

Solution-processed Synthesis of ZnO Nanowires for Printed TFTs

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We developed a solution process for growing ZnO nanowires zinc acetate. The growth ZnO nanowires were characterized by X-ray diffraction (XRD), scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS). The resulting ZnO nanowires were formulated into ink for ink-jet printer and use to print active layer on printed TFTs. A mobility, an on/off ratio, a transconductance and a subthreshold swing of all printed ZnO nanowire-TFTs will be presented. The developed process would provide a pathway for fabrication of high performance printed TFTs with large-area solution processible printing methods with a low cost.