

Supplementary Information

N-type SnO₂ nanosheets stand on p-type carbon nanofibers: A novel hierarchical nanostructures based hydrogen sensor

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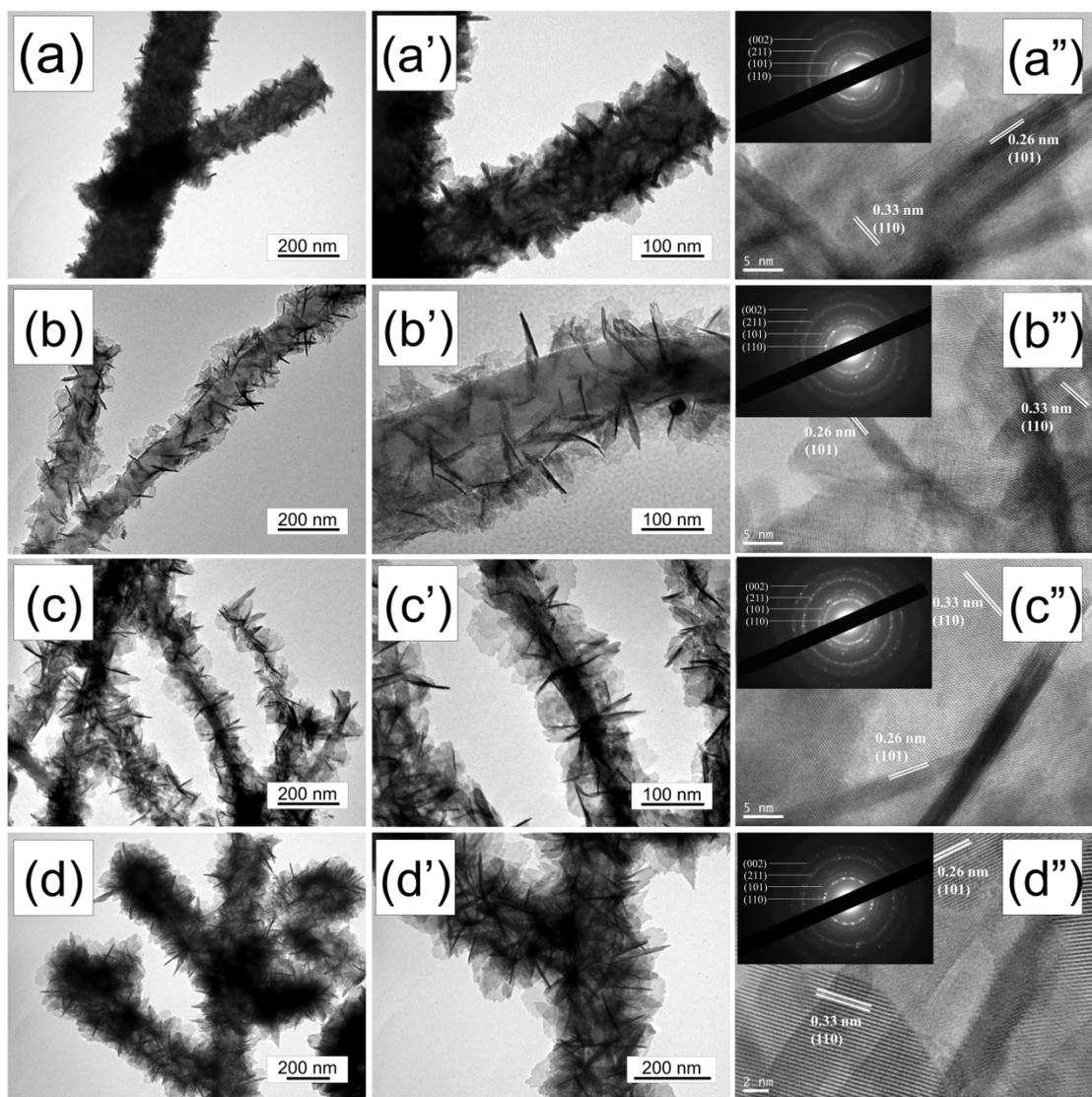


Fig. S1 Low and high magnified TEM images of SnO₂ nanosheets decorated carbon nanofibers with different hydrothermal reaction time of (a , a' , a'') 3h, (b, b' , b'') 6 h, (c, c' , c'') 12 h, (d, d' , d'') 24 h. The insets are the SAED patterns, respectively.

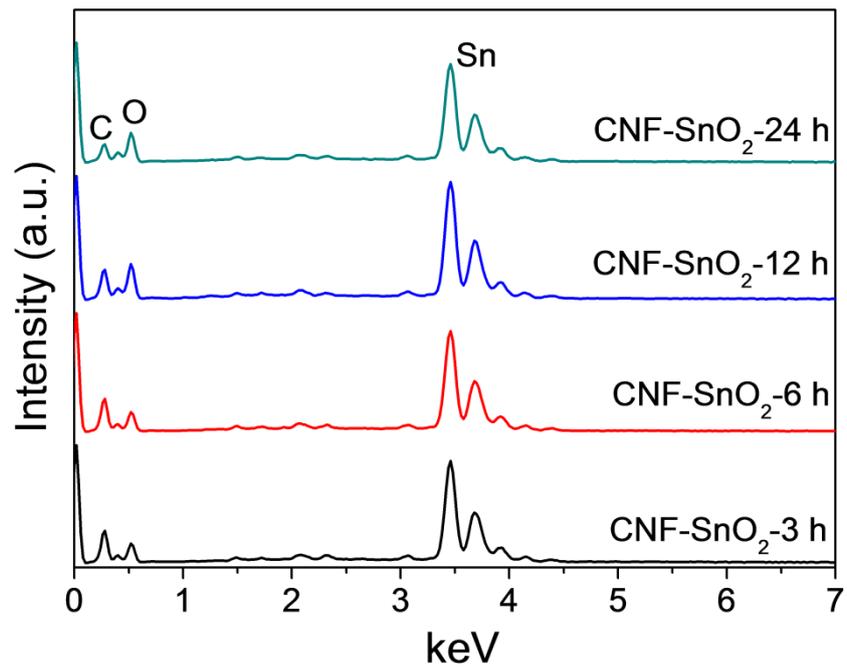


Fig. S2 EDS analysis of SnO₂ nanosheets decorated carbon nanofibers with different hydrothermal reaction time.

