# Supporting Information

# Chelating-Assisted Soft-Templating Synthesis of Ordered Mesoporous Zinc Oxides for Low Concentration Gas Sensing

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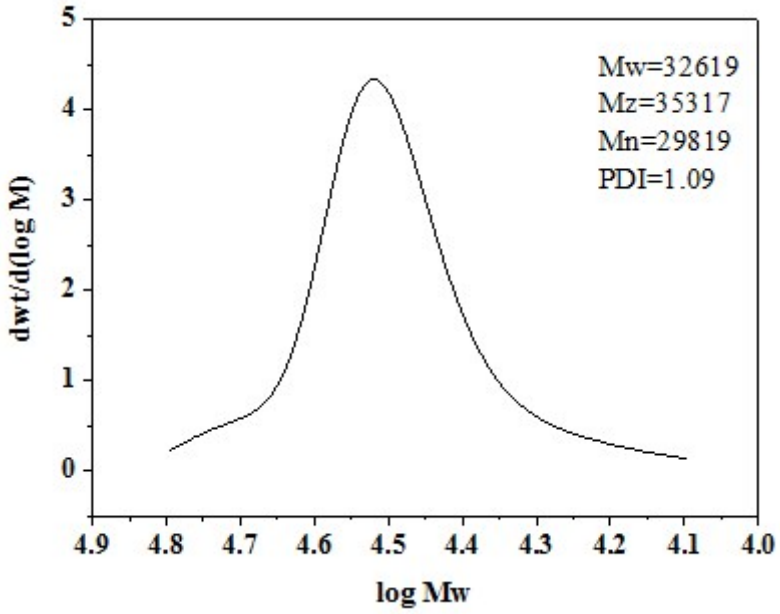


**Figure S1.** The gel permeation chromatograph (GPC) trace of the lab-made PEO-*b*-PS.

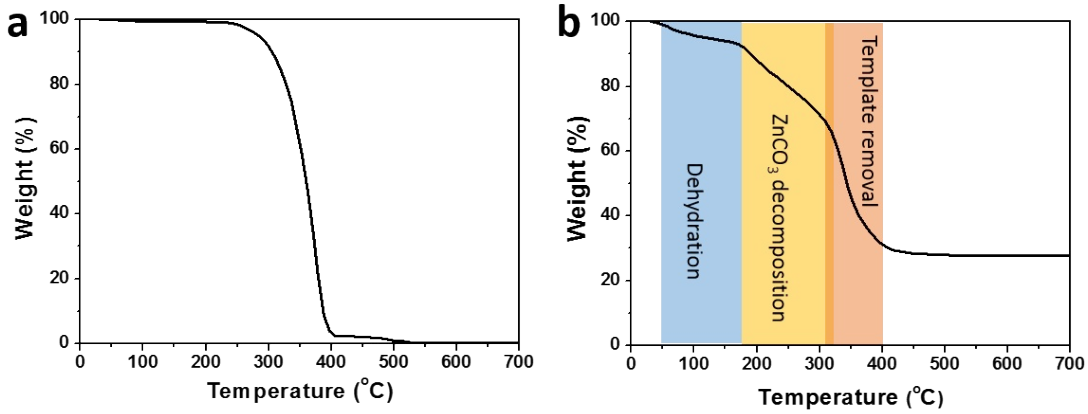


**Figure S2.** The thermogravimetric analysis (TGA) curves of (a) diblock copolymer PEO-*b*-PS template and (b) the PEO-*b*-PS/Zn-100 composites from 25 °C to 700 °C under air with a heating rate of 5 °C min $^{-1}$.

