Environmental Engineering and Management Journal

March 2017, Vol.16, No. 3, 553-560
http://omicron.ch.tuiasi.ro/EEMJ/

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SYNTHESIS, CHARACTERIZATION AND FUNCTIONALIZATION OF MCM-41 FOR THE REMOVAL OF ORGANIC COMPOUNDS FROM WASTEWATERS

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Abstract

In this study was synthesized MCM-41 mesoporous silica by hydrothermal treatment and funtionalized with titanium in order to obtain mesoporous materials with high surfacea area and photocatalytic activity in photodegradation of organic compounds as antibiotics. The functionalization of the synthesized support material was achieved by impregnation from alcoholic solution. The obtained materials (MCM-41) and (Ti-MCM-41) were characterized by X-ray diffraction (XRD), scanning electron microscopy (SEM) and transmission electron microscopy (TEM), FTIR and UV-Vis spectroscopy. A high photocatalytic activity of Ti-MCM-41 was obtained in photocatalytic degradation of hardly biodegradable organic compounds as erythromycin.

Key words: erythromycin, MCM-41, Ti-MCM-41, wastewater

Received: February, 2016; Revised final: February, 2017; Accepted: February, 2017

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