



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 09:30 PM GMT

PDB ID : 4V5J  
Title : Structure of the 70S ribosome bound to Release factor 2 and a substrate analog provides insights into catalysis of peptide release  
Authors : Jin, H.; Kelley, A.C.; Loakes, D.; Ramakrishnan, V.  
Deposited on : 2010-03-24  
Resolution : 3.10 Å(reported)

This is a Full wwPDB X-ray Structure Validation 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  
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>  
with specific help available everywhere you see the ⓘ symbol.

---

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

MolProbity : **NOT EXECUTED**  
Mogul : **NOT EXECUTED**  
Xtriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk26865

## 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.10 Å.

There are no percentiles available for this entry.

MolProbity and EDS were not executed - the sequence quality summary graphics cannot be shown.

## 2 Entry composition

There are 61 unique types of molecules in this entry. The entry contains 305067 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 16S RRNA.

| Mol | Chain | Residues | Atoms |       |      |       |      | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-------|------|-------|------|---------|---------|-------|
| 1   | AA    | 1504     | Total | C     | N    | O     | P    | 0       | 0       | 0     |
|     |       |          | 32329 | 14390 | 5992 | 10444 | 1503 |         |         |       |
| 1   | CA    | 1504     | Total | C     | N    | O     | P    | 0       | 0       | 0     |
|     |       |          | 32329 | 14390 | 5992 | 10444 | 1503 |         |         |       |

- Molecule 2 is a protein called 30S RIBOSOMAL PROTEIN S2.

| Mol | Chain | Residues | Atoms |      |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 2   | AB    | 235      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1901  | 1213 | 342 | 341 | 5 |         |         |       |
| 2   | CB    | 235      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1901  | 1213 | 342 | 341 | 5 |         |         |       |

- Molecule 3 is a protein called 30S RIBOSOMAL PROTEIN S3.

| Mol | Chain | Residues | Atoms |      |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 3   | AC    | 207      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1613  | 1016 | 315 | 281 | 1 |         |         |       |
| 3   | CC    | 207      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1613  | 1016 | 315 | 281 | 1 |         |         |       |

- Molecule 4 is a protein called 30S RIBOSOMAL PROTEIN S4.

| Mol | Chain | Residues | Atoms |      |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 4   | AD    | 208      | Total | C    | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1703  | 1066 | 339 | 291 | 7 |         |         |       |
| 4   | CD    | 208      | Total | C    | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1703  | 1066 | 339 | 291 | 7 |         |         |       |

- Molecule 5 is a protein called 30S RIBOSOMAL PROTEIN S5.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 5   | AE    | 151      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1147  | 724 | 218 | 201 | 4 |         |         |       |
| 5   | CE    | 151      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1147  | 724 | 218 | 201 | 4 |         |         |       |

- Molecule 6 is a protein called 30S RIBOSOMAL PROTEIN S6.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 6   | AF    | 101      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 843   | 531 | 155 | 154 | 3 |         |         |       |
| 6   | CF    | 101      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 843   | 531 | 155 | 154 | 3 |         |         |       |

- Molecule 7 is a protein called 30S RIBOSOMAL PROTEIN S7.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 7   | AG    | 155      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1257  | 781 | 252 | 218 | 6 |         |         |       |
| 7   | CG    | 155      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1257  | 781 | 252 | 218 | 6 |         |         |       |

- Molecule 8 is a protein called 30S RIBOSOMAL PROTEIN S8.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 8   | AH    | 138      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1116  | 705 | 215 | 193 | 3 |         |         |       |
| 8   | CH    | 138      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1116  | 705 | 215 | 193 | 3 |         |         |       |

- Molecule 9 is a protein called 30S RIBOSOMAL PROTEIN S9.

| Mol | Chain | Residues | Atoms |     |     |     |  | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|---------|-------|
| 9   | AI    | 127      | Total | C   | N   | O   |  | 0       | 0       | 0     |
|     |       |          | 1011  | 639 | 198 | 174 |  |         |         |       |
| 9   | CI    | 127      | Total | C   | N   | O   |  | 0       | 0       | 0     |
|     |       |          | 1011  | 639 | 198 | 174 |  |         |         |       |

