



wwPDB EM Validation Summary Report ⓘ

Nov 29, 2022 – 10:58 PM EST

PDB ID : 5T2A
EMDB ID : EMD-8343
Title : CryoEM structure of the Leishmania donovani 80S ribosome at 2.9 Angstrom resolution
Authors : Zhang, X.; Lai, M.; Zhou, Z.H.
Deposited on : 2016-08-23
Resolution : 2.90 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

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

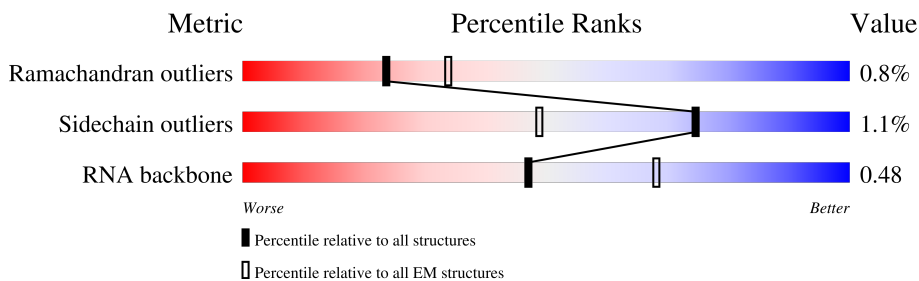
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.90 Å.

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



| Metric | Whole archive (#Entries) | EM structures (#Entries) |
|-----------------------|--------------------------|--------------------------|
| Ramachandran outliers | 154571 | 4023 |
| Sidechain outliers | 154315 | 3826 |
| RNA backbone | 4643 | 859 |

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

| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 1 | A | 1781 | |
| 2 | B | 1465 | |
| 3 | C | 262 | |
| 4 | D | 120 | |
| 5 | E | 213 | |
| 6 | F | 73 | |
| 7 | G | 183 | |
| 8 | H | 127 | |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|------------------|
| 9 | I | 198 | 20% 94% 5% .. |
| 10 | J | 213 | 29% 97% .. |
| 11 | K | 188 | 52% 88% . 11% |
| 12 | L | 220 | 17% 80% . 19% |
| 13 | M | 222 | 17% 96% . |
| 14 | N | 175 | 36% 93% . . . |
| 15 | O | 204 | 7% 97% . |
| 16 | P | 166 | 7% 92% . 7% |
| 17 | Q | 179 | 13% 98% .. |
| 18 | R | 245 | 24% 79% . 20% |
| 19 | S | 159 | 21% 97% . . |
| 20 | T | 129 | 32% 94% . 5% |
| 21 | U | 139 | 9% 99% . |
| 22 | V | 145 | 17% 82% . 17% |
| 23 | W | 124 | 9% 51% . 48% |
| 24 | X | 143 | 15% 82% . 16% |
| 25 | Y | 134 | 26% 98% .. |
| 26 | Z | 145 | 17% 97% . . . |
| 27 | a | 147 | 29% 97% . . . |
| 28 | b | 70 | 26% 96% . . |
| 29 | c | 260 | 7% 94% |
| 30 | d | 419 | 10% 94% . 5% |
| 31 | e | 104 | 15% 84% 5% . 10% |
| 32 | f | 183 | 8% 60% 40% |
| 33 | g | 133 | 19% 95% . . |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|--------------------------------|
| 34 | h | 168 | 15% 73% 26% |
| 35 | i | 127 | 30% 98% .. |
| 36 | j | 144 | 13% 90% .. 8% |
| 37 | k | 105 | 44% 93% 6% |
| 38 | l | 83 | 6% 93% .. |
| 39 | m | 92 | 14% 98% .. |
| 40 | n | 83 | 29% 89% 10% |
| 41 | o | 51 | 10% 98% . |
| 42 | p | 373 | 23% 96% .. |
| 43 | q | 128 | 5% 40% 59% |
| 44 | r | 106 | 19% 86% .. 9% |
| 45 | s | 305 | 28% 87% 13% |
| 46 | t | 195 | 17% 67% .. 30% |
| 47 | u | 252 | 17% 88% 10% |
| 48 | v | 348 | 21% 66% 34% |
| 49 | w | 190 | 13% 97% .. |
| 50 | 0 | 264 | 30% 80% .. 16% |
| 51 | 1 | 273 | 21% 92% 5% |
| 52 | 2 | 2205 | 26% 47% 29% 6% 18% |
| 53 | 3 | 249 | 53% 98% .. |
| 54 | 4 | 200 | 32% 96% .. |
| 55 | 5 | 220 | 11% 79% 17% |
| 56 | 6 | 190 | 17% 84% .. 14% |
| 57 | 7 | 312 | 99% 95% .. |
| 58 | 8 | 57 | 63% 58% 9% 33% |

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| Mol | Chain | Length | Quality of chain |
|-----|-------|--------|-------------------------|
| 59 | AC | 246 | 36% 81% 17% |
| 60 | AD | 153 | 61% 58% 39% |
| 61 | AE | 173 | 8% 78% 19% |
| 62 | AG | 151 | 14% 91% 7% |
| 63 | AH | 144 | 24% 94% 6% |
| 64 | AI | 152 | 80% 74% 20% |
| 65 | AJ | 130 | 10% 93% 5% |
| 66 | AK | 149 | 92% 88% 6% |
| 67 | AL | 143 | 78% 83% 15% |
| 68 | AM | 153 | 95% 89% 7% |
| 69 | AN | 190 | 99% 96% .. |
| 70 | AO | 179 | 79% 75% 6% 19% |
| 71 | AP | 265 | 19% 85% 15% |
| 72 | AQ | 116 | 81% 86% 12% |
| 73 | AR | 164 | 14% 51% 49% |
| 74 | AS | 143 | 21% 93% 5% |
| 75 | AT | 137 | 42% 90% 8% |
| 76 | AV | 112 | 33% 88% 7% |
| 77 | AW | 86 | 34% 91% 5% 5% |
| 78 | AX | 219 | 86% 86% 5% 7% |
| 79 | AY | 66 | 61% 85% 15% |
| 80 | AZ | 87 | 76% 72% 5% 22% |

2 Entry composition

There are 80 unique types of molecules in this entry. The entry contains 200172 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 LSU-alpha.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| | | | Total | C | N | O | P | | |
| 1 | A | 1603 | 34365 | 15347 | 6297 | 11118 | 1603 | 0 | 0 |

There are 3 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|--------------|
| A | 761 | U | A | conflict | GB 322500086 |
| A | 1393 | G | A | conflict | GB 322500086 |
| A | ? | - | A | deletion | GB 322500086 |

- Molecule 2 is a RNA chain called LSU-beta.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|------|------|---------|-------|
| | | | Total | C | N | O | P | | |
| 2 | B | 1064 | 22723 | 10152 | 4100 | 7407 | 1064 | 0 | 0 |

- Molecule 3 is a RNA chain called 5.8S rRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|-----|---------|-------|
| | | | Total | C | N | O | P | | |
| 3 | C | 162 | 3449 | 1542 | 615 | 1130 | 162 | 0 | 0 |

There are 6 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|-------------|
| C | 141 | C | U | conflict | GB 79677111 |
| C | 182 | G | A | conflict | GB 79677111 |
| C | 185 | C | G | conflict | GB 79677111 |
| C | 226 | A | U | conflict | GB 79677111 |
| C | 228 | C | U | conflict | GB 79677111 |
| C | 246 | C | U | conflict | GB 79677111 |

- Molecule 4 is a RNA chain called 5S rRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|-------|
| | | | Total | C | N | O | P | | |
| 4 | D | 119 | 2531 | 1132 | 452 | 828 | 119 | 0 | 0 |

- Molecule 5 is a RNA chain called srRNA1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|-----|---------|-------|
| | | | Total | C | N | O | P | | |
| 5 | E | 169 | 3589 | 1604 | 626 | 1190 | 169 | 0 | 0 |

- Molecule 6 is a RNA chain called srRNA3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| | | | Total | C | N | O | P | | |
| 6 | F | 71 | 1508 | 676 | 273 | 488 | 71 | 0 | 0 |

- Molecule 7 is a RNA chain called srRNA2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|-----|---------|-------|
| | | | Total | C | N | O | P | | |
| 7 | G | 183 | 3911 | 1744 | 704 | 1280 | 183 | 0 | 0 |

There are 2 discrepancies between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|------------|
| G | 169 | U | A | conflict | GB 5019758 |
| G | 171 | U | A | conflict | GB 5019758 |

- Molecule 8 is a RNA chain called srRNA4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| | | | Total | C | N | O | P | | |
| 8 | H | 93 | 1996 | 889 | 369 | 645 | 93 | 0 | 0 |

- Molecule 9 is a protein called eL18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 9 | I | 197 | 1539 | 968 | 307 | 258 | 6 | 0 | 0 |

- Molecule 10 is a protein called uL16.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 10 | J | 211 | 1704 | 1071 | 338 | 279 | 16 | 0 | 0 |

- Molecule 11 is a protein called uL5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 11 | K | 167 | 1339 | 844 | 249 | 238 | 8 | 0 | 0 |

- Molecule 12 is a protein called eL13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 12 | L | 179 | 1435 | 901 | 296 | 230 | 8 | 0 | 0 |

- Molecule 13 is a protein called uL13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 13 | M | 221 | 1780 | 1126 | 354 | 293 | 7 | 0 | 0 |

- Molecule 14 is a protein called eL14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 14 | N | 168 | 1336 | 832 | 265 | 231 | 8 | 0 | 0 |

- Molecule 15 is a protein called eL15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 15 | O | 203 | 1714 | 1080 | 362 | 264 | 8 | 0 | 0 |

- Molecule 16 is a protein called uL22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 16 | P | 155 | 1245 | 776 | 246 | 212 | 11 | 0 | 1 |

- Molecule 17 is a protein called eL20.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 17 | Q | 178 | Total | C | N | O | S | 0 | 0 |
| | | | 1456 | 927 | 280 | 244 | 5 | | |

- Molecule 18 is a protein called eL19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 18 | R | 196 | Total | C | N | O | S | 0 | 0 |
| | | | 1646 | 1010 | 360 | 271 | 5 | | |

- Molecule 19 is a protein called eL21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 19 | S | 158 | Total | C | N | O | S | 0 | 0 |
| | | | 1261 | 803 | 245 | 208 | 5 | | |

- Molecule 20 is a protein called eL22.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 20 | T | 123 | Total | C | N | O | S | 0 | 1 |
| | | | 997 | 642 | 179 | 173 | 3 | | |

- Molecule 21 is a protein called uL14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 21 | U | 137 | Total | C | N | O | S | 0 | 0 |
| | | | 1035 | 653 | 195 | 181 | 6 | | |

- Molecule 22 is a protein called uL23.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 22 | V | 120 | Total | C | N | O | S | 0 | 0 |
| | | | 963 | 611 | 182 | 169 | 1 | | |

- Molecule 23 is a protein called eL24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 23 | W | 65 | Total | C | N | O | S | 0 | 0 |
| | | | 563 | 368 | 110 | 81 | 4 | | |

- Molecule 24 is a protein called uL24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 24 | X | 120 | Total | C | N | O | S | 0 | 0 |
| | | | 965 | 601 | 201 | 159 | 4 | | |

- Molecule 25 is a protein called eL27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 25 | Y | 133 | Total | C | N | O | S | 0 | 0 |
| | | | 1079 | 688 | 215 | 173 | 3 | | |

- Molecule 26 is a protein called uL15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 26 | Z | 144 | Total | C | N | O | S | 0 | 0 |
| | | | 1126 | 708 | 226 | 186 | 6 | | |

- Molecule 27 is a protein called eL28.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 27 | a | 146 | Total | C | N | O | S | 0 | 0 |
| | | | 1140 | 698 | 243 | 194 | 5 | | |

- Molecule 28 is a protein called eL29.

| Mol | Chain | Residues | Atoms | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---------|-------|
| 28 | b | 69 | Total | C | N | O | 0 | 0 |
| | | | 554 | 339 | 127 | 88 | | |

- Molecule 29 is a protein called uL2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 29 | c | 253 | Total | C | N | O | S | 0 | 1 |
| | | | 1921 | 1193 | 392 | 326 | 10 | | |

- Molecule 30 is a protein called uL3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 30 | d | 399 | Total | C | N | O | S | 0 | 0 |
| | | | 3183 | 2003 | 629 | 538 | 13 | | |

- Molecule 31 is a protein called eL30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 31 | e | 94 | Total | C | N | O | S | 0 | 0 |
| | | | 720 | 448 | 131 | 136 | 5 | | |

- Molecule 32 is a protein called eL31.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 32 | f | 110 | Total | C | N | O | S | 0 | 0 |
| | | | 878 | 561 | 166 | 149 | 2 | | |

- Molecule 33 is a protein called eL32.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 33 | g | 129 | Total | C | N | O | S | 0 | 0 |
| | | | 1050 | 664 | 209 | 174 | 3 | | |

- Molecule 34 is a protein called eL34.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 34 | h | 124 | Total | C | N | O | S | 0 | 0 |
| | | | 1014 | 624 | 221 | 163 | 6 | | |

- Molecule 35 is a protein called uL29.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 35 | i | 126 | Total | C | N | O | S | 0 | 0 |
| | | | 1056 | 658 | 218 | 176 | 4 | | |

- Molecule 36 is a protein called eL33.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 36 | j | 132 | Total | C | N | O | S | 0 | 0 |
| | | | 1060 | 663 | 221 | 171 | 5 | | |

- Molecule 37 is a protein called eL36.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 37 | k | 99 | Total | C | N | O | S | 0 | 0 |
| | | | 787 | 497 | 160 | 128 | 2 | | |

- Molecule 38 is a protein called eL37.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 38 | l | 81 | Total | C | N | O | S | 0 | 0 |
| | | | 674 | 410 | 154 | 104 | 6 | | |

- Molecule 39 is a protein called eL43.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 39 | m | 91 | Total | C | N | O | S | 0 | 0 |
| | | | 712 | 443 | 146 | 117 | 6 | | |

- Molecule 40 is a protein called eL38.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 40 | n | 75 | Total | C | N | O | S | 0 | 0 |
| | | | 605 | 383 | 118 | 101 | 3 | | |

- Molecule 41 is a protein called eL39.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 41 | o | 50 | Total | C | N | O | S | 0 | 0 |
| | | | 450 | 291 | 95 | 63 | 1 | | |

- Molecule 42 is a protein called uL4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 42 | p | 365 | Total | C | N | O | S | 0 | 1 |
| | | | 2825 | 1761 | 563 | 486 | 15 | | |

- Molecule 43 is a protein called eL40.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 43 | q | 52 | Total | C | N | O | S | 0 | 0 |
| | | | 425 | 266 | 88 | 64 | 7 | | |

- Molecule 44 is a protein called eL42.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 44 | r | 96 | Total | C | N | O | S | 0 | 0 |
| | | | 779 | 493 | 157 | 124 | 5 | | |

- Molecule 45 is a protein called uL18.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 45 | s | 266 | Total | C | N | O | S | 0 | 0 |
| | | | 2094 | 1334 | 397 | 357 | 6 | | |

- Molecule 46 is a protein called eL6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 46 | t | 137 | Total | C | N | O | S | 0 | 0 |
| | | | 1054 | 668 | 197 | 187 | 2 | | |

- Molecule 47 is a protein called uL30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 47 | u | 228 | Total | C | N | O | S | 0 | 0 |
| | | | 1857 | 1180 | 358 | 308 | 11 | | |

- Molecule 48 is a protein called eL8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 48 | v | 230 | Total | C | N | O | S | 0 | 0 |
| | | | 1850 | 1160 | 368 | 315 | 7 | | |

- Molecule 49 is a protein called uL6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 49 | w | 187 | Total | C | N | O | S | 0 | 0 |
| | | | 1484 | 938 | 273 | 267 | 6 | | |

- Molecule 50 is a protein called eS1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 50 | 0 | 221 | Total | C | N | O | S | 0 | 0 |
| | | | 1786 | 1121 | 338 | 316 | 11 | | |

- Molecule 51 is a protein called eS4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 51 | 1 | 258 | Total | C | N | O | S | 0 | 0 |
| | | | 2037 | 1291 | 387 | 350 | 9 | | |

- Molecule 52 is a RNA chain called 18S rRNA.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| | | | Total | C | N | O | P | | |
| 52 | 2 | 1814 | 38724 | 17307 | 6969 | 12635 | 1813 | 0 | 0 |

- Molecule 53 is a protein called eS6.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 53 | 3 | 249 | 1994 | 1243 | 409 | 339 | 3 | 0 | 0 |

- Molecule 54 is a protein called eS7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 54 | 4 | 200 | 1667 | 1059 | 324 | 276 | 8 | 0 | 0 |

- Molecule 55 is a protein called eS8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 55 | 5 | 183 | 1473 | 921 | 308 | 242 | 2 | 0 | 1 |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment | Reference |
|-------|---------|----------|--------|----------|------------|
| 5 | 220 | ARG | LYS | conflict | UNP E9BH78 |

- Molecule 56 is a protein called uS4.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 56 | 6 | 164 | 1362 | 862 | 265 | 227 | 8 | 0 | 0 |

- Molecule 57 is a protein called RACK1.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 57 | 7 | 308 | 2394 | 1500 | 426 | 456 | 12 | 0 | 0 |

- Molecule 58 is a protein called uS14.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 58 | 8 | 38 | Total | C | N | O | S | 0 | 0 |
| | | | 314 | 194 | 63 | 52 | 5 | | |

- Molecule 59 is a protein called uS2.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 59 | AC | 203 | Total | C | N | O | S | 0 | 0 |
| | | | 1622 | 1033 | 294 | 283 | 12 | | |

- Molecule 60 is a protein called eS10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 60 | AD | 93 | Total | C | N | O | S | 0 | 0 |
| | | | 767 | 491 | 136 | 133 | 7 | | |

- Molecule 61 is a protein called uS17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 61 | AE | 140 | Total | C | N | O | S | 0 | 0 |
| | | | 1148 | 725 | 229 | 189 | 5 | | |

- Molecule 62 is a protein called uS15.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 62 | AG | 141 | Total | C | N | O | S | 0 | 0 |
| | | | 1157 | 730 | 229 | 190 | 8 | | |

- Molecule 63 is a protein called uS11.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 63 | AH | 136 | Total | C | N | O | S | 0 | 0 |
| | | | 1023 | 631 | 200 | 184 | 8 | | |

- Molecule 64 is a protein called uS19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 64 | AI | 121 | Total | C | N | O | S | 0 | 0 |
| | | | 984 | 626 | 188 | 166 | 4 | | |

- Molecule 65 is a protein called uS8.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 65 | AJ | 129 | 1020 | 646 | 188 | 178 | 8 | 0 | 0 |

- Molecule 66 is a protein called uS9.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 66 | AK | 140 | 1108 | 710 | 206 | 189 | 3 | 0 | 0 |

- Molecule 67 is a protein called eS17.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 67 | AL | 121 | 983 | 613 | 192 | 173 | 5 | 0 | 0 |

- Molecule 68 is a protein called uS13.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 68 | AM | 148 | 1186 | 743 | 237 | 202 | 4 | 0 | 0 |

- Molecule 69 is a protein called uS7.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 69 | AN | 190 | 1493 | 927 | 287 | 271 | 8 | 0 | 0 |

- Molecule 70 is a protein called eS19.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 70 | AO | 145 | 1150 | 729 | 224 | 193 | 4 | 0 | 0 |

- Molecule 71 is a protein called uS5.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| | | | Total | C | N | O | S | | |
| 71 | AP | 224 | 1722 | 1096 | 304 | 312 | 10 | 0 | 1 |

- Molecule 72 is a protein called uS10.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 72 | AQ | 102 | Total | C | N | O | S | 0 | 0 |
| | | | 807 | 504 | 148 | 153 | 2 | | |

- Molecule 73 is a protein called eS21.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 73 | AR | 83 | Total | C | N | O | S | 0 | 0 |
| | | | 630 | 388 | 116 | 122 | 4 | | |

- Molecule 74 is a protein called uS12.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 74 | AS | 142 | Total | C | N | O | S | 0 | 0 |
| | | | 1114 | 703 | 222 | 187 | 2 | | |

- Molecule 75 is a protein called eS24.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 75 | AT | 126 | Total | C | N | O | S | 0 | 0 |
| | | | 1033 | 661 | 198 | 172 | 2 | | |

- Molecule 76 is a protein called eS26.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 76 | AV | 104 | Total | C | N | O | S | 0 | 0 |
| | | | 828 | 515 | 175 | 130 | 8 | | |

- Molecule 77 is a protein called eS27.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 77 | AW | 82 | Total | C | N | O | S | 0 | 0 |
| | | | 646 | 396 | 128 | 114 | 8 | | |

- Molecule 78 is a protein called uS3.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|----|---------|-------|
| 78 | AX | 203 | Total | C | N | O | S | 0 | 0 |
| | | | 1595 | 1003 | 295 | 284 | 13 | | |

- Molecule 79 is a protein called eS30.

| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 79 | AY | 56 | 452 | 285 | 94 | 72 | 1 | 0 | 0 |

- Molecule 80 is a protein called eS28.

