



wwPDB EM Map/Model Validation Report ⓘ

Apr 10, 2016 – 03:31 PM BST

PDB ID : 3J6Y
EMDB ID: : EMD-5943
Title : S. cerevisiae 80S ribosome bound with Taura syndrome virus (TSV) IRES, 2 degree rotation (Class I)
Authors : Koh, C.S.; Brilot, A.F.; Grigorieff, N.; Korostelev, A.A.
Deposited on : 2014-04-16
Resolution : 6.10 Å(reported)
Based on PDB ID : 3U5E, 3U5D, 3U5C, 3U5B

This is a wwPDB EM Map/Model Validation Report for a publicly released PDB/EMDB entry.
For rigid body fitted models, validation errors reported here could stem from errors in the original structure(s) used in the fitting.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
<http://wwpdb.org/validation/2016/EMValidationReportHelp>

MolProbity : 4.02b-467
Mogul : unknown
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : trunk27241

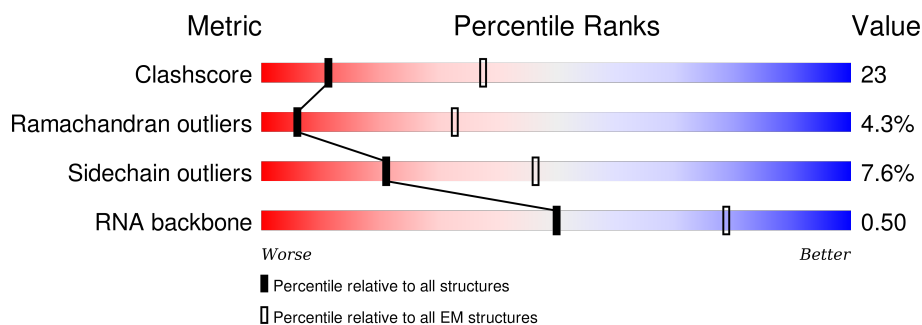
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 6.10 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.



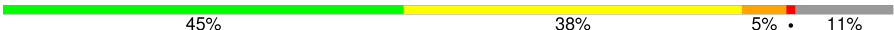

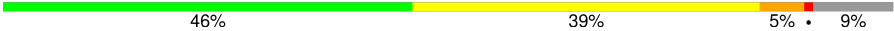








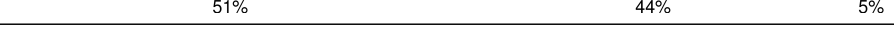







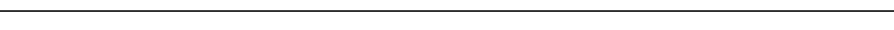

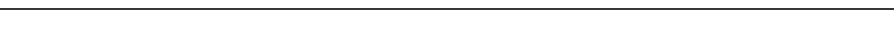
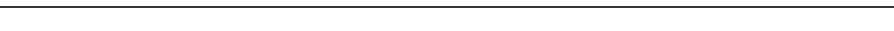


| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|-----------------------------|-----------------------------|
| Clashscore | 114402 | 924 |
| Ramachandran outliers | 111179 | 726 |
| Sidechain outliers | 111093 | 686 |
| RNA backbone | 3027 | 244 |

The table below summarises the geometric issues observed across the polymeric chains. The red, orange, yellow and green segments on the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. 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 $\leq 5\%$.

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | 2S | 3395 | 34% 52% 11% . . |
| 2 | 8S | 158 | 32% 56% 10% . |
| 3 | 5S | 121 | 36% 60% 5% |
| 4 | L1 | 217 | 41% 47% 6% . 6% |
| 5 | L2 | 254 | 37% 57% 6% . |
| 6 | L3 | 387 | 44% 51% 5% |
| 7 | L4 | 362 | 47% 45% 8% |
| 8 | L5 | 297 | 54% 40% 6% |




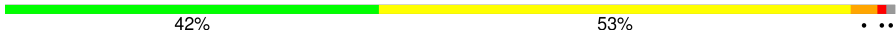

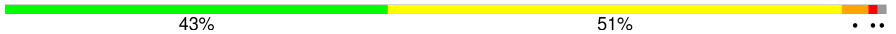

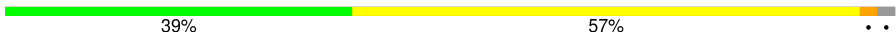



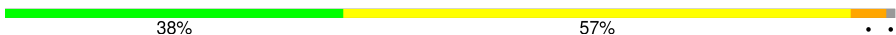
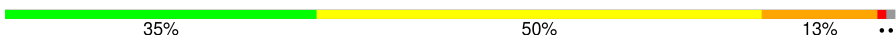
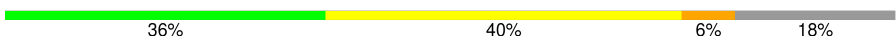











Continued on next page...

Continued from previous page...

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 9 | L6 | 176 |  |
| 10 | L7 | 244 |  |
| 11 | L8 | 256 |  |
| 12 | L9 | 191 |  |
| 13 | 50 | 221 |  |
| 14 | 51 | 174 |  |
| 15 | 53 | 199 |  |
| 16 | 54 | 138 |  |
| 17 | 55 | 204 |  |
| 18 | 56 | 199 |  |
| 19 | 57 | 184 |  |
| 20 | 58 | 186 |  |
| 21 | 59 | 189 |  |
| 22 | 60 | 172 |  |
| 23 | 61 | 160 |  |
| 24 | 62 | 121 |  |
| 25 | 63 | 137 |  |
| 26 | 64 | 155 |  |
| 27 | 65 | 142 |  |
| 28 | 66 | 127 |  |
| 29 | 67 | 136 |  |
| 30 | 68 | 149 |  |
| 31 | 69 | 59 |  |
| 32 | 70 | 105 |  |
| 33 | 71 | 113 |  |




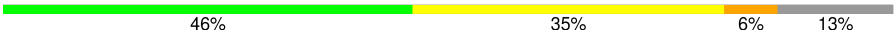
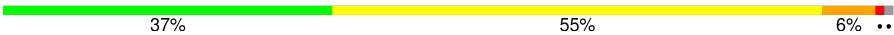
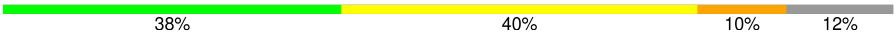
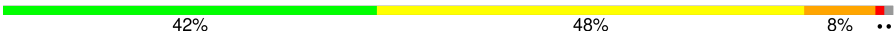
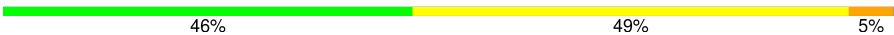
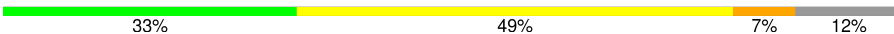

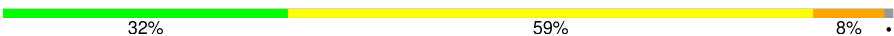
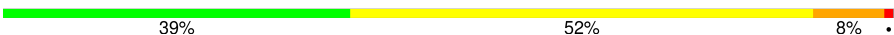
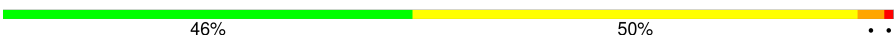
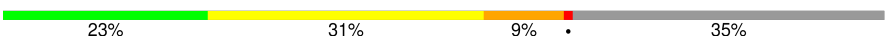
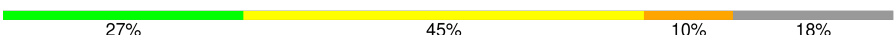






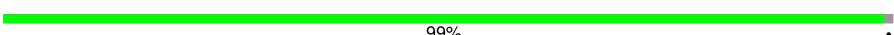
Continued on next page...

Continued from previous page...

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 34 | 72 | 130 |  |
| 35 | 73 | 107 |  |
| 36 | 74 | 121 |  |
| 37 | 75 | 120 |  |
| 38 | 76 | 100 |  |
| 39 | 77 | 88 |  |
| 40 | 78 | 78 |  |
| 41 | 79 | 51 |  |
| 42 | 80 | 128 |  |
| 43 | 81 | 25 |  |
| 44 | 82 | 106 |  |
| 45 | 83 | 92 |  |
| 46 | 1S | 1798 |  |
| 47 | S0 | 252 |  |
| 48 | S1 | 255 |  |
| 49 | S2 | 254 |  |
| 50 | S3 | 240 |  |
| 51 | S4 | 261 |  |
| 52 | S5 | 225 |  |
| 53 | S6 | 236 |  |
| 54 | S7 | 190 |  |
| 55 | S8 | 200 |  |
| 56 | S9 | 197 |  |
| 57 | 10 | 105 |  |
| 58 | 11 | 156 |  |

Continued on next page...

Continued from previous page...

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--|
| 59 | 12 | 143 |  |
| 60 | 13 | 151 |  |
| 61 | 14 | 137 |  |
| 62 | 15 | 142 |  |
| 63 | 16 | 143 |  |
| 64 | 17 | 136 |  |
| 65 | 18 | 146 |  |
| 66 | 19 | 144 |  |
| 67 | 20 | 121 |  |
| 68 | 21 | 87 |  |
| 69 | 22 | 130 |  |
| 70 | 23 | 145 |  |
| 71 | 24 | 135 |  |
| 72 | 25 | 108 |  |
| 73 | 26 | 119 |  |
| 74 | 27 | 82 |  |
| 75 | 28 | 67 |  |
| 76 | 29 | 56 |  |
| 77 | 30 | 63 |  |
| 78 | 31 | 152 |  |
| 79 | RA | 319 |  |
| 80 | IR | 201 |  |

2 Entry composition

There are 80 unique types of molecules in this entry. The entry contains 204247 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 RNA chain called 25S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|-------|
| 1 | 2S | 3308 | Total | C | N | O | P | 0 | 0 |
| | | | 70742 | 31596 | 12731 | 23107 | 3308 | | |

- Molecule 2 is a RNA chain called 5.8S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|-----|---------|-------|
| 2 | 8S | 158 | Total | C | N | O | P | 0 | 0 |
| | | | 3354 | 1500 | 586 | 1110 | 158 | | |

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|-------|
| 3 | 5S | 121 | Total | C | N | O | P | 0 | 0 |
| | | | 2580 | 1152 | 461 | 846 | 121 | | |

- Molecule 4 is a protein called 60S ribosomal protein L1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 4 | L1 | 204 | Total | C | N | O | S | 0 | 0 |
| | | | 1609 | 1031 | 279 | 290 | 9 | | |

- Molecule 5 is a protein called 60S ribosomal protein L2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 5 | L2 | 252 | Total | C | N | O | S | 0 | 0 |
| | | | 1918 | 1193 | 389 | 335 | 1 | | |

- Molecule 6 is a protein called 60S ribosomal protein L3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 6 | L3 | 386 | Total | C | N | O | S | 0 | 0 |
| | | | 3082 | 1956 | 584 | 534 | 8 | | |

- Molecule 7 is a protein called 60S ribosomal protein L4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 7 | L4 | 361 | Total | C | N | O | S | 0 | 0 |
| | | | 2750 | 1730 | 522 | 495 | 3 | | |

- Molecule 8 is a protein called 60S ribosomal protein L5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 8 | L5 | 296 | Total | C | N | O | S | 0 | 0 |
| | | | 2376 | 1501 | 414 | 459 | 2 | | |

- Molecule 9 is a protein called 60S ribosomal protein L6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 9 | L6 | 156 | Total | C | N | O | S | 0 | 0 |
| | | | 1240 | 800 | 222 | 217 | 1 | | |

- Molecule 10 is a protein called 60S ribosomal protein L7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 10 | L7 | 222 | Total | C | N | O | S | 0 | 0 |
| | | | 1785 | 1151 | 324 | 309 | 1 | | |

- Molecule 11 is a protein called 60S ribosomal protein L8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 11 | L8 | 233 | Total | C | N | O | S | 0 | 0 |
| | | | 1818 | 1159 | 326 | 330 | 3 | | |

- Molecule 12 is a protein called 60S ribosomal protein L9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 12 | L9 | 191 | Total | C | N | O | S | 0 | 0 |
| | | | 1519 | 963 | 274 | 278 | 4 | | |

- Molecule 13 is a protein called 60S ribosomal protein L10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 13 | 50 | 211 | Total | C | N | O | S | 0 | 0 |
| | | | 1718 | 1089 | 325 | 298 | 6 | | |

- Molecule 14 is a protein called 60S ribosomal protein L11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 14 | 51 | 169 | Total | C | N | O | S | 0 | 0 |
| | | | 1354 | 847 | 253 | 250 | 4 | | |

- Molecule 15 is a protein called 60S ribosomal protein L13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 15 | 53 | 193 | Total | C | N | O | | 0 | 0 |
| | | | 1543 | 962 | 315 | 266 | | | |

- Molecule 16 is a protein called 60S ribosomal protein L14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 16 | 54 | 136 | Total | C | N | O | S | 0 | 0 |
| | | | 1054 | 675 | 199 | 178 | 2 | | |

- Molecule 17 is a protein called 60S ribosomal protein L15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 17 | 55 | 203 | Total | C | N | O | S | 0 | 0 |
| | | | 1721 | 1077 | 361 | 282 | 1 | | |

- Molecule 18 is a protein called 60S ribosomal protein L16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 18 | 56 | 197 | Total | C | N | O | S | 0 | 0 |
| | | | 1556 | 1003 | 289 | 263 | 1 | | |

- Molecule 19 is a protein called 60S ribosomal protein L17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 19 | 57 | 183 | Total | C | N | O | | 0 | 0 |
| | | | 1443 | 896 | 287 | 260 | | | |

- Molecule 20 is a protein called 60S ribosomal protein L18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 20 | 58 | 185 | Total | C | N | O | S | 0 | 0 |
| | | | 1442 | 908 | 290 | 242 | 2 | | |

- Molecule 21 is a protein called 60S ribosomal protein L19.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 21 | 59 | 188 | Total | C | N | O | 0 | 0 |
| | | | 1522 | 935 | 326 | 261 | | |

- Molecule 22 is a protein called 60S ribosomal protein L20.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 22 | 60 | 172 | Total | C | N | O | S | 0 |
| | | | 1446 | 930 | 267 | 245 | 4 | 0 |

- Molecule 23 is a protein called 60S ribosomal protein L21.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 23 | 61 | 159 | Total | C | N | O | S | 0 |
| | | | 1277 | 805 | 246 | 222 | 4 | 0 |

- Molecule 24 is a protein called 60S ribosomal protein L22.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 24 | 62 | 100 | Total | C | N | O | | 0 |
| | | | 796 | 516 | 131 | 149 | | 0 |

- Molecule 25 is a protein called 60S ribosomal protein L23.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 25 | 63 | 136 | Total | C | N | O | S | 0 |
| | | | 1004 | 628 | 189 | 180 | 7 | 0 |

- Molecule 26 is a protein called 60S ribosomal protein L24.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---------|-------|
| 26 | 64 | 61 | Total | C | N | O | S | 0 |
| | | | 509 | 328 | 100 | 80 | 1 | 0 |

- Molecule 27 is a protein called 60S ribosomal protein L25.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 27 | 65 | 121 | Total | C | N | O | S | 0 |
| | | | 969 | 623 | 170 | 174 | 2 | 0 |

- Molecule 28 is a protein called 60S ribosomal protein L26.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 28 | 66 | 126 | Total | C | N | O | 0 | 0 |
| | | | 994 | 625 | 192 | 177 | | |

- Molecule 29 is a protein called 60S ribosomal protein L27.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 29 | 67 | 135 | Total | C | N | O | 0 | 0 |
| | | | 1093 | 710 | 202 | 181 | | |

- Molecule 30 is a protein called 60S ribosomal protein L28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 30 | 68 | 148 | Total | C | N | O | S | 0 | 0 |
| | | | 1174 | 749 | 231 | 191 | 3 | | |

- Molecule 31 is a protein called 60S ribosomal protein L29.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---------|-------|
| 31 | 69 | 58 | Total | C | N | O | 0 | 0 |
| | | | 463 | 289 | 100 | 74 | | |

- Molecule 32 is a protein called 60S ribosomal protein L30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 32 | 70 | 97 | Total | C | N | O | S | 0 | 0 |
| | | | 743 | 479 | 124 | 139 | 1 | | |

- Molecule 33 is a protein called 60S ribosomal protein L31.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 33 | 71 | 109 | Total | C | N | O | S | 0 | 0 |
| | | | 890 | 565 | 168 | 156 | 1 | | |

- Molecule 34 is a protein called 60S ribosomal protein L32.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 34 | 72 | 127 | Total | C | N | O | S | 0 | 0 |
| | | | 1020 | 647 | 205 | 167 | 1 | | |

- Molecule 35 is a protein called 60S ribosomal protein L33.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 35 | 73 | 106 | Total | C | N | O | S | 0 | 0 |
| | | | 851 | 540 | 165 | 145 | 1 | | |

- Molecule 36 is a protein called 60S ribosomal protein L34.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 36 | 74 | 112 | Total | C | N | O | S | 0 | 0 |
| | | | 881 | 546 | 179 | 152 | 4 | | |

- Molecule 37 is a protein called 60S ribosomal protein L35.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 37 | 75 | 119 | Total | C | N | O | S | 0 | 0 |
| | | | 970 | 615 | 186 | 168 | 1 | | |

- Molecule 38 is a protein called 60S ribosomal protein L36.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 38 | 76 | 99 | Total | C | N | O | S | 0 | 0 |
| | | | 772 | 481 | 156 | 133 | 2 | | |

- Molecule 39 is a protein called 60S ribosomal protein L37.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 39 | 77 | 87 | Total | C | N | O | S | 0 | 0 |
| | | | 682 | 414 | 148 | 115 | 5 | | |

- Molecule 40 is a protein called 60S ribosomal protein L38.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 40 | 78 | 77 | Total | C | N | O | 0 | 0 |
| | | | 613 | 391 | 115 | 107 | | |

- Molecule 41 is a protein called 60S ribosomal protein L39.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 41 | 79 | 50 | Total | C | N | O | S | 0 | 0 |
| | | | 437 | 272 | 97 | 66 | 2 | | |

- Molecule 42 is a protein called 60S ribosomal protein L40.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 42 | 80 | 52 | Total | C | N | O | S | 0 | 0 |
| | | | 418 | 259 | 86 | 68 | 5 | | |

- Molecule 43 is a protein called 60S ribosomal protein L41.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 43 | 81 | 25 | Total | C | N | O | S | 0 | 0 |
| | | | 234 | 142 | 63 | 28 | 1 | | |

- Molecule 44 is a protein called 60S ribosomal protein L42.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 44 | 82 | 103 | Total | C | N | O | S | 0 | 0 |
| | | | 827 | 520 | 167 | 135 | 5 | | |

- Molecule 45 is a protein called 60S ribosomal protein L43.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 45 | 83 | 91 | Total | C | N | O | S | 0 | 0 |
| | | | 695 | 429 | 138 | 122 | 6 | | |

- Molecule 46 is a RNA chain called 18S ribosomal RNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| 46 | 1S | 1781 | Total | C | N | O | P | 0 | 0 |
| | | | 37949 | 16965 | 6715 | 12488 | 1781 | | |

- Molecule 47 is a protein called 40S ribosomal protein S0.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 47 | S0 | 206 | Total | C | N | O | S | 0 | 0 |
| | | | 1612 | 1034 | 285 | 291 | 2 | | |

- Molecule 48 is a protein called 40S ribosomal protein S1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 48 | S1 | 214 | Total | C | N | O | S | 0 | 0 |
| | | | 1709 | 1084 | 310 | 311 | 4 | | |

