Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Full-spectrum responsive B-TiO_2@SiO_2-HA nanotheranostics for NIR-II photoacoustic imaging-guided cancer phototherapy

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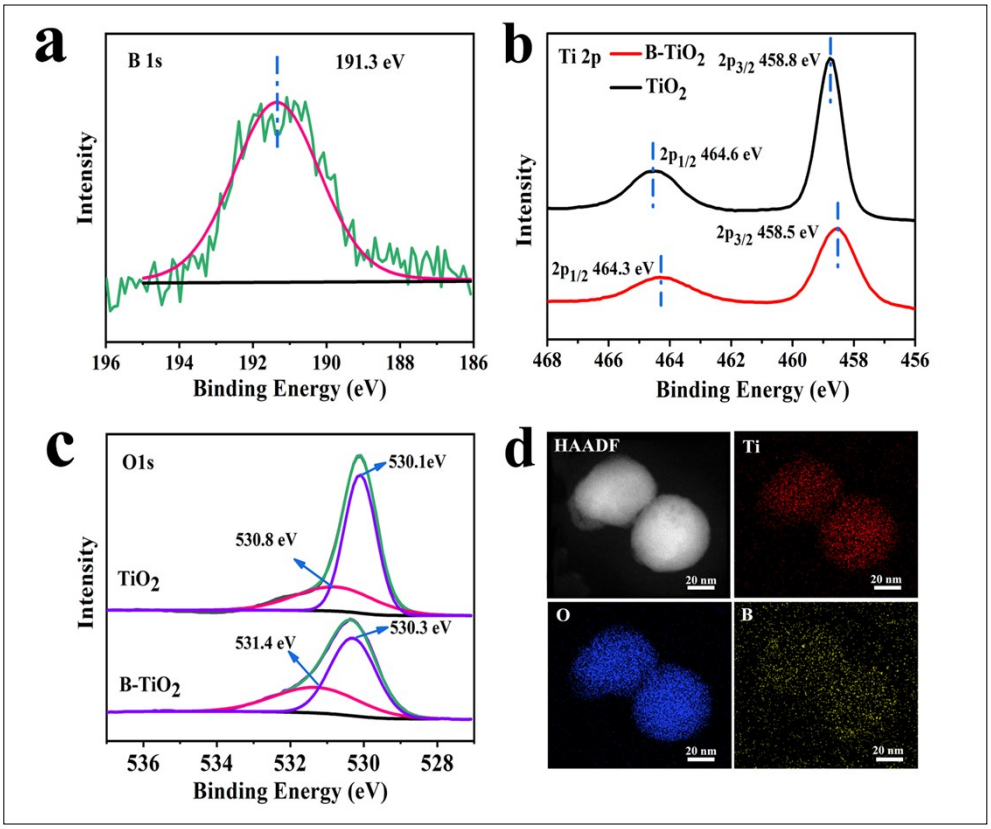

Fig. S1 (a) High-resolution B 1s spectra of B-TiO_2; High-resolution (b) Ti 2p and (c) O 1s spectra of TiO_2 and B-TiO_2; (d) HAADF-STEM image of B-TiO_2 and corresponding element mapping images of Ti, O, and B elements.

