Origin of maruyamaite from the new locality within the Kokchetav massif

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Maruyamaite is a K-bearing dravite with a maximum recorded K_2O content of 2.7 wt % (Shimizu & Ogasawara, 2005). So far, the findings of this unusual tourmaline were restricted only to one locality – Kumdy-Kol microdiamond deposit (Kokchetav Massif) –, where it was first described in a tourmaline-quartz-K-feldspar rock (Shimizu & Ogasawara, 2005). The B-isotopic composition of the tourmaline K-rich cores (with and without diamond inclusions) is quite similar for the tourmalines from the Kumdy-Kol unit ($\delta^{11}B$ +7‰; Marschall *et al.*, 2009). However, this B-isotopic composition is not typical for tourmaline from other UHPM localities (Marschall *et al.*, 2009). Recently, Musiyachenko *et al.* (2021) reported findings of maruyamaite at the Barchi-Kol site, located 17 km west of the Kumdy-Kol deposit. This is the second described locality for the maruyamaite in the world. Here, we present a B-isotopic study of the Barchi-Kol K-tourmaline. We also provide estimates of the fluid regime and the P–T conditions of the formation of mineral paragenesis associated with maruyamaite.

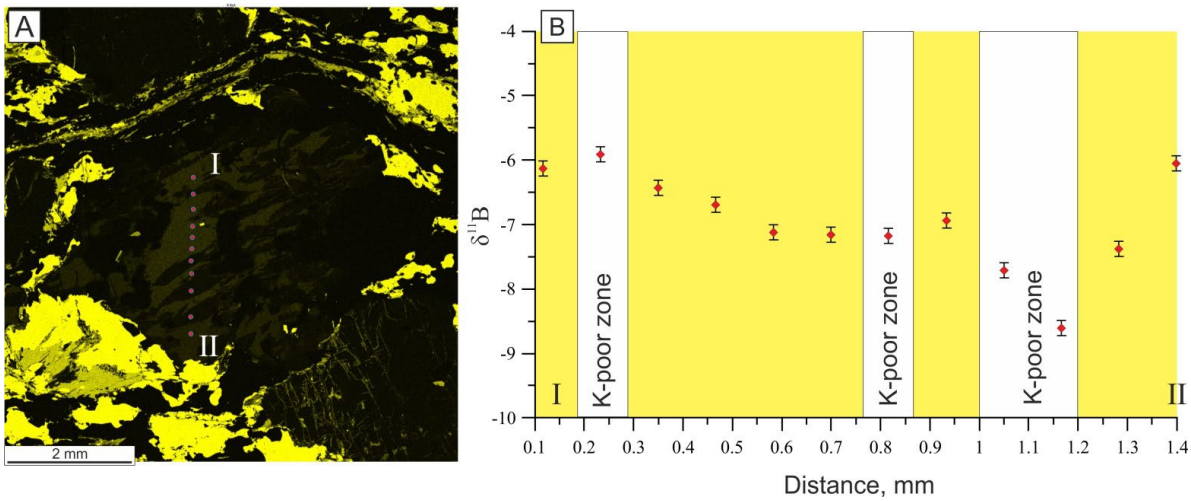

Figure 1- SEM image of K-distribution within the maruyamaite crystal from the Barchi-Kol locality (a) and B-isotopic profile across this crystal.

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Shimizu, R., Ogasawara, Y., 2005. K-Tourmaline in diamond-bearing rock from Kokchetav. *Mitteilungen der Österreichischen Mineralogischen Gesellschaft* 150.