Electronic Supplementary Material (ESI) for Nanoscale.

CdS quantum dot-functionalized cellulose nanocrystal films for anti-counterfeiting applications

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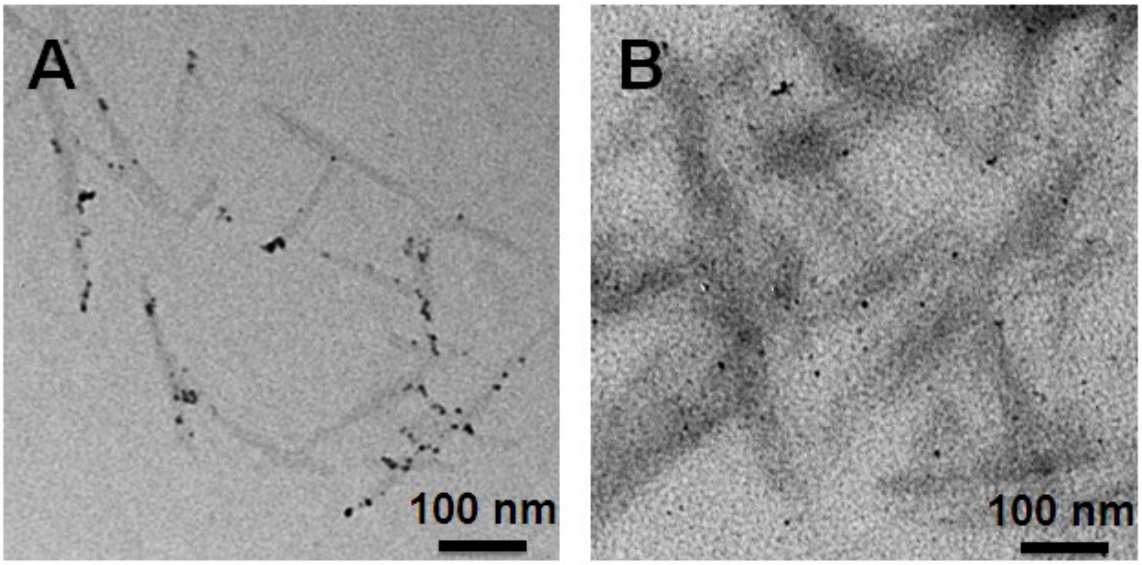

Fig. S1. TEM images of CNC-COOH@CdS (A) and pdsCNC-PEI@CdS (B) under higher magnification.

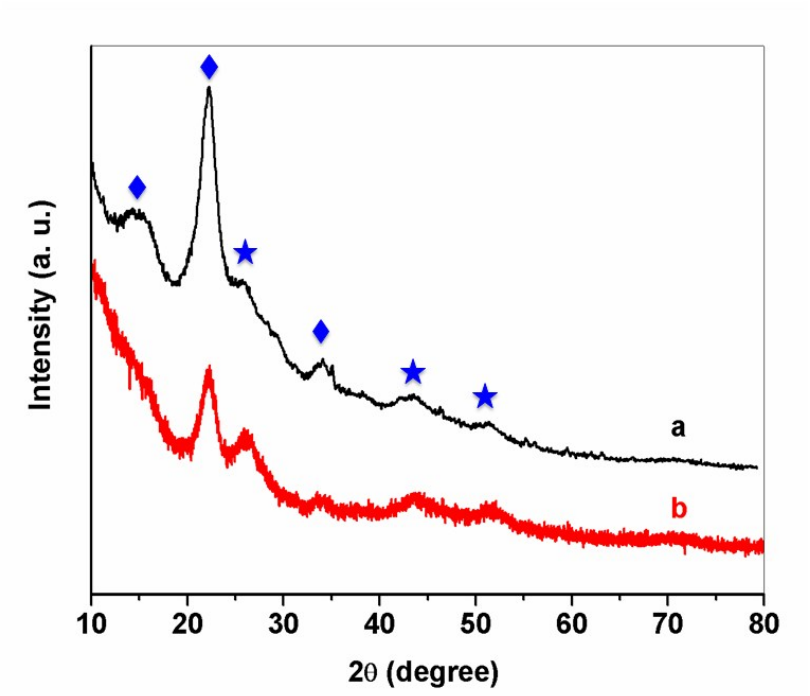

Fig. S2. XRD patterns of CNC-COOH@CdS (a) and pdsCNC-PEI@CdS (b). Diffraction peaks from CNCs (diamonds) and QDs (stars) are also labelled.

