



## wwPDB EM Validation Summary Report ⓘ

Aug 25, 2026 – 10:53 pm BST

PDB ID : 9SPJ / pdb\_00009spj  
EMDB ID : EMD-55092  
Title : CryoEM structure of the vacant *Candida auris* 80S ribosome  
Authors : Atamas, A.; Stetsenko, A.; Incarnato, D.; Macia Valero, A.; Rogachev, A.;  
Billerbeck, S.; Guskov, A.  
Deposited on : 2025-09-17  
Resolution : 2.13 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](mailto: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>.

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

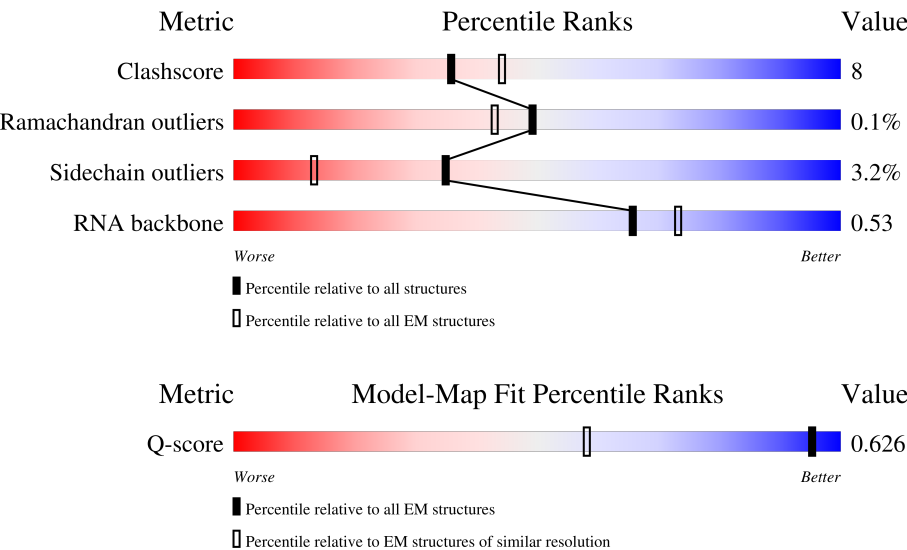
EMDB validation analysis : 0.0.1.dev133  
MolProbity : 4-5-2 with Phenix2.0  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
EM percentile statistics : 202505.v01 (Using data in the EMD archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.50

# 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 2.13 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.



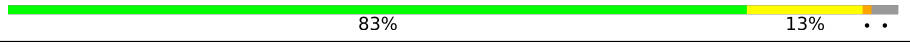
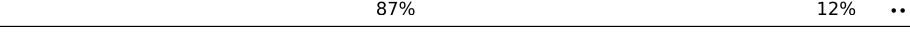
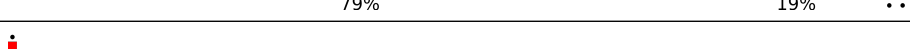
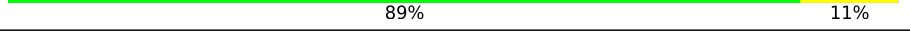
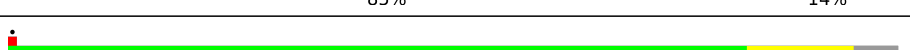
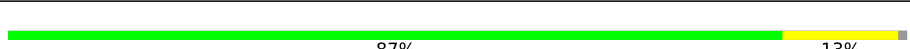
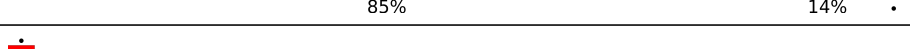
| Metric                | Whole archive<br>(#Entries) | EM structures<br>(#Entries) | Similar EM resolution<br>(#Entries, resolution range(Å)) |
|-----------------------|-----------------------------|-----------------------------|----------------------------------------------------------|
| Clashscore            | 229148                      | 23984                       | -                                                        |
| Ramachandran outliers | 224038                      | 23583                       | -                                                        |
| Sidechain outliers    | 223484                      | 23102                       | -                                                        |
| RNA backbone          | 8273                        | 3508                        | -                                                        |
| Q-score               | -                           | 25397                       | 2439 ( 1.64 - 2.63 )                                     |

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  $\geq 3$ , 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     | 3283   | <div><div>54%</div><div>32%</div><div>6%</div><div>8%</div></div> |
| 2   | B     | 122    | <div><div>66%</div><div>30%</div><div>.</div></div>               |
| 3   | C     | 158    | <div><div>56%</div><div>36%</div><div>5%</div><div>.</div></div>  |

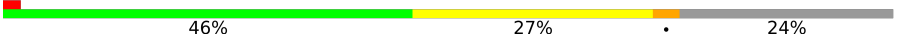
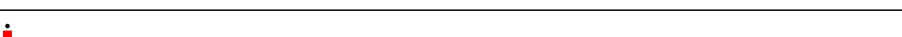
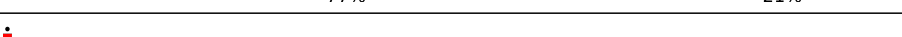
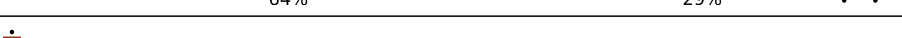
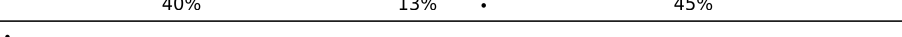
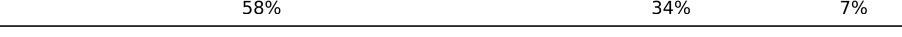
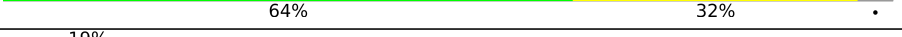
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| Mol | Chain | Length | Quality of chain                                                                     |
|-----|-------|--------|--------------------------------------------------------------------------------------|
| 4   | CA    | 1775   |    |
| 5   | D     | 254    |    |
| 6   | E     | 389    |    |
| 7   | F     | 363    |    |
| 8   | G     | 298    |    |
| 9   | H     | 165    |    |
| 10  | I     | 241    |    |
| 11  | J     | 263    |    |
| 12  | K     | 191    |    |
| 13  | L     | 220    |   |
| 14  | M     | 172    |  |
| 15  | N     | 198    |  |
| 16  | O     | 131    |  |
| 17  | P     | 204    |  |
| 18  | Q     | 200    |  |
| 19  | R     | 185    |  |
| 20  | S     | 186    |  |
| 21  | T     | 208    |  |
| 22  | U     | 186    |  |
| 23  | V     | 160    |  |
| 24  | W     | 119    |  |
| 25  | X     | 137    |  |
| 26  | Y     | 156    |  |
| 27  | Z     | 140    |  |
| 28  | ZA    | 204    |  |

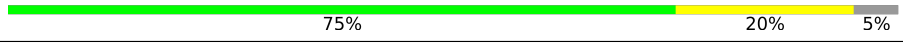
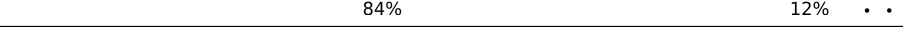
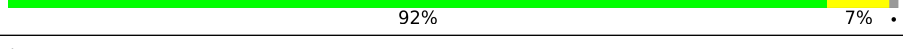
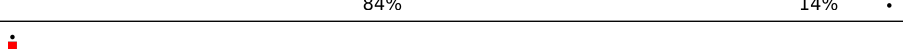
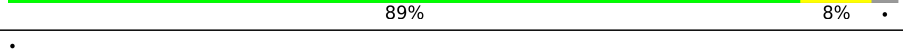
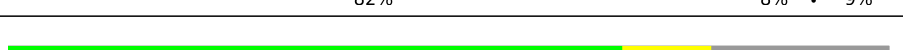
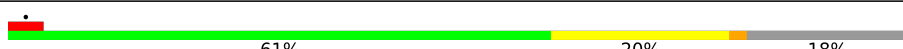
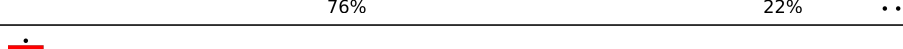
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| Mol | Chain | Length | Quality of chain                                                                     |
|-----|-------|--------|--------------------------------------------------------------------------------------|
| 29  | ZB    | 189    |    |
| 30  | ZC    | 123    |    |
| 31  | ZD    | 155    |    |
| 32  | ZE    | 151    |    |
| 33  | ZF    | 132    |    |
| 34  | ZG    | 141    |    |
| 35  | ZH    | 142    |    |
| 36  | ZI    | 137    |    |
| 37  | ZJ    | 145    |    |
| 38  | ZK    | 145    |    |
| 39  | ZL    | 118    |    |
| 40  | ZM    | 87     |    |
| 41  | ZO    | 130    |  |
| 42  | ZP    | 145    |  |
| 43  | ZQ    | 135    |  |
| 44  | ZR    | 130    |  |
| 45  | ZS    | 182    |  |
| 46  | ZT    | 82     |  |
| 47  | ZU    | 67     |  |
| 48  | ZV    | 56     |  |
| 49  | ZW    | 63     |  |
| 50  | ZY    | 315    |  |
| 51  | a     | 127    |  |
| 52  | b     | 136    |  |
| 53  | c     | 149    |  |

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| Mol | Chain | Length | Quality of chain                                                                     |
|-----|-------|--------|--------------------------------------------------------------------------------------|
| 54  | d     | 76     |    |
| 55  | e     | 105    |    |
| 56  | f     | 113    |    |
| 57  | g     | 149    |    |
| 58  | h     | 107    |    |
| 59  | i     | 115    |    |
| 60  | j     | 120    |    |
| 61  | k     | 99     |    |
| 62  | l     | 85     |    |
| 63  | m     | 78     |   |
| 64  | n     | 51     |  |
| 65  | o     | 52     |  |
| 66  | p     | 25     |  |
| 67  | q     | 106    |  |
| 68  | r     | 99     |  |
| 69  | s     | 264    |  |
| 70  | t     | 256    |  |
| 71  | u     | 249    |  |
| 72  | v     | 250    |  |
| 73  | w     | 264    |  |
| 74  | x     | 223    |  |
| 75  | y     | 236    |  |
| 76  | z     | 188    |  |

## 2 Entry composition [i](#)

There are 79 unique types of molecules in this entry. The entry contains 192719 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 25S rRNA.

| Mol | Chain | Residues | Atoms |       |       |       |      | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|-------|
| 1   | A     | 3022     | Total | C     | N     | O     | P    | 0       | 0     |
|     |       |          | 64660 | 28869 | 11690 | 21079 | 3022 |         |       |

- Molecule 2 is a RNA chain called 5S rRNA.

| Mol | Chain | Residues | Atoms |      |     |     |     | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|-------|
| 2   | B     | 122      | Total | C    | N   | O   | P   | 0       | 0     |
|     |       |          | 2609  | 1164 | 470 | 853 | 122 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |      |     | AltConf | Trace |
|-----|-------|----------|-------|------|-----|------|-----|---------|-------|
| 3   | C     | 154      | Total | C    | N   | O    | P   | 0       | 0     |
|     |       |          | 3274  | 1464 | 577 | 1079 | 154 |         |       |

- Molecule 4 is a RNA chain called 18S rRNA.

| Mol | Chain | Residues | Atoms |       |      |       |      | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|-------|
| 4   | CA    | 1674     | Total | C     | N    | O     | P    | 0       | 0     |
|     |       |          | 35746 | 15971 | 6401 | 11700 | 1674 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 5   | D     | 247      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1873  | 1170 | 377 | 324 | 2 |         |       |

- Molecule 6 is a protein called Large ribosomal subunit protein uL3.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 6   | E     | 387      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 3087  | 1957 | 579 | 544 | 7 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 7   | F     | 361      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2786  | 1751 | 534 | 498 | 3 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 8   | G     | 291      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2370  | 1506 | 411 | 449 | 4 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 9   | H     | 150      | Total | C   | N   | O   | 0       | 0     |
|     |       |          | 1183  | 761 | 214 | 208 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 10  | I     | 237      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1913  | 1230 | 345 | 336 | 2 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 11  | J     | 233      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1847  | 1182 | 339 | 322 | 4 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 12  | K     | 190      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1519  | 965 | 272 | 278 | 4 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 13  | L     | 211      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1720  | 1087 | 327 | 298 | 8 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 14  | M     | 170      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1364  | 854 | 261 | 244 | 5 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 15  | N     | 194      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1538  | 962 | 306 | 269 | 1 |         |       |

- Molecule 16 is a protein called Large ribosomal subunit protein eL14 domain-containing protein.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 16  | O     | 129      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1030  | 657 | 194 | 178 | 1 |         |       |

- Molecule 17 is a protein called Ribosomal protein L15.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 17  | P     | 203      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1703  | 1066 | 356 | 279 | 2 |         |       |

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

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 18  | Q     | 199      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1587  | 1020 | 299 | 266 | 2 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |  | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 19  | R     | 176      | Total | C   | N   | O   |  | 0       | 0     |
|     |       |          | 1418  | 882 | 286 | 250 |  |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |  | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 20  | S     | 185      | Total | C   | N   | O   |  | 0       | 0     |
|     |       |          | 1456  | 919 | 293 | 244 |  |         |       |

- Molecule 21 is a protein called Ribosomal protein L19.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 21  | T     | 182      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1469  | 908 | 316 | 241 | 4 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 22  | U     | 172      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1448  | 941 | 261 | 242 | 4 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 23  | V     | 159      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1282  | 816 | 242 | 221 | 3 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |  | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 24  | W     | 107      | Total | C   | N   | O   |  | 0       | 0     |
|     |       |          | 871   | 566 | 148 | 157 |  |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 25  | X     | 137      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1013  | 636 | 189 | 179 | 9 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 26  | Y     | 62       | Total | C   | N   | O  | S | 0       | 0     |
|     |       |          | 517   | 330 | 103 | 83 | 1 |         |       |

- Molecule 27 is a protein called Large ribosomal subunit protein uL23.

| Mol | Chain | Residues | Atoms |     |     |     |  | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 27  | Z     | 120      | Total | C   | N   | O   |  | 0       | 0     |
|     |       |          | 955   | 607 | 175 | 173 |  |         |       |

- Molecule 28 is a protein called 40S ribosomal protein S8.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 28  | ZA    | 194      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1545  | 958 | 309 | 276 | 2 |         |       |

- Molecule 29 is a protein called 40S ribosomal protein S9-A.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 29  | ZB    | 178      | Total | C   | N   | O   | S | 1       | 0     |
|     |       |          | 1470  | 927 | 291 | 250 | 2 |         |       |

- Molecule 30 is a protein called 40S ribosomal protein S10-A.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 30  | ZC    | 93       | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 786   | 513 | 128 | 144 | 1 |         |       |

- Molecule 31 is a protein called 40S ribosomal protein S11-A.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 31  | ZD    | 143      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1150  | 735 | 219 | 193 | 3 |         |       |

- Molecule 32 is a protein called 40S ribosomal protein S13.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 32  | ZE    | 150      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1192  | 759 | 222 | 210 | 1 |         |       |

- Molecule 33 is a protein called Small ribosomal subunit protein uS11.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 33  | ZF    | 127      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 945   | 578 | 188 | 176 | 3 |         |       |

- Molecule 34 is a protein called 40S ribosomal protein S15.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 34  | ZG    | 116      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 904   | 582 | 161 | 156 | 5 |         |       |

- Molecule 35 is a protein called Small ribosomal subunit protein uS9.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 35  | ZH    | 141      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1100  | 705 | 201 | 193 | 1 |         |       |

- Molecule 36 is a protein called 40S ribosomal protein S17-B.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 36  | ZI    | 128      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1027  | 644 | 190 | 192 | 1 |         |       |

- Molecule 37 is a protein called 40S ribosomal protein S18.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 37  | ZJ    | 142      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1170  | 733 | 229 | 204 | 4 |         |       |

- Molecule 38 is a protein called 40S ribosomal protein S19-A.

| Mol | Chain | Residues | Atoms |     |     |     |  | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|-------|
| 38  | ZK    | 141      | Total | C   | N   | O   |  | 0       | 0     |
|     |       |          | 1101  | 691 | 208 | 202 |  |         |       |

- Molecule 39 is a protein called Small ribosomal subunit protein uS10.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 39  | ZL    | 100      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 782   | 496 | 142 | 142 | 2 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 40  | ZM    | 87       | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 678   | 415 | 127 | 134 | 2 |         |       |

- Molecule 41 is a protein called 40S ribosomal protein S22.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 41  | ZO    | 129      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1032  | 656 | 190 | 183 | 3 |         |       |

- Molecule 42 is a protein called 40S ribosomal protein S23.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 42  | ZP    | 143      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1109  | 698 | 219 | 190 | 2 |         |       |

- Molecule 43 is a protein called 40S ribosomal protein S24.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 43  | ZQ    | 130      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1060  | 670 | 205 | 185 |   |         |       |

- Molecule 44 is a protein called 40S ribosomal protein S25.

| Mol | Chain | Residues | Atoms |     |     |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|-------|
| 44  | ZR    | 71       | Total | C   | N   | O  | S | 0       | 0     |
|     |       |          | 564   | 360 | 104 | 99 | 1 |         |       |

