## Protein-coated cobalt oxide-hydroxide nanospheres deliver photosensitizer IR780 iodide for near-infrared light-triggered photodynamic/photothermal/chemodynamic therapy against

## colon cancer

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Fig. S1. XPS spectra of CoOOH NPs.



Fig. S2. UV–Vis spectra of IR780, CoOOH NPs, and CoIR NPs.



Fig. S3. Standard concentration fitting curve of IR780; inset shows the UV–Vis spectra of a series of gradient concentrations of IR780.



Fig. S4. TEM image of CoOOH NPs.



Fig. S5. EDS spectra of CoOOH NPs in the absence of NaHS.



Fig. S6. TEM images of the mixture of 5 mM CoOOH NPs and 5 mM NaHS.



Fig. S7. TEM images of the mixture of 10 mM CoOOH NPs and 10 mM NaHS.



Fig. S8. UV–Vis spectra of different experimental samples.



Fig. S9. Temperature change curves of CoIRB, IR780, CoOOH, and DI water under laser irradiation (808 nm, 1.5 W/cm<sup>2</sup>) for 10 min.



Fig. S10. CoIRB NPs dispersion (400  $\mu$ g/ml) under 808 nm laser irradiation with different power densities (0.5, 1.0, and 1.5 W/cm<sup>2</sup>) for 10 min.



Fig. S11. Heating and cooling curve of CoIRB NPs dispersion (400  $\mu$ g/ml) under laser condition (808 nm, 1.5 W/cm<sup>2</sup>).



Fig. S12. Changes in tumor temperature in different experimental groups under laser irradiation (808 nm, 1.5 W/cm<sup>2</sup>) for 10 min.