Electronic Supplementary Information

An Efficient Charge Separation and Photocurrent Generation in the Carbon dot-Zinc Oxide Nanoparticles Composite

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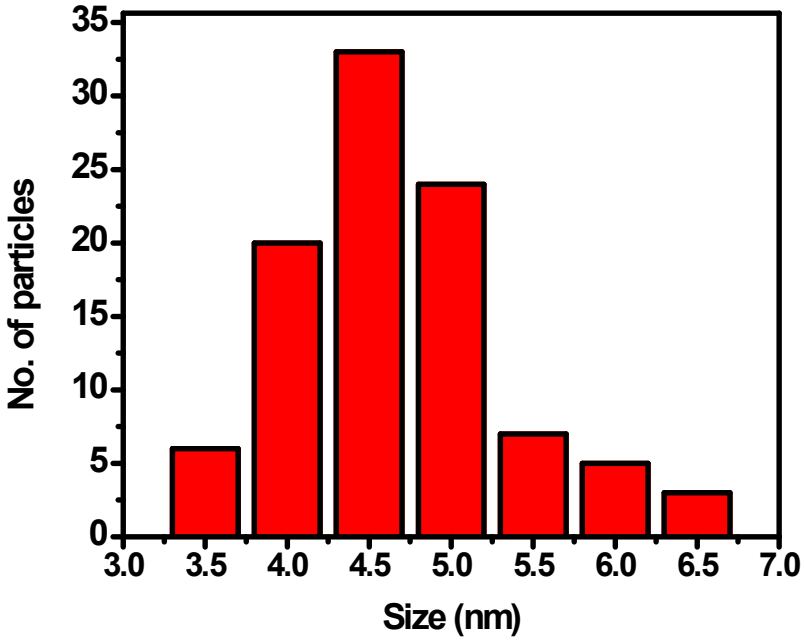


Figure S1: Particles size distribution of carbon dots.

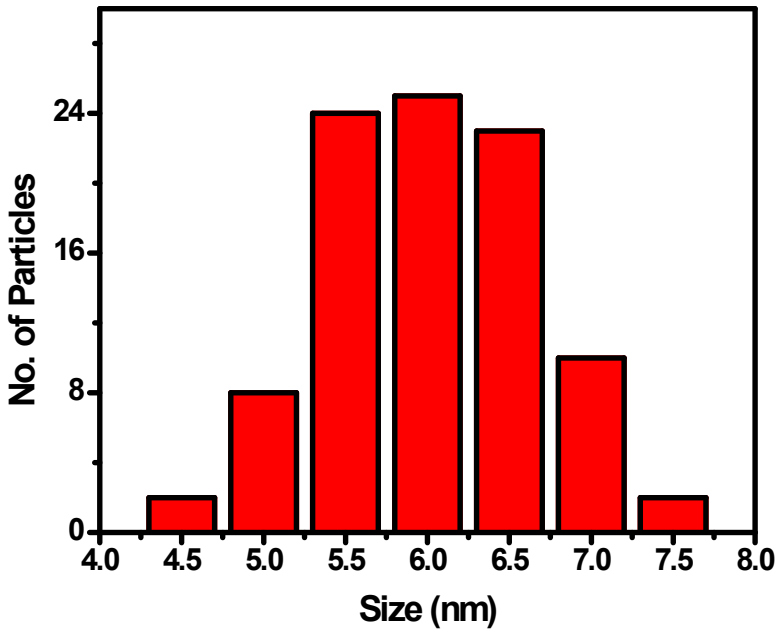


Figure S2: Particles size distribution of ZnO NPs.

