wwPDB X-ray Structure Validation Summary Report (i)

Sep 14, 2023 – 03:21 AM EDT

PDB ID	:	4V4A
Title	:	Crystal Structure of the Wild Type Ribosome from E. Coli 70S Ribosome.
Authors	:	Vila-Sanjurjo, A.; Ridgeway, W.K.; Seymaner, V.; Zhang, W.; Santoso, S.; Yu, K.; Cate, J.H.D.
Deposited on	:	2003-06-13
Resolution	:	9.50 Å(reported)

This is a wwPDB X-ray Structure 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/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

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

The following versions of software and data (see references (1)) were used in the production of this report:

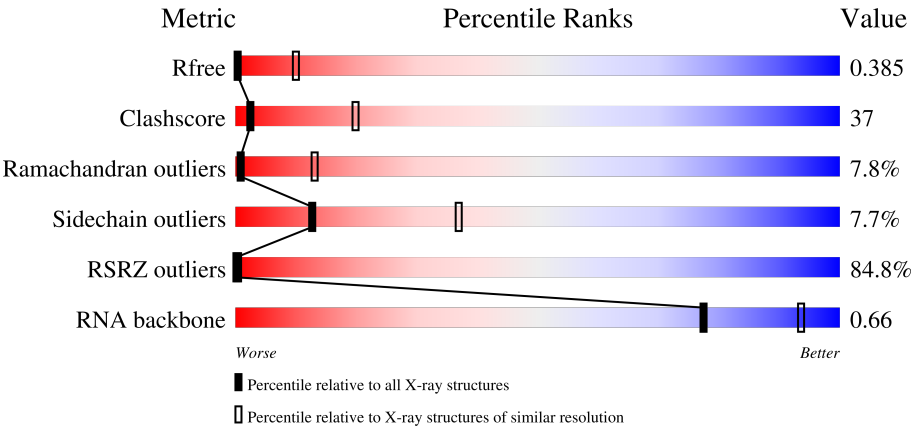
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 9.50 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)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1005 (11.50-3.90)
Clashscore	141614	1071 (15.00-3.90)
Ramachandran outliers	138981	1003 (11.50-3.90)
Sidechain outliers	138945	1003 (11.50-3.86)
RSRZ outliers	127900	1004 (9.50-3.80)
RNA backbone	3102	1079 (11.50-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AA	1537	100% 23% 58% 15% .
2	AB	234	31% 29% 56% 13% .
3	AC	206	82% 30% 51% 17% .
4	AD	208	97% 39% 55% 5%

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Mol	Chain	Length	Quality of chain
5	AE	150	100% 35% 55% 9%
6	AF	101	22% 41% 57%
7	AG	155	68% 41% 55% 5%
8	AH	138	93% 40% 51% 8%
9	AI	127	61% 29% 61% 8%
10	AJ	98	80% 12% 67% 19%
11	AK	119	46% 29% 62% 8%
12	AL	124	100% 31% 57% 11%
13	AM	125	86% 22% 67% 10%
14	AN	60	98% 23% 62% 15%
15	AO	88	99% 38% 52% 10%
16	AP	83	100% 36% 61%
17	AQ	104	100% 43% 47% 9%
18	AR	73	53% 30% 63% 7%
19	AS	80	54% 16% 69% 15%
20	AT	99	100% 24% 61% 14%
21	B0	2887	98% 41% 46% 11%
22	B9	118	100% 56% 41%
23	BA	270	66% 100%
24	BB	205	70% 100%
25	BC	197	94% 100%
26	BD	178	78% 99%
27	BE	177	92% 100%
28	BF	52	23% 100%
29	BG	143	97% 99%

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Mol	Chain	Length	Quality of chain
30	BH	143	71% 100%
31	BI	132	42% 99%
32	BJ	141	82% 99%
33	BK	124	39% 100%
34	BL	114	89% 99%
35	BM	111	33% 100%
36	BN	125	42% 100%
37	BO	117	84% 100%
38	BP	100	83% 100%
39	BQ	130	84% 100%
40	BR	93	77% 100%
41	BS	113	99% 100%
42	BT	173	61% 100%
43	BU	86	69% 100%
44	BV	16	100%
45	BW	65	83% 100%
46	BX	55	82% 100%
47	BY	73	63% 100%
48	BZ	58	78% 100%
49	B1	53	49% 100%
50	B2	46	100% 100%
51	B3	63	98% 100%
52	B4	35	74% 100%
53	B5	217	48% 96%

2 Entry composition (i)

There are 53 unique types of molecules in this entry. The entry contains 118711 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 RNA chain called 16S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	AA	1533	32939	14664	6099	10643	1533	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	AB	234	1900	1213	341	341	5	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	AC	206	1612	1016	314	281	1	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	AD	208	1702	1066	339	290	7	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	AE	150	1146	724	217	201	4	0	0	0

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	AF	101	842	531	155	153	3	0	0	0

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AG	155	Total	C	N	O	S	0	0	0
			1256	781	252	217	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AH	138	Total	C	N	O	S	0	0	0
			1115	705	215	192	3			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
9	AI	127	Total	C	N	O	0	0	0
			1010	639	198	173			

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AJ	98	Total	C	N	O	S	0	0	0
			794	499	156	138	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	AK	119	Total	C	N	O	S	0	0	0
			884	549	168	164	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	AL	124	Total	C	N	O	S	0	0	0
			970	611	195	163	1			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AM	125	Total	C	N	O	S	0	0	0
			996	617	207	170	2			

- Molecule 14 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AN	60	Total 491	C 312	N 104	O 71	S 4	0	0	0

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AO	88	Total 733	C 459	N 147	O 125	S 2	0	0	0

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	AP	83	Total 700	C 443	N 139	O 117	S 1	0	0	0

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AQ	104	Total 856	C 547	N 161	O 146	S 2	0	0	0

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	AR	73	Total 596	C 380	N 118	O 98	0	0	0

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AS	80	Total 647	C 414	N 119	O 112	S 2	0	0	0

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AT	99	Total 762	C 469	N 162	O 129	S 2	0	0	0

- Molecule 21 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	B0	2825	Total	C	N	O	P	0	0	0
			60636	27047	11191	19573	2825			

- Molecule 22 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	B9	118	Total	C	N	O	P	0	0	0
			2519	1124	464	813	118			

- Molecule 23 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
23	BA	270	Total	C	0	0	270
			270	270			

- Molecule 24 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
24	BB	205	Total	C	0	0	205
			205	205			

- Molecule 25 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
25	BC	197	Total	C	0	0	197
			197	197			

- Molecule 26 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
26	BD	178	Total	C	0	0	178
			178	178			

- Molecule 27 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	Trace
27	BE	177	Total	C	0	0	177
			177	177			

- Molecule 28 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	BF	52	Total C 52 52	0	0	52

- Molecule 29 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	BG	143	Total C 143 143	0	0	143

- Molecule 30 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
30	BH	143	Total C 143 143	0	0	143

- Molecule 31 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
31	BI	132	Total C 132 132	0	0	132

- Molecule 32 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
32	BJ	141	Total C 141 141	0	0	141

- Molecule 33 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
33	BK	124	Total C 124 124	0	0	124

- Molecule 34 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
34	BL	114	Total C 114 114	0	0	114

- Molecule 35 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
35	BM	111	Total C 111 111	0	0	111

- Molecule 36 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
36	BN	125	Total C 125 125	0	0	125

- Molecule 37 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
37	BO	117	Total C 117 117	0	0	117

- Molecule 38 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
38	BP	100	Total C 100 100	0	0	100

- Molecule 39 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
39	BQ	130	Total C 130 130	0	0	130

- Molecule 40 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
40	BR	93	Total C 93 93	0	0	93

- Molecule 41 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
41	BS	113	Total C 113 113	0	0	113

- Molecule 42 is a protein called general stress protein Ctc.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
42	BT	173	Total C 173 173	0	0	173

- Molecule 43 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
43	BU	86	Total C 86 86	0	0	86

- Molecule 44 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
44	BV	16	Total C 16 16	0	0	16

- Molecule 45 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
45	BW	65	Total C 65 65	0	0	65

- Molecule 46 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
46	BX	55	Total C 55 55	0	0	55

- Molecule 47 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
47	BY	73	Total C 73 73	0	0	73

- Molecule 48 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
48	BZ	58	Total C 58 58	0	0	58

- Molecule 49 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
49	B1	53	Total C 53 53	0	0	53

- Molecule 50 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
50	B2	46	Total C 46 46	0	0	46

- Molecule 51 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
51	B3	63	Total C 63 63	0	0	63

- Molecule 52 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
52	B4	35	Total C 35 35	0	0	35

- Molecule 53 is a protein called 50S ribosomal protein L1P.

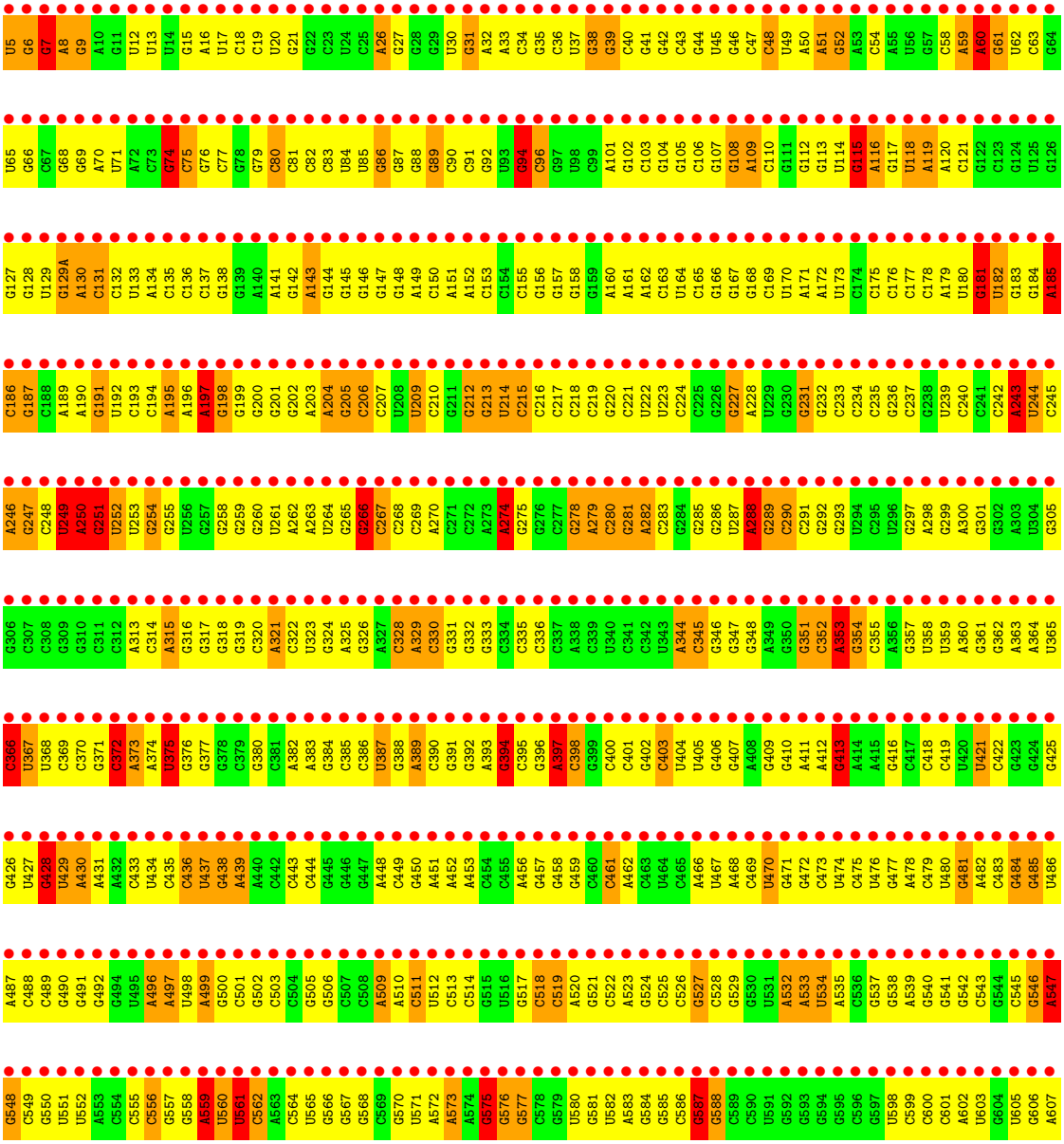
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
53	B5	217	Total C 217 217	0	0	217

