Supporting Information

Density Gradient Strategy for Preparation of Broken In_2O_3 Microtubes with Remarkably Selective Detection of Triethylamine Vapor

Wei Yang,[†] Liang Feng,[‡] Saihuan He,[†] Lingyue Liu,[†] Shantang Liu[*,†]

[†]Key Lab for Green Chemical Process (Ministry of Education), School of Chemistry and Environmental Engineering, Wuhan Institute of Technology, Wuhan 430205, P. R. China.

[‡]Key Lab of Separation Science for Analytical Chemistry, Dalian Institute of Chemical Physics, Chinese Academy of Sciences (CAS), Dalian 116023, P. R. China.

*Corresponding author: (E-mail) stliu@wit.edu.cn

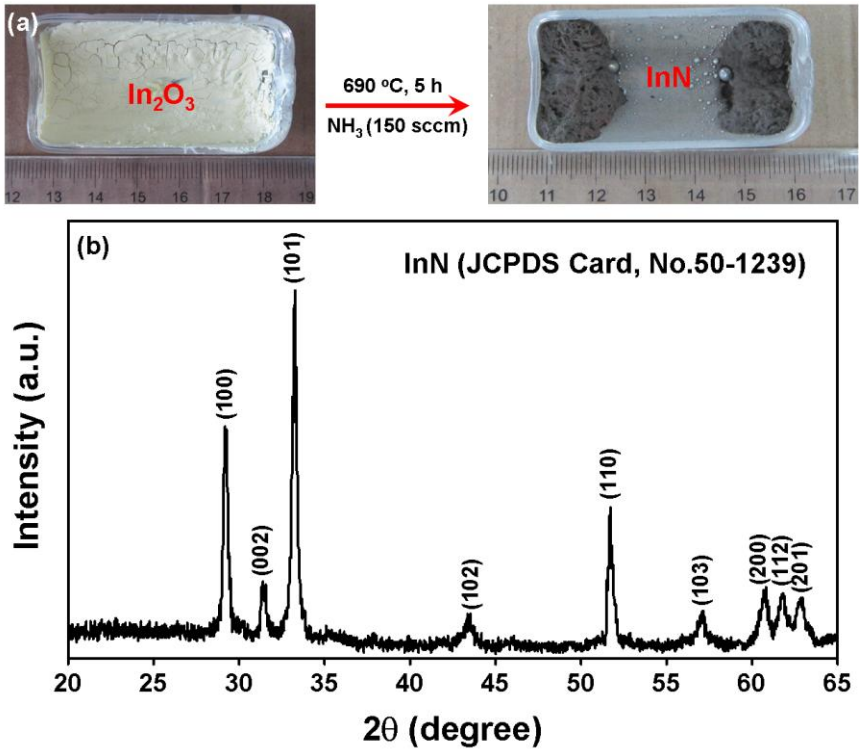

Figure S1. (a) Commercial In_2O_3 onto quartz boat before and after the ammonia treatment; (b) XRD pattern of the as-obtained sample after the ammonia treatment.

