Supplementary material

Table S1. Instrument and experimental parameters of laser ablation and MC-ICPMS.

Fig. S1. Summary of laser ablation MC-ICPMS *Neptune* measurements of $^{84}Sr/^{86}Sr$ ratio: (a) $^{84}Sr/^{86}Sr$ vs. $^{82}X/^{86}Sr$; High $^{84}Sr/^{86}Sr$ values result from Ca dimer/argide interferences. Green crosses represent corrected data; (b) Enlargement of the main dataset marked by the black rectangle in (a); (c) Beta fractionation factor vs. $^{84}Sr/^{86}Sr$, elevated values are due to dimer/argide interferences; (d) Natural logarithm of measured $^{84}Sr/^{86}Sr_m$ vs. natural logarithm of measured $^{88}Sr/^{86}Sr_m$ (m denotes ratios corrected for amplifier gains, baseline, and interferences), shows a fractionation trend, slightly deviating from the exponential mass bias law.

Fig. S2. Summary of laser ablation MC-ICPMS *Neoma* measurements of Sr isotopic composition of a modern shark enamel with H-type cones, a) $^{87}Sr/^{86}Sr$ vs. $^{84}Sr/^{86}Sr$, b) measured $^{85}Rb/^{86}Sr_m$ vs. $^{87}Sr/^{86}Sr$ c) $^{87}Sr/^{86}Sr$ vs. $^{82}X/^{86}Sr$ Ca dimer/argide monitor, d) $^{84}Sr/^{86}Sr$ vs. $^{82}X/^{86}Sr$, e) $^{87}Sr/^{86}Sr$ vs. Beta fractionation factor, f) natural logs of the measured $^{84}Sr/^{86}Sr_m$ vs. natural log of the measured $^{88}Sr/^{86}Sr_m$ comparing the estimated gradient with the gradient predicted by the exponential mass bias law. Gradient uncertainty is 2SD, m denotes ratios corrected for amplifier gains, baseline, and interferences.