

ABSTRACT

ZnO nanoparticles were synthesized by sol-gel method and using Averrhoa Bilimbi L. extract as a chelating agent. ZnO nanoparticles were characterized by TEM and XRD. The characterization showed that the average size of ZnO nanoparticles were about 80.26 ± 1.22 nm and 261.695 ± 0.0017 nm respectively. The XRD analysis indicated that the ZnO nanoparticles has wurtzite crystal structure. Photocatalytic property of ZnO nanoparticles were examined using photodegradation testing of 10 ppm (methylene blue) MB solution which is added by 10, 20 and 30 mg also irradiated by a UV light. The result exposure the degradation of MB influenced by concentration of ZnO nanoparticles and the time duration of light. The optimum degradation was 240 minutes at concentration of 20 mg ZnO nanoparticles and remain $33.27 \pm 0.97\%$ concentration of residual MB.

Keywords : ZnO nanoparticles, Photocatalyst, Degradation, Methyl Blue