

### **Organic matter $\delta^{13}\text{C}$ (Lee Kump)**

Prior to extraction, all sediments were gently washed with deionized distilled water to remove any surface contamination. 5-10g samples were then crushed with a Retsch PM100 Ball Mill resulting in a homogeneous powdered sample (size  $\sim 75\mu\text{m}$ ). The powdered samples were then decarbonated in centrifuge tubes using dilute HCl (10% conc.) for 24 hours and rinsed repeatedly to remove acidity (checked with pH paper). The samples were then freeze-dried for analysis. In order to measure  $\delta^{13}\text{C}$ , a continuous flow Elemental Analyzer (COSTECH ECS4010)–Isotope Ratio Mass Spectrometer (EA-IRMS: Thermo Delta Plus) system via an open split interface (CONFLO III) was employed. Sample sizes varied from 1-30 mg depending on organic carbon content. Approximately 10mg of  $\text{V}_2\text{O}_5$  was added to aid combustion.