Full wwPDB EM Validation Report (i)

Nov 25, 2023 – 10:55 PM EST

PDB ID	:	8G4L
EMDB ID	:	EMD-29722
Title	:	Cryo-EM structure of the human cardiac myosin filament
Authors	:	Dutta, D.; Nguyen, V.; Padron, R.; Craig, R.
Deposited on	:	2023-02-10
Resolution	:	6.40 Å(reported)
Based on initial models	:	., 2FXO, 5N69

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) were used in the production of this report:

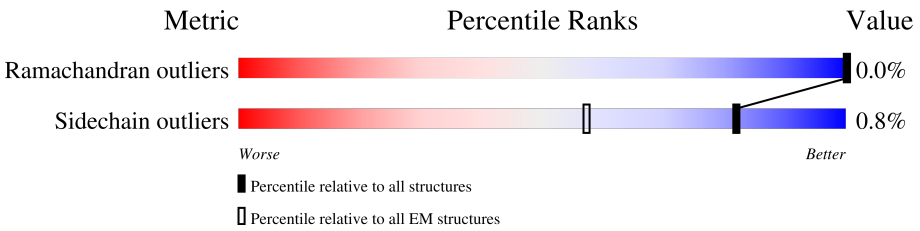
EMDB validation analysis	:	0.0.1.dev70
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 6.40 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	1935	41% 58% 41%
1	AA	1935	36% 58% 41%
1	AB	1935	44% 58% • 41%
1	AG	1935	• 18% 82%
1	AH	1935	• 18% 82%
1	AI	1935	18% 82%
1	AJ	1935	18% 82%
1	AK	1935	• 18% 82%
1	AL	1935	• 18% 82%

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Mol	Chain	Length	Quality of chain
1	AM	1935	7% 19% 81%
1	AN	1935	7% 18% 81%
1	AO	1935	18% 81%
1	AP	1935	18% 81%
1	AQ	1935	18% 82%
1	AR	1935	18% 82%
1	AS	1935	6% 19% 81%
1	AT	1935	5% 18% 81%
1	AU	1935	17% 83%
1	AV	1935	17% 83%
1	AW	1935	12% 88%
1	AX	1935	12% 88%
1	AY	1935	6% 51% 48%
1	AZ	1935	51% 48%
1	B	1935	42% 58% 41%
1	BA	1935	43% 58% 41%
1	BB	1935	40% 58% 41%
1	BG	1935	18% 82%
1	BH	1935	18% 82%
1	BI	1935	18% 82%
1	BJ	1935	18% 82%
1	BK	1935	18% 82%
1	BL	1935	18% 82%
1	BM	1935	5% 19% 81%
1	BN	1935	5% 18% 81%

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Mol	Chain	Length	Quality of chain
1	BO	1935	18% 81%
1	BP	1935	18% 81%
1	BQ	1935	18% 82%
1	BR	1935	18% 82%
1	BS	1935	5% 19% 81%
1	BT	1935	18% 81%
1	BU	1935	17% 83%
1	BV	1935	17% 83%
1	BW	1935	11% 88%
1	BX	1935	12% 88%
1	BY	1935	7% 52% 48%
1	BZ	1935	51% 48%
1	G	1935	18% 82%
1	H	1935	18% 82%
1	I	1935	18% 82%
1	J	1935	18% 82%
1	K	1935	18% 82%
1	L	1935	18% 82%
1	M	1935	6% 19% 81%
1	N	1935	7% 18% 81%
1	O	1935	18% 81%
1	P	1935	18% 81%
1	Q	1935	18% 82%
1	R	1935	18% 82%
1	S	1935	7% 19% 81%

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Mol	Chain	Length	Quality of chain
1	T	1935	5% 18% 81%
1	U	1935	17% 83%
1	V	1935	17% 83%
1	W	1935	11% 88%
1	X	1935	12% 88%
1	Y	1935	6% 52% 48%
1	Z	1935	51% 48%
1	ae	1935	8% 47% 53%
1	af	1935	6% 47% 53%
1	ak	1935	7% 93%
1	al	1935	7% 93%
1	be	1935	10% 47% 53%
1	bf	1935	47% 53%
1	bk	1935	7% 93%
1	bl	1935	7% 93%
1	e	1935	9% 47% 53%
1	f	1935	47% 53%
1	k	1935	7% 93%
1	l	1935	7% 93%
2	AE	195	70% 82% 17%
2	AF	195	78% 82% 17%
2	BE	195	79% 82% 17%
2	BF	195	73% 82% 17%
2	E	195	77% 82% 17%
2	F	195	76% 82% 17%

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Mol	Chain	Length	Quality of chain
2	a	195	21% 82% 17%
2	aa	195	22% 82% 17%
2	ab	195	9% 82% 17%
2	ag	195	39% 82% 17%
2	ah	195	5% 82% 17%
2	b	195	9% 82% 17%
2	ba	195	22% 82% 17%
2	bb	195	8% 82% 17%
2	bg	195	26% 82% 17%
2	bh	195	82% 17%
2	g	195	31% 82% 17%
2	h	195	82% 17%
3	ac	166	15% 92% 8%
3	ad	166	13% 100%
3	ai	166	30% 92% 8%
3	aj	166	30% 99%
3	aq	166	90% 100%
3	ar	166	95% 100%
3	bc	166	19% 92% 8%
3	bd	166	16% 100%
3	bi	166	22% 92% 8%
3	bj	166	23% 99%
3	bq	166	89% 100%
3	br	166	88% 100%
3	c	166	19% 92% 8%

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Mol	Chain	Length	Quality of chain
3	d	166	13% 100%
3	i	166	36% 92% 8%
3	j	166	30% 100%
3	q	166	97% 100%
3	r	166	93% 100%
4	am	1084	13% 99%
4	an	1084	99%
4	bm	1084	14% 99%
4	bn	1084	99%
4	m	1084	13% 99%
4	n	1084	99%
5	ao	1274	5% 46% 53%
5	bo	1274	6% 47% 53%
5	o	1274	5% 47% 53%

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 828952 atoms, of which 415168 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 Myosin-7.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	BB	1133	18432	5800	9251	1582	1753	46	0	0
1	BA	1133	18432	5800	9251	1582	1753	46	0	0
1	BG	355	5809	1751	2928	515	603	12	0	0
1	BH	355	5809	1751	2928	515	603	12	0	0
1	BI	357	5820	1753	2926	528	604	9	0	0
1	BJ	357	5820	1753	2926	528	604	9	0	0
1	BK	350	5683	1723	2843	521	587	9	0	0
1	BL	350	5683	1723	2843	521	587	9	0	0
1	BM	359	5823	1776	2906	522	611	8	0	0
1	BN	359	5823	1776	2906	522	611	8	0	0
1	BO	358	5809	1773	2902	523	603	8	0	0
1	BP	358	5809	1773	2902	523	603	8	0	0
1	BQ	357	5757	1748	2877	519	604	9	0	0
1	BR	357	5757	1748	2877	519	604	9	0	0
1	BS	359	5863	1760	2957	538	596	12	0	0
1	BT	359	5863	1760	2957	538	596	12	0	0
1	BU	325	5317	1592	2682	493	540	10	0	0

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Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	BV	325	5317	1592	2682	493	540	10	0	0
			Total	C	H	N	O	S		
1	BW	224	3689	1107	1857	341	377	7	0	0
			Total	C	H	N	O	S		
1	BX	224	3689	1107	1857	341	377	7	0	0
			Total	C	H	N	O	S		
1	BY	1005	16316	5163	8184	1391	1535	43	0	0
			Total	C	H	N	O	S		
1	BZ	1005	16317	5163	8185	1391	1535	43	0	0
			Total	C	H	N	O	S		
1	be	908	14751	4688	7390	1261	1370	42	0	0
			Total	C	H	N	O	S		
1	bf	908	14751	4688	7390	1261	1370	42	0	0
			Total	C	H	N	O	S		
1	bk	132	2205	664	1111	207	221	2	0	0
			Total	C	H	N	O	S		
1	bl	132	2205	664	1111	207	221	2	0	0
			Total	C	H	N	O	S		
1	AA	1133	18432	5800	9251	1582	1753	46	0	0
			Total	C	H	N	O	S		
1	AB	1133	18432	5800	9251	1582	1753	46	0	0
			Total	C	H	N	O	S		
1	AG	355	5809	1751	2928	515	603	12	0	0
			Total	C	H	N	O	S		
1	AH	355	5809	1751	2928	515	603	12	0	0
			Total	C	H	N	O	S		
1	AI	357	5820	1753	2926	528	604	9	0	0
			Total	C	H	N	O	S		
1	AJ	357	5820	1753	2926	528	604	9	0	0
			Total	C	H	N	O	S		
1	AK	350	5683	1723	2843	521	587	9	0	0
			Total	C	H	N	O	S		
1	AL	350	5683	1723	2843	521	587	9	0	0
			Total	C	H	N	O	S		
1	AM	359	5823	1776	2906	522	611	8	0	0
			Total	C	H	N	O	S		
1	AN	359	5823	1776	2906	522	611	8	0	0
			Total	C	H	N	O	S		
1	AO	358	5809	1773	2902	523	603	8	0	0
			Total	C	H	N	O	S		
1	AP	358	5809	1773	2902	523	603	8	0	0

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Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	AQ	357	5757	1748	2877	519	604	9	0	0
			Total	C	H	N	O	S		
1	AR	357	5757	1748	2877	519	604	9	0	0
			Total	C	H	N	O	S		
1	AS	359	5863	1760	2957	538	596	12	0	0
			Total	C	H	N	O	S		
1	AT	359	5863	1760	2957	538	596	12	0	0
			Total	C	H	N	O	S		
1	AU	325	5317	1592	2682	493	540	10	0	0
			Total	C	H	N	O	S		
1	AV	325	5317	1592	2682	493	540	10	0	0
			Total	C	H	N	O	S		
1	AW	224	3689	1107	1857	341	377	7	0	0
			Total	C	H	N	O	S		
1	AX	224	3689	1107	1857	341	377	7	0	0
			Total	C	H	N	O	S		
1	AY	1005	16316	5163	8184	1391	1535	43	0	0
			Total	C	H	N	O	S		
1	AZ	1005	16316	5163	8184	1391	1535	43	0	0
			Total	C	H	N	O	S		
1	ae	908	14751	4688	7390	1261	1370	42	0	0
			Total	C	H	N	O	S		
1	af	908	14751	4688	7390	1261	1370	42	0	0
			Total	C	H	N	O	S		
1	ak	132	2205	664	1111	207	221	2	0	0
			Total	C	H	N	O	S		
1	al	132	2205	664	1111	207	221	2	0	0
			Total	C	H	N	O	S		
1	A	1133	18432	5800	9251	1582	1753	46	0	0
			Total	C	H	N	O	S		
1	B	1133	18432	5800	9251	1582	1753	46	0	0
			Total	C	H	N	O	S		
1	G	355	5809	1751	2928	515	603	12	0	0
			Total	C	H	N	O	S		
1	H	355	5809	1751	2928	515	603	12	0	0
			Total	C	H	N	O	S		
1	I	357	5820	1753	2926	528	604	9	0	0
			Total	C	H	N	O	S		
1	J	357	5820	1753	2926	528	604	9	0	0
			Total	C	H	N	O	S		
1	K	350	5682	1723	2842	521	587	9	0	0

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Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	L	350	5682	1723	2842	521	587	9	0	0
			Total	C	H	N	O	S		
1	M	359	5823	1776	2906	522	611	8	0	0
			Total	C	H	N	O	S		
1	N	359	5823	1776	2906	522	611	8	0	0
			Total	C	H	N	O	S		
1	O	358	5809	1773	2902	523	603	8	0	0
			Total	C	H	N	O	S		
1	P	358	5809	1773	2902	523	603	8	0	0
			Total	C	H	N	O	S		
1	Q	357	5757	1748	2877	519	604	9	0	0
			Total	C	H	N	O	S		
1	R	357	5757	1748	2877	519	604	9	0	0
			Total	C	H	N	O	S		
1	S	359	5863	1760	2957	538	596	12	0	0
			Total	C	H	N	O	S		
1	T	359	5863	1760	2957	538	596	12	0	0
			Total	C	H	N	O	S		
1	U	325	5316	1592	2681	493	540	10	0	0
			Total	C	H	N	O	S		
1	V	325	5316	1592	2681	493	540	10	0	0
			Total	C	H	N	O	S		
1	W	224	3689	1107	1857	341	377	7	0	0
			Total	C	H	N	O	S		
1	X	224	3689	1107	1857	341	377	7	0	0
			Total	C	H	N	O	S		
1	Y	1005	16316	5163	8184	1391	1535	43	0	0
			Total	C	H	N	O	S		
1	Z	1005	16316	5163	8184	1391	1535	43	0	0
			Total	C	H	N	O	S		
1	e	908	14751	4688	7390	1261	1370	42	0	0
			Total	C	H	N	O	S		
1	f	908	14752	4688	7391	1261	1370	42	0	0
			Total	C	H	N	O	S		
1	k	132	2205	664	1111	207	221	2	0	0
			Total	C	H	N	O	S		
1	l	132	2205	664	1111	207	221	2	0	0

- Molecule 2 is a protein called Myosin light chain 3.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
2	BE	161	2544	806	1260	213	254	11	0	0
2	BF	161	2544	806	1260	213	254	11	0	0
2	ba	161	2544	806	1260	213	254	11	0	0
2	bb	161	2544	806	1260	213	254	11	0	0
2	bg	161	2544	806	1260	213	254	11	0	0
2	bh	161	2544	806	1260	213	254	11	0	0
2	AE	161	2544	806	1260	213	254	11	0	0
2	AF	161	2544	806	1260	213	254	11	0	0
2	aa	161	2544	806	1260	213	254	11	0	0
2	ab	161	2544	806	1260	213	254	11	0	0
2	ag	161	2544	806	1260	213	254	11	0	0
2	ah	161	2544	806	1260	213	254	11	0	0
2	E	161	2544	806	1260	213	254	11	0	0
2	F	161	2544	806	1260	213	254	11	0	0
2	a	161	2544	806	1260	213	254	11	0	0
2	b	161	2544	806	1260	213	254	11	0	0
2	g	161	2544	806	1260	213	254	11	0	0
2	h	161	2544	806	1260	213	254	11	0	0

- Molecule 3 is a protein called Myosin regulatory light chain 2, ventricular/cardiac muscle isoform.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
3	bc	153	2418	780	1187	200	245	6	0	0

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Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
3	bd	166	2617	836	1296	220	258	7	0	0
3	bi	153	2418	780	1187	200	245	6	0	0
3	bj	166	2617	836	1296	220	258	7	0	0
3	bq	166	2617	836	1296	220	258	7	0	0
3	br	166	2617	836	1296	220	258	7	0	0
3	ac	153	2418	780	1187	200	245	6	0	0
3	ad	166	2617	836	1296	220	258	7	0	0
3	ai	153	2418	780	1187	200	245	6	0	0
3	aj	166	2617	836	1296	220	258	7	0	0
3	aq	166	2617	836	1296	220	258	7	0	0
3	ar	166	2617	836	1296	220	258	7	0	0
3	c	153	2418	780	1187	200	245	6	0	0
3	d	166	2617	836	1296	220	258	7	0	0
3	i	153	2418	780	1187	200	245	6	0	0
3	j	166	2617	836	1296	220	258	7	0	0
3	q	166	2617	836	1296	220	258	7	0	0
3	r	166	2617	836	1296	220	258	7	0	0

- Molecule 4 is a protein called Titin.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
4	bm	1084	16881	5325	8458	1439	1632	27	0	0
4	bn	1084	16881	5325	8458	1439	1632	27	0	0

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Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
4	am	1084	16881	5325	8458	1439	1632	27	0	0
4	an	1084	16881	5325	8458	1439	1632	27	0	0
4	m	1084	16881	5325	8458	1439	1632	27	0	0
4	n	1084	16881	5325	8458	1439	1632	27	0	0

- Molecule 5 is a protein called Myosin-binding protein C, cardiac-type.

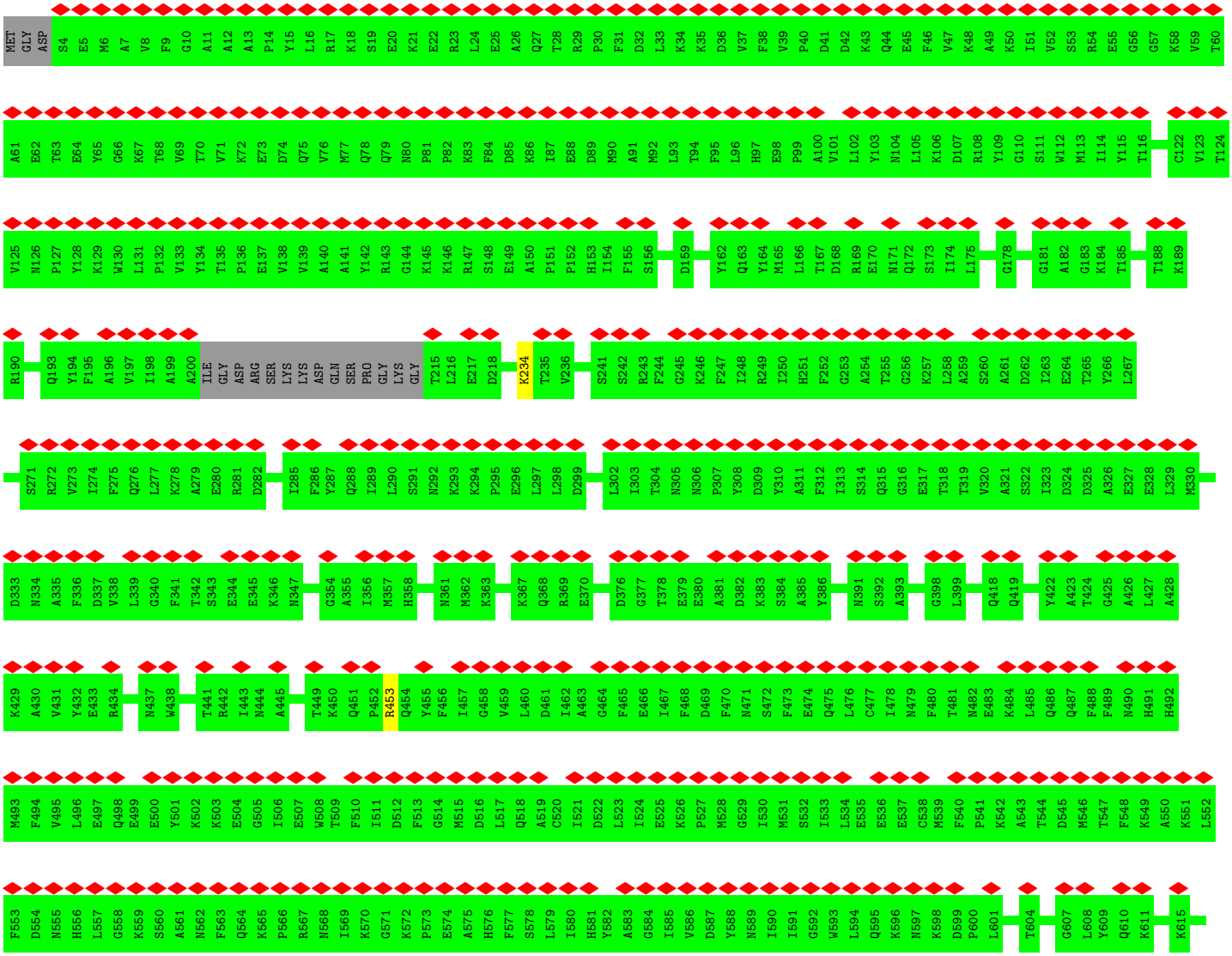
Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
5	bo	598	9440	2992	4728	825	873	22	0	0
5	ao	598	9440	2992	4728	825	873	22	0	0
5	o	598	9440	2992	4728	825	873	22	0	0

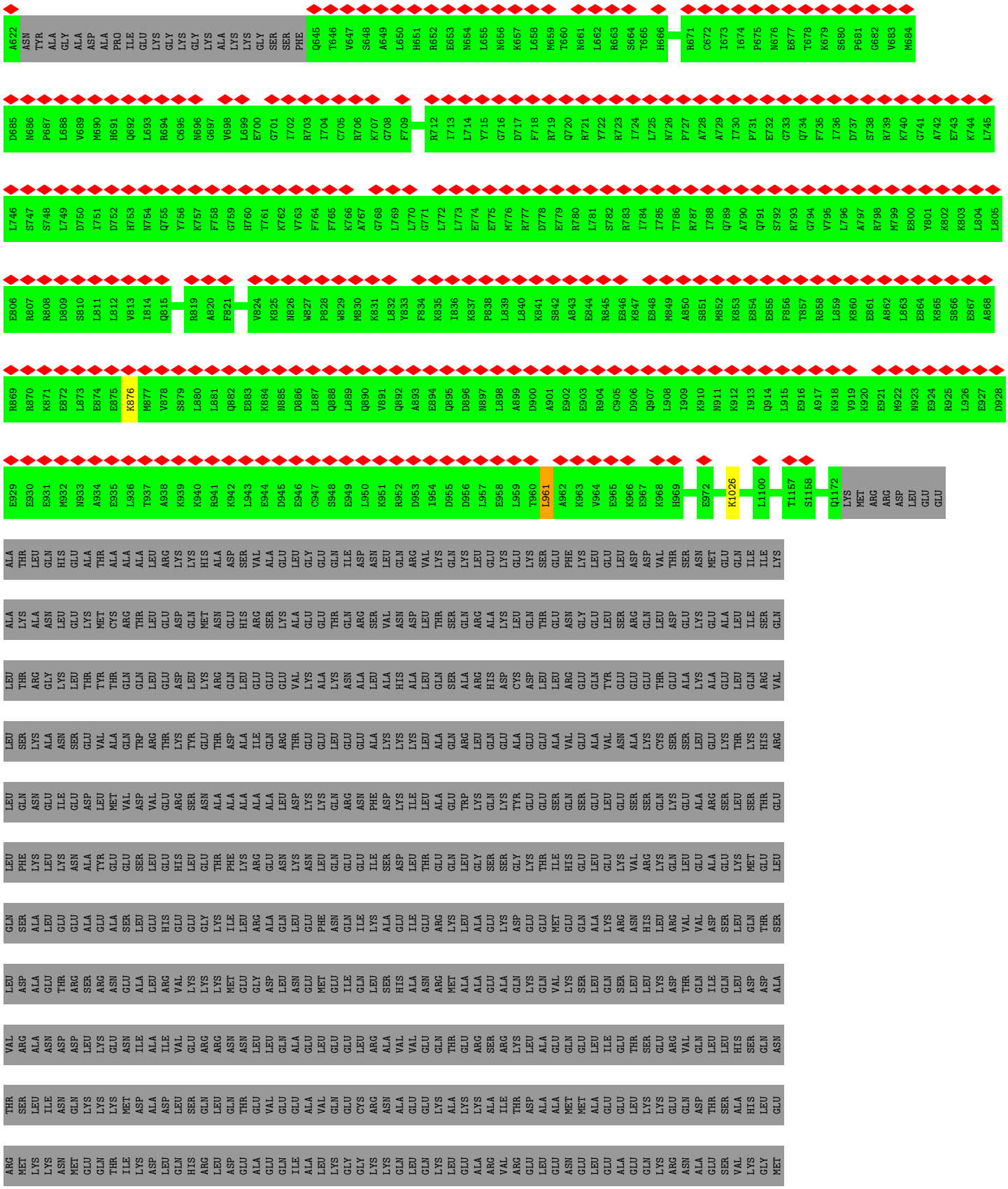
3 Residue-property plots (i)

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: Myosin-7

Chain BB:




A622 ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE Q645 T646 V647 S648 A649 L650 H651 R652 E653 N654 L655 N656 K657 L658 M659 T660 N661 L662 R663 S664 T665 H666 R671 C672 I673 I674 P675 N676 E677 T678 K679 S680 P681 G682 V683 M684
D685 N686 P687 L688 V689 M690 H691 Q692 L693 R694 C695 N696 G697 V698 L699 E700 G701 T702 R703 I704 C705 R706 K707 G708 F709 R712 I713 L714 Y715 G716 D717 F718 R719 Q720 R721 Y722 R723 T724 L725 N726 P727 A728 A729 I730 P731 E732 G733 Q734 F735 I736 D737 S738 R739 K740 G741 A742 E743 K744 L745
L746 S747 S748 L749 D750 I751 D752 H753 N754 Q755 Y756 K757 F758 G759 H760 T761 K762 V763 F764 F765 K766 A767 G768 L769 L770 G771 L772 L773 E774 E775 M776 R777 D778 E779 R780 L781 S782 R783 T784 I785 T786 R787 I788 Q789 A790 Q791 S792 R793 G794 V795 L796 A797 R798 M799 E800 Y801 K802 K803 L804 L805
E806 R807 R808 D809 S810 L811 L812 V813 I814 Q815 R819 A820 F821 V824 K825 N826 W827 P828 W829 M830 K831 L832 Y833 F834 K835 I836 K837 P838 L839 L840 K841 S842 A843 E844 R845 E846 K847 E848 M849 A850 S851 M852 K853 E854 E855 F856 T857 R858 L859 K860 E861 A862 L863 E864 K865 S866 E867 A868
R869 R870 K871 E872 L873 E874 E875 K876 M877 V878 S879 L880 L881 Q882 E883 K884 N885 D886 L887 Q888 L889 Q890 V891 Q892 A893 E894 Q895 D896 N897 L898 A899 D900 A901 E902 E903 R904 C905 D906 Q907 L908 I909 K910 N911 K912 I913 Q914 L915 E916 A917 K918 V919 K920 E921 M922 N923 E924 R925 L926 E927 D928
E929 E930 E931 M932 N933 A934 E935 L936 T937 A938 K939 K940 R941 K942 L943 E944 D945 E946 C947 S948 E949 L950 K951 R952 D953 I954 D955 D956 L957 E958 L959 T960 L961 A962 K963 V964 E965 K966 E967 K968 H969 E972 K1026 L1100 T1157 S1158 Q1172 LYS MET ARG ARG ASP LEU GLU GLU
ALA THR LEU GLN HIS GLU ALA THR ALA ALA ALA LEU ARG LYS LYS HIS ALA ASP SER VAL ALA GLU LEU GLY GLU GLN GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU LYS GLU LYS SER GLU PHE LYS LEU GLU LEU ASP ASP VAL THR SER ASN MET GLU GLN ILE ILE LYS
ALA LYS ALA ASN LEU GLU LYS MET CYS ARG THR LEU GLU ASP GLN MET ASN GLU HIS ARG SER LYS ALA GLU GLU THR GLN ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU ASN GLY GLU GLU LEU SER ARG GLN LEU ASP GLU LYS GLU ALA LEU ILE SER GLN
LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU GLU GLU THR GLU ALA LYS ALA GLU LEU GLN GLN ARG
LEU SER LYS ALA ASN SER GLU VAL ALA GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE GLN ARG THR GLU GLU LEU GLU GLU ALA LYS LYS LYS LEU ALA GLN ARG LEU GLN GLU ALA GLU GLU ALA VAL GLU ALA VAL ASN ALA LYS LYS CYS SER SER LEU GLU LYS ALA ARG SER LEU LYS HIS ARG
LEU GLN ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU ARG SER ASN ALA ALA ALA ALA ALA LEU ASP LYS LYS LYS ILE LEU ALA GLU GLU TRP LYS GLN LYS TYR GLU GLU SER GLN SER GLU GLU SER SER GLN LYS GLU ALA ARG SER LEU SER THR GLU
LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS LEU GLU THR PHE LYS ARG GLU ASN LYS ASN LEU GLN GLU GLU ILE SER ASP LEU THR GLU GLN GLU GLY SER SER GLY LYS THR ILE HIS GLU LEU GLU LYS VAL SER GLN LEU GLU ALA GLU LYS MET GLU LEU
GLN SER ALA LEU GLU GLU ALA GLU ALA SER LEU GLU HIS GLU GLU GLY LYS ILE LEU ARG ALA GLN LEU GLU PHE ASN GLN ILE ILE LYS ALA ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU ARG VAL VAL ASP SER LEU GLN THR SER
LEU ASP ALA GLU THR ARG SER ARG ASN GLU ALA LEU ARG VAL LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LEU SER HIS ALA ASN ARG MET ALA ALA GLU ALA GLN LYS GLN VAL LYS SER LEU GLN LYS LYS LYS LEU LEU LYS ASP THR GLN ILE GLN LEU ASP ASP ALA
VAL ARG ALA ASN ASP ASP LEU LYS GLU ASN ILE ALA ILE VAL GLU ARG ARG ASN ASN LEU LEU GLN ALA GLU LEU GLU GLU LEU ARG ALA VAL GLU GLN THR GLU ARG SER ARG LYS LEU ALA GLU GLN GLN GLU LEU ILE GLU THR SER GLU ARG VAL GLN LEU LEU LEU HIS SER GLN ASN
THR SER LEU ILE ASN GLN LYS LYS LYS MET ASP ALA ASP LEU SER GLN LEU GLN THR GLU VAL GLU GLU ALA VAL GLN GLU CYS ARG ASN ALA GLU GLU LYS ALA LYS LYS ALA ILE THR ASP ALA ALA MET MET ALA GLU GLU LEU LYS LYS GLU GLN ASP THR GLN ASP ASP ALA
ARG MET LYS LYS ASN MET GLU GLN THR ILE ASP LEU GLN HIS ARG LEU ASP GLU ALA GLN ILE ALA LEU LYS GLY GLY LYS LYS GLN LEU LEU GLN LYS LEU GLU ALA ARG VAL ARG GLU LEU GLU ASN GLU LEU GLU ALA GLU GLN LYS ASP GLN GLN LYS LYS GLN ASP ALA GLU SER VAL HIS LEU GLU

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

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

- Molecule 1: Myosin-7

Chain BA: 43% 58% 41%

MET GLY ASP S4 E5 M6 A7 V8 F9 G10 A11 A12 A13 P14 Y15 L16 R17 K18 S19 E20 K21 E22 R23 L24 E25 A26 Q27 T28 R29 P30 F31 D32 L33 K34 K35 D36 V37 F38 V39 P40 D41 D42 K43 Q44 E45 F46 V47 K48 A49 K50 I51 V52 S53 R54 E55 G56 G57 K58 V59 T60

A61 E62 T63 E64 Y65 G66 K67 T68 V69 T70 V71 K72 E73 D74 Q75 V76 M77 Q78 Q79 N80 P81 P82 K83 F84 D85 K86 I87 E88 D89 M90 A91 M92 L93 T94 F95 L96 H97 E98 P99 A100 V101 L102 Y103 N104 L105 K106 D107 R108 Y109 G110 S111 W112 M113 I114 Y115 T116 Y117 S118 G119 L120

F121 C122 V123 T124 V125 N126 P127 Y128 K129 W130 L131 P132 V133 Y134 T135 P136 E137 V138 V139 A140 A141 Y142 R143 G144 K145 K146 R147 S148 E149 A150 P151 P152 H153 I154 F155 S156 I157 S158 D159 N160 A161 Y162 Q163 Y164 M165 L166 T167 E170 L175 I176 T177 G178 E179 S180 G181 A182 G183

R190 Q193 Y194 F195 A196 V197 I198 A199 A200 ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY T215 L216 E217 D218 Q219 Q222 L227 E228 A229 F230 G231 T235 V236 R237 N238 D239 N240 S241 S242 R243 F244 G245 K246 F252 G253 A254 T255 G256 K257 L258 A259 S260

A261 D262 I263 E264 T265 Y266 L267 L268 E269 R272 F275 Q276 L277 K278 A279 E280 I285 F286 Y287 Q288 I289 L290 S291 N292 K293 K294 P295 E296 L297 L298 D299 M300 L301 L302 I303 T304 N305 N306 P307 Y308 D309 Y310 A311 F312 I313 S314 Q315 G316 E317 T318 T319 V320 A321 S322 I323 D324 D325

A326 E327 E328 L329 M330 A331 T332 D333 N334 A335 F336 D337 V338 L339 G340 F341 T342 S343 E344 E345 K346 N347 S348 M349 Y350 K351 L352 T353 G354 A355 I356 M357 H358 M362 K363 F364 K365 L366 K367 Q368 R369 E370 E371 Q372 A373 E374 P375 D376 G377 T378 E379 E380 A381 D382 K383 S384 A385 Y386 L387

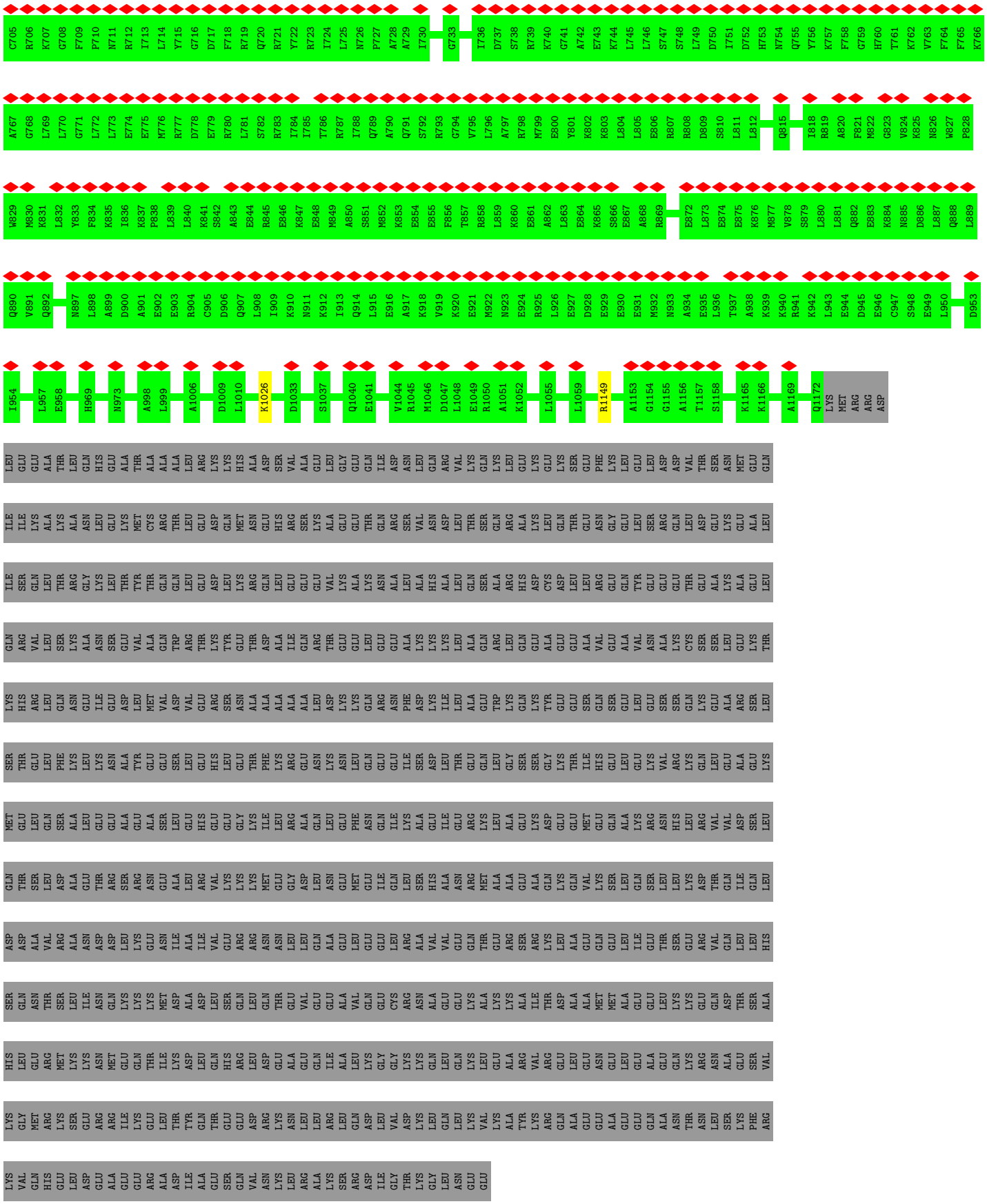
M388 G389 L390 N391 S392 A393 D394 L395 L396 K397 G398 L399 C400 H401 P402 R403 V404 K405 V406 G407 N408 E409 Y410 V411 T412 K413 G414 Q415 N416 V417 Q418 Q419 V420 L427 A430 V431 Y432 E433 R434 M435 F436 N437 W438 M439 V440 T441 R442 A445 T446 L447 E448 T449 K450 Q451 P452 R453

L460 D461 I462 F465 E466 I467 F468 D469 F470 N471 S472 F473 E474 Q475 L476 C477 I478 N479 F480 M539 F540 P541 N482 E483 K484 L485 Q486 Q487 F488 F489 N490 H491 H492 M493 F494 V495 L496 E497 Q498 E499 E500 Y501 K502 K503 E504 G505 I506 E507 W508 T509 F510 I511 D512 F513 G514 M515 D516 L517 Q518 A519 C520

I521 D522 L523 I524 E525 K526 P527 M528 G529 I530 M531 S532 I533 L534 E535 E536 E537 C538 K542 A543 T544 D545 M546 T547 F548 K549 A550 K551 L552 F553 D554 N555 H556 L557 G558 K559 A561 N562 F563 Q564 K565 P566 R567 N568 I569 K570 G571 K572 P573 E574 A575 H576 F577 S578 L579 I580

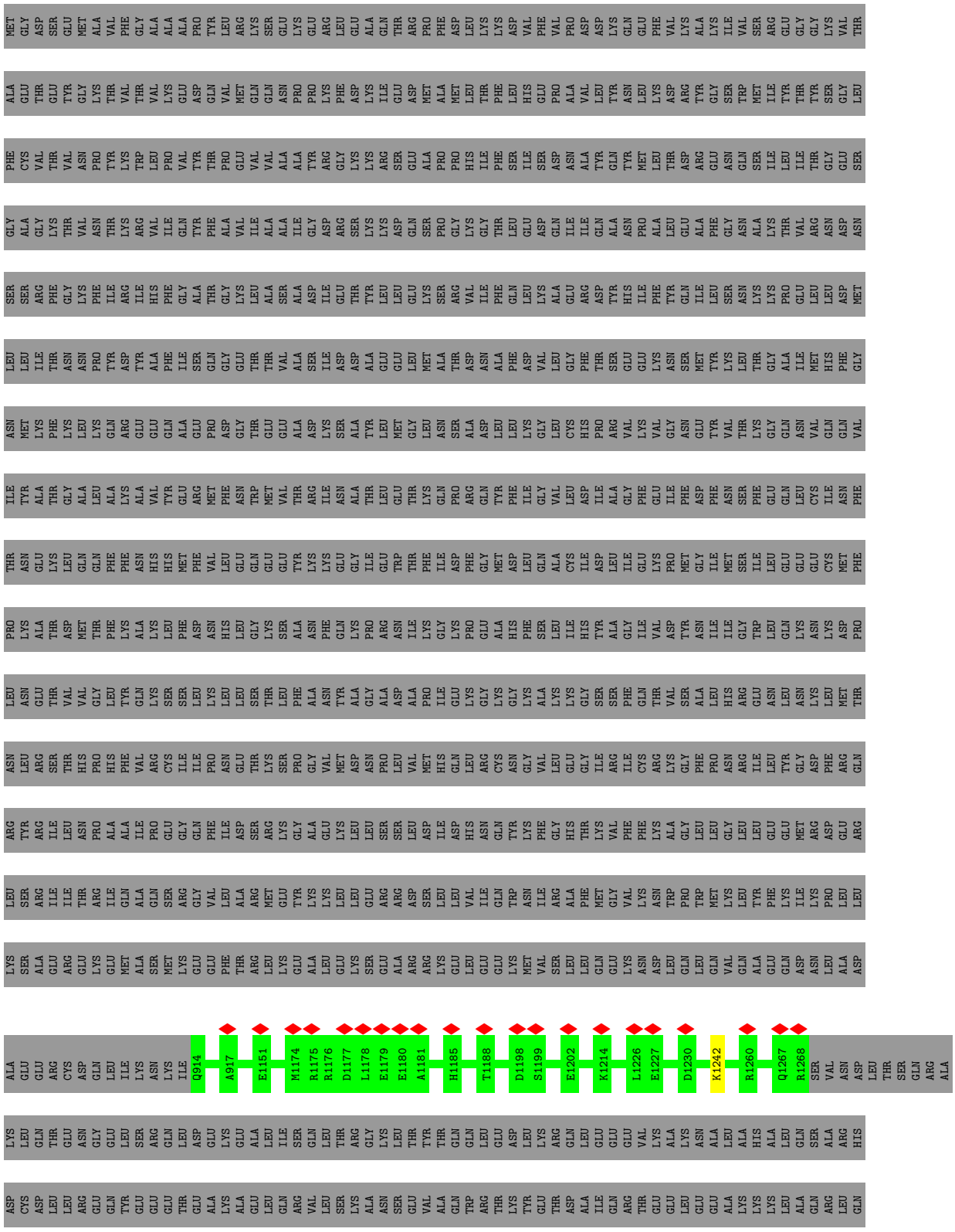
H581 Y582 A583 G584 I585 V586 D587 Y588 N589 I590 I591 G592 W593 L594 Q595 K596 N597 K598 L601 N602 E603 T604 V605 V606 Y609 Q610 K611 S612 S613 K614 K615 L616 L617 S618 T619 L620 F621 A622 ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER

SER PHE Q645 T646 A649 L650 H651 R652 E653 N654 L655 N656 K657 L658 M659 T660 N661 L662 R663 H666 P667 H668 F669 V670 R671 C672 I673 I674 P675 N676 E677 T678 K679 S680 P681 G682 V683 M684 D685 N686 P687 L688 V689 M690 H691 Q692 L693 R694 C695 N696 G697 V698 L699 E700 G701 I702 R703 I704


C705 R706 K707 G708 F709 P710 N711 R712 I713 L714 Y715 G716 D717 F718 R719 Q720 R721 Y722 R723 I724 L725 N726 P727 A728 A729 I730
G733
I736 D737 S738 R739 K740 G741 A742 E743 K744 L745 L746 S747 S748 L749 D750 I751 D752 H753 N754 Q755 Y756 K757 F758 G759 H760 T761 K762 V763 F764 F765 K766
A767 G768 L769 L770 G771 L772 L773 E774 E775 M776 R777 D778 E779 R780 L781 S782 R783 I784 I785 T786 R787 I788 Q789 A790 Q791 S792 R793 G794 V795 L796 A797 R798 M799 E800 Y801 K802 K803 L804 L805 E806 R807 R808 D809 S810 L811 L812
Q815
I818 R819 A820 F821 M822 G823 V824 K825 N826 W827 P828
W829 M830 K831 L832 Y833 F834 K835 I836 K837 P838 L839 L840 K841 S842 A843 E844 R845 E846 I847 K848 M849 A850 S851 M852 K853 E854 E855 F856 T857 R858 L859 K860 E861 A862 L863 E864 K865 S866 E867 A868 R869
E872 L873 E874 E875 K876 M877 V878 S879 L880 L881 Q882 E883 K884 N885 D886 L887 Q888 L889
Q890 V891 Q892
N897 L898 A899 D900 A901 E902 E903 R904 C905 D906 Q907 L908 I909 K910 N911 K912 I913 Q914 L915 E916 A917 K918 V919 K920 E921 M922 N923 E924 R925 L926 E927 D928 E929 E930 E931 M932 N933 A934 E935 L936 T937 A938 K939 K940 R941 K942 L943 E944 D945 E946 C947 S948 E949 L950
D953
I954
L957 E958
H969
N973
A998 L999
A1006
D1009 L1010
K1026
D1033
S1037
Q1040 E1041
V1044 R1045 M1046 D1047 L1048 E1049 R1050 A1051 K1052
L1055
L1059
R1149
A1153 G1154 G1155 A1156 T1157 S1158
K1165 K1166
A1169
Q1172
LYS MET ARG ARG ASP
LEU GLU GLU ALA THR LEU GLN HIS GLU ALA THR ALA ALA ALA LEU ARG LYS LYS HIS ALA ASP SER VAL ALA GLU LEU GLY GLU GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU LYS GLU LYS SER GLU PHE LYS LEU GLU LEU ASP ASP VAL THR SER ASN MET GLU GLN
ILE ILE LYS ALA LYS ALA ASN LEU GLU LYS MET CYS ARG THR LEU GLU ASP GLN MET ASN GLU HIS ARG SER LYS ALA GLU GLU THR GLN ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU ASN GLY GLU LEU SER ARG GLN LEU ASP GLU LYS GLU ALA LEU
ILE SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU GLU GLU THR GLU ALA LYS ALA GLU LEU
GLN ARG VAL LEU SER LYS ALA ASN SER GLU VAL ALA GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE GLN ARG THR GLU GLU LEU GLU GLU ALA LYS LYS LYS LEU ALA GLN ARG LEU GLN GLU ALA GLU GLU GLU ALA VAL GLU ALA VAL ASN ALA LYS LYS SER SER LEU GLU LYS THR
LYS HIS ARG LEU GLN ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU ARG SER ASN ALA ALA ALA ALA ALA ALA LEU ASP LYS LYS GLN ARG ASN PHE ASP LYS ILE LEU ALA GLU TRP LYS GLN LYS TYR GLU GLU SER GLN SER GLU LEU GLU LEU GLU SER SER GLN LYS GLU ALA ARG SER LEU
SER THR GLU LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS LEU THR PHE LYS ARG GLU ASN LYS ASN LEU GLN GLU GLU ILE SER ASP LEU THR GLU GLN LEU GLY SER SER GLY LYS THR ILE HIS GLU LEU GLU LYS VAL ARG LYS GLN LEU GLU ALA GLU LYS
MET GLU LEU GLN SER ALA GLU ALA GLU GLU ALA SER LEU GLU HIS GLU GLU GLY LYS ILE LEU ARG ARG ALA GLN LEU GLU PHE ASN GLN ILE LYS LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU ALA GLN LYS ASN HIS LEU ARG VAL VAL ASP SER LEU
GLN THR SER LEU ASP ALA GLU THR ARG SER ARG ASN GLU ALA LEU ARG VAL LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LYS LYS SER LEU GLN GLN GLN ALA GLN LYS GLN VAL LYS SER LEU GLN SER LEU LEU LYS ASP THR GLN ILE GLN GLN
ASP ASP ALA VAL ARG ALA ASN ASP ASP LEU LYS GLU ASN ILE ALA ALA ILE VAL GLU ARG ARG ASN ASN LEU LEU GLN ALA GLU LEU GLU GLU LEU ARG ARG GLN THR GLU ARG SER ARG LYS LEU ALA GLU GLU GLN GLU LEU ILE GLU THR LEU LEU LEU HIS
SER GLN ASN THR SER LEU ILE ASN GLN LYS LYS LYS MET ASP ALA ALA ASP LEU SER GLN LEU LEU THR ALA VAL GLU GLU CYS ARG ASN ALA VAL GLN GLU LYS ALA LYS LYS ALA ILE THR ASP ALA ALA MET MET ALA GLU GLU GLU LEU LYS LYS GLU ARG GLU ASP ASP THR SER ALA
HIS LEU GLU ARG MET LYS LYS ASN MET GLU GLN THR ILE LYS ASP LEU GLN HIS ARG LEU ASP GLU GLN GLN GLY GLY LYS LYS GLN LEU GLN LYS LEU GLU ALA ARG VAL GLU GLU LEU GLU ASN GLU LEU GLU GLU ALA GLU GLN LYS ARG ASN ALA GLU GLN VAL
LYS GLY MET ARG LYS SER GLU ARG ARG ILE LYS GLU LEU THR TYR GLN THR GLU GLU ASP ARG LYS ASN LEU LEU ARG ARG LEU GLN ASP LEU VAL ASP LYS LEU GLN LEU LYS VAL LYS ALA TYR LYS ARG GLN ALA GLU GLU ALA GLU GLU GLN ALA ASN THR ASN LEU SER LYS PHE ARG
LYS VAL GLN HIS GLU LEU ASP GLU ALA GLU GLU ARG ALA ASP ILE ALA GLU SER GLN VAL ASN LYS LEU ARG ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU GLU

- Molecule 1: Myosin-7

Chain BG: 18% 82%



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

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

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

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

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

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

ILE THR ASP ALA ALA MET MET ALA GLU GLU LEU LYS LYS GLU GLN ASP THR SER ALA HIS LEU GLU ARG MET LYS LYS ASN MET GLU GLN THR ILE LYS ASP LEU GLN HIS ARG LEU ASP GLU ALA GLU GLN ILE ALA LEU LYS GLY GLY LYS LYS GLN LEU GLN LYS LEU GLU ALA ARG

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

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

- Molecule 1: Myosin-7

Chain BH:

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

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

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

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

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

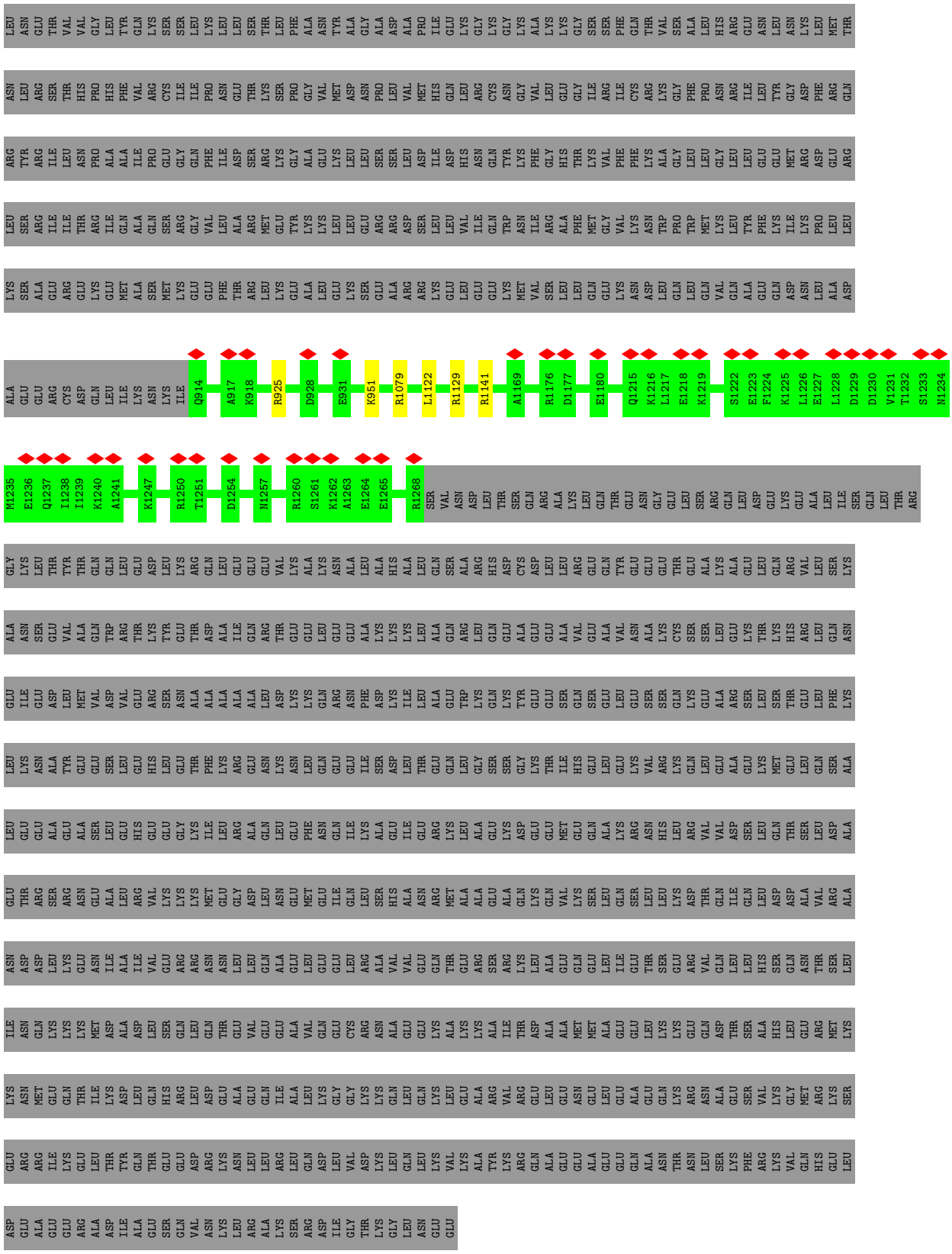
LEU LEU ILE THR ASN ASN PRO TYR ASP TYR ALA PHE ILE SER GLN GLY GLU THR THR VAL ALA SER ILE ASP ASP ALA GLU GLU LEU MET ALA THR ASP ASN ALA PHE ASP VAL LEU GLY PHE THR SER GLU GLU LYS ASN SER MET TYR LYS LEU THR GLY ALA ILE MET HIS PHE GLY

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

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

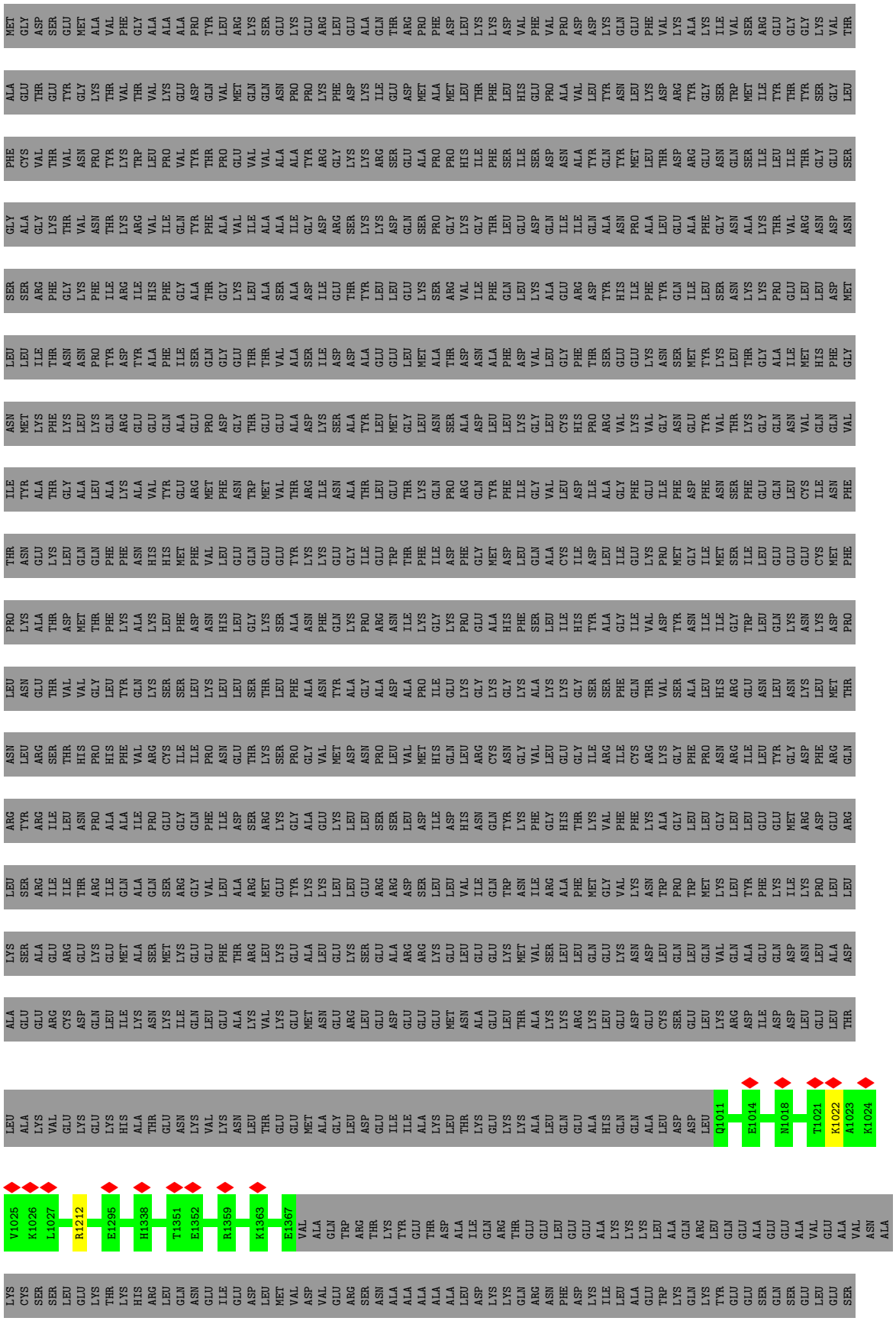
THR ASN GLU LYS LEU GLN GLN PHE PHE ASN HIS HIS MET PHE VAL LEU GLU GLN GLU GLU TYR LYS LYS GLU GLY ILE GLU TRP THR PHE ILE ASP PHE GLY MET ASP LEU GLN ALA CYS ILE ASP LEU ILE GLU LYS PRO MET GLY ILE MET SER ILE LEU GLU GLU GLU CYS MET PHE

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



- Molecule 1: Myosin-7

Chain BI: 18% 82%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E1352
R1359
K1363
E1367

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

ARG LYS GLN LEU GLU ALA GLU LYS MET GLU LEU GLN SER ALA LEU GLU GLU ALA GLU ALA SER LEU GLU HIS GLU GLU GLY LYS ILE LEU ARG ALA GLN LEU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN

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

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

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

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

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

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

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Chain BJ: 18% 82%

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

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

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

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

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

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

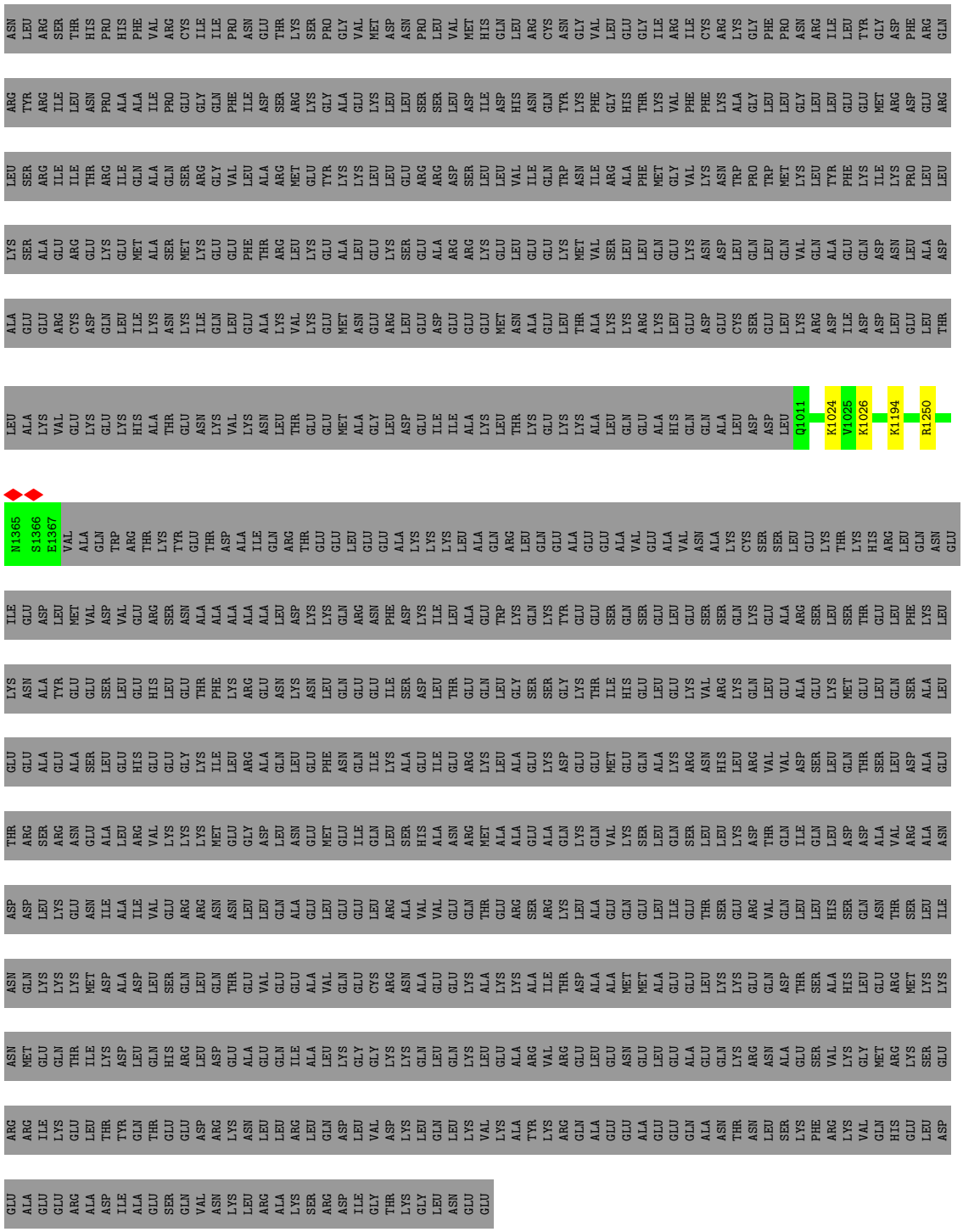
ASN MET LYS PHE LYS LEU LYS GLN ARG GLU GLU GLN ALA GLU PRO ASP GLY THR GLU GLU ALA ASP LYS SER ALA TYR LEU MET GLY LEU ASN SER ALA ASP LEU LEU LYS GLY LEU CYS HIS PRO ARG VAL LYS VAL GLY ASN GLU TYR VAL THR LYS GLY GLN ASN VAL GLN GLN VAL

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

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

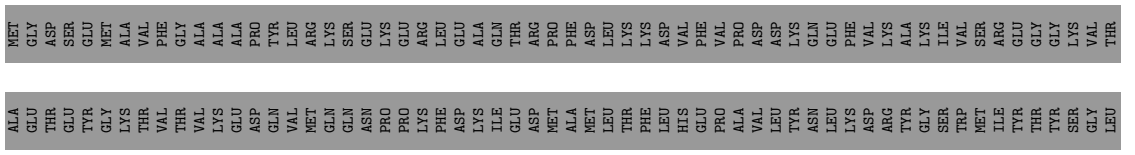
PRO LYS ALA THR ASP MET THR PHE LYS ALA LYS LEU PHE ASP ASN HIS LEU GLY LYS SER ALA ASN PHE GLN LYS PRO ARG ASN ILE LYS GLY LYS PRO GLU ALA HIS PHE SER LEU ILE HIS TYR ALA GLY ILE VAL ASP TYR ASN ILE ILE GLY TRP LEU GLN LYS ASN LYS ASP PRO

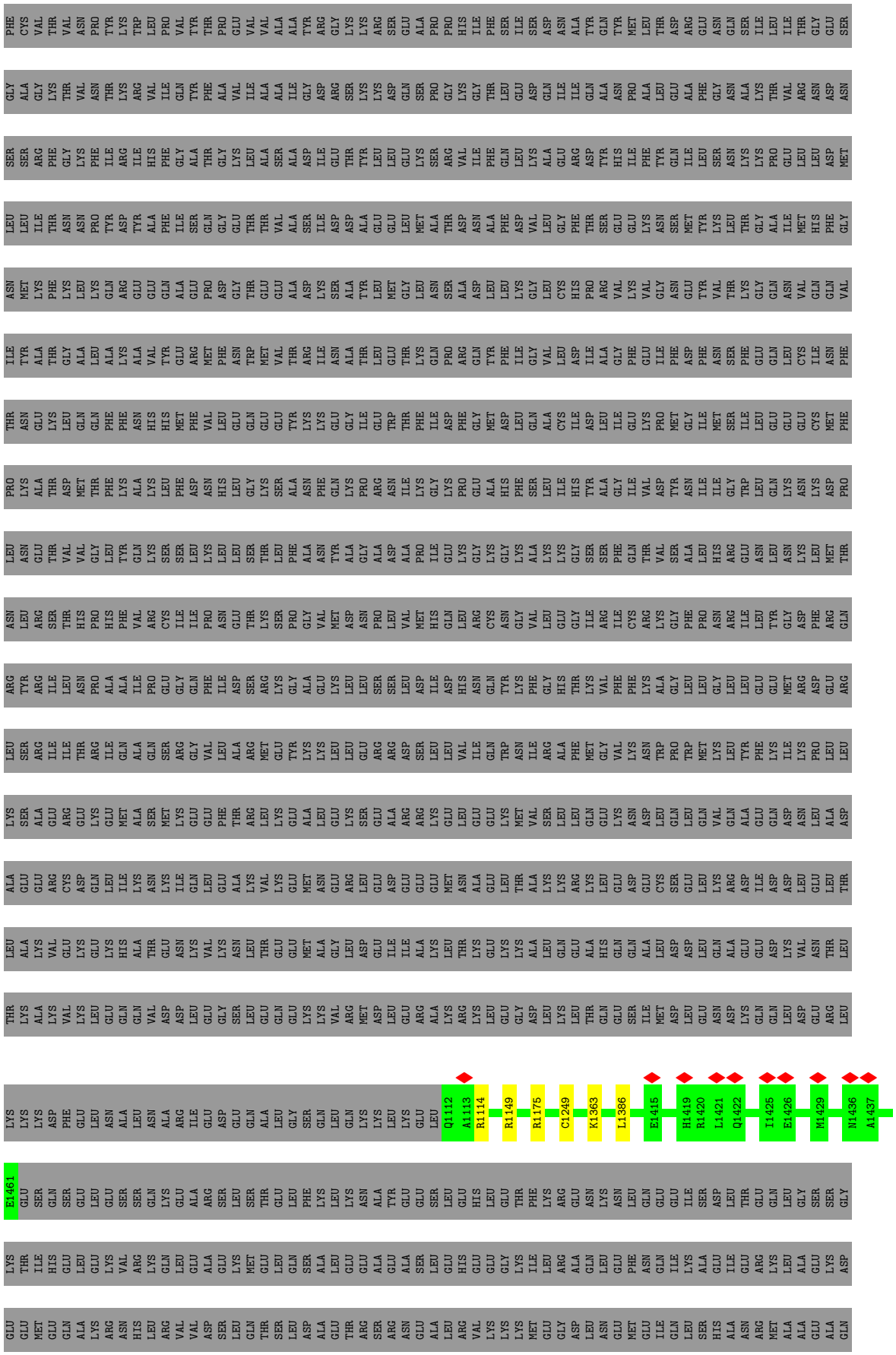
LEU ASN GLU THR VAL VAL GLY LEU TYR GLN LYS SER SER LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE GLN THR VAL SER ALA LEU HIS ARG GLU ASN LEU ASN LYS LEU MET THR



- Molecule 1: Myosin-7

Chain BK:

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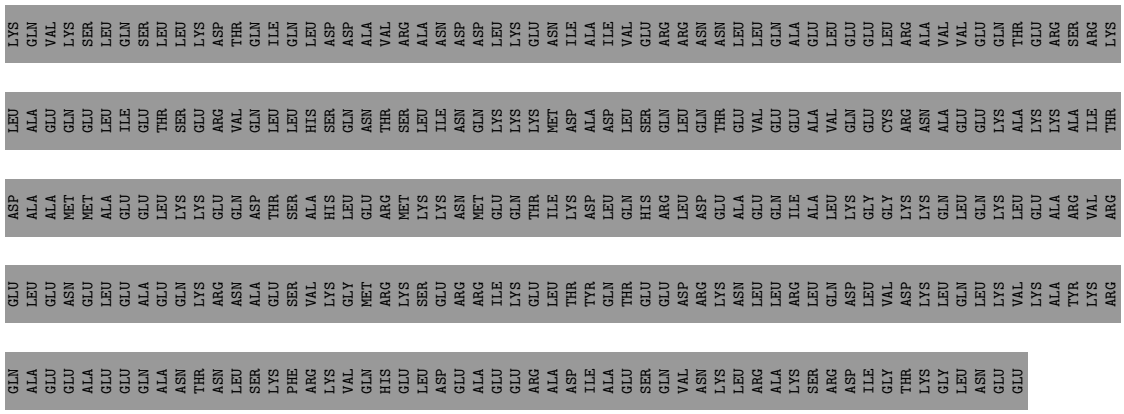
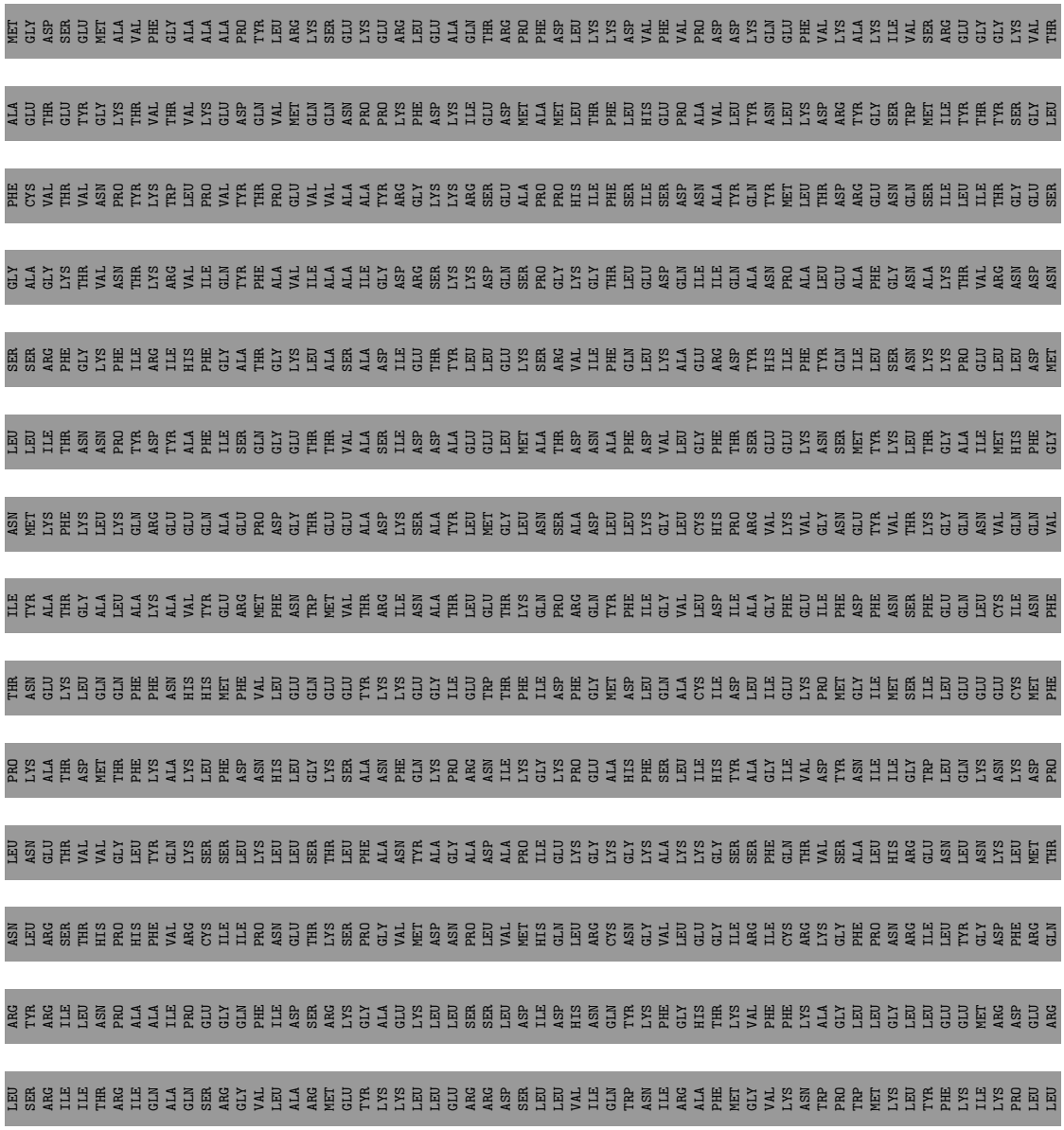
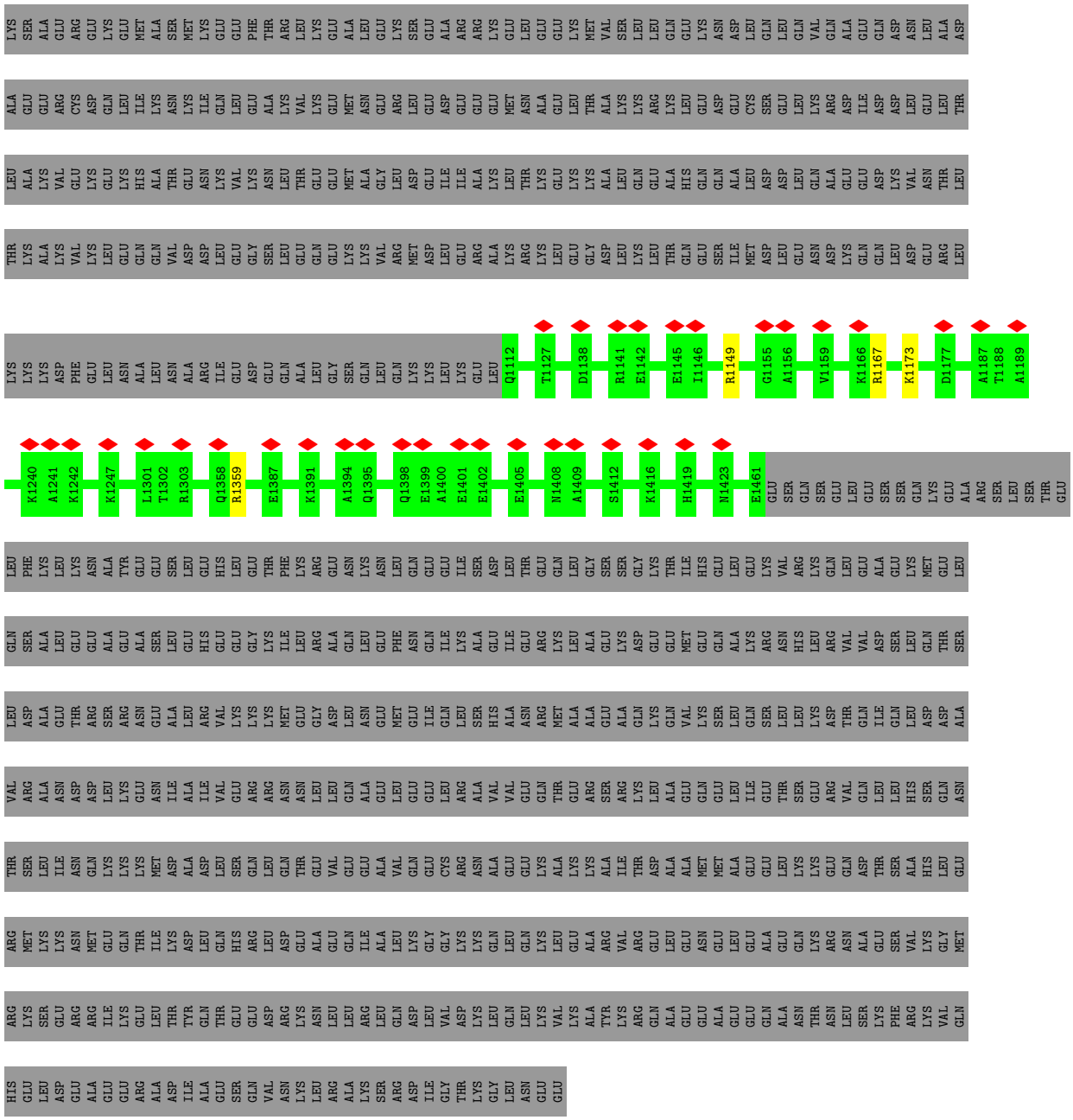


- Molecule 1: Myosin-7

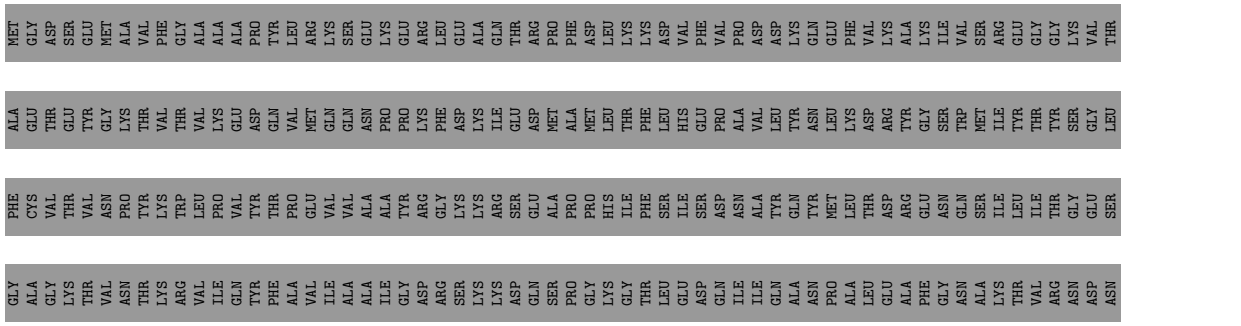
Chain BL: 18% 82%





- Molecule 1: Myosin-7

Chain BM:

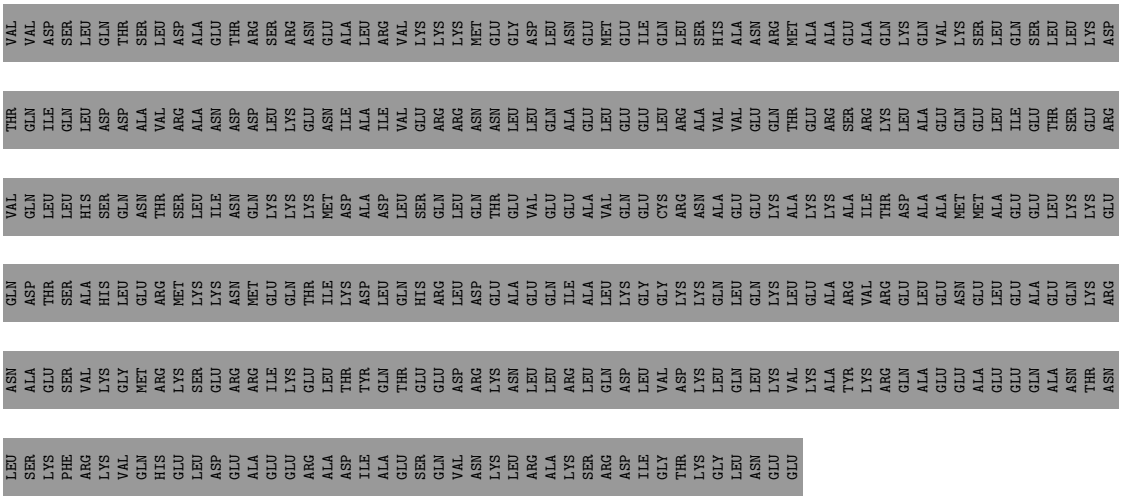


SER SER ARG PHE GLY LYS PHE ILE ARG ILE HIS PHE GLY ALA THR GLY LYS LEU ALA SER ALA ASP ILE GLU THR TYR LEU LEU GLU LYS SER ARG VAL ILE PHE GLN LEU LYS ALA GLU ARG ASP TYR HIS ILE PHE TYR GLN ILE LEU SER ASN LYS LYS PRO GLU LEU LEU ASP MET
LEU LEU ILE THR ASN ASN PRO TYR ASP TYR ALA PHE ILE SER GLN GLY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

ALA GLU LEU G1204 N1271 T1282 E1283 N1284 G1285 E1286 R1289 D1292 E1293 K1294 E1295 A1296 L1297 I1298 S1299 Q1300 L1301 T1302 K1305 L1306 T1309 Q1310 E1313 D1314 L1315 K1316 R1317 E1320 E1321 K1324 A1325 A1328 L1329 A1330 H1331 E1352 E1356 R1359 S1362 K1363 A1364 N1365