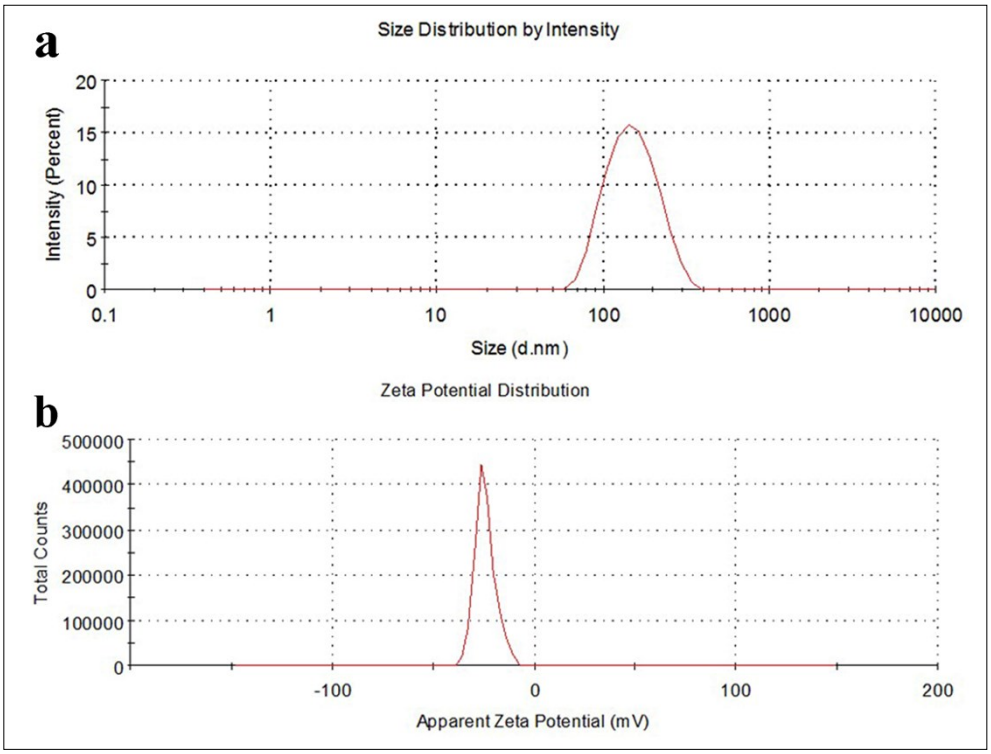

Fig. S2 (a) Hydrodynamic diameter distribution and (b) Zeta potential of B-TiO_2@SiO_2-HA nanocomposites.

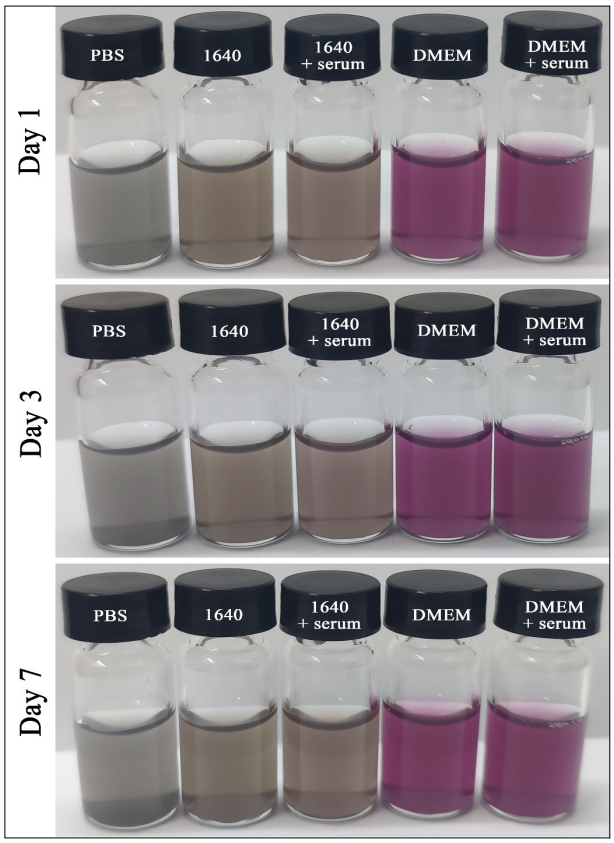

Fig. S3 Time-dependent photographs of B-TiO_2@SiO_2-HA in PBS, 1640, 1640 + serum, DMEM, DMEM + serum on the 0, 3, and 7 days respectively.

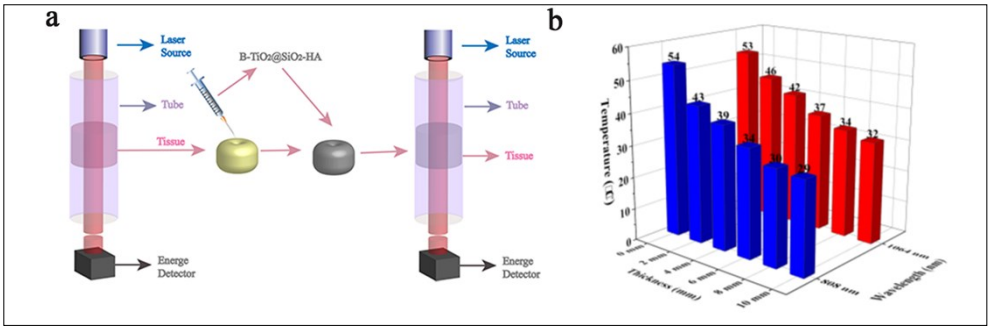

Fig. S4 (a) Schematic diagram of irradiation of chicken breast tissue of different thicknesses (0, 2, 4, 6, 8, 10 nm) by laser at 808 and 1064 nm. (b) Temperature elevations of aqueous suspensions of B-TiO_2@SiO_2-HA upon exposures to tissue-penetrating NIR-I and NIR-II laser via photothermal conversion.

