

Supporting Information:

Preparation of Quantum Dots-Montmorillonite Nanocomposites with Strong Photoluminescence for Light-Emitting Diodes

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Fig. S1 PL images of aqueous MPA-stabilized CdTe QDs with green (a), yellow (b), orange (c) and red (d) emissions. (e) UV-vis absorption (dashed line) and corresponding PL (solid line) spectra of the QDs with different emissions.

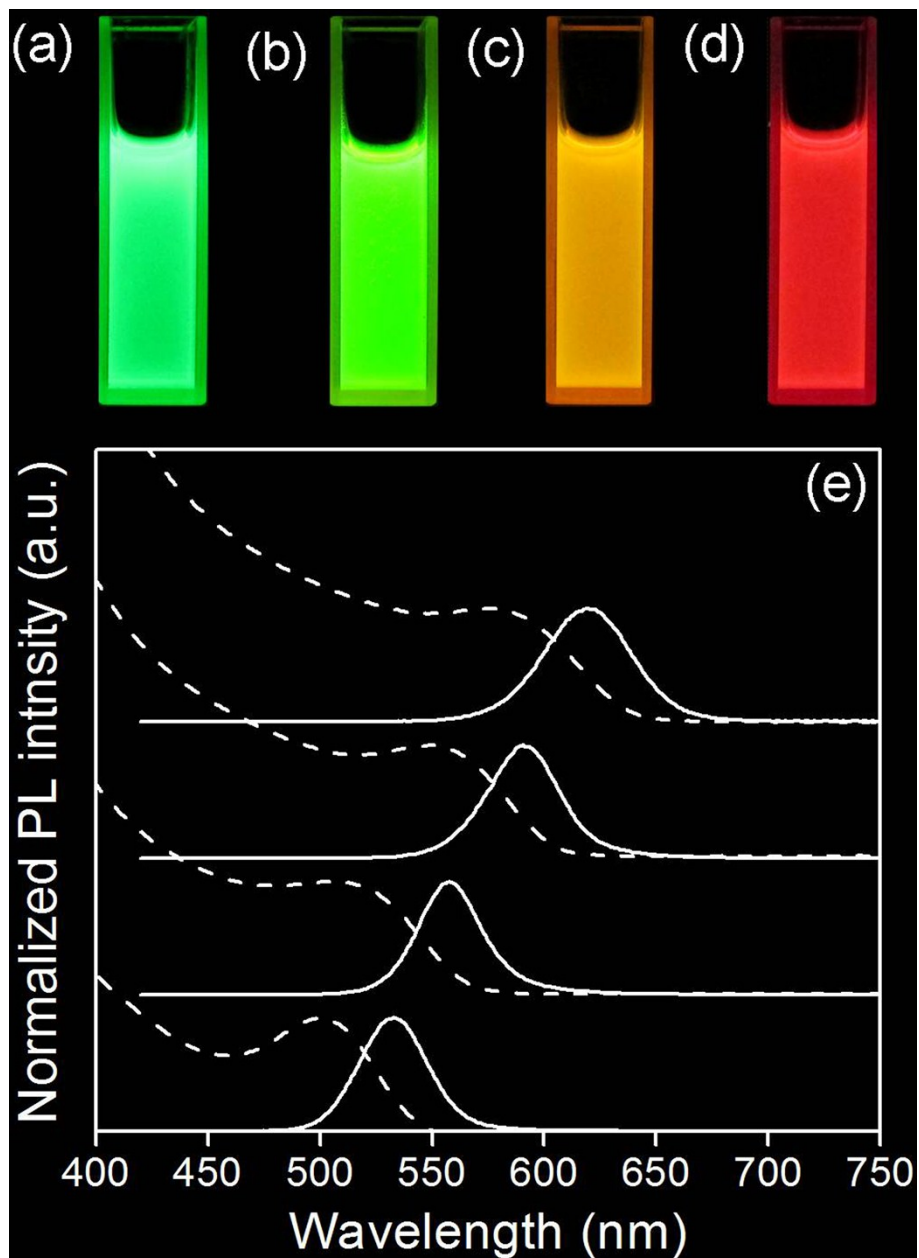


Fig. S2 XRD pattern (a) and TEM image (b) of CdTe QDs with PL emission at 590 nm.