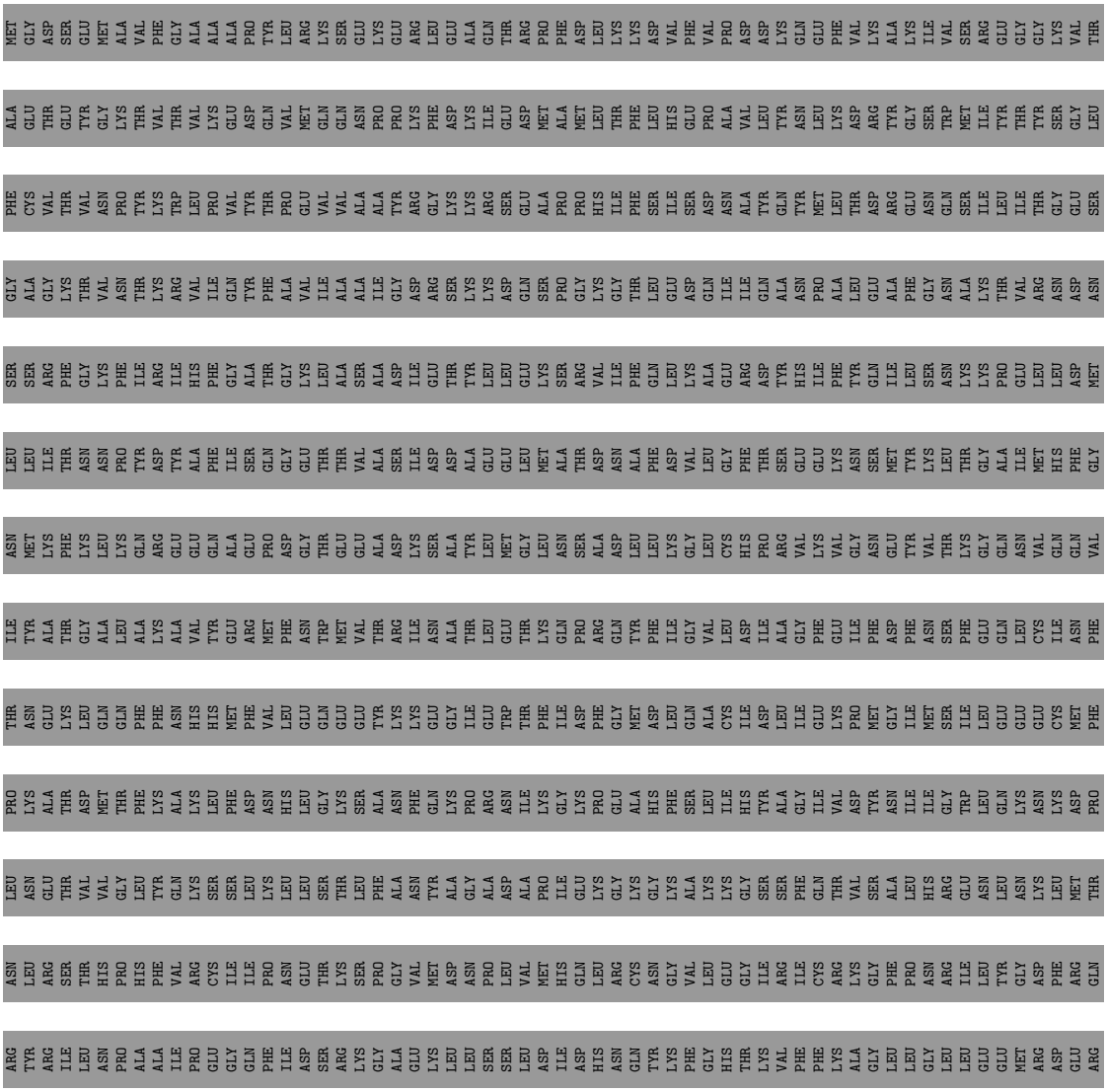
S1366 E1367 V1368 A1369 Q1370 T1373 K1374 T1377 N1448 K1451 I1452 A1474 R1475 S1476 L1477 K1483 L1484 K1485 N1486 A1487 Y1488 E1489 E1490 S1491 L1492 E1493 H1494 T1497 F1498 K1499 R1500 E1501 N1504 L1505 Q1506 E1507 E1508 L1516 G1517 S1518 S1519 T1522 I1523 H1524 E1525 L1526 V1529 R1530 K1531

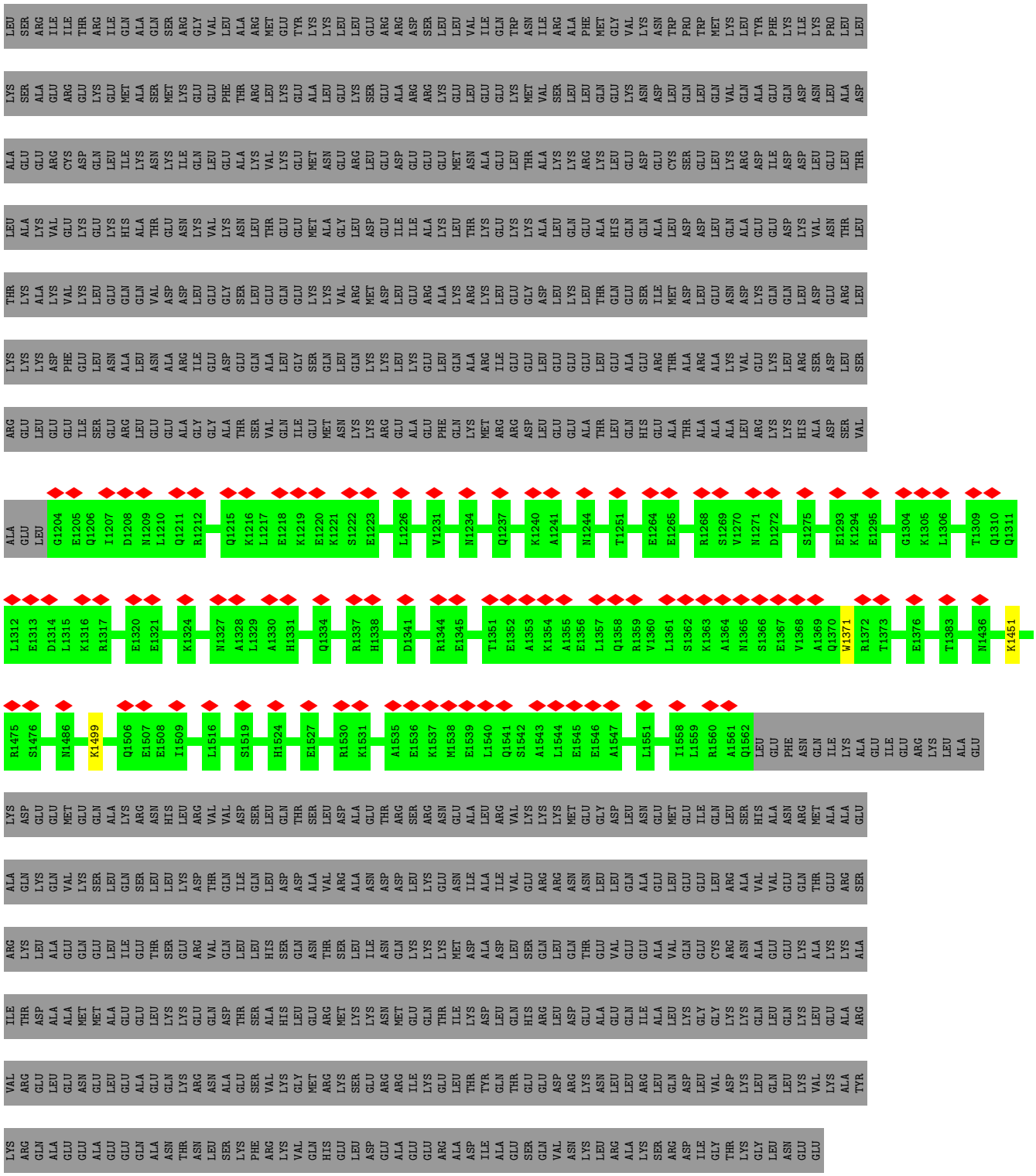
Q1532 L1533 E1534 A1535 E1536 K1537 M1538 E1539 L1540 Q1541 S1542 A1543 L1544 E1545 E1546 A1547 E1548 L1551 E1552 H1553 E1554 E1555 G1556 K1557 I1558 L1559 R1560 A1561 Q1562 LEU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU ARG



- Molecule 1: Myosin-7

Chain BN:





- Molecule 1: Myosin-7

Chain BO:

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

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

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

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

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

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

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

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

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

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

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

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

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

LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU LEU GLU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA LYS VAL LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR

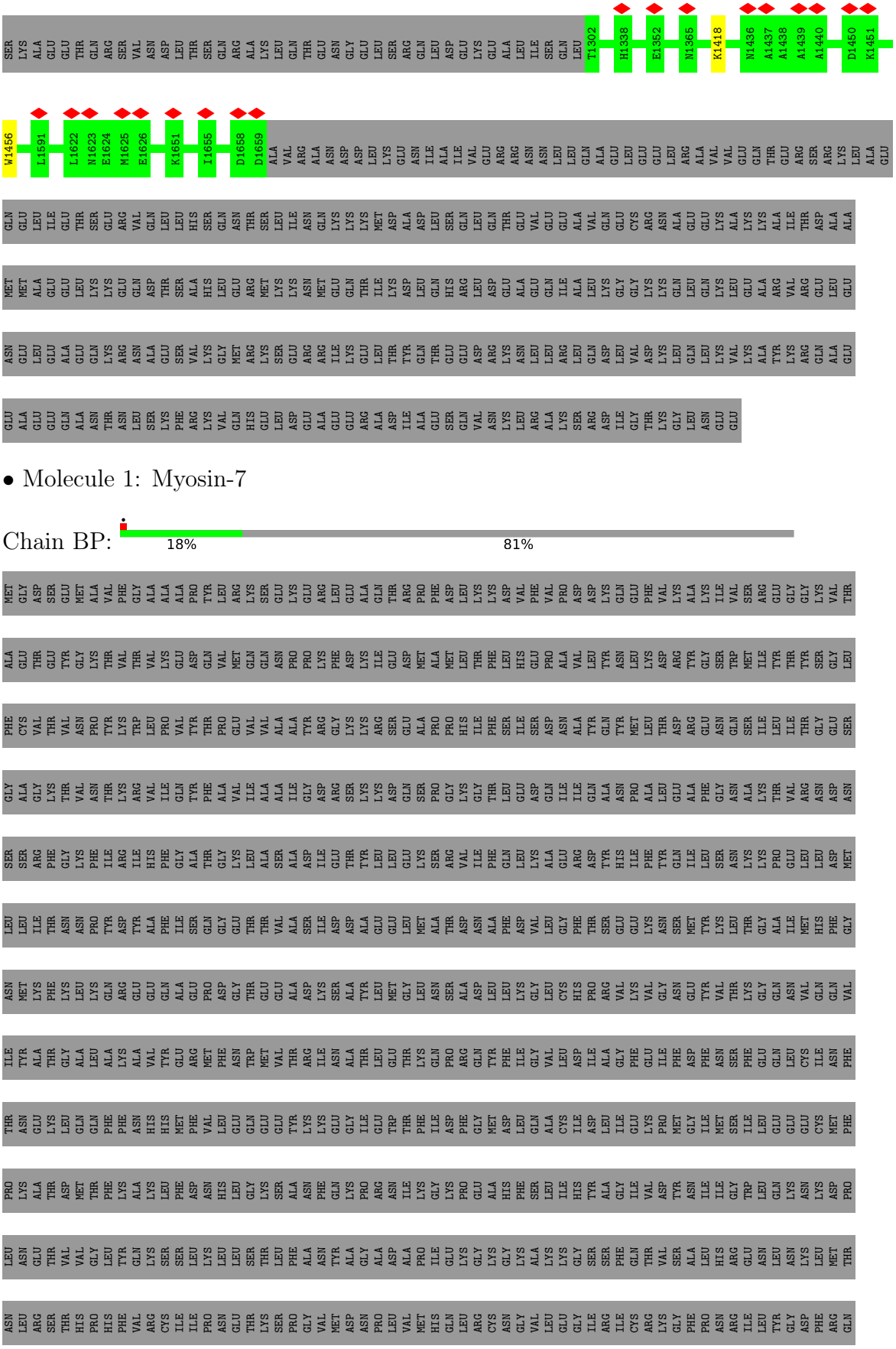
LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU

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

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

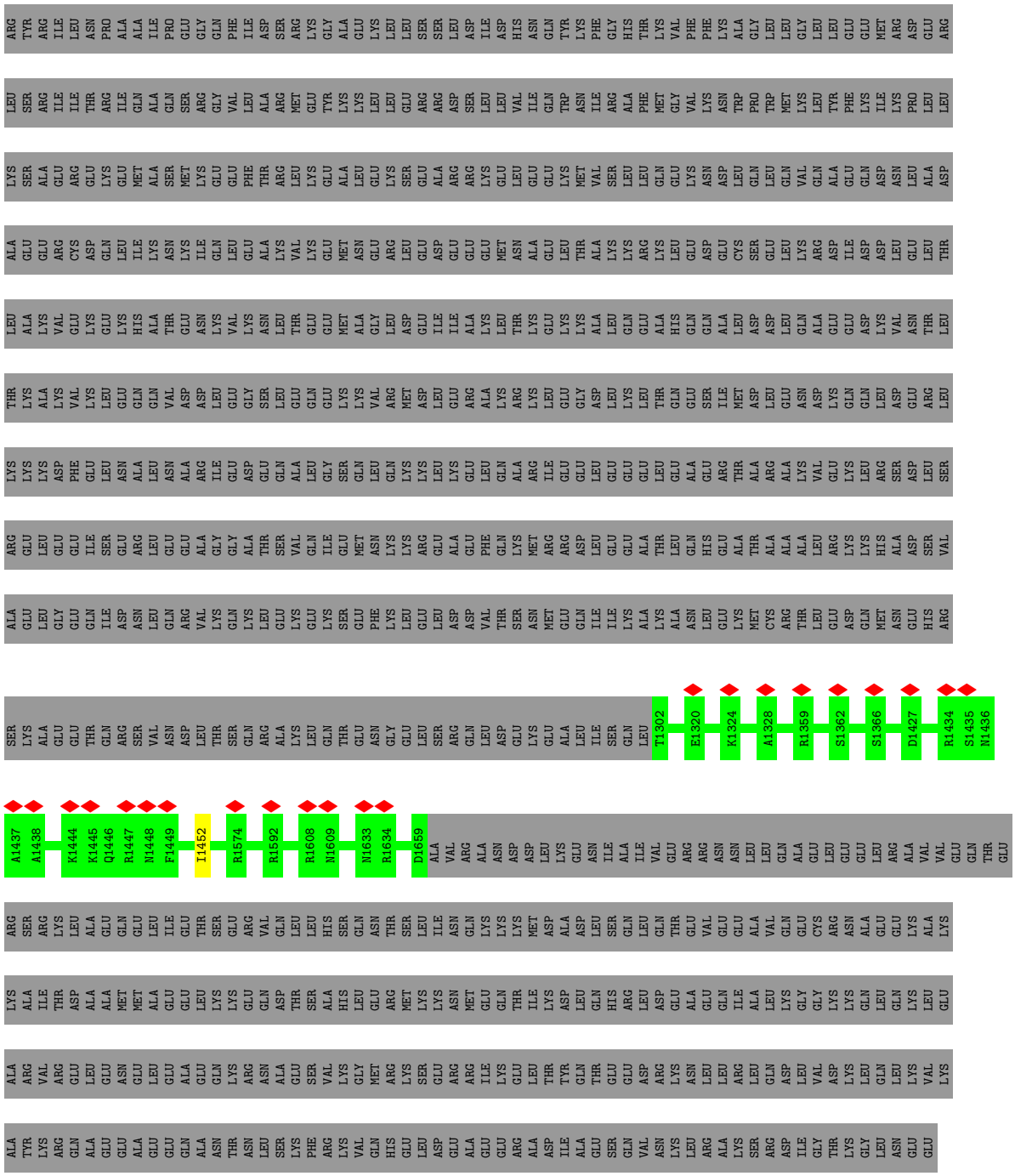
ARG GLU LEU GLU GLU ILE SER GLU ARG LEU GLU GLU ALA GLY GLY ALA THR SER VAL GLN ILE GLU MET ASN LYS LYS ARG GLU ALA GLU PHE GLN LYS MET ARG ASP LEU GLU GLU ALA THR LEU GLN HIS GLU ALA THR ALA ALA ALA LEU ARG LYS LYS HIS ALA ASP SER VAL

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



• Molecule 1: Myosin-7

Chain BP: 18% 81%



• Molecule 1: Myosin-7

Chain BQ:

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

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

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

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

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

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

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

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

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

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

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

LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU LEU GLU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA LYS VAL LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR

LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU

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

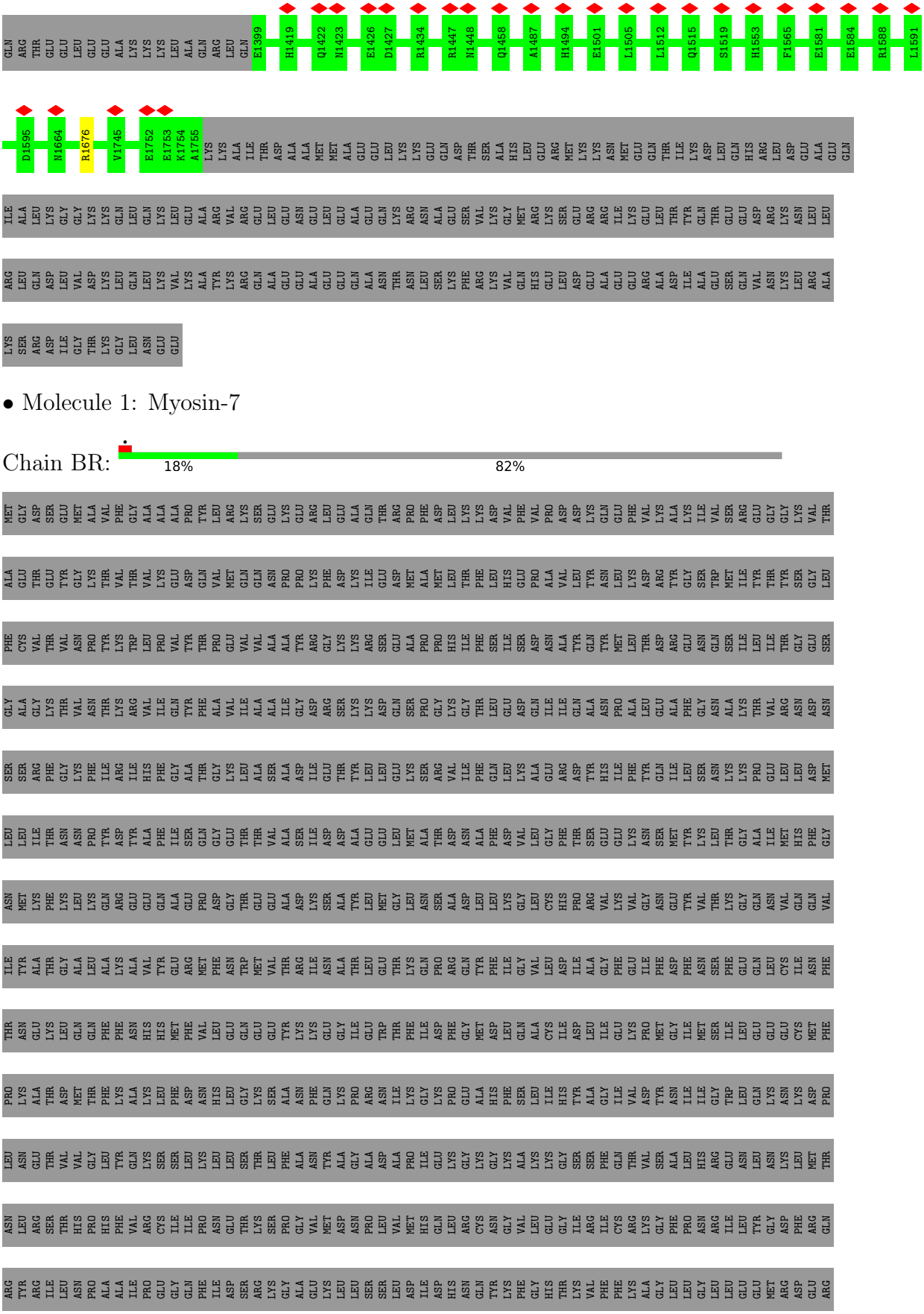
LYS LYS LYS ASP PHE GLU LEU ASN ALA LEU ASN ALA ARG ILE GLU ASP GLU GLN ALA LEU GLY SER GLN LEU GLN LYS LYS LEU LYS GLU LEU GLN ALA ARG ILE GLU GLU LEU GLU GLU GLU LEU GLU ALA GLU ARG THR ALA ARG ALA LYS VAL GLU LYS LEU ARG SER ASP LEU SER

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

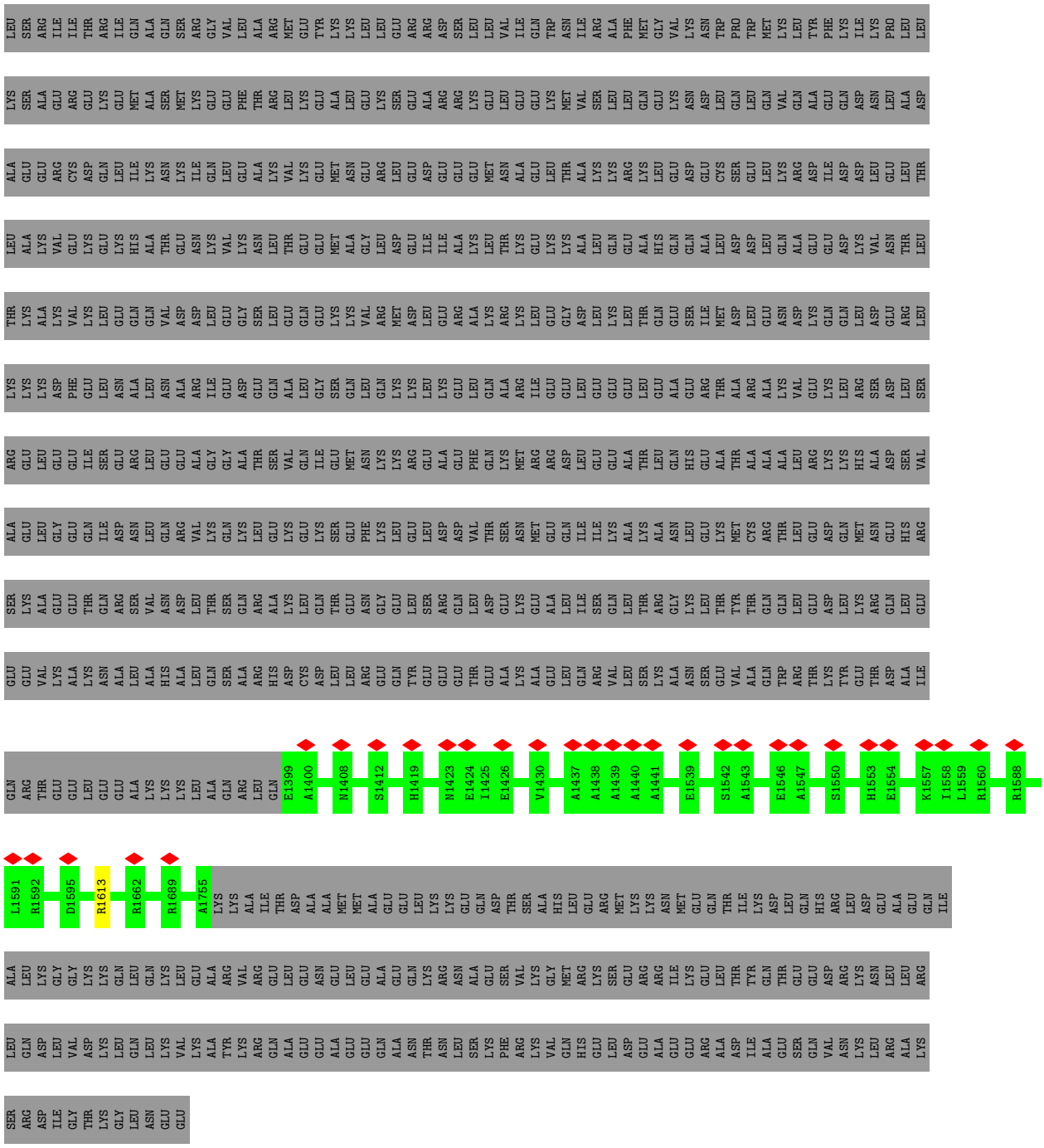
ALA GLU LEU GLY GLU GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU LYS GLU LYS SER GLU PHE LYS LEU GLU LEU ASP ASP VAL THR SER ASN MET GLU GLN ILE ILE LYS ALA LYS ALA ASN LEU GLU LYS MET CYS ARG THR LEU GLU ASP GLN MET ASN GLU HIS ARG

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

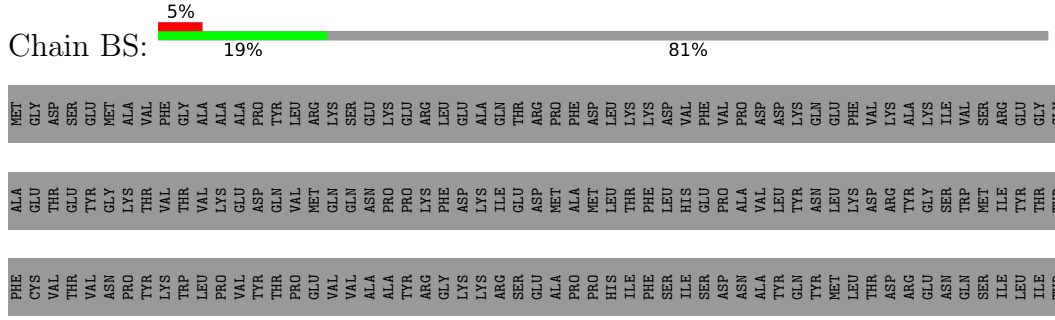
GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU GLU GLU THR GLU ALA LYS ALA GLU LEU GLN ARG VAL LEU SER LYS ALA ASN SER GLU VAL ALA GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE



- Molecule 1: Myosin-7



- Molecule 1: Myosin-7



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

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

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

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

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

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

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

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

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

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

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

LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU LEU GLU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA LYS VAL LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR

LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU

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

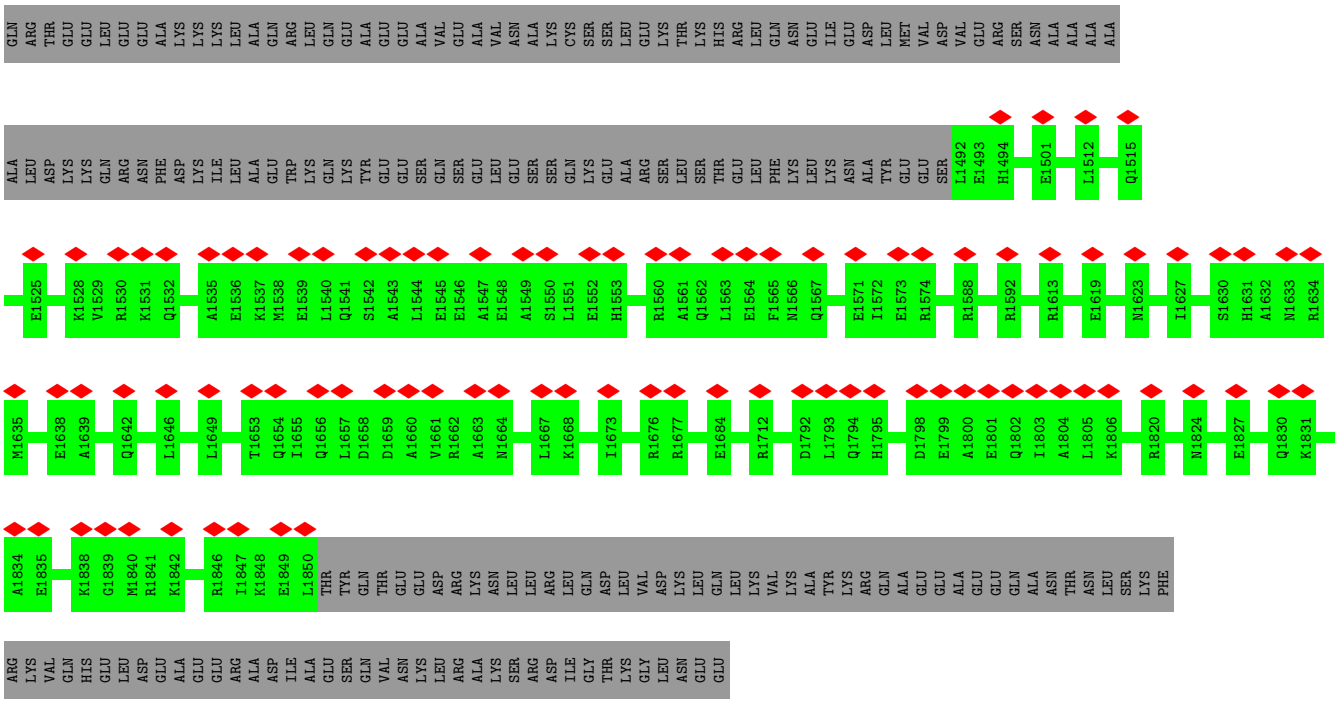
LYS LYS LYS ASP PHE GLU LEU ASN ALA LEU ASN ALA ARG ILE GLU ASP GLU GLN ALA LEU GLY SER GLN LEU GLN LYS LYS LEU LYS GLU LEU GLN ALA ARG ILE GLU GLU LEU GLU GLU GLU LEU GLU ALA GLU ARG THR ALA ARG ALA LYS VAL GLU LYS LEU ARG SER ASP LEU SER

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

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

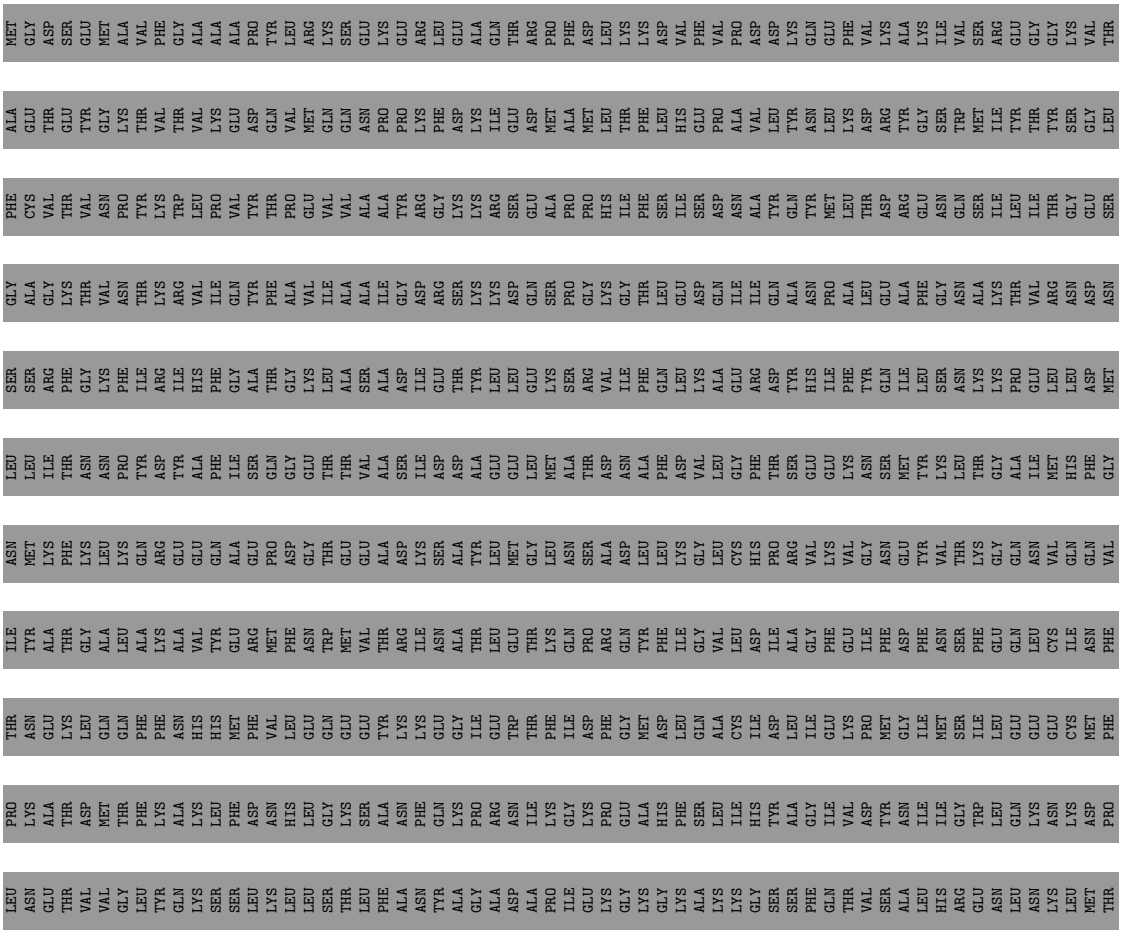
SER LYS ALA GLU GLU THR GLN ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU ASN GLY GLU LEU SER ARG GLN LEU ASP GLU LYS GLU ALA LEU ILE SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU

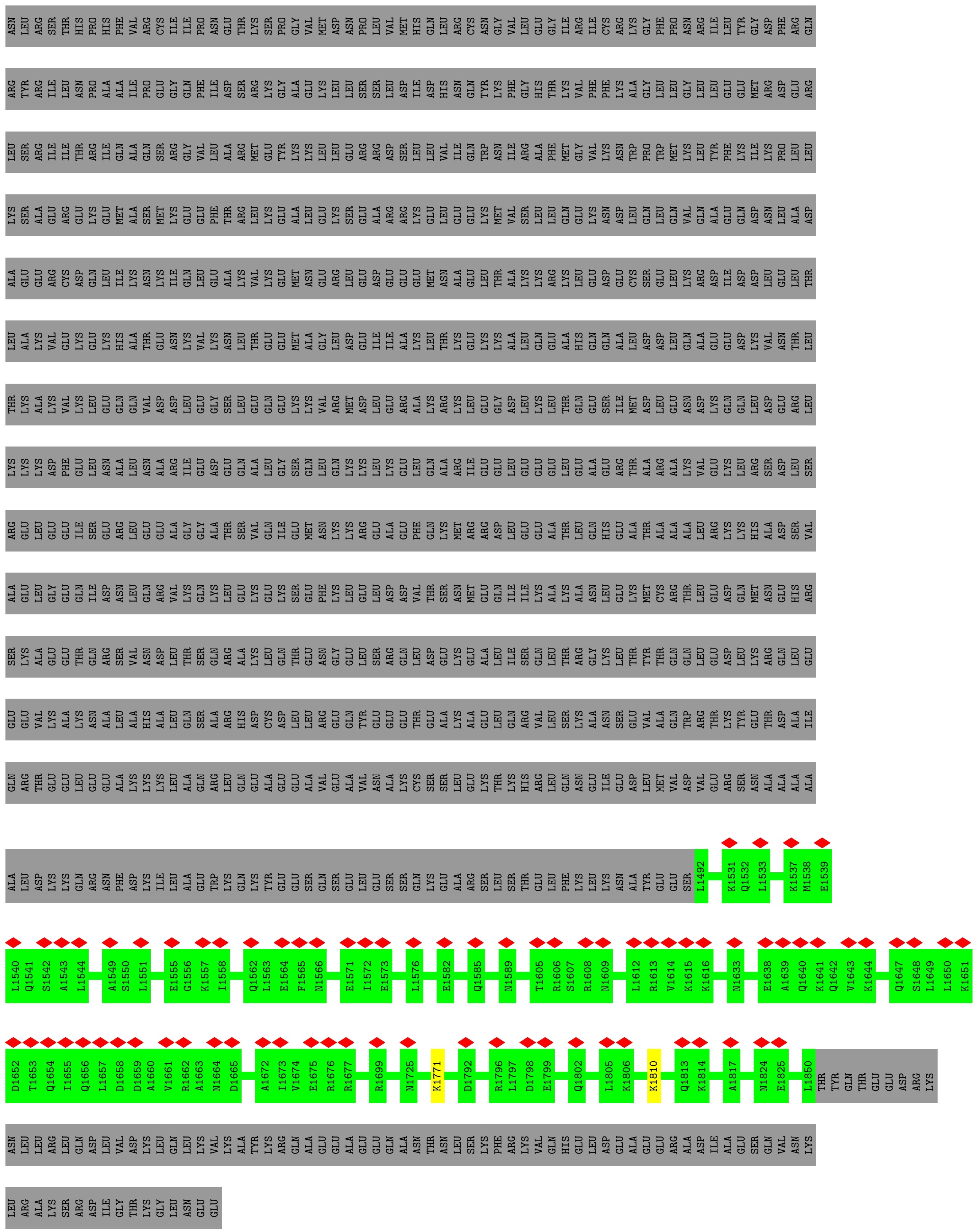
GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU GLU GLU THR GLU ALA LYS ALA GLU LEU GLN ARG VAL LEU SER LYS ALA ASN SER GLU VAL ALA GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE



• Molecule 1: Myosin-7

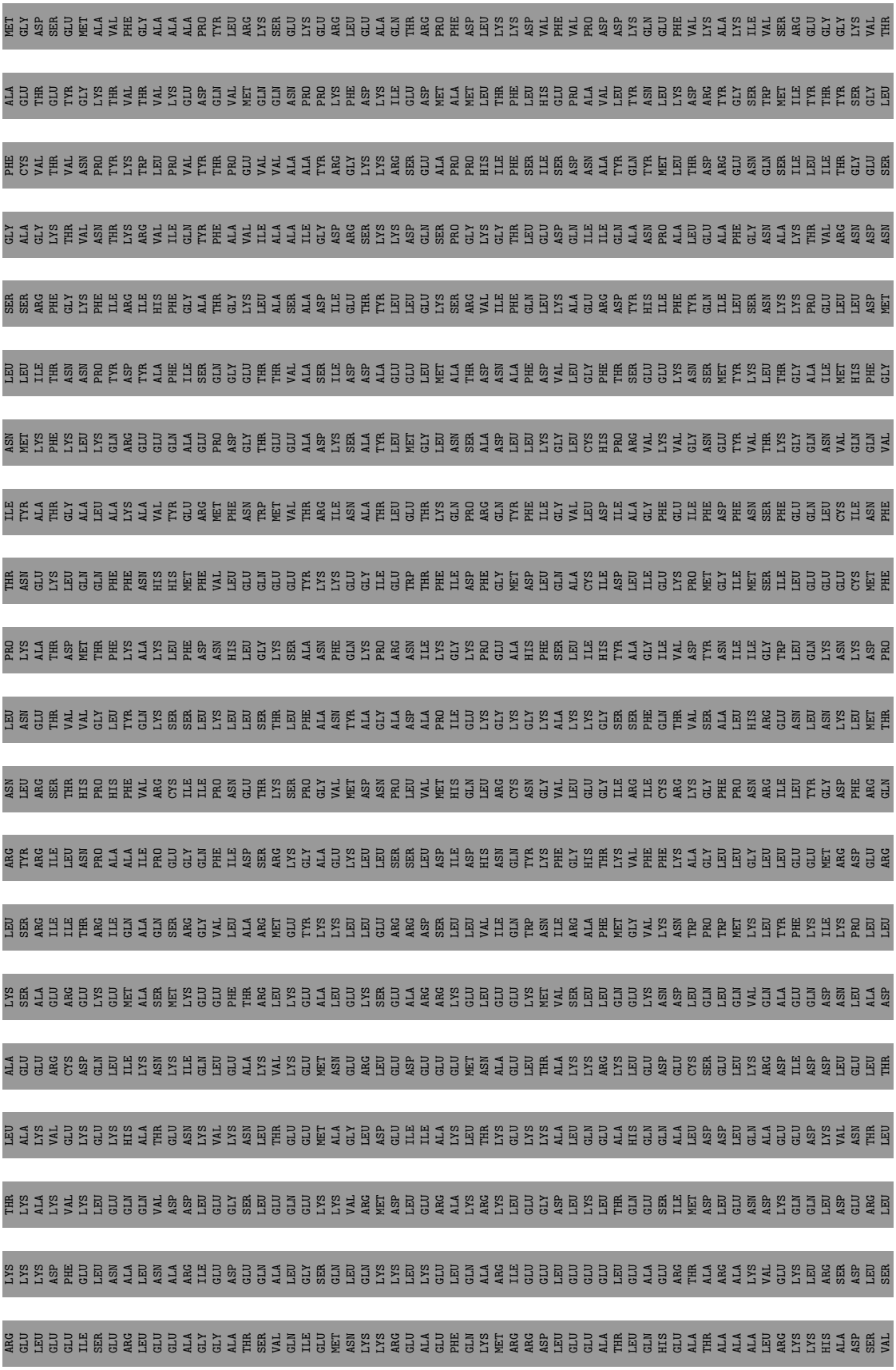
Chain BT:

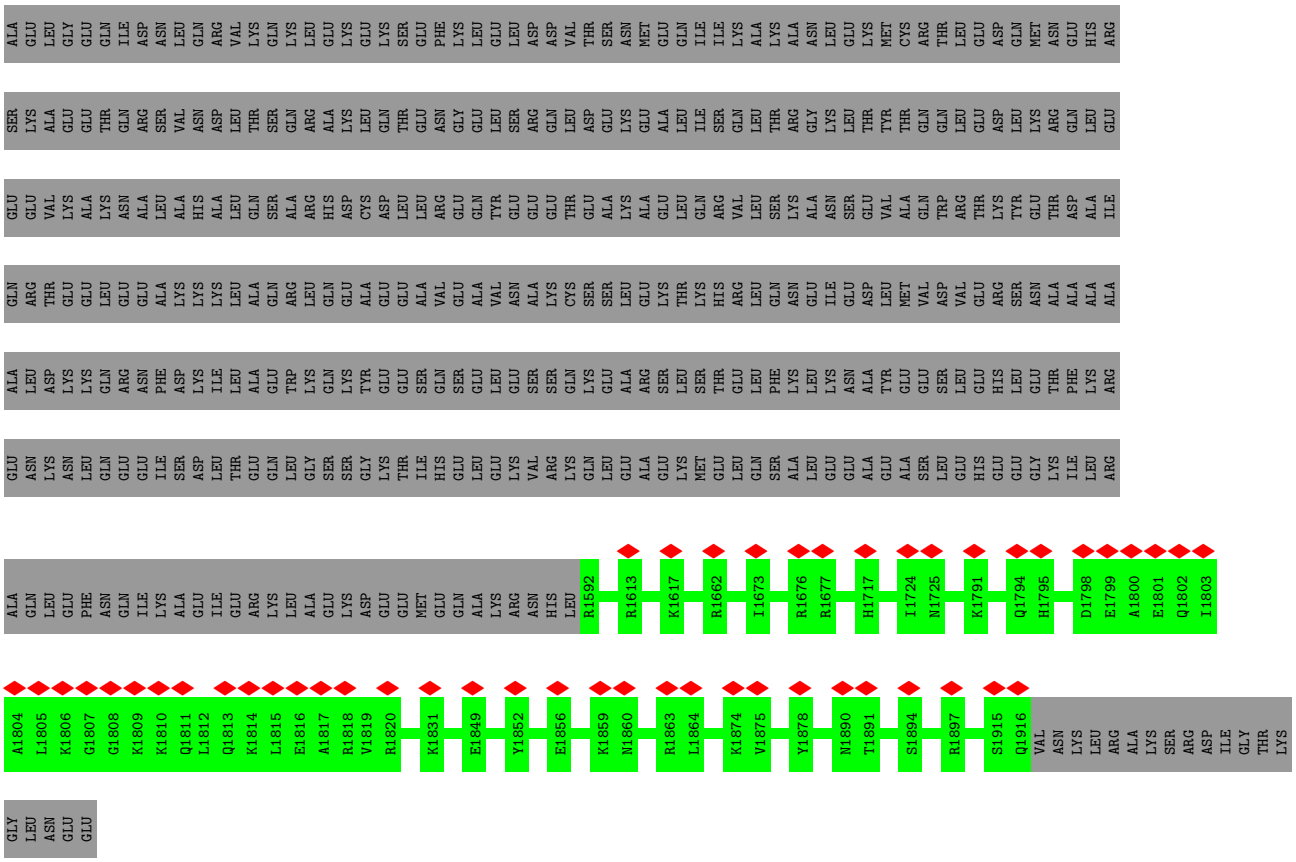




• Molecule 1: Myosin-7

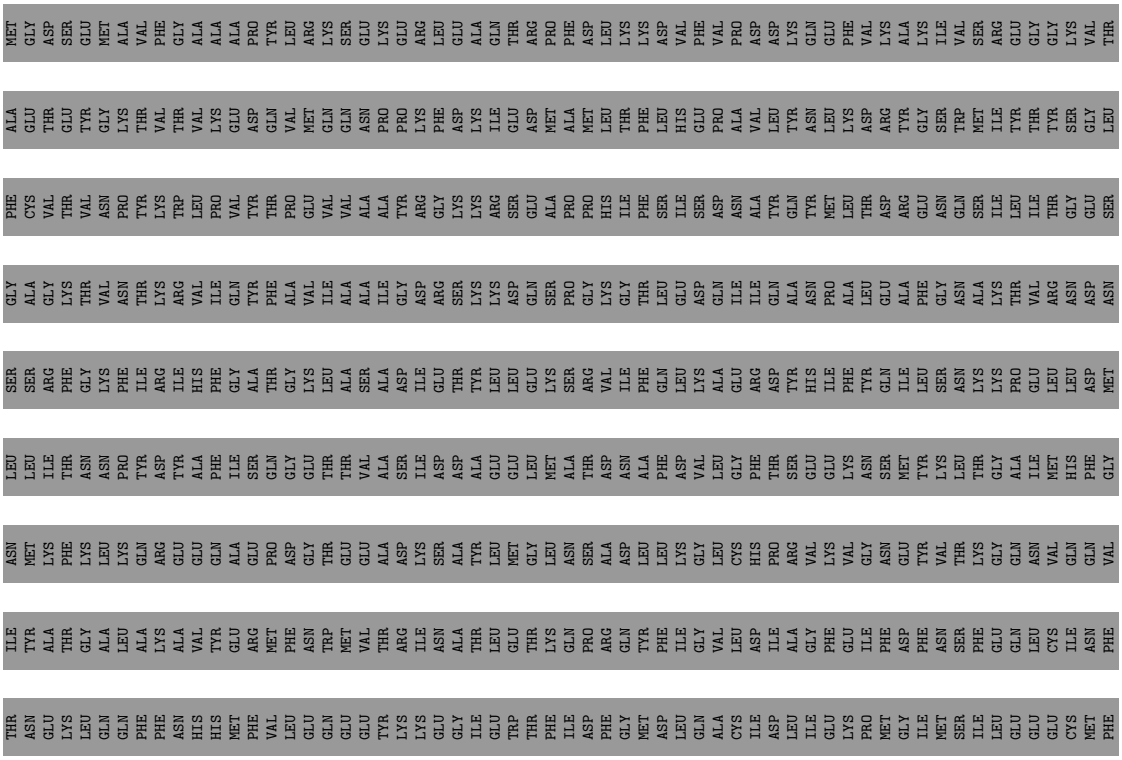
Chain BU:





- Molecule 1: Myosin-7

Chain BV:



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

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

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

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

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

LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU LEU GLU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA LYS VAL LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR

LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU

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

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

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

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

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

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

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

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

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

ALA GLN LEU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU R1592 R1613 K1616 K1617 R1662 D1665 R1676 E1686 E1693 R1697 K1700 R1749 A1755 K1770 K1784

K1791 Q1794 H1795 D1798 E1799 A1800 K1806 G1807 G1808 K1809 K1810 K1814 L1815 E1816 A1817 R1818 V1819 R1820 E1821 L1822 E1825 L1826 E1827 A1828 E1829 Q1830 K1831 R1832 N1833 S1836 L1873 K1874 V1875 K1876 A1877 Y1878 R1897 D1904 E1905 A1906 E1907 E1908 D1911 I1912 A1913 E1914 S1915 Q1916 VAL ASN

LYS LEU ARG ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU

- Molecule 1: Myosin-7

Chain BW:

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

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

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

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

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

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

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

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

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

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

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

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

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

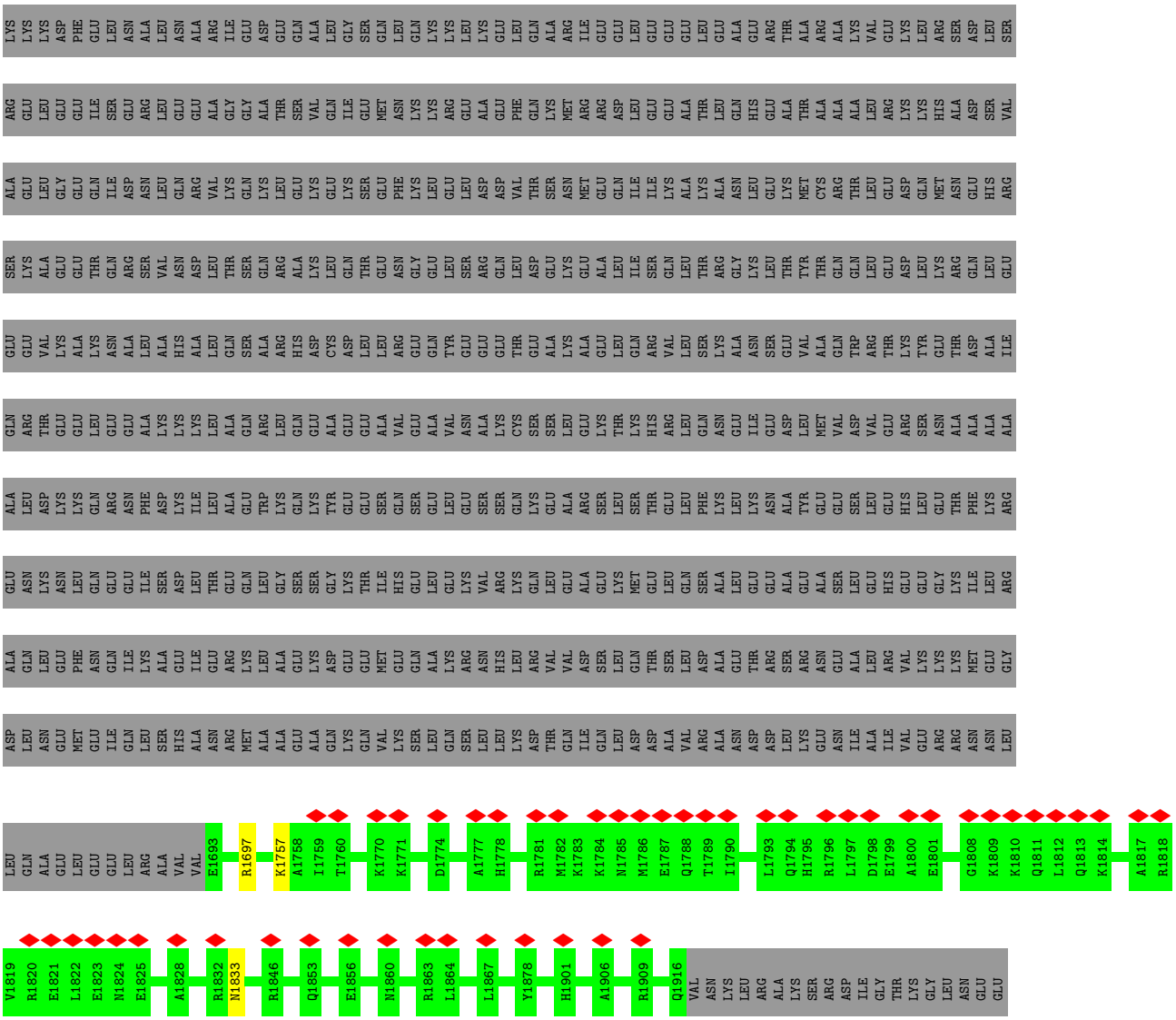
LEU SER ARG ILE ILE THR ARG ILE GLN ALA GLN SER ARG GLY VAL LEU ALA ARG MET GLU TYR LYS LYS LEU LEU GLU ARG ARG ASP SER LEU LEU VAL ILE GLN TRP ASN ILE ARG ALA PHE MET GLY VAL LYS ASN TRP PRO TRP MET LYS LEU TYR PHE LYS ILE LYS PRO LEU LEU

LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU LEU GLU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA LYS VAL LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR

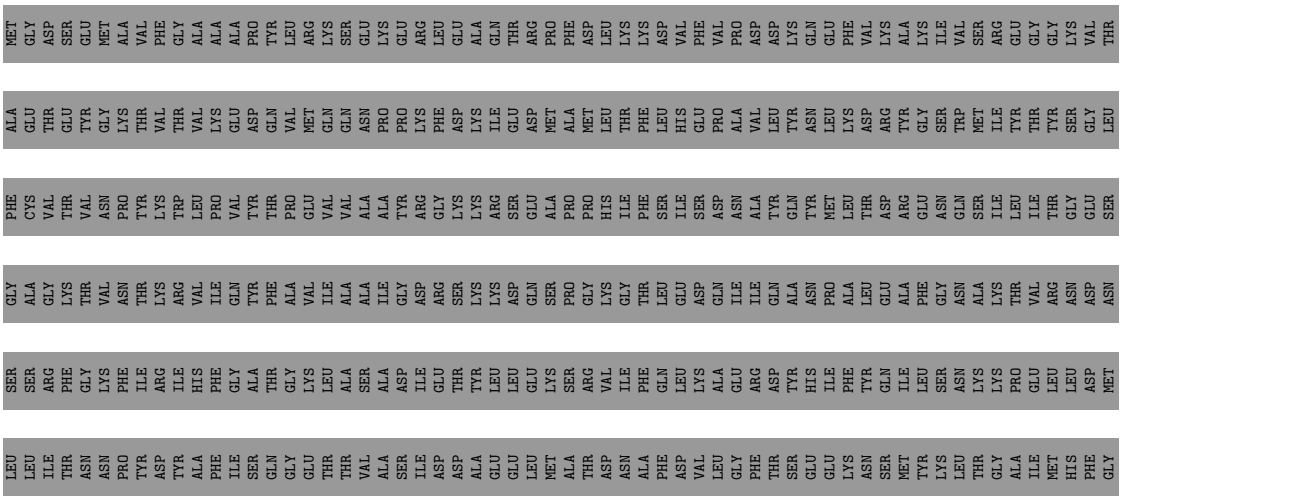
LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU

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



- Molecule 1: Myosin-7

Chain BX:



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

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

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

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

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

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

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

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

LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU LEU GLU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA LYS VAL LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR

LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU

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

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

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

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

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

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

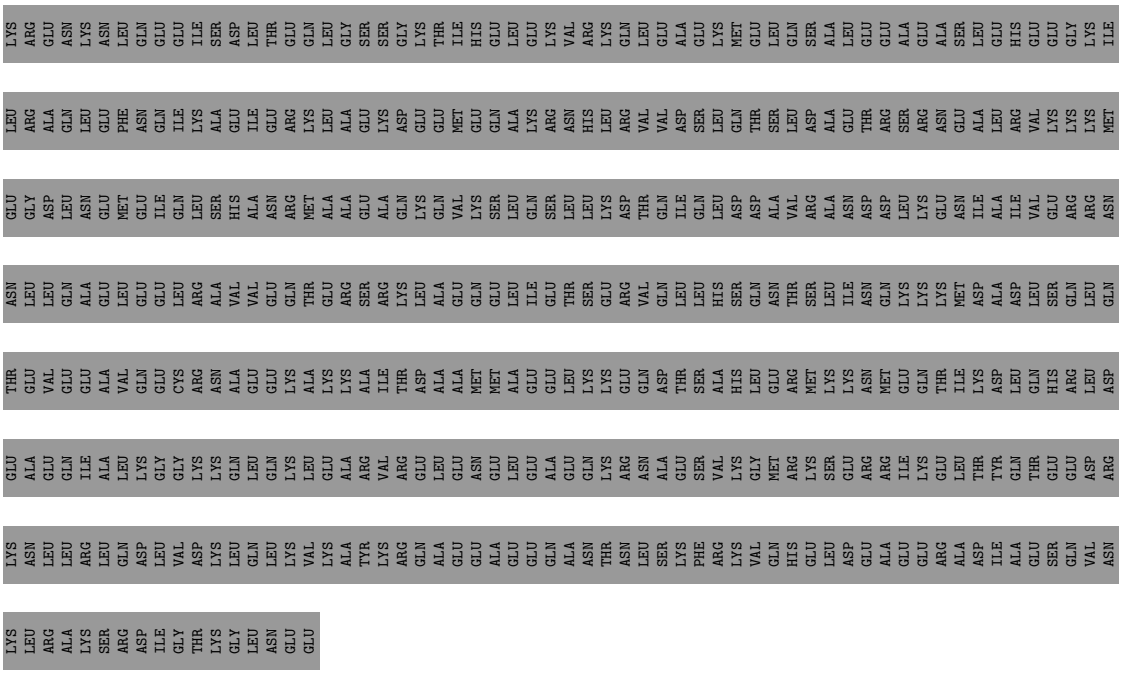
GLN ARG THR GLU GLU LEU GLU GLU ALA LYS LYS LEU ALA GLN ARG LEU GLN GLU ALA GLU GLU ALA VAL GLU ALA VAL ASN ALA LYS CYS SER SER LEU GLU LYS THR LYS HIS ARG LEU GLN ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU ARG SER ASN ALA ALA ALA ALA

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

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

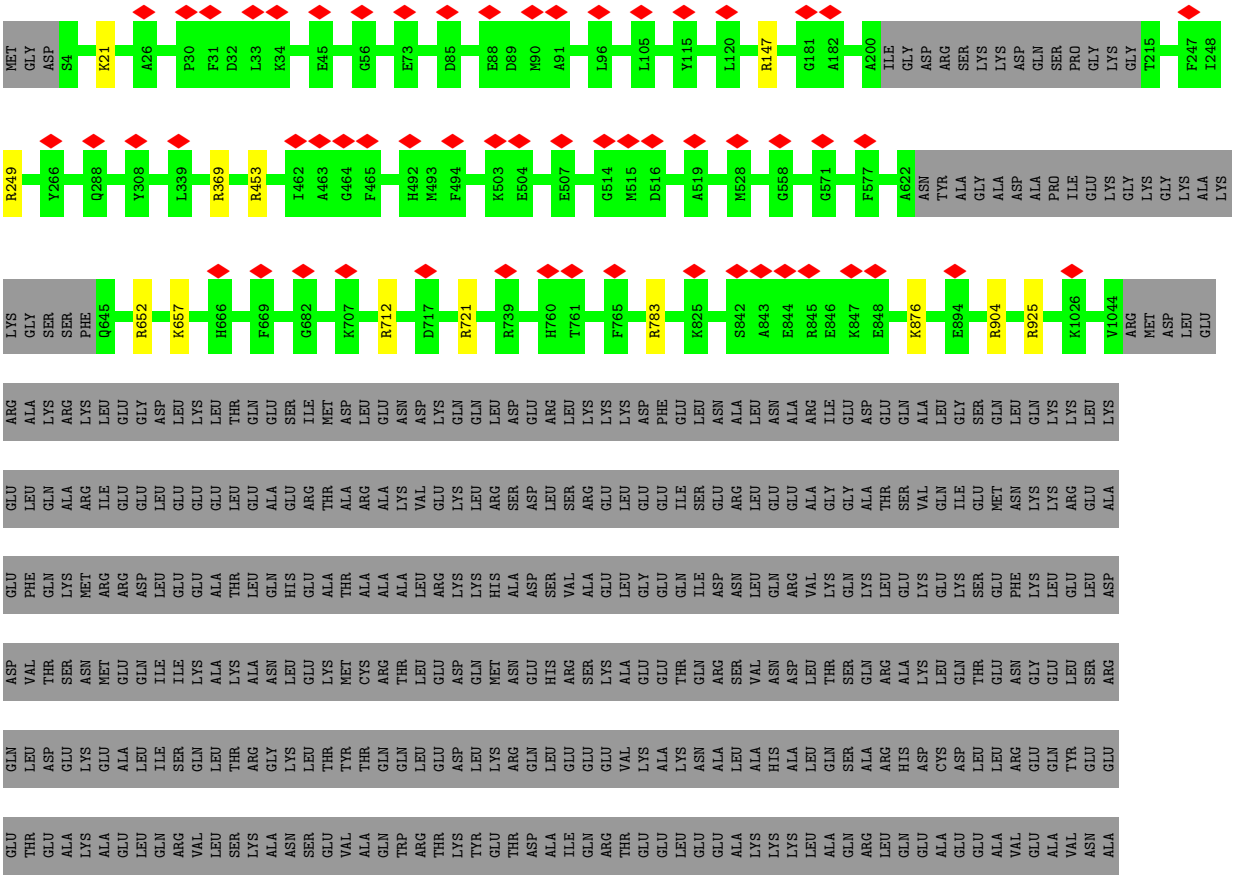
• Molecule 1: Myosin-7

Chain BY: 7% 52% 48%



- Molecule 1: Myosin-7

Chain BZ:



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

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

ARG LYS GLN LEU GLU ALA GLU LYS MET GLU LEU GLN SER ALA LEU GLU GLU ALA GLU ALA SER LEU GLU HIS GLU GLU GLY LYS ILE LEU ARG ALA GLN LEU GLU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLN ALA LYS ARG ASN

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

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

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

LYS LYS GLU GLN ASP THR SER ALA HIS LEU GLU ARG MET LYS LYS ASN MET GLU GLN THR ILE LYS ASP LEU GLN HIS ARG LEU ASP GLU ALA GLU ILE LYS LYS GLY GLY LYS LYS GLN LEU GLU LEU LYS LYS ARG LEU GLU ASN GLU LEU GLU ALA

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

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

- Molecule 1: Myosin-7

Chain be:

MET GLY ASP S4 E5 M6 A7 V8 F9 G10 A11 A12 L16 R17 K18 S19 E20 K21 E22 R23 L24 E25 A26 Q27 T28 R29 P30 F31 D32 L33 K34 K35 D36 D41 D42 K48 A49 K50 I51 V52 S53 R54 E55 G56 T63 E64 Y65 G66 K67 T68 V69 T70 V71 Q78 Q79

N80 P81 P82 K83 F84 D85 D89 L93 T94 E98 I114 Y115 F121 C122 V123 T124 V125 N126 P127 P132 V133 Y134 E137 A141 G144 R147 S148 E149 R169 E170 G178 E179 T185 K189 R190 V191 I192 F195 A199 A200 ILE GLY ASP ARG

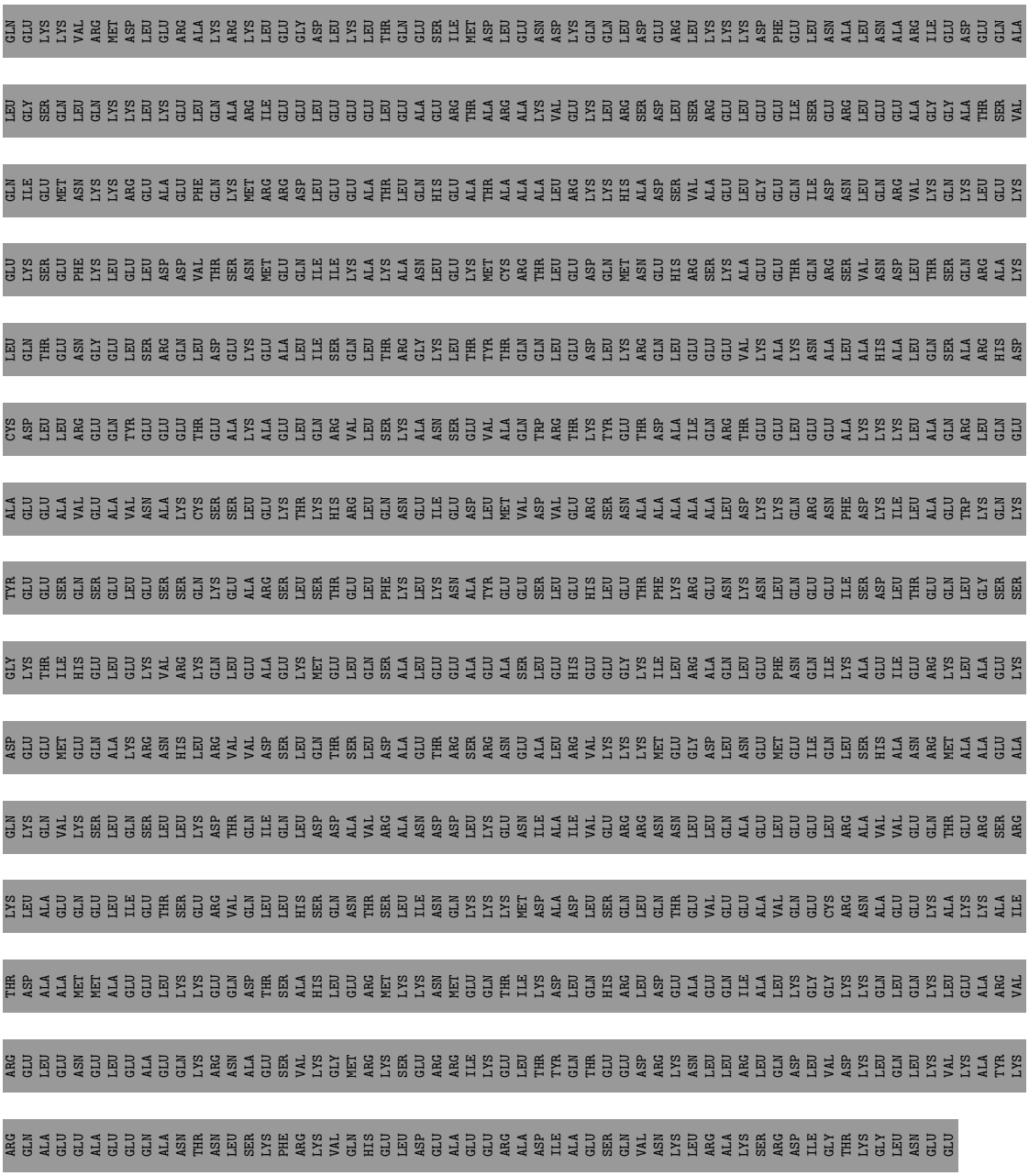
SER LYS LYS ASP GLN SER PRO GLY LYS GLY T215 A223 N224 P225 A226 L227 E228 A229 F230 G231 K246 F247 A254 T255 G256 K257 I263 E264 D299 V320 A321 S322 E327 K351 L352 T353 K363 Q368 R369 E370 N391 S392 A393 D394 V411 Y432

R442 L460 D461 I462 A463 F473 I524 I530 E537 I569 K570 G571 W593 A622 ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE Q645 S664 T665 C672 I673 I674 E677 T678 K679 S680 P681 G682 V683

M684 V698 L699 E700 G701 I702 R703 I704 C705 R706 R712 D717 F718 R721 A728 P731 E732 G733 Q734 F735 I736 D737 A742 L746 D750 I751 D752 H753 N754 Q755 F758 F765 K766 A767 G768 I769 L770 G771 L772 E775 D778 E779 R780 L781 S782 R783 I784

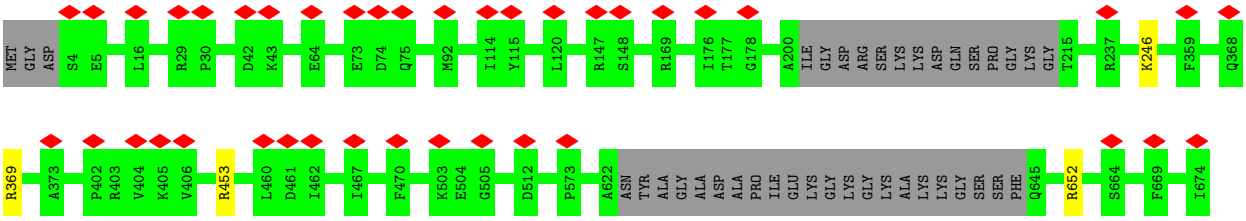
I785 Q789 R793 M822 L840 A843 A850 S851 M852 R858 L859 K860 E861 A862 L863 E864 K865 K940 C947 SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR

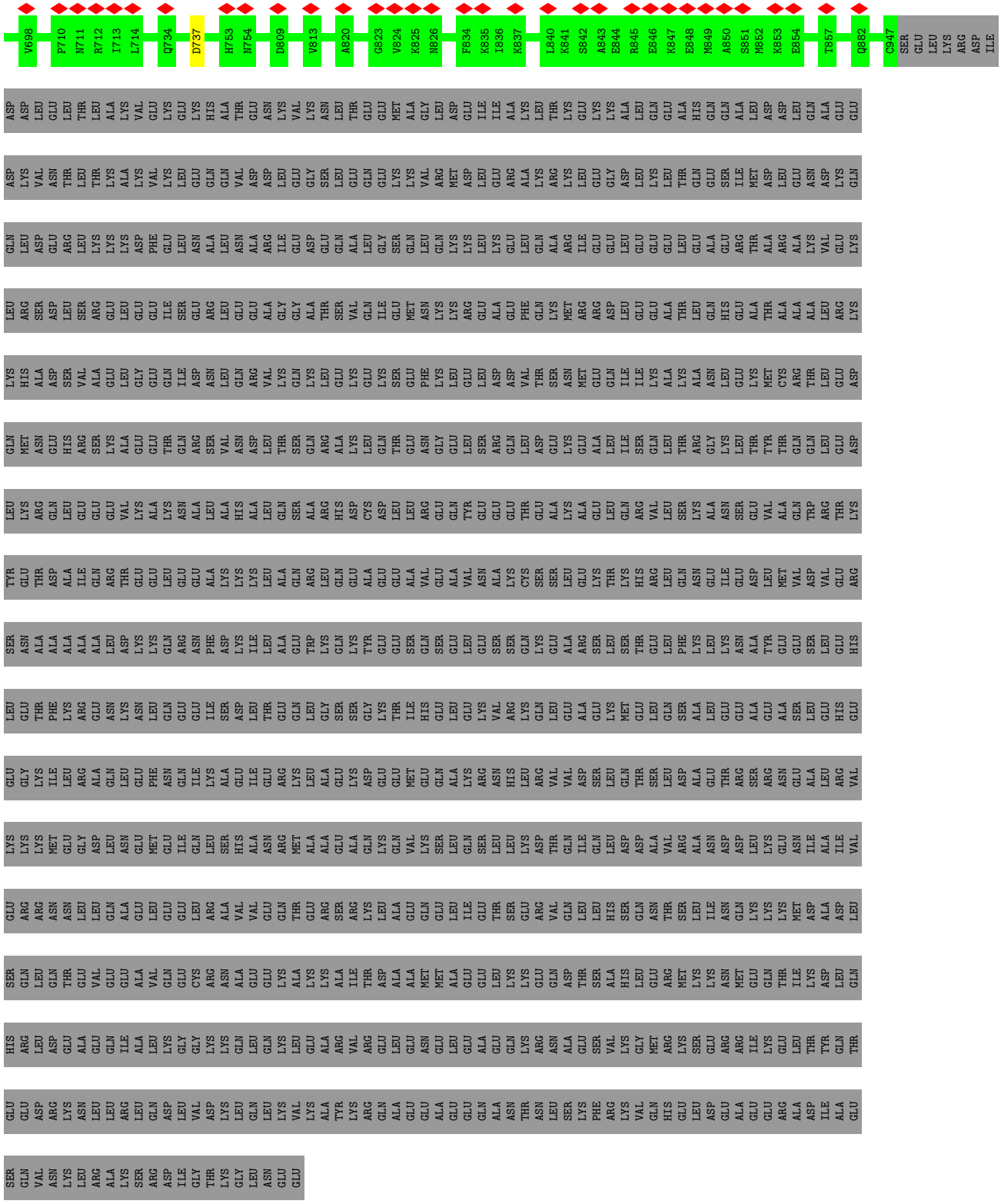
GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU THR LYS ALA LYS VAL LYS LEU GLU GLN GLN VAL ASP ASP LEU GLU GLY SER LEU GLU



- Molecule 1: Myosin-7

Chain bf:





- Molecule 1: Myosin-7

Chain bk: 7% 93%

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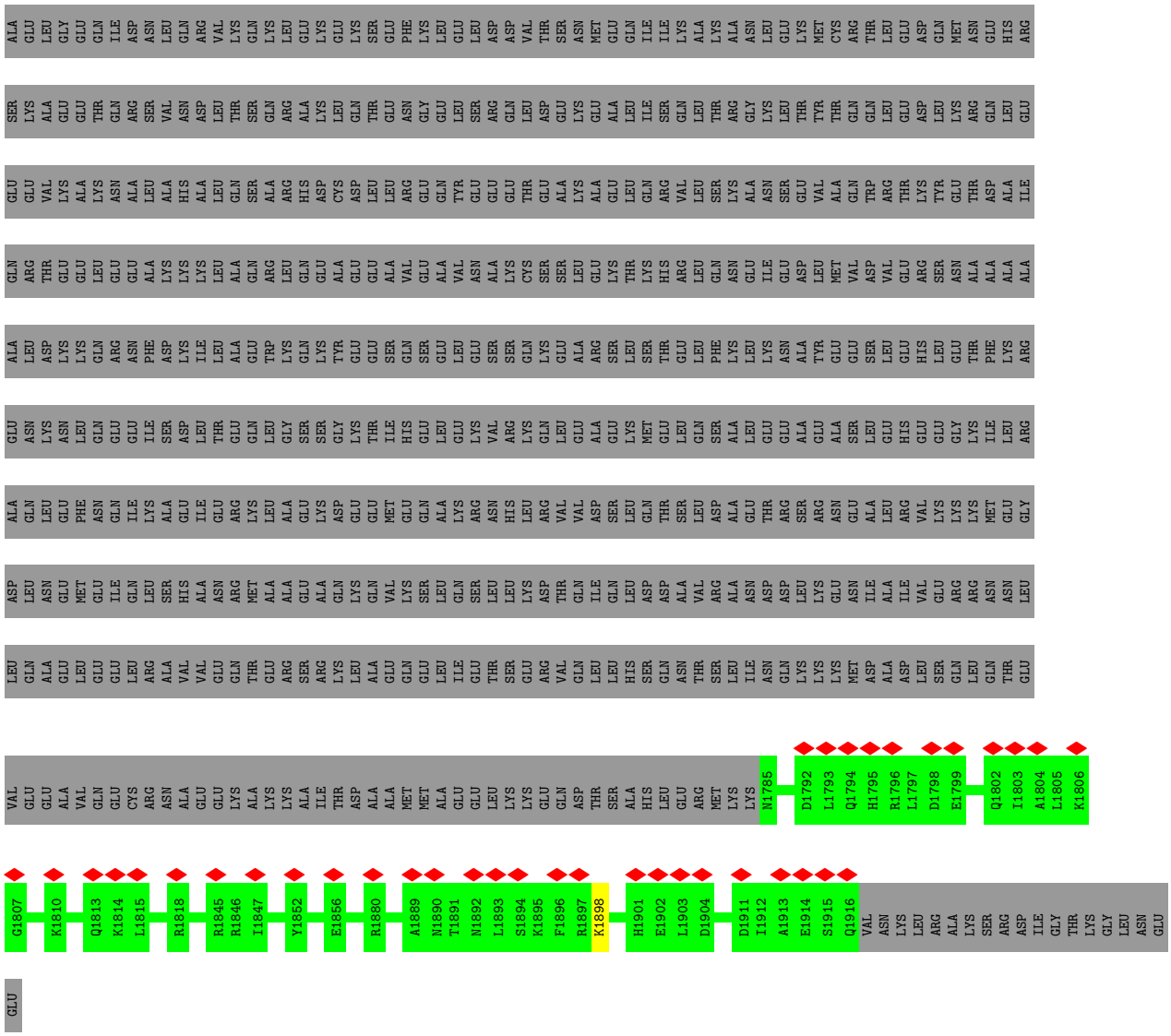
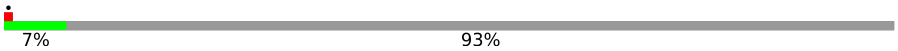
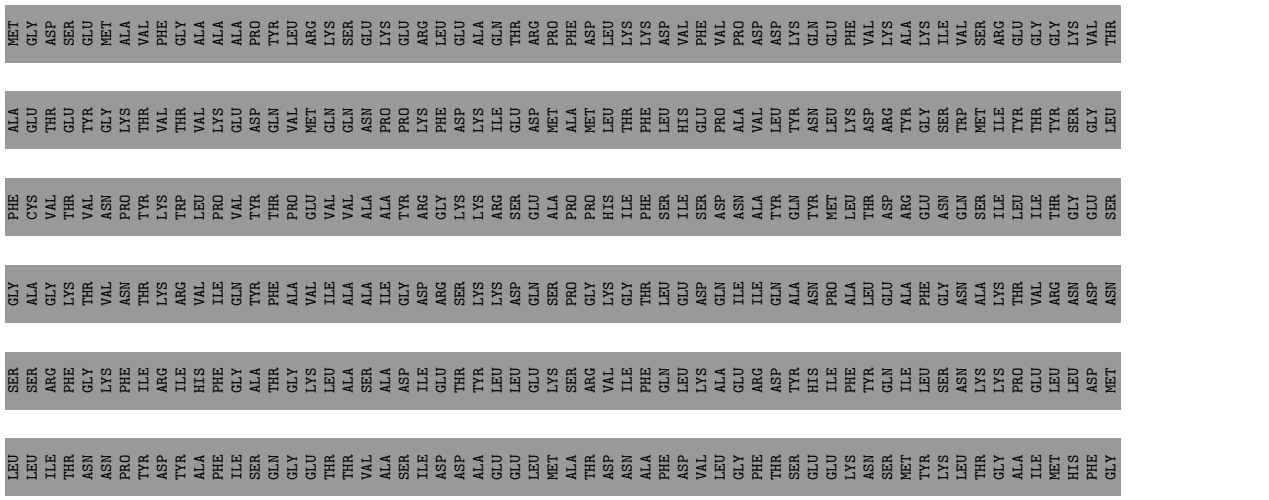


- Molecule 1: Myosin-7

Chain bl:





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

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

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

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

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

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

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

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

LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU LEU GLU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA LYS VAL LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR

LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU

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

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

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

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

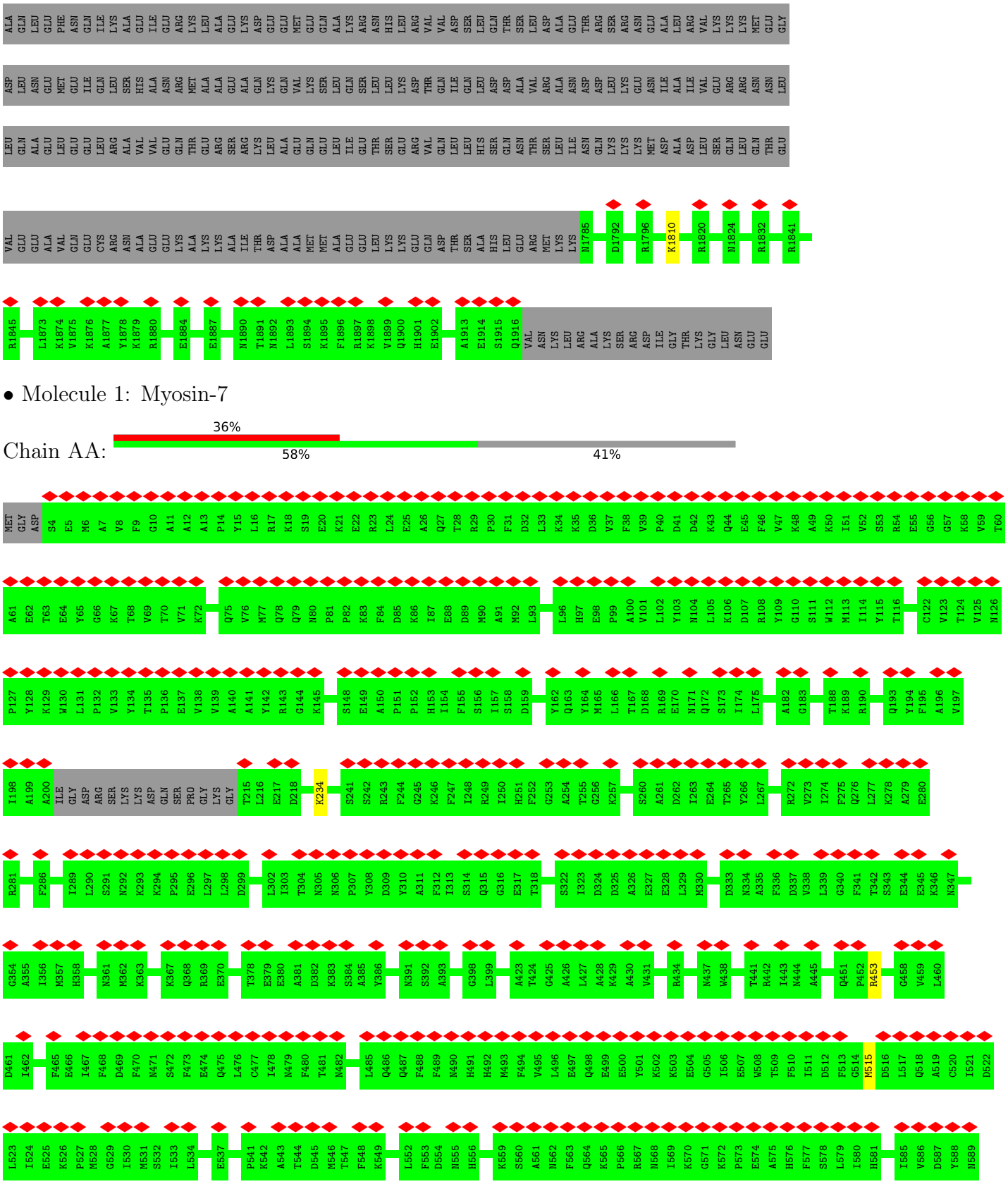
SER LYS ALA GLU GLU THR GLN ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU ASN GLY GLU LEU SER ARG GLN LEU ASP GLU LYS GLU ALA LEU ILE SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU

