UCSD chemists produce first high-resolution RNA 'nano square'

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Chemists at UC San Diego have produced the first high resolution structure of a nano-scale square made from ribonucleic acid, or RNA.

The structure was published in a paper in this week's early online edition of the journal Proceedings of the National Academy of Sciences by a team of chemists headed by Thomas Hermann, an assistant professor of chemistry and biochemistry at UCSD.

The scientists said the ability to carry structural information encoded in the sequence of the constituent building blocks is a characteristic trait of RNA, a key component of the genetic code.

The nano square self-assembles from four corner units directed by the sequence that was programmed into the RNA used for preparing the corners.

Hermann said the RNA square has potential applications as a self-assembling nano platform for the programmed combination of molecular entities that are linked to the corner units.

Provided by University of California - San Diego