Supplementary Figures

PEGylated $W_{4.6}N_4/WO_3$ nanoparticles as a near- infrared photothermal agent for effective cancer therapy

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Competing Interests

The authors declare no competing interests.

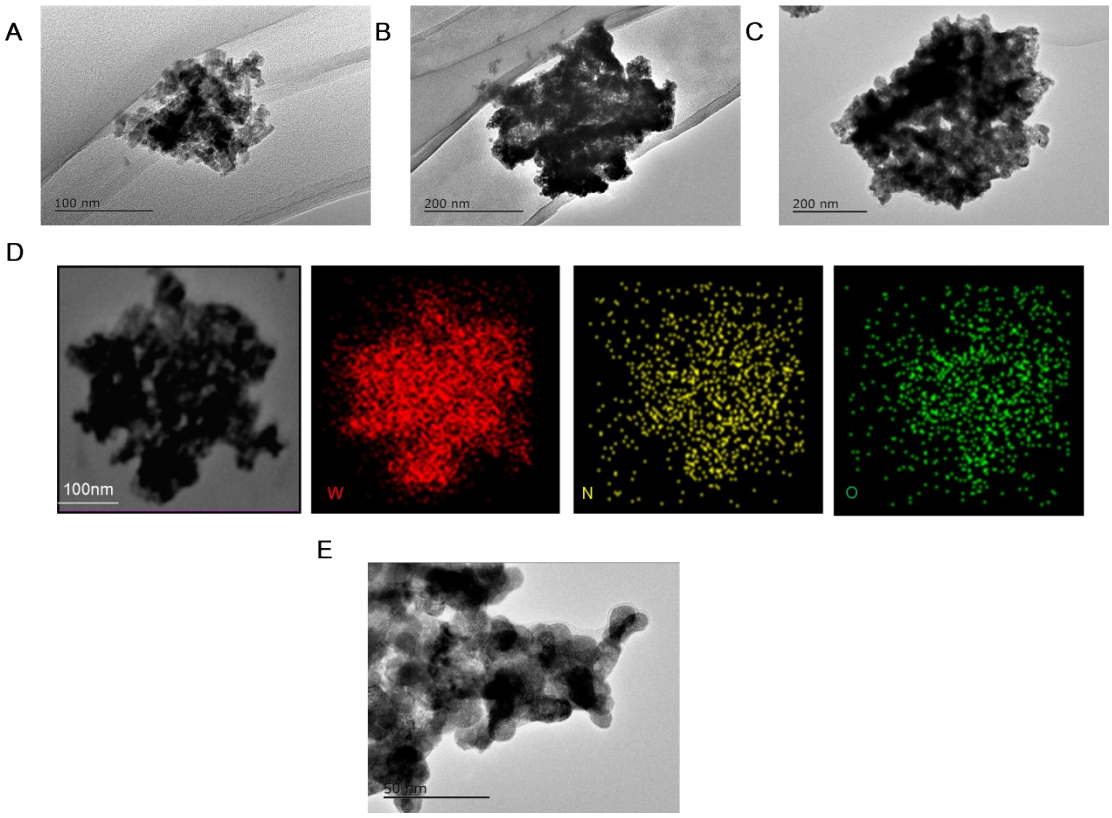

Figure S1. The characterization of prepared nanomaterials. (A) TEM images of WO_3 NPs, scale bar: 200nm, (B) TEM images of $W_{4.6}N_4/WO_3$ NPs, scale bar:200 nm, (C) TEM images of PEGylated $W_{4.6}N_4/WO_3$ NPs, scale bar:200 nm, (D) The element mappings of $W_{4.6}N_4/WO_3$ NPs. From left to right: high-angle annular dark-field image, W, N, and O elements, respectively. scale bar: 100 nm, (E) TEM image of . PEGylated $W_{4.6}N_4/WO_3$ NPs depicted the PEG layer, scale bar: 50 nm.