- Molecule 49 is a protein called 40S ribosomal protein S2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 49 | S2 | 217 | Total | C | N | O | S | 0 | 0 |
| | | | 1635 | 1047 | 289 | 297 | 2 | | |

- Molecule 50 is a protein called 40S ribosomal protein S3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 50 | S3 | 223 | Total | C | N | O | S | 0 | 0 |
| | | | 1734 | 1101 | 313 | 314 | 6 | | |

- Molecule 51 is a protein called 40S ribosomal protein S4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 51 | S4 | 260 | Total | C | N | O | S | 0 | 0 |
| | | | 2069 | 1316 | 389 | 361 | 3 | | |

- Molecule 52 is a protein called 40S ribosomal protein S5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 52 | S5 | 206 | Total | C | N | O | S | 0 | 0 |
| | | | 1610 | 1007 | 300 | 300 | 3 | | |

- Molecule 53 is a protein called 40S ribosomal protein S6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 53 | S6 | 226 | Total | C | N | O | S | 0 | 0 |
| | | | 1820 | 1142 | 350 | 325 | 3 | | |

- Molecule 54 is a protein called 40S ribosomal protein S7.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 54 | S7 | 184 | Total | C | N | O | 0 | 0 |
| | | | 1481 | 951 | 265 | 265 | | |

- Molecule 55 is a protein called 40S ribosomal protein S8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 55 | S8 | 188 | Total | C | N | O | S | 0 | 0 |
| | | | 1490 | 925 | 298 | 265 | 2 | | |

- Molecule 56 is a protein called 40S ribosomal protein S9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 56 | S9 | 185 | Total | C | N | O | S | 0 | 0 |
| | | | 1494 | 943 | 289 | 261 | 1 | | |

- Molecule 57 is a protein called 40S ribosomal protein S10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 57 | 10 | 96 | Total | C | N | O | S | 0 | 0 |
| | | | 817 | 529 | 133 | 153 | 2 | | |

- Molecule 58 is a protein called 40S ribosomal protein S11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 58 | 11 | 155 | Total | C | N | O | S | 0 | 0 |
| | | | 1245 | 798 | 235 | 209 | 3 | | |

- Molecule 59 is a protein called 40S ribosomal protein S12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 59 | 12 | 124 | Total | C | N | O | S | 0 | 0 |
| | | | 935 | 587 | 165 | 181 | 2 | | |

- Molecule 60 is a protein called 40S ribosomal protein S13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 60 | 13 | 150 | Total | C | N | O | S | 0 | 0 |
| | | | 1193 | 759 | 224 | 208 | 2 | | |

- Molecule 61 is a protein called 40S ribosomal protein S14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 61 | 14 | 127 | Total | C | N | O | S | 0 | 0 |
| | | | 942 | 578 | 186 | 175 | 3 | | |

- Molecule 62 is a protein called 40S ribosomal protein S15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 62 | 15 | 124 | Total | C | N | O | S | 0 | 0 |
| | | | 991 | 631 | 187 | 166 | 7 | | |

- Molecule 63 is a protein called 40S ribosomal protein S16.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 63 | 16 | 141 | Total | C | N | O | 0 | 0 |
| | | | 1106 | 708 | 203 | 195 | | |

- Molecule 64 is a protein called 40S ribosomal protein S17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 64 | 17 | 120 | Total | C | N | O | S | 0 | 0 |
| | | | 965 | 603 | 183 | 177 | 2 | | |

- Molecule 65 is a protein called 40S ribosomal protein S18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 65 | 18 | 145 | Total | C | N | O | S | 0 | 0 |
| | | | 1193 | 743 | 237 | 211 | 2 | | |

- Molecule 66 is a protein called 40S ribosomal protein S19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 66 | 19 | 143 | Total | C | N | O | S | 0 | 0 |
| | | | 1113 | 694 | 208 | 209 | 2 | | |

- Molecule 67 is a protein called 40S ribosomal protein S20.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 67 | 20 | 107 | Total | C | N | O | S | 0 | 0 |
| | | | 856 | 539 | 156 | 160 | 1 | | |

- Molecule 68 is a protein called 40S ribosomal protein S21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 68 | 21 | 87 | Total | C | N | O | S | 0 | 0 |
| | | | 685 | 420 | 125 | 138 | 2 | | |

- Molecule 69 is a protein called 40S ribosomal protein S22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 69 | 22 | 129 | Total | C | N | O | S | 0 | 0 |
| | | | 1022 | 650 | 188 | 181 | 3 | | |

- Molecule 70 is a protein called 40S ribosomal protein S23.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 70 | 23 | 144 | Total | C | N | O | S | 0 | 0 |
| | | | 1122 | 708 | 220 | 192 | 2 | | |

- Molecule 71 is a protein called 40S ribosomal protein S24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 71 | 24 | 134 | Total | C | N | O | | 0 | 0 |
| | | | 1074 | 676 | 208 | 190 | | | |

- Molecule 72 is a protein called 40S ribosomal protein S25.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|--|---------|-------|
| 72 | 25 | 70 | Total | C | N | O | | 0 | 0 |
| | | | 563 | 360 | 104 | 99 | | | |

- Molecule 73 is a protein called 40S ribosomal protein S26.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 73 | 26 | 97 | Total | C | N | O | S | 0 | 0 |
| | | | 769 | 475 | 160 | 129 | 5 | | |

- Molecule 74 is a protein called 40S ribosomal protein S27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 74 | 27 | 81 | Total | C | N | O | S | 0 | 0 |
| | | | 611 | 382 | 110 | 114 | 5 | | |

- Molecule 75 is a protein called 40S ribosomal protein S28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 75 | 28 | 63 | Total | C | N | O | S | 0 | 0 |
| | | | 498 | 306 | 99 | 92 | 1 | | |

- Molecule 76 is a protein called 40S ribosomal protein S29.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 76 | 29 | 53 | Total | C | N | O | S | 0 | 0 |
| | | | 444 | 275 | 92 | 73 | 4 | | |

- Molecule 77 is a protein called 40S ribosomal protein S30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 77 | 30 | 60 | Total | C | N | O | S | 0 | 0 |
| | | | 475 | 299 | 98 | 77 | 1 | | |

- Molecule 78 is a protein called 40S ribosomal protein S31.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 78 | 31 | 71 | Total | C | N | O | S | 0 | 0 |
| | | | 498 | 309 | 93 | 92 | 4 | | |

- Molecule 79 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 79 | RA | 318 | Total | C | N | O | S | 0 | 0 |
| | | | 2445 | 1546 | 419 | 472 | 8 | | |

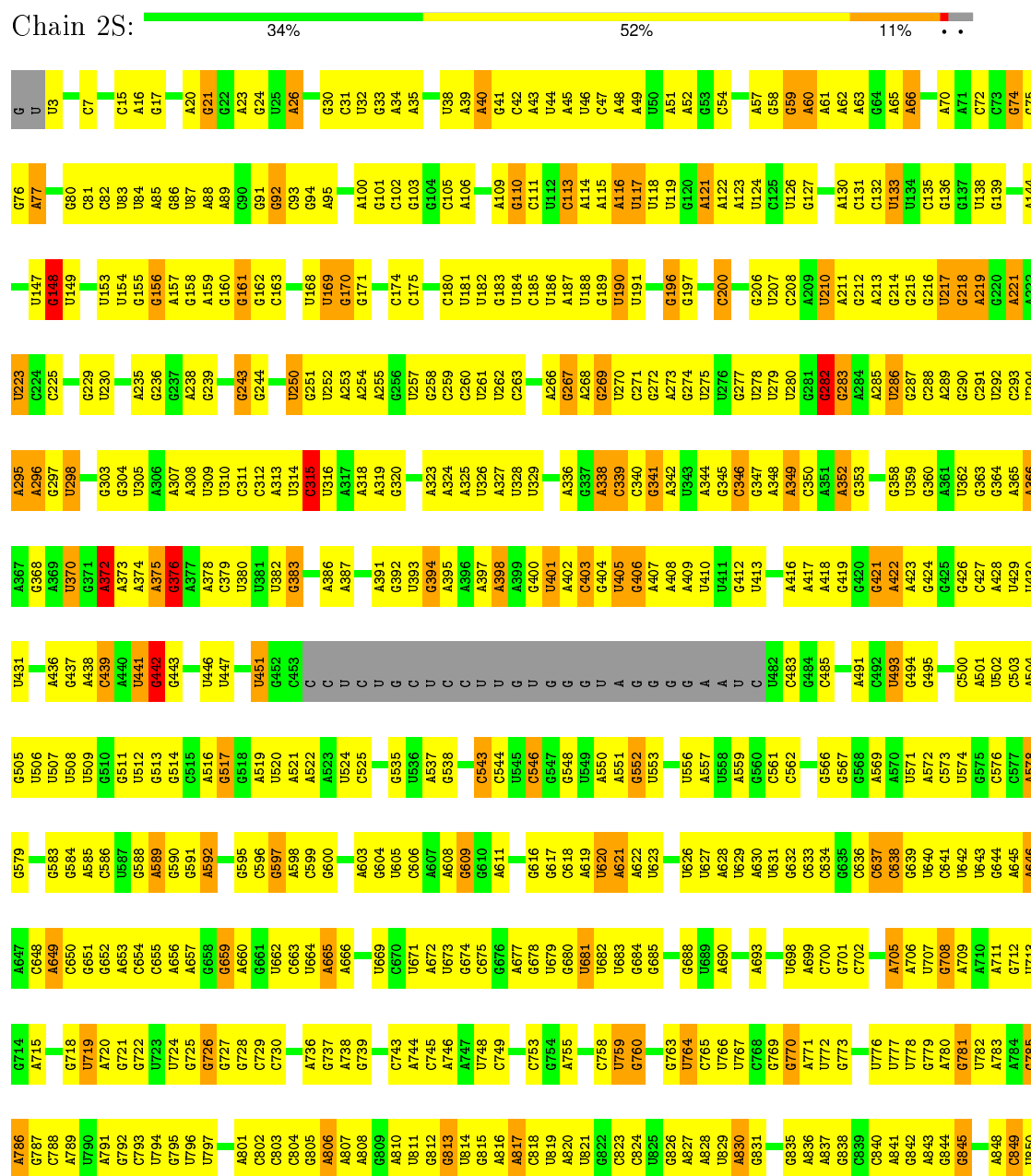
- Molecule 80 is a RNA chain called TSV IRES mRNA.

| Mol | Chain | Residues | Atoms | | AltConf | Trace |
|-----|-------|----------|-------|-----|---------|-------|
| 80 | IR | 198 | Total | P | 0 | 198 |
| | | | 198 | 198 | | |

3 Residue-property plots

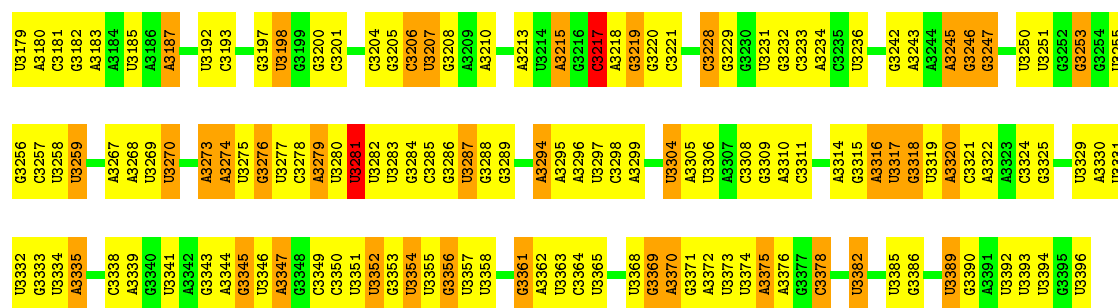
These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. 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: 25S ribosomal RNA



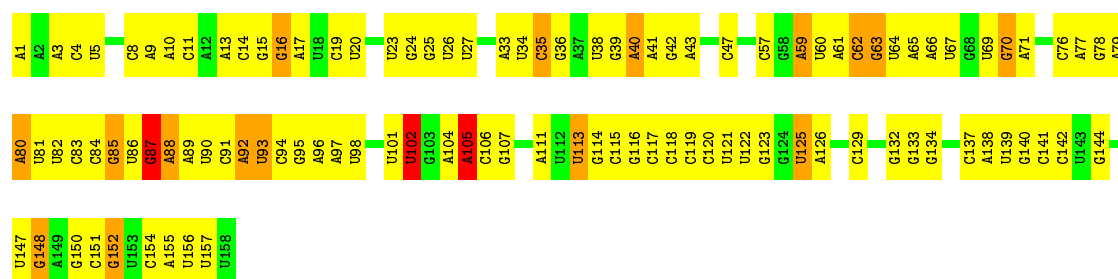
| | | | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| G1939 | C1869 | A1799 | U1717 | U1641 | U1567 | U1494 | A1418 | A1352 | A1290 | G1206 | G1134 | A1064 | U986 | C923 | C851 |
| G1940 | C1870 | A1800 | G1718 | A1642 | U1568 | U1495 | A1419 | U1353 | A1291 | G1207 | A1135 | A1065 | U987 | G924 | U852 |
| G1941 | U1871 | | G1719 | A1643 | U1569 | C1496 | A1420 | G1354 | C1292 | | A1136 | U1070 | U988 | A925 | U853 |
| G1942 | C1872 | C1803 | U1723 | C1644 | U1570 | C1497 | G1421 | A1355 | U1293 | U1210 | C1137 | U1071 | A989 | A926 | G854 |
| G1943 | A1873 | A1804 | A1722 | G1645 | A1571 | A1498 | G1422 | U1356 | G1294 | U1211 | U1138 | G1072 | U990 | U927 | U855 |
| G1944 | U1874 | C1805 | U1723 | G1646 | U1572 | A1499 | G1423 | G1357 | G1295 | A1212 | G1139 | G1073 | G991 | C928 | G856 |
| | G1875 | A1806 | U1725 | A1647 | C1573 | G1500 | | C1358 | C1297 | U1213 | G1140 | U1074 | A992 | A929 | G857 |
| G1947 | U1876 | G1807 | C1726 | A1648 | U1574 | U1501 | U1427 | C1359 | | U1214 | C1141 | A1075 | G993 | U930 | A858 |
| G1948 | U1877 | G1808 | G1726 | U1649 | A1575 | A1504 | U1430 | C1360 | U1299 | G1216 | A1142 | | G994 | C931 | G859 |
| G1949 | G1878 | A1809 | U1727 | U1650 | G1576 | A1505 | G1431 | | U1298 | | A1143 | A1079 | U995 | U932 | G860 |
| G1950 | A1879 | | | U1651 | | A1506 | A1432 | C1364 | G1300 | A1217 | U1144 | A1080 | A996 | | C861 |
| G1951 | | G1811 | A1729 | G1652 | C1581 | A1507 | G1433 | C1365 | A1301 | U1220 | G1147 | U1081 | A997 | U835 | U862 |
| G1952 | U1886 | G1812 | U1730 | C1653 | C1582 | A1508 | A1434 | A1366 | A1302 | U1221 | | U1082 | | A936 | |
| G1953 | U1887 | A1813 | U1731 | A1654 | A1583 | C1508 | | G1367 | A1303 | A1222 | | G1083 | C1000 | G937 | C873 |
| G1954 | U1888 | | U1732 | C1655 | U1584 | A1509 | C1437 | U1368 | A1304 | G1223 | A1150 | G1084 | G1001 | C938 | U874 |
| U1955 | | U1815 | C1738 | C1656 | C1585 | G1510 | | A1369 | U1305 | A1224 | U1151 | U1085 | U939 | U939 | G875 |
| A1956 | | A1816 | | G1657 | U1512 | U1511 | U1438 | G1370 | G1306 | C1224 | G1152 | C1086 | A1003 | G940 | |
| | | G1817 | | C1658 | A1587 | U1512 | U1439 | G1371 | G1307 | A1225 | A1153 | U1087 | U1004 | G941 | U879 |
| | | | G1743 | U1659 | A1588 | G1513 | U1440 | C1372 | A1308 | G1226 | A1154 | | U942 | U942 | G880 |
| | | U1821 | | C1660 | A1589 | | G1441 | | U1309 | C1227 | | U1088 | U1008 | U943 | C881 |
| | | | G1744 | G1661 | U1590 | | U1442 | C1376 | G1310 | | A1158 | U1089 | U1009 | C944 | A882 |
| | | | | G1662 | G1591 | | G1443 | G1377 | G1311 | G1234 | A1159 | | G1010 | C945 | A883 |
| | | | G1747 | C1663 | G1592 | G1520 | G1444 | U1378 | C1312 | U1235 | | A1093 | A1011 | U946 | A884 |
| | | | A1750 | G1664 | U1593 | G1521 | U1445 | G1379 | G1313 | G1236 | U1167 | U1094 | G1012 | G947 | U885 |
| | | | G1751 | C1665 | A1594 | U1522 | A1446 | G1380 | C1314 | G1237 | U1168 | U1095 | G1013 | C948 | C886 |
| | | | A1752 | G1666 | U1595 | U1523 | G1447 | A1381 | U1315 | C1238 | A1169 | U1096 | U1014 | C949 | G887 |
| | | | | | | | | G1382 | C1316 | | | G1097 | U1015 | G950 | |
| | | | | A1667 | U1526 | | U1448 | G1383 | A1317 | U1241 | G1171 | A1098 | C1016 | | G953 |
| | | | | C1668 | A1603 | U1526 | A1449 | U1384 | A1318 | G1242 | U1172 | U1099 | C1017 | U954 | G891 |
| | | | | C1670 | G1604 | C1527 | | U1385 | | G1243 | U1173 | U1100 | G1018 | U955 | U892 |
| | | | | | | | A1452 | A1386 | G1321 | | | G1101 | G1019 | U956 | C893 |
| | | | | G1678 | U1607 | U1533 | A1456 | G1387 | U1322 | G1250 | A1179 | G1106 | A1027 | U960 | A896 |
| | | | | A1679 | C1608 | A1534 | U1457 | U1388 | G1323 | A1244 | U1180 | C1107 | U1028 | U961 | U898 |
| | | | | | C1609 | A1535 | U1458 | | A1245 | G1246 | U1181 | U1103 | G1029 | A862 | U899 |
| | | | | U1682 | G1610 | G1536 | C1459 | C1391 | U1324 | | U1182 | U1109 | | G963 | G900 |
| | | | | A1683 | G1611 | A1537 | A1460 | G1392 | U1325 | | G1178 | U1110 | U1033 | G964 | G901 |
| | | | | U1684 | A1612 | G1538 | A1461 | C1393 | U1326 | G1251 | A1179 | A1112 | G1034 | U966 | G902 |
| | | | | | | A1539 | | A1394 | C1328 | | C1187 | G1113 | U1035 | A904 | U903 |
| | | | | | | | A1465 | G1395 | U1329 | C1254 | | U1114 | A1036 | A971 | U905 |
| | | | | | | A1545 | A1466 | C1396 | A1330 | | A1190 | G1115 | U1039 | A970 | A906 |
| | | | | | | A1546 | | C1397 | U1331 | C1257 | U1191 | G1116 | A1040 | G971 | G907 |
| | | | | | | G1547 | A1475 | U1398 | U1332 | U1258 | C1192 | G1117 | | A972 | G908 |
| | | | | | | C1548 | G1476 | A1399 | C1333 | A1259 | C1193 | G1118 | A1046 | A973 | |
| | | | | | | U1549 | A1477 | G1400 | U1334 | G1260 | G1194 | C1119 | A1047 | G974 | |
| | | | | | | C1550 | C1478 | A1401 | C1335 | G1261 | A1195 | A1120 | A1048 | C975 | G912 |
| | | | | | | U1553 | U1479 | A1402 | U1336 | | C1196 | U1121 | C1049 | U976 | A913 |
| | | | | | | U1554 | G1480 | C1403 | A1337 | A1263 | U1197 | U1122 | U1050 | C977 | A914 |
| | | | | | | U1555 | A1481 | G1404 | C1338 | G1264 | C1198 | U1126 | U1051 | G978 | A915 |
| | | | | | | U1556 | A1482 | U1405 | G1339 | U1265 | G1199 | G1126 | U1052 | U979 | G916 |
| | | | | | | C1556 | G1483 | A1406 | G1340 | | A1195 | G1127 | A1053 | A950 | A917 |
| | | | | | | A1557 | U1484 | A1407 | U1341 | U1269 | C1196 | U1121 | C1049 | A971 | C918 |
| | | | | | | U1558 | G1485 | G1408 | C1342 | | U1197 | U1122 | U1050 | C982 | U919 |
| | | | | | | A1559 | G1486 | G1409 | | C1272 | C1199 | G1126 | U1051 | A951 | A920 |
| | | | | | | C1561 | G1487 | | G1345 | G1281 | A1200 | G1127 | U1052 | G984 | A921 |
| | | | | | | G1562 | A1489 | G1412 | U1347 | | C1201 | | A1054 | A981 | |
| | | | | | | C1563 | A1490 | G1413 | U1348 | A1286 | A1202 | A1130 | A1055 | C982 | U919 |
| | | | | | | U1564 | A1491 | G1414 | G1349 | A1287 | A1203 | G1131 | U1056 | A983 | |
| | | | | | | G1565 | G1492 | U1415 | U1288 | U1289 | A1204 | C1132 | A1057 | G984 | |
| | | | | | | A1566 | G1493 | G1417 | U1351 | | A1205 | A1133 | | U985 | U922 |

| | | | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|
| U3105 | G3086 | C2963 | U2818 | G2753 | A2678 | G2603 | A2529 | U2460 | G2377 | U2310 | G2155 | A2088 | U |
| A3106 | U3037 | G2964 | A2819 | G2754 | A2679 | U2604 | G2530 | A2461 | G2385 | G2311 | C2156 | A | U |
| G3109 | U3038 | G2965 | A2820 | G2755 | A2680 | G2605 | G2531 | A2462 | G2386 | A2312 | G2157 | U | U |
| | C3039 | G2966 | C2821 | G2756 | U2681 | G2606 | U2532 | G2463 | G2387 | A2313 | A2158 | U | C |
| | A3040 | A2967 | G2828 | G2757 | C2685 | G2607 | G2533 | G2466 | C2388 | U2314 | U2159 | A | U |
| | C3043 | G2968 | U2904 | A2758 | A2686 | G2610 | G2534 | G2467 | C2389 | G2315 | G2160 | A2093 | C |
| | G3044 | A2969 | U2905 | G2759 | A2687 | U2611 | A2535 | G2468 | C2390 | G2316 | U2161 | C2094 | U |
| | G3118 | G2970 | G2830 | G2760 | G2688 | U2612 | U2536 | A2469 | G2393 | U2317 | U2162 | G2096 | G |
| | U3119 | G2907 | G2831 | G2761 | A2689 | U2613 | U2538 | G2469 | G2394 | A2318 | C2163 | A2096 | C |
| | U3120 | G2908 | C2832 | G2762 | A2690 | U2614 | U2539 | G2470 | G2395 | U2319 | G2164 | U2097 | U |
| | A3047 | U2975 | A2833 | A2763 | G2690 | G2615 | A2540 | G2471 | G2396 | | G2165 | C2098 | A |
| | U3121 | A2910 | G2836 | G2764 | A2691 | G2616 | A2541 | C2472 | A2397 | G2322 | A2166 | G | G |
| | A3048 | | U2837 | G2765 | C2693 | U2617 | U2542 | C2473 | A2398 | G2323 | G2167 | G | G |
| | U3050 | C2982 | A2837 | G2766 | C2695 | U2617 | U2543 | G2474 | A2399 | A2324 | A2168 | U2101 | U |
| | G3051 | G2983 | | U2767 | A2694 | G2621 | U2544 | G2475 | | G2325 | G2169 | U2102 | U |
| | G3052 | C2984 | U2842 | U2768 | A2695 | | U2545 | C2476 | A2402 | A2326 | | U2103 | G |
| | A3130 | U2986 | U2843 | G2769 | A2696 | | C2546 | C2477 | G2403 | U2327 | G2174 | G2105 | A |
| | U3055 | G2987 | A2844 | A2769 | A2697 | A2626 | A2547 | C2478 | G2404 | U2328 | U2175 | G2106 | C |
| | U3056 | C2988 | A2845 | G2770 | A2697 | | | | C2405 | C2329 | U2176 | A2107 | U |
| | C3057 | U2989 | | G2771 | G2700 | U2631 | G2548 | G2483 | C2406 | C2330 | G2177 | C2108 | A |
| | A3058 | G2990 | C2849 | U2772 | U2701 | G2632 | U2549 | A2484 | C2407 | C2331 | A2178 | | C |
| | U3059 | G2991 | G2850 | U2773 | A2702 | U2633 | G2550 | A2485 | U2408 | A2332 | C2179 | G2111 | U |
| | G3060 | U2992 | | U2774 | A2703 | U2634 | U2551 | A2486 | G2409 | C2333 | G2180 | U2112 | U |
| | G3061 | G2993 | A2853 | G2775 | A2704 | A2635 | U2552 | U2487 | U2410 | U2334 | C2181 | G2105 | A |
| | G3062 | U2994 | U2854 | G2776 | | A2636 | A2553 | U2488 | U2411 | U2335 | A2182 | C2113 | C |
| | C3063 | A2995 | U2855 | G2777 | C2707 | A2637 | G2555 | C2489 | G2412 | U2336 | A2183 | G2115 | G |
| | U3064 | G2996 | C2857 | A2779 | C2708 | C2638 | C2556 | C2490 | A2413 | C2337 | U2184 | G2116 | U |
| | A3142 | U2997 | U2858 | A2780 | C2709 | U2639 | A2557 | A2491 | G2414 | U2338 | G2185 | A2117 | G |
| | U3066 | U2998 | G2859 | U2781 | C2710 | A2640 | U2558 | C2492 | C2415 | C2339 | U2186 | G2118 | C |
| | C3067 | U2999 | U2860 | G2783 | C2711 | U2641 | U2559 | U2493 | U2416 | U2340 | G2187 | A2119 | C |
| | | | A2861 | G2784 | U2712 | A2642 | C2560 | A2494 | U2417 | A2341 | U2188 | A2120 | U |
| | | | U2862 | U2713 | A2713 | A2643 | A2561 | | G2418 | U2342 | U2189 | U2041 | U |
| | | | | G2714 | G2714 | C2644 | A2562 | U2497 | | C2343 | U2190 | G2121 | U |
| | | | | U2719 | U2719 | A2647 | C2567 | U2498 | C2422 | U2344 | U2191 | G2122 | U |
| | | | | G2720 | G2720 | G2648 | U2568 | A2500 | A2424 | G2352 | U2192 | G2122 | U |
| | | | | A2721 | A2721 | A2649 | A2569 | U2501 | G2425 | A2353 | U2193 | G2045 | U |
| | | | | U2722 | U2722 | U2650 | U2570 | A2502 | U2426 | C2354 | C2196 | U2046 | U |
| | | | | G2728 | G2728 | G2651 | U2571 | G2503 | U2427 | A2355 | C2197 | A2047 | U |
| | | | | U2729 | U2729 | U2652 | C2572 | U2504 | U2428 | A2356 | G2048 | G2048 | U |
| | | | | G2730 | G2730 | A2653 | G2573 | U2505 | G2429 | A2357 | C2132 | A2049 | U |
| | | | | U2731 | U2731 | A2656 | | | A2430 | U2358 | G2134 | C2050 | U |
| | | | | G2732 | G2732 | U2657 | U2578 | U2510 | C2431 | C2359 | A2207 | U2059 | U |
| | | | | U2736 | U2736 | G2660 | G2579 | A2511 | | C2360 | C2208 | U2137 | U |
| | | | | A2737 | A2737 | G2661 | A2580 | C2512 | U2434 | A2361 | A2138 | U2067 | U |
| | | | | U2738 | U2738 | G2662 | U2581 | U2513 | | C2362 | U2139 | U2068 | U |
| | | | | A2739 | A2739 | G2663 | C2583 | U2514 | A2441 | A2363 | U2140 | U2071 | U |
| | | | | U2740 | U2740 | C2664 | G2584 | A2515 | G2442 | A2364 | U2141 | A2071 | U |
| | | | | A2741 | A2741 | U2665 | G2585 | U2516 | A2443 | C2365 | A2215 | | U |
| | | | | G2742 | G2742 | C2666 | G2586 | U2517 | C2444 | C2366 | G2216 | G2076 | U |
| | | | | U2743 | U2743 | A2667 | | C2518 | A2445 | A2367 | | U2077 | U |
| | | | | A2744 | A2744 | U2668 | A2591 | U2521 | U2446 | A2368 | G2221 | C2078 | U |
| | | | | G2745 | G2745 | G2669 | G2592 | U2522 | A2447 | G2369 | A2222 | G2079 | U |
| | | | | U2746 | U2746 | G2670 | A2593 | G2523 | G2448 | A2370 | G2223 | C2080 | U |
| | | | | A2747 | A2747 | U2671 | C2594 | A2523 | A2449 | G2371 | A2224 | U2081 | U |
| | | | | G2748 | G2748 | A2673 | A2595 | A2524 | | A2372 | U2225 | U2082 | U |
| | | | | U2749 | U2749 | A2674 | U2596 | G2525 | | A2373 | U2226 | G2083 | U |
| | | | | A2750 | A2750 | A2675 | U2597 | C2526 | A2456 | G2374 | C2227 | C2151 | U |
| | | | | U2751 | U2751 | A2676 | G2597 | G2527 | G2457 | C2375 | A2228 | U2152 | U |
| | | | | G2752 | G2752 | A2677 | G2602 | G2528 | A2459 | A2376 | A2229 | U2154 | U |



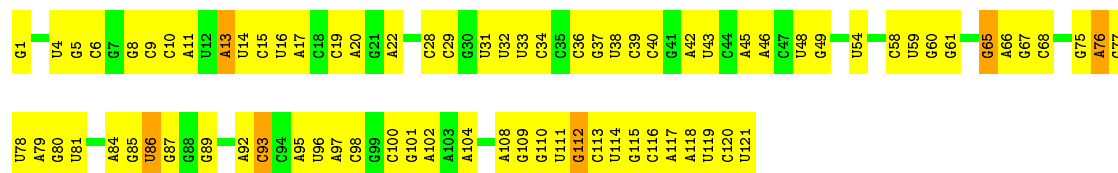
• Molecule 2: 5.8S ribosomal RNA

Chain 8S: 32% 56% 10%



• Molecule 3: 5S ribosomal RNA

Chain 5S: 36% 60% 5%



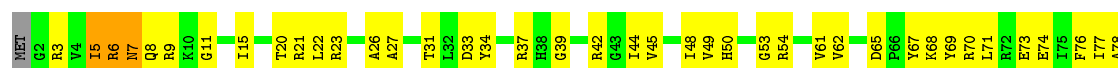
• Molecule 4: 60S ribosomal protein L1

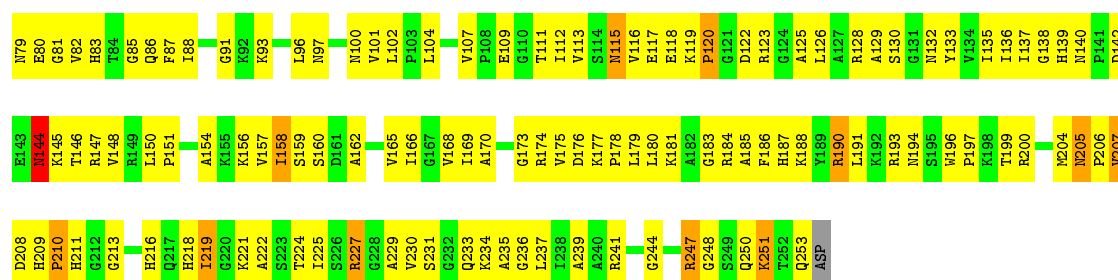
Chain L1: 41% 47% 6% 6%



• Molecule 5: 60S ribosomal protein L2

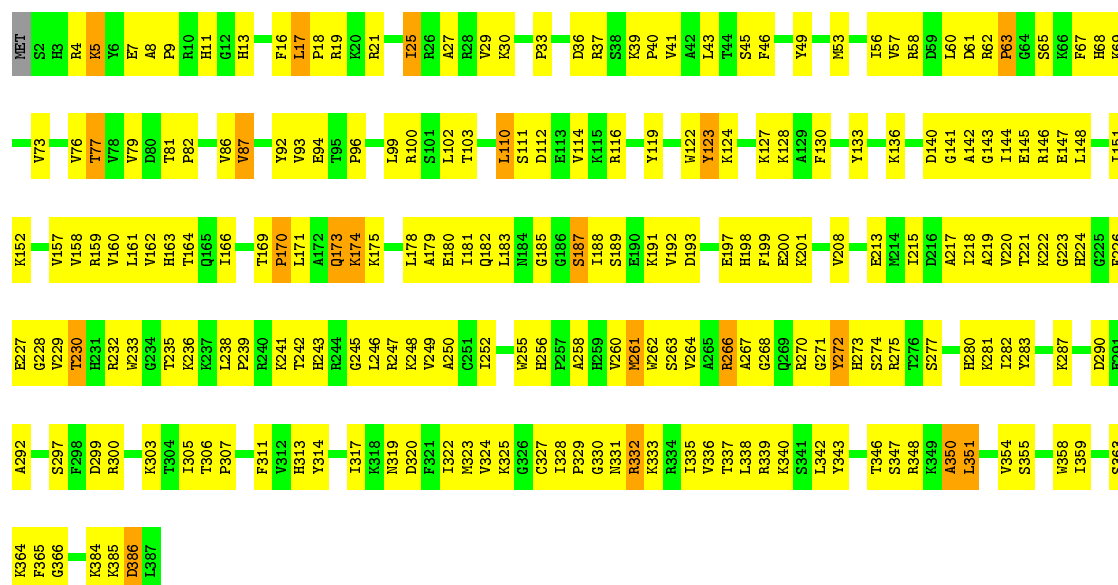
Chain L2: 37% 57% 6%





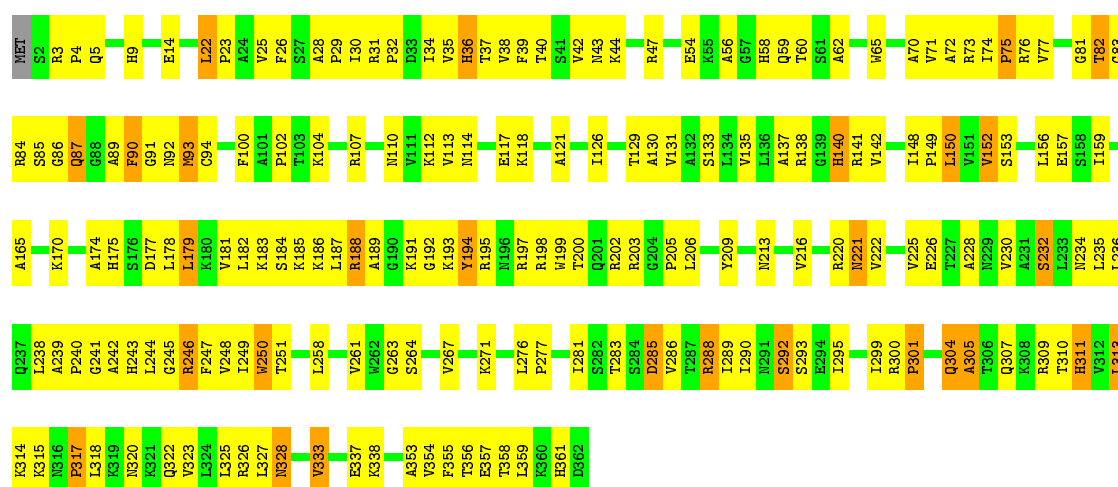
• Molecule 6: 60S ribosomal protein L3

Chain L3: 44% 51% 5%

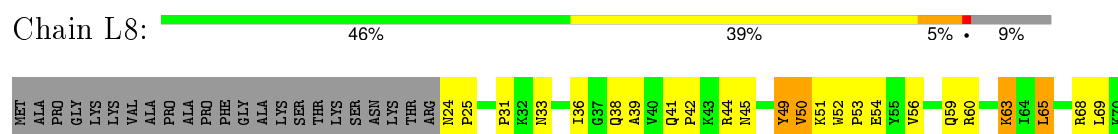
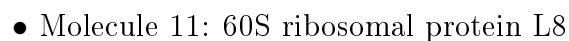
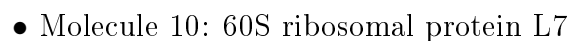
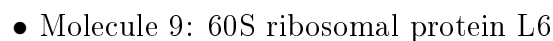


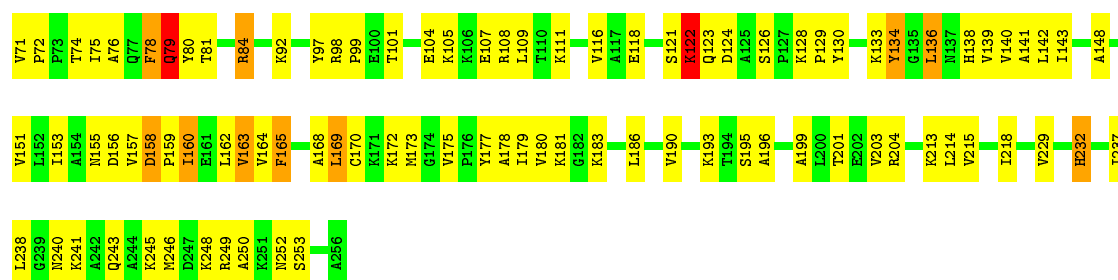
• Molecule 7: 60S ribosomal protein L4

Chain L4: 47% 45% 8%



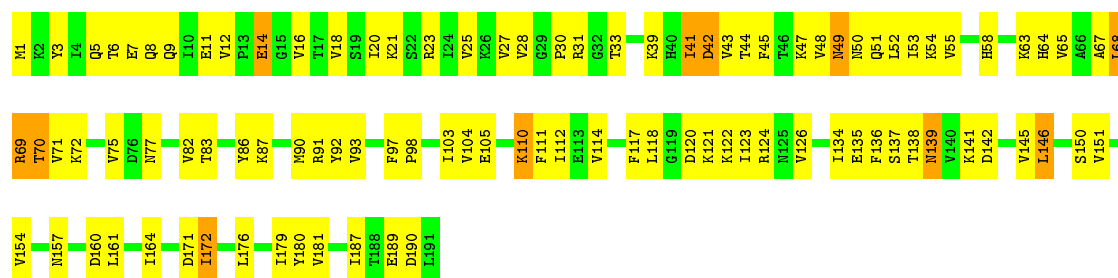
• Molecule 8: 60S ribosomal protein L5





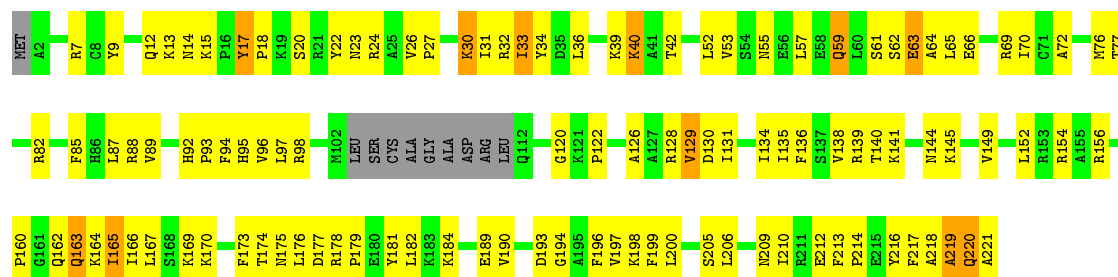
- Molecule 12: 60S ribosomal protein L9

Chain L9: 48% 46% 6%



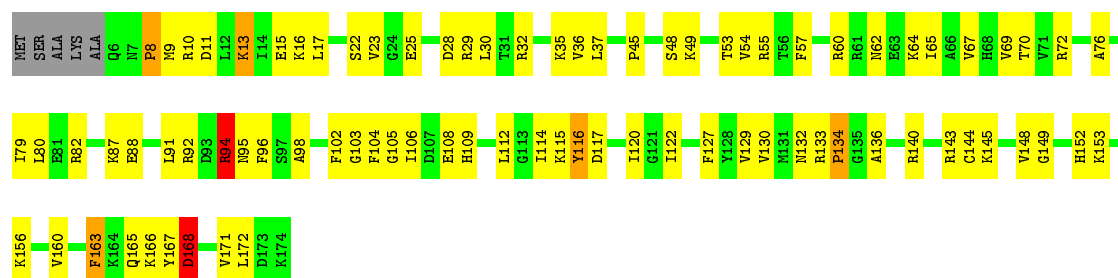
- Molecule 13: 60S ribosomal protein L10

Chain 50: 45% 46% 5% 5%



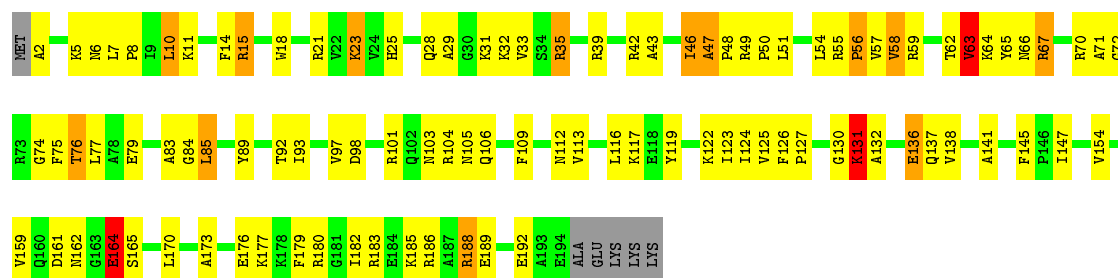
- Molecule 14: 60S ribosomal protein L11

Chain 51: 49% 44% . . .