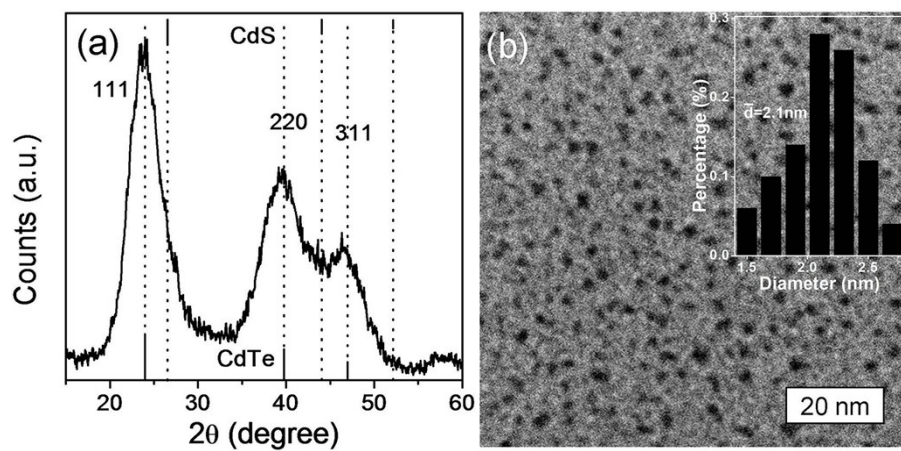


Fig. S3 Comparison of the PL properties of the nanocomposites and pure QD powders synthesized by different methods. Optical (a) and PL (b) images and the corresponding PL spectrum (c) of the original CdTe QDs solution. (f, i) PL emission spectra of the CdTe QDs/MMT- Na^+ nanocomposite powders prepared following the freeze-drying method and the precipitation pathway in the presence of 2-propanol. (l) Pure CdTe QD powders prepared following the precipitation pathway in the presence of 2-propanol. Insert: Optical (d, g, j) and PL (e, h, k) images of the nanocomposite and pure QD powders.