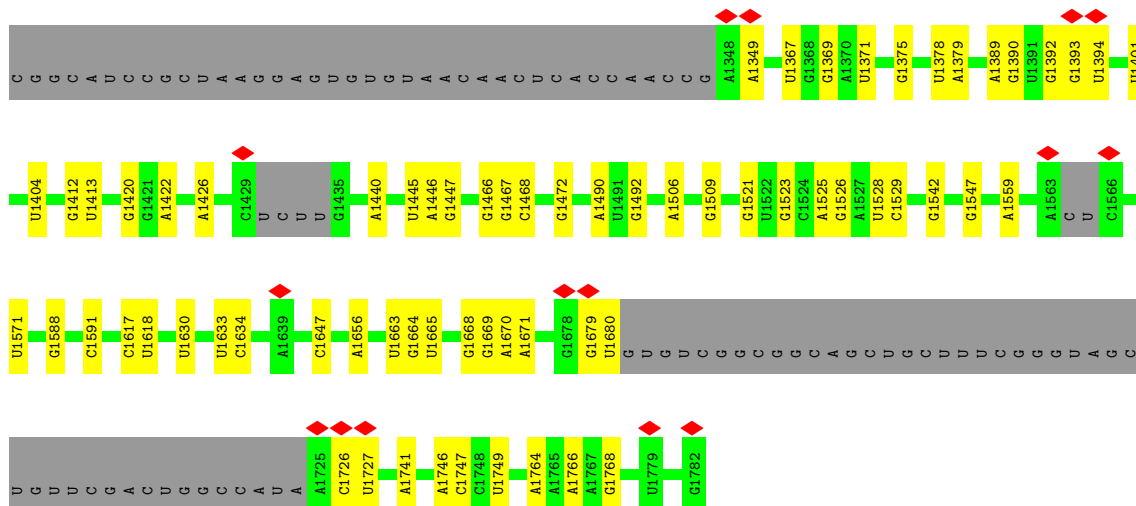
| Mol | Chain | Residues | Atoms | | | | | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| | | | Total | C | N | O | S | | |
| 80 | AZ | 68 | 526 | 319 | 106 | 97 | 4 | 0 | 0 |

3 Residue-property plots i

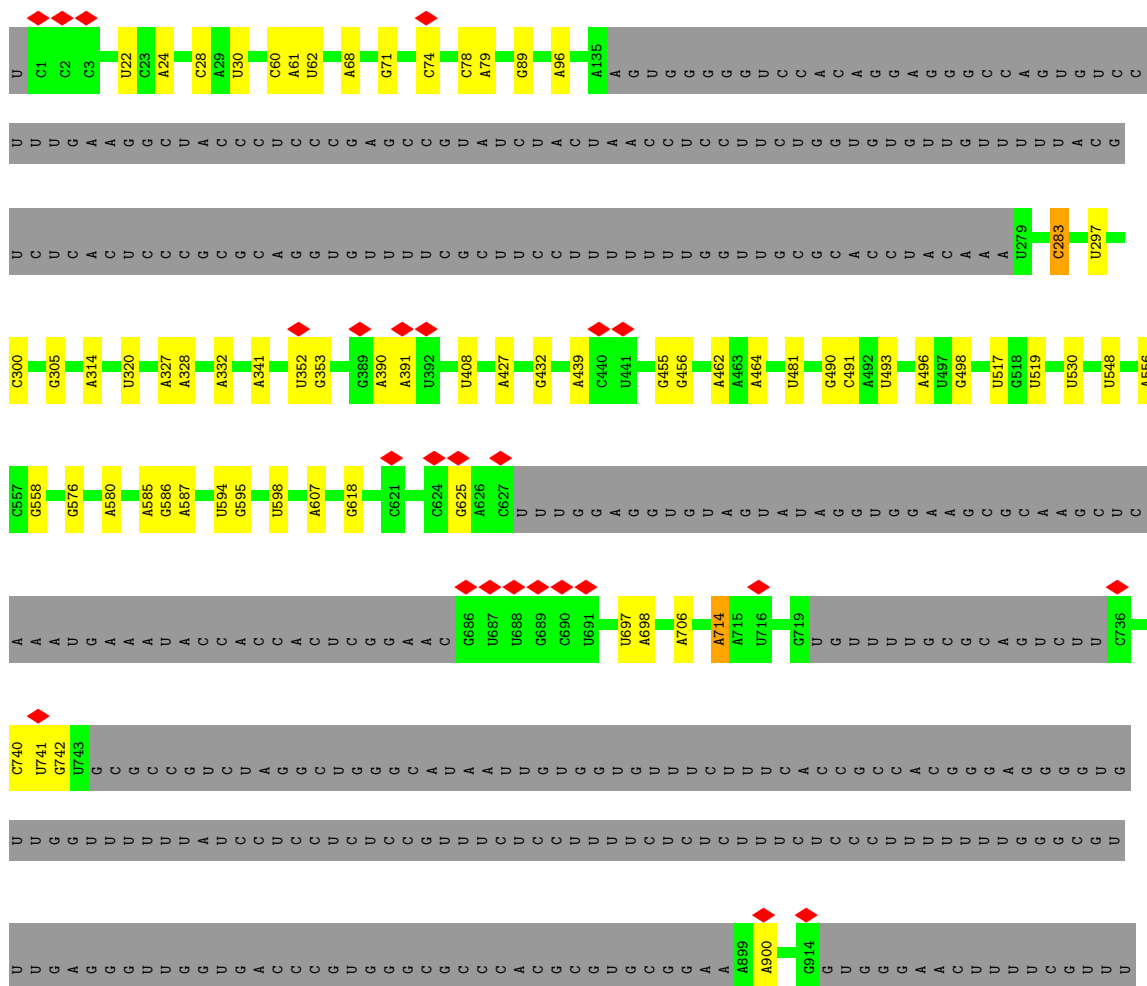
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a grey connector. Residues present in the sample, but not in the model, are shown in grey.

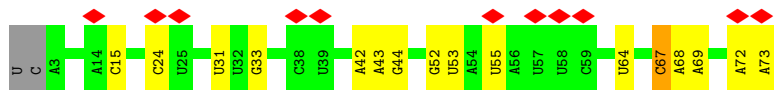
• Molecule 1: LSU-alpha



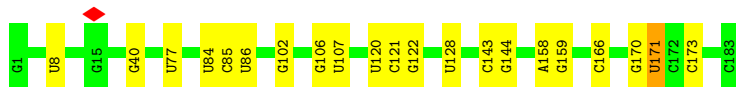
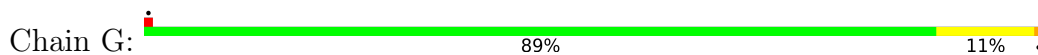


● Molecule 2: LSU-beta





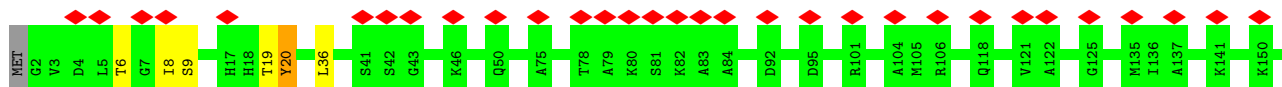
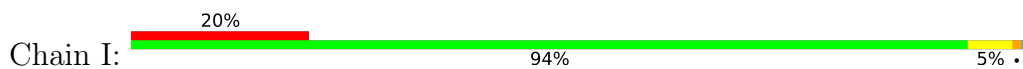
• Molecule 7: srRNA2



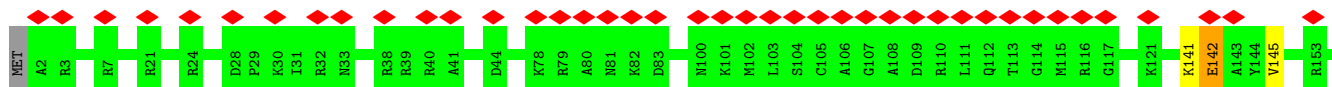
• Molecule 8: srRNA4



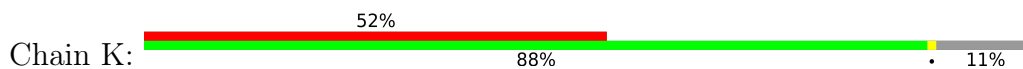
• Molecule 9: eL18

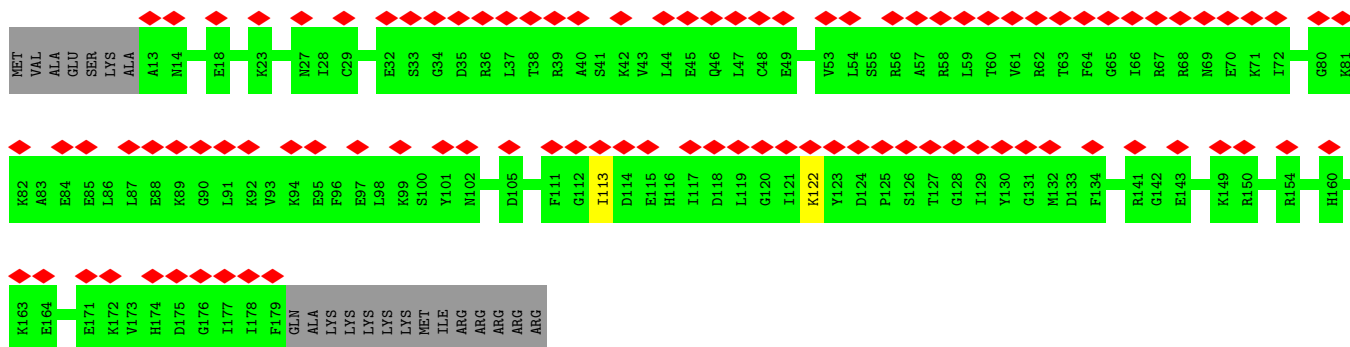


• Molecule 10: uL16

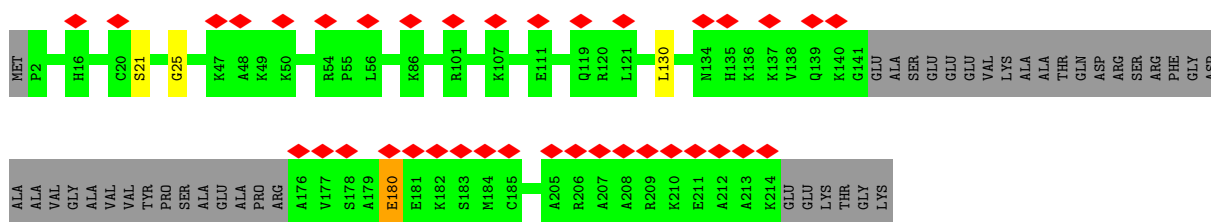
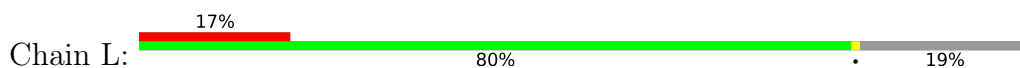


• Molecule 11: uL5

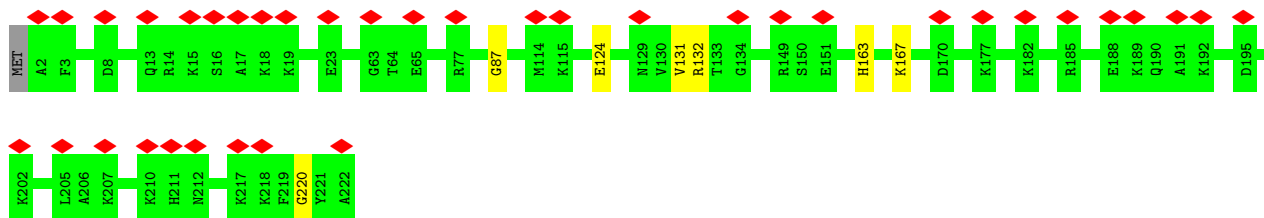




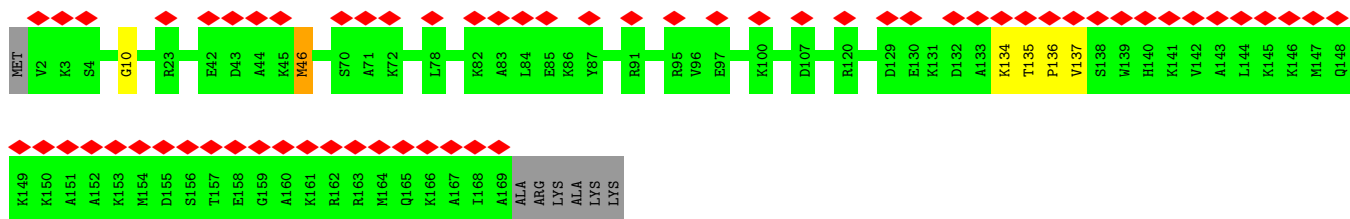
• Molecule 12: eL13



• Molecule 13: uL13

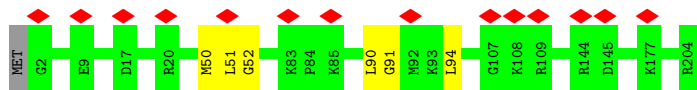


• Molecule 14: eL14

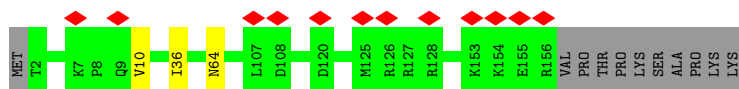
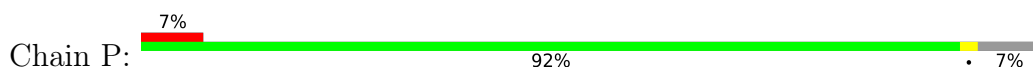


• Molecule 15: eL15

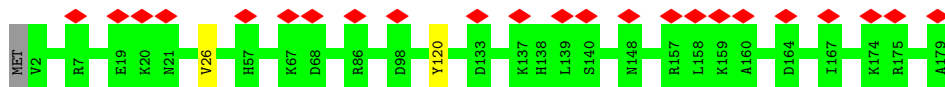




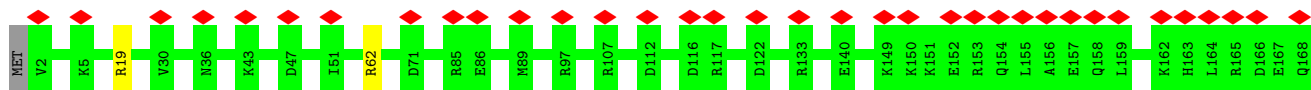
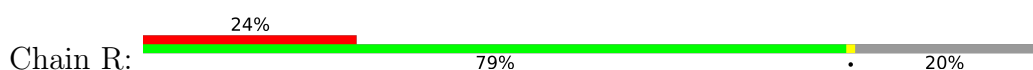
• Molecule 16: uL22



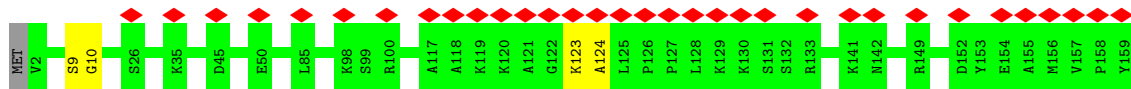
• Molecule 17: eL20



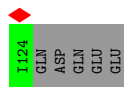
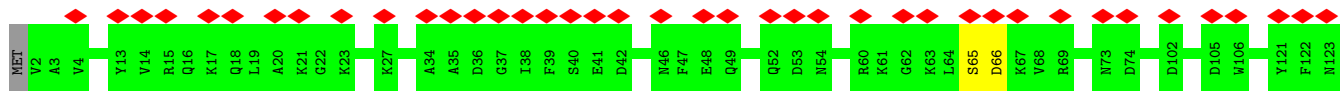
• Molecule 18: eL19



