Full wwPDB EM Validation Report ⓘ

Nov 28, 2022 – 10:09 PM EST

PDB ID	:	7TDZ
EMDB ID	:	EMD-25817
Title	:	Cryo-EM model of protomer of the cytoplasmic ring of the nuclear pore complex from Xenopus laevis
Authors	:	Fontana, P.; Wu, H.
Deposited on	:	2022-01-03
Resolution	:	6.90 Å(reported)

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

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

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

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

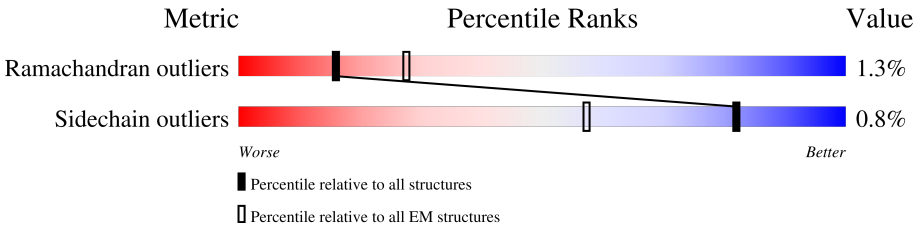
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 6.90 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	H	916	20% 82% 14%
1	h	916	69% 82% 14%
2	T	547	7% 23% 76%
2	t	547	5% 95%
3	S	2037	7% 93%
3	s	2037	98%
4	R	728	14% 89% 7%
4	r	728	20% 62% 35%
5	G	306	8% 98%

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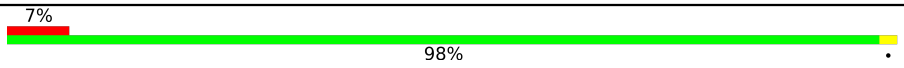
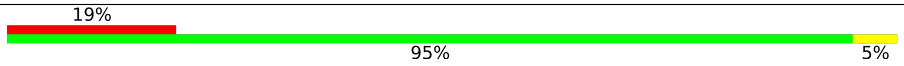
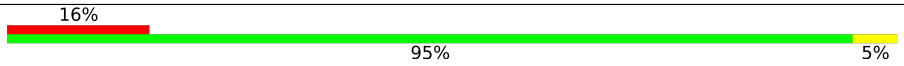
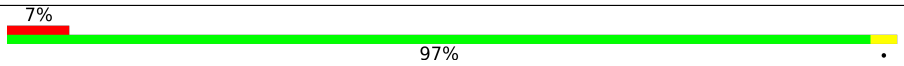
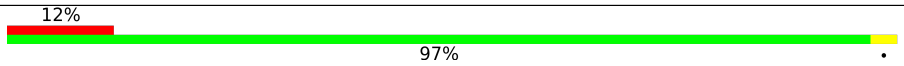
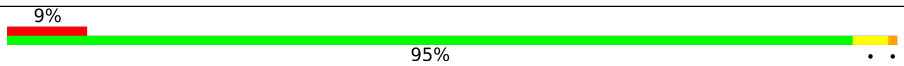
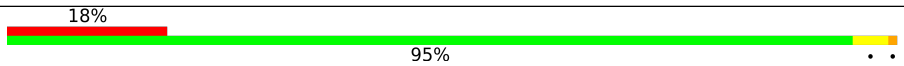
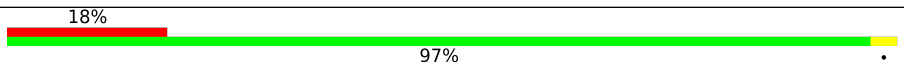
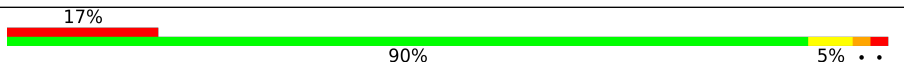
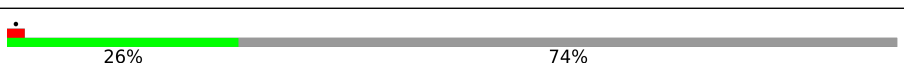
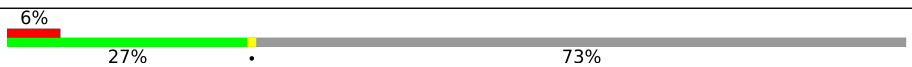
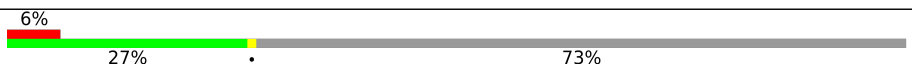
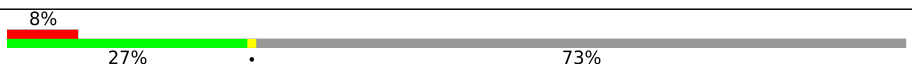
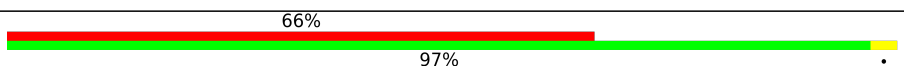
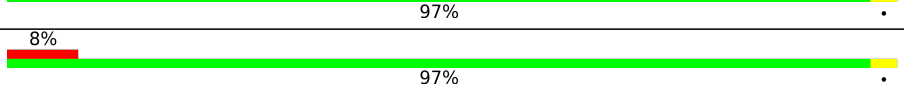
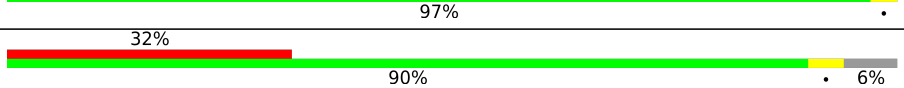
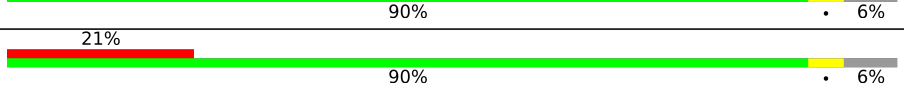
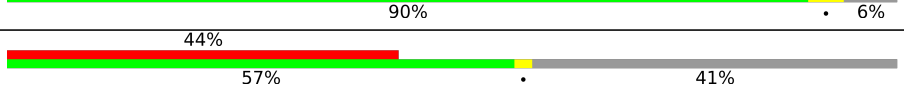
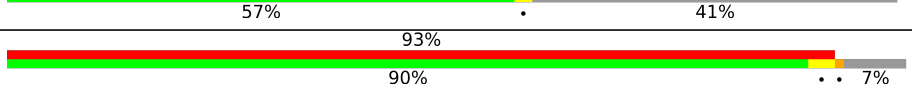
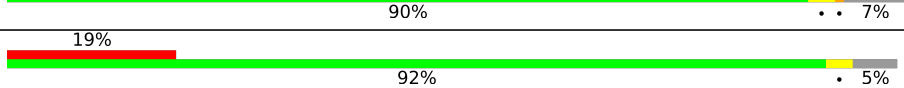
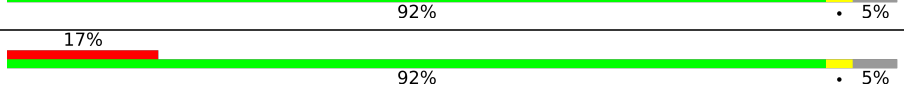
Mol	Chain	Length	Quality of chain
5	g	306	
6	L	2011	
6	l	2011	
7	E	322	
7	e	322	
8	D	375	
8	d	375	
9	C	653	
9	c	653	
10	U	1388	
11	M	2905	
11	N	2905	
11	O	2905	
11	P	2905	
11	Q	2905	
12	B	326	
12	b	326	
13	A	1435	
13	a	1435	
14	I	1140	
14	i	1140	
15	F	673	
15	f	673	

2 Entry composition

There are 15 unique types of molecules in this entry. The entry contains 331243 atoms, of which 162589 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 Nuclear pore complex protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	H	789	Total	C	H	N	O	S	0	0
			12767	4080	6346	1085	1224	32		
1	h	789	Total	C	H	N	O	S	0	0
			12767	4080	6346	1085	1224	32		

- Molecule 2 is a protein called Nup62.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	t	29	Total	C	H	N	O		0	0
			479	153	235	42	49			
2	T	130	Total	C	H	N	O	S	0	0
			2140	664	1064	189	220	3		

- Molecule 3 is a protein called Nup214.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	s	32	Total	C	H	N	O		0	0
			518	158	261	46	53			
3	S	142	Total	C	H	N	O	S	0	0
			2333	722	1164	208	236	3		

- Molecule 4 is a protein called Nup88A protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	r	470	Total	C	H	N	O	S	0	0
			7354	2349	3679	598	703	25		
4	R	680	Total	C	H	N	O	S	0	0
			10786	3395	5396	916	1048	31		

- Molecule 5 is a protein called Protein SEC13 homolog.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	g	306	Total	C	H	N	O	S	0	0
			4657	1506	2270	408	460	13		
5	G	306	Total	C	H	N	O	S	0	0
			4657	1506	2270	408	460	13		

- Molecule 6 is a protein called Nup205.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	L	2011	Total	C	H	N	O	S	0	0
			32130	10112	16156	2785	2978	99		
6	l	2011	Total	C	H	N	O	S	0	0
			32130	10112	16156	2785	2978	99		

- Molecule 7 is a protein called Nucleoporin SEH1-A.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	E	322	Total	C	H	N	O	S	0	0
			4973	1582	2445	452	476	18		
7	e	322	Total	C	H	N	O	S	0	0
			4973	1582	2445	452	476	18		

- Molecule 8 is a protein called Nup42.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	D	375	Total	C	H	N	O	S	0	0
			5727	1813	2800	524	571	19		
8	d	375	Total	C	H	N	O	S	0	0
			5727	1813	2800	524	571	19		

- Molecule 9 is a protein called Nuclear pore complex protein Nup85.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	C	653	Total	C	H	N	O	S	0	0
			10494	3341	5226	904	984	39		
9	c	653	Total	C	N	O	S		0	0
			5267	3341	904	983	39			

- Molecule 10 is a protein called Nup155-prov protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	U	358	Total	C	H	N	O	S	0	0
			5843	1868	2931	490	538	16		

- Molecule 11 is a protein called Nup358.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	P	798	Total	C	H	N	O	S	0	0
			12862	4088	6444	1096	1202	32		
11	O	798	Total	C	H	N	O	S	0	0
			12862	4088	6444	1096	1202	32		
11	Q	798	Total	C	H	N	O	S	0	0
			12862	4088	6444	1096	1202	32		
11	N	798	Total	C	H	N	O	S	0	0
			12862	4088	6444	1096	1202	32		
11	M	798	Total	C	H	N	O	S	0	0
			12862	4088	6444	1096	1202	32		

- Molecule 12 is a protein called Nup37.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	B	326	Total	C	H	N	O	S	0	0
			5076	1640	2503	443	473	17		
12	b	326	Total	C	H	N	O	S	0	0
			5076	1640	2503	443	473	17		

- Molecule 13 is a protein called Nup160.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	A	1352	Total	C	H	N	O	S	0	0
			21491	6819	10745	1855	2005	67		
13	a	1352	Total	C	H	N	O	S	0	0
			21491	6819	10745	1855	2005	67		

- Molecule 14 is a protein called Nup133.

Mol	Chain	Residues	Atoms						AltConf	Trace
14	I	671	Total	C	H	N	O	S	0	0
			10733	3406	5353	899	1048	27		
14	i	1064	Total	C	H	N	O	S	0	0
			16672	5313	8274	1394	1641	50		

- Molecule 15 is a protein called Nuclear pore complex protein Nup96.

Mol	Chain	Residues	Atoms						AltConf	Trace
15	F	639	Total	C	H	N	O	S	0	0
			10336	3298	5128	928	954	28		

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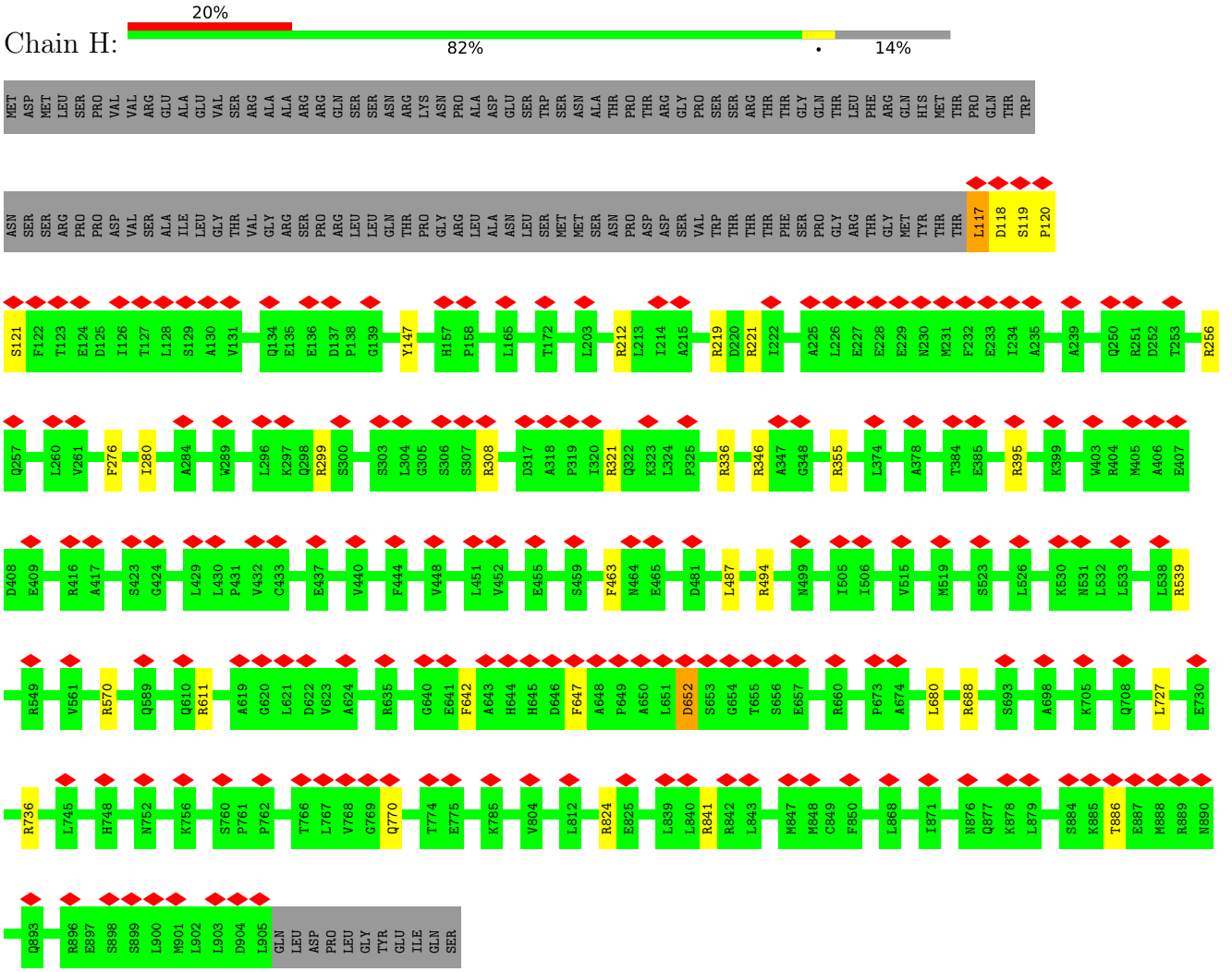
Mol	Chain	Residues	Atoms						AltConf	Trace
15	f	639	Total	C	H	N	O	S	0	0
			10336	3298	5128	928	954	28		

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.

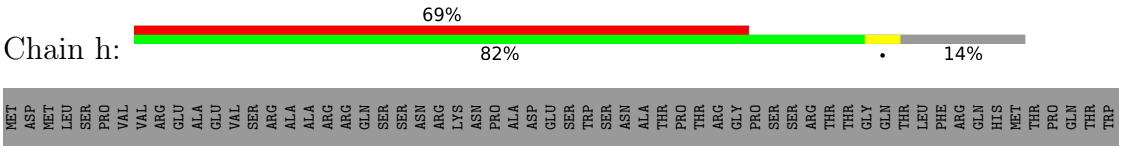
• Molecule 1: Nuclear pore complex protein

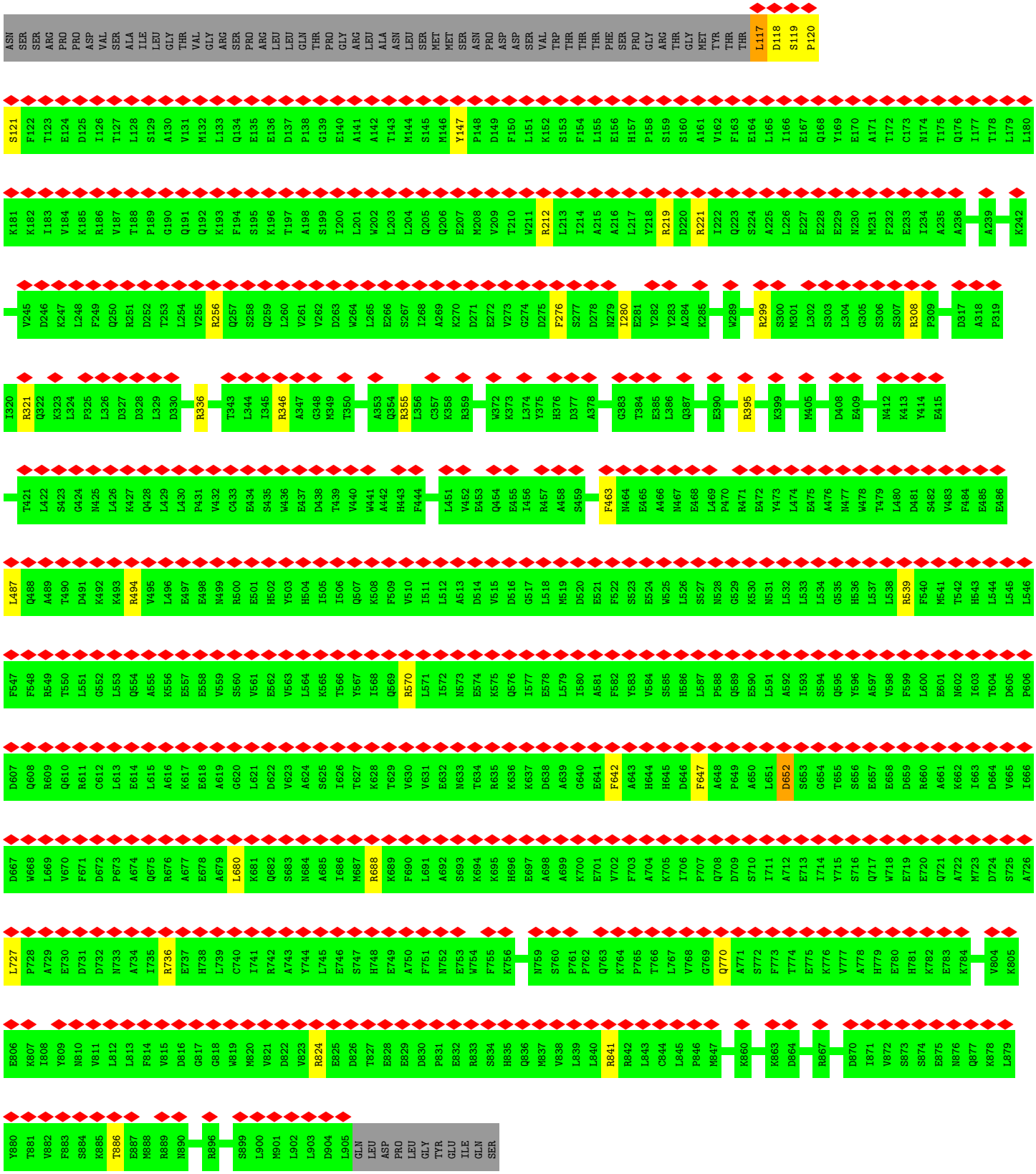
Chain H:



• Molecule 1: Nuclear pore complex protein

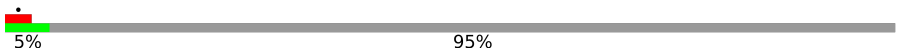
Chain h:

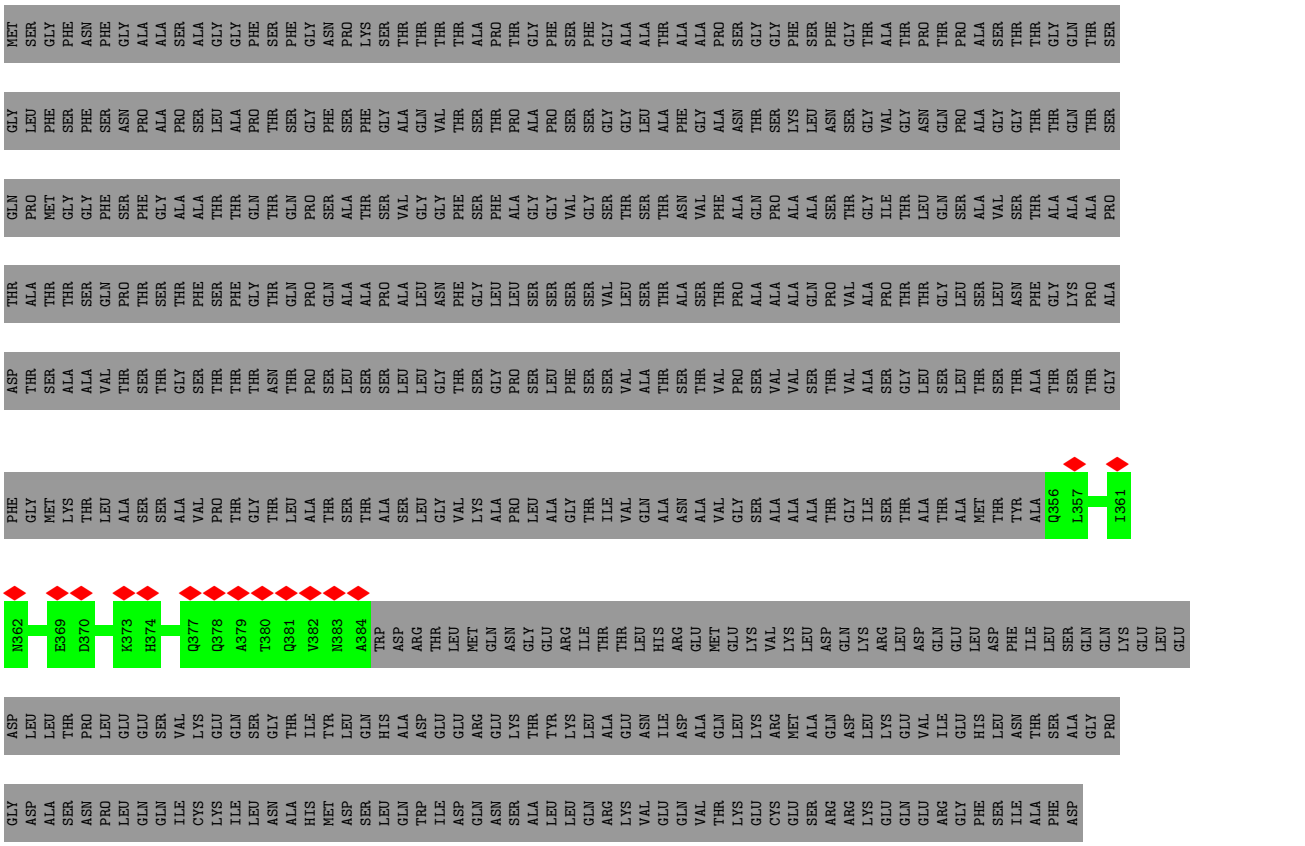




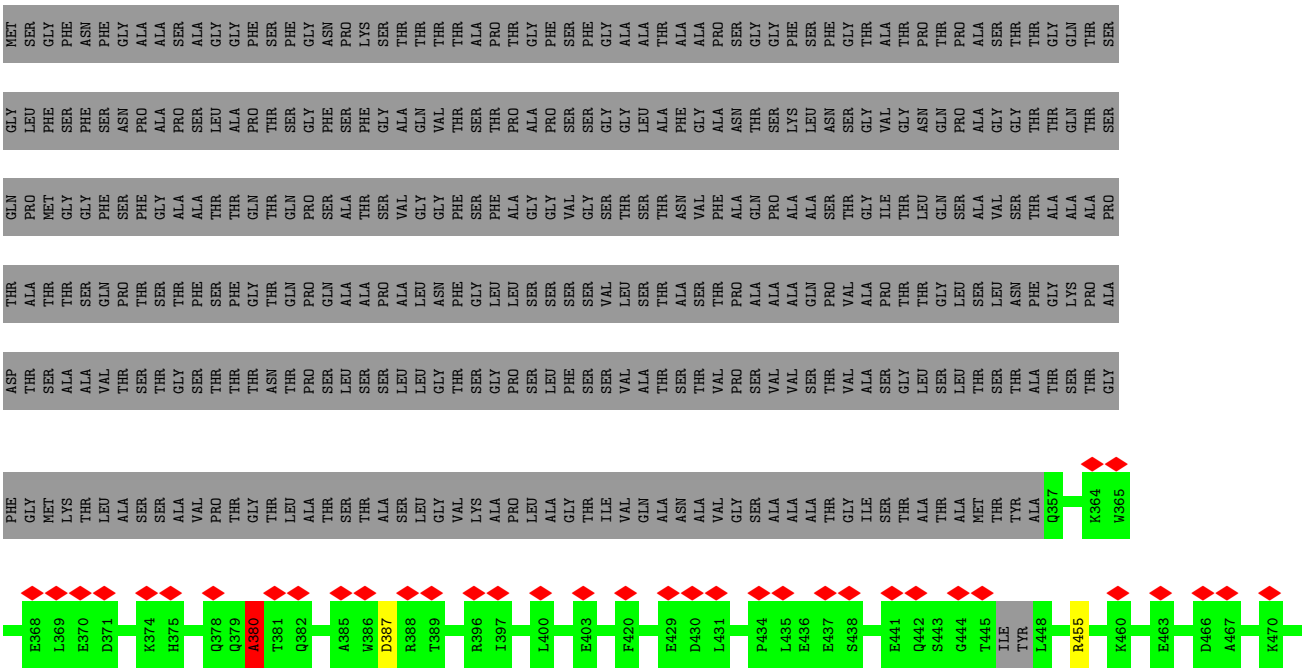
• Molecule 2: Nup62

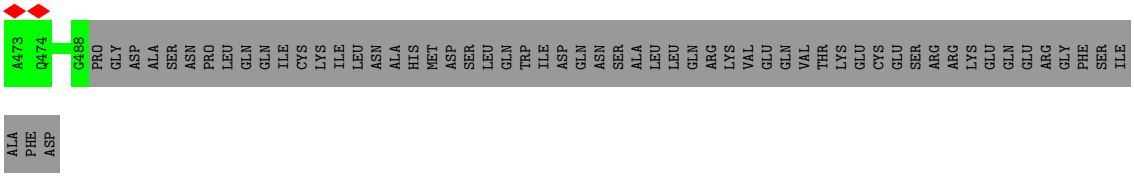
Chain t:





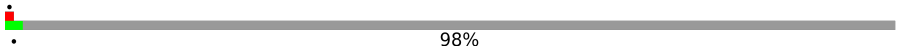
- Molecule 2: Nup62

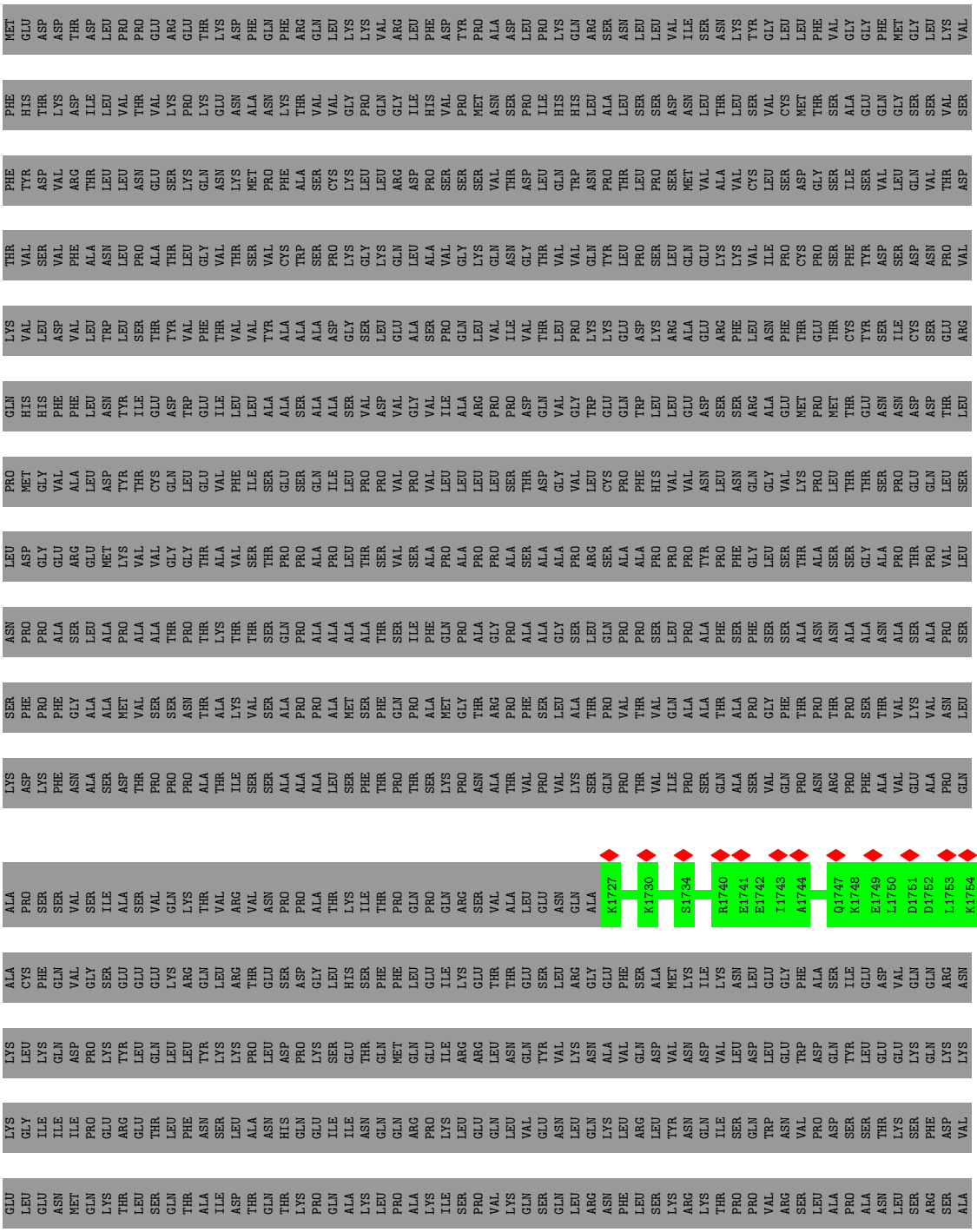


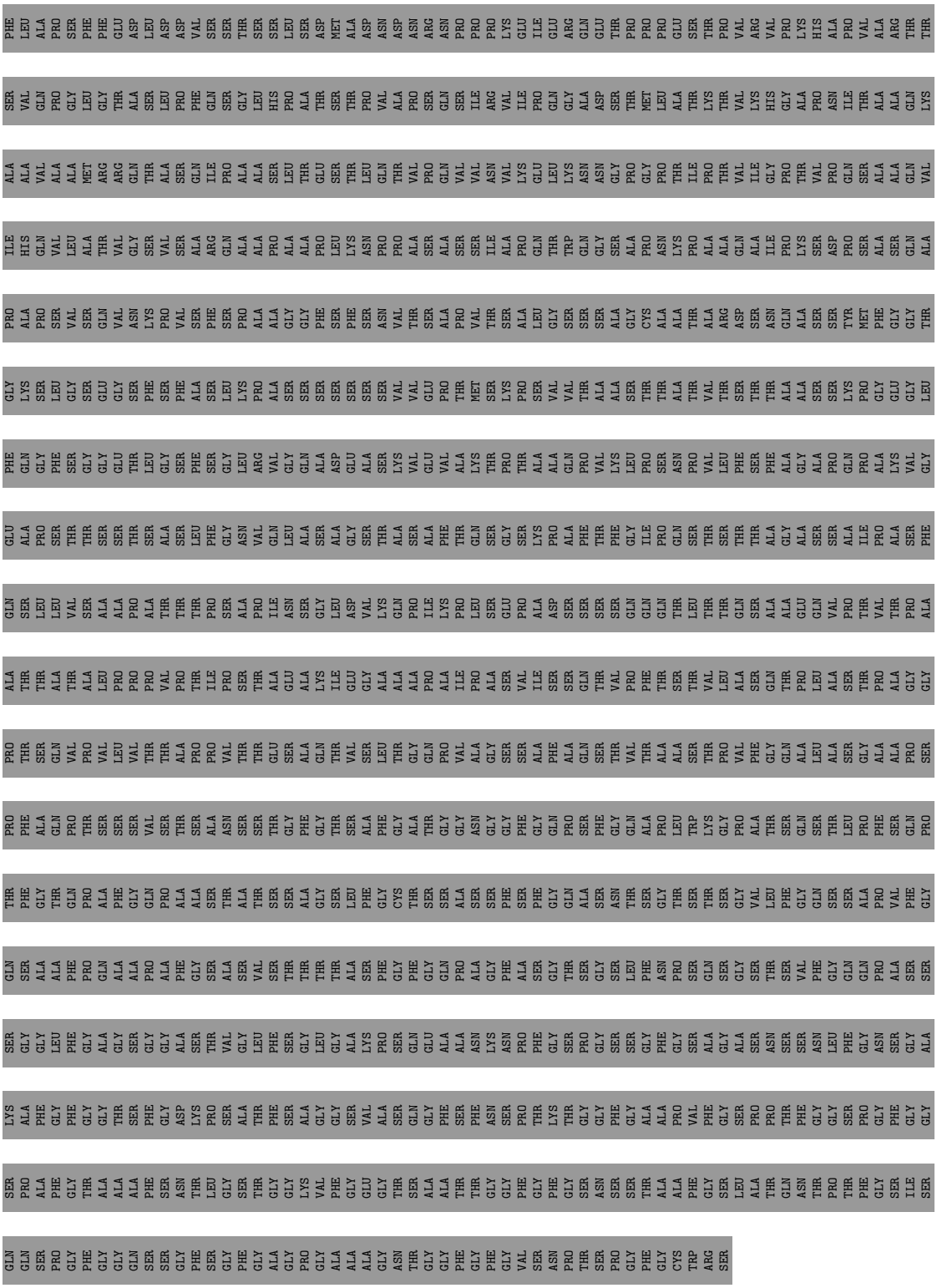


• Molecule 3: Nup214

Chain s:

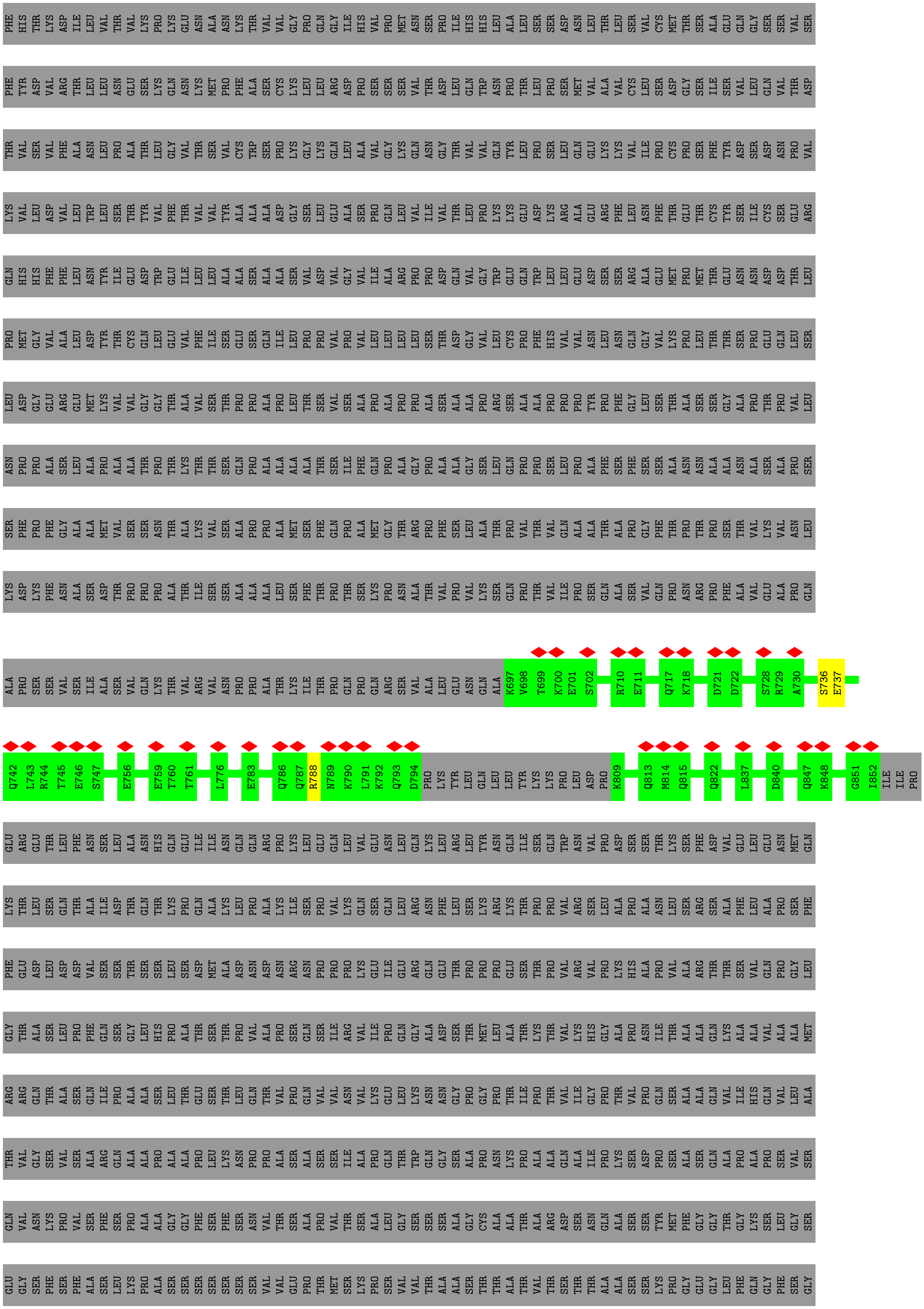






• Molecule 3: Nup214

Chain S: 7% 93%


PHE HIS THR LYS ASP ILE LEU VAL THR VAL LYS PRO LYS GLU ASN ALA ASN LYS THR VAL VAL GLY PRO GLN GLY ILE HIS VAL PRO MET ASN SER PRO ILE HIS HIS LEU ALA LEU SER SER ASP ASN LEU THR LEU SER VAL CYS MET THR SER ALA GLU GLN GLY SER SER VAL SER
PHE TYR ASP VAL ARG THR LEU LEU ASN GLU SER LYS GLN ASN LYS MET PRO PHE ALA SER CYS LYS LEU LEU ARG ASP PRO SER SER SER VAL THR ASP LEU GLN TRP ASN PRO THR LEU PRO SER MET VAL ALA VAL CYS LEU SER ASP GLY SER ILE SER VAL LEU GLN VAL THR ASP
THR VAL SER VAL PHE ALA ASN LEU PRO ALA THR LEU GLY VAL THR SER VAL CYS TRP SER PRO LYS GLY LYS GLN LEU ALA VAL GLY LYS GLN ASN GLY THR VAL VAL GLN TYR LEU PRO SER LEU GLN GLU LYS LYS VAL ILE PRO CYS PRO SER PHE TYR ASP SER ASP ASN PRO VAL
LYS VAL LEU ASP VAL LEU TRP LEU SER THR TYR VAL PHE THR VAL VAL TYR ALA ALA ALA ASP GLY SER LEU GLU ALA SER PRO GLN LEU VAL ILE VAL THR LEU PRO LYS LYS GLU ASP LYS ARG ALA GLU ARG PHE LEU ASN PHE THR GLU THR CYS TYR SER ILE CYS SER GLU ARG
GLN HIS HIS PHE PHE LEU ASN TYR ILE GLU ASP TRP GLU ILE LEU LEU ALA ALA SER ALA ALA SER VAL ASP VAL GLY VAL ILE ALA ARG PRO PRO ASP GLN VAL GLY TRP GLU GLN TRP LEU LEU GLU ASP SER SER ARG ALA GLU MET PRO MET THR GLU ASN ASN ASP ASP THR LEU
PRO MET GLY VAL ALA LEU ASP TYR THR CYS GLN LEU GLU VAL PHE ILE SER GLU SER GLN ILE LEU PRO PRO VAL PRO VAL LEU LEU LEU SER THR ASP GLY VAL LEU CYS PRO PHE HIS VAL VAL ASN LEU ASN GLN GLY VAL LYS PRO LEU THR THR SER PRO GLU GLN LEU SER
LEU ASP GLY GLU ARG GLU MET LYS VAL VAL GLY GLY THR ALA VAL SER THR PRO PRO ALA PRO LEU THR SER VAL SER ALA PRO ALA PRO PRO ALA SER ALA ALA PRO ARG SER ALA ALA PRO PRO PRO TYR PRO PHE GLY LEU SER THR ALA SER SER GLY ALA PRO THR PRO VAL LEU
ASN PRO PRO ALA SER LEU ALA PRO ALA ALA THR PRO THR LYS THR THR SER GLN PRO ALA ALA ALA ALA THR SER ILE PHE GLN PRO ALA GLY PRO ALA ALA GLY SER LEU GLN PRO PRO SER LEU PRO ALA PHE SER PHE SER SER ALA ASN ASN ALA ALA ASN ALA SER SER ALA PRO SER
SER PHE PRO PHE GLY ALA ALA MET VAL SER SER ASN THR ALA LYS VAL SER ALA PRO PRO ALA MET SER PHE GLN PRO ALA MET GLY THR ARG PRO PHE SER LEU ALA THR PRO VAL THR VAL GLN ALA ALA THR ALA PRO GLY PHE THR PRO THR PRO SER THR VAL LYS VAL ASN LEU
LYS ASP LYS PHE ASN ALA SER ASP THR PRO PRO PRO ALA THR ILE SER SER ALA ALA LEU SER PHE THR PRO THR SER LYS PRO ASN ALA THR THR VAL PRO VAL LYS SER GLN PRO THR VAL ILE PRO SER GLN ALA SER VAL GLN PRO ASN ARG PRO PHE ALA VAL GLU ALA PRO GLN
ALA PRO SER SER VAL SER ILE ALA SER VAL GLN LYS THR VAL ARG VAL ASN PRO PRO ALA THR LYS ILE THR PRO GLN PRO GLN ARG SER VAL ALA LEU GLU ASN GLN ALA K697 V698 T699 K700 E701 S702 R710 E711 Q717 K718 D721 D722 S728 R729 A730 S736 E737
Q742 L743 R744 T745 E746 S747 E756 E759 T760 T761 L776 E783 Q786 Q787 R788 N789 K790 L791 K792 Q793 D794 PRO LYS TYR LEU GLN LEU LEU TYR LYS LYS PRO LEU ASP PRO K809 Q813 M814 Q815 Q822 L837 D840 Q847 K848 G851 I852 ILE ILE PRO
GLU ARG GLU THR LEU PHE ASN SER LEU ALA ASN HIS GLN GLU ILE ILE ASN GLN GLN ARG PRO LYS LEU GLU GLN LEU VAL GLU ASN LEU GLN LYS LEU ARG LEU TYR ASN GLN ILE SER GLN TRP ASN VAL PRO ASP SER SER THR LYS SER PHE ASP VAL GLU LEU GLU ASN MET GLN
LYS THR LEU SER GLN THR ALA ILE ASP THR GLN THR LYS PRO GLN ALA LYS LEU PRO ALA LYS ILE SER PRO VAL LYS GLN SER GLN LEU ARG ASN PHE LEU SER LYS ARG LYS THR PRO PRO VAL ARG SER LEU ALA PRO ALA ASN LEU SER ARG SER ALA PHE LEU ALA PRO SER PHE
PHE GLU ASP LEU ASP ASP VAL SER SER THR SER SER LEU SER ASP MET ALA ASP ASN ASP ASN ARG ASN PRO PRO PRO LYS GLU ILE GLU ARG GLN GLU THR PRO PRO PRO GLU SER THR PRO VAL ARG VAL PRO LYS HIS ALA PRO VAL ALA ARG THR THR SER VAL GLN PRO GLY LEU
GLY THR ALA SER LEU PRO PHE GLN SER GLY LEU HIS PRO ALA THR SER THR PRO VAL ALA PRO SER GLN SER ILE ARG VAL ILE PRO GLN GLY ALA ASP SER THR MET LEU ALA THR LYS THR VAL LYS HIS GLY ALA PRO ASN ILE THR ALA ALA GLN LYS ALA ALA VAL ALA ALA MET
ARG ARG GLN THR ALA SER GLN ILE PRO ALA ALA SER LEU THR GLU SER THR LEU GLN THR VAL PRO GLN VAL VAL ASN VAL LYS GLU LEU LYS ASN ASN GLY PRO GLY PRO THR ILE PRO THR VAL ILE GLY PRO THR VAL PRO GLN SER ALA ALA GLN VAL ILE HIS GLN VAL LEU ALA
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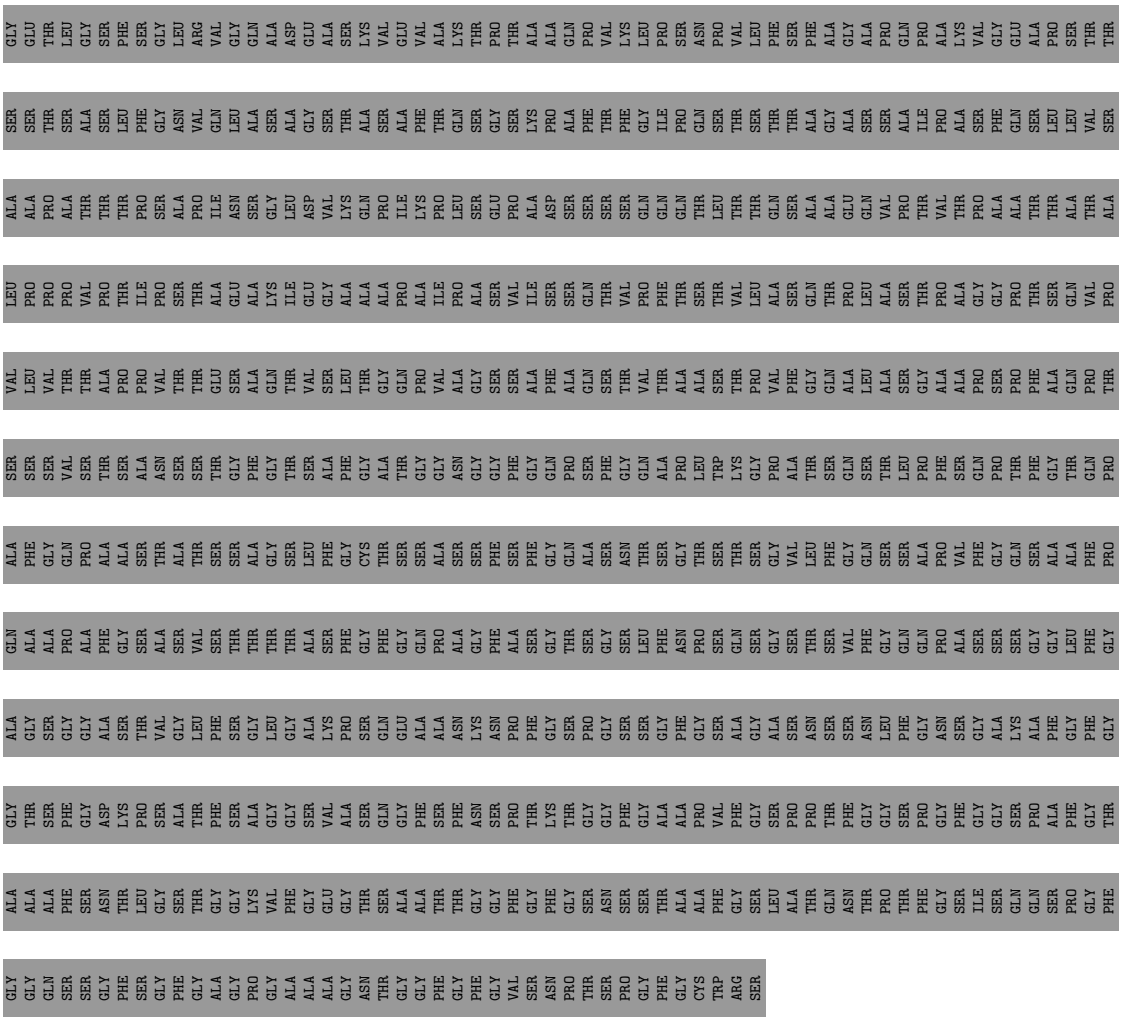
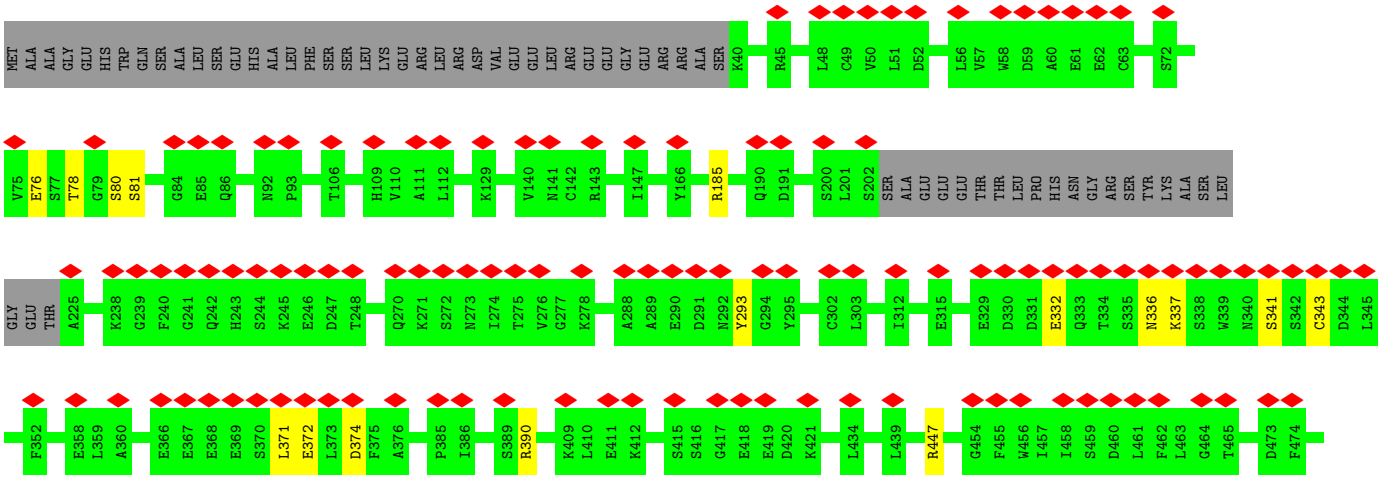
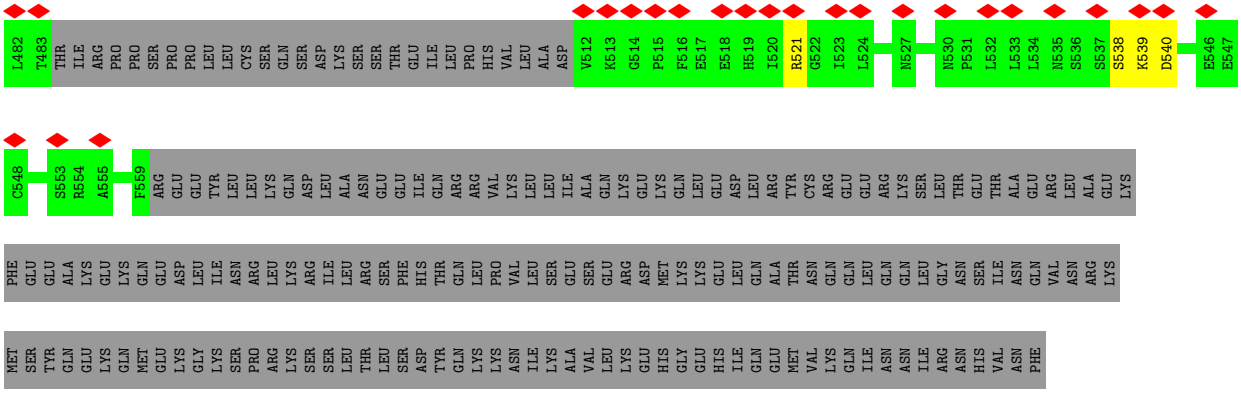


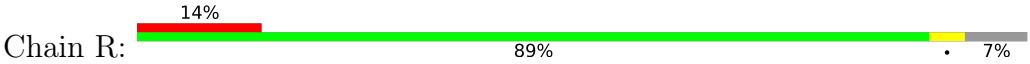
• Molecule 4: Nup88A protein

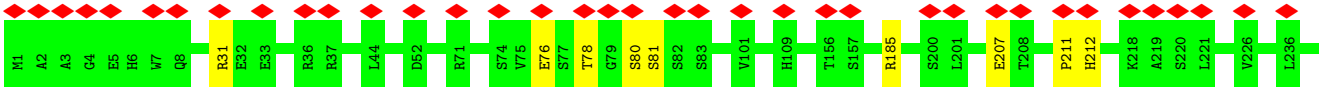
Chain r:

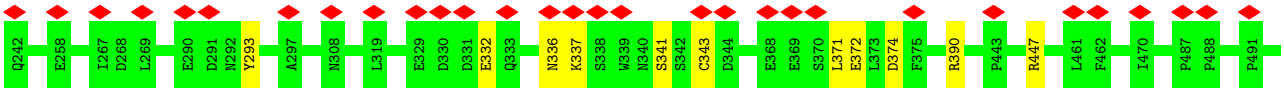


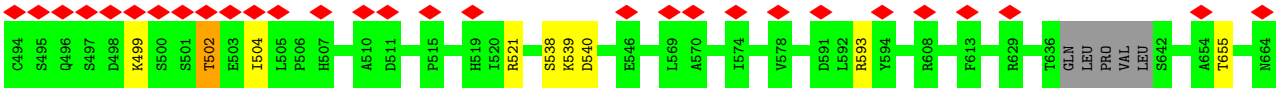


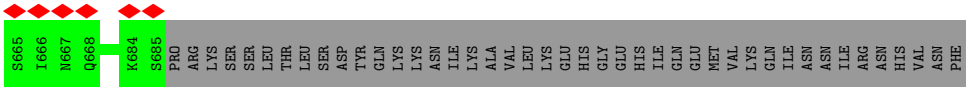
• Molecule 4: Nup88A protein





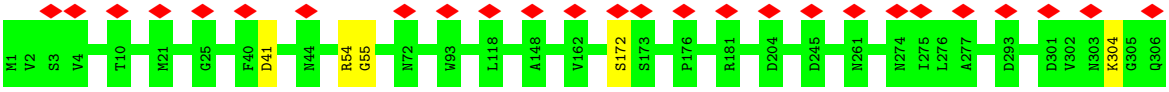




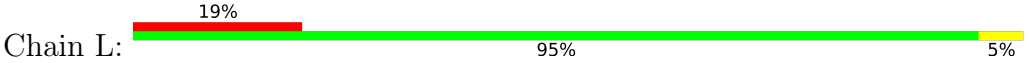


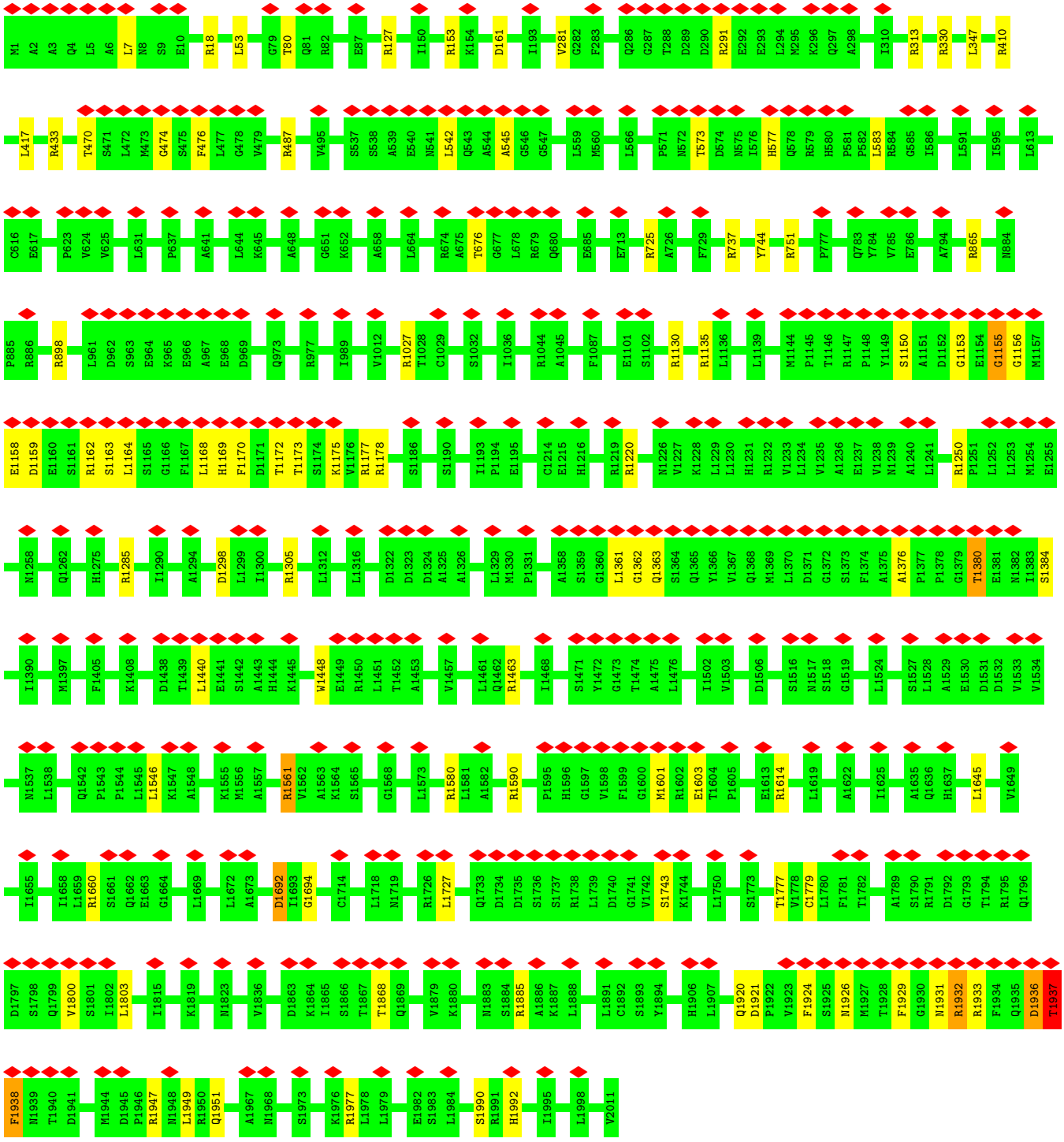
• Molecule 5: Protein SEC13 homolog

• Molecule 5: Protein SEC13 homolog



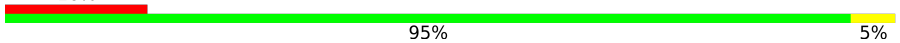
• Molecule 6: Nup205

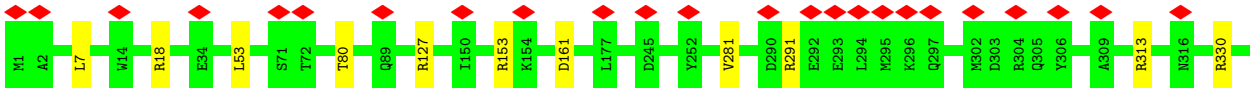


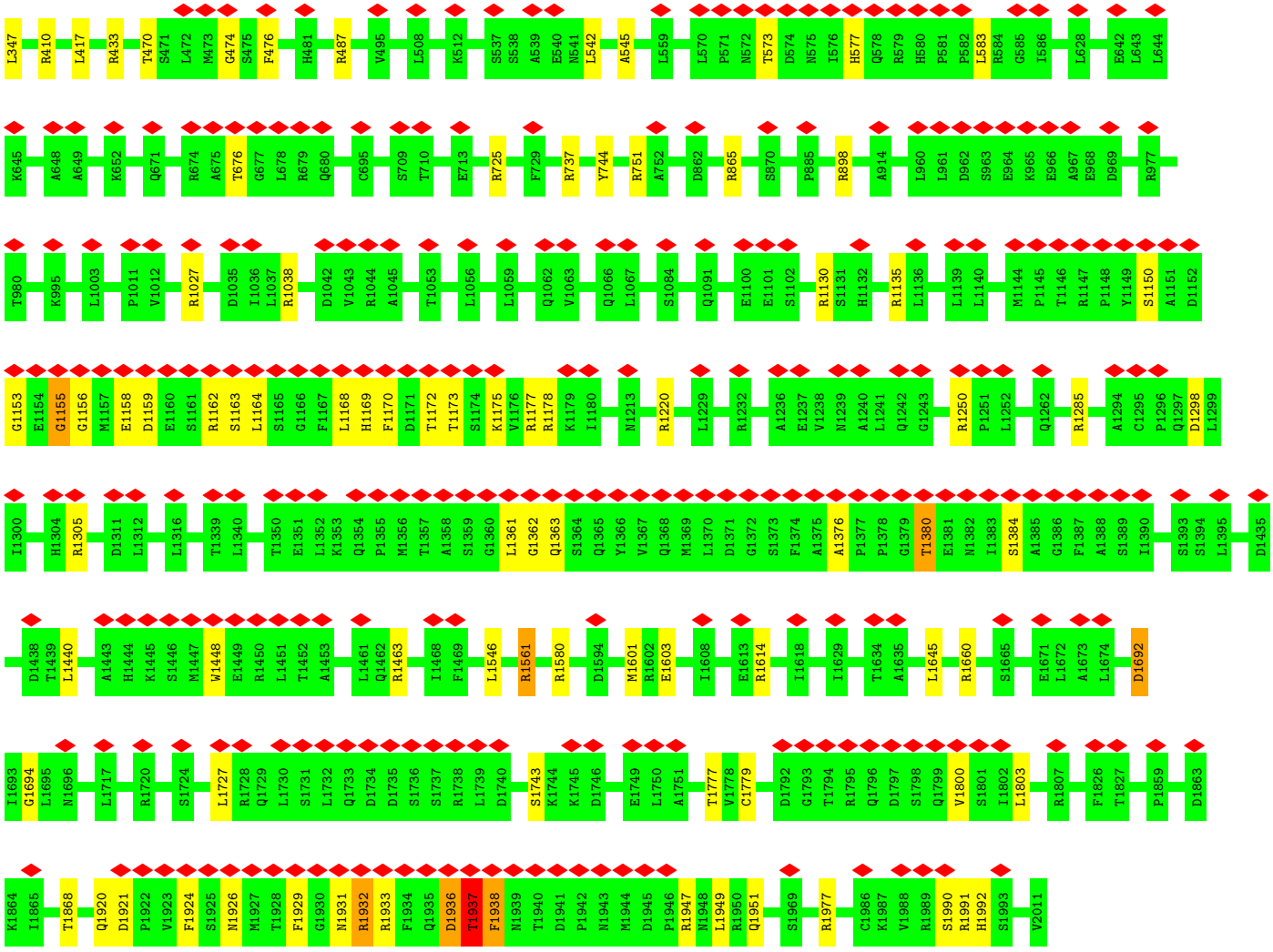


• Molecule 6: Nup205

Chain l:

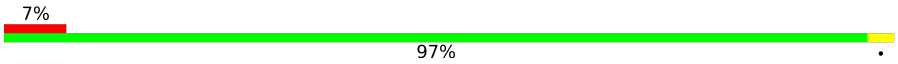


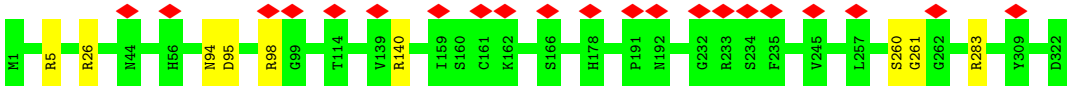




• Molecule 7: Nucleoporin SEH1-A

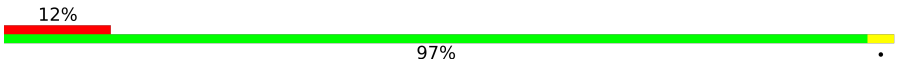
Chain E:

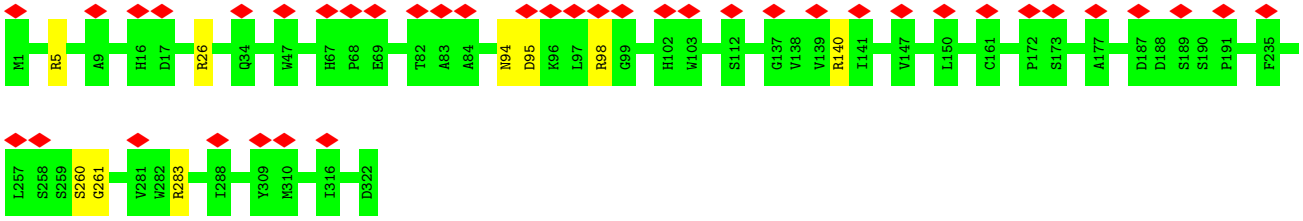




• Molecule 7: Nucleoporin SEH1-A

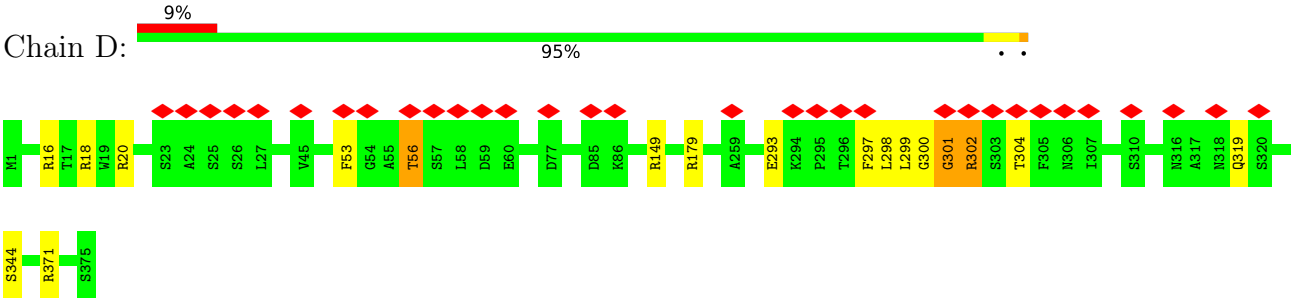
Chain e:





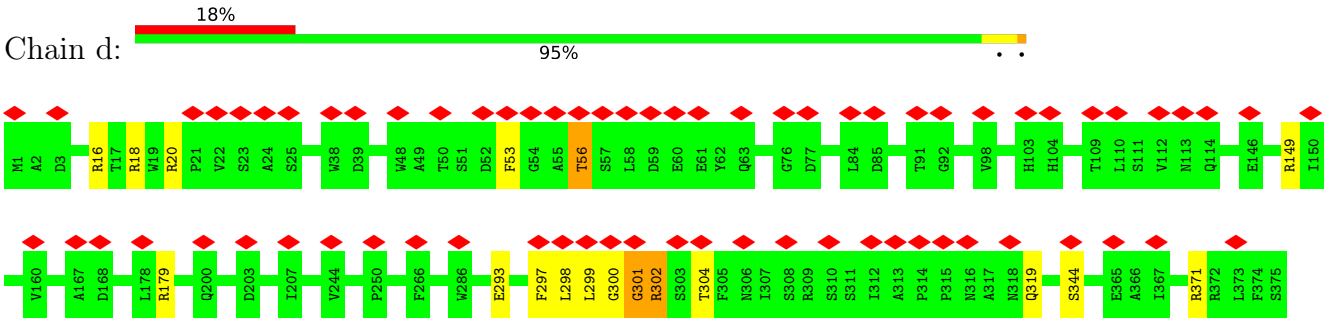
• Molecule 8: Nup42

Chain D:



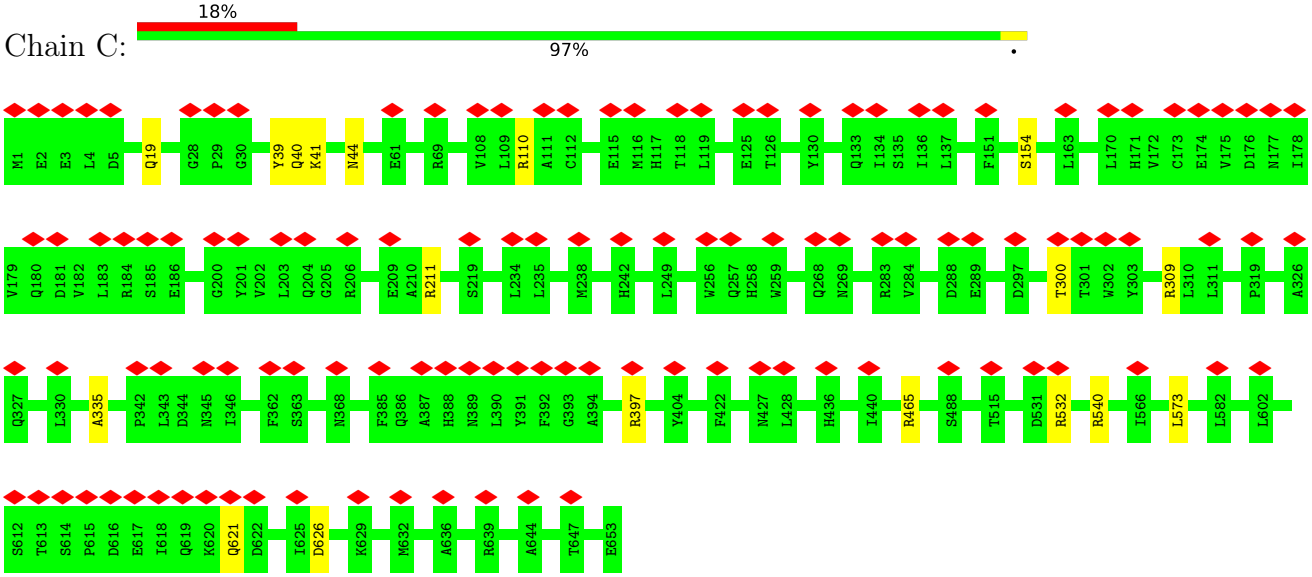
• Molecule 8: Nup42

Chain d:



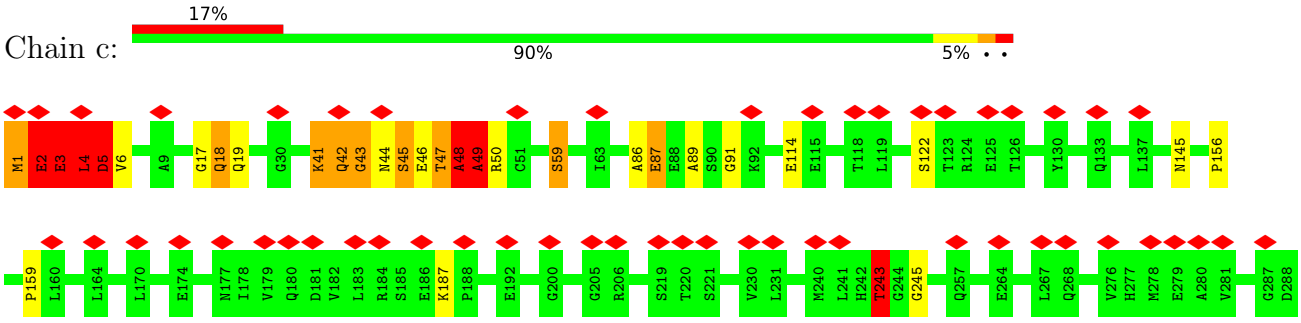
• Molecule 9: Nuclear pore complex protein Nup85

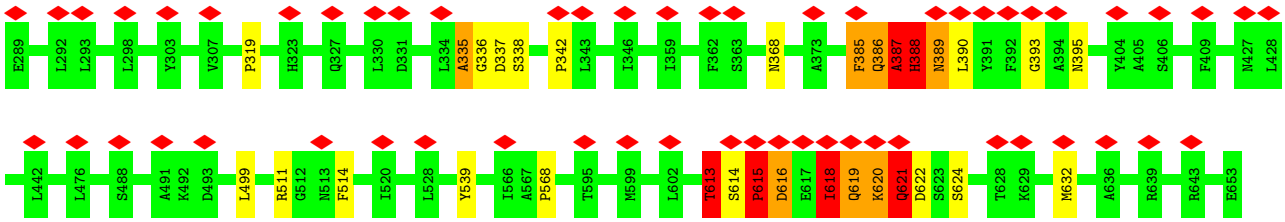
Chain C:



• Molecule 9: Nuclear pore complex protein Nup85

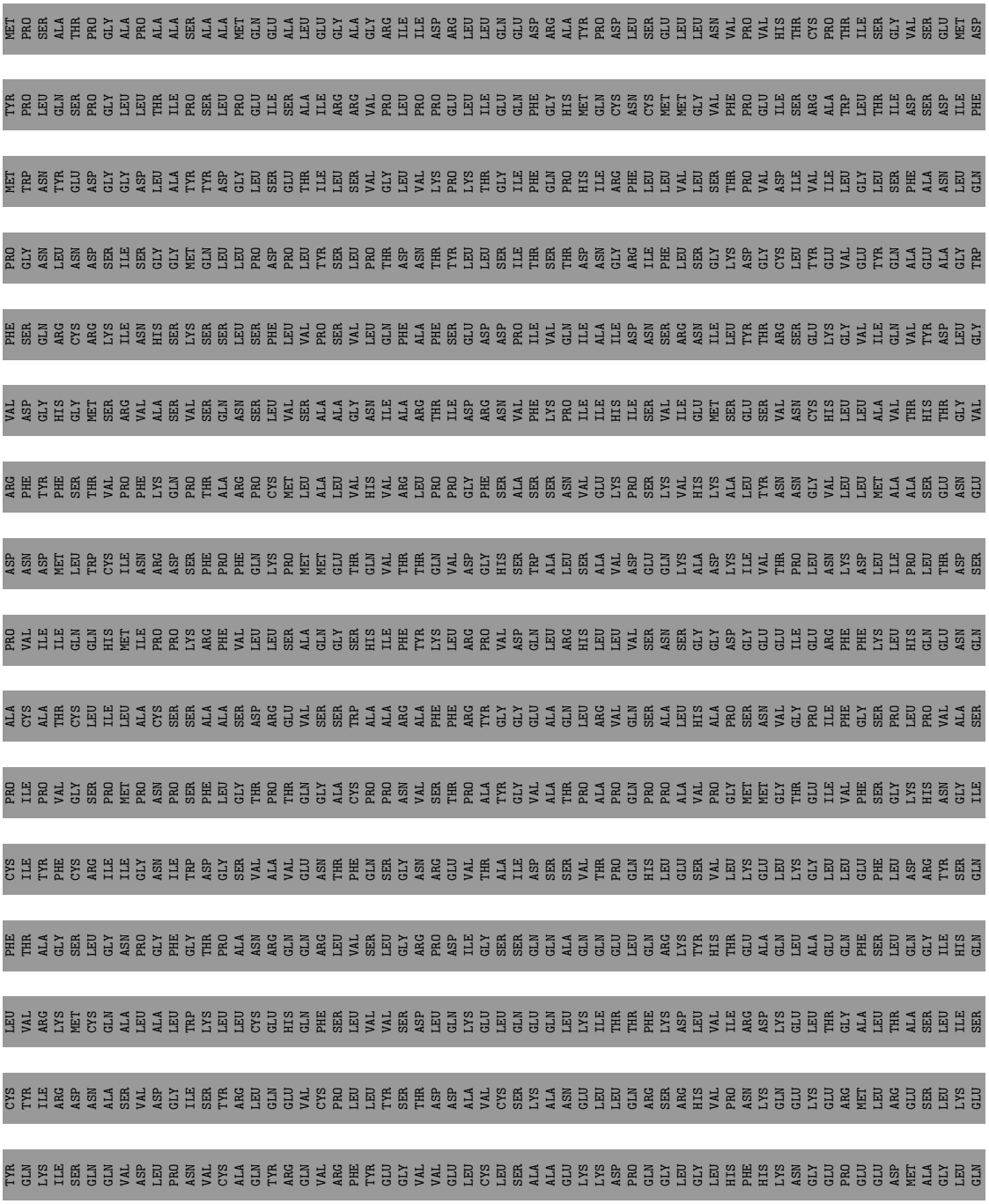
Chain c:

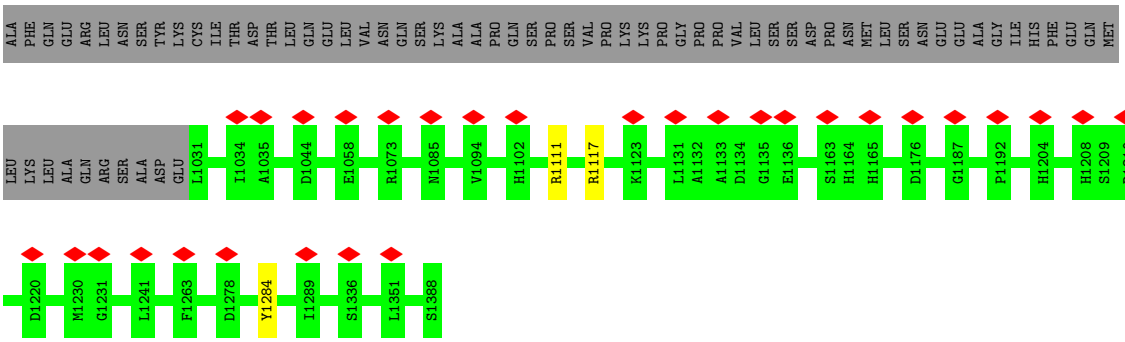




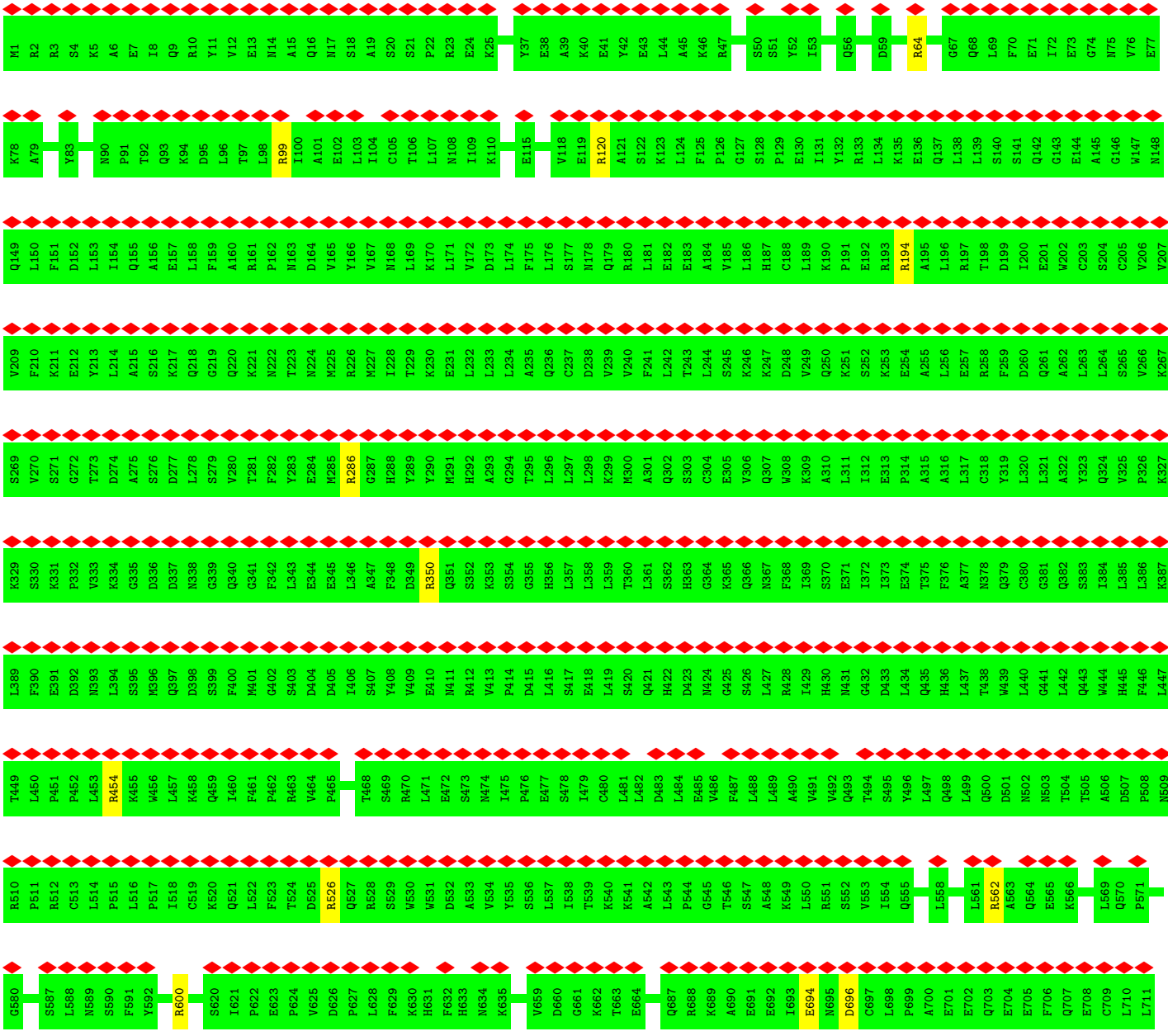
• Molecule 10: Nup155-prov protein

Chain U:





• Molecule 11: Nup358



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A793 R794 F795 S796 P797 K798 THR PRO PRO ARG TRP ALA GLU ASP GLN LYS SER LEU LEU GLU VAL LEU CYS ASN LYS VAL GLU ALA LEU LYS LYS GLU VAL GLN GLU LEU LYS HIS ASN ASN SER ASN ALA ASN VAL SER PRO HIS ARG TRP PRO ASN GLU GLY PHE GLU SER ASP THR VAL

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

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

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

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

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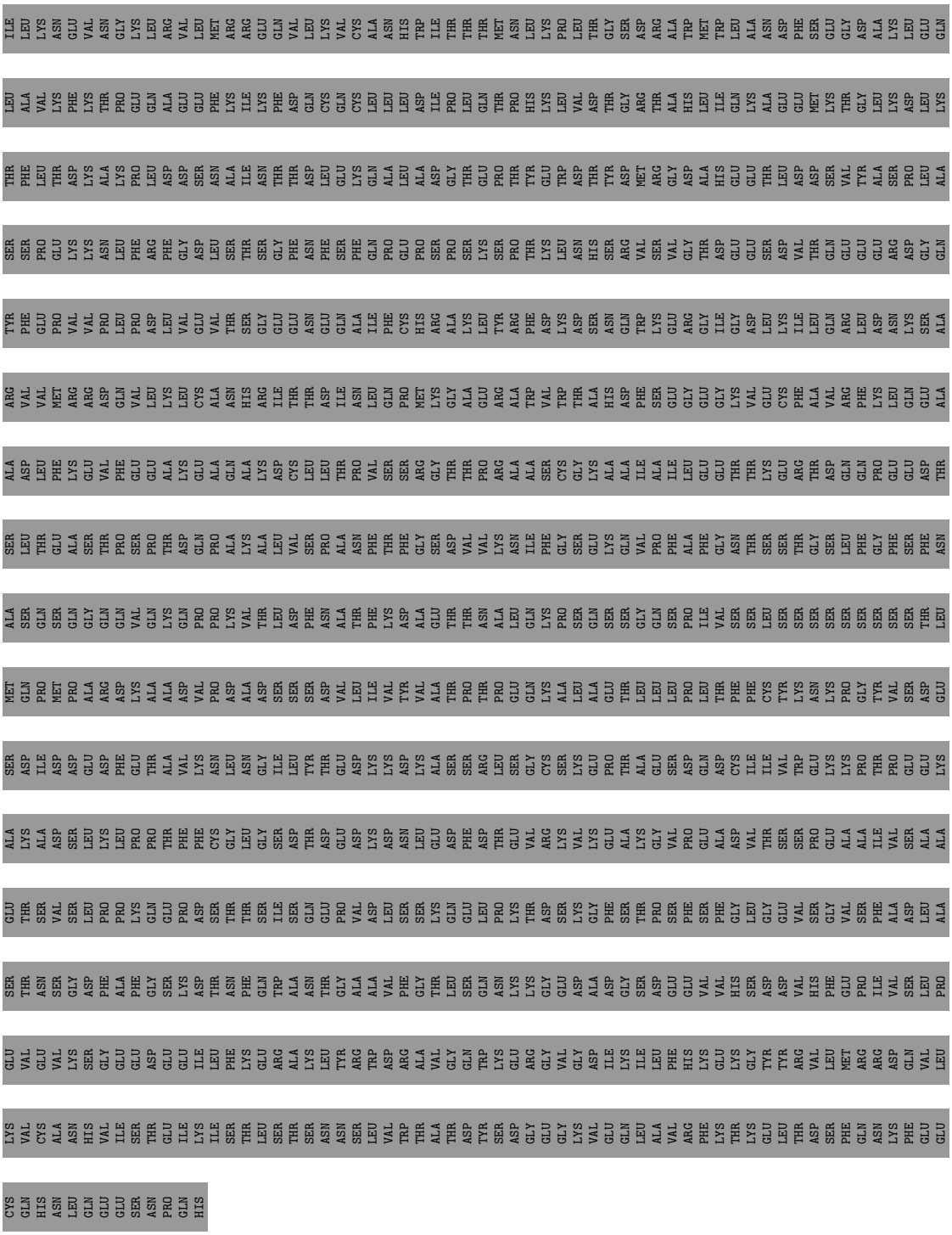
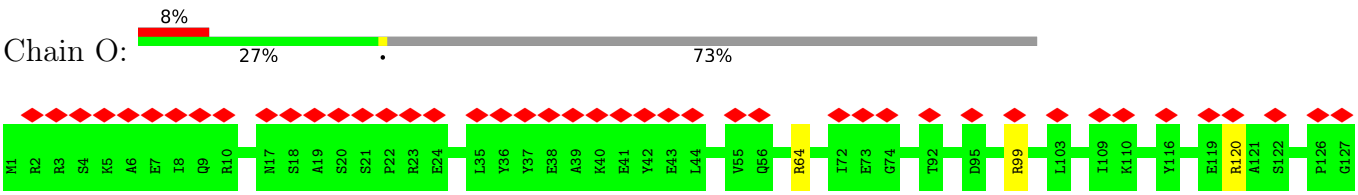
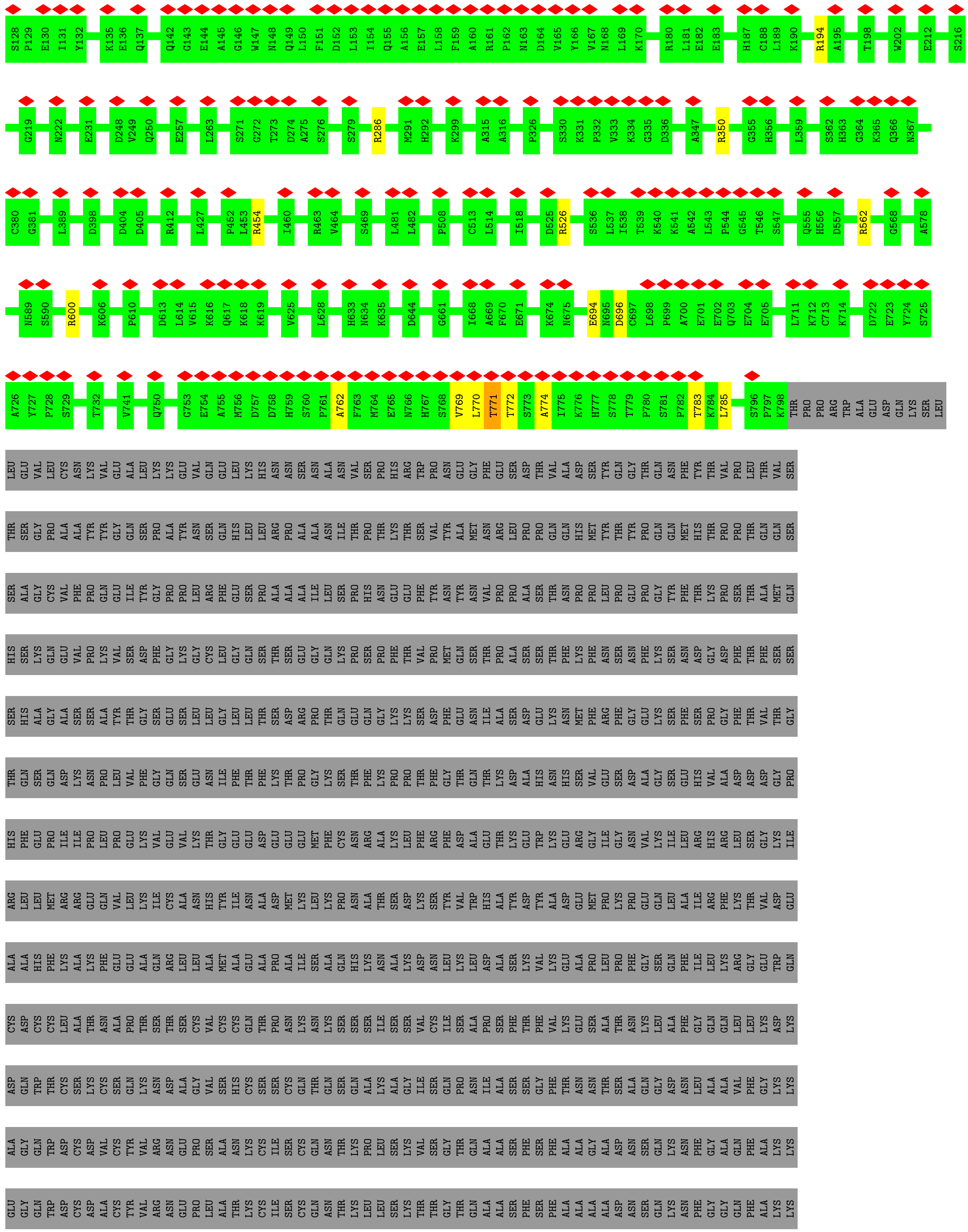
ASP LYS VAL LEU GLY GLN SER VAL GLN SER PHE SER PHE ALA ASP ILE ALA LYS SER THR GLU GLY ILE GLU PHE GLY LYS ALA ASP PRO ASN PHE LYS GLY PHE SER GLY ALA GLY GLN LYS LEU PHE THR SER SER ASN GLN VAL ASN ALA SER ASN ALA GLN GLU ALA ALA ASP ASP