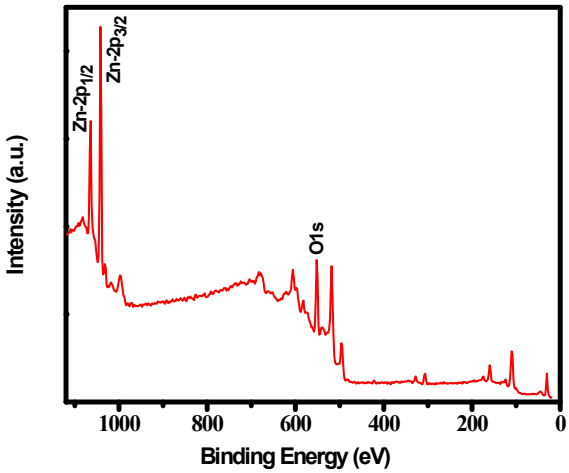
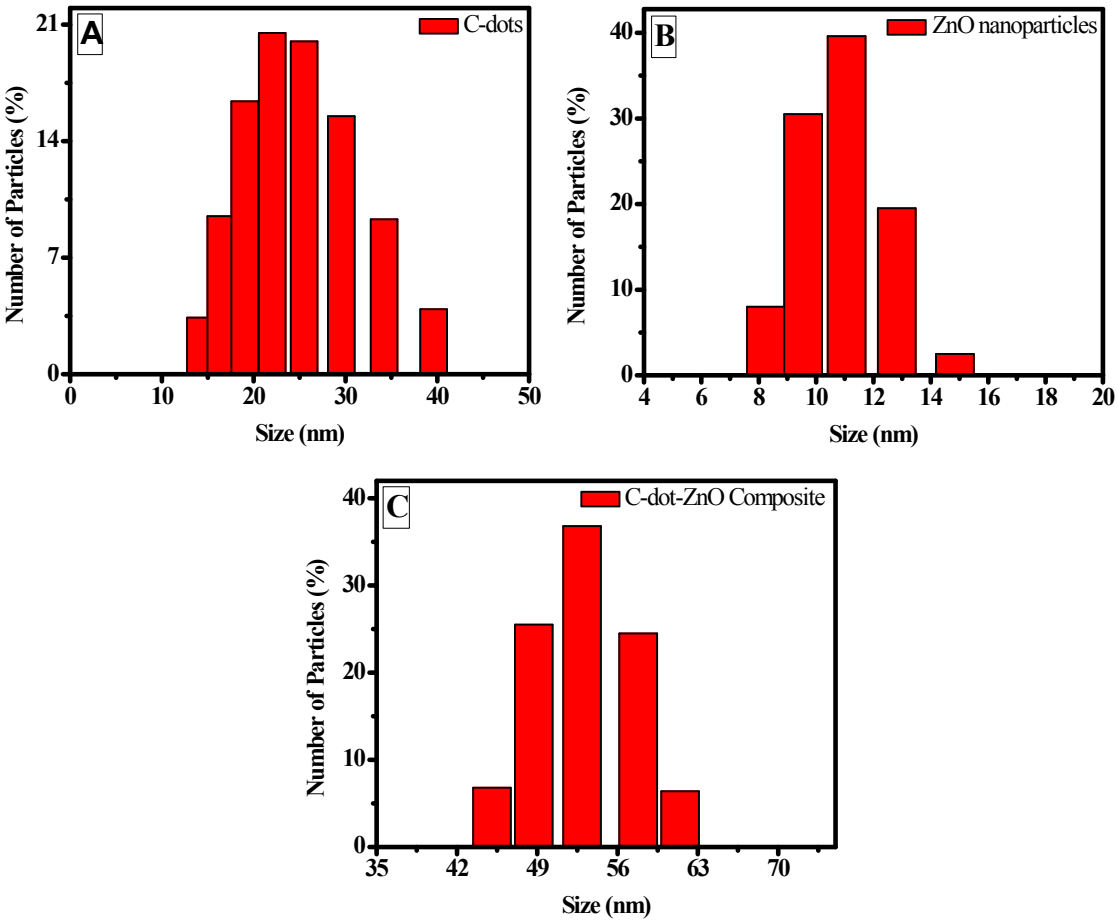
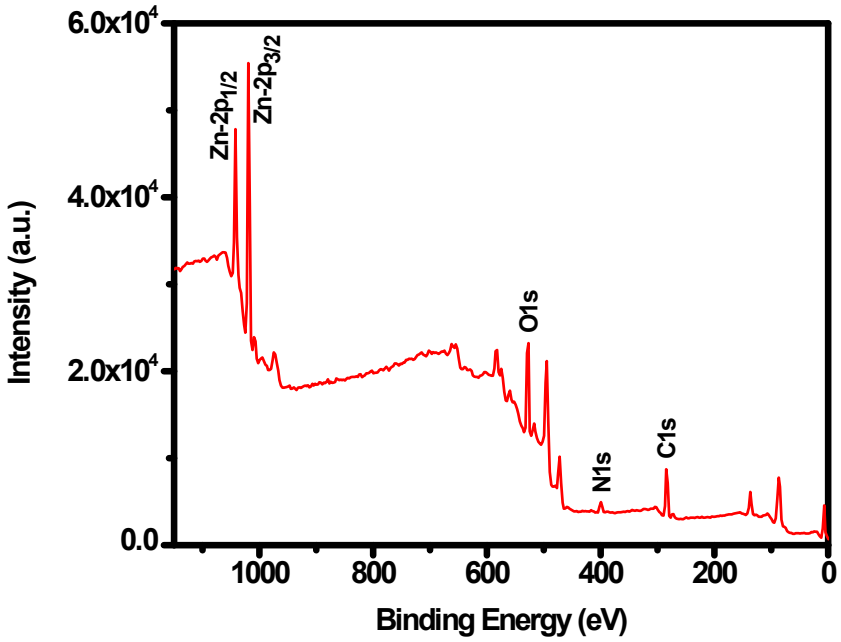


