Supporting Information

Electrostatic Fabrication of RGO-*g*-SSS/CdTe Graphene/Quantum Dot Nanocomposites with Enhanced Optoelectronic Properties

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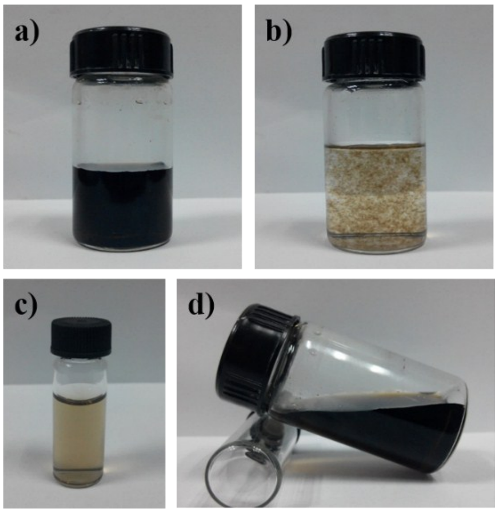

Fig. S1 (a) Solution obtained after polymerization of SSS in the presence of reduced graphene for 24 h, and the vial was placed statically for around 2 months (d). (b) The solution was precipitated by adding it into methanol. (c) The RGO-*g*-SSS solid was redissolved in H_2O.

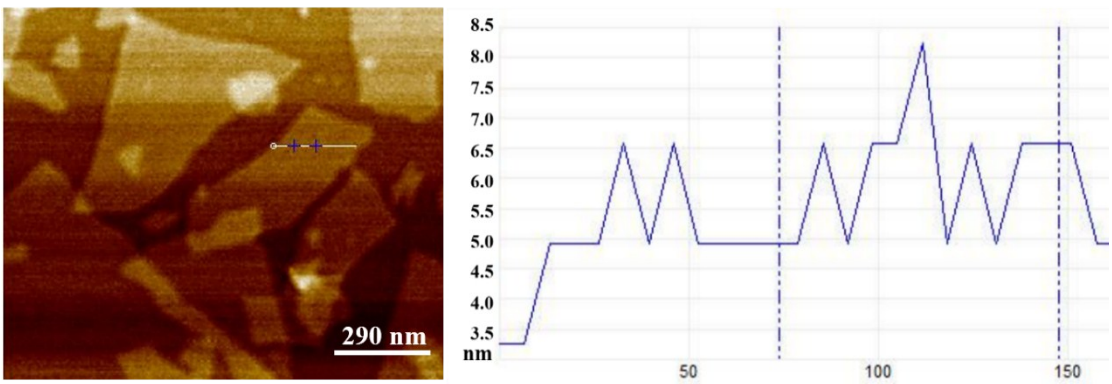

Fig. S2 AFM image of the single layers of RGO-*g*-SSS.

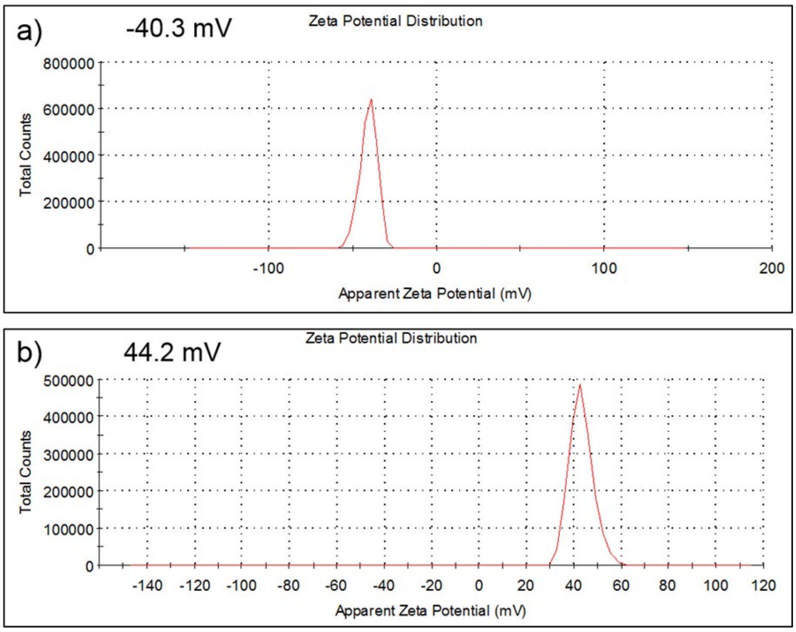

Fig. S3 Zeta potential distribution of a) RGO-*g*-SSS composites and b) amino-modified CdTe QDs.

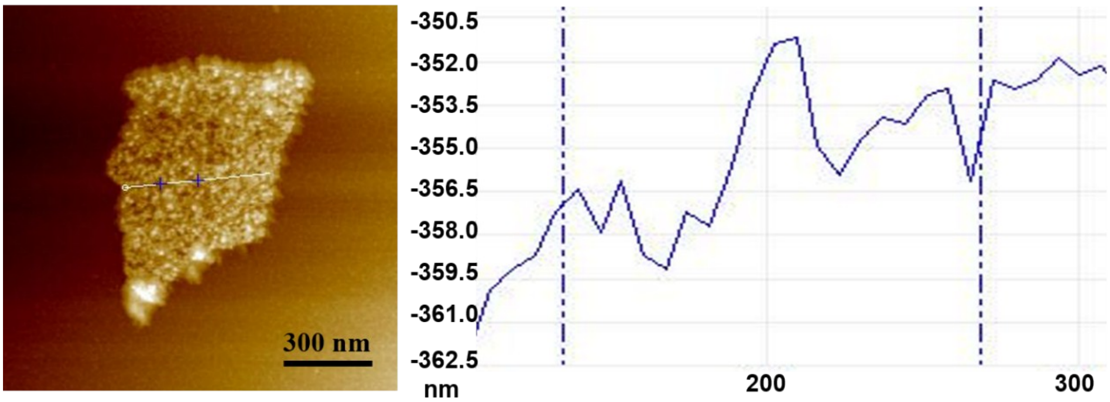

Fig. S4 AFM image of the single layers of RGO-*g*-SSS/CdTe nanocomposites.