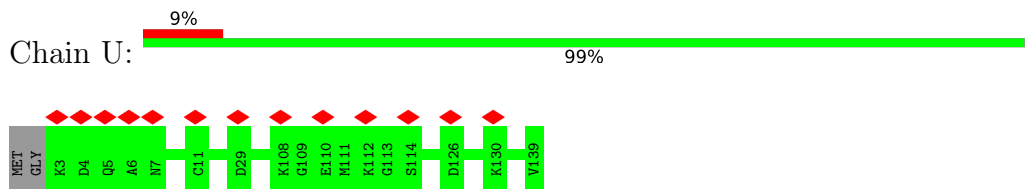
• Molecule 19: eL21



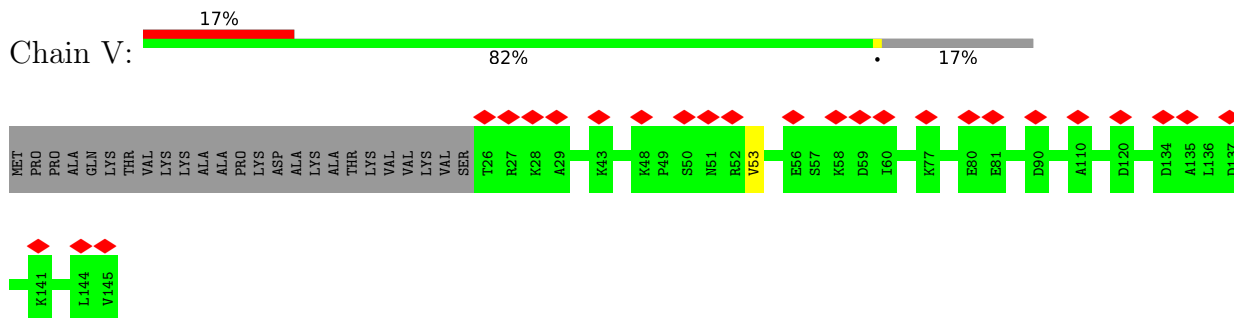
• Molecule 20: eL22



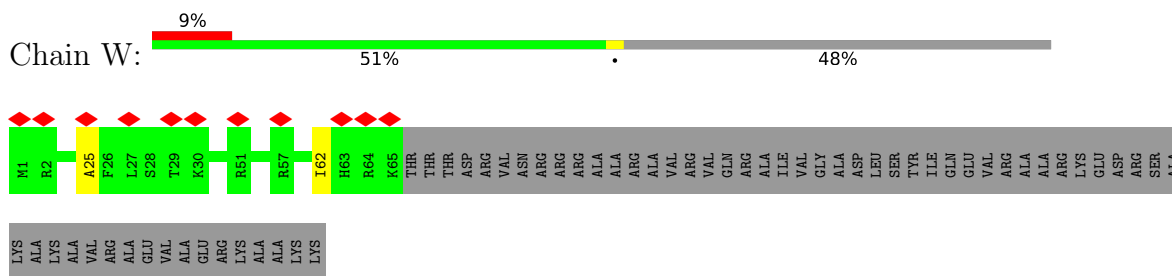
• Molecule 21: uL14



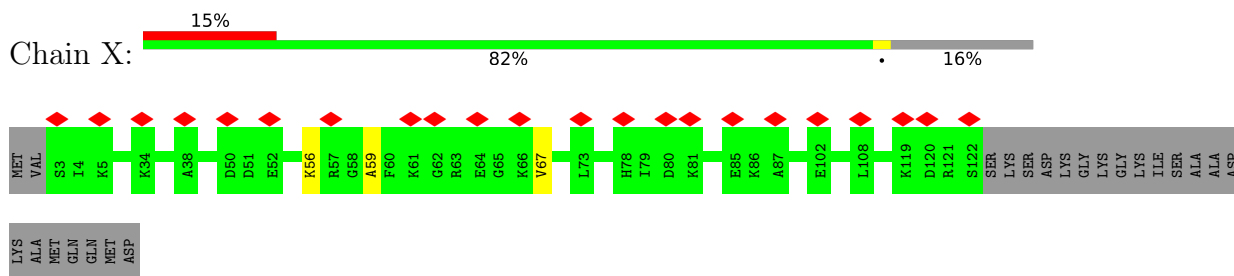
• Molecule 22: uL23



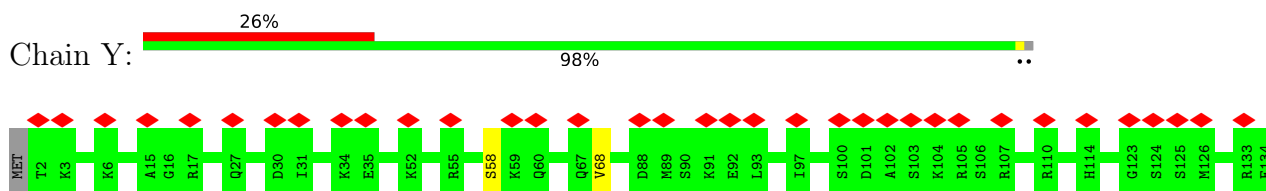
• Molecule 23: eL24



• Molecule 24: uL24

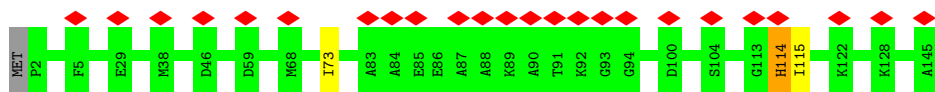


• Molecule 25: eL27

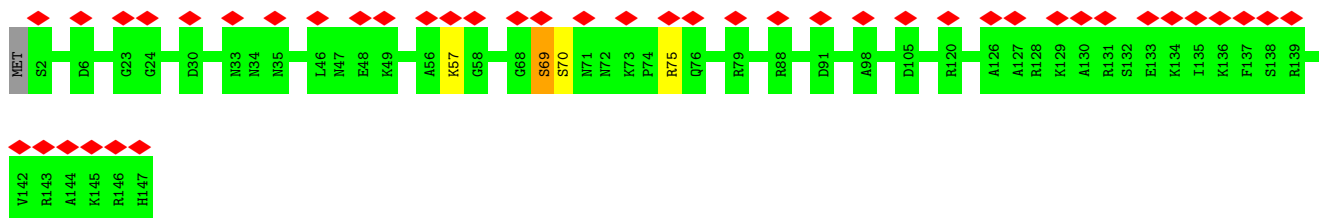


• Molecule 26: uL15

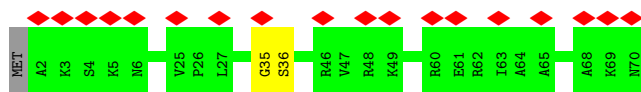




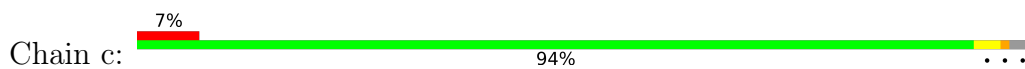
• Molecule 27: eL28



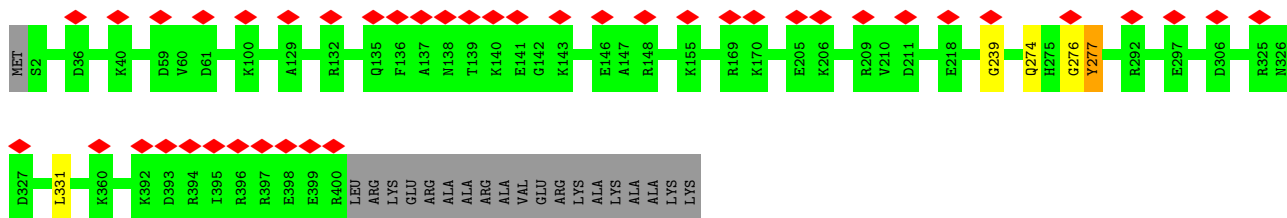
• Molecule 28: eL29



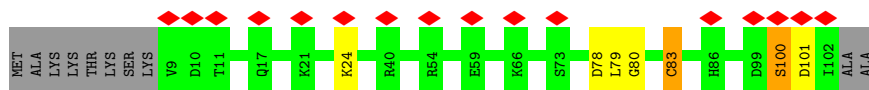
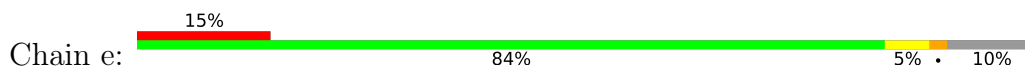
• Molecule 29: uL2



• Molecule 30: uL3



• Molecule 31: eL30



• Molecule 32: eL31



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

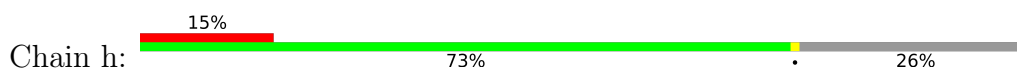
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| ARG | GLY | ALA | THR | ARG | ALA | SER | LEU | ARG | LYS | ARG | THR | GLY | R74 | K75 | P76 | D77 | R113 | S150 | E151 | T152 | T153 | E154 | G155 | N156 | K157 | H158 | A171 | K179 | E182 | Q183 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|

• Molecule 33: eL32



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|
| MET | V2 | K3 | T7 | K8 | S9 | V10 | V11 | K16 | R22 | Y23 | E24 | L25 | A52 | D61 | M88 | G102 | K112 | E115 | L116 | D117 | I121 | N122 | G123 | G124 | A125 | K126 | L127 | R128 | K129 | L130 | GLU | SER | ASN |
|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|

• Molecule 34: eL34



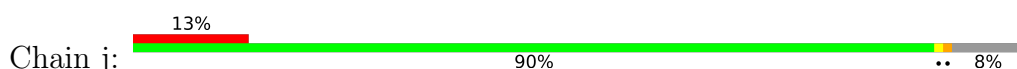
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | S2 | I63 | D64 | D90 | E99 | A100 | Q101 | R102 | I103 | V104 | K105 | Q106 | A107 | L108 | K109 | E110 | H111 | S112 | K113 | M114 | K115 | L116 | S117 | H118 | K119 | R120 | T121 | A122 | N123 | K124 | K125 | LYS | SER | LYS | GLN | SER | LYS | LYS | GLU | ALA | ILE | ALA | LYS | LYS | ILE | SER | THR | LYS | THR | THR | VAL | SER | LYS | LYS | LYS | ALA | PHO |
|-----|----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

• Molecule 35: uL29



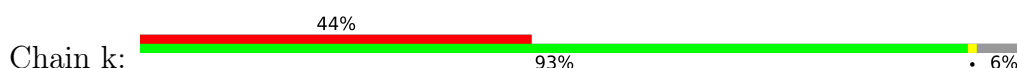
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|
| MET | S2 | M5 | K6 | I7 | K8 | D9 | K15 | D16 | D17 | K20 | E24 | G39 | G40 | A41 | E42 | T43 | R44 | R49 | R67 | S68 | K71 | M72 | A75 | D76 | R77 | K78 | L79 | R80 | C81 | K82 | K85 | K90 | L97 | E101 | K107 | R113 | K120 | K126 | I127 |
|-----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|

• Molecule 36: eL33

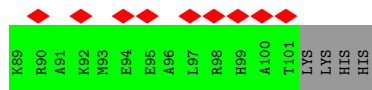


| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| MET | THR | THR | SER | LYS | VAL | HIS | SER | GLN | ARG | SER | I11 | K13 | L14 | H15 | Q16 | L17 | S18 | A19 | K20 | T21 | S22 | R23 | K29 | E65 | K83 | C87 | S91 | R97 | G123 | A124 | S125 | V126 | P127 | A128 | I144 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|

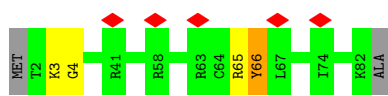
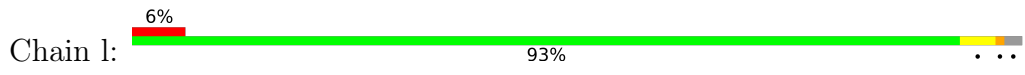
• Molecule 37: eL36



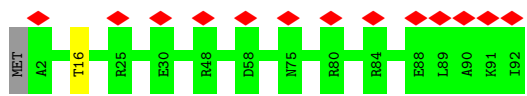
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| MET | SER | A3 | P4 | T5 | P6 | R7 | I10 | I11 | A12 | G13 | R22 | R25 | Q26 | P27 | S28 | P29 | N30 | D31 | R32 | H37 | R41 | A45 | I46 | I47 | A48 | D49 | L50 | L53 | S54 | P55 | L56 | E57 | K58 | R59 | V60 | Q61 | R65 | V66 | G67 | R68 | E69 | K70 | K78 | R79 | D82 | F83 | K87 | K88 |
|-----|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|



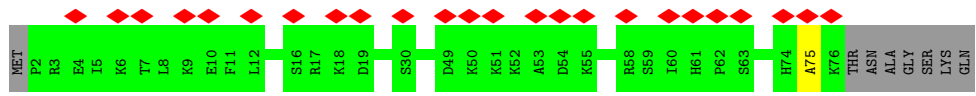
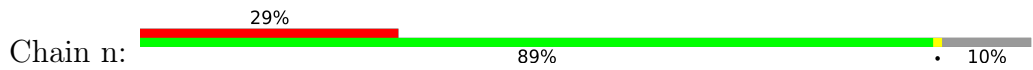
• Molecule 38: eL37



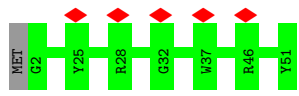
• Molecule 39: eL43



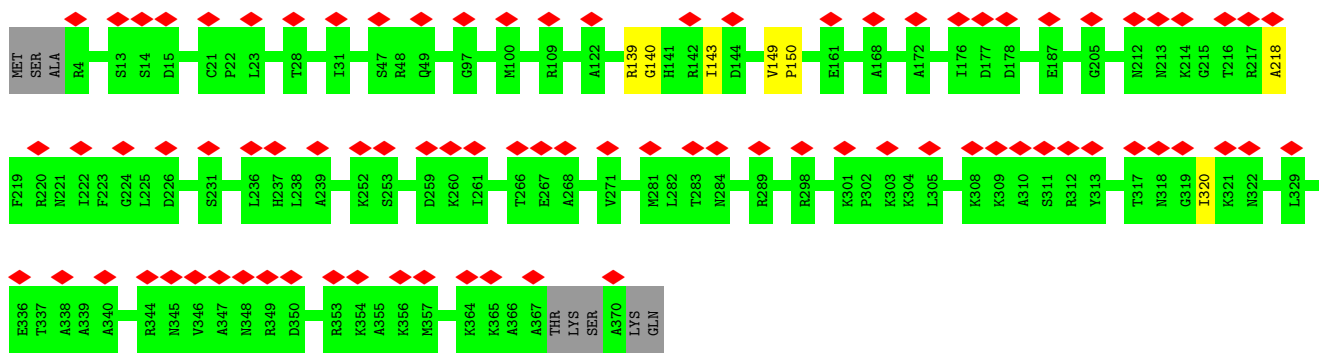
• Molecule 40: eL38



• Molecule 41: eL39



• Molecule 42: uL4



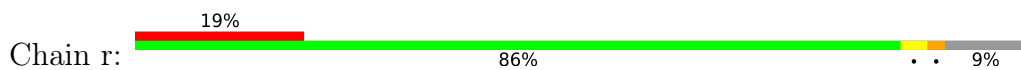
• Molecule 43: eL40



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

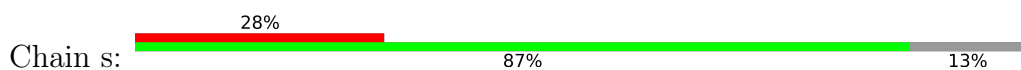
ILE GLN LYS GLU SER THR LEU HIS VAL LEU LEU LEU ARG ARG ARG GLY V77 M78 E79 P80 E92 R106 C110 R128

• Molecule 44: eL42



MET V2 K6 K15 A16 C17 N18 A19 K29 A30 A33 D44 H59 K60 C74 S75 G76 C77 R81 H90 N94 D95 K96 K97 LYS THR GLY ASN LYS ASP PRO THR TRP

• Molecule 45: uL18



MET PRO PHE VAL K5 R15 D29 Y30 H31 L38 T56 D59 E73 E82 F86 G87 I88 H89 G91 A98 G102 K112 L113 G114 I115 A116 D117 K118 F119 Q120 G121 A122 K123 E124 A125 D126 S130 A131 V132 R133 THR LYS LYS ASP ASP GLU L241

ASP ASP GLU E144 D153 T159 G171 D174 G175 G176 N190 K191 E192 S194 S195 L196 D197 A198 K199 D203 R204 I205 K208 A211 E212 K215 Q216 V217 K218 GLU ALA SER ASN PRO ASP GLU LYS C229 V230 R234 Y235 M236 A237 A238 K239 V240 L241

P242 E243 E246 G247 M248 I256 R257 A258 D259 K262 S263 L264 P265 K266 LYS ALA LYS LYS GLU VAL HIS LYS TVR LYS T280 K281 K282 L283 S284 G285 A286 E287 K288 R289 A290 K293 A294 K295 I299 R300 E301 R302 L303 LYS

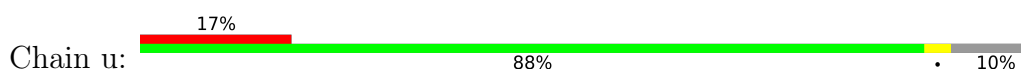
• Molecule 46: eL6



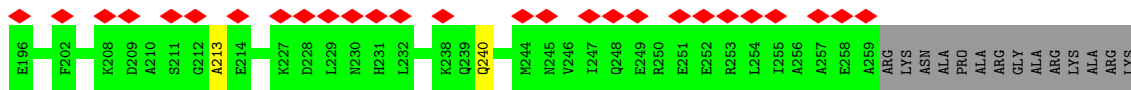
MET ALA THR LYS SER ALA ALA SER ALA ALA LYS THR VAL SER ARG LYS ALA LYS ALA LYS VAL SER ARG LYS S23 P24 E25 Y26 K31 A34 H59 G67 P68 M69 K70 D92 I93 S94 D97 T98 A99 S100 I101 E104 Q107 R108 F109 LYS ALA GLU LYS PRO THR LYS

SER GLU ASP PHE MET GLY ASP ASN LYS ALA ASP MET PRO VAL VAL ALA ALA THR THR SER SER ALA LYS GLY LYS LYS V146 S147 D148 A149 R150 A151 Q152 K156 I157 D158 L161 A164 I165 K166 K167 D168 A169 Q170 G171 K172 D188 R192 W195

