

Maximizing organic records: Recent achievements and future directions

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Molecular isotopic record in either organisms or sediments has been proven useful for better understanding the bio(geo)chemical processes, reconstructing paleo-environment, etc. During the last decades, target molecules have been expanding from simple lipids to complex physiologically active compounds. There are two key issues to push this molecular tool more useful and more efficient: 1) Purity of the target compounds that are extracted from environmental samples (generally a complex mixture of organic compounds), and 2) sensitivity of isotope-ratio mass spectrometry (IRMS) system for precisely measuring isotopic compositions. In this presentation we will overview the recent advances in these two issues, and how these achievements contributed to the progresses in our knowledge. We also try to mention in the future challenges of molecular isotopic signatures.

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