SUPERFAST HYDROLYSIS OF NATURAL Na, Ti, Zr SILICATES A.P.Khomyakov

Institute of Mineralogy, Geochemistry, and Crystal Chemistry of Rare Elements, Moscow

Herald DGGGMS RAS № 5 (15)'2000 v.2

URL: http://www.scgis.ru/russian/cp1251/h dgggms/5-2000/hydroterm33.eng

Experimental evidence is presented for the ability of some hypersodic Ti, Zr silicates, which are indicators of maximally alkaline conditions of mineral formation in magmatic processes, to be spontaneously replaced by their low-alkaline hydrated analogues under atmospheric conditions. A special genetic group of transformation mineral species is distinguished; these minerals can only form by pseudomorphic alteration of hyperalkaline protophases, inheriting from the latter the main compositional and structural features. The unambiguous correspondence between the minerals in the evolutionary sequences of this type opens up great opportunities in solving various problems, in particular in reconstructing the primary mineral composition of rocks and ores from secondary products.