

Supporting Information

Enhanced Photocurrent Generation of Bio-inspired Graphene/ZnO Composite Film

Shengyan Yin,^{*a} Xiaoju Men,^a Hang Sun,^c Ping She,^c Wei Zhang,^a Changfeng Wu,^a

Weiping Qin^a and Xiaodong Chen^{*,b}

^aState Key Laboratory on Integrated Optoelectronics, College of Electronic Science & Engineering, Jilin University, 2699 Qianjin Street, Changchun 130012, P. R. China. E-mail: syyin@jlu.edu.cn;

^bSchool of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore, 639798, Singapore. E-mail: chenxd@ntu.edu.sg;

^cKey Laboratory of Bionic Engineering (Ministry of Education), College of Biological and Agricultural Engineering, Jilin University, Changchun, Jilin 130022, P. R. China.

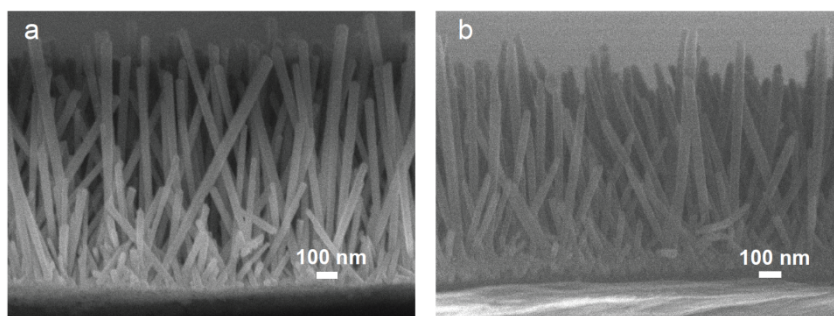


Fig. S1. Cross-sectional SEM image of ZnO layer in (a) rGO/DODA/ZnO honeycomb film and (b) rGO/DODA/ZnO smooth film, respectively.

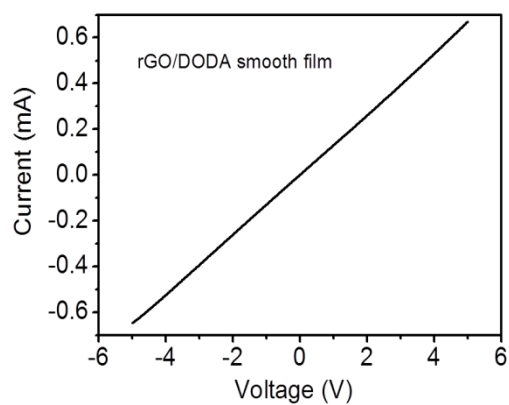


Fig. S2. Conductivity measurement of rGO/DODA smooth film.

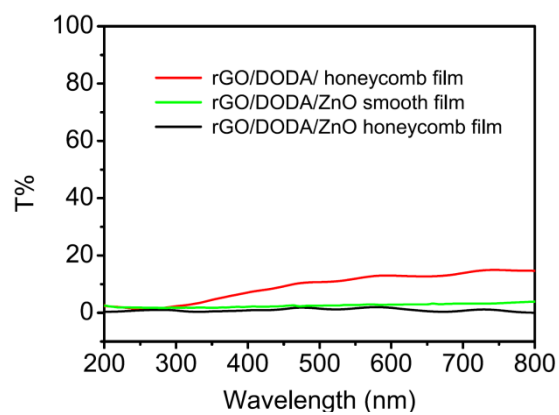


Fig. S3. Transmission spectra of rGO/DODA, rGO/DODA/ZnO smooth film and rGO/DODA/ZnO honeycomb film, respectively.

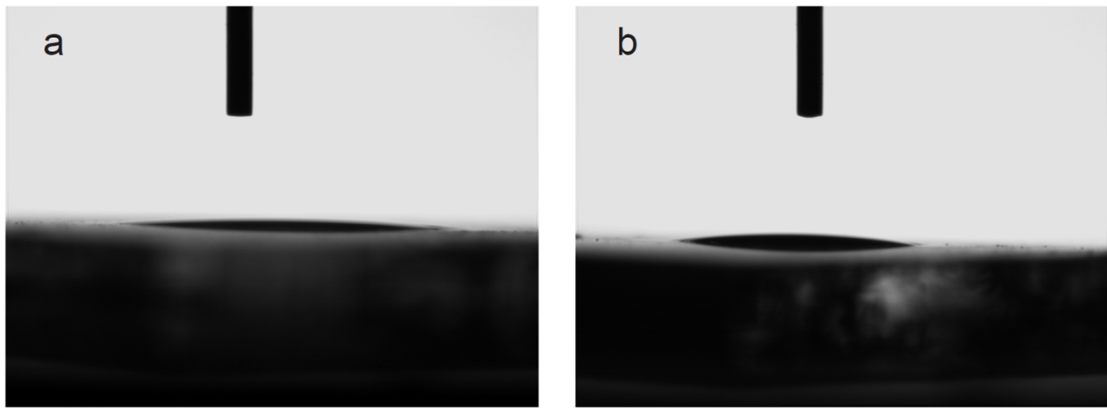


Fig. S4. The water contact angle photography of (a) rGO/DODA/ZnO honeycomb film and (b) rGO/DODA/ZnO smooth film, respectively. The water contact angles of rGO/DODA/ZnO honeycomb film and smooth film are 4° and 14° , respectively.

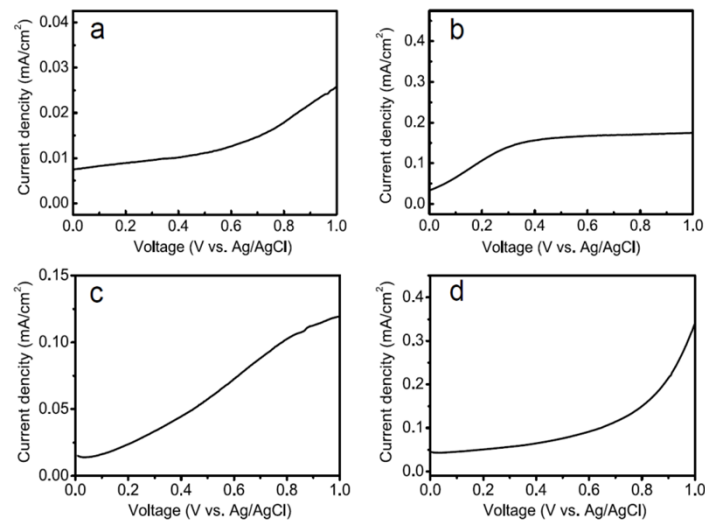


Fig. S5. I-V curves of (a) rGO/DODA honeycomb film, (b) ZnO NRs film, (c) rGO/DODA/ZnO smooth film and (d) rGO/DODA/ZnO honeycomb film, which are plotted with the net photocurrent (the current under the illumination minus the current in dark). The shape of net photocurrent plotted IV curves is similar with that of the IV curves based on the current under the illumination for each device (Fig. 3c-e).