- Molecule 45 is a protein called 40S ribosomal protein S26.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 45  | ZS    | 100      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 805   | 496 | 172 | 131 | 6 |         |       |

- Molecule 46 is a protein called 40S ribosomal protein S27.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 46  | ZT    | 81       | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 617   | 383 | 112 | 115 | 7 |         |       |

- Molecule 47 is a protein called 40S ribosomal protein S28-A.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 47  | ZU    | 62       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 488   | 299 | 98 | 89 | 2 |         |       |

- Molecule 48 is a protein called Small ribosomal subunit protein uS14.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 48  | ZV    | 54       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 449   | 278 | 93 | 74 | 4 |         |       |

- Molecule 49 is a protein called Small ribosomal subunit protein eS30.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 49  | ZW    | 54       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 432   | 270 | 87 | 73 | 2 |         |       |

- Molecule 50 is a protein called Small ribosomal subunit protein RACK1.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 50  | ZY    | 308      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2383  | 1510 | 405 | 464 | 4 |         |       |

- Molecule 51 is a protein called Ribosomal protein L24.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 51  | a     | 126      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 994   | 624 | 188 | 181 | 1 |         |       |

- Molecule 52 is a protein called 60S ribosomal protein L27.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 52  | b     | 135      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1081  | 691 | 207 | 182 | 1 |         |       |

- Molecule 53 is a protein called 60S ribosomal protein L28.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 53  | c     | 148      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1174  | 742 | 234 | 196 | 2 |         |       |

- Molecule 54 is a protein called 60S ribosomal protein L29.

| Mol | Chain | Residues | Atoms |     |     |    | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---------|-------|
| 54  | d     | 60       | Total | C   | N   | O  | 0       | 0     |
|     |       |          | 498   | 302 | 114 | 82 |         |       |

- Molecule 55 is a protein called 60S ribosomal protein L30.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 55  | e     | 100      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 753   | 482 | 127 | 140 | 4 |         |       |

- Molecule 56 is a protein called 60S ribosomal protein L31-A.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 56  | f     | 109      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 895   | 563 | 173 | 156 | 3 |         |       |

- Molecule 57 is a protein called 60S ribosomal protein L32.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 57  | g     | 123      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 1002  | 629 | 201 | 170 | 2 |         |       |

- Molecule 58 is a protein called 60S ribosomal protein L33-A.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 58  | h     | 106      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 859   | 544 | 168 | 146 | 1 |         |       |

- Molecule 59 is a protein called 60S ribosomal protein L34-B.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 59  | i     | 113      | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 897   | 558 | 179 | 156 | 4 |         |       |

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

| Mol | Chain | Residues | Atoms |     |     |     | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 60  | j     | 118      | Total | C   | N   | O   | 0       | 0     |
|     |       |          | 956   | 603 | 191 | 162 |         |       |

- Molecule 61 is a protein called 60S ribosomal protein L36.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 61  | k     | 98       | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 774   | 479 | 163 | 131 | 1 |         |       |

- Molecule 62 is a protein called Ribosomal protein L37.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 62  | l     | 83       | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 654   | 396 | 142 | 109 | 7 |         |       |

- Molecule 63 is a protein called Large ribosomal subunit protein eL38.

| Mol | Chain | Residues | Atoms |     |     |     | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 63  | m     | 77       | Total | C   | N   | O   | 0       | 0     |
|     |       |          | 617   | 396 | 112 | 109 |         |       |

- Molecule 64 is a protein called Large ribosomal subunit protein eL39.

| Mol | Chain | Residues | Atoms |     |    |    | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|-------|
| 64  | n     | 50       | Total | C   | N  | O  | 0       | 0     |
|     |       |          | 442   | 277 | 98 | 67 |         |       |

There is a discrepancy between the modelled and reference sequences:

| Chain | Residue | Modelled | Actual | Comment  | Reference      |
|-------|---------|----------|--------|----------|----------------|
| n     | 50      | ASN      | GLY    | conflict | UNP A0A1D8PDT4 |

- Molecule 65 is a protein called Large ribosomal subunit protein eL40.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 65  | o     | 52       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 419   | 260 | 86 | 67 | 6 |         |       |

- Molecule 66 is a protein called Small ribosomal subunit protein eS32.

| Mol | Chain | Residues | Atoms |     |    |    |   | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|-------|
| 66  | p     | 25       | Total | C   | N  | O  | S | 0       | 0     |
|     |       |          | 236   | 144 | 63 | 28 | 1 |         |       |

- Molecule 67 is a protein called 60S ribosomal protein L44.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 67  | q     | 103      | Total | C   | N   | O   | S | 1       | 0     |
|     |       |          | 832   | 523 | 167 | 137 | 5 |         |       |

- Molecule 68 is a protein called 60S ribosomal protein L43.

| Mol | Chain | Residues | Atoms |     |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|-------|
| 68  | r     | 90       | Total | C   | N   | O   | S | 0       | 0     |
|     |       |          | 691   | 425 | 141 | 121 | 4 |         |       |

- Molecule 69 is a protein called Small ribosomal subunit protein uS2.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 69  | s     | 210      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1655  | 1059 | 288 | 305 | 3 |         |       |

- Molecule 70 is a protein called Small ribosomal subunit protein eS1.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 70  | t     | 211      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1692  | 1075 | 311 | 302 | 4 |         |       |

- Molecule 71 is a protein called Rps21 ribosomal protein.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 71  | u     | 216      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1636  | 1048 | 287 | 296 | 5 |         |       |

- Molecule 72 is a protein called Small ribosomal subunit protein uS3.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 72  | v     | 209      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1619  | 1033 | 297 | 284 | 5 |         |       |

- Molecule 73 is a protein called 40S ribosomal protein S4.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 73  | w     | 260      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 2056  | 1303 | 386 | 361 | 6 |         |       |

- Molecule 74 is a protein called 40S ribosomal protein uS7 (formerly S5).

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 74  | x     | 206      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1610  | 1008 | 300 | 298 | 4 |         |       |

- Molecule 75 is a protein called 40S ribosomal protein S6.

| Mol | Chain | Residues | Atoms |      |     |     |   | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|-------|
| 75  | y     | 226      | Total | C    | N   | O   | S | 0       | 0     |
|     |       |          | 1819  | 1128 | 355 | 331 | 5 |         |       |

- Molecule 76 is a protein called 40S ribosomal protein eS7 (formerly S7).

| Mol | Chain | Residues | Atoms |     |     |     | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|-------|
| 76  | z     | 182      | Total | C   | N   | O   | 0       | 0     |
|     |       |          | 1466  | 939 | 264 | 263 |         |       |

- Molecule 77 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

| Mol | Chain | Residues | Atoms |     | AltConf |
|-----|-------|----------|-------|-----|---------|
| 77  | A     | 152      | Total | Mg  | 0       |
|     |       |          | 152   | 152 |         |
| 77  | B     | 3        | Total | Mg  | 0       |
|     |       |          | 3     | 3   |         |
| 77  | C     | 1        | Total | Mg  | 0       |
|     |       |          | 1     | 1   |         |
| 77  | CA    | 87       | Total | Mg  | 0       |
|     |       |          | 87    | 87  |         |
| 77  | D     | 1        | Total | Mg  | 0       |
|     |       |          | 1     | 1   |         |
| 77  | L     | 2        | Total | Mg  | 0       |
|     |       |          | 2     | 2   |         |
| 77  | R     | 1        | Total | Mg  | 0       |
|     |       |          | 1     | 1   |         |
| 77  | X     | 1        | Total | Mg  | 0       |
|     |       |          | 1     | 1   |         |
| 77  | ZA    | 1        | Total | Mg  | 0       |
|     |       |          | 1     | 1   |         |
| 77  | h     | 1        | Total | Mg  | 0       |
|     |       |          | 1     | 1   |         |
| 77  | y     | 1        | Total | Mg  | 0       |
|     |       |          | 1     | 1   |         |

- Molecule 78 is ZINC ION (CCD ID: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms |    | AltConf |
|-----|-------|----------|-------|----|---------|
| 78  | ZS    | 1        | Total | Zn | 0       |
|     |       |          | 1     | 1  |         |
| 78  | ZV    | 1        | Total | Zn | 0       |
|     |       |          | 1     | 1  |         |
| 78  | i     | 1        | Total | Zn | 0       |
|     |       |          | 1     | 1  |         |
| 78  | l     | 1        | Total | Zn | 0       |
|     |       |          | 1     | 1  |         |
| 78  | o     | 1        | Total | Zn | 0       |
|     |       |          | 1     | 1  |         |
| 78  | q     | 1        | Total | Zn | 0       |
|     |       |          | 1     | 1  |         |

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| Mol | Chain | Residues | Atoms      |         | AltConf |
|-----|-------|----------|------------|---------|---------|
| 78  | r     | 1        | Total<br>1 | Zn<br>1 | 0       |

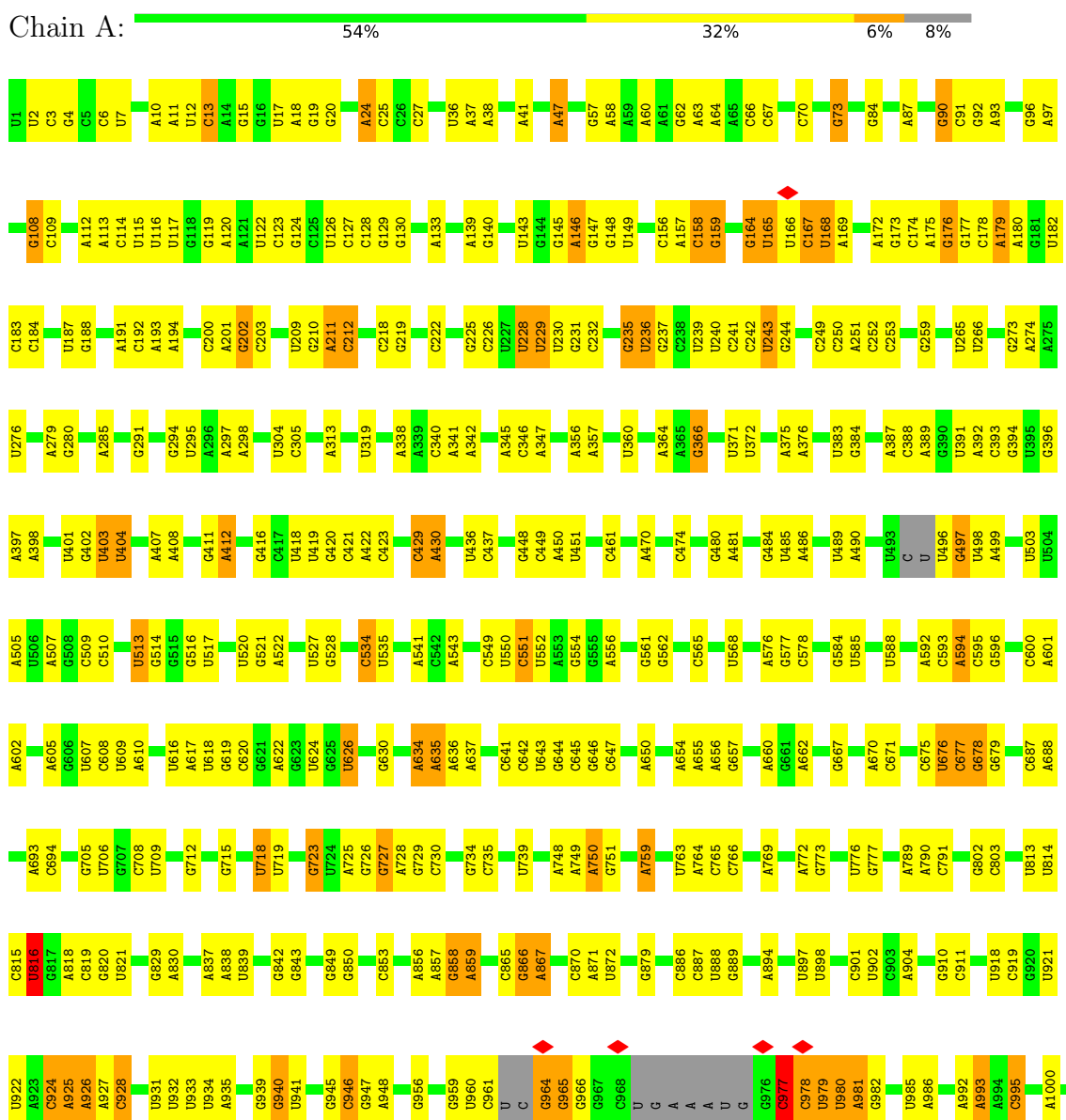
- Molecule 79 is water.

| Mol | Chain | Residues | Atoms       |         | AltConf |
|-----|-------|----------|-------------|---------|---------|
| 79  | A     | 82       | Total<br>82 | O<br>82 | 0       |
| 79  | B     | 2        | Total<br>2  | O<br>2  | 0       |
| 79  | C     | 4        | Total<br>4  | O<br>4  | 0       |
| 79  | CA    | 10       | Total<br>10 | O<br>10 | 0       |
| 79  | E     | 2        | Total<br>2  | O<br>2  | 0       |
| 79  | P     | 1        | Total<br>1  | O<br>1  | 0       |
| 79  | ZE    | 2        | Total<br>2  | O<br>2  | 0       |
| 79  | ZF    | 1        | Total<br>1  | O<br>1  | 0       |
| 79  | d     | 1        | Total<br>1  | O<br>1  | 0       |
| 79  | i     | 1        | Total<br>1  | O<br>1  | 0       |
| 79  | q     | 1        | Total<br>1  | O<br>1  | 0       |

