

## **Rusinovite – a typical product of cross bimetasomatism in processes of carbonate xenoliths alteration in volcanites**

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Rusinovite,  $\text{Ca}_{10}(\text{Si}_2\text{O}_7)_3\text{Cl}_2$ , rare chlorodisilicate was recently discovered at the endocontact zone of carbonate xenoliths, altered in sanidinite facies conditions, within ignimbrites of the Upper Chegem Caldera [1]. We proposed, that rusinovite origin is connected with cross bimetasomatism affected by fluid enriched in Ca coming from carbonate xenolith and volcanic gases/fluids enriched in Cl penetrated the contact zone of xenolith. Verification of this hypothesis is based on detail study of xenoliths in volcanic rocks from different localities, what led to detect of abundant aggregates of rusinovite in the contact zones of xenoliths in the central part of the Bellerberg volcano, Germany and northern-west part of the Shadil-Khokh volcano, Southern Ossetia. Rusinovite from the both localities has stoichiometric composition, forms coronites on quartz porphyroblasts and pseudomorphs after rankinite and wollastonite as well as fine veins at the endocontact zones, where Ca:Si ratio in silicates is  $\ll 2$ . At the exocontact zones (Ca:Si  $\geq 2$ ) Cl-bearing minerals: rondorfite and wadalite, as well as larnite, bredigite, monticellite, merwinite, ellestadite, spurrite - minerals typical for sanidinite facies occur. Rusinovite forms at temperature higher than 800°C [1]. Raman spectra of rusinovite from Germany and Ossetia are analogous to the Raman spectrum from Balkaria.

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[1] Galuskin et al. (2011) Eur. J. Mineral. **23**, 837 – 844.