Supporting Information for

Prussian Blue Coated Lanthanide-Doped Core/Shell/Shell Nanocrystals for NIR-II Image-Guided Photothermal therapy

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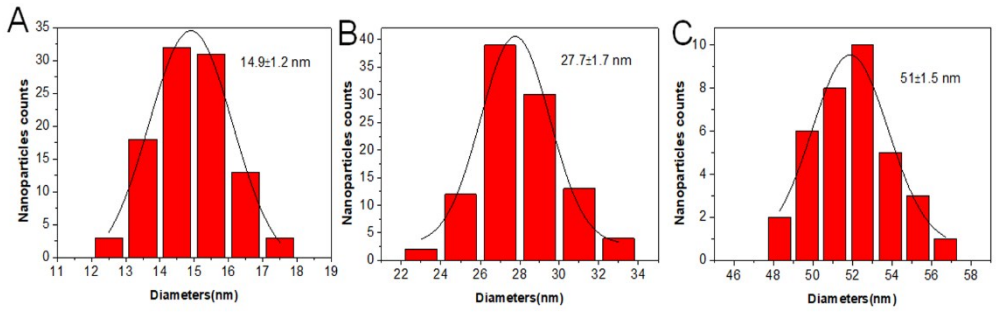

Fig. S1. Histograms of size distributions for (A) $NaErF_4$ core, (B) $NaErF_4$@$NaYF_4$ core/shell and (C) $NaErF_4$@$NaYF_4$@$NaNdF_4$ core/shell/shell nanocrystals.

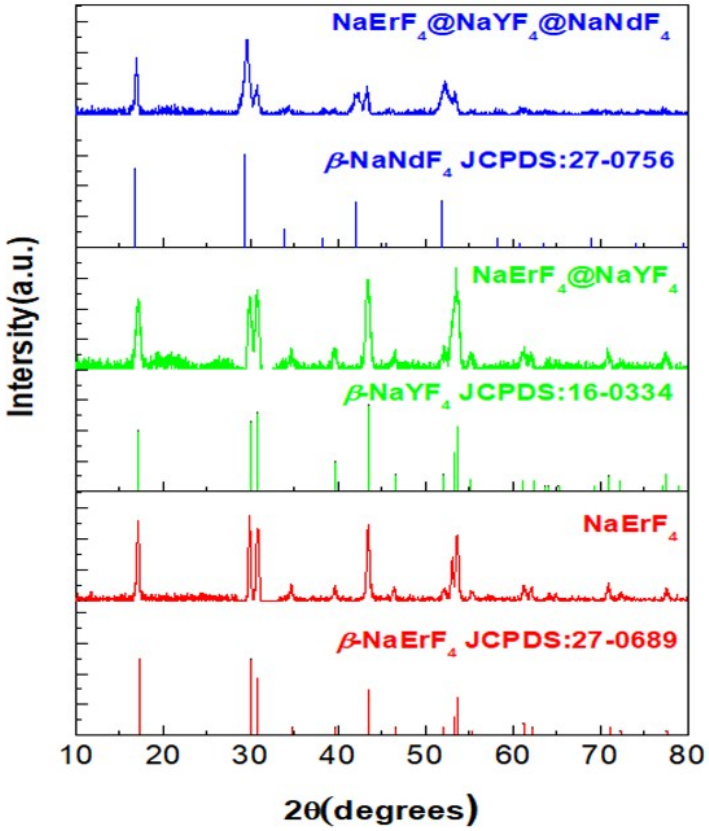

Fig. S2. The x-ray diffraction (XRD) patterns for the $NaErF_4$ core, $NaErF_4$@$NaYF_4$ core/shell, and $NaErF_4$@$NaYF_4$@$NaNdF_4$ core/shell/shell (CSS) nanocrystals.

