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Origin of Life - tectonically controlled by Strike-Slip Faults of the Early Crust?

Schreiber U, Buck V, Epple M, Flemming HC, Mayer C, Locker-Gruetjen O

University Duisburg-Essen, Faculty of Biology and Geography 1, Faculty of Physics 2, Department of Chemistry 3, Science Support Centre 4, Germany, 45141 Essen, Universitätsstr. 5,

Inferred from today's condition strike-slip faults might have already exist during formation of the early crust. Deep reaching faults are permeable to fluids and gas. We presume ideal conditions for the formation of first pre-biotic molecules within these faults. From this follows, that these faults might actually be the real place of origin for biological life.

Through physical and chemical selection mechanisms, a great number of pre-biotic molecules could have been developed into ones that were more complex.

These interconnected reactivity environments had dimensions from nano to centimeter cavities. The entire volume of all environments was more than km³. At different levels of the earth crust, various pre-biotic molecules could emerge under various pressure and temperature conditions. The molecule's structure depended on the facies (pT-conditions, chemical and mineralogical conditions and cavities). Through fluid migration, caused by temperature-related circulation and rising gas bubbles, a molecule exchange from facies to facies could have taken place. At a third stage, the molecular precursors could have been transformed into chemical compounds that were more complex. Our approach presumes that:

- conditions of the Fischer-Tropsch-synthesis were given to rise alkanes, alkenes and alcohols,
- all starting substances (CO, H₂, catalysts, add. CO₂, NH₃, H₂S, SO₂, HF, phos. compounds) existed. The pT-conditions were met at a level of a few hundred metres,
- vein mineralization provide accessible metallic surfaces,
- directionally crystallized quartz allowed piezoelectric flow under tectonic stress.

These circumstances allowed the formation of a significant number of pre-biotic and biotic molecules that serve as the basis for all known further developments. The concentration of molecules in the nanopores should have been high enough to form additional compounds. First experiments under early crust's developing conditions were carried out, results are presented.