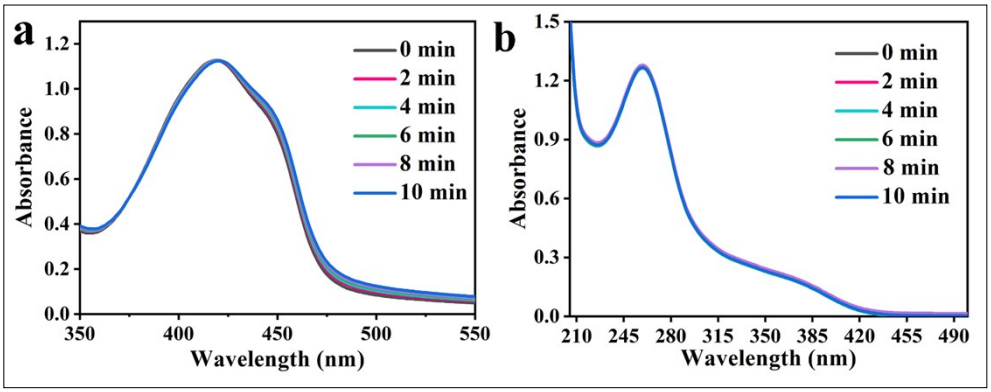

Fig. S5 UV–vis absorption spectra of DPBF solution (a) and NBT solution (b) after exposure to 1064 nm laser for different time durations.

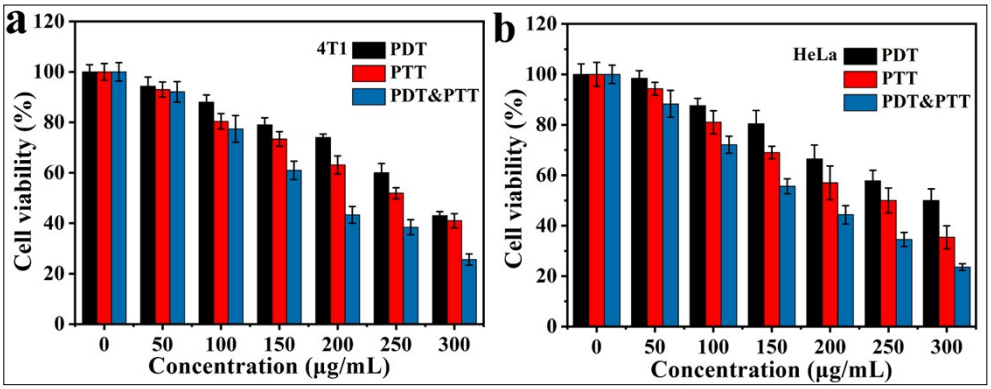

Fig. S6 *In vitro* photodynamic and photothermal cell-killing effect, the comparisons of the therapeutic effect of PTT, PDT, and the combined PTT/PDT towards 4T1 (a) and HeLa (b) cells after the exposure to 1064 nm laser irradiations.

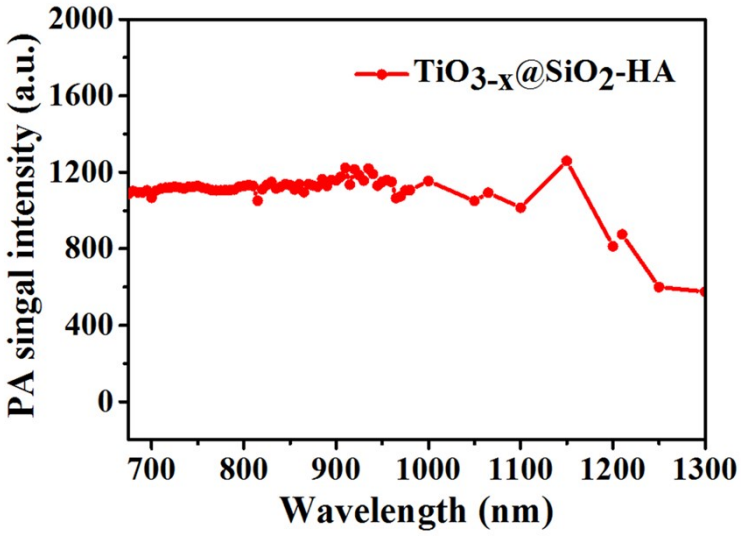

Fig. S7 Photoacoustic spectrum data of B-TiO_2@SiO_2-HA.