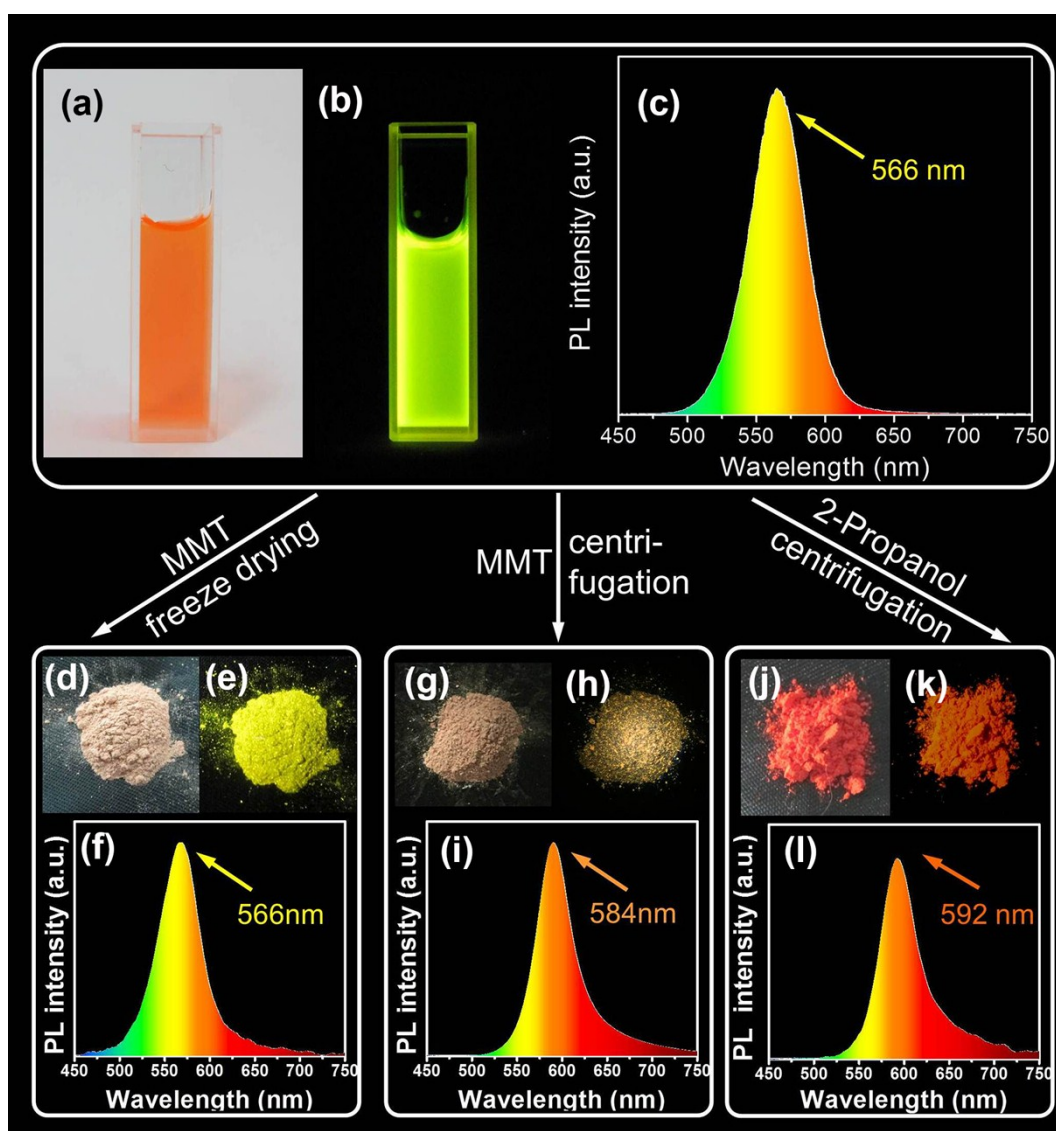


Fig. S4 Optical and PL images of the nanocomposites containing CdS (a, d), CdSe (b, e), and CdSe_{0.25}Te_{0.75} QDs (c, f).