Figure S3: XPS spectrum of ZnO nanoparticles.



S4: DLS measurement for pure C-dots, ZnO nanoparticles and C-dots-ZnO compoite



S5: XPS spectrum of C-dot-ZnO composite.

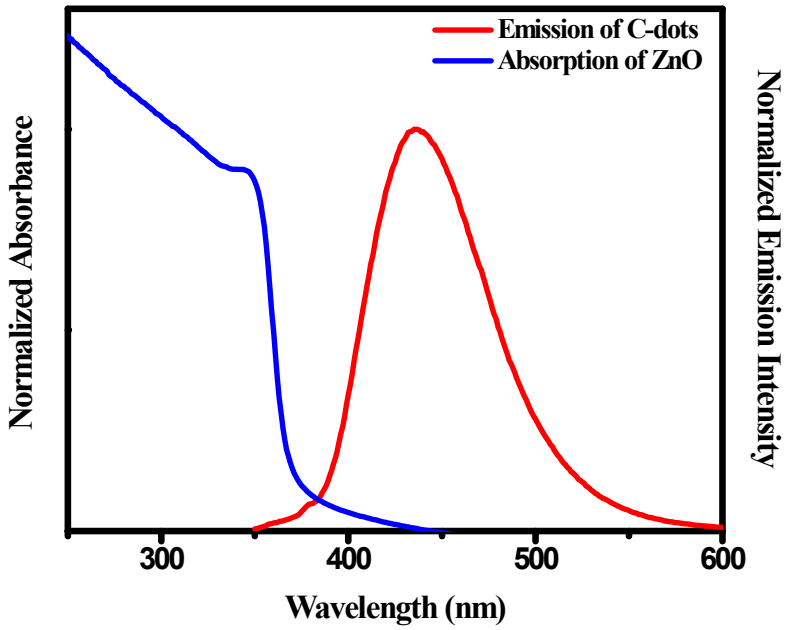


Figure S6: overlap between absorption spectrum of ZnO nanoparticles and emission spectrum of C-dot.