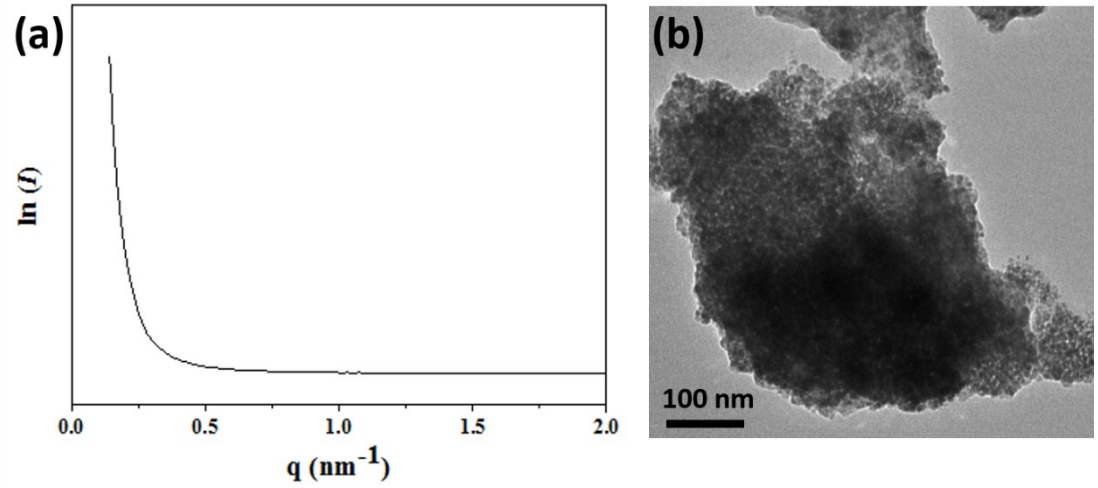


**Figure S3.** (a) SAXS patterns, (b) TEM image of sample without citric acid after the same calcination procedure. No mesoporous structure was formed.

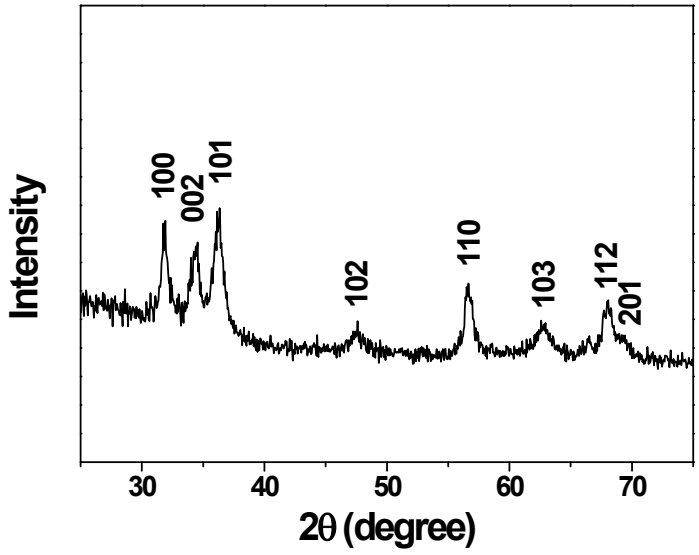


**Figure S4.** XRD patterns of calcined none-mesoporous ZnO.

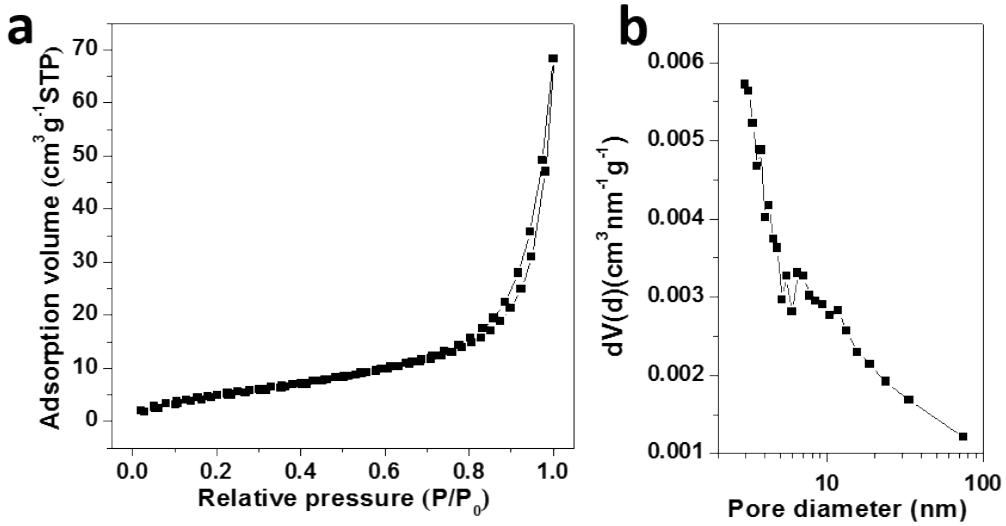


**Figure S5.** (a) Nitrogen-sorption isotherms and (b) pore size distribution curves of calcined none-mesoporous ZnO. The surface area was calculated to be about 15 $m^2/g$.