3 Residue-property plots (i)

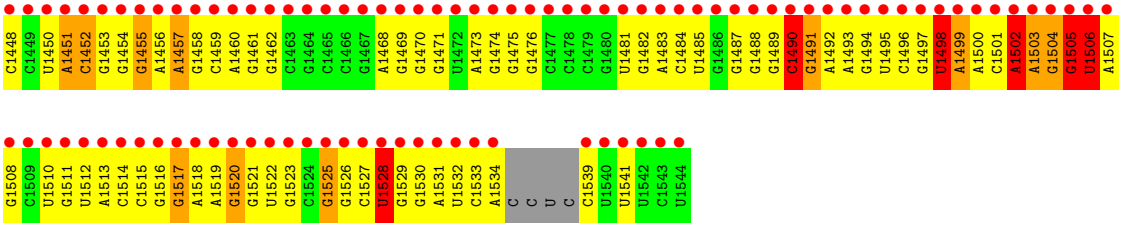
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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 dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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: 16S RIBOSOMAL RNA

Chain AA:

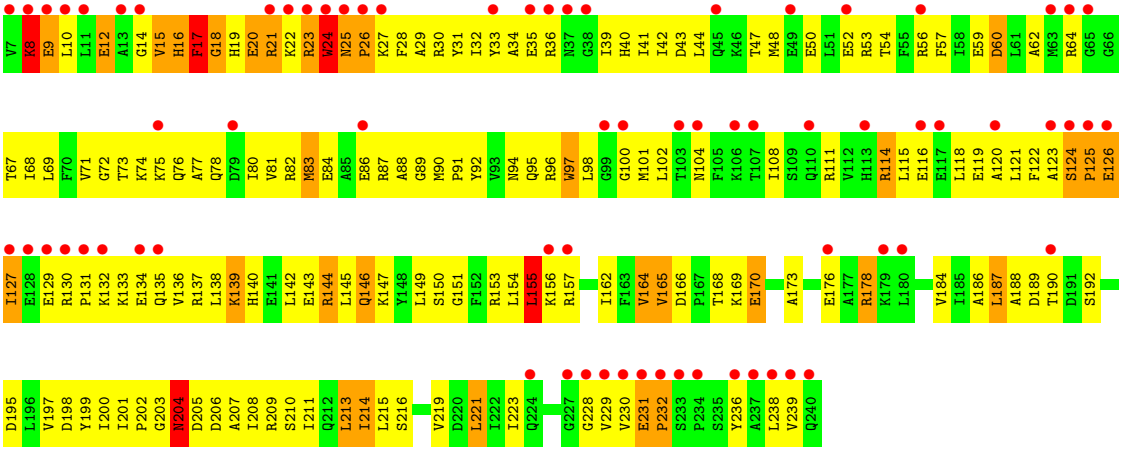


A608 A609 G610 A611 C612 C613 A614 C615 G616 G617 C618 U619 C620 A621 A622 C623 C624 G625 U626 G627 G628 G629 G630 G631 A632 G633 C634 G635 U636 G637 G638 G639 A640 U641 A642 C643 G644 C645 U646 C647 A648 G649 G650 C651 U652 A653 C654 A655 C656 G657 G658 U659 G660 G661 G662 A663 G664 A665 G666 G667
G668 U669 G670 G671 U672 G673 G674 A675 A676 U677 U678 C679 C680 C681 G682 G683 A684 G685 U686 A687 G688 C689 G690 G691 U692 G693 A694 A695 A696 U697 G698 C699 G700 C701 A702 G703 A704 U705 A706 C707 C708 G709 G710 G711 A712 G713 G714 A715 A716 C717 G718 C719 C720 G721 A722 U723 G724 G725 C726 G727
A728 A729 G730 G731 C732 A733 G734 C735 C736 A737 C738 G739 U740 G741 G742 U743 C744 G745 A746 C747 G748 C749 G750 U751 G752 A753 C754 G755 C756 A759 G760 G761 C762 G763 C764 G765 A766 A767 A768 G769 C770 G771 U772 G773 G774 G775 G776 A777 G778 C779 A780 A781 A782 C783 C784 G785 G786 A787
U788 U789 A790 G791 A792 U793 A794 C795 C796 C797 G798 G799 G800 U801 A802 G803 U804 C805 C806 A807 C808 G809 C810 C811 C812 U813 A814 A815 A816 C817 G818 A819 U820 G821 C822 G823 C824 G825 C826 U827 A828 G829 G830 U831 C832 U833 C834 U835 G836 G837 C838 G839 G840 C841 U842 C843 A844 A845 C846 C847
G848 C849 U850 G851 G852 G853 G854 G855 C856 C857 G858 A859 A860 G861 C862 U863 A864 A865 C866 A867 C868 G869 C870 U871 A872 A873 G874 C875 G876 C877 G878 C879 C880 G881 C882 C883 U884 G885 C886 G887 G888 A889 G890 U891 A892 C893 G894 G895 C896 C897 G898 C899 A900 A901 G902 G903 C904 U905 G906 A907
A908 A909 C910 U911 C912 A913 A914 A915 G916 G917 A918 A919 U920 U921 G922 A923 C924 G925 G926 G927 G928 G929 C930 C931 C932 G933 C934 A935 C936 A937 A938 G939 C940 G941 G942 U943 G944 G945 A946 G947 C948 A949 U950 G951 U952 G953 G954 U955 U956 U957 A958 A959 U960 U961 C962 G963 A964 A965 G966 C967
A968 A969 C970 G971 C972 G973 A974 A975 G976 A977 A978 C979 C980 U981 U982 A983 C984 C985 A986 G987 G988 C989 C990 U991 U992 G993 A994 C995 A996 U997 G998 C999 U1000 A1001 G1002 G1003 G2003 A1004 A1005 C1006 C1007 C1008 G1009 G1010 G1011 U1012 G1013 A1014 A1015 A1016 G1017 C1018 C1019 U1020 G1021 G1022 G1023 G1024 U1025 G1026
C1027 C1028 U1029 U1030 C1031 G1032 G1033 G1034 A1035 G1036 C1037 C1038 C1039 U1040 A1041 G1042 C1043 A1044 C1045 A1046 G1047 G1048 G1049 G1050 C1051 U1052 G1053 C1054 A1055 A1056 U1056 G1057 G1058 C1059 C1060 G1061 U1062 C1063 G1064 U1065 C1066 A1067 G1068 C1069 U1070 C1071 G1072 U1073 G1074 C1075 C1076 G1077 C1078 G1079 A1080 G1081 G1082 U1083 G1084 U1085 U1086
G1087 G1088 G1089 U1090 U1091 A1092 A1093 G1094 U1095 C1096 C1097 C1098 G1099 C1100 A1101 A1102 C1103 C1104 A1105 G1106 C1107 G1108 C1109 A1110 A1111 C1112 C1113 C1114 C1115 C1116 G1117 C1118 C1119 G1120 U1121 U1122 A1123 G1124 U1125 U1126 G1127 C1128 C1129 A1130 G1131 C1132 G1133 G1134 U1135 U1136 C1137 G1138 G1139 C1200 A1201 G1202 C1203 A1204 U1205 G1206 G1207
C1147 U1148 C1149 U1150 A1151 A1152 C1153 G1154 G1155 G1156 A1157 C1158 U1159 G1160 C1161 C1162 C1163 G1164 C1165 G1166 A1167 A1168 A1169 G1171 C1172 G1173 G1174 G1175 A1176 G1177 G1178 A1179 A1180 G1181 G1182 A1183 G1184 G1185 G1186 G1187 A1188 C1189 G1190 A1191 C1192 G1193 U1194 C1195 U1196 G1197 G1198 U1199 C1200 A1201 G1202 C1203 A1204 U1205 G1206 G1207
C1208 C1209 C1210 U1211 U1212 A1213 C1214 G1215 G1216 C1217 C1218 U1219 G1220 G1221 G1222 G1223 G1224 A1225 C1226 A1227 C1228 A1229 C1230 G1231 U1232 G1233 C1234 U1235 A1236 C1237 A1238 A1239 U1240 G1241 C1242 G1243 C1244 A1245 C1246 U1247 A1248 C1249 A1250 A1251 A1252 G1253 C1254 G1255 A1256 U1257 G1258 C1259 C1260 A1261 C1262 C1263 C1264 G1265 C1266 C1267
A1268 A1269 C1270 G1271 G1272 G1273 G1274 A1275 G1276 C1277 U1278 A1279 A1280 U1281 C1282 G1283 C1284 A1285 A1286 A1287 A1288 A1289 G1290 G1291 U1292 G1293 G1294 G1295 C1296 C1297 C1298 A1299 G1300 U1301 U1302 C1303 G1304 G1305 A1306 U1307 U1308 G1309 G1310 G1311 G1312 U1313 C1314 U1315 G1316 C1317 A1318 A1319 C1320 C1321 C1322 G1323 A1324 C1325 C1326 C1327
C1328 A1329 U1330 G1331 A1332 A1333 G1334 C1335 C1336 G1337 G1338 A1339 A1340 U1341 C1342 G1343 C1344 U1345 A1346 G1347 U1348 A1349 A1350 C1409 G1410 C1411 C1412 A1413 U1414 G1415 G1416 G1417 A1418 G1419 C1420 G1421 G1422 G1423 C1424 U1425 C1426 U1427 A1428 C1429 C1430 C1431 G1432 A1433 A1434 G1435 U1436 C1437 G1438 C1439 C1440 G1441 G1442 G1443 U1445 A1446 A1447
G1387 C1388 C1389 U1390 U1391 G1392 U1393 A1394 C1395 A1396 C1397 A1398 C1399 C1400 G1401 C1402 C1403 C1404 G1405 U1406 C1407 A1408 C1409 G1410 C1411 C1412 A1413 U1414 G1415 G1416 G1417 A1418 G1419 C1420 G1421 G1422 G1423 C1424 U1425 C1426 U1427 A1428 C1429 C1430 C1431 G1432 A1433 A1434 G1435 U1436 C1437 G1438 C1439 C1440 G1441 G1442 G1443 U1445 A1446 A1447



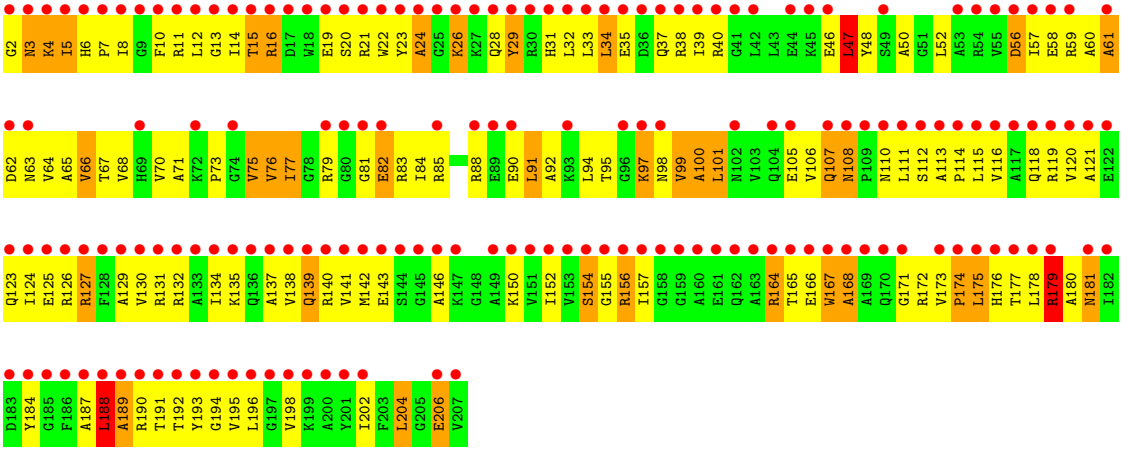
• Molecule 2: 30S ribosomal protein S2

Chain AB:



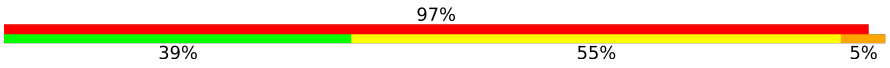
• Molecule 3: 30S ribosomal protein S3

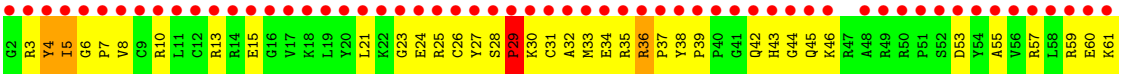
Chain AC:



