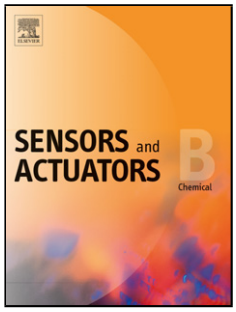

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Authors: Xueli Yang, Hongyu Gao, Liupeng Zhao, Tianshuang Wang, Peng Sun, Fangmeng Liu, Geyu Lu

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Enhanced gas sensing properties of monodisperse Zn_2SnO_4 octahedron functionalized by PdO nanoparticals

XueliYang, Hongyu Gao, Liupeng Zhao, Tianshuang Wang, Peng Sun*, Fangmeng Liu, Geyu Lu*

, Jilin University, 2699 Qianjin Street, Changchun 130012, China

*Corresponding authors:

Tel: +86 431 85167808; Fax: +86 431 85167808

E-mail addresses: pengsun@jlu.edu.cn, lugy@jlu.edu.cn

Highlights

1. The Zn_2SnO_4 octahedron was decorated with nanosheets, and the thickness of the nanosheets was about 20-30 nm.

2. The nanosheets decorated Zn_2SnO_4 was loaded with PdO nanoparticles.

3. The response value of PdO-loaded Zn_2SnO_4 was almost five times higher than pure Zn_2SnO_4 toward ethanol.

4. The PdO-loaded Zn_2SnO_4 possess a low detection limit of 500 ppb.

Abstract

In this work, Zn_2SnO_4 microstructures functionalized with PdO nanoparticles were successfully synthesized combination a facile one-step hydrothermal method and subsequent wet impregnation treatment. X-ray diffraction (XRD),