

## Supporting Information

### **Near-infrared long afterglow nanoparticles with photothermal and photodynamic synergistic therapeutic capabilities for tumor therapy**

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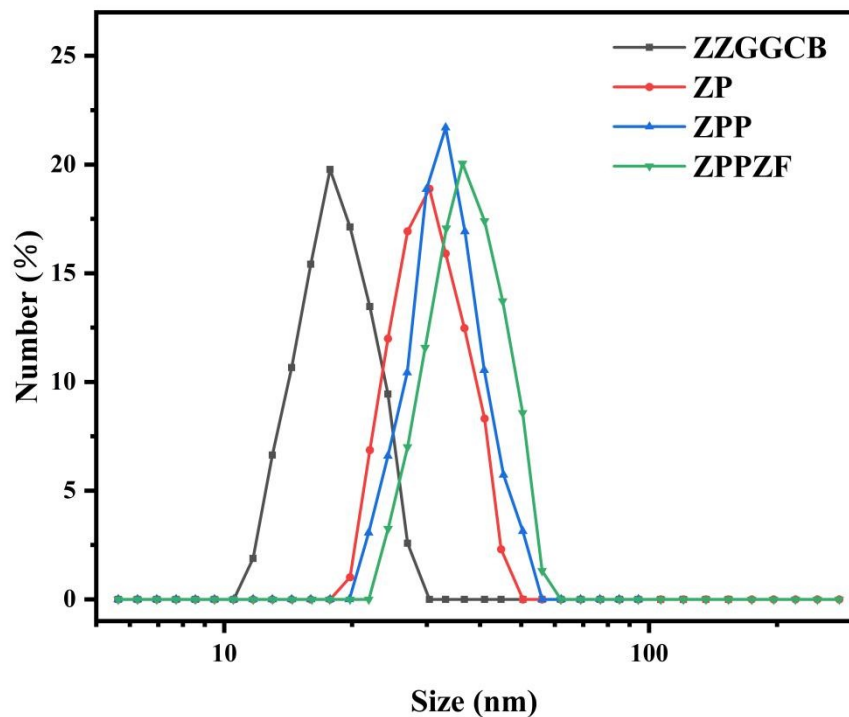


Figure S1. Hydrodynamic diameters of ZZGGCB, ZP, ZPP and ZPPZF in PBS solution.

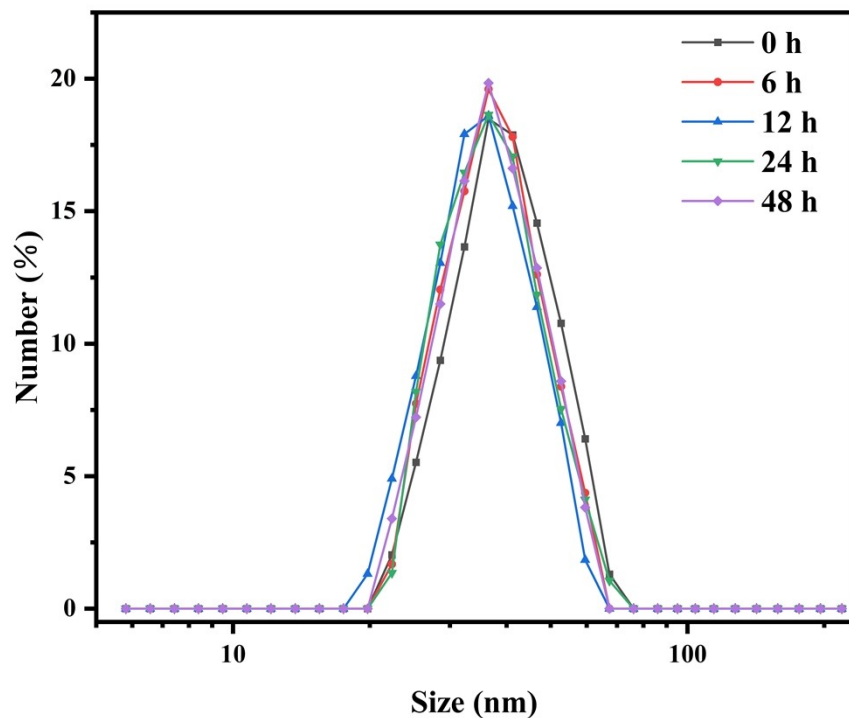


Figure S2. Hydrodynamic diameters of ZPPZF incubated in PBS for different durations.

