

Supplement to „Peralkalinity in peraluminous granitic pegmatites. II. Evidence from experiments on carbonate formation in spodumene-bearing assemblages“ by Yongchao Liu, Christian Schmidt, and Jiankang Li

In December 2021, one of the coauthors (C.S.) became aware of a feature in a specimen from a recently discovered pocket in a pegmatite at Paprok, Afghanistan, which is of interest in the context of this experimental study.



It is an intergrowth of spodumene, tourmaline and quartz crystals. Based on the Raman spectrum in the O–H stretching region, the tourmaline is likely elbaite–rossmanite. Spodumene occurs in two generations, a kunzite crystal (67 mm) with “etched” terminations, and a second generation of small euhedral lustrous crystals observed on tourmaline using a binocular. Quartz has crystallized later than tourmaline and kunzite. The faces of the quartz crystal are frosted. There is no obvious indication that the specimen was manufactured or manipulated other than gentle cleaning.



There is a gap between a termination of the kunzite crystal and quartz. The origin of the gap can be interpreted to have occurred in a late stage of the pegmatite evolution, when the kunzite crystal started to dissolve preferentially at its terminations, and the quartz crystal dissolved slightly. The existence of the gap indicates that the shape of the kunzite crystal is not due to rapid growth.