

Supporting Information

An Insight into the Hybrid Dye-Sensitized Solar Cell from Polyaniline-CdS

Nanotubes through Impedance Spectroscopy

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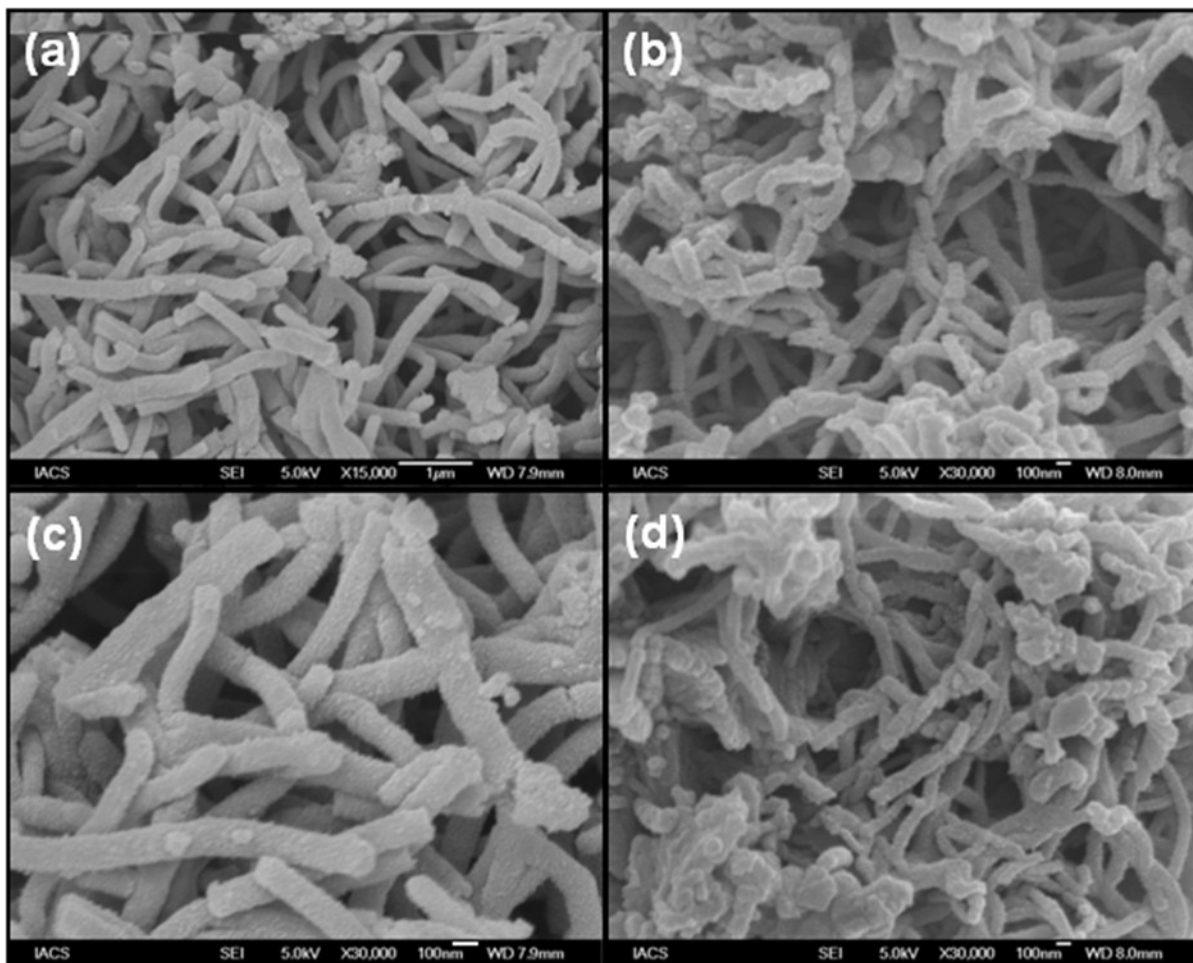


Fig. S1: FESEM images of (a) C25 (b) C50, (c) C100 and (d) C150 samples.

