wwPDB EM Validation Summary Report

Mar 19, 2024 – 03:05 PM JST

PDB ID	:	5Y88
EMDB ID	:	EMD-6817
Title	:	Cryo-EM structure of the intron-lariat spliceosome ready for disassembly from S.cerevisiae at 3.5 angstrom
Authors	:	Wan, R.; Yan, C.; Bai, R.; Lei, J.; Shi, Y.
Deposited on	:	2017-08-20
Resolution	:	3.46 Å(reported)

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

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

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

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

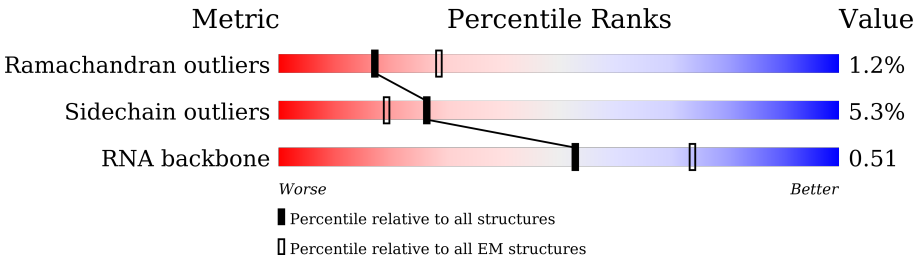
EMDB validation analysis	:	0.0.1.dev70
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance

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

The reported resolution of this entry is 3.46 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
RNA backbone	4643	859

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

Mol	Chain	Length	Quality of chain
1	A	2413	29% 74% · 21%
2	B	214	17% 40% 14% 45%
3	C	1008	10% 84% 6% 9%
4	D	112	12% 56% 33% · 10%
5	E	38	47% 29% 45% 26%
6	F	1175	5% · · 93%
7	G	175	89% 81% 6% ·· 11%
8	H	859	69% 65% · · 30%

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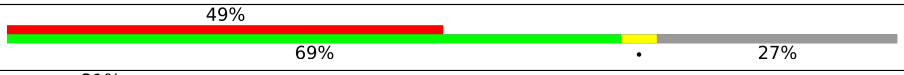
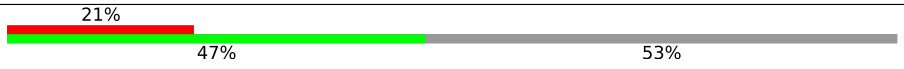
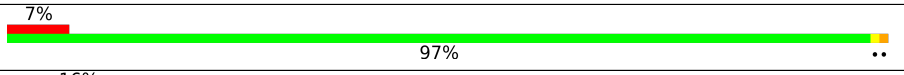
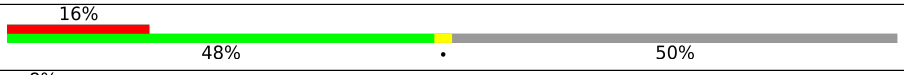
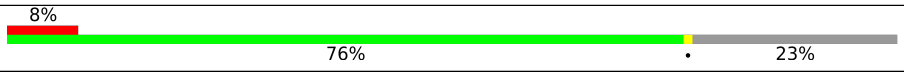
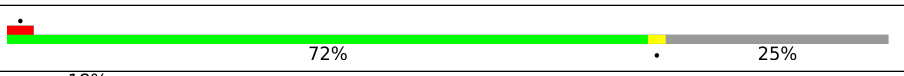
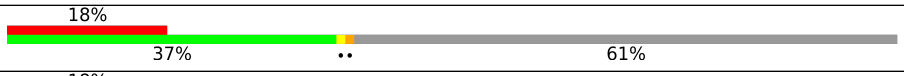
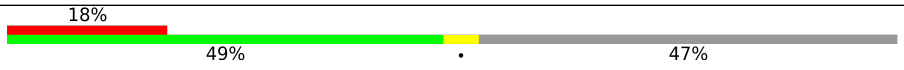
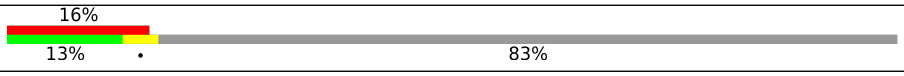
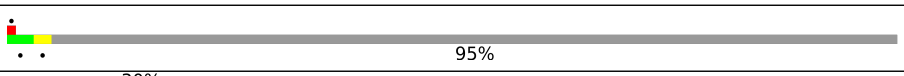
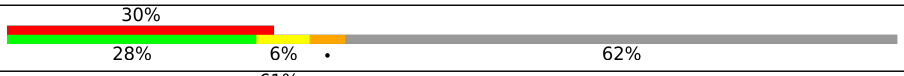
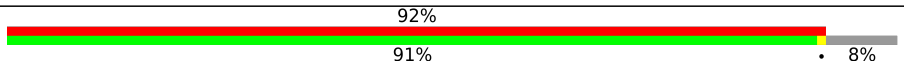
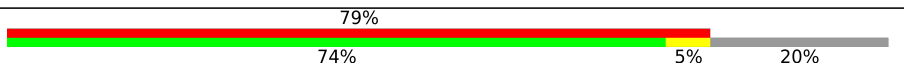
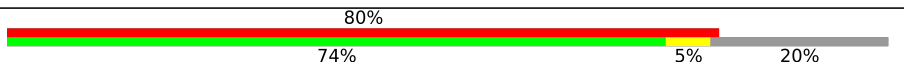
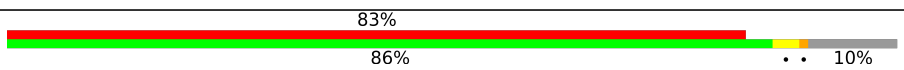
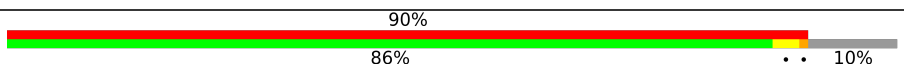
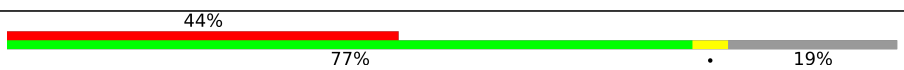
Mol	Chain	Length	Quality of chain
9	I	687	
10	J	590	
11	K	215	
12	L	157	
13	M	364	
14	N	339	
15	O	451	
16	P	175	
17	Q	379	
18	R	278	
19	S	455	
20	T	283	
21	U	708	
22	V	322	
23	W	767	
24	a	196	
24	h	196	
25	b	94	
25	i	94	
26	c	86	
26	j	86	
27	d	77	
27	k	77	
28	e	101	
28	l	101	

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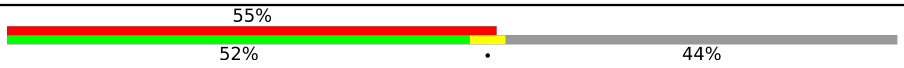
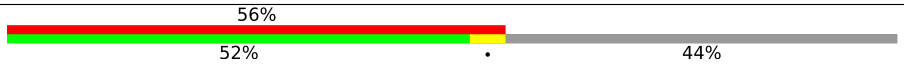
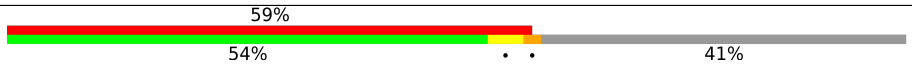
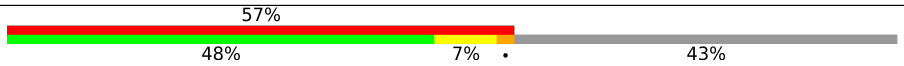
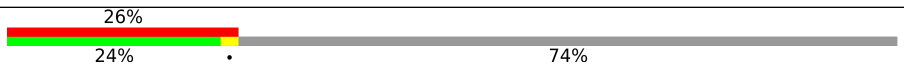
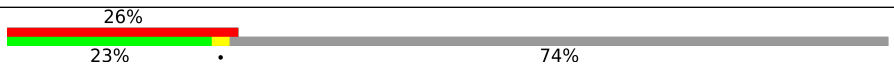
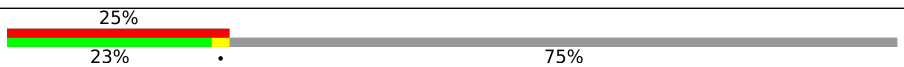
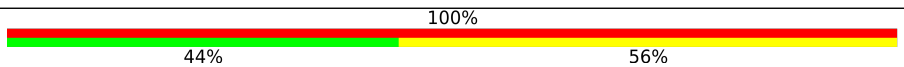
Mol	Chain	Length	Quality of chain
29	f	146	
29	m	146	
30	g	110	
30	n	110	
31	o	238	
32	p	111	
33	q	503	
33	r	503	
33	s	503	
33	t	503	
34	x	9	

2 Entry composition (i)

There are 38 unique types of molecules in this entry. The entry contains 72347 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Pre-mRNA-splicing factor 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1903	15715	10107	2697	2854	57	0	0

- Molecule 2 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	117	2465	1104	414	830	117	0	0

- Molecule 3 is a protein called Pre-mRNA-splicing factor SNU114.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	913	7278	4696	1205	1347	30	0	0

- Molecule 4 is a RNA chain called U6 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	D	101	2150	963	384	702	101	0	0

- Molecule 5 is a RNA chain called Intron lariat.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
5	E	28	587	264	95	200	28	0	0

- Molecule 6 is a RNA chain called U2 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	F	82	1727	772	286	587	82	0	0

- Molecule 7 is a protein called Pre-mRNA-splicing factor SNT309.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	155	Total	C	N	O	S	0	0
			921	582	159	179	1		

- Molecule 8 is a protein called Pre-mRNA-splicing factor SYF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	601	Total	C	N	O	S	0	0
			3204	1958	611	634	1		

- Molecule 9 is a protein called Pre-mRNA-splicing factor CLF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	541	Total	C	N	O	S	0	0
			3542	2200	667	667	8		

- Molecule 10 is a protein called Pre-mRNA-splicing factor CEF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	431	Total	C	N	O	S	0	0
			2944	1824	544	568	8		

- Molecule 11 is a protein called Pre-mRNA-splicing factor SYF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	102	Total	C	N	O	S	0	0
			822	504	152	165	1		

- Molecule 12 is a protein called Pre-mRNA-splicing factor BUD31.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	157	Total	C	N	O	S	0	0
			1290	808	240	231	11		

- Molecule 13 is a protein called Pre-mRNA-splicing factor SLT11.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	182	Total	C	N	O	S	0	0
			1298	805	235	243	15		

- Molecule 14 is a protein called Pre-mRNA-splicing factor CWC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	261	Total	C	N	O	S	0	0
			2089	1320	369	388	12		

- Molecule 15 is a protein called Pre-mRNA-splicing factor PRP46.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	337	Total	C	N	O	S	0	0
			2646	1669	466	501	10		

- Molecule 16 is a protein called Pre-mRNA-splicing factor CWC15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	68	Total	C	N	O	S	0	0
			554	348	111	94	1		

- Molecule 17 is a protein called Pre-mRNA-processing protein 45.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	201	Total	C	N	O	S	0	0
			1583	988	290	298	7		

- Molecule 18 is a protein called Protein CWC16.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	46	Total	C	N	O	S	0	0
			379	225	73	79	2		

- Molecule 19 is a protein called Pre-mRNA-processing factor 17.

Mol	Chain	Residues	Atoms				AltConf	Trace
19	S	23	Total	C	N	O	0	0
			195	122	41	32		

- Molecule 20 is a protein called Pre-mRNA-splicing factor CWC23.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	T	107	Total	C	N	O	0	0
			816	523	144	149		

- Molecule 21 is a protein called Pre-mRNA-splicing factor SPP382.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	488	Total	C	N	O	S	0	0
			2690	1644	514	529	3		

- Molecule 22 is a protein called Pre-mRNA-splicing factor NTR2.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	91	Total	C	N	O	S	0	0
			619	381	112	124	2		

- Molecule 23 is a protein called Pre-mRNA-splicing factor ATP-dependent RNA helicase PRP43.

Mol	Chain	Residues	Atoms				AltConf	Trace
23	W	708	Total	C	N	O	0	0
			3505	2089	708	708		

- Molecule 24 is a protein called Small nuclear ribonucleoprotein-associated protein B.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	a	80	Total	C	N	O	S	0	0
			631	403	114	111	3		
24	h	78	Total	C	N	O	S	0	0
			610	389	110	108	3		

- Molecule 25 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	b	75	Total	C	N	O	S	0	0
			575	379	92	101	3		
25	i	75	Total	C	N	O	S	0	0
			575	379	92	101	3		

- Molecule 26 is a protein called Small nuclear ribonucleoprotein F.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	c	70	Total	C	N	O	S	0	0
			554	355	98	100	1		
26	j	70	Total	C	N	O	S	0	0
			554	355	98	100	1		

- Molecule 27 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	d	69	Total 529	C 337	N 93	O 97	S 2	0	0
27	k	69	Total 529	C 337	N 93	O 97	S 2	0	0

- Molecule 28 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	e	82	Total 625	C 399	N 109	O 115	S 2	0	0
28	l	82	Total 625	C 399	N 109	O 115	S 2	0	0

- Molecule 29 is a protein called Small nuclear ribonucleoprotein Sm D1.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	f	82	Total 644	C 409	N 110	O 123	S 2	0	0
29	m	82	Total 644	C 409	N 110	O 123	S 2	0	0

- Molecule 30 is a protein called Small nuclear ribonucleoprotein Sm D2.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	g	94	Total 741	C 477	N 141	O 119	S 4	0	0
30	n	65	Total 528	C 340	N 102	O 84	S 2	0	0

- Molecule 31 is a protein called U2 small nuclear ribonucleoprotein A'.

Mol	Chain	Residues	Atoms				AltConf	Trace
31	o	135	Total 841	C 538	N 142	O 161	0	0

- Molecule 32 is a protein called U2 small nuclear ribonucleoprotein B".

Mol	Chain	Residues	Atoms				AltConf	Trace
32	p	81	Total 513	C 332	N 89	O 92	0	0

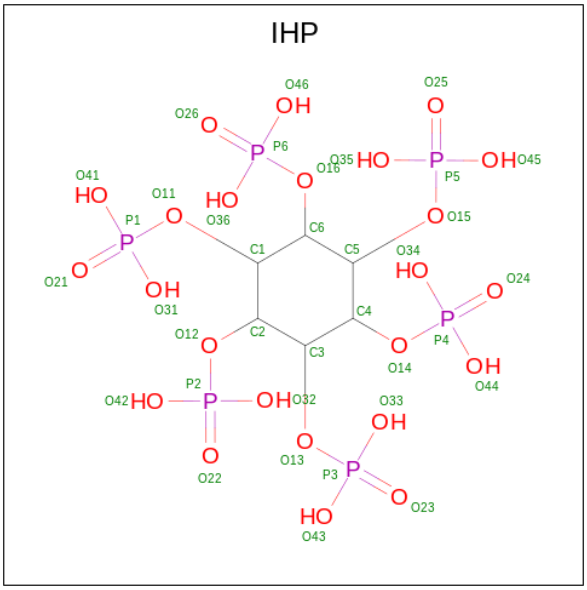
- Molecule 33 is a protein called Pre-mRNA-processing factor 19.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	q	126	Total	C	N	O	S	0	0
			831	526	134	169	2		
33	r	129	Total	C	N	O	S	0	0
			849	536	137	174	2		
33	s	129	Total	C	N	O	S	0	0
			850	537	137	174	2		
33	t	125	Total	C	N	O	S	0	0
			823	521	133	167	2		

- Molecule 34 is a RNA chain called RNA (intron or U6 snRNA).

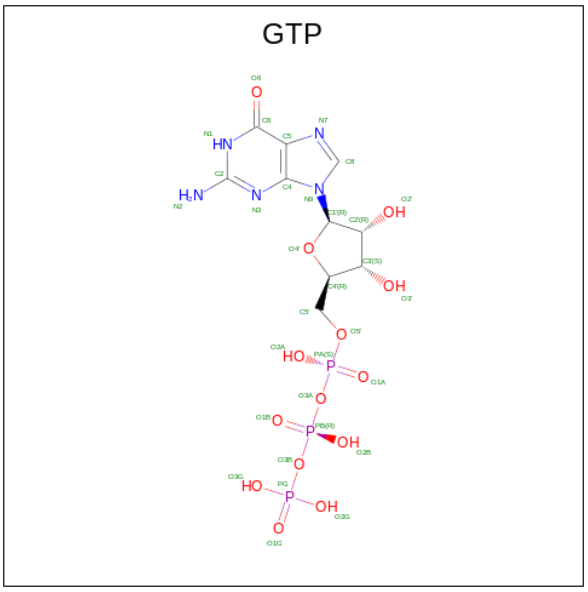
Mol	Chain	Residues	Atoms					AltConf	Trace
34	x	9	Total	C	N	O	P	0	0
			177	81	18	70	8		

- Molecule 35 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: $C_6H_{18}O_{24}P_6$).



Mol	Chain	Residues	Atoms				AltConf
35	A	1	Total	C	O	P	0
			36	6	24	6	

- Molecule 36 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
36	C	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 37 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
37	C	1	Total	Mg	0
			1	1	
37	D	5	Total	Mg	0
			5	5	

- Molecule 38 is ZINC ION (three-letter code: ZN) (formula: Zn).

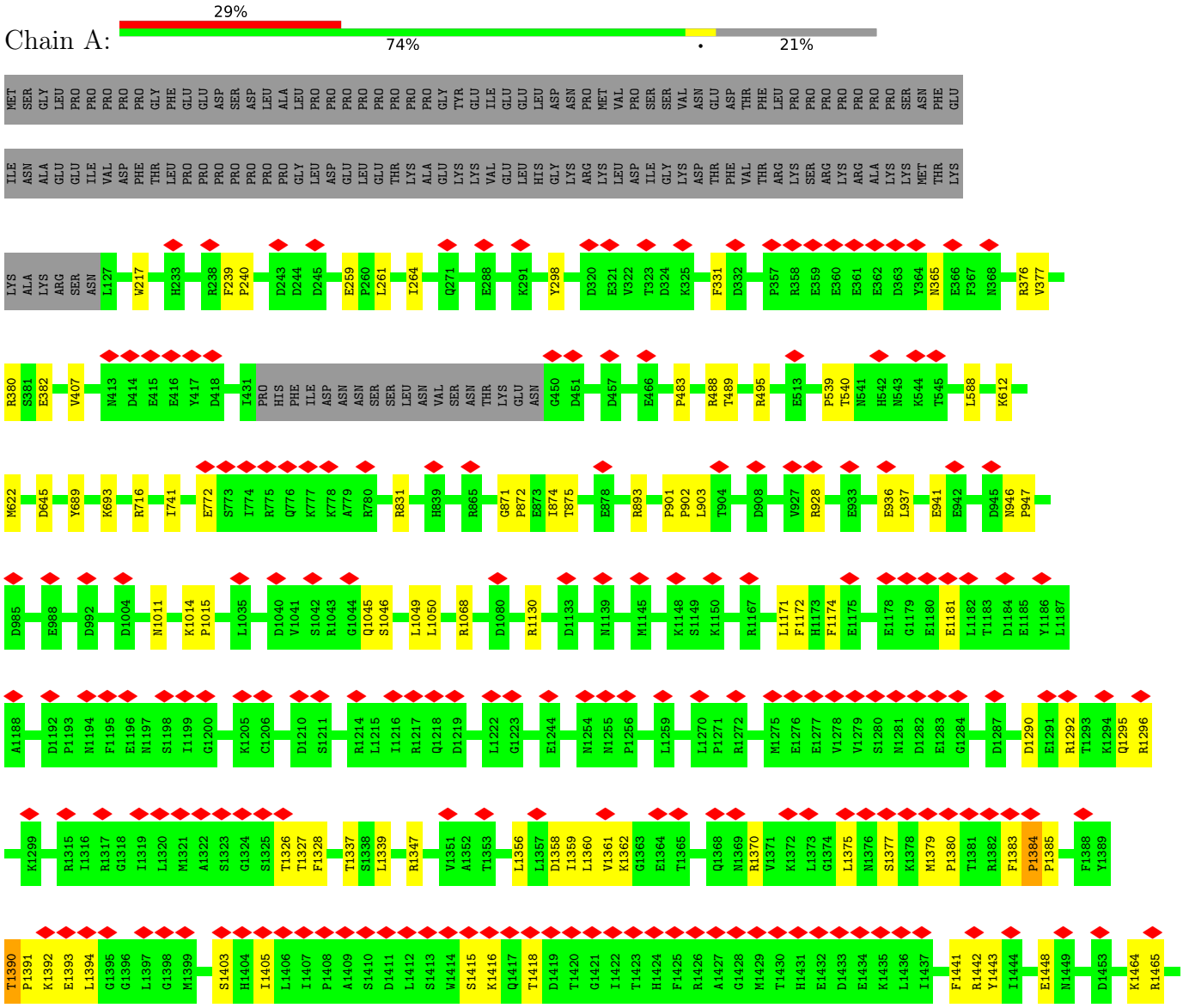
Mol	Chain	Residues	Atoms		AltConf
38	L	3	Total	Zn	0
			3	3	
38	M	2	Total	Zn	0
			2	2	
38	N	1	Total	Zn	0
			1	1	

