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Thermal Processing of Zn-Bi Layered Double Hydroxide ZnO Doped Bismuth for a Photo-Catalytic Efficiency under Light Visible

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Abstract : The objective of this study is to use a synthetic route of the layered double hydroxide as a method of zinc oxide by doping a transition metal. The material is heat-treated at different temperatures then tested on the photo-fading of an acid dye indigo carmine under visible radiation compared with ZnO. The photo catalytic efficiency of Bi-ZnO in a visible light of 500 W was tested on photo-bleaching of an indigoid dye in comparison with the commercial ZnO. Indeed, a complete discoloration of indigo carmine solution of 16 mg / L was obtained after 40 and 120 minutes of irradiation in the presence of ZnO and ZnO-Bi respectively.

Keywords : LDH, POA, photo-catalysis, Bi-ZnO doping
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