

Supporting Information

Ultra Small Gold Nanoclusters Supported on Two-dimension Bismuth Selenide Nanosheets for Synergistic Photothermal and Photodynamic Tumor Therapy

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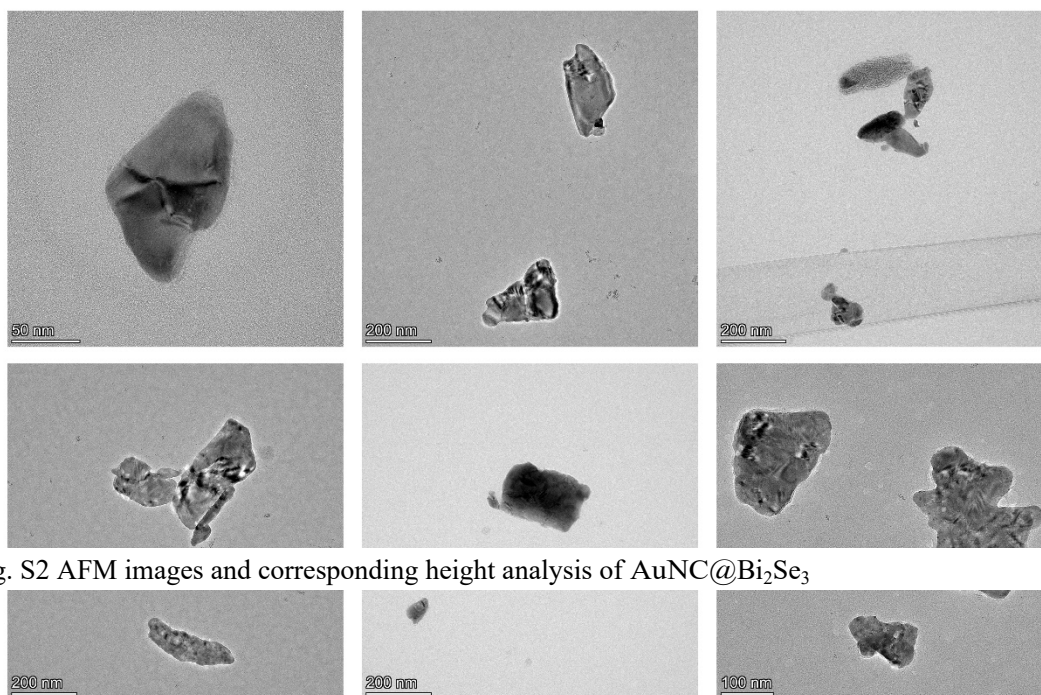
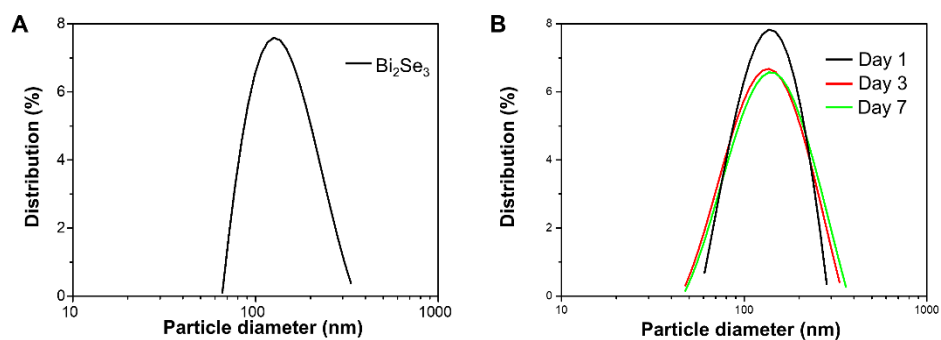
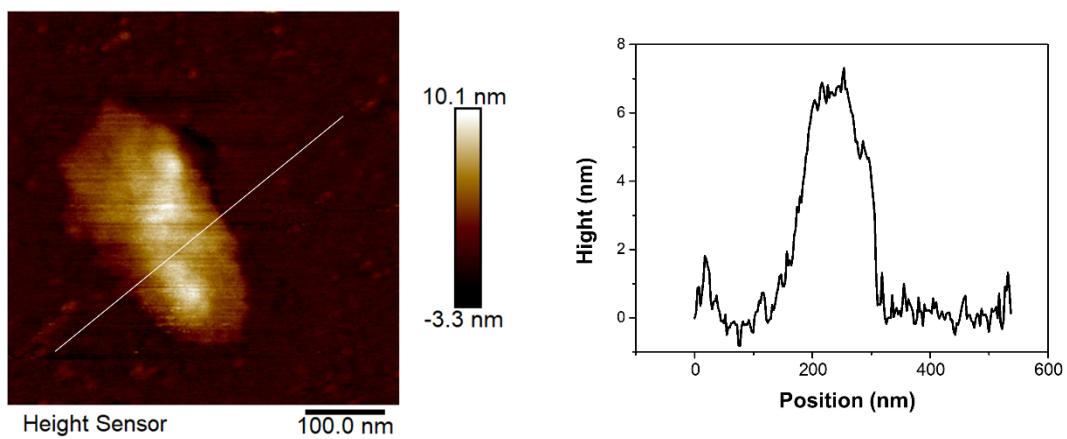


