

Development of single-step column separation method for Hf and Nd isotopic analyses of geological rock samples

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Previous chemical separation technique of Nd and Hf requires at least two-column separation step. In this study, we tried to set up simple separation method of Hf and Nd using a single column. After sample decomposition, a sample solution was loaded on the column filled with 1 ml Ln-spec resin. After eluting major, La and Ce elements, Nd fraction was collected. Then, eluting Yb, Lu and the other unnecessary HFS elements, Hf fraction was collected. We used MC-ICP-MS (Neptune Plus) for measurement, with desolvating system (Aridus II). Application on silicate standard rocks from USGS and GSJ confirm the effectiveness of our new separation method. Nd and Hf recovery yields were normally >80 %; results of their isotopic composition were well within the recommended values.