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## Hybrid of P3HT and ZnO@GO Nanostructured Particles for Increased

## NO<sub>2</sub> Sensing Response



Fig. S1. Photographss of materials after 30 min centrifuge, a ZnO and GO simply mixed by sonicating; b ZnO@GO composites obtained by ion self-assembly method.



Fig. S2. Schematic structure of device



Fig. S3. Typical organic field effect transistor transfer curve of P3HT and hybrid P3HT with various weight fraction of ZnO@GO





Fig S4. Typical organic field effect transistor output curves of P3HT and hybrid P3HT with various weight fraction of ZnO@GO





Fig. S5. AFM image. **a** hybrid of P3HT with 60 wt% ZnO before exposure to NO<sub>2</sub>; **b** after exposure to NO<sub>2</sub> of **a**; **c** hybrid of P3HT with 60 wt% GO before exposure; **d** after exposure of **c**; **e** hybrid of pure P3HT before exposure; **f** after exposure of **e**.