

### Fabrication of Iron Oxide( $\text{Fe}_2\text{O}_3$ ) Coated Zinc Oxide Nanorods by Simple Solution Process

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ZnO-based nanostructures such as nanowires (NWs), nanoneedles, nanotubes and nanorods, have attracted much interest in recent years because of their use as building blocks for future optical, electrical, or optoelectronic devices. In this regards, we have vertically grown ZnO nanorods on ITO glass by simple solution process at low-temperature using zinc nitrate hexahydrate and hexamethylenetetramine. And iron oxide( $\text{Fe}_2\text{O}_3$ ) has been coated on ZnO nanorods using iron nitrate nonahydrate. The thickness of iron oxide was controlled from 10nm to 40nm depending on reaction time. Characteristic of these were confirmed by FE-SEM, XRD, TEM, EDAX, And XPS. The experimental results demonstrated that iron oxide coating on ZnO nanorods put a further step to use as-grown ZnO nanorods for various highly efficient ZnO-based nanodevices.