Analisis pengaruh dopant logam timah terhadap aktivitas fotokatalisis semikonduktor Seng Oksida = Tin dopant influence analysis against photocatalytic activity of Zinc Oxide semicoductor

Heriyon, author

Abstrak

Material fotokatalis ZnO di-doping Sn dengan molar rasio Sn/Zn yang berbeda (1.5%, 2%, 2.5%, dan 8%) disintesis dengan metode kopresipitasi. Serbuk hasil sintesis ini dikarekterisasi melalui serangkaian pengujian, yaitu pengujian X-ray Diffraction (XRD), Energy Dispersive X-Ray (EDX), Ultraviolet Visible (UV- Vis). Aktivitas fotokatalisis dari semua sampel material ZnO di-doping Sn, dievaluasi dengan menggunakan media degradasi yaitu metil jingga. Sampel material ZnO di-doping Sn dengan konsentrasi 1.5% menunjukkan aktivitas fotokatalisis yang paling baik dibandingkan sampel dengan konsentrasi lain. <hr>Sn-doped ZnO photocatalysts with different molar ratios of Sn/Zn (1.5%, 2%, 2.5%, and 8%) were prepared by co-precipitation method. The photocatalyst powder were characterized by several testing, such as Energy Dispersive X-Ray (EDX) testing, X-Ray Diffraction (XRD) testing, and Ultraviolet Visible (Uv-Vis) testing. The photocatalytic activity of Sn-doped ZnO photocatalysts for decolorization of methyl orange solution was evaluated, of all photocatalysts prepared, Sn-doped ZnO with 1.5% Sn exhibited the best photocatalytic activity than others.