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UPDATE ON CHALLENGES OF TERRESTRIAL AND EXTRA – TERRESTRIAL ORIGINS OF LIFE

Abstract

The origin and dispersion of lie in the universe is a long debated scientific and philosophical issue. One of the greatest puzzles of all time is how did life arise? It has been universally presumed that life arose in a soup rich in carbon compounds, but from where did these organic molecules come? These organic molecules may come from endogenous or exogenous sources or from both is still a subject of debate. According to first channel, endogeneous theory for origins of life is supported by the work of scientists Miller, Orgel, Bernal, Ferris, Lahav, Chang, and Kamaladdin etc. basic organic molecules needed for the origins of an early life. Synthesized from inorganic compounds abundant in the early earth atmosphere 4.5 billion year ago. According to second channel, exogenous theory for origin of life supported by the work of scientists Oro, Chyba, Sagan, Horneck, Russell and Greenberg etc. It was suggested that molecular precursors needed for origins of life transferred from space to the primitive earth. According to third channel, which is midway between first and second, this hypothesis is supported by the work of scientists Kobayashi, Kasting, Fox, Pizzarellow and Tewari etc. which suggests that precursors for first life on primitive earth was input of both exogenous and endogenous sources. In the present work adsorptive interaction of 2, 4 – dinitroaniline (2, 4 – DNA) and 2, 4, 6 – trintroaniline (2, 4, 6 – TNA) with hectorite, kaolinite and nontronite clay minerals have been studied at neutral pH (7 0.01) and a temperature 30 1 C. The progress of the adsorption was followed spectrophotometrically by measuring the absorbance of amines solution at their corresponding max. The adsorption process followed Langmuir model in general. Kaolinite and nontronite showed maximum and minimum uptake capacity, respectively with both adsorbates. The 2, 4, 6-TNA showed more adsorption than 2, 4 – DNA with all three adsorbents. Present studies suggest the importance of clay minerals in the stabilization of biomolecules from degradation on primitive earth. This study supports the hypothesis of terrestrial origins of life. Detail will be presented.