

Supporting Information (SI):

**Three-Dimensional Ultrathin In₂O₃ Nanosheets with
Morphology-Enhanced Activity for Amine Sensing**

Yang Cao,^{a,‡} Xiaoxi Huang,^{b,‡} Yuanyuan Wu,^a Yong-Cun Zou,^a Jun Zhao,^c Guo-Dong Li,^{a,}
Xiaoxin Zou^{a,*}*

^a *State Key Laboratory of Inorganic Synthesis and Preparative Chemistry,
International Joint Research Laboratory of Nano-Micro Architecture Chemistry,
College of Chemistry, Jilin University, 2699 Qianjin Street, Changchun 130012,
China*

^b *Department of Chemistry and Chemical Biology, Rutgers, The State University of
New Jersey, Piscataway, New Jersey, 08854, USA*

^c *College of Science, Hebei University of Science and Technology, Shijiazhuang
050018, China*

[‡]These authors contributed equally.

*E-mail: X. Zou, xxzou@jlu.edu.cn; chemistryzouxx@gmail.com;

G. D. Li, lgd@jlu.edu.cn

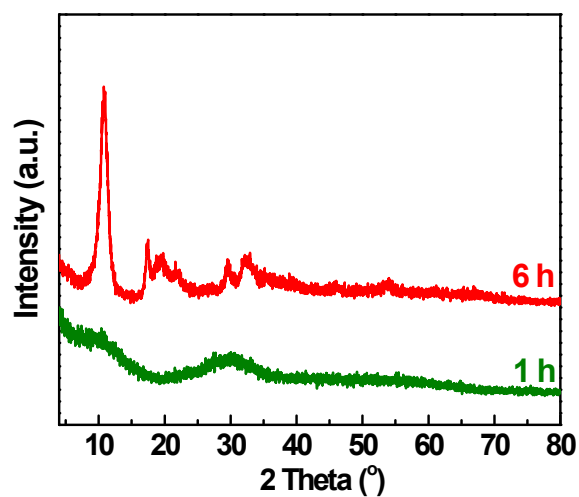


Figure S1. XRD patterns of the resulting In-glycerol microspheres or nanosheets after 1h and 6h solvothermal reaction, respectively.

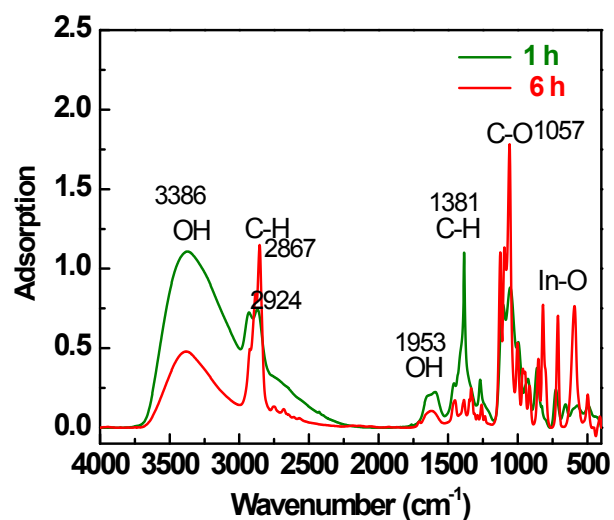


Figure S2. FTIR adsorption spectra of the resulting In-glycerol microspheres (1h) and nanosheets (6h) after 1h and 6h solvothermal reaction, respectively.

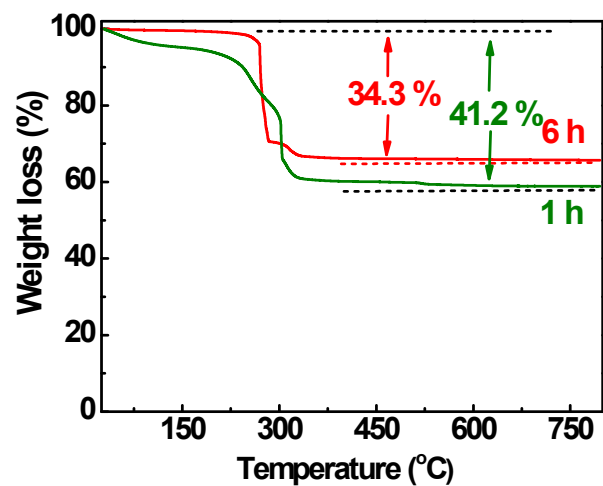


Figure S3. TGA curves of the resulting In-glycerol microspheres or nanosheets after 1h and 6h solvothermal reaction, respectively.

