

A Reassessment of Prebiotically Relevant Chemical Agents for the Activation of α -Amino Acids and Peptides

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ABSTRACT From an origin-of-life perspective, processes able to provide energy to feed self-organizing systems are required for the formation of their own components but also to maintain a far from equilibrium state essential for the system to remain under kinetic control. α -Amino acid *N*-carboxyanhydrides (NCAs) and 5(4*H*)-oxazolones represent activated intermediates of the chemistry of peptides that may be involved in the self-organization of life and in the evolution of translation. An experimental survey of previously published activating agents has been carried out using the epimerization associated with the transient formation of 5(4*H*)-oxazolones as a tool to monitor their potential to promote strong activation. None of reagents investigated in this survey proved to be totally satisfactory demonstrating that the identification of activation processes remains a crucial goal in this field.

Keywords: peptides; activating agents; self-organization; origin of life
