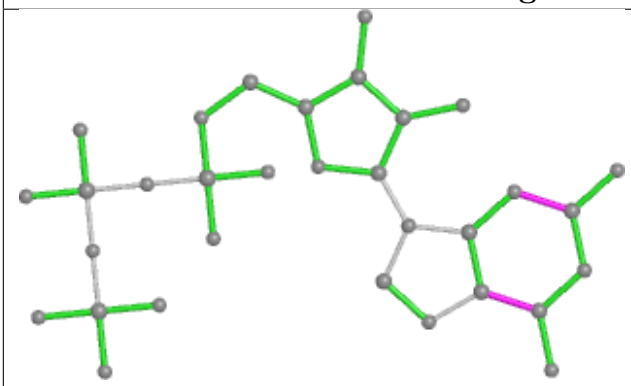


Rings

Ligand GTP SI 501



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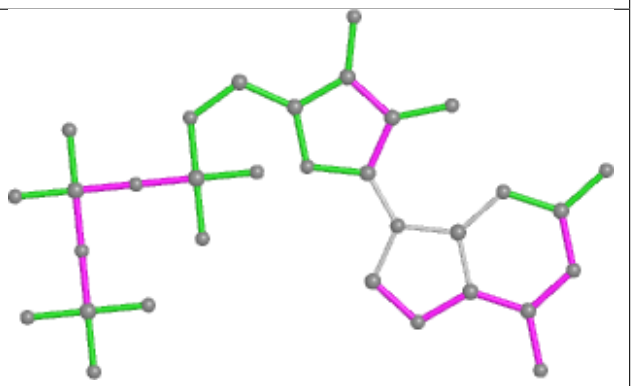

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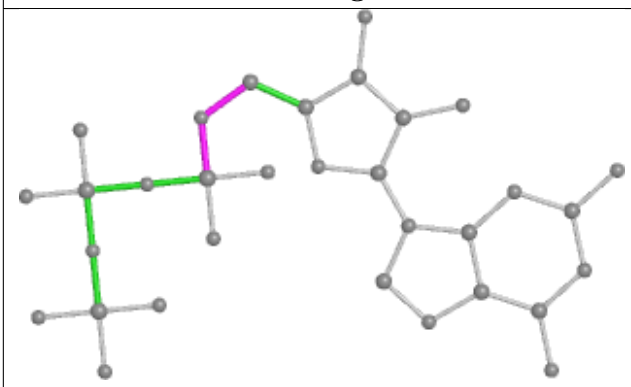

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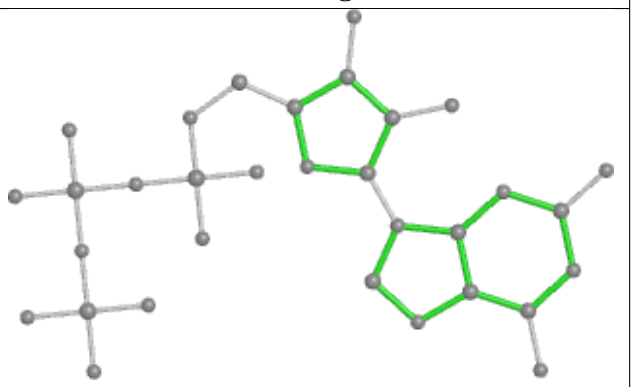
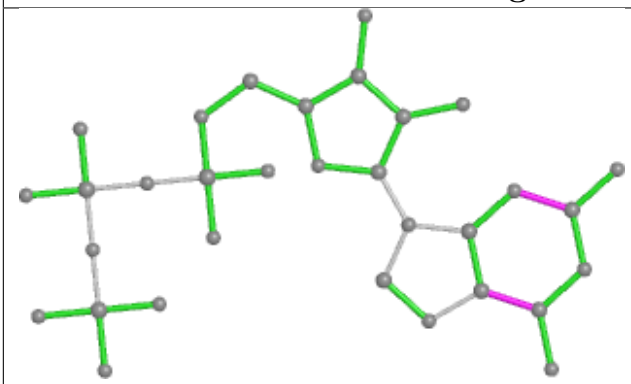


Rings

Ligand GTP OA 501



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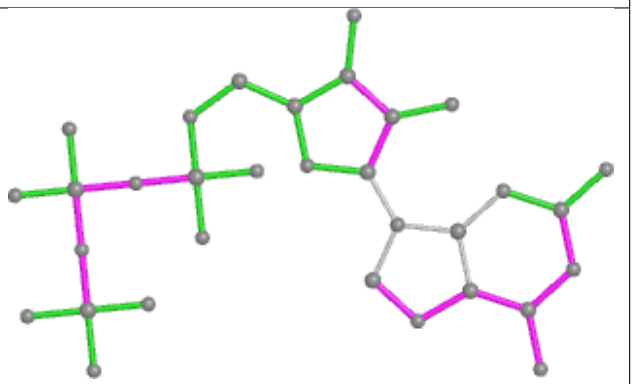

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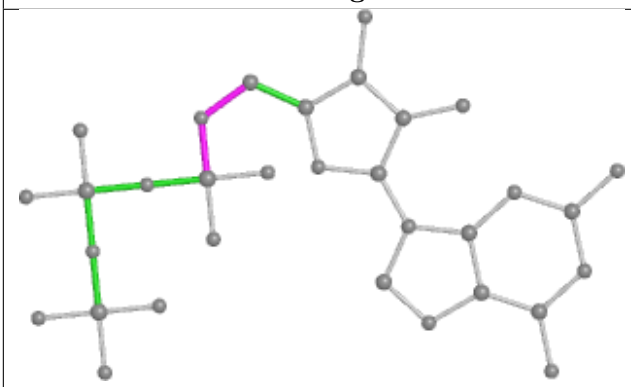

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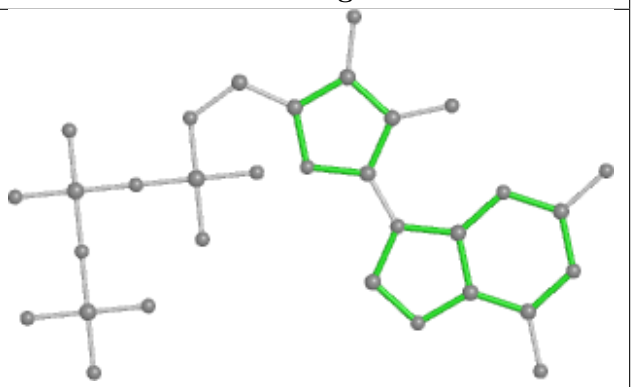
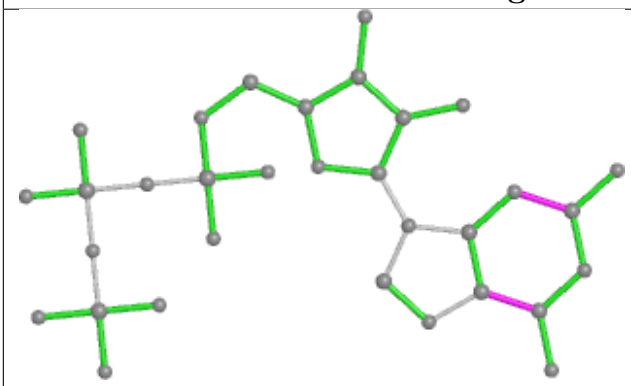


Rings

Ligand GTP QG 501



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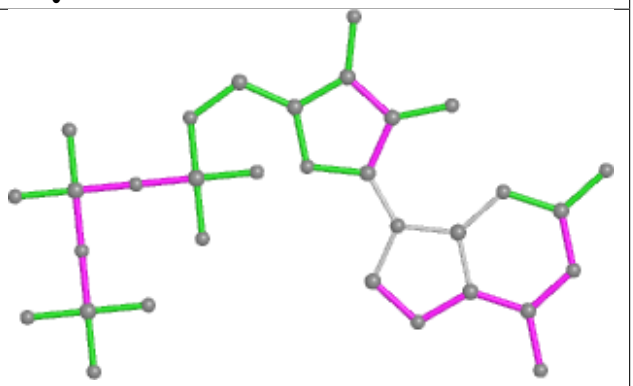

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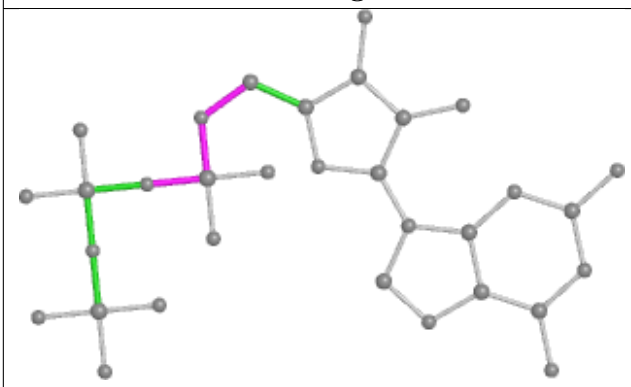

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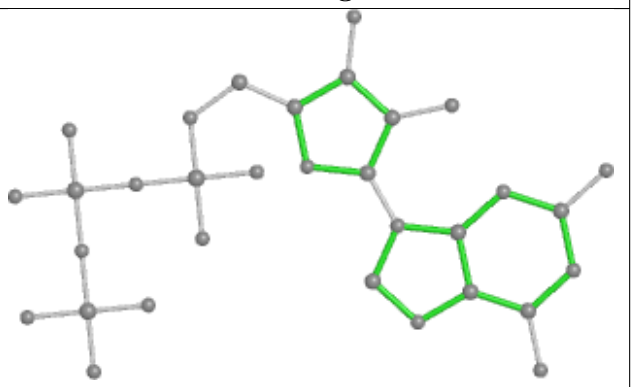
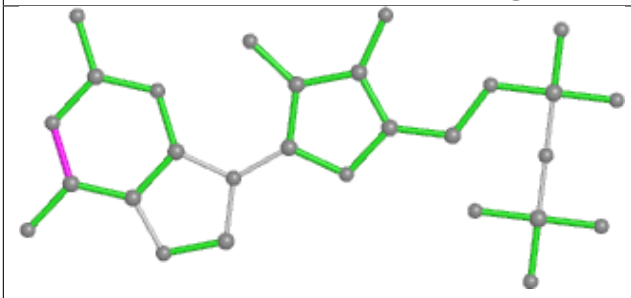


Rings

Ligand GDP SM 501



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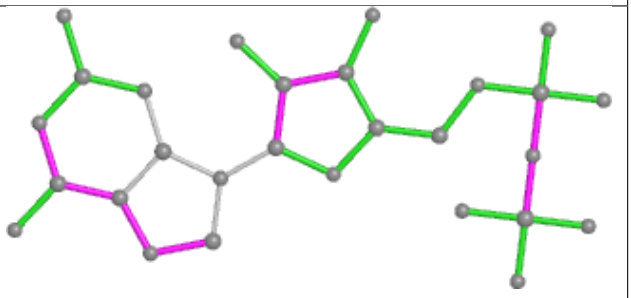

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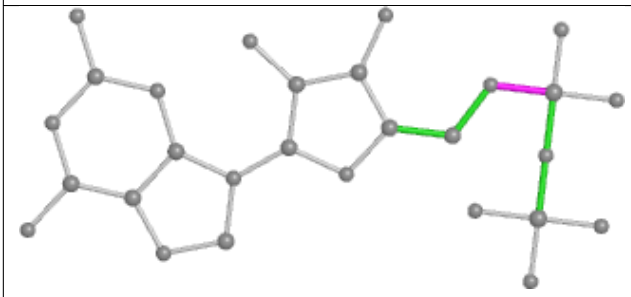

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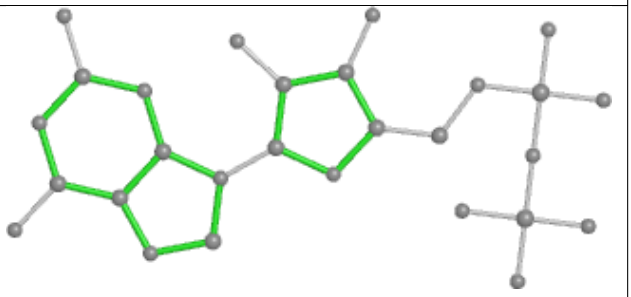
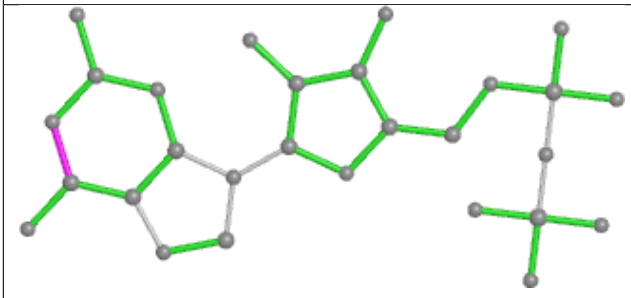


Rings

Ligand GDP OD 501



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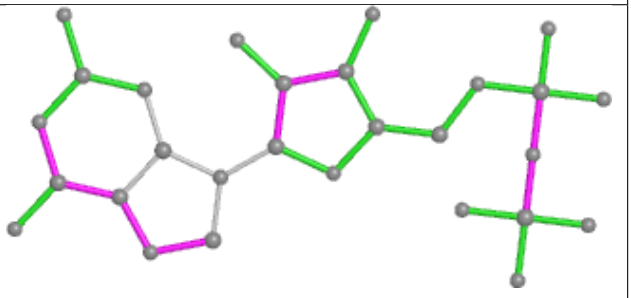

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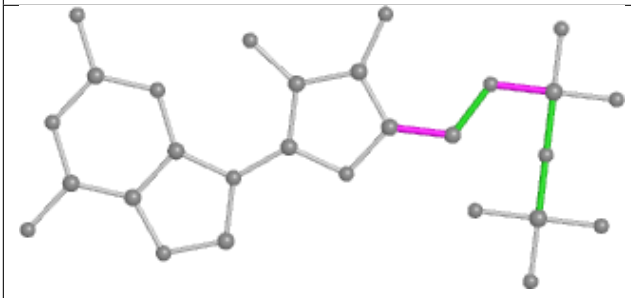
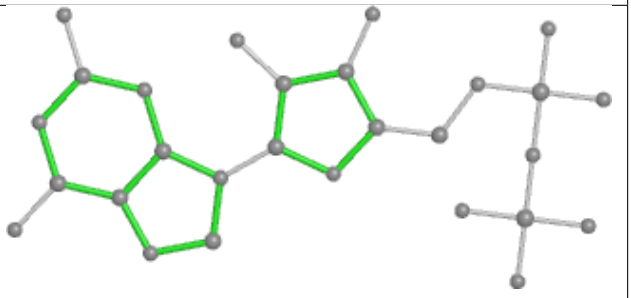
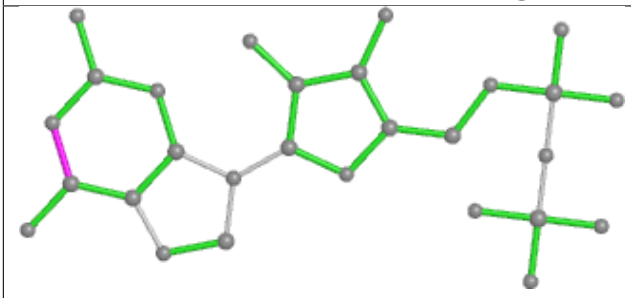


Torsions



Rings

Ligand GDP LL 501



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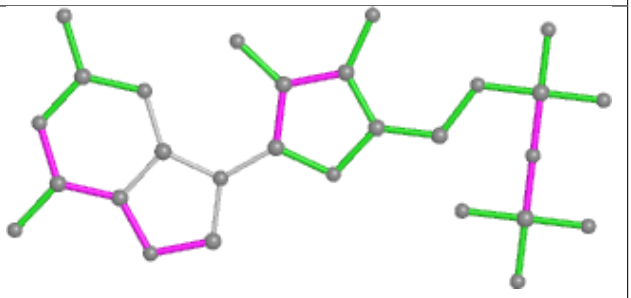

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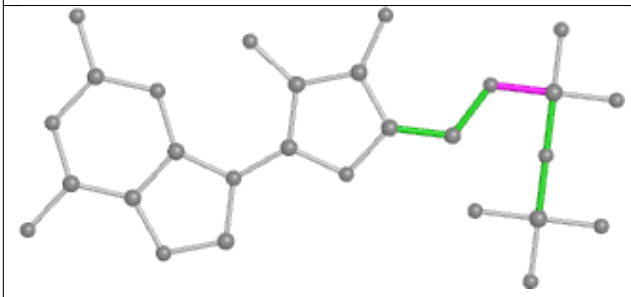

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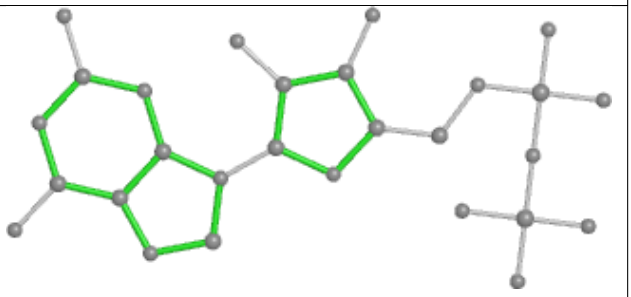
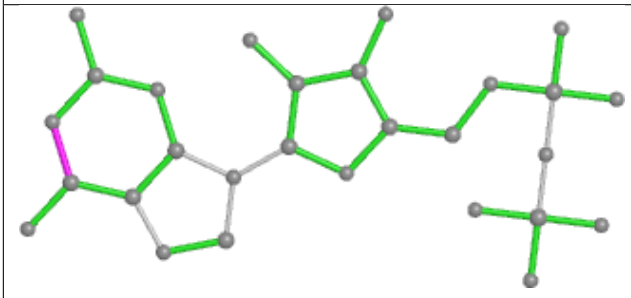


Rings

Ligand GDP KM 501



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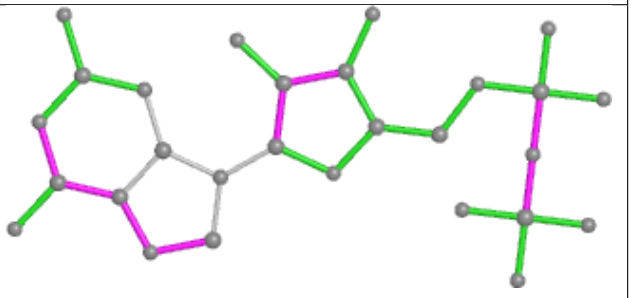

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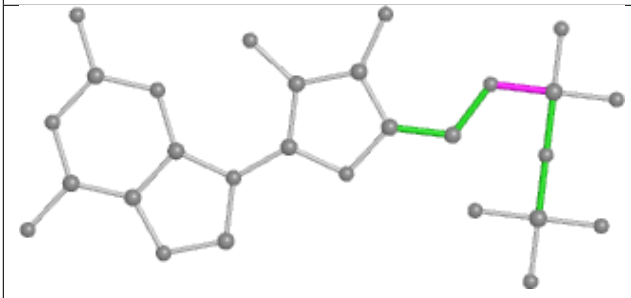

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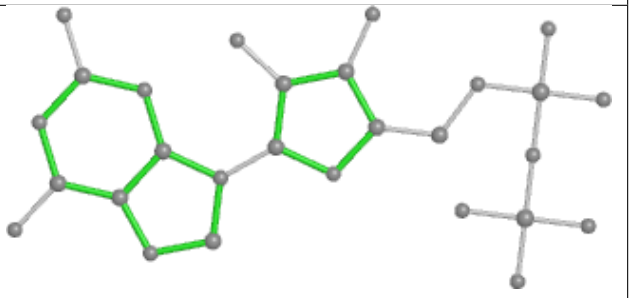
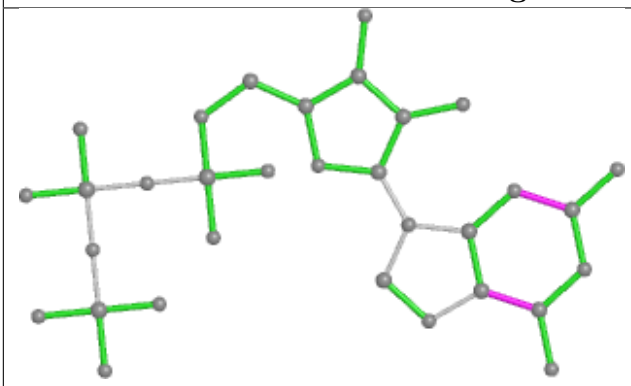


Rings

Ligand GTP AB 501



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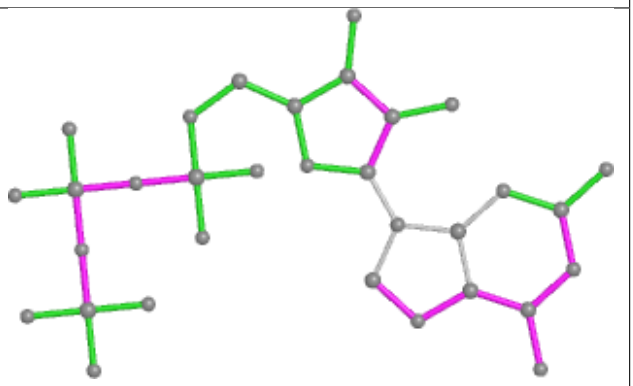

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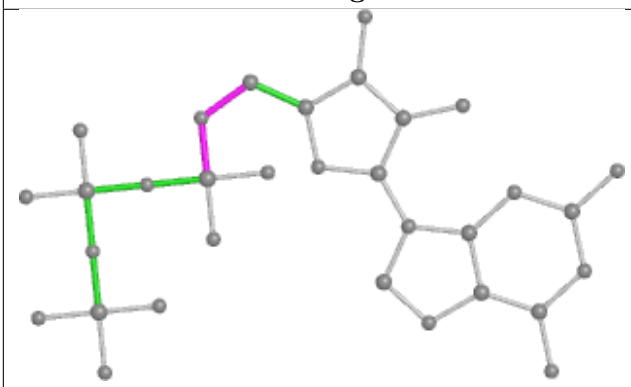

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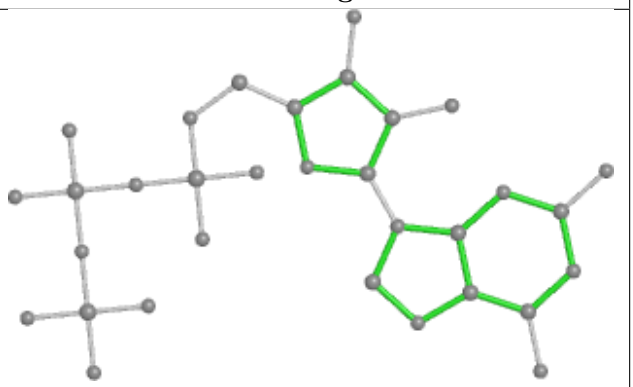
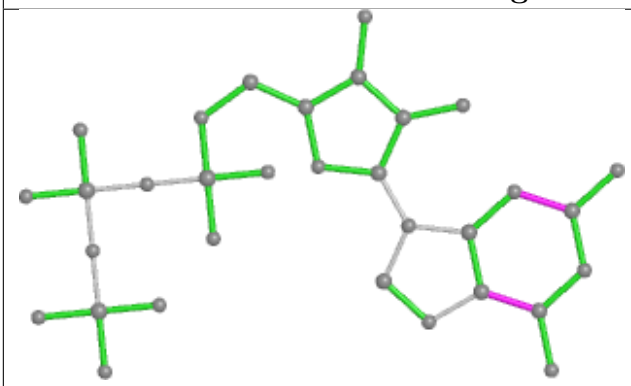


Rings

Ligand GTP VA 501



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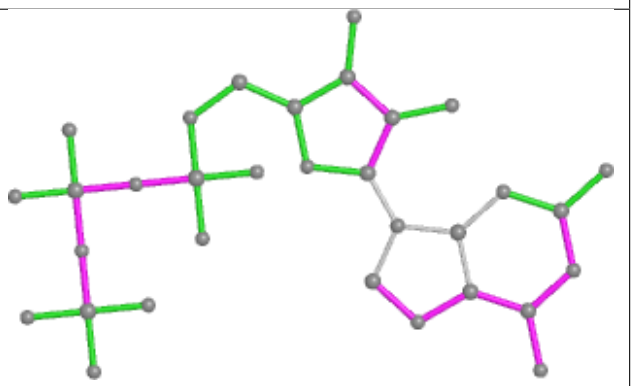

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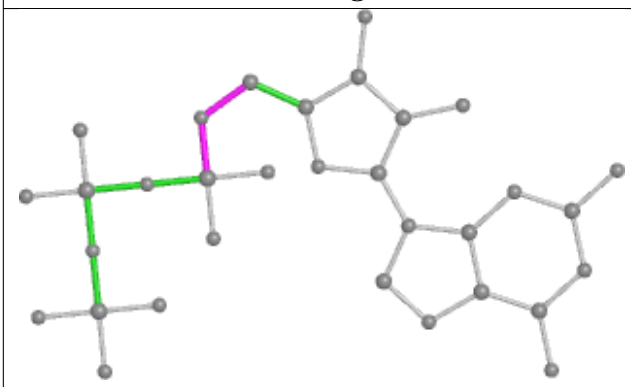

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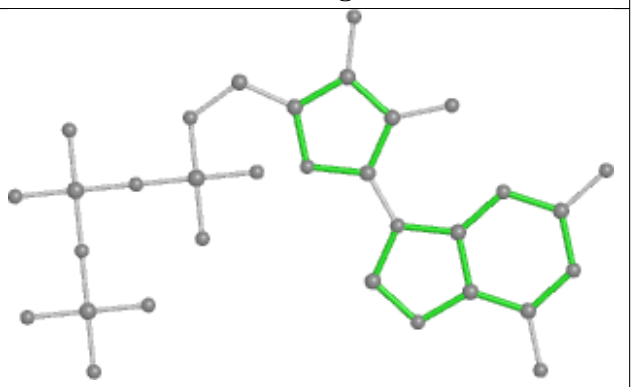
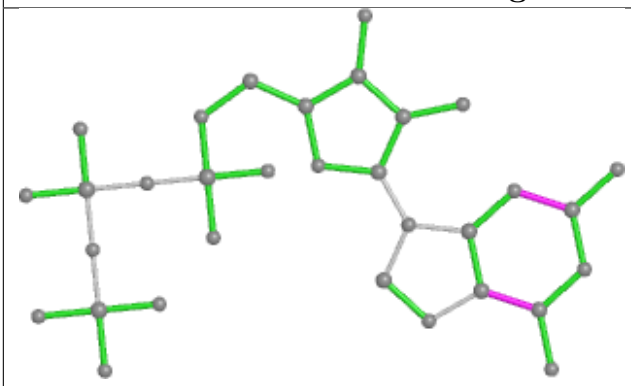


Rings

Ligand GTP BK 501



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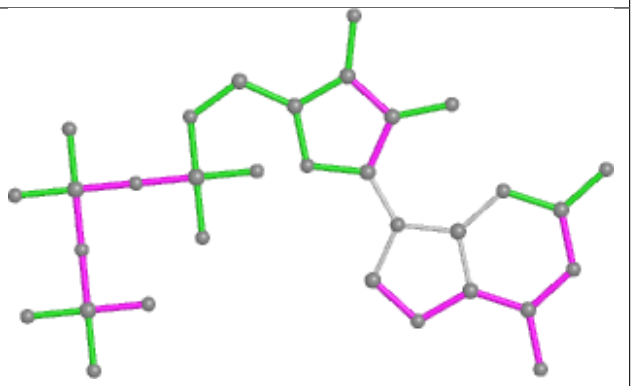

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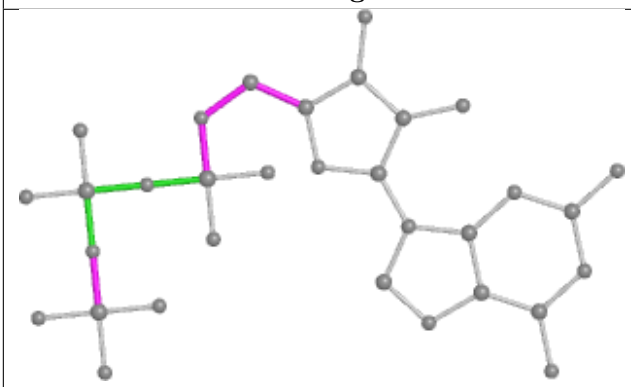

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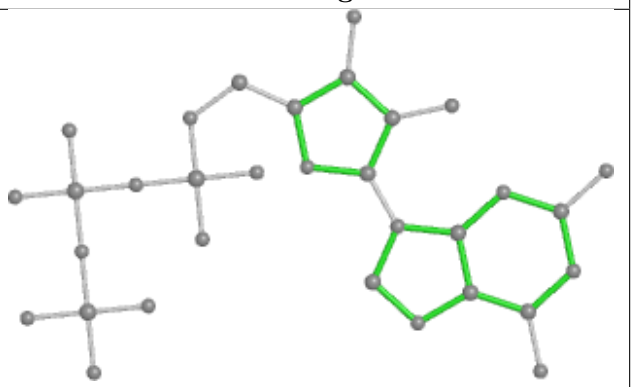
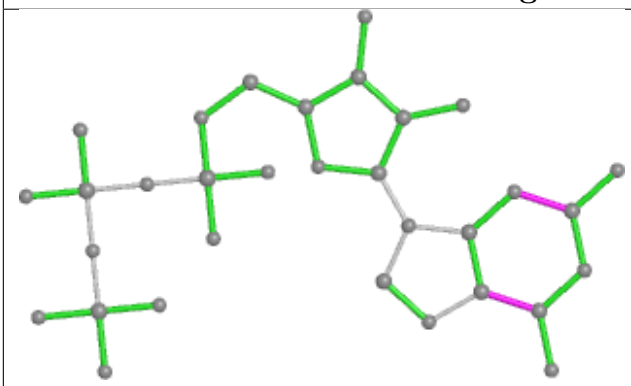


Rings

Ligand GTP JI 501



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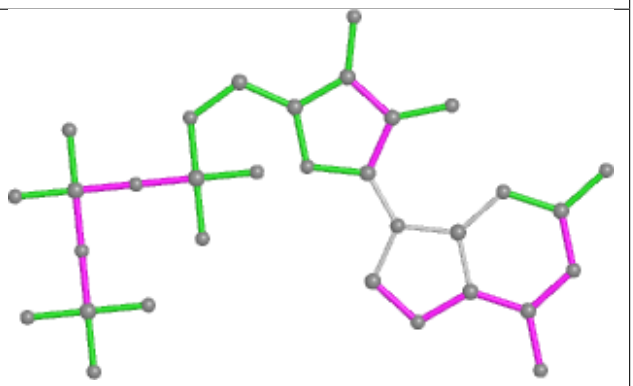

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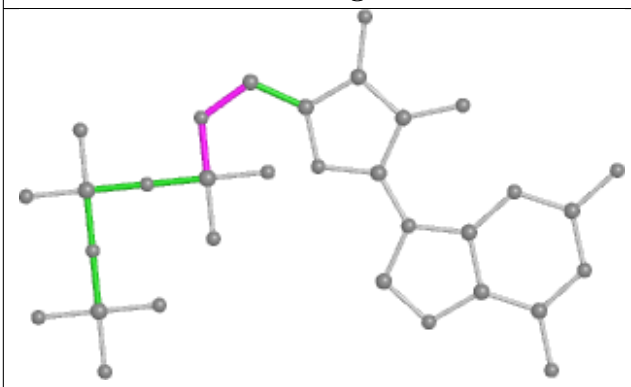

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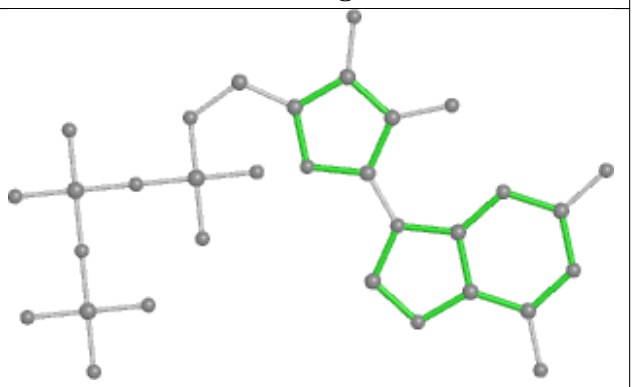
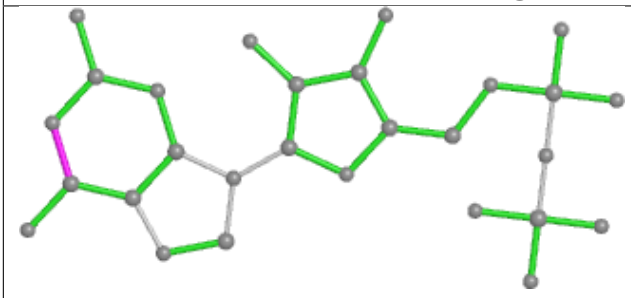


Rings

Ligand GDP HJ 501



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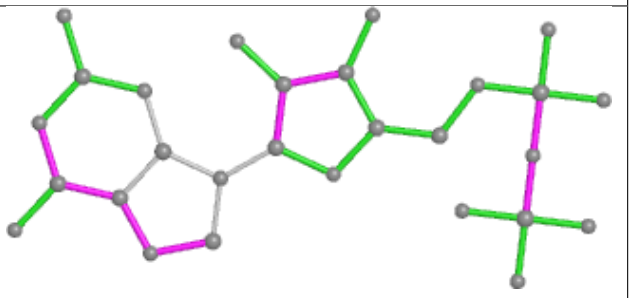

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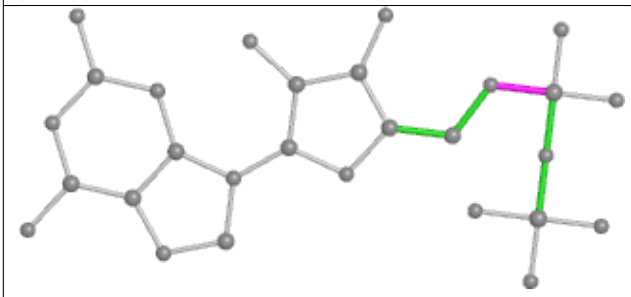

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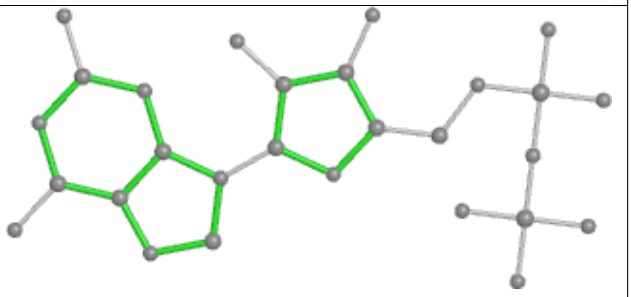
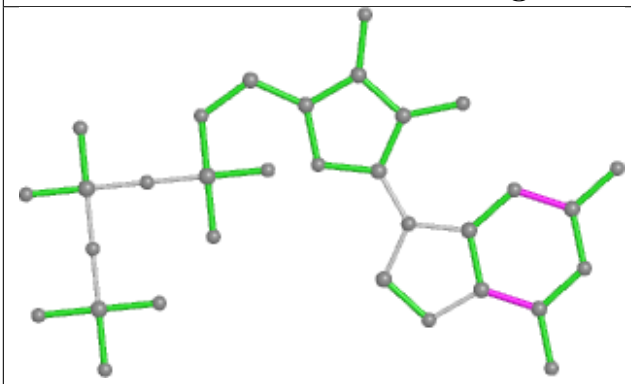


Rings

Ligand GTP FK 501



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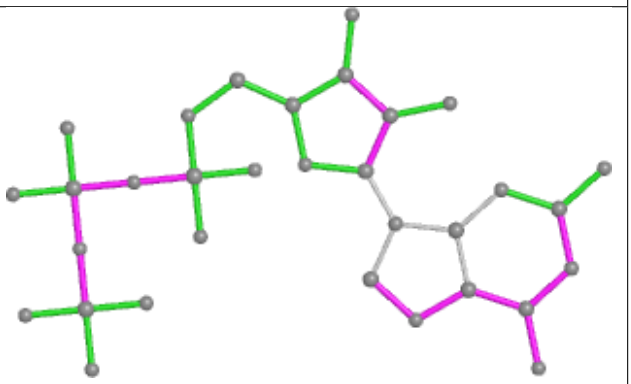

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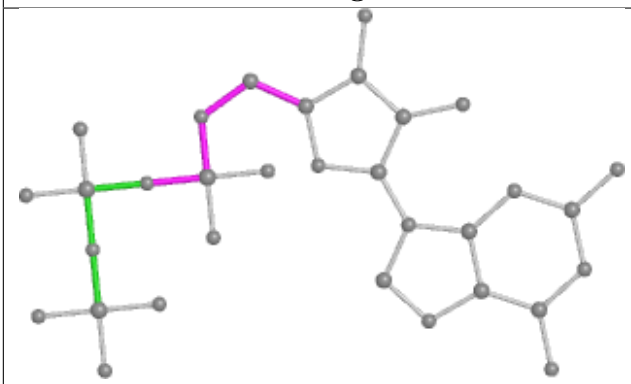

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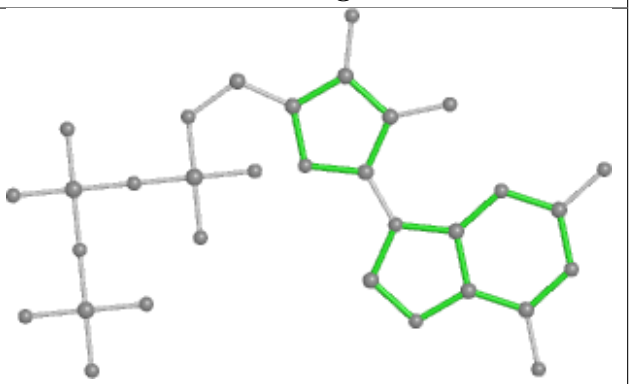
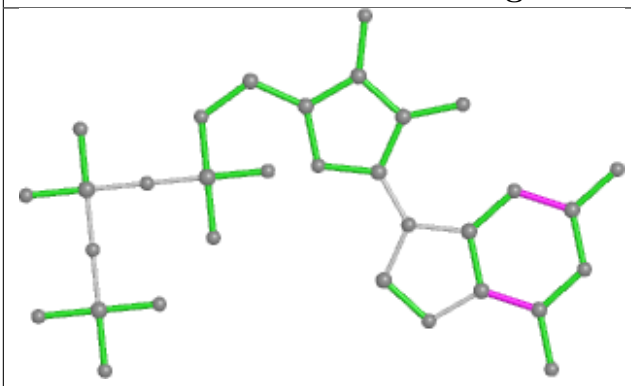


Rings

Ligand GTP CM 501



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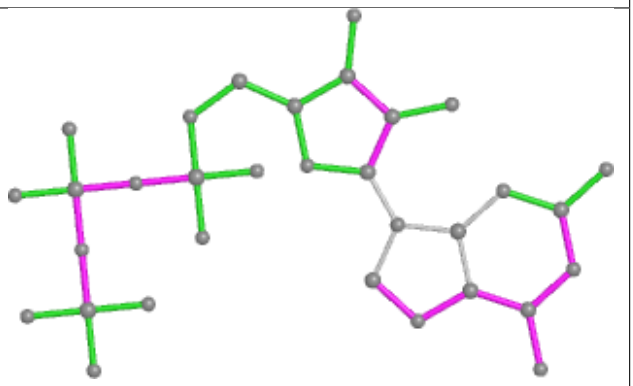

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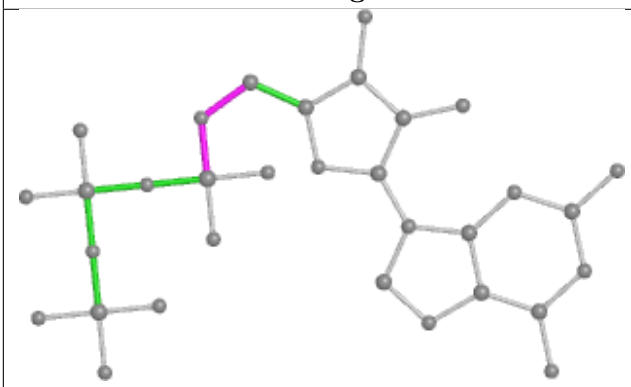

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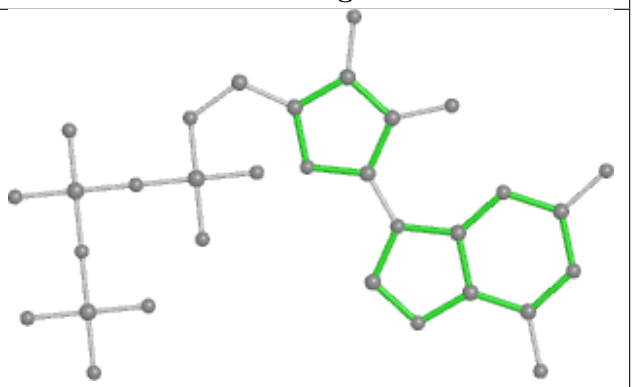
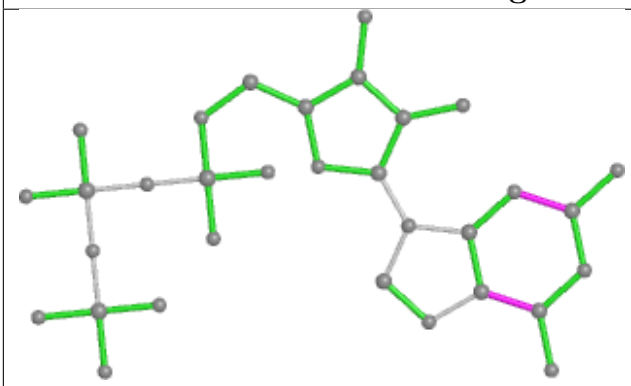


Rings

Ligand GTP OB 501



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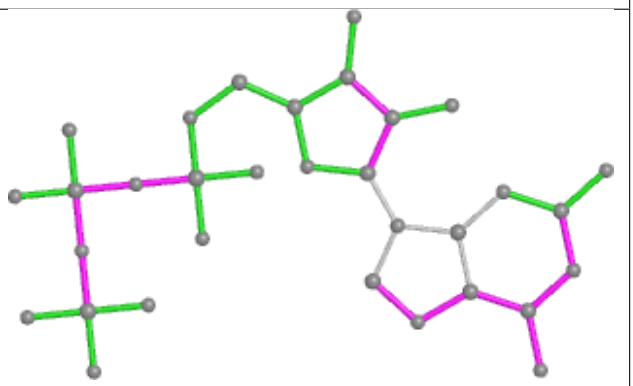

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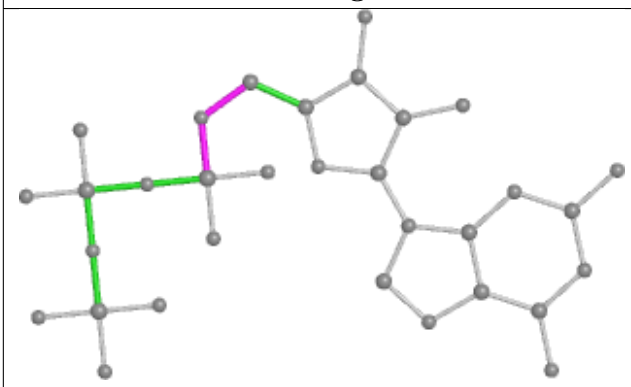

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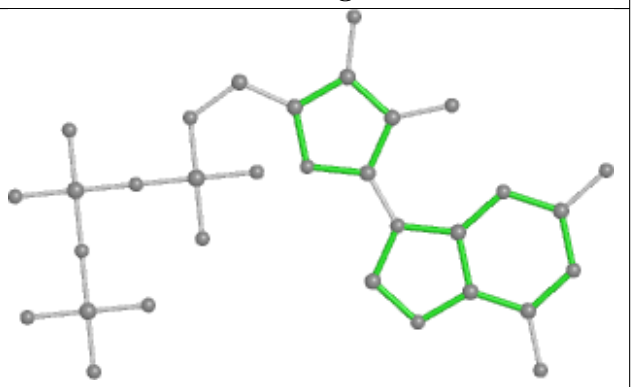
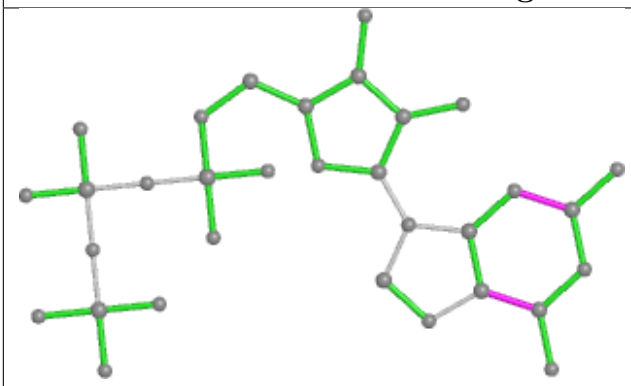


Rings

Ligand GTP PI 501



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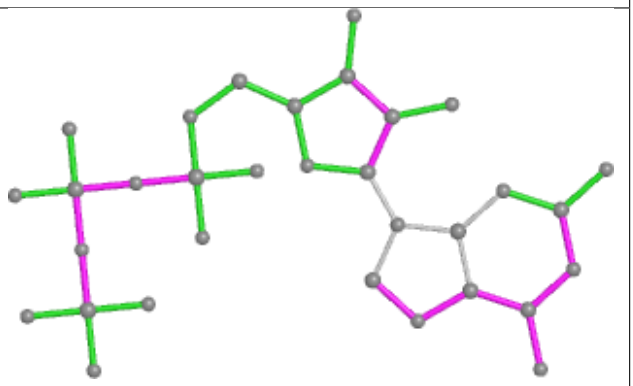

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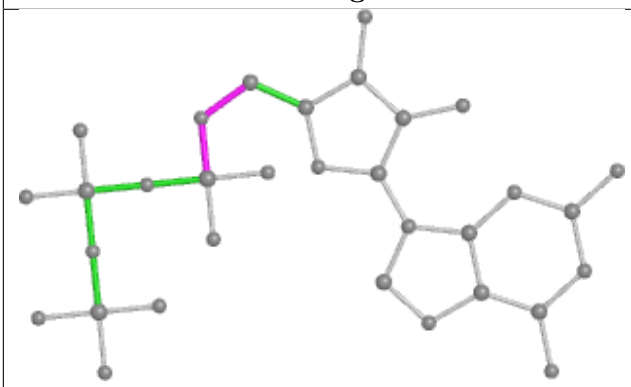

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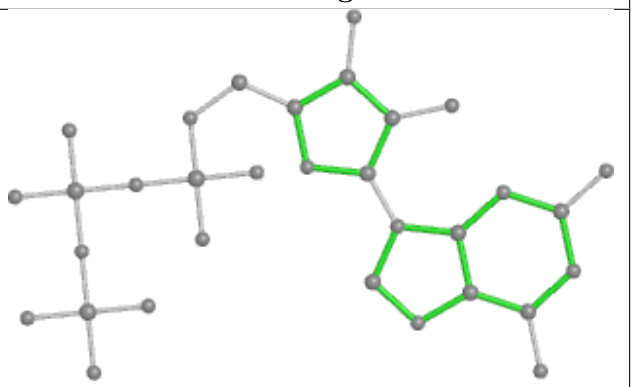
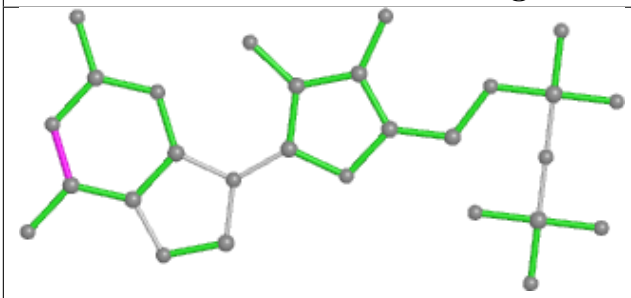


Rings

Ligand GDP BF 501



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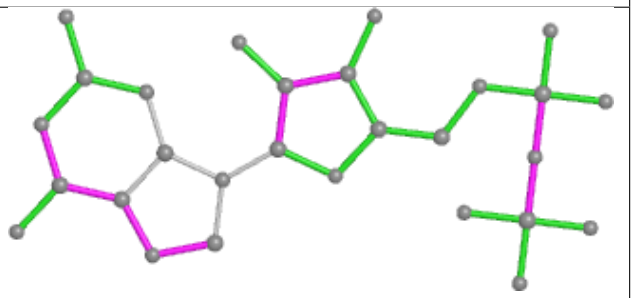

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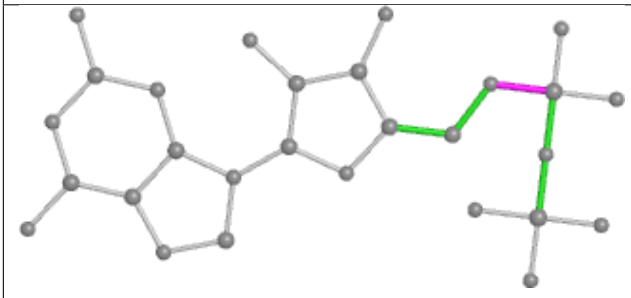

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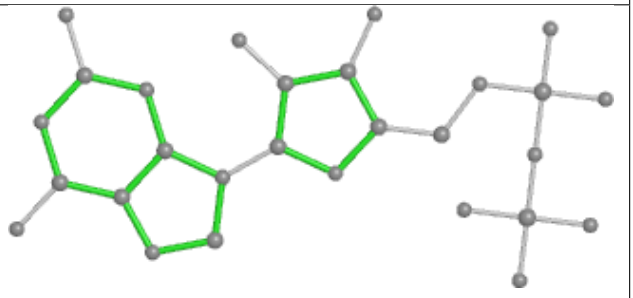
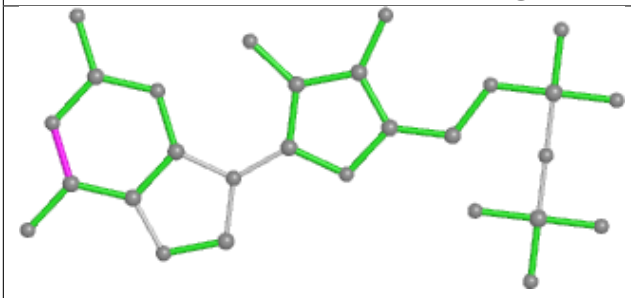


Rings

Ligand GDP CJ 501



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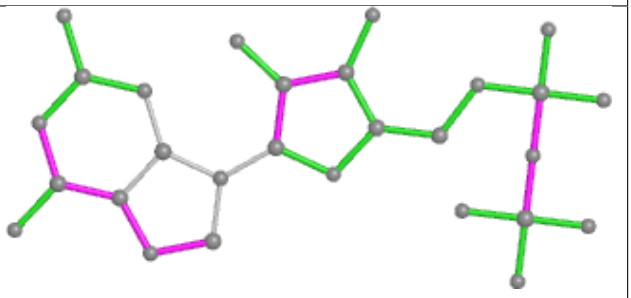

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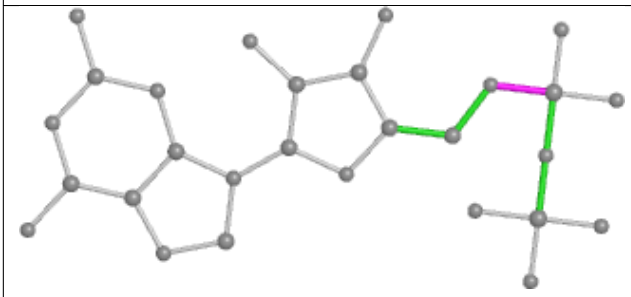

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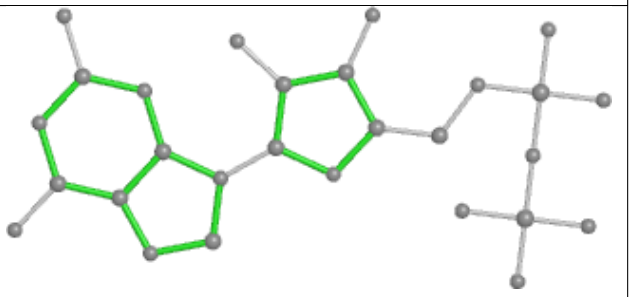
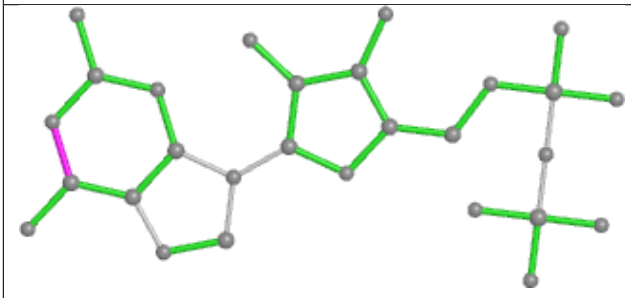


Rings

Ligand GDP TJ 501



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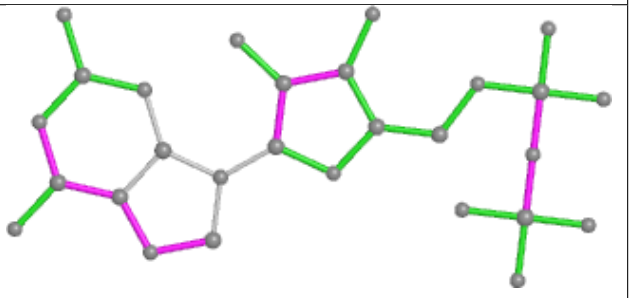
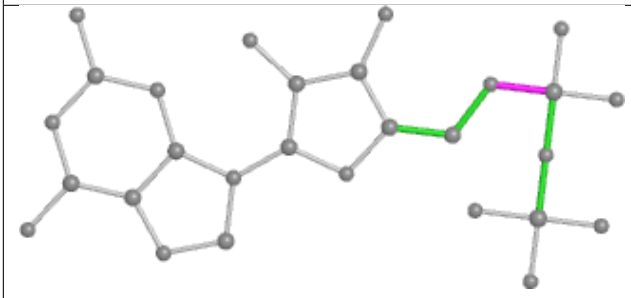


Bond angles



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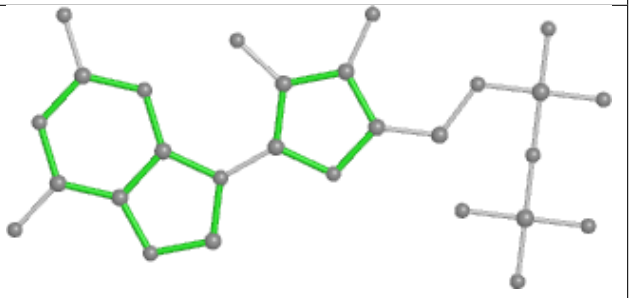
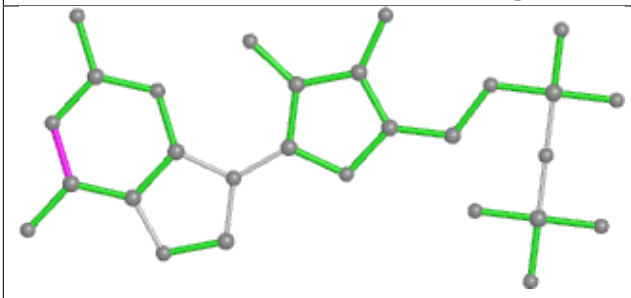
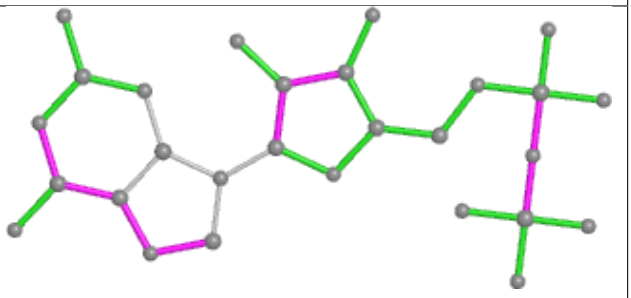


Rings

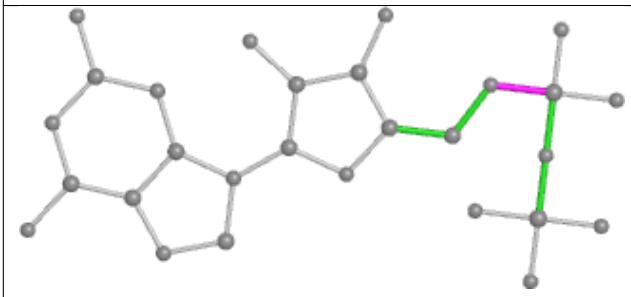
Ligand GDP NF 501



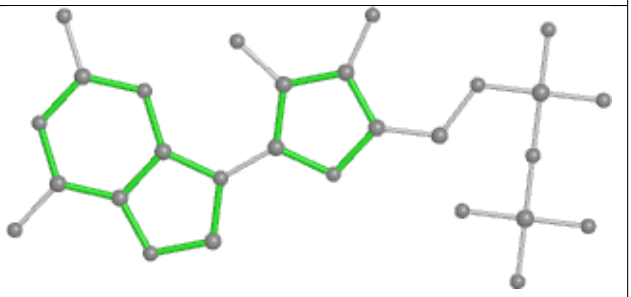
Bond lengths



Bond angles

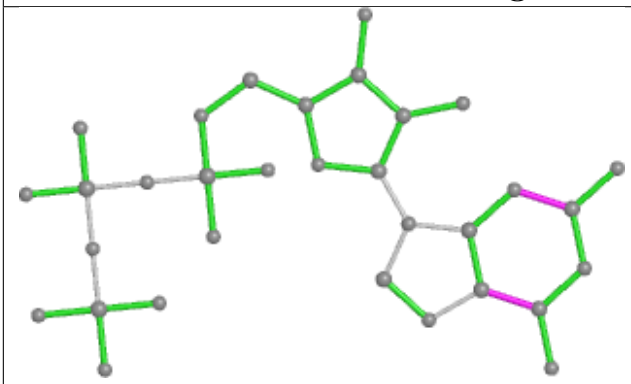


Torsions



Rings

Ligand GTP RG 501



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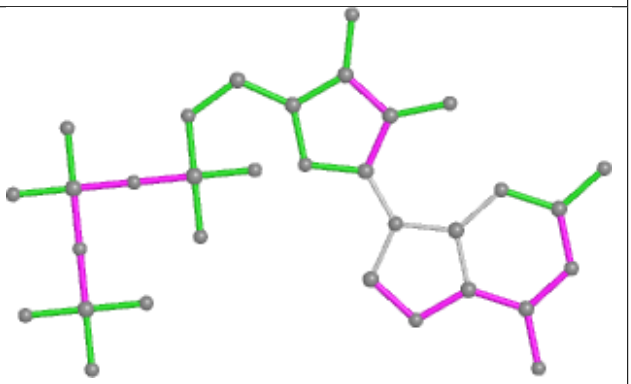

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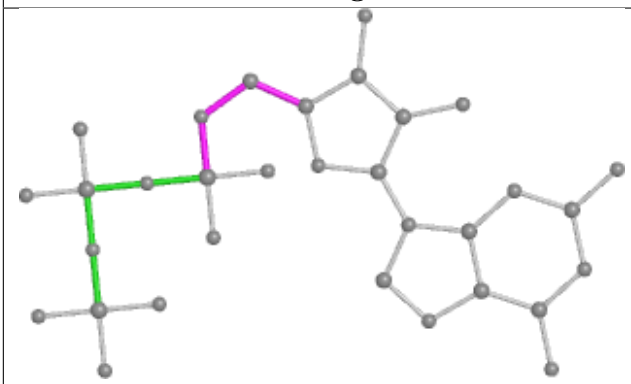

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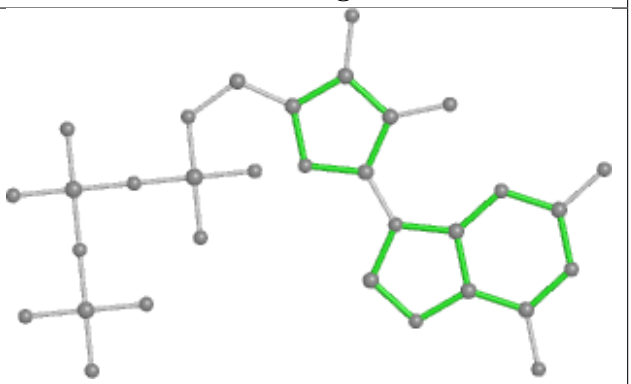
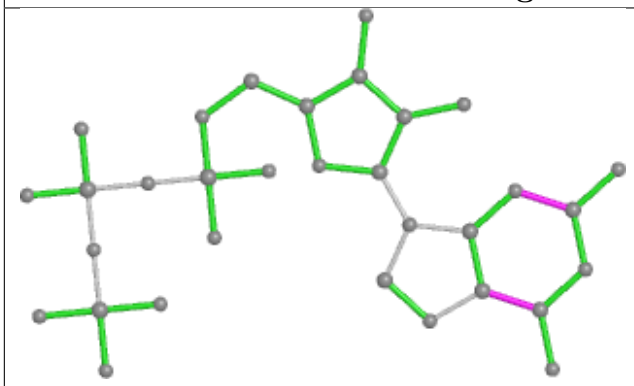


Rings

Ligand GTP UI 501



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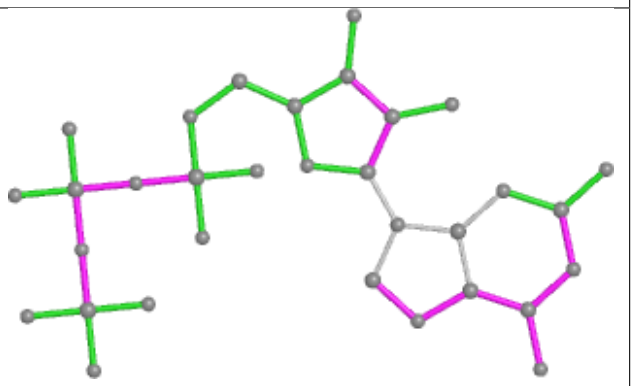

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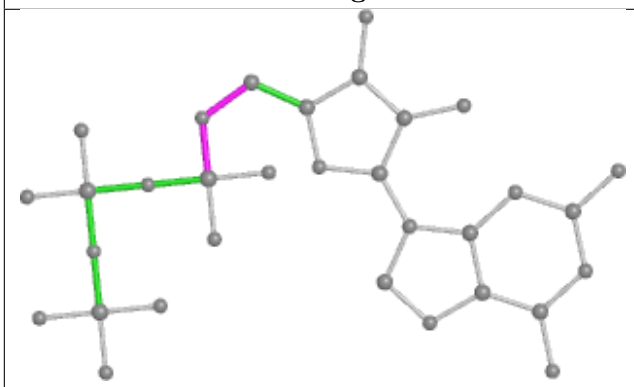

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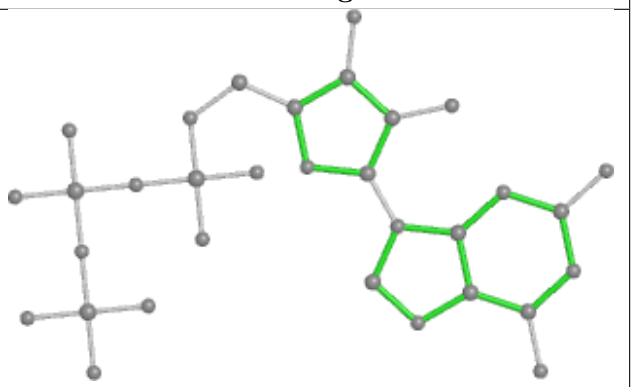
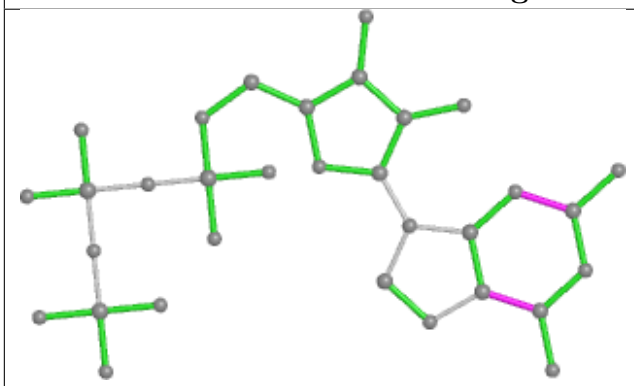


Rings

Ligand GTP NE 501



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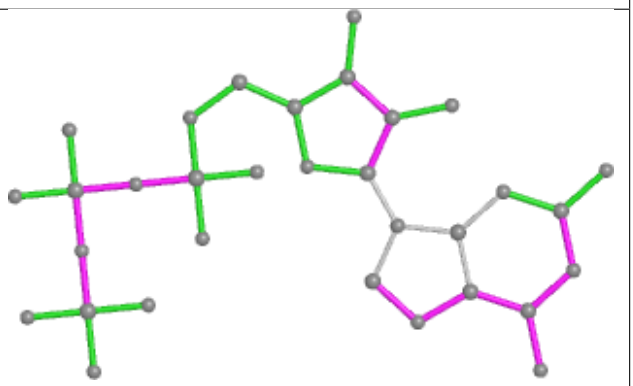

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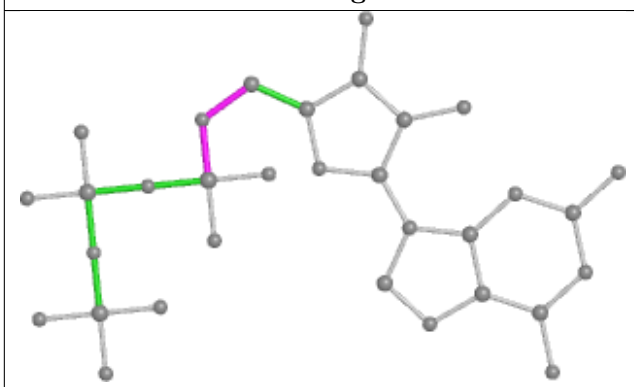

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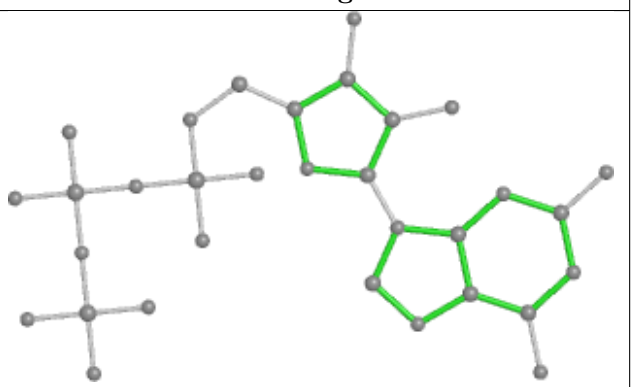

Rings

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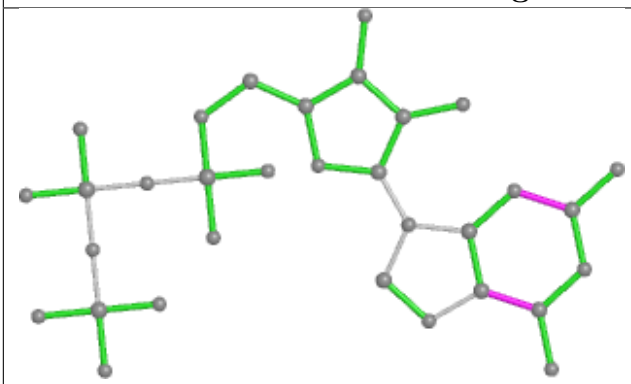

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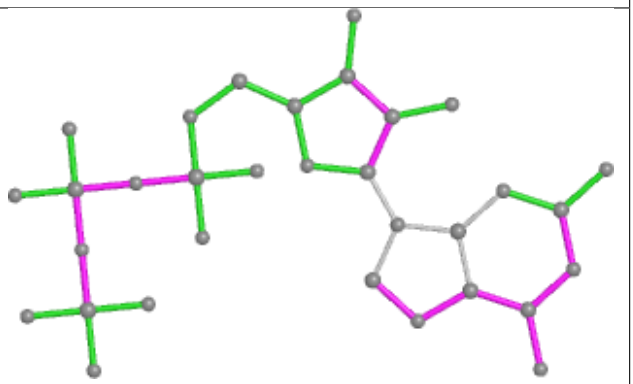

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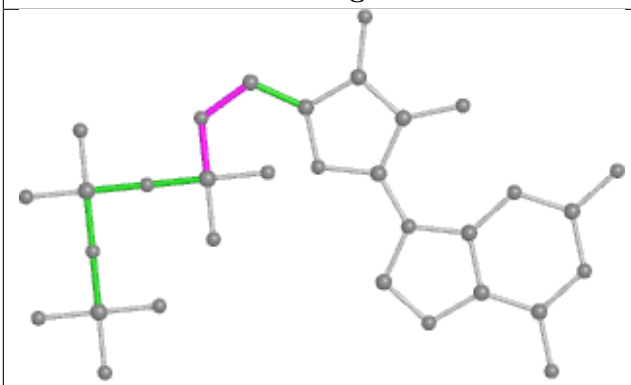

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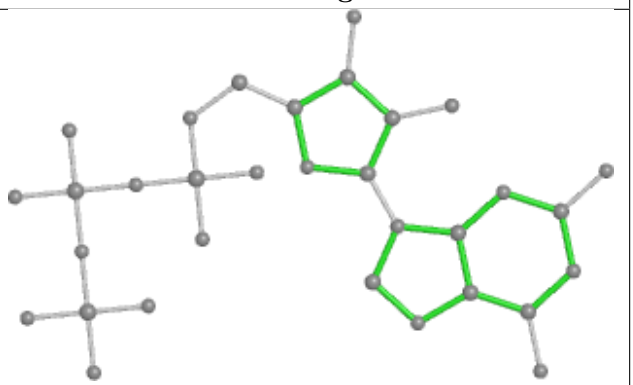
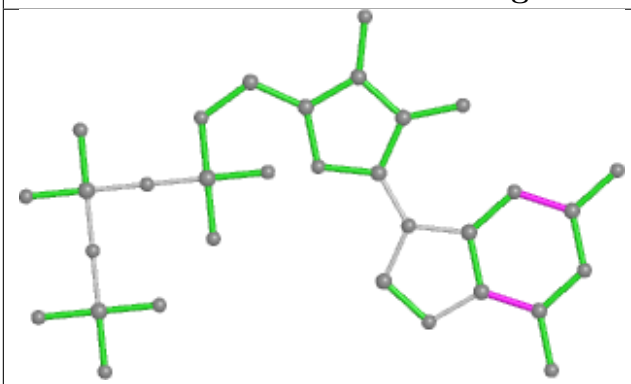


Rings

Ligand GTP QL 501



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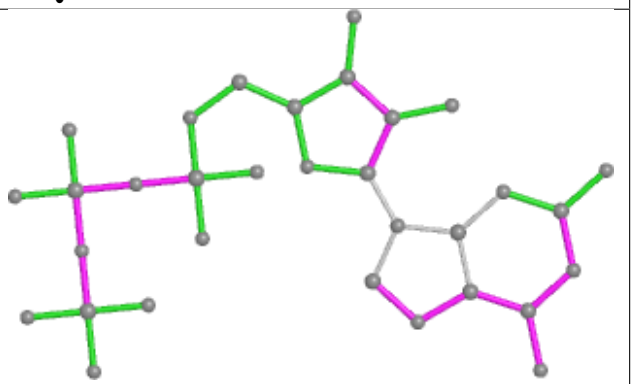

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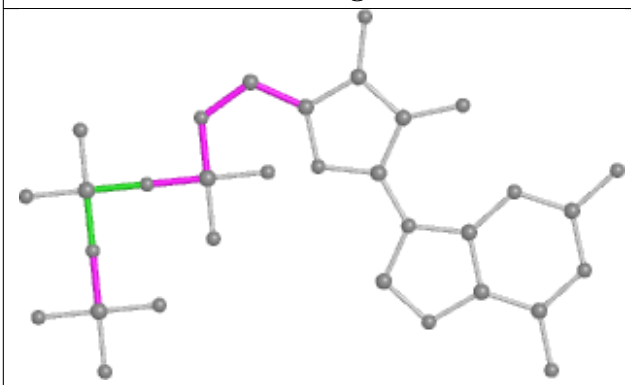

