

عنوان مقاله:

Morphological study of Magnetic Fibrous PLGA Biocomposites Produced by Electrospinning

محل انتشار:

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خلاصه مقاله:

In this study, super paramagnetic nanoparticles (NPs) of oleic acid (OA) coated magnetite (Fe_3O_4) first synthesized using co-precipitation method under an alkaline condition in the presence of oleic acid as a capping agent. In the next step mixtures of poly lactic-co-glycolic acid (PLGA) solutions and different weight ratio of oleic acid capped magnetite NPs were prepared. Then, an electrospinning apparatus was applied to prepare magnetite loaded PLGA nanofibers to form magnetic biocomposites after solvent evaporation. Moreover, by using transmission electron microscopy (TEM) images, the mean size of synthesized nanoparticles calculated about 11 nm. Based on scanning electron microscopy (SEM) and EDAX tests results, produced magnetic biocomposite mats revealed smooth, uniform and continuous morphology with the Fe_3O_4 NPs loaded in the fibrous biocomposites. Moreover, the diameter of produced magnetite loaded mates increased by increase of feed flow rate of primary compound

کلمات کلیدی:

Fibrous biocomposite, PLGA, magnetite, electrospinning, size, morphology

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