## **Supporting Information**

Armache et al. 10.1073/pnas.1009999107

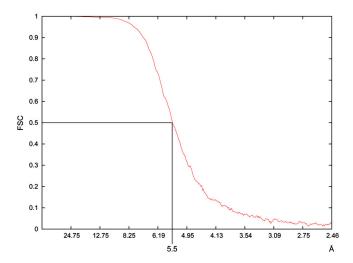


Fig. S1. Fourier shell correlation (FSC) curve for the cryo-EM reconstruction of the *Triticum aestivum* 80S ribosome-nascent chain complex, with resolution of 5.5 Å according to a cut-off of the FSC at 0.5.

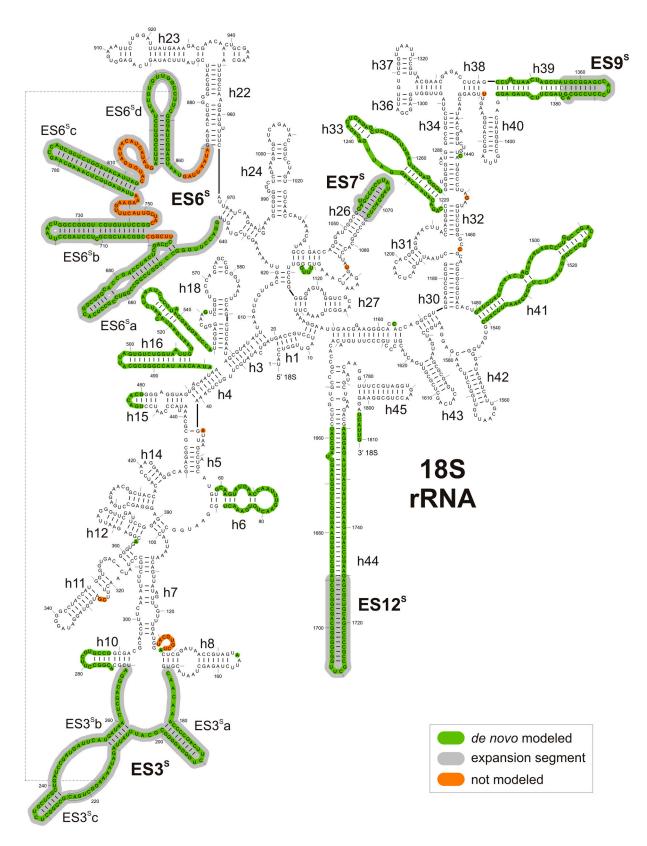


Fig. S2. Secondary structure diagram for the small subunit (185) rRNA of *Triticum aestivum*, modified from ref. 1. Green regions indicated de novo modeled regions, gray regions are expansion segments, whereas orange nucleotides were not modeled.

<sup>1</sup> Cannone JJ, et al. (2002) The comparative RNA web (CRW) site: An online database of comparative sequence and structure information for ribosomal, intron, and other RNAs. *BMC Bioinformatics* 3:2.

Fig. S3. Secondary structure diagram for the small subunit (18S) rRNA of Saccharomyces cerevisiae modified from ref. 1. Gray regions indicate expansion segments, whereas orange nucleotides were not modeled.

<sup>1</sup> Cannone JJ, et al. (2002) The comparative RNA web (CRW) site: An online database of comparative sequence and structure information for ribosomal, intron, and other RNAs. *BMC Bioinformatics* 3:2.

**Fig. S4.** Secondary structure diagram for the 5' region of the large subunit rRNAs (5.8S and 28S) of *Triticum aestivum* modified from ref. 1. Green regions indicated de novo modeled regions, gray regions are expansion segments, whereas orange nucleotides were not modeled.

<sup>1</sup> Cannone JJ, et al. (2002) The comparative RNA web (CRW) site: An online database of comparative sequence and structure information for ribosomal, intron, and other RNAs. BMC Bioinformatics 3:2.

Fig. S5. Secondary structure diagram for the 3' region of the large subunit rRNAs (5S and 28S) of *Triticum aestivum* modified from ref. 1. Green regions indicated de novo modeled regions, gray regions are expansion segments, whereas orange nucleotides were not modeled.

