

ABSTRACT

Nano-Zinc oxide particles were synthesized by sol-gel method using zinc acetate as the raw material. The structural and optical properties of ZnO photocatalyst were characterized by Transmission electron microscope (TEM), X-ray diffraction (XRD), Brunauer-Emmett-Teller (BET) analysis and UV-Vis reflection spectrum. The influences of heat treatment conditions were studied on surface area, particle size and crystal phase of the ZnO powder. The particles size of ZnO was growth when increasing the calcining temperature and surface area was decreased. The results flows that the best heat treatment condition was 400 oC for 3 h and band gap was 3.22 eV at wavelength 385 nm.

Keywords: Nano-ZnO, Solar photocatalyst, Characterization, Sol-gel method