

Synthesis and characterization of biocompatible PEG/PCL multiblock copolymers and it's applications in biomedical field

유재호*, Piao Longhai

연세대학교

(yjhy440@hanmail.net*)

Various molecular weight and composition of PCL/PEG multiblock copolymers were prepared by the coupling reaction of PCL-PEG-PCL triblock copolymers which have various composition using hexamethylene diisocyanate (HDI) as a chain extension reagent. PCL-PEG-PCL triblock copolymers were synthesized by ring-opening polymerization of ϵ -caprolactone (CL) in the presence of poly(ethylene glycol) using stannous octoate as catalyst. The multiblock copolymer composition and structure were confirmed by ^1H NMR, ^{13}C NMR and GPC measurements. Furthermore, the crystallization, surface properties and mechanical properties of multiblock copolymers were investigated by DSC, X-ray diffraction analyses, surface tension technique and UTM. These studies contribute to advanced biomedical potential.