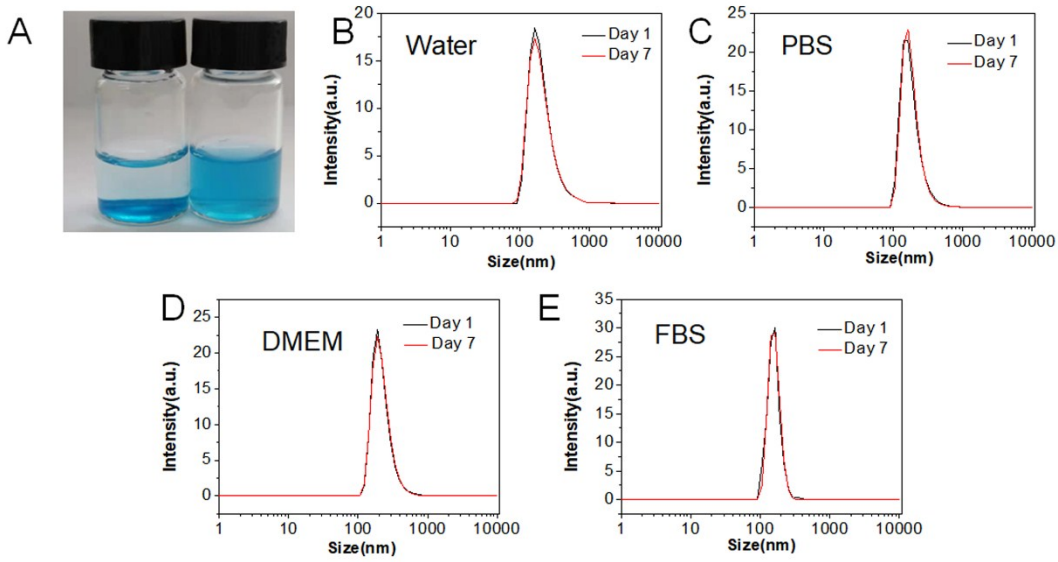

Fig. S3. (A) Photographic images of Prussian blue (PB)-coated $NaErF_4$@$NaYF_4$@$NaNdF_4$ core/shell/shell (CSS@PB) (left) and PEGlyated CSS@PB (PEG-CSS@PB) (right). Measured hydrodynamic sizes of PEG-CSS@PB in water (B), PBS (C), DMEM (D), and Fetal Bovine Serum (FBS) (E) at day 1 and day 7, demonstrating their distinguished colloidal stability in various aqueous media.

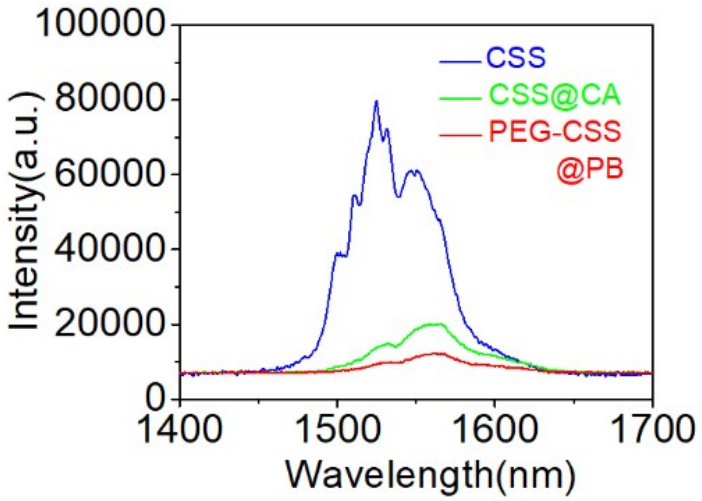

Fig. S4 NIR II luminescence spectra (1400-1700 nm) from CSS nanocrystals, CSS@CA, and PEG-CSS@PB, under a 980 nm laser excitation.

