

## Supporting Information

# Nanorods Assembled Hierarchical Bi<sub>2</sub>S<sub>3</sub> for Highly Sensitive Detection of Trace NO<sub>2</sub> at Room Temperature

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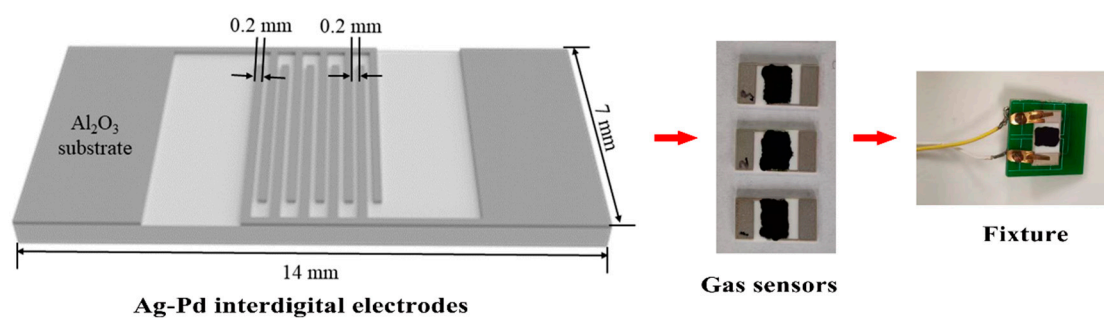


Figure S1. Schematic diagram of the interdigital electrodes, sensors based on different sensing materials, and fixture of sensors.

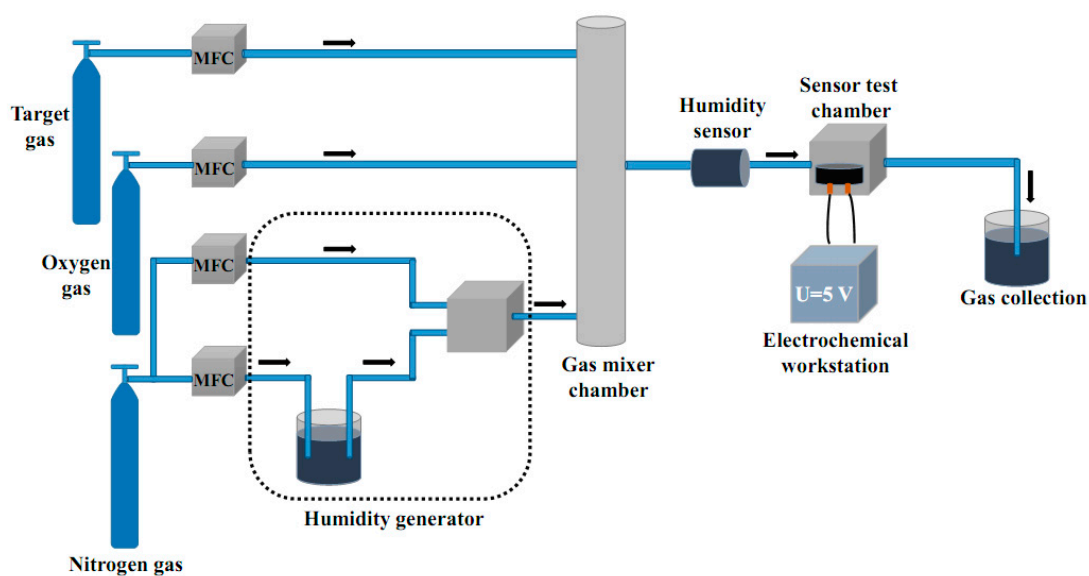


Figure S2. Schematic diagram of the gas sensor dynamic analysis system.

