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Fabrication and Nanostructure study of Hydroxyapatite Bioceramic from Cockle shells

Hydroxyapatite (HA) powder was prepared from cockle shells by co-precipitated with phosphate solution at Ca/P ratio 1.67. Green bodies were formed to disk shape (0.5 cm high x1.5 cm diameter) by dry pressing method with hydraulic machine, sintered at temperature of 1200, 1250 and 1300 °C for 2 h in electric furnace and sintering process was carried out by setting a heating ramp rate of 120 °C/h up to 1200, 1250 and 1300 °C with a soaking time 2 h and cooled down to room temperature with ramp rate 240 °C/h. Mineralogical and chemical properties of the fabricated HA from cockle shells were analyzed by X-ray Diffraction (XRD), X-ray fluorescence (XRF) and fourier transform infrared spectroscopy (FTIR). Nanostructures of samples were studied by scanning electron microscopy (SEM).

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