

Supplementary Information

Olive-shaped SnO₂ nanocrystals-based low concentration H₂S gas sensor with high sensitivity and selectivity

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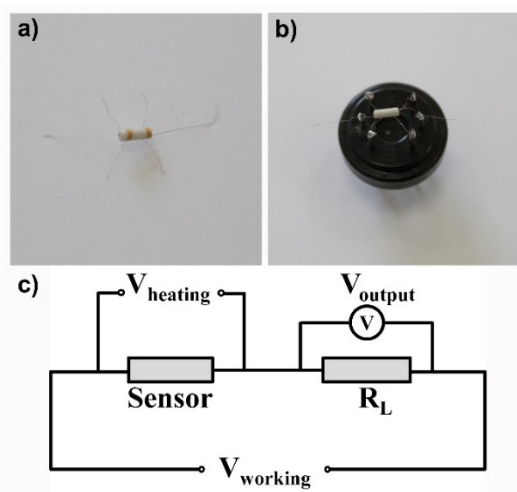


Fig. S1. a) Ceramic tube with heating coil. b) Gas sensor unit of SnO₂ nanoparticles fixed on the electronic bracket. c) Working principle and schematic diagram of the gas sensing measurement system.

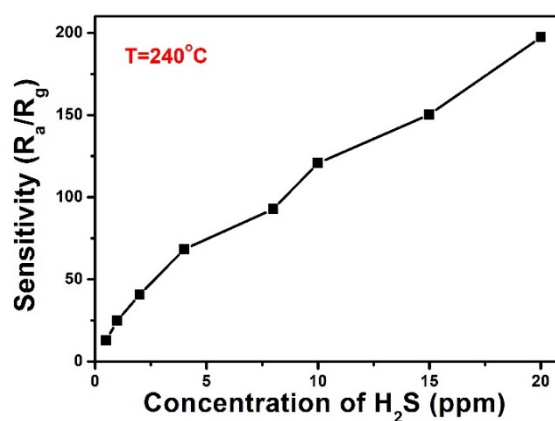


Fig. S2. The sensitivity of the typical olive-shaped SnO₂ at 240 °C.

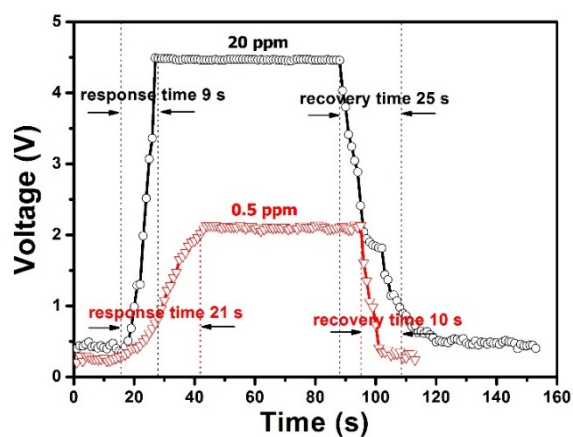


Fig. S3. The response time and the recovery time of the typical olive-shaped SnO_2 at 240 °C in 0.5 and 20 ppm of H_2S .

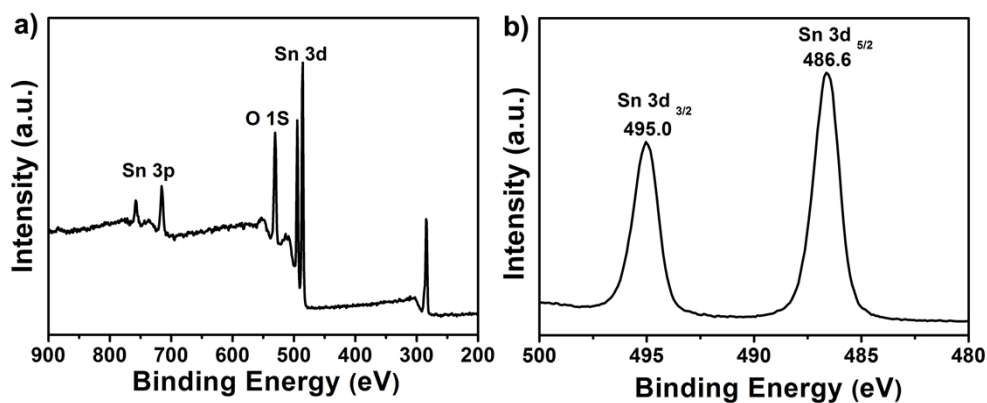


Fig. S4 a) XPS survey graph and b) Sn 3d XPS spectra of the commercial SnO_2 nanoparticles. The Sn $3d_{3/2}$ and $3d_{5/2}$ are peaked at the binding energies of 495 eV and 486.6 eV, respectively, both of them can be assigned to Sn^{4+} of bulk SnO_2 , showing almost the same result to the prepared olive-shaped SnO_2 nanocrystals.

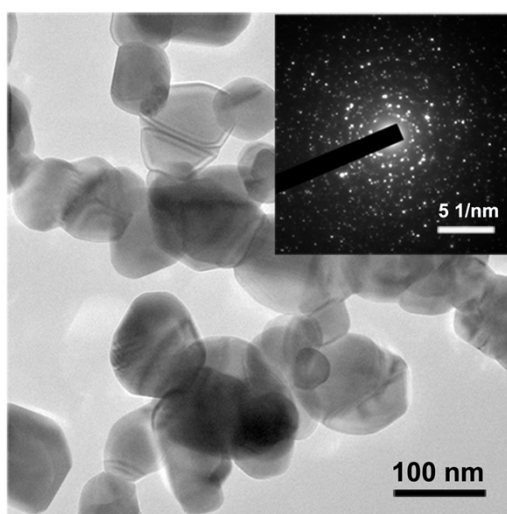


Fig. S5. TEM image of the commercial SnO₂ nanoparticles, inset: The corresponding SAED pattern.