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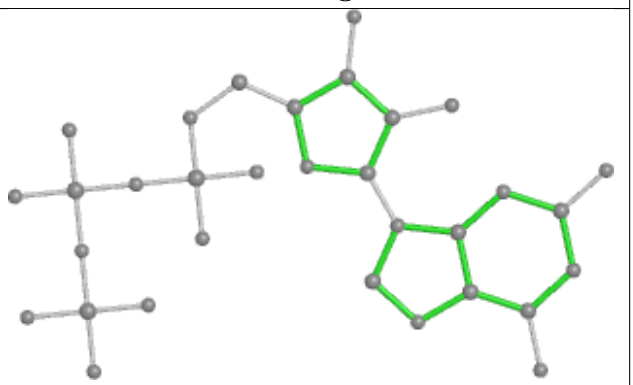

Rings

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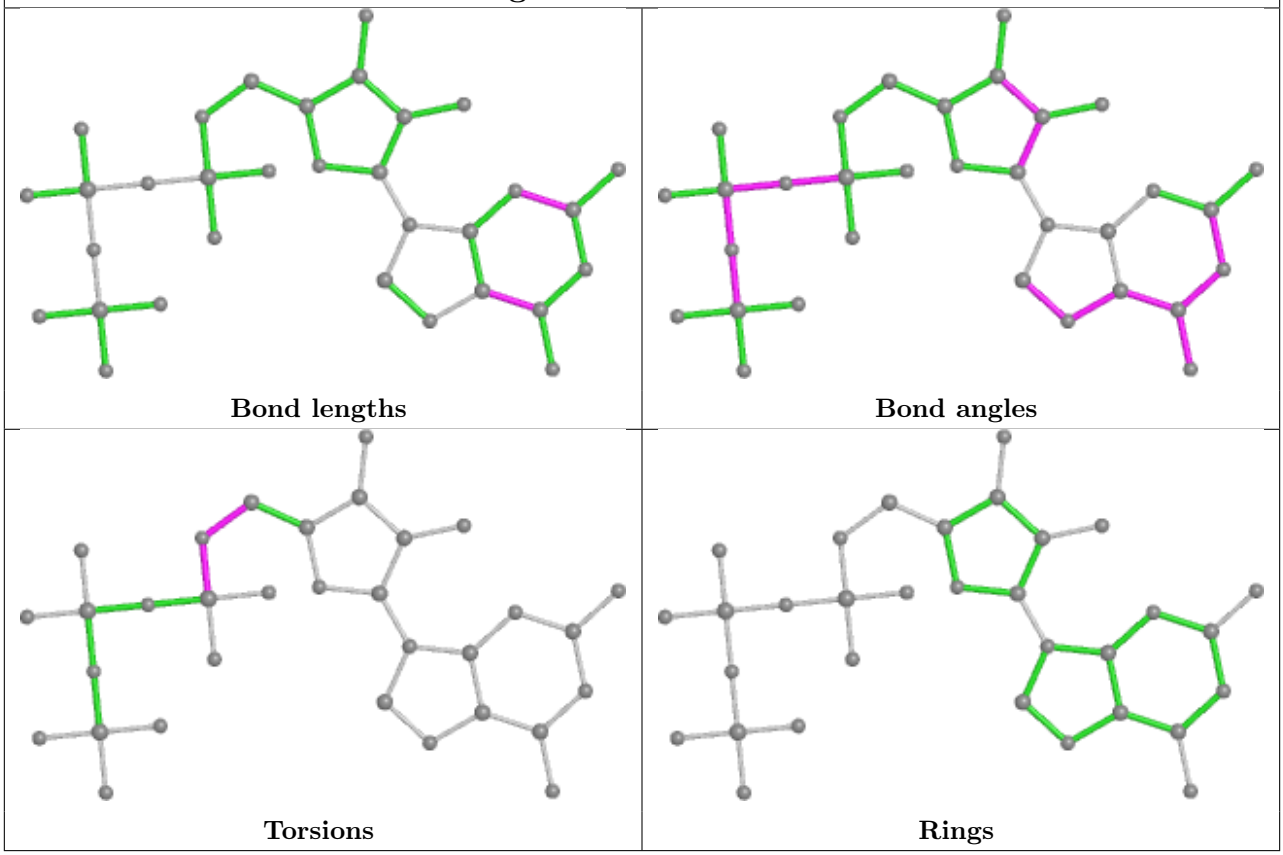

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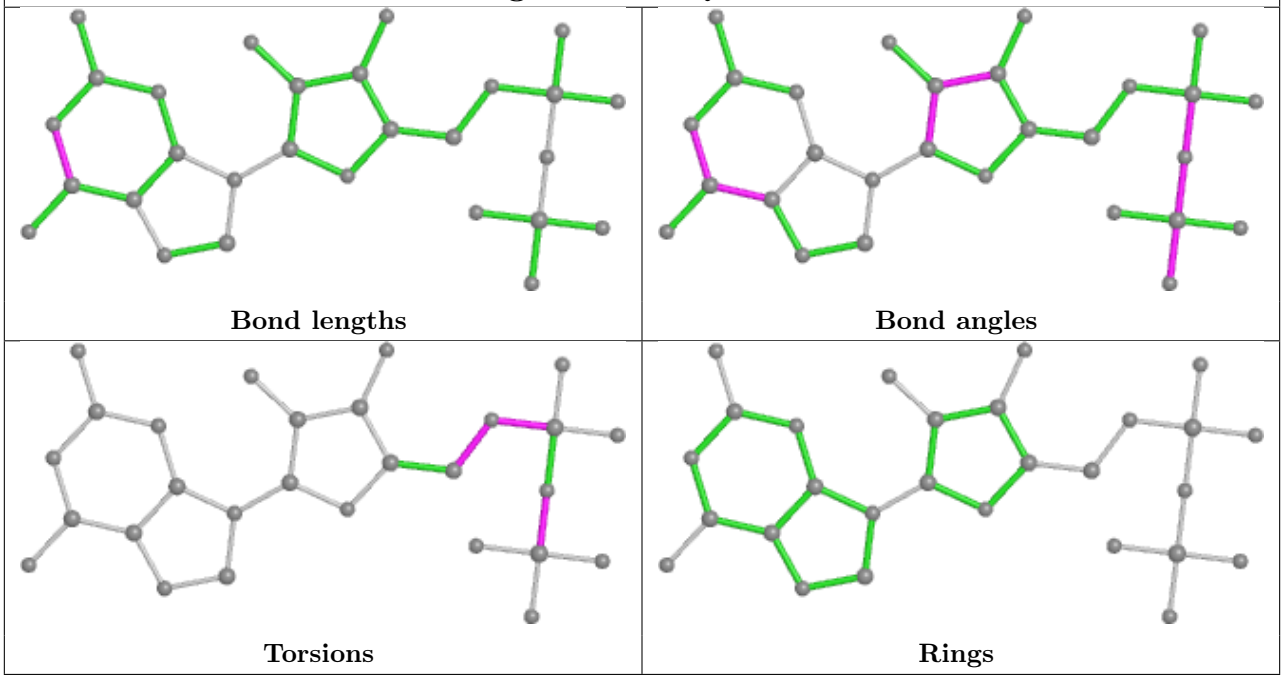

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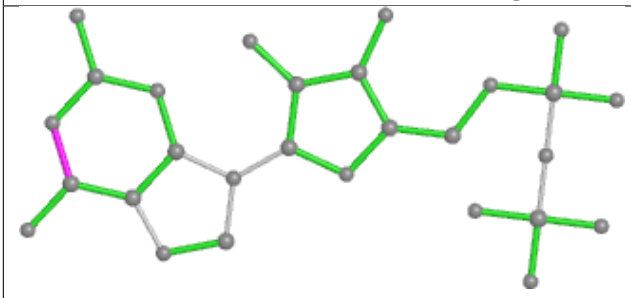

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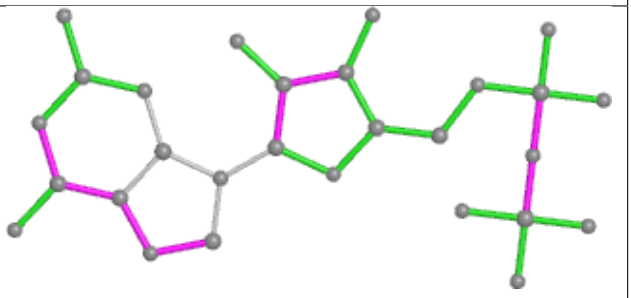

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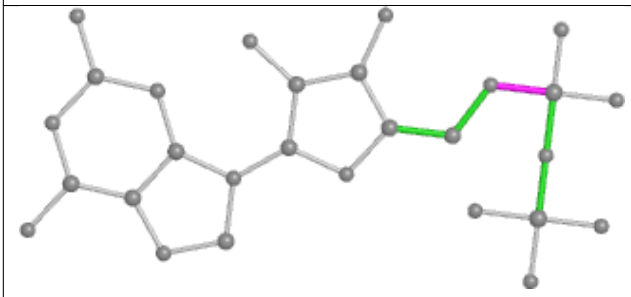

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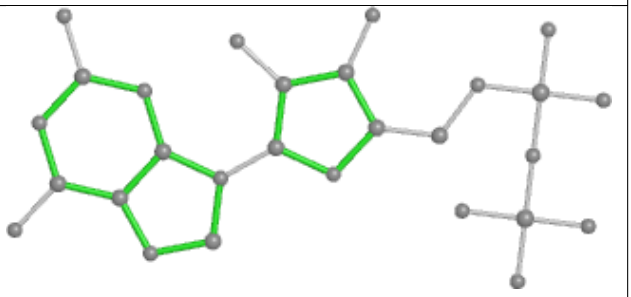
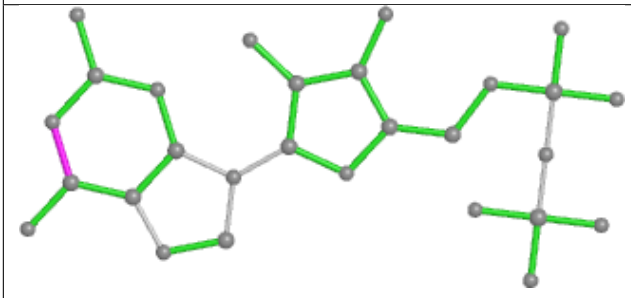


Rings

Ligand GDP LJ 501



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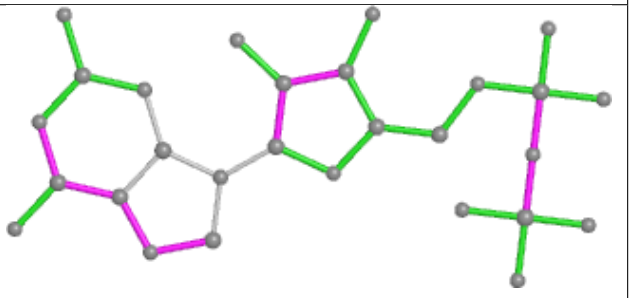

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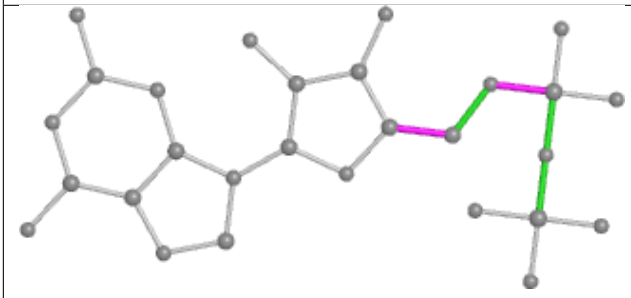

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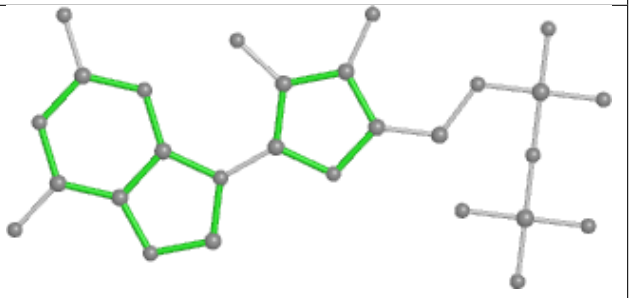
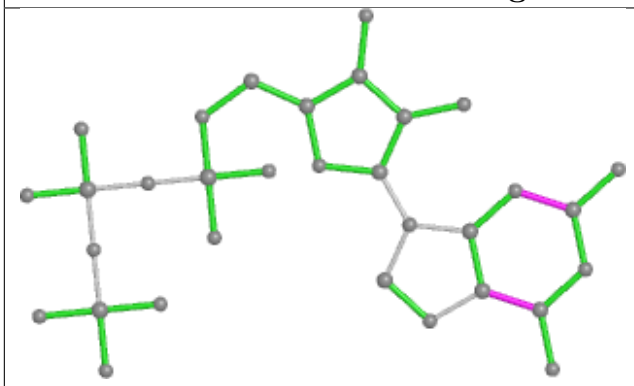


Rings

Ligand GTP KK 501



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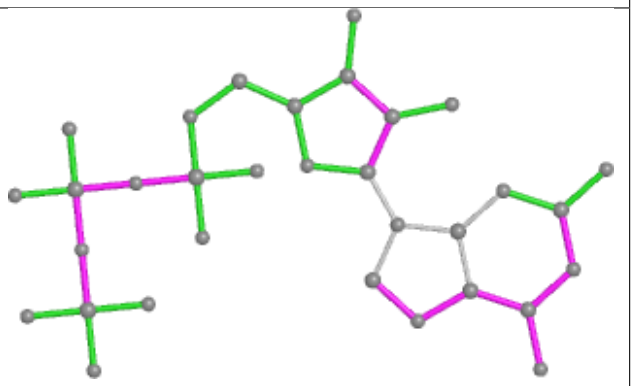

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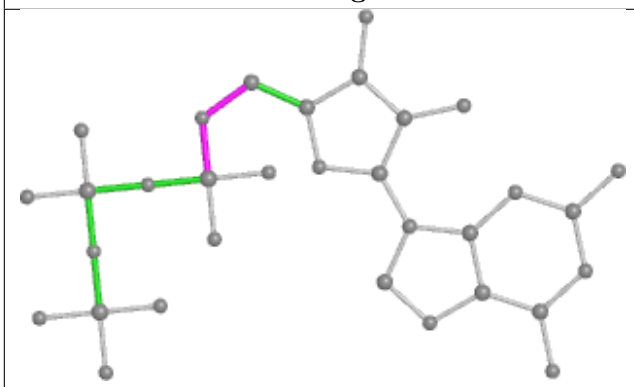

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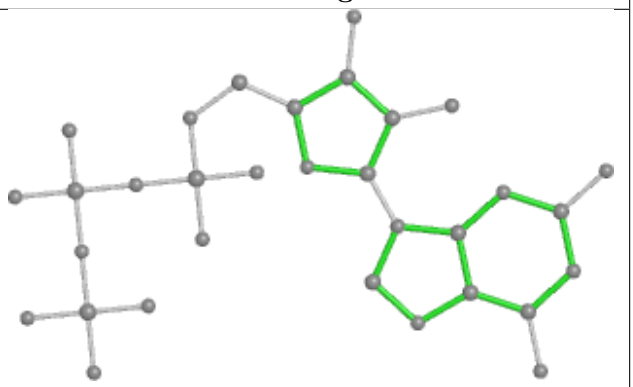

Rings

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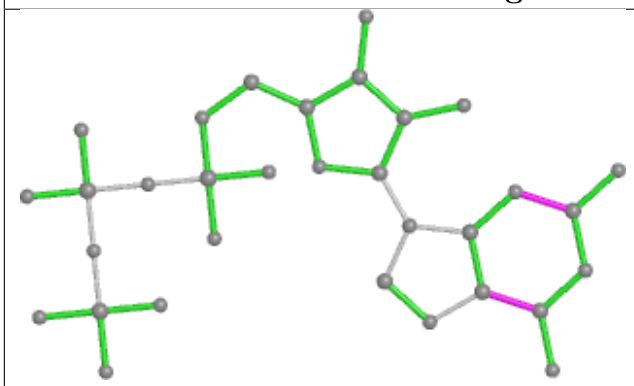

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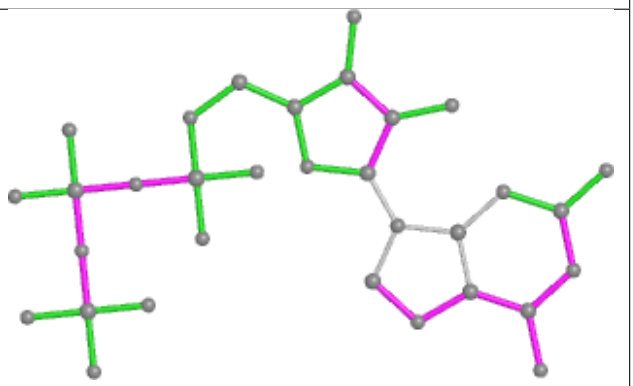

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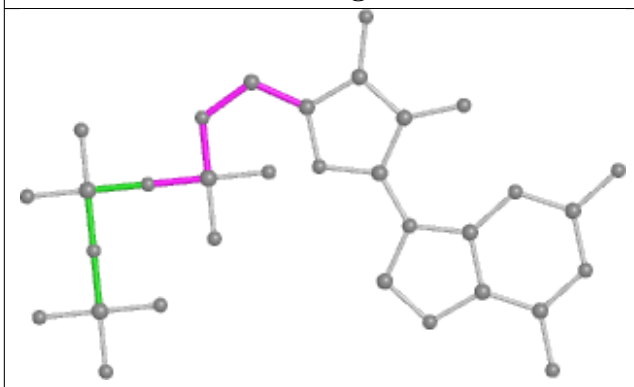

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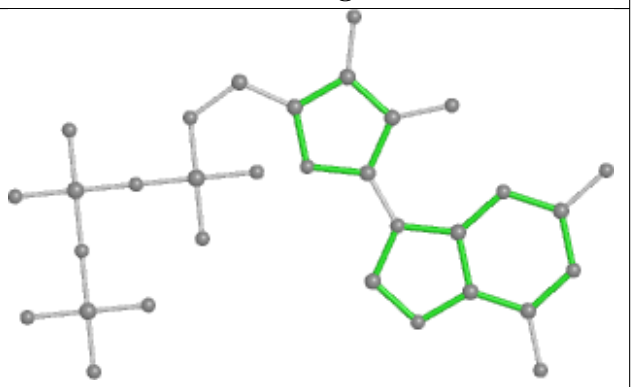
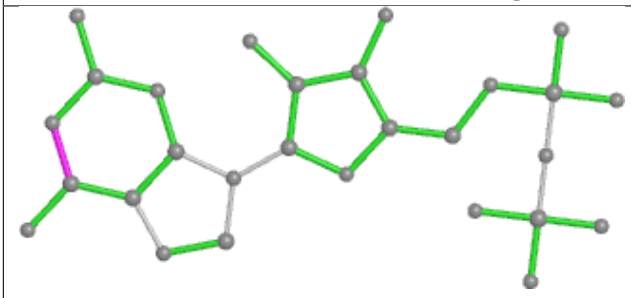


Rings

Ligand GDP BD 501



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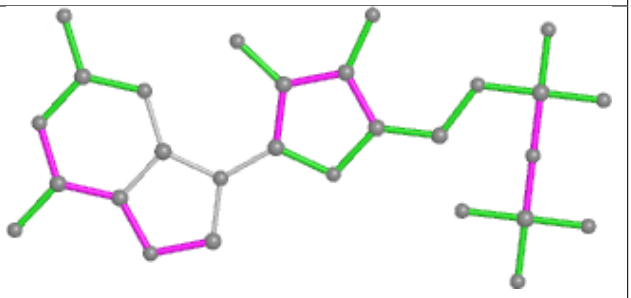

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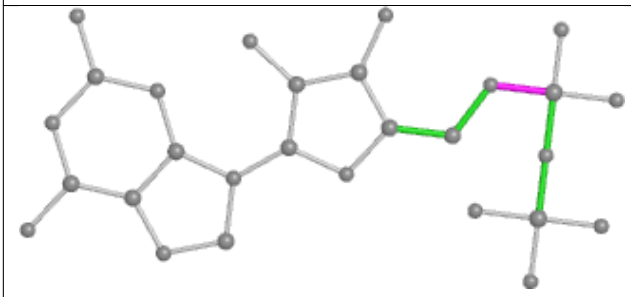

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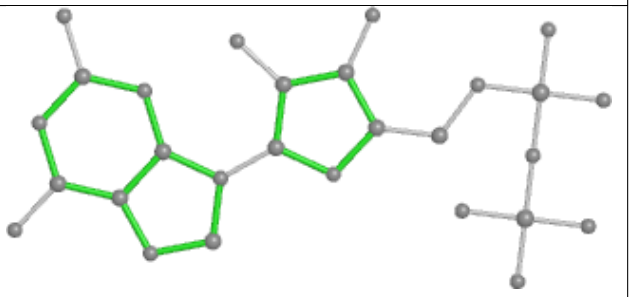
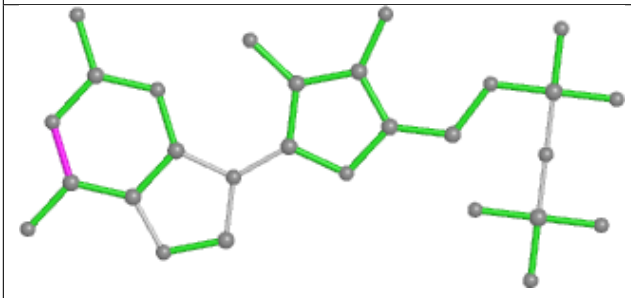


Rings

Ligand GDP FH 501



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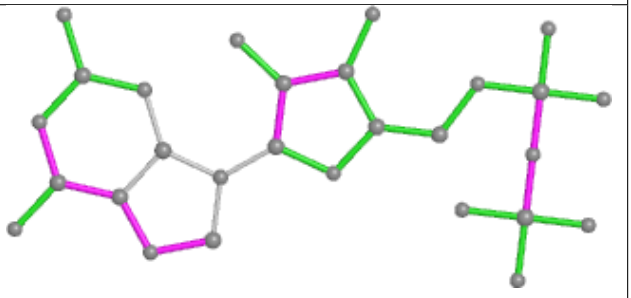

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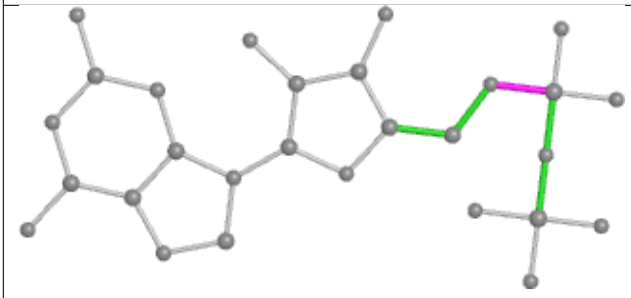

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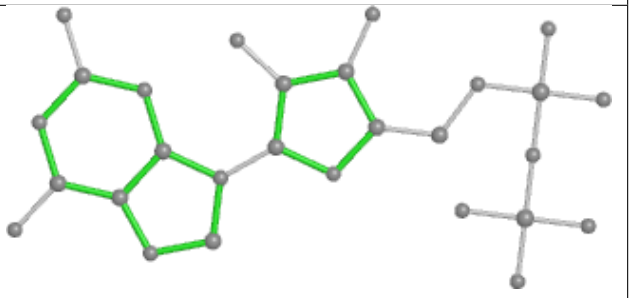
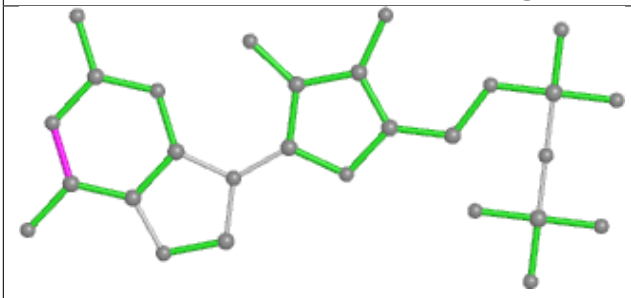


Rings

Ligand GDP IJ 501



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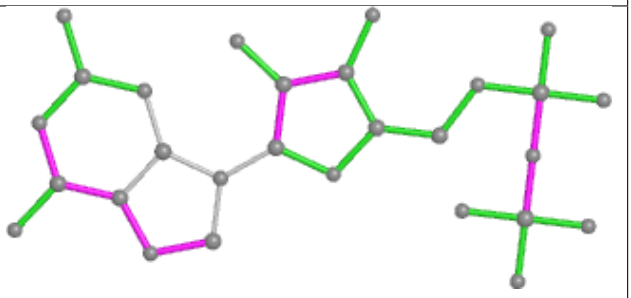

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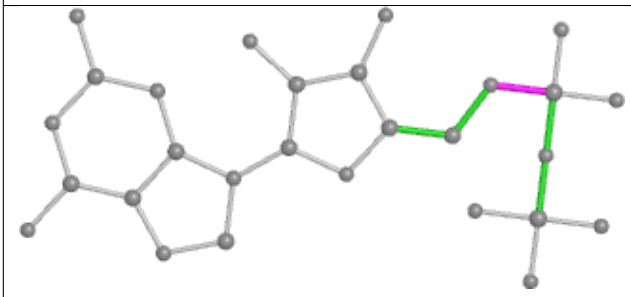

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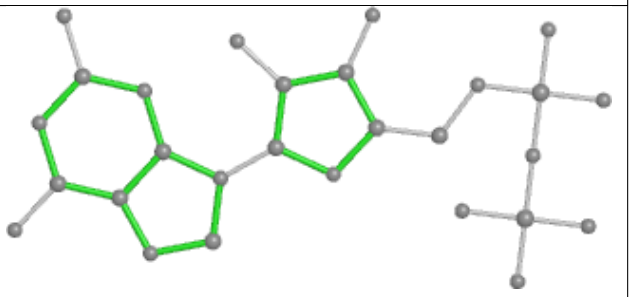
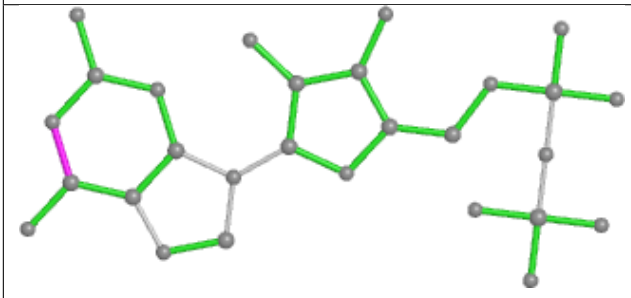


Rings

Ligand GDP RH 501



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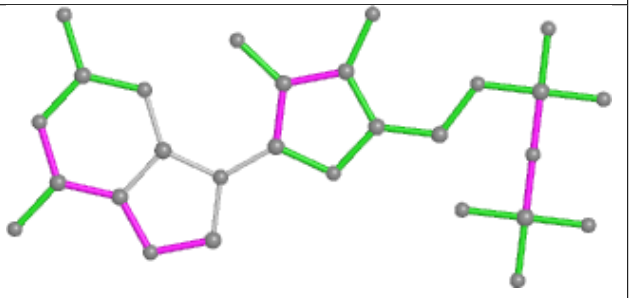
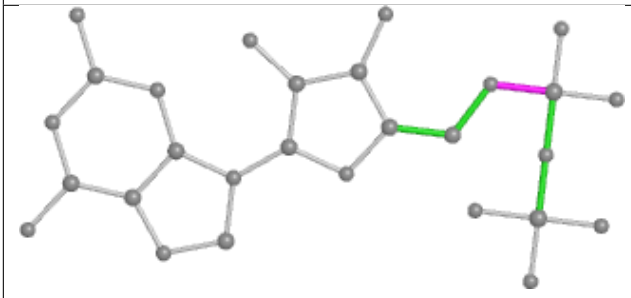


Bond angles



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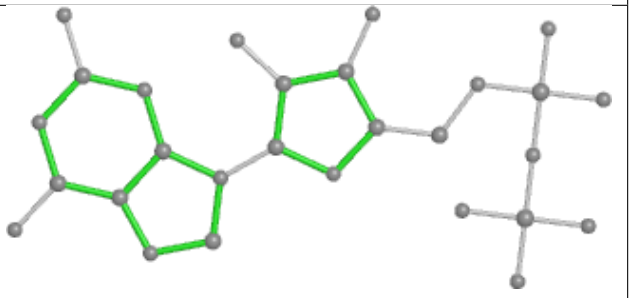
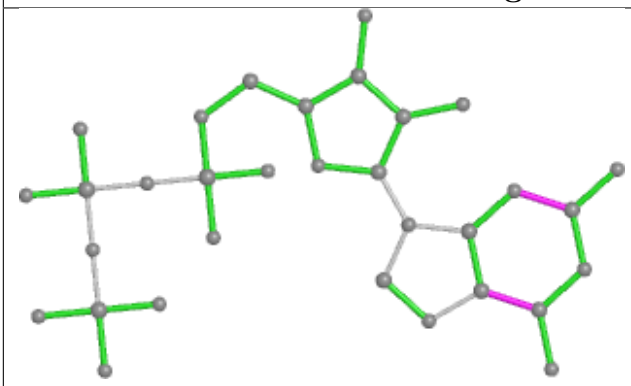


Rings

Ligand GTP MG 501



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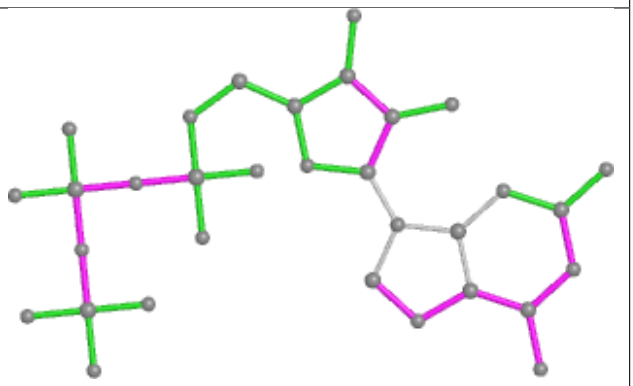

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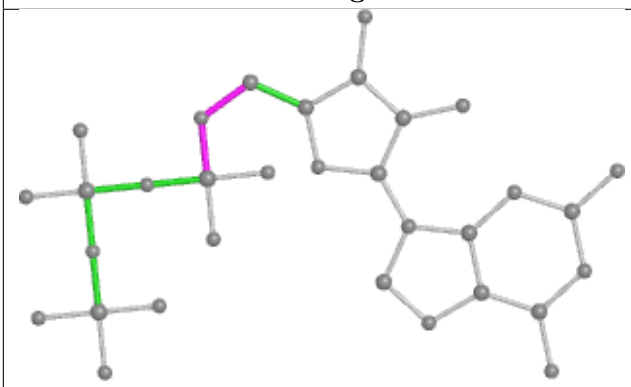
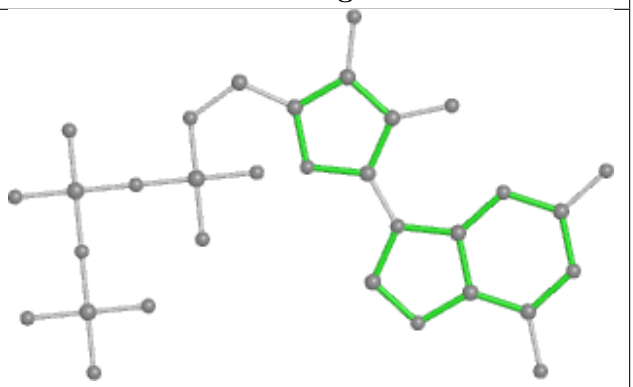
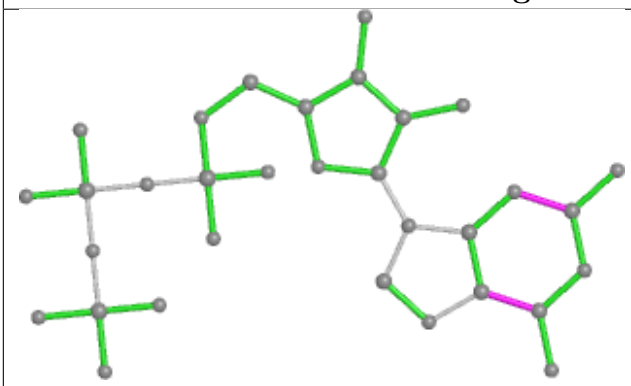


Torsions



Rings

Ligand GTP JA 501



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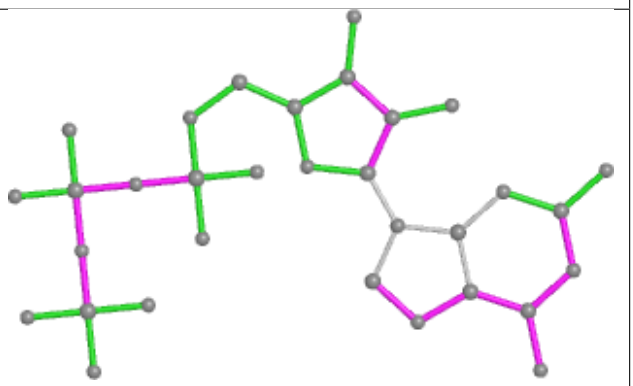

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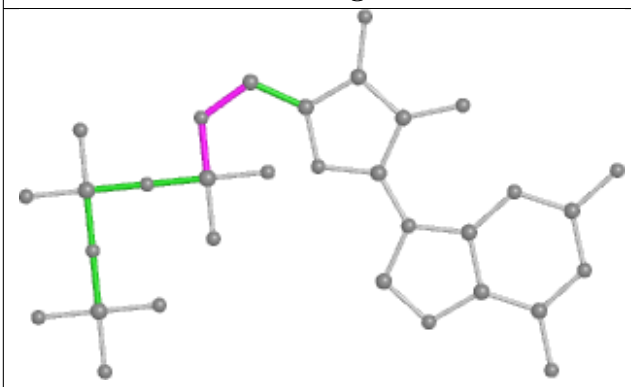

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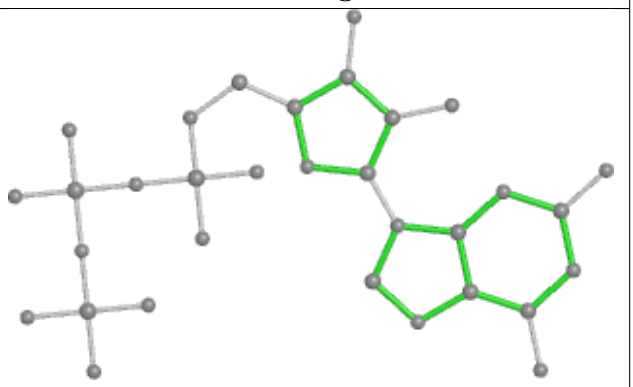
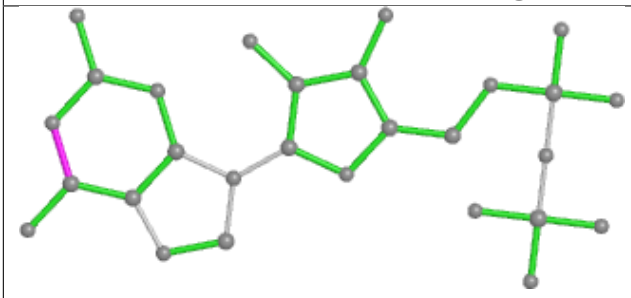


Rings

Ligand GDP SH 501



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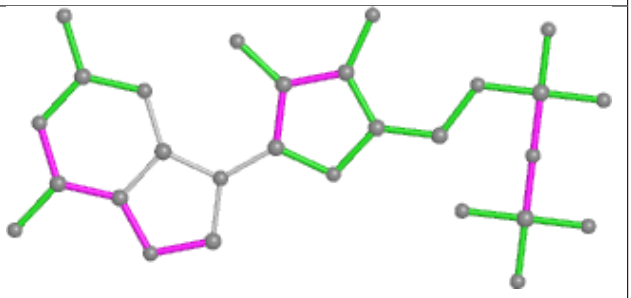

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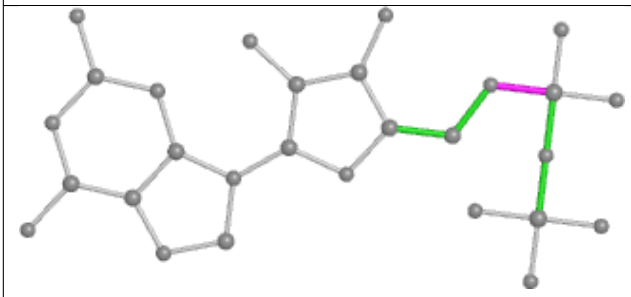

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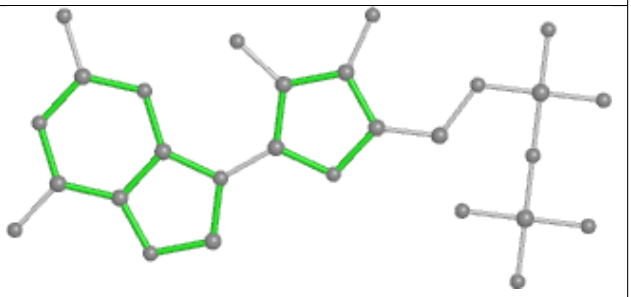
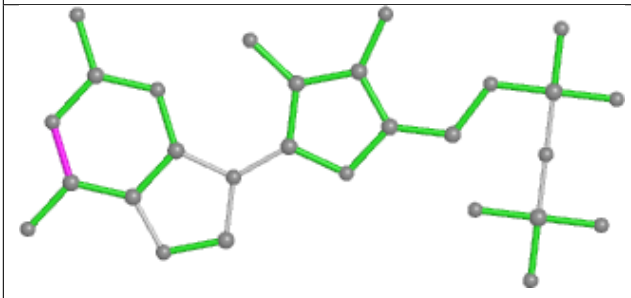


Rings

Ligand GDP CF 501



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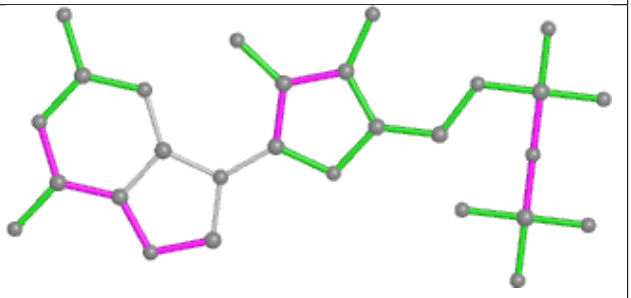

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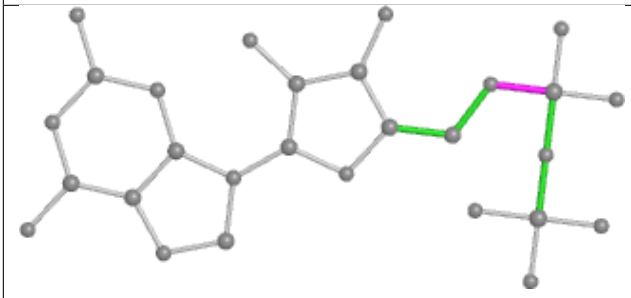

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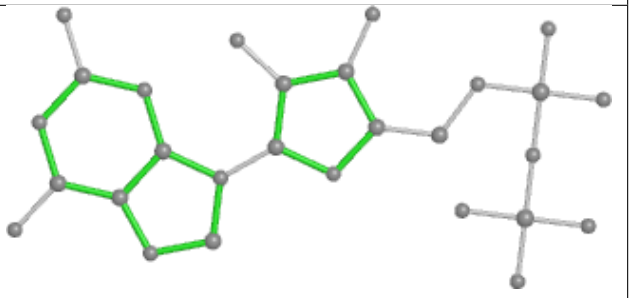

Rings

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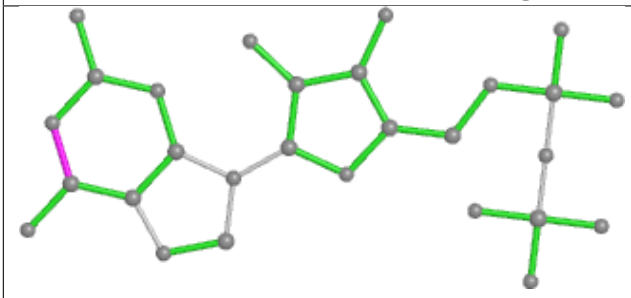

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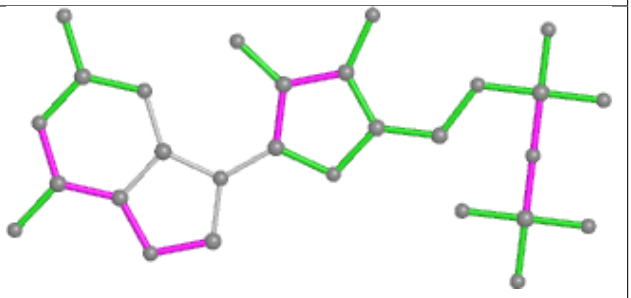

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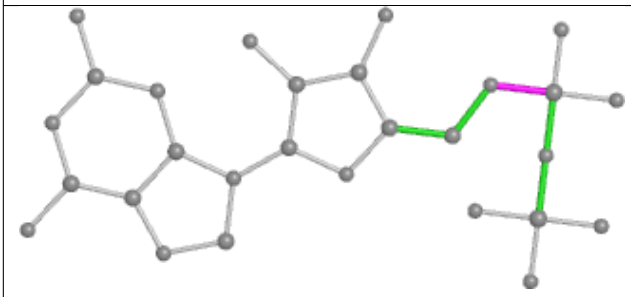

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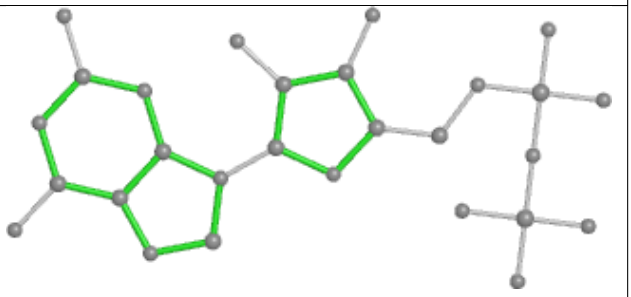

Rings

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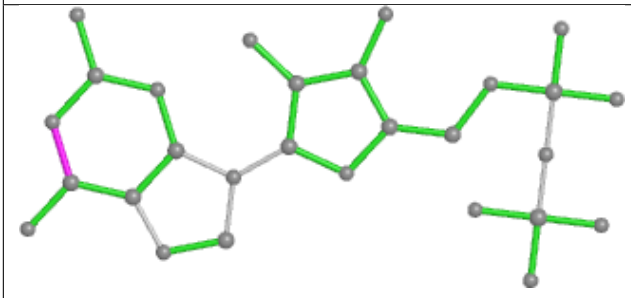

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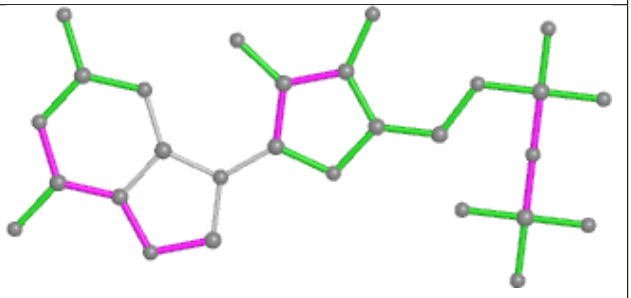

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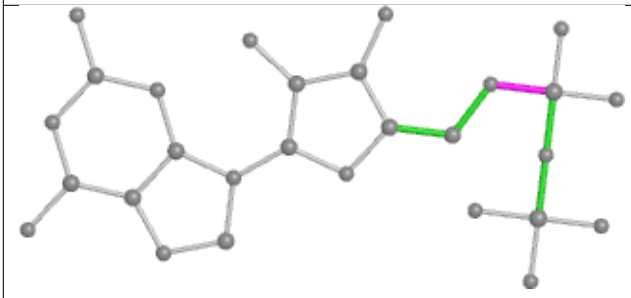

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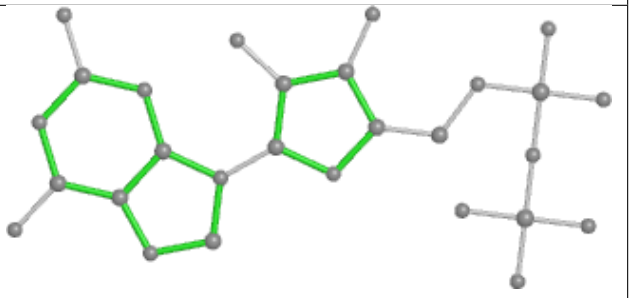
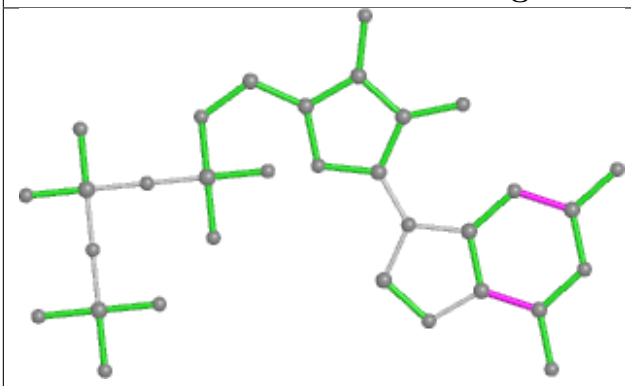


Rings

Ligand GTP LA 501



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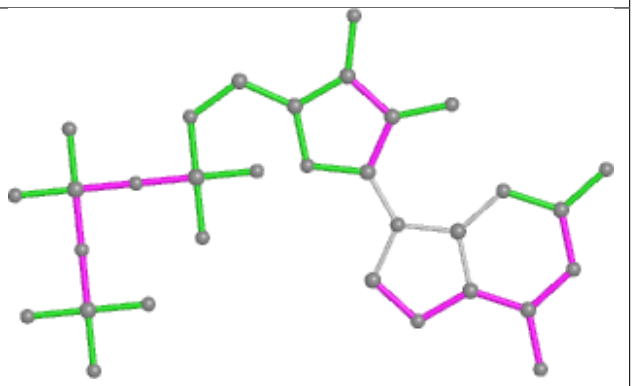

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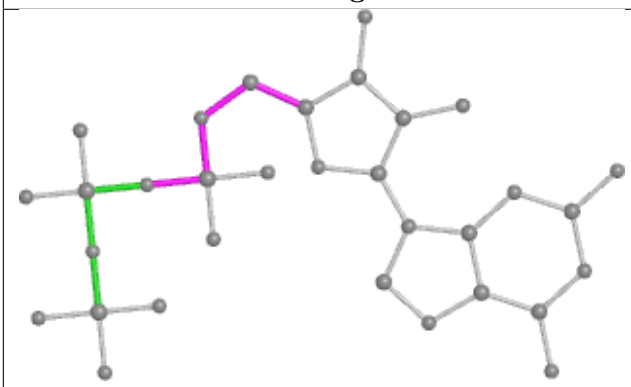

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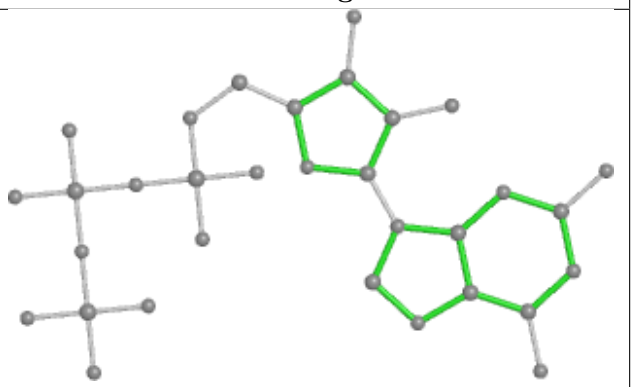

Rings

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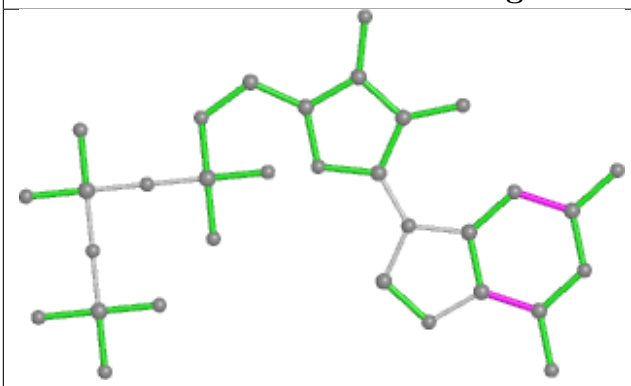

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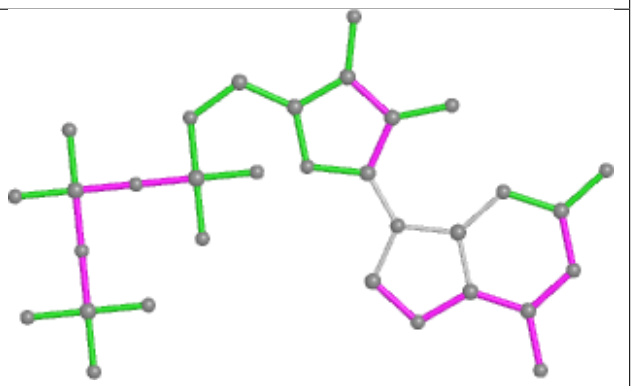

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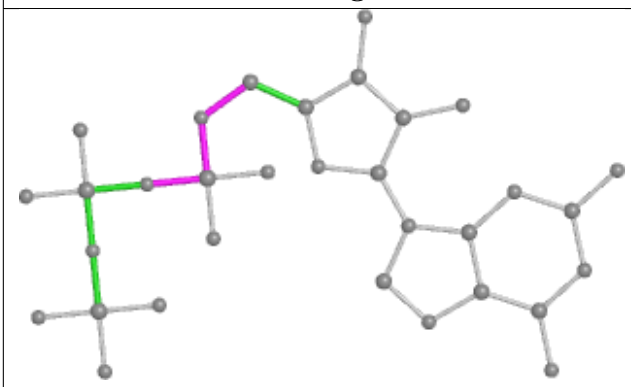

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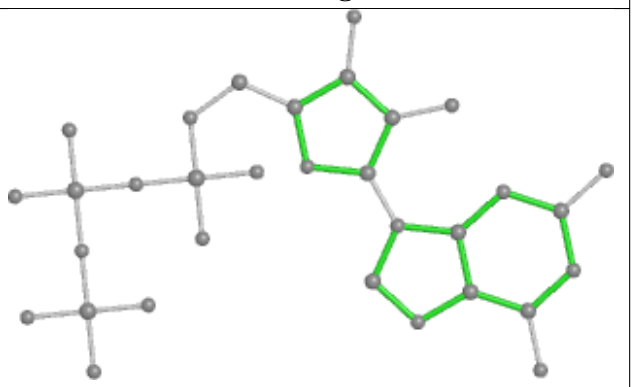
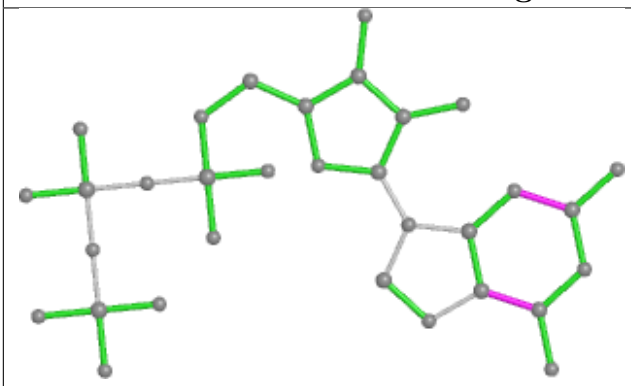


Rings

Ligand GTP IK 501



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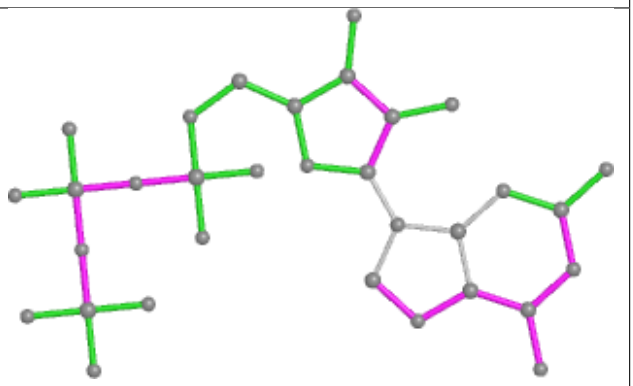

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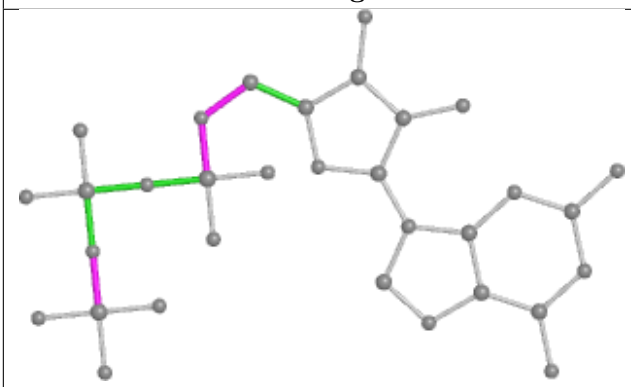

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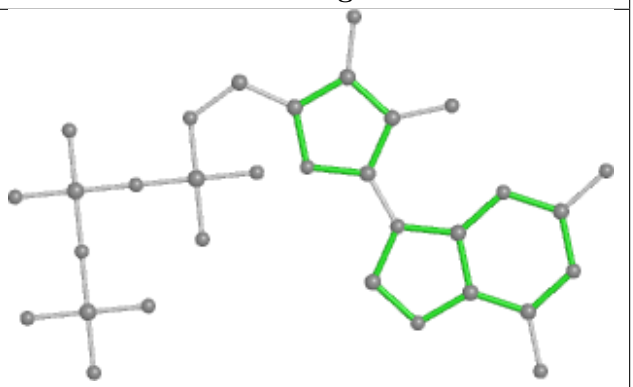

Rings

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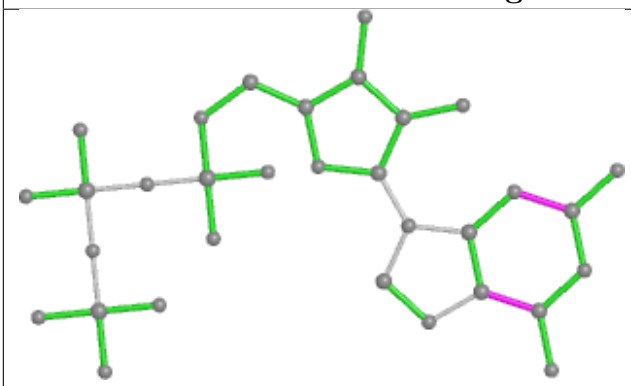

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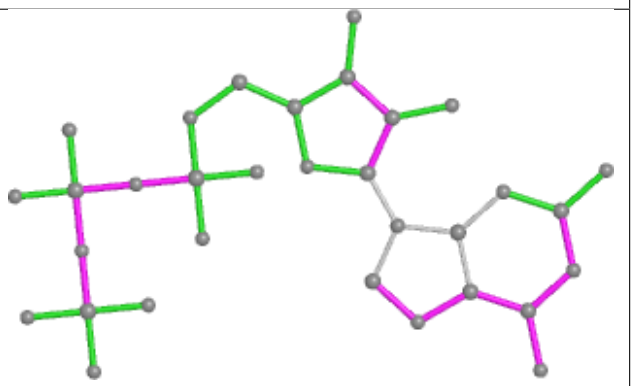

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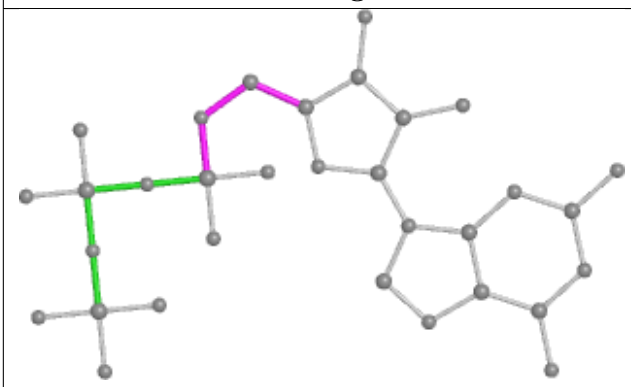

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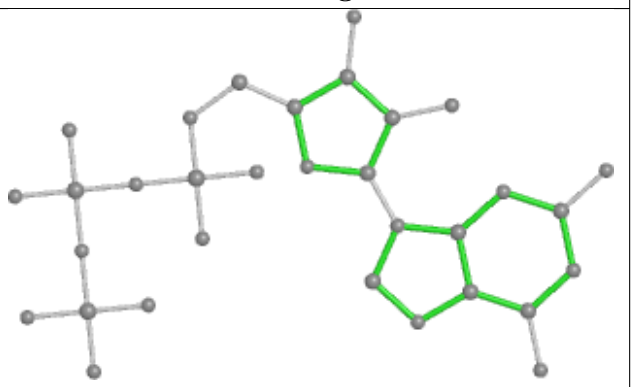

Rings

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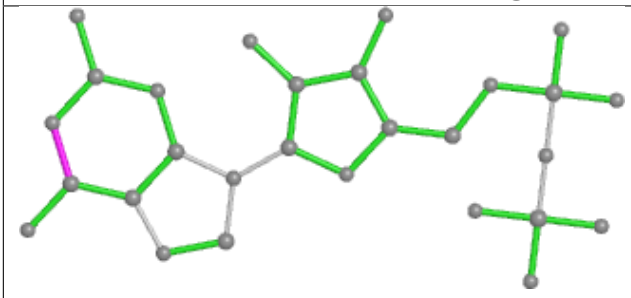

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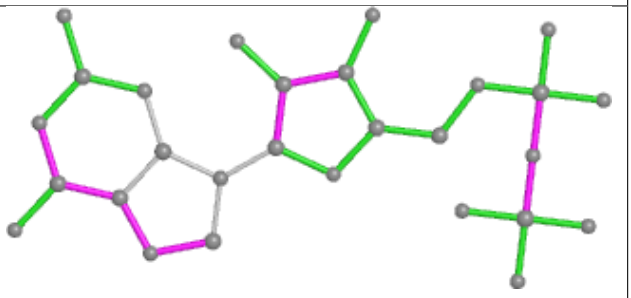

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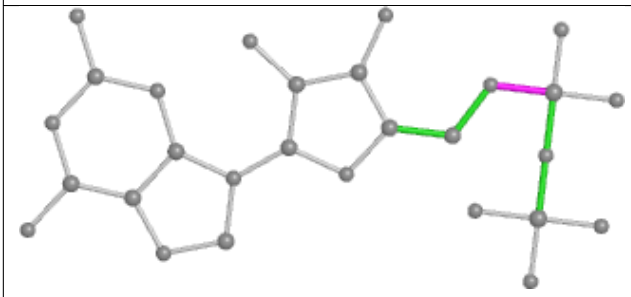

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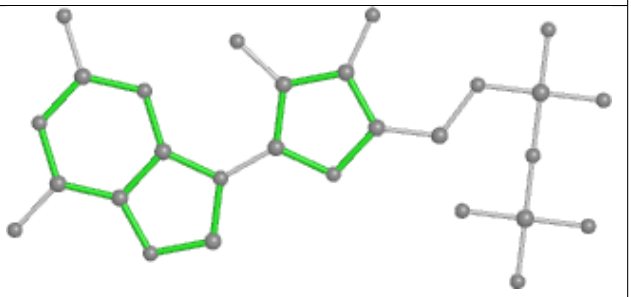
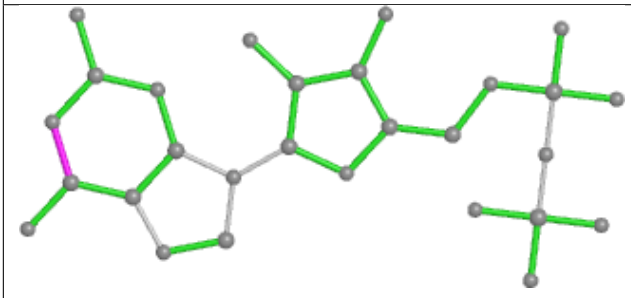


Rings

Ligand GDP GH 501



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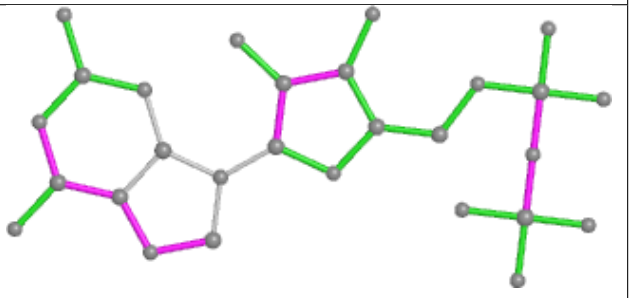

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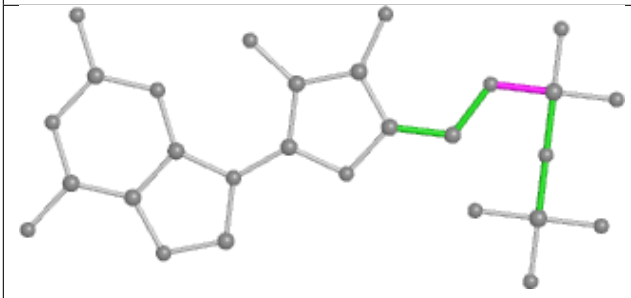

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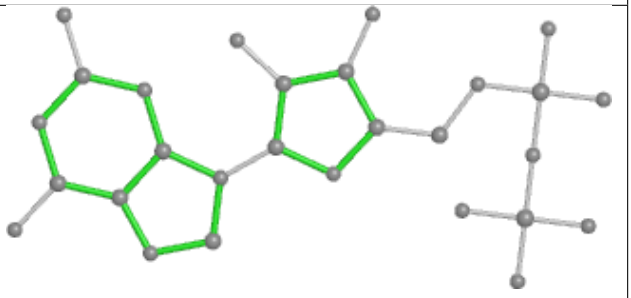
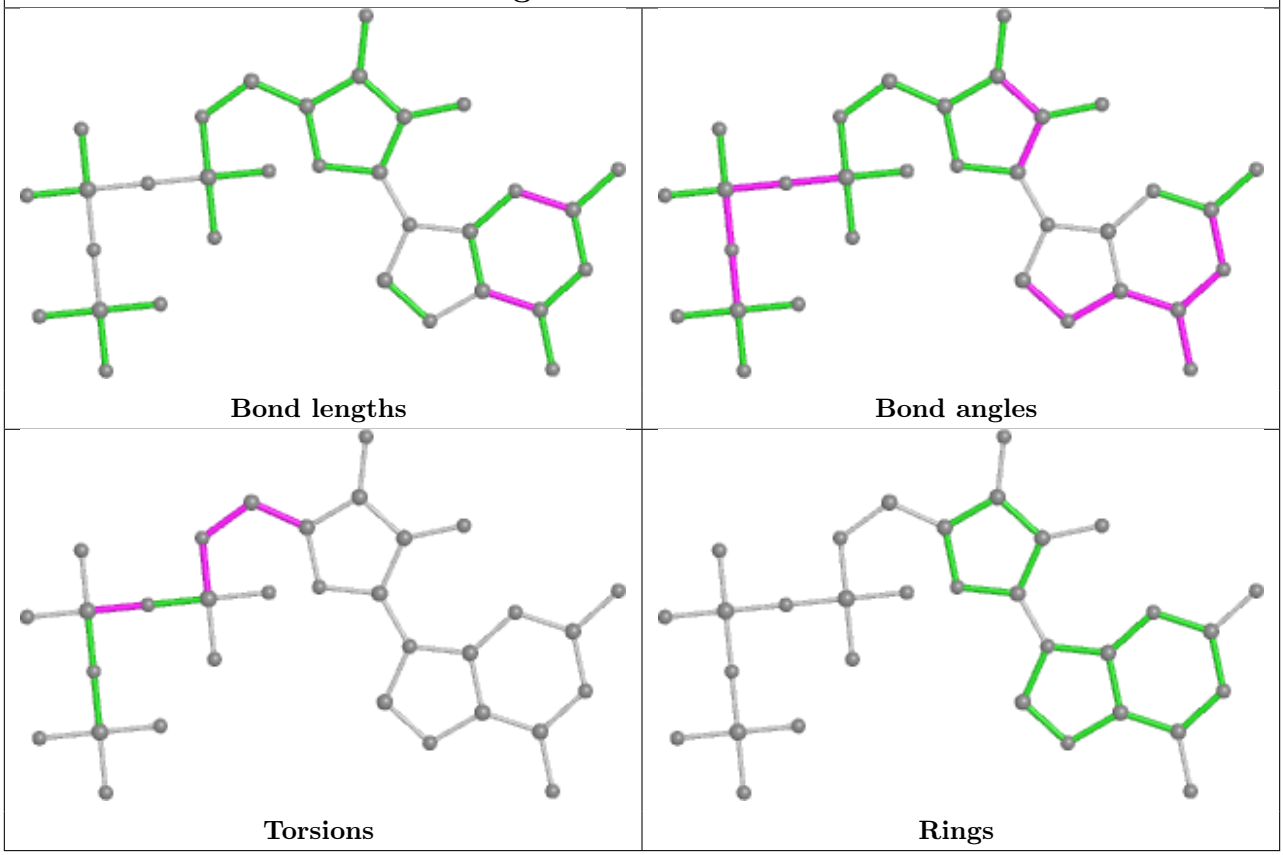


Rings

Ligand GTP JK 501



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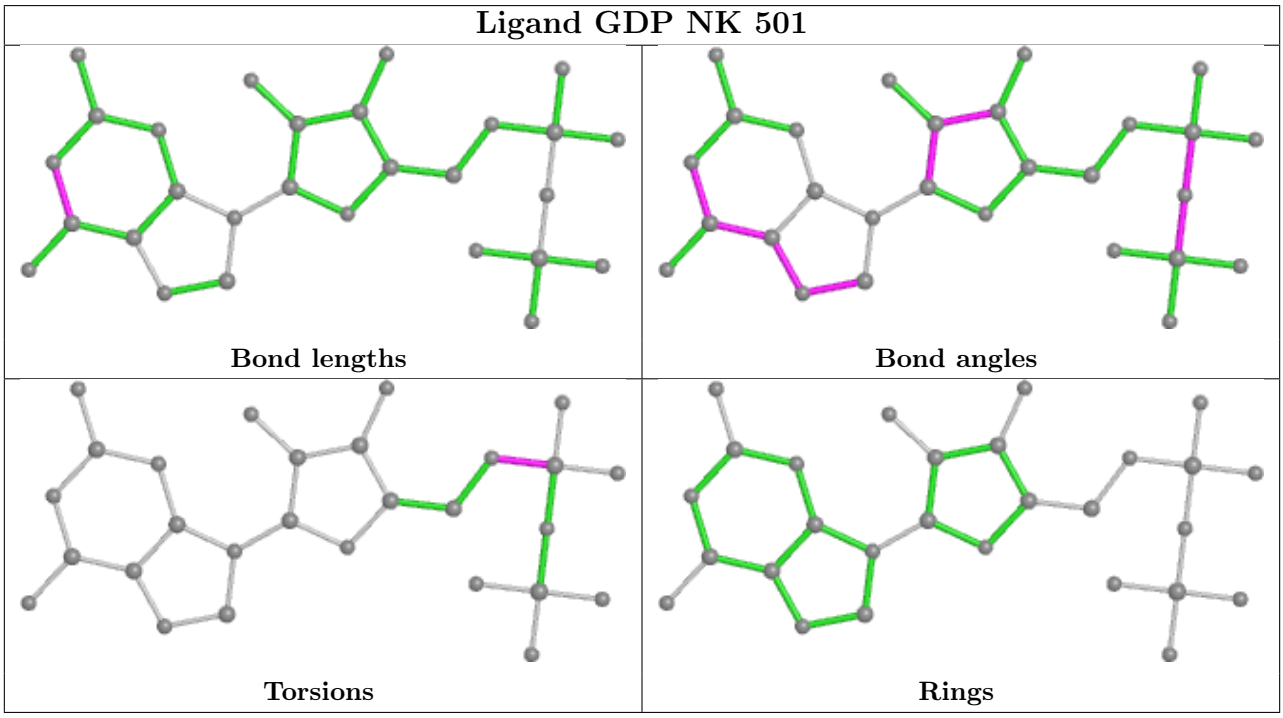

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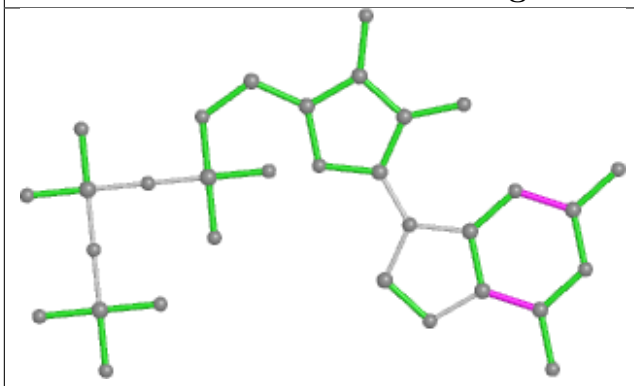

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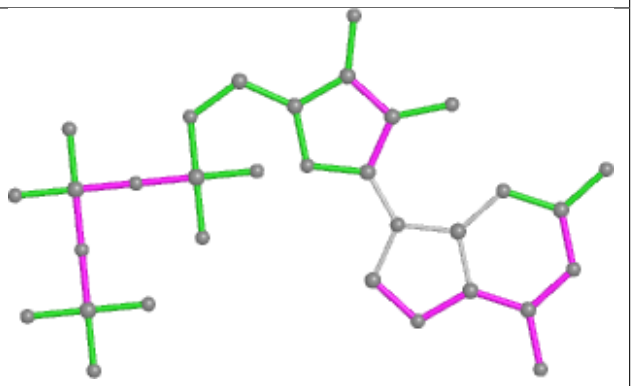

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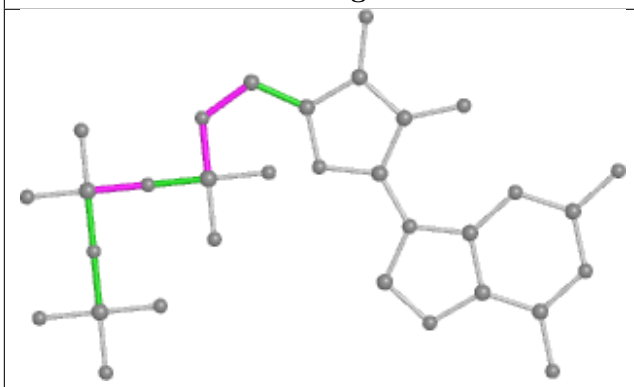

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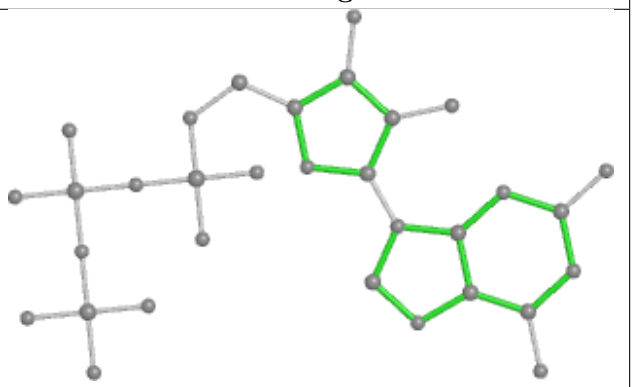
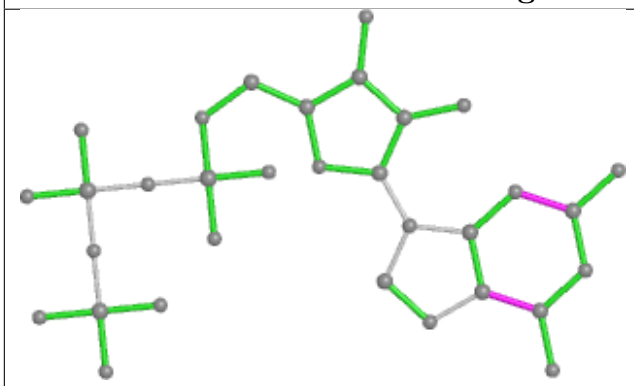


