

Supporting Information

A Facial Synthesis of Ag Lattice Doped Mesoporous In_2O_3 Nanocubes for High Performance Ethanol Sensing

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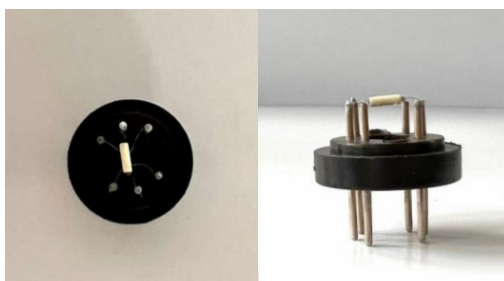


Fig. S1. The photo of fabricated In_2O_3 gas sensor.

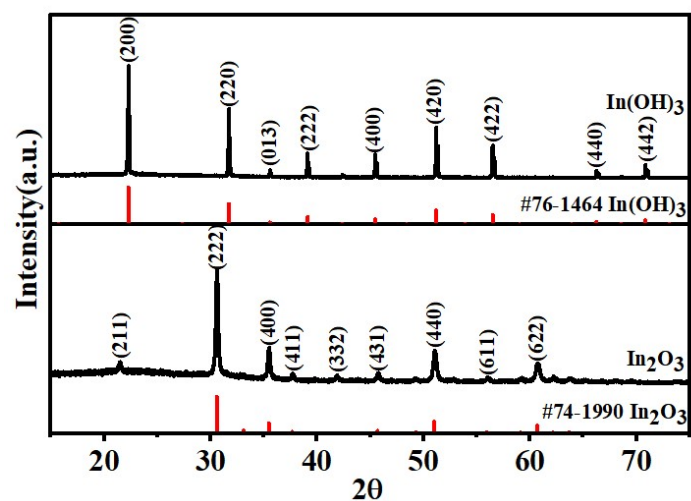


Fig. S2. XRD patterns of $\text{In}(\text{OH})_3$ and In_2O_3 .

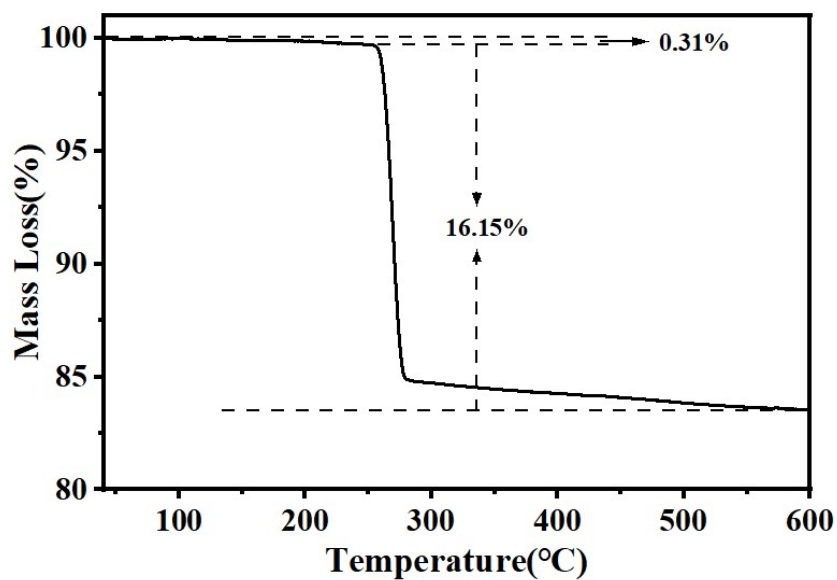


Fig. S3. The TG curves of the $\text{In}(\text{OH})_3$.