- Molecule 10 is a protein called 30S RIBOSOMAL PROTEIN S10.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 10  | AJ    | 99       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 795   | 499 | 157 | 138 | 1 |         |         |       |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 10  | CJ    | 99       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 795   | 499 | 157 | 138 | 1 |         |         |       |

- Molecule 11 is a protein called 30S RIBOSOMAL PROTEIN S11.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 11  | AK    | 119      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 885   | 549 | 168 | 165 | 3 |         |         |       |
| 11  | CK    | 119      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 885   | 549 | 168 | 165 | 3 |         |         |       |

- Molecule 12 is a protein called 30S RIBOSOMAL PROTEIN S12.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 12  | AL    | 125      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 971   | 611 | 196 | 163 | 1 |         |         |       |
| 12  | CL    | 125      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 971   | 611 | 196 | 163 | 1 |         |         |       |

- Molecule 13 is a protein called 30S RIBOSOMAL PROTEIN S13.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 13  | AM    | 125      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 988   | 611 | 206 | 169 | 2 |         |         |       |
| 13  | CM    | 125      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 988   | 611 | 206 | 169 | 2 |         |         |       |

- Molecule 14 is a protein called 30S RIBOSOMAL PROTEIN S14 TYPE Z.

| Mol | Chain | Residues | Atoms |     |     |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|---------|-------|
| 14  | AN    | 60       | Total | C   | N   | O  | S | 0       | 0       | 0     |
|     |       |          | 492   | 312 | 104 | 72 | 4 |         |         |       |
| 14  | CN    | 60       | Total | C   | N   | O  | S | 0       | 0       | 0     |
|     |       |          | 492   | 312 | 104 | 72 | 4 |         |         |       |

- Molecule 15 is a protein called 30S RIBOSOMAL PROTEIN S15.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 15  | AO    | 88       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 734   | 459 | 147 | 126 | 2 |         |         |       |
| 15  | CO    | 88       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 734   | 459 | 147 | 126 | 2 |         |         |       |

- Molecule 16 is a protein called 30S RIBOSOMAL PROTEIN S16.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 16  | AP    | 84       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 701   | 443 | 140 | 117 | 1 |         |         |       |
| 16  | CP    | 84       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 701   | 443 | 140 | 117 | 1 |         |         |       |

- Molecule 17 is a protein called 30S RIBOSOMAL PROTEIN S17.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 17  | AQ    | 100      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 824   | 528 | 152 | 142 | 2 |         |         |       |
| 17  | CQ    | 100      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 824   | 528 | 152 | 142 | 2 |         |         |       |

- Molecule 18 is a protein called 30S RIBOSOMAL PROTEIN S18.

| Mol | Chain | Residues | Atoms |     |     |    | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---------|---------|-------|
| 18  | AR    | 70       | Total | C   | N   | O  | 0       | 0       | 0     |
|     |       |          | 574   | 367 | 112 | 95 |         |         |       |
| 18  | CR    | 70       | Total | C   | N   | O  | 0       | 0       | 0     |
|     |       |          | 574   | 367 | 112 | 95 |         |         |       |

- Molecule 19 is a protein called 30S RIBOSOMAL PROTEIN S19.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 19  | AS    | 79       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 630   | 403 | 115 | 110 | 2 |         |         |       |
| 19  | CS    | 79       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 630   | 403 | 115 | 110 | 2 |         |         |       |

- Molecule 20 is a protein called 30S RIBOSOMAL PROTEIN S20.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 20  | AT    | 99       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 763   | 470 | 162 | 129 | 2 |         |         |       |
| 20  | CT    | 99       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 763   | 470 | 162 | 129 | 2 |         |         |       |

- Molecule 21 is a protein called 30S RIBOSOMAL PROTEIN THX.