Rings

Ligand GTP TI 501



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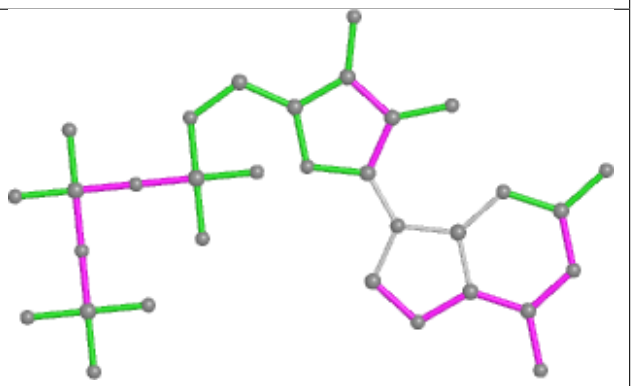

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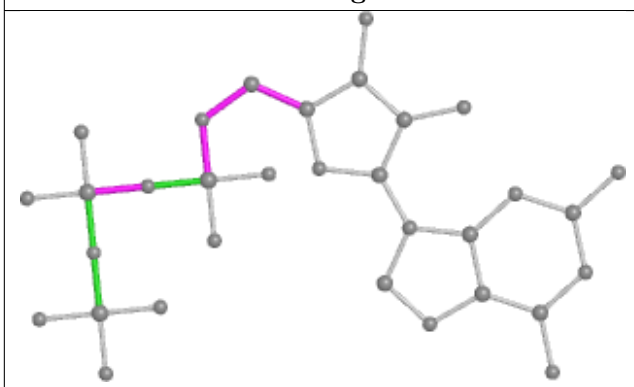

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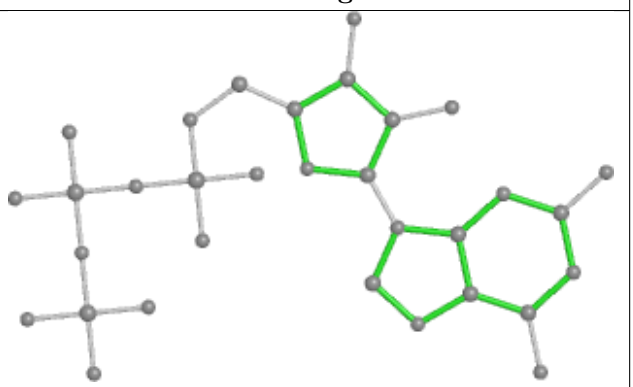
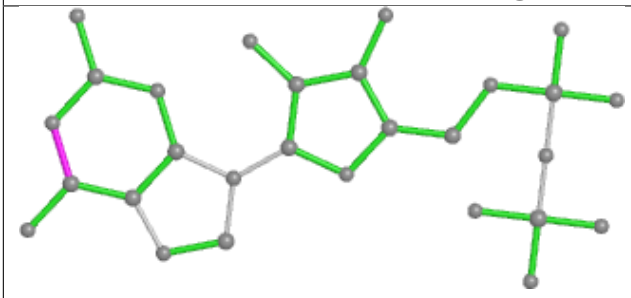
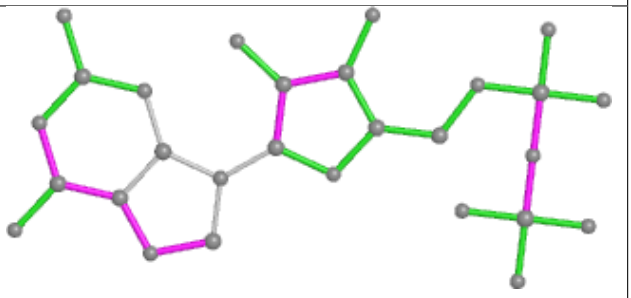
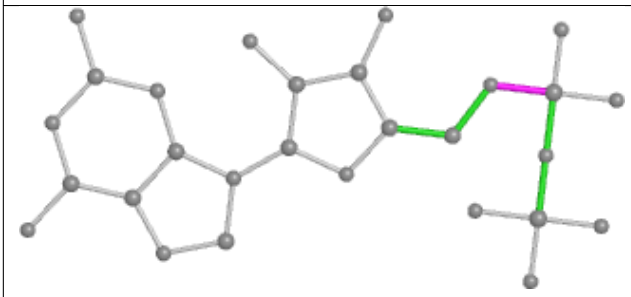
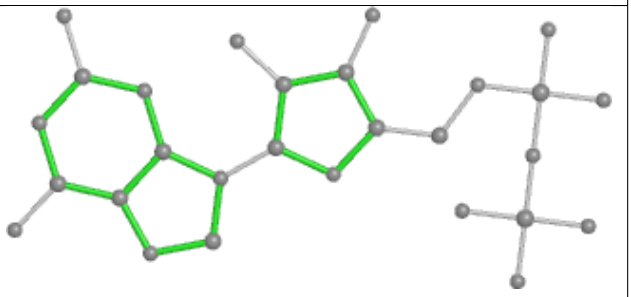


Rings

Ligand GDP GJ 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

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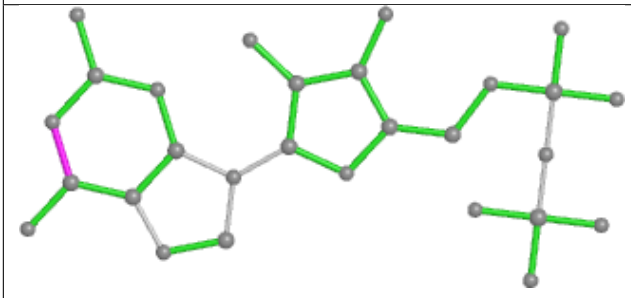
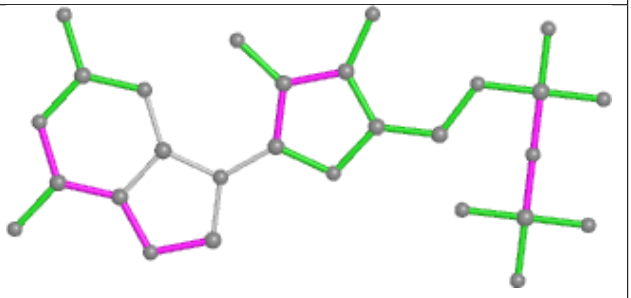
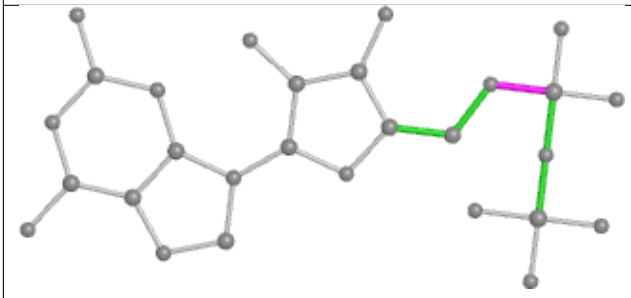
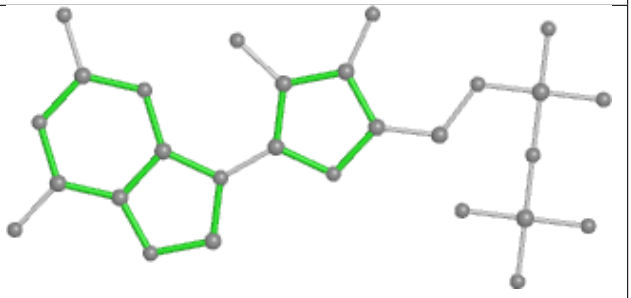
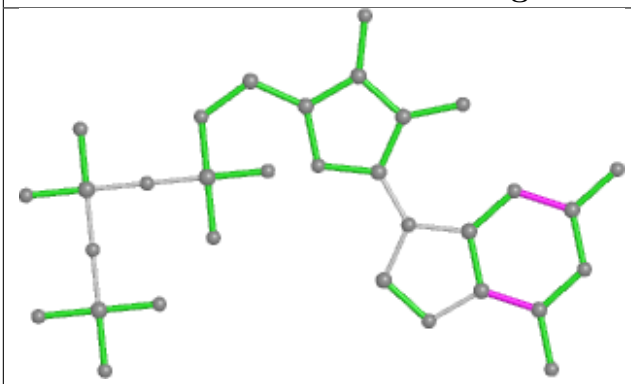
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand GTP BE 501



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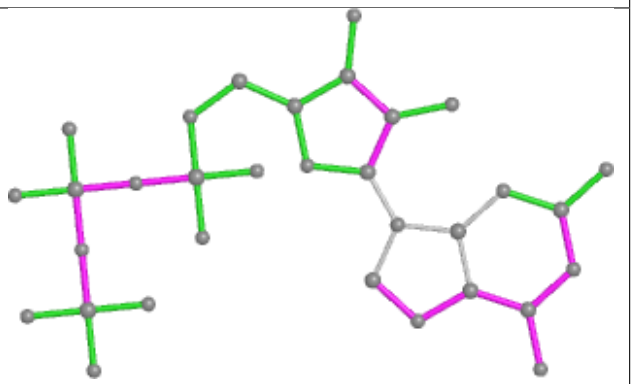

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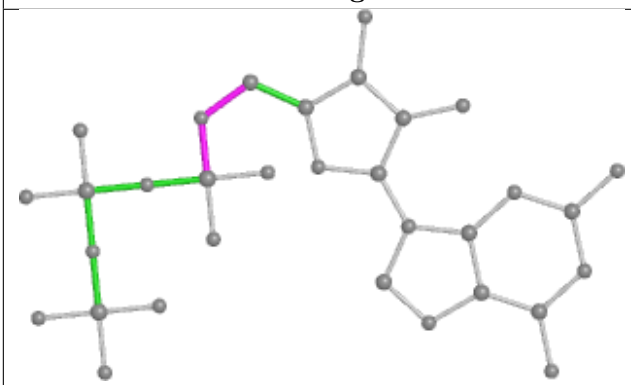

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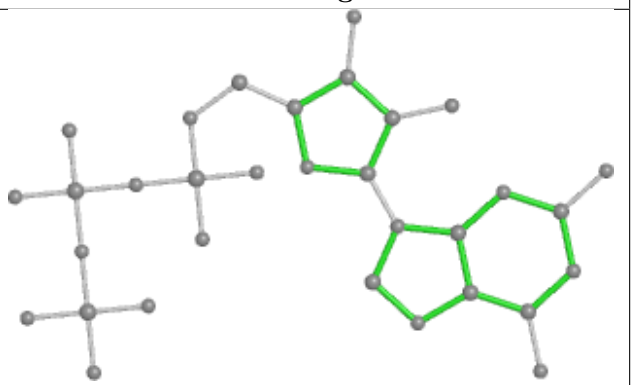

Rings

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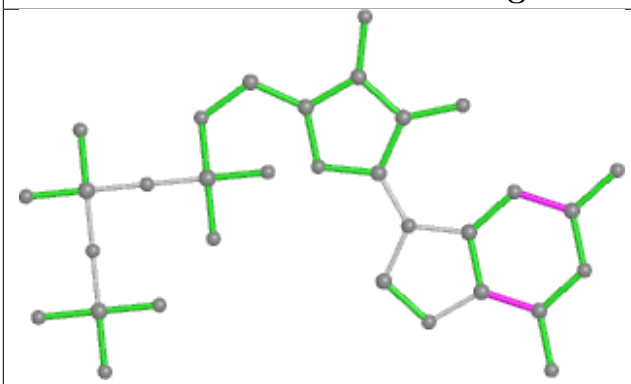

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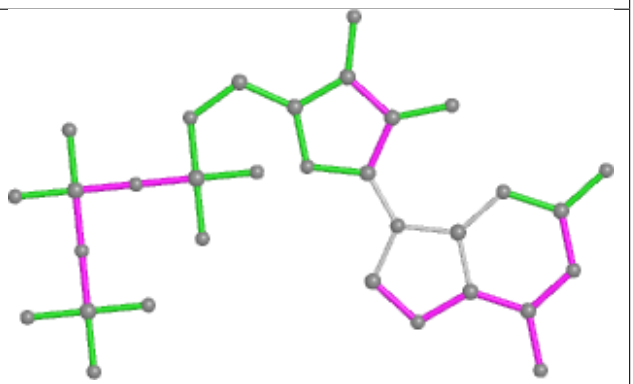

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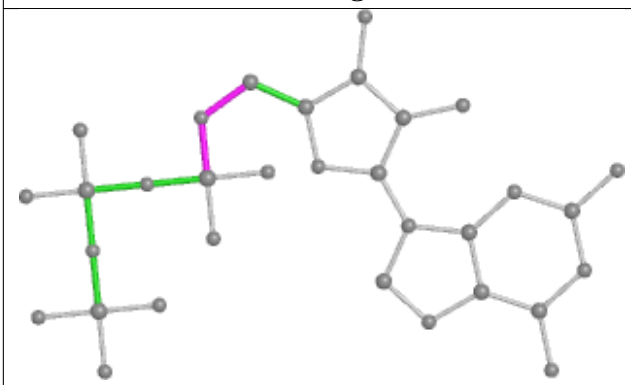

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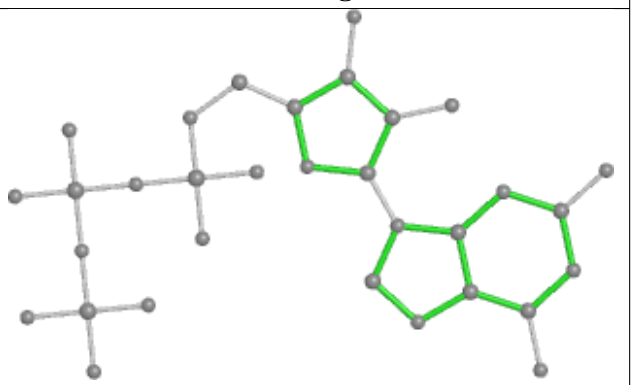

Rings

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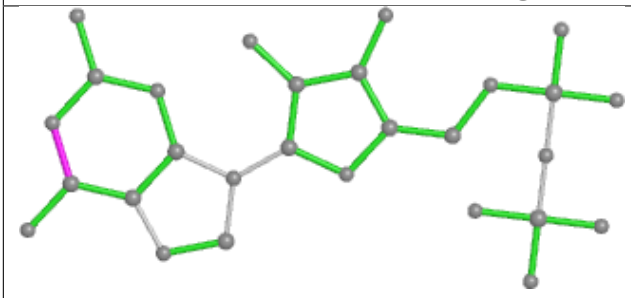	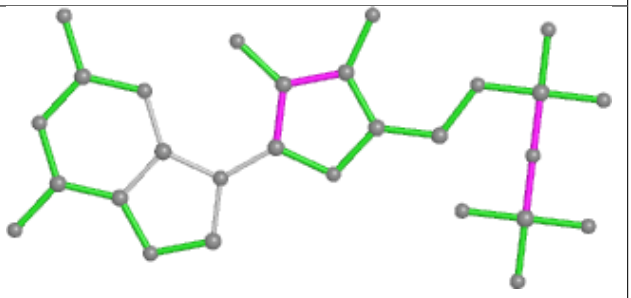
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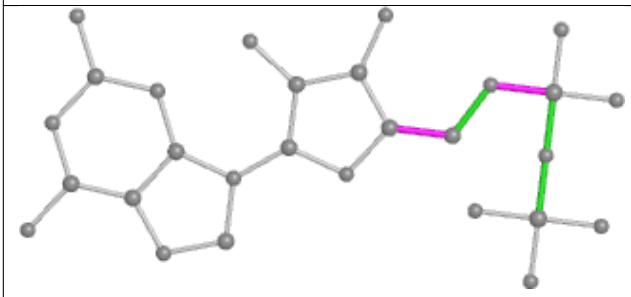
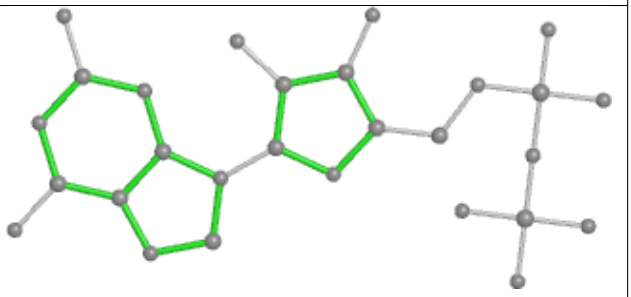
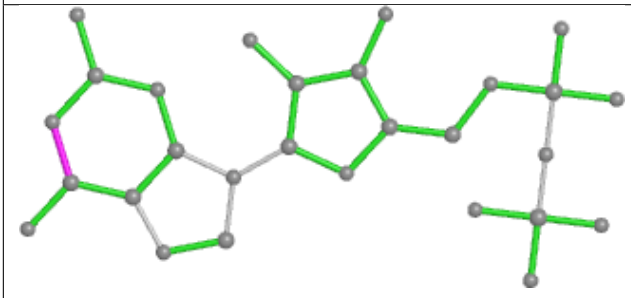
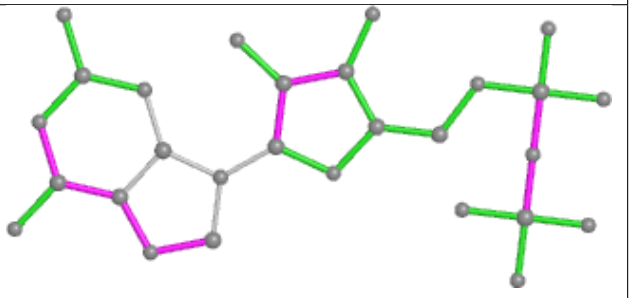
	
Torsions	Rings

Ligand GDP KC 501	
	
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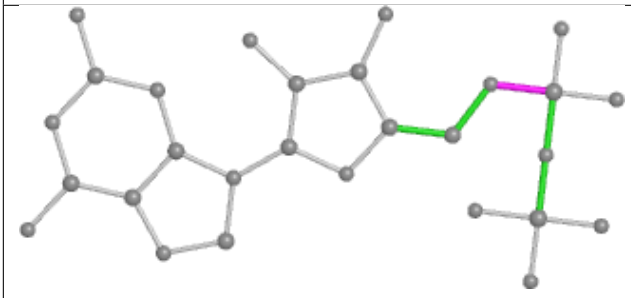
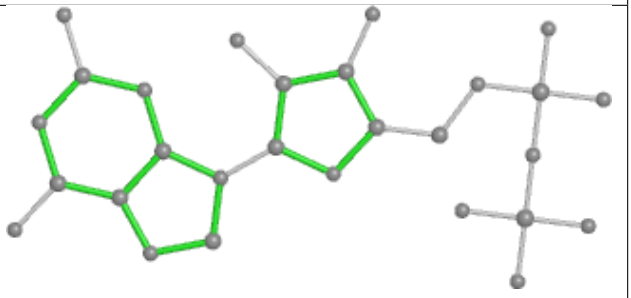
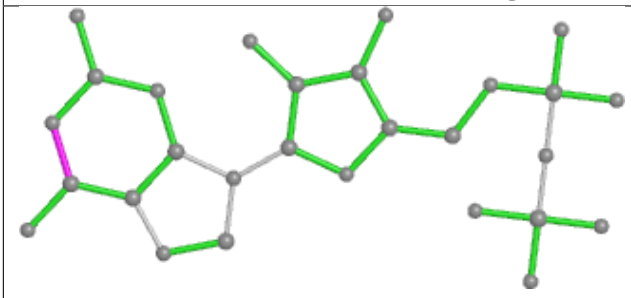
	
Torsions	Rings

Ligand GDP GM 501



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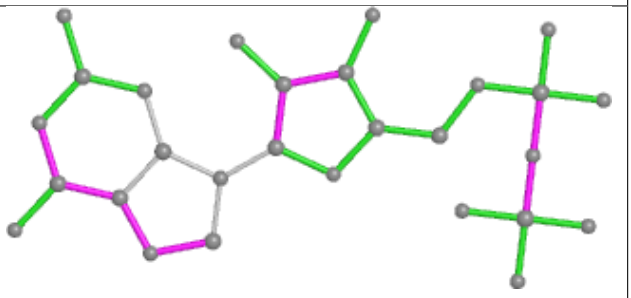

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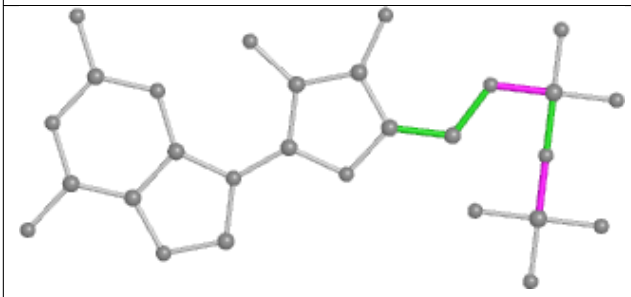

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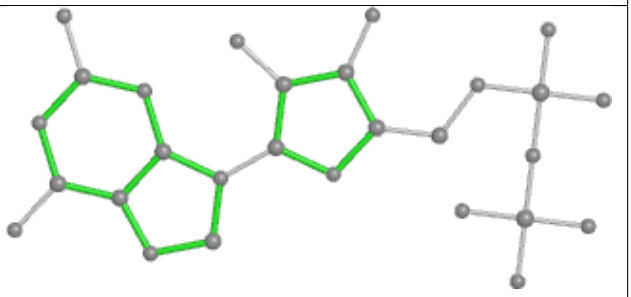
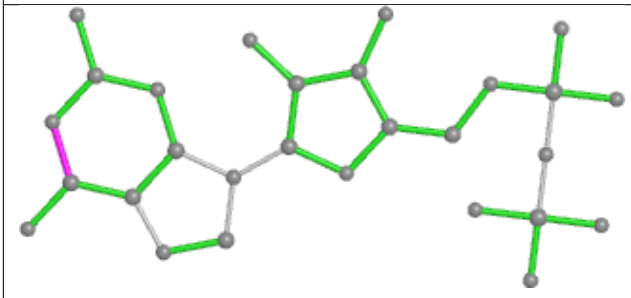


Rings

Ligand GDP KJ 501



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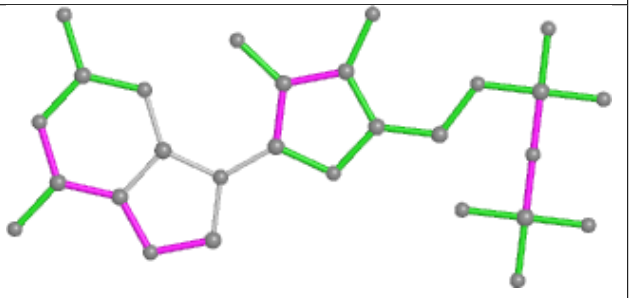

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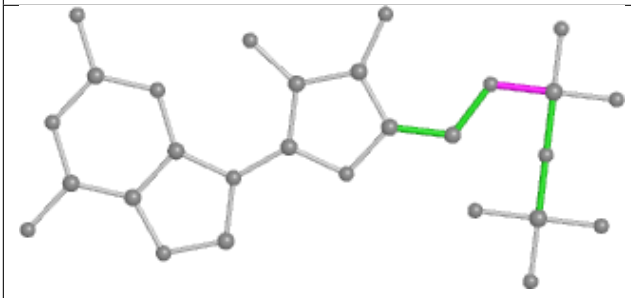

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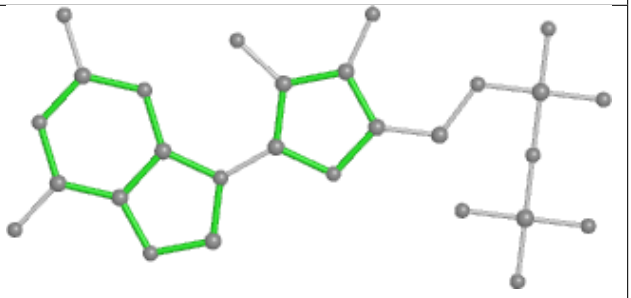

Rings

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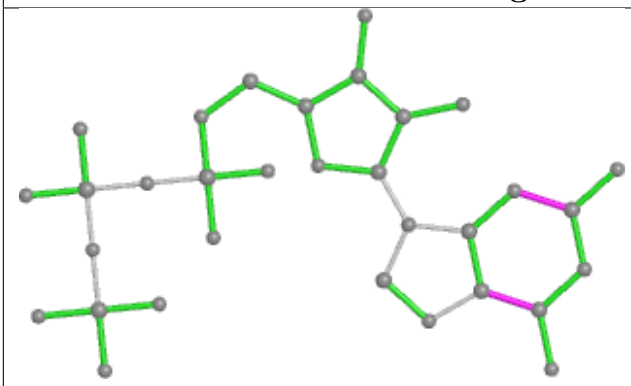

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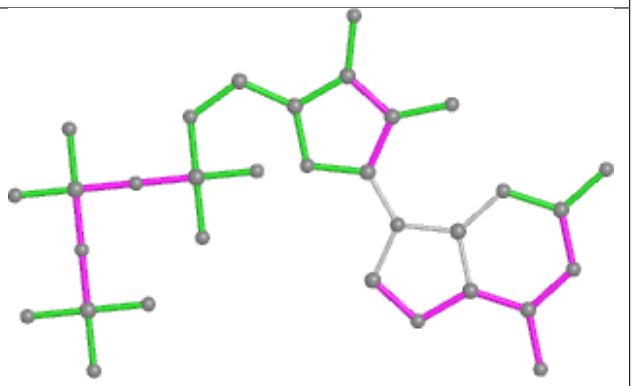

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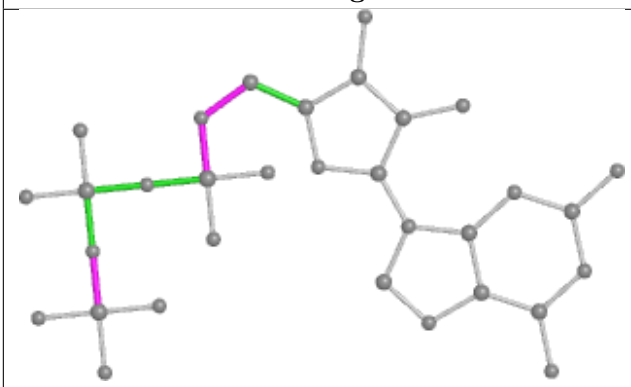

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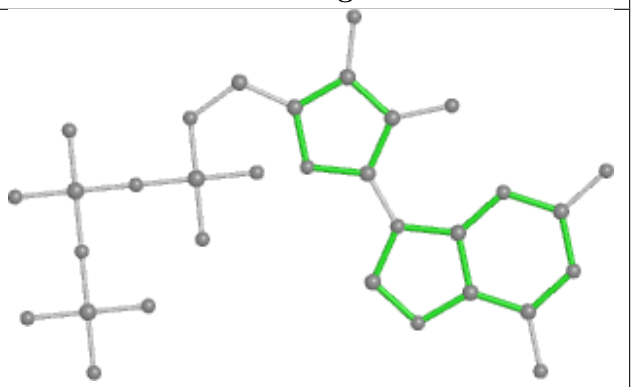

Rings

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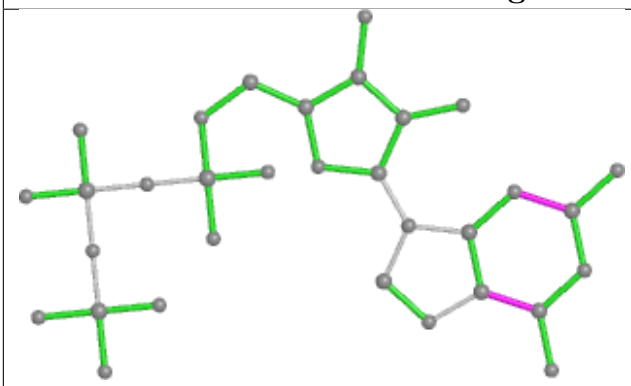

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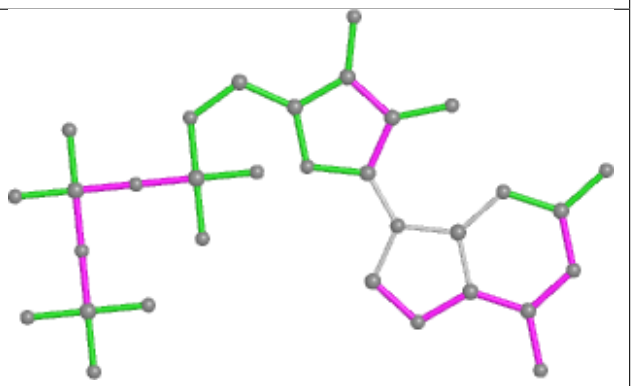

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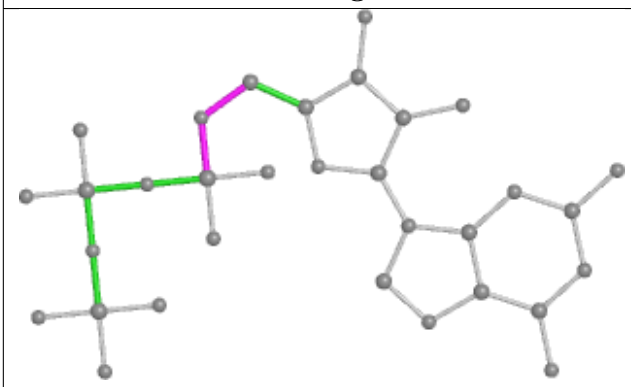

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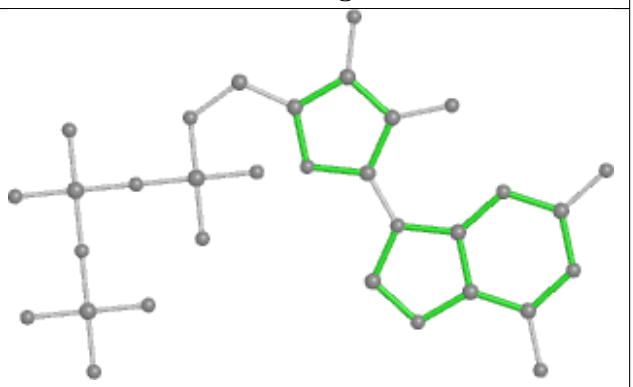

Rings

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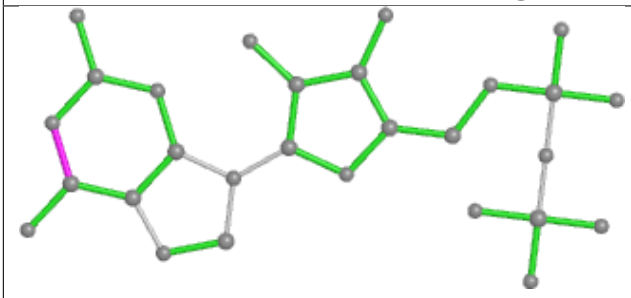

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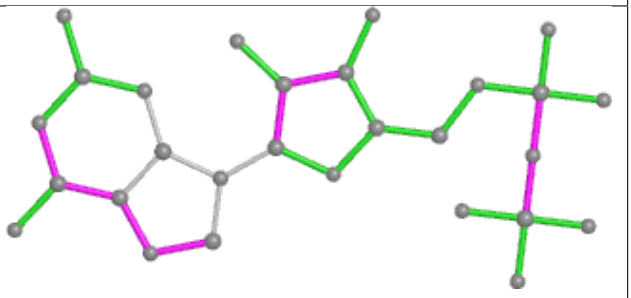

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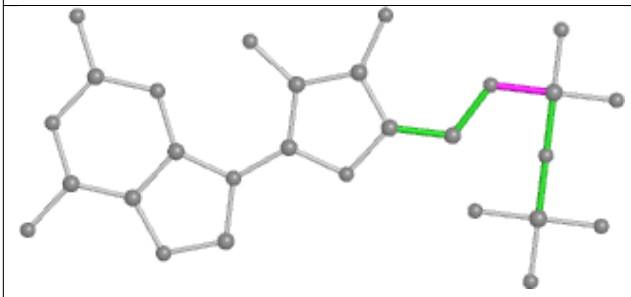

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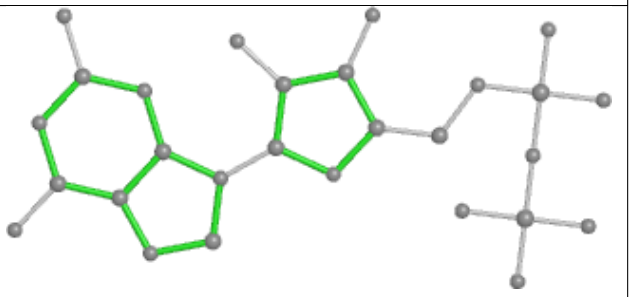

Rings

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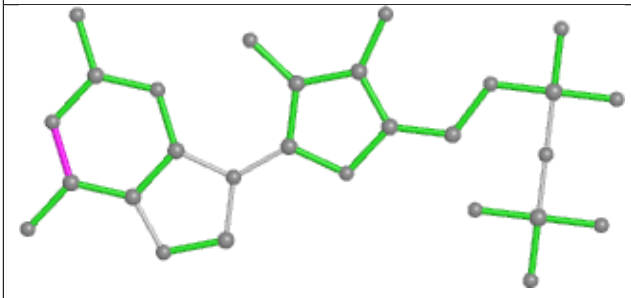

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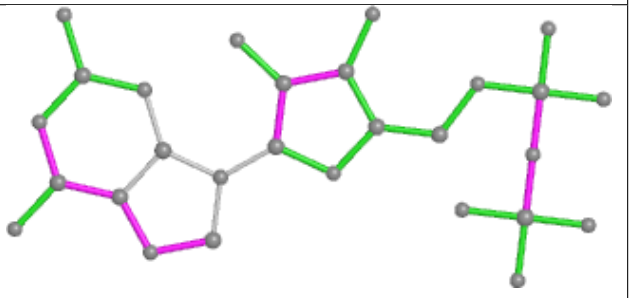

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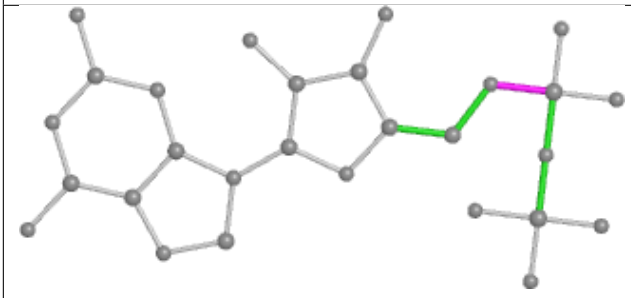

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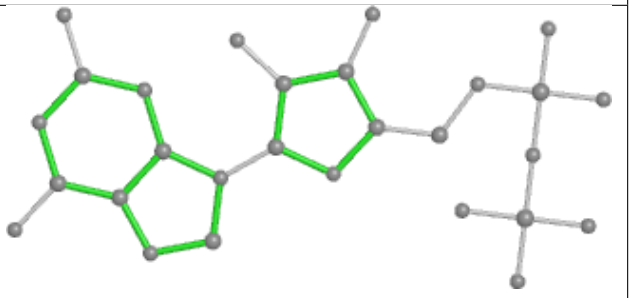
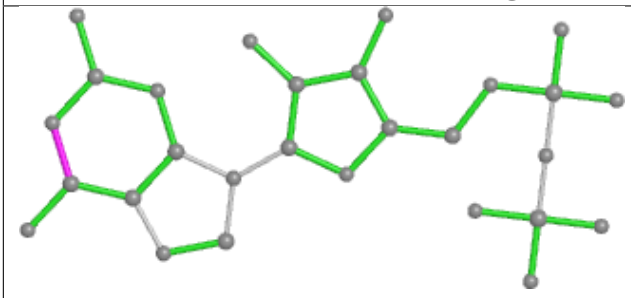


Rings

Ligand GDP HM 501



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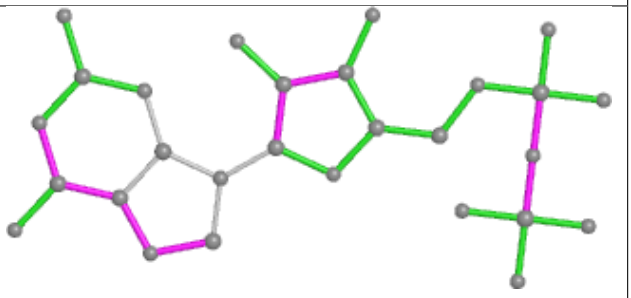

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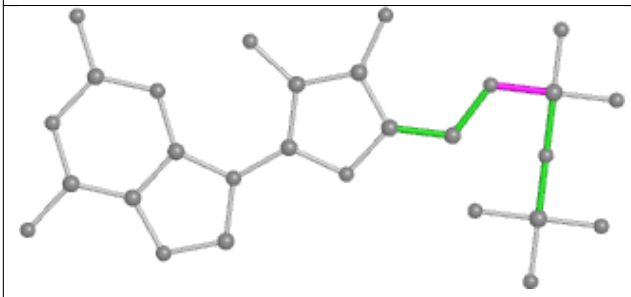

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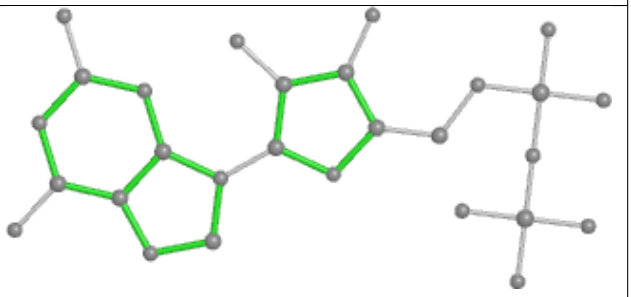
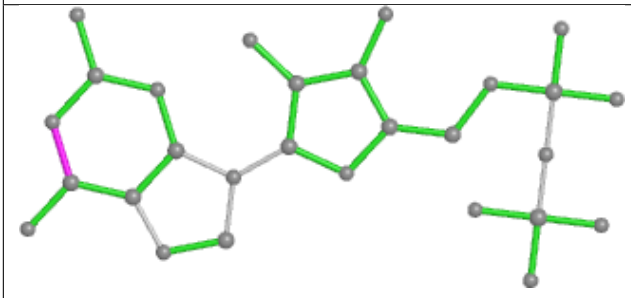


Rings

Ligand GDP MF 501



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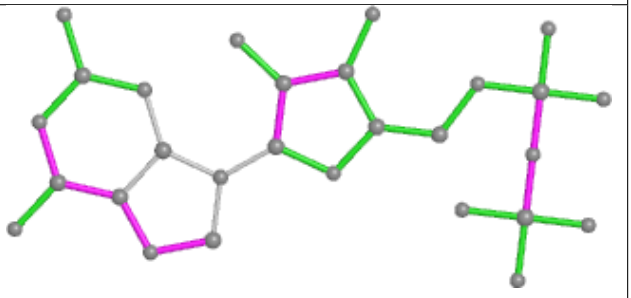

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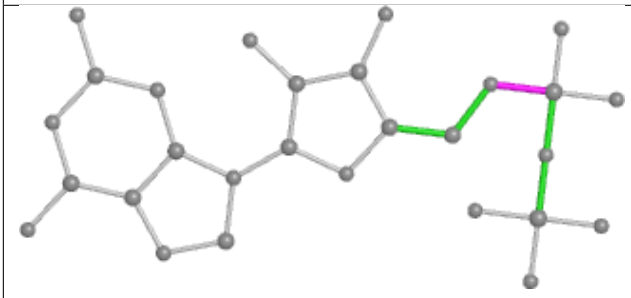

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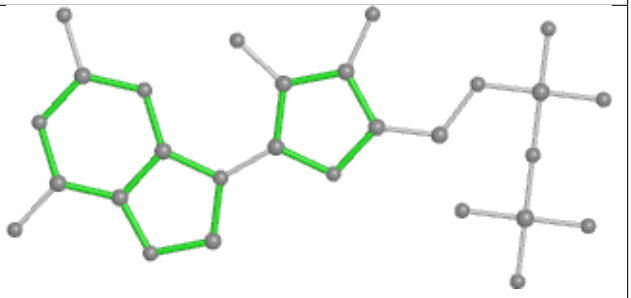
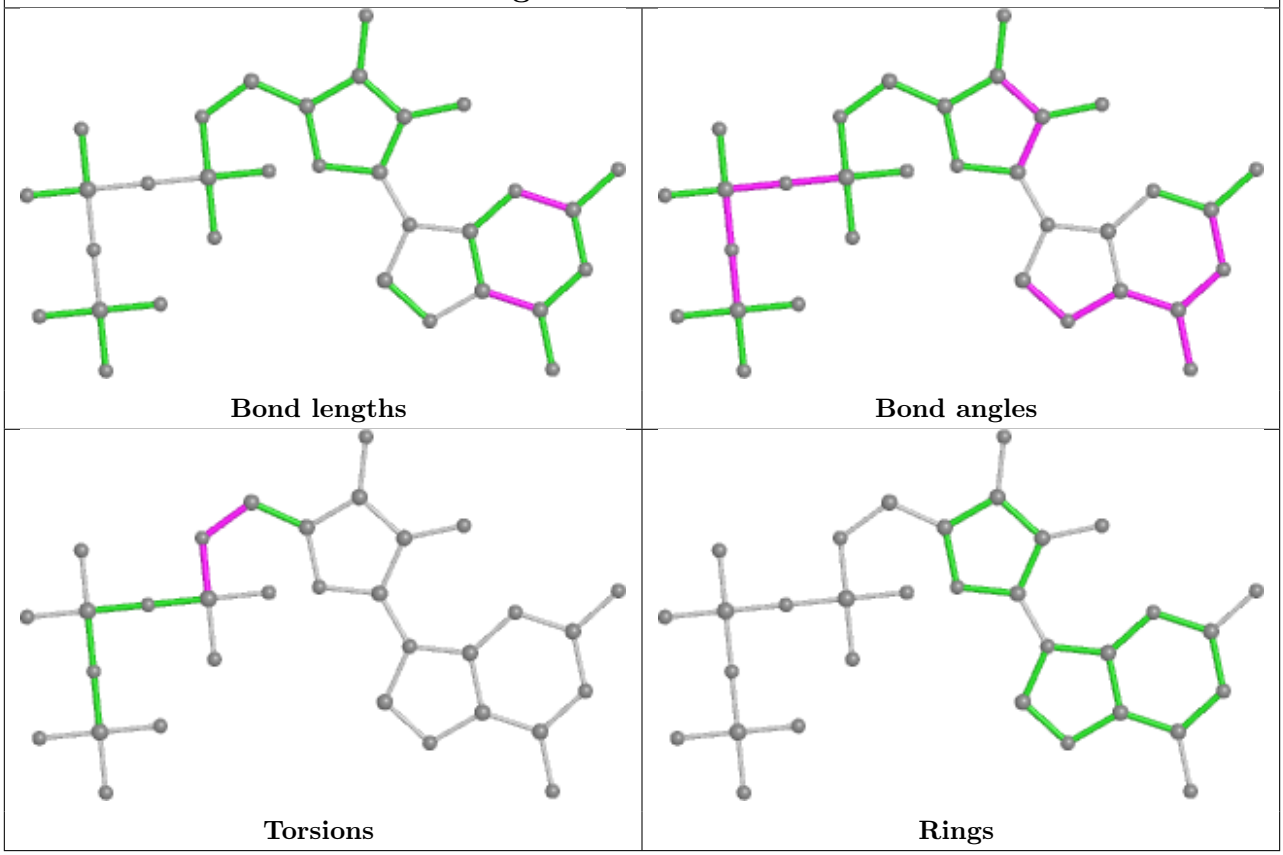


Rings

Ligand GTP FB 501



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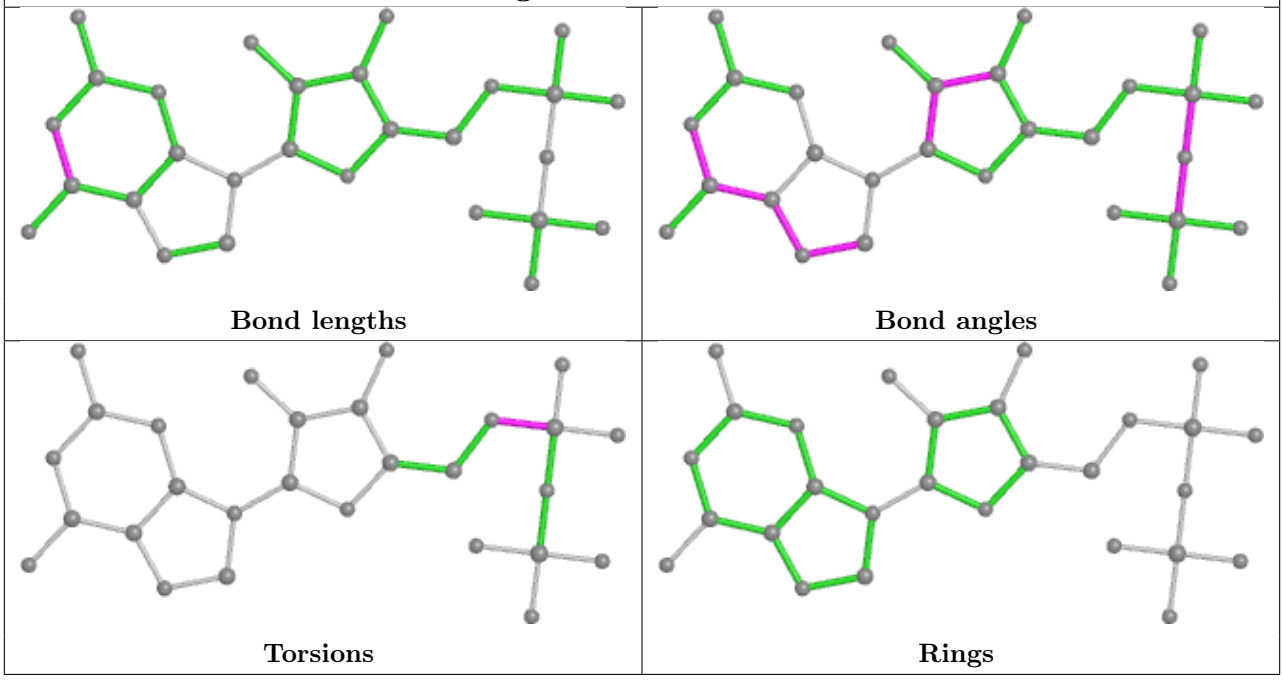

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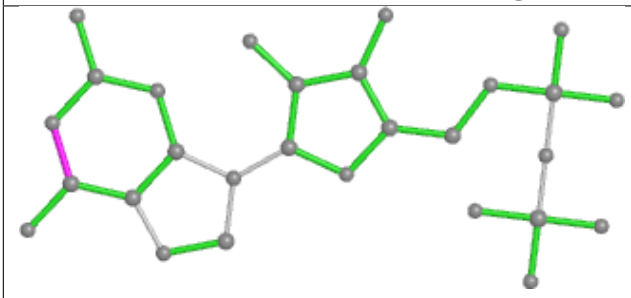
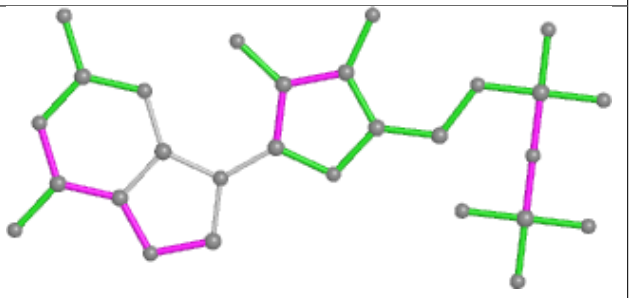
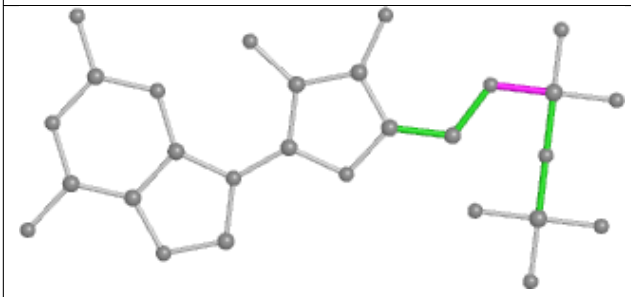


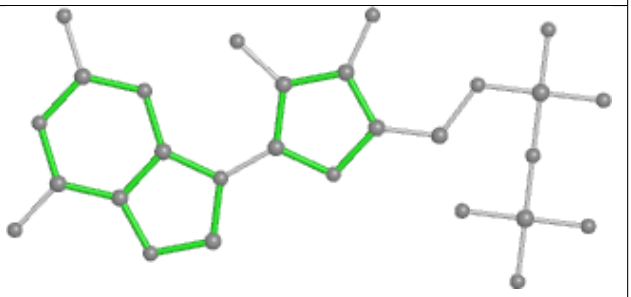
Bond lengths



Bond angles

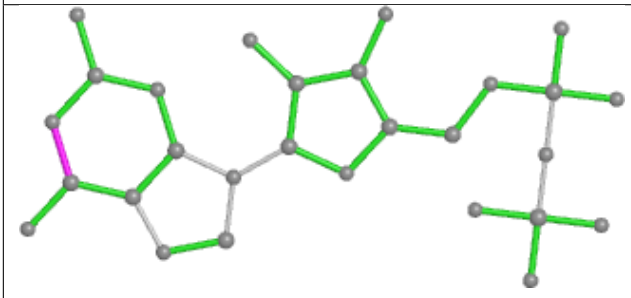


Torsions



Rings

Ligand GDP BC 501



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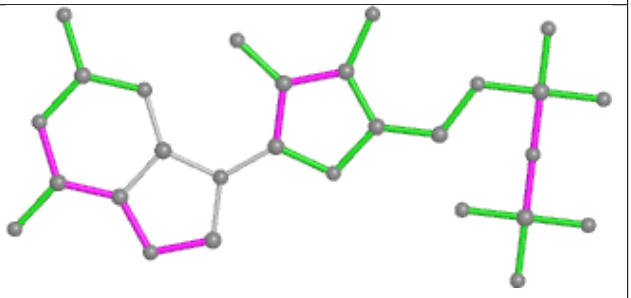

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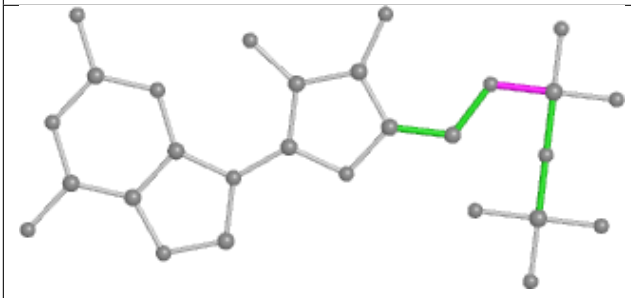

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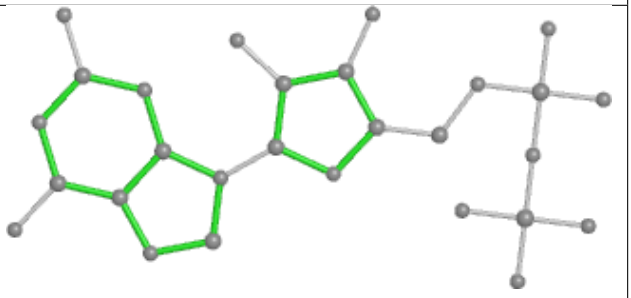
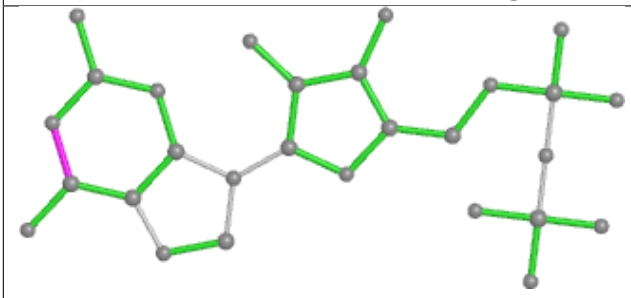


Rings

Ligand GDP PM 501



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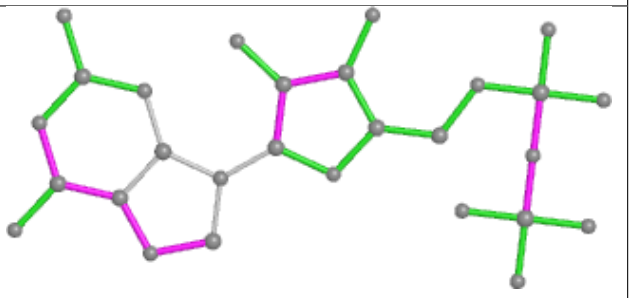

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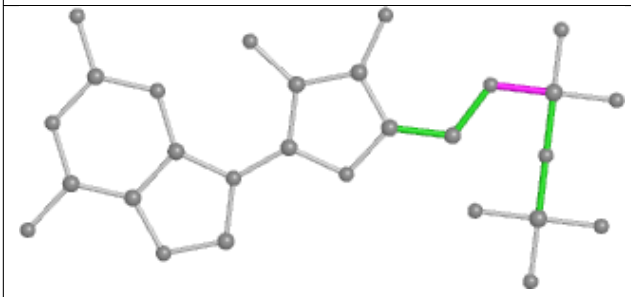

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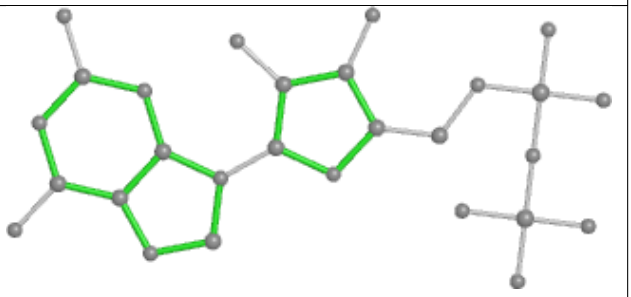
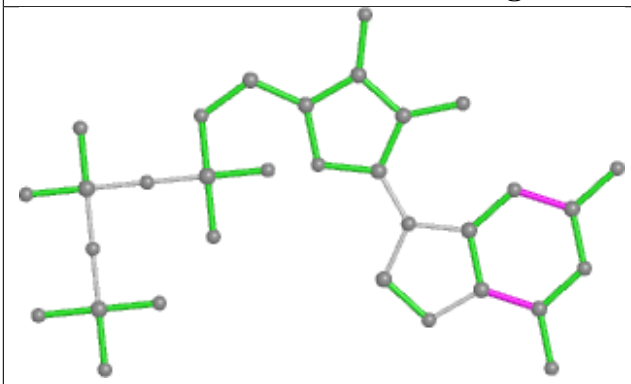


Rings

Ligand GTP WA 501



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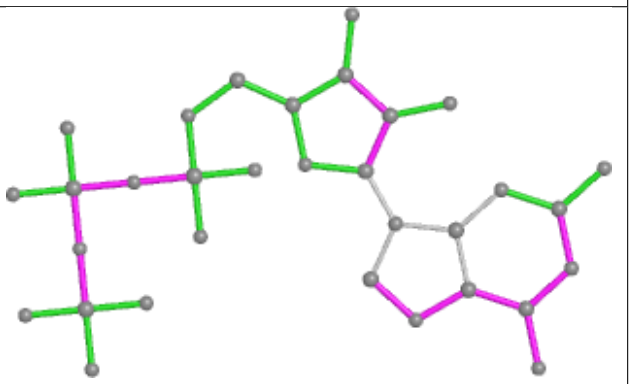

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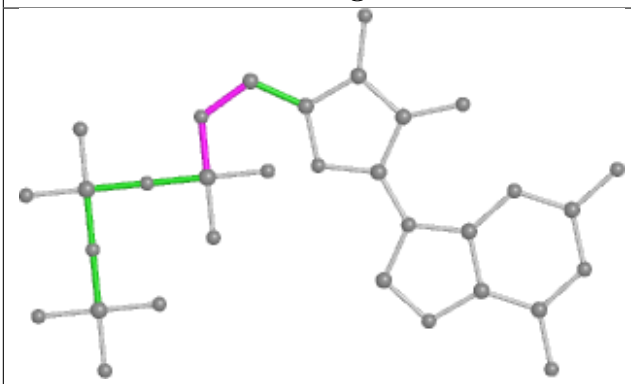

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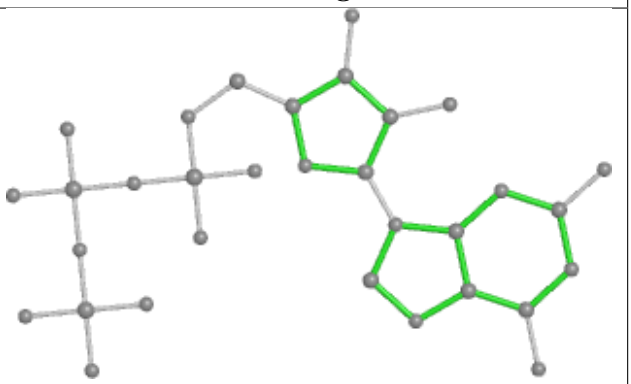
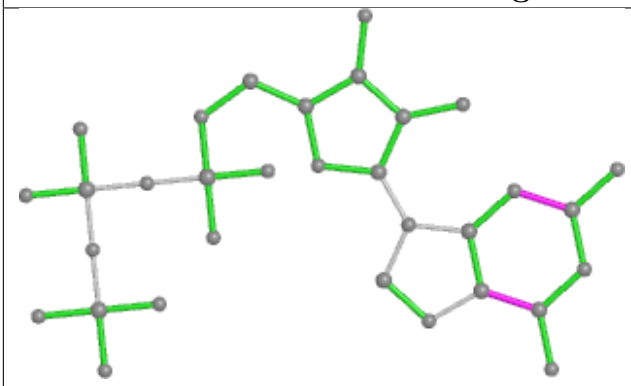


Rings

Ligand GTP JG 501



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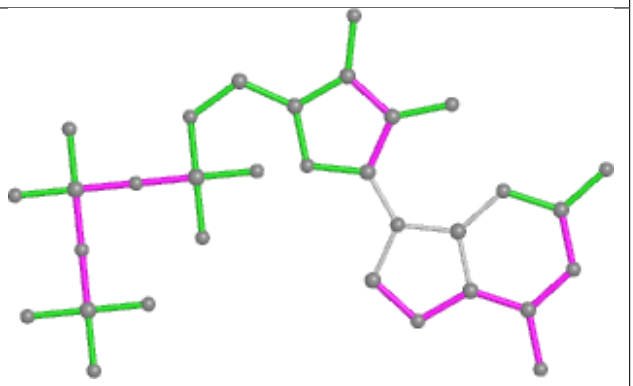

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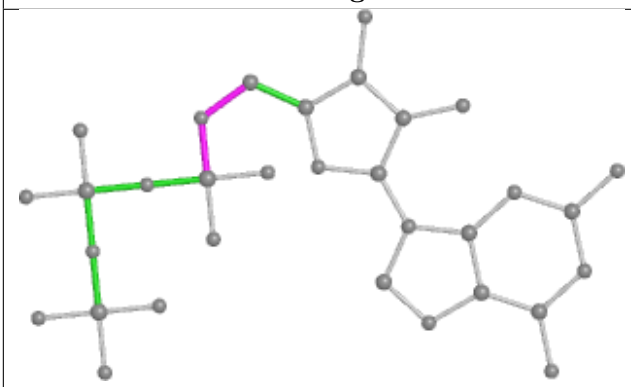

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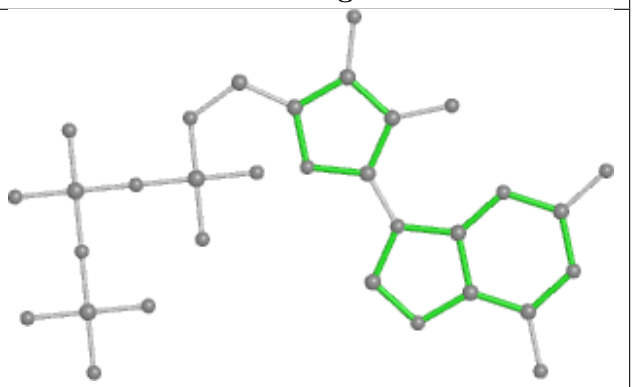
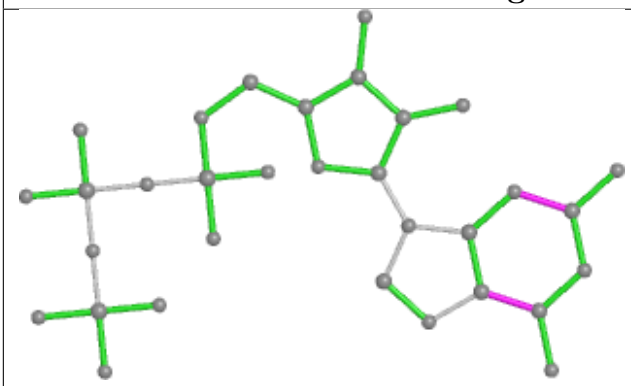


Rings

Ligand GTP UG 501



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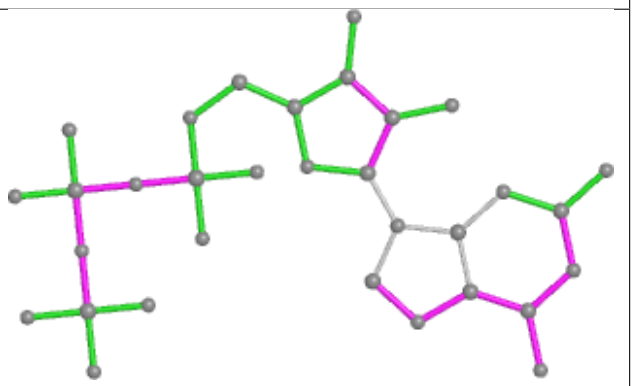

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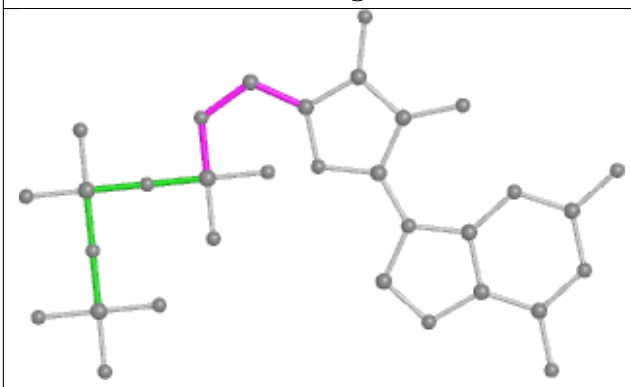

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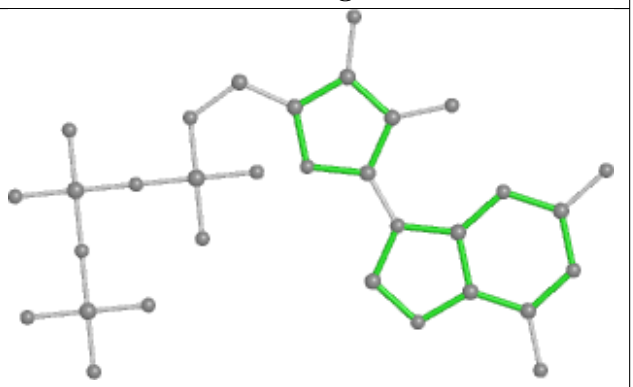
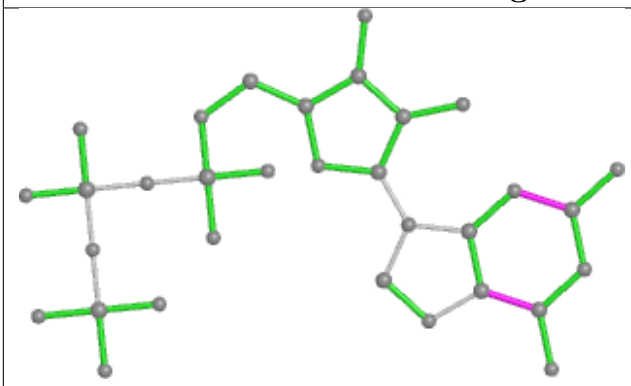


Rings

Ligand GTP CB 501



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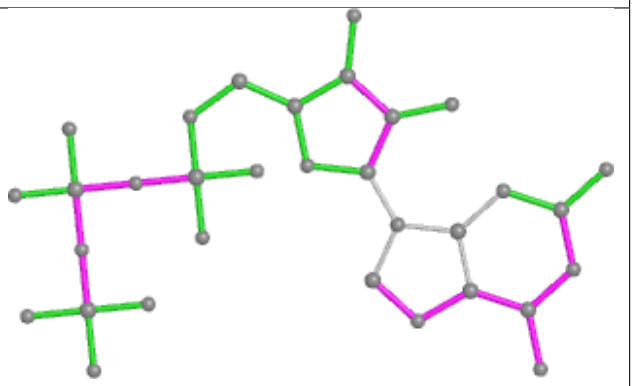

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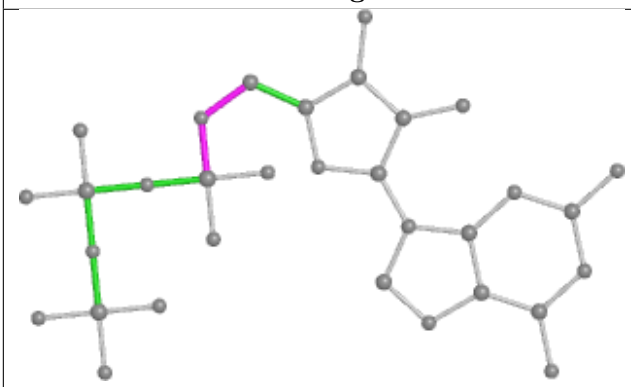

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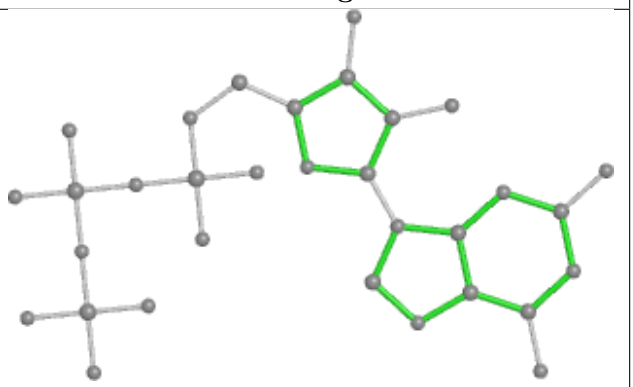
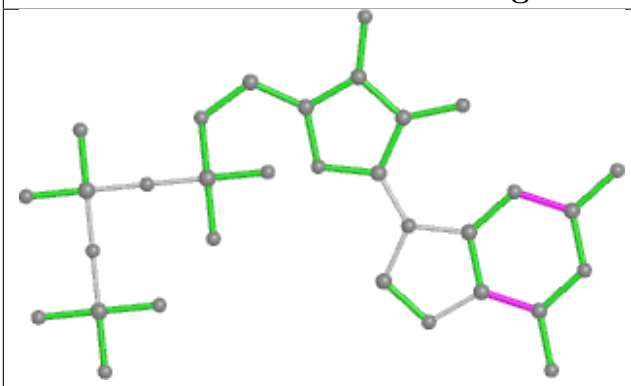


Rings

Ligand GTP RL 501



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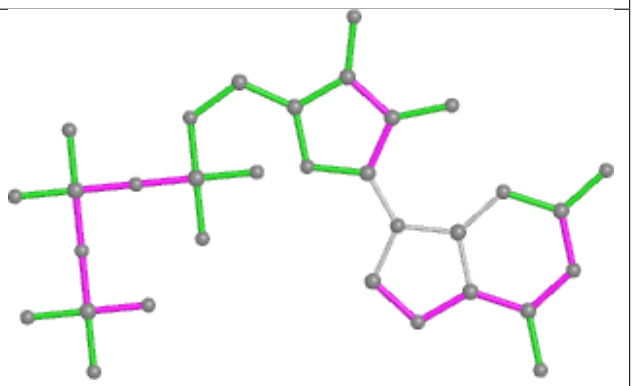

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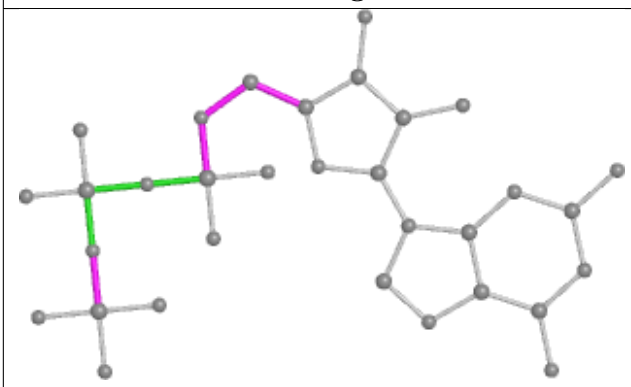

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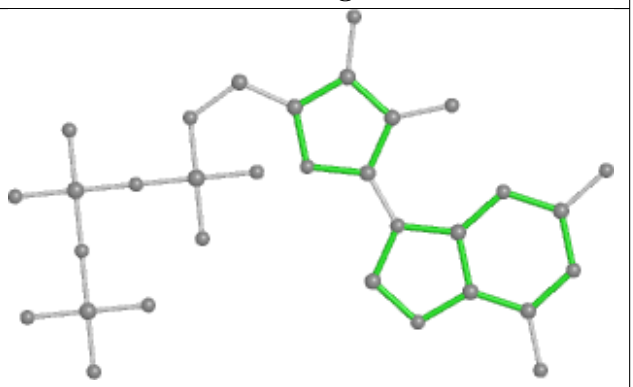

