

Hybrid Silver Nanowire and Graphene Oxide-Based Transparent and Flexible Electrode

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So far, indium tin oxide (ITO) has been used as a transparent conductive electrode (TCE) in optoelectronics, because of its high optical transparency and excellent electrical conductivity. However, high production costs, depletion of resource, and poor chemical and mechanical stability of ITO electrodes require the development of new TCE. Alternatively, silver nanowire (AgNW) and graphene-based materials have been studied as potential candidates for TCEs. These materials not only show high optical transparency and low sheet resistance, but also greatly improve flexibility compared to ITO electrode. In this work, a hybrid material of graphene oxide (modified with silver nanoparticles) and AgNW was prepared. We investigated various electrode properties of TCE fabricated.