



Fabrication of Magnesium Fluoridated Hydroxyapatite Nanoparticle-Polycaprolactone Nanocomposite Via Electrospinning

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The electrospinning technique provides non-wovens to the order of few nanometers with large surface areas, ease of functionalisation for various purposes and superior mechanical properties. Also, the possibility of large scale productions combined with the simplicity of the process makes this technique very attractive for many different applications. It is hypothesized that magnesium fluoridated hydroxyapatite nanoparticle - poly (ϵ -caprolactone) (PCL) nanocomposite tissue scaffolds can be made more bioactive by using magnesium fluoridated hydroxyapatite nanoparticle. Also increasing content of magnesium in structure changes degradation rate. The overall objective of this study is to fabricate and characterize electrospun magnesium fluoridated hydroxyapatite nanoparticle - poly (ϵ -caprolactone) (PCL) nanocomposite scaffold as substrates for bone XE “tissue engineering” \f “subject”. To accomplish this, magnesium fluoridated hydroxyapatite nanoparticle were synthesized by mechanical milling. Then the nanocomposite was electrospun and Characterized by SEM, XRD, TEM and Mechanical testing.