Electronic Supplementary Information

Near-infrared photoluminescence enhancement of *N*-Acetyl-L-Cysteine (NAC)protected gold nanoparticles *via* fluorescence resonance energy transfer from NAC-stabilized CdTe quantum dots

Yang Liu,^a Xiaojuan Gong,^a Zhe Cheng,^a Shaomin Shuang,^a Martin M.F. Choi,^b Chenzhong Li^c and Chuan Dong^{a*}

^aInstitute of Environmental Science, and School of Chemistry and Chemical Engineering, Shanxi University, Taiyuan 030006, China. Fax: +86-351-7018613; Tel: +86-351-7018613; E-mail: dc@sxu.edu.cn

^bPresent address: Acadia Divinity College, Acadia University, 15 University Avenue, Wolfville, Nova Scotia, B4P 2R6 (Canada)

^cDepartment of Biomedical Engineering, Florida International University, Miami, Florida 33174, USA



Fig. S1 Absorption of 0.01 mg/mL 2.4 nm Au NPs (peak 1) and absorption comparison of 1.25×10^{-4} mol/L green CdTe QDs (peak 2) to $(1.25 \times 10^{-4} \text{ mol/L green CdTe QDs} + 0.01 \text{ mg/mL } 2.4 \text{ nm}$ Au NPs) mixture (peak 3) and to mixture of $(1.25 \times 10^{-4} \text{ mol/L green CdTe QDs} + 0.01 \text{ mg/mL } 2.4 \text{ nm}$ Au NPs) after substraction of spectrum of 0.01 mg/mL 2.4 nm Au NPs absorption (peak 4).



Fig. S2 Fluorescence spectra of two simultaneous solutions in two paratactic quartz cells: green CdTe QDs (1.25×10^{-5} mol/L) solution and blank 0.1 mol/L PBS (peak 1), CdTe (1.25×10^{-5} mol/L) solution and 2.4 nm Au NPs (0.5×10^{-3} mg/mL) solution in PBS (peak 2) and (green CdTe QDs and 2.4 nm Au NPs) mixture and Au NPs solution (peak 3).