

Conductivity of electrospun nanofibers using PEDOT/PSS : Preparation and Characterization

의광훈, 허완수*, 양주희, 권태민, 황홍구, 이상원
숭실대학교
(wshuh@ssu.ac.kr*)

Electrospinning has been known to be an efficient technique for the fabrication of polymer nanofibers. Electrospun nanofibers have been used in the field of industrial applications such as filters, sensors, and wound dressings. In this study, we have prepared the fabrication of nanofiber which is made of conducting polymer and carbon nanotube.

The electro-conductive nanofibers were prepared from Poly(3,4-ethylene dioxythiophene)/Poly(styrene sulfonate) using Polyvinylpyrrolidone (PVP) as a carrier. The electro-conductivity of PEDOT/PSS nanofibers showed higher level electrical conductivity c.a. 0.03 s/cm, and the average diameters of the nanofibers were c.a. 300 nm. Also modified multi-walled carbon nanotubes (mMWNTs) were employed to improve electro-conductivity as a co-conducting material up to 5wt.%. It was found that the electro-conductivity showed higher level of conductivity as increasing mMWNT contents.