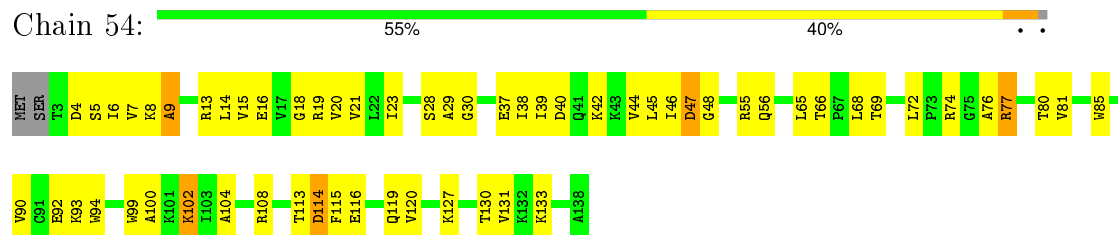


- Molecule 15: 60S ribosomal protein L13

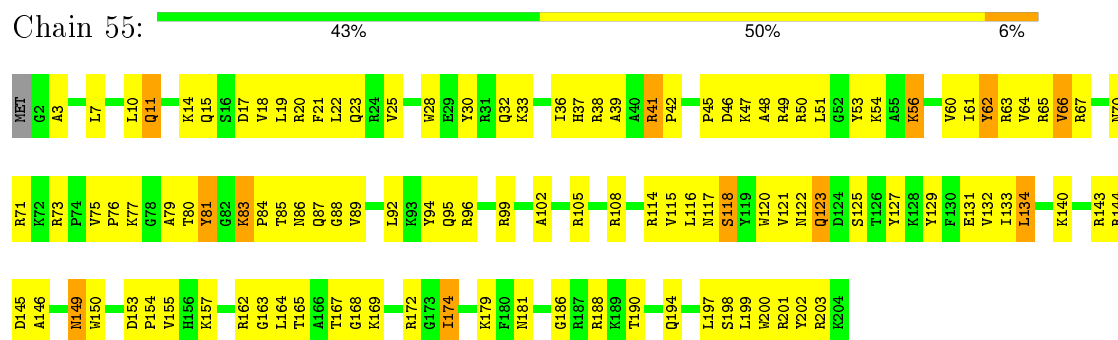
Chain 53: 46% 43% 7% . . .



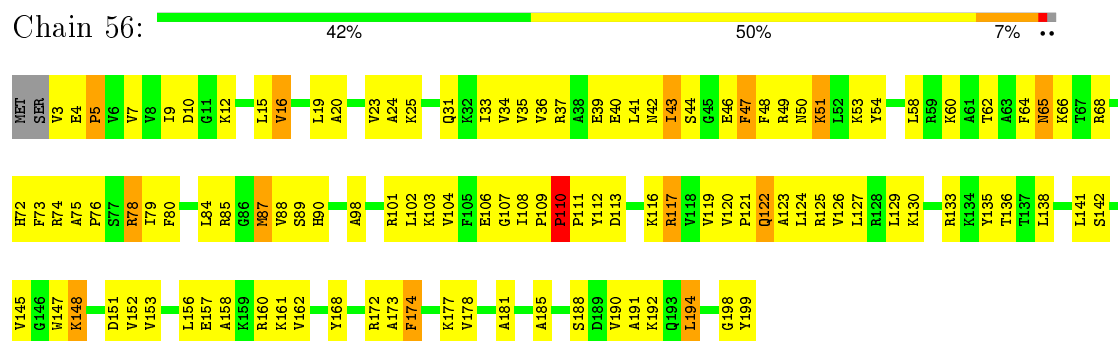
- Molecule 16: 60S ribosomal protein L14



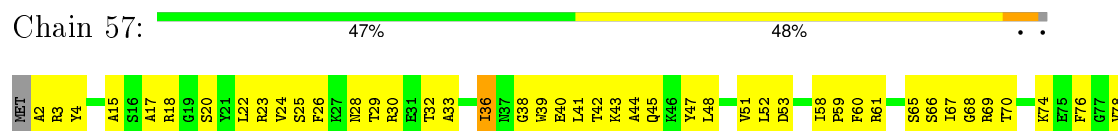
- Molecule 17: 60S ribosomal protein L15

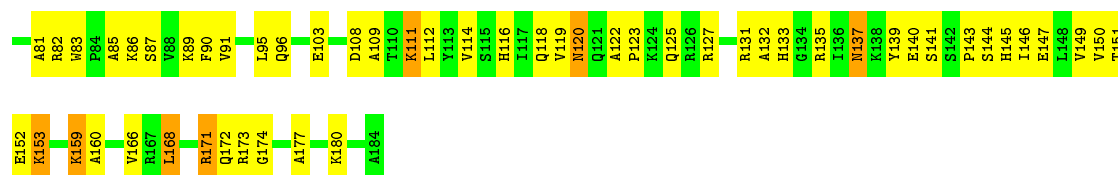


- Molecule 18: 60S ribosomal protein L16



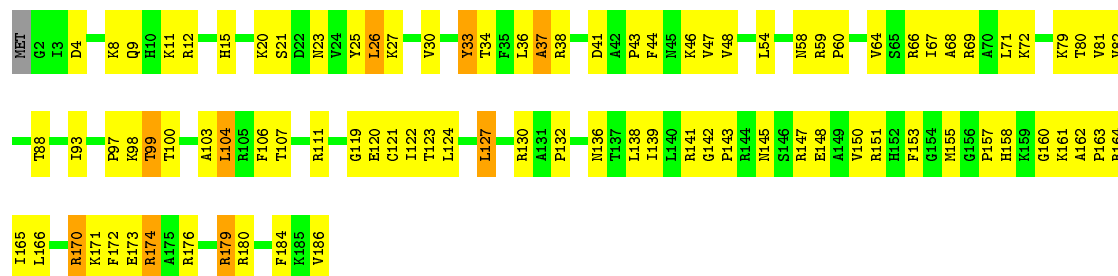
- Molecule 19: 60S ribosomal protein L17





• Molecule 20: 60S ribosomal protein L18

Chain 58: 51% 44% 5%



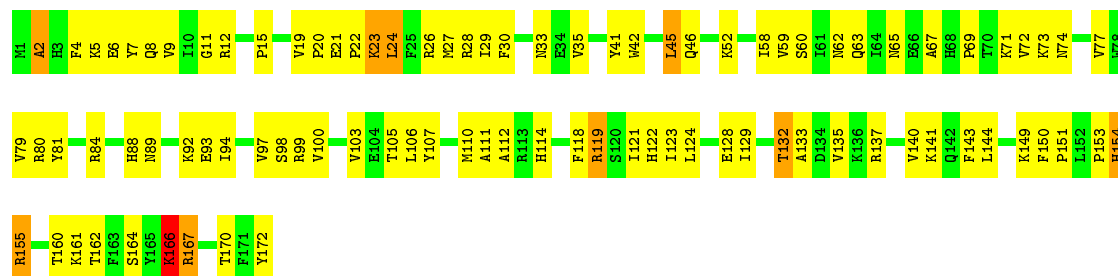
• Molecule 21: 60S ribosomal protein L19

Chain 59: 43% 53% 4%



• Molecule 22: 60S ribosomal protein L20

Chain 60: 47% 48% 5%



• Molecule 23: 60S ribosomal protein L21

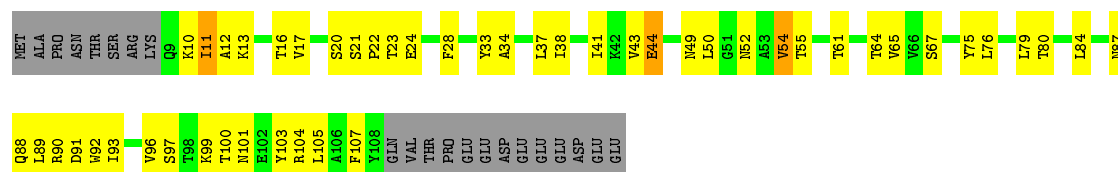
Chain 61: 46% 44% 9%





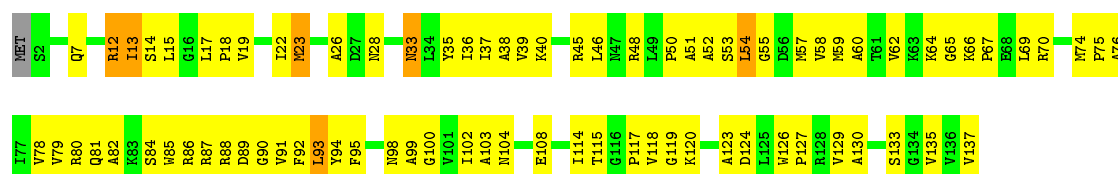
- Molecule 24: 60S ribosomal protein L22

Chain 62: 42% 38% 17%



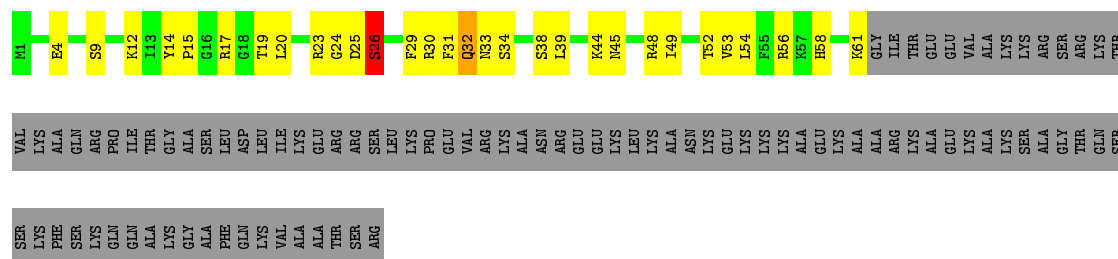
- Molecule 25: 60S ribosomal protein L23

Chain 63: 40% 55%



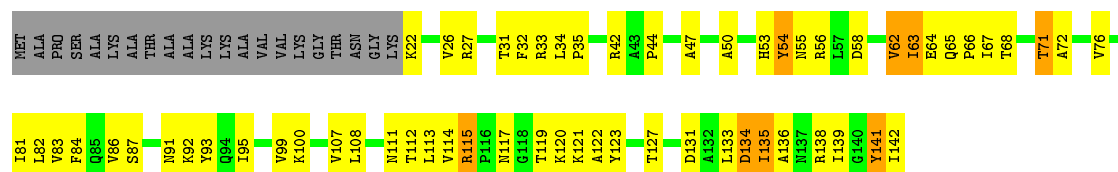
- Molecule 26: 60S ribosomal protein L24

Chain 64: 20% 18% 61%



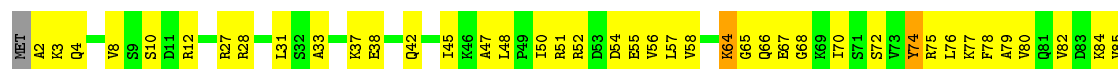
- Molecule 27: 60S ribosomal protein L25

Chain 65: 42% 38% 6% 15%



- Molecule 28: 60S ribosomal protein L26

Chain 66: 56% 41%





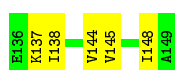
• Molecule 29: 60S ribosomal protein L27

Chain 67: 51% 46% ...



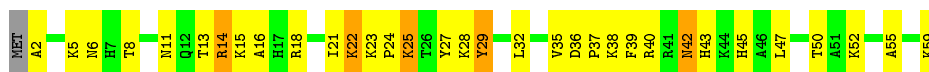
• Molecule 30: 60S ribosomal protein L28

Chain 68: 39% 53% 7% .



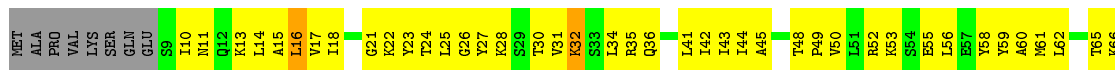
• Molecule 31: 60S ribosomal protein L29

Chain 69: 42% 47% 8% .



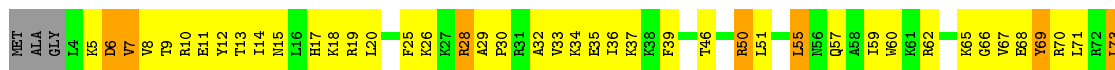
• Molecule 32: 60S ribosomal protein L30

Chain 70: 34% 54% 8% .



• Molecule 33: 60S ribosomal protein L31

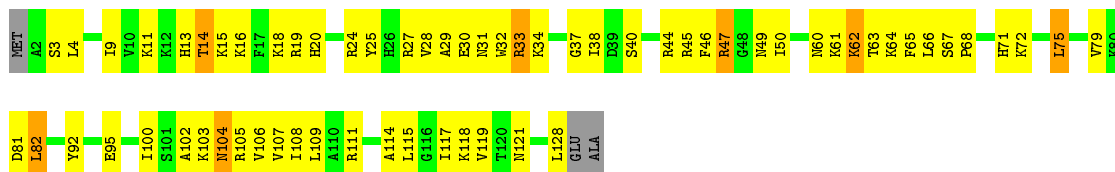
Chain 71: 40% 50% 7% .





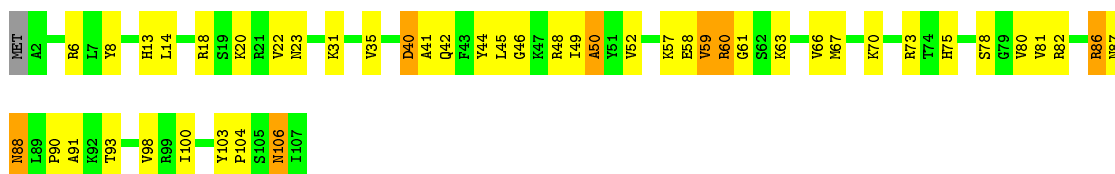
• Molecule 34: 60S ribosomal protein L32

Chain 72: 48% 44% 5%



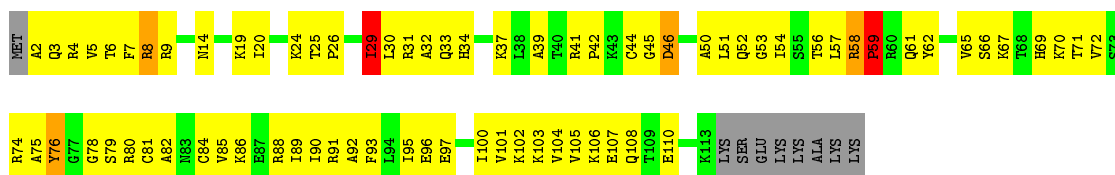
• Molecule 35: 60S ribosomal protein L33

Chain 73: 56% 36% 7%



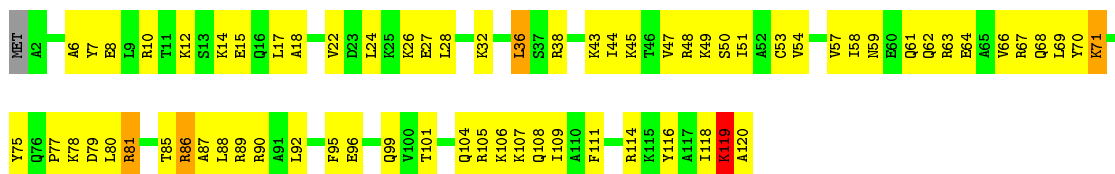
• Molecule 36: 60S ribosomal protein L34

Chain 74: 31% 57% 7%



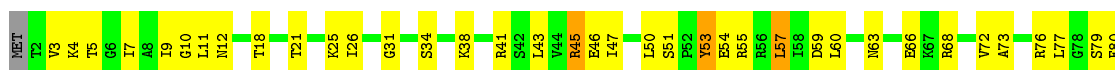
• Molecule 37: 60S ribosomal protein L35

Chain 75: 42% 53% 2%



• Molecule 38: 60S ribosomal protein L36

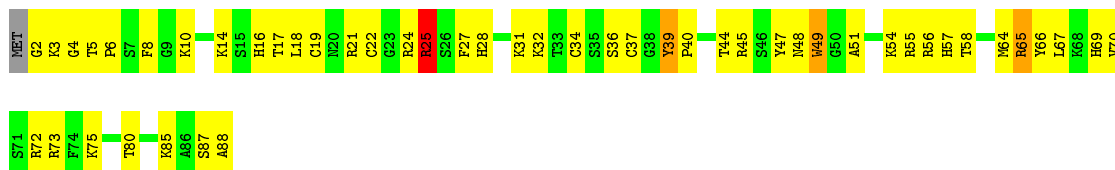
Chain 76: 52% 43% 2%





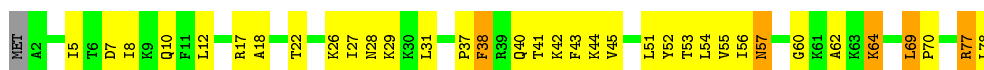
- Molecule 39: 60S ribosomal protein L37

Chain 77: 43% 51% ..