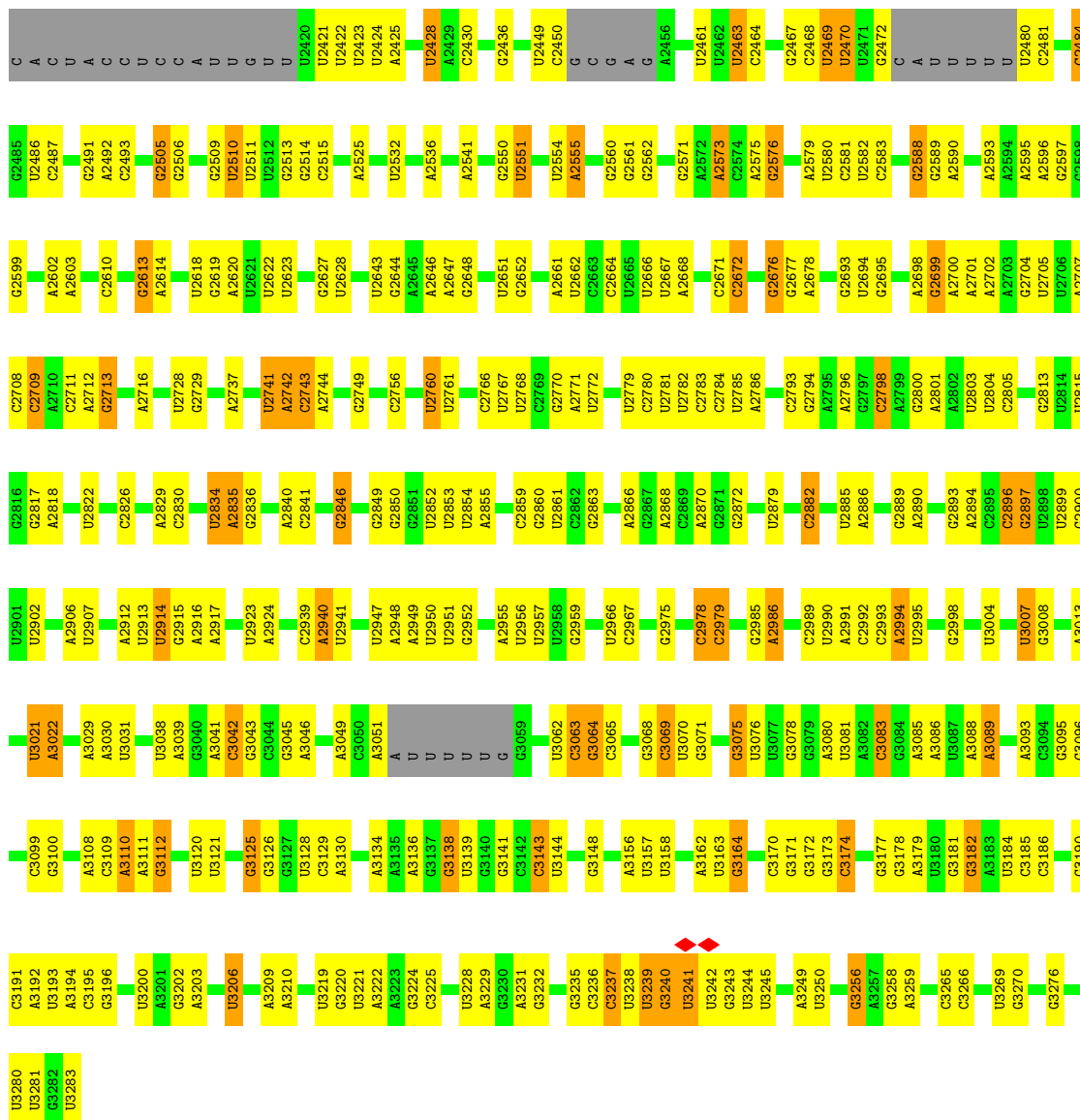
### 3 Residue-property plots

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

#### • Molecule 1: 25S rRNA

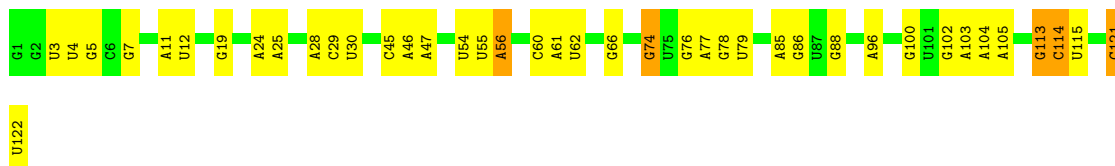


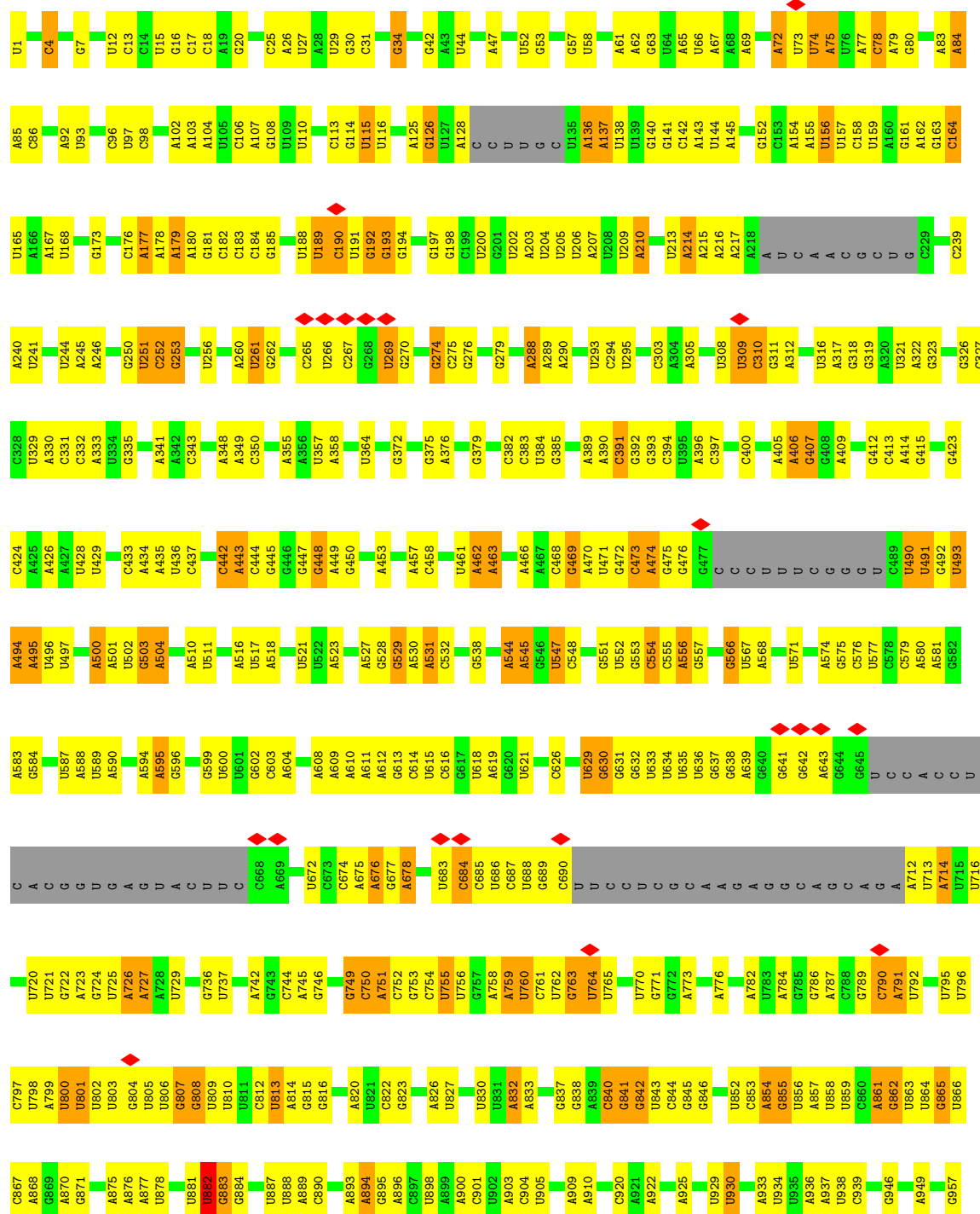




• Molecule 2: 5S rRNA

Chain B: 66% 30%

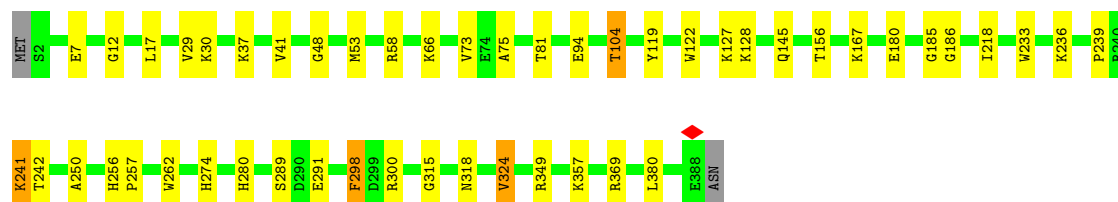






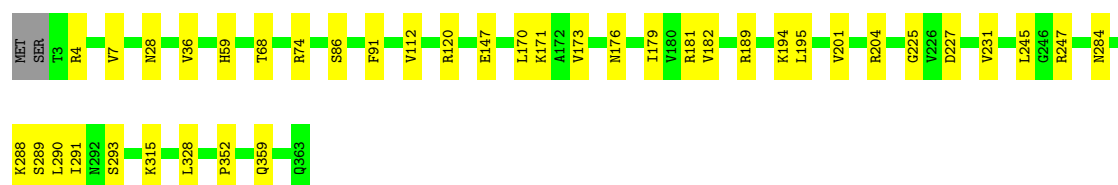
- Molecule 6: Large ribosomal subunit protein uL3

Chain E:  87% 12% ..



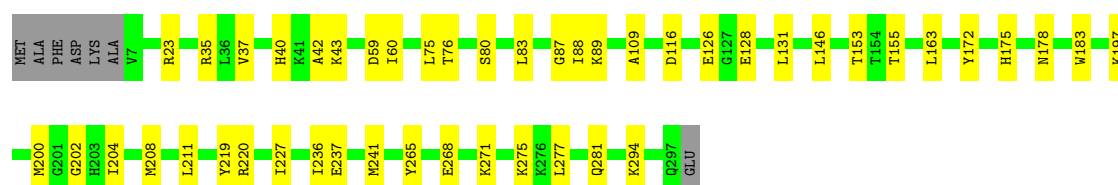
- Molecule 7: 60S ribosomal protein L4-A

Chain F:  89% 11% .



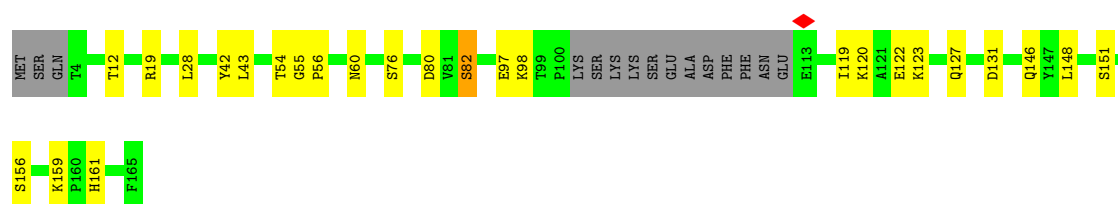
- Molecule 8: 60S ribosomal protein L5

Chain G:  82% 16% .



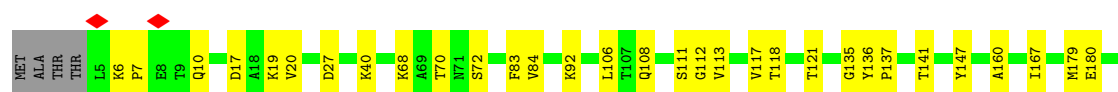
- Molecule 9: 60S ribosomal protein L6

Chain H:  75% 15% . 9%



- Molecule 10: 60S ribosomal protein L7

Chain I:  82% 16% .





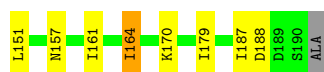
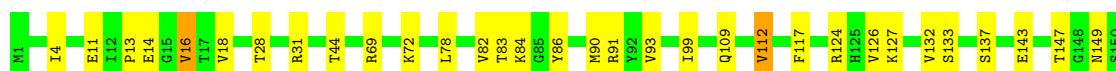
- Molecule 11: 60S ribosomal protein L8

Chain J: 75% 13% 11%



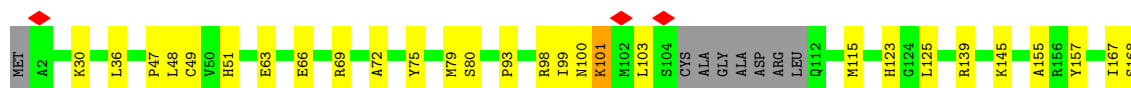
- Molecule 12: 60S ribosomal protein L9-B

Chain K: 79% 19%



- Molecule 13: 60S ribosomal protein L10

Chain L: 82% 14%



- Molecule 14: 60S ribosomal protein L11-A

Chain M: 76% 22%

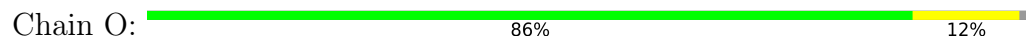


- Molecule 15: 60S ribosomal protein L13

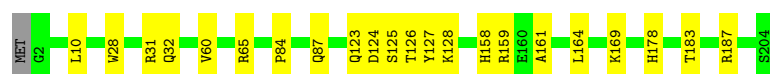
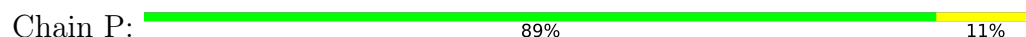
Chain N: 84% 13%



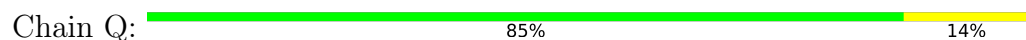
- Molecule 16: Large ribosomal subunit protein eL14 domain-containing protein



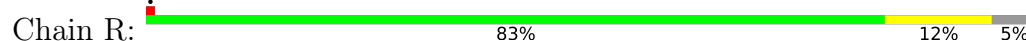
- Molecule 17: Ribosomal protein L15



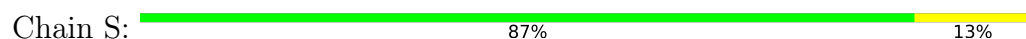
- Molecule 18: 60S ribosomal protein L16-B



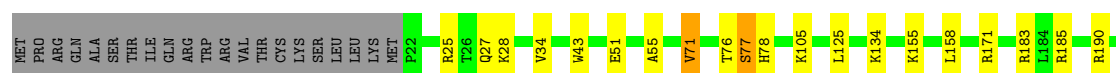
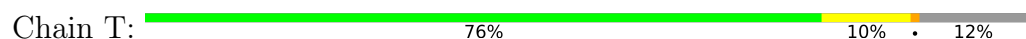
- Molecule 19: 60S ribosomal protein L17-B



- Molecule 20: 60S ribosomal protein L18-A



- Molecule 21: Ribosomal protein L19



- Chain Z: 
- | Residue | State      |
|---------|------------|
| MET     | Disordered |
| ALA     | Disordered |
| PRO     | Disordered |
| ASN     | Disordered |
| ALA     | Disordered |
| ALA     | Disordered |
| ALA     | Disordered |
| ALA     | Disordered |
| LYS     | Disordered |
| LYS     | Disordered |
| SER     | Disordered |
| ALA     | Disordered |
| LEU     | Disordered |
| LYS     | Disordered |
| GLY     | Disordered |
| THR     | Disordered |
| ASN     | Disordered |
| SER     | Disordered |
| LYS     | Disordered |
| LYS     | Disordered |
| A21     | Disordered |
| T22     | Disordered |
| K23     | Disordered |
| R24     | Disordered |
| V25     | Disordered |
| R26     | Disordered |
| K34     | Disordered |
| R40     | Disordered |
| K41     | Disordered |
| S48     | Disordered |
| Y52     | Disordered |
| R53     | Disordered |
| R54     | Disordered |
| L55     | Disordered |
| K59     | Disordered |
| E68     | Disordered |
| K73     | Disordered |
| N89     | Disordered |
| I93     | Disordered |
| V97     | Disordered |
| V105    | Disordered |
| I108    | Disordered |
| Y121    | Disordered |
| I122    | Disordered |
| T125    | Disordered |
| A126    | Disordered |



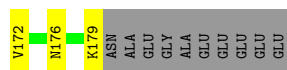
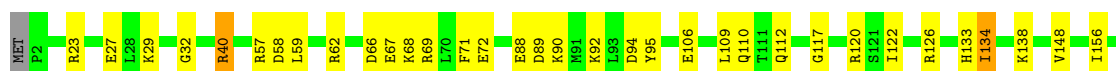
- Molecule 28: 40S ribosomal protein S8

Chain ZA: 76% 19% 5%



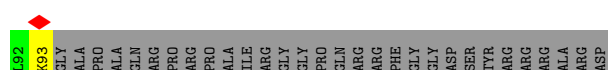
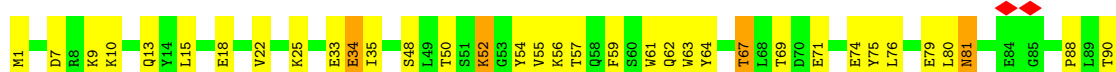
- Molecule 29: 40S ribosomal protein S9-A

Chain ZB: 75% 19% 6%



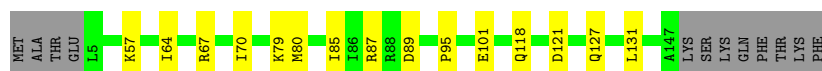
- Molecule 30: 40S ribosomal protein S10-A

Chain ZC: 46% 27% 24%



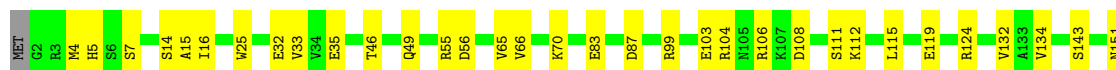
- Molecule 31: 40S ribosomal protein S11-A

Chain ZD: 83% 10% 8%



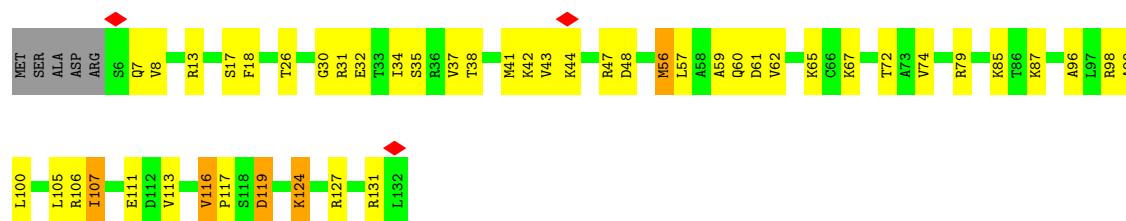
- Molecule 32: 40S ribosomal protein S13

Chain ZE: 77% 22% 1%



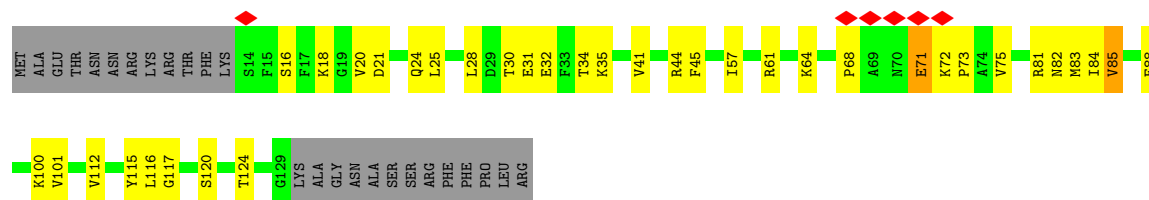
- Molecule 33: Small ribosomal subunit protein uS11

Chain ZF: 



- Molecule 34: 40S ribosomal protein S15

Chain ZG: 



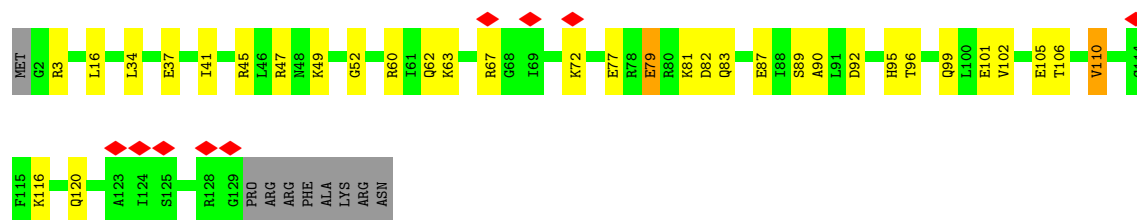
- Molecule 35: Small ribosomal subunit protein uS9

