Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C. This journal is © The Royal Society of Chemistry 2023

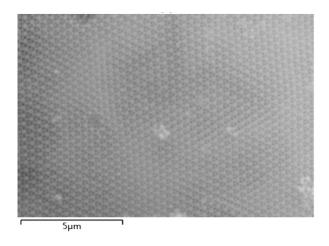
## **Supporting Information**

Fabrication of Pt clusters-loaded In<sub>2</sub>O<sub>3</sub> inverse opal photonic crystal for fast and highly sensitive ethanol sensing

Feihu Li<sup>a,b</sup>, Junjie Jing<sup>a</sup>, Jinkun Li<sup>a</sup>, Shuni Li<sup>a</sup>, Dongliang Cheng<sup>a</sup>, Yeguang Zhang<sup>\*a</sup>, Zili Zhan<sup>a</sup> and Bingtao Tang<sup>\*b</sup>

<sup>a</sup>School of Chemical Engineering, Zhengzhou University, Zhengzhou, 450001 China. E-mail: zhangyg@zzu.edu.cn

<sup>b</sup>State Key Laboratory of Fine Chemicals, Dalian University of Technology, Dalian, 116024, P. R. China. E-mail: tangbt@dlut.edu.cn



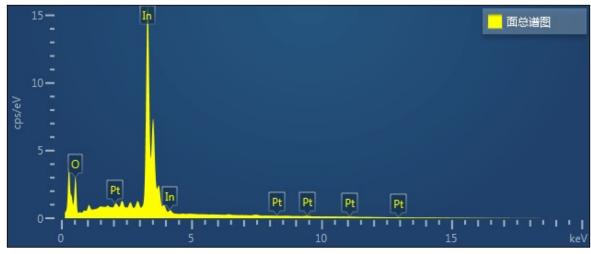


Fig. S1 EDS spectrum of Pt<sub>2.0</sub>In

 $\textbf{Table S1} \ Elemental \ content \ in \ EDS \ spectra \ of \ Pt_{2.0}In$ 

Element	wt%
О	25.61
In	72.39
Pt	2.00

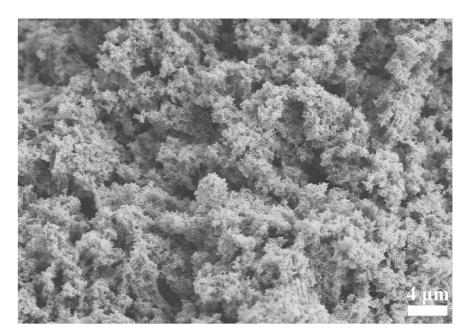


Fig. S2 The SEM image of the gas sensing layer formed on the ceramic tube

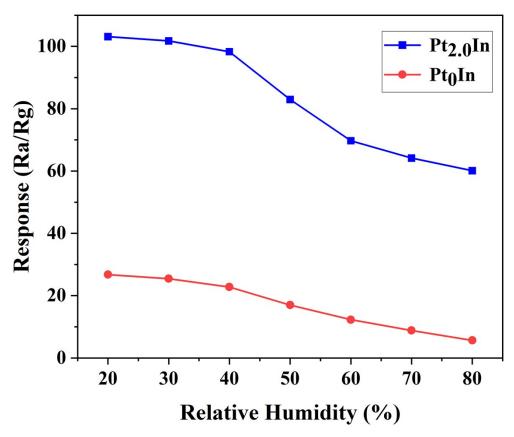


Fig. S3 The response of Pt<sub>0</sub>In and Pt<sub>2.0</sub>In under different relative humidity