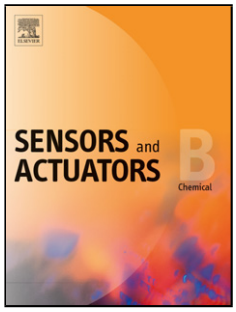


Title: Different nanostructured tungsten oxides synthesized by facile solvothermal route for chlorine gas sensing

Authors: Quan Wang, Jinyu Huang, Jiaxi Zhou, Zhenhua Liu, Youfu Geng, Zhiqiang Liang, Yu Du, Xiaoqing Tian

PII: S0925-4005(18)31478-3
DOI: https://doi.org/10.1016/j.snb.2018.08.047
Reference: SNB 25194

To appear in: *Sensors and Actuators B*

Received date: 13-4-2018
Revised date: 4-8-2018
Accepted date: 8-8-2018

Please cite this article as: Wang Q, Huang J, Zhou J, Liu Z, Geng Y, Liang Z, Du Y, Tian X, Different nanostructured tungsten oxides synthesized by facile solvothermal route for chlorine gas sensing, *Sensors and amp; Actuators: B. Chemical* (2018), https://doi.org/10.1016/j.snb.2018.08.047

Different nanostructured tungsten oxides synthesized by facile solvothermal route for chlorine gas sensing

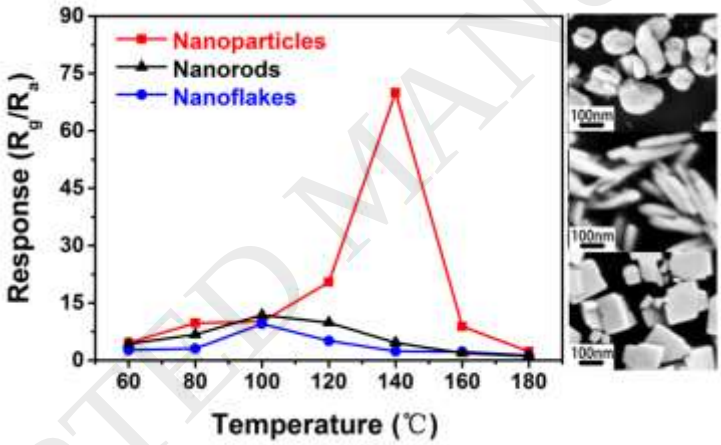
Quan Wang [a], Jinyu Huang [a], Jiaxi Zhou [a], Zhenhua Liu [a], Youfu Geng [a], Zhiqiang Liang [b],

Yu Du [a]*, Xiaoqing Tian [a]*

[a] *Shenzhen Key Laboratory of Sensor Technology, College of Physics and Energy, Shenzhen University, Shenzhen 518060, PR China.; E-mail:* duyu@szu.edu.cn;xqtian@szu.edu.cn.

[b] *State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, Jilin University, Changchun 130012, P.R. China*

Graphical Abstracts



WO_3 nanoparticles, nanoflakes and nanorods are synthesized via a facile solvothermal route. The organic solvents with different polarity play an important role in regulating the morphologies of as-synthesized WO_3. Gas sensor based on WO_3 nanoparticles exhibits faster response and recovery behaviour and much higher response toward Cl_2 compared to those based on nanoflakes and nanorods. It is suggested to arise from good crystallinity and high concentration of oxygen vacancy at the surface of WO_3 nanoparticles.

Highlights