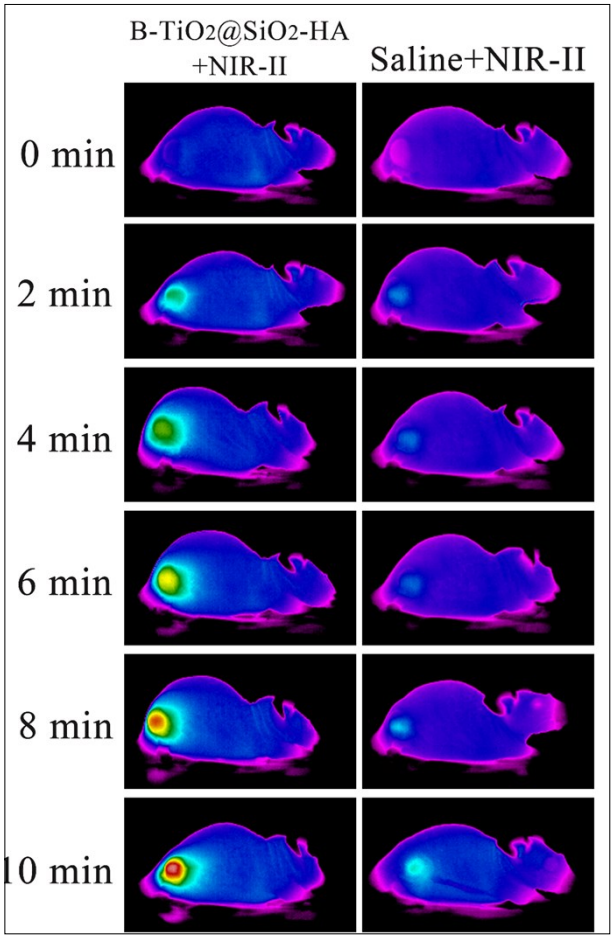

Fig. S8 Infrared thermal images of the mice after intravenous injection of the B-TiO_2@SiO_2-HA solution (100 µL, 1000 µg mL^{-1}) or saline, followed by exposure to 1064 nm laser (laser power: 1.0 W cm^{-2}; irradiation time: 10 minutes).

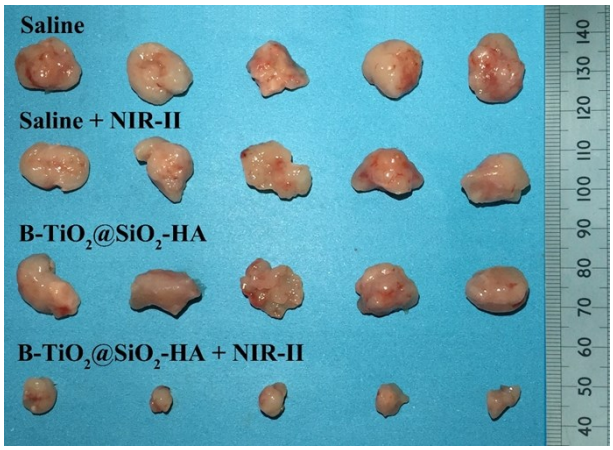

Fig. S9 Digital photos of extracted tumors.

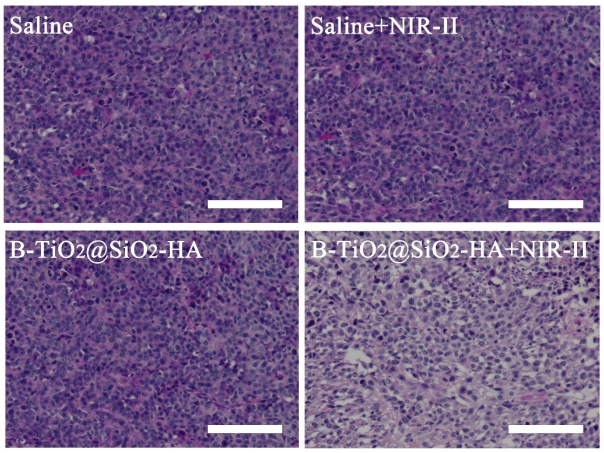

Fig. S10 H&E staining of the tumor tissues.