Electronic Supplementary Information for

Antioxidant/Polyphenolic Activity Assay Based on the Inhibition of Oxidation and Photobleaching of L-Cysteine-Capped CdTe Quantom Dot

Bahram Hemmateenejad, Mojtaba Shamsipur, Tahereh Khosousi, Omidreza Firuzi and Maryam Shanehsaz

Fig. S1 Images of vials containing QDs of different sizes. Color images of vials containing QDs of different sizes in ambient light (top), and under UV light (bottom).

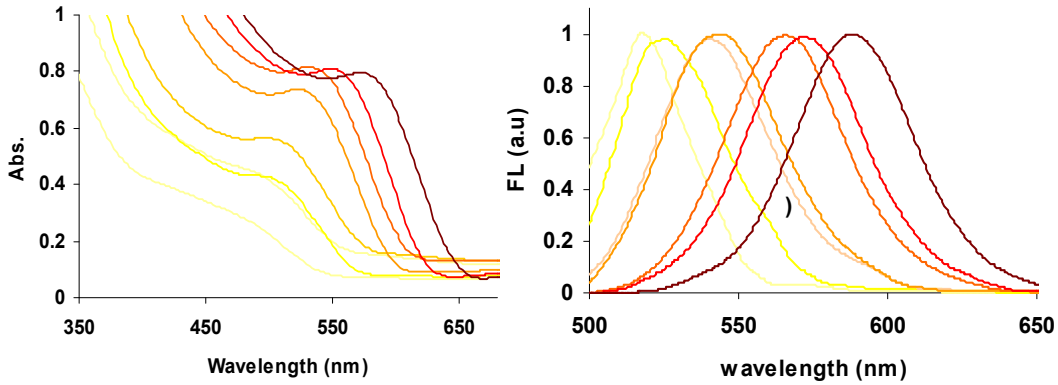

Fig. S2 Absorption and fluorescence spectra of different size QDs. Absorption spectra (left) of different size QDs which are presented in Fig S1. Fluorescence spectra (right) of different size QDs in PBS 0.04 M (pH=7.4). [QD] = 30 nM, λ_{exi}= 360 nm. All fluorescence spectra are normalized to 1.

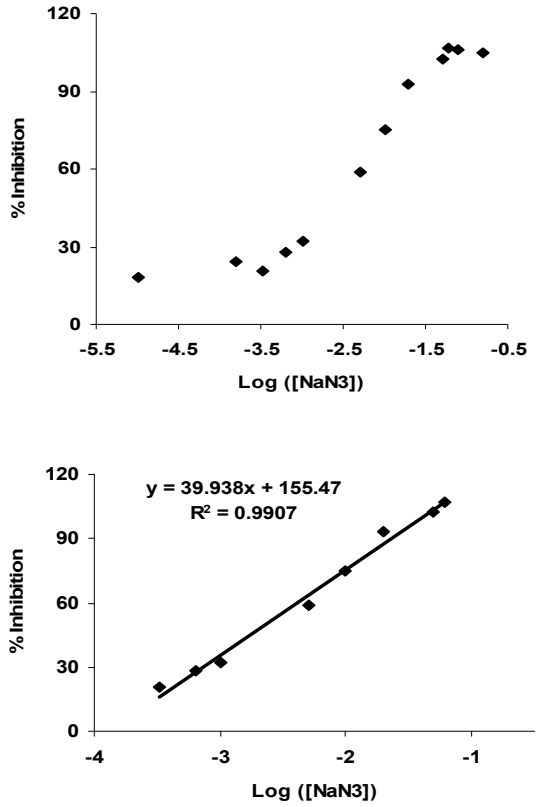

Fig. S3 The relation between inhibition percentage and concentration of NaN_3. at concentrations: 1.0×10^{-5}, 1.6×10^{-4}, 3.3×10^{-4}, 6.6×10^{-4}, 1.0×10^{-3}, 5.0×10^{-3}, 1.0×10^{-2}, 2.0×10^{-2}, 4.0×10^{-2}, 5.0×10^{-2}, 6.0×10^{-2} and 8.0×10^{-2} M. Experimental conditions, as in Fig S2.