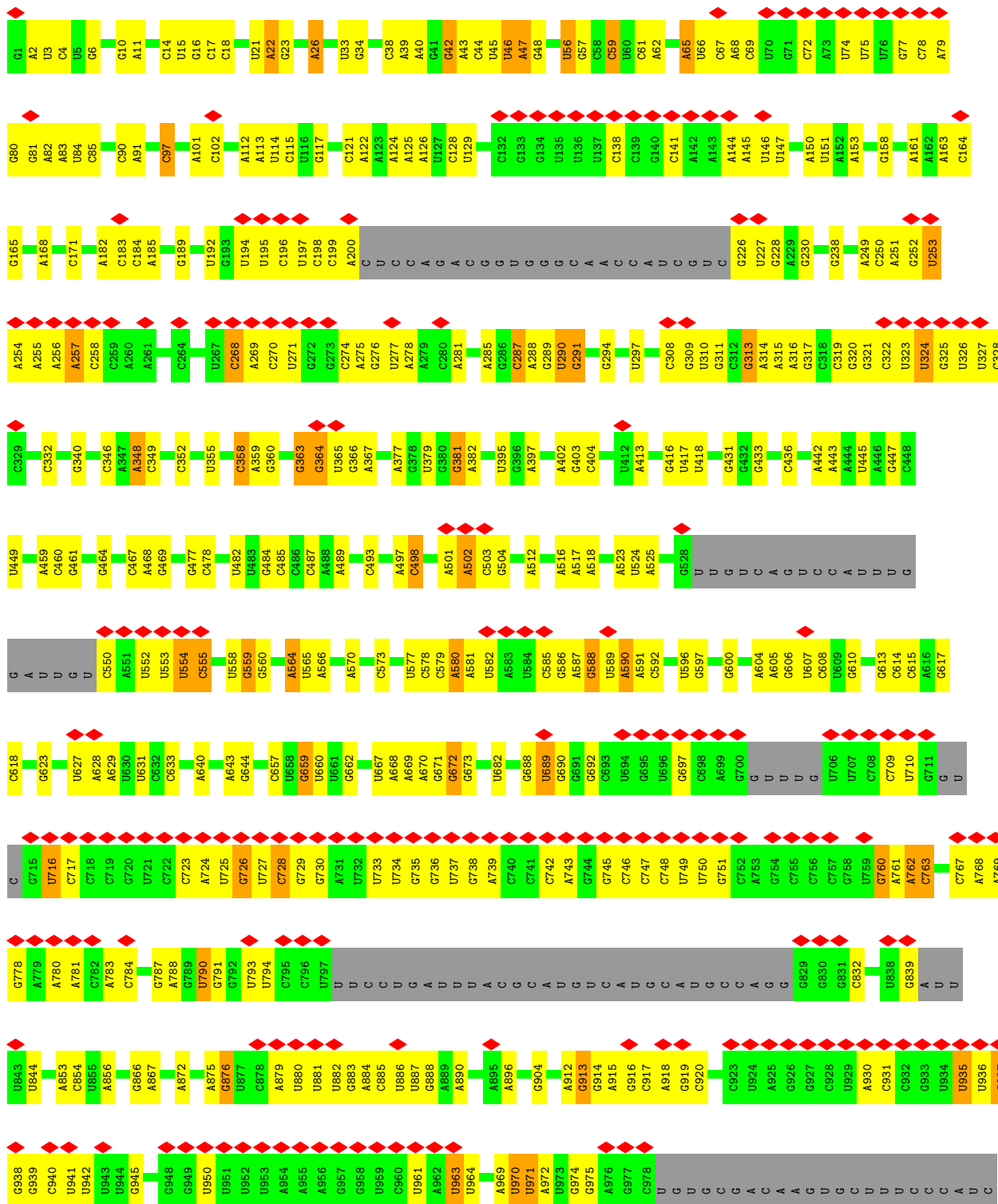
• Molecule 47: uL30

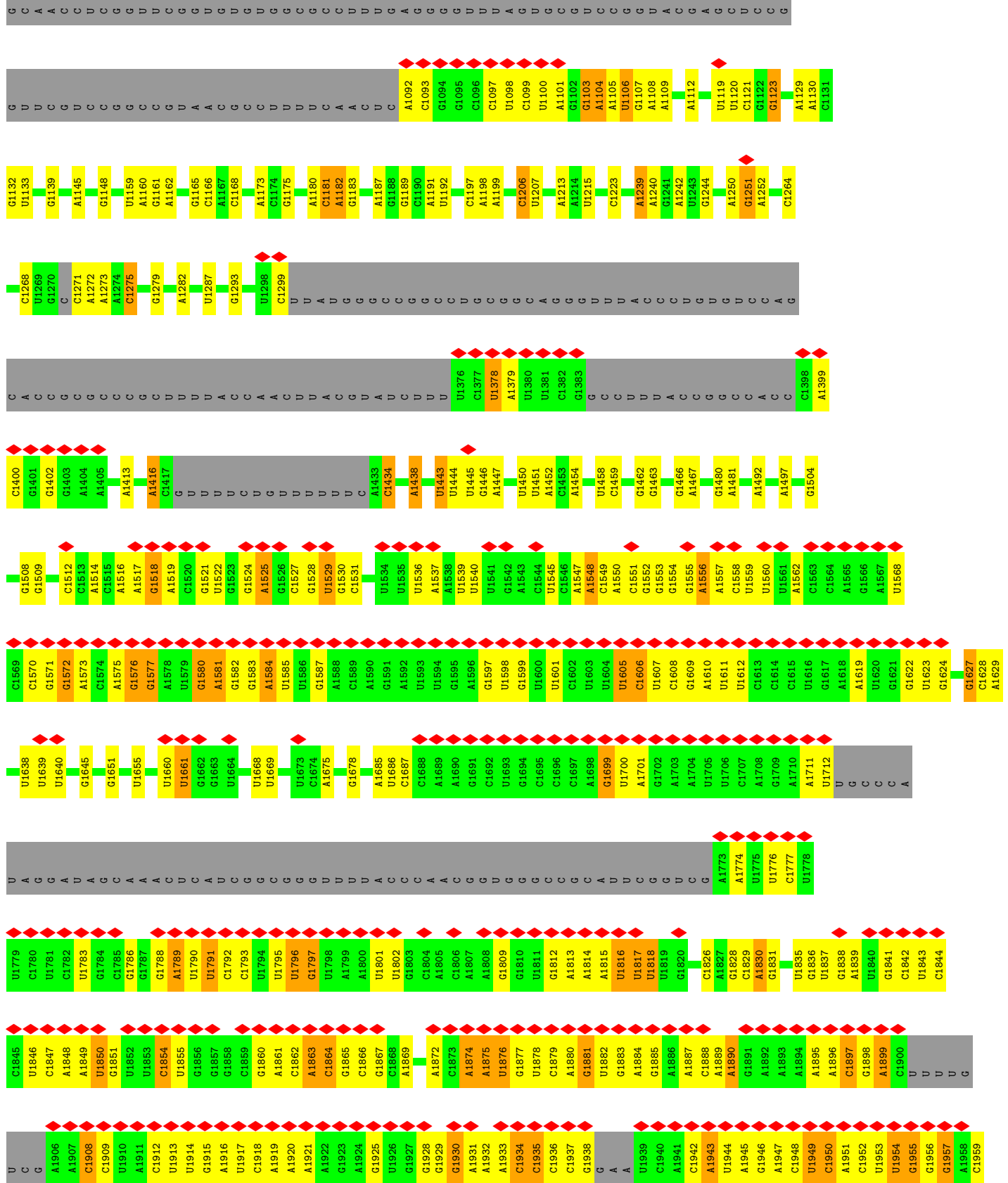


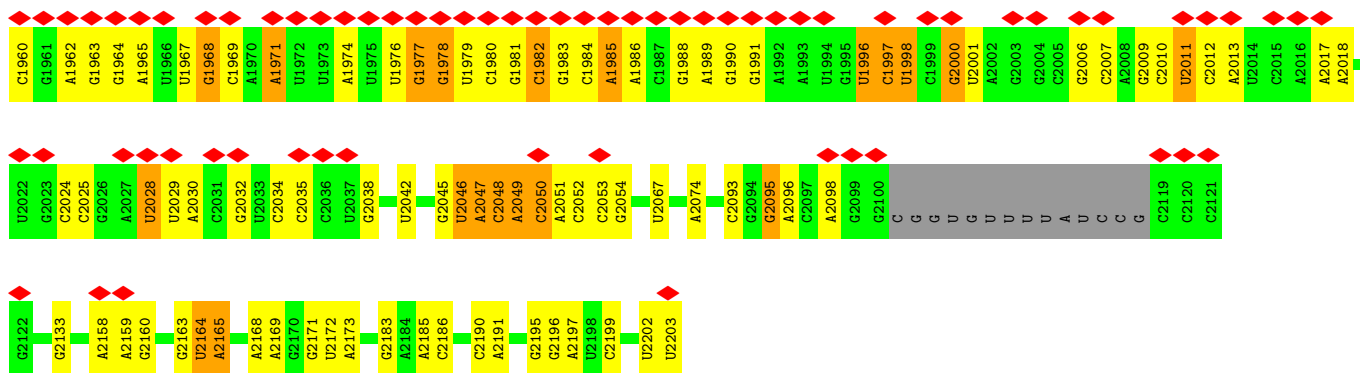
MET THR HIS VAL TYR GLY ASN SER ASP MET PRO VAL VAL ALA ALA PRO PRO GLU THR SER ILE R25 A26 A27 F28 K29 Q30 Q31 Q32 T33 E34 N35 F36 K37 K38 A39 R43 K52 E64 E69 K70 S81 E88 A89 K90 R110 E134 A145



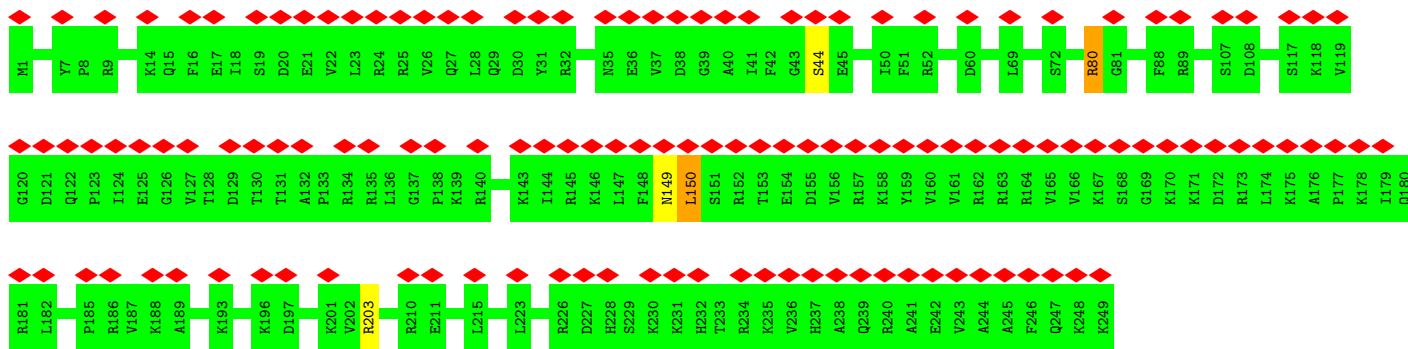
• Molecule 52: 18S rRNA



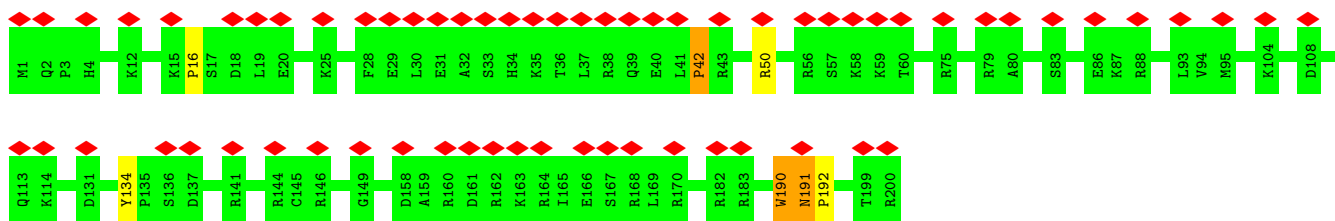




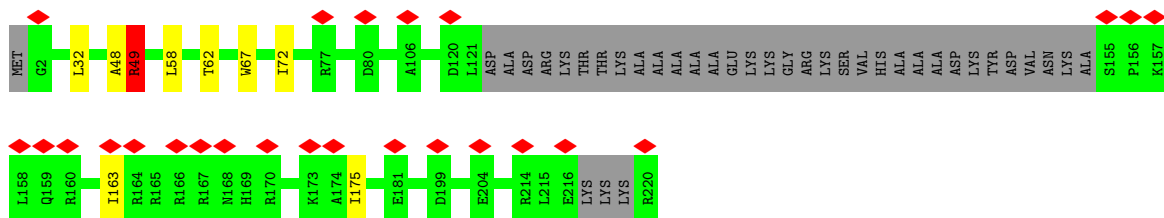
• Molecule 53: eS6



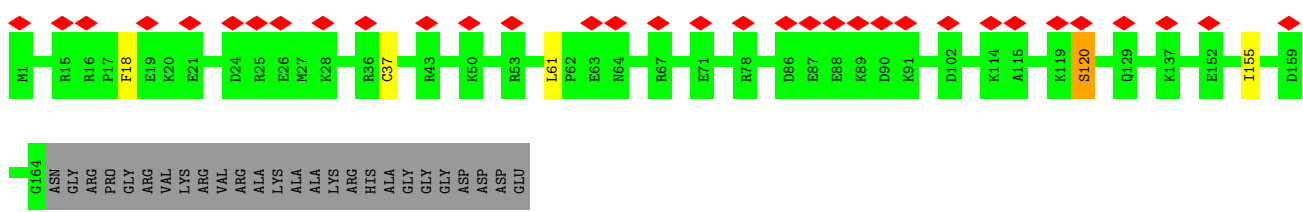
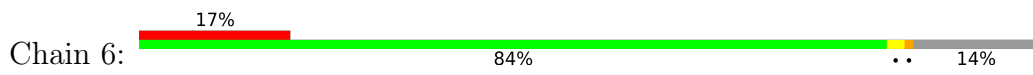
• Molecule 54: eS7



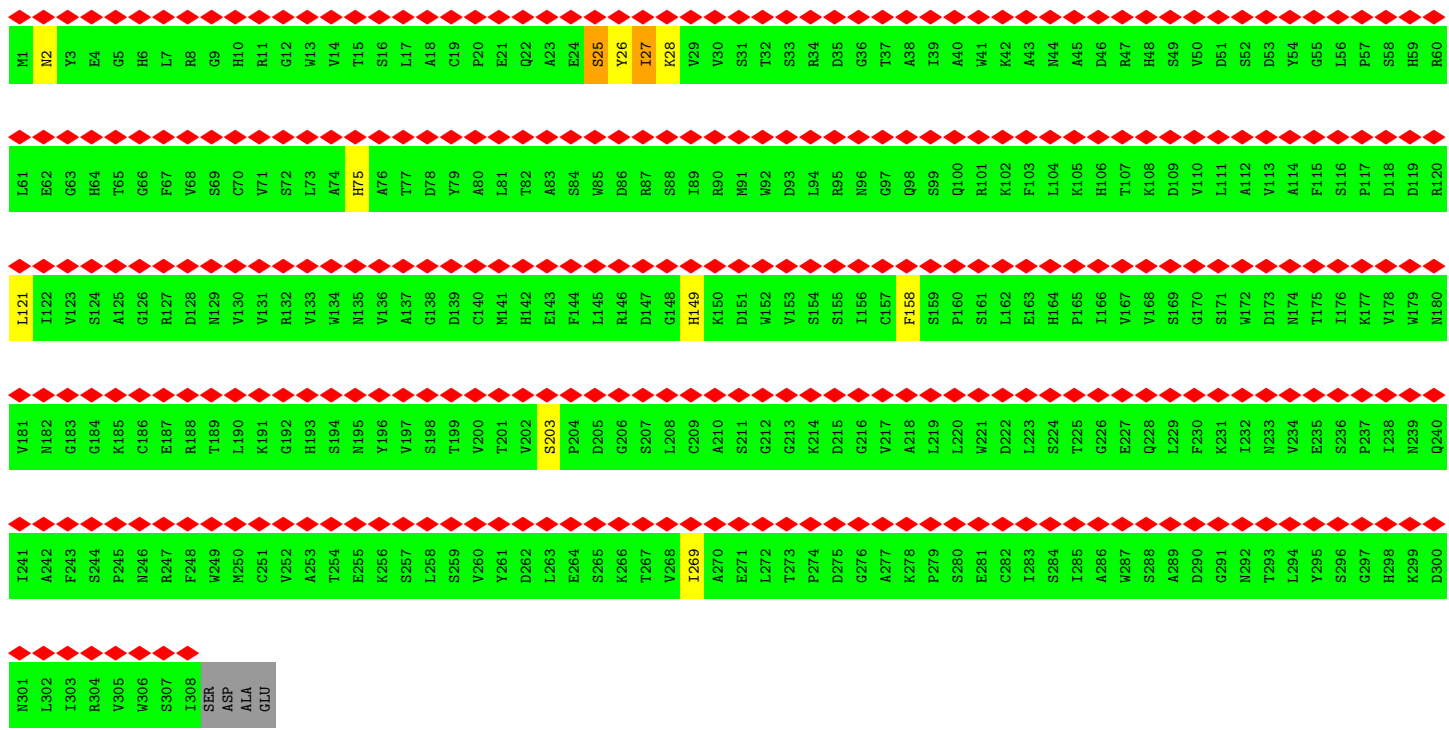
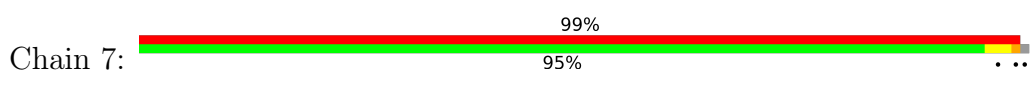
• Molecule 55: eS8



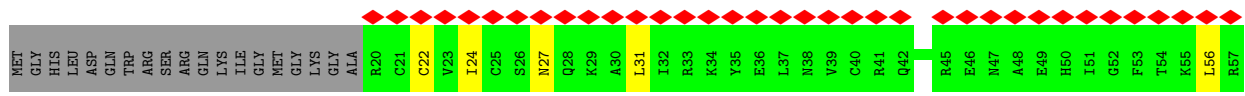
• Molecule 56: uS4



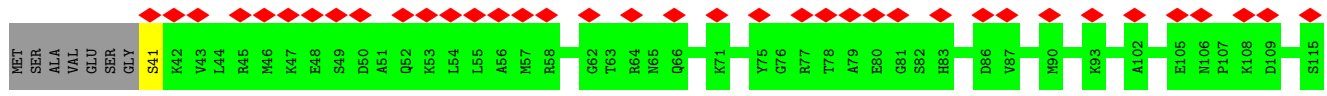
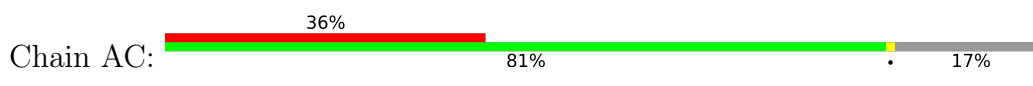
• Molecule 57: RACK1

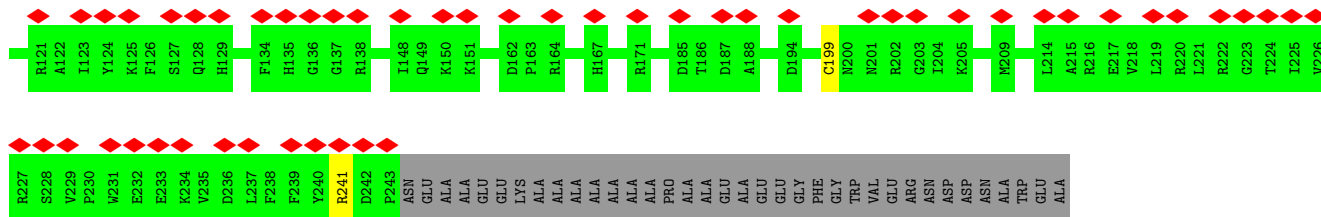


• Molecule 58: uS14

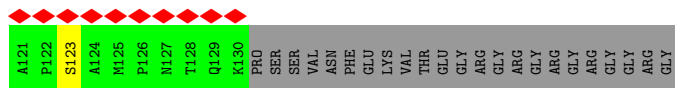
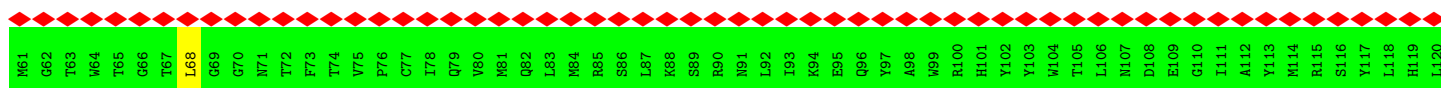
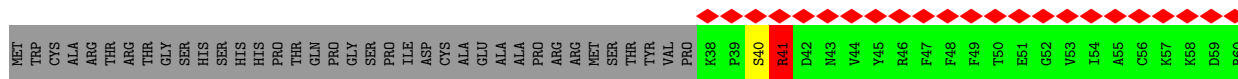


• Molecule 59: uS2

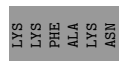
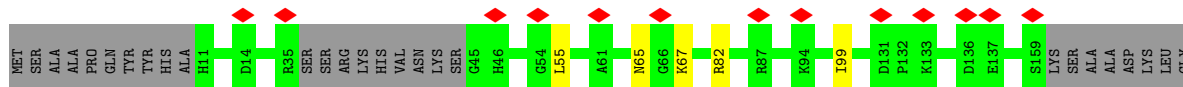
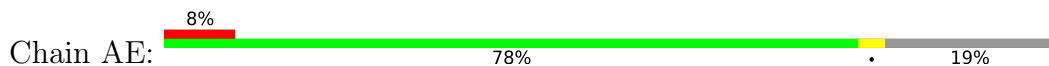




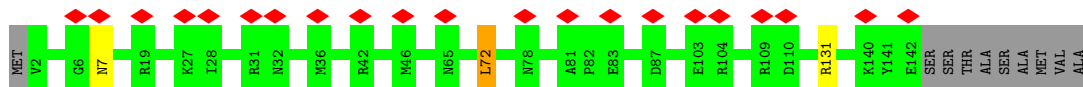
• Molecule 60: eS10



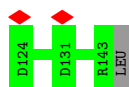
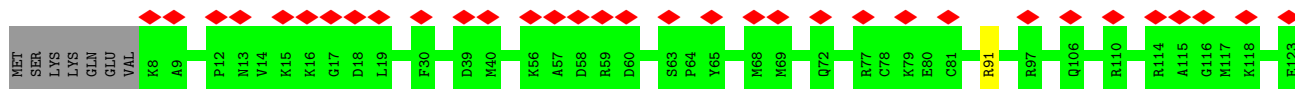
• Molecule 61: uS17



