

Progression of rodingitisation in the Veria-Naousa ophiolitic complex (Greece) seen by non-traditional stable isotopes

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Rodingites are products of a Ca-rich metasomatism called rodingitisation, which is genetically linked to serpentinisation [2]. The precursor of a rodingite can be any type of rock, which are modified by metasomatic super-alkaline fluids containing significant amounts of Ca²⁺-ions, which are typically released during serpentinization [4]. Rodingites can be found as dikes, inclusions, boudins in serpentinites or as alteration zone between serpentinite and country rocks [2] and provide information on the secondary metasomatic processes, such as P,T, composition of the metasomatic fluid and environment.

Rodingites from the Veria-Naousa ophiolite were divided into 3 groups, based on their different protoliths, such as ultramafic rocks, gabbros and diabases. They present different degrees of rodingitisation, based on textural, geochemical and mineralogical indications. We will couple the different stages of rodingitisation with non-traditional stable isotopes, such as Cu, Fe and Zn, as tracers. We aim at explaining the conditions and the environment in which the metasomatic event took place. Cu, Fe and Zn stable isotopes are powerful tools, as they are fractionated not only in low-temperature igneous environment, where metasomatism can act, but also in high hydrothermal and magmatic temperature [1,3].

[1]Larson, P.B et al. (2003). *Chemical Geology* 201,337-350.

[2] Li., X. P. et al. (2007). *Acta Petrologica Sinica*, 24(4), 711–717. [3] Liu, S.A et al. (2014). *J.Anal. At. Spectrom*, 29,122. [4] Tsikouras, B. et al. (2013). *Lithos*, 175-176, 16–29.