

Accepted Manuscript

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PII: S1385-8947(14)01670-2

DOI: <http://dx.doi.org/10.1016/j.cej.2014.12.056>

Reference: CEJ 13057

To appear in: *Chemical Engineering Journal*

Received Date: 4 December 2013

Revised Date: 10 December 2014

Accepted Date: 11 December 2014



Please cite this article as: F. Zhou, Y. Min, J. Fan, Q. Xu, Reduced graphene oxide-grafted cylindrical like W doped BiVO₄ hybrids with enhanced performances for photocatalytic applications, *Chemical Engineering Journal* (2014), doi: <http://dx.doi.org/10.1016/j.cej.2014.12.056>

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Reduced graphene oxide-grafted cylindrical like W doped BiVO₄ hybrids with enhanced performances for photocatalytic applications

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Abstract

Reduced graphene oxide (RGO) grafted W doped BiVO₄ (WBVO) hybrids have been obtained using two-step wet-chemical approach. At first, WBV was synthesized by hydrothermal method in strong-acid condition. And second, the WBVO/GO mixture was transformed into WBVO/RGO hybrids by hydrothermal treatment under ethanol-water condition. The photocatalytic activity of WBV/RGO can be optimized by controlling the content of RGO at 4 wt%. Such a novel composite photocatalyst might find potential application for air purification and waste water treatment.

Keywords: hybrids; photocatalysis; RGO

1. Introduction

Semiconductor photocatalysts have attracted great attention because of their potential applications to energy and environmental problems [1-4]. TiO₂ as the most popular

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