Chain ZH: 



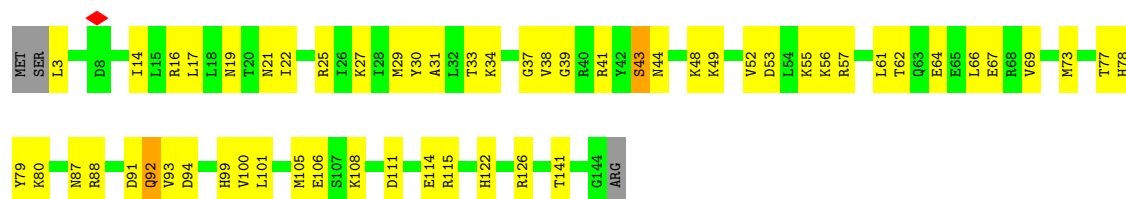
- Molecule 36: 40S ribosomal protein S17-B

Chain ZI: 



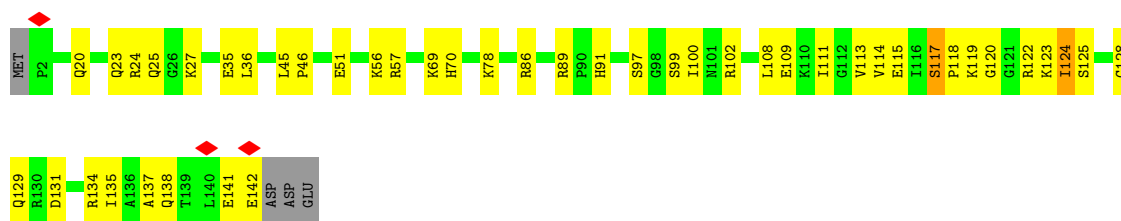
- Molecule 37: 40S ribosomal protein S18

Chain ZJ: 



- Molecule 38: 40S ribosomal protein S19-A

Chain ZK:  66% 30%



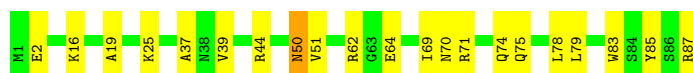
- Molecule 39: Small ribosomal subunit protein uS10

Chain ZL:  52% 31% 15%



- Molecule 40: 40S ribosomal protein S21

Chain ZM:  76% 23%



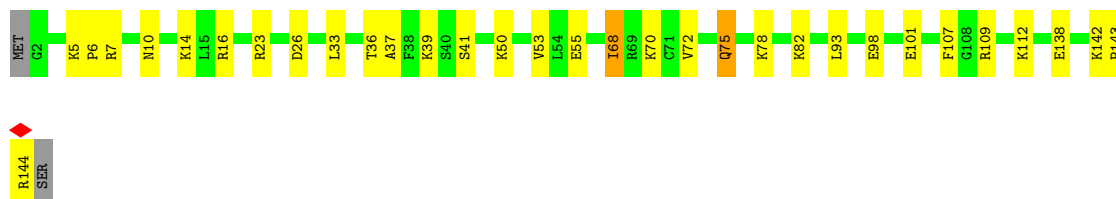
- Molecule 41: 40S ribosomal protein S22

Chain ZO:  81% 18%



- Molecule 42: 40S ribosomal protein S23

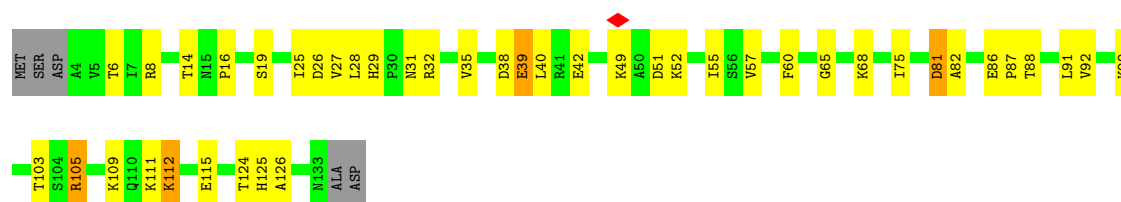
Chain ZP:  77% 21%



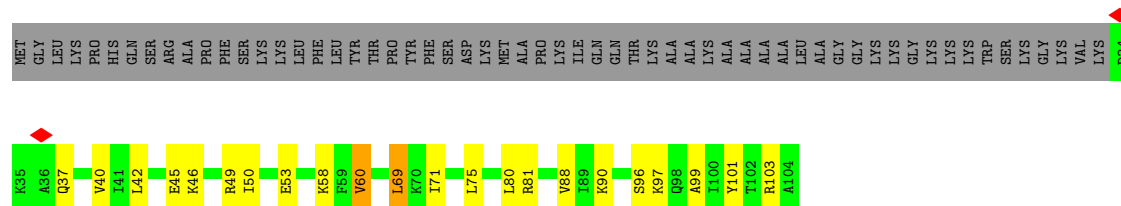
- Molecule 43: 40S ribosomal protein S24

Chain ZQ:  64% 29%

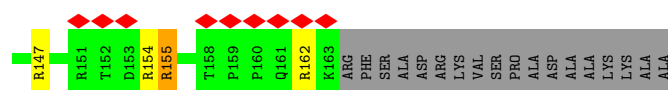
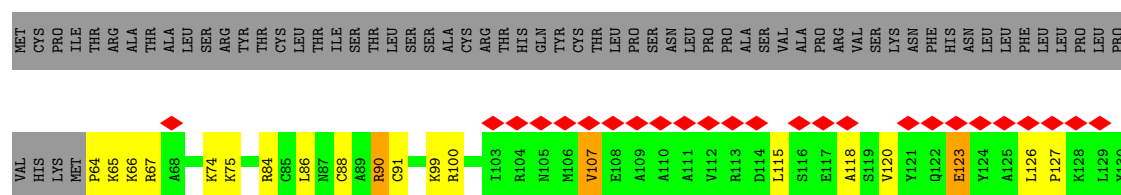
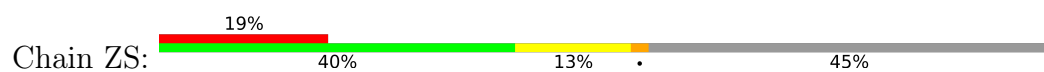




- Molecule 44: 40S ribosomal protein S25



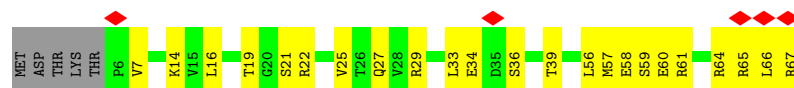
- Molecule 45: 40S ribosomal protein S26



- Molecule 46: 40S ribosomal protein S27



- Molecule 47: 40S ribosomal protein S28-A



- Molecule 48: Small ribosomal subunit protein uS14





- Molecule 49: Small ribosomal subunit protein eS30



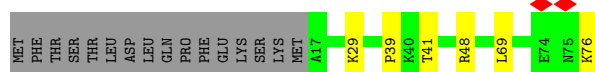
- Molecule 53: 60S ribosomal protein L28

Chain c:  81% 18%



- Molecule 54: 60S ribosomal protein L29

Chain d:  71% 8% 21%



- Molecule 55: 60S ribosomal protein L30

Chain e:  75% 20% 5%



- Molecule 56: 60S ribosomal protein L31-A

Chain f:  84% 12% 4%



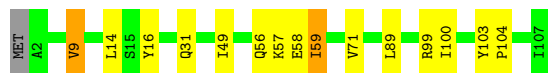
- Molecule 57: 60S ribosomal protein L32

Chain g:  68% 13% 17%



- Molecule 58: 60S ribosomal protein L33-A

Chain h:  85% 12% 3%

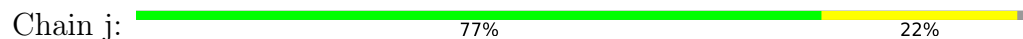


- Molecule 59: 60S ribosomal protein L34-B

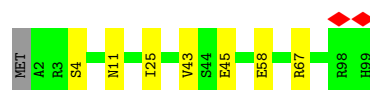
Chain i:  5% 81% 17%



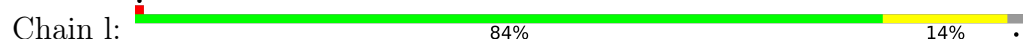
- Molecule 60: 60S ribosomal protein L35



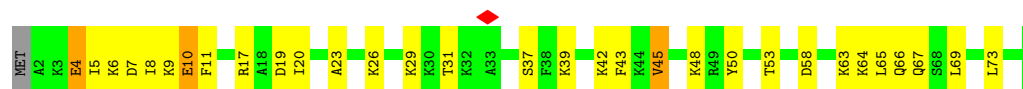
- Molecule 61: 60S ribosomal protein L36



- Molecule 62: Ribosomal protein L37



- Molecule 63: Large ribosomal subunit protein eL38



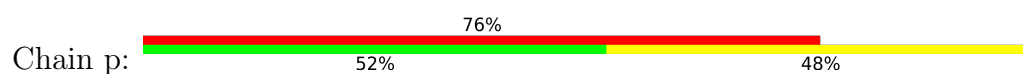
- Molecule 64: Large ribosomal subunit protein eL39



- Molecule 65: Large ribosomal subunit protein eL40



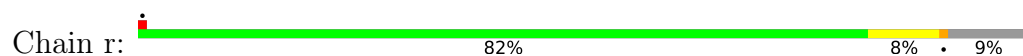
- Molecule 66: Small ribosomal subunit protein eS32



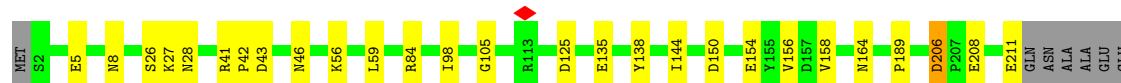
- Molecule 67: 60S ribosomal protein L44



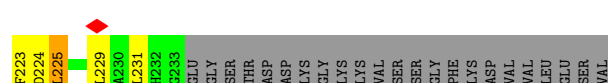
- Molecule 68: 60S ribosomal protein L43



- Molecule 69: Small ribosomal subunit protein uS2



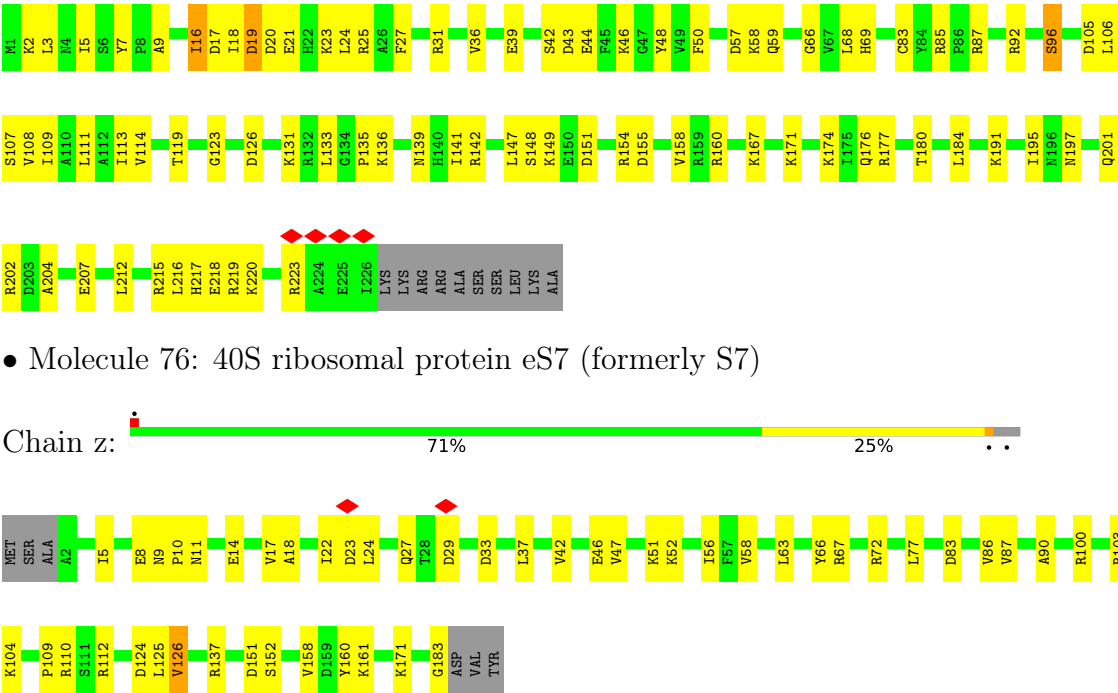
- Molecule 70: Small ribosomal subunit protein eS1



- Molecule 71: Rps21 ribosomal protein

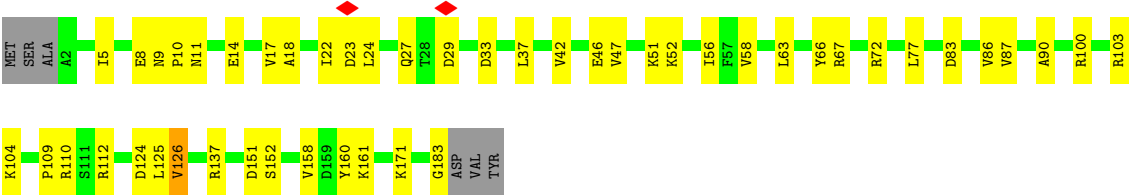






• Molecule 76: 40S ribosomal protein eS7 (formerly S7)

Chain z: 71% 25%



## 4 Experimental information

| Property                             | Value                                   | Source    |
|--------------------------------------|-----------------------------------------|-----------|
| EM reconstruction method             | SINGLE PARTICLE                         | Depositor |
| Imposed symmetry                     | POINT, Not provided                     |           |
| Number of particles used             | 383840                                  | Depositor |
| Resolution determination method      | FSC 0.143 CUT-OFF                       | Depositor |
| CTF correction method                | PHASE FLIPPING AND AMPLITUDE CORRECTION | Depositor |
| Microscope                           | TFS KRIOS                               | Depositor |
| Voltage (kV)                         | 300                                     | Depositor |
| Electron dose ( $e^-/\text{\AA}^2$ ) | 50                                      | Depositor |
| Minimum defocus (nm)                 | 500                                     | Depositor |
| Maximum defocus (nm)                 | 2000                                    | Depositor |
| Magnification                        | Not provided                            |           |
| Image detector                       | GATAN K3 BIOQUANTUM (6k x 4k)           | Depositor |
| Maximum map value                    | 1.247                                   | Depositor |
| Minimum map value                    | -0.176                                  | Depositor |
| Average map value                    | 0.013                                   | Depositor |
| Map value standard deviation         | 0.048                                   | Depositor |
| Recommended contour level            | 0.1                                     | Depositor |
| Map size (Å)                         | 376.2, 376.2, 376.2                     | wwPDB     |
| Map dimensions                       | 450, 450, 450                           | wwPDB     |
| Map angles (°)                       | 90.0, 90.0, 90.0                        | wwPDB     |
| Pixel spacing (Å)                    | 0.836, 0.836, 0.836                     | Depositor |

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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