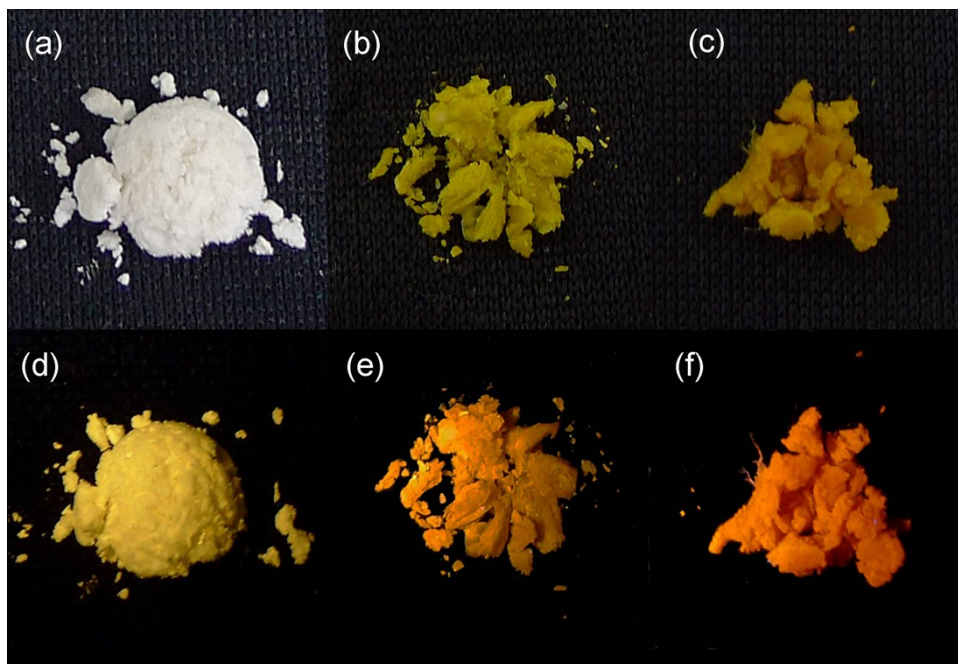


Fig. S5 XPS spectra of the CdTe QDs/MMT- Na^+ nanocomposites.

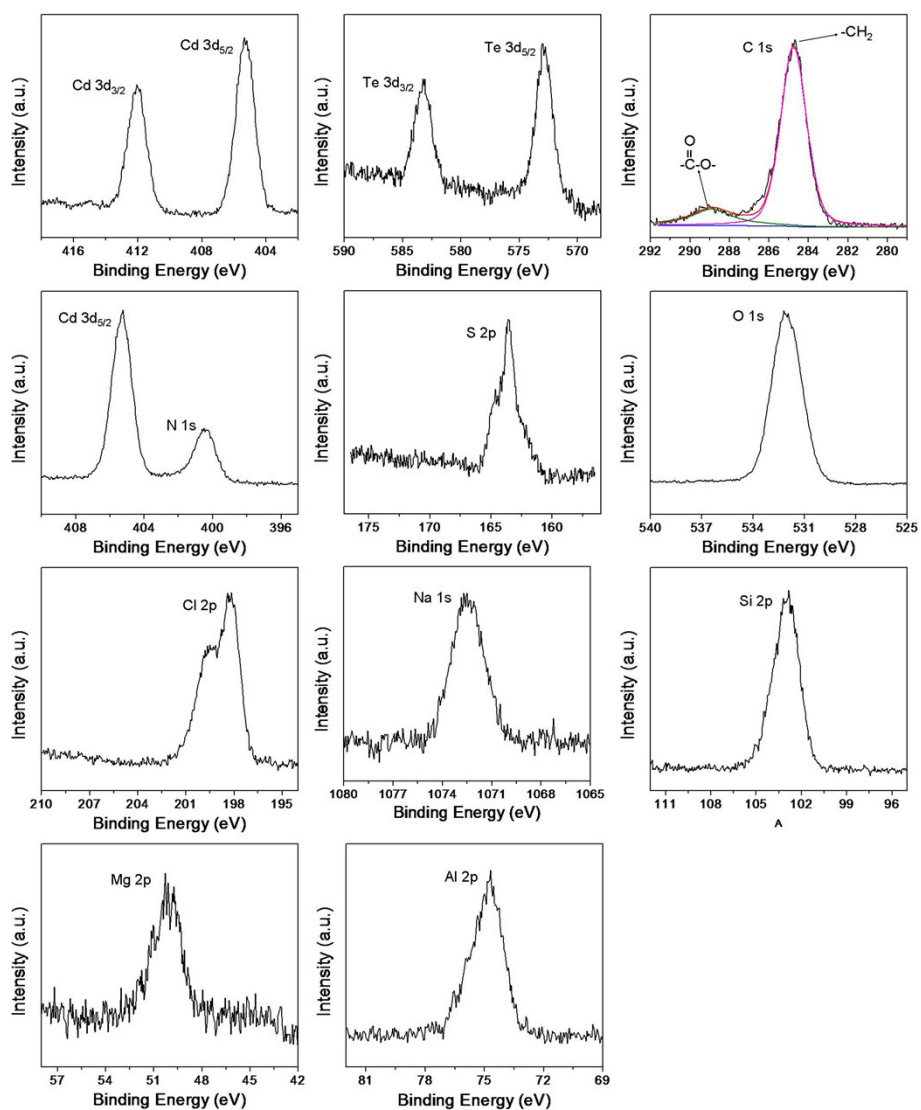


Fig. S6 PLQYs of the CdTe QDs/MMT- Na^+ nanocomposites *versus* the storage duration at room temperature. The CdTe QDs in the nanocomposites are prepared by the conventional reflux method.