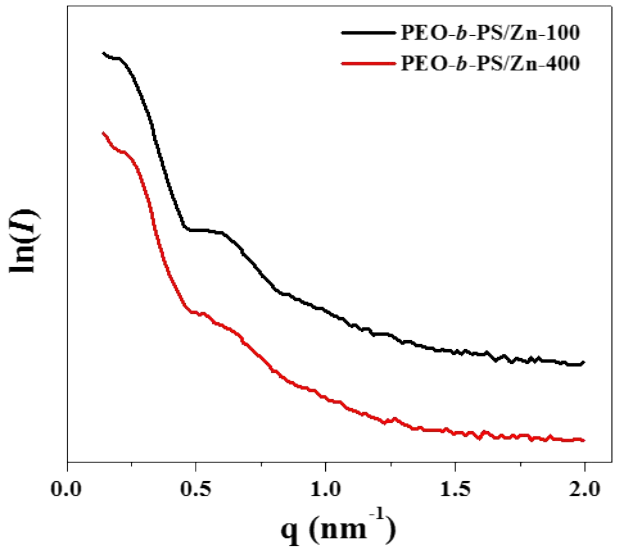


**Figure S6.** SAXS patterns of PEO-*b*-PS/Zn-100 and PEO-*b*-PS/Zn-400.

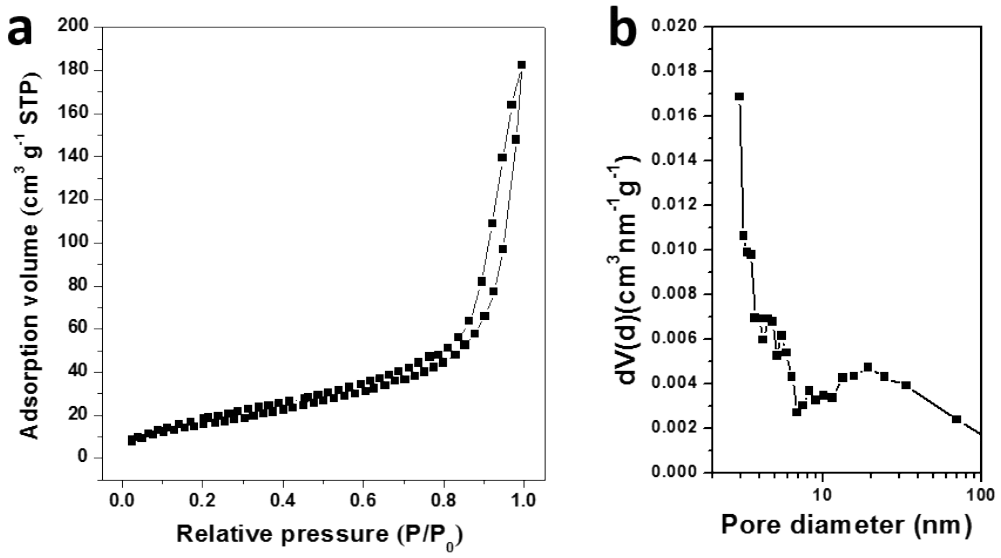


**Figure S7.** (a) Nitrogen-sorption isotherms and (b) pore size distribution of the mesoporous ZnO recycled after gas sensing measurements. The recycled mesoporous ZnO has a BET surface area of 49 $m^2/g$, and two sets of mesopores at 3.0 nm and 26.0 nm, respectively, which indicates a well-retained mesoporous structure with a slight structure shrinkage during gas sensing measurement at high temperatures.