

Zircon/rock partition coefficients of trace element , P and Ti in granitic rocks

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The 497 zircons from 17 granite samples were analyzed by using LA-ICP-MS. The measured data suggested the trace element composition of zircons in samples is highly variable, even within the same sample. The trace element concentrations in zircons vary in an order of magnitude. The ratios of mean trace element concentrations in zircons versus the content in the host rocks (D) were show in Fig.1. The average of D values for 17 samples are P 1.21, Ti 0.008, La 0.012, Ce 0.482, Pr 0.043, Nd 0.126, Sm 1.15, Eu 1.77, Gd 7.01, Tb 17.27, Dy 37.7, Ho 75.49, Er 126, Tm 178, Yb 254, Lu 348, Y 78, Nb 0.403, Ta 1.48, Hf 2136, Th 14.8 and U 145.

The D values in this study are lower than the obtained by L.V.S. Nardi^[1], especially for LREE. The higher D values obtained by L.V.S. Nardi may be caused by apatite inclusion in zircon suggested by higher LREE with nearly no Ce positive anomaly and Eu negative anomaly in chondrite normalized REE patterns.

The D_{Nb} values of 0.12~0.87 and D_{Ta} values of 0.37~4.65 in this study are comparable with our experimental partition coefficients of 0.07~0.32 and 0.25~0.64(unpublished).

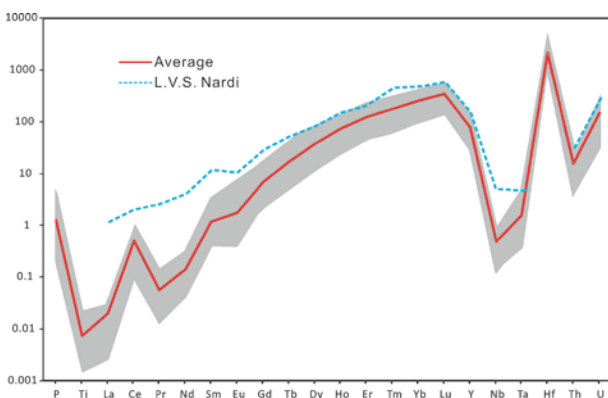


Fig.1. The red line illustrates the mean zircon/rock partition coefficients (D) obtained in this study. Comparative values are represented by blue dashed line (Nardi et al. 2013). The grey area show the distribution of D values of 17 samples.

[1] L.V.S. Nardi, M.L.L. Formoso, I.F. Müller et al. (2013) *Chemical Geology* 335, 1–7