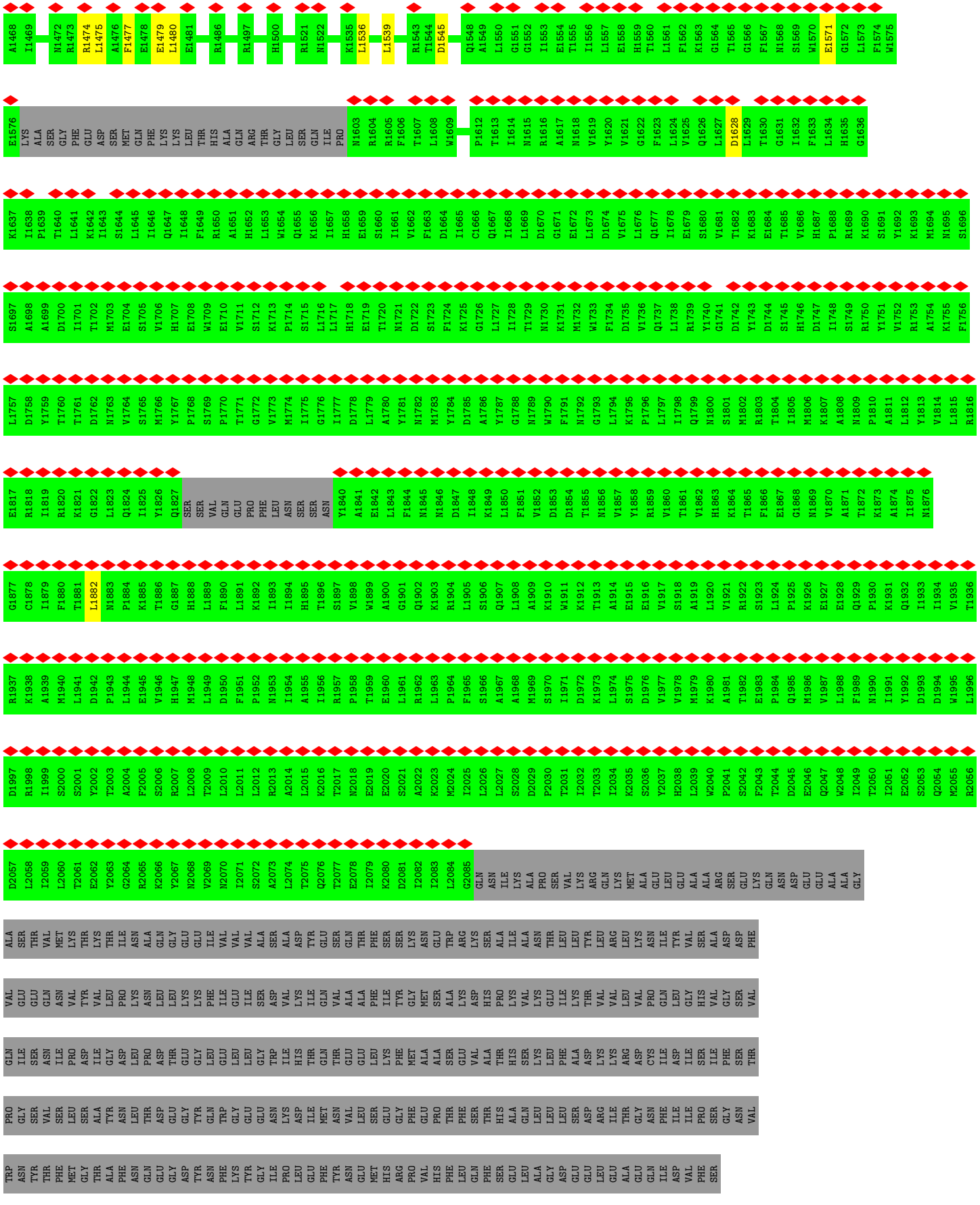
3 Residue-property plots (i)

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: Pre-mRNA-splicing factor 8

Chain A:

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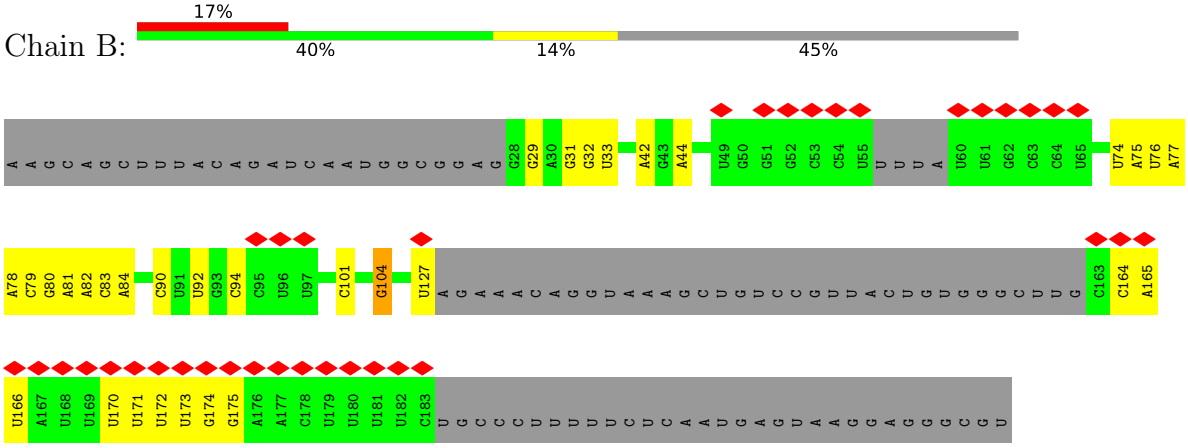
E1576 LYS ALA SER GLY PHE GLU ASP SER MET GLN PHE LYS LYS LEU THR HIS ALA GLN ARG THR GLY LEU SER GLN ILE PRO N1603 R1604 R1605 F1606 T1607 L1608 W1609 P1612 T1613 I1614 N1615 R1616 A1617 N1618 V1619 Y1620 V1621 G1622 F1623 L1624 V1625 Q1626 L1627 D1628 L1629 T1630 G1631 I1632 F1633 L1634 H1635 G1636
K1637 I1638 P1639 T1640 L1641 K1642 I1643 S1644 L1645 I1646 Q1647 I1648 F1649 R1650 A1651 H1652 L1653 W1654 Q1655 K1656 I1657 H1658 E1659 S1660 I1661 V1662 F1663 D1664 I1665 C1666 Q1667 I1668 L1669 D1670 G1671 E1672 L1673 D1674 V1675 L1676 Q1677 I1678 E1679 S1680 V1681 T1682 K1683 E1684 T1685 V1686 H1687 P1688 R1689 K1690 S1691 Y1692 K1693 M1694 N1695 S1696
S1697 A1698 A1699 D1700 I1701 T1702 M1703 E1704 S1705 V1706 H1707 E1708 W1709 E1710 V1711 S1712 K1713 P1714 S1715 L1716 L1717 H1718 E1719 T1720 N1721 D1722 S1723 F1724 K1725 G1726 L1727 I1728 T1729 N1730 K1731 M1732 W1733 F1734 D1735 V1736 Q1737 L1738 R1739 Y1740 G1741 D1742 Y1743 D1744 S1745 H1746 D1747 I1748 S1749 R1750 Y1751 V1752 R1753 A1754 K1755 F1756
L1757 D1758 Y1759 T1760 T1761 D1762 N1763 V1764 S1765 M1766 Y1767 P1768 S1769 P1770 T1771 G1772 V1773 M1774 I1775 G1776 I1777 D1778 L1779 A1780 Y1781 N1782 M1783 Y1784 D1785 A1786 Y1787 G1788 N1789 W1790 F1791 N1792 G1793 L1794 K1795 P1796 L1797 I1798 Q1799 N1800 S1801 M1802 R1803 T1804 I1805 M1806 D1807 A1808 N1809 P1810 A1811 L1812 Y1813 V1814 L1815 R1816
E1817 R1818 I1819 R1820 K1821 G1822 L1823 Q1824 I1825 Y1826 Q1827 SER SER VAL GLN GLU PRO PHE LEU ASN SER SER ASN Y1840 A1841 E1842 L1843 F1844 N1845 N1846 D1847 I1848 K1849 L1850 F1851 V1852 D1853 D1854 T1855 N1856 V1857 Y1858 R1859 V1860 T1861 V1862 H1863 K1864 T1865 F1866 E1867 G1868 N1869 V1870 A1871 T1872 K1873 A1874 I1875 N1876
G1877 C1878 I1879 F1880 T1881 L1882 N1883 P1884 K1885 T1886 G1887 H1888 L1889 F1890 L1891 K1892 I1893 I1894 H1895 T1896 S1897 V1898 W1899 A1900 G1901 Q1902 K1903 R1904 L1905 S1906 Q1907 L1908 A1909 K1910 W1911 K1912 T1913 A1914 E1915 E1916 V1917 S1918 A1919 L1920 V1921 R1922 S1923 L1924 P1925 K1926 E1927 E1928 Q1929 P1930 K1931 Q1932 I1933 I1934 V1935 T1936
R1937 K1938 A1939 M1940 L1941 D1942 P1943 L1944 E1945 V1946 H1947 M1948 L1949 D1950 F1951 P1952 N1953 I1954 A1955 I1956 R1957 P1958 T1959 E1960 L1961 R1962 L1963 P1964 F1965 S1966 A1967 A1968 M1969 S1970 I1971 D1972 K1973 L1974 S1975 D1976 V1977 V1978 M1979 K1980 A1981 T1982 E1983 P1984 Q1985 M1986 V1987 L1988 F1989 N1990 I1991 Y1992 D1993 D1994 W1995 L1996
D1997 R1998 I1999 S2000 S2001 Y2002 T2003 A2004 F2005 S2006 R2007 L2008 T2009 L2010 L2011 L2012 R2013 A2014 L2015 K2016 T2017 N2018 E2019 E2020 S2021 A2022 K2023 M2024 I2025 L2026 L2027 S2028 D2029 P2030 T2031 I2032 T2033 I2034 K2035 S2036 Y2037 H2038 L2039 W2040 P2041 S2042 F2043 T2044 D2045 E2046 Q2047 W2048 I2049 T2050 I2051 E2052 S2053 Q2054 M2055 R2056
D2057 L2058 I2059 L2060 T2061 E2062 Y2063 G2064 R2065 K2066 Y2067 N2068 V2069 N2070 I2071 S2072 A2073 L2074 T2075 Q2076 T2077 E2078 I2079 K2080 D2081 I2082 I2083 L2084 G2085 GLN ASN ILE LYS ALA PRO SER VAL LYS ARG GLN LYS MET ALA GLU LEU GLU ALA ARG SER GLU LYS GLN ASN ASP GLU GLU ALA ALA GLY
ALA SER THR VAL MET LYS THR LYS THR ILE ASN ALA GLN GLY GLU GLU ILE VAL VAL VAL ALA SER ALA ASP TYR GLU SER GLN THR PHE SER SER LYS ASN GLU TRP ARG LYS SER ALA ILE ILE ALA ASN THR LEU LEU TYR LEU ARG LEU LYS ASN ILE TYR VAL SER ALA ASP PHE
VAL GLU GLU GLN ASN VAL TYR VAL LEU PRO LYS ASN LEU LEU LYS LYS PHE ILE GLU ILE SER ASP VAL LYS ILE GLN VAL ALA ALA PHE ILE TYR GLY MET SER ALA LYS ASP HIS PRO LYS VAL LYS GLU ILE LYS THR VAL VAL LEU VAL LYS ASP PRO GLN LEU GLY HIS VAL GLY SER VAL
GLN ILE SER ASN ILE PRO ASP ILE GLY ASP LEU PRO ASP THR GLU GLY LEU GLU LEU LEU GLY TRP ILE HIS THR GLN THR GLU GLU LEU LYS PHE MET ALA ALA SER GLU VAL ALA THR HIS SER LYS LEU PHE ALA THR SER ILE ASP ILE SER ASP PHE SER THR
PRO GLY SER VAL SER LEU SER ALA TYR ASN LEU THR ASP GLU GLY GLY TYR GLN TRP GLY GLU GLU ASN LYS ASP ILE MET ASN VAL LEU SER GLU GLY PHE GLU PRO THR PHE SER THR HIS ALA GLN LEU LEU LEU SER ASP ARG ILE THR HIS GLU ILE ILE PRO SER GLY ASN VAL
TRP ASN TYR THR PHE MET GLY THR ALA PHE ASN GLN GLU GLY ASP TYR ASN PHE LYS TYR GLY ILE PRO LEU GLU PHE TYR ASN GLU GLY HIS ARG PRO VAL HIS PHE LEU GLN PHE SER GLU LEU ALA GLY ASP GLU GLU LEU GLU ALA GLU GLN ILE ASP VAL PHE SER

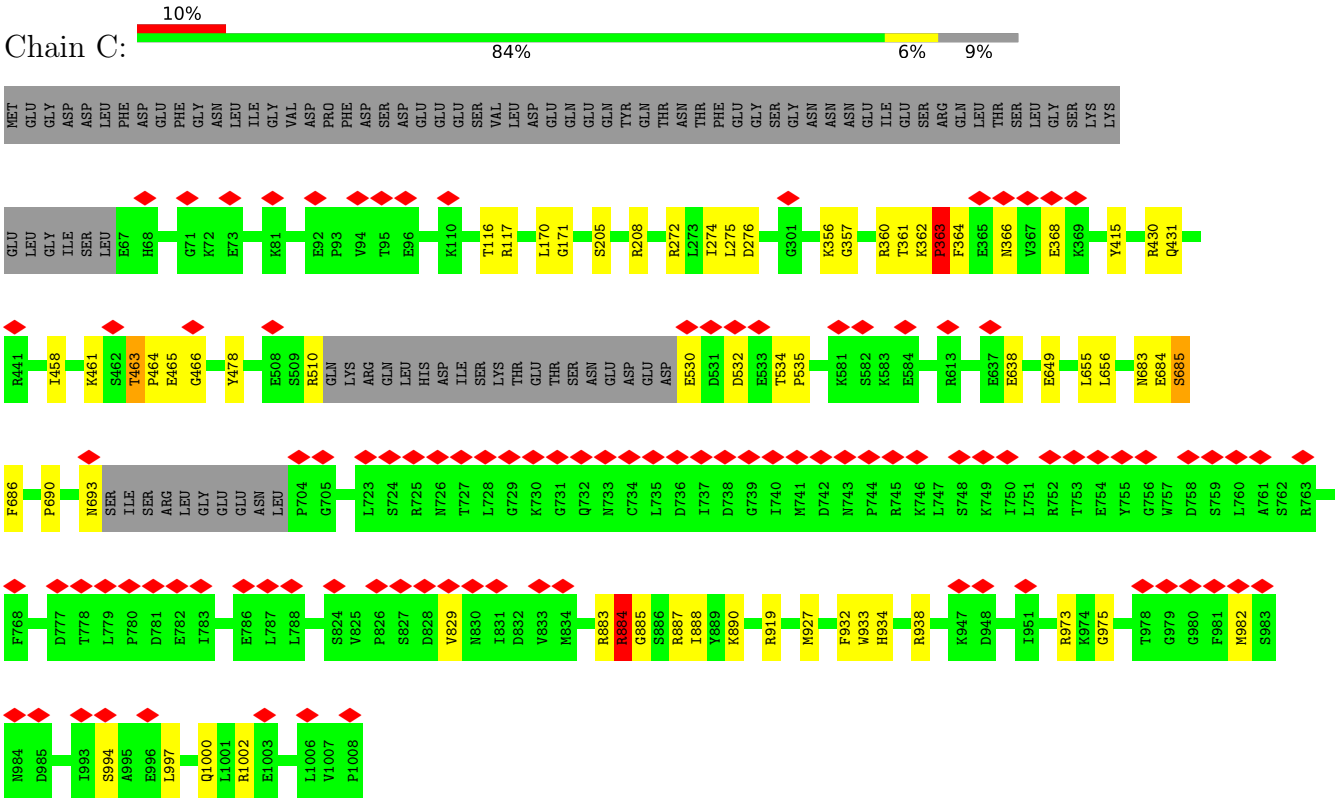
• Molecule 2: U5 snRNA

Chain B:



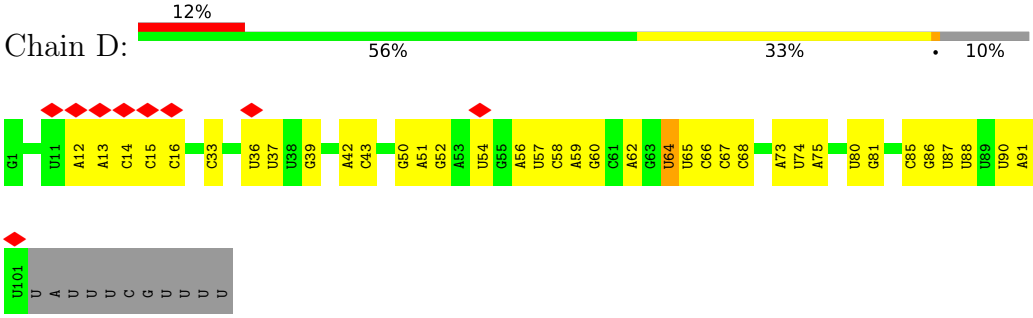
• Molecule 3: Pre-mRNA-splicing factor SNU114

Chain C:

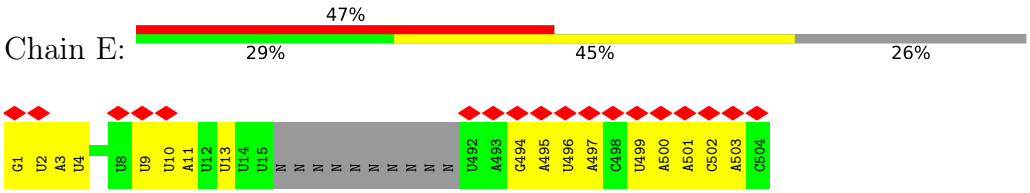


• Molecule 4: U6 snRNA

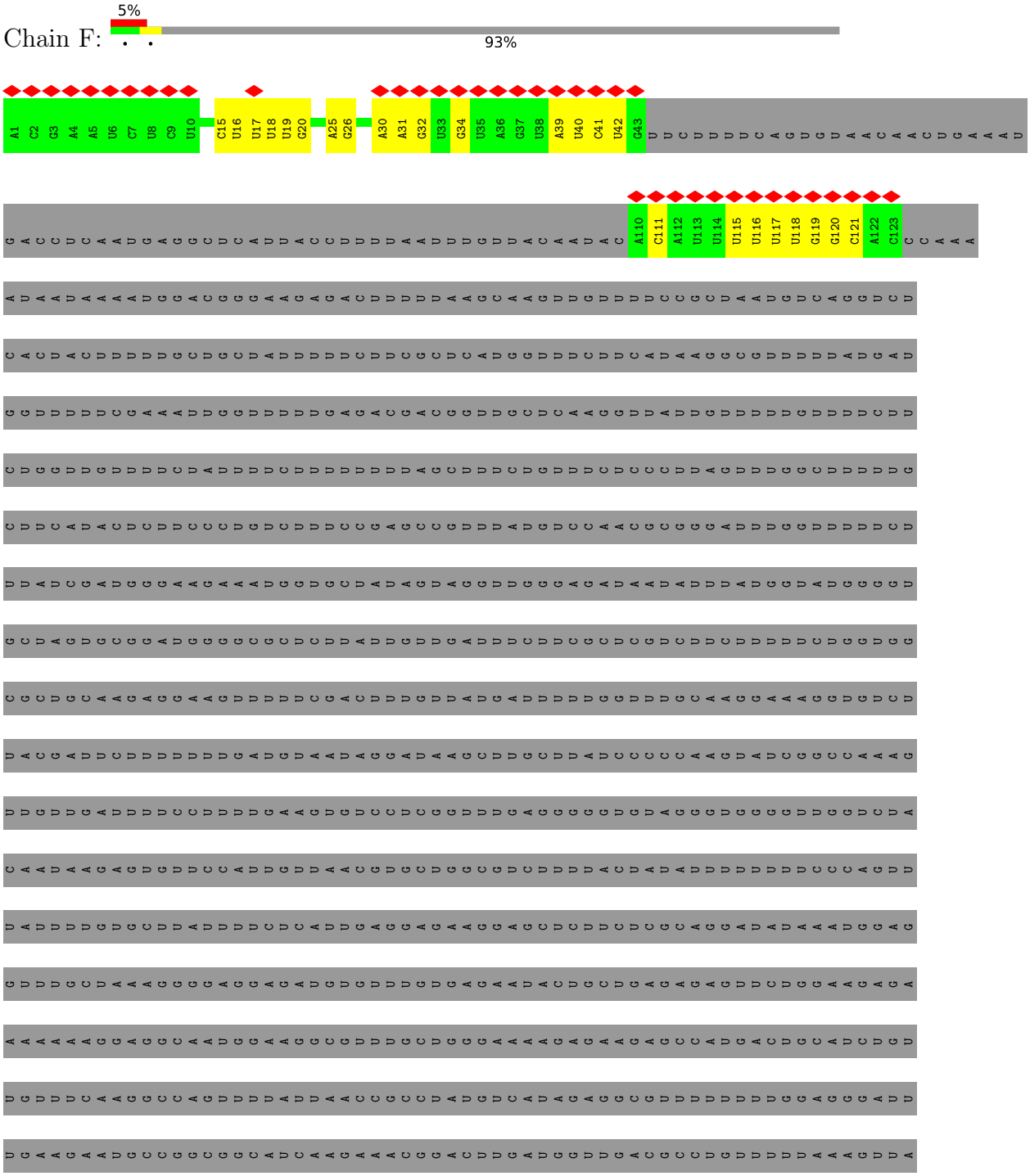
Chain D:



• Molecule 5: Intron lariat

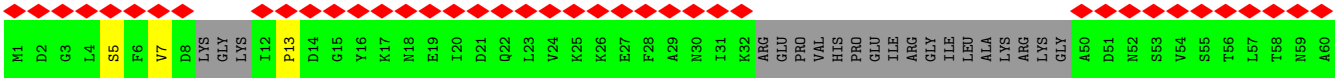


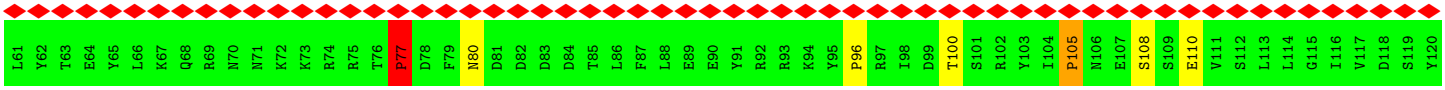
• Molecule 6: U2 snRNA

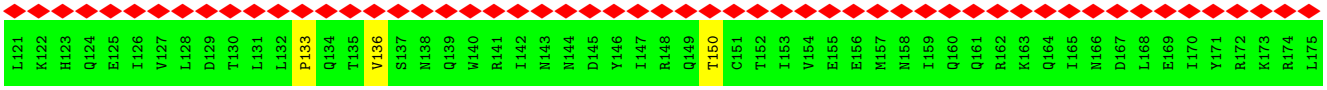


• Molecule 7: Pre-mRNA-splicing factor SNT309

Chain G:

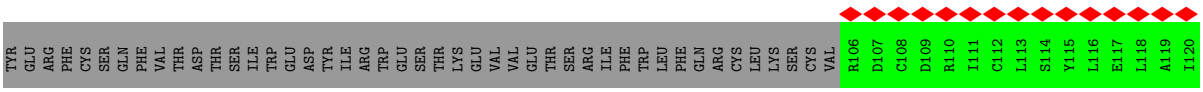


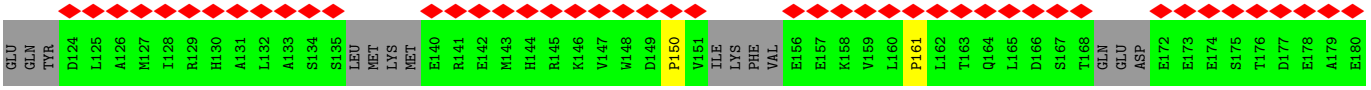


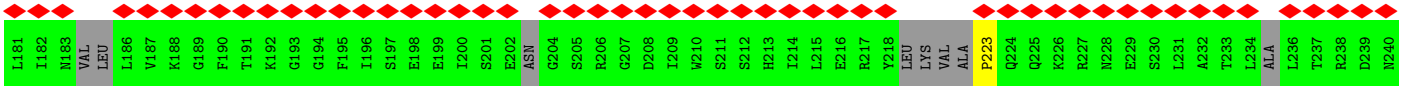


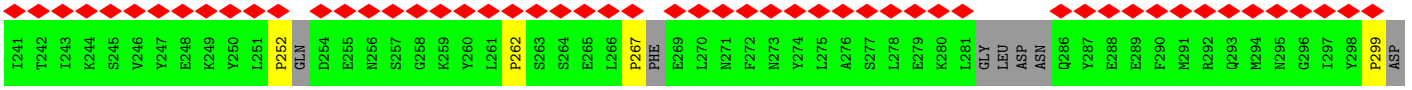
• Molecule 8: Pre-mRNA-splicing factor SYF1

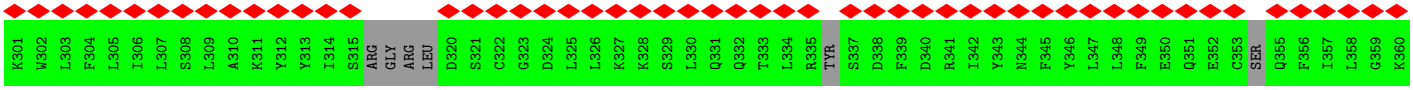
Chain H:

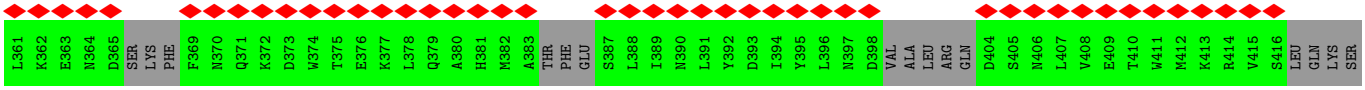


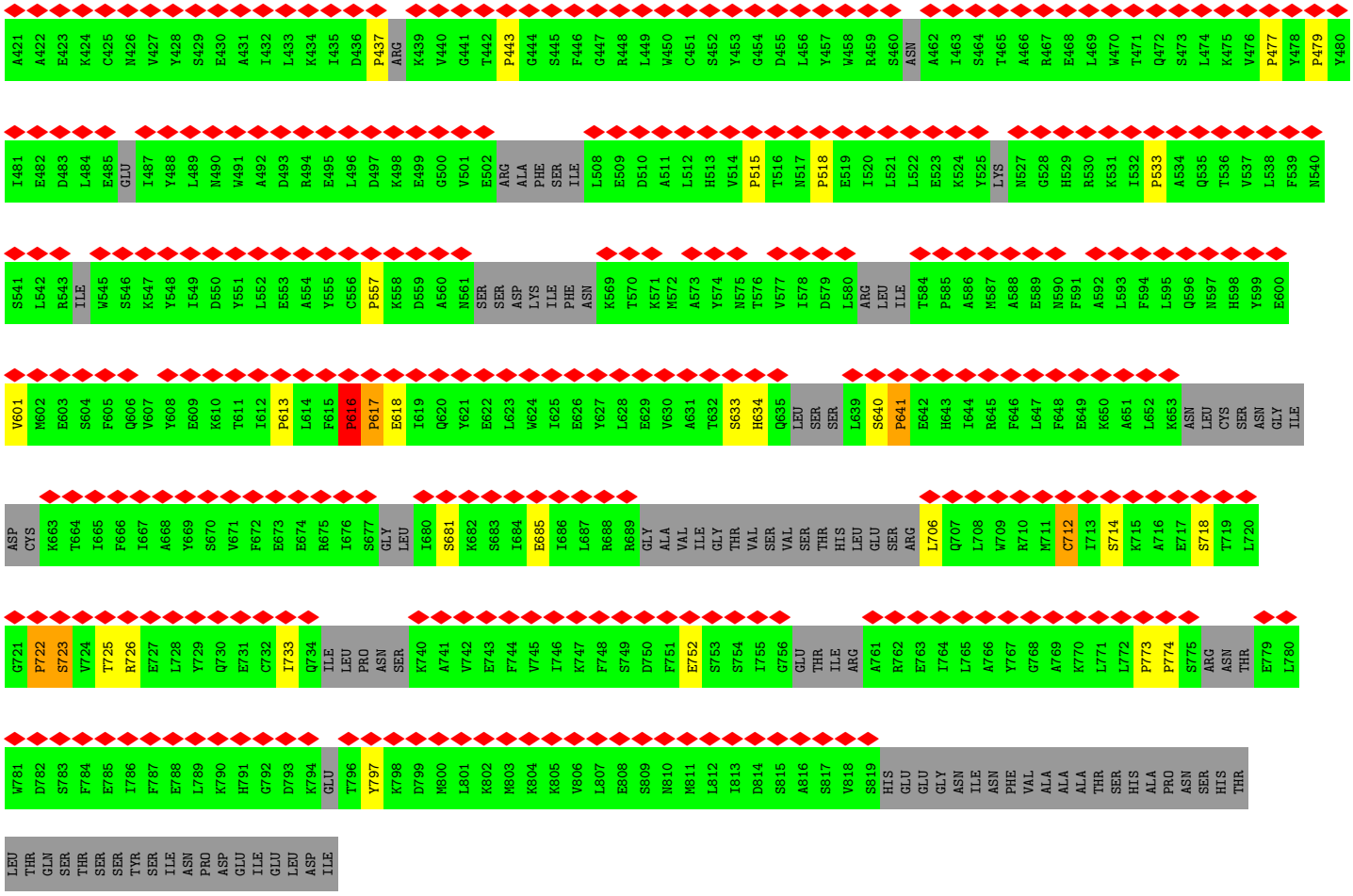






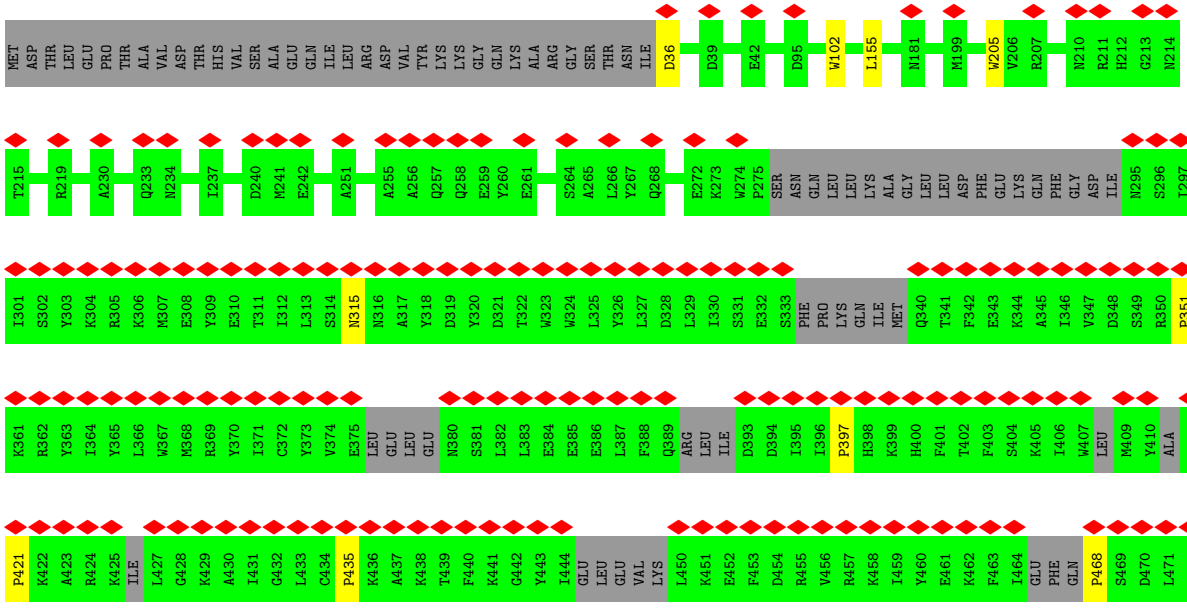


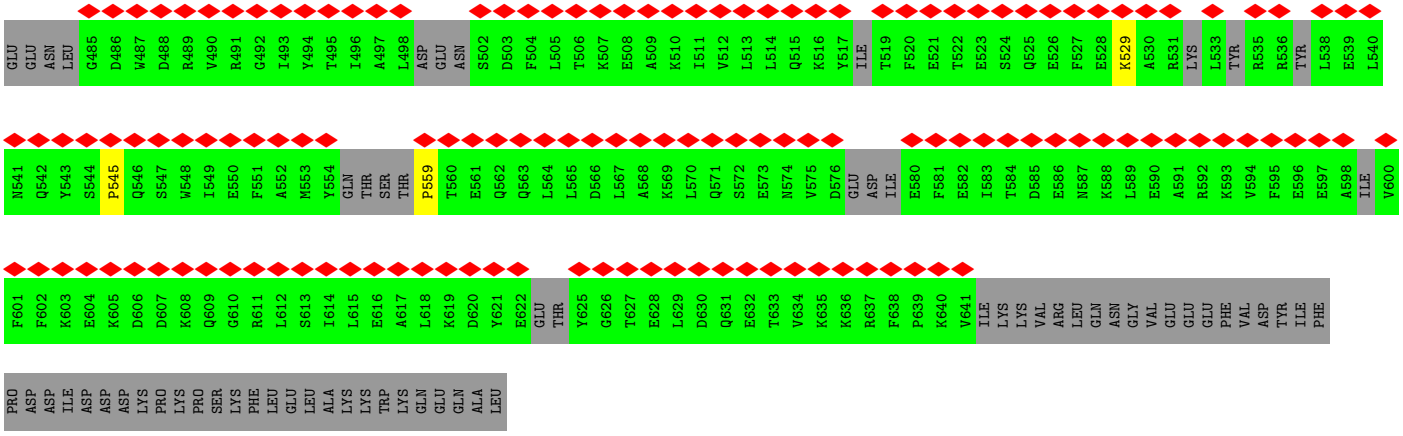




• Molecule 9: Pre-mRNA-splicing factor CLF1

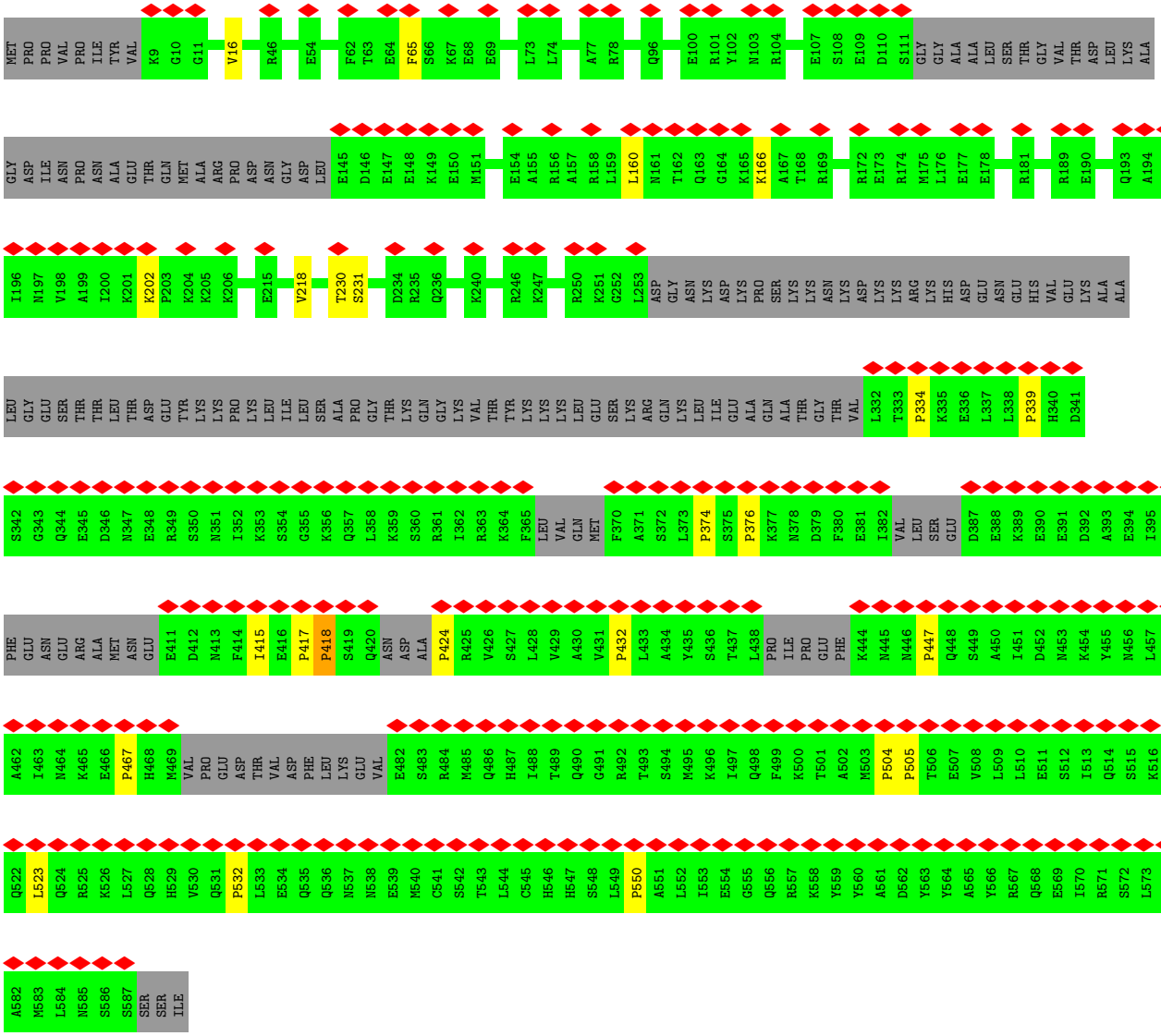
Chain I:





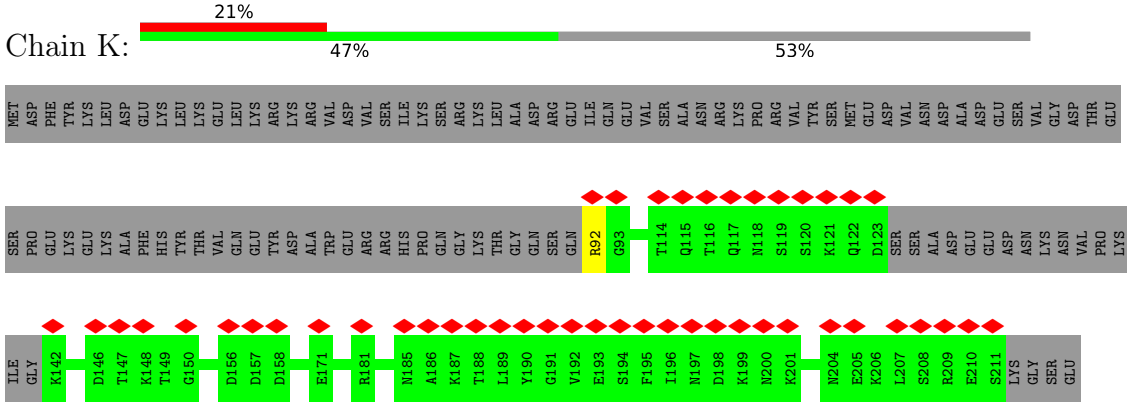
• Molecule 10: Pre-mRNA-splicing factor CEF1

Chain J:



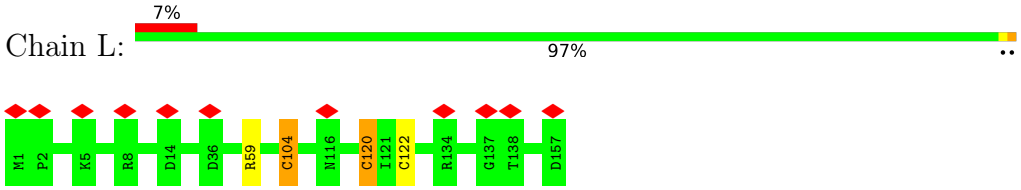
• Molecule 11: Pre-mRNA-splicing factor SYF2

Chain K:



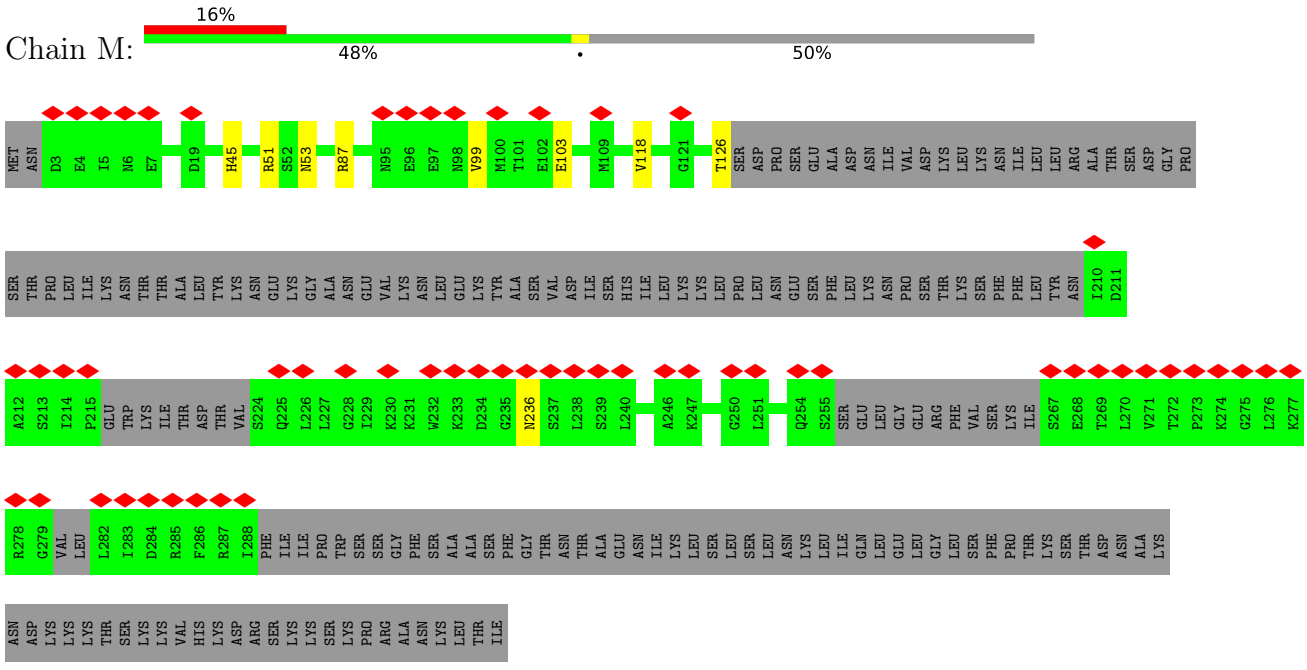
• Molecule 12: Pre-mRNA-splicing factor BUD31

Chain L:



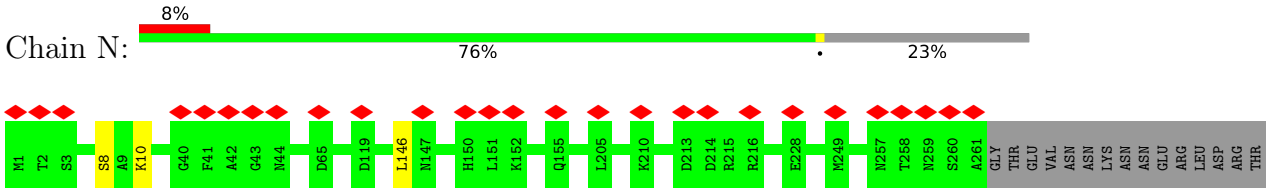
• Molecule 13: Pre-mRNA-splicing factor SLT11

