

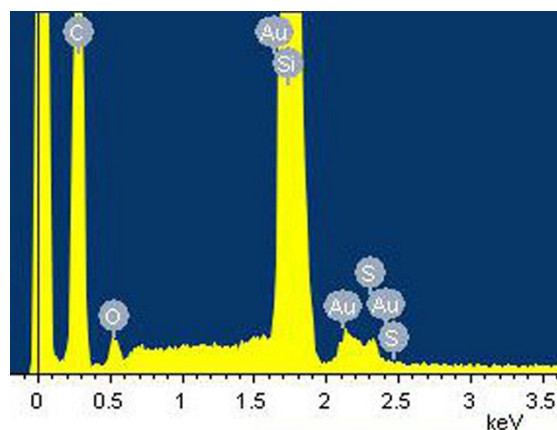
## Supplementary Information

### Gold Nanorod@Silica-Carbon Dots as Multifunctional Phototheranostics for Fluorescent and Photoacoustic Imaging-guided Synergistic Photodynamic/Photothermal Therapy

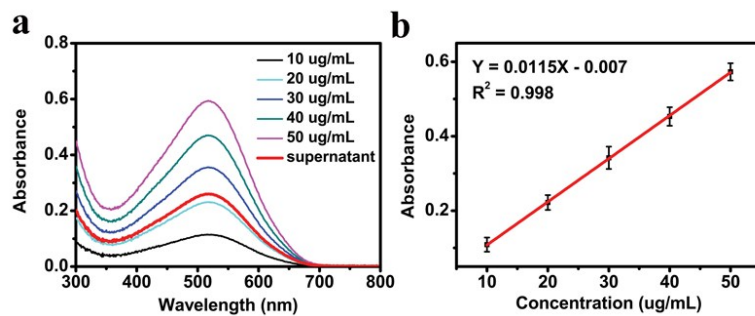
*Qingyan Jia,<sup>a,b</sup> Jiechao Ge,<sup>a\*</sup> Weimin Liu,<sup>a</sup> Sha Liu,<sup>a,b</sup> Guangle Niu,<sup>a,b</sup> Liang Guo,<sup>a,b</sup> Hongyan  
Zhang,<sup>a</sup> Pengfei Wang<sup>a\*</sup>*

<sup>a</sup>Key Laboratory of Photochemical Conversion and Optoelectronic Materials and CityU-CAS  
Joint Laboratory of Functional Materials and Devices, Technical Institute of Physics and  
Chemistry, Chinese Academy of Sciences, Beijing, 100190, People's Republic of China

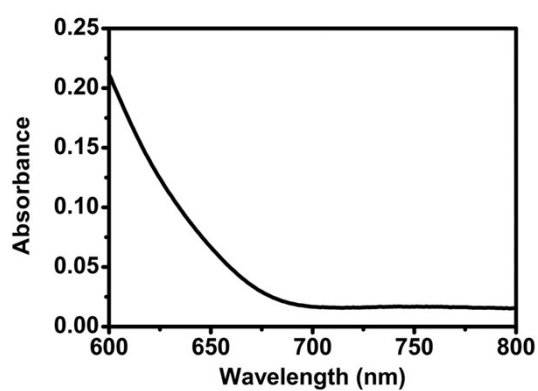
<sup>b</sup>University of Chinese Academy of Sciences, Beijing, 100049, China  
E-mail: wangpf@mail.ipc.ac.cn; jchge2010@mail.ipc.ac.cn



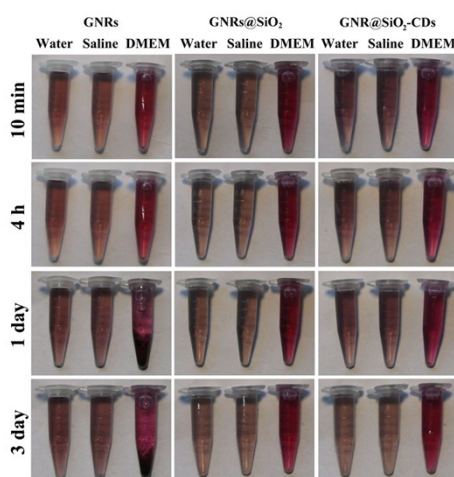
**Fig. S1.** The EDX spectrum of GNR@SiO<sub>2</sub>-CDs.



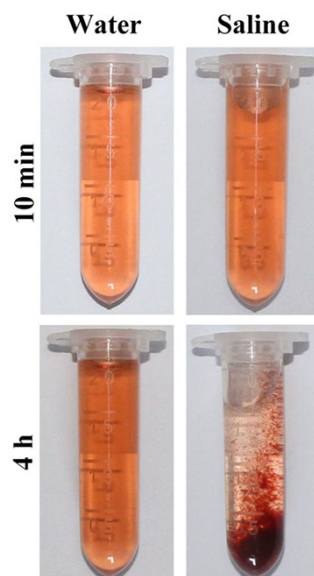
**Fig. S2.** (a) The UV-vis absorption spectra of CDs in different concentrations and CDs in the supernatant. (b) UV calibration curve of CDs at 510 nm.