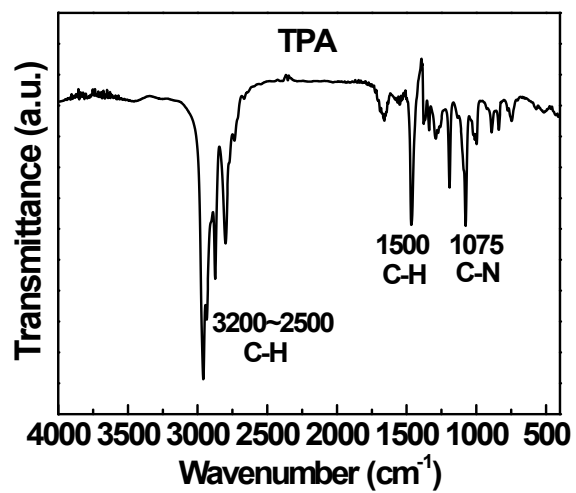


Figure S4. FTIR spectrum of tri-*n*-propylamine (TPA).

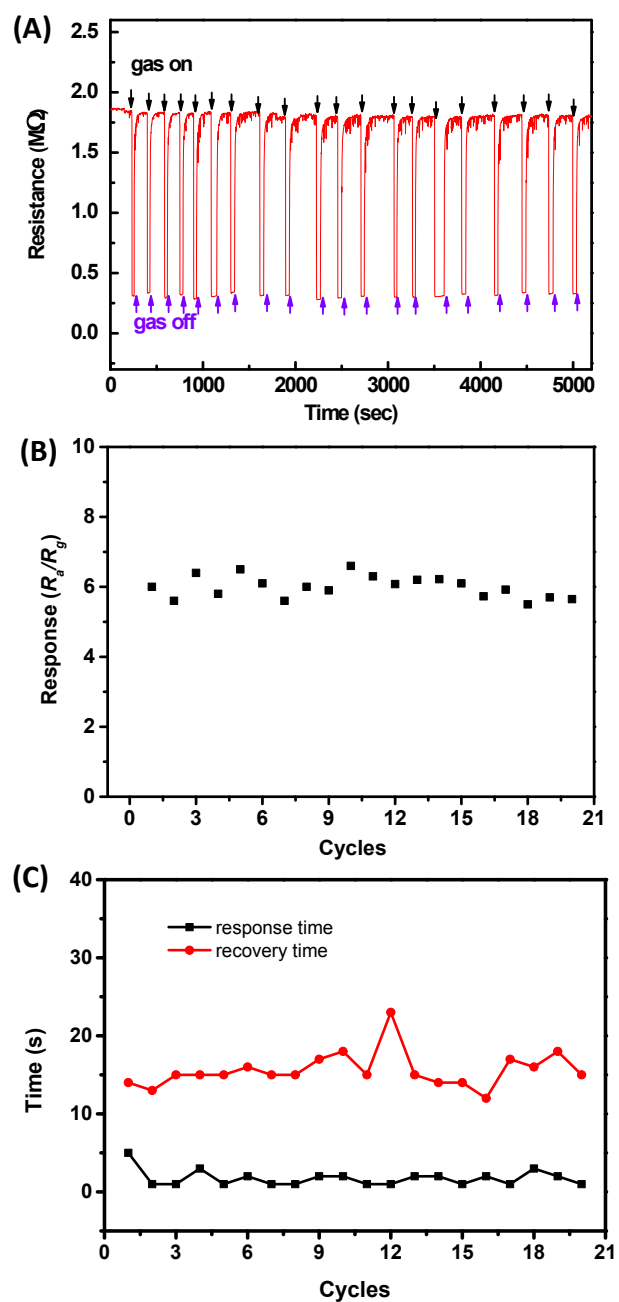


Figure S5. 20 cycles of on and off sensing tests towards 5 ppm TPA at the operation temperature of 230 °C are performed: (A) Dynamic on-off curve with the red arrows indicating the time when the sensor is exposed to the TPA, and blue arrows representing the time when the sensor is put in air to recover. (B) The calculated response values (R_a/R_g) for 20 cycles' experiments. (C) The corresponding response and recovery time of these 20 measurements are shown as well.