

Enriched components in the source of Cenozoic intraplate alkali basalts in southeast China

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The origin of enriched components in the source of the intraplate continental basalts along east China remains a matter of heated debate, despite much work in the past decades. To identify the origin of their enriched components and the contributions of enriched component to these mafic magmas, we explore the relationship between the water contents and the trace elements ratios of Cenozoic alkaline basalts in Zhejiang province, Southeast China. These basalts display a large range of reversely calculated water contents, from 1.3 to 2.6 (wt. %), within the range of BABBs and IABs [1]. Major and trace elements divide the Zhejiang basalts into two groups: weak alkaline rocks and strong alkaline rocks. The relationships between H_2O/Ce , Ba/La and Ba/Th (Fig. 1) of the Zhejiang basalts indicate that a recycled dehydrated oceanic alkaline basalt component is needed in the source of the strong alkaline rocks with a depleted mantle (DMM) component. Meanwhile, both of the recycled dehydrated sediments and oceanic crust components might be enriched components in the source of the weak alkaline rocks (Fig. 1), which are most likely derived from the stagnant Pacific slab in MTZ.

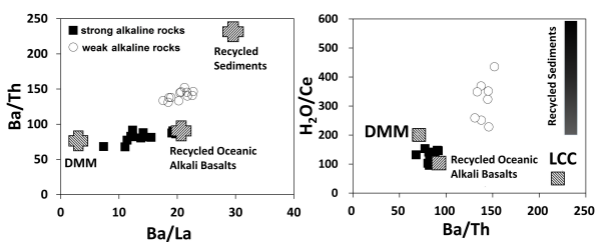


Figure 1. Plots of Ba/Th vs. Ba/La and H_2O/Ce vs. Ba/Th for Zhejiang basalts.

[1] Dixon et al. (2004) *Earth. Planet. Sci. Lett* **222**, 451-467.