| Mol | Chain | Residues | Atoms |     |    |    | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---------|---------|-------|
| 21  | AU    | 25       | Total | C   | N  | O  | 0       | 0       | 1     |
|     |       |          | 209   | 128 | 51 | 30 |         |         |       |
| 21  | CU    | 25       | Total | C   | N  | O  | 0       | 0       | 1     |
|     |       |          | 209   | 128 | 51 | 30 |         |         |       |

- Molecule 22 is a RNA chain called E-SITE TRNA PHE OR P-SITE TRNA PHE (UNMODIFIED BASES).

| Mol | Chain | Residues | Atoms |     |     |     |    | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|----|---------|---------|-------|
| 22  | AV    | 77       | Total | C   | N   | O   | P  | 0       | 0       | 0     |
|     |       |          | 1630  | 732 | 292 | 531 | 75 |         |         |       |
| 22  | AW    | 77       | Total | C   | N   | O   | P  | 0       | 0       | 0     |
|     |       |          | 1630  | 732 | 292 | 531 | 75 |         |         |       |
| 22  | CV    | 77       | Total | C   | N   | O   | P  | 0       | 0       | 0     |
|     |       |          | 1630  | 732 | 292 | 531 | 75 |         |         |       |
| 22  | CW    | 77       | Total | C   | N   | O   | P  | 0       | 0       | 0     |
|     |       |          | 1630  | 732 | 292 | 531 | 75 |         |         |       |

- Molecule 23 is a RNA chain called MRNA.

| Mol | Chain | Residues | Atoms |    |    |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|----|----|----|---|---------|---------|-------|
| 23  | AX    | 8        | Total | C  | N  | O  | P | 0       | 0       | 0     |
|     |       |          | 165   | 76 | 29 | 53 | 7 |         |         |       |
| 23  | CX    | 8        | Total | C  | N  | O  | P | 0       | 0       | 0     |
|     |       |          | 165   | 76 | 29 | 53 | 7 |         |         |       |

- Molecule 24 is a protein called PEPTIDE CHAIN RELEASE FACTOR 2.

| Mol | Chain | Residues | Atoms |      |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 24  | AY    | 351      | Total | C    | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 2801  | 1752 | 506 | 535 | 8 |         |         |       |
| 24  | CY    | 351      | Total | C    | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 2801  | 1752 | 506 | 535 | 8 |         |         |       |

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L27.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 25  | B0    | 83       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 657   | 407 | 139 | 110 | 1 |         |         |       |
| 25  | D0    | 83       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 657   | 407 | 139 | 110 | 1 |         |         |       |

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L28.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 26  | B1    | 94       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 732   | 460 | 146 | 125 | 1 |         |         |       |
| 26  | D1    | 94       | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 732   | 460 | 146 | 125 | 1 |         |         |       |

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L29.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 27  | B2    | 71       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 598   | 370 | 121 | 106 | 1 |         |         |       |
| 27  | D2    | 71       | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 598   | 370 | 121 | 106 | 1 |         |         |       |

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L30.

| Mol | Chain | Residues | Atoms |     |    |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 28  | B3    | 60       | Total | C   | N  | O  | S | 0       | 0       | 1     |
|     |       |          | 468   | 298 | 91 | 78 | 1 |         |         |       |
| 28  | D3    | 60       | Total | C   | N  | O  | S | 0       | 0       | 1     |
|     |       |          | 468   | 298 | 91 | 78 | 1 |         |         |       |

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L31.

| Mol | Chain | Residues | Atoms |     |    |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 29  | B4    | 31       | Total | C   | N  | O  | S | 0       | 0       | 1     |
|     |       |          | 226   | 142 | 37 | 43 | 4 |         |         |       |
| 29  | D4    | 31       | Total | C   | N  | O  | S | 0       | 0       | 1     |
|     |       |          | 226   | 142 | 37 | 43 | 4 |         |         |       |

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L32.

