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北大别山商城汤家坪富钼花岗岩体地球化学特征及构造环境 [点此下载全文](#)

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摘要:

本文详细论述了汤家坪富钼花岗岩体的地球化学特征, 利用图解判别了其形成的构造环境, 并初步探讨其成因机制。研究认为汤家坪花岗岩化学成分具超酸(SiO_2 72.94%~77.9%)、富碱($\text{K}_2\text{O}+\text{Na}_2\text{O}$ 为7.06%~9.66%), 贫钠富钾($\text{K}_2\text{O}/\text{Na}_2\text{O}$ 为1.21~2.12)等特点, 属超酸性铝不饱和高钾钙碱性系列岩浆岩, 轻稀土明显富集, 重稀土亏损, (La/Yb) N 在18.12~23.52之间, 具较平坦的HREE配分模式, 铕异常系数(δEu) 0.46~0.59, 铕异常中等。汤家坪花岗岩体形成于华北地块和扬子地块陆—陆主碰撞期后, 区域伸展机制下的后碰撞构造环境。通过对岩体中角闪安山岩包体的研究表明, 花岗岩的形成与加厚下地壳拆沉作用密切相关, 拆沉作用引起下地壳不同深度位置的岩石同时发生部分熔融, 后侵位的角闪安山岩浆与早期花岗岩浆在通道内发生混合作用。软流圈减压熔融流体系统提供了岩浆侵位动力和成矿物质来源。

关键词: [花岗岩岩](#) [地球化学特征](#) [构造环境](#) [汤家坪钼矿](#) [大别山](#) [河南](#)

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Abstract:

Geochemical Characteristics of the Tangjiaping Mo rich granodiorite porphyry is discussed in this paper. And the forming tectonic setting as well as the genetic mechanism of the porphyry is discriminated with diagrams. It is concluded that the chemical compositions of the Tangjiaping granite porphyry are of characteristics of superacid (SiO_2 72.94%~77.9%), alkali rich ($\text{K}_2\text{O} + \text{Na}_2\text{O}$ 7.06%~9.66%), K rich and Na depleted ($\text{K}_2\text{O}/\text{Na}_2\text{O}$ 1.21-2.12), with LREE enriched, HREE depleted, and (La/Yb) N in between 18.12 and 23.52, a relatively flat HREE distribution patterns, coefficient of Eu anomaly (δEu) 0.46-0.59, and a medium negative Eu anomaly. So, the porphyry belongs to superacid, aluminum unsaturated, high K, calc alkaline series of magmatic rocks. The Tangjiaping granodiorite porphyry was formed after the major collisional period of the North China block and Yangtze block, that is, the post collisional tectonic setting under the regional extension mechanism. The study of amphibolite andesite enclave shows that the formation of granite porphyry is closely correlated with delamination of the thickening lower crust, and the delamination effect led to partial melting of rocks at different depths in the lower crust simultaneously, post emplaced hornblende andesite mixed with the early granitic magma in channel. The decompression melting fluid system of asthenosphere provides the driving force for magma emplacement and metallogenic material.

Keywords: [granodiorite porphyry](#) [geochemistry](#) [tectonic setting](#) [Tangjiaping Mo deposit](#) [Dabie mountain](#) [Henan](#)

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