Supporting Information for

Living Cell Intracellular Temperature Imaging with Biocompatible Dye-Conjugated Carbon Dots

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Supplementary Figures

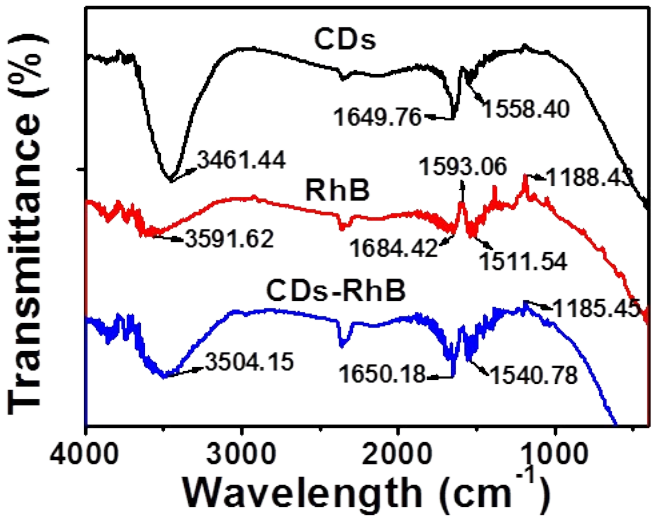

Figure S1. FT-IR spectra of CDs (black), RhB (red), and CDs-RhB (blue). The peak at 3600~3400 cm^{-1} can be attributed to the stretching vibrations of O-H and N-H, and the peaks at around 1680 cm^{-1} and 1650 cm^{-1} are in accordance with the vibrations of C=O and C=C band. The peaks at 1600~1400 cm^{-1} indicate the existence of benzene skeleton vibration, which suggests the successful attachment of RhB onto the surface of CDs.

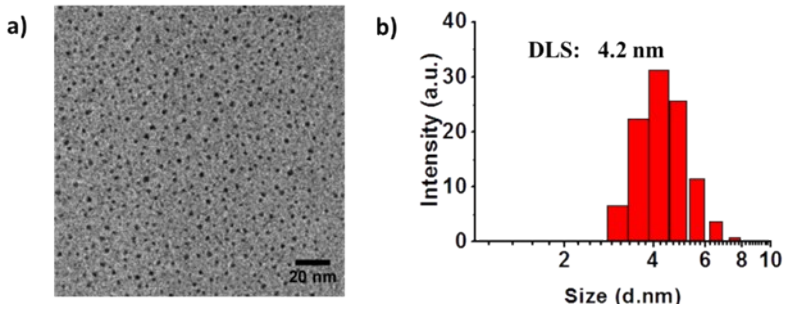

Figure S2. The TEM image (a) and hydrodynamic size distribution (b) of CDs-RhB.

