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## 19234 | Mineralogy and fluid inclusion studies in quartz from the Li-rich pegmatite veins from Segura

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### **Abstract**

The study focused on samples from Li-rich aplite-pegmatitic veins hosted by metamorphic rocks of the Schist-Greywacke Complex that outcrop near the Segura granitic massif.

The studied samples show an aplitic texture predominantly constituted by albite in which the albitization of k-feldspars is present. The presence of phosphates such as apatite, fluorapatite, amblygonite-montebrazite with the intergrowth of iacroyite, aluminium and iron-manganese phosphates, minerals of the souzalite-gormanite series, columbo-tantalite, topaz, tourmaline and lepidolite were observed.

Fluid inclusions were studied in quartz from the samples in order to estimate the composition of the fluids involved in the formation of these veins. Three types of quartz were found in the studied veins: large and very fractured quartz, mosaic quartz with subgranulation and xenomorphic quartz with recrystallization. Petrographic, microthermometric and micro-Raman spectrometry characteristics of fluid inclusions in these quartz reveal the presence of an early aqueous carbonic H<sub>2</sub>O-CO<sub>2</sub>-(CH<sub>4</sub>-N<sub>2</sub>-NaCl) fluid. This fluid has been modified in a reducing context, by the interaction with the C-rich metasedimentary host rock, resulting in its enrichment in CH<sub>4</sub> and N<sub>2</sub>. The significance of the trapped fluids is, at present, difficult to establish since fluid inclusions can correspond to relatively late events of fluid trapping.

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