ABSTRACT

Synthesis of ZnO nanoparticles by coprecipitation method was studied. ZnO nanoparticle size was influenced by the presence of water, ethylene glycol, diethylene glycol, polyethylene glycol and glycerol solvent with oxalic acid as a precipitating agent. Zinc oxide was obtained by thermal decomposition of zinc oxalate at a temperature of 400°C. Spectra of X-ray diffraction (XRD) showed that the crystallinity of the smallest ZnO obtained from influence of polyethylene glycol solvent. Through the Scherrer equation and rietica analysis the smallest particle size of ZnO obtained at 28.38 nm in polyethylene glycol as a solvent. Analysis with FTIR spectra of KBr showed five ZnO samples was followed by other groups such as carbonyl and hydroxide. Five samples of ZnO morphology with SEM analysis has different characteristics.

Keywords: ZnO, Nanoparticles, Coprecipitation, Zinc Oxide