Cryogenian Strata of the Northern Margin of Yangtze

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The Yaolinghe Group, the Cryogenian strata in the northern margin of Yangtze, consists of continuous interbedded volcanic-sedimentary rocks beginning and ending with two glaciogenic diamictites related to the Sturtian and the Marinoan glaciations, respectively. The sequencing results of the different layers of volcanic rocks reveal that the two periods of glaciations took place in the ranges of 727-725 Ma and 637-635 Ma, separately, providing the best constrains to the synchroneity and durations of the two global glacial deposits.

LC-ESI-MS analysis of folic acid degradation in seawater

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Incubation experiment of folic acid

To study the degradation pathway of folic acid (FA) in marine environment, we conducted a seawater incubation experiment. Biological consumption and photodegradation can be responsible for loss of FA in seawater [1, 2], however the contribution of each process has never been evaluated. We applied LC-ESI-MS (liquid chromatography-electrospray ionization mass spectrometry) for molecular specific determination of FA and detection of degradation products in a simple model system. An incubation experiment enables us to get substantial amount of newly appeared compounds to be characterized.

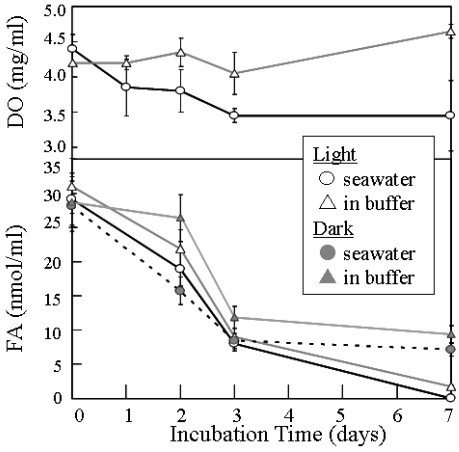

Figure 1: Degradation of FA and DO concentration.

Spiked FA decreased rapidly under all conditions in 3days. Reduction of dissolved oxygen was significantly faster than that in buffer solution (Fig.1) After 7 days, FA remained in seawater and buffer in dark, whereas it became undetectable under a light condition. It seems that photo induced and spontaneous degradation play key roles in loss of marine FA. We also characterized *p*-aminobenzoylglutamic acid, known as one of the photodegradation products of FA.

[1] Gašparovića *et al*., (2007) *Mar. Chem*. **105**, 1-14. [2] Le Gal & van den Berg (1998) *Deep-Sea Res I*., **45**, 1903-1918.