wwPDB EM Validation Summary Report

Nov 14, 2023 – 02:02 AM EST

PDB ID	:	8TO0
EMDB ID	:	EMD-41431
Title	:	48-nm repeating structure of doublets from mouse sperm flagella
Authors	:	Chen, Z.; Shiozak, M.; Hass, K.M.; Skinner, W.; Zhao, S.; Guo, C.; Polacco, B.J.; Yu, Z.; Krogan, N.J.; Kaake, R.M.; Vale, R.D.; Agard, D.A.
Deposited on	:	2023-08-02
Resolution	:	7.70 Å(reported)

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

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

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

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

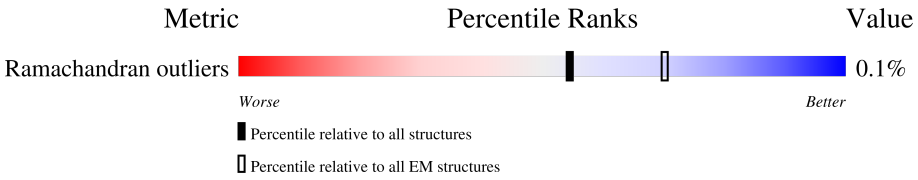
EMDB validation analysis	:	0.0.1.dev70
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 7.70 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

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	0	228	7% 18% 82%
1	7	228	23% 46% 50%
2	I	418	53% 47%
2	J	418	94% 5%
2	K	418	94% 6%
2	L	418	80% 20%
2	M	418	8% 92%
3	A5	451	16% 97%
3	A7	451	14% 98%
3	A9	451	6% 97%
3	AM	451	16% 97%

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Mol	Chain	Length	Quality of chain
3	AO	451	15% 97%
3	AQ	451	5% 97%
3	AS	451	5% 97%
3	AU	451	7% 97%
3	AW	451	8% 97%
3	AY	451	7% 97%
3	Aj	451	21% 88% 12%
3	Al	451	16% 95% 5%
3	An	451	9% 95% 5%
3	Ap	451	7% 96%
3	Ar	451	10% 95% 5%
3	At	451	12% 95% 5%
3	Av	451	8% 95% 5%
3	B0	451	14% 96%
3	B2	451	5% 95% 5%
3	B4	451	18% 86% 14%
3	B8	451	22% 95% 5%
3	BA	451	12% 96%
3	BC	451	13% 97%
3	BE	451	11% 95% 5%
3	BO	451	20% 96%
3	BQ	451	15% 94% 6%
3	BS	451	6% 94% 6%
3	BU	451	14% 94% 5%
3	BW	451	13% 94% 6%

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Mol	Chain	Length	Quality of chain
3	BY	451	10% 95% 5%
3	Bc	451	18% 98%
3	Be	451	15% 95% 5%
3	Bg	451	6% 98%
3	Bi	451	8% 95% 5%
3	Bk	451	9% 95% 5%
3	Bm	451	11% 97%
3	Br	451	18% 94% 5%
3	Bt	451	18% 95% 5%
3	Bv	451	95% 5%
3	Bx	451	7% 95% 5%
3	Bz	451	13% 96%
3	C0	451	5% 95% 5%
3	C1	451	6% 98%
3	C3	451	5% 96%
3	C8	451	16% 97%
3	CB	451	6% 98%
3	CD	451	96%
3	CF	451	12% 97%
3	CH	451	6% 96%
3	CJ	451	12% 95% 5%
3	CN	451	19% 96%
3	CP	451	6% 95% 5%
3	CR	451	6% 95% 5%
3	CT	451	95% 5%

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Mol	Chain	Length	Quality of chain
3	CV	451	10% 97%
3	CX	451	5% 95% 5%
3	Cc	451	16% 96%
3	Ce	451	96%
3	Cg	451	95% 5%
3	Ci	451	95% 5%
3	Ck	451	95% 5%
3	Cm	451	5% 96%
3	Co	451	5% 90% 10%
3	Cs	451	17% 98%
3	Cu	451	5% 98%
3	Cw	451	7% 98%
3	Cy	451	5% 98%
3	D2	451	17% 95% 5%
3	D5	451	29% 95%
3	D7	451	27% 95% 5%
3	D9	451	11% 95% 5%
3	DB	451	5% 95% 5%
3	DD	451	5% 96%
3	DF	451	5% 98%
3	DH	451	5% 96%
3	DM	451	26% 95% 5%
3	DO	451	10% 95% 5%
3	DQ	451	12% 95% 5%
3	DS	451	9% 96%

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Mol	Chain	Length	Quality of chain
3	DU	451	11% 96% .
3	DW	451	12% 95% 5%
3	Db	451	27% 95% 5%
3	Dd	451	20% 95% 5%
3	Df	451	12% 96% .
3	Dh	451	12% 96% .
3	Dj	451	20% 96% .
3	Dl	451	11% 96% .
3	Dp	451	30% 95% 5%
3	Dr	451	24% 96% .
3	Dt	451	14% 96% .
3	Dv	451	12% 95% 5%
3	Dx	451	19% 95% 5%
3	Dz	451	15% 95% 5%
3	E3	451	22% 96% .
3	E5	451	11% 96% .
3	E7	451	12% 96% .
3	E9	451	12% 96% .
3	EA	451	11% 95% .
3	EC	451	20% 95% 5%
3	EE	451	20% 96% .
3	EG	451	16% 96% .
3	EJ	451	27% 95% 5%
3	EL	451	23% 96% .
3	EN	451	14% 95% 5%

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Mol	Chain	Length	Quality of chain
3	EP	451	11% 95% 5%
3	ER	451	16% 96%
3	ET	451	17% 95%
3	EV	451	11% 95% 5%
3	EY	451	31% 95% 5%
3	Ea	451	22% 95% 5%
3	Ec	451	10% 96%
3	Ee	451	9% 96%
3	Eg	451	12% 95% 5%
3	Ei	451	15% 96%
3	Ek	451	13% 96%
3	Eo	451	20% 95% 5%
3	Eq	451	14% 96%
3	Es	451	10% 95% 5%
3	Eu	451	12% 95% 5%
3	Ew	451	17% 96%
3	Ey	451	11% 95% 5%
3	FA	451	15% 96%
3	FC	451	10% 96%
3	FG	451	19% 98%
3	FI	451	8% 96%
3	FK	451	8% 97%
3	FM	451	8% 96%
3	FO	451	10% 98%
3	FQ	451	95% 5%

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Mol	Chain	Length	Quality of chain
3	FU	451	15% 97%
3	FW	451	5% 96%
3	FY	451	97%
3	Fa	451	96%
3	Fc	451	7% 97%
3	Fe	451	96%
3	N	451	12% 97%
3	P	451	98%
3	R	451	96%
3	T	451	5% 98%
3	V	451	98%
3	X	451	6% 97%
3	Z	451	97%
3	n	451	16% 95% 5%
3	p	451	11% 98%
3	r	451	7% 96%
3	t	451	6% 98%
3	v	451	5% 95% 5%
3	x	451	6% 97%
3	z	451	5% 95% 5%
4	A0	445	5% 95%
4	A4	445	18% 96%
4	A6	445	16% 96%
4	A8	445	9% 96%
4	AN	445	13% 96%

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Mol	Chain	Length	Quality of chain
4	AP	445	7% 96%
4	AR	445	96%
4	AT	445	96%
4	AV	445	9% 96%
4	AX	445	95%
4	Ak	445	19% 96%
4	Am	445	12% 96%
4	Ao	445	96%
4	Aq	445	95%
4	As	445	9% 96%
4	Au	445	7% 96%
4	Aw	445	16% 87% 13%
4	B1	445	10% 95%
4	B3	445	8% 96%
4	B7	445	19% 83% 17%
4	B9	445	18% 96%
4	BB	445	12% 96%
4	BD	445	11% 96%
4	BF	445	19% 96%
4	BN	445	19% 96%
4	BP	445	15% 96%
4	BR	445	11% 95%
4	BT	445	8% 95%
4	BV	445	13% 96%
4	BX	445	14% 96%

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Mol	Chain	Length	Quality of chain
4	BZ	445	17% 96%
4	Bb	445	18% 96%
4	Bd	445	13% 96%
4	Bf	445	10% 96%
4	Bh	445	96%
4	Bj	445	10% 96%
4	Bl	445	10% 96%
4	Bn	445	14% 96%
4	Bq	445	19% 96%
4	Bs	445	14% 96%
4	Bu	445	11% 96%
4	Bw	445	96%
4	By	445	7% 96%
4	C2	445	96%
4	C4	445	96%
4	C7	445	16% 96%
4	C9	445	7% 96%
4	CA	445	6% 96%
4	CC	445	96%
4	CE	445	96%
4	CG	445	9% 96%
4	CI	445	6% 96%
4	CM	445	18% 96%
4	CO	445	10% 96%
4	CQ	445	5% 96%

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Mol	Chain	Length	Quality of chain
4	CS	445	5% 96%
4	CU	445	96%
4	CW	445	7% 96%
4	CY	445	96%
4	Cb	445	22% 91% 9%
4	Cd	445	7% 96%
4	Cf	445	96%
4	Ch	445	6% 96%
4	Cj	445	96%
4	Cl	445	96%
4	Cn	445	96%
4	Cr	445	16% 96%
4	Ct	445	5% 96%
4	Cv	445	5% 96%
4	Cx	445	96%
4	Cz	445	96%
4	D0	445	13% 96%
4	D1	445	9% 96%
4	D6	445	27% 96%
4	D8	445	18% 96%
4	DA	445	96%
4	DC	445	96%
4	DE	445	96%
4	DG	445	95%
4	DI	445	5% 96%

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Mol	Chain	Length	Quality of chain
4	DL	445	28% 96%
4	DN	445	24% 96%
4	DP	445	9% 96%
4	DR	445	8% 96%
4	DT	445	6% 96%
4	DV	445	10% 96%
4	DX	445	6% 96%
4	Da	445	31% 92% 8%
4	Dc	445	24% 96%
4	De	445	8% 95% 5%
4	Dg	445	9% 96%
4	Di	445	10% 96%
4	Dk	445	10% 96%
4	Dm	445	8% 95% 5%
4	Dq	445	28% 96%
4	Ds	445	15% 96%
4	Du	445	12% 96%
4	Dw	445	10% 96%
4	Dy	445	18% 96%
4	E0	445	15% 96%
4	E2	445	23% 96%
4	E4	445	20% 96%
4	E6	445	10% 96%
4	E8	445	10% 96%
4	EB	445	10% 96%

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Mol	Chain	Length	Quality of chain
4	ED	445	21% 96%
4	EF	445	11% 96%
4	EK	445	18% 96%
4	EM	445	19% 96%
4	EO	445	10% 96%
4	EQ	445	9% 96%
4	ES	445	18% 96%
4	EU	445	10% 96%
4	EZ	445	19% 96%
4	Eb	445	18% 96%
4	Ed	445	9% 96%
4	Ef	445	9% 96%
4	Eh	445	13% 96%
4	Ej	445	12% 96%
4	En	445	21% 96%
4	Ep	445	22% 96%
4	Er	445	8% 96%
4	Et	445	11% 96%
4	Ev	445	14% 96%
4	Ex	445	10% 96%
4	FB	445	9% 96%
4	FD	445	9% 96%
4	FF	445	17% 96%
4	FH	445	9% 96%
4	FJ	445	7% 96%

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Mol	Chain	Length	Quality of chain
4	FL	445	5% 96%
4	FN	445	7% 96%
4	FP	445	5% 96%
4	FR	445	8% 96%
4	FT	445	15% 96%
4	FV	445	9% 96%
4	FX	445	96%
4	FZ	445	5% 96%
4	Fb	445	96%
4	Fd	445	96%
4	Ff	445	96%
4	O	445	11% 98%
4	Q	445	98%
4	S	445	98%
4	U	445	98%
4	W	445	98%
4	Y	445	98%
4	o	445	12% 96%
4	q	445	96%
4	s	445	5% 96%
4	u	445	96%
4	w	445	96%
4	y	445	5% 96%
5	b	430	44% 56%
5	e	430	97%

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Mol	Chain	Length	Quality of chain
5	f	430	96%
5	g	430	89% 11%
5	h	430	11% 89%
5	i	430	12% 88%
5	j	430	83% 17%
5	k	430	96%
5	l	430	94% 6%
5	m	430	44% 56%
6	1	853	7% 16% 83%
6	2	853	20% 78%
7	AC	490	6% 94%
7	AD	490	68% 32%
7	AE	490	80% 20%
7	AF	490	80% 20%
7	AG	490	44% 56%
7	AH	490	23% 77%
7	AI	490	79% 21%
7	AJ	490	84% 16%
7	AK	490	83% 17%
7	AL	490	23% 77%
7	BI	490	6% 28% 72%
7	BJ	490	86% 14%
7	BK	490	86% 14%
7	BL	490	77% 23%
7	BM	490	20% 80%

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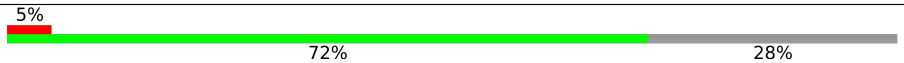
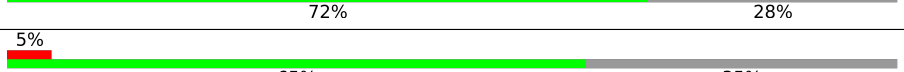
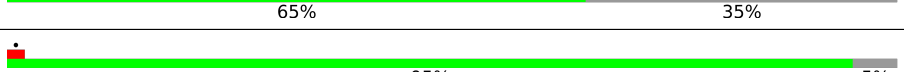
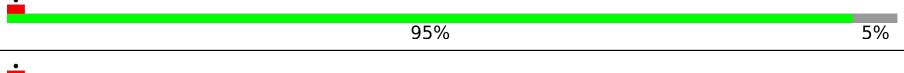
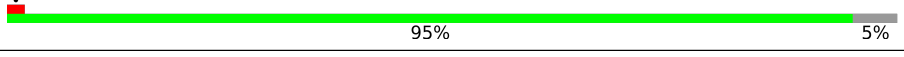
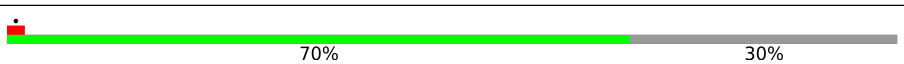
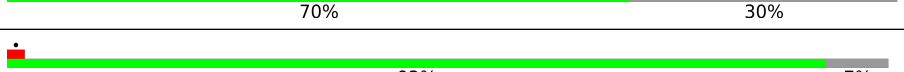
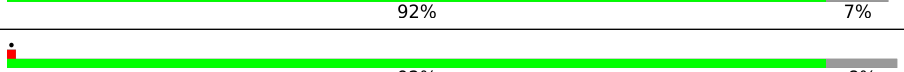
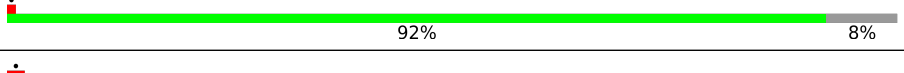
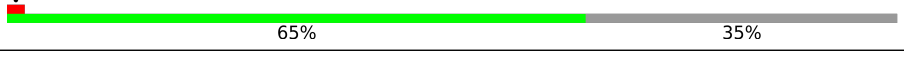
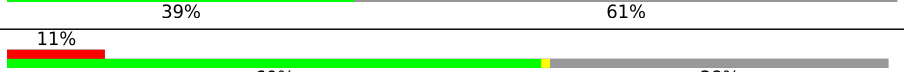
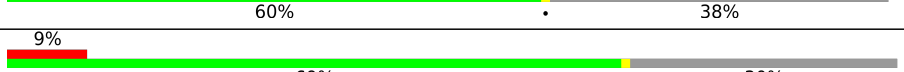
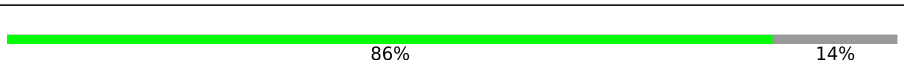
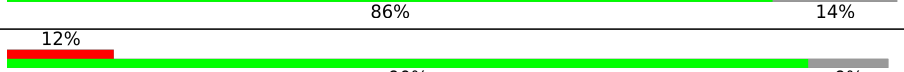
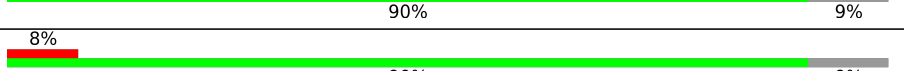
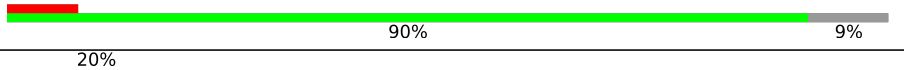
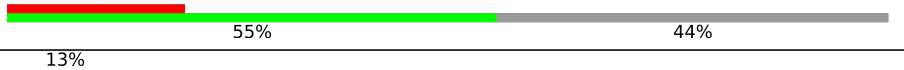
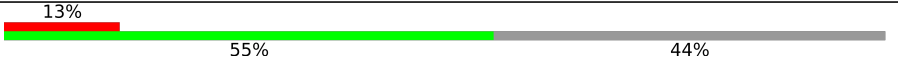
Mol	Chain	Length	Quality of chain
8	A	491	
8	a	491	
9	Aa	447	
9	Ab	447	
9	Ac	447	
9	Ad	447	
9	Af	447	
9	Ag	447	
9	Ah	447	
9	Ai	447	
10	3	514	
10	4	514	
11	A1	206	
11	A2	206	
11	A3	206	
11	Az	206	
12	AB	101	
13	5	395	
13	6	395	
14	B6	273	
14	C6	273	
14	CL	273	
14	Ca	273	
14	Cq	273	
14	DK	273	

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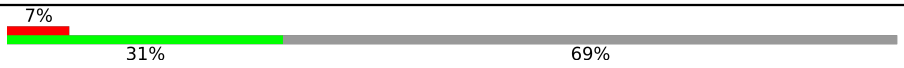
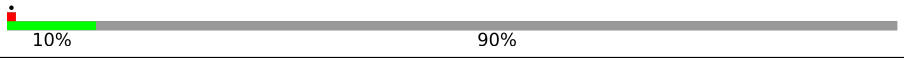
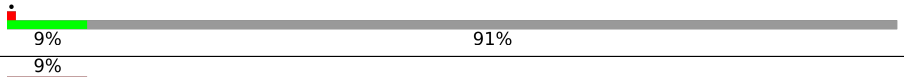
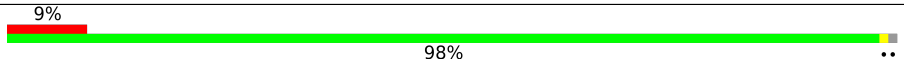
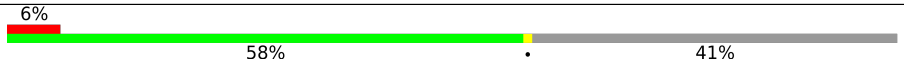
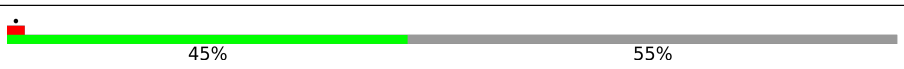
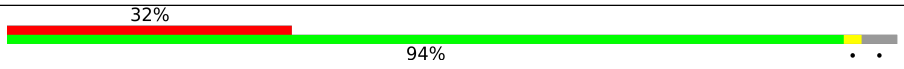
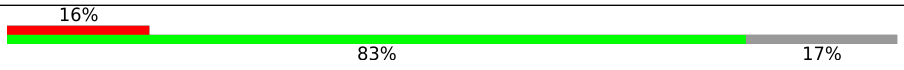
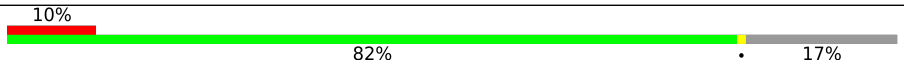
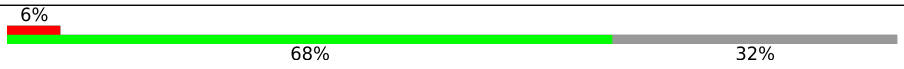
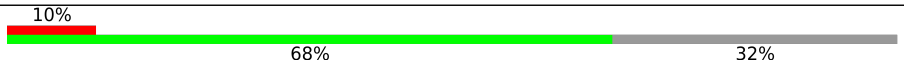
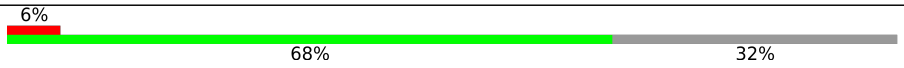
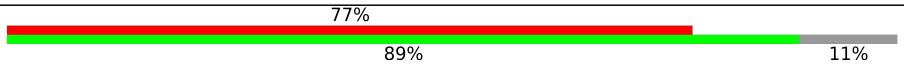
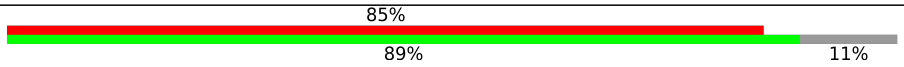
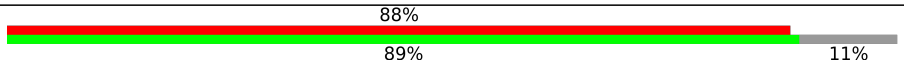
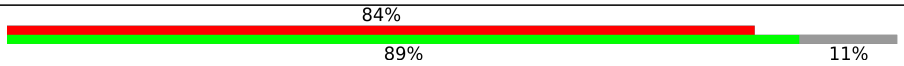
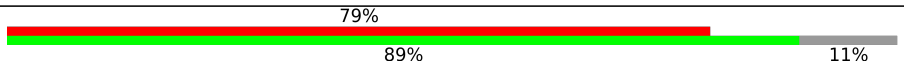
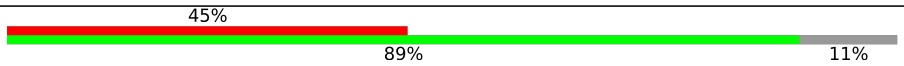
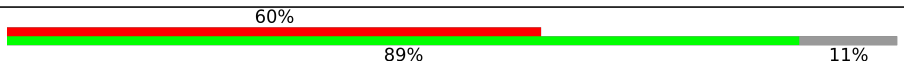
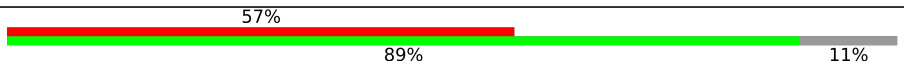
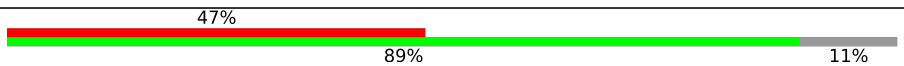
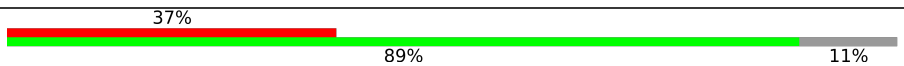
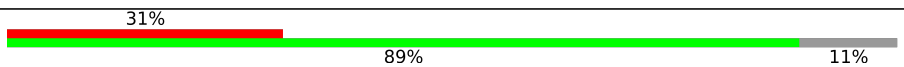
Mol	Chain	Length	Quality of chain
15	AZ	470	
16	D4	377	
16	DZ	377	
16	Do	377	
16	EI	377	
16	EX	377	
17	8	196	
17	9	196	
18	Ay	303	
18	BH	303	
19	E1	648	
19	Em	648	
19	FE	648	
20	F0	168	
20	F1	168	
20	F2	168	
20	F3	168	
20	F4	168	
20	F5	168	
20	F6	168	
20	F7	168	
20	F8	168	
20	F9	168	
20	GA	168	
20	GB	168	

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Mol	Chain	Length	Quality of chain
20	GC	168	74% 89% 11%
20	GD	168	86% 88% 12%
20	GE	168	72% 89% 11%
20	GF	168	84% 87% 13%
20	GG	168	83% 86% 14%
20	GH	168	66% 89% 11%
20	GI	168	70% 89% 11%
20	GJ	168	74% 89% 11%
20	GK	168	29% 89% 11%
20	GL	168	59% 89% 11%
20	GM	168	78% 89% 11%
20	GN	168	88% 89% 11%
20	GO	168	88% 89% 11%
20	GP	168	89% 89% 11%
20	GQ	168	90% 90% 10%
21	FS	750	21% 74% 26%
21	Fg	750	10% 85% 15%
21	Fo	750	12% 85% 15%
21	Fv	750	6% 60% 40%
22	Fh	193	12% 95% 5%
22	Fi	193	95% 5%
22	Fj	193	95% 5%
22	Fk	193	95% 5%
22	Fl	193	95% 5%
22	Fm	193	95% 5%

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Mol	Chain	Length	Quality of chain
22	Fn	193	95% 5%
23	Fp	241	12% 90% 9%
23	Fq	241	5% 90% 9%
23	Fr	241	90% 9%
23	Fs	241	6% 90% 9%
23	Ft	241	5% 90% 9%
24	Fx	185	35% 100%
24	Fy	185	32% 100%
24	Fz	185	32% 100%
25	G	122	52% 7% 42%
26	GR	557	49% 51%
26	GS	557	49% 51%
26	GT	557	49% 51%
26	GU	557	31% 69%
26	GV	557	5% 43% 56%
26	GW	557	62% 37%
26	GX	557	16% 62% 38%
26	GY	557	52% 48%
26	GZ	557	96%
26	Ga	557	20% 80%
26	Gb	557	15% 61% 39%
26	Gc	557	12% 60% 40%
26	Gd	557	25% 59% 41%
26	Ge	557	10% 90%
26	Gf	557	5% 95%

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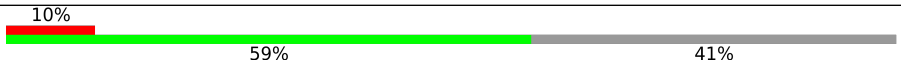
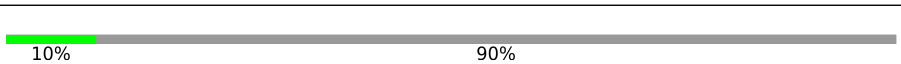
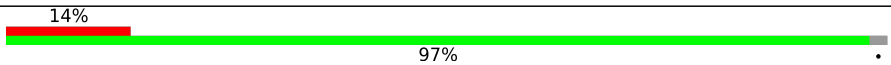
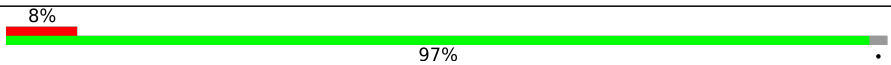
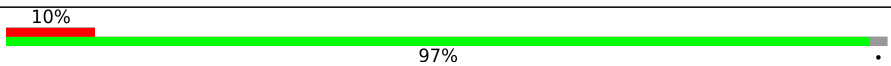
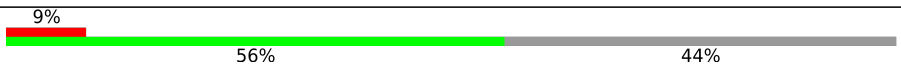
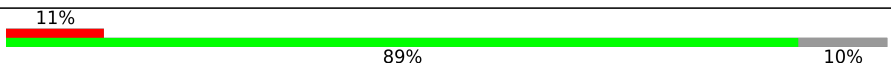
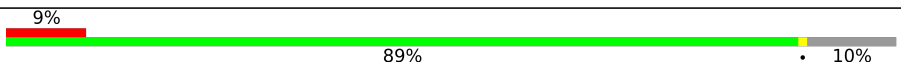
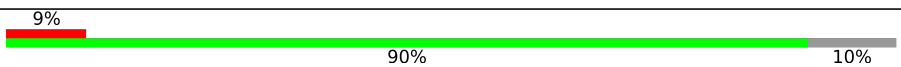
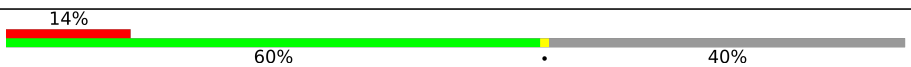
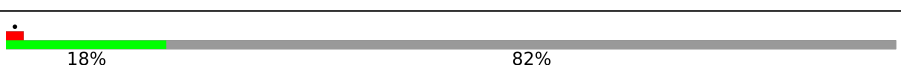
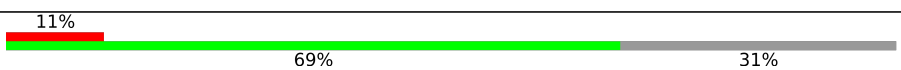
Mol	Chain	Length	Quality of chain
26	Gg	557	
26	Gh	557	
26	Gi	557	
26	Gj	557	
26	z0	557	
26	z1	557	
26	z3	557	
26	z4	557	
27	AA	551	
27	Ax	551	
27	B	551	
27	c	551	
27	d	551	
28	BG	620	
28	Ba	620	
28	Bo	620	
29	B5	255	
29	CK	255	
29	CZ	255	
29	Cp	255	
30	C5	189	
30	DJ	189	
30	DY	189	
31	D3	547	
31	Dn	547	

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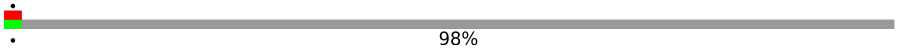
Mol	Chain	Length	Quality of chain
32	EH	168	
32	EW	168	
32	El	168	
33	Ez	1516	
34	C	499	
34	D	499	
34	E	499	
34	F	499	
34	H	499	
35	Fw	167	

2 Entry composition (i)

There are 35 unique types of molecules in this entry. The entry contains 673884 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Cilia- and flagella-associated protein 95.

Mol	Chain	Residues	Atoms	AltConf	Trace
1	0	40	Total C N O 160 80 40 40	0	0
1	7	113	Total C N O 452 226 113 113	0	0

- Molecule 2 is a protein called Tektin-1.

Mol	Chain	Residues	Atoms	AltConf	Trace
2	L	334	Total C N O 1336 668 334 334	0	0
2	M	32	Total C N O 128 64 32 32	0	0
2	I	222	Total C N O 888 444 222 222	0	0
2	J	396	Total C N O 1584 792 396 396	0	0
2	K	393	Total C N O 1572 786 393 393	0	0

- Molecule 3 is a protein called Detyrosinated tubulin alpha-1A chain.

Mol	Chain	Residues	Atoms	AltConf	Trace
3	N	438	Total C N O 1752 876 438 438	0	0
3	P	440	Total C N O 1760 880 440 440	0	0
3	R	435	Total C N O 1740 870 435 435	0	0
3	T	440	Total C N O 1760 880 440 440	0	0
3	V	440	Total C N O 1760 880 440 440	0	0
3	X	440	Total C N O 1760 880 440 440	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	Z	439	Total 1756	C 878	N 439	O 439	0	0
3	n	430	Total 1720	C 860	N 430	O 430	0	0
3	p	440	Total 1760	C 880	N 440	O 440	0	0
3	r	433	Total 1732	C 866	N 433	O 433	0	0
3	t	440	Total 1760	C 880	N 440	O 440	0	0
3	v	430	Total 1720	C 860	N 430	O 430	0	0
3	x	439	Total 1756	C 878	N 439	O 439	0	0
3	z	430	Total 1720	C 860	N 430	O 430	0	0
3	BQ	425	Total 1700	C 850	N 425	O 425	0	0
3	BS	426	Total 1704	C 852	N 426	O 426	0	0
3	BU	427	Total 1708	C 854	N 427	O 427	0	0
3	BW	424	Total 1696	C 848	N 424	O 424	0	0
3	BY	429	Total 1716	C 858	N 429	O 429	0	0
3	AW	439	Total 1756	C 878	N 439	O 439	0	0
3	AY	439	Total 1756	C 878	N 439	O 439	0	0
3	Aj	399	Total 1596	C 798	N 399	O 399	0	0
3	Al	429	Total 1716	C 858	N 429	O 429	0	0
3	An	430	Total 1720	C 860	N 430	O 430	0	0
3	Ap	431	Total 1724	C 862	N 431	O 431	0	0
3	Ar	429	Total 1716	C 858	N 429	O 429	0	0
3	At	430	Total 1720	C 860	N 430	O 430	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	Av	430	Total 1720	C 860	N 430	O 430	0	0
3	A5	439	Total 1756	C 878	N 439	O 439	0	0
3	A7	441	Total 1764	C 882	N 441	O 441	0	0
3	A9	437	Total 1748	C 874	N 437	O 437	0	0
3	BA	436	Total 1744	C 872	N 436	O 436	0	0
3	BC	440	Total 1760	C 880	N 440	O 440	0	0
3	BE	428	Total 1712	C 856	N 428	O 428	0	0
3	BO	431	Total 1724	C 862	N 431	O 431	0	0
3	CX	430	Total 1720	C 860	N 430	O 430	0	0
3	Cc	432	Total 1728	C 864	N 432	O 432	0	0
3	Ce	431	Total 1724	C 862	N 431	O 431	0	0
3	Cg	430	Total 1720	C 860	N 430	O 430	0	0
3	Ci	428	Total 1712	C 856	N 428	O 428	0	0
3	Bc	440	Total 1760	C 880	N 440	O 440	0	0
3	Be	430	Total 1720	C 860	N 430	O 430	0	0
3	Bg	440	Total 1760	C 880	N 440	O 440	0	0
3	Bi	429	Total 1716	C 858	N 429	O 429	0	0
3	Bk	429	Total 1716	C 858	N 429	O 429	0	0
3	Bm	439	Total 1756	C 878	N 439	O 439	0	0
3	Br	427	Total 1708	C 854	N 427	O 427	0	0
3	Bt	430	Total 1720	C 860	N 430	O 430	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	Bv	430	Total 1720	C 860	N 430	O 430	0	0
3	Bx	430	Total 1720	C 860	N 430	O 430	0	0
3	Bz	431	Total 1724	C 862	N 431	O 431	0	0
3	B2	429	Total 1716	C 858	N 429	O 429	0	0
3	B4	386	Total 1544	C 772	N 386	O 386	0	0
3	B8	429	Total 1716	C 858	N 429	O 429	0	0
3	B0	432	Total 1728	C 864	N 432	O 432	0	0
3	CB	440	Total 1760	C 880	N 440	O 440	0	0
3	CD	432	Total 1728	C 864	N 432	O 432	0	0
3	CF	440	Total 1760	C 880	N 440	O 440	0	0
3	CH	431	Total 1724	C 862	N 431	O 431	0	0
3	CJ	427	Total 1708	C 854	N 427	O 427	0	0
3	CN	432	Total 1728	C 864	N 432	O 432	0	0
3	CP	430	Total 1720	C 860	N 430	O 430	0	0
3	CR	428	Total 1712	C 856	N 428	O 428	0	0
3	CT	429	Total 1716	C 858	N 429	O 429	0	0
3	CV	440	Total 1760	C 880	N 440	O 440	0	0
3	Dj	432	Total 1728	C 864	N 432	O 432	0	0
3	Dl	431	Total 1724	C 862	N 431	O 431	0	0
3	Dp	430	Total 1720	C 860	N 430	O 430	0	0
3	Dr	432	Total 1728	C 864	N 432	O 432	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	Ck	430	Total 1720	C 860	N 430	O 430	0	0
3	Cm	432	Total 1728	C 864	N 432	O 432	0	0
3	Co	408	Total 1632	C 816	N 408	O 408	0	0
3	Cs	440	Total 1760	C 880	N 440	O 440	0	0
3	Cu	440	Total 1760	C 880	N 440	O 440	0	0
3	Cw	440	Total 1760	C 880	N 440	O 440	0	0
3	Cy	440	Total 1760	C 880	N 440	O 440	0	0
3	C1	440	Total 1760	C 880	N 440	O 440	0	0
3	C3	431	Total 1724	C 862	N 431	O 431	0	0
3	C8	439	Total 1756	C 878	N 439	O 439	0	0
3	C0	429	Total 1716	C 858	N 429	O 429	0	0
3	DB	430	Total 1720	C 860	N 430	O 430	0	0
3	DD	431	Total 1724	C 862	N 431	O 431	0	0
3	DF	440	Total 1760	C 880	N 440	O 440	0	0
3	DH	431	Total 1724	C 862	N 431	O 431	0	0
3	DM	430	Total 1720	C 860	N 430	O 430	0	0
3	DO	429	Total 1716	C 858	N 429	O 429	0	0
3	DQ	430	Total 1720	C 860	N 430	O 430	0	0
3	DS	432	Total 1728	C 864	N 432	O 432	0	0
3	DU	432	Total 1728	C 864	N 432	O 432	0	0
3	DW	430	Total 1720	C 860	N 430	O 430	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	Db	428	Total 1712	C 856	N 428	O 428	0	0
3	Dd	429	Total 1716	C 858	N 429	O 429	0	0
3	Df	433	Total 1732	C 866	N 433	O 433	0	0
3	Dh	433	Total 1732	C 866	N 433	O 433	0	0
3	Es	430	Total 1720	C 860	N 430	O 430	0	0
3	Eu	430	Total 1720	C 860	N 430	O 430	0	0
3	Ew	432	Total 1728	C 864	N 432	O 432	0	0
3	Ey	430	Total 1720	C 860	N 430	O 430	0	0
3	E3	433	Total 1732	C 866	N 433	O 433	0	0
3	Dt	431	Total 1724	C 862	N 431	O 431	0	0
3	Dv	430	Total 1720	C 860	N 430	O 430	0	0
3	Dx	427	Total 1708	C 854	N 427	O 427	0	0
3	Dz	430	Total 1720	C 860	N 430	O 430	0	0
3	D2	430	Total 1720	C 860	N 430	O 430	0	0
3	D5	431	Total 1724	C 862	N 431	O 431	0	0
3	D7	430	Total 1720	C 860	N 430	O 430	0	0
3	D9	430	Total 1720	C 860	N 430	O 430	0	0
3	EA	431	Total 1724	C 862	N 431	O 431	0	0
3	EC	429	Total 1716	C 858	N 429	O 429	0	0
3	EE	431	Total 1724	C 862	N 431	O 431	0	0
3	EG	431	Total 1724	C 862	N 431	O 431	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	EJ	429	Total	C	N	O	0	0
			1716	858	429	429		
3	EL	432	Total	C	N	O	0	0
			1728	864	432	432		
3	EN	428	Total	C	N	O	0	0
			1712	856	428	428		
3	EP	430	Total	C	N	O	0	0
			1720	860	430	430		
3	ER	431	Total	C	N	O	0	0
			1724	862	431	431		
3	ET	431	Total	C	N	O	0	0
			1724	862	431	431		
3	EV	428	Total	C	N	O	0	0
			1712	856	428	428		
3	EY	430	Total	C	N	O	0	0
			1720	860	430	430		
3	Ea	430	Total	C	N	O	0	0
			1720	860	430	430		
3	Ec	431	Total	C	N	O	0	0
			1724	862	431	431		
3	Ee	431	Total	C	N	O	0	0
			1724	862	431	431		
3	Eg	427	Total	C	N	O	0	0
			1708	854	427	427		
3	Ei	432	Total	C	N	O	0	0
			1728	864	432	432		
3	Ek	431	Total	C	N	O	0	0
			1724	862	431	431		
3	Eo	430	Total	C	N	O	0	0
			1720	860	430	430		
3	Eq	432	Total	C	N	O	0	0
			1728	864	432	432		
3	E5	432	Total	C	N	O	0	0
			1728	864	432	432		
3	AM	438	Total	C	N	O	0	0
			1752	876	438	438		
3	E7	433	Total	C	N	O	0	0
			1732	866	433	433		
3	E9	433	Total	C	N	O	0	0
			1732	866	433	433		
3	FA	433	Total	C	N	O	0	0
			1732	866	433	433		

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Mol	Chain	Residues	Atoms				AltConf	Trace
3	FC	431	Total 1724	C 862	N 431	O 431	0	0
3	FG	440	Total 1760	C 880	N 440	O 440	0	0
3	FI	433	Total 1732	C 866	N 433	O 433	0	0
3	FK	440	Total 1760	C 880	N 440	O 440	0	0
3	FM	433	Total 1732	C 866	N 433	O 433	0	0
3	FO	440	Total 1760	C 880	N 440	O 440	0	0
3	FQ	430	Total 1720	C 860	N 430	O 430	0	0
3	FU	440	Total 1760	C 880	N 440	O 440	0	0
3	FW	431	Total 1724	C 862	N 431	O 431	0	0
3	FY	439	Total 1756	C 878	N 439	O 439	0	0
3	Fa	431	Total 1724	C 862	N 431	O 431	0	0
3	Fc	438	Total 1752	C 876	N 438	O 438	0	0
3	Fe	431	Total 1724	C 862	N 431	O 431	0	0
3	AO	438	Total 1752	C 876	N 438	O 438	0	0
3	AQ	438	Total 1752	C 876	N 438	O 438	0	0
3	AS	439	Total 1756	C 878	N 439	O 439	0	0
3	AU	439	Total 1756	C 878	N 439	O 439	0	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
4	O	436	Total 1744	C 872	N 436	O 436	0	0
4	Q	436	Total 1744	C 872	N 436	O 436	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	S	436	Total	C	N	O	0	0
			1744	872	436	436		
4	U	436	Total	C	N	O	0	0
			1744	872	436	436		
4	W	436	Total	C	N	O	0	0
			1744	872	436	436		
4	Y	435	Total	C	N	O	0	0
			1740	870	435	435		
4	o	427	Total	C	N	O	0	0
			1708	854	427	427		
4	q	427	Total	C	N	O	0	0
			1708	854	427	427		
4	s	427	Total	C	N	O	0	0
			1708	854	427	427		
4	u	427	Total	C	N	O	0	0
			1708	854	427	427		
4	w	427	Total	C	N	O	0	0
			1708	854	427	427		
4	y	425	Total	C	N	O	0	0
			1700	850	425	425		
4	BR	426	Total	C	N	O	0	0
			1704	852	426	426		
4	BT	426	Total	C	N	O	0	0
			1704	852	426	426		
4	BV	426	Total	C	N	O	0	0
			1704	852	426	426		
4	BX	425	Total	C	N	O	0	0
			1700	850	425	425		
4	BZ	427	Total	C	N	O	0	0
			1708	854	427	427		
4	AV	427	Total	C	N	O	0	0
			1708	854	427	427		
4	AX	425	Total	C	N	O	0	0
			1700	850	425	425		
4	Ak	426	Total	C	N	O	0	0
			1704	852	426	426		
4	Am	426	Total	C	N	O	0	0
			1704	852	426	426		
4	Ao	426	Total	C	N	O	0	0
			1704	852	426	426		
4	Aq	426	Total	C	N	O	0	0
			1704	852	426	426		

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	As	426	Total 1704	C 852	N 426	O 426	0	0
4	Au	425	Total 1700	C 850	N 425	O 425	0	0
4	Aw	387	Total 1548	C 774	N 387	O 387	0	0
4	A4	426	Total 1704	C 852	N 426	O 426	0	0
4	A6	426	Total 1704	C 852	N 426	O 426	0	0
4	A8	426	Total 1704	C 852	N 426	O 426	0	0
4	A0	427	Total 1708	C 854	N 427	O 427	0	0
4	BB	426	Total 1704	C 852	N 426	O 426	0	0
4	BD	425	Total 1700	C 850	N 425	O 425	0	0
4	BF	426	Total 1704	C 852	N 426	O 426	0	0
4	BN	426	Total 1704	C 852	N 426	O 426	0	0
4	BP	427	Total 1708	C 854	N 427	O 427	0	0
4	CY	426	Total 1704	C 852	N 426	O 426	0	0
4	Cb	403	Total 1612	C 806	N 403	O 403	0	0
4	Cd	427	Total 1708	C 854	N 427	O 427	0	0
4	Cf	427	Total 1708	C 854	N 427	O 427	0	0
4	Ch	429	Total 1716	C 858	N 429	O 429	0	0
4	Bb	427	Total 1708	C 854	N 427	O 427	0	0
4	Bd	427	Total 1708	C 854	N 427	O 427	0	0
4	Bf	427	Total 1708	C 854	N 427	O 427	0	0
4	Bh	427	Total 1708	C 854	N 427	O 427	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	Bj	427	Total 1708	C 854	N 427	O 427	0	0
4	Bl	425	Total 1700	C 850	N 425	O 425	0	0
4	Bn	427	Total 1708	C 854	N 427	O 427	0	0
4	Bs	427	Total 1708	C 854	N 427	O 427	0	0
4	Bu	427	Total 1708	C 854	N 427	O 427	0	0
4	Bw	427	Total 1708	C 854	N 427	O 427	0	0
4	By	427	Total 1708	C 854	N 427	O 427	0	0
4	B1	425	Total 1700	C 850	N 425	O 425	0	0
4	B3	427	Total 1708	C 854	N 427	O 427	0	0
4	B7	369	Total 1476	C 738	N 369	O 369	0	0
4	B9	427	Total 1708	C 854	N 427	O 427	0	0
4	CA	427	Total 1708	C 854	N 427	O 427	0	0
4	CC	427	Total 1708	C 854	N 427	O 427	0	0
4	CE	427	Total 1708	C 854	N 427	O 427	0	0
4	CG	426	Total 1704	C 852	N 426	O 426	0	0
4	CI	428	Total 1712	C 856	N 428	O 428	0	0
4	CM	426	Total 1704	C 852	N 426	O 426	0	0
4	CO	427	Total 1708	C 854	N 427	O 427	0	0
4	CQ	426	Total 1704	C 852	N 426	O 426	0	0
4	CS	426	Total 1704	C 852	N 426	O 426	0	0
4	CU	426	Total 1704	C 852	N 426	O 426	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	CW	426	Total 1704	C 852	N 426	O 426	0	0
4	Di	427	Total 1708	C 854	N 427	O 427	0	0
4	Dk	427	Total 1708	C 854	N 427	O 427	0	0
4	Dm	424	Total 1696	C 848	N 424	O 424	0	0
4	Dq	427	Total 1708	C 854	N 427	O 427	0	0
4	Ds	427	Total 1708	C 854	N 427	O 427	0	0
4	Cj	426	Total 1704	C 852	N 426	O 426	0	0
4	Cl	429	Total 1716	C 858	N 429	O 429	0	0
4	Cn	427	Total 1708	C 854	N 427	O 427	0	0
4	Cr	427	Total 1708	C 854	N 427	O 427	0	0
4	Ct	427	Total 1708	C 854	N 427	O 427	0	0
4	Cv	427	Total 1708	C 854	N 427	O 427	0	0
4	Cx	427	Total 1708	C 854	N 427	O 427	0	0
4	Cz	427	Total 1708	C 854	N 427	O 427	0	0
4	C2	426	Total 1704	C 852	N 426	O 426	0	0
4	C4	427	Total 1708	C 854	N 427	O 427	0	0
4	C7	426	Total 1704	C 852	N 426	O 426	0	0
4	C9	426	Total 1704	C 852	N 426	O 426	0	0
4	DA	427	Total 1708	C 854	N 427	O 427	0	0
4	DC	427	Total 1708	C 854	N 427	O 427	0	0
4	DE	426	Total 1704	C 852	N 426	O 426	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	DG	426	Total 1704	C 852	N 426	O 426	0	0
4	DI	426	Total 1704	C 852	N 426	O 426	0	0
4	DL	427	Total 1708	C 854	N 427	O 427	0	0
4	DN	427	Total 1708	C 854	N 427	O 427	0	0
4	DP	427	Total 1708	C 854	N 427	O 427	0	0
4	DR	427	Total 1708	C 854	N 427	O 427	0	0
4	DT	427	Total 1708	C 854	N 427	O 427	0	0
4	DV	427	Total 1708	C 854	N 427	O 427	0	0
4	DX	425	Total 1700	C 850	N 425	O 425	0	0
4	Dc	425	Total 1700	C 850	N 425	O 425	0	0
4	De	424	Total 1696	C 848	N 424	O 424	0	0
4	Dg	425	Total 1700	C 850	N 425	O 425	0	0
4	Er	427	Total 1708	C 854	N 427	O 427	0	0
4	Et	427	Total 1708	C 854	N 427	O 427	0	0
4	Ev	427	Total 1708	C 854	N 427	O 427	0	0
4	Ex	426	Total 1704	C 852	N 426	O 426	0	0
4	Du	427	Total 1708	C 854	N 427	O 427	0	0
4	Dw	427	Total 1708	C 854	N 427	O 427	0	0
4	Dy	427	Total 1708	C 854	N 427	O 427	0	0
4	D1	425	Total 1700	C 850	N 425	O 425	0	0
4	D6	427	Total 1708	C 854	N 427	O 427	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	D8	427	Total 1708	C 854	N 427	O 427	0	0
4	D0	428	Total 1712	C 856	N 428	O 428	0	0
4	EB	427	Total 1708	C 854	N 427	O 427	0	0
4	ED	427	Total 1708	C 854	N 427	O 427	0	0
4	EF	426	Total 1704	C 852	N 426	O 426	0	0
4	EK	427	Total 1708	C 854	N 427	O 427	0	0
4	EM	427	Total 1708	C 854	N 427	O 427	0	0
4	EO	427	Total 1708	C 854	N 427	O 427	0	0
4	EQ	427	Total 1708	C 854	N 427	O 427	0	0
4	ES	427	Total 1708	C 854	N 427	O 427	0	0
4	EU	426	Total 1704	C 852	N 426	O 426	0	0
4	EZ	427	Total 1708	C 854	N 427	O 427	0	0
4	Eb	427	Total 1708	C 854	N 427	O 427	0	0
4	Ed	428	Total 1712	C 856	N 428	O 428	0	0
4	Ef	427	Total 1708	C 854	N 427	O 427	0	0
4	Eh	427	Total 1708	C 854	N 427	O 427	0	0
4	Ej	426	Total 1704	C 852	N 426	O 426	0	0
4	Ep	427	Total 1708	C 854	N 427	O 427	0	0
4	E4	427	Total 1708	C 854	N 427	O 427	0	0
4	E6	427	Total 1708	C 854	N 427	O 427	0	0
4	E8	428	Total 1712	C 856	N 428	O 428	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	E0	427	Total 1708	C 854	N 427	O 427	0	0
4	FB	426	Total 1704	C 852	N 426	O 426	0	0
4	FD	427	Total 1708	C 854	N 427	O 427	0	0
4	FH	427	Total 1708	C 854	N 427	O 427	0	0
4	FJ	427	Total 1708	C 854	N 427	O 427	0	0
4	FL	427	Total 1708	C 854	N 427	O 427	0	0
4	FN	427	Total 1708	C 854	N 427	O 427	0	0
4	FP	426	Total 1704	C 852	N 426	O 426	0	0
4	FR	427	Total 1708	C 854	N 427	O 427	0	0
4	FV	427	Total 1708	C 854	N 427	O 427	0	0
4	FX	426	Total 1704	C 852	N 426	O 426	0	0
4	AN	426	Total 1704	C 852	N 426	O 426	0	0
4	FZ	426	Total 1704	C 852	N 426	O 426	0	0
4	Fb	426	Total 1704	C 852	N 426	O 426	0	0
4	Fd	426	Total 1704	C 852	N 426	O 426	0	0
4	Ff	426	Total 1704	C 852	N 426	O 426	0	0
4	AP	426	Total 1704	C 852	N 426	O 426	0	0
4	Bq	426	Total 1704	C 852	N 426	O 426	0	0
4	Da	411	Total 1644	C 822	N 411	O 411	0	0
4	En	427	Total 1708	C 854	N 427	O 427	0	0
4	E2	428	Total 1712	C 856	N 428	O 428	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	FF	427	Total 1708	C 854	N 427	O 427	0	0
4	FT	427	Total 1708	C 854	N 427	O 427	0	0
4	AR	427	Total 1708	C 854	N 427	O 427	0	0
4	AT	427	Total 1708	C 854	N 427	O 427	0	0

- Molecule 5 is a protein called Tektin-2.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	b	191	Total 764	C 382	N 191	O 191	0	0
5	e	416	Total 1664	C 832	N 416	O 416	0	0
5	f	416	Total 1664	C 832	N 416	O 416	0	0
5	g	383	Total 1532	C 766	N 383	O 383	0	0
5	h	48	Total 192	C 96	N 48	O 48	0	0
5	i	51	Total 204	C 102	N 51	O 51	0	0
5	j	358	Total 1432	C 716	N 358	O 358	0	0
5	k	414	Total 1656	C 828	N 414	O 414	0	0
5	l	403	Total 1612	C 806	N 403	O 403	0	0
5	m	191	Total 764	C 382	N 191	O 191	0	0

- Molecule 6 is a protein called EF-hand domain-containing family member B.

Mol	Chain	Residues	Atoms				AltConf	Trace
6	1	141	Total 564	C 282	N 141	O 141	0	0
6	2	190	Total 760	C 380	N 190	O 190	0	0

- Molecule 7 is a protein called Tektin-3.

Mol	Chain	Residues	Atoms	AltConf	Trace
7	AC	31	Total C N O 124 62 31 31	0	0
7	AD	334	Total C N O 1336 668 334 334	0	0
7	AE	394	Total C N O 1576 788 394 394	0	0
7	AF	394	Total C N O 1576 788 394 394	0	0
7	AG	215	Total C N O 860 430 215 215	0	0
7	AH	113	Total C N O 452 226 113 113	0	0
7	AI	385	Total C N O 1540 770 385 385	0	0
7	AJ	413	Total C N O 1652 826 413 413	0	0
7	AK	407	Total C N O 1628 814 407 407	0	0
7	BI	139	Total C N O 556 278 139 139	0	0
7	BJ	421	Total C N O 1684 842 421 421	0	0
7	BK	421	Total C N O 1684 842 421 421	0	0
7	BL	378	Total C N O 1512 756 378 378	0	0
7	BM	99	Total C N O 396 198 99 99	0	0
7	AL	112	Total C N O 448 224 112 112	0	0

- Molecule 8 is a protein called Meiosis-specific nuclear structural protein 1.

Mol	Chain	Residues	Atoms	AltConf	Trace
8	a	354	Total C N O 1416 708 354 354	0	0
8	A	170	Total C N O 680 340 170 170	0	0

- Molecule 9 is a protein called Tektin-4.

Mol	Chain	Residues	Atoms	AltConf	Trace
9	Aa	292	Total C N O 1168 584 292 292	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
9	Ab	425	Total 1700	C 850	N 425	O 425	0	0
9	Ac	425	Total 1700	C 850	N 425	O 425	0	0
9	Ad	316	Total 1264	C 632	N 316	O 316	0	0
9	Af	314	Total 1256	C 628	N 314	O 314	0	0
9	Ag	414	Total 1656	C 828	N 414	O 414	0	0
9	Ah	413	Total 1652	C 826	N 413	O 413	0	0
9	Ai	291	Total 1164	C 582	N 291	O 291	0	0

- Molecule 10 is a protein called Cilia- and flagella-associated protein 53.

Mol	Chain	Residues	Atoms				AltConf	Trace
10	3	306	Total 1224	C 612	N 306	O 306	0	0
10	4	201	Total 804	C 402	N 201	O 201	0	0

- Molecule 11 is a protein called Tektin bundle-interacting protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
11	Az	68	Total 272	C 136	N 68	O 68	0	0
11	A1	127	Total 508	C 254	N 127	O 127	0	0
11	A2	144	Total 576	C 288	N 144	O 144	0	0
11	A3	144	Total 576	C 288	N 144	O 144	0	0

- Molecule 12 is a protein called Cilia- and flagella-associated protein 141.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	AB	87	Total 348	C 174	N 87	O 87	0	0

- Molecule 13 is a protein called Nucleoside diphosphate kinase 7.

Mol	Chain	Residues	Atoms				AltConf	Trace
13	5	358	Total 1432	C 716	N 358	O 358	0	0
13	6	358	Total 1432	C 716	N 358	O 358	0	0

- Molecule 14 is a protein called Protein FAM166B.

Mol	Chain	Residues	Atoms				AltConf	Trace
14	B6	152	Total 608	C 304	N 152	O 152	0	0
14	CL	152	Total 608	C 304	N 152	O 152	0	0
14	Ca	152	Total 608	C 304	N 152	O 152	0	0
14	Cq	152	Total 608	C 304	N 152	O 152	0	0
14	C6	152	Total 608	C 304	N 152	O 152	0	0
14	DK	155	Total 620	C 310	N 155	O 155	0	0

- Molecule 15 is a protein called Sperm-associated antigen 8.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	AZ	147	Total 588	C 294	N 147	O 147	0	0

- Molecule 16 is a protein called RIB43A-like with coiled-coils protein 2.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	Do	373	Total 1492	C 746	N 373	O 373	0	0
16	DZ	33	Total 132	C 66	N 33	O 33	0	0
16	D4	39	Total 156	C 78	N 39	O 39	0	0
16	EI	222	Total 888	C 444	N 222	O 222	0	0
16	EX	170	Total 680	C 340	N 170	O 170	0	0

- Molecule 17 is a protein called Cilia- and flagella-associated protein 107.

Mol	Chain	Residues	Atoms				AltConf	Trace
17	8	188	Total 752	C 376	N 188	O 188	0	0
17	9	32	Total 128	C 64	N 32	O 32	0	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
18	Ay	251	Total 1004	C 502	N 251	O 251	0	0
18	BH	251	Total 1004	C 502	N 251	O 251	0	0

- Molecule 19 is a protein called EF-hand domain-containing protein 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
19	E1	442	Total 1768	C 884	N 442	O 442	0	0
19	Em	442	Total 1768	C 884	N 442	O 442	0	0
19	FE	442	Total 1768	C 884	N 442	O 442	0	0

- Molecule 20 is a protein called Sperm acrosome-associated protein 9.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	F1	150	Total 600	C 300	N 150	O 150	0	0
20	F2	150	Total 600	C 300	N 150	O 150	0	0
20	F3	150	Total 600	C 300	N 150	O 150	0	0
20	F4	150	Total 600	C 300	N 150	O 150	0	0
20	F5	150	Total 600	C 300	N 150	O 150	0	0
20	F6	150	Total 600	C 300	N 150	O 150	0	0
20	F7	149	Total 596	C 298	N 149	O 149	0	0
20	F8	150	Total 600	C 300	N 150	O 150	0	0

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Mol	Chain	Residues	Atoms				AltConf	Trace
20	F9	150	Total 600	C 300	N 150	O 150	0	0
20	F0	150	Total 600	C 300	N 150	O 150	0	0
20	GA	148	Total 592	C 296	N 148	O 148	0	0
20	GB	150	Total 600	C 300	N 150	O 150	0	0
20	GC	150	Total 600	C 300	N 150	O 150	0	0
20	GD	148	Total 592	C 296	N 148	O 148	0	0
20	GE	150	Total 600	C 300	N 150	O 150	0	0
20	GF	146	Total 584	C 292	N 146	O 146	0	0
20	GG	145	Total 580	C 290	N 145	O 145	0	0
20	GH	150	Total 600	C 300	N 150	O 150	0	0
20	GI	150	Total 600	C 300	N 150	O 150	0	0
20	GJ	149	Total 596	C 298	N 149	O 149	0	0
20	GK	149	Total 596	C 298	N 149	O 149	0	0
20	GL	150	Total 600	C 300	N 150	O 150	0	0
20	GM	150	Total 600	C 300	N 150	O 150	0	0
20	GN	150	Total 600	C 300	N 150	O 150	0	0
20	GO	149	Total 596	C 298	N 149	O 149	0	0
20	GP	149	Total 596	C 298	N 149	O 149	0	0
20	GQ	152	Total 608	C 304	N 152	O 152	0	0

- Molecule 21 is a protein called EF-hand domain-containing family member C2.

Mol	Chain	Residues	Atoms				AltConf	Trace
21	Fg	636	Total 2544	C 1272	N 636	O 636	0	0
21	FS	553	Total 2212	C 1106	N 553	O 553	0	0
21	Fo	636	Total 2544	C 1272	N 636	O 636	0	0
21	Fv	449	Total 1796	C 898	N 449	O 449	0	0

- Molecule 22 is a protein called Cilia- and flagella-associated protein 20.

Mol	Chain	Residues	Atoms				AltConf	Trace
22	Fh	184	Total 736	C 368	N 184	O 184	0	0
22	Fi	184	Total 736	C 368	N 184	O 184	0	0
22	Fj	184	Total 736	C 368	N 184	O 184	0	0
22	Fk	184	Total 736	C 368	N 184	O 184	0	0
22	Fl	184	Total 736	C 368	N 184	O 184	0	0
22	Fm	184	Total 736	C 368	N 184	O 184	0	0
22	Fn	184	Total 736	C 368	N 184	O 184	0	0

- Molecule 23 is a protein called Parkin coregulated gene protein homolog.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	Fp	219	Total 876	C 438	N 219	O 219	0	0
23	Fq	219	Total 876	C 438	N 219	O 219	0	0
23	Fr	219	Total 876	C 438	N 219	O 219	0	0
23	Fs	219	Total 876	C 438	N 219	O 219	0	0
23	Ft	219	Total 876	C 438	N 219	O 219	0	0

- Molecule 24 is a protein called Dual specificity protein phosphatase 3.

Mol	Chain	Residues	Atoms				AltConf	Trace
24	Fx	185	Total 740	C 370	N 185	O 185	0	0
24	Fy	185	Total 740	C 370	N 185	O 185	0	0
24	Fz	185	Total 740	C 370	N 185	O 185	0	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
25	G	71	Total 284	C 142	N 71	O 71	0	0

- Molecule 26 is a protein called Tektin-5.

Mol	Chain	Residues	Atoms				AltConf	Trace
26	GR	274	Total 1096	C 548	N 274	O 274	0	0
26	GS	274	Total 1096	C 548	N 274	O 274	0	0
26	GT	274	Total 1096	C 548	N 274	O 274	0	0
26	GU	171	Total 684	C 342	N 171	O 171	0	0
26	GV	244	Total 976	C 488	N 244	O 244	0	0
26	GW	349	Total 1396	C 698	N 349	O 349	0	0
26	GX	346	Total 1384	C 692	N 346	O 346	0	0
26	GY	288	Total 1152	C 576	N 288	O 288	0	0
26	GZ	23	Total 92	C 46	N 23	O 23	0	0
26	Ga	114	Total 456	C 228	N 114	O 114	0	0
26	Gb	342	Total 1368	C 684	N 342	O 342	0	0
26	Gc	333	Total 1332	C 666	N 333	O 333	0	0
26	Gd	327	Total 1308	C 654	N 327	O 327	0	0
26	Ge	58	Total 232	C 116	N 58	O 58	0	0

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Mol	Chain	Residues	Atoms	AltConf	Trace
26	z0	270	Total C N O 1080 540 270 270	0	0
26	z1	268	Total C N O 1072 536 268 268	0	0
26	z3	254	Total C N O 1016 508 254 254	0	0
26	z4	184	Total C N O 736 368 184 184	0	0
26	Gf	29	Total C N O 116 58 29 29	0	0
26	Gg	292	Total C N O 1168 584 292 292	0	0
26	Gh	320	Total C N O 1280 640 320 320	0	0
26	Gi	321	Total C N O 1284 642 321 321	0	0
26	Gj	190	Total C N O 760 380 190 190	0	0

- Molecule 27 is a protein called Cilia- and flagella-associated protein 45.

Mol	Chain	Residues	Atoms	AltConf	Trace
27	B	57	Total C N O 228 114 57 57	0	0
27	AA	327	Total C N O 1308 654 327 327	0	0
27	c	48	Total C N O 192 96 48 48	0	0
27	Ax	215	Total C N O 860 430 215 215	0	0
27	d	238	Total C N O 952 476 238 238	0	0

- Molecule 28 is a protein called Cilia- and flagella-associated protein 52.

Mol	Chain	Residues	Atoms	AltConf	Trace
28	BG	605	Total C N O 2420 1210 605 605	0	0
28	Ba	605	Total C N O 2420 1210 605 605	0	0
28	Bo	605	Total C N O 2420 1210 605 605	0	0

- Molecule 29 is a protein called Enkurin.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	B5	142	Total 568	C 284	N 142	O 142	0	0
29	CK	229	Total 916	C 458	N 229	O 229	0	0
29	CZ	229	Total 916	C 458	N 229	O 229	0	0
29	Cp	229	Total 916	C 458	N 229	O 229	0	0

- Molecule 30 is a protein called Protein Flattop.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	C5	114	Total 456	C 228	N 114	O 114	0	0
30	DJ	113	Total 452	C 226	N 113	O 113	0	0
30	DY	118	Total 472	C 236	N 118	O 118	0	0

- Molecule 31 is a protein called Cilia- and flagella- associated protein 210.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	Dn	378	Total 1512	C 756	N 378	O 378	0	0
31	D3	100	Total 400	C 200	N 100	O 100	0	0

- Molecule 32 is a protein called Cilia- and flagella-associated protein 276.

Mol	Chain	Residues	Atoms				AltConf	Trace
32	EH	77	Total 308	C 154	N 77	O 77	0	0
32	EW	77	Total 308	C 154	N 77	O 77	0	0
32	El	79	Total 316	C 158	N 79	O 79	0	0

- Molecule 33 is a protein called EF-hand calcium-binding domain-containing protein 6.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	Ez	178	Total 712	C 356	N 178	O 178	0	0

- Molecule 34 is a protein called Coiled-coil domain-containing protein 105.

Mol	Chain	Residues	Atoms				AltConf	Trace
34	C	173	Total 692	C 346	N 173	O 173	0	0
34	D	302	Total 1208	C 604	N 302	O 302	0	0
34	E	302	Total 1208	C 604	N 302	O 302	0	0
34	F	282	Total 1128	C 564	N 282	O 282	0	0
34	H	9	Total 36	C 18	N 9	O 9	0	0

- Molecule 35 is a protein called Piercer of microtubule wall 1 protein.

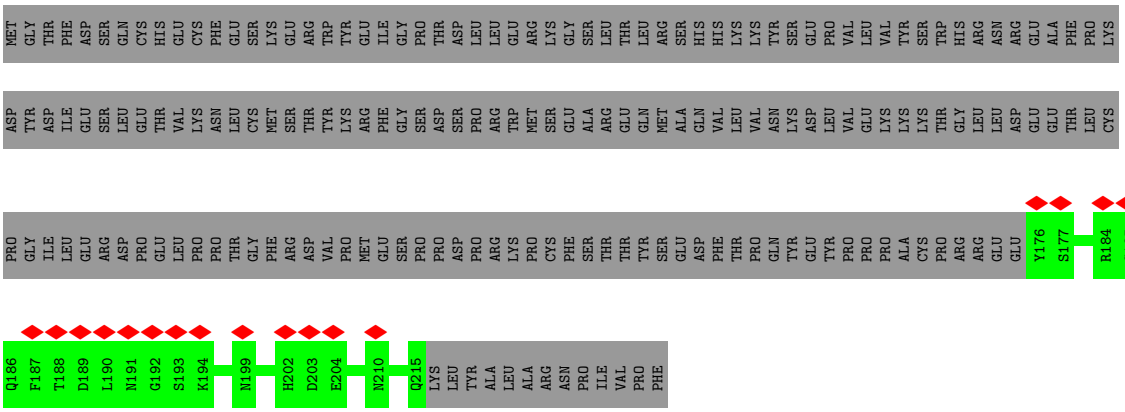
Mol	Chain	Residues	Atoms				AltConf	Trace
35	Fw	76	Total 304	C 152	N 76	O 76	0	0

3 Residue-property plots (i)

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

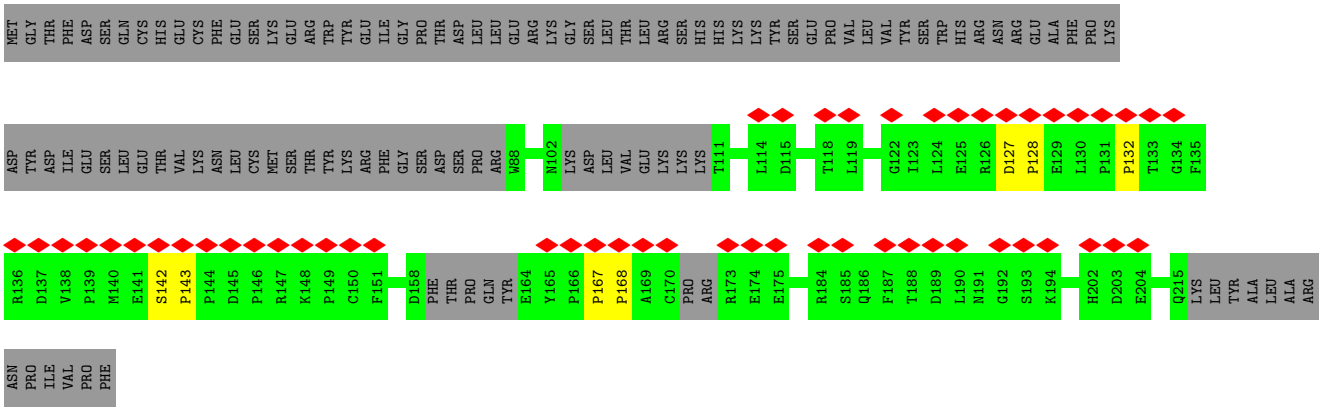
• Molecule 1: Cilia- and flagella-associated protein 95

Chain 0:



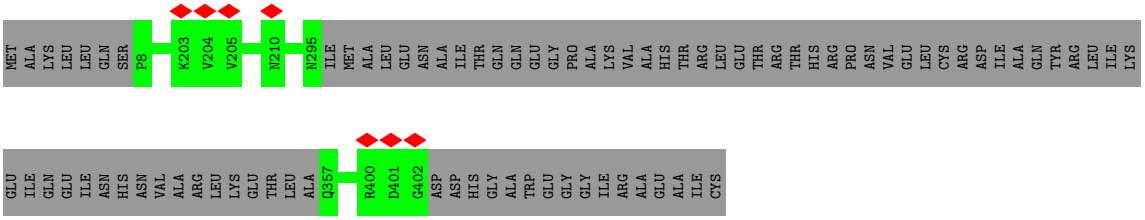
• Molecule 1: Cilia- and flagella-associated protein 95

Chain 7:



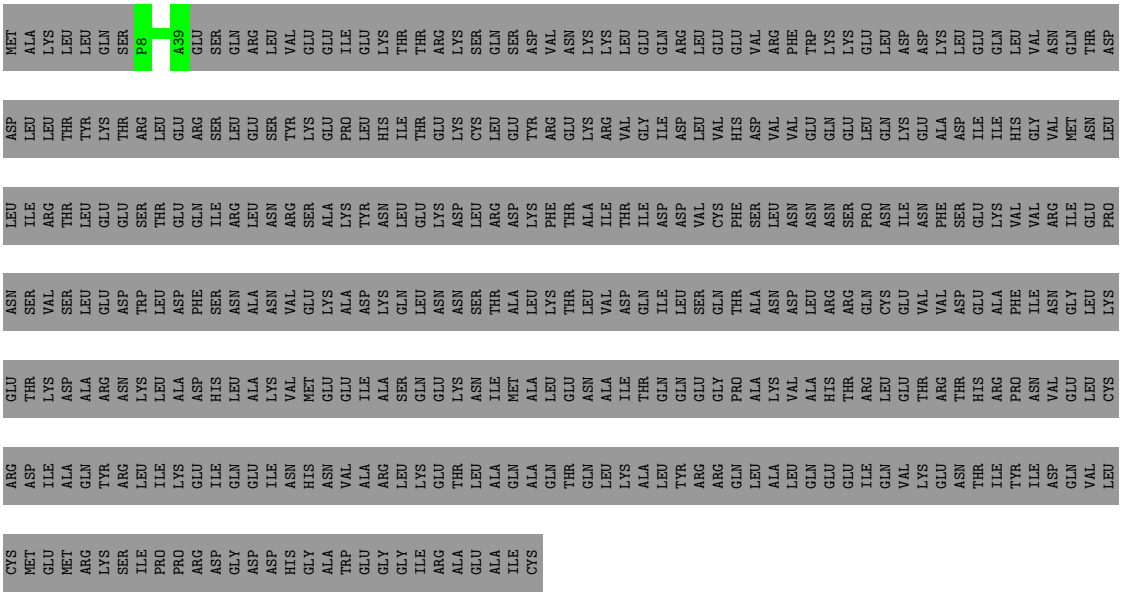
• Molecule 2: Tektin-1

Chain L:



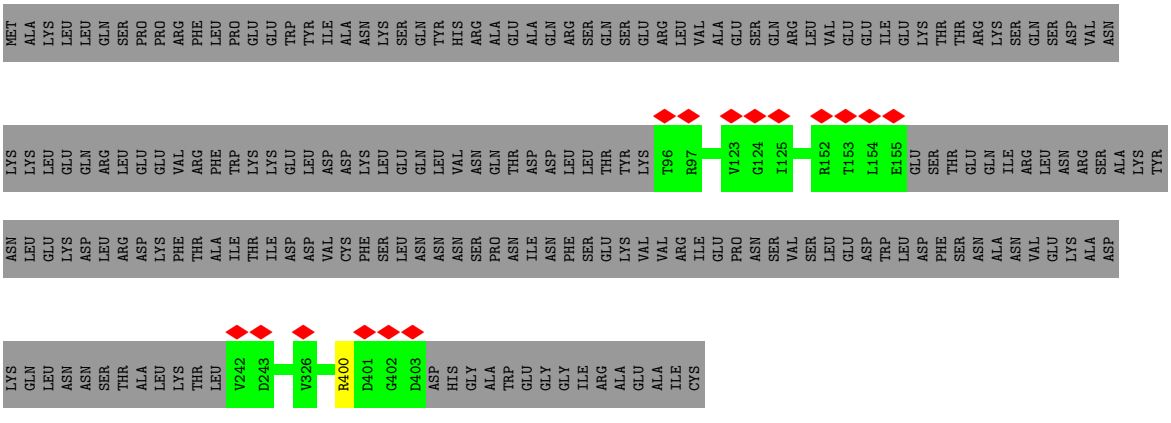
• Molecule 2: Tektin-1

Chain M:



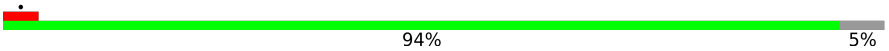
• Molecule 2: Tektin-1

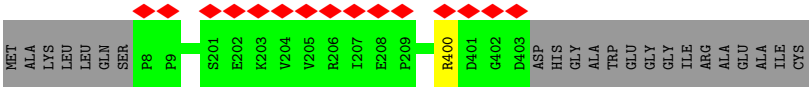
Chain I:



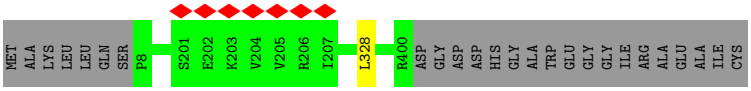
• Molecule 2: Tektin-1

Chain J:

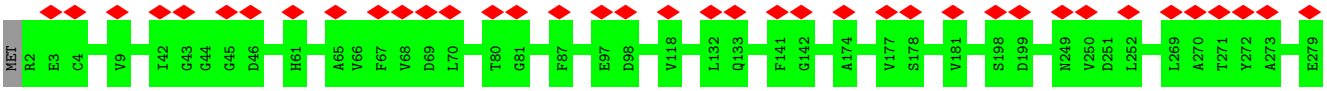


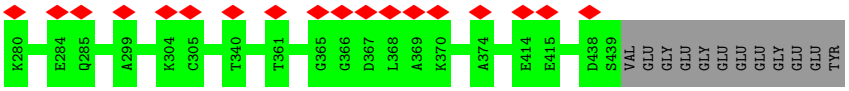


• Molecule 2: Tektin-1

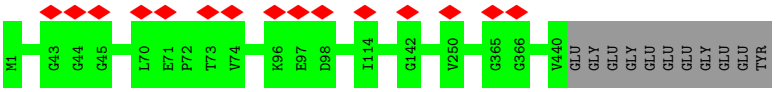


• Molecule 3: Detyrosinated tubulin alpha-1A chain

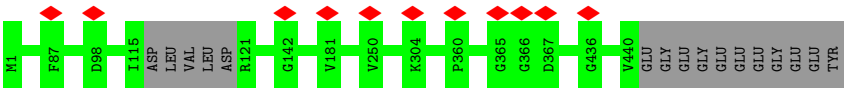




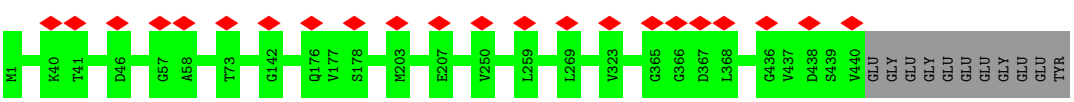
• Molecule 3: Detyrosinated tubulin alpha-1A chain



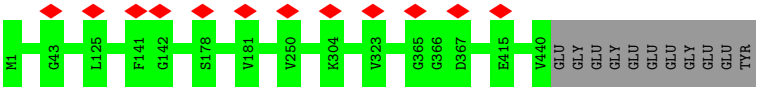
• Molecule 3: Detyrosinated tubulin alpha-1A chain



• Molecule 3: Detyrosinated tubulin alpha-1A chain

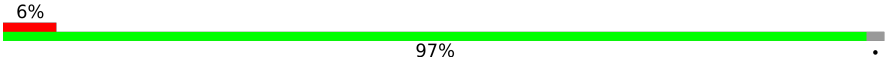


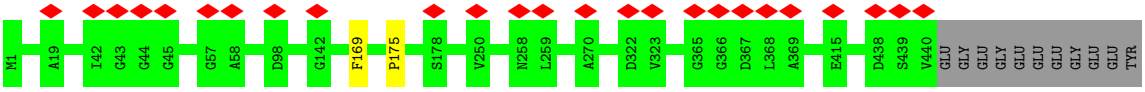
• Molecule 3: Detyrosinated tubulin alpha-1A chain



• Molecule 3: Detyrosinated tubulin alpha-1A chain

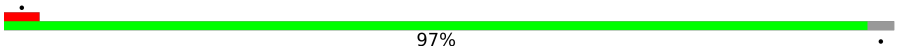
Chain X:

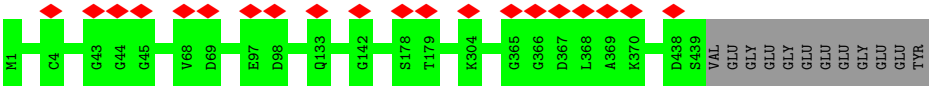




• Molecule 3: Detyrosinated tubulin alpha-1A chain

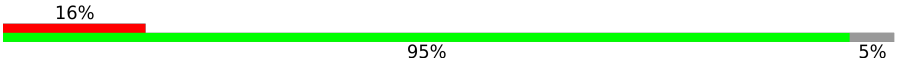
Chain Z:

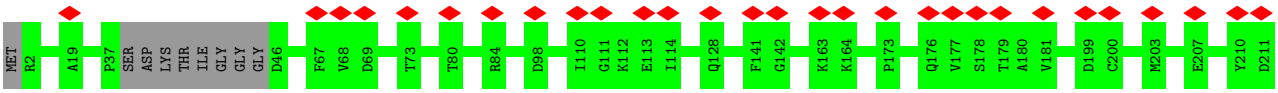


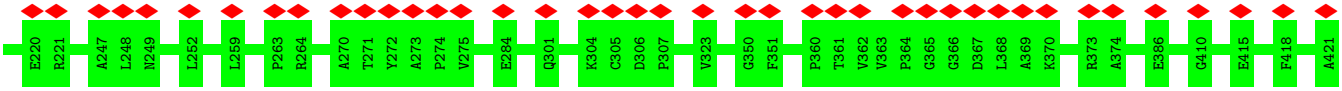


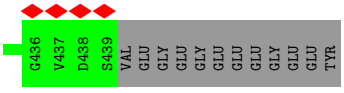
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain n:



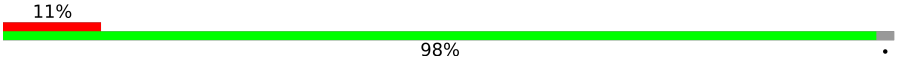


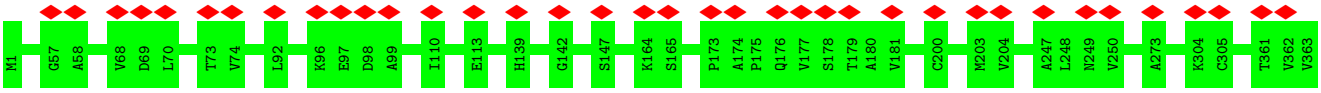


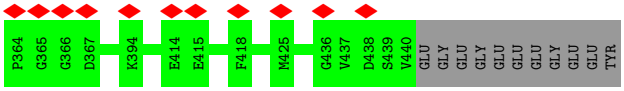


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain p:

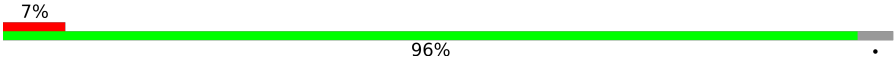


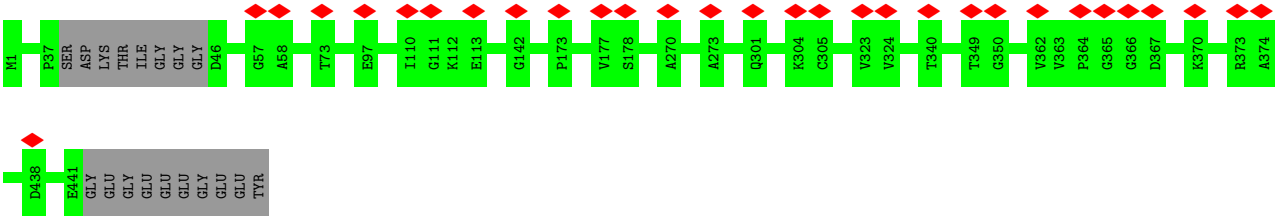




• Molecule 3: Detyrosinated tubulin alpha-1A chain

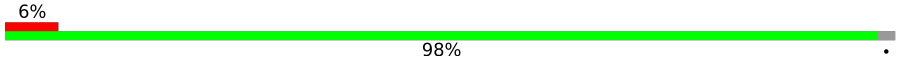
Chain r:





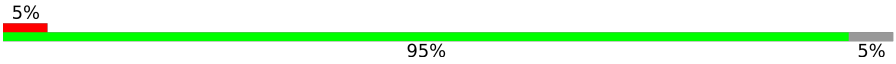
• Molecule 3: Detyrosinated tubulin alpha-1A chain

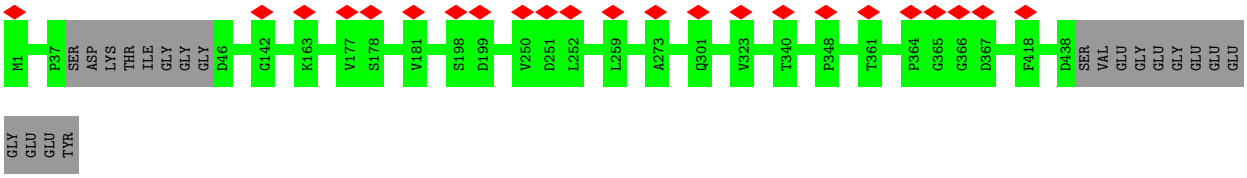
Chain t:



• Molecule 3: Detyrosinated tubulin alpha-1A chain

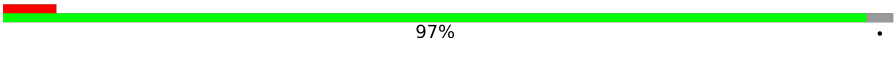
Chain v:

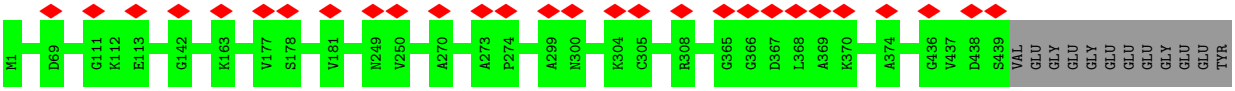




• Molecule 3: Detyrosinated tubulin alpha-1A chain

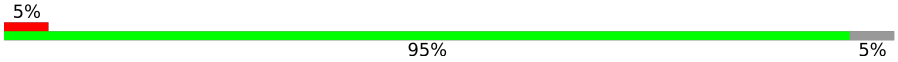
Chain x:

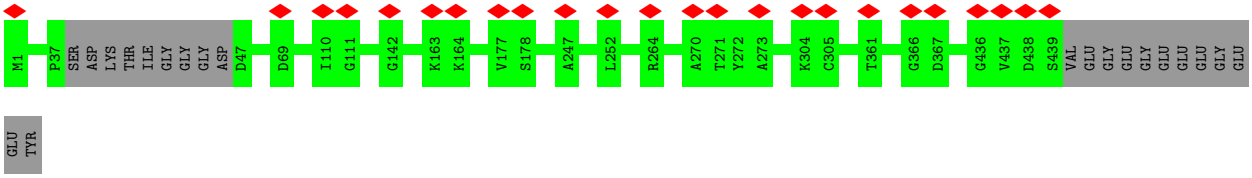




• Molecule 3: Detyrosinated tubulin alpha-1A chain

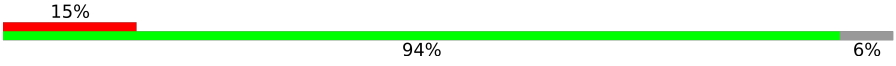
Chain z:

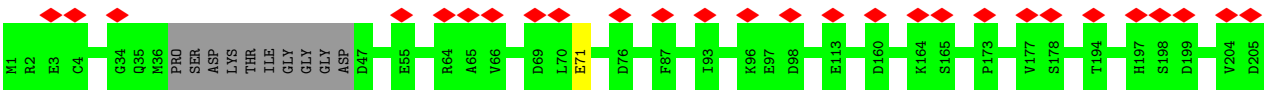


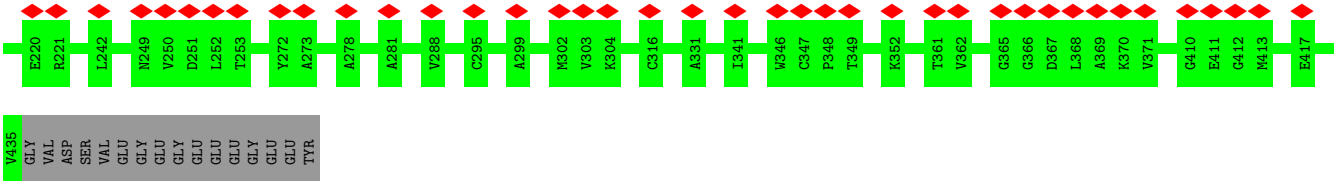


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain BQ:

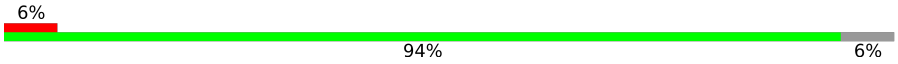


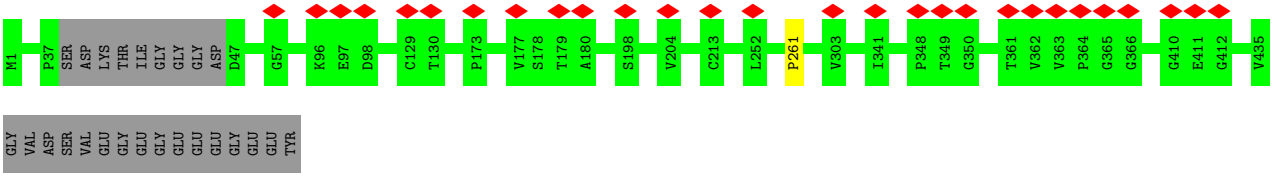




• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain BS:





• Molecule 3: Detyrosinated tubulin alpha-1A chain

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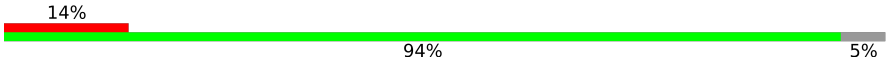
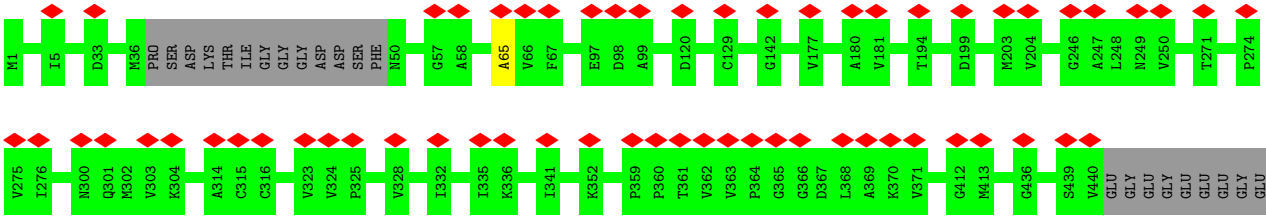
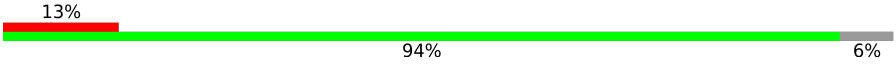
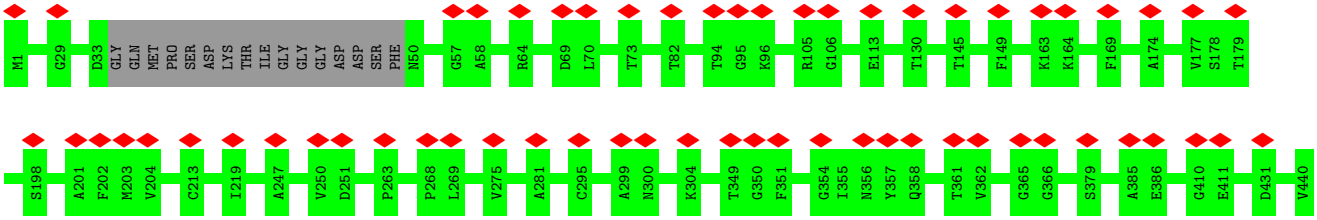




• Molecule 3: Detyrosinated tubulin alpha-1A chain

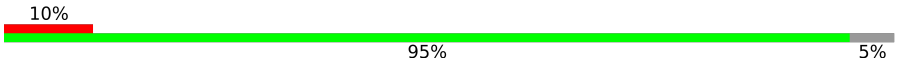
Chain BW:

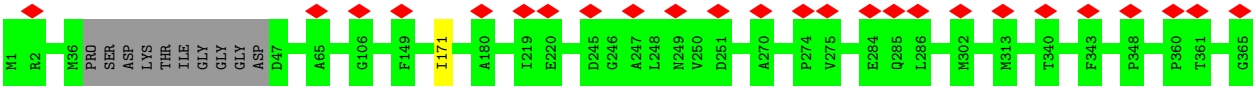


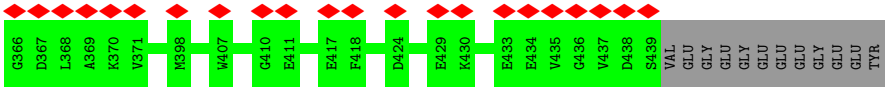


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain BY:

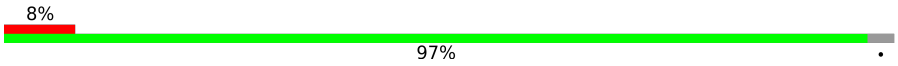


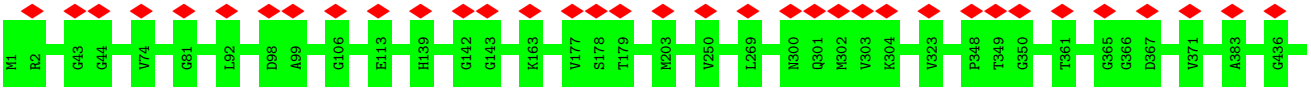


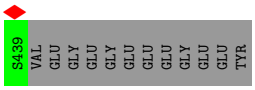


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain AW:

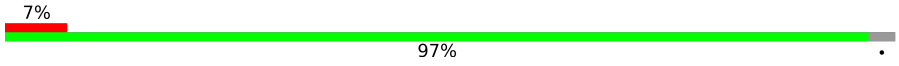


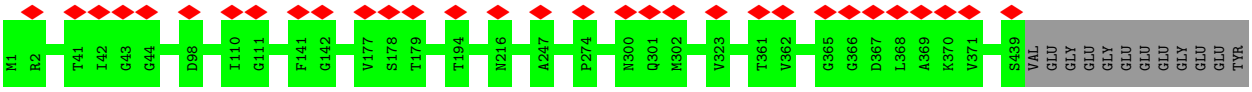




• Molecule 3: Detyrosinated tubulin alpha-1A chain

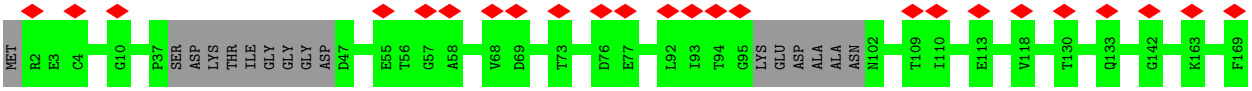
Chain AY:

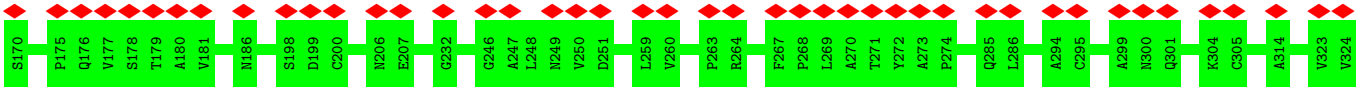


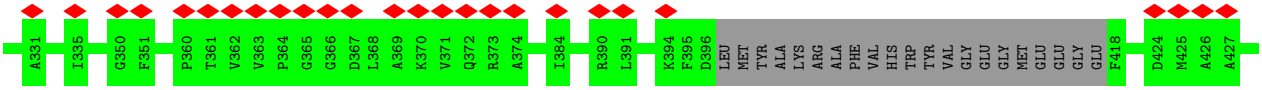


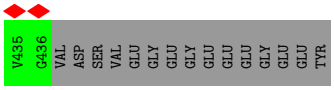
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Aj:



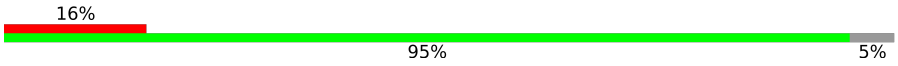


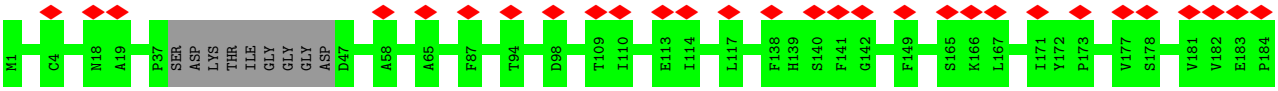


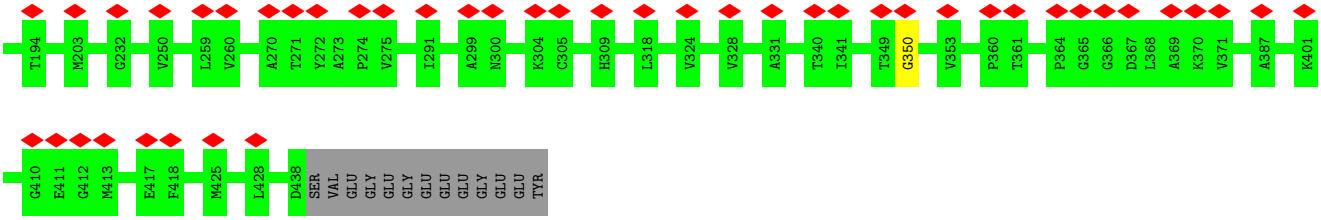


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Al:

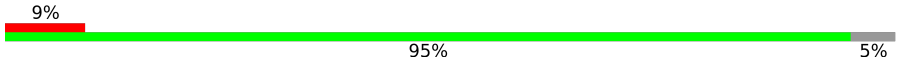


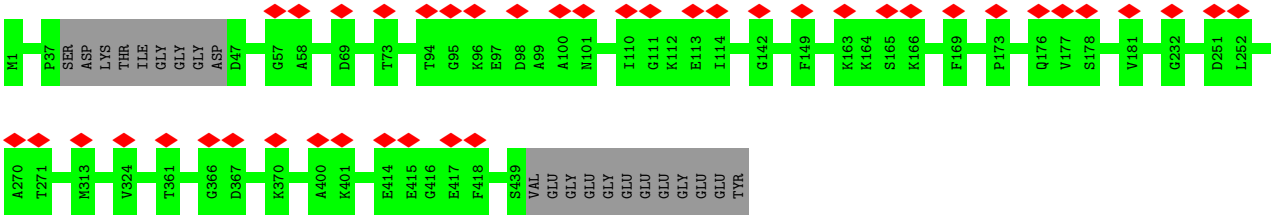




• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain An:





• Molecule 3: Detyrosinated tubulin alpha-1A chain

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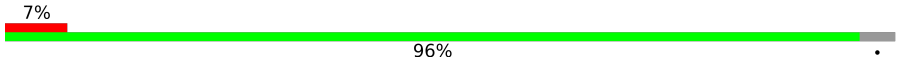
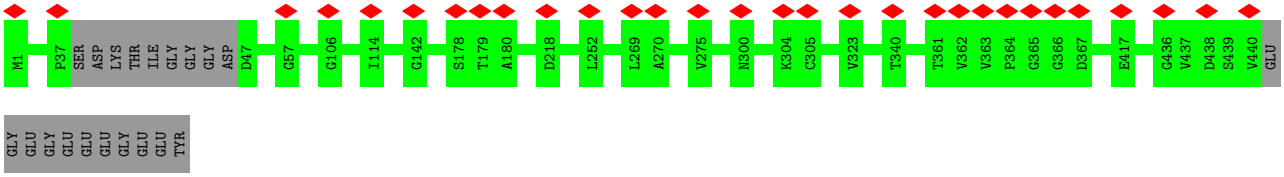
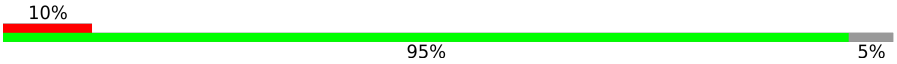
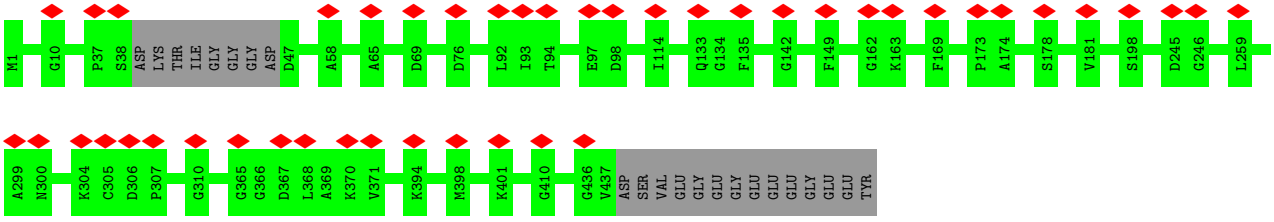




• Molecule 3: Detyrosinated tubulin alpha-1A chain

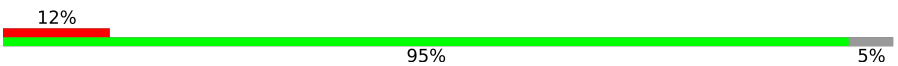
Chain Ar:

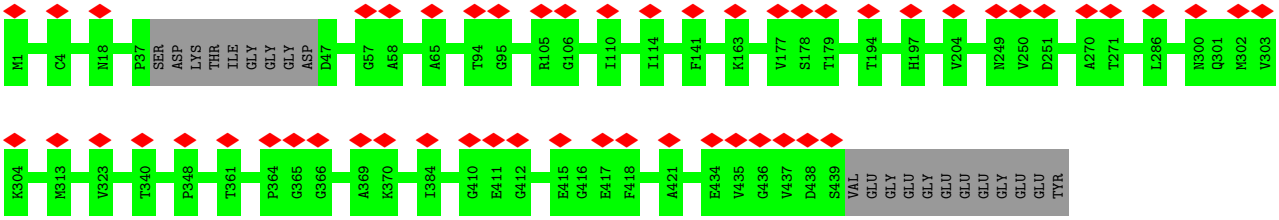




• Molecule 3: Detyrosinated tubulin alpha-1A chain

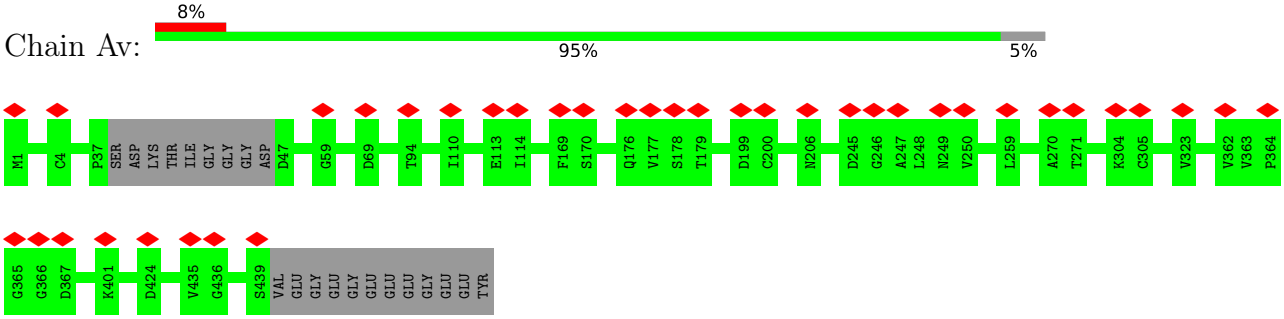
Chain At:





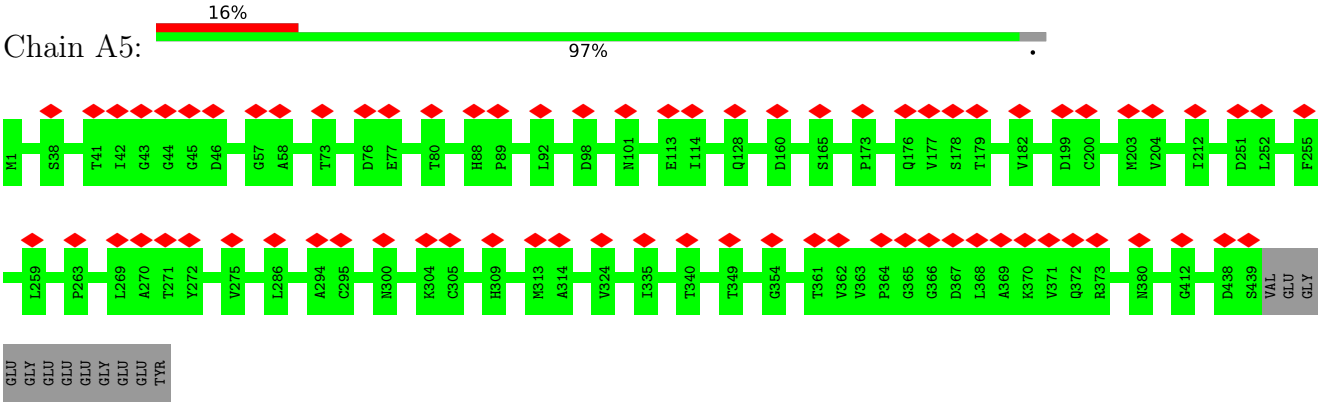
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Av:



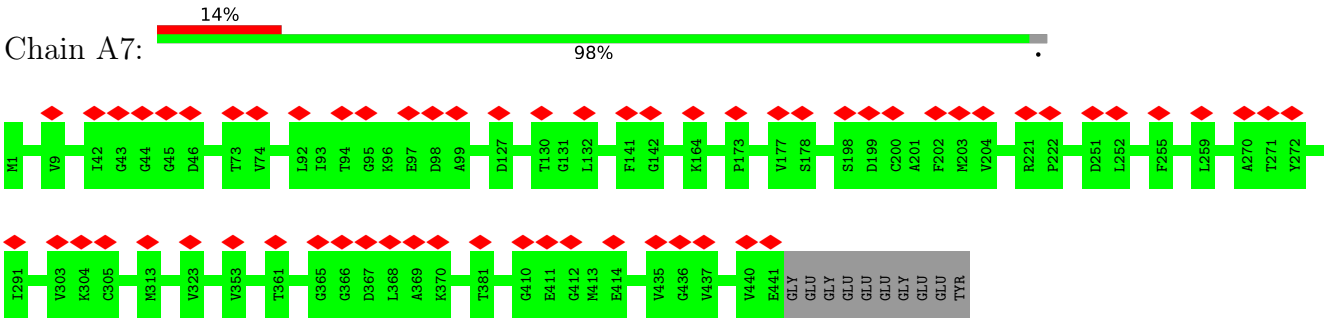
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain A5:



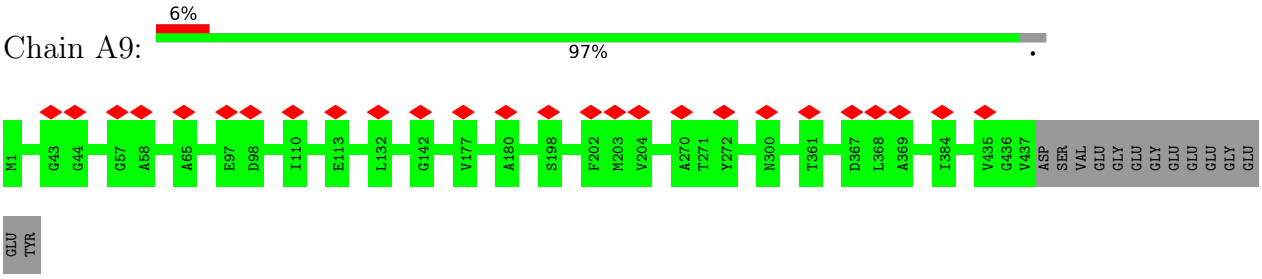
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain A7:



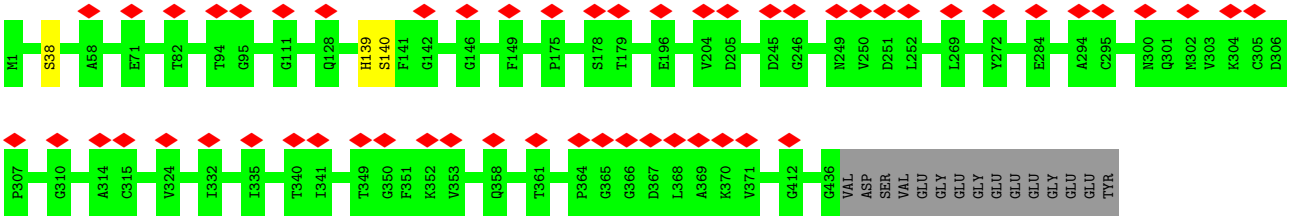
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain A9:

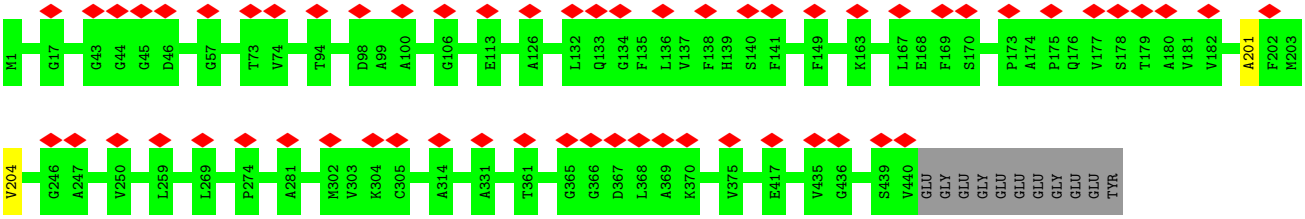


• Molecule 3: Detyrosinated tubulin alpha-1A chain

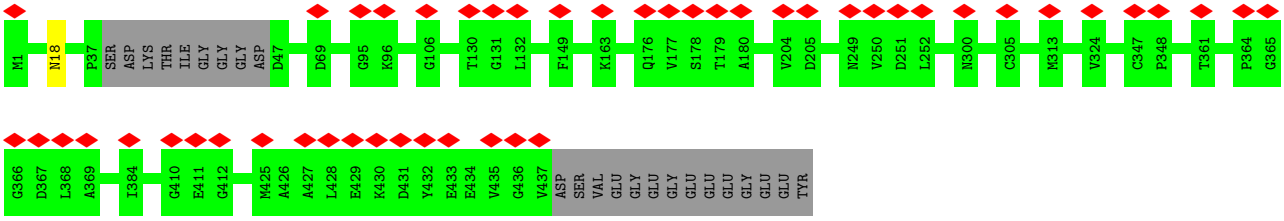
Chain BA:



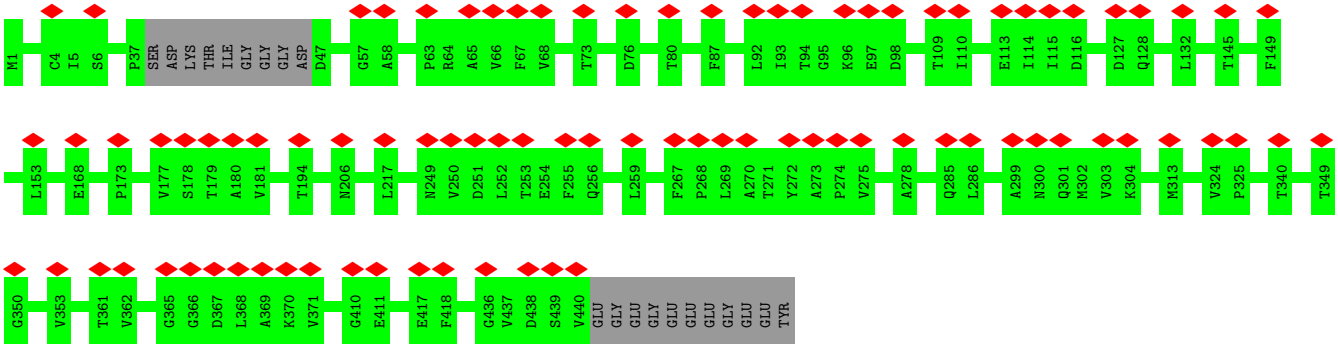
• Molecule 3: Detyrosinated tubulin alpha-1A chain



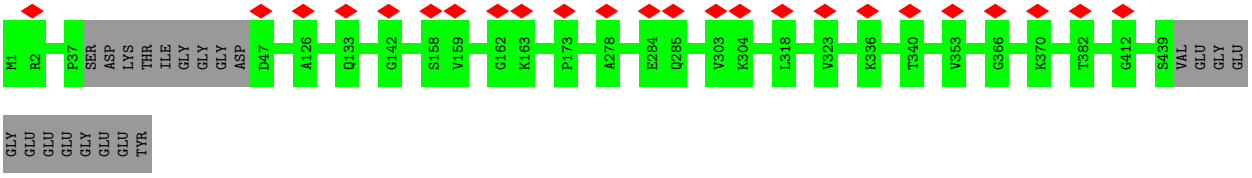
• Molecule 3: Detyrosinated tubulin alpha-1A chain



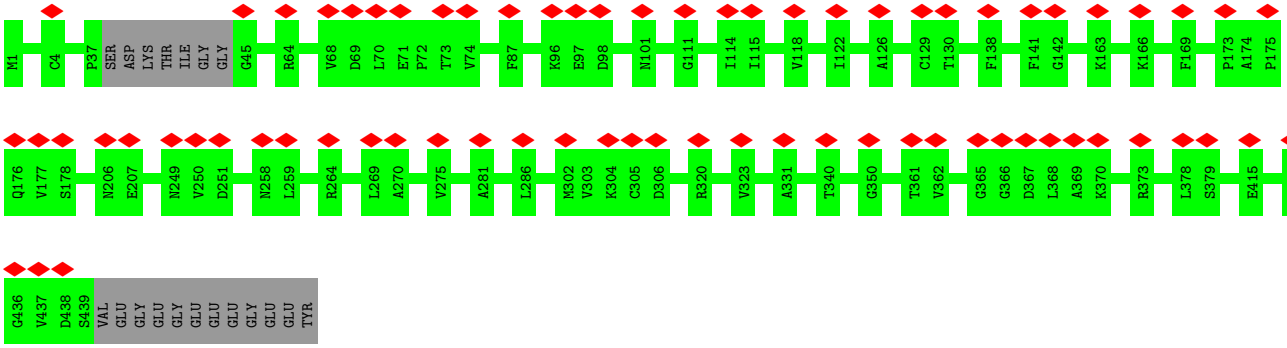
• Molecule 3: Detyrosinated tubulin alpha-1A chain



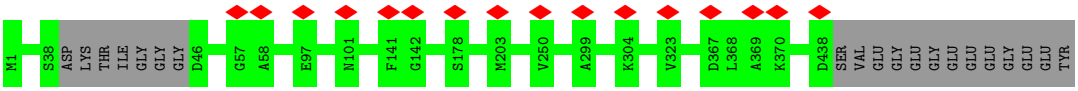
• Molecule 3: Detyrosinated tubulin alpha-1A chain



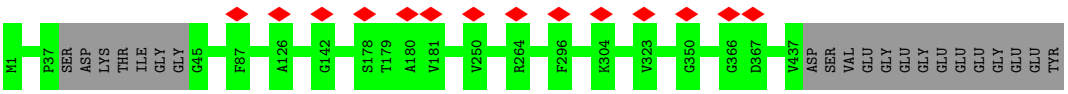
• Molecule 3: Detyrosinated tubulin alpha-1A chain



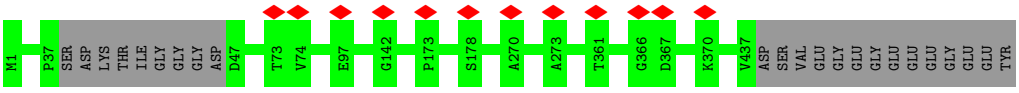
• Molecule 3: Detyrosinated tubulin alpha-1A chain



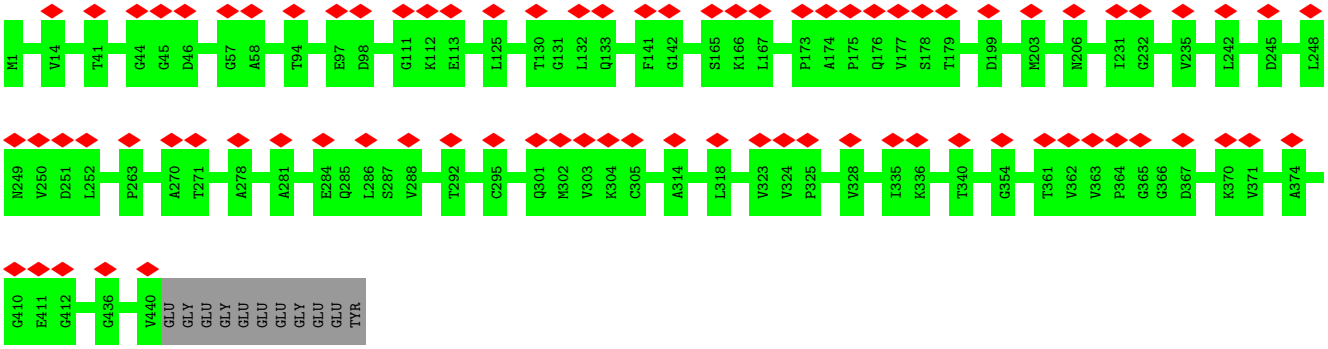
• Molecule 3: Detyrosinated tubulin alpha-1A chain



• Molecule 3: Detyrosinated tubulin alpha-1A chain

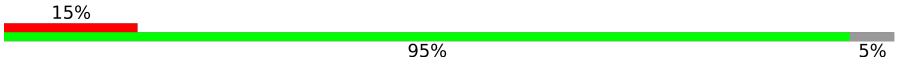


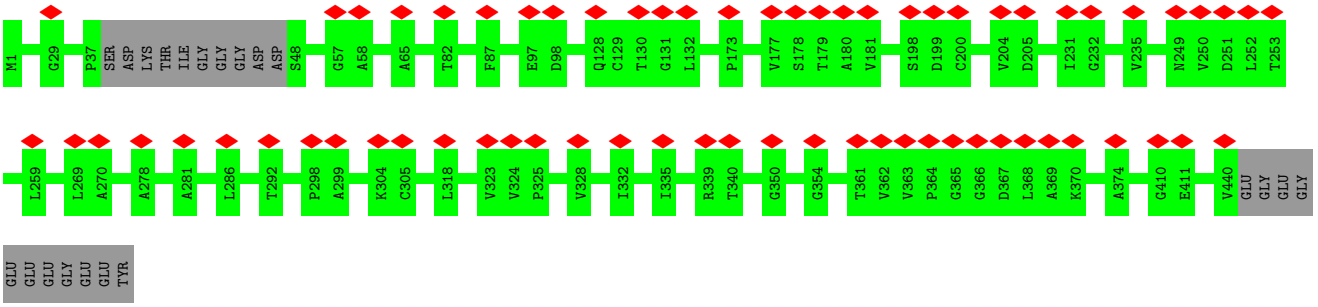
• Molecule 3: Detyrosinated tubulin alpha-1A chain



• Molecule 3: Detyrosinated tubulin alpha-1A chain

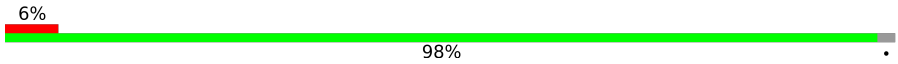
Chain Be:

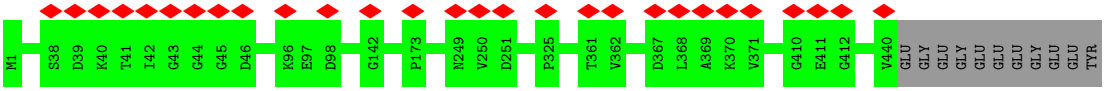




• Molecule 3: Detyrosinated tubulin alpha-1A chain

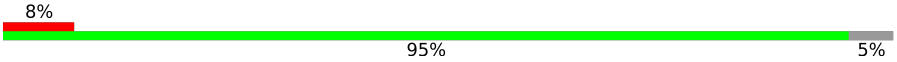
Chain Bg:

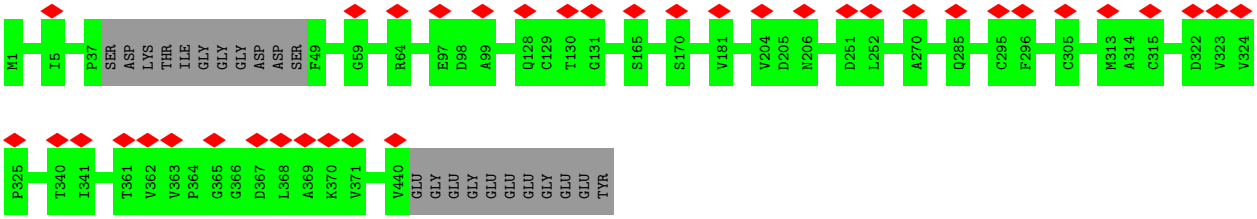




• Molecule 3: Detyrosinated tubulin alpha-1A chain

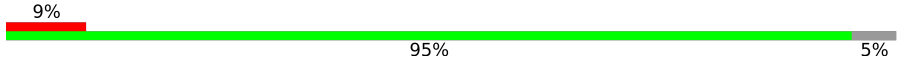
Chain Bi:

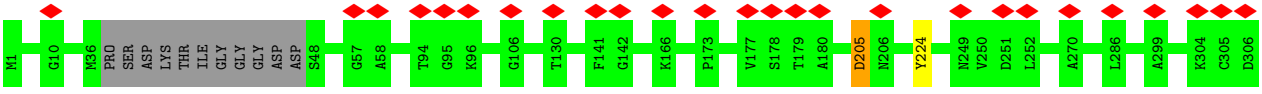


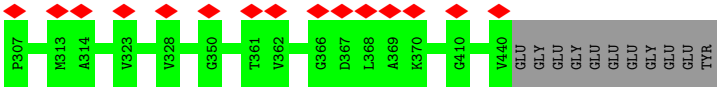


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Bk:

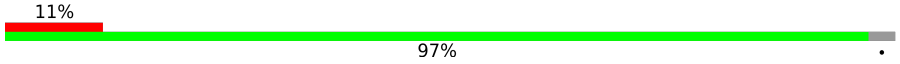


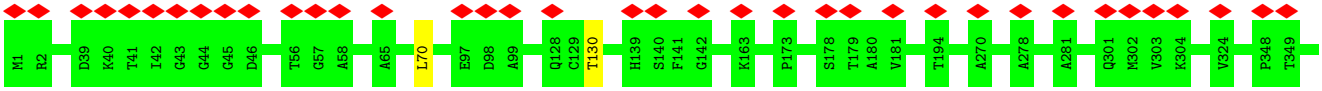


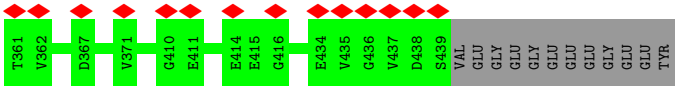


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Bm:

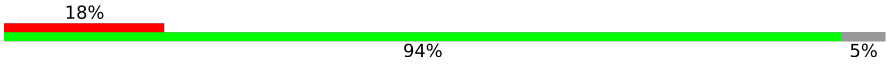


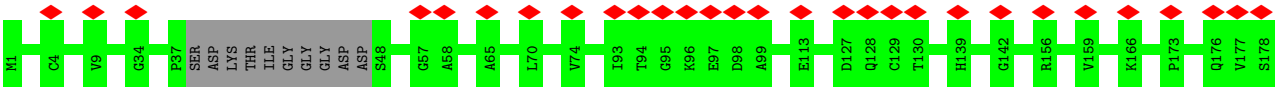


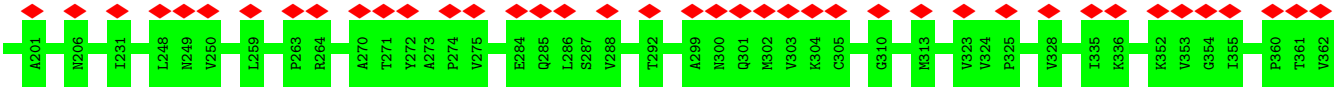


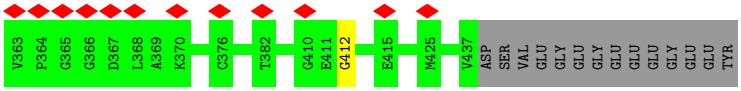
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Br:



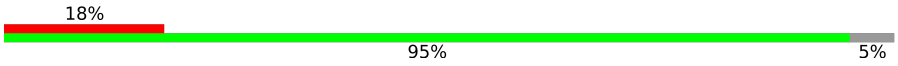


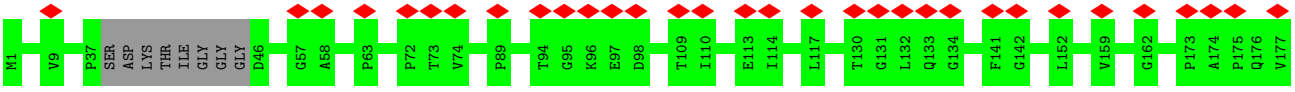


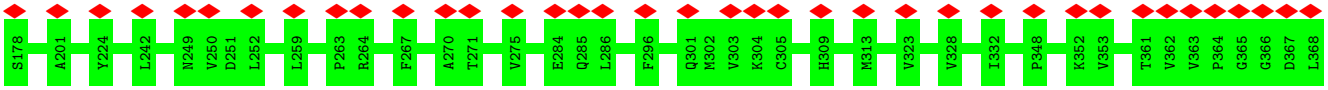


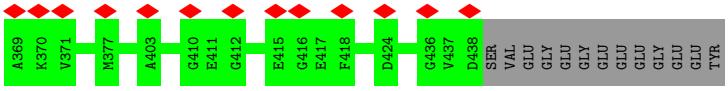
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Bt:



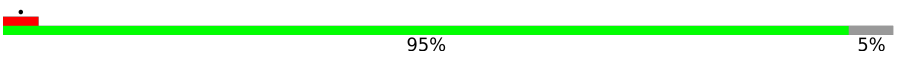


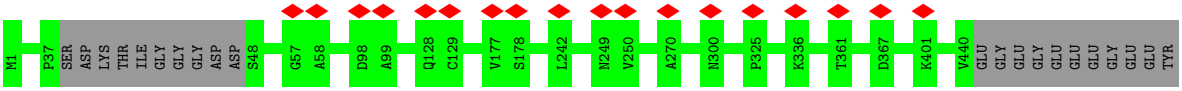




• Molecule 3: Detyrosinated tubulin alpha-1A chain

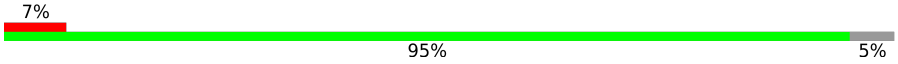
Chain Bv:

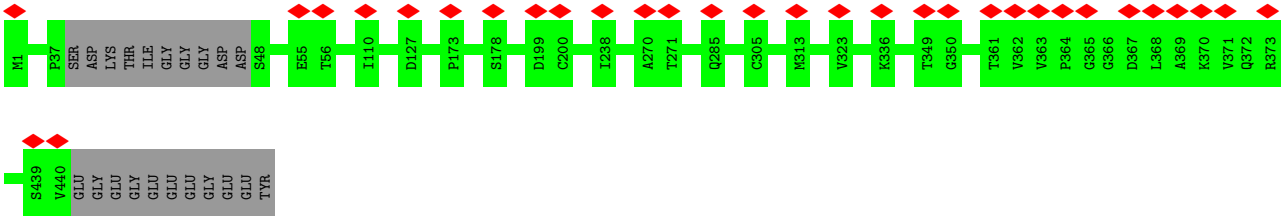




• Molecule 3: Detyrosinated tubulin alpha-1A chain

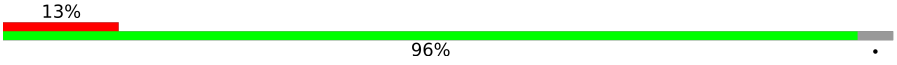
Chain Bx:

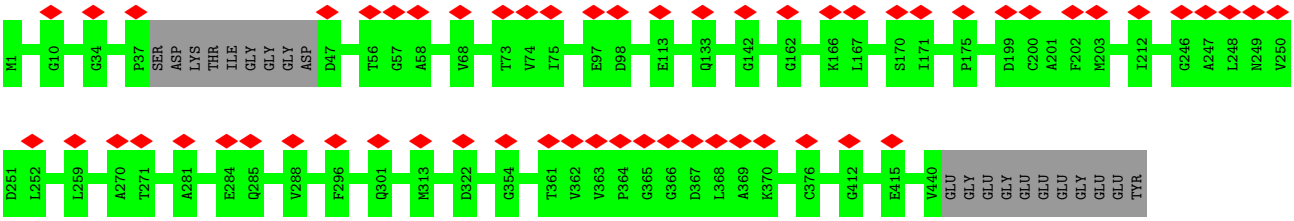




• Molecule 3: Detyrosinated tubulin alpha-1A chain

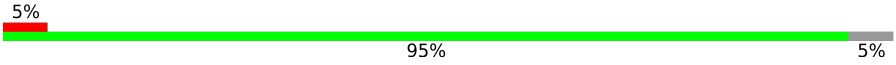
Chain Bz:

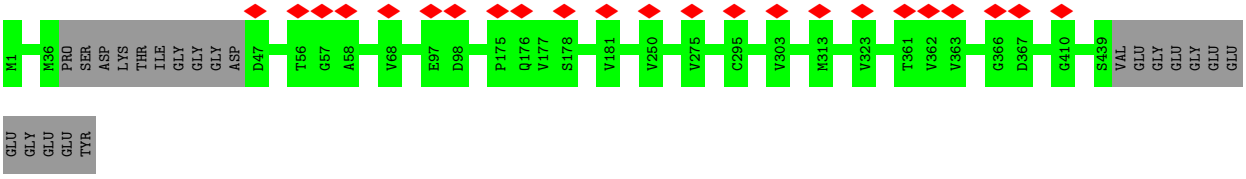




• Molecule 3: Detyrosinated tubulin alpha-1A chain

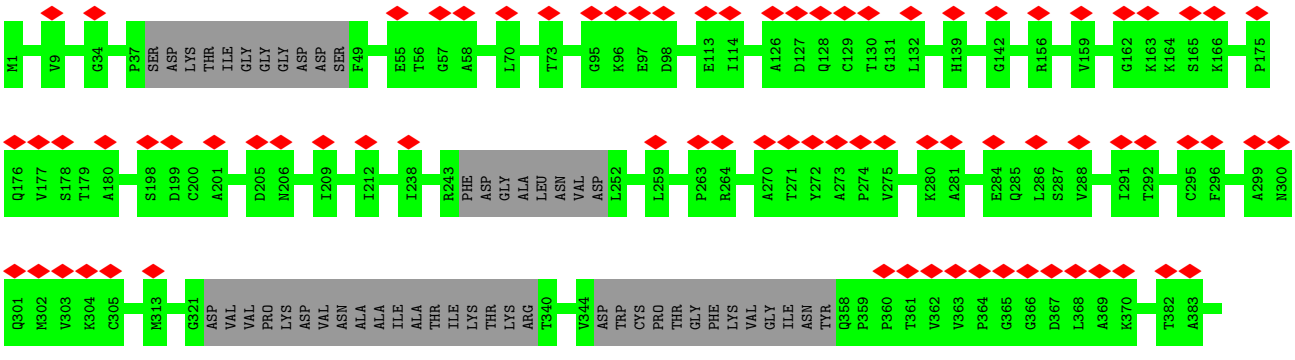
Chain B2:

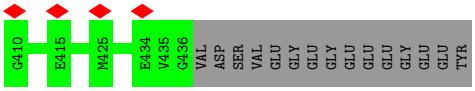




• Molecule 3: Detyrosinated tubulin alpha-1A chain

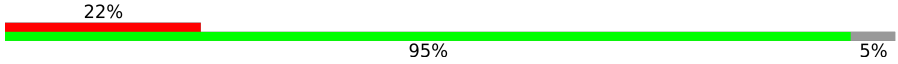
Chain B4:

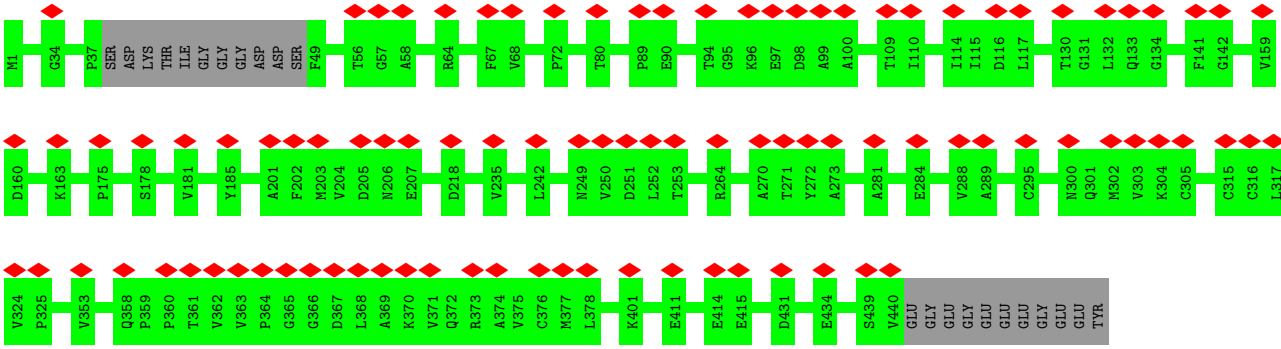




• Molecule 3: Detyrosinated tubulin alpha-1A chain

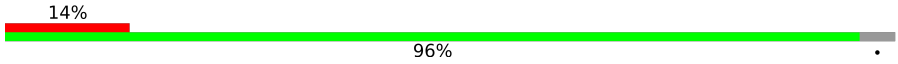
Chain B8:

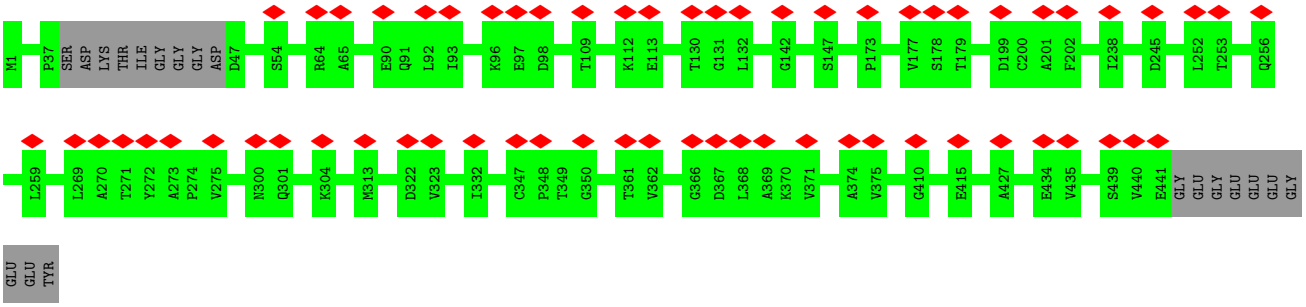




• Molecule 3: Detyrosinated tubulin alpha-1A chain

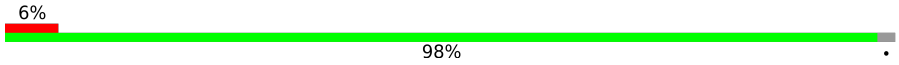
Chain B0:

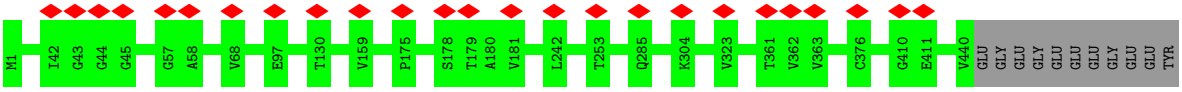




• Molecule 3: Detyrosinated tubulin alpha-1A chain

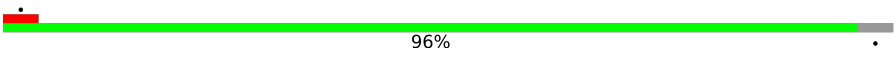
Chain CB:

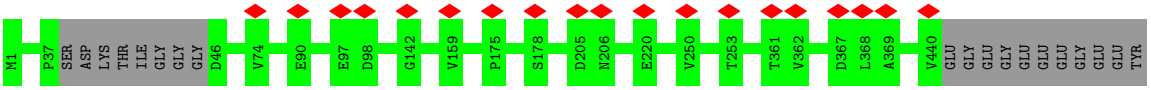




• Molecule 3: Detyrosinated tubulin alpha-1A chain

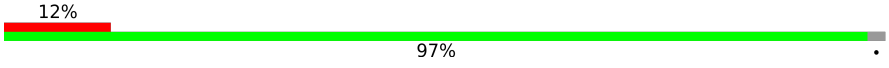
Chain CD:

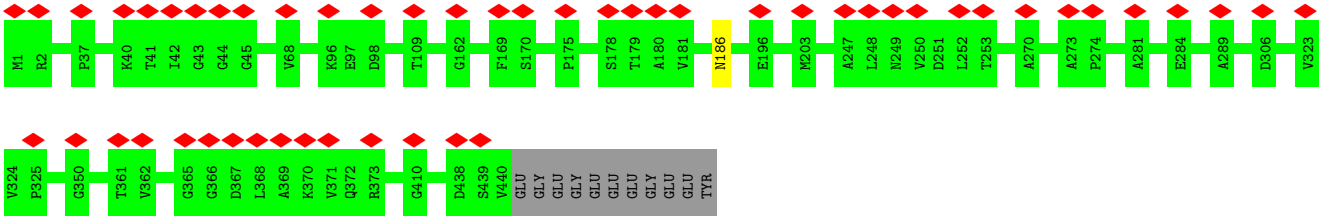




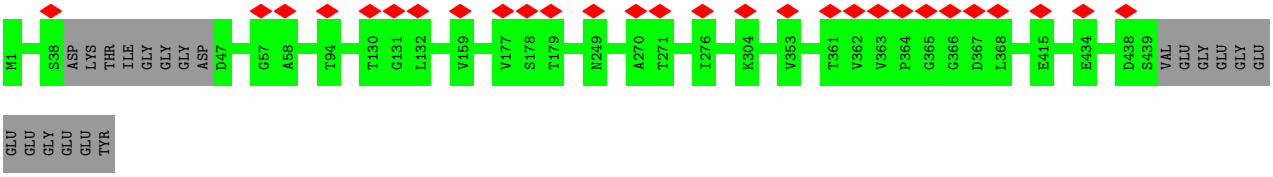
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain CF:

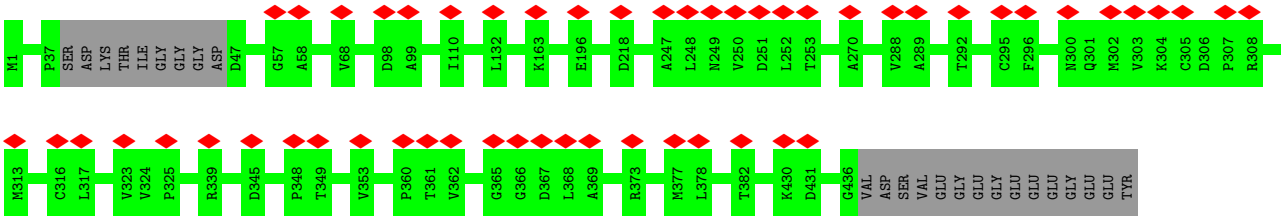




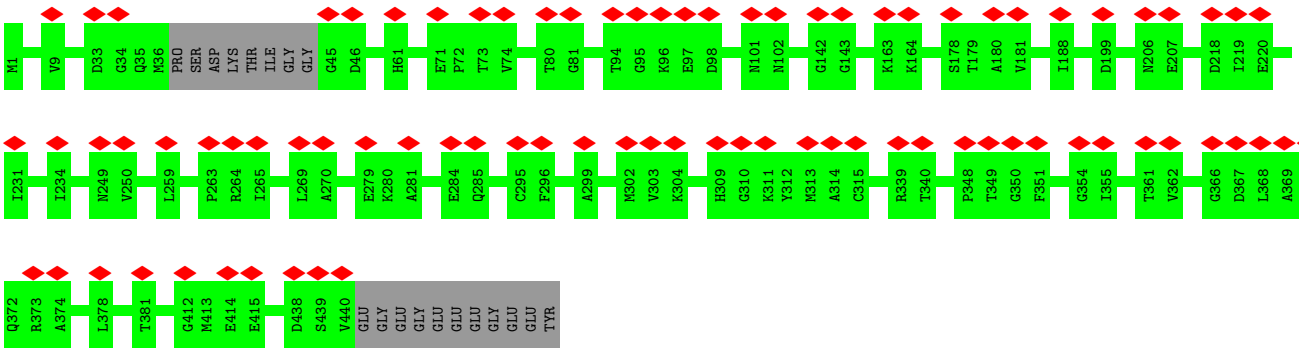
• Molecule 3: Detyrosinated tubulin alpha-1A chain



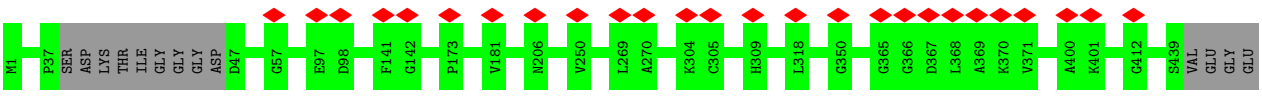
• Molecule 3: Detyrosinated tubulin alpha-1A chain

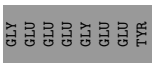


• Molecule 3: Detyrosinated tubulin alpha-1A chain



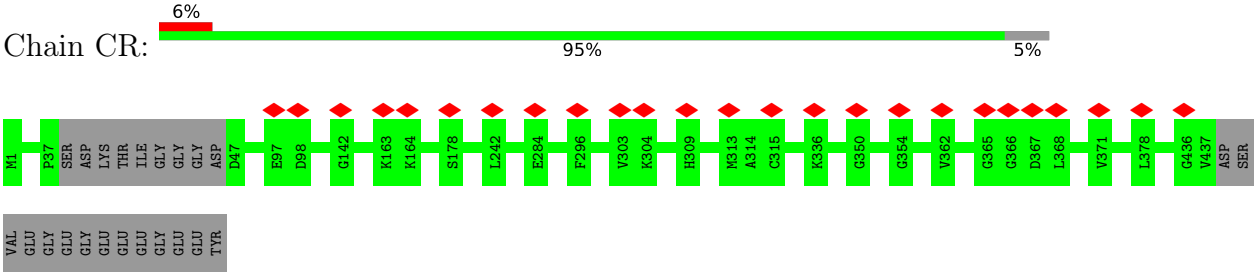
• Molecule 3: Detyrosinated tubulin alpha-1A chain





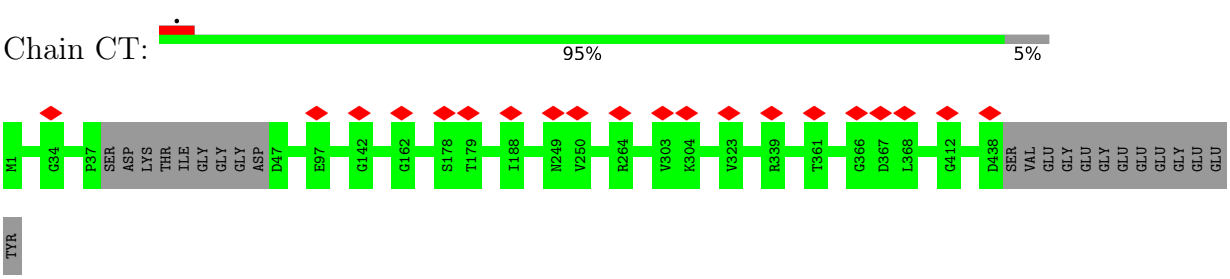
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain CR:



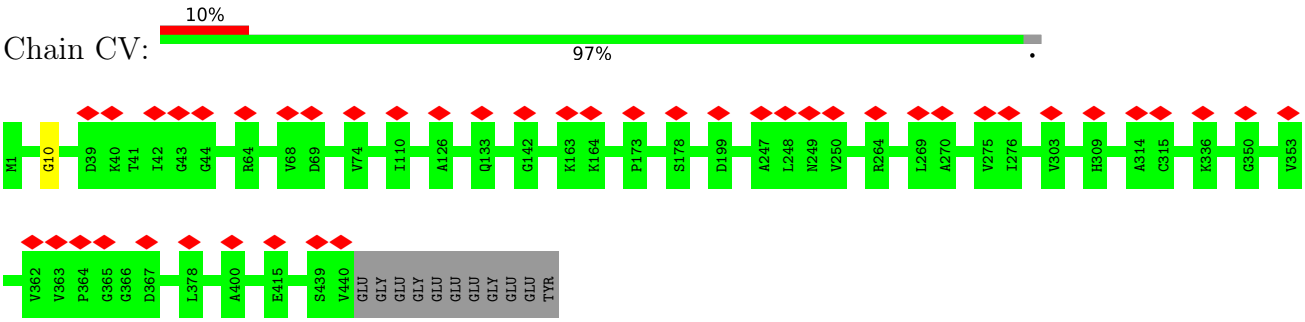
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain CT:



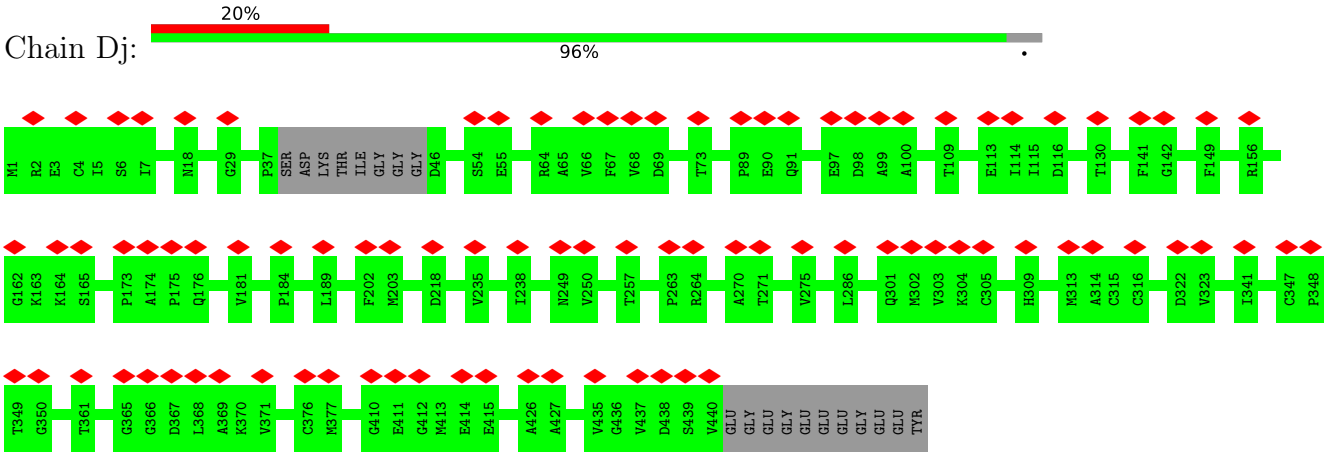
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain CV:



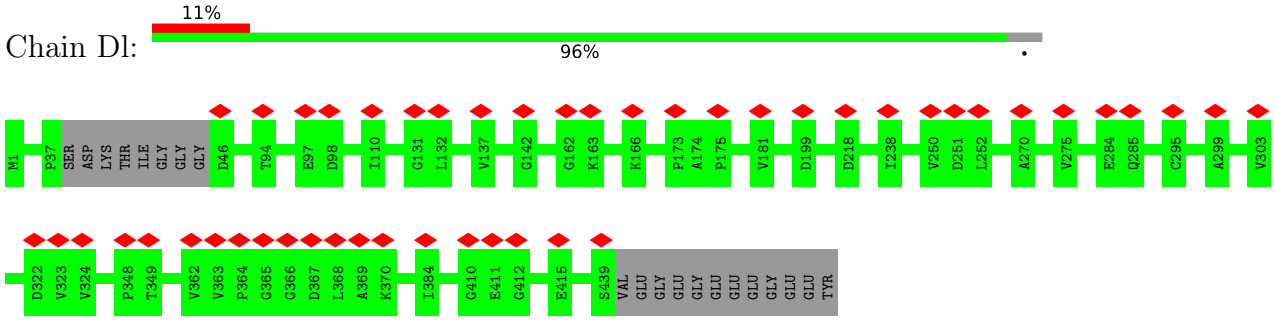
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Dj:



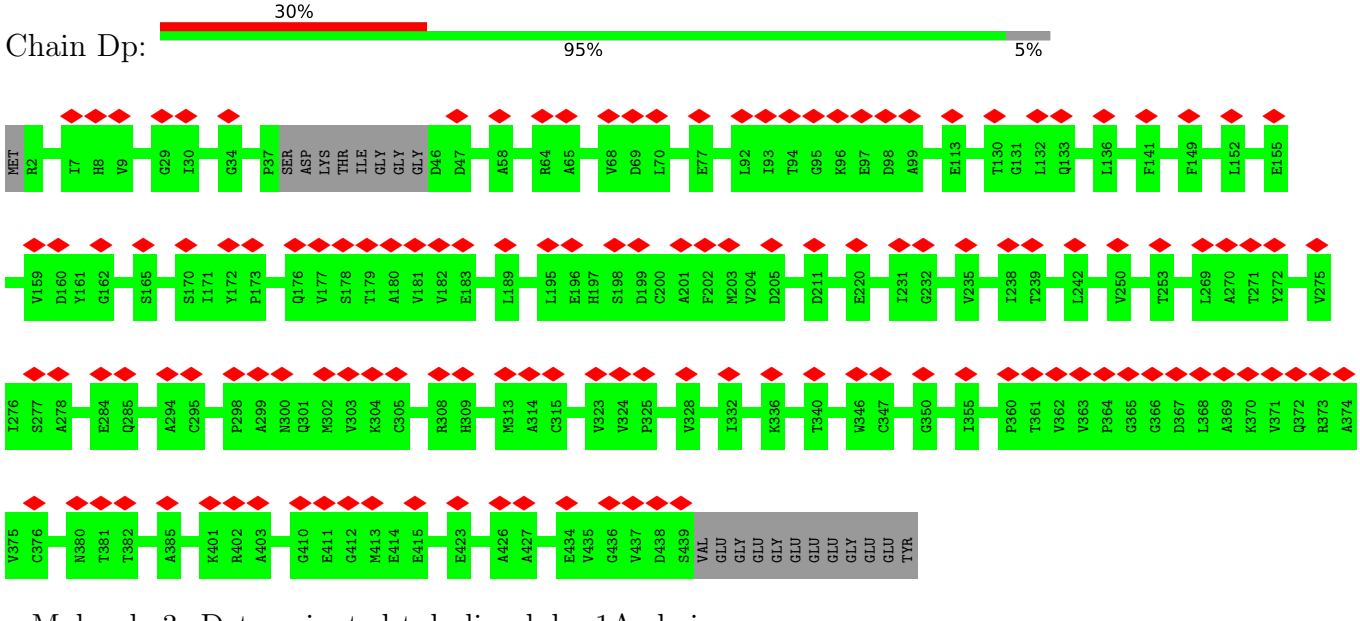
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Dl:



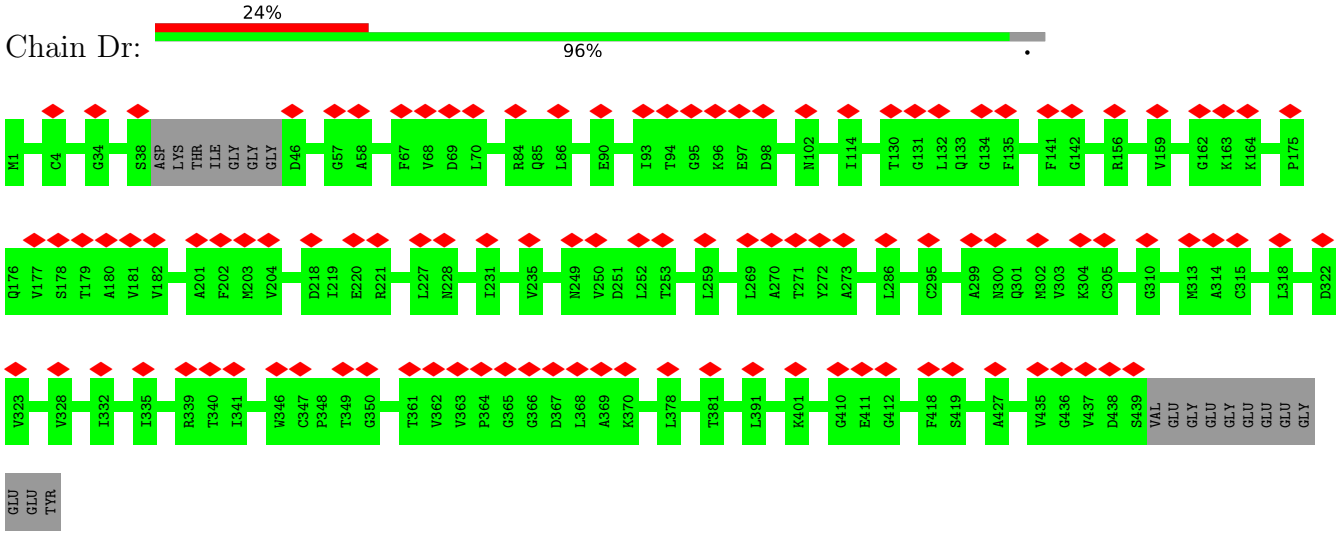
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Dp:



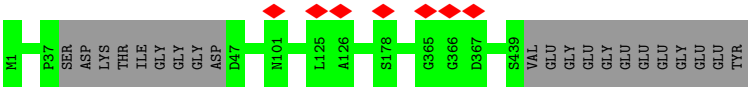
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Dr:



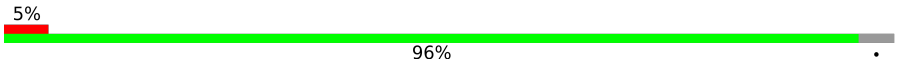
• Molecule 3: Detyrosinated tubulin alpha-1A chain

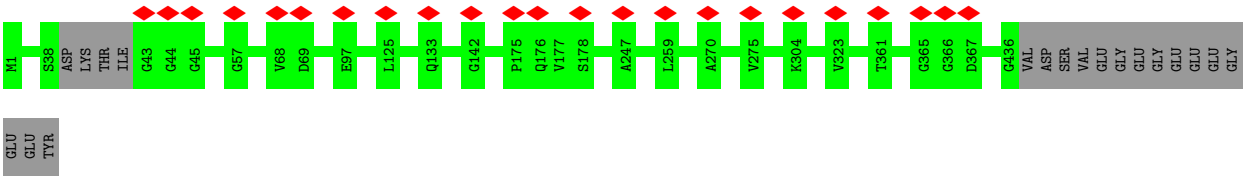
Chain Ck:



• Molecule 3: Detyrosinated tubulin alpha-1A chain

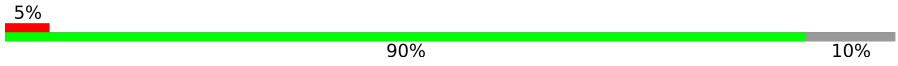
Chain Cm:

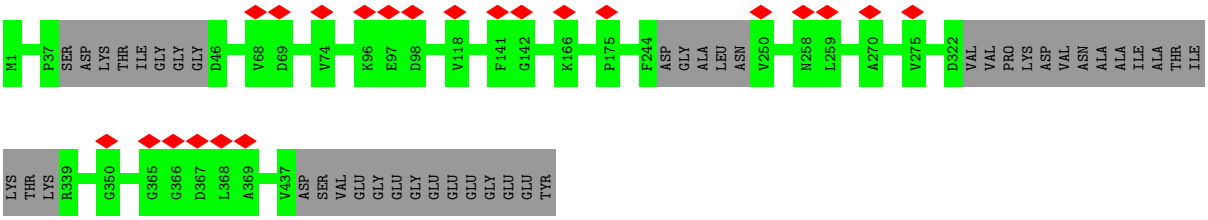




• Molecule 3: Detyrosinated tubulin alpha-1A chain

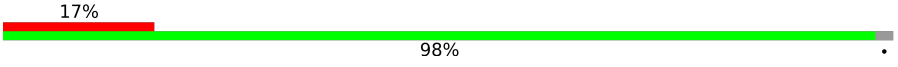
Chain Co:

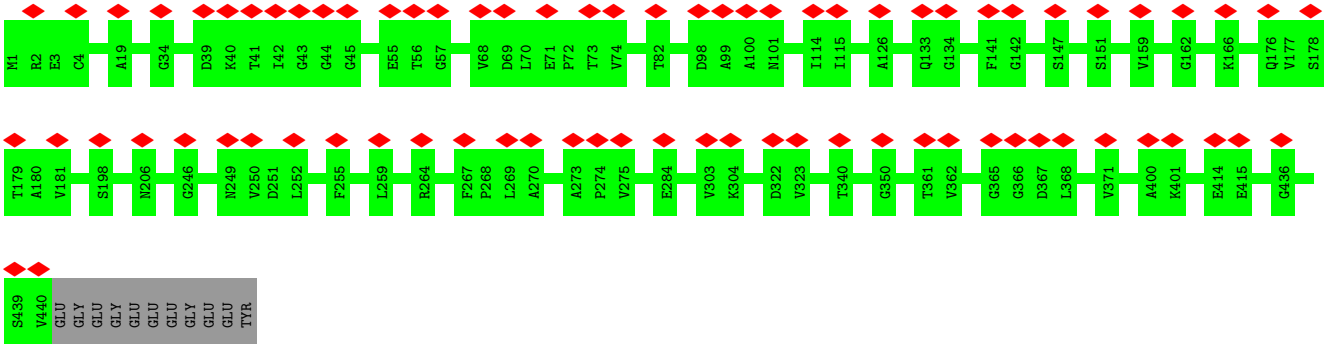




• Molecule 3: Detyrosinated tubulin alpha-1A chain

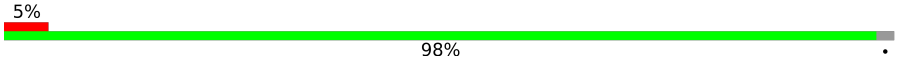
Chain Cs:

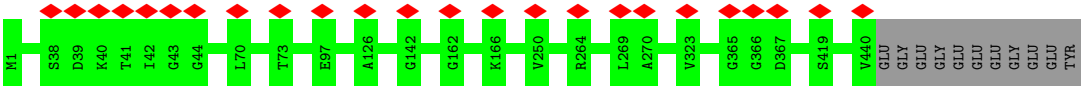




• Molecule 3: Detyrosinated tubulin alpha-1A chain

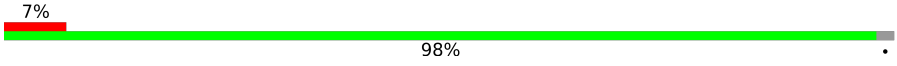
Chain Cu:

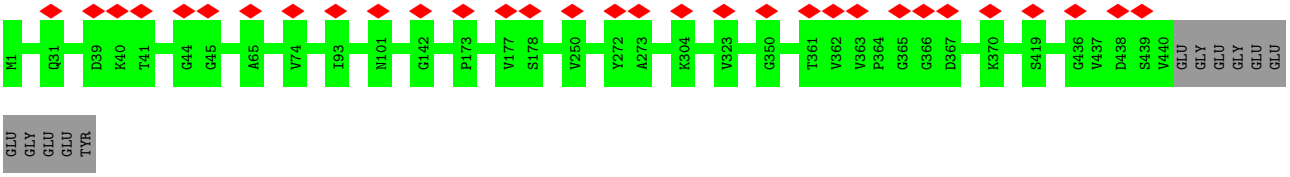




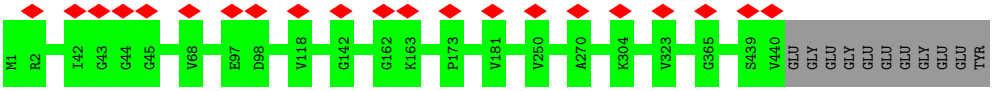
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Cw:

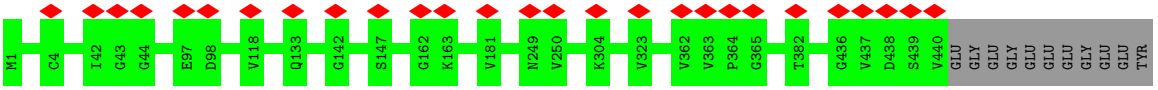




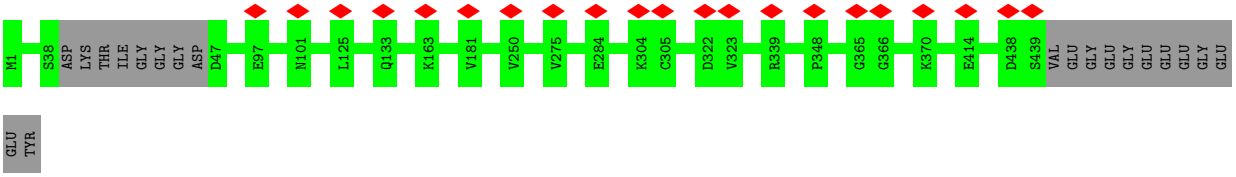
• Molecule 3: Detyrosinated tubulin alpha-1A chain



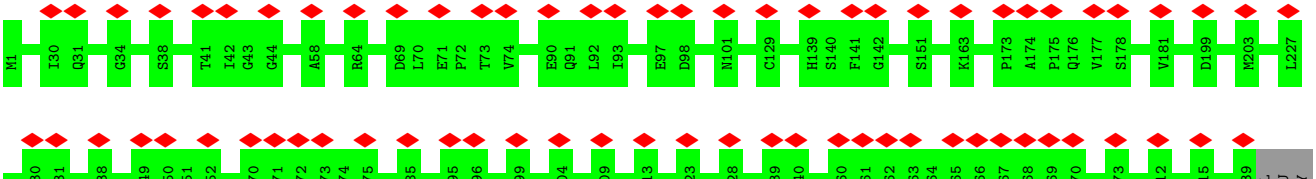
• Molecule 3: Detyrosinated tubulin alpha-1A chain



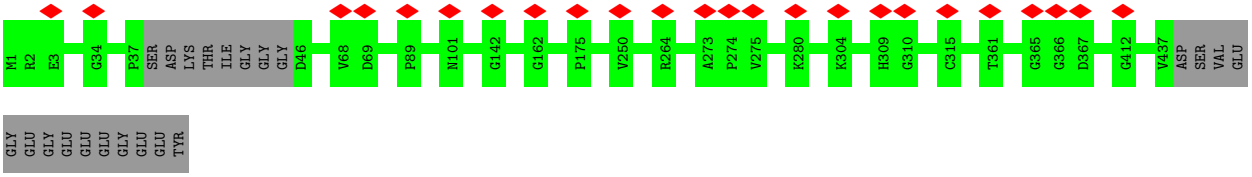
• Molecule 3: Detyrosinated tubulin alpha-1A chain



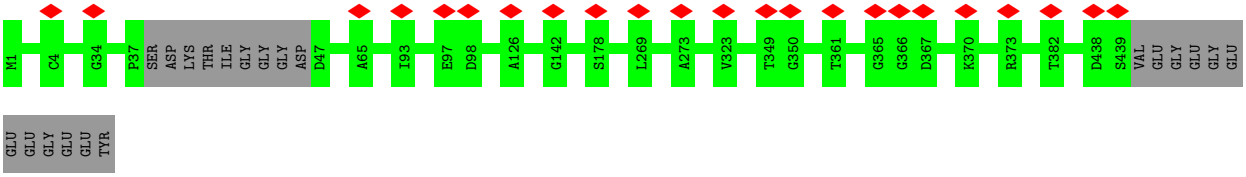
• Molecule 3: Detyrosinated tubulin alpha-1A chain



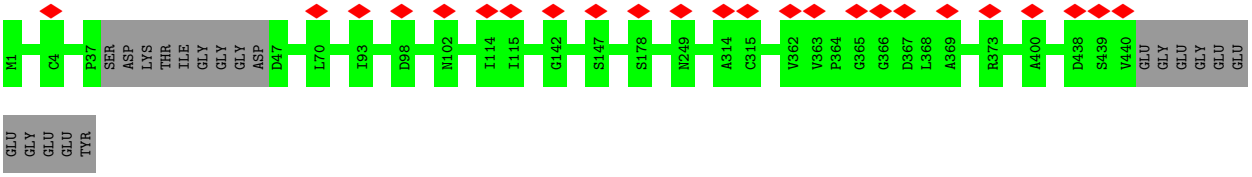
• Molecule 3: Detyrosinated tubulin alpha-1A chain



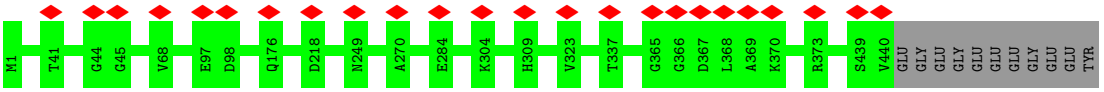
• Molecule 3: Detyrosinated tubulin alpha-1A chain



• Molecule 3: Detyrosinated tubulin alpha-1A chain



• Molecule 3: Detyrosinated tubulin alpha-1A chain



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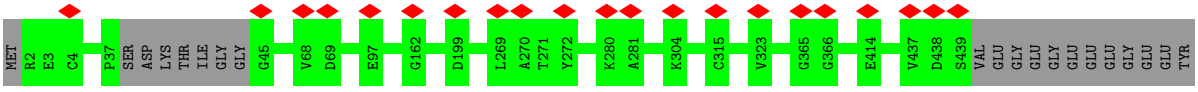
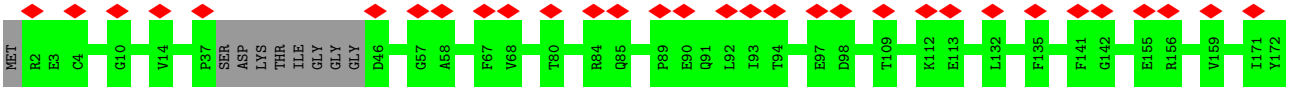
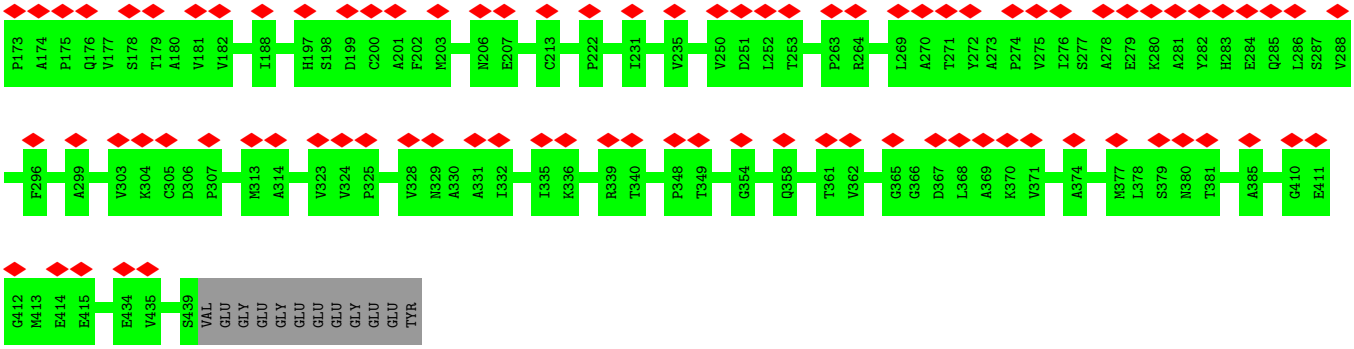


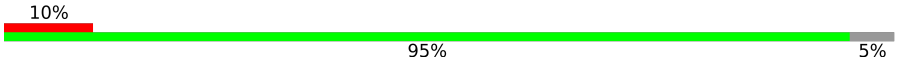
• Molecule 3: Detyrosinated tubulin alpha-1A chain

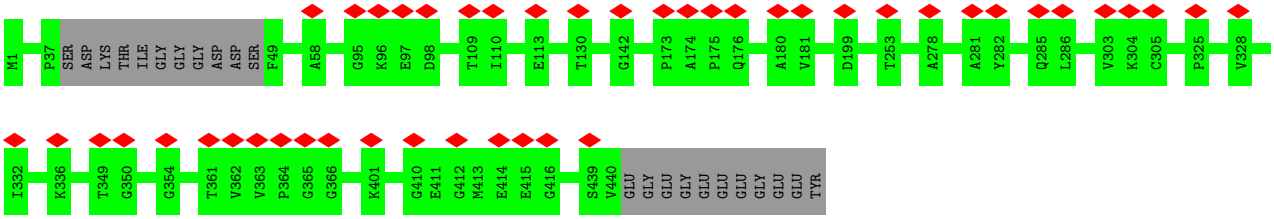




• Molecule 3: Detyrosinated tubulin alpha-1A chain

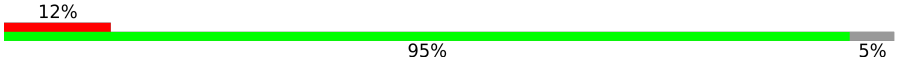
Chain DO:

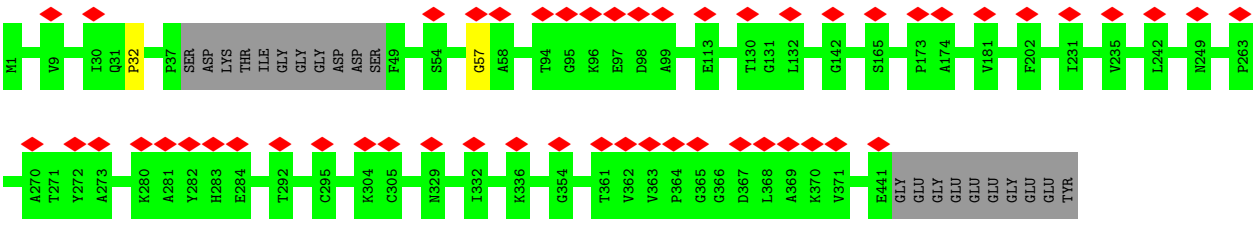




• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain DQ:





• Molecule 3: Detyrosinated tubulin alpha-1A chain

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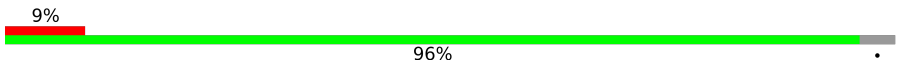

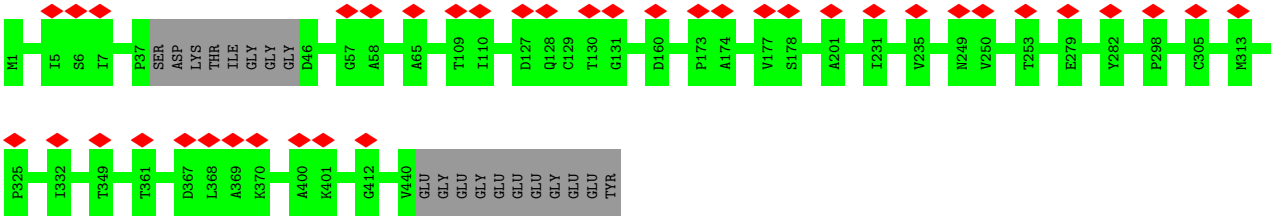

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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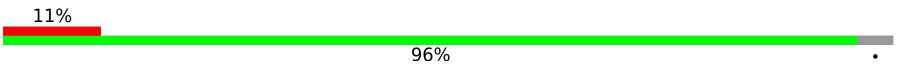

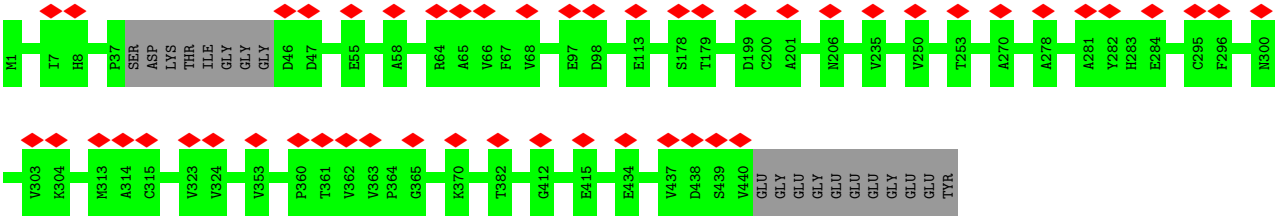

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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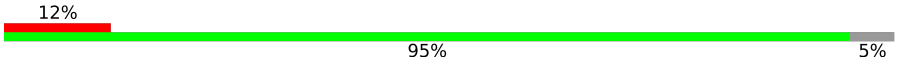

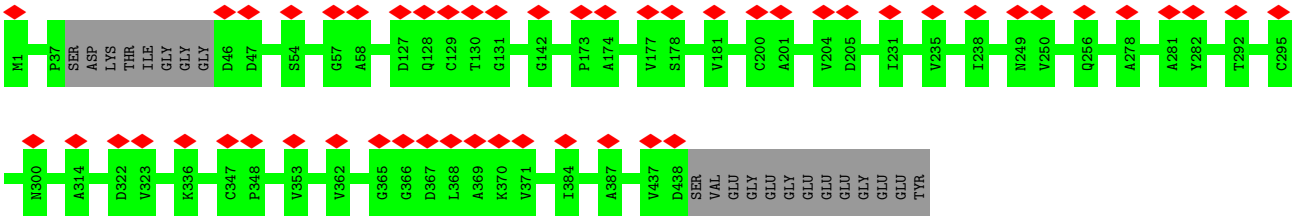

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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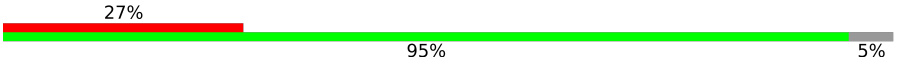

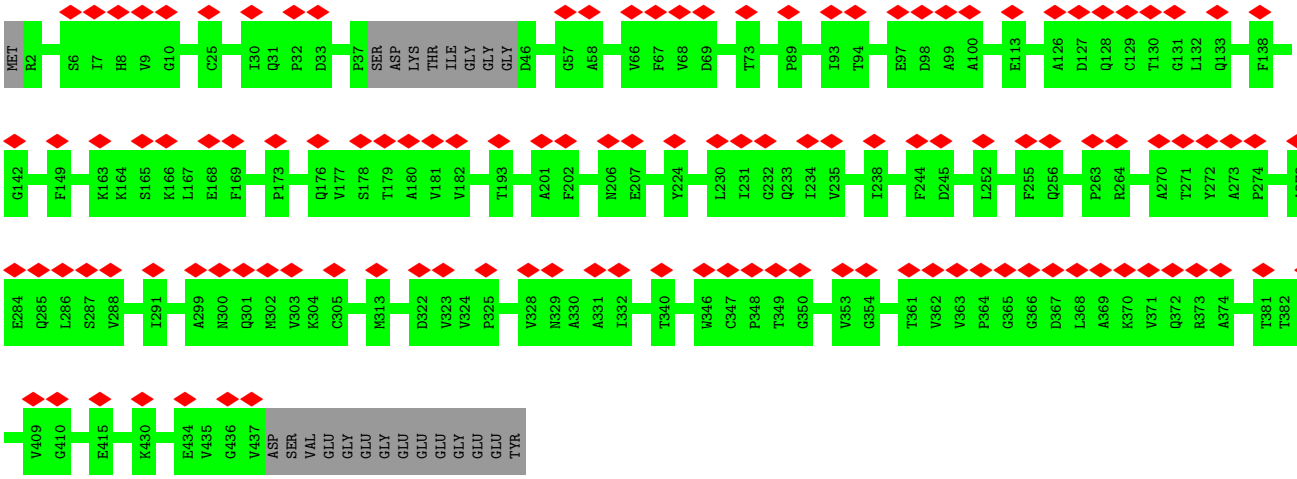

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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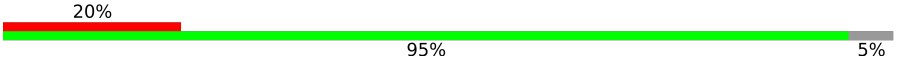

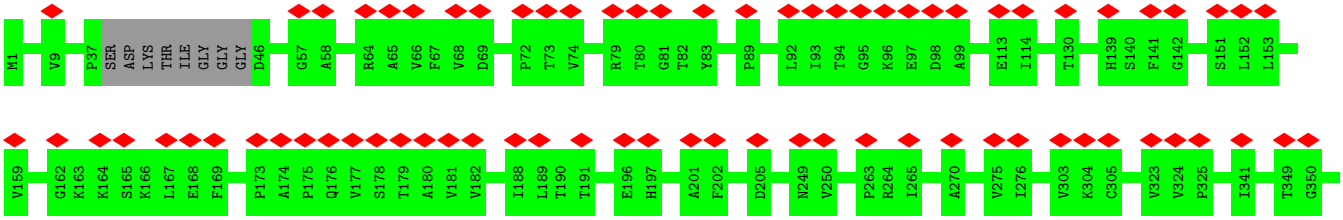

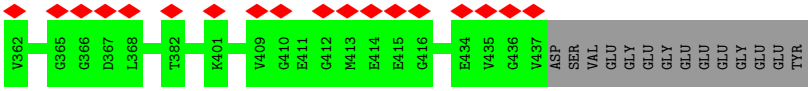

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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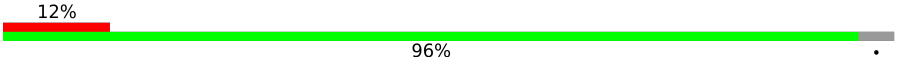
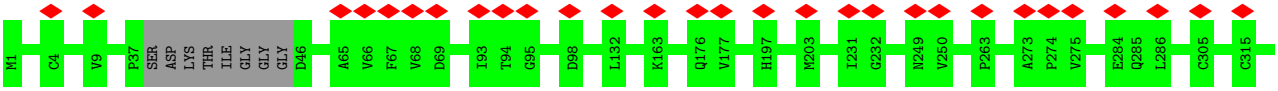
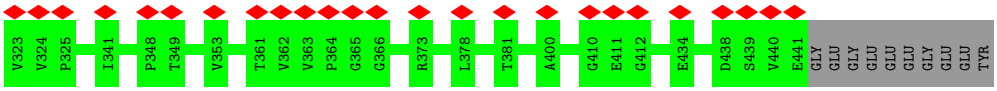
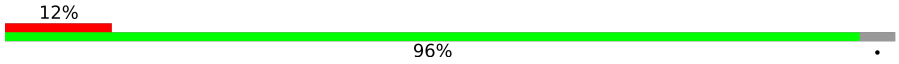


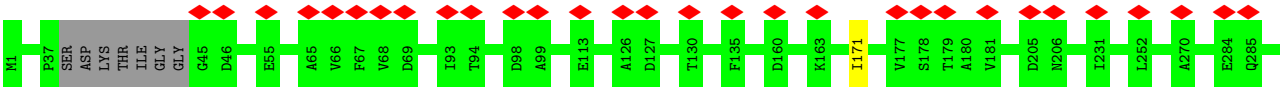


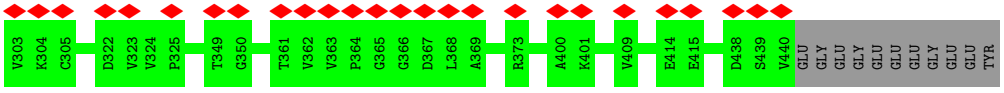


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Dh:

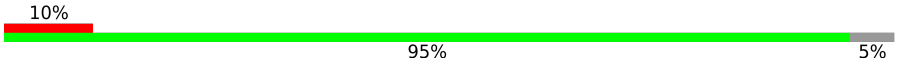


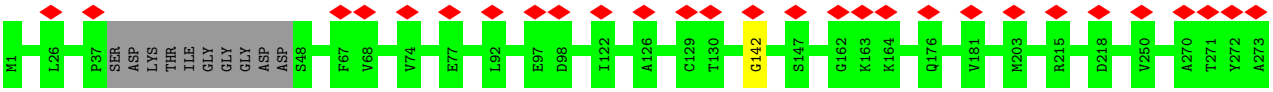


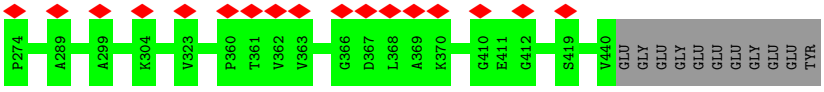


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Es:







• Molecule 3: Detyrosinated tubulin alpha-1A chain

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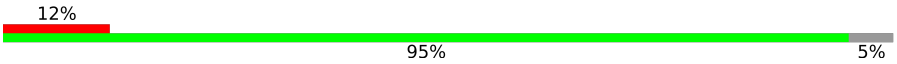

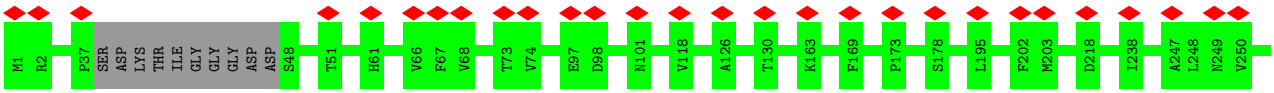

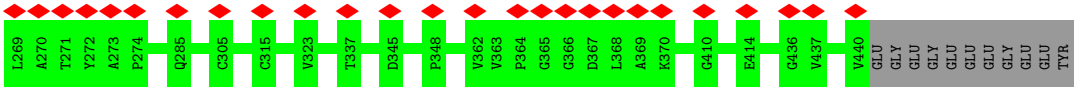

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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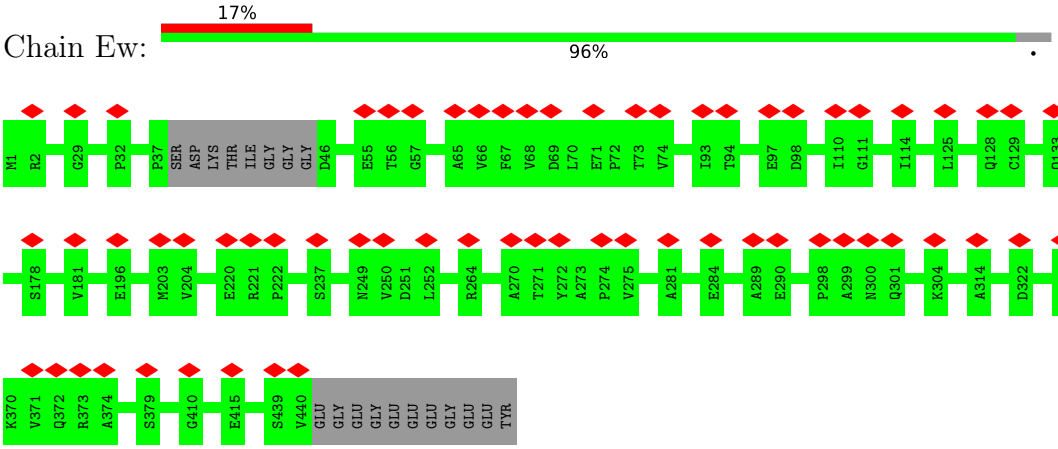
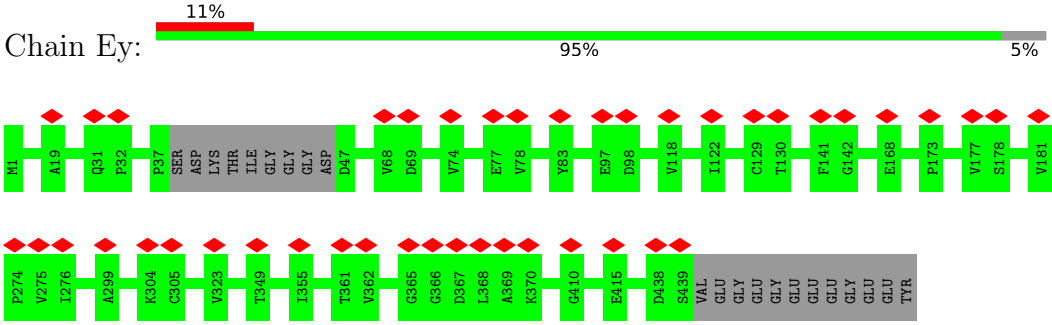


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Ey:



• Molecule 3: Detyrosinated tubulin alpha-1A chain

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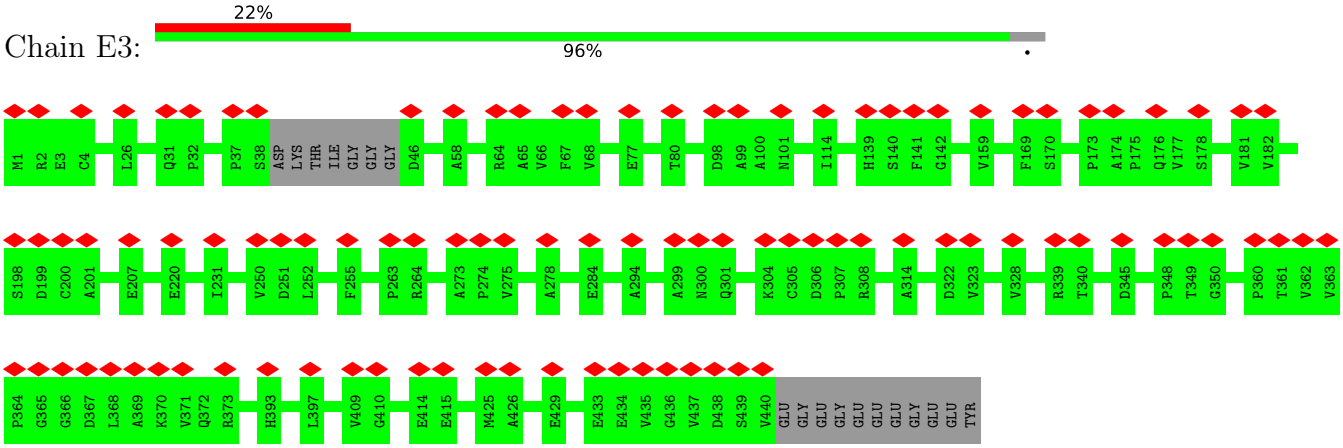
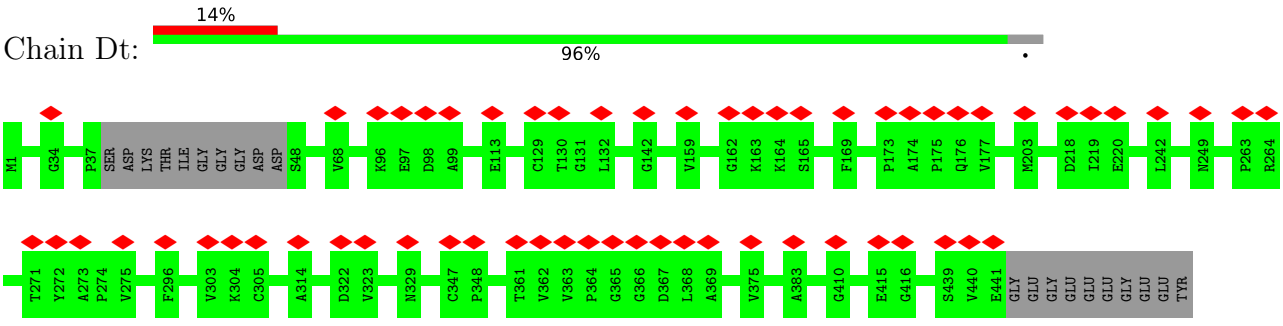


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Dt:



• Molecule 3: Detyrosinated tubulin alpha-1A chain

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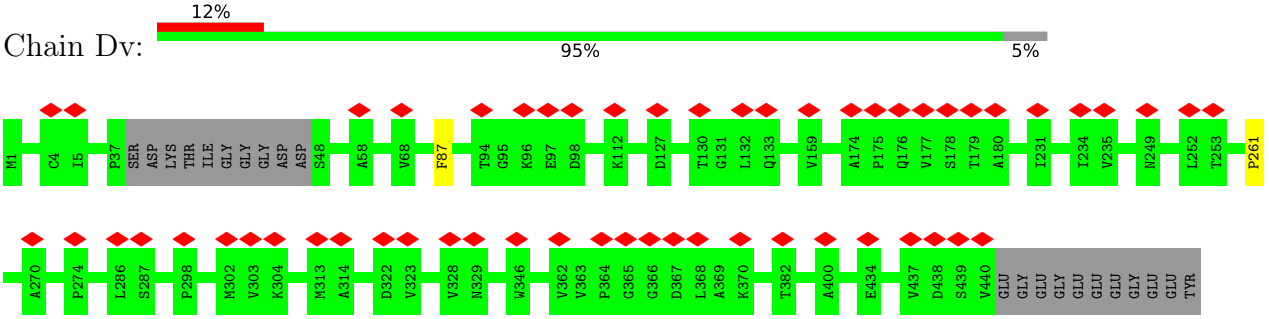

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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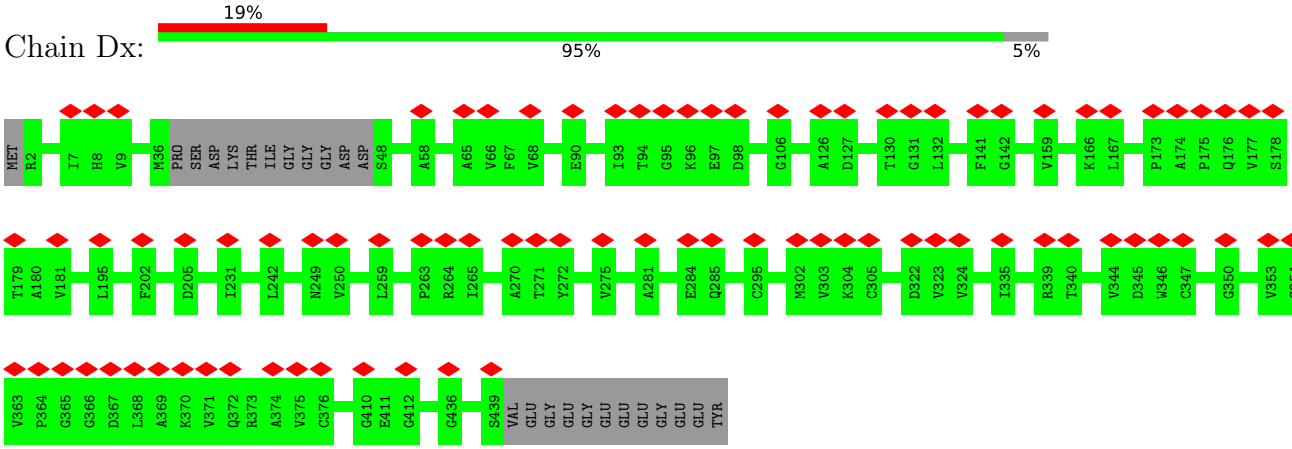

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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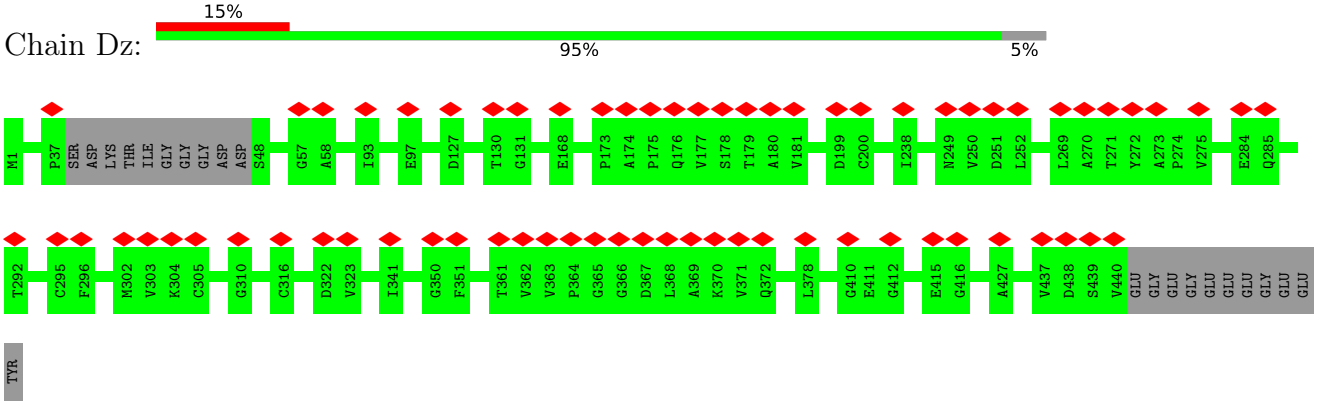

• Molecule 3: Detyrosinated tubulin alpha-1A chain

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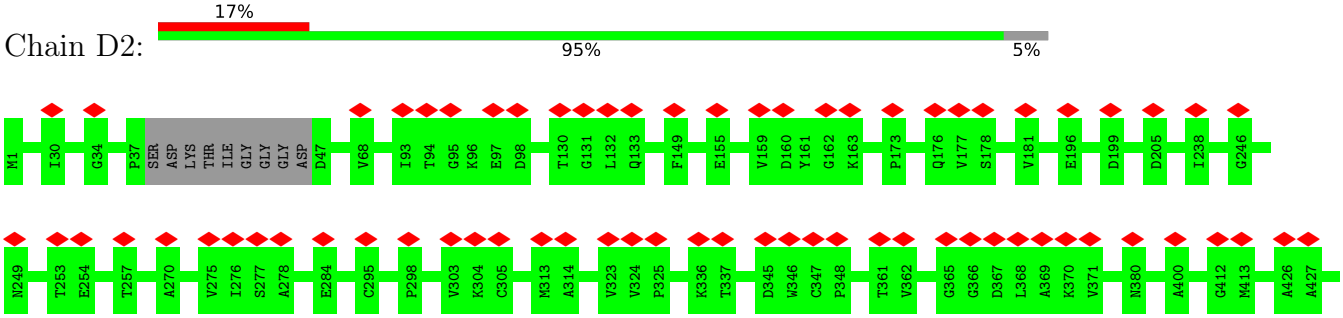
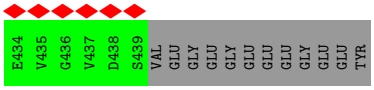
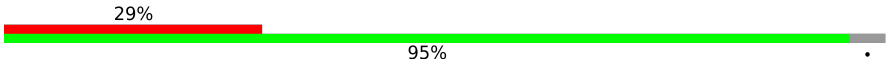
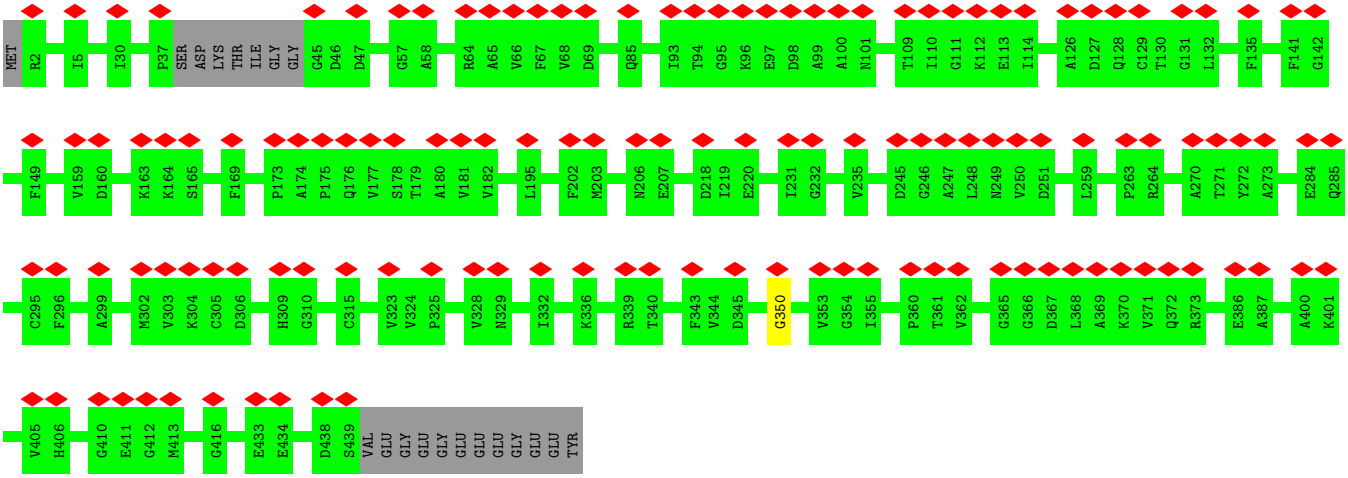




• Molecule 3: Detyrosinated tubulin alpha-1A chain

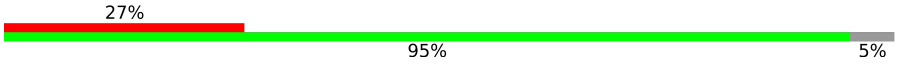
Chain D5:

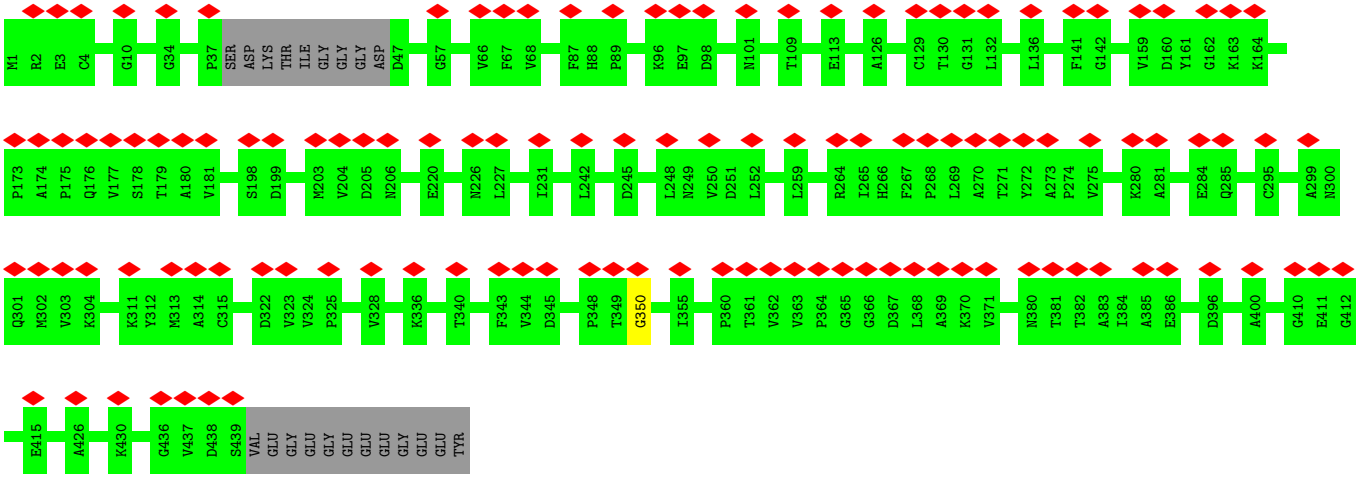




• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain D7:





• Molecule 3: Detyrosinated tubulin alpha-1A chain

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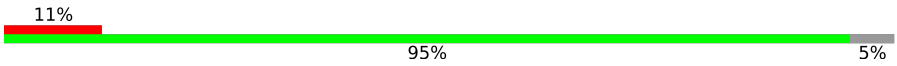
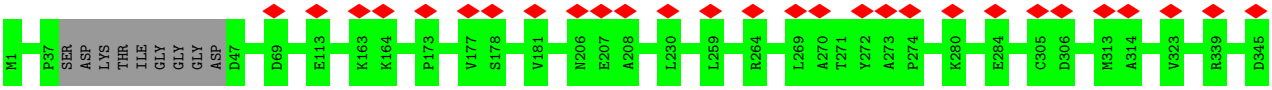
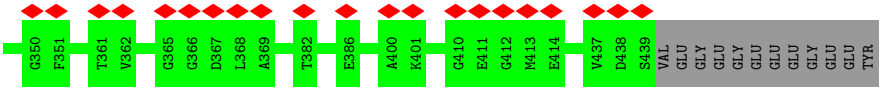
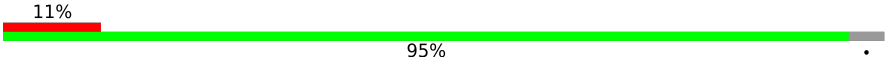


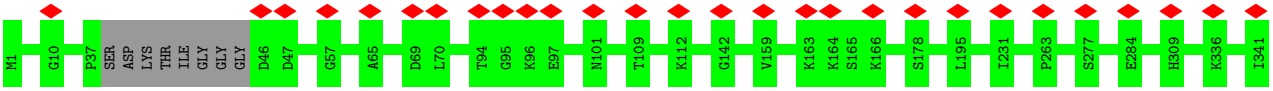


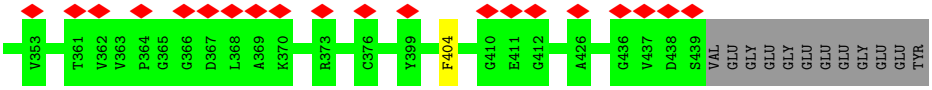


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain EA:

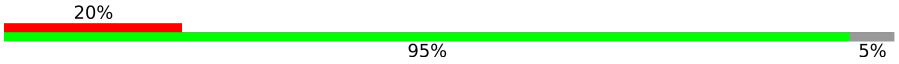


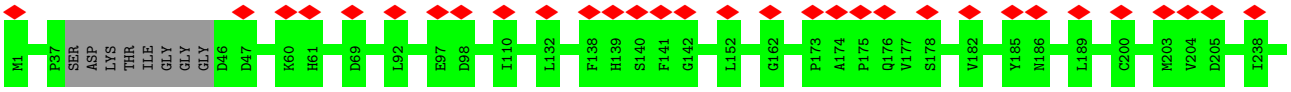


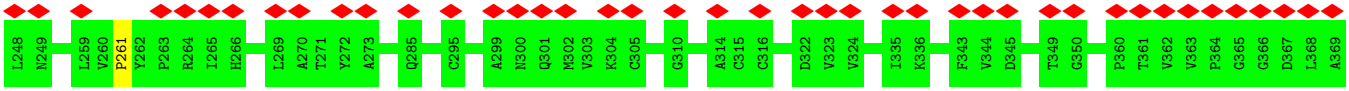


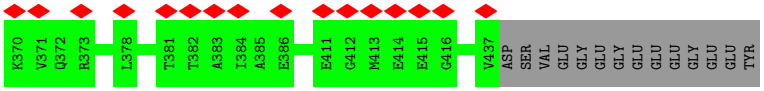
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain EC:



