



Fluids from ultramafic-hosted vents of the Mid Atlantic Ridge : biogenic or abiogenic organic compounds spotted.

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The process of serpentinisation at slow spreading ridges is due to the circulation of seawater in outcropping mantle rocks. Association of high CH₄- and H₂-concentrations in the water column with the serpentinisation of ultramafic rocks is now well agreed. The likely abiogenic origin of methane has been supported by isotope-ratio values. This has led recently to the idea of abiogenic formation of larger organic compounds such as hydrocarbons or key molecules for the origin of life issue. Hydrothermal fluids from various hot vents at basaltic or ultramafic-hosted sites along the Mid-Atlantic Ridge (MAR) were collected over the past few years. Samples were handled using efficient extraction techniques: SPME (Solid Phase Micro Extraction) and SBSE (Stir Bar Sorptive Extraction). Gas Chromatography-Mass Spectrometry- (GC-MS) analyses on the extracts have evidenced various kinds of organic compounds. Also, isotopic measurements have been performed and suggest a mix of abiogenic and biogenic carbon in the compounds. We propose that catalytic process might be a suitable reaction pathway for the formation of organics from thermogenic carbon. Nevertheless more experiments have to be carried out in the future and will be conducted partly in the MOMARnet program frame. Whether or not those molecules are of biogenic or abiogenic origin, they may have an incidence on the microbiological life of these reducing deep-sea environments.