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

| Mol | Chain | Bond lengths |             | Bond angles |                   |
|-----|-------|--------------|-------------|-------------|-------------------|
|     |       | RMSZ         | $\# Z  > 5$ | RMSZ        | $\# Z  > 5$       |
| 1   | A     | 0.26         | 0/72363     | 0.43        | 108/112811 (0.1%) |
| 2   | B     | 0.19         | 0/2918      | 0.27        | 0/4548            |
| 3   | C     | 0.26         | 0/3659      | 0.41        | 5/5698 (0.1%)     |
| 4   | CA    | 0.20         | 0/39990     | 0.36        | 22/62317 (0.0%)   |
| 5   | D     | 0.24         | 0/1907      | 0.41        | 0/2560            |
| 6   | E     | 0.26         | 0/3155      | 0.42        | 1/4246 (0.0%)     |
| 7   | F     | 0.21         | 0/2835      | 0.34        | 0/3823            |
| 8   | G     | 0.14         | 0/2419      | 0.29        | 0/3253            |
| 9   | H     | 0.17         | 0/1203      | 0.34        | 0/1621            |
| 10  | I     | 0.19         | 0/1950      | 0.34        | 0/2621            |
| 11  | J     | 0.28         | 0/1879      | 0.40        | 0/2525            |
| 12  | K     | 0.18         | 0/1539      | 0.32        | 0/2068            |
| 13  | L     | 0.16         | 0/1756      | 0.30        | 0/2355            |
| 14  | M     | 0.15         | 0/1385      | 0.37        | 0/1854            |
| 15  | N     | 0.17         | 0/1564      | 0.36        | 0/2104            |
| 16  | O     | 0.17         | 0/1044      | 0.29        | 0/1410            |
| 17  | P     | 0.19         | 0/1743      | 0.33        | 0/2340            |
| 18  | Q     | 0.20         | 0/1618      | 0.34        | 0/2169            |
| 19  | R     | 0.20         | 0/1444      | 0.34        | 0/1943            |
| 20  | S     | 0.18         | 0/1479      | 0.30        | 0/1985            |
| 21  | T     | 0.16         | 0/1488      | 0.26        | 0/1981            |
| 22  | U     | 0.20         | 0/1483      | 0.32        | 0/1996            |
| 23  | V     | 0.18         | 0/1308      | 0.35        | 0/1758            |
| 24  | W     | 0.15         | 0/887       | 0.34        | 0/1194            |
| 25  | X     | 0.26         | 0/1030      | 0.43        | 0/1387            |
| 26  | Y     | 0.17         | 0/530       | 0.28        | 0/704             |
| 27  | Z     | 0.40         | 0/970       | 0.57        | 0/1311            |
| 28  | ZA    | 0.28         | 0/1571      | 0.48        | 1/2103 (0.0%)     |
| 29  | ZB    | 0.16         | 0/1496      | 0.35        | 0/2005            |
| 30  | ZC    | 0.42         | 0/805       | 0.67        | 0/1088            |
| 31  | ZD    | 0.16         | 0/1174      | 0.26        | 0/1578            |
| 32  | ZE    | 0.16         | 0/1215      | 0.31        | 0/1637            |

| Mol | Chain | Bond lengths |              | Bond angles |              |
|-----|-------|--------------|--------------|-------------|--------------|
|     |       | RMSZ         | # Z  >5      | RMSZ        | # Z  >5      |
| 33  | ZF    | 0.32         | 0/956        | 0.51        | 0/1284       |
| 34  | ZG    | 0.17         | 0/922        | 0.35        | 0/1239       |
| 35  | ZH    | 0.24         | 0/1119       | 0.45        | 0/1500       |
| 36  | ZI    | 0.18         | 0/1039       | 0.45        | 0/1392       |
| 37  | ZJ    | 0.19         | 0/1188       | 0.40        | 0/1591       |
| 38  | ZK    | 0.19         | 0/1122       | 0.48        | 0/1510       |
| 39  | ZL    | 0.16         | 0/791        | 0.41        | 0/1069       |
| 40  | ZM    | 0.15         | 0/686        | 0.30        | 0/924        |
| 41  | ZO    | 0.19         | 0/1049       | 0.40        | 0/1410       |
| 42  | ZP    | 0.17         | 0/1127       | 0.35        | 0/1505       |
| 43  | ZQ    | 0.18         | 0/1077       | 0.38        | 0/1439       |
| 44  | ZR    | 0.16         | 0/572        | 0.39        | 0/767        |
| 45  | ZS    | 0.13         | 0/817        | 0.34        | 0/1093       |
| 46  | ZT    | 0.46         | 1/627 (0.2%) | 0.72        | 3/847 (0.4%) |
| 47  | ZU    | 0.20         | 0/490        | 0.56        | 0/655        |
| 48  | ZV    | 0.16         | 0/461        | 0.33        | 0/613        |
| 49  | ZW    | 0.13         | 0/438        | 0.35        | 0/582        |
| 50  | ZY    | 0.33         | 0/2437       | 0.50        | 0/3320       |
| 51  | a     | 0.17         | 0/1005       | 0.31        | 0/1339       |
| 52  | b     | 0.17         | 0/1104       | 0.35        | 0/1480       |
| 53  | c     | 0.19         | 0/1203       | 0.34        | 0/1611       |
| 54  | d     | 0.17         | 0/506        | 0.29        | 0/670        |
| 55  | e     | 0.15         | 0/761        | 0.24        | 0/1022       |
| 56  | f     | 0.18         | 0/911        | 0.30        | 0/1223       |
| 57  | g     | 0.17         | 0/1019       | 0.31        | 0/1362       |
| 58  | h     | 0.23         | 0/877        | 0.38        | 0/1180       |
| 59  | i     | 0.19         | 0/906        | 0.36        | 0/1209       |
| 60  | j     | 0.18         | 0/963        | 0.35        | 0/1284       |
| 61  | k     | 0.19         | 0/780        | 0.36        | 0/1034       |
| 62  | l     | 0.19         | 0/666        | 0.31        | 0/883        |
| 63  | m     | 0.25         | 0/623        | 0.51        | 0/828        |
| 64  | n     | 0.18         | 0/451        | 0.28        | 0/600        |
| 65  | o     | 0.29         | 0/425        | 0.39        | 0/563        |
| 66  | p     | 0.12         | 0/237        | 0.30        | 0/304        |
| 67  | q     | 0.16         | 0/845        | 0.26        | 0/1118       |
| 68  | r     | 0.29         | 0/699        | 0.42        | 0/933        |
| 69  | s     | 0.14         | 0/1694       | 0.34        | 0/2311       |
| 70  | t     | 0.14         | 0/1717       | 0.31        | 0/2305       |
| 71  | u     | 0.15         | 0/1664       | 0.29        | 0/2253       |
| 72  | v     | 0.16         | 0/1642       | 0.39        | 0/2201       |
| 73  | w     | 0.25         | 0/2094       | 0.41        | 0/2816       |
| 74  | x     | 0.13         | 0/1628       | 0.32        | 0/2195       |
| 75  | y     | 0.14         | 0/1845       | 0.31        | 0/2467       |

| Mol | Chain | Bond lengths |                 | Bond angles |                   |
|-----|-------|--------------|-----------------|-------------|-------------------|
|     |       | RMSZ         | # Z  >5         | RMSZ        | # Z  >5           |
| 76  | z     | 0.16         | 0/1490          | 0.36        | 0/2004            |
| All | All   | 0.23         | 1/206480 (0.0%) | 0.39        | 140/302928 (0.0%) |

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

| Mol | Chain | #Chirality outliers | #Planarity outliers |
|-----|-------|---------------------|---------------------|
| 6   | E     | 0                   | 1                   |
| 11  | J     | 0                   | 2                   |
| 27  | Z     | 0                   | 2                   |
| 28  | ZA    | 0                   | 2                   |
| 40  | ZM    | 0                   | 1                   |
| 50  | ZY    | 0                   | 1                   |
| 65  | o     | 0                   | 1                   |
| 73  | w     | 0                   | 1                   |
| All | All   | 0                   | 11                  |

All (1) bond length outliers are listed below:

| Mol | Chain | Res | Type | Atoms | Z    | Observed(Å) | Ideal(Å) |
|-----|-------|-----|------|-------|------|-------------|----------|
| 46  | ZT    | 59  | CYS  | CA-CB | 6.93 | 1.64        | 1.53     |

The worst 5 of 140 bond angle outliers are listed below:

| Mol | Chain | Res  | Type | Atoms     | Z      | Observed(°) | Ideal(°) |
|-----|-------|------|------|-----------|--------|-------------|----------|
| 46  | ZT    | 59   | CYS  | CA-CB-SG  | 12.33  | 142.75      | 114.40   |
| 1   | A     | 2122 | A    | P-O3'-C3' | -10.04 | 105.14      | 120.20   |
| 1   | A     | 3125 | G    | P-O3'-C3' | -9.10  | 106.55      | 120.20   |
| 1   | A     | 3126 | G    | P-O3'-C3' | -9.05  | 106.63      | 120.20   |
| 3   | C     | 8    | C    | P-O3'-C3' | -8.95  | 106.78      | 120.20   |

There are no chirality outliers.

5 of 11 planarity outliers are listed below:

| Mol | Chain | Res | Type | Group     |
|-----|-------|-----|------|-----------|
| 6   | E     | 300 | ARG  | Sidechain |
| 11  | J     | 172 | ARG  | Sidechain |
| 11  | J     | 231 | ARG  | Sidechain |
| 27  | Z     | 53  | ARG  | Sidechain |

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| Mol | Chain | Res | Type | Group     |
|-----|-------|-----|------|-----------|
| 27  | Z     | 54  | ARG  | Sidechain |

## 5.2 Too-close contacts ⓘ

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

| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 1   | A     | 64660 | 0        | 32534    | 705     | 0            |
| 2   | B     | 2609  | 0        | 1315     | 25      | 0            |
| 3   | C     | 3274  | 0        | 1654     | 32      | 0            |
| 4   | CA    | 35746 | 0        | 17991    | 613     | 0            |
| 5   | D     | 1873  | 0        | 1943     | 26      | 0            |
| 6   | E     | 3087  | 0        | 3173     | 37      | 0            |
| 7   | F     | 2786  | 0        | 2912     | 26      | 0            |
| 8   | G     | 2370  | 0        | 2360     | 33      | 0            |
| 9   | H     | 1183  | 0        | 1276     | 17      | 0            |
| 10  | I     | 1913  | 0        | 1998     | 24      | 0            |
| 11  | J     | 1847  | 0        | 1970     | 23      | 0            |
| 12  | K     | 1519  | 0        | 1588     | 26      | 0            |
| 13  | L     | 1720  | 0        | 1760     | 24      | 0            |
| 14  | M     | 1364  | 0        | 1396     | 27      | 0            |
| 15  | N     | 1538  | 0        | 1614     | 18      | 0            |
| 16  | O     | 1030  | 0        | 1113     | 13      | 0            |
| 17  | P     | 1703  | 0        | 1748     | 14      | 0            |
| 18  | Q     | 1587  | 0        | 1695     | 26      | 0            |
| 19  | R     | 1418  | 0        | 1446     | 14      | 0            |
| 20  | S     | 1456  | 0        | 1570     | 21      | 0            |
| 21  | T     | 1469  | 0        | 1579     | 17      | 0            |
| 22  | U     | 1448  | 0        | 1511     | 28      | 0            |
| 23  | V     | 1282  | 0        | 1341     | 20      | 0            |
| 24  | W     | 871   | 0        | 903      | 10      | 0            |
| 25  | X     | 1013  | 0        | 1057     | 24      | 0            |
| 26  | Y     | 517   | 0        | 535      | 6       | 0            |
| 27  | Z     | 955   | 0        | 1012     | 18      | 0            |
| 28  | ZA    | 1545  | 0        | 1580     | 30      | 0            |
| 29  | ZB    | 1470  | 0        | 1543     | 30      | 0            |
| 30  | ZC    | 786   | 0        | 797      | 33      | 0            |
| 31  | ZD    | 1150  | 0        | 1218     | 9       | 0            |
| 32  | ZE    | 1192  | 0        | 1252     | 22      | 0            |

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| Mol | Chain | Non-H | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|-------|----------|----------|---------|--------------|
| 33  | ZF    | 945   | 0        | 979      | 38      | 0            |
| 34  | ZG    | 904   | 0        | 944      | 22      | 0            |
| 35  | ZH    | 1100  | 0        | 1162     | 22      | 0            |
| 36  | ZI    | 1027  | 0        | 1080     | 33      | 0            |
| 37  | ZJ    | 1170  | 0        | 1213     | 45      | 0            |
| 38  | ZK    | 1101  | 0        | 1113     | 35      | 0            |
| 39  | ZL    | 782   | 0        | 854      | 26      | 0            |
| 40  | ZM    | 678   | 0        | 671      | 15      | 0            |
| 41  | ZO    | 1032  | 0        | 1072     | 17      | 0            |
| 42  | ZP    | 1109  | 0        | 1173     | 22      | 0            |
| 43  | ZQ    | 1060  | 0        | 1117     | 31      | 0            |
| 44  | ZR    | 564   | 0        | 598      | 15      | 0            |
| 45  | ZS    | 805   | 0        | 861      | 25      | 0            |
| 46  | ZT    | 617   | 0        | 631      | 23      | 0            |
| 47  | ZU    | 488   | 0        | 523      | 19      | 0            |
| 48  | ZV    | 449   | 0        | 425      | 16      | 0            |
| 49  | ZW    | 432   | 0        | 471      | 23      | 0            |
| 50  | ZY    | 2383  | 0        | 2344     | 79      | 0            |
| 51  | a     | 994   | 0        | 1075     | 18      | 0            |
| 52  | b     | 1081  | 0        | 1134     | 21      | 0            |
| 53  | c     | 1174  | 0        | 1204     | 18      | 0            |
| 54  | d     | 498   | 0        | 517      | 5       | 0            |
| 55  | e     | 753   | 0        | 797      | 12      | 0            |
| 56  | f     | 895   | 0        | 927      | 9       | 0            |
| 57  | g     | 1002  | 0        | 1062     | 18      | 0            |
| 58  | h     | 859   | 0        | 889      | 9       | 0            |
| 59  | i     | 897   | 0        | 970      | 12      | 0            |
| 60  | j     | 956   | 0        | 1067     | 20      | 0            |
| 61  | k     | 774   | 0        | 848      | 5       | 0            |
| 62  | l     | 654   | 0        | 668      | 8       | 0            |
| 63  | m     | 617   | 0        | 685      | 25      | 0            |
| 64  | n     | 442   | 0        | 478      | 13      | 0            |
| 65  | o     | 419   | 0        | 460      | 3       | 0            |
| 66  | p     | 236   | 0        | 285      | 13      | 0            |
| 67  | q     | 832   | 0        | 892      | 6       | 0            |
| 68  | r     | 691   | 0        | 723      | 7       | 0            |
| 69  | s     | 1655  | 0        | 1670     | 18      | 0            |
| 70  | t     | 1692  | 0        | 1787     | 40      | 0            |
| 71  | u     | 1636  | 0        | 1743     | 40      | 0            |
| 72  | v     | 1619  | 0        | 1718     | 36      | 0            |
| 73  | w     | 2056  | 0        | 2145     | 42      | 0            |
| 74  | x     | 1610  | 0        | 1687     | 34      | 0            |

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| Mol | Chain | Non-H  | H(model) | H(added) | Clashes | Symm-Clashes |
|-----|-------|--------|----------|----------|---------|--------------|
| 75  | y     | 1819   | 0        | 1882     | 63      | 0            |
| 76  | z     | 1466   | 0        | 1554     | 33      | 0            |
| 77  | A     | 152    | 0        | 0        | 0       | 0            |
| 77  | B     | 3      | 0        | 0        | 0       | 0            |
| 77  | C     | 1      | 0        | 0        | 0       | 0            |
| 77  | CA    | 87     | 0        | 0        | 0       | 0            |
| 77  | D     | 1      | 0        | 0        | 0       | 0            |
| 77  | L     | 2      | 0        | 0        | 0       | 0            |
| 77  | R     | 1      | 0        | 0        | 0       | 0            |
| 77  | X     | 1      | 0        | 0        | 0       | 0            |
| 77  | ZA    | 1      | 0        | 0        | 0       | 0            |
| 77  | h     | 1      | 0        | 0        | 0       | 0            |
| 77  | y     | 1      | 0        | 0        | 0       | 0            |
| 78  | ZS    | 1      | 0        | 0        | 0       | 0            |
| 78  | ZV    | 1      | 0        | 0        | 0       | 0            |
| 78  | i     | 1      | 0        | 0        | 0       | 0            |
| 78  | l     | 1      | 0        | 0        | 0       | 0            |
| 78  | o     | 1      | 0        | 0        | 0       | 0            |
| 78  | q     | 1      | 0        | 0        | 0       | 0            |
| 78  | r     | 1      | 0        | 0        | 0       | 0            |
| 79  | A     | 82     | 0        | 0        | 4       | 0            |
| 79  | B     | 2      | 0        | 0        | 0       | 0            |
| 79  | C     | 4      | 0        | 0        | 0       | 0            |
| 79  | CA    | 10     | 0        | 0        | 0       | 0            |
| 79  | E     | 2      | 0        | 0        | 1       | 0            |
| 79  | P     | 1      | 0        | 0        | 0       | 0            |
| 79  | ZE    | 2      | 0        | 0        | 0       | 0            |
| 79  | ZF    | 1      | 0        | 0        | 0       | 0            |
| 79  | d     | 1      | 0        | 0        | 0       | 0            |
| 79  | i     | 1      | 0        | 0        | 0       | 0            |
| 79  | q     | 1      | 0        | 0        | 0       | 0            |
| All | All   | 192719 | 0        | 143482   | 2597    | 0            |

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 8.