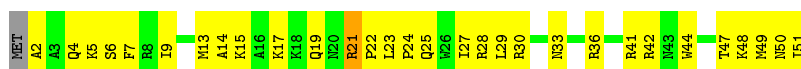
- Molecule 40: 60S ribosomal protein L38

Chain 78: 54% 38% 6% .



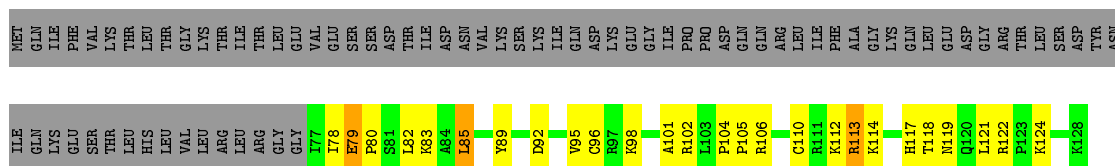
- Molecule 41: 60S ribosomal protein L39

Chain 79: 39% 57% ..



- Molecule 42: 60S ribosomal protein L40

Chain 80: 20% 18% . 59%



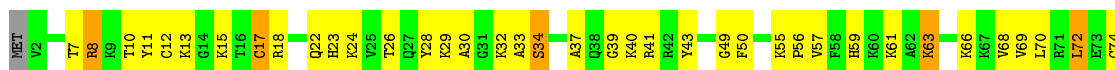
- Molecule 43: 60S ribosomal protein L41

Chain 81: 56% 36% 8%



- Molecule 44: 60S ribosomal protein L42

Chain 82: 48% 41% 8% .





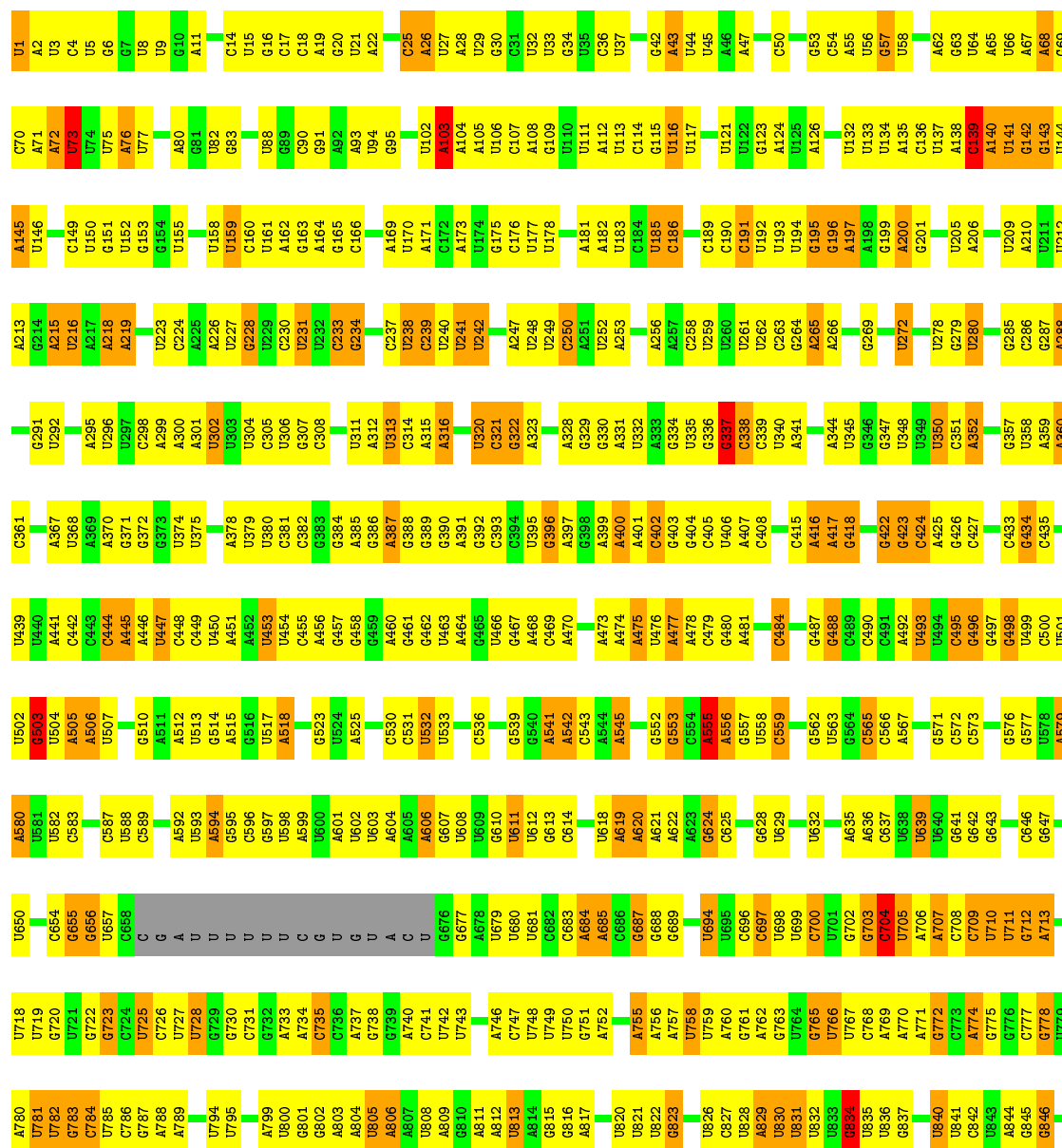
• Molecule 45: 60S ribosomal protein L43

Chain 83: 38% 57%



• Molecule 46: 18S ribosomal RNA

Chain 1S: 35% 50% 13%

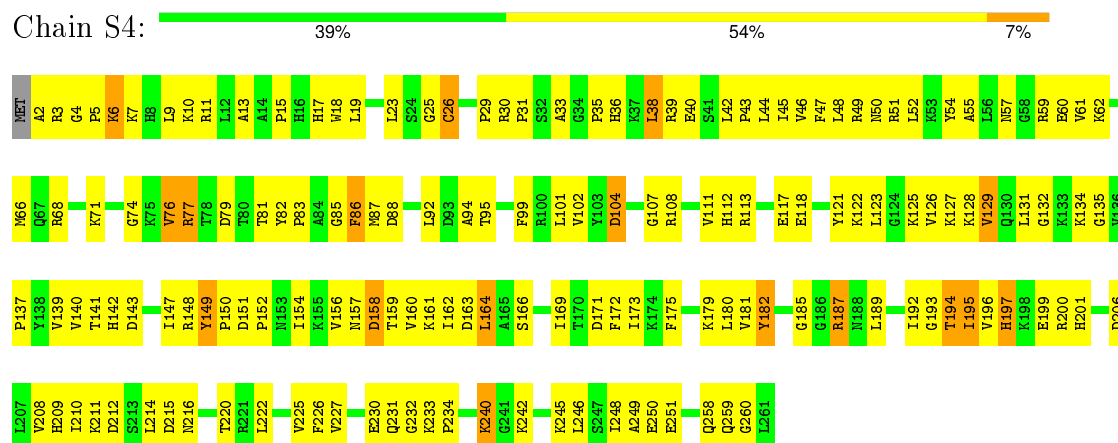


| | | | | | | | | | | | | | |
|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| C852 | A926 | A998 | G1073 | G1150 | A1244 | A1319 | G1405 | C1481 | G1551 | G1616 | G1685 | U1758 | C852 |
| A855 | C927 | U999 | G1074 | G1151 | G1245 | U1320 | G1408 | C1482 | U1552 | U1617 | C1686 | C1759 | A855 |
| A856 | U928 | C1000 | C1075 | A1151 | C1246 | A1321 | G1409 | G1483 | G1553 | C1618 | U1687 | U1760 | A856 |
| U857 | A929 | A1001 | A1076 | A1152 | U1251 | C1322 | C1323 | G1484 | U1554 | C1619 | U1688 | U1761 | U857 |
| G858 | A930 | G1002 | C1077 | G1156 | U1252 | G1324 | A1410 | C1485 | A1556 | C1620 | G1689 | A1762 | G858 |
| U861 | A933 | A1003 | G1078 | C1157 | U1254 | A1325 | U1413 | G1486 | U1557 | C1625 | G1696 | A1765 | U861 |
| A862 | U934 | U1004 | U1079 | C1158 | G1255 | A1326 | U1414 | G1487 | U1558 | U1626 | C1697 | G1768 | A862 |
| U863 | U935 | C1006 | U1080 | C1159 | A1256 | C1327 | U1415 | G1488 | A1559 | G1629 | G1698 | U1769 | U863 |
| A864 | G936 | C1007 | A1081 | C1160 | U1257 | G1330 | G1416 | C1490 | U1560 | U1630 | U1699 | U1770 | A864 |
| U868 | G937 | G1008 | G1083 | C1161 | U1258 | G1331 | A1417 | C1491 | G1563 | A1631 | G1700 | U1771 | U868 |
| A869 | G938 | U1009 | A1084 | C1162 | U1262 | A1336 | G1418 | A1492 | U1564 | G1634 | A1701 | U1772 | A869 |
| G870 | A941 | C1010 | G1085 | A1163 | G1263 | A1337 | G1419 | A1493 | C1565 | U1635 | A1702 | C1773 | G870 |
| G871 | G942 | G1011 | A1086 | G1164 | G1264 | C1338 | A1422 | G1498 | U1566 | C1639 | C1703 | U1774 | G871 |
| U872 | C943 | U1012 | A1087 | G1165 | G1265 | C1339 | U1423 | C1499 | U1567 | G1640 | C1705 | U1775 | U872 |
| G874 | G944 | U1015 | A1088 | G1167 | U1266 | U1340 | A1424 | C1500 | A1569 | G1641 | C1706 | G1776 | G874 |
| G875 | U945 | U1020 | A1091 | G1170 | G1268 | A1341 | A1425 | C1501 | A1570 | G1642 | C1707 | U1779 | G875 |
| G876 | U946 | C1021 | A1092 | G1171 | U1271 | A1344 | A1427 | G1504 | C1571 | U1643 | A1712 | G1780 | G876 |
| G877 | U947 | G1022 | A1093 | G1172 | G1272 | A1345 | G1428 | C1505 | U1572 | C1644 | G1713 | A1781 | G877 |
| G878 | C950 | A1023 | U1095 | C1173 | U1273 | U1346 | G1429 | C1506 | A1573 | G1645 | A1714 | C1782 | G878 |
| G879 | A951 | U1024 | C1096 | C1174 | G1274 | U1347 | U1430 | G1507 | G1574 | C1646 | G1715 | C1783 | G879 |
| C880 | A952 | U1025 | U1097 | C1175 | C1274 | A1348 | C1431 | G1511 | U1579 | U1647 | C1716 | U1785 | C880 |
| C883 | A953 | A1026 | U1098 | G1179 | A1275 | C1349 | U1432 | U1512 | C1580 | G1648 | G1717 | G1786 | C883 |
| A884 | G954 | A1027 | U1099 | C1180 | G1280 | U1350 | G1433 | G1513 | C1581 | G1649 | G1718 | C1787 | A884 |
| G885 | A955 | C1028 | G1100 | U1181 | U1281 | C1359 | U1434 | G1514 | U1582 | U1650 | G1719 | G1788 | G885 |
| U886 | C956 | U1029 | A1094 | G1177 | U1282 | A1360 | G1435 | C1515 | U1583 | A1651 | C1720 | G1789 | U886 |
| A887 | G957 | U1030 | U1103 | A1184 | U1283 | U1361 | A1436 | A1516 | C1584 | C1652 | A1721 | C1790 | A887 |
| U888 | U959 | U1031 | U1104 | U1185 | G1284 | U1362 | U1437 | A1517 | C1585 | G1654 | A1722 | G1791 | U888 |
| U889 | U960 | G1032 | C1105 | U1186 | U1285 | C1363 | G1438 | C1439 | U1586 | U1655 | A1723 | G1792 | U889 |
| C890 | U961 | C1033 | G1109 | U1187 | U1286 | G1364 | U1439 | U1519 | A1587 | U1656 | U1724 | A1793 | C890 |
| A891 | C962 | A1036 | G1110 | C1192 | A1287 | C1365 | A1446 | U1520 | U1588 | U1657 | U1725 | A1794 | A891 |
| A892 | A963 | C1037 | G1111 | A1193 | G1288 | U1366 | C1447 | C1521 | G1589 | G1658 | G1726 | U1795 | A892 |
| A898 | A966 | U1038 | G1112 | A1194 | U1289 | U1367 | G1448 | U1522 | C1590 | A1659 | G1727 | C1796 | A898 |
| G899 | A967 | A1039 | A1113 | C1195 | U1290 | U1370 | U1449 | A1523 | G1591 | U1661 | A1728 | G1797 | G899 |
| A900 | A968 | G1040 | G1114 | A1196 | G1291 | A1371 | U1450 | A1524 | C1592 | G1662 | C1729 | A1798 | A900 |
| G901 | C969 | U1041 | U1115 | C1197 | G1292 | U1372 | G1454 | A1525 | A1593 | G1663 | A1730 | G1799 | G901 |
| G902 | G975 | G1042 | A1116 | G1198 | U1293 | C1373 | G1455 | C1526 | G1594 | C1664 | A1731 | U1800 | G902 |
| U903 | C976 | A1043 | U1117 | G1199 | G1294 | A1374 | C1457 | U1528 | U1595 | U1665 | A1732 | G1801 | U903 |
| G904 | G976 | U1044 | G1118 | G1200 | U1298 | A1375 | G1458 | C1529 | C1596 | U1666 | U1733 | G1802 | G904 |
| A905 | U981 | G1051 | U1119 | G1201 | G1299 | U1380 | G1459 | C1530 | C1599 | A1667 | U1734 | G1803 | A905 |
| A906 | U982 | U1052 | G1120 | A1202 | U1303 | U1381 | A1460 | U1532 | A1600 | U1668 | U1735 | G1804 | A906 |
| A907 | A983 | G1053 | G1122 | C1215 | G1304 | A1382 | C1465 | C1533 | G1601 | G1670 | G1736 | G1805 | A907 |
| U912 | G984 | U1055 | A1131 | A1217 | U1307 | G1383 | C1466 | U1534 | C1602 | A1671 | U1737 | G1806 | U912 |
| G913 | G985 | U1058 | A1132 | G1218 | G1308 | A1388 | A1469 | U1535 | C1603 | G1672 | U1738 | G1807 | G913 |
| G914 | G986 | U1059 | A1133 | A1219 | C1309 | C1389 | C1470 | U1536 | U1604 | C1673 | A1739 | G1808 | G914 |
| A915 | A988 | U1060 | U1134 | A1226 | U1310 | U1390 | A1471 | U1537 | G1605 | C1674 | C1740 | G1809 | A915 |
| U918 | G989 | U1061 | U1135 | A1227 | U1311 | C1393 | U1472 | U1538 | G1606 | C1675 | C1741 | G1810 | U918 |
| A919 | U989 | A1062 | U1136 | A1228 | A1312 | G1394 | U1473 | U1539 | G1607 | C1676 | C1742 | G1811 | A919 |
| G922 | C990 | G1063 | A1137 | G1229 | A1313 | G1395 | U1474 | U1540 | U1608 | C1677 | C1743 | G1812 | G922 |
| A923 | G991 | A1064 | A1138 | G1230 | U1314 | C1396 | U1475 | U1541 | U1609 | C1678 | A1744 | G1813 | A923 |
| A924 | A992 | A1065 | A1139 | A1230 | U1315 | U1398 | U1476 | U1542 | G1610 | G1680 | A1745 | G1814 | A924 |
| G925 | A993 | C1066 | G1140 | A1234 | U1316 | C1399 | U1477 | U1544 | U1612 | A1681 | A1746 | G1815 | G925 |
| U996 | U996 | U1071 | G1141 | A1234 | C1317 | G1478 | U1478 | U1545 | U1613 | A1682 | A1747 | G1816 | U996 |
| G997 | G997 | C1072 | A1143 | G1243 | G1318 | C1404 | G1480 | A1547 | C1615 | U1684 | G1757 | G1817 | G997 |

• Molecule 47: 40S ribosomal protein S0

Chain S0: 

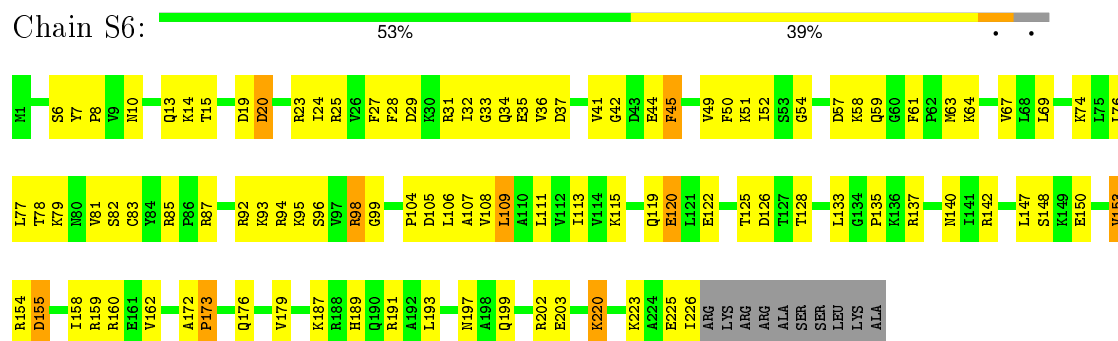
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|
| F81 | G82 | Q83 | R84 | A85 | V86 | L87 | K88 | F89 | A90 | A95 | T96 | P97 | I98 | F102 | T103 | T108 | N109 | Y110 | I111 | T112 | R113 | S114 | F115 | P118 | R119 | L120 | V121 | I122 | V123 | T124 | D125 | P126 | R127 | S128 | D129 | I133 | K134 | E135 | V139 | N140 | I141 | P142 | L146 | T147 | D150 | S151 | P152 | F155 | V158 | |
| MET | S2 | L3 | P4 | A5 | T6 | D8 | L9 | T10 | P11 | E12 | D13 | L17 | A20 | N21 | L24 | G25 | A26 | R27 | R28 | V29 | Q30 | H31 | H32 | Q33 | E34 | F38 | N39 | A40 | R41 | P42 | V45 | H46 | V47 | K52 | T53 | M54 | E55 | K56 | L57 | V58 | L59 | I64 | V73 | V74 | A76 | I76 | S77 | S78 | S79 | R80 |



