

Synthesis of Silver Nanowire and Application to Fabrication of Touch Screen Panel

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The indium tin oxide(ITO) on polyethylene terephthalate(PET) film is widely used as transparent conducting electrode in the fabrication of touch screen panel(TSP). However the ITO film has some limitation to make large size TSPs over 20 inches due to the high surface resistance of ITO electrode.

In this work, we investigated the synthetic parameters of silver nanowire(AgNW) utilizing sodium dodecyl sulfate as phase transfer catalyst and also discussed the easy separation method of AgNW after reaction in ethylene glycol medium.

The recovered AgNW were used to make ink in the ethanol solvent, sprayed and dried on the PET film. The conductivity vs. transmittance relationship of AgNW-PET film was studied and then TSPs were fabricated. The importance of ultra-thin binder polymer coating on the rolling test of AgNW-PET film will also be discussed.

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