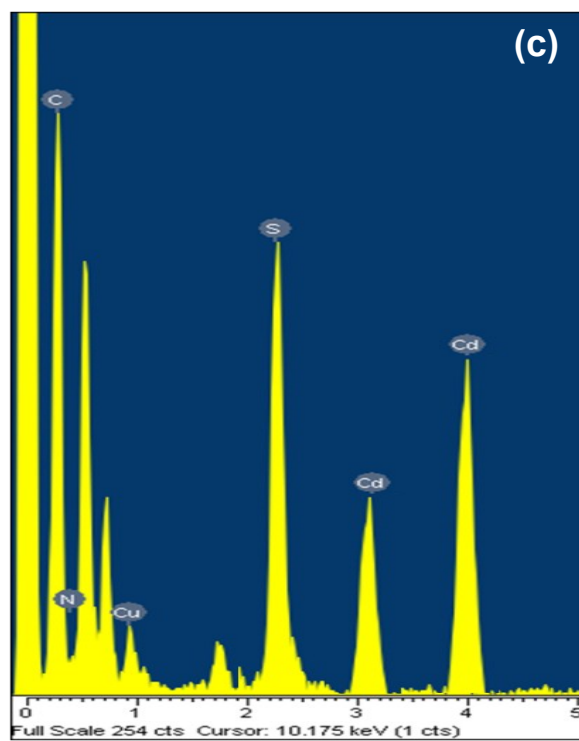
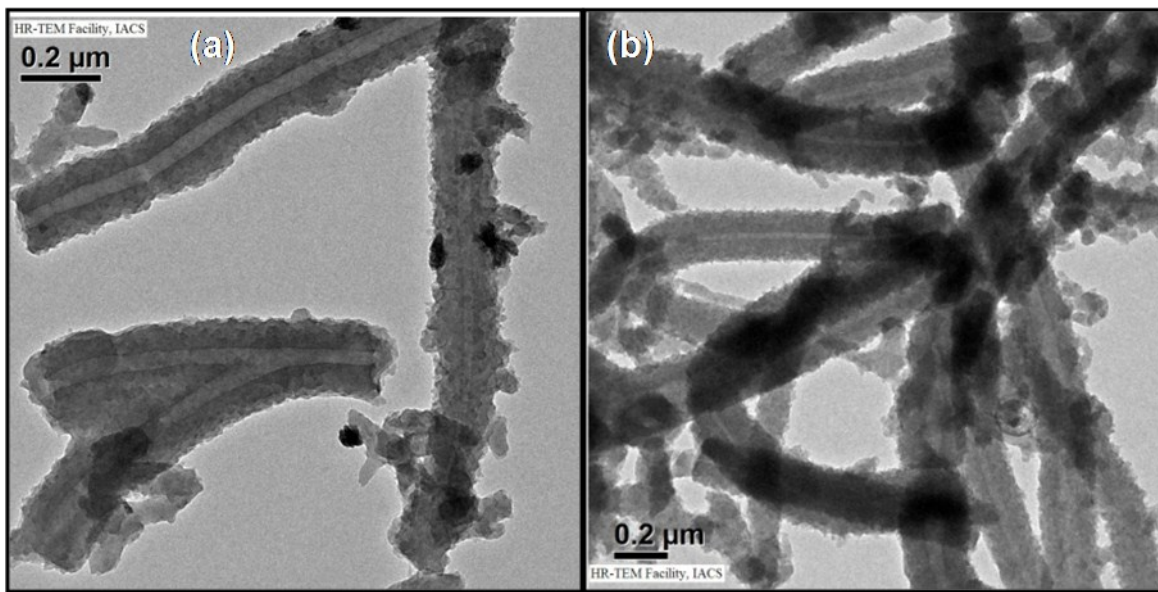


Fig. S2: TEM images of (a) C100, (b) C150 and (c) EDS spectra of C200.

