

Rapid synthesis of thermally stable hydroxyapatite

Abstract

We have optimized the wet precipitation synthesis of hydroxyapatite to obtain thermally stable powder in the short time span of 3 min. Exposure of the reaction mixture to 1000 W microwave for 3 min furnished hydroxyapatite, which was thermally stable at temperatures up to 1200 °C. Powders were analyzed for phase purity using X-ray crystallography; chemical composition was studied using Fourier transform infrared spectroscopy while particle morphology was analyzed using scanning electron microscopy.