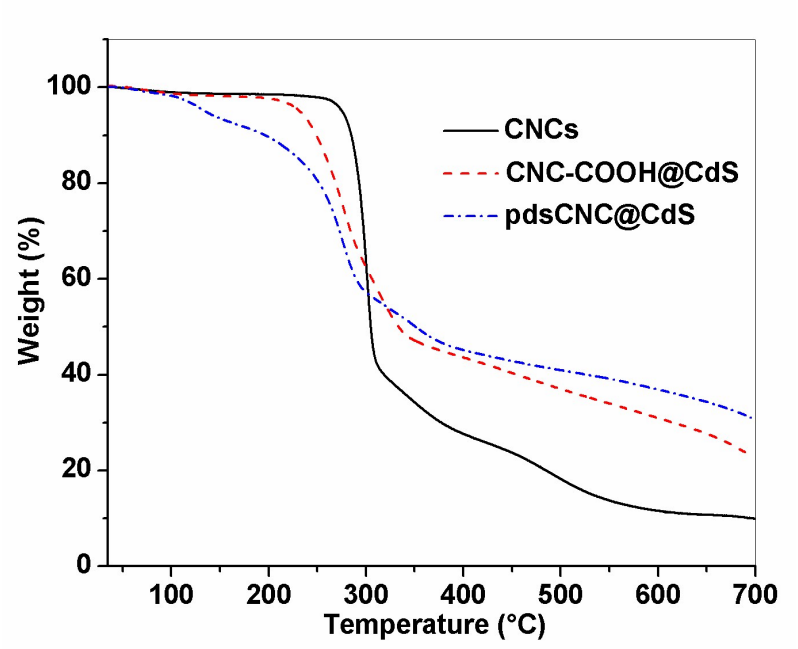

Fig. S3. TGA patterns of CNCs, CNC-COOH@CdS and pdsCNC-PEI@CdS.

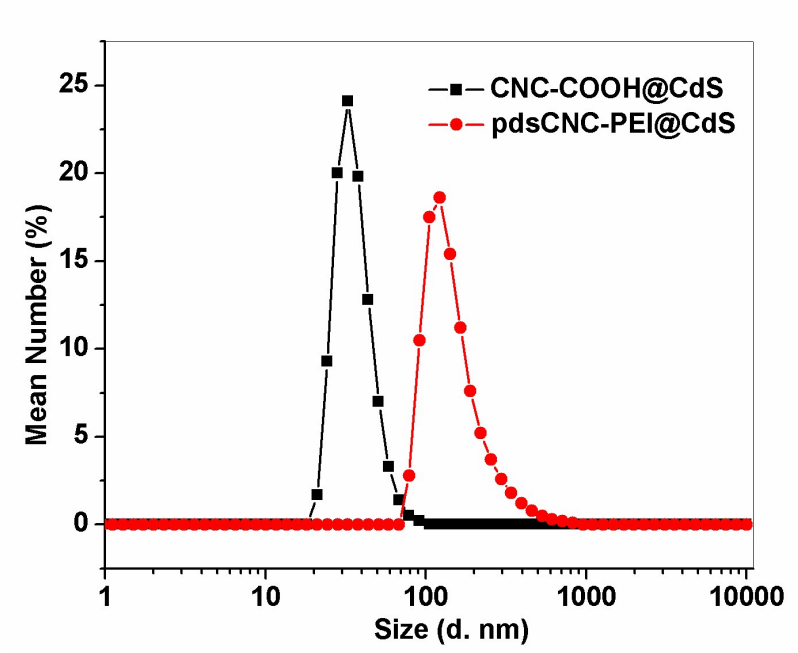

Fig. S4. Size distributions of CNC-COOH@CdS and pdsCNC-PEI@CdS measured using a Malvern Nano ZS90 Zetasizer DLS system.