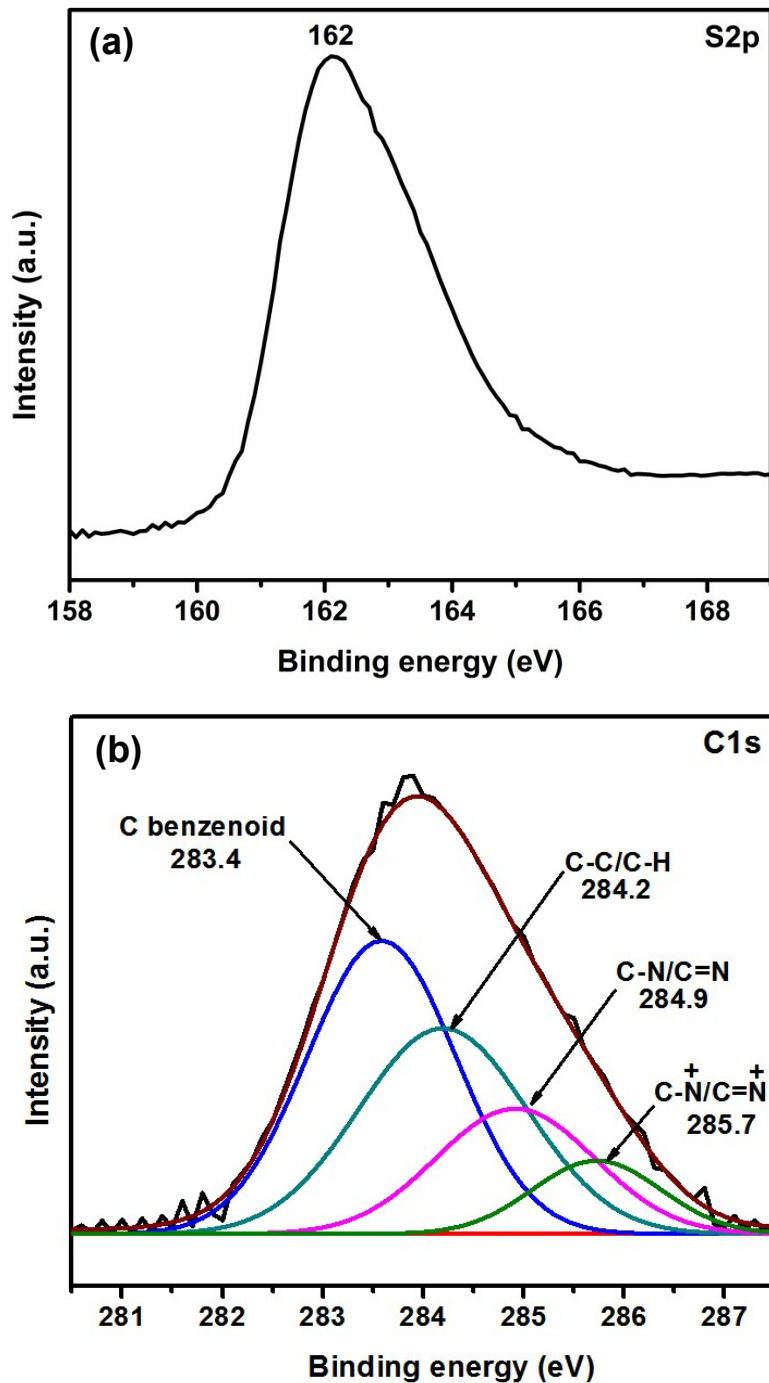


Fig. S3: XPS spectrum of (a) S_{2p} of CdS in C200, (b) deconvoluted spectral part of C_{1s} region of PANI in C200.

