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Calcium isotope fractionation in cultured *G. ruber* and *G. siphonifera*

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Calcium isotope ratios were determined on two species of cultured planktonic foraminifera (*G. ruber* and *G. siphonifera*) and their culturing solutions. The foraminifera were grown in seawater kept at (i) constant temperature but varying salinities of 32 to 44 psu, (ii) constant salinity but varying temperatures of 18 to 30˚C. In an additional culturing experiment, the carbonate system was manipulated so as to keep the total inorganic carbon constant but to alter the pH (and hence carbonate ion concentrations). Our preliminary data show that calcium isotope fractionation is negatively correlated with salinity. This observed correlation is not dependent on the average growth rate or carbonate ion concentration, but rather appears to be biologically induced. Calcium isotope fractionation shows a positive correlation with growth temperature that has a slope in accordance with previous observations for *O. universa* and inorganic calcite. Paired trace element ratios and calcium isotope ratios are investigated for a multi-proxy approach.