• Molecule 4: 30S ribosomal protein S4

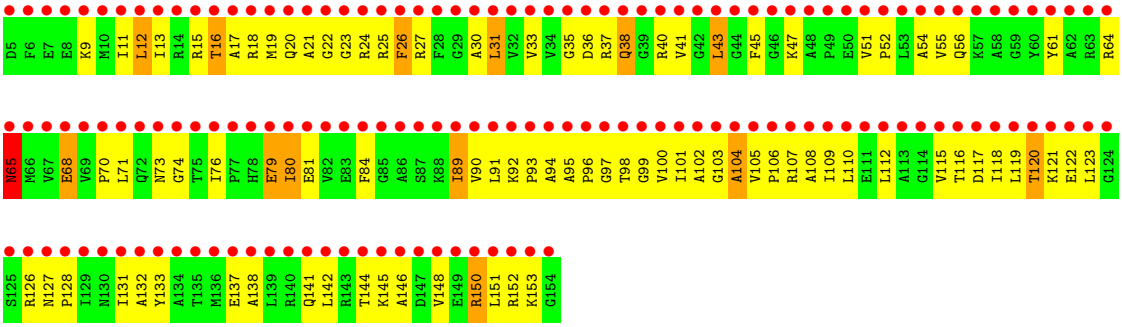
Chain AD:





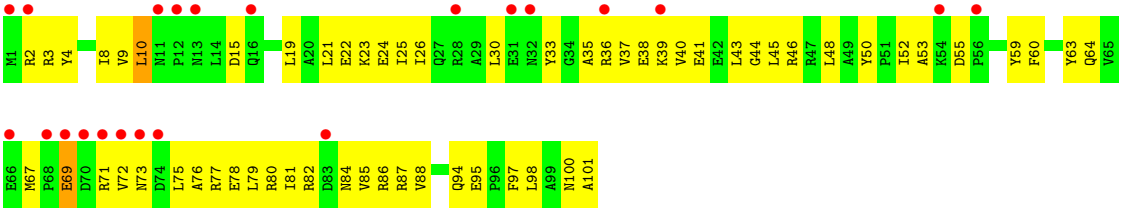
• Molecule 5: 30S ribosomal protein S5

Chain AE:



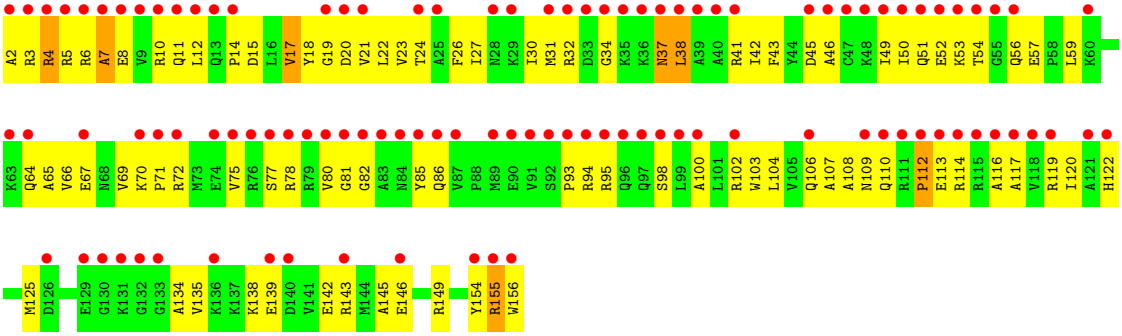
• Molecule 6: 30S ribosomal protein S6

Chain AF:



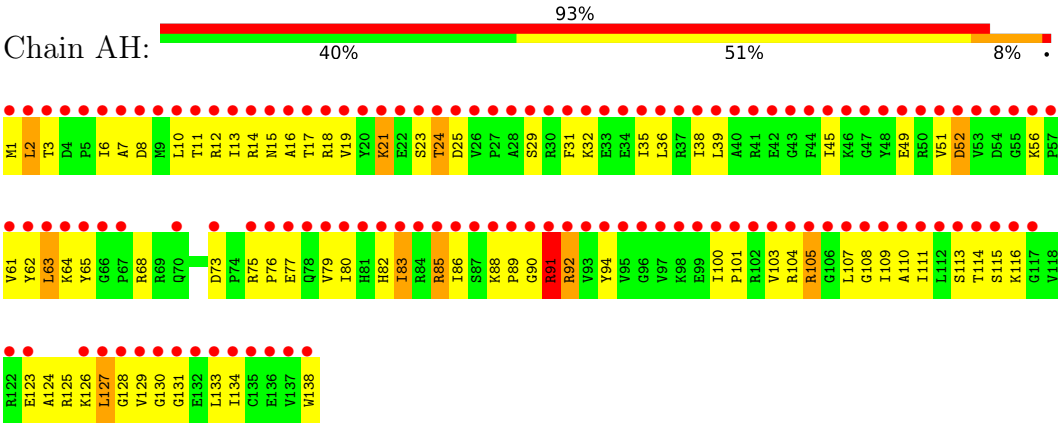
• Molecule 7: 30S ribosomal protein S7

Chain AG:



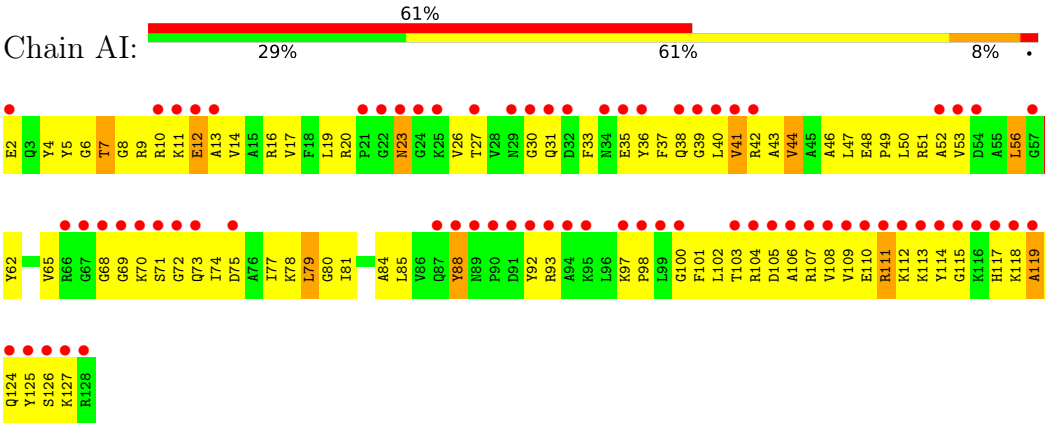
• Molecule 8: 30S ribosomal protein S8

Chain AH:



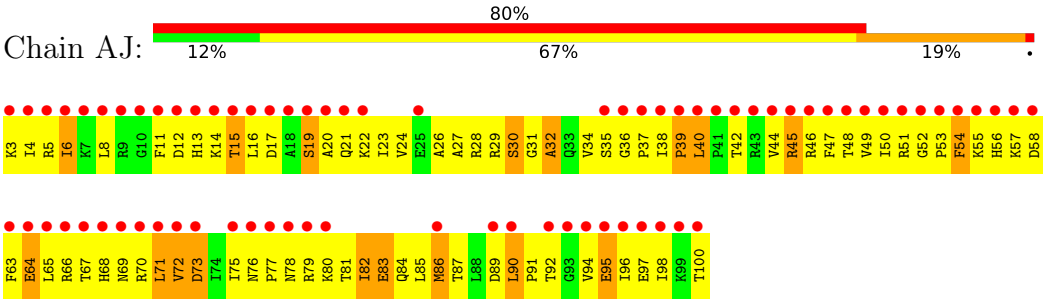
• Molecule 9: 30S ribosomal protein S9

Chain AI:



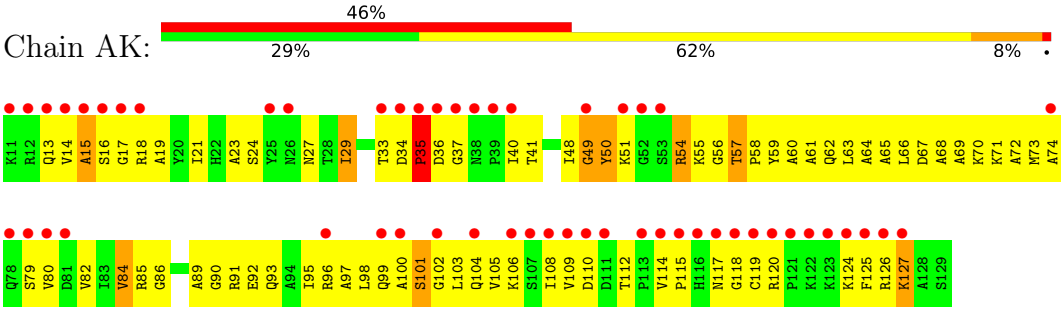
• Molecule 10: 30S ribosomal protein S10

Chain AJ:



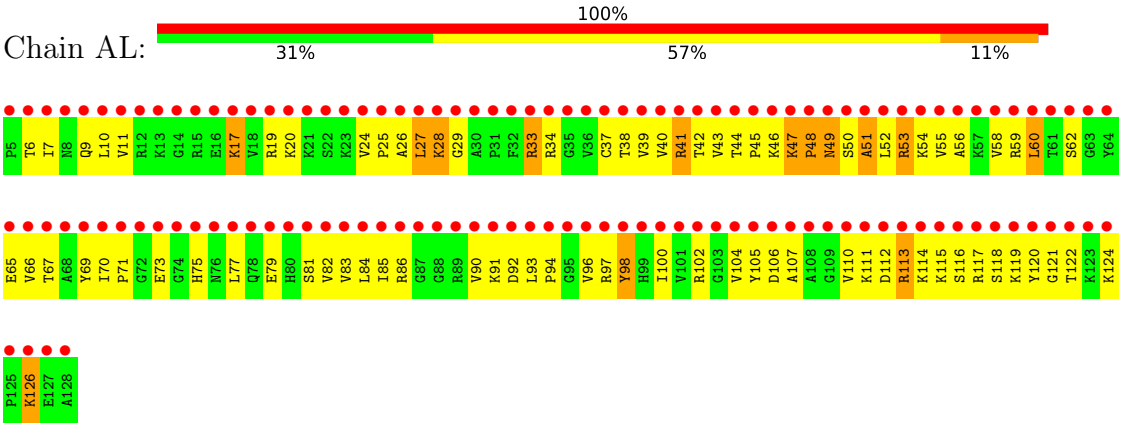
• Molecule 11: 30S ribosomal protein S11

Chain AK:



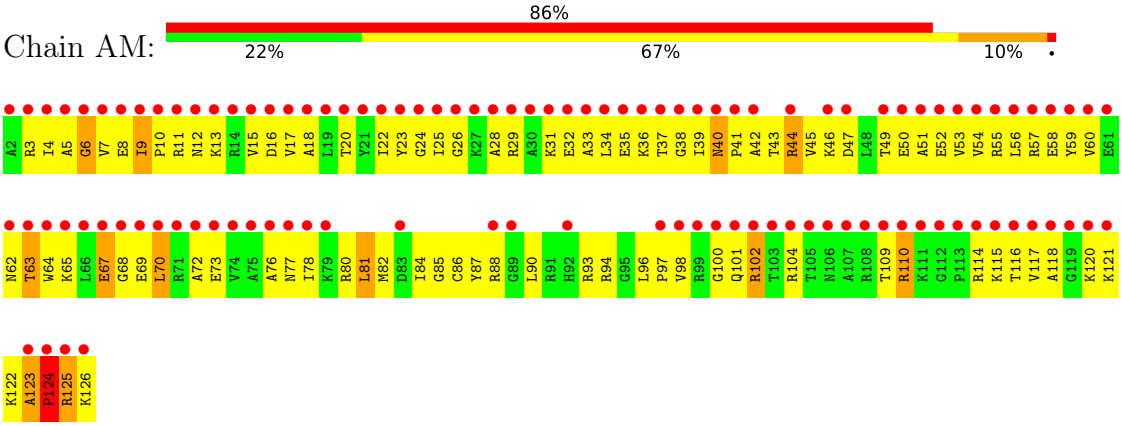
• Molecule 12: 30S ribosomal protein S12

Chain AL:



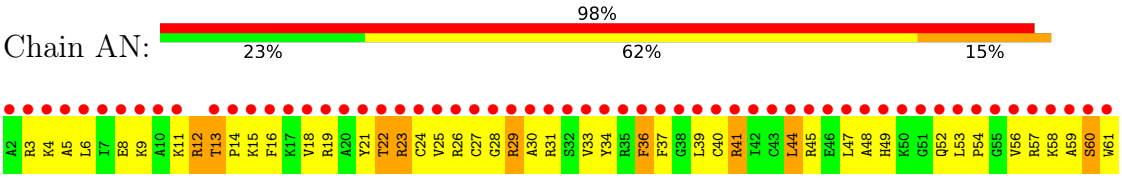
• Molecule 13: 30S ribosomal protein S13

Chain AM:



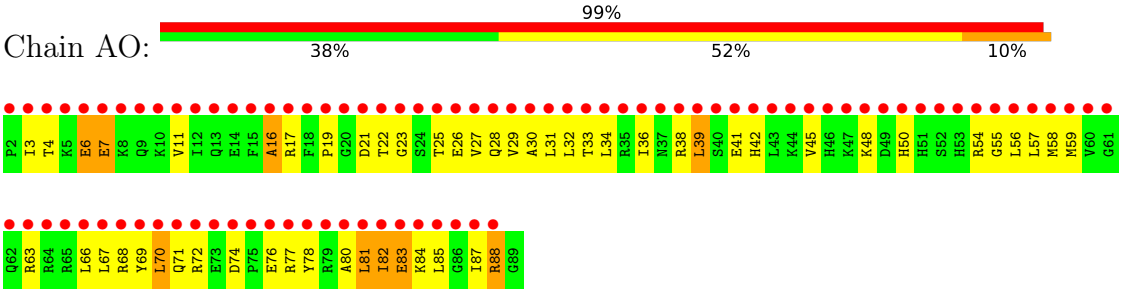
• Molecule 14: 30S ribosomal protein S14

Chain AN:



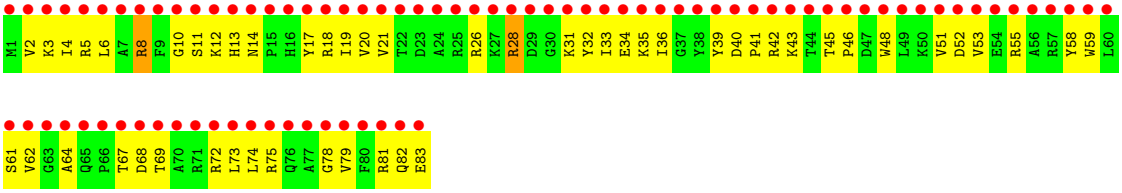
• Molecule 15: 30S ribosomal protein S15

Chain AO:



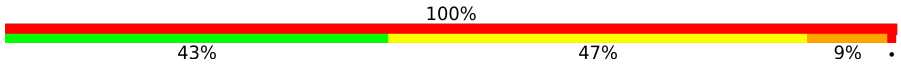
• Molecule 16: 30S ribosomal protein S16

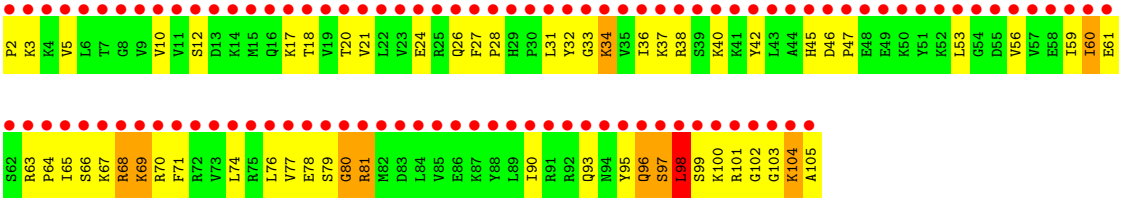
Chain AP:



• Molecule 17: 30S ribosomal protein S17

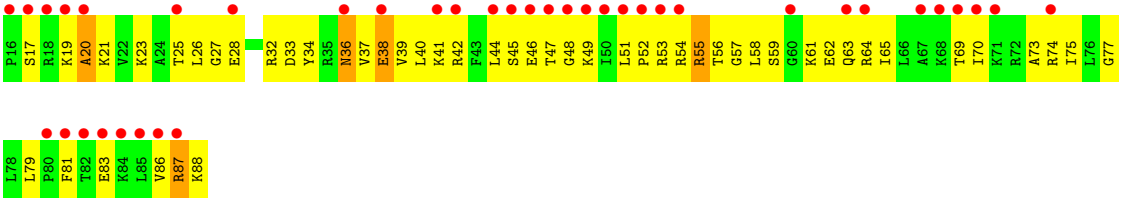
Chain AQ:





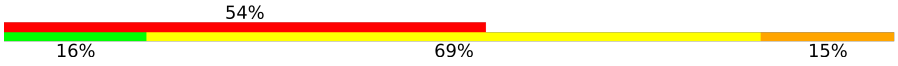
• Molecule 18: 30S ribosomal protein S18

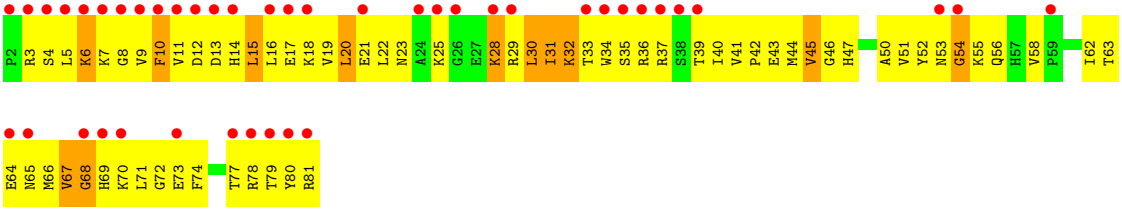
Chain AR:



• Molecule 19: 30S ribosomal protein S19

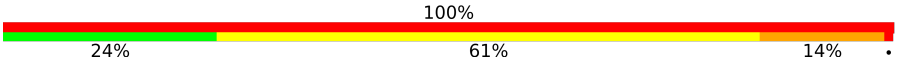
Chain AS:

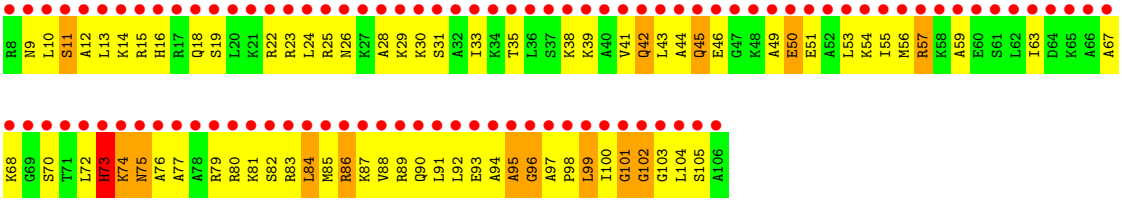




• Molecule 20: 30S ribosomal protein S20

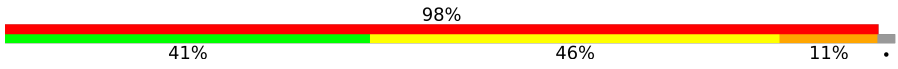
Chain AT:

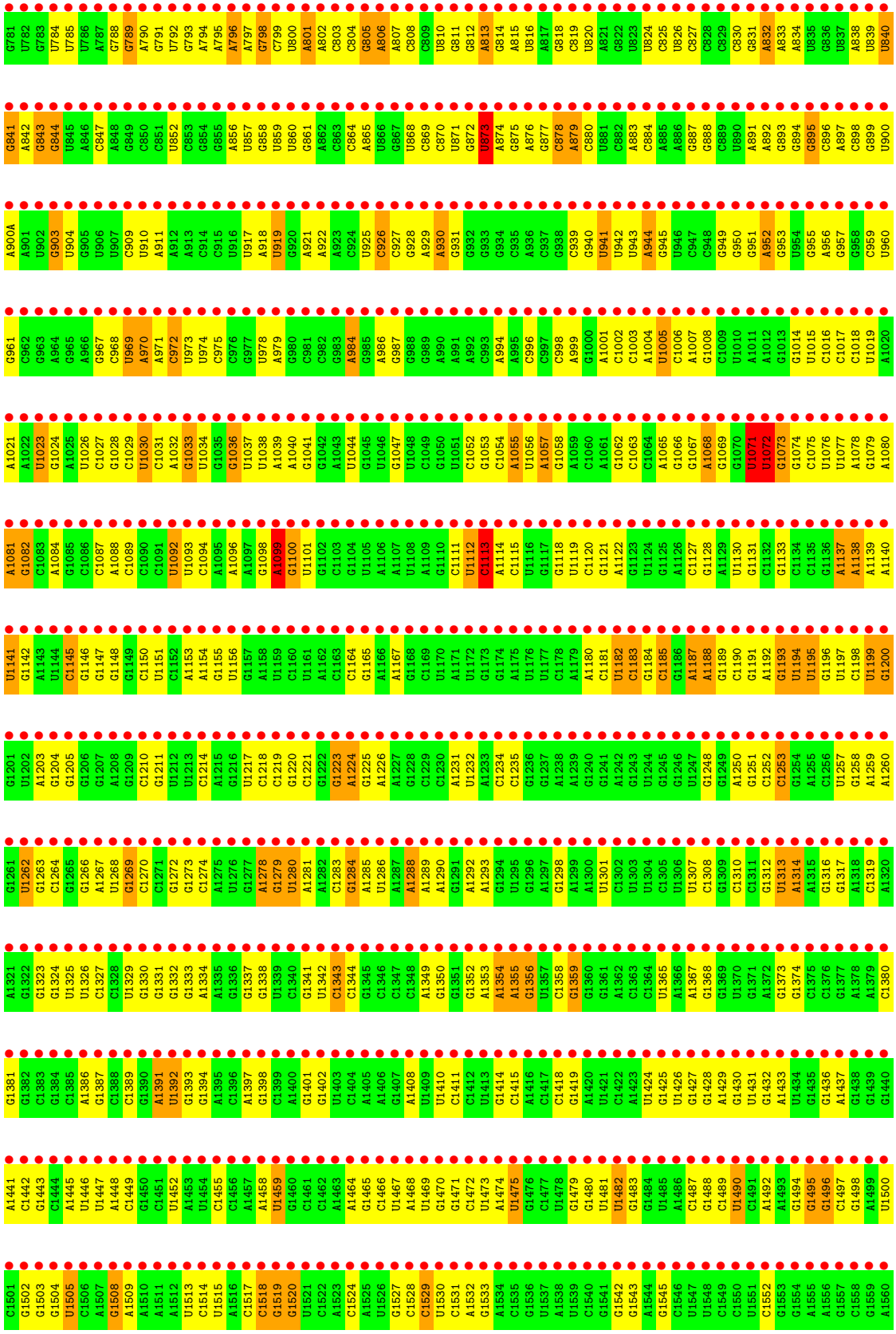




• Molecule 21: 23S RIBOSOMAL RNA

Chain B0:

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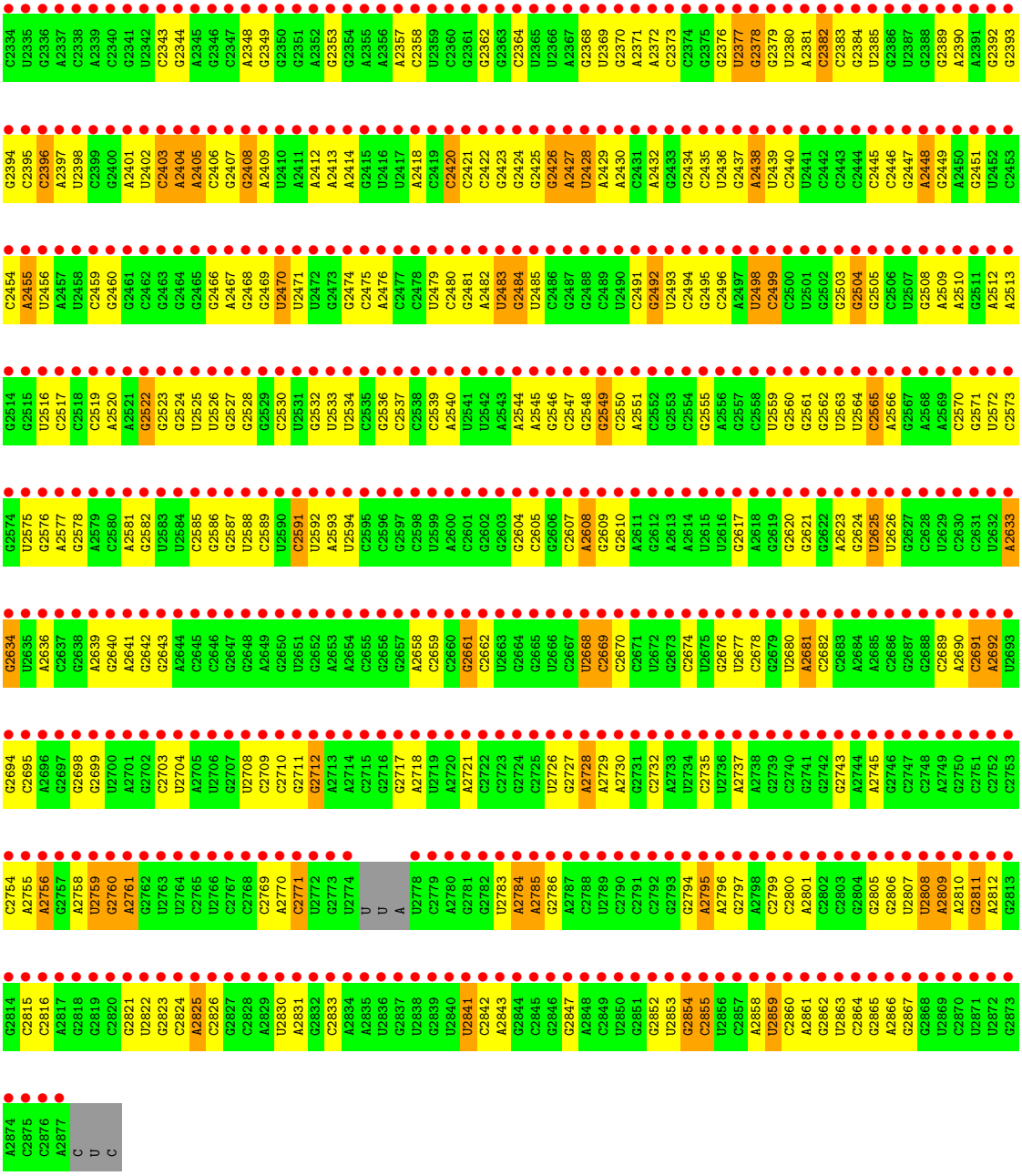
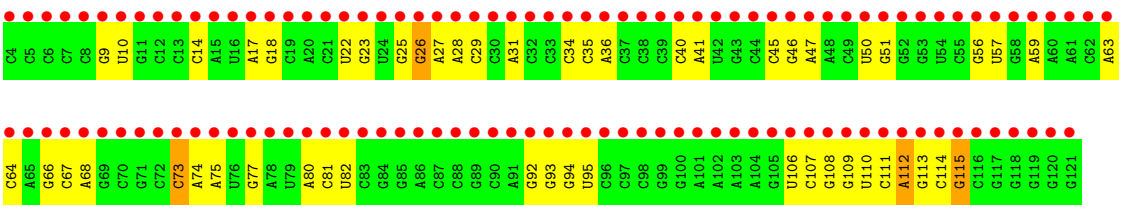