| Mol | Chain | Residues | Atoms |     |    |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 30  | B5    | 59       | Total | C   | N  | O  | S | 0       | 0       | 0     |
|     |       |          | 459   | 288 | 90 | 76 | 5 |         |         |       |
| 30  | D5    | 59       | Total | C   | N  | O  | S | 0       | 0       | 0     |
|     |       |          | 459   | 288 | 90 | 76 | 5 |         |         |       |

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L33.

| Mol | Chain | Residues | Atoms |     |    |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 31  | B6    | 45       | Total | C   | N  | O  | S | 0       | 0       | 1     |
|     |       |          | 381   | 235 | 78 | 64 | 4 |         |         |       |

*Continued on next page...*



*Continued from previous page...*

| Mol | Chain | Residues | Atoms |     |    |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 31  | D6    | 45       | Total | C   | N  | O  | S | 0       | 0       | 1     |
|     |       |          | 381   | 235 | 78 | 64 | 4 |         |         |       |

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L34.

| Mol | Chain | Residues | Atoms |     |     |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|---------|-------|
| 32  | B7    | 49       | Total | C   | N   | O  | S | 0       | 0       | 1     |
|     |       |          | 419   | 257 | 105 | 55 | 2 |         |         |       |
| 32  | D7    | 49       | Total | C   | N   | O  | S | 0       | 0       | 1     |
|     |       |          | 419   | 257 | 105 | 55 | 2 |         |         |       |

- Molecule 33 is a protein called 50S RIBOSOMAL PROTEIN L35.

| Mol | Chain | Residues | Atoms |     |     |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|----|---|---------|---------|-------|
| 33  | B8    | 64       | Total | C   | N   | O  | S | 0       | 0       | 1     |
|     |       |          | 508   | 326 | 102 | 78 | 2 |         |         |       |
| 33  | D8    | 64       | Total | C   | N   | O  | S | 0       | 0       | 1     |
|     |       |          | 508   | 326 | 102 | 78 | 2 |         |         |       |

- Molecule 34 is a protein called 50S RIBOSOMAL PROTEIN L36.

| Mol | Chain | Residues | Atoms |     |    |    |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|----|----|---|---------|---------|-------|
| 34  | B9    | 36       | Total | C   | N  | O  | S | 0       | 0       | 0     |
|     |       |          | 299   | 183 | 67 | 46 | 3 |         |         |       |
| 34  | D9    | 36       | Total | C   | N  | O  | S | 0       | 0       | 0     |
|     |       |          | 299   | 183 | 67 | 46 | 3 |         |         |       |

- Molecule 35 is a RNA chain called 23S RIBOSOMAL RNA.

| Mol | Chain | Residues | Atoms |       |       |       |      | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-------|-------|-------|------|---------|---------|-------|
| 35  | BA    | 2901     | Total | C     | N     | O     | P    | 0       | 0       | 0     |
|     |       |          | 62474 | 27806 | 11681 | 20087 | 2900 |         |         |       |
| 35  | DA    | 2901     | Total | C     | N     | O     | P    | 0       | 0       | 0     |
|     |       |          | 62474 | 27806 | 11681 | 20087 | 2900 |         |         |       |

- Molecule 36 is a RNA chain called 5S RIBOSOMAL RNA.

| Mol | Chain | Residues | Atoms |      |     |     |     | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|-----|---------|---------|-------|
| 36  | BB    | 119      | Total | C    | N   | O   | P   | 0       | 0       | 0     |
|     |       |          | 2551  | 1136 | 471 | 826 | 118 |         |         |       |
| 36  | DB    | 119      | Total | C    | N   | O   | P   | 0       | 0       | 0     |
|     |       |          | 2551  | 1136 | 471 | 826 | 118 |         |         |       |

- Molecule 37 is a protein called 50S RIBOSOMAL PROTEIN L1.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 37  | BC    | 120      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 937   | 590 | 174 | 172 | 1 |         |         |       |
| 37  | DC    | 120      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 937   | 590 | 174 | 172 | 1 |         |         |       |

