Supporting Information

Mesoporous Bi₂S₃ Nanorods with Graphene-Assistance as Low-Cost Counter-Electrode Materials in Dye-Sensitized Solar Cells

Sheng-qi Guo,^a Tian-zeng Jing,^a Xiao Zhang,^a Xiao-bing Yang,^c Zhi-hao Yuan ^{*b} and Fang-zhong Hu ^{*c}

^a Tianjin Key Laboratory of Environmental Remediation and Pollution Control, Nankai University, Tianjin 300071, China.

^b Tianjin Key Lab for Photoelectric Materials & Devices, Tianjin 300384, China. Email: <u>zhyuan@tjut.edu.cn</u>

^c State Key Laboratory and Institute of Elemento-Organic Chemistry, Nankai University, Tianjin 300071, China. E-mail: fzhu@nankai.edu.cn

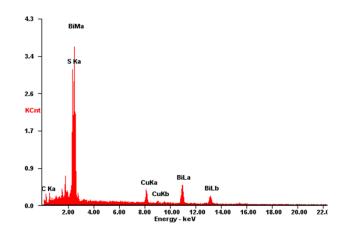


Figure S1. EDS image of the Bi_2S_3 sample.

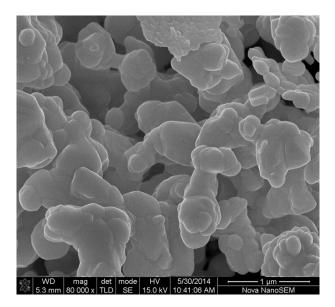


Figure S2. SEM image of the Bi₂S₃ sample as counter electrodes after calcined at 450°C.

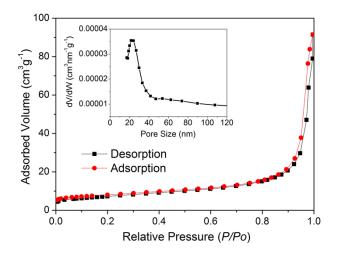


Figure S3. N_2 adsorption/desorption isotherm and Barrett-Joyner-Halenda (BJH) pore size distribution plot (inset) of Bi_2S_3 nanorods after calcined at 450°C.

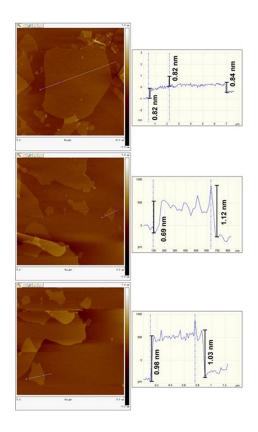


Figure S4. AFM images of added rGO powder.

The atomic force microscopy (AFM) images indicate the height of the rGO to be 0.35–1 nm, which reveals that the graphene sheets are either mono- or bi-layered.

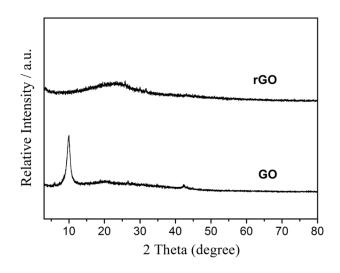


Figure S5. XRD patterns of the GO and rGO.