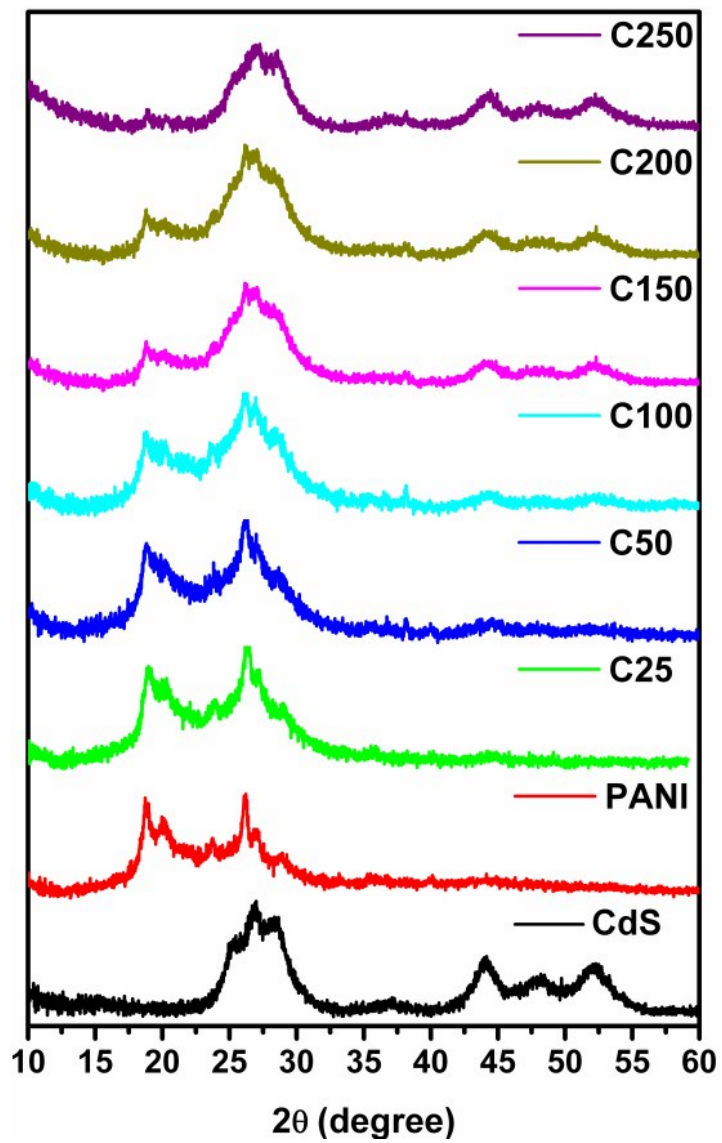
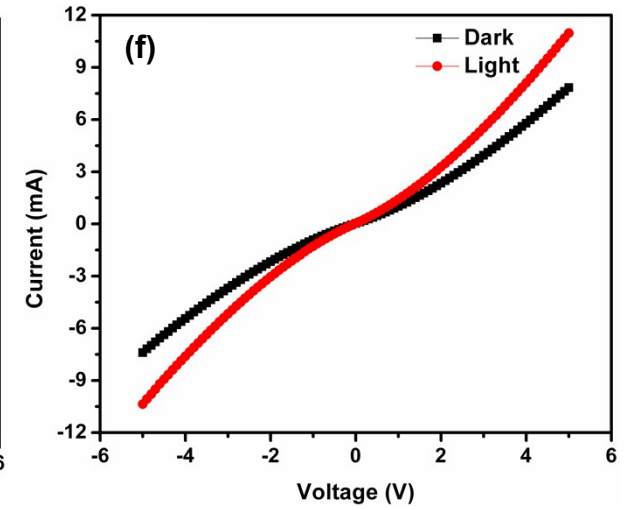
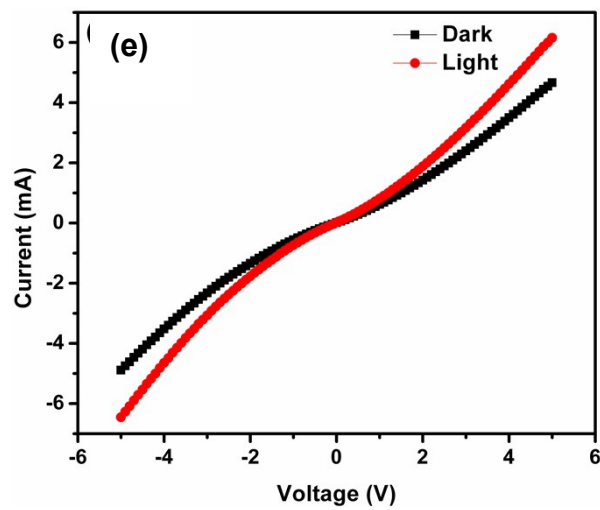
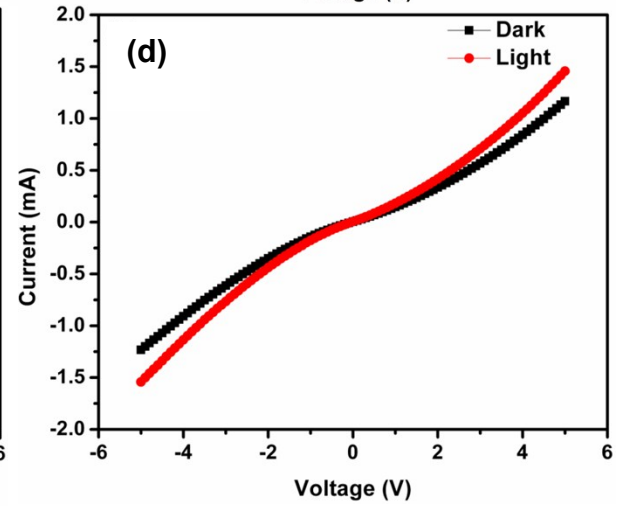
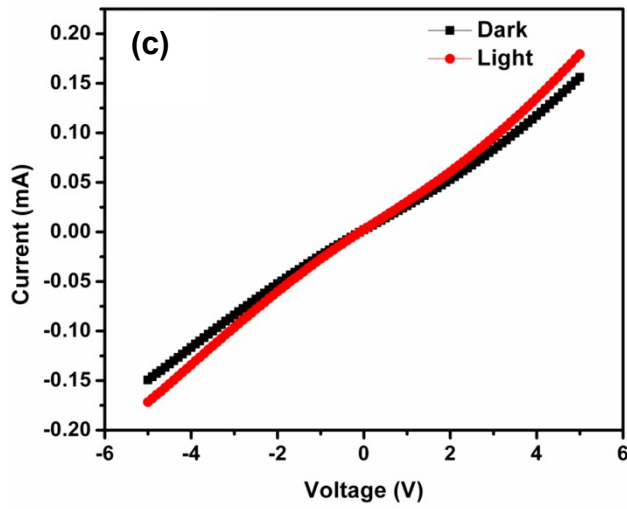
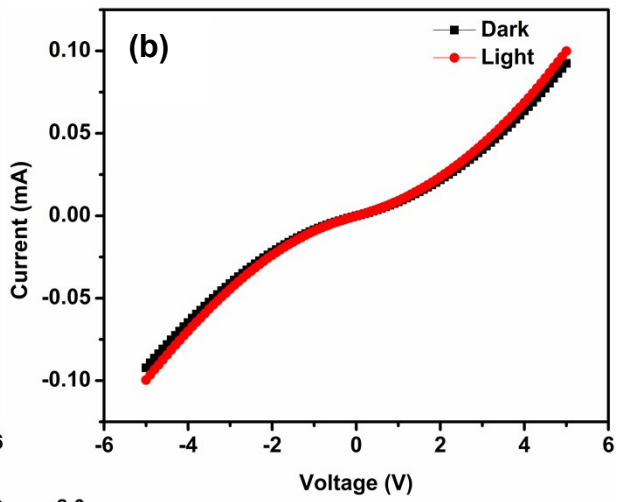
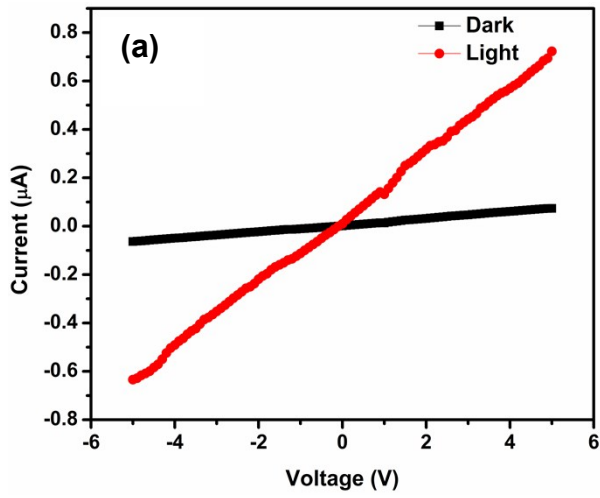


Fig. S4: XRD pattern of CdS, PANI and their composites.



