

## Accepted Manuscript

Title: Ag nanoparticles-functionalized rough silicon nanowires array and its unique response characteristics to ultrararefied NO<sub>2</sub>

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PII: S0925-4005(17)32308-0  
DOI: <https://doi.org/10.1016/j.snb.2017.11.177>  
Reference: SNB 23671

To appear in: *Sensors and Actuators B*

Received date: 15-7-2017  
Revised date: 8-11-2017  
Accepted date: 29-11-2017

Please cite this article as: Yuxiang Qin, Diao Liu, Zefeng Wang, Yunqing Jiang, Ag nanoparticles-functionalized rough silicon nanowires array and its unique response characteristics to ultrararefied NO<sub>2</sub>, *Sensors and Actuators B: Chemical* <https://doi.org/10.1016/j.snb.2017.11.177>

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## **Ag nanoparticles-functionalized rough silicon nanowires array and its unique response characteristics to ultrararefied NO<sub>2</sub>**

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### **HIGHLIGHTS:**

1. Novel facile, cost-effective process for Ag modified SiNWs array is first reported.
2. Ag modification to SiNWs is realized directly from MACE-produced Ag dendrites.
3. Crucial TMAH post-etching is developed to provide double functions.
4. Modified rough SiNWs exhibit ultrasensitive, rapid response to 10 ppb NO<sub>2</sub> at RT.

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