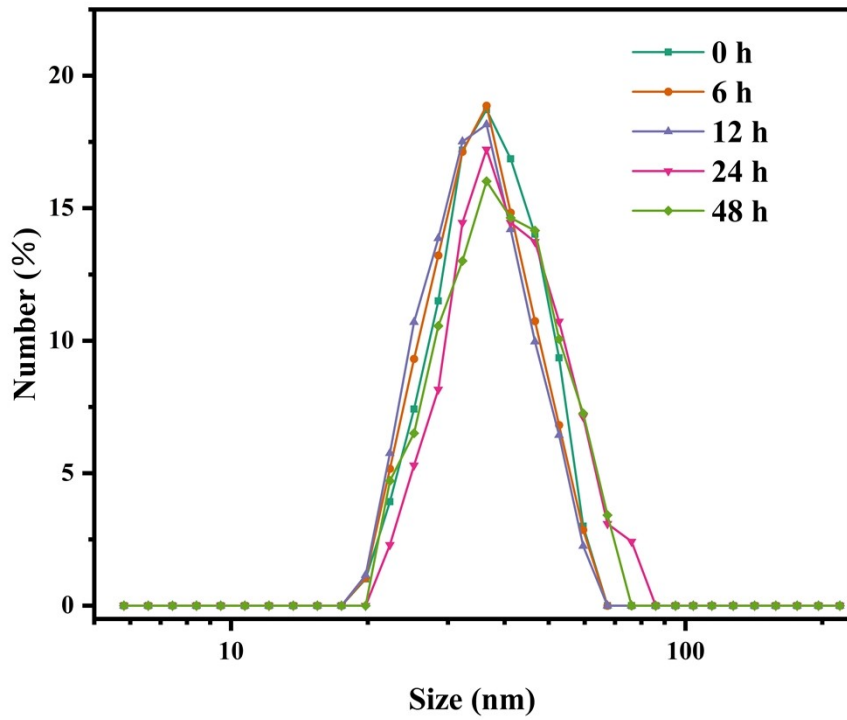


Figure S3. Hydrodynamic diameters of ZPPZF incubated in DMEM (containing 10% fetal bovine serum, FBS) for different durations.

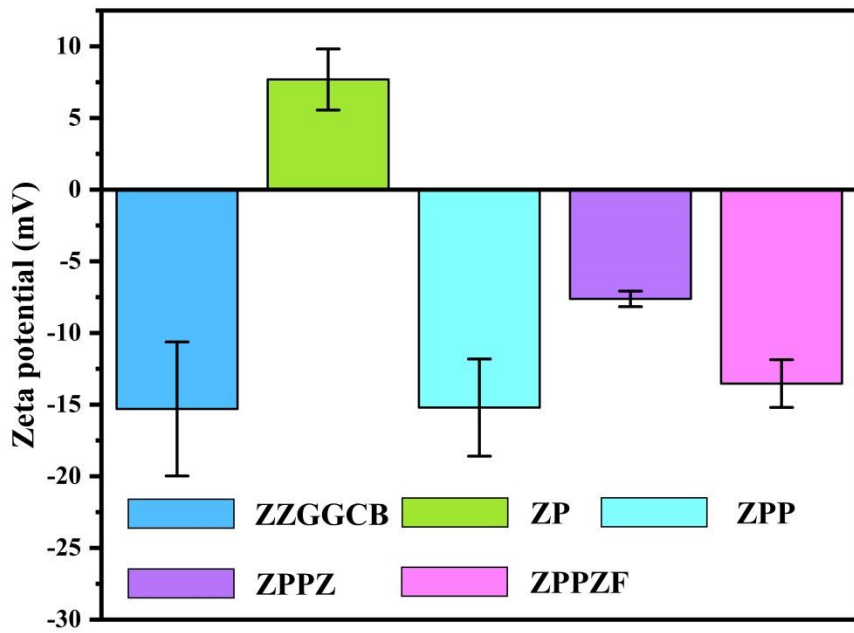


Figure S4. Zeta potentials of ZZGGCB, ZP, ZPP, ZPPZ and ZPPZF.

