

Author's Accepted Manuscript

Fabrication of Pd-decorated TiO₂/MoS₂ ternary nanocomposite for enhanced benzene gas sensing performance at room temperature

Dongzhi Zhang, Chuanxing Jiang, Xiaoyan Zhou



PII: S0039-9140(18)30077-8
DOI: <https://doi.org/10.1016/j.talanta.2018.01.064>
Reference: TAL18287

To appear in: *Talanta*

Received date: 29 November 2017
Revised date: 20 January 2018
Accepted date: 29 January 2018

Cite this article as: Dongzhi Zhang, Chuanxing Jiang and Xiaoyan Zhou, Fabrication of Pd-decorated TiO₂/MoS₂ ternary nanocomposite for enhanced benzene gas sensing performance at room temperature, *Talanta*, <https://doi.org/10.1016/j.talanta.2018.01.064>

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 galley proof before it is published in its final citable 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.

**Fabrication of Pd-decorated TiO₂/MoS₂ ternary
nanocomposite for enhanced benzene gas sensing
performance at room temperature**

Dongzhi Zhang^{a,*}, Chuanxing Jiang^a, Xiaoyan Zhou^b

^aCollege of Information and Control Engineering, China University of Petroleum (East China), Qingdao 266580, China

^bCollege of Science, China University of Petroleum (East China), Qingdao 266580, China

*Corresponding author: dzzhang@upc.edu.cn, Tel.: +86-532-86982928, fax: +86-532-86983326

Abstract:

A high-performance benzene gas sensor based on Pd-decorated TiO₂/MoS₂ ternary nanocomposite was demonstrated in this paper. The morphologies, microstructures and composition of the Pd-TiO₂/MoS₂ nanocomposite were sufficiently examined by X-ray diffraction (XRD), energy dispersive spectrometer (EDS), scanning electron microscopy (SEM), transmission electron microscope (TEM) and X-ray photoelectron spectroscopy (XPS), confirming its successful preparation and reasonability. The benzene-sensing performances of the Pd-TiO₂/MoS₂ sensor were investigated upon exposure to various concentrations of benzene vapor from 100 ppb to 100 ppm at

Download English Version:

<https://daneshyari.com/en/article/7676829>

Download Persian Version:

<https://daneshyari.com/article/7676829>

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