

Electronic Supplementary Information

Porous tungsten trioxide nanolamellas with uniform structure for high-performance ethanol sensing detection

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Associated contents:

Table. S1 Gas response properties to ethanol in the present study and those reported in the
literatures.

Materials	Con./(ppm)	S	T (°C)	Ref.
Porous WO ₃ lamellas	10	11.3	200	This work
WO ₃ spheres	10	2	200	S1
WO ₃ nanoflakes	400	~5	250	S2
WO ₃ flower-like spheres	100	22	350	S3
WO ₃ microspheres	100	17	300	S4
WO ₃ nanoplate	100	29.8	300	S5
WO ₃ nanotubes	300	16.9	340	S6

S, sensitivity; Con, the concentration of ethanol; T, the optimal working temperature.

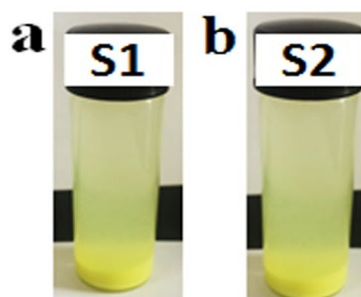


Fig. S1 Photographs of the as-prepared (a) S1 solution and (b) S2 solution.

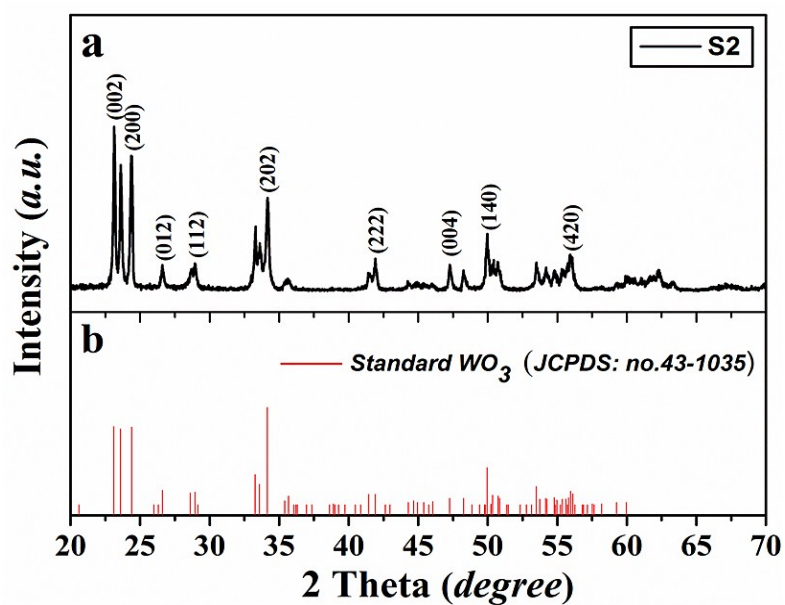


Fig. S2 XRD patterns of (a) WO_3 nanoparticles, S2; (b) the standard card (JCPDS no. 43-1035) of WO_3 .

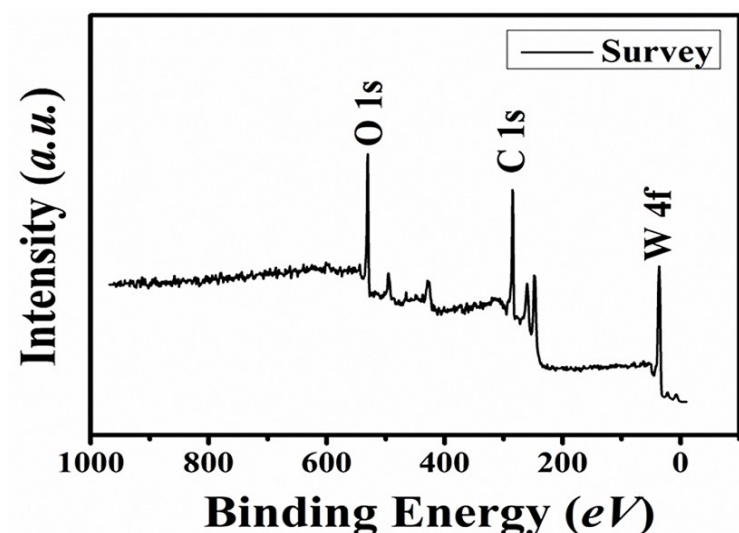


Fig. S3 (a) XPS spectra of as-obtained S1: survey scan.

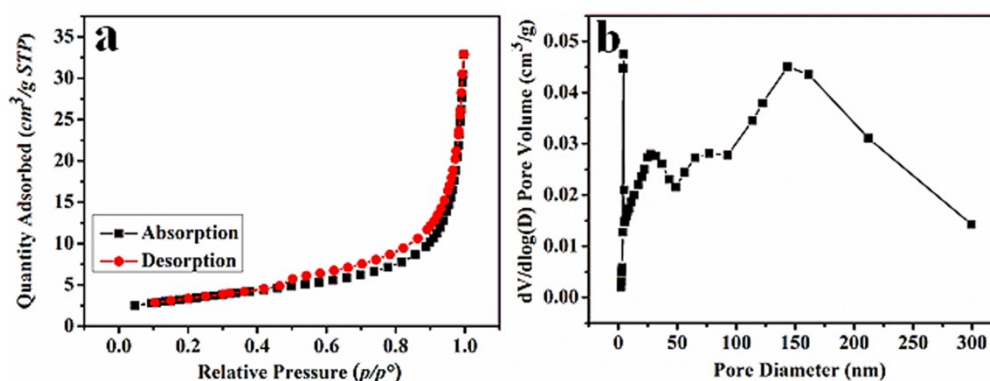


Fig. S4 (a) Nitrogen adsorption and desorption isotherm and (b) the corresponding pore-size distribution curve of S2

Reference

- S1. J. Li, X. Liu, J. Cui and J. Sun, *ACS appl. mater. interfaces*, 2015, **7**, 10108-10114.
- S2. J. Xiao, P. Liu, Y. Liang, H. B. Li and G. W. Yang, *Nanoscale*, 2012, **4**, 7078-7083.
- S3. W. Zeng, H. Zhang and Z. Wang, *Appl. Surf. Sci.*, 2015, **347**, 73-78.
- S4. T. Li, W. Zeng, B. Miao, S. Zhao, Y. Li and H. Zhang, *Mater. Lett.*, 2015, **144**, 106-109.
- S5. B. Miao, W. Zeng, Y. Mu, W. Yu, S. Hussain, S. Xu, H. Zhang and T. Li, *Appl. Surf. Sci.*, 2015, **349**, 380-386.
- S6. C. Song, C. Li, Y. Yin, J. Xiao, X. Zhang, M. Song and W. Dong, *Vacuum*, 2015, **114**, 13-16.