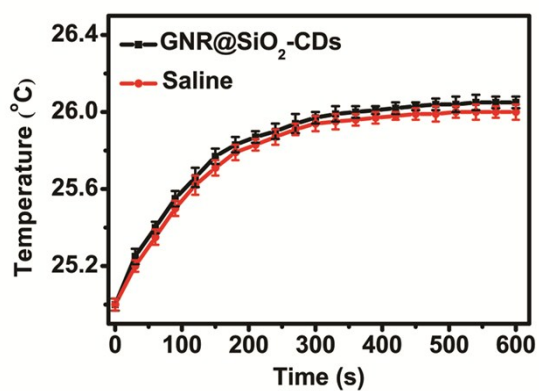
**Fig. S3.** The enlarged absorption of the CDs from 600 to 800 nm.



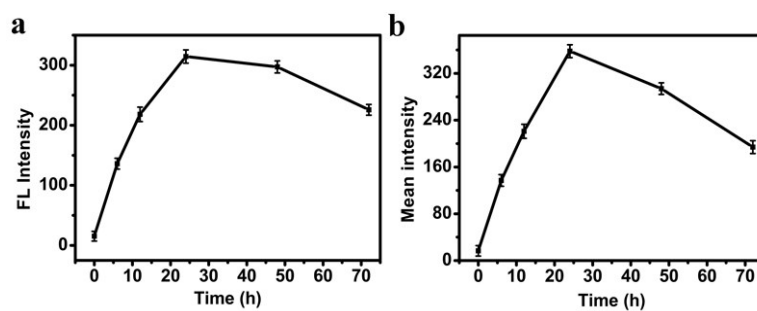
**Fig. S4.** The dispersion stability of GNRs ( $52 \mu\text{g mL}^{-1}$ ), GNRs@SiO<sub>2</sub> ( $95 \mu\text{g mL}^{-1}$ ) and GNR@SiO<sub>2</sub>-CDs ( $100 \mu\text{g mL}^{-1}$ ) in various solutions including ultra-pure water, saline and DMEM with 10% FBS.



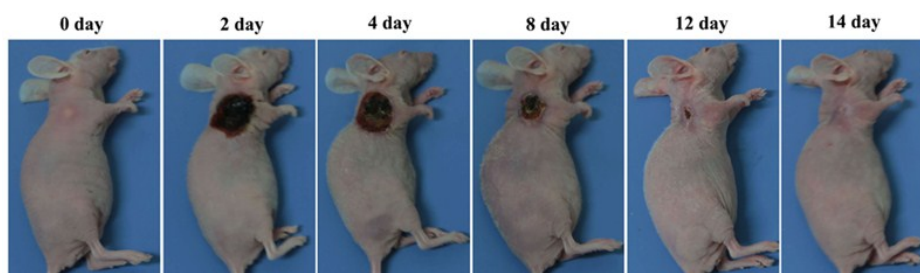
**Fig. S5.** The dispersion stability of CDs ( $20 \mu\text{g mL}^{-1}$ ) in ultra-pure water and saline.



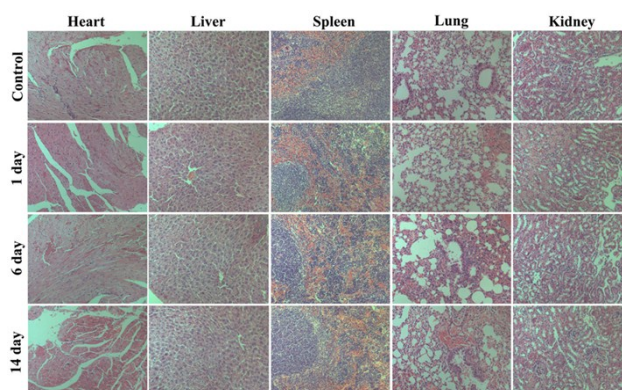
**Fig. S6.** The irradiation time-dependent temperature elevation of GNR@SiO<sub>2</sub>-CDs ( $200 \mu\text{g/mL}$ ) and saline under irradiation with 635 nm laser ( $0.1 \text{ W/cm}^2$ ).



**Fig. S7** (a) Average FL intensities from the tumor area at different time points after *i.v.* injection with GNR@SiO<sub>2</sub>-CDs ( $E_x = 635$  nm); (b) Intensities of the mean signal and maximum mean signal of the ROI at different time points after *i.v.* injection with GNR@SiO<sub>2</sub>-CDs.



**Fig. S8.** Photographs of the tumor-bearing mice of group VII on different days after treatment.



**Fig. S9.** H&E-stained images of the heart, liver, spleen, lung and kidney in mice on 1, 6 and 14 days post-*i.v.* injection of GNR@SiO<sub>2</sub>-CDs. Scale bar: 50  $\mu$ m.