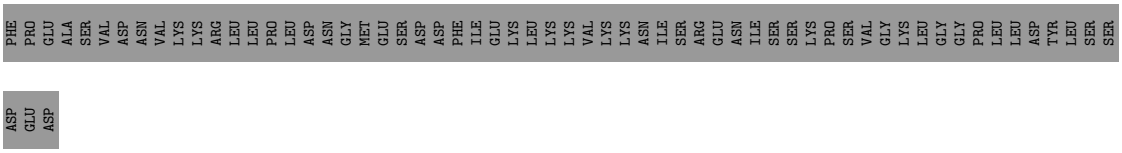
Chain M:



• Molecule 14: Pre-mRNA-splicing factor CWC2

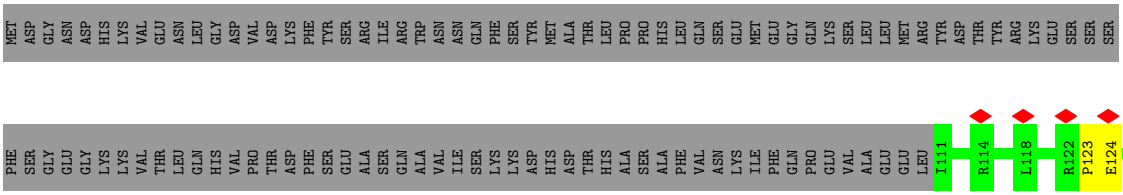
Chain N:

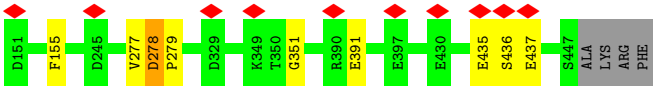




• Molecule 15: Pre-mRNA-splicing factor PRP46

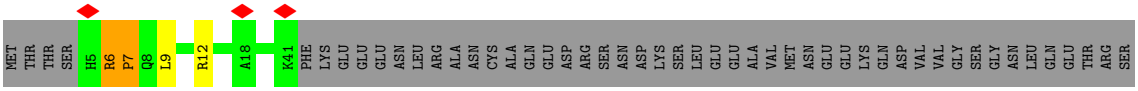
Chain O:

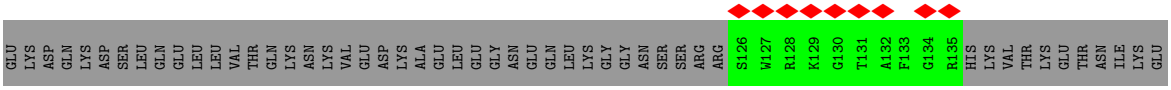


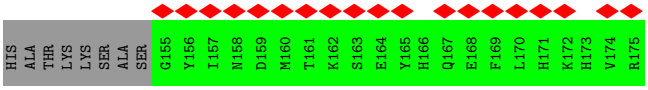


• Molecule 16: Pre-mRNA-splicing factor CWC15

Chain P:

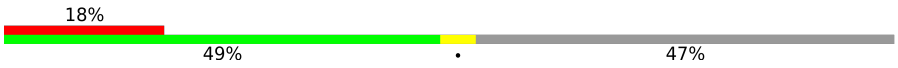


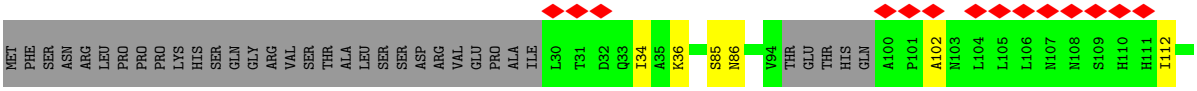


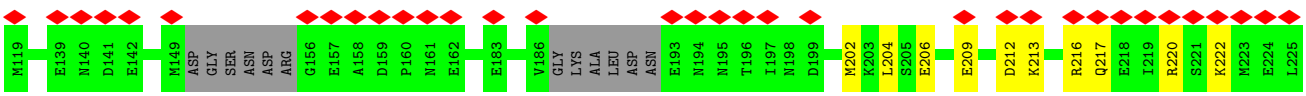


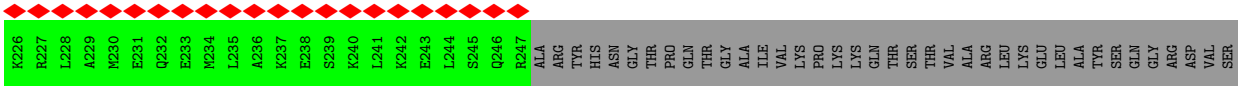
• Molecule 17: Pre-mRNA-processing protein 45

Chain Q:



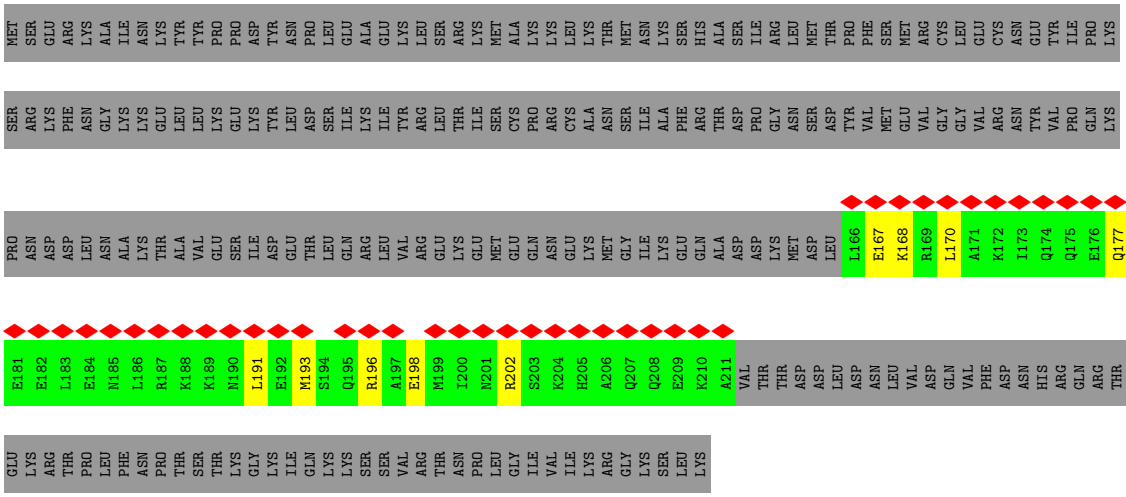






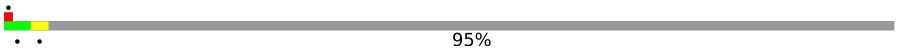
• Molecule 18: Protein CWC16

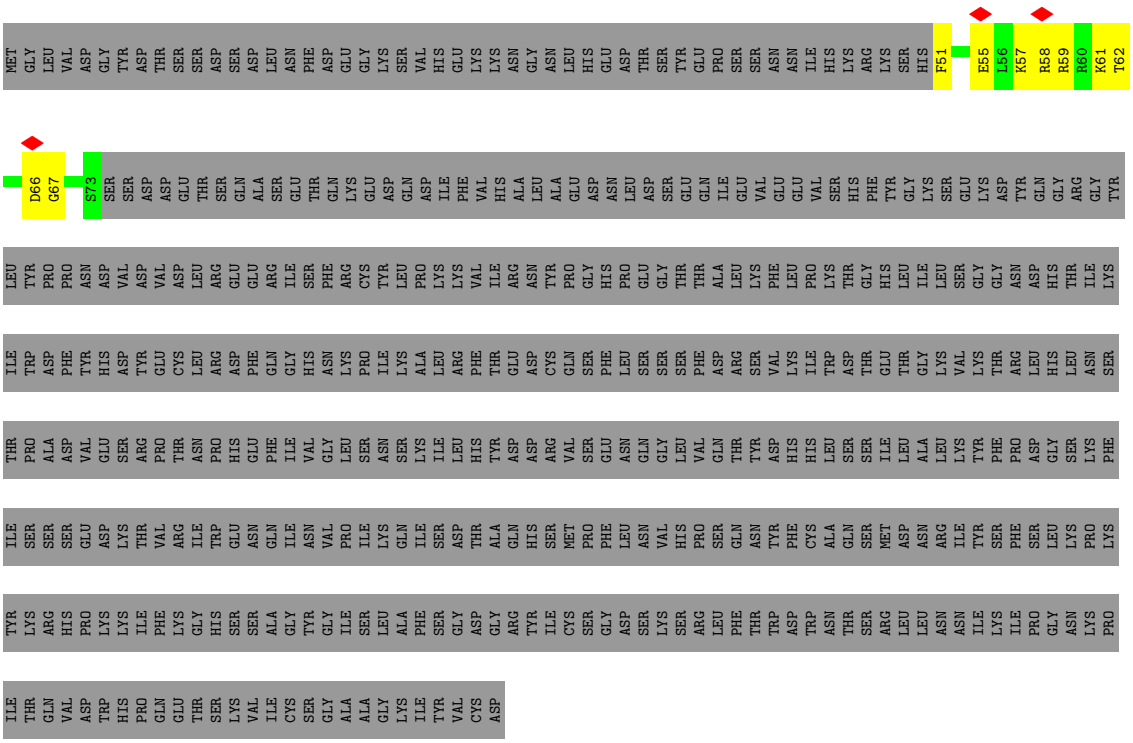
Chain R:



• Molecule 19: Pre-mRNA-processing factor 17

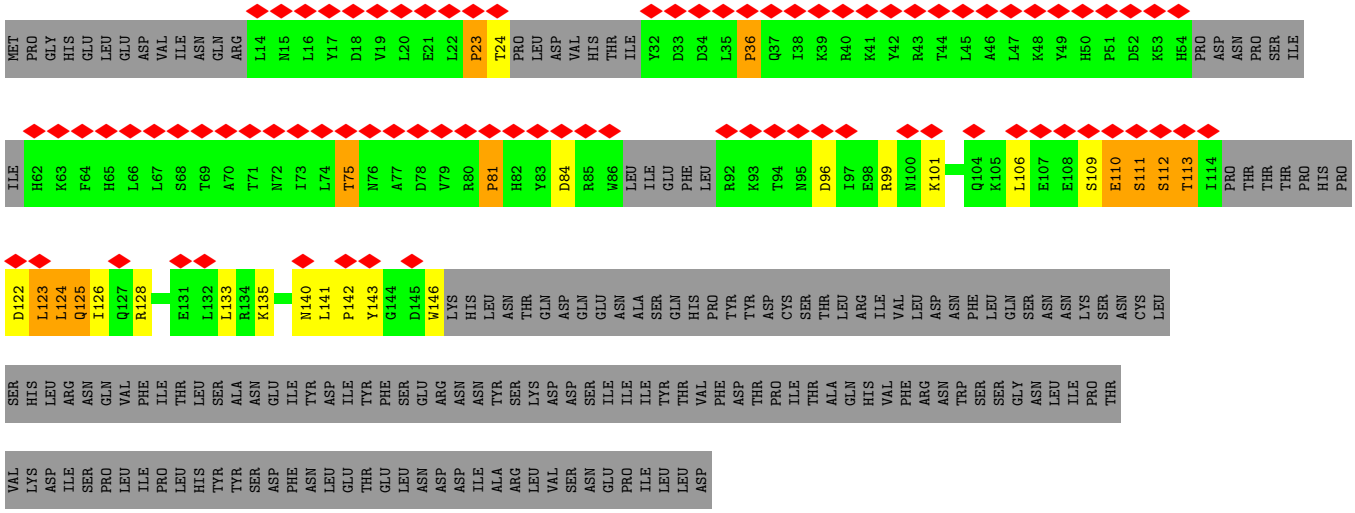
Chain S:





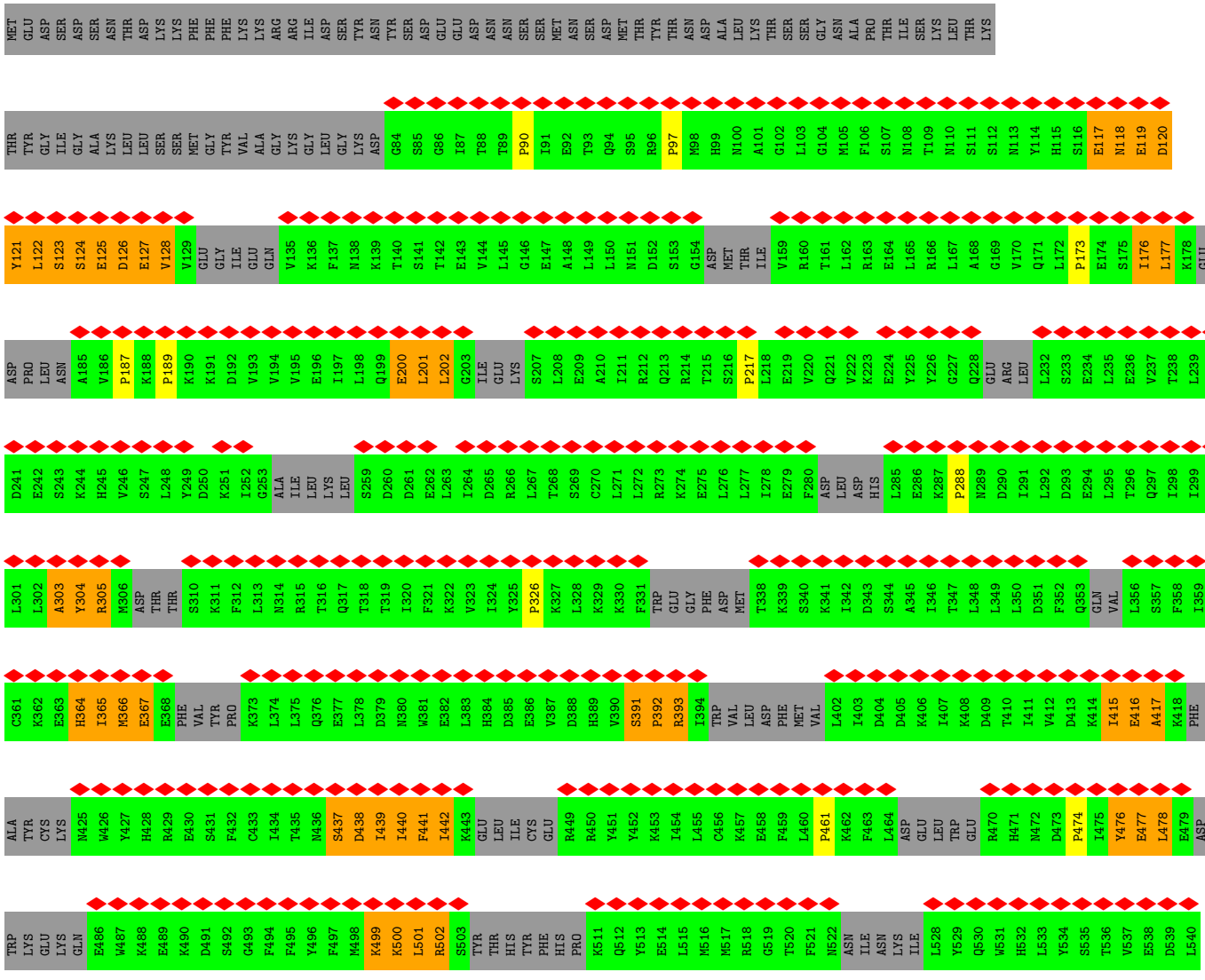
• Molecule 20: Pre-mRNA-splicing factor CWC23

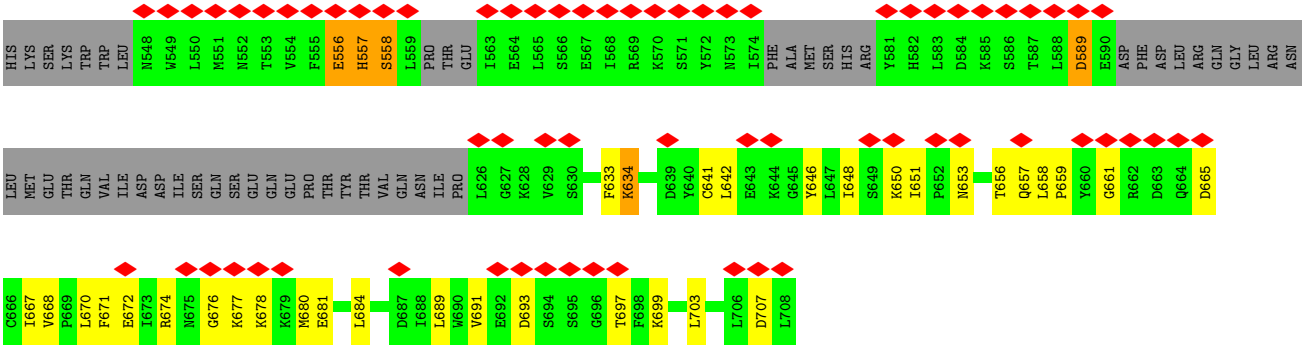
Chain T:



• Molecule 21: Pre-mRNA-splicing factor SPP382

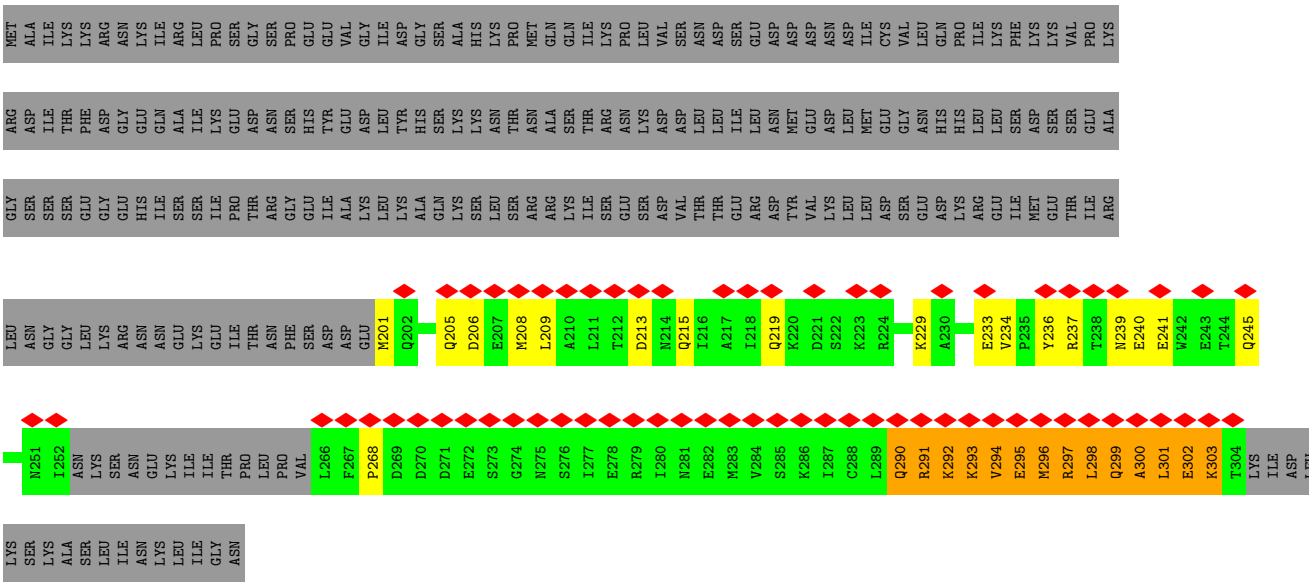
Chain U:





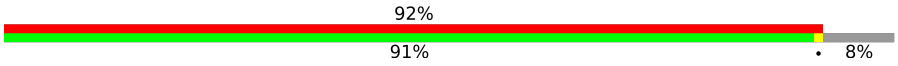
• Molecule 22: Pre-mRNA-splicing factor NTR2

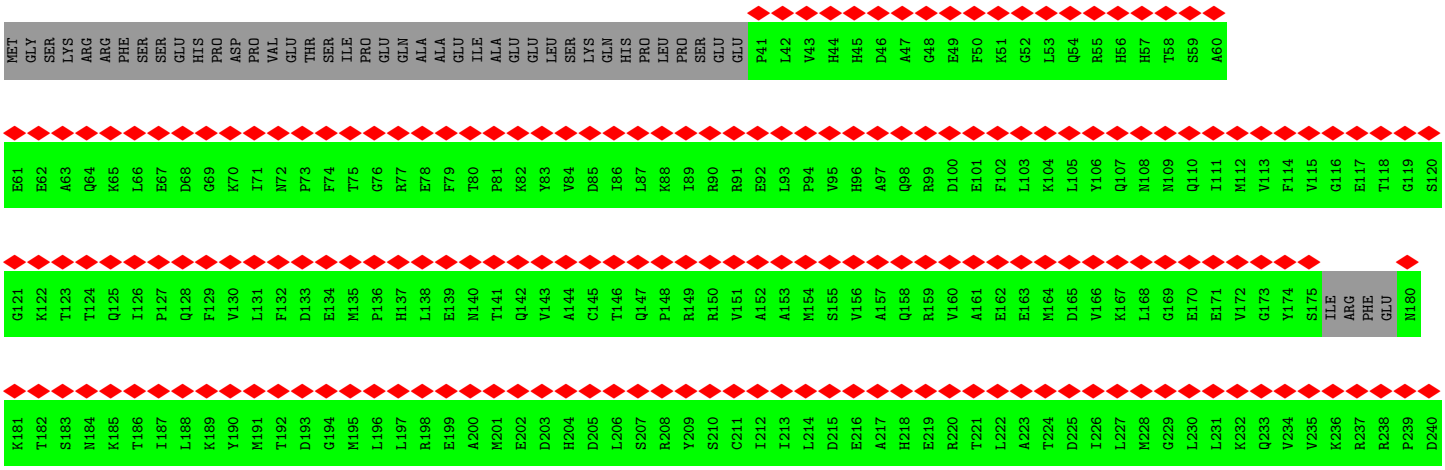
Chain V:

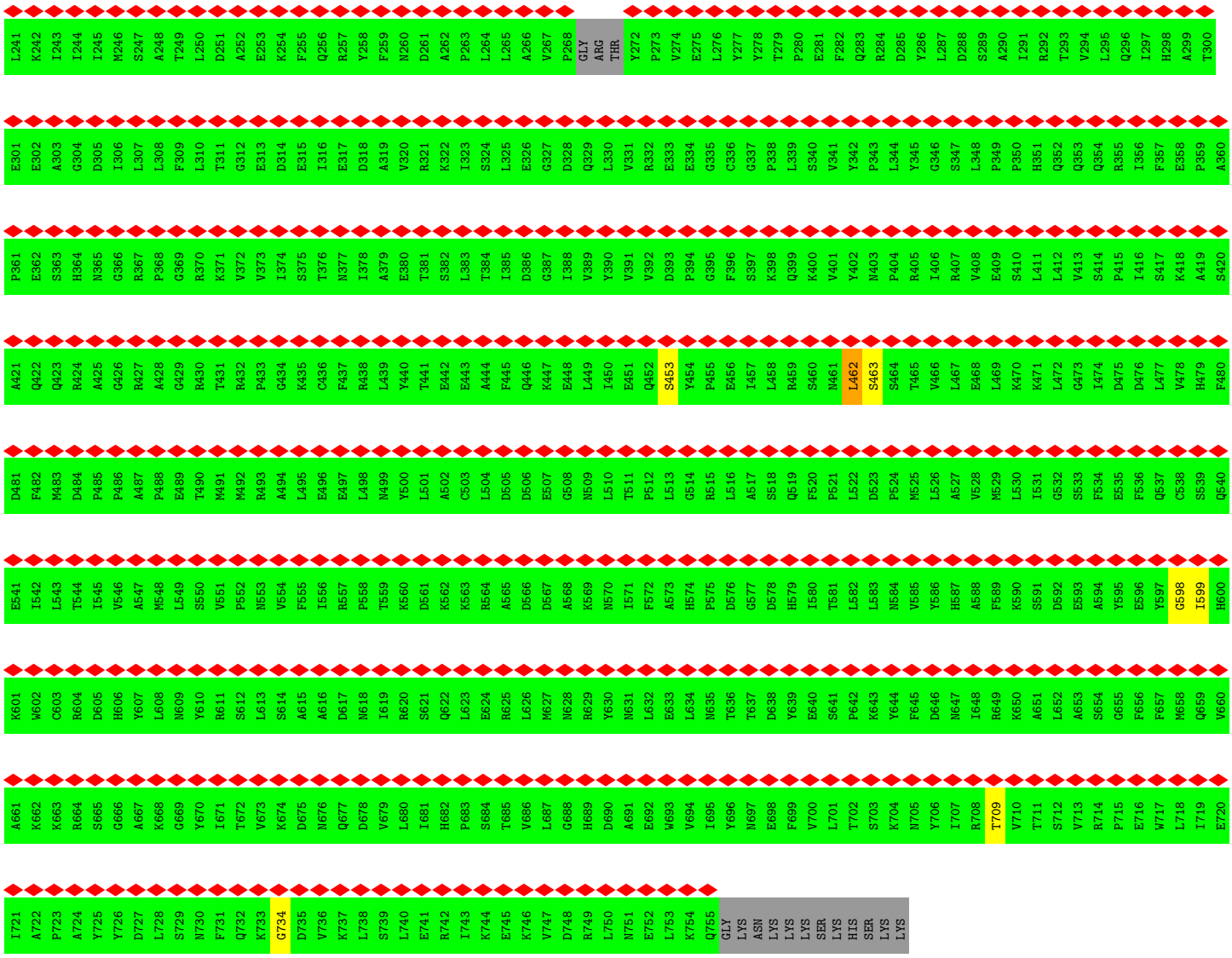


• Molecule 23: Pre-mRNA-splicing factor ATP-dependent RNA helicase PRP43

Chain W:

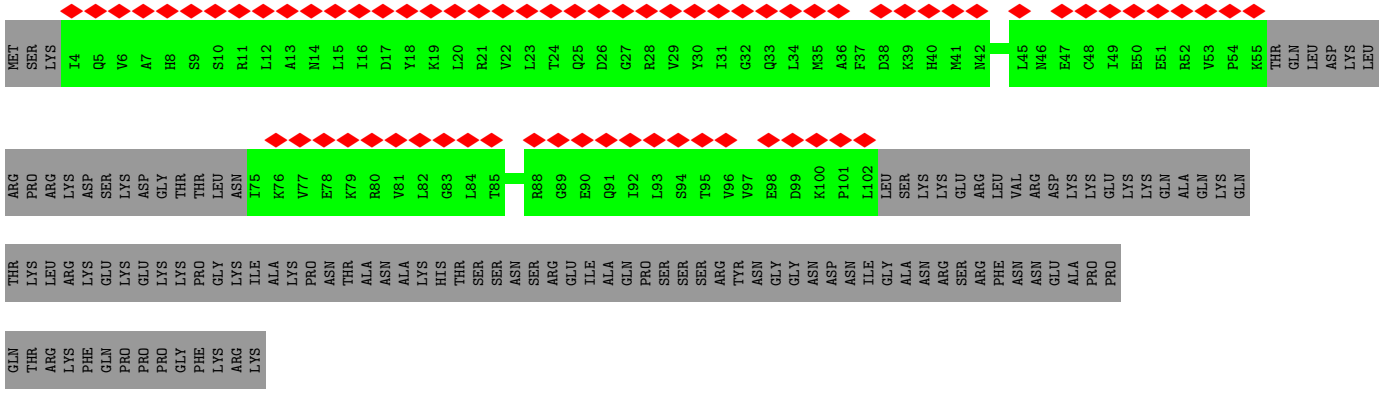






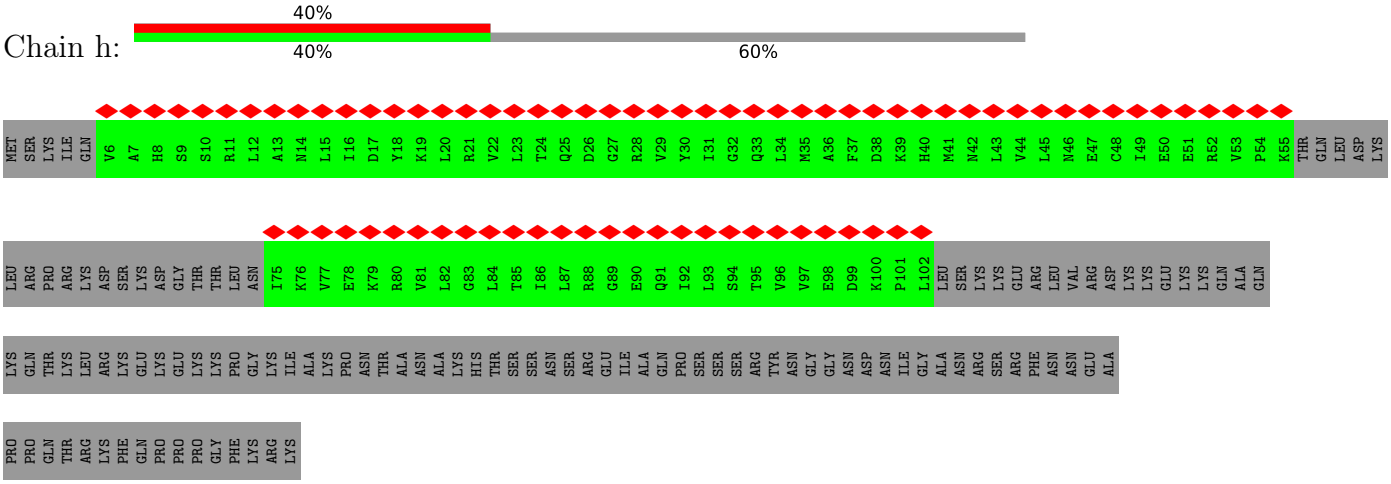
• Molecule 24: Small nuclear ribonucleoprotein-associated protein B

Chain a:



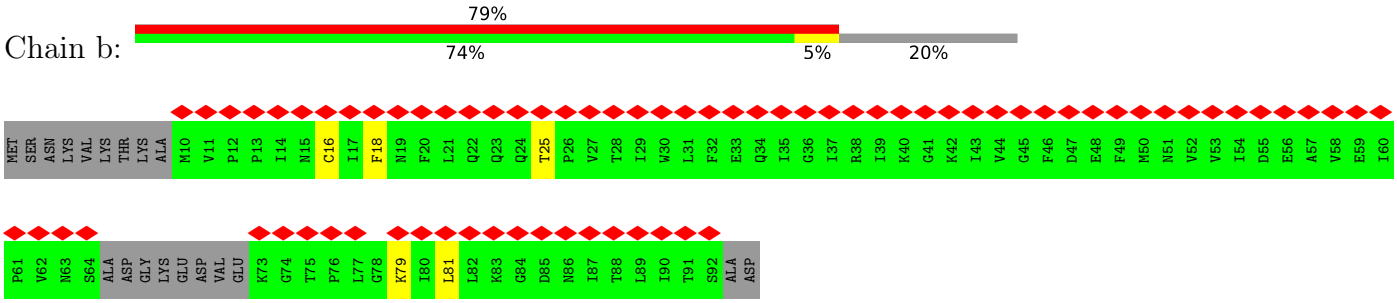
• Molecule 24: Small nuclear ribonucleoprotein-associated protein B

Chain h:



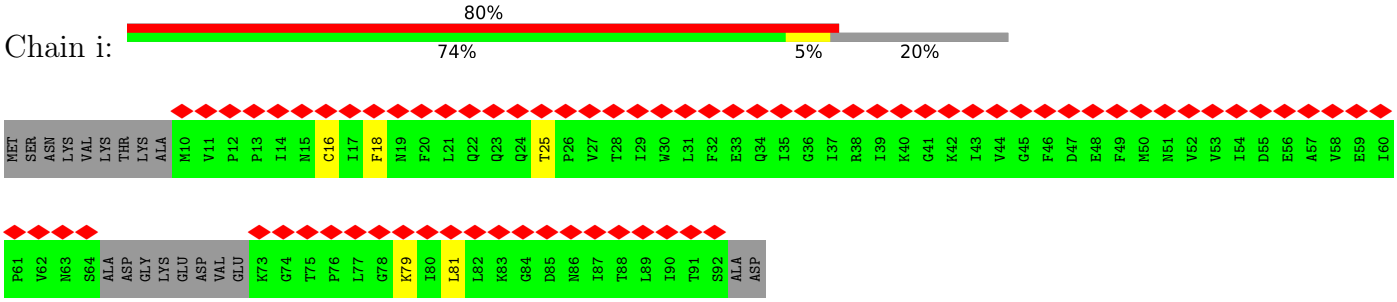
• Molecule 25: Small nuclear ribonucleoprotein E

Chain b:



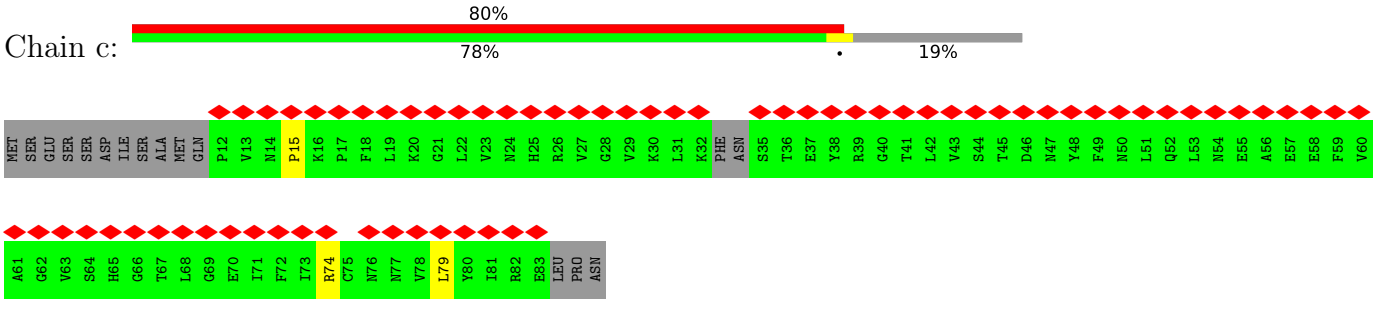
• Molecule 25: Small nuclear ribonucleoprotein E

Chain i:



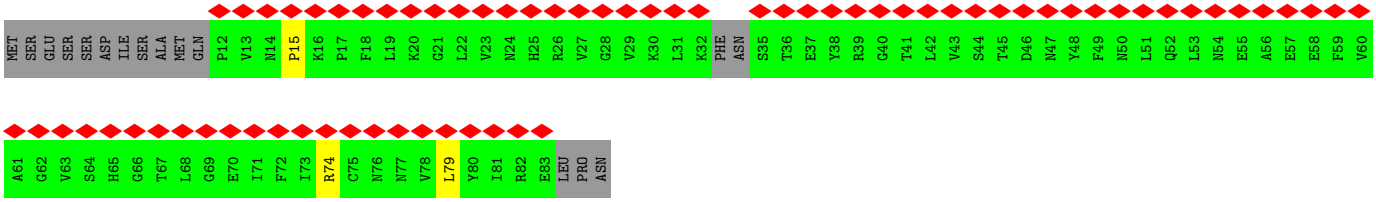
• Molecule 26: Small nuclear ribonucleoprotein F

Chain c:

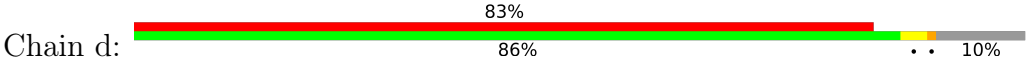


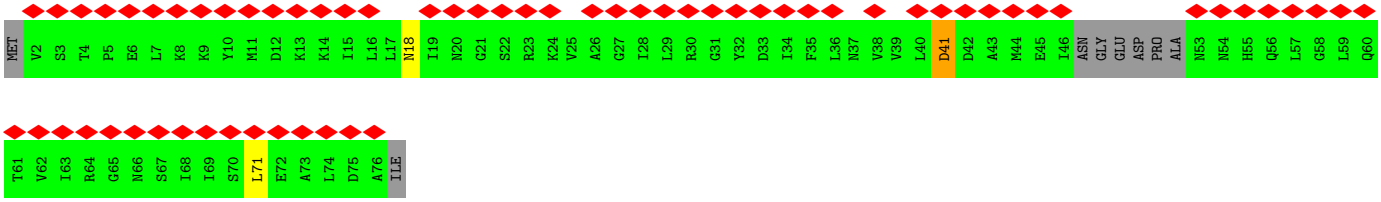
• Molecule 26: Small nuclear ribonucleoprotein F

Chain j:

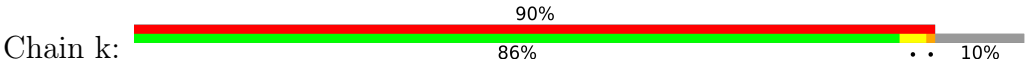


• Molecule 27: Small nuclear ribonucleoprotein G

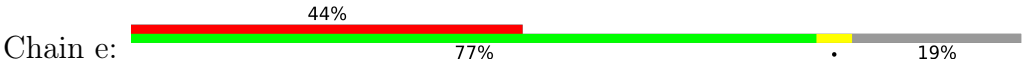


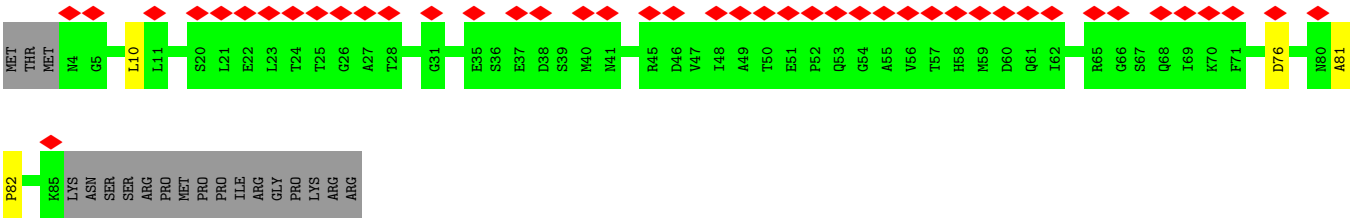


• Molecule 27: Small nuclear ribonucleoprotein G

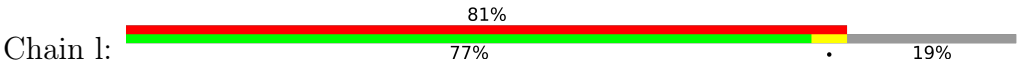


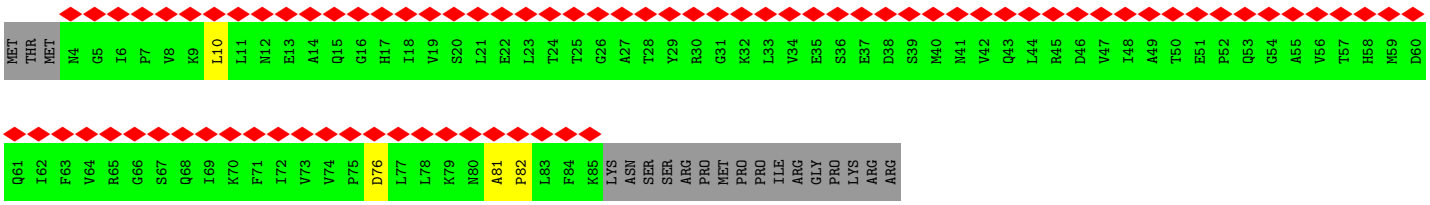
• Molecule 28: Small nuclear ribonucleoprotein Sm D3





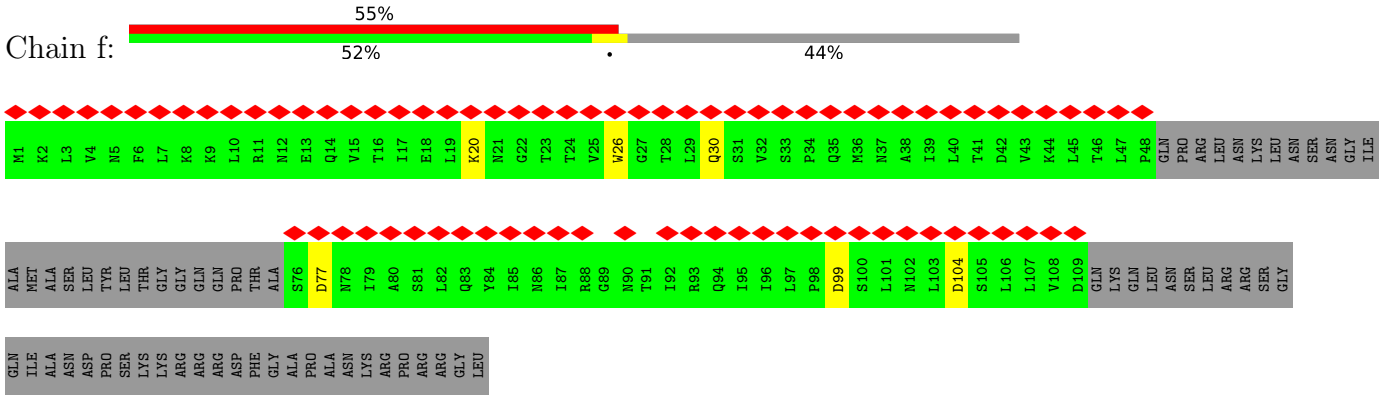
• Molecule 28: Small nuclear ribonucleoprotein Sm D3





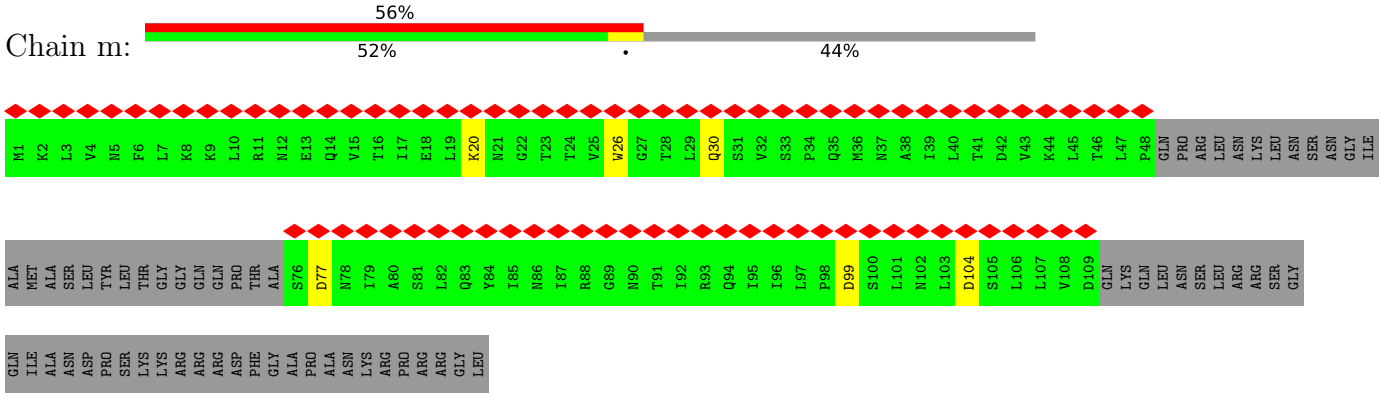
• Molecule 29: Small nuclear ribonucleoprotein Sm D1

