Rock Series, Genetic Types and Tectonic Environments of Granitoids in the Western Kunlun Orogenic Belt,China

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The western Kunlun orogenic belt, where the granitoids are widespread but in lower degree of study before our work with the former workers only reported calc-alkaline series and I-type, is situated on the western Qinghai-Xizang plateau. The granitoids have been systematically studied in this paper. The results indicate that there are 6 intrusive cycles (late Proterozoic, Caledonian, Hercynian, Indosinian, Yanshanian, Himalayan) and 9 intrusive periods (late period of late Proterozoic, early, middle and late Caledonian, late Hercynian, late Indosinian, early and late Yanshanian, Himalayan). The granitoids belong to 5 rock series: low-K tholeiitic, calc-alkaline, high-K calc-alkaline, shoshonitic and alkaline. The genetic types of granitoids exist M-,I-,S-,A-and SH-type in which SH-type ,put forwards by the authors in this paper, is a new genetic type corresponding to shoshonitic series. The granitoids generated in the ocean ridge, volcanic arc, syn-collision, post-collision uplift and late orogenic environment. The first three granitoids recorded the processes of ocean basin forming•ocean crust subduction•continent collision and the later two granitoids gave expression to the depth mechanism of lithospheric evolution in post-collision.