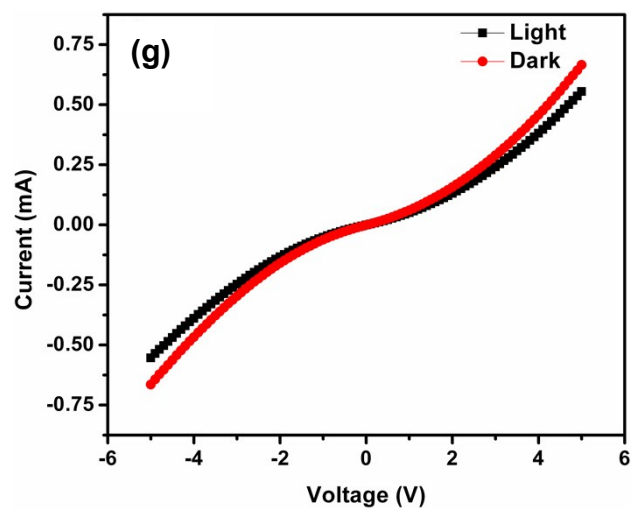
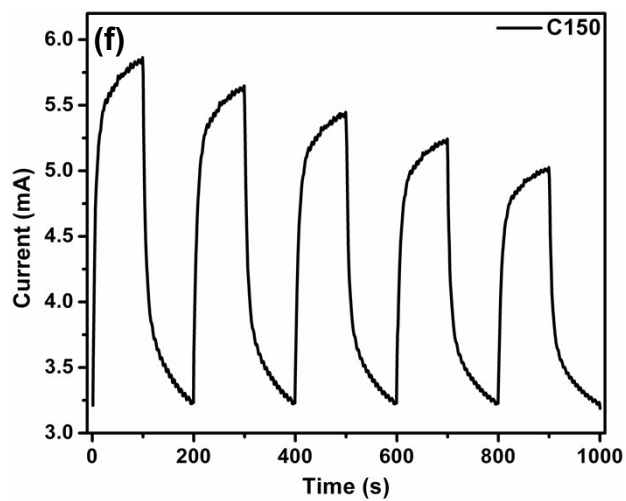
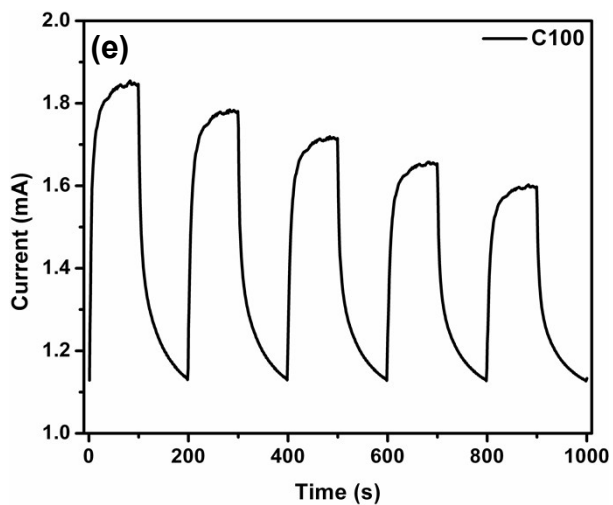
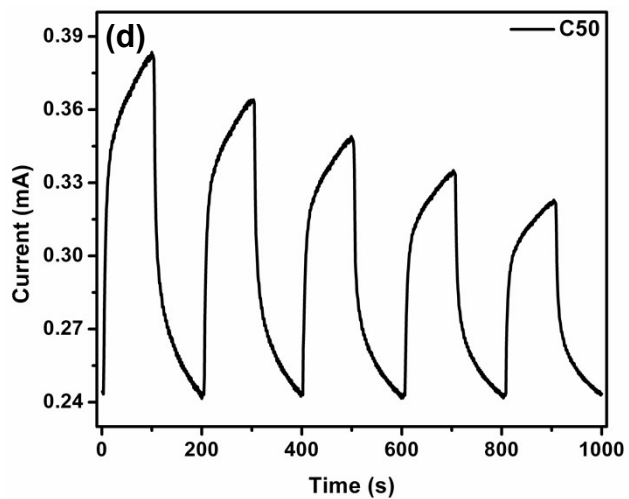
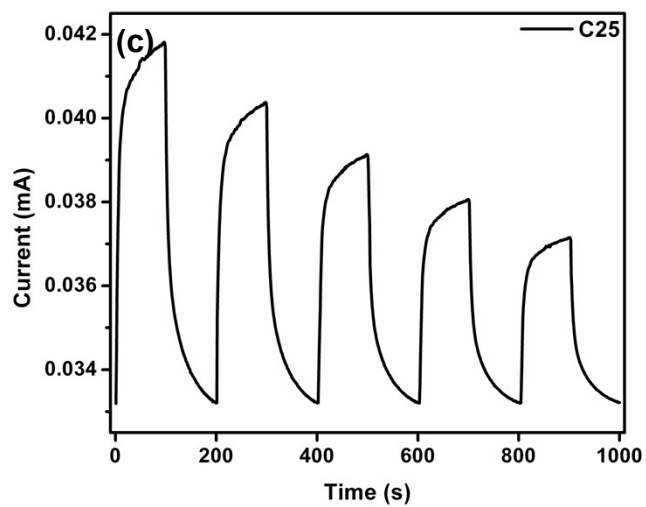
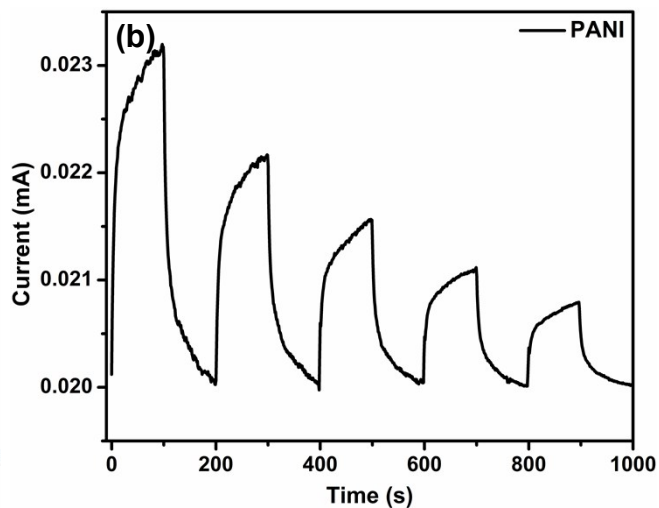
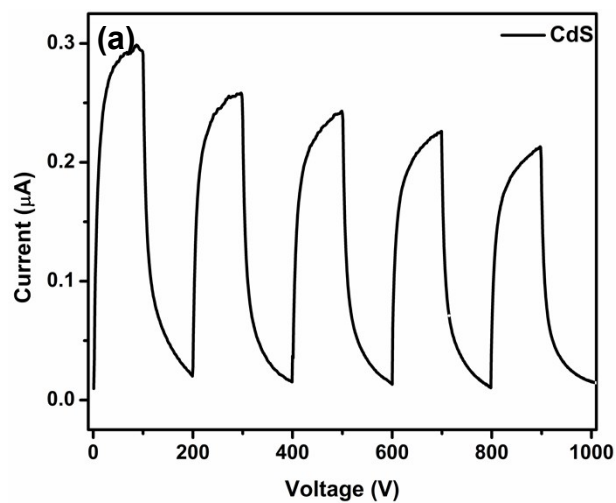