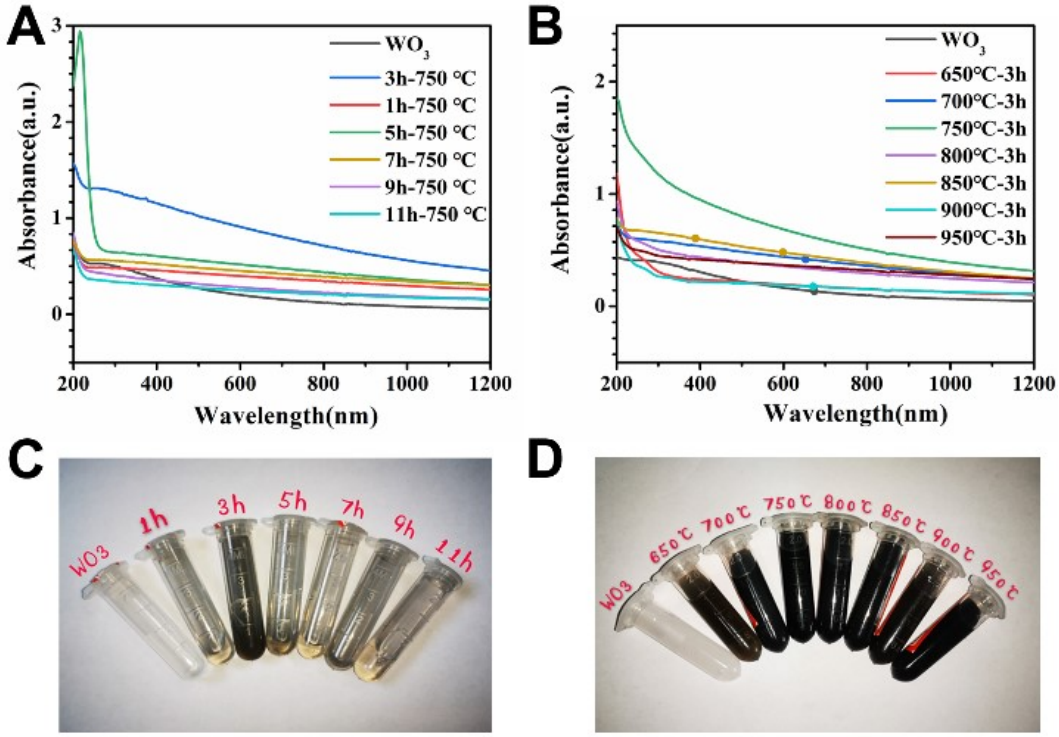

Figure S2. The absorption spectra and aqueous solution images of the products after nitridation. The absorption spectrum (A) and aqueous solution images (C) of the nitrided products for different hours at 750 °C. (B) and (D) are the absorption spectra and aqueous solution images of the nitridation products at different temperature for 3 hours.

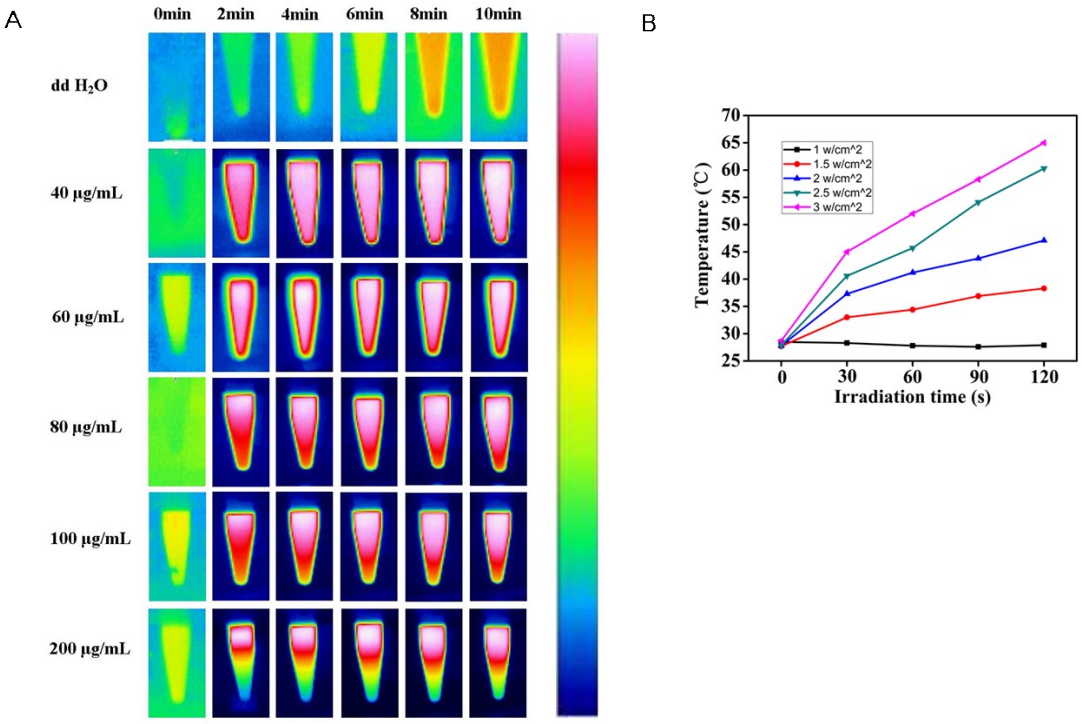

Figure S3. The photothermal property influencing factors of PEGylated $W_{4.6}N_4/WO_3$ NPs. (A) The thermal images of PEGylated $W_{4.6}N_4/WO_3$ NPs solution of different concentrations irradiated by 808 nm laser with the 3.0 W/cm^2 power density. (B) The temperature rise curves of 200 μg/mL PEGylated $W_{4.6}N_4/WO_3$ NPs irradiated by 808 nm laser at different power density.