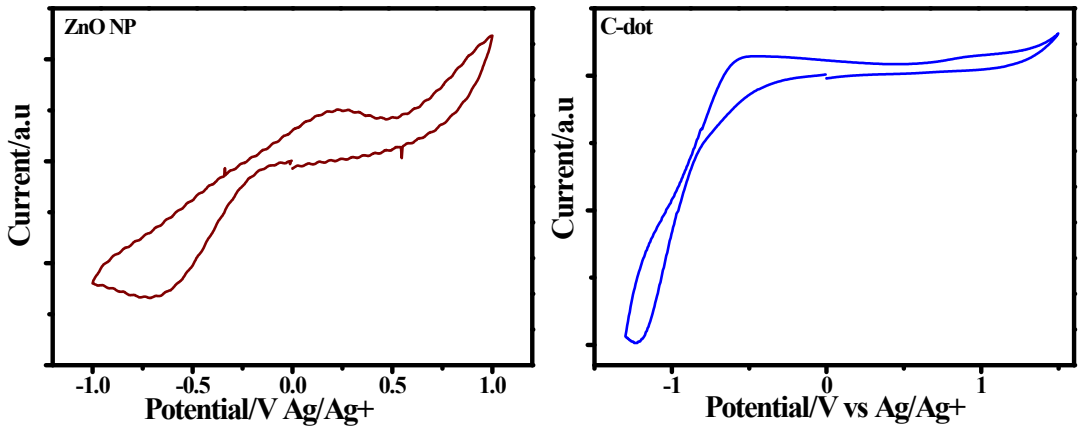


Figure S7: Cyclic Voltammetry spectra of ZnO NP and C-dot respectively.

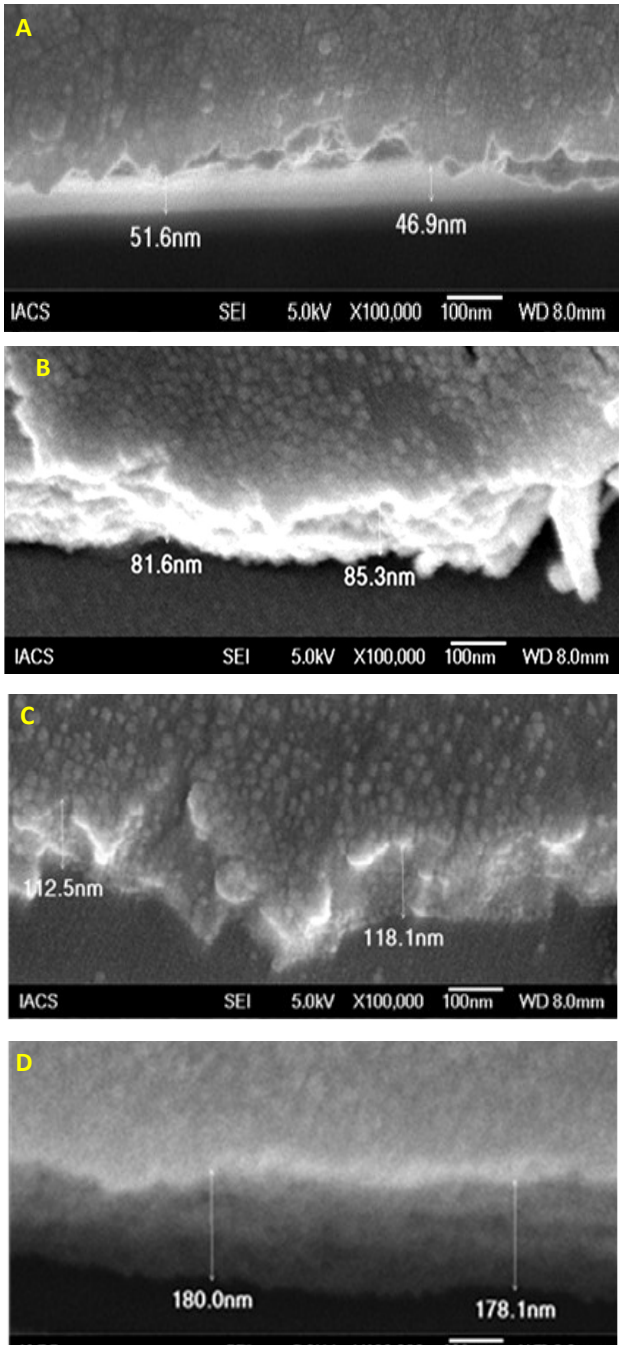


Figure S8: Cross-sectional thickness measurement of the composite device from SEM with varying layer. (A) 1 layer, (B) 2 layer, (C) 3 layer and (D) 5 layer.

