

Electronic Supplementary Information for

Engineering surfaces to improve xylene gas sensing performance in ZnCo₂O₄ porous architectures

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The preparation process of the target gases: All target gases with specific concentrations were prepared by evaporating a certain amount of corresponding reagent liquid in a 1 L testing bottle. The corresponding reagent liquid was injected into testing bottle by a microsyringe and the injection volume had been calibrated by the following formula:

$$Q = (V \times C \times M) / (22.4 \times d \times \rho) \times 10^{-9} \times (273 + T_R) / (273 + T_B)$$

In which Q was the appropriate liquid volume (mL); V was the volume of the testing bottle (mL); C was the designed concentration of corresponding gas (ppm); M was the molecular weight of the substance (g); d was the purity of the liquid; ρ was the density of the liquid (g/cm^3); T_R ($^{\circ}\text{C}$) and T_B ($^{\circ}\text{C}$) was the testing environment and working temperature, respectively.

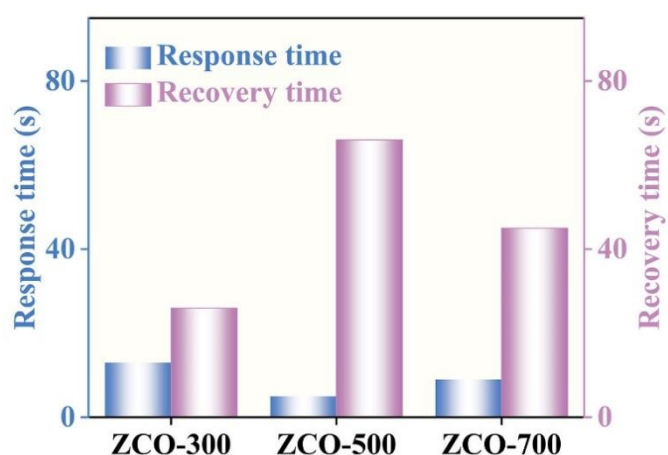


Fig. S1 The response/recovery time of ZCO-300, ZCO-500 and ZCO-700 sensor to 200 ppm xylene gas at 170 $^{\circ}\text{C}$.