

## Special Issue

# The Origin of Biomolecules on the Early Earth at Volcanic Hydrothermal Settings

### Message from the Guest Editors

The formation of biomolecules is an indispensable prerequisite for the emergence of life on Earth.

Concerning the origin of such biomolecules, different habitats and conditions have been discussed in the scientific community, but there is no consensus about even the principal questions: terrestrial origin or initiated through meteoritic impacts, hot or cold origin, and so on.

Volcanic hydrothermal settings on early Earth constitute one of the possible habitats for the formation of biomolecules from inorganic precursors. Metal minerals like iron and cobalt are abundant in Earth's crust and could act as catalytic surfaces in the aqueous environment. Hydrothermal exhalations deliver a constant flow of simple as substrates for the formation of simple organic molecules.

Temperature and pH gradients in hydrothermal fluid flows as well as different bonding strength to the mineral surface allow selectivity and trigger reaction pathways to ever more complex biomolecules.

In this Special Issue we highlight all aspects of biomolecule formation under hydrothermal conditions. Scientific perspectives, research or review articles are encouraged for submission.

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### Guest Editors

Dr. Claudia Huber

Lehrstuhl für Strukturelle Membranbiochemie, Fakultät Chemie, Technische Universität München, Lichtenbergstr. 4, 85748 Garching, Germany

Dr. Christof B. Mast

Systems Biophysics, Physics Department, Center for Nanoscience, Ludwig-Maximilians-Universität München, Amalienstraße 54, 80799 Munich, Germany

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### Deadline for manuscript submissions

closed (28 July 2023)



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Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[life@mdpi.com](mailto:life@mdpi.com)

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Prof. Dr. Lluís Ribas de Pouplana

Institute for Research in Biomedicine (IRB Barcelona), The Barcelona  
Institute of Science and Technology, 08028 Barcelona, Spain

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