Fig. S2 AFM images and corresponding height analysis of AuNC@Bi₂Se₃

Fig. S1 The morphology of AuNC@Bi₂Se₃ nanocomposites across different batches.



(C) The comparison of UV-Vis absorption spectra between $\text{AuNC}@ \text{Bi}_2\text{Se}_3$ and Bi_2Se_3 nanosheets.



Fig. S3 XRD patterns and energy-dispersive X-ray spectroscopy (EDX) of $\text{AuNC}@ \text{Bi}_2\text{Se}_3$.

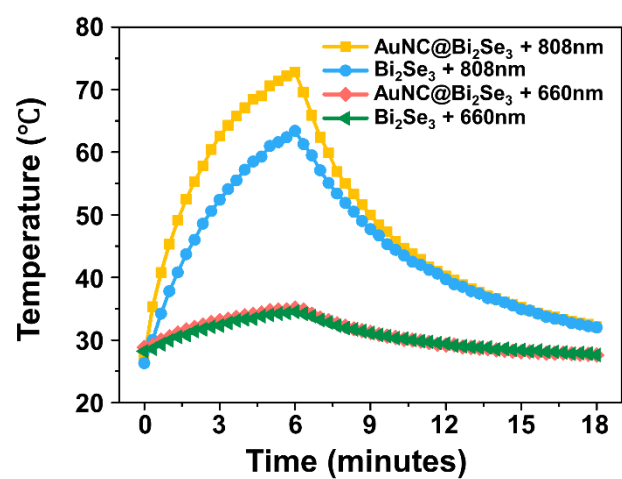


Fig. S6 The photothermal heating curve of AuNC@Bi₂Se₃ and Bi₂Se₃ dispersions at 50 ppm under 808 nm and 660 nm laser irradiation (1W/cm²), respectively.

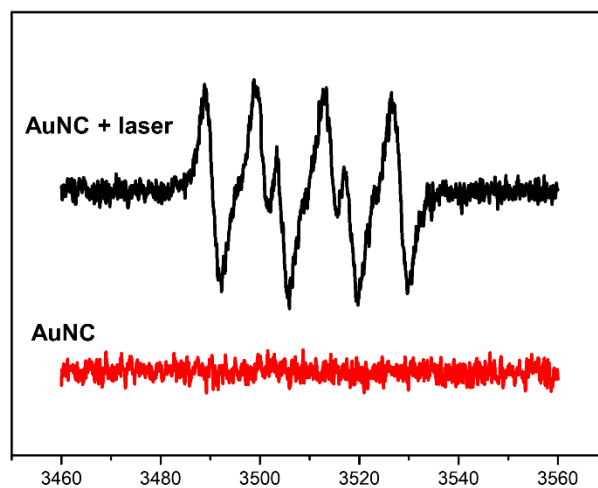


Fig. S7 ESR spectra of AuNC and AuNC + Laser group to detect the production of $\cdot\text{O}_2^-$ production.

