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藏北羌塘盆地菊花山地区火山岩SHRIMP锆石U Pb年龄及地球化学特征 点此下载全文

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摘要：

在详细的地质调查和岩石学研究的基础上，对北羌塘盆地菊花山地区不整合于上三叠统肖茶卡组之上的那底岗日组火山岩进行了精确的SHRIMP锆石U Pb定年研究。英安质凝灰岩的锆石U Pb年龄为225 1±1 4 Ma，这一年龄数据代表了菊花山地区晚三叠世火山沉积事件的时代。北羌塘盆地菊花山地区那底岗日组火山岩主要为英安质、安山质凝灰岩夹安山岩的组合。烧失量低的5件样品SiO 2含量较高，介于60 30%~67 14%， A/CNK介于0 88~1 31，属偏铝质—过铝质岩石，安山岩Mg #为20 85，凝灰岩具有更高的Mg #，介于38 94~56 98，所有样品均具有低的TiO 2，介于0 38%~0 90%；样品的稀土元素总量较高，∑REE=97 24×10 -6 ~181 89×10 -6 ，轻重稀土分馏明显，（La/Yb） N=7 64~16 24，具弱的Eu负异常，其δEu=0 66~0 98；安山岩与凝灰岩具有非常相似的微量元素蛛网图，表现为Rb、Ba、Th、K等大离子亲石元素（LILE）明显富集，而其他元素如Sr、P、Ti等明显亏损，虽然不相容微量元素总体上呈现出不同程度的富集，但Nb—Ta相对La和Th明显亏损；菊花山地区那底岗日组火山岩具有与中上地壳相似的高场强元素型式，暗示这些火山岩的来源可能与中—上地壳有关。〖KH 2〗〖HTH〗

关键词：锆石U Pb 年龄 地球化学特征 上三叠统那底岗日组 羌塘盆地菊花山地区

U Pb Zircon Age and Geochemical Characteristics of Volcanic Rocks from the Juhua Mountain Area in the northern Qiangtang Basin, northern Xizang (Tibet) Download Fulltext

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Abstract:

The Upper Triassic Nadi Kangri Formation, which delineates an E—W zoned array within the northern Qaingtang basin, northern Xizang (Tibet), is mainly composed of felsic tuff and pyroclastic rocks, andesite and rhyolite with basalt. In this study, a representative dacitic tuff sample collected from the volcanic rocks at the base of the sedimentary—volcaniclastic rocks above the unconformity in the Juhua Mountain area is selected to be analysized for the SHRIMP zircon U Pb dating, and geochemical characteristics and petrogenesis have been also studied in this paper. The dacitic tuff gives a SHRIMP zircon U Pb age of 216±4.5 Ma, which represents the age of the Late Triassic volcanic—sedimentary events in the Juhua Mountain area. The Nadi Kangri Formation volcanic rocks (without higher ignition loss samples)in the Juhua Mountain area of northern Qiangtang Basin, northern Xizang (Tibet), are characterized by higher contents of SiO 2 ranging from 60.30% to 67.14%, and higher A/CNK (0.88～1.31), and lower Mg # (ranging from120.85 to 56.98 with an average of 42.13). High REE contents and marked fractionation between LREE and HREE, with weak negative Eu anomalies, were observed in all the samples. Rb, Ba, Th, K, and other large ion lithophile elements (LILE) was significantly enriched, Sr, P and Ti were depleted obviously, compared with La and Th, Nb—Ta were relatively depleted, and the high field strength elements and REE patterns of the Nadi Kangri Formation volcanic rocks are similar to those of the middle and upper crust, implying a probable source of these volcanic rocks with the middle and upper crust.

Keywords:U Pb zircon age geochemical characteristics Upper Triassic Nadi Kangri Formation Juhua Mountain area in the Qiangtang basin

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