

Accepted Manuscript

Red AgCl/SmOCl Z-scheme composites: Enhanced photocatalytic performance under sunlight

Lixiong Yin, Hao Zhang, Xingang Kong, Jianfeng Huanghuang, Dongdong Zhang, Changqing Liu, Jiameng Fang, Feng Zhang

PII: S0167-577X(17)31287-9
DOI: <http://dx.doi.org/10.1016/j.matlet.2017.08.087>
Reference: MLBLUE 23064

To appear in: *Materials Letters*

Received Date: 22 June 2017
Revised Date: 7 August 2017
Accepted Date: 21 August 2017

Please cite this article as: L. Yin, H. Zhang, X. Kong, J. Huanghuang, D. Zhang, C. Liu, J. Fang, F. Zhang, Red AgCl/SmOCl Z-scheme composites: Enhanced photocatalytic performance under sunlight, *Materials Letters* (2017), doi: <http://dx.doi.org/10.1016/j.matlet.2017.08.087>

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.



**Red AgCl/SmOCl Z-scheme composites: enhanced photocatalytic performance under
sunlight**

Lixiong Yin *, Hao Zhang , Xingang Kong, Jianfeng Huang, Dongdong Zhang , Changqing Liu ,

Jiameng Fang, Feng Zhang

School of Material Science and Engineering, Shaanxi University of Science and Technology, Xi'an,

Shaanxi 710021, P. R. China

Abstract:

The AgCl/SmOCl composites photocatalyst was prepared by a simple photoreduction method with SmOCl and AgNO₃ as raw materials. The morphology and crystal structure of SmOCl remain unchanged after combined with AgCl. The photocatalytic activity of the AgCl/SmOCl composites was evaluated by the degradation of Rhodamine B (RhB) solution under simulate sunlight. Compared with the SmOCl samples, the AgCl/SmOCl composites remarkable exhibited enhanced (about 16-fold) photocatalytic activity in the decomposition of Rhodamine B. After 40 min of simulate sunlight irradiation 95% of RhB was decomposed. The enhanced AgCl/SmOCl performance was contributed to the new Z-scheme structure.

Keywords: Microstructure; Nanocomposites; AgCl /SmOCl ; Z-scheme ; photocatalyst.

* Corresponding authors.

E-mail addresses: ylx@sust.edu.com (L. Yin), huangjfsust@126.com (J. Huang).

Download English Version:

<https://daneshyari.com/en/article/5462591>

Download Persian Version:

<https://daneshyari.com/article/5462591>

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