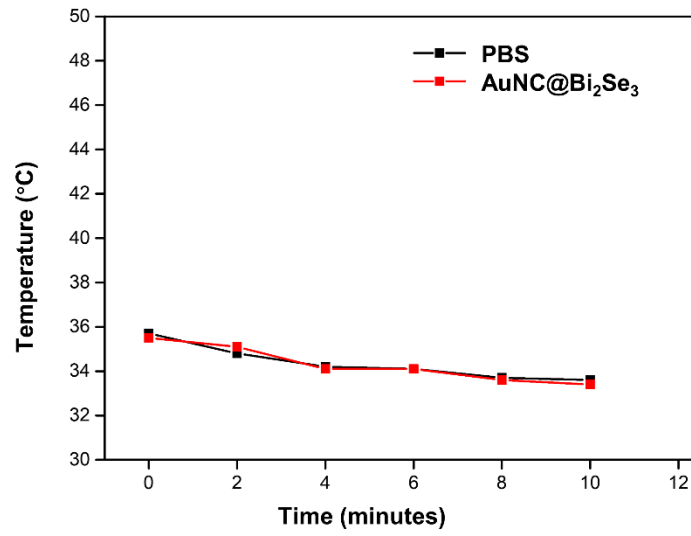


Fig. S8 Temperature curves of 4T1 tumor bearing mice after injection of PBS and AuNC@Bi₂Se₃ respectively.

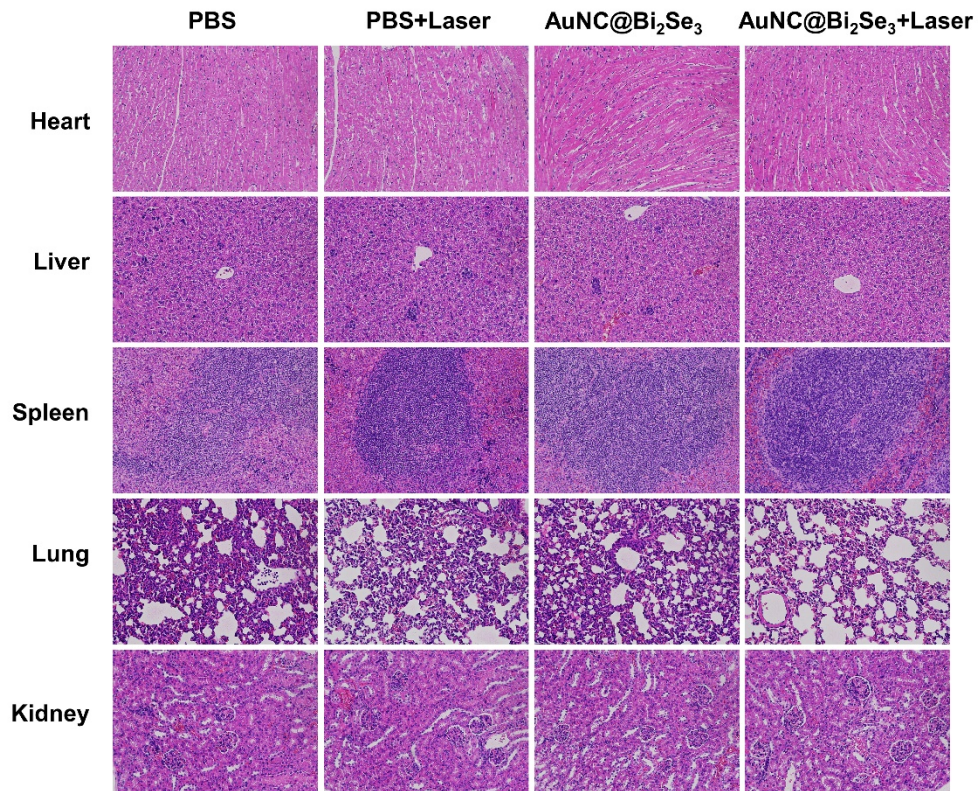


Fig. S9. H&E staining of major organs including Heart, Liver, Lung, Spleen and Kidney after different treatments.

