

2022 年度
創発的研究支援事業 年次報告書

研究担当者	Alexis Gilbert
研究機関名	東京工業大学
所属部署名	地球惑星科学系
役職名	准教授
研究課題名	Isotopomics: towards understanding position-specific isotope signatures at natural abundance
研究実施期間	2022 年 4 月 1 日～2023 年 3 月 31 日

研究成果の概要

We developed a protocol for the measurement of position-specific isotope composition of amino acids, notably alanine, directly from the biomass of culture experiments or natural samples. The method is fast and precise, which allowed us to survey for the first time the isotope heterogeneity of biomolecules from different organisms and environmental settings. Differences can be seen, notably between organisms using different metabolic pathways, making position-specific isotope composition of amino acids a potential new biomarker. This will pave the way to new applications in biogeochemistry, food authentication, medical diagnosis.