

PREBIOLOGICAL SYNTHESIS AND EVOLUTION OF MACROMOLECULES

Sergey Varfolomeev

N.M. Emanuel Institute of Biochemical Physics, Russian Academy of Sciences

M.V. Lomonosov Moscow State University, Chemical Department

Tel: (7-495) 137-6420; Fax (7-495) 939-5417; E-mail: sdvarf@sky.chph.ras.ru

A paradox of the origin of life relates to the macromolecule selection mechanism with an abrupt reduction of the number of possible structures. To explain selection and proliferation of macromolecules a statement of trifunctional monomers polycondensation in a thermal cycling mode, provided by rotation of the Earth, has been used. It was analyzed the dynamics of prebiological evolution of macromolecules and criteria of the most efficient structures synthesis.

The theoretical results were approved by direct abiotic synthesis of polypeptides. The coexistence and coevolution of preproteins, preRNAs and preDNAs are discussed.