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



• Molecule 11: Nup358

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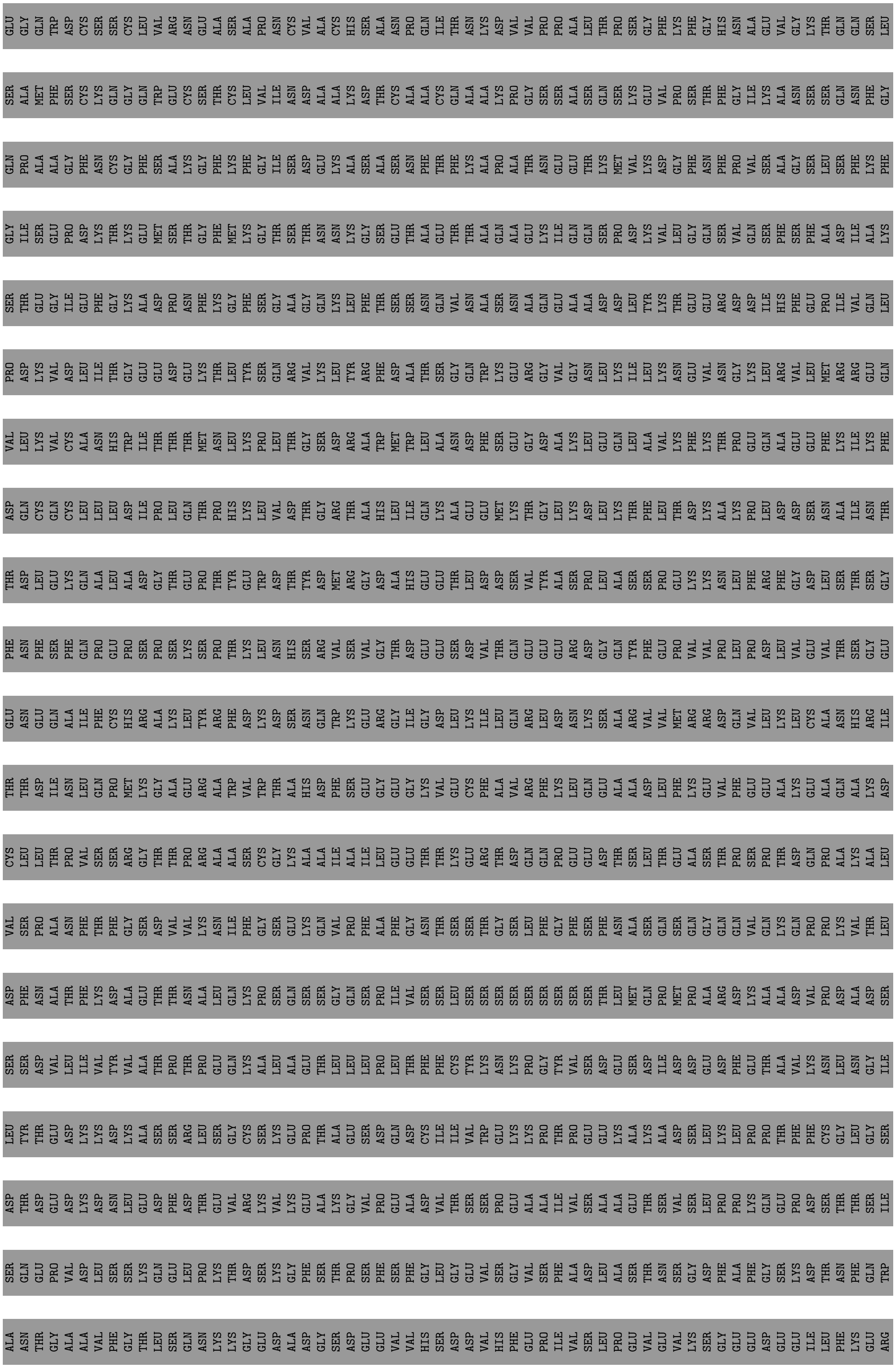
A726 Y727 P728 S729 T732 V741 Q750 G753 E754 A755 M756 D757 D758 H759 S760 P761 A762 F763 M764 E765 N766 H767 S768 V769 L770 T771 T772 S773 A774 I775 K776 H777 S778 T779 P780 S781 P782 T783 K784 L785 S796 P797 K798 THR PRO PRO ARG TRP ALA GLU ASP GLN LYS SER LEU
LEU GLU VAL LEU CYS ASN LYS VAL GLU ALA LEU LYS LYS GLU VAL GLN GLU LEU LYS HIS ASN ASN SER ASN ALA ASN VAL SER PRO HIS ARG TRP PRO ASN GLU GLY PHE GLU SER ASP THR VAL ALA ASP SER TYR GLN GLY THR GLN ASN PHE TYR THR VAL PRO LEU THR VAL SER
THR SER GLY PRO ALA ALA TYR TYR GLY GLN SER PRO ALA TYR ASN SER GLN HIS LEU LEU ARG PRO ALA ALA ASN ILE THR PRO THR LYS THR SER VAL TYR ALA MET ASN ARG LEU PRO PRO GLN GLN HIS MET TYR THR TYR PRO GLN GLN MET HIS THR PRO PRO THR GLN GLN SER
SER ALA GLY CYS VAL PHE PRO GLN GLU ILE TYR GLY PRO PRO LEU ARG PHE GLU SER PRO ALA ALA ILE LEU SER PRO HIS ASN GLU GLU PHE TYR ASN TYR ASN VAL PRO PRO ALA SER THR ASN PRO PRO LEU PRO GLU PRO GLY TYR PHE THR LYS PRO SER THR ALA MET GLN
HIS SER LYS GLN GLU VAL PRO LYS VAL SER ASP PHE GLY LYS GLY CYS LEU GLY GLN SER THR SER GLU GLY GLN LYS PRO SER PRO PHE THR VAL PRO MET GLN SER THR PRO ALA SER SER THR PHE LYS PHE ASN SER ASN PHE LYS SER ASN ASP GLY ASP PHE THR PHE SER SER
SER HIS ALA GLY ALA SER SER ALA TYR THR GLY SER GLU SER LEU LEU GLY LEU LEU THR SER ASP ARG PRO THR GLN GLU GLN GLY LYS LYS SER ASP PHE GLU ASN ILE ALA SER ASP GLU LYS ASN MET PHE ARG PHE GLY GLU LYS SER PHE SER PRO GLY PHE THR VAL THR GLY
THR GLN SER GLN ASP LYS ASN PRO LEU VAL PHE GLY GLN SER GLU ASN ILE PHE THR PHE LYS THR PRO GLY LYS SER THR PHE LYS PRO PRO THR PHE GLY THR GLN THR LYS ASP ALA HIS ASN HIS SER VAL GLU SER ASP ALA GLY SER GLU HIS VAL ALA ASP ASP ASP GLY PRO
HIS PHE GLU PRO ILE ILE PRO LEU PRO GLU LYS VAL GLU VAL LYS THR GLY GLU GLU ASP GLU GLU GLU MET PHE CYS ASN ARG ALA LYS LEU PHE ARG PHE ASP ALA GLU THR LYS GLU TRP LYS GLU ARG GLY ILE GLY ASN VAL LYS ILE LEU ARG HIS ARG LEU SER GLY LYS ILE
ARG LEU LEU MET ARG ARG GLU GLN VAL LEU LYS ILE CYS ALA ASN HIS TYR ILE ASN ALA ASP MET LYS LEU LYS PRO ASN ALA THR SER ASP LYS SER TYR VAL TRP HIS ALA TYR ASP TYR ALA ASP GLU MET PRO LYS PRO GLU GLN LEU ALA ILE ARG PHE LYS THR VAL ASP GLU
ALA ALA HIS PHE LYS ALA LYS PHE GLU GLU ALA GLN ARG LEU LEU ALA MET ALA GLU ALA PRO ALA ILE SER ALA GLN HIS LYS ASN ALA LYS ASP ASN LEU LYS LEU ASP ALA SER LYS VAL LYS GLU ALA PRO LEU PRO PHE GLY SER GLN PHE ILE LEU LYS ARG GLY GLU TRP GLN
CYS ASP CYS CYS LEU ALA THR ASN ALA PRO THR SER THR SER CYS VAL CYS CYS GLN THR PRO ASN LYS LYS ASN LYS SER SER SER ILE SER SER VAL CYS ILE SER ALA PRO SER PHE THR PHE VAL LYS GLU SER ALA THR ASN LYS LEU ALA PHE GLY GLN GLN LEU LEU LYS ASP LYS
ASP GLN TRP THR CYS SER LYS CYS SER GLN LYS ASN ASP ALA GLY VAL SER HIS CYS SER SER CYS GLN THR GLN SER GLN ALA LYS ALA GLY ILE SER GLN PRO ASN ILE ALA SER SER GLY PHE THR ASN ASN THR SER ALA GLN GLY ASP ASN LEU ALA ALA VAL PHE GLY LYS LYS
ALA GLY GLN TRP ASP CYS ASP VAL CYS TYR VAL ARG ASN GLU PRO SER ALA ASN LYS CYS ILE SER CYS GLN ASN THR LYS PRO LEU SER LYS VAL SER GLY THR GLN ALA ALA SER PHE SER PHE ALA ALA GLY ALA ASP ASN SER GLN LYS ASN PHE GLY ALA GLN PHE ALA LYS LYS
GLU GLY GLN TRP ASP CYS ASP ALA CYS TYR VAL ARG ASN GLU PRO LEU ALA THR LYS CYS ILE SER CYS GLN ASN THR LYS LEU LEU SER LYS THR THR GLY THR GLN ALA ALA SER PHE SER PHE ALA ALA ALA ALA ASP ASN SER GLN LYS ASN PHE GLY GLY GLN PHE ALA LYS LYS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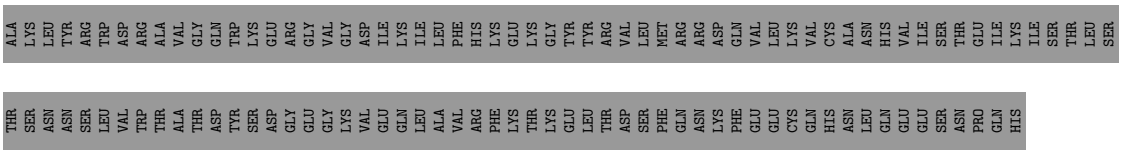
SER ALA MET PHE SER CYS LYS GLN GLY GLN TRP GLU CYS SER THR CYS LEU VAL ILE ASN ASP ALA ALA LYS ASP THR CYS ALA ALA CYS GLN ALA ALA LYS PRO GLY SER SER ALA SER GLN SER LYS GLU VAL PRO SER THR PHE GLY ILE LYS ALA ASN SER SER GLN ASN PHE GLY
GLN PRO ALA ALA GLY PHE ASN CYS GLY PHE SER ALA LYS GLY PHE LYS PHE GLY ILE SER ASP GLU LYS ALA SER ALA SER ASN PHE THR PHE LYS ALA PRO ALA THR ASN GLU GLU THR LYS MET VAL LYS ASP GLY PHE ASN PHE PRO VAL SER ALA GLY SER LEU SER PHE LYS PHE
GLY ILE SER GLU PRO ASP LYS THR LYS GLU MET SER THR GLY PHE MET LYS GLY THR SER THR ASN ASN LYS GLY SER GLU THR ALA GLU THR THR ALA GLN ALA GLU GLY LYS ILE GLN GLN SER PRO ASP LYS VAL LEU GLY GLN SER VAL GLN SER PHE SER PHE ALA ASP ILE ALA LYS
SER THR GLU GLY ILE GLU PHE GLY LYS ALA ASP PRO ASN PHE LYS GLY PHE SER GLY ALA GLY GLN LYS LEU PHE THR SER SER ASN GLN VAL ASN ALA SER ASN ALA GLN GLU ALA ALA ASP ASP LEU TYR LYS THR GLU GLU ARG ASP ASP ILE HIS PHE GLU PRO ILE VAL GLN LEU
PRO ASP LYS VAL ASP LEU ILE THR GLY GLU GLU ASP GLU LYS THR LEU TYR SER GLN ARG VAL LYS LEU TYR ARG PHE ASP ALA THR SER GLY GLN TRP LYS GLU ARG GLY VAL GLY ASN LEU LYS ILE LEU LYS ASN GLU VAL ASN GLY LYS LEU ARG VAL LEU MET ARG ARG GLU GLN
VAL LEU LYS VAL CYS ALA ASN HIS TRP ILE THR THR THR MET ASN LEU LYS PRO LEU THR GLY SER ASP ARG ALA TRP MET TRP LEU ALA ASN ASP PHE SER GLU GLY ASP ALA LYS LEU GLU GLN LEU ALA VAL LYS PHE LYS THR PRO GLU GLN ALA GLU GLU PHE LYS ILE LYS PHE
ASP GLN CYS GLN CYS LEU LEU LEU ASP ILE PRO LEU GLN THR PRO HIS LYS LEU VAL ASP THR GLY ARG THR ALA HIS LEU ILE GLN LYS ALA GLU GLU MET LYS THR GLY LEU LYS ASP LEU LYS THR PHE LEU THR ASP LYS ALA LYS PRO LEU ASP ASP SER ASN ALA ILE ASN THR
THR ASP LEU GLU LYS GLN ALA LEU ALA ASP GLY THR GLU PRO THR TYR GLU TRP ASP THR TYR ASP MET ARG GLY ASP ALA HIS GLU GLU THR LEU ASP ASP SER VAL TYR ALA SER PRO LEU ALA SER SER PRO GLU LYS LYS ASN LEU PHE ARG PHE GLY ASP LEU SER THR SER GLY
PHE ASN PHE SER PHE GLN PRO GLU PRO SER PRO SER LYS SER PRO THR LYS LEU ASN HIS SER ARG VAL SER VAL GLY THR ASP GLU GLU SER ASP VAL THR GLN GLU GLU GLU ARG ASP GLY GLN TYR PHE GLU PRO VAL VAL PRO LEU PRO ASP LEU VAL GLU VAL THR SER GLY GLU
GLU ASN GLU GLN ALA ILE PHE CYS HIS ARG ALA LYS LEU TYR ARG PHE ASP LYS ASP SER ASN GLN TRP LYS GLU ARG GLY ILE GLY ASP LEU LYS ILE LEU GLN ARG LEU ASP ASN LYS SER ALA ARG VAL VAL MET ARG ARG ASP GLN VAL LEU LYS LEU CYS ALA ASN HIS ARG ILE
THR THR ASP ILE ASN LEU GLN PRO MET LYS GLY ALA GLU ARG ALA TRP VAL TRP THR ALA HIS ASP PHE SER GLU GLY GLU GLY LYS VAL GLU CYS PHE ALA VAL ARG PHE LYS LEU GLN GLU ALA ALA ASP LEU PHE LYS GLU VAL PHE GLU GLU ALA LYS GLU ALA GLN ALA LYS ASP
CYS LEU LEU THR PRO VAL SER SER ARG GLY THR THR PRO ARG ALA ALA SER CYS GLY LYS ALA ALA ILE ALA ILE LEU GLU GLU THR THR LYS GLU ARG THR ASP GLN GLN PRO GLU GLU ASP THR SER LEU THR GLU ALA SER THR PRO SER PRO THR ASP GLN PRO ALA LYS ALA LEU
VAL SER PRO ALA ASN PHE THR PHE GLY SER ASP VAL VAL LYS ASN ILE PHE GLY SER GLU LYS GLN VAL PRO PHE ALA PHE GLY ASN THR SER SER THR GLY SER LEU PHE GLY PHE SER PHE ASN ALA SER GLN SER GLN GLY GLN GLN VAL GLN LYS GLN PRO PRO LYS VAL THR LEU
ASP PHE ASN ALA THR PHE LYS ASP ALA GLU THR THR ASN ALA LEU GLN LYS PRO SER GLN SER SER GLY GLN SER PRO ILE VAL SER SER LEU SER SER SER SER SER SER SER SER THR LEU MET GLN PRO MET PRO ALA ARG ASP LYS ALA ALA ASP VAL PRO ASP ALA ASP SER
SER SER ASP VAL LEU ILE VAL TYR VAL ALA THR PRO THR PRO GLU GLN LYS ALA LEU ALA GLU THR LEU LEU LEU PRO LEU THR PHE PHE CYS TYR LYS ASN LYS PRO GLY TYR VAL SER ASP GLU SER ASP ILE ASP ASP GLU ASP PHE GLU THR ALA VAL LYS ASN LEU ASN GLY ILE
LEU TYR THR GLU ASP LYS LYS ASP LYS ALA SER SER ARG LEU SER GLY CYS SER LYS GLU PRO THR ALA GLU SER ASP GLN ASP CYS ILE ILE VAL TRP GLU LYS LYS PRO THR PRO GLU GLU LYS ALA LYS ALA ASP SER LEU LYS LEU PRO PRO THR PHE PHE CYS GLY LEU GLY SER
ASP THR ASP GLU ASP LYS ASP ASN LEU GLU ASP PHE ASP THR GLU VAL ARG LYS VAL LYS GLU ALA LYS GLY VAL PRO GLU ALA ASP VAL THR SER SER PRO GLU ALA ALA ILE VAL SER ALA ALA GLU THR SER VAL SER LEU PRO PRO LYS GLN GLU PRO ASP SER THR THR SER ILE
SER GLN GLU PRO VAL ASP LEU SER SER LYS GLN GLU LEU PRO LYS THR ASP SER LYS GLY PHE SER THR PRO SER PHE SER PHE GLY LEU GLY GLU VAL SER GLY VAL SER PHE ALA ASP LEU ALA SER THR ASN SER GLY ASP PHE ALA PHE GLY SER LYS ASP THR ASN PHE GLN TRP
ALA ASN THR GLY ALA ALA VAL PHE GLY THR LEU SER GLN ASN LYS LYS GLY GLU ASP ALA ASP GLY SER ASP GLU GLU VAL VAL HIS SER ASP ASP VAL HIS PHE GLU PRO ILE VAL SER LEU PRO GLU VAL GLU VAL LYS SER GLY GLU GLU ASP GLU GLU ILE LEU PHE LYS GLU ARG



• Molecule 11: Nup358

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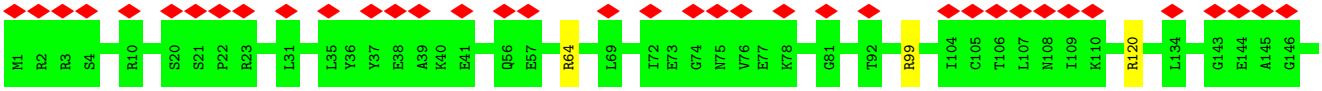
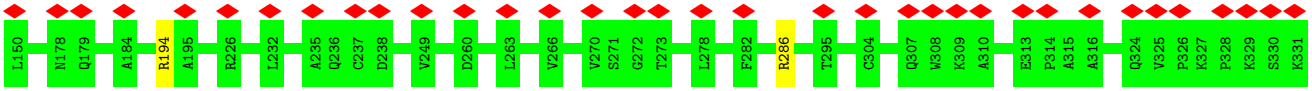
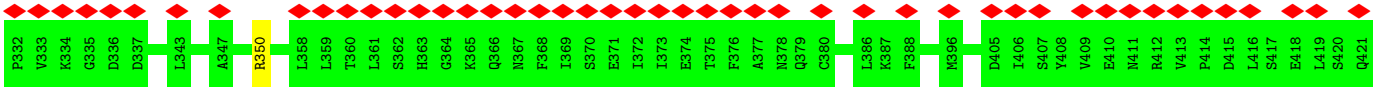
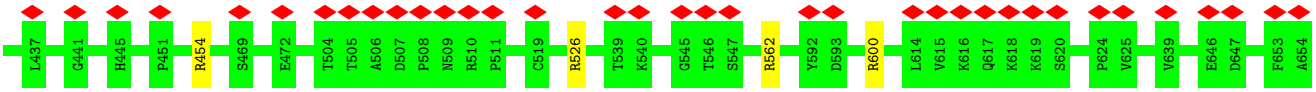
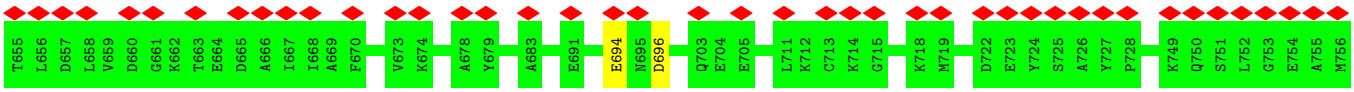
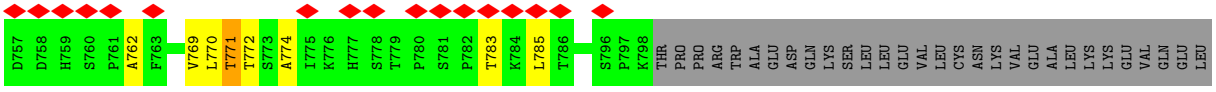


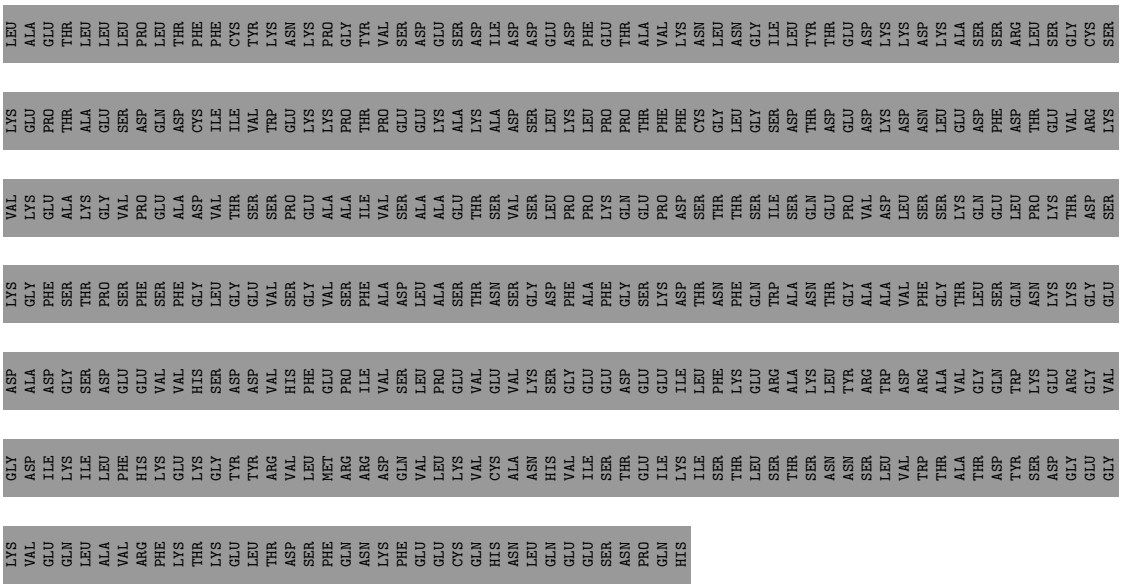






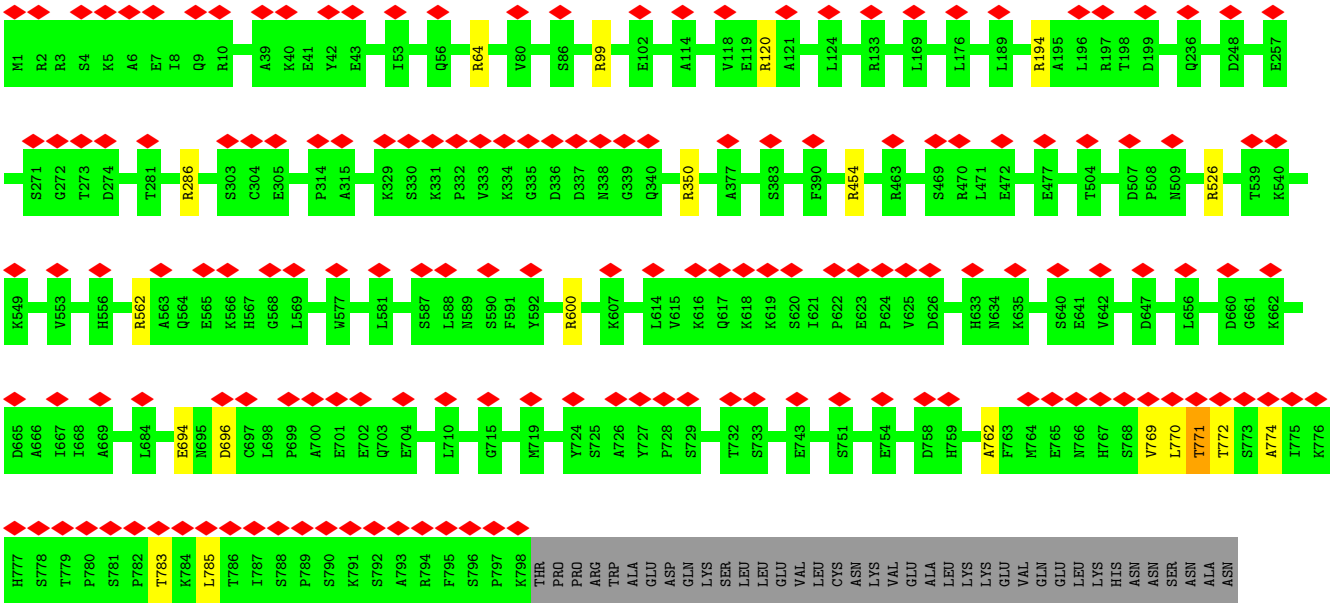






• Molecule 11: Nup358

Chain N:



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

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

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

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

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

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

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

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

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

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

CYS ALA ALA CYS GLN ALA ALA LYS PRO GLY SER SER ALA SER GLN SER LYS GLU VAL PRO SER THR PHE GLY ILE LYS ALA ASN SER SER GLN ASN PHE GLY GLN PRO ALA ALA GLY PHE ASN CYS GLY PHE SER ALA LYS GLY PHE LYS PHE GLY ILE SER ASP GLU LYS ALA SER ALA

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

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

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

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

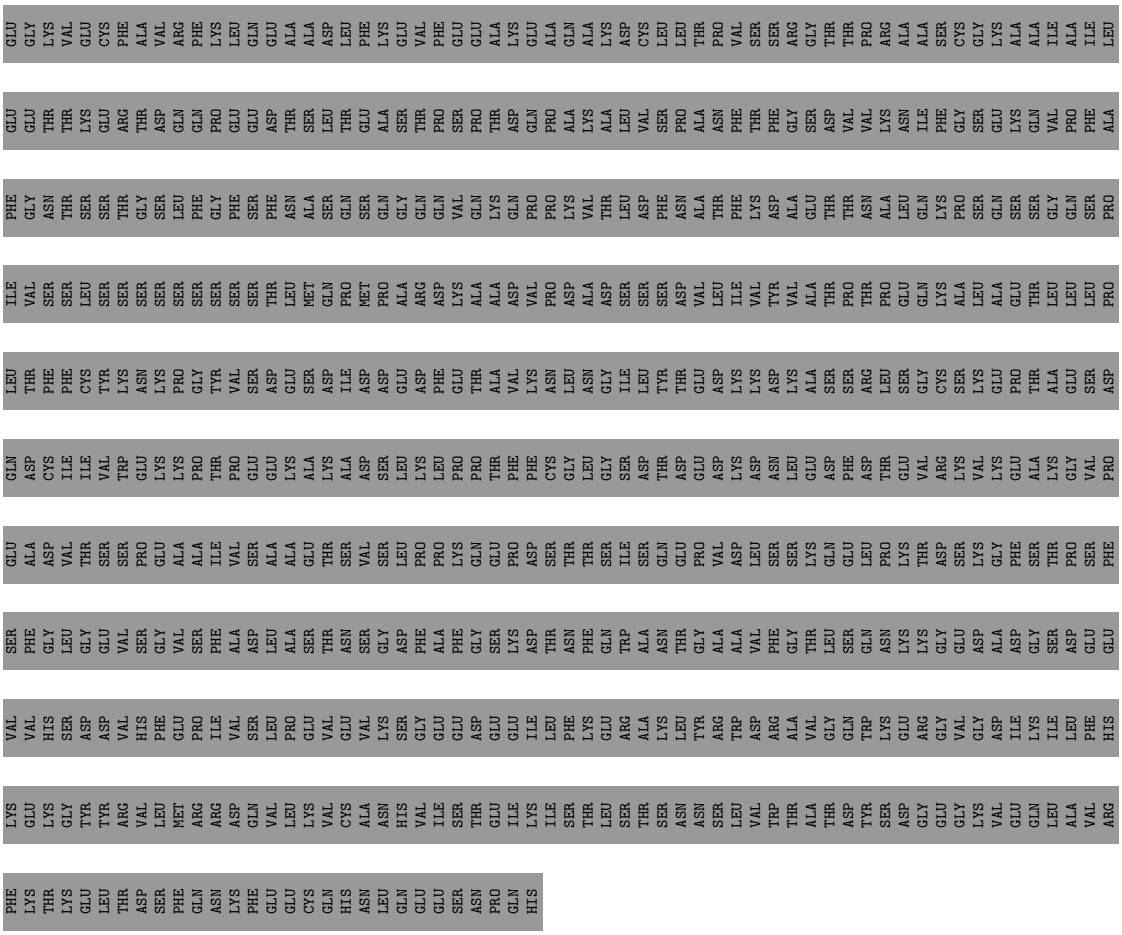
MET TRP LEU ALA ASN ASP PHE SER GLU GLY ASP ALA LYS LEU GLU GLN LEU ALA VAL LYS PHE LYS THR PRO GLU GLN ALA GLU GLU PHE LYS ILE LYS PHE ASP GLN CYS GLN CYS LEU LEU LEU ASP ILE PRO LEU GLN THR PRO HIS LYS LEU VAL ASP THR GLY ARG THR ALA HIS

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

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

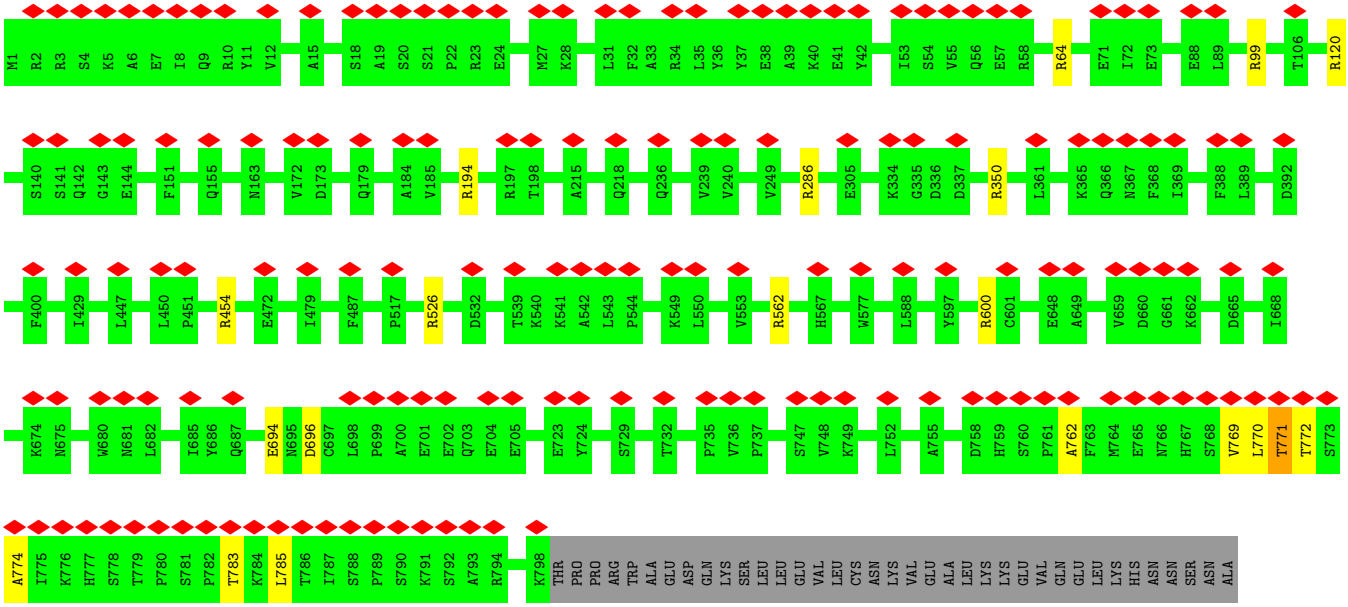
THR ASP GLU GLU SER ASP VAL THR GLN GLU GLU GLU ARG ASP GLY GLN TYR PHE GLU PRO VAL VAL PRO LEU PRO ASP LEU VAL GLU VAL THR SER GLY GLU GLU ASN GLU GLN ALA ILE PHE CYS HIS ARG ALA LYS LEU TYR ARG PHE ASP LYS ASP SER ASN GLN TRP LYS GLU ARG

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



• Molecule 11: Nup358

Chain M:



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

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

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

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

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

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

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

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

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

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

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

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

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

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

THR CYS ALA ALA CYS GLN ALA ALA LYS PRO GLY SER SER ALA SER GLN SER LYS GLU VAL PRO SER THR PHE GLY ILE LYS ALA ASN SER SER GLN ASN PHE GLY GLN PRO ALA ALA GLY PHE ASN CYS GLY PHE SER ALA LYS GLY PHE LYS PHE GLY ILE SER ASP GLU LYS ALA SER