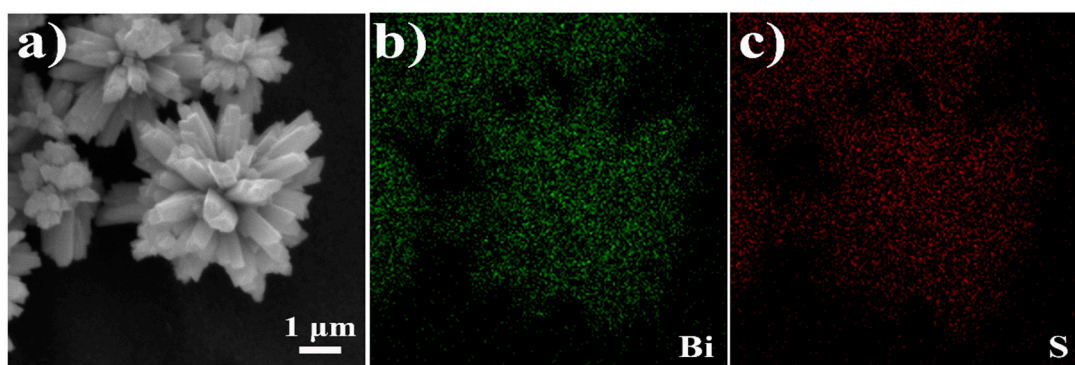


Figure S3. The elemental mapping of the BS-12h sample.

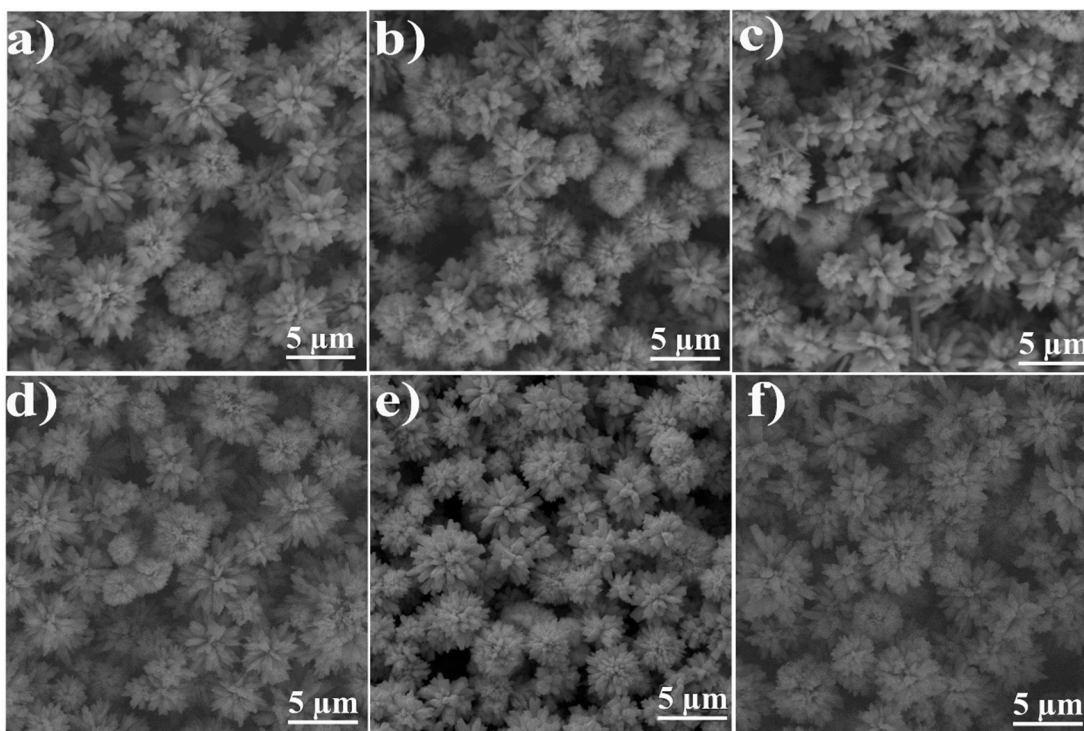


Figure S4. SEM images of as-prepared samples with different reaction time: a) 2 h, b) 3 h, c) 4 h, d) 8 h, e) 12 h, and f) 24 h.

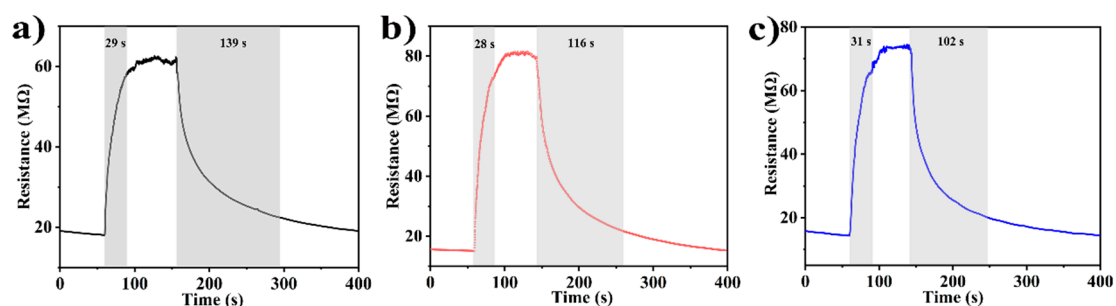


Figure S5. RT dynamic response/recovery curves of BS-8h (a), BS-12h (b), and BS-24h (c) sensors toward 1.0 ppm NO<sub>2</sub>.

