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Effects of Sintering Temperature on Physical Properties of Chitosan/Hydroxyapatite Composite

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The chitosan/hydroxyapatite composite were prepared from hydroxyapatite synthesized from chicken eggshell and chitosan of shrimp. The composite was added chitosan with different concentration from 1 to 15 g and sintered at various temperature from 200 to 1200c with an increment 100c. The crystal structure, function group, morphology and thermal behavior of composite was investigated by X-ray diffraction (XRD), Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy (SEM) and thermogravimetric analyses (TGA), respectively. The results showed that the crystalline of composite was increased with increasing temperature. The porous of composite was appeared after sintered at 300c due to decomposed of chitosan. The number and size of pore was depended on amount of chitosan. The results of this research indicated that the sintering temperature could be produced porous on chitosan/hydroxyapatite composite.

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