- Molecule 38 is a protein called 50S RIBOSOMAL PROTEIN L2.

| Mol | Chain | Residues | Atoms |      |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 38  | BD    | 272      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 2105  | 1329 | 417 | 356 | 3 |         |         |       |
| 38  | DD    | 272      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 2105  | 1329 | 417 | 356 | 3 |         |         |       |

- Molecule 39 is a protein called 50S RIBOSOMAL PROTEIN L3.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 39  | BE    | 205      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1564  | 988 | 300 | 270 | 6 |         |         |       |
| 39  | DE    | 205      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1564  | 988 | 300 | 270 | 6 |         |         |       |

- Molecule 40 is a protein called 50S RIBOSOMAL PROTEIN L4.

| Mol | Chain | Residues | Atoms |      |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|------|-----|-----|---|---------|---------|-------|
| 40  | BF    | 208      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1624  | 1035 | 304 | 282 | 3 |         |         |       |
| 40  | DF    | 208      | Total | C    | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1624  | 1035 | 304 | 282 | 3 |         |         |       |

- Molecule 41 is a protein called 50S RIBOSOMAL PROTEIN L5.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 41  | BG    | 181      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1474  | 942 | 268 | 260 | 4 |         |         |       |
| 41  | DG    | 181      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1474  | 942 | 268 | 260 | 4 |         |         |       |

- Molecule 42 is a protein called 50S RIBOSOMAL PROTEIN L6.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 42  | BH    | 160      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1223  | 773 | 229 | 220 | 1 |         |         |       |
| 42  | DH    | 160      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1223  | 773 | 229 | 220 | 1 |         |         |       |

- Molecule 43 is a protein called 50S RIBOSOMAL PROTEIN L9.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 43  | BI    | 146      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1132  | 723 | 201 | 207 | 1 |         |         |       |
| 43  | DI    | 146      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1132  | 723 | 201 | 207 | 1 |         |         |       |

- Molecule 44 is a protein called 50S RIBOSOMAL PROTEIN L10.

| Mol | Chain | Residues | Atoms |     |     |     |  | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|---------|-------|
| 44  | BJ    | 130      | Total | C   | N   | O   |  | 0       | 0       | 0     |
|     |       |          | 651   | 390 | 130 | 131 |  |         |         |       |
| 44  | DJ    | 130      | Total | C   | N   | O   |  | 0       | 0       | 0     |
|     |       |          | 651   | 390 | 130 | 131 |  |         |         |       |

- Molecule 45 is a protein called 50S RIBOSOMAL PROTEIN L11.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 45  | BK    | 141      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1038  | 661 | 184 | 187 | 6 |         |         |       |
| 45  | DK    | 141      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1038  | 661 | 184 | 187 | 6 |         |         |       |

- Molecule 46 is a protein called 50S RIBOSOMAL PROTEIN L13.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 46  | BN    | 139      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1105  | 712 | 207 | 182 | 4 |         |         |       |
| 46  | DN    | 139      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1105  | 712 | 207 | 182 | 4 |         |         |       |

- Molecule 47 is a protein called 50S RIBOSOMAL PROTEIN L14.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 47  | BO    | 122      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 933   | 588 | 171 | 170 | 4 |         |         |       |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 47  | DO    | 122      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 933   | 588 | 171 | 170 | 4 |         |         |       |

- Molecule 48 is a protein called 50S RIBOSOMAL PROTEIN L15.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 48  | BP    | 146      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1114  | 692 | 227 | 193 | 2 |         |         |       |
| 48  | DP    | 146      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1114  | 692 | 227 | 193 | 2 |         |         |       |

- Molecule 49 is a protein called 50S RIBOSOMAL PROTEIN L16.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 49  | BQ    | 141      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1122  | 715 | 212 | 188 | 7 |         |         |       |
| 49  | DQ    | 141      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 1122  | 715 | 212 | 188 | 7 |         |         |       |

- Molecule 50 is a protein called 50S RIBOSOMAL PROTEIN L17.

