## **Supplementary Information**

## Electrospun $In_2O_3/\alpha$ -Fe<sub>2</sub>O<sub>3</sub> heterostructure nanotubes for highly sensitive gas

## sensor applications

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Fig. S1 HRTEM images of IFO-0.1 nanofibers/nanotubes calcined at different temperatures: (a) 400 °C; (b) 500 °C; (c) 600 °C; (d) 700 °C.



Fig. S2 XRD patterns of the nanotubes calcined at 500  $^\circ$ C for 2 h: (a)  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>; (b) IFO-0.05; (c) IFO-0.33.



Fig. S3 Stability of sensors to 100 ppm ethanol for a month.



Fig. S4 Sensor resistances of the sensors at different operating temperatures (in air).