

عنوان مقاله:

Spectroscopic and microscopic methods for characterization of incorporated gelatin in zinc phosphate/gelatin bionanocomposites

محل انتشار:

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خلاصه مقاله:

Gelatine is a biocompatible material which is recently considered for synthesis of various inorganic/organic bionanocomposites. Here, we present a gel-based approach for the synthesis of zinc phosphate (ZP) crystals using single diffusion technique in gelatin. The composite crystals were analyzed using Fourier transform infrared spectroscopy (FTIR), scanning electron microscopy (SEM) and X-ray diffraction (XRD). FTIR spectra showed surface adsorption of gelatin molecules by using ZP stacked sheets due to CH₂ stretching, CH₂ bending and amide I vibrations. This can be due to strong interactions between gelatin and ZP. SEM illustrated bundled nano-flakes of gelatine/ZP composites. This study conformed incorporation of gelatin as a high molecular weight biomacromolecule in ZP nano-sheets. Such a composite may open up a new future option for antimicrobial composites to be used for tissue engineering applications

کلمات کلیدی:

Zinc Phosphate , Gelatin , FTIR , SEM

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