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

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

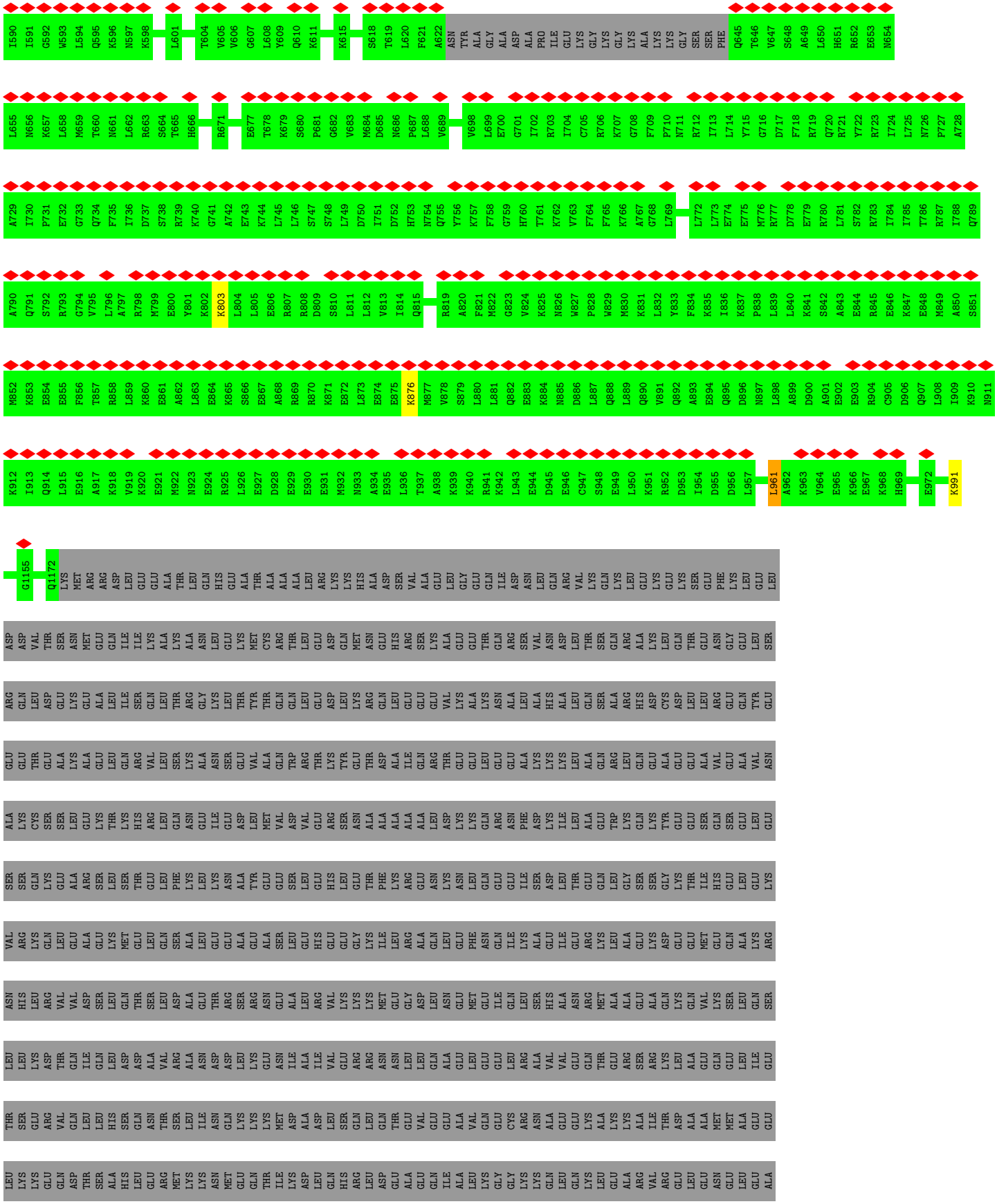
ALA LEU ASP LYS LYS GLN ARG ASN PHE ASP LYS ILE LEU ALA GLU TRP LYS GLN LYS TYR GLU GLU SER GLN SER GLU LEU GLU SER SER GLN LYS GLU ALA ARG SER LEU SER THR GLU LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS LEU GLU THR PHE LYS ARG

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



- Molecule 1: Myosin-7

Chain AA: 36% 58% 41%


I590 I591 G592 W593 L594 Q595 K596 N597 K598 L601 T604 V605 V606 G607 L608 Y609 Q610 K611 K615 S618 T619 L620 F621 A622 ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE Q645 T646 V647 S648 A649 L650 H651 R652 E653 N654
L655 N656 K657 L658 M659 T660 N661 L662 R663 S664 T665 H666 R671 E677 T678 K679 S680 P681 G682 V683 M684 D685 N686 P687 L688 V689 V698 L699 E700 G701 I702 R703 I704 C705 R706 K707 G708 F709 P710 N711 R712 I713 L714 Y715 G716 D717 F718 R719 Q720 R721 Y722 R723 I724 L725 N726 P727 A728
A729 I730 P731 E732 G733 Q734 F735 I736 D737 S738 R739 K740 G741 A742 E743 K744 L745 L746 S747 S748 L749 D750 I751 D752 H753 N754 Q755 Y756 K757 F758 G759 H760 T761 K762 V763 F764 F765 K766 A767 G768 L769 L772 L773 E774 E775 M776 R777 D778 E779 R780 L781 S782 R783 I784 I785 T786 R787 I788 Q789
A790 Q791 S792 R793 G794 V795 L796 A797 R798 M799 E800 Y801 K802 K803 L804 L805 E806 R807 R808 D809 S810 L811 L812 V813 I814 Q815 R819 A820 F821 M822 G823 V824 K825 N826 W827 P828 W829 M830 K831 L832 Y833 F834 K835 I836 K837 P838 L839 L840 K841 S842 A843 E844 R845 E846 K847 E848 M849 A850 S851
M852 K853 E854 E855 F856 T857 R858 L859 K860 E861 A862 L863 E864 K865 S866 E867 A868 R869 R870 K871 E872 L873 E874 E875 K876 M877 V878 S879 L880 L881 Q882 E883 K884 N885 D886 L887 Q888 L889 Q890 V891 Q892 A893 E894 Q895 D896 N897 L898 A899 D900 A901 E902 E903 R904 C905 D906 Q907 L908 I909 K910 N911
K912 I913 Q914 L915 E916 A917 K918 V919 K920 E921 M922 N923 E924 R925 L926 E927 D928 E929 E930 E931 M932 N933 A934 E935 L936 T937 A938 K939 K940 R941 K942 L943 E944 D945 E946 C947 S948 E949 L950 K951 R952 D953 I954 D955 D956 L957 L961 A962 K963 V964 E965 K966 E967 K968 H969 E972 K991
G1155 Q1172 LYS MET ARG ARG ASP LEU GLU GLU ALA THR LEU GLN HIS GLU ALA THR ALA ALA ALA LEU LEU ARG LYS LYS HIS ALA ASP SER VAL ALA GLU LEU GLY GLU GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU GLU LYS GLU LYS SER GLU PHE LYS LEU GLU LEU
ASP ASP VAL THR SER ASN MET GLU GLN ILE ILE LYS ALA LYS ALA ASN LEU GLU LYS MET CYS ARG THR LEU GLU ASP GLN MET ASN GLU HIS ARG SER LYS ALA GLU GLU THR GLN ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU ASN GLY GLU LEU SER
ARG GLN LEU ASP GLU LYS GLU ALA LEU ILE SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU
GLU GLU THR GLU ALA LYS ALA GLU LEU GLN ARG VAL LEU SER LYS ALA ASN SER GLU VAL ALA GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE GLN ARG THR GLU GLU LEU GLU ALA LYS LYS LEU ALA GLN ARG LEU GLN GLU ALA GLU GLU ALA VAL GLU ALA VAL ASN
ALA LYS CYS SER SER LEU GLU LYS THR LYS HIS ARG LEU GLN ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU ARG SER ASN ALA ALA ALA ALA ALA LEU ASP LYS LYS GLN ARG ASN PHE ASP LYS ILE LEU ALA GLU TRP LYS GLN LYS TYR GLU GLU GLU SER GLN SER GLU ALA GLU
SER SER GLN LYS GLU ALA ARG SER LEU SER THR GLU LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS LEU GLU THR PHE LYS ARG GLU ASN LYS ASN LEU GLN GLU GLU GLN GLN LEU GLN ASP LEU LEU THR GLU GLN GLU GLU LEU GLU GLU LEU GLU
VAL ARG LYS GLN LEU GLU ALA GLU LYS MET GLU LEU GLN SER ALA LEU GLU GLU ALA ALA SER LEU GLU HIS GLU GLU GLY LYS ILE LEU ARG ALA GLN LYS LEU GLU PHE ASN GLN ILE ILE LYS ALA GLU ILE GLU ARG GLN LYS ASP GLU GLU GLU MET GLU ALA GLU LYS
ASN HIS LEU ARG VAL VAL ASP SER LEU GLN THR SER LEU ASP ALA GLU THR ARG SER ARG ASN GLU ALA LEU ARG VAL LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LEU SER HIS ALA ASN ARG MET ALA ALA GLU LYS ASP GLU GLU GLN GLN LYS LEU GLN SER
LEU LEU LYS ASP THR GLN ILE GLN LEU ASP ASP ALA VAL ARG ASP LEU LYS GLU ASN ALA ILE VAL GLU ARG ARG ASN ASN LEU LEU GLN ALA GLU LEU GLU GLU GLU LEU ARG ALA VAL VAL GLU GLN THR GLU ARG SER ARG LYS LEU ALA GLU GLU ILE GLU
THR SER GLU ARG VAL GLN LEU HIS SER GLN ASN THR SER LEU ILE ASN GLN LYS LYS LYS MET ASP ALA ASP LEU SER GLN LEU LEU GLN THR GLU GLU GLU ALA VAL GLU GLU CYS ARG ASN ALA GLU GLU LYS ALA LYS LYS ALA ALA ILE THR ASP ALA ALA MET MET ALA LYS GLU
LEU LYS LYS GLU GLN ASP THR SER ALA HIS LEU GLU ARG MET LYS LYS ASN MET GLU GLN THR ILE LYS ASP LEU GLN HIS ARG LEU ASP GLU ALA GLU GLN ILE ALA LEU LYS GLY GLY LYS LYS GLN LEU LEU GLN LYS LEU LEU ALA ARG VAL ARG GLU LEU GLU GLU ASN GLU LEU GLU ALA GLU

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

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

- Molecule 1: Myosin-7

Chain AB: 44% 58% • 41%

MET GLY ASP S4 E5 M6 A7 V8 F9 G10 A11 A12 A13 P14 Y15 L16 R17 K18 S19 E20 K21 E22 R23 L24 E25 A26 Q27 T28 R29 P30 F31 D32 L33 K34 K35 D36 V37 F38 V39 P40 D41 D42 K43 Q44 E45 F46 V47 K48 A49 K50 I51 V52 S53 R54 E55 G56 G57 K58 V59 T60

A61 E62 T63 E64 Y65 G66 K67 T68 V69 T70 V71 K72 E73 D74 Q75 V76 M77 Q78 Q79 N80 P81 P82 K83 F84 D85 K86 I87 E88 D89 M90 A91 M92 L93 T94 F95 L96 H97 E98 P99 A100 V101 L102 Y103 N104 L105 K106 D107 R108 Y109 G110 S111 W112 M113 I114 Y115 T116 Y117 S118 G119 L120

F121 C122 V123 T124 V125 N126 P127 Y128 K129 W130 L131 P132 V133 Y134 T135 P136 E137 V138 V139 A140 A141 Y142 R143 G144 K145 K146 R147 S148 E149 A150 P151 P152 H153 I154 F155 S156 I157 S158 D159 N160 A161 Y162 Q163 Y164 M165 L166 T167 I174 L175 I176 T177 G178 E179 S180 G181 A182 G183 K184

N187 T188 K189 R190 Q193 Y194 F195 A196 V197 T198 A199 A200 ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY T215 L216 E217 D218 Q219 I220 I221 Q222 A223 N224 L227 E228 A229 F230 G231 K234 T235 V236 R237 N238 D239 N240 S241 S242 R243 F244 G245 K246 R249

F252 G253 A254 T255 G256 K257 L258 A259 S260 A261 D262 I263 E264 T265 Y266 L267 L268 E269 K270 S271 R272 F275 Q276 L277 K278 A279 E280 I285 F286 Y287 Q288 I289 L290 S291 N292 K293 K294 P295 E296 L297 L298 D299 M300 L301 L302 I303 T304 N305 N306 P307 Y308 D309 Y310 I313 S314 Q315 G316

E317 T318 T319 V320 A321 S322 I323 D324 D325 A326 E327 E328 L329 M330 A331 T332 D333 N334 A335 F336 D337 V338 L339 G340 F341 T342 S343 E344 E345 K346 N347 S348 M349 Y350 K351 L352 T353 G354 A355 I356 M357 H358 N361 M362 K363 F364 K365 L366 K367 Q368 R369 E370 E371 Q372 A373 E374 P375 D376 G377

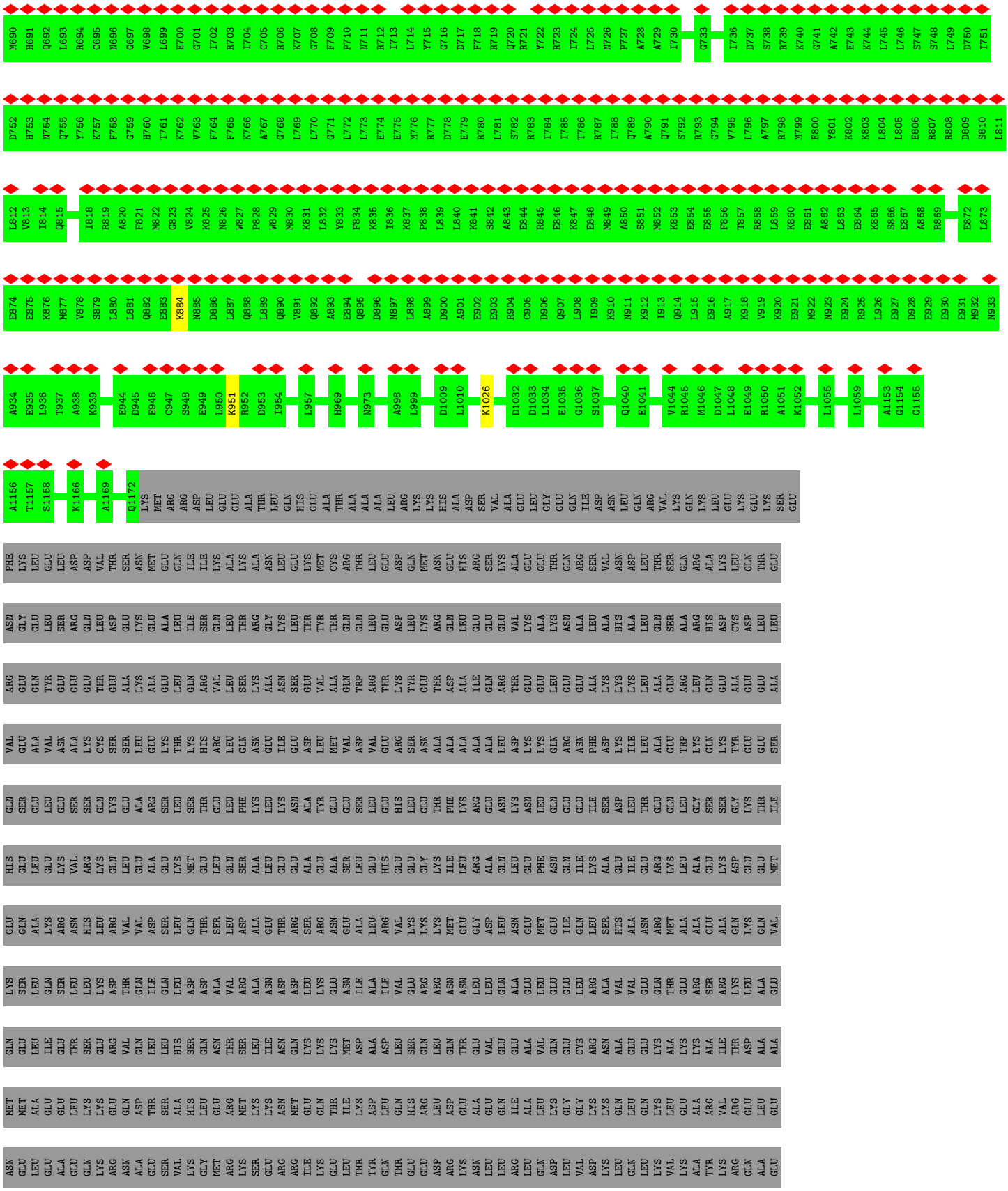
T378 E379 E380 A381 D382 K383 S384 A385 Y386 L387 M388 G389 L390 N391 S392 A393 D394 L395 L396 K397 G398 L399 C400 H401 P402 R403 V404 K405 V406 G407 N408 E409 Y410 V411 T412 K413 G414 Q415 N416 V417 Q418 Q419 V420 L427 A430 V431 Y432 E433 R434 M435 F436 N437 W438 M439 V440 T441 R442 I443

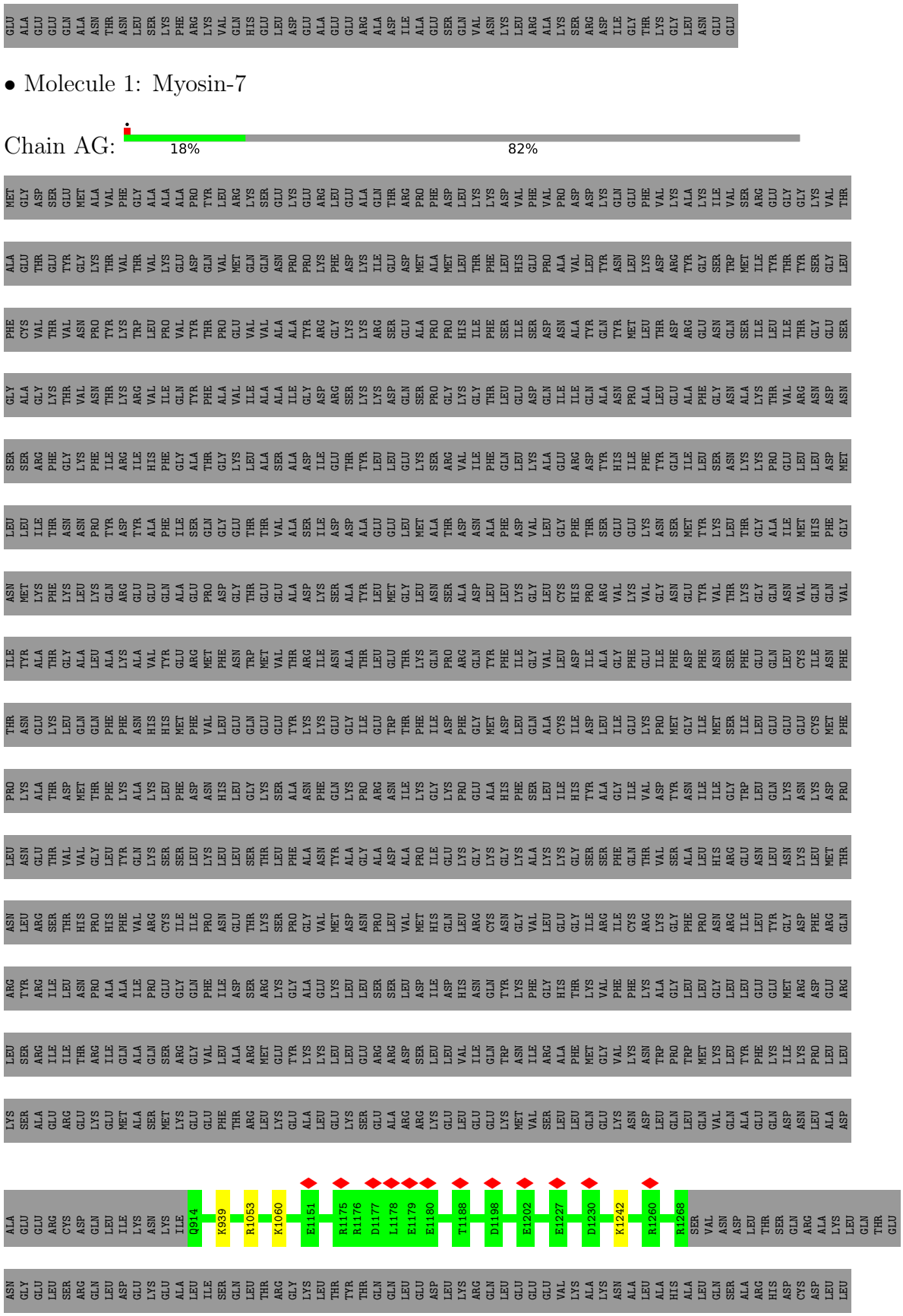
N444 A445 T446 L447 E448 T449 K450 Q451 P452 R453 Q454 I460 D461 I462 A463 G464 F465 E466 I467 F468 D469 F470 N471 S472 F473 E474 Q475 L476 C477 I478 N479 F480 T481 N482 E483 K484 L485 Q486 Q487 F488 F489 N490 H491 H492 M493 F494 V495 L496 E497 Q498 E499 E500 Y501 K502 K503 E504 G505 I506 E507

W508 T509 F510 I511 D512 F513 G514 M515 D516 L517 Q518 A519 C520 I521 D522 L523 I524 E525 K526 P527 M528 G529 I530 M531 S532 I533 L534 E535 E536 E537 C538 M539 F540 P541 K542 A543 T544 D545 M546 T547 F548 K549 A550 K551 L552 F553 D554 N555 H556 L557 G558 K559 S560 A561 N562 F563 Q564 K565 P566 R567

N568 I569 K570 G571 K572 P573 E574 A575 H576 F577 S578 L579 I580 H581 Y582 A583 G584 I585 V586 D587 Y588 N589 I590 I591 G592 W593 L594 Q595 K596 N597 K598 D599 P600 L601 N602 E603 T604 V605 V606 Y609 Q610 K611 S612 S613 L614 K615 L616 L617 K618 T619 L620 F621 A622 ASN TYR ALA GLY ALA ASP

ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE Q645 T646 V647 S648 A649 L650 H651 R652 E653 N654 L655 N656 K657 L658 M659 T660 N661 L662 R663 H666 P667 H668 F669 V670 R671 C672 I673 I674 P675 N676 E677 T678 K679 S680 P681 G682 V683 M684 D685 N686 P687 L688 V689


M690 H691 Q692 L693 R694 C695 N696 G697 V698 L699 E700 G701 I702 R703 I704 C705 R706 K707 G708 F709 P710 N711 R712 I713 L714 Y715 G716 D717 F718 R719 Q720 R721 Y722 R723 I724 L725 N726 P727 A728 A729 I730 G733 I736 D737 S738 R739 K740 G741 A742 E743 K744 L745 L746 S747 S748 L749 D750 I751
D752 H753 N754 Q755 Y756 K757 F758 G759 H760 T761 K762 V763 F764 F765 K766 A767 G768 L769 L770 G771 L772 L773 E774 E775 W776 R777 D778 E779 R780 L781 S782 R783 I784 I785 T786 R787 I788 Q789 A790 Q791 S792 R793 G794 V795 L796 A797 R798 M799 E800 Y801 K802 K803 L804 L805 E806 R807 R808 D809 S810 L811
L812 V813 I814 Q815 I818 R819 A820 F821 M822 G823 V824 K825 M826 W827 P828 W829 M830 K831 L832 Y833 F834 K835 I836 K837 P838 L839 L840 K841 S842 A843 E844 R845 E846 K847 E848 M849 A850 S851 M852 K853 E854 E855 F856 T857 R858 L859 K860 E861 A862 L863 E864 K865 S866 E867 A868 R869 E872 L873
E874 E875 K876 M877 V878 S879 L880 L881 Q882 E883 K884 N885 D886 L887 Q888 L889 Q890 V891 Q892 A893 E894 Q895 D896 N897 L898 A899 D900 A901 E902 E903 R904 C905 D906 Q907 L908 I909 K910 N911 K912 I913 Q914 L915 E916 A917 K918 V919 K920 E921 M922 N923 E924 R925 L926 E927 D928 E929 E930 E931 M932 N933
A934 E935 L936 T937 A938 K939 E944 D945 E946 C947 S948 E949 L950 K951 R952 D953 I954 L957 H969 N973 A998 L999 D1009 L1010 K1026 D1032 D1033 L1034 E1035 G1036 S1037 Q1040 E1041 V1044 R1045 M1046 D1047 L1048 E1049 R1050 A1051 K1052 L1055 L1059 A1153 G1154 G1155
A1156 T1157 S1158 K1166 A1169 Q1172 LYS MET ARG ARG ASP LEU GLU GLU ALA THR LEU GLN HIS GLU ALA THR ALA ALA ALA LEU ARG LYS LYS HIS ALA ASP SER VAL ALA GLU LEU GLY GLU GLN ILE ASP ASN LEU GLN ARG LYS LEU GLU GLN THR GLU
PHE LYS LEU GLU LEU ASP ASP VAL THR SER ASN MET GLU GLN ILE ILE LYS ALA LYS ASN LEU LEU GLU LYS MET CYS ARG THR LEU GLU ASP GLN MET ASN GLU HIS ARG SER LYS ALA GLU GLU THR GLN ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU
ASN GLY GLU LEU SER ARG GLN LEU ASP GLU LYS GLU ALA LEU ILE SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU
ARG GLU GLN TYR GLU GLU GLU THR GLU ALA LYS ALA GLU LEU GLN ARG VAL LEU SER LYS ALA ASN SER GLU VAL ALA GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE GLN ARG THR GLU GLU LEU GLU GLU ALA LYS LYS LYS LEU ALA GLN ARG LEU GLN GLU ALA GLU GLU ALA
VAL GLU ALA VAL ASN ALA LYS CYS SER SER LEU GLU LYS THR LYS HIS ARG LEU GLN ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU ARG SER ASN ALA ALA ALA ALA LEU ASP LYS LYS GLN ARG ASN PHE ASP LYS ILE LEU ALA GLU TRP LYS GLN LYS TYR GLU GLU SER
GLN SER GLU LEU GLU SER SER GLN LYS GLU ALA ARG SER LEU SER THR GLU LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS LEU GLU THR PHE LYS ARG GLU ASN LYS ASN LEU GLN GLU GLU ILE SER ASP LEU THR GLU GLN GLY LYS THR ILE
HIS GLU LEU GLU LYS VAL ARG LYS GLN LEU GLU ALA GLU LYS MET GLU LEU GLN SER ALA LEU GLU GLU ALA ALA SER LEU GLU HIS GLU GLU GLY LYS ILE LEU ARG ALA GLN LEU GLU GLU GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU GLU SER GLY LYS GLU GLU MET
GLU GLN ALA LYS ARG ASN HIS LEU ARG VAL VAL ASP SER LEU GLN THR SER LEU ASP ALA ALA GLU THR ARG SER ARG ASN GLU ALA LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LEU SER HIS ALA ASN ARG MET ALA ALA GLU ALA GLN LYS GLN VAL
LYS SER LEU GLN SER LEU LEU LYS ASP THR GLN ILE GLN LEU ASP ASP ASP ALA VAL ARG ALA ASN ASP ASP LEU LYS GLU ASN ILE ILE ALA VAL LYS LYS LYS LEU ARG VAL GLU LYS LYS LYS ASN ASN LEU GLU GLU LEU GLU GLU GLN THR GLU ARG SER ARG LYS LEU ALA GLU
GLN GLU LEU ILE GLU THR SER GLU ARG VAL GLN LEU LEU HIS SER GLN ASN THR SER LEU ILE ASN ASN LYS LYS LYS MET ASP ALA ASP LEU SER GLN LEU GLN THR GLU VAL GLU ALA VAL GLN GLU CYS ARG ASN ALA GLU GLU LYS ALA LYS LYS ALA ALA ALA
MET MET ALA GLU GLU LEU LYS LYS GLU GLN GLN LEU ASP THR SER ALA HIS LEU GLU ARG MET LYS LYS ASN MET GLU GLN THR ILE LYS ASP LEU GLN HIS ARG LEU ASP GLU ALA VAL GLU GLN ILE ALA LEU LYS GLY GLY LYS LYS GLN LEU GLU GLN LYS LEU GLU ALA ARG VAL ARG GLU LEU ALA
ASN GLU LEU GLU ALA GLU GLN LYS ARG ASN ALA GLU SER VAL LYS GLY MET ARG LYS SER GLU ARG ARG ILE LYS GLU LEU THR TYR GLN THR GLU GLU ASP ARG LYS ASN LEU LEU ARG LEU GLN ASP LEU VAL ASP LYS LYS LEU GLN LEU GLN LYS VAL LYS ALA TYR LYS ARG GLN LEU ALA


GLU ALA GLU GLU GLN ALA ASN THR ASN LEU SER LYS PHE ARG LYS VAL GLN HIS GLU LEU ASP GLU ALA GLU GLU ARG ALA ASP ILE ALA GLU SER GLN VAL ASN LYS LEU ARG ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU
• Molecule 1: Myosin-7
Chain AG:
18%
82%
MET GLY ASP SER GLU MET ALA VAL PHE GLY ALA ALA ALA PRO TYR LEU ARG LYS SER GLU LYS GLU ARG LEU GLU ALA GLN THR ARG PRO PHE ASP LEU LYS LYS ASP VAL PHE VAL PRO ASP ASP LYS GLN GLU PHE VAL LYS ALA LYS ILE VAL SER ARG GLU GLY GLY LYS VAL THR
ALA GLU THR GLU TYR GLY LYS THR VAL THR VAL LYS GLU ASP GLN VAL MET GLN GLN ASN PRO PRO LYS PHE ASP LYS ILE GLU ASP MET ALA MET LEU THR PHE LEU HIS GLU PRO ALA VAL LEU TYR ASN LEU LYS ASP ARG TYR GLY SER TRP MET ILE TYR THR TYR SER GLY LEU
PHE CYS VAL THR VAL ASN PRO TYR LYS TRP LEU PRO VAL TYR THR PRO GLU VAL VAL ALA ALA TYR ARG GLY LYS LYS ARG SER GLU ALA PRO HIS ILE PHE SER ILE SER ASP ASN ALA TYR GLN TYR MET LEU THR ASP ARG GLU ASN GLN SER ILE LEU ILE THR GLY GLU SER
GLY ALA GLY LYS THR VAL ASN THR LYS ARG VAL ILE GLN TYR PHE ALA GLU VAL ILE ALA ALA ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY THR LEU GLU ASP GLN ILE ILE GLN ALA ASN PRO ALA LEU GLU ALA PHE GLY ASN ALA LYS THR VAL ARG ASN ASP ASN
SER SER ARG PHE GLY LYS PHE ILE ARG ILE HIS PHE GLY ALA THR GLY LYS LEU ALA SER ALA ASP ILE GLU THR TYR LEU LEU LEU GLU LYS SER ARG VAL ILE PHE GLN LEU LYS ALA GLU GLU ASP TYR HIS ILE PHE TYR GLN ILE LEU SER ASN LYS LYS PRO GLU LEU ASP MET
LEU LEU ILE THR ASN ASN PRO TYR ASP TYR ALA PHE ILE SER GLN GLY GLU THR THR VAL ALA SER ILE ASP ASP ALA GLU GLU LEU MET ALA THR ASP ASN ALA PHE ASP VAL LEU GLY PHE THR SER GLU GLU LYS ASN SER MET TYR LYS LEU THR GLY ALA ILE MET HIS PHE GLY
ASN MET LYS PHE LYS LEU LYS GLN ARG GLU GLU GLN ALA GLU PRO ASP GLY THR GLU GLU ALA ASP LYS SER ALA TYR LEU MET GLY LEU ASN SER ALA ASP LEU LEU LYS GLY LEU CYS HIS PRO ARG VAL LYS VAL GLY ASN GLU TYR VAL THR LYS GLY GLN ASN VAL GLN GLN VAL
ILE TYR ALA THR GLY ALA LEU ALA LYS ALA VAL TYR GLU ARG MET PHE ASN TRP MET VAL THR ARG ILE ASN ALA THR LEU GLU THR LYS GLN PRO ARG GLN TYR PHE ILE GLY VAL LEU ASP ILE ALA GLY PHE GLU ILE PHE ASP PHE ASN SER PHE GLU GLN LEU CYS ILE ASN PHE
THR ASN GLU LYS LEU GLN GLN PHE PHE ASN HIS HIS MET PHE VAL LEU GLU GLN GLU GLU TYR LYS LYS GLU GLY ILE GLU TRP THR PHE ILE ASP PHE GLY MET ASP LEU GLN ALA CYS ILE ASP LEU ILE GLU LYS PRO MET GLY ILE MET SER ILE LEU GLU GLU GLU CYS MET PHE
PRO LYS ALA THR ASP MET THR PHE LYS ALA LYS LEU PHE ASP ASN HIS LEU GLY LYS SER ALA ASN PHE GLN LYS PRO ARG ASN ILE LYS GLY LYS PRO GLU ALA HIS PHE SER LEU ILE HIS TYR ALA GLY ILE VAL ASP TYR ASN ILE ILE GLY TRP LEU GLN LYS ASN LYS ASP PRO
LEU ASN GLU THR VAL VAL GLY LEU TYR GLN LYS SER SER LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS LYS LYS GLY SER SER PHE GLN THR VAL SER ALA LEU HIS ARG GLU ASN LEU LEU TYR GLY LEU LEU LEU LEU MET
ASN LEU ARG SER THR HIS PRO HIS PHE VAL ARG CYS ILE ILE PRO ASN GLU THR LYS SER PRO GLY VAL MET ASP ASN PRO LEU VAL MET HIS GLN LEU ARG CYS ASN GLY VAL LEU GLU GLY ILE ARG ILE CYS ARG LYS GLY PHE PRO ASN ARG ILE LEU TYR GLY ASP PHE ARG GLN
ARG TYR ARG ILE LEU ASN PRO HIS ALA ALA ILE PRO GLU GLY GLN PHE ILE ASP SER ARG SER GLY ALA GLU LYS LEU LEU SER SER LEU ASP ILE ASP HIS ASN GLN TYR LYS PHE GLY HIS THR LYS VAL PHE PHE LYS ALA GLY LEU LEU GLU GLU GLU MET ARG ASP GLU ARG
LEU SER ARG ILE ILE GLN ALA GLN SER ARG GLY VAL LEU ALA ARG MET GLU TYR LYS LYS LEU LEU GLU ARG ARG ASP SER LEU ASP ILE ASP LEU VAL ILE GLU GLN TRP ASN ILE ARG ALA PHE MET GLY VAL LYS LYS ASN TRP PRO TRP LEU LEU LEU LEU
LYS SER ALA GLU ARG GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS LYS GLU ALA LEU GLU LYS SER GLU ALA ARG ARG LYS GLU GLU LYS LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU ALA ASP
ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE Q914 K939 R1053 K1060 E1151 R1175 R1176 D1177 L1178 E1179 E1180 T1188 D1198 E1202 E1227 D1230 K1242 R1260 R1268 SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU
ASN GLY GLU LEU SER ARG GLN LEU ASP GLU LYS GLU ALA LEU SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN ASN SER ALA ARG HIS ASP CYS ASP LEU LEU

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

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

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

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

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

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

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

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

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

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

• Molecule 1: Myosin-7

Chain AH:

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

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

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

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

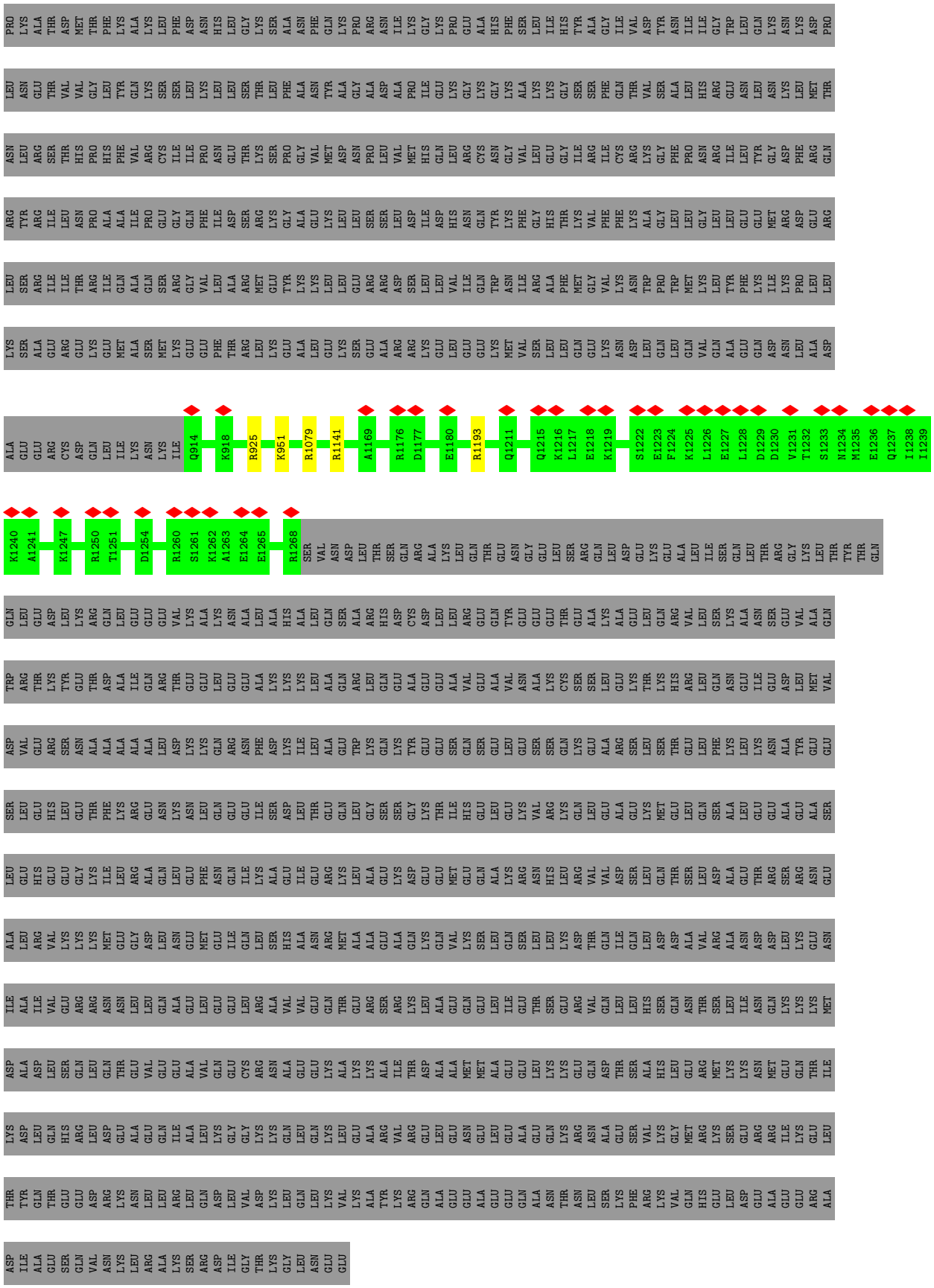
SER SER ARG PHE GLY LYS PHE ILE ARG ILE HIS PHE GLY ALA THR GLY LYS LEU ALA SER ALA ASP ILE GLU THR TYR LEU LEU GLU LYS SER ARG VAL ILE PHE GLN LEU LYS ALA GLU ARG ASP TYR HIS ILE PHE TYR GLN ILE LEU SER ASN LYS LYS PRO GLU LEU LEU ASP MET

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

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

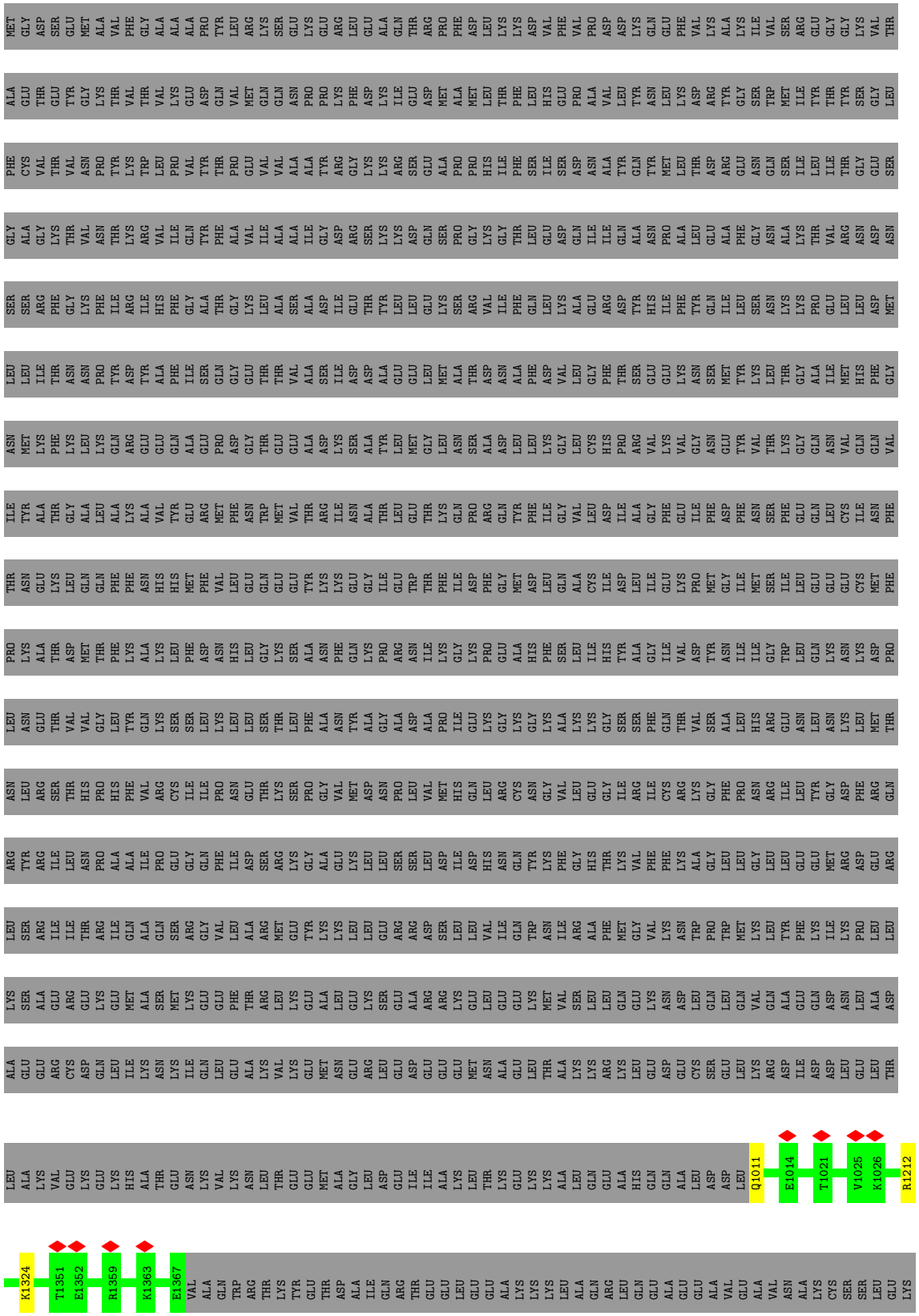
ILE TYR ALA THR GLY ALA LEU ALA LYS ALA VAL TYR GLU ARG MET PHE ASN TRP MET VAL THR ARG ILE ASN ALA THR LEU GLU THR LYS GLN PRO ARG GLN TYR PHE ILE GLY VAL LEU ASP ILE ALA GLY PHE GLU ILE PHE ASP PHE ASN SER PHE GLU GLN LEU CYS ILE ASN PHE

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



- Molecule 1: Myosin-7

Chain AI: 18% 82%



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

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

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

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

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

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

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

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

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

• Molecule 1: Myosin-7

Chain AJ: 18% 82%

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

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

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

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

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

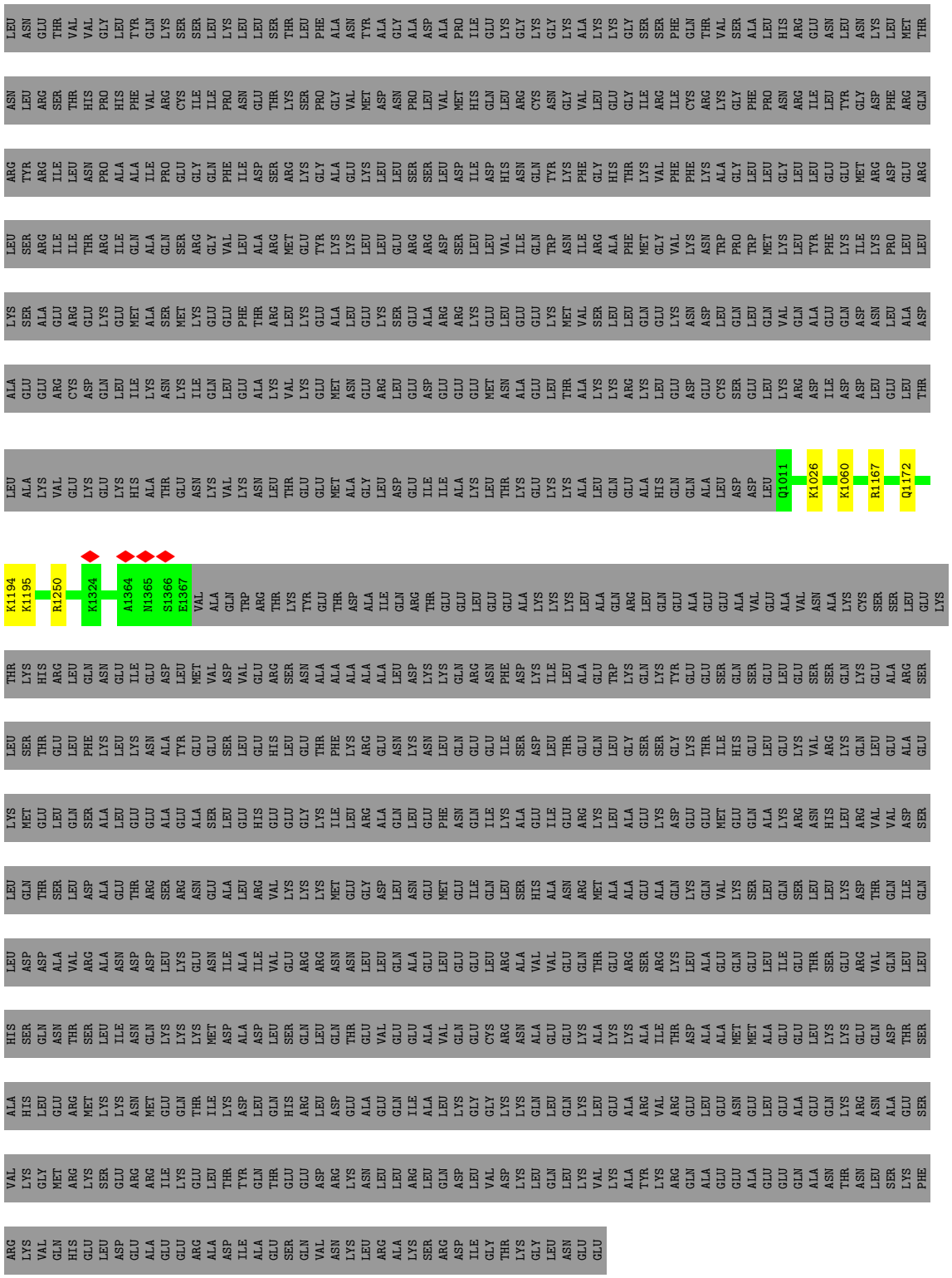
LEU LEU ILE THR ASN ASN PRO TYR ASP TYR ALA PHE ILE SER GLN GLY GLU THR THR VAL ALA SER ILE ASP ASP ALA GLU GLU LEU MET ALA THR ASP ASN ALA PHE ASP VAL LEU GLY PHE THR SER GLU GLU LYS ASN SER MET TYR LYS LEU THR GLY ALA ILE MET HIS PHE GLY

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

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

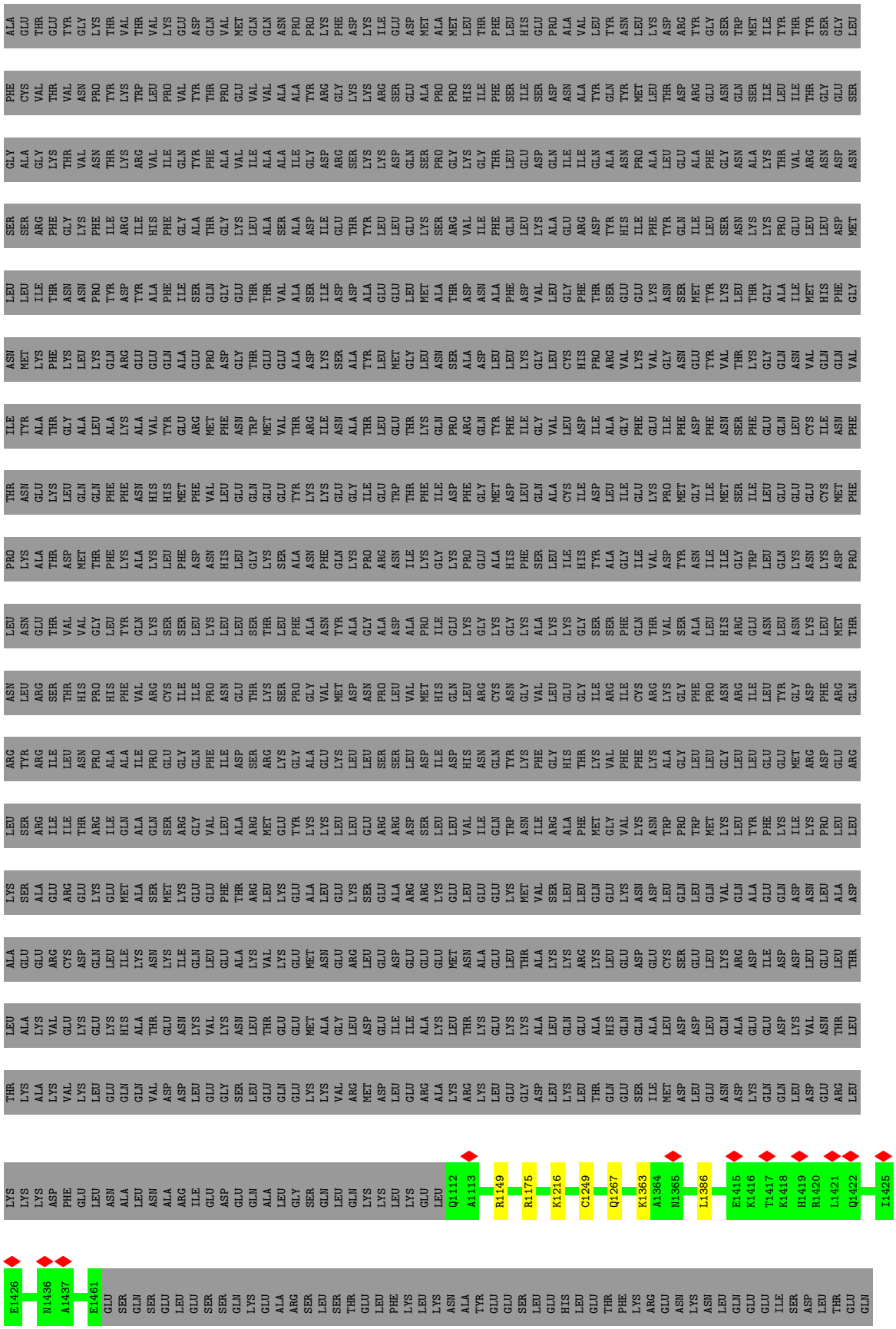
THR ASN GLU LYS LEU GLN GLN PHE PHE ASN HIS HIS MET PHE VAL LEU GLU GLN GLU GLU TYR LYS LYS GLU GLY ILE GLU TRP THR PHE ILE ASP PHE GLY MET ASP LEU GLN ALA CYS ILE ASP LEU ILE GLU LYS PRO MET GLY ILE MET SER ILE LEU GLU GLU GLU CYS MET PHE

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



- Molecule 1: Myosin-7

Chain AK: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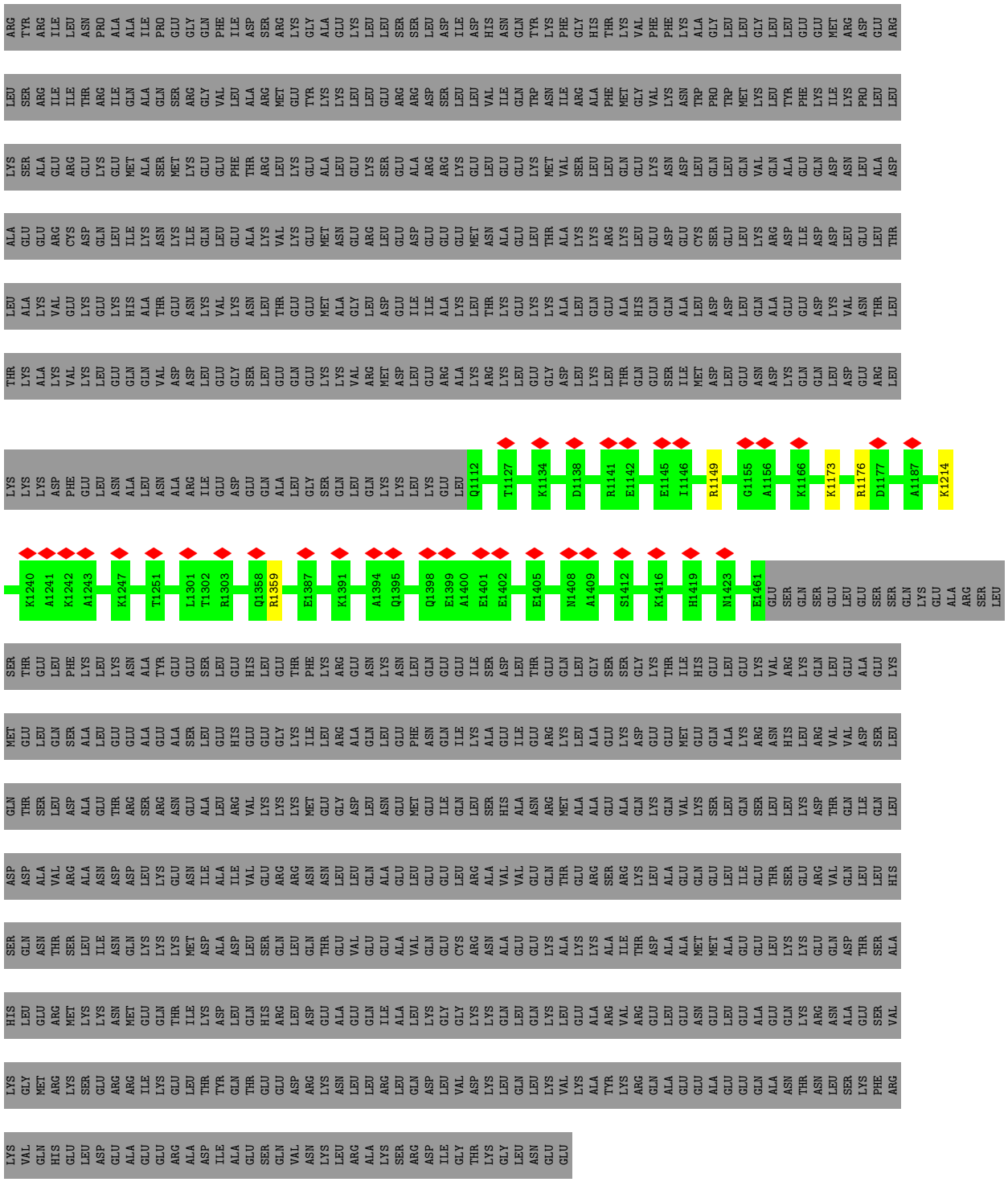
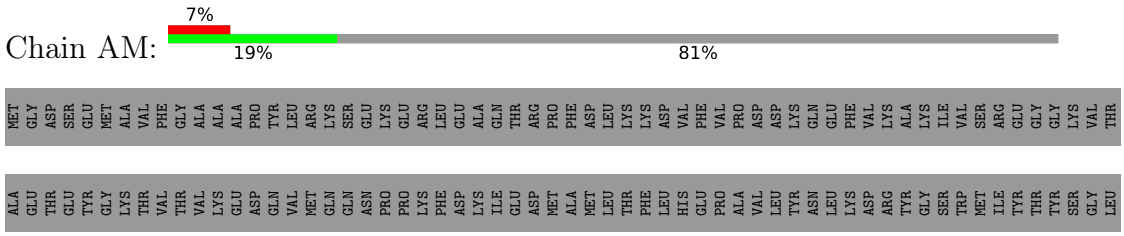
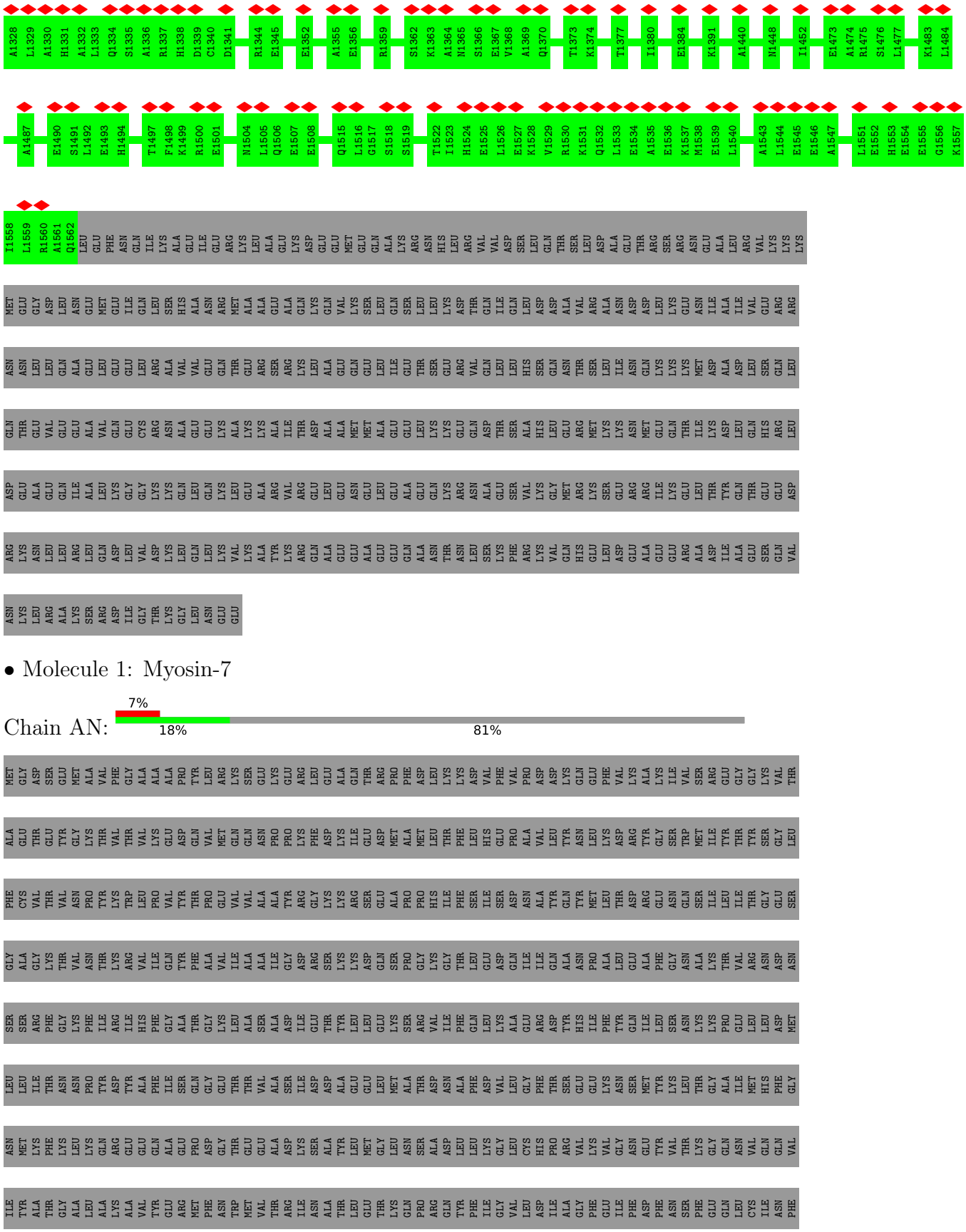


• Molecule 1: Myosin-7



ARG GLU LEU GLU GLU ILE SER GLU ARG LEU GLU GLU ALA GLU PHE GLN LYS GLU GLU ALA THR SER VAL GLN ILE GLU MET ASN LYS LYS ARG GLU ALA GLU PHE GLN LYS MET ARG ARG ASP LEU GLU GLU ALA THR ALA GLY ASP LEU LYS LYS HIS ALA LYS LYS LEU GLU ALA ARG LEU ALA ALA GLU LEU GLU LYS LYS ASP PHE GLU LEU LYS LYS ALA ASP LEU LEU GLU ARG LEU ASN ALA LEU GLN ILE GLU GLU LEU GLY SER GLN LEU GLU LEU ILE GLU LYS LYS LYS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R1359
S1362 K1363 A1364 N1365 S1366 E1367 V1368 A1369 Q1370
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T1522 I1523 H1524 E1525 L1526 E1527 K1528 V1529 R1530 K1531 Q1532 L1533 E1534 A1535 E1536 K1537 M1538 E1539 L1540
A1543 L1544 E1545 E1546 A1547
L1551 E1552 H1553 E1554 E1555 G1556 K1557
I1558 L1559 R1560 A1561 Q1562
LEU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU ARG VAL VAL ASP SER LEU GLN THR SER LEU ASP ALA GLU THR ARG SER ARG ASN GLU ALA ALA ILE VAL LYS LYS LYS
MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LEU SER HIS ALA ASN ARG MET ALA ALA GLU ALA GLN LYS GLN VAL LYS SER LEU LEU GLN SER LEU LEU LYS ASP THR GLN ILE GLN LEU ASP ASP ALA VAL ARG ALA ASN ASP ASP LEU LYS GLU ASN ILE ALA ILE VAL GLU ARG ARG
ASN ASN LEU LEU GLN ALA GLU LEU GLU GLU LEU LEU ARG ALA VAL VAL GLU GLN THR GLU ARG SER ARG LYS LEU ALA GLU GLN GLU LEU ILE GLU THR SER GLU ARG VAL GLN LEU LEU HIS SER GLN ASN THR SER LEU ILE ASN GLN LYS LYS LYS MET ASP ALA ASP LEU SER GLN LEU
GLN THR GLU VAL GLU GLU ALA VAL GLN GLU CYS ARG ASN ALA GLU GLU LYS ALA LYS LYS ALA ILE THR ASP ALA ALA MET MET ALA GLU GLU LEU LYS LYS GLU ARG GLN ASP THR SER ALA HIS LEU GLU ARG MET LYS LYS ASN MET GLU GLN THR ILE LYS ASP LEU GLN HIS ARG LEU
ASP GLU ALA GLU GLN ILE ALA LEU LYS GLY GLY LYS LYS GLN LEU GLN LYS LEU GLU ALA LYS LYS ALA ARG VAL GLU GLU LEU GLU ASN GLU GLU GLU ALA GLU GLN LYS ARG ASN ALA GLU SER VAL LYS GLY MET ARG LYS SER GLU GLU LEU THR TYR GLN THR GLU GLU ASP
ARG LYS ASN LEU LEU ARG LEU GLN ASP LEU VAL ASP LYS LEU GLN LEU LYS VAL LYS ALA TYR LYS ARG GLN ALA GLU GLU GLU ALA GLU GLU GLN ALA ASN THR ASN LEU SER LYS PHE ARG LYS VAL GLN HIS GLU LEU ASP GLU ALA GLU GLU ARG ALA ASP ILE ALA GLU SER GLN VAL
ASN LYS LEU ARG ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU
• Molecule 1: Myosin-7
Chain AN: 7% 18% 81%
MET GLY ASP SER GLU MET ALA VAL PHE GLY ALA ALA ALA PRO TYR LEU ARG LYS SER GLU LYS GLU ARG LEU GLU ALA GLN THR ARG PRO PHE ASP LEU LYS LYS ASP VAL PHE VAL PRO ASP ASP LYS GLN GLU PHE VAL LYS ALA LYS ILE VAL SER ARG GLU GLY GLY LYS VAL THR
ALA GLU THR GLU TYR GLY LYS THR VAL THR VAL LYS GLU ASP GLN VAL MET GLN GLN ASN PRO PRO LYS PHE ASP LYS ILE GLU ASP MET ALA MET LEU THR PHE LEU HIS GLU PRO ALA VAL LEU TYR ASN LEU LYS ASP ARG TYR GLY SER TRP MET ILE TYR THR TYR SER GLY LEU
PHE CYS VAL THR VAL ASN PRO TYR LYS TRP LEU PRO VAL TYR THR PRO GLU VAL VAL ALA ALA TYR ARG GLY LYS LYS ARG SER GLU ALA PRO PRO HIS ILE PHE SER ILE SER ASP ASN ALA TYR GLN TYR MET LEU THR ASP ARG GLU ASN GLN SER ILE LEU THR ILE THR GLY GLU SER
GLY ALA GLY LYS THR VAL ASN THR LYS ARG VAL ILE GLN TYR PHE ALA VAL ILE ALA ALA ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY THR LEU GLU ASP GLN ILE ILE GLN ALA ASN PRO ALA LEU GLU ALA PHE GLY ASN ALA LYS THR ASN ASP ASN
SER SER ARG PHE GLY LYS PHE ILE ARG ILE HIS PHE GLY ALA THR GLY LYS LEU ALA SER ALA ASP ILE GLU THR TYR LEU LEU GLU LYS SER ARG VAL ILE PHE GLN LEU LYS ALA GLU ARG ASP TYR HIS ILE PHE TYR GLN ILE LEU SER ASN LYS LYS PRO GLU LEU LEU ASP MET
LEU LEU ILE THR ASN ASN PRO TYR ASP TYR ALA PHE ILE SER GLN GLY GLU THR THR VAL ALA SER ILE ASP ASP ALA GLU GLU LEU MET ALA THR ASP ASN ALA PHE ASP VAL LEU GLY PHE THR SER GLU GLU LYS ASN SER MET TYR LYS LEU THR GLY ALA ILE MET HIS PHE GLY
ASN MET LYS PHE LYS LEU LYS GLN ARG GLU GLU GLN ALA GLU GLU ALA ALA ASP LYS SER ALA TYR LEU MET GLY LEU ASN SER ALA ASP LEU LEU LYS GLY LEU CYS HIS PRO ARG VAL LYS VAL GLY ASN GLU TYR VAL THR LYS GLY GLN ASN VAL GLN GLN VAL
ILE TYR ALA THR GLY ALA LEU ALA LYS ALA VAL TYR GLU ARG MET PHE ASN TRP MET VAL THR ARG ILE ASN ALA THR LEU GLU THR LYS GLN PRO ARG GLN TYR PHE ILE GLY VAL LEU ASP ILE ALA GLY PHE GLU ILE PHE ASP PHE ASN SER PHE GLU GLN LEU CYS ILE ASN PHE

THR ASN GLU LYS LEU GLN GLN PHE PHE ASN HIS HIS MET PHE VAL LEU GLU GLN GLU GLU TYR LYS LYS GLU GLY ILE GLU TRP THR PHE ILE ASP PHE GLY MET ASP LEU GLN ALA CYS ILE ASP LEU ILE GLU LYS PRO MET GLY ILE MET SER ILE LEU GLU GLU GLU CYS MET PHE
PRO LYS ALA THR ASP MET THR PHE LYS ALA LYS LEU PHE ASP ASN HIS LEU LEU GLY LYS SER ALA ASN PHE GLN LYS PRO ARG ASN ILE LYS GLY LYS PRO GLU ALA HIS PHE SER LEU ILE HIS TYR ALA GLY ILE VAL ASP TYR ASN ILE ILE GLY TRP LEU GLN LYS ASN LYS ASP PRO
LEU ASN GLU THR VAL VAL GLY LEU TYR GLN LYS SER SER LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE GLN THR VAL SER ALA LEU HIS ARG GLU ASN LEU ASN LYS LEU MET THR
ASN LEU ARG SER THR HIS PRO HIS PHE VAL ARG CYS ILE ILE PRO ASN GLU THR LYS SER PRO GLY VAL MET ASP ASN PRO LEU VAL MET HIS GLN LEU ARG CYS ASN GLY VAL LEU GLU GLY ILE ARG ILE CYS ARG LYS GLY PHE PRO ASN ARG ILE LEU TYR GLY ASP PHE ARG GLN
ARG TYR ARG ILE LEU ASN PRO ALA ALA ILE PRO GLU GLY GLN PHE ILE ASP SER ARG LYS GLY ALA LYS LYS GLU LEU LYS SER SER LEU ASP ILE ASP HIS ASN GLN TYR LYS PHE GLY HIS THR LYS VAL PHE PHE LYS ALA GLY LEU LEU GLU GLU MET ARG ASP GLU ARG
LEU SER ARG ILE ILE THR ARG ILE GLN SER ARG GLY VAL LEU LEU ALA ARG MET GLU TYR LYS LYS LEU LEU GLU ARG ASP SER LEU LEU ILE GLN TRP ASN ILE ARG ALA PHE MET GLY VAL LYS ASN ASP LEU TRP PRO TRP MET LYS LEU TYR PHE LYS ILE LYS PRO LEU LEU
LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LYS LYS SER GLU ALA ARG ARG LYS GLU LEU GLU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU LEU ALA ASP
ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU LYS GLU MET ASN GLU ARG LEU GLU ASP GLU GLU GLU MET ASN ALA GLU GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP ASP GLU LYS ARG ASP ILE ASP ASP LEU GLU LEU THR
LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU
THR LYS ALA LYS VAL LYS LEU GLU GLN GLN VAL ASP ASP LEU GLU GLY SER LEU GLU GLN GLN GLU GLU MET ASP LEU GLU ARG ALA LYS ASP LEU GLU GLU GLY ASP LEU LYS LEU THR GLN GLU SER ILE MET ASP LEU GLU ASN ASP LYS GLN GLN LEU ASP GLU ARG LEU
LYS LYS LYS ASP PHE GLU LEU ASN ALA LEU ASN ALA ARG ILE GLU ASP GLN ALA LEU GLY SER GLN LEU GLN LYS LYS LYS LEU LYS GLU LEU LEU GLN ALA ARG LYS GLU LEU GLU GLU GLU LEU GLU LYS LEU GLU ARG THR ALA ARG ARG LYS LYS LEU LEU ASP LYS GLN GLU LEU ARG SER ASP LEU SER
ARG GLU LEU GLU GLU ILE SER GLU ARG LEU GLU GLU ALA GLY GLY ILE SER VAL GLN ILE GLU MET ASN LYS LYS LYS ARG GLU ALA GLU PHE GLN LYS GLN ARG ASP LEU GLU GLU ALA THR LEU GLN HIS GLU ALA THR ALA ARG ALA LYS LYS ARG LYS LYS HIS ALA ASP SER VAL
ALA GLU LEU G1204 E1205 Q1206 I1207 D1208 N1209 L1210 Q1211 R1212 V1213 K1214 Q1215 K1216 L1217 E1218 K1219 E1220 K1221 S1222 E1223 V1231 N1234 Q1237 K1240 A1241 K1242 A1243 N1244 T1251 R1260 S1261 E1264 E1265 R1268 S1269 V1270 N1271 D1272 S1275 K1279 E1283 Q1290 E1293 K1294
E1295 A1296 L1297 I1298 S1299 Q1300 L1301 T1302 R1303 G1304 K1305 L1306 T1307 Y1308 T1309 Q1310 Q1311 L1312 E1313 D1314 L1315 K1316 R1317 E1320 E1321 K1324 A1325 K1326 N1327 A1328 L1329 A1330 H1331 A1332 L1333 Q1334 S1335 A1336 R1337 H1338 D1339 C1340 D1341 R1344 E1345 E1349 E1350 T1351 E1352 A1353 K1354 A1355 E1356 L1357 Q1358 R1359
V1360 L1361 S1362 K1363 A1364 N1365 S1366 E1367 V1368 A1369 Q1370 W1371 R1372 T1373 E1376 A1379 T1383 L1428 S1435 N1436 A1437 N1448 K1451 R1475 S1476 F1482 K1485 N1486 A1487 Y1488 E1489 E1490 S1491 L1492 Q1506 E1507 E1508 I1509 T1513 L1516 G1517 S1518 S1519 H1524 E1525 L1526
E1527 R1530 K1531 E1534 A1535 E1536 K1537 M1538 E1539 L1540 Q1541 S1542 A1543 L1544 E1545 E1546 L1551 I1558 L1559 R1560 A1561 Q1562 LEU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU ARG VAL VAL ASP SER
LEU GLN THR SER LEU ASP ALA GLU THR ARG SER ARG ASN GLU ALA LEU ARG VAL LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LEU SER HIS ALA ASN ARG MET ALA ALA GLU ALA GLN LYS GLN VAL LYS SER LEU GLN SER LEU LEU LYS ASP THR GLN ILE GLN
LEU ASP ASP ALA VAL ARG ALA ALA ASN ASP LEU LYS LEU ASP ASN ILE ALA ILE VAL GLU ARG ARG ASN ASN LEU LEU GLN ALA GLU LEU GLU GLU LEU ARG ALA VAL VAL GLU GLN THR GLU ARG SER ARG LYS LEU ALA GLU GLN GLU GLU LEU ILE GLU THR SER GLU ARG VAL GLN LEU LEU

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

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

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

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

- Molecule 1: Myosin-7

Chain AO: 18% 81%

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

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

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

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

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

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

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

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

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

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

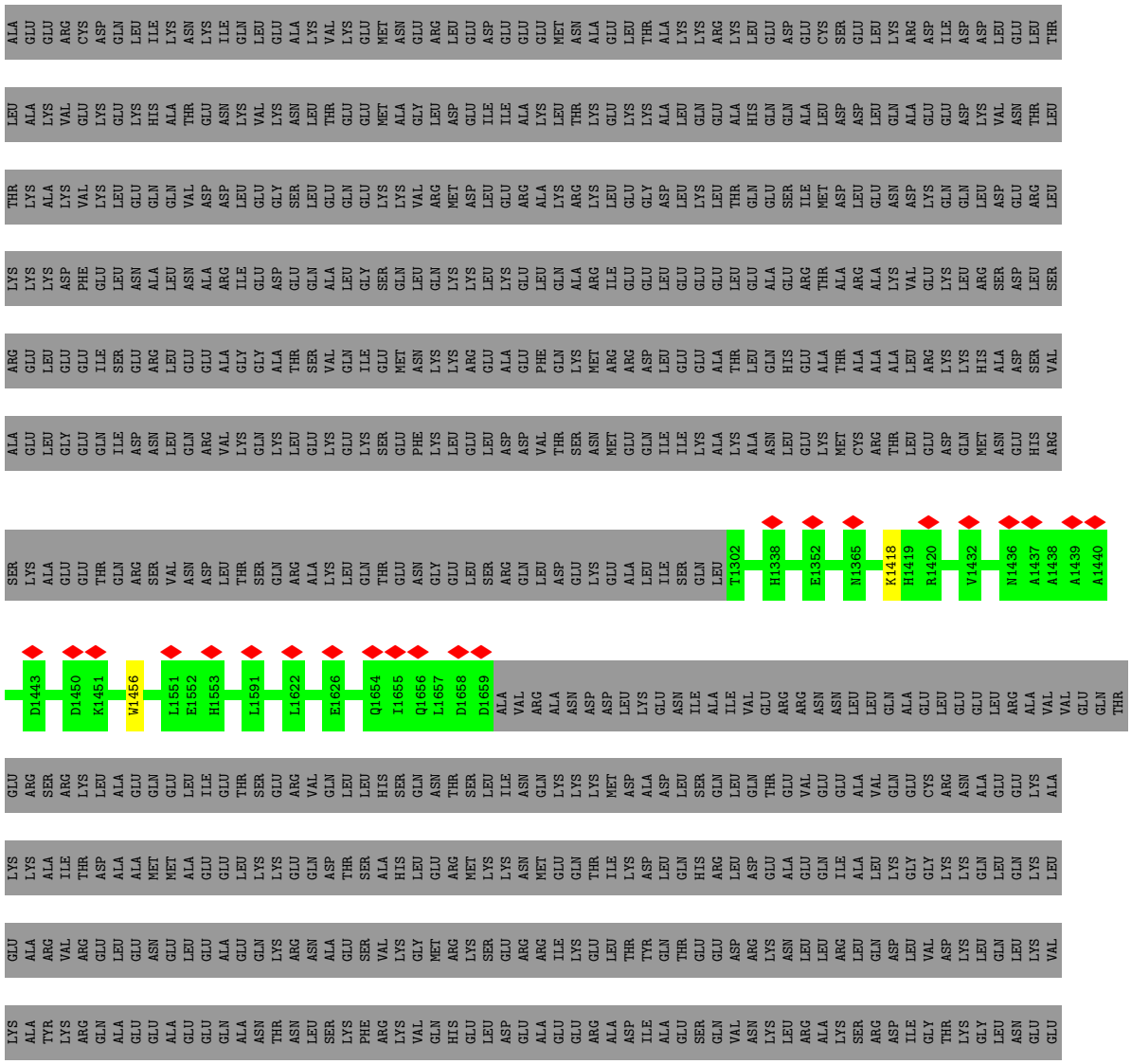
LEU ASN GLU THR VAL VAL GLN LYS SER SER LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU GLN LYS SER LYS LYS GLY SER SER PHE GLN THR VAL SER ALA LEU HIS ARG GLU ASN LEU LYS LEU MET THR

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

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

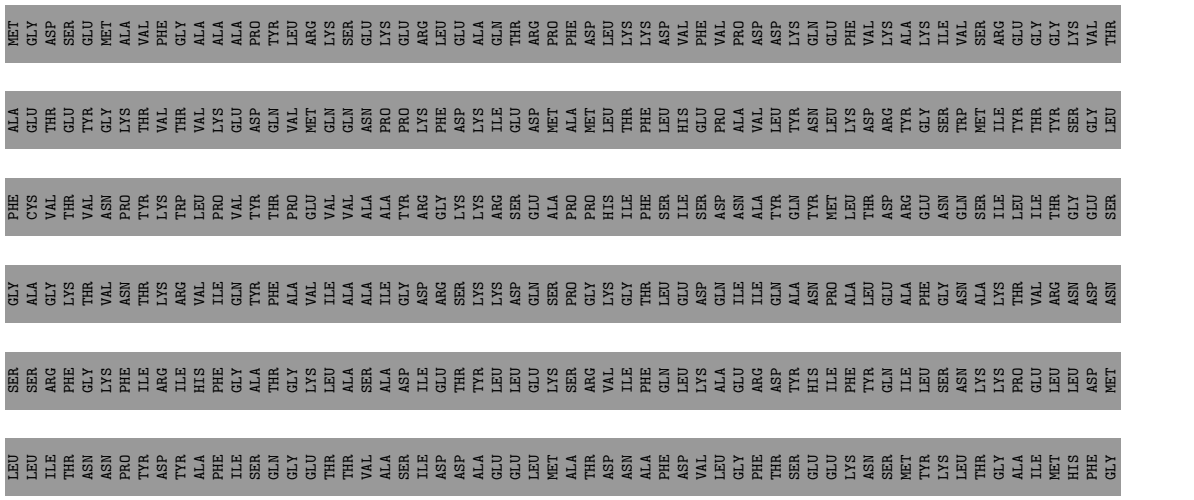
LEU SER ARG ILE ILE THR ARG ILE ALA ALA SER ARG GLY VAL LEU LEU GLU LYS LYS GLU TYR LYS ALA LEU LEU LYS LYS GLU LEU LEU SER ARG ARG ASP SER LEU LEU GLU LYS LYS ILE ILE ARG ALA PHE MET GLY VAL LYS ASN TRP PRO TRP MET LYS ILE LYS LEU LEU GLN GLN LYS ILE LYS PRO LEU LEU