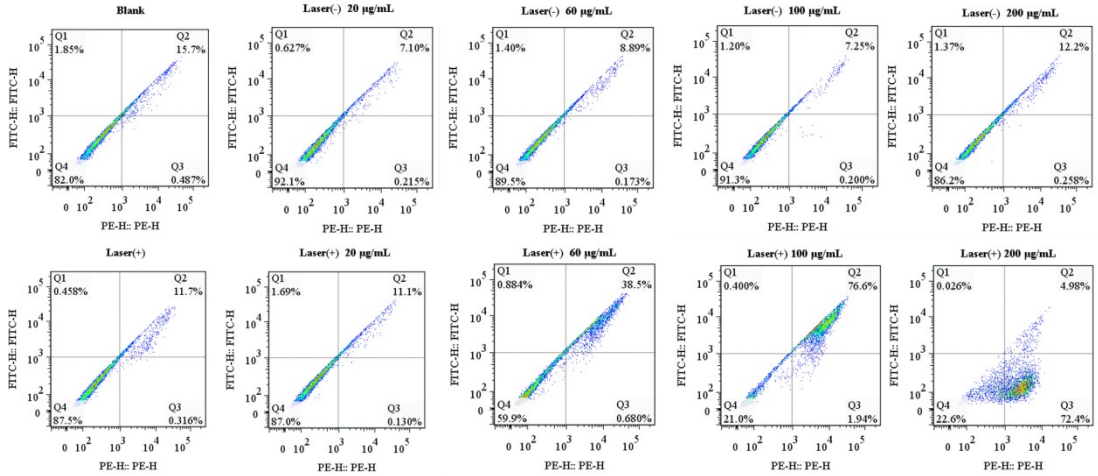

Figure S4. Flow cytometry of HeLa cells incubated with PEGylated $W_{4.6}N_4/WO_3$ NPs at different concentrations with or without irradiated for 5 min with 3.0 W/cm^2 808 nm laser.

