Supporting informations

Fluorescence resonance energy transfer based aptasensor for sensitive and selective detection of 17β-estradiol using quantum dot-bioconjugate as nano-bioprobe

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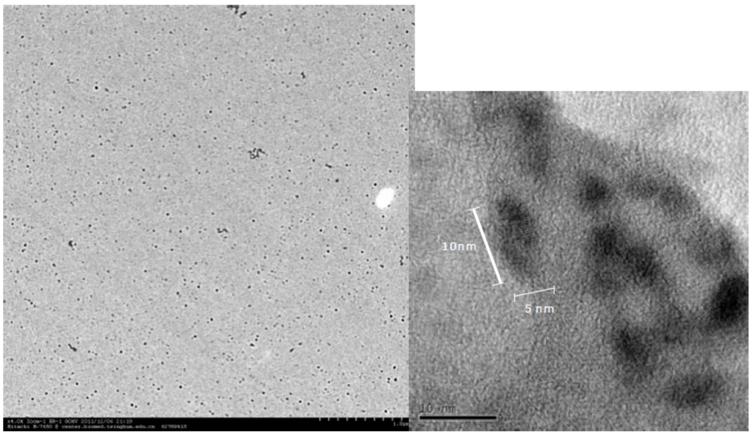
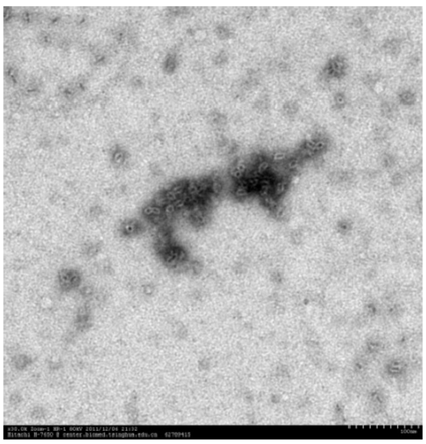
TEM Method: Transmission electron microscopy (TEM) specimens were prepared by pipetting 6 μl of the sample suspension onto ultrathin Carbon T200-mesh copper grids (TIANLD Inc., Beijing, China) that had been glow-discharged. After 12 minutes, the grids were rinsed with deionized water to remove any buffer salts that may be present in the samples and wicked to almost dryness with filter paper. Phosphotungstic acid (PTA) of pH 7.0 was then added to the grids to negatively stain the samples. After one minute, the grids were completely dried using filter paper. All the specimens were analyzed using the Hitachi H-7650B TEM, operating at 80kV.
The size of the polymer-capped QDs was also characterized by dynamic laser scattering (DelsaNano C, Beckman Coulter, Inc. USA)

Figure S-1 TEM images of Qdot 605 (a) and PTA stained images of conjugated Qdot 605 (b).

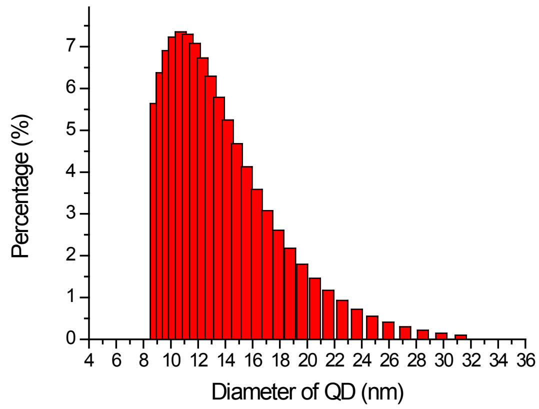


(a)

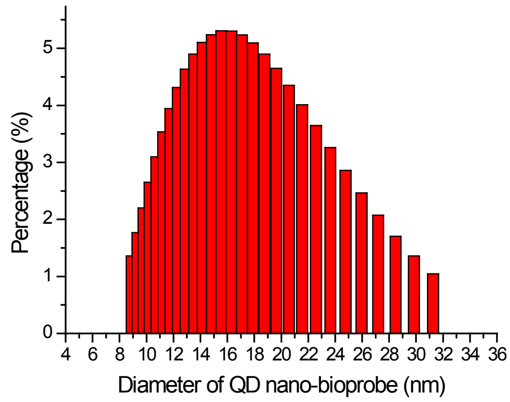


(b)

Figure S-2 size distribution of Qdot 605 nm (a) and QD-nano-bioprobe (b).



(a)



(b)

Fig. S-3 Fluorescence spectrum of QD605 before and after modification by 17β-estradiol-BSA.

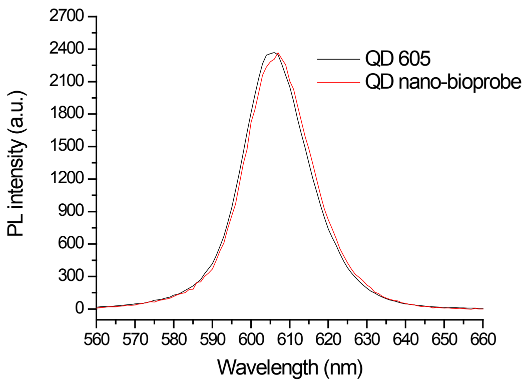


Fig. S-4 FRET efficiency as a function of the acceptor-to-donor ratio. (Donor: QD/BSA/17β-estradiol, Acceptor: fluorescence labeled anti-17β-estradiol aptamer). Each data value is the average of two independent experimental results.