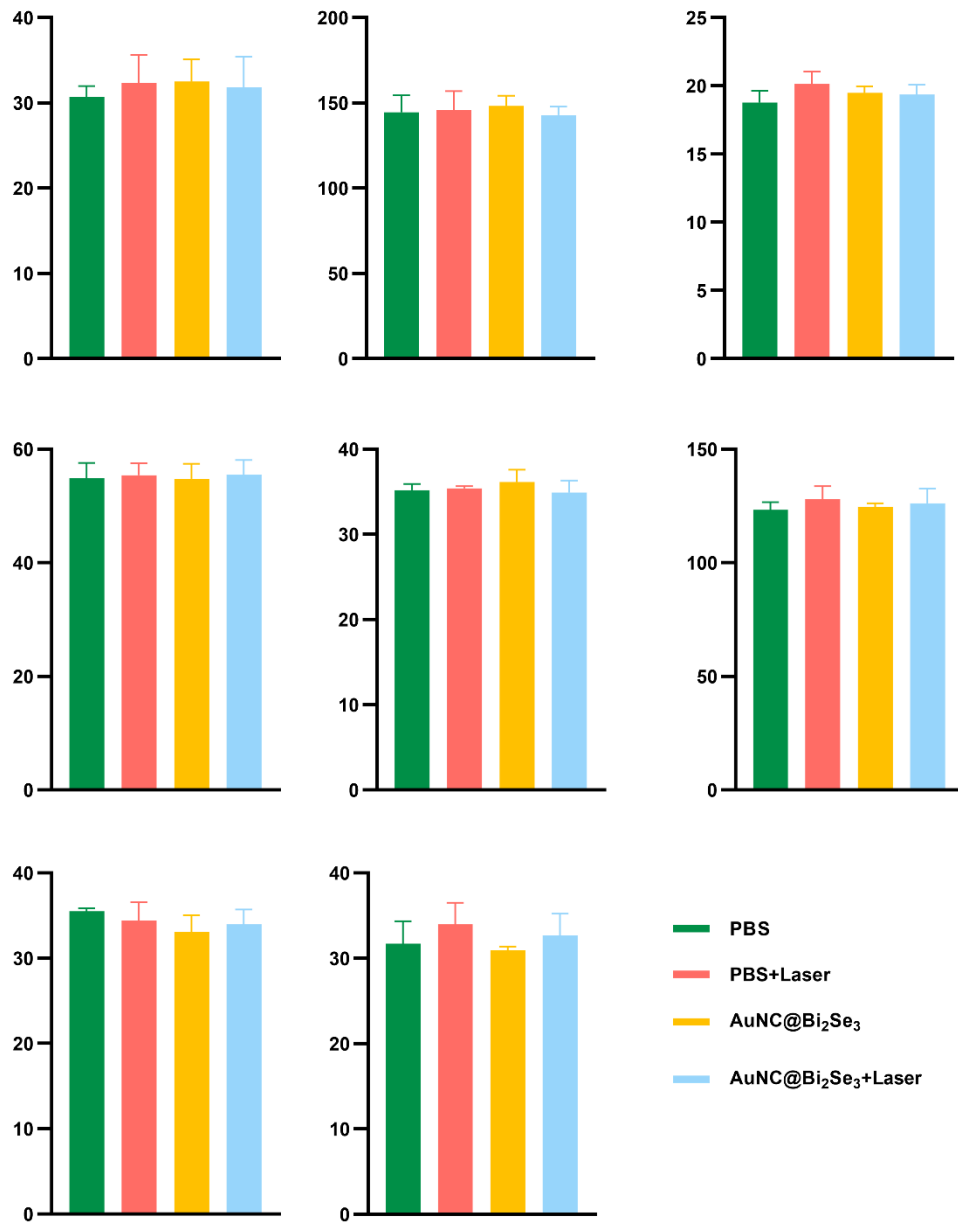


Fig. S10. Serum biochemical indices, including ALT, AST, BUN, TP, ALB, ALP, TBIL and CREA of 4T1 tumor-bearing mice after the treatment process.