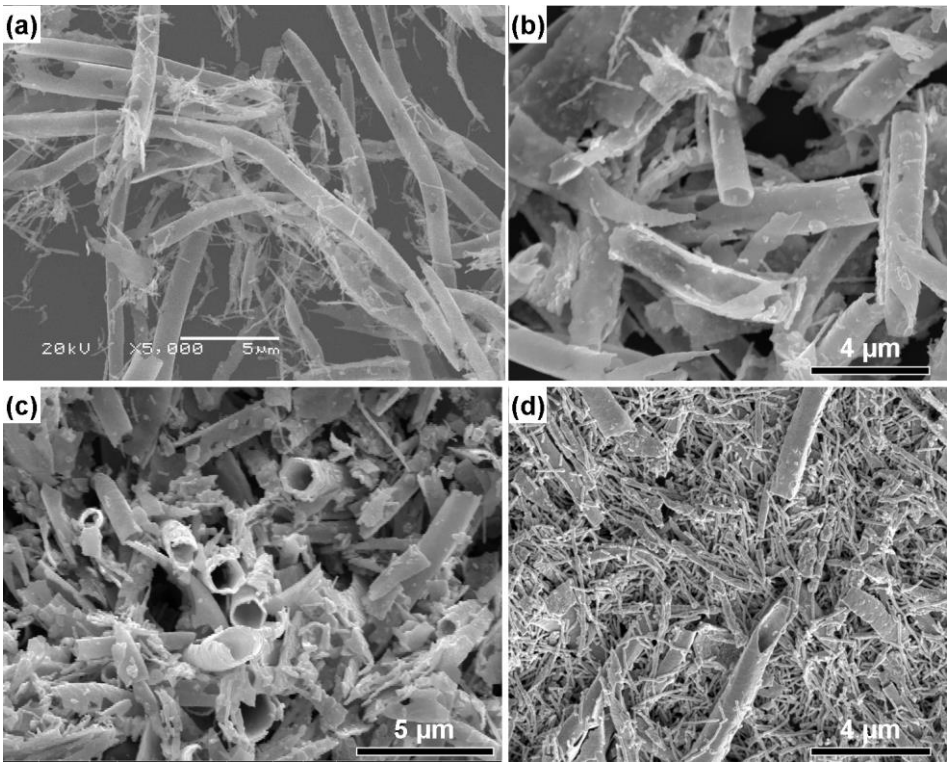

Figure S2. SEM images of In_2O_3 products under various centrifugation speed and time: (a) 1000 rpm for 10 min; (b) 1500 rpm for 8 min; (c) 2000 rpm for 5 min; (d) 3000 rpm for 3 min.

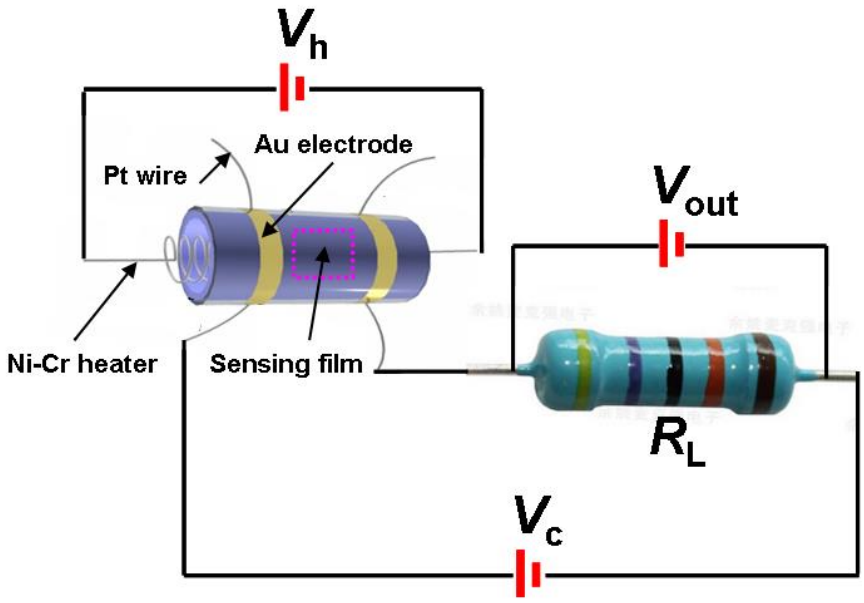

Figure S3. Schematic diagram for the measurement and configuration of gas sensor.

