

Timescales as Tests for Prebiotic Chemistry

Prebiotic chemical scenarios often feature a lot of 'just-so' stories: stories that may explain some feature of life's origins, with some plausibility, but with no clear predictions that can be tested. Specific experimental outcomes for some scenarios, however, place requirements on chemical timescales. These timescales can also be constrained for a given environment and therefore the combination of chemical pathway and environment can be tested empirically, both in the lab and with the use of chemical kinetics models. I will show how this approach can be applied to a shallow hydrothermal vent prebiotic chemical scenario. These tests have implications for prebiotic chemistry in the lab, traces of prebiotic chemistry on the surface of Mars, and future searches for life and habitability on rocky exoplanets.



Thursday, April 18th

4:00-5:00 p.m.

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