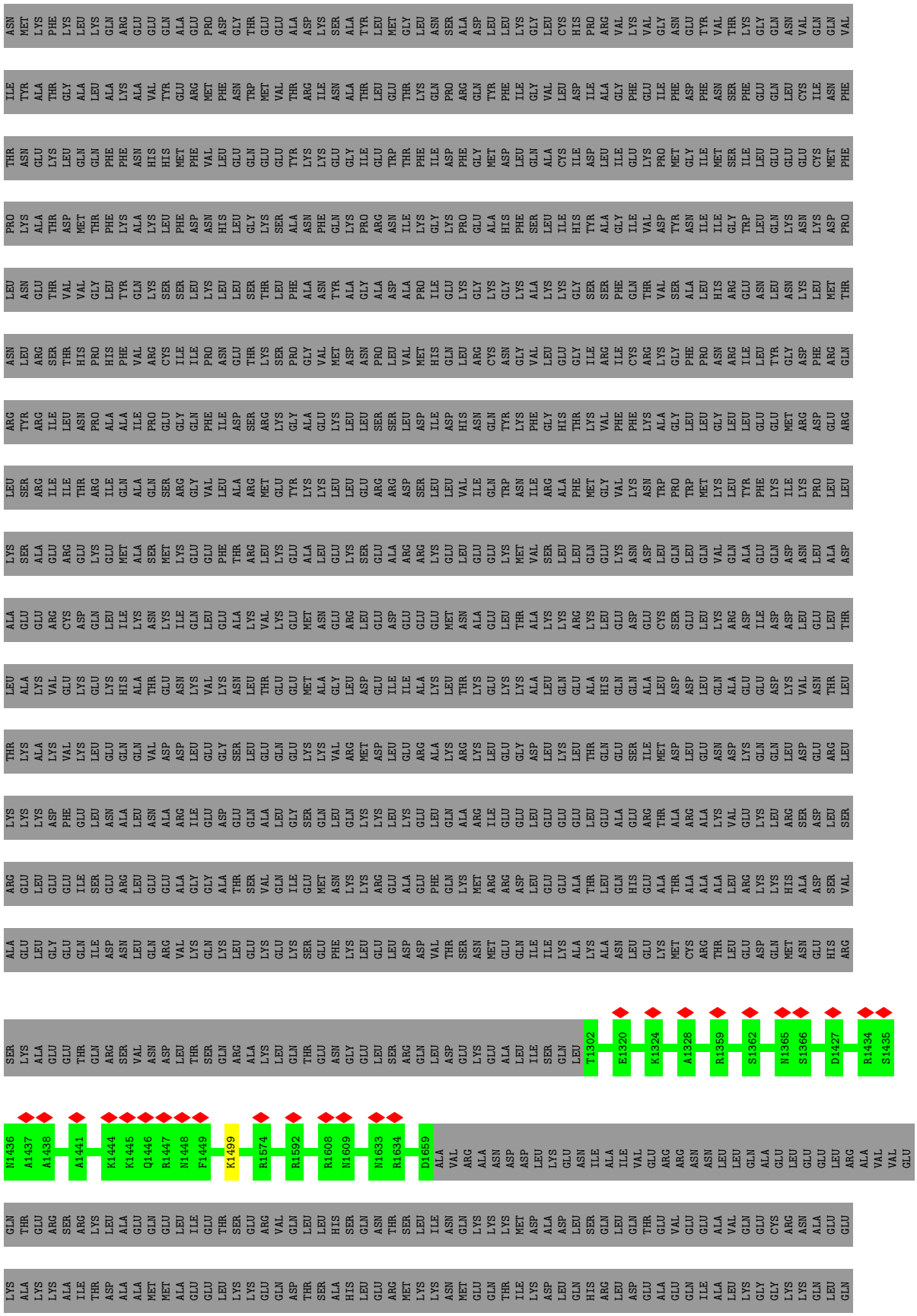
LYS SER ALA GLU ARG GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU LYS SER GLU ALA ARG ARG LYS GLU GLU LYS MET VAL SER LEU LEU GLN GLU GLN LEU GLN GLN VAL ALA GLN GLN ASP ASN LEU ALA ASP



• Molecule 1: Myosin-7

Chain AP:

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A1438
A1441
K1444
K1445
Q1446
R1447
N1448
F1449
K1499
R1574
R1592
R1608
N1609
N1633
R1634
D1659

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

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

GLU GLU

- Molecule 1: Myosin-7

Chain AQ: 18% 82%

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

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

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

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

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

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

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

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

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

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

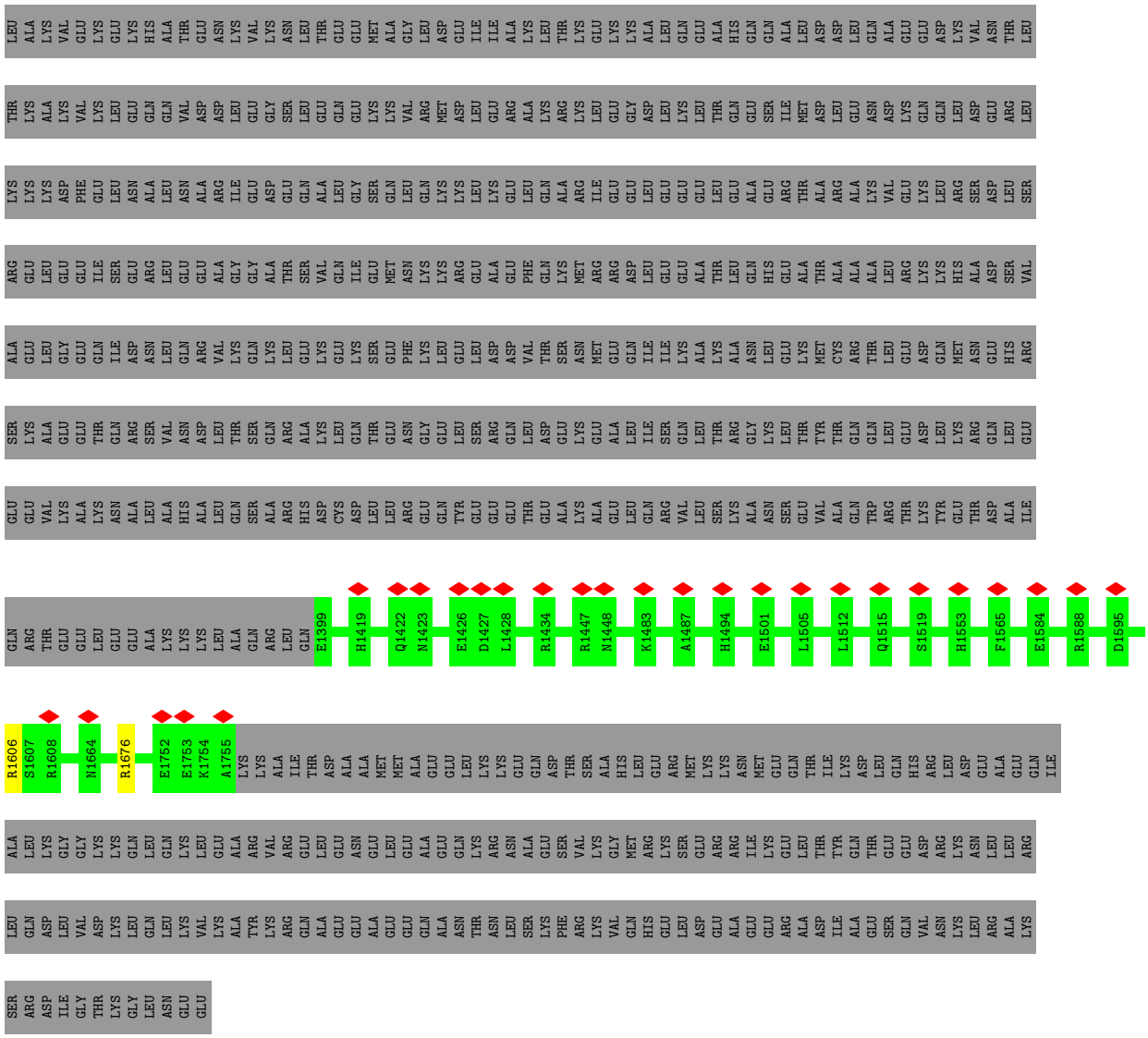
LEU ASN GLU THR VAL VAL GLY LEU TYR GLN LYS SER SER LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA ALA PRO ILE GLU LYS GLY LYS GLY LYS LYS GLY SER SER PHE GLN THR VAL SER ALA LEU LEU HIS ARG GLU ASN LEU ASN LYS LEU MET THR

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

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

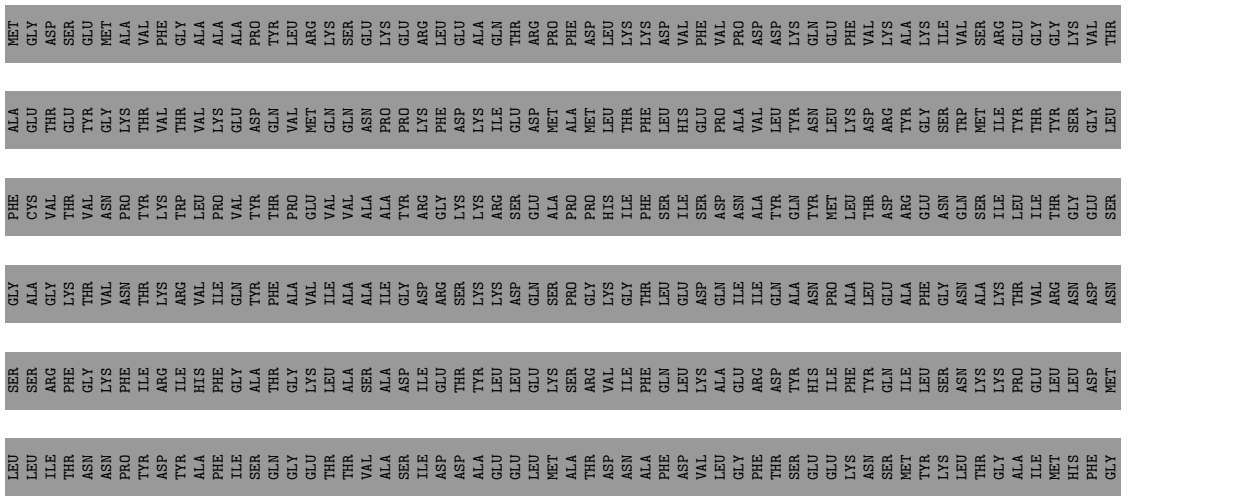
LEU SER ARG ILE ILE THR ARG ILE GLN ALA ALA GLN SER ARG GLY VAL LEU ALA ARG MET GLU TYR LYS LEU LEU GLU ARG ARG ASP SER LEU LEU VAL ILE GLN TRP ASN ILE ARG ALA PHE MET GLY VAL LYS ASN TRP PRO TRP MET LYS LEU LEU GLU LYS ASN LEU TYR PHE LYS ILE LYS PRO LEU LEU

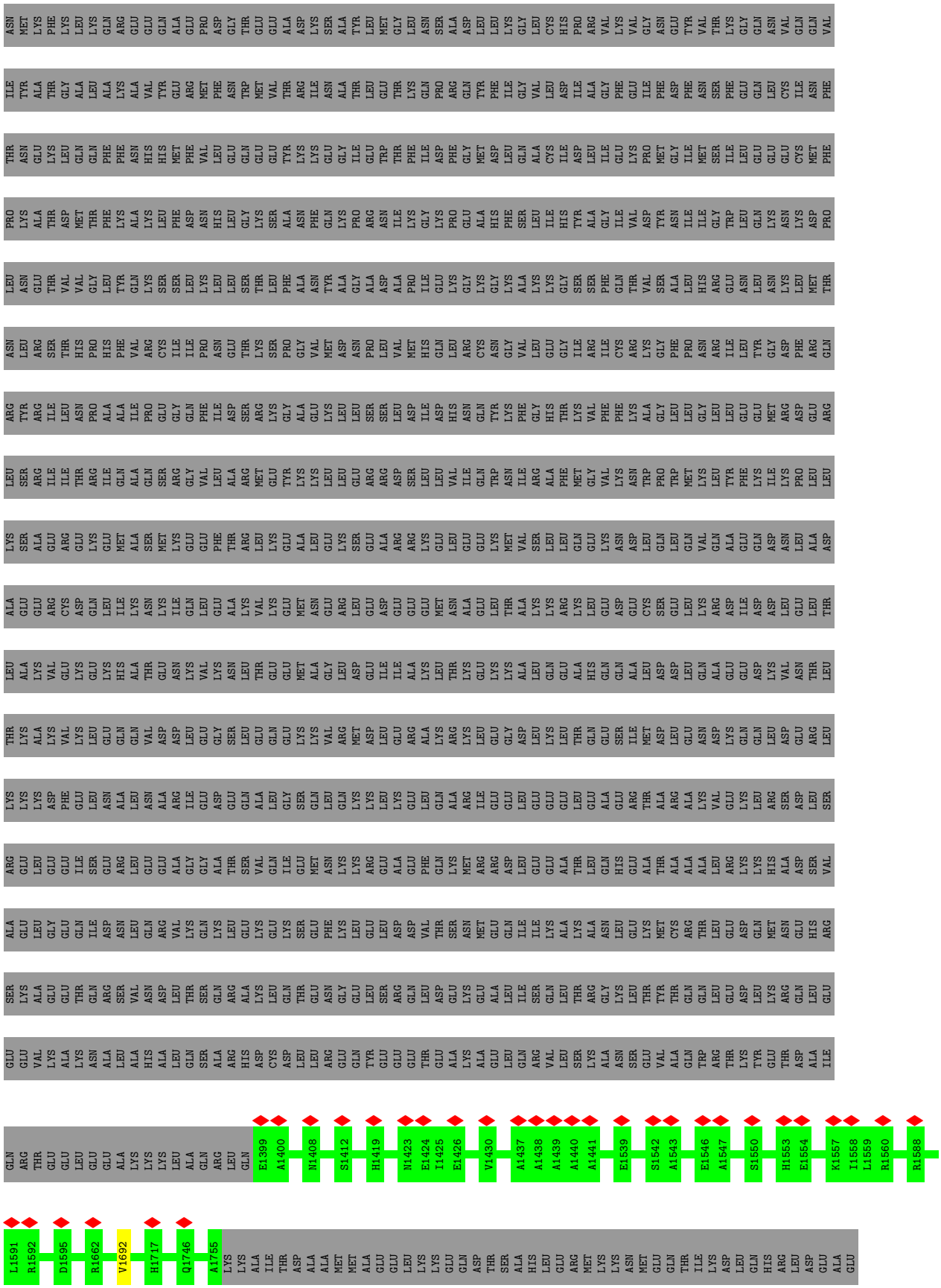
LYS SER ALA GLU ARG ARG MET ALA SER ARG ARG ASP SER LEU LEU VAL LYS LYS LYS



- Molecule 1: Myosin-7

Chain AR:

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A1440
A1441
E1539
S1542
A1543
E1546
A1547
S1550
H1553
E1554
K1557
I1558
L1559
R1560
R1588
L1591
R1592
D1595
R1662
V1692
H1717
Q1746
A1755

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

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

ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU

- Molecule 1: Myosin-7

Chain AS: 6% 19% 81%

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

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

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

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

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

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

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

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

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

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

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

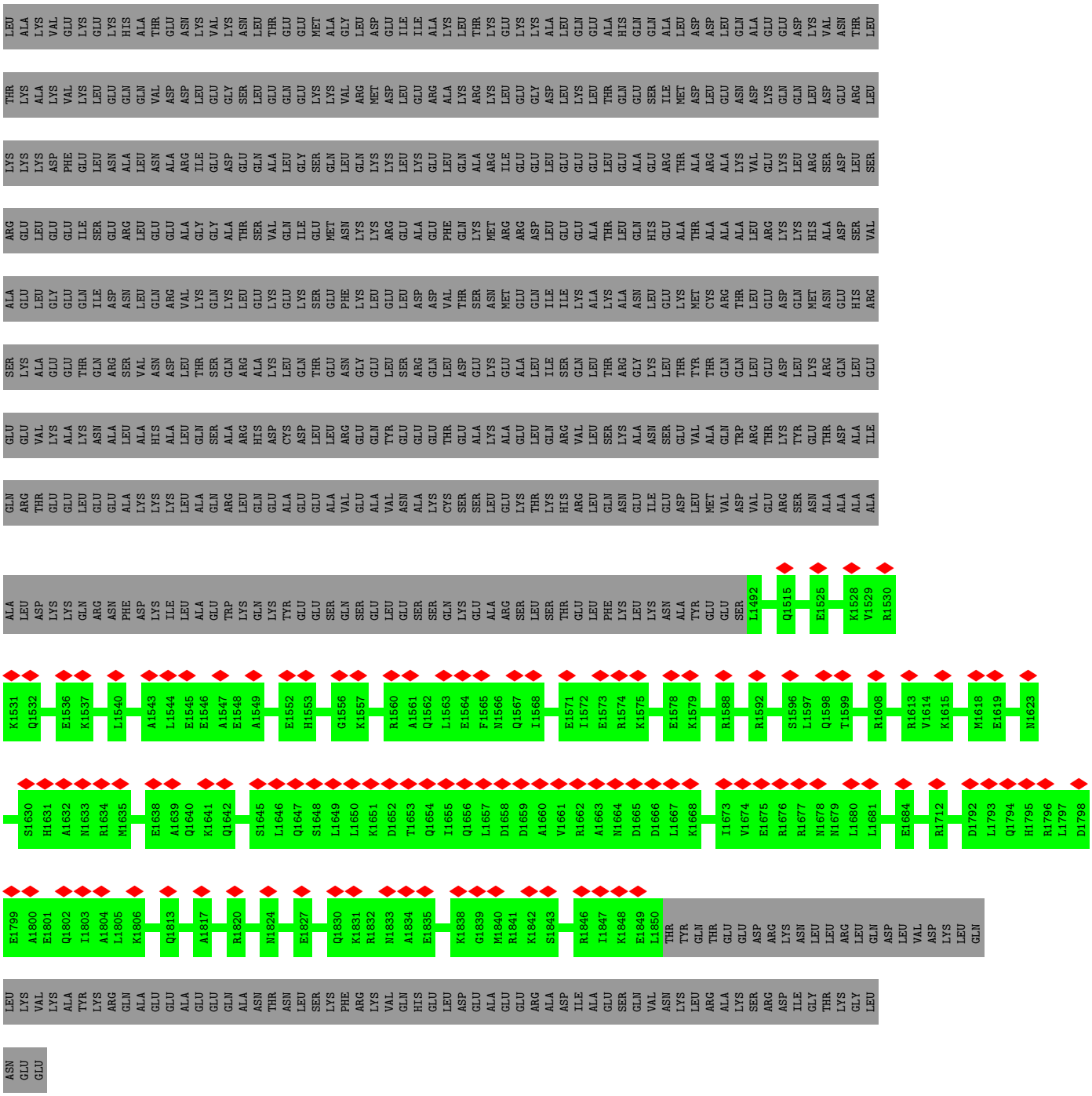
ASN LEU ARG SER THR HIS PRO HIS PHE VAL ARG CYS ILE ILE PRO ASN GLU THR LYS SER PRO GLY VAL MET ASP ASN PRO LEU VAL MET HIS GLN LEU ARG CYS ASN GLY VAL LEU GLU GLY ILE ARG ILE CYS ARG LYS GLY PHE PRO ASN ARG ILE LEU TYR GLY ASP PHE ARG GLN

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

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

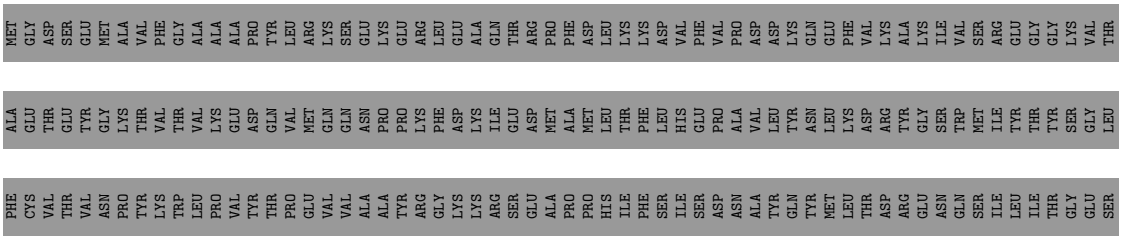
LYS SER ALA GLU ARG GLU SER MET ALA ARG ARG ASP MET LYS GLU GLU ALA ARG ARG LYS SER GLU ALA ARG LEU LYS GLU GLU LYS MET VAL SER LEU LEU GLN GLU ASP ASN LEU GLN GLN ASP ASN LYS ILE LEU LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LYS LYS GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU LEU THR ALA LYS LYS ARG LYS LEU GLU ASP GLU GLU MET ASN ALA GLU LEU THR ALA LYS LYS GLU GLU ASP GLU CYS SER GLU LEU LYS ARG ASP ILE ASP ASP LEU LEU THR



- Molecule 1: Myosin-7

Chain AT:



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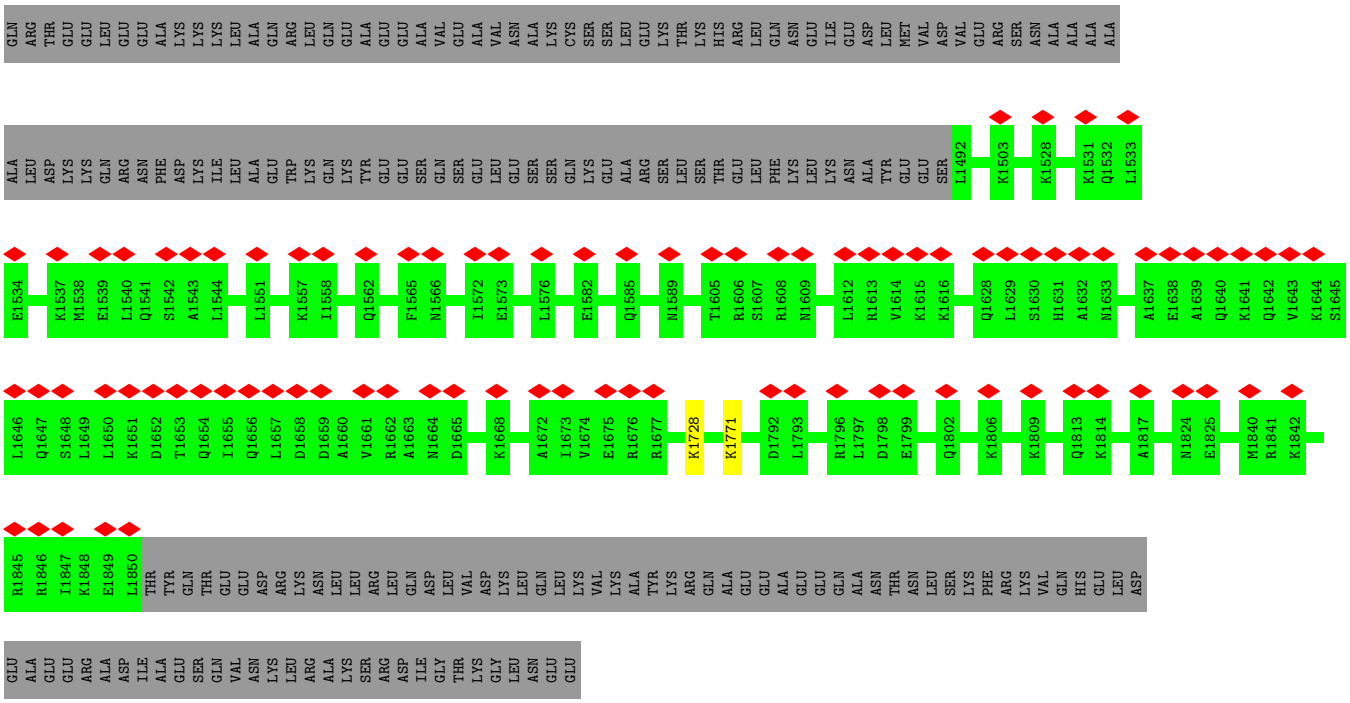
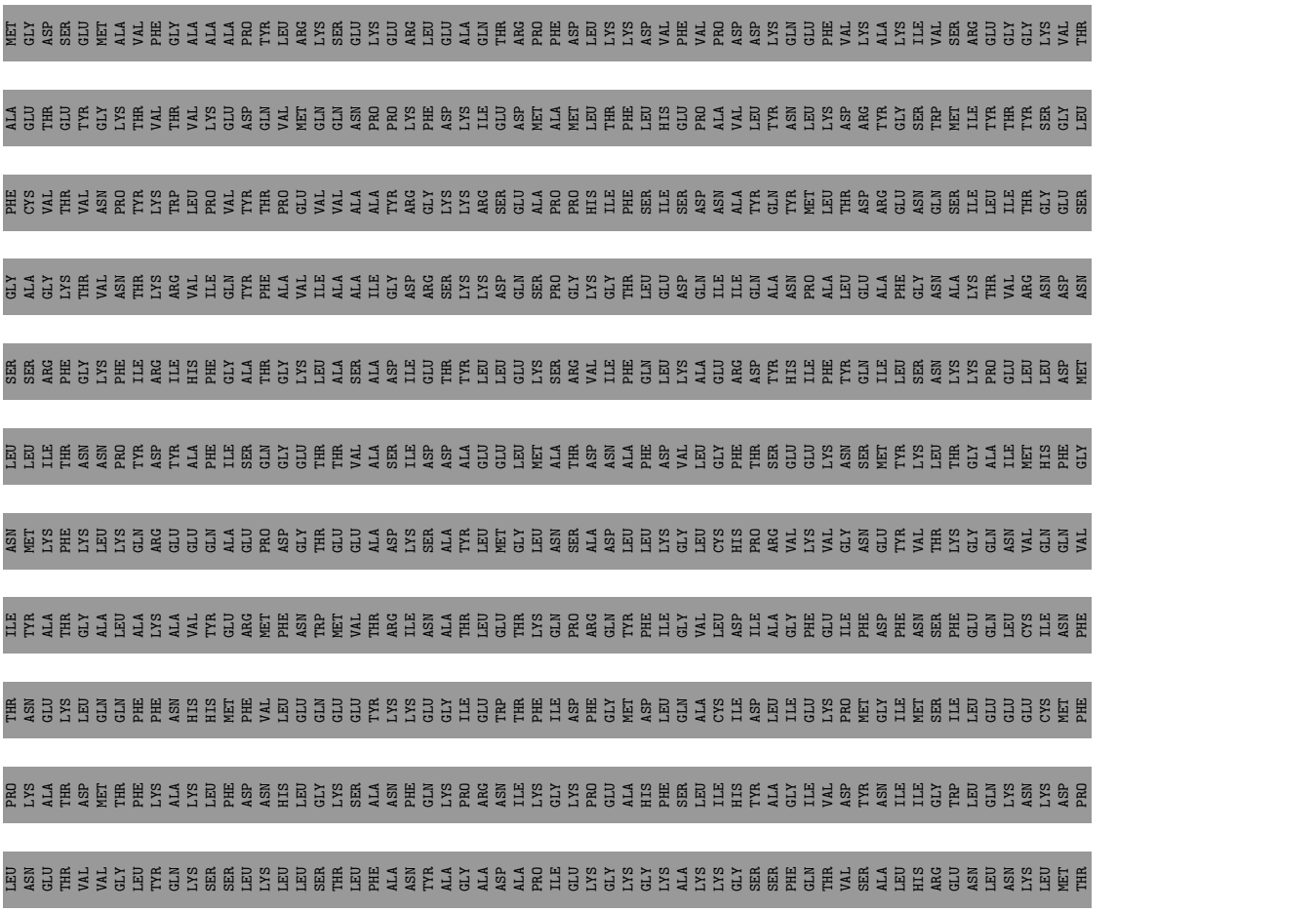
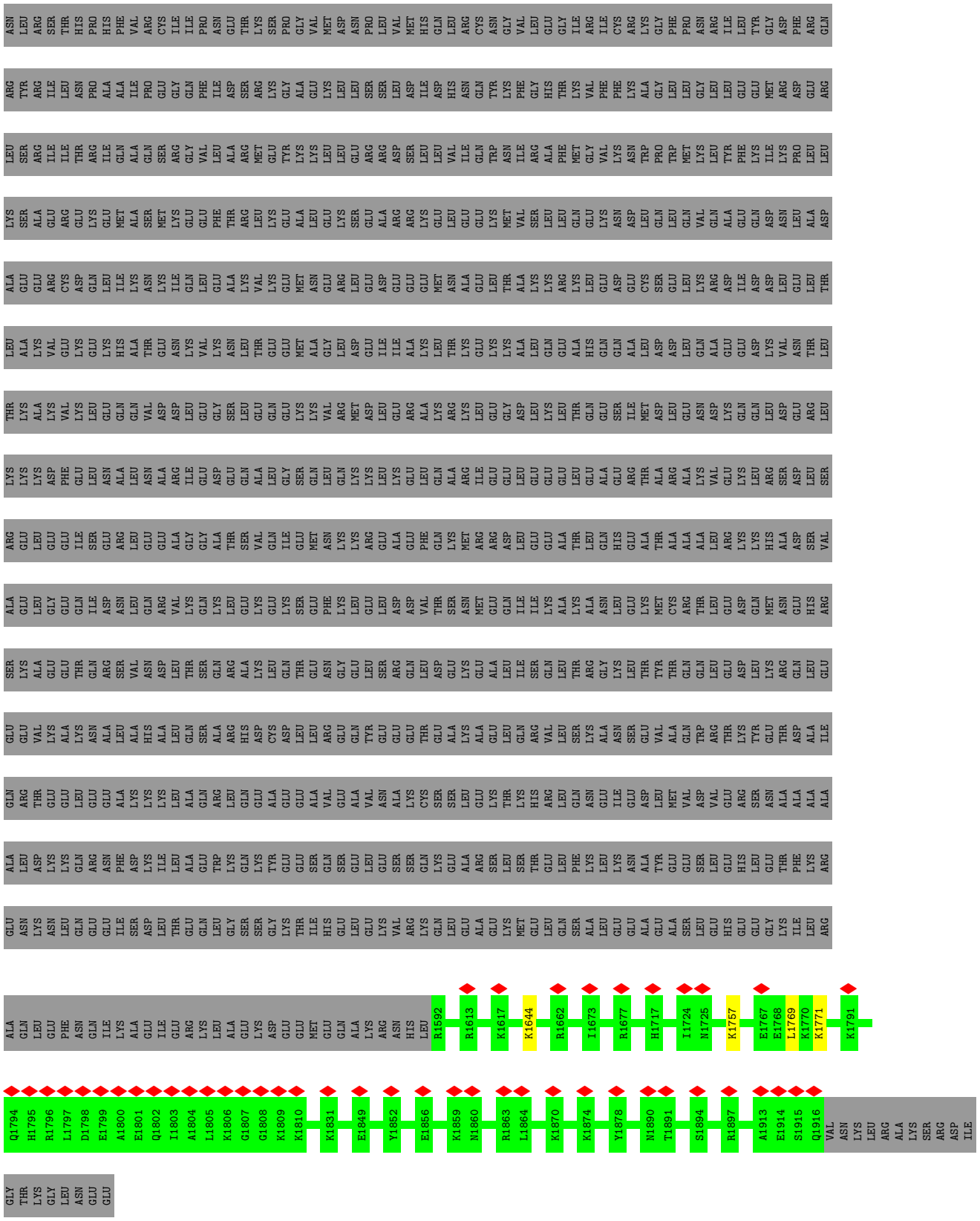


- Molecule 1: Myosin-7

Chain AU: 17% 83%

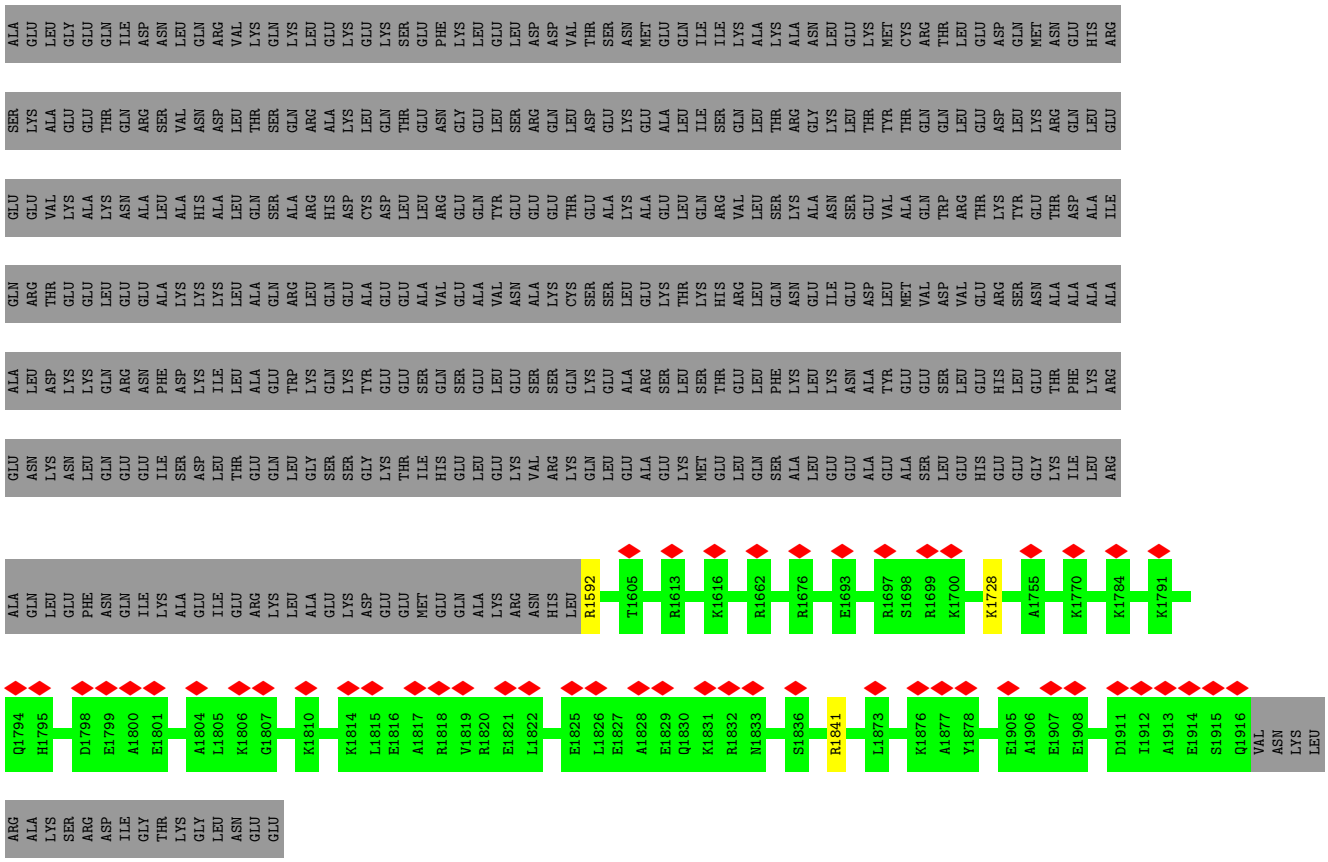




- Molecule 1: Myosin-7

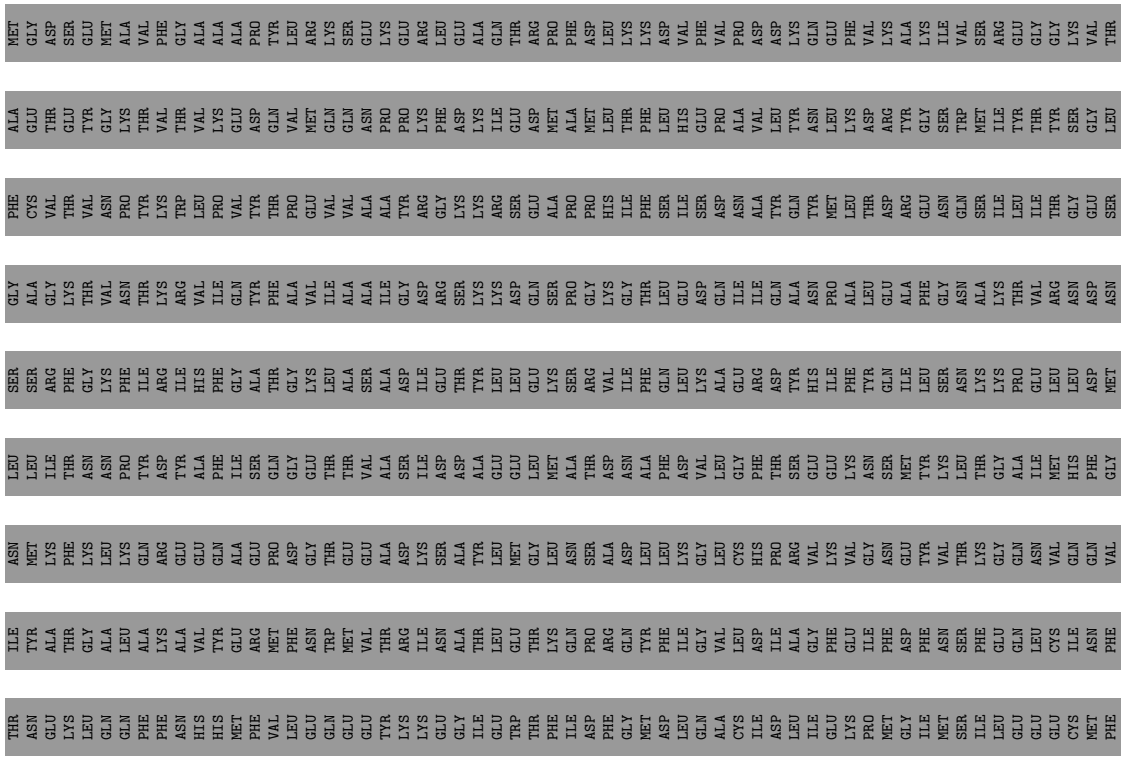
Chain AV: 17% 83%

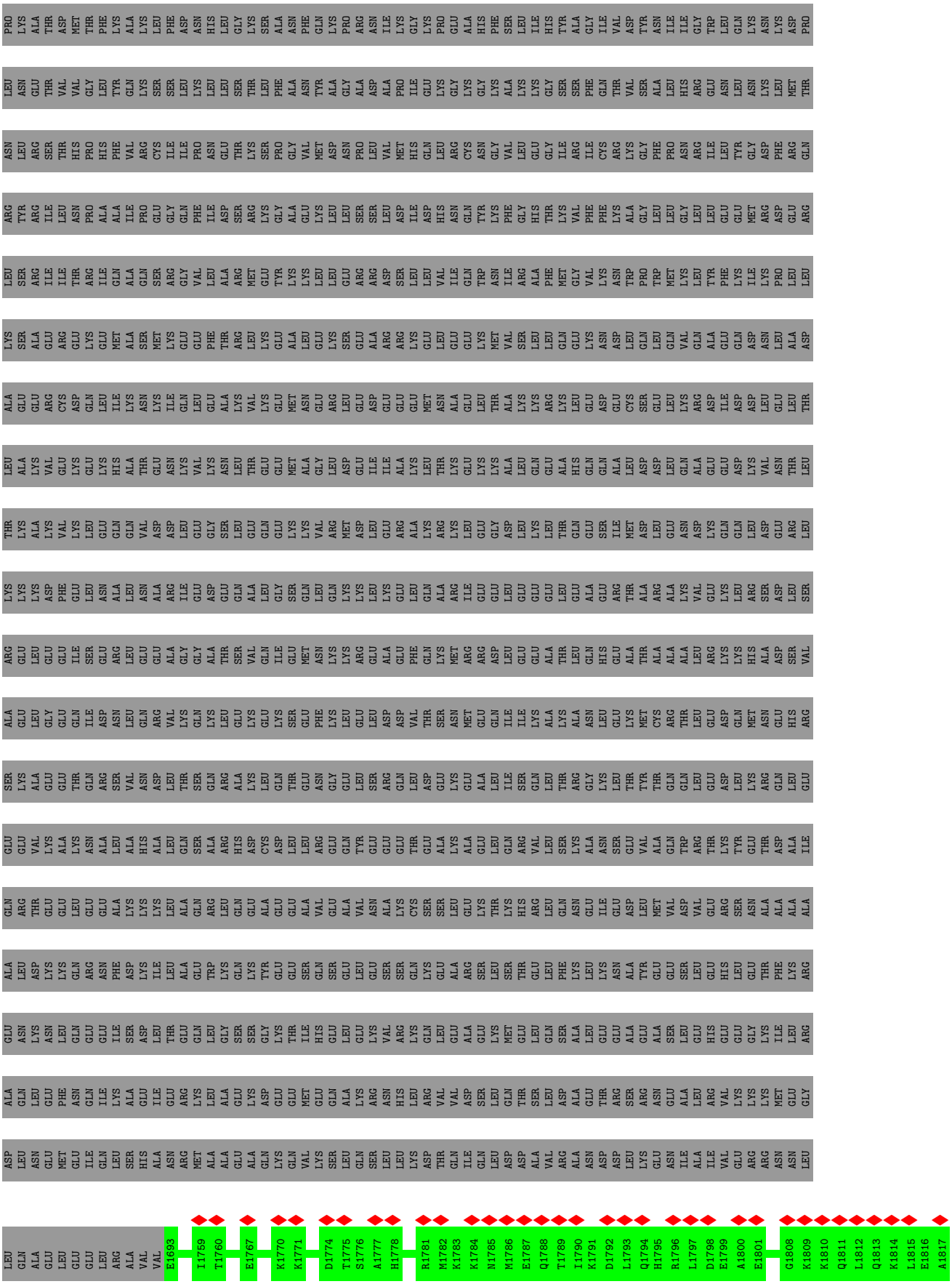
| | | |



- Molecule 1: Myosin-7

Chain AW:

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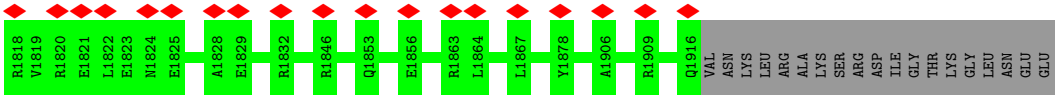
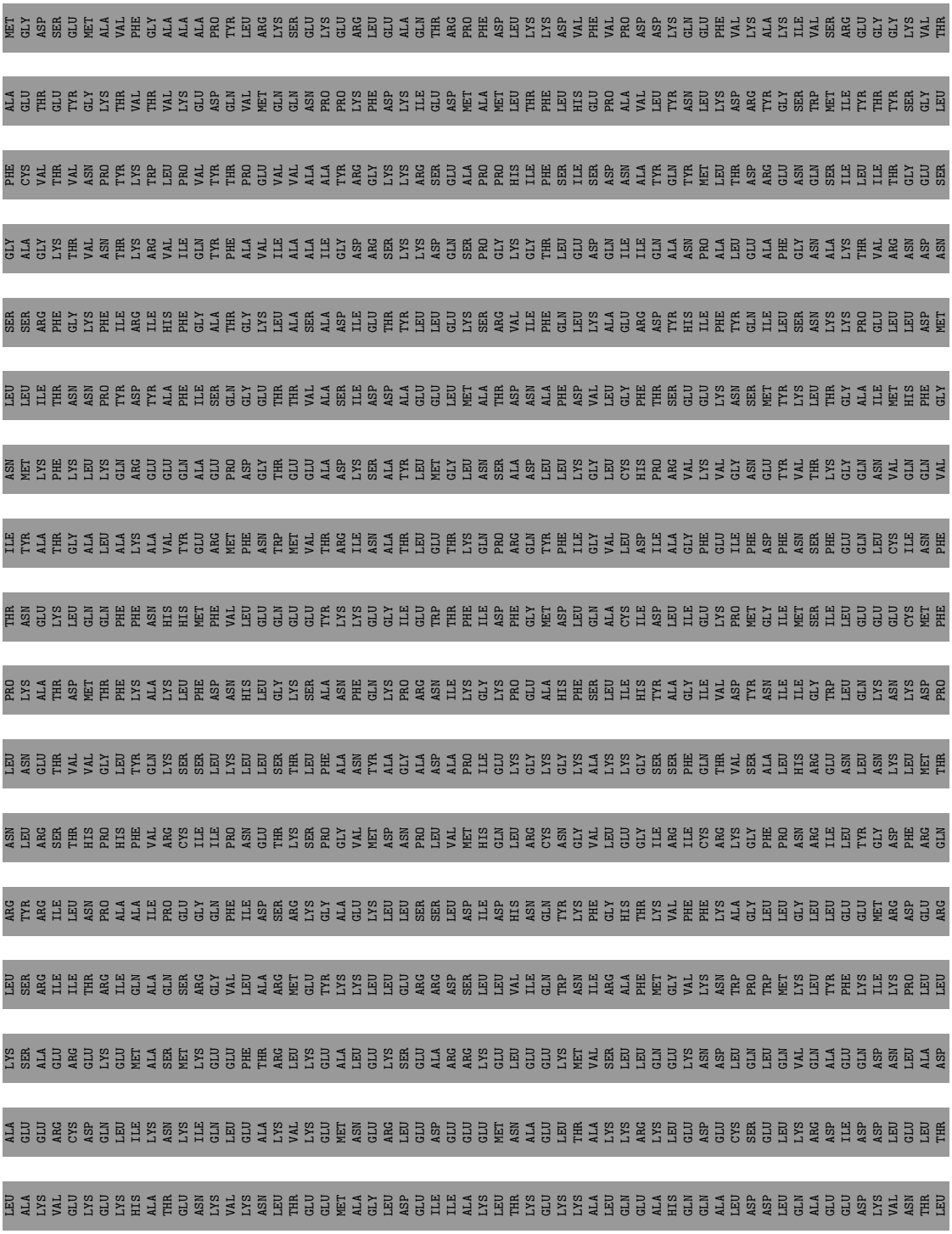
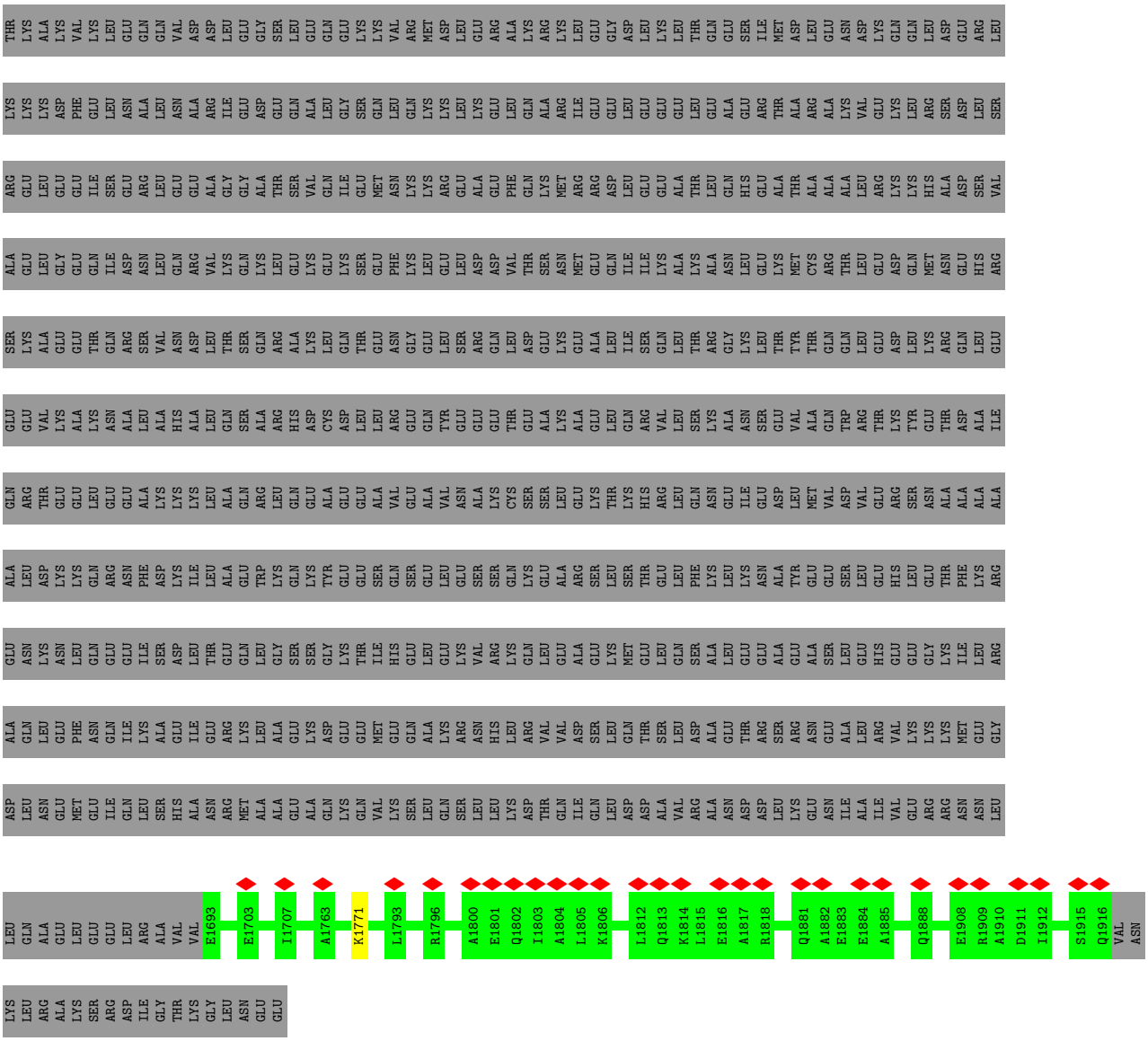


- Molecule 1: Myosin-7

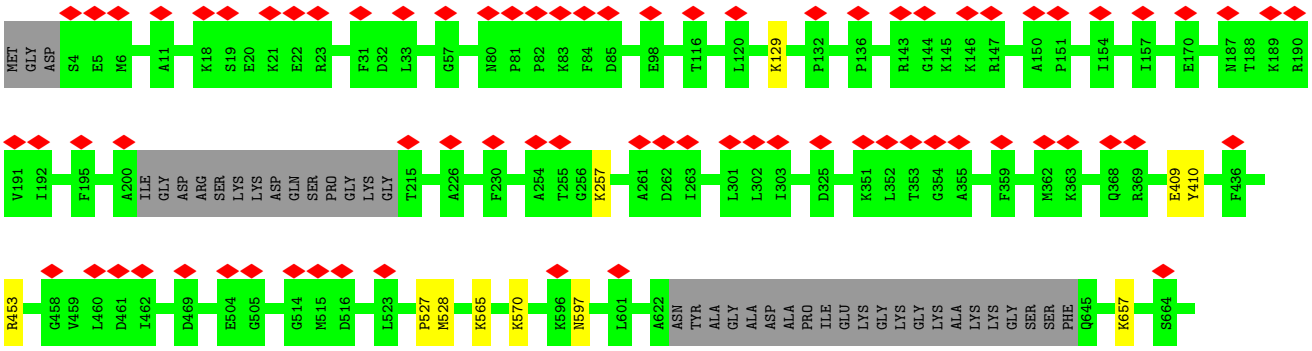
Chain AX:

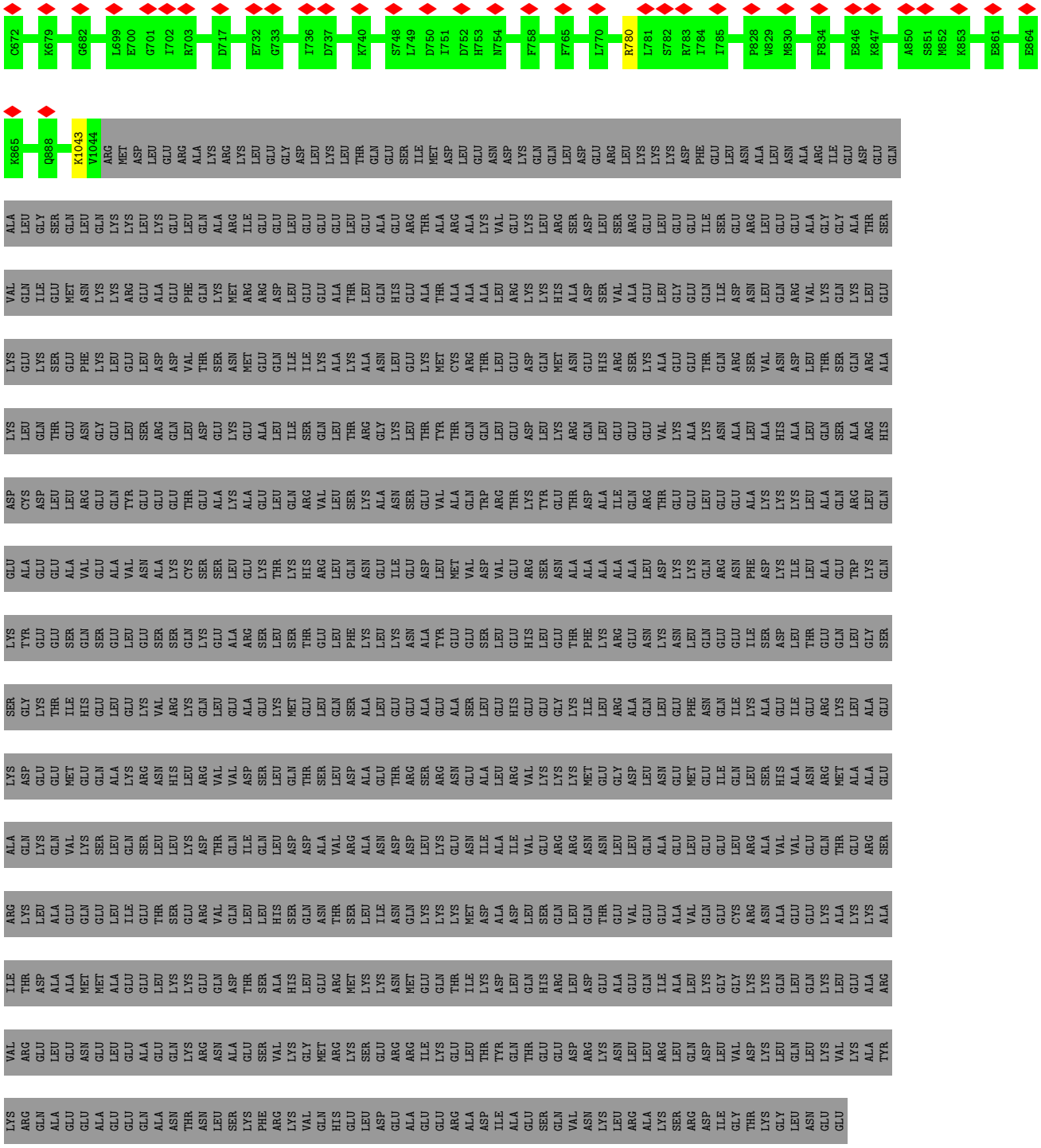




- Molecule 1: Myosin-7

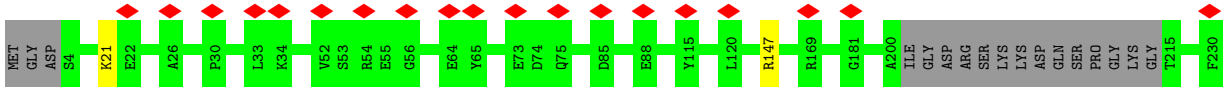
Chain AY:

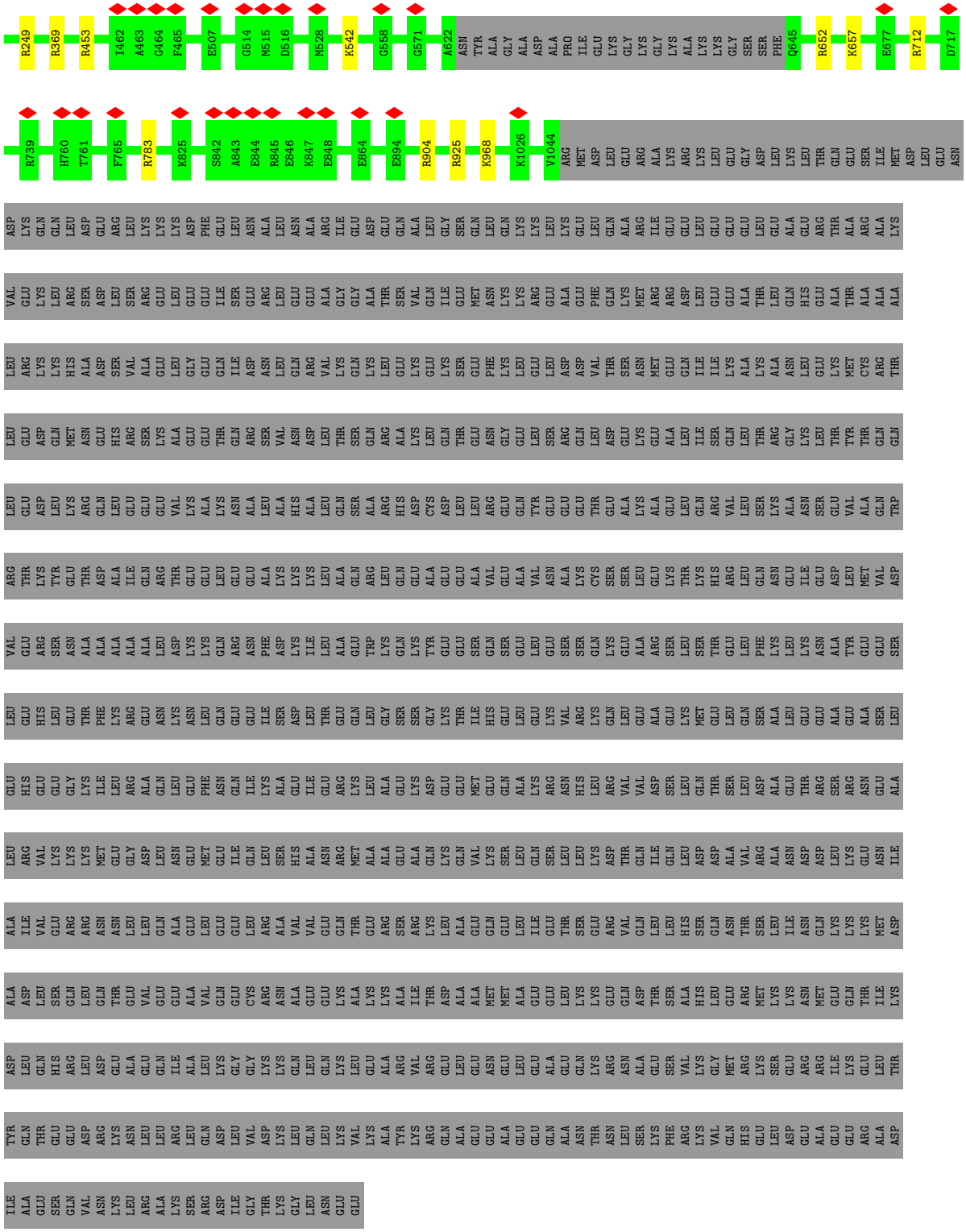




- Molecule 1: Myosin-7

Chain AZ:

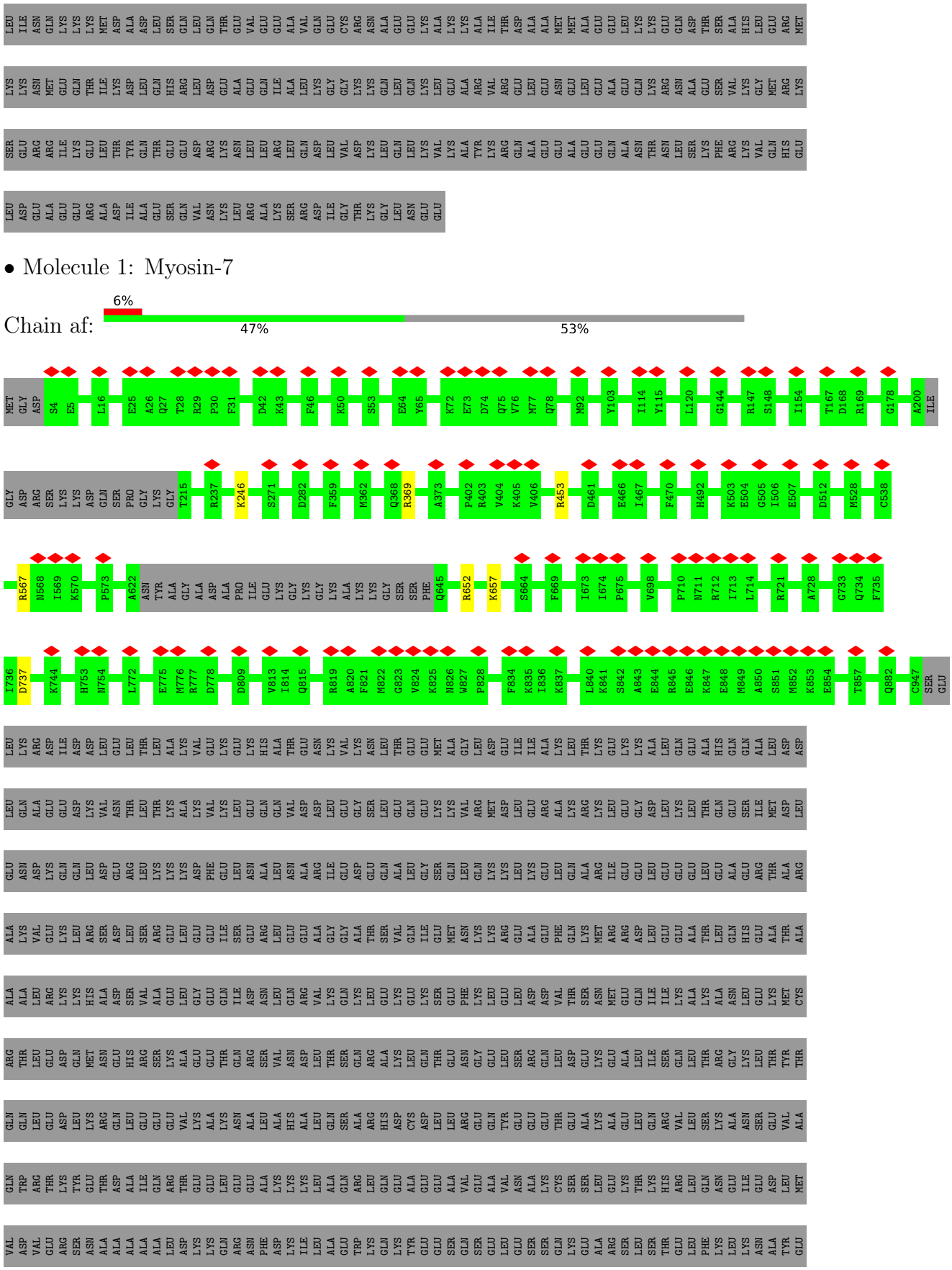




- Molecule 1: Myosin-7

Chain ae:

MET GLY ASP S4 E5 M6 G10 A11 A12 Y15 L16 R17 K18 S19 E20 K21 E22 A26 Q27 T28 D32 L33 S53 T70 V71 Q79 N80 K83 F84 D85 D89 T94 S111 W112 M113 I114 Y115 F121 C122 V123 T124 V125 N126 P127 L131 Y134
E137 A140 A141 Y142 R143 G144 K145 K146 R147 S148 E149 P152 R169 E170 G178 E179 T185 V186 N187 T188 K189 R190 V191 I192 F195 A199 A200 ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY T215 I220 I221 Q222 A223 N224 P225 A226 L227 E228
A229 F230 F247 A254 T255 G256 K257 D262 I263 E264 D299 M300 V320 A321 S322 E327 K351 L352 T353 K363 Q368 R369 L387 L390 N391 D394 V411 Y432 R442 V459 L460 D461 I462 A463 F473 D512 I524 I530 I569
K570 G571 W593 A622 ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE Q645 H651 R663 S664 T665 V670 R671 C672 I673 I674 E677 T678 K679 S680 P681 G682 V683 M684 V698 L699 E700 G701 I702 R703 I704 D717
R721 A728 G733 Q734 F735 I736 D737 D752 H753 N754 F765 K766 A767 G768 L769 L770 G771 L772 E775 E779 R780 L781 S782 R783 I784 I785 Q789 L840 A843 K847 A850 S851 M852 T857 R858 L859 K860 E861 A862 L863 E864 K865 S866 E867 A868 R869
K920 K940 C947 SER GLU LEU LYS ARG ASP ILE ASP ASP LEU GLU GLU LEU THR LEU ALA LYS VAL GLU LYS GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU GLU MET ALA GLY LEU ASP GLU ILE ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA
HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU THR LYS ALA LYS LYS LEU LEU GLN GLN GLN VAL ASP ASP LEU GLY SER LEU GLU GLN GLU LYS LYS VAL ARG MET ASP LEU LEU GLU ARG ALA LYS ARG LYS LEU GLU GLY ASP LEU LYS LEU THR
GLN GLU SER ILE MET ASP LEU GLU ASN ASP LYS GLN GLN LEU ASP GLU ARG LEU LYS LYS LYS ASP PHE GLU LEU ASN ALA LEU ASN ALA ARG ILE GLU ASP GLU GLN ALA LEU GLY SER GLN LEU GLN LYS LYS LEU LEU LYS GLU LEU GLU ALA ARG ILE GLU GLU LEU GLN ALA ARG LYS ILE GLU GLU LEU
GLU ALA GLU ARG THR ALA ARG ALA LYS VAL GLU LYS LEU ARG SER ASP LEU SER ARG GLU LEU GLU ILE SER GLU ARG LEU ALA GLY GLY ALA THR SER VAL GLN ILE GLU MET ASN LYS LYS ARG GLU ALA GLU PHE GLN LYS MET ARG ARG ASP LEU GLU GLU ALA THR
LEU GLN HIS GLU ALA THR ALA ALA ALA LEU ARG LYS LYS HIS ALA ASP SER VAL ALA GLU LEU GLY GLU GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU LYS GLU LYS SER GLU MET PHE LYS LEU GLU LEU ASP ASP VAL THR SER ASN MET GLU GLN ILE ILE LYS ALA LYS
ALA ASN LEU GLU LYS MET CYS ARG THR LEU GLU ASP GLN MET ASN GLU HIS ARG SER LYS ALA GLU GLU GLU THR GLN ARG ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU ASN GLY GLU LEU SER ARG GLN LEU ASP GLU LYS ARG GLN ASP LEU LEU SER
ARG GLY LYS LEU THR TYR THR GLN GLN LEU GLU GLU ASP LEU LYS ARG GLN LEU GLU GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU GLU GLU THR GLU GLU ALA ALA LYS GLU LEU GLN ARG VAL LEU SER
LYS ALA ASN SER GLU VAL ALA GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE GLN ARG THR GLU GLU GLU LEU LYS LYS LEU LEU ALA GLN ARG GLN GLU ALA LYS ASN ALA ALA VAL GLU ALA VAL ASN ALA LYS CYS SER SER LEU GLU ALA GLU LYS THR LYS HIS ARG LEU GLN
ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU ARG SER ASN ALA ALA ALA ALA LEU ASP LYS LYS GLN ARG ASN PHE ASP LYS ILE LEU ALA GLU TRP LYS GLN LYS TYR GLU GLU SER GLN SER GLU LEU GLU LYS VAL ARG LYS GLN LYS GLU ALA ARG SER LEU SER THR GLU LEU PHE
LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS LEU GLU THR PHE LYS ARG GLU ASN LYS ASN LEU GLU ILE SER ASP LEU THR GLU GLN LEU GLY SER GLN LYS THR ILE HIS GLU LEU GLU LYS VAL ARG LYS GLN LEU GLU ALA ARG SER LEU SER MET GLU LEU GLN
ALA LEU GLU GLU ALA GLU ALA SER LEU GLU HIS GLU GLU GLY LYS ILE LEU ARG ALA GLN LEU GLU PHE ASN GLN ILE ILE LYS ALA GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU ARG VAL VAL ASP SER LEU GLN THR SER LEU LEU ASP
ALA GLU THR ARG SER ARG ALA GLU LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LEU GLU GLN LYS SER LEU GLU LYS ASP ARG MET ALA ALA GLU ALA GLN LYS LYS LYS LYS LYS SER LEU GLU LYS ASP THR GLN ILE LEU LEU LYS ASP ASP LEU ALA ARG
ALA ASN ASP ASP LEU ASN ASN ILE ALA LEU ASN ASN ALA ARG ILE ILE ALA ARG ARG ALA ALA ALA ALA



- Molecule 1: Myosin-7

Chain af: 6% 47% 53%

| | | |

N1785
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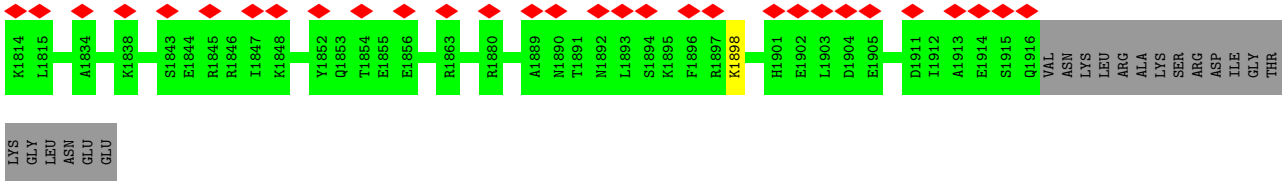
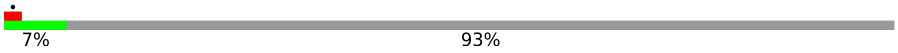
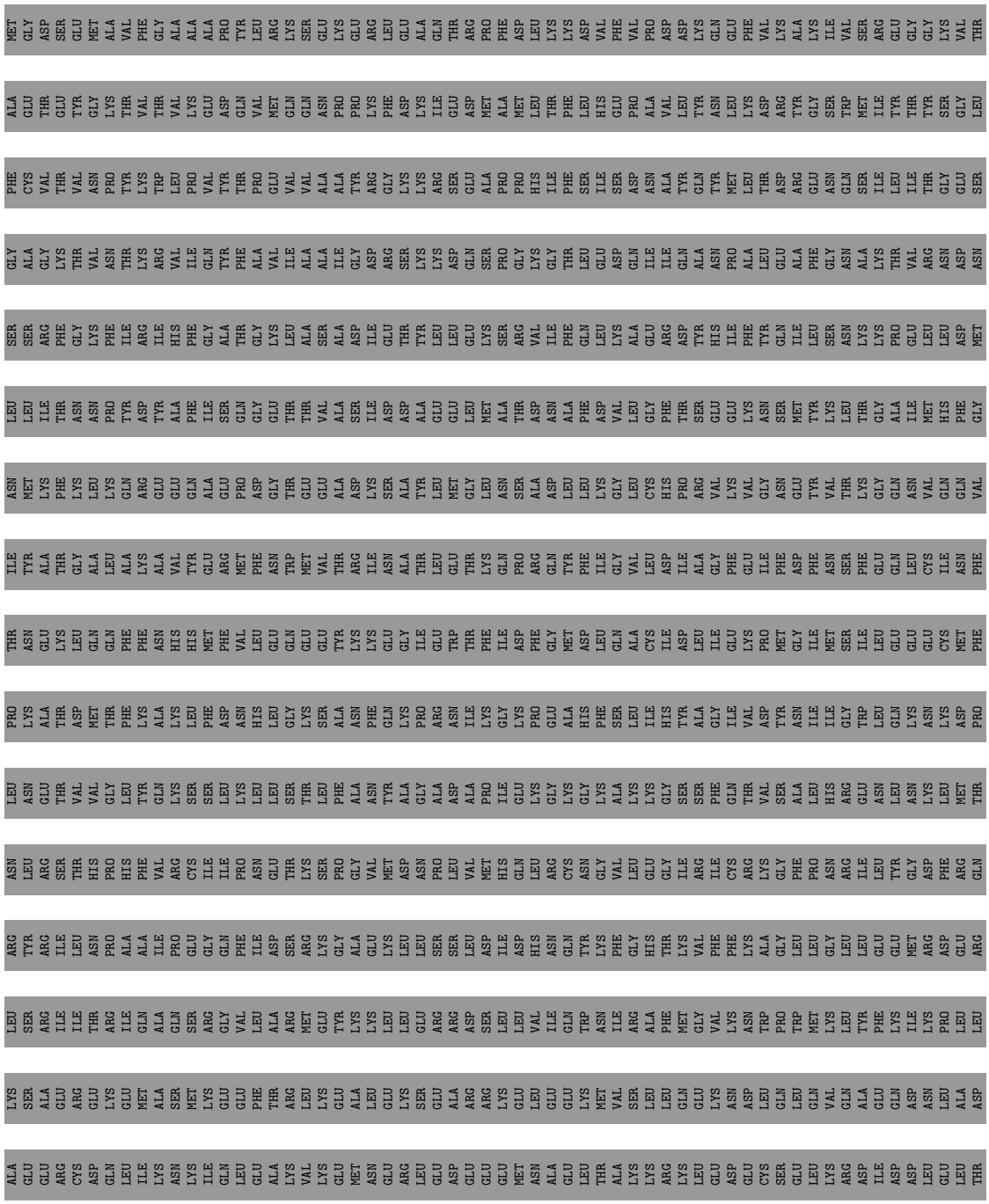
K1810

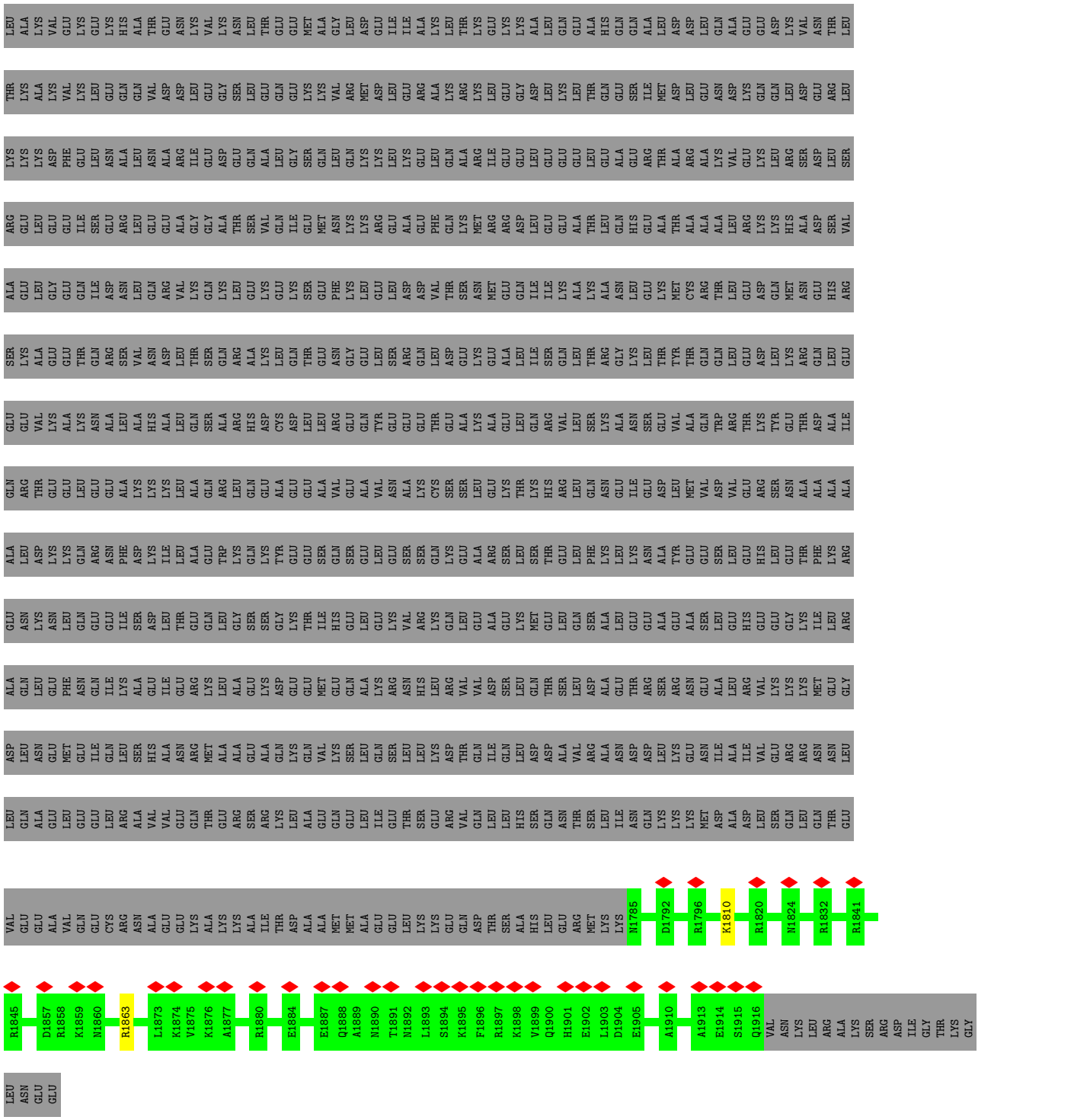


- Molecule 1: Myosin-7

Chain al:

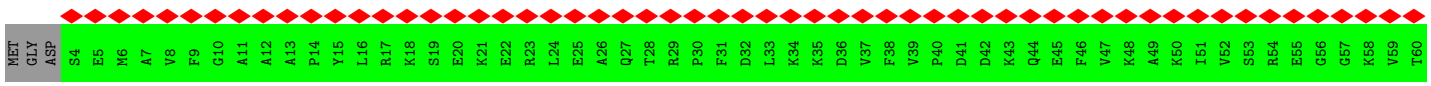






• Molecule 1: Myosin-7

Chain A:



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C122 V123 T124 V125 N126 P127 Y128 K129 W130 L131 P132 V133 Y134 T135 P136 E137 V138 V139 A140 A141 Y142 R143 G144 K145 K146 R147 S148 E149 A150 P151 P152 H153 I154 F155 S156 I157 S158 D159 Y162 Q163 Y164 M165 L166 T167 D168 R169 E170 N171 Q172 S173 I174 L175 G178 E179 S180 G181 A182 G183

K184 T185 V186 N187 T188 K189 R190 Q193 Y194 F195 A196 V197 I198 A199 A200 ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY T215 L216 E217 D218 N224 P225 A226 F230 K234 T235 V236 R237 N238 D239 N240 S241 S242 R243 F244 G245 K246 F247 I248 R249 I250 H251 F252

G253 A254 T255 G256 K257 L258 A259 S260 A261 D262 I263 E264 T265 Y266 L267 L268 E269 K270 S271 R272 V273 I274 F275 Q276 L277 K278 A279 E280 R281 D282 Y283 H284 I285 F286 Y287 Q288 I289 L290 S291 N292 K293 K294 P295 E296 L297 L298 L302 I303 T304 N305 N306 P307 Y308 D309 Y310 A311 F312 I313 S314

Q315 G316 E317 T318 T319 V320 A321 S322 I323 D324 D325 A326 E327 E328 L329 M330 A331 T332 D333 N334 A335 F336 D337 V338 L339 G340 F341 T342 S343 E344 E345 K346 N347 S348 M349 T353 G354 A355 I356 M357 H358 F359 G360 N361 M362 K363 F364 K365 L366 K367 Q368 R369 E370 E371 E374 P375 D376 G377

T378 E379 E380 A381 D382 K383 S384 A385 Y386 L390 N391 S392 A393 G398 L399 C400 K405 V406 T412 Q418 Q419 Y422 A423 T424 G425 A426 L427 A428 K429 A430 V431 Y432 E433 R434 M435 F436 N437 W438 T441 R442 T443 N444 A445 T446 L447 E448 Q451 P452 R453 Q454 Y455 F456

I457 G458 V459 L460 D461 I462 A463 G464 F465 E466 I467 F468 D469 F470 N471 S472 F473 E474 Q475 L476 C477 I478 N479 F480 T481 N482 E483 K484 L485 Q486 Q487 F488 F489 N490 H491 H492 M493 F494 V495 L496 E497 Q498 E499 E500 Y501 K502 K503 E504 G505 I506 E507 W508 T509 F510 I511 D512 F513 G514 M515 D516

L517 Q518 A519 C520 I521 D522 L523 I524 E525 K526 P527 M528 G529 I530 M531 S532 I533 L534 P541 K542 A543 T544 D545 M546 T547 F548 K549 L552 F553 D554 N555 H556 K559 S560 A561 N562 F563 Q564 K565 P566 R567 N568 I569 K570 G571 K572 P573 E574 A575 H576 F577 S578 L579 I580 H581 Y582 A583

