

Chemistry of life in space: a clue to its diversity and complexity

VASSILISSA VINOGRADOFF¹

¹CNRS, University Aix-Marseille, UMR-7345, PIIM, ASTRO team, Marseille

The origin of life is central in the field of Exobiology and can be approached from different aspects. Our researches focus on the origin of the organic matter, on the key element for life, that could have been inherited from space. By reproducing the conditions in space (molecular clouds, comets, asteroids), we simulate the organic matter evolution and highlight the huge diversity of abiotic organic compounds that can be produced in extraterrestrial settings. We show that the building blocks of life (amino acids, sugars) can be easily formed there and could have been brought to the early Earth by meteorites. However, this is not enough for the emergence of life and other processes have occurred on the early Earth.