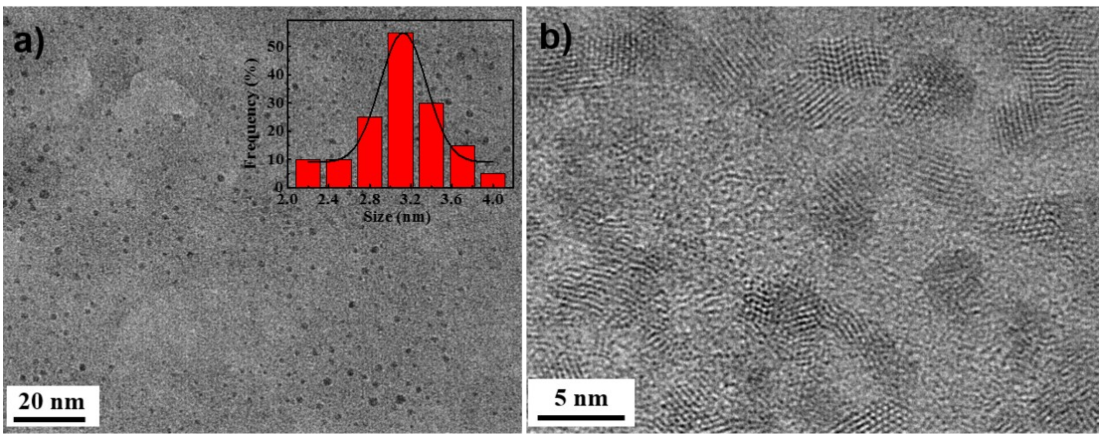

Fig. S5 (a) TEM image and size-distribution diagram (inset) and (b) HRTEM micrograph of CdTe QDs.

The water-phase QDs can be well scattered in the water mainly through a mutual electrostatic repulsive force, as shown in Fig. S5a; the as-prepared amino-modified CdTe QDs are relatively uniform and well-dispersed without obvious aggregation. The mean size of the CdTe QDs was measured to be about 3.2 nm, corresponding to the standards of QDs. The size-distribution diagram (inset) further indicates that the QDs have relatively narrow size distribution. Moreover, the highresolution TEM (HRTEM) image of the CdTe nanoparticles (Fig. S5b) demonstrates that the QDs are highly crystalline through the observation of lattice planes.

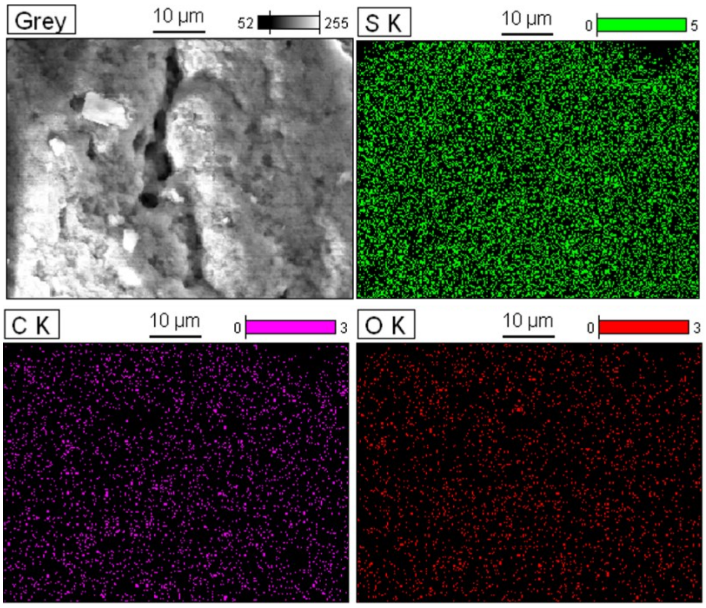

Fig. S6 EDX mapping images of RGO-*g*-SSS composites.

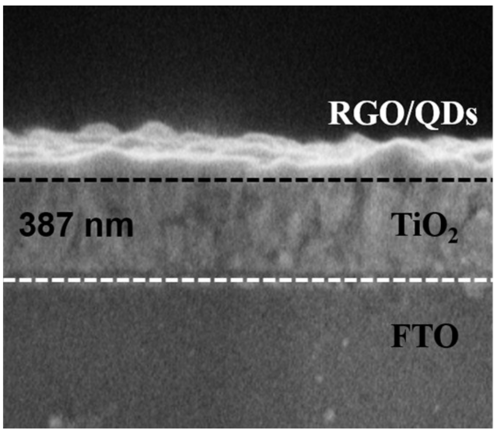

Fig. S7 SEM image of the cross section of the photo-electrode in RGO-*g*-SSS/CdTe sensitized solar cell.