G584 I585 V586 D587 Y588 N589 I590 I591 G592 W593 L594 Q595 K596 N597 K598 L601 T604 V605 V606 G607 L608 Y609 Q610 K611 S612 S613 L614 K615 L616 L617 S618 T619 L620 F621 A622 ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE Q645

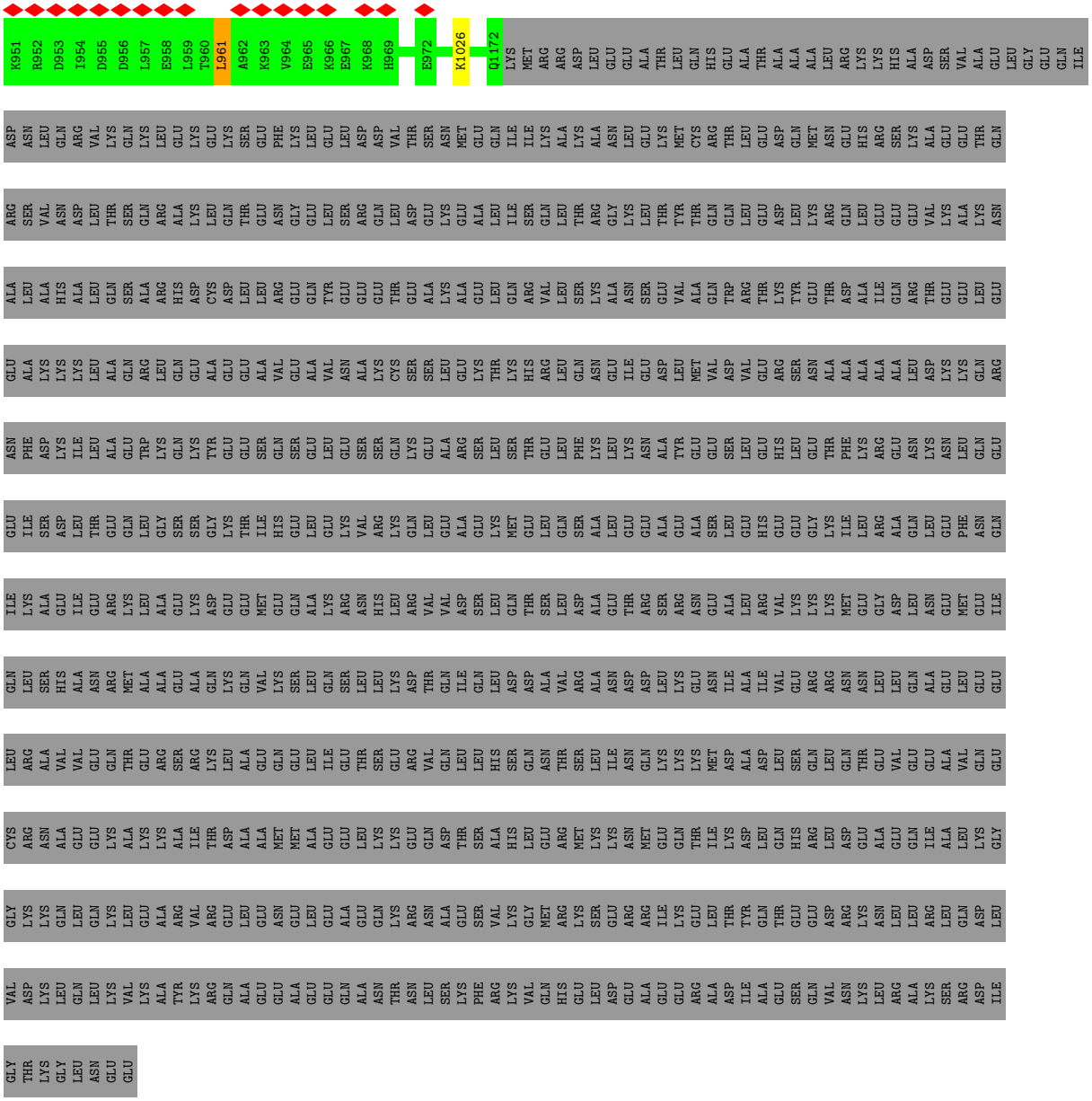
T646 V647 S648 A649 L650 H651 R652 E653 N654 L655 N656 K657 L658 M659 T660 N661 L662 R663 S664 T665 H666 R671 C672 I673 I674 P675 N676 E677 T678 K679 S680 P681 G682 V683 M684 D685 N686 P687 L688 V689 M690 H691 Q692 L693 R694 C695 N696 G697 V698 L699 E700 G701 I702 R703 I704 C705 R706 K707 G708

F709 R712 I713 L714 Y715 G716 D717 F718 R719 Q720 R721 Y722 R723 I724 L725 N726 P727 A728 A729 I730 F731 E732 G733 Q734 F735 I736 D737 S738 R739 K740 G741 A742 E743 K744 L745 L746 S747 S748 L749 D750 I751 D752 H753 N754 Q755 Y756 K757 F758 G759 H760 T761 K762 V763 F764 F765 K766 A767 G768 L769

L770 G771 L772 L773 E774 E775 M776 R777 D778 E779 R780 L781 S782 R783 I784 I785 T786 R787 I788 Q789 A790 Q791 S792 R793 G794 V795 L796 A797 R798 M799 E800 Y801 K802 K803 L804 L805 E806 R807 R808 D809 S810 L811 L812 V813 I814 Q815 W816 N817 I818 R819 A820 F821 M822 G823 V824 K825 N826 W827 P828 W829

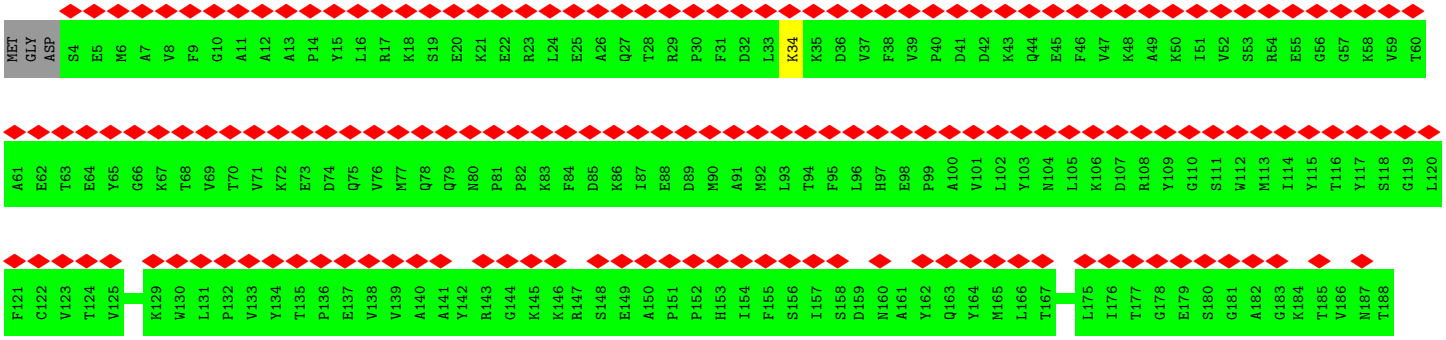
M830 K831 L832 Y833 F834 K835 I836 K837 P838 L839 D840 K841 S842 A843 E844 R845 E846 K847 E848 M849 A850 S851 M852 K853 E854 E855 F856 T857 R858 L859 K860 E861 A862 L863 E864 K865 S866 E867 A868 R869 R870 K871 E872 L873 E874 E875 K876 M877 V878 S879 L880 L881 Q882 E883 K884 N885 D886 L887 Q888 L889

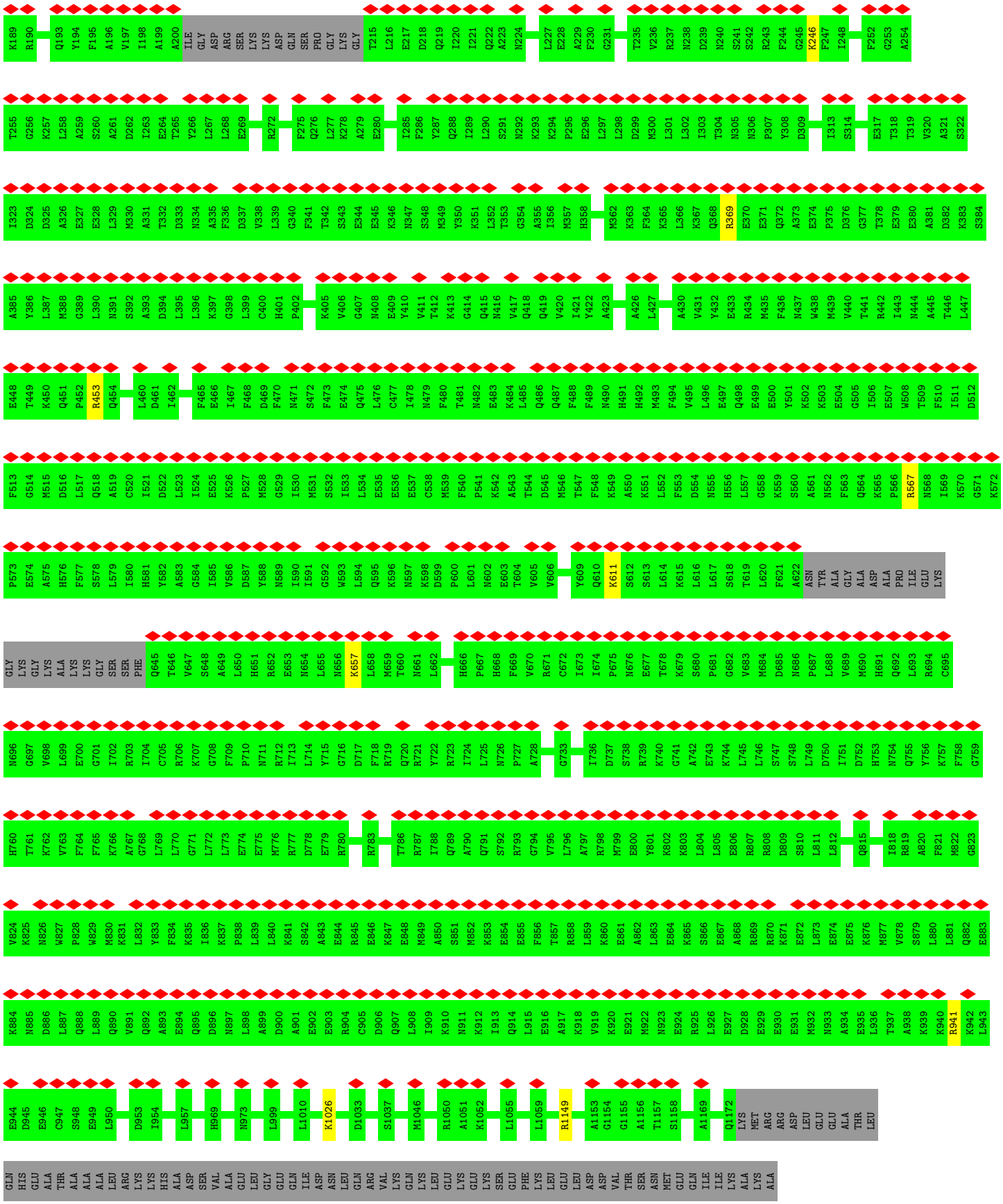
Q890 V891 Q892 A893 E894 Q895 D896 N897 L898 A899 D900 A901 R904 C905 D906 Q907 L908 I909 K910 N911 K912 I913 Q914 L915 E916 A917 K918 V919 K920 E921 M922 N923 E924 R925 L926 E927 D928 E929 E930 E931 M932 N933 A934 E935 L936 T937 A938 K939 K940 R941 K942 L943 E944 D945 E946 C947 S948 E949 L950



- Molecule 1: Myosin-7

Chain B:




K189 R190 Q193 Y194 F195 A196 V197 I198 A199 A200 ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY T215 L216 E217 D218 Q219 I220 I221 Q222 A223 N224 L227 E228 A229 F230 G231 T235 V236 R237 N238 D239 N240 S241 S242 R243 F244 G245 K246 F247 I248 F252 G253 A254
T255 G256 K257 L258 A259 S260 A261 D262 I263 E264 T265 Y266 L267 L268 E269 R272 F275 Q276 L277 K278 A279 E280 I285 F286 Y287 Q288 I289 L290 S291 N292 K293 K294 P295 E296 L297 L298 D299 M300 L301 L302 I303 T304 N305 N306 P307 Y308 D309 I313 S314 E317 T318 T319 V320 A321 S322
I323 D324 D325 A326 E327 E328 L329 M330 A331 T332 D333 N334 A335 F336 D337 V338 L339 G340 F341 T342 S343 E344 E345 K346 N347 S348 M349 Y350 K351 L352 T353 G354 A355 I356 M357 H358 M362 K363 F364 K365 L366 K367 Q368 R369 E370 E371 Q372 A373 E374 P375 D376 G377 T378 E379 E380 A381 D382 K383 S384
A385 Y386 L387 M388 G389 L390 N391 S392 A393 D394 L395 L396 K397 G398 L399 C400 H401 P402 K405 V406 G407 N408 E409 Y410 V411 T412 K413 G414 Q415 N416 V417 Q418 Q419 V420 I421 Y422 A423 A426 L427 A430 V431 Y432 E433 R434 M435 F436 N437 W438 M439 V440 T441 R442 I443 N444 A445 T446 L447
E448 T449 K450 Q451 P452 R453 Q454 L460 D461 I462 F465 E466 I467 F468 D469 F470 N471 S472 F473 E474 Q475 L476 C477 I478 N479 F480 T481 N482 E483 K484 L485 Q486 Q487 F488 F489 N490 H491 H492 M493 F494 V495 L496 E497 Q498 E499 E500 Y501 K502 K503 E504 G505 I506 E507 W508 T509 F510 I511 D512
F513 G514 M515 D516 L517 Q518 A519 C520 I521 D522 L523 I524 E525 K526 P527 M528 G529 I530 M531 S532 I533 L534 E535 E536 E537 C538 M539 F540 P541 K542 A543 T544 D545 M546 T547 F548 K549 A550 K551 L552 F553 D554 N555 H556 L557 G558 K559 S560 A561 N562 F563 Q564 K565 P566 R567 N568 I569 K570 G571 K572
P573 E574 A575 H576 F577 S578 L579 I580 H581 Y582 A583 G584 I585 V586 D587 Y588 M589 I590 I591 G592 W593 L594 Q595 K596 N597 K598 D599 P600 L601 N602 E603 T604 V605 V606 Y609 Q610 K611 S612 S613 L614 K615 L616 L617 S618 T619 L620 F621 A622 ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS
GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE Q645 T646 V647 S648 A649 L650 H651 R652 E653 N654 L655 M656 K657 L658 M659 T660 N661 L662 H666 P667 H668 F669 V670 R671 C672 I673 I674 P675 N676 E677 T678 K679 S680 P681 G682 V683 M684 D685 N686 P687 L688 V689 M690 H691 Q692 L693 R694 C695
N696 G697 V698 L699 E700 G701 I702 R703 I704 C705 R706 K707 G708 F709 P710 N711 R712 I713 L714 Y715 G716 D717 F718 R719 Q720 R721 Y722 R723 I724 L725 N726 P727 A728 G733 I736 D737 S738 R739 K740 G741 A742 E743 K744 L745 L746 S747 S748 L749 D750 I751 D752 H753 N754 Q755 Y756 K757 F758 G759
H760 T761 K762 V763 F764 F765 K766 A767 G768 L769 L770 G771 L772 L773 E774 E775 M776 R777 D778 E779 R780 R783 T786 R787 I788 Q789 A790 Q791 S792 R793 G794 V795 L796 A797 R798 M799 E800 Y801 K802 K803 L804 L805 E806 R807 R808 D809 S810 L811 L812 Q815 I818 R819 A820 F821 M822 G823
V824 K825 N826 W827 P828 W829 M830 K831 L832 Y833 F834 K835 I836 K837 P838 L839 L840 K841 S842 A843 E844 R845 E846 K847 E848 M849 A850 S851 M852 K853 E854 E855 F856 T857 R858 L859 K860 E861 A862 L863 E864 K865 S866 E867 A868 R869 R870 K871 E872 L873 E874 E875 K876 M877 V878 S879 L880 L881 Q882 E883
K884 N885 D886 L887 Q888 L889 Q890 V891 Q892 A893 E894 Q895 D896 N897 L898 A899 D900 A901 E902 E903 R904 C905 D906 Q907 L908 I909 K910 N911 K912 I913 Q914 L915 E916 A917 K918 V919 K920 E921 M922 N923 E924 R925 L926 E927 D928 E929 E930 E931 M932 N933 A934 E935 L936 T937 A938 K939 K940 R941 K942 L943
E944 D945 E946 C947 S948 E949 L950 D953 I954 L957 H969 N973 L999 L1010 K1026 D1033 S1037 M1046 R1050 A1051 K1052 L1055 L1059 R1149 A1153 G1154 G1155 A1156 T1157 S1158 A1169 Q1172 LYS MET ARG ARG ASP LEU GLU GLU ALA THR LEU
GLN HIS GLU ALA THR ALA ALA ALA LEU ARG LYS LYS HIS ALA ASP SER VAL ALA GLU LEU GLY GLU GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU LYS GLU LYS SER GLU PHE LYS LEU GLU LEU ASP ASP VAL THR SER ASN MET GLU GLN ILE ILE LYS ALA LYS ALA

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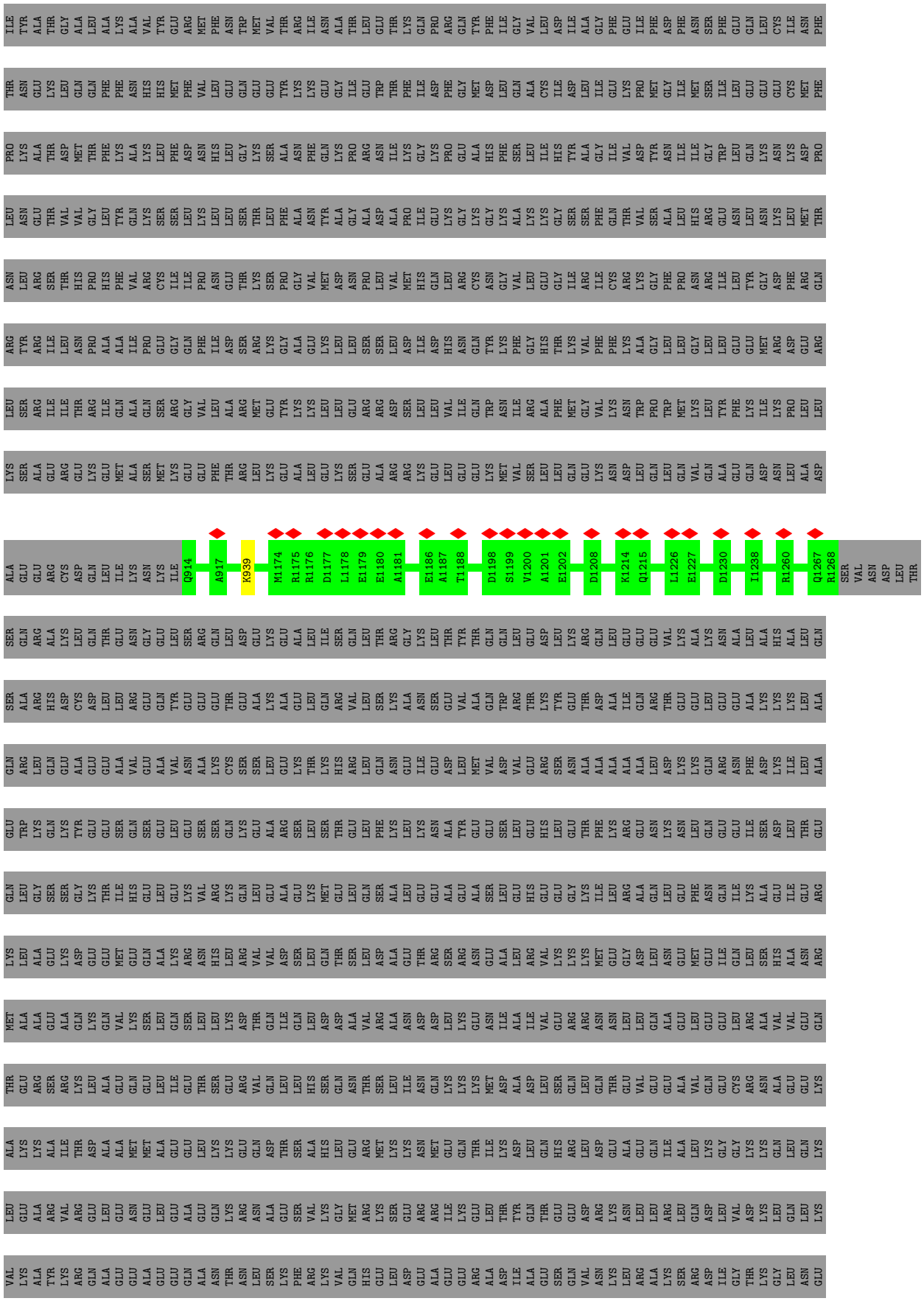
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S1199
V1200
A1201
E1202
D1208
K1214
Q1215
L1226
E1227
D1230
I1238
R1260
Q1267
R1268

GLU

- Molecule 1: Myosin-7

Chain H: 18% 82%

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

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

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

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

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

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

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

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

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

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

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

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

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

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

LYS SER ALA GLU ARG GLU LYS SER MET LYS GLU GLU PHE THR ARG LEU LYS LYS GLU ALA LEU LEU LYS SER GLU ALA ARG ARG LYS GLU LEU LYS LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN LEU LEU GLN VAL GLN ALA GLU GLN ASP ASN LEU LYS LEU ALA ASP

ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE Q914 A917 K918 R925 K976 R1053 R1129 R1141 R1149 A1169 R1176 D1177 E1180 Q1184 R1193 Q1211 Q1215 K1216 L1217 E1218 K1219 S1222 K1225 L1226 E1227 L1228 D1229 D1230 V1231 T1232 S1233

N1234 M1235 E1236 Q1237 I1238 I1239 K1240 A1241 K1247 R1250 T1251 D1254 R1260 S1261 K1262 R1268 SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS LEU GLN THR GLU ASN GLY GLU LEU SER ARG GLN LEU ASP GLU LYS GLU ALA LEU ILE SER GLN LEU THR ARG GLY LYS LEU THR

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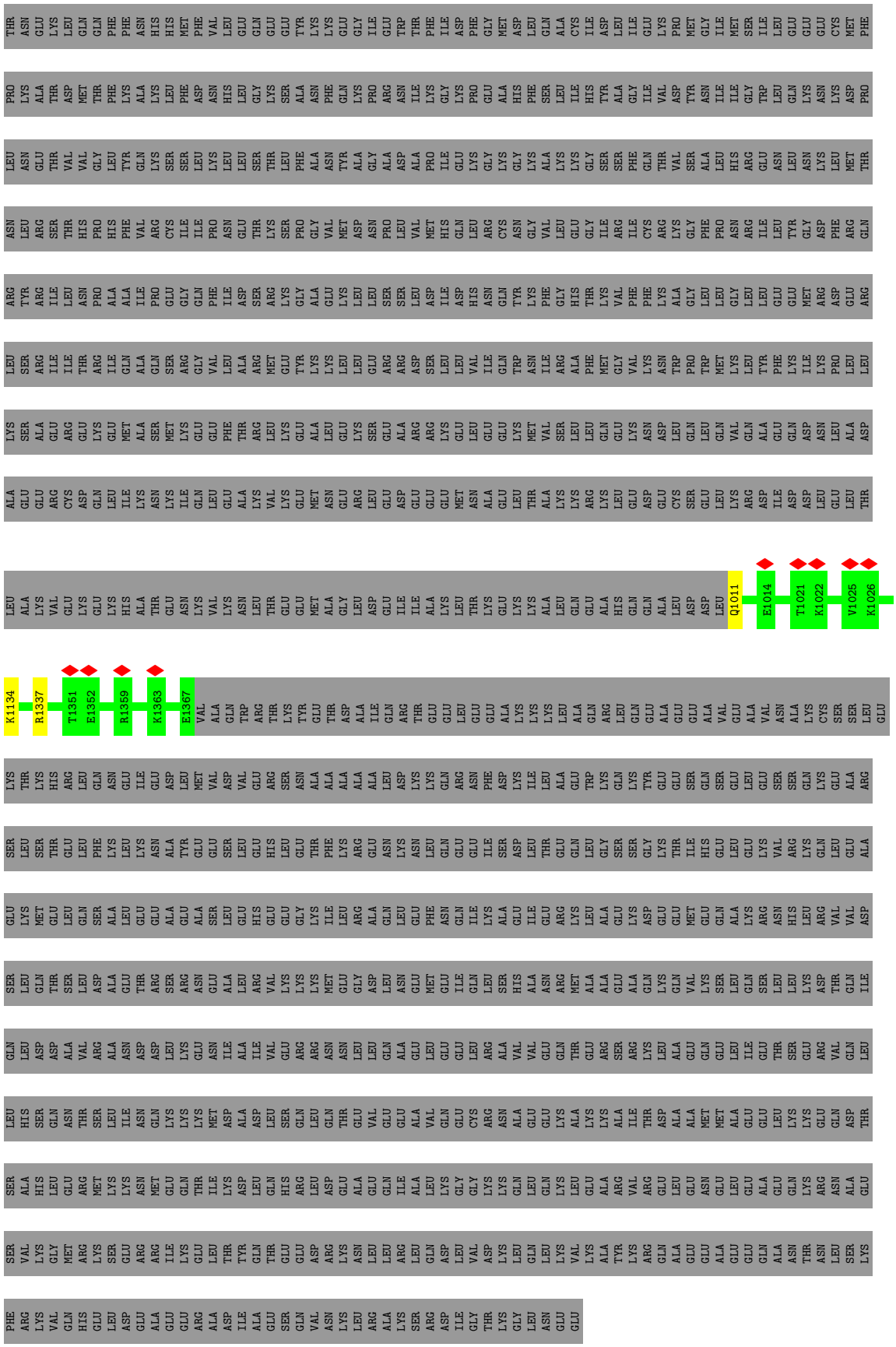
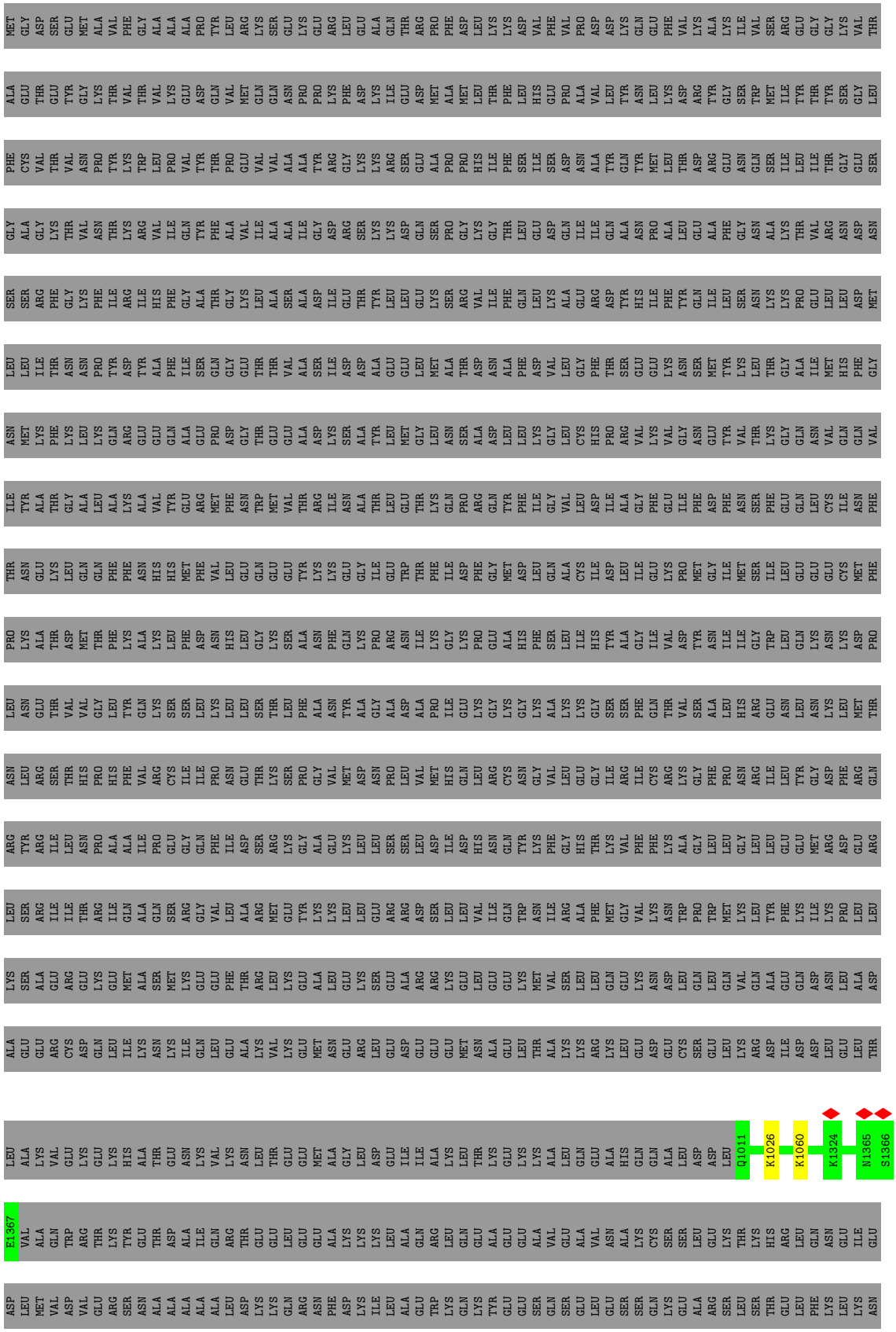
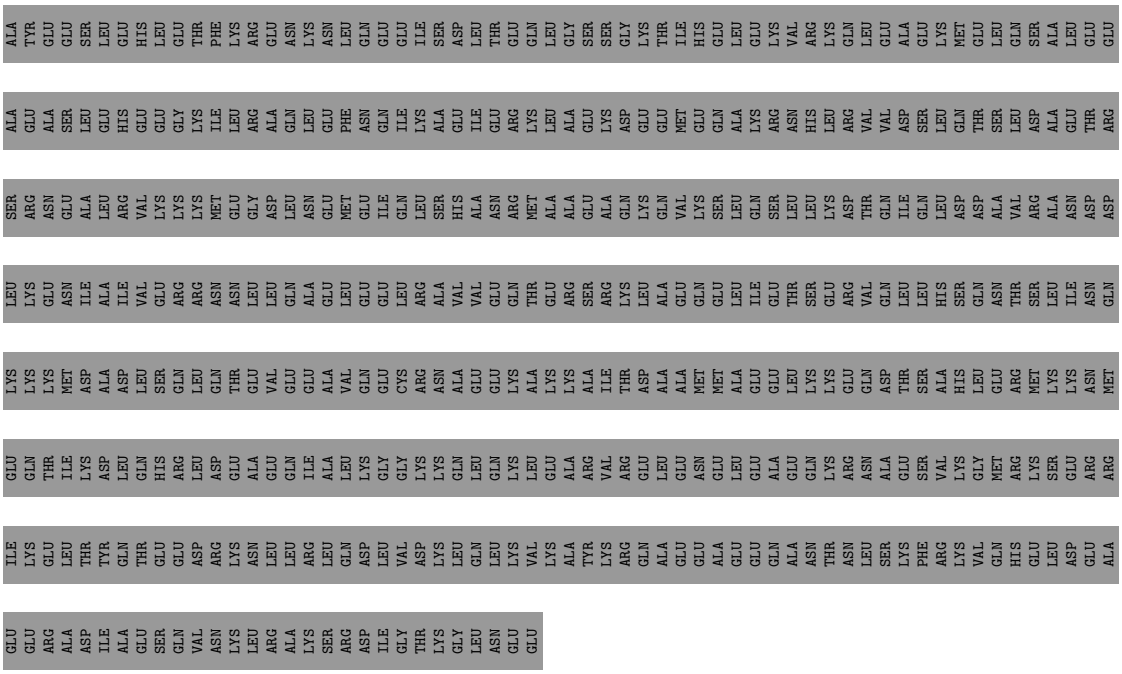


- Molecule 1: Myosin-7

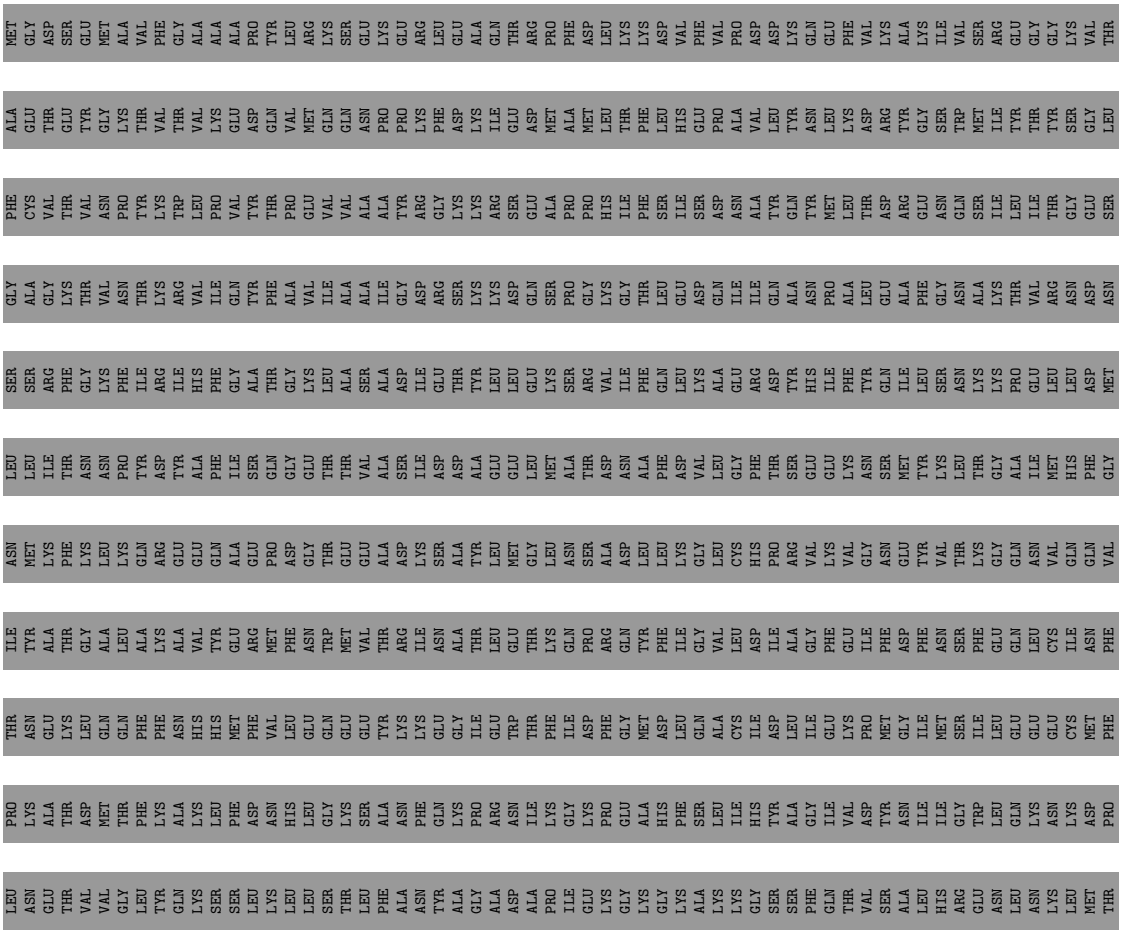
Chain J: 18% 82%

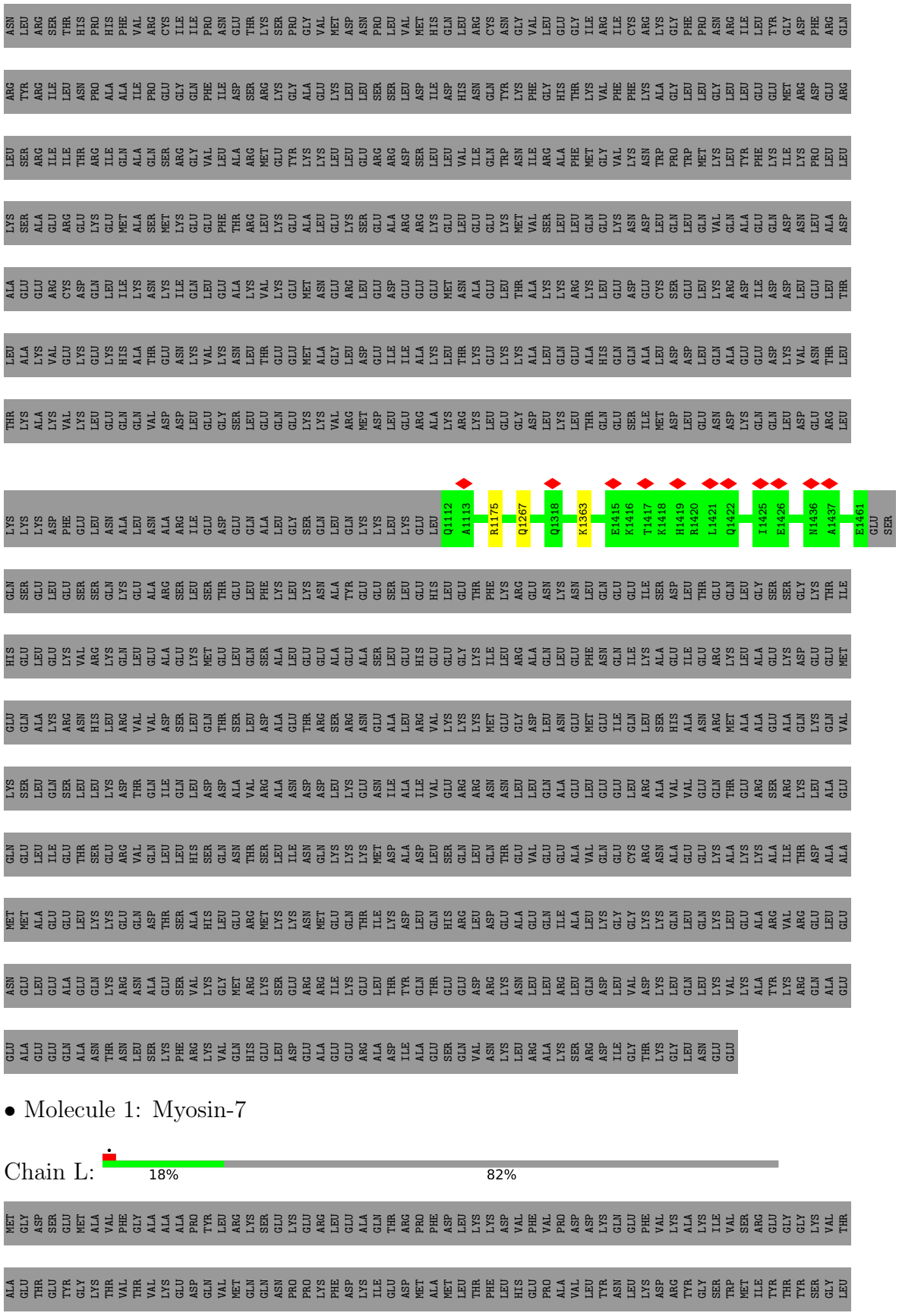




- Molecule 1: Myosin-7

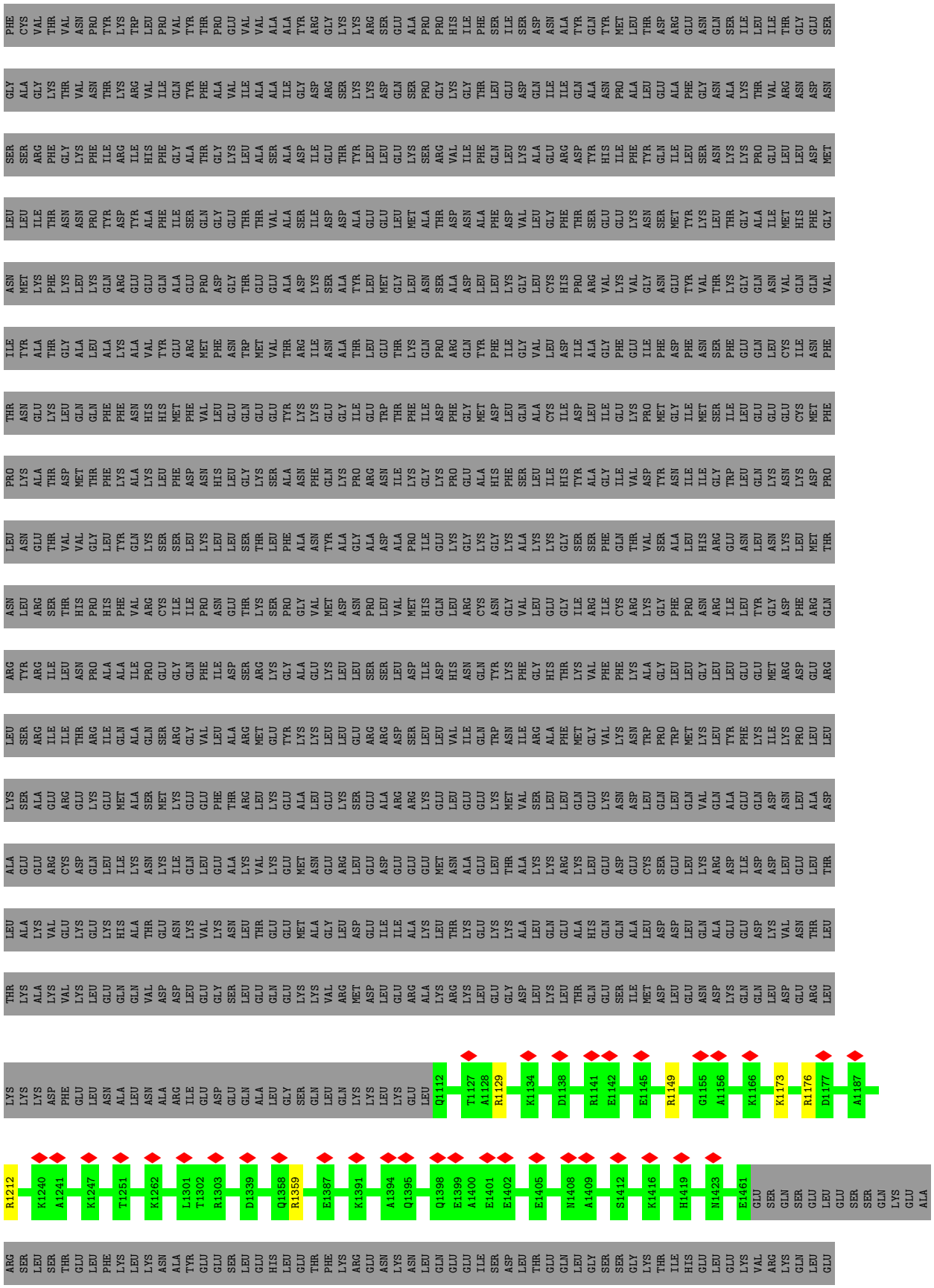
Chain K:





- Molecule 1: Myosin-7

Chain L:


PHE CYS VAL THR VAL ASN PRO TYR LYS TRP LEU PRO VAL TYR THR PRO GLU VAL VAL ALA ALA TYR ARG GLY LYS LYS ARG SER GLU ALA PRO PRO HIS ILE PHE SER ILE SER ASP ASN ALA TYR GLN TYR MET LEU THR ASP ARG GLU ASN GLN SER ILE LEU ILE THR GLY GLU SER
GLY ALA GLY LYS THR VAL ASN THR LYS ARG VAL ILE GLN TYR PHE ALA VAL ILE ALA ALA ILE GLY ASP ARG SER LYS LYS ASP GLN SER PRO GLY LYS GLY THR LEU GLU ASP GLN ILE ILE GLN ALA ASN PRO ALA LEU GLU ALA PHE GLY ASN ALA ASP ASN
SER SER ARG PHE GLY LYS PHE ILE ARG ILE HIS PHE GLY ALA THR GLY LYS LEU ALA SER ALA ASP ILE GLU THR TYR LEU LEU GLU GLU LYS SER ARG VAL ILE PHE GLN LEU LYS ALA GLU ASP TYR HIS ILE PHE TYR GLN ILE LEU SER ASN LYS LYS PRO GLU LEU LEU ASN
LEU LEU ILE THR ASN ASN PRO TYR ASP TYR ALA PHE ILE SER GLN GLY GLU THR THR VAL ALA VAL GLU GLU LEU MET ALA THR ASP ASN ALA PHE ASP VAL LEU GLY PHE THR SER GLU LYS ASN SER MET TYR LYS LEU THR GLY ALA ILE MET HIS PHE GLY
ASN MET LYS PHE LYS LEU LYS GLN ARG GLU GLU GLN ALA GLU PRO ASP GLY THR GLU VAL GLU ALA ASP LYS SER ALA TYR LEU MET GLY LEU ASN SER GLU LYS VAL GLY ASN GLU TYR VAL THR LYS GLY GLN GLN ASN VAL GLN GLN VAL
ILE TYR ALA THR GLY ALA LEU ALA LYS ALA ALA VAL TYR GLU ARG MET PHE ASN TRP MET VAL THR ARG ILE ASN ALA THR LEU GLU THR LYS GLN TYR PHE ILE GLY VAL LEU ASP ILE ALA PHE GLU GLN GLN LEU CYS ILE ASN PHE
THR ASN GLU LYS LEU GLN GLN PHE PHE ASN HIS HIS MET PHE VAL LEU GLU GLN GLU GLU TYR LYS LYS GLU GLY ILE GLU TRP THR THR PHE ILE ASP PHE GLY MET ASP LEU GLN ALA CYS ILE ILE ASP LEU ILE GLU LYS PRO MET GLY ILE ILE MET SER ILE LEU GLU GLU GLU CYS MET PHE
PRO LYS ALA THR ASP MET THR PHE LYS ALA LYS LEU PHE ASP ASN HIS LEU GLY LYS SER ALA ASN PHE GLN LYS PRO ARG ASN ILE LYS GLY LYS PRO GLU ALA HIS PHE SER LEU ILE HIS TYR ALA GLY ILE VAL ASP TYR ASN ILE ILE GLY TRP LEU GLN LYS ASN PRO
LEU ASN GLU THR VAL VAL GLY LEU TYR GLN LYS SER SER LEU LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS LYS GLY GLY SER SER PHE GLN THR VAL SER ALA LEU HIS ARG GLU ASN LEU ASN LYS LEU MET THR
ASN LEU ARG SER THR HIS PHE VAL ARG CYS ILE ILE PRO ASN GLU THR LYS SER PRO GLY VAL MET ASP ASN PRO LEU VAL MET HIS GLN LEU ARG CYS ASN GLY VAL LEU GLU GLY ILE ARG ILE CYS ARG LYS GLY PHE PRO ASN ARG ILE LEU TYR GLY ASP PHE ARG GLN
ARG TYR ARG ILE LEU ASN PRO ALA ALA ILE PRO GLU GLY GLN PHE ILE ASP SER ARG LYS GLY ALA GLU LYS LEU ILE ASP HIS ASN GLN TYR LYS PHE GLY HIS THR LYS VAL PHE PHE LYS LYS ARG LEU LEU GLU LEU GLU GLU MET ARG ASP GLU ARG
LEU SER ARG ILE ILE THR ARG ILE GLN ALA ALA SER ARG GLY VAL LEU ALA ARG MET GLU TYR LYS LYS LEU LEU GLU LEU LEU SER SER LEU ASP ILE ASP SER LEU LEU VAL ARG ILE ARG ASP ARG ARG ASP SER LEU LEU ASP ILE ASN GLN TRP ASN ILE ARG ALA PHE MET GLY VAL LYS ASN TRP PRO TRP MET LYS LEU TYR PHE LYS ILE LYS PRO LEU LEU LEU
LYS SER ALA GLU ARG LYS MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS LYS GLU ALA LYS GLU GLU LEU LEU LYS GLU LEU LYS SER GLU ALA ARG ARG LYS LYS LEU LEU LYS MET VAL SER LEU LEU GLN GLU LYS ASN ASP LEU GLN GLN LEU GLN GLN ASP ASN LEU LEU ALA ASP
ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU VAL LYS GLU MET ASN ALA GLU LYS LEU GLU GLU GLU MET ASN ALA LYS LYS ARG LYS LEU GLU ASP GLU GLU SER GLU LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASP LEU GLU LEU THR
LEU ALA LYS VAL GLU LYS HIS ALA THR GLU ASN LYS GLU GLU MET ALA GLY LEU ASP GLU ILE ALA LYS LEU THR LYS GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN GLN ALA LEU GLU GLU ASP ASP LEU GLN LYS VAL ASN THR LEU
THR LYS ALA LYS VAL LYS LEU GLU GLN GLN GLU LEU GLN GLU VAL ARG MET ASP LEU LYS ARG LYS LEU GLU ARG ALA LYS LEU LEU GLY ASP LEU LYS LEU THR GLN GLU SER ILE MET ASP LEU GLU ASN ASP LYS GLN GLN LEU ASP GLU GLU LEU
LYS LYS LYS ASP PHE GLU LEU ASN ALA LEU LEU ASN ALA ARG ILE GLU ASP GLU LEU GLN GLN ALA GLN LEU LYS LEU GLU LEU Q1112 T1127 A1128 R1129 K1134 D1138 R1141 E1142 E1145 R1149 G1155 A1156 K1166 K1173 R1176 D1177 A1187
R1212 K1240 A1241 K1247 T1251 K1262 L1301 T1302 R1303 D1339 Q1358 R1359 E1387 K1391 A1394 Q1395 Q1398 E1399 A1400 E1401 E1402 E1405 N1408 A1409 S1412 K1416 H1419 N1423 E1461 GLU SER GLN SER GLU LEU GLU SER SER GLN LYS GLU ALA
ARG SER LEU SER THR GLU LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER LEU GLU HIS LEU GLU THR PHE LYS ARG GLU ASN LYS ASN LEU GLN GLU GLU ILE SER ASP LEU THR GLU GLN LEU GLY SER SER GLY LYS THR ILE HIS GLU LEU GLU LYS VAL ARG LYS GLN LEU GLU

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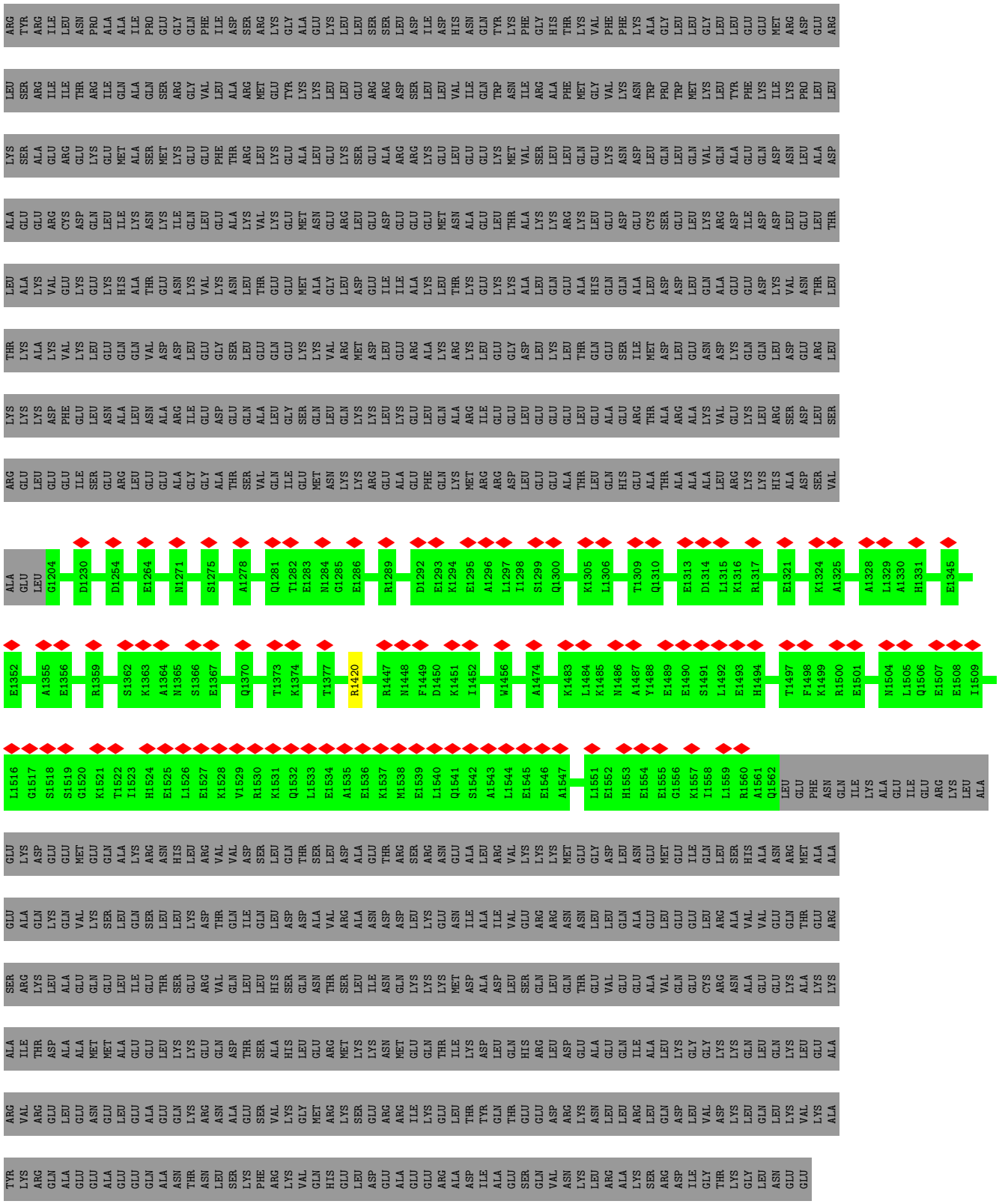

- Molecule 1: Myosin-7

Chain N: 7% 18% 81%

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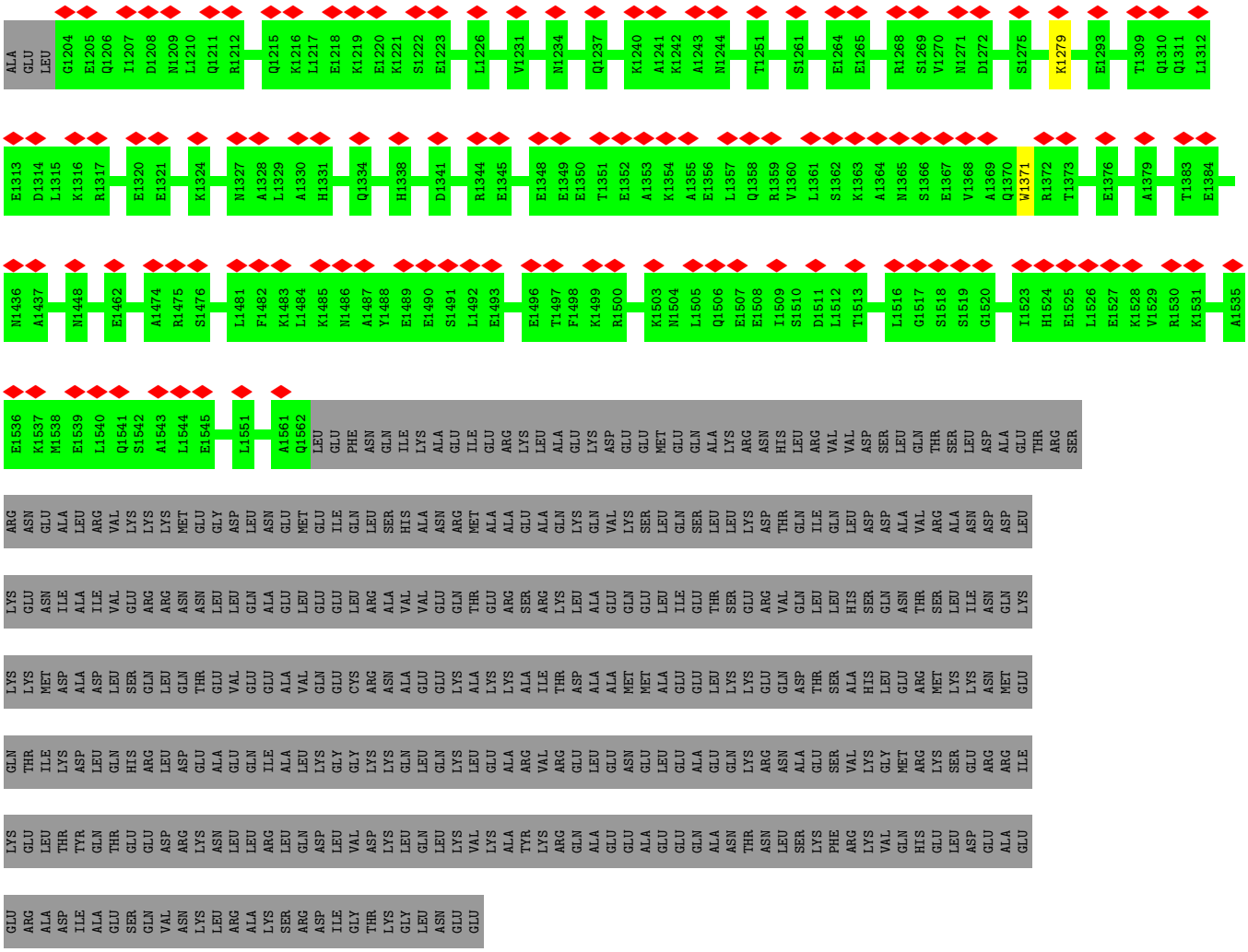
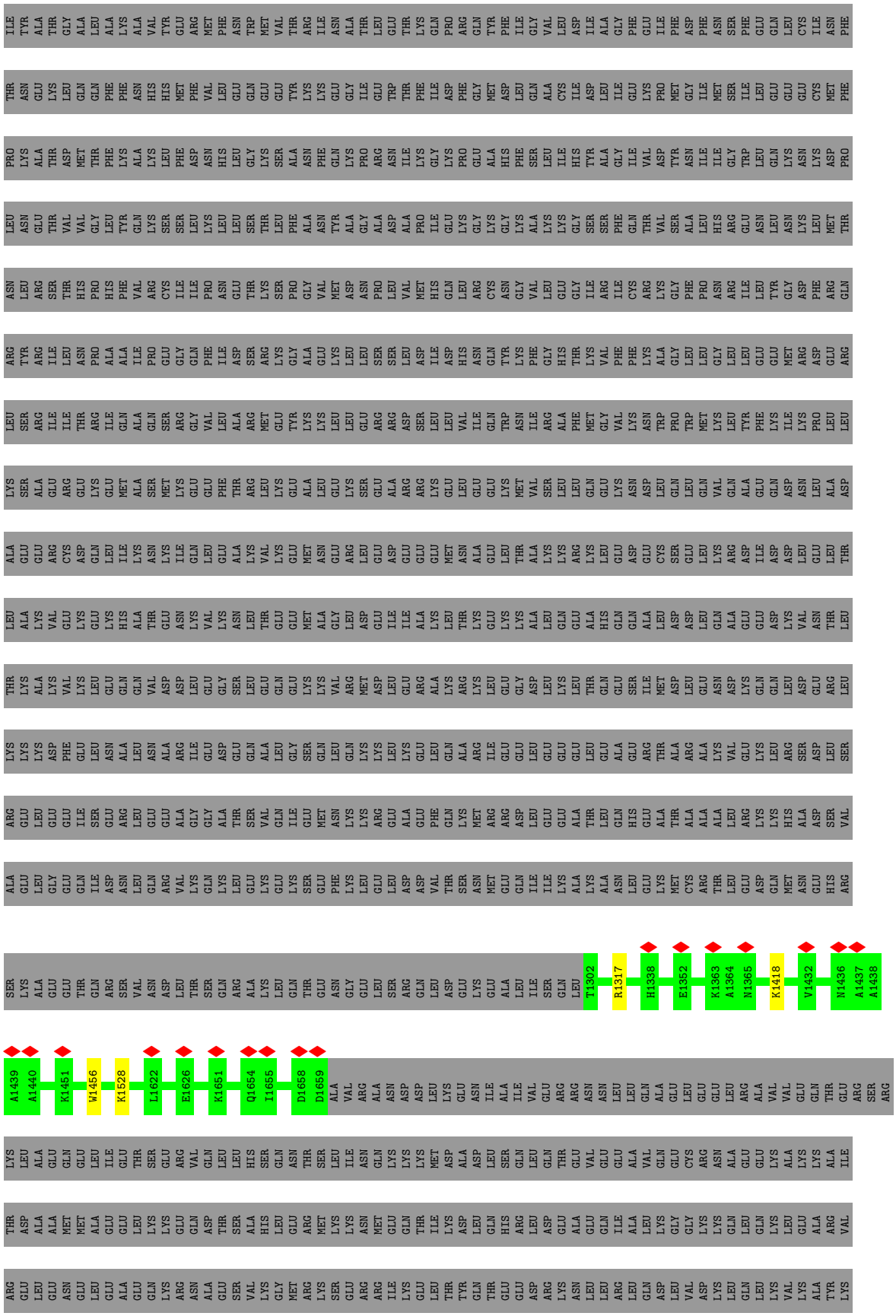

ALA GLU LEU G1204 E1205 Q1206 I1207 D1208 N1209 L1210 Q1211 R1212 Q1215 K1216 L1217 E1218 K1219 E1220 K1221 S1222 E1223 L1226 V1231 N1234 Q1237 K1240 A1241 K1242 A1243 N1244 T1251 S1261 E1264 E1265 R1268 S1269 V1270 N1271 D1272 S1275 K1279 E1293 T1309 Q1310 Q1311 L1312
E1313 D1314 L1315 K1316 R1317 E1320 E1321 K1324 N1327 A1328 L1329 A1330 H1331 Q1334 H1338 D1341 R1344 E1345 E1348 E1349 E1350 T1351 E1352 A1353 K1354 A1355 E1356 L1357 Q1358 R1359 V1360 L1361 S1362 K1363 A1364 N1365 S1366 E1367 V1368 A1369 Q1370 W1371 R1372 T1373 E1376 A1379 T1383 E1384
N1436 A1437 N1448 E1462 A1474 R1475 S1476 L1481 F1482 K1483 L1484 K1485 N1486 A1487 Y1488 E1489 E1490 S1491 L1492 E1493 E1496 T1497 F1498 K1499 R1500 K1503 N1504 L1505 Q1506 E1507 E1508 I1509 S1510 D1511 L1512 T1513 L1516 G1517 S1518 S1519 G1520 I1523 H1524 E1525 L1526 E1527 K1528 V1529 R1530 K1531 A1535
E1536 K1537 M1538 E1539 L1540 Q1541 S1542 A1543 L1544 E1545 L1551 A1561 Q1562 LEU GLU GLU PHE ASN GLN ILE LYS ALA GLU ILE GLU ARG LYS LEU ALA GLU LYS ASP GLU GLU MET GLU GLN ALA LYS ARG ASN HIS LEU ARG VAL VAL ASP SER LEU GLN THR SER LEU ASP ALA GLU THR ARG SER
ARG ASN GLU ALA LEU ARG VAL LYS LYS LYS MET GLU GLY ASP LEU ASN GLU MET GLU ILE GLN LEU SER HIS ALA ASN ARG MET ALA ALA GLU ALA ALA GLN LYS GLN VAL LYS SER LEU GLN SER LEU LEU LYS ASP THR GLN ILE GLN LEU ASP ASP ALA VAL ARG ALA ASN ASP ASP LEU
LYS GLU ASN ILE ALA ILE VAL GLU ARG ARG ASN ASN LEU LEU GLN ALA GLU LEU GLU GLU LEU ARG ALA VAL VAL GLU GLU GLN THR GLU ARG SER ARG LYS LEU ALA GLU GLN GLU LEU ILE GLU THR SER GLU ARG VAL GLN LEU LEU HIS SER GLN ASN THR SER LEU ILE ASN GLN LYS
LYS LYS MET ASP ALA ASP LEU SER GLN LEU GLN THR GLU VAL GLU GLU ALA VAL GLN GLU CYS ARG ASN ALA GLU GLU LYS ALA LYS LYS LYS ALA ILE THR ASP ALA ALA MET MET ALA GLU GLU LEU LYS LYS GLU GLN ASP THR SER ALA HIS LEU GLU ARG MET LYS LYS ASN MET GLU
GLN THR ILE LYS ASP LEU GLN HIS ARG LEU ASP GLU ALA GLU GLN ILE ALA LEU LYS GLY GLY LYS LYS GLN LEU GLU GLN LYS LEU GLU ALA ARG VAL ARG GLU LEU GLU ASN GLU LEU GLU ALA GLU GLN LYS ARG ASN ALA GLU SER VAL LYS GLY MET ARG LYS SER GLU ARG ARG ILE
LYS GLU LEU THR TYR GLN THR GLU GLU ASP ARG LYS ASN LEU LEU ARG LEU GLN ASP LEU VAL ASP LYS LEU GLN LEU LYS VAL LYS ALA TYR LYS ARG GLN ALA GLU GLU ALA GLU GLU GLU GLN ALA ASN THR ASN LEU LEU SER LYS PHE ARG LYS VAL GLN HIS GLU LEU ASP GLU ALA GLU
GLU ARG ALA ASP ILE ALA GLU SER GLN VAL ASN LYS LEU ARG ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU
• Molecule 1: Myosin-7
Chain O: 18% 81%
MET GLY ASP SER GLU MET ALA VAL PHE GLY ALA ALA ALA PRO TYR LEU ARG LYS SER GLU LYS GLU ARG LEU GLU ALA GLN THR ARG PRO PHE ASP LEU LYS LYS ASP VAL PHE VAL PRO ASP ASP LYS GLN GLU PHE VAL LYS ALA LYS ILE VAL SER ARG GLU GLY GLY LYS VAL THR
ALA GLU THR GLU TYR GLY LYS THR VAL THR VAL LYS GLU ASP GLN VAL MET GLN GLN ASN PRO PRO LYS PHE ASP LYS ILE GLU ASP MET ALA MET LEU THR PHE LEU HIS GLU PRO ALA VAL LEU TYR ASN LEU LYS ASP ARG TYR GLY SER TRP MET ILE TYR THR TYR SER GLY LEU
PHE CYS VAL THR VAL ASN PRO TYR LYS TRP LEU PRO VAL TYR THR PRO GLU VAL VAL ALA ALA TYR ARG GLY LYS LYS ARG SER GLU ALA PRO HIS ILE PHE SER ILE SER ASP ASN ALA TYR GLN TYR MET LEU THR ASP ARG GLU ASN GLN SER ILE LEU THR ILE THR GLU GLU
GLY ALA GLY LYS THR VAL ASN THR LYS ARG VAL ILE GLN TYR PHE ALA VAL ILE ALA ALA ALA ILE GLY ASP ARG SER LYS LYS ASP ASP GLN SER PRO GLY LYS GLY THR LEU GLU ASP GLN ILE ILE GLN ALA ASN PRO ALA LEU GLU ALA PHE GLY ASN ALA LYS THR VAL ARG ASN ASP ASN
SER SER ARG PHE GLY LYS PHE ILE ARG ILE HIS PHE GLY ALA THR GLY LYS LEU ALA SER ALA ASP ILE GLU THR TYR LEU LEU GLU LYS SER ARG VAL ILE PHE GLN LEU LYS ALA GLU ASP TYR HIS ILE PHE TYR GLN ILE LEU SER ASN LYS LYS PRO GLU LEU LEU ASP MET
LEU LEU ILE THR ASN ASN PRO TYR TYR ASP TYR ALA PHE ILE SER GLN GLY LYS ALA SER ILE ASP ILE GLU ALA ALA GLU GLU LEU MET ALA THR ASP ASN ALA PHE GLU ASN ALA PHE ASP VAL LEU GLY PHE THR GLY ALA ILE HIS LYS ASN SER MET TYR LYS LEU THR GLY ALA LYS THR VAL ARG ASN ASP GLY
ASN MET LYS PHE LYS LEU LYS GLN ARG GLU GLU GLN ALA GLU PRO ASP GLY THR GLU GLU ALA ALA ASP LYS SER ALA TYR LEU MET GLY LEU ASN SER ALA ASP THR VAL LYS GLY LYS GLN GLU ALA ILE LEU SER ASN ALA ASP LEU LYS LYS GLY LEU CYS HIS PRO ARG VAL LYS VAL GLY ASN GLU TYR VAL THR LYS GLY GLN ASN VAL GLN GLN VAL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D1659

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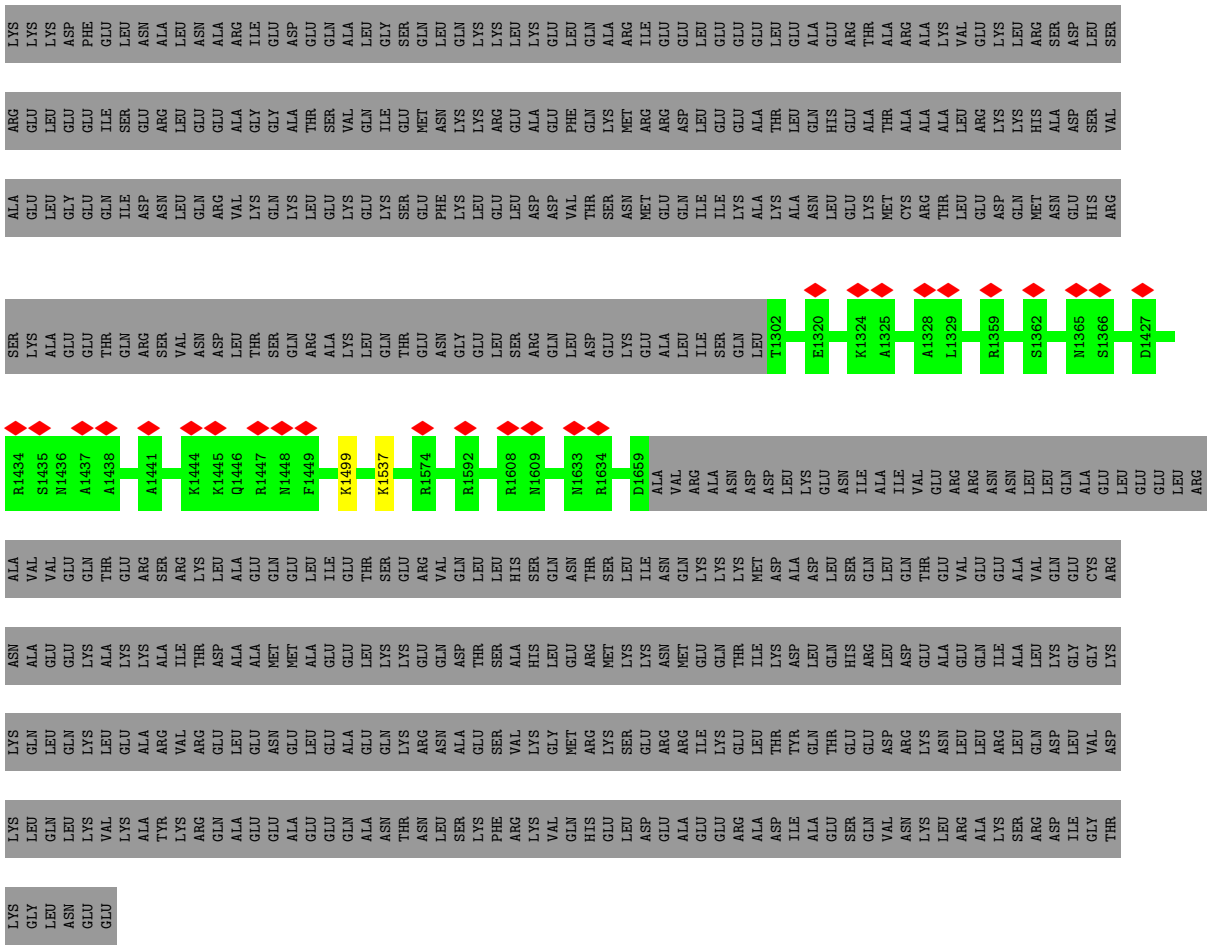
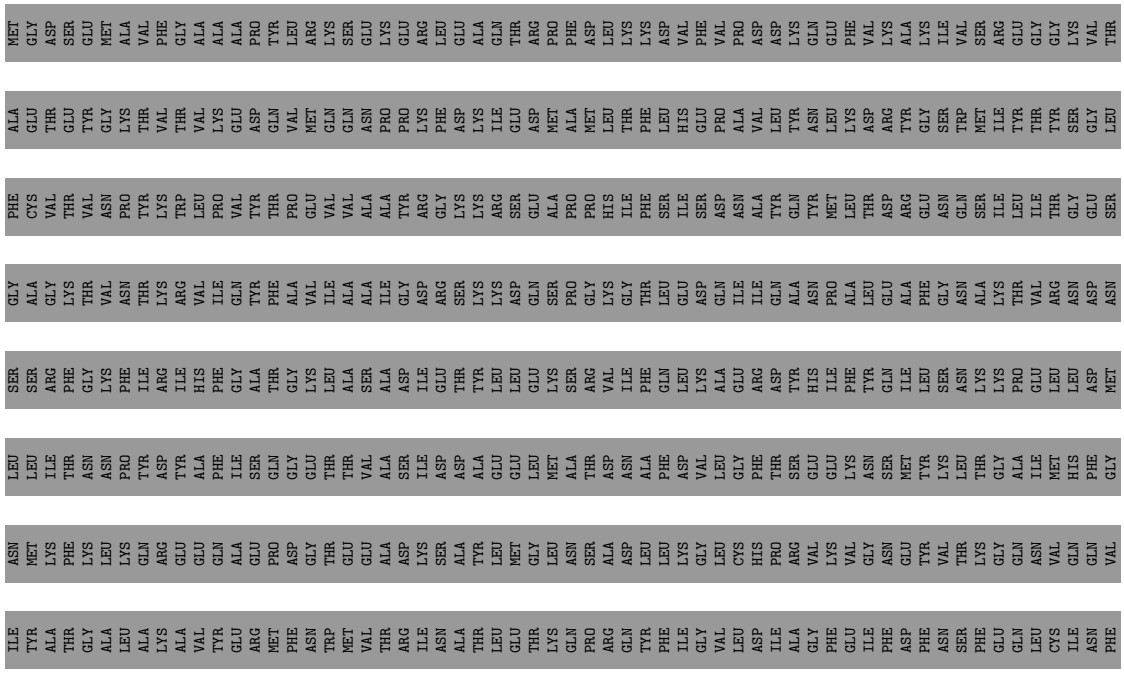
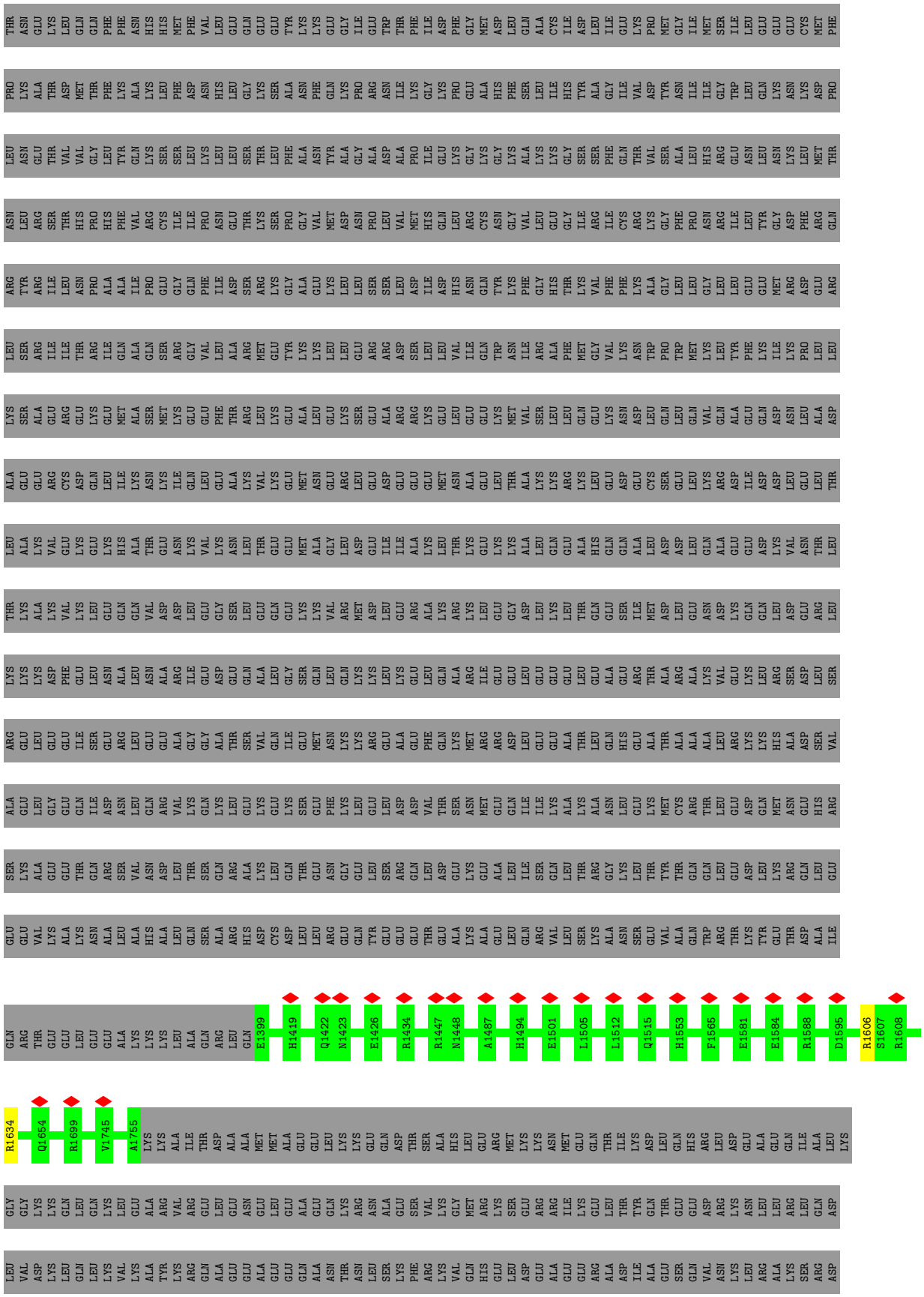


- Molecule 1: Myosin-7

Chain Q:

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Q1654
R1699
V1745
A1755
E1399
H1419
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R1434
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A1487
H1494
E1501
L1505
L1512
Q1515
H1553
F1565
E1581
E1584
R1588
D1595
R1606
S1607
R1608

