Supporting Information

Bi_2S_3 microspheres Grown on Graphene Sheets as low-cost counter-electrode materials for dye-sensitized solar cells

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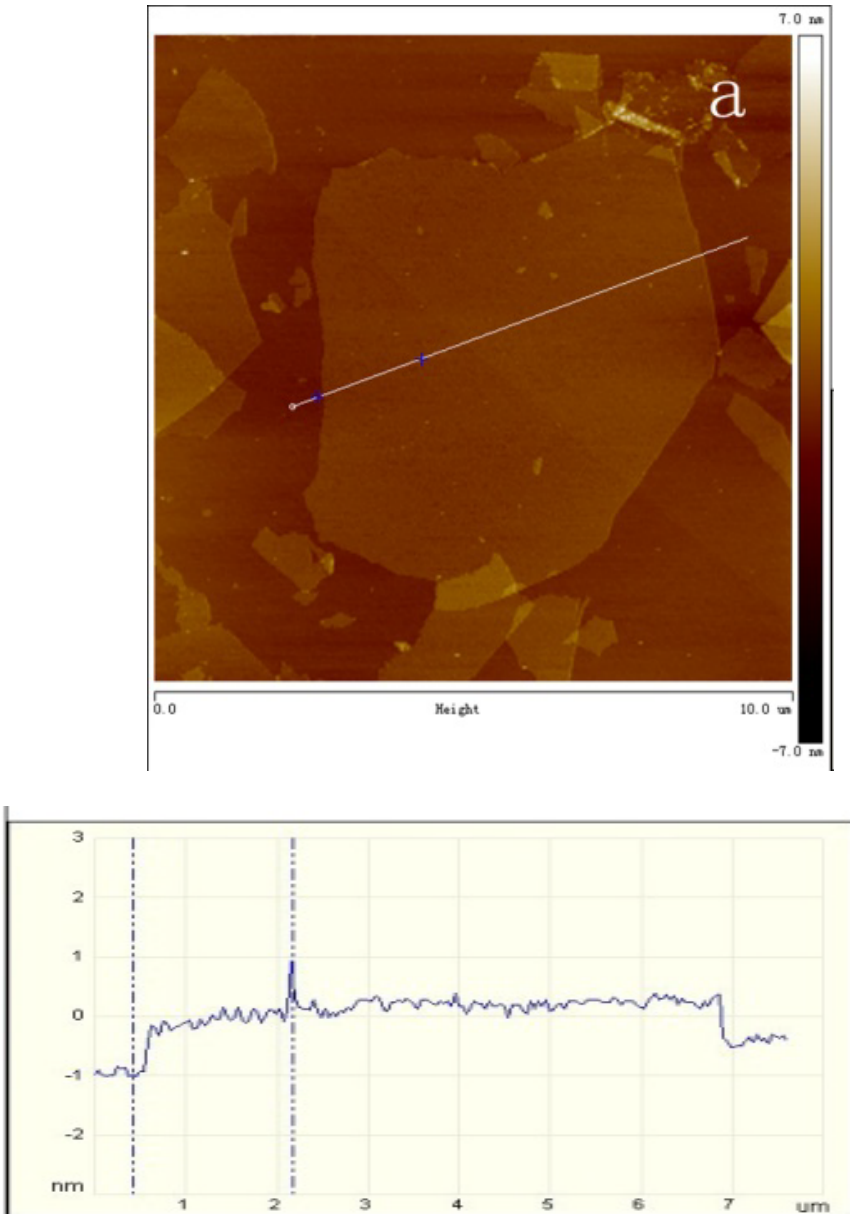

Figure S1. AFM image of GO sample (height, pm)

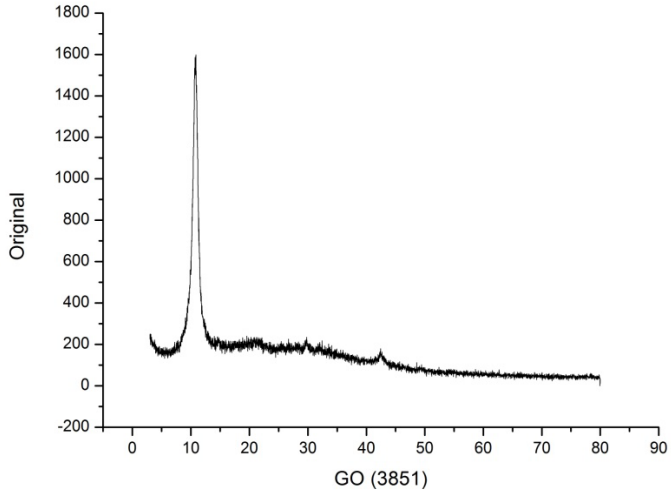

Figure S2. XRD pattern of graphene oxides, consistent with Ref[1]

