

## **Clumped isotopes in foraminifer shells versus inorganic carbonates: testing for species and size effects**

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Accurate reconstruction of past ocean temperatures is a crucial issue for paleoclimatologists. Marine paleotemperature proxies generally present significant limitations related to biological processes, seawater composition and/or regional calibrations. The carbonate clumped isotope thermometer is a relatively new technique based on the thermodynamical relationship between crystallization temperature and the statistical excess of <sup>13</sup>C<sup>18</sup>O bonds in carbonates (noted  $\Delta 47$ ). In theory, it should provide direct estimates of the temperature and oxygen isotope composition of past seawater.

Here we present new calibration data regarding clumped isotopes in foraminifer shells. This work is based on the analysis of thirteen species of planktonic and benthic foraminifera obtained from core-top sediments, and covers the range 0 to 28°C. Precise comparison (in progress) with well-constrained inorganic carbonate calibration data produced using the same analytical protocols provides an excellent opportunity to assess potential species-specific vital effects as well as other possible analytical biases (size effect, cleaning procedures).