Chain f:



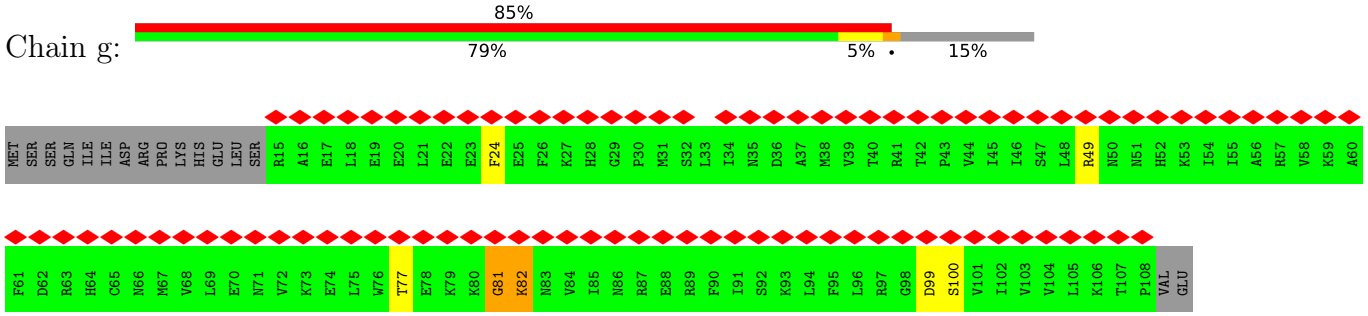
• Molecule 29: Small nuclear ribonucleoprotein Sm D1

Chain m:



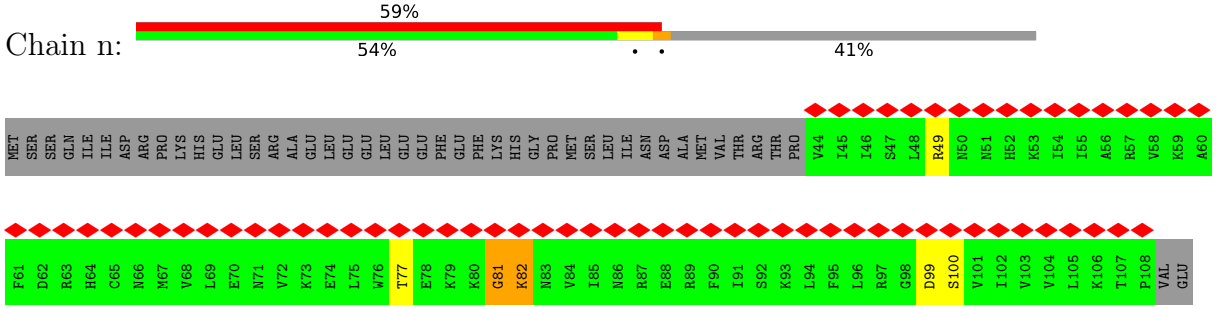
• Molecule 30: Small nuclear ribonucleoprotein Sm D2

Chain g:

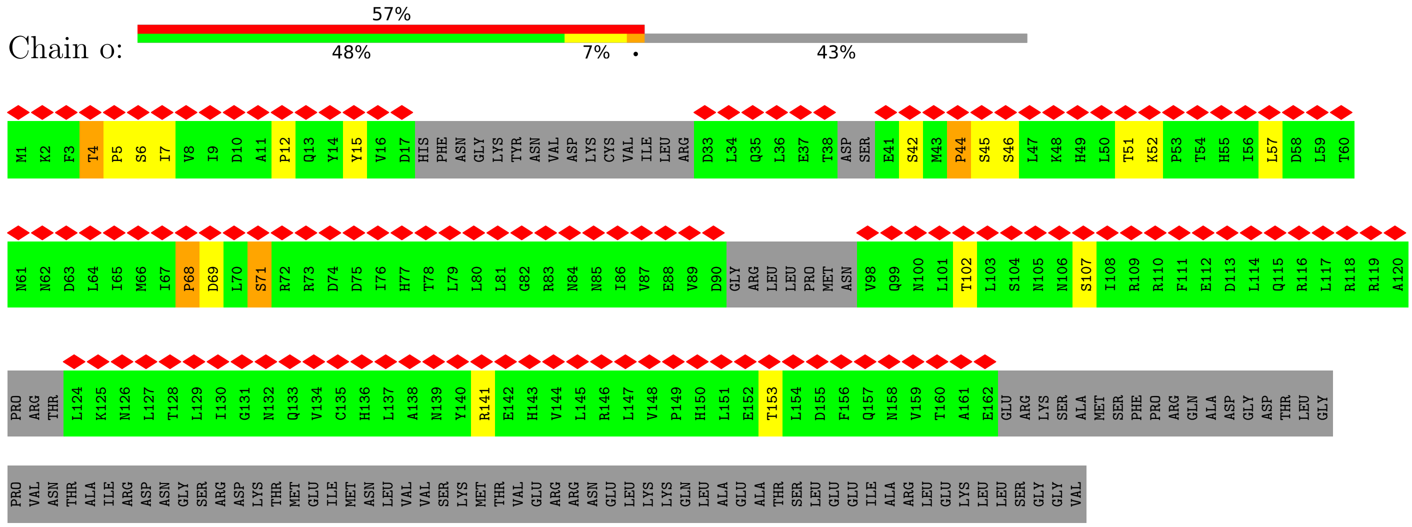


• Molecule 30: Small nuclear ribonucleoprotein Sm D2

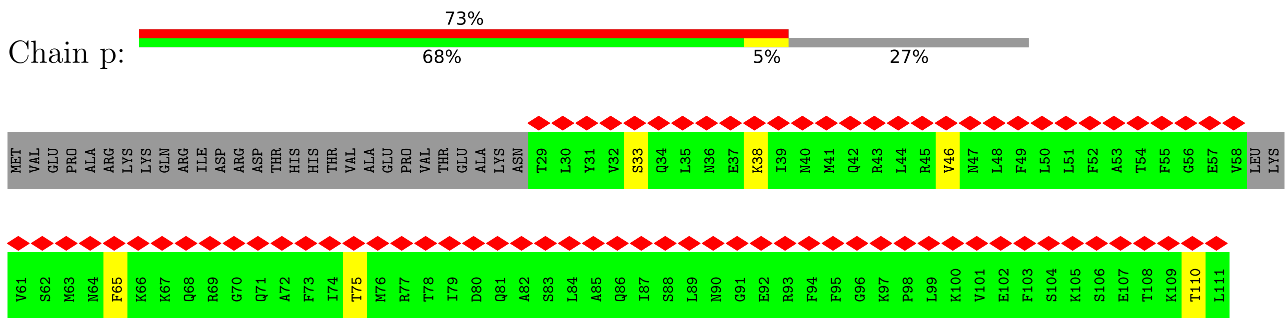
Chain n:



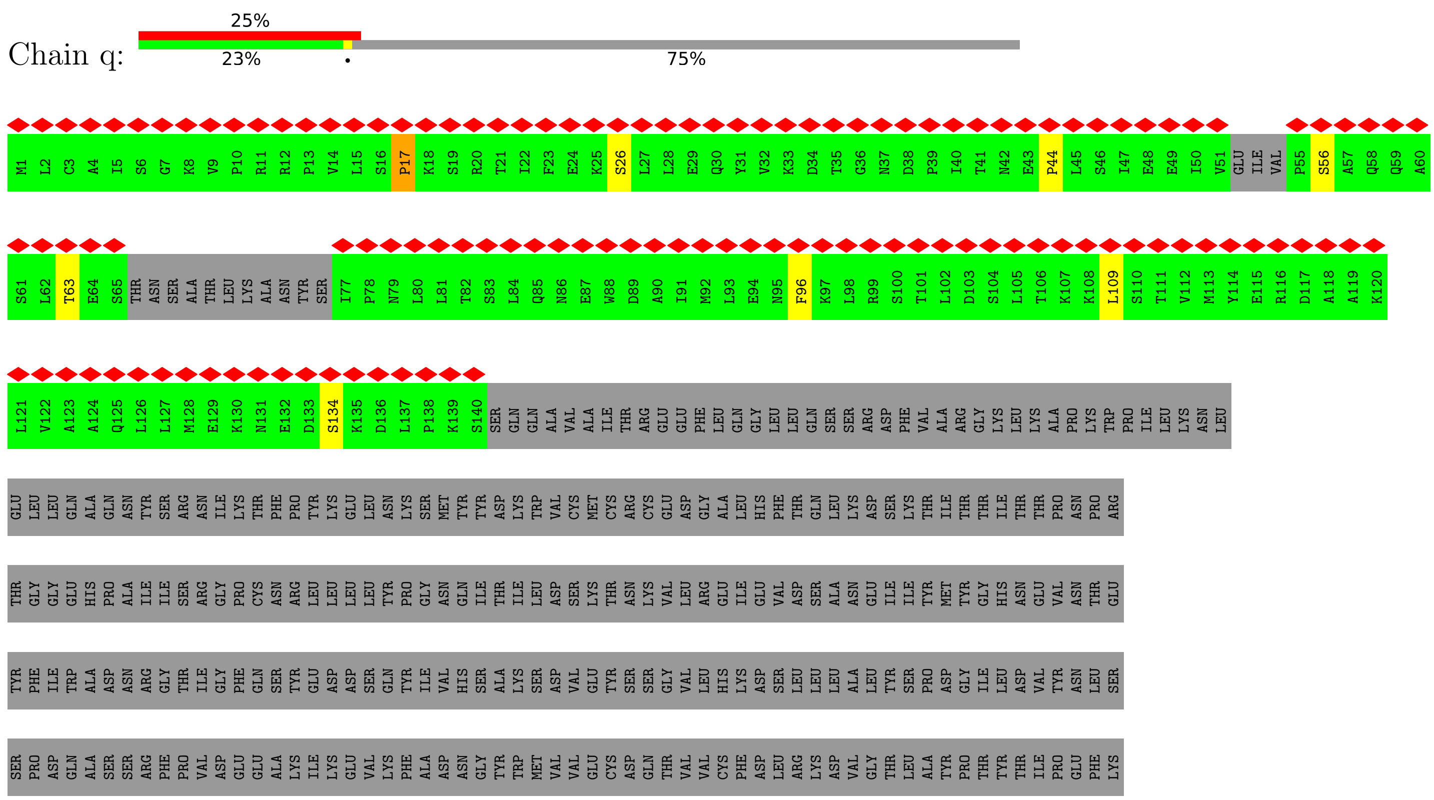
• Molecule 31: U2 small nuclear ribonucleoprotein A'

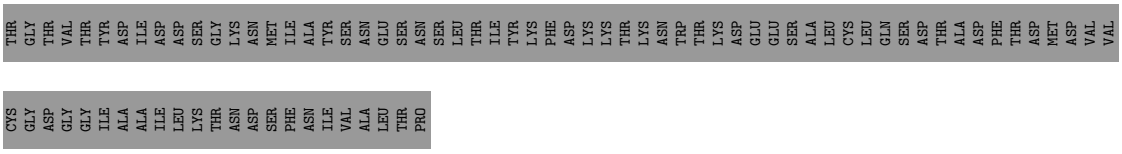


• Molecule 32: U2 small nuclear ribonucleoprotein B”



• Molecule 33: Pre-mRNA-processing factor 19



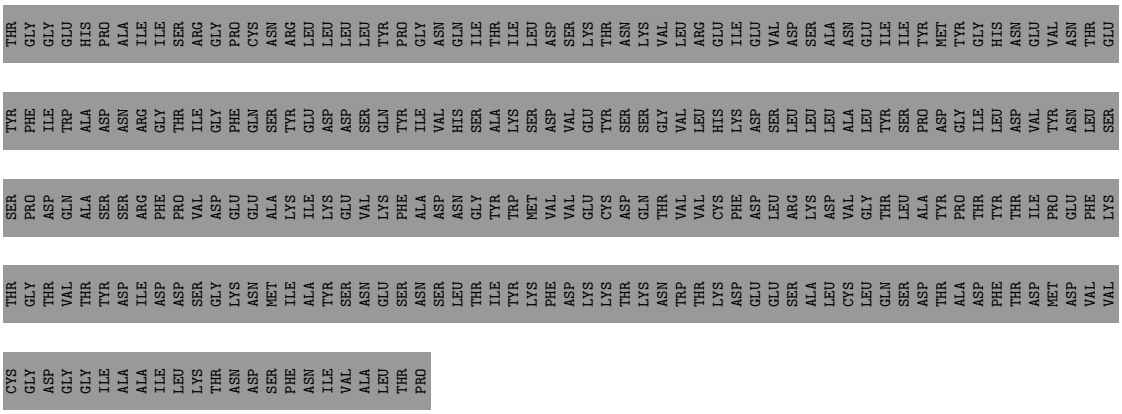


• Molecule 33: Pre-mRNA-processing factor 19

Chain r:

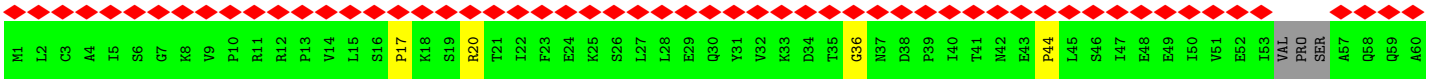
• Molecule 33: Pre-mRNA-processing factor 19

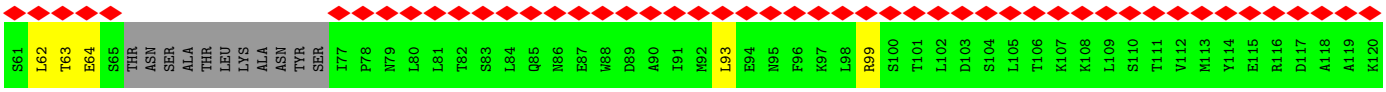
Chain s:

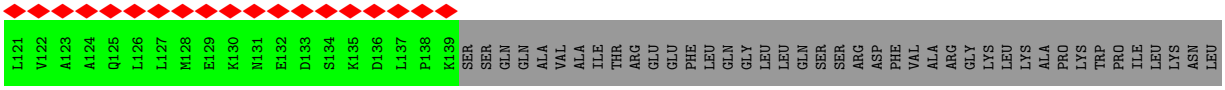


- Molecule 33: Pre-mRNA-processing factor 19

Chain t:

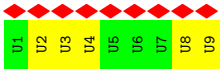






- Molecule 34: RNA (intron or U6 snRNA)

Chain x:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	150363	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	37.6	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.282	Depositor
Minimum map value	-0.140	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.007	Depositor
Recommended contour level	0.05	Depositor
Map size (Å)	522.4, 522.4, 522.4	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.3060001, 1.3060001, 1.3060001	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.63	9/16117 (0.1%)	0.71	12/21848 (0.1%)
2	B	0.54	1/2747 (0.0%)	0.72	0/4267
3	C	0.70	7/7434 (0.1%)	0.78	12/10070 (0.1%)
4	D	0.53	1/2405 (0.0%)	0.72	0/3744
5	E	0.29	0/653	0.66	0/1010
6	F	0.77	11/1922 (0.6%)	1.13	18/2984 (0.6%)
7	G	0.42	0/919	0.56	2/1237 (0.2%)
8	H	0.65	8/3180 (0.3%)	0.62	23/4331 (0.5%)
9	I	0.55	1/3574 (0.0%)	0.61	8/4863 (0.2%)
10	J	0.45	1/2962 (0.0%)	0.59	9/3987 (0.2%)
11	K	0.51	0/826	0.64	0/1097
12	L	0.71	0/1314	0.78	1/1759 (0.1%)
13	M	0.59	0/1308	0.71	0/1758
14	N	0.61	0/2135	0.67	0/2871
15	O	0.79	0/2704	0.82	1/3676 (0.0%)
16	P	0.54	0/568	0.94	3/758 (0.4%)
17	Q	0.49	0/1604	0.63	0/2160
18	R	0.25	0/378	0.54	2/498 (0.4%)
19	S	0.57	0/200	0.85	0/264
20	T	0.64	1/825 (0.1%)	0.99	14/1100 (1.3%)
21	U	0.67	0/2684	1.23	58/3680 (1.6%)
22	V	0.51	0/622	1.36	18/843 (2.1%)
23	W	0.21	0/3502	0.47	2/4877 (0.0%)
24	a	0.37	0/636	0.62	0/856
24	h	0.37	0/615	0.61	0/829
25	b	0.42	0/585	0.62	0/795
25	i	0.42	0/585	0.62	0/795
26	c	0.44	0/564	0.65	1/761 (0.1%)
26	j	0.44	0/564	0.66	1/761 (0.1%)
27	d	0.37	0/532	0.60	0/715
27	k	0.37	0/532	0.60	0/715
28	e	0.40	0/634	0.70	0/859

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
28	l	0.40	0/634	0.70	0/859
29	f	0.41	0/649	0.61	0/880
29	m	0.41	0/649	0.61	0/880
30	g	0.46	0/753	0.69	2/1013 (0.2%)
30	n	0.43	0/535	0.66	2/717 (0.3%)
31	o	1.03	9/839 (1.1%)	1.65	11/1127 (1.0%)
32	p	0.82	4/514 (0.8%)	1.32	2/686 (0.3%)
33	q	0.40	0/837	0.52	0/1129
33	r	0.40	0/854	0.56	0/1151
33	s	0.40	0/856	0.54	0/1155
33	t	0.39	0/828	0.54	1/1117 (0.1%)
34	x	0.18	0/194	0.64	0/298
All	All	0.59	53/73972 (0.1%)	0.76	203/101780 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	7
3	C	0	2
11	K	0	1
13	M	0	2
15	O	0	6
16	P	0	2
17	Q	0	1
19	S	0	2
20	T	0	9
21	U	0	47
22	V	0	14
23	W	0	1
27	d	0	1
27	k	0	1
28	e	0	2
28	l	0	2
30	g	0	2
30	n	0	2
All	All	0	104

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	H	712	CYS	CB-SG	-17.12	1.53	1.82
6	F	1096	C	O3'-P	-10.09	1.49	1.61
8	H	718	SER	CB-OG	8.66	1.53	1.42
8	H	723	SER	CB-OG	8.49	1.53	1.42
8	H	714	SER	CB-OG	7.89	1.52	1.42

The worst 5 of 203 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	W	462	LEU	CA-C-N	-14.21	85.94	117.20
6	F	1110	U	C5-C4-O4	11.98	133.09	125.90
1	A	831	ARG	NE-CZ-NH2	-11.67	114.47	120.30
23	W	462	LEU	C-N-CA	-10.96	94.29	121.70
22	V	240	GLU	N-CA-CB	10.82	130.08	110.60

There are no chirality outliers.