ILE
GLY
THR
LYS
GLY
LEU
ASN
GLU
GLU

- Molecule 1: Myosin-7

Chain R: 18% 82%

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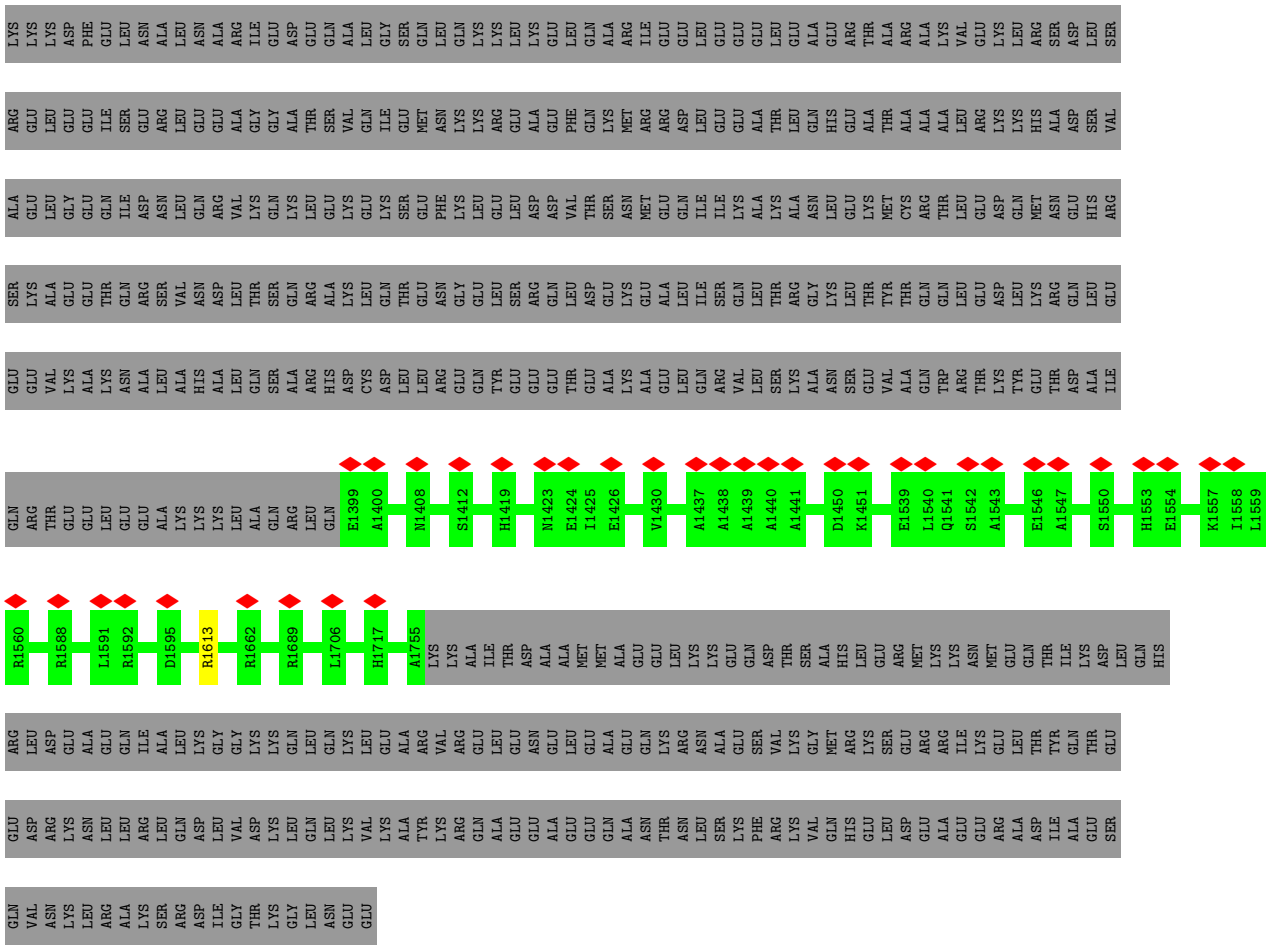
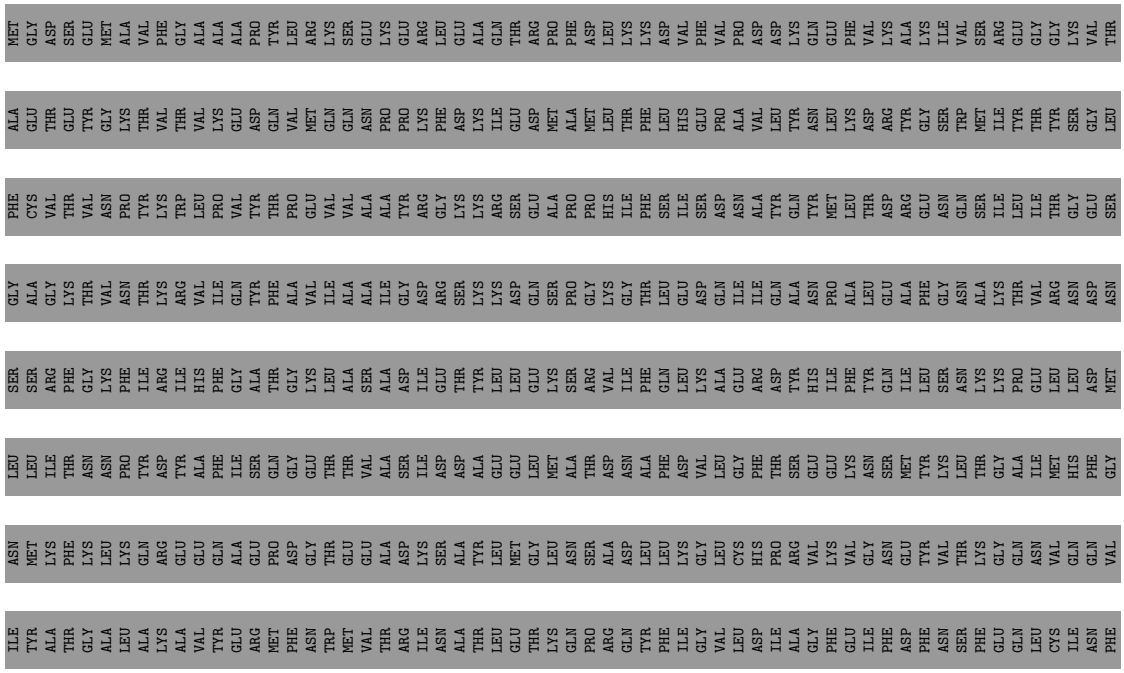
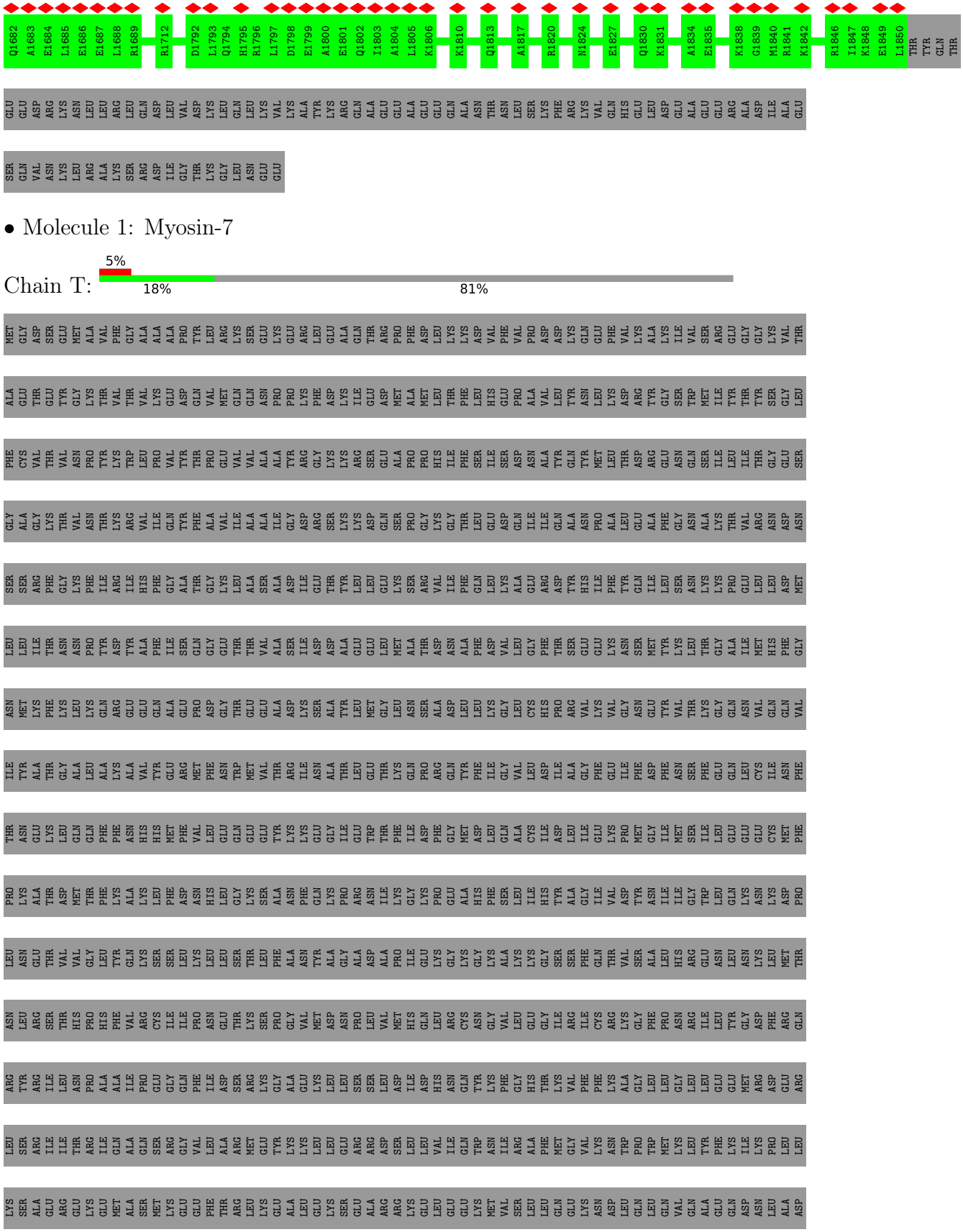


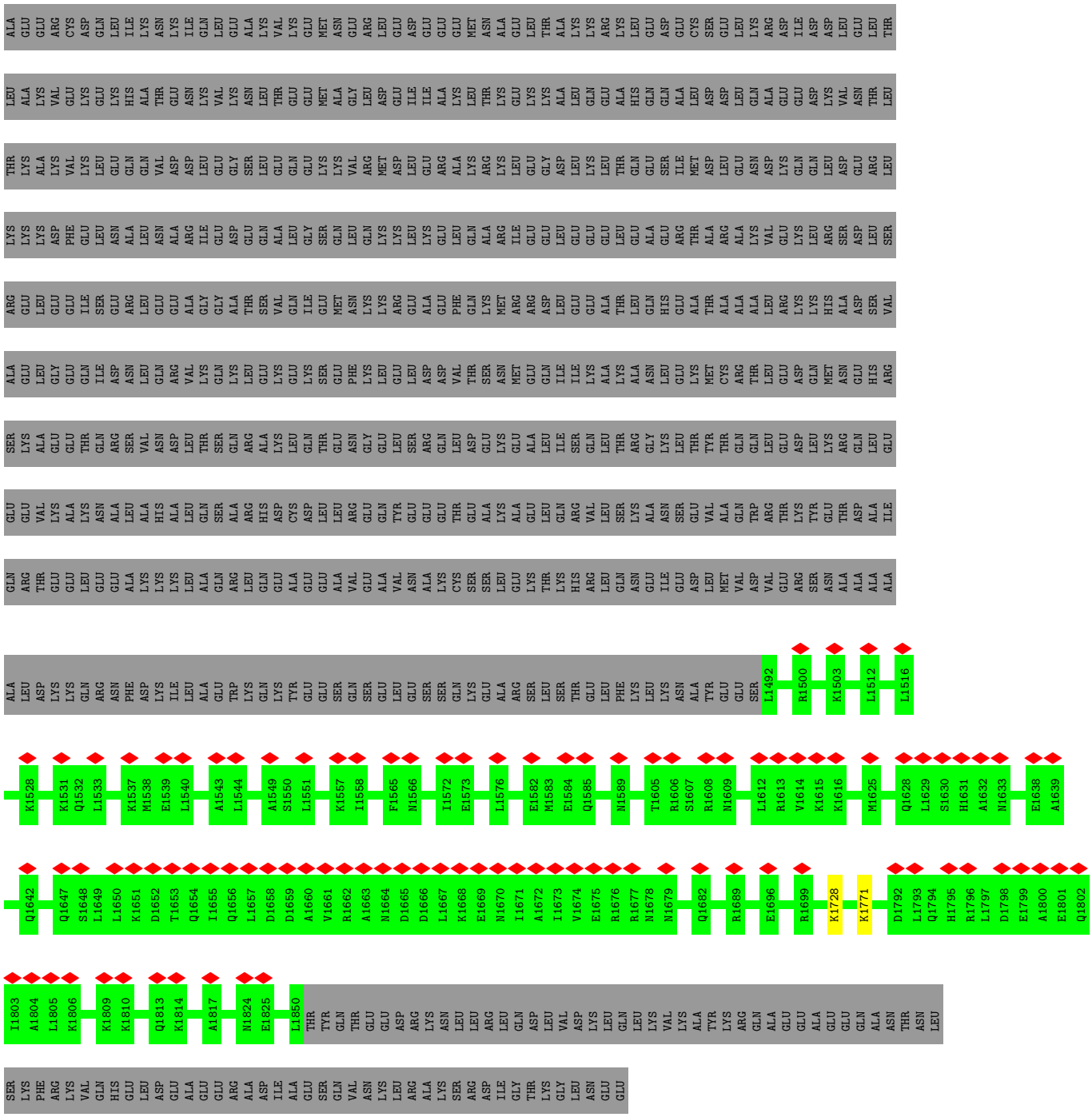
• Molecule 1: Myosin-7

Chain S:



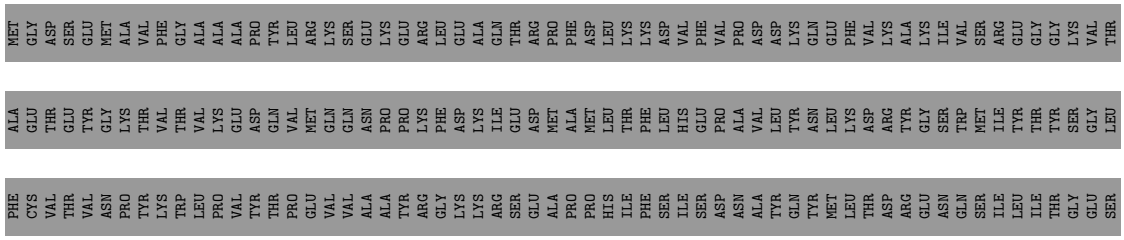
THR ASN GLU LYS LEU GLN GLN PHE PHE ASN HIS HIS MET PHE VAL LEU GLU GLN GLU GLU TYR LYS LYS GLU GLY ILE GLU TRP THR PHE ILE ASP PHE GLY MET ASP LEU GLN ALA CYS ILE ASP LEU ILE GLU LYS PRO MET GLY ILE MET SER ILE LEU GLU GLU GLU CYS MET PHE
PRO LYS ALA THR ASP MET THR PHE LYS ALA LYS LEU PHE ASP ASN HIS LEU LEU GLY LYS SER ALA ASN PHE GLN LYS PRO ARG ASN ILE LYS GLY LYS PRO GLU ALA HIS PHE SER LEU ILE HIS TYR ALA GLY ILE VAL ASP TYR ASN ILE ILE GLY TRP LEU GLN LYS ASN LYS ASP PRO
LEU ASN GLU THR VAL VAL GLY LEU TYR GLN LYS SER SER LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS ALA LYS LYS GLY SER SER PHE GLN THR VAL SER ALA LEU HIS ARG GLU ASN LEU ALA LEU HIS ARG ILE LEU LYS ASN LYS LEU MET THR
ASN LEU ARG SER THR HIS PRO HIS PHE VAL ARG CYS ILE ILE PRO ASN GLU THR LYS SER PRO GLY VAL MET ASP ASN PRO LEU VAL MET HIS GLN LEU ARG CYS ASN GLY VAL LEU GLU GLY ILE ARG ILE CYS ARG LYS GLY PHE PRO ASN ARG ILE LEU TYR GLY ASP PHE ARG GLN
ARG TYR ARG ILE LEU ASN PRO ALA ALA ILE PRO GLU GLY GLN PHE ILE ASP SER ARG LYS GLY ALA GLU LYS LEU ALA ILE ASP ILE ASP HIS ASN GLN TYR LYS PHE GLY HIS THR LYS VAL PHE PHE LYS ALA LEU GLU GLY GLY LEU GLU GLU GLU MET ARG ASP GLU ARG
LEU SER ARG ILE ILE THR ARG ILE GLN SER ARG GLY VAL LEU ILE ALA ARG MET GLU TYR LYS LYS LEU LEU GLU ARG ARG ASP SER LEU LEU ILE ARG ALA PHE MET GLY VAL LYS ASN TRP PRO TRP MET LYS LEU TYR PHE LYS ILE LYS PRO LEU LEU
LYS SER ALA GLU ARG GLU LYS GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS GLU ALA LEU LYS SER GLU ALA ARG ARG LYS GLU LEU LYS MET VAL SER LEU LEU GLN GLU GLN VAL GLN ALA GLU GLN ASP ASN LEU LEU ASP
ALA GLU GLU ARG CYS ASP GLN LEU ILE LYS ASN LYS ILE GLN LEU GLU ALA ASN GLU ARG LEU GLU ASP GLU GLU GLU MET MET ASN ALA GLU LYS VAL LYS GLU MET ASN ALA GLU LYS LYS ARG LYS LEU GLU GLU ASP ILE ASP ASP LEU GLU LEU THR
LEU ALA LYS VAL GLU LYS HIS ALA THR GLU ASN LYS VAL LYS ASN LEU THR GLU GLU MET MET ALA GLY LEU ASP GLU ILE ILE ALA ALA LYS LEU THR LYS GLU GLU LYS LYS ALA LEU GLN GLU ALA HIS GLN GLN ALA LEU ASP ASP LEU GLN ALA GLU GLU ASP LYS VAL ASN THR LEU
THR LYS ALA LYS VAL LYS GLU GLN GLN VAL ASP ASP LEU GLU GLY SER LEU GLU GLN GLN GLU GLU GLU LYS LYS VAL ARG MET ASP LEU GLU ARG ALA LYS ARG LYS LEU GLU GLY ASP LEU LYS LEU GLU GLN GLU SER ILE MET ASP LEU GLU ASN ASP LYS GLN GLN LEU ASP GLU ARG LEU
LYS LYS LYS ASP PHE GLU LEU ASN ALA LEU ASN ALA ARG ILE GLU ASP GLU ALA ALA LEU GLY SER GLN LEU GLN GLN LYS LYS LEU LYS GLU LEU GLN GLN LYS GLU GLU GLU GLU GLU LEU GLU GLU GLU LEU GLU GLU GLU LEU GLU GLU LEU GLU ALA GLU ARG ARG THR ALA ARG ALA LYS ARG LYS LEU LEU SER
ARG GLU LEU GLU ILE SER GLU ARG LEU GLU GLU ALA GLY GLY ALA THR SER VAL GLN ILE GLU MET ASN LYS LYS ARG GLU ALA GLU PHE GLN LYS ARG ARG ARG ASP ASP LEU GLU GLU ALA THR LEU GLU ALA GLU LYS LYS ARG ALA LYS LYS HIS ALA ASP SER VAL
ALA GLU LEU GLY GLU GLN ILE ASP ASN LEU GLN ARG VAL LYS GLN LYS LEU GLU ALA LYS SER GLU PHE LYS LEU GLU LEU ASP ASP VAL THR SER ASN MET GLU GLN ILE ILE LYS ALA LYS ALA ASN LEU GLU LYS MET CYS ARG THR LEU GLU ASP ARG HIS ARG
SER LYS ALA GLU GLU THR GLN ARG SER VAL ASN ASP LEU THR SER GLN ARG ALA LYS GLU GLN THR GLU GLY GLU LEU SER ARG GLN LEU ASP GLU LYS ALA LEU ILE SER GLN LEU THR ARG GLY LYS LEU THR TYR THR GLN GLN GLN LEU GLU ASP LEU LYS ARG GLN LEU GLU
GLU GLU VAL LYS ALA LYS ASN ALA LEU ALA HIS ALA LEU GLN SER ALA ARG HIS ASP CYS ASP LEU LEU ARG GLU GLN TYR GLU GLU GLU THR GLU ALA ALA GLU LEU GLN ILE ARG VAL LEU SER LYS ALA ASN SER GLU VAL ALA GLU GLN TRP ARG THR LYS TYR GLU THR ASP ALA ILE
GLN ARG THR GLU GLU LEU GLU ALA LYS LYS LEU ALA GLU GLU GLU ALA ALA VAL GLU ALA VAL ASN ALA LYS CYS SER SER GLN SER GLU LEU GLN ASN GLU ILE GLU ASP LEU MET VAL ASP VAL GLU GLU ARG SER ASN ALA ALA ALA ALA
ALA LEU ASP LYS LYS GLN ARG ASN PHE ASP LYS ILE LEU ALA GLU TRP LYS GLN LYS TYR GLU GLN SER GLN SER GLU LEU GLU SER GLN LYS LEU LEU GLN ASN LYS LYS GLU SER LEU SER THR GLU LEU PHE LYS LEU LYS ASN ALA TYR GLU GLU SER L1492 E1493 H1494 N1504 E1507 E1508
L1512 T1513 E1514 Q1515 S1518 E1525 L1526 E1527 K1528 V1529 R1530 K1531 Q1532 A1535 E1536 K1537 M1538 E1539 L1540 Q1541 S1542 A1543 L1544 E1545 E1546 A1547 E1548 A1549 S1550 L1551 E1552 H1553 K1557 R1560 A1561 Q1562 L1563 E1564 F1565 N1566 Q1567 I1568 E1571 R1574 K1579 R1588 R1592 Q1598 T1599
R1613 V1614 K1615 E1619 N1623 I1627 S1630 H1631 A1632 N1633 R1634 M1635 E1638 A1639 Q1640 K1641 Q1642 L1646 Q1647 S1648 L1649 L1650 K1651 D1652 T1653 Q1654 I1655 Q1656 L1657 D1658 D1659 A1660 V1661 R1662 A1663 N1664 D1665 D1666 L1667 K1668 E1669 N1670 I1671 A1672 I1673 V1674 E1675 R1676 R1677 N1678 N1679 L1680 L1681


Q1682 A1683 E1684 L1685 E1686 E1687 L1688 R1689 R1712 D1792 L1793 Q1794 H1795 R1796 L1797 D1798 E1799 A1800 E1801 Q1802 I1803 A1804 L1805 K1806 K1810 Q1813 A1817 R1820 N1824 E1827 Q1830 K1831 A1834 E1835 K1838 G1839 M1840 R1841 K1842 R1846 I1847 K1848 E1849 L1850 THR TYR GLN THR
GLU GLU ASP ARG LYS ASN LEU LEU ARG LEU GLN ASP LEU VAL ASP LYS LEU GLN LYS VAL LYS ALA TYR LYS ARG GLN ALA GLU GLU ALA GLU GLU GLN ALA ASN THR ASN LEU SER LYS PHE ARG LYS VAL GLN HIS GLU LEU ASP GLU ALA GLU GLU ARG ALA ASP ILE ALA GLU
SER GLN VAL ASN LYS LEU ARG ALA LYS SER ARG ASP ILE GLY THR LYS GLY LEU ASN GLU GLU
• Molecule 1: Myosin-7
Chain T:
5%
18%
81%
MET GLY ASP SER GLU MET ALA VAL PHE GLY ALA ALA ALA PRO TYR LEU ARG LYS SER GLU LYS GLU ARG LEU GLU ALA GLN THR ARG PRO PHE ASP LEU LYS LYS ASP VAL PHE VAL PRO ASP ASP LYS GLN GLU PHE VAL LYS ALA LYS ILE VAL SER ARG GLU GLY GLY LYS VAL THR
ALA GLU THR GLU TYR GLY LYS THR VAL THR VAL LYS GLU ASP GLN VAL MET GLN GLN ASN PRO PRO LYS PHE ASP LYS ILE GLU ASP MET ALA MET LEU HIS GLU PRO ALA VAL LEU TYR ASN LEU LYS ASP ARG TYR GLY SER TRP MET ILE TYR THR TYR SER GLY LEU
PHE CYS VAL THR VAL ASN PRO TYR THR LYS TRP LEU PRO VAL TYR THR PRO GLU VAL VAL ALA ALA TYR ARG GLY LYS LYS ARG SER GLU ALA PRO PRO HIS ILE PHE SER ILE SER ASP ASN ALA TYR GLN TYR MET LEU THR ASP ARG GLU ASN GLN SER ILE LEU ILE THR GLY GLY SER
GLY ALA GLY LYS THR VAL ASN THR LYS ARG VAL ILE GLN TYR PHE ALA GLU ILE ALA ALA ILE GLY ASP ARG SER LYS LYS ASP GLN GLN SER PRO GLY LYS GLY THR LEU GLU ASP GLN ILE ILE GLN ALA ASN PRO ALA LEU GLU ALA PHE GLY ASN ALA LYS THR VAL ARG ASN ASP ASN
SER SER ARG PHE GLY LYS PHE ILE ARG ILE HIS PHE GLY ALA THR GLY LYS LEU ALA SER ALA ASP ILE GLU THR TYR LEU LEU GLU LYS SER ARG VAL ILE PHE GLN LEU LYS ALA GLU GLU ASP TYR HIS ILE PHE TYR GLN ILE LEU SER ASN ALA LYS THR PRO GLU LEU ASP MET
LEU LEU ILE THR ASN ASN PRO TYR ASP TYR ALA PHE ILE SER GLN GLY GLU THR THR VAL ALA SER ILE ASP ASP ALA GLU GLU LEU MET ALA THR ASP ASN ALA PHE ASP VAL LEU GLY PHE THR SER GLU GLU LYS ASN SER MET TYR LYS LEU THR GLY ALA ILE MET HIS PHE GLY
ASN MET LYS PHE LYS LEU LYS GLN ARG GLU GLU GLN ALA GLU PRO ASP GLY THR GLU GLU ALA ASP LYS SER ALA TYR LEU MET GLY LEU ASN SER ALA ASP LEU LYS GLY LEU CYS HIS PRO ARG VAL LYS VAL GLY ASN GLU TYR VAL THR LYS GLY GLN GLN ASN VAL GLN GLN VAL
ILE TYR ALA THR GLY ALA LEU ALA LYS ALA VAL TYR ALA MET PHE ASN TRP MET VAL THR ARG ILE ASN ALA THR LEU GLU THR LYS GLN PRO ARG GLN TYR PHE ILE GLY VAL LEU ASP ILE ALA GLY PHE GLU ILE PHE ASP PHE ASN SER PHE GLU GLN LEU CYS ILE ASN PHE
THR ASN GLU LYS LEU GLN GLN PHE PHE ASN HIS HIS MET PHE VAL LEU GLU GLN GLU GLU TYR LYS LYS GLU GLY ILE GLU TRP THR PHE ILE ASP PHE GLY MET ASP LEU GLN ALA CYS ILE ASP LEU ILE GLU LYS PRO MET GLY ILE MET SER ILE LEU GLU GLU GLU CYS MET PHE
PRO LYS ALA THR ASP MET THR PHE LYS ALA LYS LEU PHE ASP ASN HIS LEU GLY LYS SER ALA ASN PHE GLN LYS PRO ARG ASN ILE LYS GLY LYS PRO GLU ALA HIS PHE SER LEU ILE HIS TYR ALA GLY ILE VAL ASP TYR ASN ILE ILE GLY TRP LEU LEU GLN LYS ASN LYS ASP PRO
LEU ASN GLU THR VAL VAL GLY LEU TYR GLN LYS SER SER LEU LYS LEU LEU SER THR LEU PHE ALA ASN TYR ALA GLY ALA ASP ALA PRO ILE GLU LYS GLY LYS GLY LYS GLY LYS ALA LYS LYS LYS GLY SER SER PHE GLN THR THR VAL SER ALA LEU HIS ARG GLU ASN LEU ASN LYS LEU MET THR
ASN LEU ARG SER THR HIS PRO HIS PHE VAL ARG CYS ILE ILE PRO ASN PRO GLY VAL MET ASP ASN PRO LEU VAL ALA MET HIS GLN LEU ARG CYS ASN GLY VAL LEU GLU GLY ILE ARG ILE CYS ARG LYS GLY PHE PRO ASN ARG ILE LEU TYR GLY GLN
ARG TYR ARG ILE LEU ASN PRO ALA ALA ILE PRO GLU GLY GLN PHE ILE ASP SER ARG LYS SER GLY ALA GLU LYS LEU LEU SER SER LEU ASP ILE ASP HIS ASN GLN TYR LYS PHE GLY HIS THR LYS VAL PHE PHE LYS ALA GLY LEU LEU GLU GLU MET ARG ASP GLU GLN
LEU SER ARG ILE ILE GLN ALA ALA ARG MET GLU TYR LYS LYS LEU LEU GLU ARG ARG ASP SER LEU LEU VAL ILE GLN TRP ASN ILE ARG ALA PHE MET GLY VAL LYS ASN TRP PRO TRP MET LYS LEU TYR PHE LEU LEU LYS ILE LEU LEU
LYS SER ALA GLU ARG GLU MET ALA SER MET LYS GLU GLU PHE THR ARG LEU LYS LYS GLU ALA LEU LYS SER GLU ALA ARG ARG LYS GLU GLU LYS MET VAL SER LEU LEU GLN GLU VAL LYS ASN ASP LEU GLN LEU GLN VAL GLN ALA GLU GLN ASP ASN LYS LEU LEU ASP



• Molecule 1: Myosin-7

Chain U:



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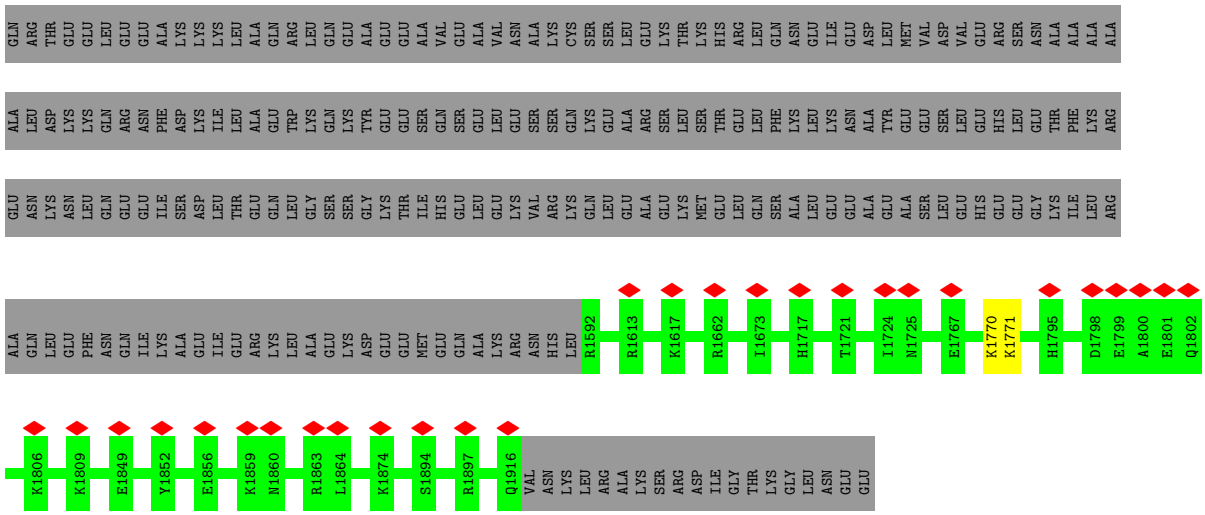
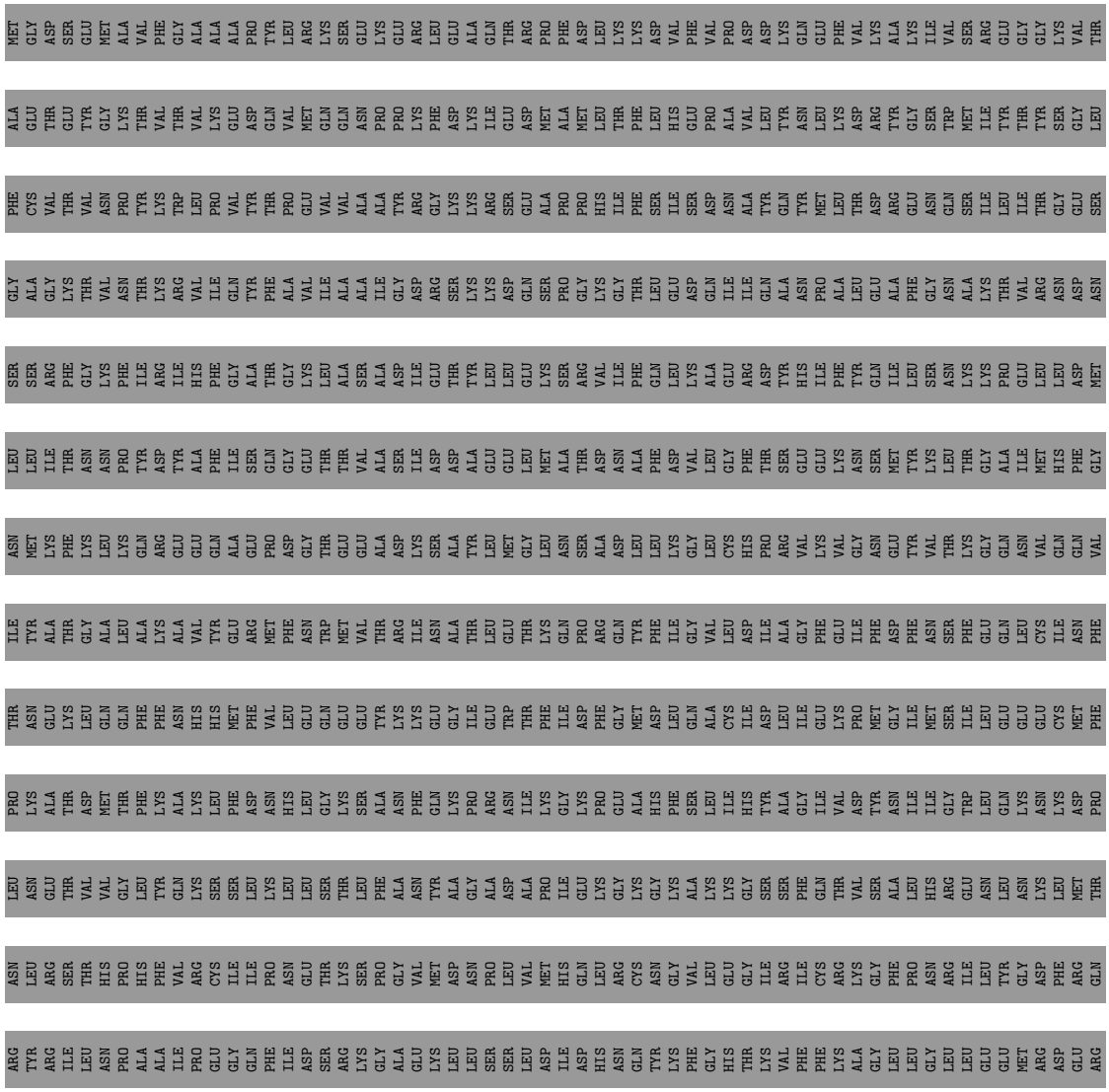
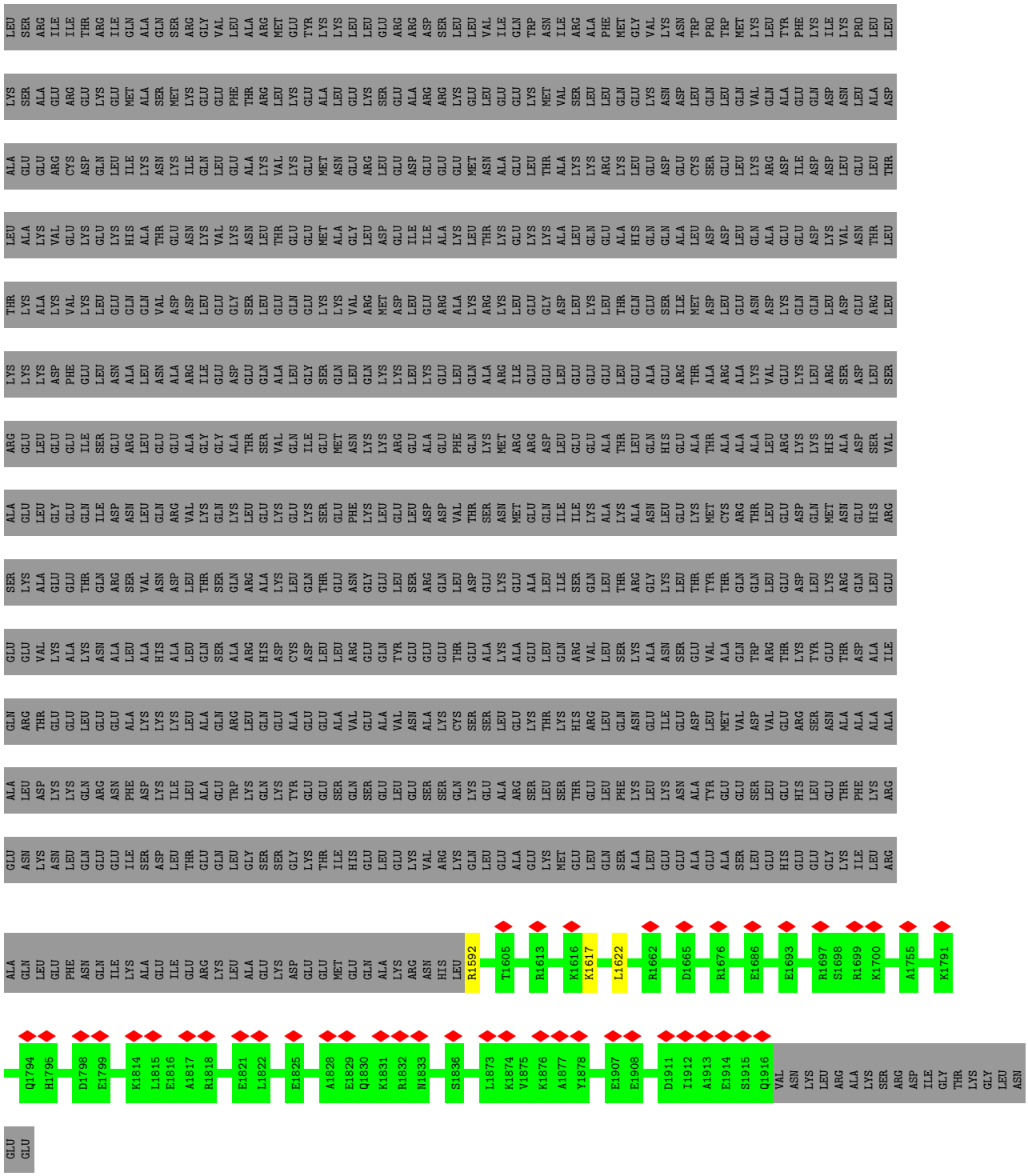


- Molecule 1: Myosin-7

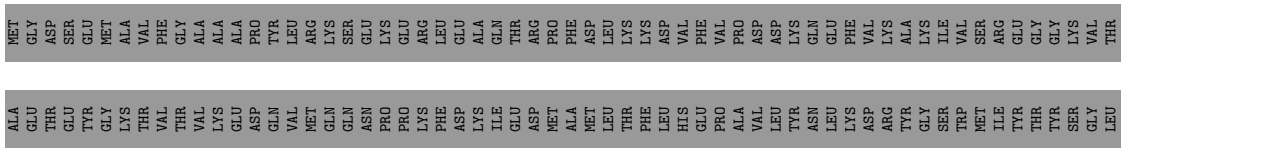
Chain V:





- Molecule 1: Myosin-7

Chain W:



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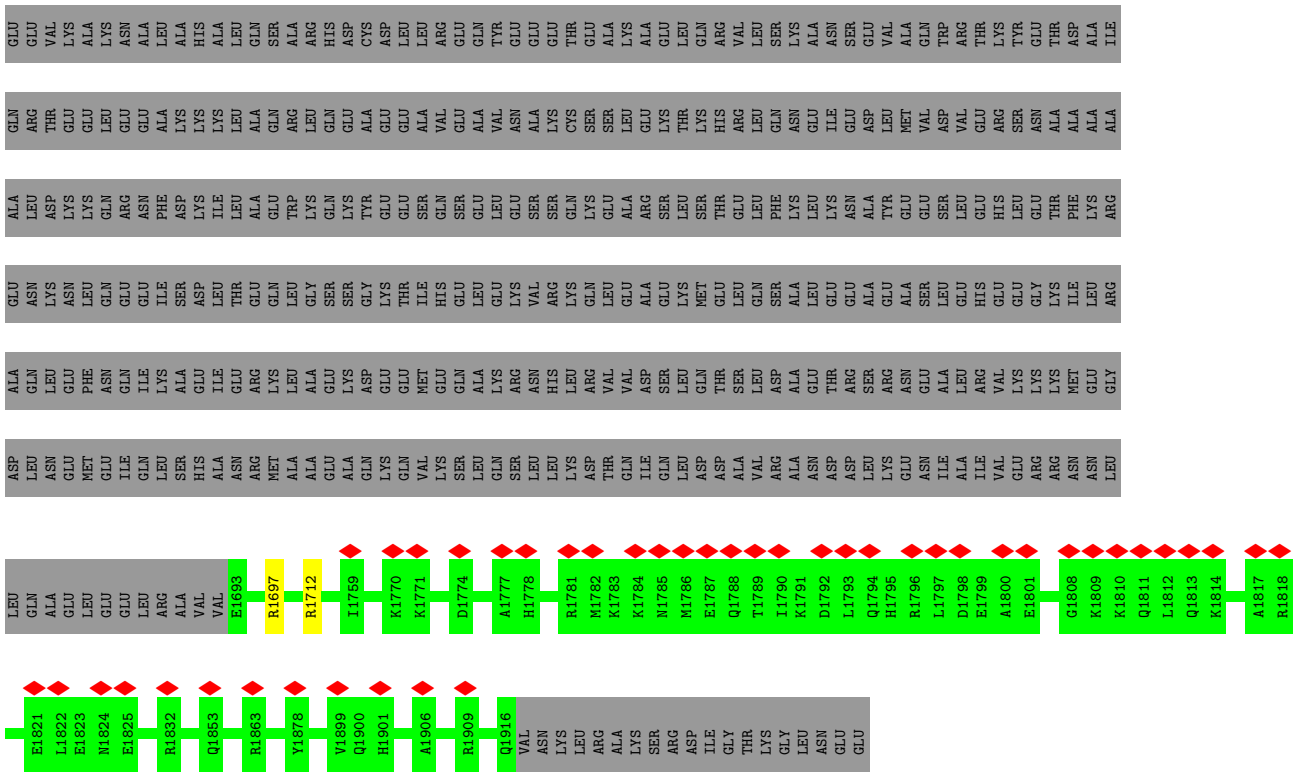
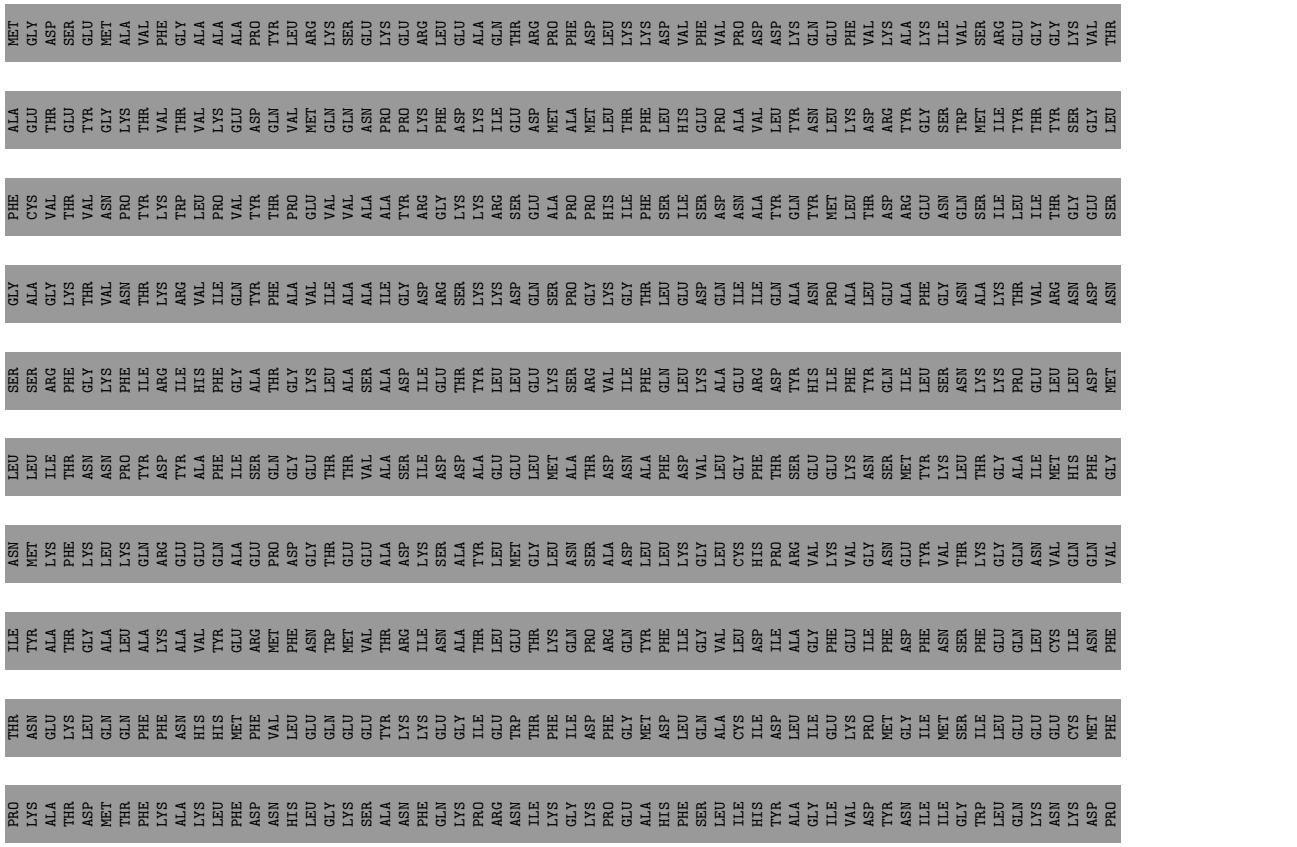
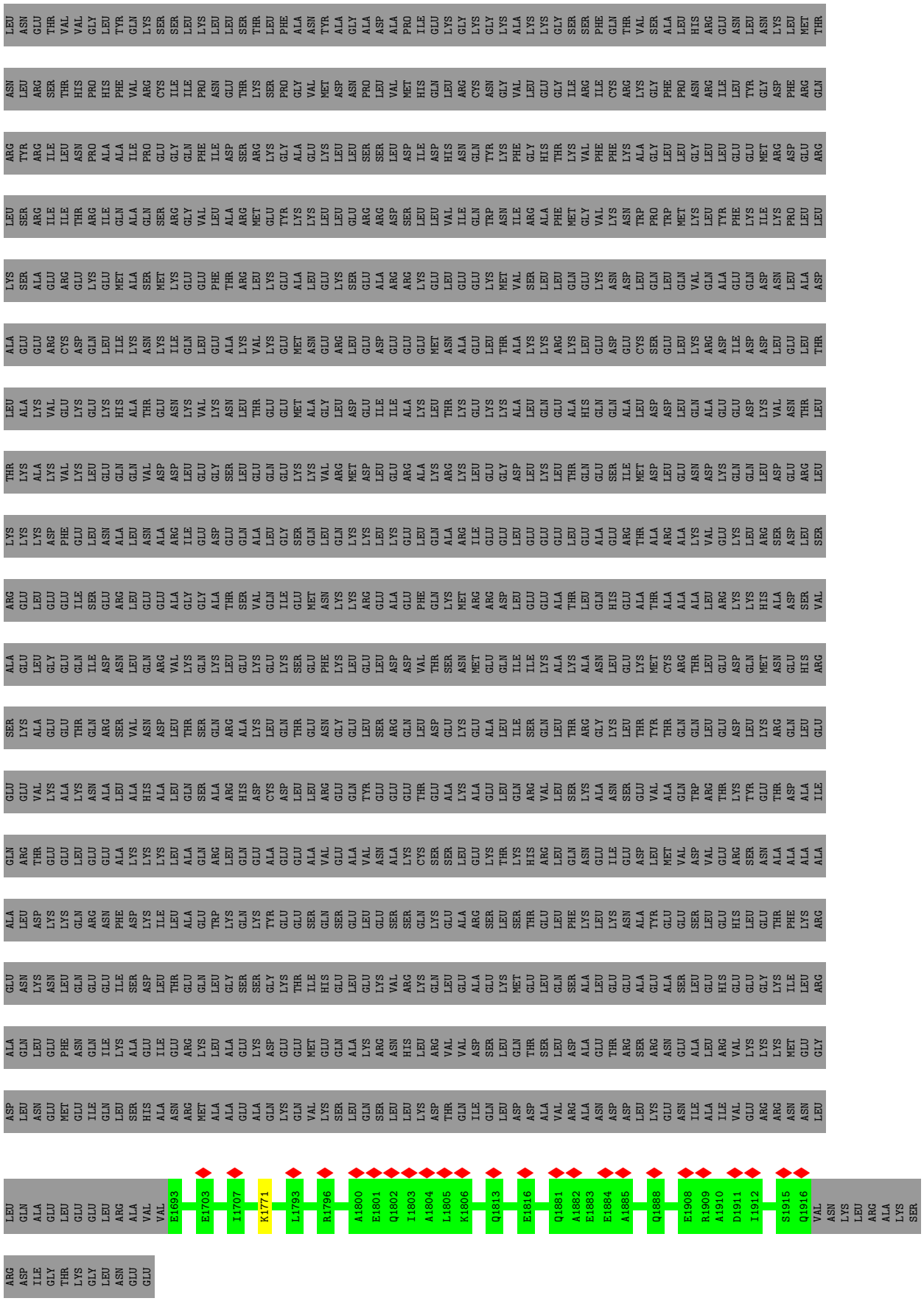


- Molecule 1: Myosin-7

Chain X:

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I1707
K1771
L1793
R1796
A1800
E1801
Q1802
I1803
A1804
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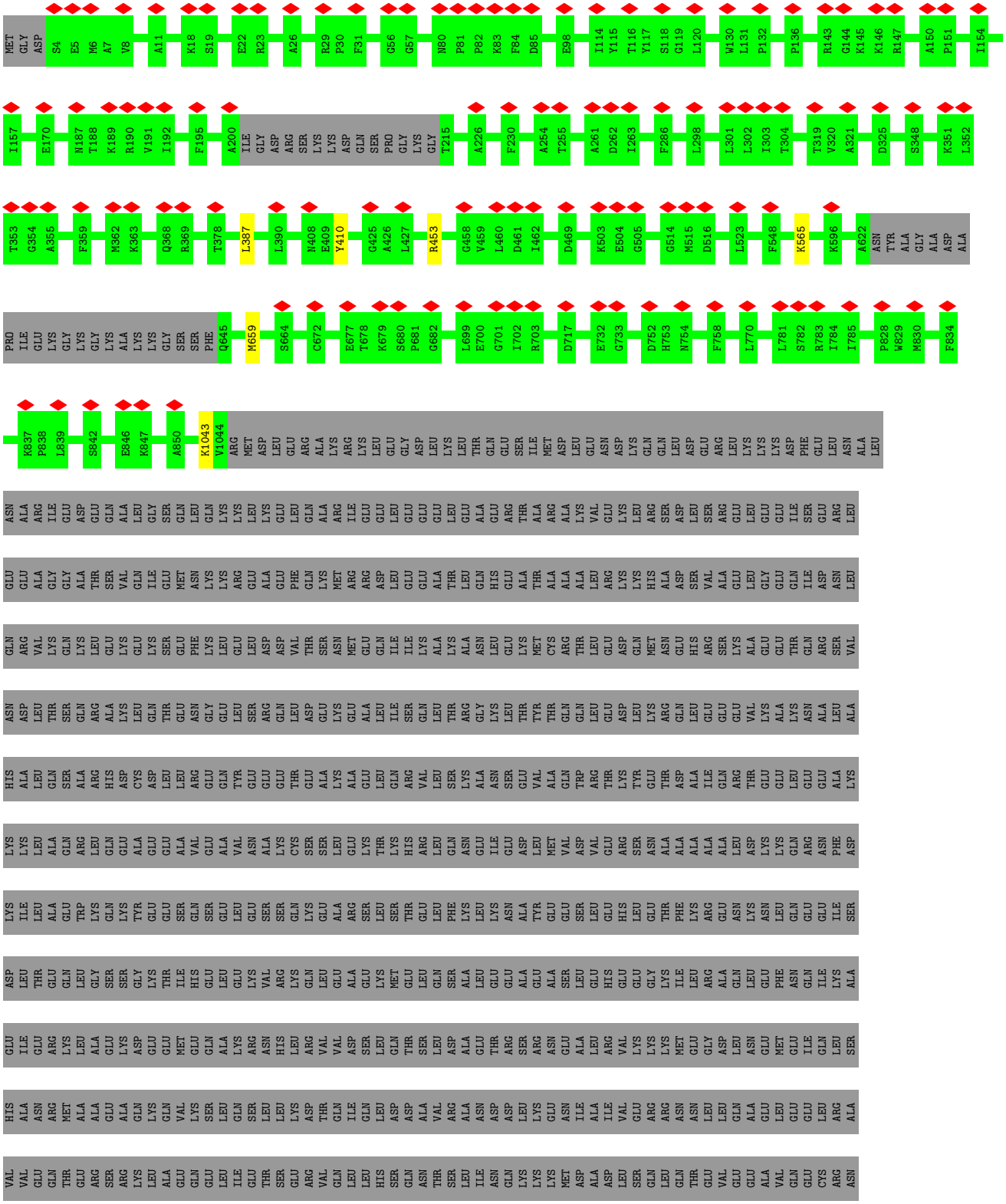
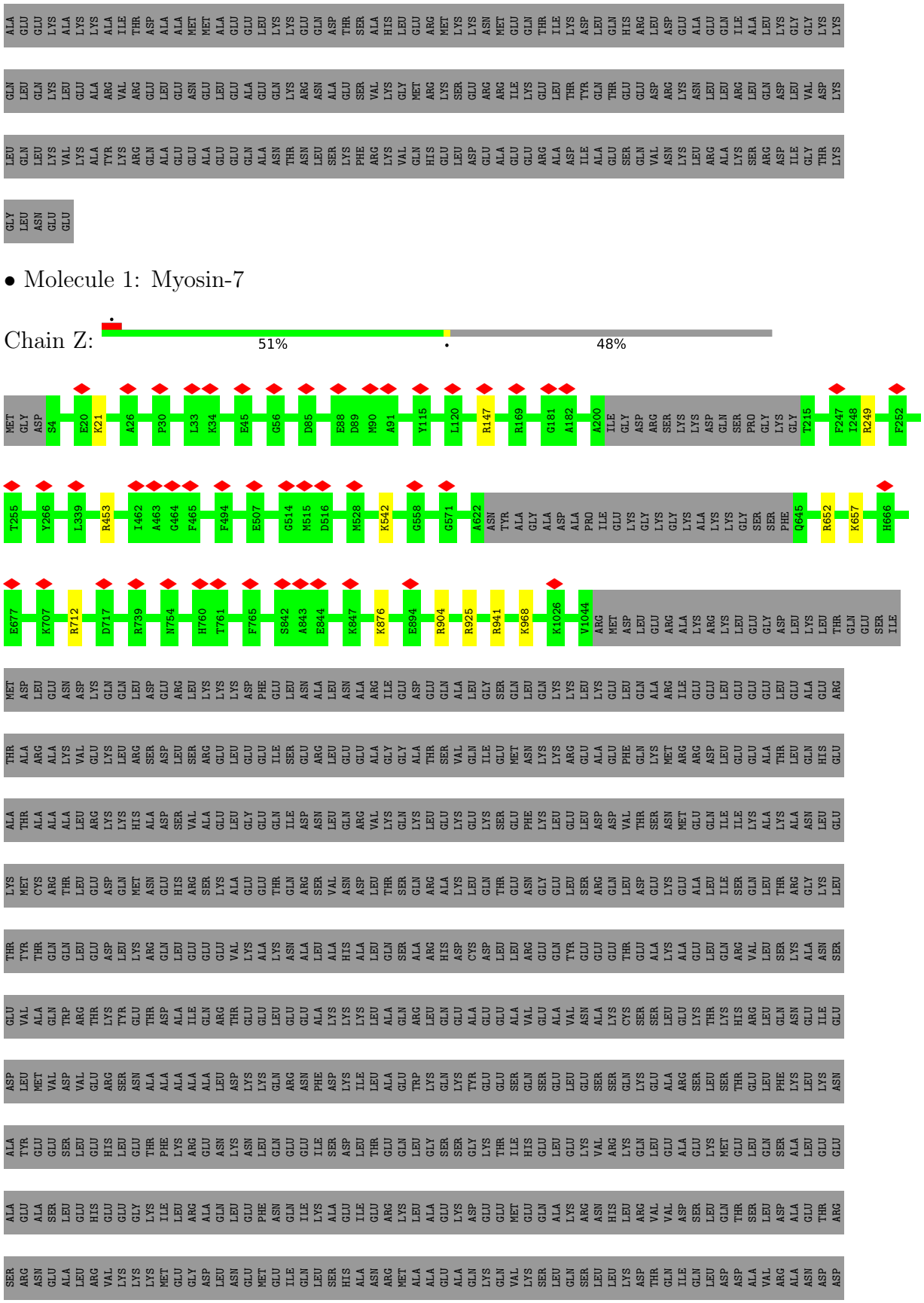
Q1813
E1816
Q1881
A1882
E1883
E1884
A1885
Q1888
E1908
R1909
A1910
D1911
I1912
S1915
Q1916

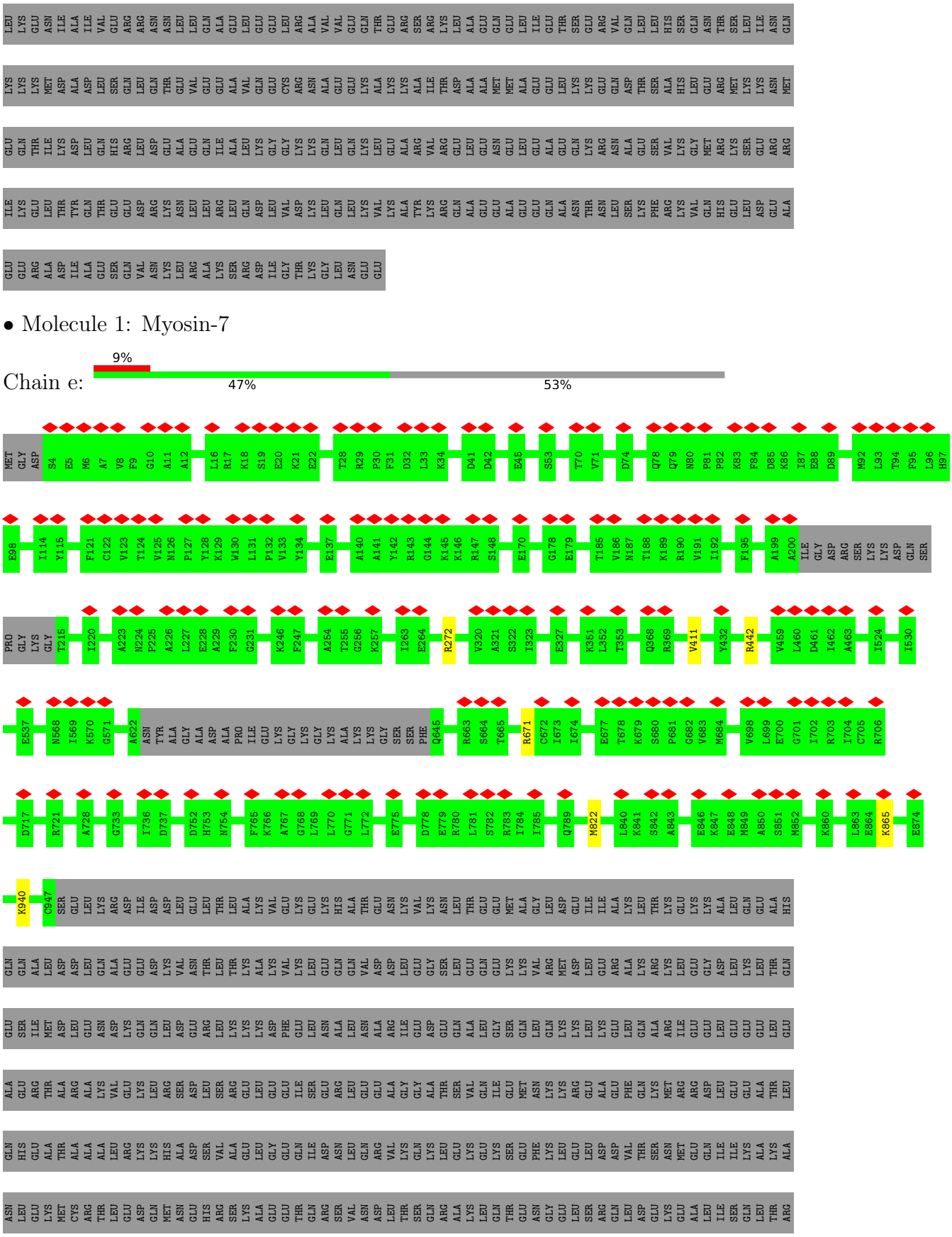
- Molecule 1: Myosin-7

Chain Y: 6% 52% 48%



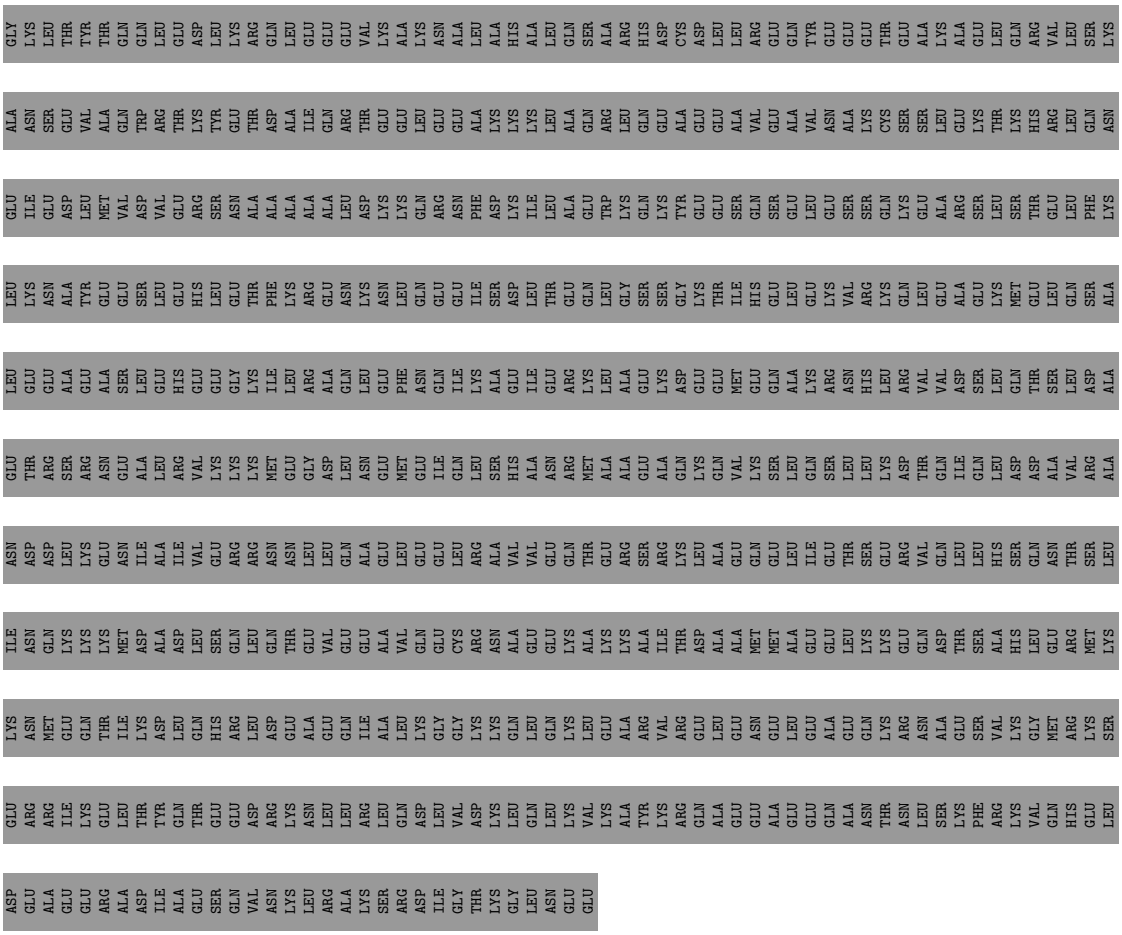


• Molecule 1: Myosin-7



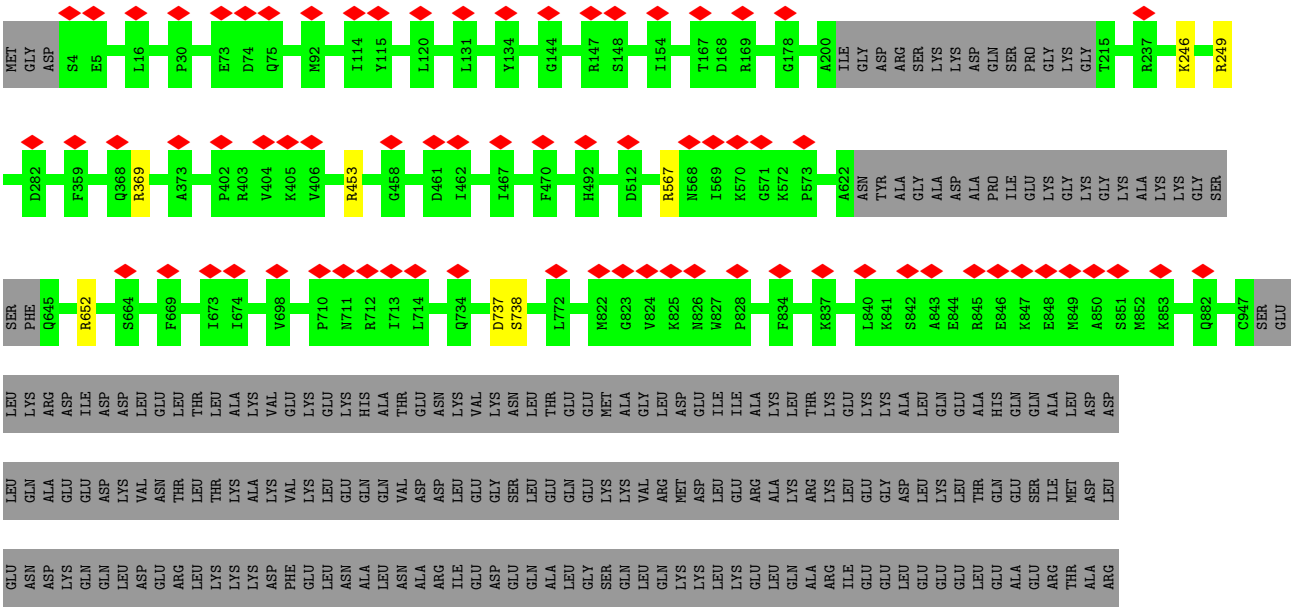
- Molecule 1: Myosin-7

Chain e: 9% 47% 53%



- Molecule 1: Myosin-7

Chain f:



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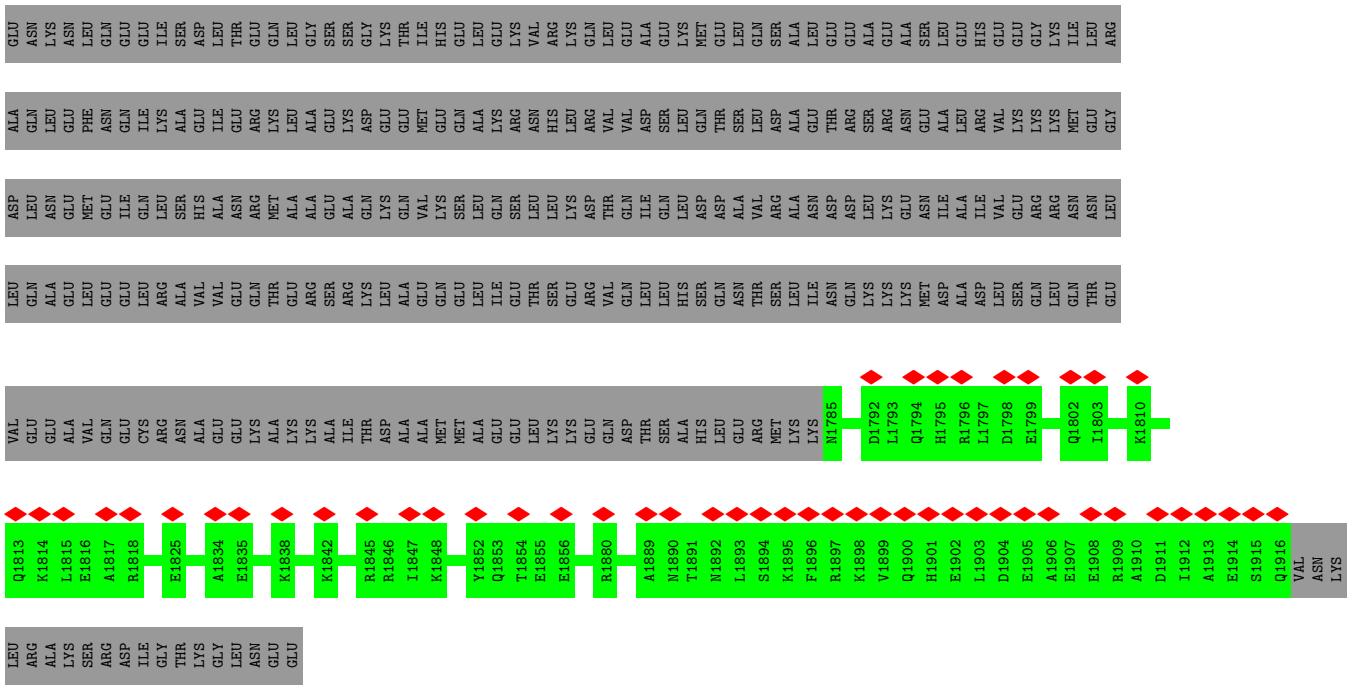
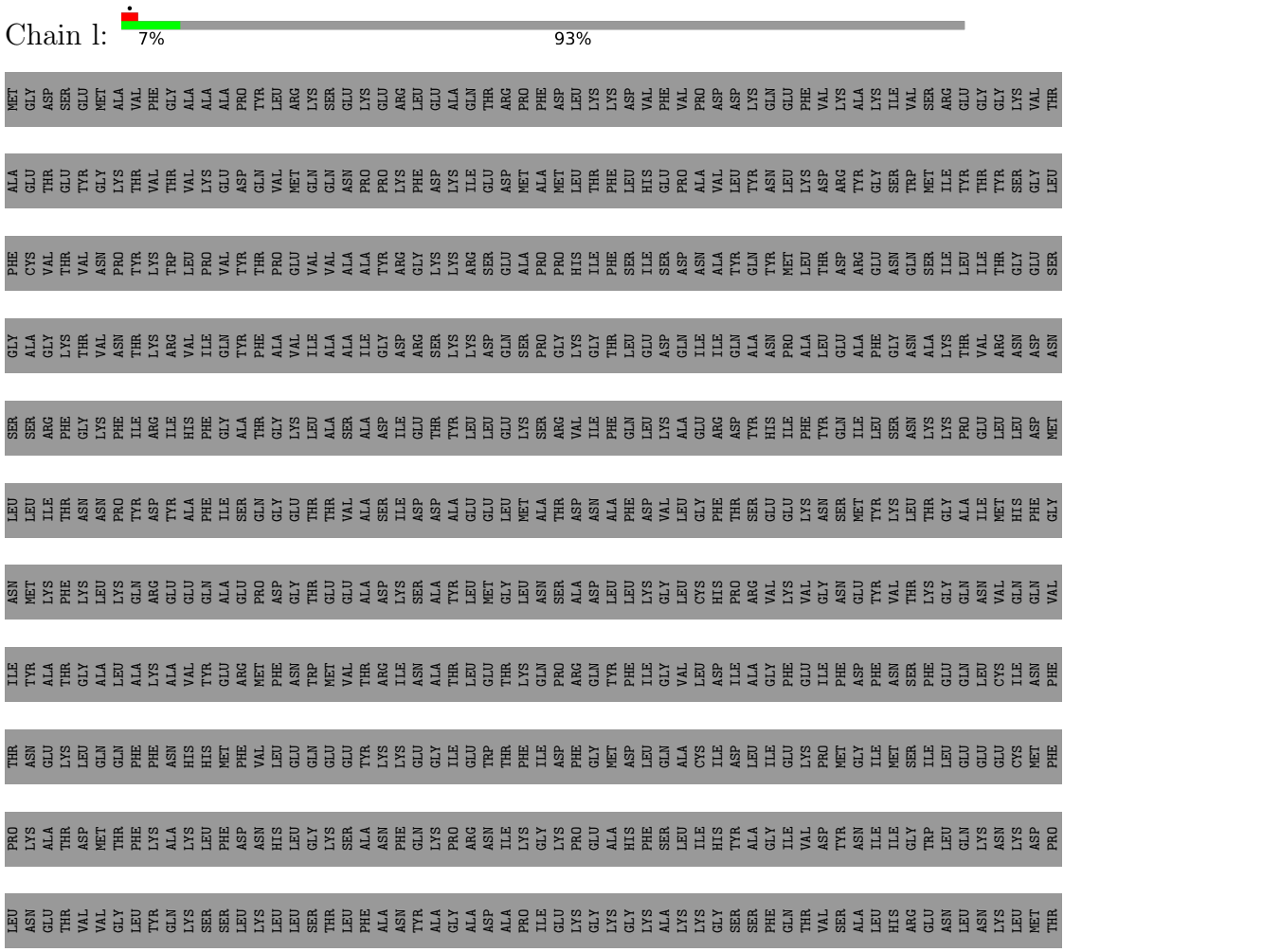


- Molecule 1: Myosin-7

Chain l:



VAL	LEU	ASP	ALA	GLU	ALA	GLN	GLU	SER	ALA	ARG	LYS	THR	LEU	ALA	LYS	LEU	ARG	ASN
GLU	GLN	LEU	GLN	ASN	LEU	ARG	GLU	LYS	GLU	GLU	LYS	LYS	ALA	GLU	SER	SER	TYR	LEU
GLU	ALA	ASN	LEU	LYS	ASP	THR	VAL	ALA	LEU	LEU	LYS	ALA	LYS	GLU	ALA	ARG	ARG	ARG
ALA	GLU	GLU	GLU	ASN	LYS	GLU	LYS	GLU	GLY	GLU	ASP	LYS	VAL	ARG	GLU	ILE	ILE	SER
VAL	LEU	MET	PHE	LEU	LYS	GLU	ALA	GLU	GLU	GLU	PHE	VAL	GLU	CYS	ARG	ILE	LEU	THR
GLN	GLU	GLU	ASN	GLN	GLN	LEU	LYS	THR	GLN	ILE	GLU	LYS	LYS	ASP	GLU	THR	ASN	HIS
GLU	GLU	ILE	GLN	GLU	ARG	GLU	ASN	GLN	ILE	SER	LEU	LEU	GLU	GLN	LYS	ARG	PRO	PRO
CYS	LEU	GLN	ILE	GLU	ASN	GLU	ALA	ARG	ASP	GLU	ASN	GLU	LYS	LEU	GLU	ILE	ALA	HIS
ARG	ARG	LEU	LYS	ILE	PHE	ALA	LEU	SER	ASN	ARG	ALA	GLN	HIS	ILE	MET	GLN	ALA	PHE
ASN	ALA	SER	ALA	SER	ASP	LYS	ALA	VAL	LEU	LEU	LEU	GLN	ALA	LYS	ALA	ALA	ILE	VAL
ALA	VAL	HIS	GLU	ASP	LYS	LYS	HIS	ASN	GLN	GLU	ASN	VAL	THR	ASN	SER	GLN	PRO	ARG
GLU	VAL	ALA	ILE	LEU	ILE	LYS	ALA	ASP	ARG	GLU	ALA	ASP	GLU	LYS	MET	SER	GLU	CYS
GLU	GLU	ASN	GLU	THR	LEU	LEU	LEU	LEU	VAL	ALA	ARG	ASP	ASN	ILE	LYS	ARG	GLY	ILE
LYS	GLN	ARG	ARG	GLU	ALA	ALA	GLN	THR	LYS	GLY	ILE	LEU	LYS	GLN	GLU	GLY	GLN	ILE
ALA	THR	MET	LYS	GLN	GLU	GLN	SER	SER	GLN	GLY	GLU	GLU	VAL	LEU	GLU	VAL	PHE	PRO
LYS	GLU	ALA	LEU	LEU	TRP	ARG	ALA	GLN	LYS	ALA	ASP	GLY	LYS	GLU	PHE	LEU	ILE	ASN
LYS	ARG	ALA	ALA	GLY	LYS	LEU	ARG	ARG	LEU	THR	GLU	SER	ASN	ALA	THR	ALA	ASP	GLU
ALA	SER	GLU	GLU	SER	GLN	GLN	HIS	ALA	GLU	SER	GLN	LEU	LEU	LYS	ARG	ARG	SER	THR
ILE	ARG	ALA	LYS	SER	LYS	GLU	ASP	LYS	LYS	VAL	ALA	GLU	THR	VAL	LEU	MET	ARG	LYS
THR	LYS	GLN	ASP	GLY	TYR	ALA	CYS	LEU	GLU	GLN	LEU	GLN	GLU	LYS	LYS	GLU	LYS	SER
ASP	LEU	LYS	GLU	LYS	GLU	GLU	ASP	GLN	LYS	ILE	GLY	GLU	GLU	GLU	GLU	TYR	GLY	PRO
ALA	ALA	GLN	GLU	THR	GLU	GLU	LEU	THR	SER	GLU	SER	LYS	MET	MET	ALA	LYS	ALA	GLY
ALA	GLU	VAL	MET	ILE	SER	ALA	LEU	GLU	GLU	MET	GLN	LYS	ALA	ASN	LEU	LYS	GLU	VAL
MET	GLN	LYS	GLU	HIS	GLN	VAL	ARG	ASN	PHE	ASN	LEU	VAL	GLY	GLU	GLU	LEU	LYS	MET
MET	GLU	SER	GLN	GLU	SER	GLU	GLU	GLY	LYS	LYS	GLN	ARG	LEU	ARG	LYS	LEU	LEU	ASP
ALA	LEU	LEU	ALA	LEU	GLU	ALA	GLN	GLU	LEU	LYS	LYS	MET	ASP	LEU	SER	GLU	LEU	ASN
GLU	ILE	GLN	LYS	GLU	LEU	VAL	TYR	LEU	GLU	ARG	LYS	ASP	GLU	GLU	GLU	ARG	SER	PRO
GLU	GLU	SER	ARG	LYS	GLU	ASN	GLU	SER	LEU	GLU	LEU	LEU	ILE	ASP	ALA	ARG	SER	LEU
LEU	THR	LEU	ASN	VAL	SER	ALA	GLU	ARG	ASP	ALA	LYS	GLU	ILE	GLU	ARG	ASP	LEU	VAL
LYS	SER	LEU	HIS	ARG	SER	LYS	GLU	GLN	ASP	GLU	GLU	ARG	ALA	GLU	ARG	SER	ASP	MET
LYS	GLU	LYS	LEU	LYS	GLN	CYS	THR	LEU	VAL	PHE	LEU	ALA	LYS	GLU	LYS	LEU	ILE	HIS
GLU	ARG	ASP	ARG	GLN	LYS	SER	GLU	ASP	THR	GLN	GLN	LYS	LEU	MET	GLU	LEU	ASP	GLN
GLN	VAL	THR	VAL	LEU	GLU	SER	ALA	GLU	SER	LYS	ALA	ARG	THR	ASN	LEU	VAL	HIS	LEU
ASP	GLN	GLN	VAL	GLU	ALA	LEU	LYS	LYS	ASN	MET	ARG	LYS	LYS	ALA	GLU	ILE	ASN	ARG
THR	LEU	ILE	ASP	ALA	ARG	GLU	ALA	GLU	MET	ARG	ILE	LEU	GLU	GLU	GLU	GLN	GLN	CYS
SER	LEU	GLN	SER	GLU	SER	LYS	GLU	ALA	GLU	ARG	GLU	GLU	LYS	LEU	LYS	TRP	TYR	ASN
ALA	HIS	LEU	LEU	LYS	LEU	THR	LEU	LEU	GLN	ASP	GLU	GLY	LYS	THR	MET	ASN	LYS	GLY
HIS	SER	ASP	GLN	MET	SER	LYS	GLN	ILE	ILE	LEU	LEU	ASP	ALA	ALA	VAL	ILE	PHE	VAL
LEU	GLN	ASP	THR	GLU	THR	HIS	ARG	SER	ILE	GLU	GLU	LEU	LEU	LYS	SER	ARG	GLY	LEU
GLU	ASN	ALA	SER	LEU	GLU	ARG	VAL	GLN	LYS	GLU	GLU	LYS	GLN	LYS	LEU	ALA	HIS	GLU
ARG	THR	VAL	LEU	GLN	LEU	LEU	LEU	LEU	ALA	ALA	GLU	LEU	GLU	ARG	LEU	PHE	THR	GLY
MET	SER	ARG	ASP	SER	PHE	GLN	SER	THR	LYS	THR	LEU	THR	ALA	LYS	GLN	MET	LYS	ILE
LYS	LEU	ALA	ALA	ALA	LYS	ASN	LYS	ARG	ALA	LEU	GLU	GLN	HIS	LEU	GLU	GLY	VAL	ARG
LYS	ILE	ASN	GLU	LEU	LEU	GLU	ALA	GLY	ASN	GLN	ALA	GLU	GLN	GLU	LYS	VAL	PHE	ILE
N1785	ASN	ASP	THR	GLU	LYS	ILE	ASN	LYS	LEU	HIS	GLU	SER	GLN	ASP	ASN	LYS	PHE	CYS
	GLN	ASP	ARG	GLU	ASN	GLU	SER	LEU	GLU	GLU	ARG	ILE	ALA	GLU	ASP	ASN	LYS	ARG
D1792	LYS	LEU	SER	ALA	ALA	ASP	GLU	THR	LYS	ALA	THR	MET	LEU	CYS	LEU	TRP	ALA	LYS
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R1796	LYS	GLU	ASN	ALA	GLU	MET	ALA	THR	CYS	ALA	ARG	LEU	ASP	GLU	LEU	TRP	LEU	PHE
	MET	ASN	GLU	SER	GLU	VAL	GLN	GLN	ARG	ALA	ALA	GLU	LEU	LEU	GLN	MET	LEU	PRO
K1810	ASP	ILE	ALA	LEU	SER	ASP	TRP	GLN	THR	ALA	LYS	ASN	GLN	LYS	VAL	LYS	GLY	ASN
	ALA	ALA	LEU	GLU	LEU	VAL	ARG	LEU	LEU	LEU	VAL	ASP	ALA	ARG	GLN	LEU	LEU	ARG
R1820	ASP	ILE	ARG	HIS	GLU	GLU	THR	GLU	GLU	ARG	GLU	LYS	GLU	ASP	ALA	TYR	LEU	ILE
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N1824	SER	GLU	LYS	GLU	LEU	SER	TYR	LEU	GLN	LYS	LEU	GLN	ASP	ASP	GLN	LYS	GLU	TYR
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K1838	LEU	ARG	LYS	LYS	THR	ALA	THR	ARG	ASN	ALA	SER	ASP	VAL	LEU	ASN	LYS	ARG	ASP
	GLN	ASN	MET	ILE	PHE	ALA	ASP	GLN	GLU	ASP	ASP	GLU	ASN	GLU	LEU	PRO	ASP	PHE
R1841	THR	ASN	GLU	LEU	LYS	ALA	ALA	LEU	HIS	SER	LEU	ARG	THR	LEU	ALA	LEU	GLU	ARG
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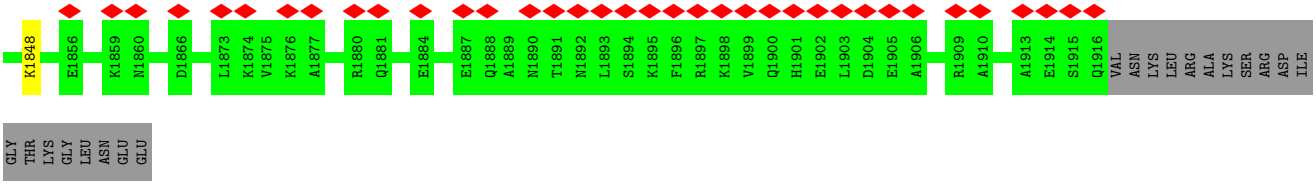
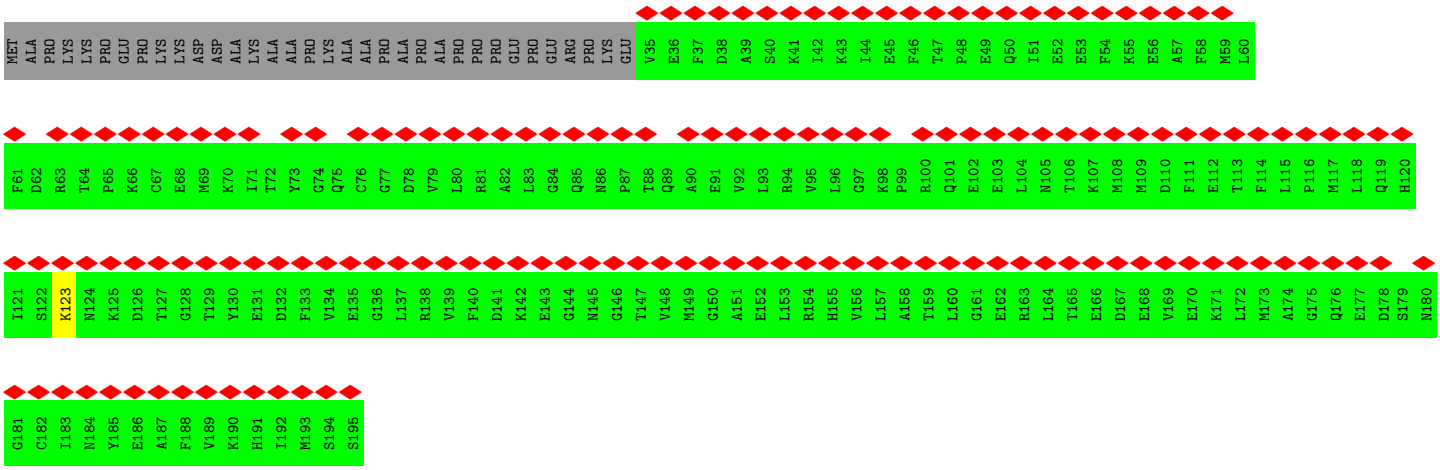