Fig. S5: I-V characteristics of (a) CdS (b) PANI, (c) C25, (d) C50, (e) C100, (f) C150, (g) C250 samples under dark and illumination condition.



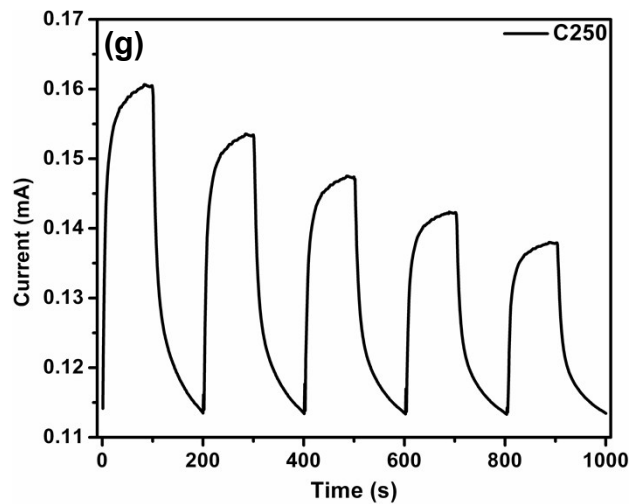


Fig. S6: Photoresponse properties of (a) CdS, (b) PANI, (c) C25, (d) C50, (e) C100, (f) C150 and (g) C250 samples