| Mol | Chain | Residues | Atoms |     |     |     |  | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|---------|-------|
| 50  | BR    | 117      | Total | C   | N   | O   |  | 0       | 0       | 0     |
|     |       |          | 960   | 599 | 202 | 159 |  |         |         |       |
| 50  | DR    | 117      | Total | C   | N   | O   |  | 0       | 0       | 0     |
|     |       |          | 960   | 599 | 202 | 159 |  |         |         |       |

- Molecule 51 is a protein called 50S RIBOSOMAL PROTEIN L18.

| Mol | Chain | Residues | Atoms |     |     |     |  | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|--|---------|---------|-------|
| 51  | BS    | 99       | Total | C   | N   | O   |  | 0       | 0       | 1     |
|     |       |          | 771   | 486 | 155 | 130 |  |         |         |       |
| 51  | DS    | 99       | Total | C   | N   | O   |  | 0       | 0       | 1     |
|     |       |          | 771   | 486 | 155 | 130 |  |         |         |       |

- Molecule 52 is a protein called 50S RIBOSOMAL PROTEIN L19.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 52  | BT    | 138      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1142  | 710 | 235 | 196 | 1 |         |         |       |
| 52  | DT    | 138      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1142  | 710 | 235 | 196 | 1 |         |         |       |

- Molecule 53 is a protein called 50S RIBOSOMAL PROTEIN L20.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 53  | BU    | 117      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 958   | 604 | 202 | 151 | 1 |         |         |       |
| 53  | DU    | 117      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 958   | 604 | 202 | 151 | 1 |         |         |       |

- Molecule 54 is a protein called 50S RIBOSOMAL PROTEIN L21.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 54  | BV    | 101      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 779   | 501 | 142 | 135 | 1 |         |         |       |
| 54  | DV    | 101      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 779   | 501 | 142 | 135 | 1 |         |         |       |

- Molecule 55 is a protein called 50S RIBOSOMAL PROTEIN L22.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 55  | BW    | 113      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 896   | 563 | 176 | 155 | 2 |         |         |       |
| 55  | DW    | 113      | Total | C   | N   | O   | S | 0       | 0       | 0     |
|     |       |          | 896   | 563 | 176 | 155 | 2 |         |         |       |

- Molecule 56 is a protein called 50S RIBOSOMAL PROTEIN L23.

| Mol | Chain | Residues | Atoms |     |     |     | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---------|---------|-------|
| 56  | BX    | 93       | Total | C   | N   | O   | 0       | 0       | 1     |
|     |       |          | 726   | 471 | 132 | 123 |         |         |       |
| 56  | DX    | 93       | Total | C   | N   | O   | 0       | 0       | 1     |
|     |       |          | 726   | 471 | 132 | 123 |         |         |       |

- Molecule 57 is a protein called 50S RIBOSOMAL PROTEIN L24.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 57  | BY    | 101      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 776   | 500 | 149 | 123 | 4 |         |         |       |
| 57  | DY    | 101      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 776   | 500 | 149 | 123 | 4 |         |         |       |

- Molecule 58 is a protein called 50S RIBOSOMAL PROTEIN L25.

| Mol | Chain | Residues | Atoms |     |     |     |   | ZeroOcc | AltConf | Trace |
|-----|-------|----------|-------|-----|-----|-----|---|---------|---------|-------|
| 58  | BZ    | 185      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1468  | 936 | 262 | 268 | 2 |         |         |       |
| 58  | DZ    | 185      | Total | C   | N   | O   | S | 0       | 0       | 1     |
|     |       |          | 1468  | 936 | 262 | 268 | 2 |         |         |       |

