

Hydrogen isotope fractionation in marine algae: Salinity effect

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With the advance of GC-IRMS technology, compound-specific hydrogen isotopes of algal biomarkers have been widely used in hydrology reconstruction in paleoceanography. However, the salinity effect on hydrogen isotope fractionation in marine algae remains largely unclear. We have cultured five different species of marine algae, Prymnesiophyceae *Emiliana huxleyi* (CCMP 1516), Prymnesiophyceae *Geophyrocapsa oceanica* (CCMP 2051), Dinophyceae *Prorocentrum minimum* (CCMP 1329), *Navicula climacospheae booty*, Coscinodiscophyceae *Thalassiosira pseudomana* (CCMP 1335) in artificial sea water with different salinities while keeping other parameters the same. Cell density was measured on a Z2 Coulter® Particle Count and Size Analyzer. Algal biomarkers are analyzed for structure identification on GC-MS and measured for hydrogen isotope ratio on GC-IRMS. Salinity effect in hydrogen isotope fractionation will be discussed.

ID-TIMS zircon U-Pb age of Yulonggou intrusive rocks and its geological significance in South Qilian Mountains, NW China

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Yulonggou intrusive rocks, belongs to Riyueshan-Hualong basic-ultrabasic rocks belt, the belt has developed a number of intrusive rocks related closely with copper-nickel mineralization, it is great significance for the emplacement time and mineralization characteristics of basic-ultrabasic rocks to guide prospecting in Hualong area. The paper reports partial achievements of magmatic type copper-nickel ore resources potential evaluation in Hualong county, Qinghai Province, mainly by field survey and research on Yulonggou intrusive rocks on the process of the project, and obtained the zircon U-Pb age of 442.4 ± 1.6 Ma (MSWD=0.059) rock formation in Yulonggou by ID-TIMS. Its petrology and geochemistry characteristics analysis and regional comparative research showing Yulonggou intrusive rocks is a ferruginous series ultrabasic-basic complex rocks, and has good magmatic differentiation and high abundance of useful elements that Ni, Cu, Co, so it is a favorable ore formation intrusive rocks; The age of 440 Ma, is conversion period from subduction orogeny to collision orogeny in the whole of Qilian Mountains, and into the stage of orogenic with the closure of Laji Mountain small ocean basin, form Yulonggou basic-ultrabasic intrusive rocks in extensional environment of post-collision. Contacting information of other intrusive rocks in Riyueshan-Hualong basic-ultrabasic rocks belt, all the intrusive rocks may be formed in the same period, and have specific dynamic mechanism and evolution process. This extensional rifting event has a very close relationship with the mineralization, so the research has very important practical significance.

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