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Highly Conductive Flexible Transparent Electrode Using Silver Nanowires & Conducting Polymer

Dong-Min Seo, Sang-Ho Kim*

Department of Chemistry, College of Natural Sciences, Kongju National University, Kongju, 314-701, Republic of Korea

As displays become larger and solar cells become cheaper, there is an increasing need for low-cost transparent electrodes. Intensive effort has been made to replace ITO (Indium Tin Oxide) based transparent electrode with cheap and flexible ones. Among those, silver nanowires have got limelight because of its great conductivity and flexibility. Even though the electric property of the Ag nanowire based transparent electrode surpassed ITO, the optical property needs to be improved (lower transmittance, higher haze). Here, we reported transparent electrode based on Ag nanowires and conducting polymer to improve optical properties. The Ag nanowires are coated onto PET films and the resulting transparent electrode film shows 200 ohm/□ resistance and > 90% optical transmittance.

Keywords: Transparent electrode, Silver nanowires, Conducting polymer