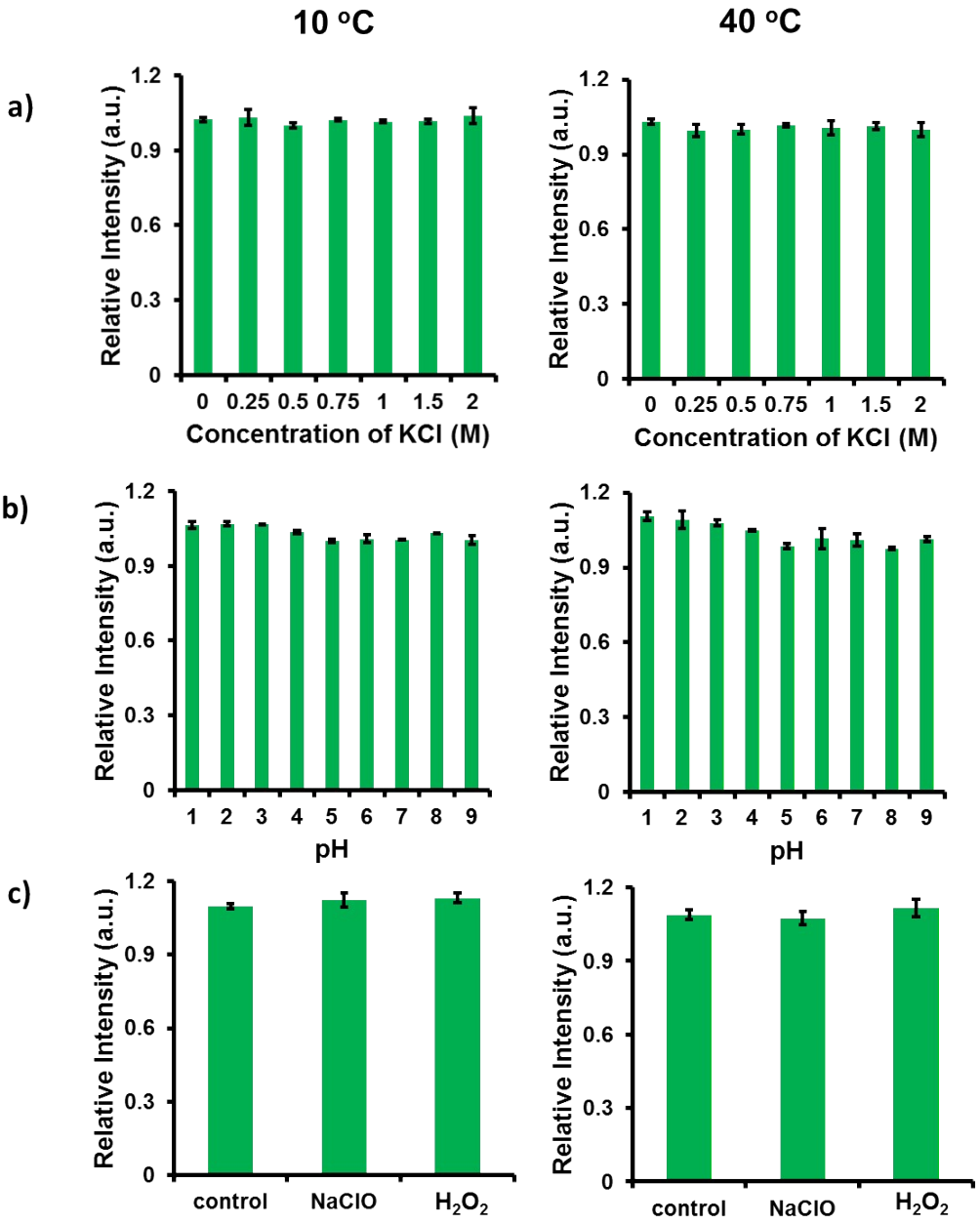

Figure S3. The effect of salt (KCl) concentration (a), pH (b), H_2O_2 (10 mM) and NaClO (10 mM) (c) on the fluorescence intensity of CDs-RhB at different temperatures (i.e. 10 and 40 °C).

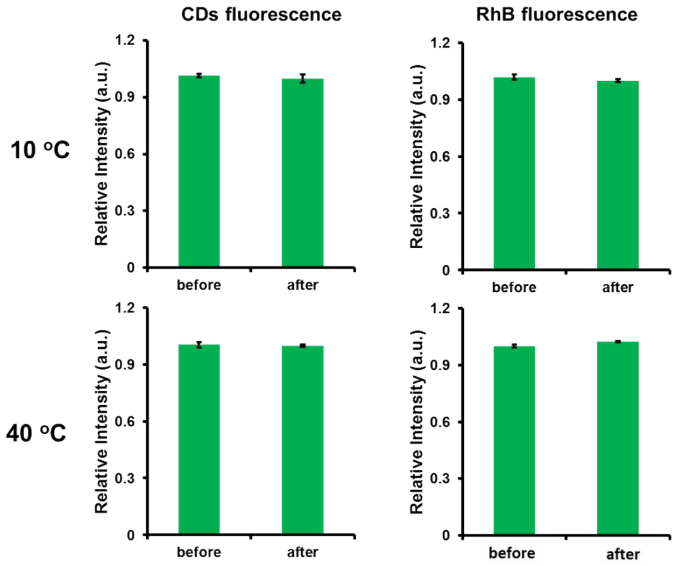

Figure S4. The effect of peptide modification on the fluorescence intensity of CDs-RhB in DI water at different temperatures (i.e. 10 and 40 °C). No evident fluorescence change was observed before and after the peptide modification process under the temperature of 10 and 40 °C.

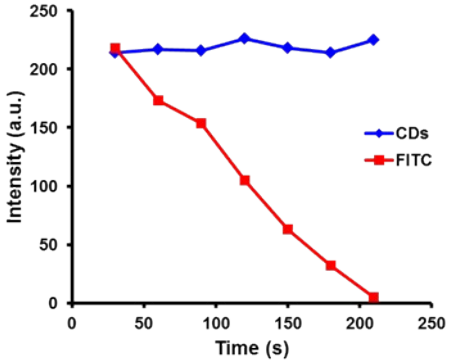

Figure S5. Photostability estimation of the CDs. The fluorescence intensity of CDs and fluorescein isothiocyanate as a function of time in water with continuous laser illumination.

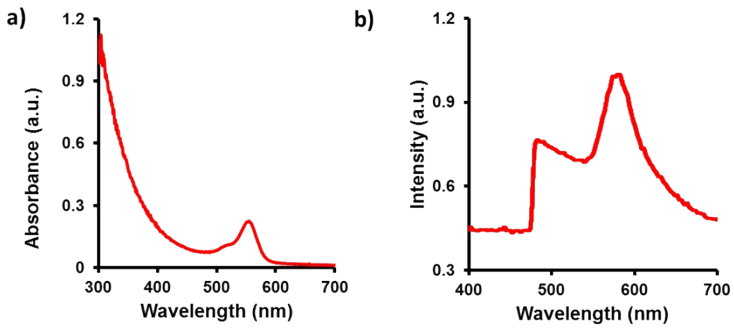

Figure S6. UV–vis absorption (a) and fluorescence emission (b) spectra of CDs-RhB excited by a diode laser at 405 nm.

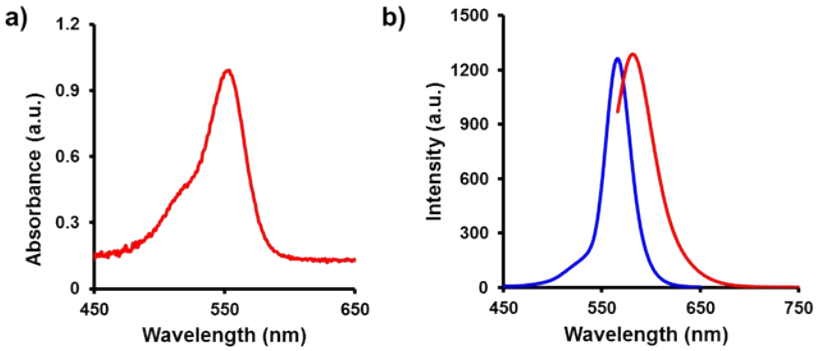

Figure S7. (a) UV–vis absorption spectrum of RhB. (b) Fluorescence excitation (blue line) and emission (red line) spectra of RhB.