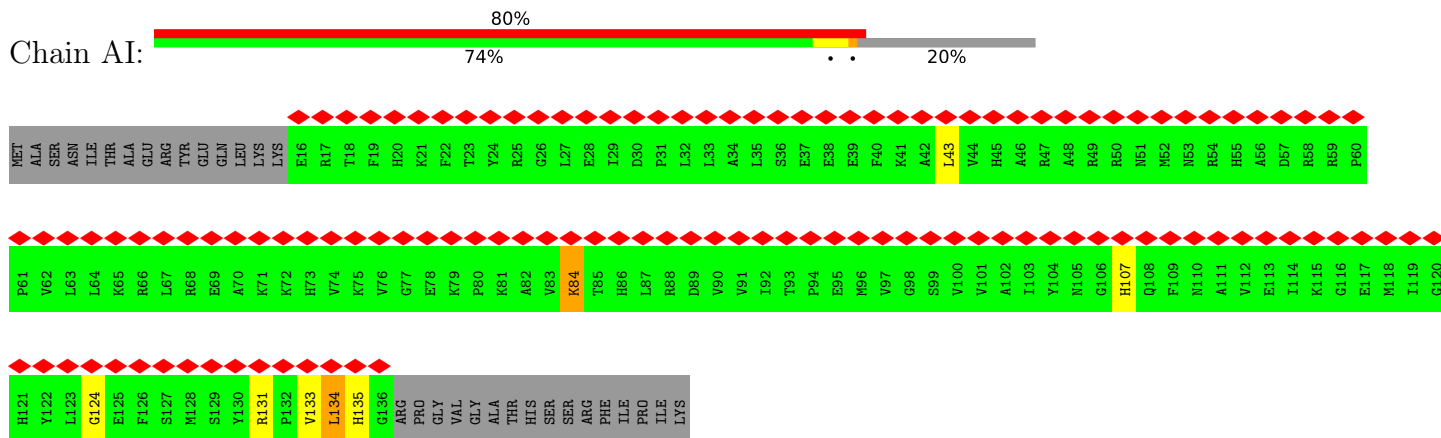
• Molecule 62: uS15



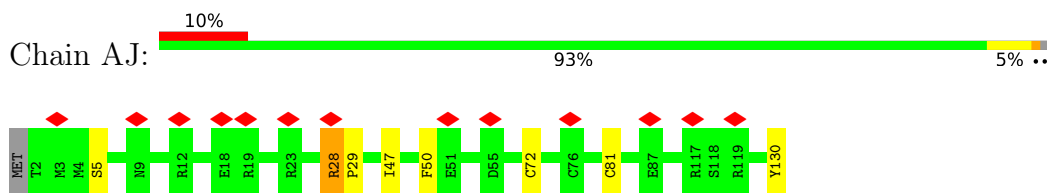
• Molecule 63: uS11



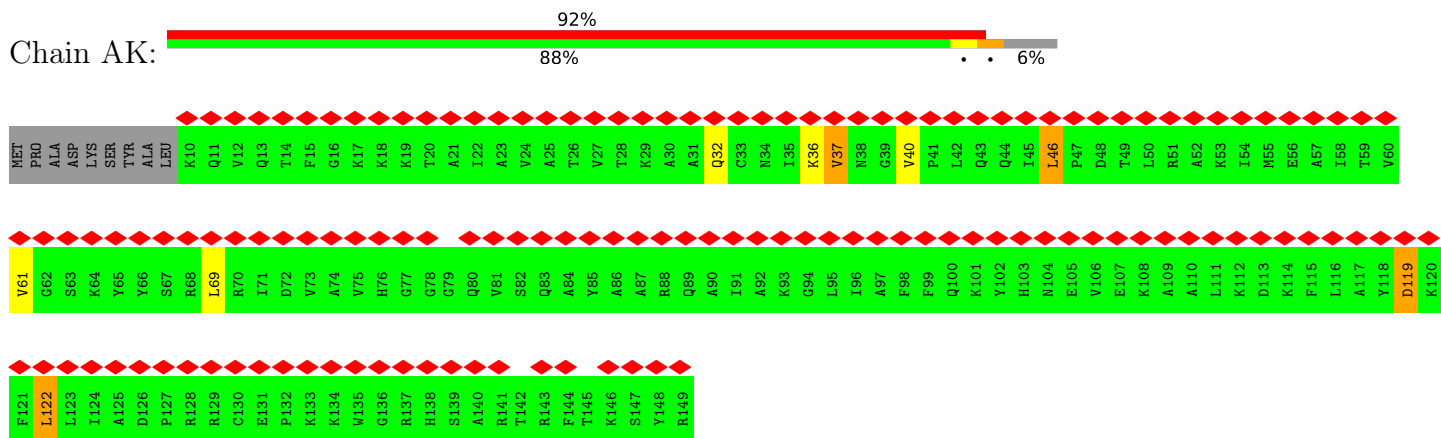
• Molecule 64: uS19



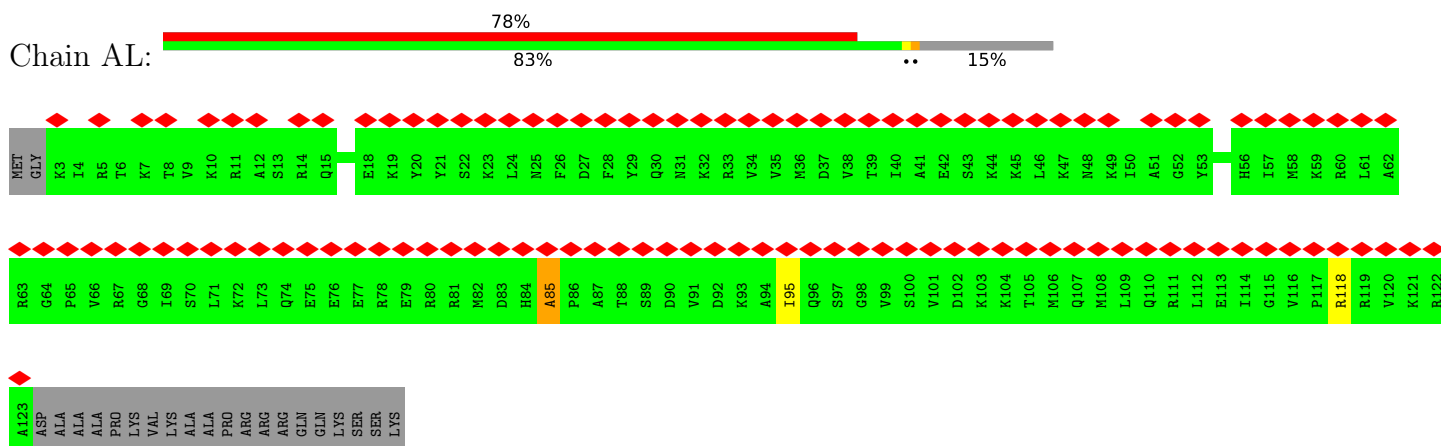
• Molecule 65: uS8



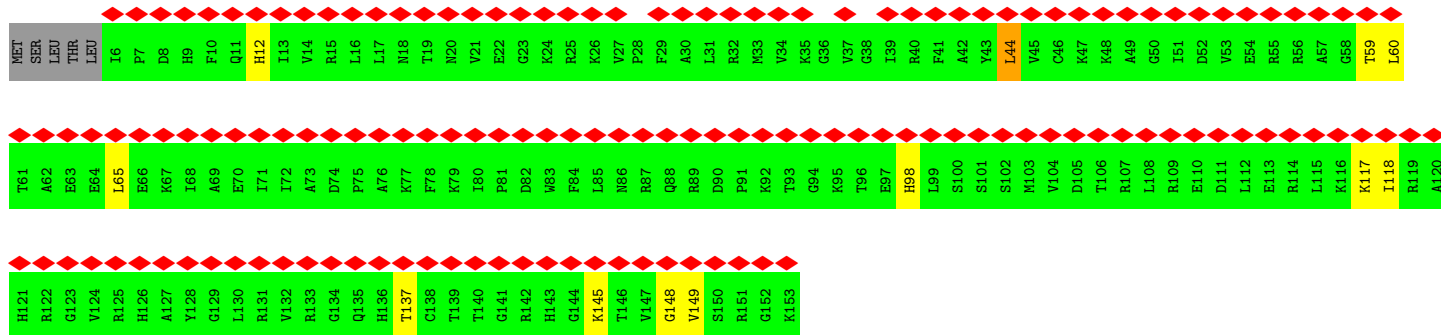
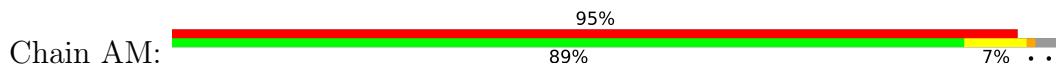
• Molecule 66: uS9



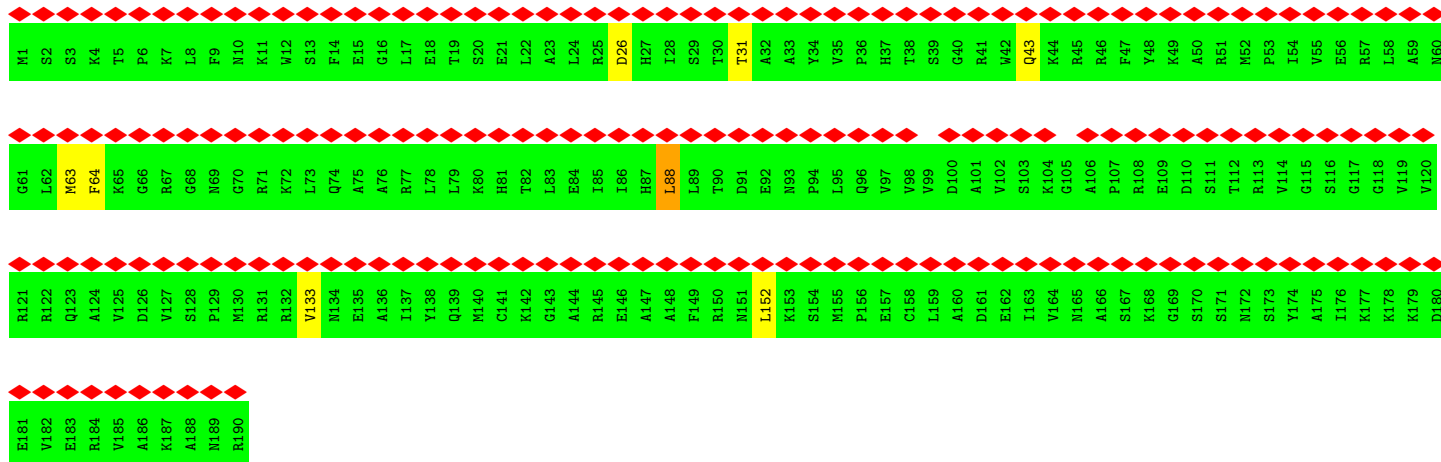
• Molecule 67: eS17



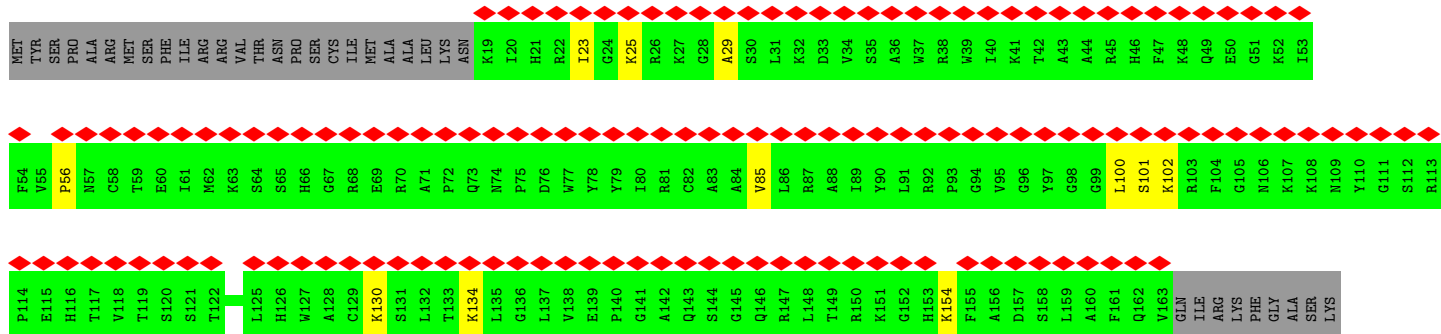
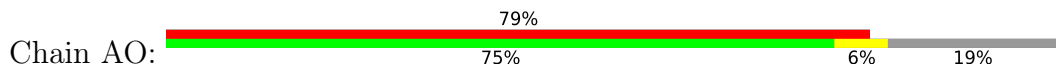
• Molecule 68: uS13



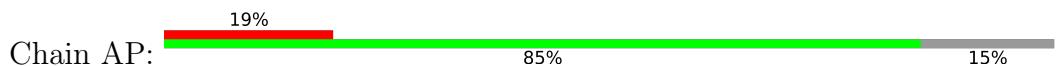
• Molecule 69: uS7

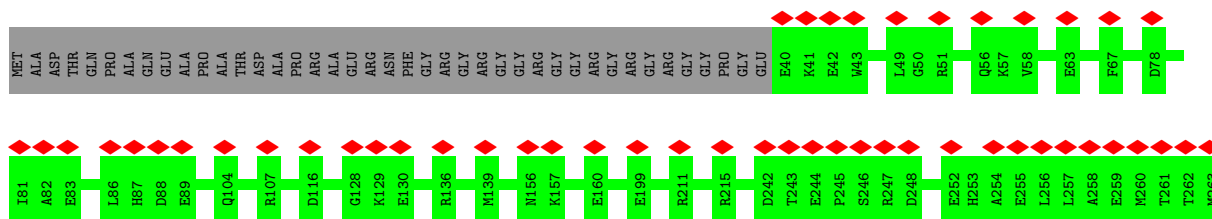


• Molecule 70: eS19

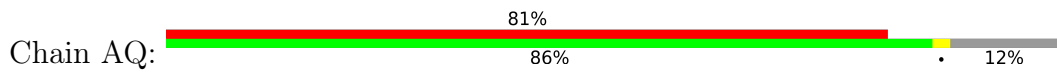


• Molecule 71: uS5

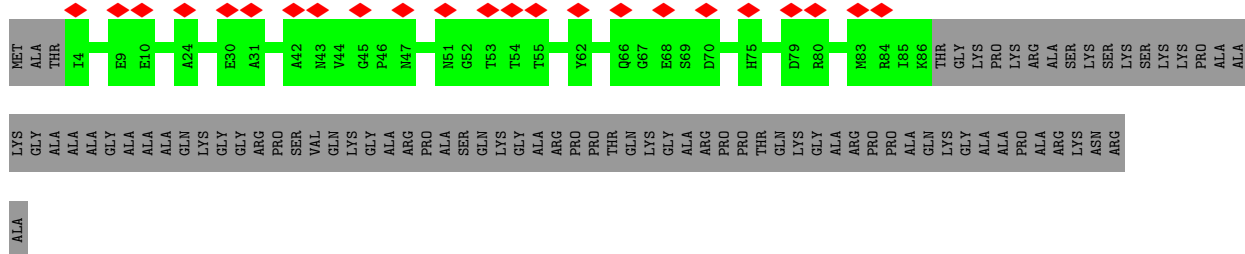




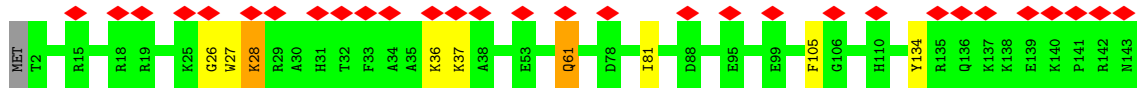
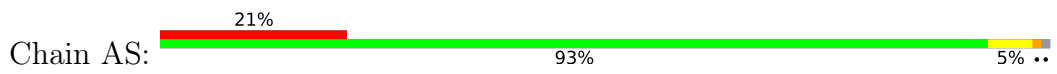
• Molecule 72: uS10



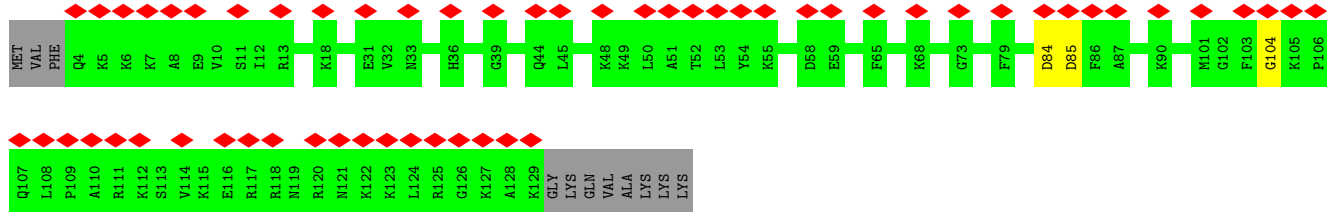
• Molecule 73: eS21



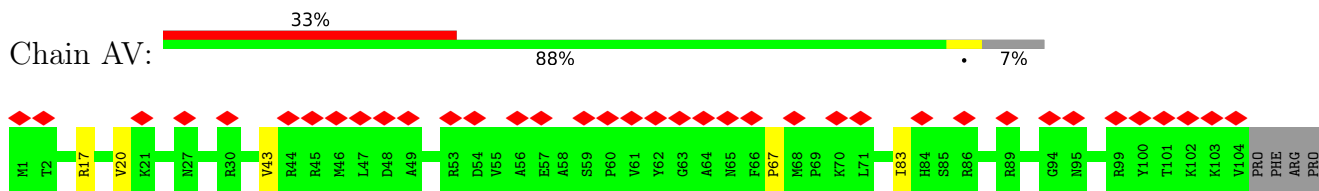
• Molecule 74: uS12



• Molecule 75: eS24

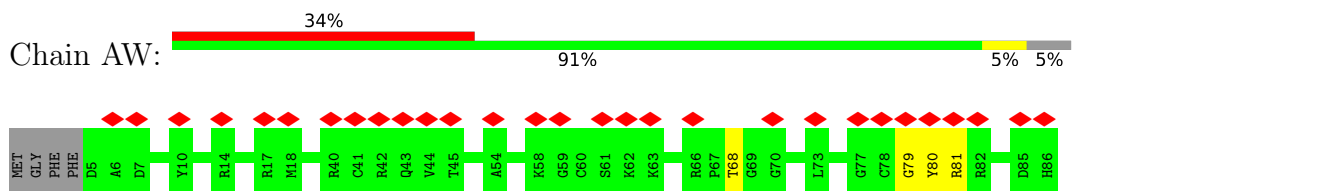


• Molecule 76: eS26

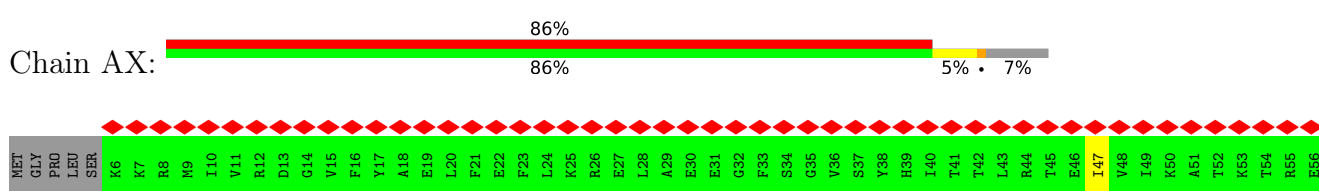


GLY
GLY
LYS
LYS

• Molecule 77: eS27



• Molecule 78: uS3

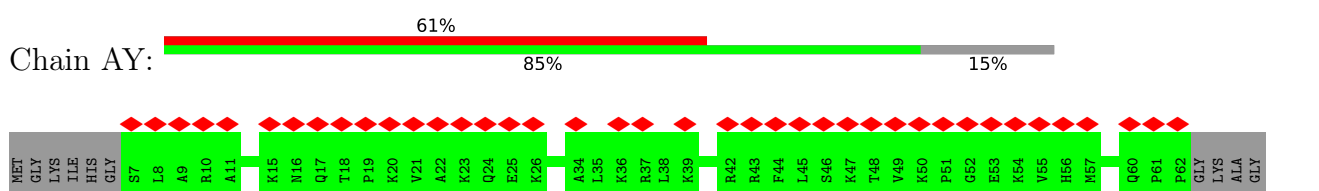


M61, G62, R63, R64, L65, R66, E67, L68, T69, A70, C71, I72, Q73, Q74, R75, F76, M77, Y78, K79, E80, G81, K82, L83, Q84, L85, Y86, W87, E88, R89, V90, E91, V92, R93, G94, L95, K96, S97, A98, H99, A99, Q100, V101, E102, S103, L104, R105, E106, K107, L108, L109, S110, M111, L112, Q113, V114, R115, R116, A117, A118, M119, G120.

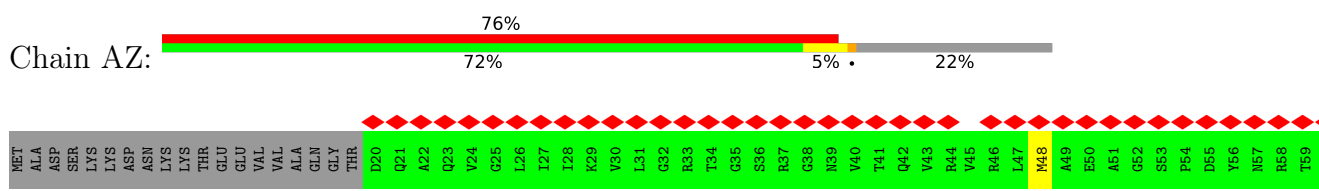
I121, I122, R123, Y124, M125, E127, S128, G129, A130, K131, G132, C133, E134, G138, G139, K140, I141, K142, G143, Q144, R145, A146, K147, S148, M149, T150, F151, R152, D153, G154, Y155, M156, I157, K158, S159, G160, T161, A162, H163, K164, S165, F166, V167, D168, S169, A170, C171, R172, H173, C174, Y175, M176, R177, A178, G179, C180, I181.

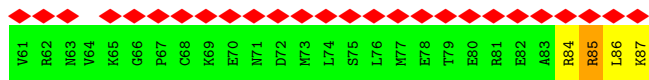
K184, V185, K186, I187, M188, P190, S191, D192, S193, T194, R195, R196, N197, G198, P199, S200, E201, F202, L203, P204, D205, V206, T207, VAL, ILE, GLU, PRO, LYS, GLN, ILE, THR, SER, GLU.