.

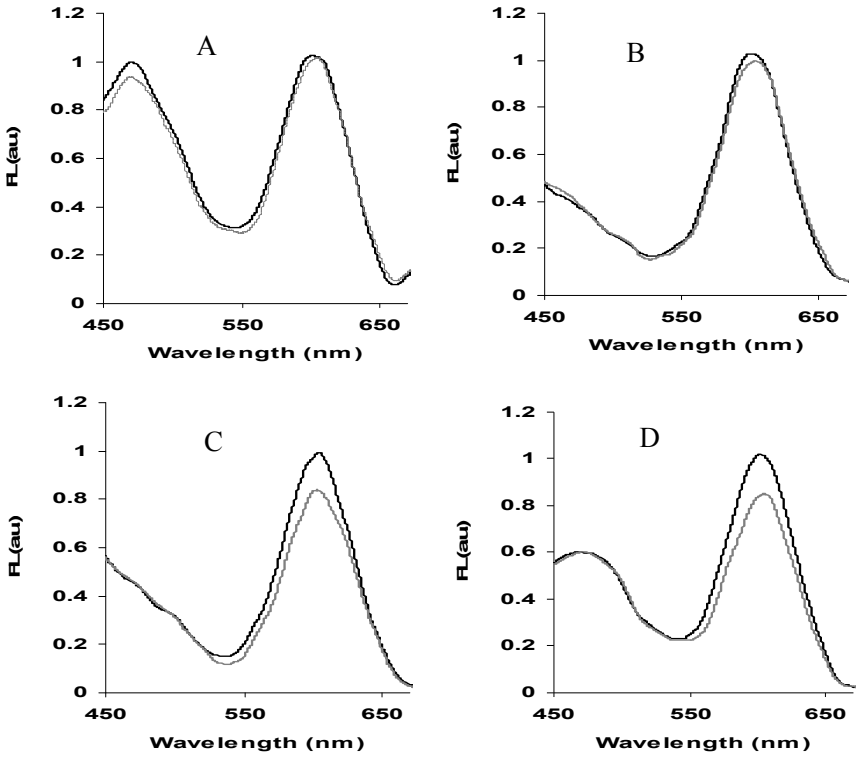

Fig. S4 Effect of tea samples on photobleaching of QDs. Change in fluorescence signal of QDs for different tea samples without tea (gray curve) and with tea (black curve) (A) White tea, (B) Green tea, (C) Red tea (D) Black tea 20 µL of each tea sample in 3.0 mL PBS 0.04 M (pH=7.4), [QD] = 30 nM, λ_{exi}= 360 nm. All fluorescence spectra are normalized to 1.

Table S1. Linear ranges for inhibition percentage versus concentration of different antioxidant/polyphenolic compounds and related correlation coefficients.

Antioxidant	*Linear Equation*	*Correlation Coefficient (R^2)*	*Linear Range (M)*
Quercetin	Y=23.546 X + 205.99	0.8500	3.33×10^{-7}-1.66×10^{-5}
Tannic acid	Y=58.645 X + 323.88	0.9995	1.66×10^{-5}-1.66×10^{-4}
Caffeic acid	Y=67.748 X + 350.42	0.9933	1.66×10^{-5}-1.66×10^{-4}
Gallic acid	Y=19.799 X + 153.00	0.9961	1.66×10^{-6}-6.66×10^{-4}
Naringine	Y= 44.007 X + 229.50	0.9837	3.33×10^{-5}-1.00×10^{-3}
Trolox	Y=23.567 X + 137.78	0.9830	3.33×10^{-5}-3.33×10^{-4}

* All experiments repeated three times and RSD for all measurements were lower than 5%.