Rings

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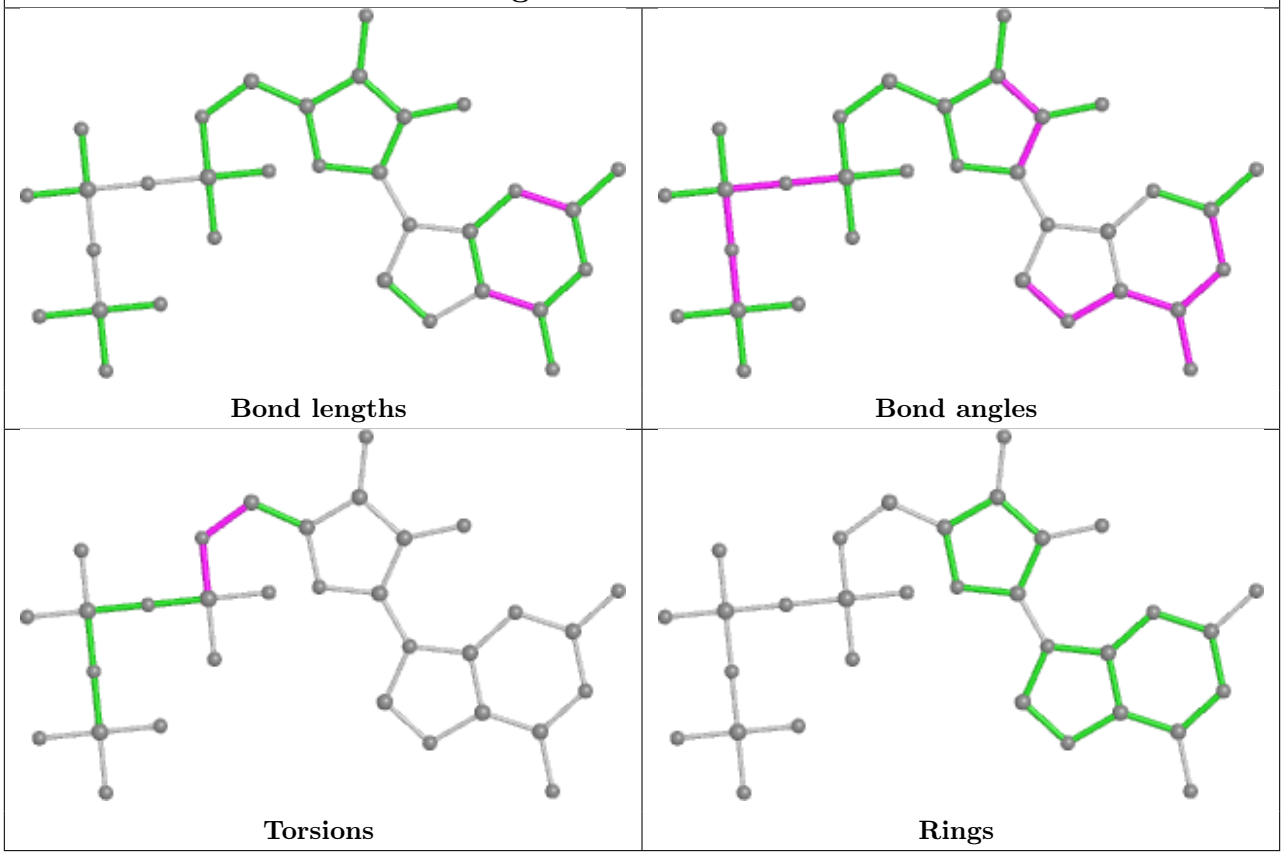
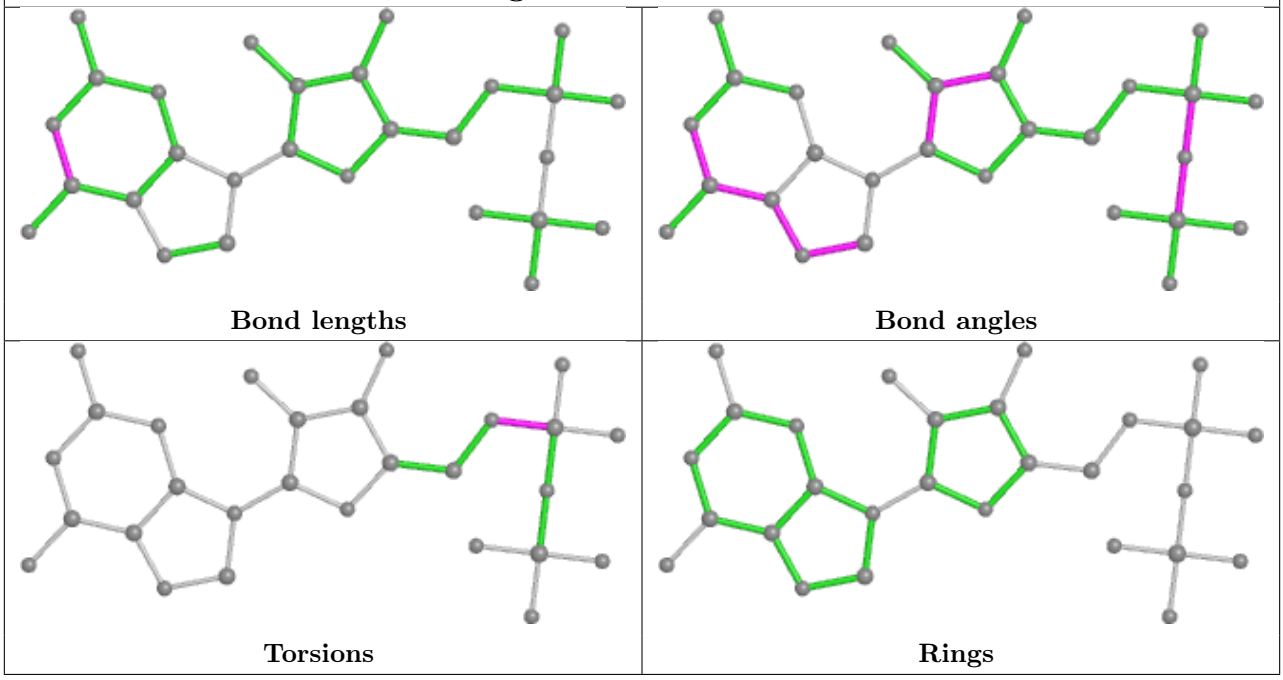
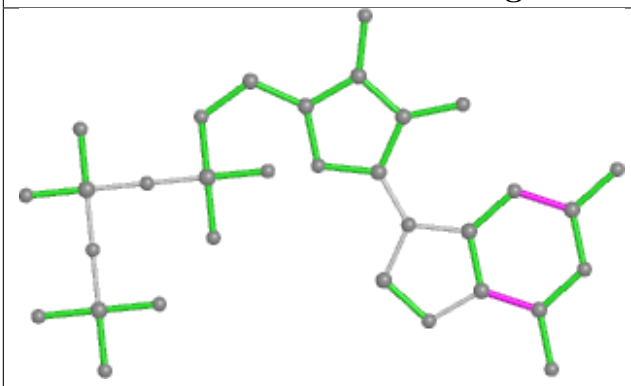


Ligand GDP UH 501



Ligand GTP MA 501



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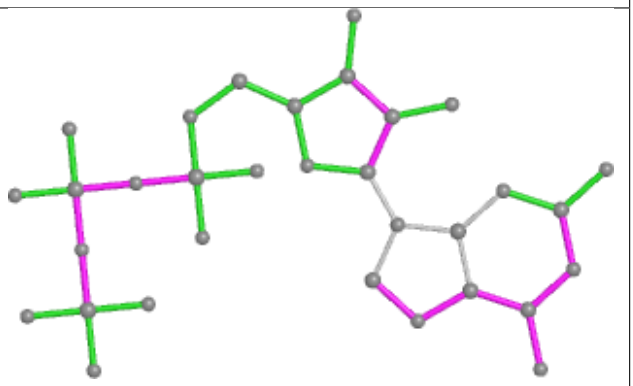

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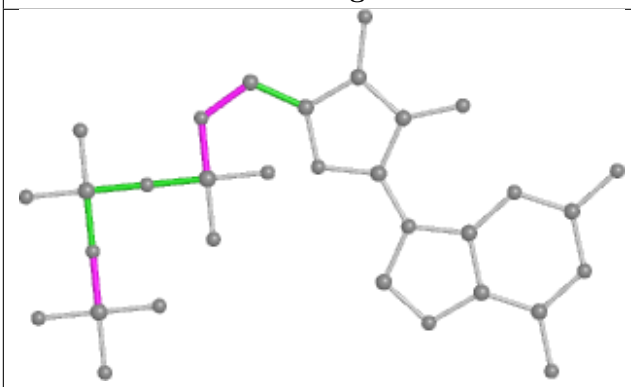

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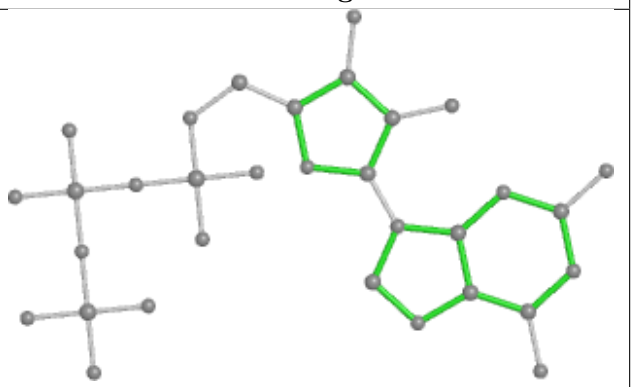

Rings

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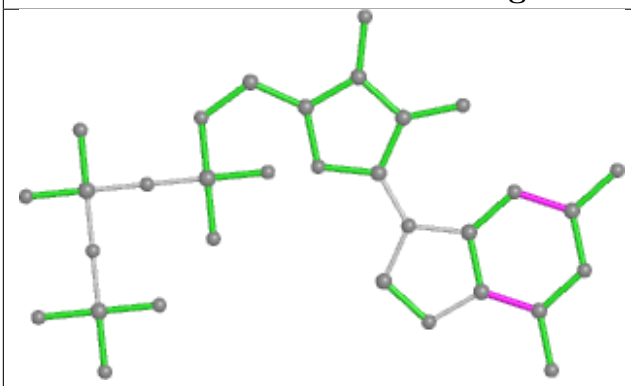

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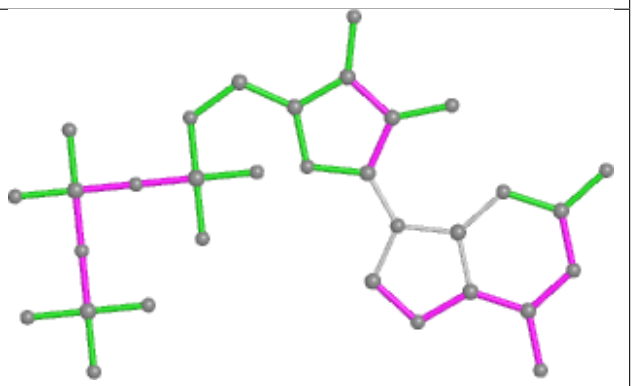

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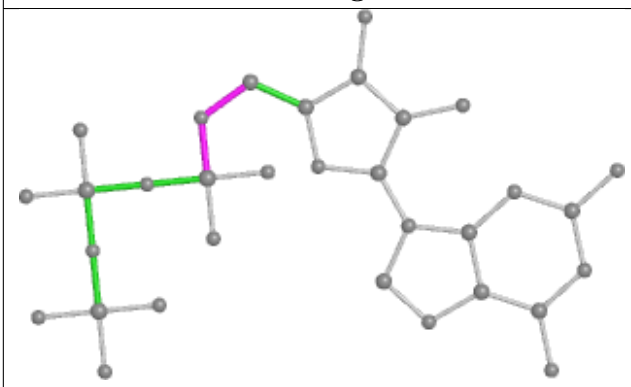

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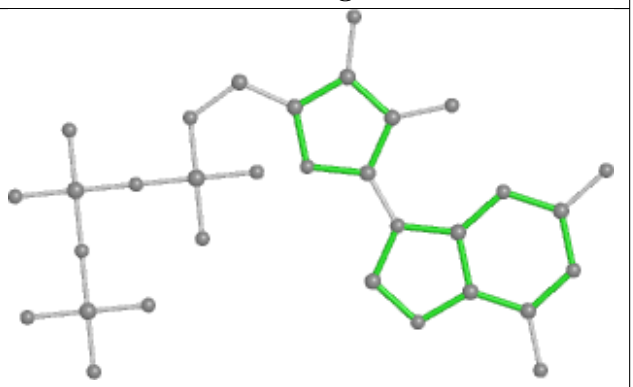

Rings

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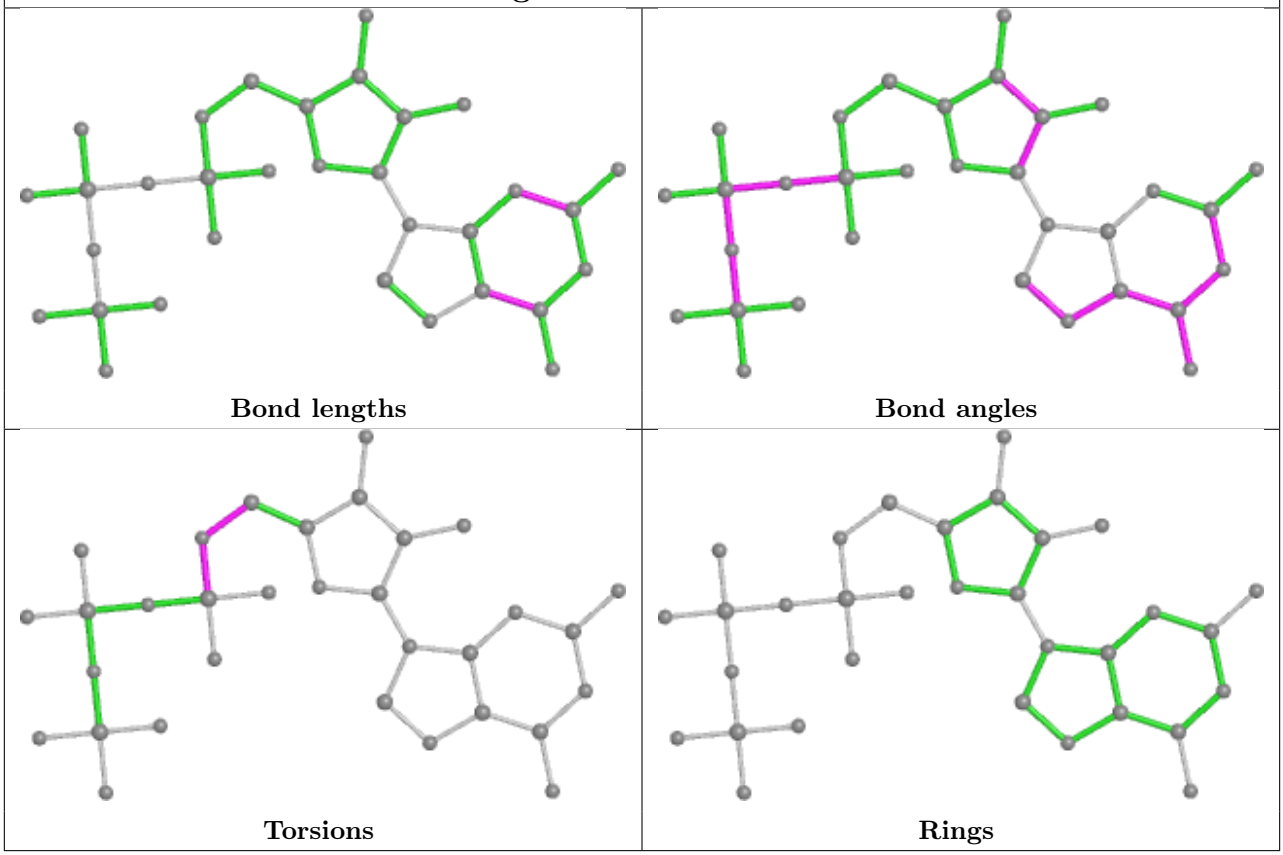

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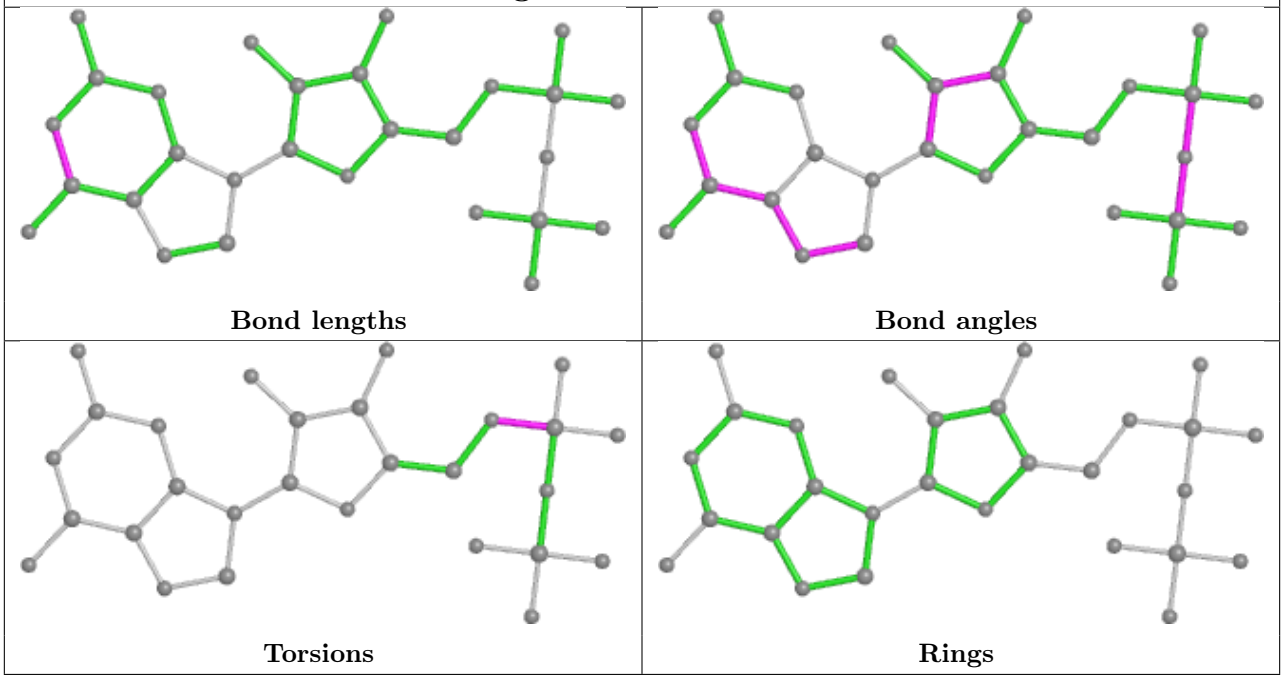

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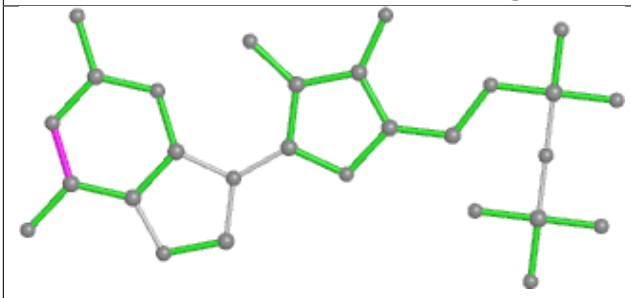

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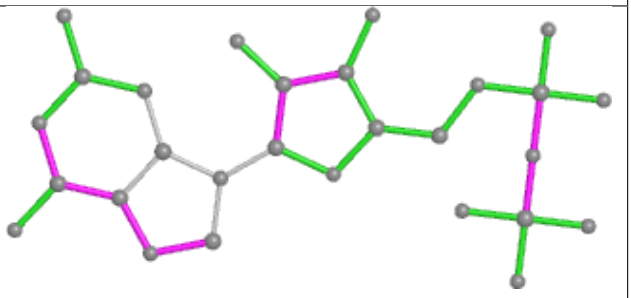

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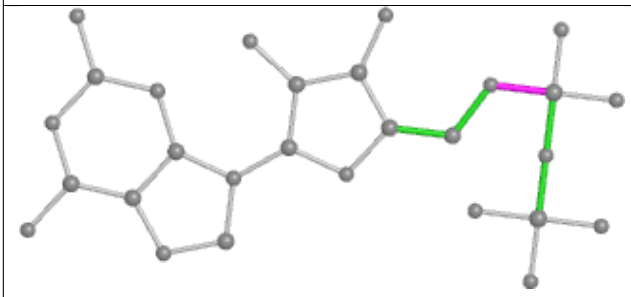

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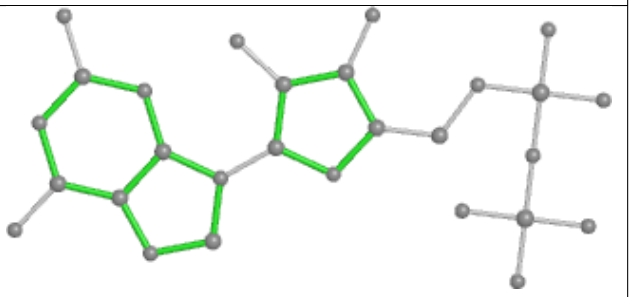
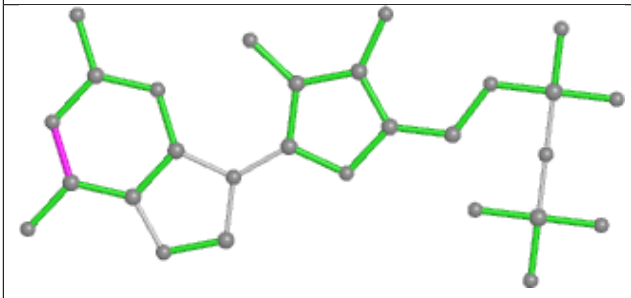


Rings

Ligand GDP OC 501



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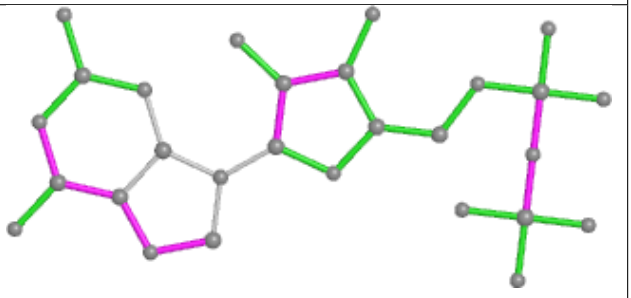

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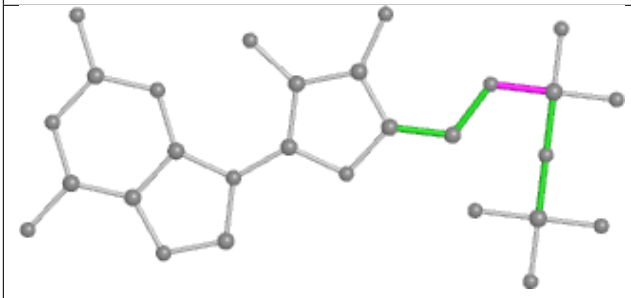

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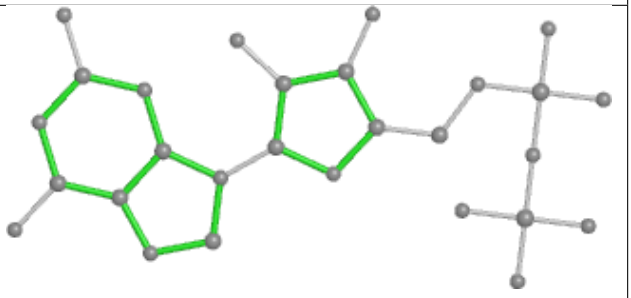
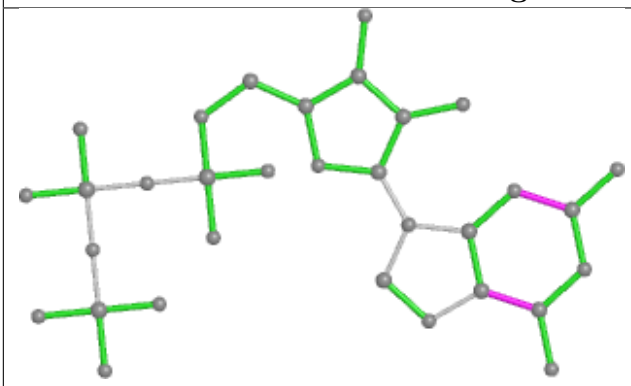


Rings

Ligand GTP HE 501



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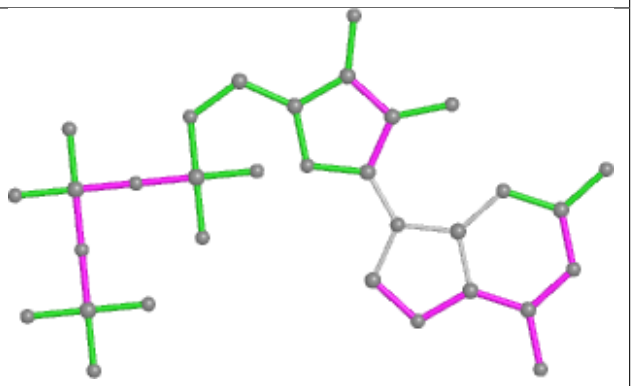

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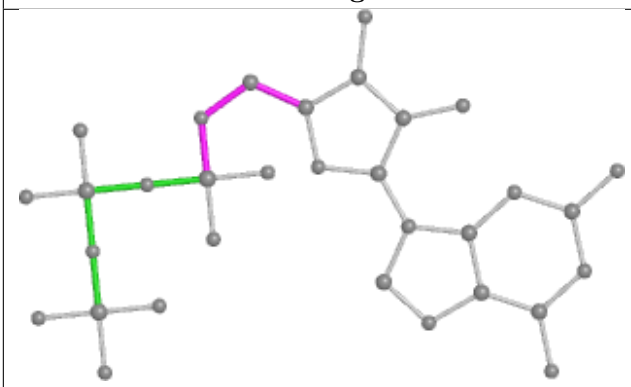

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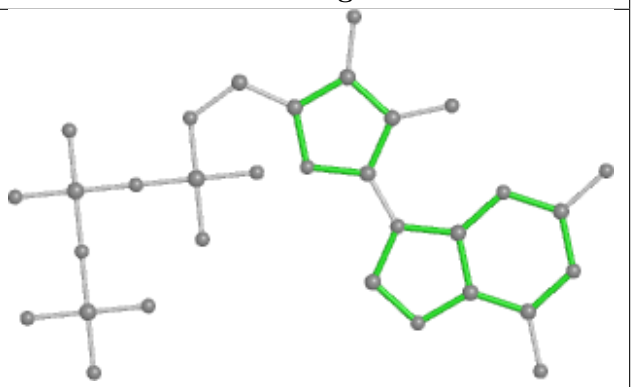
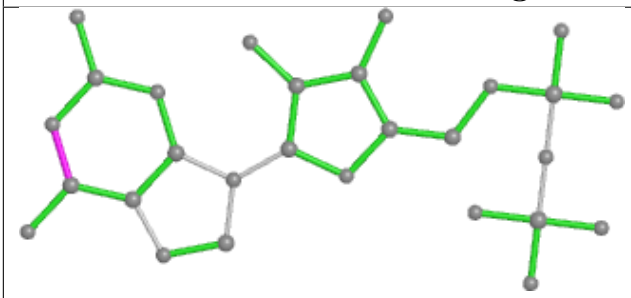


Rings

Ligand GDP BL 501



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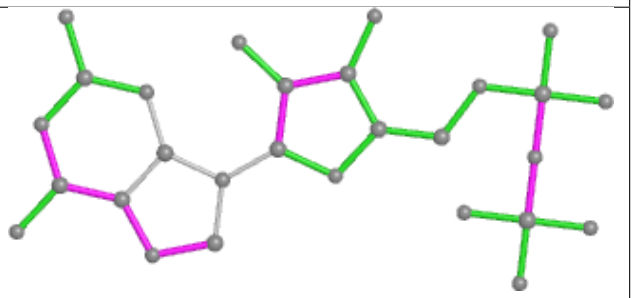

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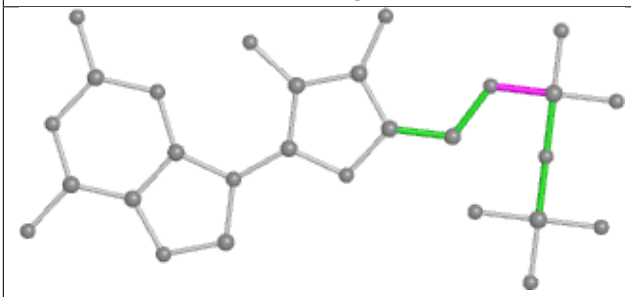
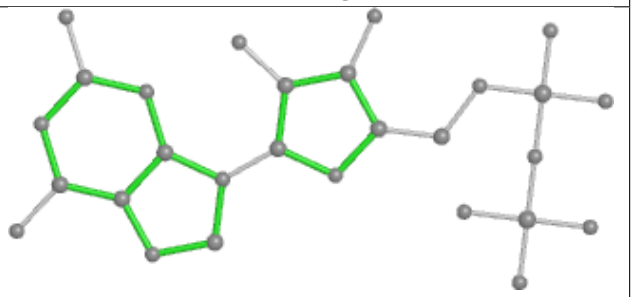
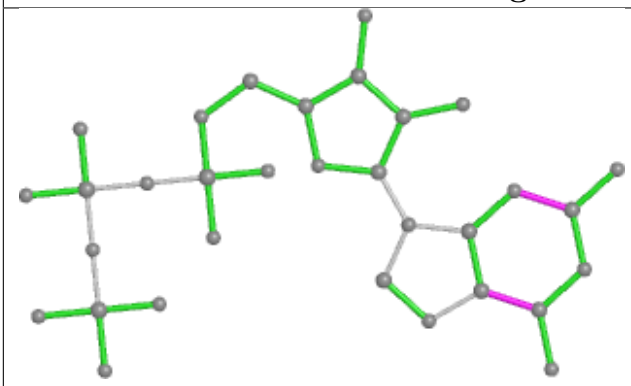


Torsions



Rings

Ligand GTP EG 501



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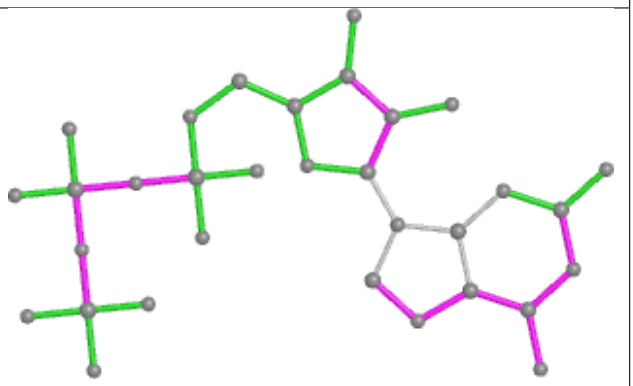

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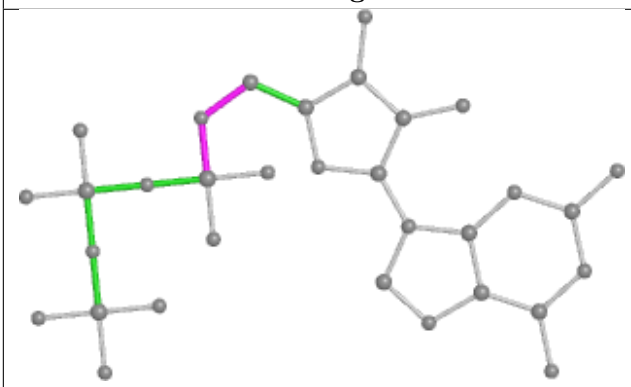

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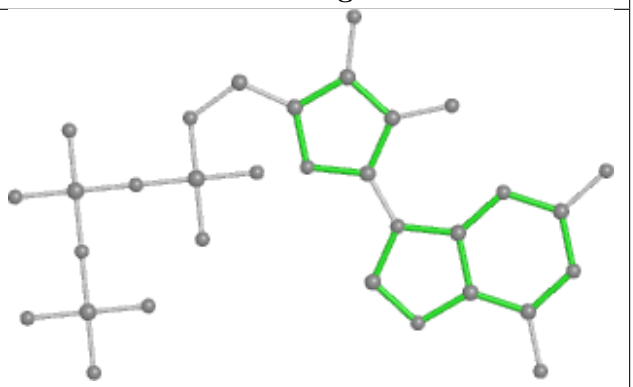
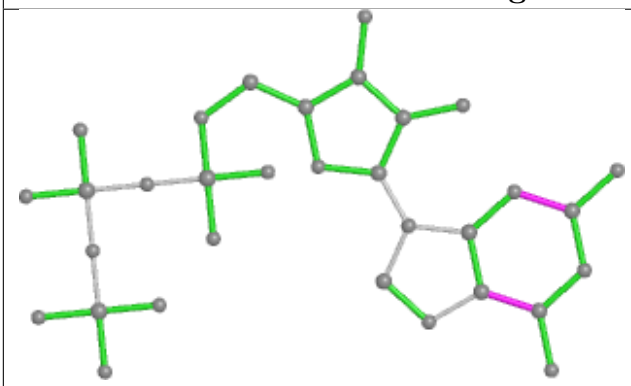


Rings

Ligand GTP CG 501



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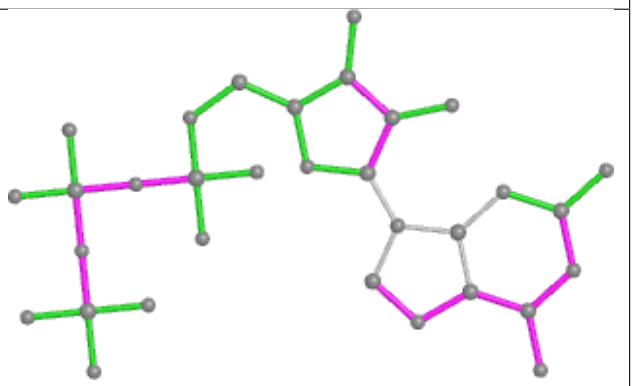

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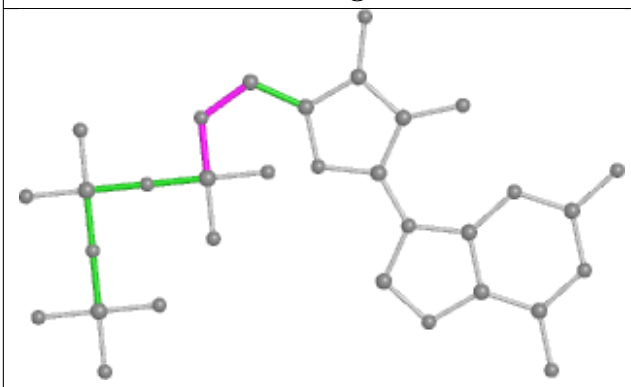

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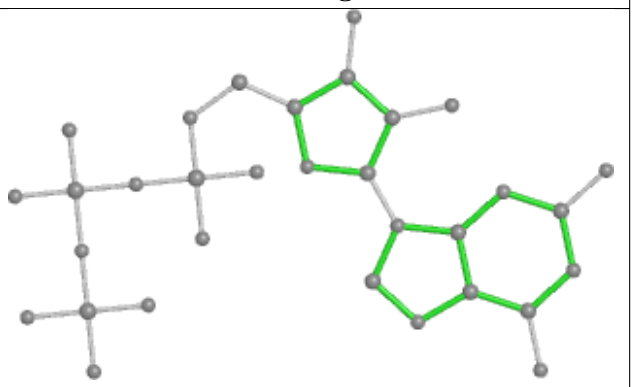
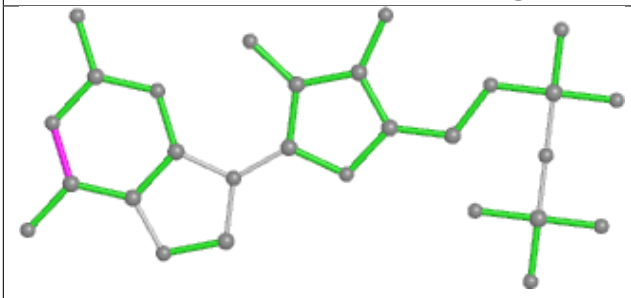


Rings

Ligand GDP KL 501



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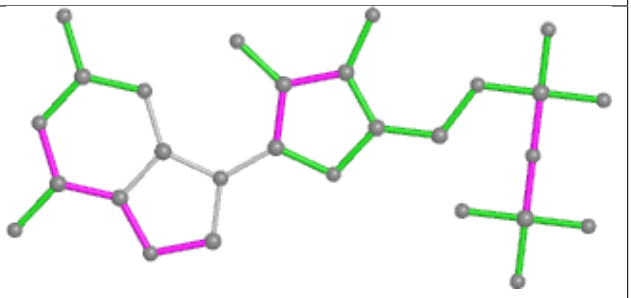

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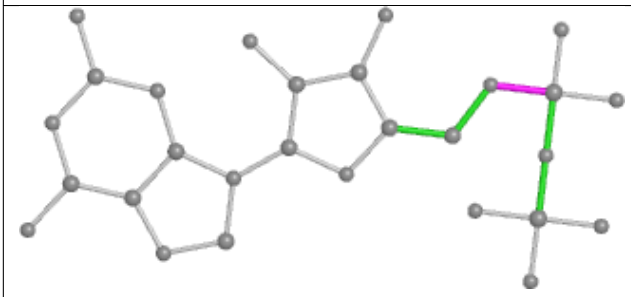

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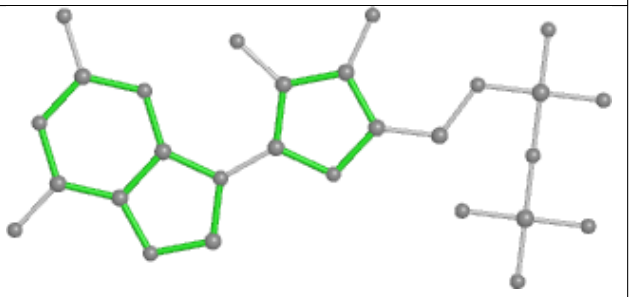
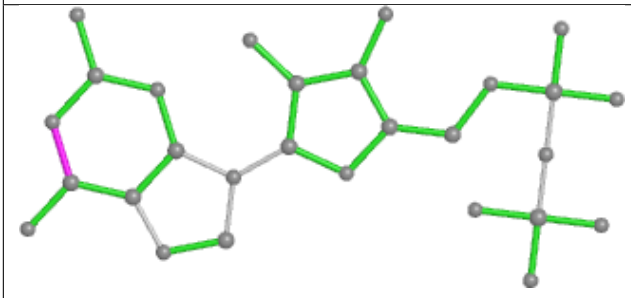


Rings

Ligand GDP NJ 501



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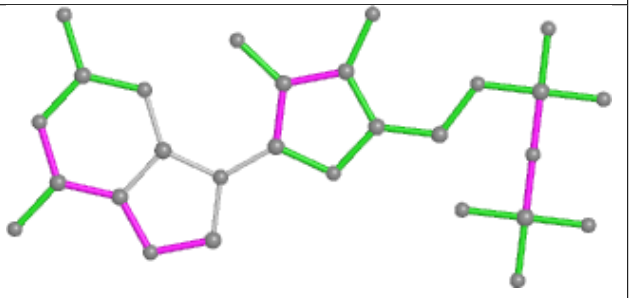

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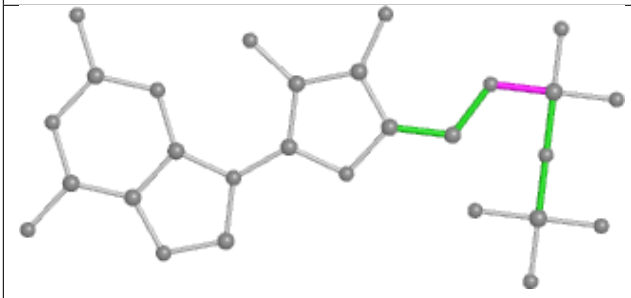

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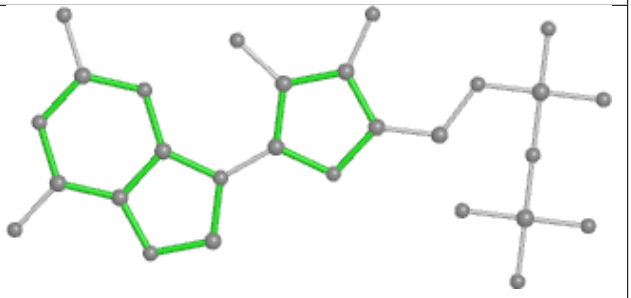
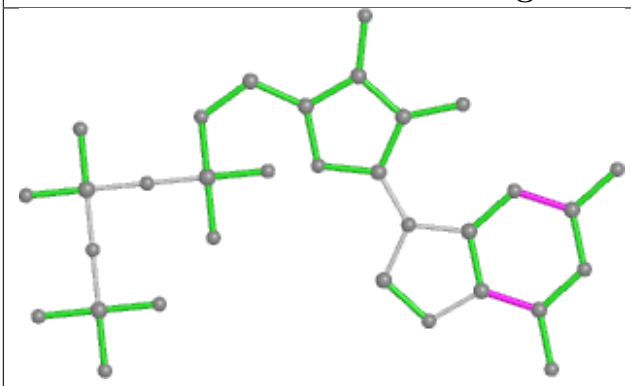


Rings

Ligand GTP IB 501



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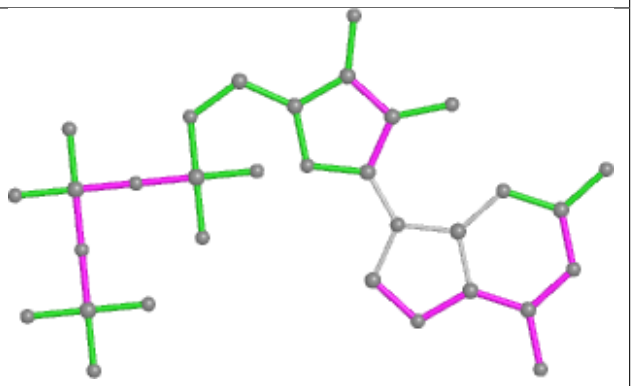

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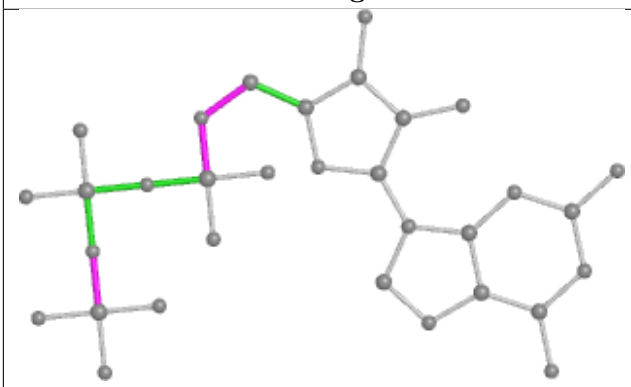

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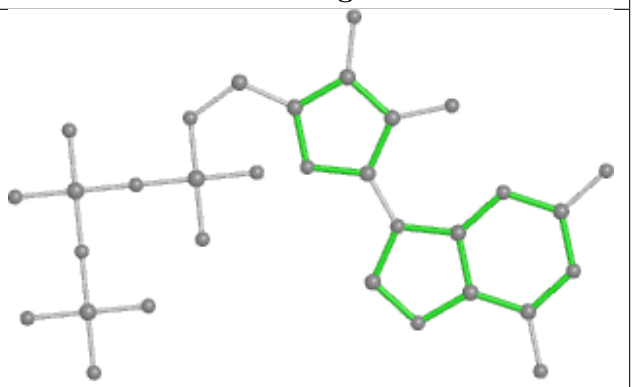

Rings

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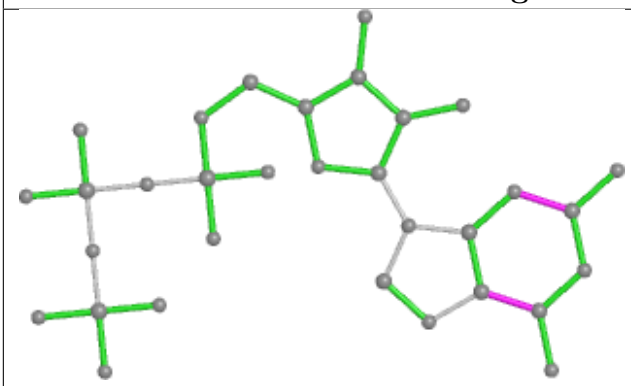

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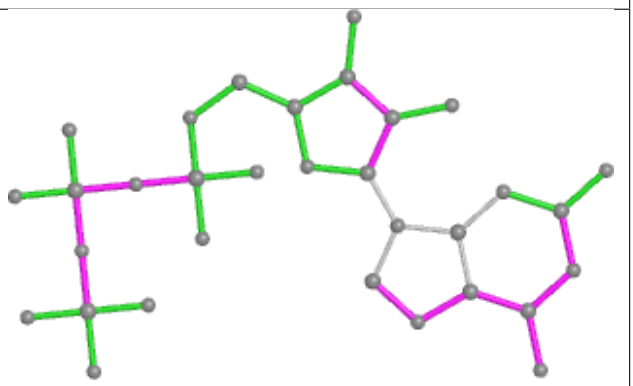

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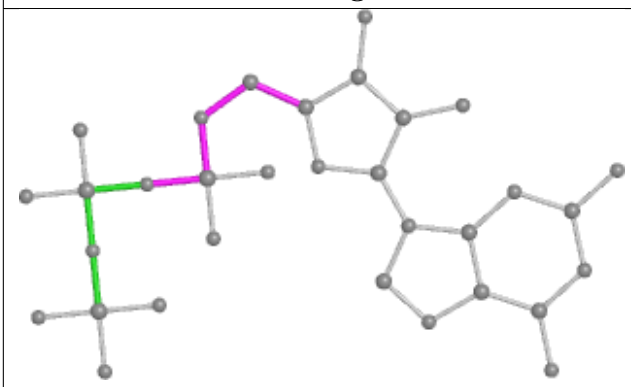

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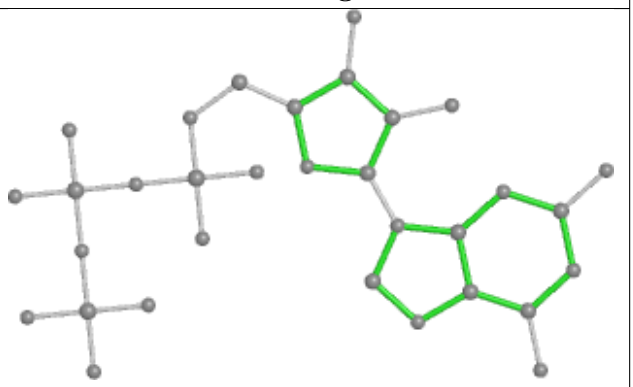

Rings

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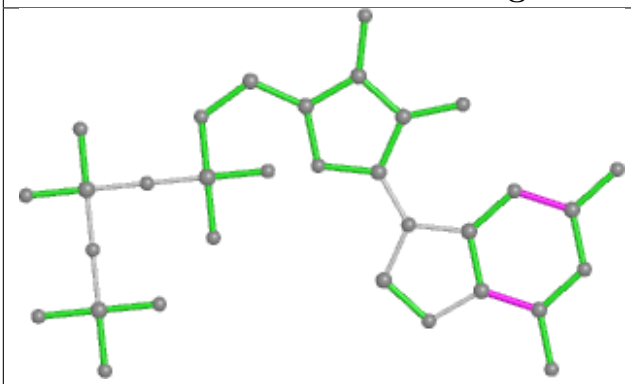

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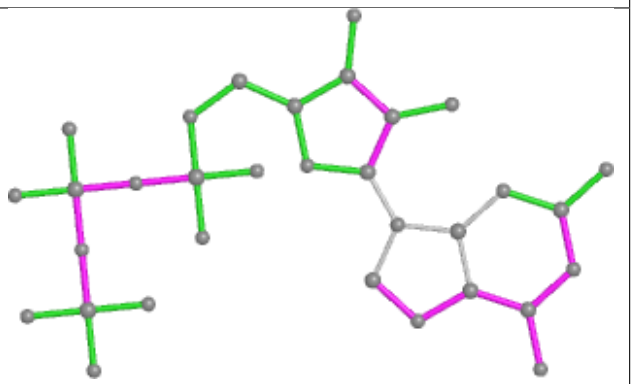

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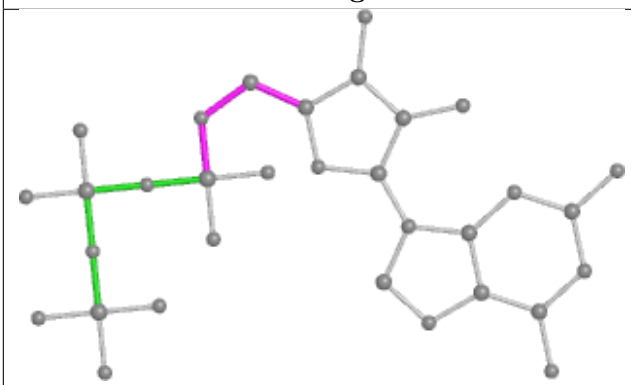

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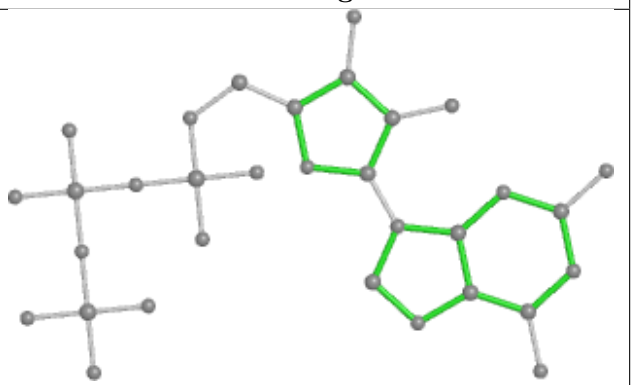
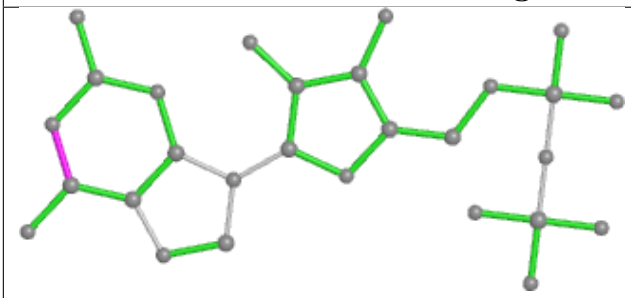


Rings

Ligand GDP SF 501



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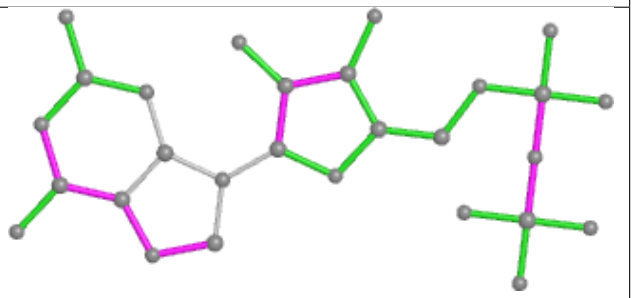

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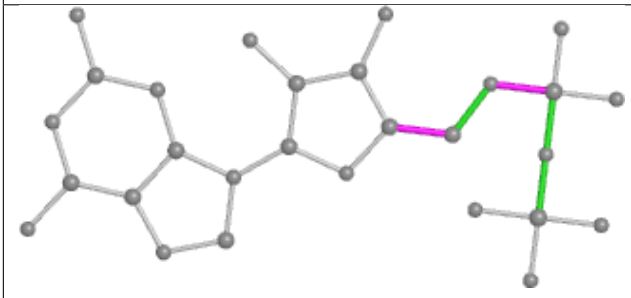

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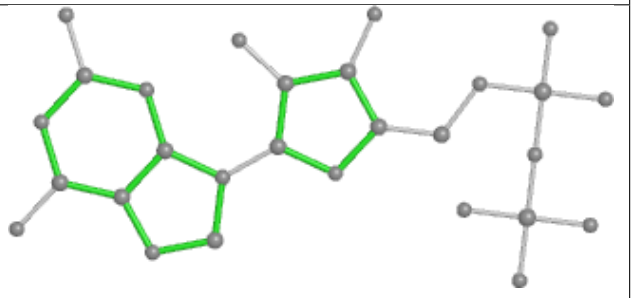
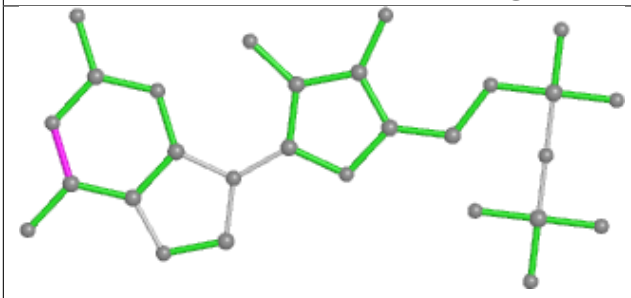
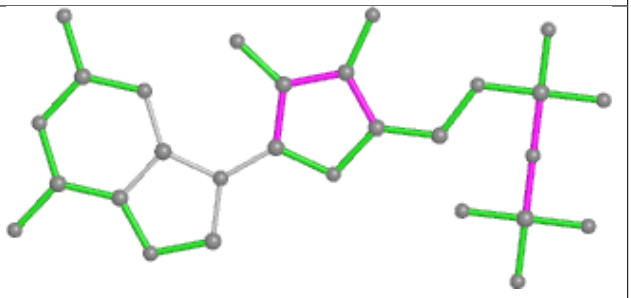
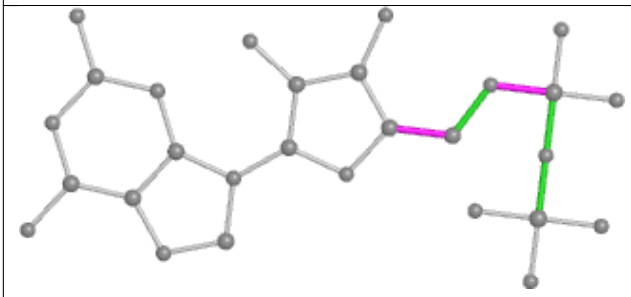
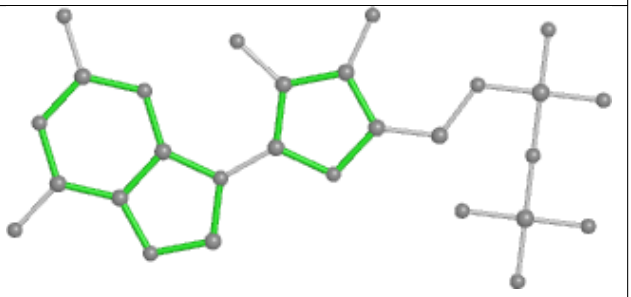


Rings

Ligand GDP HC 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

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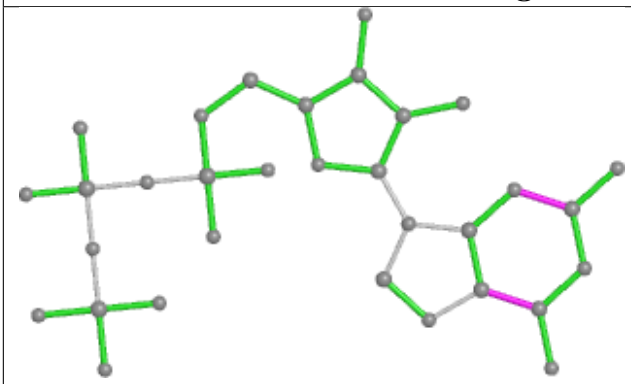
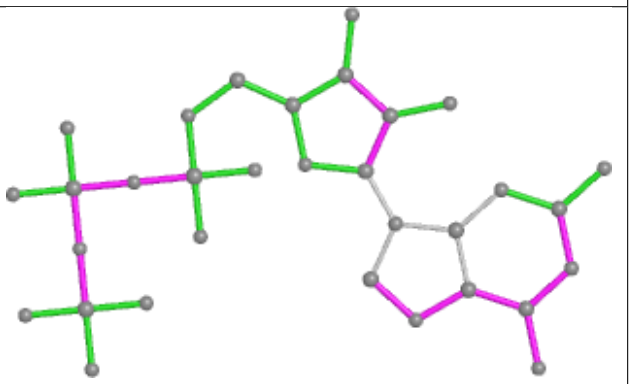
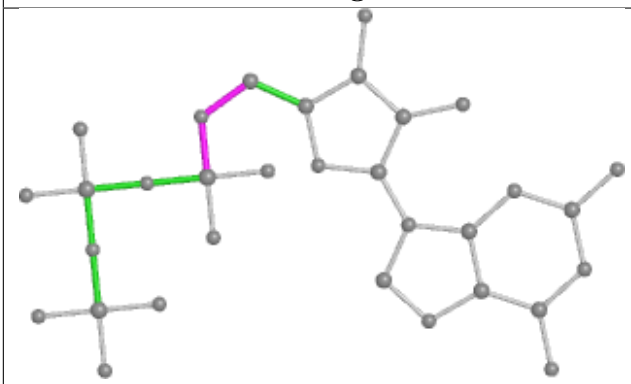
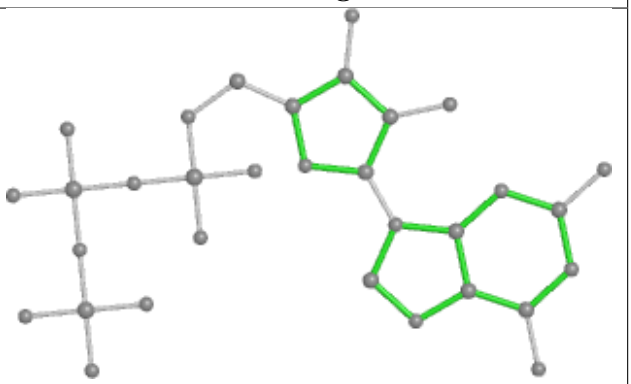
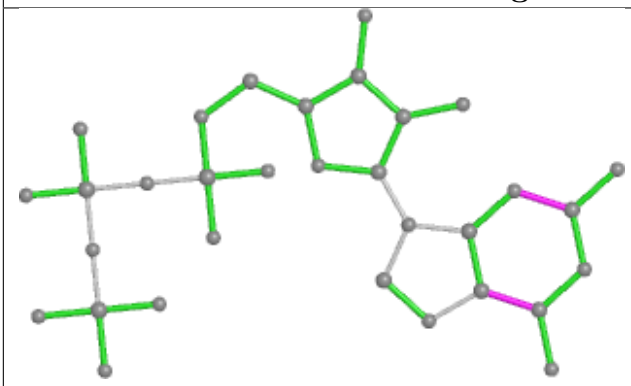
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand GTP CE 501



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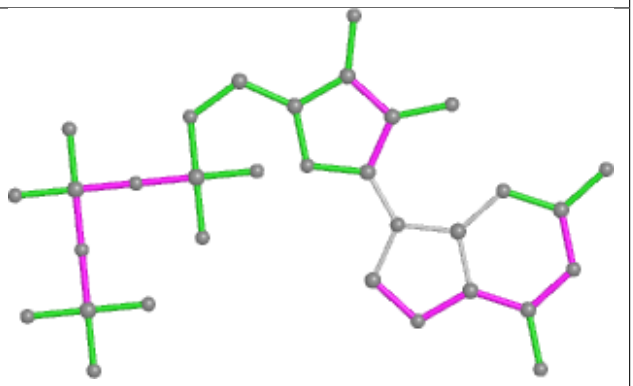

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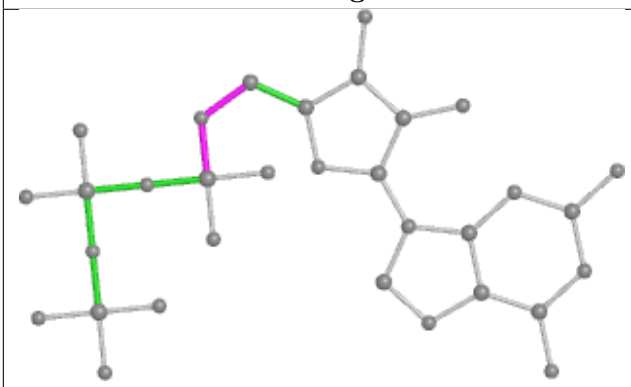

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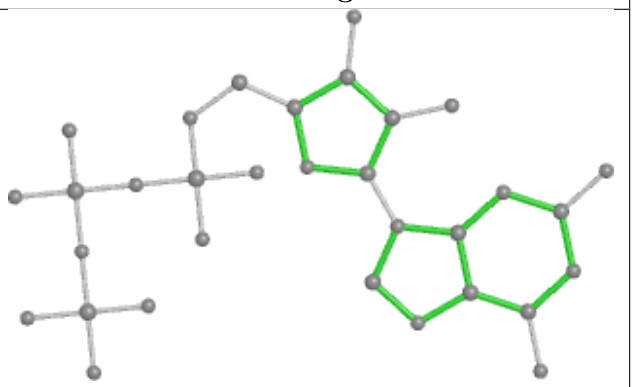
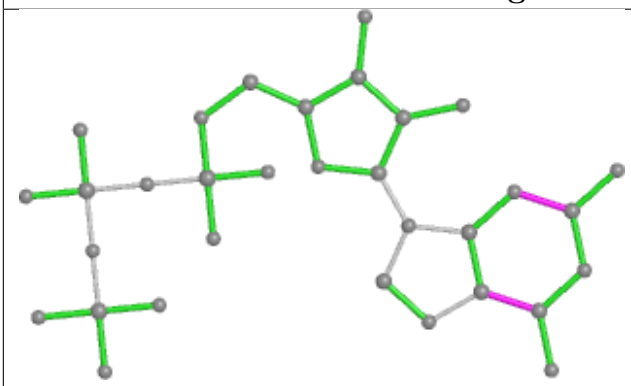


Rings

Ligand GTP AK 501



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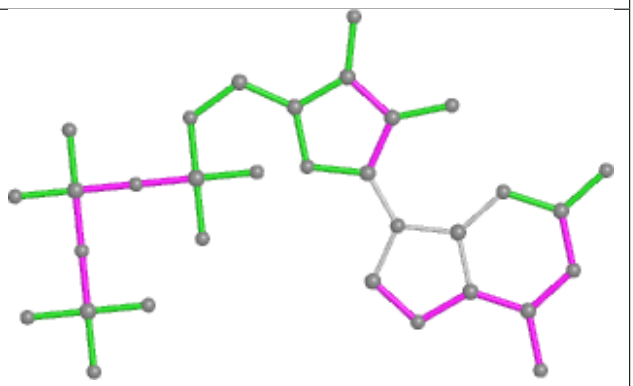

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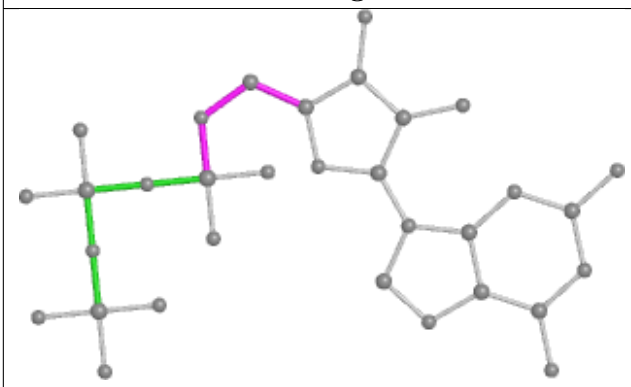

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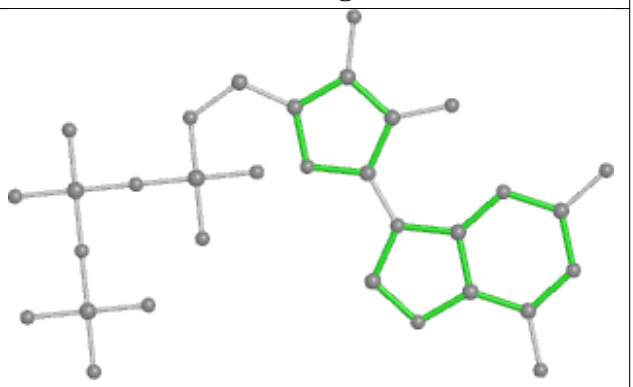
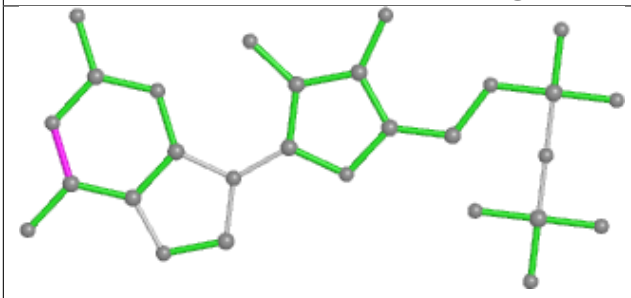


Rings

Ligand GDP TC 501



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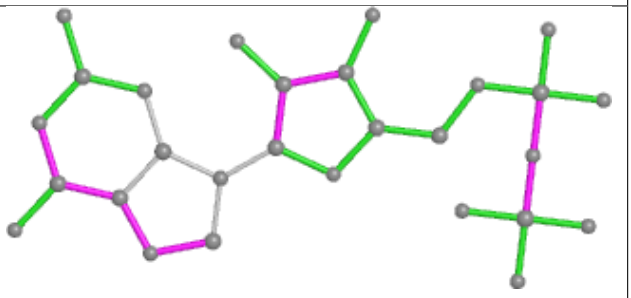

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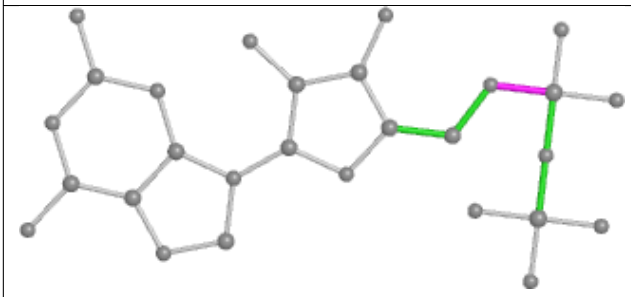

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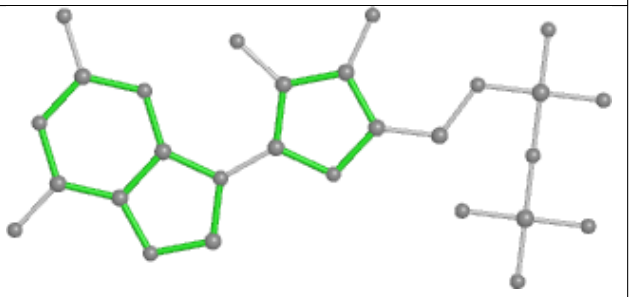
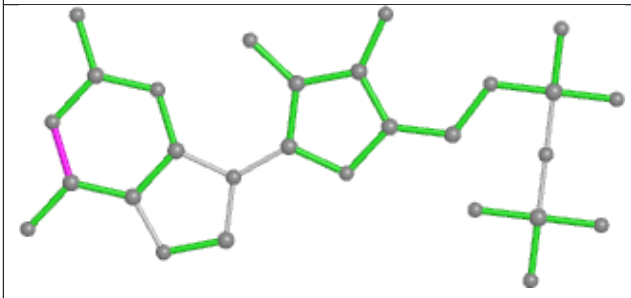


Rings

Ligand GDP TL 501



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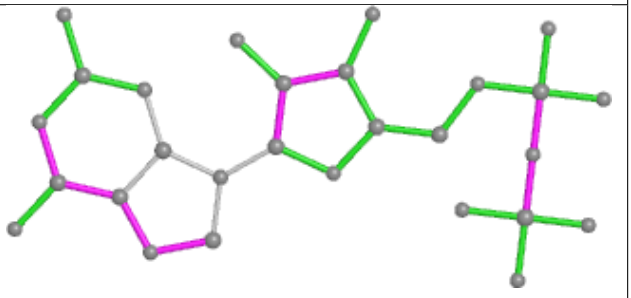
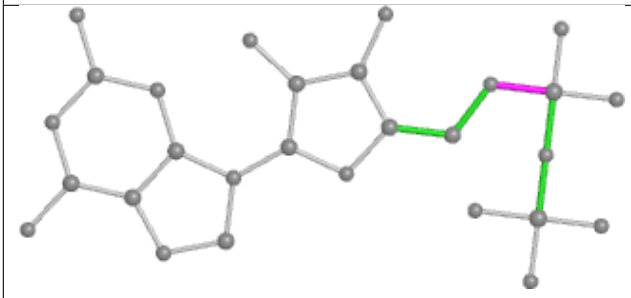


Bond angles



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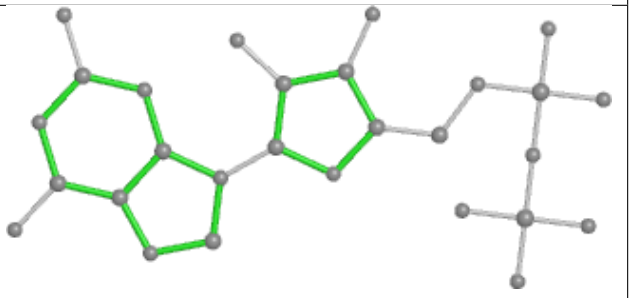
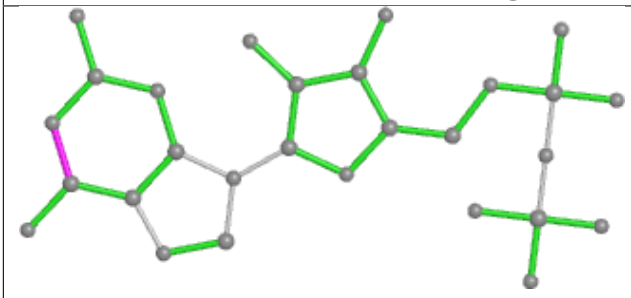
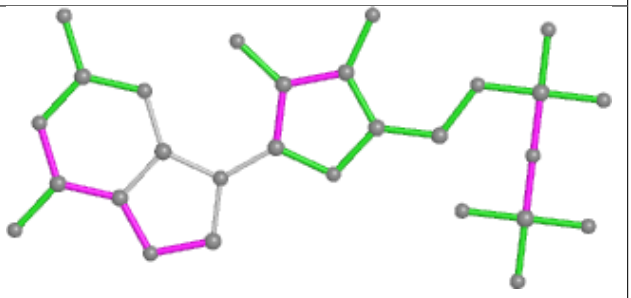


Rings

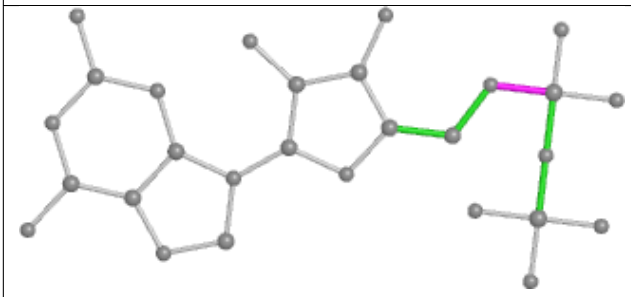
Ligand GDP MC 501



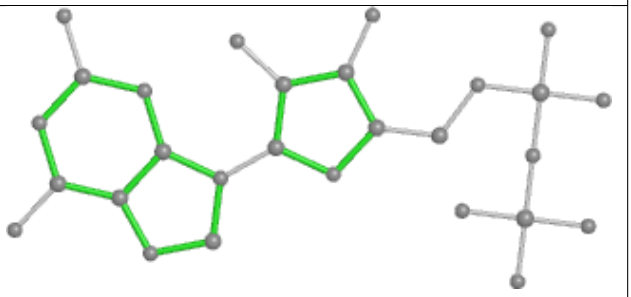
Bond lengths



Bond angles

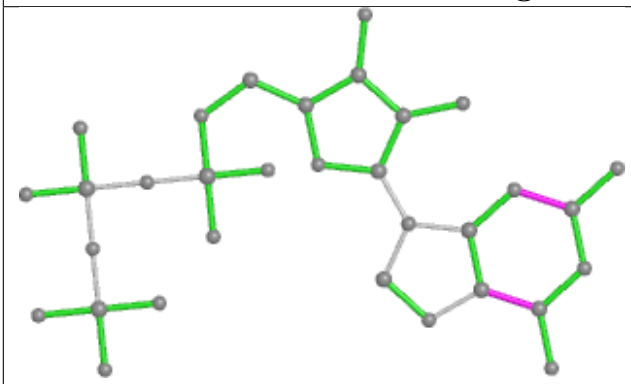


Torsions



Rings

Ligand GTP DI 501



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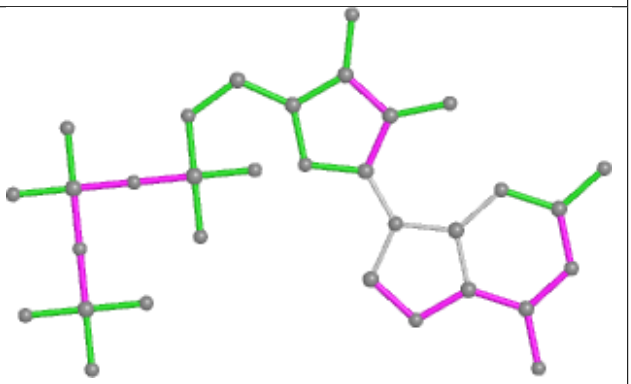

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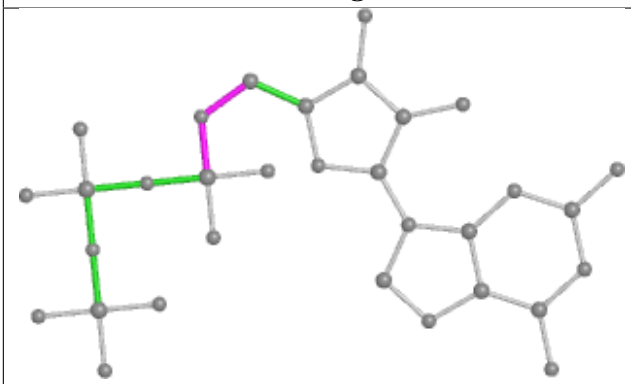