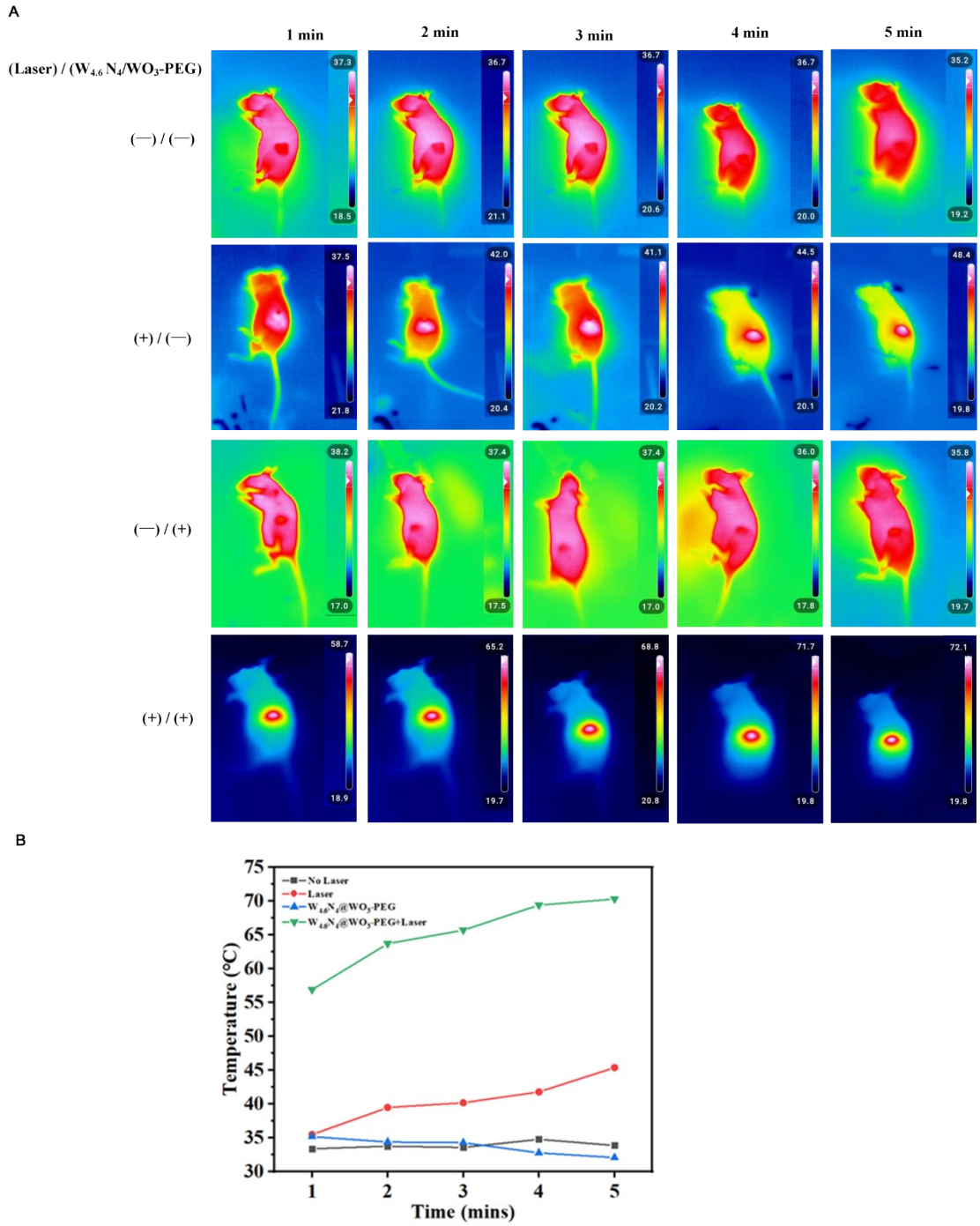

Figure S5. (A) Thermal images of tumor-bearing mice when treated with or without Laser or $W_{4.6}N_4/WO_3$ –PEG NPs, (B) The temperature change curves from images.

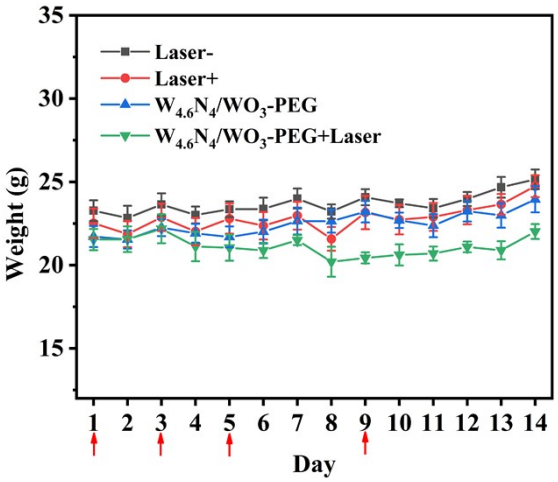

Figure S6. The weight change curves of mice with different treatments.

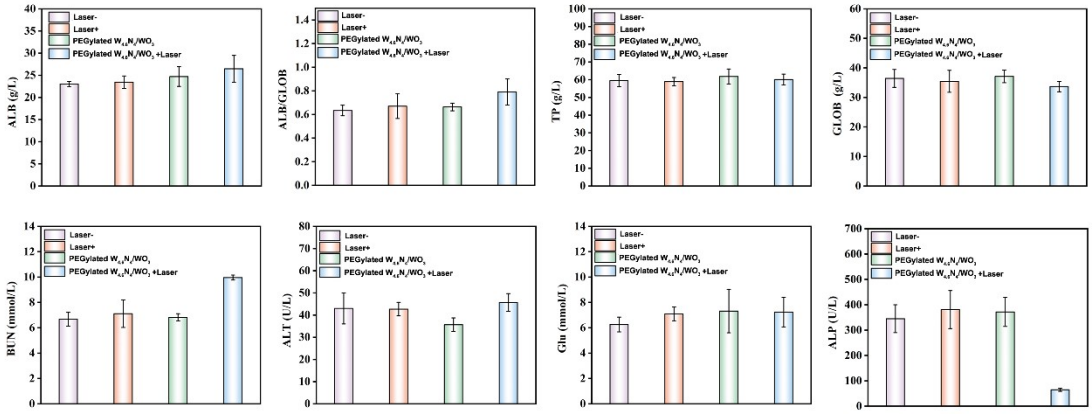

Figure S7. Blood biochemical detection results of tumor-bearing mice in four experimental groups after photothermal treatment.