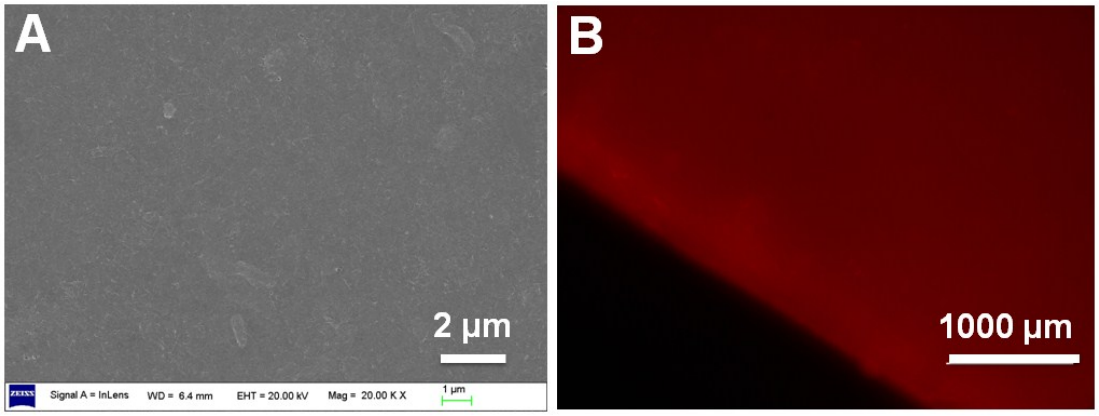

Fig. S5. Top view SEM image (A) and fluorescence microscope image (B) of $(CNC\text{-}COOH@CdS/pdsCNC\text{-}PEI@CdS)_{30}$ modified PET substrate.

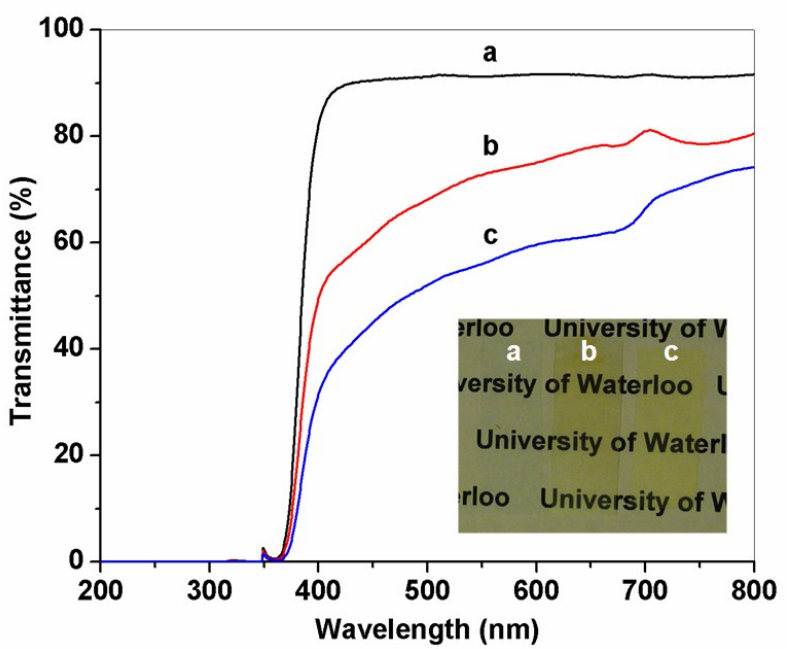

Fig. S6. Transmittance spectra of raw PET film (a), PET film coated with $(CNC\text{-}COOH@CdS/pdsCNC\text{-}PEI@CdS)_{30}$ (b), and PET film modified first with $(CNC\text{-}COOH@CdS/pdsCNC\text{-}PEI@CdS)_{25}$ and then $(PSS/pdsCNC\text{-}PEI@CdS)_5$.

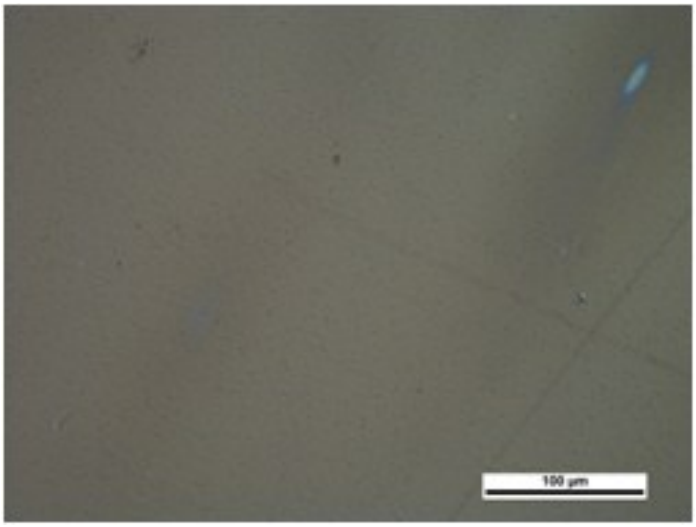

Fig. S7. Optical microscopy image of PET substrate under polarized white light source.