

LOW-TEMPERATURE SYNTHESIS OF CARBONATED HYDROXYAPATITE

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Bone tissue maintains its healthy condition by constantly regenerating the affected areas, but in case of more serious lesions, the body needs help - transplantology or implantology. Calcium phosphate (CaP) based bioceramic materials have received great interest since they are widely applied for the replacement of diseased or damaged mammalian hard tissues. The inorganic part of the bone tissue consists mainly of carbonated hydroxyapatite and magnesium whitlockite (WH, $\text{Ca}_{18}\text{Mg}_2(\text{HPO}_4)_2(\text{PO}_4)_{12}$).

The main task of this work was to develop simple and low-temperature synthesis of carbonated hydroxyapatite powder. Morphological characteristics and composition of the synthesized materials were investigated by powder X-ray diffraction (XRD) analysis, Fourier transform infrared (FT-IR) spectroscopy and scanning electron microscopy (SEM).

References:

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