

## n-alkanes and isoprenoids extracted from the Ediacaran-Early Cambrian section in the Three Gorges area, South China

Kentaro Yamada<sup>1\*</sup>, Yuichiro Ueno<sup>1</sup>, Keita Yamada<sup>2</sup>, Naohiro Yoshida<sup>2</sup>, Shigenori Maruyama<sup>1</sup>

<sup>1</sup>Earth & Planetary Sciences, TITech, <sup>2</sup>Environ. Chem. and Engr, TITech

The Ediacaran-Early Cambrian (635-509Ma) is one of the most important periods in the Earth life history. Almost all of eumetazoan phyla emerged and radiated during this period. Although it is expected that the eumetazoan evolution be influenced by the change of ecosystem including microbiota and geochemical cycle in the ocean, the detail is still ambiguous.

South China is the most suitable area for studying continuous biogeochemical change during the Ediacaran-Early Cambrian because there are less hiatus through the sequence.

Molecular fossils, which are organic compounds extracted from sedimentary rocks, are useful to reveal the microbiota and biogeochemistry, but the continuous change of molecular fossils composition during the Ediacaran-Early Cambrian in South China have not been reported.

In this study, the results of n-alkane and isoprenoid composition from 80 samples, and their compound specific carbon isotope ratios from 30 samples are reported. Dominant longer chain n-alkanes, and different carbon isotope ratios between pristane and phytane which were derived from the multiple phototroph communities, indicate the emergence of the stratified ocean and photic zone euxinia in the earliest Cambrian.

Keywords: molecular fossil, carbon isotope ratio, Ediacaran-Early Cambrian, South China