The worst 5 of 2597 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

| Atom-1       | Atom-2       | Interatomic distance (Å) | Clash overlap (Å) |
|--------------|--------------|--------------------------|-------------------|
| 2:B:19:G:H1  | 2:B:62:U:H3  | 0.98                     | 0.97              |
| 1:A:960:U:H3 | 1:A:982:G:H1 | 1.21                     | 0.89              |

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| Atom-1           | Atom-2            | Interatomic distance (Å) | Clash overlap (Å) |
|------------------|-------------------|--------------------------|-------------------|
| 4:CA:1261:G:H1   | 4:CA:1294:G:H22   | 1.20                     | 0.89              |
| 51:a:31:MET:HB3  | 51:a:101:PRO:HG2  | 1.55                     | 0.88              |
| 37:ZJ:111:ASP:HA | 37:ZJ:114:GLU:HG3 | 1.56                     | 0.87              |

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

| Mol | Chain | Analysed      | Favoured   | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|------------|---------|----------|-------------|-----|
| 5   | D     | 245/254 (96%) | 234 (96%)  | 11 (4%) | 0        | 100         | 100 |
| 6   | E     | 385/389 (99%) | 373 (97%)  | 12 (3%) | 0        | 100         | 100 |
| 7   | F     | 359/363 (99%) | 351 (98%)  | 8 (2%)  | 0        | 100         | 100 |
| 8   | G     | 289/298 (97%) | 281 (97%)  | 8 (3%)  | 0        | 100         | 100 |
| 9   | H     | 146/165 (88%) | 140 (96%)  | 6 (4%)  | 0        | 100         | 100 |
| 10  | I     | 235/241 (98%) | 228 (97%)  | 7 (3%)  | 0        | 100         | 100 |
| 11  | J     | 231/263 (88%) | 227 (98%)  | 4 (2%)  | 0        | 100         | 100 |
| 12  | K     | 188/191 (98%) | 184 (98%)  | 4 (2%)  | 0        | 100         | 100 |
| 13  | L     | 207/220 (94%) | 200 (97%)  | 6 (3%)  | 1 (0%)   | 24          | 19  |
| 14  | M     | 168/172 (98%) | 166 (99%)  | 2 (1%)  | 0        | 100         | 100 |
| 15  | N     | 192/198 (97%) | 188 (98%)  | 3 (2%)  | 1 (0%)   | 24          | 19  |
| 16  | O     | 127/131 (97%) | 122 (96%)  | 5 (4%)  | 0        | 100         | 100 |
| 17  | P     | 201/204 (98%) | 194 (96%)  | 7 (4%)  | 0        | 100         | 100 |
| 18  | Q     | 197/200 (98%) | 196 (100%) | 1 (0%)  | 0        | 100         | 100 |
| 19  | R     | 172/185 (93%) | 169 (98%)  | 3 (2%)  | 0        | 100         | 100 |
| 20  | S     | 183/186 (98%) | 174 (95%)  | 9 (5%)  | 0        | 100         | 100 |
| 21  | T     | 180/208 (86%) | 173 (96%)  | 6 (3%)  | 1 (1%)   | 21          | 15  |

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| Mol | Chain | Analysed      | Favoured  | Allowed | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|---------|----------|-------------|-----|
| 22  | U     | 170/186 (91%) | 166 (98%) | 4 (2%)  | 0        | 100         | 100 |
| 23  | V     | 157/160 (98%) | 153 (98%) | 4 (2%)  | 0        | 100         | 100 |
| 24  | W     | 105/119 (88%) | 98 (93%)  | 7 (7%)  | 0        | 100         | 100 |
| 25  | X     | 135/137 (98%) | 132 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 26  | Y     | 60/156 (38%)  | 58 (97%)  | 2 (3%)  | 0        | 100         | 100 |
| 27  | Z     | 118/140 (84%) | 116 (98%) | 2 (2%)  | 0        | 100         | 100 |
| 28  | ZA    | 192/204 (94%) | 188 (98%) | 4 (2%)  | 0        | 100         | 100 |
| 29  | ZB    | 177/189 (94%) | 175 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 30  | ZC    | 91/123 (74%)  | 85 (93%)  | 5 (6%)  | 1 (1%)   | 11          | 6   |
| 31  | ZD    | 141/155 (91%) | 139 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 32  | ZE    | 148/151 (98%) | 146 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 33  | ZF    | 125/132 (95%) | 119 (95%) | 6 (5%)  | 0        | 100         | 100 |
| 34  | ZG    | 114/141 (81%) | 111 (97%) | 3 (3%)  | 0        | 100         | 100 |
| 35  | ZH    | 139/142 (98%) | 133 (96%) | 6 (4%)  | 0        | 100         | 100 |
| 36  | ZI    | 126/137 (92%) | 123 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 37  | ZJ    | 140/145 (97%) | 136 (97%) | 4 (3%)  | 0        | 100         | 100 |
| 38  | ZK    | 139/145 (96%) | 137 (99%) | 2 (1%)  | 0        | 100         | 100 |
| 39  | ZL    | 98/118 (83%)  | 91 (93%)  | 7 (7%)  | 0        | 100         | 100 |
| 40  | ZM    | 85/87 (98%)   | 83 (98%)  | 2 (2%)  | 0        | 100         | 100 |
| 41  | ZO    | 127/130 (98%) | 123 (97%) | 4 (3%)  | 0        | 100         | 100 |
| 42  | ZP    | 141/145 (97%) | 138 (98%) | 3 (2%)  | 0        | 100         | 100 |
| 43  | ZQ    | 128/135 (95%) | 122 (95%) | 6 (5%)  | 0        | 100         | 100 |
| 44  | ZR    | 69/130 (53%)  | 68 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 45  | ZS    | 98/182 (54%)  | 97 (99%)  | 1 (1%)  | 0        | 100         | 100 |
| 46  | ZT    | 79/82 (96%)   | 75 (95%)  | 3 (4%)  | 1 (1%)   | 9           | 4   |
| 47  | ZU    | 60/67 (90%)   | 55 (92%)  | 5 (8%)  | 0        | 100         | 100 |
| 48  | ZV    | 52/56 (93%)   | 49 (94%)  | 3 (6%)  | 0        | 100         | 100 |
| 49  | ZW    | 52/63 (82%)   | 51 (98%)  | 1 (2%)  | 0        | 100         | 100 |
| 50  | ZY    | 306/315 (97%) | 282 (92%) | 24 (8%) | 0        | 100         | 100 |
| 51  | a     | 124/127 (98%) | 122 (98%) | 2 (2%)  | 0        | 100         | 100 |
| 52  | b     | 133/136 (98%) | 132 (99%) | 1 (1%)  | 0        | 100         | 100 |

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| Mol | Chain | Analysed          | Favoured    | Allowed  | Outliers | Percentiles |     |
|-----|-------|-------------------|-------------|----------|----------|-------------|-----|
| 53  | c     | 146/149 (98%)     | 140 (96%)   | 6 (4%)   | 0        | 100         | 100 |
| 54  | d     | 58/76 (76%)       | 57 (98%)    | 1 (2%)   | 0        | 100         | 100 |
| 55  | e     | 98/105 (93%)      | 95 (97%)    | 3 (3%)   | 0        | 100         | 100 |
| 56  | f     | 107/113 (95%)     | 107 (100%)  | 0        | 0        | 100         | 100 |
| 57  | g     | 121/149 (81%)     | 120 (99%)   | 1 (1%)   | 0        | 100         | 100 |
| 58  | h     | 104/107 (97%)     | 102 (98%)   | 2 (2%)   | 0        | 100         | 100 |
| 59  | i     | 111/115 (96%)     | 108 (97%)   | 3 (3%)   | 0        | 100         | 100 |
| 60  | j     | 116/120 (97%)     | 115 (99%)   | 1 (1%)   | 0        | 100         | 100 |
| 61  | k     | 96/99 (97%)       | 92 (96%)    | 4 (4%)   | 0        | 100         | 100 |
| 62  | l     | 81/85 (95%)       | 80 (99%)    | 1 (1%)   | 0        | 100         | 100 |
| 63  | m     | 75/78 (96%)       | 74 (99%)    | 1 (1%)   | 0        | 100         | 100 |
| 64  | n     | 48/51 (94%)       | 47 (98%)    | 1 (2%)   | 0        | 100         | 100 |
| 65  | o     | 50/52 (96%)       | 50 (100%)   | 0        | 0        | 100         | 100 |
| 66  | p     | 23/25 (92%)       | 23 (100%)   | 0        | 0        | 100         | 100 |
| 67  | q     | 102/106 (96%)     | 101 (99%)   | 1 (1%)   | 0        | 100         | 100 |
| 68  | r     | 88/99 (89%)       | 86 (98%)    | 2 (2%)   | 0        | 100         | 100 |
| 69  | s     | 208/264 (79%)     | 199 (96%)   | 9 (4%)   | 0        | 100         | 100 |
| 70  | t     | 209/256 (82%)     | 206 (99%)   | 3 (1%)   | 0        | 100         | 100 |
| 71  | u     | 214/249 (86%)     | 208 (97%)   | 6 (3%)   | 0        | 100         | 100 |
| 72  | v     | 207/250 (83%)     | 198 (96%)   | 8 (4%)   | 1 (0%)   | 24          | 19  |
| 73  | w     | 258/264 (98%)     | 252 (98%)   | 6 (2%)   | 0        | 100         | 100 |
| 74  | x     | 204/223 (92%)     | 195 (96%)   | 8 (4%)   | 1 (0%)   | 24          | 19  |
| 75  | y     | 224/236 (95%)     | 221 (99%)   | 3 (1%)   | 0        | 100         | 100 |
| 76  | z     | 180/188 (96%)     | 174 (97%)   | 6 (3%)   | 0        | 100         | 100 |
| All | All   | 10662/11662 (91%) | 10353 (97%) | 302 (3%) | 7 (0%)   | 49          | 49  |

5 of 7 Ramachandran outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 15  | N     | 47  | ALA  |
| 21  | T     | 77  | SER  |
| 30  | ZC    | 34  | GLU  |
| 72  | v     | 85  | ILE  |
| 46  | ZT    | 57  | ASP  |

### 5.3.2 Protein sidechains ⓘ

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

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

| Mol | Chain | Analysed       | Rotameric  | Outliers | Percentiles |     |
|-----|-------|----------------|------------|----------|-------------|-----|
| 5   | D     | 186/193 (96%)  | 181 (97%)  | 5 (3%)   | 39          | 41  |
| 6   | E     | 328/330 (99%)  | 322 (98%)  | 6 (2%)   | 51          | 57  |
| 7   | F     | 298/300 (99%)  | 292 (98%)  | 6 (2%)   | 48          | 53  |
| 8   | G     | 247/252 (98%)  | 244 (99%)  | 3 (1%)   | 63          | 69  |
| 9   | H     | 131/145 (90%)  | 127 (97%)  | 4 (3%)   | 35          | 35  |
| 10  | I     | 199/202 (98%)  | 196 (98%)  | 3 (2%)   | 57          | 63  |
| 11  | J     | 196/216 (91%)  | 188 (96%)  | 8 (4%)   | 27          | 24  |
| 12  | K     | 168/168 (100%) | 161 (96%)  | 7 (4%)   | 26          | 23  |
| 13  | L     | 183/189 (97%)  | 182 (100%) | 1 (0%)   | 81          | 86  |
| 14  | M     | 143/145 (99%)  | 138 (96%)  | 5 (4%)   | 32          | 31  |
| 15  | N     | 156/160 (98%)  | 152 (97%)  | 4 (3%)   | 40          | 42  |
| 16  | O     | 110/111 (99%)  | 109 (99%)  | 1 (1%)   | 70          | 77  |
| 17  | P     | 175/176 (99%)  | 174 (99%)  | 1 (1%)   | 78          | 84  |
| 18  | Q     | 166/167 (99%)  | 163 (98%)  | 3 (2%)   | 51          | 57  |
| 19  | R     | 146/152 (96%)  | 143 (98%)  | 3 (2%)   | 47          | 51  |
| 20  | S     | 153/154 (99%)  | 153 (100%) | 0        | 100         | 100 |
| 21  | T     | 146/170 (86%)  | 143 (98%)  | 3 (2%)   | 47          | 51  |
| 22  | U     | 154/168 (92%)  | 148 (96%)  | 6 (4%)   | 28          | 26  |
| 23  | V     | 138/139 (99%)  | 134 (97%)  | 4 (3%)   | 37          | 38  |
| 24  | W     | 96/106 (91%)   | 92 (96%)   | 4 (4%)   | 26          | 23  |
| 25  | X     | 105/105 (100%) | 100 (95%)  | 5 (5%)   | 23          | 18  |
| 26  | Y     | 55/131 (42%)   | 54 (98%)   | 1 (2%)   | 51          | 57  |
| 27  | Z     | 105/118 (89%)  | 102 (97%)  | 3 (3%)   | 37          | 38  |
| 28  | ZA    | 157/167 (94%)  | 155 (99%)  | 2 (1%)   | 61          | 67  |
| 29  | ZB    | 156/163 (96%)  | 153 (98%)  | 3 (2%)   | 50          | 55  |
| 30  | ZC    | 87/108 (81%)   | 84 (97%)   | 3 (3%)   | 32          | 32  |

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| Mol | Chain | Analysed      | Rotameric | Outliers | Percentiles |     |
|-----|-------|---------------|-----------|----------|-------------|-----|
| 31  | ZD    | 127/138 (92%) | 126 (99%) | 1 (1%)   | 73          | 79  |
| 32  | ZE    | 130/131 (99%) | 127 (98%) | 3 (2%)   | 44          | 47  |
| 33  | ZF    | 98/102 (96%)  | 91 (93%)  | 7 (7%)   | 13          | 8   |
| 34  | ZG    | 97/118 (82%)  | 91 (94%)  | 6 (6%)   | 16          | 11  |
| 35  | ZH    | 115/116 (99%) | 110 (96%) | 5 (4%)   | 26          | 23  |
| 36  | ZI    | 113/121 (93%) | 111 (98%) | 2 (2%)   | 51          | 57  |
| 37  | ZJ    | 126/129 (98%) | 118 (94%) | 8 (6%)   | 16          | 11  |
| 38  | ZK    | 114/118 (97%) | 108 (95%) | 6 (5%)   | 20          | 16  |
| 39  | ZL    | 90/104 (86%)  | 83 (92%)  | 7 (8%)   | 11          | 7   |
| 40  | ZM    | 72/72 (100%)  | 68 (94%)  | 4 (6%)   | 19          | 14  |
| 41  | ZO    | 113/114 (99%) | 111 (98%) | 2 (2%)   | 51          | 57  |
| 42  | ZP    | 117/119 (98%) | 109 (93%) | 8 (7%)   | 14          | 9   |
| 43  | ZQ    | 114/118 (97%) | 105 (92%) | 9 (8%)   | 11          | 7   |
| 44  | ZR    | 62/107 (58%)  | 56 (90%)  | 6 (10%)  | 8           | 3   |
| 45  | ZS    | 87/158 (55%)  | 82 (94%)  | 5 (6%)   | 18          | 14  |
| 46  | ZT    | 72/73 (99%)   | 65 (90%)  | 7 (10%)  | 8           | 3   |
| 47  | ZU    | 55/60 (92%)   | 52 (94%)  | 3 (6%)   | 19          | 15  |
| 48  | ZV    | 47/48 (98%)   | 45 (96%)  | 2 (4%)   | 26          | 23  |
| 49  | ZW    | 47/54 (87%)   | 47 (100%) | 0        | 100         | 100 |
| 50  | ZY    | 261/267 (98%) | 247 (95%) | 14 (5%)  | 20          | 15  |
| 51  | a     | 111/112 (99%) | 104 (94%) | 7 (6%)   | 16          | 11  |
| 52  | b     | 113/114 (99%) | 109 (96%) | 4 (4%)   | 32          | 31  |
| 53  | c     | 119/120 (99%) | 116 (98%) | 3 (2%)   | 42          | 44  |
| 54  | d     | 50/66 (76%)   | 49 (98%)  | 1 (2%)   | 48          | 53  |
| 55  | e     | 80/84 (95%)   | 78 (98%)  | 2 (2%)   | 42          | 44  |
| 56  | f     | 97/100 (97%)  | 94 (97%)  | 3 (3%)   | 35          | 35  |
| 57  | g     | 109/130 (84%) | 107 (98%) | 2 (2%)   | 51          | 57  |
| 58  | h     | 92/93 (99%)   | 90 (98%)  | 2 (2%)   | 45          | 49  |
| 59  | i     | 97/99 (98%)   | 92 (95%)  | 5 (5%)   | 21          | 16  |
| 60  | j     | 101/102 (99%) | 97 (96%)  | 4 (4%)   | 28          | 25  |
| 61  | k     | 80/81 (99%)   | 79 (99%)  | 1 (1%)   | 61          | 67  |

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| Mol | Chain | Analysed        | Rotameric  | Outliers | Percentiles |    |
|-----|-------|-----------------|------------|----------|-------------|----|
| 62  | l     | 69/70 (99%)     | 68 (99%)   | 1 (1%)   | 59          | 65 |
| 63  | m     | 69/70 (99%)     | 65 (94%)   | 4 (6%)   | 18          | 13 |
| 64  | n     | 47/48 (98%)     | 44 (94%)   | 3 (6%)   | 16          | 11 |
| 65  | o     | 47/47 (100%)    | 46 (98%)   | 1 (2%)   | 47          | 51 |
| 66  | p     | 24/24 (100%)    | 22 (92%)   | 2 (8%)   | 10          | 6  |
| 67  | q     | 88/90 (98%)     | 87 (99%)   | 1 (1%)   | 65          | 71 |
| 68  | r     | 70/76 (92%)     | 69 (99%)   | 1 (1%)   | 59          | 65 |
| 69  | s     | 182/218 (84%)   | 179 (98%)  | 3 (2%)   | 55          | 61 |
| 70  | t     | 186/223 (83%)   | 180 (97%)  | 6 (3%)   | 34          | 35 |
| 71  | u     | 178/203 (88%)   | 175 (98%)  | 3 (2%)   | 53          | 58 |
| 72  | v     | 165/192 (86%)   | 156 (94%)  | 9 (6%)   | 19          | 15 |
| 73  | w     | 219/222 (99%)   | 212 (97%)  | 7 (3%)   | 34          | 35 |
| 74  | x     | 175/192 (91%)   | 170 (97%)  | 5 (3%)   | 37          | 38 |
| 75  | y     | 194/202 (96%)   | 184 (95%)  | 10 (5%)  | 21          | 16 |
| 76  | z     | 163/168 (97%)   | 161 (99%)  | 2 (1%)   | 63          | 69 |
| All | All   | 9166/9848 (93%) | 8875 (97%) | 291 (3%) | 35          | 35 |

5 of 291 residues with a non-rotameric sidechain are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 60  | j     | 95  | GLN  |
| 75  | y     | 151 | ASP  |
| 64  | n     | 10  | LYS  |
| 72  | v     | 54  | SER  |
| 32  | ZE    | 151 | ASN  |

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 84 such sidechains are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 55  | e     | 76  | ASN  |
| 69  | s     | 83  | GLN  |
| 56  | f     | 20  | HIS  |
| 60  | j     | 19  | GLN  |
| 70  | t     | 118 | GLN  |

### 5.3.3 RNA ⓘ

| Mol | Chain | Analysed        | Backbone Outliers | Pucker Outliers |
|-----|-------|-----------------|-------------------|-----------------|
| 1   | A     | 3011/3283 (91%) | 453 (15%)         | 27 (0%)         |
| 2   | B     | 121/122 (99%)   | 15 (12%)          | 1 (0%)          |
| 3   | C     | 153/158 (96%)   | 26 (16%)          | 0               |
| 4   | CA    | 1665/1775 (93%) | 420 (25%)         | 25 (1%)         |
| All | All   | 4950/5338 (92%) | 914 (18%)         | 53 (1%)         |

5 of 914 RNA backbone outliers are listed below:

| Mol | Chain | Res | Type |
|-----|-------|-----|------|
| 1   | A     | 4   | G    |
| 1   | A     | 15  | G    |
| 1   | A     | 24  | A    |
| 1   | A     | 38  | A    |
| 1   | A     | 41  | A    |

5 of 53 RNA pucker outliers are listed below:

| Mol | Chain | Res  | Type |
|-----|-------|------|------|
| 4   | CA    | 61   | A    |
| 4   | CA    | 493  | U    |
| 4   | CA    | 1434 | G    |
| 4   | CA    | 136  | A    |
| 4   | CA    | 406  | A    |

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

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

## 5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry ⓘ

Of 258 ligands modelled in this entry, 258 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers

There are no such residues in this entry.