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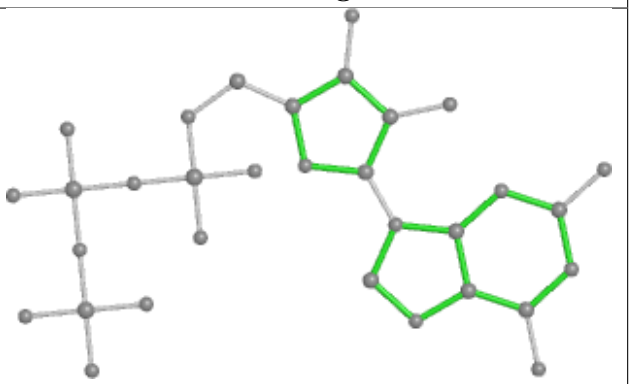

Rings

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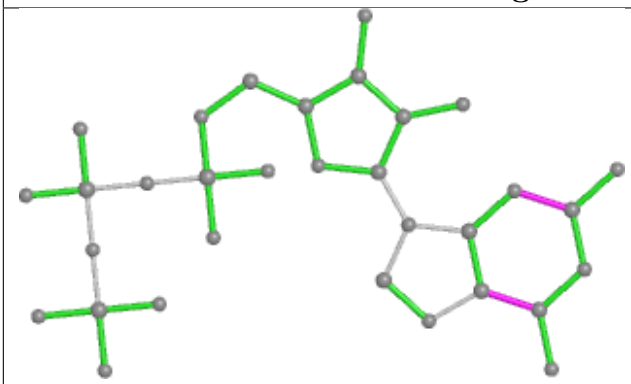

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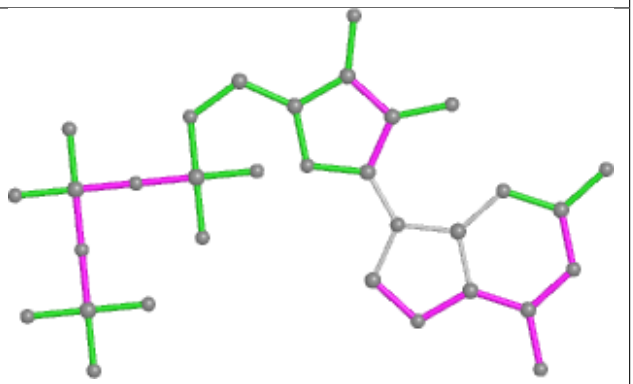

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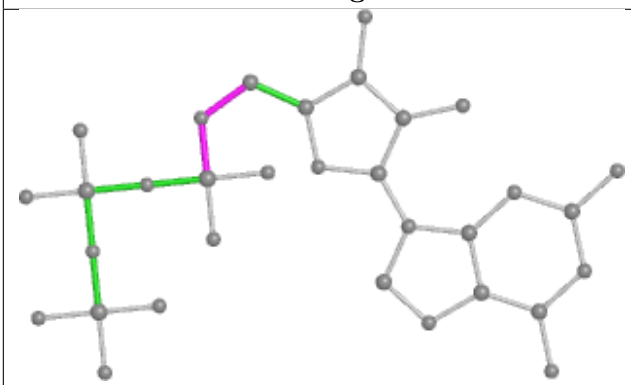

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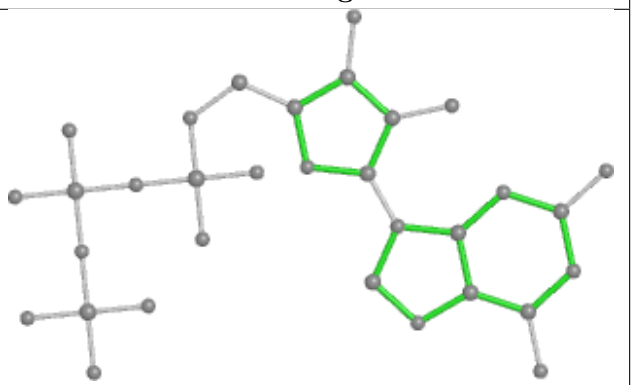

Rings

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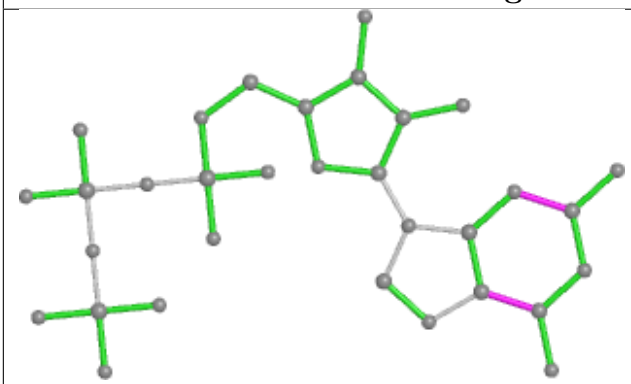

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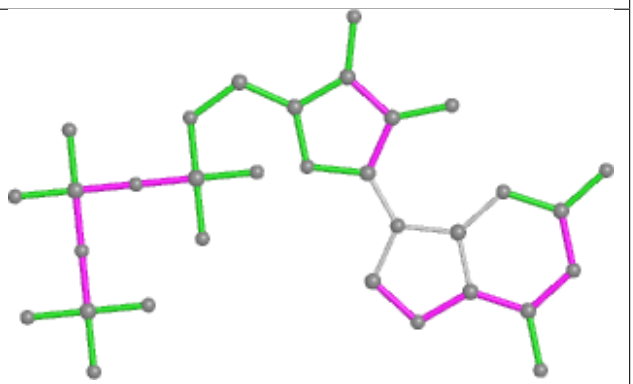

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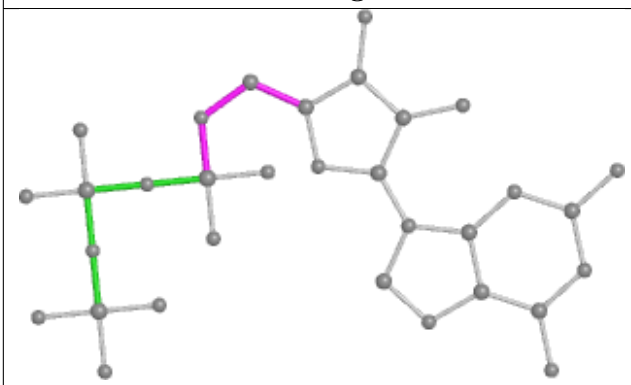

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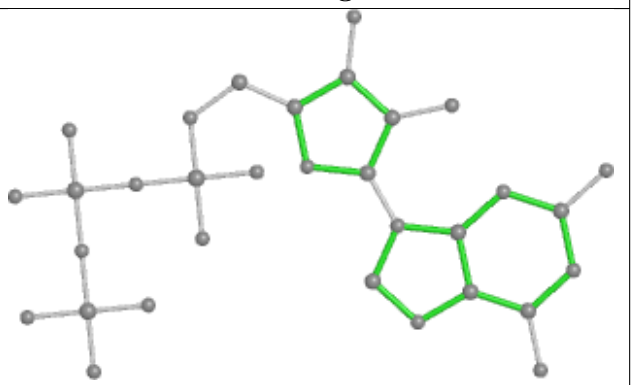
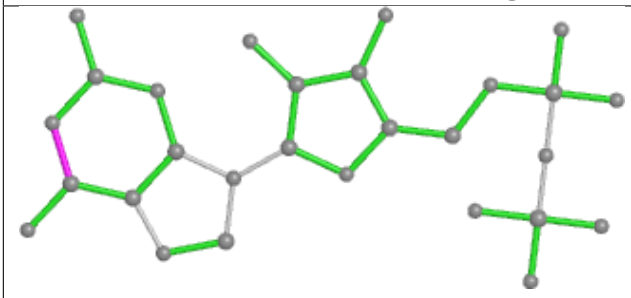


Rings

Ligand GDP NM 501



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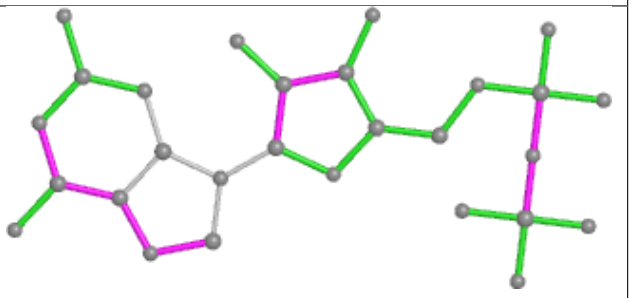

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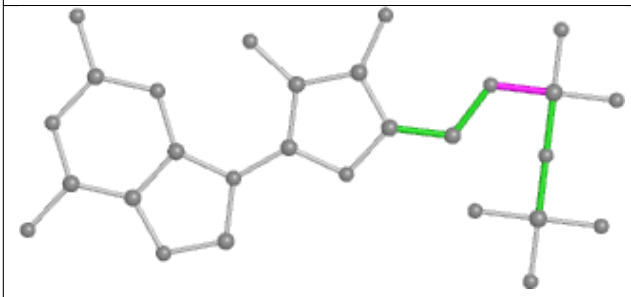

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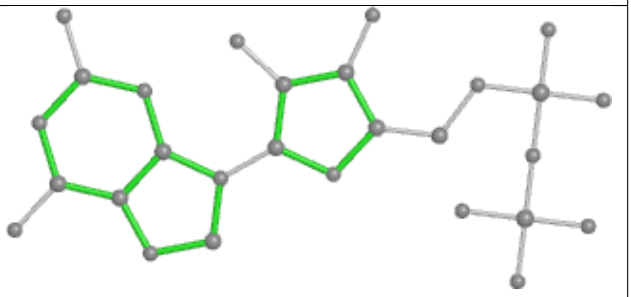
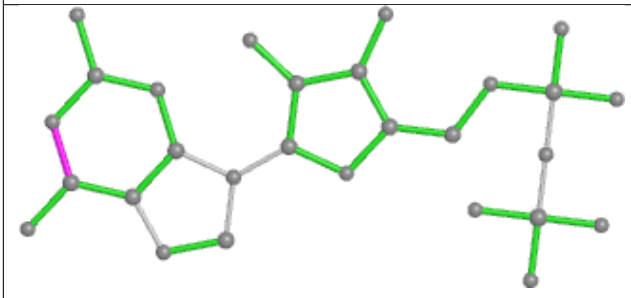


Rings

Ligand GDP JF 501



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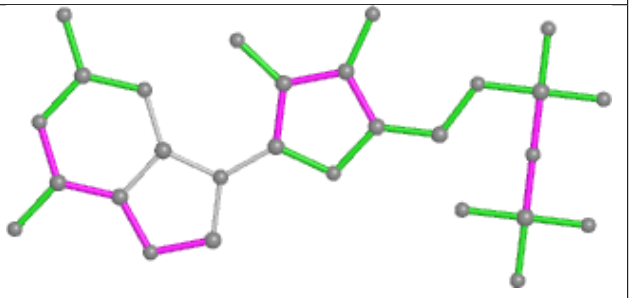

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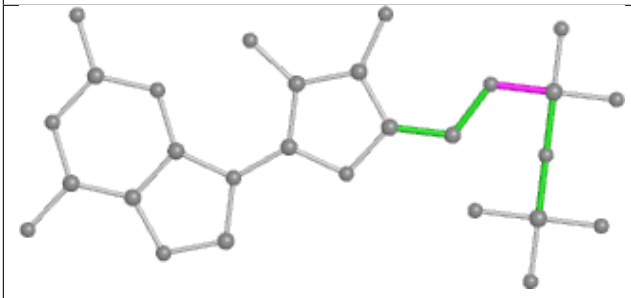

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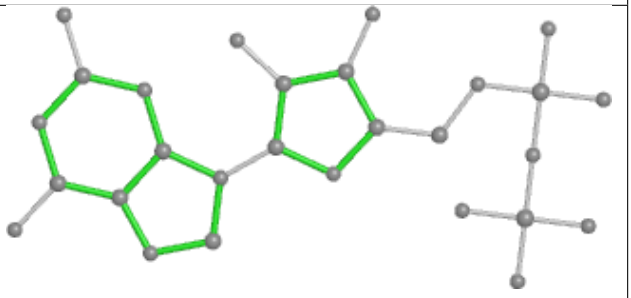

Rings

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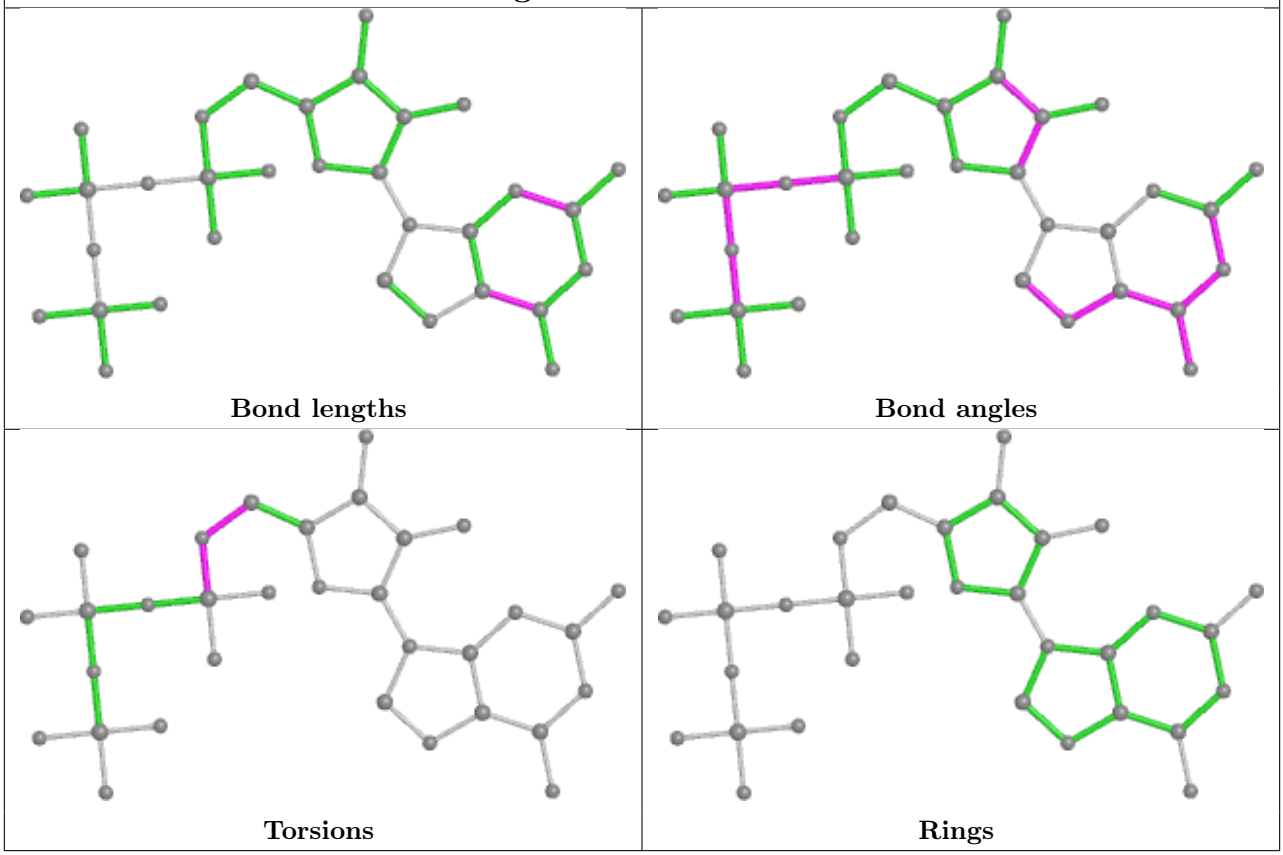

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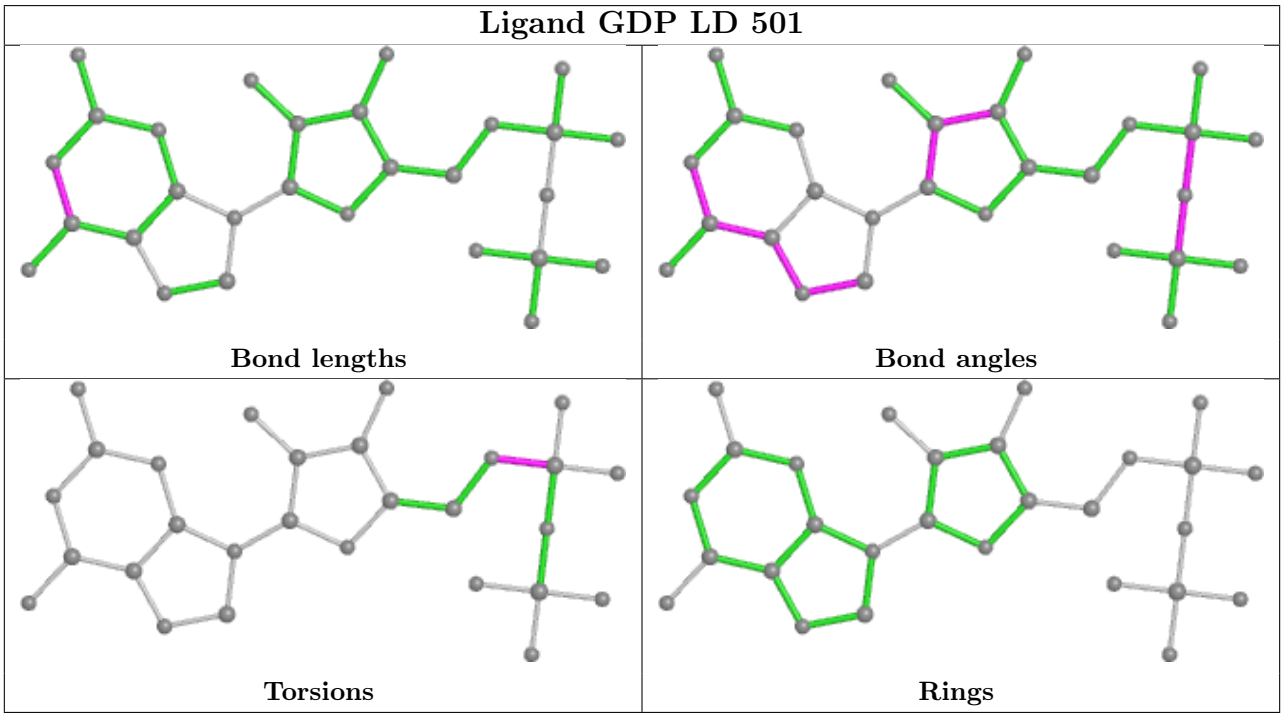

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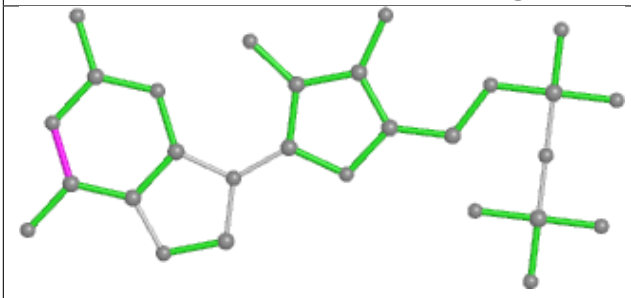

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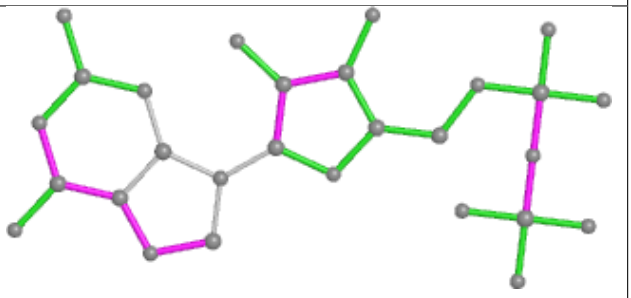

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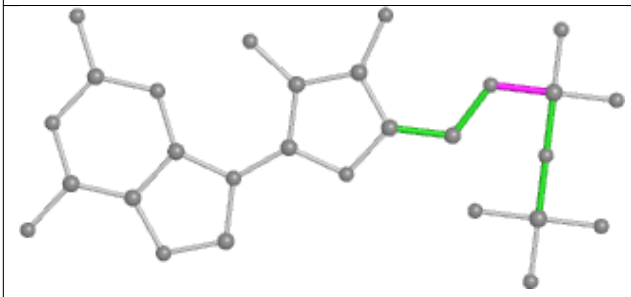

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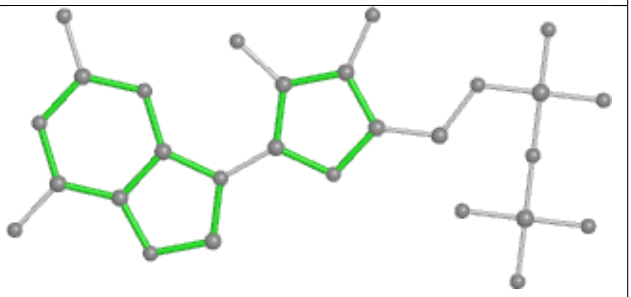
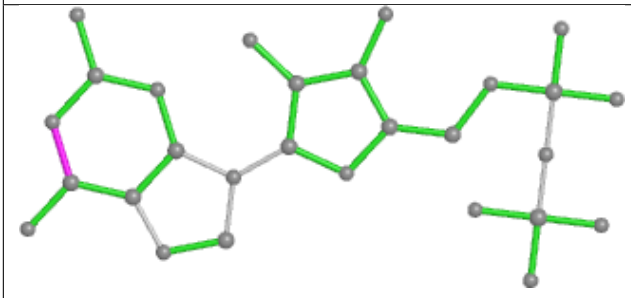


Rings

Ligand GDP FL 501



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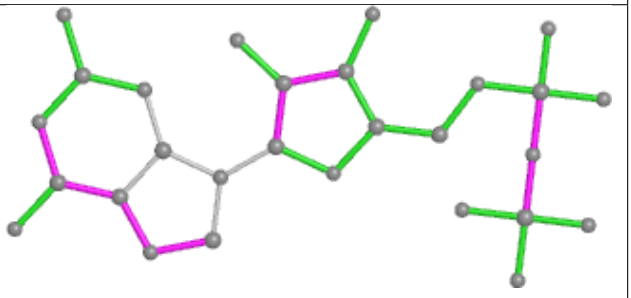

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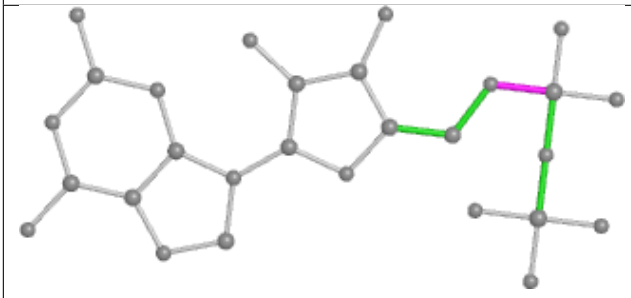

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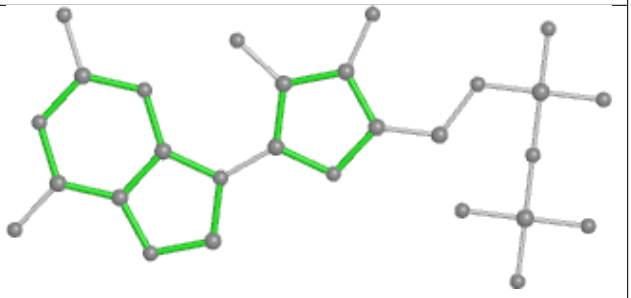
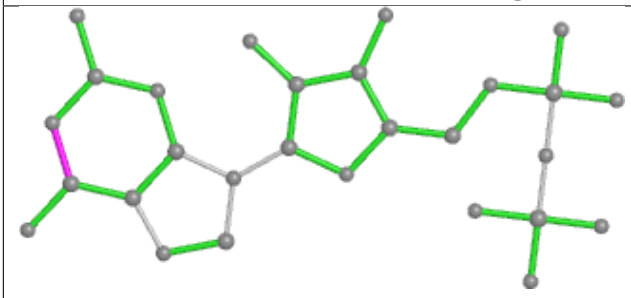


Rings

Ligand GDP HF 501



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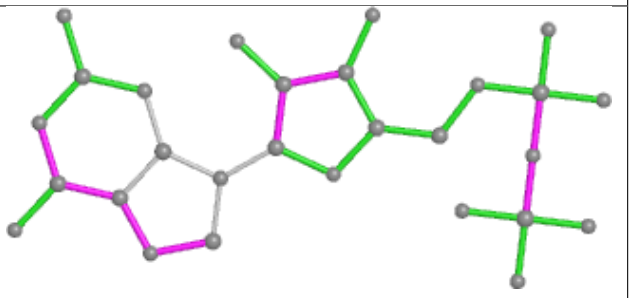

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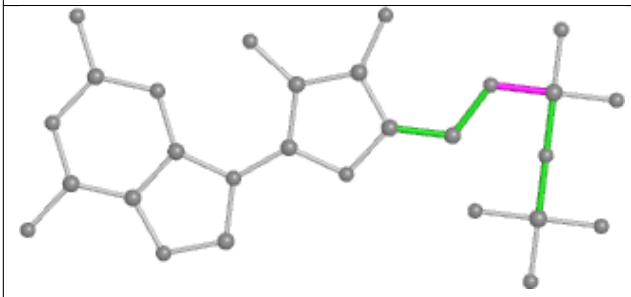

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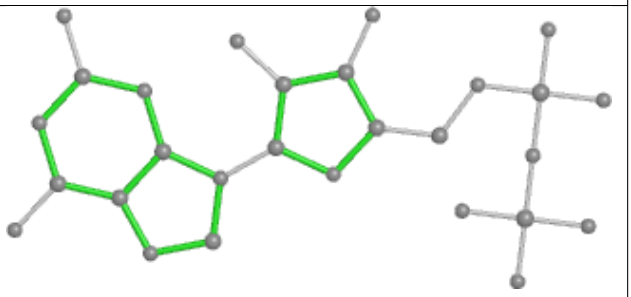
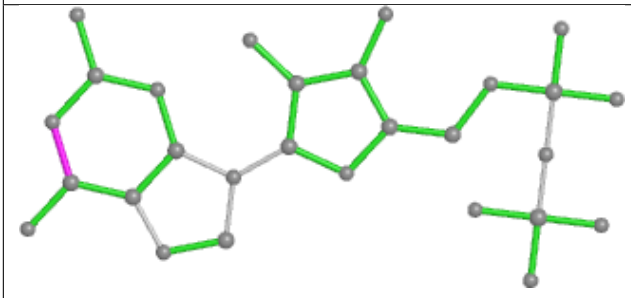


Rings

Ligand GDP WL 501



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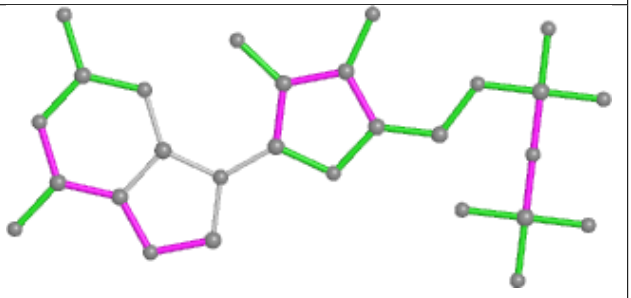

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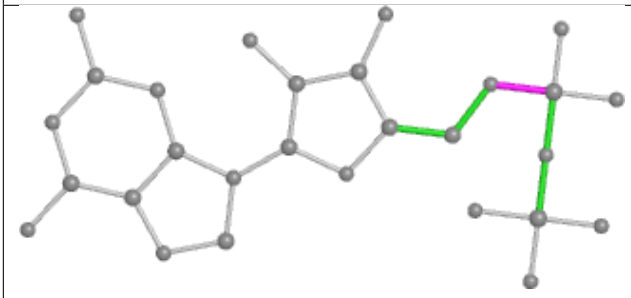

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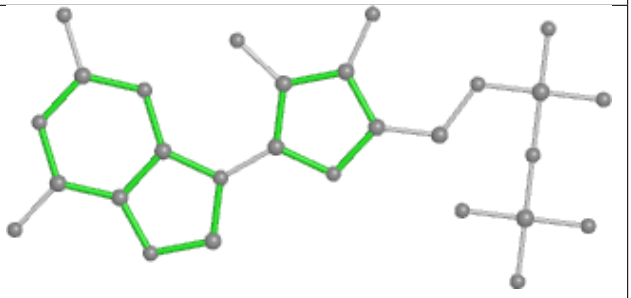
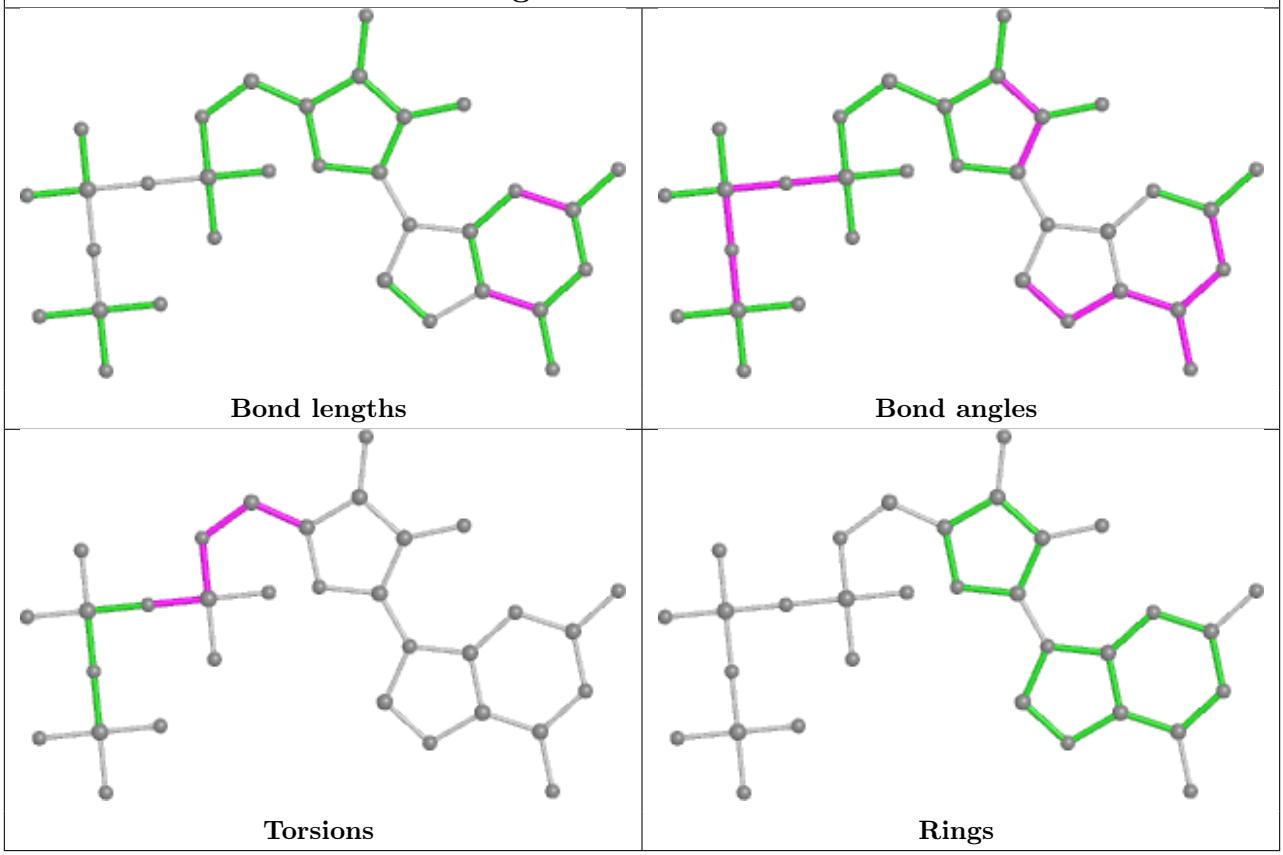


Rings

Ligand GTP OL 501



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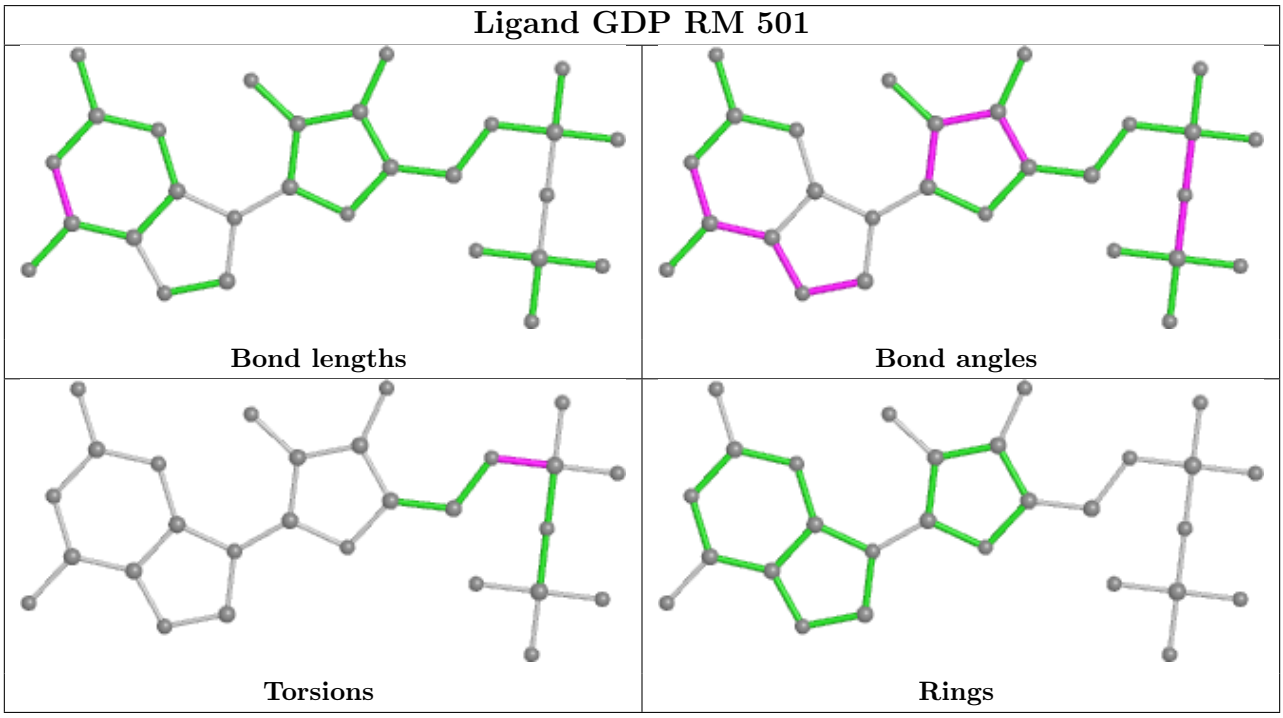
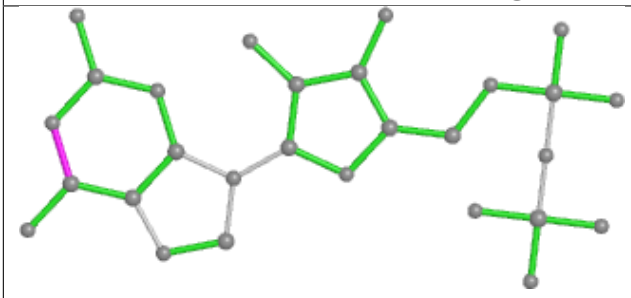


Ligand GDP AC 501



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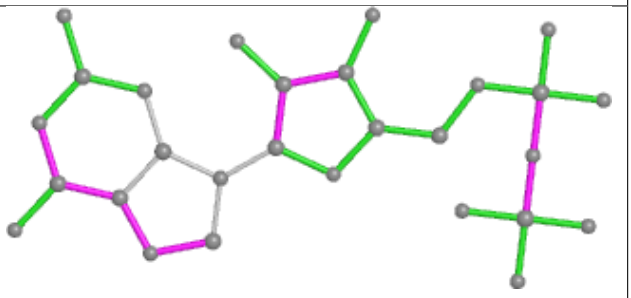

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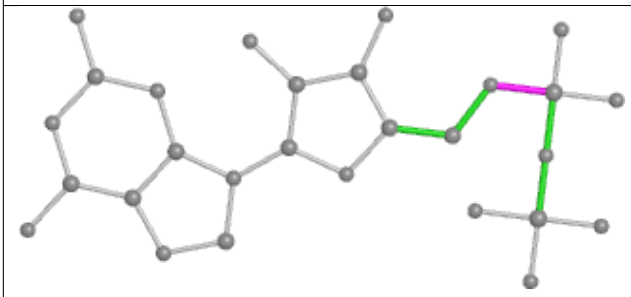

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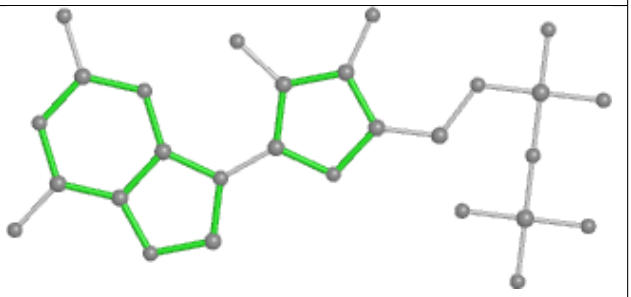
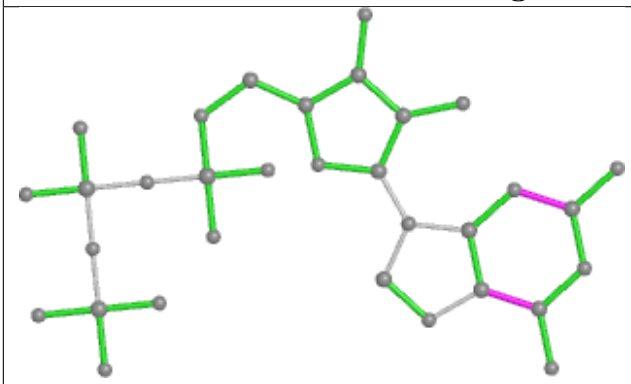


Rings

Ligand GTP RB 501



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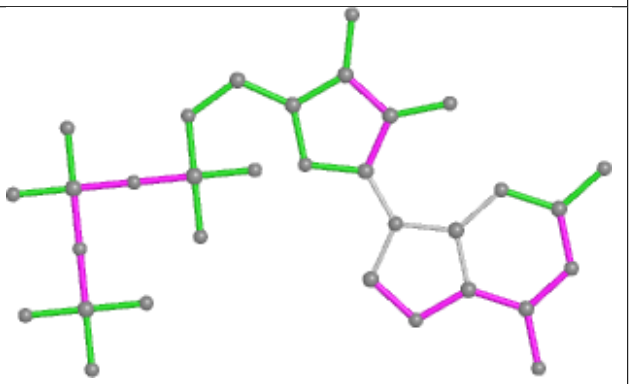

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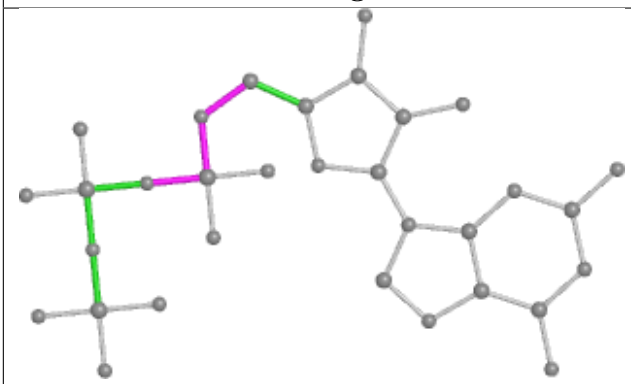

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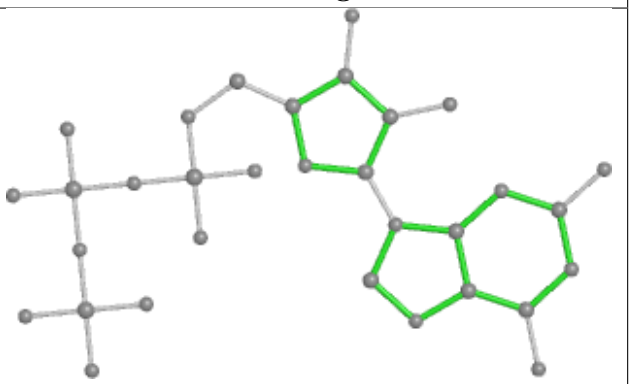
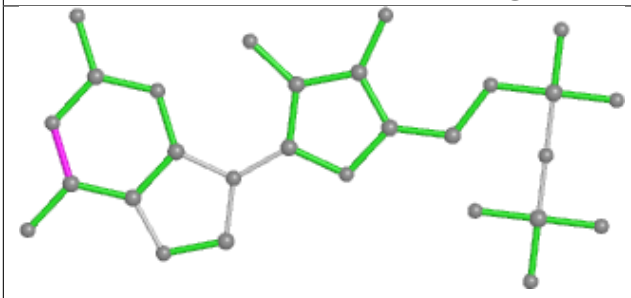


Rings

Ligand GDP HH 501



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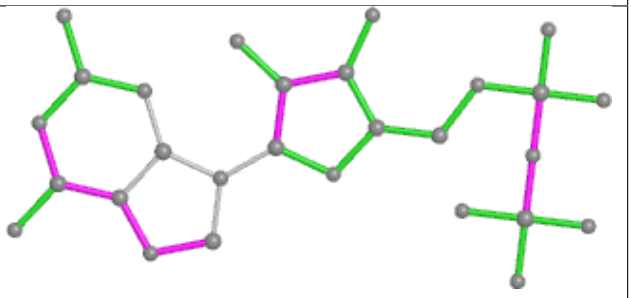

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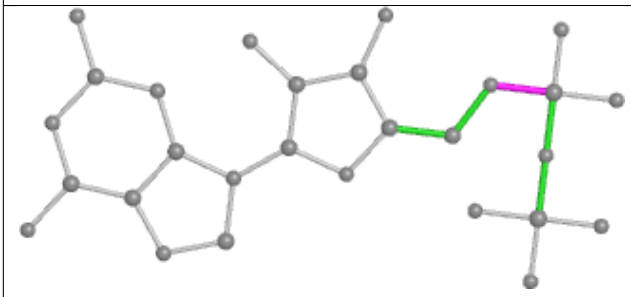

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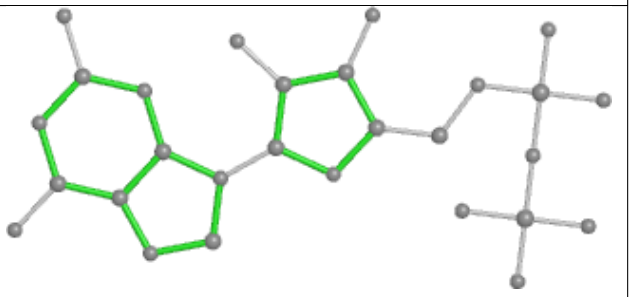
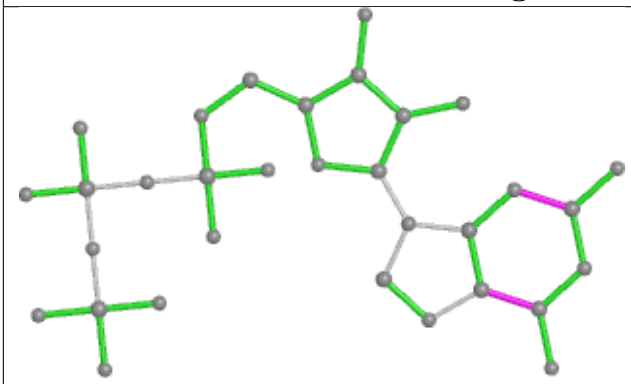


Rings

Ligand GTP WI 501



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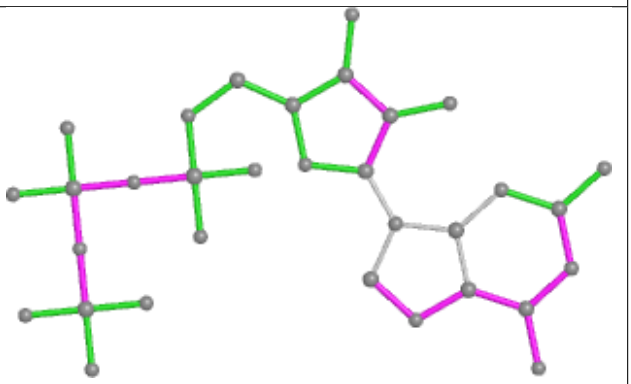
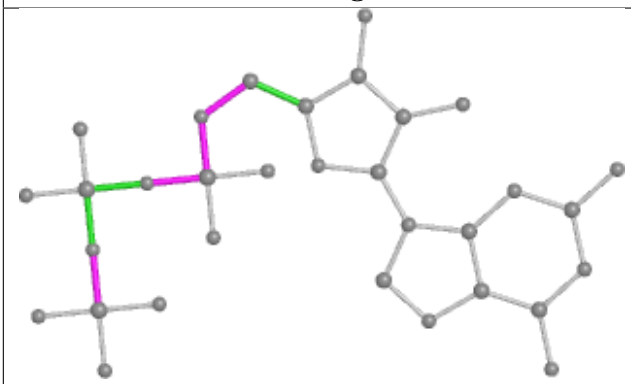
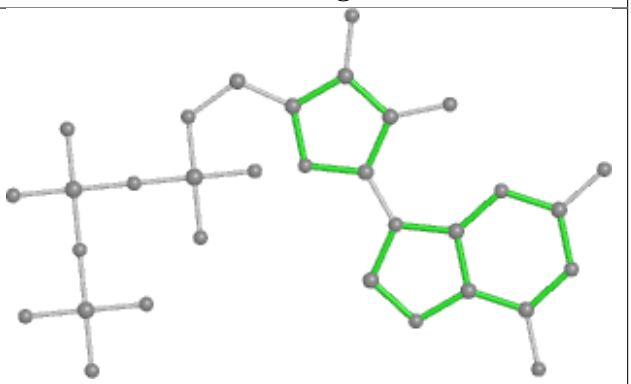


Bond angles

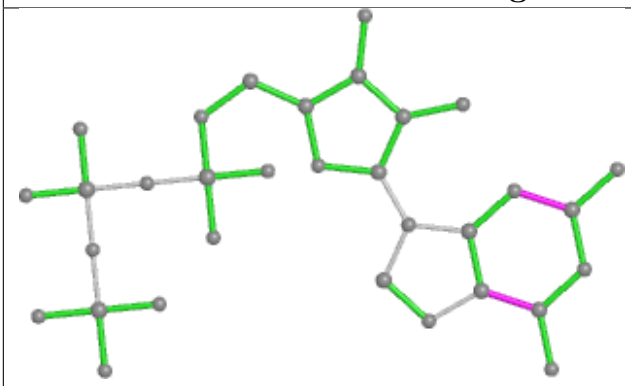


Torsions



Rings

Ligand GTP PK 501



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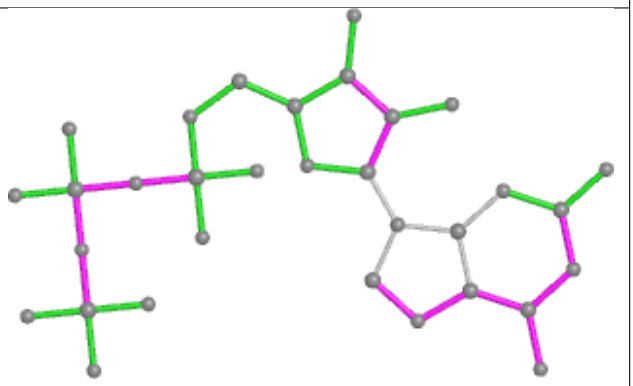

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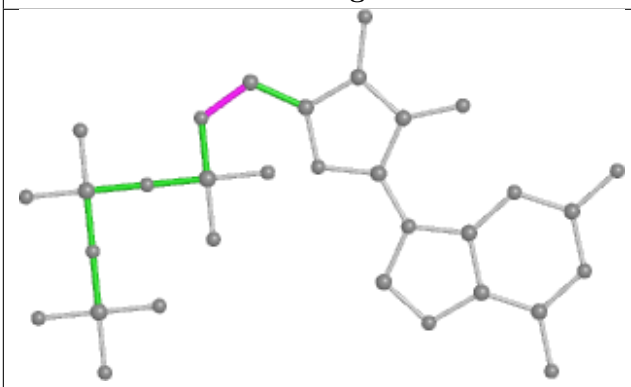

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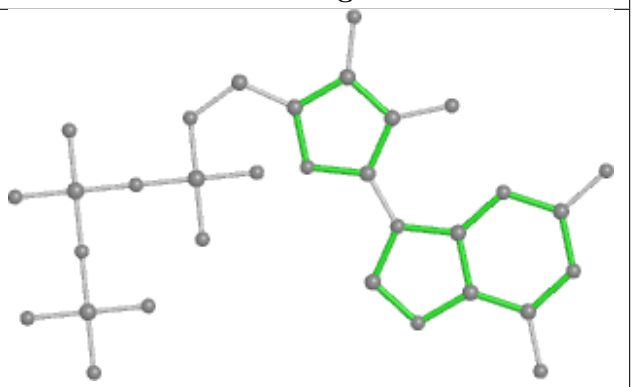
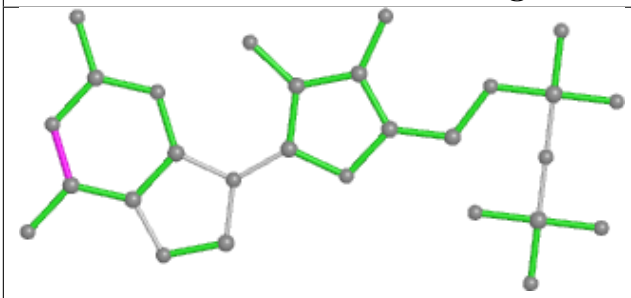


Rings

Ligand GDP PD 501



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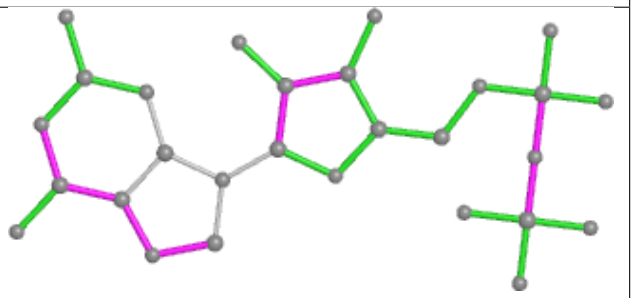

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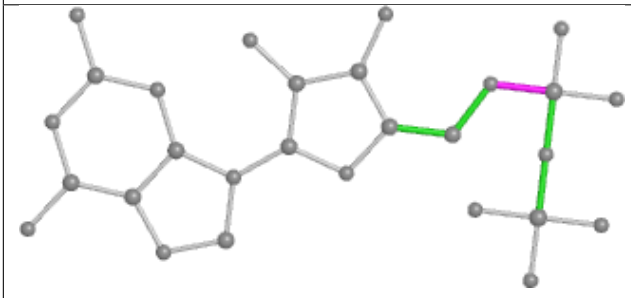

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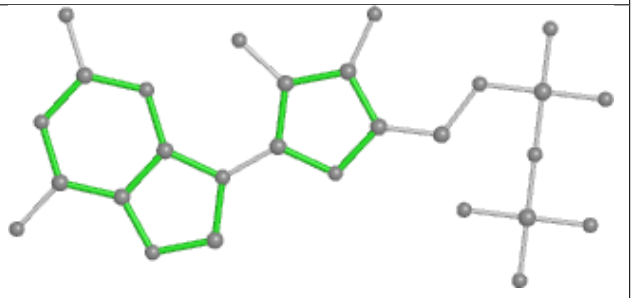

Rings

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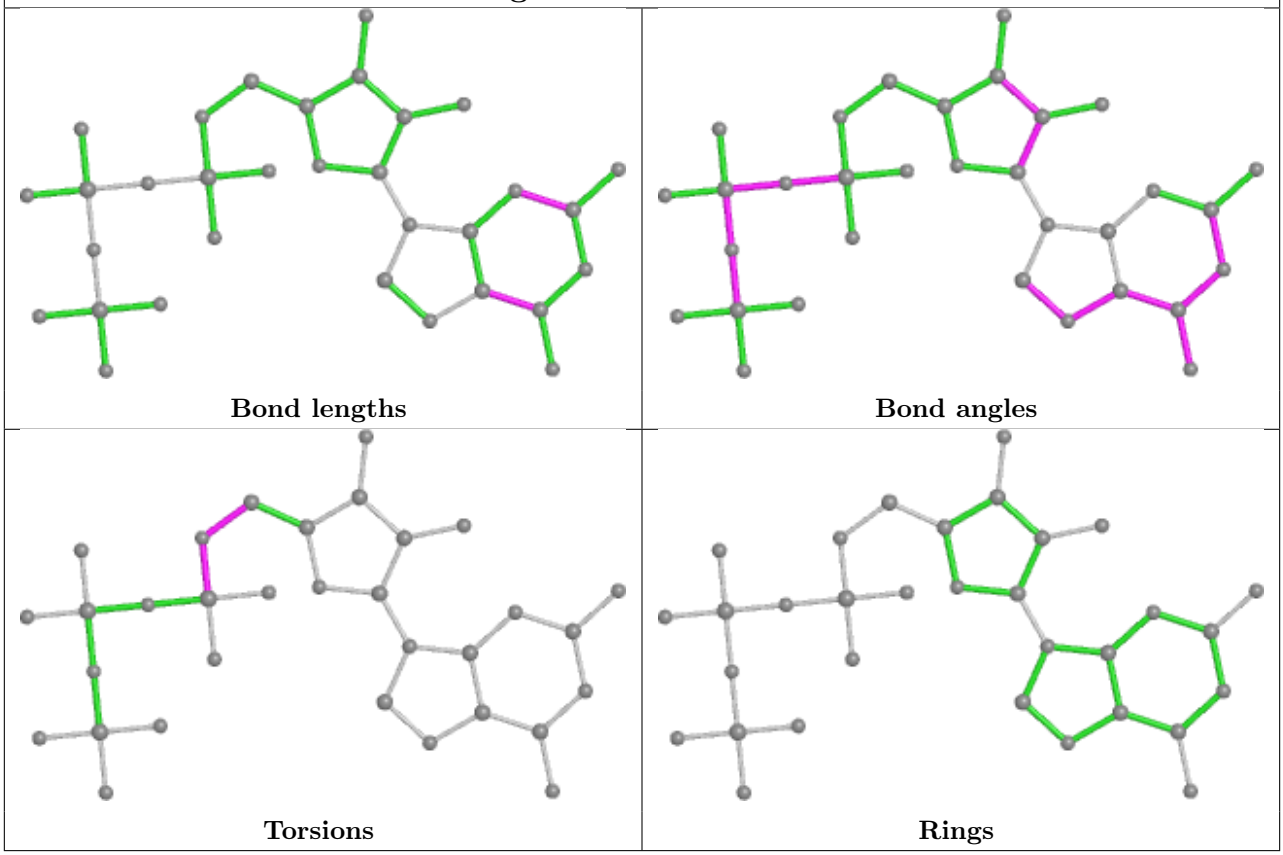

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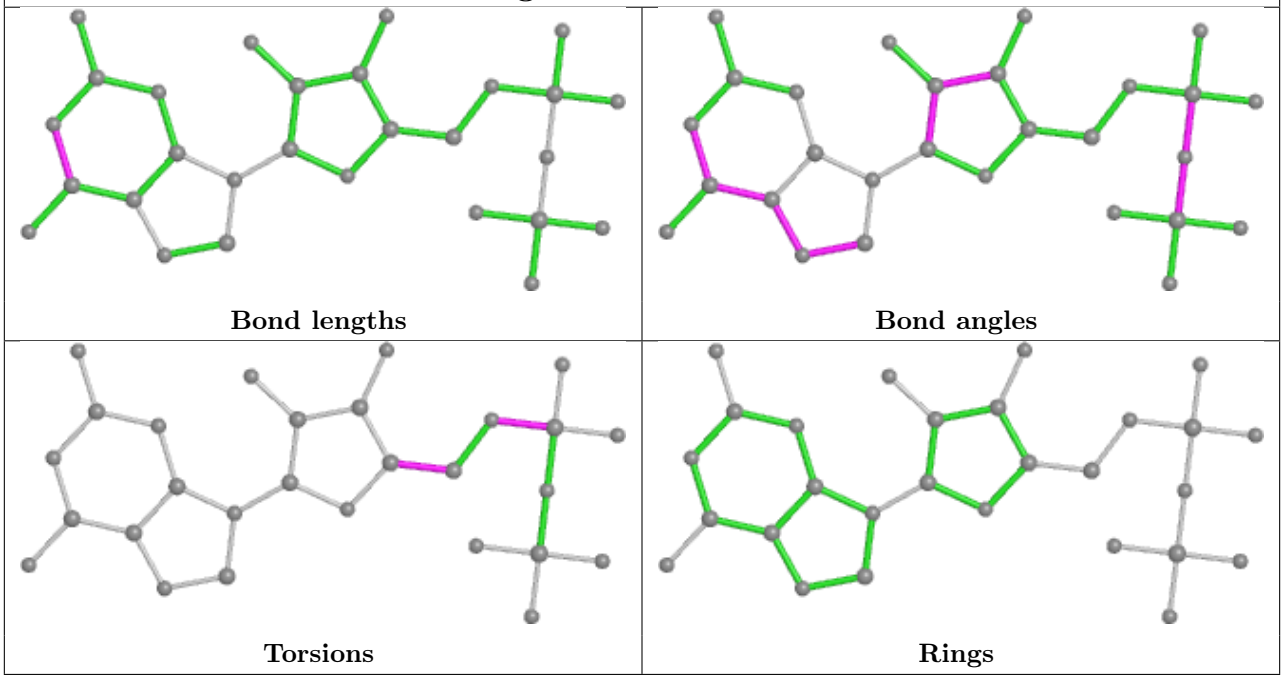

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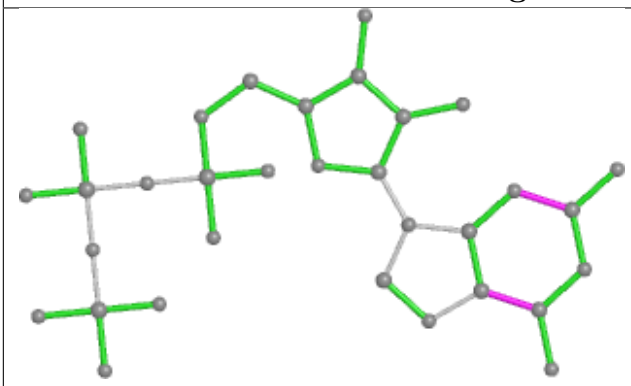

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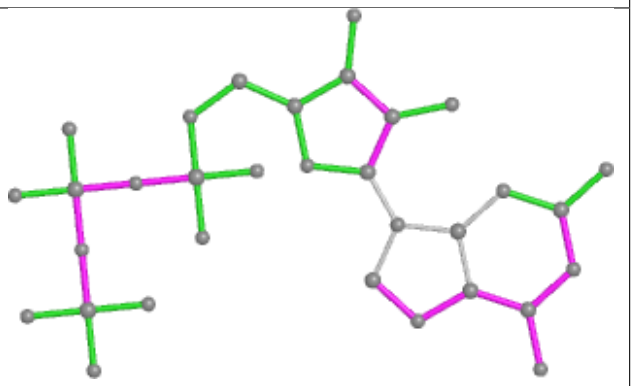

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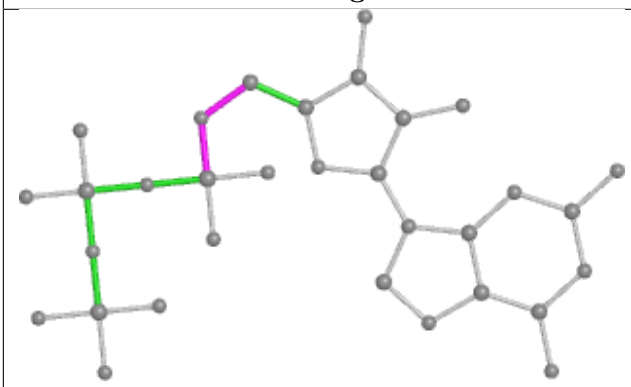

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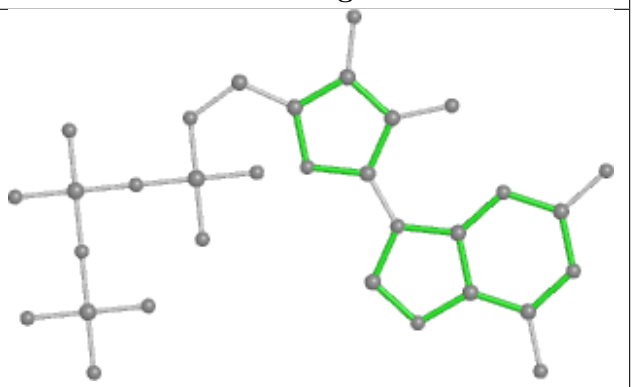
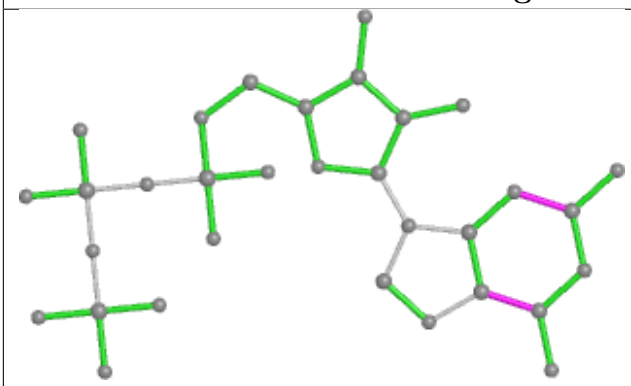


Rings

Ligand GTP SE 501



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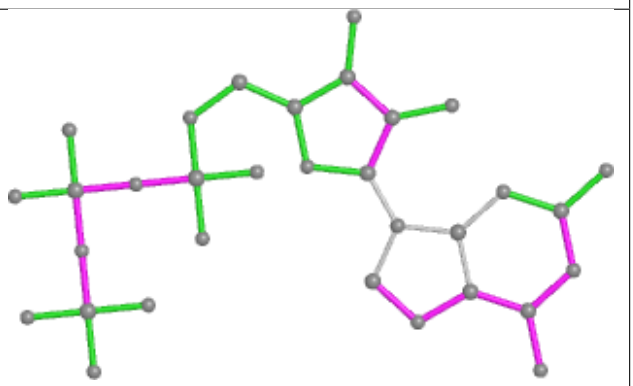

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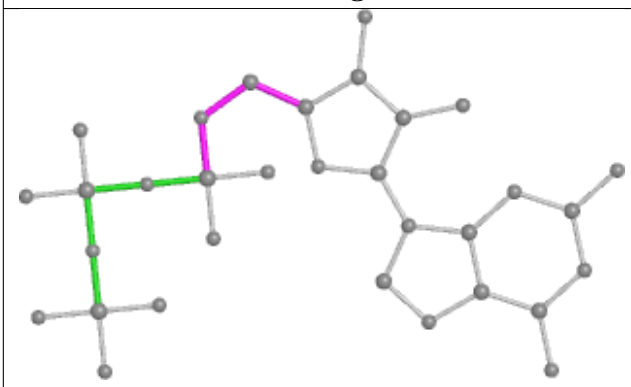

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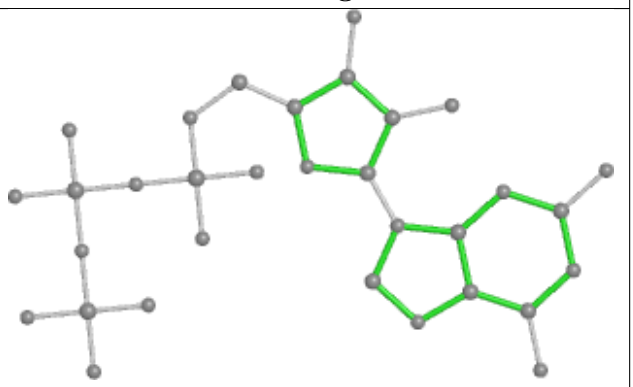
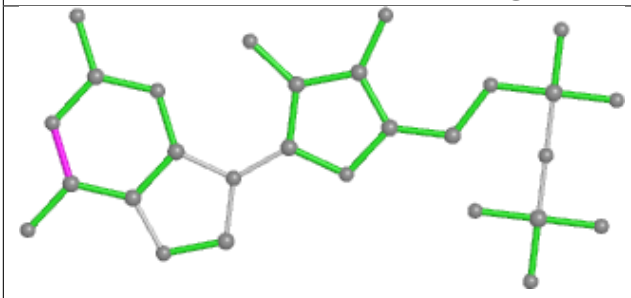


Rings

Ligand GDP RD 501



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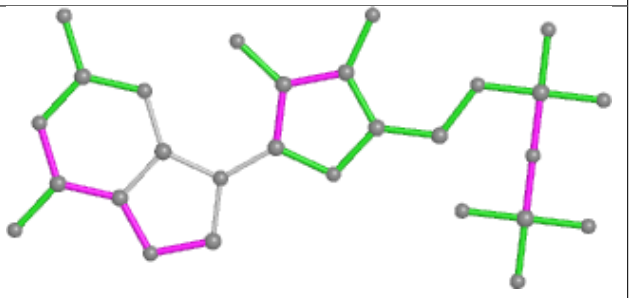

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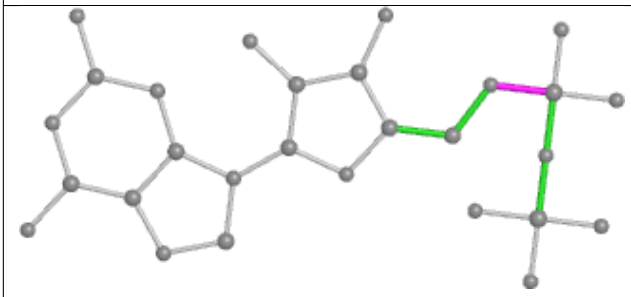

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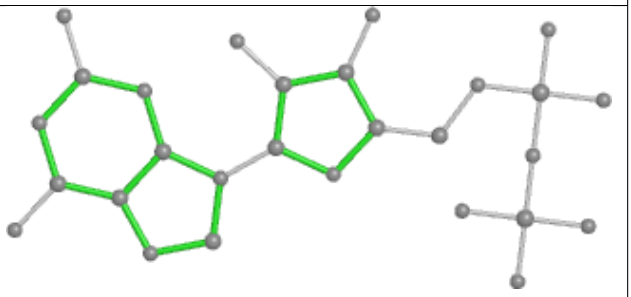
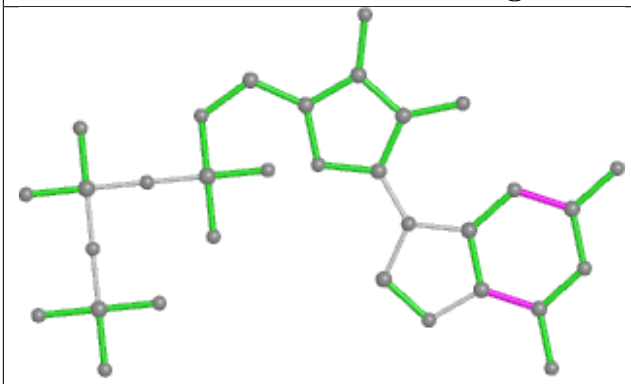


Rings

Ligand GTP BM 501



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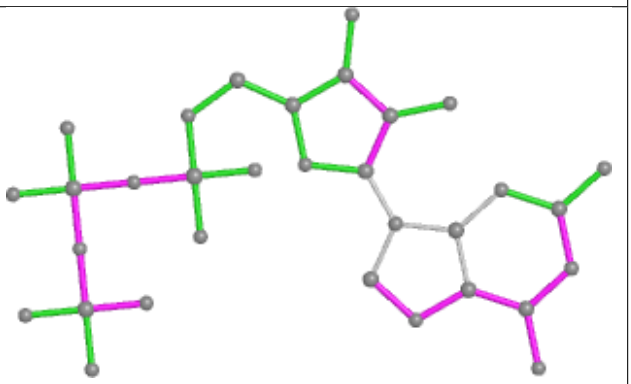

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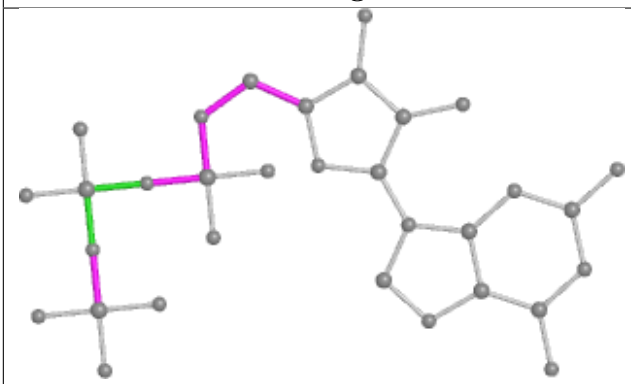

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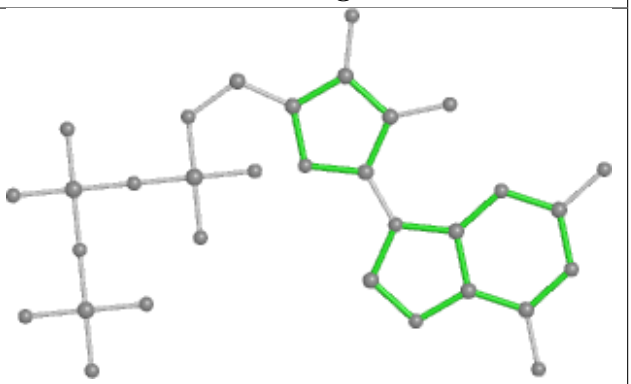

Rings

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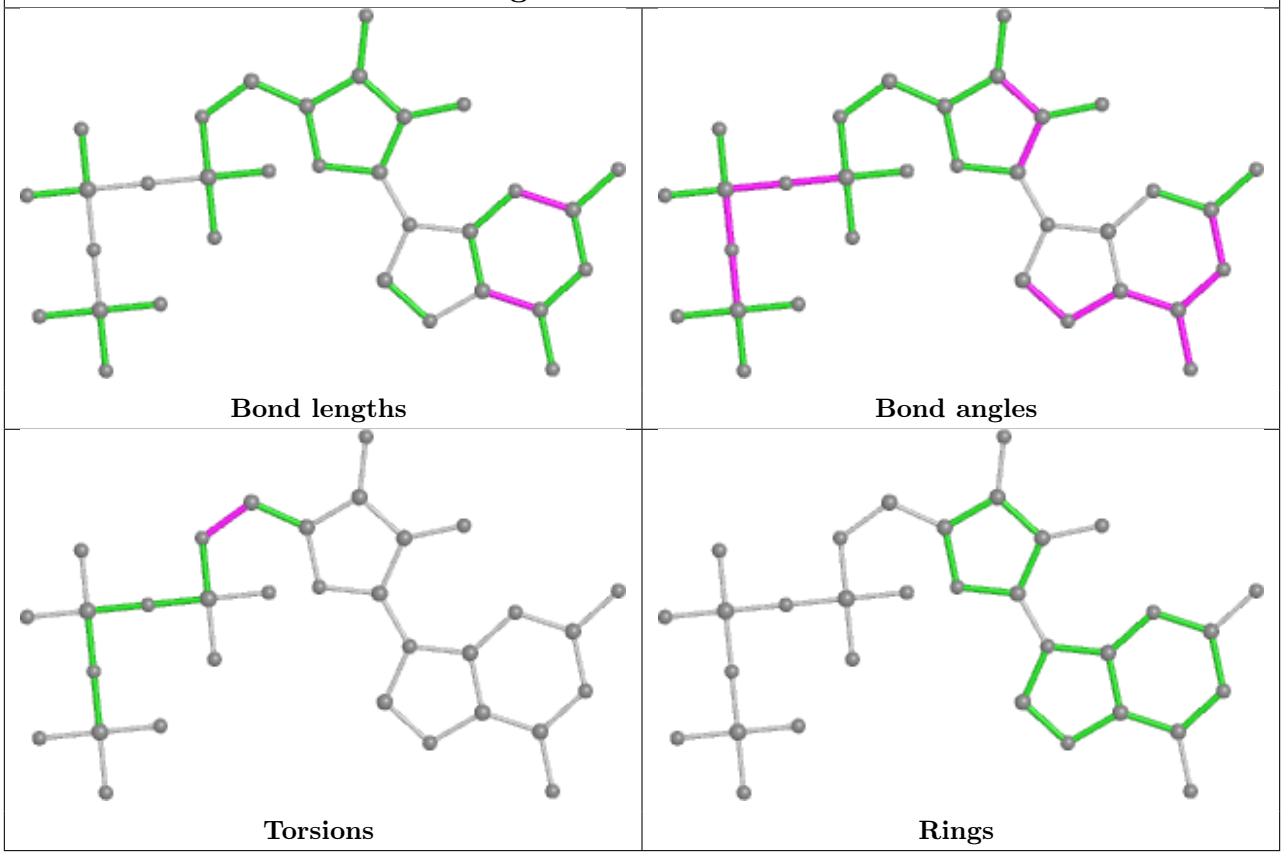