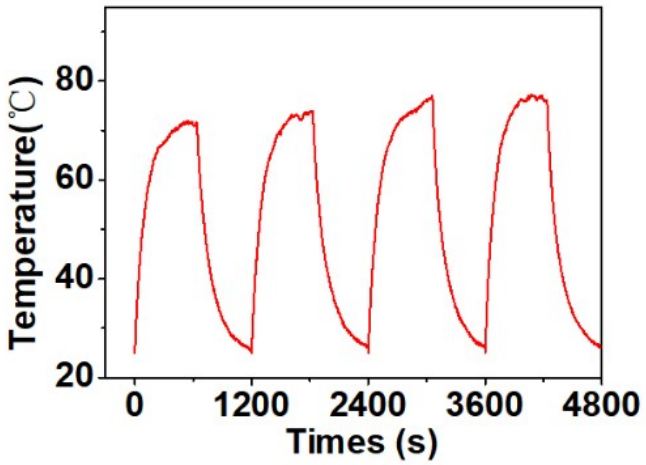

Fig. S5. Photothermal heating and cooling cycles of PEG-CSS@PB nanocomposites (600 μg/mL), excited by an 808 nm laser (2 W cm^{-2})

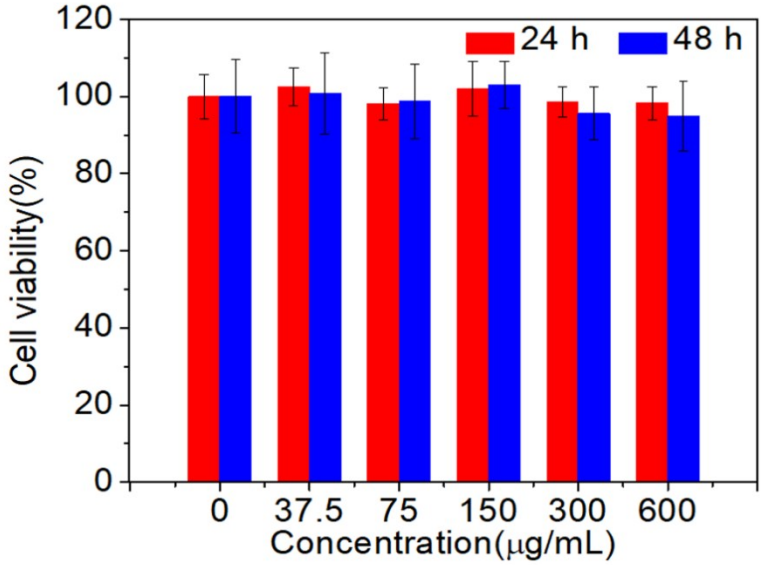

Fig. S6. HeLa cell viability after incubating with PEG-CSS@PB nanocomposites at different concentrations for 24 h (red) and 48 h (blue).

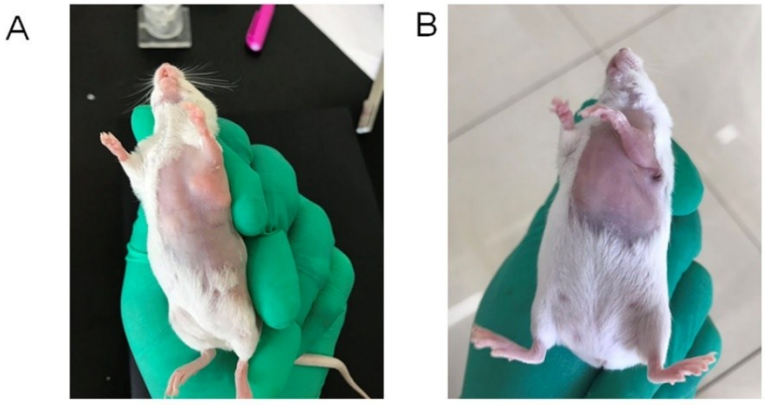

Fig. S7 Photographic images of tumor-bearing mice (A) without and (B) with 808 nm laser irradiation, recorded 14 days post photothermal treatment with PEG-CSS@PB nanocomposites. An apparent shrinkage of tumor size is observed.