## 5.8 Polymer linkage issues

There are no chain breaks in this entry.

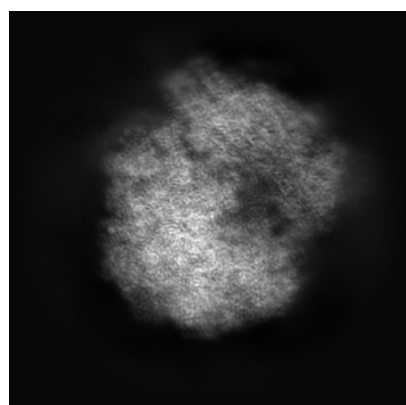
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-55092. These allow visual inspection of the internal detail of the map and identification of artifacts.

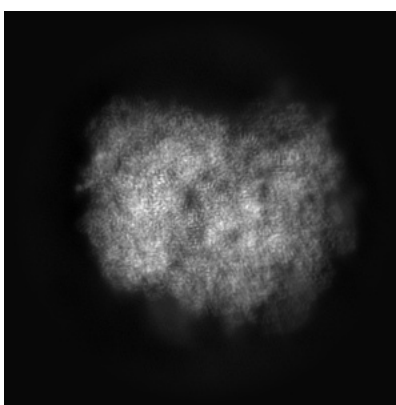
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

### 6.1 Orthogonal projections [i](#)

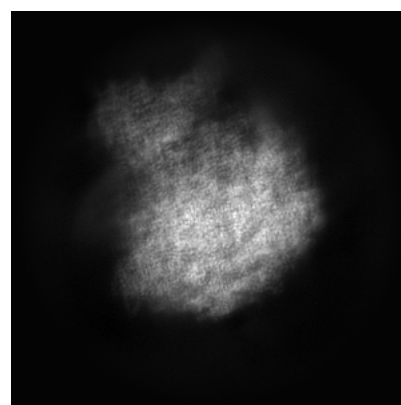
#### 6.1.1 Primary map



X



Y

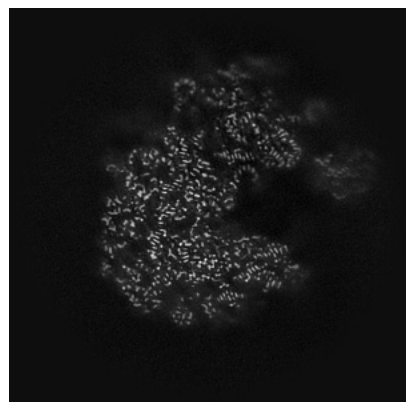


Z

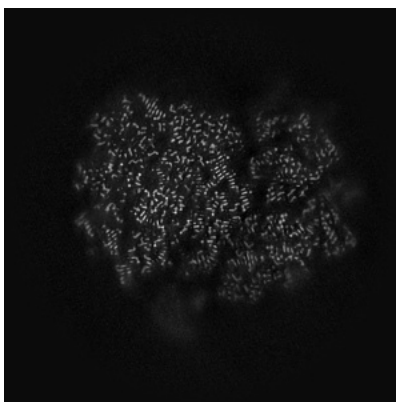
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

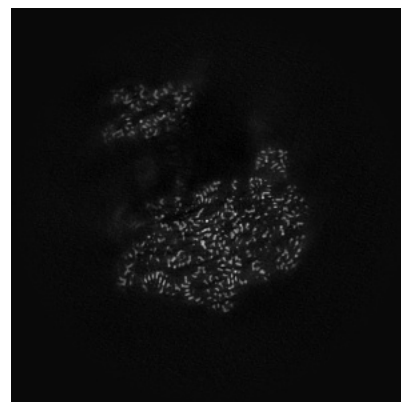
#### 6.2.1 Primary map



X Index: 225



Y Index: 225

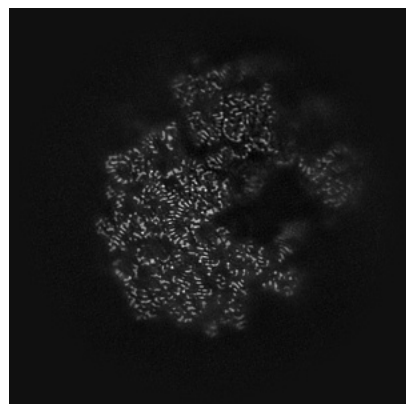


Z Index: 225

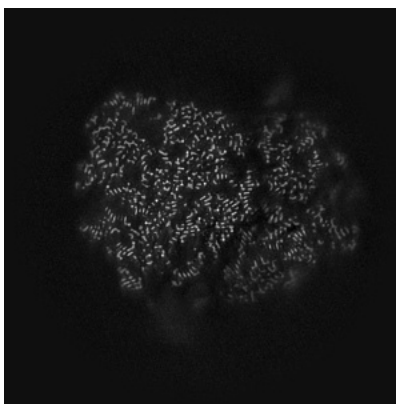
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

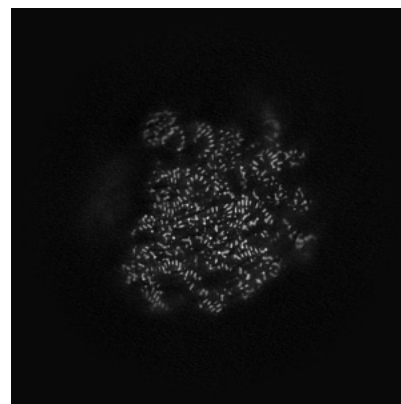
### 6.3.1 Primary map



X Index: 212



Y Index: 217

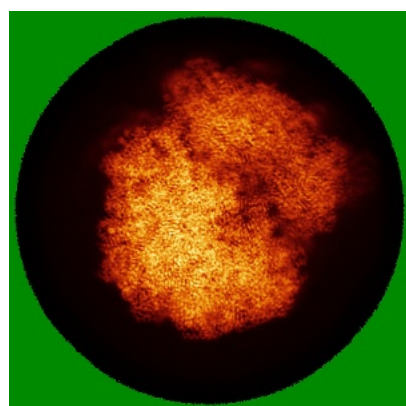


Z Index: 177

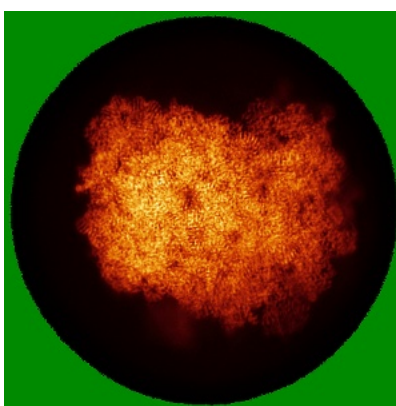
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

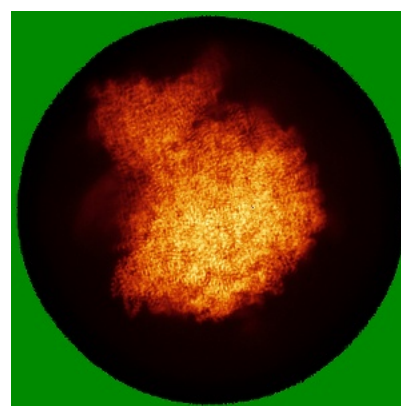
### 6.4.1 Primary map



X



Y

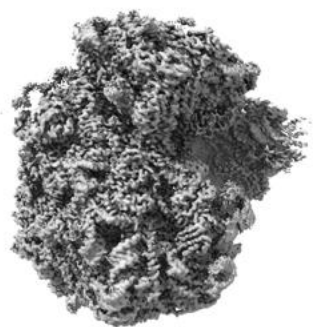


Z

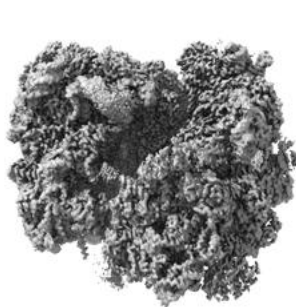
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

## 6.5 Orthogonal surface views [i](#)

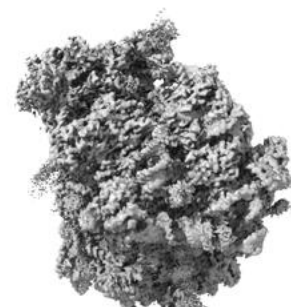
### 6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

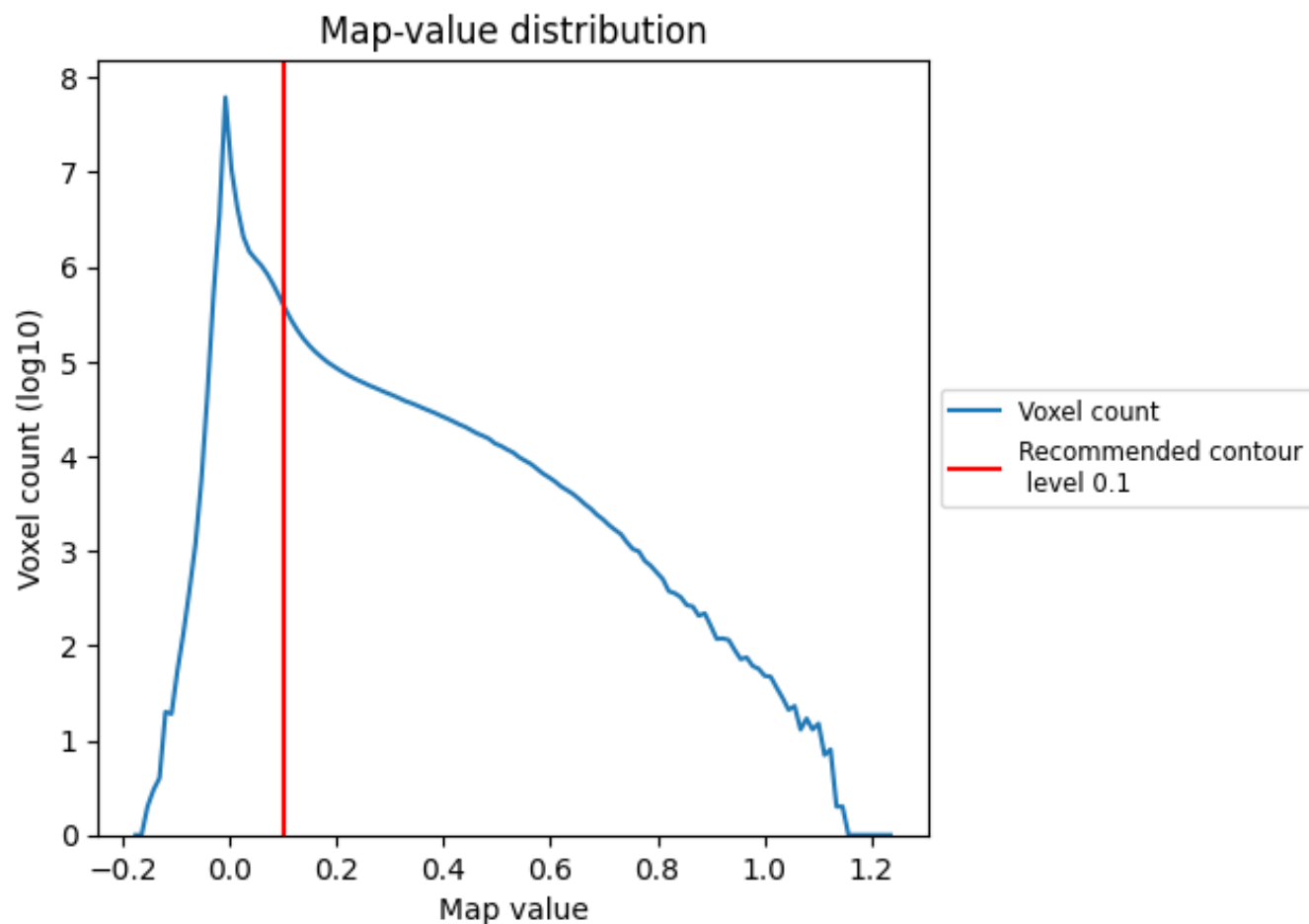
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

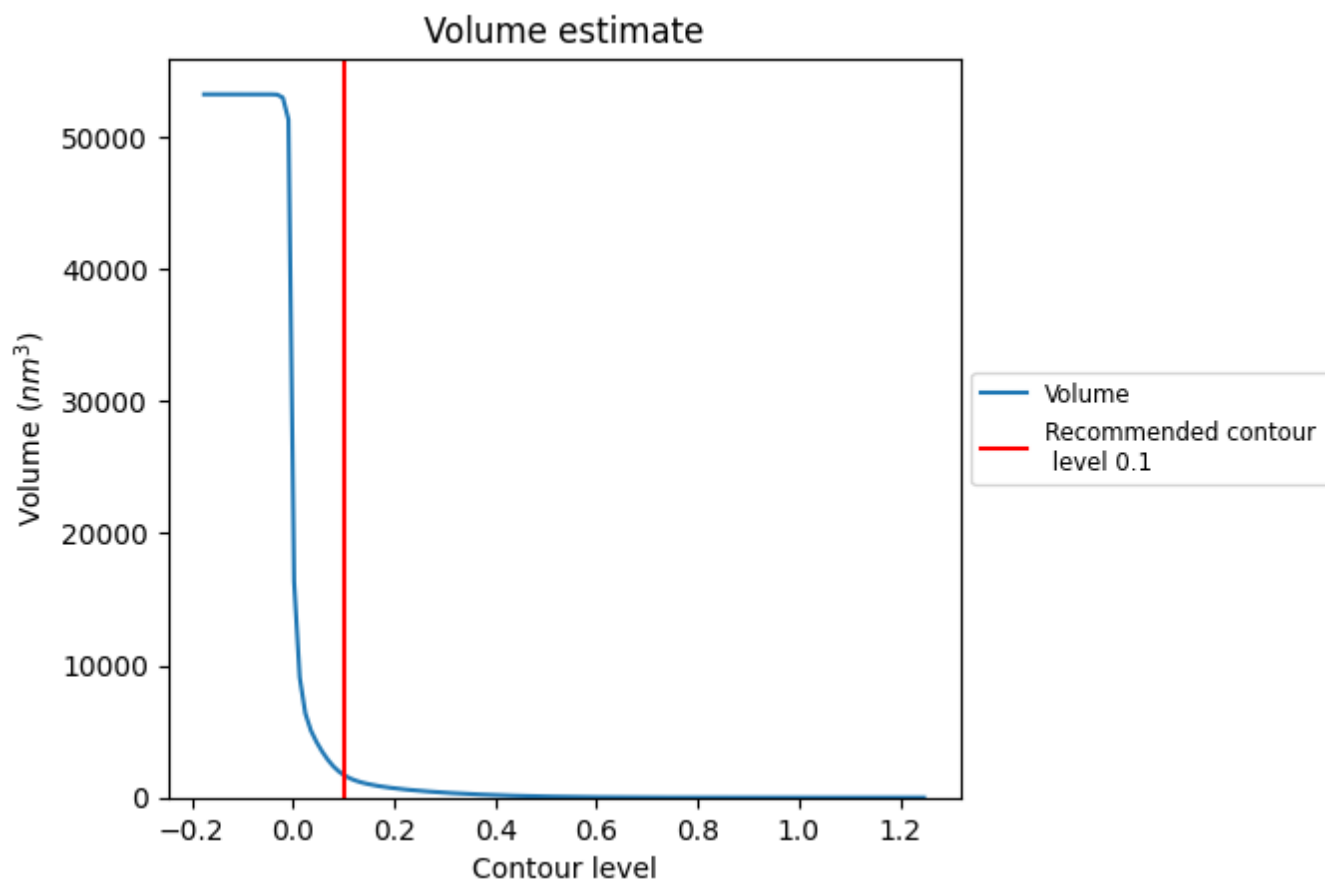
This section contains the results of statistical analysis of the map.