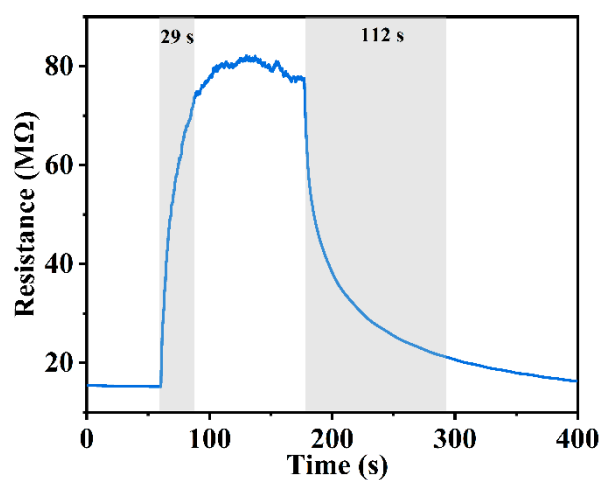


Figure S6. The resistance curve of BS-12h sensor after aging 60 days toward 1.0 ppm NO<sub>2</sub>.

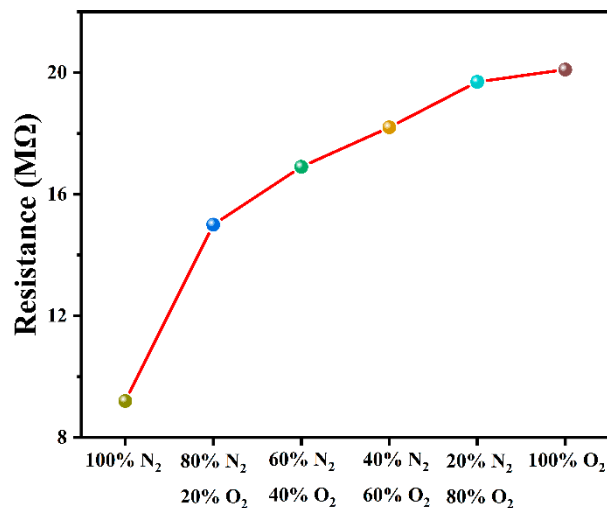


Figure S7. The RT resistance of the BS-12h sensor with different O<sub>2</sub> concentration atmosphere.

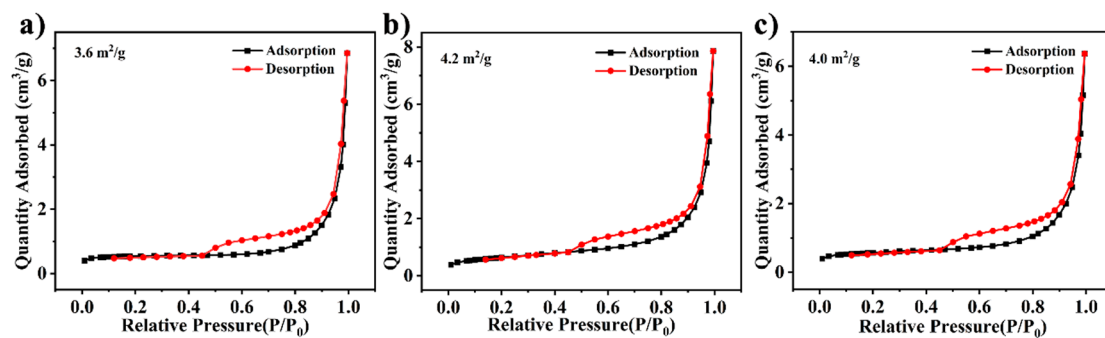


Figure S8. Nitrogen adsorption/desorption isotherms of as-prepared samples with different reaction time: a) BS-8h, b) BS-12h, and c) BS-24h.