

Interactive comment on “The nonenzymatic template-directed ligation of oligonucleotides” by A. V. Lutay et al.

Anonymous Referee #2

Received and published: 13 January 2006

The authors set out to evaluate a hypothesis concerning a possible mechanism of generation of spontaneous RNA rearrangements. Their model is based on the attack of 5'-terminal OH groups on 2'-3' cyclic end groups which are generated by spontaneous degradation (hydrolysis) of RNA chains. In model ligations, they failed to observe synthesis of naturally occurring 3'-5' phosphodiester linkages. They did observe metal catalysis of the preferred synthesis of 2'-5' linkages, which is in accord with already established experience in nucleotide chemistry. The authors would like to put a positive interpretation on these results by postulating that preferred synthesis of 2'-5' linkages could have had some prebiotic function, or function in an early RNA world. This statement is not convincing in the absence of any suggestion as to what advantage 2'-5' linkages may have had.

Interactive comment on Biogeosciences Discussions, 3, 1, 2006.