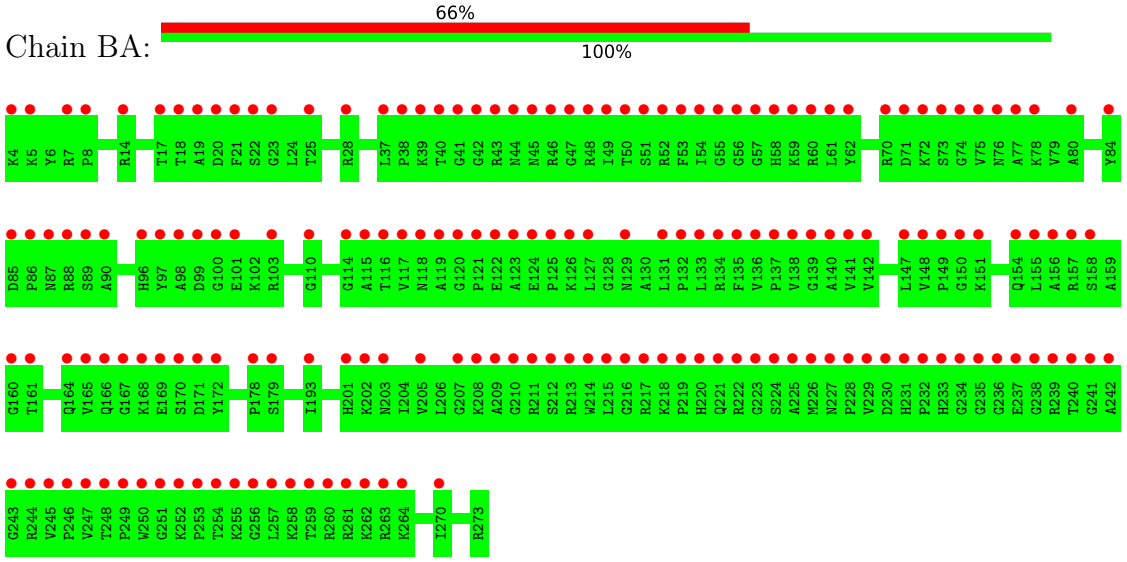
• Molecule 22: 5S RIBOSOMAL RNA

Chain B9:



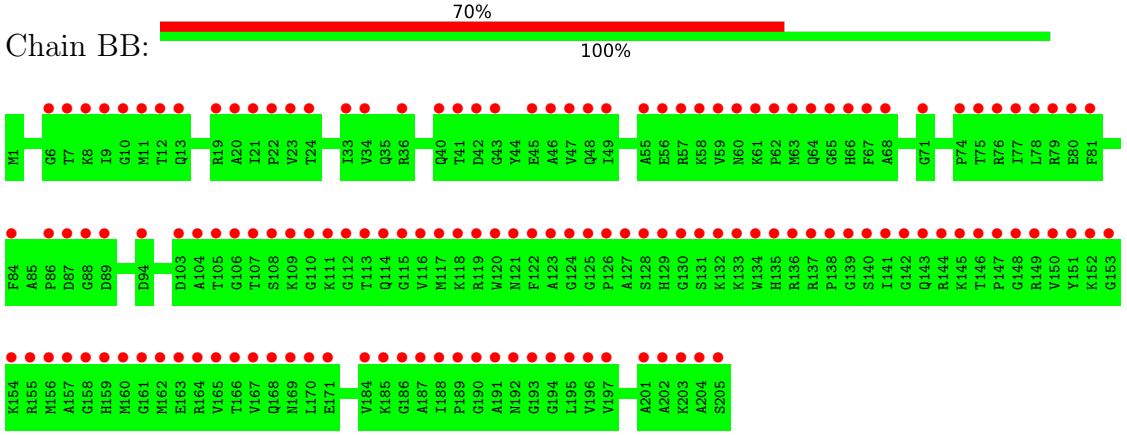
• Molecule 23: 50S ribosomal protein L2

Chain BA:



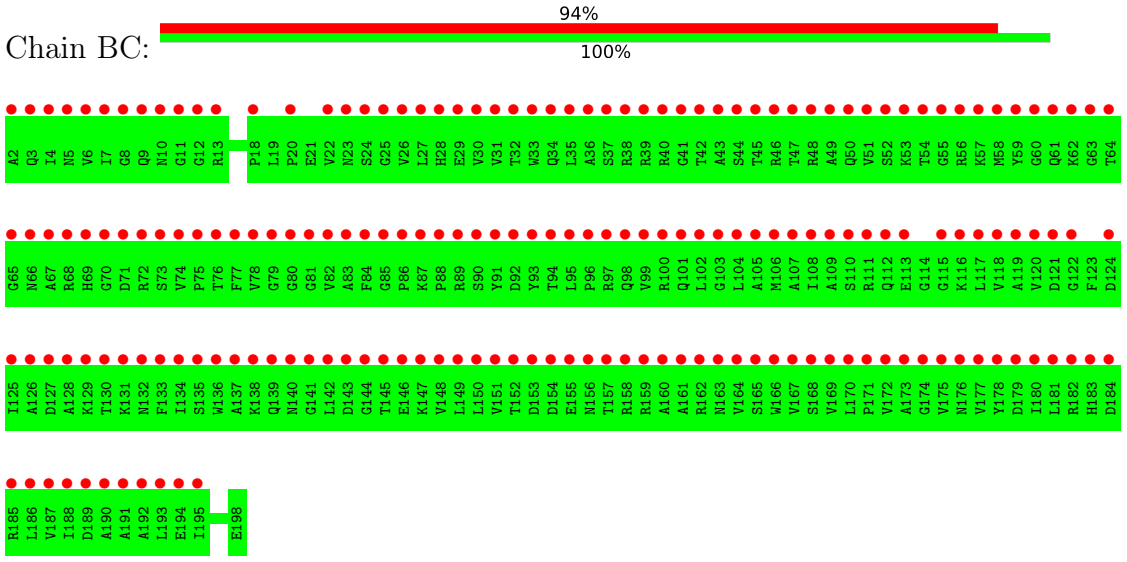
• Molecule 24: 50S ribosomal protein L3

Chain BB:



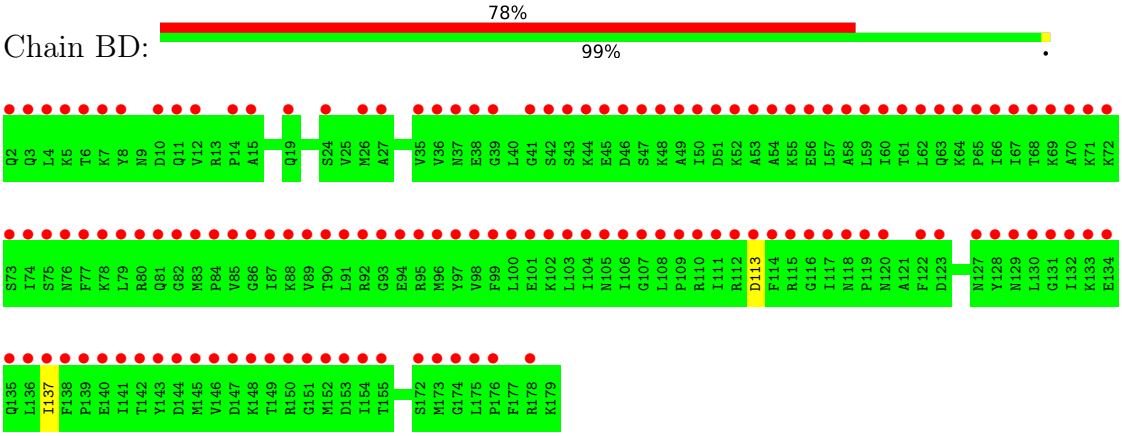
• Molecule 25: 50S ribosomal protein L4

Chain BC:



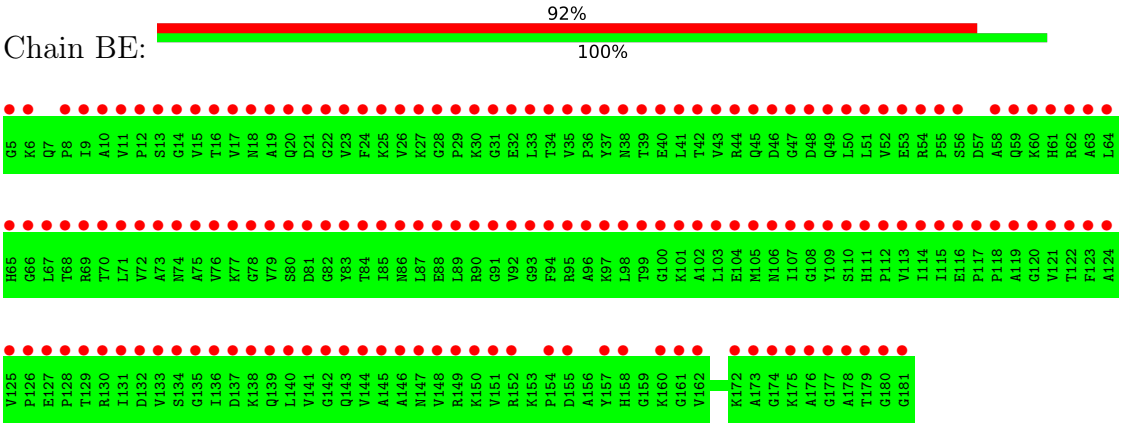
• Molecule 26: 50S ribosomal protein L5

Chain BD:



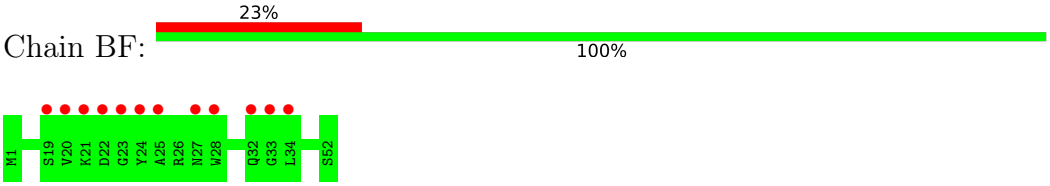
• Molecule 27: 50S ribosomal protein L6

Chain BE:



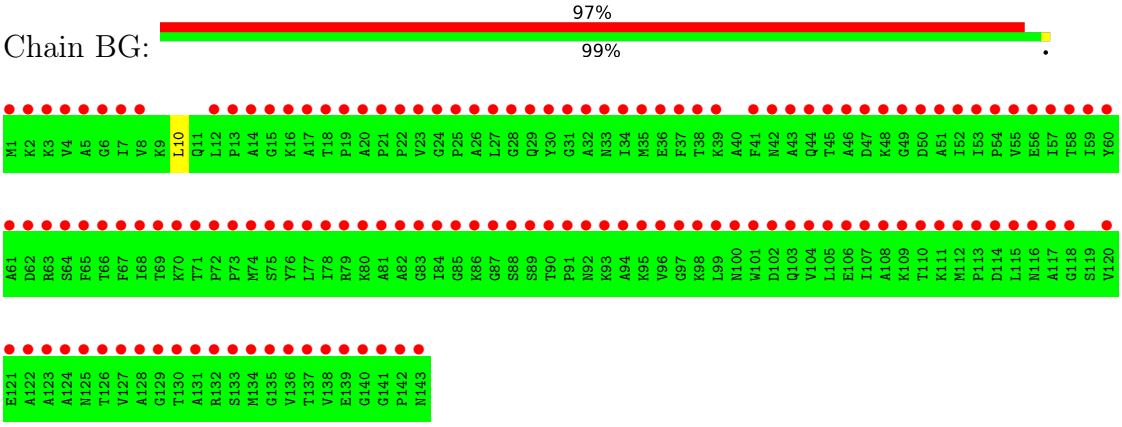
• Molecule 28: 50S ribosomal protein L9

Chain BF:



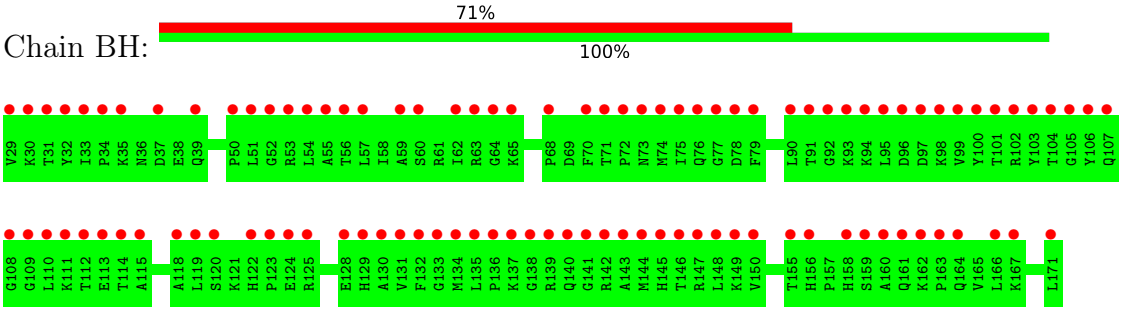
• Molecule 29: 50S ribosomal protein L11

Chain BG:



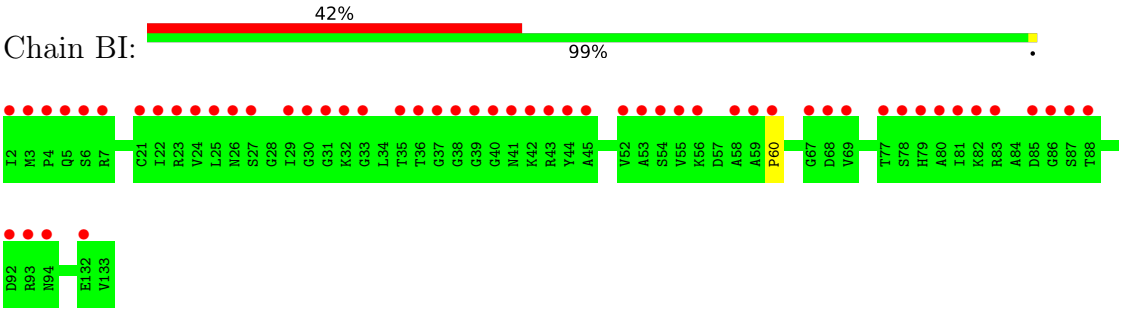
• Molecule 30: 50S ribosomal protein L13

Chain BH:



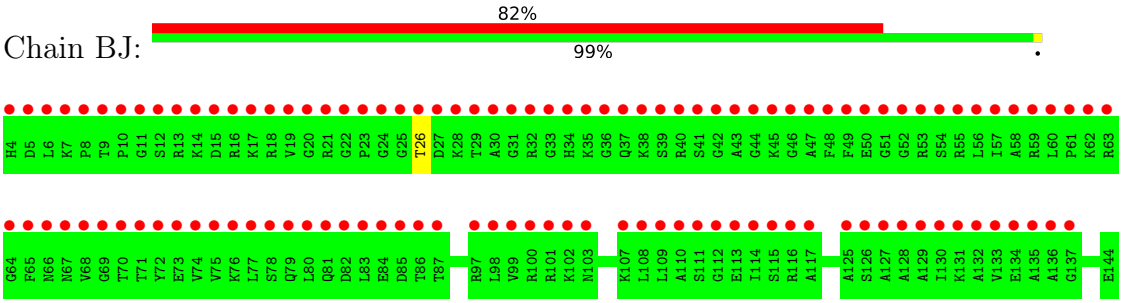
• Molecule 31: 50S ribosomal protein L14

Chain BI:



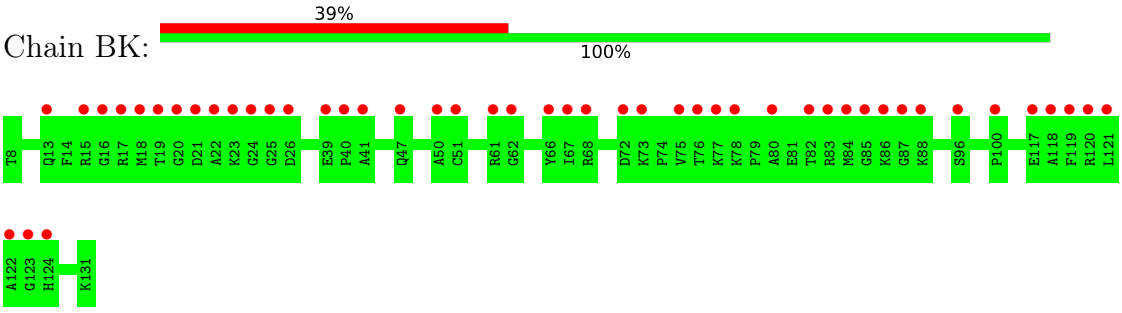
• Molecule 32: 50S ribosomal protein L15

Chain BJ:



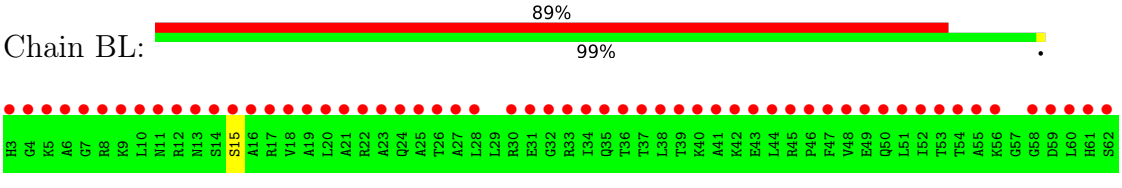
• Molecule 33: 50S ribosomal protein L16

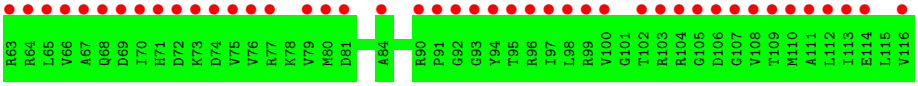
Chain BK:



• Molecule 34: 50S ribosomal protein L17

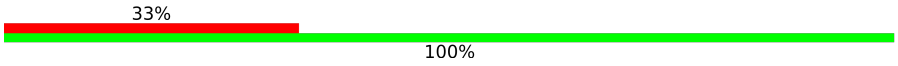
Chain BL:

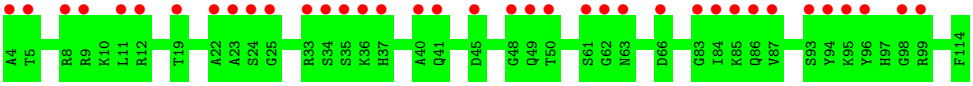




• Molecule 35: 50S ribosomal protein L18

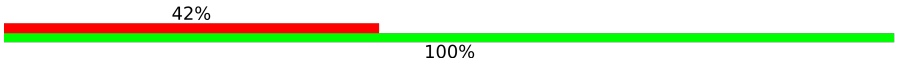
Chain BM:

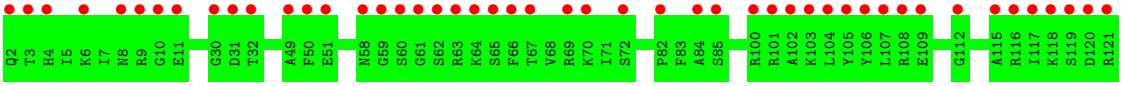




• Molecule 36: 50S ribosomal protein L19

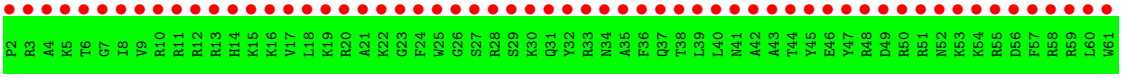
Chain BN:

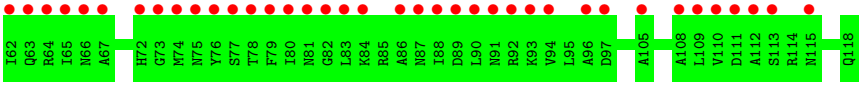




• Molecule 37: 50S ribosomal protein L20

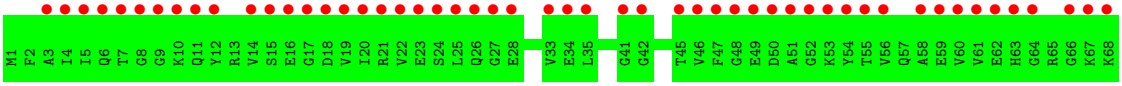
Chain BO:

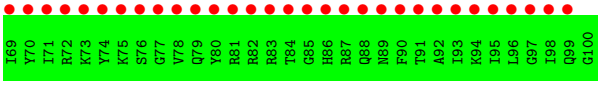




• Molecule 38: 50S ribosomal protein L21

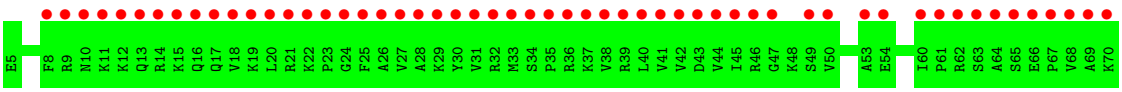
Chain BP:

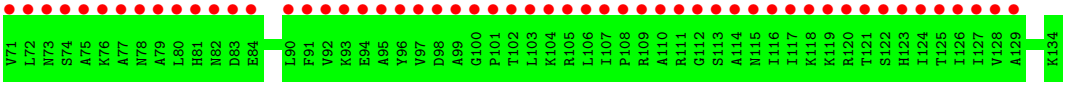




• Molecule 39: 50S ribosomal protein L22

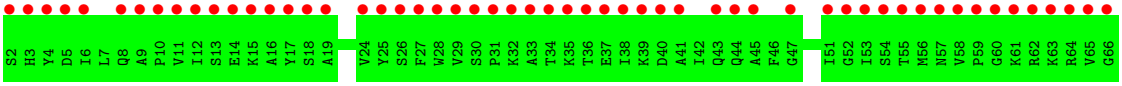
Chain BQ:

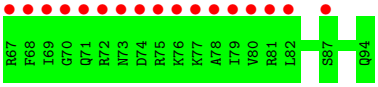




• Molecule 40: 50S ribosomal protein L23

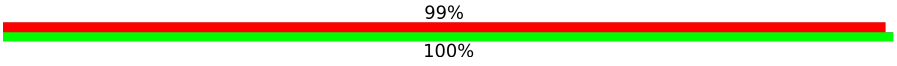
Chain BR:

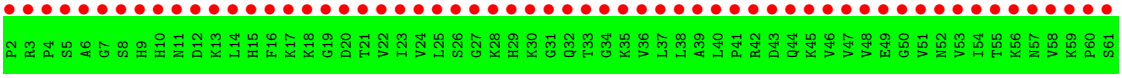


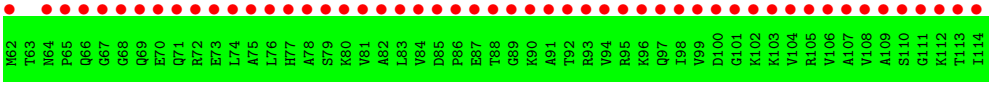


• Molecule 41: 50S ribosomal protein L24

Chain BS:

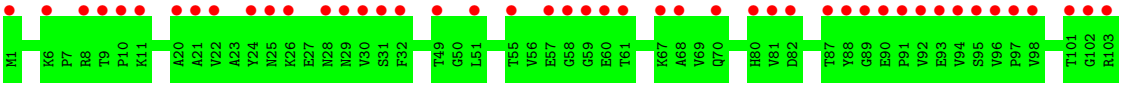


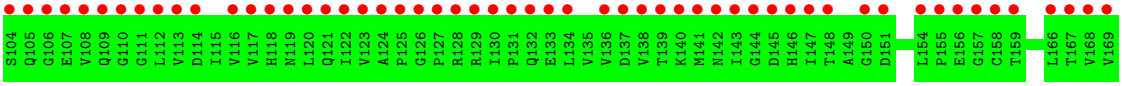




• Molecule 42: general stress protein Ctc

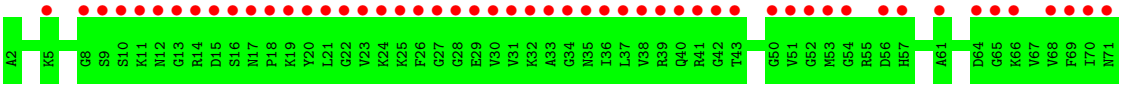
Chain BT:

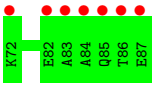




• Molecule 43: 50S ribosomal protein L27

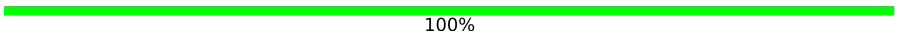
Chain BU:





• Molecule 44: 50S RIBOSOMAL PROTEIN L28

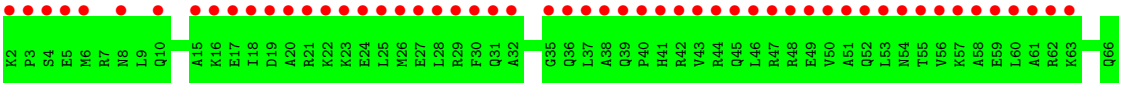
Chain BV:



There are no outlier residues recorded for this chain.

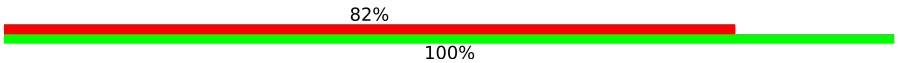
• Molecule 45: 50S ribosomal protein L29

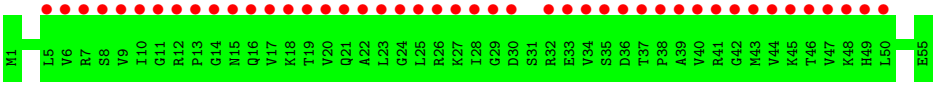
Chain BW:



• Molecule 46: 50S ribosomal protein L30

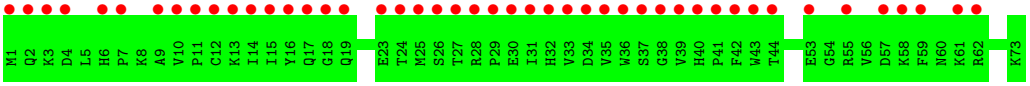
Chain BX:





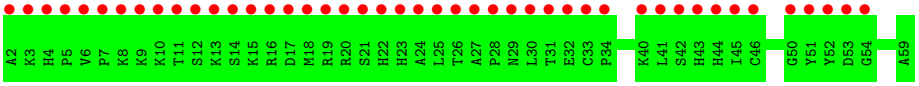
• Molecule 47: 50S ribosomal protein L31

Chain BY:



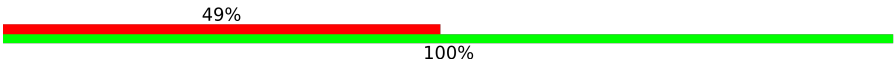
• Molecule 48: 50S ribosomal protein L32

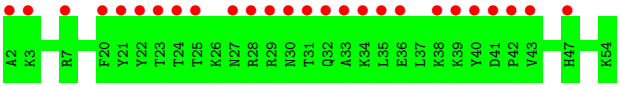
Chain BZ:



• Molecule 49: 50S ribosomal protein L33

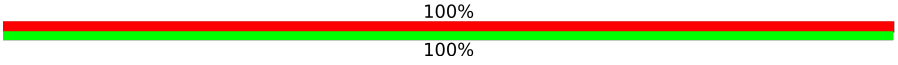
Chain B1:

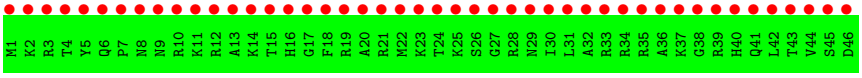




• Molecule 50: 50S ribosomal protein L34

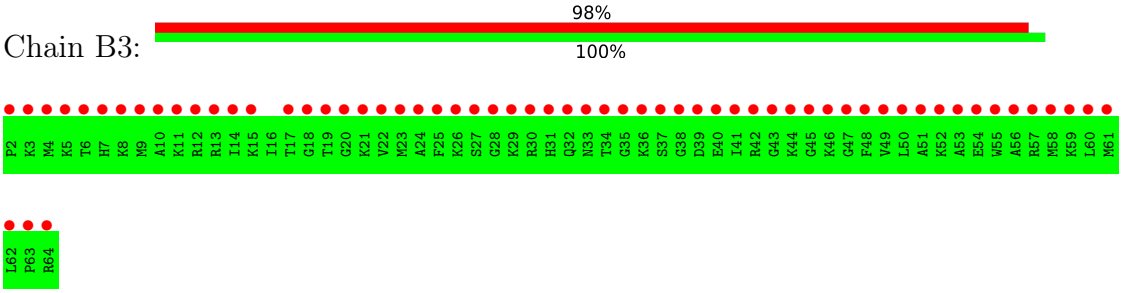
Chain B2:





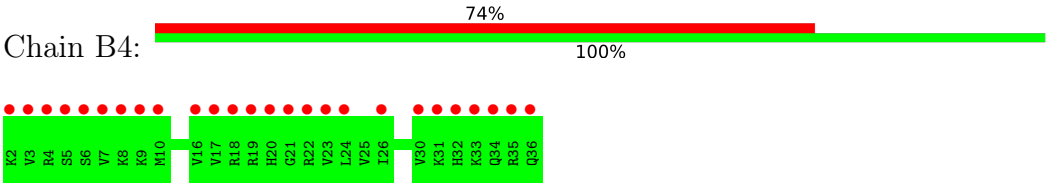
• Molecule 51: 50S ribosomal protein L35

Chain B3:



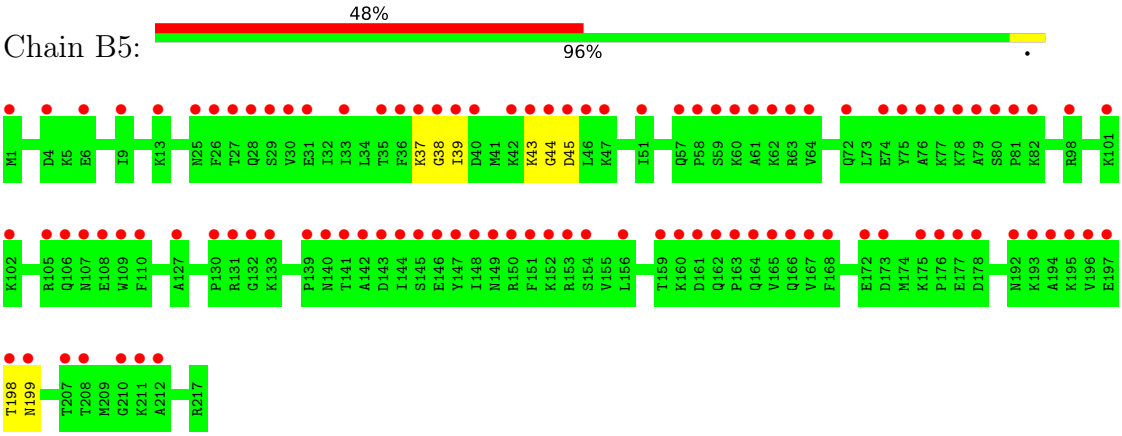
• Molecule 52: 50S ribosomal protein L36

Chain B4:



• Molecule 53: 50S ribosomal protein L1P

Chain B5:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 4 2 2	Depositor
Cell constants a, b, c, α, β, γ	683.89Å 683.89Å 386.72Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	70.00 – 9.50 241.79 – 9.50	Depositor EDS
% Data completeness (in resolution range)	92.1 (70.00-9.50) 87.2 (241.79-9.50)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	9.49 (at 9.99Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.389 , 0.407 0.369 , 0.385	Depositor DCC
R_{free} test set	1282 reflections (4.78%)	wwPDB-VP
Wilson B-factor (Å^2)	437.2	Xtriage
Anisotropy	0.460	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	1.31 , -10.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	118711	wwPDB-VP
Average B, all atoms (Å^2)	680.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 12.90% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	AA	1.68	75/36823 (0.2%)	1.26	270/57351 (0.5%)
2	AB	0.37	0/1935	0.68	1/2609 (0.0%)
3	AC	0.38	0/1636	0.66	0/2205
4	AD	0.37	0/1732	0.63	0/2318
5	AE	0.49	0/1162	0.79	0/1564
6	AF	0.33	0/855	0.62	0/1154
7	AG	0.34	0/1275	0.62	0/1709
8	AH	0.44	0/1135	0.74	0/1527
9	AI	0.36	0/1028	0.62	0/1378
10	AJ	0.36	0/807	0.71	0/1085
11	AK	0.39	0/899	0.70	0/1213
12	AL	0.43	0/985	0.73	0/1317
13	AM	0.36	0/1006	0.67	0/1344
14	AN	0.40	0/500	0.78	0/664
15	AO	0.36	0/744	0.63	1/992 (0.1%)
16	AP	0.43	0/716	0.76	0/963
17	AQ	0.44	0/869	0.75	0/1159
18	AR	0.36	0/602	0.63	0/799
19	AS	0.35	0/661	0.72	1/890 (0.1%)
20	AT	0.39	0/764	0.73	0/1006
21	B0	0.50	17/67885 (0.0%)	0.75	48/105852 (0.0%)
22	B9	0.68	1/2815 (0.0%)	0.76	3/4384 (0.1%)
All	All	0.99	93/126834 (0.1%)	0.93	324/193483 (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	AA	2	40
21	B0	0	5
All	All	2	45

The worst 5 of 93 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	59	A	O3'-P	-120.85	0.16	1.61
1	AA	1398	A	O3'-P	-86.38	0.57	1.61
1	AA	214	U	O3'-P	-73.42	0.73	1.61
1	AA	394	G	O3'-P	-71.42	0.75	1.61
1	AA	1505	G	O3'-P	-71.04	0.76	1.61

The worst 5 of 324 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	AA	59	A	P-O3'-C3'	-58.31	49.73	119.70
21	B0	1856	U	O3'-P-O5'	-48.57	11.72	104.00
21	B0	3098	U	P-O3'-C3'	42.71	170.95	119.70
1	AA	1490	C	P-O3'-C3'	40.44	168.23	119.70
1	AA	651	C	P-O3'-C3'	-39.22	72.64	119.70

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	AA	181	G	C3'
1	AA	1528	U	C3'

5 of 45 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	12	U	Sidechain
1	AA	187	G	Sidechain
1	AA	191	G	Sidechain
1	AA	197	A	Sidechain
1	AA	231	G	Sidechain

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	32939	0	16652	3455	1
2	AB	1900	0	1951	209	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	AC	1612	0	1675	286	0
4	AD	1702	0	1767	217	2
5	AE	1146	0	1207	255	0
6	AF	842	0	855	75	2
7	AG	1256	0	1296	138	2
8	AH	1115	0	1177	126	0
9	AI	1010	0	1043	183	0
10	AJ	794	0	839	206	2
11	AK	884	0	904	81	0
12	AL	970	0	1056	151	0
13	AM	996	0	1068	184	0
14	AN	491	0	529	153	0
15	AO	733	0	770	57	0
16	AP	700	0	720	78	0
17	AQ	856	0	925	239	0
18	AR	596	0	668	77	0
19	AS	647	0	673	156	0
20	AT	762	0	853	286	0
21	B0	60636	0	30557	1717	1
22	B9	2519	0	1287	43	0
23	BA	270	0	0	0	0
24	BB	205	0	0	0	0
25	BC	197	0	0	0	0
26	BD	178	0	0	4	0
27	BE	177	0	0	0	0
28	BF	52	0	0	0	0
29	BG	143	0	0	1	0
30	BH	143	0	0	0	0
31	BI	132	0	0	2	0
32	BJ	141	0	0	1	0
33	BK	124	0	0	0	0
34	BL	114	0	0	1	0
35	BM	111	0	0	0	0
36	BN	125	0	0	0	0
37	BO	117	0	0	0	0
38	BP	100	0	0	0	0
39	BQ	130	0	0	0	0
40	BR	93	0	0	0	0
41	BS	113	0	0	0	0
42	BT	173	0	0	0	0
43	BU	86	0	0	0	0
44	BV	16	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	BW	65	0	0	0	0
46	BX	55	0	0	0	0
47	BY	73	0	0	0	0
48	BZ	58	0	0	0	0
49	B1	53	0	0	0	0
50	B2	46	0	0	0	0
51	B3	63	0	0	0	0
52	B4	35	0	0	0	0
53	B5	217	0	0	22	0
All	All	118711	0	68472	6990	5

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 37.