- Molecule 59 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

| Mol | Chain | Residues | Atoms |     | ZeroOcc | AltConf |
|-----|-------|----------|-------|-----|---------|---------|
| 59  | BA    | 357      | Total | Mg  | 0       | 0       |
|     |       |          | 357   | 357 |         |         |
| 59  | CA    | 155      | Total | Mg  | 0       | 0       |
|     |       |          | 155   | 155 |         |         |
| 59  | DF    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | CV    | 7        | Total | Mg  | 0       | 0       |
|     |       |          | 7     | 7   |         |         |
| 59  | AW    | 4        | Total | Mg  | 0       | 0       |
|     |       |          | 4     | 4   |         |         |
| 59  | B1    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | CD    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | AX    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | AS    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | B5    | 2        | Total | Mg  | 0       | 0       |
|     |       |          | 2     | 2   |         |         |
| 59  | BB    | 4        | Total | Mg  | 0       | 0       |
|     |       |          | 4     | 4   |         |         |
| 59  | BT    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | DG    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | BF    | 2        | Total | Mg  | 0       | 0       |
|     |       |          | 2     | 2   |         |         |
| 59  | AV    | 7        | Total | Mg  | 0       | 0       |
|     |       |          | 7     | 7   |         |         |
| 59  | BX    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |
| 59  | AA    | 161      | Total | Mg  | 0       | 0       |
|     |       |          | 161   | 161 |         |         |
| 59  | CX    | 1        | Total | Mg  | 0       | 0       |
|     |       |          | 1     | 1   |         |         |

*Continued on next page...*

*Continued from previous page...*

| Mol | Chain | Residues | Atoms        |           | ZeroOcc | AltConf |
|-----|-------|----------|--------------|-----------|---------|---------|
| 59  | CN    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | DD    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | DH    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | DS    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | BG    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | BY    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | DX    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | DA    | 359      | Total<br>359 | Mg<br>359 | 0       | 0       |
| 59  | AL    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | DE    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | AY    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | D1    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | DP    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | CW    | 4        | Total<br>4   | Mg<br>4   | 0       | 0       |
| 59  | D5    | 2        | Total<br>2   | Mg<br>2   | 0       | 0       |
| 59  | BD    | 2        | Total<br>2   | Mg<br>2   | 0       | 0       |
| 59  | CS    | 1        | Total<br>1   | Mg<br>1   | 0       | 0       |
| 59  | CL    | 2        | Total<br>2   | Mg<br>2   | 0       | 0       |
| 59  | DB    | 4        | Total<br>4   | Mg<br>4   | 0       | 0       |

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

| Mol | Chain | Residues | Atoms      |         | ZeroOcc | AltConf |
|-----|-------|----------|------------|---------|---------|---------|
| 60  | CN    | 1        | Total<br>1 | Zn<br>1 | 0       | 0       |
| 60  | AN    | 1        | Total<br>1 | Zn<br>1 | 0       | 0       |
| 60  | B9    | 1        | Total<br>1 | Zn<br>1 | 0       | 0       |
| 60  | D9    | 1        | Total<br>1 | Zn<br>1 | 0       | 0       |
| 60  | CD    | 1        | Total<br>1 | Zn<br>1 | 0       | 0       |
| 60  | AD    | 1        | Total<br>1 | Zn<br>1 | 0       | 0       |

- Molecule 61 is water.

| Mol | Chain | Residues | Atoms      |        | ZeroOcc | AltConf |
|-----|-------|----------|------------|--------|---------|---------|
| 61  | AV    | 1        | Total<br>1 | O<br>1 | 0       | 0       |
| 61  | AY    | 1        | Total<br>1 | O<br>1 | 0       | 0       |
| 61  | BA    | 1        | Total<br>1 | O<br>1 | 0       | 0       |

MolProbity and EDS were not executed - this section will therefore be empty.



