

## Basalts from Daisen volcano, Japan: Fractional crystallization versus supercooling of primary magma

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Daisen volcano, southwest Japan, has been thought to be an exclusively dacitic volcano, having a garnet signature. We studied the basalts at the west foot of the volcano and made two unexpected findings. (1) The homogeneity of  $87\text{Sr}/86\text{Sr}$  in Daisen basalts (Sr isotopic variability 0.0003) contrasts with great variations in basalts from nearby monogenetic fields. Moreover the basalts and dacites from Daisen volcano have the same  $87\text{Sr}/86\text{Sr}$  and  $143\text{Nd}/144\text{Nd}$ , indicating that these rocks have a close genetic relationship. (2) Differentiation by fractional crystallization and that by supercooling were discriminated on the basis of olivine morphology and chemical relationships between olivines and host basalts.

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