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# Mollusc shells are they suitable for accessing the strontium isotopic composition of seawater ?

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The Sr isotope ratio ($^{87}Sr/^{86}Sr$) of modern seawater is generally considered as homogeneous at global scale because the residence time of this element is longer than the global ocean mixing duration. However, the $^{87}Sr/^{86}Sr$ ratios of seawater show long-term fluctuations at geological time scales. The study of these variations is of prime importance for: 1) understanding the evolution of geochemical cycles in regard to global geodynamic or climate events, and 2) producing chimiostratigraphical reference curves allowing relative dating of any biological samples. Nevertheless, this chimiostratigraphical curve is based on the postulate that the calcitic or aragonitic shells living in proximal domains record the oceanic $^{87}Sr/^{86}Sr$ composition without secondary influences. Thus, ˜50 Sr isotopic measurements of modern mollusc shells have been acquired to decipher if they reflect that of seawater or a local signal specific to the site studied. Mollusc shells show heterogeneous $^{87}Sr/^{86}Sr$ values above and below the 0.709160 signature of seawater depicting fluvial inputs or groundwater contributions. Furthermore, oysters from the Oualidia lagoon (Morocco) have an $^{87}Sr/^{86}Sr$ value as low as 0.708931 arguing for the local impact of freshwater and groundwater discharges from the karstic area of Oualidia.