• Molecule 79: eS30



• Molecule 80: eS28





4 Experimental information

| Property | Value | Source |
|--------------------------------------|---------------------------------|-----------|
| EM reconstruction method | SINGLE PARTICLE | Depositor |
| Imposed symmetry | POINT, Not provided | |
| Number of particles used | 213108 | Depositor |
| Resolution determination method | FSC 0.143 CUT-OFF | Depositor |
| CTF correction method | PHASE FLIPPING ONLY | Depositor |
| Microscope | FEI TITAN KRIOS | Depositor |
| Voltage (kV) | 300 | Depositor |
| Electron dose ($e^-/\text{\AA}^2$) | 20 | Depositor |
| Minimum defocus (nm) | Not provided | |
| Maximum defocus (nm) | Not provided | |
| Magnification | Not provided | |
| Image detector | GATAN K2 SUMMIT (4k x 4k) | Depositor |
| Maximum map value | 0.039 | Depositor |
| Minimum map value | -0.020 | Depositor |
| Average map value | 0.000 | Depositor |
| Map value standard deviation | 0.003 | Depositor |
| Recommended contour level | 0.01 | Depositor |
| Map size (\AA) | 317.31998, 317.31998, 317.31998 | wwPDB |
| Map dimensions | 400, 400, 400 | wwPDB |
| Map angles ($^\circ$) | 90.0, 90.0, 90.0 | wwPDB |
| Pixel spacing (\AA) | 0.7932999, 0.7932999, 0.7932999 | Depositor |

5 Model quality i

5.1 Standard geometry i

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

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|---------------|-------------|-----------------|
| | | RMSZ | # $ Z > 5$ | RMSZ | # $ Z > 5$ |
| 1 | A | 1.03 | 0/38479 | 0.88 | 24/59984 (0.0%) |
| 2 | B | 1.05 | 0/25421 | 0.84 | 8/39614 (0.0%) |
| 3 | C | 0.98 | 1/3855 (0.0%) | 0.89 | 2/6002 (0.0%) |
| 4 | D | 0.93 | 0/2829 | 0.79 | 0/4405 |
| 5 | E | 1.01 | 0/4004 | 0.83 | 1/6223 (0.0%) |
| 6 | F | 0.84 | 0/1686 | 0.86 | 1/2623 (0.0%) |
| 7 | G | 1.11 | 0/4373 | 0.88 | 8/6817 (0.1%) |
| 8 | H | 1.15 | 0/2230 | 0.88 | 2/3470 (0.1%) |
| 9 | I | 0.60 | 1/1564 (0.1%) | 0.75 | 2/2092 (0.1%) |
| 10 | J | 0.53 | 0/1737 | 0.62 | 0/2324 |
| 11 | K | 0.42 | 0/1362 | 0.56 | 0/1821 |
| 12 | L | 0.52 | 0/1463 | 0.60 | 2/1952 (0.1%) |
| 13 | M | 0.59 | 0/1815 | 0.67 | 3/2436 (0.1%) |
| 14 | N | 0.51 | 0/1355 | 0.66 | 3/1814 (0.2%) |
| 15 | O | 0.65 | 2/1754 (0.1%) | 0.71 | 5/2342 (0.2%) |
| 16 | P | 0.61 | 0/1269 | 0.62 | 0/1700 |
| 17 | Q | 0.61 | 0/1490 | 0.60 | 0/2007 |
| 18 | R | 0.50 | 0/1665 | 0.54 | 0/2206 |
| 19 | S | 0.58 | 0/1290 | 0.71 | 2/1734 (0.1%) |
| 20 | T | 0.52 | 0/1013 | 0.61 | 1/1350 (0.1%) |
| 21 | U | 0.64 | 0/1052 | 0.64 | 0/1417 |
| 22 | V | 0.50 | 0/978 | 0.58 | 0/1318 |
| 23 | W | 0.65 | 0/584 | 0.53 | 0/785 |
| 24 | X | 0.54 | 0/980 | 0.67 | 0/1308 |
| 25 | Y | 0.56 | 0/1100 | 0.57 | 0/1470 |
| 26 | Z | 0.57 | 0/1153 | 0.72 | 2/1541 (0.1%) |
| 27 | a | 0.47 | 0/1157 | 0.65 | 2/1548 (0.1%) |
| 28 | b | 0.41 | 0/565 | 0.62 | 1/754 (0.1%) |
| 29 | c | 0.69 | 2/1961 (0.1%) | 0.72 | 1/2630 (0.0%) |
| 30 | d | 0.64 | 0/3250 | 0.69 | 4/4368 (0.1%) |
| 31 | e | 0.57 | 0/730 | 0.77 | 3/988 (0.3%) |
| 32 | f | 0.55 | 0/893 | 0.61 | 0/1196 |
| 33 | g | 0.57 | 0/1071 | 0.71 | 1/1432 (0.1%) |
| 34 | h | 0.57 | 0/1030 | 0.62 | 0/1369 |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-----------------|-------------|------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 35 | i | 0.45 | 0/1067 | 0.59 | 1/1416 (0.1%) |
| 36 | j | 0.63 | 0/1082 | 0.68 | 1/1454 (0.1%) |
| 37 | k | 0.42 | 0/802 | 0.50 | 0/1073 |
| 38 | l | 0.64 | 1/688 (0.1%) | 0.87 | 2/918 (0.2%) |
| 39 | m | 0.63 | 0/724 | 0.66 | 0/964 |
| 40 | n | 0.54 | 0/614 | 0.58 | 1/818 (0.1%) |
| 41 | o | 0.58 | 0/463 | 0.65 | 0/617 |
| 42 | p | 0.53 | 0/2874 | 0.67 | 3/3865 (0.1%) |
| 43 | q | 0.61 | 0/431 | 0.66 | 1/572 (0.2%) |
| 44 | r | 0.59 | 1/792 (0.1%) | 0.69 | 2/1046 (0.2%) |
| 45 | s | 0.49 | 0/2129 | 0.58 | 1/2846 (0.0%) |
| 46 | t | 0.57 | 0/1074 | 0.78 | 5/1454 (0.3%) |
| 47 | u | 0.57 | 0/1891 | 0.61 | 2/2531 (0.1%) |
| 48 | v | 0.48 | 0/1878 | 0.57 | 0/2524 |
| 49 | w | 0.56 | 0/1504 | 0.64 | 0/2024 |
| 50 | 0 | 0.70 | 0/1811 | 0.76 | 4/2438 (0.2%) |
| 51 | 1 | 0.80 | 0/2076 | 0.78 | 1/2799 (0.0%) |
| 52 | 2 | 1.66 | 86/43318 (0.2%) | 1.27 | 315/67487 (0.5%) |
| 53 | 3 | 0.66 | 1/2019 (0.0%) | 0.77 | 3/2694 (0.1%) |
| 54 | 4 | 0.76 | 0/1697 | 0.88 | 4/2276 (0.2%) |
| 55 | 5 | 0.89 | 2/1494 (0.1%) | 1.01 | 7/2000 (0.3%) |
| 56 | 6 | 0.75 | 1/1389 (0.1%) | 0.73 | 1/1866 (0.1%) |
| 57 | 7 | 0.46 | 1/2454 (0.0%) | 0.75 | 6/3337 (0.2%) |
| 58 | 8 | 0.73 | 0/317 | 1.00 | 3/421 (0.7%) |
| 59 | AC | 0.68 | 0/1656 | 0.69 | 0/2238 |
| 60 | AD | 0.47 | 0/788 | 0.91 | 3/1064 (0.3%) |
| 61 | AE | 0.98 | 0/1171 | 0.75 | 1/1570 (0.1%) |
| 62 | AG | 0.83 | 0/1180 | 0.80 | 1/1581 (0.1%) |
| 63 | AH | 0.78 | 0/1038 | 0.80 | 1/1392 (0.1%) |
| 64 | AI | 1.11 | 1/1006 (0.1%) | 0.94 | 8/1351 (0.6%) |
| 65 | AJ | 0.94 | 2/1037 (0.2%) | 0.89 | 1/1391 (0.1%) |
| 66 | AK | 0.54 | 0/1128 | 0.82 | 3/1515 (0.2%) |
| 67 | AL | 0.52 | 0/993 | 0.69 | 0/1322 |
| 68 | AM | 0.50 | 0/1206 | 0.88 | 2/1615 (0.1%) |
| 69 | AN | 0.48 | 0/1516 | 0.75 | 2/2034 (0.1%) |
| 70 | AO | 0.51 | 0/1180 | 0.78 | 1/1585 (0.1%) |
| 71 | AP | 0.80 | 0/1758 | 0.76 | 0/2380 |
| 72 | AQ | 0.51 | 0/817 | 0.75 | 0/1107 |
| 73 | AR | 0.67 | 0/639 | 0.72 | 0/866 |
| 74 | AS | 0.81 | 0/1134 | 0.89 | 3/1517 (0.2%) |
| 75 | AT | 0.68 | 0/1054 | 0.70 | 0/1405 |
| 76 | AV | 0.69 | 0/845 | 0.76 | 0/1130 |
| 77 | AW | 1.25 | 2/658 (0.3%) | 0.80 | 1/883 (0.1%) |

| Mol | Chain | Bond lengths | | Bond angles | |
|-----|-------|--------------|-------------------|-------------|-------------------|
| | | RMSZ | # Z >5 | RMSZ | # Z >5 |
| 78 | AX | 0.56 | 0/1616 | 0.83 | 6/2159 (0.3%) |
| 79 | AY | 0.54 | 0/460 | 0.73 | 0/611 |
| 80 | AZ | 0.60 | 1/528 (0.2%) | 0.83 | 1/705 (0.1%) |
| All | All | 1.06 | 105/215154 (0.0%) | 0.92 | 475/315901 (0.2%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 9 | I | 0 | 1 |
| 13 | M | 0 | 2 |
| 16 | P | 0 | 2 |
| 20 | T | 0 | 1 |
| 23 | W | 0 | 1 |
| 24 | X | 0 | 1 |
| 28 | b | 0 | 1 |
| 29 | c | 0 | 1 |
| 31 | e | 0 | 1 |
| 37 | k | 0 | 1 |
| 38 | l | 0 | 3 |
| 39 | m | 0 | 1 |
| 47 | u | 0 | 1 |
| 50 | 0 | 0 | 1 |
| 53 | 3 | 0 | 1 |
| 54 | 4 | 0 | 1 |
| 55 | 5 | 0 | 2 |
| 57 | 7 | 0 | 1 |
| 58 | 8 | 0 | 1 |
| 59 | AC | 0 | 3 |
| 61 | AE | 0 | 1 |
| 62 | AG | 0 | 3 |
| 64 | AI | 0 | 3 |
| 66 | AK | 0 | 1 |
| 67 | AL | 0 | 1 |
| 68 | AM | 0 | 7 |
| 69 | AN | 0 | 4 |
| 70 | AO | 0 | 6 |
| 72 | AQ | 0 | 1 |
| 75 | AT | 0 | 2 |
| 77 | AW | 0 | 1 |

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| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 78 | AX | 0 | 1 |
| All | All | 0 | 58 |

The worst 5 of 105 bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(Å) | Ideal(Å) |
|-----|-------|------|------|-------|-------|-------------|----------|
| 52 | 2 | 1864 | C | N3-C4 | 80.83 | 1.90 | 1.33 |
| 52 | 2 | 1864 | C | C2-N3 | 72.70 | 1.94 | 1.35 |
| 52 | 2 | 1864 | C | N1-C6 | 69.47 | 1.78 | 1.37 |
| 52 | 2 | 1864 | C | N1-C2 | 48.39 | 1.88 | 1.40 |
| 52 | 2 | 1864 | C | C4-C5 | 48.22 | 1.81 | 1.43 |

The worst 5 of 475 bond angle outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 52 | 2 | 971 | U | O5'-P-OP2 | -31.09 | 73.39 | 110.70 |
| 52 | 2 | 1954 | U | P-O3'-C3' | 28.04 | 153.35 | 119.70 |
| 52 | 2 | 1818 | U | O5'-P-OP2 | -26.60 | 78.78 | 110.70 |
| 52 | 2 | 1818 | U | O5'-P-OP1 | -22.31 | 83.92 | 110.70 |
| 52 | 2 | 971 | U | O5'-P-OP1 | -21.05 | 85.44 | 110.70 |

There are no chirality outliers.

5 of 58 planarity outliers are listed below:

| Mol | Chain | Res | Type | Group |
|-----|-------|-----|------|---------|
| 9 | I | 180 | THR | Peptide |
| 13 | M | 132 | ARG | Peptide |
| 13 | M | 163 | HIS | Peptide |
| 16 | P | 36 | ILE | Peptide |
| 16 | P | 64 | ASN | Peptide |

5.2 Too-close contacts

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

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|------------|----------|----------|-------------|-----|
| 9 | I | 195/198 (98%) | 180 (92%) | 12 (6%) | 3 (2%) | 10 | 34 |
| 10 | J | 209/213 (98%) | 193 (92%) | 13 (6%) | 3 (1%) | 11 | 36 |
| 11 | K | 165/188 (88%) | 152 (92%) | 12 (7%) | 1 (1%) | 25 | 58 |
| 12 | L | 175/220 (80%) | 159 (91%) | 14 (8%) | 2 (1%) | 14 | 42 |
| 13 | M | 219/222 (99%) | 212 (97%) | 6 (3%) | 1 (0%) | 29 | 61 |
| 14 | N | 166/175 (95%) | 153 (92%) | 12 (7%) | 1 (1%) | 25 | 58 |
| 15 | O | 201/204 (98%) | 192 (96%) | 9 (4%) | 0 | 100 | 100 |
| 16 | P | 153/166 (92%) | 145 (95%) | 7 (5%) | 1 (1%) | 22 | 54 |
| 17 | Q | 176/179 (98%) | 163 (93%) | 11 (6%) | 2 (1%) | 14 | 42 |
| 18 | R | 194/245 (79%) | 193 (100%) | 1 (0%) | 0 | 100 | 100 |
| 19 | S | 156/159 (98%) | 144 (92%) | 11 (7%) | 1 (1%) | 25 | 58 |
| 20 | T | 121/129 (94%) | 116 (96%) | 5 (4%) | 0 | 100 | 100 |
| 21 | U | 135/139 (97%) | 126 (93%) | 9 (7%) | 0 | 100 | 100 |
| 22 | V | 118/145 (81%) | 106 (90%) | 11 (9%) | 1 (1%) | 19 | 51 |
| 23 | W | 63/124 (51%) | 61 (97%) | 2 (3%) | 0 | 100 | 100 |
| 24 | X | 118/143 (82%) | 111 (94%) | 5 (4%) | 2 (2%) | 9 | 31 |
| 25 | Y | 131/134 (98%) | 124 (95%) | 6 (5%) | 1 (1%) | 19 | 51 |
| 26 | Z | 142/145 (98%) | 125 (88%) | 14 (10%) | 3 (2%) | 7 | 26 |
| 27 | a | 144/147 (98%) | 134 (93%) | 9 (6%) | 1 (1%) | 22 | 54 |
| 28 | b | 67/70 (96%) | 64 (96%) | 3 (4%) | 0 | 100 | 100 |
| 29 | c | 251/260 (96%) | 229 (91%) | 20 (8%) | 2 (1%) | 19 | 51 |
| 30 | d | 397/419 (95%) | 376 (95%) | 20 (5%) | 1 (0%) | 41 | 71 |
| 31 | e | 92/104 (88%) | 88 (96%) | 4 (4%) | 0 | 100 | 100 |
| 32 | f | 108/183 (59%) | 102 (94%) | 6 (6%) | 0 | 100 | 100 |
| 33 | g | 127/133 (96%) | 119 (94%) | 8 (6%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|----------|-------------|-----|
| 34 | h | 122/168 (73%) | 117 (96%) | 4 (3%) | 1 (1%) | 19 | 51 |
| 35 | i | 124/127 (98%) | 117 (94%) | 6 (5%) | 1 (1%) | 19 | 51 |
| 36 | j | 130/144 (90%) | 119 (92%) | 11 (8%) | 0 | 100 | 100 |
| 37 | k | 97/105 (92%) | 94 (97%) | 3 (3%) | 0 | 100 | 100 |
| 38 | l | 79/83 (95%) | 72 (91%) | 7 (9%) | 0 | 100 | 100 |
| 39 | m | 89/92 (97%) | 82 (92%) | 7 (8%) | 0 | 100 | 100 |
| 40 | n | 73/83 (88%) | 70 (96%) | 3 (4%) | 0 | 100 | 100 |
| 41 | o | 48/51 (94%) | 45 (94%) | 3 (6%) | 0 | 100 | 100 |
| 42 | p | 362/373 (97%) | 340 (94%) | 20 (6%) | 2 (1%) | 25 | 58 |
| 43 | q | 50/128 (39%) | 47 (94%) | 3 (6%) | 0 | 100 | 100 |
| 44 | r | 94/106 (89%) | 85 (90%) | 8 (8%) | 1 (1%) | 14 | 42 |
| 45 | s | 258/305 (85%) | 246 (95%) | 12 (5%) | 0 | 100 | 100 |
| 46 | t | 133/195 (68%) | 123 (92%) | 8 (6%) | 2 (2%) | 10 | 34 |
| 47 | u | 226/252 (90%) | 209 (92%) | 16 (7%) | 1 (0%) | 34 | 66 |
| 48 | v | 228/348 (66%) | 218 (96%) | 10 (4%) | 0 | 100 | 100 |
| 49 | w | 185/190 (97%) | 173 (94%) | 11 (6%) | 1 (0%) | 29 | 61 |
| 50 | 0 | 219/264 (83%) | 208 (95%) | 10 (5%) | 1 (0%) | 29 | 61 |
| 51 | 1 | 256/273 (94%) | 231 (90%) | 22 (9%) | 3 (1%) | 13 | 40 |
| 53 | 3 | 247/249 (99%) | 236 (96%) | 10 (4%) | 1 (0%) | 34 | 66 |
| 54 | 4 | 198/200 (99%) | 183 (92%) | 11 (6%) | 4 (2%) | 7 | 27 |
| 55 | 5 | 178/220 (81%) | 160 (90%) | 16 (9%) | 2 (1%) | 14 | 42 |
| 56 | 6 | 162/190 (85%) | 151 (93%) | 9 (6%) | 2 (1%) | 13 | 40 |
| 57 | 7 | 306/312 (98%) | 275 (90%) | 28 (9%) | 3 (1%) | 15 | 45 |
| 58 | 8 | 36/57 (63%) | 30 (83%) | 5 (14%) | 1 (3%) | 5 | 19 |
| 59 | AC | 201/246 (82%) | 193 (96%) | 8 (4%) | 0 | 100 | 100 |
| 60 | AD | 91/153 (60%) | 78 (86%) | 11 (12%) | 2 (2%) | 6 | 24 |
| 61 | AE | 136/173 (79%) | 131 (96%) | 4 (3%) | 1 (1%) | 22 | 54 |
| 62 | AG | 139/151 (92%) | 133 (96%) | 6 (4%) | 0 | 100 | 100 |
| 63 | AH | 134/144 (93%) | 126 (94%) | 8 (6%) | 0 | 100 | 100 |
| 64 | AI | 119/152 (78%) | 102 (86%) | 17 (14%) | 0 | 100 | 100 |
| 65 | AJ | 127/130 (98%) | 120 (94%) | 6 (5%) | 1 (1%) | 19 | 51 |

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| Mol | Chain | Analysed | Favoured | Allowed | Outliers | Percentiles | |
|-----|-------|-------------------|------------|----------|----------|-------------|-----|
| 66 | AK | 138/149 (93%) | 118 (86%) | 16 (12%) | 4 (3%) | 4 | 18 |
| 67 | AL | 119/143 (83%) | 108 (91%) | 8 (7%) | 3 (2%) | 5 | 21 |
| 68 | AM | 146/153 (95%) | 125 (86%) | 21 (14%) | 0 | 100 | 100 |
| 69 | AN | 188/190 (99%) | 165 (88%) | 21 (11%) | 2 (1%) | 14 | 42 |
| 70 | AO | 143/179 (80%) | 114 (80%) | 25 (18%) | 4 (3%) | 5 | 19 |
| 71 | AP | 222/265 (84%) | 216 (97%) | 6 (3%) | 0 | 100 | 100 |
| 72 | AQ | 100/116 (86%) | 86 (86%) | 13 (13%) | 1 (1%) | 15 | 45 |
| 73 | AR | 81/164 (49%) | 78 (96%) | 3 (4%) | 0 | 100 | 100 |
| 74 | AS | 140/143 (98%) | 132 (94%) | 5 (4%) | 3 (2%) | 7 | 26 |
| 75 | AT | 124/137 (90%) | 117 (94%) | 6 (5%) | 1 (1%) | 19 | 51 |
| 76 | AV | 102/112 (91%) | 90 (88%) | 8 (8%) | 4 (4%) | 3 | 12 |
| 77 | AW | 80/86 (93%) | 76 (95%) | 4 (5%) | 0 | 100 | 100 |
| 78 | AX | 201/219 (92%) | 179 (89%) | 17 (8%) | 5 (2%) | 5 | 21 |
| 79 | AY | 54/66 (82%) | 48 (89%) | 6 (11%) | 0 | 100 | 100 |
| 80 | AZ | 66/87 (76%) | 60 (91%) | 4 (6%) | 2 (3%) | 4 | 17 |
| All | All | 10774/12317 (88%) | 9993 (93%) | 696 (6%) | 85 (1%) | 24 | 51 |