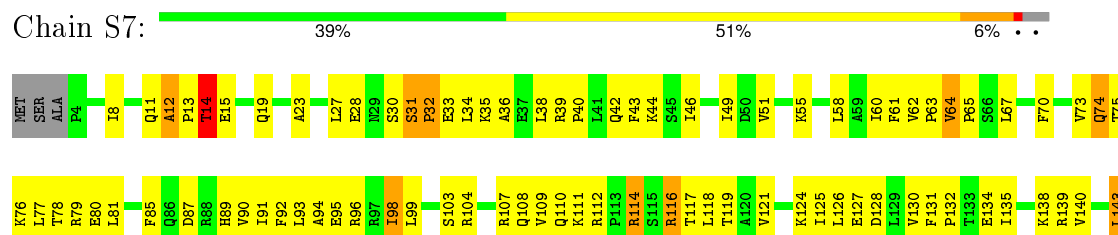
• Molecule 52: 40S ribosomal protein S5



• Molecule 53: 40S ribosomal protein S6



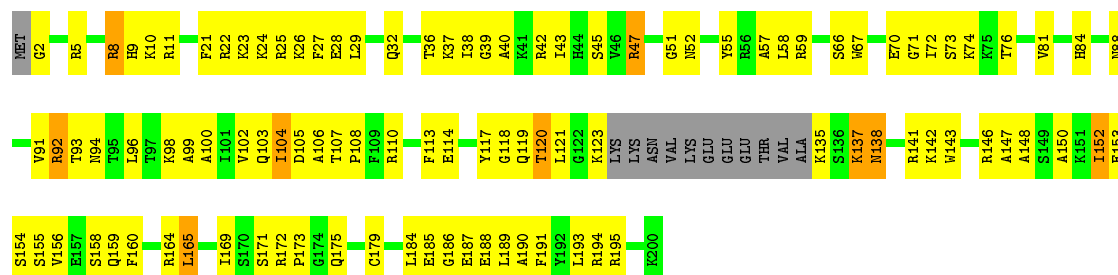
• Molecule 54: 40S ribosomal protein S7





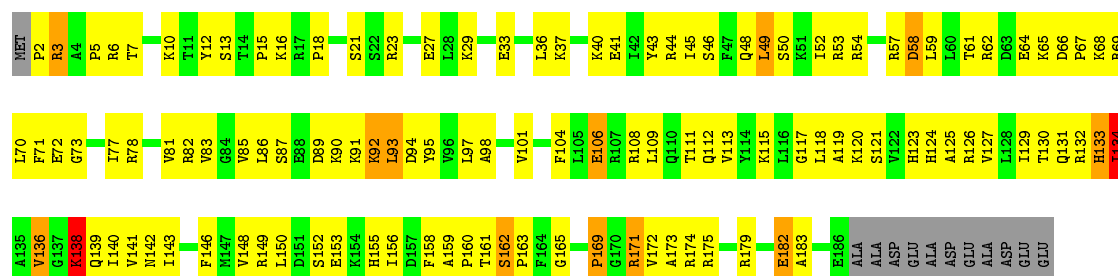
- Molecule 55: 40S ribosomal protein S8

Chain S8: 43% 47% 5% 6%



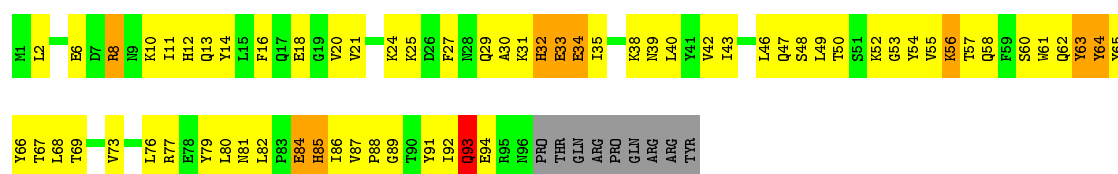
- Molecule 56: 40S ribosomal protein S9

Chain S9: 34% 53% 6% 6%



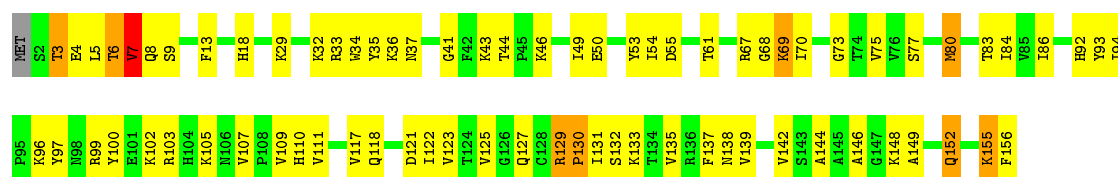
- Molecule 57: 40S ribosomal protein S10

Chain 10: 29% 53% 9% 9%

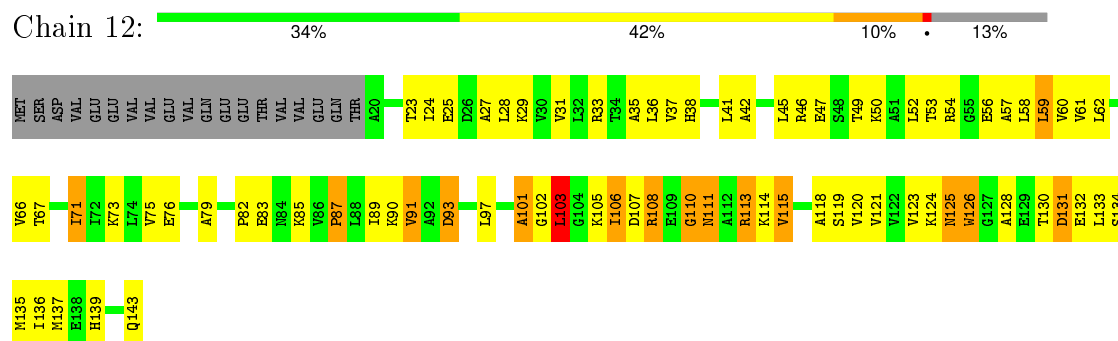


- Molecule 58: 40S ribosomal protein S11

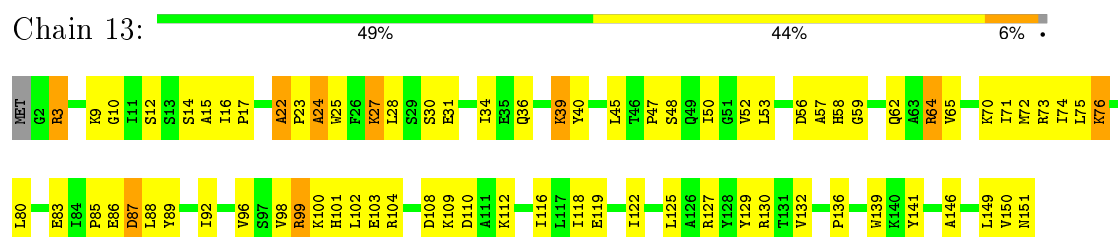
Chain 11: 51% 42% 5% ..



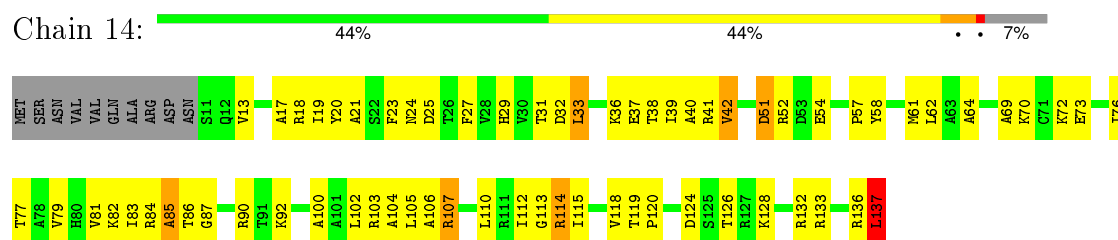
- Molecule 59: 40S ribosomal protein S12



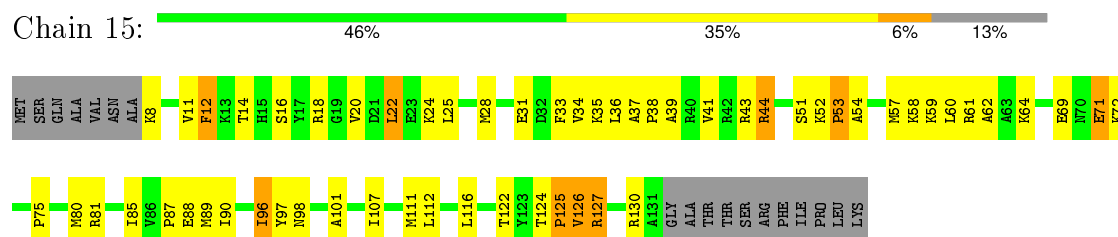
- Molecule 60: 40S ribosomal protein S13



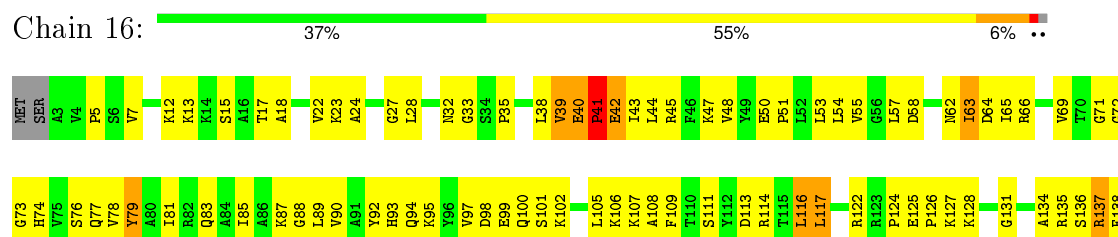
- Molecule 61: 40S ribosomal protein S14



- Molecule 62: 40S ribosomal protein S15



- Molecule 63: 40S ribosomal protein S16



Q139
K140
S141
Y142
R143

- Molecule 64: 40S ribosomal protein S17

Chain 17: 38% 40% 10% 12%

MET G2 G3 V4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40 R41 R42 R43 R44 R45 R46 R47 R48 R49 R50 R51 R52 R53 R54 R55 R56 R57 R58 R59 R60 R61 R62 R63 R64 R65 R66 R67 R68 R69 R70 R71

K72 L73 L74 L75 L76 L77 L78 L79 L80 L81 L82 L83 L84 L85 L86 L87 L88 L89 L90 L91 L92 L93 L94 L95 L96 L97 L98 L99 L100 L101 L102 L103 L104 L105 L106 L107 L108 L109 L110 L111 L112 L113 L114 L115 L116 L117 L118 L119 L120 L121 L122 L123 L124 L125 L126 L127 L128 L129 L130 L131 L132 L133 L134 L135 L136 L137 L138 L139 L140 L141 L142 L143 L144 L145 L146 L147 L148 L149 L150 L151 L152 L153 L154 L155 L156 L157 L158 L159 L160 L161 L162 L163 L164 L165 L166 L167 L168 L169 L170 L171

- Molecule 65: 40S ribosomal protein S18

Chain 18: 42% 48% 8% ..

MET S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42 S43 S44 S45 S46 S47 S48 S49 S50 S51 S52 S53 S54 S55 S56 S57 S58 S59 S60 S61 S62 S63 S64 S65 S66 S67 S68 S69 S70 S71

L72 L73 L74 L75 L76 L77 L78 L79 L80 L81 L82 L83 L84 L85 L86 L87 L88 L89 L90 L91 L92 L93 L94 L95 L96 L97 L98 L99 L100 L101 L102 L103 L104 L105 L106 L107 L108 L109 L110 L111 L112 L113 L114 L115 L116 L117 L118 L119 L120 L121 L122 L123 L124 L125 L126 L127 L128 L129 L130 L131 L132 L133 L134 L135 L136 L137 L138 L139 L140 L141 L142 L143 L144 L145 L146 L147 L148 L149 L150 L151 L152 L153 L154 L155 L156 L157 L158 L159 L160 L161 L162 L163 L164 L165 L166 L167 L168 L169 L170 L171

- Molecule 66: 40S ribosomal protein S19

Chain 19: 46% 49% 5% .

MET F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16 F17 F18 F19 F20 F21 F22 F23 F24 F25 F26 F27 F28 F29 F30 F31 F32 F33 F34 F35 F36 F37 F38 F39 F40 F41 F42 F43 F44 F45 F46 F47 F48 F49 F50 F51 F52 F53 F54 F55 F56 F57 F58 F59 F60 F61 F62 F63 F64 F65 F66 F67 F68 F69

Q70 Q71 Q72 Q73 Q74 Q75 Q76 Q77 Q78 Q79 Q80 Q81 Q82 Q83 Q84 Q85 Q86 Q87 Q88 Q89 Q90 Q91 Q92 Q93 Q94 Q95 Q96 Q97 Q98 Q99 L100 L101 L102 L103 L104 L105 L106 L107 L108 L109 L110 L111 L112 L113 L114 L115 L116 L117 L118 L119 L120 L121 L122 L123 L124 L125 L126 L127 L128 L129 L130 L131 L132 L133 L134 L135 L136 L137 L138 L139 L140 L141 L142 L143 L144 L145 L146 L147 L148 L149 L150 L151 L152 L153 L154 L155 L156 L157 L158 L159 L160 L161 L162 L163 L164 L165 L166 L167 L168 L169 L170 L171

- Molecule 67: 40S ribosomal protein S20

Chain 20: 33% 49% 7% 12%

MET SER ASP PHE GLN LYS LYS VAL GLU GLU GLU GLN Q15 Q16 Q17 Q18 Q19 Q20 Q21 Q22 Q23 Q24 Q25 Q26 Q27 Q28 Q29 Q30 Q31 Q32 Q33 Q34 Q35 Q36 Q37 Q38 Q39 Q40 Q41 Q42 Q43 Q44 Q45 Q46 Q47 Q48 Q49 Q50 Q51 Q52 Q53 Q54 Q55 Q56 Q57 Q58 Q59 Q60 Q61 Q62 Q63 Q64 Q65 Q66 Q67 Q68 Q69 Q70 Q71

L65 L66 L67 L68 L69 L70 L71 L72 L73 L74 L75 L76 L77 L78 L79 L80 L81 L82 L83 L84 L85 L86 L87 L88 L89 L90 L91 L92 L93 L94 L95 L96 L97 L98 L99 L100 L101 L102 L103 L104 L105 L106 L107 L108 L109 L110 L111 L112 L113 L114 L115 L116 L117 L118 L119 L120 L121 L122 L123 L124 L125 L126 L127 L128 L129 L130 L131 L132 L133 L134 L135 L136 L137 L138 L139 L140 L141 L142 L143 L144 L145 L146 L147 L148 L149 L150 L151 L152 L153 L154 L155 L156 L157 L158 L159 L160 L161 L162 L163 L164 L165 L166 L167 L168 L169 L170 L171

- Molecule 68: 40S ribosomal protein S21

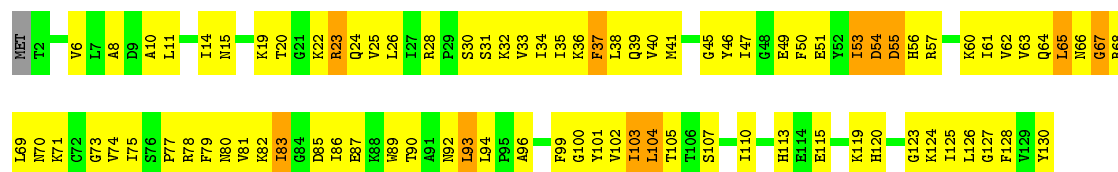
Chain 21: 49% 41% 9%

K1 K2 K3 K4 K5 K6 K7 K8 K9 K10 K11 K12 K13 K14 K15 K16 K17 K18 K19 K20 K21 K22 K23 K24 K25 K26 K27 K28 K29 K30 K31 K32 K33 K34 K35 K36 K37 K38 K39 K40 K41 K42 K43 K44 K45 K46 K47 K48 K49 K50 K51 K52 K53 K54 K55 K56 K57 K58 K59 K60 K61 K62 K63 K64 K65 K66 K67 K68 K69 K70 K71 K72 K73 K74 K75 K76 K77 K78 K79 K80 K81 K82 K83 K84 K85 K86 K87 K88 K89 K90 K91 K92 K93 K94 K95 K96 K97 K98 K99 L100 L101 L102 L103 L104 L105 L106 L107 L108 L109 L110 L111 L112 L113 L114 L115 L116 L117 L118 L119 L120 L121 L122 L123 L124 L125 L126 L127 L128 L129 L130 L131 L132 L133 L134 L135 L136 L137 L138 L139 L140 L141 L142 L143 L144 L145 L146 L147 L148 L149 L150 L151 L152 L153 L154 L155 L156 L157 L158 L159 L160 L161 L162 L163 L164 L165 L166 L167 L168 L169 L170 L171



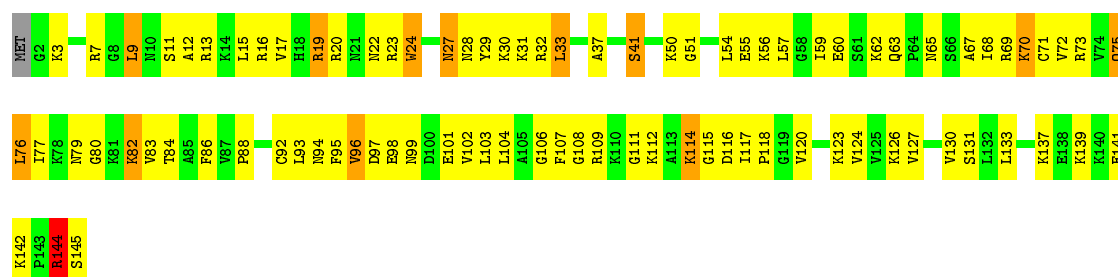
- Molecule 69: 40S ribosomal protein S22

Chain 22: 32% 59% 8% .



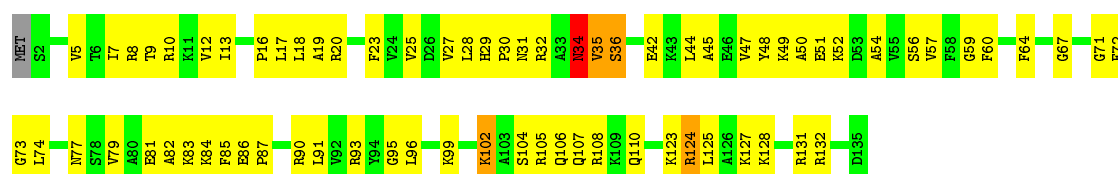
- Molecule 70: 40S ribosomal protein S23

Chain 23: 39% 52% 8% ..



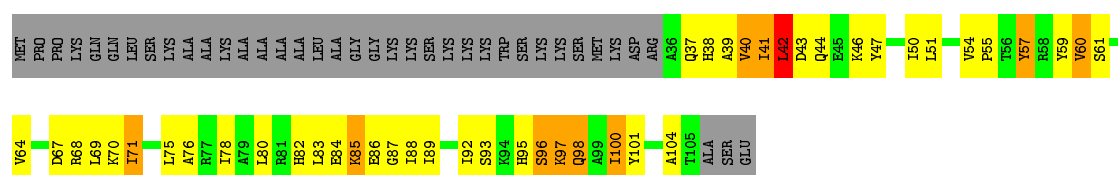
- Molecule 71: 40S ribosomal protein S24

Chain 24: 46% 50% ..



