A Continuous Stimuli-Responsive System for NIR-II Fluorescence/Photoacoustic Imaging Guided Photothermal/Gas Synergistic Therapy

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**Figure S1.** The survey, C 1s XPS and N 1s XPS spectra of AB-DS@BSA-N\textsubscript{3} NYs.

**Figure S2.** XRD pattern of AB@BSA and AB-DS@BSA-N\textsubscript{3} NYs.

**Figure S3.** FT-IR spectra of AB@BSA, AB-DS@BSA and AB-DS@BSA-N\textsubscript{3} NYs.
Figure S4. Thermogravimetric analysis of AB@BSA, AB-DS@BSA and AB-DS@BSA-N\textsubscript{3} NYs.

Figure S5. DLS and zeta potentials of AB-DS@BSA-N\textsubscript{3} NYs in water, PBS and saline.
Figure S6. Hydrodynamic size of AB-DS@BSA-N\textsubscript{3} NYs with or without GSH (2 mM).

Figure S7. Calculation of time constant for heat transfer from the system using linear regression of the cooling profile. (808 nm, 1W cm\textsuperscript{-2}).

Figure S8. The PA spectra of the AB-DS@BSA-N\textsubscript{3} NYs (300 µg mL\textsuperscript{-1}) and the mouse blood.
**Figure S9.** The tumor weight of mice with different groups in 20 days’ treatment.

**Figure S10.** The digital photographs of excised tumors from the different groups at the end of treatments (day 20).
**Figure S11.** H&E staining of major organ tissues collected from mice at the end of treatment. Scale bar is 50 μm.