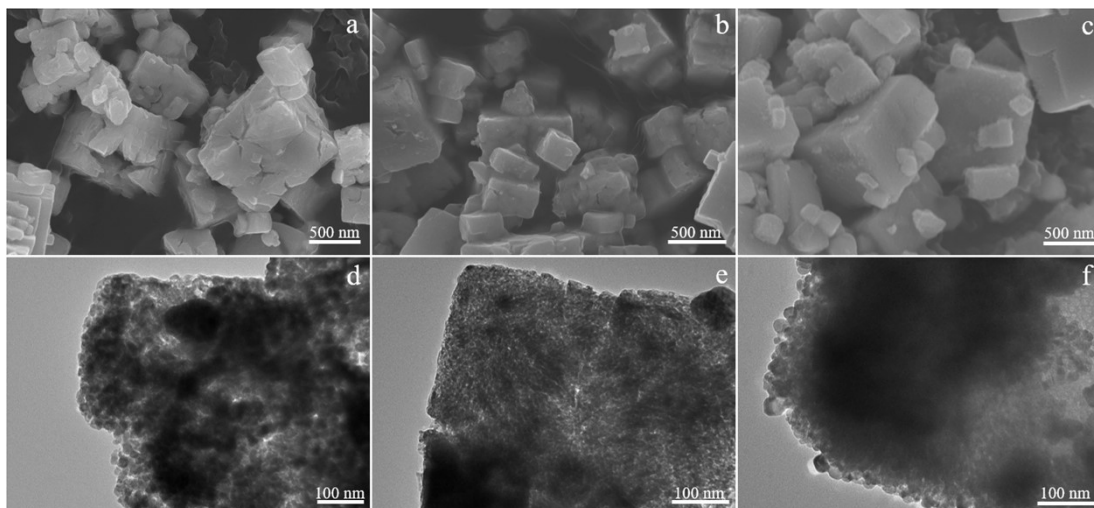


Fig. S4. SEM images of (a) 3.0mol% Ag-In₂O₃, (b) 5.0mol% Ag-In₂O₃ and (c) 10.0mol% Ag-In₂O₃. TEM images of (d) 3.0mol% Ag-In₂O₃, (e) 5.0mol% Ag-In₂O₃ and (f) 10.0mol% Ag-In₂O₃.

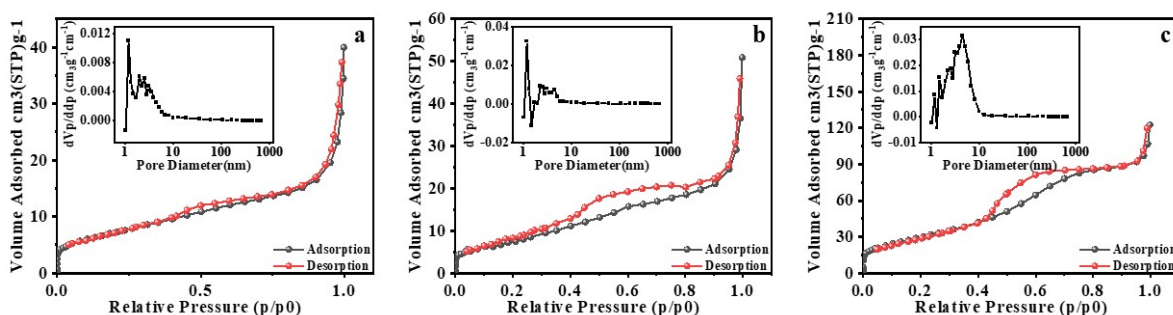


Fig. S5. N₂ adsorption-desorption isotherms and pore diameter distribution (inset) curves of (a) 3.0mol% Ag-In₂O₃, (b) 5.0mol% Ag-In₂O₃ and (c) 10.0mol% Ag-In₂O₃.

Table S1. Summary of sensing properties towards ethanol of reported In₂O₃-based materials

Sensing materials	ethanol (ppm)	Working temp (°C)	Response	Reference
6mol% Ho-In ₂ O ₃	100	240	60	1
3% Ag-In ₂ O ₃	50	300	30.06	2
3wt% Eu ₂ O ₃ -In ₂ O ₃	50	260	44	3
10mol% Ag-In ₂ O ₃	100	150	102	4
7mol% Ag-In ₂ O ₃	100	140	420	This work

References:

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2. K. Anand, J. Kaur, R. C. Singh and R. Thangaraj, Preparation and characterization of Ag-doped In_2O_3 nanoparticles gas sensor, *Chemical Physics Letters*, 2017, **682**, 140-146.
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4. Y. Zhang, Z. Zheng and F. Yang, Highly Sensitive and Selective Alcohol Sensors based on Ag-Doped In_2O_3 Coating, *Industrial & Engineering Chemistry Research*, 2010, **49**, 3539-3543.