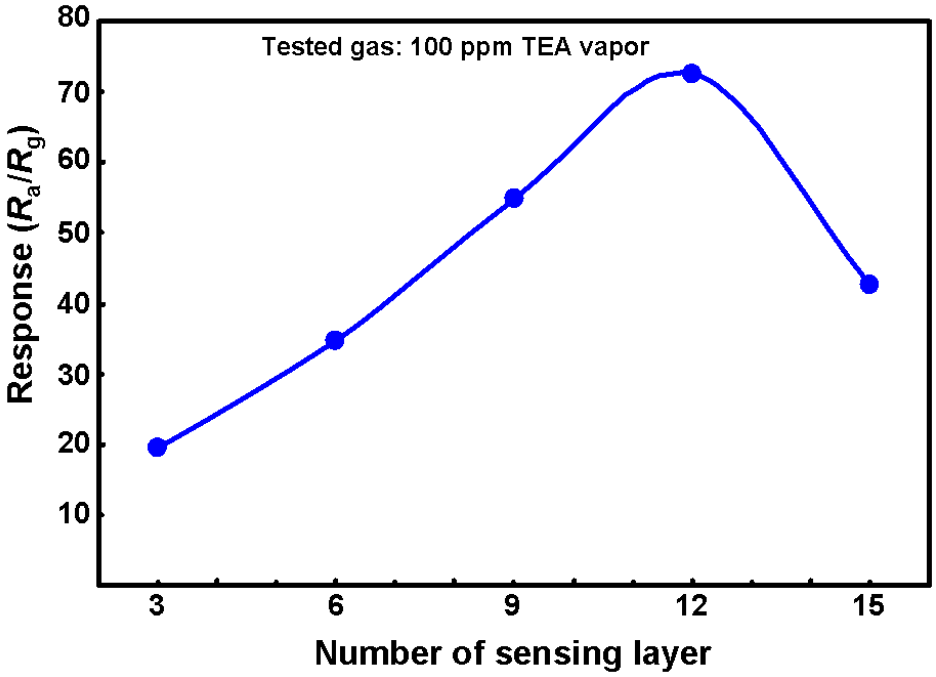

Figure S4. Sensor response based on the broken In_2O_3 microtubes versus thickness of sensing layer.

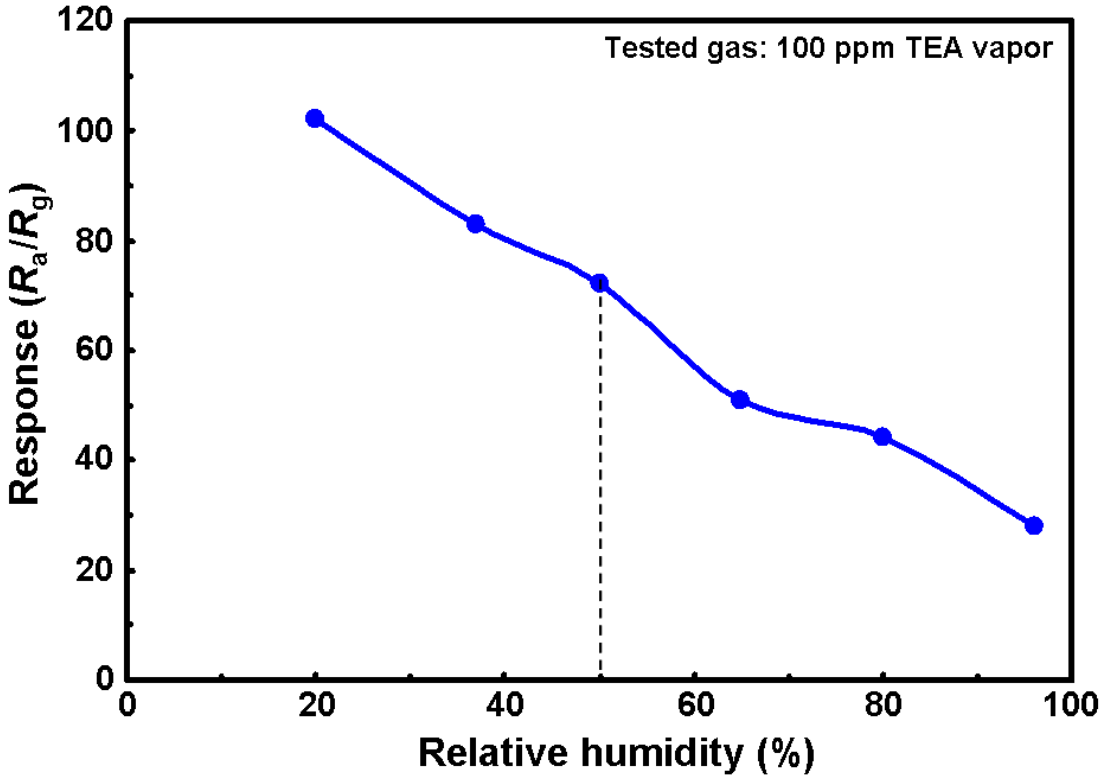

Figure S5. Sensor response based on the broken In_2O_3 microtubes under various RHs.