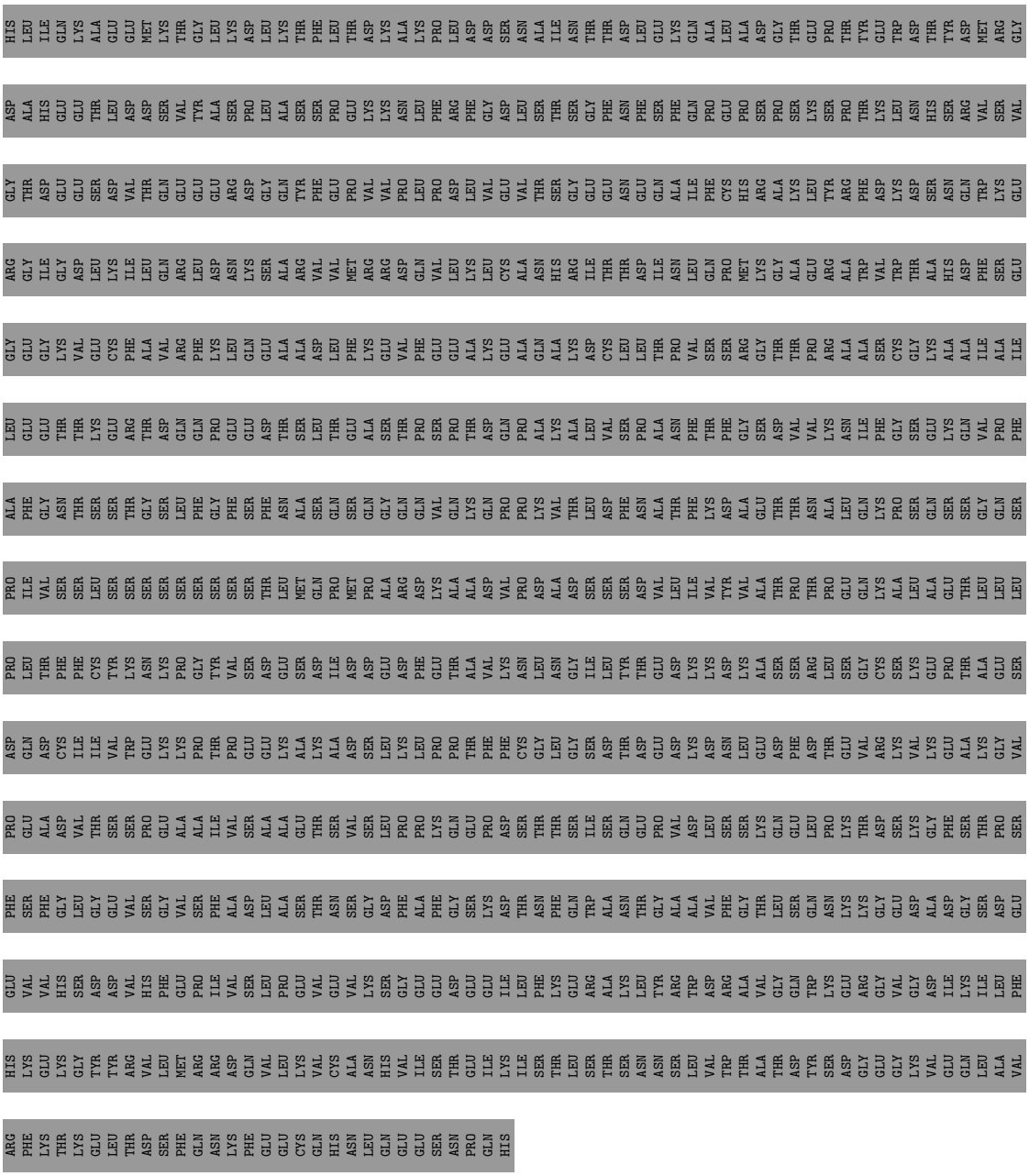
ALA SER ASN PHE THR PHE LYS ALA PRO ALA THR ASN GLU GLU THR LYS MET VAL LYS ASP GLY PHE ASN PHE PRO VAL SER ALA GLY SER LEU SER PHE LYS PHE GLY ILE SER GLU PRO ASP LYS THR LYS GLU MET SER THR GLY PHE MET LYS GLY THR SER THR ASN ASN LYS GLY

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

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

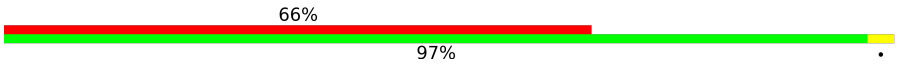
PHE ASP ALA THR SER GLY GLN TRP LYS GLU ARG GLY VAL GLY ASN LEU LYS ILE LEU LYS ASN GLU VAL ASN GLY LYS LEU ARG VAL LEU MET ARG ARG GLU GLN VAL LEU LYS VAL CYS ALA ASN HIS TRP ILE THR THR THR MET ASN LEU LYS PRO LEU THR GLY SER ASP ARG ALA

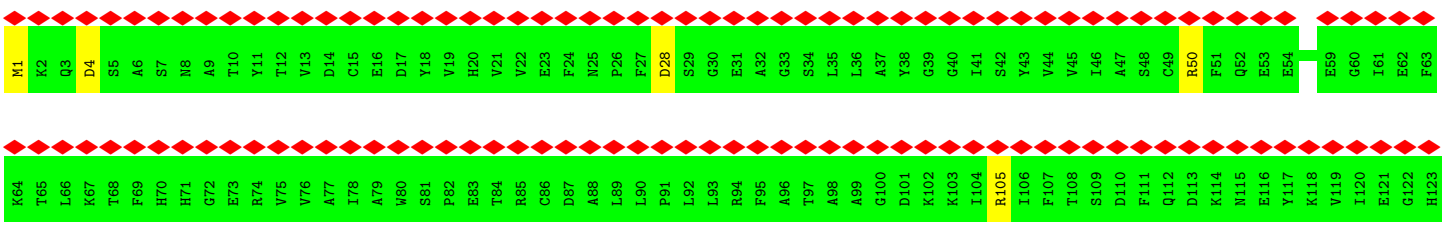
TRP MET TRP LEU ALA ASN ASP PHE SER GLU GLY ASP ALA LYS LEU GLU GLN LEU ALA VAL LYS PHE LYS THR PRO GLU GLN ALA GLU GLU PHE LYS ILE LYS PHE ASP GLN CYS GLN CYS LEU LEU LEU ASP ILE PRO LEU GLN THR PRO HIS LYS LEU VAL ASP THR GLY ARG THR ALA

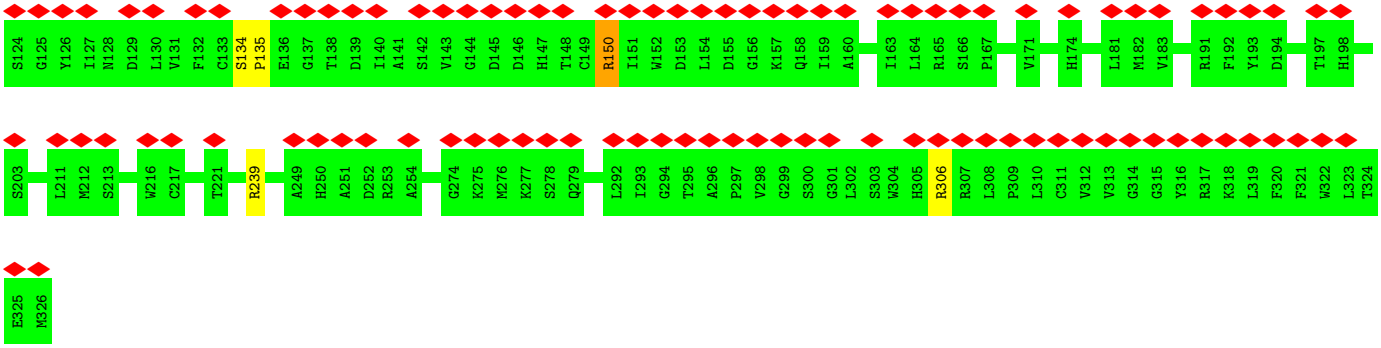


- Molecule 12: Nup37

Chain B:

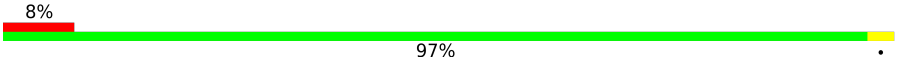


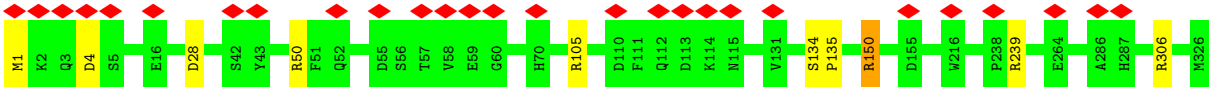




• Molecule 12: Nup37

Chain b:





• Molecule 13: Nup160

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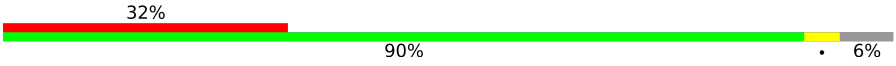

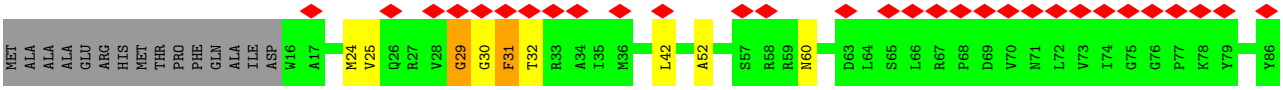

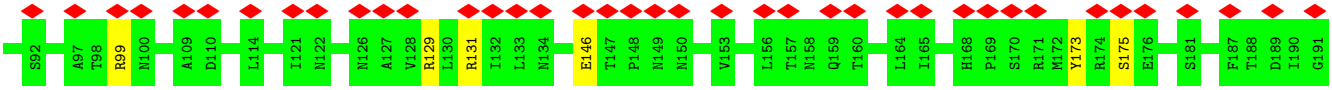

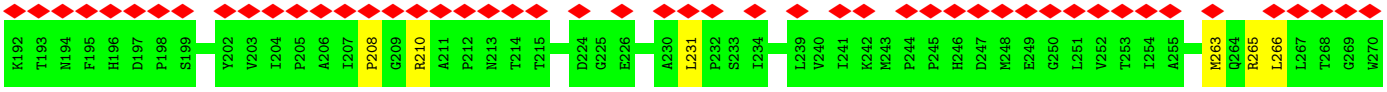

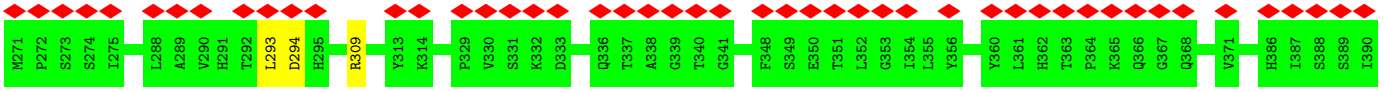

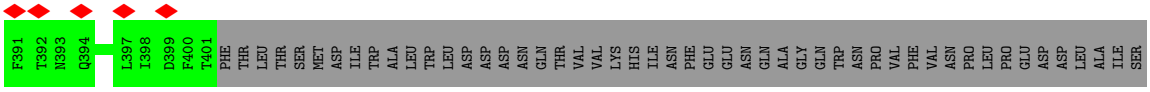

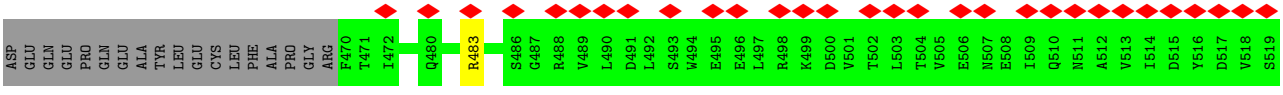

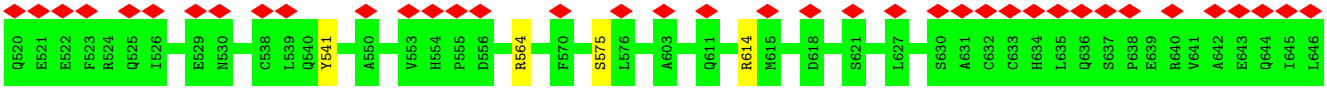

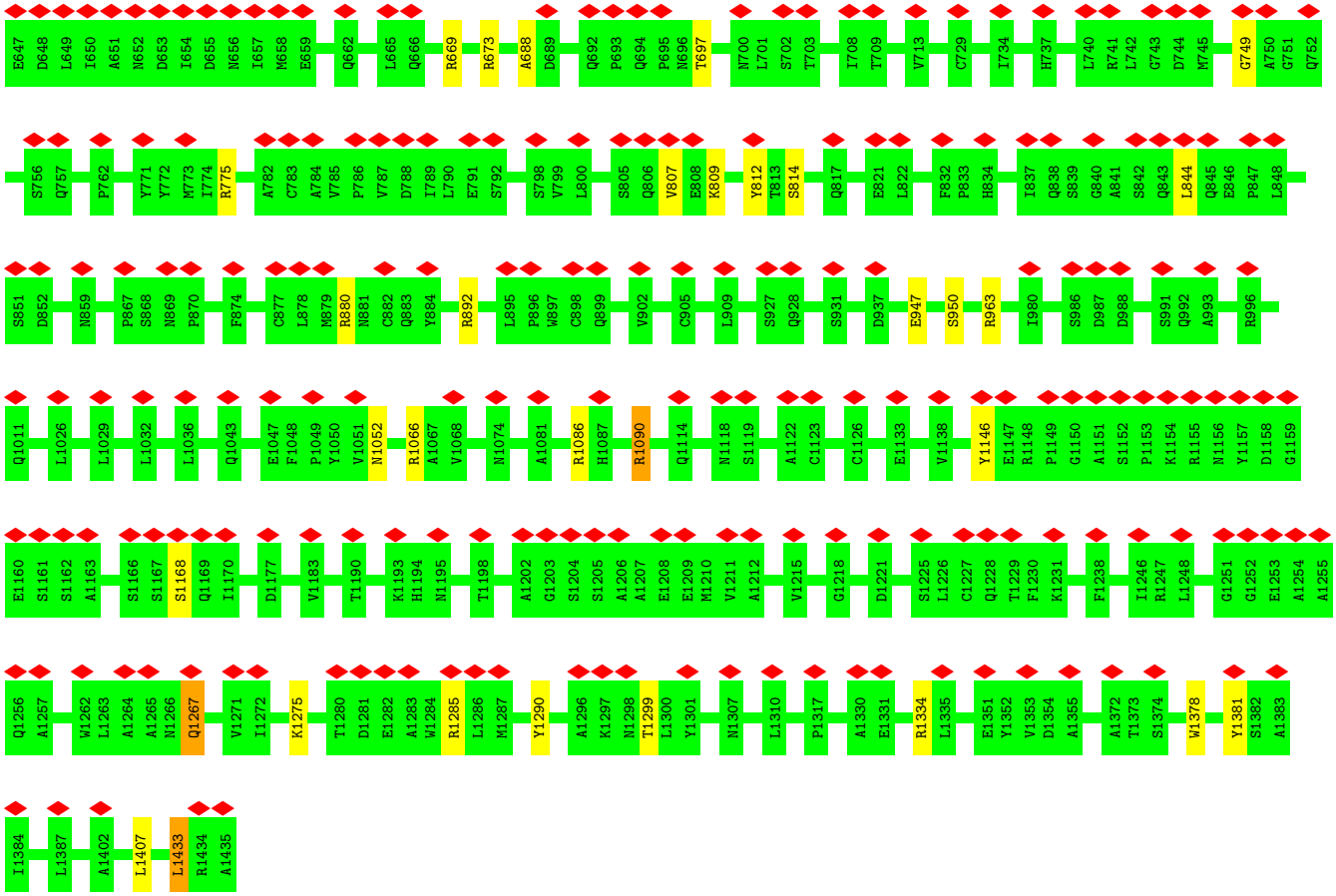

• Molecule 13: Nup160

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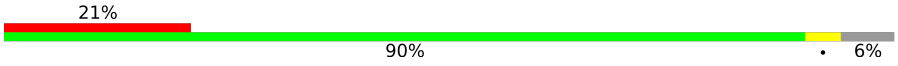
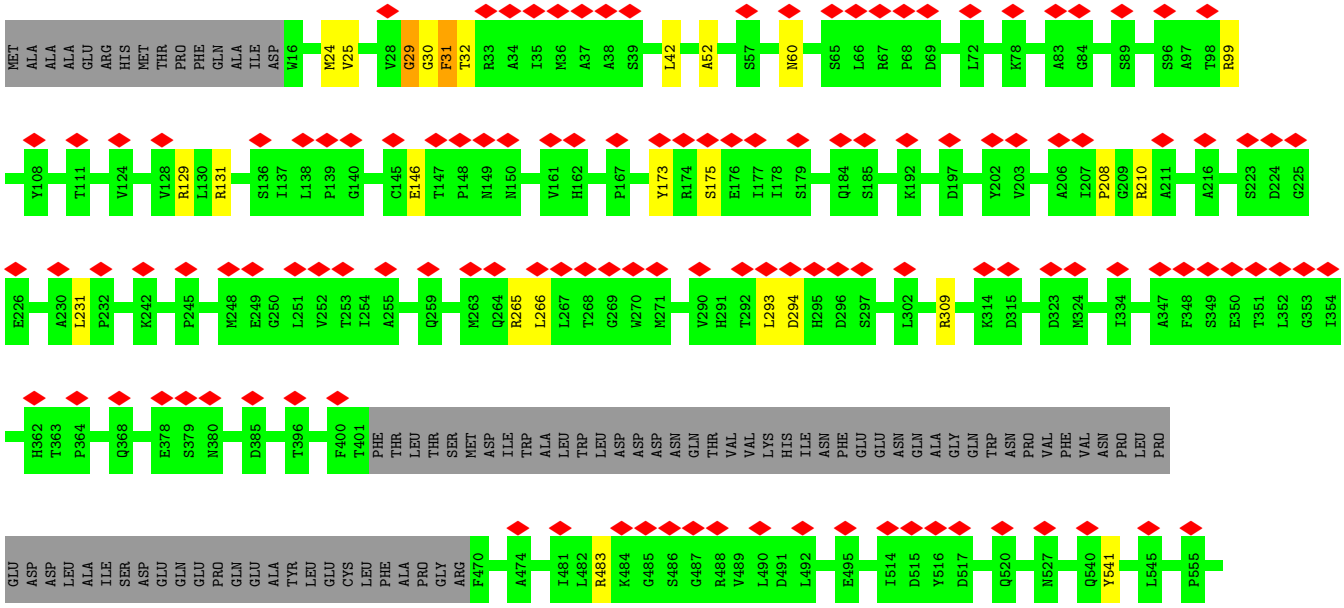
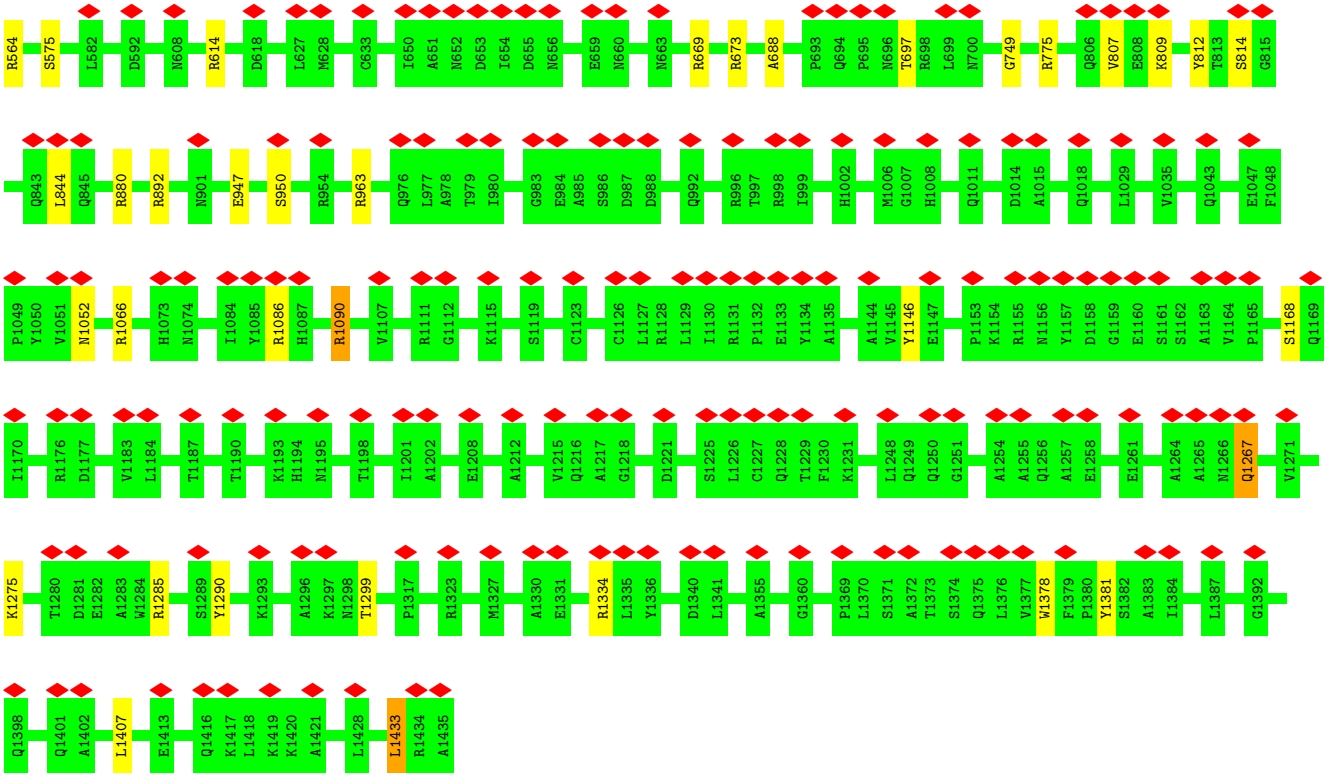
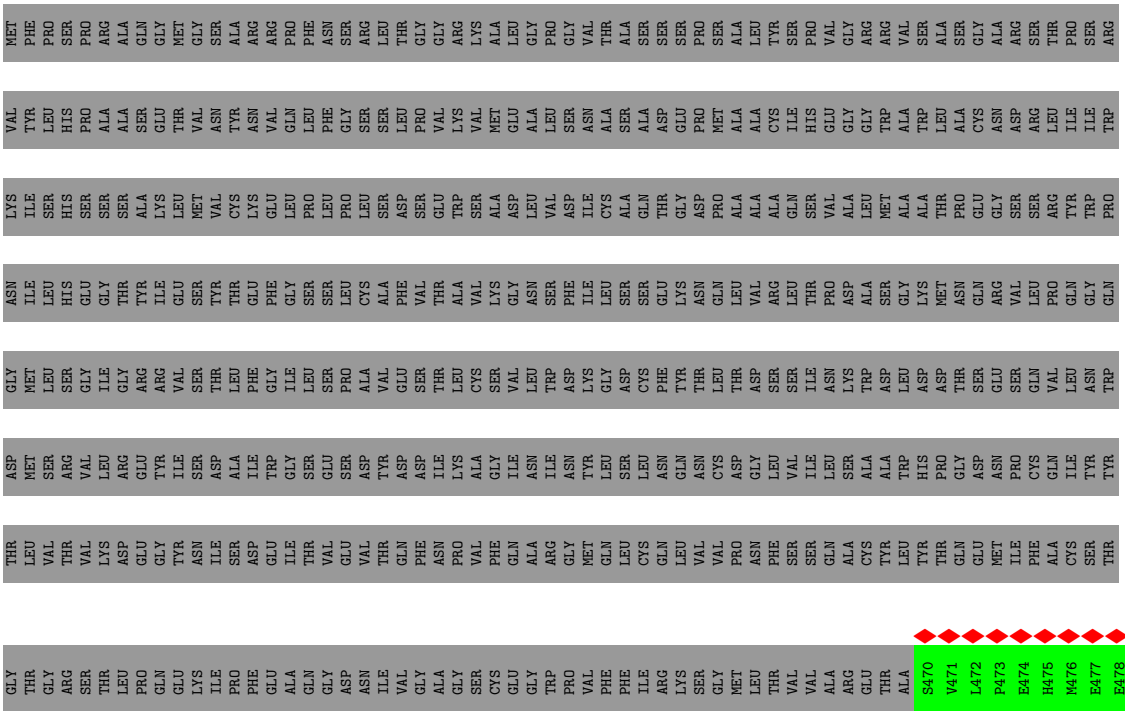


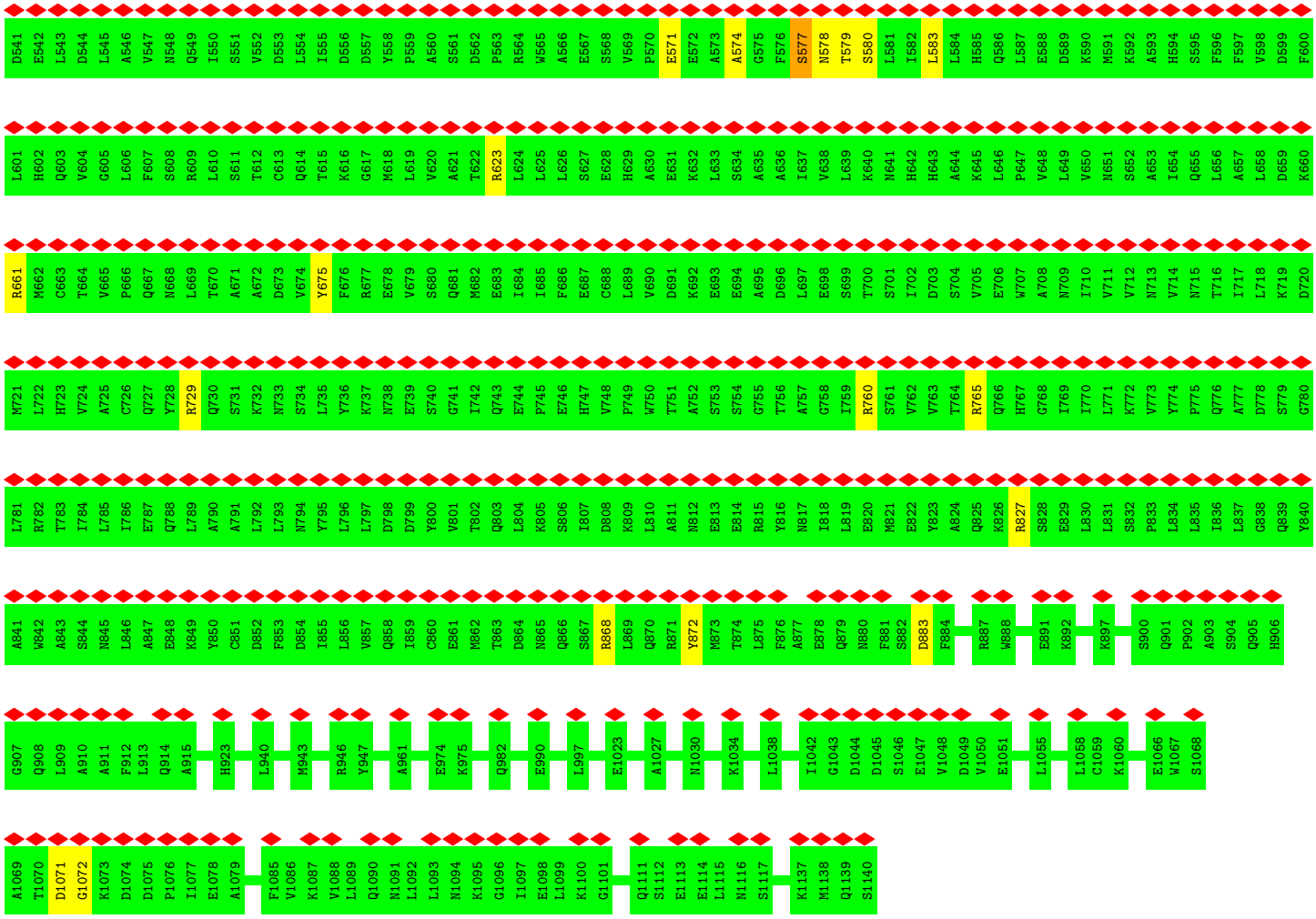




- Molecule 14: Nup133

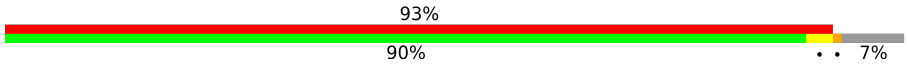
Chain I:

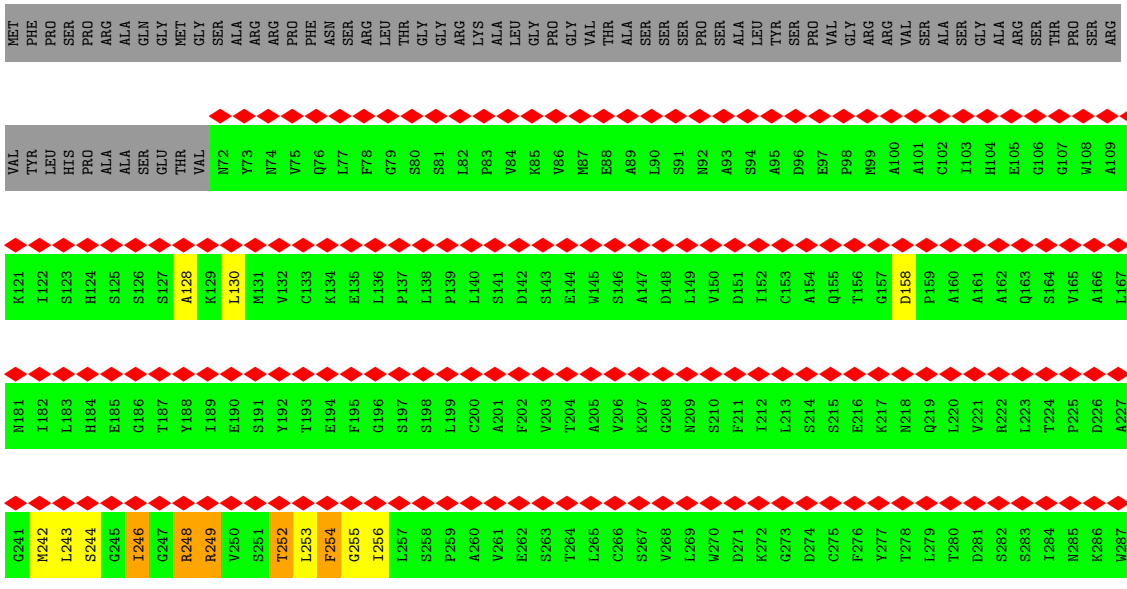


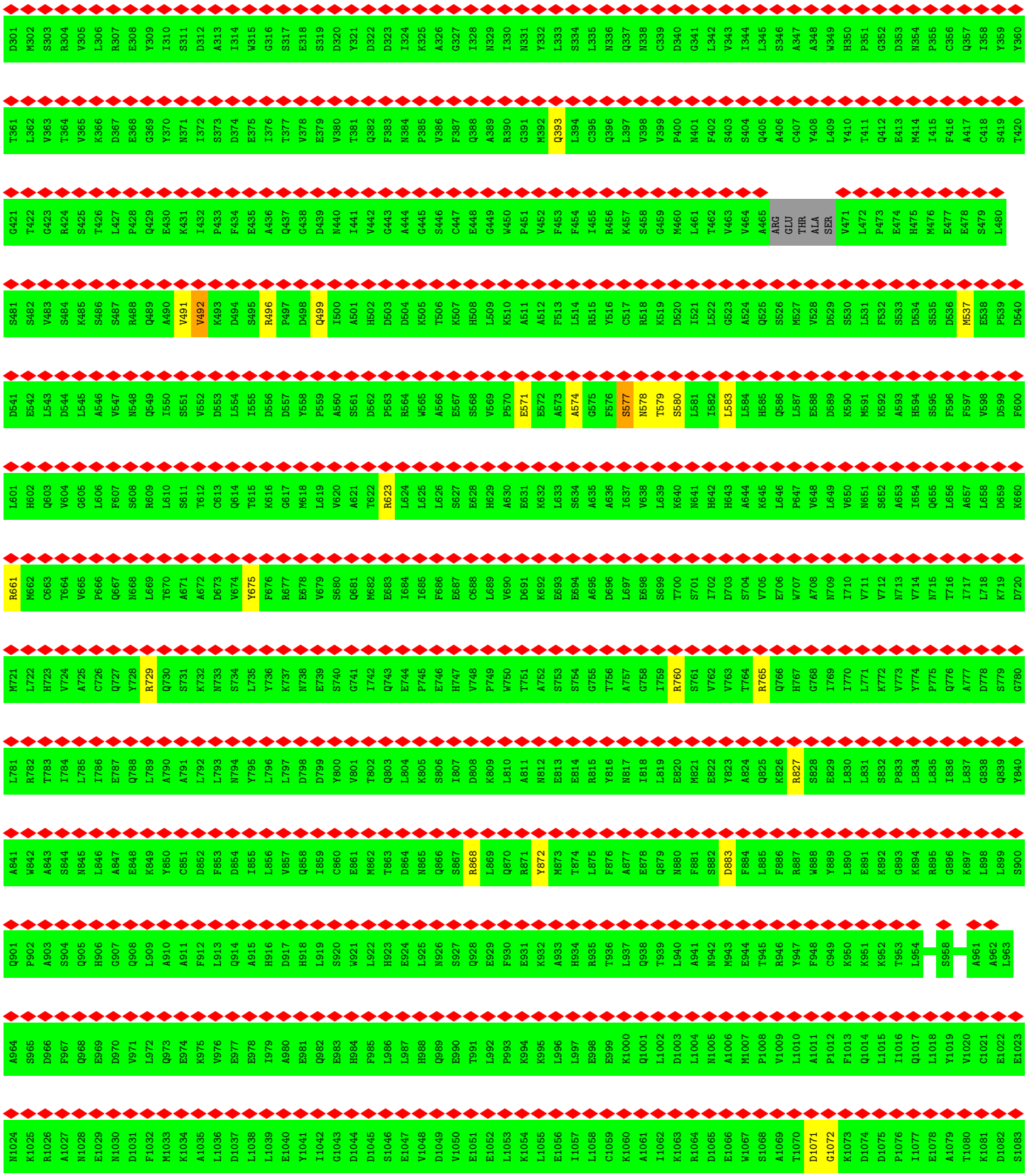


• Molecule 14: Nup133

Chain i:



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T361 L362 V363 T364 V365 K366 D367 E368 G369 Y370 N371 I372 S373 D374 E375 I376 T377 V378 E379 V380 T381 Q382 F383 N384 P385 V386 F387 Q388 A389 R390 G391 M392 Q393 L394 C395 Q396 L397 V398 V399 P400 N401 F402 S403 S404 Q405 A406 C407 Y408 L409 Y410 T411 Q412 E413 M414 I415 F416 A417 C418 S419 T420
G421 T422 G423 R424 S425 T426 L427 P428 Q429 E430 K431 I432 P433 F434 E435 A436 Q437 G438 D439 N440 I441 V442 G443 A444 G445 S446 C447 E448 G449 W450 P451 V452 F453 F454 I455 R456 K457 S458 G459 M460 L461 T462 V463 V464 A465 ARG GLU THR ALA SER V471 L472 P473 E474 H475 M476 E477 E478 S479 L480
S481 S482 V483 S484 K485 S486 S487 R488 Q489 A490 V491 V492 K493 D494 S495 R496 P497 D498 Q499 I500 A501 H502 D503 D504 K505 T506 K507 H508 L509 K510 A511 A512 F513 L514 R515 Y516 C517 R518 K519 D520 I521 L522 G523 A524 Q525 S526 M527 V528 D529 S530 L531 F532 S533 D534 S535 D536 M537 E538 P539 D540
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L601 H602 Q603 V604 G605 L606 F607 S608 R609 L610 S611 T612 C613 Q614 T615 K616 G617 M618 L619 V620 A621 T622 R623 L624 L625 L626 S627 E628 H629 A630 E631 K632 L633 S634 A635 A636 I637 V638 L639 K640 N641 H642 H643 A644 K645 L646 P647 V648 L649 V650 N651 S652 A653 I654 Q655 L656 A657 L658 D659 K660
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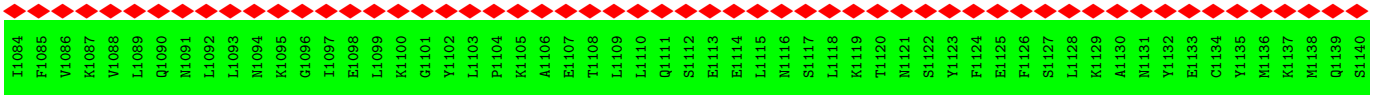
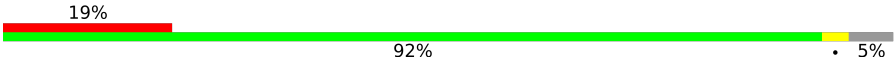
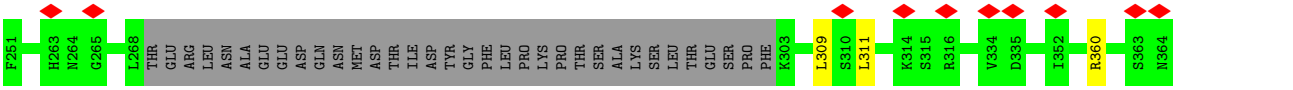
M721 L722 H723 V724 A725 C726 Q727 Y728 R729 Q730 S731 K732 N733 S734 L735 Y736 K737 N738 E739 S740 G741 I742 Q743 E744 P745 E746 H747 V748 P749 W750 T751 A752 S753 S754 G755 T756 A757 G758 I759 R760 S761 V762 V763 T764 R765 Q766 H767 G768 I769 I770 L771 K772 V773 Y774 P775 Q776 A777 D778 S779 G780
L781 R782 T783 I784 L785 I786 E787 Q788 L789 A790 A791 L792 L793 N794 Y795 L796 L797 D798 D799 Y800 V801 T802 Q803 L804 K805 S806 I807 D808 K809 L810 A811 N812 E813 E814 R815 Y816 N817 I818 L819 E820 M821 E822 Y823 A824 Q825 K826 R827 S828 E829 L830 L831 S832 P833 L834 L835 I836 L837 G838 Q839 Y840
A841 W842 A843 S844 N845 L846 A847 E848 K849 Y850 C851 D852 F853 D854 I855 L856 V857 Q858 I859 C860 E861 M862 T863 D864 N865 Q866 S867 R868 L869 Q870 R871 Y872 M873 T874 L875 F876 A877 E878 Q879 N880 F881 S882 D883 F884 L885 F886 R887 W888 Y889 L890 E891 K892 G893 K894 R895 G896 K897 L898 L899 S900
Q901 P902 A903 S904 Q905 H906 G907 Q908 L909 A910 A911 F912 L913 Q914 A915 H916 D917 H918 L919 S920 W921 L922 H923 E924 L925 N926 S927 Q928 E929 F930 E931 K932 A933 H934 R935 T936 L937 Q938 T939 L940 A941 N942 M943 E944 T945 R946 Y947 F948 C949 K950 K951 K952 T953 L954 S958 A961 A962 L963
A964 S965 D966 F967 Q968 E969 D970 V971 L972 Q973 E974 K975 V976 E977 E978 I979 A980 E981 Q982 E983 H984 F985 L986 L987 H988 Q989 E990 T991 L992 P993 K994 K995 L996 L997 E998 E999 K1000 Q1001 L1002 D1003 L1004 N1005 A1006 M1007 P1008 V1009 L1010 A1011 P1012 F1013 Q1014 L1015 I1016 Q1017 L1018 Y1019 V1020 C1021 E1022 E1023
N1024 K1025 R1026 A1027 N1028 E1029 N1030 D1031 F1032 M1033 K1034 A1035 L1036 D1037 L1038 L1039 E1040 Y1041 I1042 G1043 D1044 D1045 S1046 E1047 V1048 D1049 V1050 E1051 E1052 L1053 K1054 L1055 E1056 I1057 L1058 C1059 K1060 A1061 I1062 K1063 R1064 D1065 E1066 W1067 S1068 A1069 T1070 D1071 G1072 K1073 D1074 D1075 P1076 I1077 E1078 A1079 T1080 K1081 D1082 S1083

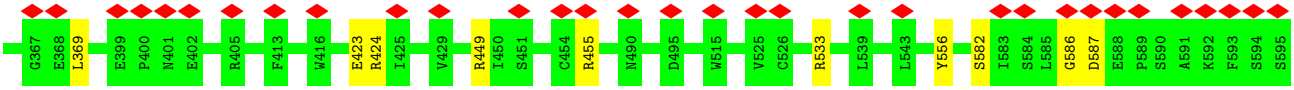


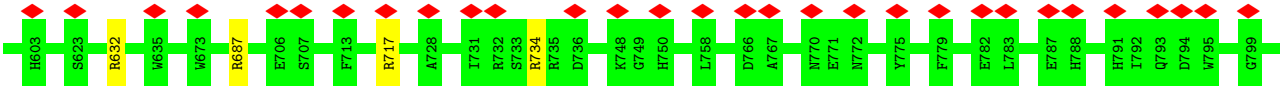
• Molecule 15: Nuclear pore complex protein Nup96

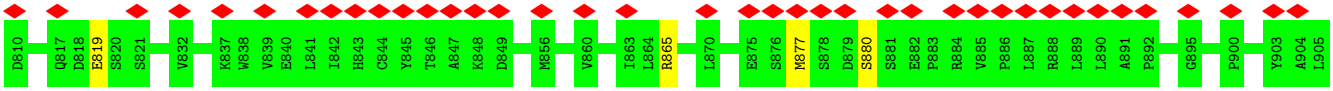
Chain F:

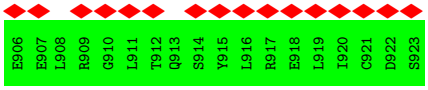






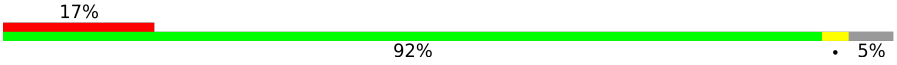


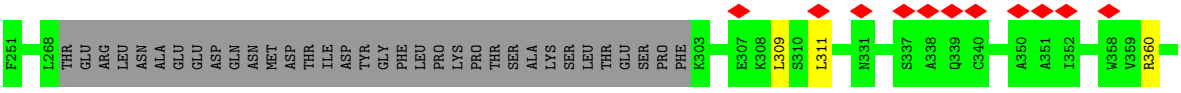


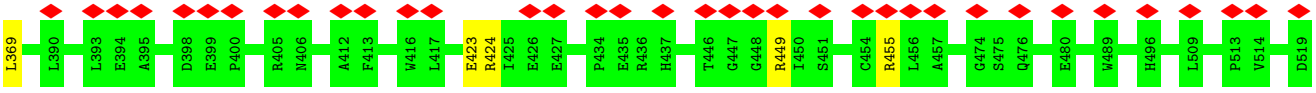


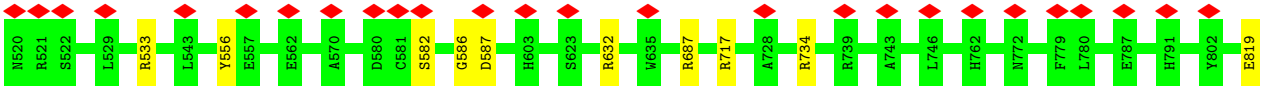
• Molecule 15: Nuclear pore complex protein Nup96

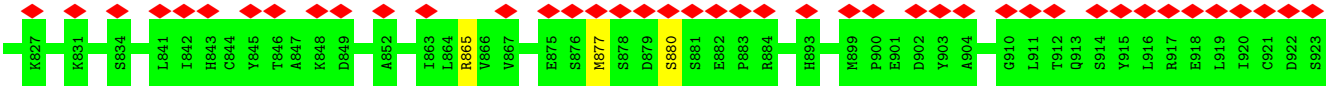
Chain f:











4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	333214	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.25	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	4.753	Depositor
Minimum map value	-0.227	Depositor
Average map value	0.018	Depositor
Map value standard deviation	0.092	Depositor
Recommended contour level	0.366	Depositor
Map size (Å)	840.0, 840.0, 840.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.8, 2.8, 2.8	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	H	0.65	0/6553	0.91	21/8867 (0.2%)
1	h	0.65	0/6553	0.91	20/8867 (0.2%)
2	T	0.58	0/1086	0.80	2/1457 (0.1%)
2	t	0.58	0/247	0.75	0/333
3	S	0.78	1/1178 (0.1%)	1.06	3/1567 (0.2%)
3	s	0.58	0/258	0.71	0/343
4	R	0.63	0/5490	0.89	7/7427 (0.1%)
4	r	0.63	0/3755	0.91	5/5107 (0.1%)
5	G	0.60	0/2454	0.91	1/3349 (0.0%)
5	g	0.60	0/2454	0.91	1/3349 (0.0%)
6	L	0.65	0/16272	0.93	34/22021 (0.2%)
6	l	0.65	0/16272	0.94	34/22021 (0.2%)
7	E	0.61	0/2592	0.96	4/3515 (0.1%)
7	e	0.61	0/2592	0.96	5/3515 (0.1%)
8	D	0.61	0/2996	0.98	6/4074 (0.1%)
8	d	0.61	0/2996	0.98	6/4074 (0.1%)
9	C	0.64	0/5377	0.89	8/7265 (0.1%)
9	c	0.79	19/5376 (0.4%)	1.00	35/7265 (0.5%)
10	U	0.64	0/2977	0.85	2/4032 (0.0%)
11	M	0.65	0/6555	0.89	9/8864 (0.1%)
11	N	0.65	0/6555	0.89	9/8864 (0.1%)
11	O	0.65	0/6555	0.89	9/8864 (0.1%)
11	P	0.65	0/6555	0.89	9/8864 (0.1%)
11	Q	0.65	0/6555	0.89	9/8864 (0.1%)
12	B	0.65	0/2643	0.93	6/3587 (0.2%)
12	b	0.65	0/2643	0.93	6/3587 (0.2%)
13	A	0.64	0/10962	0.93	21/14884 (0.1%)
13	a	0.64	0/10962	0.93	21/14884 (0.1%)
14	I	0.63	0/5475	0.88	9/7398 (0.1%)
14	i	0.63	0/8561	0.89	9/11601 (0.1%)
15	F	0.65	0/5338	0.93	13/7245 (0.2%)
15	f	0.65	0/5338	0.93	13/7245 (0.2%)
All	All	0.65	20/172175 (0.0%)	0.92	337/233199 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	H	0	1
1	h	0	1
2	T	0	1
4	R	0	4
4	r	0	3
6	L	0	18
6	l	0	18
8	D	0	7
8	d	0	7
9	C	0	2
9	c	0	41
10	U	0	1
11	M	0	3
11	N	0	3
11	O	0	3
11	P	0	3
11	Q	0	3
12	B	0	3
12	b	0	3
13	A	0	11
13	a	0	11
14	I	0	5
14	i	0	12
15	F	0	2
15	f	0	2
All	All	0	168

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	S	736	SER	C-N	16.30	1.71	1.34
9	c	615	PRO	N-CD	-11.91	1.31	1.47
9	c	568	PRO	N-CD	-9.19	1.34	1.47
9	c	393	GLY	C-N	9.02	1.54	1.34
9	c	335	ALA	C-N	8.94	1.49	1.33
9	c	319	PRO	N-CD	7.49	1.58	1.47
9	c	342	PRO	N-CD	6.92	1.57	1.47
9	c	156	PRO	N-CD	6.86	1.57	1.47
9	c	1	MET	C-N	6.37	1.48	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	c	59	SER	C-N	6.29	1.48	1.34
9	c	159	PRO	N-CD	5.74	1.55	1.47
9	c	621	GLN	C-N	5.65	1.47	1.34
9	c	91	GLY	C-N	5.48	1.46	1.34
9	c	539	TYR	C-N	-5.36	1.21	1.34
9	c	89	ALA	C-N	5.33	1.46	1.34
9	c	632	MET	C-N	-5.30	1.21	1.34
9	c	187	LYS	C-N	-5.27	1.24	1.34
9	c	615	PRO	C-N	5.21	1.46	1.34
9	c	114	GLU	C-N	-5.06	1.22	1.34
9	c	511	ARG	C-N	5.02	1.42	1.33

All (337) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	S	736	SER	O-C-N	-27.28	79.05	122.70
9	c	387	ALA	O-C-N	-20.77	89.47	122.70
9	c	2	GLU	O-C-N	-19.86	90.92	122.70
9	c	3	GLU	O-C-N	-18.08	93.77	122.70
9	c	48	ALA	O-C-N	-14.74	99.11	122.70
9	c	619	GLN	O-C-N	-14.66	99.24	122.70
9	c	1	MET	O-C-N	-13.57	100.99	122.70
9	c	4	LEU	O-C-N	-13.10	101.74	122.70
9	c	18	GLN	O-C-N	-12.89	102.07	122.70
9	c	5	ASP	O-C-N	-12.13	103.29	122.70
9	c	243	THR	O-C-N	-11.81	103.13	123.20
9	c	47	THR	O-C-N	-11.80	103.83	122.70
9	c	42	GLN	O-C-N	-11.47	103.71	123.20
9	c	620	LYS	O-C-N	-11.39	104.48	122.70
8	D	20	ARG	NE-CZ-NH1	11.16	125.88	120.30
8	d	20	ARG	NE-CZ-NH1	11.02	125.81	120.30
9	c	618	ILE	O-C-N	-10.79	105.44	122.70
9	c	45	SER	O-C-N	-10.57	105.79	122.70
9	c	388	HIS	O-C-N	-10.14	106.48	122.70
13	A	1090	ARG	NE-CZ-NH2	-10.04	115.28	120.30
15	f	360	ARG	NE-CZ-NH1	9.90	125.25	120.30
15	F	360	ARG	NE-CZ-NH1	9.82	125.21	120.30
13	a	1090	ARG	NE-CZ-NH2	-9.80	115.40	120.30
9	c	613	THR	O-C-N	-9.67	107.23	122.70
6	l	487	ARG	NE-CZ-NH1	9.52	125.06	120.30
6	L	291	ARG	NE-CZ-NH2	9.44	125.02	120.30
6	l	291	ARG	NE-CZ-NH2	9.35	124.97	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	L	487	ARG	NE-CZ-NH1	9.35	124.97	120.30
11	M	562	ARG	NE-CZ-NH1	9.29	124.94	120.30
11	Q	562	ARG	NE-CZ-NH1	9.26	124.93	120.30
11	P	562	ARG	NE-CZ-NH1	9.18	124.89	120.30
11	O	562	ARG	NE-CZ-NH1	9.17	124.89	120.30
6	L	1463	ARG	NE-CZ-NH1	9.14	124.87	120.30
6	l	1463	ARG	NE-CZ-NH1	9.13	124.87	120.30
11	N	562	ARG	NE-CZ-NH1	9.12	124.86	120.30
12	B	105	ARG	NE-CZ-NH1	9.04	124.82	120.30
14	i	765	ARG	NE-CZ-NH1	9.03	124.82	120.30
1	h	321	ARG	NE-CZ-NH1	9.03	124.81	120.30
13	a	963	ARG	NE-CZ-NH1	8.98	124.79	120.30
13	A	963	ARG	NE-CZ-NH1	8.97	124.79	120.30
12	b	105	ARG	NE-CZ-NH1	8.97	124.78	120.30
6	l	1027	ARG	NE-CZ-NH1	8.88	124.74	120.30
13	A	309	ARG	NE-CZ-NH1	8.88	124.74	120.30
14	I	765	ARG	NE-CZ-NH1	8.83	124.72	120.30
6	L	1027	ARG	NE-CZ-NH1	8.78	124.69	120.30
11	N	600	ARG	NE-CZ-NH1	8.75	124.67	120.30
13	a	309	ARG	NE-CZ-NH1	8.73	124.67	120.30
1	H	321	ARG	NE-CZ-NH1	8.68	124.64	120.30
11	O	600	ARG	NE-CZ-NH1	8.67	124.63	120.30
11	M	600	ARG	NE-CZ-NH1	8.61	124.61	120.30
9	c	620	LYS	C-N-CA	8.60	143.21	121.70
13	a	483	ARG	NE-CZ-NH1	8.59	124.60	120.30
13	A	564	ARG	NE-CZ-NH1	8.56	124.58	120.30
9	c	49	ALA	O-C-N	-8.54	109.04	122.70
11	Q	600	ARG	NE-CZ-NH1	8.53	124.57	120.30
13	a	564	ARG	NE-CZ-NH1	8.53	124.57	120.30
11	P	600	ARG	NE-CZ-NH1	8.41	124.50	120.30
15	f	632	ARG	NE-CZ-NH1	8.35	124.48	120.30
6	L	1177	ARG	NE-CZ-NH1	8.30	124.45	120.30
13	A	483	ARG	NE-CZ-NH1	8.27	124.43	120.30
7	e	5	ARG	NE-CZ-NH1	8.25	124.42	120.30
8	D	20	ARG	NE-CZ-NH2	-8.23	116.19	120.30
7	E	5	ARG	NE-CZ-NH1	8.23	124.41	120.30
1	H	688	ARG	NE-CZ-NH1	8.19	124.39	120.30
15	F	632	ARG	NE-CZ-NH1	8.13	124.36	120.30
8	D	179	ARG	NE-CZ-NH1	8.11	124.36	120.30
1	H	212	ARG	NE-CZ-NH1	8.09	124.35	120.30
8	d	179	ARG	NE-CZ-NH1	8.08	124.34	120.30
7	E	140	ARG	NE-CZ-NH1	8.06	124.33	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	h	212	ARG	NE-CZ-NH1	8.05	124.33	120.30
6	l	1177	ARG	NE-CZ-NH1	8.03	124.31	120.30
8	d	20	ARG	NE-CZ-NH2	-8.02	116.29	120.30
1	h	688	ARG	NE-CZ-NH1	8.01	124.30	120.30
7	e	140	ARG	NE-CZ-NH1	7.94	124.27	120.30
6	l	1614	ARG	NE-CZ-NH1	7.91	124.26	120.30
6	L	725	ARG	NE-CZ-NH1	7.89	124.25	120.30
13	A	1090	ARG	NE-CZ-NH1	7.88	124.24	120.30
13	a	1090	ARG	NE-CZ-NH1	7.84	124.22	120.30
9	c	616	ASP	O-C-N	-7.82	110.19	122.70
6	l	725	ARG	NE-CZ-NH1	7.79	124.19	120.30
9	c	621	GLN	O-C-N	-7.77	110.27	122.70
6	L	1614	ARG	NE-CZ-NH1	7.77	124.19	120.30
14	I	623	ARG	NE-CZ-NH1	7.65	124.12	120.30
9	c	87	GLU	O-C-N	-7.58	110.57	122.70
1	h	299	ARG	NE-CZ-NH1	7.58	124.09	120.30
1	H	299	ARG	NE-CZ-NH1	7.56	124.08	120.30
2	T	380	ALA	CA-C-N	-7.48	100.74	117.20
1	H	539	ARG	NE-CZ-NH2	7.47	124.04	120.30
15	F	449	ARG	NE-CZ-NH1	7.46	124.03	120.30
9	c	45	SER	C-N-CA	7.44	140.30	121.70
13	A	775	ARG	NE-CZ-NH1	7.44	124.02	120.30
8	d	371	ARG	NE-CZ-NH2	7.43	124.02	120.30
14	i	623	ARG	NE-CZ-NH1	7.42	124.01	120.30
13	a	775	ARG	NE-CZ-NH1	7.40	124.00	120.30
1	h	539	ARG	NE-CZ-NH2	7.39	123.99	120.30
8	D	371	ARG	NE-CZ-NH2	7.35	123.97	120.30
9	c	4	LEU	C-N-CA	7.35	140.07	121.70
15	f	449	ARG	NE-CZ-NH1	7.35	123.97	120.30
1	h	147	TYR	CB-CG-CD2	-7.32	116.61	121.00
11	Q	99	ARG	NE-CZ-NH1	7.28	123.94	120.30
4	r	447	ARG	NE-CZ-NH1	7.26	123.93	120.30
1	h	355	ARG	NE-CZ-NH1	7.20	123.90	120.30
11	N	99	ARG	NE-CZ-NH1	7.20	123.90	120.30
6	L	1135	ARG	NE-CZ-NH1	7.19	123.90	120.30
1	H	147	TYR	CB-CG-CD2	-7.19	116.69	121.00
11	M	99	ARG	NE-CZ-NH1	7.17	123.89	120.30
9	c	386	GLN	O-C-N	-7.16	111.25	122.70
11	P	99	ARG	NE-CZ-NH1	7.15	123.88	120.30
1	H	570	ARG	NE-CZ-NH2	-7.14	116.73	120.30
1	h	570	ARG	NE-CZ-NH2	-7.09	116.75	120.30
9	C	397	ARG	NE-CZ-NH1	7.07	123.83	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	H	355	ARG	NE-CZ-NH1	7.06	123.83	120.30
11	O	99	ARG	NE-CZ-NH1	7.06	123.83	120.30
1	H	221	ARG	NE-CZ-NH1	7.03	123.81	120.30
11	N	350	ARG	NE-CZ-NH2	7.02	123.81	120.30
4	R	447	ARG	NE-CZ-NH1	7.00	123.80	120.30
13	a	892	ARG	NE-CZ-NH1	6.99	123.80	120.30
11	O	350	ARG	NE-CZ-NH2	6.98	123.79	120.30
13	A	892	ARG	NE-CZ-NH1	6.96	123.78	120.30
9	c	385	PHE	O-C-N	-6.94	111.59	122.70
11	M	350	ARG	NE-CZ-NH2	6.94	123.77	120.30
6	l	1135	ARG	NE-CZ-NH1	6.94	123.77	120.30
13	A	1066	ARG	NE-CZ-NH1	6.92	123.76	120.30
6	l	751	ARG	NE-CZ-NH1	6.89	123.75	120.30
14	i	760	ARG	NE-CZ-NH1	6.89	123.75	120.30
13	a	131	ARG	NE-CZ-NH2	-6.88	116.86	120.30
1	h	841	ARG	NE-CZ-NH1	6.87	123.74	120.30
9	C	309	ARG	NE-CZ-NH1	6.84	123.72	120.30
1	h	221	ARG	NE-CZ-NH1	6.82	123.71	120.30
15	F	865	ARG	NE-CZ-NH1	6.82	123.71	120.30
11	M	64	ARG	NE-CZ-NH1	6.81	123.71	120.30
13	A	131	ARG	NE-CZ-NH2	-6.81	116.89	120.30
11	P	350	ARG	NE-CZ-NH2	6.80	123.70	120.30
1	H	841	ARG	NE-CZ-NH1	6.79	123.70	120.30
15	f	865	ARG	NE-CZ-NH1	6.78	123.69	120.30
6	L	751	ARG	NE-CZ-NH1	6.77	123.69	120.30
11	Q	350	ARG	NE-CZ-NH2	6.76	123.68	120.30
11	Q	64	ARG	NE-CZ-NH1	6.73	123.67	120.30
11	P	64	ARG	NE-CZ-NH1	6.73	123.66	120.30
9	c	43	GLY	C-N-CA	6.70	138.46	121.70
8	D	16	ARG	NE-CZ-NH1	6.68	123.64	120.30
1	H	336	ARG	NE-CZ-NH1	6.66	123.63	120.30
1	h	336	ARG	NE-CZ-NH1	6.63	123.61	120.30
13	A	99	ARG	NE-CZ-NH2	-6.62	116.99	120.30
6	l	433	ARG	NE-CZ-NH1	6.61	123.61	120.30
6	l	1285	ARG	NE-CZ-NH1	6.61	123.61	120.30
1	H	256	ARG	NE-CZ-NH1	6.60	123.60	120.30
1	h	256	ARG	NE-CZ-NH1	6.60	123.60	120.30
11	O	64	ARG	NE-CZ-NH1	6.59	123.60	120.30
14	I	760	ARG	NE-CZ-NH1	6.59	123.59	120.30
13	a	1066	ARG	NE-CZ-NH1	6.58	123.59	120.30
6	L	1285	ARG	NE-CZ-NH1	6.57	123.58	120.30
11	N	64	ARG	NE-CZ-NH1	6.55	123.58	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	L	1250	ARG	NE-CZ-NH1	6.53	123.56	120.30
1	H	395	ARG	NE-CZ-NH1	6.52	123.56	120.30
6	l	1920	GLN	C-N-CA	6.52	137.99	121.70
8	d	18	ARG	NE-CZ-NH1	6.50	123.55	120.30
9	c	41	LYS	O-C-N	-6.50	112.30	122.70
6	L	1920	GLN	C-N-CA	6.50	137.94	121.70
9	c	43	GLY	O-C-N	-6.49	112.32	122.70
8	d	16	ARG	NE-CZ-NH1	6.48	123.54	120.30
6	L	313	ARG	NE-CZ-NH1	6.47	123.53	120.30
13	a	99	ARG	NE-CZ-NH2	-6.45	117.07	120.30
1	h	219	ARG	NE-CZ-NH1	6.45	123.52	120.30
6	L	898	ARG	NE-CZ-NH1	6.44	123.52	120.30
12	B	50	ARG	NE-CZ-NH1	6.44	123.52	120.30
4	r	185	ARG	NE-CZ-NH1	6.42	123.51	120.30
6	l	313	ARG	NE-CZ-NH1	6.41	123.50	120.30
6	L	433	ARG	NE-CZ-NH1	6.38	123.49	120.30
1	h	346	ARG	NE-CZ-NH1	6.36	123.48	120.30
6	l	1660	ARG	NE-CZ-NH1	6.35	123.47	120.30
15	f	360	ARG	NE-CZ-NH2	-6.35	117.13	120.30
9	C	211	ARG	NE-CZ-NH2	-6.33	117.14	120.30
8	D	18	ARG	NE-CZ-NH1	6.32	123.46	120.30
6	l	1250	ARG	NE-CZ-NH1	6.31	123.45	120.30
6	L	330	ARG	NE-CZ-NH1	6.30	123.45	120.30
15	F	360	ARG	NE-CZ-NH2	-6.30	117.15	120.30
15	F	533	ARG	NE-CZ-NH2	6.29	123.44	120.30
6	l	898	ARG	NE-CZ-NH1	6.28	123.44	120.30
6	L	1660	ARG	NE-CZ-NH1	6.28	123.44	120.30
1	H	346	ARG	NE-CZ-NH1	6.26	123.43	120.30
12	b	50	ARG	NE-CZ-NH1	6.24	123.42	120.30
15	f	533	ARG	NE-CZ-NH2	6.24	123.42	120.30
13	A	1285	ARG	NE-CZ-NH1	6.22	123.41	120.30
4	R	185	ARG	NE-CZ-NH1	6.22	123.41	120.30
13	A	265	ARG	NE-CZ-NH1	6.21	123.41	120.30
9	c	59	SER	O-C-N	-6.21	112.76	122.70
6	l	330	ARG	NE-CZ-NH1	6.21	123.40	120.30
1	h	395	ARG	NE-CZ-NH1	6.19	123.39	120.30
1	H	219	ARG	NE-CZ-NH1	6.18	123.39	120.30
6	l	1305	ARG	NE-CZ-NH1	6.18	123.39	120.30
15	f	734	ARG	NE-CZ-NH2	-6.18	117.21	120.30
3	S	736	SER	CA-C-N	6.18	130.79	117.20
1	h	494	ARG	NE-CZ-NH2	-6.16	117.22	120.30
13	a	1285	ARG	NE-CZ-NH1	6.15	123.37	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	F	734	ARG	NE-CZ-NH2	-6.12	117.24	120.30
12	b	239	ARG	NE-CZ-NH1	6.10	123.35	120.30
13	a	265	ARG	NE-CZ-NH1	6.08	123.34	120.30
6	L	1305	ARG	NE-CZ-NH1	6.06	123.33	120.30
14	I	868	ARG	NE-CZ-NH1	6.06	123.33	120.30
11	P	454	ARG	NE-CZ-NH1	6.06	123.33	120.30
12	B	239	ARG	NE-CZ-NH1	6.05	123.32	120.30
11	Q	454	ARG	NE-CZ-NH1	6.03	123.32	120.30
14	i	868	ARG	NE-CZ-NH1	6.02	123.31	120.30
12	B	150	ARG	NE-CZ-NH1	6.02	123.31	120.30
1	h	570	ARG	CD-NE-CZ	6.02	132.03	123.60
12	b	150	ARG	NE-CZ-NH1	6.02	123.31	120.30
1	H	570	ARG	CD-NE-CZ	6.00	132.00	123.60
1	h	736	ARG	NE-CZ-NH1	5.99	123.30	120.30
6	l	487	ARG	NH1-CZ-NH2	-5.99	112.81	119.40
11	N	454	ARG	NE-CZ-NH1	5.97	123.28	120.30
13	A	1290	TYR	CB-CG-CD2	-5.96	117.42	121.00
13	A	1086	ARG	NE-CZ-NH1	5.95	123.28	120.30
13	a	1290	TYR	CB-CG-CD2	-5.95	117.43	121.00
11	M	454	ARG	NE-CZ-NH1	5.95	123.27	120.30
13	A	673	ARG	NE-CZ-NH1	5.95	123.27	120.30
14	I	729	ARG	NE-CZ-NH1	5.93	123.27	120.30
6	L	1130	ARG	NE-CZ-NH1	5.93	123.26	120.30
1	H	494	ARG	NE-CZ-NH2	-5.89	117.35	120.30
6	L	487	ARG	NH1-CZ-NH2	-5.89	112.92	119.40
12	b	239	ARG	NE-CZ-NH2	-5.88	117.36	120.30
1	H	736	ARG	NE-CZ-NH1	5.87	123.23	120.30
12	B	239	ARG	NE-CZ-NH2	-5.86	117.37	120.30
1	h	308	ARG	NE-CZ-NH1	5.86	123.23	120.30
11	O	454	ARG	NE-CZ-NH1	5.85	123.22	120.30
13	A	99	ARG	NE-CZ-NH1	5.84	123.22	120.30
13	a	673	ARG	NE-CZ-NH1	5.84	123.22	120.30
7	e	283	ARG	NE-CZ-NH1	5.81	123.21	120.30
9	c	336	GLY	O-C-N	-5.80	113.43	122.70
6	l	1130	ARG	NE-CZ-NH1	5.79	123.19	120.30
7	e	26	ARG	NE-CZ-NH2	5.79	123.19	120.30
6	l	1977	ARG	NE-CZ-NH1	5.78	123.19	120.30
14	i	729	ARG	NE-CZ-NH1	5.77	123.18	120.30
13	a	1086	ARG	NE-CZ-NH1	5.77	123.18	120.30
13	a	99	ARG	NE-CZ-NH1	5.76	123.18	120.30
6	l	1779	CYS	CA-CB-SG	-5.76	103.64	114.00
6	L	1977	ARG	NE-CZ-NH1	5.76	123.18	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	L	1779	CYS	CA-CB-SG	-5.73	103.69	114.00
7	E	26	ARG	NE-CZ-NH2	5.72	123.16	120.30
4	r	521	ARG	NE-CZ-NH1	5.71	123.15	120.30
14	i	827	ARG	NE-CZ-NH1	5.69	123.15	120.30
14	i	661	ARG	NE-CZ-NH1	5.69	123.14	120.30
4	R	521	ARG	NE-CZ-NH1	5.68	123.14	120.30
1	H	308	ARG	NE-CZ-NH1	5.68	123.14	120.30
10	U	1117	ARG	NE-CZ-NH1	5.66	123.13	120.30
9	C	573	LEU	CB-CG-CD1	5.66	120.61	111.00
6	L	737	ARG	NE-CZ-NH1	5.65	123.13	120.30
14	i	765	ARG	NH1-CZ-NH2	-5.65	113.19	119.40
10	U	1111	ARG	NE-CZ-NH1	5.65	123.12	120.30
14	I	827	ARG	NE-CZ-NH1	5.65	123.12	120.30
14	i	872	TYR	CB-CG-CD2	-5.65	117.61	121.00
7	E	283	ARG	NE-CZ-NH1	5.64	123.12	120.30
6	l	737	ARG	NE-CZ-NH1	5.64	123.12	120.30
9	C	110	ARG	NE-CZ-NH1	5.61	123.11	120.30
14	I	765	ARG	NH1-CZ-NH2	-5.61	113.23	119.40
14	I	661	ARG	NE-CZ-NH1	5.60	123.10	120.30
11	N	194	ARG	NE-CZ-NH1	5.59	123.09	120.30
15	F	687	ARG	NE-CZ-NH1	5.56	123.08	120.30
15	f	687	ARG	NE-CZ-NH1	5.55	123.08	120.30
13	a	129	ARG	NE-CZ-NH2	-5.52	117.54	120.30
4	r	390	ARG	NE-CZ-NH1	5.51	123.06	120.30
5	G	54	ARG	NE-CZ-NH1	5.50	123.05	120.30
14	I	872	TYR	CB-CG-CD2	-5.50	117.70	121.00
11	P	194	ARG	NE-CZ-NH1	5.49	123.04	120.30
6	l	1177	ARG	CD-NE-CZ	5.48	131.27	123.60
12	b	306	ARG	NE-CZ-NH1	5.47	123.03	120.30
12	B	306	ARG	NE-CZ-NH1	5.47	123.03	120.30
9	c	122	SER	O-C-N	-5.46	113.96	122.70
6	L	1220	ARG	NE-CZ-NH1	5.46	123.03	120.30
11	O	194	ARG	NE-CZ-NH1	5.45	123.03	120.30
6	l	865	ARG	NE-CZ-NH1	5.44	123.02	120.30
6	l	1947	ARG	NE-CZ-NH1	5.44	123.02	120.30
6	L	1177	ARG	CD-NE-CZ	5.43	131.20	123.60
11	M	120	ARG	NE-CZ-NH1	5.42	123.01	120.30
15	F	455	ARG	NE-CZ-NH1	5.41	123.01	120.30
13	a	1334	ARG	NE-CZ-NH1	5.38	122.99	120.30
13	A	1334	ARG	NE-CZ-NH1	5.38	122.99	120.30
13	a	210	ARG	NE-CZ-NH1	5.36	122.98	120.30
4	R	390	ARG	NE-CZ-NH1	5.35	122.97	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	P	120	ARG	NE-CZ-NH1	5.35	122.97	120.30
11	N	120	ARG	NE-CZ-NH1	5.34	122.97	120.30
13	A	129	ARG	NE-CZ-NH2	-5.34	117.63	120.30
11	M	194	ARG	NE-CZ-NH1	5.34	122.97	120.30
11	Q	194	ARG	NE-CZ-NH1	5.33	122.97	120.30
9	c	615	PRO	O-C-N	-5.33	114.18	122.70
6	l	1220	ARG	NE-CZ-NH1	5.31	122.96	120.30
11	Q	120	ARG	NE-CZ-NH1	5.30	122.95	120.30
15	F	586	GLY	C-N-CA	5.29	134.91	121.70
13	a	963	ARG	NH1-CZ-NH2	-5.27	113.60	119.40
6	L	865	ARG	NE-CZ-NH1	5.26	122.93	120.30
4	r	293	TYR	CB-CG-CD1	-5.26	117.84	121.00
15	f	586	GLY	C-N-CA	5.25	134.83	121.70
6	L	410	ARG	NE-CZ-NH1	5.24	122.92	120.30
4	R	31	ARG	NE-CZ-NH1	5.23	122.92	120.30
13	A	210	ARG	NE-CZ-NH1	5.22	122.91	120.30
15	f	455	ARG	NE-CZ-NH1	5.22	122.91	120.30
6	l	410	ARG	NE-CZ-NH1	5.21	122.91	120.30
15	F	424	ARG	NE-CZ-NH1	5.21	122.91	120.30
2	T	455	ARG	NE-CZ-NH1	5.21	122.91	120.30
1	H	824	ARG	NE-CZ-NH1	5.21	122.90	120.30
11	N	286	ARG	NE-CZ-NH1	5.21	122.90	120.30
6	L	18	ARG	NE-CZ-NH1	5.19	122.90	120.30
6	L	1580	ARG	NE-CZ-NH1	5.18	122.89	120.30
5	g	54	ARG	NE-CZ-NH1	5.18	122.89	120.30
6	l	1580	ARG	NE-CZ-NH1	5.18	122.89	120.30
11	P	286	ARG	NE-CZ-NH1	5.17	122.89	120.30
1	h	824	ARG	NE-CZ-NH1	5.17	122.89	120.30
15	F	717	ARG	NE-CZ-NH1	5.16	122.88	120.30
11	O	286	ARG	NE-CZ-NH1	5.15	122.88	120.30
6	l	18	ARG	NE-CZ-NH1	5.15	122.87	120.30
4	R	593	ARG	NE-CZ-NH1	5.15	122.87	120.30
9	C	540	ARG	NE-CZ-NH2	-5.14	117.73	120.30
11	M	286	ARG	NE-CZ-NH1	5.13	122.86	120.30
13	A	963	ARG	NH1-CZ-NH2	-5.13	113.76	119.40
9	c	386	GLN	C-N-CA	5.12	134.51	121.70
15	f	717	ARG	NE-CZ-NH1	5.12	122.86	120.30
6	L	1947	ARG	NE-CZ-NH1	5.12	122.86	120.30
6	L	1929	PHE	C-N-CA	5.12	133.05	122.30
4	R	293	TYR	CB-CG-CD1	-5.11	117.93	121.00
6	l	1929	PHE	C-N-CA	5.10	133.01	122.30
6	l	1991	ARG	NE-CZ-NH1	5.09	122.85	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	S	788	ARG	NE-CZ-NH1	5.09	122.85	120.30
15	f	424	ARG	NE-CZ-NH1	5.08	122.84	120.30
7	e	140	ARG	NE-CZ-NH2	-5.08	117.76	120.30
1	H	611	ARG	NE-CZ-NH1	5.07	122.84	120.30
6	L	1590	ARG	NE-CZ-NH1	5.07	122.84	120.30
9	c	514	PHE	O-C-N	-5.07	114.58	122.70
6	l	410	ARG	NE-CZ-NH2	5.06	122.83	120.30
6	l	1038	ARG	NE-CZ-NH1	5.04	122.82	120.30
11	O	120	ARG	NE-CZ-NH1	5.04	122.82	120.30
9	C	465	ARG	NE-CZ-NH1	5.04	122.82	120.30
11	Q	286	ARG	NE-CZ-NH1	5.04	122.82	120.30
15	f	423	GLU	OE1-CD-OE2	-5.03	117.26	123.30
9	C	626	ASP	CB-CG-OD2	-5.03	113.78	118.30
6	L	1885	ARG	NE-CZ-NH1	5.02	122.81	120.30
6	L	410	ARG	NE-CZ-NH2	5.01	122.80	120.30
15	F	423	GLU	OE1-CD-OE2	-5.01	117.29	123.30