The worst 5 of 6990 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1278:U:H5"	1:AA:1279:A:P	1.31	1.68
1:AA:1458:G:C8	1:AA:1459:C:H2'	1.27	1.63
1:AA:191:G:C6	1:AA:192:U:C2	1.90	1.60
1:AA:1475:G:H5"	21:B0:1706:A:C4'	1.13	1.60
1:AA:1475:G:C5'	21:B0:1706:A:H4'	1.32	1.59

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:172:PRO:O	6:AF:15:ASP:CB[3_555]	1.83	0.37
1:AA:416:G:OP1	21:B0:3140:G:O2'[3_555]	1.99	0.21
7:AG:51:GLN:NE2	10:AJ:87:THR:OG1[4_555]	2.08	0.12
4:AD:186:LEU:CD1	6:AF:15:ASP:OD2[3_555]	2.14	0.06
7:AG:57:GLU:OE2	10:AJ:89:ASP:OD1[4_555]	2.14	0.06

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 X-ray entries followed by that with respect to entries

of similar resolution.

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
2	AB	232/234 (99%)	174 (75%)	34 (15%)	24 (10%)	0 8
3	AC	204/206 (99%)	135 (66%)	40 (20%)	29 (14%)	0 4
4	AD	206/208 (99%)	166 (81%)	31 (15%)	9 (4%)	2 22
5	AE	148/150 (99%)	130 (88%)	13 (9%)	5 (3%)	3 26
6	AF	99/101 (98%)	79 (80%)	19 (19%)	1 (1%)	15 55
7	AG	153/155 (99%)	127 (83%)	16 (10%)	10 (6%)	1 16
8	AH	136/138 (99%)	125 (92%)	7 (5%)	4 (3%)	4 29
9	AI	125/127 (98%)	88 (70%)	27 (22%)	10 (8%)	1 12
10	AJ	96/98 (98%)	59 (62%)	20 (21%)	17 (18%)	0 3
11	AK	117/119 (98%)	88 (75%)	20 (17%)	9 (8%)	1 13
12	AL	120/124 (97%)	96 (80%)	15 (12%)	9 (8%)	1 13
13	AM	121/125 (97%)	87 (72%)	26 (22%)	8 (7%)	1 16
14	AN	58/60 (97%)	40 (69%)	11 (19%)	7 (12%)	0 6
15	AO	86/88 (98%)	70 (81%)	11 (13%)	5 (6%)	1 18
16	AP	81/83 (98%)	65 (80%)	15 (18%)	1 (1%)	13 50
17	AQ	102/104 (98%)	84 (82%)	10 (10%)	8 (8%)	1 13
18	AR	71/73 (97%)	62 (87%)	7 (10%)	2 (3%)	5 30
19	AS	78/80 (98%)	48 (62%)	19 (24%)	11 (14%)	0 4
20	AT	97/99 (98%)	65 (67%)	20 (21%)	12 (12%)	0 5
All	All	2330/2372 (98%)	1788 (77%)	361 (16%)	181 (8%)	1 13

5 of 181 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	AB	8	LYS
2	AB	9	GLU
2	AB	15	VAL
2	AB	16	HIS
2	AB	17	PHE

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 X-ray entries followed by that with respect to entries of similar resolution.

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
2	AB	202/202 (100%)	180 (89%)	22 (11%)	6 23
3	AC	160/160 (100%)	142 (89%)	18 (11%)	6 21
4	AD	180/180 (100%)	172 (96%)	8 (4%)	28 53
5	AE	115/115 (100%)	100 (87%)	15 (13%)	4 18
6	AF	90/90 (100%)	88 (98%)	2 (2%)	52 71
7	AG	126/126 (100%)	122 (97%)	4 (3%)	39 61
8	AH	119/119 (100%)	109 (92%)	10 (8%)	11 33
9	AI	98/98 (100%)	90 (92%)	8 (8%)	11 34
10	AJ	88/88 (100%)	79 (90%)	9 (10%)	7 25
11	AK	90/90 (100%)	84 (93%)	6 (7%)	16 41
12	AL	104/104 (100%)	96 (92%)	8 (8%)	13 37
13	AM	100/100 (100%)	90 (90%)	10 (10%)	7 26
14	AN	49/49 (100%)	47 (96%)	2 (4%)	30 55
15	AO	79/79 (100%)	72 (91%)	7 (9%)	9 30
16	AP	72/72 (100%)	67 (93%)	5 (7%)	15 40
17	AQ	96/96 (100%)	90 (94%)	6 (6%)	18 43
18	AR	64/64 (100%)	61 (95%)	3 (5%)	26 51
19	AS	71/71 (100%)	68 (96%)	3 (4%)	30 54
20	AT	76/76 (100%)	69 (91%)	7 (9%)	9 29
All	All	1979/1979 (100%)	1826 (92%)	153 (8%)	13 37

5 of 153 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
13	AM	81	LEU
19	AS	10	PHE
13	AM	125	ARG
16	AP	8	ARG

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Mol	Chain	Res	Type
20	AT	75	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 57 such sidechains are listed below:

Mol	Chain	Res	Type
7	AG	37	ASN
19	AS	56	GLN
10	AJ	76	ASN
19	AS	53	ASN
15	AO	37	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	1487/1537 (96%)	218 (14%)	89 (5%)
21	B0	2802/2887 (97%)	430 (15%)	55 (1%)
22	B9	116/118 (98%)	10 (8%)	0
All	All	4405/4542 (96%)	658 (14%)	144 (3%)

5 of 658 RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	6	G
1	AA	8	A
1	AA	9	G
1	AA	31	G
1	AA	32	A

5 of 144 RNA pucker outliers are listed below:

Mol	Chain	Res	Type
21	B0	1518	C
21	B0	2824	C
21	B0	1634	A
21	B0	3118	U
1	AA	748	C

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	AA	106
21	B0	31
22	B9	2
13	AM	1
12	AL	1

The worst 5 of 141 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AA	1443:G	O3'	1445:U	P	9.14
1	AA	1458:G	O3'	1459:C	P	8.01
1	B0	1888:C	O3'	1889:G	P	6.96
1	AA	1459:C	O3'	1460:A	P	6.03
1	B0	3180:U	O3'	3181:C	P	5.42

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	AA	1533/1537 (99%)	34.46	1533 (100%) 0 0	207, 548, 819, 940	0
2	AB	234/234 (100%)	1.45	72 (30%) 0 2	754, 754, 754, 754	0
3	AC	206/206 (100%)	5.43	168 (81%) 0 0	378, 378, 378, 378	0
4	AD	208/208 (100%)	14.38	201 (96%) 0 0	709, 709, 709, 709	0
5	AE	150/150 (100%)	14.31	150 (100%) 0 0	756, 756, 756, 756	0
6	AF	101/101 (100%)	1.29	22 (21%) 0 3	748, 748, 748, 748	0
7	AG	155/155 (100%)	4.22	105 (67%) 0 0	374, 374, 374, 374	0
8	AH	138/138 (100%)	7.10	129 (93%) 0 0	856, 856, 856, 856	0
9	AI	127/127 (100%)	7.06	77 (60%) 0 0	439, 439, 439, 439	0
10	AJ	98/98 (100%)	7.10	78 (79%) 0 0	430, 430, 430, 430	0
11	AK	119/119 (100%)	3.04	55 (46%) 0 1	652, 652, 652, 652	0
12	AL	124/124 (100%)	10.88	124 (100%) 0 0	423, 541, 541, 541	0
13	AM	125/125 (100%)	5.97	108 (86%) 0 0	378, 572, 572, 572	0
14	AN	60/60 (100%)	10.29	59 (98%) 0 0	378, 378, 378, 378	0
15	AO	88/88 (100%)	11.20	87 (98%) 0 0	740, 740, 740, 740	0
16	AP	83/83 (100%)	19.81	83 (100%) 0 0	781, 781, 781, 781	0
17	AQ	104/104 (100%)	11.89	104 (100%) 0 0	857, 857, 857, 857	0
18	AR	73/73 (100%)	3.48	39 (53%) 0 1	748, 748, 748, 748	0
19	AS	80/80 (100%)	3.00	43 (53%) 0 1	633, 633, 633, 633	0
20	AT	99/99 (100%)	13.05	99 (100%) 0 0	940, 940, 940, 940	0
21	B0	2825/2887 (97%)	55.87	2825 (100%) 0 0	462, 737, 737, 940	0
22	B9	118/118 (100%)	44.84	118 (100%) 0 0	772, 938, 938, 938	0
23	BA	270/270 (100%)	6.09	179 (66%) 0 0	737, 737, 737, 737	0
24	BB	205/205 (100%)	5.86	143 (69%) 0 0	737, 737, 737, 737	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å^2)	Q<0.9
25	BC	197/197 (100%)	8.25	186 (94%)	0 0	737, 737, 737, 737	0
26	BD	178/178 (100%)	17.24	138 (77%)	0 0	938, 938, 938, 938	0
27	BE	177/177 (100%)	13.08	163 (92%)	0 0	737, 737, 737, 737	0
28	BF	52/52 (100%)	1.36	12 (23%)	0 2	737, 737, 737, 737	0
29	BG	143/143 (100%)	17.89	138 (96%)	0 0	907, 907, 907, 907	0
30	BH	143/143 (100%)	5.92	102 (71%)	0 0	737, 737, 737, 737	0
31	BI	132/132 (100%)	3.04	55 (41%)	0 1	737, 737, 737, 737	0
32	BJ	141/141 (100%)	10.40	115 (81%)	0 0	737, 737, 737, 737	0
33	BK	124/124 (100%)	2.41	48 (38%)	0 1	737, 737, 737, 737	0
34	BL	114/114 (100%)	6.99	102 (89%)	0 0	737, 737, 737, 737	0
35	BM	111/111 (100%)	1.78	37 (33%)	0 2	938, 938, 938, 938	0
36	BN	125/125 (100%)	2.62	53 (42%)	0 1	737, 737, 737, 737	0
37	BO	117/117 (100%)	12.38	98 (83%)	0 0	737, 737, 737, 737	0
38	BP	100/100 (100%)	5.91	83 (83%)	0 0	737, 737, 737, 737	0
39	BQ	130/130 (100%)	7.52	109 (83%)	0 0	737, 737, 737, 737	0
40	BR	93/93 (100%)	4.86	72 (77%)	0 0	737, 737, 737, 737	0
41	BS	113/113 (100%)	11.17	112 (99%)	0 0	737, 737, 737, 737	0
42	BT	173/173 (100%)	8.24	105 (60%)	0 0	737, 772, 772, 772	0
43	BU	86/86 (100%)	6.53	59 (68%)	0 0	737, 737, 737, 737	0
44	BV	0/16	-	-		-	-
45	BW	65/65 (100%)	5.83	54 (83%)	0 0	737, 737, 737, 737	0
46	BX	55/55 (100%)	7.60	45 (81%)	0 0	737, 737, 737, 737	0
47	BY	73/73 (100%)	4.25	46 (63%)	0 0	737, 737, 737, 737	0
48	BZ	58/58 (100%)	11.78	45 (77%)	0 0	737, 737, 737, 737	0
49	B1	53/53 (100%)	5.78	26 (49%)	0 1	737, 737, 737, 737	0
50	B2	46/46 (100%)	9.41	46 (100%)	0 0	737, 737, 737, 737	0
51	B3	63/63 (100%)	7.36	62 (98%)	0 0	737, 737, 737, 737	0
52	B4	35/35 (100%)	6.72	26 (74%)	0 0	737, 737, 737, 737	0
53	B5	213/217 (98%)	4.43	104 (48%)	0 1	940, 940, 940, 940	0
All	All	10433/10519 (99%)	25.15	8842 (84%)	0 0	207, 737, 938, 940	0

The worst 5 of 8842 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
21	B0	1989	C	280.5
21	B0	2624	G	227.9
21	B0	1988	A	201.4
21	B0	2480	C	196.7
21	B0	2425	G	192.2

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.