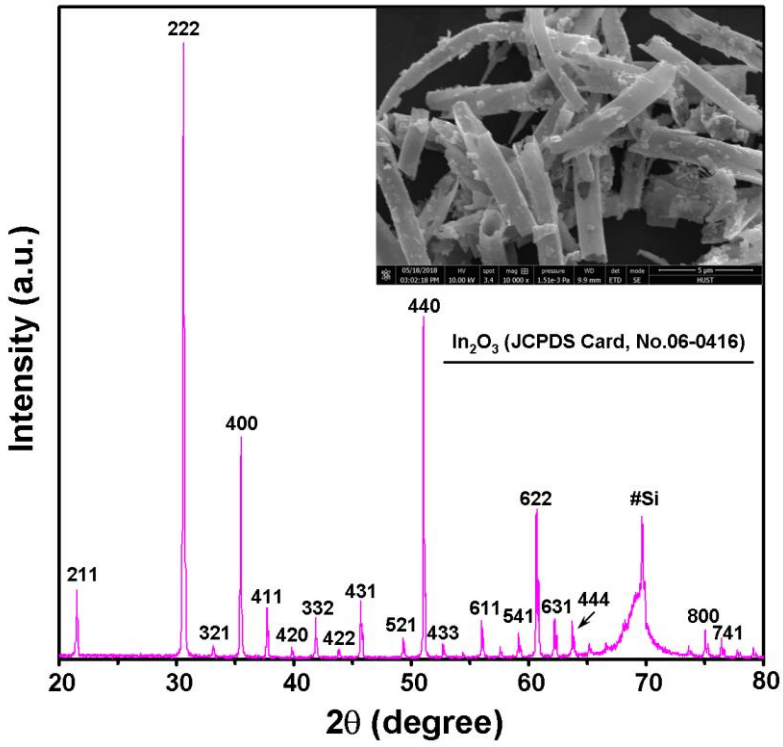

Figure S6. XRD pattern and SEM image (inset) of the In_2O_3 microtubes after the sensing measurements.

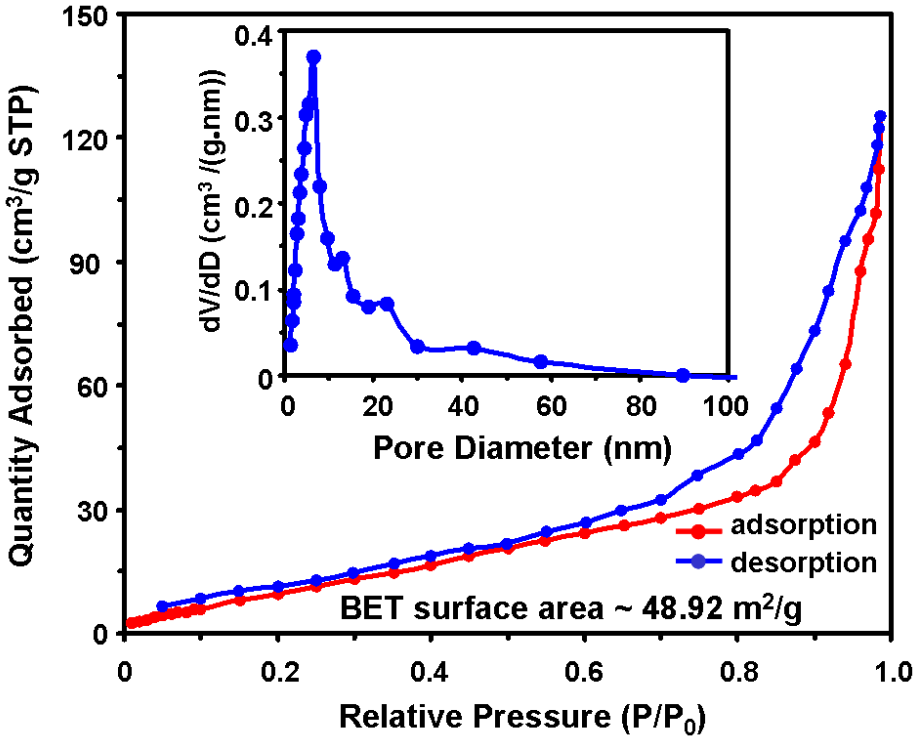

Figure S7. Typical nitrogen adsorption-desorption isotherm and the corresponding pore-size distribution of the In_2O_3 microtubes after the sensing measurements.