

عنوان مقاله:

Preparation of Hydroxyapatite/gentamicin nanostructure via in situ hybridization method and its SBF study

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

تعداد صفحات اصل مقاله: 8

نویسندگان:

m.r nikpour - *Nanotechnology Research Institute, Babol University of Technology, Babol, Iran Department of Chemical Engineering, Babol University of Technology, Babol, Iran*

m jahanshahi - *Nanotechnology Research Institute, Babol University of Technology, Babol, Iran Department of Chemical Engineering, Babol University of Technology, Babol, Iran*

s.m rabiee - *Nanotechnology Research Institute, Babol University of Technology, Babol, Iran Department of Mechanical Engineering, Babol University of Technology, Babol, Iran*

a.r najafi - *Nanotechnology Research Institute, Babol University of Technology, Babol, Iran Department of Chemical Engineering, Babol University of Technology, Babol, Iran*

خلاصه مقاله:

Hydroxyapatite (HAp) using simulated body fluid (SBF) is attractive for vast applications such as improved fixation, complex-shaped orthopedic and dental implants, tissue engineering scaffolds, Localized and sustained drug delivery. Due to the complication and lack of knowledge in application and treatment with drug by biomaterial, these fields of science are very important and have enormous eager. Here pure hydroxyapatite (HAp) and HAp containing variety of gentamicin were synthesized. Afterward, crystal nanostructure and phase present were investigated by X-ray diffraction and FTIR spectrum. The atomic force and scanning electron microscopies (AFM and SEM) were used for morphology study and surface roughness of the products. AFM results demonstrated that the size distribution of the pure HAp and HAp that contained with 100 mg gentamicin were between 2 to 53.5 and 0-50.8 nm, respectively while the most particles size is presented around 25 nm. Moreover, composites samples release rates in SBF, at the same condition of PH and temperature has been studied from 1 to 21 days. The release rate test indicated an increase in initial release step during the first 15 days were as, this rate would be decreased until the 21st days

کلمات کلیدی:

Hydroxyapatite , Gentamycine, bioactivity, Drug delivery, simulated body fluid, release rate, in situ hybridization

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/341185>



