

U–Pb ISOTOPE GEOCHRONOLOGY AND GEOCHEMICAL CHARACTERISTICS OF THE ROCKS FROM VOLTUŠ AREA IN THE ROŽMITÁL BLOCK, CZECH REPUBLIC

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The studied area of the Rožmitál Block, which includes Holý Vrch, Trepanda, Třemešný Vrch and Voltuš is built by sedimentary (conglomerate, quartzite, sandstone, sandy shale and graywacke), volcanoclastic (mainly rhyolitic tuffs) and igneous sequences of Late Proterozoic and Early Palaeozoic age. The sedimentary, volcanoclastic and igneous rocks were deformed, metamorphosed and recrystallized. The intrusive rocks are plutonic to subvolcanic granitoid porphyries, which can be classified as rhyodacite, dacite and granodiorite. The primary (igneous) mineral paragenesis comprises quartz, plagioclase, K-feldspar, biotite and hornblende. The secondary paragenesis is represented by chlorite, muscovite, epidote (clinozoisite), actinolite and rarely tourmaline. The accessory minerals are apatite, zircon, monazite, titanite, magnetite and rarely allanite. The porphyries were also affected by hydrothermal alteration processes.

Granitoid rocks of the Voltuš area are felsic and peraluminous in character, with high SiO₂, Ba, Sr, low TiO₂, MnO, MgO and CaO contents and with K₂O prevailing over Na₂O. The rocks show strong enrichment in incompatible elements (Zr, Th and LREE) coupled with high Zr/Nb, La/Nb and low Nb/Y ratios. The chondrite-normalized REE patterns for these rocks suggest that they have an alkaline affinity. These granitoids have high LREE concentrations ($(La_N = 200)$), are strongly enriched in LREE relative to the HREE ($(La/Yb)_N = 18$), and show negative Eu anomalies. The mineralogical and geochemical compositions of these rocks correspond to typical I-type calc-alkaline granitoids.

Preliminary U–Pb dating of zircons from the Voltuš granitoid rocks suggests a Variscan age between ca. 345 and 370 Ma, i.e., similar to those previously reported from the Central Bohemian Pluton and the adjacent orthogneiss bodies (Košler et al., 1993; Dörr et al., 1996; Holub et al., 1996).

There are many similar petrological and geochemical features between granitoid rocks in the Central Bohemian Pluton (especially the Blatná suite) and the granitoids of the Voltuš area and the Petrůvka Hora deposit. It seems likely that the studied granitoids represent an apophysis of the Central Bohemian Pluton.