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## Preparation of metallic calcium samples for $^{41}\text{Ca}$ dating

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Calcium is a major element in the biosphere and lithosphere. Its cosmogenic isotope  $^{41}\text{Ca}$ , with a half-life of 99 thousand years<sup>1</sup>, can trace environmental processes at an age scale beyond the reach of  $^{14}\text{C}$ . Here, we achieved the analysis of  $^{41}\text{Ca}$  in environmental samples using ATTA, and a single analysis requires 80mg of metallic calcium. In addition, we have developed a process for preparing metallic calcium samples from different types of environmental samples for the application of  $^{41}\text{Ca}$  dating. The sample types and extraction efficiency are granite (40%), loess (60%), bone (90%), seawater (90%), foraminifera (90%), and coral (90%), respectively.

### Student Submission

Yes

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