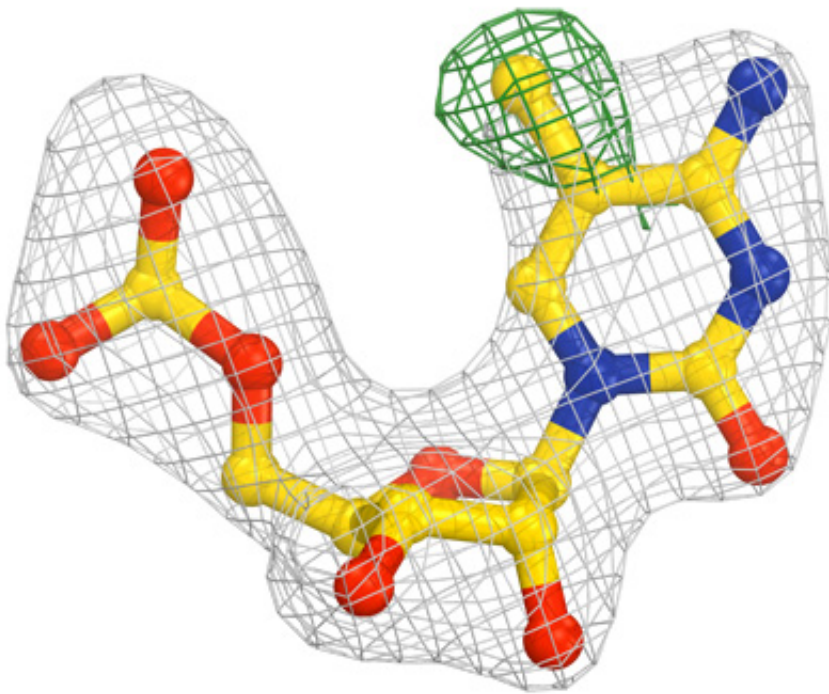


Imaging reveals tiny piece of protein-making machinery

April 10 2015, by Bill Hathaway



Using powerful advances in imaging technology, researchers at Yale University have visualized a key component deep within the ribosome, the tiny cellular factory that produces nearly all the proteins essential for life.

The resolution of the enhanced X-ray crystallography is so powerful it is the equivalent of describing from space the face of a single individual living in Beijing.

The modified RNA nucleotide shown here is part of the assembly line of the ribosomal factory and is defined by its [electron density](#), shown here as a sort of scaffolding surrounding the structure. The structure of the RNA nucleotides in the ribosome will help researchers understand all the mechanisms involved in protein synthesis.

The study, done by researchers Yury Polikanov and Sergey Melnikov in the labs of Nobel laureate Thomas Steitz and Sterling Professor Dieter Söll, is published in the journal *Nature Structural and Molecular Biology*.

More information: "Structural insights into the role of rRNA modifications in protein synthesis and ribosome assembly." *Nature Structural & Molecular Biology* 22, 342–344 (2015) [DOI: 10.1038/nsmb.2992](#)

Provided by Yale University

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