5 of 85 Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 10 | J | 142 | GLU |
| 10 | J | 145 | VAL |
| 12 | L | 21 | SER |
| 24 | X | 59 | ALA |
| 26 | Z | 114 | HIS |

5.3.2 Protein sidechains [i](#)

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

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

| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|---------------|-----------|----------|-------------|----|
| 9 | I | 163/164 (99%) | 158 (97%) | 5 (3%) | 40 | 74 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|------------|----------|-------------|-----|
| 10 | J | 178/179 (99%) | 175 (98%) | 3 (2%) | 60 | 86 |
| 11 | K | 145/163 (89%) | 144 (99%) | 1 (1%) | 84 | 95 |
| 12 | L | 152/182 (84%) | 151 (99%) | 1 (1%) | 84 | 95 |
| 13 | M | 188/189 (100%) | 187 (100%) | 1 (0%) | 88 | 96 |
| 14 | N | 139/144 (96%) | 136 (98%) | 3 (2%) | 52 | 81 |
| 15 | O | 179/180 (99%) | 178 (99%) | 1 (1%) | 86 | 96 |
| 16 | P | 133/144 (92%) | 133 (100%) | 0 | 100 | 100 |
| 17 | Q | 156/158 (99%) | 156 (100%) | 0 | 100 | 100 |
| 18 | R | 168/196 (86%) | 166 (99%) | 2 (1%) | 71 | 91 |
| 19 | S | 132/133 (99%) | 131 (99%) | 1 (1%) | 81 | 94 |
| 20 | T | 107/114 (94%) | 107 (100%) | 0 | 100 | 100 |
| 21 | U | 110/111 (99%) | 110 (100%) | 0 | 100 | 100 |
| 22 | V | 103/123 (84%) | 103 (100%) | 0 | 100 | 100 |
| 23 | W | 60/104 (58%) | 59 (98%) | 1 (2%) | 60 | 86 |
| 24 | X | 103/121 (85%) | 103 (100%) | 0 | 100 | 100 |
| 25 | Y | 114/115 (99%) | 113 (99%) | 1 (1%) | 78 | 93 |
| 26 | Z | 114/115 (99%) | 114 (100%) | 0 | 100 | 100 |
| 27 | a | 118/119 (99%) | 116 (98%) | 2 (2%) | 60 | 86 |
| 28 | b | 57/58 (98%) | 57 (100%) | 0 | 100 | 100 |
| 29 | c | 198/204 (97%) | 193 (98%) | 5 (2%) | 47 | 78 |
| 30 | d | 337/351 (96%) | 336 (100%) | 1 (0%) | 92 | 98 |
| 31 | e | 82/90 (91%) | 77 (94%) | 5 (6%) | 18 | 48 |
| 32 | f | 97/156 (62%) | 97 (100%) | 0 | 100 | 100 |
| 33 | g | 113/117 (97%) | 111 (98%) | 2 (2%) | 59 | 85 |
| 34 | h | 107/145 (74%) | 107 (100%) | 0 | 100 | 100 |
| 35 | i | 116/117 (99%) | 116 (100%) | 0 | 100 | 100 |
| 36 | j | 109/121 (90%) | 107 (98%) | 2 (2%) | 59 | 85 |
| 37 | k | 81/87 (93%) | 81 (100%) | 0 | 100 | 100 |
| 38 | l | 69/70 (99%) | 69 (100%) | 0 | 100 | 100 |
| 39 | m | 73/74 (99%) | 73 (100%) | 0 | 100 | 100 |
| 40 | n | 68/74 (92%) | 68 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|----------------|------------|----------|-------------|-----|
| 41 | o | 46/47 (98%) | 46 (100%) | 0 | 100 | 100 |
| 42 | p | 295/302 (98%) | 293 (99%) | 2 (1%) | 84 | 95 |
| 43 | q | 46/113 (41%) | 46 (100%) | 0 | 100 | 100 |
| 44 | r | 83/92 (90%) | 80 (96%) | 3 (4%) | 35 | 69 |
| 45 | s | 209/242 (86%) | 208 (100%) | 1 (0%) | 88 | 96 |
| 46 | t | 111/152 (73%) | 110 (99%) | 1 (1%) | 78 | 93 |
| 47 | u | 190/209 (91%) | 187 (98%) | 3 (2%) | 62 | 86 |
| 48 | v | 196/292 (67%) | 196 (100%) | 0 | 100 | 100 |
| 49 | w | 169/172 (98%) | 168 (99%) | 1 (1%) | 86 | 96 |
| 50 | 0 | 194/222 (87%) | 189 (97%) | 5 (3%) | 46 | 77 |
| 51 | 1 | 215/225 (96%) | 212 (99%) | 3 (1%) | 67 | 89 |
| 53 | 3 | 208/208 (100%) | 206 (99%) | 2 (1%) | 76 | 92 |
| 54 | 4 | 186/186 (100%) | 185 (100%) | 1 (0%) | 88 | 96 |
| 55 | 5 | 149/176 (85%) | 147 (99%) | 2 (1%) | 69 | 90 |
| 56 | 6 | 147/164 (90%) | 145 (99%) | 2 (1%) | 67 | 89 |
| 57 | 7 | 263/266 (99%) | 259 (98%) | 4 (2%) | 65 | 87 |
| 58 | 8 | 35/49 (71%) | 35 (100%) | 0 | 100 | 100 |
| 59 | AC | 177/202 (88%) | 177 (100%) | 0 | 100 | 100 |
| 60 | AD | 82/129 (64%) | 81 (99%) | 1 (1%) | 71 | 91 |
| 61 | AE | 124/150 (83%) | 122 (98%) | 2 (2%) | 62 | 86 |
| 62 | AG | 125/132 (95%) | 125 (100%) | 0 | 100 | 100 |
| 63 | AH | 105/113 (93%) | 105 (100%) | 0 | 100 | 100 |
| 64 | AI | 104/130 (80%) | 102 (98%) | 2 (2%) | 57 | 84 |
| 65 | AJ | 110/111 (99%) | 105 (96%) | 5 (4%) | 27 | 61 |
| 66 | AK | 113/120 (94%) | 108 (96%) | 5 (4%) | 28 | 61 |
| 67 | AL | 107/123 (87%) | 107 (100%) | 0 | 100 | 100 |
| 68 | AM | 125/130 (96%) | 121 (97%) | 4 (3%) | 39 | 73 |
| 69 | AN | 159/159 (100%) | 158 (99%) | 1 (1%) | 86 | 96 |
| 70 | AO | 118/147 (80%) | 118 (100%) | 0 | 100 | 100 |
| 71 | AP | 184/209 (88%) | 184 (100%) | 0 | 100 | 100 |
| 72 | AQ | 94/104 (90%) | 94 (100%) | 0 | 100 | 100 |

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| Mol | Chain | Analysed | Rotameric | Outliers | Percentiles | |
|-----|-------|------------------|------------|----------|-------------|-----|
| 73 | AR | 68/119 (57%) | 68 (100%) | 0 | 100 | 100 |
| 74 | AS | 115/116 (99%) | 110 (96%) | 5 (4%) | 29 | 62 |
| 75 | AT | 111/120 (92%) | 111 (100%) | 0 | 100 | 100 |
| 76 | AV | 87/93 (94%) | 86 (99%) | 1 (1%) | 73 | 92 |
| 77 | AW | 72/75 (96%) | 71 (99%) | 1 (1%) | 67 | 89 |
| 78 | AX | 171/185 (92%) | 167 (98%) | 4 (2%) | 50 | 80 |
| 79 | AY | 49/54 (91%) | 49 (100%) | 0 | 100 | 100 |
| 80 | AZ | 57/74 (77%) | 54 (95%) | 3 (5%) | 22 | 54 |
| All | All | 9268/10330 (90%) | 9167 (99%) | 101 (1%) | 74 | 92 |

5 of 101 residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 53 | 3 | 150 | LEU |
| 64 | AI | 134 | LEU |
| 80 | AZ | 84 | ARG |
| 55 | 5 | 49 | ARG |
| 57 | 7 | 27 | ILE |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 137 such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 68 | AM | 86 | ASN |
| 70 | AO | 46 | HIS |
| 75 | AT | 95 | ASN |
| 43 | q | 109 | ASN |
| 43 | q | 90 | ASN |

5.3.3 RNA [i](#)

| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 1 | A | 1591/1781 (89%) | 282 (17%) | 1 (0%) |
| 2 | B | 1058/1465 (72%) | 162 (15%) | 7 (0%) |
| 3 | C | 160/262 (61%) | 24 (15%) | 1 (0%) |
| 4 | D | 118/120 (98%) | 10 (8%) | 0 |
| 5 | E | 163/213 (76%) | 20 (12%) | 0 |
| 52 | 2 | 1801/2205 (81%) | 656 (36%) | 162 (8%) |

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| Mol | Chain | Analysed | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 6 | F | 70/73 (95%) | 16 (22%) | 1 (1%) |
| 7 | G | 182/183 (99%) | 18 (9%) | 1 (0%) |
| 8 | H | 89/127 (70%) | 13 (14%) | 0 |
| All | All | 5232/6429 (81%) | 1201 (22%) | 173 (3%) |

5 of 1201 RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1 | A | 4 | G |
| 1 | A | 20 | G |
| 1 | A | 24 | A |
| 1 | A | 28 | G |
| 1 | A | 38 | A |

5 of 173 RNA pucker outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|------|------|
| 52 | 2 | 1575 | A |
| 52 | 2 | 1882 | U |
| 52 | 2 | 1581 | A |
| 52 | 2 | 1792 | C |
| 52 | 2 | 1930 | G |

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 52 | 2 | 2 |
| 77 | AW | 2 |
| 38 | 1 | 1 |
| 15 | O | 1 |
| 29 | c | 1 |

The worst 5 of 7 chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1 | 2 | 1972:U | O3' | 1973:U | P | 6.52 |
| 1 | 2 | 1954:U | O3' | 1955:G | P | 2.07 |
| 1 | AW | 79:GLY | C | 80:TYR | N | 1.68 |
| 1 | 1 | 66:TYR | C | 67:LEU | N | 1.18 |
| 1 | O | 50:MET | C | 51:LEU | N | 1.15 |

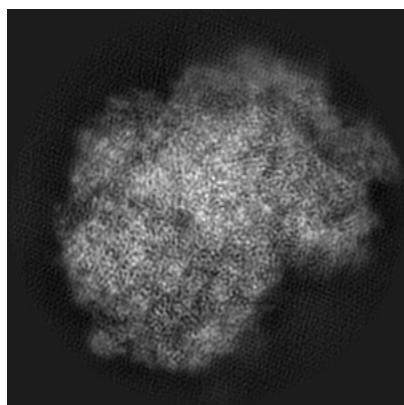
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-8343. These allow visual inspection of the internal detail of the map and identification of artifacts.

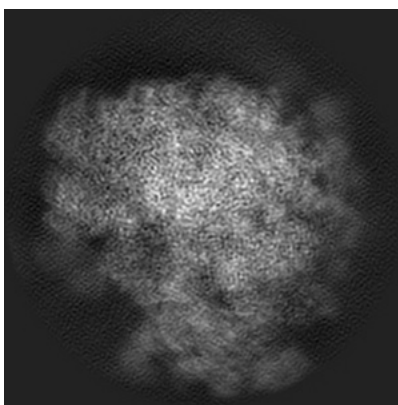
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

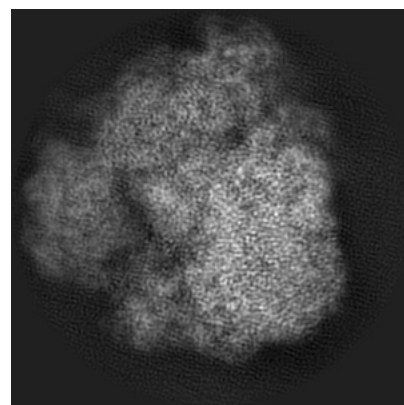
6.1.1 Primary map



X



Y

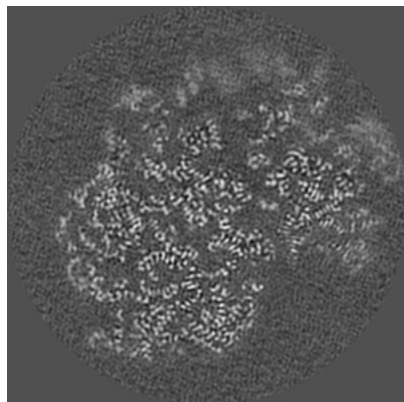


Z

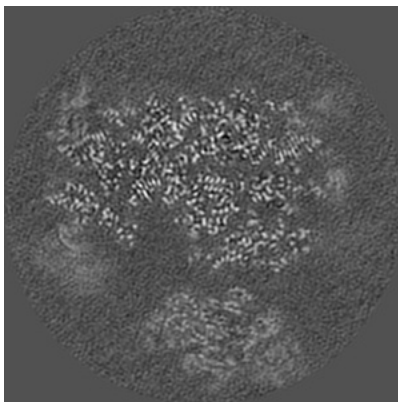
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

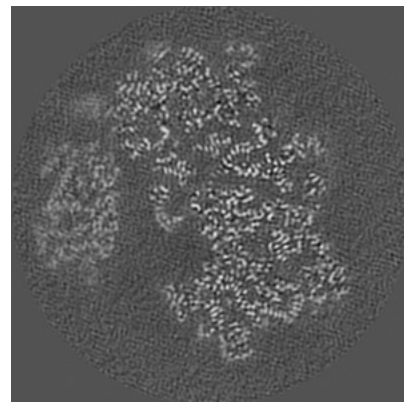
6.2.1 Primary map



X Index: 200



Y Index: 200

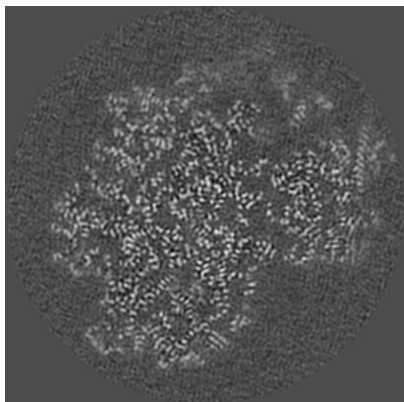


Z Index: 200

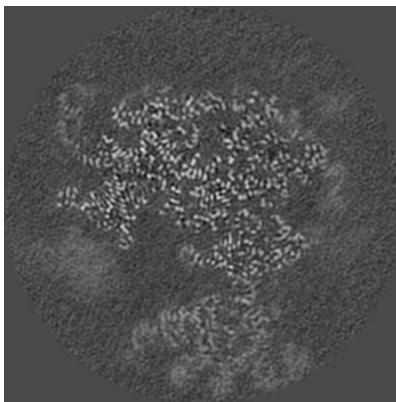
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

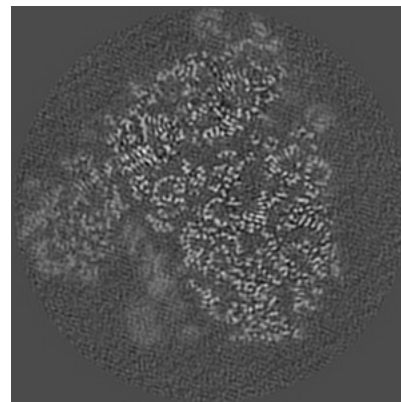
6.3.1 Primary map



X Index: 214



Y Index: 211

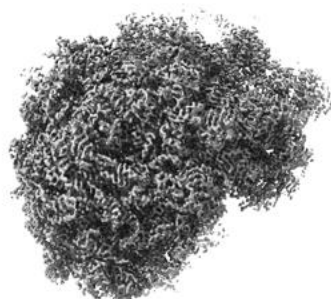


Z Index: 231

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

6.4 Orthogonal surface views [i](#)

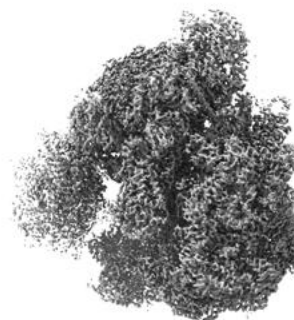
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

