Scientists describe the birth of a protein

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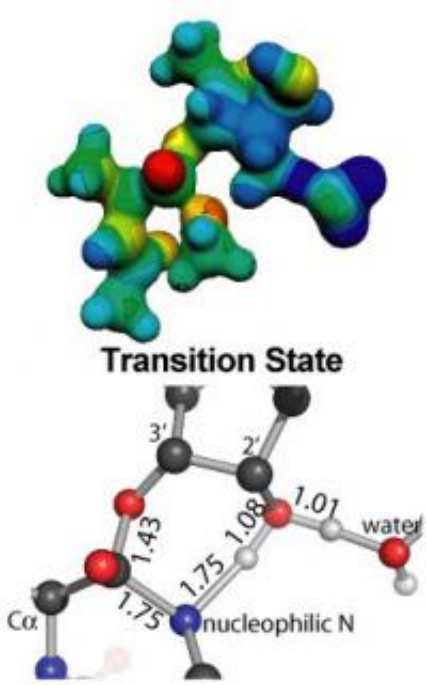

(PhysOrg.com) -- Yale researchers for the first time have captured the chemical reaction that occurs when a protein is created — one of life's most basic processes.

Proteins are synthesized within cells by ribosomes, which take genetic information encoded by DNA and delivered by RNA and convert it into proteins, which carry out the business of life. But the key moment in the process -- when chemical bonds of the proteins form a chain of amino

acids called peptides -- had never been described.

The image here represents the transition state for this reaction when a peptide is formed in a growing peptide chain.

The work is published online in the July 17 issue of the journal Nature. The lead author of the paper was David Hiller, a postdoctoral researcher working in the lab of senior author Scott Strobel, the Henry Ford II Professor of Molecular Biophysics and Biochemistry and professor of chemistry.

More information: The full paper is available on *Nature* website: www.nature.com/nature/journal/ … ull/nature10248.html

Provided by Yale University