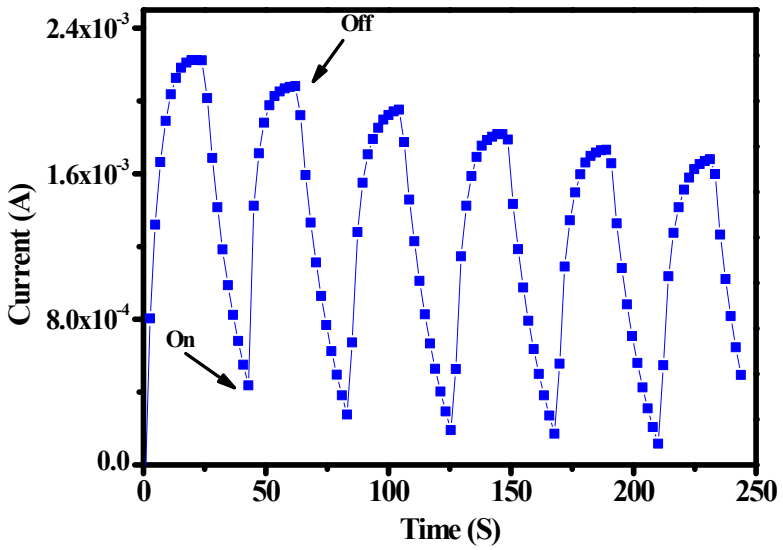


Figure S9: Photoresponsive properties of the C-dot-ZnO composite system.

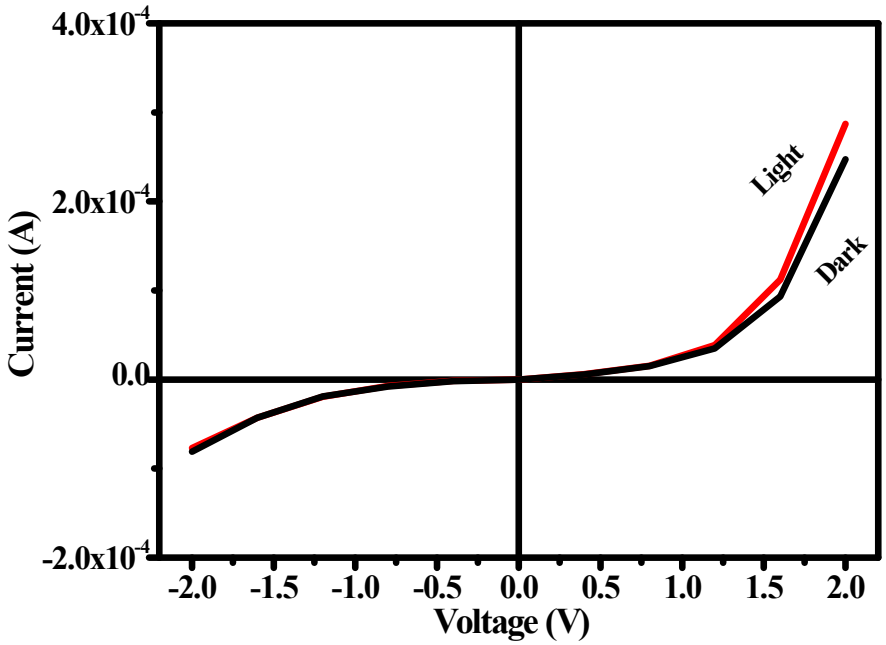


Figure S10: I-V characteristic curve of ZnO nanoparticles at a fixed voltage of 2V