

# Origin of the Taitao peninsula granitic rocks

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Geochemistry of the granitoids is significant for understanding the crustal growth on the earth. It is still controversial whether the characteristics originate from the distinctive composition of source, differences of P and T condition at the formation, differences of crystallization condition, because the granitoids are quite coarse-grained and highly earttionated. In this study, we present spot analysis of rare earth elements (REE) of relict igneous plagioclase, because the REE pattern of igneous mineral reflects the melt composition, which the minerals were crystallized. Moreover, we estimated the primary magma of Taitao peninsula granites to examine the source, pressure and temperature path, which Taitao peninsula granitoids went through.

To estimate the REE composition of primitive granitic magma, we have to know what the most primitive plagioclase is. XAn of plagioclase seemed to be the most suitable index value to define the order of crystallization.

Taitao peninsula granitoids have flat REE pattern and Eu negative anomaly. We concluded that the magma was made by amphibolite melting. We could valuate a pressure that granitic magma was generated. And it becomes lower than whole rock evaluations. It suggests that Taitao granites are made by partial melting of subducted MORB or continental crust components result from ridge subduction at 3-4.2 Ma.