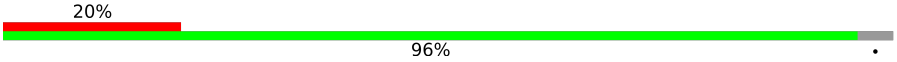


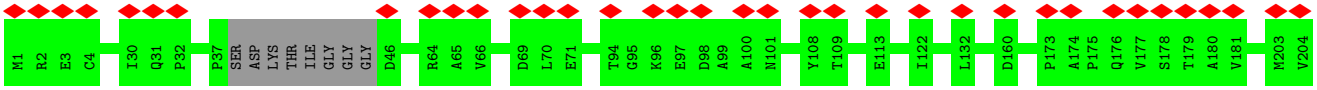


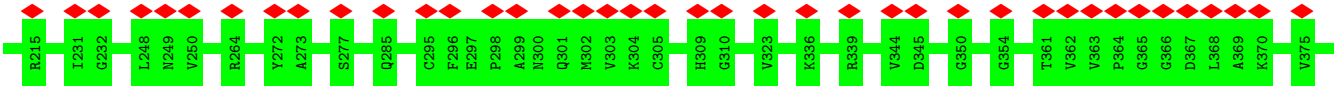


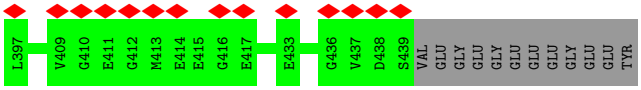
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain EE:



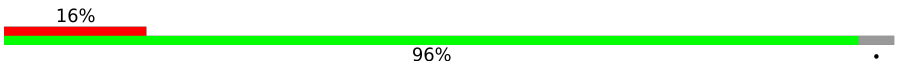


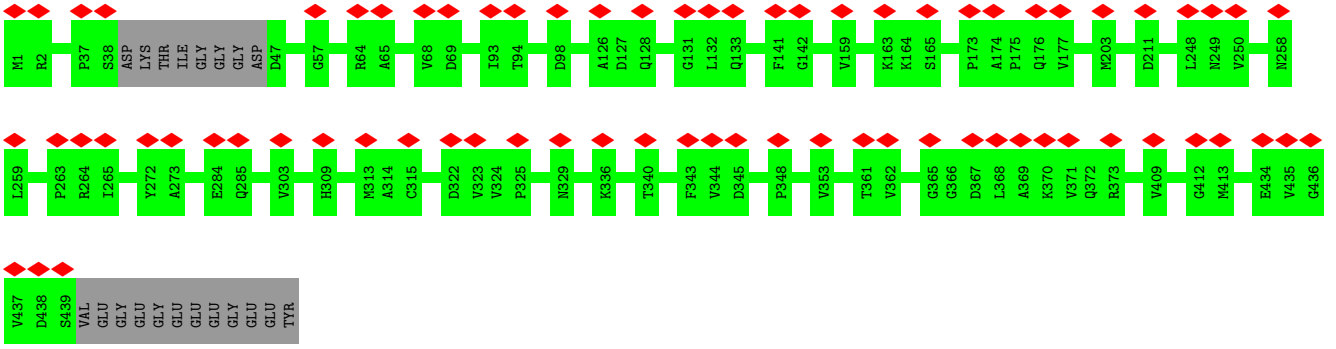




• Molecule 3: Detyrosinated tubulin alpha-1A chain

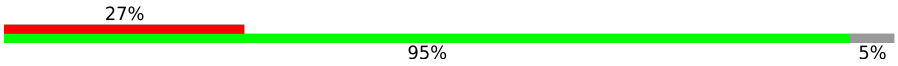
Chain EG:

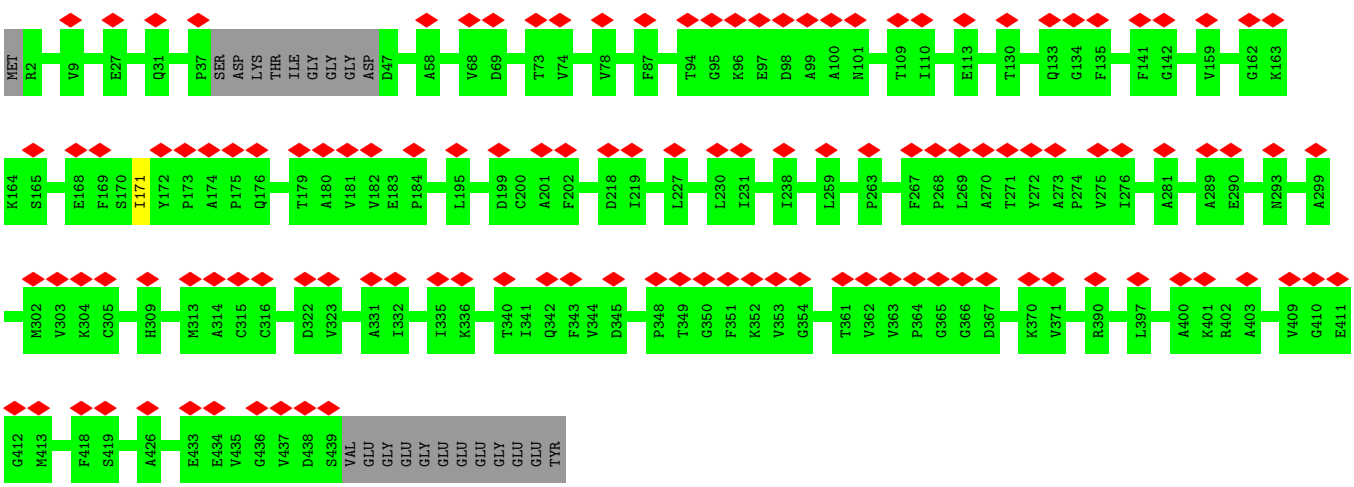




• Molecule 3: Detyrosinated tubulin alpha-1A chain

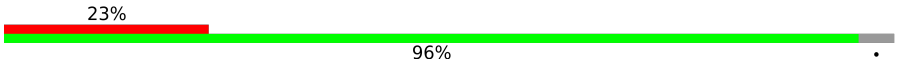
Chain EJ:

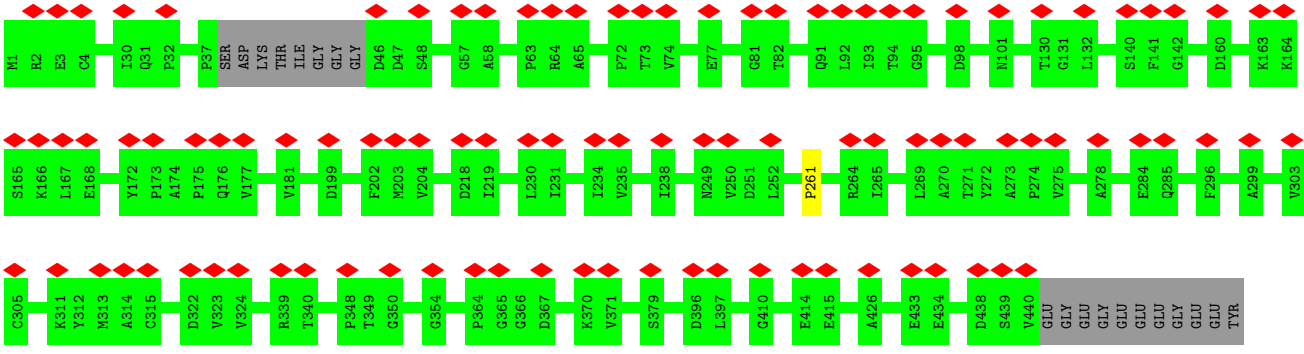




• Molecule 3: Detyrosinated tubulin alpha-1A chain

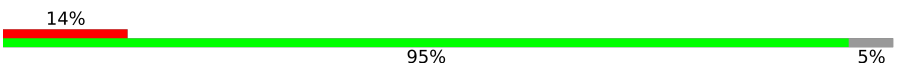
Chain EL:

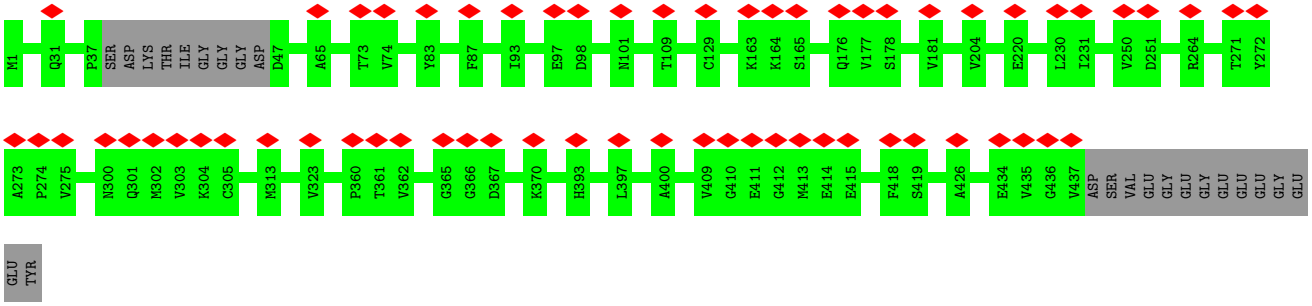




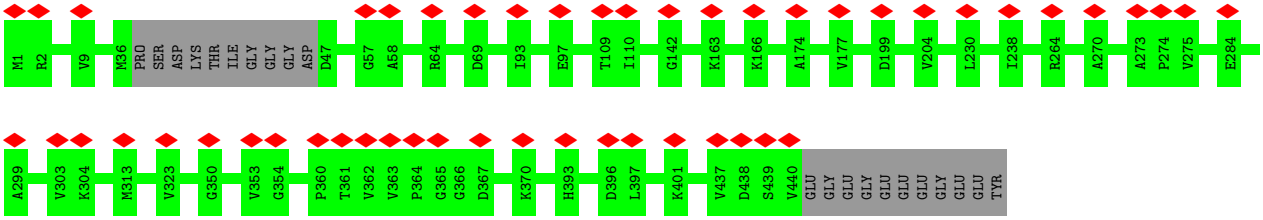
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain EN:

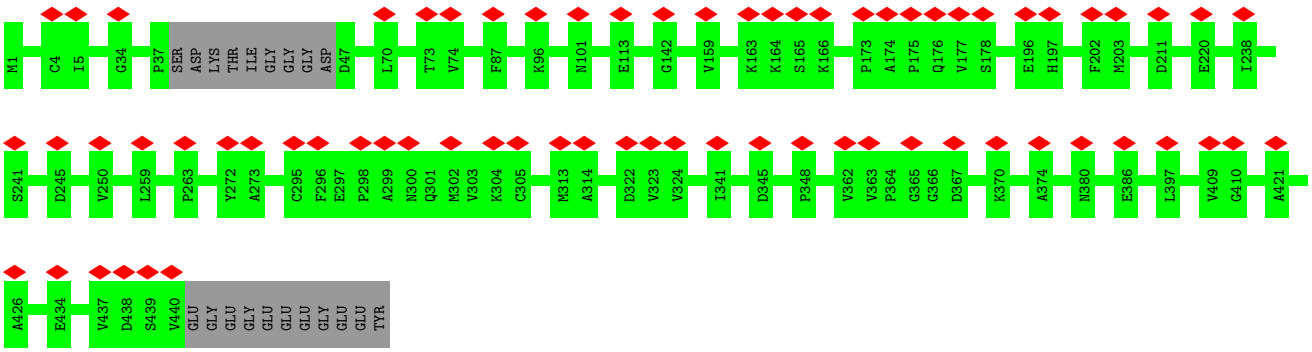




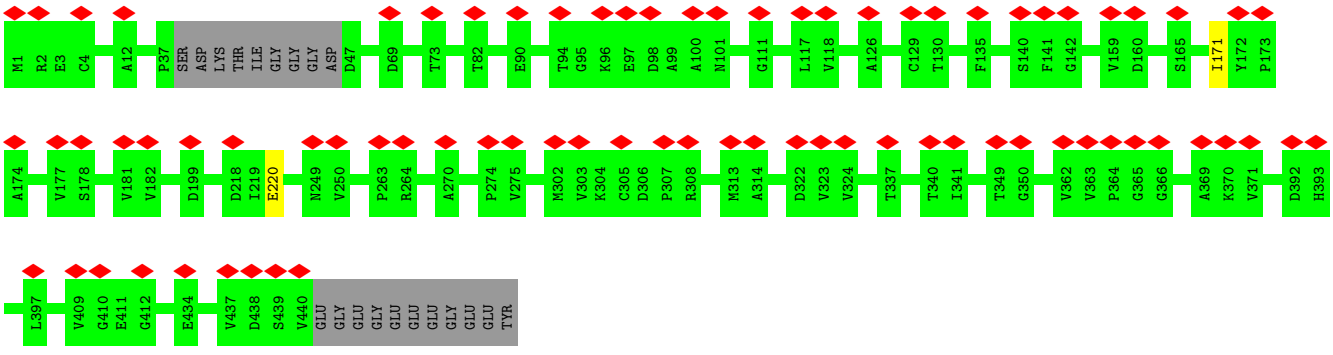
• Molecule 3: Detyrosinated tubulin alpha-1A chain



• Molecule 3: Detyrosinated tubulin alpha-1A chain

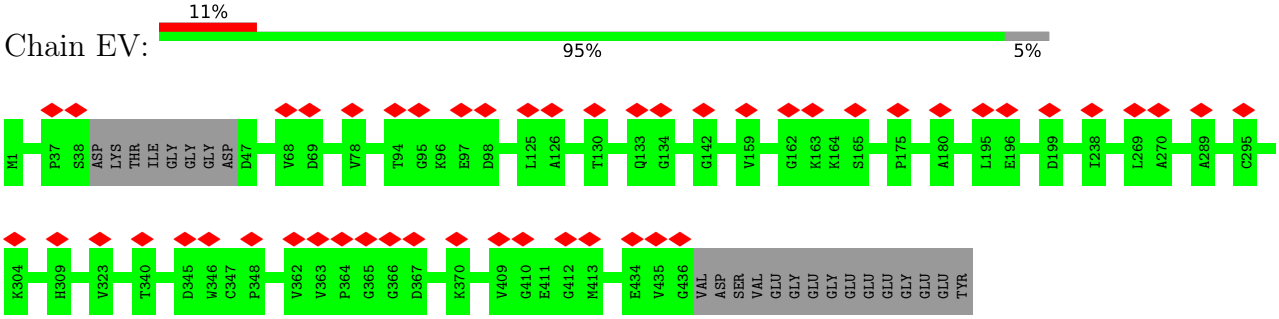


• Molecule 3: Detyrosinated tubulin alpha-1A chain



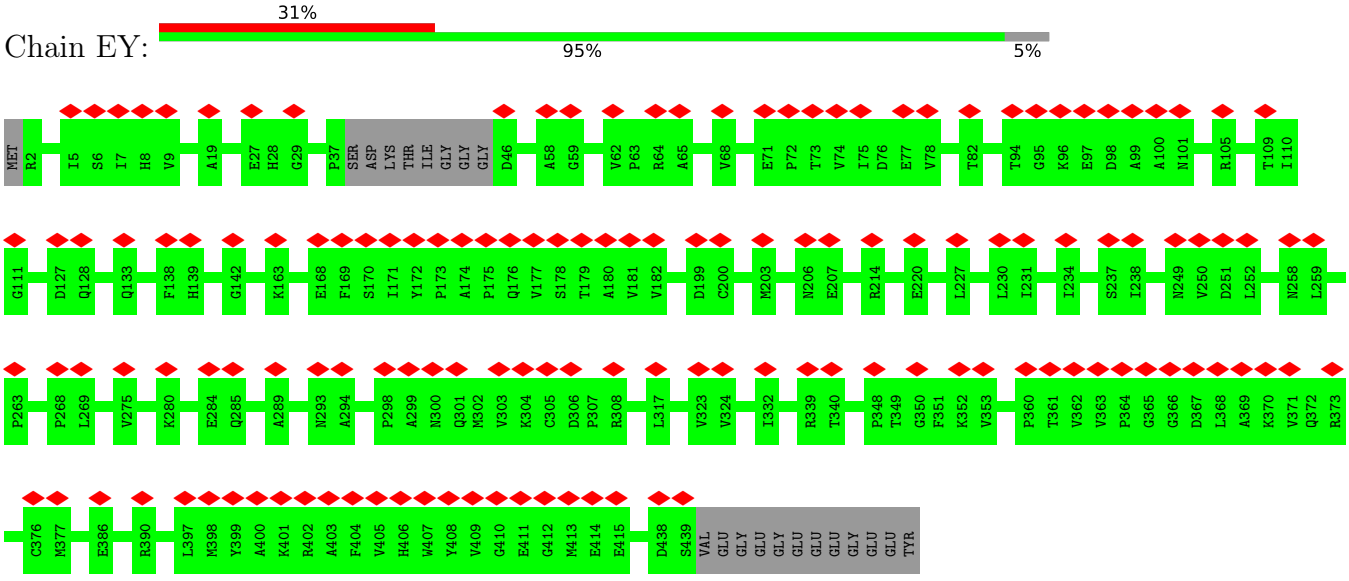
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain EV:



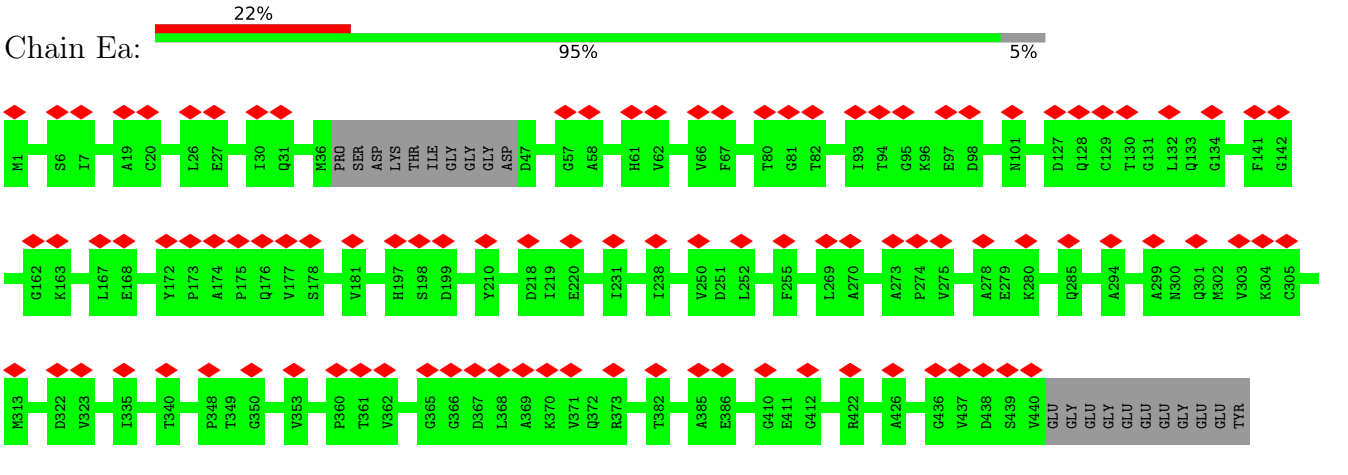
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain EY:



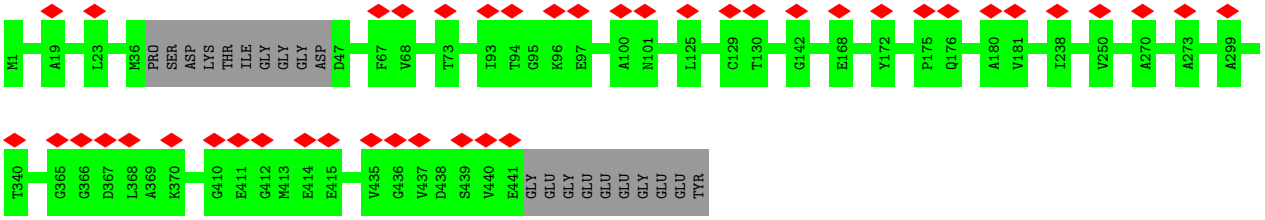
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Ea:

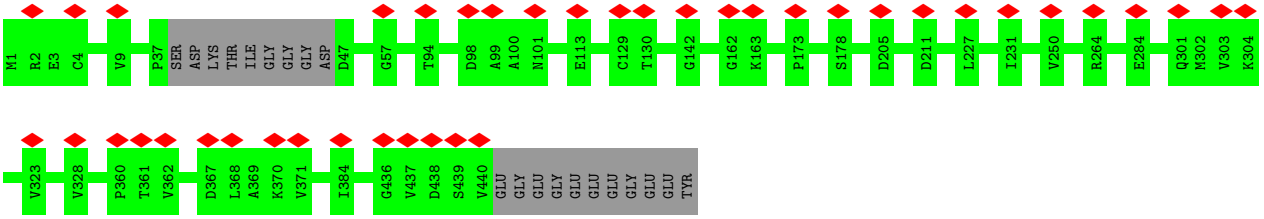


• Molecule 3: Detyrosinated tubulin alpha-1A chain

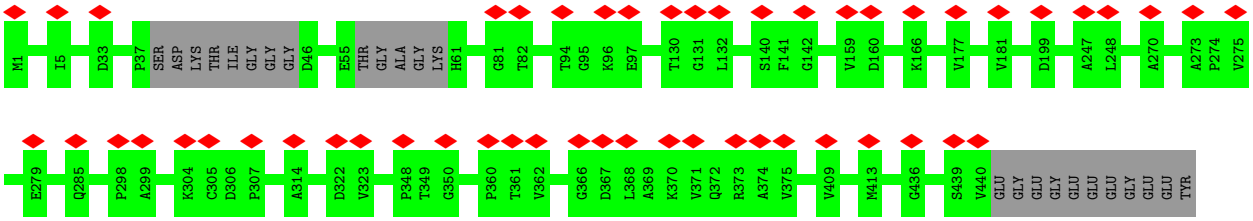
Chain Ec:



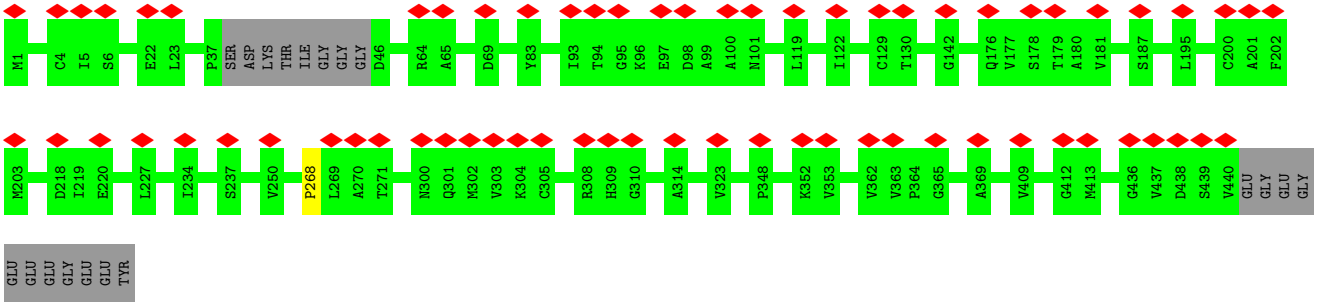
• Molecule 3: Detyrosinated tubulin alpha-1A chain



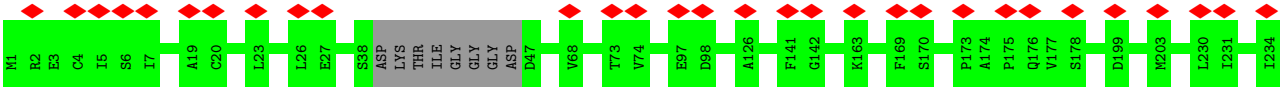
• Molecule 3: Detyrosinated tubulin alpha-1A chain

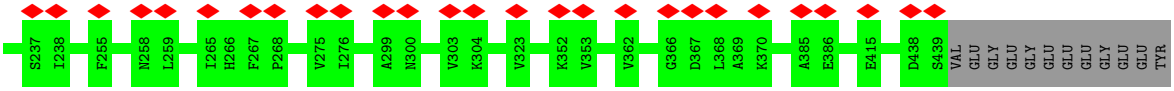


• Molecule 3: Detyrosinated tubulin alpha-1A chain



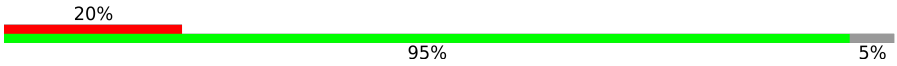
• Molecule 3: Detyrosinated tubulin alpha-1A chain

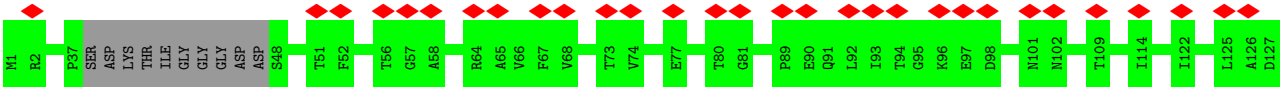


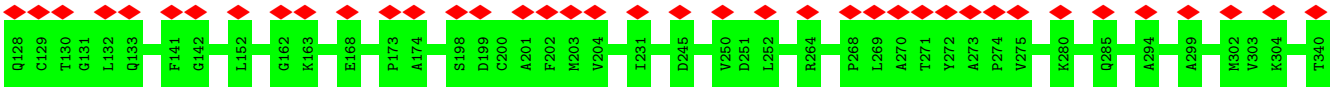


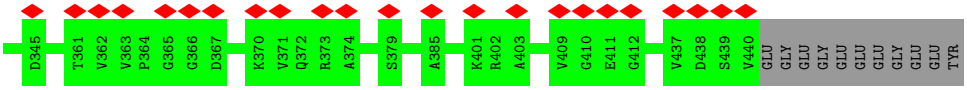
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Eo:



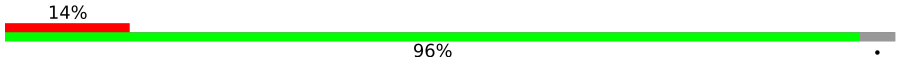


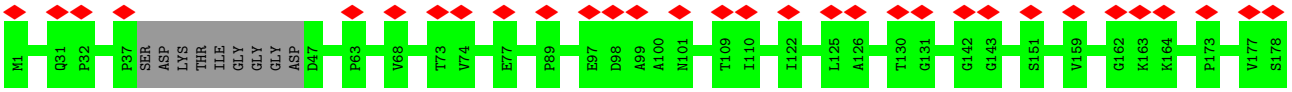


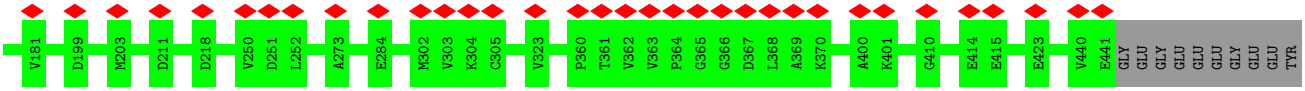


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain Eq:

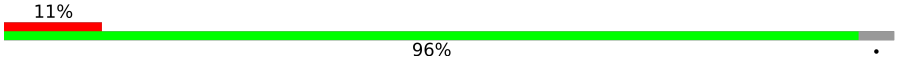


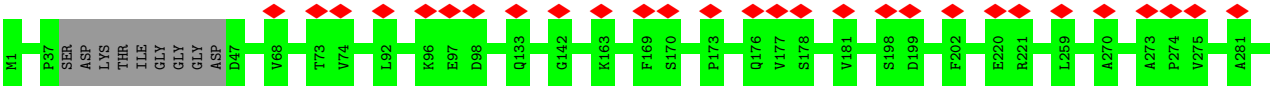


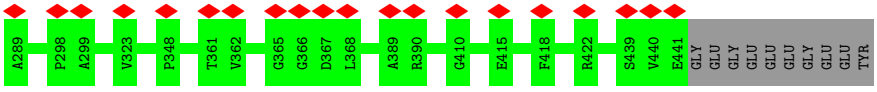


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain E5:

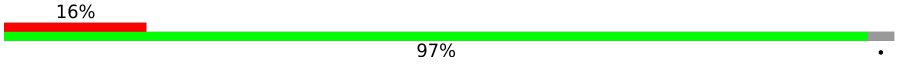


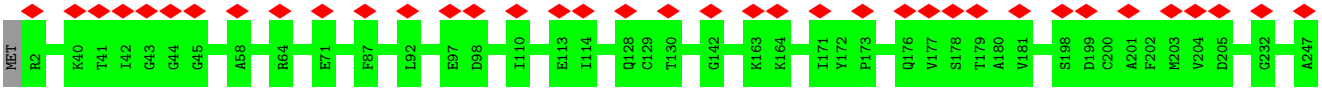


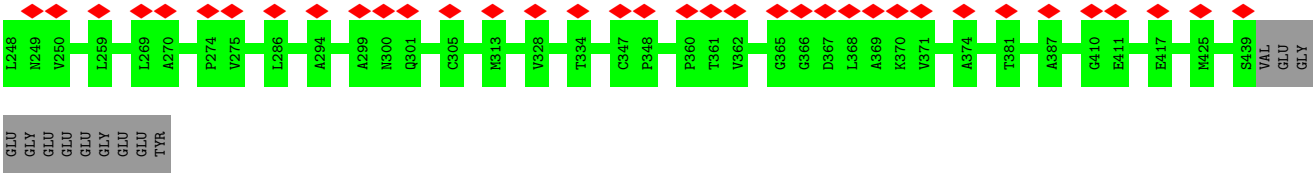


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain AM:

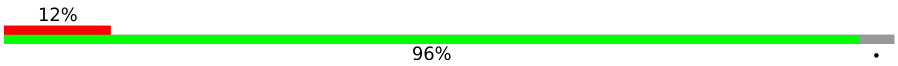


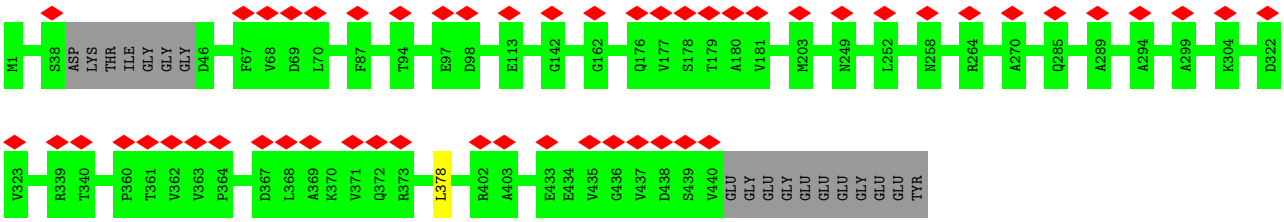




• Molecule 3: Detyrosinated tubulin alpha-1A chain

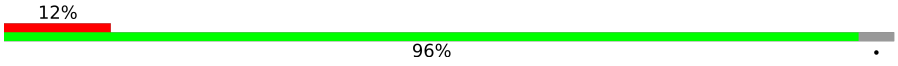
Chain E7:

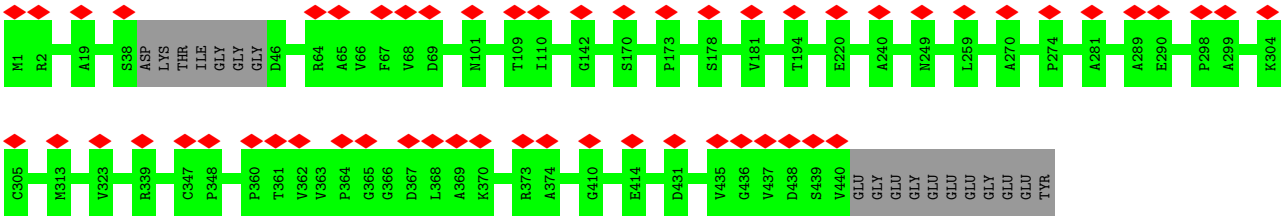




• Molecule 3: Detyrosinated tubulin alpha-1A chain

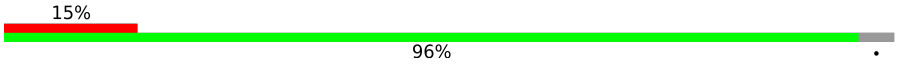
Chain E9:

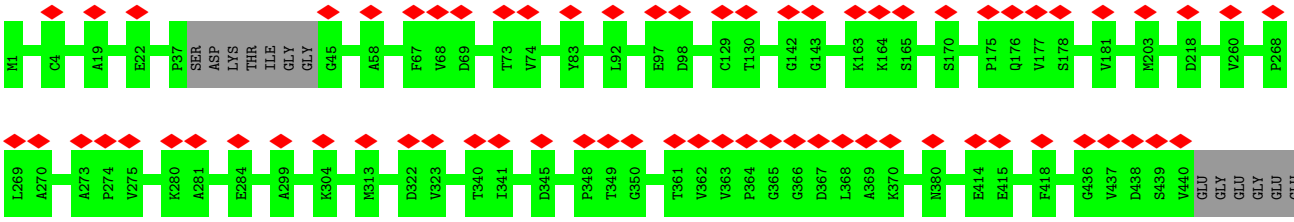




• Molecule 3: Detyrosinated tubulin alpha-1A chain

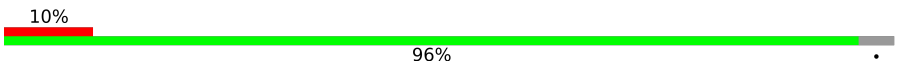
Chain FA:

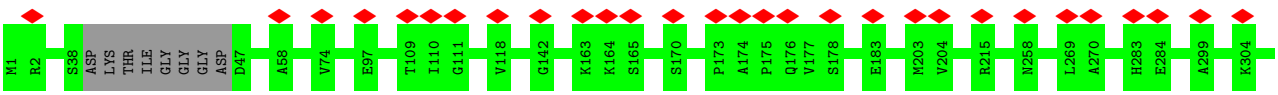


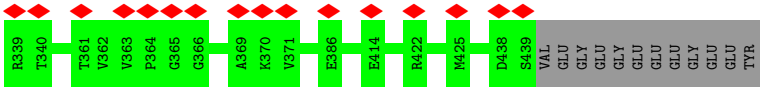


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain FC:

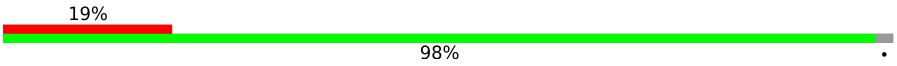


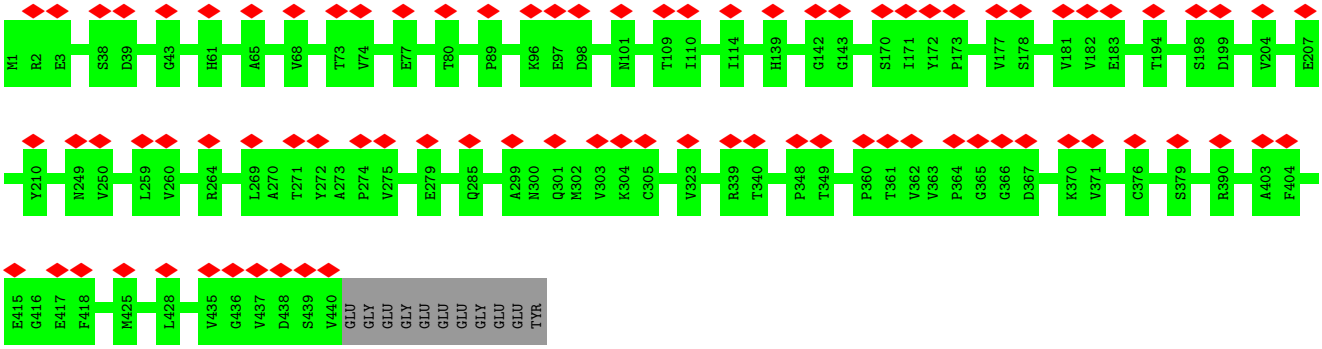




• Molecule 3: Detyrosinated tubulin alpha-1A chain

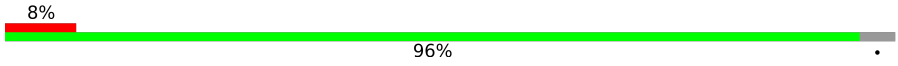
Chain FG:

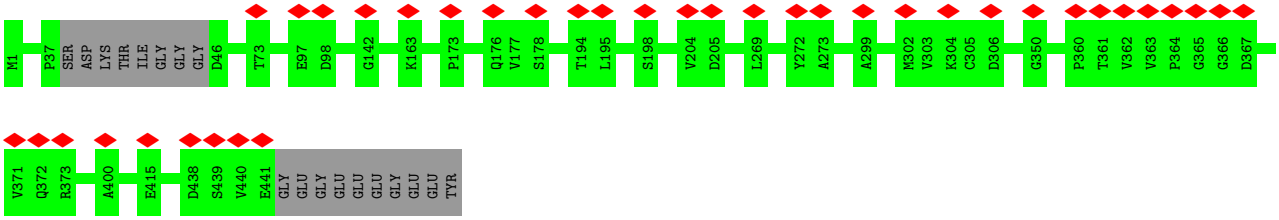




• Molecule 3: Detyrosinated tubulin alpha-1A chain

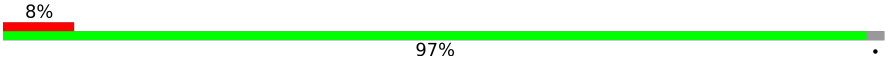
Chain FI:

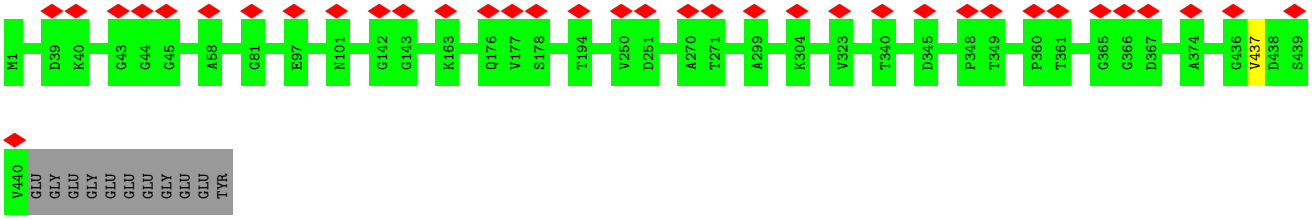




• Molecule 3: Detyrosinated tubulin alpha-1A chain

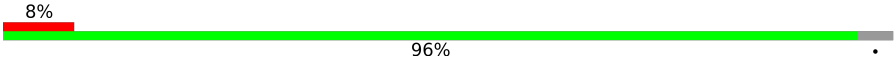
Chain FK:

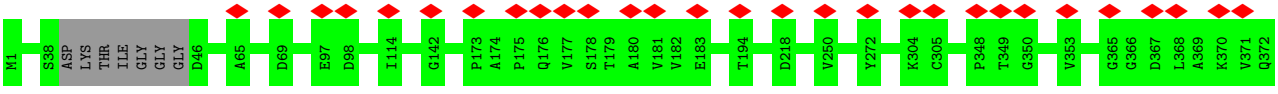


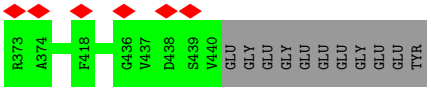


• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain FM:

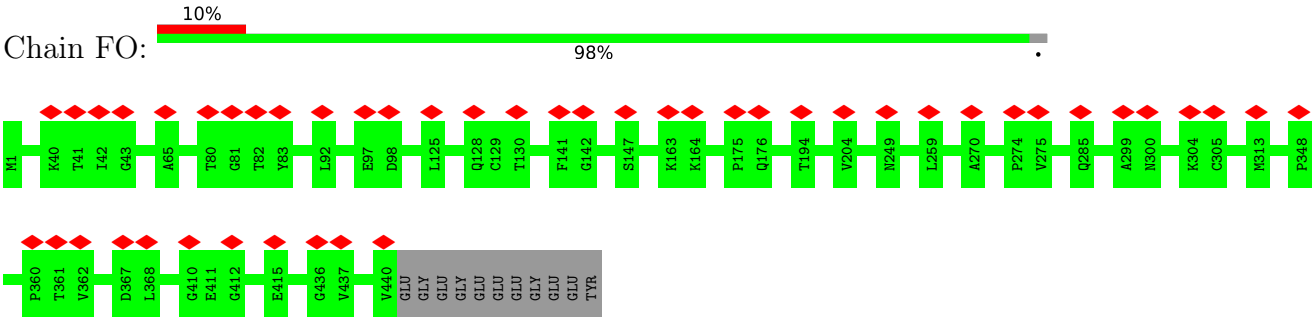






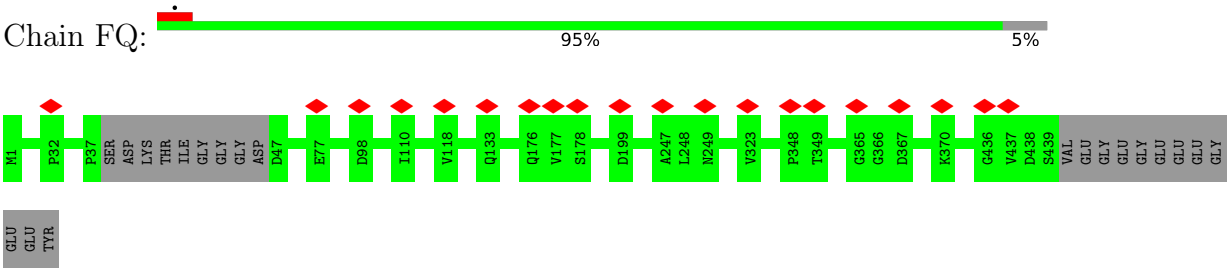
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain FO:



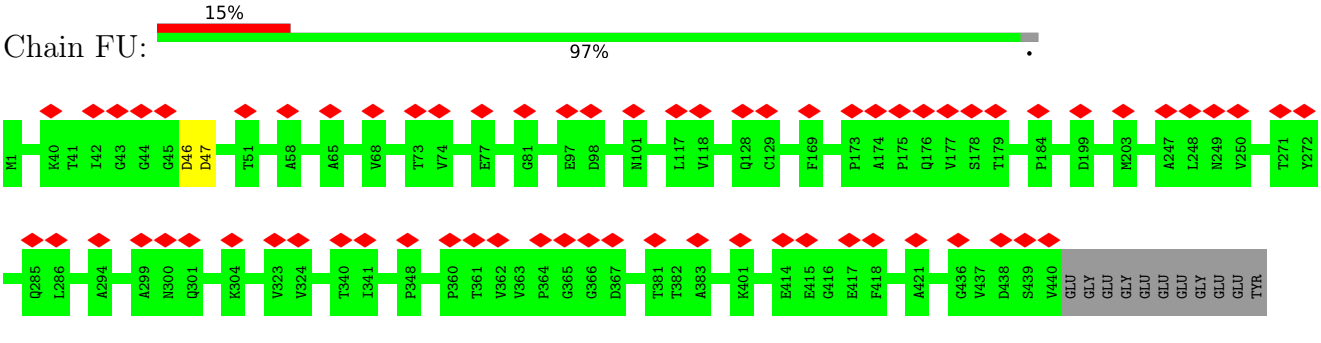
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain FQ:



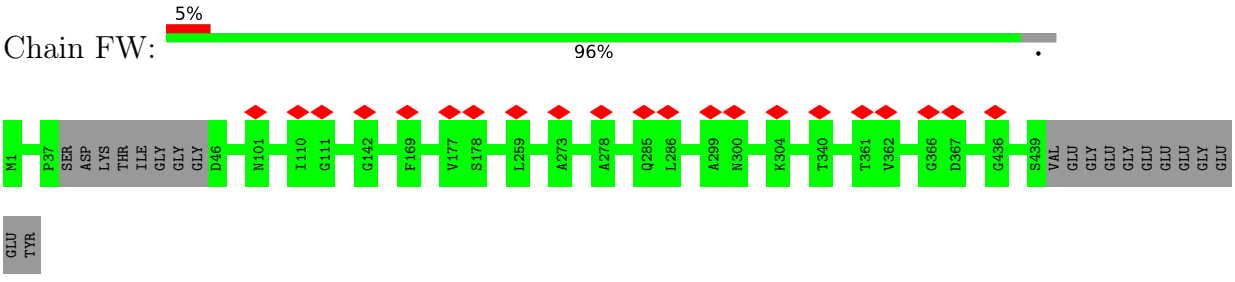
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain FU:



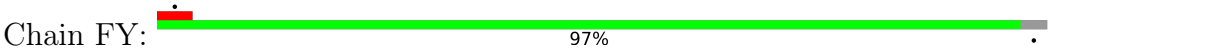
• Molecule 3: Detyrosinated tubulin alpha-1A chain

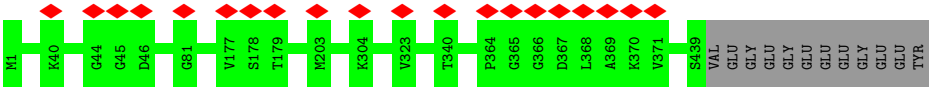
Chain FW:



• Molecule 3: Detyrosinated tubulin alpha-1A chain

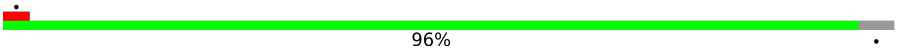
Chain FY:

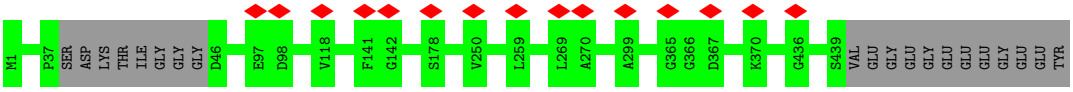




• Molecule 3: Detyrosinated tubulin alpha-1A chain

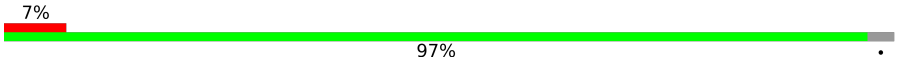
Chain Fa:

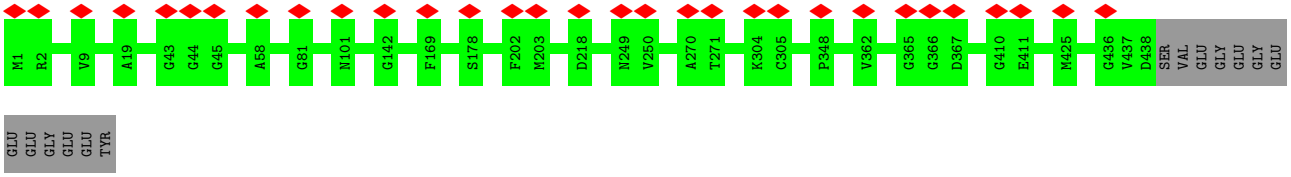




• Molecule 3: Detyrosinated tubulin alpha-1A chain

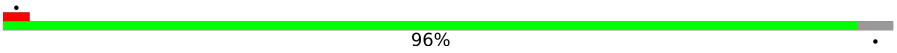
Chain Fc:

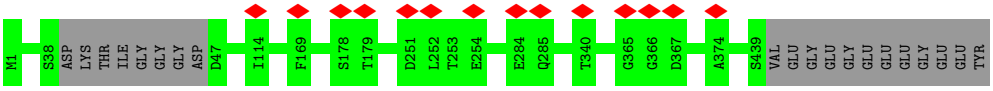




• Molecule 3: Detyrosinated tubulin alpha-1A chain

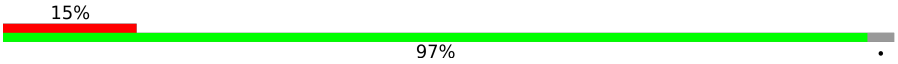
Chain Fe:

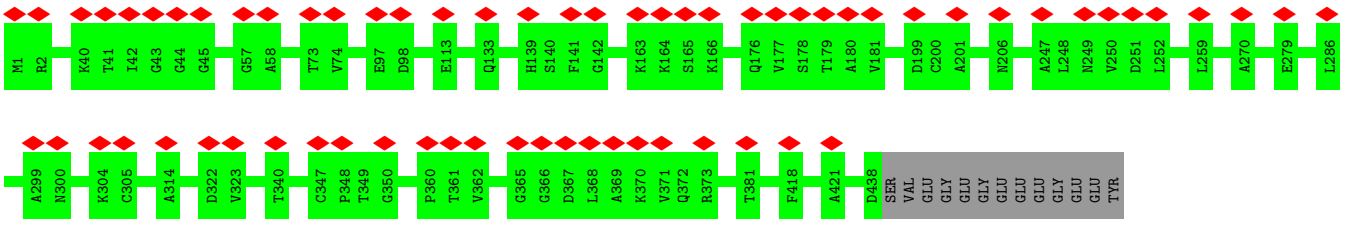




• Molecule 3: Detyrosinated tubulin alpha-1A chain

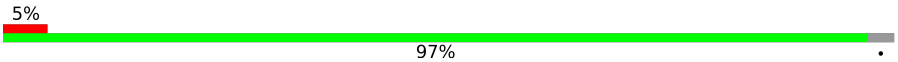
Chain AO:

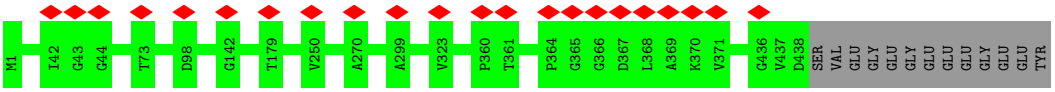




• Molecule 3: Detyrosinated tubulin alpha-1A chain

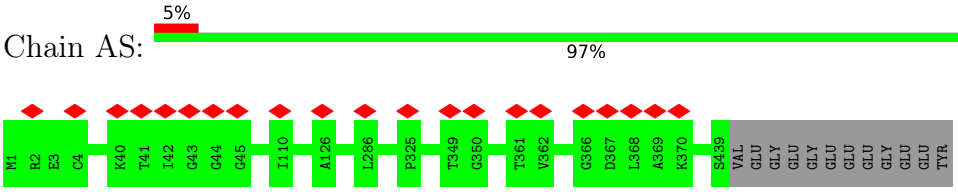
Chain AQ:





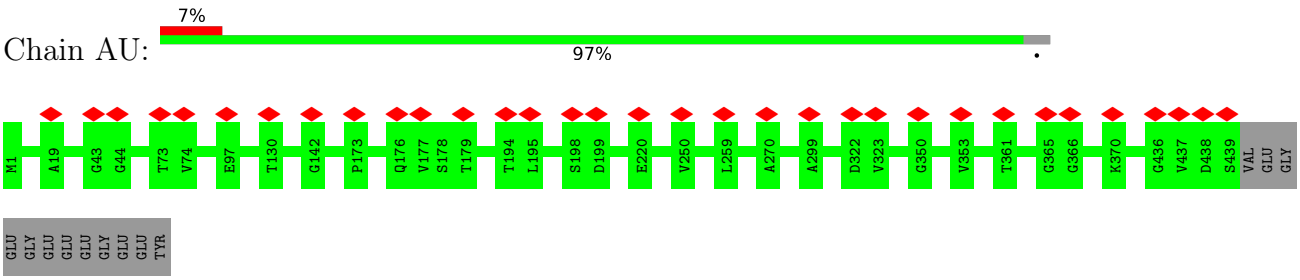
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain AS:



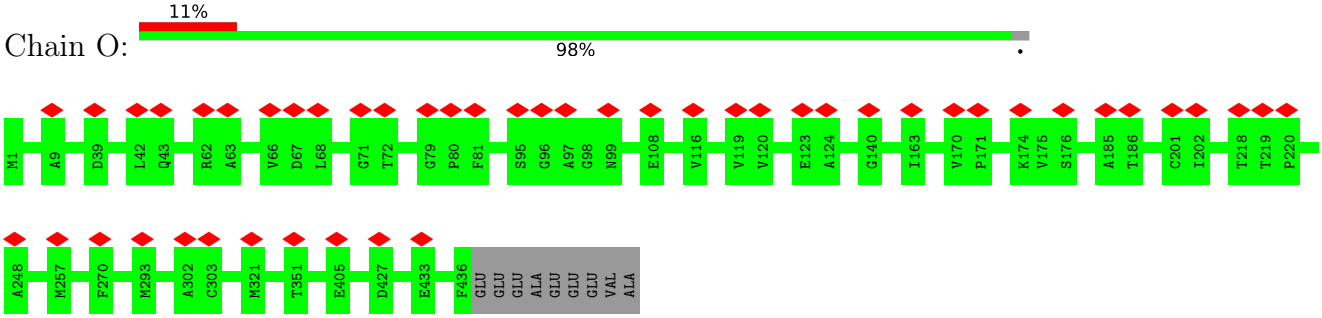
• Molecule 3: Detyrosinated tubulin alpha-1A chain

Chain AU:



• Molecule 4: Tubulin beta-4B chain

Chain O:



• Molecule 4: Tubulin beta-4B chain

Chain Q:

• Molecule 4: Tubulin beta-4B chain

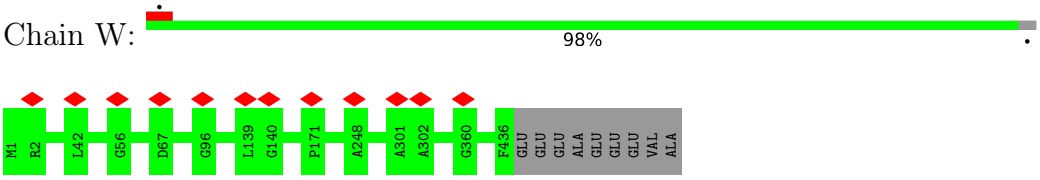
Chain S:

• Molecule 4: Tubulin beta-4B chain

Chain U:

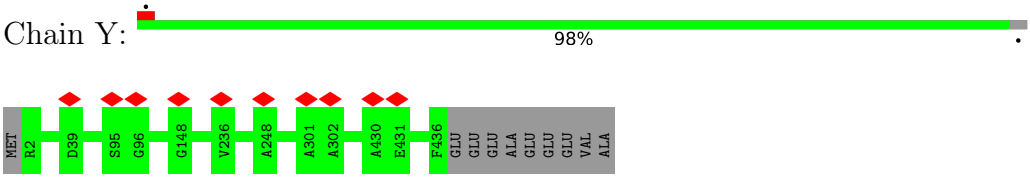
• Molecule 4: Tubulin beta-4B chain

Chain W:



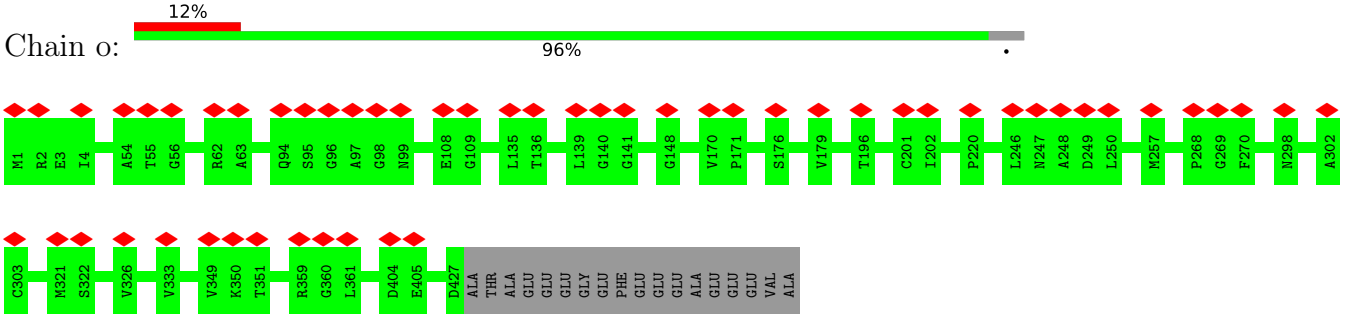
• Molecule 4: Tubulin beta-4B chain

Chain Y:



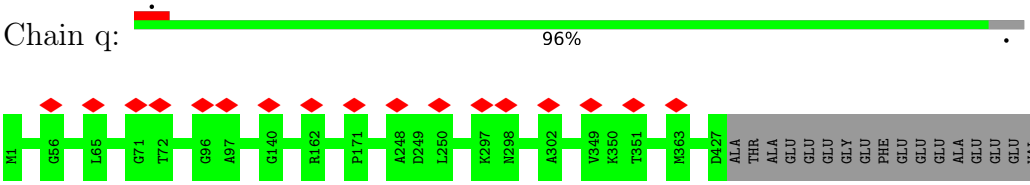
• Molecule 4: Tubulin beta-4B chain

Chain o:



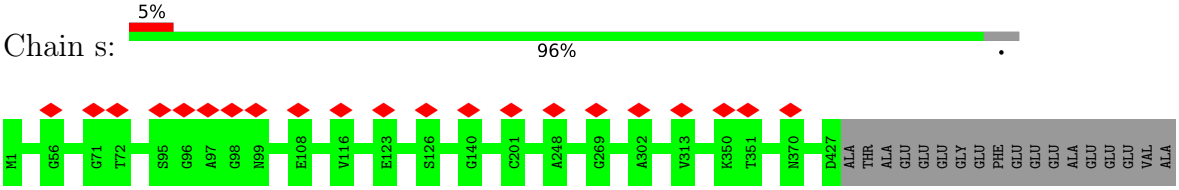
• Molecule 4: Tubulin beta-4B chain

Chain q:



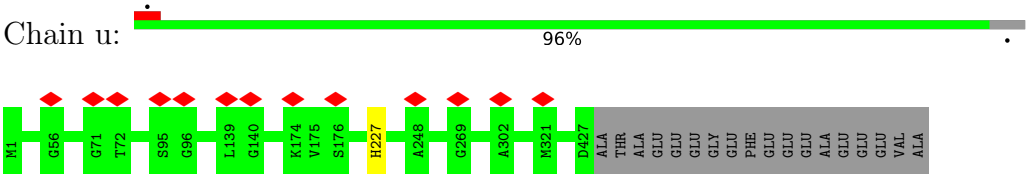
• Molecule 4: Tubulin beta-4B chain

Chain s:



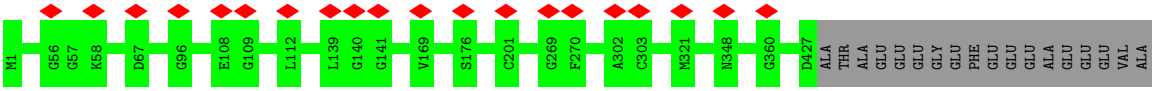
• Molecule 4: Tubulin beta-4B chain

Chain u:



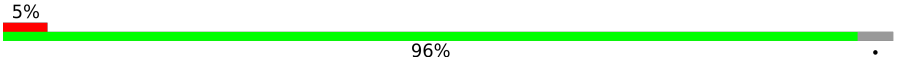
• Molecule 4: Tubulin beta-4B chain

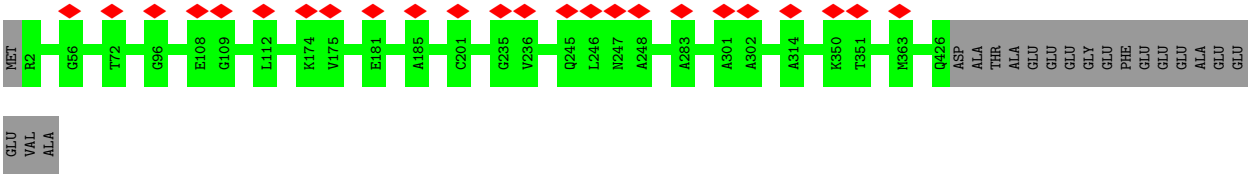
Chain w:



• Molecule 4: Tubulin beta-4B chain

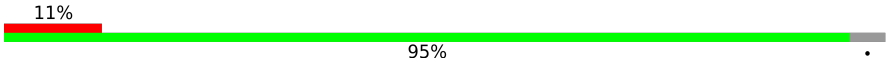
Chain y:

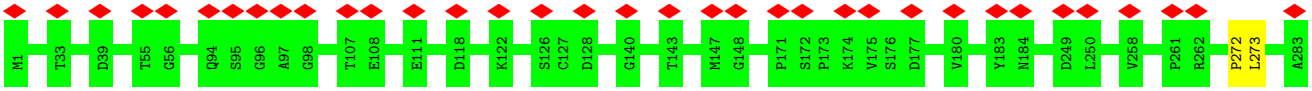


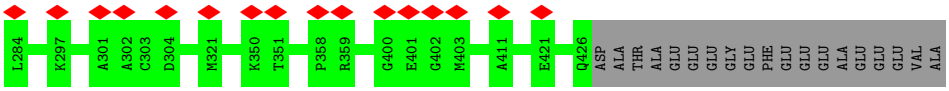


• Molecule 4: Tubulin beta-4B chain

Chain BR:

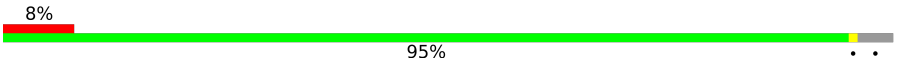


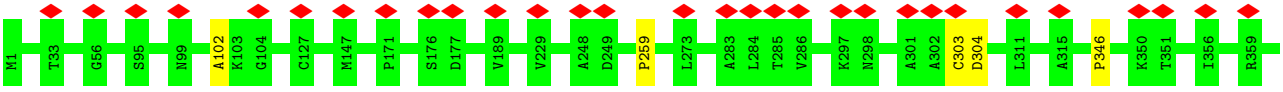


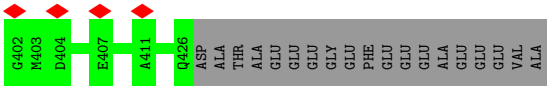


• Molecule 4: Tubulin beta-4B chain

Chain BT:

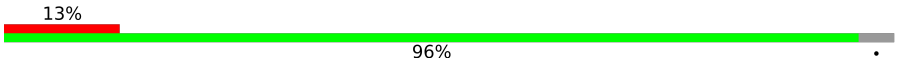


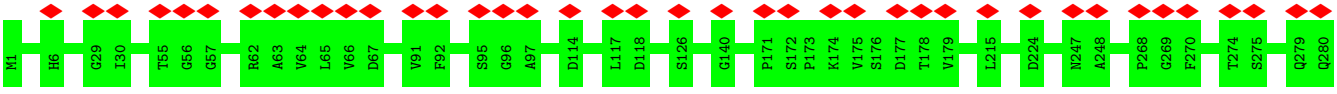


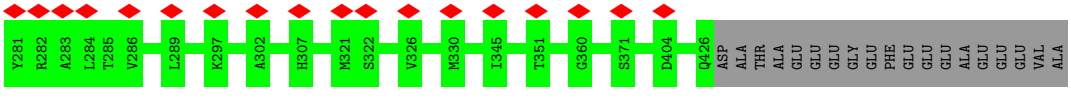


• Molecule 4: Tubulin beta-4B chain

Chain BV:

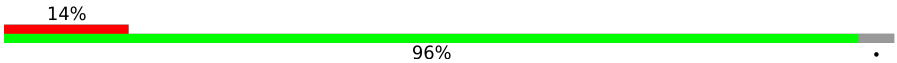


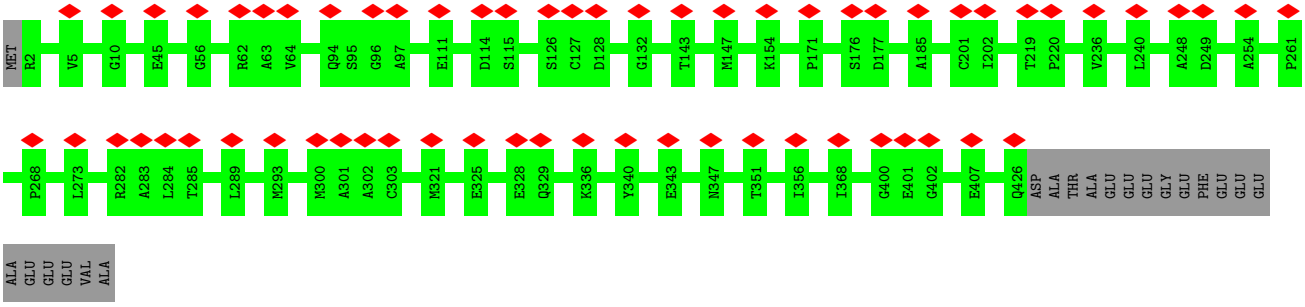




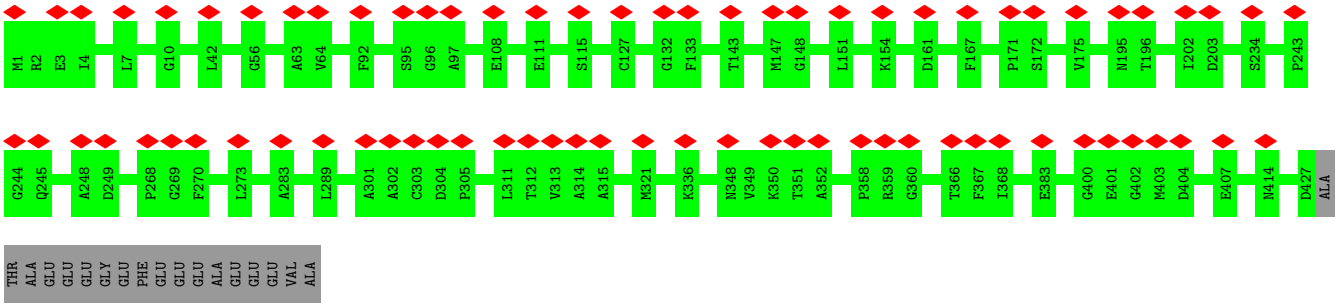
• Molecule 4: Tubulin beta-4B chain

Chain BX:

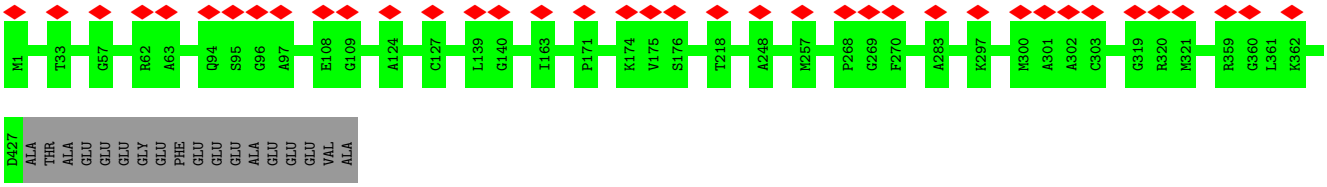




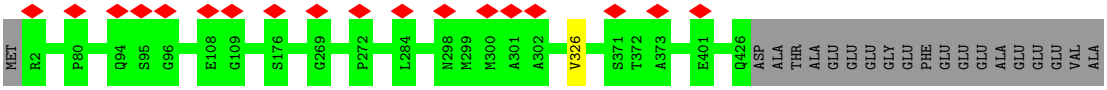
• Molecule 4: Tubulin beta-4B chain



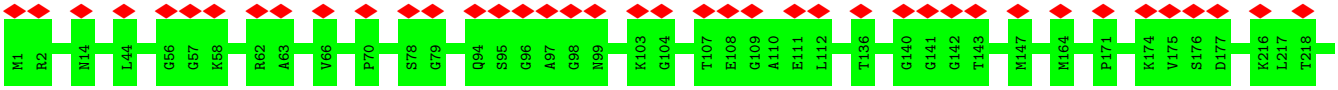
• Molecule 4: Tubulin beta-4B chain

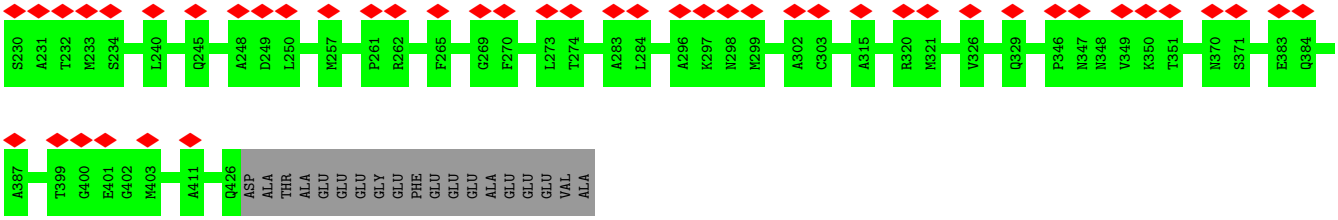


• Molecule 4: Tubulin beta-4B chain



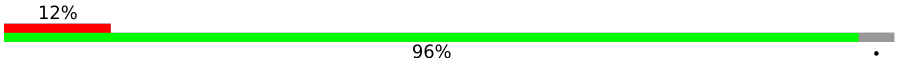
• Molecule 4: Tubulin beta-4B chain

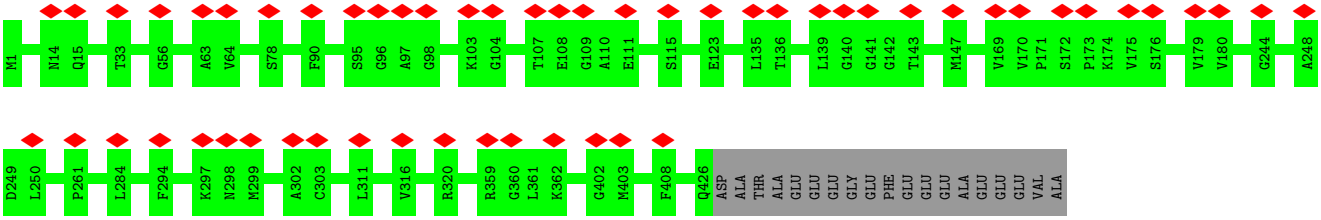




• Molecule 4: Tubulin beta-4B chain

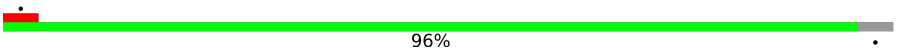
Chain Am:

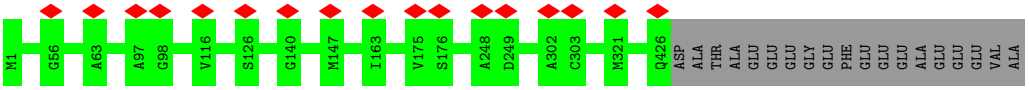




• Molecule 4: Tubulin beta-4B chain

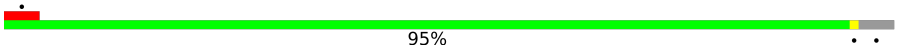
Chain Ao:

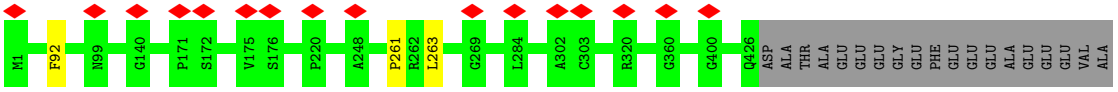




• Molecule 4: Tubulin beta-4B chain

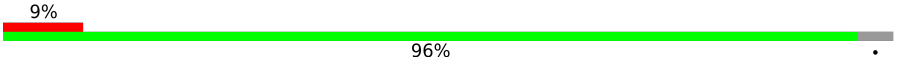
Chain Aq:

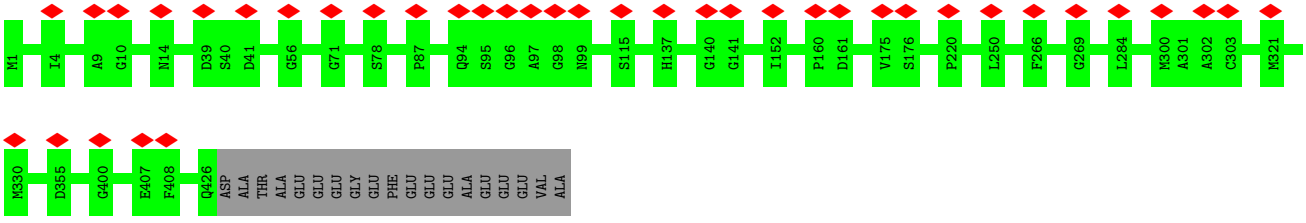




• Molecule 4: Tubulin beta-4B chain

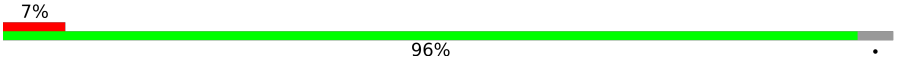
Chain As:

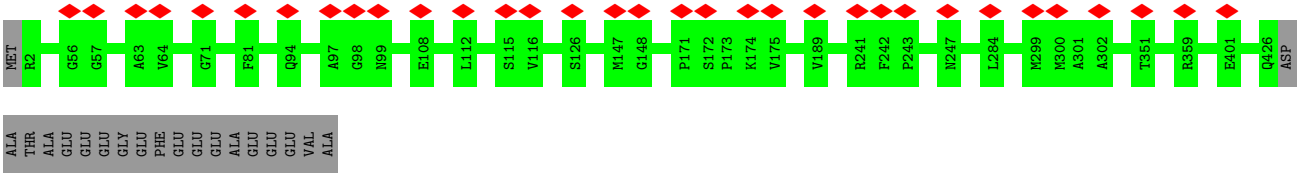




• Molecule 4: Tubulin beta-4B chain

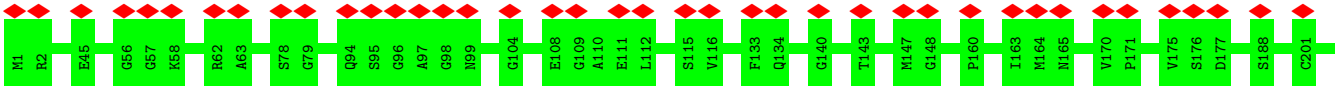
Chain Au:





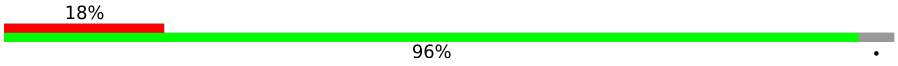
• Molecule 4: Tubulin beta-4B chain

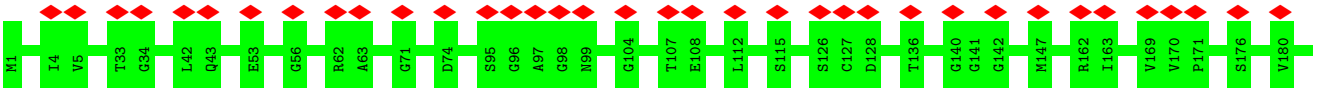
Chain Aw:



• Molecule 4: Tubulin beta-4B chain

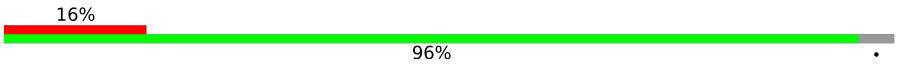
Chain A4:

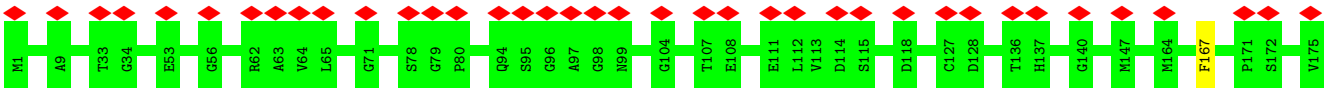




• Molecule 4: Tubulin beta-4B chain

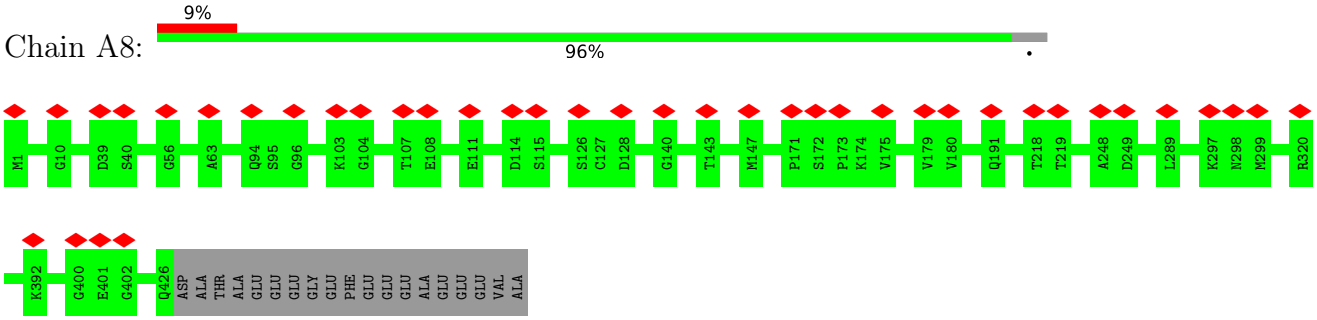
Chain A6:





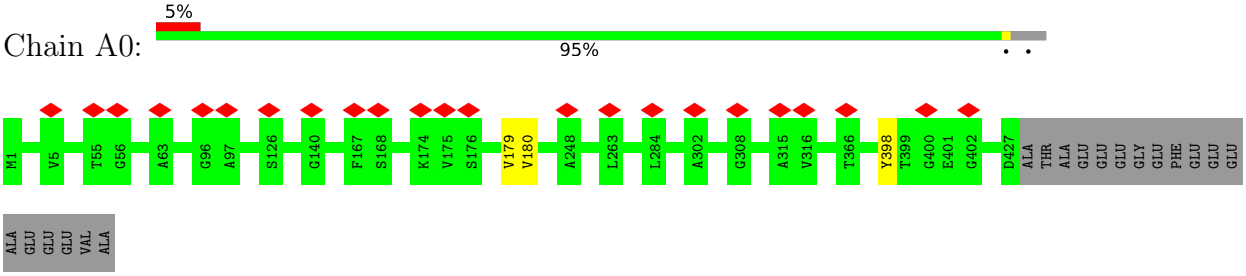
• Molecule 4: Tubulin beta-4B chain

Chain A8:



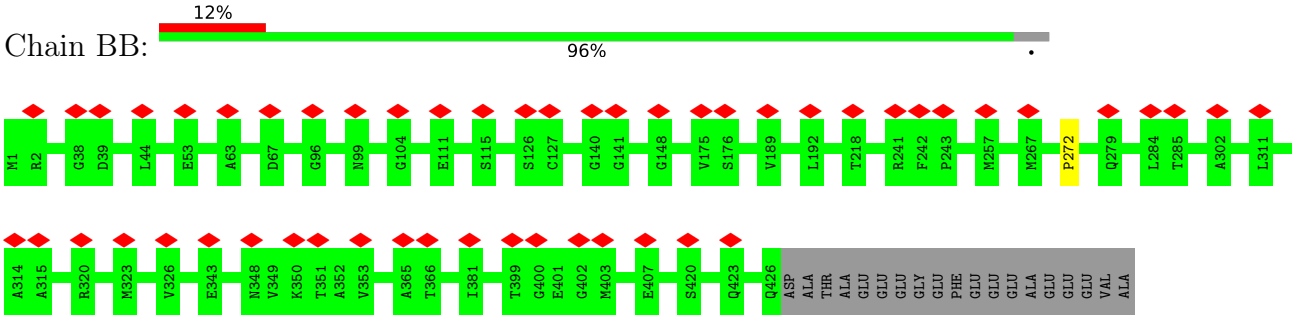
• Molecule 4: Tubulin beta-4B chain

Chain A0:



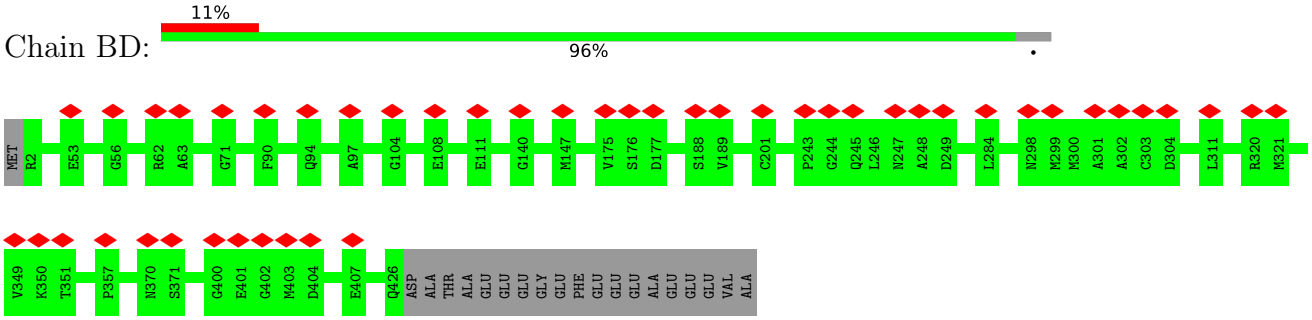
• Molecule 4: Tubulin beta-4B chain

Chain BB:



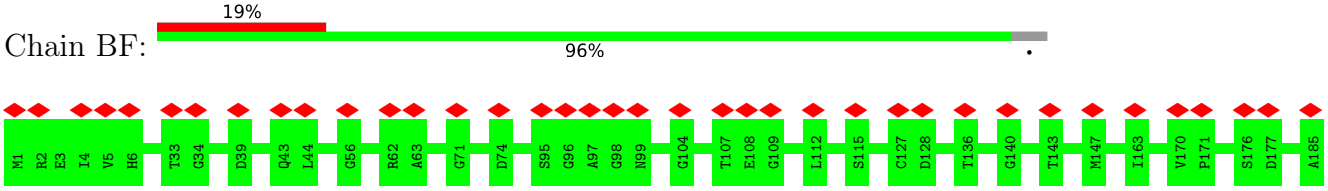
• Molecule 4: Tubulin beta-4B chain

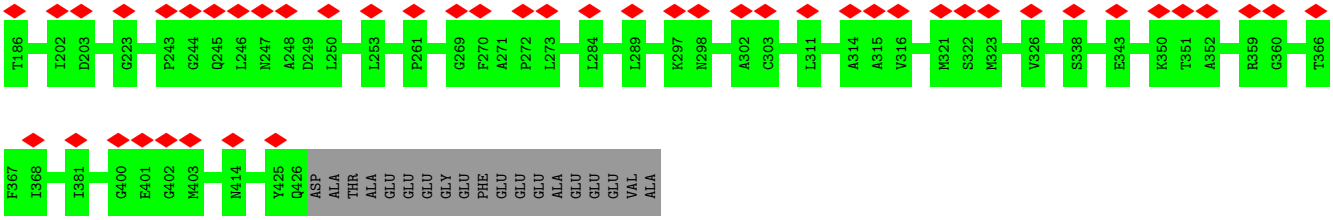
Chain BD:



• Molecule 4: Tubulin beta-4B chain

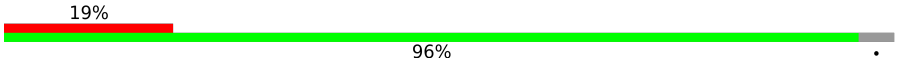
Chain BF:

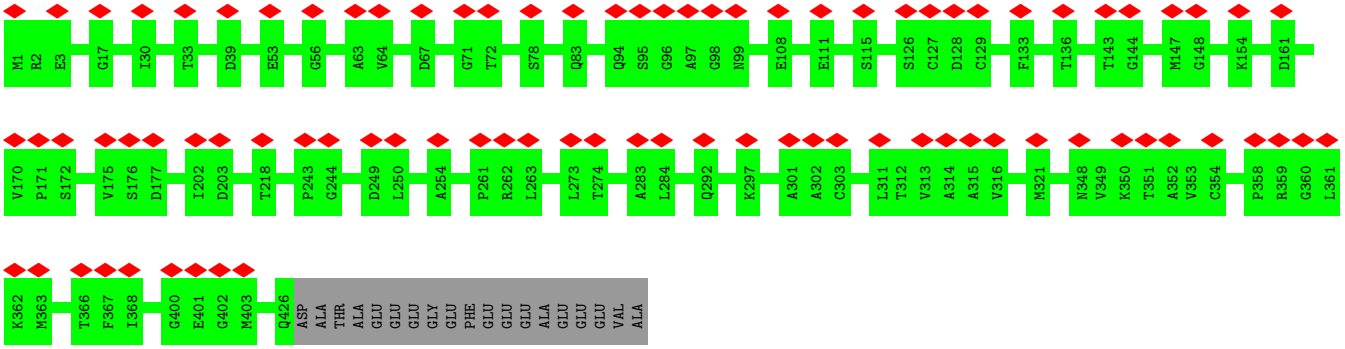




• Molecule 4: Tubulin beta-4B chain

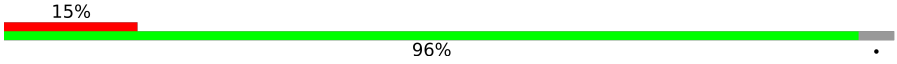
Chain BN:

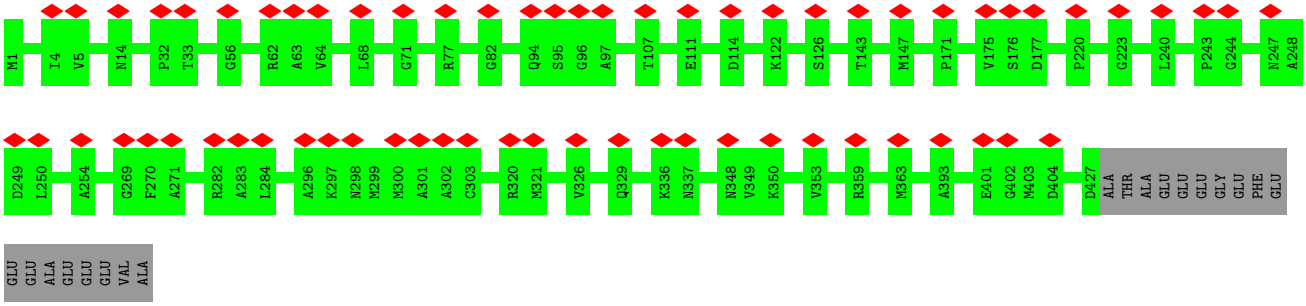




• Molecule 4: Tubulin beta-4B chain

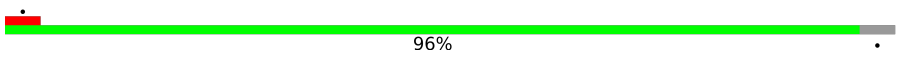
Chain BP:

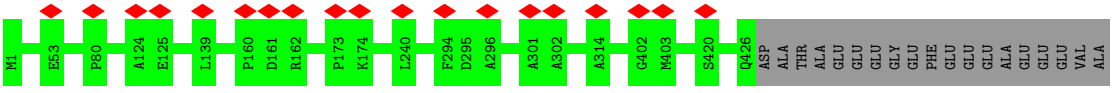




• Molecule 4: Tubulin beta-4B chain

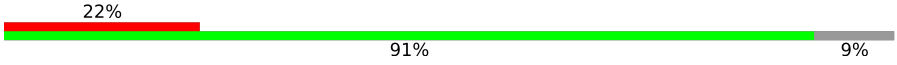
Chain CY:

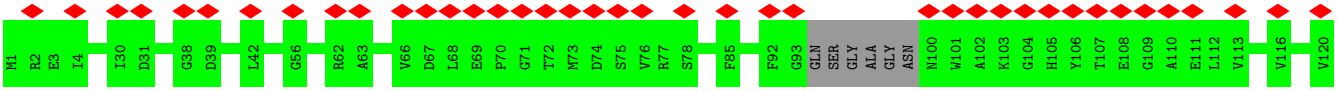


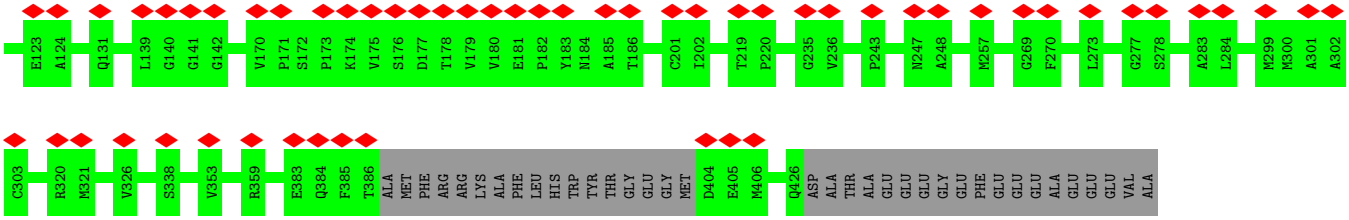


• Molecule 4: Tubulin beta-4B chain

Chain Cb:

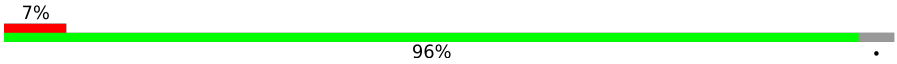


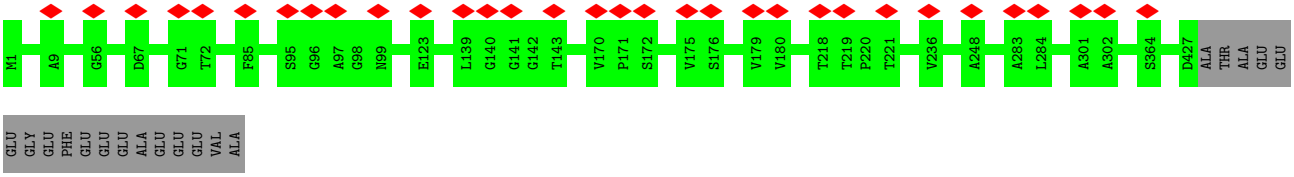




• Molecule 4: Tubulin beta-4B chain

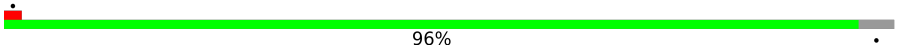
Chain Cd:

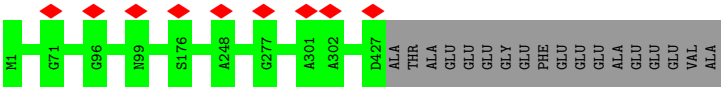




• Molecule 4: Tubulin beta-4B chain

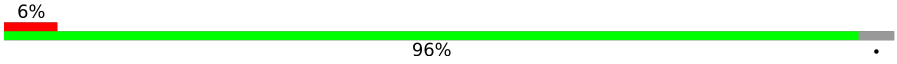
Chain Cf:

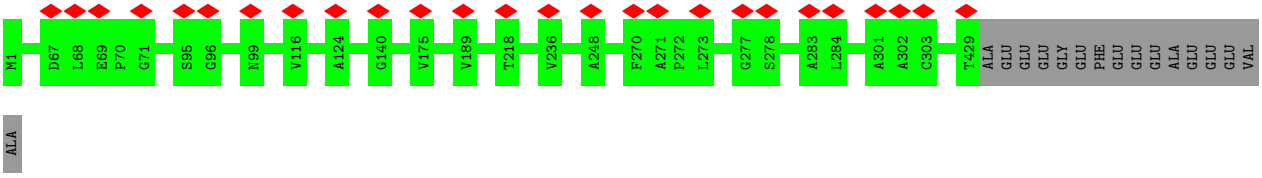




• Molecule 4: Tubulin beta-4B chain

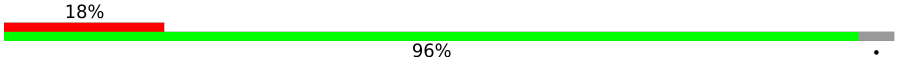
Chain Ch:

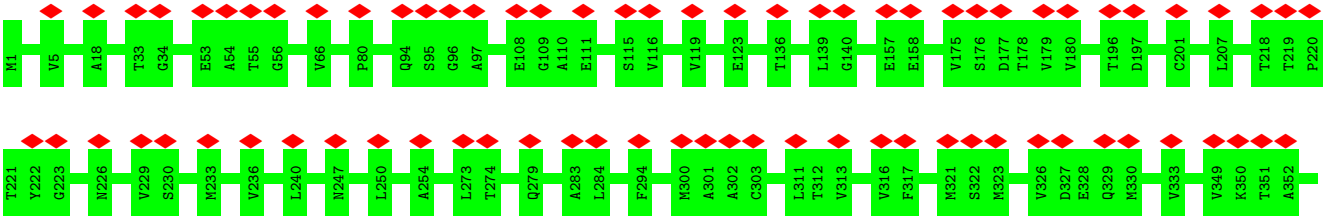




• Molecule 4: Tubulin beta-4B chain

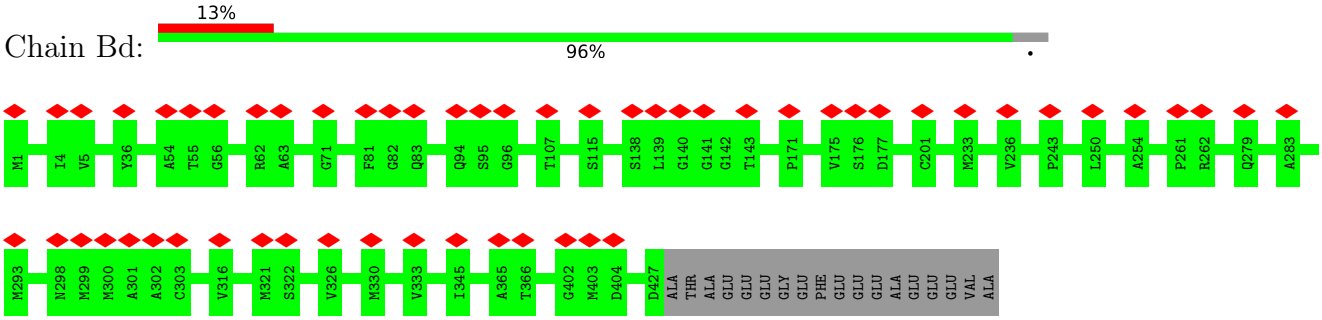
Chain Bb:





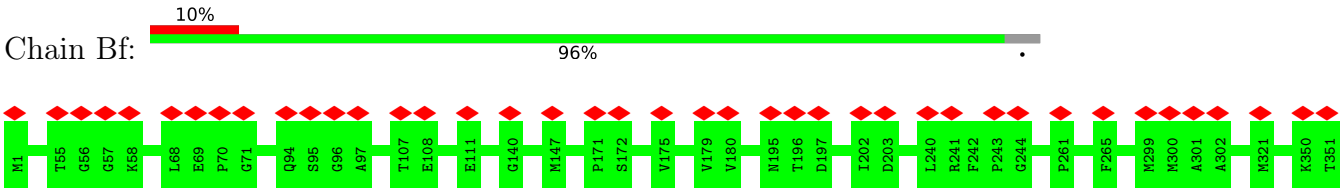
• Molecule 4: Tubulin beta-4B chain

Chain Bd:



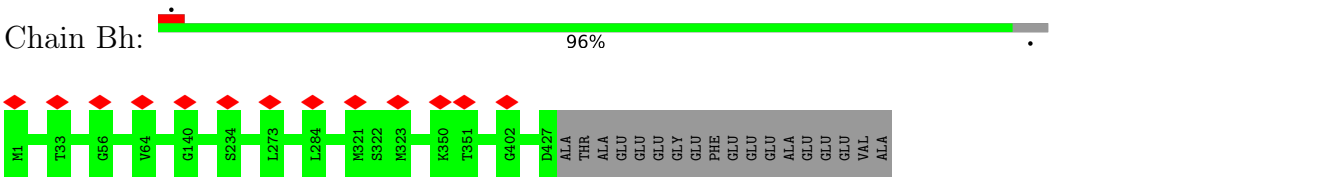
• Molecule 4: Tubulin beta-4B chain

Chain Bf:



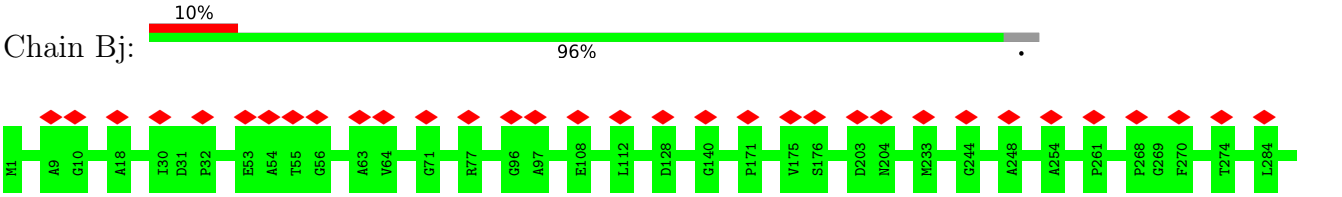
• Molecule 4: Tubulin beta-4B chain

Chain Bh:



• Molecule 4: Tubulin beta-4B chain

Chain Bj:



• Molecule 4: Tubulin beta-4B chain

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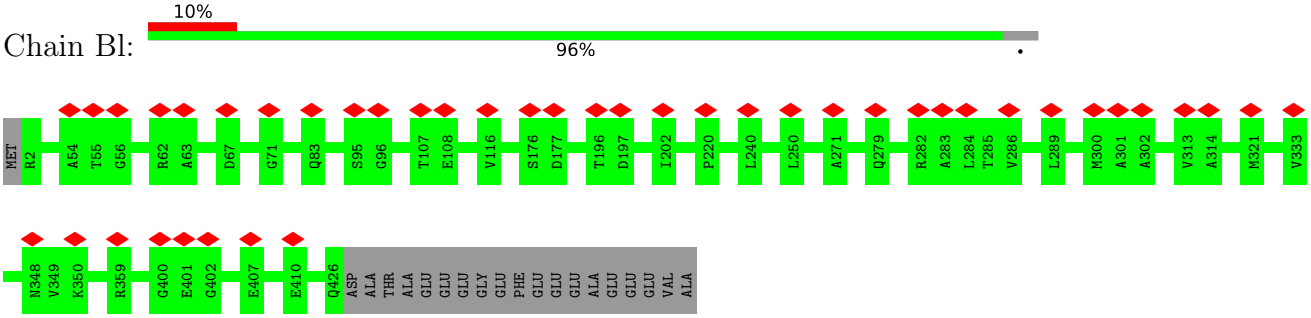

• Molecule 4: Tubulin beta-4B chain

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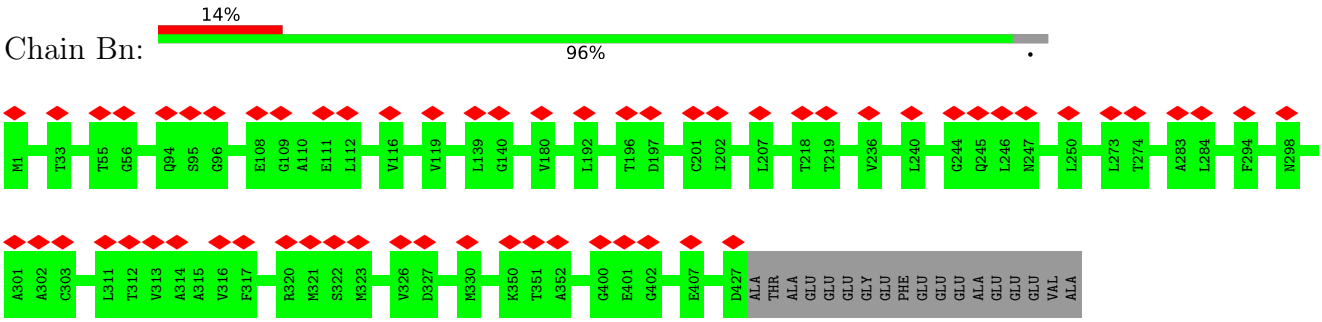
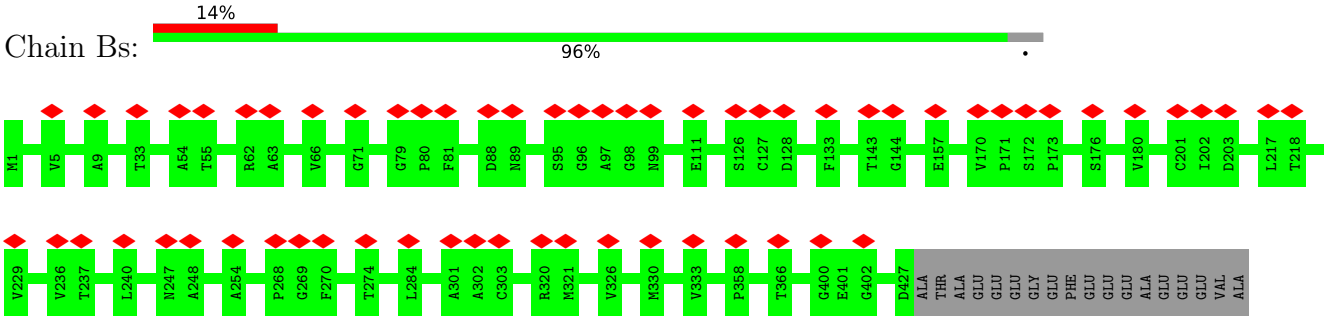


