

Generation and evolution of granitic complex (Iwafune granitic rocks) from the Budo Mountains, Niigata Prefecture, Japan

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The Iwafune granitoids which occur in the Budo Mountains can be divided into three rock series. They are biotite granite series (BGs), two-mica granite series (TMGs) and diorite series (Ds). BGs magma were derived through two stage fractional crystallization of its own magma. These have variable components, different ages and Sr initial ratios within the same body. Garnet bearing rocks of the TMGs were formed by partial melting of pelitic rocks. On the other hand, one of the TMGs magma was derived due to a mixed melt with BGs magma. Ds bodies are included in the BGs body. The Iwafune granitoids formed by different source rocks, partial melting degree and fractional minerals, respectively. Furthermore, the body was formed by episodic magma intrusion into the upper crustal magma chamber.