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Fabrication of ZnO Nanorods Based Biosensor via Hydrothermal Method

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Abstract : Biosensors are playing vital role in industrial, clinical, and chemical analysis applications. Among other techniques, ZnO based biosensor is an easy approach due to its exceptional chemical and electrical properties. ZnO nanorods have positively charged isoelectric point which helps immobilize the negative charge glucose oxides (GOx). Here, we report ZnO nanorods based biosensors for the immobilization of GOx. The ZnO nanorods were grown by hydrothermal method on indium tin oxide substrate (ITO). The fabrication of biosensors was carried through batch processing using conventional photolithography. The buffer solutions of GOx were prepared in phosphate with a pH value of around 7.3. The biosensors effectively immobilized the GOx and result was analyzed by calculation of voltage and current on nanostructures.

Keywords : hydrothermal growth, sol-gel, zinc dioxide, biosensors
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