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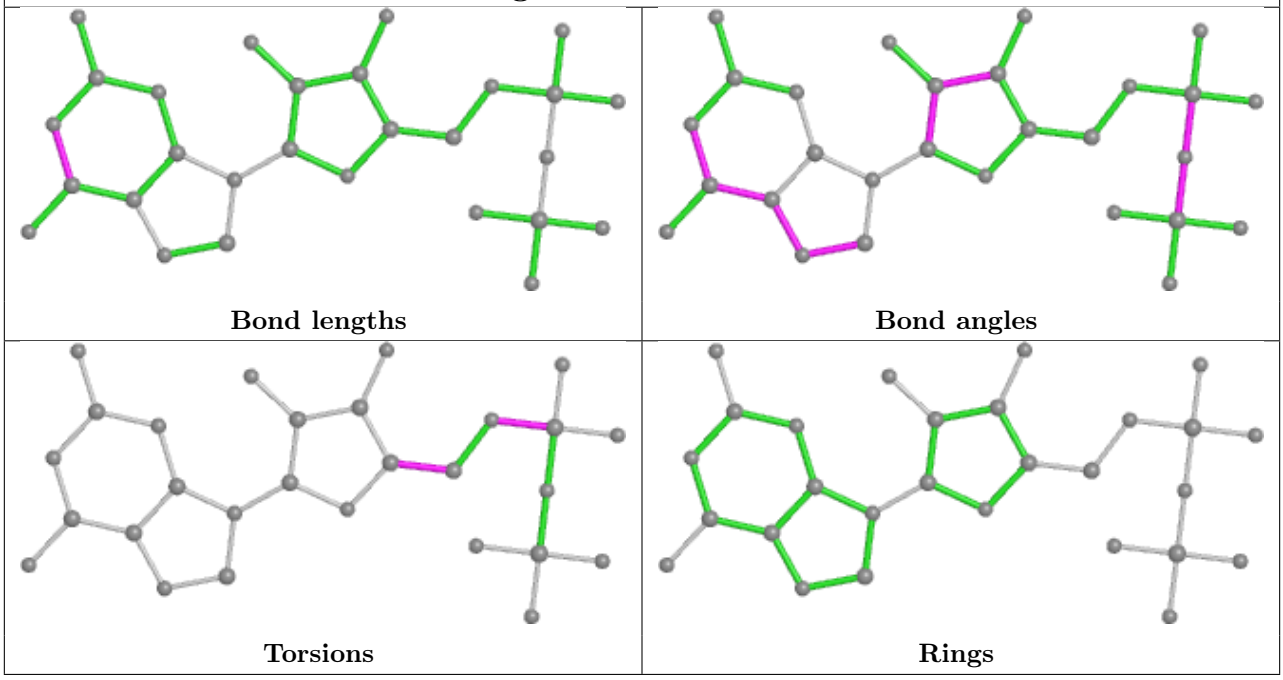

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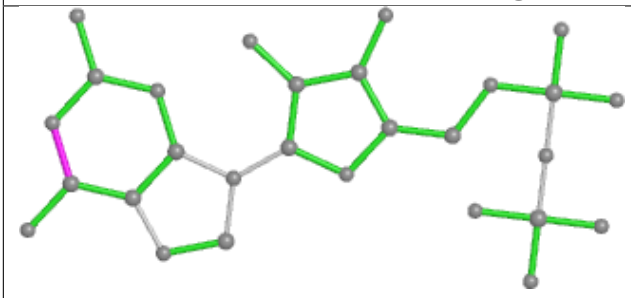

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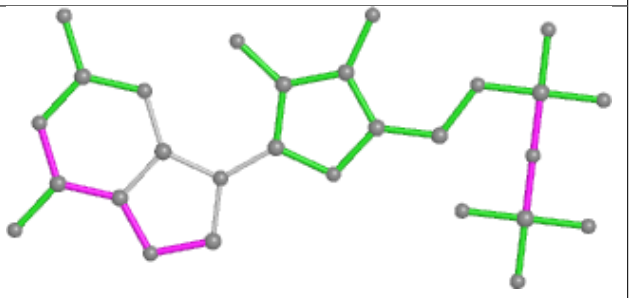

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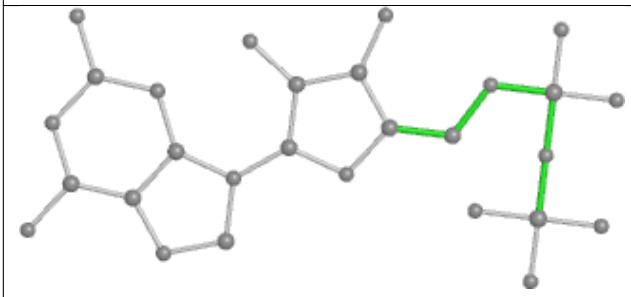

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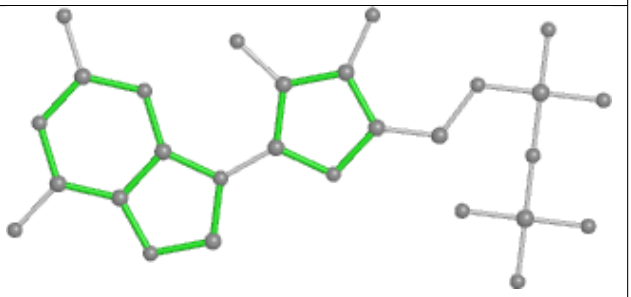
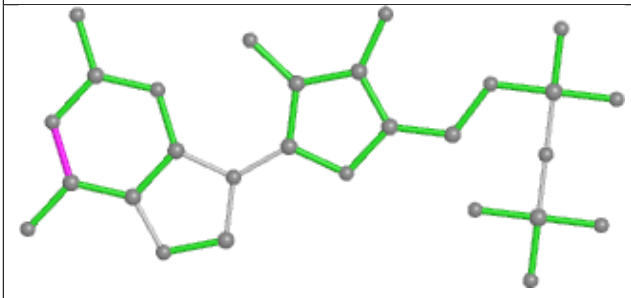


Rings

Ligand GDP GD 501



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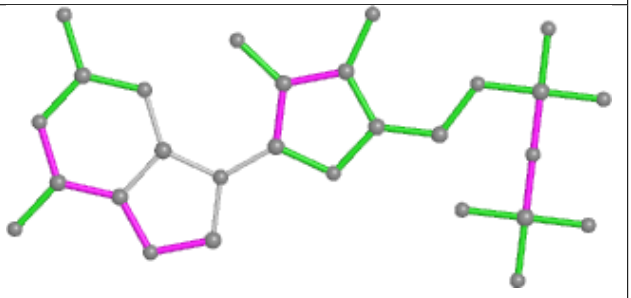

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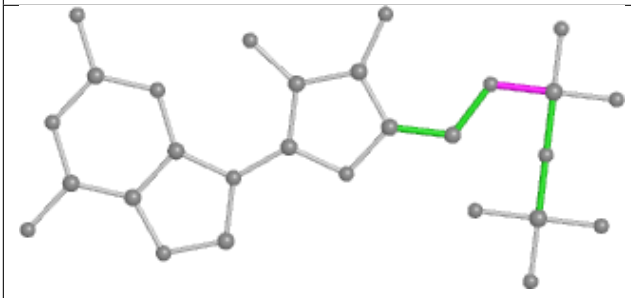

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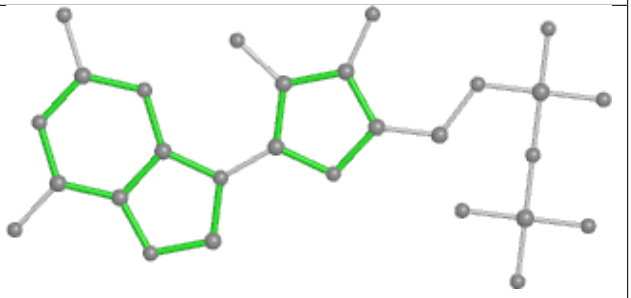

Rings

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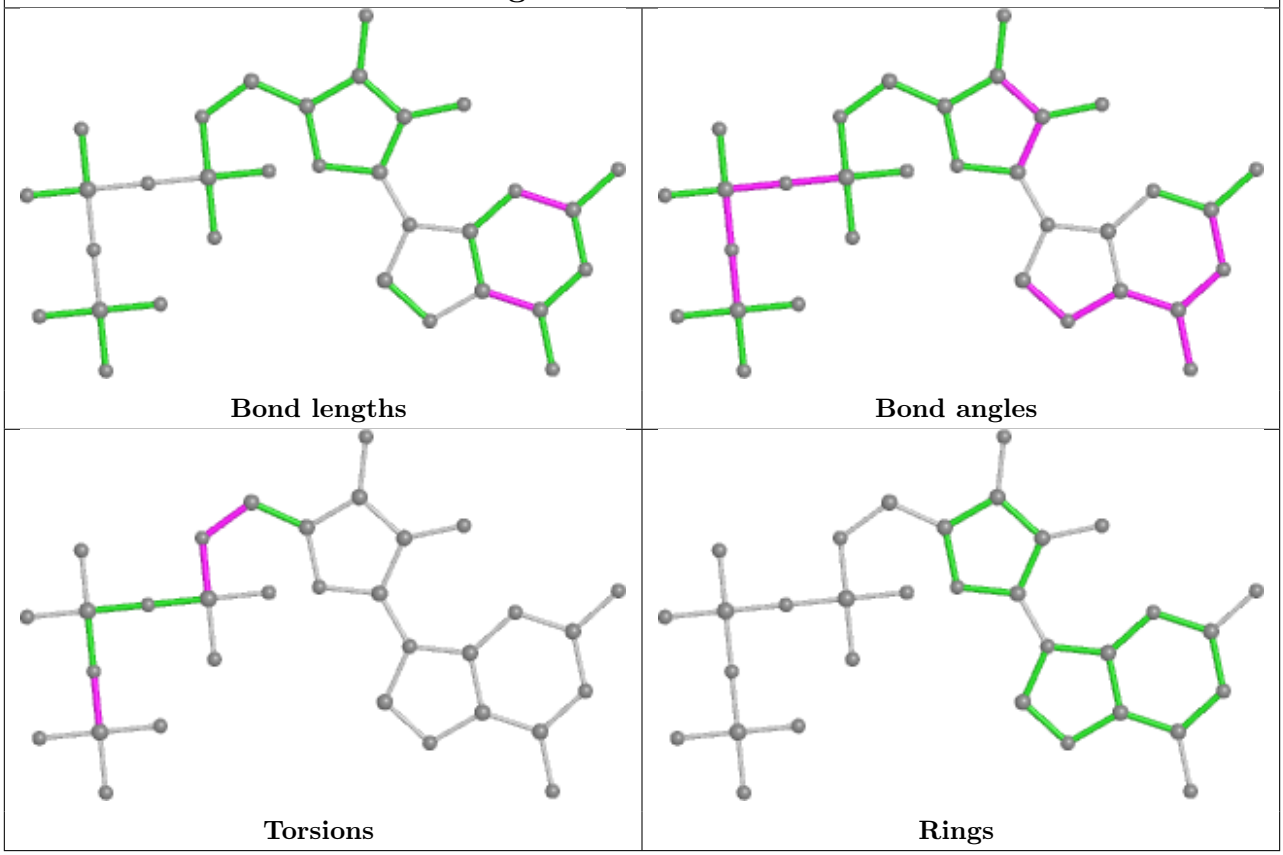

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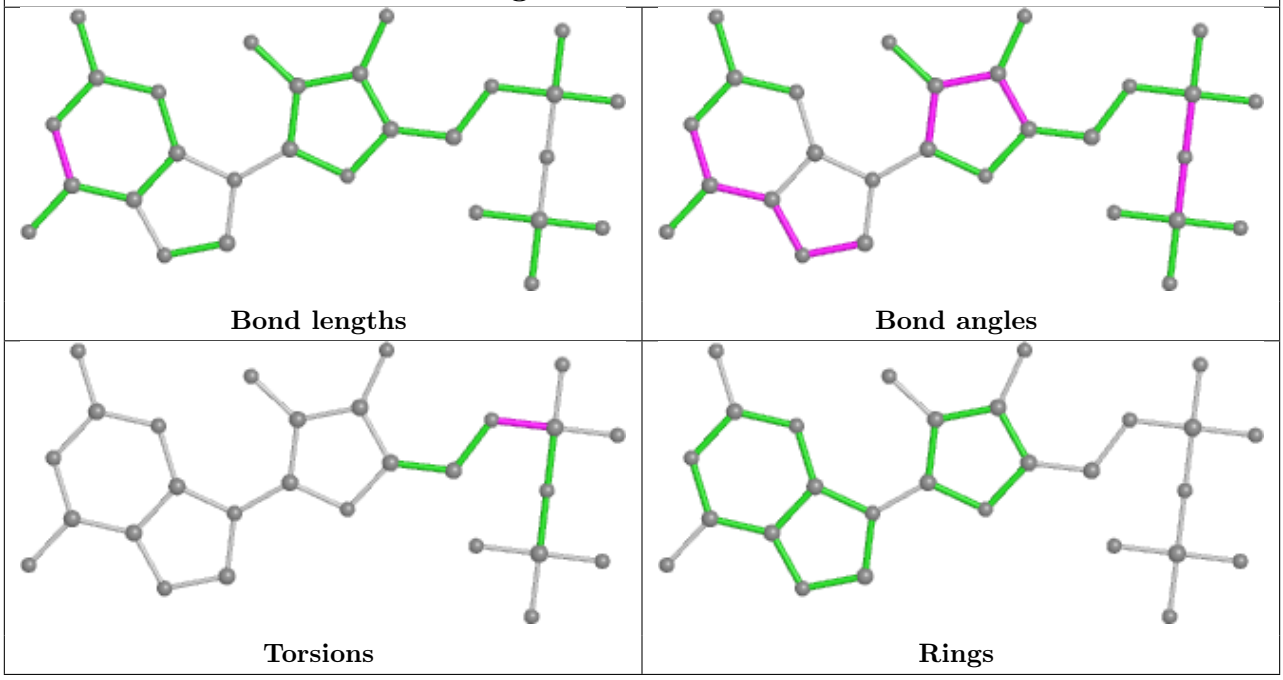

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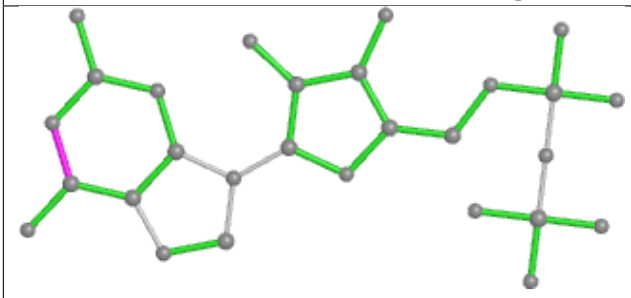

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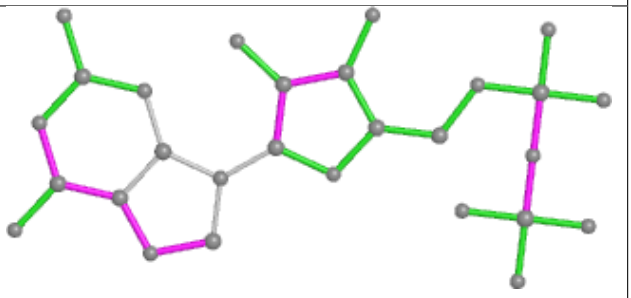

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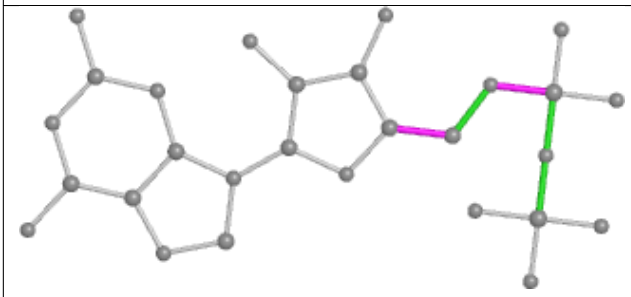

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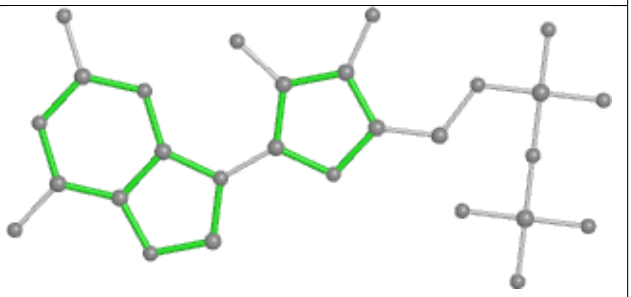

Rings

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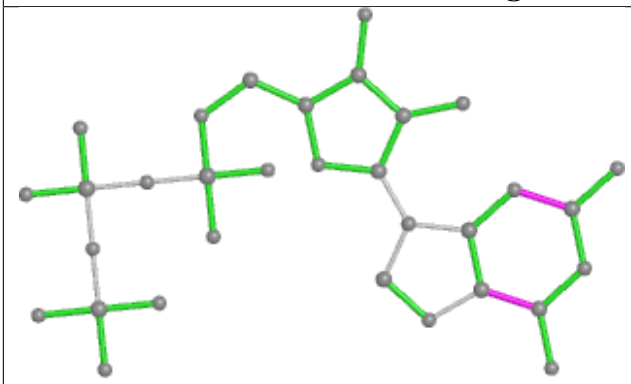

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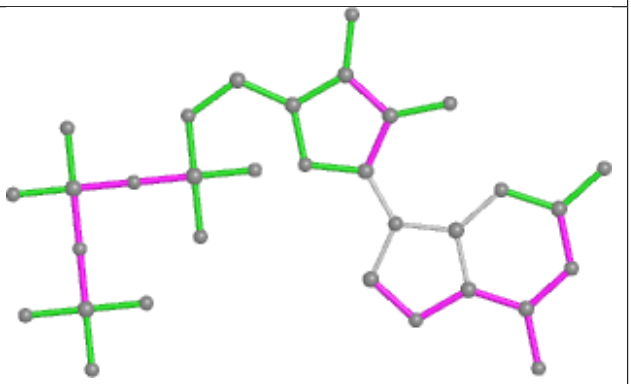

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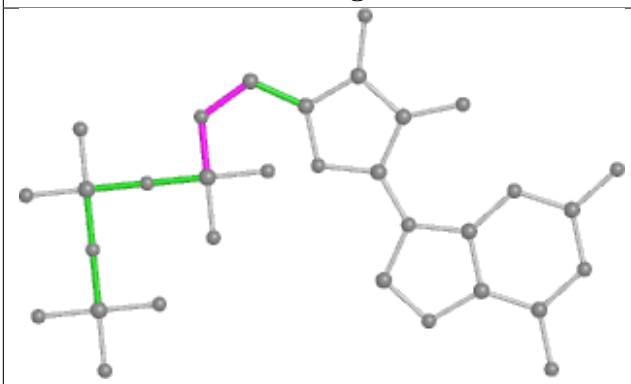

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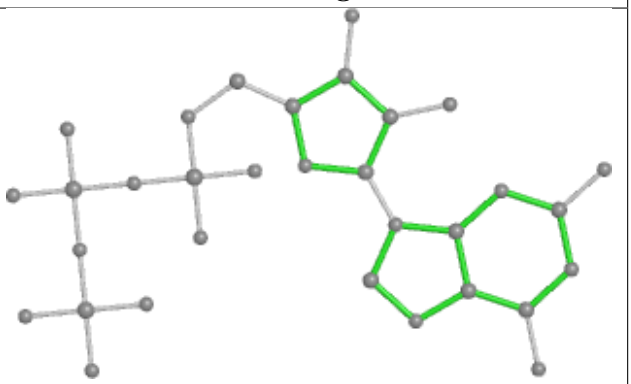
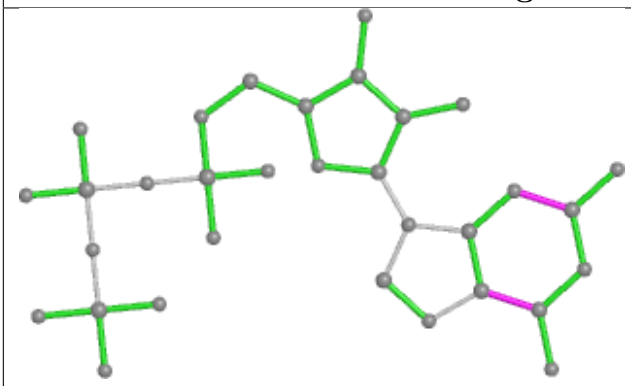


Rings

Ligand GTP CI 501



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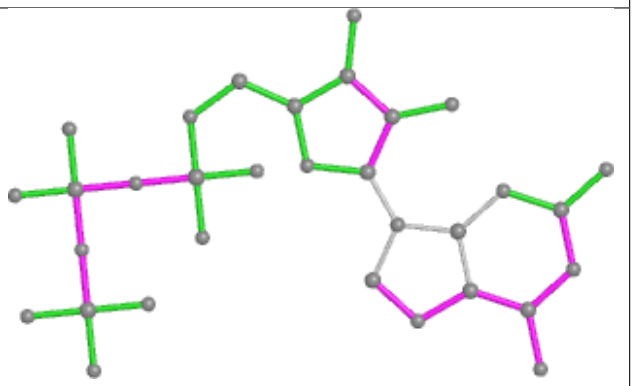

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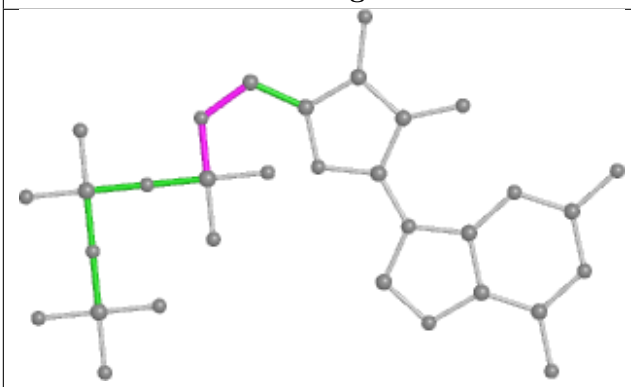

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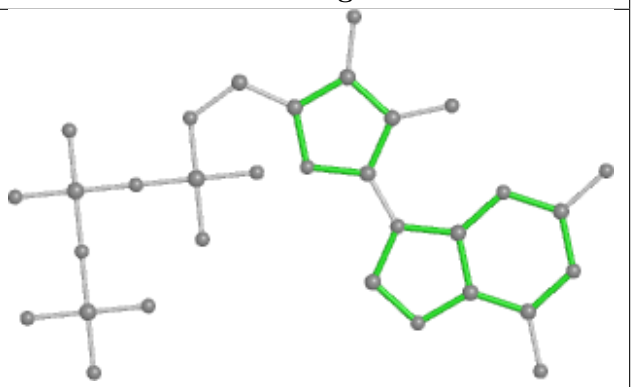
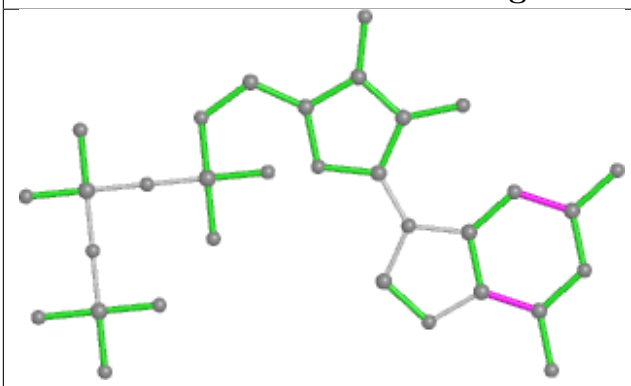


Rings

Ligand GTP CA 501



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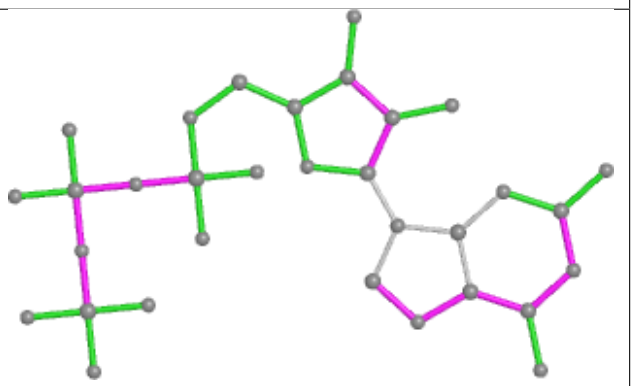

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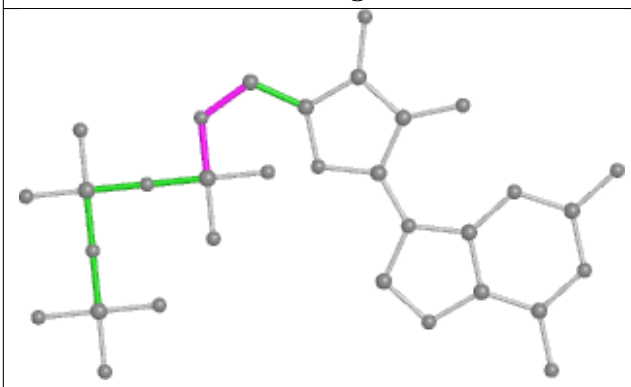

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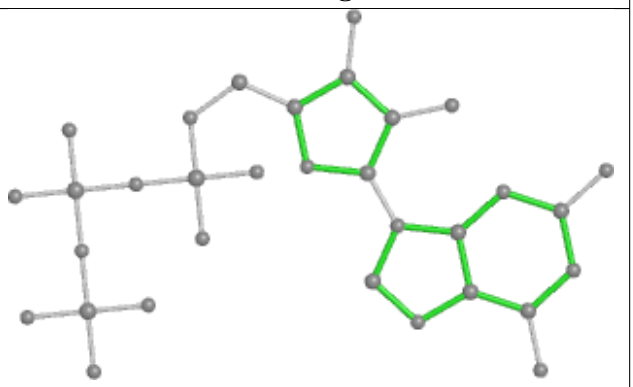
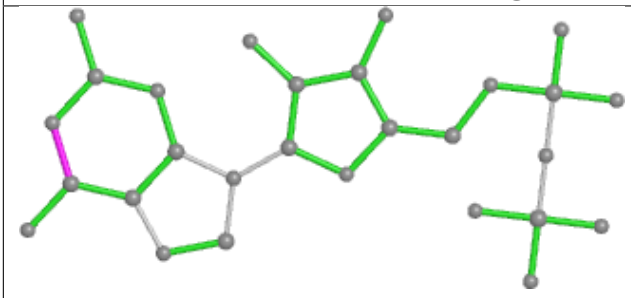


Rings

Ligand GDP MJ 501



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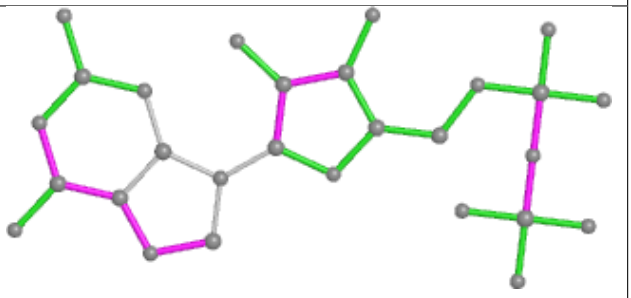
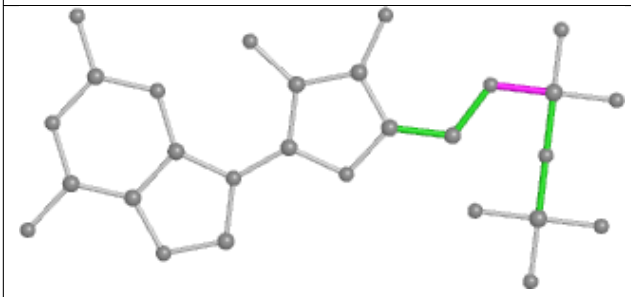
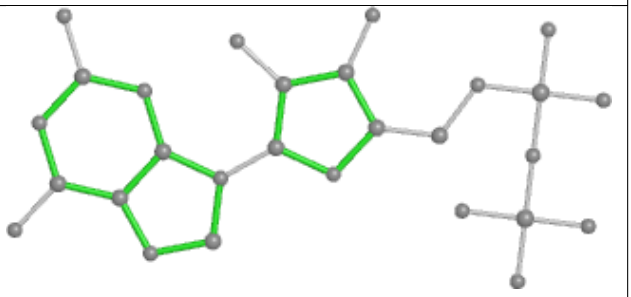


Bond angles

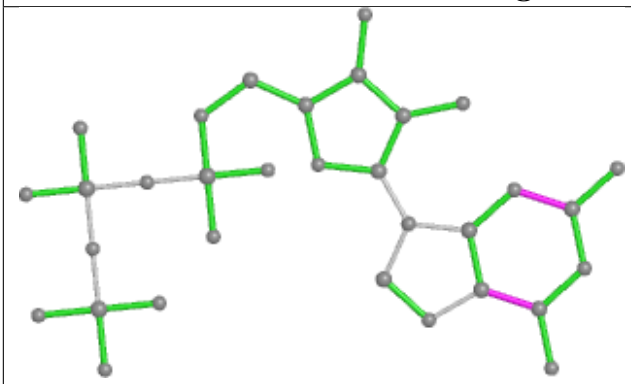


Torsions



Rings

Ligand GTP HI 501



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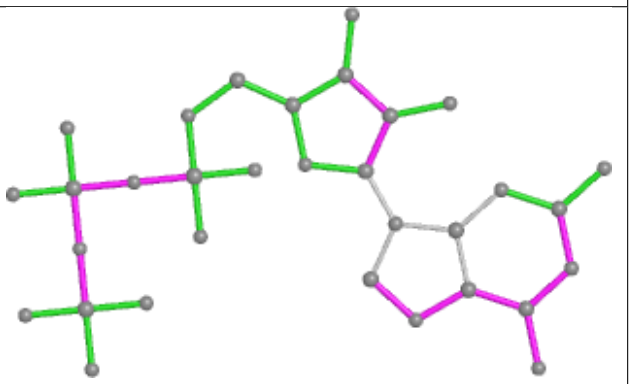

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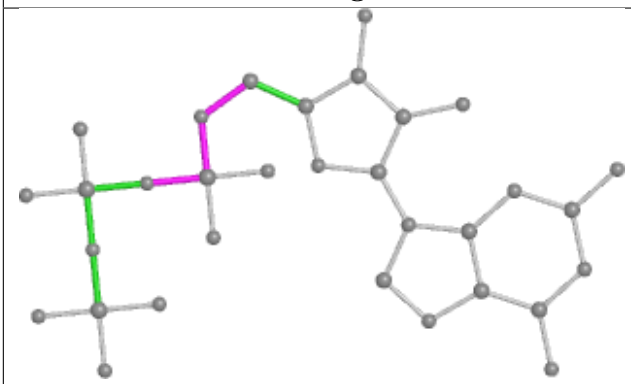

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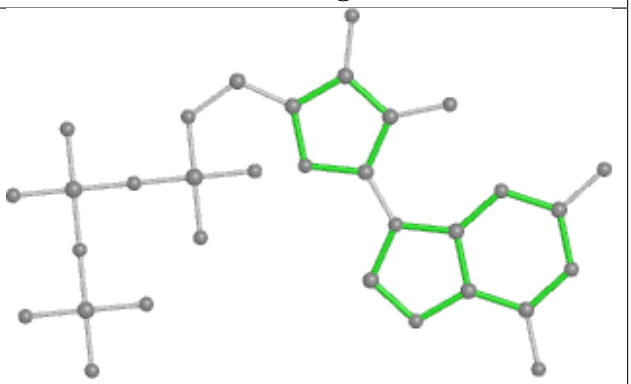

Rings

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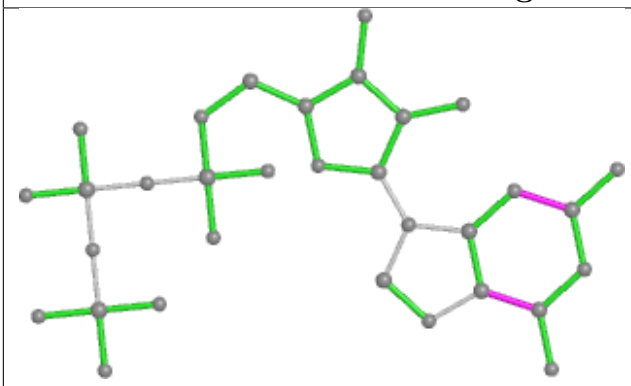

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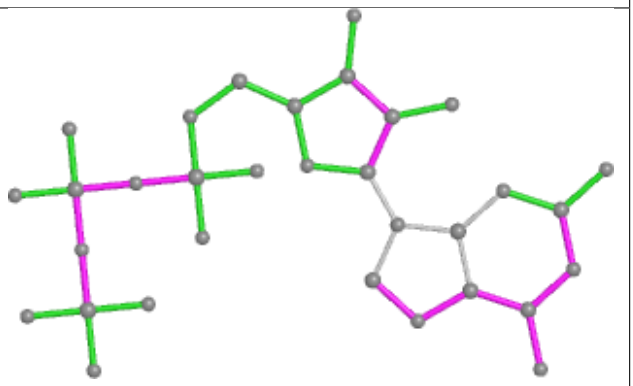

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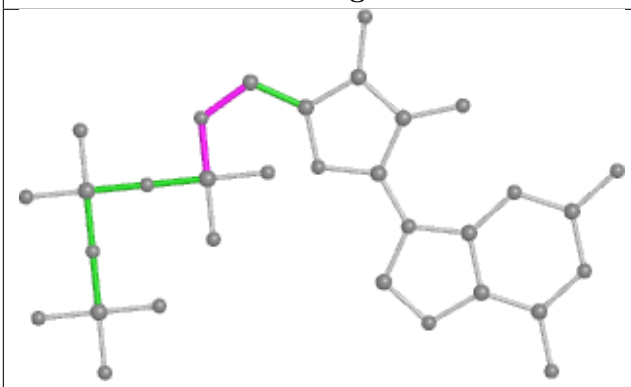

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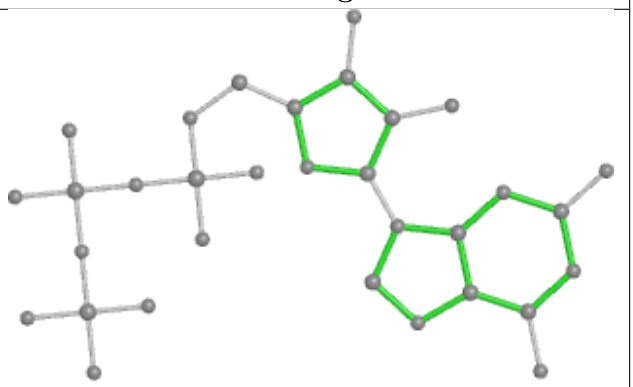
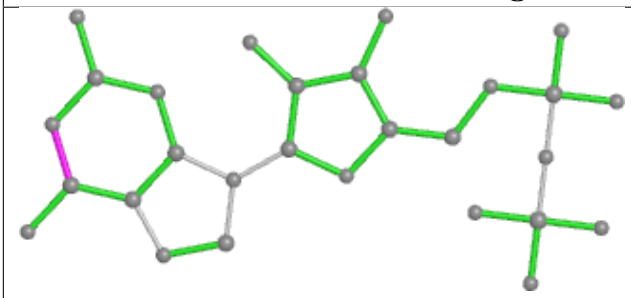


Rings

Ligand GDP RC 501



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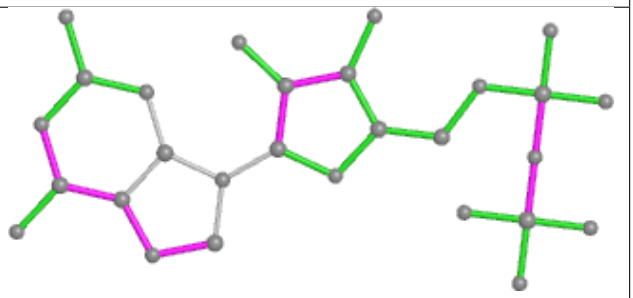

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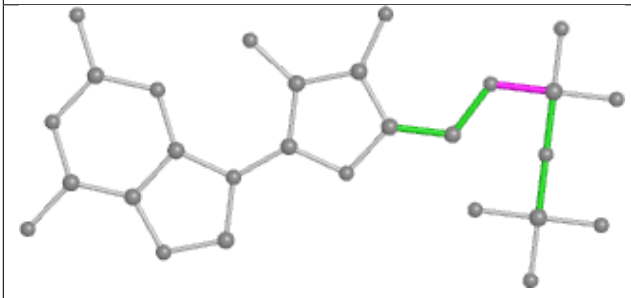

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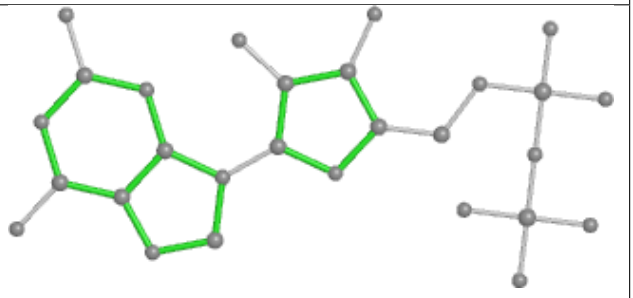
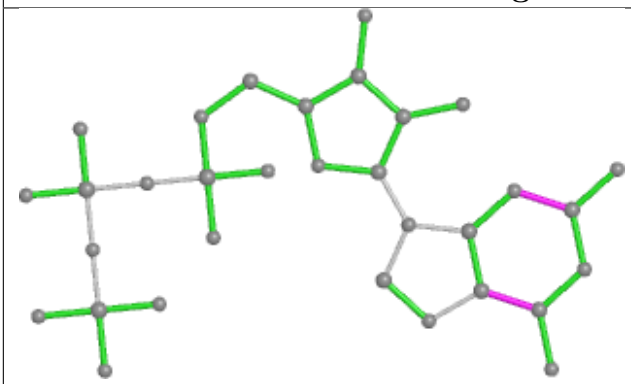


Rings

Ligand GTP LB 501



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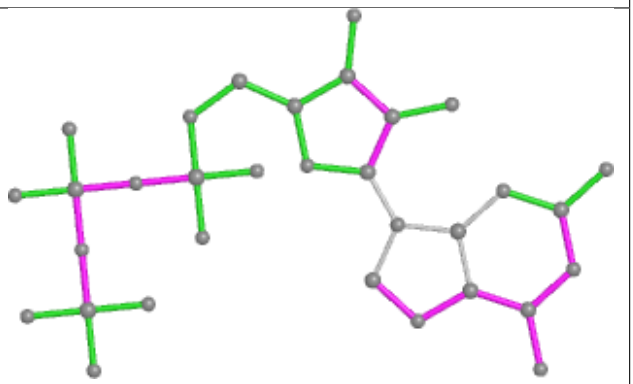

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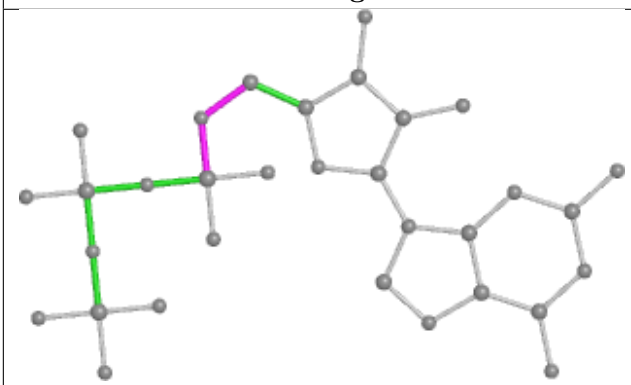

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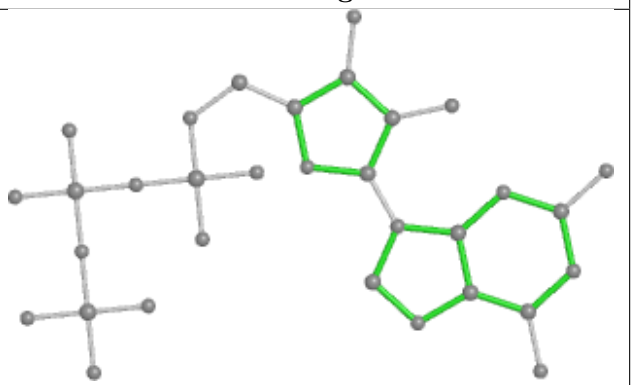

Rings

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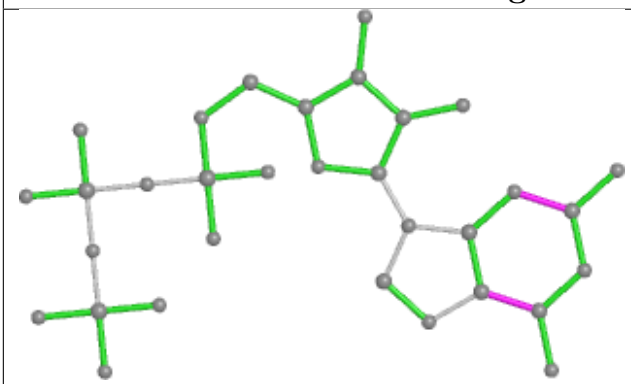

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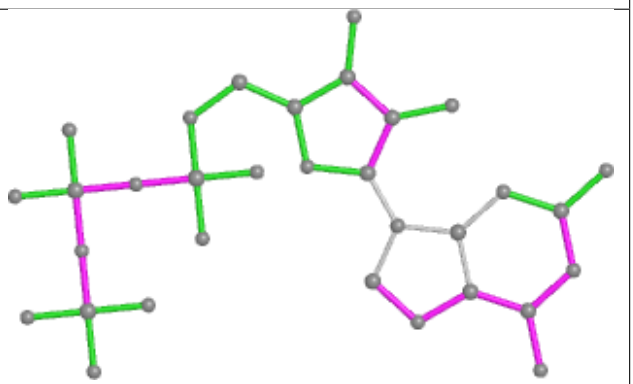

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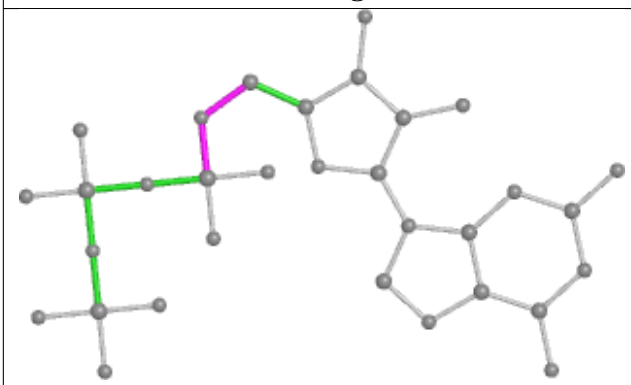

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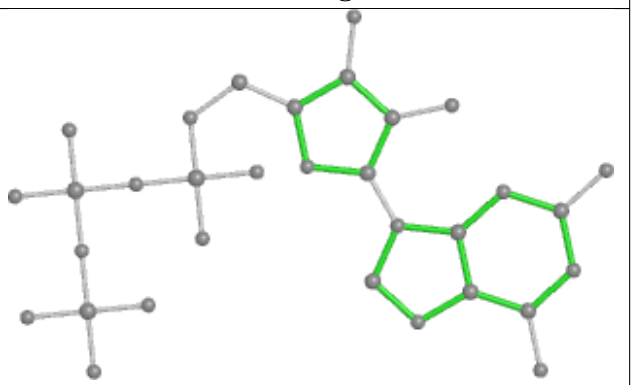

Rings

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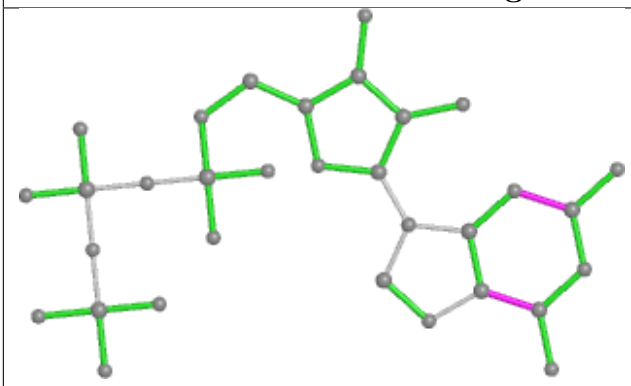

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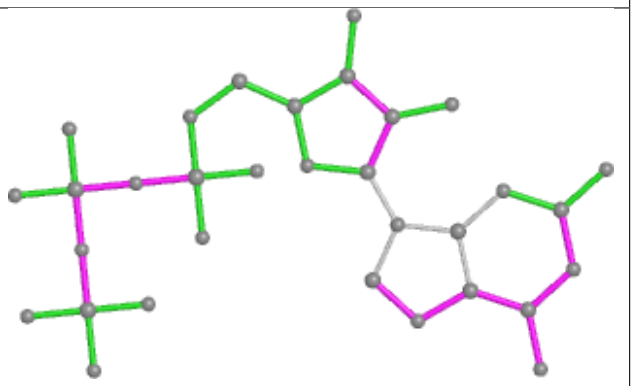

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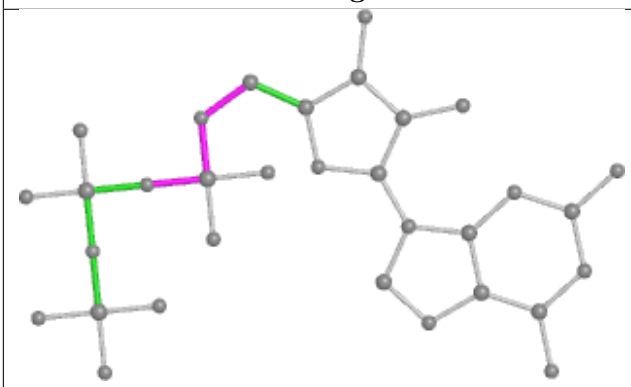

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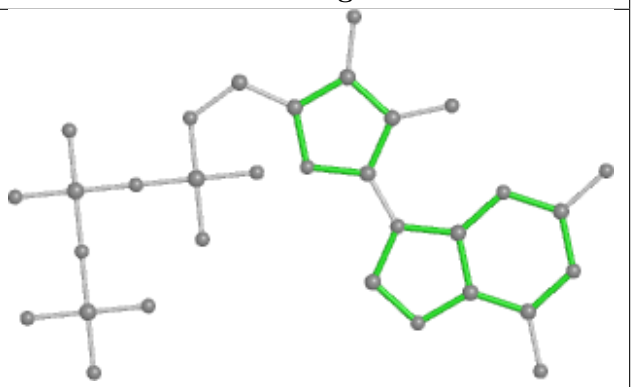

Rings

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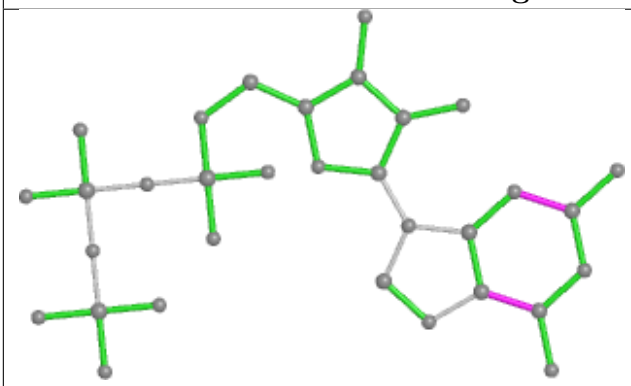

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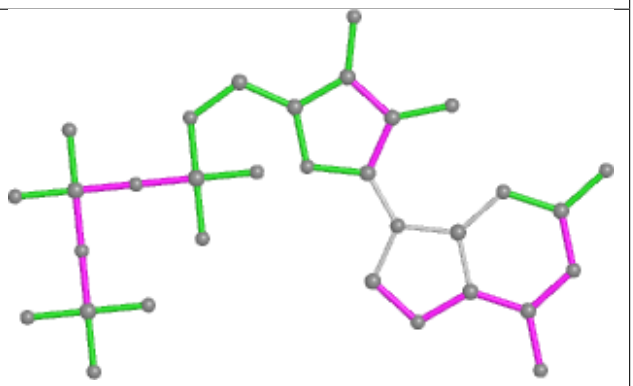

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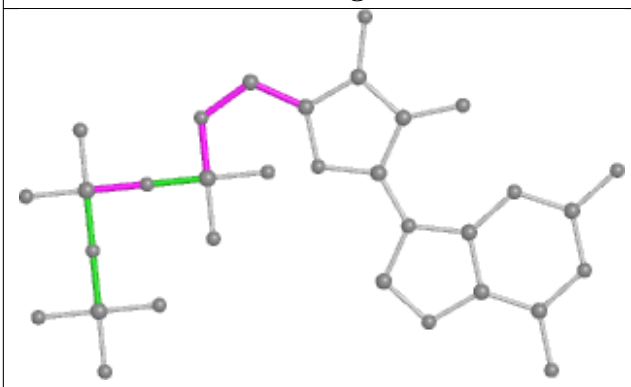

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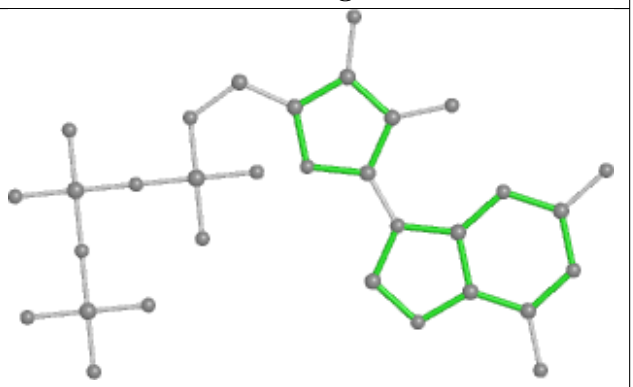

Rings

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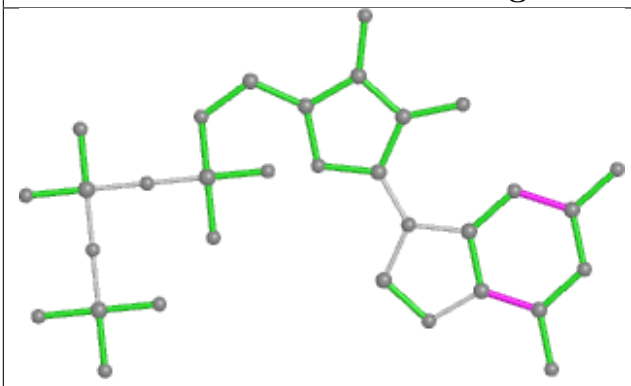

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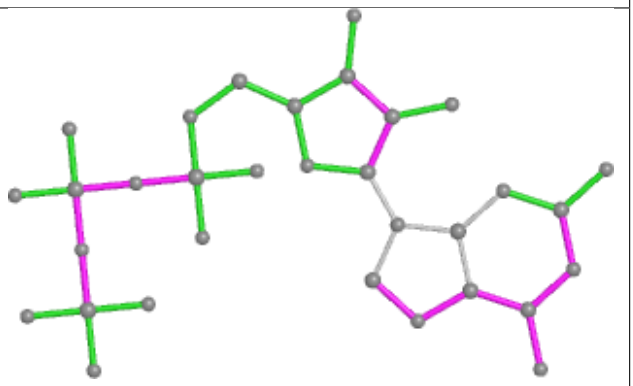

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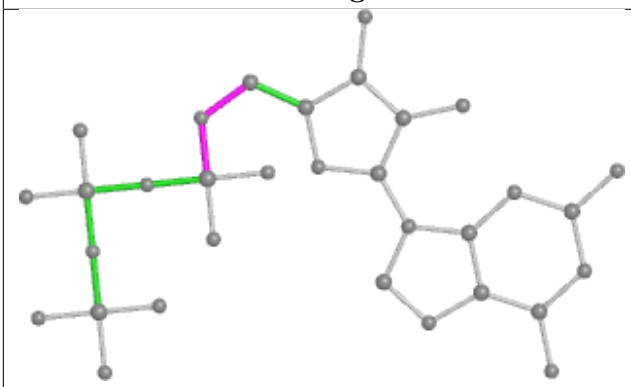

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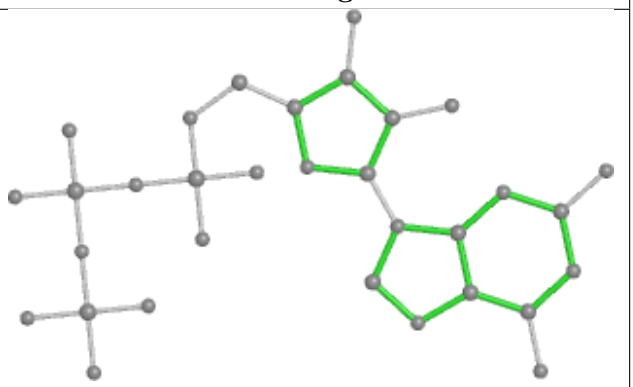

Rings

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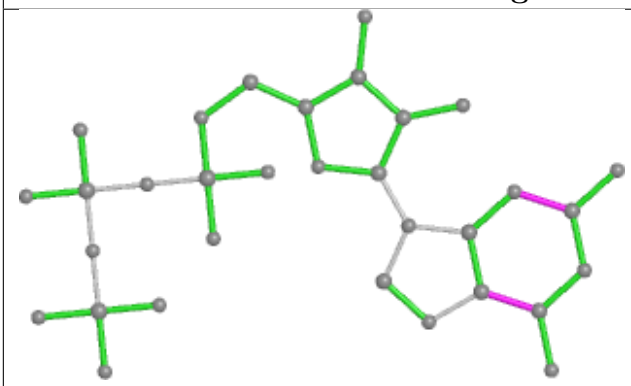

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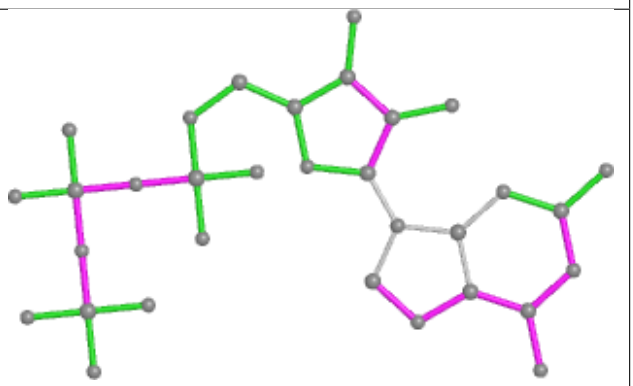

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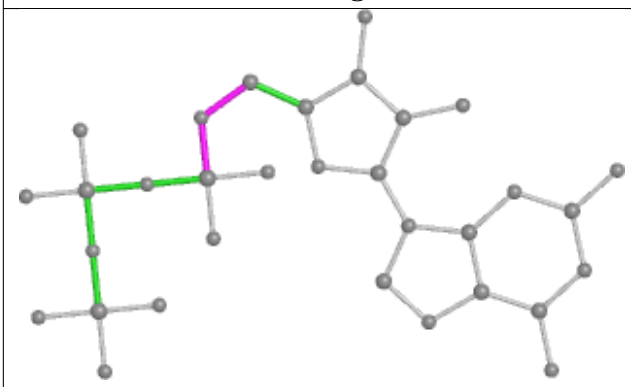

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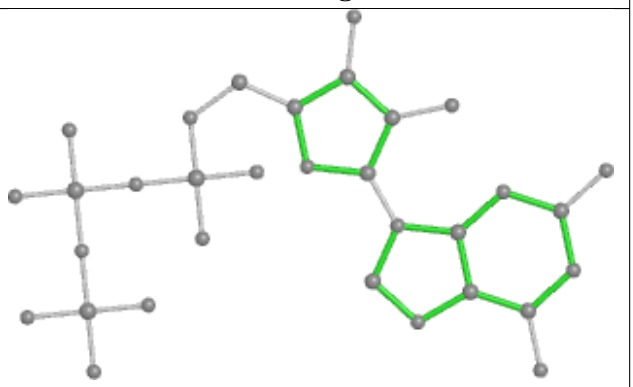

Rings

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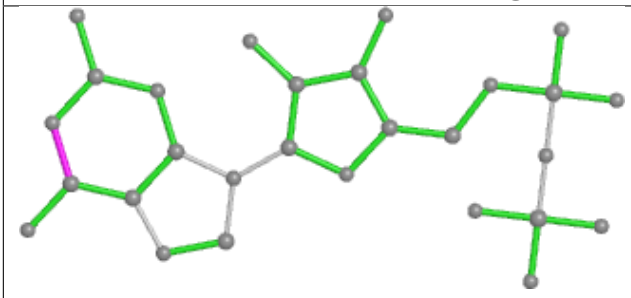	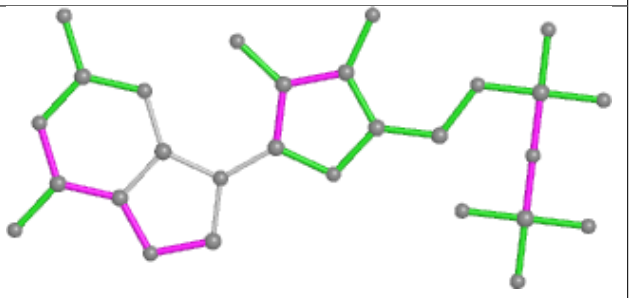
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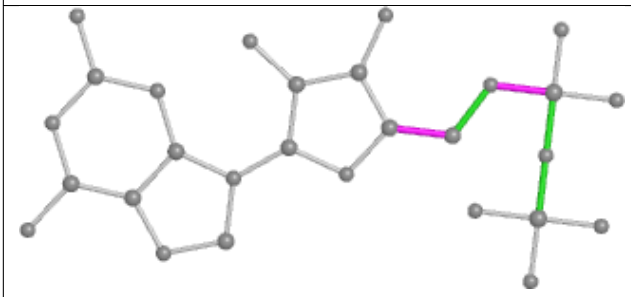
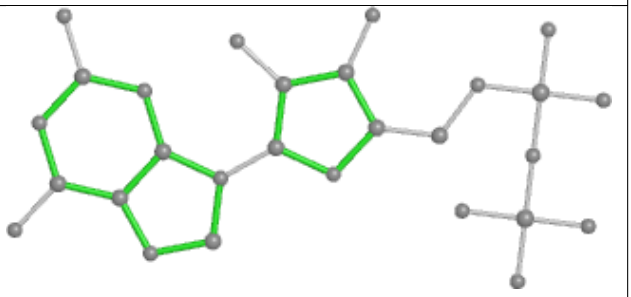
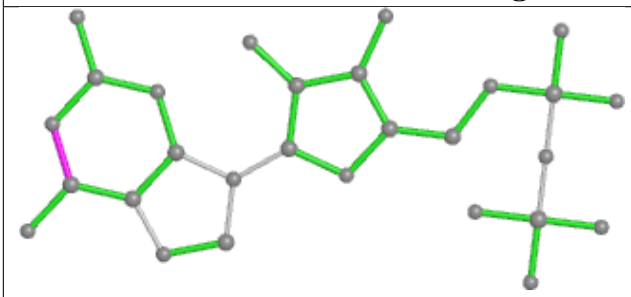
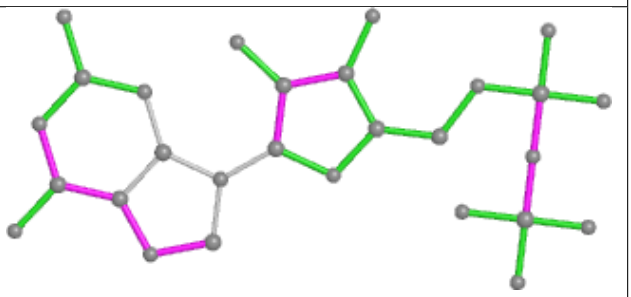
	
Torsions	Rings

Ligand GDP FC 501	
	
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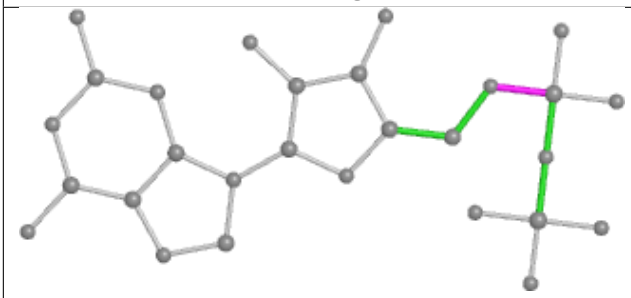
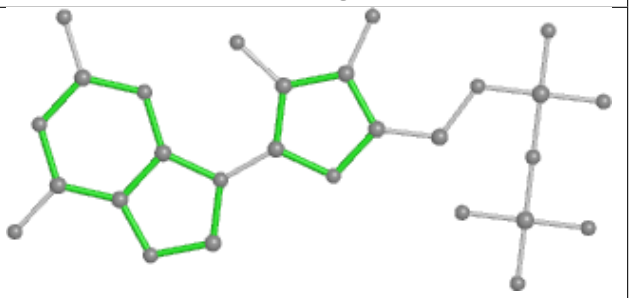
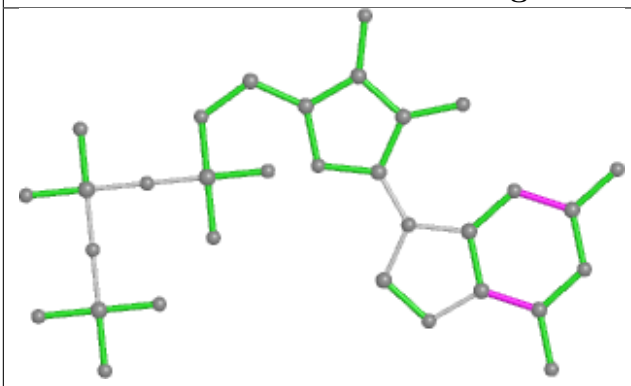
	
Torsions	Rings

Ligand GTP EA 501



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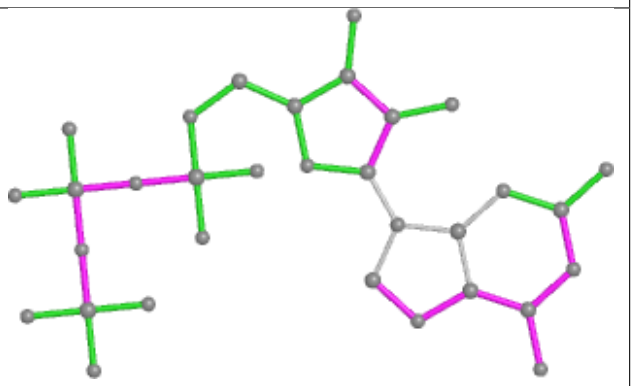

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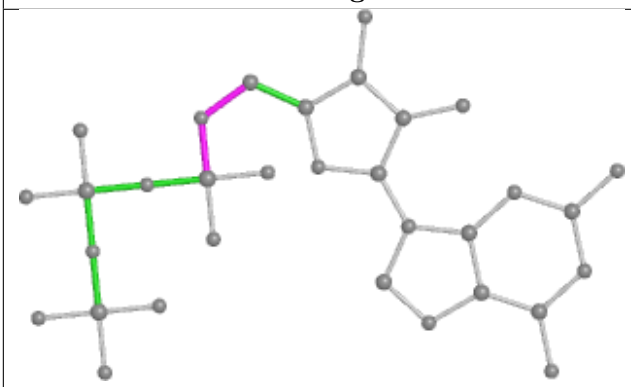

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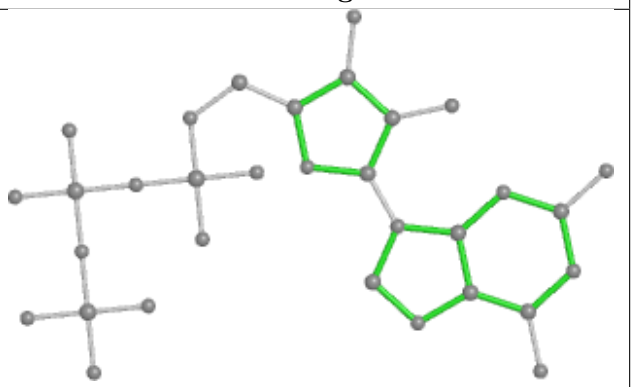
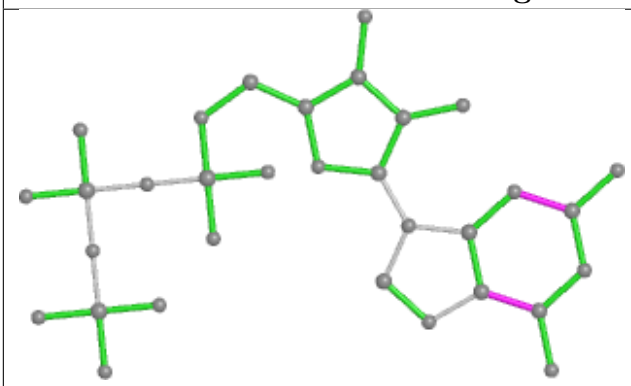


Rings

Ligand GTP JB 501



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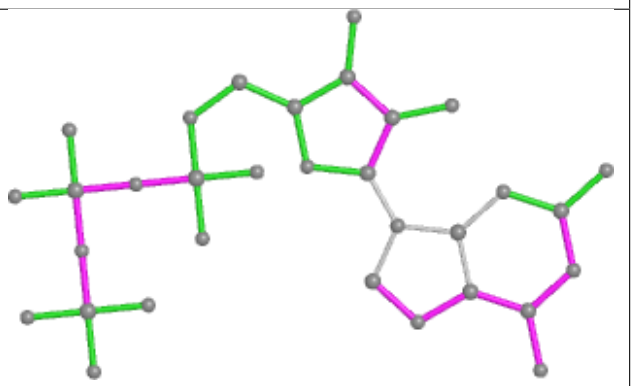

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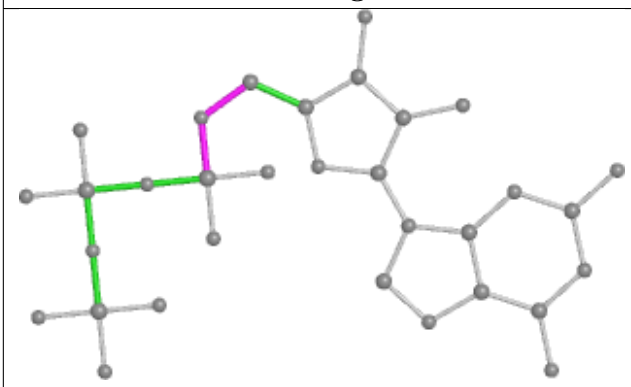

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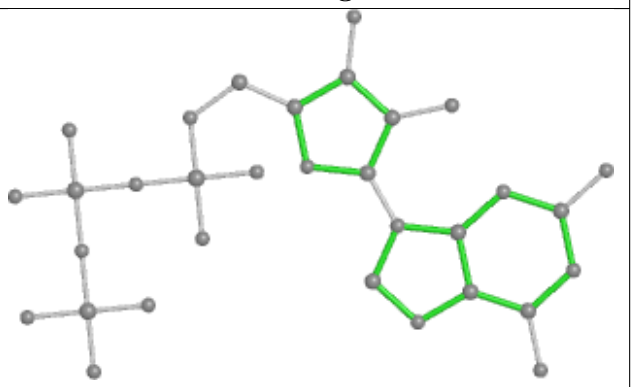
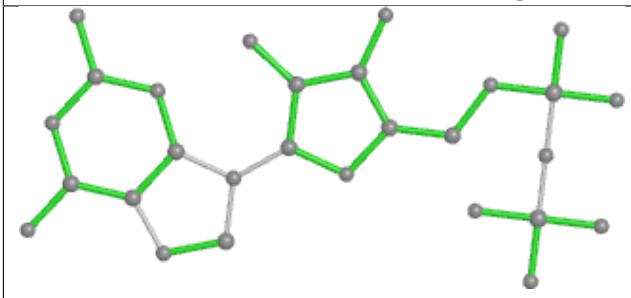


Rings

Ligand GDP PF 501



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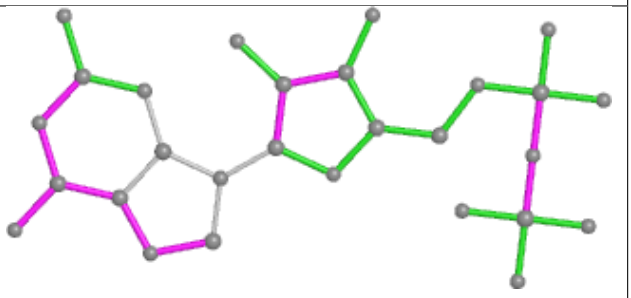
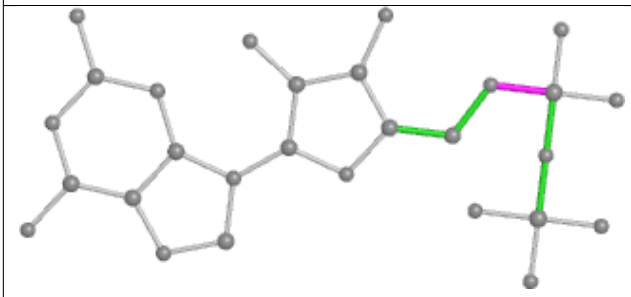


Bond angles



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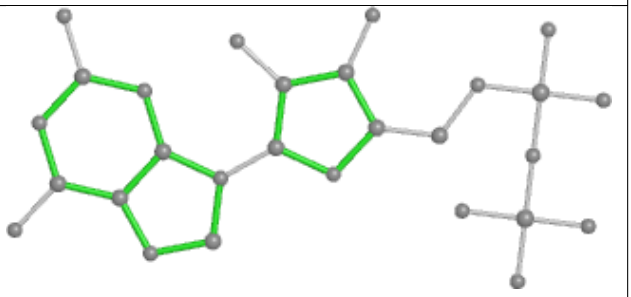
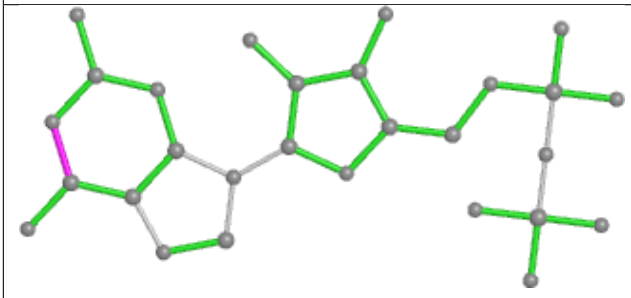