### 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.

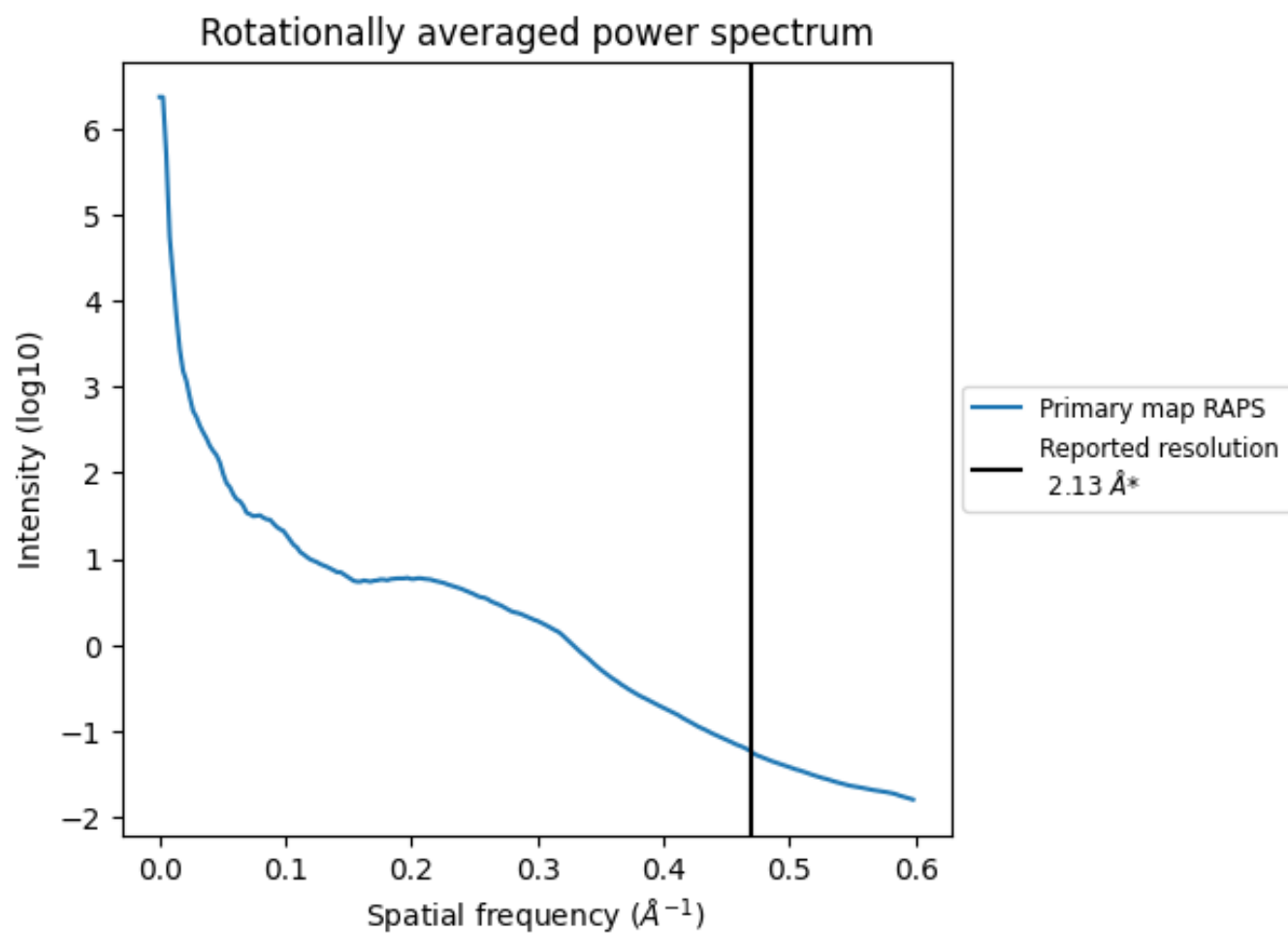
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1721 nm<sup>3</sup>; this corresponds to an approximate mass of 1555 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 ⓘ



\*Reported resolution corresponds to spatial frequency of 0.469 Å<sup>-1</sup>

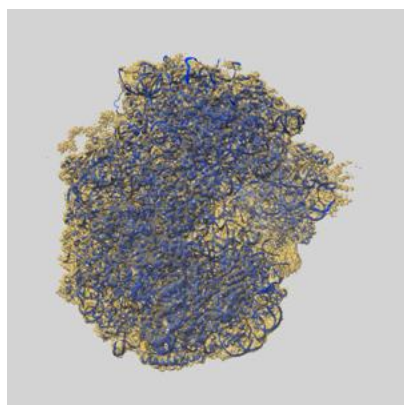
## 8 Fourier-Shell correlation

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

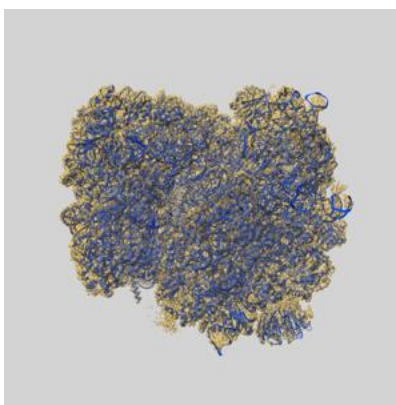
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-55092 and PDB model 9SPJ. Per-residue inclusion information can be found in section [3](#) on page [19](#).

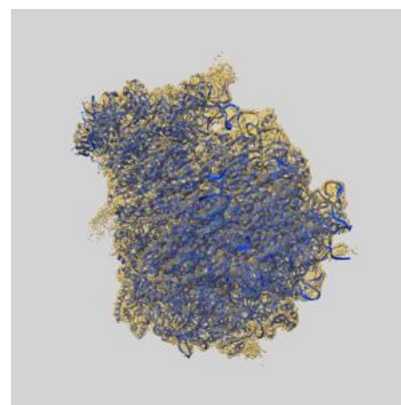
### 9.1 Map-model overlay [i](#)



X



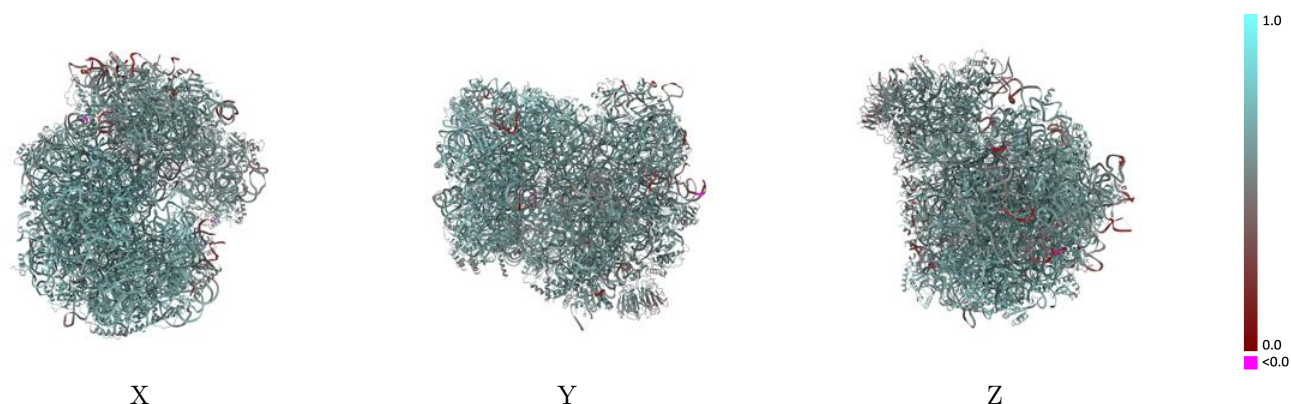
Y



Z

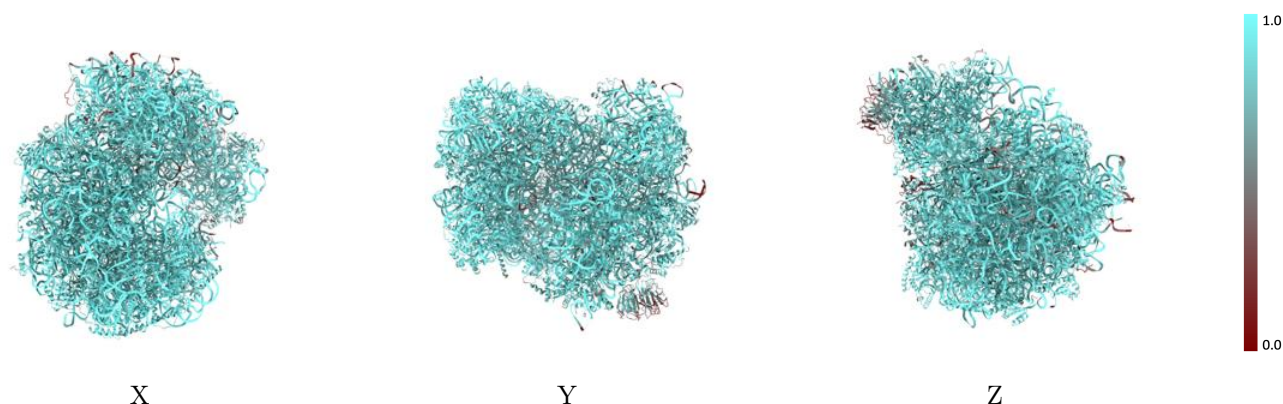
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



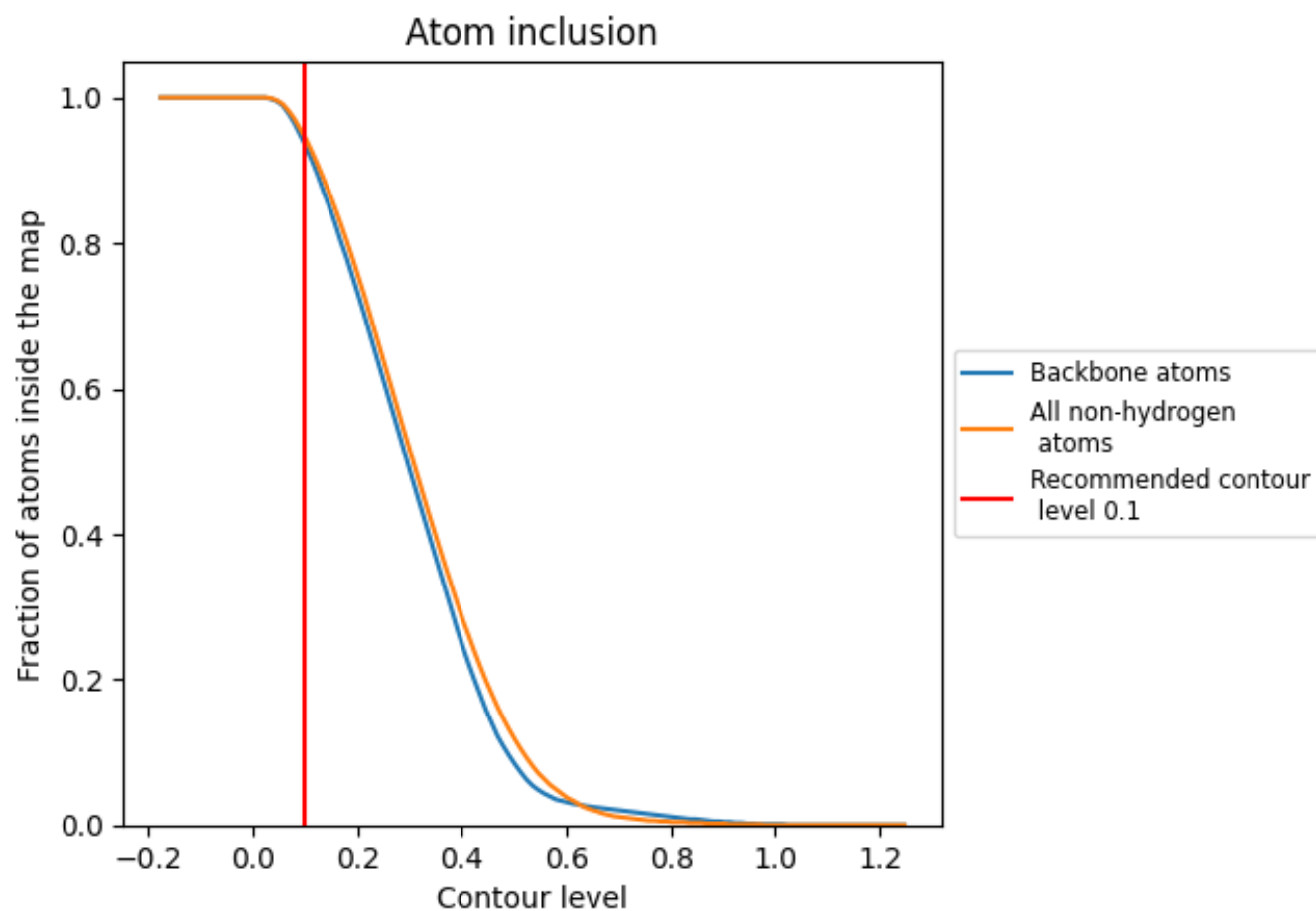
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.1).

## 9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 95% 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 (0.1) and Q-score for the entire model and for each chain.

| Chain | Atom inclusion                                                                             | Q-score                                                                                    |
|-------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| All   |  0.9460   |  0.6260   |
| A     |  0.9870   |  0.6510   |
| B     |  0.9950   |  0.6420   |
| C     |  0.9950   |  0.6620   |
| CA    |  0.9460   |  0.5760   |
| D     |  0.9880   |  0.6950   |
| E     |  0.9760   |  0.6860   |
| F     |  0.9760   |  0.6760   |
| G     |  0.9350   |  0.6080   |
| H     |  0.9480   |  0.6250   |
| I     |  0.9590   |  0.6630   |
| J     |  0.9290   |  0.6270   |
| K     |  0.9600   |  0.6520   |
| L     |  0.9540   |  0.6540   |
| M     |  0.8580  |  0.5580  |
| N     |  0.9490 |  0.6510 |
| O     |  0.9740 |  0.6550 |
| P     |  0.9940 |  0.7040 |
| Q     |  0.9750 |  0.6820 |
| R     |  0.9720 |  0.6840 |
| S     |  0.9840 |  0.6800 |
| T     |  0.9570 |  0.6420 |
| U     |  0.9670 |  0.6740 |
| V     |  0.9640 |  0.6620 |
| W     |  0.9070 |  0.5770 |
| X     |  0.9570 |  0.6810 |
| Y     |  0.9620 |  0.6890 |
| Z     |  0.9550 |  0.6600 |
| ZA    |  0.8990 |  0.6120 |
| ZB    |  0.9400 |  0.6020 |
| ZC    |  0.8630 |  0.5540 |
| ZD    |  0.9460 |  0.6480 |
| ZE    |  0.9540 |  0.6120 |
| ZF    |  0.8280 |  0.5620 |
| ZG    |  0.8780 |  0.5740 |



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| Chain | Atom inclusion                                                                             | Q-score                                                                                    |
|-------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| ZH    |  0.8920   |  0.5970   |
| ZI    |  0.7980   |  0.5310   |
| ZJ    |  0.8690   |  0.5810   |
| ZK    |  0.8710   |  0.5880   |
| ZL    |  0.8040   |  0.5420   |
| ZM    |  0.9330   |  0.6100   |
| ZO    |  0.9600   |  0.6350   |
| ZP    |  0.9260   |  0.6250   |
| ZQ    |  0.9120   |  0.5960   |
| ZR    |  0.8280   |  0.5600   |
| ZS    |  0.5300   |  0.5530   |
| ZT    |  0.9540   |  0.5920   |
| ZU    |  0.8100   |  0.5260   |
| ZV    |  0.9420   |  0.6230   |
| ZW    |  0.6990   |  0.5170   |
| ZY    |  0.5150   |  0.4960   |
| a     |  0.9530   |  0.6620   |
| b     |  0.9580  |  0.6270  |
| c     |  0.9830 |  0.6870 |
| d     |  0.9290 |  0.6410 |
| e     |  0.9580 |  0.6240 |
| f     |  0.9470 |  0.6600 |
| g     |  0.9720 |  0.6890 |
| h     |  0.9840 |  0.6980 |
| i     |  0.9280 |  0.6530 |
| j     |  0.9560 |  0.6470 |
| k     |  0.9360 |  0.6370 |
| l     |  0.9810 |  0.7020 |
| m     |  0.9010 |  0.5950 |
| n     |  0.9620 |  0.6550 |
| o     |  0.9700 |  0.6600 |
| p     |  0.2330 |  0.5050 |
| q     |  0.9430 |  0.6770 |
| r     |  0.9580 |  0.6700 |
| s     |  0.9350 |  0.5960 |
| t     |  0.8150 |  0.5780 |
| u     |  0.9410 |  0.6140 |
| v     |  0.8530 |  0.5750 |
| w     |  0.9350 |  0.6140 |
| x     |  0.8670 |  0.5720 |
| y     |  0.8580 |  0.5660 |
| z     |  0.8830 |  0.5560 |