There are no chirality outliers.

All (168) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
13	A	1090	ARG	Sidechain
13	A	1267	GLN	Peptide
13	A	1381	TYR	Sidechain
13	A	173	TYR	Sidechain
13	A	208	PRO	Peptide
13	A	29	GLY	Peptide
13	A	30	GLY	Peptide
13	A	541	TYR	Sidechain
13	A	614	ARG	Sidechain
13	A	669	ARG	Sidechain
13	A	880	ARG	Sidechain
12	B	1	MET	Peptide
12	B	134	SER	Peptide
12	B	150	ARG	Sidechain
9	C	39	TYR	Peptide
9	C	41	LYS	Peptide
8	D	149	ARG	Sidechain
8	D	298	LEU	Peptide
8	D	299	LEU	Peptide
8	D	301	GLY	Peptide
8	D	302	ARG	Peptide

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Mol	Chain	Res	Type	Group
8	D	304	THR	Peptide
8	D	53	PHE	Peptide
15	F	556	TYR	Sidechain
15	F	877	MET	Peptide
1	H	117	LEU	Peptide
14	I	491	VAL	Peptide
14	I	492	VAL	Peptide
14	I	574	ALA	Peptide
14	I	577	SER	Peptide
14	I	675	TYR	Sidechain
6	L	1155	GLY	Peptide
6	L	1158	GLU	Peptide
6	L	1162	ARG	Peptide
6	L	1164	LEU	Peptide
6	L	1168	LEU	Peptide
6	L	1178	ARG	Sidechain
6	L	1362	GLY	Peptide
6	L	153	ARG	Sidechain
6	L	1561	ARG	Sidechain
6	L	1924	PHE	Peptide
6	L	1926	ASN	Peptide
6	L	1931	ASN	Peptide
6	L	1932	ARG	Peptide
6	L	1936	ASP	Peptide
6	L	1937	THR	Peptide
6	L	1938	PHE	Peptide
6	L	1951	GLN	Peptide
6	L	577	HIS	Peptide
11	M	526	ARG	Sidechain
11	M	769	VAL	Peptide
11	M	771	THR	Peptide
11	N	526	ARG	Sidechain
11	N	769	VAL	Peptide
11	N	771	THR	Peptide
11	O	526	ARG	Sidechain
11	O	769	VAL	Peptide
11	O	771	THR	Peptide
11	P	526	ARG	Sidechain
11	P	769	VAL	Peptide
11	P	771	THR	Peptide
11	Q	526	ARG	Sidechain
11	Q	769	VAL	Peptide

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Mol	Chain	Res	Type	Group
11	Q	771	THR	Peptide
4	R	211	PRO	Peptide
4	R	336	ASN	Peptide
4	R	337	LYS	Peptide
4	R	539	LYS	Peptide
2	T	380	ALA	Mainchain
10	U	1284	TYR	Sidechain
13	a	1090	ARG	Sidechain
13	a	1267	GLN	Peptide
13	a	1381	TYR	Sidechain
13	a	173	TYR	Sidechain
13	a	208	PRO	Peptide
13	a	29	GLY	Peptide
13	a	30	GLY	Peptide
13	a	541	TYR	Sidechain
13	a	614	ARG	Sidechain
13	a	669	ARG	Sidechain
13	a	880	ARG	Sidechain
12	b	1	MET	Peptide
12	b	134	SER	Peptide
12	b	150	ARG	Sidechain
9	c	1	MET	Mainchain
9	c	17	GLY	Mainchain
9	c	18	GLN	Mainchain
9	c	2	GLU	Mainchain
9	c	243	THR	Mainchain
9	c	245	GLY	Mainchain
9	c	3	GLU	Mainchain
9	c	337	ASP	Mainchain
9	c	338	SER	Mainchain
9	c	368	ASN	Mainchain
9	c	385	PHE	Mainchain
9	c	386	GLN	Mainchain
9	c	387	ALA	Mainchain
9	c	388	HIS	Mainchain
9	c	389	ASN	Mainchain
9	c	390	LEU	Mainchain
9	c	395	ASN	Mainchain
9	c	4	LEU	Mainchain
9	c	41	LYS	Mainchain
9	c	42	GLN	Mainchain
9	c	43	GLY	Mainchain

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Mol	Chain	Res	Type	Group
9	c	45	SER	Mainchain
9	c	47	THR	Mainchain
9	c	48	ALA	Mainchain
9	c	49	ALA	Mainchain
9	c	5	ASP	Mainchain
9	c	50	ARG	Mainchain
9	c	59	SER	Mainchain
9	c	6	VAL	Mainchain
9	c	613	THR	Mainchain
9	c	614	SER	Mainchain
9	c	615	PRO	Mainchain
9	c	616	ASP	Mainchain
9	c	618	ILE	Mainchain
9	c	619	GLN	Mainchain
9	c	620	LYS	Peptide,Mainchain
9	c	621	GLN	Mainchain
9	c	622	ASP	Mainchain
9	c	86	ALA	Mainchain
9	c	87	GLU	Mainchain
8	d	149	ARG	Sidechain
8	d	298	LEU	Peptide
8	d	299	LEU	Peptide
8	d	301	GLY	Peptide
8	d	302	ARG	Peptide
8	d	304	THR	Peptide
8	d	53	PHE	Peptide
15	f	556	TYR	Sidechain
15	f	877	MET	Peptide
1	h	117	LEU	Peptide
14	i	239	GLY	Peptide
14	i	246	ILE	Peptide
14	i	248	ARG	Peptide
14	i	249	ARG	Peptide
14	i	252	THR	Peptide
14	i	254	PHE	Peptide
14	i	255	GLY	Peptide
14	i	491	VAL	Peptide
14	i	492	VAL	Peptide
14	i	574	ALA	Peptide
14	i	577	SER	Peptide
14	i	675	TYR	Sidechain
6	l	1155	GLY	Peptide

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Mol	Chain	Res	Type	Group
6	l	1158	GLU	Peptide
6	l	1162	ARG	Peptide
6	l	1164	LEU	Peptide
6	l	1168	LEU	Peptide
6	l	1178	ARG	Sidechain
6	l	1362	GLY	Peptide
6	l	153	ARG	Sidechain
6	l	1561	ARG	Sidechain
6	l	1924	PHE	Peptide
6	l	1926	ASN	Peptide
6	l	1931	ASN	Peptide
6	l	1932	ARG	Peptide
6	l	1936	ASP	Peptide
6	l	1937	THR	Peptide
6	l	1938	PHE	Peptide
6	l	1951	GLN	Peptide
6	l	577	HIS	Peptide
4	r	336	ASN	Peptide
4	r	337	LYS	Peptide
4	r	539	LYS	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	H	787/916 (86%)	762 (97%)	17 (2%)	8 (1%)	15 54
1	h	787/916 (86%)	762 (97%)	17 (2%)	8 (1%)	15 54
2	T	126/547 (23%)	124 (98%)	1 (1%)	1 (1%)	19 60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	t	27/547 (5%)	27 (100%)	0	0	100	100
3	S	136/2037 (7%)	134 (98%)	1 (1%)	1 (1%)	22	63
3	s	30/2037 (2%)	30 (100%)	0	0	100	100
4	R	674/728 (93%)	627 (93%)	30 (4%)	17 (2%)	5	32
4	r	464/728 (64%)	433 (93%)	19 (4%)	12 (3%)	5	31
5	G	304/306 (99%)	293 (96%)	8 (3%)	3 (1%)	15	54
5	g	304/306 (99%)	294 (97%)	7 (2%)	3 (1%)	15	54
6	L	2009/2011 (100%)	1889 (94%)	93 (5%)	27 (1%)	12	48
6	l	2009/2011 (100%)	1889 (94%)	93 (5%)	27 (1%)	12	48
7	E	320/322 (99%)	305 (95%)	10 (3%)	5 (2%)	9	44
7	e	320/322 (99%)	305 (95%)	10 (3%)	5 (2%)	9	44
8	D	373/375 (100%)	345 (92%)	20 (5%)	8 (2%)	7	36
8	d	373/375 (100%)	345 (92%)	20 (5%)	8 (2%)	7	36
9	C	651/653 (100%)	630 (97%)	15 (2%)	6 (1%)	17	57
9	c	651/653 (100%)	614 (94%)	20 (3%)	17 (3%)	5	31
10	U	356/1388 (26%)	352 (99%)	4 (1%)	0	100	100
11	M	796/2905 (27%)	768 (96%)	21 (3%)	7 (1%)	17	57
11	N	796/2905 (27%)	768 (96%)	21 (3%)	7 (1%)	17	57
11	O	796/2905 (27%)	768 (96%)	21 (3%)	7 (1%)	17	57
11	P	796/2905 (27%)	768 (96%)	21 (3%)	7 (1%)	17	57
11	Q	796/2905 (27%)	768 (96%)	21 (3%)	7 (1%)	17	57
12	B	324/326 (99%)	307 (95%)	15 (5%)	2 (1%)	25	66
12	b	324/326 (99%)	307 (95%)	15 (5%)	2 (1%)	25	66
13	A	1350/1435 (94%)	1268 (94%)	61 (4%)	21 (2%)	9	44
13	a	1350/1435 (94%)	1268 (94%)	61 (4%)	21 (2%)	9	44
14	I	669/1140 (59%)	639 (96%)	19 (3%)	11 (2%)	9	44
14	i	1060/1140 (93%)	997 (94%)	41 (4%)	22 (2%)	7	36
15	F	635/673 (94%)	615 (97%)	16 (2%)	4 (1%)	25	66
15	f	635/673 (94%)	615 (97%)	16 (2%)	4 (1%)	25	66
All	All	21028/38851 (54%)	20016 (95%)	734 (4%)	278 (1%)	16	48

All (278) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	H	770	GLN
1	h	770	GLN
4	r	332	GLU
4	r	540	ASP
5	g	172	SER
5	G	172	SER
6	L	53	LEU
6	L	1159	ASP
6	L	1163	SER
6	L	1169	HIS
6	L	1173	THR
6	L	1363	GLN
6	L	1933	ARG
6	L	1938	PHE
6	L	1990	SER
6	l	53	LEU
6	l	1159	ASP
6	l	1163	SER
6	l	1169	HIS
6	l	1173	THR
6	l	1363	GLN
6	l	1933	ARG
6	l	1938	PHE
6	l	1990	SER
7	E	95	ASP
7	e	95	ASP
8	D	297	PHE
8	D	300	GLY
8	D	302	ARG
8	d	297	PHE
8	d	300	GLY
8	d	302	ARG
9	C	40	GLN
9	C	335	ALA
9	c	2	GLU
9	c	3	GLU
9	c	4	LEU
9	c	5	ASP
9	c	19	GLN
9	c	44	ASN
9	c	46	GLU
9	c	48	ALA
9	c	49	ALA

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Mol	Chain	Res	Type
9	c	387	ALA
12	B	135	PRO
12	b	135	PRO
13	A	950	SER
13	A	1299	THR
13	A	1433	LEU
13	a	175	SER
13	a	950	SER
13	a	1299	THR
13	a	1433	LEU
14	I	496	ARG
14	I	1072	GLY
15	F	587	ASP
15	F	880	SER
15	f	587	ASP
15	f	880	SER
4	R	332	GLU
4	R	540	ASP
3	S	737	GLU
14	i	242	MET
14	i	253	LEU
14	i	496	ARG
14	i	1072	GLY
1	H	647	PHE
1	h	647	PHE
4	r	80	SER
4	r	81	SER
4	r	371	LEU
4	r	372	GLU
5	g	304	LYS
5	G	304	LYS
6	L	161	ASP
6	L	1601	MET
6	L	1603	GLU
6	L	1694	GLY
6	l	161	ASP
6	l	1601	MET
6	l	1603	GLU
6	l	1694	GLY
7	E	98	ARG
7	E	260	SER
7	e	98	ARG

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Mol	Chain	Res	Type
7	e	260	SER
8	D	344	SER
8	d	56	THR
8	d	344	SER
9	C	19	GLN
9	c	243	THR
9	c	621	GLN
11	P	762	ALA
11	P	772	THR
11	O	762	ALA
11	O	772	THR
11	Q	762	ALA
11	Q	772	THR
11	N	762	ALA
11	N	772	THR
11	M	762	ALA
11	M	772	THR
13	A	31	PHE
13	A	52	ALA
13	A	175	SER
13	A	688	ALA
13	A	809	LYS
13	A	844	LEU
13	A	947	GLU
13	a	31	PHE
13	a	52	ALA
13	a	688	ALA
13	a	809	LYS
13	a	844	LEU
13	a	947	GLU
14	I	499	GLN
14	I	571	GLU
14	I	578	ASN
14	I	579	THR
4	R	81	SER
4	R	371	LEU
4	R	372	GLU
4	R	504	ILE
14	i	243	LEU
14	i	246	ILE
14	i	393	GLN
14	i	499	GLN

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Mol	Chain	Res	Type
14	i	571	GLU
14	i	578	ASN
14	i	579	THR
1	H	118	ASP
1	h	118	ASP
4	r	76	GLU
4	r	374	ASP
6	L	1380	THR
6	L	1692	ASP
6	L	1932	ARG
6	L	1937	THR
6	l	1380	THR
6	l	1692	ASP
6	l	1932	ARG
6	l	1937	THR
7	E	94	ASN
7	e	94	ASN
8	D	56	THR
9	C	300	THR
9	C	621	GLN
9	c	335	ALA
9	c	388	HIS
9	c	615	PRO
11	P	694	GLU
11	O	694	GLU
11	Q	694	GLU
11	N	694	GLU
11	M	694	GLU
13	A	749	GLY
13	A	1275	LYS
13	a	749	GLY
13	a	1275	LYS
14	I	583	LEU
14	I	1071	ASP
4	R	76	GLU
4	R	80	SER
4	R	207	GLU
4	R	212	HIS
4	R	374	ASP
4	R	499	LYS
14	i	249	ARG
14	i	583	LEU

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Mol	Chain	Res	Type
14	i	1071	ASP
1	H	121	SER
1	h	121	SER
4	r	341	SER
4	r	343	CYS
4	r	538	SER
6	L	1156	GLY
6	l	1156	GLY
7	E	261	GLY
7	e	261	GLY
11	P	696	ASP
11	P	785	LEU
11	O	696	ASP
11	O	785	LEU
11	Q	696	ASP
11	Q	785	LEU
11	N	696	ASP
11	N	785	LEU
11	M	696	ASP
11	M	785	LEU
12	B	4	ASP
12	b	4	ASP
13	A	25	VAL
13	A	29	GLY
13	A	294	ASP
13	A	1168	SER
13	A	1267	GLN
13	a	25	VAL
13	a	29	GLY
13	a	294	ASP
13	a	1168	SER
13	a	1267	GLN
14	I	580	SER
15	F	582	SER
15	F	819	GLU
15	f	582	SER
4	R	341	SER
4	R	343	CYS
4	R	502	THR
4	R	538	SER
14	i	580	SER
1	H	119	SER

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Mol	Chain	Res	Type
1	H	120	PRO
1	H	642	PHE
1	H	652	ASP
1	h	119	SER
1	h	120	PRO
1	h	642	PHE
1	h	652	ASP
4	r	78	THR
6	L	545	ALA
6	l	545	ALA
8	D	293	GLU
8	D	319	GLN
8	d	293	GLU
8	d	319	GLN
9	C	44	ASN
9	c	389	ASN
11	P	774	ALA
11	O	774	ALA
11	Q	774	ALA
11	N	774	ALA
11	M	774	ALA
13	A	60	ASN
13	A	1052	ASN
13	a	60	ASN
13	a	1052	ASN
14	I	492	VAL
14	I	537	MET
15	f	819	GLU
4	R	78	THR
14	i	128	ALA
14	i	254	PHE
14	i	492	VAL
14	i	537	MET
2	T	380	ALA
5	g	55	GLY
5	G	55	GLY
6	L	1153	GLY
6	L	1175	LYS
6	L	1376	ALA
6	L	1546	LEU
6	L	1800	VAL
6	L	1936	ASP

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Mol	Chain	Res	Type
6	l	1153	GLY
6	l	1175	LYS
6	l	1376	ALA
6	l	1546	LEU
6	l	1800	VAL
6	l	1936	ASP
8	D	301	GLY
8	d	301	GLY
11	P	770	LEU
11	O	770	LEU
11	Q	770	LEU
11	N	770	LEU
11	M	770	LEU
13	A	807	VAL
13	A	812	TYR
13	a	807	VAL
13	a	812	TYR
14	i	239	GLY
14	i	248	ARG
6	L	474	GLY
6	l	474	GLY
9	c	618	ILE
6	L	1155	GLY
6	l	1155	GLY
14	i	256	ILE

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	H	704/816 (86%)	695 (99%)	9 (1%)	69 82
1	h	704/816 (86%)	695 (99%)	9 (1%)	69 82
2	T	120/429 (28%)	119 (99%)	1 (1%)	81 89
2	t	27/429 (6%)	27 (100%)	0	100 100
3	S	130/1634 (8%)	130 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	s	29/1634 (2%)	29 (100%)	0	100	100
4	R	614/660 (93%)	612 (100%)	2 (0%)	92	95
4	r	424/660 (64%)	424 (100%)	0	100	100
5	G	261/261 (100%)	260 (100%)	1 (0%)	91	94
5	g	261/261 (100%)	260 (100%)	1 (0%)	91	94
6	L	1779/1779 (100%)	1745 (98%)	34 (2%)	57	75
6	l	1779/1779 (100%)	1745 (98%)	34 (2%)	57	75
7	E	280/280 (100%)	280 (100%)	0	100	100
7	e	280/280 (100%)	280 (100%)	0	100	100
8	D	329/329 (100%)	328 (100%)	1 (0%)	92	95
8	d	329/329 (100%)	328 (100%)	1 (0%)	92	95
9	C	580/580 (100%)	578 (100%)	2 (0%)	92	95
9	c	580/580 (100%)	576 (99%)	4 (1%)	84	90
10	U	327/1219 (27%)	327 (100%)	0	100	100
11	M	716/2521 (28%)	714 (100%)	2 (0%)	92	95
11	N	716/2521 (28%)	714 (100%)	2 (0%)	92	95
11	O	716/2521 (28%)	714 (100%)	2 (0%)	92	95
11	P	716/2521 (28%)	714 (100%)	2 (0%)	92	95
11	Q	716/2521 (28%)	714 (100%)	2 (0%)	92	95
12	B	275/275 (100%)	274 (100%)	1 (0%)	91	94
12	b	275/275 (100%)	274 (100%)	1 (0%)	91	94
13	A	1184/1256 (94%)	1168 (99%)	16 (1%)	67	80
13	a	1184/1256 (94%)	1169 (99%)	15 (1%)	69	82
14	I	600/993 (60%)	598 (100%)	2 (0%)	92	95
14	i	935/993 (94%)	929 (99%)	6 (1%)	86	92
15	F	571/602 (95%)	568 (100%)	3 (0%)	88	93
15	f	571/602 (95%)	568 (100%)	3 (0%)	88	93
All	All	18712/33612 (56%)	18556 (99%)	156 (1%)	82	89

All (156) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	H	117	LEU

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Mol	Chain	Res	Type
1	H	276	PHE
1	H	280	ILE
1	H	463	PHE
1	H	487	LEU
1	H	652	ASP
1	H	680	LEU
1	H	727	LEU
1	H	886	THR
1	h	117	LEU
1	h	276	PHE
1	h	280	ILE
1	h	463	PHE
1	h	487	LEU
1	h	652	ASP
1	h	680	LEU
1	h	727	LEU
1	h	886	THR
5	g	41	ASP
5	G	41	ASP
6	L	7	LEU
6	L	80	THR
6	L	127	ARG
6	L	281	VAL
6	L	347	LEU
6	L	417	LEU
6	L	470	THR
6	L	476	PHE
6	L	542	LEU
6	L	573	THR
6	L	583	LEU
6	L	676	THR
6	L	744	TYR
6	L	1150	SER
6	L	1170	PHE
6	L	1172	THR
6	L	1298	ASP
6	L	1361	LEU
6	L	1380	THR
6	L	1384	SER
6	L	1440	LEU
6	L	1448	TRP
6	L	1561	ARG