Rings

Ligand GDP SC 501



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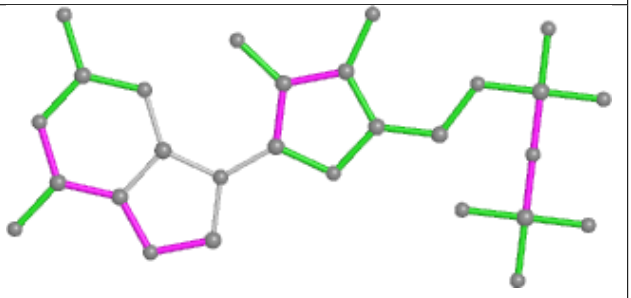

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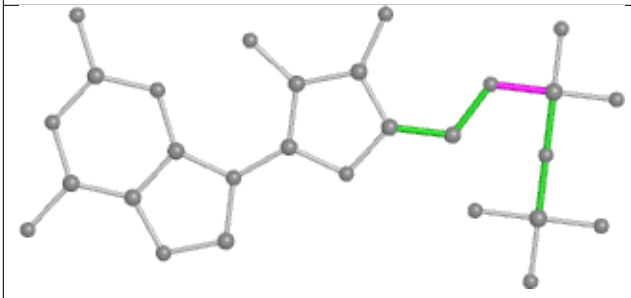
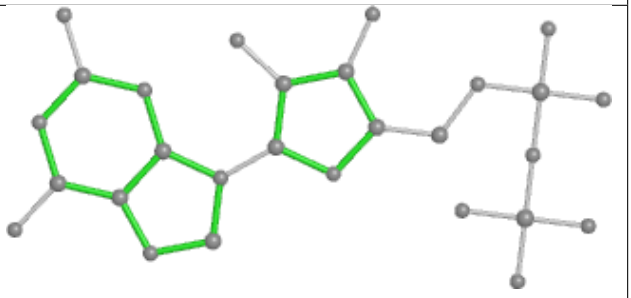
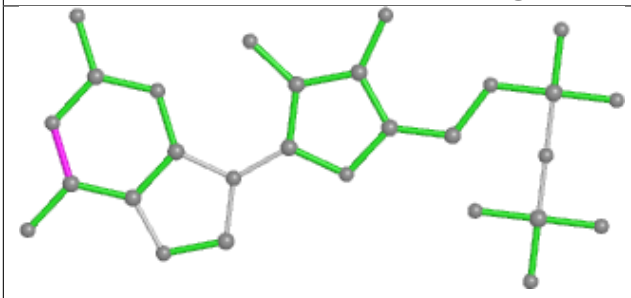


Torsions



Rings

Ligand GDP LH 501



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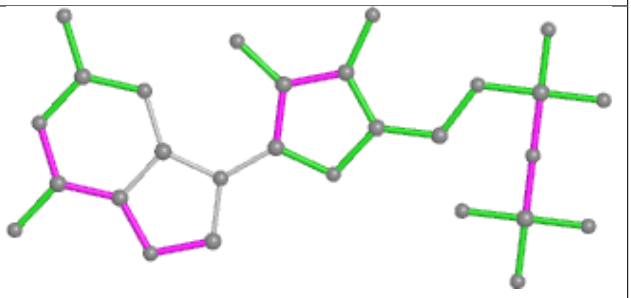

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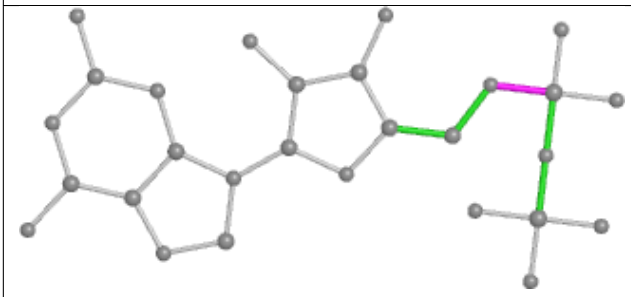

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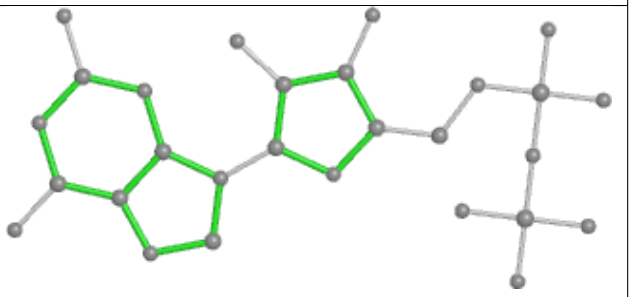
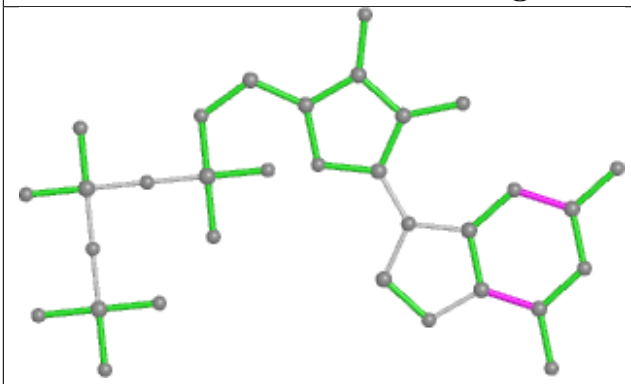


Rings

Ligand GTP PA 501



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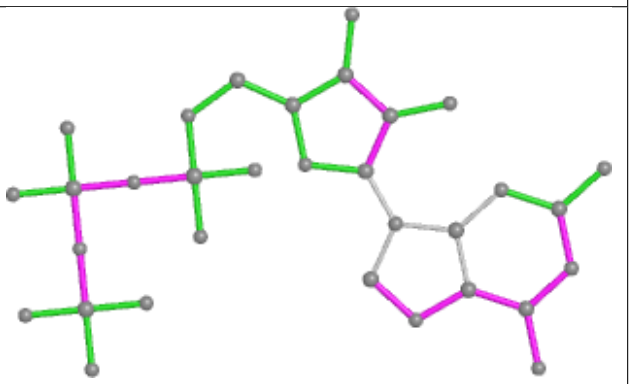

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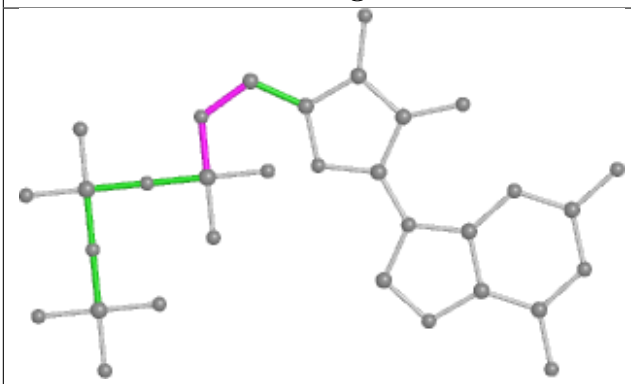

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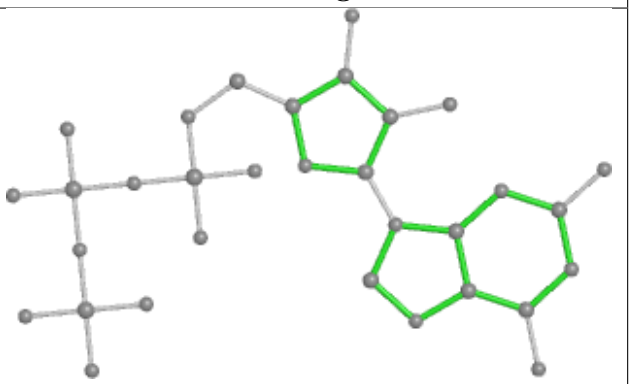
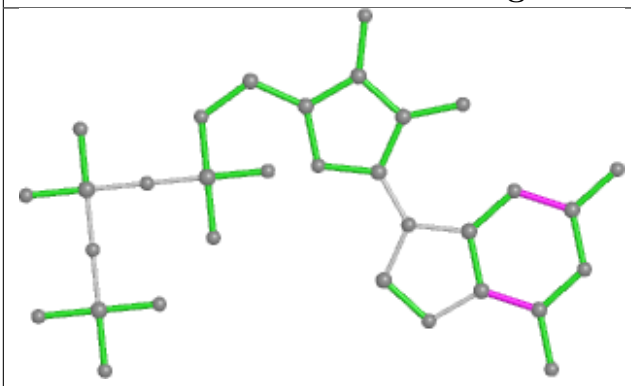


Rings

Ligand GTP HG 501



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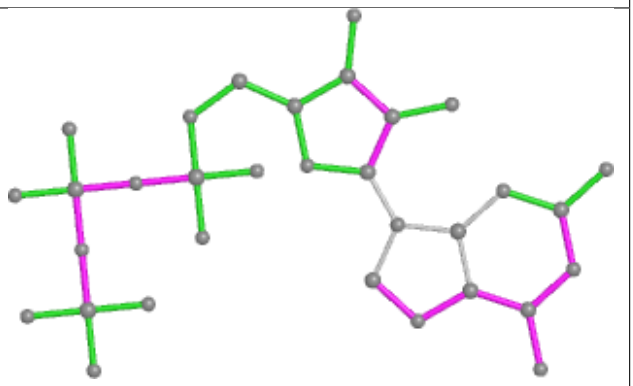

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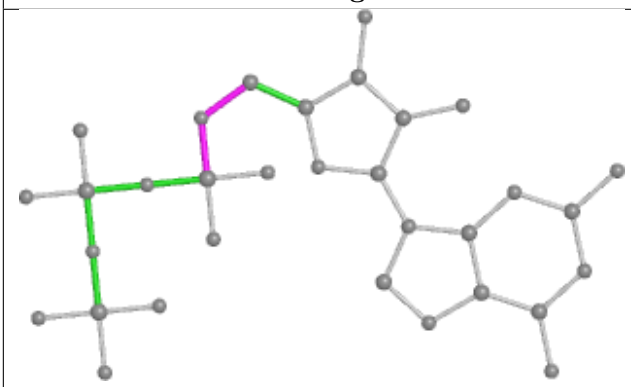

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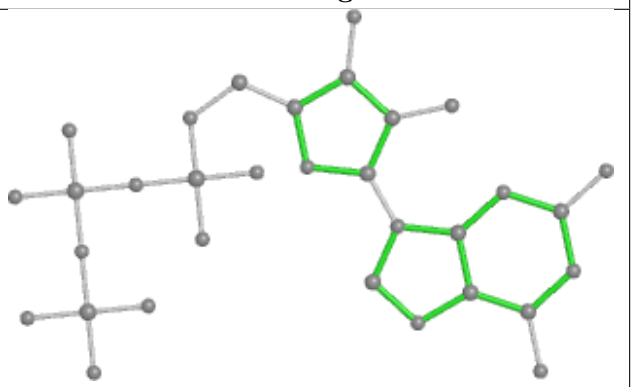
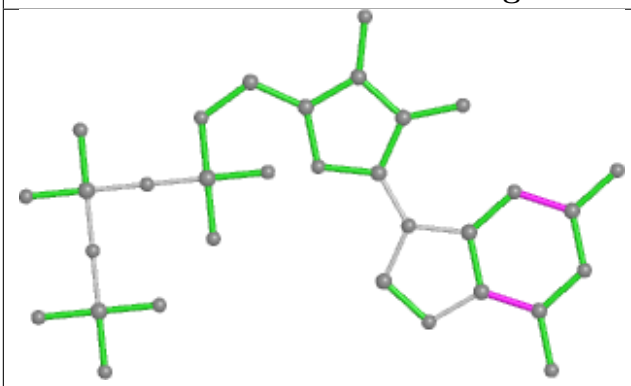


Rings

Ligand GTP WK 501



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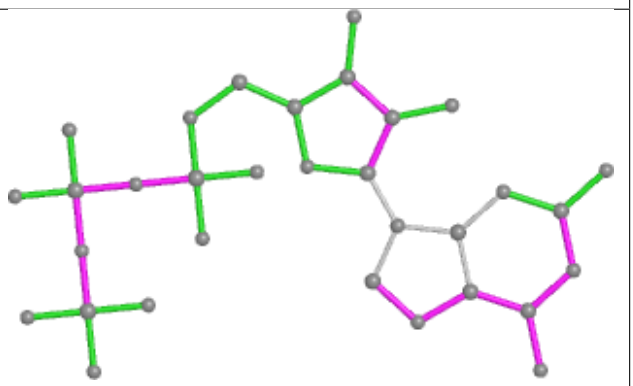

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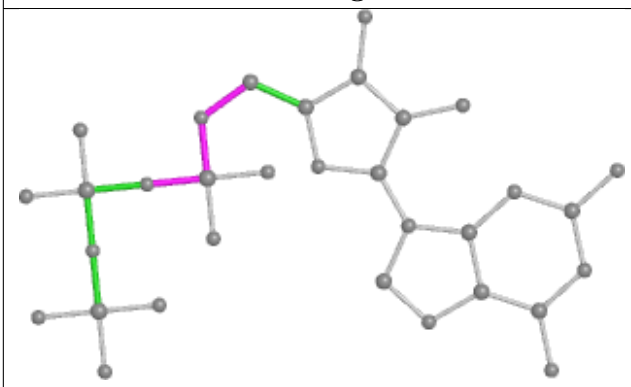

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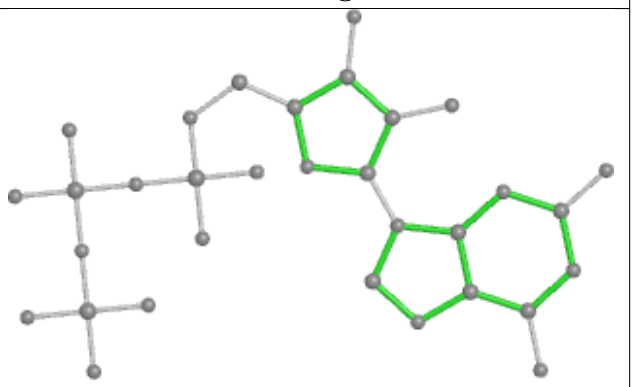
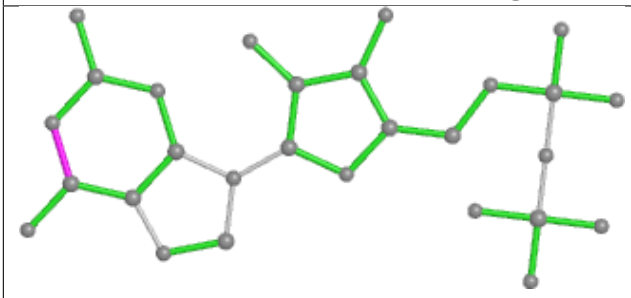
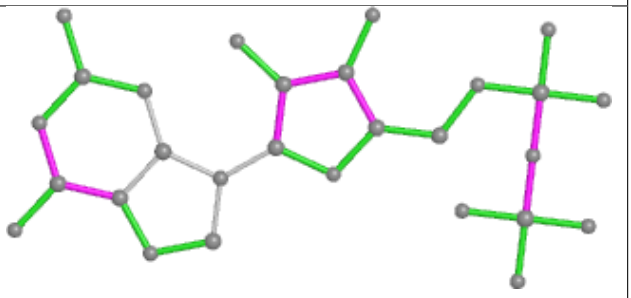
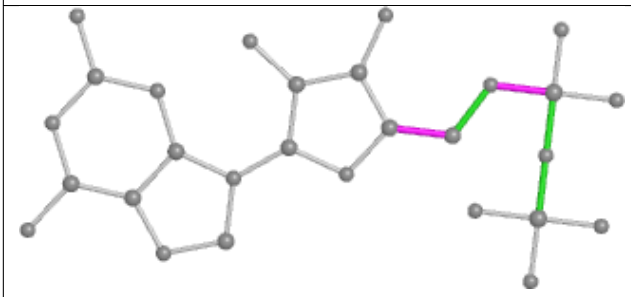
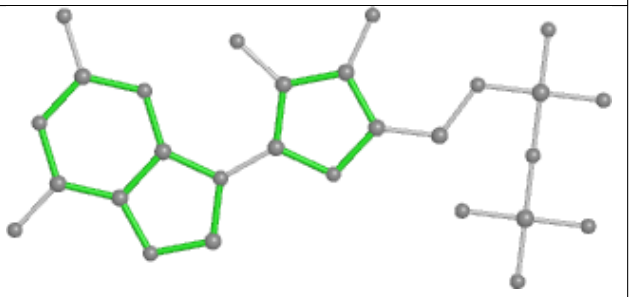


Rings

Ligand GDP AD 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

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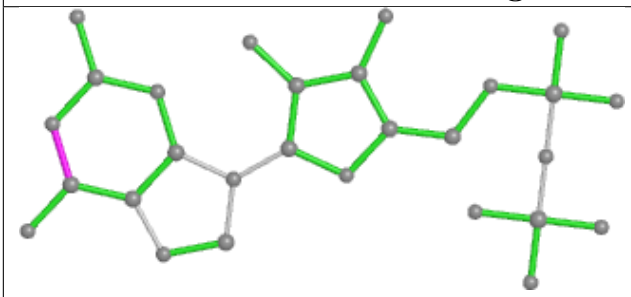	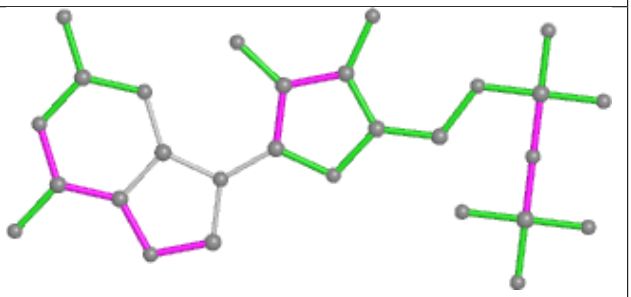
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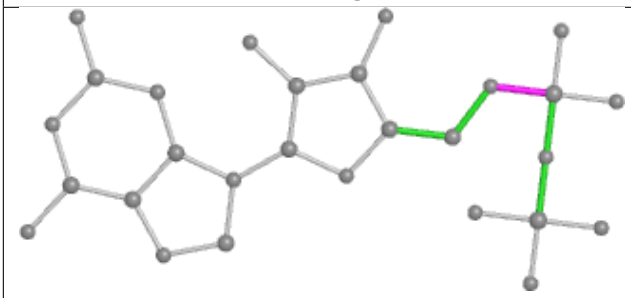
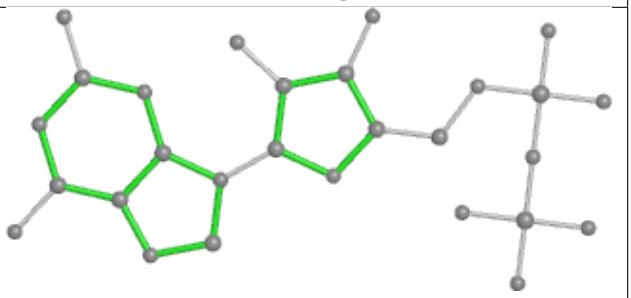
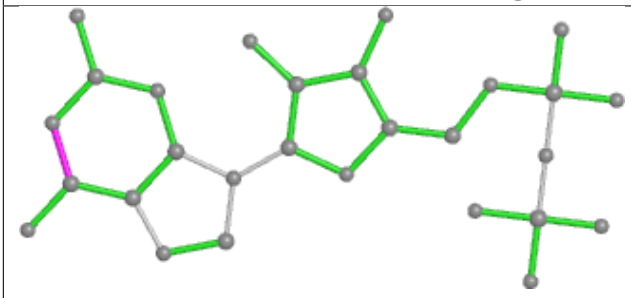
	
Torsions	Rings

Ligand GDP UF 501



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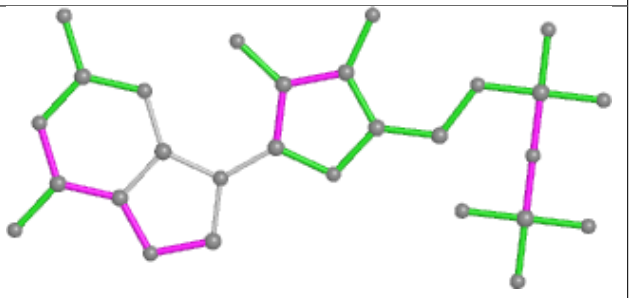

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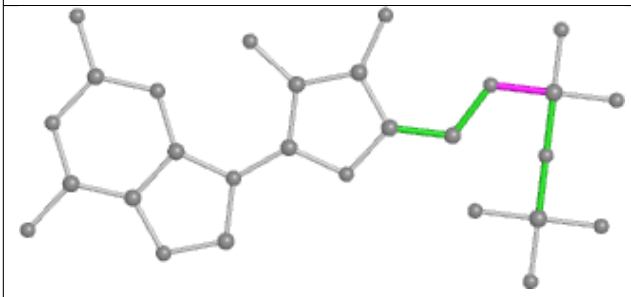

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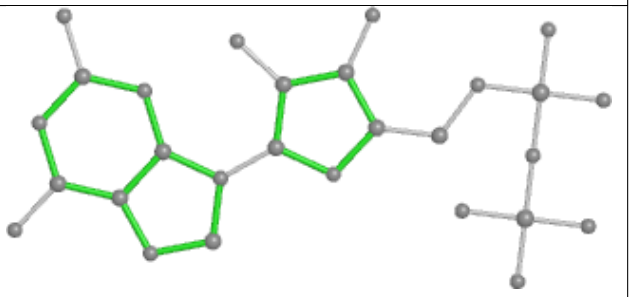
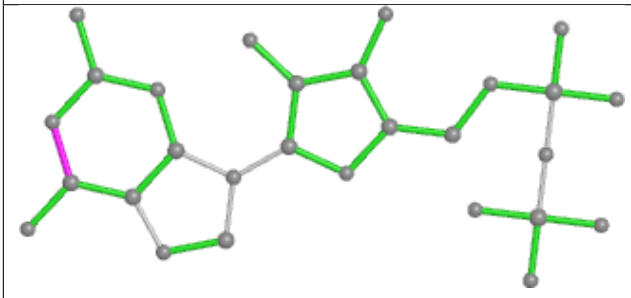


Rings

Ligand GDP VC 501



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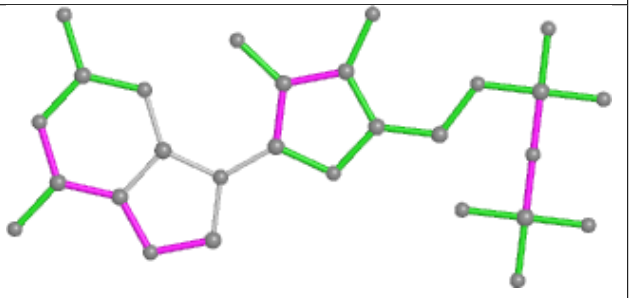

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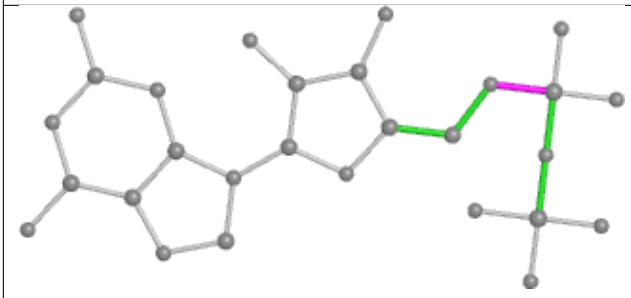

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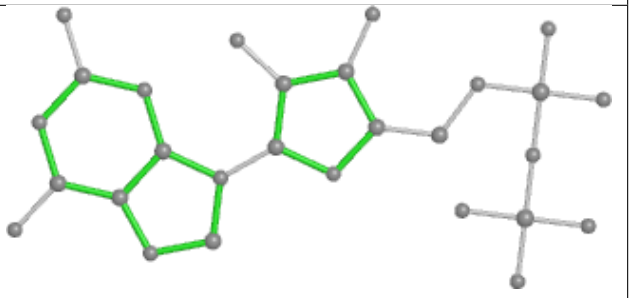
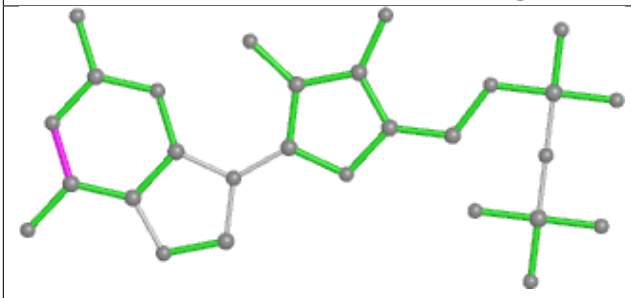
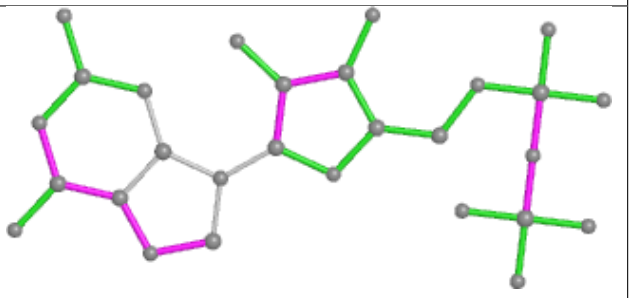


Rings

Ligand GDP OJ 501	
	
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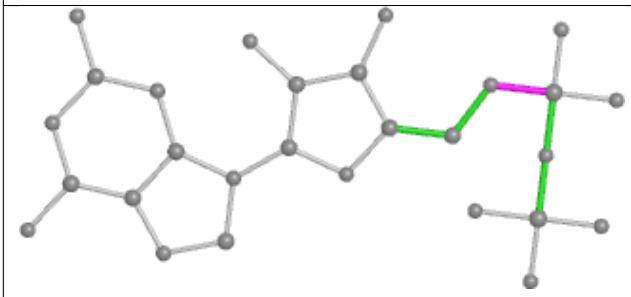
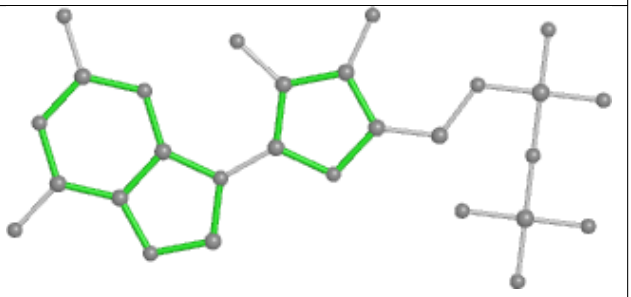
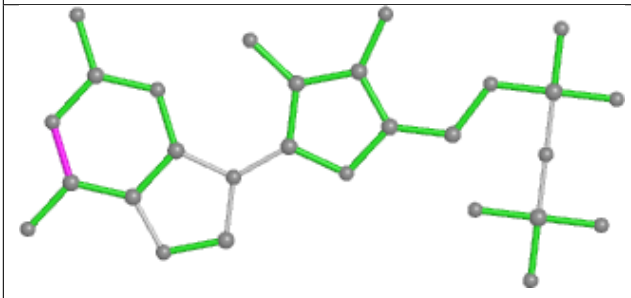
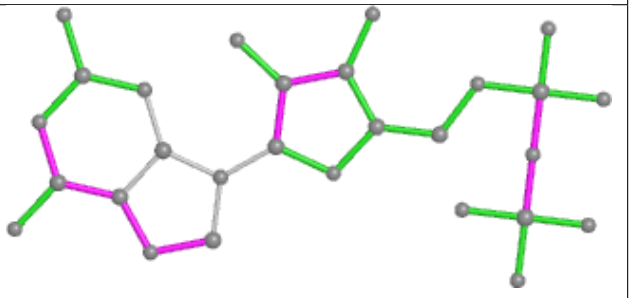
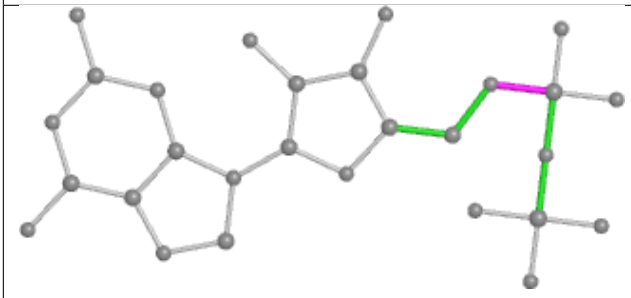
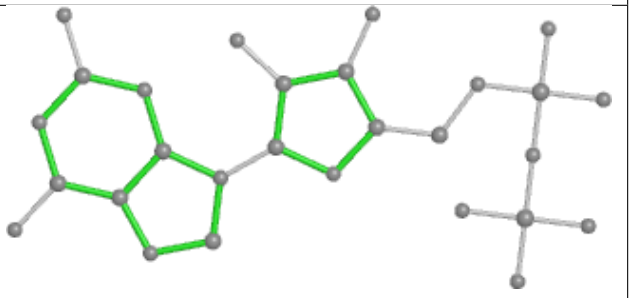
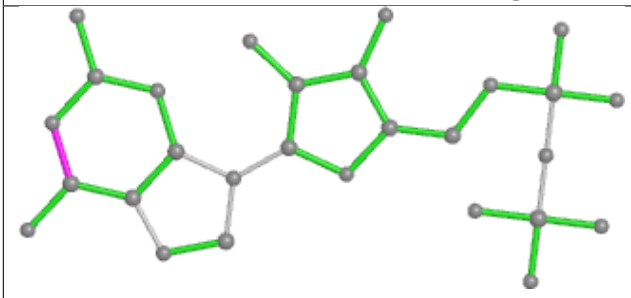
	
Torsions	Rings

Ligand GDP PJ 501	
	
Bond lengths	Bond angles
	
Torsions	Rings

Ligand GDP GC 501



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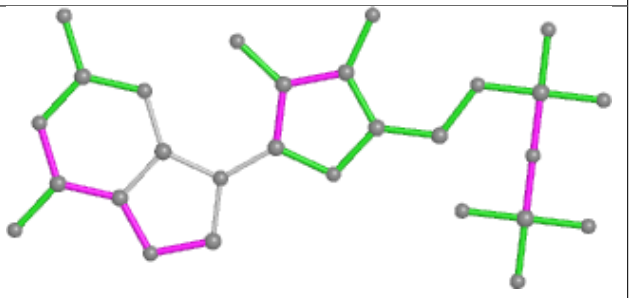

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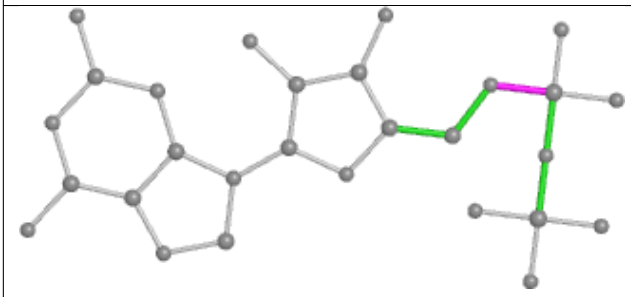

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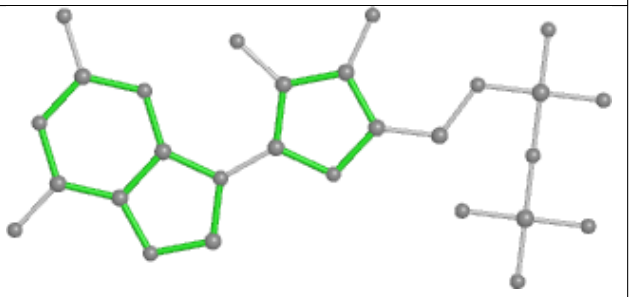
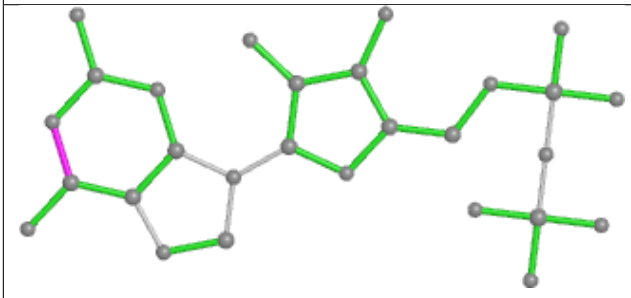


Rings

Ligand GDP WF 501



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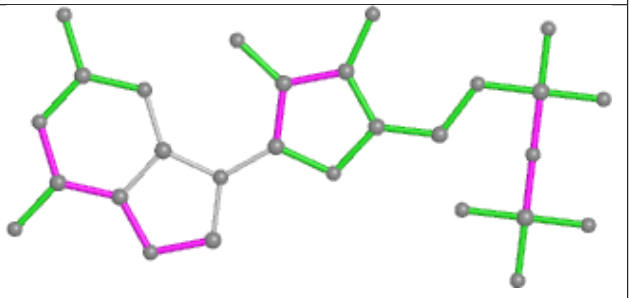

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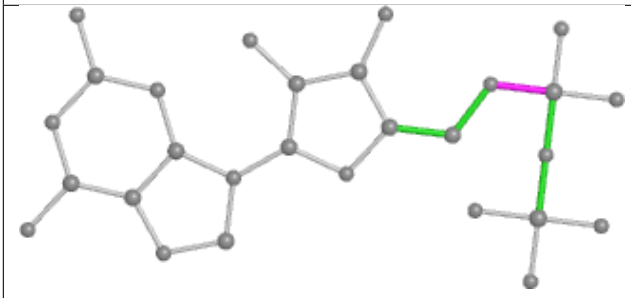

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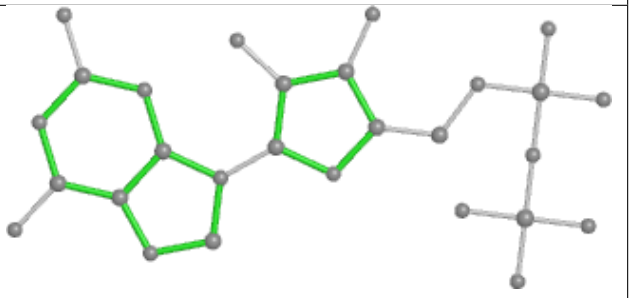
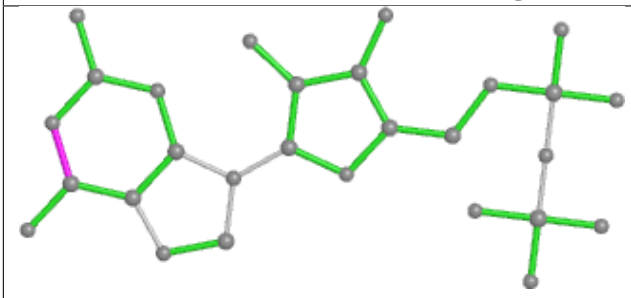


Rings

Ligand GDP GL 501



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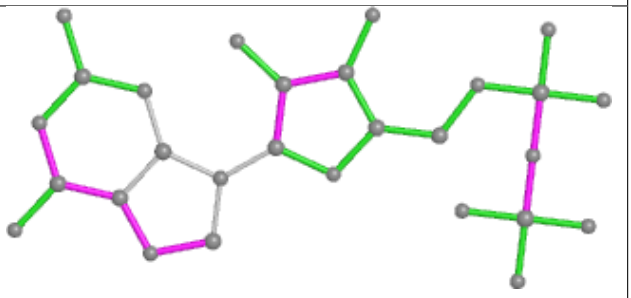

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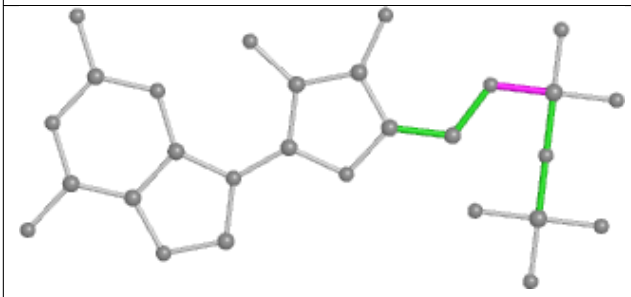

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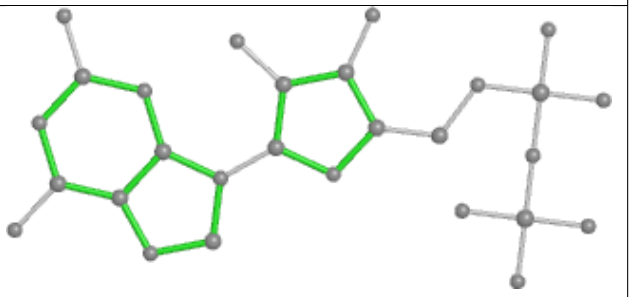
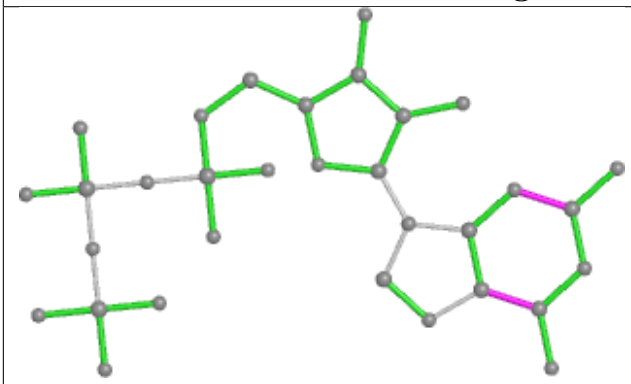


Rings

Ligand GTP FE 501



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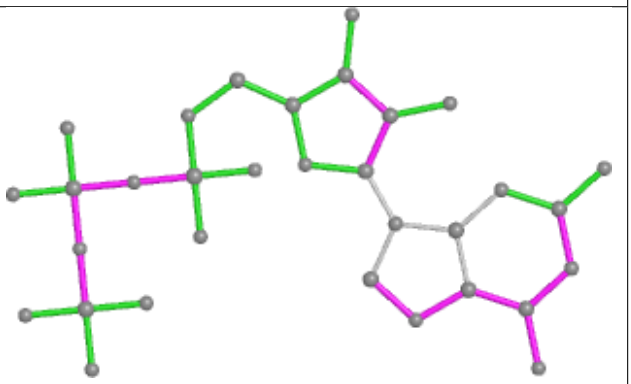

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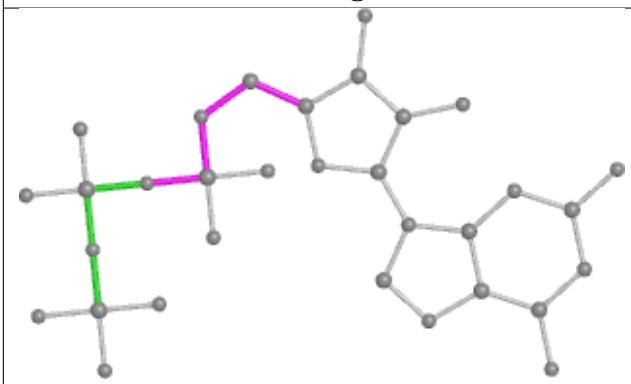
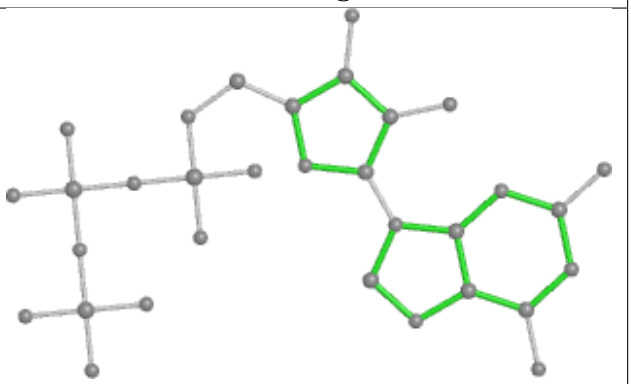
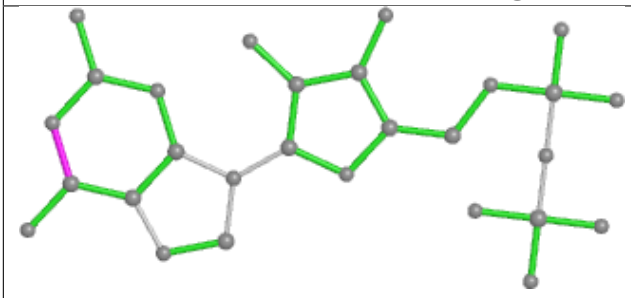


Torsions



Rings

Ligand GDP EH 501



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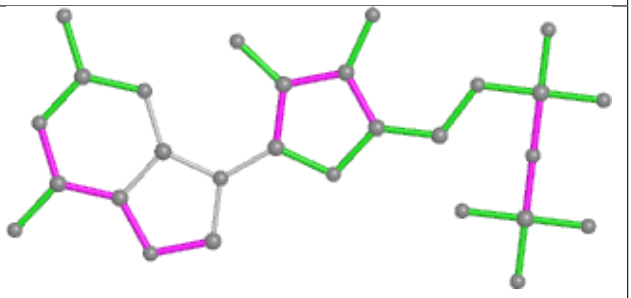

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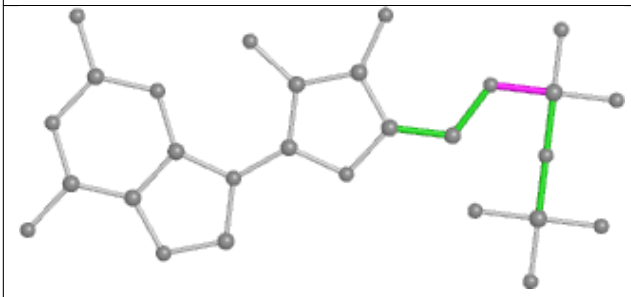

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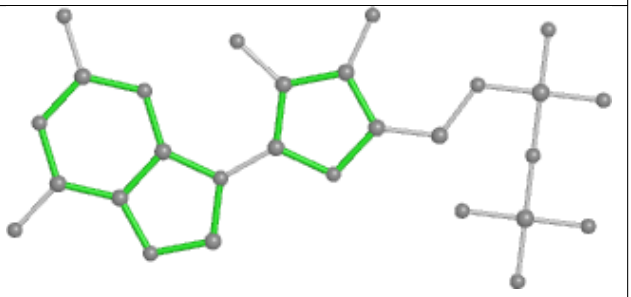

Rings

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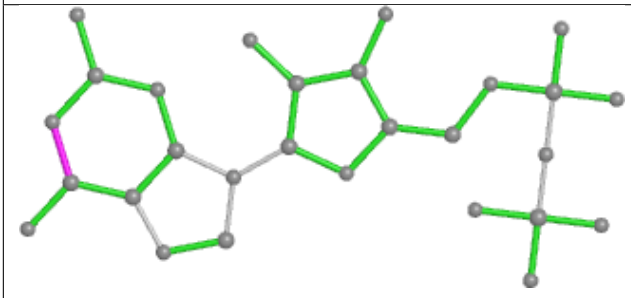

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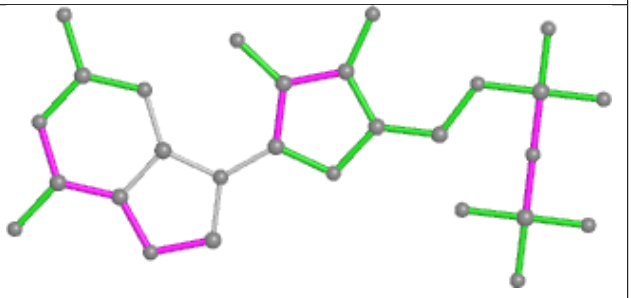

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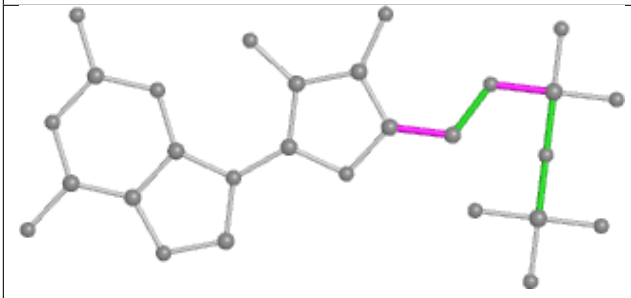

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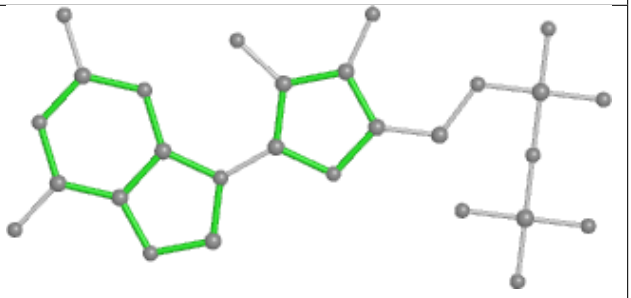
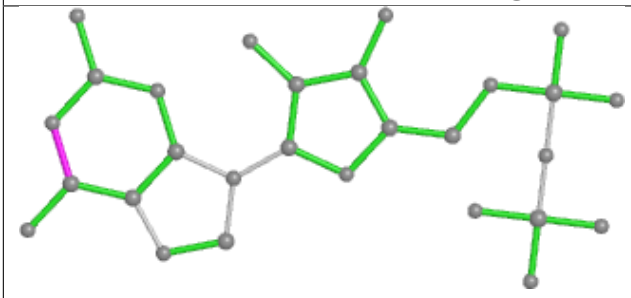


Rings

Ligand GDP PH 501



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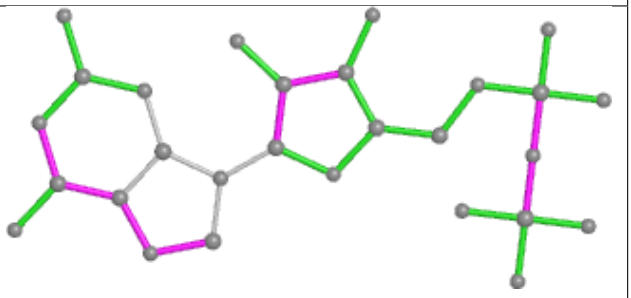

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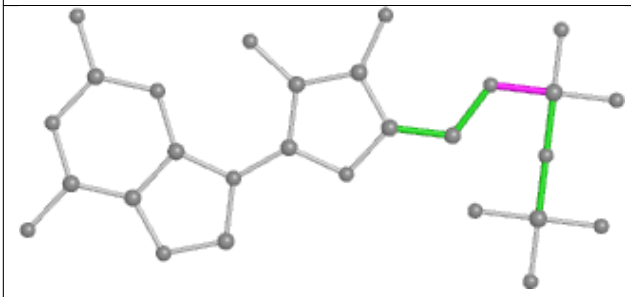

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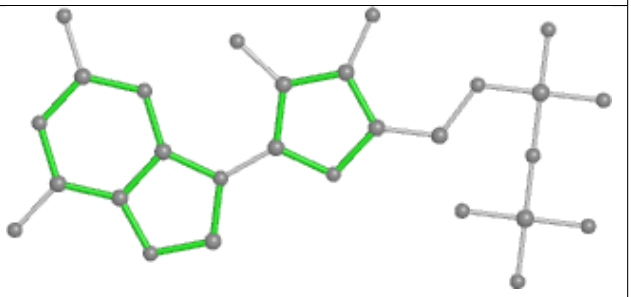

Rings

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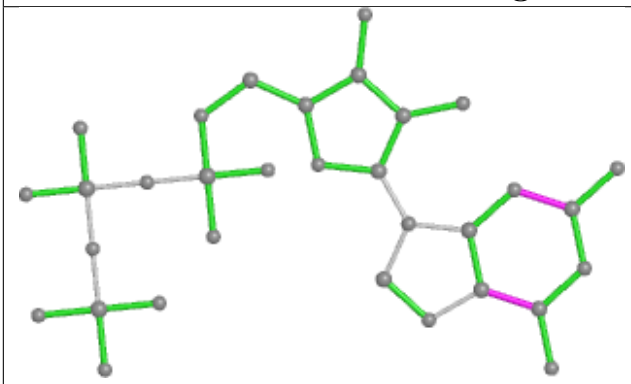

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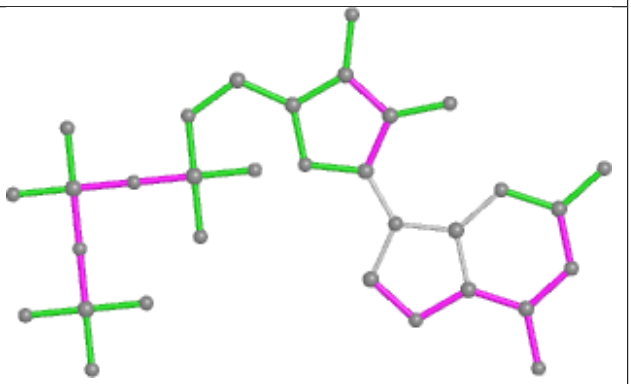

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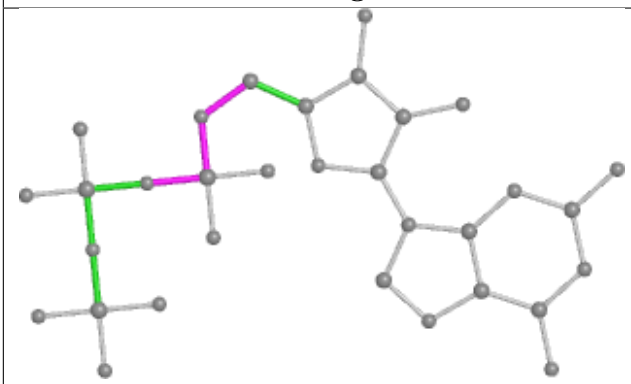

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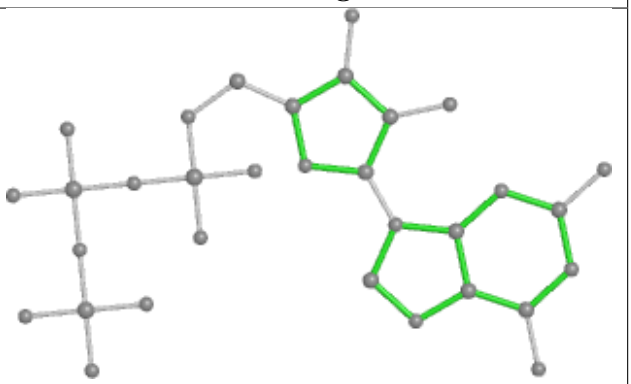
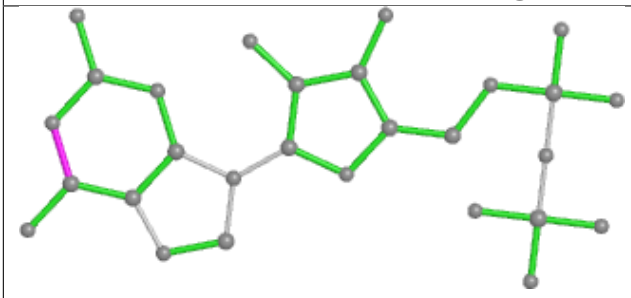


Rings

Ligand GDP JH 501



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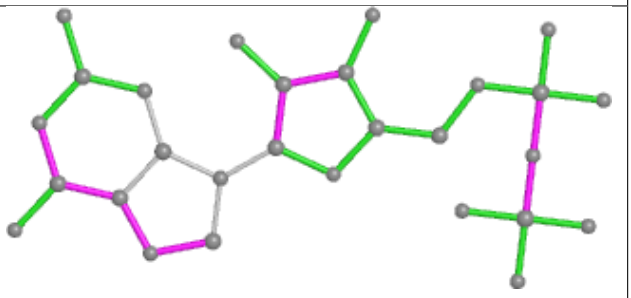

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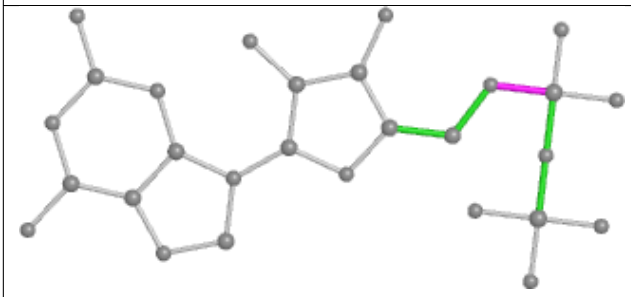

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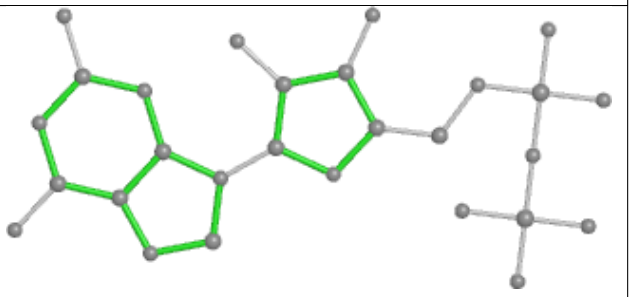

Rings

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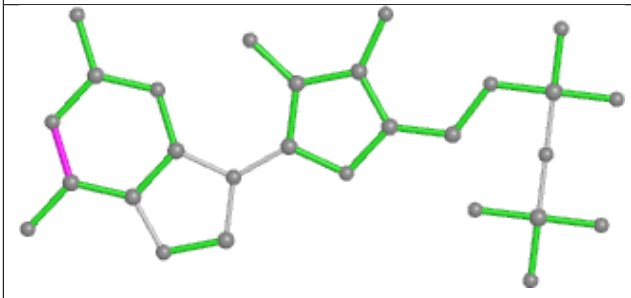

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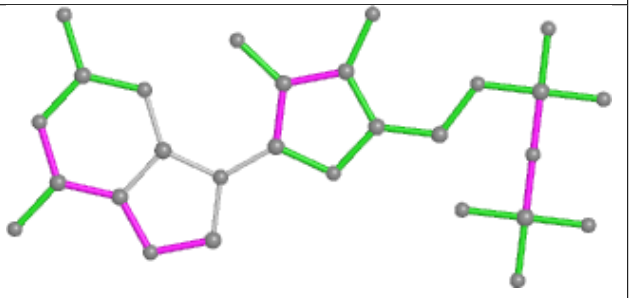

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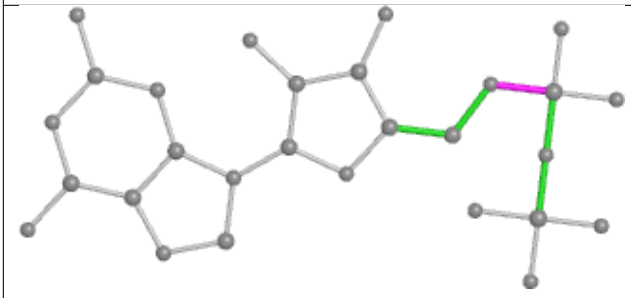

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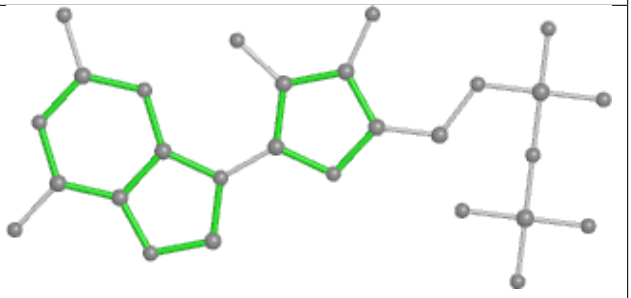

Rings

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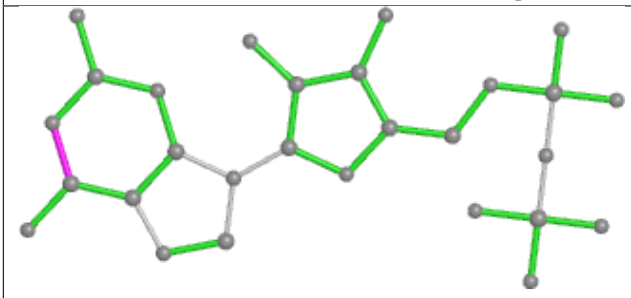

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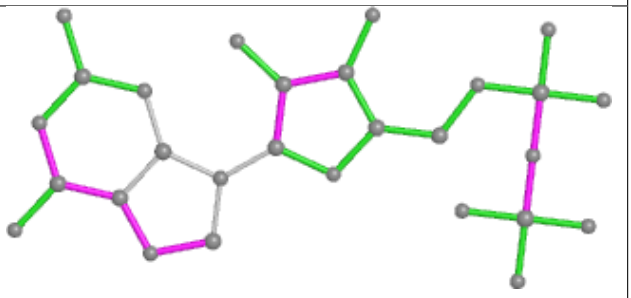

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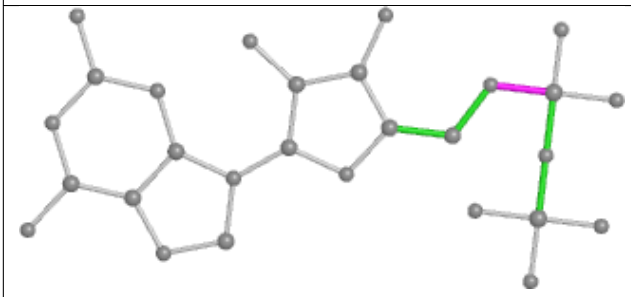

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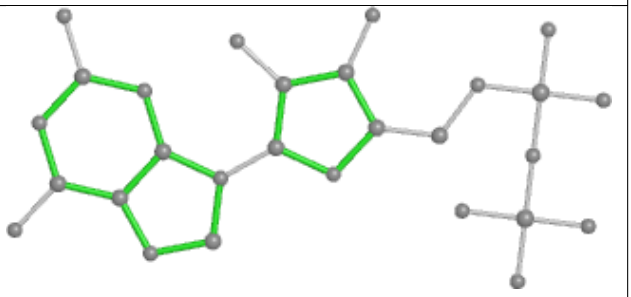

Rings

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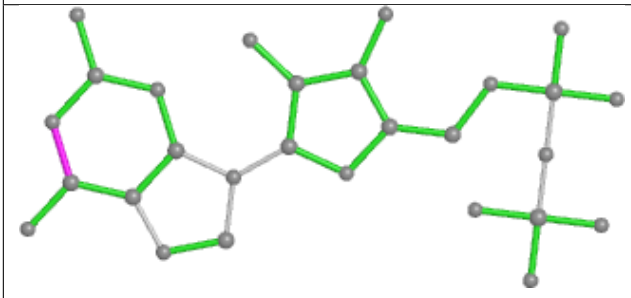

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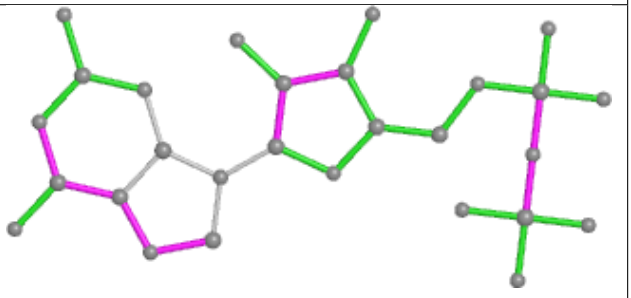

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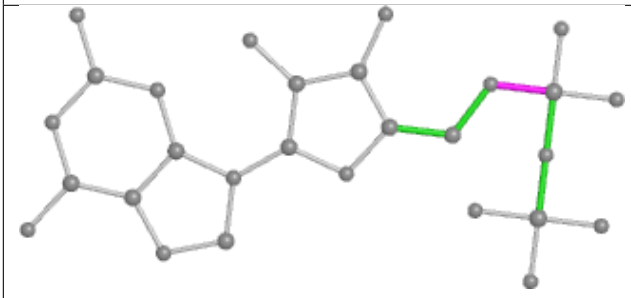

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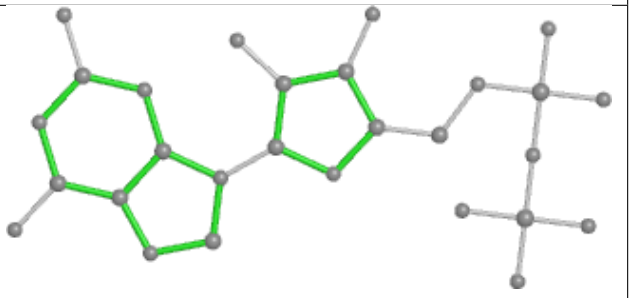

Rings

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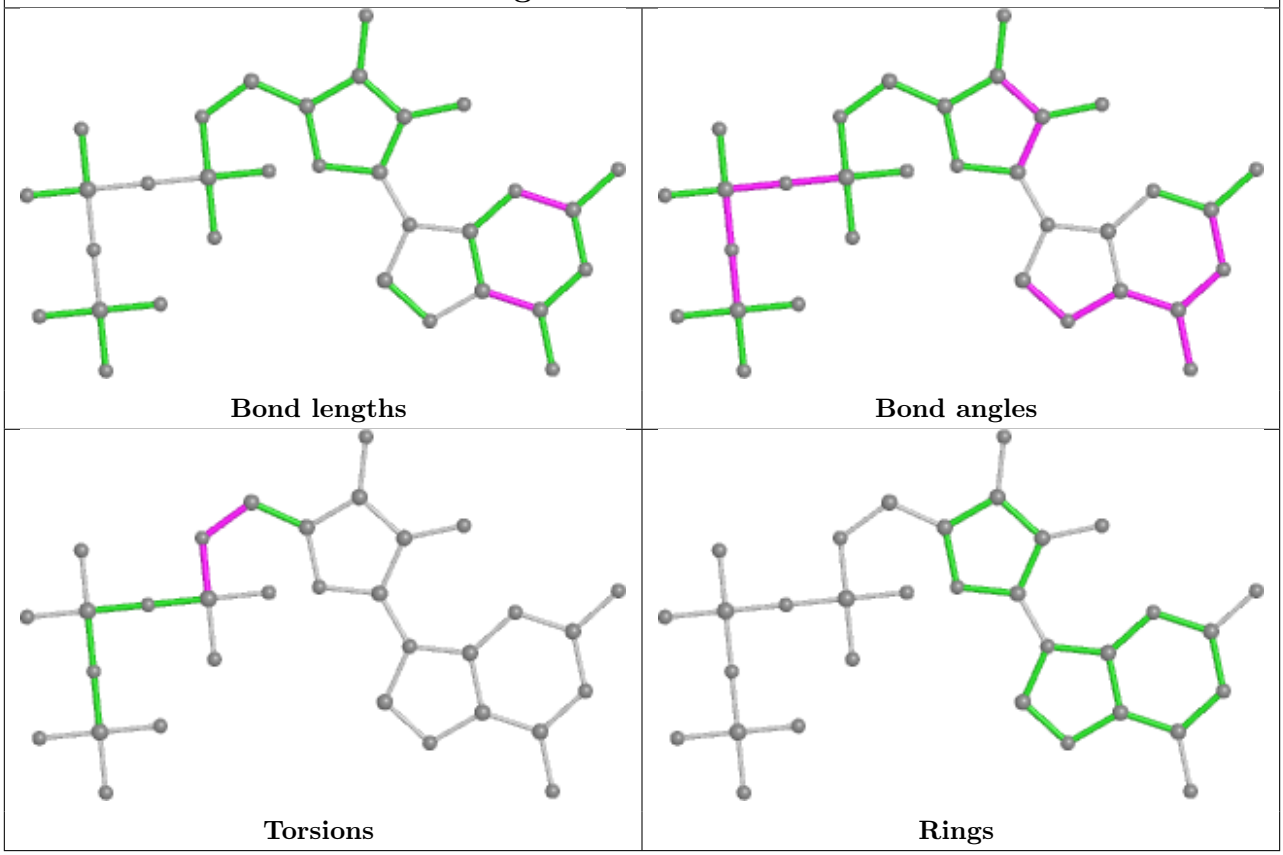

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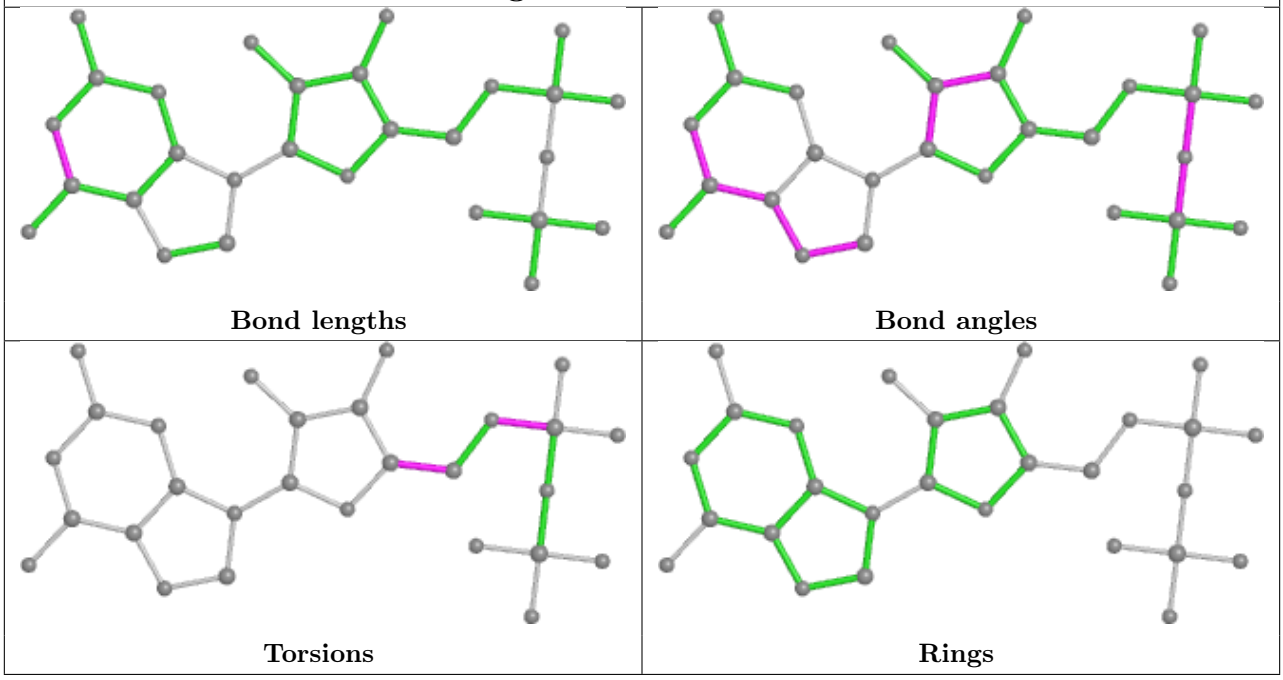

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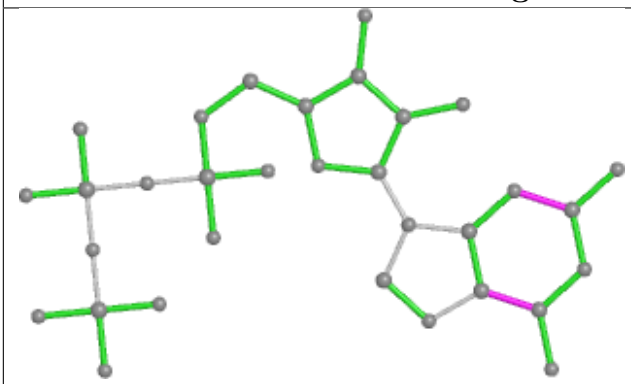

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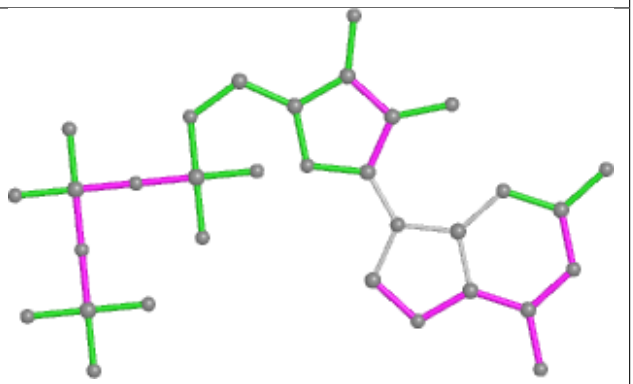

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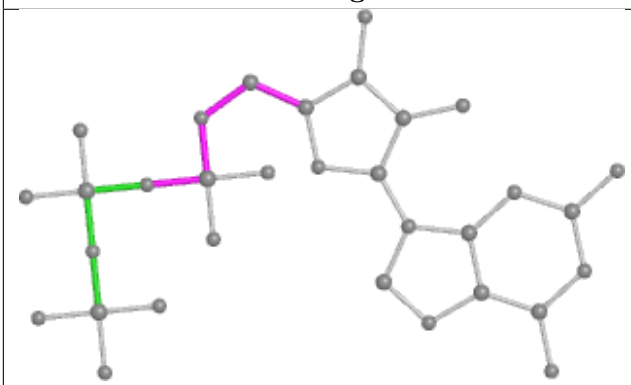

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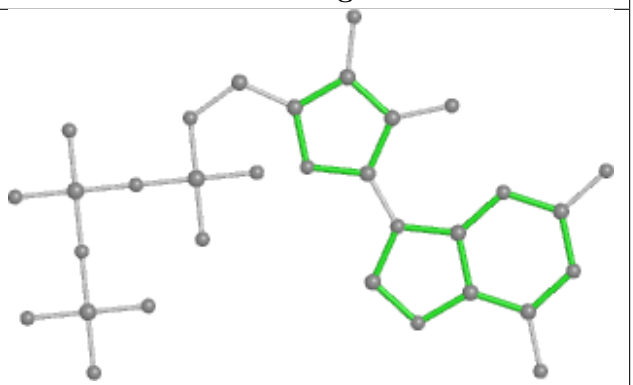

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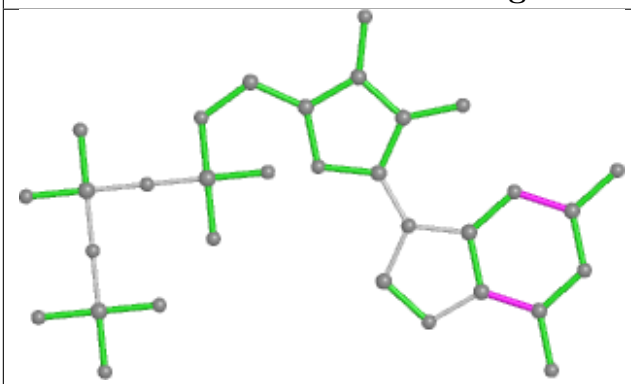

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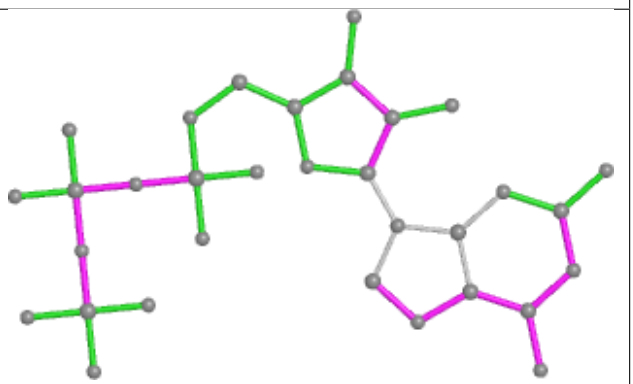

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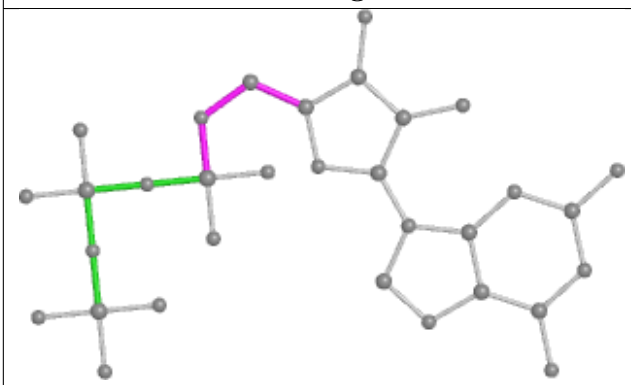