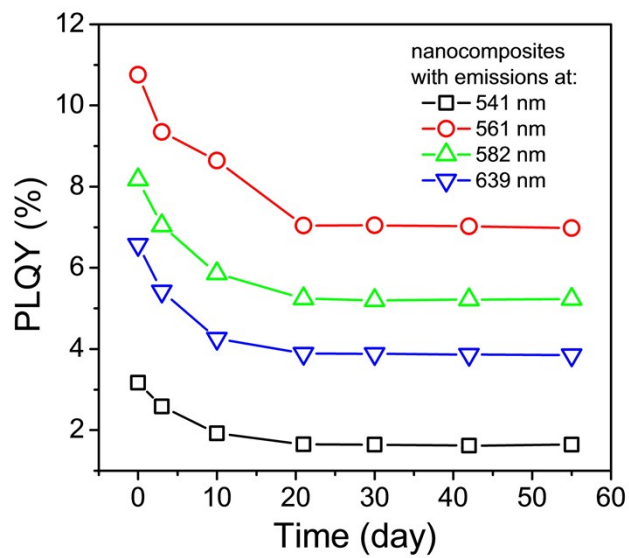


Fig. S7 Optical (a) and PL (b) images of CdTe QDs/MMT- Na^+ nanocomposites in CHCl_3 .

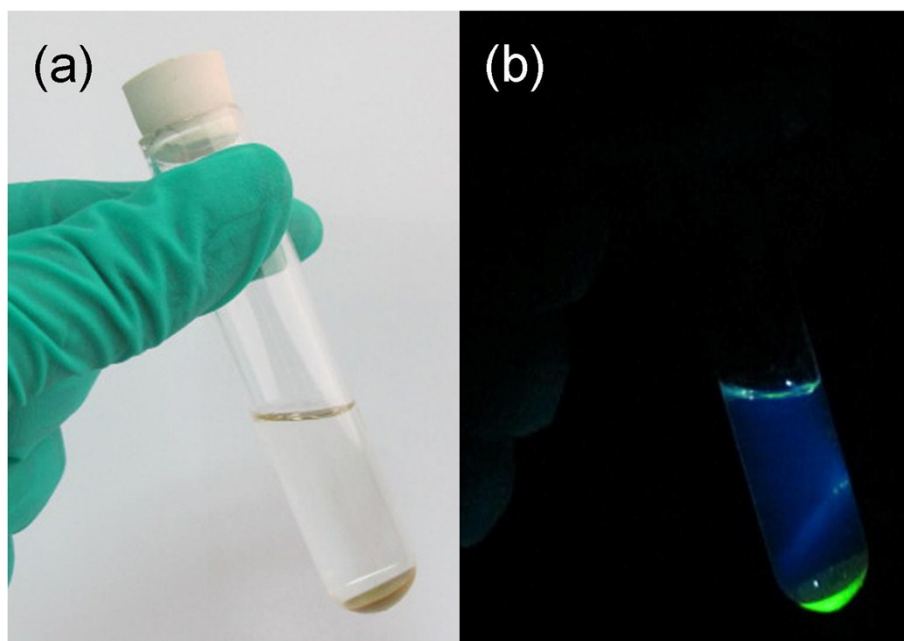


Fig. S8 Emission spectra (a) and CIE color coordinates (b) of the WLED before and after working for 24 hours.