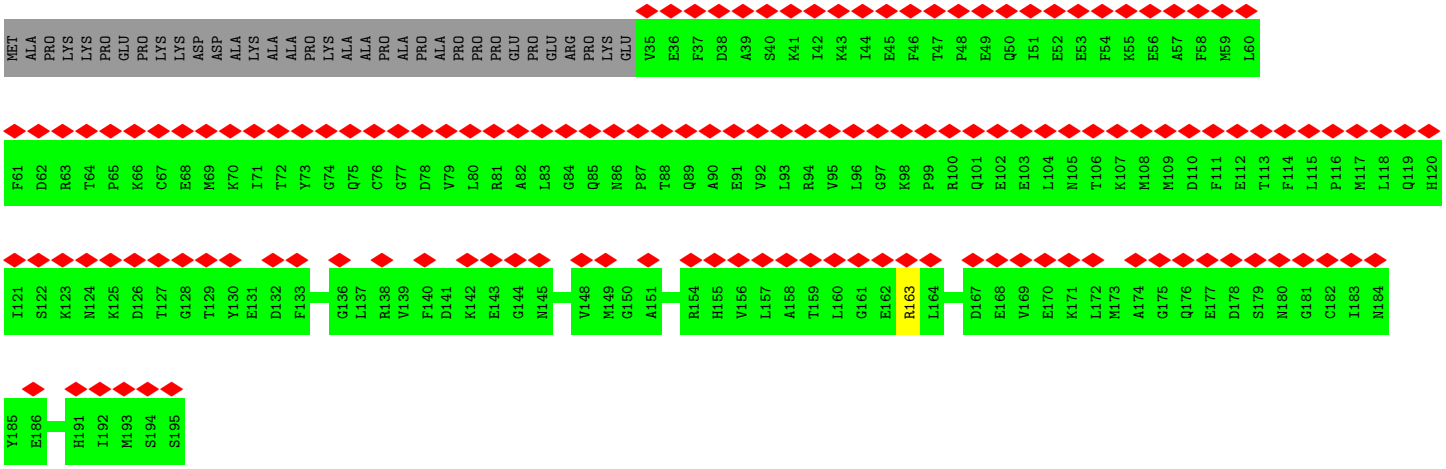
• Molecule 2: Myosin light chain 3

Chain BE:



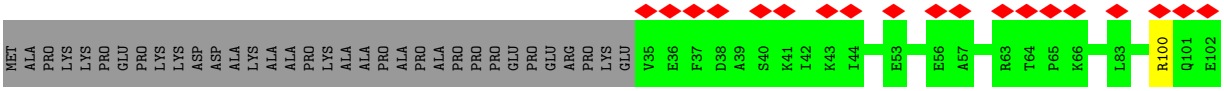
• Molecule 2: Myosin light chain 3

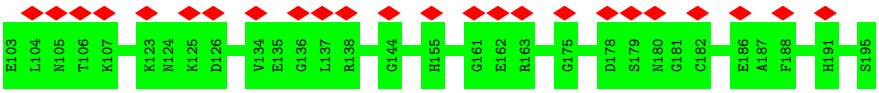
Chain BF:



• Molecule 2: Myosin light chain 3

Chain ba:





• Molecule 2: Myosin light chain 3

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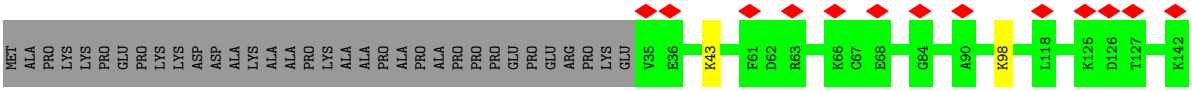
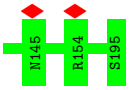
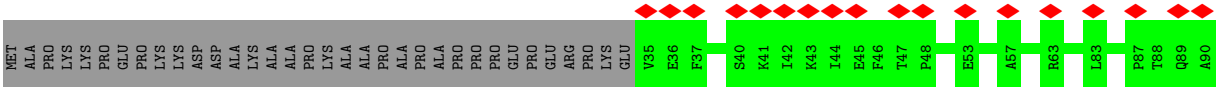
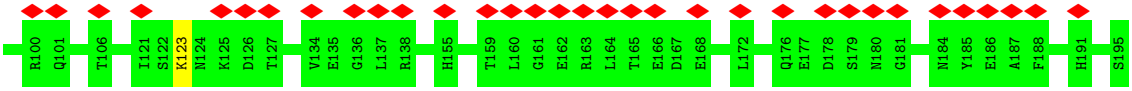




• Molecule 2: Myosin light chain 3

Chain bg:





• Molecule 2: Myosin light chain 3

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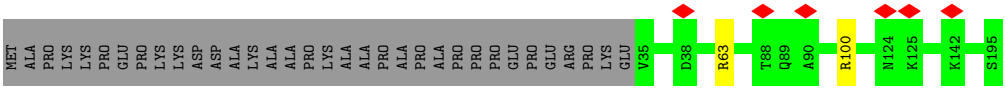
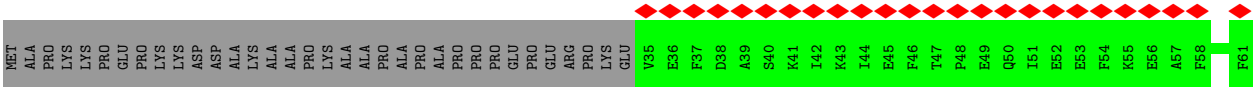
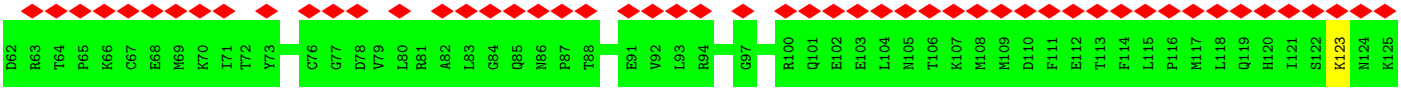
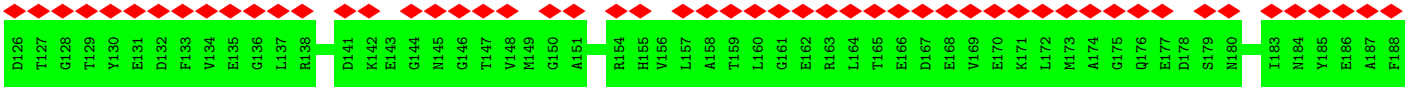


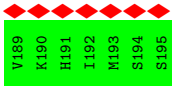
• Molecule 2: Myosin light chain 3

Chain AE:



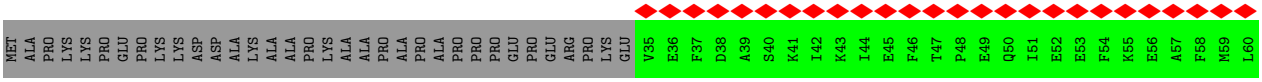


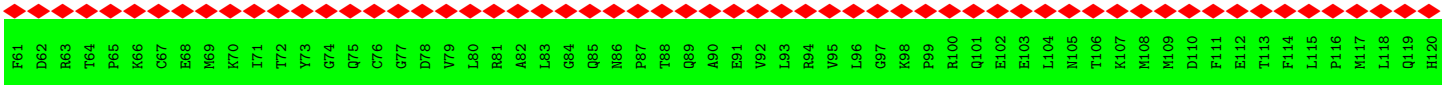


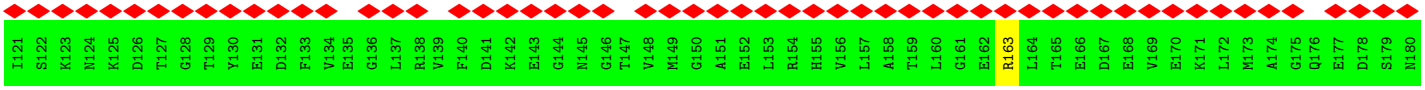


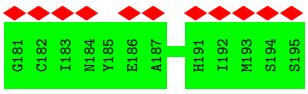
• Molecule 2: Myosin light chain 3

Chain AF:



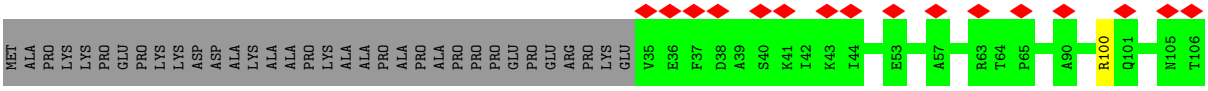


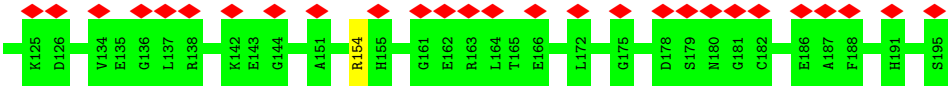




• Molecule 2: Myosin light chain 3

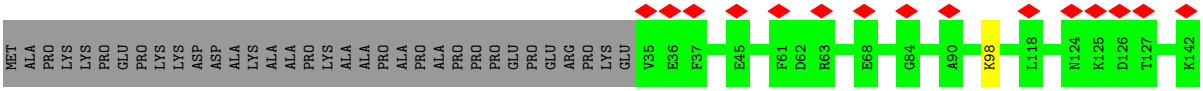
Chain aa:

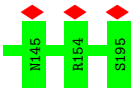




• Molecule 2: Myosin light chain 3

Chain ab:





• Molecule 2: Myosin light chain 3

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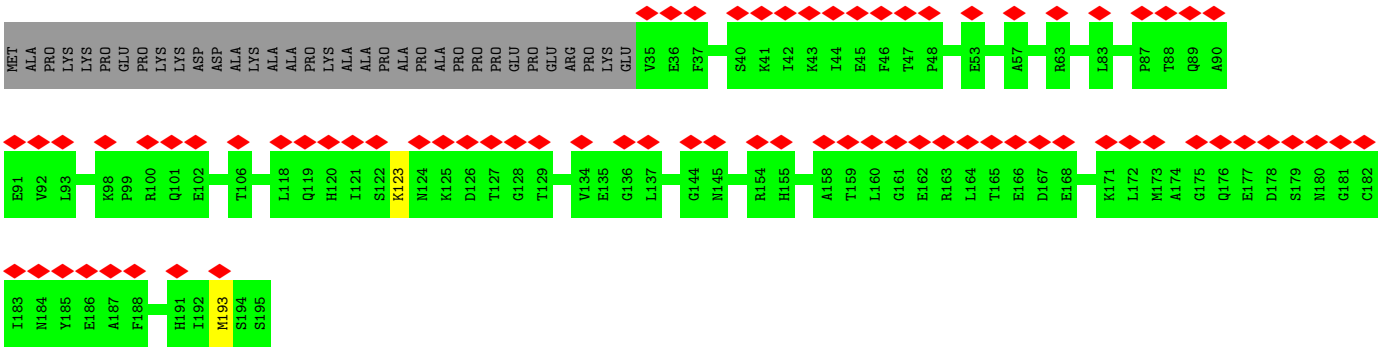

- Molecule 2: Myosin light chain 3

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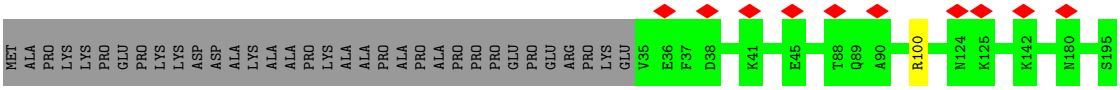

- Molecule 2: Myosin light chain 3

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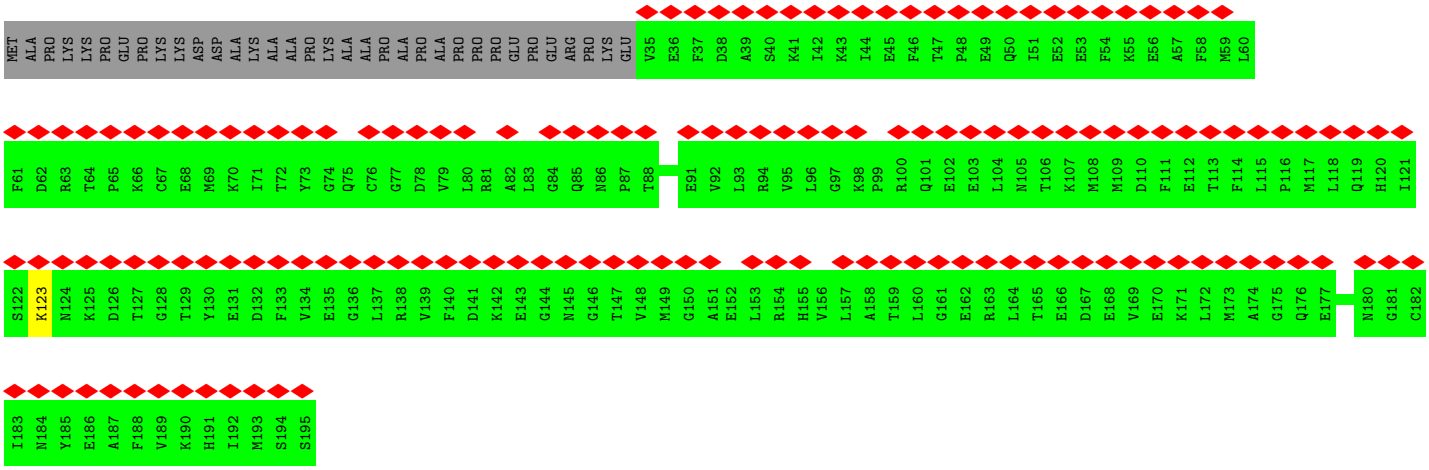
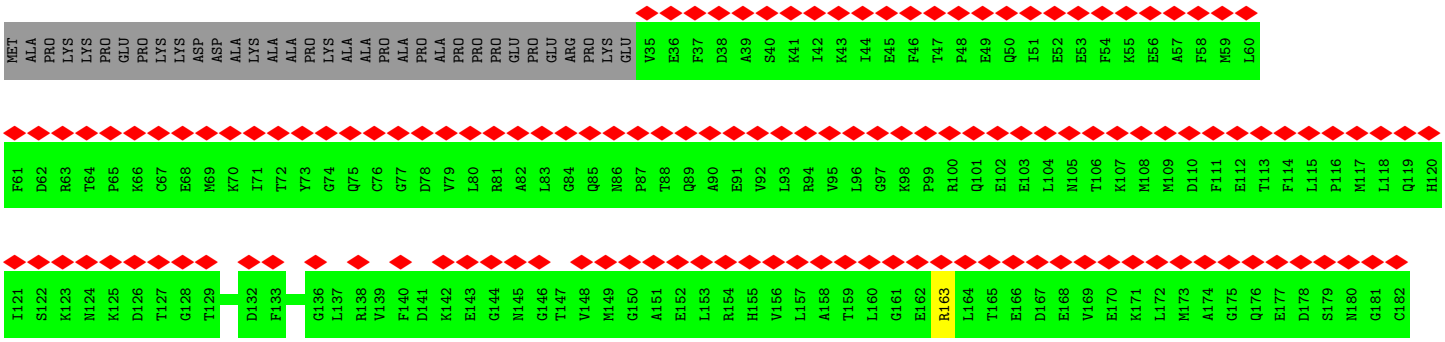
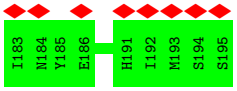


- Molecule 2: Myosin light chain 3

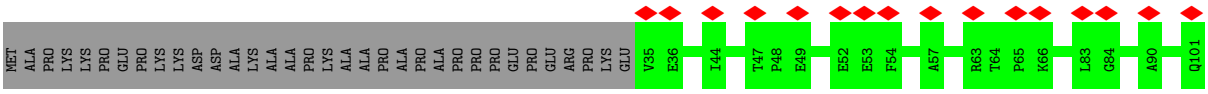
Chain F:

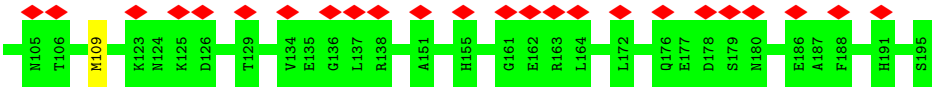




• Molecule 2: Myosin light chain 3

Chain a:





• Molecule 2: Myosin light chain 3

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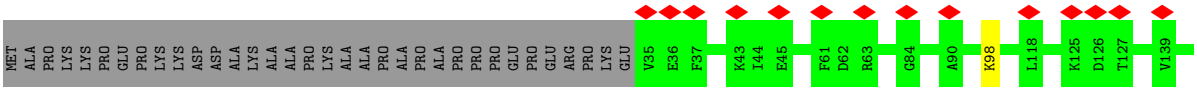
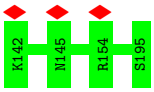
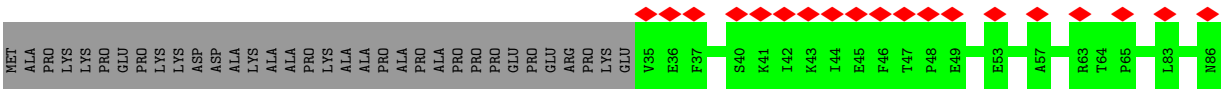
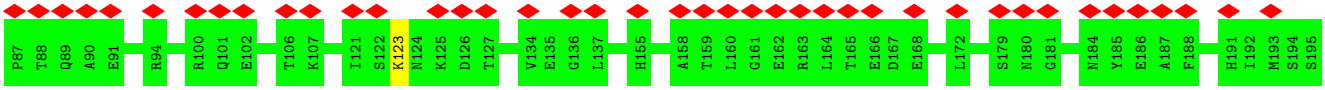




• Molecule 2: Myosin light chain 3

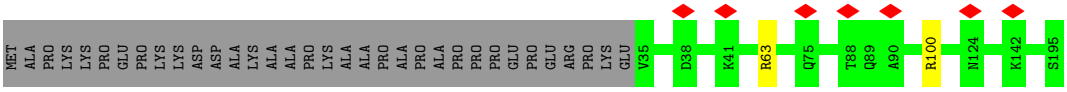
Chain g:





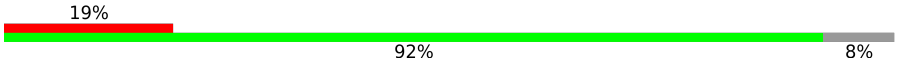
• Molecule 2: Myosin light chain 3

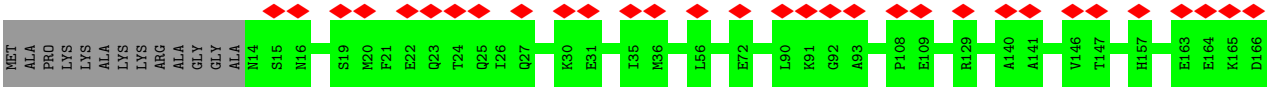
Chain h:



• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

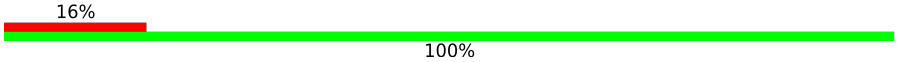
Chain bc:

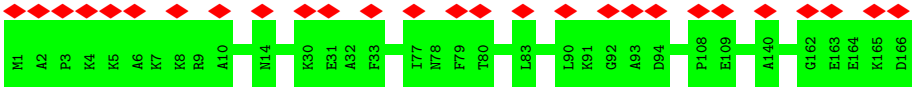




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

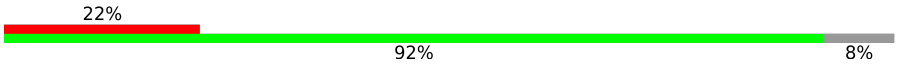
Chain bd:

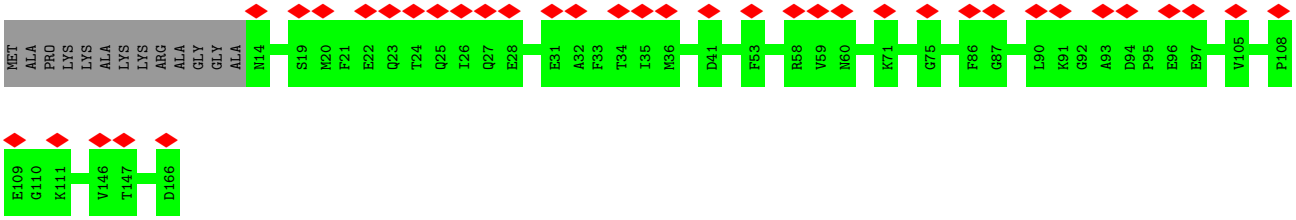




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

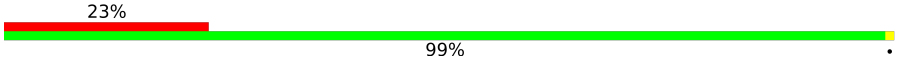
Chain bi:

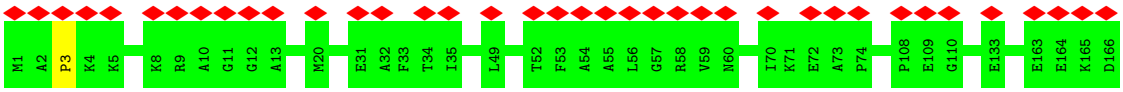




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

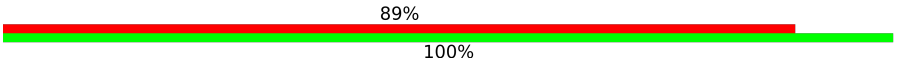
Chain bj:

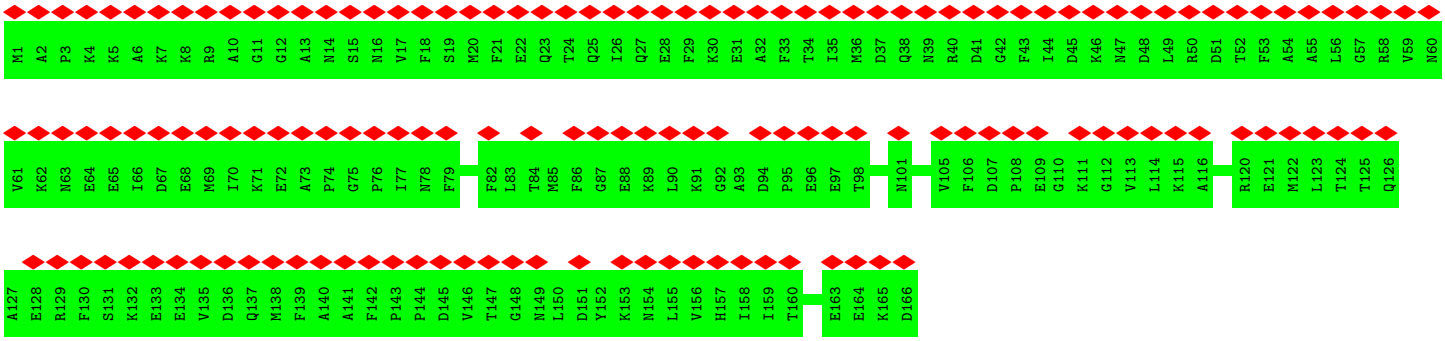




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

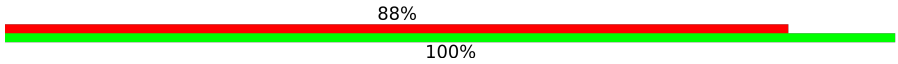
Chain bq:

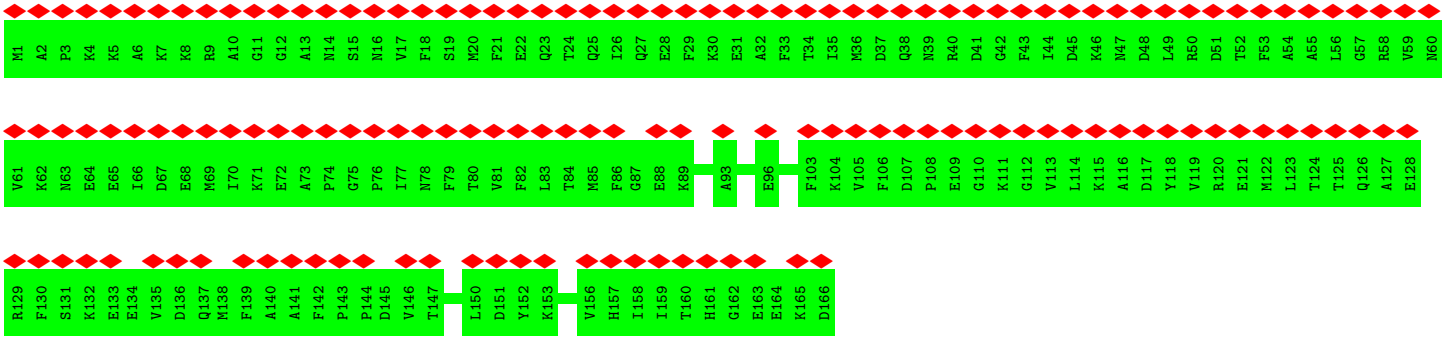




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

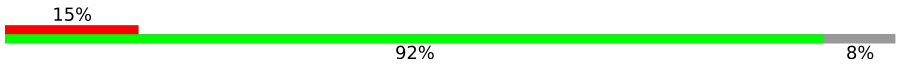
Chain br:

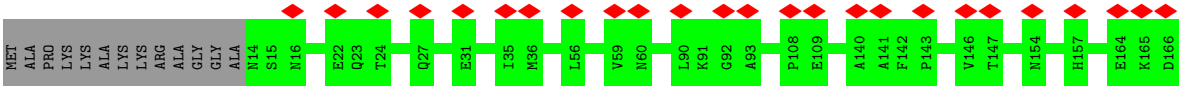




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

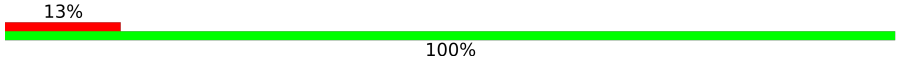
Chain ac:

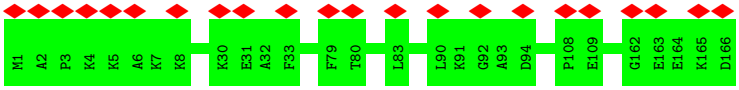




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

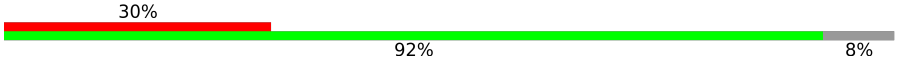
Chain ad:

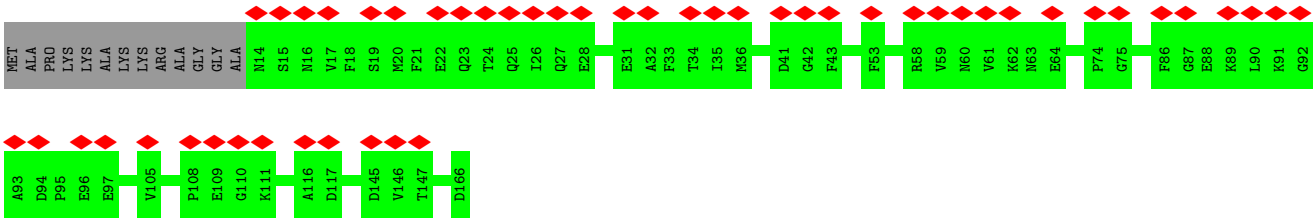




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

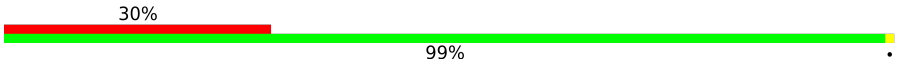
Chain ai:

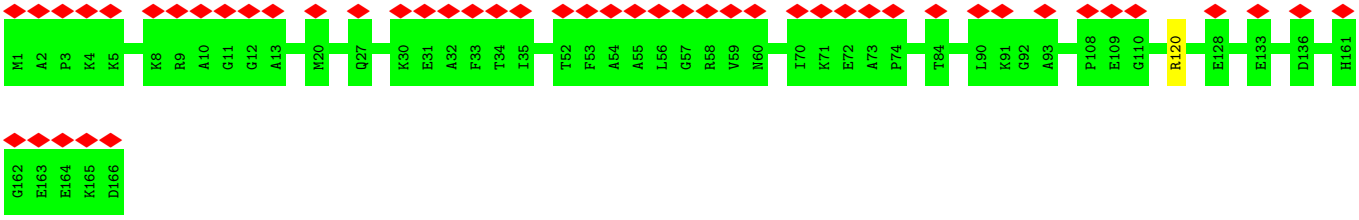




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

Chain aj:





• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

Chain aq: 90% 100%

M1 A2 P3 K4 K5 A6 K7 K8 R9 A10 G11 G12 A13 N14 S15 N16 V17 F18 S19 M20 F21 E22 Q23 T24 Q25 I26 Q27 E28 F29 K30 E31 A32 F33 T34 I35 M36 D37 Q38 N39 R40 D41 G42 F43 I44 D45 K46 N47 D48 L49 R50 D51 T52 F53 A54 A55 L56 G57 R58 V59 N60

V61 K62 M63 E64 E65 I66 D67 E68 M69 I70 K71 E72 A73 P74 G75 P76 I77 N78 F79 T80 V81 F82 L83 T84 M85 F86 G87 E88 K89 L90 K91 G92 A93 D94 P95 E96 E97 T98 I99 L100 N101 V105 F106 D107 P108 E109 G110 K111 G112 V113 L114 K115 A116 D117 R120 E121 M122 L123

T124 T125 E128 R129 F130 S131 K132 E133 E134 V135 D136 Q137 M138 F139 A140 A141 F142 P143 P144 D145 V146 T147 G148 N149 L150 D151 Y152 K153 N154 L155 V156 H157 I158 I159 T160 E163 E164 K165 D166

- Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

Chain ar: 95% 100%

M1 A2 P3 K4 K5 A6 K7 K8 R9 A10 G11 G12 A13 N14 S15 N16 V17 F18 S19 M20 F21 E22 Q23 T24 Q25 I26 Q27 E28 F29 K30 E31 A32 F33 T34 I35 M36 D37 Q38 N39 R40 D41 G42 F43 I44 D45 K46 N47 D48 L49 R50 D51 T52 F53 A54 A55 L56 G57 R58 V59 N60

V61 K62 M63 E64 E65 I66 D67 E68 M69 I70 K71 E72 A73 P74 G75 P76 I77 N78 F79 T80 V81 F82 L83 T84 M85 F86 G87 E88 K89 A93 E96 E97 T98 N101 A102 F103 K104 V105 F106 D107 P108 E109 G110 K111 G112 V113 L114 K115 A116 D117 Y118 V119 R120 E121 M122 L123 T124

T125 Q126 A127 E128 R129 F130 S131 K132 E133 E134 V135 D136 Q137 M138 F139 A140 A141 F142 P143 P144 D145 V146 T147 G148 N149 L150 D151 Y152 K153 N154 L155 V156 H157 I158 I159 T160 H161 G162 E163 E164 K165 D166

- Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

Chain c: 19% 92% 8%

MET ALA PRO LYS LYS ALA LYS LYS ARG ALA GLY GLY ALA N14 S15 N16 S19 M20 F21 E22 Q23 T24 Q25 I26 Q27 K30 E31 I35 M36 R50 A55 L56 V59 N60 L90 K91 G92 A93 P108 E109 E133 A141 F142 P143 V146 T147 H157

E164 K165 D166

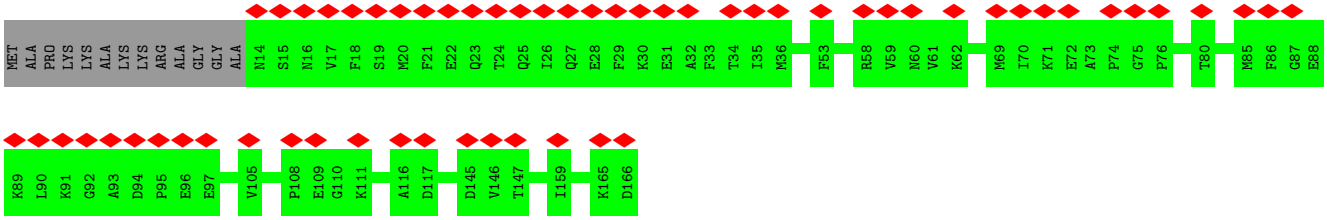
- Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

Chain d: 13% 100%

M1 A2 P3 K4 K5 A6 K7 K8 F33 E72 I77 N78 F79 T80 L83 L90 D94 P108 E109 G162 E163 E164 K165 D166

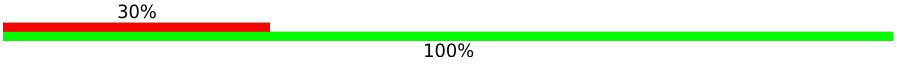
- Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

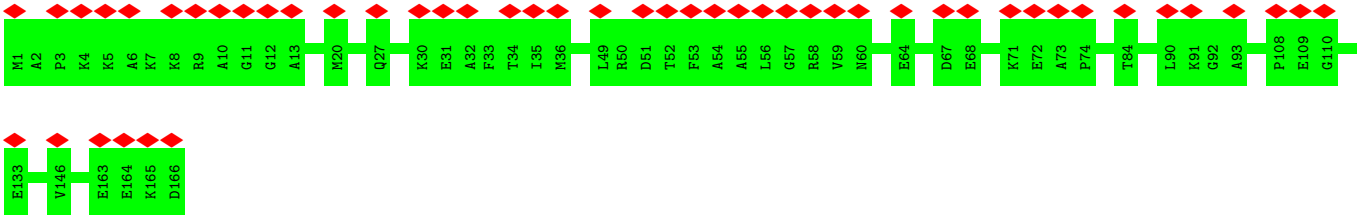
Chain i: 36% 92% 8%



• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

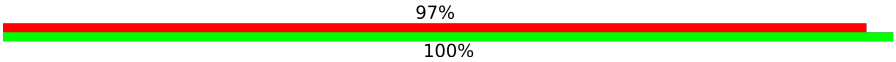
Chain j:

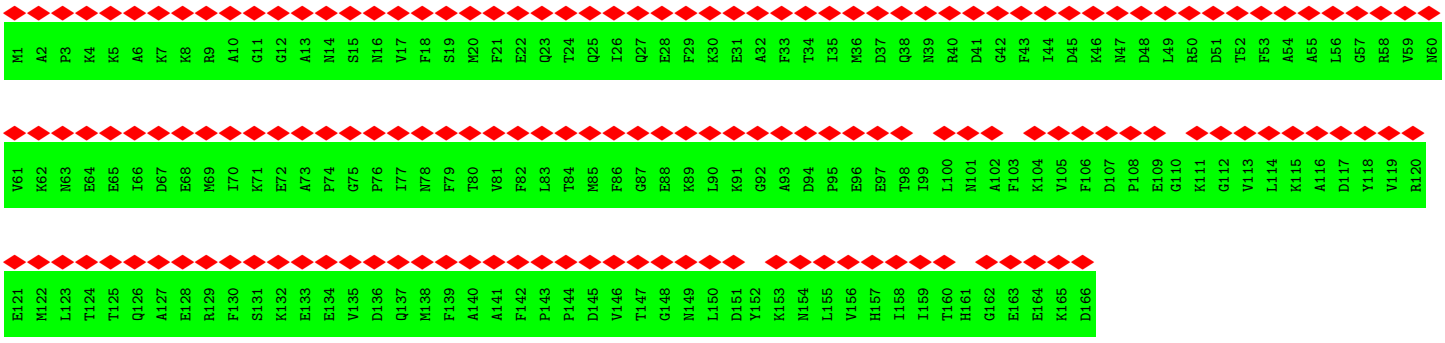




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

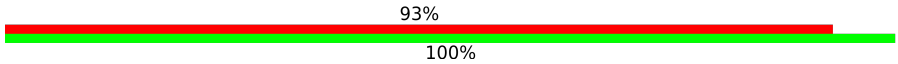
Chain q:

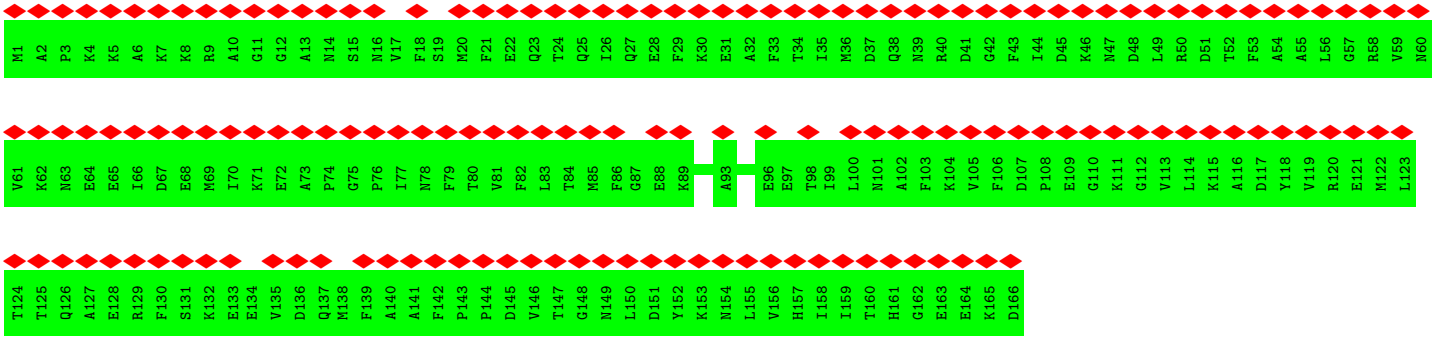




• Molecule 3: Myosin regulatory light chain 2, ventricular/cardiac muscle isoform

Chain r:





• Molecule 4: Titin

Chain bm: 14% 99%

P1 A8 R11 K12 V13 V14 T15 I16 R17 L22 R31 P32 V36 D41 S85 A86 F87 R91 L120 G124 S125 K126 N129 S137 T138 N148 K155 V156 D157 E161 L170 E174 Y175 G176 I177 A184 V187 M202 D203 V204

T205 R206 N207 K215 Q232 T233 K234 G235 S236 D237 K238 W239 T253 G254 L255 I256 Q257 G258 D275 Q278 L279 S280 V281 K286 D287 L288 V289 R318 N329 R356 S369 K384 K410 S428 T429 T430 T431 K467 S468 T469 E474 Q479 Y480 P481

F482 T494 L495 R498 I509 I517 K524 E525 R526 N527 S528 I529 L530 W531 V532 K536 P540 Q541 F544 G548 L549 E550 E551 I564 R580 D581 P582 P586 P625 E626 G627 V682 K692 A732 E735 T739 D740 S746 V747 V765

L806 I814 C840 P877 F878 T890 T891 V892 G909 L913 E923 R929 K932 R933 L934 I935 G936 R939 L940 G944 A960 P969 D977 P978 I979 Y980 N987 I991 D992 I993 T994 R995 I1006 G1010 K1020 C1021 D1022 V1023 S1024 V1025

G1026 P1034 T1035 E1045 K1046 Y1053 N1054 F1055 I1075 I1076 E1079 P1084

- Molecule 4: Titin

Chain bn: 99%

P1 L6 K12 E52 K105 E106 V107 E136 S137 T138 R139 K140 A141 D157 Q158 R206 R223 K238 G254 D287 L288 V289 L296 L297 F298 S369 E375 L382 K467 P475 K483 I509 R523 I593 A678 V682 D683

Y758 R933 R995 K1004 V1023 S1024 V1025 P1034 T1035 I1042 E1045 P1072 P1084

- Molecule 4: Titin

Chain am: 13% 99%

P1 V14 R17 L22 R31 P32 V36 H42 S80 R91 K105 T110 L120 G124 S125 K126 I127 K128 N129 S137 T138 R139 K140 N148 C149 H150 K155 V156 D157 E161 Y165 L170 E174 Y175 G176 I177 E182 T183 A184 E185

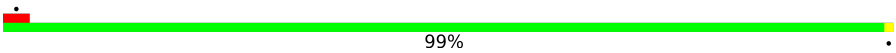
S186 V187 M202 D203 V204 T205 K215 Q232 T233 K234 G235 S236 D237 K238 W239 A240 T253 Q257 G258 D275 S280 V281 K286 D287 L288 V289 F298 F301 T302 V303 L304 E307 R318 N329 R356 S369 L382 K410 M418 K424

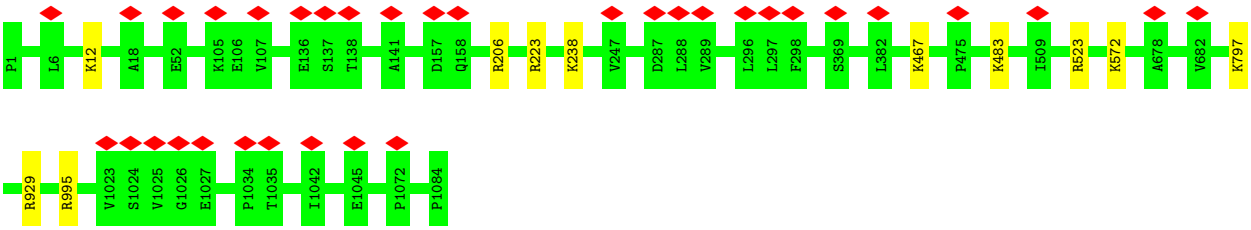
T469 Q479 Y480 P481 F482 T494 R498 I509 K524 E525 R526 N527 S528 I529 L530 W531 V532 K536 P540 T547 G548 L549 E550 E551 I564 R580 D581 P582 P586 P625 E626 G627 A732 E735 T739 D740 S746 V747 V765 G786 L806

I814 C840 P877 F878 V879 D882 K885 T890 T891 V892 R903 G909 L913 E923 G924 R929 L934 R939 L940 G944 A960 P969 D977 P978 I979 Y980 N987 P988 K989 T994 R995 I1006 G1010 K1020 V1023 S1024 V1025

• Molecule 4: Titin

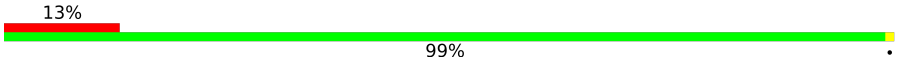
Chain an:

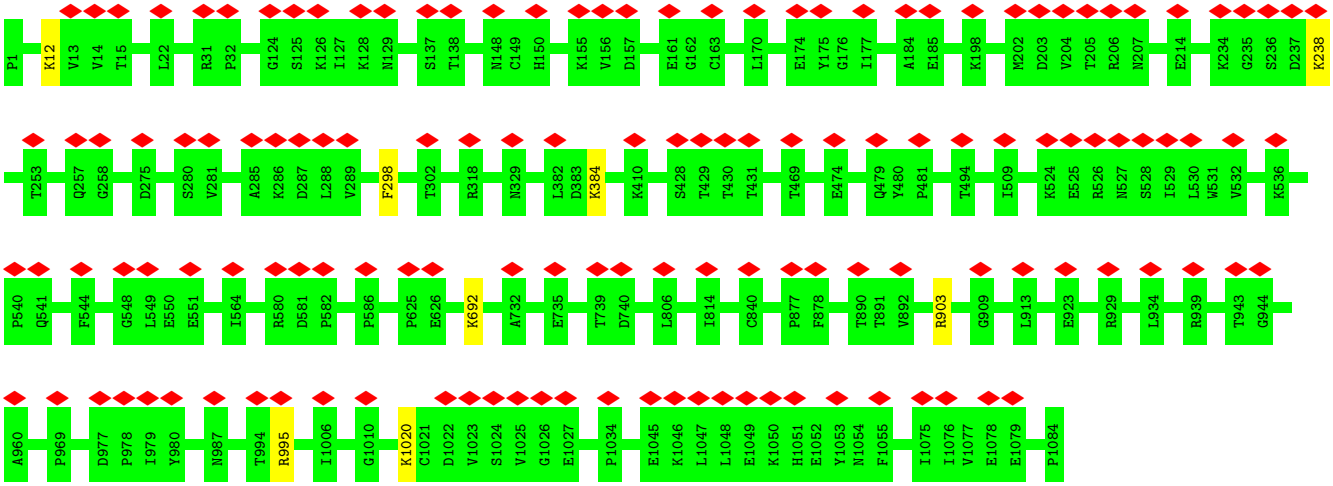




• Molecule 4: Titin

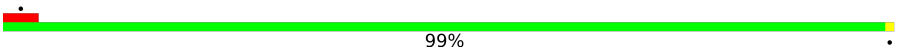
Chain m:

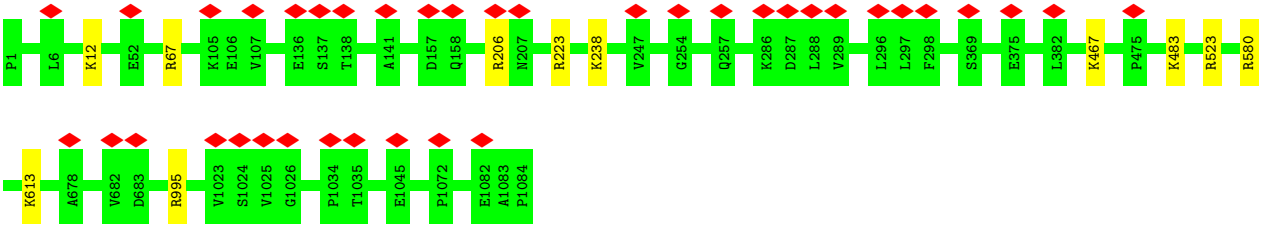




• Molecule 4: Titin

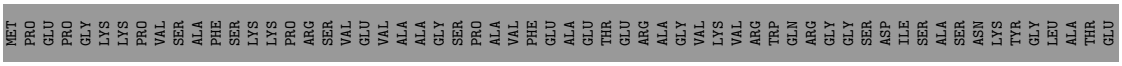
Chain n:

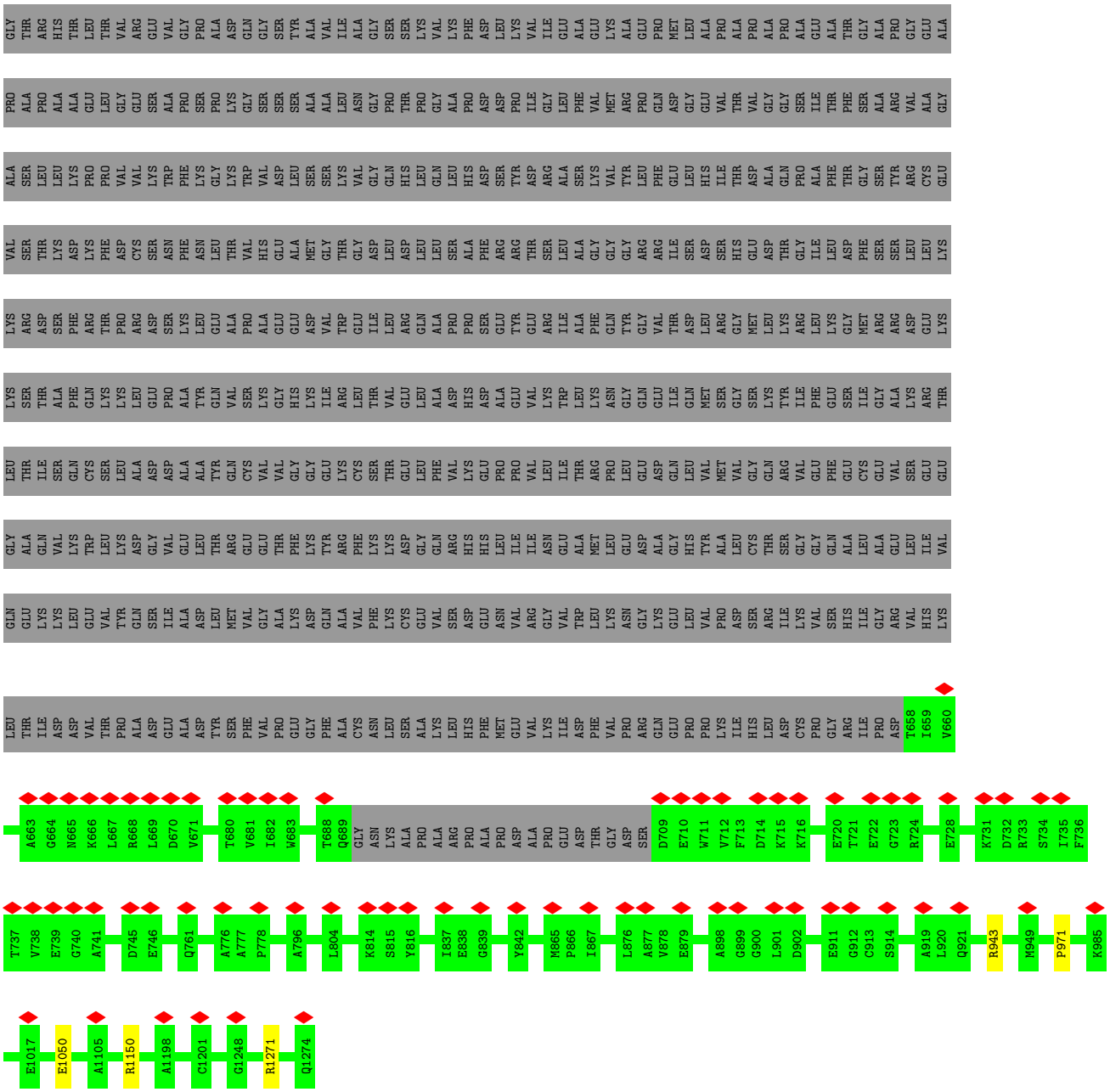




• Molecule 5: Myosin-binding protein C, cardiac-type

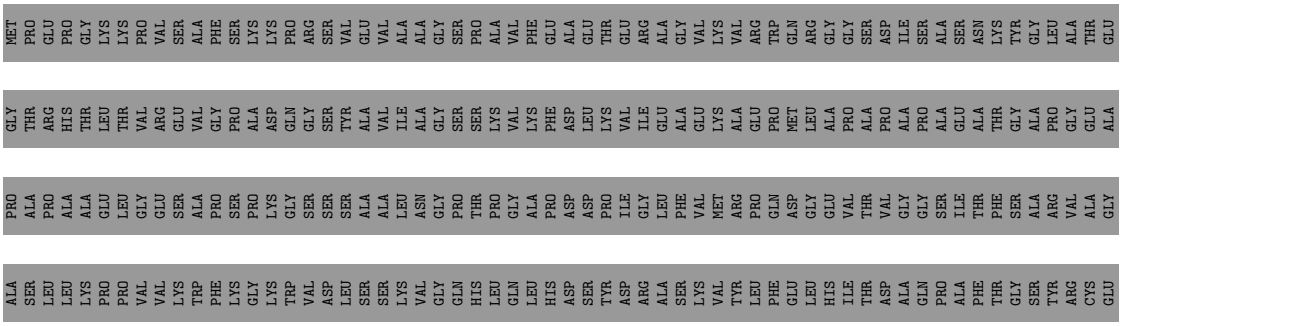
Chain bo:

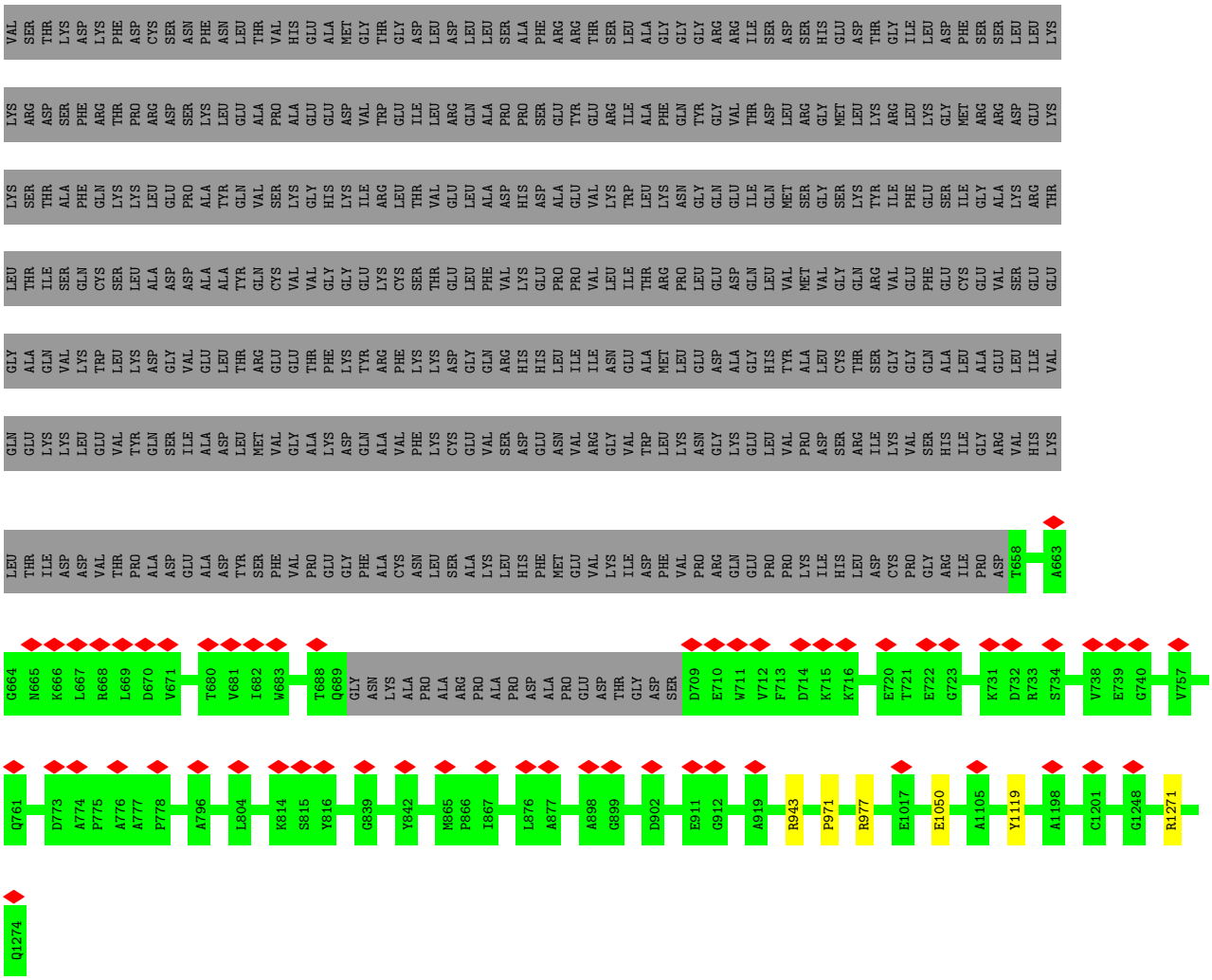




- Molecule 5: Myosin-binding protein C, cardiac-type

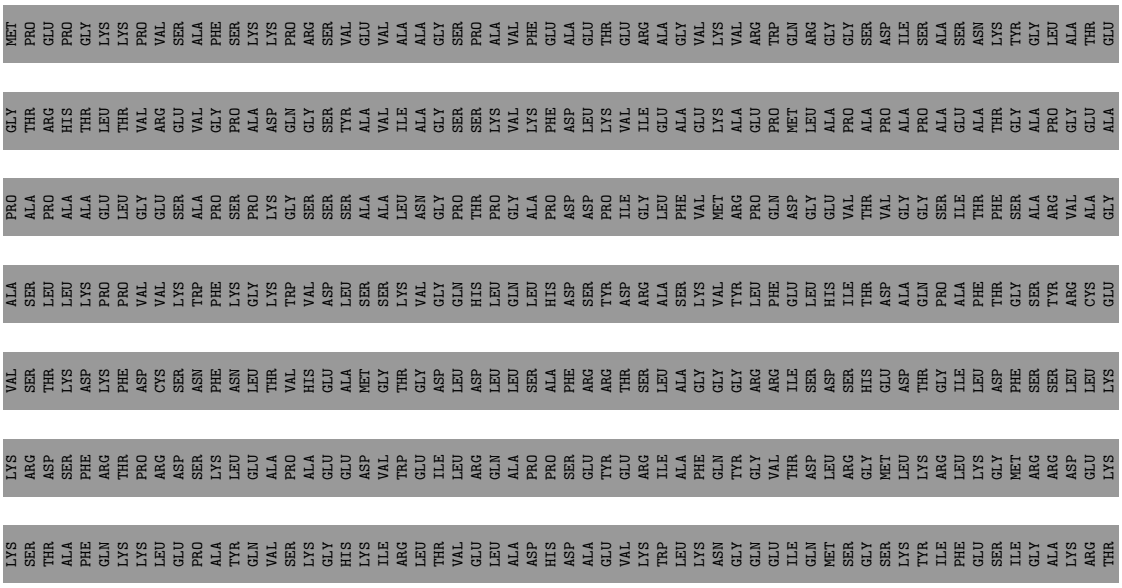
Chain ao:

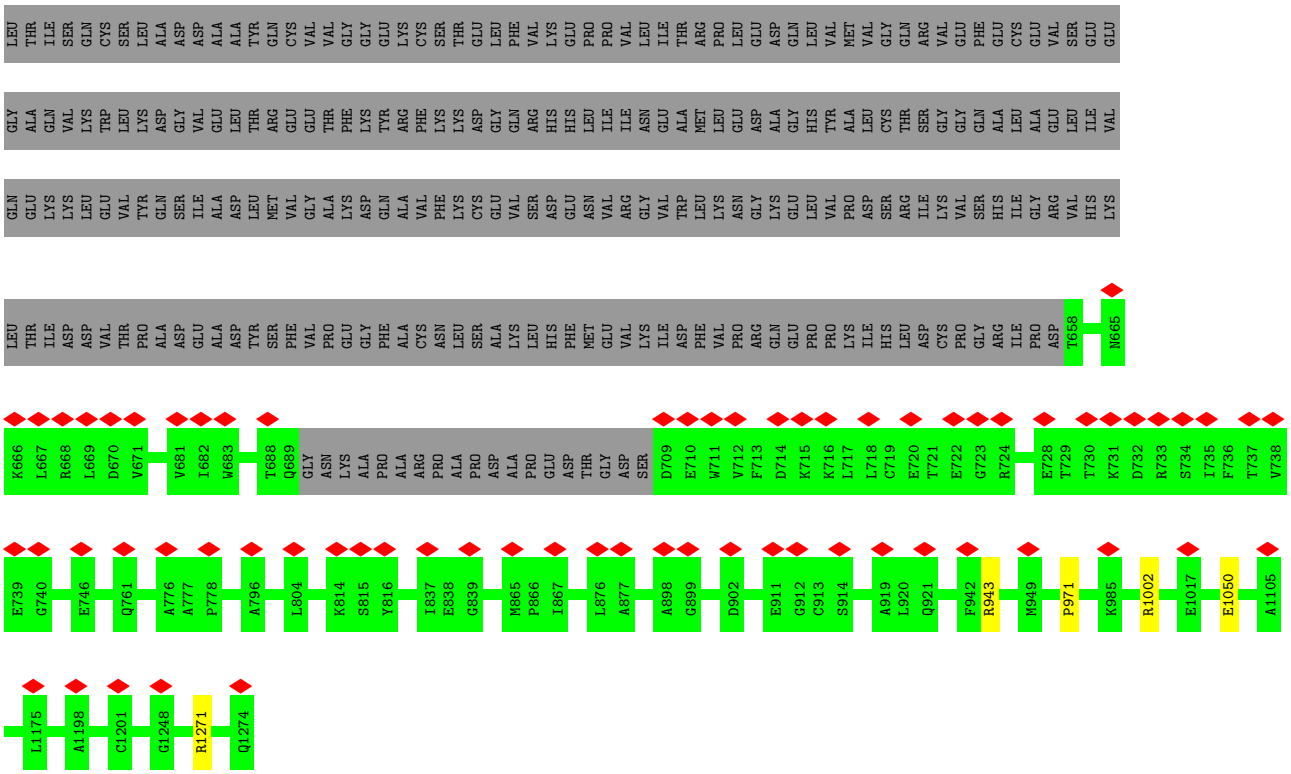




- Molecule 5: Myosin-binding protein C, cardiac-type

Chain o:




LEU THR ILE SER GLN CYS SER LEU ALA ASP ASP ALA ALA TYR GLN CYS VAL VAL GLY GLY GLU LYS LYS CYS SER THR GLU LEU PHE VAL LYS GLU PRO PRO VAL LEU ILE THR ARG PRO LEU GLU ASP GLN LEU VAL MET VAL GLY GLN ARG VAL GLU PHE GLU CYS GLU VAL SER GLU GLU
GLY ALA GLN VAL LYS TRP LEU LYS ASP GLY VAL GLU LEU THR ARG GLU GLU THR PHE LYS TYR ARG PHE LYS LYS ASP GLY GLN ARG HIS HIS LEU ILE ILE ASN GLU ALA MET LEU GLU ASP ALA GLY HIS TYR ALA LEU CYS THR SER GLY GLY GLN ALA LEU ALA GLU LEU ILE VAL
GLN GLU LYS LYS LEU GLU VAL TYR GLN SER ILE ALA ASP LEU MET VAL GLY ALA LYS ASP GLN ALA VAL PHE LYS CYS GLU VAL SER ASP GLU ASN VAL ARG GLY VAL TRP LEU LYS ASN GLY LYS GLU LEU VAL PRO ASP SER ARG GLN ILE LYS VAL PRO GLY ARG VAL HIS LYS
LEU THR ILE ASP ASP VAL THR PRO ALA ASP GLU ALA ASP TYR SER PHE VAL PRO GLU GLY PHE ALA CYS ASN LEU SER ALA LYS LEU HIS PHE MET GLU VAL LYS ILE ASP PHE VAL PRO ARG GLN GLU PRO PRO LYS ILE HIS LEU ASP CYS PRO GLY ARG ILE PRO ASP T658 M665
K666 L667 R668 L669 D670 V671 V681 I682 W683 T688 Q689 GLY ASN LYS ALA PRO ALA ARG PRO ALA PRO ASP ALA PRO GLU ASP THR GLY ASP SER D709 E710 W711 V712 F713 D714 K715 K716 L717 L718 C719 E720 T721 E722 G723 R724 E728 T729 T730 K731 D732 R733 S734 I735 F736 T737 V738
E739 G740 E746 Q761 A776 A777 P778 A796 L804 K814 S815 Y816 I837 E838 G839 M865 P866 I867 L876 A877 A898 G899 D902 E911 G912 C913 S914 A919 L920 Q921 F942 R943 M949 P971 K985 R1002 E1017 E1050 A1105
L1175 A1198 C1201 G1248 R1271 Q1274

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C3	Depositor
Number of particles used	102581	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 ($e^-/Å^2$)	61	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.360	Depositor
Minimum map value	-0.016	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.048	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	869.83997, 869.83997, 869.83997	wwPDB
Map dimensions	800, 800, 800	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0873, 1.0873, 1.0873	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.26	0/9326	0.51	1/12520 (0.0%)
1	AA	0.27	0/9326	0.51	1/12520 (0.0%)
1	AB	0.26	0/9326	0.49	0/12520
1	AG	0.29	0/2888	0.53	0/3841
1	AH	0.32	0/2888	0.56	0/3841
1	AI	0.32	0/2903	0.57	0/3868
1	AJ	0.31	0/2903	0.56	0/3868
1	AK	0.31	0/2856	0.60	2/3815 (0.1%)
1	AL	1.16	2/2856 (0.1%)	0.57	2/3815 (0.1%)
1	AM	0.31	0/2936	0.53	0/3922
1	AN	0.35	1/2936 (0.0%)	0.52	0/3922
1	AO	0.38	1/2927 (0.0%)	0.58	0/3911
1	AP	0.33	0/2927	0.57	0/3911
1	AQ	0.31	0/2894	0.53	0/3869
1	AR	0.35	0/2894	0.57	0/3869
1	AS	0.32	0/2915	0.58	0/3883
1	AT	0.31	0/2915	0.54	0/3883
1	AU	0.31	0/2642	0.55	1/3524 (0.0%)
1	AV	0.29	0/2642	0.55	0/3524
1	AW	0.33	0/1838	0.57	0/2445
1	AX	0.31	0/1838	0.52	0/2445
1	AY	0.28	0/8275	0.53	1/11125 (0.0%)
1	AZ	0.30	0/8275	0.52	0/11125
1	B	0.26	0/9326	0.49	0/12520
1	BA	0.26	0/9326	0.48	0/12520
1	BB	0.26	0/9326	0.49	1/12520 (0.0%)
1	BG	0.28	0/2888	0.51	0/3841
1	BH	0.33	0/2888	0.57	1/3841 (0.0%)
1	BI	0.31	0/2903	0.59	0/3868
1	BJ	0.31	0/2903	0.55	0/3868
1	BK	0.32	0/2856	0.60	2/3815 (0.1%)
1	BL	0.32	0/2856	0.55	0/3815
1	BM	0.30	0/2936	0.51	0/3922
1	BN	0.35	1/2936 (0.0%)	0.52	0/3922

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
1	BO	0.41	1/2927 (0.0%)	0.59	0/3911
1	BP	0.33	0/2927	0.58	1/3911 (0.0%)
1	BQ	0.32	0/2894	0.53	0/3869
1	BR	0.34	0/2894	0.56	0/3869
1	BS	0.30	0/2915	0.56	0/3883
1	BT	0.31	0/2915	0.53	0/3883
1	BU	0.29	0/2642	0.52	0/3524
1	BV	0.31	0/2642	0.56	0/3524
1	BW	0.32	0/1838	0.56	0/2445
1	BX	0.31	0/1838	0.53	0/2445
1	BY	0.28	0/8275	0.52	2/11125 (0.0%)
1	BZ	0.28	0/8275	0.51	0/11125
1	G	0.28	0/2888	0.53	0/3841
1	H	0.31	0/2888	0.54	0/3841
1	I	0.32	0/2903	0.58	0/3868
1	J	0.32	0/2903	0.57	0/3868
1	K	0.32	0/2856	0.59	0/3815
1	L	1.16	2/2856 (0.1%)	0.56	2/3815 (0.1%)
1	M	0.30	0/2936	0.53	0/3922
1	N	0.36	1/2936 (0.0%)	0.51	0/3922
1	O	0.42	1/2927 (0.0%)	0.58	1/3911 (0.0%)
1	P	0.33	0/2927	0.56	0/3911
1	Q	0.31	0/2894	0.51	0/3869
1	R	0.35	0/2894	0.56	0/3869
1	S	0.30	0/2915	0.55	0/3883
1	T	0.30	0/2915	0.53	0/3883
1	U	0.30	0/2642	0.55	0/3524
1	V	0.29	0/2642	0.56	1/3524 (0.0%)
1	W	0.33	0/1838	0.57	0/2445
1	X	0.30	0/1838	0.54	0/2445
1	Y	0.28	0/8275	0.52	2/11125 (0.0%)
1	Z	0.28	0/8275	0.52	0/11125
1	ae	0.27	0/7502	0.51	1/10091 (0.0%)
1	af	0.27	0/7502	0.51	0/10091
1	ak	0.32	0/1098	0.55	0/1459
1	al	0.32	0/1098	0.52	0/1459
1	be	0.28	0/7502	0.53	1/10091 (0.0%)
1	bf	0.28	0/7502	0.52	0/10091
1	bk	0.33	0/1098	0.57	0/1459
1	bl	0.34	0/1098	0.58	0/1459
1	e	0.27	0/7502	0.52	1/10091 (0.0%)
1	f	0.29	0/7502	0.53	0/10091
1	k	0.33	0/1098	0.54	0/1459

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
1	l	0.36	0/1098	0.59	0/1459
2	AE	0.25	0/1304	0.49	0/1748
2	AF	0.25	0/1304	0.47	0/1748
2	BE	0.25	0/1304	0.48	0/1748
2	BF	0.25	0/1304	0.46	0/1748
2	E	0.25	0/1304	0.51	0/1748
2	F	0.25	0/1304	0.48	0/1748
2	a	0.27	0/1304	0.52	0/1748
2	aa	0.29	0/1304	0.53	0/1748
2	ab	0.30	0/1304	0.53	0/1748
2	ag	0.27	0/1304	0.50	0/1748
2	ah	0.28	0/1304	0.54	0/1748
2	b	0.30	0/1304	0.56	0/1748
2	ba	0.27	0/1304	0.52	0/1748
2	bb	0.32	0/1304	0.56	0/1748
2	bg	0.27	0/1304	0.48	0/1748
2	bh	0.29	0/1304	0.52	0/1748
2	g	0.29	0/1304	0.52	0/1748
2	h	0.28	0/1304	0.51	0/1748
3	ac	0.27	0/1254	0.48	0/1687
3	ad	0.29	0/1345	0.51	0/1805
3	ai	0.27	0/1254	0.50	0/1687
3	aj	0.28	0/1345	0.50	0/1805
3	aq	0.26	0/1345	0.46	0/1805
3	ar	0.26	0/1345	0.46	0/1805
3	bc	0.27	0/1254	0.50	0/1687
3	bd	0.28	0/1345	0.51	0/1805
3	bi	0.28	0/1254	0.49	0/1687
3	bj	0.28	0/1345	0.50	0/1805
3	bq	0.26	0/1345	0.47	0/1805
3	br	0.26	0/1345	0.46	0/1805
3	c	0.26	0/1254	0.47	0/1687
3	d	0.28	0/1345	0.52	0/1805
3	i	0.27	0/1254	0.48	0/1687
3	j	0.28	0/1345	0.52	0/1805
3	q	0.26	0/1345	0.47	0/1805
3	r	0.26	0/1345	0.46	0/1805
4	am	0.62	6/8610 (0.1%)	0.54	0/11717
4	an	0.30	0/8610	0.55	0/11717
4	bm	0.28	0/8610	0.54	0/11717
4	bn	0.30	0/8610	0.54	0/11717
4	m	0.62	6/8610 (0.1%)	0.54	0/11717
4	n	0.29	0/8610	0.55	0/11717

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
5	ao	0.29	0/4827	0.57	0/6572
5	bo	0.28	0/4827	0.56	0/6572
5	o	0.29	0/4827	0.56	0/6572
All	All	0.34	22/419277 (0.0%)	0.53	24/562902 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	AA	0	1
1	AY	0	3
1	BB	0	1
1	BY	0	2
1	O	0	1
1	Y	0	1
1	ae	0	1
1	be	0	2
1	e	0	1
2	aa	0	1
2	ag	0	1
4	n	0	1
5	ao	0	1
All	All	0	18

All (22) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AL	1176	ARG	CG-CD	59.47	3.00	1.51
1	L	1176	ARG	CG-CD	59.41	3.00	1.51
4	m	298	PHE	CE1-CZ	25.30	1.85	1.37
4	am	298	PHE	CE1-CZ	24.76	1.84	1.37
4	m	298	PHE	CD1-CE1	22.96	1.85	1.39
4	am	298	PHE	CE2-CZ	22.91	1.80	1.37
4	am	298	PHE	CD2-CE2	22.70	1.84	1.39
4	m	298	PHE	CE2-CZ	22.46	1.80	1.37
4	am	298	PHE	CD1-CE1	22.32	1.83	1.39
4	m	298	PHE	CD2-CE2	21.98	1.83	1.39
4	am	298	PHE	CG-CD2	15.34	1.61	1.38
4	m	298	PHE	CG-CD2	15.19	1.61	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	am	298	PHE	CG-CD1	14.93	1.61	1.38
4	m	298	PHE	CG-CD1	14.85	1.61	1.38
1	O	1456	TRP	CB-CG	-12.19	1.28	1.50
1	BO	1456	TRP	CB-CG	-8.41	1.35	1.50
1	N	1371	TRP	CB-CG	-8.30	1.35	1.50
1	AO	1456	TRP	CB-CG	-7.93	1.35	1.50
1	AN	1371	TRP	CB-CG	-6.70	1.38	1.50
1	BN	1371	TRP	CB-CG	-6.18	1.39	1.50
1	L	1176	ARG	CB-CG	5.40	1.67	1.52
1	AL	1176	ARG	CB-CG	5.26	1.66	1.52

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	961	LEU	CA-CB-CG	12.33	143.66	115.30
1	BB	961	LEU	CA-CB-CG	12.27	143.52	115.30
1	AA	961	LEU	CA-CB-CG	11.82	142.49	115.30
1	AK	1386	LEU	CA-CB-CG	8.05	133.81	115.30
1	AU	1769	LEU	CA-CB-CG	7.25	131.99	115.30
1	L	1176	ARG	CG-CD-NE	7.16	126.83	111.80
1	AL	1176	ARG	CB-CG-CD	6.78	129.24	111.60
1	AL	1176	ARG	CG-CD-NE	6.67	125.82	111.80
1	BP	1452	ILE	CG1-CB-CG2	-6.55	97.00	111.40
1	BK	1386	LEU	CA-CB-CG	6.52	130.29	115.30
1	Y	387	LEU	CB-CG-CD2	6.51	122.08	111.00
1	L	1176	ARG	CB-CG-CD	6.44	128.34	111.60
1	BY	387	LEU	CB-CG-CD1	6.41	121.90	111.00
1	BY	387	LEU	CB-CG-CD2	6.14	121.44	111.00
1	AY	528	MET	CA-CB-CG	5.71	123.02	113.30
1	be	822	MET	CG-SD-CE	5.71	109.34	100.20
1	e	822	MET	CG-SD-CE	5.66	109.26	100.20
1	BH	1122	LEU	CB-CG-CD1	5.60	120.52	111.00
1	O	1456	TRP	CA-CB-CG	-5.49	103.28	113.70
1	V	1622	LEU	CA-CB-CG	5.46	127.86	115.30
1	ae	387	LEU	CB-CG-CD2	-5.43	101.76	111.00
1	BK	1249	CYS	CA-CB-SG	5.17	123.31	114.00
1	Y	387	LEU	CB-CG-CD1	5.11	119.68	111.00
1	AK	1249	CYS	CA-CB-SG	5.06	123.10	114.00

There are no chirality outliers.