5 of 104 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1014	LYS	Peptide
1	A	1375	LEU	Peptide
1	A	239	PHE	Peptide,Mainchain
1	A	539	PRO	Peptide
1	A	772	GLU	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1895/2413 (78%)	1750 (92%)	125 (7%)	20 (1%)	14	50
3	C	907/1008 (90%)	820 (90%)	70 (8%)	17 (2%)	8	38
7	G	149/175 (85%)	134 (90%)	12 (8%)	3 (2%)	7	37
8	H	529/859 (62%)	505 (96%)	18 (3%)	6 (1%)	14	50
9	I	500/687 (73%)	468 (94%)	30 (6%)	2 (0%)	34	70
10	J	413/590 (70%)	384 (93%)	22 (5%)	7 (2%)	9	40
11	K	98/215 (46%)	96 (98%)	2 (2%)	0	100	100
12	L	155/157 (99%)	136 (88%)	17 (11%)	2 (1%)	12	46
13	M	172/364 (47%)	151 (88%)	19 (11%)	2 (1%)	13	48
14	N	259/339 (76%)	241 (93%)	18 (7%)	0	100	100
15	O	335/451 (74%)	295 (88%)	34 (10%)	6 (2%)	8	39
16	P	62/175 (35%)	56 (90%)	4 (6%)	2 (3%)	4	28
17	Q	193/379 (51%)	175 (91%)	13 (7%)	5 (3%)	5	32
18	R	44/278 (16%)	44 (100%)	0	0	100	100
19	S	21/455 (5%)	19 (90%)	1 (5%)	1 (5%)	2	19
20	T	97/283 (34%)	93 (96%)	4 (4%)	0	100	100
21	U	442/708 (62%)	430 (97%)	5 (1%)	7 (2%)	9	42
22	V	87/322 (27%)	82 (94%)	4 (5%)	1 (1%)	14	50
23	W	702/767 (92%)	657 (94%)	39 (6%)	6 (1%)	17	54
24	a	76/196 (39%)	69 (91%)	7 (9%)	0	100	100
24	h	74/196 (38%)	67 (90%)	7 (10%)	0	100	100
25	b	71/94 (76%)	65 (92%)	6 (8%)	0	100	100
25	i	71/94 (76%)	65 (92%)	6 (8%)	0	100	100
26	c	66/86 (77%)	61 (92%)	4 (6%)	1 (2%)	10	43
26	j	66/86 (77%)	61 (92%)	4 (6%)	1 (2%)	10	43
27	d	65/77 (84%)	64 (98%)	1 (2%)	0	100	100
27	k	65/77 (84%)	64 (98%)	1 (2%)	0	100	100
28	e	80/101 (79%)	70 (88%)	9 (11%)	1 (1%)	12	46
28	l	80/101 (79%)	70 (88%)	9 (11%)	1 (1%)	12	46
29	f	78/146 (53%)	74 (95%)	4 (5%)	0	100	100
29	m	78/146 (53%)	74 (95%)	4 (5%)	0	100	100
30	g	92/110 (84%)	85 (92%)	6 (6%)	1 (1%)	14	50

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
30	n	63/110 (57%)	58 (92%)	4 (6%)	1 (2%)	9 42
31	o	125/238 (52%)	111 (89%)	12 (10%)	2 (2%)	9 42
32	p	77/111 (69%)	75 (97%)	2 (3%)	0	100 100
33	q	120/503 (24%)	114 (95%)	4 (3%)	2 (2%)	9 40
33	r	123/503 (24%)	117 (95%)	6 (5%)	0	100 100
33	s	125/503 (25%)	115 (92%)	6 (5%)	4 (3%)	4 28
33	t	119/503 (24%)	111 (93%)	5 (4%)	3 (2%)	5 32
All	All	8774/14606 (60%)	8126 (93%)	544 (6%)	104 (1%)	17 48

5 of 104 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1347	ARG
1	A	1359	ILE
1	A	1385	PRO
1	A	1403	SER
3	C	363	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	1727/2182 (79%)	1661 (96%)	66 (4%)	33 64
3	C	822/910 (90%)	785 (96%)	37 (4%)	27 60
7	G	40/165 (24%)	29 (72%)	11 (28%)	0 2
8	H	59/786 (8%)	49 (83%)	10 (17%)	2 11
9	I	219/633 (35%)	217 (99%)	2 (1%)	78 91
10	J	213/525 (41%)	204 (96%)	9 (4%)	30 61
11	K	92/193 (48%)	92 (100%)	0	100 100
12	L	141/141 (100%)	138 (98%)	3 (2%)	53 78
13	M	121/332 (36%)	116 (96%)	5 (4%)	30 62

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
14	N	224/296 (76%)	221 (99%)	3 (1%)	69 86
15	O	295/397 (74%)	295 (100%)	0	100 100
16	P	55/151 (36%)	54 (98%)	1 (2%)	59 81
17	Q	173/328 (53%)	163 (94%)	10 (6%)	20 52
18	R	40/256 (16%)	31 (78%)	9 (22%)	1 3
19	S	20/413 (5%)	13 (65%)	7 (35%)	0 1
20	T	75/272 (28%)	59 (79%)	16 (21%)	1 4
21	U	76/663 (12%)	48 (63%)	28 (37%)	0 1
22	V	47/296 (16%)	34 (72%)	13 (28%)	0 2
24	a	70/176 (40%)	70 (100%)	0	100 100
24	h	67/176 (38%)	67 (100%)	0	100 100
25	b	65/83 (78%)	60 (92%)	5 (8%)	13 42
25	i	65/83 (78%)	60 (92%)	5 (8%)	13 42
26	c	61/77 (79%)	60 (98%)	1 (2%)	62 83
26	j	61/77 (79%)	60 (98%)	1 (2%)	62 83
27	d	58/66 (88%)	55 (95%)	3 (5%)	23 55
27	k	58/66 (88%)	55 (95%)	3 (5%)	23 55
28	e	69/89 (78%)	67 (97%)	2 (3%)	42 71
28	l	69/89 (78%)	67 (97%)	2 (3%)	42 71
29	f	77/129 (60%)	71 (92%)	6 (8%)	12 41
29	m	77/129 (60%)	71 (92%)	6 (8%)	12 41
30	g	79/103 (77%)	74 (94%)	5 (6%)	18 50
30	n	59/103 (57%)	55 (93%)	4 (7%)	16 47
31	o	47/219 (22%)	44 (94%)	3 (6%)	17 49
32	p	25/100 (25%)	24 (96%)	1 (4%)	31 63
33	q	62/451 (14%)	55 (89%)	7 (11%)	6 25
33	r	62/451 (14%)	54 (87%)	8 (13%)	4 20
33	s	63/451 (14%)	56 (89%)	7 (11%)	6 26
33	t	60/451 (13%)	55 (92%)	5 (8%)	11 38
All	All	5693/12508 (46%)	5389 (95%)	304 (5%)	26 54

5 of 304 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
25	b	18	PHE
33	r	63	THR
27	d	71	LEU
25	i	81	LEU
33	t	44	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 85 such sidechains are listed below:

Mol	Chain	Res	Type
14	N	191	ASN
21	U	664	GLN
14	N	248	ASN
16	P	173	HIS
27	d	66	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	B	114/214 (53%)	30 (26%)	3 (2%)
34	x	8/9 (88%)	5 (62%)	0
4	D	100/112 (89%)	35 (35%)	8 (8%)
5	E	27/38 (71%)	15 (55%)	7 (25%)
6	F	79/1175 (6%)	30 (37%)	11 (13%)
All	All	328/1548 (21%)	115 (35%)	29 (8%)

5 of 115 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	B	29	G
2	B	31	G
2	B	32	G
2	B	33	U
2	B	42	A

5 of 29 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
5	E	9	U
6	F	1107	C
5	E	500	A
6	F	40	U

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Mol	Chain	Res	Type
5	E	499	U

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 14 ligands modelled in this entry, 12 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
36	GTP	C	1500	37	26,34,34	1.11	1 (3%)	32,54,54	2.03	7 (21%)
35	IHP	A	3000	-	36,36,36	0.69	0	54,60,60	0.93	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
36	GTP	C	1500	37	-	5/18/38/38	0/3/3/3
35	IHP	A	3000	-	-	11/30/54/54	0/1/1/1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	C	1500	GTP	C6-N1	-3.01	1.33	1.37

The worst 5 of 7 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	C	1500	GTP	PB-O3B-PG	-5.75	113.11	132.83
36	C	1500	GTP	O6-C6-C5	-4.28	116.02	124.37
36	C	1500	GTP	PA-O3A-PB	-3.61	120.45	132.83
36	C	1500	GTP	C5-C6-N1	3.25	119.69	113.95
36	C	1500	GTP	O6-C6-N1	3.08	124.29	120.65

There are no chirality outliers.

5 of 16 torsion outliers are listed below:

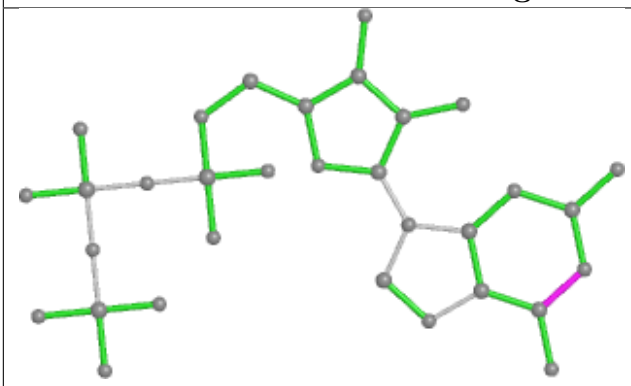
Mol	Chain	Res	Type	Atoms
35	A	3000	IHP	C1-C6-O16-P6
35	A	3000	IHP	C5-C6-O16-P6
35	A	3000	IHP	C4-O14-P4-O24
36	C	1500	GTP	C5'-O5'-PA-O3A
36	C	1500	GTP	C5'-O5'-PA-O1A

There are no ring outliers.

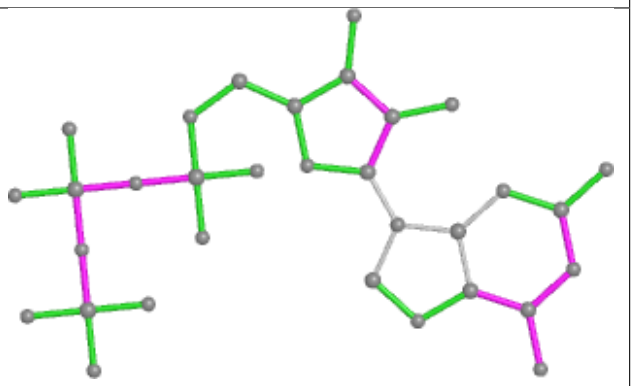
No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

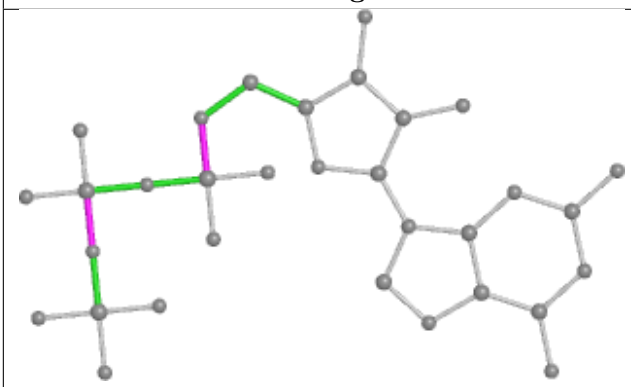
Ligand GTP C 1500



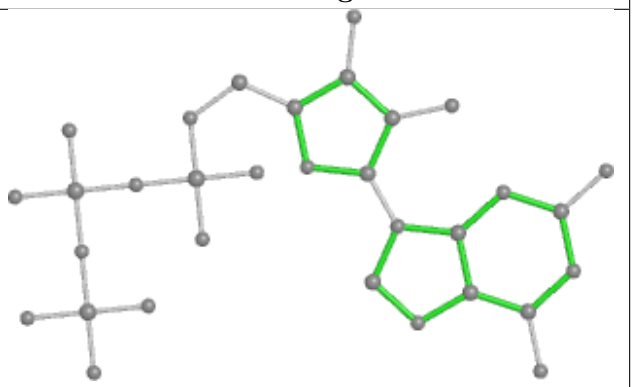
Bond lengths



Bond angles

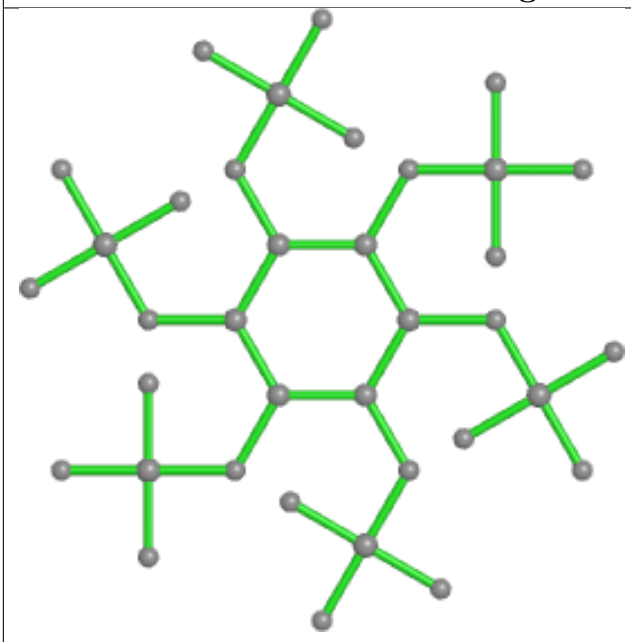


Torsions

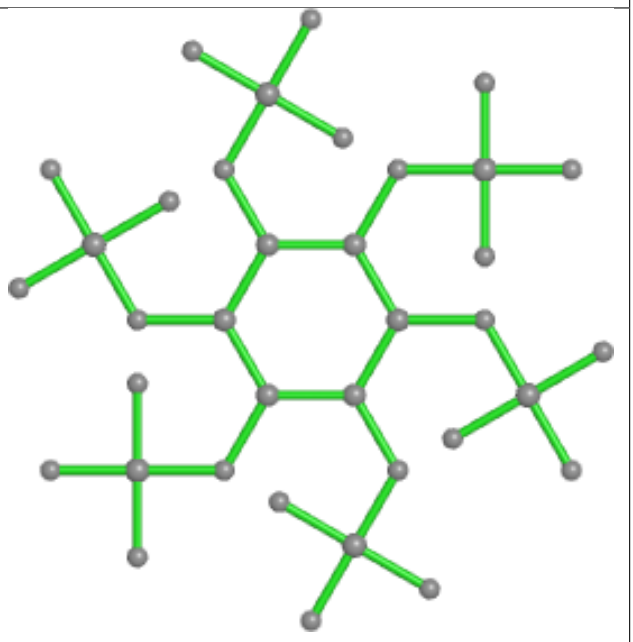


Rings

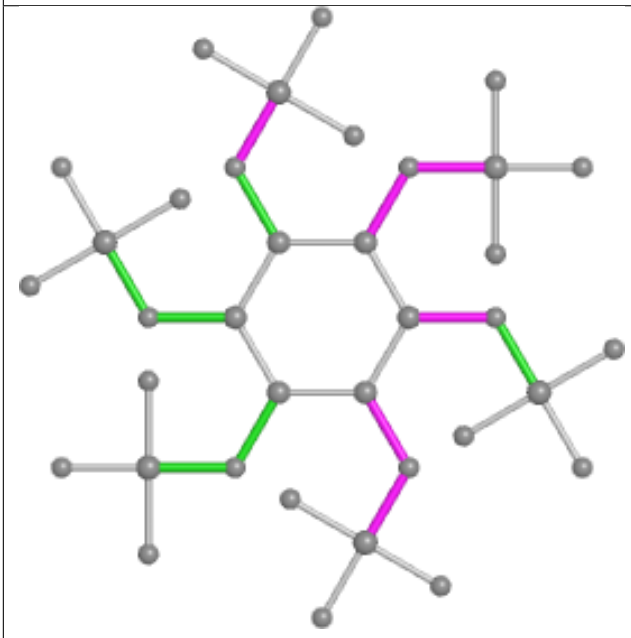
Ligand IHP A 3000



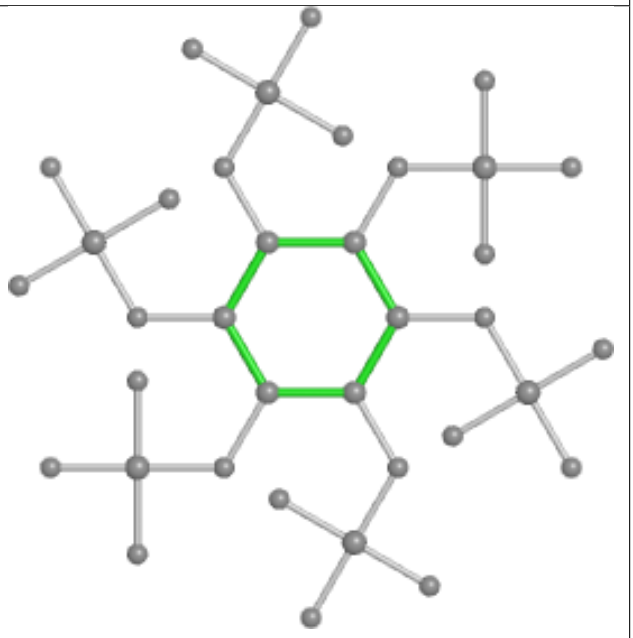
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

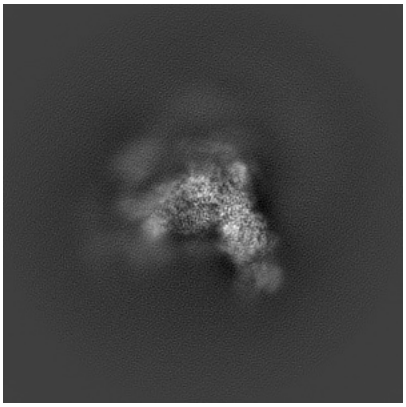
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-6817. These allow visual inspection of the internal detail of the map and identification of artifacts.

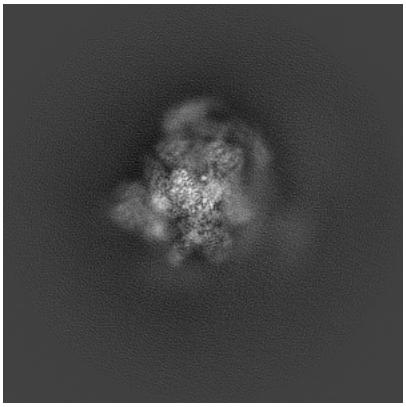
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

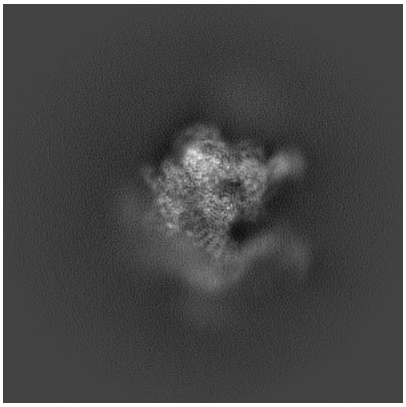
6.1.1 Primary map



X



Y

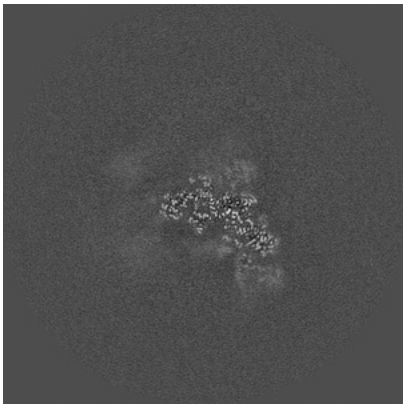


Z

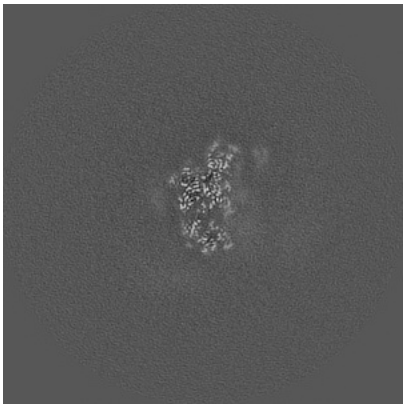
The images above show the map projected in three orthogonal directions.

6.2 Central slices

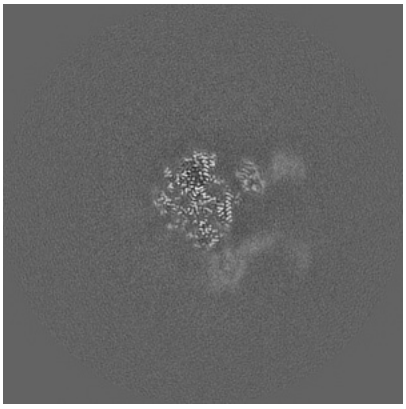
6.2.1 Primary map



X Index: 200



Y Index: 200

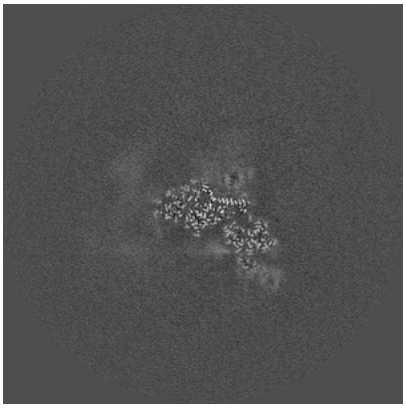


Z Index: 200

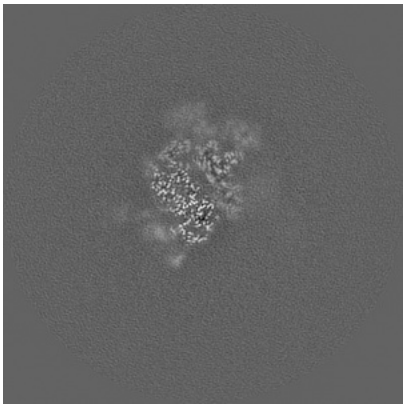
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

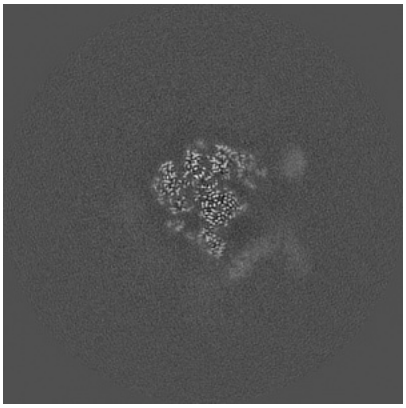
6.3.1 Primary map



X Index: 204



Y Index: 230

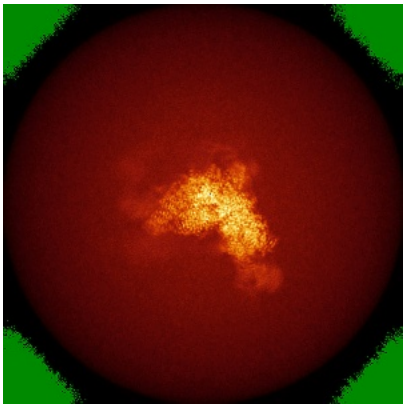


Z Index: 186

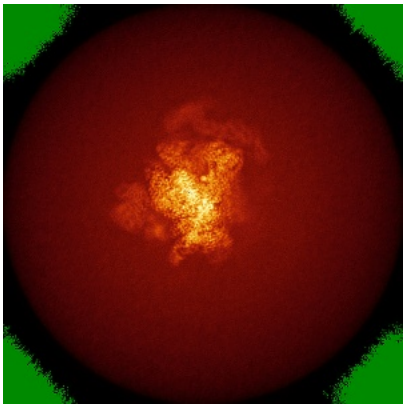
The images above show the largest variance slices of the map in three orthogonal directions.

