

滞在報告



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During our time at the Institute for Chemical Research at Kyoto University, I learned a lot from the sample processing of sinking particles and also the knowledge of isotopic analysis. I am appreciative of Professor Sohrin's aid with my application for the short-term exchange program and helping to arrange everything for our stay in Japan. Our work here was mainly the processing of sedimentary particles for isotopic analysis. We first filtered the sedimentary samples and digested them. Different recipes were tried to make sure that particle samples were fully digested. After measuring the concentration of the targeted elements in the digested samples, the samples were double-spiked with standards and performed with column chromatography with NOBIAS PA1 resin to remove alkali and alkaline earth metals. Since sediment samples contained high concentrations of aluminum and calcium, if they were not properly diluted, metals would co-precipitate in the buffer (pH ~ 4.7) and couldn't be properly removed, causing interference in the signal for Ni isotopic measurements. We did some testing to make sure the dilution factors were suitable for the sedimentary samples according to their metal concentration so that high concentrations of elements like aluminum and calcium were properly removed through the PA1 resin. After confirming the recovery rate and removing metal elements that interfered with the measurement, we used anion exchange resin to purify different metal elements, including zinc, copper, palladium, nickel, and cadmium, for isotopic analysis. Aside from the experiment, I also had a great time experiencing the culture and beautiful attractions there. Thanks to Takano san and Zheng san for taking us to enjoy the Japanese cuisine and city view in Kyoto. For our daily life in doing experiments, I liked the food provided by the cafeteria very much, the meals I had there were delicious and nutrient-balanced at reasonable prices. Everyone we met in the lab was nice and helpful, it was a great time and experience for my stay at the institute.