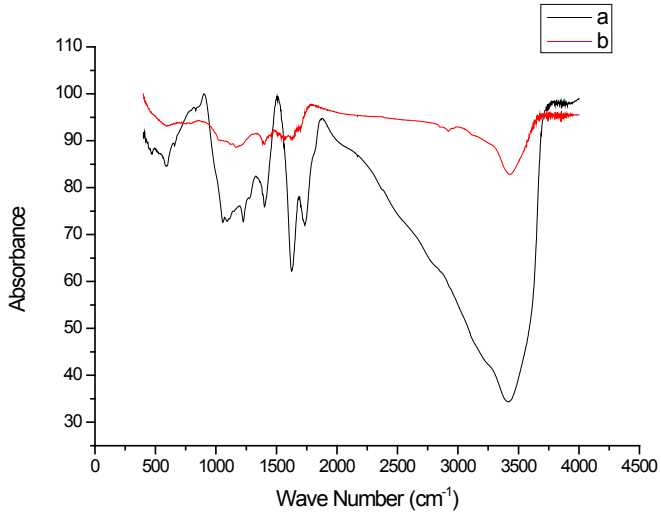

Figure S3. FT-IR spectra for: a: graphene oxide (GO), b: graphene supported Bi_2S_3 microsphere

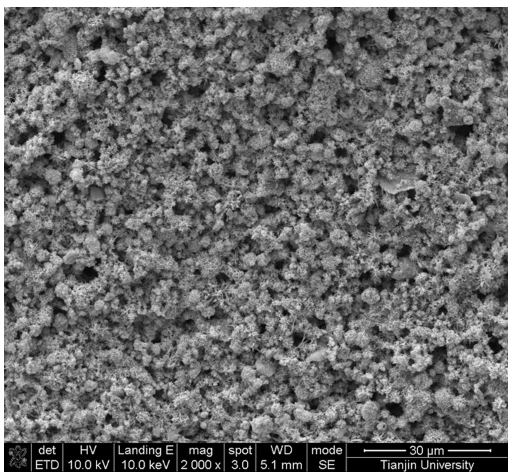

Figure S4. SEM image of Bi_2S_3 microspheres without graphene

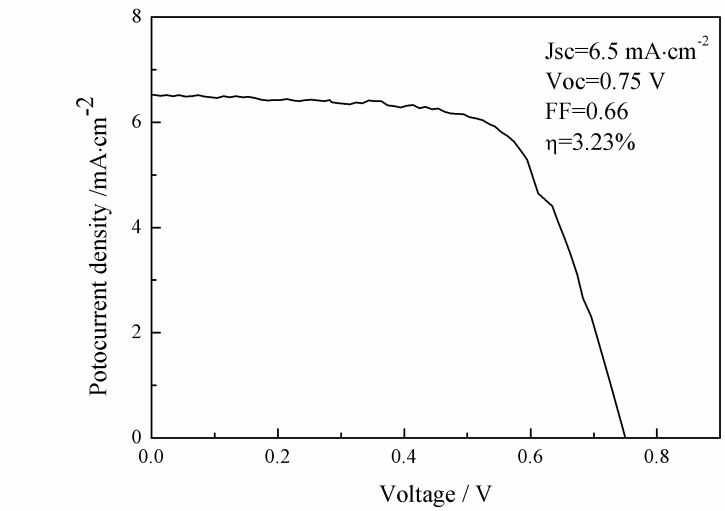

Figure S5. I-V curve of synthetic graphene sheets

We synthesized graphene sheets, and investigated their photovoltaic property in DSSCs. The graphene film was fabricated by the doctor blade method on a FTO conductive glass and sensitized with N719 dye. The short-circuit current density, open-circuit voltage, fill factor, and efficiency were J_{sc}= 6.5 mA/cm^2, V_{oc}= 0.75 V, FF = 0.66, and η= 3.23%, shown in Figure S5.

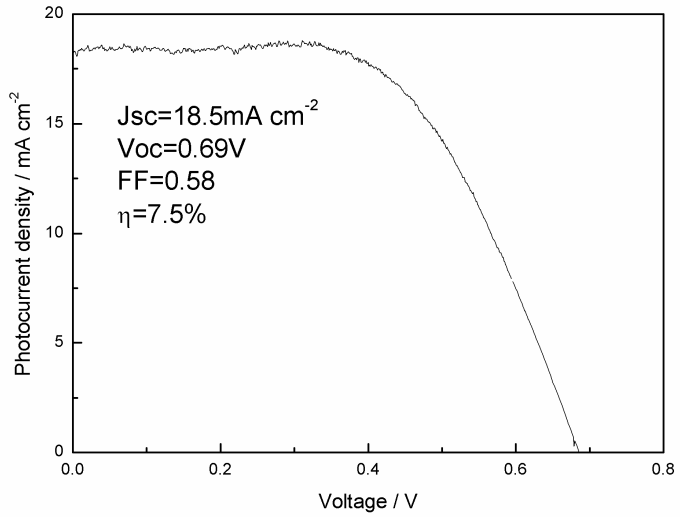

Figure S6. I-V curve of Pt as cathode

The short-circuit current density, open-circuit voltage, fill factor, and efficiency of Pt as cathode were J_{sc}= 18.5 mA/cm^2, V_{oc}= 0.69 V, FF = 0.58, and η= 7.5%, shown in Figure S6.

Reference

[1] J. Liu, Y. H. Xue, L.M. Dai. *J. Phys. Chem. Lett.* **2012**, *3*, 1928 − 1933.