All (18) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	961	LEU	Peptide
1	AA	961	LEU	Peptide
1	AY	409	GLU	Peptide
1	AY	410	TYR	Peptide
1	AY	527	PRO	Peptide
1	BB	961	LEU	Peptide
1	BY	406	VAL	Peptide
1	BY	410	TYR	Peptide
1	O	1317	ARG	Sidechain
1	Y	410	TYR	Peptide
2	aa	154	ARG	Sidechain
1	ae	593	TRP	Peptide
2	ag	193	MET	Peptide
5	ao	1119	TYR	Peptide
1	be	593	TRP	Peptide
1	be	793	ARG	Sidechain
1	e	272	ARG	Peptide
4	n	67	ARG	Sidechain

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	1127/1935 (58%)	1073 (95%)	53 (5%)	1 (0%)	51 85
1	AA	1127/1935 (58%)	1065 (94%)	62 (6%)	0	100 100
1	AB	1127/1935 (58%)	1067 (95%)	60 (5%)	0	100 100
1	AG	353/1935 (18%)	351 (99%)	2 (1%)	0	100 100
1	AH	353/1935 (18%)	348 (99%)	5 (1%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	AI	355/1935 (18%)	351 (99%)	4 (1%)	0	100	100
1	AJ	355/1935 (18%)	348 (98%)	7 (2%)	0	100	100
1	AK	348/1935 (18%)	345 (99%)	3 (1%)	0	100	100
1	AL	348/1935 (18%)	339 (97%)	9 (3%)	0	100	100
1	AM	357/1935 (18%)	350 (98%)	7 (2%)	0	100	100
1	AN	357/1935 (18%)	351 (98%)	6 (2%)	0	100	100
1	AO	356/1935 (18%)	349 (98%)	7 (2%)	0	100	100
1	AP	356/1935 (18%)	345 (97%)	11 (3%)	0	100	100
1	AQ	355/1935 (18%)	352 (99%)	3 (1%)	0	100	100
1	AR	355/1935 (18%)	343 (97%)	11 (3%)	1 (0%)	41	76
1	AS	357/1935 (18%)	347 (97%)	10 (3%)	0	100	100
1	AT	357/1935 (18%)	354 (99%)	3 (1%)	0	100	100
1	AU	323/1935 (17%)	317 (98%)	6 (2%)	0	100	100
1	AV	323/1935 (17%)	317 (98%)	6 (2%)	0	100	100
1	AW	222/1935 (12%)	216 (97%)	6 (3%)	0	100	100
1	AX	222/1935 (12%)	219 (99%)	3 (1%)	0	100	100
1	AY	999/1935 (52%)	925 (93%)	74 (7%)	0	100	100
1	AZ	999/1935 (52%)	920 (92%)	79 (8%)	0	100	100
1	B	1127/1935 (58%)	1059 (94%)	68 (6%)	0	100	100
1	BA	1127/1935 (58%)	1059 (94%)	68 (6%)	0	100	100
1	BB	1127/1935 (58%)	1067 (95%)	60 (5%)	0	100	100
1	BG	353/1935 (18%)	351 (99%)	2 (1%)	0	100	100
1	BH	353/1935 (18%)	350 (99%)	3 (1%)	0	100	100
1	BI	355/1935 (18%)	351 (99%)	4 (1%)	0	100	100
1	BJ	355/1935 (18%)	352 (99%)	3 (1%)	0	100	100
1	BK	348/1935 (18%)	346 (99%)	2 (1%)	0	100	100
1	BL	348/1935 (18%)	340 (98%)	8 (2%)	0	100	100
1	BM	357/1935 (18%)	353 (99%)	4 (1%)	0	100	100
1	BN	357/1935 (18%)	353 (99%)	4 (1%)	0	100	100
1	BO	356/1935 (18%)	346 (97%)	10 (3%)	0	100	100
1	BP	356/1935 (18%)	344 (97%)	12 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	BQ	355/1935 (18%)	353 (99%)	2 (1%)	0	100	100
1	BR	355/1935 (18%)	345 (97%)	10 (3%)	0	100	100
1	BS	357/1935 (18%)	346 (97%)	11 (3%)	0	100	100
1	BT	357/1935 (18%)	351 (98%)	6 (2%)	0	100	100
1	BU	323/1935 (17%)	321 (99%)	2 (1%)	0	100	100
1	BV	323/1935 (17%)	317 (98%)	6 (2%)	0	100	100
1	BW	222/1935 (12%)	218 (98%)	4 (2%)	0	100	100
1	BX	222/1935 (12%)	218 (98%)	4 (2%)	0	100	100
1	BY	999/1935 (52%)	920 (92%)	79 (8%)	0	100	100
1	BZ	999/1935 (52%)	912 (91%)	87 (9%)	0	100	100
1	G	353/1935 (18%)	352 (100%)	1 (0%)	0	100	100
1	H	353/1935 (18%)	349 (99%)	4 (1%)	0	100	100
1	I	355/1935 (18%)	350 (99%)	5 (1%)	0	100	100
1	J	355/1935 (18%)	350 (99%)	5 (1%)	0	100	100
1	K	348/1935 (18%)	345 (99%)	3 (1%)	0	100	100
1	L	348/1935 (18%)	341 (98%)	7 (2%)	0	100	100
1	M	357/1935 (18%)	352 (99%)	5 (1%)	0	100	100
1	N	357/1935 (18%)	352 (99%)	5 (1%)	0	100	100
1	O	356/1935 (18%)	349 (98%)	7 (2%)	0	100	100
1	P	356/1935 (18%)	350 (98%)	6 (2%)	0	100	100
1	Q	355/1935 (18%)	353 (99%)	2 (1%)	0	100	100
1	R	355/1935 (18%)	346 (98%)	9 (2%)	0	100	100
1	S	357/1935 (18%)	347 (97%)	10 (3%)	0	100	100
1	T	357/1935 (18%)	352 (99%)	5 (1%)	0	100	100
1	U	323/1935 (17%)	318 (98%)	5 (2%)	0	100	100
1	V	323/1935 (17%)	317 (98%)	6 (2%)	0	100	100
1	W	222/1935 (12%)	218 (98%)	4 (2%)	0	100	100
1	X	222/1935 (12%)	220 (99%)	2 (1%)	0	100	100
1	Y	999/1935 (52%)	930 (93%)	69 (7%)	0	100	100
1	Z	999/1935 (52%)	913 (91%)	86 (9%)	0	100	100
1	ae	902/1935 (47%)	826 (92%)	75 (8%)	1 (0%)	51	85

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	af	902/1935 (47%)	818 (91%)	83 (9%)	1 (0%)	51	85
1	ak	130/1935 (7%)	128 (98%)	2 (2%)	0	100	100
1	al	130/1935 (7%)	128 (98%)	2 (2%)	0	100	100
1	be	902/1935 (47%)	826 (92%)	75 (8%)	1 (0%)	51	85
1	bf	902/1935 (47%)	821 (91%)	80 (9%)	1 (0%)	51	85
1	bk	130/1935 (7%)	128 (98%)	2 (2%)	0	100	100
1	bl	130/1935 (7%)	129 (99%)	1 (1%)	0	100	100
1	e	902/1935 (47%)	826 (92%)	75 (8%)	1 (0%)	51	85
1	f	902/1935 (47%)	828 (92%)	72 (8%)	2 (0%)	47	81
1	k	130/1935 (7%)	127 (98%)	3 (2%)	0	100	100
1	l	130/1935 (7%)	128 (98%)	2 (2%)	0	100	100
2	AE	159/195 (82%)	146 (92%)	13 (8%)	0	100	100
2	AF	159/195 (82%)	151 (95%)	8 (5%)	0	100	100
2	BE	159/195 (82%)	150 (94%)	9 (6%)	0	100	100
2	BF	159/195 (82%)	150 (94%)	9 (6%)	0	100	100
2	E	159/195 (82%)	145 (91%)	14 (9%)	0	100	100
2	F	159/195 (82%)	151 (95%)	8 (5%)	0	100	100
2	a	159/195 (82%)	144 (91%)	15 (9%)	0	100	100
2	aa	159/195 (82%)	145 (91%)	14 (9%)	0	100	100
2	ab	159/195 (82%)	150 (94%)	9 (6%)	0	100	100
2	ag	159/195 (82%)	149 (94%)	10 (6%)	0	100	100
2	ah	159/195 (82%)	141 (89%)	18 (11%)	0	100	100
2	b	159/195 (82%)	148 (93%)	11 (7%)	0	100	100
2	ba	159/195 (82%)	145 (91%)	14 (9%)	0	100	100
2	bb	159/195 (82%)	147 (92%)	12 (8%)	0	100	100
2	bg	159/195 (82%)	144 (91%)	15 (9%)	0	100	100
2	bh	159/195 (82%)	145 (91%)	14 (9%)	0	100	100
2	g	159/195 (82%)	144 (91%)	15 (9%)	0	100	100
2	h	159/195 (82%)	145 (91%)	14 (9%)	0	100	100
3	ac	151/166 (91%)	137 (91%)	14 (9%)	0	100	100
3	ad	164/166 (99%)	147 (90%)	17 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	ai	151/166 (91%)	140 (93%)	11 (7%)	0	100	100
3	aj	164/166 (99%)	147 (90%)	17 (10%)	0	100	100
3	aq	164/166 (99%)	159 (97%)	5 (3%)	0	100	100
3	ar	164/166 (99%)	151 (92%)	13 (8%)	0	100	100
3	bc	151/166 (91%)	141 (93%)	10 (7%)	0	100	100
3	bd	164/166 (99%)	146 (89%)	18 (11%)	0	100	100
3	bi	151/166 (91%)	138 (91%)	13 (9%)	0	100	100
3	bj	164/166 (99%)	147 (90%)	16 (10%)	1 (1%)	25	66
3	bq	164/166 (99%)	159 (97%)	5 (3%)	0	100	100
3	br	164/166 (99%)	152 (93%)	12 (7%)	0	100	100
3	c	151/166 (91%)	139 (92%)	12 (8%)	0	100	100
3	d	164/166 (99%)	148 (90%)	16 (10%)	0	100	100
3	i	151/166 (91%)	139 (92%)	12 (8%)	0	100	100
3	j	164/166 (99%)	143 (87%)	21 (13%)	0	100	100
3	q	164/166 (99%)	158 (96%)	6 (4%)	0	100	100
3	r	164/166 (99%)	151 (92%)	13 (8%)	0	100	100
4	am	1082/1084 (100%)	988 (91%)	94 (9%)	0	100	100
4	an	1082/1084 (100%)	972 (90%)	110 (10%)	0	100	100
4	bm	1082/1084 (100%)	984 (91%)	98 (9%)	0	100	100
4	bn	1082/1084 (100%)	982 (91%)	100 (9%)	0	100	100
4	m	1082/1084 (100%)	987 (91%)	95 (9%)	0	100	100
4	n	1082/1084 (100%)	987 (91%)	95 (9%)	0	100	100
5	ao	594/1274 (47%)	540 (91%)	52 (9%)	2 (0%)	41	76
5	bo	594/1274 (47%)	545 (92%)	47 (8%)	2 (0%)	41	76
5	o	594/1274 (47%)	546 (92%)	46 (8%)	2 (0%)	41	76
All	All	51114/167754 (30%)	48294 (94%)	2804 (6%)	16 (0%)	100	100

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	ae	411	VAL
1	bf	737	ASP
5	bo	1050	GLU

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Mol	Chain	Res	Type
1	f	737	ASP
1	be	411	VAL
3	bj	3	PRO
1	e	411	VAL
1	f	738	SER
1	AR	1692	VAL
1	af	737	ASP
5	ao	1050	GLU
5	o	1050	GLU
5	o	971	PRO
5	bo	971	PRO
5	ao	971	PRO
1	A	406	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	995/1695 (59%)	989 (99%)	6 (1%)	86 92
1	AA	995/1695 (59%)	989 (99%)	6 (1%)	86 92
1	AB	995/1695 (59%)	984 (99%)	11 (1%)	73 84
1	AG	315/1695 (19%)	311 (99%)	4 (1%)	69 82
1	AH	315/1695 (19%)	310 (98%)	5 (2%)	62 79
1	AI	316/1695 (19%)	313 (99%)	3 (1%)	78 87
1	AJ	316/1695 (19%)	309 (98%)	7 (2%)	52 71
1	AK	304/1695 (18%)	299 (98%)	5 (2%)	62 79
1	AL	304/1695 (18%)	300 (99%)	4 (1%)	69 82
1	AM	319/1695 (19%)	318 (100%)	1 (0%)	92 95
1	AN	319/1695 (19%)	318 (100%)	1 (0%)	92 95
1	AO	315/1695 (19%)	314 (100%)	1 (0%)	92 95
1	AP	315/1695 (19%)	314 (100%)	1 (0%)	92 95
1	AQ	317/1695 (19%)	315 (99%)	2 (1%)	86 92

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	AR	317/1695 (19%)	317 (100%)	0	100	100
1	AS	318/1695 (19%)	318 (100%)	0	100	100
1	AT	318/1695 (19%)	316 (99%)	2 (1%)	86	92
1	AU	288/1695 (17%)	285 (99%)	3 (1%)	76	86
1	AV	288/1695 (17%)	285 (99%)	3 (1%)	76	86
1	AW	199/1695 (12%)	199 (100%)	0	100	100
1	AX	199/1695 (12%)	198 (100%)	1 (0%)	88	93
1	AY	882/1695 (52%)	873 (99%)	9 (1%)	76	86
1	AZ	882/1695 (52%)	869 (98%)	13 (2%)	65	80
1	B	995/1695 (59%)	985 (99%)	10 (1%)	76	86
1	BA	995/1695 (59%)	987 (99%)	8 (1%)	81	89
1	BB	995/1695 (59%)	991 (100%)	4 (0%)	91	94
1	BG	315/1695 (19%)	314 (100%)	1 (0%)	92	95
1	BH	315/1695 (19%)	310 (98%)	5 (2%)	62	79
1	BI	316/1695 (19%)	314 (99%)	2 (1%)	86	92
1	BJ	316/1695 (19%)	312 (99%)	4 (1%)	69	82
1	BK	304/1695 (18%)	300 (99%)	4 (1%)	69	82
1	BL	304/1695 (18%)	300 (99%)	4 (1%)	69	82
1	BM	319/1695 (19%)	319 (100%)	0	100	100
1	BN	319/1695 (19%)	317 (99%)	2 (1%)	86	92
1	BO	315/1695 (19%)	314 (100%)	1 (0%)	92	95
1	BP	315/1695 (19%)	315 (100%)	0	100	100
1	BQ	317/1695 (19%)	316 (100%)	1 (0%)	92	95
1	BR	317/1695 (19%)	316 (100%)	1 (0%)	92	95
1	BS	318/1695 (19%)	318 (100%)	0	100	100
1	BT	318/1695 (19%)	316 (99%)	2 (1%)	86	92
1	BU	288/1695 (17%)	288 (100%)	0	100	100
1	BV	288/1695 (17%)	286 (99%)	2 (1%)	84	90
1	BW	199/1695 (12%)	196 (98%)	3 (2%)	65	80
1	BX	199/1695 (12%)	199 (100%)	0	100	100
1	BY	882/1695 (52%)	878 (100%)	4 (0%)	88	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	BZ	882/1695 (52%)	869 (98%)	13 (2%)	65	80
1	G	315/1695 (19%)	314 (100%)	1 (0%)	92	95
1	H	315/1695 (19%)	308 (98%)	7 (2%)	52	71
1	I	316/1695 (19%)	313 (99%)	3 (1%)	78	87
1	J	316/1695 (19%)	314 (99%)	2 (1%)	86	92
1	K	304/1695 (18%)	301 (99%)	3 (1%)	76	86
1	L	304/1695 (18%)	299 (98%)	5 (2%)	62	79
1	M	319/1695 (19%)	318 (100%)	1 (0%)	92	95
1	N	319/1695 (19%)	318 (100%)	1 (0%)	92	95
1	O	315/1695 (19%)	313 (99%)	2 (1%)	86	92
1	P	315/1695 (19%)	313 (99%)	2 (1%)	86	92
1	Q	317/1695 (19%)	315 (99%)	2 (1%)	86	92
1	R	317/1695 (19%)	316 (100%)	1 (0%)	92	95
1	S	318/1695 (19%)	318 (100%)	0	100	100
1	T	318/1695 (19%)	316 (99%)	2 (1%)	86	92
1	U	288/1695 (17%)	286 (99%)	2 (1%)	84	90
1	V	288/1695 (17%)	286 (99%)	2 (1%)	84	90
1	W	199/1695 (12%)	197 (99%)	2 (1%)	76	86
1	X	199/1695 (12%)	198 (100%)	1 (0%)	88	93
1	Y	882/1695 (52%)	878 (100%)	4 (0%)	88	93
1	Z	882/1695 (52%)	869 (98%)	13 (2%)	65	80
1	ae	796/1695 (47%)	791 (99%)	5 (1%)	86	92
1	af	796/1695 (47%)	790 (99%)	6 (1%)	81	89
1	ak	117/1695 (7%)	116 (99%)	1 (1%)	78	87
1	al	117/1695 (7%)	115 (98%)	2 (2%)	60	78
1	be	796/1695 (47%)	791 (99%)	5 (1%)	86	92
1	bf	796/1695 (47%)	792 (100%)	4 (0%)	88	93
1	bk	117/1695 (7%)	116 (99%)	1 (1%)	78	87
1	bl	117/1695 (7%)	116 (99%)	1 (1%)	78	87
1	e	796/1695 (47%)	792 (100%)	4 (0%)	88	93
1	f	796/1695 (47%)	790 (99%)	6 (1%)	81	89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	k	117/1695 (7%)	117 (100%)	0	100	100
1	l	117/1695 (7%)	113 (97%)	4 (3%)	37	60
2	AE	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	AF	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	BE	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	BF	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	E	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	F	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	a	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	aa	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	ab	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	ag	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	ah	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	b	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	ba	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	bb	141/167 (84%)	139 (99%)	2 (1%)	67	80
2	bg	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	bh	141/167 (84%)	139 (99%)	2 (1%)	67	80
2	g	141/167 (84%)	140 (99%)	1 (1%)	84	90
2	h	141/167 (84%)	139 (99%)	2 (1%)	67	80
3	ac	134/141 (95%)	134 (100%)	0	100	100
3	ad	141/141 (100%)	141 (100%)	0	100	100
3	ai	134/141 (95%)	134 (100%)	0	100	100
3	aj	141/141 (100%)	140 (99%)	1 (1%)	84	90
3	aq	141/141 (100%)	141 (100%)	0	100	100
3	ar	141/141 (100%)	141 (100%)	0	100	100
3	bc	134/141 (95%)	134 (100%)	0	100	100
3	bd	141/141 (100%)	141 (100%)	0	100	100
3	bi	134/141 (95%)	134 (100%)	0	100	100
3	bj	141/141 (100%)	141 (100%)	0	100	100
3	bq	141/141 (100%)	141 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	br	141/141 (100%)	141 (100%)	0	100	100
3	c	134/141 (95%)	133 (99%)	1 (1%)	84	90
3	d	141/141 (100%)	141 (100%)	0	100	100
3	i	134/141 (95%)	134 (100%)	0	100	100
3	j	141/141 (100%)	141 (100%)	0	100	100
3	q	141/141 (100%)	141 (100%)	0	100	100
3	r	141/141 (100%)	141 (100%)	0	100	100
4	am	944/944 (100%)	934 (99%)	10 (1%)	73	84
4	an	944/944 (100%)	933 (99%)	11 (1%)	71	83
4	bm	944/944 (100%)	935 (99%)	9 (1%)	76	86
4	bn	944/944 (100%)	934 (99%)	10 (1%)	73	84
4	m	944/944 (100%)	937 (99%)	7 (1%)	84	90
4	n	944/944 (100%)	934 (99%)	10 (1%)	73	84
5	ao	519/1076 (48%)	516 (99%)	3 (1%)	86	92
5	bo	519/1076 (48%)	516 (99%)	3 (1%)	86	92
5	o	519/1076 (48%)	516 (99%)	3 (1%)	86	92
All	All	45141/146646 (31%)	44798 (99%)	343 (1%)	82	89

All (343) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	BB	234	LYS
1	BB	453	ARG
1	BB	876	LYS
1	BB	1026	LYS
1	BA	34	LYS
1	BA	246	LYS
1	BA	369	ARG
1	BA	567	ARG
1	BA	611	LYS
1	BA	657	LYS
1	BA	1026	LYS
1	BA	1149	ARG
2	BE	123	LYS
2	BF	163	ARG
1	BG	1242	LYS

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Mol	Chain	Res	Type
1	BH	925	ARG
1	BH	951	LYS
1	BH	1079	ARG
1	BH	1129	ARG
1	BH	1141	ARG
1	BI	1022	LYS
1	BI	1212	ARG
1	BJ	1024	LYS
1	BJ	1026	LYS
1	BJ	1194	LYS
1	BJ	1250	ARG
1	BK	1114	ARG
1	BK	1149	ARG
1	BK	1175	ARG
1	BK	1363	LYS
1	BL	1149	ARG
1	BL	1167	ARG
1	BL	1173	LYS
1	BL	1359	ARG
1	BN	1451	LYS
1	BN	1499	LYS
1	BO	1418	LYS
1	BQ	1676	ARG
1	BR	1613	ARG
1	BT	1771	LYS
1	BT	1810	LYS
1	BV	1617	LYS
1	BV	1897	ARG
1	BW	1697	ARG
1	BW	1757	LYS
1	BW	1833	ASN
1	BY	129	LYS
1	BY	453	ARG
1	BY	565	LYS
1	BY	780	ARG
1	BZ	21	LYS
1	BZ	147	ARG
1	BZ	249	ARG
1	BZ	369	ARG
1	BZ	453	ARG
1	BZ	652	ARG
1	BZ	657	LYS

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Mol	Chain	Res	Type
1	BZ	712	ARG
1	BZ	721	ARG
1	BZ	783	ARG
1	BZ	876	LYS
1	BZ	904	ARG
1	BZ	925	ARG
2	ba	100	ARG
2	bb	43	LYS
2	bb	98	LYS
1	be	169	ARG
1	be	442	ARG
1	be	793	ARG
1	be	865	LYS
1	be	940	LYS
1	bf	246	LYS
1	bf	369	ARG
1	bf	453	ARG
1	bf	652	ARG
2	bg	123	LYS
2	bh	63	ARG
2	bh	100	ARG
1	bk	1898	LYS
1	bl	1810	LYS
4	bm	12	LYS
4	bm	17	ARG
4	bm	238	LYS
4	bm	384	LYS
4	bm	467	LYS
4	bm	498	ARG
4	bm	692	LYS
4	bm	995	ARG
4	bm	1020	LYS
4	bn	12	LYS
4	bn	206	ARG
4	bn	223	ARG
4	bn	238	LYS
4	bn	467	LYS
4	bn	483	LYS
4	bn	523	ARG
4	bn	933	ARG
4	bn	995	ARG
4	bn	1004	LYS

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Mol	Chain	Res	Type
5	bo	943	ARG
5	bo	1150	ARG
5	bo	1271	ARG
1	AA	234	LYS
1	AA	453	ARG
1	AA	515	MET
1	AA	803	LYS
1	AA	876	LYS
1	AA	991	LYS
1	AB	34	LYS
1	AB	246	LYS
1	AB	249	ARG
1	AB	369	ARG
1	AB	453	ARG
1	AB	567	ARG
1	AB	611	LYS
1	AB	657	LYS
1	AB	884	LYS
1	AB	951	LYS
1	AB	1026	LYS
2	AE	123	LYS
2	AF	163	ARG
1	AG	939	LYS
1	AG	1053	ARG
1	AG	1060	LYS
1	AG	1242	LYS
1	AH	925	ARG
1	AH	951	LYS
1	AH	1079	ARG
1	AH	1141	ARG
1	AH	1193	ARG
1	AI	1011	GLN
1	AI	1212	ARG
1	AI	1324	LYS
1	AJ	1026	LYS
1	AJ	1060	LYS
1	AJ	1167	ARG
1	AJ	1172	GLN
1	AJ	1194	LYS
1	AJ	1195	LYS
1	AJ	1250	ARG
1	AK	1149	ARG

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Mol	Chain	Res	Type
1	AK	1175	ARG
1	AK	1216	LYS
1	AK	1267	GLN
1	AK	1363	LYS
1	AL	1149	ARG
1	AL	1173	LYS
1	AL	1214	LYS
1	AL	1359	ARG
1	AM	1260	ARG
1	AN	1451	LYS
1	AO	1418	LYS
1	AP	1499	LYS
1	AQ	1606	ARG
1	AQ	1676	ARG
1	AT	1728	LYS
1	AT	1771	LYS
1	AU	1644	LYS
1	AU	1757	LYS
1	AU	1771	LYS
1	AV	1592	ARG
1	AV	1728	LYS
1	AV	1841	ARG
1	AX	1771	LYS
1	AY	129	LYS
1	AY	257	LYS
1	AY	453	ARG
1	AY	565	LYS
1	AY	570	LYS
1	AY	597	ASN
1	AY	657	LYS
1	AY	780	ARG
1	AY	1043	LYS
1	AZ	21	LYS
1	AZ	147	ARG
1	AZ	249	ARG
1	AZ	369	ARG
1	AZ	453	ARG
1	AZ	542	LYS
1	AZ	652	ARG
1	AZ	657	LYS
1	AZ	712	ARG
1	AZ	783	ARG

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Mol	Chain	Res	Type
1	AZ	904	ARG
1	AZ	925	ARG
1	AZ	968	LYS
2	aa	100	ARG
2	ab	98	LYS
1	ae	169	ARG
1	ae	442	ARG
1	ae	865	LYS
1	ae	920	LYS
1	ae	940	LYS
1	af	246	LYS
1	af	369	ARG
1	af	453	ARG
1	af	567	ARG
1	af	652	ARG
1	af	657	LYS
2	ag	123	LYS
2	ah	100	ARG
3	aj	120	ARG
1	ak	1898	LYS
1	al	1810	LYS
1	al	1863	ARG
4	am	17	ARG
4	am	91	ARG
4	am	105	LYS
4	am	238	LYS
4	am	424	LYS
4	am	498	ARG
4	am	903	ARG
4	am	989	LYS
4	am	995	ARG
4	am	1020	LYS
4	an	12	LYS
4	an	206	ARG
4	an	223	ARG
4	an	238	LYS
4	an	467	LYS
4	an	483	LYS
4	an	523	ARG
4	an	572	LYS
4	an	797	LYS
4	an	929	ARG

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Mol	Chain	Res	Type
4	an	995	ARG
5	ao	943	ARG
5	ao	977	ARG
5	ao	1271	ARG
1	A	234	LYS
1	A	453	ARG
1	A	484	LYS
1	A	803	LYS
1	A	876	LYS
1	A	1026	LYS
1	B	34	LYS
1	B	246	LYS
1	B	369	ARG
1	B	453	ARG
1	B	567	ARG
1	B	611	LYS
1	B	657	LYS
1	B	941	ARG
1	B	1026	LYS
1	B	1149	ARG
2	E	123	LYS
2	F	163	ARG
1	G	939	LYS
1	H	925	ARG
1	H	976	LYS
1	H	1053	ARG
1	H	1129	ARG
1	H	1141	ARG
1	H	1149	ARG
1	H	1193	ARG
1	I	1011	GLN
1	I	1134	LYS
1	I	1337	ARG
1	J	1026	LYS
1	J	1060	LYS
1	K	1175	ARG
1	K	1267	GLN
1	K	1363	LYS
1	L	1129	ARG
1	L	1149	ARG
1	L	1173	LYS
1	L	1212	ARG

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Mol	Chain	Res	Type
1	L	1359	ARG
1	M	1420	ARG
1	N	1279	LYS
1	O	1418	LYS
1	O	1528	LYS
1	P	1499	LYS
1	P	1537	LYS
1	Q	1606	ARG
1	Q	1634	ARG
1	R	1613	ARG
1	T	1728	LYS
1	T	1771	LYS
1	U	1770	LYS
1	U	1771	LYS
1	V	1592	ARG
1	V	1617	LYS
1	W	1697	ARG
1	W	1712	ARG
1	X	1771	LYS
1	Y	453	ARG
1	Y	565	LYS
1	Y	659	MET
1	Y	1043	LYS
1	Z	21	LYS
1	Z	147	ARG
1	Z	249	ARG
1	Z	453	ARG
1	Z	542	LYS
1	Z	652	ARG
1	Z	657	LYS
1	Z	712	ARG
1	Z	876	LYS
1	Z	904	ARG
1	Z	925	ARG
1	Z	941	ARG
1	Z	968	LYS
2	a	109	MET
2	b	98	LYS
3	c	50	ARG
1	e	442	ARG
1	e	671	ARG
1	e	865	LYS

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Mol	Chain	Res	Type
1	e	940	LYS
1	f	246	LYS
1	f	249	ARG
1	f	369	ARG
1	f	453	ARG
1	f	567	ARG
1	f	652	ARG
2	g	123	LYS
2	h	63	ARG
2	h	100	ARG
1	l	1810	LYS
1	l	1838	LYS
1	l	1842	LYS
1	l	1848	LYS
4	m	12	LYS
4	m	238	LYS
4	m	384	LYS
4	m	692	LYS
4	m	903	ARG
4	m	995	ARG
4	m	1020	LYS
4	n	12	LYS
4	n	206	ARG
4	n	223	ARG
4	n	238	LYS
4	n	467	LYS
4	n	483	LYS
4	n	523	ARG
4	n	580	ARG
4	n	613	LYS
4	n	995	ARG
5	o	943	ARG
5	o	1002	ARG
5	o	1271	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (388) such sidechains are listed below:

Mol	Chain	Res	Type
1	BB	80	ASN
1	BB	251	HIS
1	BB	288	GLN
1	BB	292	ASN

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Mol	Chain	Res	Type
1	BB	315	GLN
1	BB	815	GLN
1	BB	882	GLN
1	BB	1003	HIS
1	BB	1004	GLN
1	BB	1040	GLN
1	BB	1160	GLN
1	BA	911	ASN
1	BA	933	ASN
1	BA	1030	GLN
1	BA	1160	GLN
2	BE	120	HIS
1	BG	969	HIS
1	BG	973	ASN
1	BG	1004	GLN
1	BG	1074	GLN
1	BG	1160	GLN
1	BI	1071	ASN
1	BI	1160	GLN
1	BI	1255	GLN
1	BI	1290	GLN
1	BI	1310	GLN
1	BI	1331	HIS
1	BJ	1105	GLN
1	BJ	1164	ASN
1	BJ	1184	GLN
1	BJ	1196	HIS
1	BK	1160	GLN
1	BK	1408	ASN
1	BL	1160	GLN
1	BL	1196	HIS
1	BL	1237	GLN
1	BL	1276	GLN
1	BL	1284	ASN
1	BL	1318	GLN
1	BL	1346	GLN
1	BL	1370	GLN
1	BL	1446	GLN
1	BM	1471	GLN
1	BM	1541	GLN
1	BN	1346	GLN
1	BO	1458	GLN

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Mol	Chain	Res	Type
1	BO	1486	ASN
1	BO	1562	GLN
1	BO	1642	GLN
1	BP	1346	GLN
1	BQ	1502	ASN
1	BQ	1506	GLN
1	BQ	1590	HIS
1	BR	1446	GLN
1	BR	1562	GLN
1	BR	1726	GLN
1	BS	1598	GLN
1	BS	1647	GLN
1	BS	1664	ASN
1	BS	1788	GLN
1	BS	1794	GLN
1	BT	1506	GLN
1	BT	1524	HIS
1	BT	1590	HIS
1	BT	1738	GLN
1	BU	1694	GLN
1	BV	1631	HIS
1	BV	1678	ASN
1	BW	1773	GLN
1	BW	1795	HIS
1	BW	1888	GLN
1	BW	1892	ASN
1	BW	1900	GLN
1	BX	1736	GLN
1	BX	1778	HIS
1	BX	1811	GLN
1	BY	451	GLN
1	BY	564	GLN
1	BY	581	HIS
1	BY	656	ASN
1	BY	686	ASN
1	BY	692	GLN
1	BY	711	ASN
1	BY	789	GLN
1	BY	890	GLN
1	BZ	187	ASN
1	BZ	238	ASN
1	BZ	240	ASN

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Mol	Chain	Res	Type
1	BZ	482	ASN
1	BZ	576	HIS
1	BZ	666	HIS
1	BZ	907	GLN
3	bc	126	GLN
1	be	80	ASN
1	be	163	GLN
1	be	238	ASN
1	be	556	HIS
1	bf	126	ASN
1	bf	163	GLN
1	bf	171	ASN
1	bf	240	ASN
1	bf	358	HIS
1	bf	361	ASN
1	bf	479	ASN
1	bf	576	HIS
1	bf	666	HIS
1	bf	692	GLN
1	bf	696	ASN
1	bf	890	GLN
1	bf	892	GLN
2	bg	85	GLN
2	bg	86	ASN
2	bg	105	ASN
2	bg	120	HIS
2	bh	50	GLN
3	bi	38	GLN
3	bi	157	HIS
1	bk	1794	GLN
1	bk	1865	GLN
1	bk	1872	GLN
4	bm	278	GLN
4	bm	563	ASN
4	bm	849	ASN
4	bm	948	ASN
4	bm	1014	GLN
4	bn	100	GLN
4	bn	232	GLN
4	bn	278	GLN
4	bn	329	ASN
4	bn	651	HIS

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Mol	Chain	Res	Type
4	bn	949	HIS
5	bo	1133	ASN
5	bo	1217	ASN
1	AA	80	ASN
1	AA	160	ASN
1	AA	222	GLN
1	AA	292	ASN
1	AA	305	ASN
1	AA	444	ASN
1	AA	486	GLN
1	AA	1004	GLN
1	AA	1103	GLN
1	AA	1160	GLN
1	AB	79	GLN
1	AB	651	HIS
1	AB	911	ASN
1	AB	1003	HIS
1	AB	1030	GLN
1	AB	1160	GLN
2	AE	120	HIS
2	AE	191	HIS
1	AG	973	ASN
1	AG	1004	GLN
1	AH	1160	GLN
1	AH	1185	HIS
1	AH	1196	HIS
1	AI	1164	ASN
1	AI	1255	GLN
1	AI	1290	GLN
1	AI	1338	HIS
1	AJ	1088	ASN
1	AJ	1160	GLN
1	AJ	1185	HIS
1	AJ	1211	GLN
1	AJ	1358	GLN
1	AK	1160	GLN
1	AK	1164	ASN
1	AK	1255	GLN
1	AK	1284	ASN
1	AK	1358	GLN
1	AK	1408	ASN
1	AK	1422	GLN

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Mol	Chain	Res	Type
1	AL	1172	GLN
1	AL	1237	GLN
1	AL	1276	GLN
1	AL	1318	GLN
1	AL	1334	GLN
1	AL	1446	GLN
1	AM	1255	GLN
1	AM	1259	HIS
1	AM	1446	GLN
1	AM	1471	GLN
1	AM	1541	GLN
1	AN	1365	ASN
1	AN	1458	GLN
1	AO	1310	GLN
1	AO	1334	GLN
1	AO	1458	GLN
1	AO	1541	GLN
1	AO	1562	GLN
1	AP	1446	GLN
1	AP	1504	ASN
1	AQ	1502	ASN
1	AQ	1506	GLN
1	AQ	1567	GLN
1	AQ	1590	HIS
1	AQ	1628	GLN
1	AQ	1631	HIS
1	AQ	1682	GLN
1	AR	1642	GLN
1	AR	1726	GLN
1	AS	1598	GLN
1	AS	1647	GLN
1	AS	1654	GLN
1	AS	1664	ASN
1	AS	1682	GLN
1	AS	1794	GLN
1	AS	1830	GLN
1	AT	1590	HIS
1	AT	1654	GLN
1	AU	1654	GLN
1	AU	1694	GLN
1	AU	1778	HIS
1	AU	1788	GLN

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Mol	Chain	Res	Type
1	AU	1901	HIS
1	AV	1631	HIS
1	AV	1664	ASN
1	AV	1678	ASN
1	AW	1773	GLN
1	AW	1795	HIS
1	AW	1872	GLN
1	AW	1888	GLN
1	AW	1892	ASN
1	AX	1892	ASN
1	AX	1900	GLN
1	AX	1901	HIS
1	AY	562	ASN
1	AY	564	GLN
1	AY	581	HIS
1	AY	656	ASN
1	AY	661	ASN
1	AY	686	ASN
1	AZ	238	ASN
1	AZ	240	ASN
1	AZ	284	HIS
1	AZ	305	ASN
1	AZ	315	GLN
1	AZ	666	HIS
1	AZ	1030	GLN
3	ad	78	ASN
1	ae	415	GLN
1	ae	576	HIS
1	ae	589	ASN
1	ae	597	ASN
1	ae	892	GLN
1	af	126	ASN
1	af	163	GLN
1	af	240	ASN
1	af	479	ASN
1	af	482	ASN
1	af	666	HIS
1	af	890	GLN
2	ag	191	HIS
2	ah	120	HIS
3	ai	38	GLN
3	aj	126	GLN

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Mol	Chain	Res	Type
1	ak	1794	GLN
1	ak	1872	GLN
1	al	1872	GLN
4	am	563	ASN
4	am	948	ASN
4	am	1014	GLN
4	an	232	GLN
4	an	278	GLN
4	an	931	HIS
4	an	949	HIS
4	an	973	GLN
5	ao	1061	GLN
1	A	160	ASN
1	A	479	ASN
1	A	815	GLN
1	A	1091	ASN
1	A	1160	GLN
1	A	1164	ASN
1	B	686	ASN
1	B	789	GLN
1	B	911	ASN
1	B	1030	GLN
2	E	120	HIS
2	E	191	HIS
1	G	969	HIS
1	G	973	ASN
1	G	1004	GLN
1	H	1000	GLN
1	H	1160	GLN
1	I	1160	GLN
1	I	1185	HIS
1	I	1255	GLN
1	I	1290	GLN
1	J	1105	GLN
1	J	1160	GLN
1	J	1257	ASN
1	J	1334	GLN
1	K	1255	GLN
1	K	1408	ASN
1	L	1160	GLN
1	L	1164	ASN
1	L	1276	GLN

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Mol	Chain	Res	Type
1	L	1334	GLN
1	L	1446	GLN
1	M	1471	GLN
1	N	1365	ASN
1	O	1458	GLN
1	O	1562	GLN
1	P	1446	GLN
1	Q	1506	GLN
1	R	1446	GLN
1	R	1562	GLN
1	R	1609	ASN
1	R	1642	GLN
1	R	1726	GLN
1	S	1598	GLN
1	S	1640	GLN
1	S	1647	GLN
1	S	1654	GLN
1	S	1664	ASN
1	S	1794	GLN
1	S	1830	GLN
1	T	1590	HIS
1	T	1631	HIS
1	T	1654	GLN
1	T	1719	GLN
1	T	1746	GLN
1	T	1788	GLN
1	T	1794	GLN
1	U	1694	GLN
1	V	1631	HIS
1	V	1714	GLN
1	V	1785	ASN
1	V	1813	GLN
1	W	1773	GLN
1	W	1795	HIS
1	X	1726	GLN
1	X	1865	GLN
1	Y	153	HIS
1	Y	451	GLN
1	Y	492	HIS
1	Y	564	GLN
1	Y	656	ASN
1	Y	666	HIS

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Mol	Chain	Res	Type
1	Y	686	ASN
1	Y	890	GLN
1	Y	907	GLN
1	Y	1000	GLN
1	Z	97	HIS
1	Z	238	ASN
1	Z	315	GLN
1	Z	555	ASN
1	Z	576	HIS
1	Z	668	HIS
2	b	50	GLN
2	b	120	HIS
3	d	78	ASN
1	e	163	GLN
1	e	238	ASN
1	e	315	GLN
1	e	491	HIS
1	e	589	ASN
1	e	720	GLN
1	e	815	GLN
1	f	126	ASN
1	f	163	GLN
1	f	240	ASN
1	f	358	HIS
1	f	479	ASN
1	f	576	HIS
1	f	645	GLN
1	f	666	HIS
1	f	890	GLN
2	g	191	HIS
2	h	50	GLN
3	i	38	GLN
3	j	25	GLN
1	k	1794	GLN
1	k	1872	GLN
1	l	1900	GLN
4	m	563	ASN
4	m	948	ASN
4	n	232	GLN
4	n	278	GLN
4	n	326	HIS
4	n	339	ASN

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Mol	Chain	Res	Type
4	n	602	GLN
4	n	836	GLN
4	n	1068	HIS
5	o	926	HIS
5	o	1061	GLN
5	o	1233	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

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.

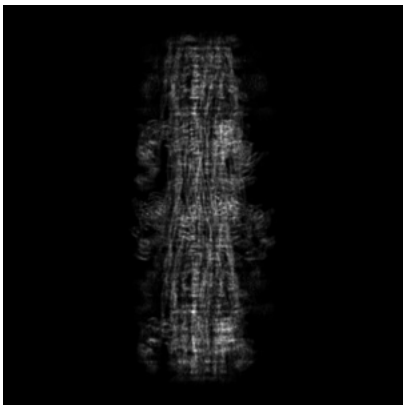
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-29722. These allow visual inspection of the internal detail of the map and identification of artifacts.

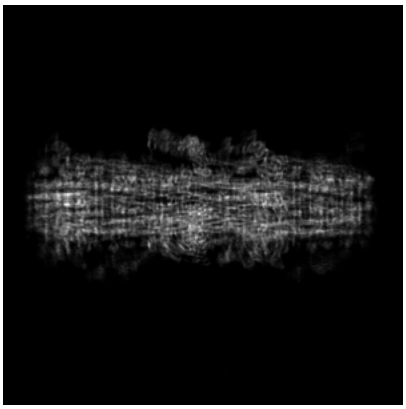
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections (i)

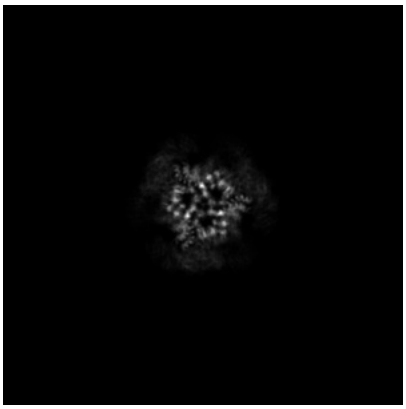
6.1.1 Primary map



X

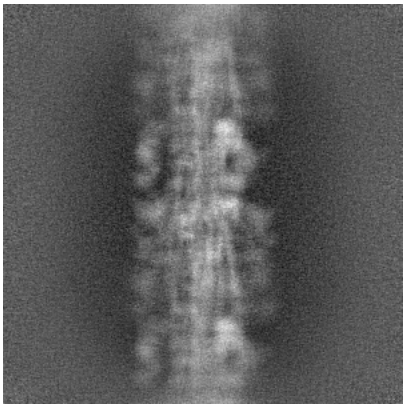


Y

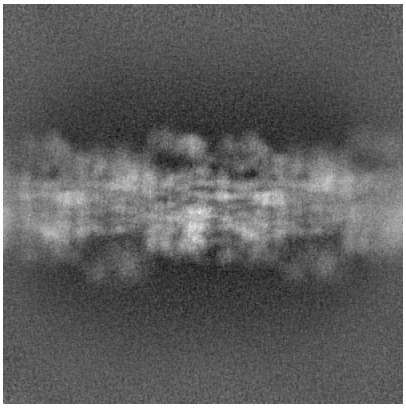


Z

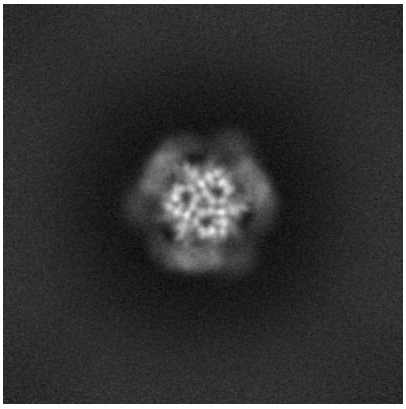
6.1.2 Raw map



X



Y

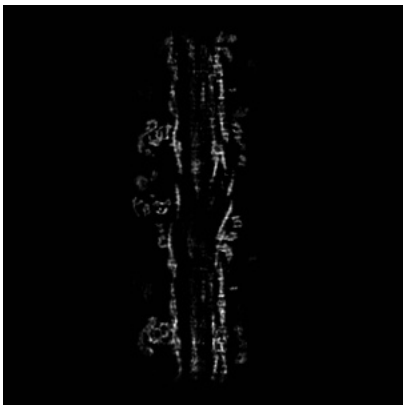


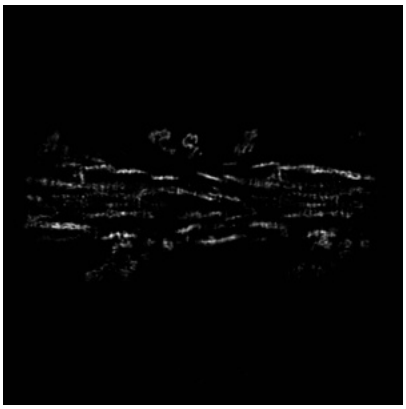
Z

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

6.2 Central slices (i)

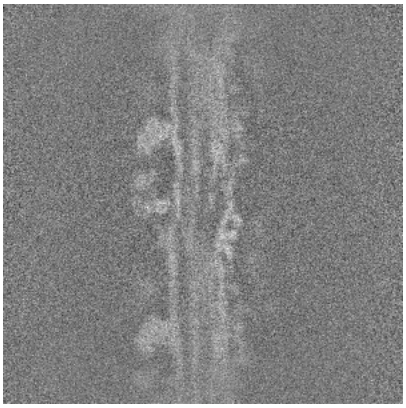
6.2.1 Primary map

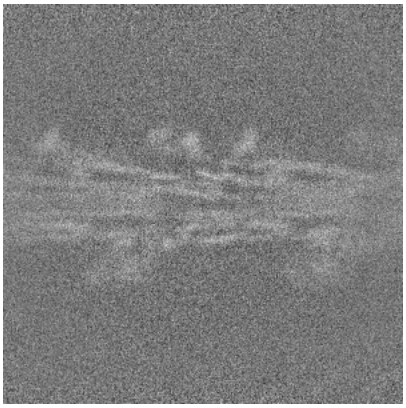

X Index: 400

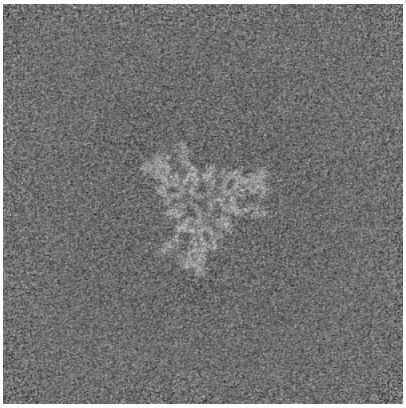

Y Index: 400

Z Index: 400

6.2.2 Raw map


X Index: 400


Y Index: 400


Z Index: 400

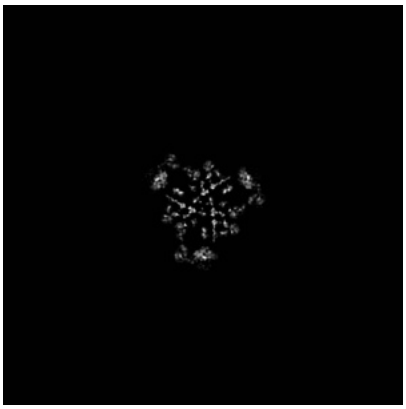
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map

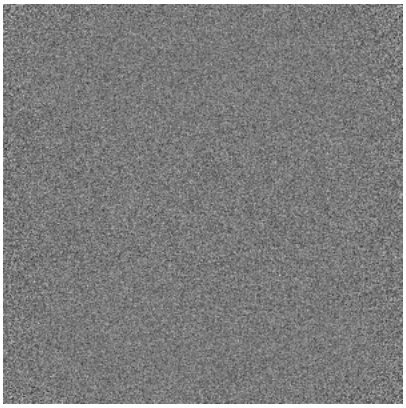
X Index: 368

Y Index: 381

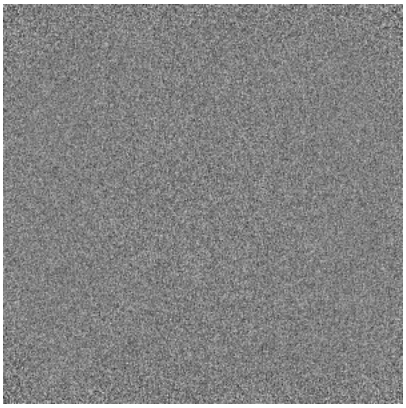


Z Index: 129

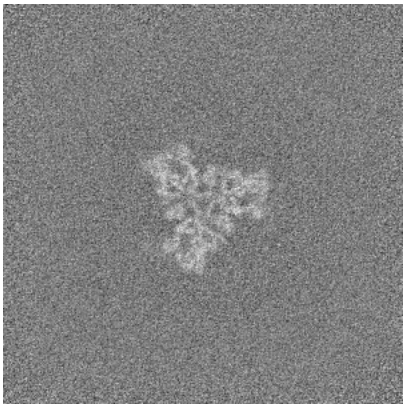
6.3.2 Raw map



X Index: 0



Y Index: 0

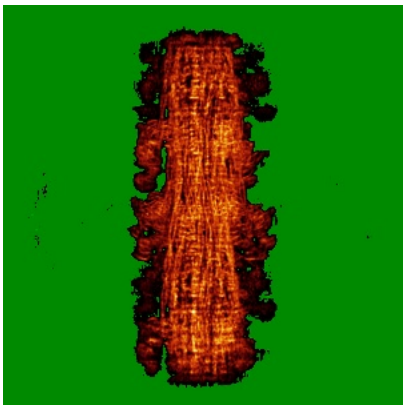


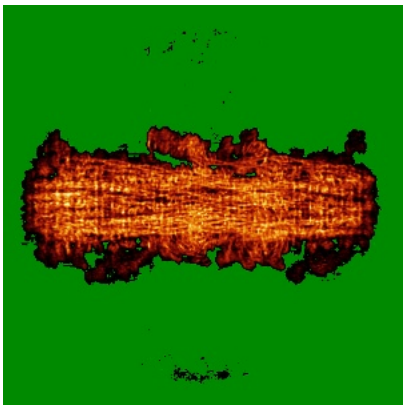
Z Index: 396

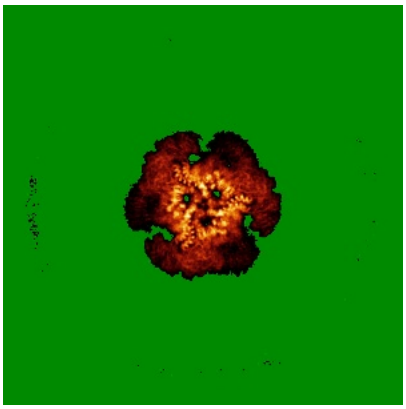
The images above show the largest variance slices of the map in three orthogonal directions.

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

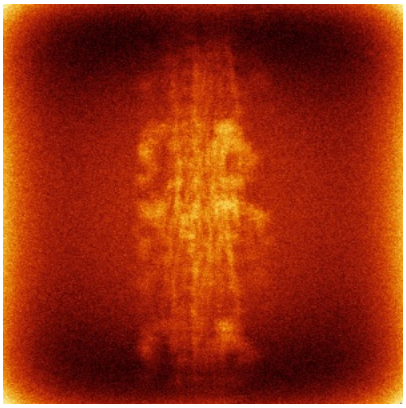
6.4.1 Primary map

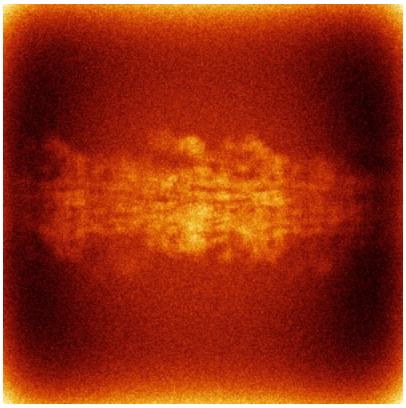

X

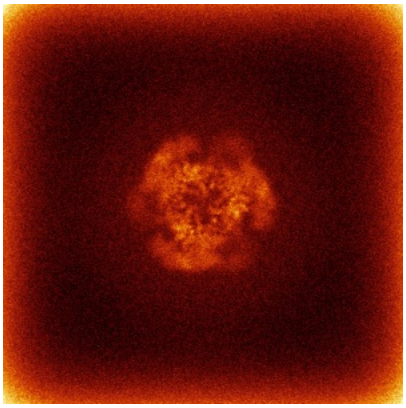

Y


Z

6.4.2 Raw map


X

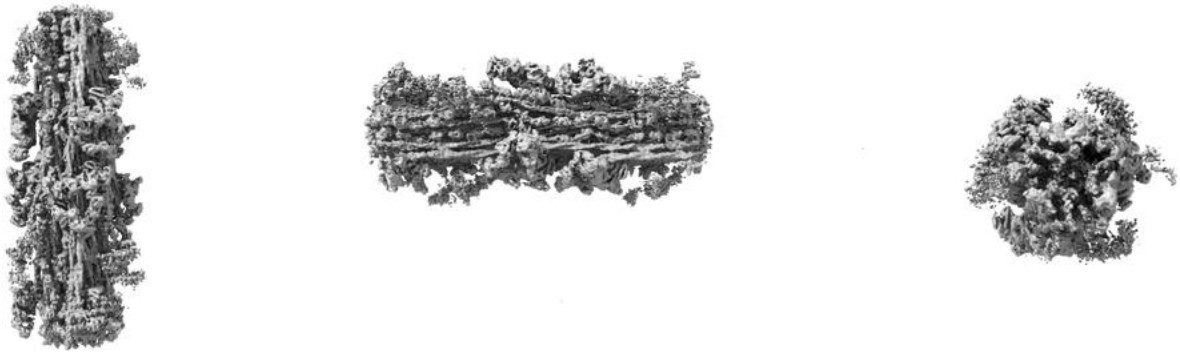

Y


Z

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

6.5 Orthogonal surface views (i)

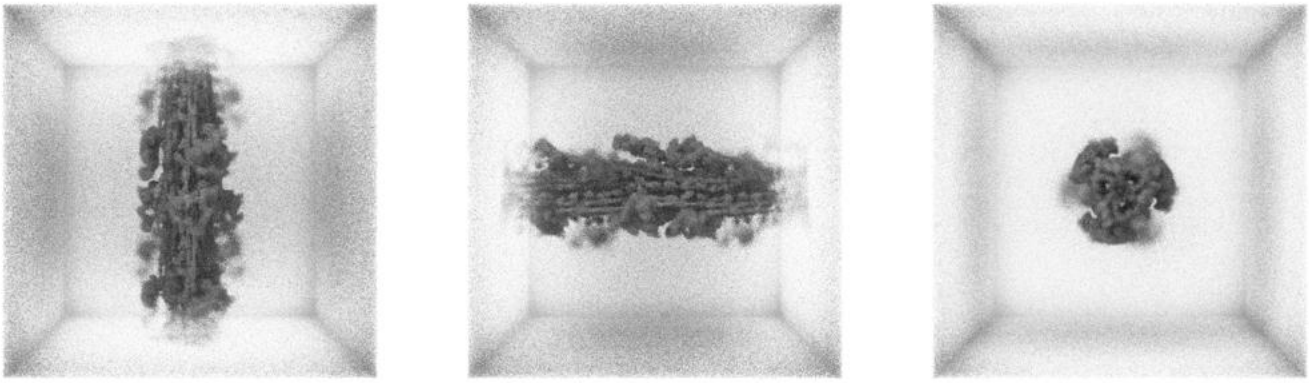
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

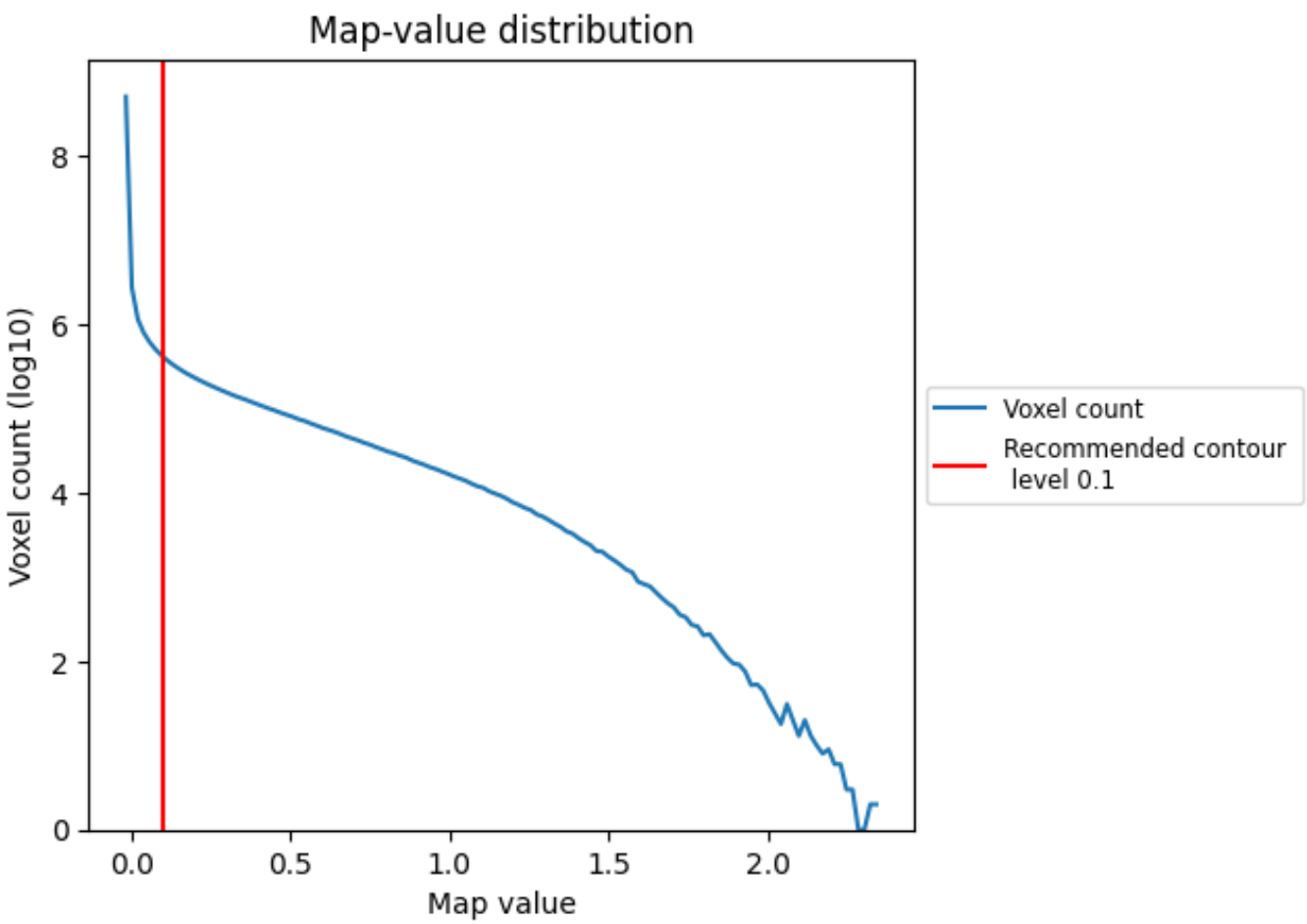
6.6 Mask visualisation (i)

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

7 Map analysis (i)

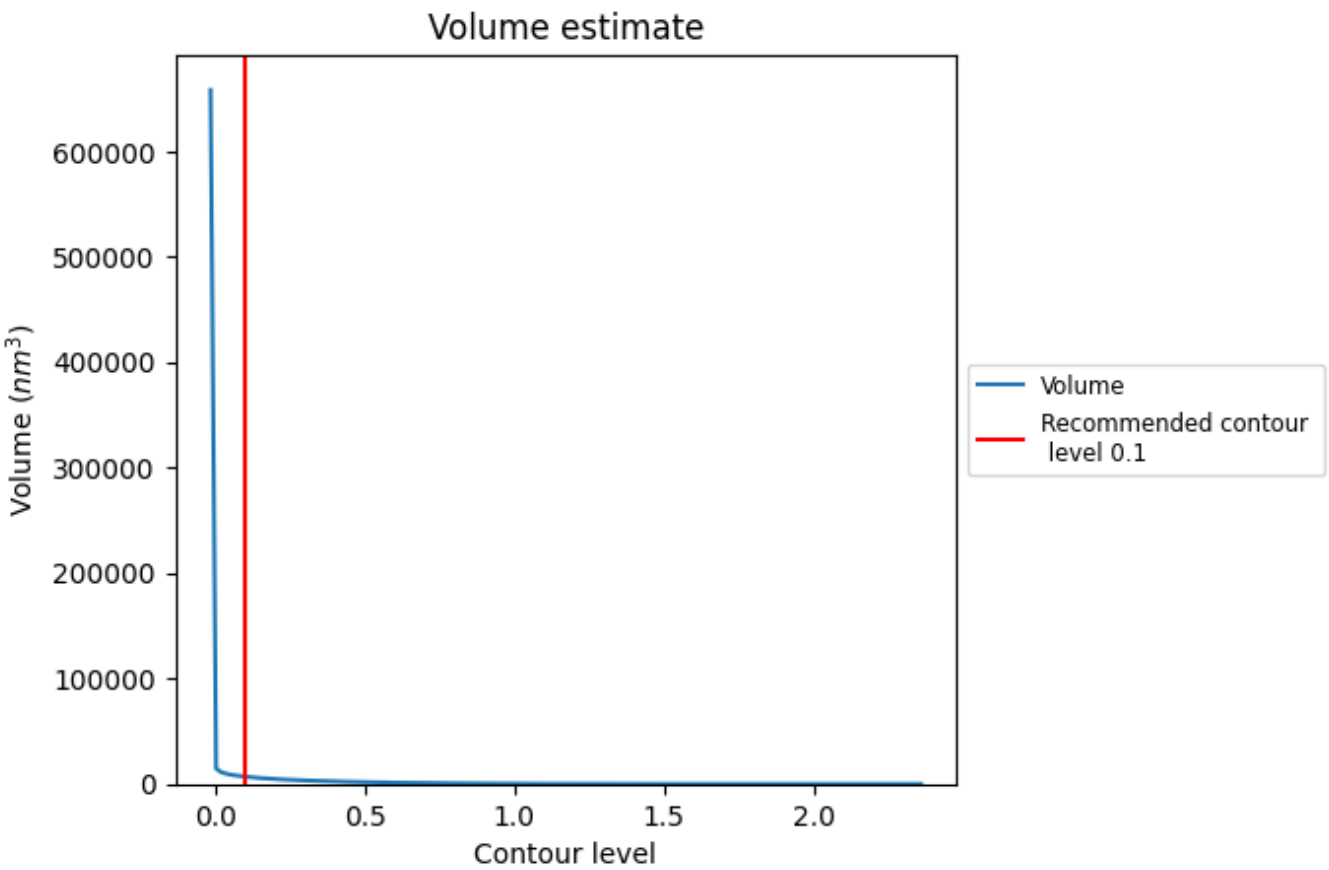
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution (i)



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

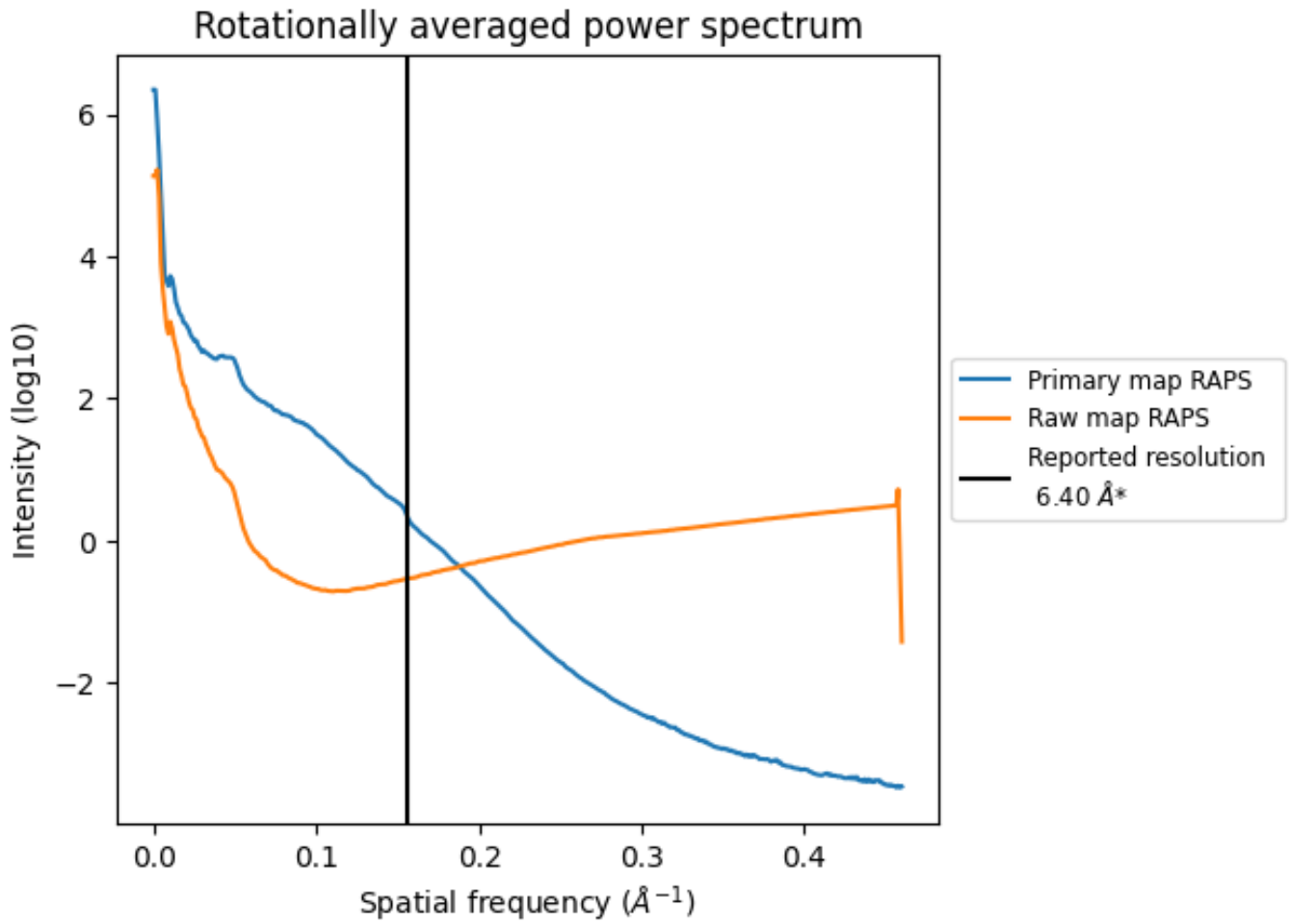
7.2 Volume estimate (i)



The volume at the recommended contour level is 6910 nm^3; this corresponds to an approximate mass of 6242 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)

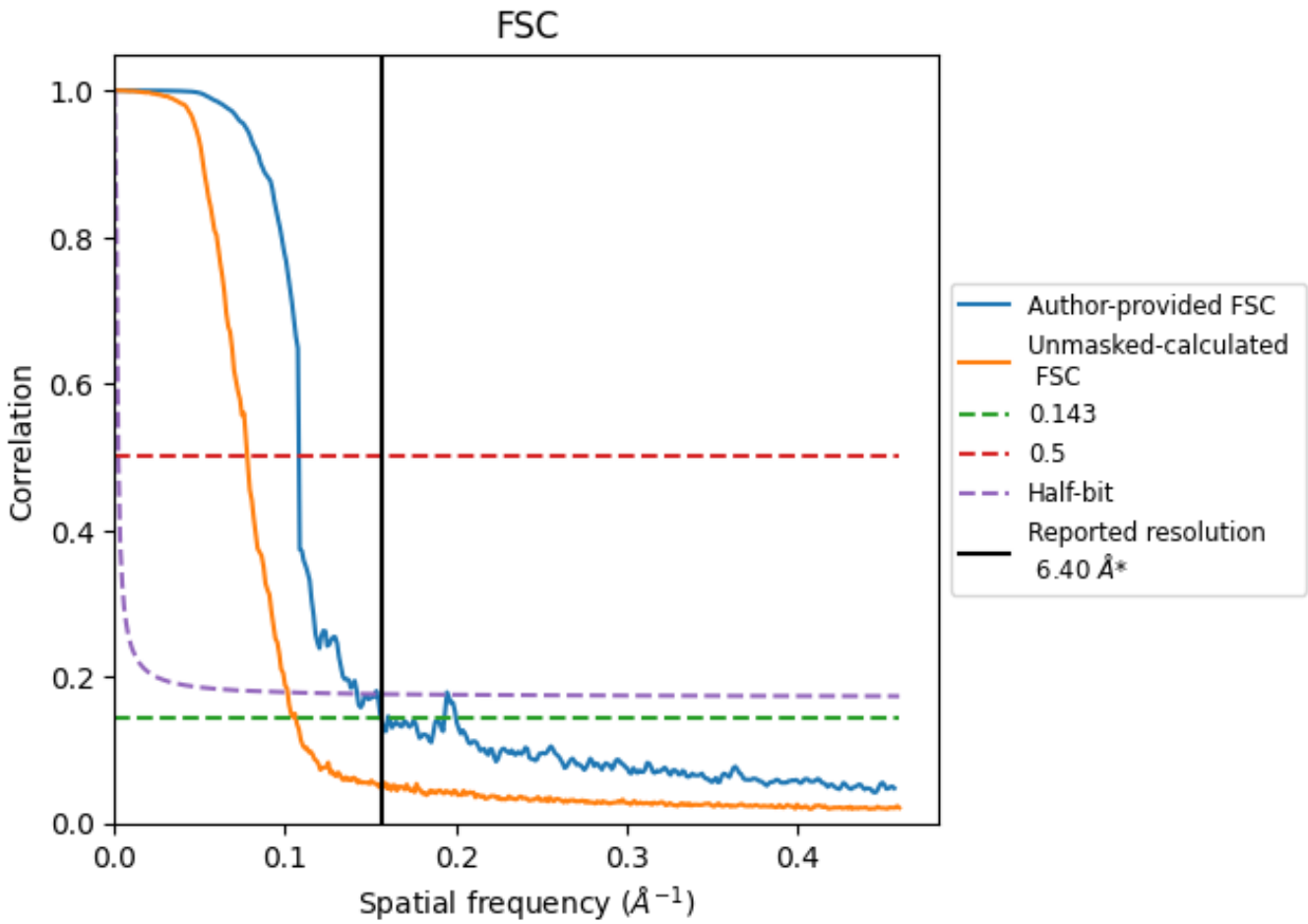


*Reported resolution corresponds to spatial frequency of 0.156 Å^{-1}

8 Fourier-Shell correlation (i)

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

8.1 FSC (i)



*Reported resolution corresponds to spatial frequency of 0.156 Å^{-1}

8.2 Resolution estimates (i)

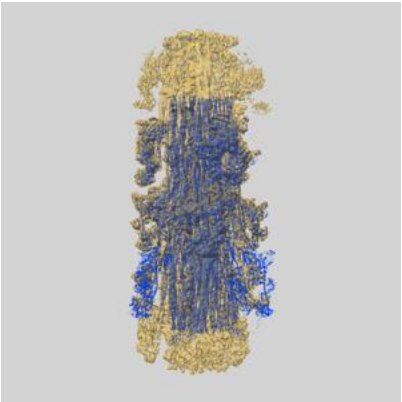
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	6.40	-	-
Author-provided FSC curve	6.41	9.25	7.03
Unmasked-calculated*	9.41	12.84	9.86

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 9.41 differs from the reported value 6.4 by more than 10 %

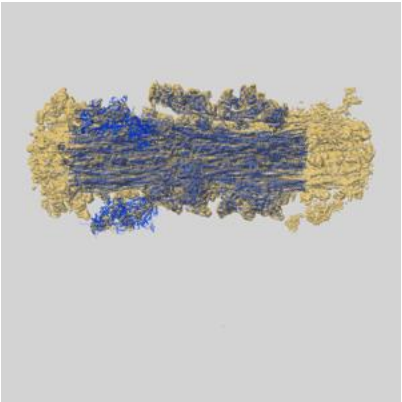
9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-29722 and PDB model 8G4L. Per-residue inclusion information can be found in section 3 on page 15.

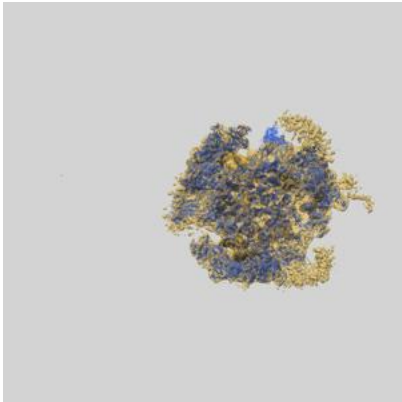
9.1 Map-model overlay (i)



X



Y



Z

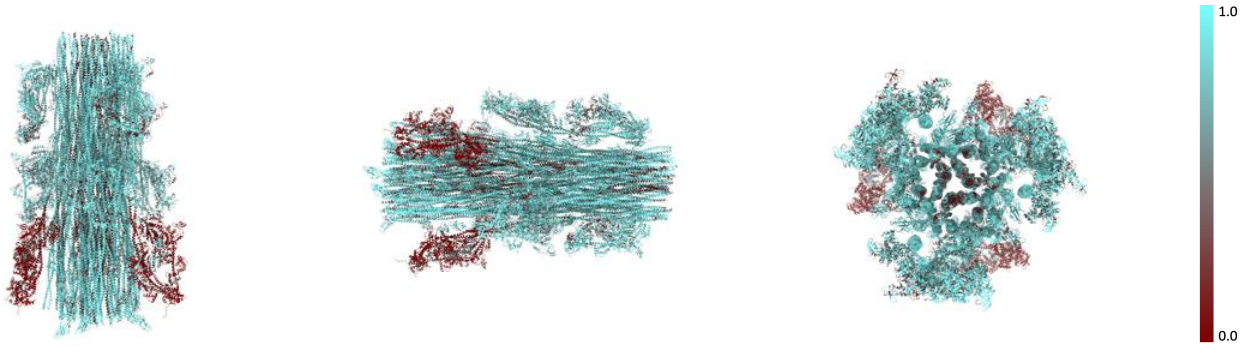
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)

X Y Z

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

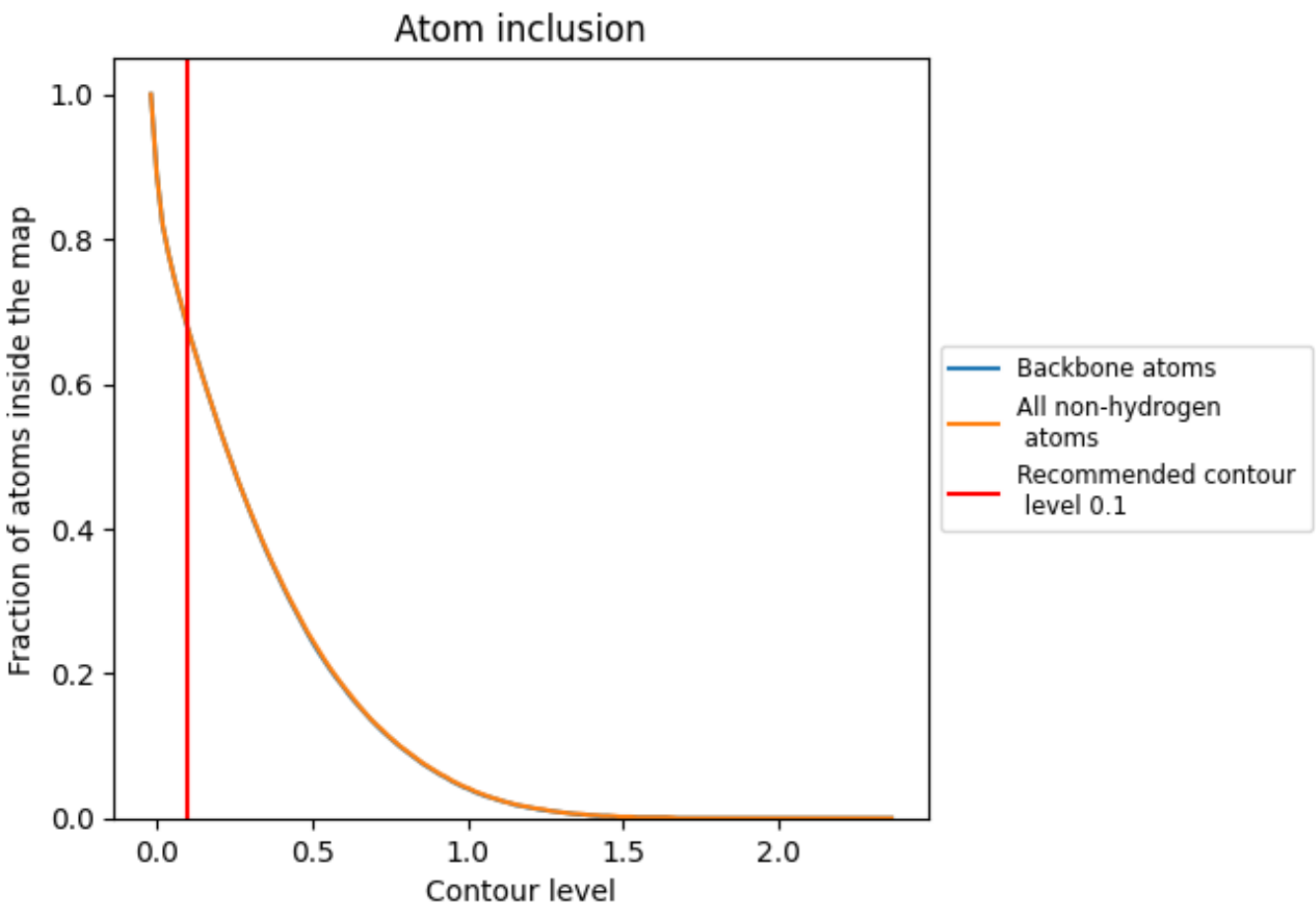
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).

9.4 Atom inclusion (i)



At the recommended contour level, 68% of all backbone atoms, 68% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6810	0.0790
A	0.2650	-0.0250
AA	0.3430	-0.0170
AB	0.2210	-0.0370
AE	0.1360	-0.0560
AF	0.0470	-0.0230
AG	0.8700	0.1190
AH	0.8280	0.1130
AI	0.9140	0.1360
AJ	0.9200	0.1450
AK	0.8660	0.1180
AL	0.8090	0.0960
AM	0.5970	0.0480
AN	0.5480	0.0270
AO	0.8540	0.1170
AP	0.8470	0.1070
AQ	0.8280	0.1020
AR	0.8060	0.1010
AS	0.6000	0.0520
AT	0.6740	0.0720
AU	0.7840	0.0970
AV	0.7500	0.0830
AW	0.6910	0.0580
AX	0.7710	0.0920
AY	0.7880	0.1070
AZ	0.7950	0.1310
B	0.2460	-0.0360
BA	0.2410	-0.0350
BB	0.2940	-0.0170
BE	0.0480	-0.0570
BF	0.1030	-0.0320
BG	0.8580	0.1180
BH	0.8210	0.1100
BI	0.9000	0.1350
BJ	0.9150	0.1440

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Chain	Atom inclusion	Q-score
BK	0.8730	0.1170
BL	0.8090	0.0940
BM	0.6520	0.0510
BN	0.6230	0.0340
BO	0.8630	0.1130
BP	0.8610	0.1140
BQ	0.8260	0.0970
BR	0.8100	0.1020
BS	0.6620	0.0540
BT	0.7050	0.0770
BU	0.7720	0.0900
BV	0.7530	0.0830
BW	0.6920	0.0600
BX	0.7870	0.0940
BY	0.7550	0.1010
BZ	0.7730	0.1250
E	0.0840	-0.0520
F	0.0780	-0.0230
G	0.8420	0.1140
H	0.8320	0.1150
I	0.9020	0.1370
J	0.9260	0.1440
K	0.8740	0.1230
L	0.8080	0.0920
M	0.6410	0.0510
N	0.5670	0.0180
O	0.8680	0.1230
P	0.8520	0.1060
Q	0.8310	0.1010
R	0.8030	0.0990
S	0.5610	0.0520
T	0.6430	0.0730
U	0.8290	0.1000
V	0.7780	0.0870
W	0.7190	0.0660
X	0.7940	0.0950
Y	0.7630	0.1030
Z	0.7840	0.1280
a	0.6540	0.0680
aa	0.6300	0.0580
ab	0.7810	0.1180
ac	0.7780	0.0770

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Chain	Atom inclusion	Q-score
ad	0.7960	0.1070
ae	0.7370	0.0900
af	0.7700	0.1050
ag	0.4740	0.0350
ah	0.8570	0.1060
ai	0.6190	0.0530
aj	0.6560	0.0620
ak	0.5980	0.0130
al	0.6600	0.0560
am	0.7840	0.1050
an	0.9080	0.1470
ao	0.8150	0.1500
aq	0.0860	-0.0700
ar	0.0370	-0.0590
b	0.7620	0.1120
ba	0.6380	0.0550
bb	0.8040	0.1230
bc	0.7290	0.0750
bd	0.7790	0.1030
be	0.7170	0.0870
bf	0.8090	0.1110
bg	0.6160	0.0500
bh	0.8780	0.1170
bi	0.7290	0.0460
bj	0.7150	0.0740
bk	0.6390	0.0250
bl	0.7100	0.0590
bm	0.7780	0.1020
bn	0.9050	0.1440
bo	0.7900	0.1420
bq	0.1160	-0.0660
br	0.1350	-0.0600
c	0.7080	0.0660
d	0.7870	0.1030
e	0.7280	0.0910
f	0.8130	0.1110
g	0.5370	0.0360
h	0.8800	0.1170
i	0.5490	0.0400
j	0.6630	0.0610
k	0.5490	0.0130
l	0.6400	0.0490

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Chain	Atom inclusion	Q-score
m	0.7930	0.1050
n	0.9000	0.1450
o	0.7960	0.1470
q	0.0340	-0.0740
r	0.0680	-0.0630