

## Low Temperature Growth of ZnO Nanorod Arrays on Ag-coated Si Substrate by Solution process and Optimization of Glucose Oxidase (GOx) Immobilization for Glucose Bio-sensors

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ZnO nanorods arrays were grown on silver coated silicon substrate via simple and facile solution process at low temperature. The crystallinity and morphological investigation of as-grown ZnO nanorods were done by X-ray diffraction (XRD), Field Emission scanning electron microscope (FESEM) and transmission electron microscopy (TEM). The as-grown ZnO nanorods were further functionalized with glucose oxidase by adsorption method. The optimization of Glucose Oxidase (GOx) immobilization on the surface of ZnO nanorods were conducted by varying concentration of enzyme through electrostatic interaction (adsorption method). We investigated that immobilization of Glucose Oxidase (GOx) enzyme is strongly dependent on the concentration of enzyme. To confirm enzyme immobilization on ZnO nanorods, various analytical tools were implied with reference to before and after functionalization.