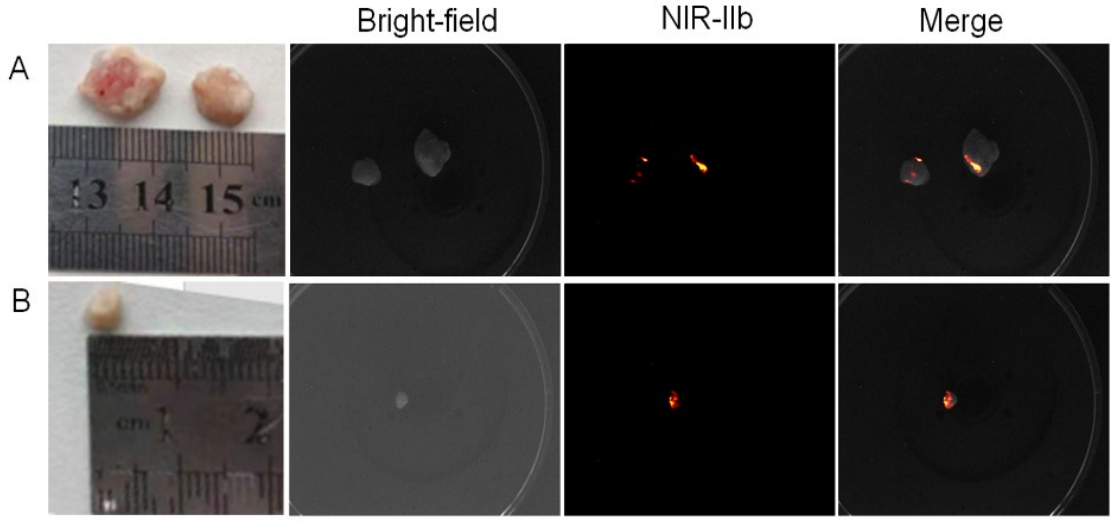

Fig. S8 Representative optical and NIR II luminescence images of excised tumors (A) without and (B) with photothermal treatment with PEG-CSS@PB nanocomposites. These images were acquired 14 days post photothermal treatment.

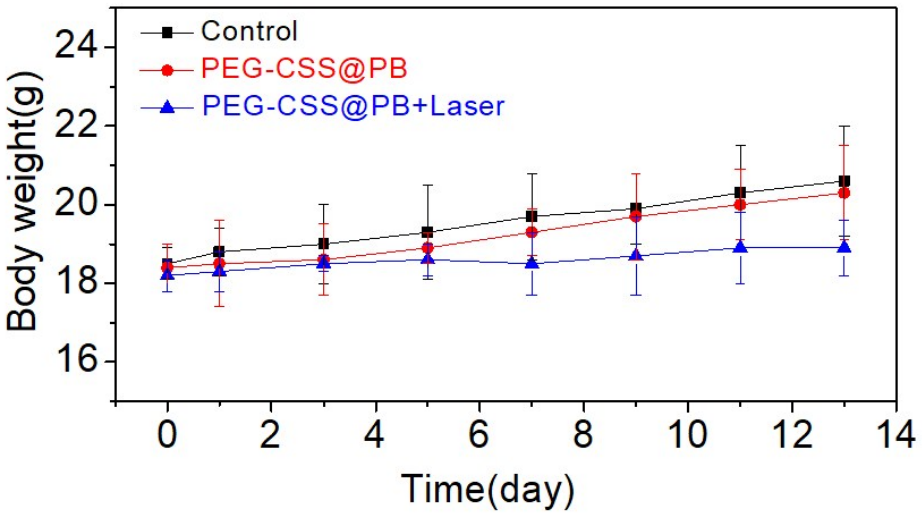

Fig. S9 Body weight of mice in three groups, recorded at different days post adminsitration.