Supporting Information

Dual-emission quantum dots nanocomposites bearing a internal standard and visual detection for Hg^{2+}

Sun Xiangying*, Liu Bin, Xu Yibang

(College of Material Science and Engineering, Huaqiao University, Xiamen 361021, China)

Experimental

Synthesis of CdTe QDs

First, add 0.2158 g KBH_4, 0.2550 g Te, and 10 mL Milli-Q water to a suitable flask. The reaction continued for 8 h and the product was stored to following use. Then, 0.9136 g $CdCl_2 \cdot 2.5H_2O$ and 0.9212 g mercaptoacetic acid were dissolved in 100 mL of Milli-Q water, followed by adjusting pH to 10 by addition of 2 M NaOH solution. The mixture was degassed by N_2 bubbling for 30 min. Then, above freshly prepared KHTe solution was quickly injected into the mixture under vigorous stirring, followed by refluxing under open-air conditions.

Measurements of fluorescence response to Hg^{2+}

Typically, 1 mL of the dual-fluorescence nanocomposites solution was added into a 10 mL comparator with cover, followed by the addition 1 mL of HAc-NaAc solution and various amount of Hg^{2+}, then fixed 10 mL. The solution was stored at room temperature for 1 h. The fluorescence spectra were recorded using 330 nm excitation wavelength.

* To whom correspondence should be addressed. Tel: +86 592 6162231, Fax: +86 592 6160088, E-mail: sunxy@hqu.edu.cn

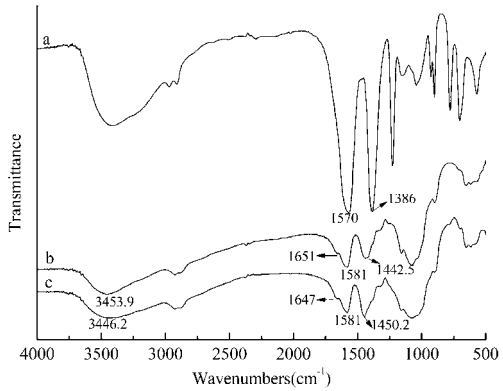

Figure S1 FTIR spectra of (a) CdTe, (b) CdS@CS and (c) dual-fluorescence nanocomposites