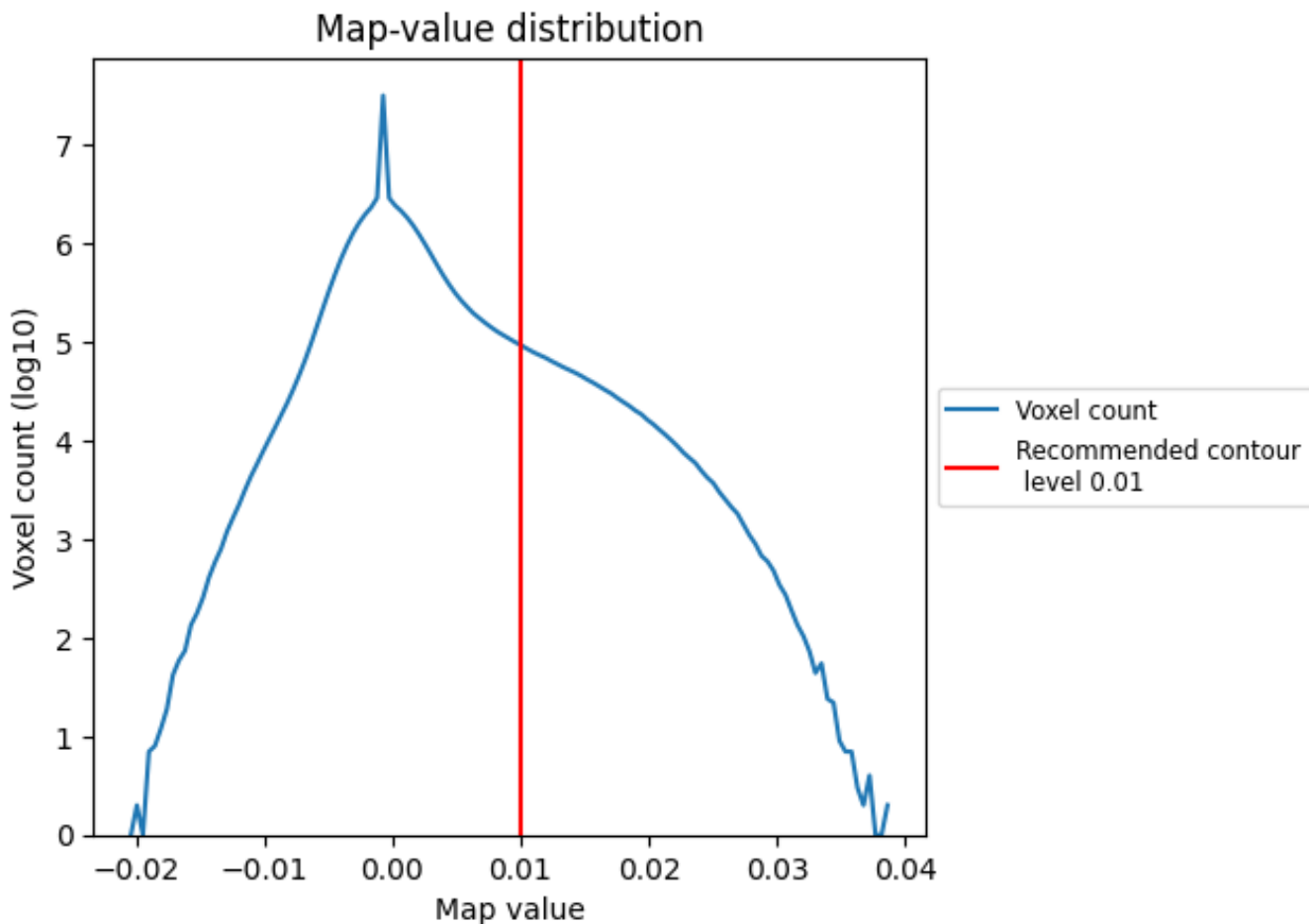
6.5 Mask visualisation

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

7 Map analysis [i](#)

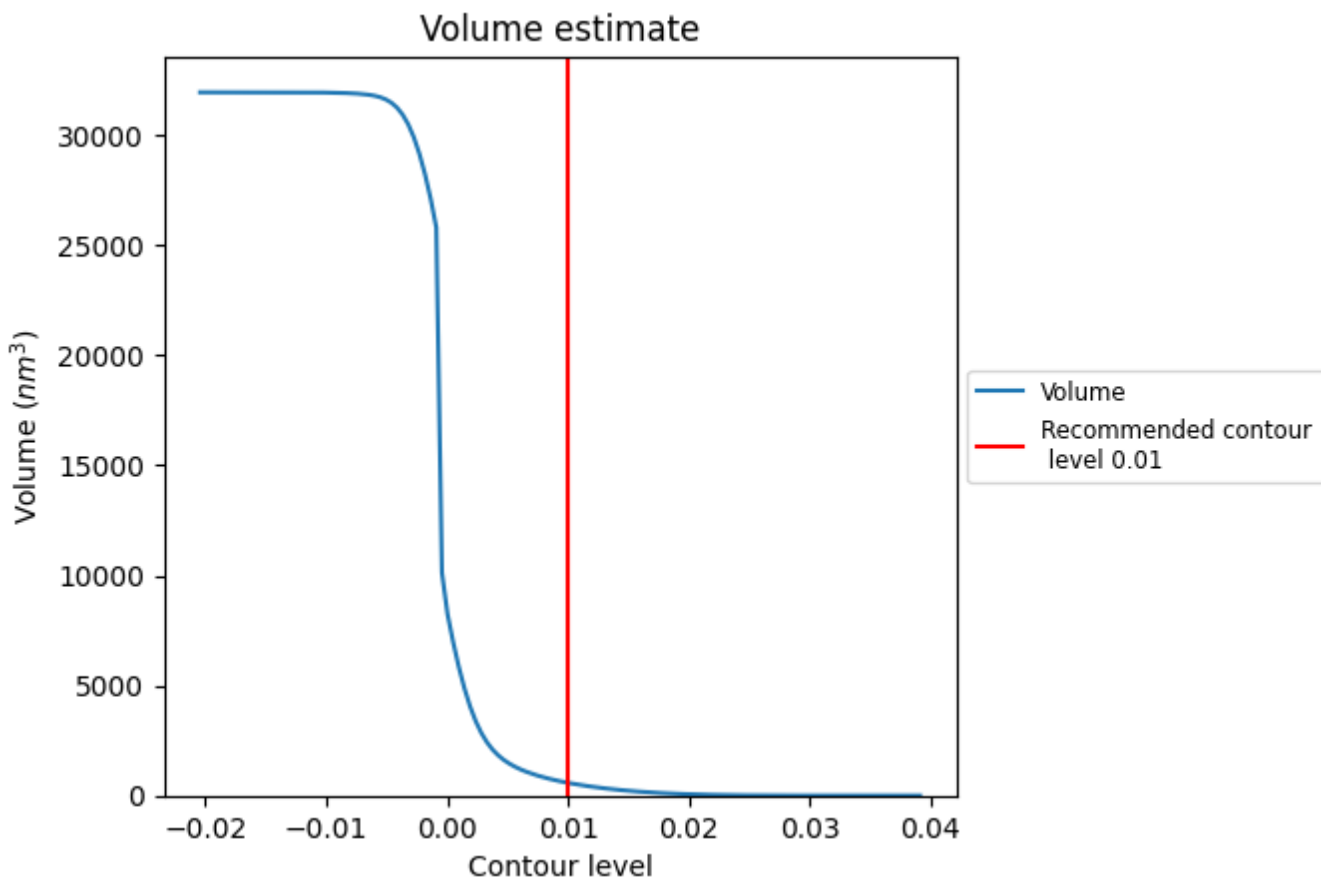
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

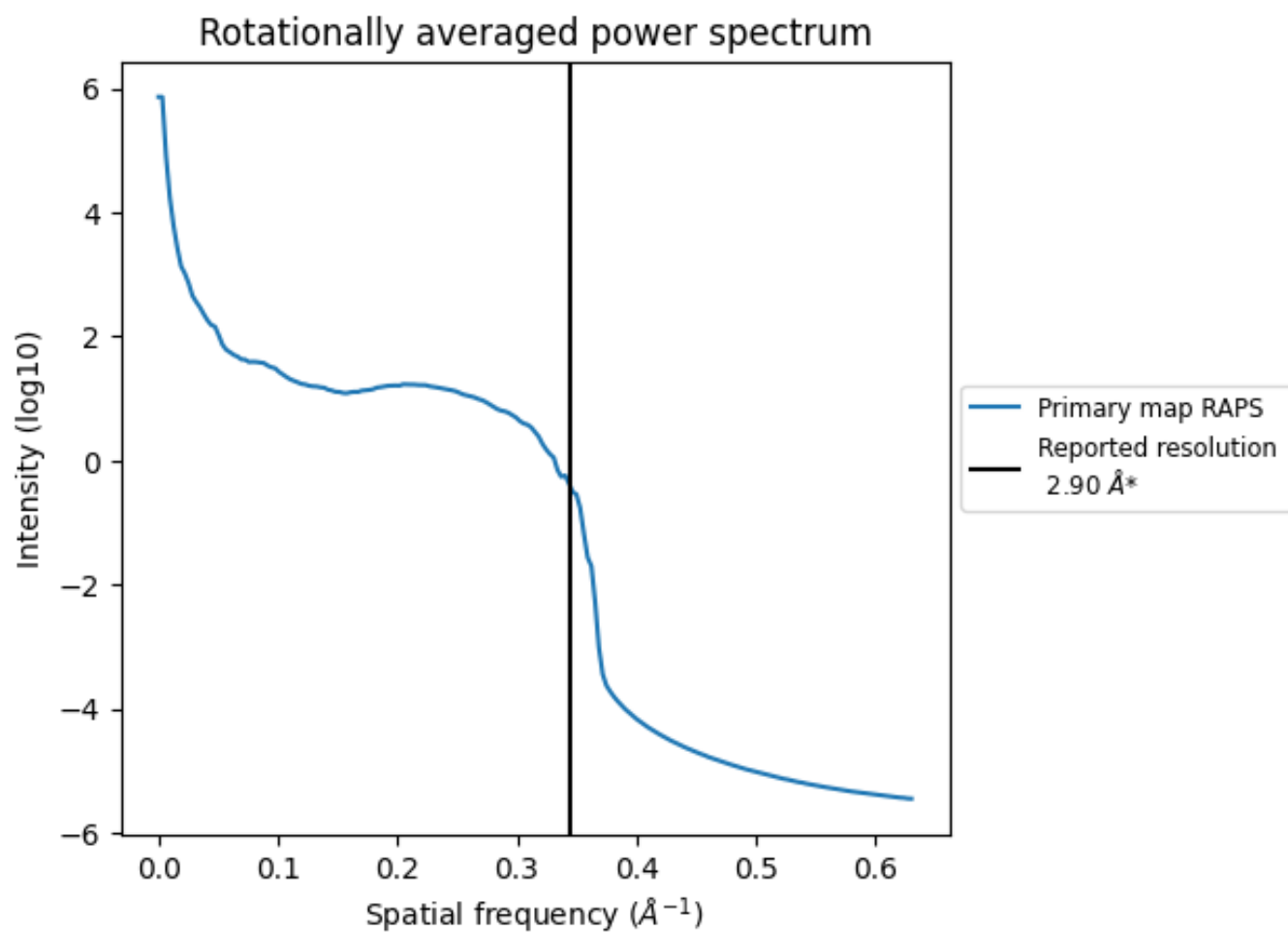
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 580 nm³; this corresponds to an approximate mass of 524 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)



*Reported resolution corresponds to spatial frequency of 0.345\AA^{-1}

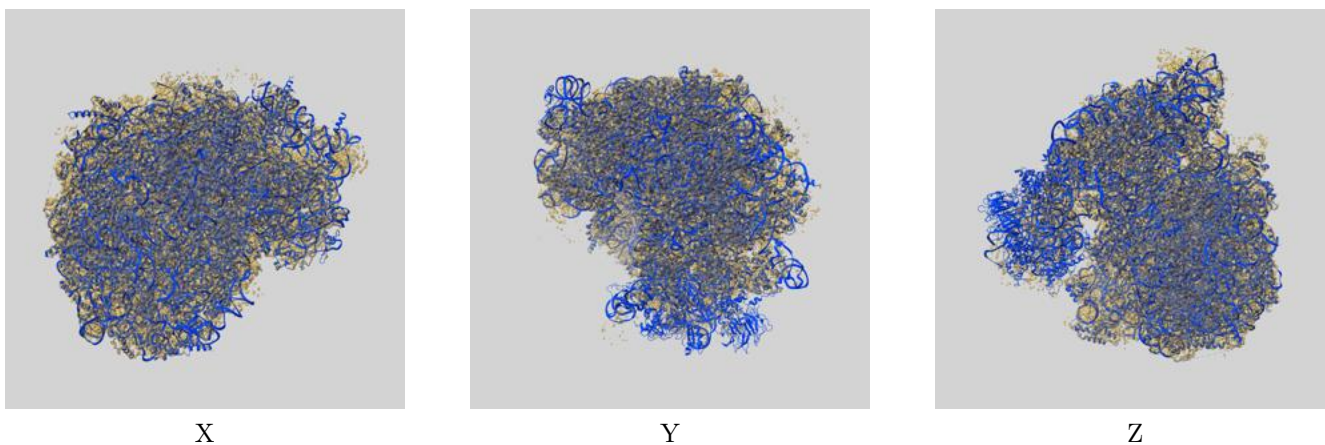
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

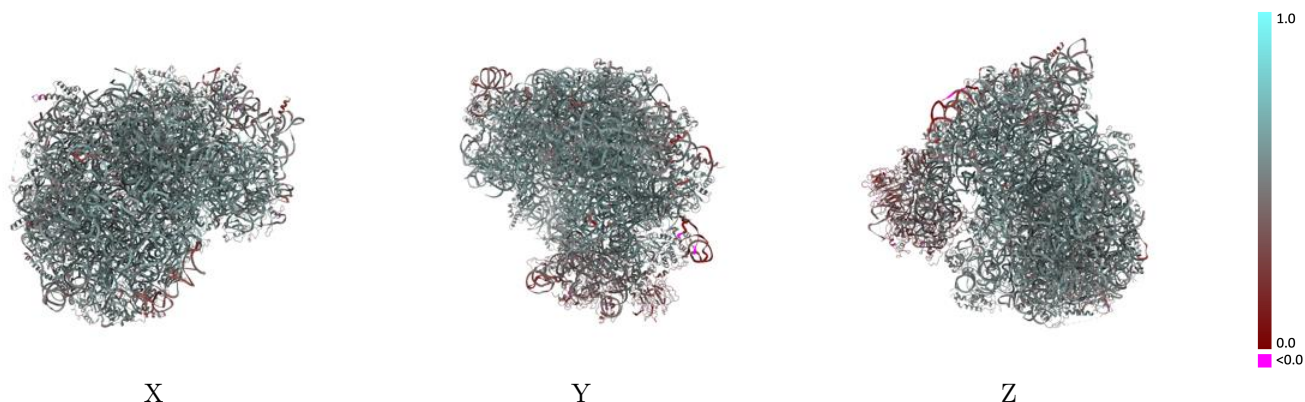
This section contains information regarding the fit between EMDB map EMD-8343 and PDB model 5T2A. Per-residue inclusion information can be found in section 3 on page 19.

9.1 Map-model overlay [i](#)



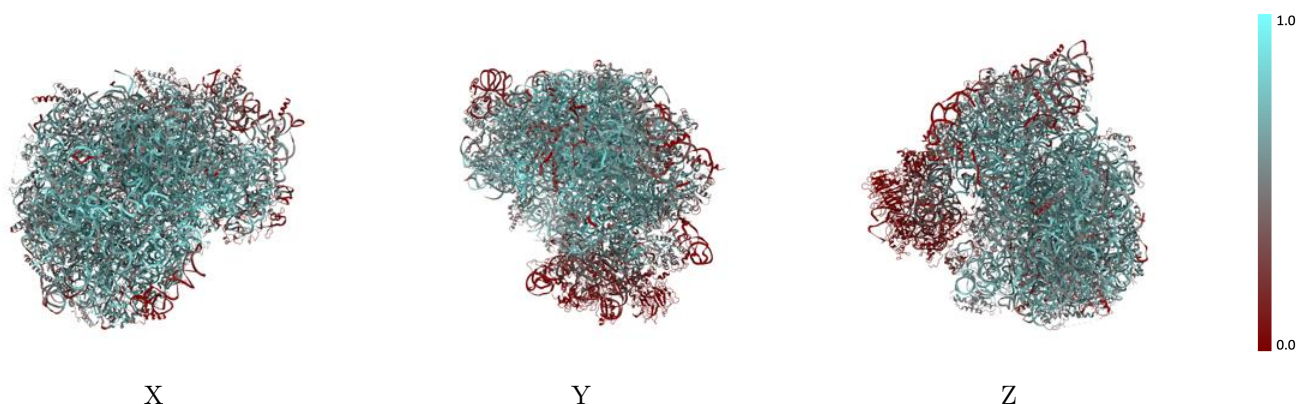
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



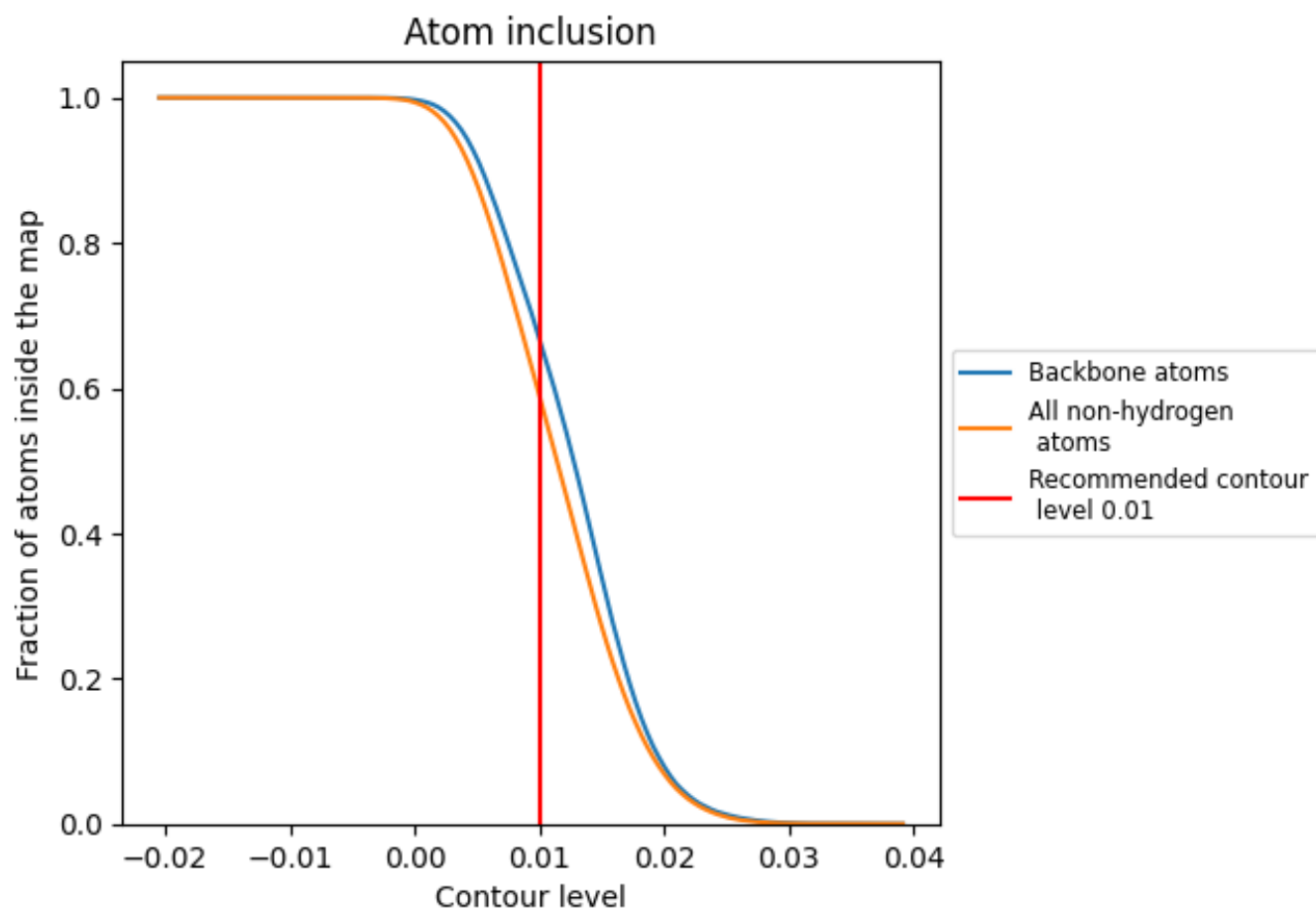
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.01).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 67% of all backbone atoms, 59% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary





















































































The table lists the average atom inclusion at the recommended contour level (0.01) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion | Q-score |
|-------|--|--|
| All |  0.5906 |  0.5270 |
| 0 |  0.4870 |  0.5380 |
| 1 |  0.5749 |  0.5500 |
| 2 |  0.5652 |  0.5170 |
| 3 |  0.3751 |  0.4970 |
| 4 |  0.4882 |  0.5230 |
| 5 |  0.6080 |  0.5580 |
| 6 |  0.5709 |  0.5410 |
| 7 |  0.0120 |  0.3000 |
| 8 |  0.1848 |  0.4210 |
| A |  0.7310 |  0.5530 |
| AC |  0.4354 |  0.5100 |
| AD |  0.0417 |  0.3510 |
| AE |  0.6514 |  0.5800 |
| AG |  0.6002 |  0.5550 |
| AH |  0.5066 |  0.5350 |
| AI |  0.0251 |  0.3360 |
| AJ |  0.6247 |  0.5560 |
| AK |  0.0971 |  0.3800 |
| AL |  0.1209 |  0.4060 |
| AM |  0.0602 |  0.2810 |
| AN |  0.0663 |  0.4100 |
| AO |  0.0933 |  0.3020 |
| AP |  0.5462 |  0.5370 |
| AQ |  0.0953 |  0.3610 |
| AR |  0.5048 |  0.5220 |
| AS |  0.5747 |  0.5450 |
| AT |  0.3946 |  0.5170 |
| AV |  0.4817 |  0.5210 |
| AW |  0.5064 |  0.5350 |
| AX |  0.1402 |  0.4060 |
| AY |  0.2779 |  0.4900 |
| AZ |  0.0828 |  0.3970 |
| B |  0.7220 |  0.5550 |
| C |  0.6959 |  0.5260 |



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| Chain | Atom inclusion | Q-score |
|-------|--|--|
| D |  0.7294 |  0.5450 |
| E |  0.7225 |  0.5630 |
| F |  0.6247 |  0.5290 |
| G |  0.8077 |  0.5870 |
| H |  0.8136 |  0.5920 |
| I |  0.5681 |  0.5280 |
| J |  0.5369 |  0.5240 |
| K |  0.3566 |  0.4740 |
| L |  0.5427 |  0.5060 |
| M |  0.5964 |  0.5520 |
| N |  0.4571 |  0.4860 |
| O |  0.6253 |  0.5490 |
| P |  0.6678 |  0.5560 |
| Q |  0.6303 |  0.5640 |
| R |  0.5434 |  0.5340 |
| S |  0.5566 |  0.5280 |
| T |  0.4897 |  0.5240 |
| U |  0.6660 |  0.5740 |
| V |  0.5545 |  0.5270 |
| W |  0.6660 |  0.5680 |
| X |  0.5785 |  0.5310 |
| Y |  0.5476 |  0.5340 |
| Z |  0.6171 |  0.5510 |
| a |  0.5314 |  0.5130 |
| b |  0.5605 |  0.5210 |
| c |  0.6439 |  0.5610 |
| d |  0.6572 |  0.5620 |
| e |  0.5467 |  0.5370 |
| f |  0.6414 |  0.5550 |
| g |  0.5905 |  0.5430 |
| h |  0.5864 |  0.5450 |
| i |  0.5084 |  0.5100 |
| j |  0.6245 |  0.5510 |
| k |  0.4423 |  0.4950 |
| l |  0.6751 |  0.5540 |
| m |  0.6111 |  0.5560 |
| n |  0.5212 |  0.5150 |
| o |  0.6098 |  0.5530 |
| p |  0.5512 |  0.5170 |
| q |  0.6348 |  0.5550 |
| r |  0.5507 |  0.5370 |
| s |  0.4956 |  0.5110 |

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| Chain | Atom inclusion | Q-score |
|-------|----------------|---------|
| t | 0.5391 | 0.5230 |
| u | 0.5777 | 0.5330 |
| v | 0.4810 | 0.5010 |
| w | 0.6073 | 0.5500 |