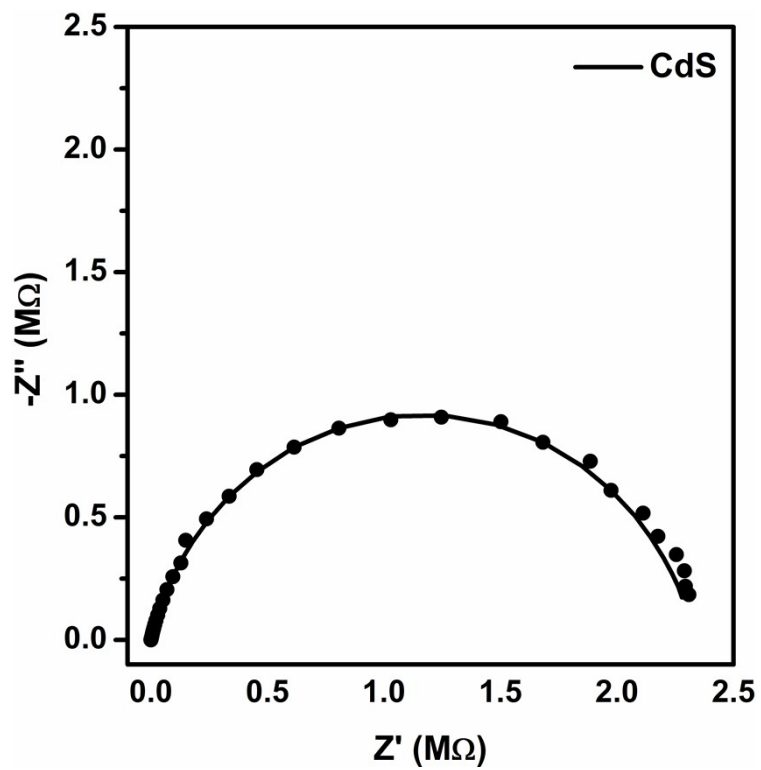


Fig. S7: Nyquist plot of CdS at a frequency range from 1 MHz to 1 Hz.

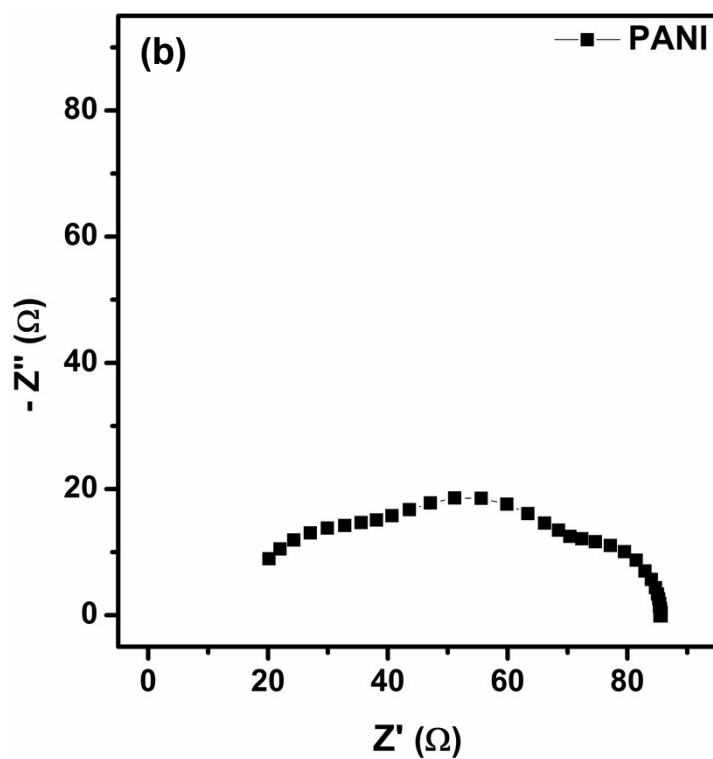
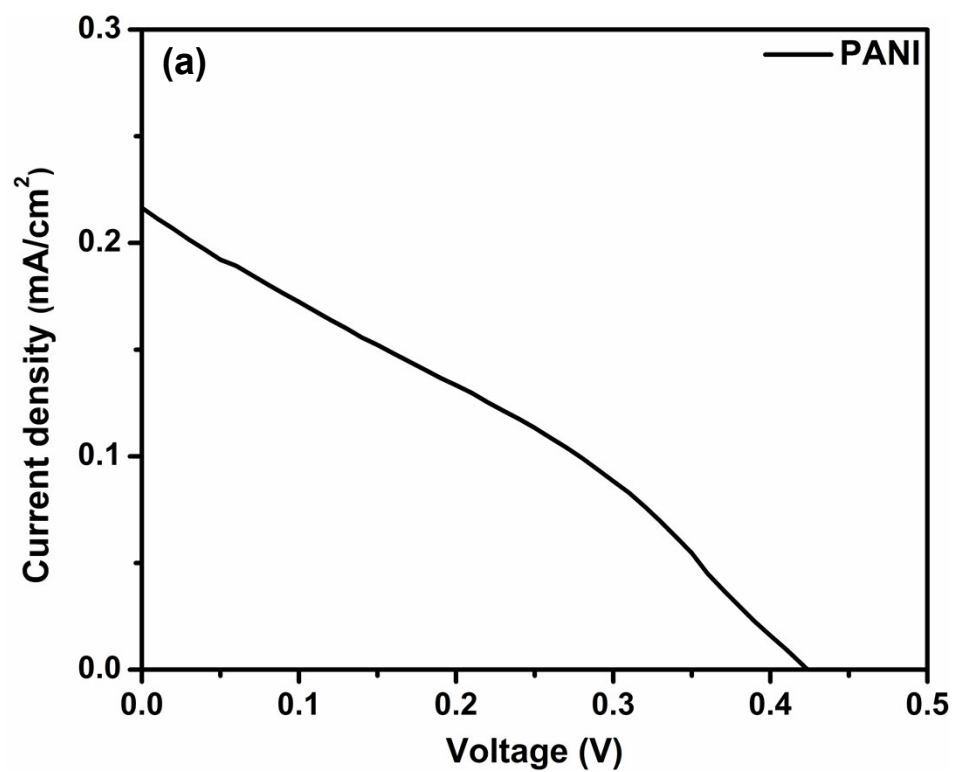


