Supplementary information

Organic-inorganic broadband photodetector based on a single polyaniline nanowire doped with quantum dots

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The Monte Carlo method is successful in the study of photocurrent generation in hybrid system. For example, Monte Carlo simulation of photocurrent generation was reported in conjugated polymer-fullerene blend [1] and the model was well verified by the experimental observation [2]. Recently, Monte Carlo method is used in nanoparticle organic solar cells [3]. Herein, Monte Carlo simulation has been performed and the results are shown in Figures S1 and S2.

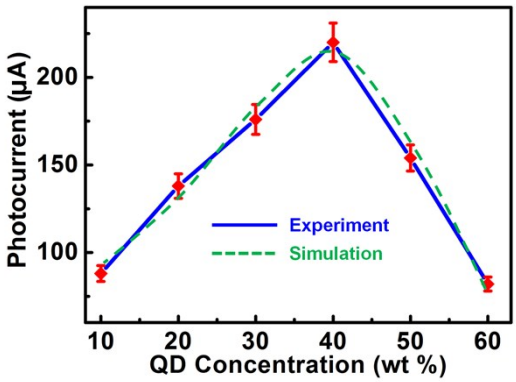

Figure S1. Experimental (solid blue) and simulated (dashed green) photocurrent versus concentration of doped QDs.

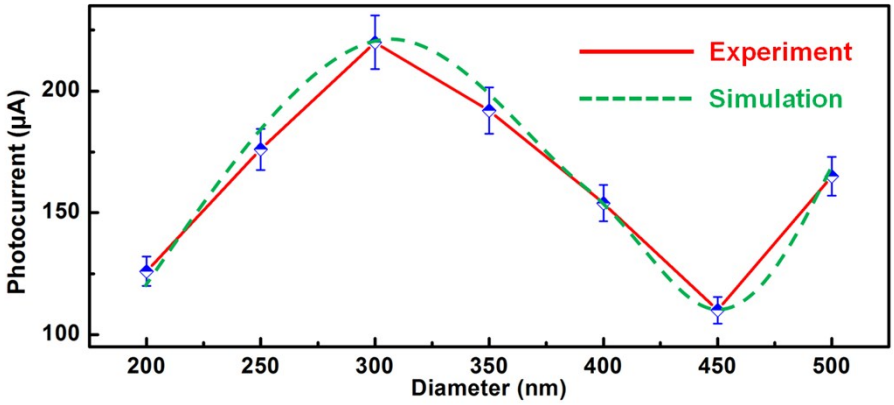

Figure S2. Experimental (solid red) and simulated (dashed green) photocurrent versus diameter of hybrid polyaniline NW.

References

[1] Offermans, T.; Meskers, S. C.; Janssen, R. A., *J. Chem. Phys.* **2003**, *119*, 10924-10929.

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[3] Feron, K.; Ulum, S.; Holmes, N.; Kilcoyne, A.; Belcher, W.; Zhou, X.; Fell, C.; Dastoor, P., *Appl. Phys. Lett.* **2013**, *103*, 193306.