### 3 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section will therefore be incomplete.

| Property   | Value   | Source    |
|--|---|-----------|
| Space group  | P 21 21 21                                      | Depositor |
| Cell constants<br>a, b, c, $\alpha$ , $\beta$ , $\gamma$ | 211.42Å 452.50Å 625.44Å<br>90.00° 90.00° 90.00° | Depositor |
| Resolution (Å)   | 47.86 – 3.10                                    | Depositor |
| % Data completeness<br>(in resolution range)             | 100.0 (47.86-3.10)                              | Depositor |
| $R_{merge}$  | 0.16  | Depositor |
| $R_{sym}$  | (Not available)                                 | Depositor |
| Refinement program                                       | CNS 1.2   | Depositor |
| R, $R_{free}$  | 0.223 , 0.264                                   | Depositor |
| Estimated twinning fraction                              | No twinning to report.                          | Xtriage   |
| Total number of atoms                                    | 305067  | wwPDB-VP  |
| Average B, all atoms (Å <sup>2</sup> )                   | 89.0  | wwPDB-VP  |

## 4 Model quality [i](#)

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

MolProbity was not executed - this section will therefore be empty.

### 4.2 Too-close contacts [i](#)

MolProbity was not executed - this section will therefore be empty.

### 4.3 Torsion angles [i](#)

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

MolProbity was not executed - this section will therefore be empty.

#### 4.3.2 Protein sidechains [i](#)

MolProbity was not executed - this section will therefore be empty.

#### 4.3.3 RNA [i](#)

MolProbity was not executed - this section will therefore be empty.

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

validation-pack and Mogul were not executed - this section will therefore be empty.

### 4.5 Carbohydrates [i](#)

validation-pack and Mogul were not executed - this section will therefore be empty.

### 4.6 Ligand geometry [i](#)

validation-pack and Mogul were not executed - this section will therefore be empty.

### 4.7 Other polymers [i](#)

validation-pack and Mogul were not executed - this section will therefore be empty.

## 4.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

| Mol | Chain | Number of breaks |
|-----|-------|------------------|
| 13  | CM    | 5                |
| 13  | AM    | 5                |
| 9   | AI    | 2                |
| 9   | CI    | 2                |
| 41  | BG    | 1                |
| 31  | B6    | 1                |

All chain breaks are listed below:

| Model | Chain | Residue-1 | Atom-1 | Residue-2 | Atom-2 | Distance (Å) |
|-------|-------|-----------|--------|-----------|--------|--------------|
| 1     | B6    | 46:HIS    | C      | 47:THR    | N      | 7.42         |
| 1     | AI    | 104:ARG   | C      | 105:ASP   | N      | 4.76         |
| 1     | CI    | 104:ARG   | C      | 105:ASP   | N      | 4.74         |
| 1     | AM    | 112:GLY   | C      | 113:PRO   | N      | 4.66         |
| 1     | CM    | 112:GLY   | C      | 113:PRO   | N      | 4.66         |
| 1     | BG    | 112:PRO   | C      | 113:ARG   | N      | 4.32         |
| 1     | AM    | 69:GLU    | C      | 70:LEU    | N      | 4.17         |
| 1     | CM    | 69:GLU    | C      | 70:LEU    | N      | 4.16         |
| 1     | AM    | 65:LYS    | C      | 66:LEU    | N      | 3.15         |
| 1     | CM    | 65:LYS    | C      | 66:LEU    | N      | 3.11         |
| 1     | CM    | 118:ALA   | C      | 119:GLY   | N      | 2.99         |
| 1     | AM    | 118:ALA   | C      | 119:GLY   | N      | 2.98         |
| 1     | AM    | 97:PRO    | C      | 98:VAL    | N      | 2.81         |
| 1     | CM    | 97:PRO    | C      | 98:VAL    | N      | 2.81         |
| 1     | AI    | 53:VAL    | C      | 54:ASP    | N      | 2.79         |
| 1     | CI    | 53:VAL    | C      | 54:ASP    | N      | 2.79         |

## 5 Fit of model and data [i](#)

### 5.1 Protein, DNA and RNA chains [i](#)

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

### 5.3 Carbohydrates [i](#)

EDS was not executed - this section will therefore be empty.

### 5.4 Ligands [i](#)

EDS was not executed - this section will therefore be empty.

### 5.5 Other polymers [i](#)

EDS was not executed - this section will therefore be empty.