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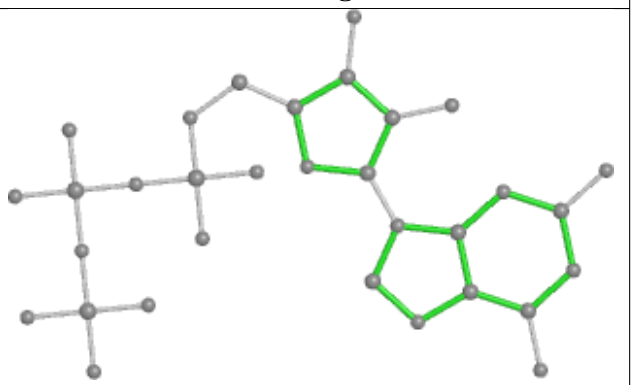

Rings

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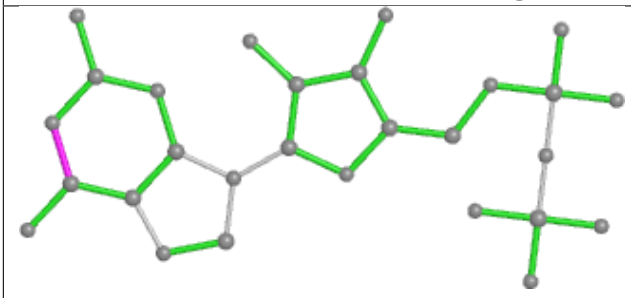

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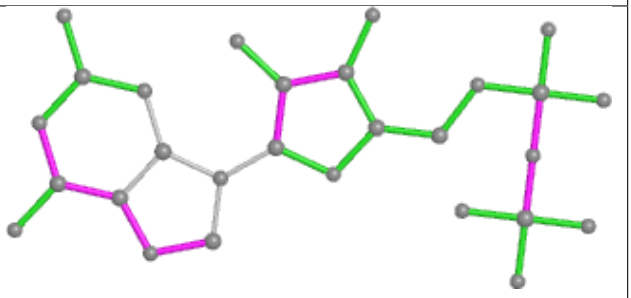

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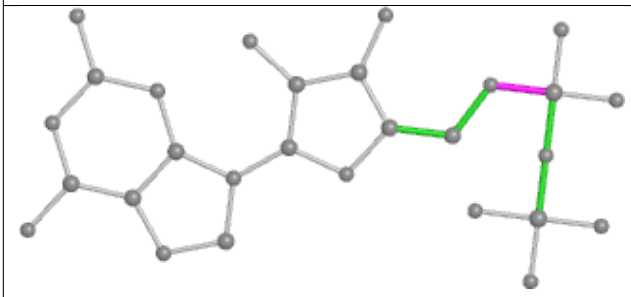

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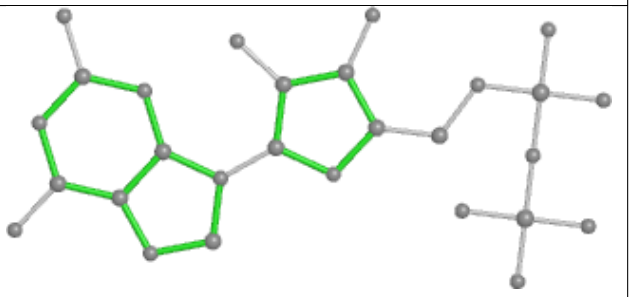

Rings

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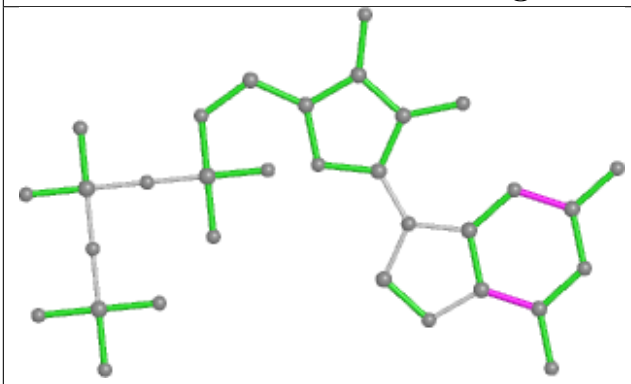

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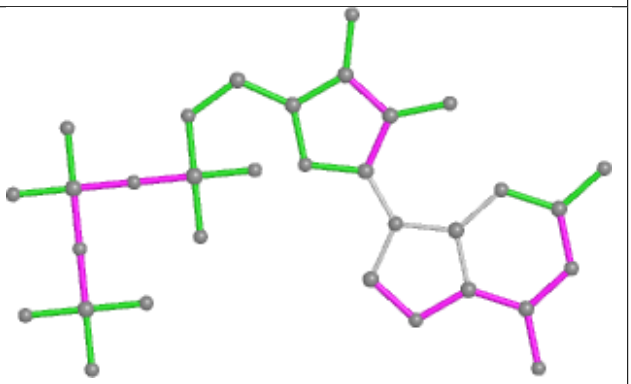

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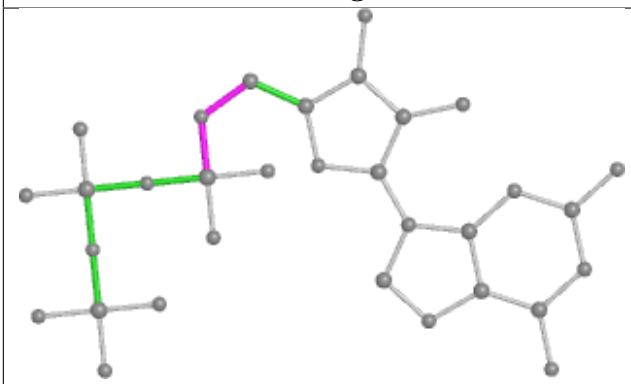

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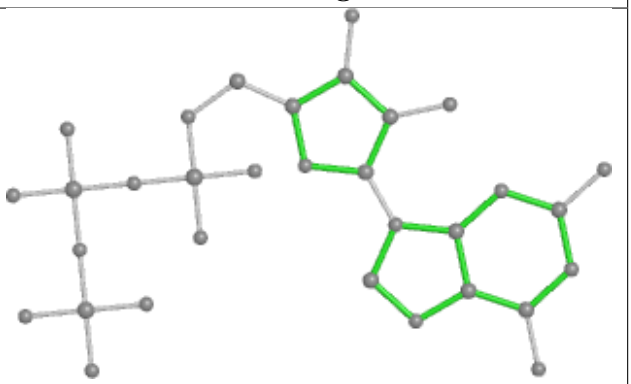
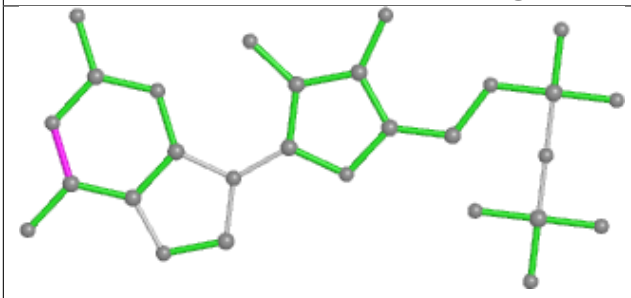


Rings

Ligand GDP OF 501



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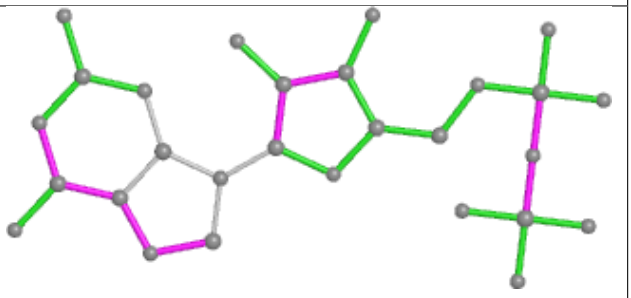

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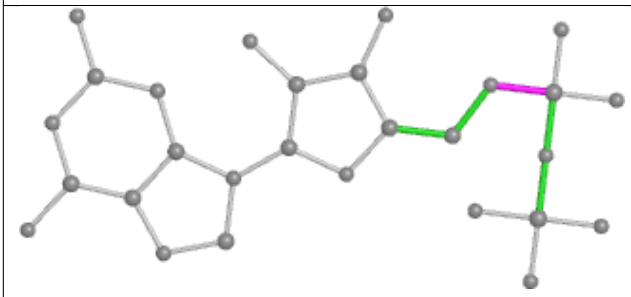

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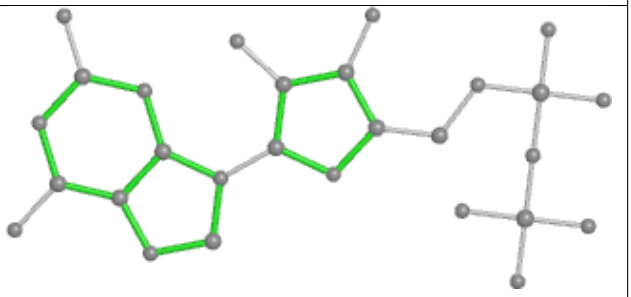

Rings

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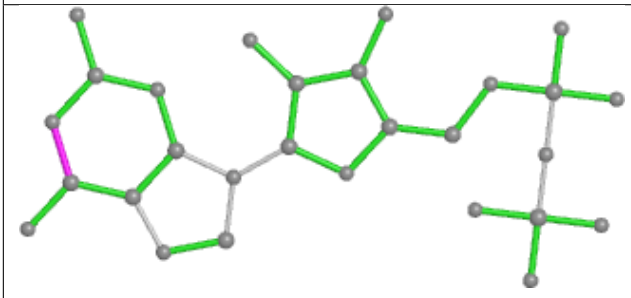

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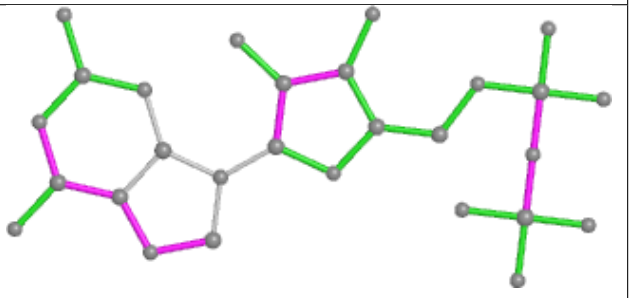
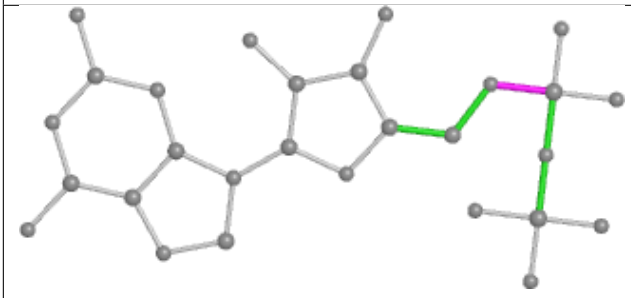
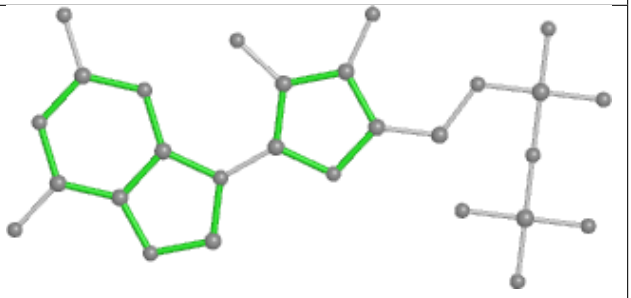


Bond angles

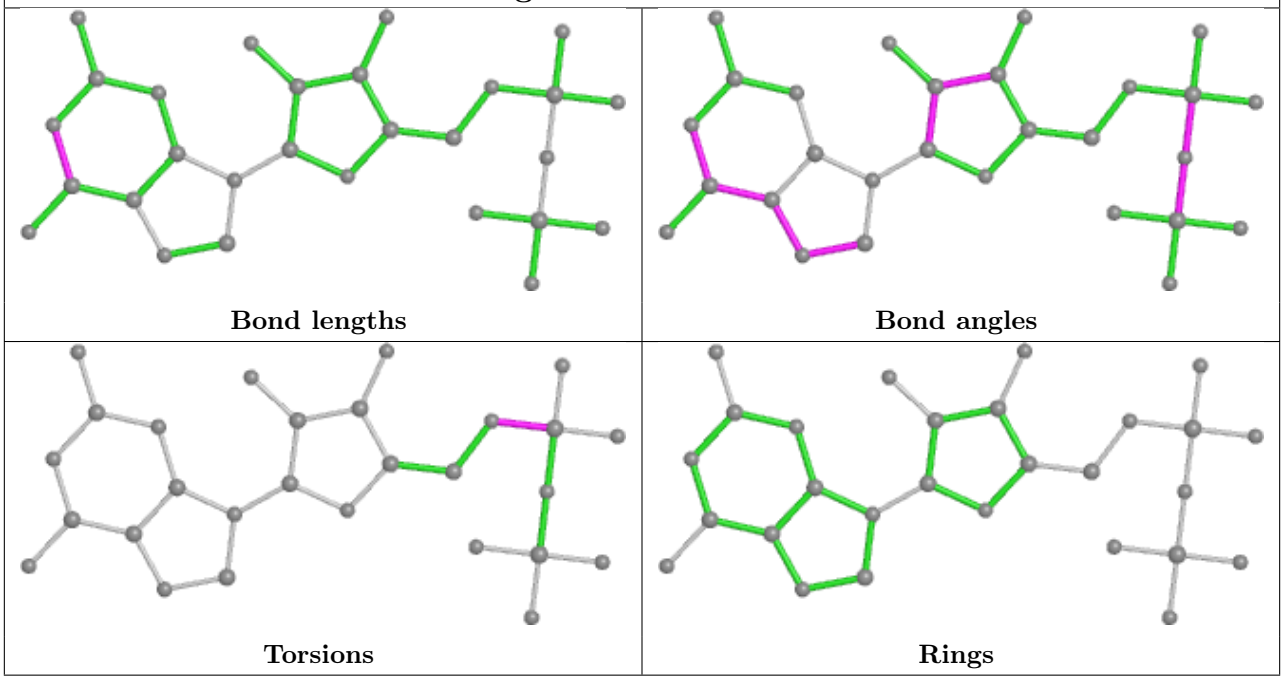


Torsions

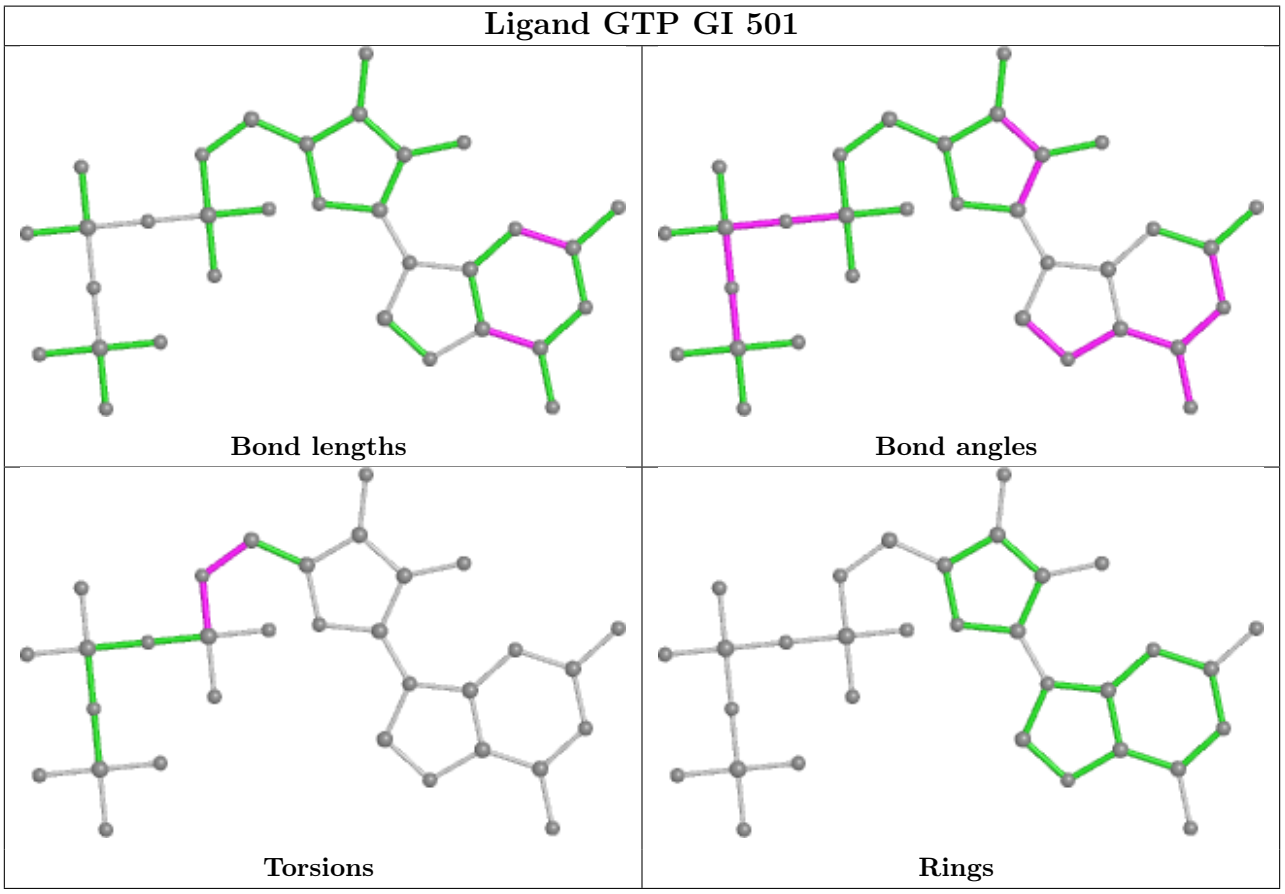


Rings

Ligand GDP ID 501



Ligand GTP GI 501



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

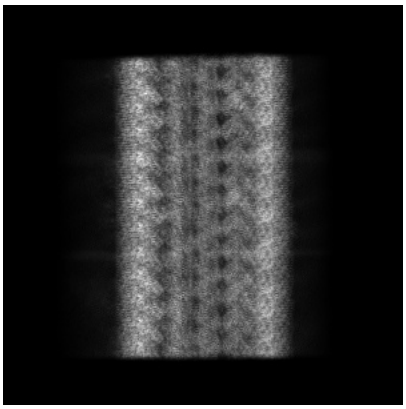
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-40619. These allow visual inspection of the internal detail of the map and identification of artifacts.

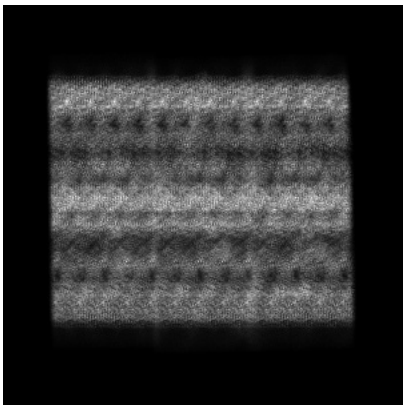
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

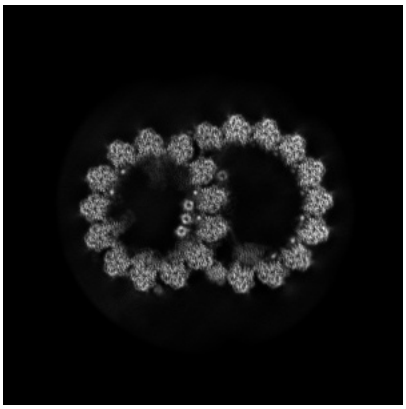
6.1.1 Primary map



X

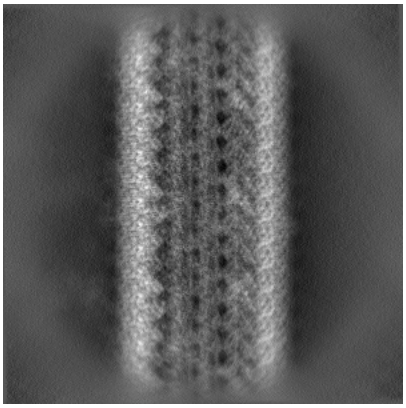


Y

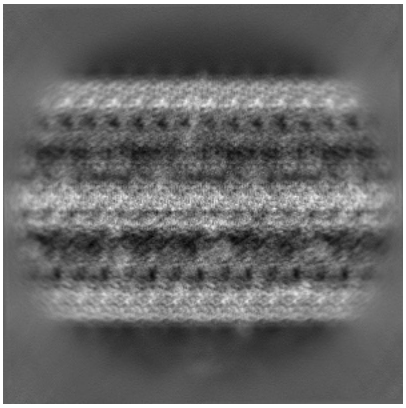


Z

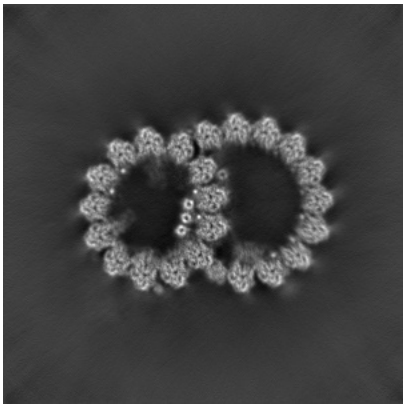
6.1.2 Raw map



X



Y

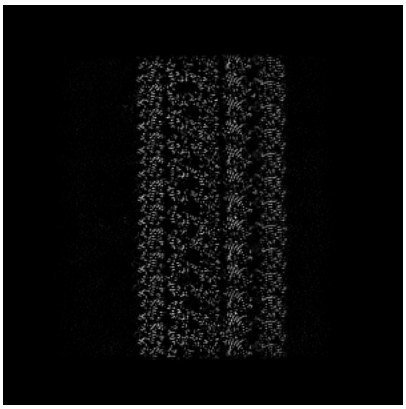


Z

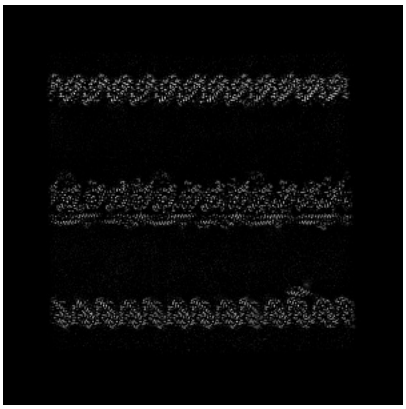
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

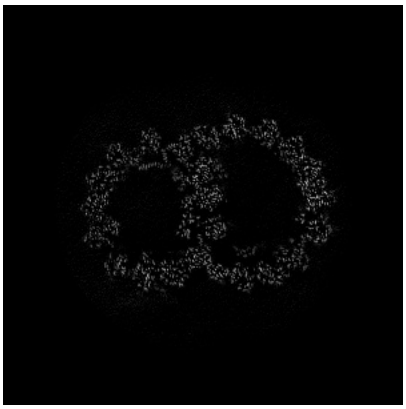
6.2.1 Primary map



X Index: 256

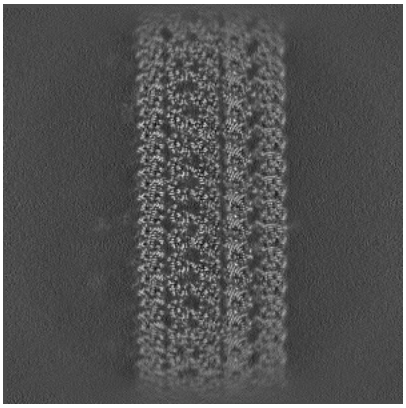


Y Index: 256

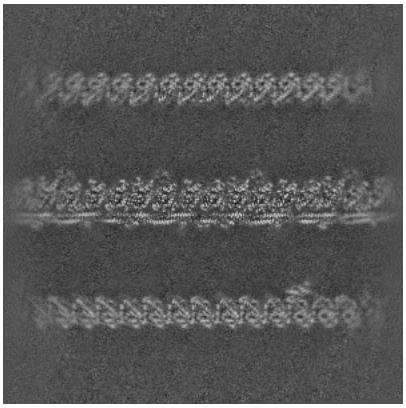


Z Index: 256

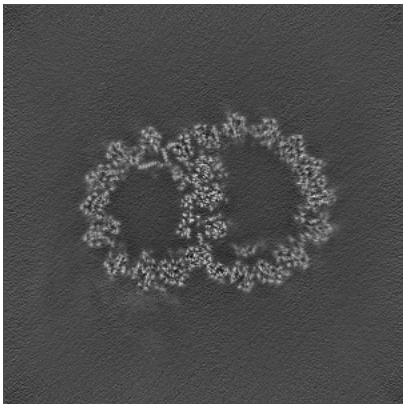
6.2.2 Raw map



X Index: 256



Y Index: 256

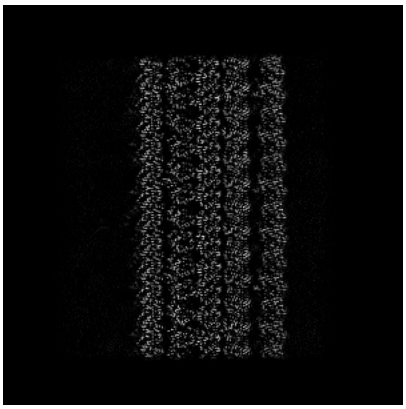


Z Index: 256

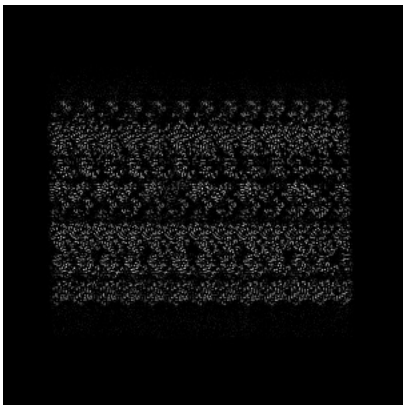
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

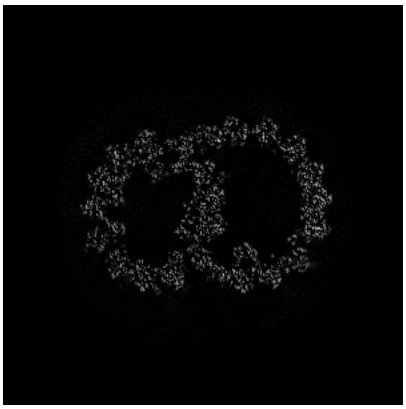
6.3.1 Primary map



X Index: 258

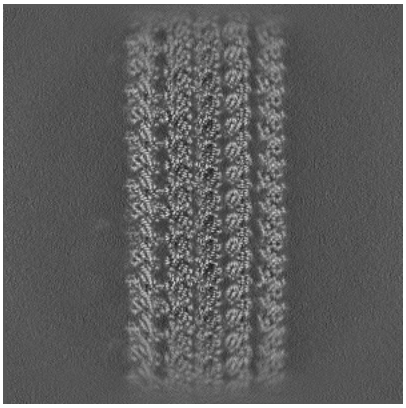


Y Index: 174

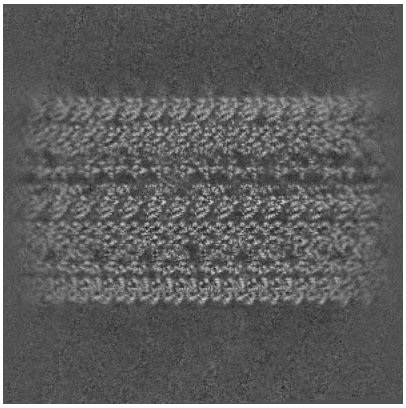


Z Index: 385

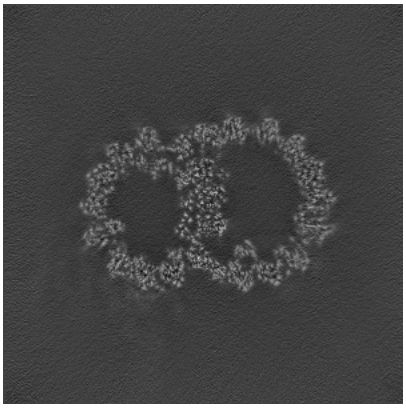
6.3.2 Raw map



X Index: 264



Y Index: 177

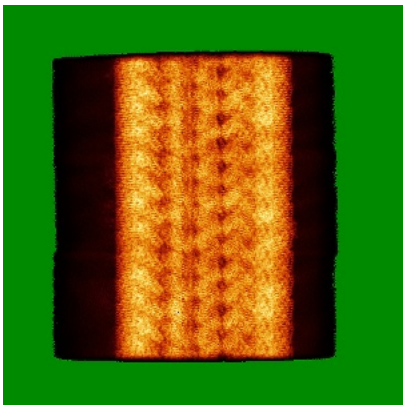


Z Index: 260

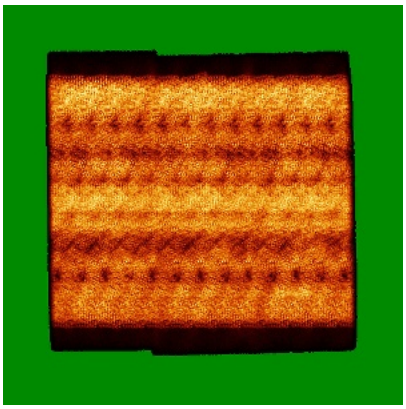
The images above show the largest variance slices of the map in three orthogonal directions.

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

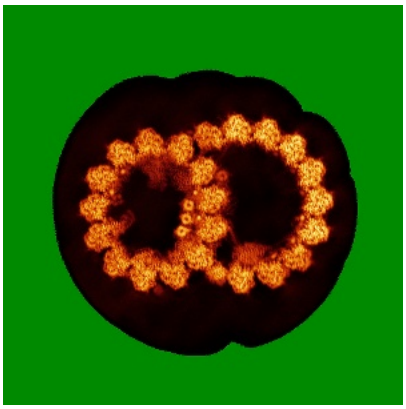
6.4.1 Primary map



X

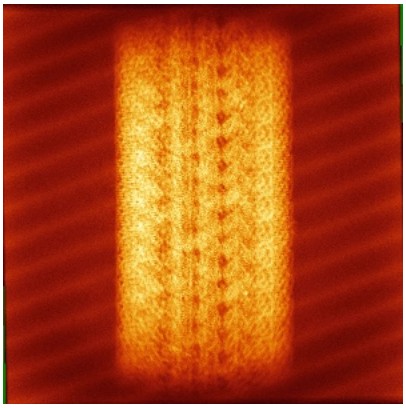


Y

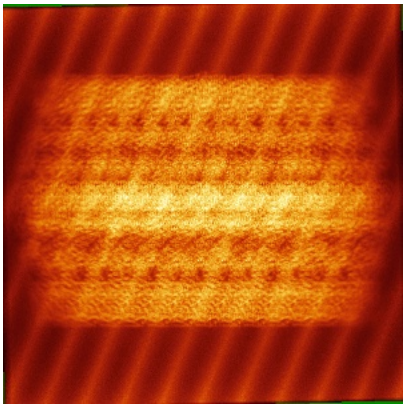


Z

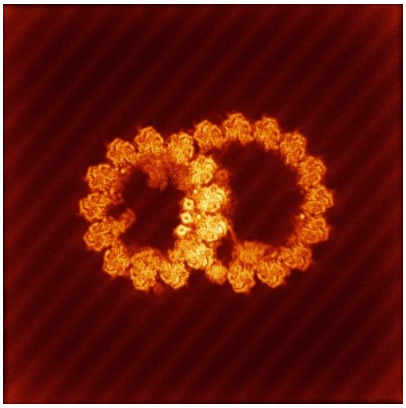
6.4.2 Raw map



X



Y

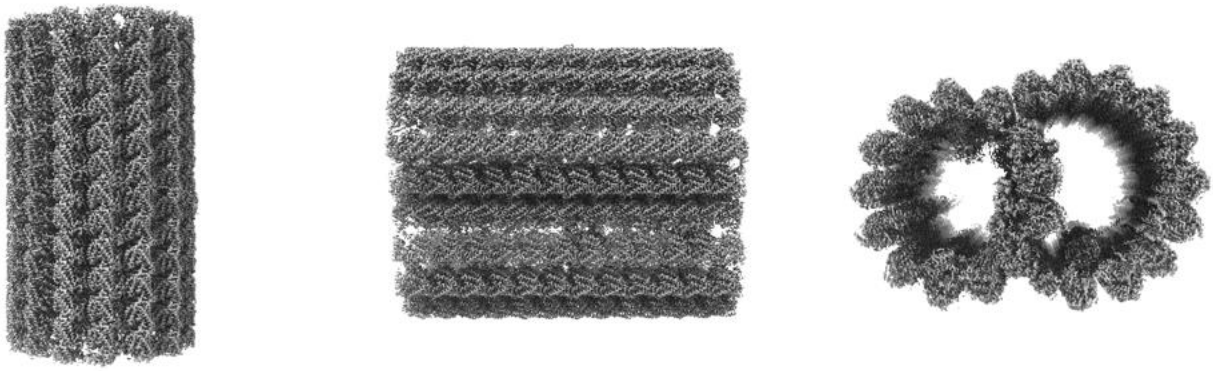


Z

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

6.5 Orthogonal surface views (i)

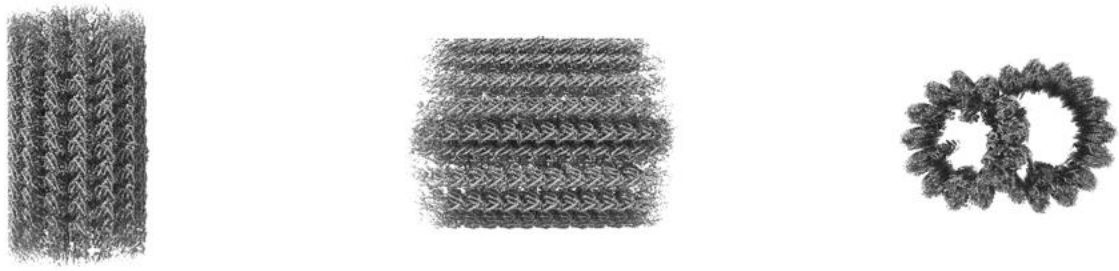
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 6.63. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

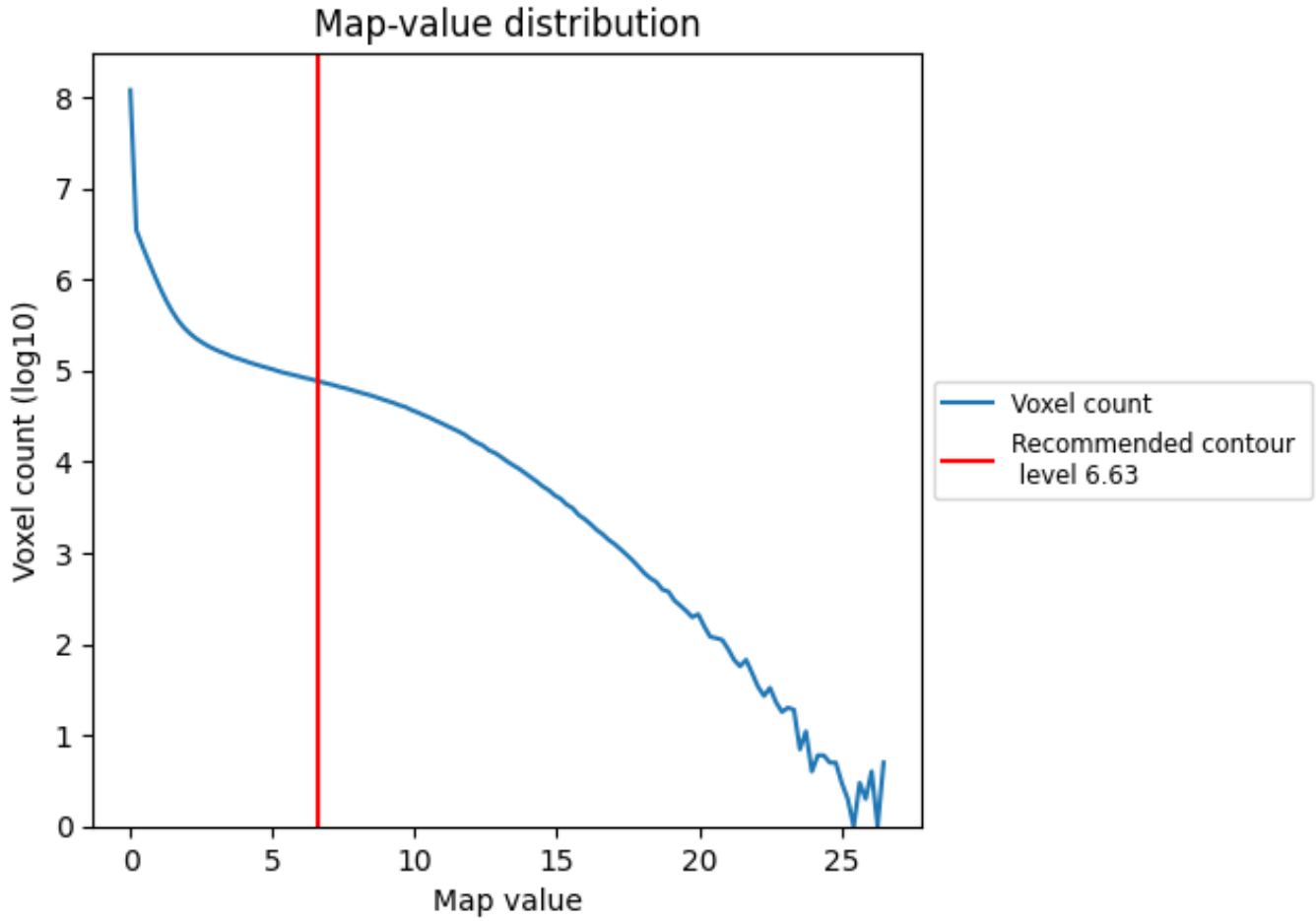
6.6 Mask visualisation (i)

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

7 Map analysis

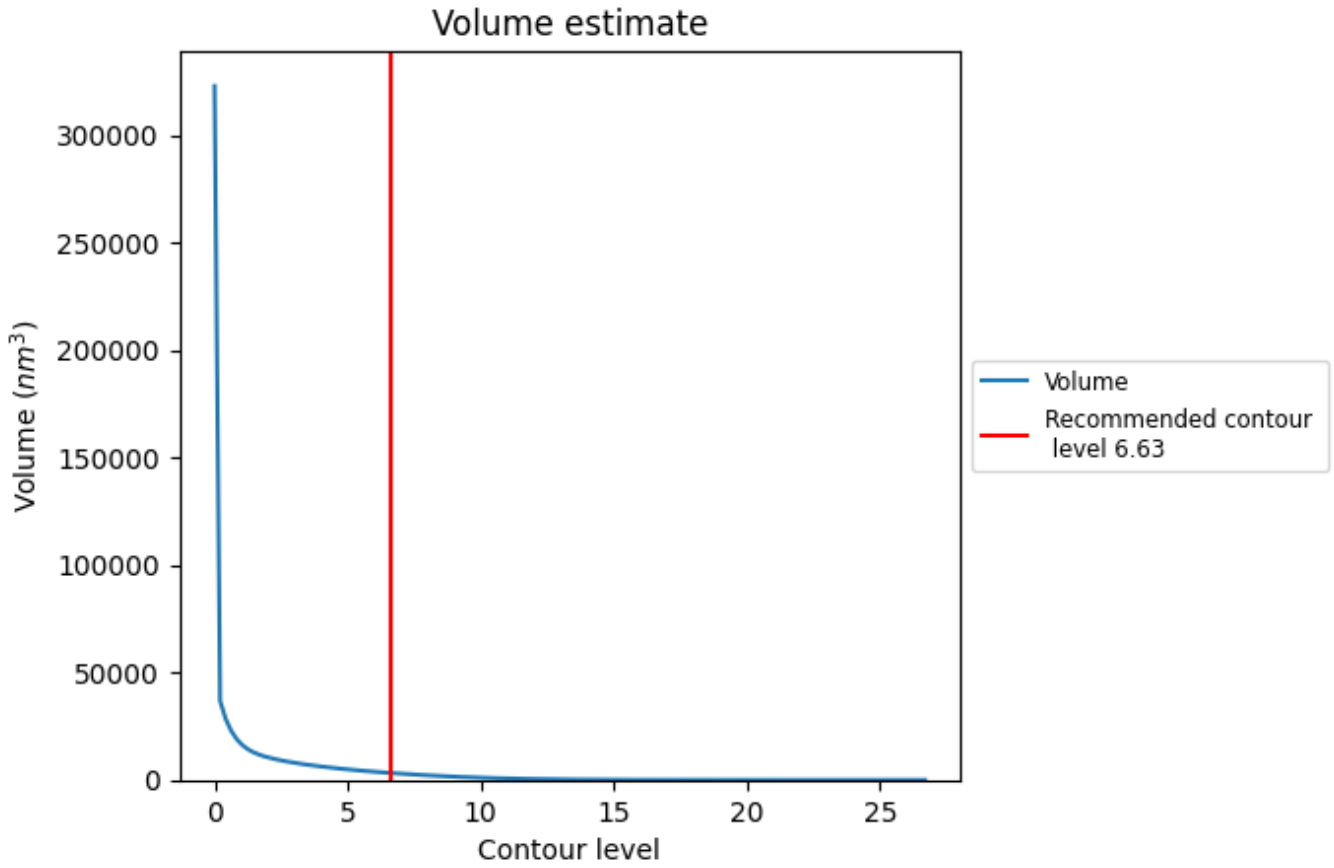
This section contains the results of statistical analysis of the map.

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.

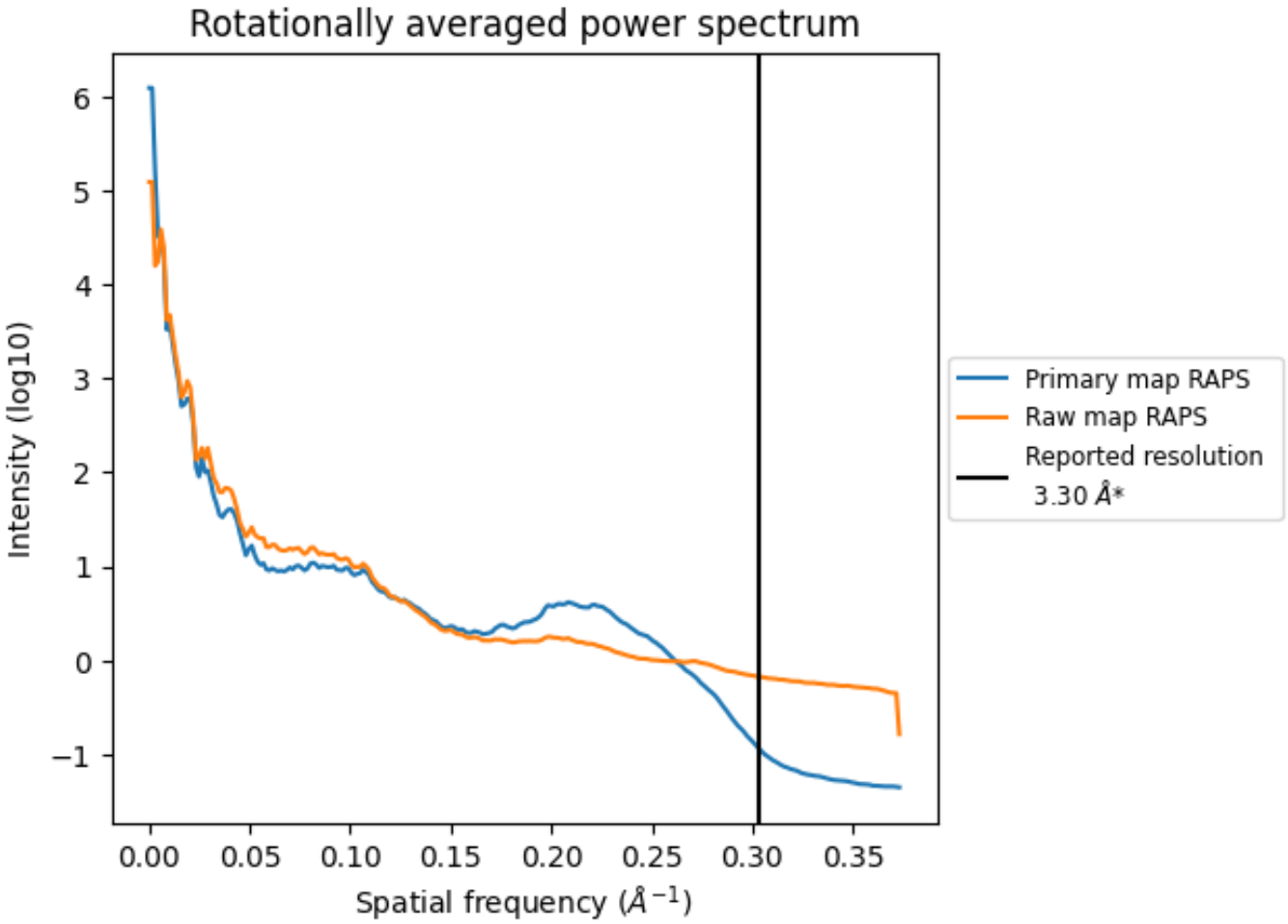
7.2 Volume estimate



The volume at the recommended contour level is 3228 nm^3; this corresponds to an approximate mass of 2916 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)

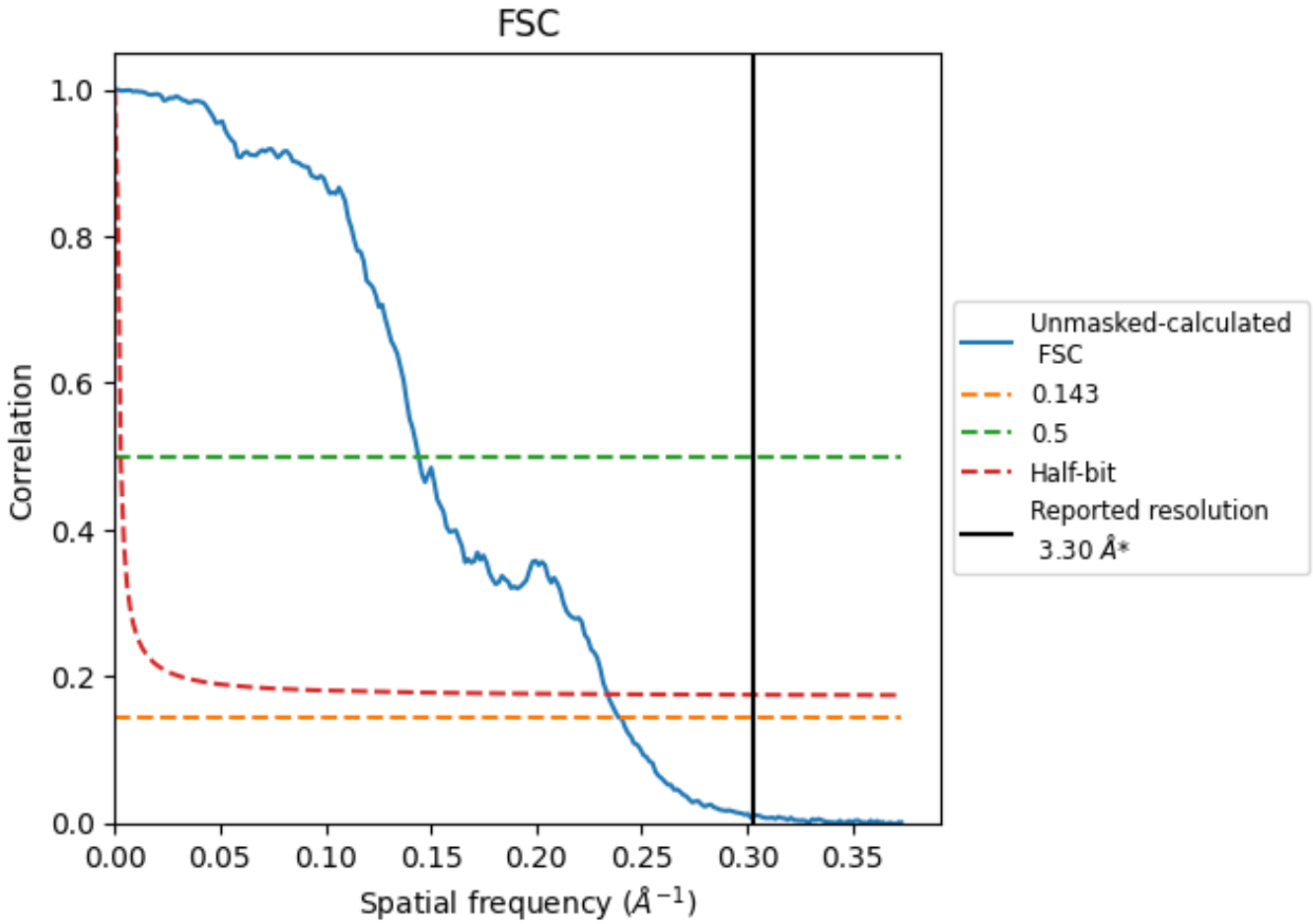


*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8.2 Resolution estimates (i)

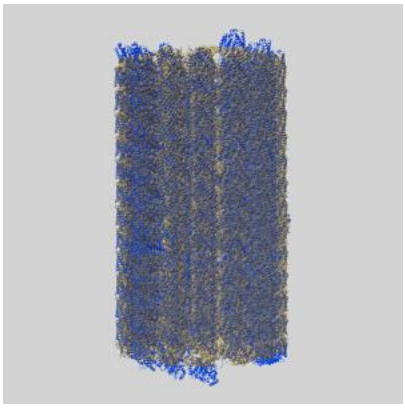
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.18	6.94	4.28

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.18 differs from the reported value 3.3 by more than 10 %

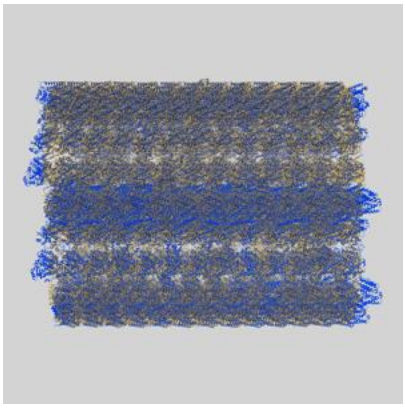
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-40619 and PDB model 8SNB. Per-residue inclusion information can be found in section 3 on page 71.

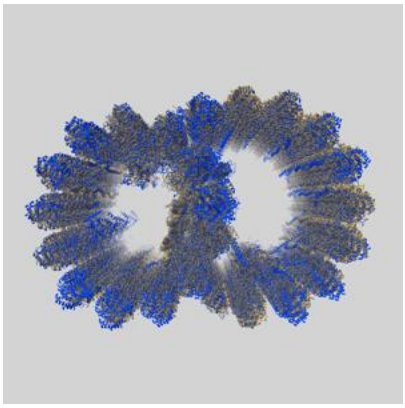
9.1 Map-model overlay



X



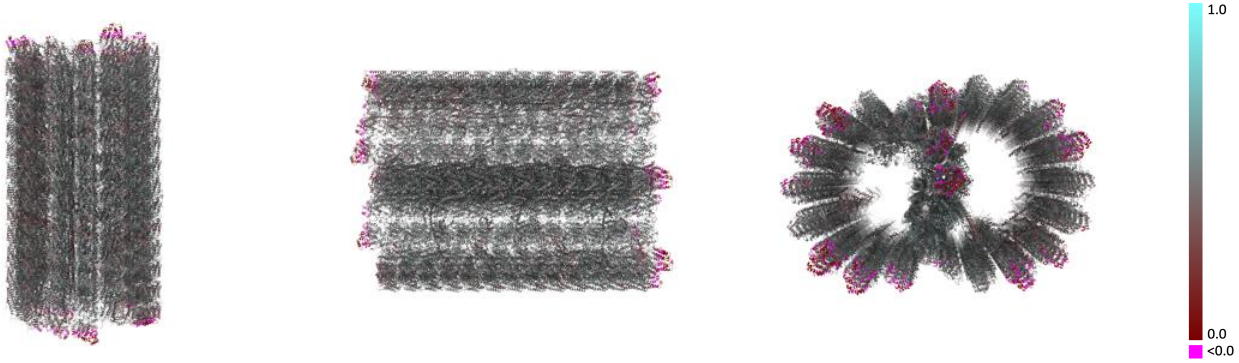
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 6.63 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

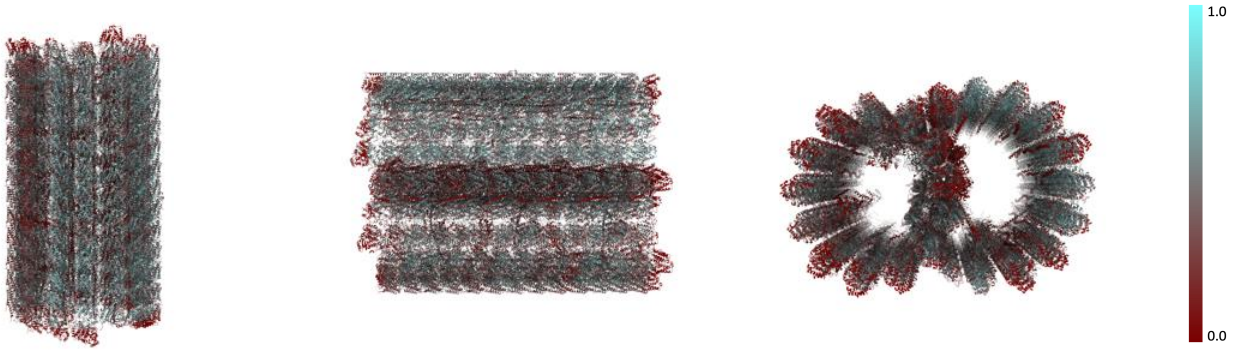
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

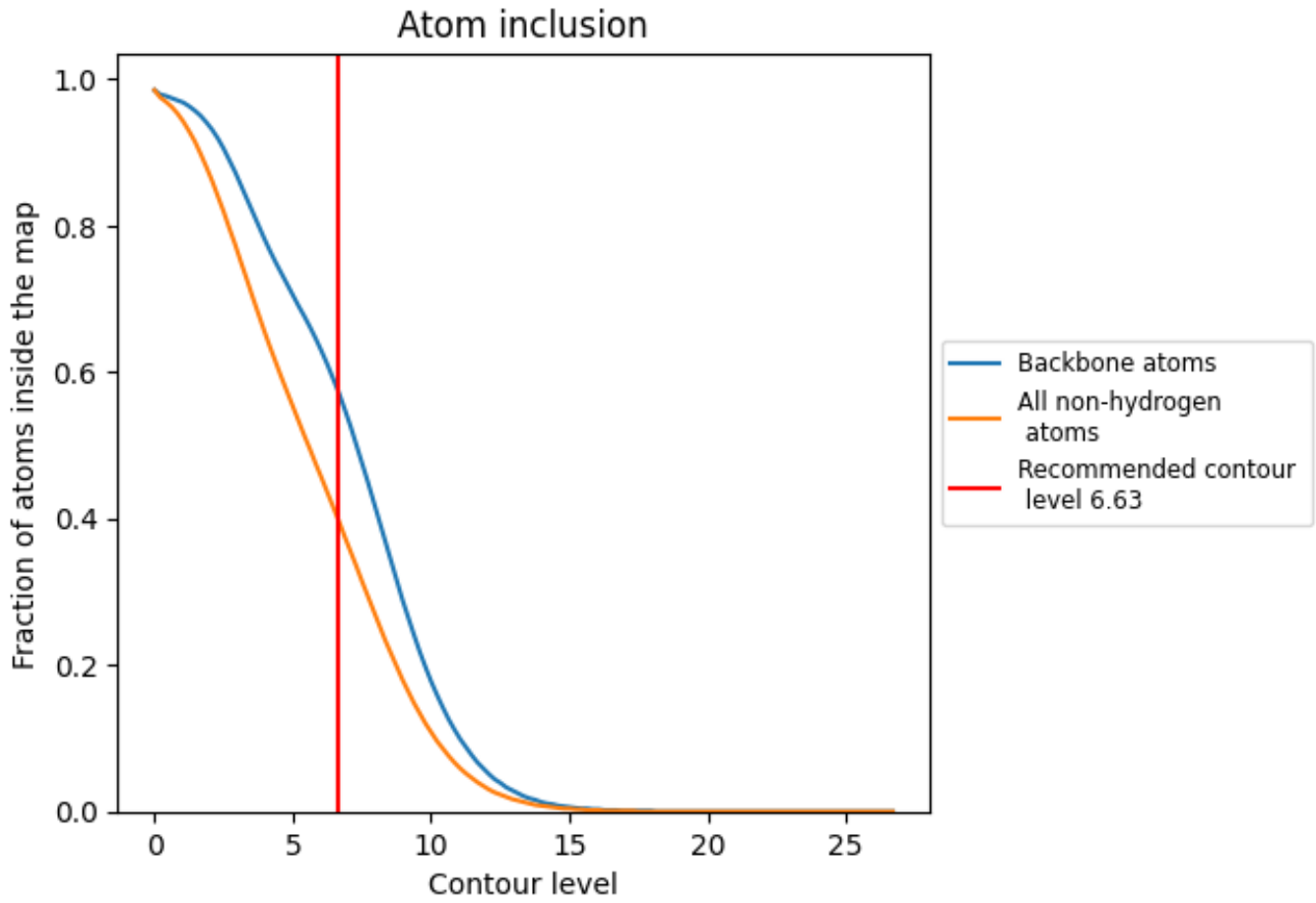
9.3 Atom inclusion mapped to coordinate model (i)



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 (6.63).

9.4 Atom inclusion (i)



At the recommended contour level, 57% of all backbone atoms, 40% 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 (6.63) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4000	0.4660
1A	0.2300	0.4870
1B	0.2370	0.4500
1E	0.1060	0.4740
1F	0.0650	0.4450
1G	0.1040	0.4840
1H	0.0330	0.4580
1K	0.0000	0.4050
1L	0.0000	0.4140
1M	0.0000	0.4350
1P	0.3380	0.4850
1Q	0.2620	0.4250
1T	0.3330	0.4780
1U	0.3860	0.4790
1V	0.3120	0.4780
1W	0.3130	0.4720
1Y	0.1950	0.4020
1a	0.1090	0.4400
1b	0.0630	0.4220
1d	0.0350	0.4010
1f	0.3110	0.3900
1g	0.2520	0.3900
1i	0.2200	0.4110
1j	0.2320	0.4330
1l	0.0030	0.3890
1m	0.0130	0.3910
1o	0.2770	0.4580
1p	0.3900	0.4540
1q	0.3040	0.4170
1r	0.3070	0.4490
1v	0.0270	0.4260
1w	0.0140	0.3970
1x	0.0040	0.3490
1y	0.0040	0.3610
1z	0.0060	0.3450

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Chain	Atom inclusion	Q-score
2A	0.2450	0.4620
2B	0.2510	0.4430
2C	0.2320	0.4520
2D	0.2460	0.4260
2G	0.3030	0.4950
2J	0.0790	0.4560
2K	0.1610	0.4810
2L	0.2380	0.4920
2O	0.2750	0.4660
2R	0.3660	0.4520
2S	0.2590	0.4370
2V	0.3270	0.4920
2W	0.3440	0.4920
2a	0.0140	0.3200
3A	0.4710	0.5070
3B	0.4630	0.4870
3C	0.3300	0.4660
3D	0.3340	0.4640
3E	0.4550	0.5060
3F	0.3670	0.4770
3G	0.4810	0.5060
3J	0.2750	0.4510
3K	0.1310	0.4050
3N	0.3440	0.4090
3O	0.3370	0.4250
3R	0.2060	0.4740
3S	0.2230	0.4720
3T	0.2020	0.4660
3W	0.1430	0.3900
3X	0.2380	0.3920
3Y	0.2550	0.4370
3Z	0.2560	0.4150
4A	0.3310	0.4840
4B	0.3870	0.4830
4C	0.3550	0.4820
4F	0.3350	0.4370
4G	0.3810	0.4700
4J	0.3330	0.4700
4K	0.2710	0.4560
4N	0.2530	0.4710
4O	0.0480	0.4180
4P	0.0730	0.4320

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Continued from previous page...

Chain	Atom inclusion	Q-score
4Q	0.0850	0.4150
4T	0.0030	0.4390
4U	0.0010	0.4270
4V	0.0000	0.3900
4Y	0.3690	0.5020
5A	0.0620	0.4830
5B	0.2180	0.4670
5E	0.2560	0.4580
5F	0.3250	0.4680
5G	0.3060	0.4430
5H	0.3360	0.4390
5I	0.1130	0.3900
5J	0.2820	0.4330
5K	0.3680	0.4210
5L	0.4200	0.4410
5M	0.2700	0.4390
5N	0.3410	0.4330
5O	0.0530	0.4630
6A	0.4290	0.5010
6B	0.0300	0.4660
6C	0.3150	0.4820
6D	0.4400	0.4990
6E	0.4580	0.5100
6F	0.4260	0.4940
6I	0.3260	0.4550
6J	0.2770	0.4490
6M	0.3810	0.5150
6N	0.3090	0.4940
6Q	0.3950	0.4880
6R	0.3190	0.5020
6U	0.3730	0.4970
6V	0.4340	0.5060
6W	0.4200	0.4920
6X	0.4200	0.4900
7A	0.3180	0.4640
7B	0.1530	0.4100
7C	0.3290	0.4680
7D	0.3300	0.4600
7G	0.3840	0.4800
7H	0.3790	0.4780
7I	0.3090	0.4650
7M	0.3950	0.5270

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Chain	Atom inclusion	Q-score
7N	0.3650	0.5030
7Q	0.3120	0.4820
7R	0.1320	0.4600
7U	0.1270	0.4100
7V	0.1810	0.4140
7Y	0.2980	0.4570
7Z	0.1020	0.3970
8A	0.2820	0.4570
8D	0.4450	0.5040
8E	0.3870	0.4870
8F	0.4200	0.5110
8G	0.3990	0.4920
8J	0.4570	0.5040
8K	0.4180	0.5030
8L	0.4290	0.4880
8M	0.4160	0.4860
8N	0.4230	0.5350
8Q	0.4940	0.5320
8R	0.4470	0.4910
8S	0.4310	0.4880
8T	0.4700	0.4910
8U	0.4800	0.4980
8X	0.0360	0.4510
8Y	0.1000	0.4650
8Z	0.0320	0.4450
9A	0.2910	0.4670
9D	0.1900	0.4420
9G	0.3320	0.4640
9J	0.1040	0.4530
9M	0.2020	0.4350
9N	0.2620	0.4730
9O	0.0270	0.2600
9R	0.4140	0.5090
9T	0.2940	0.4910
9V	0.0060	0.3600
9W	0.0020	0.4150
9Y	0.0430	0.4620
9Z	0.0200	0.4280
AA	0.4710	0.5110
AB	0.4640	0.5090
AC	0.4480	0.5000
AD	0.4700	0.4990

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Chain	Atom inclusion	Q-score
AE	0.4800	0.5100
AF	0.4620	0.4970
AG	0.4400	0.5010
AH	0.4930	0.5080
AI	0.5090	0.5180
AJ	0.5120	0.5120
AK	0.3500	0.4760
AL	0.4950	0.5140
AM	0.2850	0.3990
BA	0.4360	0.4940
BB	0.4030	0.4790
BC	0.4320	0.4850
BD	0.4270	0.4780
BE	0.4230	0.4810
BF	0.3750	0.4640
BG	0.3610	0.4660
BH	0.4300	0.4770
BI	0.4120	0.4790
BJ	0.4150	0.4750
BK	0.2310	0.3620
BL	0.4190	0.4900
BM	0.3650	0.4560
CA	0.4850	0.4970
CB	0.4500	0.4900
CC	0.4620	0.4880
CD	0.4690	0.4910
CE	0.4820	0.4920
CF	0.4280	0.4780
CG	0.3650	0.4730
CH	0.4710	0.4880
CI	0.4630	0.4870
CJ	0.4080	0.4710
CK	0.1490	0.2580
CL	0.4520	0.4870
CM	0.3900	0.4770
DA	0.4060	0.4820
DB	0.3530	0.4740
DC	0.4220	0.4880
DD	0.3950	0.4800
DE	0.4260	0.4800
DF	0.3760	0.4750
DG	0.3250	0.4640

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Chain	Atom inclusion	Q-score
DH	0.3500	0.4720
DI	0.3740	0.4750
DJ	0.3870	0.4770
DK	0.0420	0.1280
DL	0.3750	0.4760
DM	0.3640	0.4740
EA	0.3860	0.4800
EB	0.3970	0.4730
EC	0.3680	0.4790
ED	0.3540	0.4680
EE	0.3790	0.4840
EF	0.3870	0.4720
EG	0.3450	0.4720
EH	0.3180	0.4590
EI	0.3410	0.4660
EJ	0.4200	0.4790
EK	0.3900	0.4810
EL	0.1180	0.2590
EM	0.3060	0.4670
FA	0.4450	0.4780
FB	0.4290	0.4770
FC	0.4600	0.4820
FD	0.3720	0.4530
FE	0.4260	0.4760
FF	0.4560	0.4760
FG	0.4200	0.4720
FH	0.3260	0.4480
FI	0.3960	0.4640
FJ	0.4490	0.4750
FK	0.4270	0.4740
FL	0.2420	0.3820
FM	0.3030	0.4210
GA	0.4280	0.4790
GB	0.4800	0.4920
GC	0.4690	0.4840
GD	0.3460	0.4480
GE	0.4050	0.4670
GF	0.4630	0.4790
GG	0.4460	0.4760
GH	0.3470	0.4600
GI	0.4150	0.4700
GJ	0.4230	0.4860

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Chain	Atom inclusion	Q-score
GK	0.4470	0.4830
GL	0.3110	0.4540
GM	0.2270	0.3320
HA	0.4190	0.4800
HB	0.4890	0.4930
HC	0.4590	0.4830
HD	0.3390	0.4560
HE	0.3940	0.4760
HF	0.4700	0.4900
HG	0.4680	0.4860
HH	0.3890	0.4720
HI	0.4460	0.4800
HJ	0.4790	0.4940
HK	0.5190	0.4990
HL	0.3460	0.4700
HM	0.1070	0.2130
IA	0.3780	0.4810
IB	0.4680	0.5000
IC	0.4230	0.4890
ID	0.4020	0.4810
IE	0.3060	0.4640
IF	0.4610	0.4990
IG	0.4440	0.4970
IH	0.3460	0.4750
II	0.4200	0.4940
IJ	0.4330	0.4920
IK	0.4500	0.4950
IL	0.3010	0.4750
IM	0.0910	0.2470
JA	0.4540	0.5000
JB	0.4600	0.5000
JC	0.4920	0.5010
JD	0.3820	0.4920
JE	0.4320	0.4950
JF	0.4410	0.5030
JG	0.3920	0.4940
JH	0.4660	0.5000
JI	0.4120	0.4940
JJ	0.4820	0.5080
JK	0.4260	0.5000
JL	0.2230	0.3830
JM	0.3500	0.4610

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Chain	Atom inclusion	Q-score
KA	0.4680	0.5060
KB	0.4850	0.5020
KC	0.4670	0.5020
KD	0.4420	0.4950
KE	0.4500	0.5030
KF	0.4780	0.5060
KG	0.4720	0.5040
KH	0.4630	0.5020
KI	0.4190	0.5120
KJ	0.4190	0.5080
KK	0.4810	0.5110
KL	0.3550	0.4840
KM	0.2640	0.3650
LA	0.4810	0.5140
LB	0.4700	0.5120
LC	0.4440	0.5070
LD	0.4740	0.5150
LE	0.4480	0.5130
LF	0.4690	0.5120
LG	0.4610	0.5190
LH	0.4940	0.5280
LI	0.4850	0.5250
LJ	0.4970	0.5270
LK	0.4710	0.5140
LL	0.4710	0.5180
LM	0.1310	0.2350
MA	0.4690	0.5140
MB	0.4590	0.5060
MC	0.4390	0.5080
MD	0.4740	0.5140
ME	0.4700	0.5120
MF	0.4690	0.5130
MG	0.4620	0.5210
MH	0.5050	0.5330
MI	0.5460	0.5330
MJ	0.4740	0.5200
MK	0.1520	0.2610
ML	0.4450	0.5090
MM	0.4610	0.5140
NA	0.4130	0.4870
NB	0.3610	0.4700
NC	0.3490	0.4630

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Chain	Atom inclusion	Q-score
ND	0.3990	0.4810
NE	0.3950	0.4830
NF	0.4040	0.4840
NG	0.2760	0.4680
NH	0.3810	0.4770
NI	0.3540	0.4740
NJ	0.2800	0.4600
NK	0.1300	0.2680
NL	0.3850	0.4740
NM	0.3970	0.4710
OA	0.5550	0.4990
OB	0.4890	0.4820
OC	0.4970	0.4780
OD	0.5200	0.4870
OE	0.5470	0.4960
OF	0.5540	0.4930
OG	0.4940	0.4720
OH	0.5670	0.4880
OI	0.5420	0.4820
OJ	0.4680	0.4590
OK	0.1240	0.1660
OL	0.5340	0.4840
OM	0.5140	0.4830
PA	0.5550	0.4900
PB	0.4630	0.4690
PC	0.4740	0.4640
PD	0.5420	0.4880
PE	0.5530	0.4970
PF	0.5330	0.4870
PG	0.4690	0.4640
PH	0.5100	0.4720
PI	0.5150	0.4750
PJ	0.4370	0.4520
PK	0.2450	0.3020
PL	0.4430	0.4630
PM	0.5200	0.4790
QA	0.5610	0.4840
QB	0.4710	0.4620
QC	0.5120	0.4750
QD	0.5360	0.4970
QE	0.5360	0.4940
QF	0.5200	0.4930

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Chain	Atom inclusion	Q-score
QG	0.5070	0.4660
QH	0.5130	0.4530
QI	0.5720	0.4680
QJ	0.5360	0.4650
QK	0.4440	0.4230
QL	0.3330	0.3730
QM	0.5630	0.4820
RA	0.5430	0.4770
RB	0.4930	0.4590
RC	0.5310	0.4730
RD	0.5190	0.4880
RE	0.5470	0.4960
RF	0.5410	0.4890
RG	0.5090	0.4730
RH	0.5100	0.4550
RI	0.5250	0.4650
RJ	0.5600	0.4730
RK	0.4960	0.4590
RL	0.1930	0.2530
RM	0.5290	0.4710
SA	0.5380	0.4760
SB	0.5090	0.4660
SC	0.5360	0.4770
SD	0.5440	0.4870
SE	0.5670	0.4930
SF	0.5430	0.4880
SG	0.5280	0.4810
SH	0.5080	0.4590
SI	0.5700	0.4820
SJ	0.5600	0.4840
SK	0.5570	0.4820
SL	0.1120	0.1610
SM	0.4960	0.4630
TA	0.5300	0.4670
TB	0.5290	0.4730
TC	0.5400	0.4750
TD	0.5310	0.4680
TE	0.5420	0.4800
TF	0.5600	0.4820
TG	0.5200	0.4760
TH	0.4940	0.4550
TI	0.5370	0.4740

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Chain	Atom inclusion	Q-score
TJ	0.5920	0.4850
TK	0.5710	0.4830
TL	0.2170	0.2830
TM	0.4470	0.4510
UA	0.3960	0.4450
UB	0.4010	0.4550
UC	0.3840	0.4500
UD	0.3490	0.4330
UE	0.3570	0.4470
UF	0.3640	0.4440
UG	0.3500	0.4510
UH	0.2920	0.4110
UI	0.3790	0.4580
UJ	0.3850	0.4590
UK	0.4470	0.4610
UL	0.2150	0.3800
UM	0.2520	0.3640
VA	0.3930	0.4560
VB	0.4350	0.4730
VC	0.4350	0.4660
VD	0.4020	0.4600
VE	0.3960	0.4680
VF	0.4160	0.4740
VG	0.4140	0.4710
VH	0.3290	0.4460
VI	0.3720	0.4680
VJ	0.3670	0.4710
VK	0.4080	0.4780
VL	0.3370	0.4640
VM	0.2240	0.2990
WA	0.4190	0.4750
WB	0.4720	0.4820
WC	0.4770	0.4900
WD	0.4330	0.4760
WE	0.3980	0.4730
WF	0.4640	0.4840
WG	0.4550	0.4770
WH	0.3940	0.4770
WI	0.4590	0.4940
WJ	0.4870	0.4900
WK	0.4690	0.4920
WL	0.4600	0.4890