

# Conductivity Enhancement of Transparent Conductive PEDOT:PSS Modified by Alcohol/Silver Nanoparticle Hybrid Solution

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## Abstract

The properties of commercial conducting polymer poly(3,4-ethylenedioxythiophene):polystyrenesulfonate(PEDOT:PSS) has been improved by combining Polyalcohol conductance-enhancement and Ag nanoparticle modification. The modifier solution of Ag nanoparticle was prepared by polyalcohol process, which resulted in a 50-60nm range in diameter. Spin coated PEDOT:PSS film was then modified and doped by the modifier above with both surface process and pre-blending process respectively. The hybrid film in this research was further characterized by Scanning Electron Microscopy (SEM), UV-Visible spectrum, 4-point probe, and X-ray Diffraction Pattern (XRD). The electronic resistance was decreased to 467.8 ohm from 662 ohm of untreated sample and they retained good transparency as well.

Keywords: PEDOT:PSS; organic-inorganic hybrid; Ag nanoparticle

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