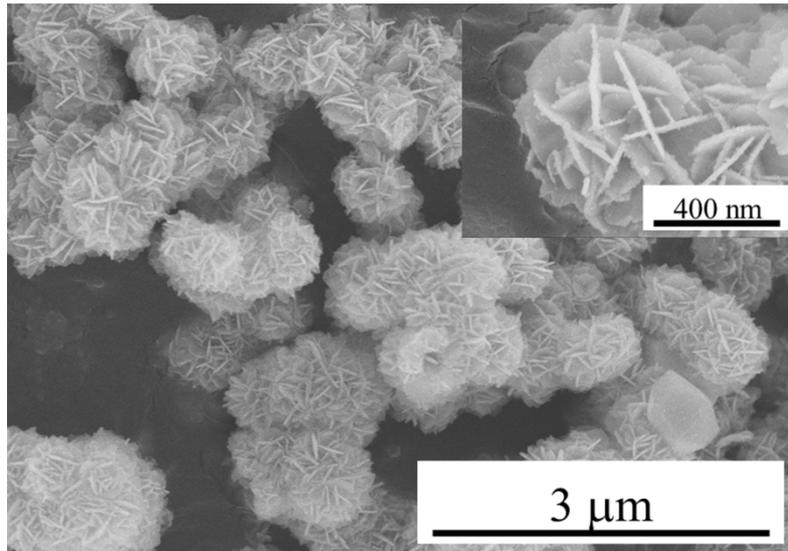


Fig. S3 SEM images of SnO₂ microspheres assembled by SnO₂ nanosheets obtained by the same hydrothermal method without the presence of CNFs.

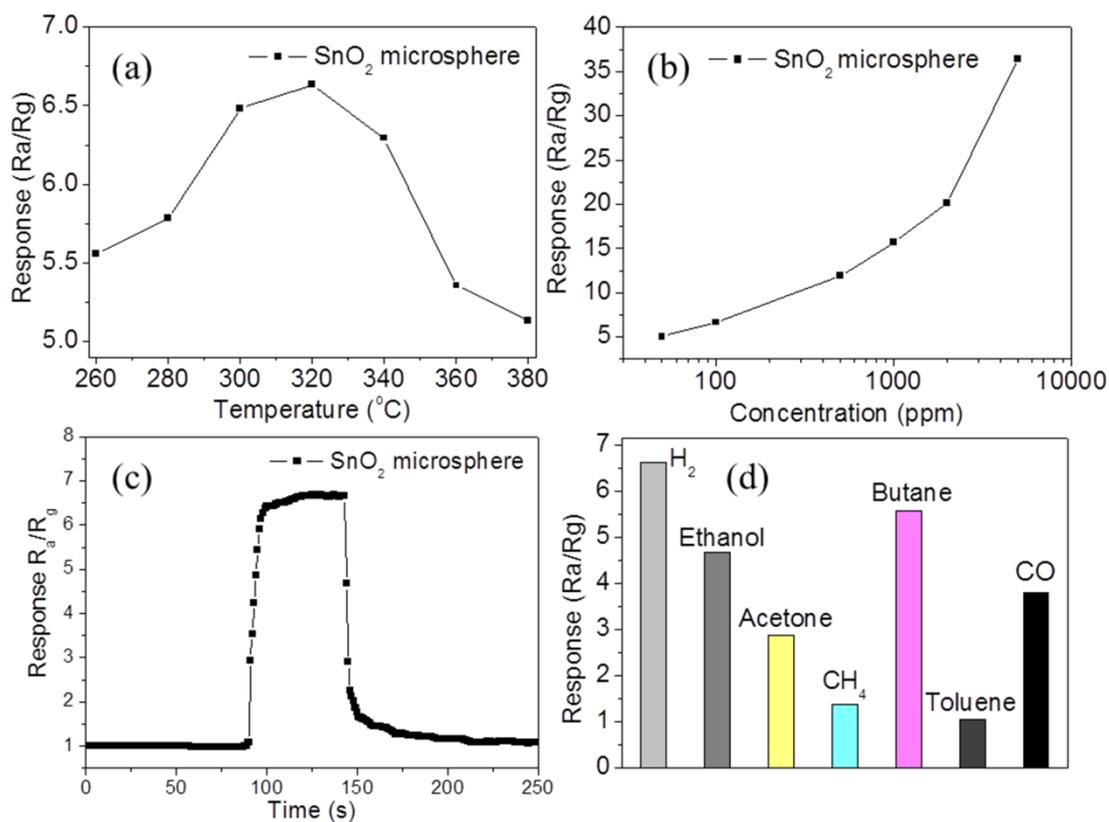


Fig. S4 (a) Responses of SnO₂ microspheres assembled from SnO₂ nanosheets as a function of operating temperatures. (b) Linear plots of the response of the sensor based on SnO₂ microspheres against H₂ at 320°C. (c) Response and recovery behavior of SnO₂ microspheres to 100 ppm H₂ at 320°C. (d) Response of the optimized sensor to 100 ppm different gases (H₂, ethanol, acetone, CH₄, butane, toluene and CO) at 320°C.