Fig. S8: (a) J-V characteristics plot of PANI based DSSCs under AM 1.5G 100 mW/cm² illumination (b) Nyquist plot of PANI based DSSC.

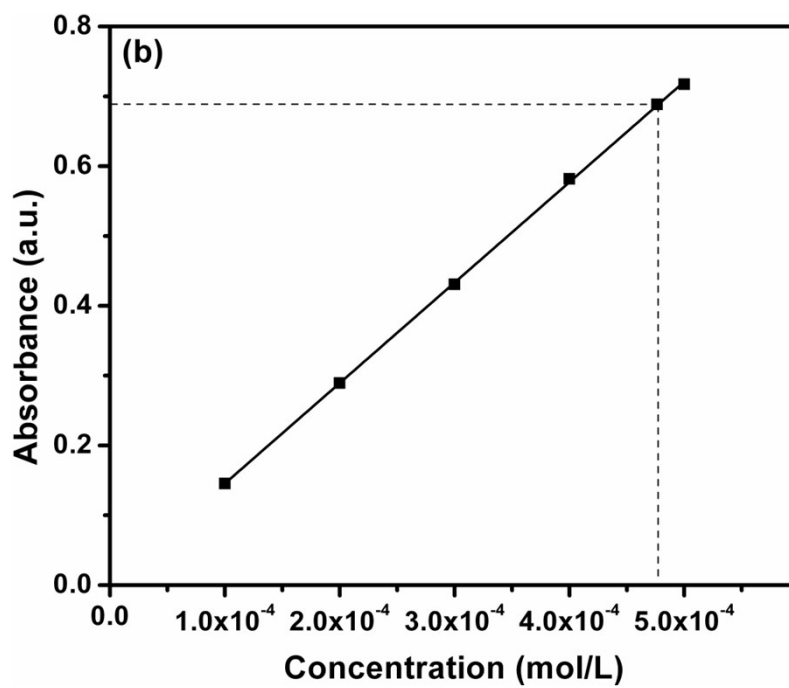
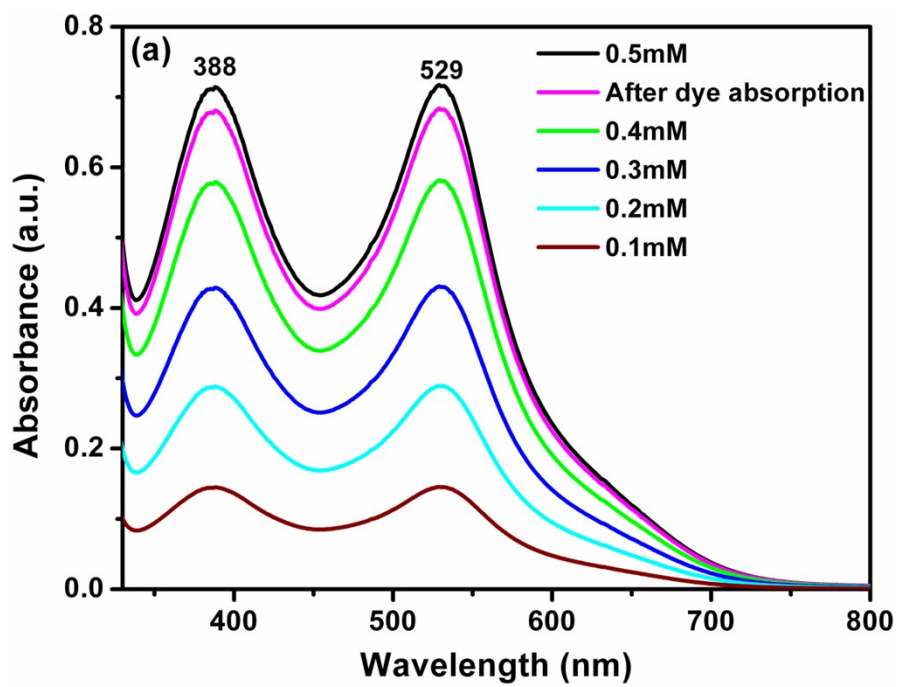


Fig. S9: (a) Absorbance spectra for N719 dye at different concentration in ethanol (b) Calibration curve for N719 dye samples at 529 nm.