

Symmetry in Prebiotic Chemistry

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Message from the Guest Editor

Dear Colleagues,

Life on Earth contains molecules with a specific symmetry called chirality, which emerges from the presence of an asymmetric carbon, leading to L-amino acids and D-sugars.

The present special issue intends to develop the formation of asymmetric molecules inside minerals. Cavities, also called fluid inclusions, are empty spaces without membranes, where small molecules such as CO, N₂, H₂O, can concentrate and where chemistry can proceed with specific geometrical orientations. The objective is to predict the orientation of simple chiral prebiotic molecules through the study of the geometry of minerals and their related electrical and optical properties. Specific crystallized and amorphous minerals are concerned: quartz, greenalite, iron phyllosilicates with their tetrahedral and octahedral sites, ferric oxides, siderite. Scientists are invited to unveil the secret of homochirality of life, studying interactions between minerals and molecules of life.

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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