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Mol	Chain	Res	Type
6	L	1645	LEU
6	L	1692	ASP
6	L	1727	LEU
6	L	1743	SER
6	L	1777	THR
6	L	1803	LEU
6	L	1868	THR
6	L	1921	ASP
6	L	1937	THR
6	L	1949	LEU
6	L	1992	HIS
6	l	7	LEU
6	l	80	THR
6	l	127	ARG
6	l	281	VAL
6	l	347	LEU
6	l	417	LEU
6	l	470	THR
6	l	476	PHE
6	l	542	LEU
6	l	573	THR
6	l	583	LEU
6	l	676	THR
6	l	744	TYR
6	l	1150	SER
6	l	1170	PHE
6	l	1172	THR
6	l	1298	ASP
6	l	1361	LEU
6	l	1380	THR
6	l	1384	SER
6	l	1440	LEU
6	l	1448	TRP
6	l	1561	ARG
6	l	1645	LEU
6	l	1692	ASP
6	l	1727	LEU
6	l	1743	SER
6	l	1777	THR
6	l	1803	LEU
6	l	1868	THR
6	l	1921	ASP

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Mol	Chain	Res	Type
6	l	1937	THR
6	l	1949	LEU
6	l	1992	HIS
8	D	56	THR
8	d	56	THR
9	C	154	SER
9	C	532	ARG
9	c	145	ASN
9	c	499	LEU
9	c	613	THR
9	c	624	SER
11	P	771	THR
11	P	783	THR
11	O	771	THR
11	O	783	THR
11	Q	771	THR
11	Q	783	THR
11	N	771	THR
11	N	783	THR
11	M	771	THR
11	M	783	THR
12	B	28	ASP
12	b	28	ASP
13	A	24	MET
13	A	31	PHE
13	A	32	THR
13	A	42	LEU
13	A	146	GLU
13	A	231	LEU
13	A	263	MET
13	A	266	LEU
13	A	293	LEU
13	A	575	SER
13	A	697	THR
13	A	814	SER
13	A	1146	TYR
13	A	1378	TRP
13	A	1407	LEU
13	A	1433	LEU
13	a	24	MET
13	a	31	PHE
13	a	32	THR

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Mol	Chain	Res	Type
13	a	42	LEU
13	a	146	GLU
13	a	231	LEU
13	a	266	LEU
13	a	293	LEU
13	a	575	SER
13	a	697	THR
13	a	814	SER
13	a	1146	TYR
13	a	1378	TRP
13	a	1407	LEU
13	a	1433	LEU
14	I	577	SER
14	I	883	ASP
15	F	309	LEU
15	F	311	LEU
15	F	369	LEU
15	f	309	LEU
15	f	311	LEU
15	f	369	LEU
4	R	502	THR
4	R	655	THR
14	i	130	LEU
14	i	158	ASP
14	i	244	SER
14	i	252	THR
14	i	577	SER
14	i	883	ASP
2	T	387	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (149) such sidechains are listed below:

Mol	Chain	Res	Type
1	H	291	ASN
1	H	554	GLN
1	h	291	ASN
4	r	431	GLN
4	r	530	ASN
4	r	535	ASN
5	g	114	HIS
5	g	200	GLN
5	g	205	GLN

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Mol	Chain	Res	Type
5	G	114	HIS
5	G	205	GLN
6	L	326	GLN
6	L	671	GLN
6	L	851	ASN
6	L	855	GLN
6	L	1132	HIS
6	L	1169	HIS
6	L	1206	GLN
6	L	1275	HIS
6	L	1753	GLN
6	L	1824	ASN
6	L	1992	HIS
6	l	37	HIS
6	l	326	GLN
6	l	497	GLN
6	l	671	GLN
6	l	851	ASN
6	l	855	GLN
6	l	1132	HIS
6	l	1169	HIS
6	l	1275	HIS
6	l	1706	HIS
6	l	1753	GLN
6	l	1824	ASN
6	l	1992	HIS
7	E	72	GLN
7	E	125	HIS
7	E	312	ASN
7	e	72	GLN
7	e	125	HIS
8	D	122	HIS
8	D	126	ASN
8	d	40	ASN
8	d	122	HIS
8	d	126	ASN
9	C	22	HIS
9	C	247	GLN
9	c	97	GLN
9	c	171	HIS
9	c	247	GLN
9	c	257	GLN

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Mol	Chain	Res	Type
9	c	323	HIS
9	c	416	GLN
9	c	427	ASN
9	c	640	ASN
10	U	1090	ASN
11	P	236	GLN
11	P	436	HIS
11	P	500	GLN
11	P	576	ASN
11	O	236	GLN
11	O	436	HIS
11	O	500	GLN
11	Q	236	GLN
11	Q	436	HIS
11	Q	500	GLN
11	Q	576	ASN
11	Q	582	HIS
11	Q	695	ASN
11	Q	707	GLN
11	Q	766	ASN
11	Q	767	HIS
11	N	236	GLN
11	N	436	HIS
11	N	500	GLN
11	N	576	ASN
11	M	17	ASN
11	M	236	GLN
11	M	436	HIS
11	M	500	GLN
11	M	576	ASN
12	B	174	HIS
12	B	284	HIS
12	b	174	HIS
12	b	284	HIS
13	A	104	HIS
13	A	125	ASN
13	A	480	GLN
13	A	520	GLN
13	A	634	HIS
13	A	793	ASN
13	A	834	HIS
13	A	838	GLN

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Mol	Chain	Res	Type
13	A	976	GLN
13	A	1054	HIS
13	A	1055	ASN
13	A	1169	GLN
13	A	1216	GLN
13	A	1386	HIS
13	A	1397	ASN
13	a	104	HIS
13	a	125	ASN
13	a	480	GLN
13	a	520	GLN
13	a	634	HIS
13	a	793	ASN
13	a	834	HIS
13	a	838	GLN
13	a	976	GLN
13	a	1054	HIS
13	a	1055	ASN
13	a	1074	ASN
13	a	1169	GLN
13	a	1194	HIS
13	a	1250	GLN
13	a	1267	GLN
13	a	1386	HIS
14	I	475	HIS
14	I	747	HIS
14	I	767	HIS
14	I	879	GLN
14	I	1017	GLN
15	F	463	HIS
15	F	471	GLN
15	F	496	HIS
15	F	788	HIS
15	f	463	HIS
15	f	471	GLN
15	f	496	HIS
15	f	788	HIS
15	f	791	HIS
4	R	431	GLN
4	R	519	HIS
4	R	584	GLN
4	R	676	GLN

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Mol	Chain	Res	Type
3	S	786	GLN
14	i	475	HIS
14	i	747	HIS
14	i	767	HIS
14	i	879	GLN
14	i	1017	GLN
2	T	363	ASN
2	T	378	GLN
2	T	392	GLN
2	T	411	GLN
2	T	424	GLN
2	T	425	GLN
2	T	449	GLN
2	T	450	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	S	2
4	R	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R	544:PRO	C	545:PRO	N	4.80
1	S	728:SER	C	729:ARG	N	3.21
1	S	736:SER	C	737:GLU	N	1.71

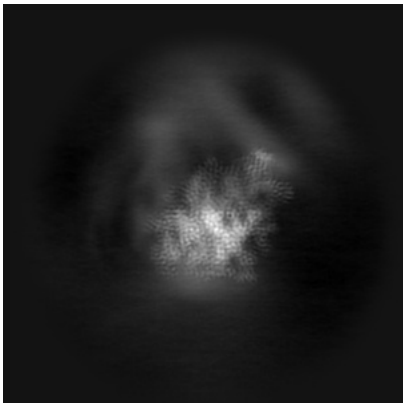
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-25817. These allow visual inspection of the internal detail of the map and identification of artifacts.

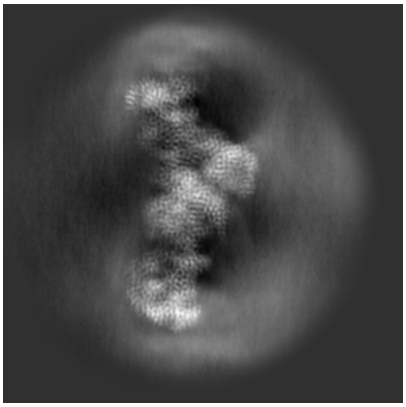
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

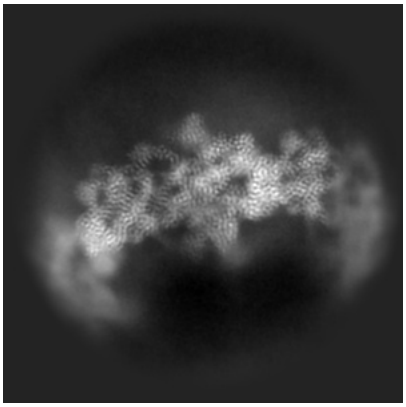
6.1.1 Primary map



X



Y

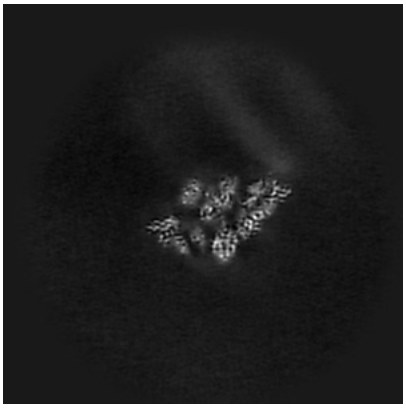


Z

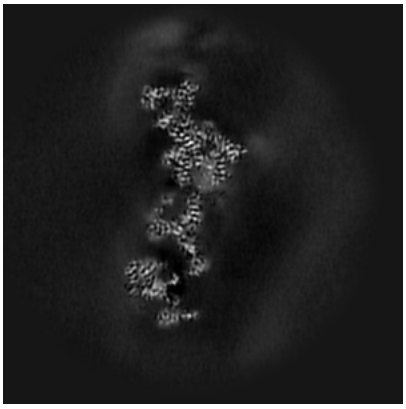
The images above show the map projected in three orthogonal directions.

6.2 Central slices

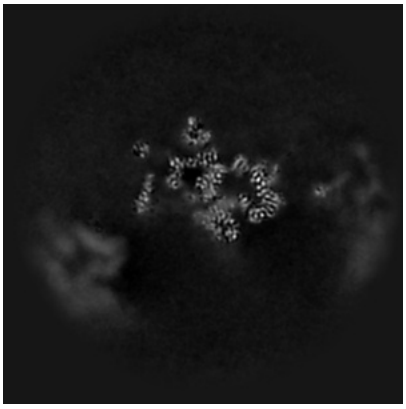
6.2.1 Primary map



X Index: 150



Y Index: 150

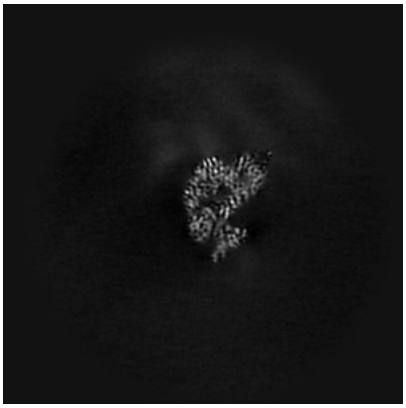


Z Index: 150

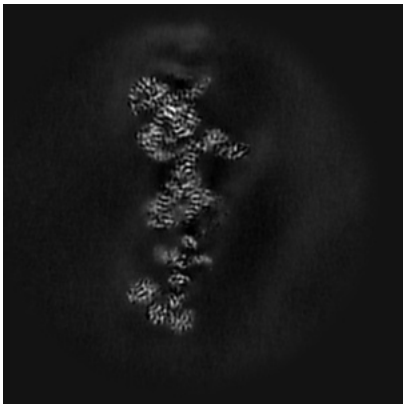
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

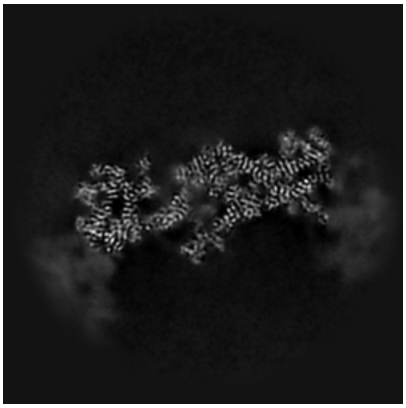
6.3.1 Primary map



X Index: 189



Y Index: 161



Z Index: 130

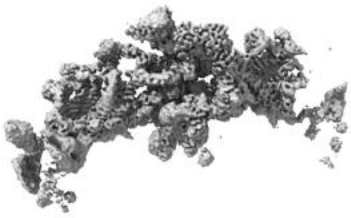
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

6.4.1 Primary map

X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.366. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

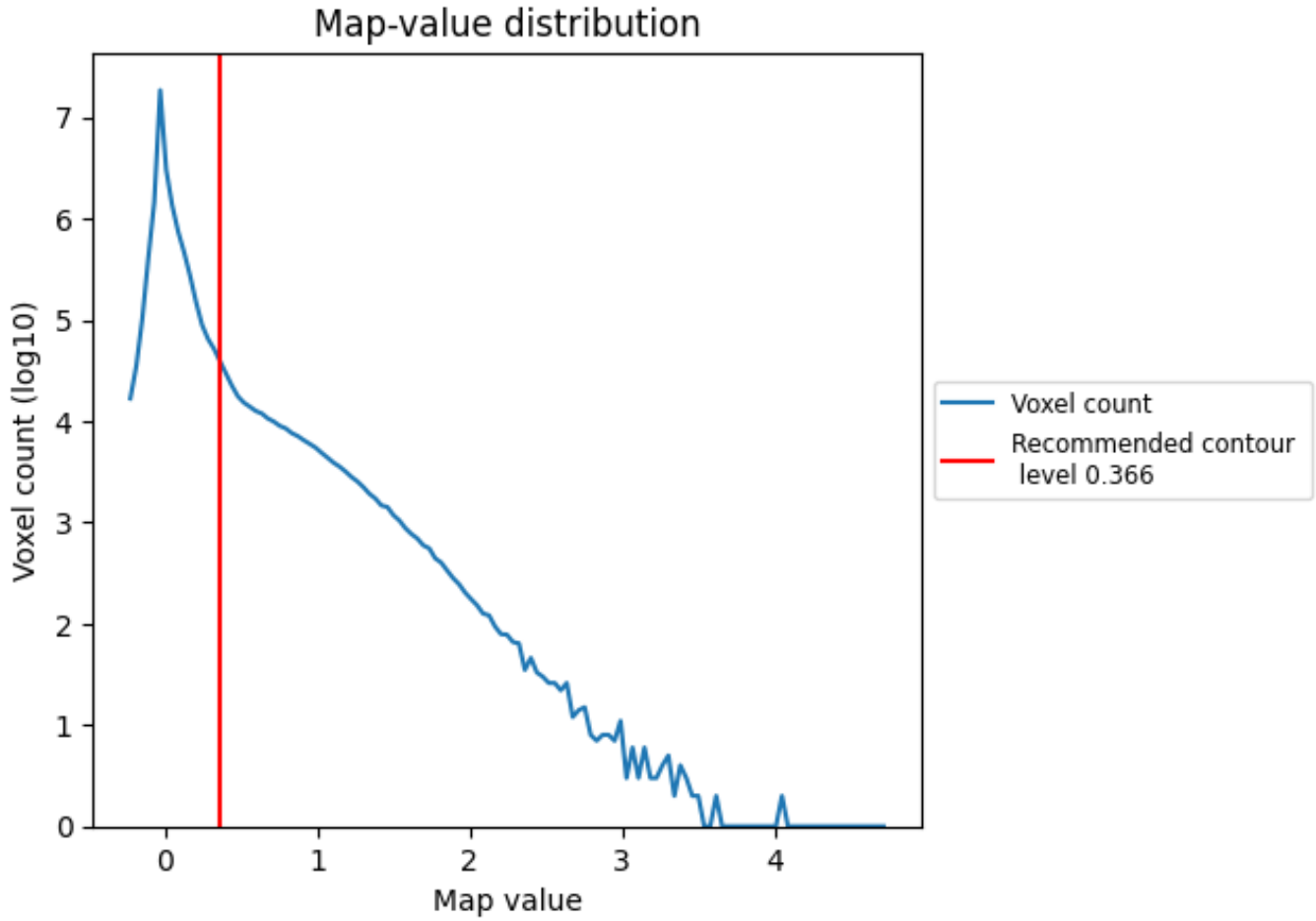
6.5 Mask visualisation (i)

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

7 Map analysis

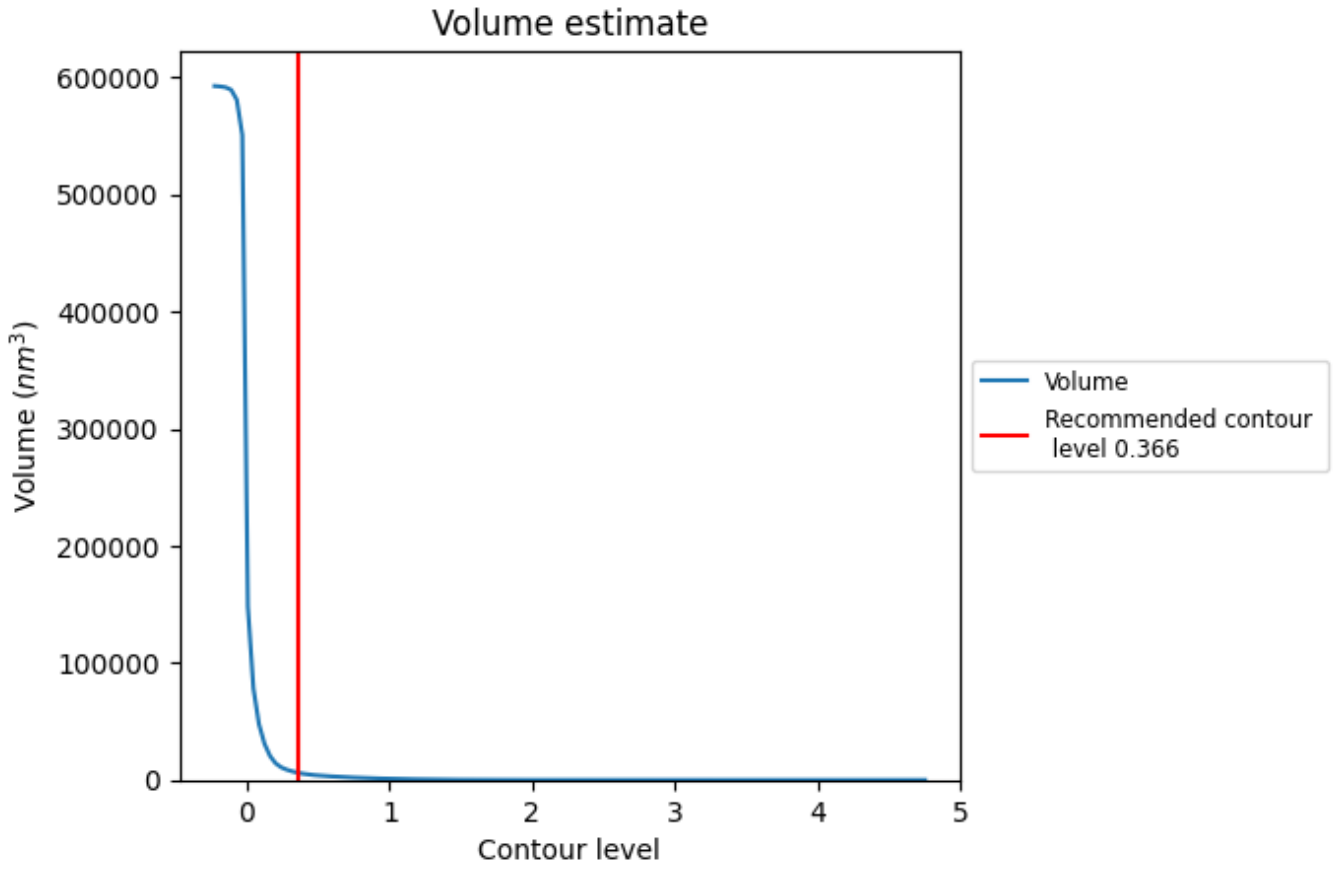
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

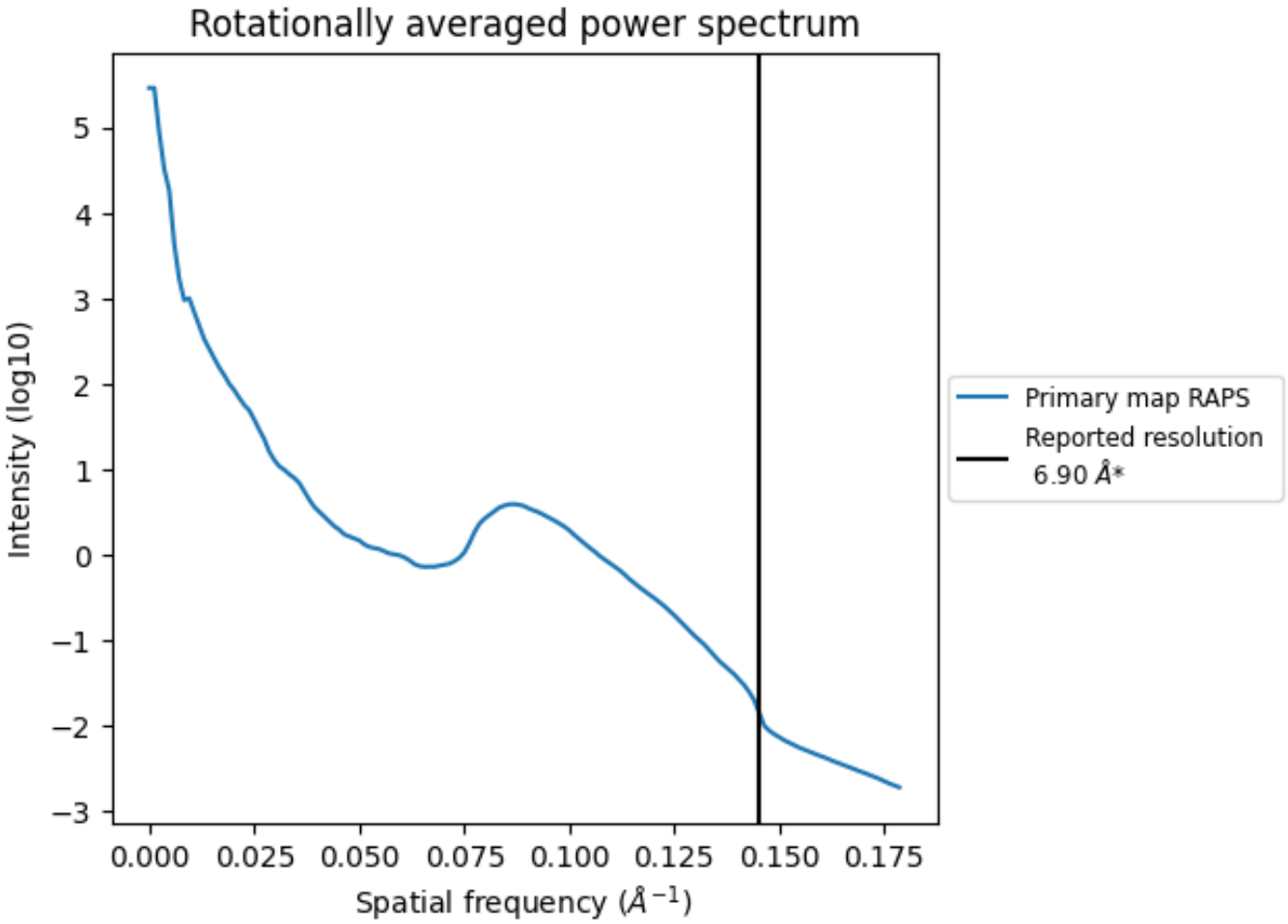
7.2 Volume estimate



The volume at the recommended contour level is 5957 nm^3; this corresponds to an approximate mass of 5381 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 0.145 $Å^{-1}$

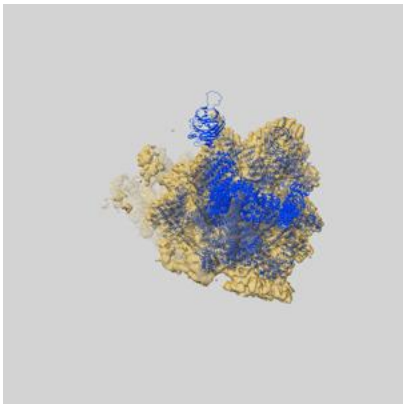
8 Fourier-Shell correlation

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

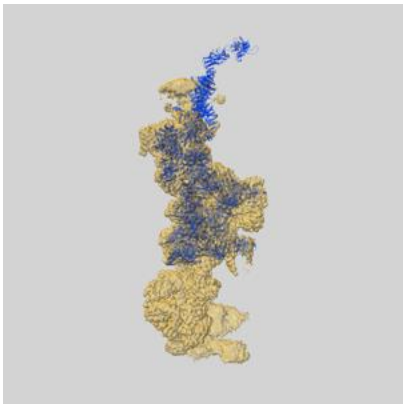
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-25817 and PDB model 7TDZ. Per-residue inclusion information can be found in section 3 on page 8.

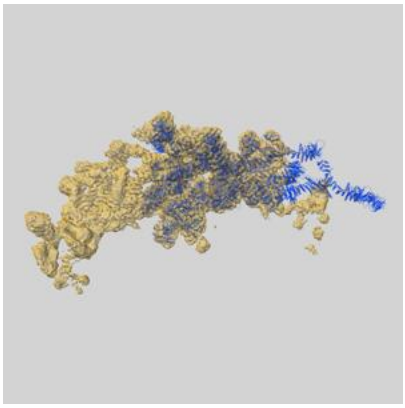
9.1 Map-model overlay



X



Y



Z

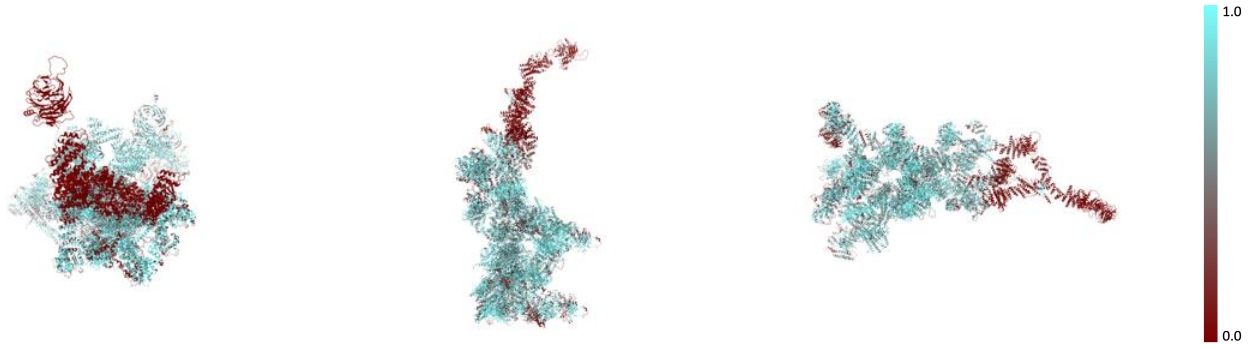
The images above show the 3D surface view of the map at the recommended contour level 0.366 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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.

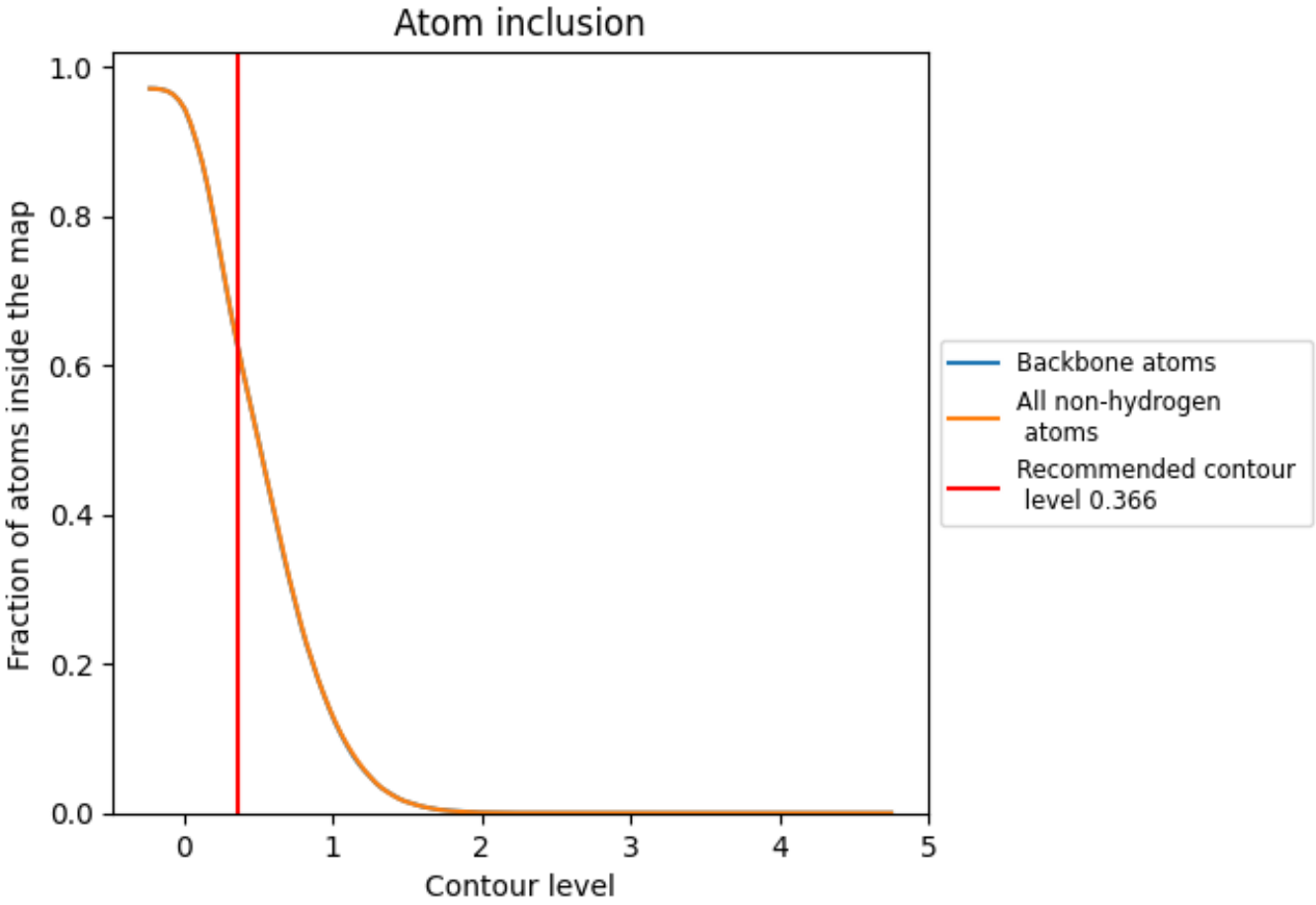
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.366).

9.4 Atom inclusion (i)



At the recommended contour level, 62% of all backbone atoms, 62% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.366) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6220	0.0290
A	0.6037	-0.0080
B	0.3254	-0.0010
C	0.7385	0.0430
D	0.8671	0.0250
E	0.8309	0.0590
F	0.7001	0.0550
G	0.8474	0.0510
H	0.6747	0.0520
I	0.2369	0.0510
L	0.7364	0.0390
M	0.7048	0.0300
N	0.7149	0.0430
O	0.6407	0.0060
P	0.2043	0.0450
Q	0.6769	0.0090
R	0.7803	0.0310
S	0.6603	0.0230
T	0.6098	0.0250
U	0.8410	0.0100
a	0.7142	-0.0090
b	0.8655	0.0210
c	0.7182	0.0410
d	0.7220	0.0360
e	0.7793	0.0410
f	0.7048	0.0480
g	0.8342	0.0730
h	0.1750	0.0450
i	0.0047	0.0110
l	0.7798	0.0320
r	0.6062	0.0290
s	0.5099	-0.0110
t	0.4403	-0.0510