

Supplementary Information

Hybrid Poly(3-hexyl thiophene):TiO₂ Nanorods Oxygen Sensor

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The response time and recovery time of the oxygen sensor

Herein we used exponential curve to accurately fit the experiment data of Fig. 7 (b) (60°C) and estimate the response time and recovery time of our sensors according to the definitions:

Response time: The response time is defined as the time our sensor takes to reach 90% of saturated R_0/R (steady-state gain value) after the exposure to oxygen gas.

Recovery time: The recovery time is defined as the time our sensor takes to reach 20% of the initial R_0/R values (before exposure to oxygen gas).

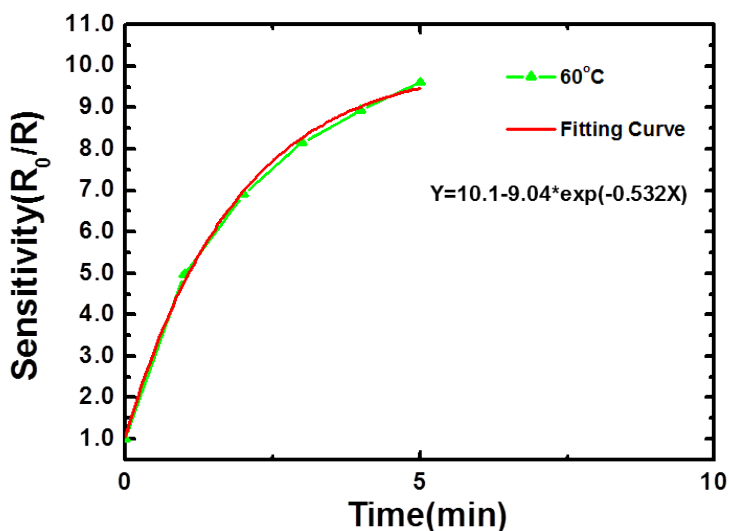


Fig. S1. Sensing responses of P3HT/TiO₂ hybrid film (50wt% TiO₂) testing at 60°C.

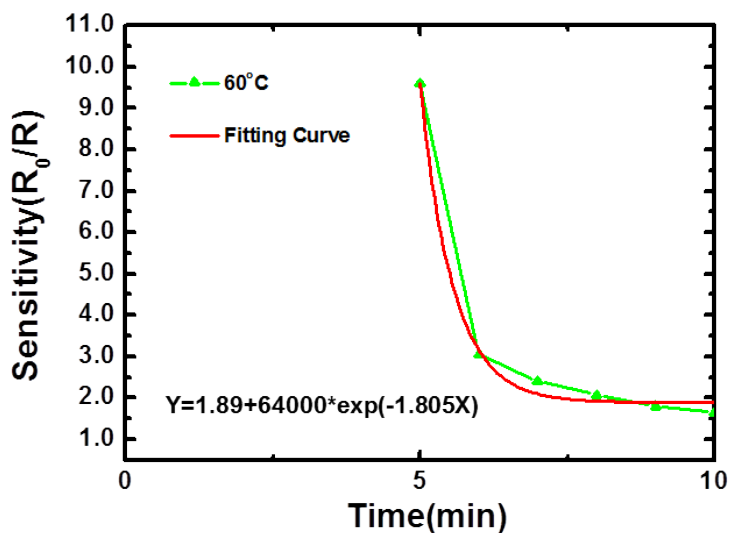


Fig. S2. Sensing recovery of P3HT/TiO₂ hybrid film (50wt% TiO₂) testing at 60°C.

Fig. S1 and **S2** present the sensing responses and recovery of P3HT/TiO₂ hybrid film (50wt% TiO₂) testing at 60°C. The red lines represent the exponential fitting results. According to the formula and the definitions, the response and recovery time can be estimated to be 4.1 and 2.3 minutes respectively.