

New strategies for extracting biomarkers in astrobiological environments : towards *in situ* analysis

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Context

The development of new instruments and analytical strategies is essential for the search of biosignatures in extraterrestrial environments. While the extraction step is commonly recognized as a key point in most analytical studies, this step has rarely been considered in astrobiological research. For instance, no solid/liquid extraction protocol has been selected for future Martian missions so far even though some pre-selected analyzers require liquid samples. Besides *in-situ* applications, the extraction protocols currently used for laboratory research rarely enable quantitative extraction and can even induce biases by modifying the original nature of the detected molecules.

In this context, the objective of this project is to develop an innovative technique, compatible with space constraints, allowing the extraction of organic molecules present in extraterrestrial bodies. The new method is based on ultrasound-assisted extraction and results will be compared with a reference extraction method.



<u>References :</u>

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