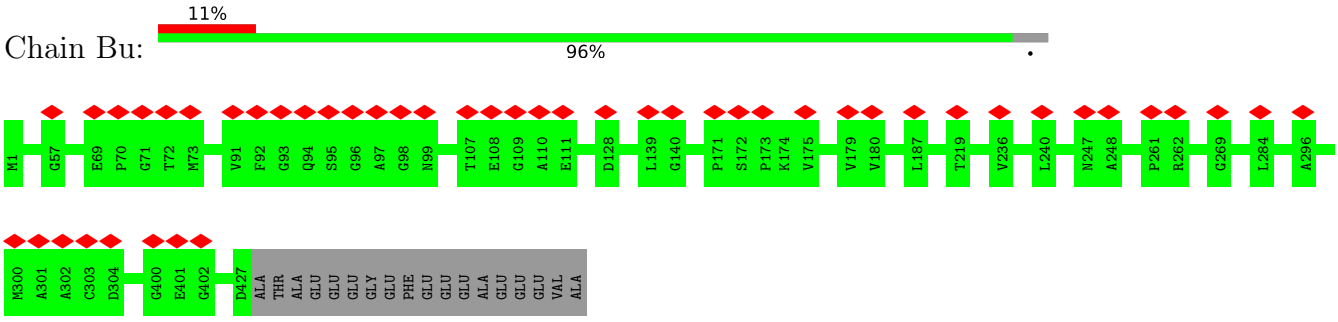
• Molecule 4: Tubulin beta-4B chain

Chain Bs:



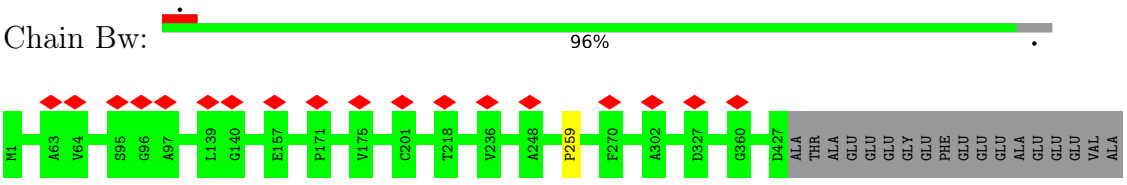
• Molecule 4: Tubulin beta-4B chain

Chain Bu:



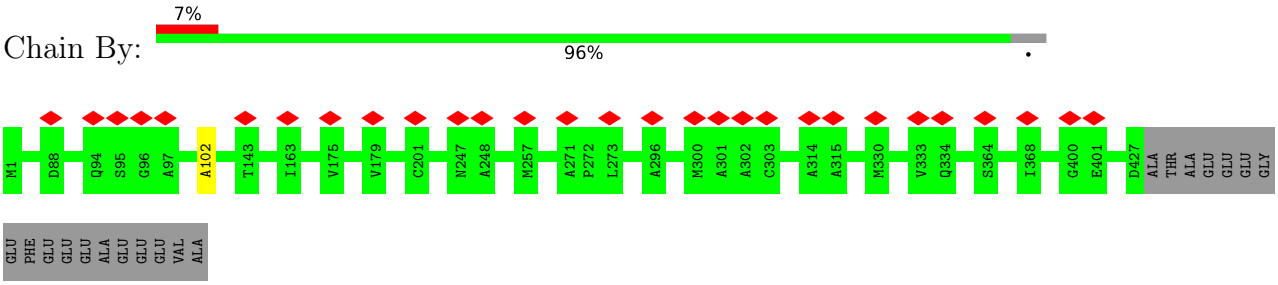
• Molecule 4: Tubulin beta-4B chain

Chain Bw:



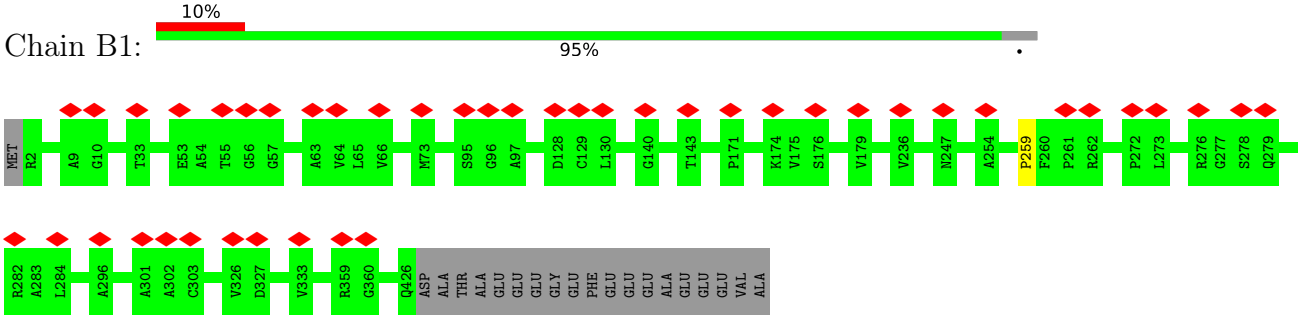
• Molecule 4: Tubulin beta-4B chain

Chain By:



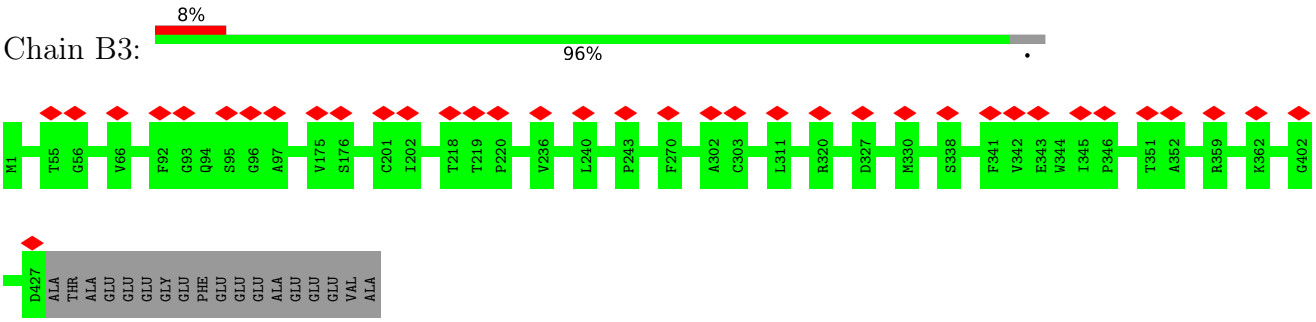
• Molecule 4: Tubulin beta-4B chain

Chain B1:



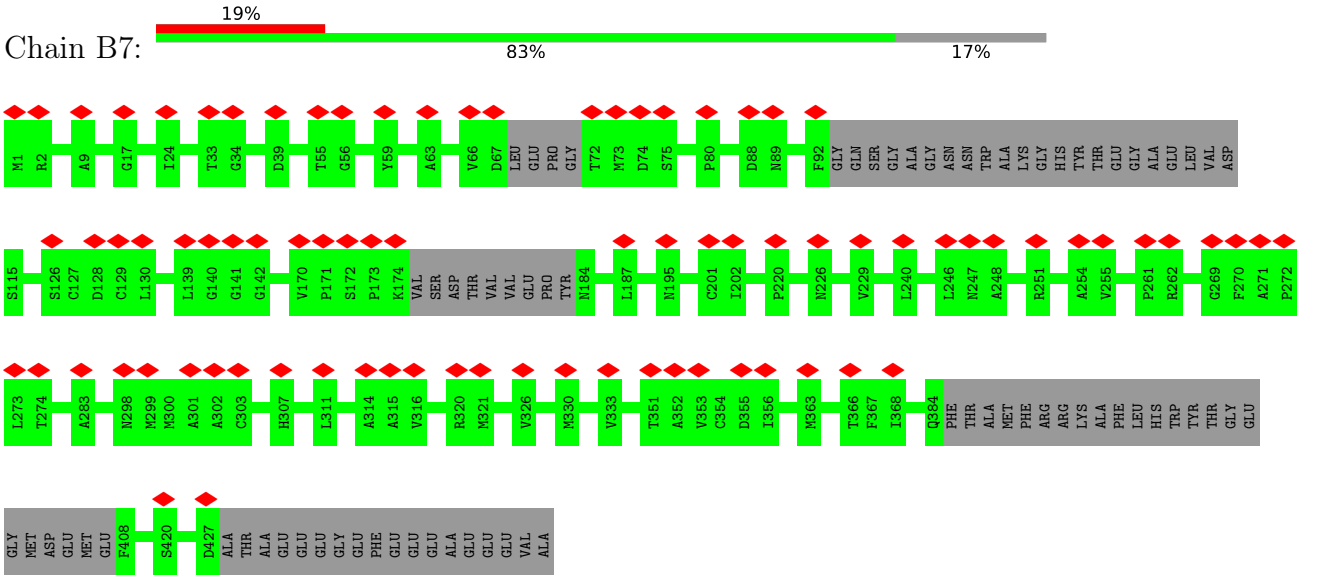
• Molecule 4: Tubulin beta-4B chain

Chain B3:



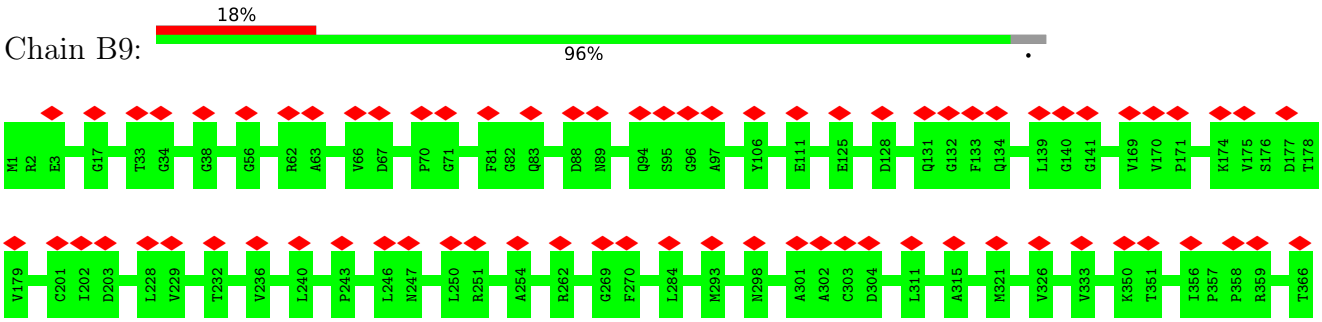
• Molecule 4: Tubulin beta-4B chain

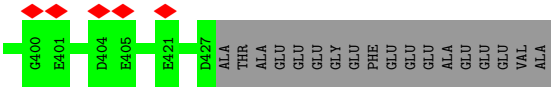
Chain B7:



• Molecule 4: Tubulin beta-4B chain

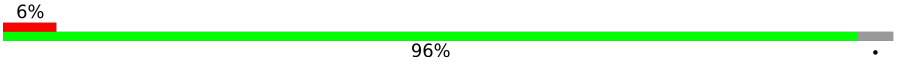
Chain B9:

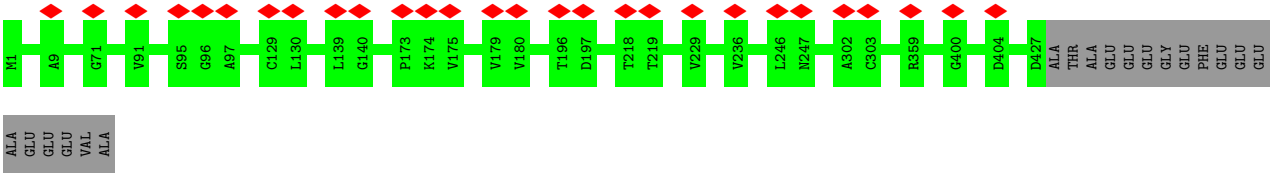




• Molecule 4: Tubulin beta-4B chain

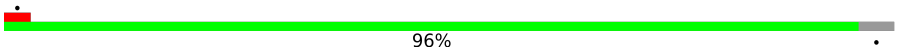
Chain CA:

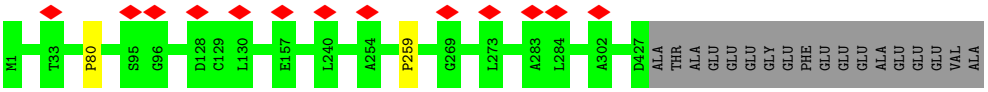




• Molecule 4: Tubulin beta-4B chain

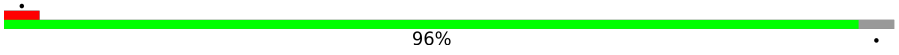
Chain CC:

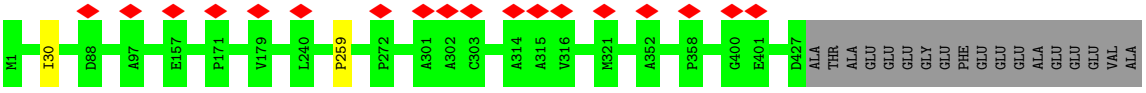




• Molecule 4: Tubulin beta-4B chain

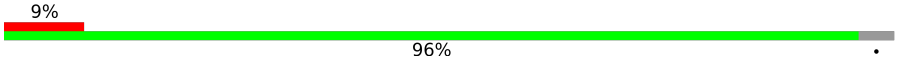
Chain CE:

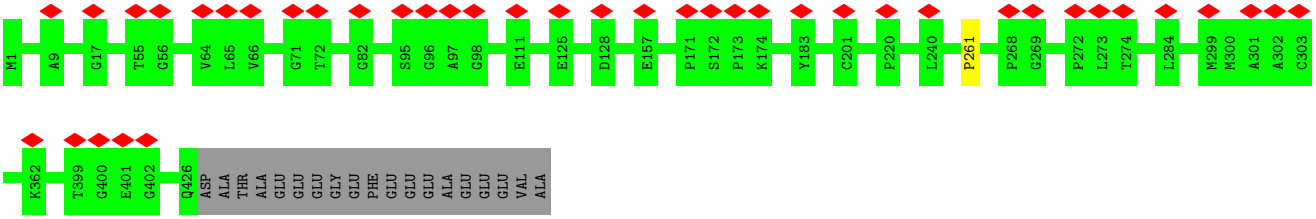




• Molecule 4: Tubulin beta-4B chain

Chain CG:





• Molecule 4: Tubulin beta-4B chain

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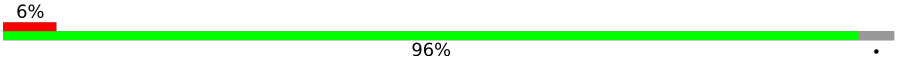
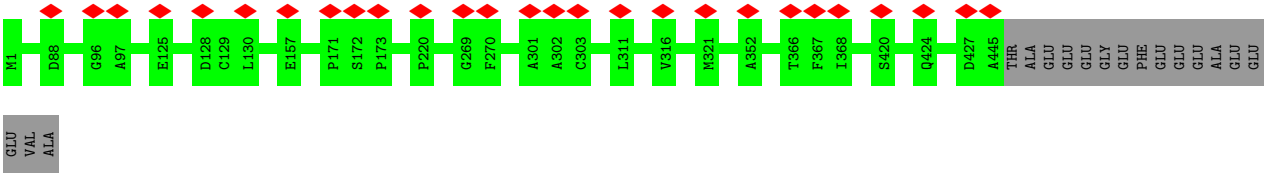
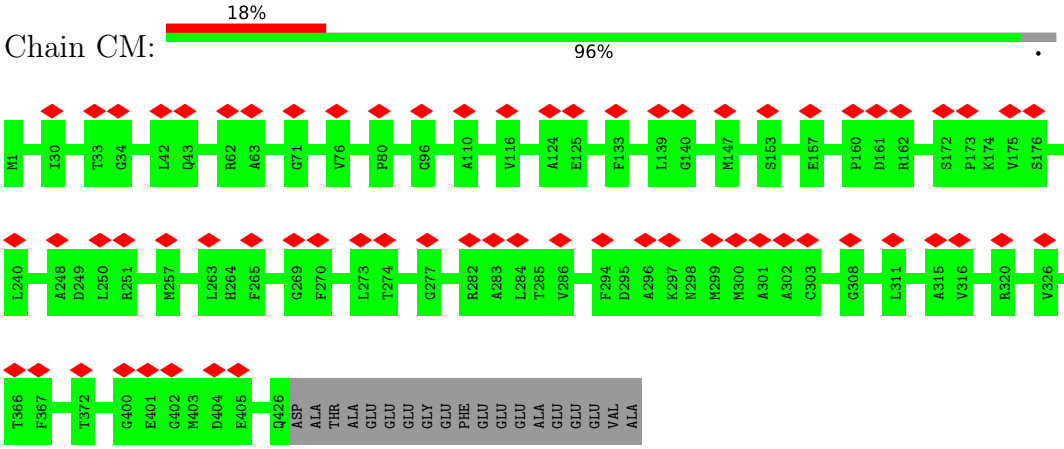




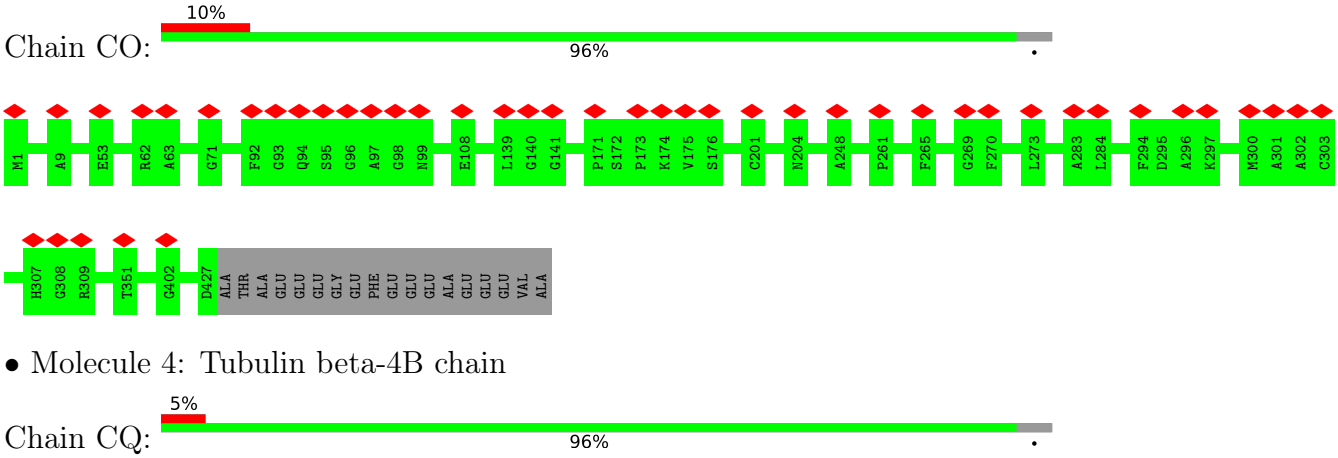
• Molecule 4: Tubulin beta-4B chain

Chain CM:



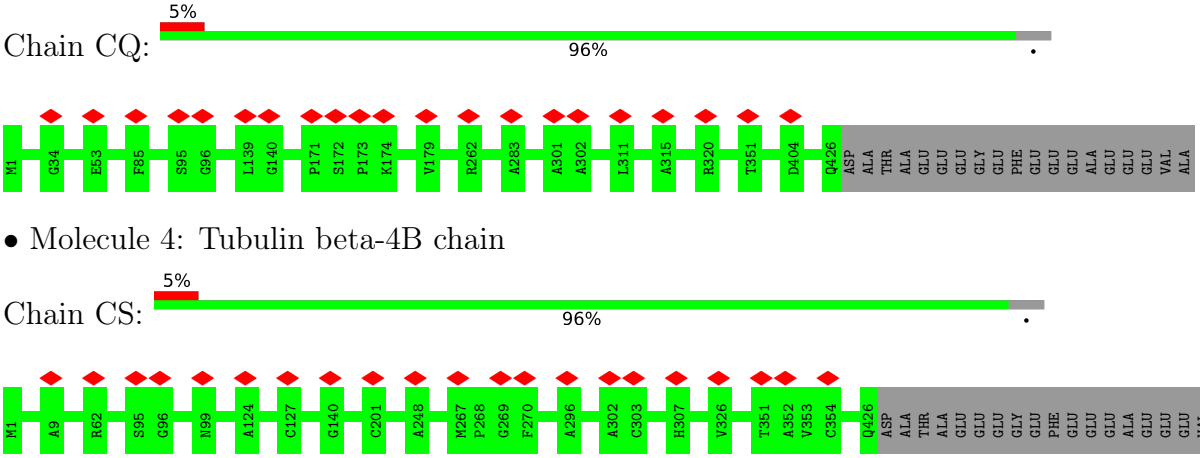
• Molecule 4: Tubulin beta-4B chain

Chain CO:



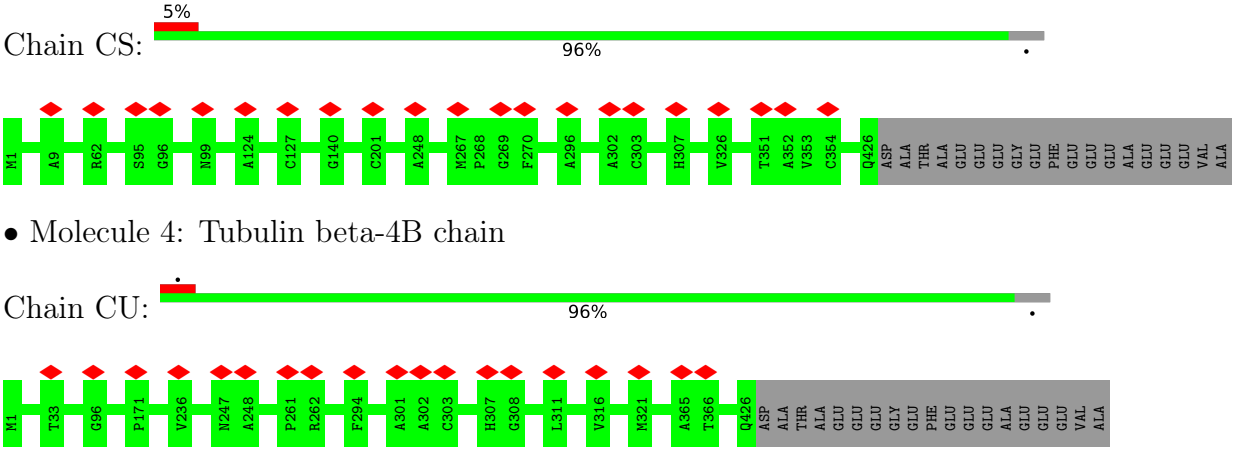
• Molecule 4: Tubulin beta-4B chain

Chain CQ:



• Molecule 4: Tubulin beta-4B chain

Chain CS:



• Molecule 4: Tubulin beta-4B chain

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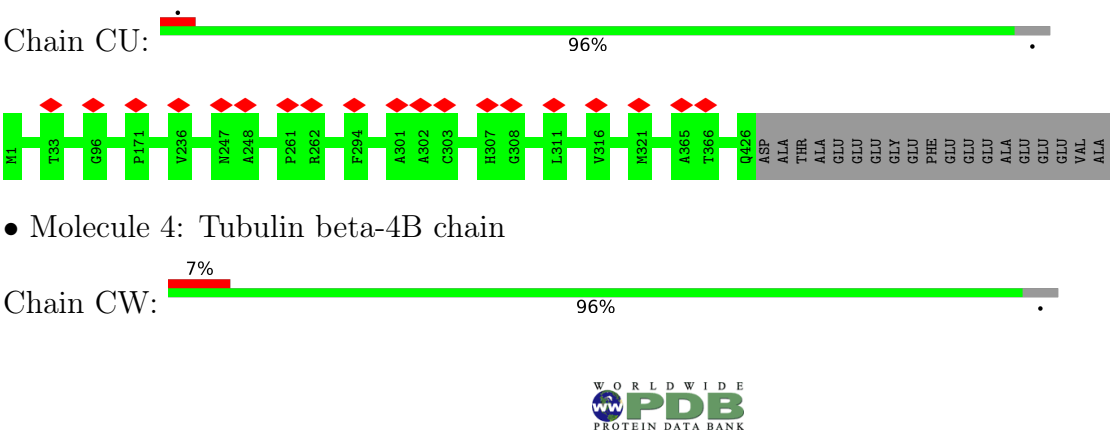
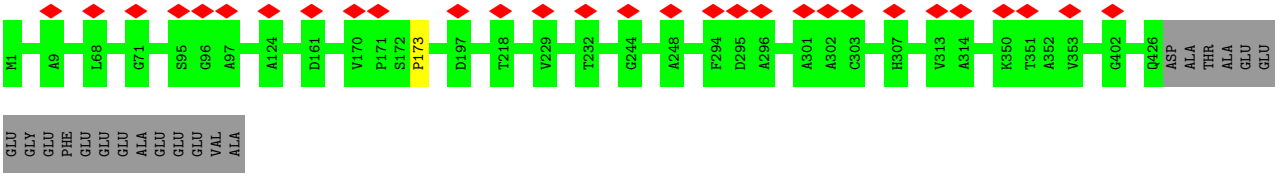
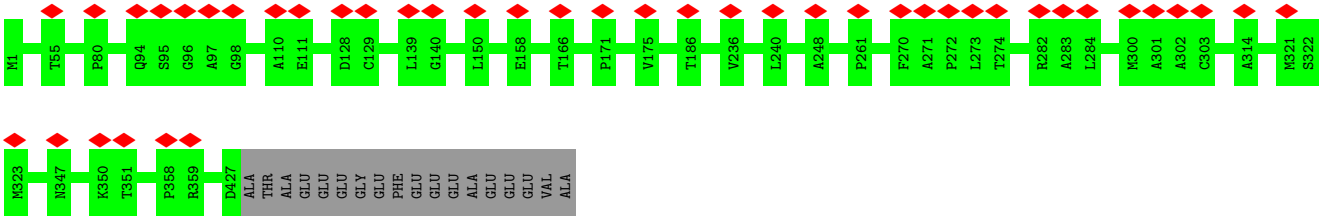


• Molecule 4: Tubulin beta-4B chain

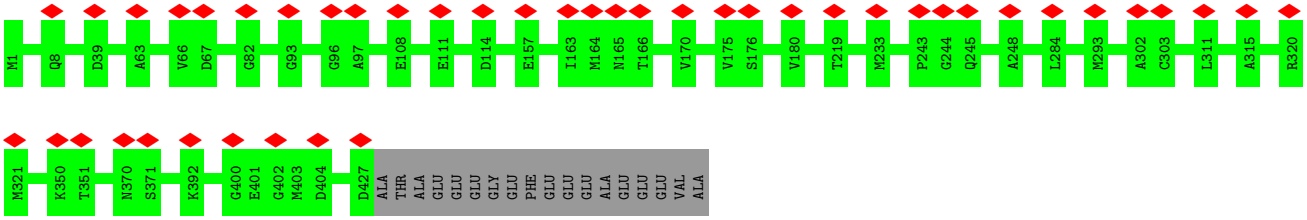
Chain CW:



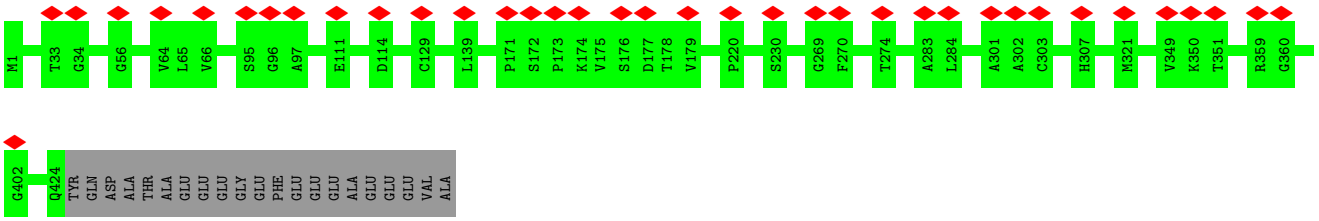
• Molecule 4: Tubulin beta-4B chain



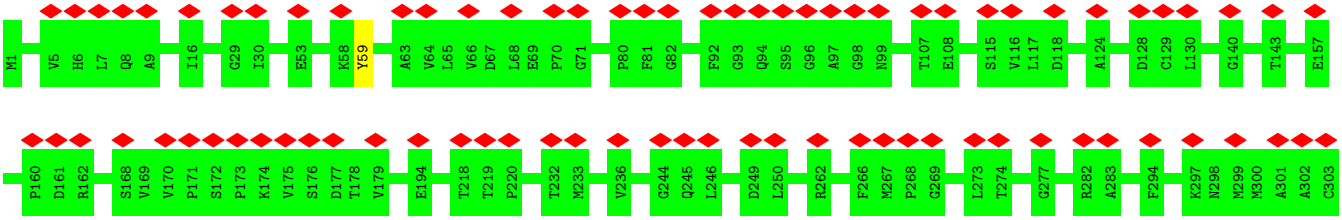
• Molecule 4: Tubulin beta-4B chain

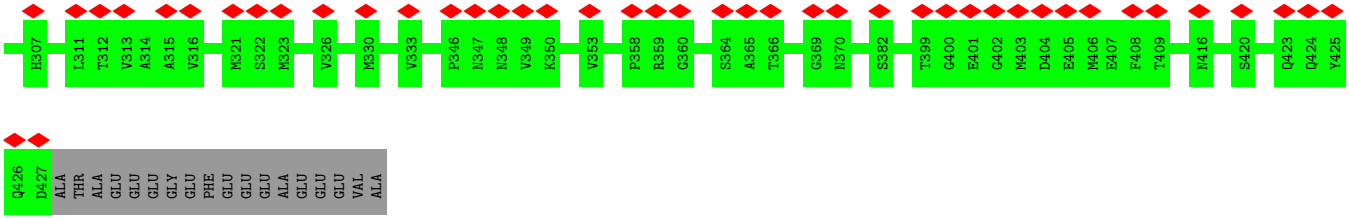


• Molecule 4: Tubulin beta-4B chain



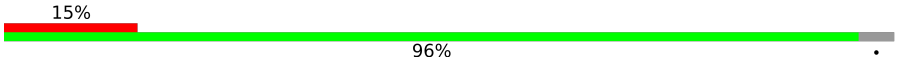
• Molecule 4: Tubulin beta-4B chain

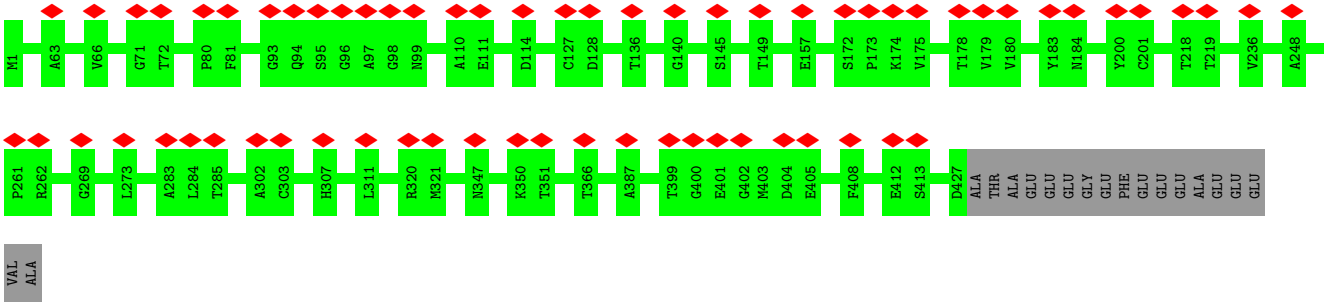




• Molecule 4: Tubulin beta-4B chain

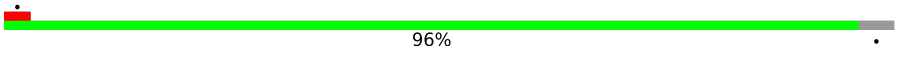
Chain Ds:

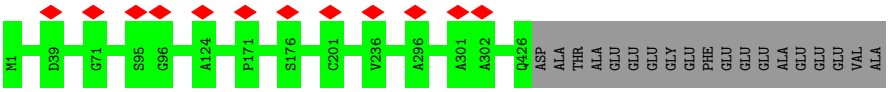




• Molecule 4: Tubulin beta-4B chain

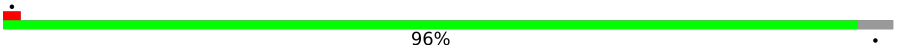
Chain Cj:

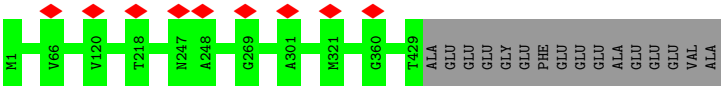




• Molecule 4: Tubulin beta-4B chain

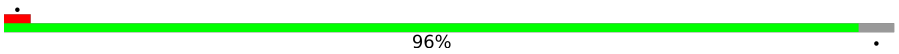
Chain Cl:

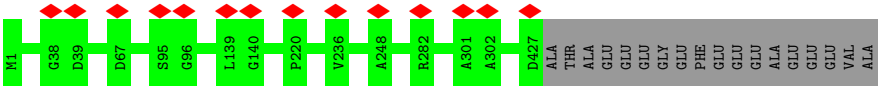




• Molecule 4: Tubulin beta-4B chain

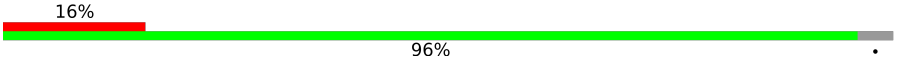
Chain Cn:

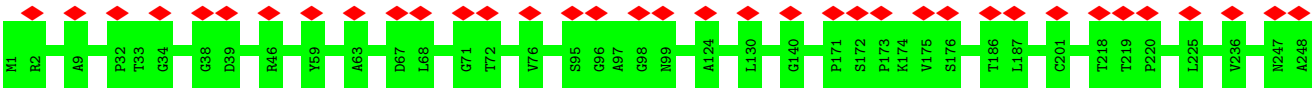


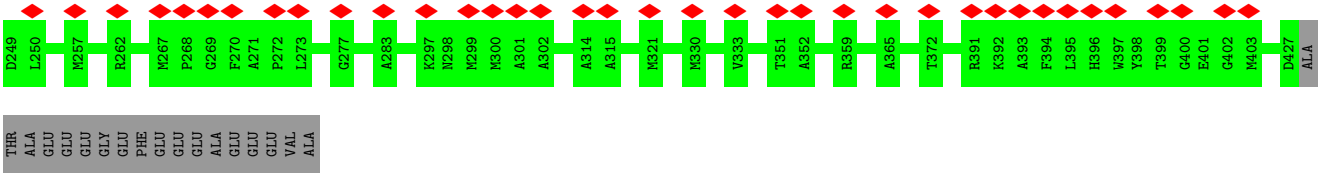


• Molecule 4: Tubulin beta-4B chain

Chain Cr:

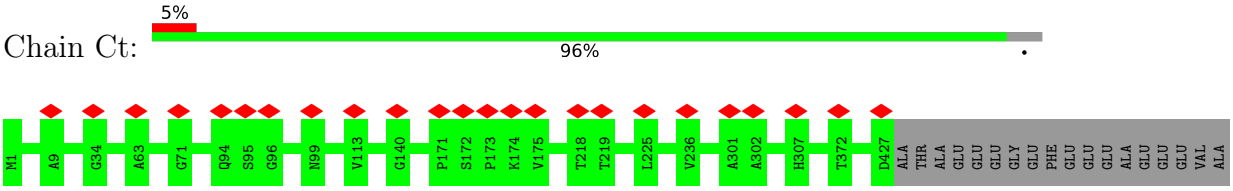






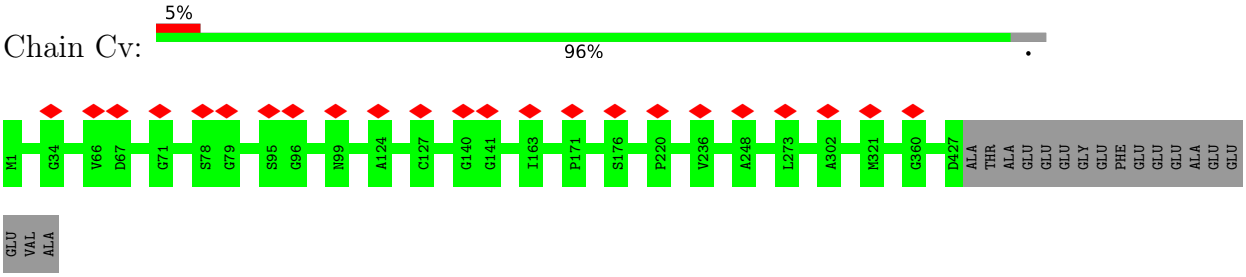
• Molecule 4: Tubulin beta-4B chain

Chain Ct:



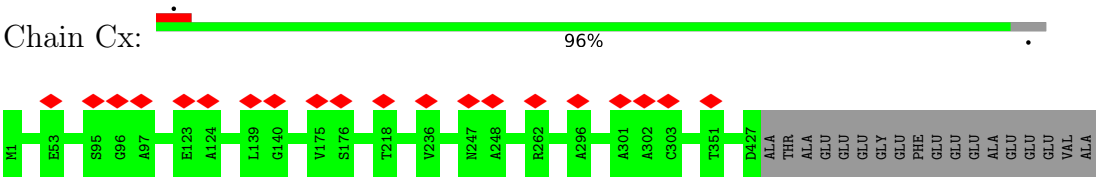
• Molecule 4: Tubulin beta-4B chain

Chain Cv:



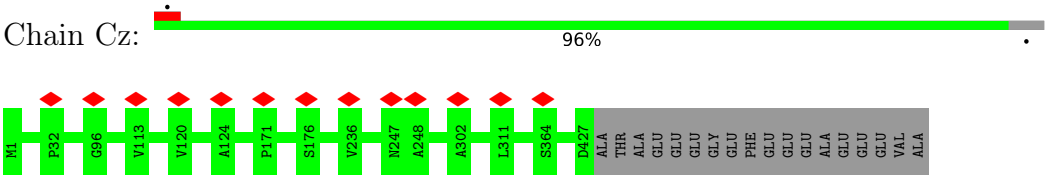
• Molecule 4: Tubulin beta-4B chain

Chain Cx:



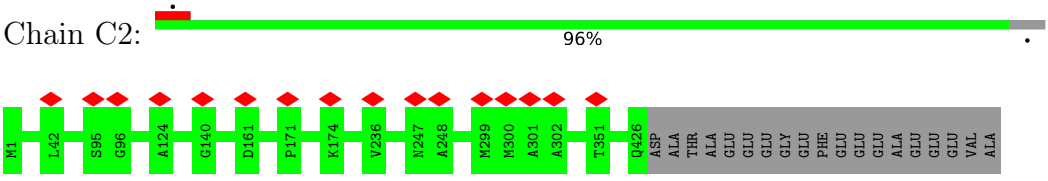
• Molecule 4: Tubulin beta-4B chain

Chain Cz:



• Molecule 4: Tubulin beta-4B chain

Chain C2:



• Molecule 4: Tubulin beta-4B chain

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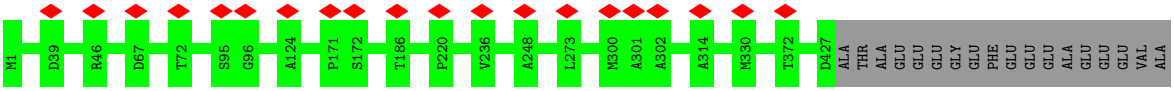
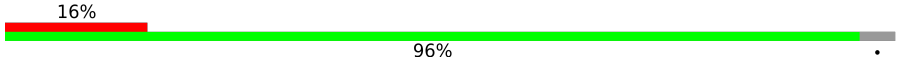
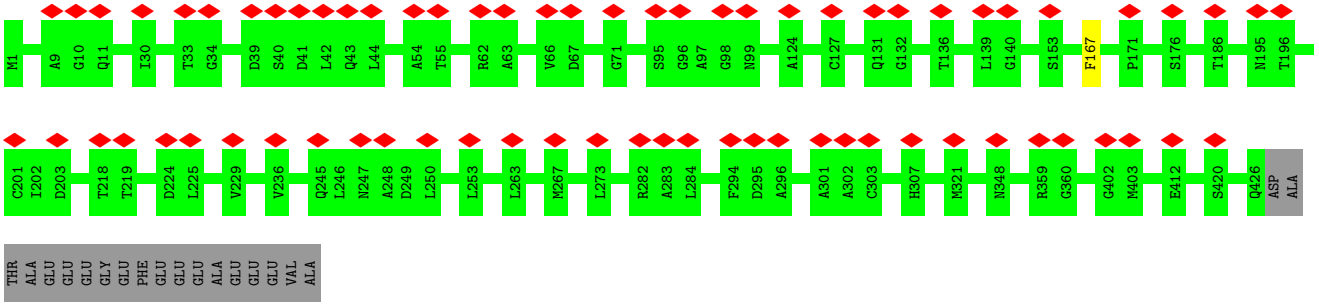


• Molecule 4: Tubulin beta-4B chain

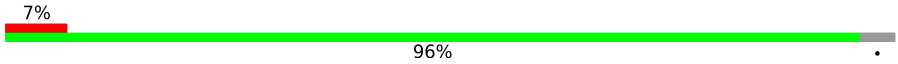
Chain C7:

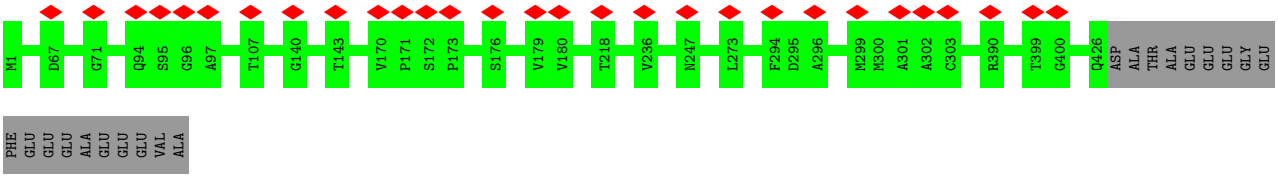




• Molecule 4: Tubulin beta-4B chain

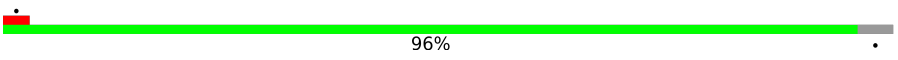
Chain C9:

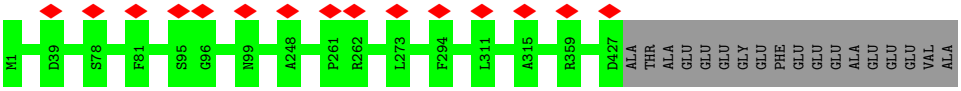




• Molecule 4: Tubulin beta-4B chain

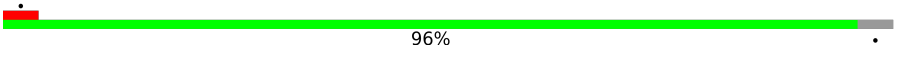
Chain DA:

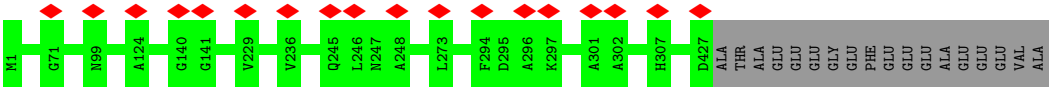




• Molecule 4: Tubulin beta-4B chain

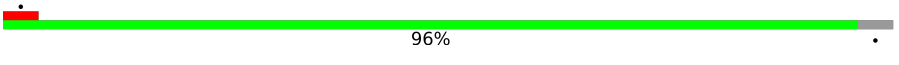
Chain DC:

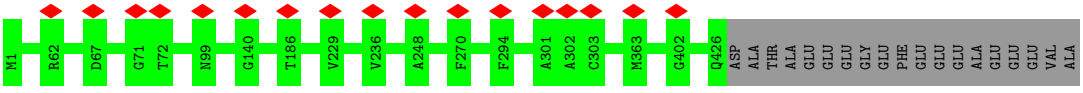




• Molecule 4: Tubulin beta-4B chain

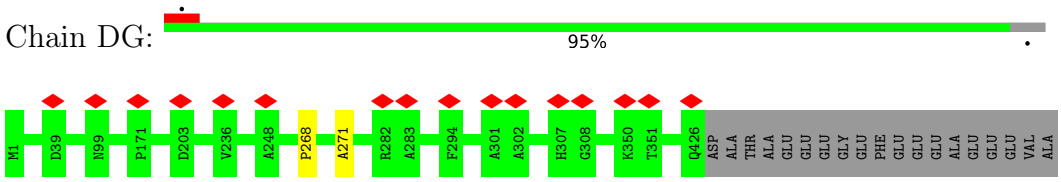
Chain DE:





• Molecule 4: Tubulin beta-4B chain

Chain DG:



• Molecule 4: Tubulin beta-4B chain

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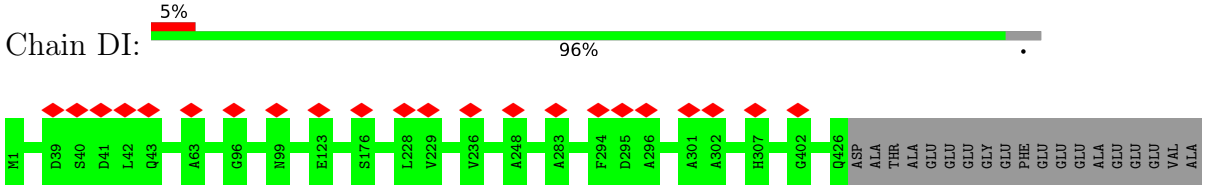

• Molecule 4: Tubulin beta-4B chain

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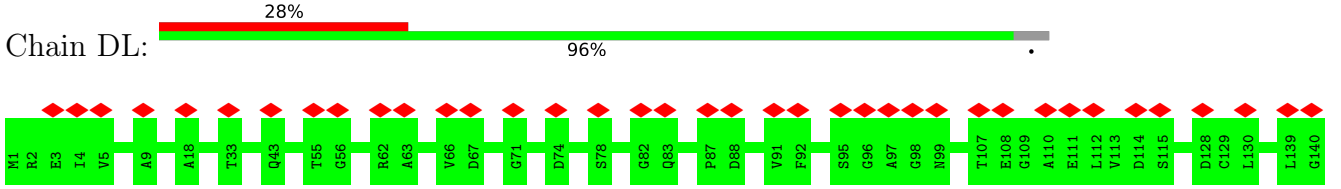

• Molecule 4: Tubulin beta-4B chain

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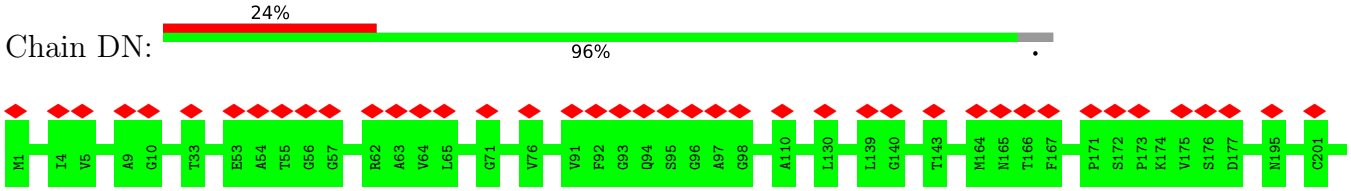
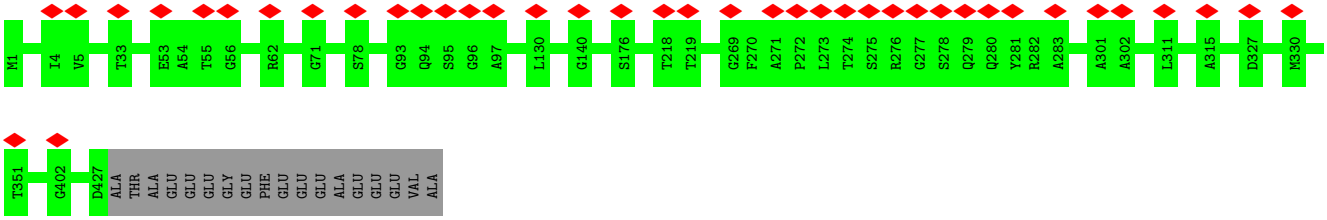
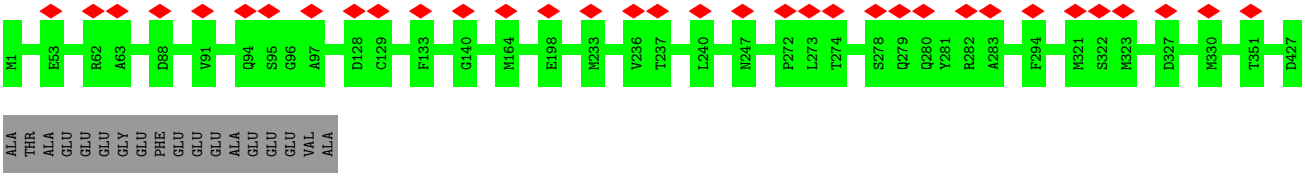


• Molecule 4: Tubulin beta-4B chain

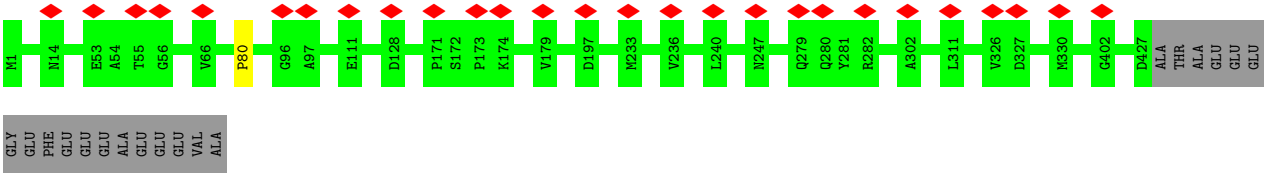
Chain DP:



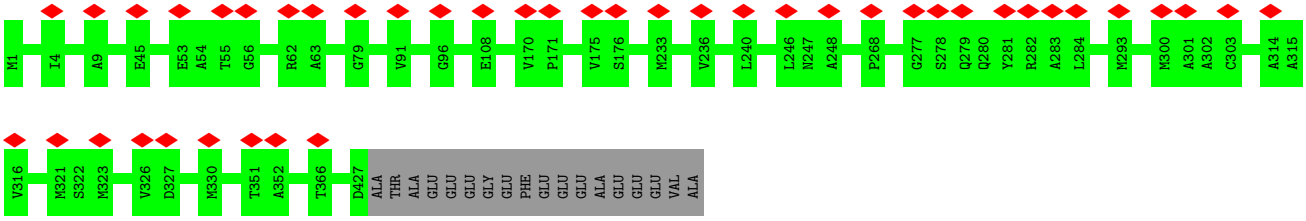
• Molecule 4: Tubulin beta-4B chain



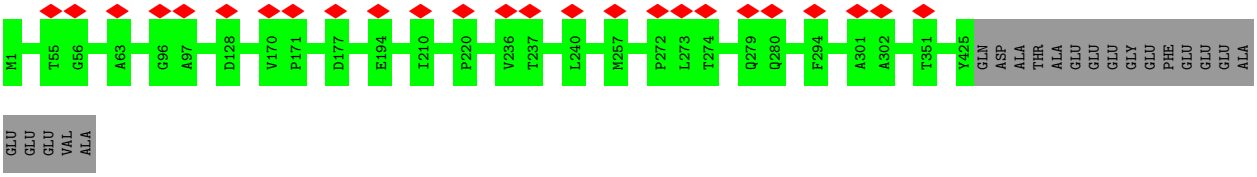
• Molecule 4: Tubulin beta-4B chain



• Molecule 4: Tubulin beta-4B chain



• Molecule 4: Tubulin beta-4B chain



• Molecule 4: Tubulin beta-4B chain

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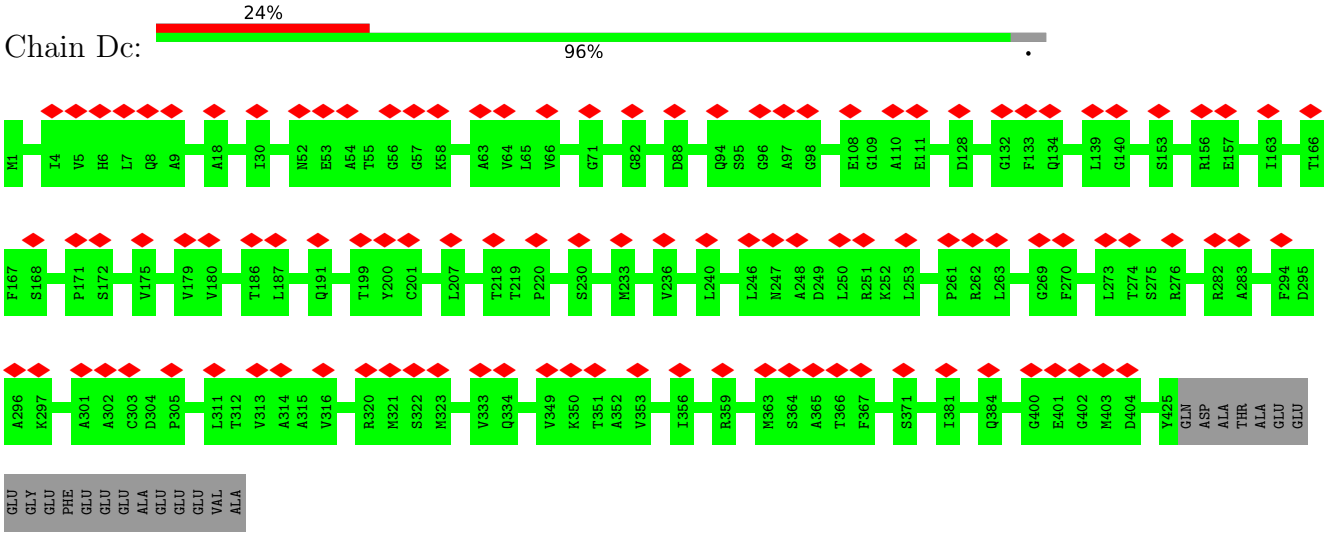
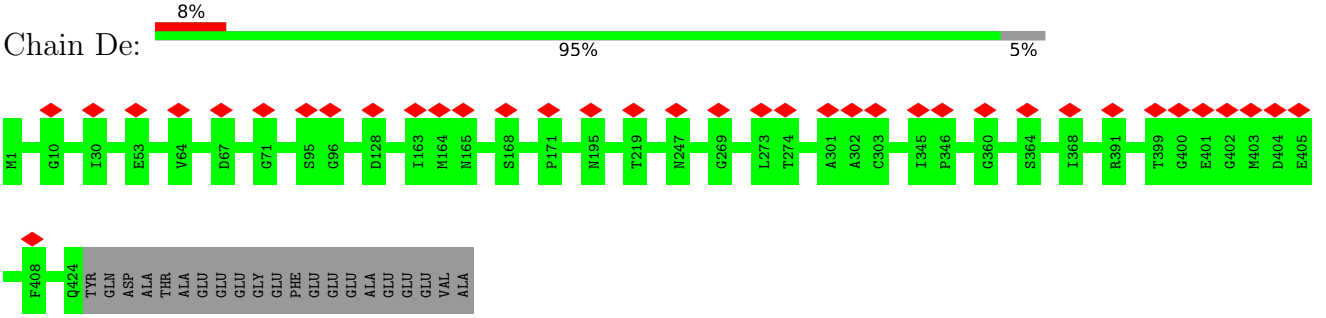


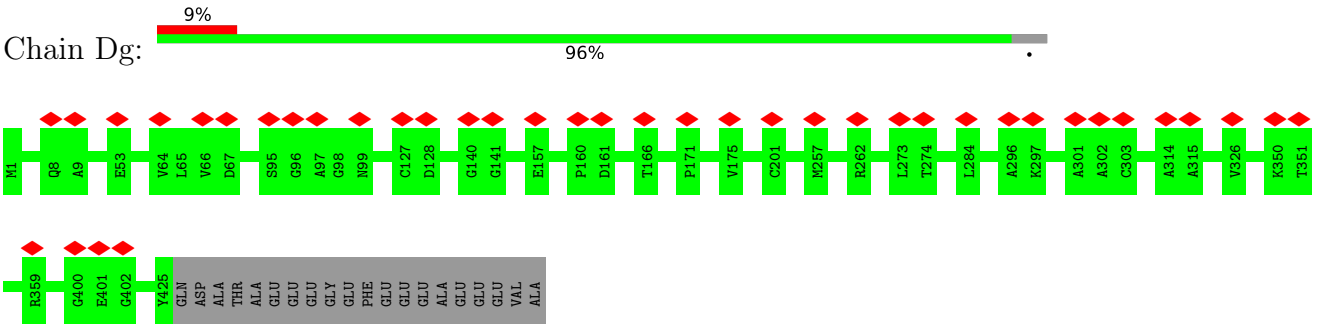
• Molecule 4: Tubulin beta-4B chain

Chain De:



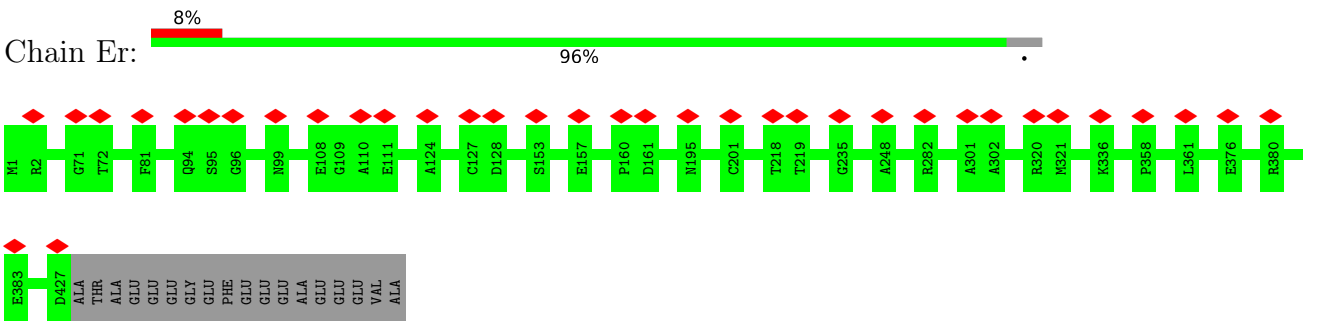
• Molecule 4: Tubulin beta-4B chain

Chain Dg:



• Molecule 4: Tubulin beta-4B chain

Chain Er:



• Molecule 4: Tubulin beta-4B chain

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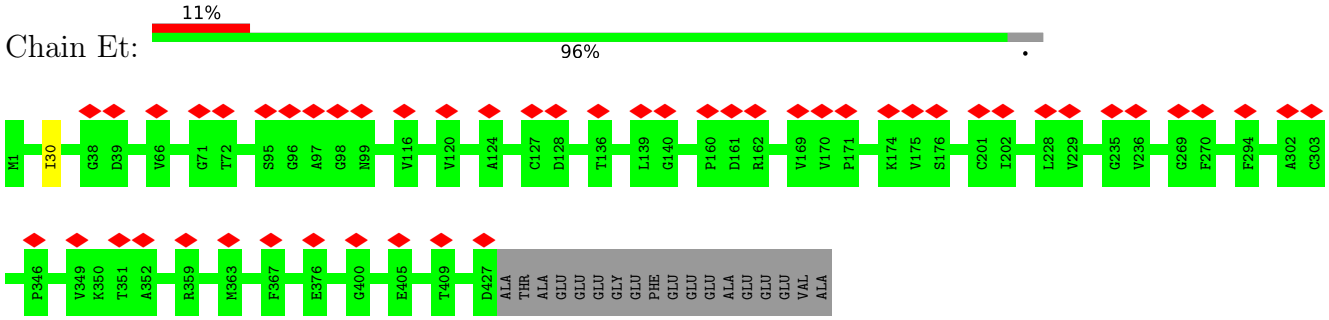
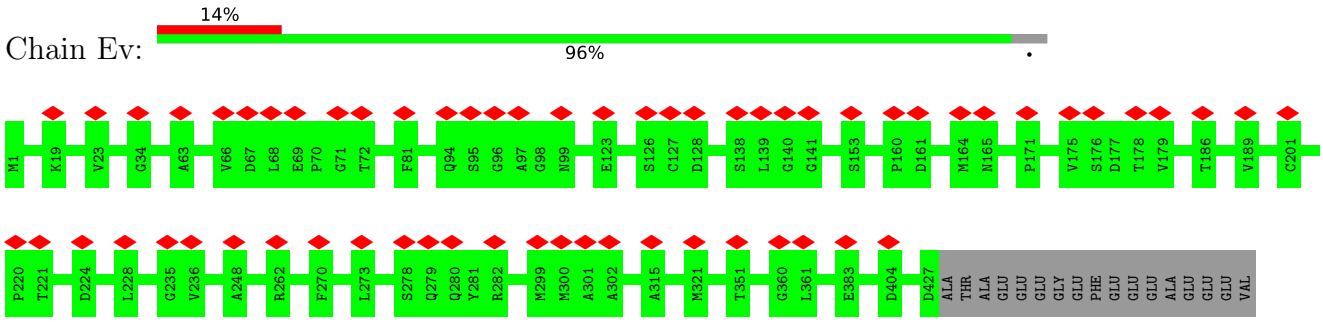


• Molecule 4: Tubulin beta-4B chain

Chain Ev:



• Molecule 4: Tubulin beta-4B chain

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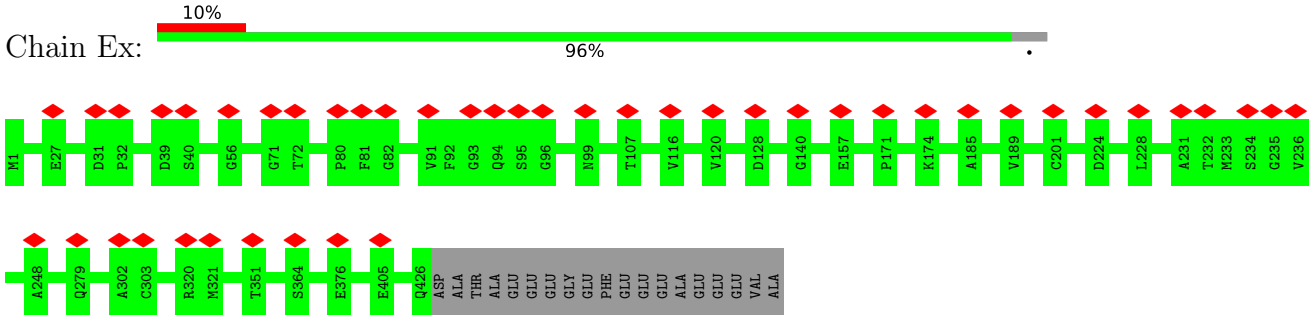
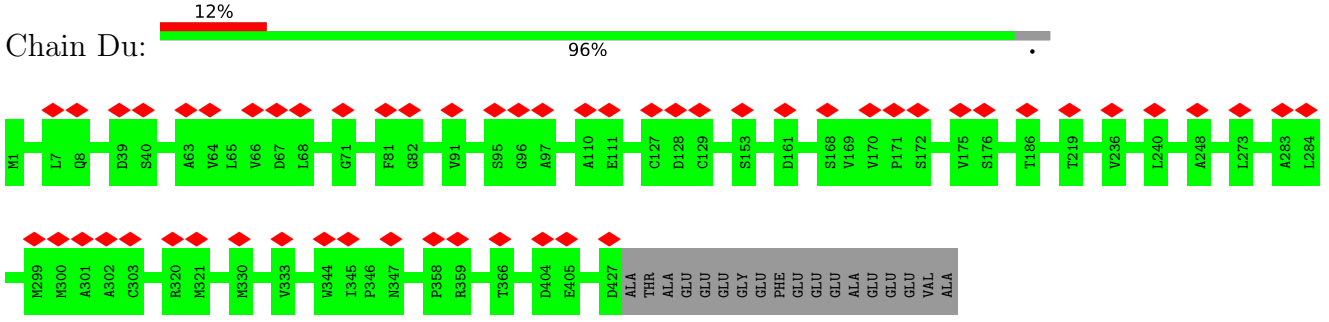


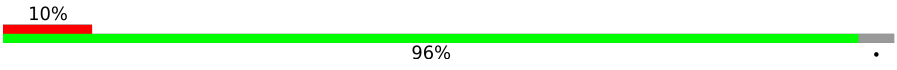
• Molecule 4: Tubulin beta-4B chain

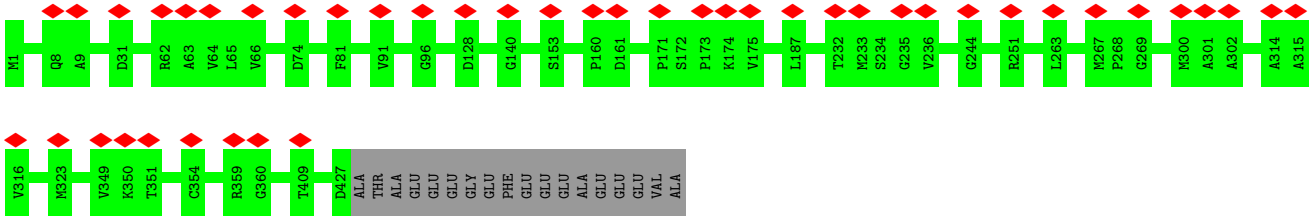
Chain Du:



• Molecule 4: Tubulin beta-4B chain

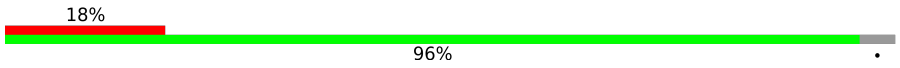
Chain Dw:

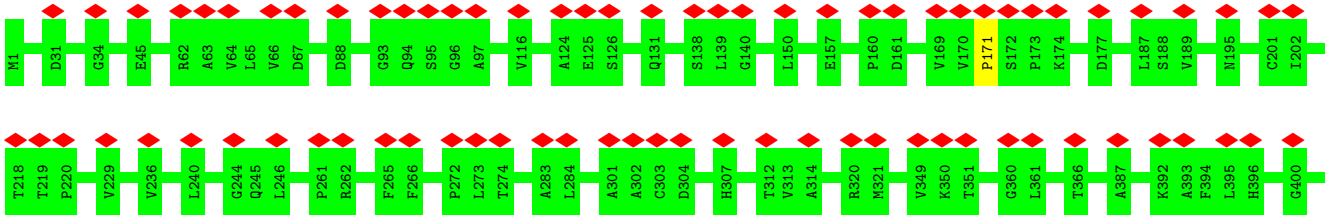




• Molecule 4: Tubulin beta-4B chain

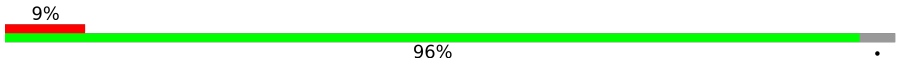
Chain Dy:

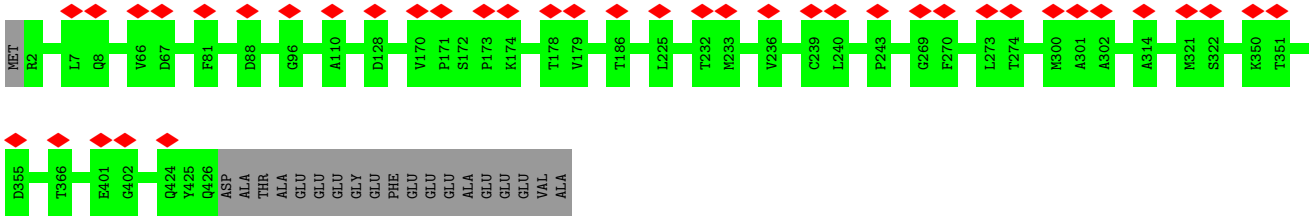




• Molecule 4: Tubulin beta-4B chain

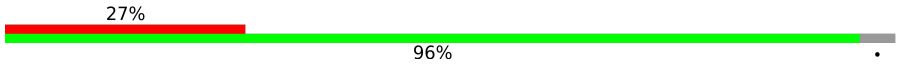
Chain D1:

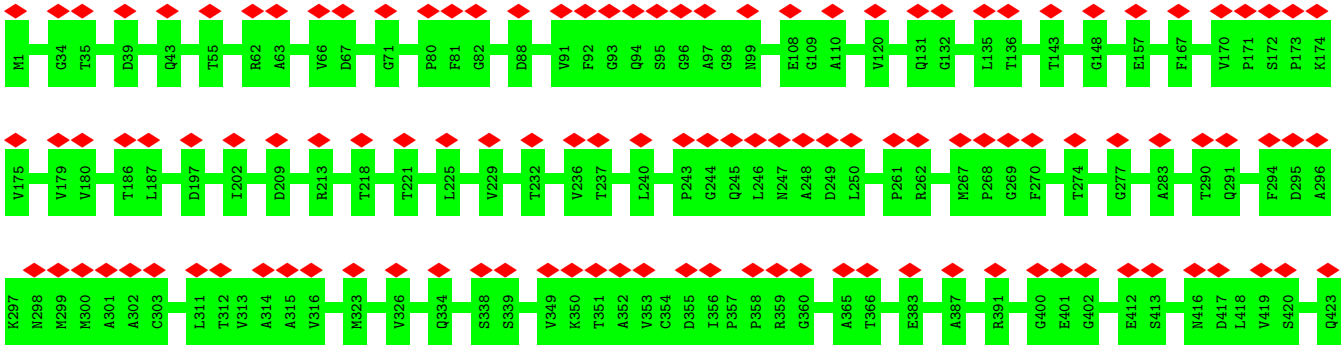


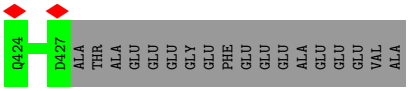


• Molecule 4: Tubulin beta-4B chain

Chain D6:

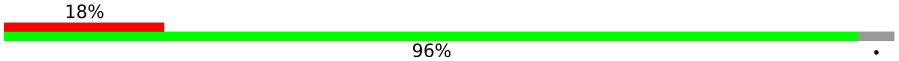


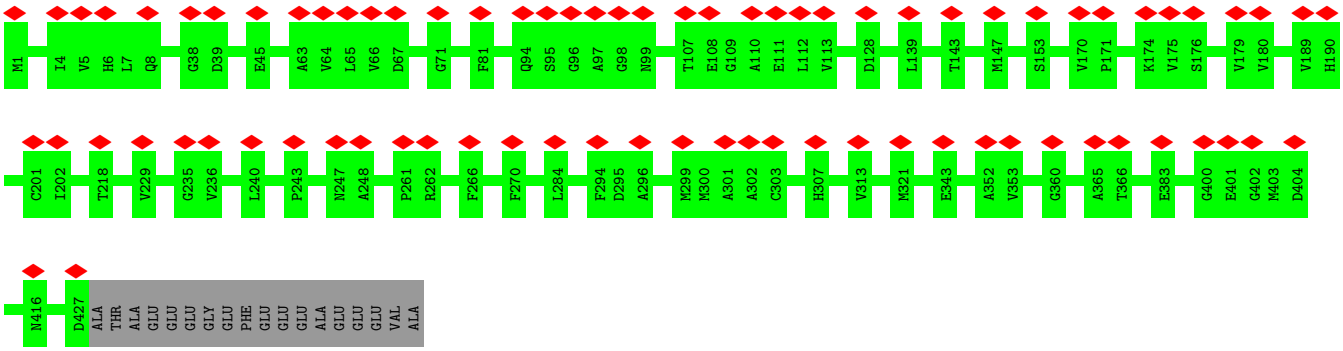




• Molecule 4: Tubulin beta-4B chain

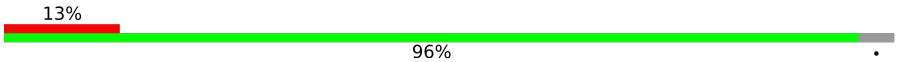
Chain D8:

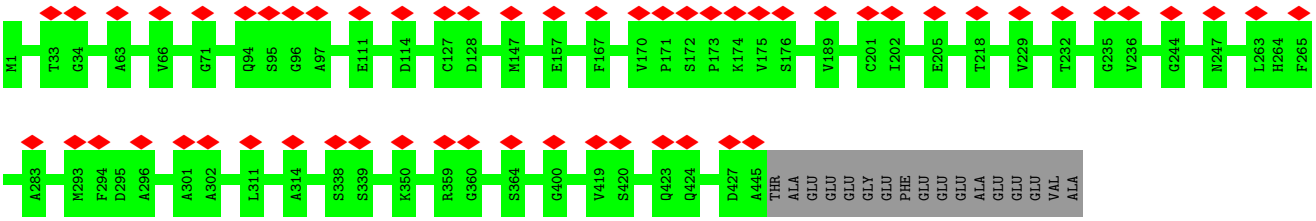




• Molecule 4: Tubulin beta-4B chain

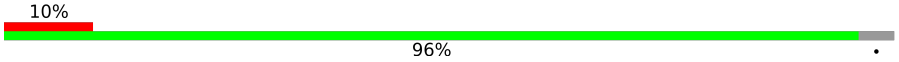
Chain D0:

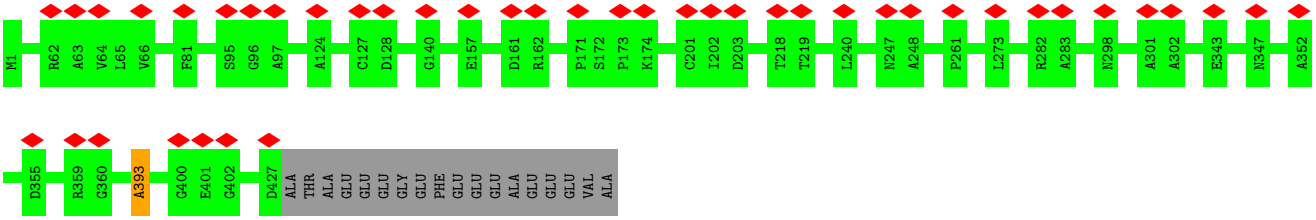




• Molecule 4: Tubulin beta-4B chain

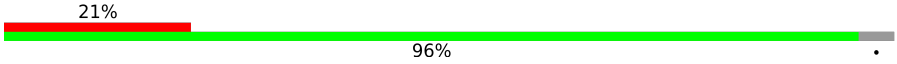
Chain EB:

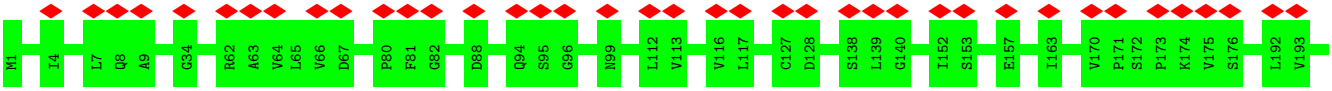


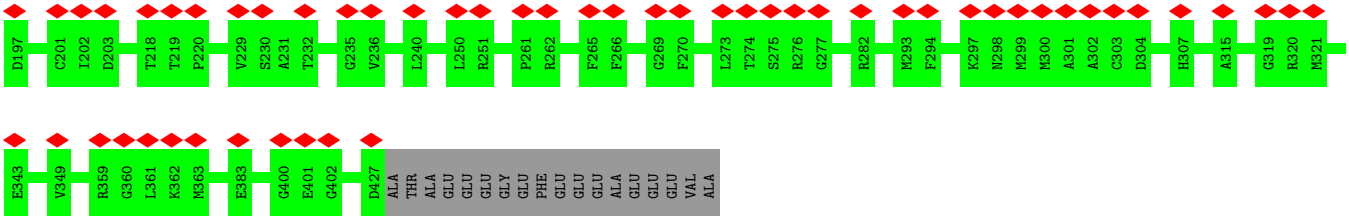


• Molecule 4: Tubulin beta-4B chain

Chain ED:

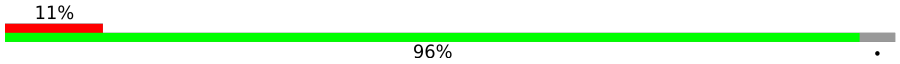


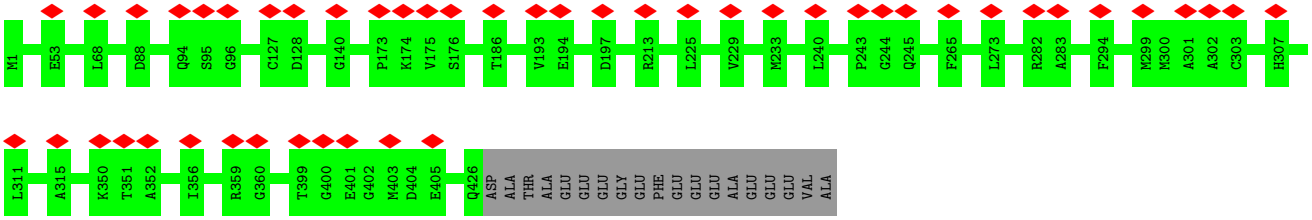




• Molecule 4: Tubulin beta-4B chain

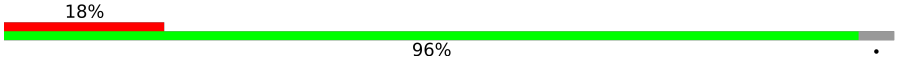
Chain EF:

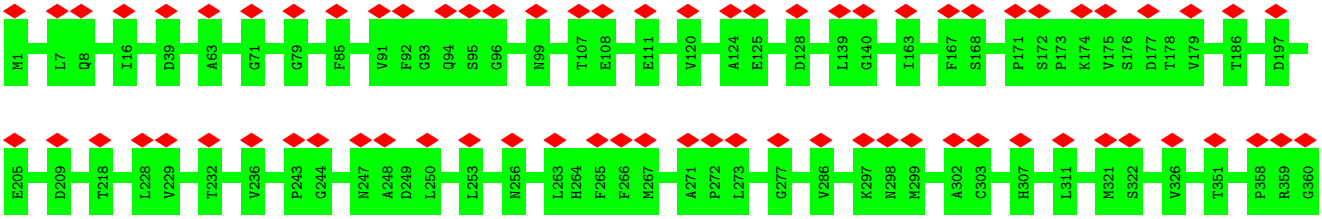




• Molecule 4: Tubulin beta-4B chain

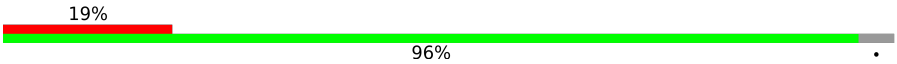
Chain EK:

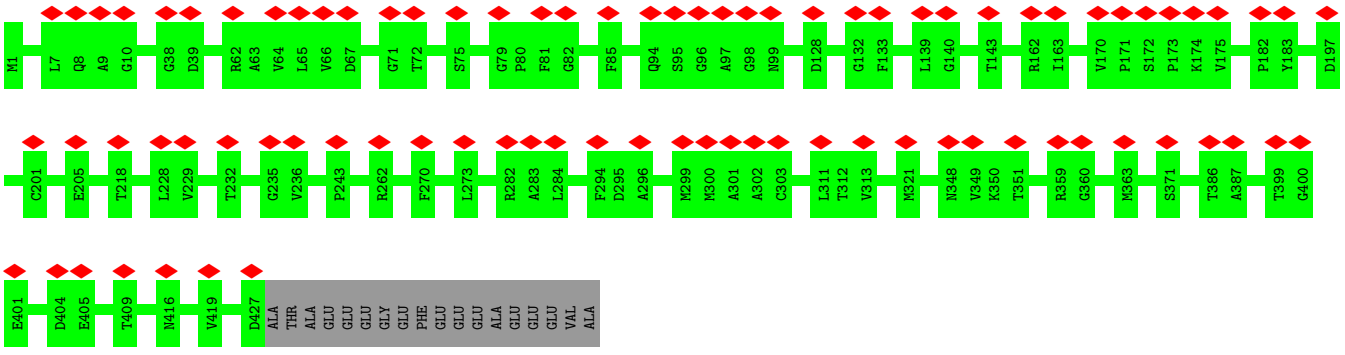




• Molecule 4: Tubulin beta-4B chain

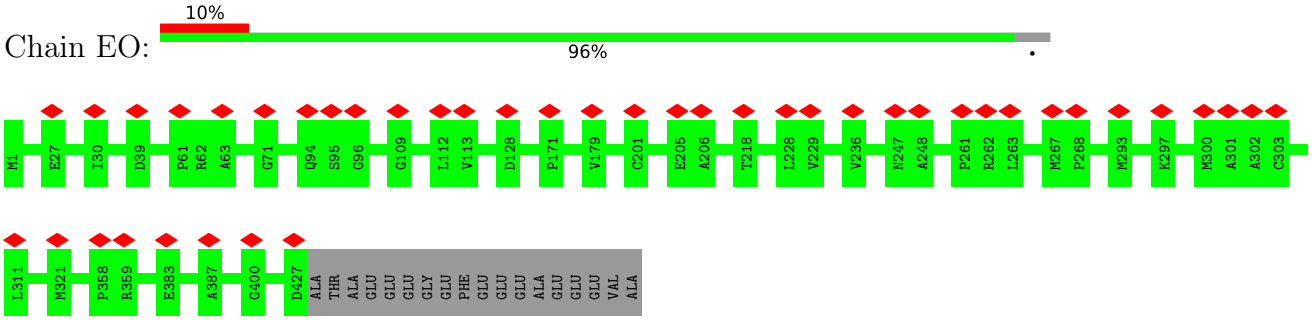
Chain EM:





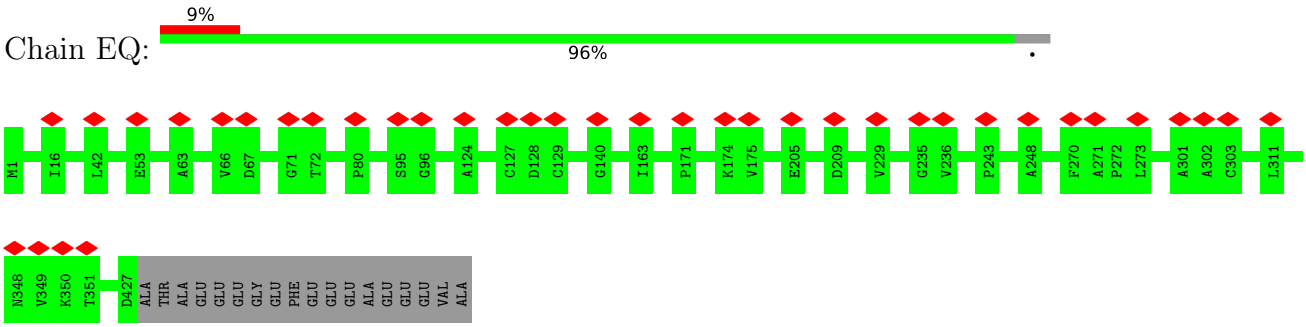
• Molecule 4: Tubulin beta-4B chain

Chain EO:



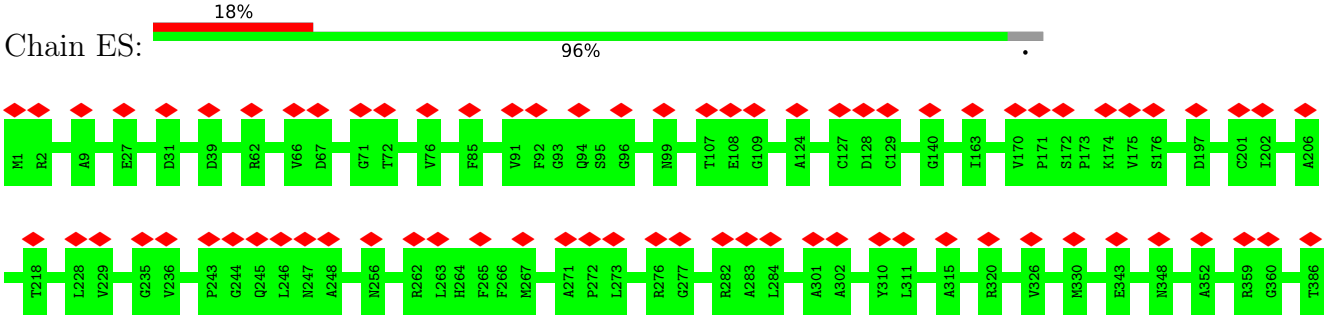
• Molecule 4: Tubulin beta-4B chain

Chain EQ:



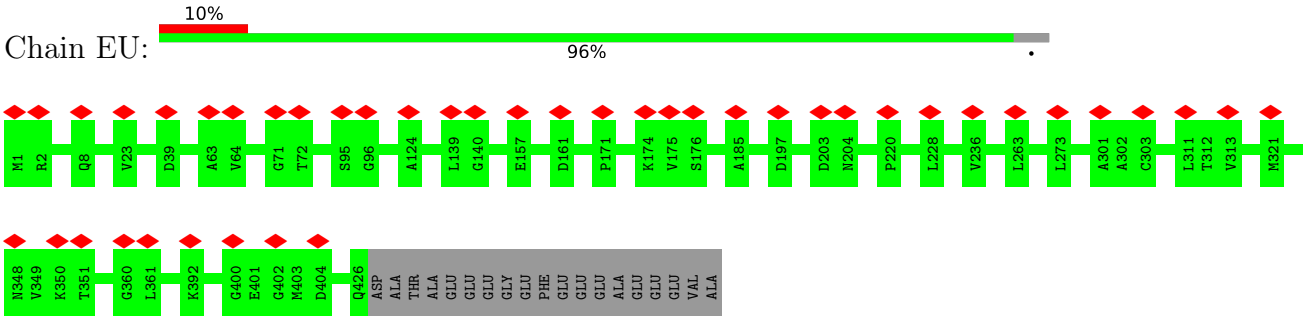
• Molecule 4: Tubulin beta-4B chain

Chain ES:



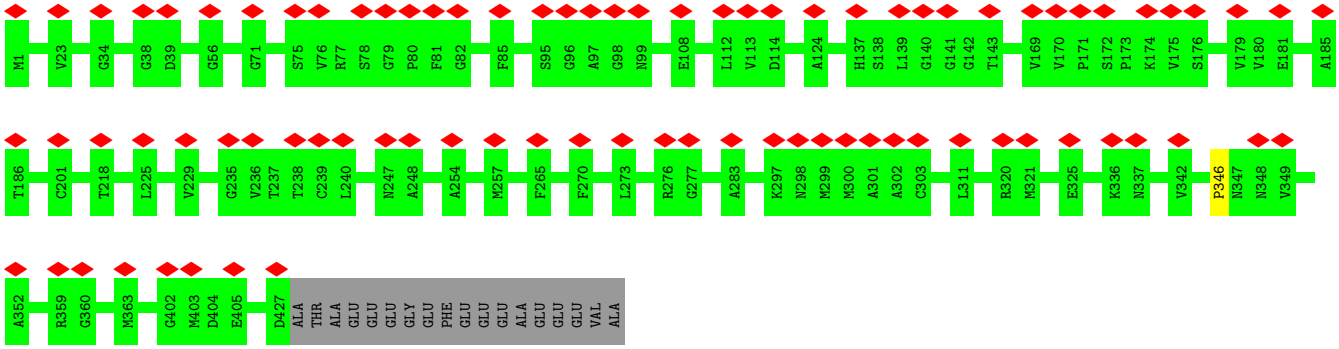
• Molecule 4: Tubulin beta-4B chain

Chain EU:

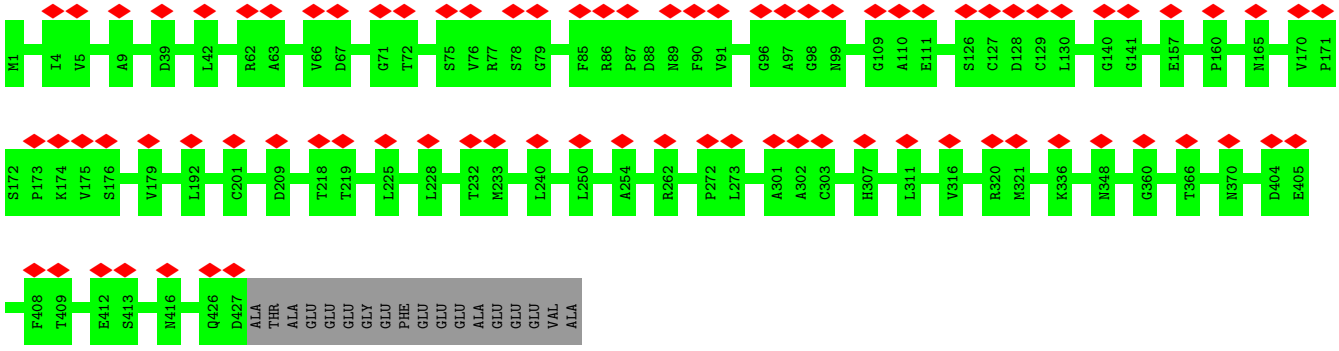


• Molecule 4: Tubulin beta-4B chain

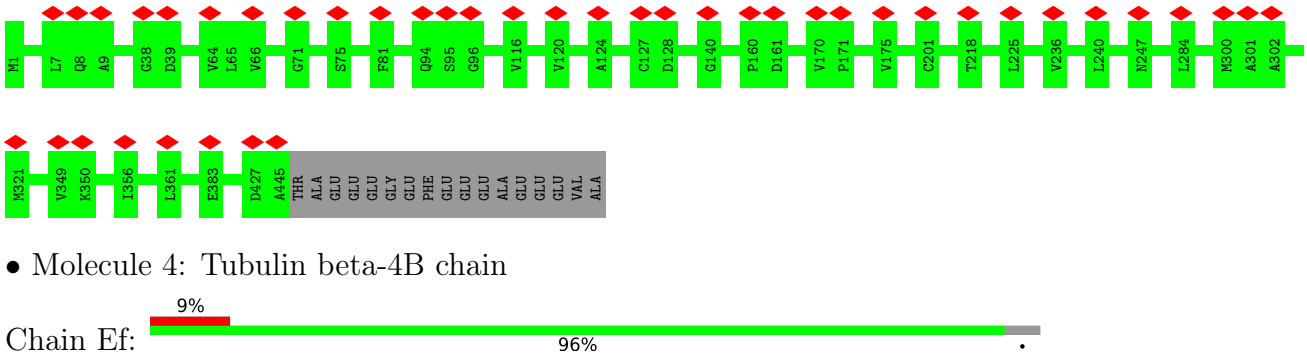
Chain EZ:



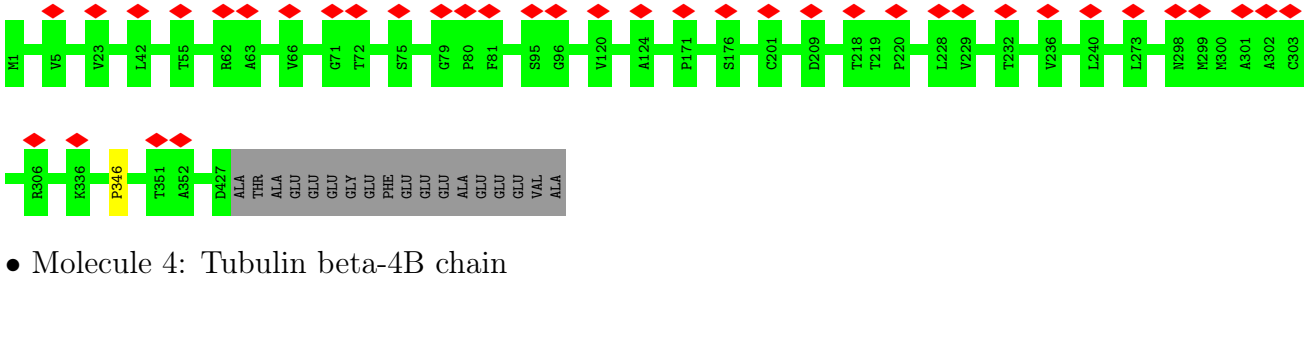
• Molecule 4: Tubulin beta-4B chain



• Molecule 4: Tubulin beta-4B chain

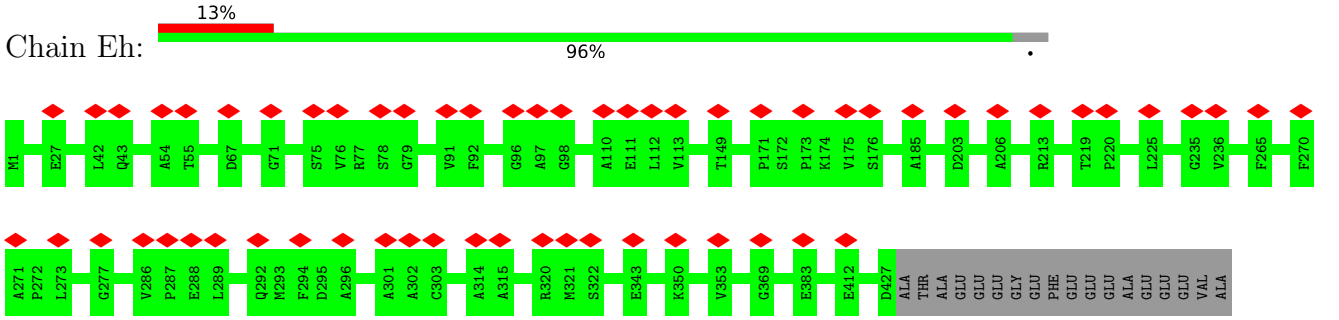


• Molecule 4: Tubulin beta-4B chain



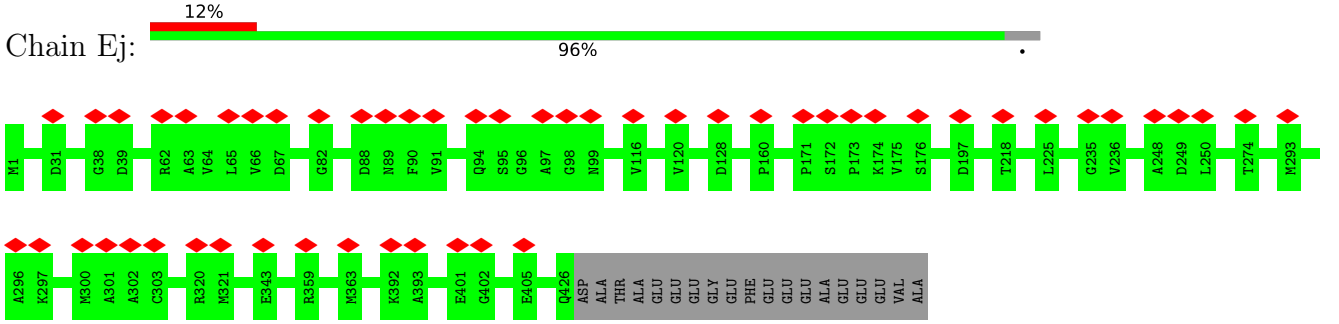
• Molecule 4: Tubulin beta-4B chain

Chain Eh:



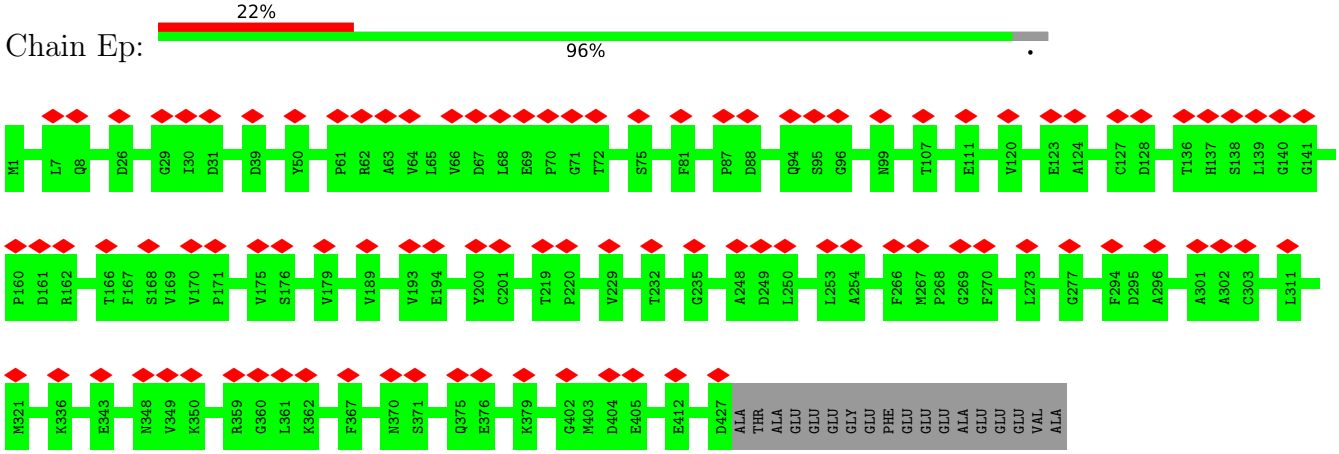
• Molecule 4: Tubulin beta-4B chain

Chain Ej:



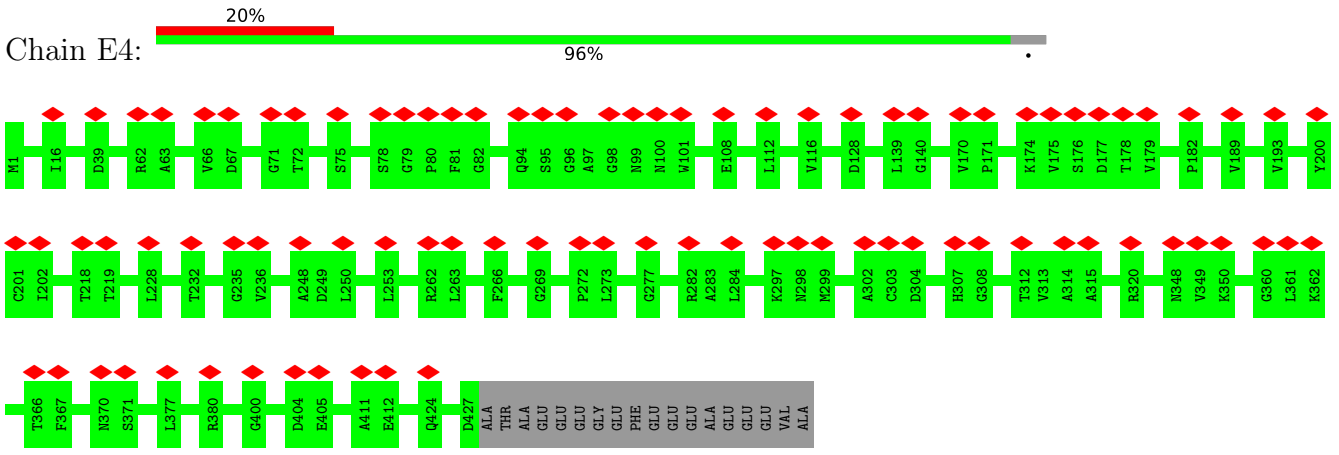
• Molecule 4: Tubulin beta-4B chain

Chain Ep:



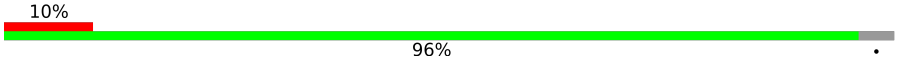
• Molecule 4: Tubulin beta-4B chain

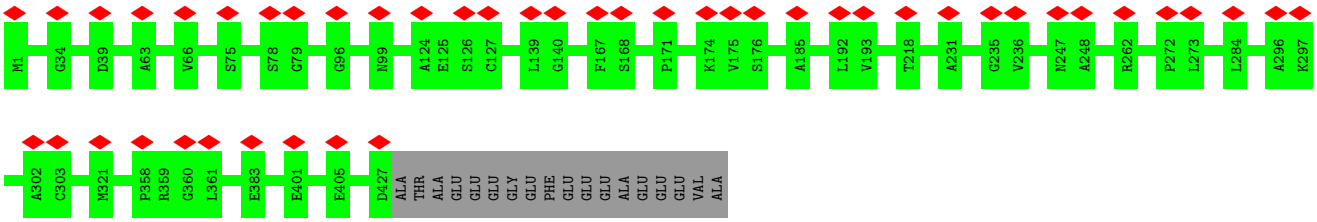
Chain E4:



• Molecule 4: Tubulin beta-4B chain

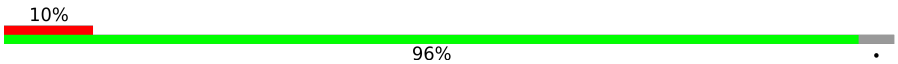
Chain E6:

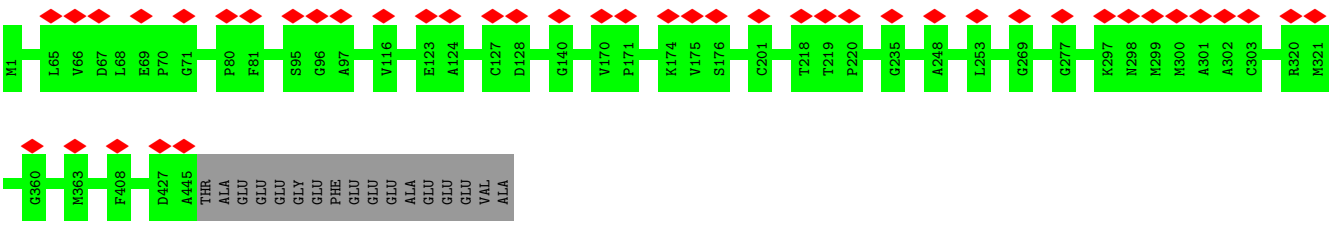




• Molecule 4: Tubulin beta-4B chain

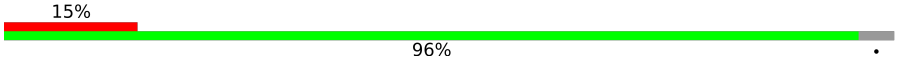
Chain E8:

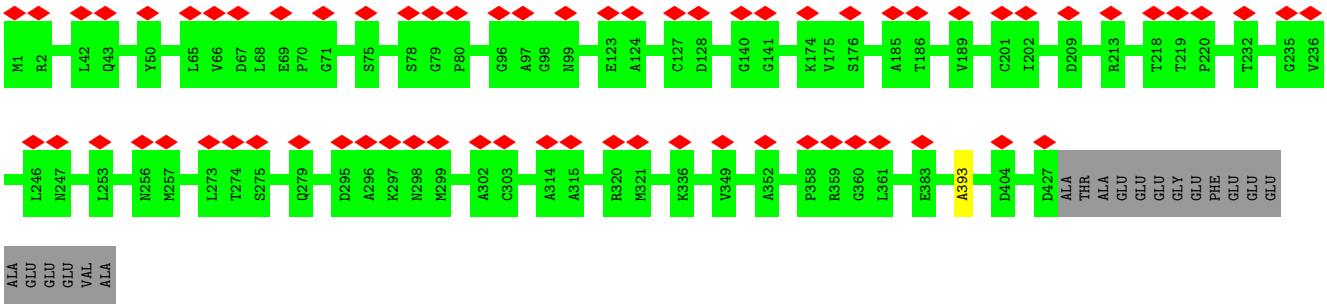




• Molecule 4: Tubulin beta-4B chain

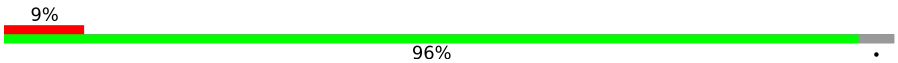
Chain E0:

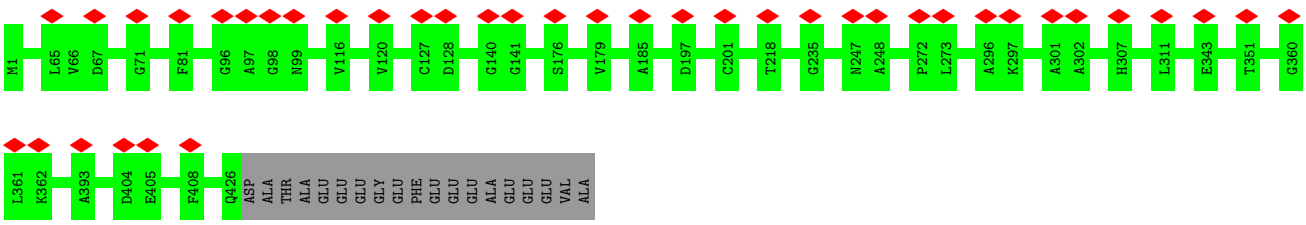




• Molecule 4: Tubulin beta-4B chain

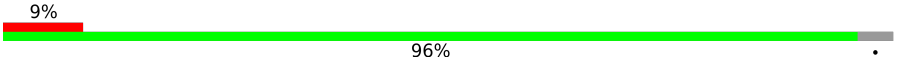
Chain FB:

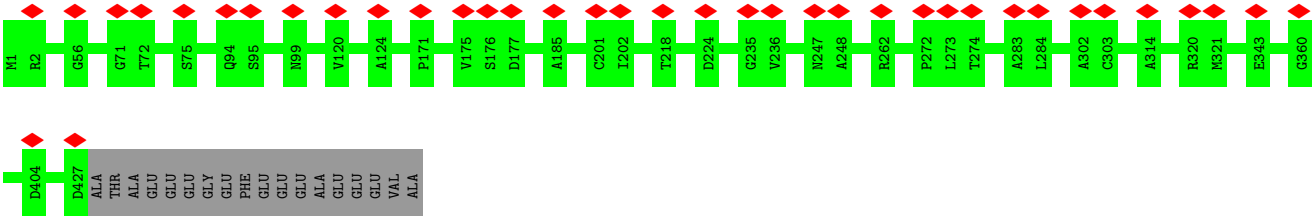




• Molecule 4: Tubulin beta-4B chain

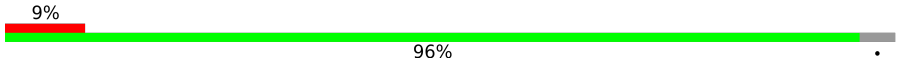
Chain FD:

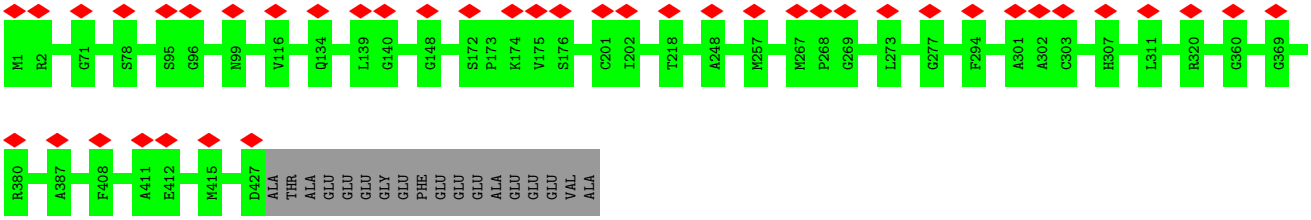




• Molecule 4: Tubulin beta-4B chain

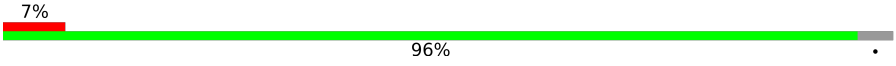
Chain FH:

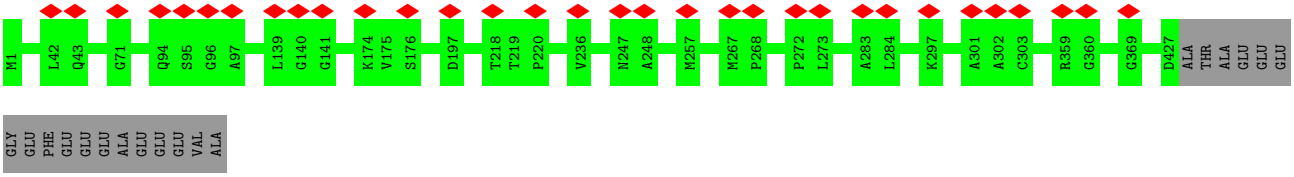




• Molecule 4: Tubulin beta-4B chain

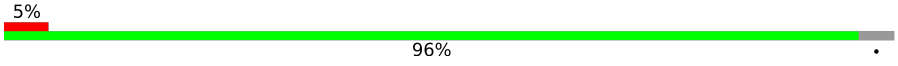
Chain FJ:

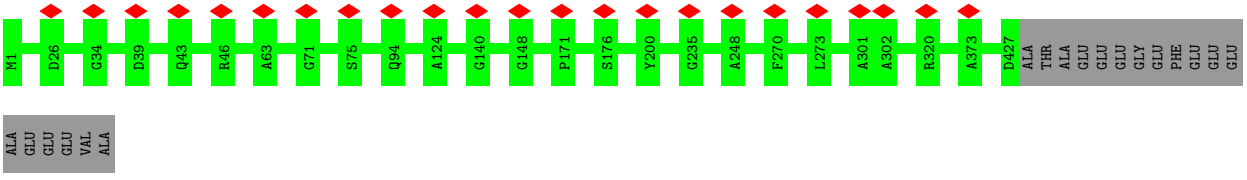




• Molecule 4: Tubulin beta-4B chain

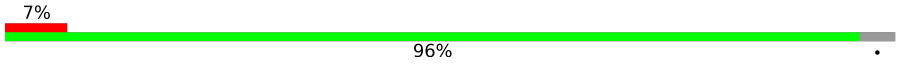
Chain FL:

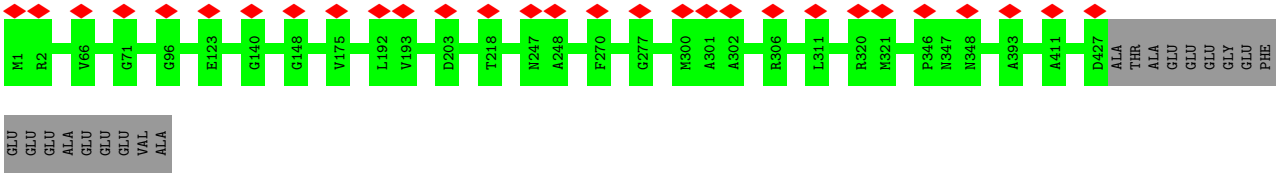




• Molecule 4: Tubulin beta-4B chain

Chain FN:





• Molecule 4: Tubulin beta-4B chain

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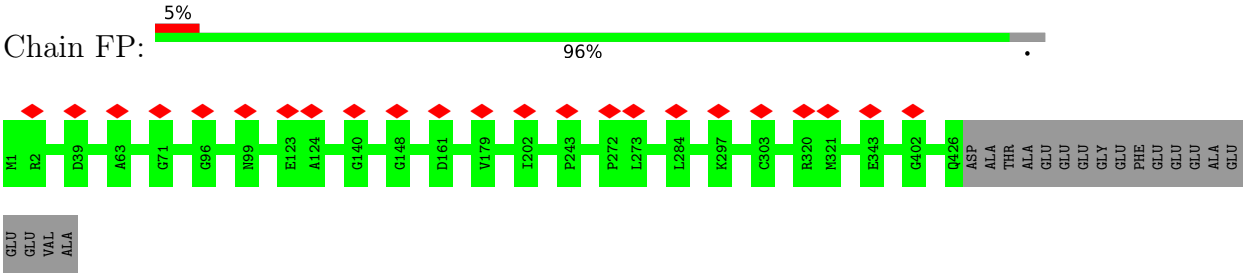
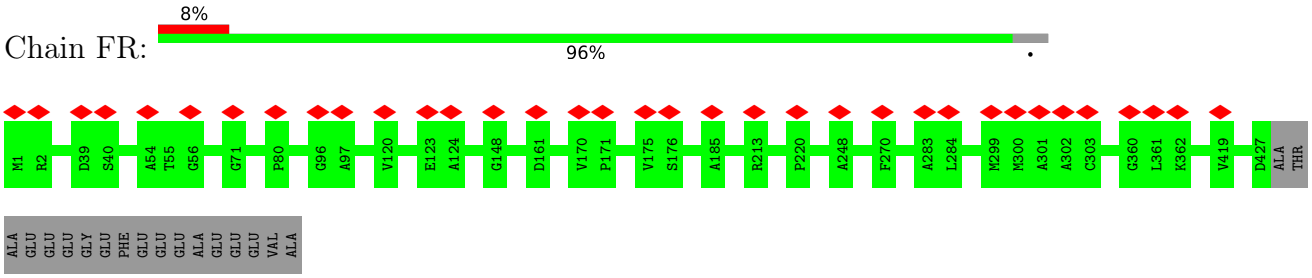


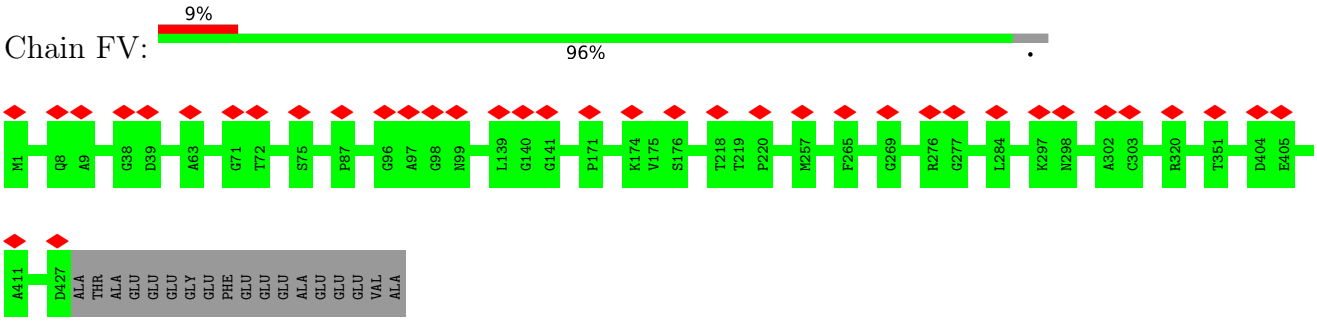
• Molecule 4: Tubulin beta-4B chain

Chain FR:



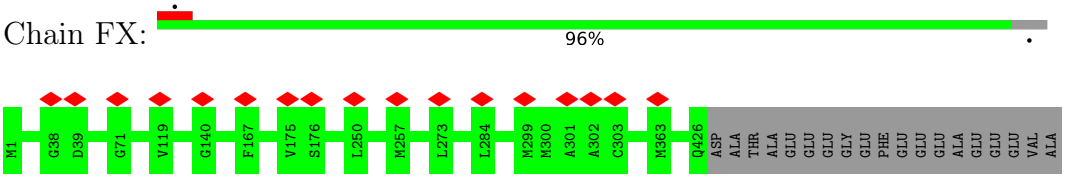
• Molecule 4: Tubulin beta-4B chain

Chain FV:



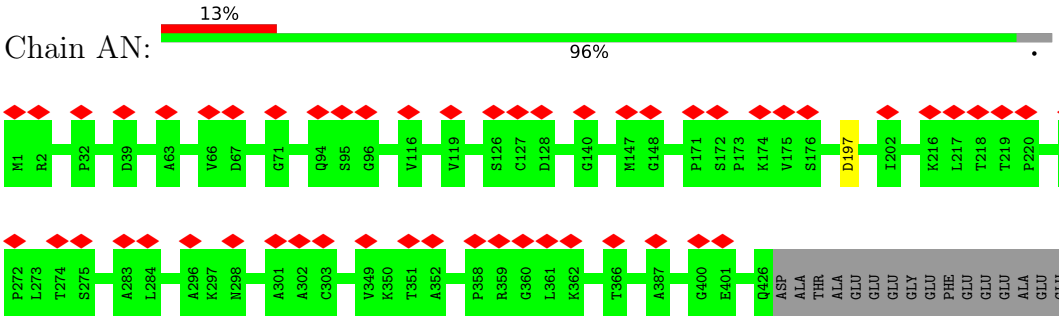
• Molecule 4: Tubulin beta-4B chain

Chain FX:



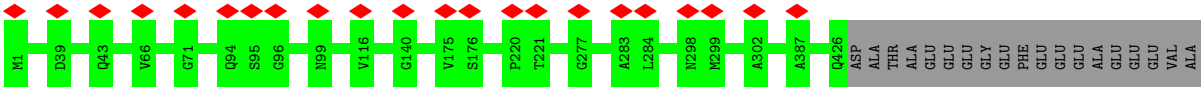
• Molecule 4: Tubulin beta-4B chain

Chain AN:



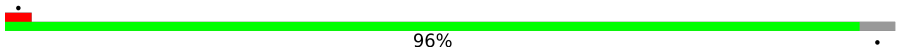
• Molecule 4: Tubulin beta-4B chain

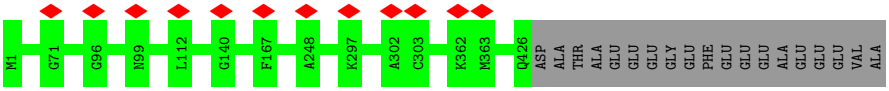
Chain FZ:



• Molecule 4: Tubulin beta-4B chain

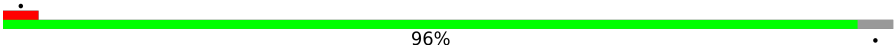
Chain Fb:

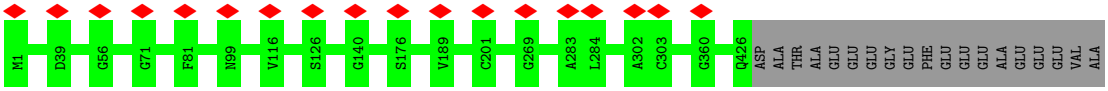




• Molecule 4: Tubulin beta-4B chain

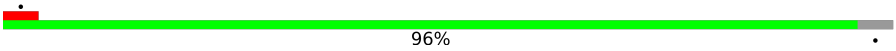
Chain Fd:

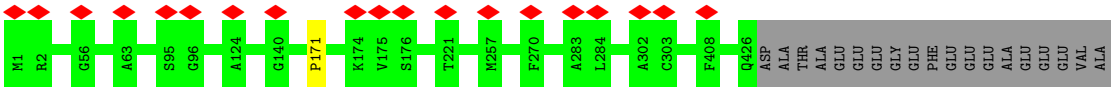




• Molecule 4: Tubulin beta-4B chain

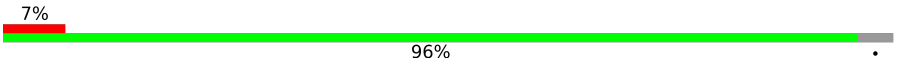
Chain Ff:

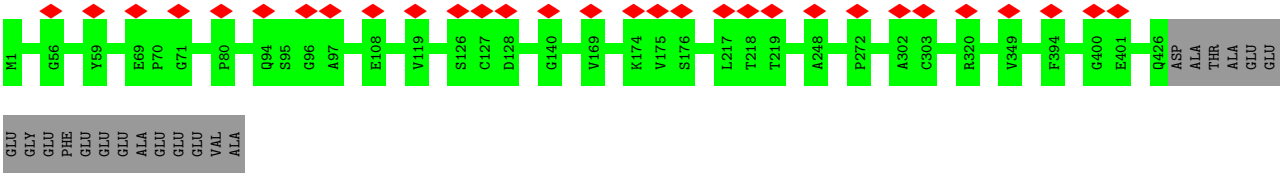




• Molecule 4: Tubulin beta-4B chain

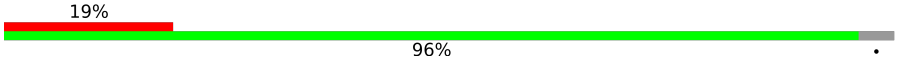
Chain AP:

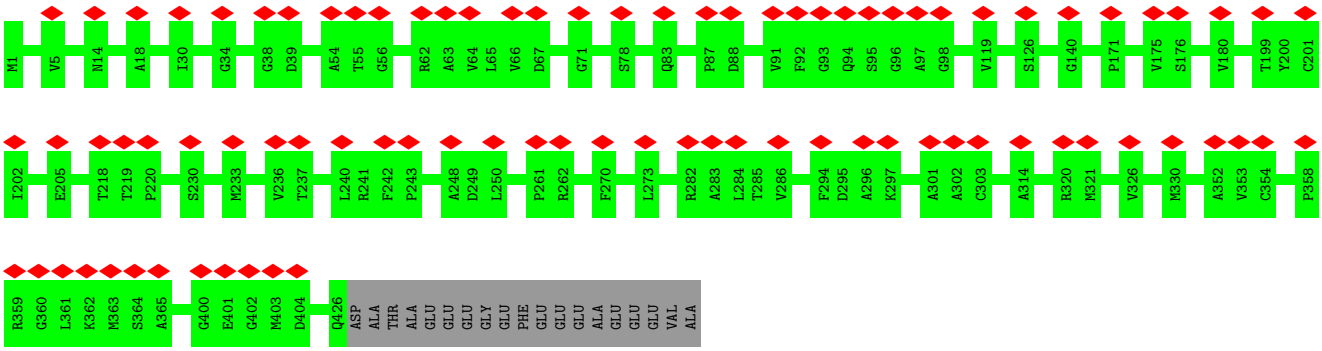




• Molecule 4: Tubulin beta-4B chain

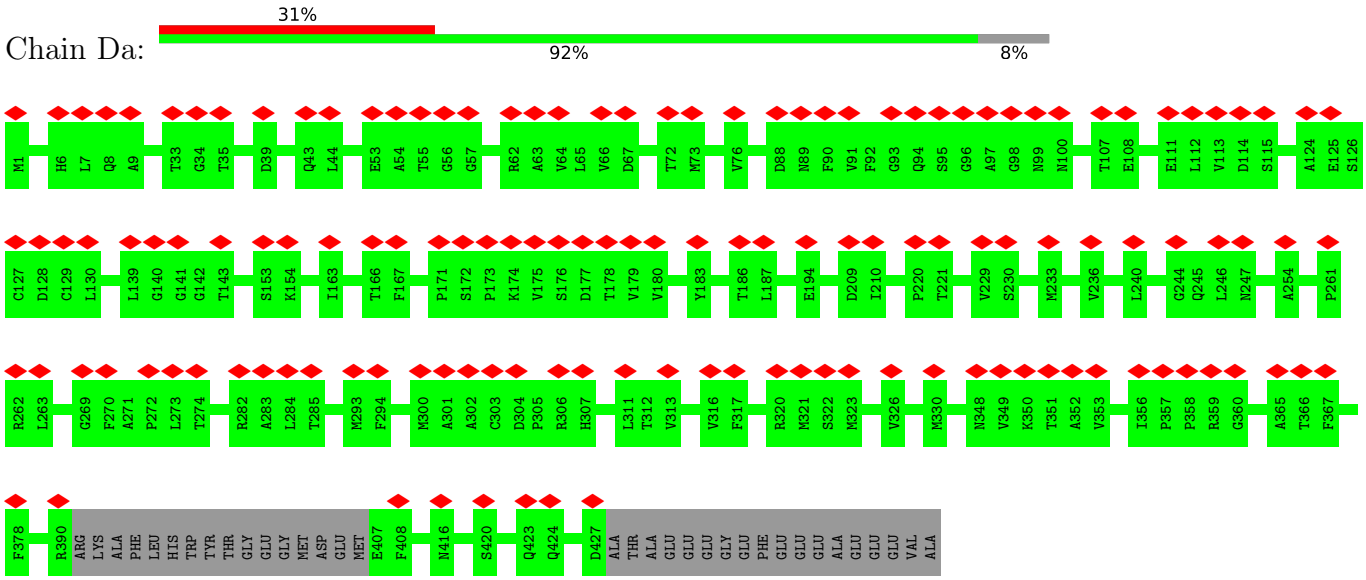
Chain Bq:





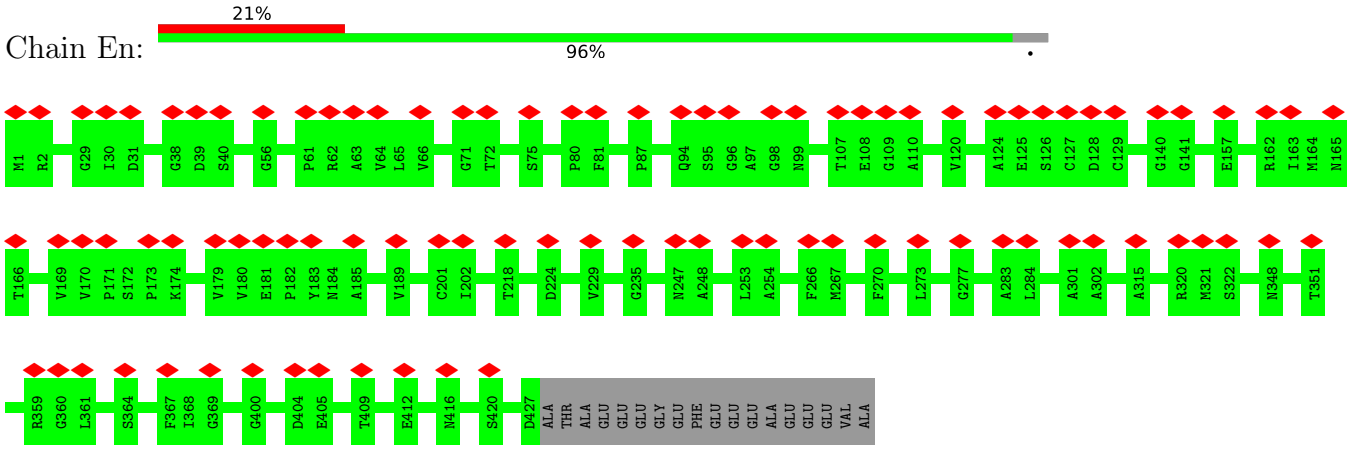
• Molecule 4: Tubulin beta-4B chain

Chain Da:



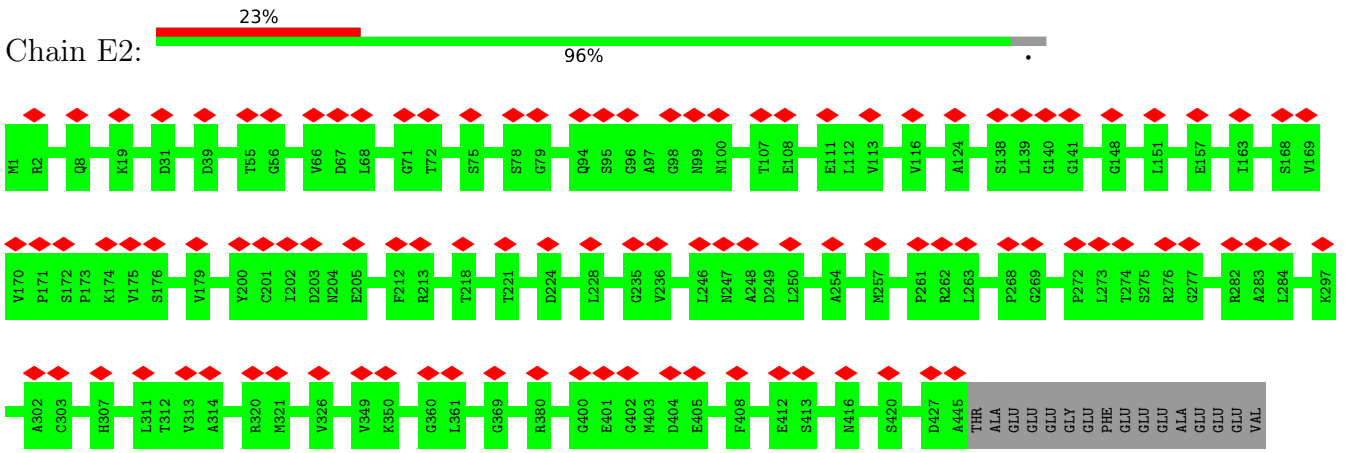
• Molecule 4: Tubulin beta-4B chain

Chain En:



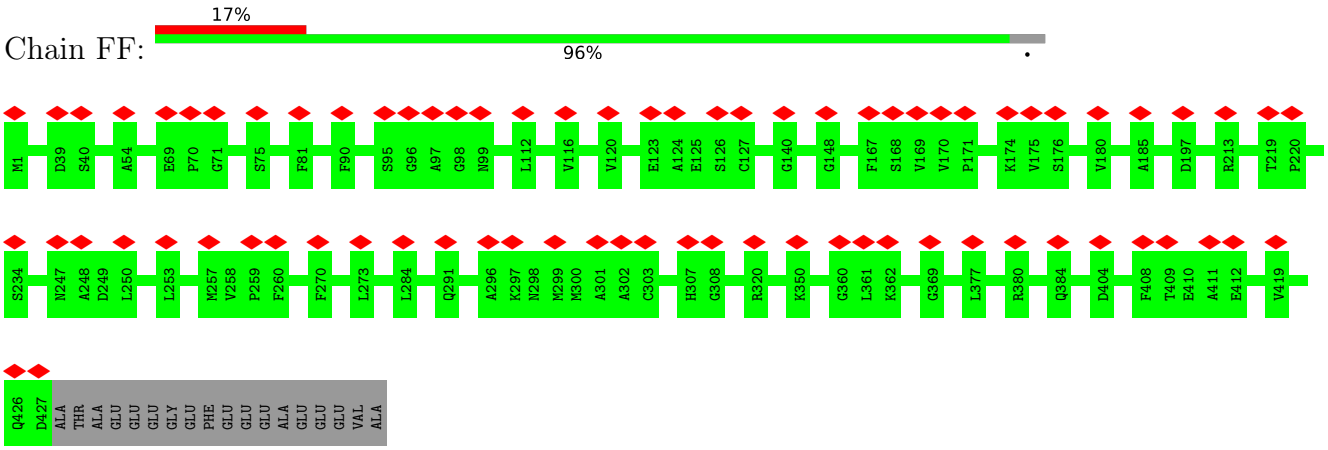
• Molecule 4: Tubulin beta-4B chain

Chain E2:



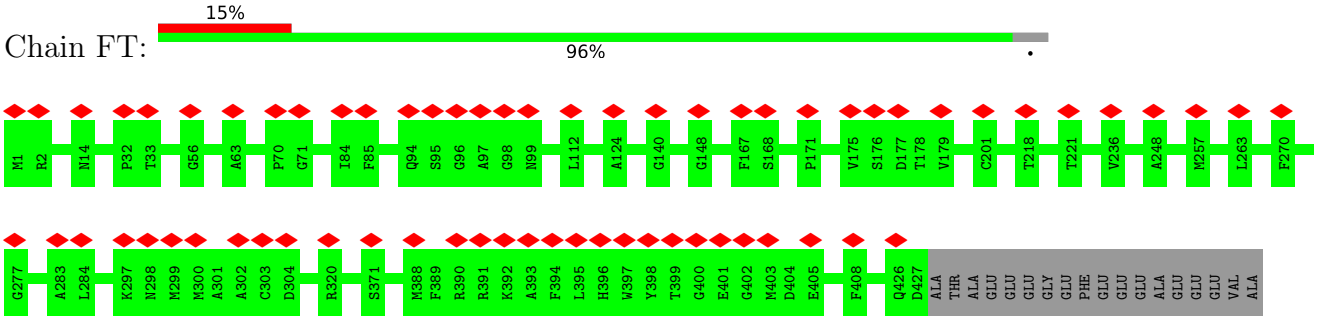
• Molecule 4: Tubulin beta-4B chain

Chain FF:



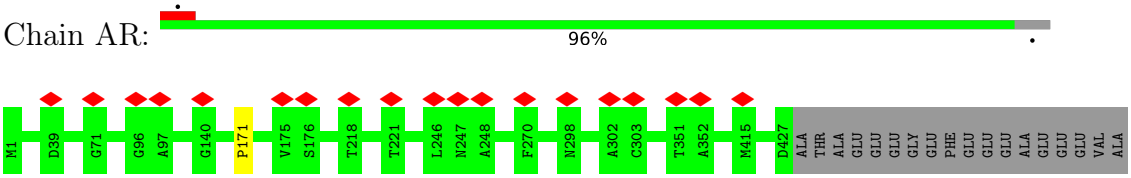
• Molecule 4: Tubulin beta-4B chain

Chain FT:



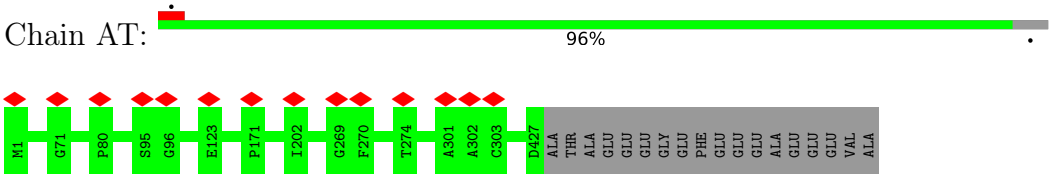
• Molecule 4: Tubulin beta-4B chain

Chain AR:



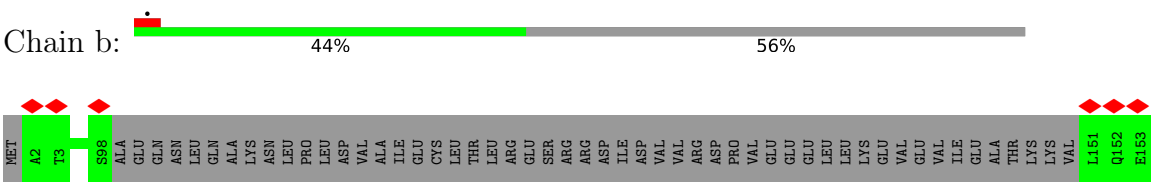
• Molecule 4: Tubulin beta-4B chain

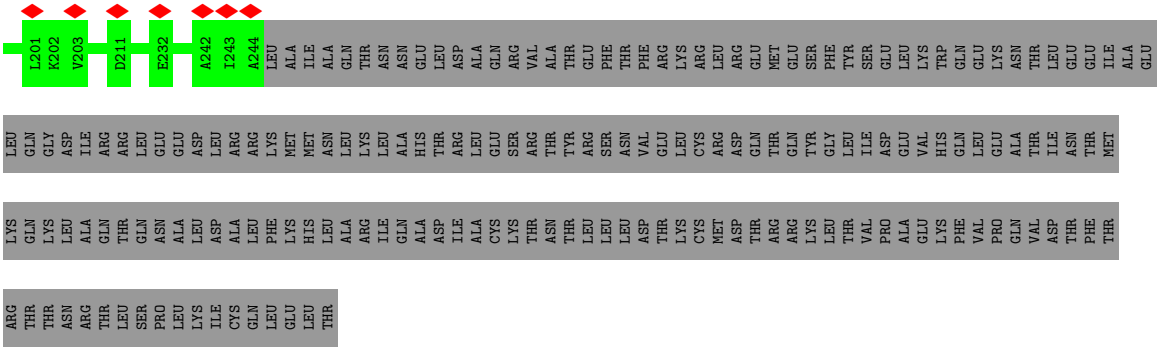
Chain AT:



• Molecule 5: Tektin-2

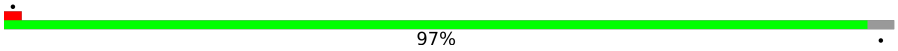
Chain b:

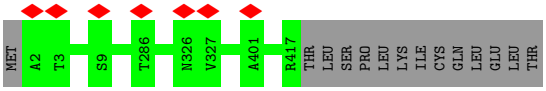




• Molecule 5: Tektin-2

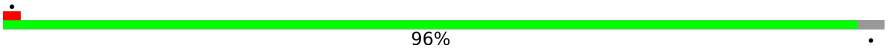
Chain e:

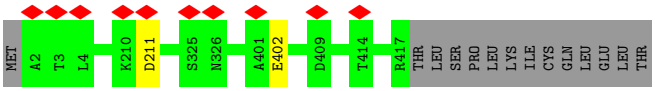




• Molecule 5: Tektin-2

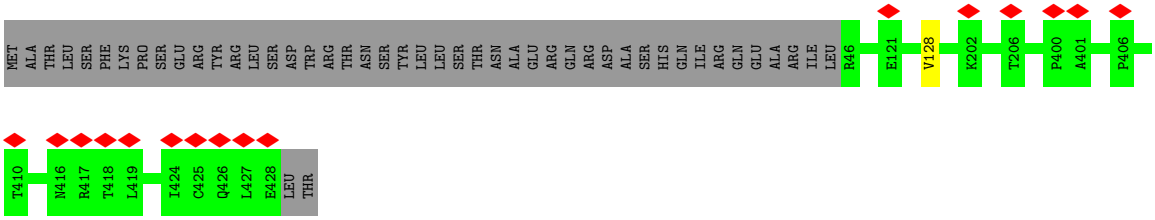
Chain f:





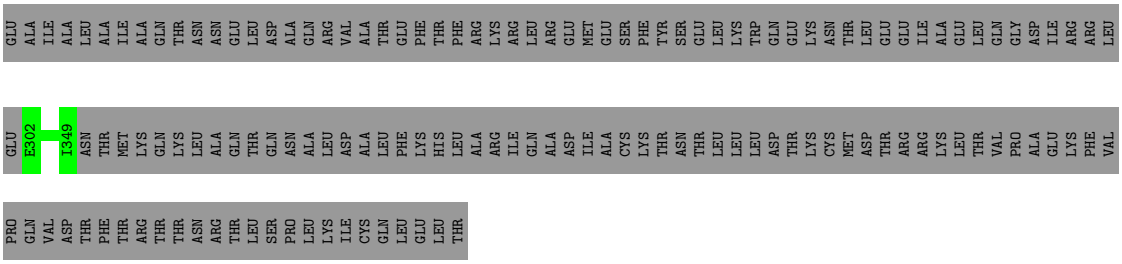
• Molecule 5: Tektin-2

Chain g:



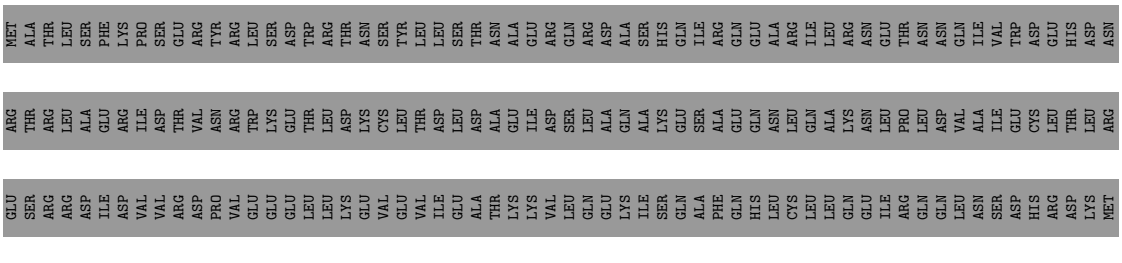
• Molecule 5: Tektin-2

Chain h:



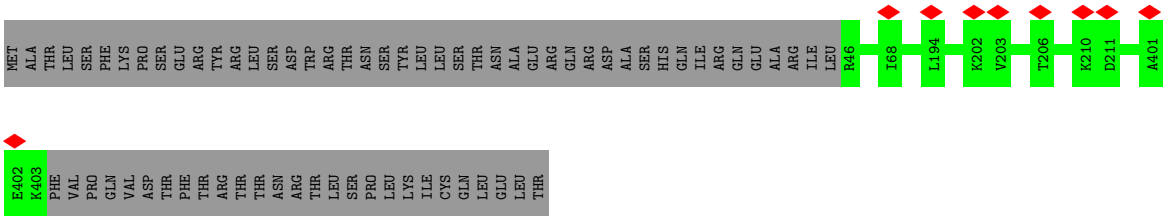
• Molecule 5: Tektin-2

Chain i:



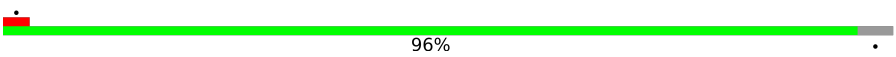
• Molecule 5: Tektin-2

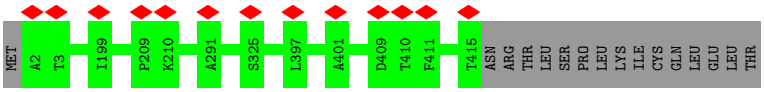
Chain j:



• Molecule 5: Tektin-2

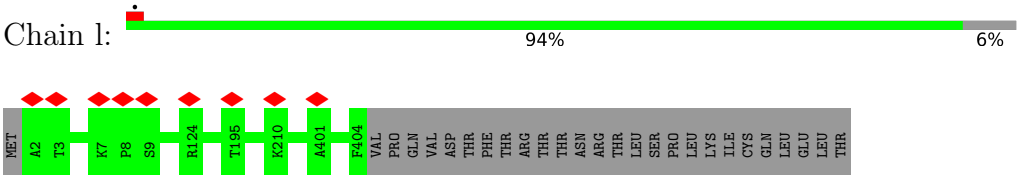
Chain k:





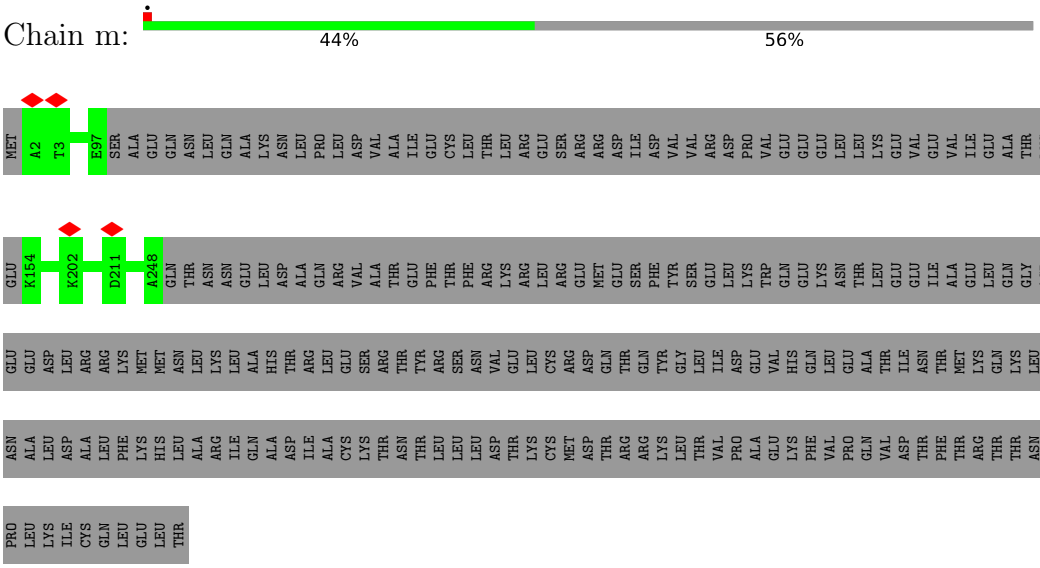
• Molecule 5: Tektin-2

Chain l:



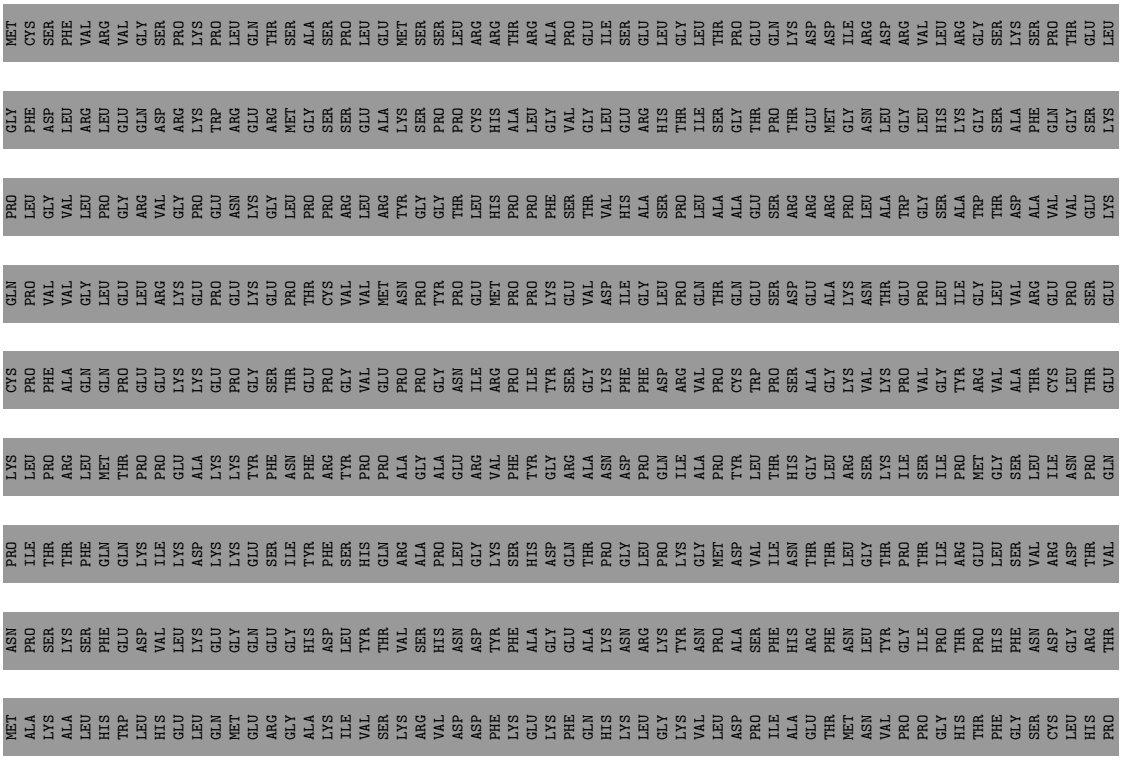
• Molecule 5: Tektin-2

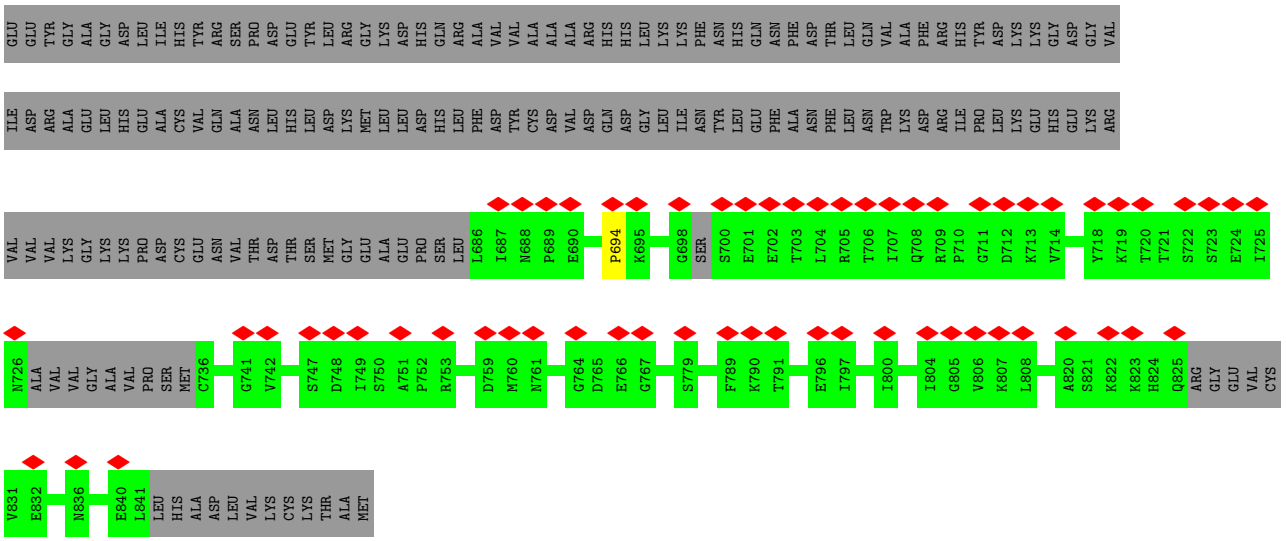
Chain m:



• Molecule 6: EF-hand domain-containing family member B

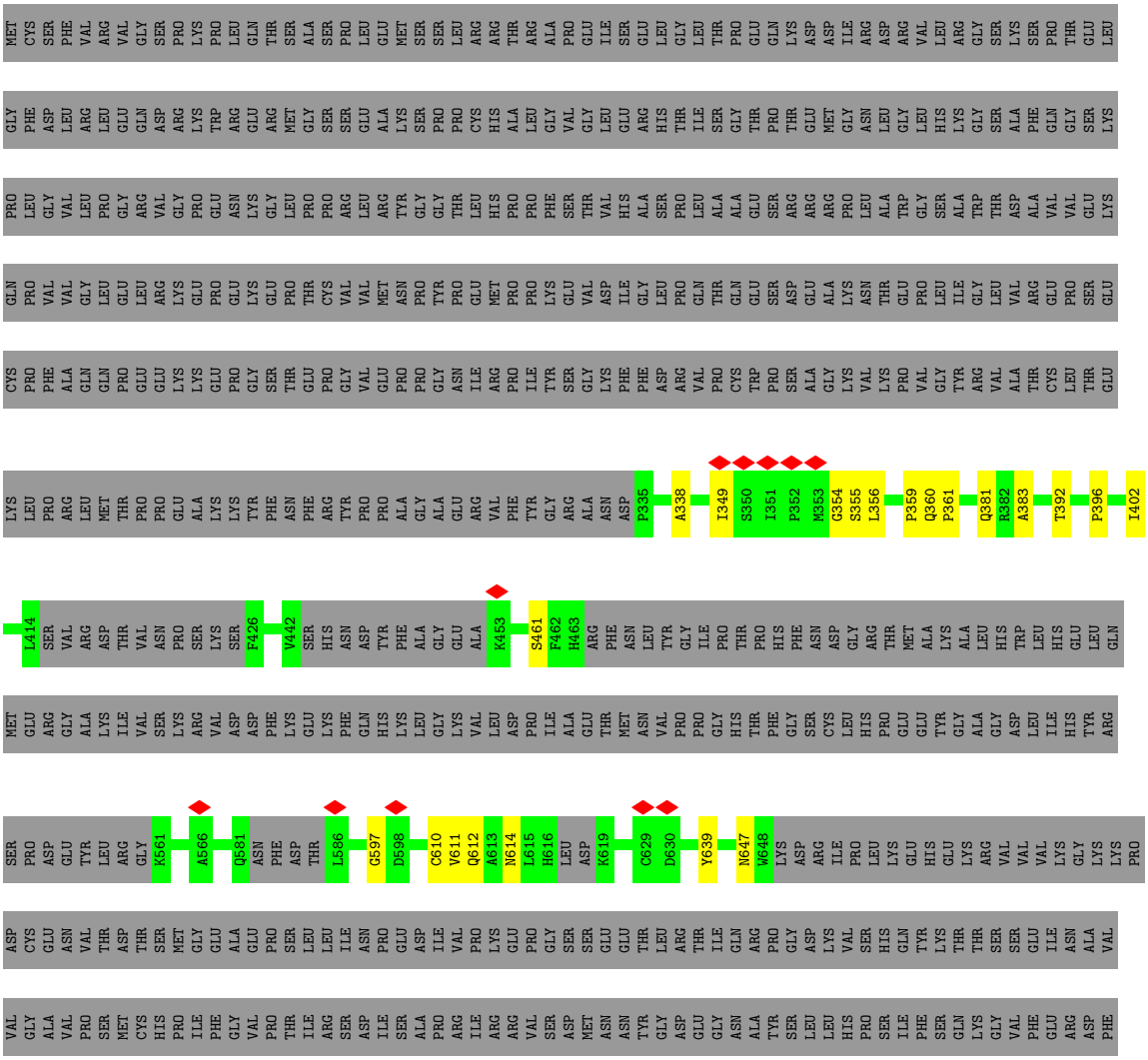
Chain 1:

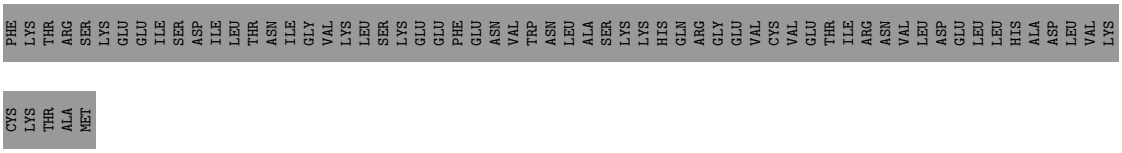




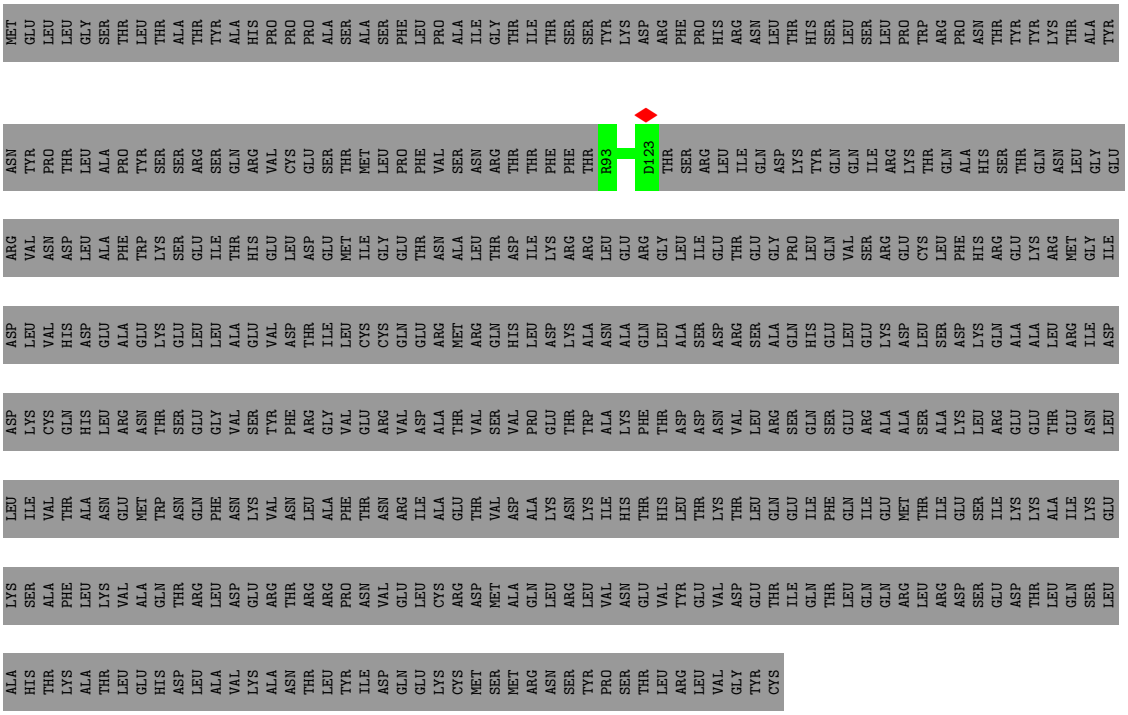
• Molecule 6: EF-hand domain-containing family member B

Chain 2:

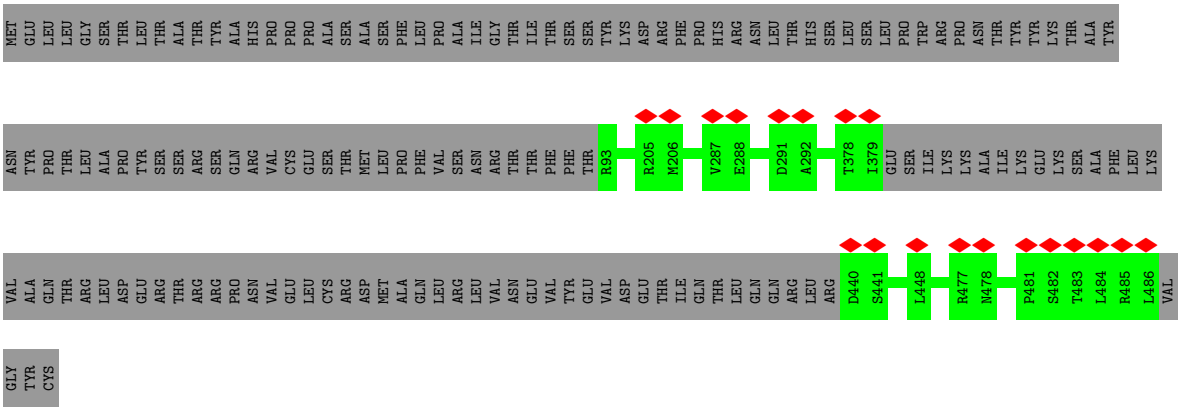




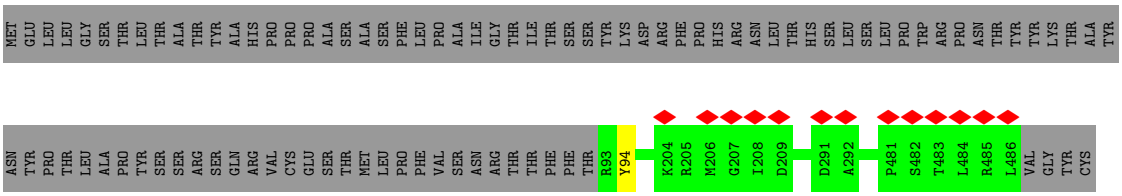
• Molecule 7: Tektin-3



• Molecule 7: Tektin-3

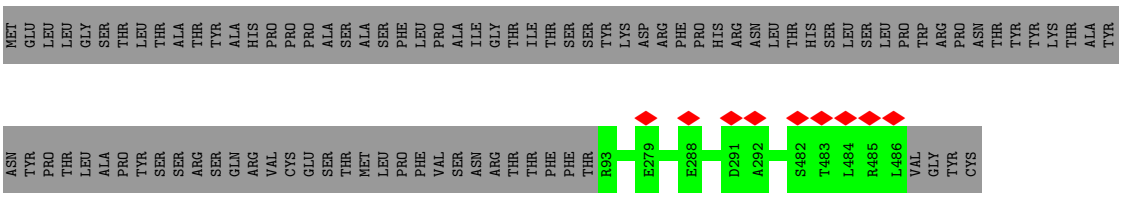


• Molecule 7: Tektin-3



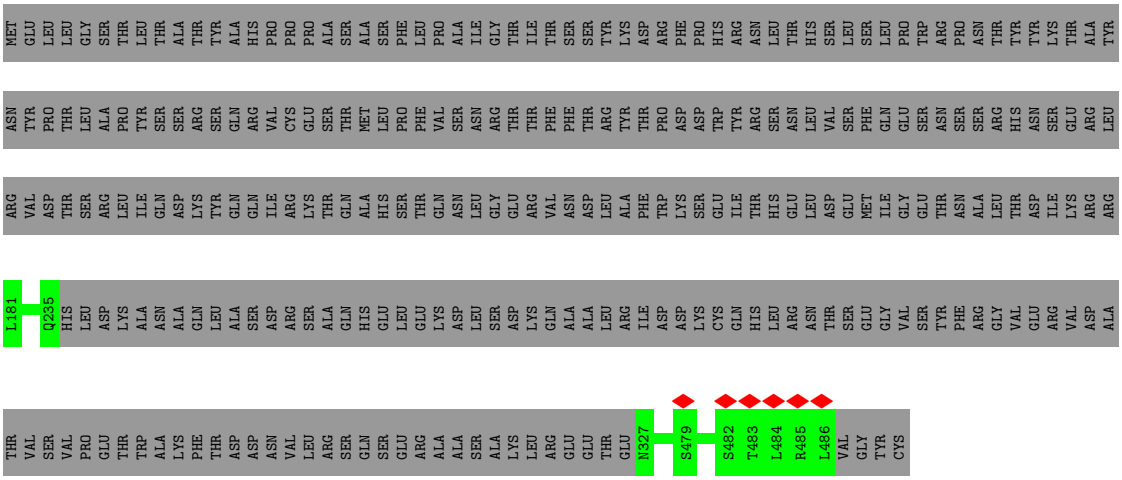
• Molecule 7: Tektin-3

Chain AF:



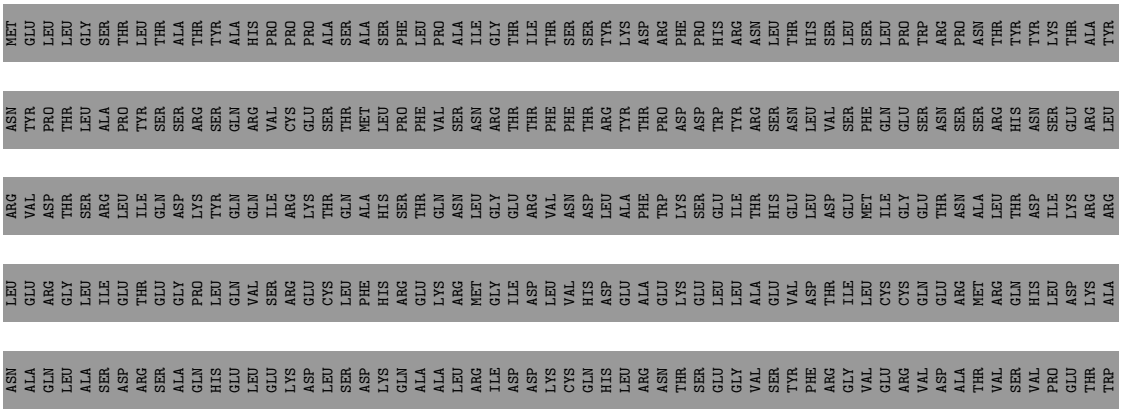
• Molecule 7: Tektin-3

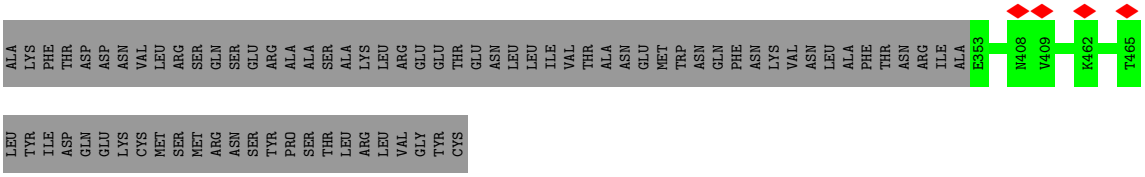
Chain AG:



• Molecule 7: Tektin-3

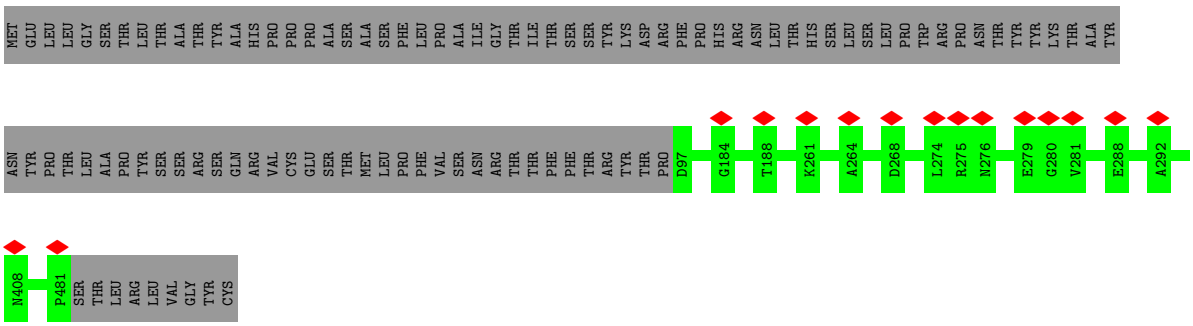
Chain AH:





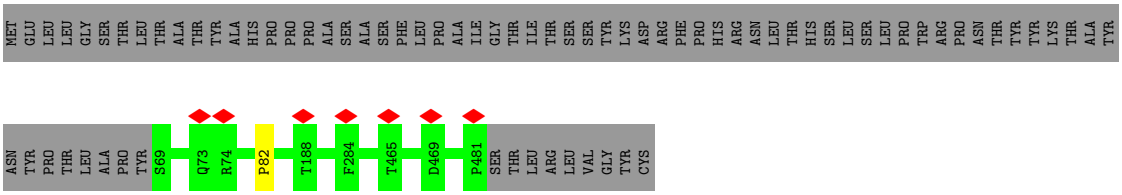
• Molecule 7: Tektin-3

Chain AI:



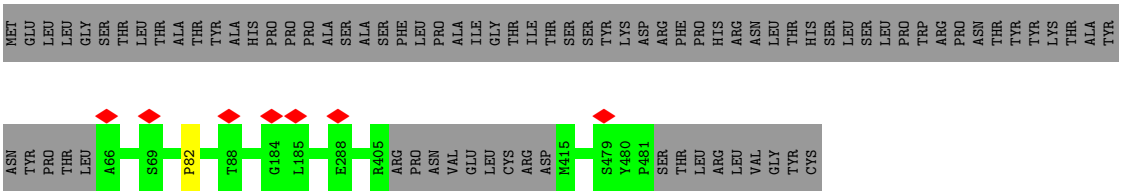
• Molecule 7: Tektin-3

Chain AJ:



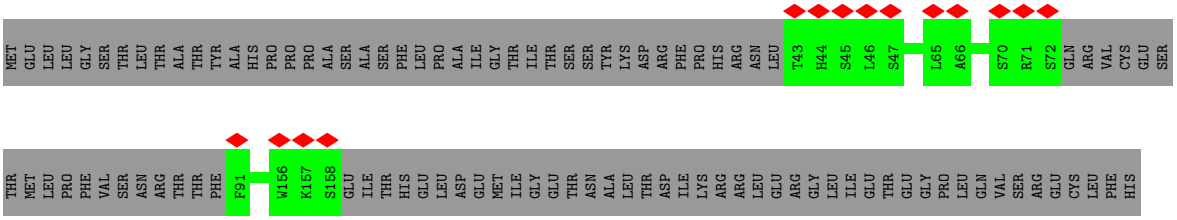
• Molecule 7: Tektin-3

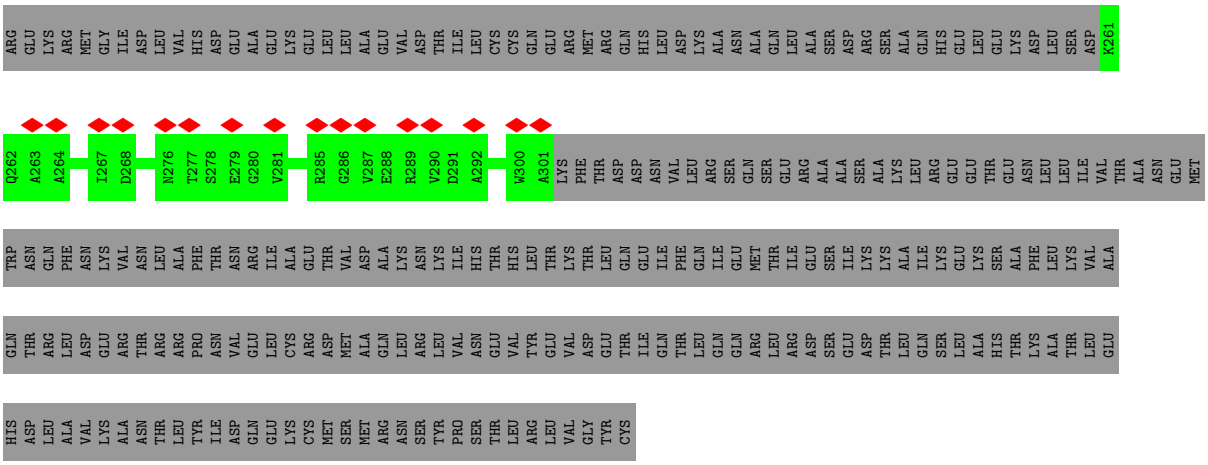
Chain AK:



• Molecule 7: Tektin-3

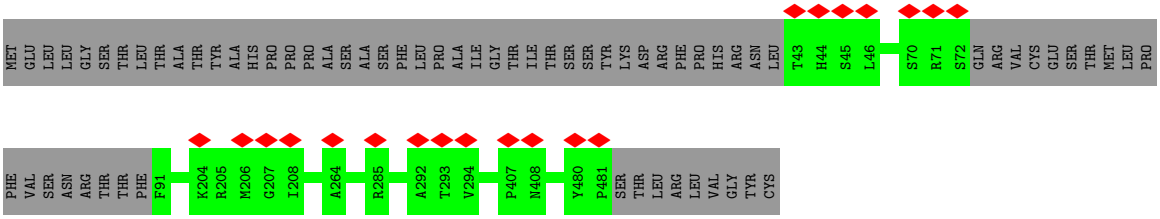
Chain BI:





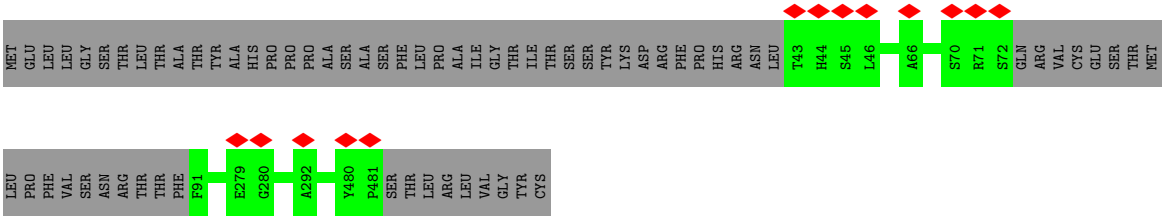
• Molecule 7: Tektin-3

Chain BJ:



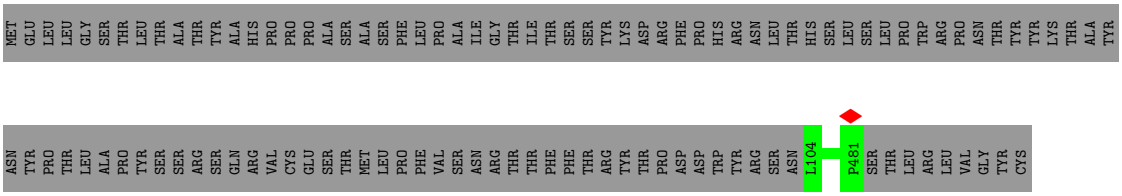
• Molecule 7: Tektin-3

Chain BK:



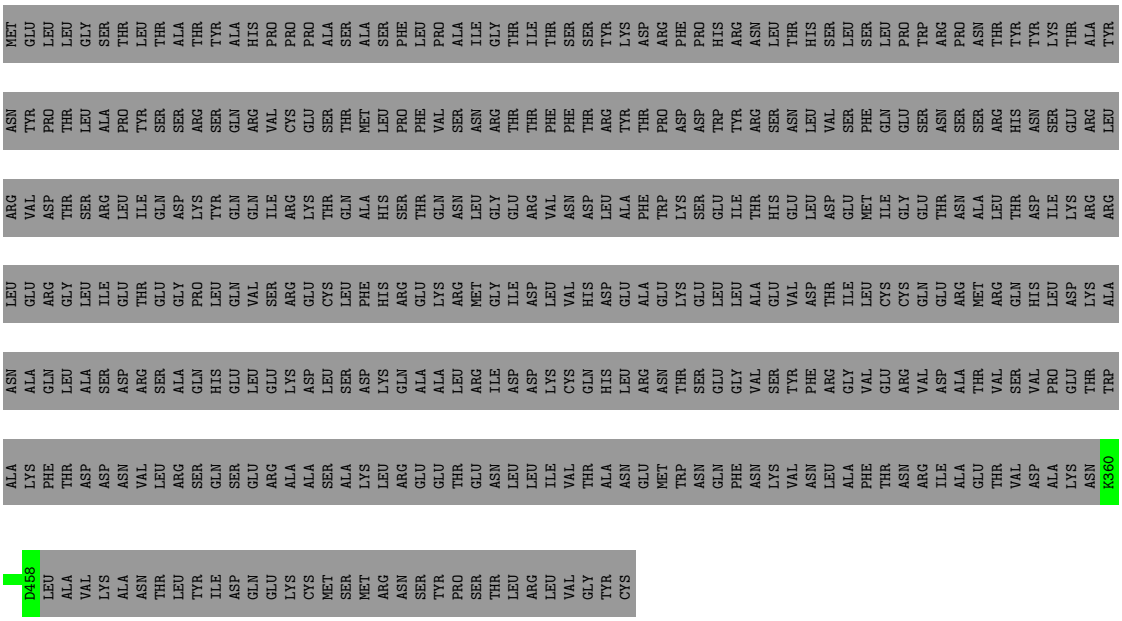
• Molecule 7: Tektin-3

Chain BL:



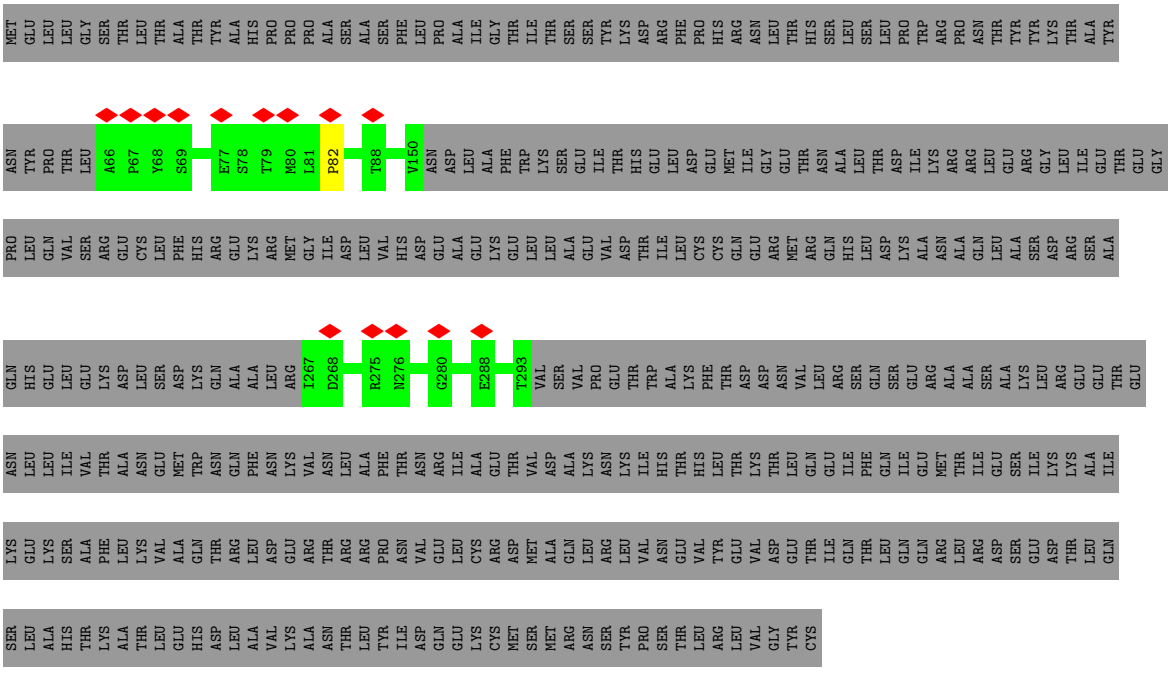
• Molecule 7: Tektin-3

Chain BM:



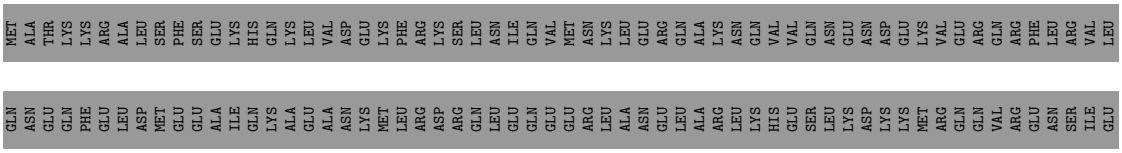
• Molecule 7: Tektin-3

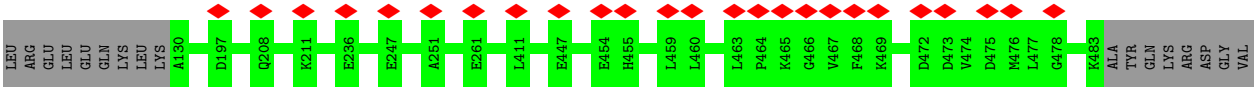
Chain AL:



• Molecule 8: Meiosis-specific nuclear structural protein 1

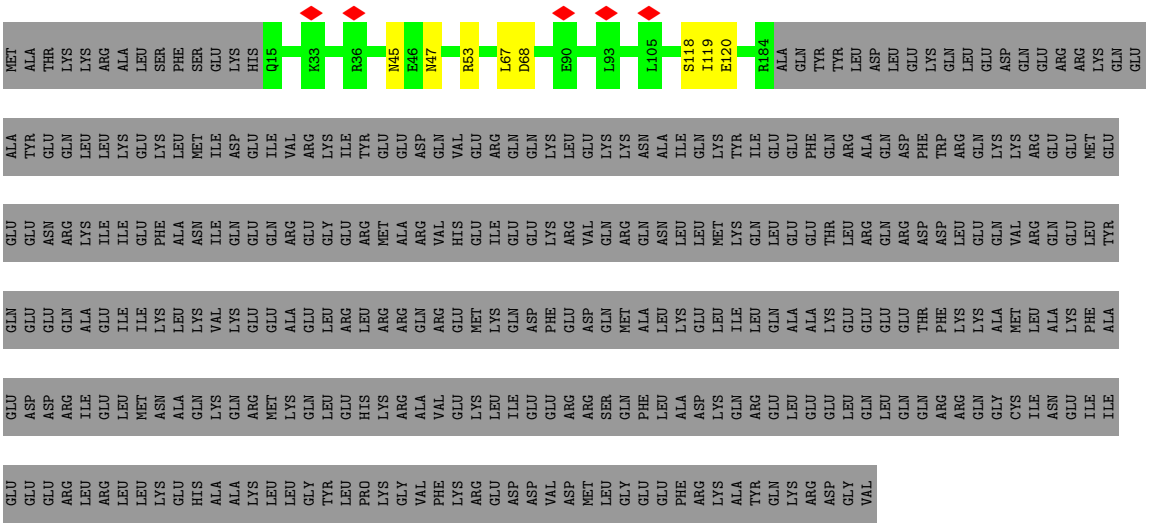
Chain a:





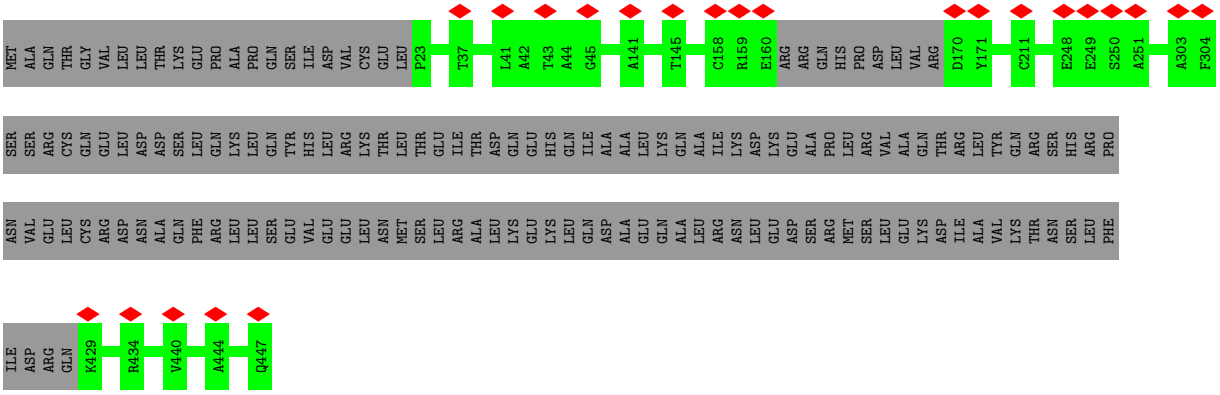
• Molecule 8: Meiosis-specific nuclear structural protein 1

Chain A:



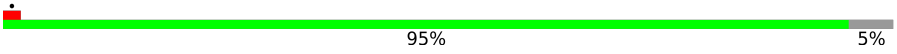
• Molecule 9: Tektin-4

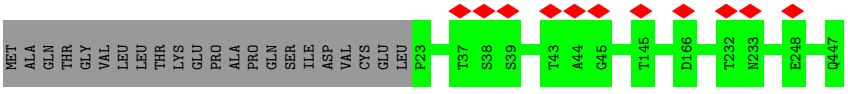
Chain Aa:



• Molecule 9: Tektin-4

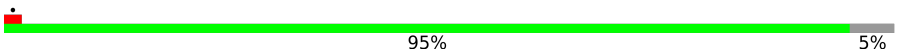
Chain Ab:

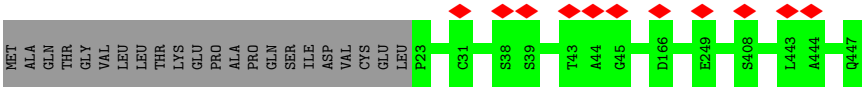




• Molecule 9: Tektin-4

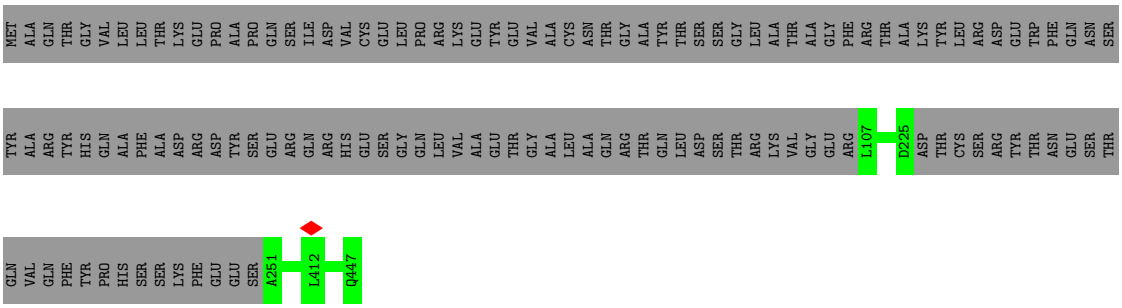
Chain Ac:





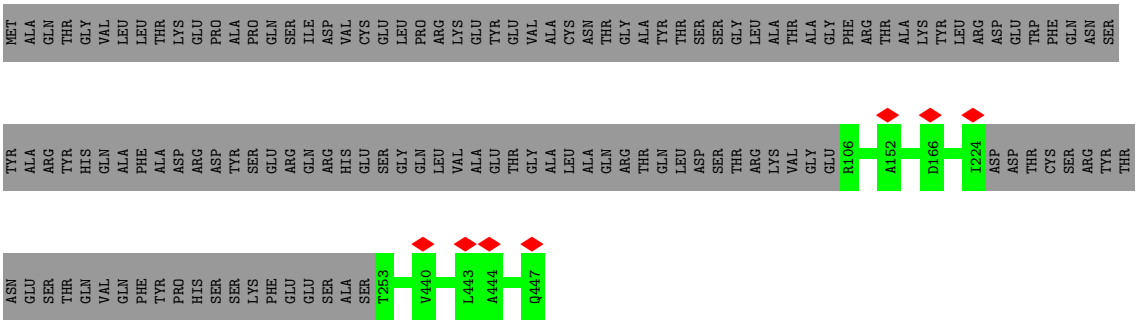
• Molecule 9: Tektin-4

Chain Ad:



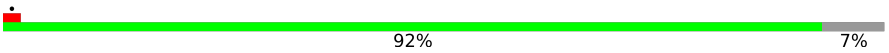
• Molecule 9: Tektin-4

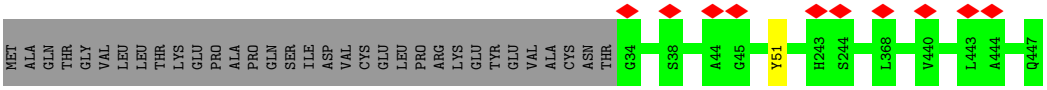
Chain Af:



• Molecule 9: Tektin-4

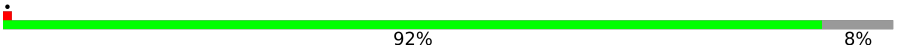
Chain Ag:

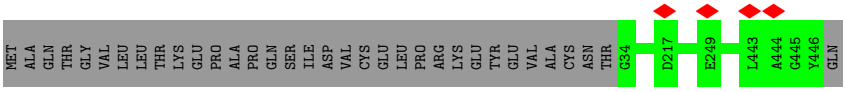




• Molecule 9: Tektin-4

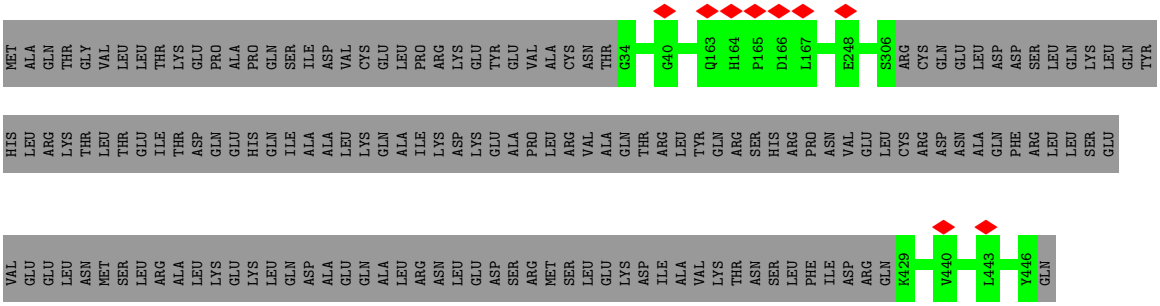
Chain Ah:





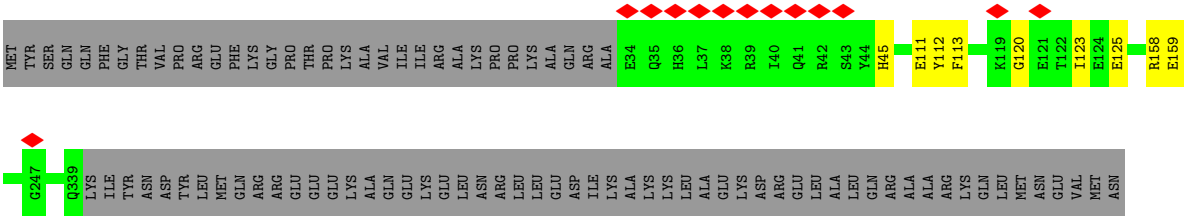
• Molecule 9: Tektin-4

Chain Ai:



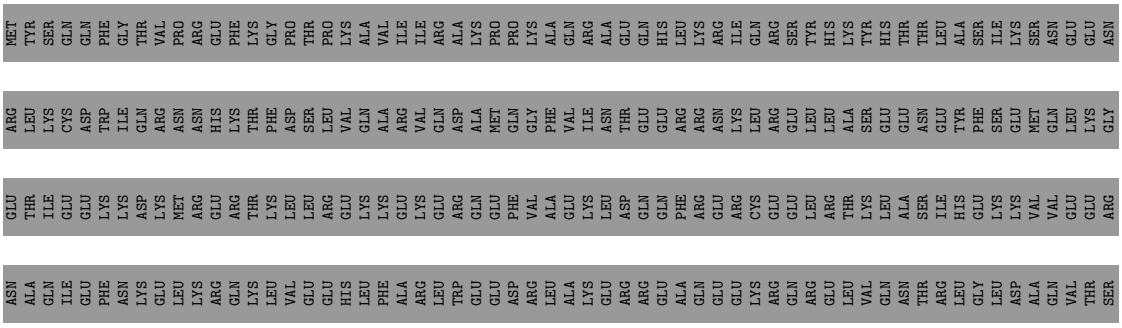
• Molecule 10: Cilia- and flagella-associated protein 53

Chain 3:



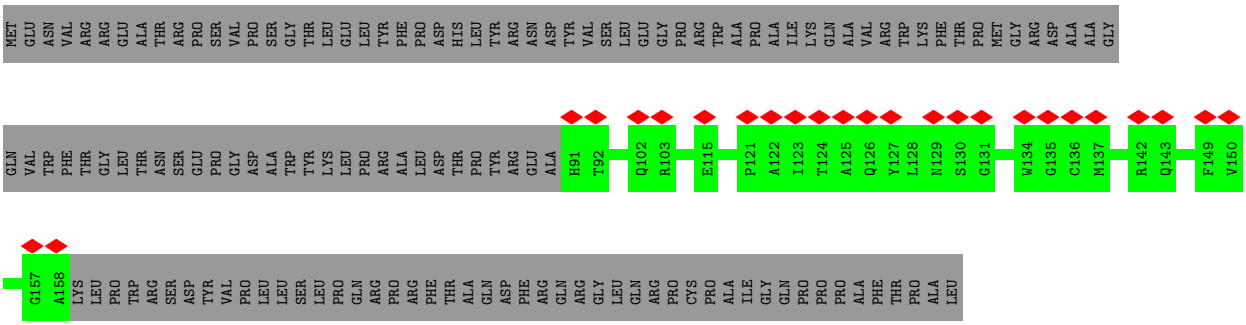
• Molecule 10: Cilia- and flagella-associated protein 53

Chain 4:



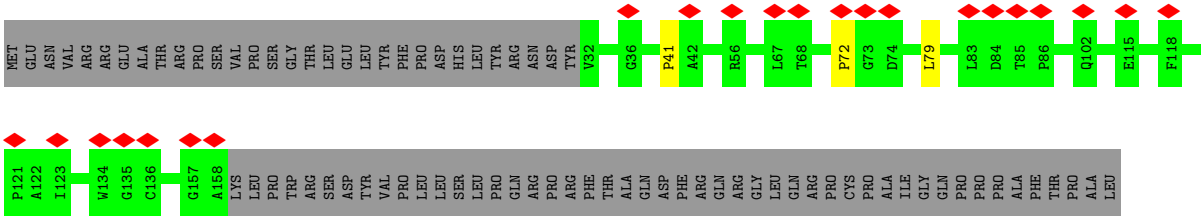
• Molecule 11: Tektin bundle-interacting protein 1

Chain Az:



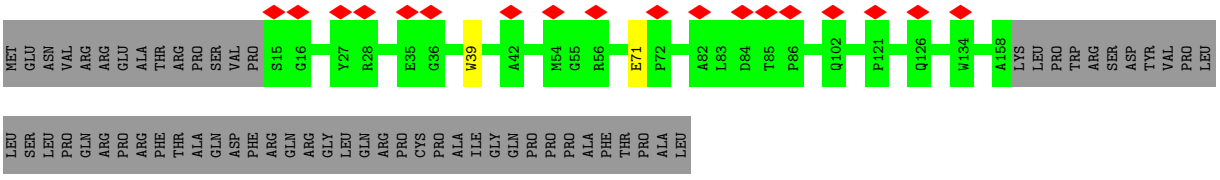
• Molecule 11: Tektin bundle-interacting protein 1

Chain A1:



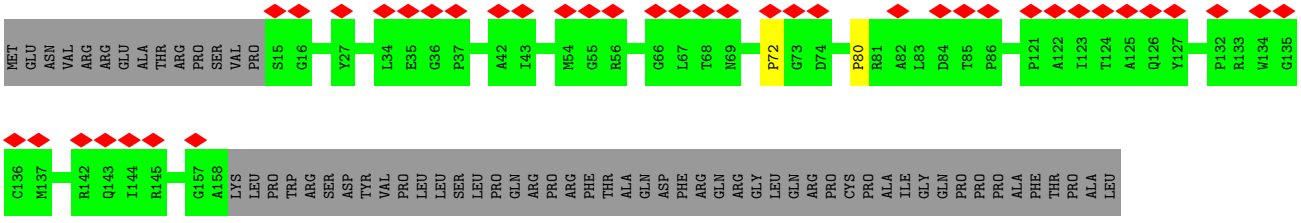
• Molecule 11: Tektin bundle-interacting protein 1

Chain A2:



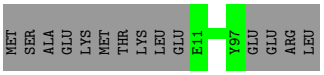
• Molecule 11: Tektin bundle-interacting protein 1

Chain A3:



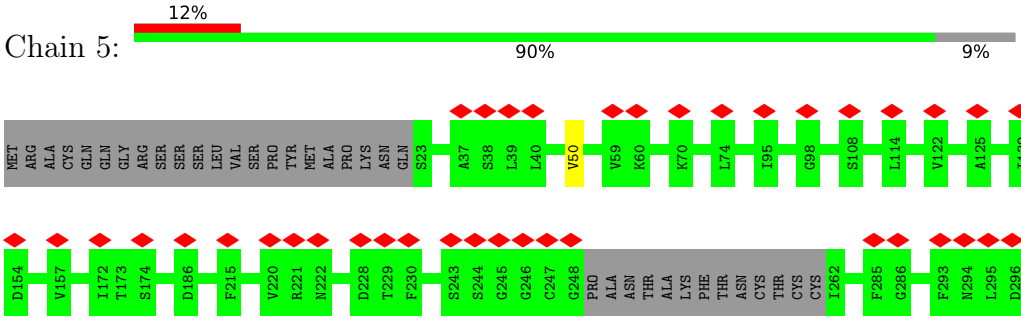
• Molecule 12: Cilia- and flagella-associated protein 141

Chain AB:



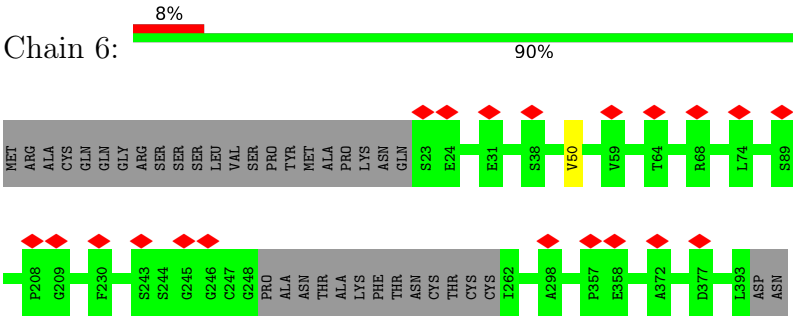
• Molecule 13: Nucleoside diphosphate kinase 7

Chain 5:



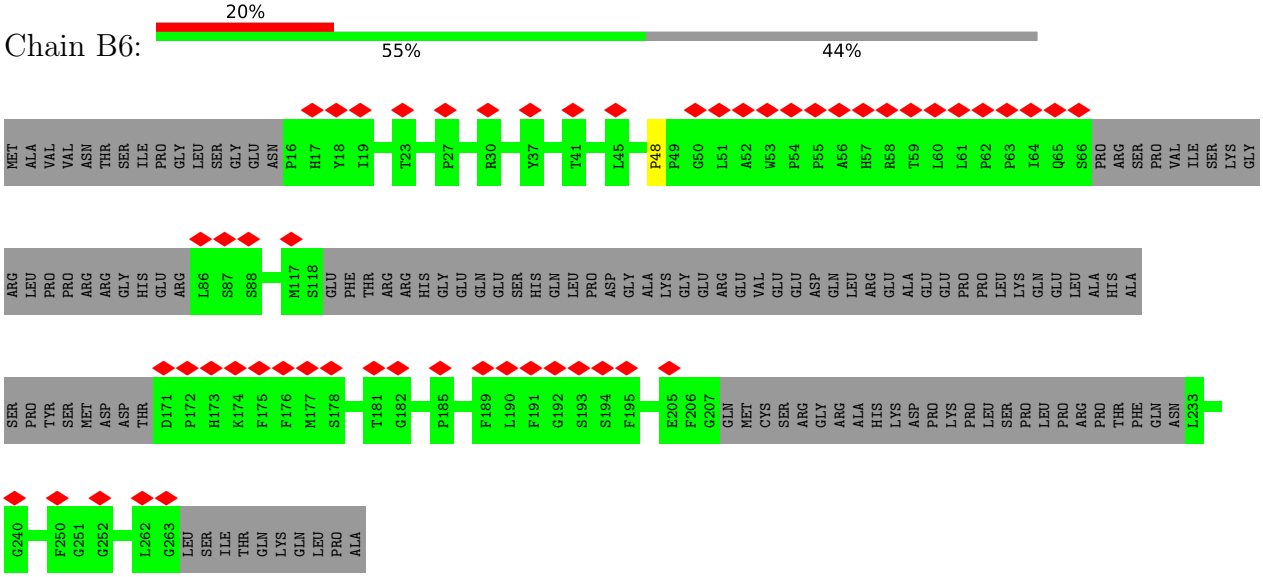
• Molecule 13: Nucleoside diphosphate kinase 7

Chain 6:



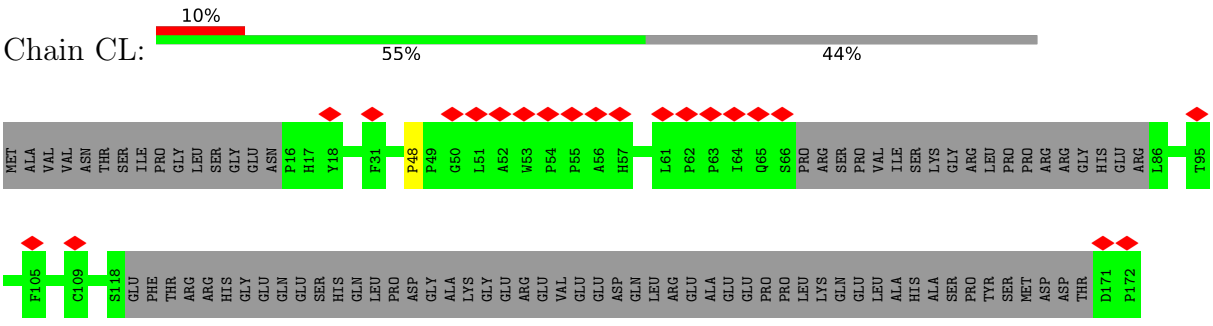
• Molecule 14: Protein FAM166B

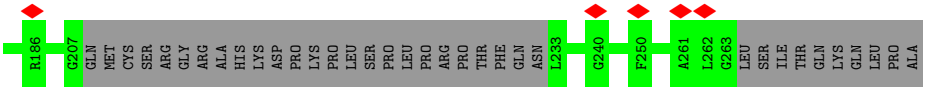
Chain B6:



• Molecule 14: Protein FAM166B

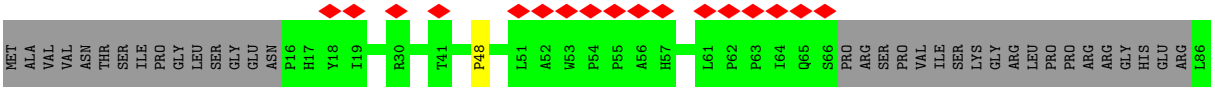
Chain CL:

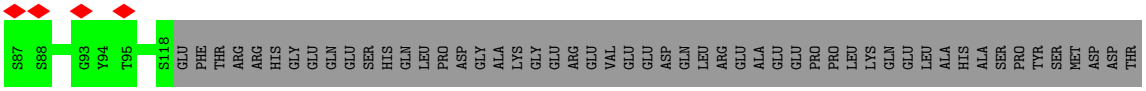


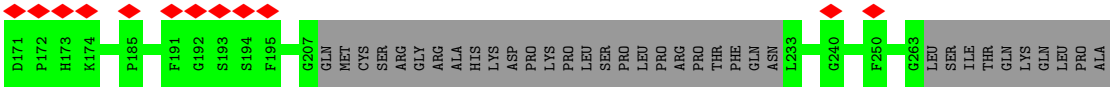


• Molecule 14: Protein FAM166B

Chain Ca:

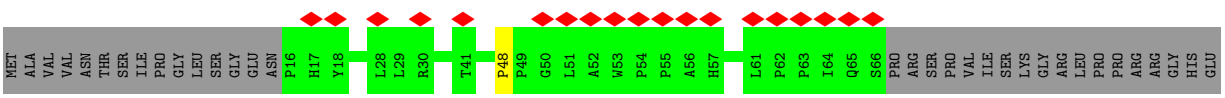






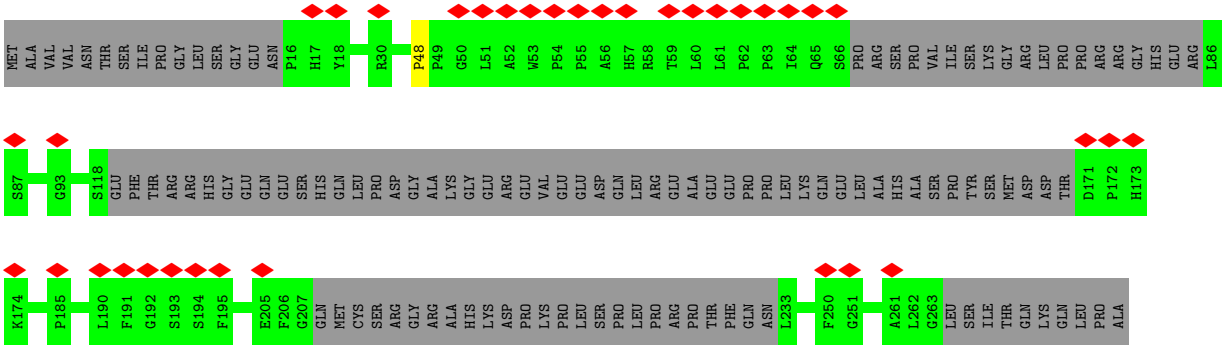
• Molecule 14: Protein FAM166B

Chain Cq:



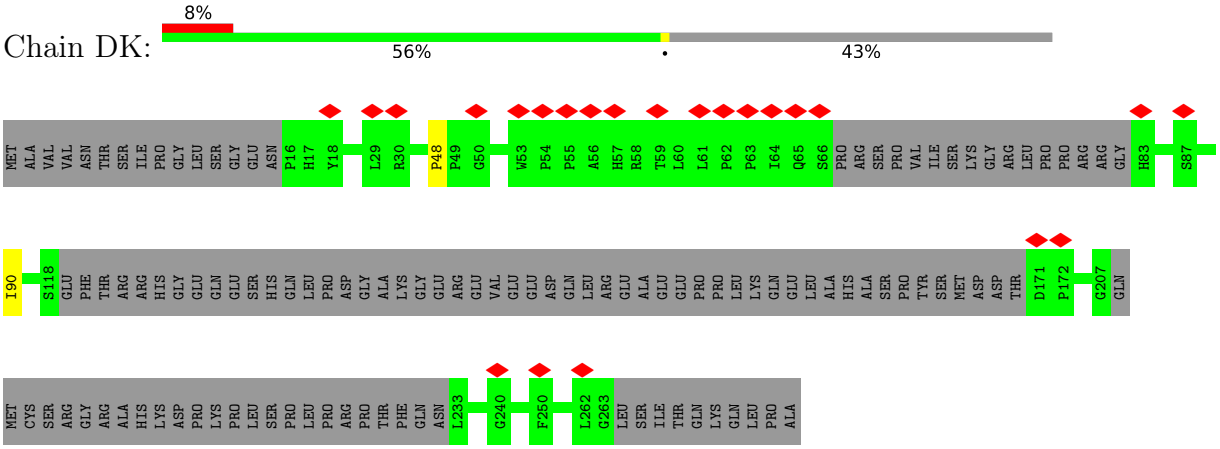
• Molecule 14: Protein FAM166B

Chain C6:



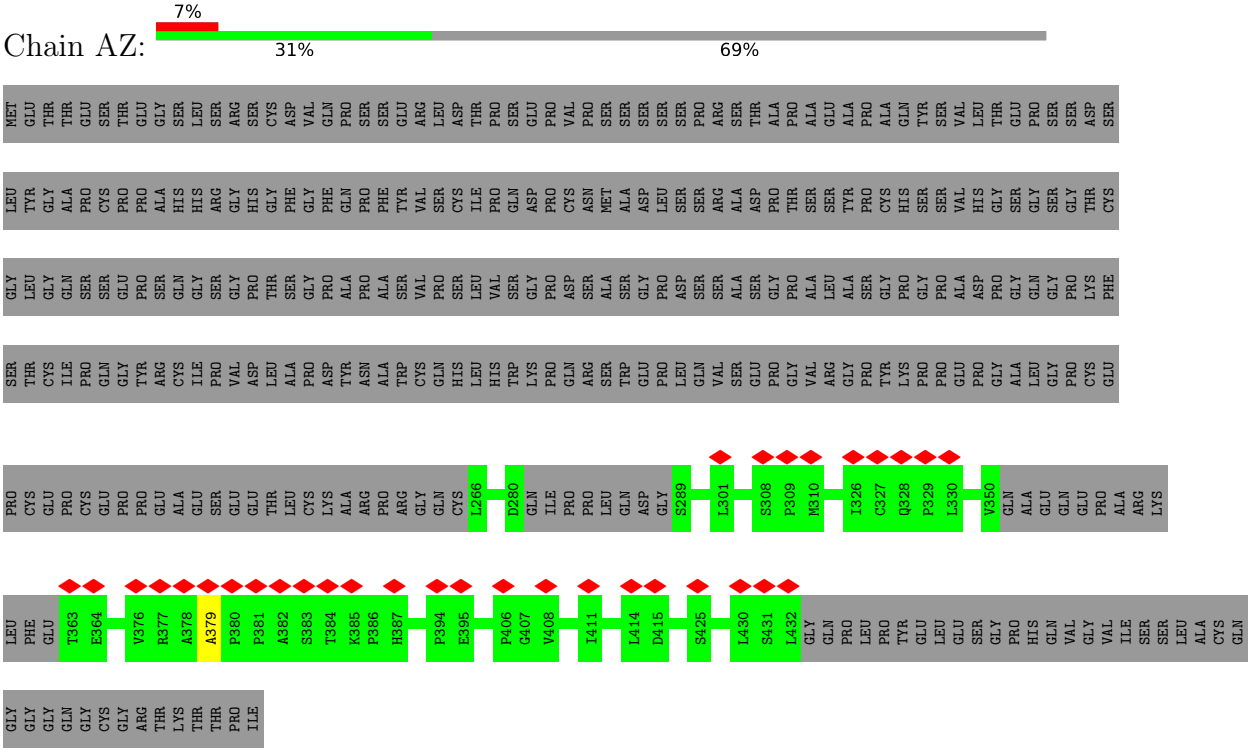
• Molecule 14: Protein FAM166B

Chain DK:



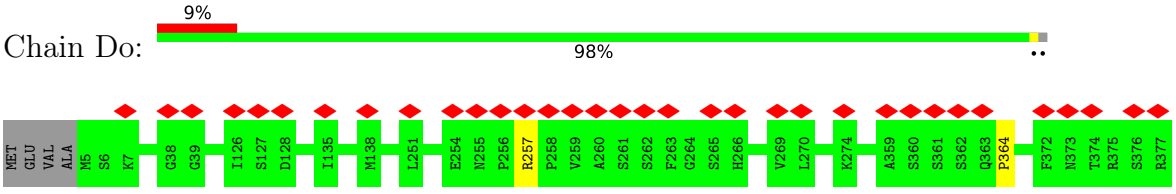
• Molecule 15: Sperm-associated antigen 8

Chain AZ:



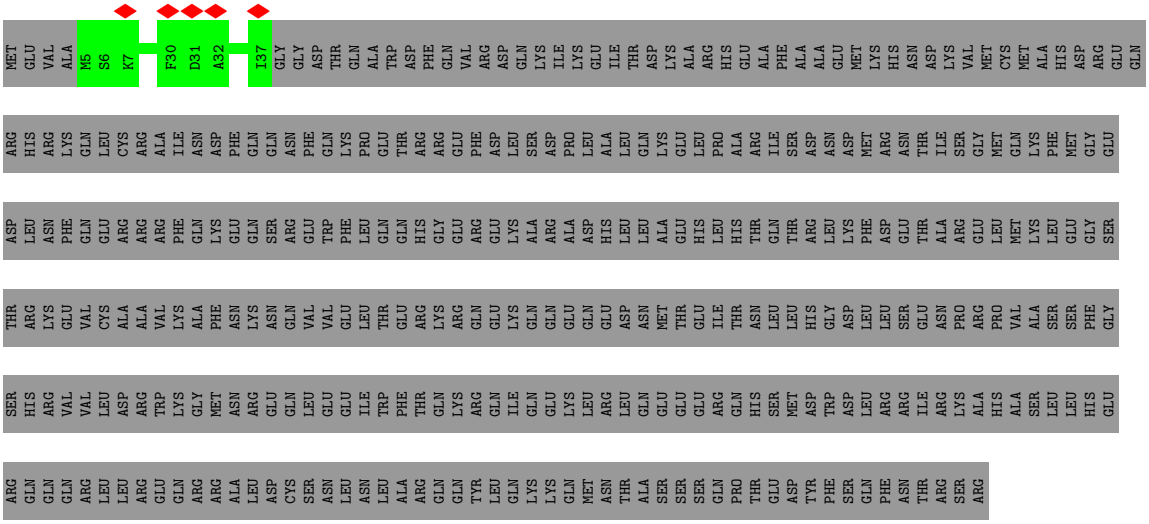
• Molecule 16: RIB43A-like with coiled-coils protein 2

Chain Do:



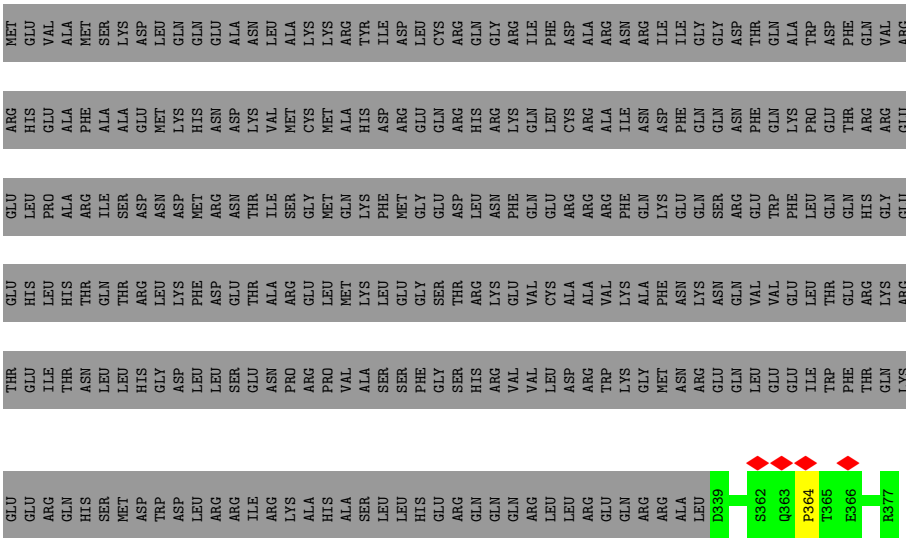
• Molecule 16: RIB43A-like with coiled-coils protein 2

Chain DZ:



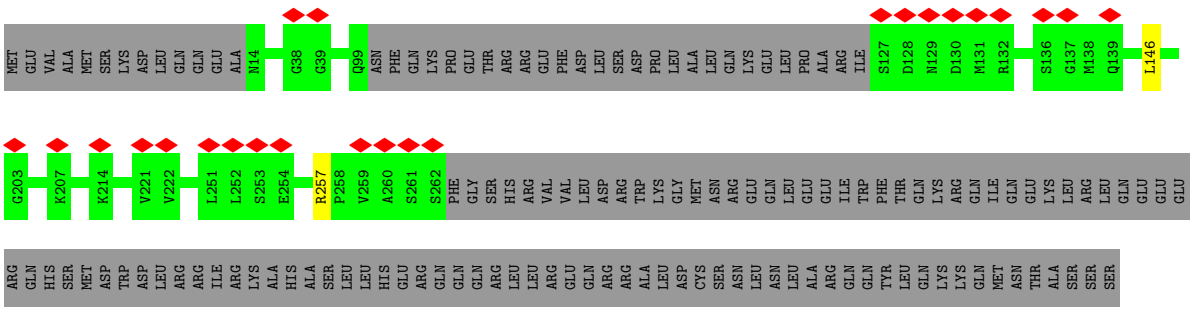
• Molecule 16: RIB43A-like with coiled-coils protein 2

Chain D4:



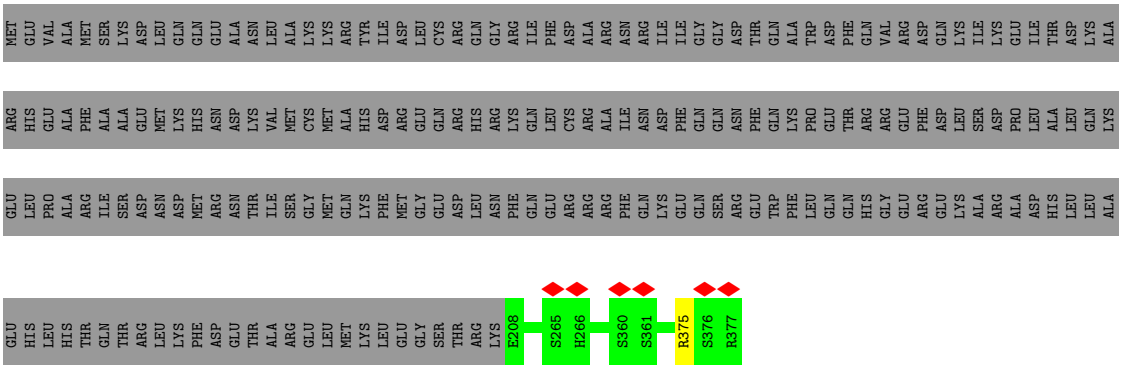
• Molecule 16: RIB43A-like with coiled-coils protein 2

Chain EI:



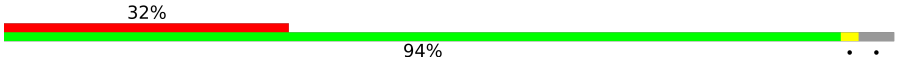
• Molecule 16: RIB43A-like with coiled-coils protein 2

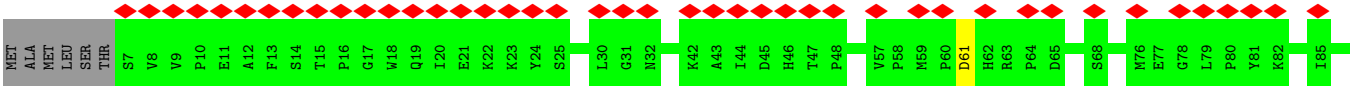
Chain EX:

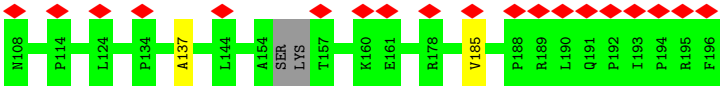


• Molecule 17: Cilia- and flagella-associated protein 107

Chain 8:

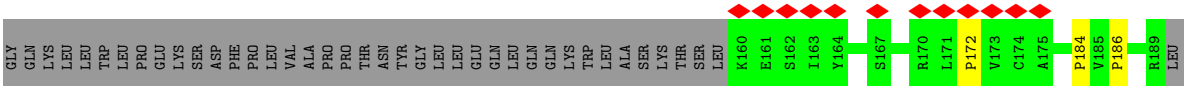






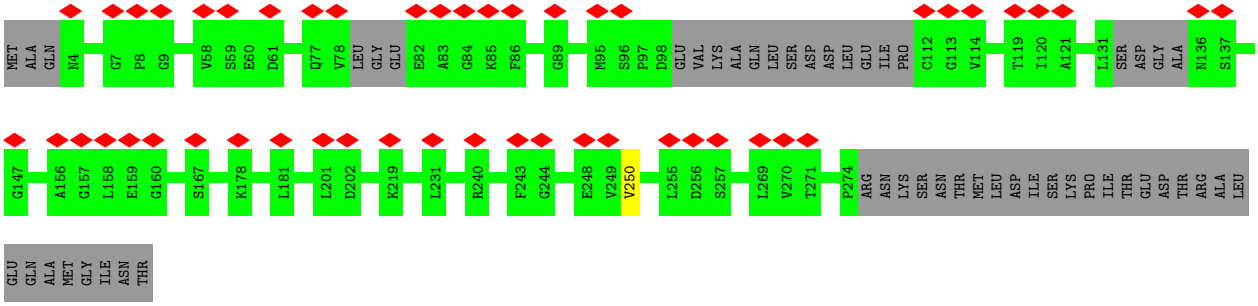
• Molecule 17: Cilia- and flagella-associated protein 107

Chain 9:



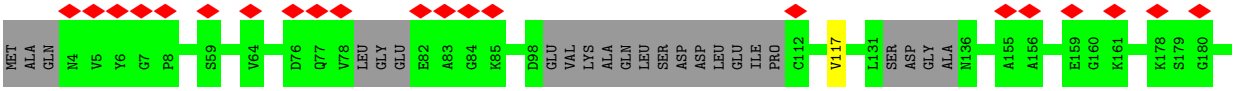
• Molecule 18: Cilia- and flagella-associated protein 161

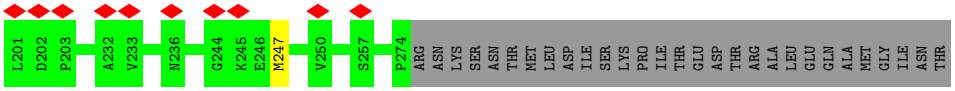
Chain Ay:



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

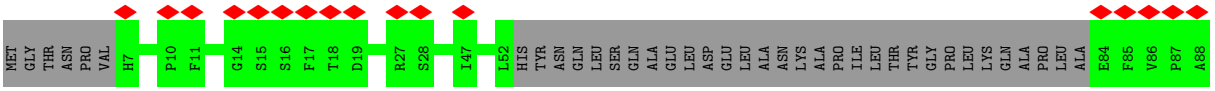
Chain BH:

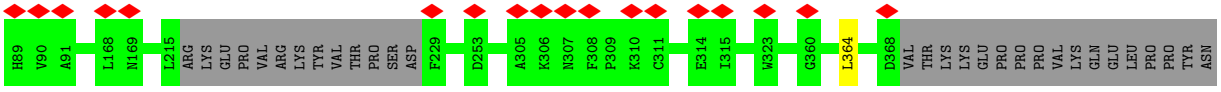


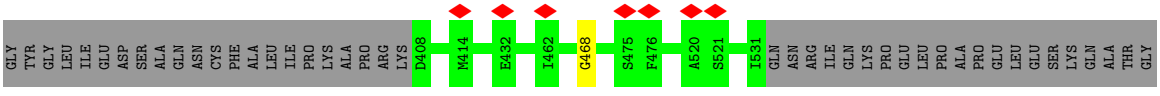


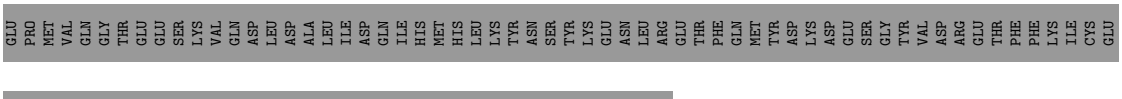
• Molecule 19: EF-hand domain-containing protein 1

Chain E1:



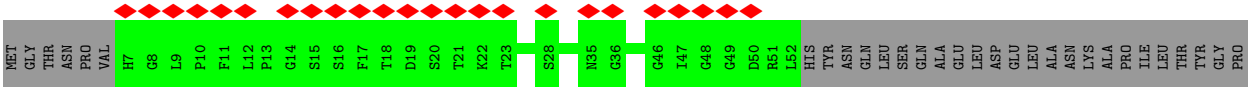


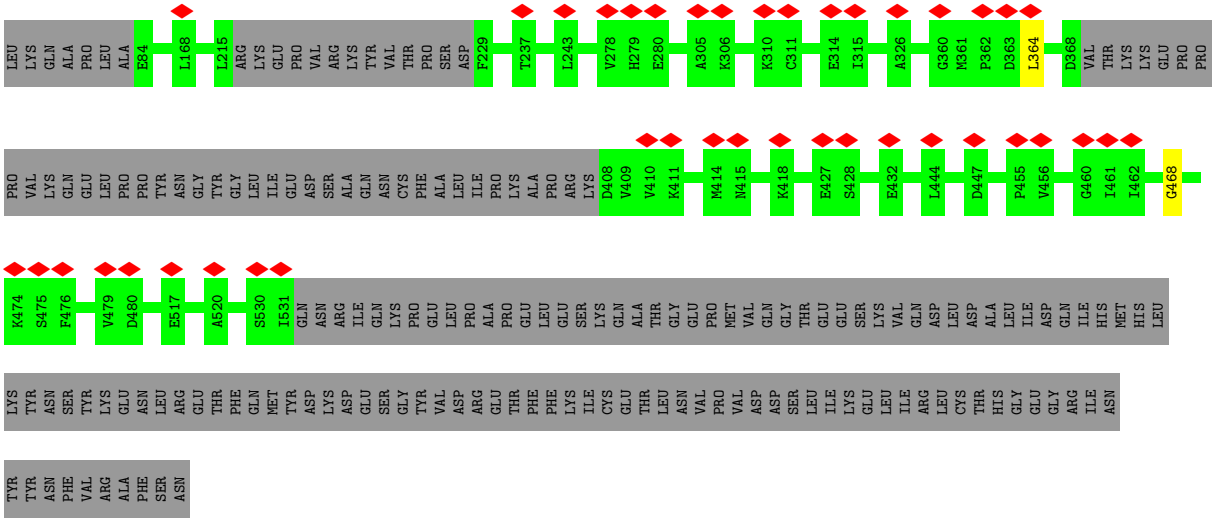




• Molecule 19: EF-hand domain-containing protein 1

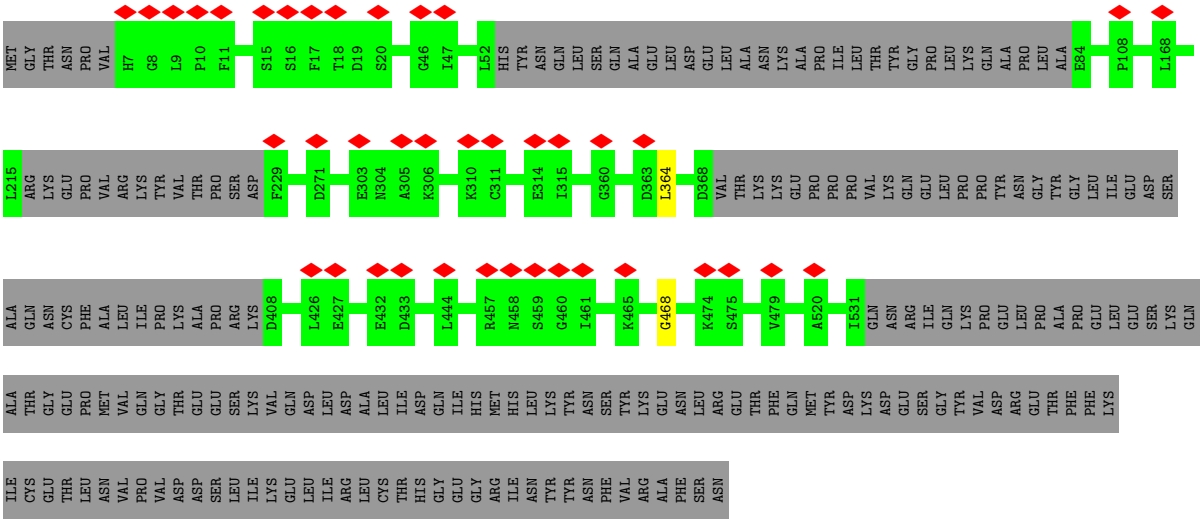
Chain Em:





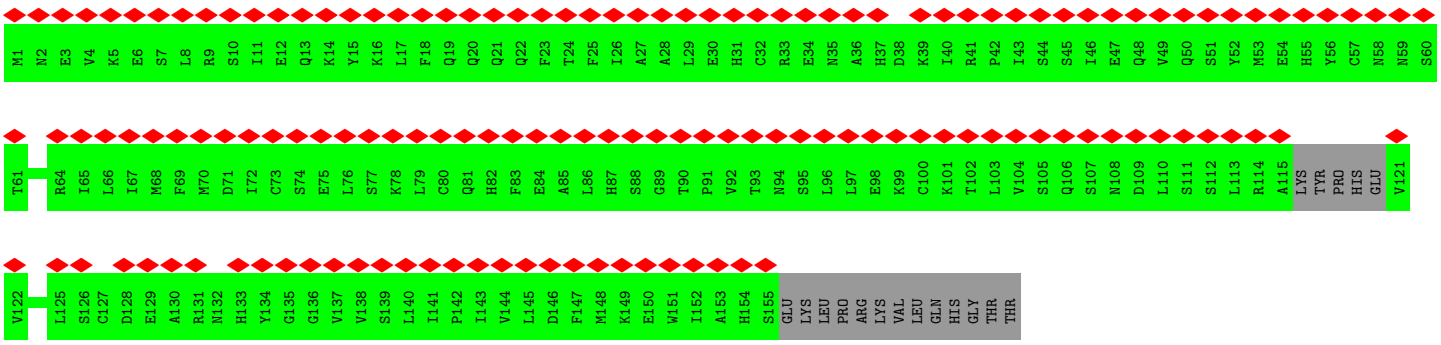
• Molecule 19: EF-hand domain-containing protein 1

Chain FE:



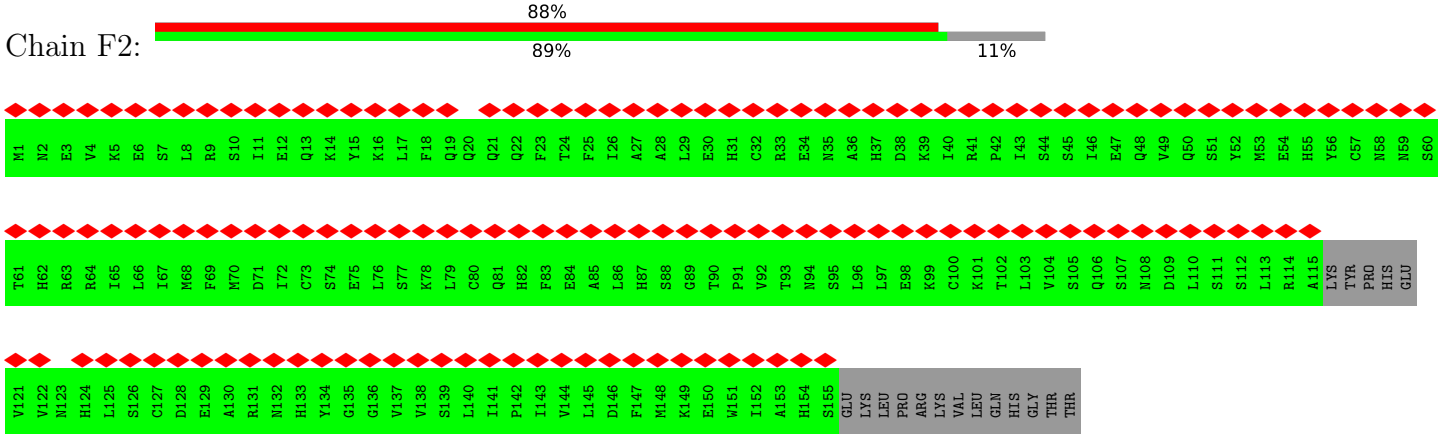
• Molecule 20: Sperm acrosome-associated protein 9

Chain F1:



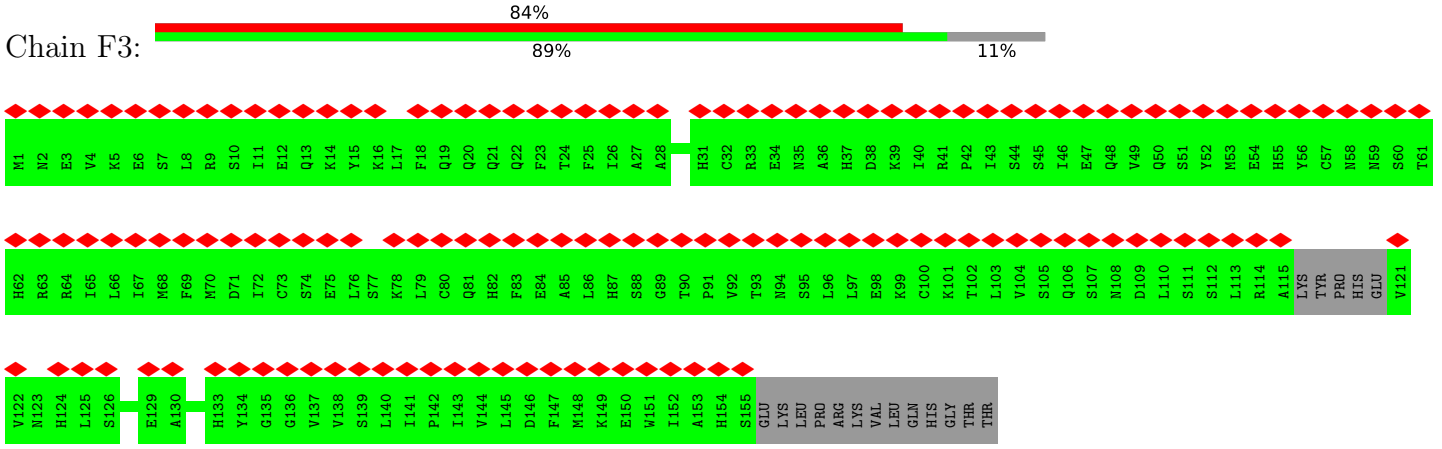
• Molecule 20: Sperm acrosome-associated protein 9

Chain F2:



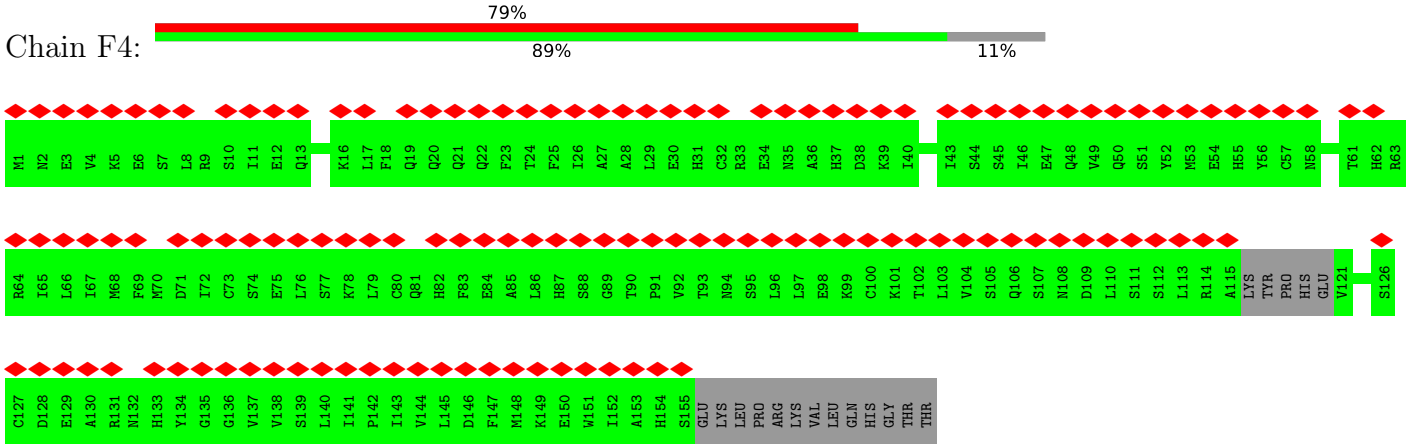
• Molecule 20: Sperm acrosome-associated protein 9

Chain F3:



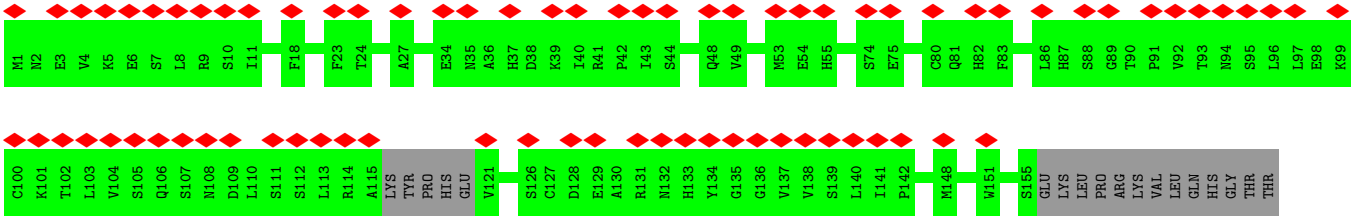
• Molecule 20: Sperm acrosome-associated protein 9

Chain F4:



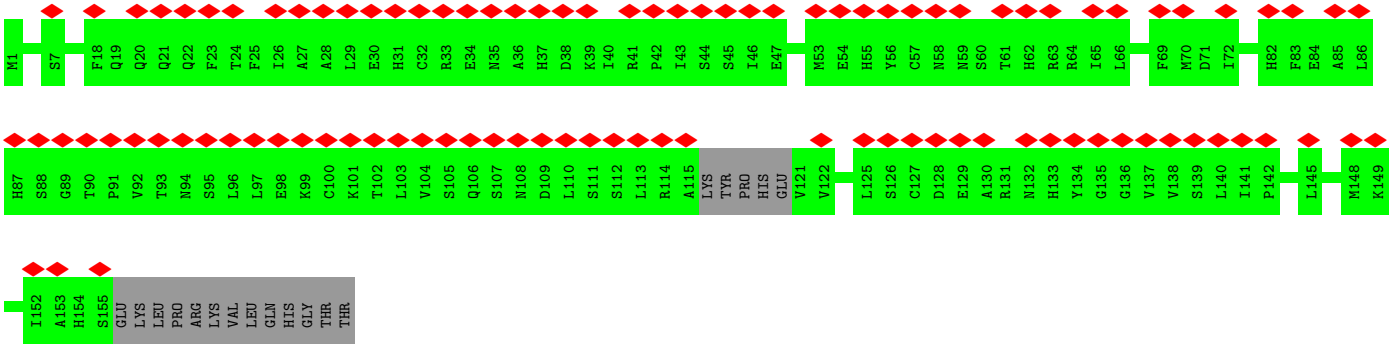
• Molecule 20: Sperm acrosome-associated protein 9

Chain F5:



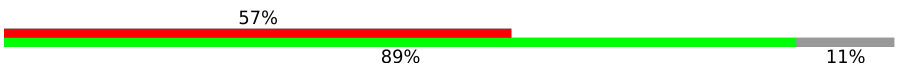
• Molecule 20: Sperm acrosome-associated protein 9

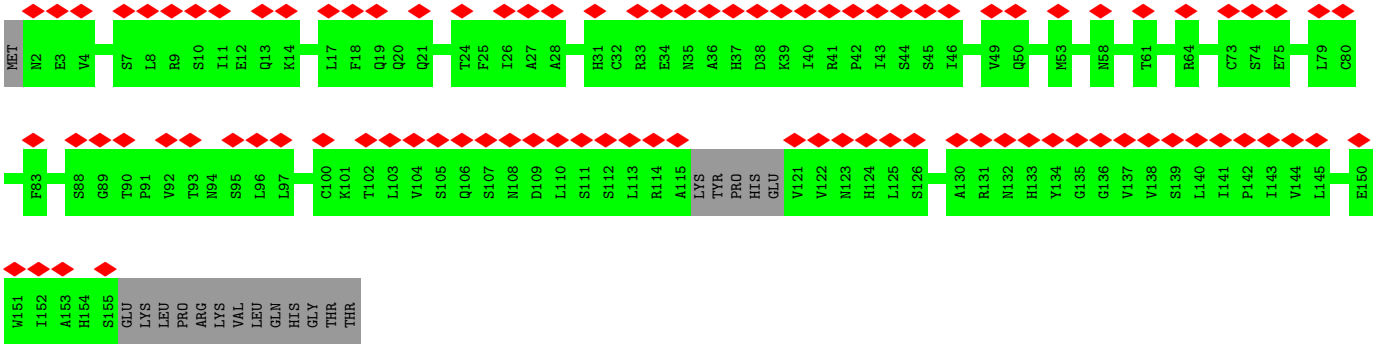
Chain F6:



• Molecule 20: Sperm acrosome-associated protein 9

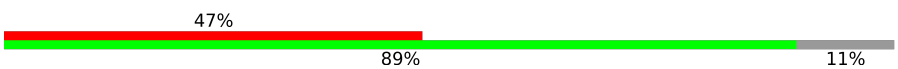
Chain F7:

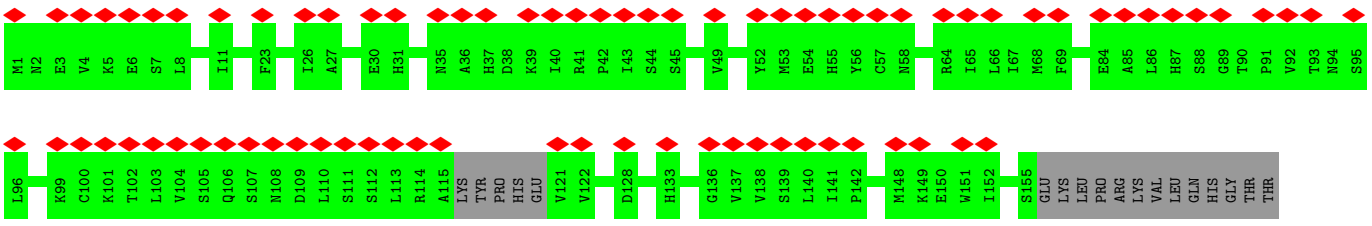




• Molecule 20: Sperm acrosome-associated protein 9

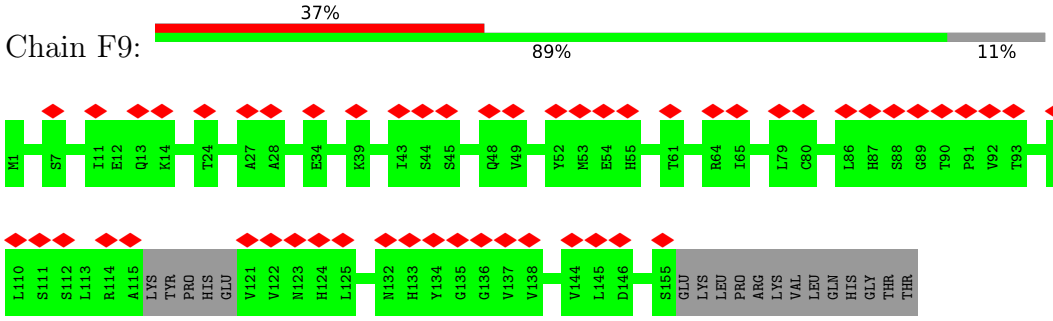
Chain F8:





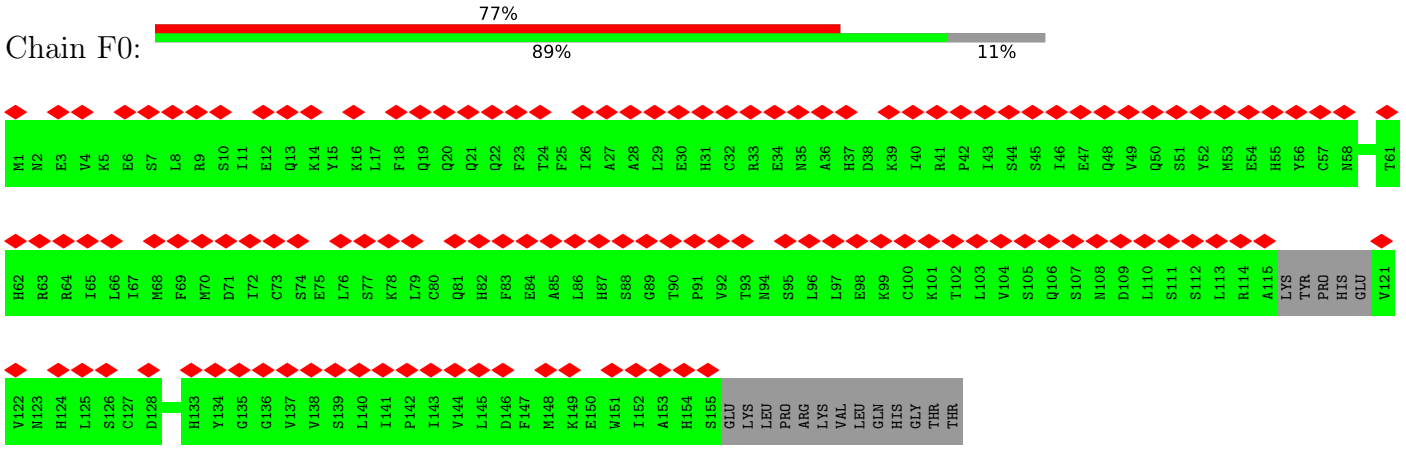
• Molecule 20: Sperm acrosome-associated protein 9

Chain F9:



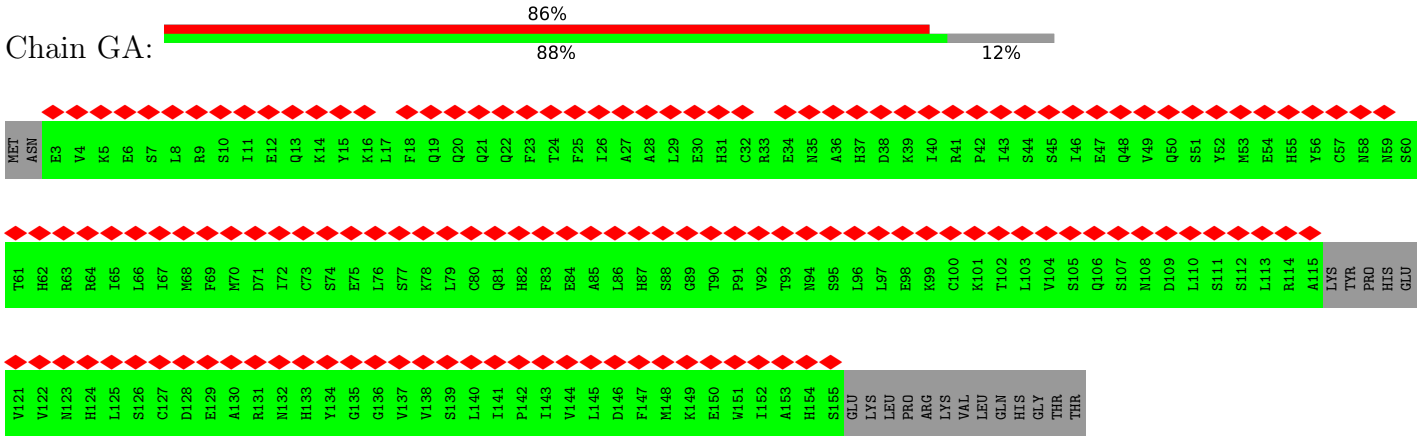
• Molecule 20: Sperm acrosome-associated protein 9

Chain F0:



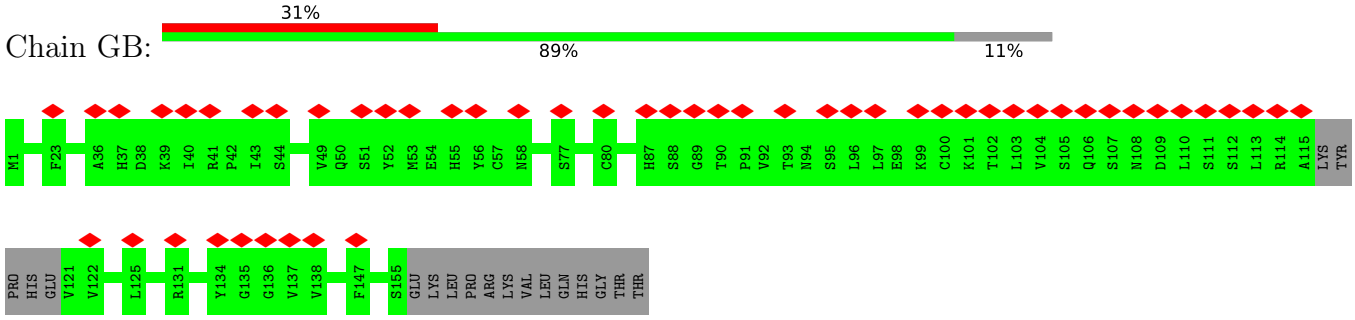
• Molecule 20: Sperm acrosome-associated protein 9

Chain GA:



• Molecule 20: Sperm acrosome-associated protein 9

Chain GB:



• Molecule 20: Sperm acrosome-associated protein 9

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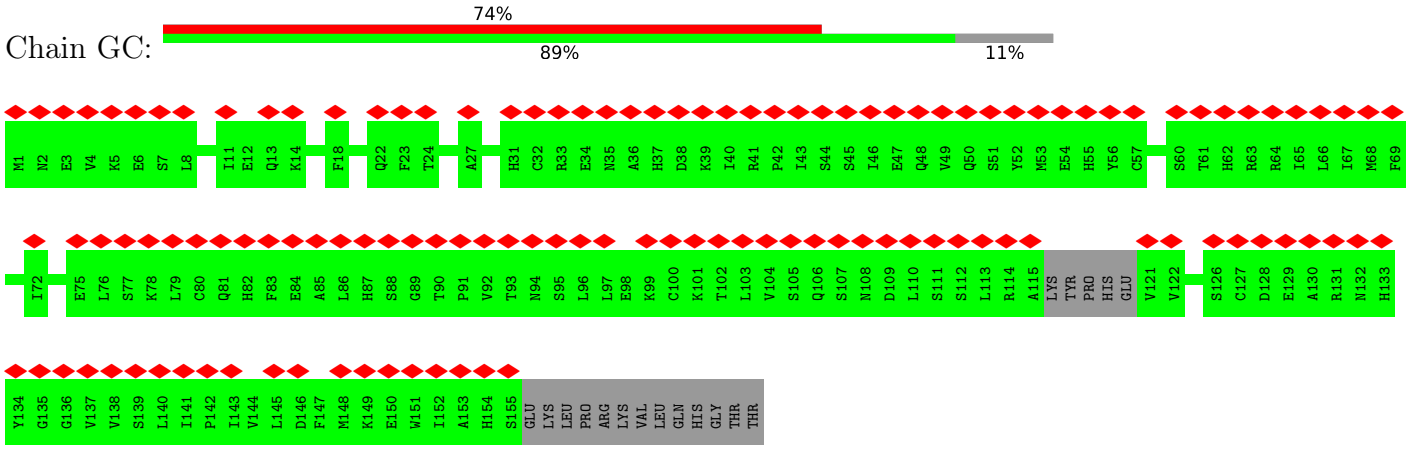

• Molecule 20: Sperm acrosome-associated protein 9

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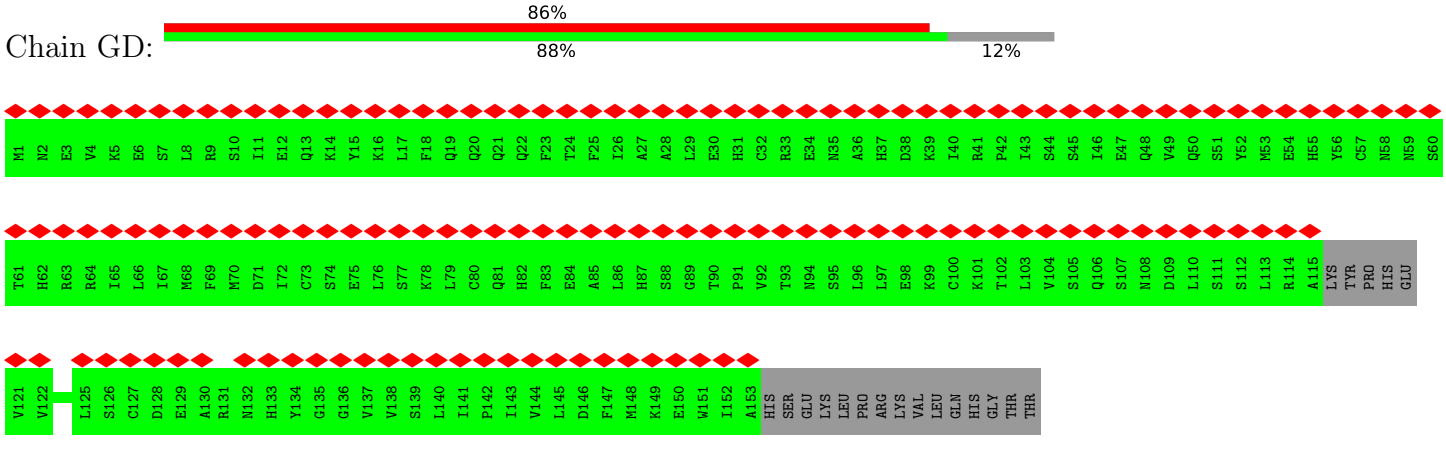
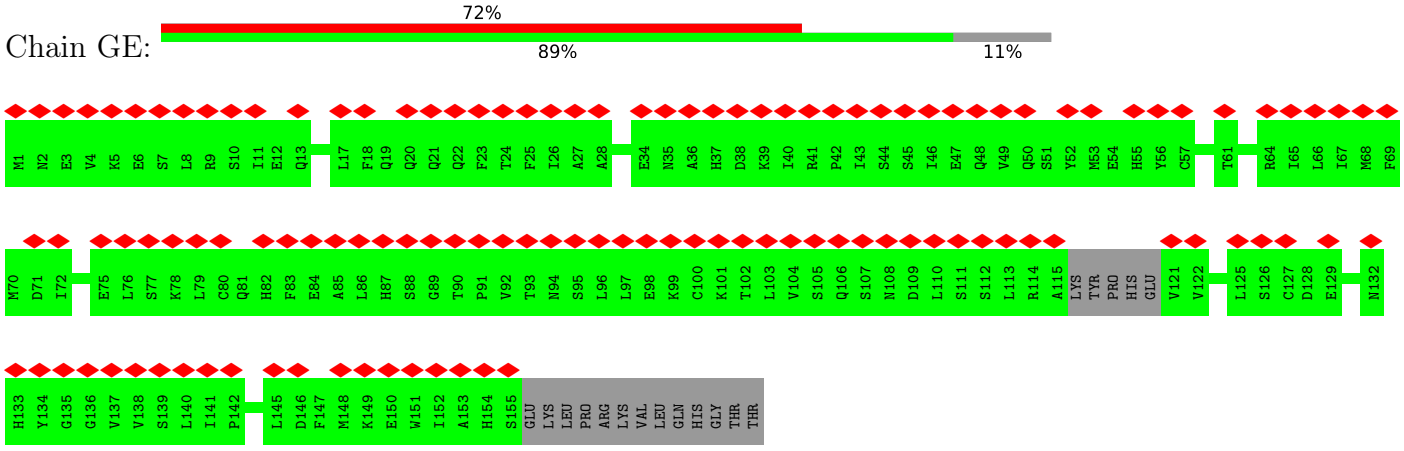


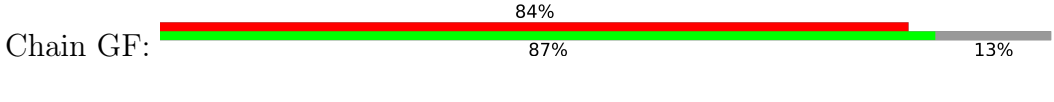
• Molecule 20: Sperm acrosome-associated protein 9

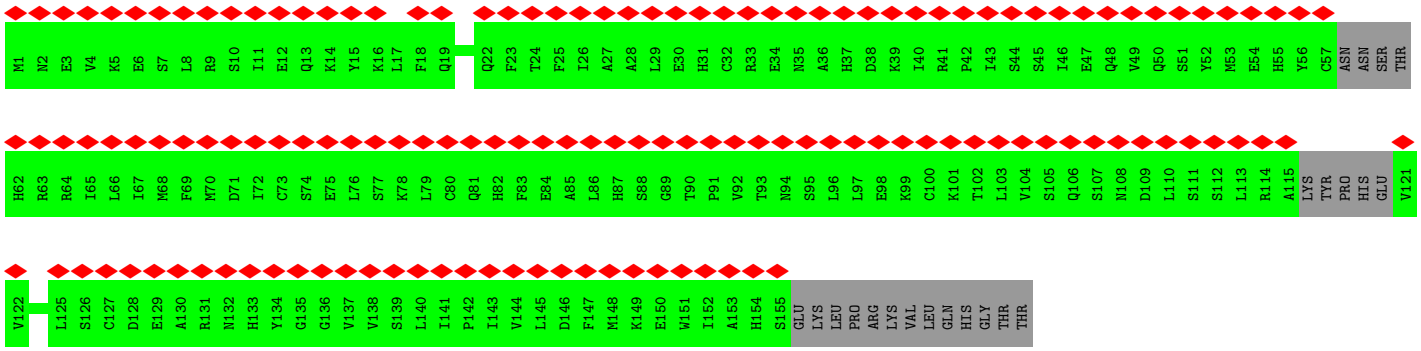
Chain GE:



• Molecule 20: Sperm acrosome-associated protein 9

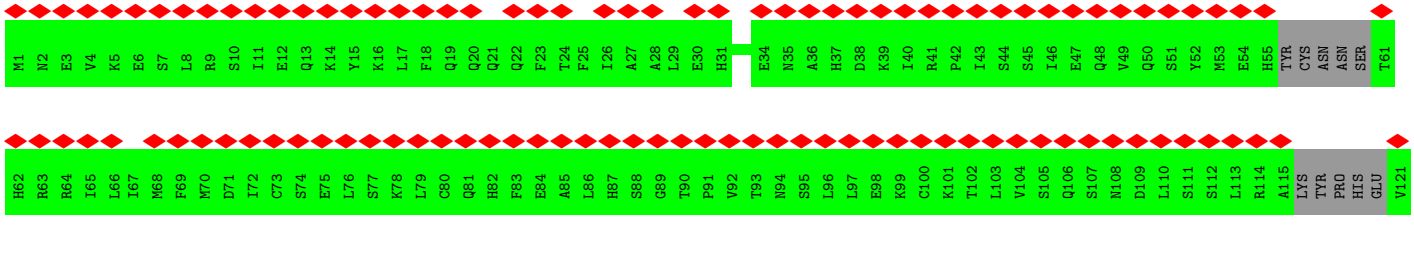
Chain GF:





• Molecule 20: Sperm acrosome-associated protein 9

Chain GG:



• Molecule 20: Sperm acrosome-associated protein 9

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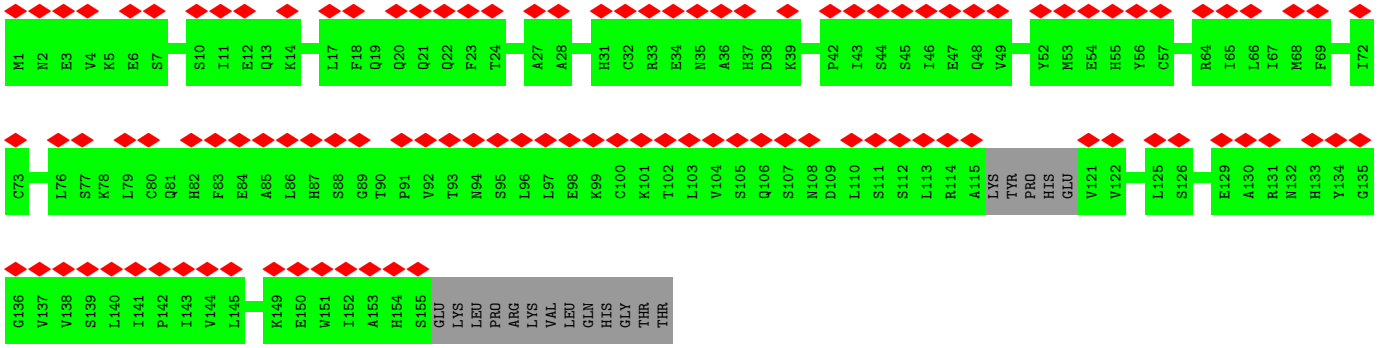

• Molecule 20: Sperm acrosome-associated protein 9

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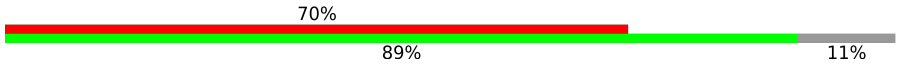
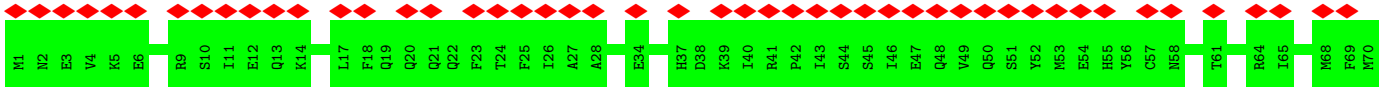
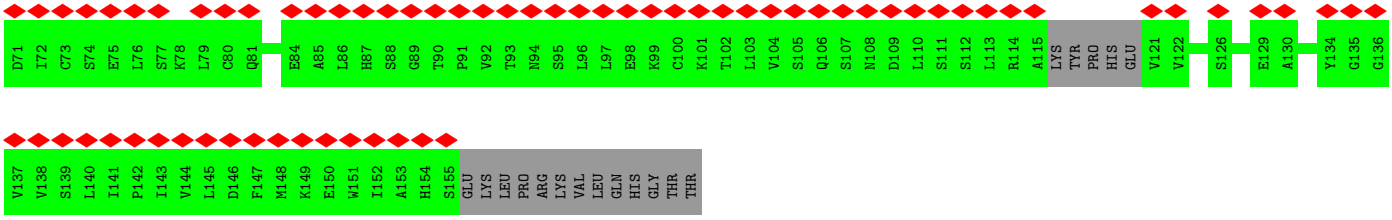
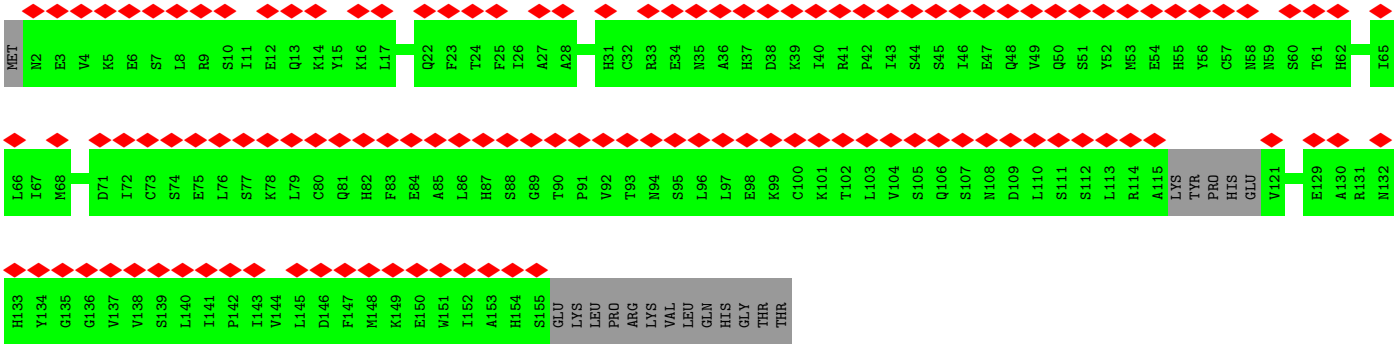






• Molecule 20: Sperm acrosome-associated protein 9

Chain GJ:



• Molecule 20: Sperm acrosome-associated protein 9

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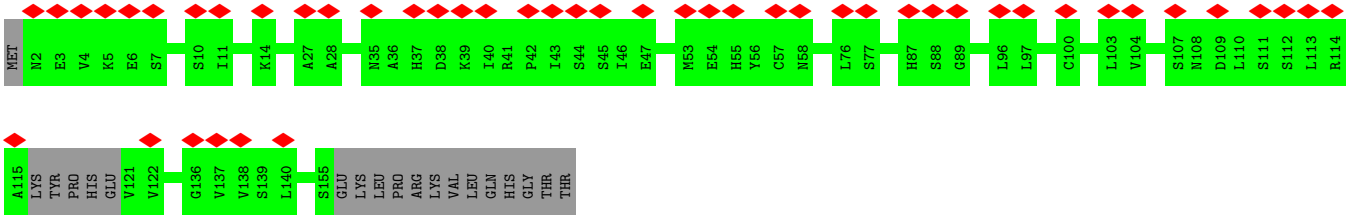
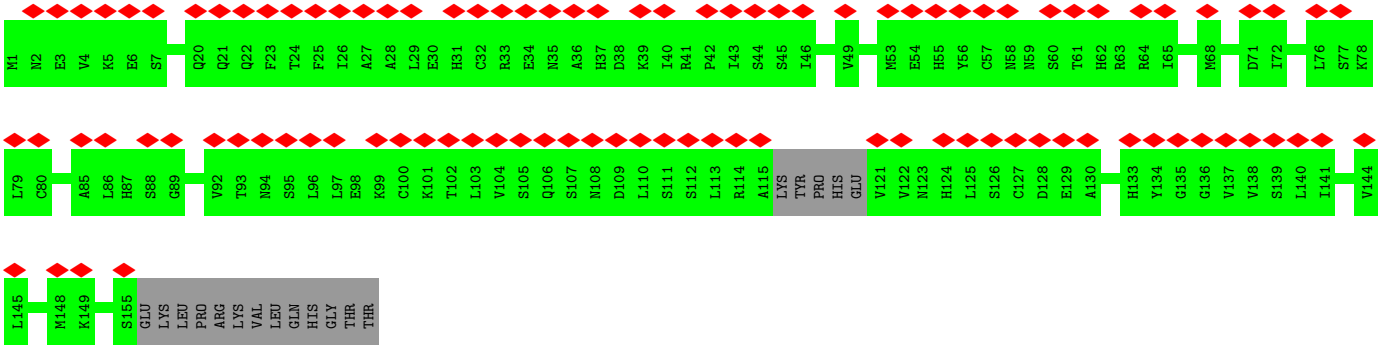


• Molecule 20: Sperm acrosome-associated protein 9

Chain GL:



• Molecule 20: Sperm acrosome-associated protein 9

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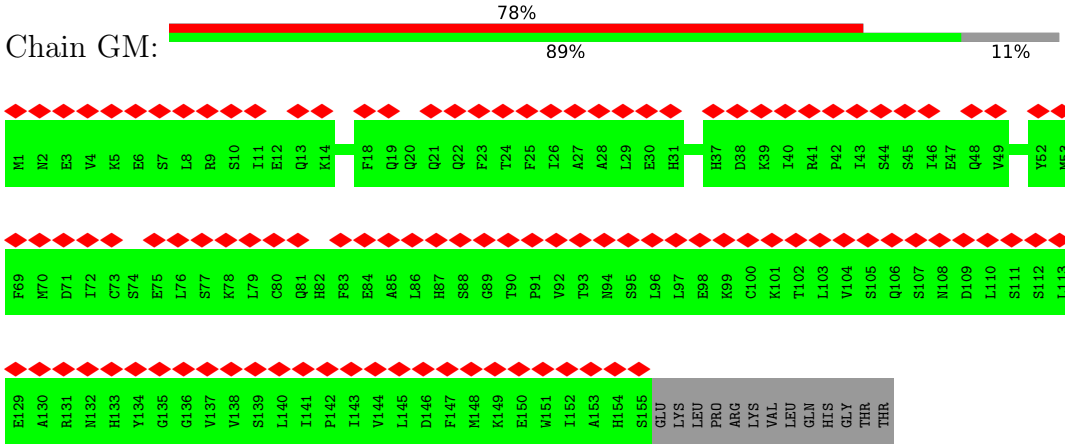

• Molecule 20: Sperm acrosome-associated protein 9

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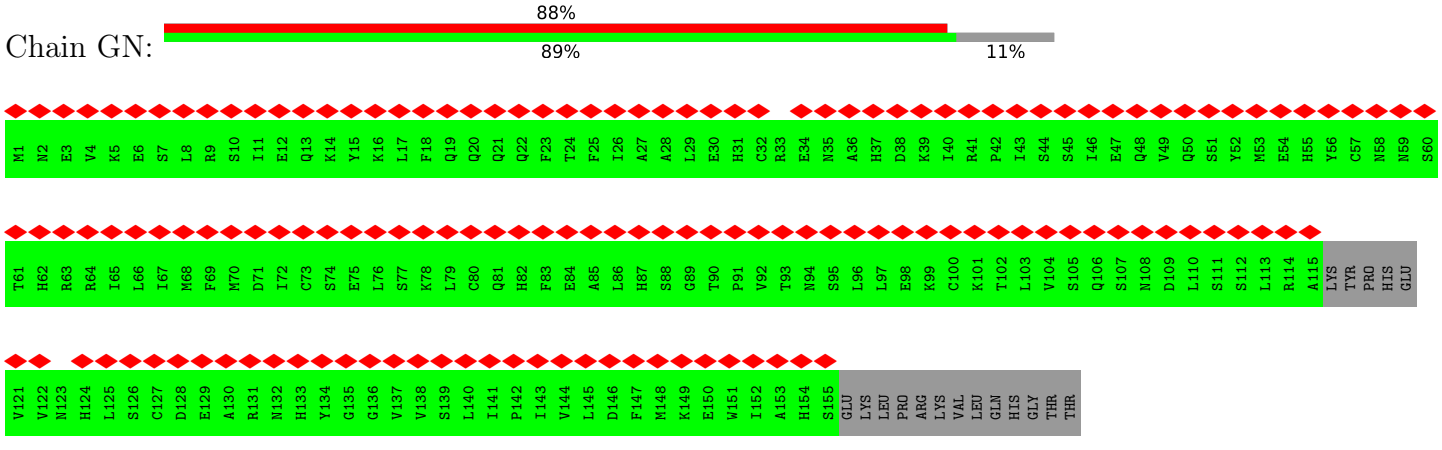

• Molecule 20: Sperm acrosome-associated protein 9

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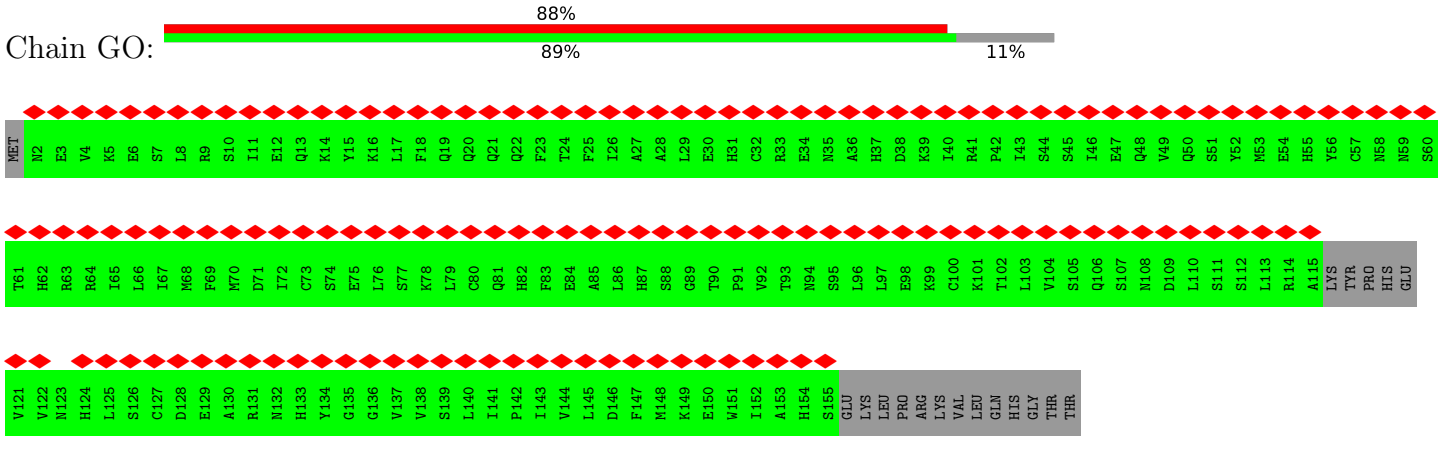

• Molecule 20: Sperm acrosome-associated protein 9

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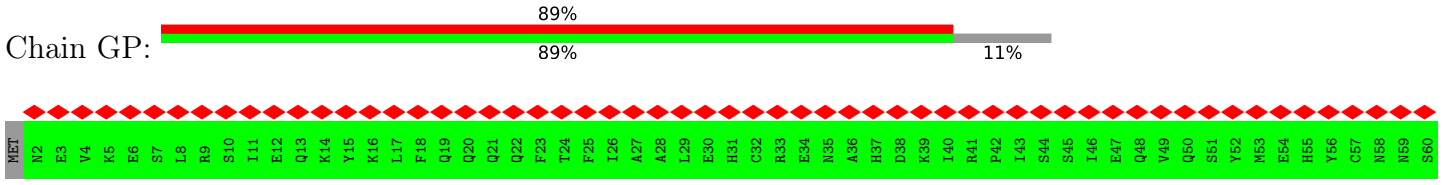
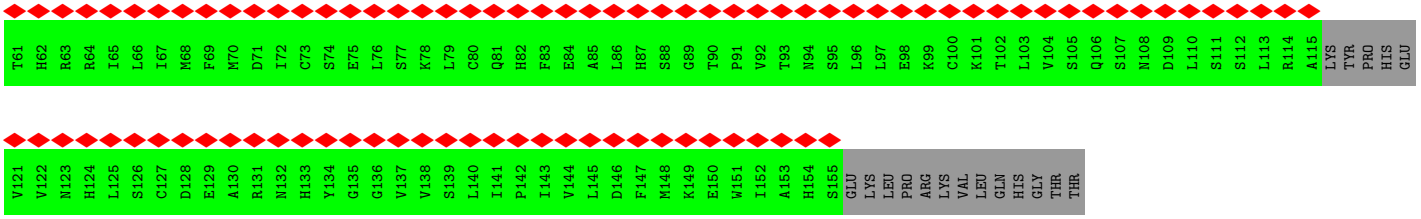
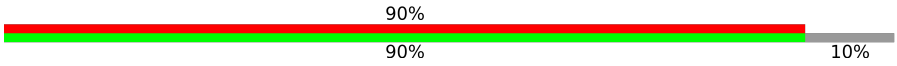
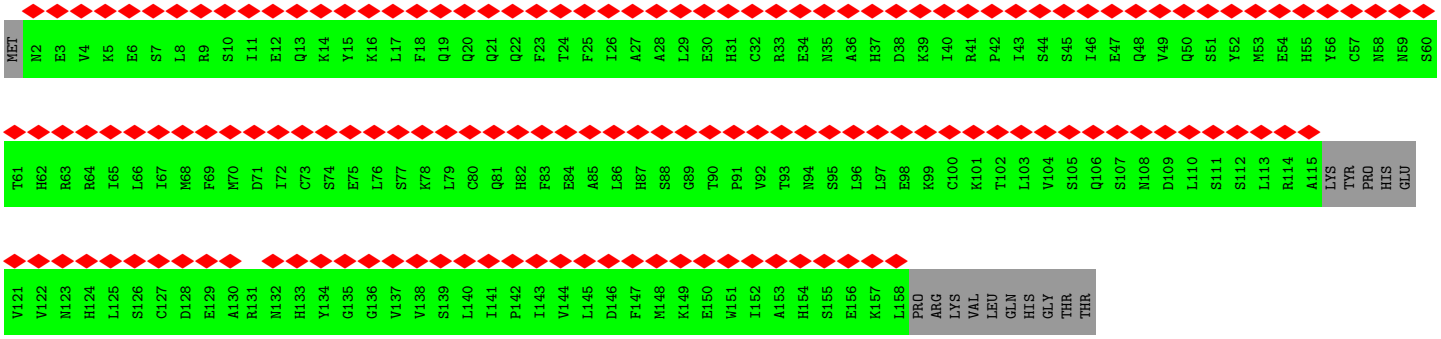




• Molecule 20: Sperm acrosome-associated protein 9

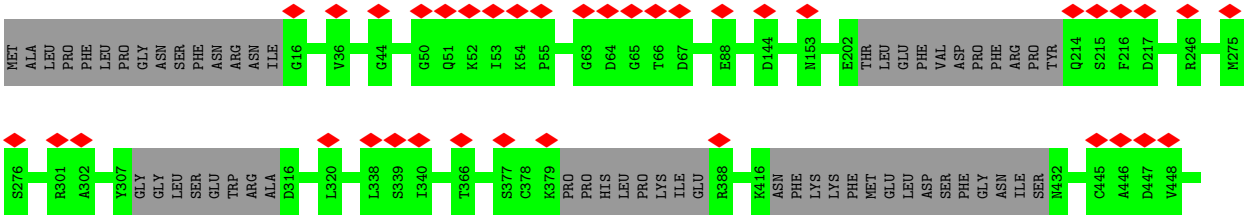
Chain GQ:

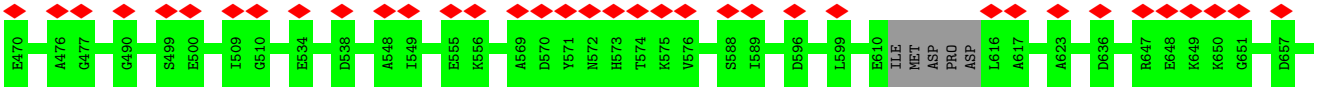


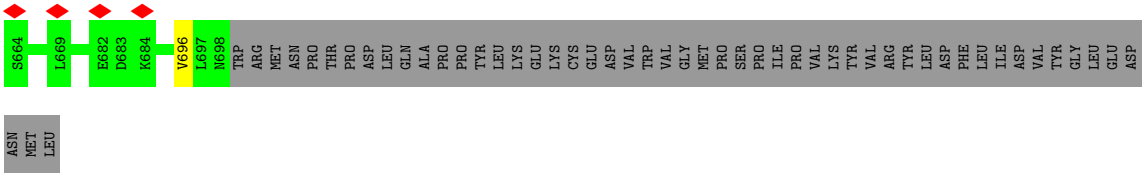


• Molecule 21: EF-hand domain-containing family member C2

Chain Fg:

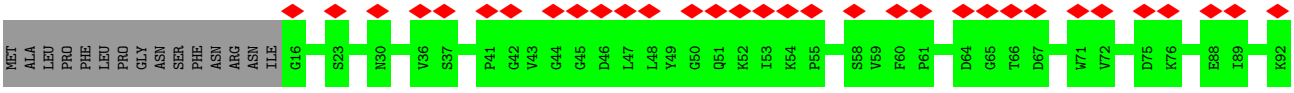


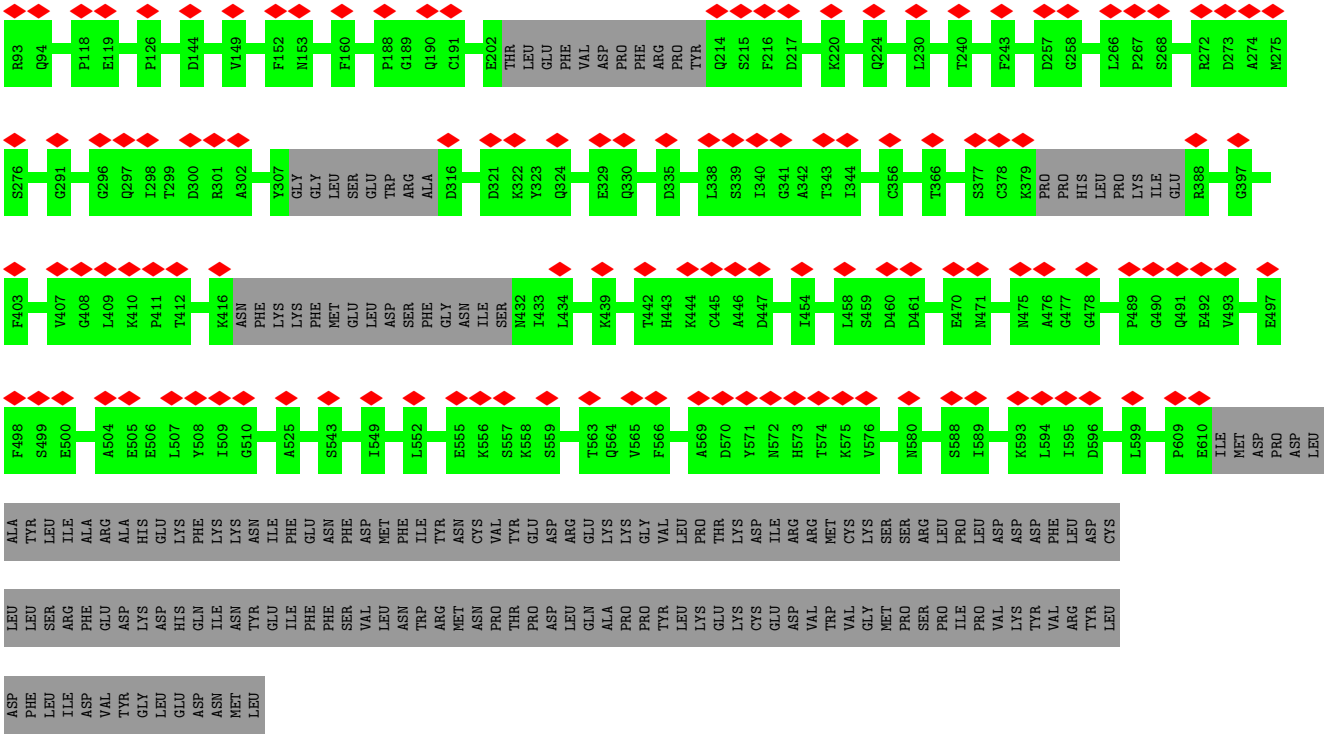




• Molecule 21: EF-hand domain-containing family member C2

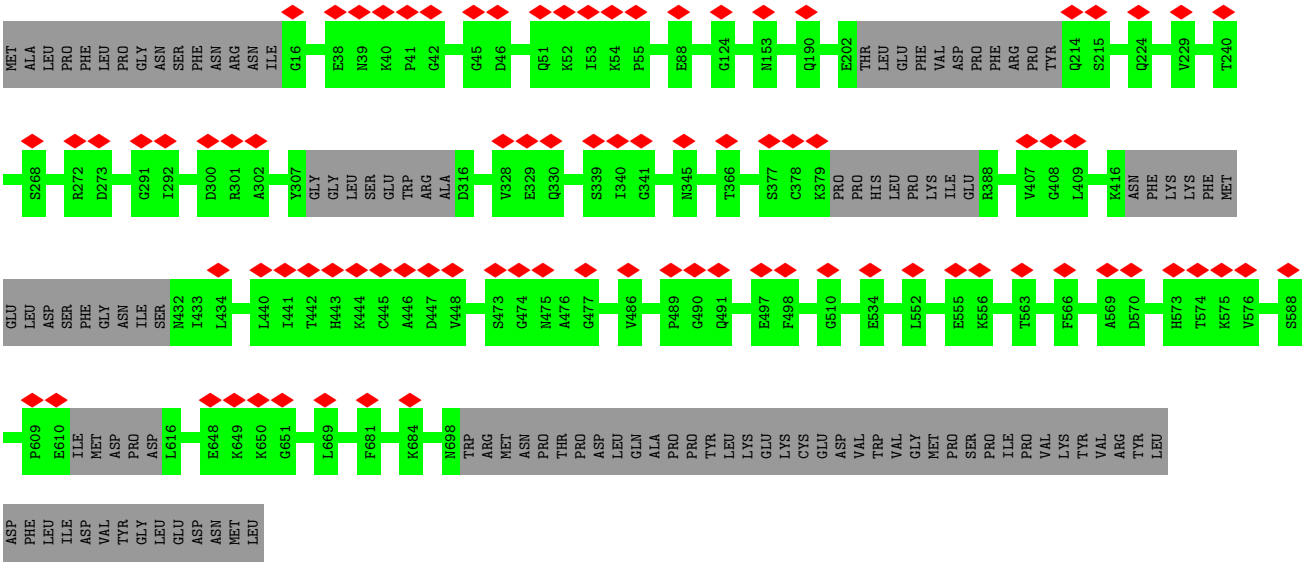
Chain FS:





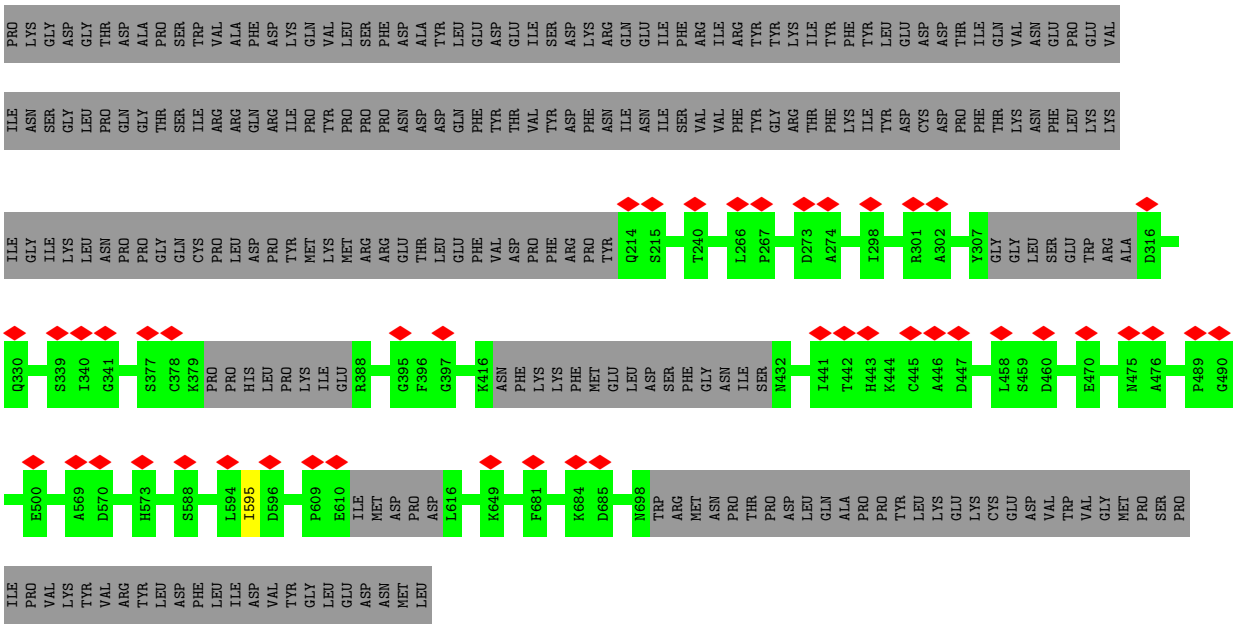
• Molecule 21: EF-hand domain-containing family member C2

Chain Fo:



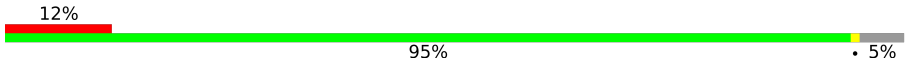
• Molecule 21: EF-hand domain-containing family member C2

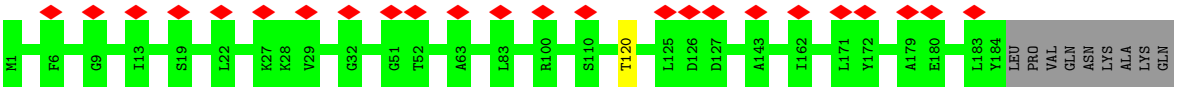
Chain Fv:



• Molecule 22: Cilia- and flagella-associated protein 20

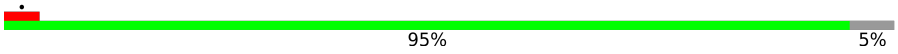
Chain Fh:

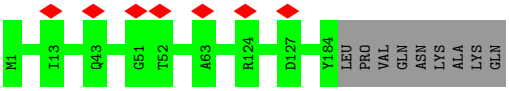




• Molecule 22: Cilia- and flagella-associated protein 20

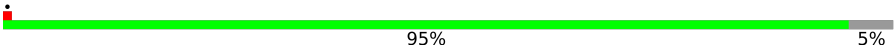
Chain Fi:

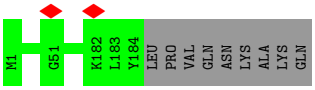




• Molecule 22: Cilia- and flagella-associated protein 20

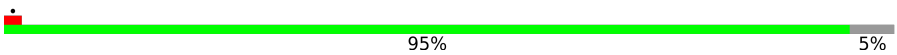
Chain Fj:

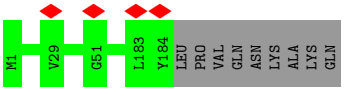




• Molecule 22: Cilia- and flagella-associated protein 20

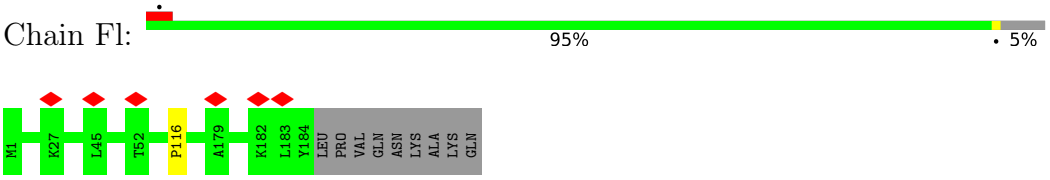
Chain Fk:





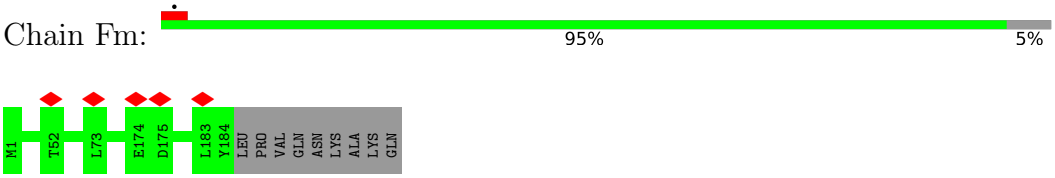
• Molecule 22: Cilia- and flagella-associated protein 20

Chain Fl:



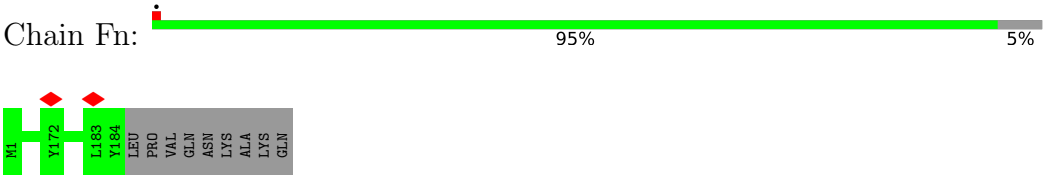
• Molecule 22: Cilia- and flagella-associated protein 20

Chain Fm:



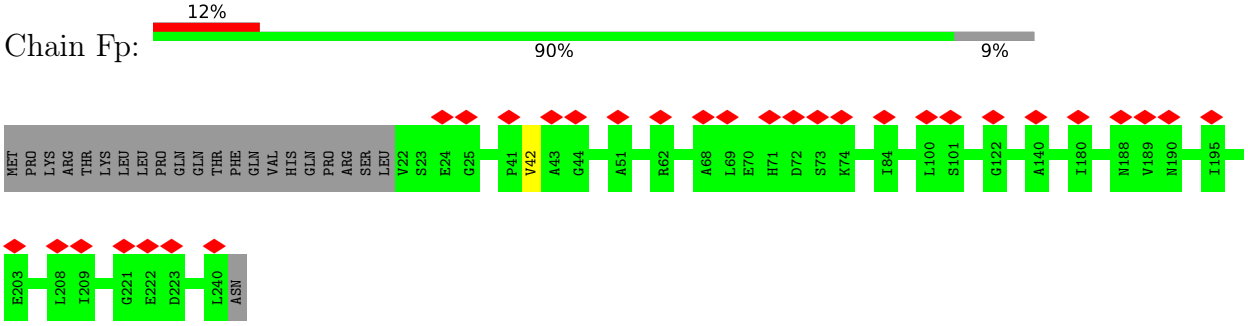
• Molecule 22: Cilia- and flagella-associated protein 20

Chain Fn:



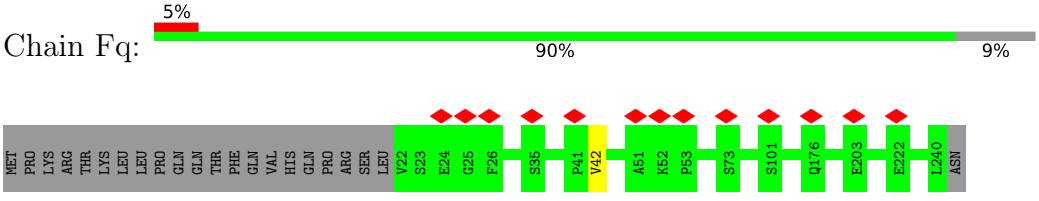
• Molecule 23: Parkin coregulated gene protein homolog

Chain Fp:



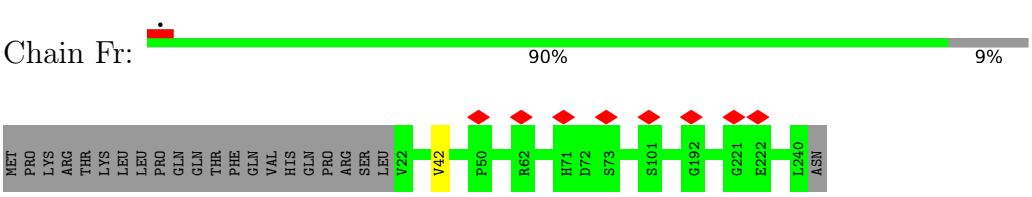
• Molecule 23: Parkin coregulated gene protein homolog

Chain Fq:



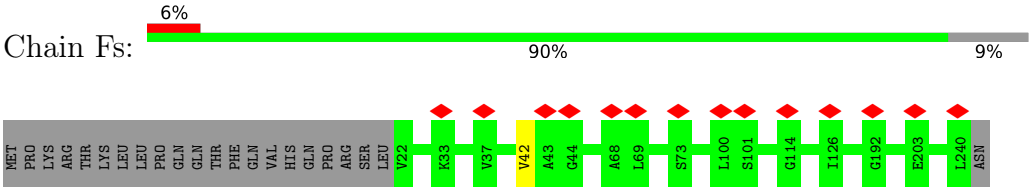
• Molecule 23: Parkin coregulated gene protein homolog

Chain Fr:



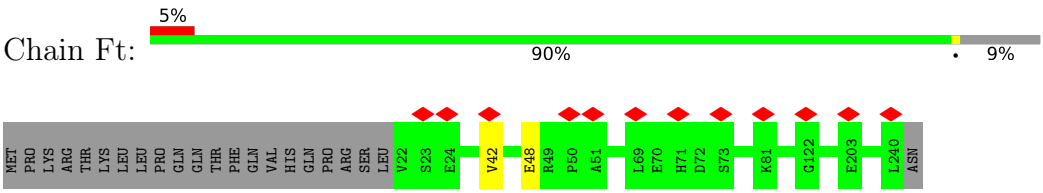
• Molecule 23: Parkin coregulated gene protein homolog

Chain Fs:



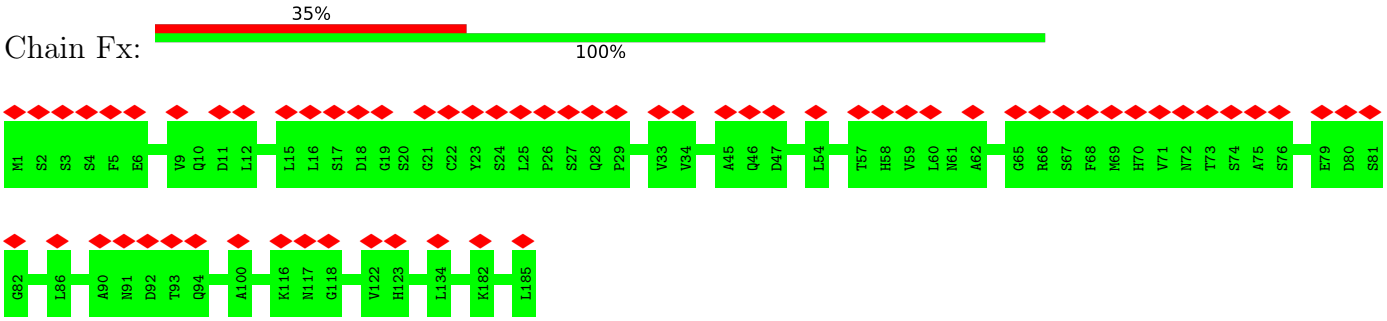
• Molecule 23: Parkin coregulated gene protein homolog

Chain Ft:



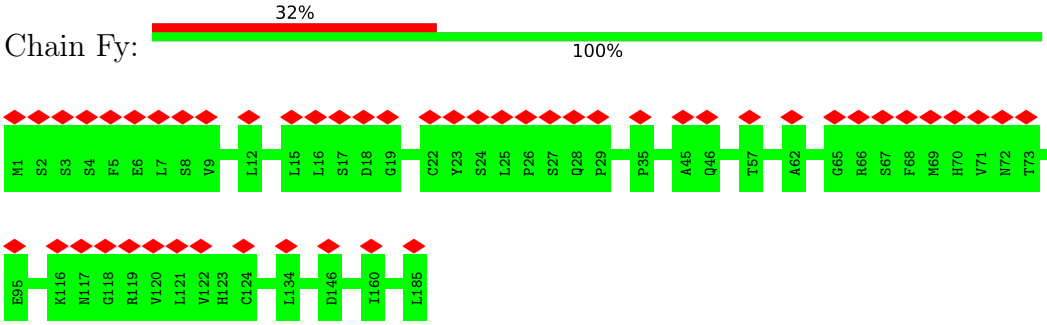
• Molecule 24: Dual specificity protein phosphatase 3

Chain Fx:



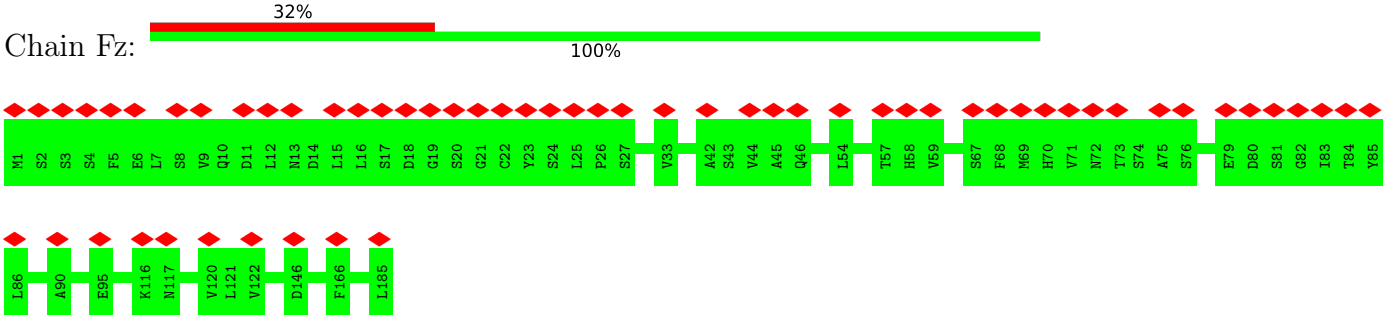
• Molecule 24: Dual specificity protein phosphatase 3

Chain Fy:



• Molecule 24: Dual specificity protein phosphatase 3

Chain Fz:

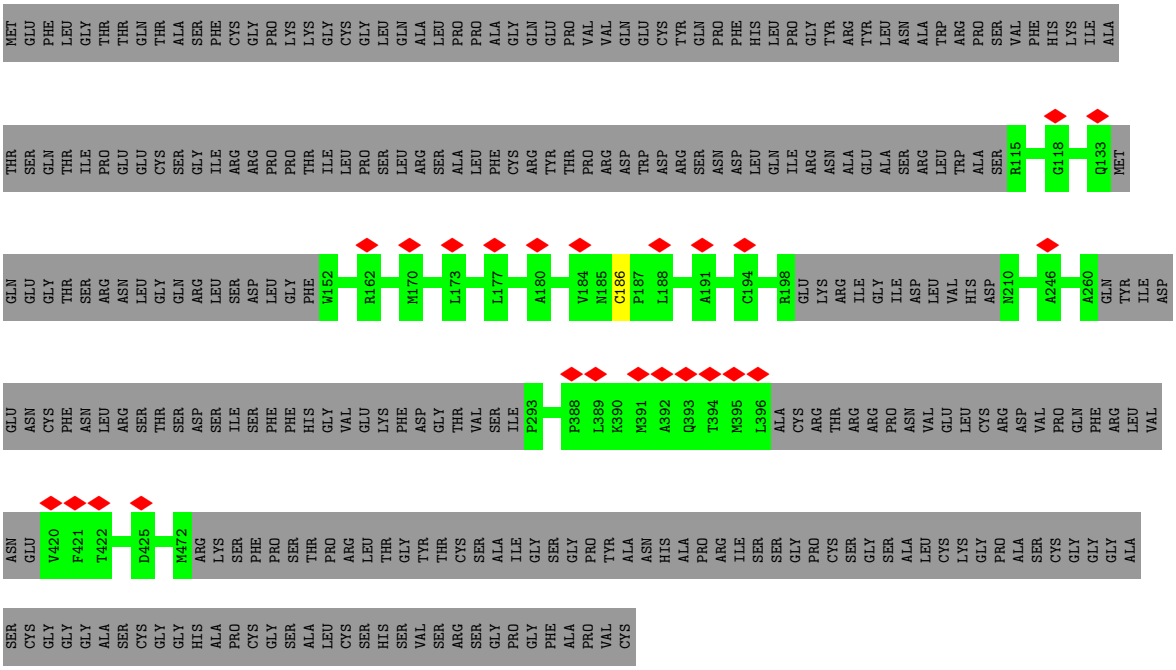


• Molecule 25: Piercer of microtubule wall 2 protein

Chain G:

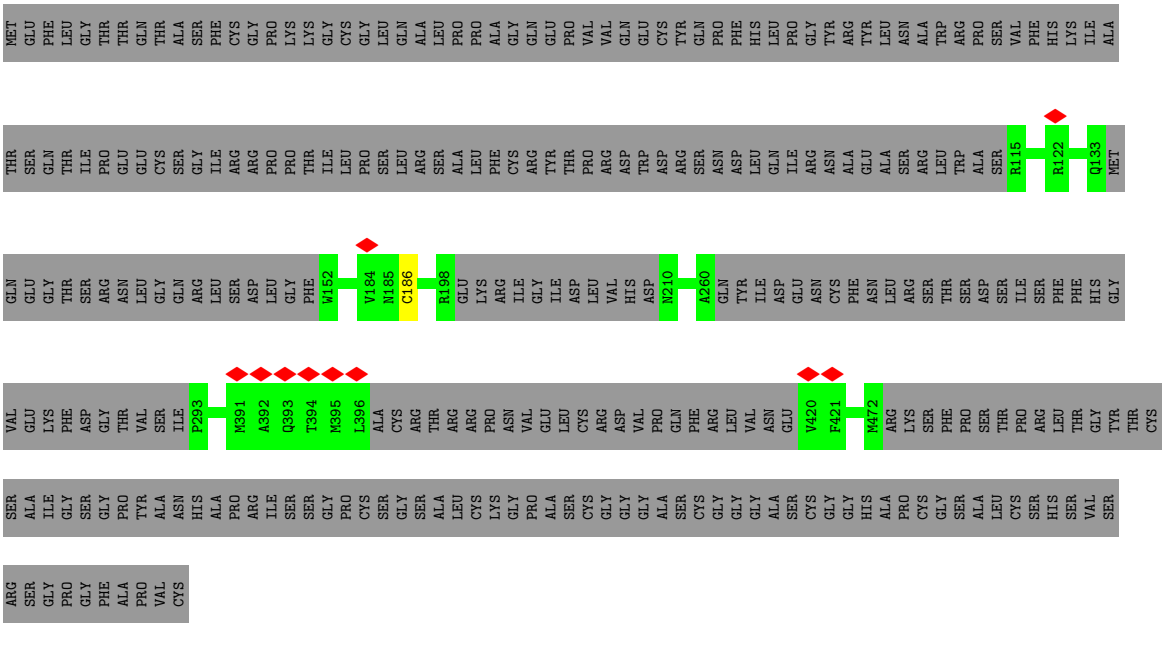
• Molecule 26: Tektin-5

Chain GR:



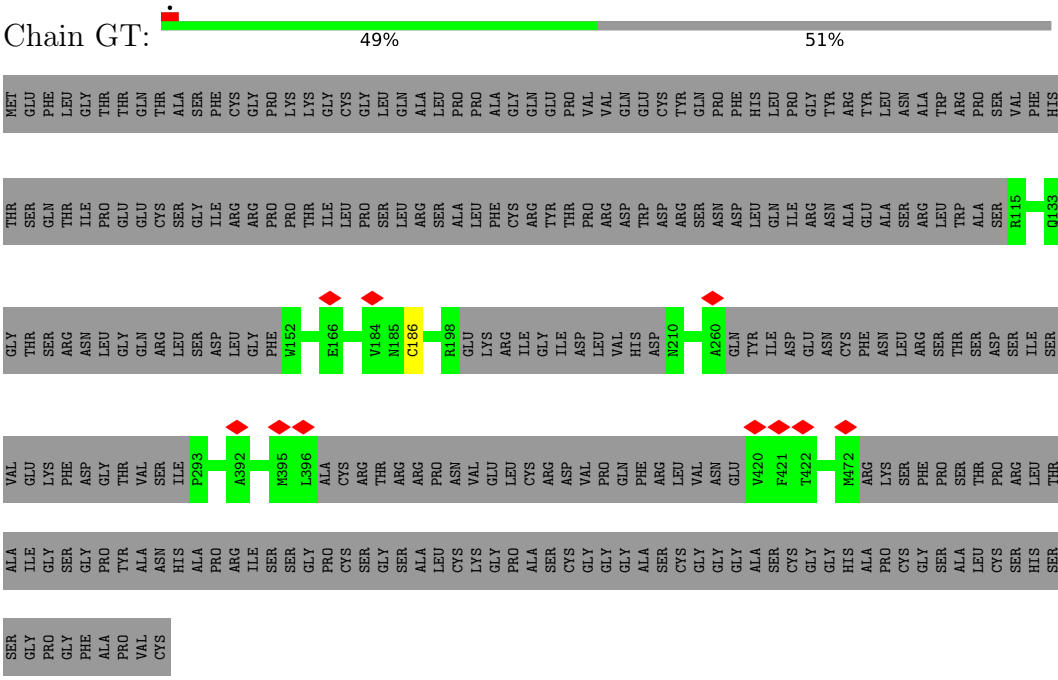
• Molecule 26: Tektin-5

Chain GS:



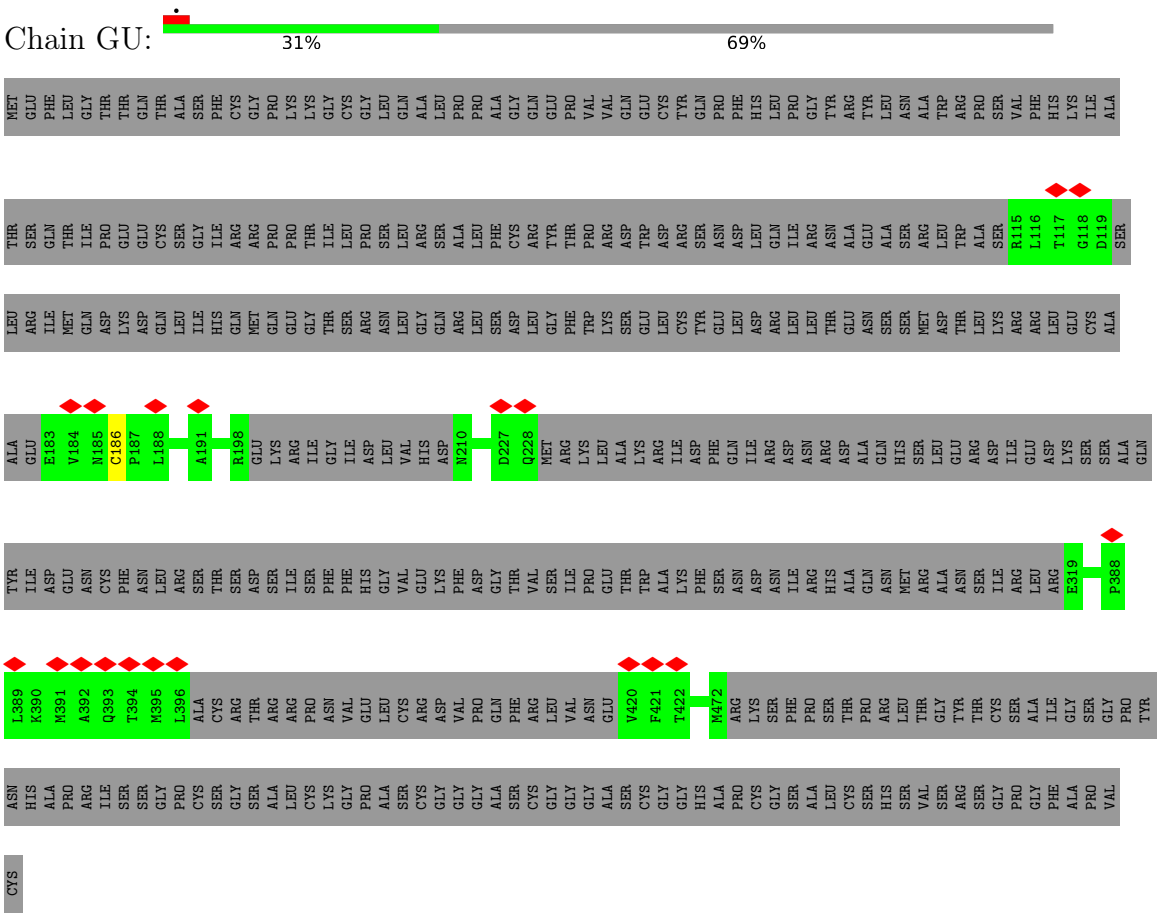
• Molecule 26: Tektin-5

Chain GT:



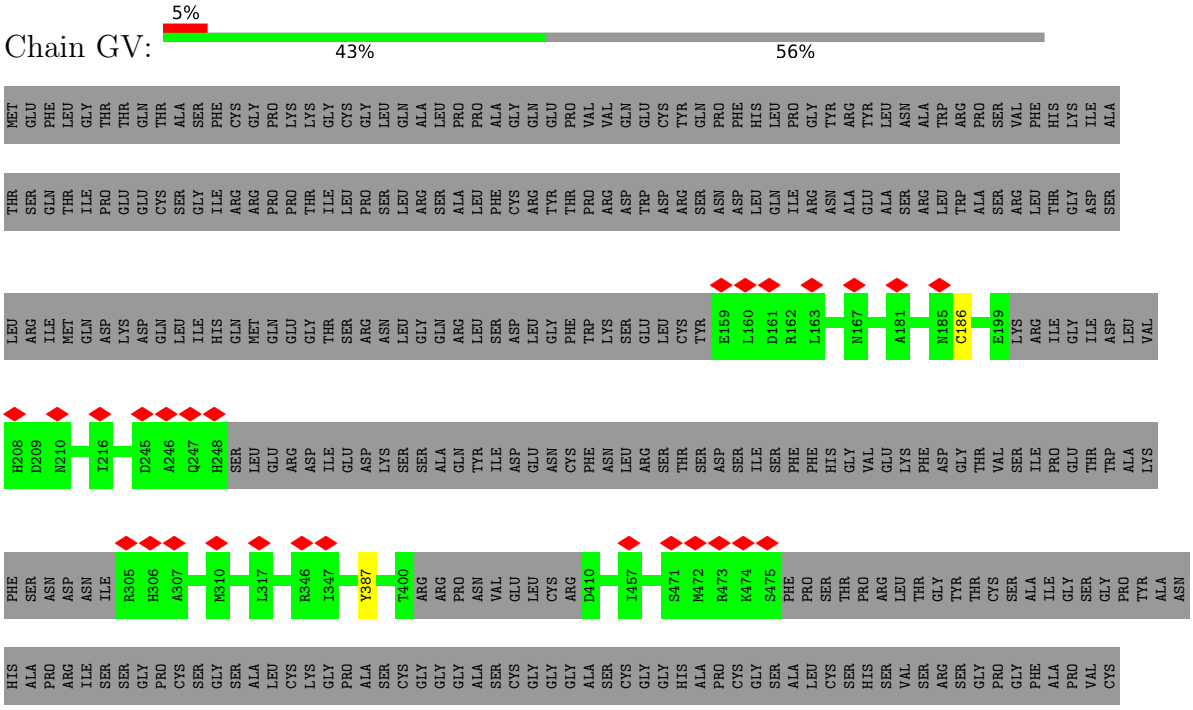
• Molecule 26: Tektin-5

Chain GU:



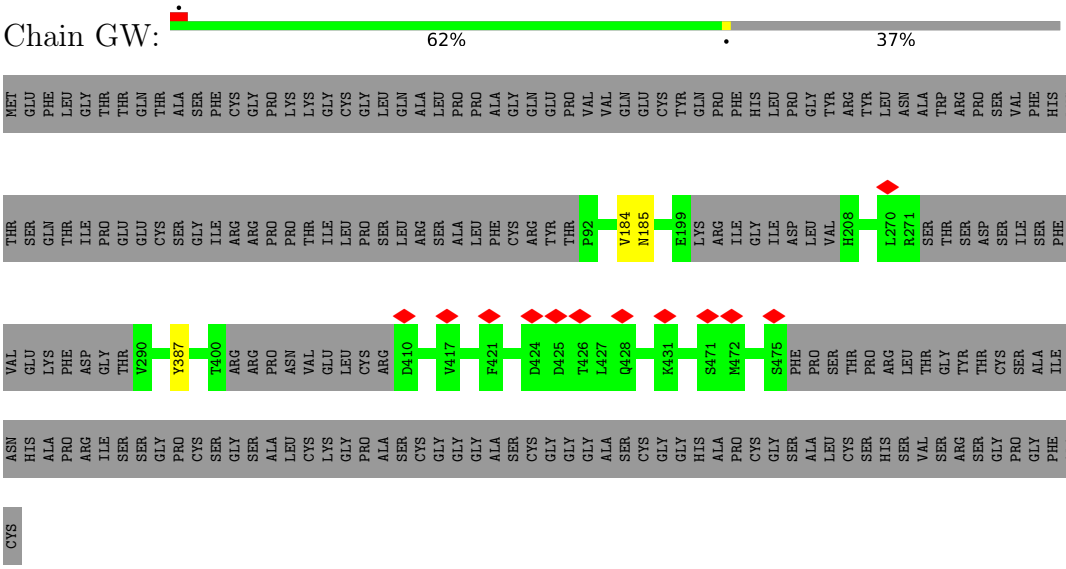
• Molecule 26: Tektin-5

Chain GV:



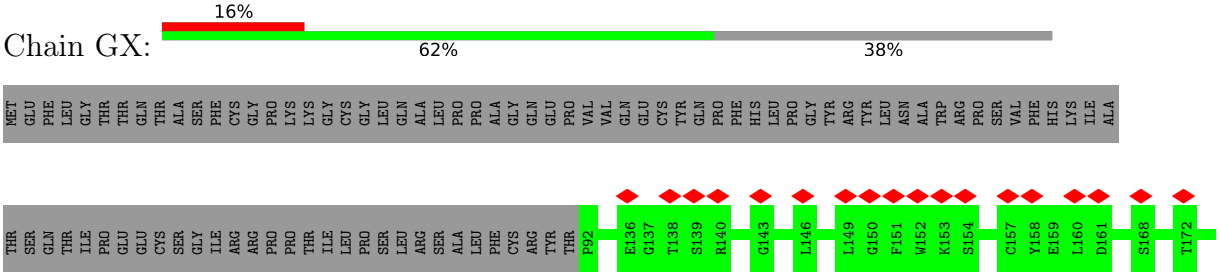
• Molecule 26: Tektin-5

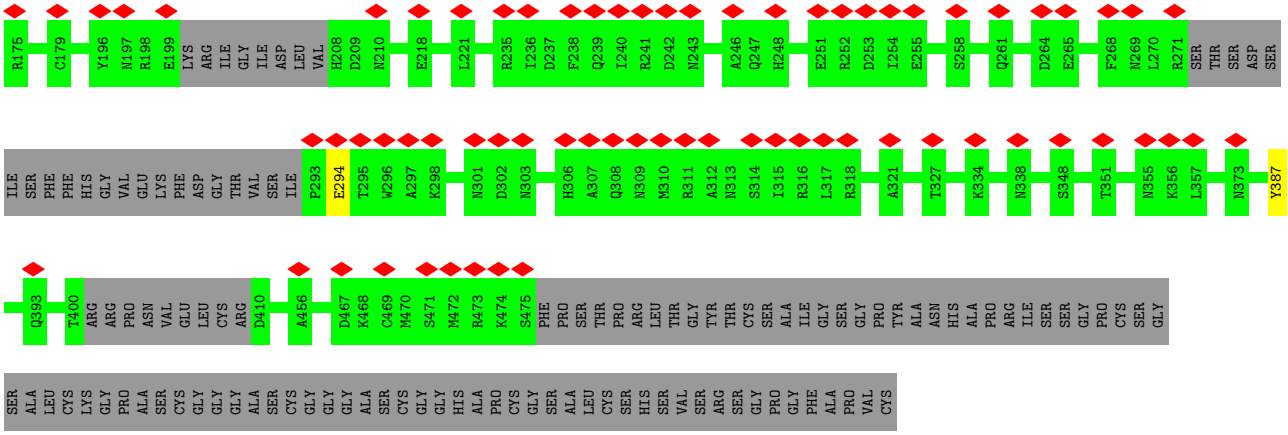
Chain GW:



• Molecule 26: Tektin-5

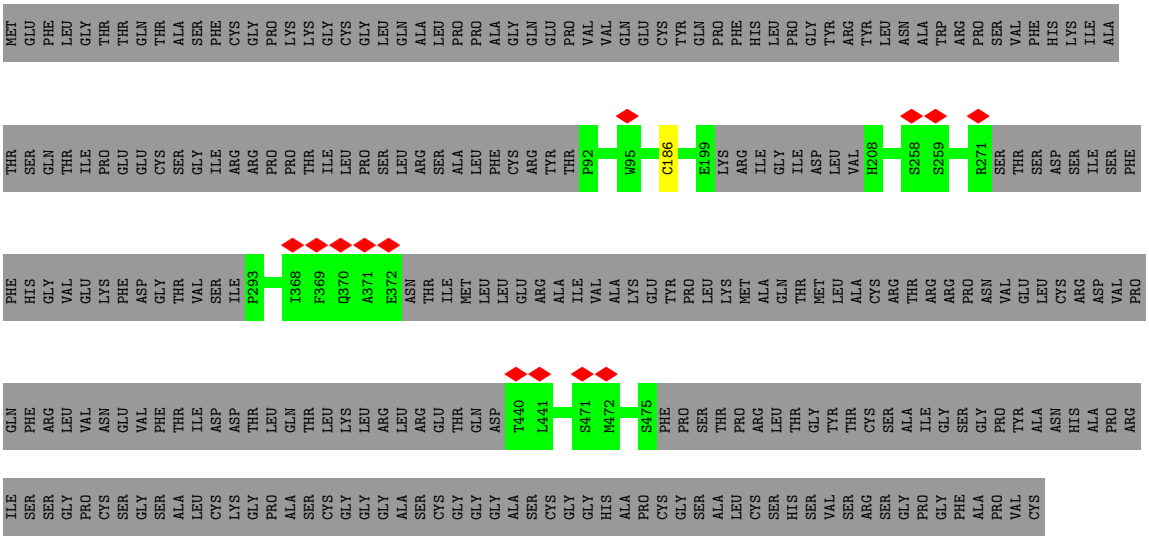
Chain GX:





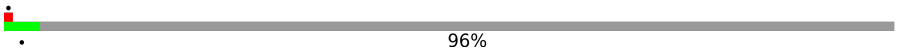
• Molecule 26: Tektin-5

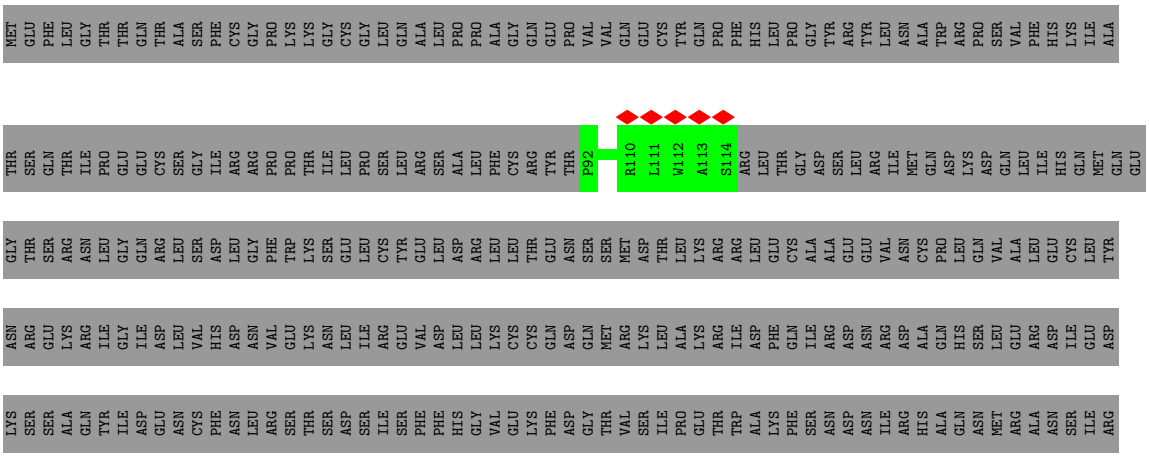
Chain GY:

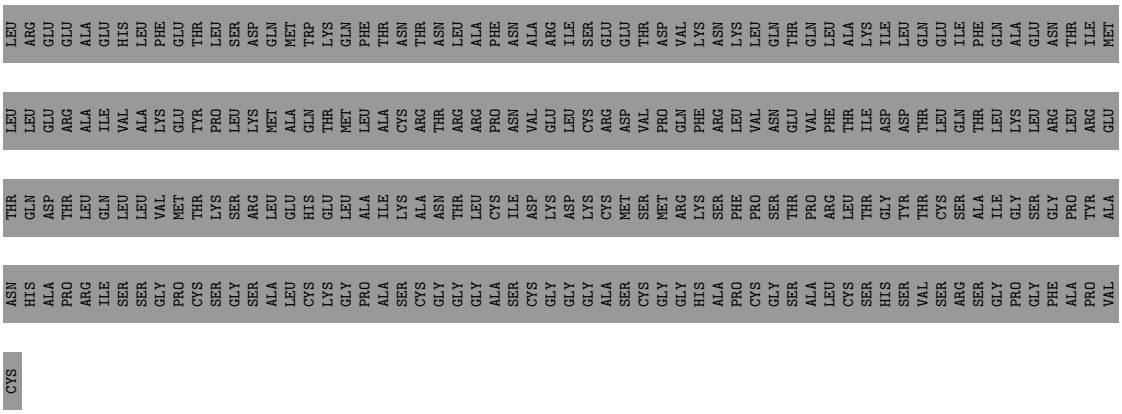


• Molecule 26: Tektin-5

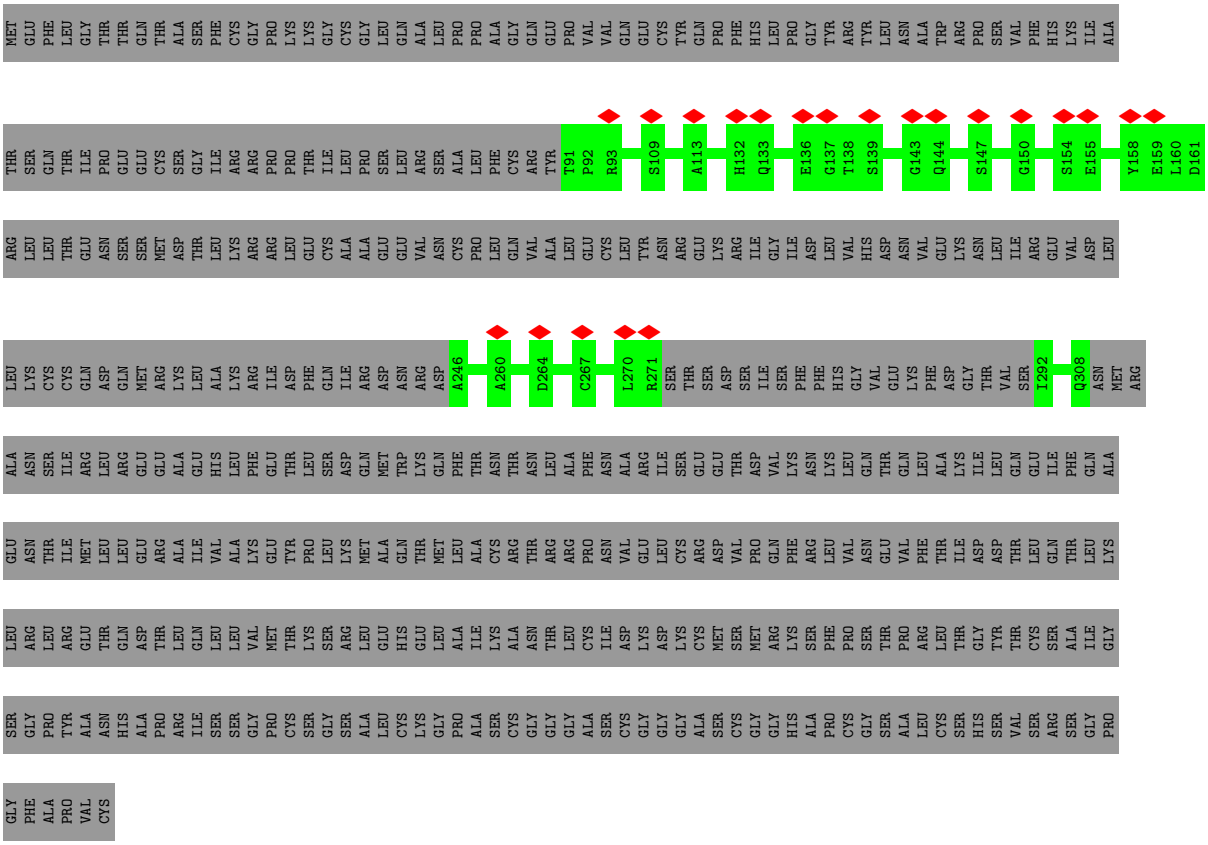
Chain GZ:



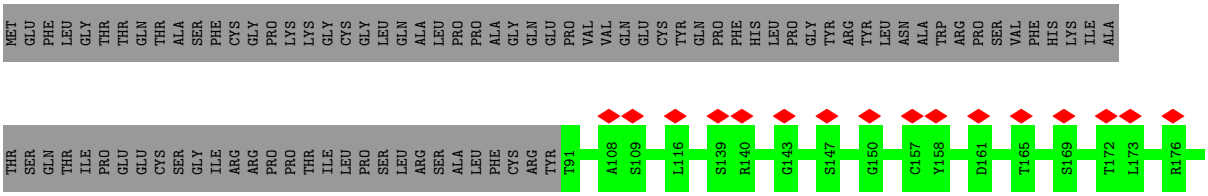


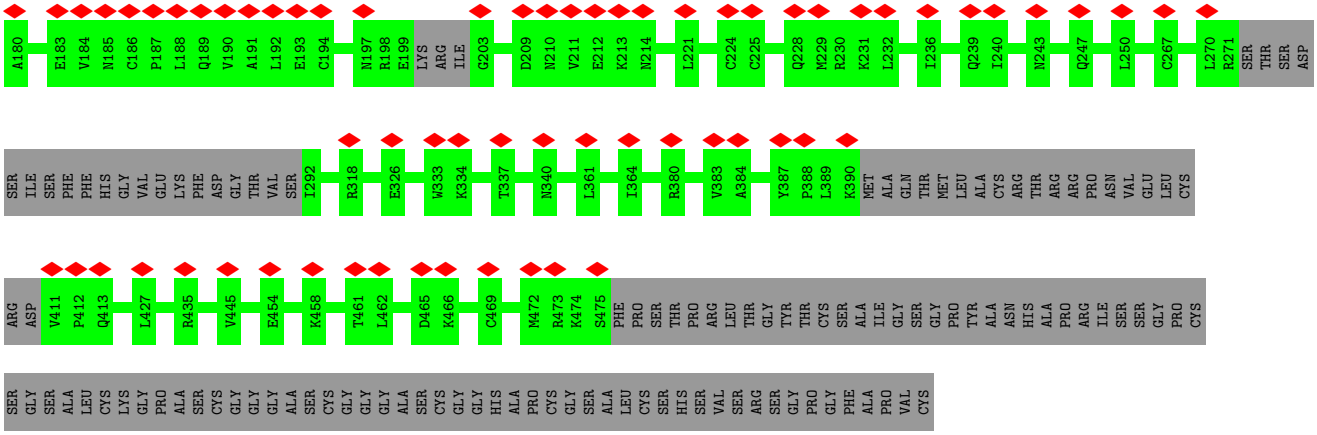


• Molecule 26: Tektin-5



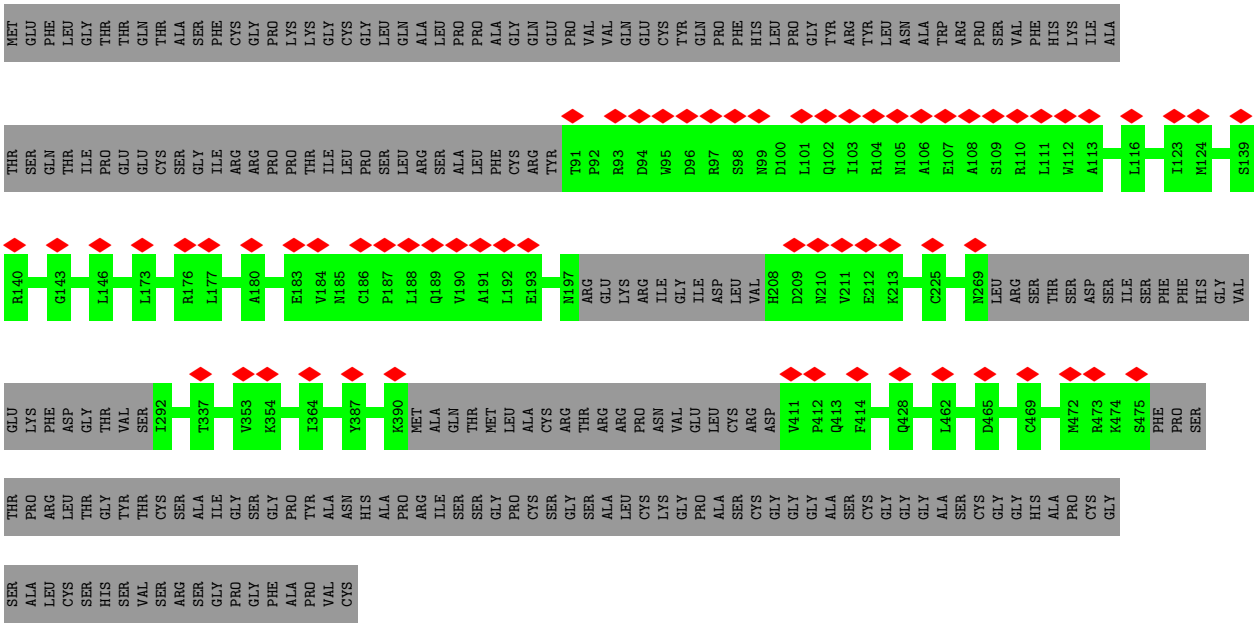
• Molecule 26: Tektin-5





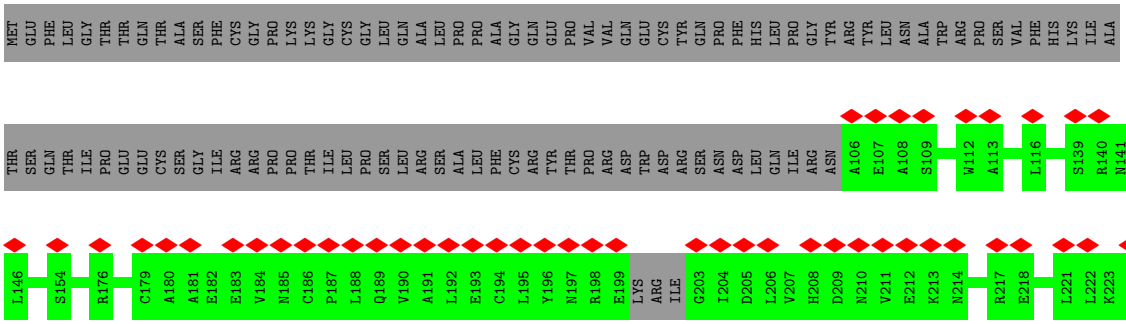
• Molecule 26: Tektin-5

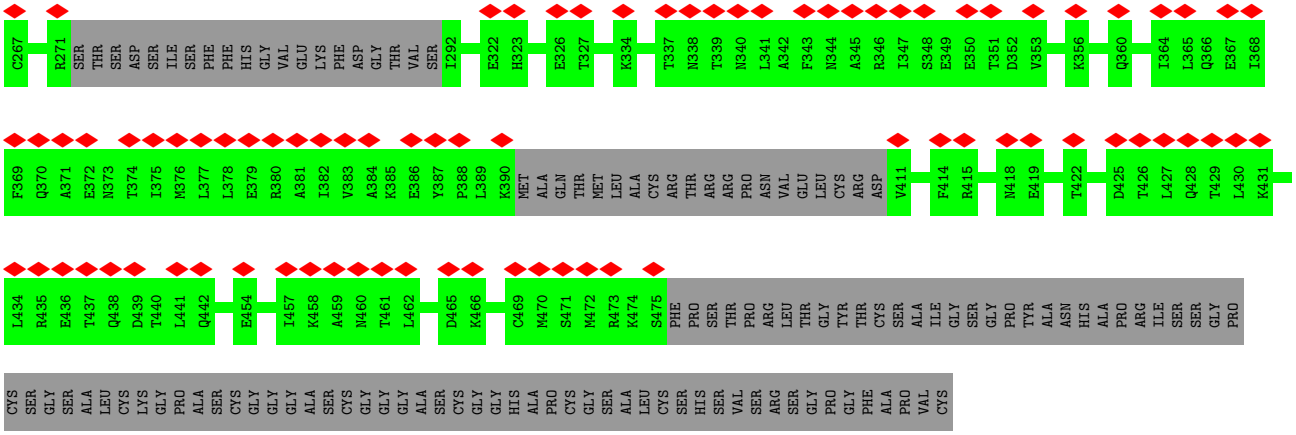
Chain Gc:



• Molecule 26: Tektin-5

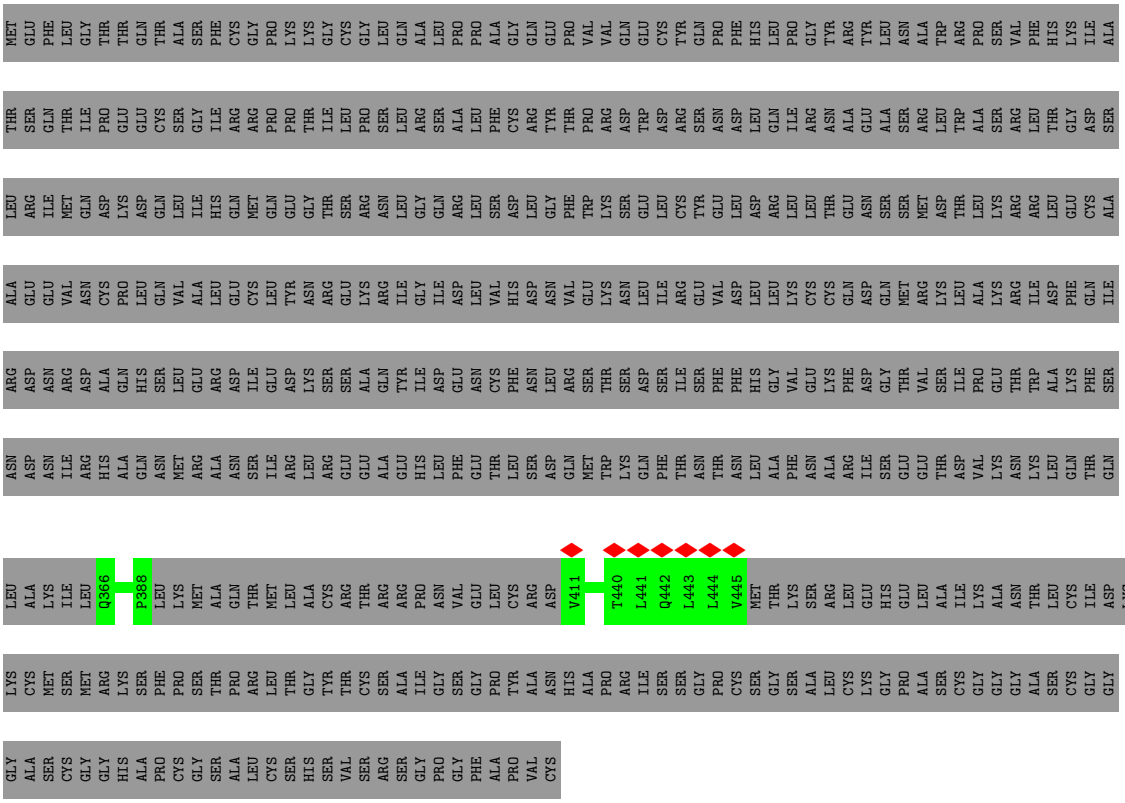
Chain Gd:





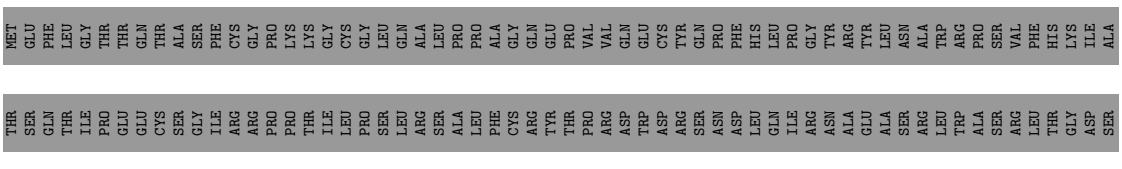
• Molecule 26: Tektin-5

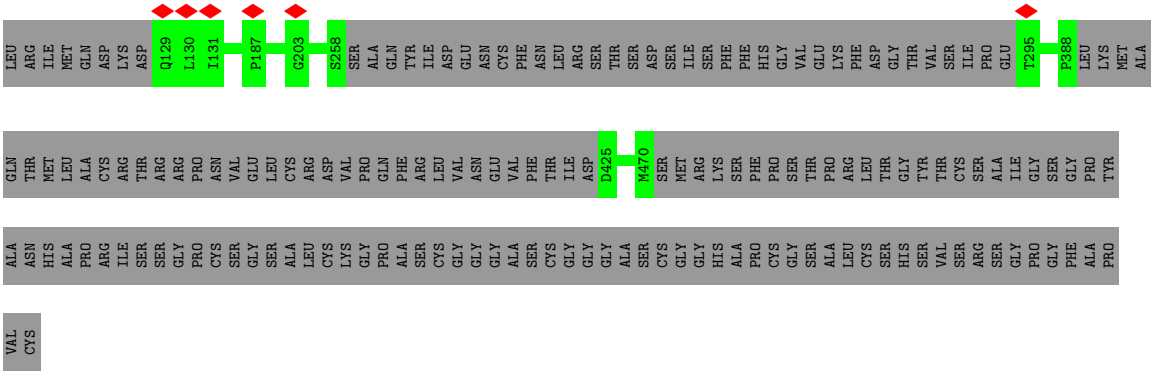
Chain Ge:



• Molecule 26: Tektin-5

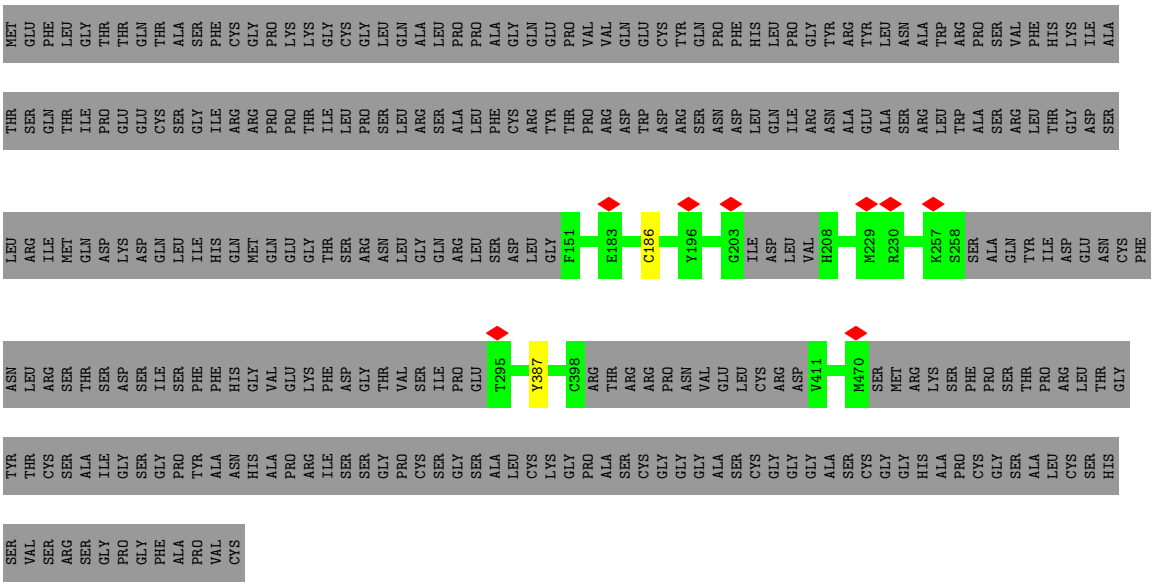
Chain z0:





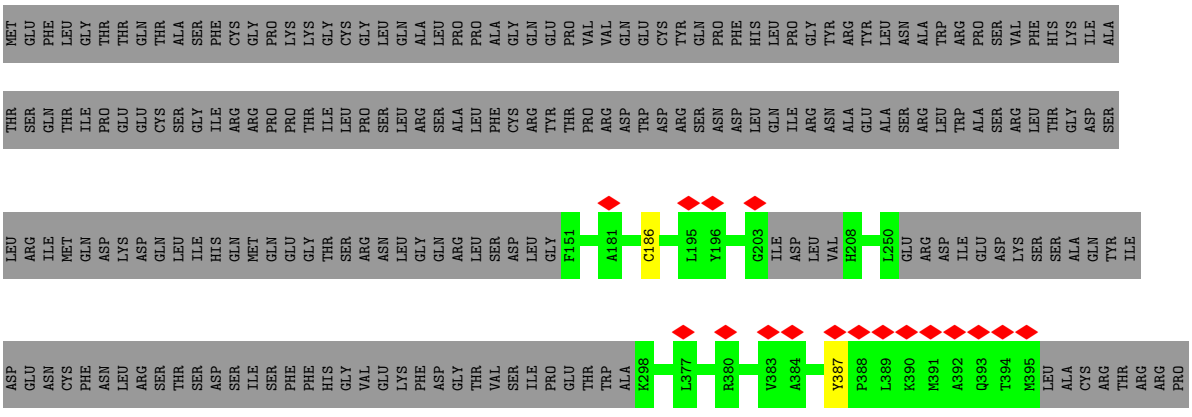
• Molecule 26: Tektin-5

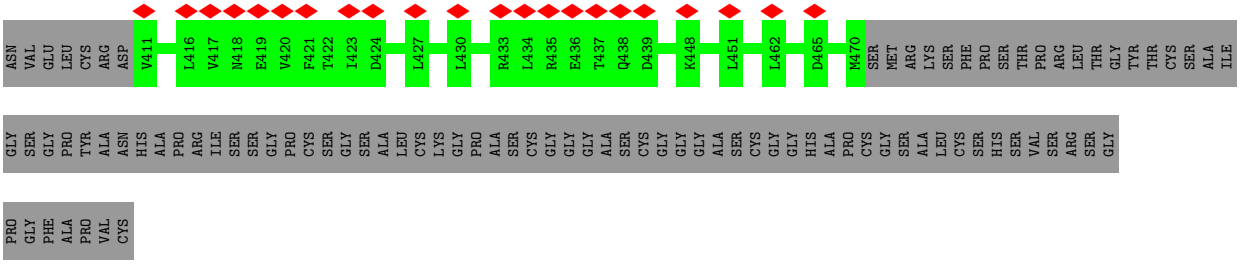
Chain z1:



• Molecule 26: Tektin-5

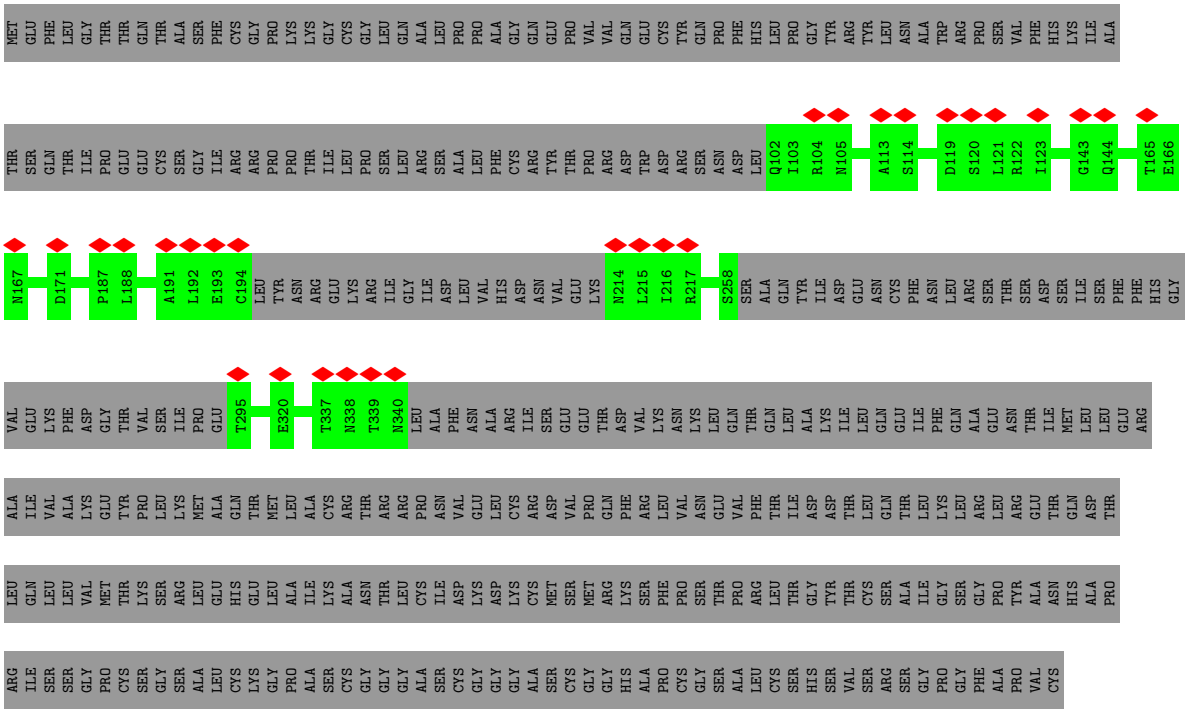
Chain z3:





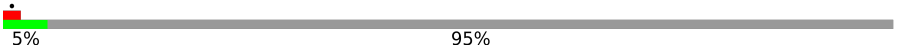
• Molecule 26: Tektin-5

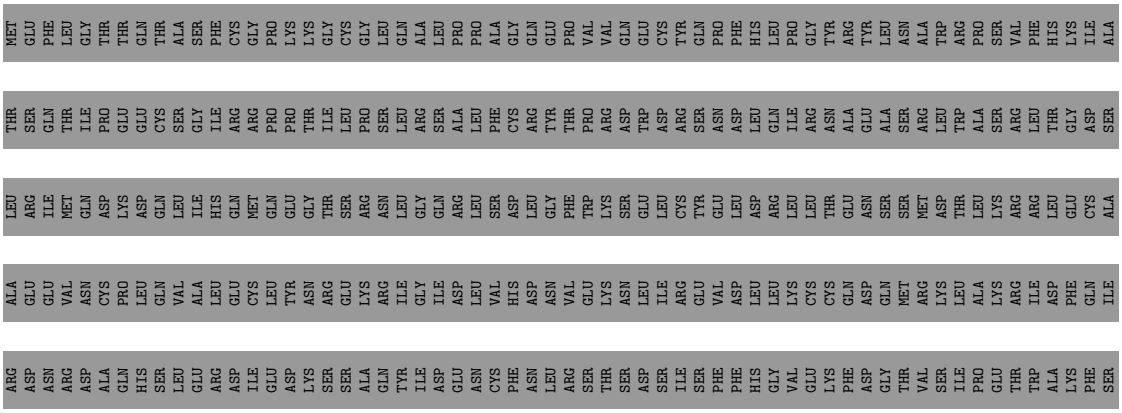
Chain z4:



• Molecule 26: Tektin-5

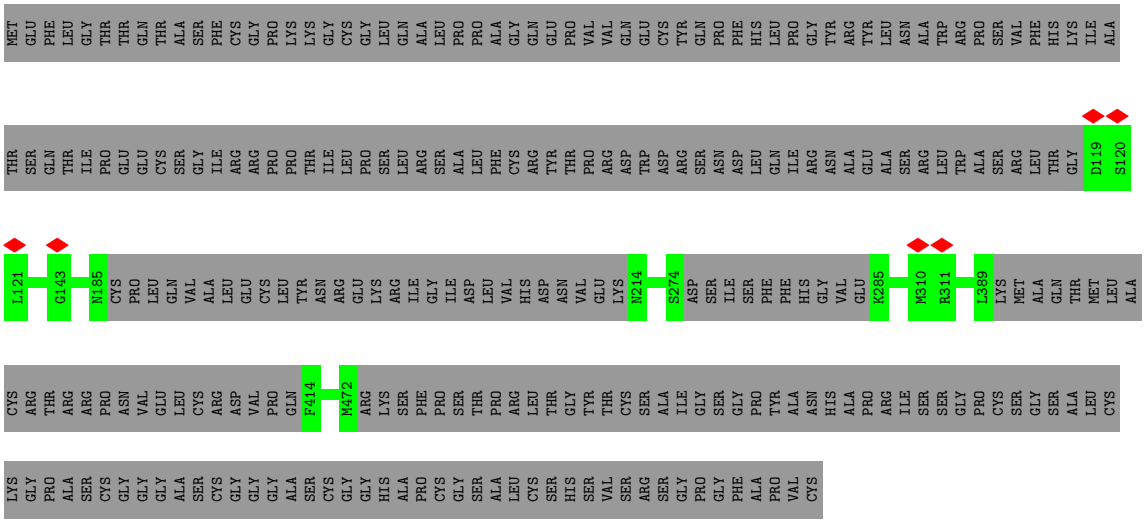
Chain Gf:





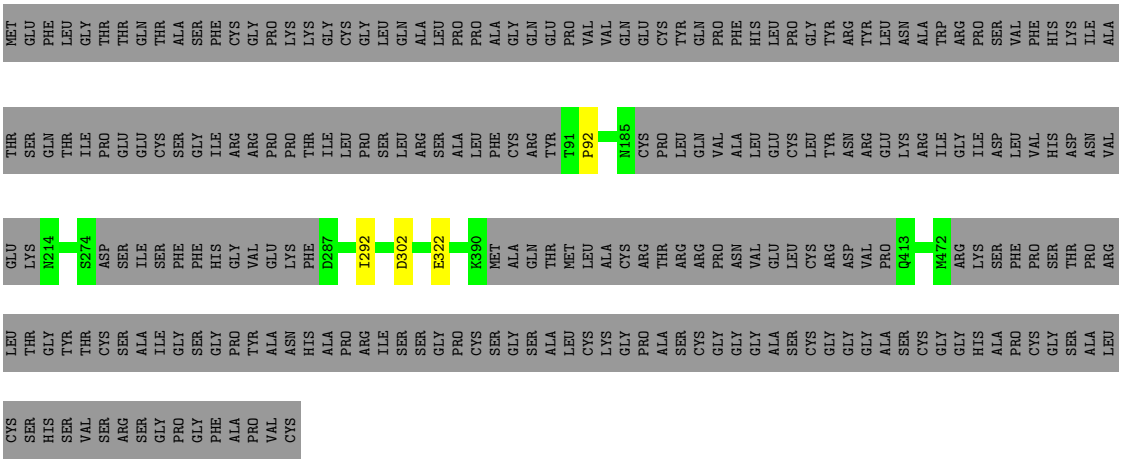
• Molecule 26: Tektin-5

Chain Gg:



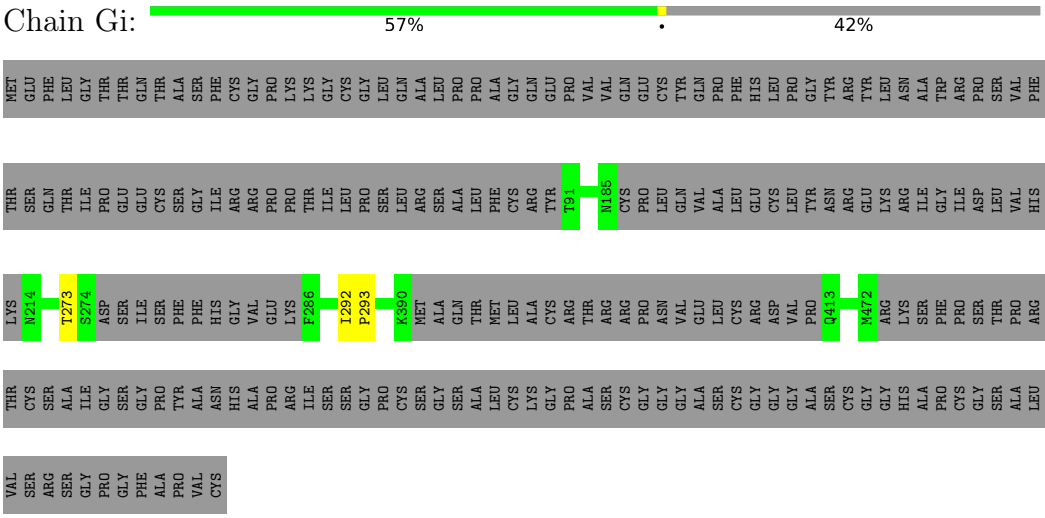
• Molecule 26: Tektin-5

Chain Gh:



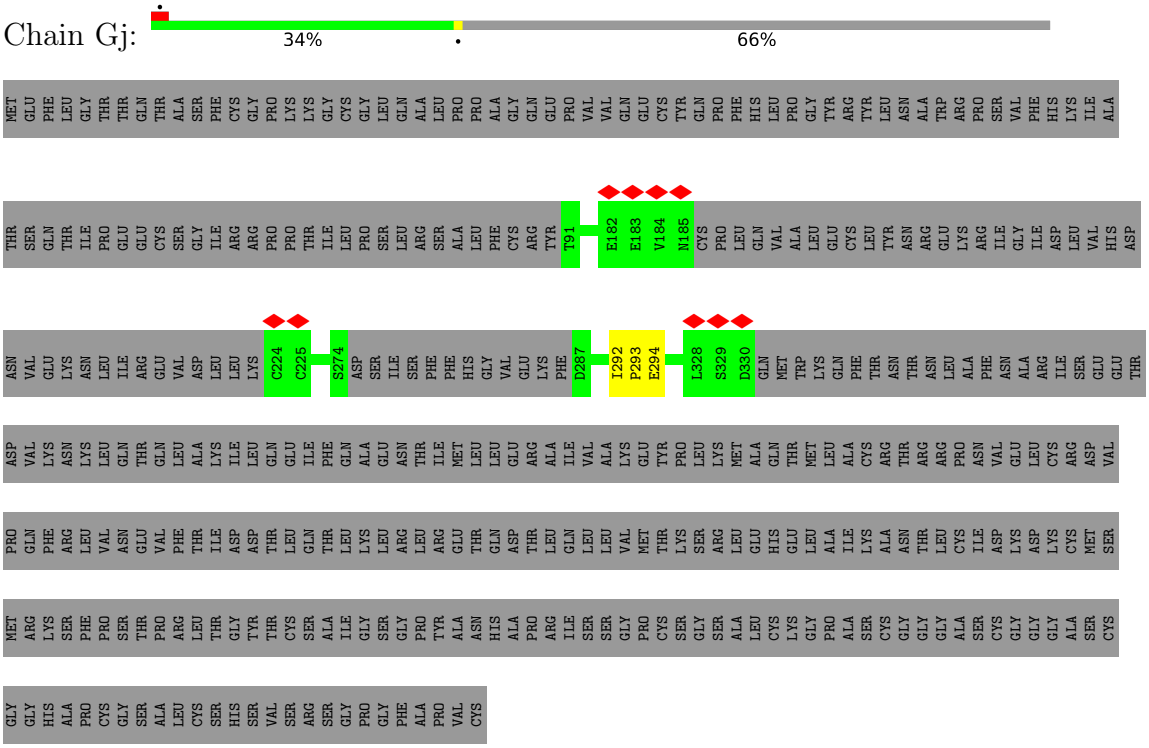
• Molecule 26: Tektin-5

Chain Gi:



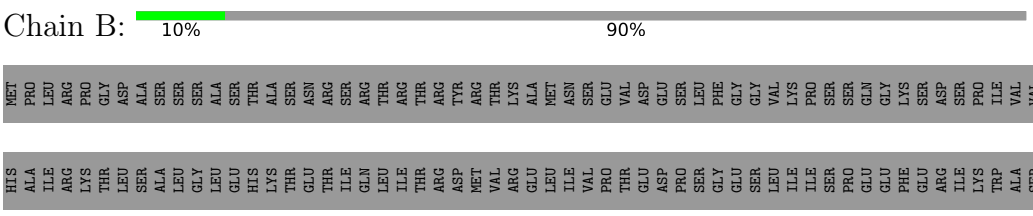
• Molecule 26: Tektin-5

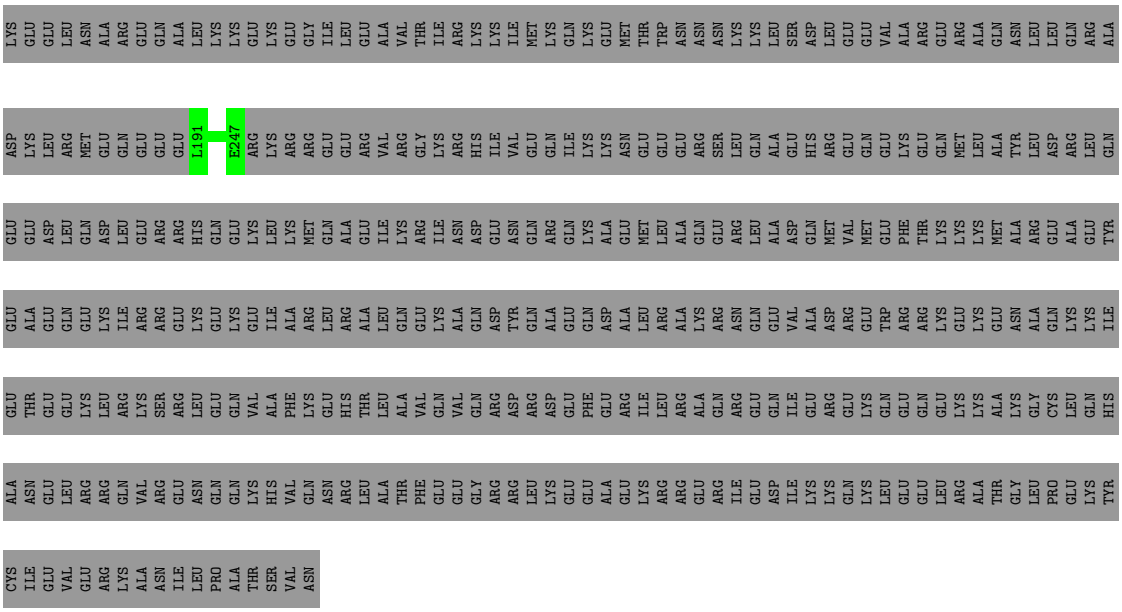
Chain Gj:



• Molecule 27: Cilia- and flagella-associated protein 45

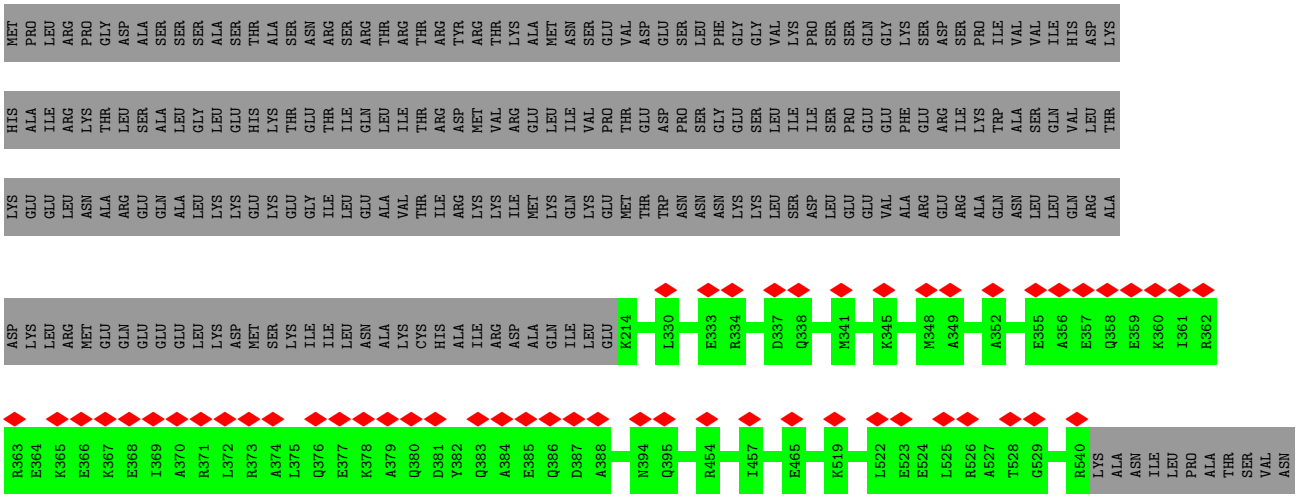
Chain B:





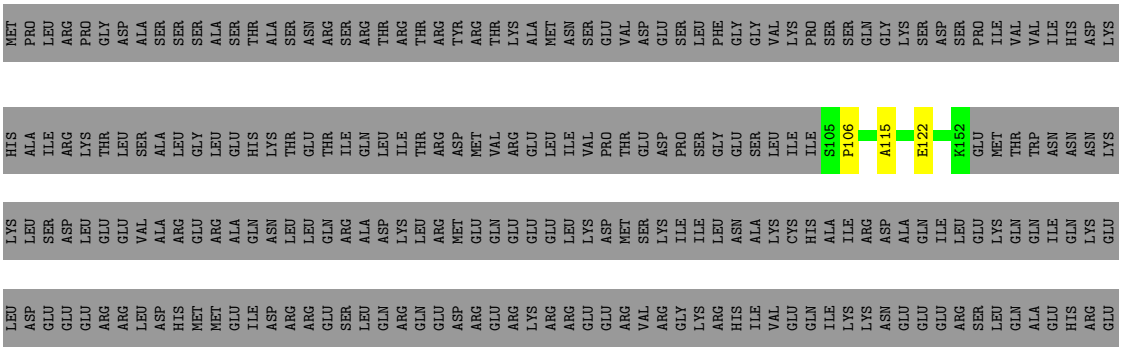
• Molecule 27: Cilia- and flagella-associated protein 45

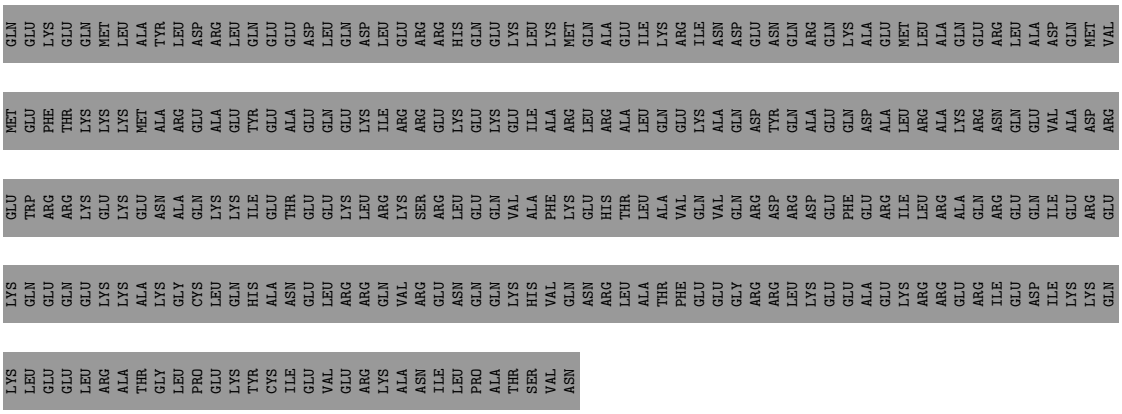
Chain AA:



• Molecule 27: Cilia- and flagella-associated protein 45

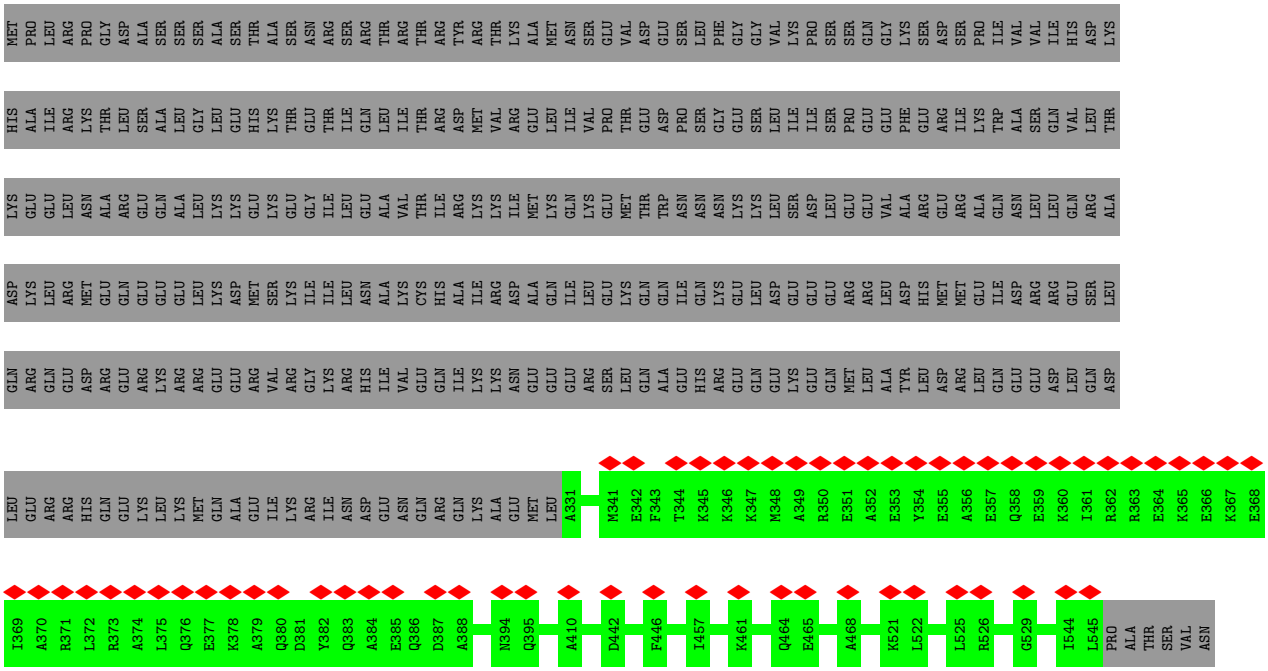
Chain c:





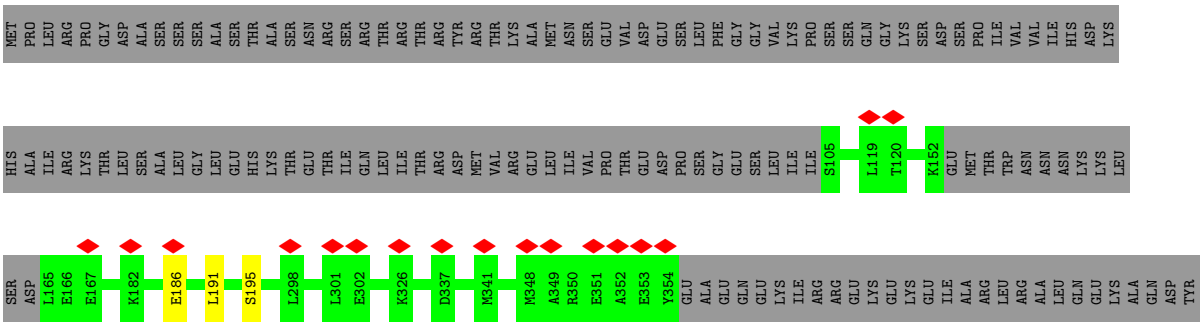
• Molecule 27: Cilia- and flagella-associated protein 45

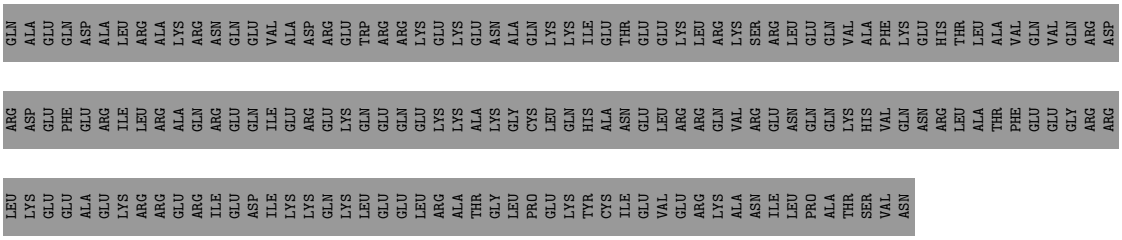
Chain Ax:



• Molecule 27: Cilia- and flagella-associated protein 45

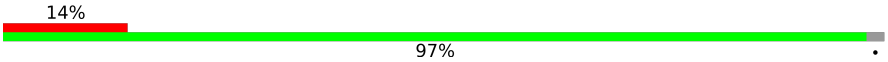
Chain d:

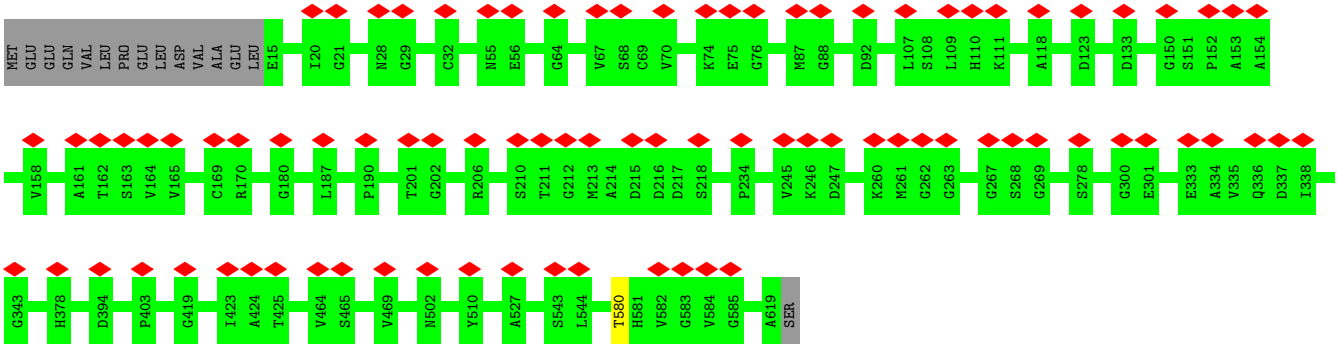




• Molecule 28: Cilia- and flagella-associated protein 52

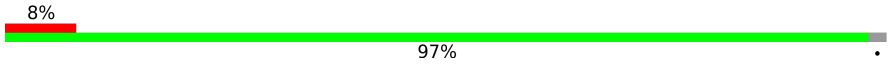
Chain BG:

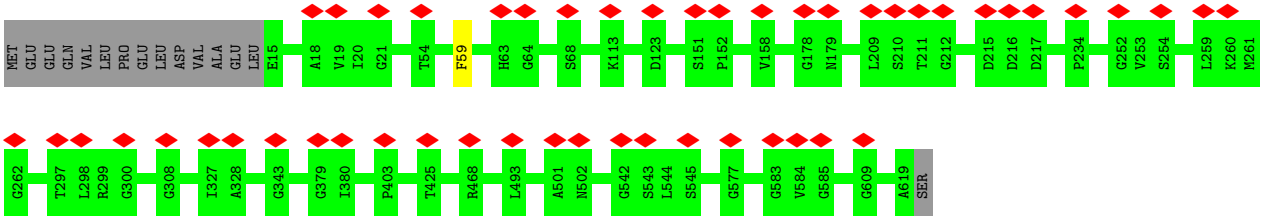




• Molecule 28: Cilia- and flagella-associated protein 52

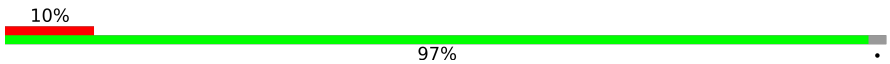
Chain Ba:

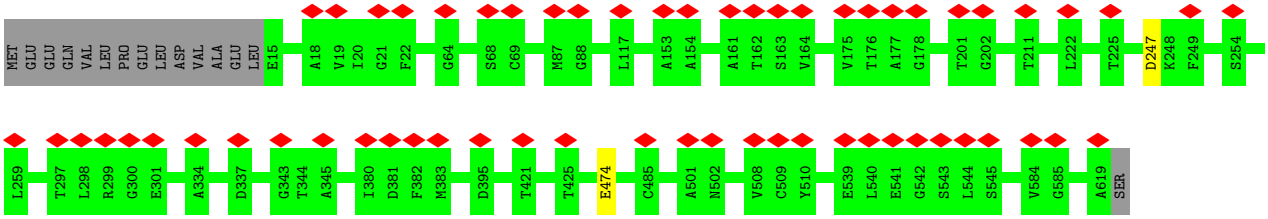




• Molecule 28: Cilia- and flagella-associated protein 52

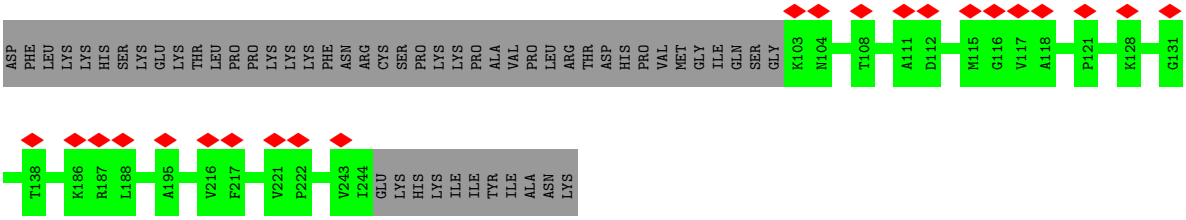
Chain Bo:



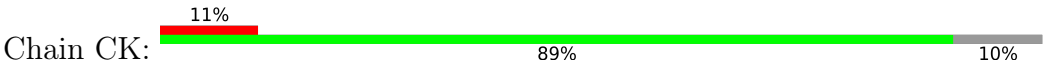


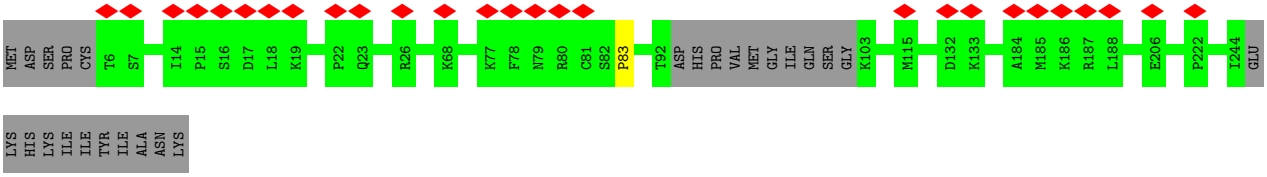
• Molecule 29: Enkurin

Chain B5:

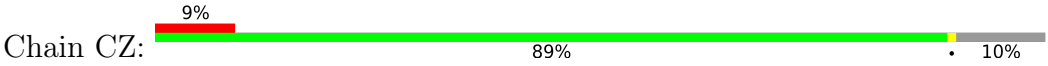


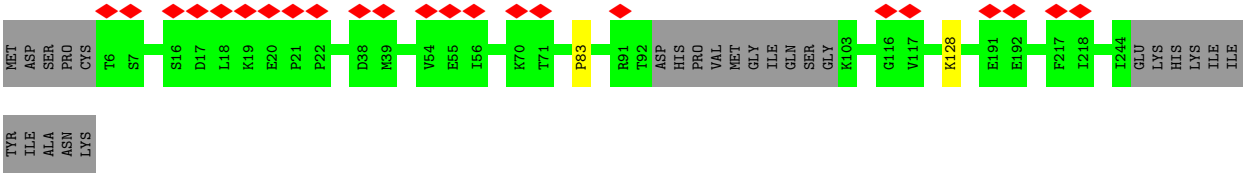
• Molecule 29: Enkurin



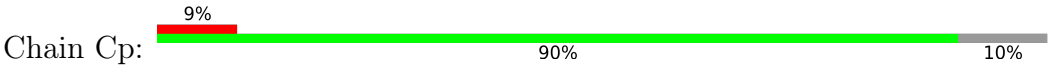


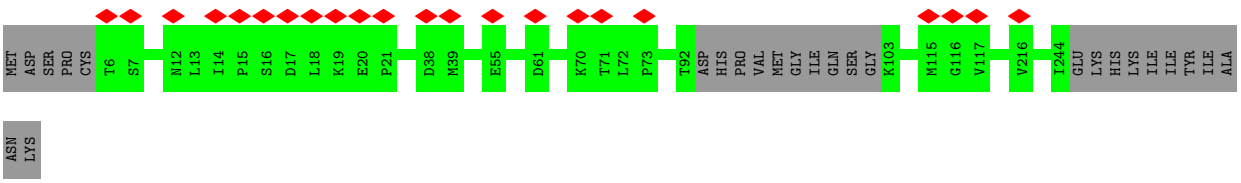
• Molecule 29: Enkurin



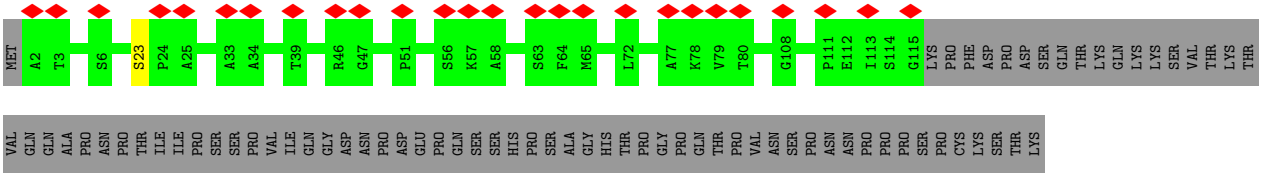


• Molecule 29: Enkurin

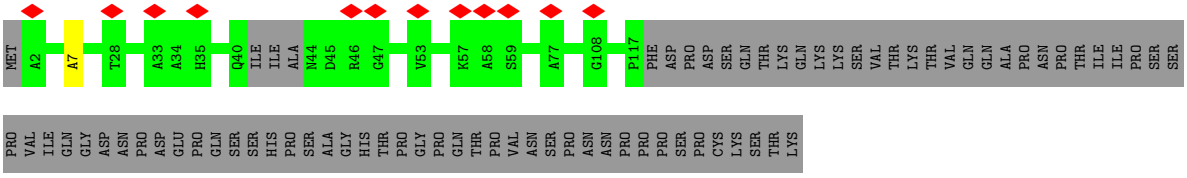




• Molecule 30: Protein Flattop

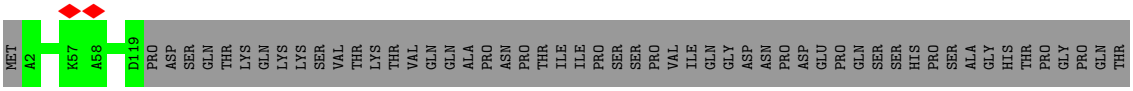


• Molecule 30: Protein Flattop



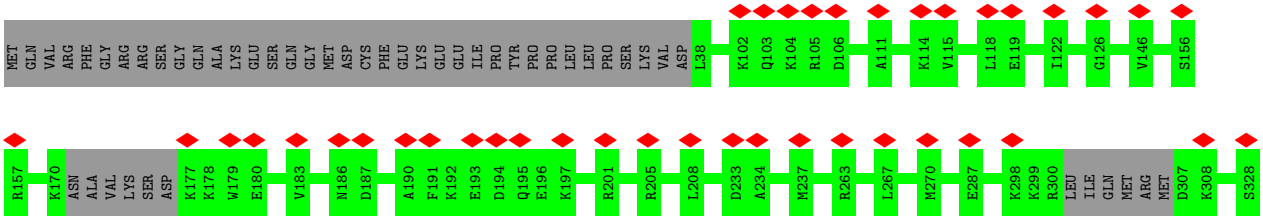
• Molecule 30: Protein Flattop

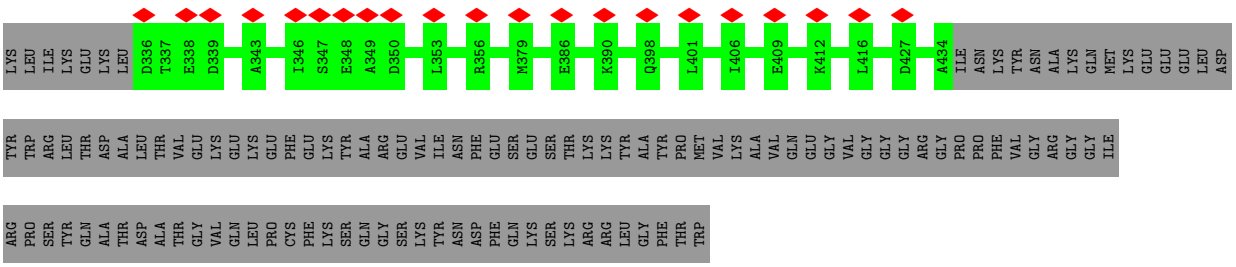
Chain DY:



• Molecule 31: Cilia- and flagella- associated protein 210

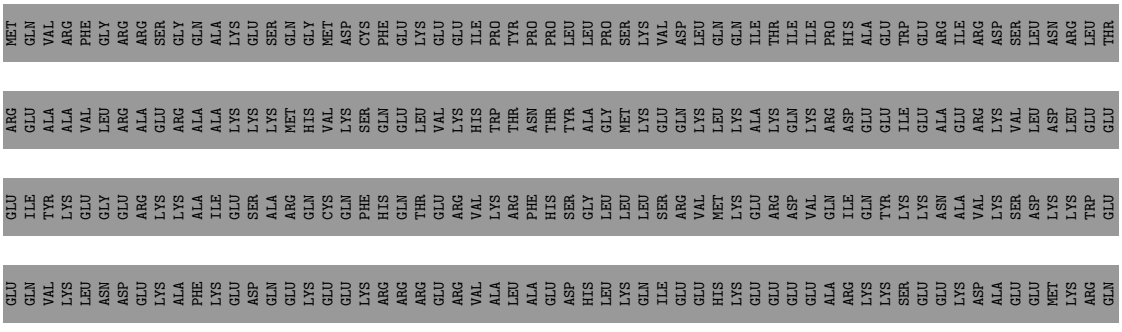
Chain Dn:

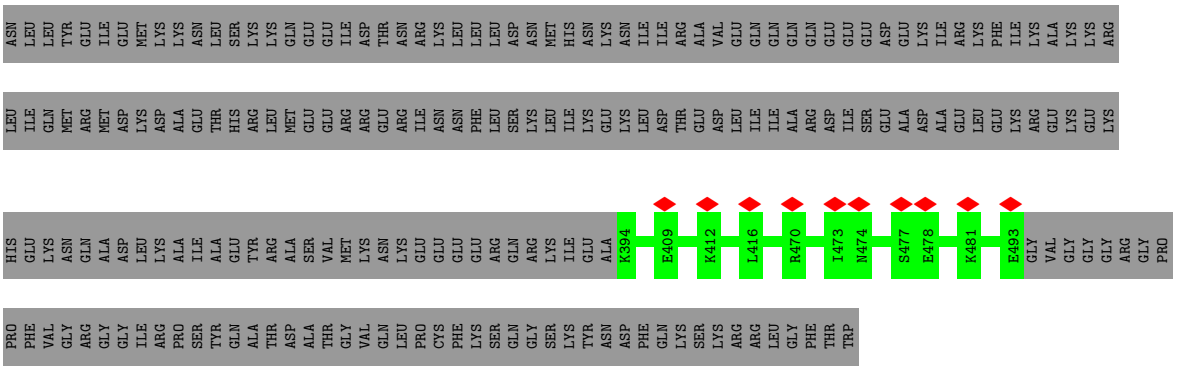




• Molecule 31: Cilia- and flagella- associated protein 210

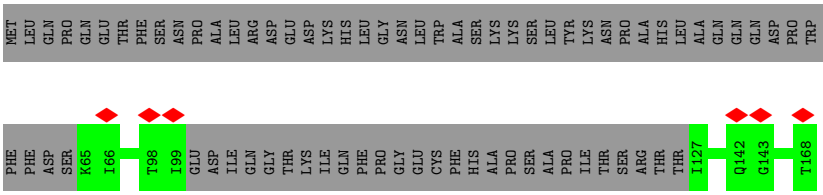
Chain D3:





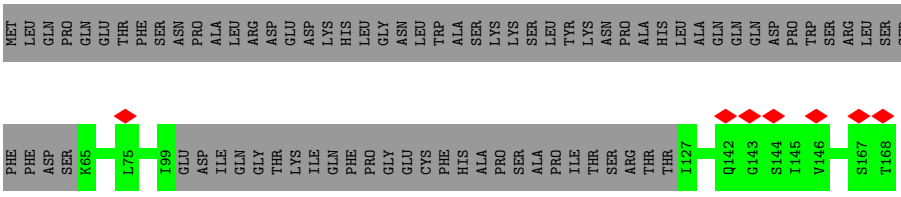
• Molecule 32: Cilia- and flagella-associated protein 276

Chain EH:



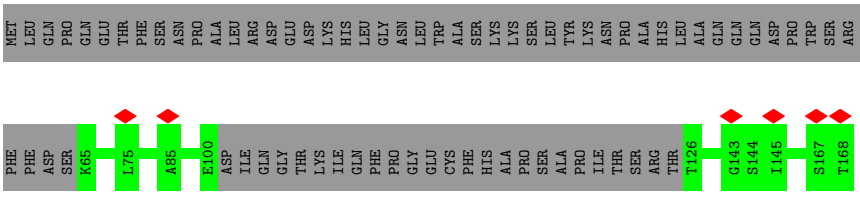
• Molecule 32: Cilia- and flagella-associated protein 276

Chain EW:



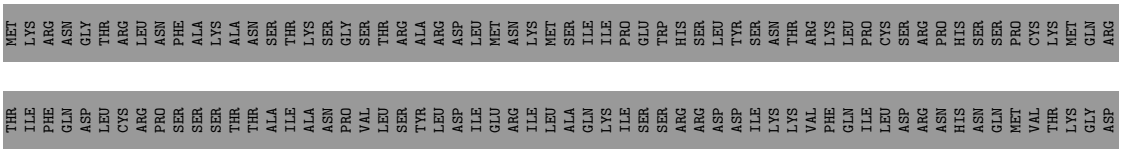
• Molecule 32: Cilia- and flagella-associated protein 276

Chain El:



• Molecule 33: EF-hand calcium-binding domain-containing protein 6

Chain Ez:



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

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

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

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

ILE PHE ILE GLN LEU ILE ARG ARG PHE GLY LEU LYS THR SER THR LYS ILE ASN TRP LYS GLN PHE LEU THR ALA ILE TYR GLU ARG GLN LYS LEU GLU VAL SER LYS THR LEU PRO LEU LYS LYS ARG SER SER THR GLU ALA ARG ASN ARG SER ARG LYS GLU ASN ILE ILE LYS LYS

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

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

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

THR PRO PRO LEU SER SER PRO LYS VAL GLN LEU SER ASP GLN PHE GLN ILE GLU GLU PRO GLY GLN GLN ASP GLU ARG THR GLN PRO SER GLY GLU LYS THR SER GLU ILE ASN ASN MET THR LYS GLU GLU VAL ILE ASP GLY LEU LYS HIS ARG ILE GLN GLN LYS ASP PRO VAL PHE

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

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

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

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

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

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

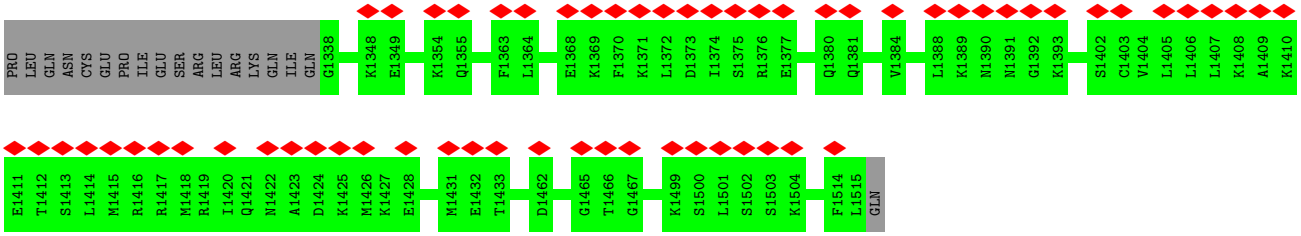
ILE SER LEU LEU LYS SER LEU ASP VAL SER VAL HIS ASN ASN HIS ILE ASP PRO VAL GLU PHE LEU ARG ALA LEU GLU ILE SER TRP ALA SER LYS ALA ARG PRO LYS GLU LYS GLU GLU SER SER PRO PRO PRO ILE SER PHE SER LYS VAL THR PRO ASP GLU VAL ILE LYS THR MET

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

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

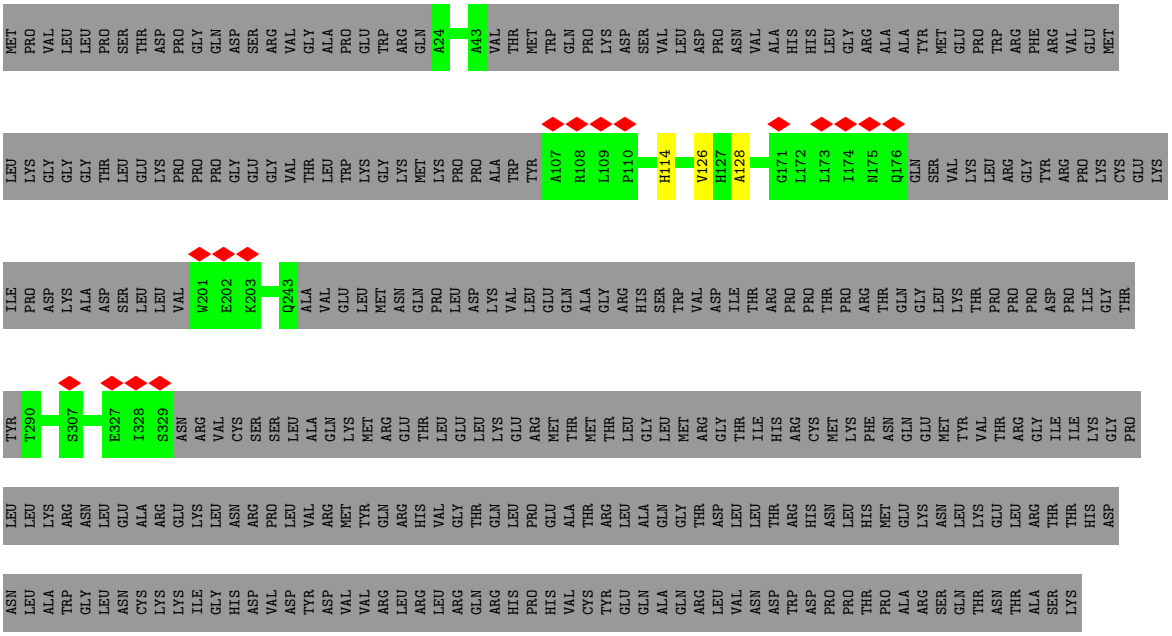
GLU PHE GLU ASN PHE ASP THR LEU LYS SER ASN THR VAL SER ARG ASP GLU PHE ARG SER ILE CYS THR ARG HIS ILE GLN ILE LEU THR ASP GLU GLN PHE ASP ARG LEU TRP SER GLU LEU PRO VAL ASN ALA LYS GLY ARG LEU LYS TYR GLN ASP PHE LEU SER LYS LEU SER ILE

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



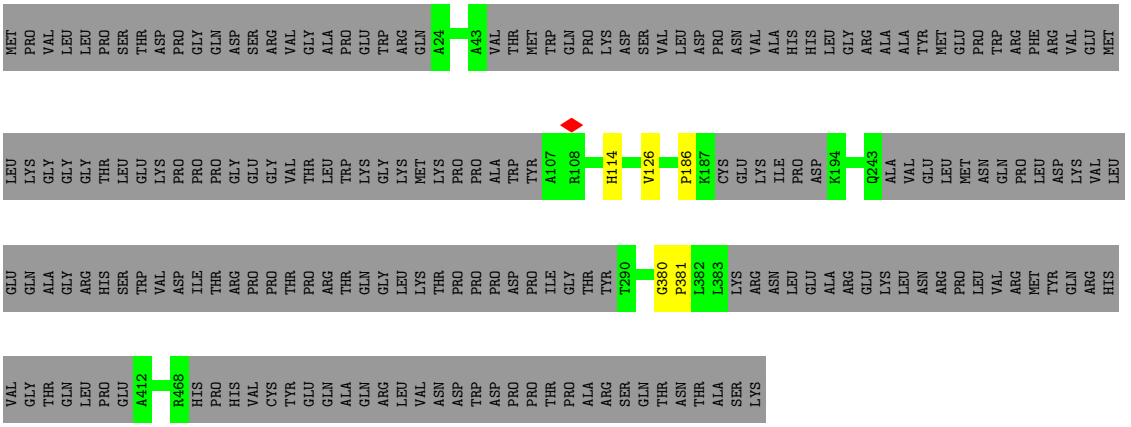
• Molecule 34: Coiled-coil domain-containing protein 105

Chain C:



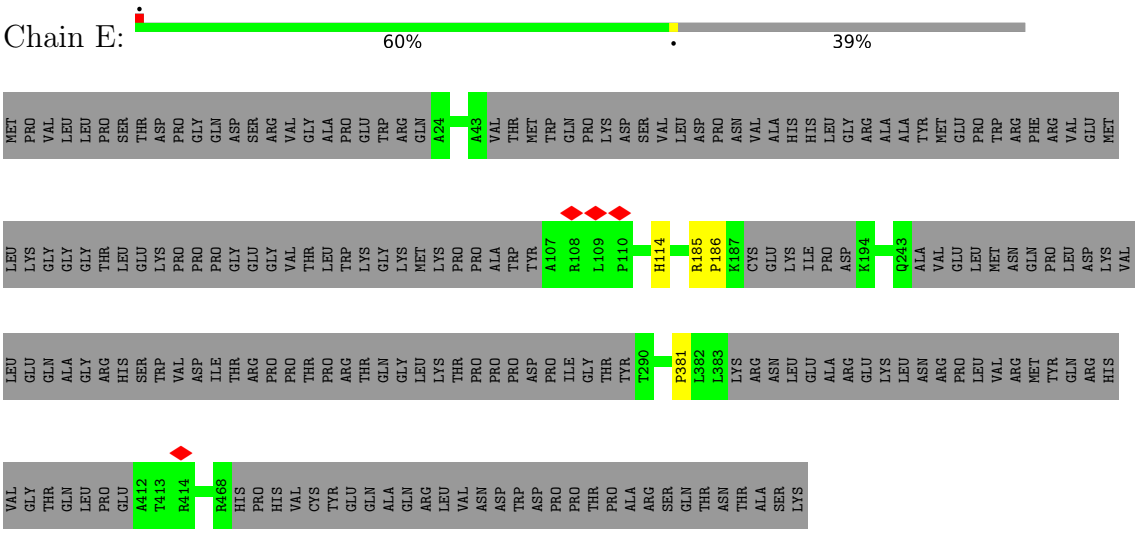
• Molecule 34: Coiled-coil domain-containing protein 105

Chain D:



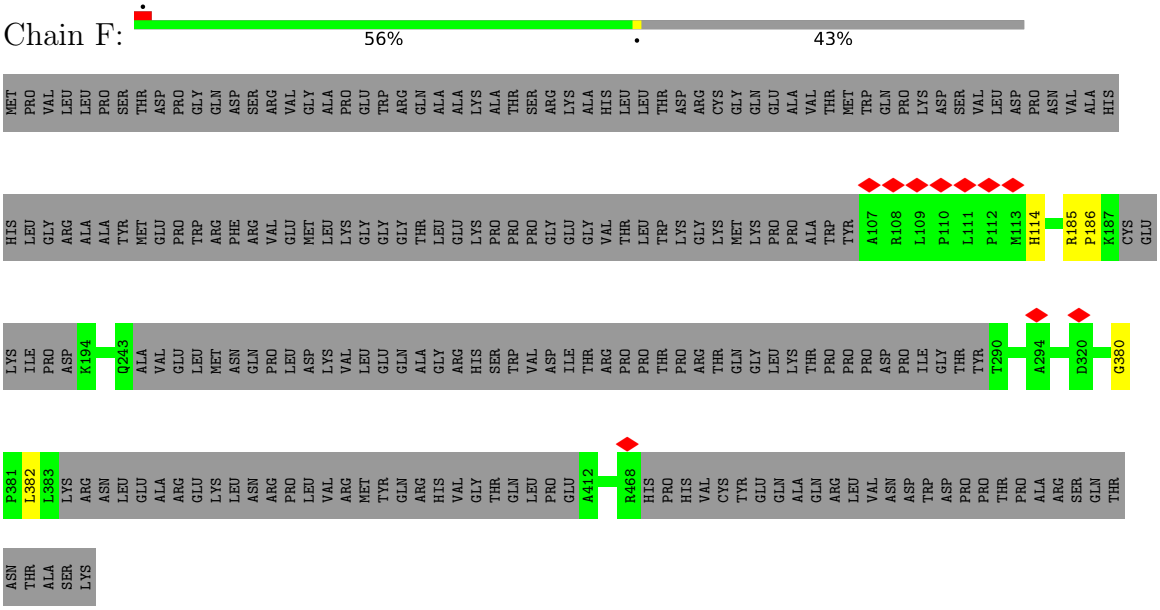
• Molecule 34: Coiled-coil domain-containing protein 105

Chain E:



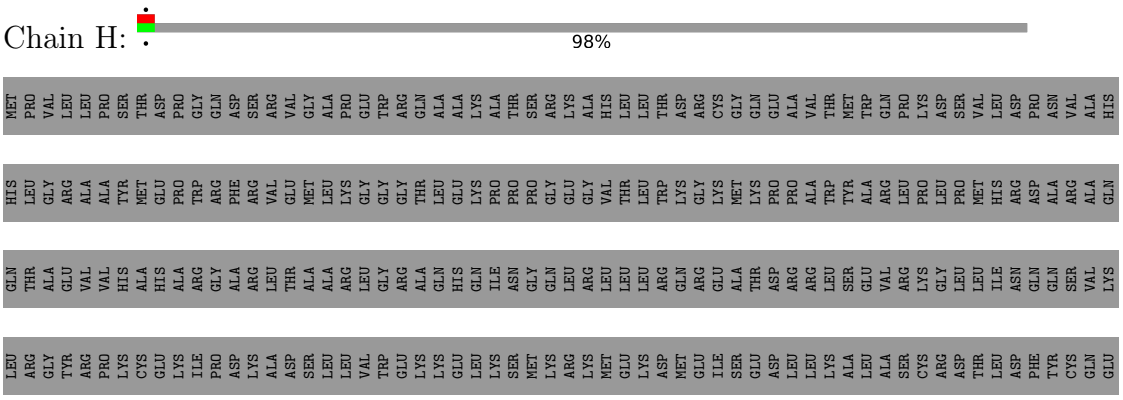
• Molecule 34: Coiled-coil domain-containing protein 105

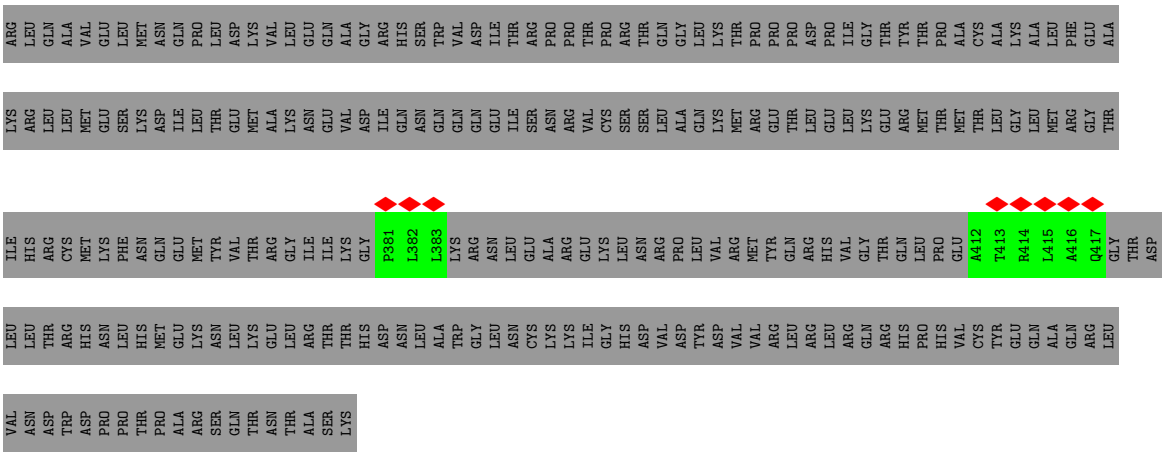
Chain F:



• Molecule 34: Coiled-coil domain-containing protein 105

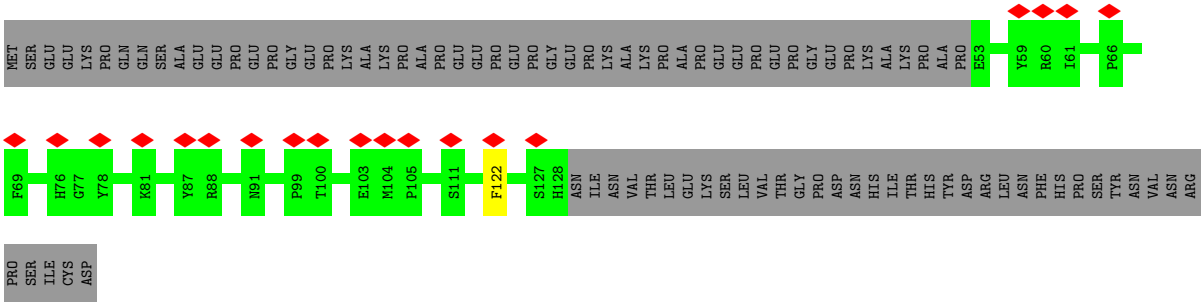
Chain H:





• Molecule 35: Piercer of microtubule wall 1 protein

Chain Fw:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	12848	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 ($e^-/Å^2$)	100	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	6000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	0.223	Depositor
Minimum map value	0.000	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.016	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	731.4, 731.4, 731.4	wwPDB
Map dimensions	276, 276, 276	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.65, 2.65, 2.65	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	0	0.70	0/159	0.66	0/197
1	7	0.29	0/448	0.59	0/553
2	I	0.38	0/886	0.53	0/1104
2	J	0.39	0/1583	0.51	0/1977
2	K	0.38	0/1571	0.49	0/1962
2	L	0.37	0/1334	0.49	0/1664
2	M	0.39	0/127	0.40	0/157
3	A5	0.30	0/1755	0.63	0/2192
3	A7	0.30	0/1763	0.62	0/2202
3	A9	0.32	0/1747	0.66	0/2182
3	AM	0.30	0/1751	0.61	0/2187
3	AO	0.31	0/1751	0.59	0/2187
3	AQ	0.30	0/1751	0.58	0/2187
3	AS	0.33	0/1755	0.62	0/2192
3	AU	0.29	0/1755	0.59	0/2192
3	AW	0.31	0/1755	0.58	0/2192
3	AY	0.29	0/1755	0.57	0/2192
3	Aj	0.30	0/1592	0.62	0/1983
3	Al	0.28	0/1714	0.61	1/2139 (0.0%)
3	An	0.29	0/1718	0.59	0/2144
3	Ap	0.30	0/1722	0.61	0/2149
3	Ar	0.31	0/1714	0.63	0/2139
3	At	0.29	0/1718	0.60	0/2144
3	Av	0.29	0/1718	0.61	0/2144
3	B0	0.29	0/1726	0.57	0/2154
3	B2	0.30	0/1714	0.60	0/2139
3	B4	0.32	0/1539	0.62	0/1915
3	B8	0.29	0/1714	0.56	0/2139
3	BA	0.31	0/1743	0.70	3/2177 (0.1%)
3	BC	0.31	0/1759	0.70	1/2197 (0.0%)
3	BE	0.30	0/1710	0.63	0/2134
3	BO	0.28	0/1722	0.59	0/2149
3	BQ	0.30	0/1698	0.65	1/2119 (0.0%)
3	BS	0.32	0/1702	0.66	0/2124

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
3	BU	0.31	0/1706	0.67	1/2129 (0.0%)
3	BW	0.31	0/1694	0.66	0/2114
3	BY	0.29	0/1714	0.64	1/2139 (0.0%)
3	Bc	0.29	0/1759	0.57	0/2197
3	Be	0.27	0/1718	0.55	0/2144
3	Bg	0.28	0/1759	0.57	0/2197
3	Bi	0.29	0/1714	0.57	0/2139
3	Bk	0.29	0/1714	0.60	1/2139 (0.0%)
3	Bm	0.30	0/1755	0.60	1/2192 (0.0%)
3	Br	0.30	0/1706	0.62	1/2129 (0.0%)
3	Bt	0.28	0/1718	0.56	0/2144
3	Bv	0.28	0/1718	0.57	0/2144
3	Bx	0.29	0/1718	0.56	0/2144
3	Bz	0.27	0/1722	0.58	0/2149
3	C0	0.30	0/1714	0.59	0/2139
3	C1	0.32	0/1759	0.56	0/2197
3	C3	0.32	0/1722	0.57	0/2149
3	C8	0.32	0/1755	0.62	0/2192
3	CB	0.27	0/1759	0.58	0/2197
3	CD	0.30	0/1726	0.62	0/2154
3	CF	0.28	0/1759	0.62	1/2197 (0.0%)
3	CH	0.29	0/1722	0.61	0/2149
3	CJ	0.28	0/1706	0.60	0/2129
3	CN	0.31	0/1726	0.63	0/2154
3	CP	0.30	0/1718	0.59	0/2144
3	CR	0.30	0/1710	0.60	0/2134
3	CT	0.31	0/1714	0.61	0/2139
3	CV	0.31	0/1759	0.65	1/2197 (0.0%)
3	CX	0.31	0/1718	0.61	0/2144
3	Cc	0.33	0/1726	0.62	0/2154
3	Ce	0.32	0/1722	0.59	0/2149
3	Cg	0.31	0/1718	0.57	0/2144
3	Ci	0.33	0/1710	0.58	0/2134
3	Ck	0.31	0/1718	0.58	0/2144
3	Cm	0.33	0/1726	0.60	0/2154
3	Co	0.31	0/1628	0.56	0/2028
3	Cs	0.33	0/1759	0.59	0/2197
3	Cu	0.32	0/1759	0.59	0/2197
3	Cw	0.31	0/1759	0.57	0/2197
3	Cy	0.33	0/1759	0.59	0/2197
3	D2	0.27	0/1718	0.57	0/2144
3	D5	0.26	0/1722	0.60	1/2149 (0.0%)
3	D7	0.27	0/1718	0.60	1/2144 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
3	D9	0.27	0/1718	0.56	0/2144
3	DB	0.30	0/1718	0.57	0/2144
3	DD	0.31	0/1722	0.56	0/2149
3	DF	0.29	0/1759	0.60	0/2197
3	DH	0.31	0/1722	0.59	0/2149
3	DM	0.27	0/1718	0.59	0/2144
3	DO	0.29	0/1714	0.60	0/2139
3	DQ	0.29	0/1718	0.65	1/2144 (0.0%)
3	DS	0.27	0/1726	0.62	0/2154
3	DU	0.27	0/1726	0.56	0/2154
3	DW	0.28	0/1718	0.58	0/2144
3	Db	0.28	0/1710	0.59	0/2134
3	Dd	0.27	0/1714	0.58	0/2139
3	Df	0.26	0/1730	0.57	0/2159
3	Dh	0.28	0/1730	0.61	1/2159 (0.0%)
3	Dj	0.27	0/1726	0.55	0/2154
3	Dl	0.27	0/1722	0.57	0/2149
3	Dp	0.25	0/1718	0.56	0/2144
3	Dr	0.30	0/1726	0.60	0/2154
3	Dt	0.29	0/1722	0.60	0/2149
3	Dv	0.27	0/1718	0.60	1/2144 (0.0%)
3	Dx	0.29	0/1706	0.59	0/2129
3	Dz	0.30	0/1718	0.60	0/2144
3	E3	0.27	0/1730	0.57	0/2159
3	E5	0.26	0/1726	0.56	0/2154
3	E7	0.28	0/1730	0.57	1/2159 (0.0%)
3	E9	0.26	0/1730	0.56	0/2159
3	EA	0.28	0/1722	0.61	0/2149
3	EC	0.27	0/1714	0.58	0/2139
3	EE	0.26	0/1722	0.58	0/2149
3	EG	0.27	0/1722	0.56	0/2149
3	EJ	0.27	0/1714	0.62	1/2139 (0.0%)
3	EL	0.28	0/1726	0.59	0/2154
3	EN	0.29	0/1710	0.59	0/2134
3	EP	0.27	0/1718	0.57	0/2144
3	ER	0.27	0/1722	0.57	0/2149
3	ET	0.28	0/1722	0.61	2/2149 (0.1%)
3	EV	0.29	0/1710	0.59	0/2134
3	EY	0.27	0/1718	0.60	0/2144
3	Ea	0.30	0/1718	0.62	0/2144
3	Ec	0.28	0/1722	0.58	0/2149
3	Ee	0.29	0/1722	0.61	0/2149
3	Eg	0.29	0/1705	0.59	0/2126

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
3	Ei	0.27	0/1726	0.61	0/2154
3	Ek	0.28	0/1722	0.56	0/2149
3	Eo	0.26	0/1718	0.60	0/2144
3	Eq	0.26	0/1726	0.57	0/2154
3	Es	0.27	0/1718	0.62	1/2144 (0.0%)
3	Eu	0.27	0/1718	0.58	0/2144
3	Ew	0.30	0/1726	0.61	0/2154
3	Ey	0.28	0/1718	0.61	0/2144
3	FA	0.29	0/1730	0.57	0/2159
3	FC	0.28	0/1722	0.58	0/2149
3	FG	0.28	0/1759	0.58	0/2197
3	FI	0.29	0/1730	0.57	0/2159
3	FK	0.28	0/1759	0.58	0/2197
3	FM	0.28	0/1730	0.57	0/2159
3	FO	0.28	0/1759	0.58	0/2197
3	FQ	0.29	0/1718	0.61	0/2144
3	FU	0.31	0/1759	0.64	1/2197 (0.0%)
3	FW	0.28	0/1722	0.58	0/2149
3	FY	0.30	0/1755	0.59	0/2192
3	Fa	0.30	0/1722	0.59	0/2149
3	Fc	0.30	0/1751	0.58	0/2187
3	Fe	0.31	0/1722	0.61	0/2149
3	N	0.32	0/1751	0.64	0/2187
3	P	0.33	0/1759	0.61	0/2197
3	R	0.30	0/1738	0.58	0/2169
3	T	0.32	0/1759	0.60	0/2197
3	V	0.31	0/1759	0.58	0/2197
3	X	0.35	0/1759	0.61	1/2197 (0.0%)
3	Z	0.30	0/1755	0.58	0/2192
3	n	0.29	0/1718	0.60	0/2144
3	p	0.30	0/1759	0.60	0/2197
3	r	0.30	0/1730	0.58	0/2159
3	t	0.32	0/1759	0.61	0/2197
3	v	0.29	0/1718	0.58	0/2144
3	x	0.31	0/1755	0.61	0/2192
3	z	0.29	0/1718	0.58	0/2144
4	A0	0.32	0/1707	0.65	1/2132 (0.0%)
4	A4	0.28	0/1703	0.59	0/2127
4	A6	0.30	0/1703	0.63	1/2127 (0.0%)
4	A8	0.29	0/1703	0.63	0/2127
4	AN	0.32	0/1703	0.61	0/2127
4	AP	0.31	0/1703	0.57	0/2127
4	AR	0.31	0/1707	0.62	1/2132 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
4	AT	0.32	0/1707	0.60	0/2132
4	AV	0.31	0/1707	0.58	0/2132
4	AX	0.31	0/1699	0.56	0/2122
4	Ak	0.29	0/1703	0.60	0/2127
4	Am	0.31	0/1703	0.60	0/2127
4	Ao	0.28	0/1703	0.60	0/2127
4	Aq	0.32	0/1703	0.72	2/2127 (0.1%)
4	As	0.28	0/1703	0.60	0/2127
4	Au	0.29	0/1699	0.59	0/2122
4	Aw	0.29	0/1545	0.57	0/1926
4	B1	0.27	0/1699	0.56	0/2122
4	B3	0.29	0/1707	0.59	0/2132
4	B7	0.29	0/1471	0.60	0/1830
4	B9	0.30	0/1707	0.59	0/2132
4	BB	0.29	0/1703	0.62	0/2127
4	BD	0.30	0/1699	0.63	0/2122
4	BF	0.27	0/1703	0.59	0/2127
4	BN	0.27	0/1703	0.59	0/2127
4	BP	0.28	0/1707	0.62	0/2132
4	BR	0.27	0/1703	0.59	0/2127
4	BT	0.32	0/1703	0.71	3/2127 (0.1%)
4	BV	0.29	0/1703	0.59	0/2127
4	BX	0.29	0/1699	0.62	0/2122
4	BZ	0.26	0/1707	0.55	0/2132
4	Bb	0.30	0/1707	0.58	0/2132
4	Bd	0.28	0/1707	0.55	0/2132
4	Bf	0.27	0/1707	0.55	0/2132
4	Bh	0.30	0/1707	0.59	0/2132
4	Bj	0.27	0/1707	0.57	0/2132
4	Bl	0.27	0/1699	0.54	0/2122
4	Bn	0.30	0/1707	0.56	0/2132
4	Bq	0.29	0/1703	0.56	0/2127
4	Bs	0.28	0/1707	0.57	0/2132
4	Bu	0.27	0/1707	0.54	0/2132
4	Bw	0.30	0/1707	0.57	0/2132
4	By	0.28	0/1707	0.58	1/2132 (0.0%)
4	C2	0.33	0/1703	0.59	0/2127
4	C4	0.32	0/1707	0.56	0/2132
4	C7	0.32	0/1703	0.60	1/2127 (0.0%)
4	C9	0.32	0/1703	0.59	0/2127
4	CA	0.27	0/1707	0.55	0/2132
4	CC	0.30	0/1707	0.59	0/2132
4	CE	0.29	0/1707	0.62	1/2132 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
4	CG	0.30	0/1703	0.62	0/2127
4	CI	0.30	0/1711	0.59	0/2137
4	CM	0.28	0/1703	0.58	0/2127
4	CO	0.32	0/1707	0.61	0/2132
4	CQ	0.28	0/1703	0.59	0/2127
4	CS	0.32	0/1703	0.61	0/2127
4	CU	0.29	0/1703	0.57	0/2127
4	CW	0.31	0/1703	0.63	0/2127
4	CY	0.29	0/1703	0.60	0/2127
4	Cb	0.32	0/1609	0.59	0/2006
4	Cd	0.33	0/1707	0.58	0/2132
4	Cf	0.31	0/1707	0.56	0/2132
4	Ch	0.34	0/1715	0.57	0/2142
4	Cj	0.30	0/1703	0.56	0/2127
4	Cl	0.33	0/1715	0.58	0/2142
4	Cn	0.31	0/1707	0.57	0/2132
4	Cr	0.32	0/1707	0.57	0/2132
4	Ct	0.32	0/1707	0.58	0/2132
4	Cv	0.31	0/1707	0.57	0/2132
4	Cx	0.34	0/1707	0.58	0/2132
4	Cz	0.32	0/1707	0.56	0/2132
4	D0	0.26	0/1711	0.58	0/2137
4	D1	0.30	0/1699	0.62	0/2122
4	D6	0.26	0/1707	0.56	0/2132
4	D8	0.27	0/1707	0.57	0/2132
4	DA	0.29	0/1707	0.58	0/2132
4	DC	0.32	0/1707	0.58	0/2132
4	DE	0.30	0/1703	0.56	0/2127
4	DG	0.33	0/1703	0.65	2/2127 (0.1%)
4	DI	0.30	0/1703	0.58	0/2127
4	DL	0.26	0/1707	0.54	0/2132
4	DN	0.29	0/1707	0.59	0/2132
4	DP	0.27	0/1707	0.57	0/2132
4	DR	0.29	0/1707	0.62	0/2132
4	DT	0.27	0/1707	0.56	0/2132
4	DV	0.27	0/1707	0.58	0/2132
4	DX	0.26	0/1699	0.56	0/2122
4	Da	0.29	0/1642	0.60	0/2049
4	Dc	0.27	0/1699	0.60	0/2122
4	De	0.26	0/1695	0.56	0/2117
4	Dg	0.30	0/1699	0.61	0/2122
4	Di	0.26	0/1707	0.55	0/2132
4	Dk	0.27	0/1707	0.57	0/2132

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
4	Dm	0.28	0/1695	0.58	0/2117
4	Dq	0.28	0/1707	0.61	0/2132
4	Ds	0.26	0/1707	0.55	0/2132
4	Du	0.28	0/1707	0.57	0/2132
4	Dw	0.27	0/1707	0.55	0/2132
4	Dy	0.27	0/1707	0.58	1/2132 (0.0%)
4	E0	0.26	0/1707	0.57	1/2132 (0.0%)
4	E2	0.26	0/1711	0.57	0/2137
4	E4	0.28	0/1707	0.56	0/2132
4	E6	0.26	0/1707	0.55	0/2132
4	E8	0.27	0/1711	0.55	0/2137
4	EB	0.26	0/1707	0.59	1/2132 (0.0%)
4	ED	0.28	0/1707	0.57	0/2132
4	EF	0.26	0/1703	0.57	0/2127
4	EK	0.27	0/1707	0.59	0/2132
4	EM	0.26	0/1707	0.55	0/2132
4	EO	0.27	0/1707	0.59	0/2132
4	EQ	0.27	0/1707	0.57	0/2132
4	ES	0.27	0/1707	0.58	0/2132
4	EU	0.28	0/1703	0.57	0/2127
4	EZ	0.27	0/1707	0.59	0/2132
4	Eb	0.27	0/1707	0.57	0/2132
4	Ed	0.28	0/1711	0.58	0/2137
4	Ef	0.28	0/1707	0.58	0/2132
4	Eh	0.28	0/1707	0.58	0/2132
4	Ej	0.27	0/1703	0.58	0/2127
4	En	0.27	0/1707	0.59	0/2132
4	Ep	0.27	0/1707	0.56	0/2132
4	Er	0.26	0/1707	0.56	0/2132
4	Et	0.26	0/1707	0.57	1/2132 (0.0%)
4	Ev	0.27	0/1707	0.58	0/2132
4	Ex	0.26	0/1703	0.58	0/2127
4	FB	0.27	0/1703	0.57	0/2127
4	FD	0.26	0/1707	0.55	0/2132
4	FF	0.30	0/1707	0.58	0/2132
4	FH	0.28	0/1707	0.57	0/2132
4	FJ	0.27	0/1707	0.53	0/2132
4	FL	0.28	0/1707	0.57	0/2132
4	FN	0.27	0/1707	0.54	0/2132
4	FP	0.28	0/1703	0.59	0/2127
4	FR	0.28	0/1707	0.56	0/2132
4	FT	0.29	0/1707	0.60	0/2132
4	FV	0.30	0/1707	0.61	0/2132

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
4	FX	0.27	0/1703	0.57	0/2127
4	FZ	0.30	0/1703	0.58	0/2127
4	Fb	0.28	0/1703	0.56	0/2127
4	Fd	0.29	0/1703	0.58	0/2127
4	Ff	0.29	0/1703	0.62	1/2127 (0.0%)
4	O	0.33	0/1743	0.62	0/2177
4	Q	0.33	0/1743	0.62	0/2177
4	S	0.34	0/1743	0.61	0/2177
4	U	0.32	0/1743	0.61	0/2177
4	W	0.34	0/1743	0.61	0/2177
4	Y	0.32	0/1739	0.57	0/2172
4	o	0.30	0/1707	0.60	0/2132
4	q	0.31	0/1707	0.58	0/2132
4	s	0.31	0/1707	0.59	0/2132
4	u	0.31	0/1707	0.59	1/2132 (0.0%)
4	w	0.29	0/1707	0.58	0/2132
4	y	0.30	0/1699	0.57	0/2122
5	b	0.39	0/762	0.50	0/949
5	e	0.39	0/1663	0.51	0/2077
5	f	0.39	0/1663	0.55	1/2077 (0.0%)
5	g	0.39	0/1531	0.50	0/1912
5	h	0.37	0/191	0.49	0/237
5	i	0.31	0/203	0.46	0/252
5	j	0.38	0/1431	0.49	0/1787
5	k	0.39	0/1655	0.53	0/2067
5	l	0.37	0/1611	0.54	0/2012
5	m	0.37	0/762	0.53	0/949
6	1	0.42	0/560	0.54	0/693
6	2	0.85	0/754	0.76	0/932
7	AC	0.35	0/123	0.39	0/152
7	AD	0.38	0/1334	0.49	0/1664
7	AE	0.39	0/1575	0.52	1/1967 (0.1%)
7	AF	0.37	0/1575	0.50	0/1967
7	AG	0.37	0/858	0.50	0/1069
7	AH	0.37	0/451	0.42	0/562
7	AI	0.40	0/1539	0.47	0/1922
7	AJ	0.41	0/1651	0.48	0/2062
7	AK	0.39	0/1626	0.47	0/2029
7	AL	0.36	0/446	0.50	0/554
7	BI	0.38	0/553	0.56	0/686
7	BJ	0.41	0/1682	0.52	0/2099
7	BK	0.40	0/1682	0.51	0/2099
7	BL	0.40	0/1511	0.48	0/1887

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
7	BM	0.36	0/395	0.50	0/492
8	A	0.84	0/679	0.83	0/847
8	a	0.46	0/1415	0.49	0/1767
9	Aa	0.38	0/1165	0.50	0/1451
9	Ab	0.38	0/1699	0.50	0/2122
9	Ac	0.39	0/1699	0.51	0/2122
9	Ad	0.38	0/1262	0.51	0/1574
9	Af	0.36	0/1254	0.50	0/1564
9	Ag	0.38	0/1655	0.52	0/2067
9	Ah	0.36	0/1651	0.50	0/2062
9	Ai	0.36	0/1162	0.53	0/1449
10	3	0.88	0/1223	0.82	0/1527
10	4	0.44	0/803	0.46	0/1002
11	A1	0.29	0/507	0.69	1/632 (0.2%)
11	A2	0.30	0/575	0.65	0/717
11	A3	0.31	0/575	0.66	0/717
11	Az	0.32	0/271	0.64	0/337
12	AB	0.44	0/347	0.57	0/432
13	5	0.27	0/1430	0.59	0/1784
13	6	0.28	0/1430	0.63	0/1784
14	B6	0.28	0/604	0.62	0/748
14	C6	0.27	0/604	0.62	0/748
14	CL	0.29	0/604	0.65	0/748
14	Ca	0.30	0/604	0.64	0/748
14	Cq	0.30	0/604	0.67	0/748
14	DK	0.28	0/616	0.65	0/763
15	AZ	0.28	0/585	0.60	0/726
16	D4	0.32	0/155	0.60	0/192
16	DZ	0.29	0/131	0.64	0/162
16	Do	0.37	0/1491	0.52	0/1862
16	EI	0.38	0/886	0.52	1/1104 (0.1%)
16	EX	0.35	0/679	0.49	0/847
17	8	0.36	0/750	0.71	0/934
17	9	0.33	0/126	0.57	0/154
18	Ay	0.30	0/1000	0.61	0/1243
18	BH	0.33	0/1000	0.68	0/1243
19	E1	0.37	0/1764	0.64	0/2198
19	Em	0.37	0/1764	0.64	0/2198
19	FE	0.37	0/1764	0.64	0/2198
20	F0	0.33	0/598	0.59	0/744
20	F1	0.33	0/598	0.59	0/744
20	F2	0.33	0/598	0.59	0/744
20	F3	0.33	0/598	0.59	0/744

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
20	F4	0.33	0/598	0.59	0/744
20	F5	0.33	0/598	0.59	0/744
20	F6	0.32	0/598	0.59	0/744
20	F7	0.32	0/594	0.58	0/739
20	F8	0.33	0/598	0.59	0/744
20	F9	0.32	0/598	0.59	0/744
20	GA	0.32	0/590	0.59	0/734
20	GB	0.33	0/598	0.59	0/744
20	GC	0.33	0/598	0.59	0/744
20	GD	0.33	0/590	0.59	0/734
20	GE	0.33	0/598	0.59	0/744
20	GF	0.33	0/581	0.59	0/721
20	GG	0.33	0/577	0.59	0/716
20	GH	0.32	0/598	0.59	0/744
20	GI	0.32	0/598	0.59	0/744
20	GJ	0.32	0/594	0.59	0/739
20	GK	0.32	0/594	0.59	0/739
20	GL	0.33	0/598	0.59	0/744
20	GM	0.32	0/598	0.59	0/744
20	GN	0.33	0/598	0.59	0/744
20	GO	0.32	0/594	0.58	0/739
20	GP	0.32	0/594	0.58	0/739
20	GQ	0.32	0/606	0.58	0/754
21	FS	0.29	0/2207	0.61	0/2750
21	Fg	0.28	0/2538	0.60	0/3162
21	Fo	0.30	0/2538	0.61	0/3162
21	Fv	0.27	0/1791	0.58	0/2230
22	Fh	0.30	0/735	0.68	1/917 (0.1%)
22	Fi	0.30	0/735	0.68	0/917
22	Fj	0.28	0/735	0.64	0/917
22	Fk	0.29	0/735	0.64	0/917
22	Fl	0.28	0/735	0.62	0/917
22	Fm	0.30	0/735	0.65	0/917
22	Fn	0.28	0/735	0.62	0/917
23	Fp	0.31	0/875	0.64	0/1092
23	Fq	0.29	0/875	0.61	0/1092
23	Fr	0.31	0/875	0.62	0/1092
23	Fs	0.28	0/875	0.63	0/1092
23	Ft	0.30	0/875	0.66	1/1092 (0.1%)
24	Fx	0.36	0/739	0.66	0/922
24	Fy	0.36	0/739	0.66	0/922
24	Fz	0.36	0/739	0.66	0/922
25	G	0.77	0/283	0.83	0/352

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
26	GR	0.82	0/1091	0.79	0/1355
26	GS	0.82	0/1091	0.79	0/1355
26	GT	0.82	0/1091	0.79	0/1355
26	GU	0.83	0/679	0.80	0/840
26	GV	0.81	0/972	0.82	0/1208
26	GW	0.79	0/1392	0.83	0/1733
26	GX	0.80	0/1380	0.82	0/1718
26	GY	0.80	0/1148	0.83	0/1428
26	GZ	0.74	0/91	0.79	0/112
26	Ga	0.65	0/453	0.67	0/561
26	Gb	0.76	0/1364	0.74	0/1698
26	Gc	0.75	0/1328	0.74	0/1653
26	Gd	0.77	0/1304	0.75	0/1623
26	Ge	0.81	0/230	0.83	0/284
26	Gf	0.84	0/114	0.92	0/139
26	Gg	0.78	0/1164	0.85	0/1448
26	Gh	0.80	0/1276	0.84	0/1588
26	Gi	0.80	0/1280	0.85	0/1593
26	Gj	0.81	0/757	0.82	0/941
26	z0	0.83	0/1077	0.83	0/1341
26	z1	0.83	0/1068	0.79	0/1328
26	z3	0.84	0/1012	0.78	0/1258
26	z4	0.83	0/733	0.80	0/911
27	AA	0.39	0/1307	0.46	0/1632
27	Ax	0.38	0/859	0.44	0/1072
27	B	0.77	0/227	0.79	0/282
27	c	0.90	0/191	0.95	0/237
27	d	0.76	0/950	0.85	0/1184
28	BG	0.29	0/2419	0.68	1/3022 (0.0%)
28	Ba	0.30	0/2419	0.67	0/3022
28	Bo	0.32	0/2419	0.68	0/3022
29	B5	0.30	0/567	0.54	0/707
29	CK	0.27	0/914	0.54	0/1139
29	CZ	0.27	0/914	0.60	1/1139 (0.1%)
29	Cp	0.30	0/914	0.55	0/1139
30	C5	0.32	0/455	0.68	0/567
30	DJ	0.37	0/450	0.70	1/559 (0.2%)
30	DY	0.33	0/471	0.58	0/587
31	D3	0.40	0/399	0.47	0/497
31	Dn	0.33	0/1508	0.34	0/1878
32	EH	0.33	0/306	0.69	0/379
32	EW	0.29	0/306	0.62	0/379
32	El	0.28	0/314	0.71	0/389

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	Ez	0.24	0/711	0.45	0/887
34	C	0.77	0/688	0.80	0/853
34	D	0.78	0/1203	0.87	0/1495
34	E	0.77	0/1203	0.87	0/1495
34	F	0.77	0/1124	0.88	0/1398
34	H	0.81	0/34	0.81	0/39
35	Fw	0.31	0/303	0.62	0/377
All	All	0.34	0/673084	0.60	53/839955 (0.0%)

There are no bond length outliers.

The worst 5 of 53 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	Ff	171	PRO	C-N-CA	9.61	145.73	121.70
3	BY	171	ILE	C-N-CA	8.59	143.18	121.70
4	Aq	261	PRO	N-CA-C	-8.39	90.30	112.10
3	EJ	171	ILE	C-N-CA	8.00	141.70	121.70
4	A6	167	PHE	N-CA-C	-7.68	90.26	111.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	38/228 (17%)	34 (90%)	4 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	7	105/228 (46%)	86 (82%)	12 (11%)	7 (7%)	1 15
2	I	218/418 (52%)	211 (97%)	6 (3%)	1 (0%)	29 69
2	J	394/418 (94%)	382 (97%)	11 (3%)	1 (0%)	41 77
2	K	391/418 (94%)	384 (98%)	6 (2%)	1 (0%)	41 77
2	L	330/418 (79%)	321 (97%)	9 (3%)	0	100 100
2	M	30/418 (7%)	30 (100%)	0	0	100 100
3	A5	437/451 (97%)	394 (90%)	43 (10%)	0	100 100
3	A7	439/451 (97%)	395 (90%)	44 (10%)	0	100 100
3	A9	435/451 (96%)	390 (90%)	45 (10%)	0	100 100
3	AM	436/451 (97%)	406 (93%)	30 (7%)	0	100 100
3	AO	436/451 (97%)	406 (93%)	30 (7%)	0	100 100
3	AQ	436/451 (97%)	398 (91%)	38 (9%)	0	100 100
3	AS	437/451 (97%)	405 (93%)	32 (7%)	0	100 100
3	AU	437/451 (97%)	408 (93%)	29 (7%)	0	100 100
3	AW	437/451 (97%)	408 (93%)	29 (7%)	0	100 100
3	AY	437/451 (97%)	409 (94%)	28 (6%)	0	100 100
3	Aj	391/451 (87%)	357 (91%)	34 (9%)	0	100 100
3	Al	425/451 (94%)	392 (92%)	33 (8%)	0	100 100
3	An	426/451 (94%)	379 (89%)	47 (11%)	0	100 100
3	Ap	427/451 (95%)	378 (88%)	49 (12%)	0	100 100
3	Ar	425/451 (94%)	395 (93%)	30 (7%)	0	100 100
3	At	426/451 (94%)	387 (91%)	39 (9%)	0	100 100
3	Av	426/451 (94%)	399 (94%)	27 (6%)	0	100 100
3	B0	428/451 (95%)	397 (93%)	31 (7%)	0	100 100
3	B2	425/451 (94%)	403 (95%)	22 (5%)	0	100 100
3	B4	376/451 (83%)	354 (94%)	22 (6%)	0	100 100
3	B8	425/451 (94%)	391 (92%)	34 (8%)	0	100 100
3	BA	434/451 (96%)	387 (89%)	47 (11%)	0	100 100
3	BC	438/451 (97%)	383 (87%)	54 (12%)	1 (0%)	47 81
3	BE	424/451 (94%)	378 (89%)	45 (11%)	1 (0%)	47 81
3	BO	427/451 (95%)	394 (92%)	33 (8%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	BQ	421/451 (93%)	372 (88%)	49 (12%)	0	100	100
3	BS	422/451 (94%)	381 (90%)	40 (10%)	1 (0%)	47	81
3	BU	423/451 (94%)	383 (90%)	40 (10%)	0	100	100
3	BW	420/451 (93%)	377 (90%)	43 (10%)	0	100	100
3	BY	425/451 (94%)	384 (90%)	41 (10%)	0	100	100
3	Bc	438/451 (97%)	411 (94%)	27 (6%)	0	100	100
3	Be	426/451 (94%)	408 (96%)	18 (4%)	0	100	100
3	Bg	438/451 (97%)	410 (94%)	28 (6%)	0	100	100
3	Bi	425/451 (94%)	401 (94%)	24 (6%)	0	100	100
3	Bk	425/451 (94%)	395 (93%)	28 (7%)	2 (0%)	29	69
3	Bm	437/451 (97%)	405 (93%)	31 (7%)	1 (0%)	47	81
3	Br	423/451 (94%)	401 (95%)	22 (5%)	0	100	100
3	Bt	426/451 (94%)	401 (94%)	25 (6%)	0	100	100
3	Bv	426/451 (94%)	396 (93%)	30 (7%)	0	100	100
3	Bx	426/451 (94%)	398 (93%)	28 (7%)	0	100	100
3	Bz	427/451 (95%)	392 (92%)	35 (8%)	0	100	100
3	C0	425/451 (94%)	398 (94%)	27 (6%)	0	100	100
3	C1	438/451 (97%)	413 (94%)	25 (6%)	0	100	100
3	C3	427/451 (95%)	398 (93%)	29 (7%)	0	100	100
3	C8	437/451 (97%)	393 (90%)	44 (10%)	0	100	100
3	CB	438/451 (97%)	404 (92%)	34 (8%)	0	100	100
3	CD	428/451 (95%)	380 (89%)	48 (11%)	0	100	100
3	CF	438/451 (97%)	390 (89%)	48 (11%)	0	100	100
3	CH	427/451 (95%)	377 (88%)	50 (12%)	0	100	100
3	CJ	423/451 (94%)	396 (94%)	27 (6%)	0	100	100
3	CN	428/451 (95%)	392 (92%)	36 (8%)	0	100	100
3	CP	426/451 (94%)	398 (93%)	28 (7%)	0	100	100
3	CR	424/451 (94%)	391 (92%)	33 (8%)	0	100	100
3	CT	425/451 (94%)	394 (93%)	31 (7%)	0	100	100
3	CV	438/451 (97%)	399 (91%)	39 (9%)	0	100	100
3	CX	426/451 (94%)	379 (89%)	47 (11%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	Cc	428/451 (95%)	393 (92%)	35 (8%)	0	100	100
3	Ce	427/451 (95%)	394 (92%)	33 (8%)	0	100	100
3	Cg	426/451 (94%)	404 (95%)	22 (5%)	0	100	100
3	Ci	424/451 (94%)	396 (93%)	28 (7%)	0	100	100
3	Ck	426/451 (94%)	405 (95%)	21 (5%)	0	100	100
3	Cm	428/451 (95%)	399 (93%)	29 (7%)	0	100	100
3	Co	400/451 (89%)	371 (93%)	29 (7%)	0	100	100
3	Cs	438/451 (97%)	407 (93%)	31 (7%)	0	100	100
3	Cu	438/451 (97%)	405 (92%)	33 (8%)	0	100	100
3	Cw	438/451 (97%)	407 (93%)	31 (7%)	0	100	100
3	Cy	438/451 (97%)	405 (92%)	33 (8%)	0	100	100
3	D2	426/451 (94%)	401 (94%)	25 (6%)	0	100	100
3	D5	427/451 (95%)	395 (92%)	32 (8%)	0	100	100
3	D7	426/451 (94%)	396 (93%)	30 (7%)	0	100	100
3	D9	426/451 (94%)	397 (93%)	29 (7%)	0	100	100
3	DB	426/451 (94%)	396 (93%)	30 (7%)	0	100	100
3	DD	427/451 (95%)	385 (90%)	42 (10%)	0	100	100
3	DF	438/451 (97%)	398 (91%)	40 (9%)	0	100	100
3	DH	427/451 (95%)	383 (90%)	44 (10%)	0	100	100
3	DM	426/451 (94%)	392 (92%)	34 (8%)	0	100	100
3	DO	425/451 (94%)	391 (92%)	34 (8%)	0	100	100
3	DQ	426/451 (94%)	397 (93%)	28 (7%)	1 (0%)	47	81
3	DS	428/451 (95%)	382 (89%)	46 (11%)	0	100	100
3	DU	428/451 (95%)	391 (91%)	37 (9%)	0	100	100
3	DW	426/451 (94%)	400 (94%)	26 (6%)	0	100	100
3	Db	424/451 (94%)	401 (95%)	23 (5%)	0	100	100
3	Dd	425/451 (94%)	395 (93%)	30 (7%)	0	100	100
3	Df	429/451 (95%)	398 (93%)	31 (7%)	0	100	100
3	Dh	429/451 (95%)	394 (92%)	35 (8%)	0	100	100
3	Dj	428/451 (95%)	397 (93%)	31 (7%)	0	100	100
3	Dl	427/451 (95%)	403 (94%)	24 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	Dp	426/451 (94%)	401 (94%)	25 (6%)	0	100	100
3	Dr	428/451 (95%)	392 (92%)	36 (8%)	0	100	100
3	Dt	427/451 (95%)	403 (94%)	24 (6%)	0	100	100
3	Dv	426/451 (94%)	383 (90%)	42 (10%)	1 (0%)	47	81
3	Dx	423/451 (94%)	400 (95%)	23 (5%)	0	100	100
3	Dz	426/451 (94%)	399 (94%)	27 (6%)	0	100	100
3	E3	429/451 (95%)	400 (93%)	29 (7%)	0	100	100
3	E5	428/451 (95%)	400 (94%)	28 (6%)	0	100	100
3	E7	429/451 (95%)	398 (93%)	31 (7%)	0	100	100
3	E9	429/451 (95%)	398 (93%)	31 (7%)	0	100	100
3	EA	427/451 (95%)	393 (92%)	33 (8%)	1 (0%)	47	81
3	EC	425/451 (94%)	394 (93%)	30 (7%)	1 (0%)	47	81
3	EE	427/451 (95%)	391 (92%)	36 (8%)	0	100	100
3	EG	427/451 (95%)	397 (93%)	30 (7%)	0	100	100
3	EJ	425/451 (94%)	394 (93%)	31 (7%)	0	100	100
3	EL	428/451 (95%)	394 (92%)	33 (8%)	1 (0%)	47	81
3	EN	424/451 (94%)	393 (93%)	31 (7%)	0	100	100
3	EP	426/451 (94%)	386 (91%)	40 (9%)	0	100	100
3	ER	427/451 (95%)	397 (93%)	30 (7%)	0	100	100
3	ET	427/451 (95%)	396 (93%)	31 (7%)	0	100	100
3	EV	424/451 (94%)	399 (94%)	25 (6%)	0	100	100
3	EY	426/451 (94%)	394 (92%)	32 (8%)	0	100	100
3	Ea	426/451 (94%)	387 (91%)	39 (9%)	0	100	100
3	Ec	427/451 (95%)	401 (94%)	26 (6%)	0	100	100
3	Ee	427/451 (95%)	389 (91%)	38 (9%)	0	100	100
3	Eg	421/451 (93%)	385 (91%)	36 (9%)	0	100	100
3	Ei	428/451 (95%)	397 (93%)	30 (7%)	1 (0%)	47	81
3	Ek	427/451 (95%)	396 (93%)	31 (7%)	0	100	100
3	Eo	426/451 (94%)	384 (90%)	42 (10%)	0	100	100
3	Eq	428/451 (95%)	392 (92%)	36 (8%)	0	100	100
3	Es	426/451 (94%)	384 (90%)	42 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	Eu	426/451 (94%)	397 (93%)	29 (7%)	0	100	100
3	Ew	428/451 (95%)	400 (94%)	28 (6%)	0	100	100
3	Ey	426/451 (94%)	382 (90%)	44 (10%)	0	100	100
3	FA	429/451 (95%)	406 (95%)	23 (5%)	0	100	100
3	FC	427/451 (95%)	400 (94%)	27 (6%)	0	100	100
3	FG	438/451 (97%)	400 (91%)	38 (9%)	0	100	100
3	FI	429/451 (95%)	401 (94%)	28 (6%)	0	100	100
3	FK	438/451 (97%)	399 (91%)	38 (9%)	1 (0%)	47	81
3	FM	429/451 (95%)	400 (93%)	29 (7%)	0	100	100
3	FO	438/451 (97%)	405 (92%)	33 (8%)	0	100	100
3	FQ	426/451 (94%)	392 (92%)	34 (8%)	0	100	100
3	FU	438/451 (97%)	394 (90%)	43 (10%)	1 (0%)	47	81
3	FW	427/451 (95%)	391 (92%)	36 (8%)	0	100	100
3	FY	437/451 (97%)	403 (92%)	34 (8%)	0	100	100
3	Fa	427/451 (95%)	401 (94%)	26 (6%)	0	100	100
3	Fc	436/451 (97%)	403 (92%)	33 (8%)	0	100	100
3	Fe	427/451 (95%)	397 (93%)	30 (7%)	0	100	100
3	N	436/451 (97%)	399 (92%)	37 (8%)	0	100	100
3	P	438/451 (97%)	407 (93%)	31 (7%)	0	100	100
3	R	431/451 (96%)	405 (94%)	26 (6%)	0	100	100
3	T	438/451 (97%)	413 (94%)	25 (6%)	0	100	100
3	V	438/451 (97%)	408 (93%)	30 (7%)	0	100	100
3	X	438/451 (97%)	410 (94%)	27 (6%)	1 (0%)	47	81
3	Z	437/451 (97%)	418 (96%)	19 (4%)	0	100	100
3	n	426/451 (94%)	390 (92%)	36 (8%)	0	100	100
3	p	438/451 (97%)	409 (93%)	29 (7%)	0	100	100
3	r	429/451 (95%)	396 (92%)	33 (8%)	0	100	100
3	t	438/451 (97%)	399 (91%)	39 (9%)	0	100	100
3	v	426/451 (94%)	390 (92%)	36 (8%)	0	100	100
3	x	437/451 (97%)	393 (90%)	44 (10%)	0	100	100
3	z	426/451 (94%)	389 (91%)	37 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	A0	425/445 (96%)	376 (88%)	47 (11%)	2 (0%)	29	69
4	A4	424/445 (95%)	393 (93%)	31 (7%)	0	100	100
4	A6	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
4	A8	424/445 (95%)	379 (89%)	45 (11%)	0	100	100
4	AN	424/445 (95%)	386 (91%)	37 (9%)	1 (0%)	47	81
4	AP	424/445 (95%)	392 (92%)	32 (8%)	0	100	100
4	AR	425/445 (96%)	392 (92%)	33 (8%)	0	100	100
4	AT	425/445 (96%)	390 (92%)	35 (8%)	0	100	100
4	AV	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	AX	423/445 (95%)	397 (94%)	25 (6%)	1 (0%)	47	81
4	Ak	424/445 (95%)	393 (93%)	31 (7%)	0	100	100
4	Am	424/445 (95%)	384 (91%)	40 (9%)	0	100	100
4	Ao	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
4	Aq	424/445 (95%)	375 (88%)	48 (11%)	1 (0%)	47	81
4	As	424/445 (95%)	387 (91%)	37 (9%)	0	100	100
4	Au	423/445 (95%)	392 (93%)	31 (7%)	0	100	100
4	Aw	381/445 (86%)	358 (94%)	23 (6%)	0	100	100
4	B1	423/445 (95%)	395 (93%)	27 (6%)	1 (0%)	47	81
4	B3	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
4	B7	359/445 (81%)	338 (94%)	21 (6%)	0	100	100
4	B9	425/445 (96%)	392 (92%)	33 (8%)	0	100	100
4	BB	424/445 (95%)	386 (91%)	37 (9%)	1 (0%)	47	81
4	BD	423/445 (95%)	378 (89%)	45 (11%)	0	100	100
4	BF	424/445 (95%)	385 (91%)	39 (9%)	0	100	100
4	BN	424/445 (95%)	391 (92%)	33 (8%)	0	100	100
4	BP	425/445 (96%)	388 (91%)	37 (9%)	0	100	100
4	BR	424/445 (95%)	372 (88%)	50 (12%)	2 (0%)	29	69
4	BT	424/445 (95%)	369 (87%)	53 (12%)	2 (0%)	29	69
4	BV	424/445 (95%)	397 (94%)	27 (6%)	0	100	100
4	BX	423/445 (95%)	386 (91%)	37 (9%)	0	100	100
4	BZ	425/445 (96%)	389 (92%)	36 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	Bb	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
4	Bd	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
4	Bf	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
4	Bh	425/445 (96%)	389 (92%)	36 (8%)	0	100	100
4	Bj	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
4	Bl	423/445 (95%)	394 (93%)	29 (7%)	0	100	100
4	Bn	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
4	Bq	424/445 (95%)	397 (94%)	27 (6%)	0	100	100
4	Bs	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
4	Bu	425/445 (96%)	404 (95%)	21 (5%)	0	100	100
4	Bw	425/445 (96%)	393 (92%)	31 (7%)	1 (0%)	47	81
4	By	425/445 (96%)	401 (94%)	24 (6%)	0	100	100
4	C2	424/445 (95%)	398 (94%)	26 (6%)	0	100	100
4	C4	425/445 (96%)	400 (94%)	25 (6%)	0	100	100
4	C7	424/445 (95%)	390 (92%)	34 (8%)	0	100	100
4	C9	424/445 (95%)	384 (91%)	40 (9%)	0	100	100
4	CA	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
4	CC	425/445 (96%)	388 (91%)	35 (8%)	2 (0%)	29	69
4	CE	425/445 (96%)	390 (92%)	34 (8%)	1 (0%)	47	81
4	CG	424/445 (95%)	384 (91%)	39 (9%)	1 (0%)	47	81
4	CI	426/445 (96%)	392 (92%)	34 (8%)	0	100	100
4	CM	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
4	CO	425/445 (96%)	386 (91%)	39 (9%)	0	100	100
4	CQ	424/445 (95%)	393 (93%)	31 (7%)	0	100	100
4	CS	424/445 (95%)	390 (92%)	34 (8%)	0	100	100
4	CU	424/445 (95%)	392 (92%)	32 (8%)	0	100	100
4	CW	424/445 (95%)	376 (89%)	47 (11%)	1 (0%)	47	81
4	CY	424/445 (95%)	390 (92%)	34 (8%)	0	100	100
4	Cb	397/445 (89%)	378 (95%)	19 (5%)	0	100	100
4	Cd	425/445 (96%)	396 (93%)	29 (7%)	0	100	100
4	Cf	425/445 (96%)	398 (94%)	27 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	Ch	427/445 (96%)	406 (95%)	21 (5%)	0	100	100
4	Cj	424/445 (95%)	398 (94%)	26 (6%)	0	100	100
4	Cl	427/445 (96%)	399 (93%)	28 (7%)	0	100	100
4	Cn	425/445 (96%)	411 (97%)	14 (3%)	0	100	100
4	Cr	425/445 (96%)	402 (95%)	23 (5%)	0	100	100
4	Ct	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
4	Cv	425/445 (96%)	400 (94%)	25 (6%)	0	100	100
4	Cx	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
4	Cz	425/445 (96%)	400 (94%)	25 (6%)	0	100	100
4	D0	426/445 (96%)	389 (91%)	37 (9%)	0	100	100
4	D1	423/445 (95%)	394 (93%)	29 (7%)	0	100	100
4	D6	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	D8	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
4	DA	425/445 (96%)	391 (92%)	34 (8%)	0	100	100
4	DC	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
4	DE	424/445 (95%)	390 (92%)	34 (8%)	0	100	100
4	DG	424/445 (95%)	386 (91%)	38 (9%)	0	100	100
4	DI	424/445 (95%)	383 (90%)	41 (10%)	0	100	100
4	DL	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
4	DN	425/445 (96%)	384 (90%)	41 (10%)	0	100	100
4	DP	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
4	DR	425/445 (96%)	387 (91%)	38 (9%)	0	100	100
4	DT	425/445 (96%)	392 (92%)	32 (8%)	1 (0%)	47	81
4	DV	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	DX	423/445 (95%)	398 (94%)	25 (6%)	0	100	100
4	Da	407/445 (92%)	382 (94%)	25 (6%)	0	100	100
4	Dc	423/445 (95%)	396 (94%)	27 (6%)	0	100	100
4	De	422/445 (95%)	402 (95%)	20 (5%)	0	100	100
4	Dg	423/445 (95%)	390 (92%)	33 (8%)	0	100	100
4	Di	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
4	Dk	425/445 (96%)	397 (93%)	28 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	Dm	422/445 (95%)	390 (92%)	32 (8%)	0	100	100
4	Dq	425/445 (96%)	393 (92%)	31 (7%)	1 (0%)	47	81
4	Ds	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	Du	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
4	Dw	425/445 (96%)	396 (93%)	29 (7%)	0	100	100
4	Dy	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
4	E0	425/445 (96%)	391 (92%)	34 (8%)	0	100	100
4	E2	426/445 (96%)	393 (92%)	33 (8%)	0	100	100
4	E4	425/445 (96%)	392 (92%)	33 (8%)	0	100	100
4	E6	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	E8	426/445 (96%)	399 (94%)	27 (6%)	0	100	100
4	EB	425/445 (96%)	384 (90%)	40 (9%)	1 (0%)	47	81
4	ED	425/445 (96%)	390 (92%)	35 (8%)	0	100	100
4	EF	424/445 (95%)	399 (94%)	25 (6%)	0	100	100
4	EK	425/445 (96%)	383 (90%)	42 (10%)	0	100	100
4	EM	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
4	EO	425/445 (96%)	389 (92%)	36 (8%)	0	100	100
4	EQ	425/445 (96%)	396 (93%)	29 (7%)	0	100	100
4	ES	425/445 (96%)	396 (93%)	29 (7%)	0	100	100
4	EU	424/445 (95%)	386 (91%)	38 (9%)	0	100	100
4	EZ	425/445 (96%)	385 (91%)	39 (9%)	1 (0%)	47	81
4	Eb	425/445 (96%)	394 (93%)	31 (7%)	0	100	100
4	Ed	426/445 (96%)	393 (92%)	33 (8%)	0	100	100
4	Ef	425/445 (96%)	395 (93%)	29 (7%)	1 (0%)	47	81
4	Eh	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
4	Ej	424/445 (95%)	391 (92%)	33 (8%)	0	100	100
4	En	425/445 (96%)	391 (92%)	34 (8%)	0	100	100
4	Ep	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	Er	425/445 (96%)	391 (92%)	34 (8%)	0	100	100
4	Et	425/445 (96%)	405 (95%)	20 (5%)	0	100	100
4	Ev	425/445 (96%)	383 (90%)	42 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	Ex	424/445 (95%)	388 (92%)	36 (8%)	0	100	100
4	FB	424/445 (95%)	384 (91%)	40 (9%)	0	100	100
4	FD	425/445 (96%)	403 (95%)	22 (5%)	0	100	100
4	FF	425/445 (96%)	384 (90%)	41 (10%)	0	100	100
4	FH	425/445 (96%)	393 (92%)	32 (8%)	0	100	100
4	FJ	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	FL	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
4	FN	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	FP	424/445 (95%)	384 (91%)	40 (9%)	0	100	100
4	FR	425/445 (96%)	399 (94%)	26 (6%)	0	100	100
4	FT	425/445 (96%)	382 (90%)	43 (10%)	0	100	100
4	FV	425/445 (96%)	388 (91%)	37 (9%)	0	100	100
4	FX	424/445 (95%)	396 (93%)	28 (7%)	0	100	100
4	FZ	424/445 (95%)	391 (92%)	33 (8%)	0	100	100
4	Fb	424/445 (95%)	399 (94%)	25 (6%)	0	100	100
4	Fd	424/445 (95%)	387 (91%)	37 (9%)	0	100	100
4	Ff	424/445 (95%)	397 (94%)	27 (6%)	0	100	100
4	O	434/445 (98%)	404 (93%)	30 (7%)	0	100	100
4	Q	434/445 (98%)	402 (93%)	32 (7%)	0	100	100
4	S	434/445 (98%)	409 (94%)	25 (6%)	0	100	100
4	U	434/445 (98%)	404 (93%)	30 (7%)	0	100	100
4	W	434/445 (98%)	408 (94%)	26 (6%)	0	100	100
4	Y	433/445 (97%)	411 (95%)	22 (5%)	0	100	100
4	o	425/445 (96%)	397 (93%)	28 (7%)	0	100	100
4	q	425/445 (96%)	393 (92%)	32 (8%)	0	100	100
4	s	425/445 (96%)	391 (92%)	34 (8%)	0	100	100
4	u	425/445 (96%)	398 (94%)	27 (6%)	0	100	100
4	w	425/445 (96%)	395 (93%)	30 (7%)	0	100	100
4	y	423/445 (95%)	394 (93%)	29 (7%)	0	100	100
5	b	187/430 (44%)	185 (99%)	2 (1%)	0	100	100
5	e	414/430 (96%)	406 (98%)	8 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
5	f	414/430 (96%)	396 (96%)	17 (4%)	1 (0%)	47 81
5	g	381/430 (89%)	367 (96%)	13 (3%)	1 (0%)	41 77
5	h	46/430 (11%)	44 (96%)	2 (4%)	0	100 100
5	i	49/430 (11%)	46 (94%)	3 (6%)	0	100 100
5	j	356/430 (83%)	354 (99%)	2 (1%)	0	100 100
5	k	412/430 (96%)	400 (97%)	12 (3%)	0	100 100
5	l	401/430 (93%)	390 (97%)	11 (3%)	0	100 100
5	m	187/430 (44%)	181 (97%)	6 (3%)	0	100 100
6	1	133/853 (16%)	128 (96%)	4 (3%)	1 (1%)	19 60
6	2	178/853 (21%)	135 (76%)	22 (12%)	21 (12%)	0 6
7	AC	29/490 (6%)	28 (97%)	1 (3%)	0	100 100
7	AD	330/490 (67%)	320 (97%)	10 (3%)	0	100 100
7	AE	392/490 (80%)	387 (99%)	5 (1%)	0	100 100
7	AF	392/490 (80%)	378 (96%)	14 (4%)	0	100 100
7	AG	211/490 (43%)	203 (96%)	8 (4%)	0	100 100
7	AH	111/490 (23%)	109 (98%)	2 (2%)	0	100 100
7	AI	383/490 (78%)	376 (98%)	7 (2%)	0	100 100
7	AJ	411/490 (84%)	402 (98%)	8 (2%)	1 (0%)	47 81
7	AK	403/490 (82%)	395 (98%)	7 (2%)	1 (0%)	47 81
7	AL	108/490 (22%)	105 (97%)	2 (2%)	1 (1%)	17 57
7	BI	133/490 (27%)	126 (95%)	7 (5%)	0	100 100
7	BJ	417/490 (85%)	402 (96%)	15 (4%)	0	100 100
7	BK	417/490 (85%)	404 (97%)	13 (3%)	0	100 100
7	BL	376/490 (77%)	369 (98%)	7 (2%)	0	100 100
7	BM	97/490 (20%)	92 (95%)	5 (5%)	0	100 100
8	A	168/491 (34%)	145 (86%)	15 (9%)	8 (5%)	2 21
8	a	352/491 (72%)	349 (99%)	3 (1%)	0	100 100
9	Aa	286/447 (64%)	278 (97%)	8 (3%)	0	100 100
9	Ab	423/447 (95%)	408 (96%)	15 (4%)	0	100 100
9	Ac	423/447 (95%)	413 (98%)	10 (2%)	0	100 100
9	Ad	312/447 (70%)	307 (98%)	5 (2%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
9	Af	310/447 (69%)	304 (98%)	6 (2%)	0	100 100
9	Ag	412/447 (92%)	397 (96%)	14 (3%)	1 (0%)	47 81
9	Ah	411/447 (92%)	401 (98%)	10 (2%)	0	100 100
9	Ai	287/447 (64%)	279 (97%)	8 (3%)	0	100 100
10	3	304/514 (59%)	287 (94%)	8 (3%)	9 (3%)	4 28
10	4	199/514 (39%)	199 (100%)	0	0	100 100
11	A1	125/206 (61%)	113 (90%)	10 (8%)	2 (2%)	9 44
11	A2	142/206 (69%)	127 (89%)	13 (9%)	2 (1%)	11 46
11	A3	142/206 (69%)	128 (90%)	12 (8%)	2 (1%)	11 46
11	Az	66/206 (32%)	62 (94%)	4 (6%)	0	100 100
12	AB	85/101 (84%)	85 (100%)	0	0	100 100
13	5	354/395 (90%)	335 (95%)	18 (5%)	1 (0%)	41 77
13	6	354/395 (90%)	331 (94%)	22 (6%)	1 (0%)	41 77
14	B6	144/273 (53%)	138 (96%)	5 (4%)	1 (1%)	22 63
14	C6	144/273 (53%)	135 (94%)	8 (6%)	1 (1%)	22 63
14	CL	144/273 (53%)	130 (90%)	13 (9%)	1 (1%)	22 63
14	Ca	144/273 (53%)	130 (90%)	13 (9%)	1 (1%)	22 63
14	Cq	144/273 (53%)	136 (94%)	7 (5%)	1 (1%)	22 63
14	DK	147/273 (54%)	134 (91%)	11 (8%)	2 (1%)	11 46
15	AZ	141/470 (30%)	127 (90%)	13 (9%)	1 (1%)	22 63
16	D4	37/377 (10%)	33 (89%)	3 (8%)	1 (3%)	5 31
16	DZ	31/377 (8%)	31 (100%)	0	0	100 100
16	Do	371/377 (98%)	357 (96%)	12 (3%)	2 (0%)	29 69
16	EI	218/377 (58%)	213 (98%)	4 (2%)	1 (0%)	29 69
16	EX	168/377 (45%)	165 (98%)	2 (1%)	1 (1%)	25 66
17	8	184/196 (94%)	154 (84%)	27 (15%)	3 (2%)	9 44
17	9	28/196 (14%)	22 (79%)	3 (11%)	3 (11%)	0 8
18	Ay	243/303 (80%)	224 (92%)	18 (7%)	1 (0%)	34 72
18	BH	243/303 (80%)	214 (88%)	27 (11%)	2 (1%)	19 60
19	E1	434/648 (67%)	423 (98%)	9 (2%)	2 (0%)	29 69
19	Em	434/648 (67%)	424 (98%)	8 (2%)	2 (0%)	29 69

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
19	FE	434/648 (67%)	424 (98%)	8 (2%)	2 (0%)	29	69
20	F0	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F1	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F2	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F3	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F4	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F5	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F6	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F7	145/168 (86%)	143 (99%)	2 (1%)	0	100	100
20	F8	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	F9	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GA	144/168 (86%)	142 (99%)	2 (1%)	0	100	100
20	GB	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GC	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GD	144/168 (86%)	142 (99%)	2 (1%)	0	100	100
20	GE	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GF	140/168 (83%)	138 (99%)	2 (1%)	0	100	100
20	GG	139/168 (83%)	137 (99%)	2 (1%)	0	100	100
20	GH	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GI	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GJ	145/168 (86%)	143 (99%)	2 (1%)	0	100	100
20	GK	145/168 (86%)	143 (99%)	2 (1%)	0	100	100
20	GL	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GM	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GN	146/168 (87%)	144 (99%)	2 (1%)	0	100	100
20	GO	145/168 (86%)	143 (99%)	2 (1%)	0	100	100
20	GP	145/168 (86%)	143 (99%)	2 (1%)	0	100	100
20	GQ	148/168 (88%)	146 (99%)	2 (1%)	0	100	100
21	FS	543/750 (72%)	486 (90%)	57 (10%)	0	100	100
21	Fg	624/750 (83%)	559 (90%)	64 (10%)	1 (0%)	47	81
21	Fo	624/750 (83%)	565 (90%)	59 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
21	Fv	439/750 (58%)	397 (90%)	41 (9%)	1 (0%)	47 81
22	Fh	182/193 (94%)	169 (93%)	13 (7%)	0	100 100
22	Fi	182/193 (94%)	162 (89%)	20 (11%)	0	100 100
22	Fj	182/193 (94%)	163 (90%)	19 (10%)	0	100 100
22	Fk	182/193 (94%)	167 (92%)	15 (8%)	0	100 100
22	Fl	182/193 (94%)	168 (92%)	13 (7%)	1 (0%)	29 69
22	Fm	182/193 (94%)	165 (91%)	17 (9%)	0	100 100
22	Fn	182/193 (94%)	168 (92%)	14 (8%)	0	100 100
23	Fp	217/241 (90%)	193 (89%)	23 (11%)	1 (0%)	29 69
23	Fq	217/241 (90%)	196 (90%)	20 (9%)	1 (0%)	29 69
23	Fr	217/241 (90%)	196 (90%)	20 (9%)	1 (0%)	29 69
23	Fs	217/241 (90%)	202 (93%)	14 (6%)	1 (0%)	29 69
23	Ft	217/241 (90%)	201 (93%)	15 (7%)	1 (0%)	29 69
24	Fx	183/185 (99%)	173 (94%)	10 (6%)	0	100 100
24	Fy	183/185 (99%)	173 (94%)	10 (6%)	0	100 100
24	Fz	183/185 (99%)	174 (95%)	9 (5%)	0	100 100
25	G	69/122 (57%)	49 (71%)	12 (17%)	8 (12%)	0 6
26	GR	264/557 (47%)	252 (96%)	11 (4%)	1 (0%)	34 72
26	GS	264/557 (47%)	252 (96%)	11 (4%)	1 (0%)	34 72
26	GT	264/557 (47%)	252 (96%)	11 (4%)	1 (0%)	34 72
26	GU	161/557 (29%)	149 (92%)	11 (7%)	1 (1%)	25 66
26	GV	236/557 (42%)	228 (97%)	6 (2%)	2 (1%)	19 60
26	GW	341/557 (61%)	325 (95%)	13 (4%)	3 (1%)	17 57
26	GX	338/557 (61%)	319 (94%)	17 (5%)	2 (1%)	25 66
26	GY	280/557 (50%)	272 (97%)	7 (2%)	1 (0%)	34 72
26	GZ	21/557 (4%)	20 (95%)	1 (5%)	0	100 100
26	Ga	108/557 (19%)	103 (95%)	5 (5%)	0	100 100
26	Gb	334/557 (60%)	319 (96%)	15 (4%)	0	100 100
26	Gc	325/557 (58%)	310 (95%)	15 (5%)	0	100 100
26	Gd	319/557 (57%)	304 (95%)	15 (5%)	0	100 100
26	Ge	54/557 (10%)	54 (100%)	0	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	Gf	25/557 (4%)	25 (100%)	0	0	100	100
26	Gg	284/557 (51%)	269 (95%)	15 (5%)	0	100	100
26	Gh	312/557 (56%)	298 (96%)	10 (3%)	4 (1%)	12	48
26	Gi	313/557 (56%)	298 (95%)	12 (4%)	3 (1%)	15	55
26	Gj	184/557 (33%)	175 (95%)	6 (3%)	3 (2%)	9	44
26	z0	264/557 (47%)	257 (97%)	7 (3%)	0	100	100
26	z1	260/557 (47%)	251 (96%)	7 (3%)	2 (1%)	19	60
26	z3	246/557 (44%)	237 (96%)	7 (3%)	2 (1%)	19	60
26	z4	178/557 (32%)	175 (98%)	3 (2%)	0	100	100
27	AA	325/551 (59%)	322 (99%)	3 (1%)	0	100	100
27	Ax	213/551 (39%)	209 (98%)	4 (2%)	0	100	100
27	B	55/551 (10%)	54 (98%)	1 (2%)	0	100	100
27	c	46/551 (8%)	38 (83%)	5 (11%)	3 (6%)	1	16
27	d	234/551 (42%)	219 (94%)	12 (5%)	3 (1%)	12	48
28	BG	603/620 (97%)	538 (89%)	65 (11%)	0	100	100
28	Ba	603/620 (97%)	525 (87%)	77 (13%)	1 (0%)	47	81
28	Bo	603/620 (97%)	535 (89%)	66 (11%)	2 (0%)	41	77
29	B5	140/255 (55%)	133 (95%)	7 (5%)	0	100	100
29	CK	225/255 (88%)	214 (95%)	10 (4%)	1 (0%)	34	72
29	CZ	225/255 (88%)	212 (94%)	12 (5%)	1 (0%)	34	72
29	Cp	225/255 (88%)	218 (97%)	7 (3%)	0	100	100
30	C5	112/189 (59%)	101 (90%)	10 (9%)	1 (1%)	17	57
30	DJ	109/189 (58%)	101 (93%)	8 (7%)	0	100	100
30	DY	116/189 (61%)	107 (92%)	9 (8%)	0	100	100
31	D3	98/547 (18%)	97 (99%)	1 (1%)	0	100	100
31	Dn	370/547 (68%)	368 (100%)	2 (0%)	0	100	100
32	EH	73/168 (44%)	68 (93%)	5 (7%)	0	100	100
32	EW	73/168 (44%)	67 (92%)	6 (8%)	0	100	100
32	El	75/168 (45%)	67 (89%)	8 (11%)	0	100	100
33	Ez	176/1516 (12%)	161 (92%)	15 (8%)	0	100	100
34	C	165/499 (33%)	157 (95%)	5 (3%)	3 (2%)	8	40

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
34	D	292/499 (58%)	276 (94%)	11 (4%)	5 (2%)	9 42
34	E	292/499 (58%)	280 (96%)	8 (3%)	4 (1%)	11 46
34	F	274/499 (55%)	260 (95%)	9 (3%)	5 (2%)	8 40
34	H	5/499 (1%)	4 (80%)	1 (20%)	0	100 100
35	Fw	74/167 (44%)	71 (96%)	2 (3%)	1 (1%)	11 46
All	All	166871/200980 (83%)	155158 (93%)	11513 (7%)	200 (0%)	54 86

5 of 200 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	1	694	PRO
6	2	359	PRO
6	2	361	PRO
6	2	383	ALA
6	2	396	PRO

5.3.2 Protein sidechains (i)

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

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

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.

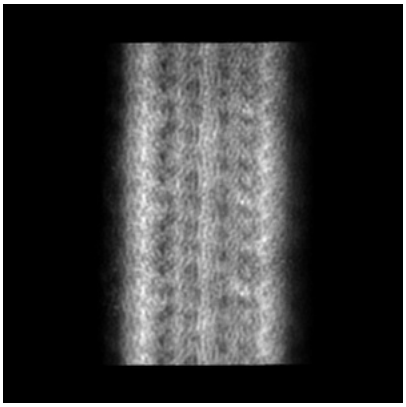
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-41431. These allow visual inspection of the internal detail of the map and identification of artifacts.

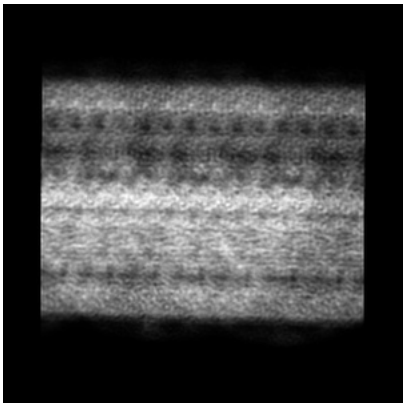
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

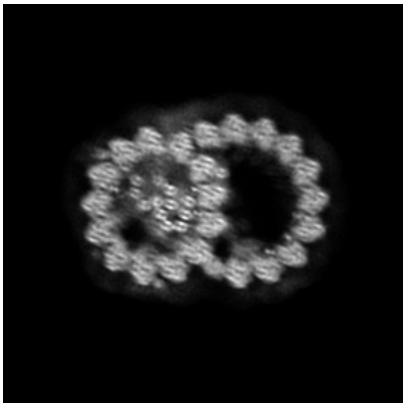
6.1.1 Primary map



X



Y

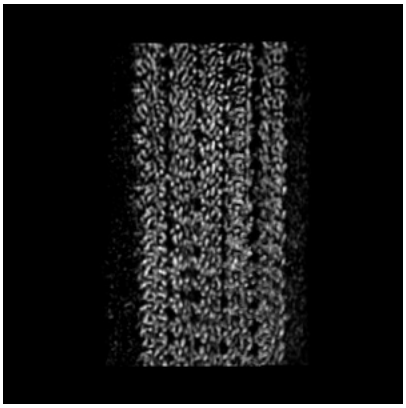


Z

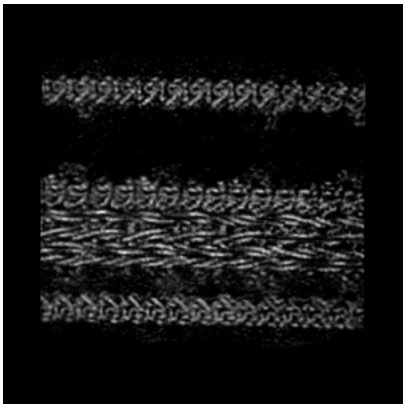
The images above show the map projected in three orthogonal directions.

6.2 Central slices

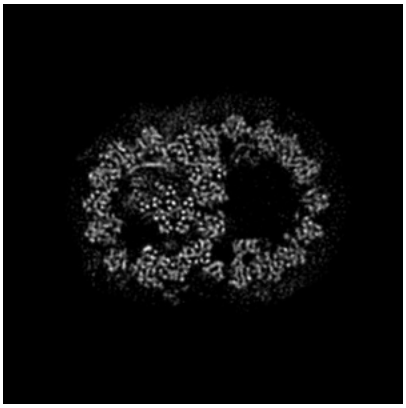
6.2.1 Primary map



X Index: 138



Y Index: 138

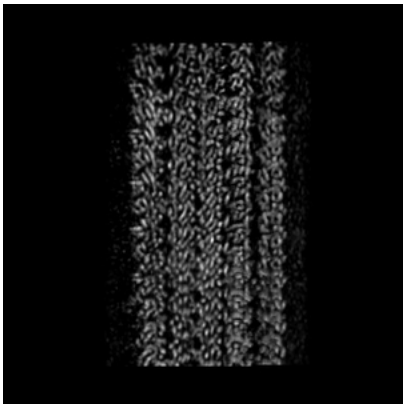


Z Index: 138

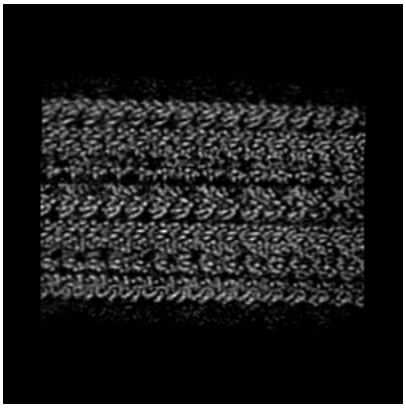
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

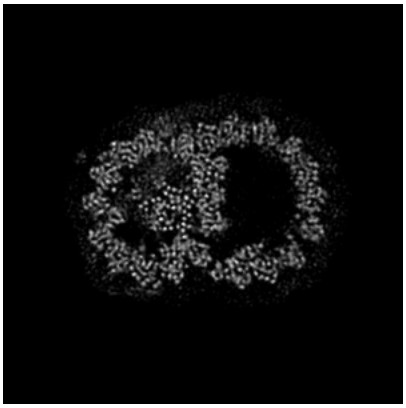
6.3.1 Primary map



X Index: 140



Y Index: 97

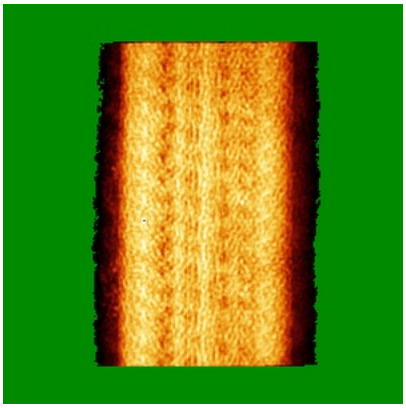


Z Index: 127

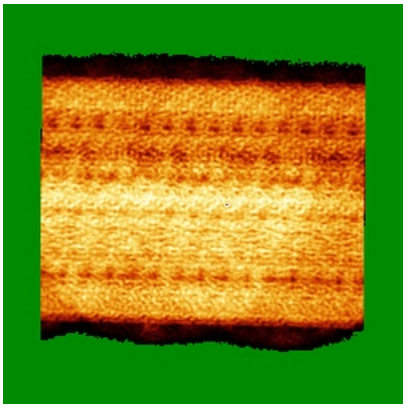
The images above show the largest variance slices of the map in three orthogonal directions.

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

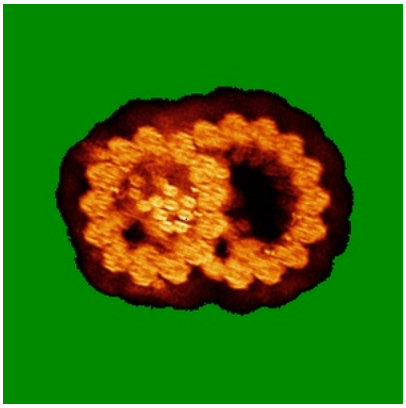
6.4.1 Primary map



X



Y

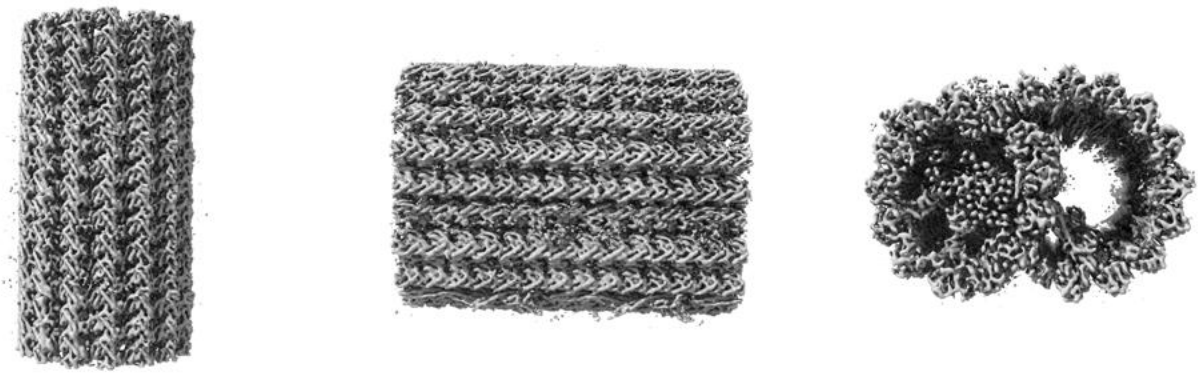


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.05. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

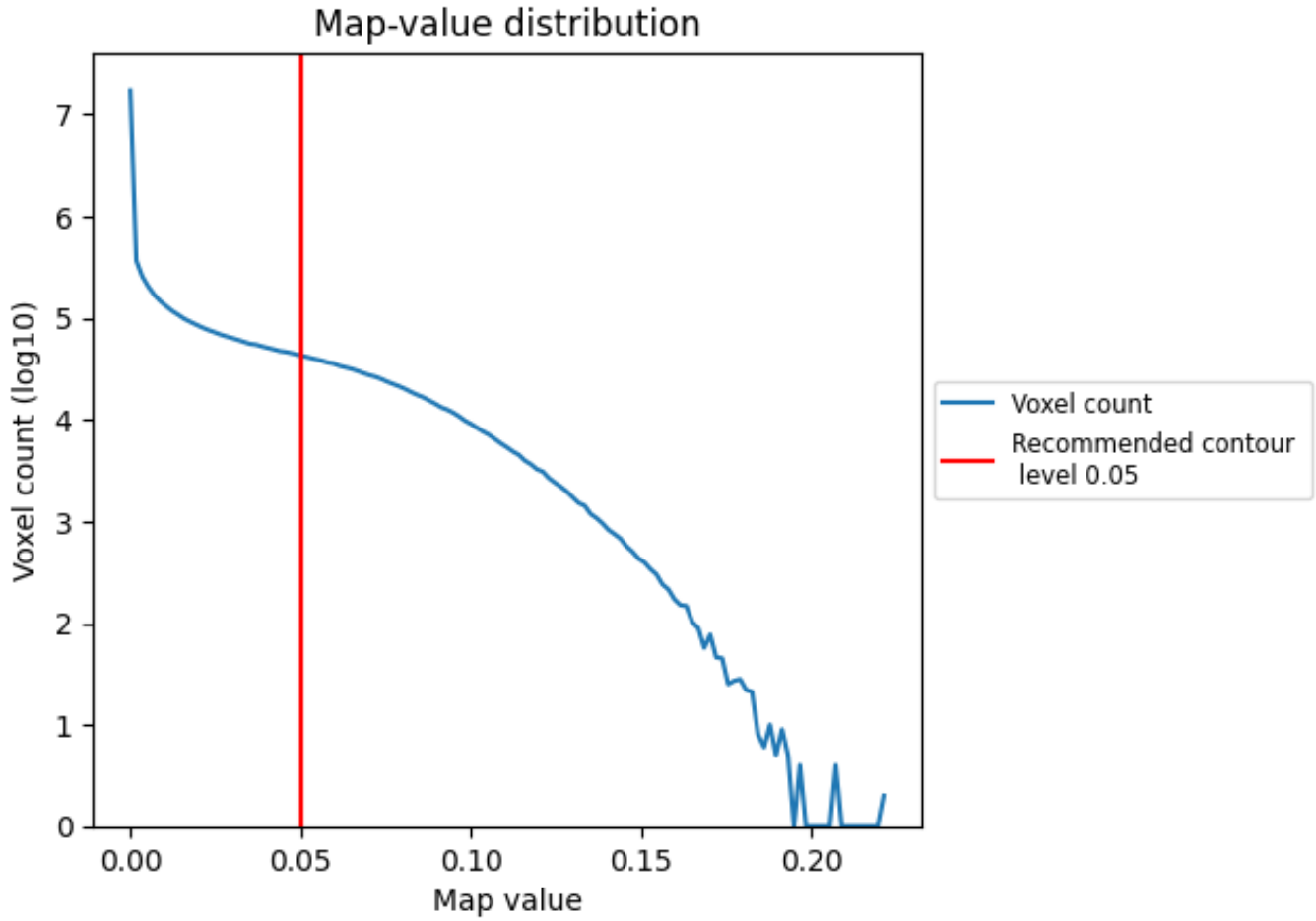
6.6 Mask visualisation (i)

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

7 Map analysis

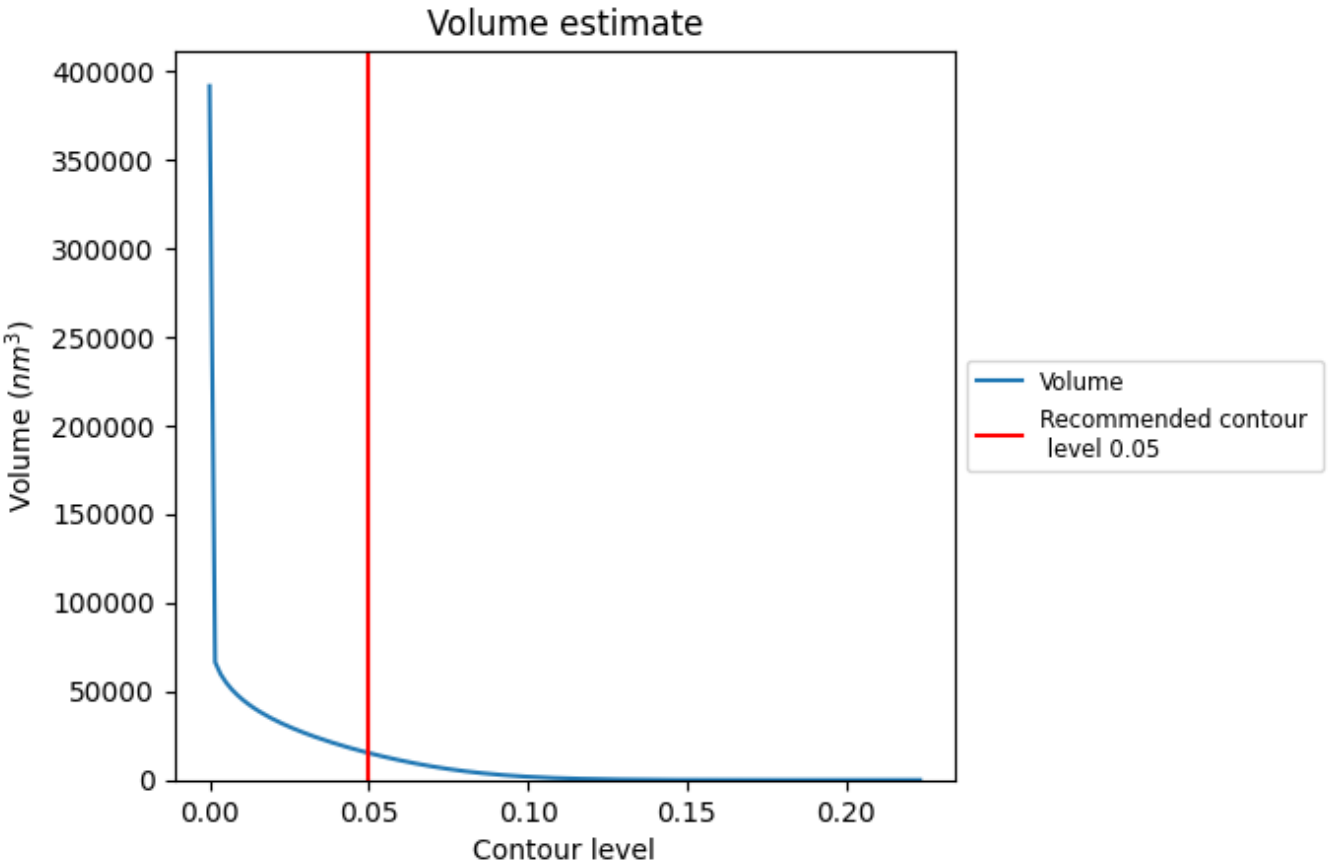
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

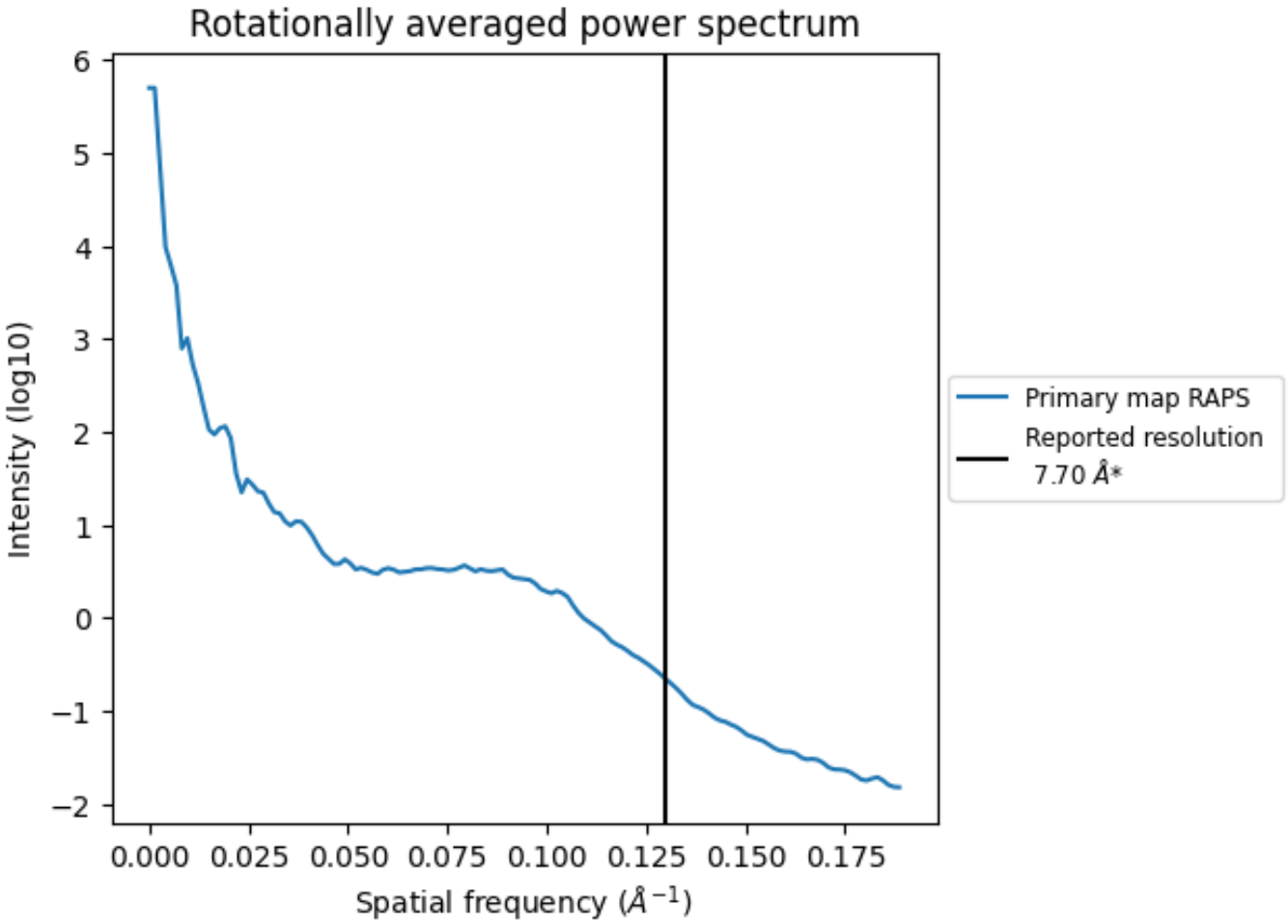
7.2 Volume estimate



The volume at the recommended contour level is 15211 nm^3; this corresponds to an approximate mass of 13740 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 0.130 Å^{-1}

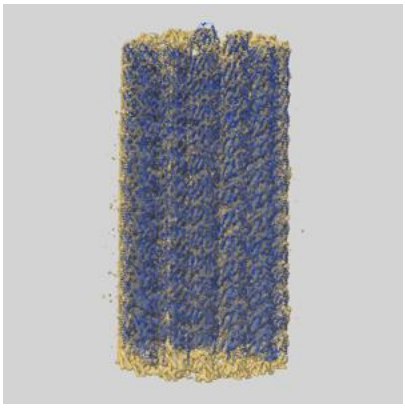
8 Fourier-Shell correlation (i)

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

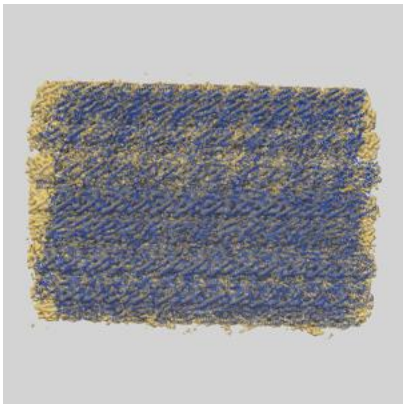
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-41431 and PDB model 8TO0. Per-residue inclusion information can be found in section 3 on page 48.

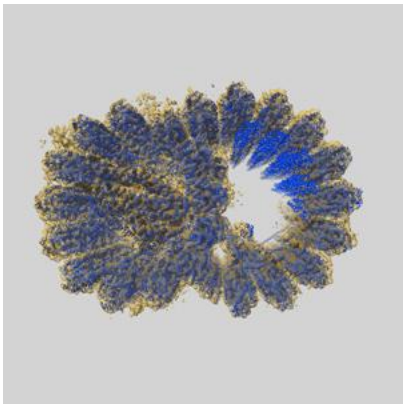
9.1 Map-model overlay



X



Y



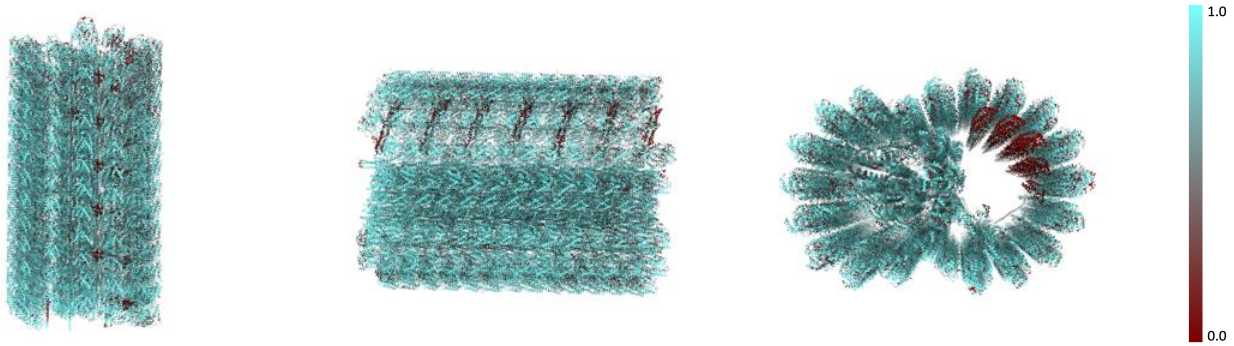
Z

The images above show the 3D surface view of the map at the recommended contour level 0.05 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)

This section was not generated.

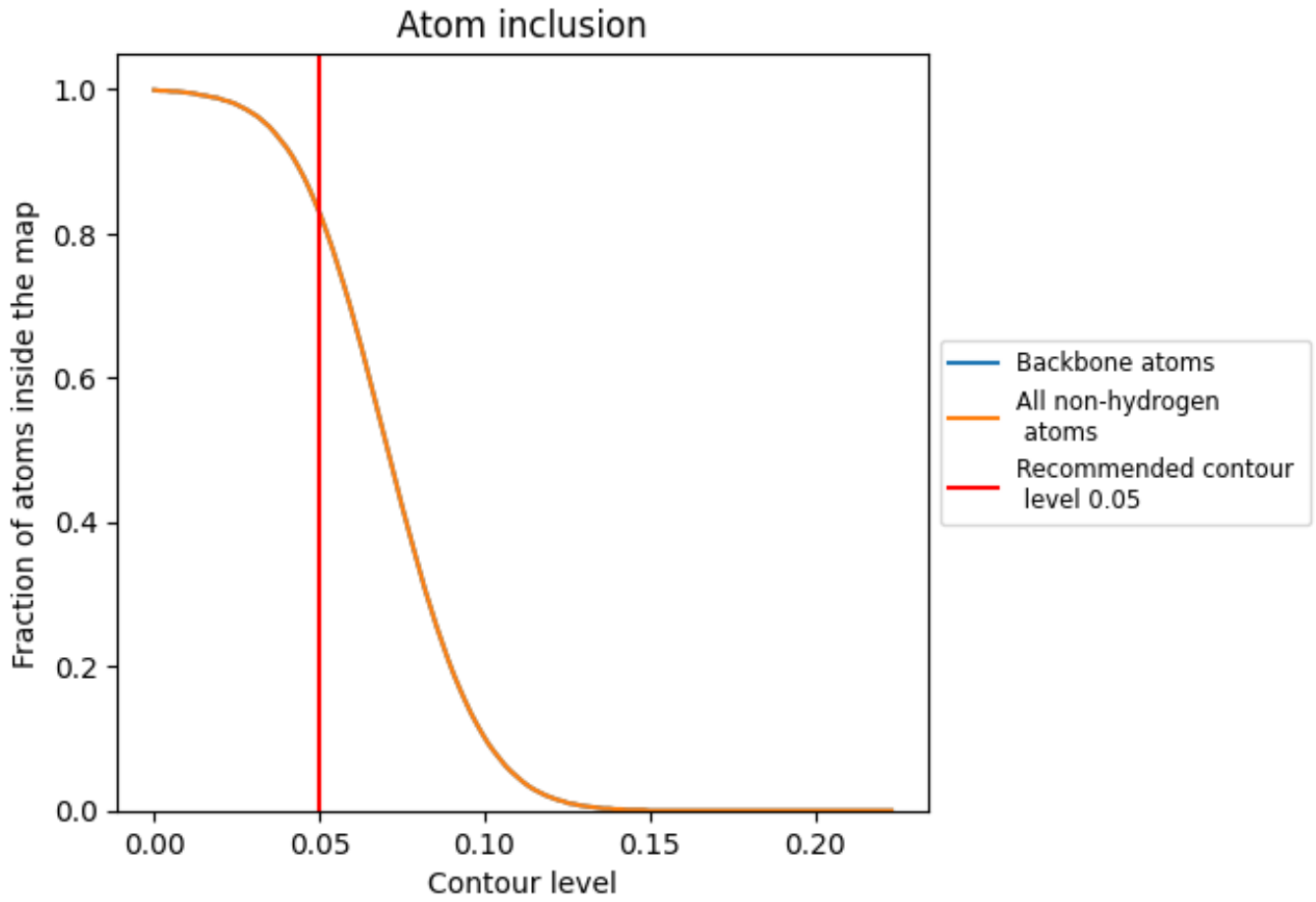
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 83% of all backbone atoms, 83% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.05) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	0.8290
0	0.5500
1	0.5370
2	0.9210
3	0.9460
4	0.9150
5	0.8320
6	0.8740
7	0.4710
8	0.6210
9	0.6020
A	0.9340
A0	0.9040
A1	0.7890
A2	0.8250
A3	0.6750
A4	0.7530
A5	0.7640
A6	0.7660
A7	0.7910
A8	0.8660
A9	0.9100
AA	0.8070
AB	0.9970
AC	0.9190
AD	0.9200
AE	0.9540
AF	0.9630
AG	0.9630
AH	0.9140
AI	0.9520
AJ	0.9610
AK	0.9720
AL	0.8530
AM	0.7680

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Chain	Atom inclusion
AN	0.7820
AO	0.7860
AP	0.8910
AQ	0.9180
AR	0.9300
AS	0.9080
AT	0.9420
AU	0.8820
AV	0.8640
AW	0.8720
AX	0.9350
AY	0.9090
AZ	0.7280
Aa	0.8970
Ab	0.9540
Ac	0.9550
Ad	0.9870
Af	0.9560
Ag	0.9580
Ah	0.9790
Ai	0.9590
Aj	0.7010
Ak	0.7350
Al	0.7550
Am	0.8080
An	0.8540
Ao	0.9280
Ap	0.8940
Aq	0.9400
Ar	0.8490
As	0.8490
At	0.8260
Au	0.8760
Av	0.8750
Aw	0.7710
Ax	0.6830
Ay	0.7500
Az	0.5660
B	0.9740
B0	0.7900
B1	0.8380
B2	0.9100

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Chain	Atom inclusion
B3	0.8810
B4	0.7290
B5	0.8050
B6	0.6090
B7	0.7180
B8	0.7120
B9	0.7340
BA	0.8120
BB	0.8080
BC	0.7980
BD	0.8310
BE	0.8360
BF	0.7450
BG	0.7830
BH	0.8290
BI	0.7460
BJ	0.9360
BK	0.9560
BL	0.9840
BM	0.9950
BN	0.7270
BO	0.7470
BP	0.7830
BQ	0.7820
BR	0.8420
BS	0.8960
BT	0.8860
BU	0.8060
BV	0.8130
BW	0.8040
BX	0.8060
BY	0.8510
BZ	0.7630
Ba	0.8580
Bb	0.7450
Bc	0.7440
Bd	0.7990
Be	0.7760
Bf	0.8560
Bg	0.9040
Bh	0.9430
Bi	0.8740

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Chain	Atom inclusion
Bj	0.8380
Bk	0.8500
Bl	0.8450
Bm	0.8410
Bn	0.8110
Bo	0.8580
Bq	0.7370
Br	0.7370
Bs	0.7810
Bt	0.7530
Bu	0.8650
Bv	0.9330
Bw	0.9210
Bx	0.8940
By	0.8790
Bz	0.8010
C	0.9020
C0	0.9070
C1	0.9280
C2	0.9340
C3	0.9120
C4	0.9240
C5	0.6890
C6	0.7160
C7	0.7680
C8	0.7780
C9	0.9000
CA	0.8990
CB	0.9090
CC	0.9340
CD	0.9260
CE	0.9300
CF	0.8100
CG	0.8690
CH	0.8970
CI	0.9050
CJ	0.8230
CK	0.8310
CL	0.7810
CM	0.7470
CN	0.7420
CO	0.8410

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Chain	Atom inclusion
CP	0.8990
CQ	0.9230
CR	0.9010
CS	0.9150
CT	0.9220
CU	0.9180
CV	0.8560
CW	0.9030
CX	0.9060
CY	0.9230
CZ	0.8590
Ca	0.7400
Cb	0.7100
Cc	0.7700
Cd	0.8830
Ce	0.9320
Cf	0.9390
Cg	0.9320
Ch	0.9090
Ci	0.9430
Cj	0.9450
Ck	0.9640
Cl	0.9380
Cm	0.9090
Cn	0.9270
Co	0.9180
Cp	0.8700
Cq	0.8060
Cr	0.7760
Cs	0.7710
Ct	0.9040
Cu	0.9070
Cv	0.9140
Cw	0.8900
Cx	0.9260
Cy	0.9120
Cz	0.9360
D	0.9950
D0	0.8000
D1	0.8580
D2	0.7780
D3	0.8650

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Chain	Atom inclusion
D4	0.8650
D5	0.6320
D6	0.6430
D7	0.6450
D8	0.7680
D9	0.8240
DA	0.9330
DB	0.9130
DC	0.9320
DD	0.9050
DE	0.9300
DF	0.9160
DG	0.9280
DH	0.9190
DI	0.9040
DJ	0.8410
DK	0.8030
DL	0.6350
DM	0.6620
DN	0.6990
DO	0.8510
DP	0.8710
DQ	0.8360
DR	0.8790
DS	0.8730
DT	0.8920
DU	0.8210
DV	0.8570
DW	0.8460
DX	0.8870
DY	0.9490
DZ	0.7880
Da	0.6080
Db	0.6350
Dc	0.6670
Dd	0.7330
De	0.8690
Df	0.8270
Dg	0.8680
Dh	0.8310
Di	0.8440
Dj	0.7220

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Chain	Atom inclusion
Dk	0.8480
Dl	0.8280
Dm	0.8600
Dn	0.7850
Do	0.8850
Dp	0.6190
Dq	0.6560
Dr	0.6900
Ds	0.7870
Dt	0.8020
Du	0.8200
Dv	0.8190
Dw	0.8450
Dx	0.7340
Dy	0.7410
Dz	0.7920
E	0.9880
E0	0.7920
E1	0.8560
E2	0.6950
E3	0.7050
E4	0.7400
E5	0.8410
E6	0.8530
E7	0.8220
E8	0.8420
E9	0.8260
EA	0.8250
EB	0.8460
EC	0.7210
ED	0.7250
EE	0.7420
EF	0.8520
EG	0.7830
EH	0.8770
EI	0.8820
EJ	0.6490
EK	0.7480
EL	0.6890
EM	0.7370
EN	0.8040
EO	0.8450

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Chain	Atom inclusion
EP	0.8270
EQ	0.8570
ER	0.7620
ES	0.7520
ET	0.7710
EU	0.8340
EV	0.8400
EW	0.8640
EX	0.9400
EY	0.6150
EZ	0.7210
Ea	0.6980
Eb	0.7390
Ec	0.8460
Ed	0.8490
Ee	0.8590
Ef	0.8710
Eg	0.8150
Eh	0.7860
Ei	0.7770
Ej	0.8370
Ek	0.8390
El	0.8350
Em	0.8090
En	0.7190
Eo	0.7070
Ep	0.7210
Eq	0.7820
Er	0.8580
Es	0.8290
Et	0.8300
Eu	0.8090
Ev	0.7980
Ew	0.7780
Ex	0.8540
Ey	0.8350
Ez	0.6120
F	0.9420
F0	0.1220
F1	0.0350
F2	0.0100
F3	0.0470

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Chain	Atom inclusion
F4	0.1130
F5	0.4720
F6	0.3030
F7	0.3090
F8	0.4400
F9	0.5350
FA	0.7810
FB	0.8660
FC	0.8400
FD	0.8650
FE	0.8600
FF	0.7550
FG	0.7320
FH	0.8340
FI	0.8640
FJ	0.8880
FK	0.8590
FL	0.9020
FM	0.8780
FN	0.8810
FO	0.8410
FP	0.9040
FQ	0.9080
FR	0.8820
FS	0.6540
FT	0.7760
FU	0.7940
FV	0.8640
FW	0.9020
FX	0.9210
FY	0.9080
FZ	0.9180
Fa	0.9260
Fb	0.9370
Fc	0.8860
Fd	0.9310
Fe	0.9390
Ff	0.9320
Fg	0.8340
Fh	0.8110
Fi	0.9210
Fj	0.9460

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Chain	Atom inclusion
Fk	0.9620
Fl	0.9420
Fm	0.9590
Fn	0.9610
Fo	0.8200
Fp	0.8040
Fq	0.8990
Fr	0.9340
Fs	0.8950
Ft	0.9090
Fv	0.8550
Fw	0.6810
Fx	0.5880
Fy	0.6140
Fz	0.6260
G	0.9720
GA	0.0200
GB	0.5850
GC	0.1420
GD	0.0190
GE	0.1750
GF	0.0220
GG	0.0350
GH	0.2050
GI	0.1920
GJ	0.1460
GK	0.6110
GL	0.3200
GM	0.1030
GN	0.0200
GO	0.0150
GP	0.0000
GQ	0.0130
GR	0.8720
GS	0.9450
GT	0.9430
GU	0.8660
GV	0.8300
GW	0.9510
GX	0.7040
GY	0.9270
GZ	0.7610

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Chain	Atom inclusion
Ga	0.7670
Gb	0.7170
Gc	0.7690
Gd	0.5470
Ge	0.8580
Gf	0.6380
Gg	0.9680
Gh	0.9960
Gi	0.9980
Gj	0.9460
H	0.0560
I	0.9000
J	0.9500
K	0.9730
L	0.9700
M	0.9770
N	0.8030
O	0.8330
P	0.9370
Q	0.9320
R	0.9310
S	0.9380
T	0.9110
U	0.9330
V	0.9510
W	0.9550
X	0.9310
Y	0.9480
Z	0.9290
a	0.8910
b	0.8990
c	0.9900
d	0.9020
e	0.9680
f	0.9630
g	0.9490
h	0.9950
i	0.8870
j	0.9520
k	0.9490
l	0.9650
m	0.9670

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Chain	Atom inclusion
n	0.7680
o	0.8080
p	0.8480
q	0.9290
r	0.8840
s	0.9140
t	0.9020
u	0.9330
v	0.9060
w	0.8970
x	0.9070
y	0.9030
z	0.8990
z0	0.9600
z1	0.9570
z3	0.8170
z4	0.7920