- Molecule 72: 40S ribosomal protein S25

Chain 25: 23% 31% 9% 35%

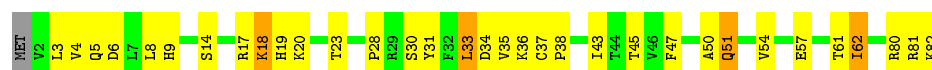


- Molecule 73: 40S ribosomal protein S26

Chain 26: 27% 45% 10% 18%



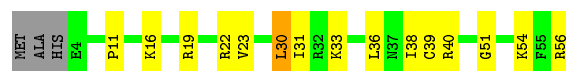
- Molecule 74: 40S ribosomal protein S27



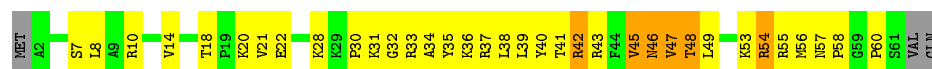
- Molecule 75: 40S ribosomal protein S28



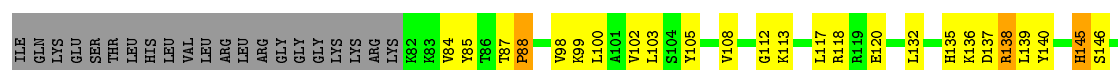
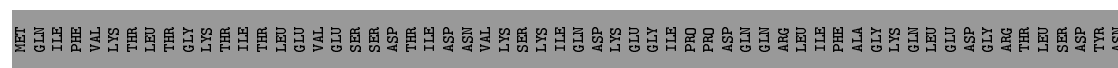
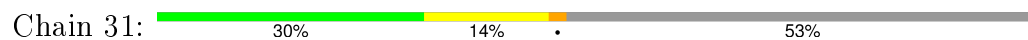
- Molecule 76: 40S ribosomal protein S29



- Molecule 77: 40S ribosomal protein S30

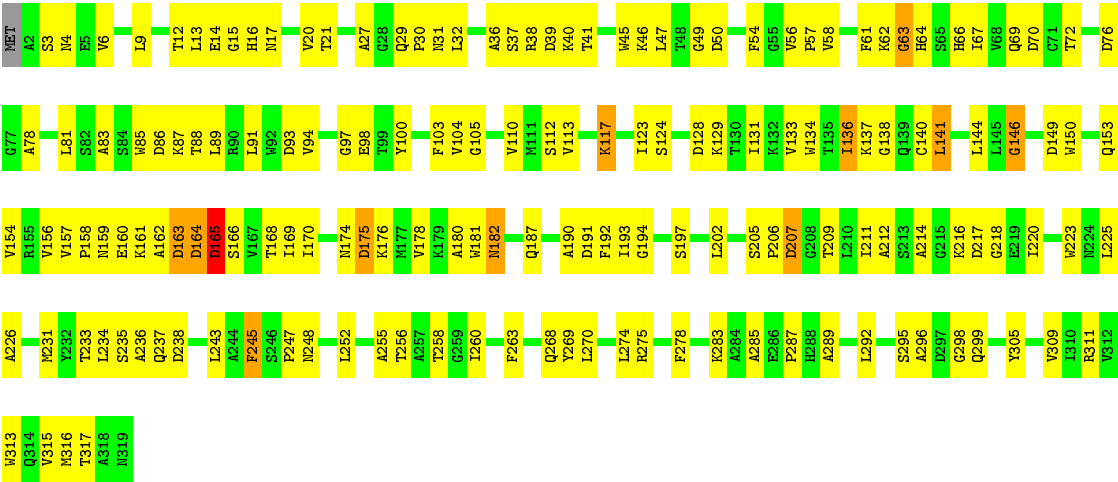


- Molecule 78: 40S ribosomal protein S31

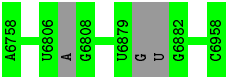


- Molecule 79: Guanine nucleotide-binding protein subunit beta-like protein





● Molecule 80: TSV IRES mRNA



4 Experimental information

| Property | Value | Source |
|--------------------------------------|-----------------------------------|-----------|
| Reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | Depositor |
| Number of images | 51373 | Depositor |
| Resolution determination method | FSC 0.143 | Depositor |
| CTF correction method | CTFFIND3, FREALIGN per micrograph | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 30 | Depositor |
| Minimum defocus (nm) | 1150 | Depositor |
| Maximum defocus (nm) | 6530 | Depositor |
| Magnification | 133333 | Depositor |
| Image detector | FEI FALCON I (4k x 4k) | Depositor |

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|----------------|-------------|------------------|
| | | RMSZ | $\# Z > 2$ | RMSZ | $\# Z > 2$ |
| 1 | 2S | 0.83 | 7/79178 (0.0%) | 0.75 | 31/123444 (0.0%) |
| 10 | L7 | 0.59 | 0/1822 | 0.64 | 0/2451 |
| 11 | L8 | 0.54 | 0/1850 | 0.63 | 0/2495 |
| 12 | L9 | 0.57 | 0/1540 | 0.62 | 0/2073 |
| 13 | 50 | 0.56 | 0/1754 | 0.65 | 0/2350 |
| 14 | 51 | 0.53 | 0/1375 | 0.59 | 0/1842 |
| 15 | 53 | 0.56 | 0/1568 | 0.67 | 0/2106 |
| 16 | 54 | 0.60 | 0/1069 | 0.63 | 0/1438 |
| 17 | 55 | 0.55 | 0/1758 | 0.62 | 0/2354 |
| 18 | 56 | 0.56 | 0/1586 | 0.65 | 0/2128 |
| 19 | 57 | 0.57 | 0/1466 | 0.66 | 0/1968 |
| 2 | 8S | 0.80 | 1/3747 (0.0%) | 0.73 | 2/5832 (0.0%) |
| 20 | 58 | 0.57 | 0/1466 | 0.68 | 0/1965 |
| 21 | 59 | 0.46 | 0/1539 | 0.63 | 0/2050 |
| 22 | 60 | 0.62 | 0/1482 | 0.63 | 0/1990 |
| 23 | 61 | 0.58 | 0/1301 | 0.66 | 0/1743 |
| 24 | 62 | 0.54 | 0/812 | 0.60 | 0/1099 |
| 25 | 63 | 0.55 | 0/1019 | 0.64 | 0/1369 |
| 26 | 64 | 0.60 | 0/521 | 0.61 | 0/691 |
| 27 | 65 | 0.54 | 0/984 | 0.61 | 0/1325 |
| 28 | 66 | 0.54 | 0/1005 | 0.64 | 0/1341 |
| 29 | 67 | 0.52 | 0/1119 | 0.58 | 0/1497 |
| 3 | 5S | 0.79 | 1/2884 (0.0%) | 0.71 | 0/4491 |
| 30 | 68 | 0.57 | 0/1205 | 0.70 | 1/1612 (0.1%) |
| 31 | 69 | 0.52 | 0/474 | 0.64 | 0/629 |
| 32 | 70 | 0.51 | 0/751 | 0.58 | 0/1008 |
| 33 | 71 | 0.53 | 0/904 | 0.64 | 0/1213 |
| 34 | 72 | 0.59 | 0/1041 | 0.67 | 1/1394 (0.1%) |
| 35 | 73 | 0.63 | 0/869 | 0.67 | 0/1168 |
| 36 | 74 | 0.50 | 0/891 | 0.65 | 0/1191 |
| 37 | 75 | 0.52 | 0/979 | 0.61 | 0/1301 |
| 38 | 76 | 0.52 | 0/779 | 0.66 | 0/1034 |
| 39 | 77 | 0.55 | 0/697 | 0.61 | 0/923 |
| 4 | L1 | 0.59 | 0/1634 | 0.71 | 0/2195 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|----------------|-------------|-----------------|
| | | RMSZ | # Z >2 | RMSZ | # Z >2 |
| 40 | 78 | 0.50 | 0/619 | 0.58 | 0/826 |
| 41 | 79 | 0.52 | 0/444 | 0.61 | 0/588 |
| 42 | 80 | 0.59 | 0/424 | 0.65 | 0/562 |
| 43 | 81 | 0.73 | 0/235 | 0.72 | 0/300 |
| 44 | 82 | 0.57 | 0/839 | 0.63 | 0/1108 |
| 45 | 83 | 0.48 | 0/702 | 0.63 | 0/934 |
| 46 | 1S | 0.74 | 1/42445 (0.0%) | 0.75 | 20/66138 (0.0%) |
| 47 | S0 | 0.50 | 0/1653 | 0.62 | 0/2261 |
| 48 | S1 | 0.51 | 0/1735 | 0.61 | 0/2335 |
| 49 | S2 | 0.46 | 0/1665 | 0.59 | 0/2263 |
| 5 | L2 | 0.50 | 0/1952 | 0.65 | 0/2622 |
| 50 | S3 | 0.53 | 0/1759 | 0.60 | 0/2368 |
| 51 | S4 | 0.49 | 0/2110 | 0.62 | 0/2839 |
| 52 | S5 | 0.50 | 0/1630 | 0.60 | 0/2202 |
| 53 | S6 | 0.51 | 0/1844 | 0.61 | 0/2464 |
| 54 | S7 | 0.51 | 0/1506 | 0.62 | 0/2028 |
| 55 | S8 | 0.51 | 0/1515 | 0.58 | 0/2021 |
| 56 | S9 | 0.47 | 0/1519 | 0.63 | 0/2035 |
| 57 | 10 | 0.58 | 0/837 | 0.61 | 0/1131 |
| 58 | 11 | 0.54 | 0/1273 | 0.60 | 0/1712 |
| 59 | 12 | 0.61 | 0/943 | 0.70 | 1/1274 (0.1%) |
| 6 | L3 | 0.57 | 0/3153 | 0.64 | 1/4239 (0.0%) |
| 60 | 13 | 0.51 | 0/1216 | 0.62 | 0/1638 |
| 61 | 14 | 0.48 | 0/953 | 0.63 | 1/1279 (0.1%) |
| 62 | 15 | 0.60 | 0/1012 | 0.67 | 0/1356 |
| 63 | 16 | 0.53 | 0/1126 | 0.64 | 1/1510 (0.1%) |
| 64 | 17 | 0.52 | 0/974 | 0.62 | 0/1304 |
| 65 | 18 | 0.53 | 0/1212 | 0.62 | 0/1628 |
| 66 | 19 | 0.54 | 0/1131 | 0.62 | 0/1517 |
| 67 | 20 | 0.55 | 0/866 | 0.61 | 0/1169 |
| 68 | 21 | 0.49 | 0/694 | 0.61 | 0/935 |
| 69 | 22 | 0.46 | 0/1039 | 0.58 | 0/1395 |
| 7 | L4 | 0.58 | 0/2802 | 0.67 | 0/3792 |
| 70 | 23 | 0.49 | 0/1140 | 0.65 | 1/1518 (0.1%) |
| 71 | 24 | 0.52 | 0/1088 | 0.55 | 0/1449 |
| 72 | 25 | 0.53 | 0/571 | 0.65 | 0/768 |
| 73 | 26 | 0.47 | 0/782 | 0.59 | 0/1047 |
| 74 | 27 | 0.53 | 0/621 | 0.66 | 0/838 |
| 75 | 28 | 0.49 | 0/500 | 0.61 | 0/670 |
| 76 | 29 | 0.57 | 0/454 | 0.56 | 0/602 |
| 77 | 30 | 0.51 | 0/483 | 0.62 | 0/643 |
| 78 | 31 | 0.57 | 0/505 | 0.71 | 1/682 (0.1%) |
| 79 | RA | 0.54 | 0/2498 | 0.61 | 0/3398 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|------------------|-------------|------------------|
| | | RMSZ | # Z >2 | RMSZ | # Z >2 |
| 8 | L5 | 0.58 | 0/2426 | 0.61 | 0/3271 |
| 9 | L6 | 0.62 | 0/1261 | 0.68 | 0/1694 |
| All | All | 0.70 | 10/219225 (0.0%) | 0.70 | 61/322063 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 1 | 2S | 0 | 92 |
| 2 | 8S | 0 | 10 |
| 46 | 1S | 1 | 37 |
| All | All | 1 | 139 |

The worst 5 of 10 bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|-------|-------------|----------|
| 46 | 1S | 1 | U | OP3-P | -6.84 | 1.52 | 1.61 |
| 3 | 5S | 1 | G | OP3-P | -6.79 | 1.53 | 1.61 |
| 2 | 8S | 1 | A | OP3-P | -6.58 | 1.53 | 1.61 |
| 1 | 2S | 485 | C | N1-C2 | 6.43 | 1.46 | 1.40 |
| 1 | 2S | 483 | C | N1-C2 | 5.87 | 1.46 | 1.40 |

The worst 5 of 61 bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-------------|------|-------------|----------|
| 1 | 2S | 1103 | A | C5'-C4'-O4' | 9.19 | 120.13 | 109.10 |
| 46 | 1S | 1573 | A | C2'-C3'-O3' | 8.81 | 128.88 | 109.50 |
| 46 | 1S | 1761 | U | C2'-C3'-O3' | 8.18 | 127.50 | 109.50 |
| 1 | 2S | 282 | G | C2'-C3'-O3' | 7.58 | 126.18 | 109.50 |
| 46 | 1S | 704 | C | N1-C1'-C2' | 7.44 | 123.67 | 114.00 |

All (1) chirality outliers are listed below:

| Mol | Chain | Res | Type | Atom |
|-----|-------|------|------|------|
| 46 | 1S | 1573 | A | C3' |

5 of 139 planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|-----------|
| 1 | 2S | 148 | G | Sidechain |
| 1 | 2S | 26 | A | Sidechain |
| 1 | 2S | 40 | A | Sidechain |
| 1 | 2S | 59 | G | Sidechain |
| 1 | 2S | 91 | G | Sidechain |

5.2 Too-close contacts

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 | 2S | 70742 | 0 | 35551 | 2043 | 0 |
| 2 | 8S | 3354 | 0 | 1695 | 102 | 0 |
| 3 | 5S | 2580 | 0 | 1304 | 65 | 0 |
| 4 | L1 | 1609 | 0 | 1701 | 103 | 0 |
| 5 | L2 | 1918 | 0 | 1987 | 169 | 0 |
| 6 | L3 | 3082 | 0 | 3165 | 234 | 0 |
| 7 | L4 | 2750 | 0 | 2863 | 188 | 0 |
| 8 | L5 | 2376 | 0 | 2325 | 114 | 0 |
| 9 | L6 | 1240 | 0 | 1326 | 93 | 0 |
| 10 | L7 | 1785 | 0 | 1862 | 134 | 0 |
| 11 | L8 | 1818 | 0 | 1908 | 109 | 0 |
| 12 | L9 | 1519 | 0 | 1587 | 105 | 0 |
| 13 | 50 | 1718 | 0 | 1754 | 90 | 0 |
| 14 | 51 | 1354 | 0 | 1383 | 73 | 0 |
| 15 | 53 | 1543 | 0 | 1608 | 100 | 0 |
| 16 | 54 | 1054 | 0 | 1149 | 58 | 0 |
| 17 | 55 | 1721 | 0 | 1779 | 129 | 0 |
| 18 | 56 | 1556 | 0 | 1659 | 119 | 0 |
| 19 | 57 | 1443 | 0 | 1485 | 104 | 0 |
| 20 | 58 | 1442 | 0 | 1543 | 92 | 0 |
| 21 | 59 | 1522 | 0 | 1617 | 96 | 0 |
| 22 | 60 | 1446 | 0 | 1487 | 97 | 0 |
| 23 | 61 | 1277 | 0 | 1323 | 94 | 0 |
| 24 | 62 | 796 | 0 | 812 | 41 | 0 |
| 25 | 63 | 1004 | 0 | 1048 | 91 | 0 |
| 26 | 64 | 509 | 0 | 537 | 20 | 0 |
| 27 | 65 | 969 | 0 | 1036 | 62 | 0 |
| 28 | 66 | 994 | 0 | 1081 | 57 | 0 |
| 29 | 67 | 1093 | 0 | 1155 | 67 | 0 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 30 | 68 | 1174 | 0 | 1215 | 96 | 0 |
| 31 | 69 | 463 | 0 | 491 | 37 | 0 |
| 32 | 70 | 743 | 0 | 797 | 56 | 0 |
| 33 | 71 | 890 | 0 | 938 | 68 | 0 |
| 34 | 72 | 1020 | 0 | 1090 | 57 | 0 |
| 35 | 73 | 851 | 0 | 880 | 47 | 0 |
| 36 | 74 | 881 | 0 | 949 | 98 | 0 |
| 37 | 75 | 970 | 0 | 1078 | 62 | 0 |
| 38 | 76 | 772 | 0 | 849 | 46 | 0 |
| 39 | 77 | 682 | 0 | 687 | 68 | 0 |
| 40 | 78 | 613 | 0 | 682 | 36 | 0 |
| 41 | 79 | 437 | 0 | 475 | 25 | 0 |
| 42 | 80 | 418 | 0 | 459 | 26 | 0 |
| 43 | 81 | 234 | 0 | 284 | 9 | 0 |
| 44 | 82 | 827 | 0 | 901 | 46 | 0 |
| 45 | 83 | 695 | 0 | 738 | 63 | 0 |
| 46 | 1S | 37949 | 0 | 19093 | 1110 | 0 |
| 47 | S0 | 1612 | 0 | 1623 | 120 | 0 |
| 48 | S1 | 1709 | 0 | 1784 | 128 | 0 |
| 49 | S2 | 1635 | 0 | 1723 | 80 | 0 |
| 50 | S3 | 1734 | 0 | 1817 | 85 | 0 |
| 51 | S4 | 2069 | 0 | 2154 | 160 | 0 |
| 52 | S5 | 1610 | 0 | 1675 | 111 | 0 |
| 53 | S6 | 1820 | 0 | 1918 | 84 | 0 |
| 54 | S7 | 1481 | 0 | 1572 | 100 | 0 |
| 55 | S8 | 1490 | 0 | 1525 | 112 | 0 |
| 56 | S9 | 1494 | 0 | 1573 | 121 | 0 |
| 57 | 10 | 817 | 0 | 804 | 63 | 0 |
| 58 | 11 | 1245 | 0 | 1314 | 68 | 0 |
| 59 | 12 | 935 | 0 | 975 | 64 | 0 |
| 60 | 13 | 1193 | 0 | 1255 | 85 | 0 |
| 61 | 14 | 942 | 0 | 979 | 88 | 0 |
| 62 | 15 | 991 | 0 | 1035 | 49 | 0 |
| 63 | 16 | 1106 | 0 | 1166 | 102 | 0 |
| 64 | 17 | 965 | 0 | 1026 | 77 | 0 |
| 65 | 18 | 1193 | 0 | 1222 | 87 | 0 |
| 66 | 19 | 1113 | 0 | 1124 | 71 | 0 |
| 67 | 20 | 856 | 0 | 917 | 67 | 0 |
| 68 | 21 | 685 | 0 | 672 | 43 | 0 |
| 69 | 22 | 1022 | 0 | 1060 | 96 | 0 |
| 70 | 23 | 1122 | 0 | 1196 | 102 | 0 |
| 71 | 24 | 1074 | 0 | 1132 | 63 | 0 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 72 | 25 | 563 | 0 | 603 | 50 | 0 |
| 73 | 26 | 769 | 0 | 818 | 82 | 0 |
| 74 | 27 | 611 | 0 | 633 | 33 | 0 |
| 75 | 28 | 498 | 0 | 535 | 47 | 0 |
| 76 | 29 | 444 | 0 | 436 | 13 | 0 |
| 77 | 30 | 475 | 0 | 525 | 48 | 0 |
| 78 | 31 | 498 | 0 | 441 | 13 | 0 |
| 79 | RA | 2445 | 0 | 2401 | 121 | 0 |
| 80 | IR | 198 | 0 | 0 | 0 | 0 |
| All | All | 204247 | 0 | 150969 | 8302 | 0 |

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 23.

The worst 5 of 8302 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) |
|-------------------|-------------------|--------------------------|-------------------|
| 1:2S:250:U:H5' | 1:2S:251:G:H5'' | 1.25 | 1.16 |
| 46:1S:1712:A:H3' | 46:1S:1713:G:H5'' | 1.26 | 1.15 |
| 60:13:22:ALA:HB1 | 60:13:23:PRO:HA | 1.28 | 1.12 |
| 19:57:122:ALA:HB3 | 19:57:143:PRO:HB2 | 1.23 | 1.11 |
| 46:1S:845:G:H2' | 46:1S:846:G:H5'' | 1.32 | 1.11 |

There are no symmetry-related clashes.

