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# Reduced graphene oxide-grafted cylndrical like W doped $BiVO_4$ hybrids with enhanced performances for photocatalytic applications

FanQi Zhou, YuLinMin*, JinChen Fan†, QunJie Xu

Shanghai Key Laboratory of Materials Protection and Advanced Materials in Electric Power , College of Environmental and Chemical Engineering, ShangHai University of Electric Power, ShangHai 200090, P.R.China

**Abstract**

Reduced graphene oxide (RGO) grafted W doped $BiVO_4$ (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]. $TiO_2$ as the most popular

* Corresponding author. Tel./fax: +86 -021-35304402 , E-mail address: ahaqmylin@126.com (Y. L. Min)

† Corresponding author. Tel./fax: +86 -021-35304402 , E-mail address: jinchen.fan@shiep.edu.cn (J. C. Fan)