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

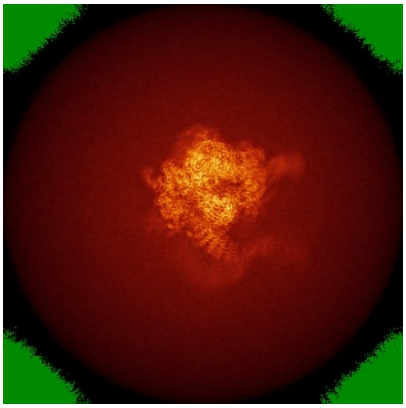
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

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

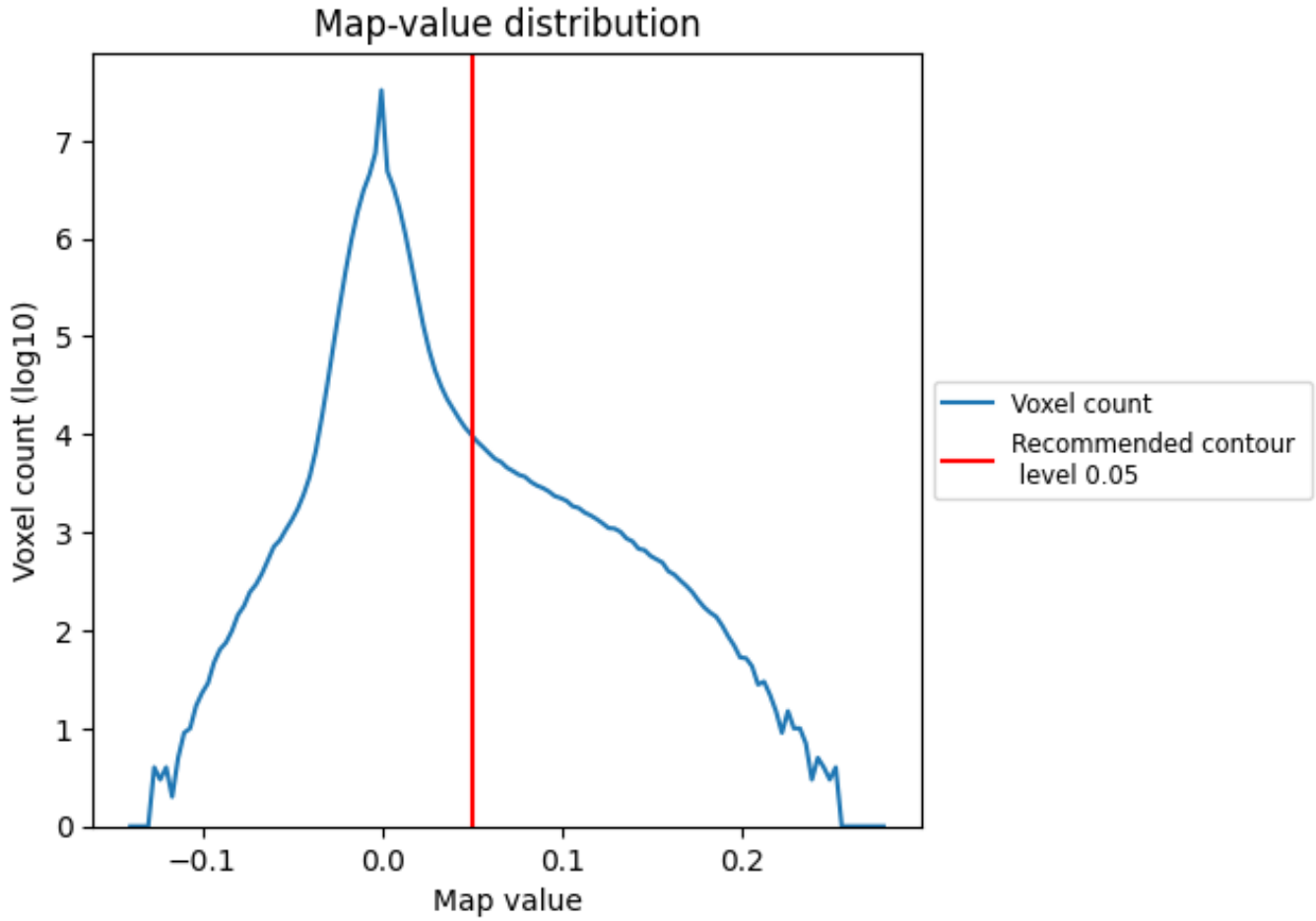
6.6 Mask visualisation (i)

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

7 Map analysis

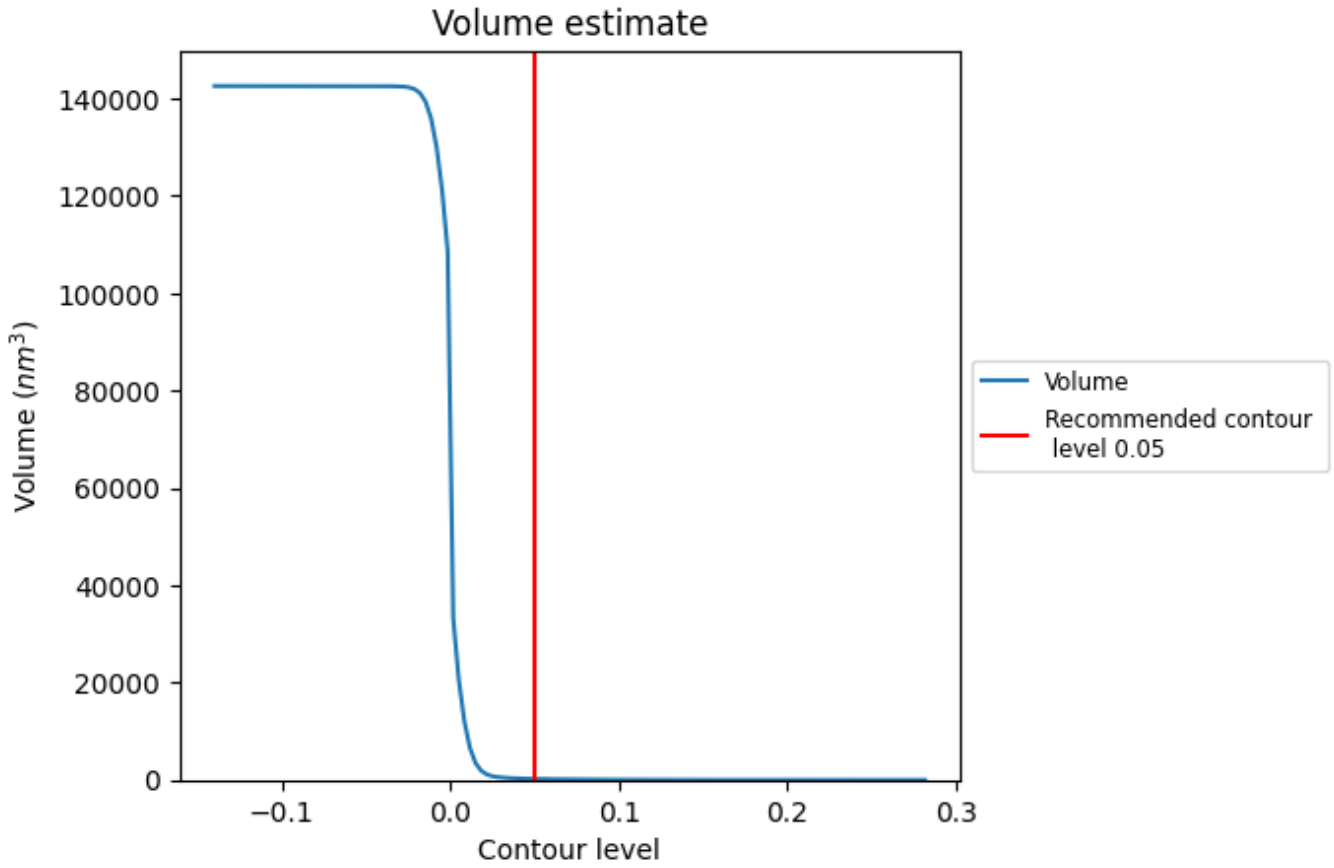
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

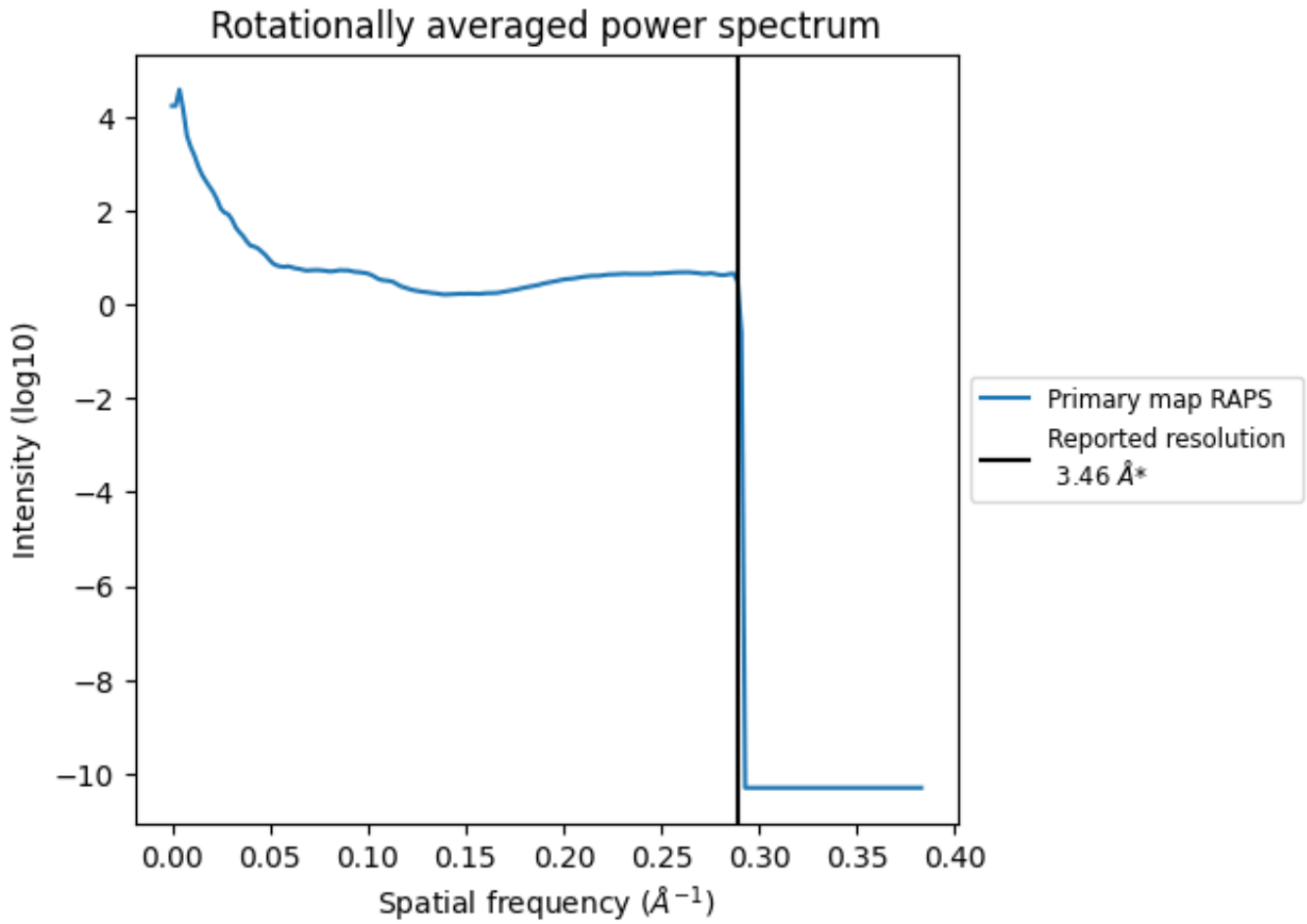
7.2 Volume estimate (i)



The volume at the recommended contour level is 214 nm^3; this corresponds to an approximate mass of 193 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 0.289 Å^{-1}

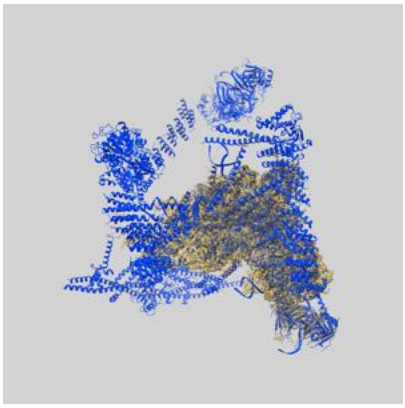
8 Fourier-Shell correlation (i)

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

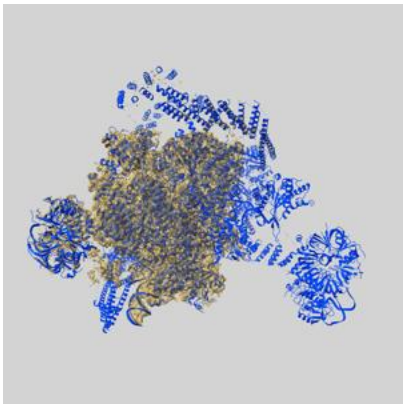
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-6817 and PDB model 5Y88. Per-residue inclusion information can be found in section 3 on page 12.

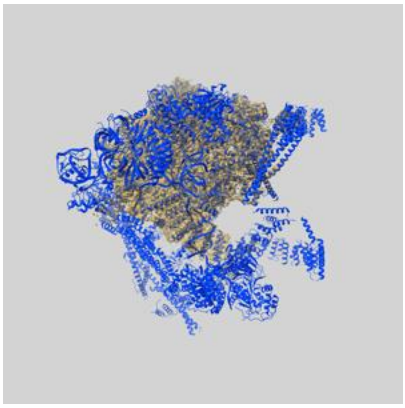
9.1 Map-model overlay



X



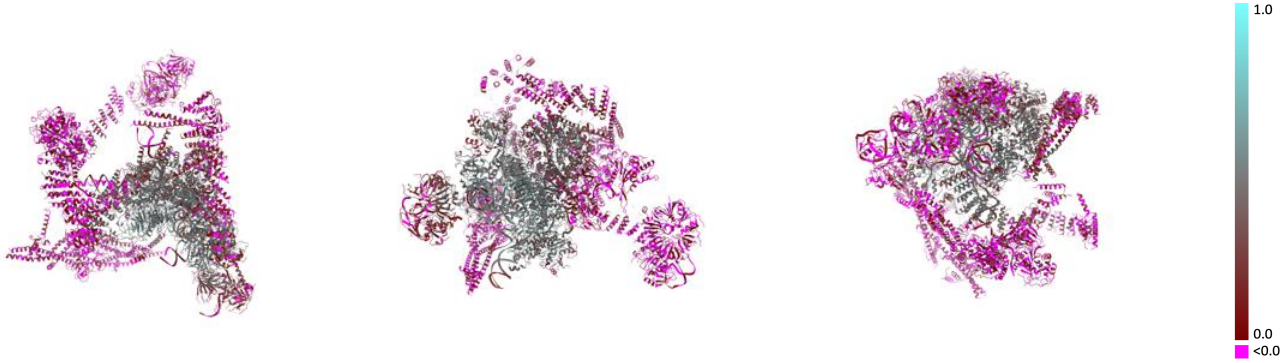
Y



Z

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

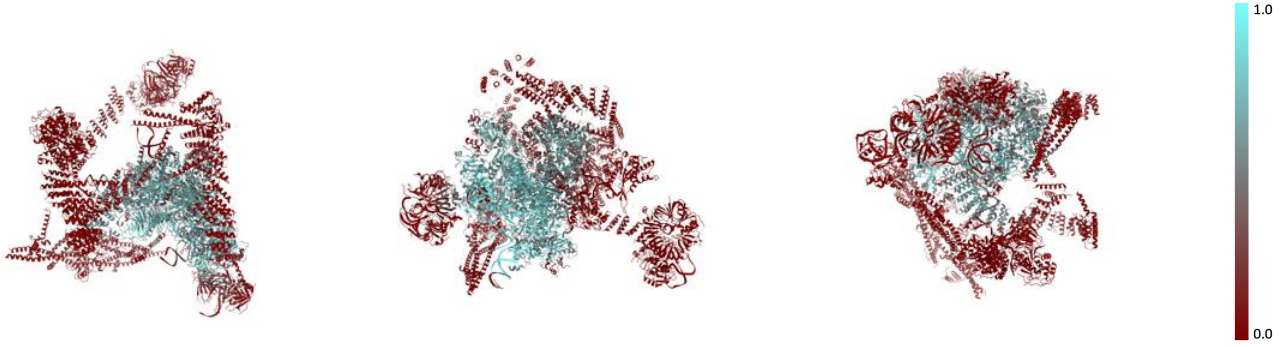
9.2 Q-score mapped to coordinate model (i)



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.

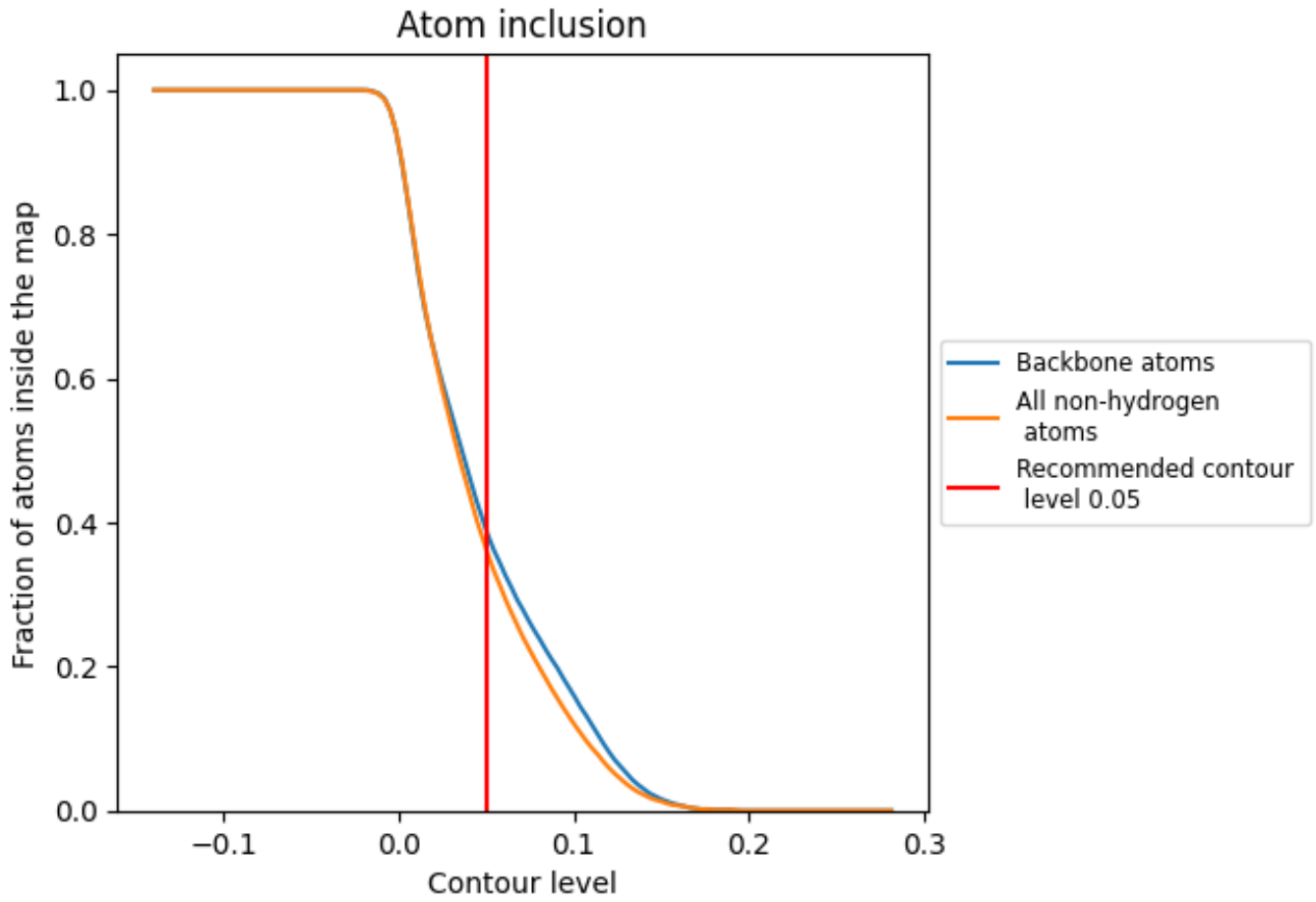
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.05).

9.4 Atom inclusion (i)



At the recommended contour level, 39% of all backbone atoms, 36% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

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

Chain	Atom inclusion	Q-score
All	0.3620	0.2640
A	0.4920	0.3410
B	0.6360	0.3930
C	0.6660	0.4500
D	0.7370	0.4380
E	0.2590	0.1780
F	0.1930	0.1400
G	0.0000	0.0050
H	0.0110	0.0250
I	0.3750	0.2640
J	0.2990	0.2320
K	0.3900	0.3570
L	0.7300	0.4710
M	0.5540	0.4190
N	0.6640	0.4310
O	0.7480	0.5060
P	0.4470	0.4480
Q	0.4960	0.4030
R	0.0920	0.2520
S	0.6430	0.4470
T	0.1840	0.1710
U	0.1330	0.1710
V	0.2630	0.2790
W	0.0000	0.0080
a	0.1670	0.3050
b	0.0380	0.1550
c	0.0370	0.0920
d	0.1570	0.2530
e	0.3560	0.3730
f	0.0770	0.1570
g	0.0500	0.1510
h	0.0000	-0.0100
i	0.0000	-0.0110
j	0.0000	0.0030
k	0.0000	0.0180

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Chain	Atom inclusion	Q-score
l	0.0000	0.0080
m	0.0000	0.0270
n	0.0000	0.0050
o	0.0000	-0.0210
p	0.0000	0.0010
q	0.0000	0.0350
r	0.0000	-0.0090
s	0.0000	0.0000
t	0.0000	-0.0040
x	0.0000	-0.0440