

## Accepted Manuscript

Magnetic Recyclable Bismuth Oxyiodide/Polyacrylic Anion Exchange Resin Composites with Enhanced Photocatalytic Activity under Visible Light

Jingjing Zheng, Zhengbo Jiao

PII: S0021-9797(17)30583-0  
DOI: <http://dx.doi.org/10.1016/j.jcis.2017.05.055>  
Reference: YJCIS 22362

To appear in: *Journal of Colloid and Interface Science*

Received Date: 6 March 2017  
Revised Date: 16 May 2017  
Accepted Date: 16 May 2017

Please cite this article as: J. Zheng, Z. Jiao, Magnetic Recyclable Bismuth Oxyiodide/Polyacrylic Anion Exchange Resin Composites with Enhanced Photocatalytic Activity under Visible Light, *Journal of Colloid and Interface Science* (2017), doi: <http://dx.doi.org/10.1016/j.jcis.2017.05.055>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



# Magnetic Recyclable Bismuth Oxyiodide/Polyacrylic Anion Exchange Resin Composites with Enhanced Photocatalytic Activity under Visible Light

Jingjing Zheng<sup>a\*</sup>, Zhengbo Jiao<sup>b\*</sup>

<sup>a</sup>College of Chemistry & Chemical Engineering, Binzhou University, Binzhou 256603, P. R. China;

\*E-mail address: zjj65050@163.com

<sup>b</sup>Department of Physics, National University of Singapore, 117542, Singapore

\*E-mail address: jiaozb@163.com

**Abstract:** A series of magnetic recyclable bismuth oxyiodide (BiOI)/polyacrylic anion exchange resin (PAER) composites with visible light responses have been synthesized for the first time through a facile and low-cost method at normal temperature. The photocatalytic performances of BiOI/PAER composites were evaluated by photodegrading 1-amino-8-naphthol-3,6-disulfonic acid under visible light. It was found that 1-amino-8-naphthol-3,6-disulfonic acid (H-acid) removal rate reached to 90.1% (BiOI/PAER-2), which was higher than the pure BiOI (50.3%) in 60 min. The enhanced photocatalytic performance of BiOI/PAER composites should be attributed to the improved separation efficiency of the charge carriers. Furthermore, the BiOI/PAER composites exhibited excellent cyclic utilization stability, which is a key factor for their potential practical applications.

**Keywords:** magnetic, bismuth oxyiodide, resin, heterostructure, photocatalytic

Download English Version:

<https://daneshyari.com/en/article/4984766>

Download Persian Version:

<https://daneshyari.com/article/4984766>

[Daneshyari.com](https://daneshyari.com)