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 | |
|-----|-------|---------------|-----------|----------|----------|-------------|----|
| 4 | L1 | 202/217 (93%) | 133 (66%) | 52 (26%) | 17 (8%) | 1 | 18 |
| 5 | L2 | 250/254 (98%) | 199 (80%) | 41 (16%) | 10 (4%) | 4 | 35 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 6 | L3 | 384/387 (99%) | 321 (84%) | 52 (14%) | 11 (3%) | 6 | 42 |
| 7 | L4 | 359/362 (99%) | 290 (81%) | 47 (13%) | 22 (6%) | 2 | 25 |
| 8 | L5 | 294/297 (99%) | 240 (82%) | 41 (14%) | 13 (4%) | 3 | 33 |
| 9 | L6 | 152/176 (86%) | 132 (87%) | 16 (10%) | 4 (3%) | 7 | 45 |
| 10 | L7 | 220/244 (90%) | 196 (89%) | 19 (9%) | 5 (2%) | 8 | 48 |
| 11 | L8 | 231/256 (90%) | 190 (82%) | 31 (13%) | 10 (4%) | 3 | 34 |
| 12 | L9 | 189/191 (99%) | 157 (83%) | 27 (14%) | 5 (3%) | 7 | 45 |
| 13 | 50 | 207/221 (94%) | 173 (84%) | 30 (14%) | 4 (2%) | 10 | 51 |
| 14 | 51 | 167/174 (96%) | 131 (78%) | 27 (16%) | 9 (5%) | 2 | 29 |
| 15 | 53 | 191/199 (96%) | 152 (80%) | 25 (13%) | 14 (7%) | 1 | 21 |
| 16 | 54 | 134/138 (97%) | 114 (85%) | 14 (10%) | 6 (4%) | 3 | 33 |
| 17 | 55 | 201/204 (98%) | 168 (84%) | 28 (14%) | 5 (2%) | 7 | 46 |
| 18 | 56 | 195/199 (98%) | 175 (90%) | 15 (8%) | 5 (3%) | 7 | 45 |
| 19 | 57 | 181/184 (98%) | 150 (83%) | 26 (14%) | 5 (3%) | 6 | 44 |
| 20 | 58 | 183/186 (98%) | 154 (84%) | 25 (14%) | 4 (2%) | 8 | 49 |
| 21 | 59 | 186/189 (98%) | 166 (89%) | 16 (9%) | 4 (2%) | 8 | 49 |
| 22 | 60 | 170/172 (99%) | 139 (82%) | 26 (15%) | 5 (3%) | 6 | 42 |
| 23 | 61 | 157/160 (98%) | 126 (80%) | 19 (12%) | 12 (8%) | 1 | 20 |
| 24 | 62 | 98/121 (81%) | 83 (85%) | 12 (12%) | 3 (3%) | 5 | 41 |
| 25 | 63 | 134/137 (98%) | 113 (84%) | 20 (15%) | 1 (1%) | 26 | 71 |
| 26 | 64 | 59/155 (38%) | 44 (75%) | 14 (24%) | 1 (2%) | 11 | 55 |
| 27 | 65 | 119/142 (84%) | 100 (84%) | 16 (13%) | 3 (2%) | 7 | 46 |
| 28 | 66 | 124/127 (98%) | 110 (89%) | 13 (10%) | 1 (1%) | 24 | 69 |
| 29 | 67 | 133/136 (98%) | 106 (80%) | 23 (17%) | 4 (3%) | 5 | 42 |
| 30 | 68 | 146/149 (98%) | 110 (75%) | 27 (18%) | 9 (6%) | 2 | 25 |
| 31 | 69 | 56/59 (95%) | 52 (93%) | 3 (5%) | 1 (2%) | 11 | 53 |
| 32 | 70 | 95/105 (90%) | 89 (94%) | 5 (5%) | 1 (1%) | 17 | 63 |
| 33 | 71 | 107/113 (95%) | 84 (78%) | 20 (19%) | 3 (3%) | 6 | 44 |
| 34 | 72 | 125/130 (96%) | 113 (90%) | 12 (10%) | 0 | 100 | 100 |
| 35 | 73 | 104/107 (97%) | 80 (77%) | 21 (20%) | 3 (3%) | 6 | 42 |
| 36 | 74 | 110/121 (91%) | 92 (84%) | 14 (13%) | 4 (4%) | 4 | 38 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 37 | 75 | 117/120 (98%) | 108 (92%) | 8 (7%) | 1 (1%) | 21 | 66 |
| 38 | 76 | 97/100 (97%) | 81 (84%) | 14 (14%) | 2 (2%) | 9 | 50 |
| 39 | 77 | 85/88 (97%) | 70 (82%) | 13 (15%) | 2 (2%) | 7 | 47 |
| 40 | 78 | 75/78 (96%) | 69 (92%) | 6 (8%) | 0 | 100 | 100 |
| 41 | 79 | 48/51 (94%) | 42 (88%) | 5 (10%) | 1 (2%) | 9 | 50 |
| 42 | 80 | 50/128 (39%) | 40 (80%) | 9 (18%) | 1 (2%) | 9 | 51 |
| 43 | 81 | 23/25 (92%) | 22 (96%) | 1 (4%) | 0 | 100 | 100 |
| 44 | 82 | 101/106 (95%) | 88 (87%) | 9 (9%) | 4 (4%) | 4 | 35 |
| 45 | 83 | 89/92 (97%) | 74 (83%) | 11 (12%) | 4 (4%) | 3 | 33 |
| 47 | S0 | 204/252 (81%) | 163 (80%) | 30 (15%) | 11 (5%) | 2 | 29 |
| 48 | S1 | 212/255 (83%) | 152 (72%) | 41 (19%) | 19 (9%) | 1 | 17 |
| 49 | S2 | 215/254 (85%) | 178 (83%) | 27 (13%) | 10 (5%) | 3 | 32 |
| 50 | S3 | 221/240 (92%) | 181 (82%) | 29 (13%) | 11 (5%) | 3 | 30 |
| 51 | S4 | 258/261 (99%) | 214 (83%) | 35 (14%) | 9 (4%) | 4 | 39 |
| 52 | S5 | 204/225 (91%) | 164 (80%) | 30 (15%) | 10 (5%) | 3 | 31 |
| 53 | S6 | 224/236 (95%) | 193 (86%) | 25 (11%) | 6 (3%) | 6 | 44 |
| 54 | S7 | 182/190 (96%) | 138 (76%) | 29 (16%) | 15 (8%) | 1 | 18 |
| 55 | S8 | 184/200 (92%) | 151 (82%) | 29 (16%) | 4 (2%) | 8 | 49 |
| 56 | S9 | 183/197 (93%) | 153 (84%) | 21 (12%) | 9 (5%) | 3 | 31 |
| 57 | 10 | 94/105 (90%) | 75 (80%) | 13 (14%) | 6 (6%) | 2 | 25 |
| 58 | 11 | 153/156 (98%) | 108 (71%) | 36 (24%) | 9 (6%) | 2 | 26 |
| 59 | 12 | 122/143 (85%) | 85 (70%) | 23 (19%) | 14 (12%) | 0 | 9 |
| 60 | 13 | 148/151 (98%) | 123 (83%) | 22 (15%) | 3 (2%) | 9 | 51 |
| 61 | 14 | 125/137 (91%) | 95 (76%) | 24 (19%) | 6 (5%) | 3 | 31 |
| 62 | 15 | 122/142 (86%) | 90 (74%) | 22 (18%) | 10 (8%) | 1 | 18 |
| 63 | 16 | 139/143 (97%) | 114 (82%) | 18 (13%) | 7 (5%) | 3 | 30 |
| 64 | 17 | 116/136 (85%) | 98 (84%) | 14 (12%) | 4 (3%) | 5 | 39 |
| 65 | 18 | 143/146 (98%) | 115 (80%) | 19 (13%) | 9 (6%) | 2 | 25 |
| 66 | 19 | 141/144 (98%) | 117 (83%) | 20 (14%) | 4 (3%) | 6 | 44 |
| 67 | 20 | 105/121 (87%) | 88 (84%) | 13 (12%) | 4 (4%) | 4 | 36 |
| 68 | 21 | 85/87 (98%) | 69 (81%) | 10 (12%) | 6 (7%) | 1 | 22 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-------------------|------------|------------|----------|-------------|----|
| 69 | 22 | 127/130 (98%) | 108 (85%) | 16 (13%) | 3 (2%) | 7 | 47 |
| 70 | 23 | 142/145 (98%) | 102 (72%) | 32 (22%) | 8 (6%) | 2 | 28 |
| 71 | 24 | 132/135 (98%) | 103 (78%) | 23 (17%) | 6 (4%) | 3 | 33 |
| 72 | 25 | 68/108 (63%) | 46 (68%) | 16 (24%) | 6 (9%) | 1 | 17 |
| 73 | 26 | 95/119 (80%) | 62 (65%) | 21 (22%) | 12 (13%) | 0 | 8 |
| 74 | 27 | 79/82 (96%) | 59 (75%) | 16 (20%) | 4 (5%) | 2 | 30 |
| 75 | 28 | 61/67 (91%) | 50 (82%) | 10 (16%) | 1 (2%) | 12 | 56 |
| 76 | 29 | 51/56 (91%) | 44 (86%) | 5 (10%) | 2 (4%) | 4 | 36 |
| 77 | 30 | 58/63 (92%) | 42 (72%) | 11 (19%) | 5 (9%) | 1 | 17 |
| 78 | 31 | 69/152 (45%) | 42 (61%) | 18 (26%) | 9 (13%) | 0 | 7 |
| 79 | RA | 316/319 (99%) | 250 (79%) | 53 (17%) | 13 (4%) | 3 | 34 |
| All | All | 11126/12097 (92%) | 9048 (81%) | 1604 (14%) | 474 (4%) | 6 | 34 |

5 of 474 Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 4 | L1 | 20 | SER |
| 4 | L1 | 153 | SER |
| 4 | L1 | 193 | LEU |
| 4 | L1 | 199 | GLN |
| 4 | L1 | 209 | SER |

5.3.2 Protein sidechains ⓘ

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 | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 4 | L1 | 185/198 (93%) | 169 (91%) | 16 (9%) | 13 | 47 |
| 5 | L2 | 194/196 (99%) | 181 (93%) | 13 (7%) | 20 | 57 |
| 6 | L3 | 322/323 (100%) | 301 (94%) | 21 (6%) | 21 | 58 |
| 7 | L4 | 288/289 (100%) | 268 (93%) | 20 (7%) | 19 | 56 |
| 8 | L5 | 244/245 (100%) | 225 (92%) | 19 (8%) | 16 | 51 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 9 | L6 | 134/153 (88%) | 126 (94%) | 8 (6%) | 24 | 61 |
| 10 | L7 | 186/205 (91%) | 172 (92%) | 14 (8%) | 17 | 54 |
| 11 | L8 | 191/208 (92%) | 174 (91%) | 17 (9%) | 12 | 44 |
| 12 | L9 | 171/171 (100%) | 159 (93%) | 12 (7%) | 19 | 56 |
| 13 | 50 | 180/187 (96%) | 165 (92%) | 15 (8%) | 14 | 49 |
| 14 | 51 | 147/150 (98%) | 139 (95%) | 8 (5%) | 27 | 64 |
| 15 | 53 | 154/159 (97%) | 137 (89%) | 17 (11%) | 8 | 34 |
| 16 | 54 | 107/109 (98%) | 100 (94%) | 7 (6%) | 21 | 58 |
| 17 | 55 | 175/176 (99%) | 162 (93%) | 13 (7%) | 17 | 54 |
| 18 | 56 | 160/162 (99%) | 145 (91%) | 15 (9%) | 11 | 42 |
| 19 | 57 | 145/146 (99%) | 136 (94%) | 9 (6%) | 23 | 60 |
| 20 | 58 | 150/151 (99%) | 138 (92%) | 12 (8%) | 15 | 51 |
| 21 | 59 | 153/154 (99%) | 139 (91%) | 14 (9%) | 11 | 43 |
| 22 | 60 | 156/156 (100%) | 145 (93%) | 11 (7%) | 18 | 55 |
| 23 | 61 | 136/137 (99%) | 125 (92%) | 11 (8%) | 15 | 50 |
| 24 | 62 | 87/107 (81%) | 85 (98%) | 2 (2%) | 58 | 83 |
| 25 | 63 | 104/105 (99%) | 94 (90%) | 10 (10%) | 10 | 41 |
| 26 | 64 | 54/129 (42%) | 50 (93%) | 4 (7%) | 17 | 54 |
| 27 | 65 | 105/118 (89%) | 95 (90%) | 10 (10%) | 11 | 41 |
| 28 | 66 | 109/110 (99%) | 102 (94%) | 7 (6%) | 22 | 58 |
| 29 | 67 | 115/116 (99%) | 111 (96%) | 4 (4%) | 43 | 74 |
| 30 | 68 | 118/119 (99%) | 107 (91%) | 11 (9%) | 11 | 43 |
| 31 | 69 | 46/47 (98%) | 40 (87%) | 6 (13%) | 5 | 28 |
| 32 | 70 | 81/88 (92%) | 76 (94%) | 5 (6%) | 23 | 60 |
| 33 | 71 | 96/97 (99%) | 88 (92%) | 8 (8%) | 14 | 49 |
| 34 | 72 | 109/111 (98%) | 100 (92%) | 9 (8%) | 14 | 49 |
| 35 | 73 | 90/91 (99%) | 83 (92%) | 7 (8%) | 16 | 51 |
| 36 | 74 | 95/103 (92%) | 89 (94%) | 6 (6%) | 22 | 59 |
| 37 | 75 | 104/105 (99%) | 95 (91%) | 9 (9%) | 13 | 45 |
| 38 | 76 | 81/82 (99%) | 75 (93%) | 6 (7%) | 17 | 54 |
| 39 | 77 | 70/71 (99%) | 64 (91%) | 6 (9%) | 13 | 47 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|-----------|----------|-------------|----|
| 40 | 78 | 68/69 (99%) | 62 (91%) | 6 (9%) | 12 | 45 |
| 41 | 79 | 45/46 (98%) | 41 (91%) | 4 (9%) | 12 | 44 |
| 42 | 80 | 47/116 (40%) | 45 (96%) | 2 (4%) | 35 | 70 |
| 43 | 81 | 23/23 (100%) | 18 (78%) | 5 (22%) | 1 | 9 |
| 44 | 82 | 88/91 (97%) | 77 (88%) | 11 (12%) | 6 | 30 |
| 45 | 83 | 71/72 (99%) | 68 (96%) | 3 (4%) | 36 | 70 |
| 47 | S0 | 173/210 (82%) | 163 (94%) | 10 (6%) | 25 | 61 |
| 48 | S1 | 191/224 (85%) | 173 (91%) | 18 (9%) | 11 | 42 |
| 49 | S2 | 176/205 (86%) | 170 (97%) | 6 (3%) | 44 | 75 |
| 50 | S3 | 182/195 (93%) | 168 (92%) | 14 (8%) | 16 | 52 |
| 51 | S4 | 221/222 (100%) | 199 (90%) | 22 (10%) | 9 | 38 |
| 52 | S5 | 173/191 (91%) | 163 (94%) | 10 (6%) | 25 | 61 |
| 53 | S6 | 193/201 (96%) | 184 (95%) | 9 (5%) | 32 | 68 |
| 54 | S7 | 165/170 (97%) | 154 (93%) | 11 (7%) | 20 | 57 |
| 55 | S8 | 150/161 (93%) | 142 (95%) | 8 (5%) | 28 | 64 |
| 56 | S9 | 158/166 (95%) | 146 (92%) | 12 (8%) | 16 | 53 |
| 57 | 10 | 89/98 (91%) | 82 (92%) | 7 (8%) | 15 | 51 |
| 58 | 11 | 136/137 (99%) | 127 (93%) | 9 (7%) | 21 | 57 |
| 59 | 12 | 100/119 (84%) | 88 (88%) | 12 (12%) | 6 | 31 |
| 60 | 13 | 127/128 (99%) | 114 (90%) | 13 (10%) | 9 | 37 |
| 61 | 14 | 96/105 (91%) | 93 (97%) | 3 (3%) | 47 | 77 |
| 62 | 15 | 104/118 (88%) | 96 (92%) | 8 (8%) | 16 | 52 |
| 63 | 16 | 117/119 (98%) | 111 (95%) | 6 (5%) | 29 | 66 |
| 64 | 17 | 109/124 (88%) | 94 (86%) | 15 (14%) | 4 | 27 |
| 65 | 18 | 128/129 (99%) | 119 (93%) | 9 (7%) | 19 | 56 |
| 66 | 19 | 115/116 (99%) | 103 (90%) | 12 (10%) | 9 | 37 |
| 67 | 20 | 100/114 (88%) | 91 (91%) | 9 (9%) | 12 | 44 |
| 68 | 21 | 74/74 (100%) | 70 (95%) | 4 (5%) | 27 | 64 |
| 69 | 22 | 110/111 (99%) | 101 (92%) | 9 (8%) | 14 | 49 |
| 70 | 23 | 119/120 (99%) | 106 (89%) | 13 (11%) | 8 | 35 |
| 71 | 24 | 112/113 (99%) | 107 (96%) | 5 (4%) | 34 | 69 |

Continued on next page...

Continued from previous page...

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|------------------|------------|----------|-------------|----|
| 72 | 25 | 61/89 (68%) | 50 (82%) | 11 (18%) | 2 | 15 |
| 73 | 26 | 83/101 (82%) | 75 (90%) | 8 (10%) | 10 | 41 |
| 74 | 27 | 70/71 (99%) | 69 (99%) | 1 (1%) | 74 | 89 |
| 75 | 28 | 56/60 (93%) | 53 (95%) | 3 (5%) | 27 | 64 |
| 76 | 29 | 47/49 (96%) | 46 (98%) | 1 (2%) | 61 | 84 |
| 77 | 30 | 51/54 (94%) | 47 (92%) | 4 (8%) | 16 | 51 |
| 78 | 31 | 43/135 (32%) | 38 (88%) | 5 (12%) | 7 | 32 |
| 79 | RA | 261/262 (100%) | 241 (92%) | 20 (8%) | 16 | 52 |
| All | All | 9474/10182 (93%) | 8754 (92%) | 720 (8%) | 21 | 53 |

5 of 720 residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 31 | 69 | 59 | LYS |
| 44 | 82 | 83 | LEU |
| 71 | 24 | 102 | LYS |
| 33 | 71 | 69 | TYR |
| 37 | 75 | 79 | ASP |

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 263 such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 25 | 63 | 132 | ASN |
| 40 | 78 | 10 | GLN |
| 70 | 23 | 21 | ASN |
| 28 | 66 | 26 | GLN |
| 34 | 72 | 35 | GLN |

5.3.3 RNA ⓘ

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 1 | 2S | 3304/3395 (97%) | 521 (15%) | 26 (0%) |
| 2 | 8S | 157/158 (99%) | 22 (14%) | 1 (0%) |
| 3 | 5S | 120/121 (99%) | 10 (8%) | 0 |
| 46 | 1S | 1779/1798 (98%) | 332 (18%) | 21 (1%) |
| 80 | IR | 0/201 | - | - |
| All | All | 5360/5673 (94%) | 885 (16%) | 48 (0%) |

5 of 885 RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | 2S | 21 | G |
| 1 | 2S | 26 | A |
| 1 | 2S | 40 | A |
| 1 | 2S | 43 | A |
| 1 | 2S | 49 | A |

5 of 48 RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 1 | 2S | 3121 | U |
| 2 | 8S | 85 | G |
| 46 | 1S | 1573 | A |
| 1 | 2S | 3218 | A |
| 1 | 2S | 3317 | 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 carbohydrates in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.