Photodegradation of Indigo carmine in aqueous solution by zirconium phosphates

Zouhair Barhona, François Bozon-Verdurazb, Nabil Saffajc, Abderahman Albizaned, Mohamed Azzi, Mohamed Kacimie, Mahfoud Ziyade
e
aLaboratoire Interface Matériaux et Environnement, Université Hassan II – Ain Chock, Km. 8, Route El Jadida, B.P. 5366, Maârif, Casablanca, Morocco
bGroupe Nanomatériaux, ITODYS, UMR-CNRS 7086, Université Paris-Diderot (Paris 7), Bâtiment Lavoisier, 15, rue Jean-Antoine de Baïf, 75205 Paris Cedex 13, France
cUniversité Ibn Zohr, Faculté Polydisciplinaire de Ouarzazate, Morocco
dLaboratoire de Matériaux, Environnement et Catalyse, Université Hassan II - B.P. 146, Avenue Hassan II, C.P. 20650, Mohammedia, Morocco
eFaculté des Sciences, Laboratoire de Physico-chimie des Matériaux et Catalyse, Département de Chimie, Avenue Ibn Battouta, B.P. 1014, Rabat, Morocco

Tel: 00212663323683; Fax: 0021224885801; Email: saffaj@gmail.com

Received 1 December 2009; accepted 20 January 2011

A B S T R A C T

The results of the photocatalytic degradation of Indigo carmine in aqueous solution indicated that the Ag-ZrP photocatalyst prepared by refluxing amorphous zirconium phosphate in silver nitrate method exhibited better photocatalytic performance than α-Zirconium Phosphate (α-ZrP). The reaction was studied by varying different parameters such as pH and irradiation time.

Keywords: Indigo carmine; Zirconium phosphate; Silver nitrate; Photocatalytic degradation