<sup>1</sup> Cannone JJ, et al. (2002) The comparative RNA web (CRW) site: An online database of comparative sequence and structure information for ribosomal, intron, and other RNAs. BMC Bioinformatics 3:2.

**Fig. S6.** Secondary structure diagram for the 5′ region of the large subunit rRNAs (5.8S and 25S) of *Saccharomyces cerevisiae* modified from ref. 1. Gray regions are expansion segments, whereas orange nucleotides were not modeled.

<sup>1</sup> Cannone JJ, et al. (2002) The comparative RNA web (CRW) site: An online database of comparative sequence and structure information for ribosomal, intron, and other RNAs. BMC Bioinformatics 3:2.

Fig. 57. Secondary structure diagram for the 3' region of the large subunit rRNAs (5S and 25S) of Saccharomyces cerevisiae modified from ref. 1. Gray regions are expansion segments, whereas orange nucleotides were not modeled.

<sup>1</sup> Cannone JJ, et al. (2002) The comparative RNA web (CRW) site: An online database of comparative sequence and structure information for ribosomal, intron, and other RNAs. BMC Bioinformatics 3:2.

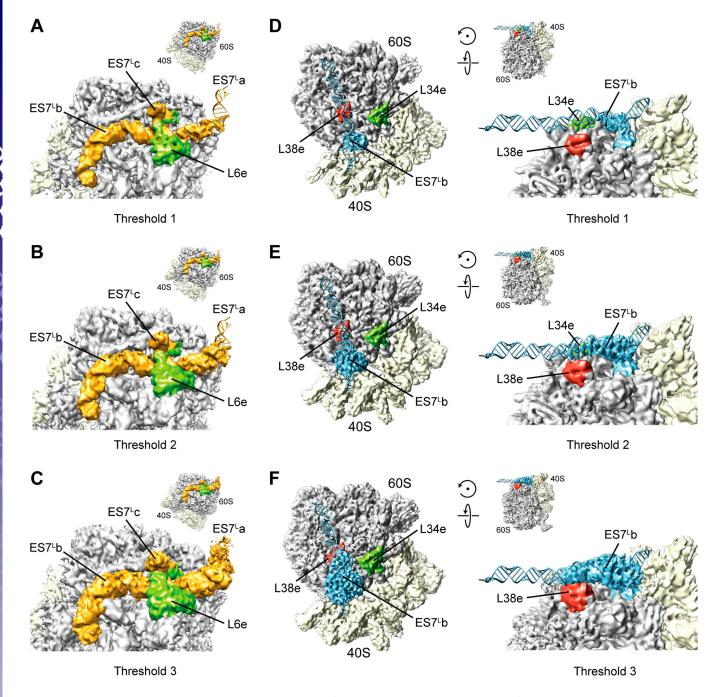


Fig. S8. Visualization of density for (A–C) Saccharomyces cerevisiae ES7<sup>L</sup> (yellow) and (D–F) Triticum aestivum ES27<sup>L</sup> int (blue) at different contour levels. (A–C) In the S. cerevisiae 80S reconstruction, density for ES7<sup>L</sup>a is observed at lower thresholds (C). R-protein L6e (green) interacts with ES7<sup>L</sup>b,c. (D–F) In the T. aestivum 80S reconstruction, density for ES27<sup>L</sup>b is observed at lower thresholds, where interaction with r-protein L38e (red) with ES27<sup>L</sup>b is evident (F).

Fig. S9. Comparison of fit of yeast models in *Thermomyces lanuginosus* and *Saccharomyces cerevisiae* 80S cryo-EM maps. (*Left*) Protein Data Bank (PDB) 3JYV, 3JYW, 3JYX in the associated cryo-EM map of *T. lanuginosus* 80S ribosome from Taylor et al. (1). The fit of the yeast model (this paper) into cryo-EM map of *T. lanuginosus* 80S ribosome from Taylor et al. (2) is shown in the center and right panels, respectively.

- 1 Taylor DJ, et al. (2009) Comprehensive molecular structure of the eukaryotic ribosome. Structure 17:1591–1604.
- 2 Becker T, et al. (2009) Structure of monomeric yeast and mammalian Sec61 complexes interacting with the translating ribosome. Science 326:1369–1373.