

Synthesis and research of bioresorbability of silicon-substituted hydroxyapatite

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Abstract

By precipitation from a model solution of extracellular fluid samples we have synthesized hydroxyapatite and silicon-substituted hydroxyapatite. X-ray and IR spectroscopy analyses have been used to identify the structure and phase composition of the compounds obtained. It is established that during the deposition of the solid phase, a partial substitution of the phosphate ions took place in the hydroxyapatite structure of silicate ions. Studied bioresorbable calcium phosphate was modified in various environments: hydrochloric acid, isotonic solution. It has been found that with the increase of the proportion of silicate ions in the apatite structure, bioresorbability of silicon increases.