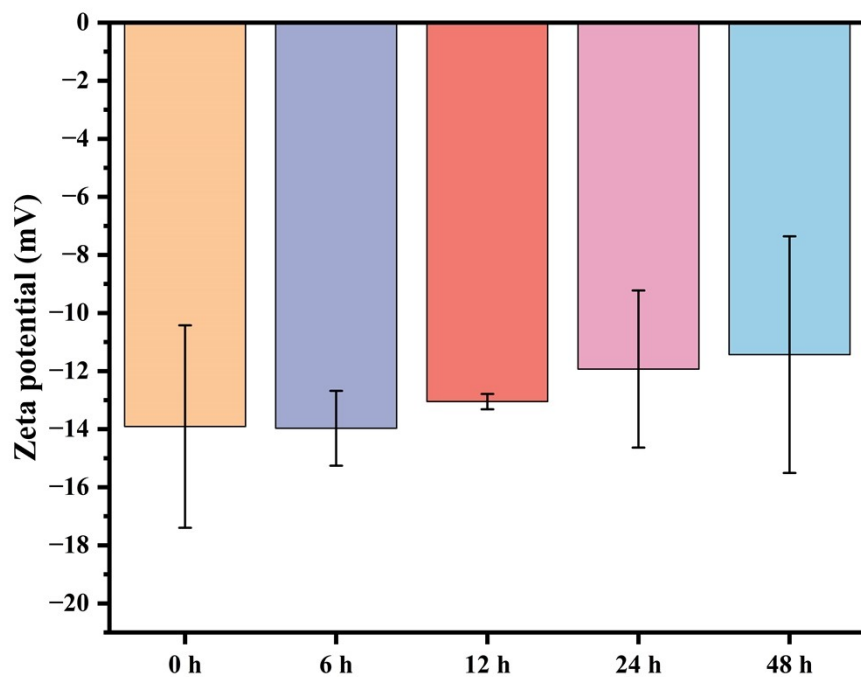


Figure S5. Zeta potentials of ZPPZF incubated in PBS for different durations.

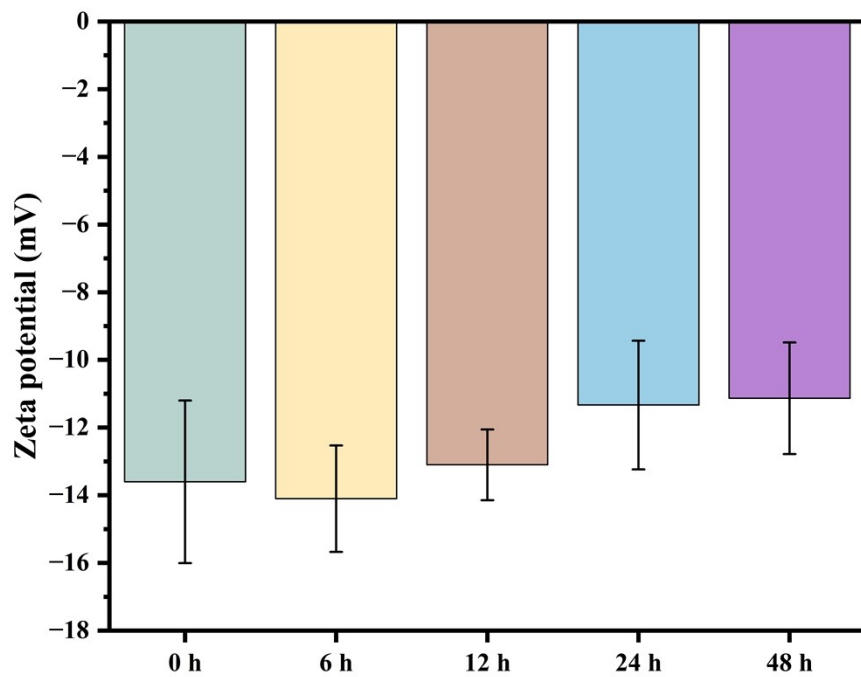


Figure S6. Zeta potentials of ZPPZF incubated in DMEM (containing 10% fetal bovine serum, FBS) for different durations.

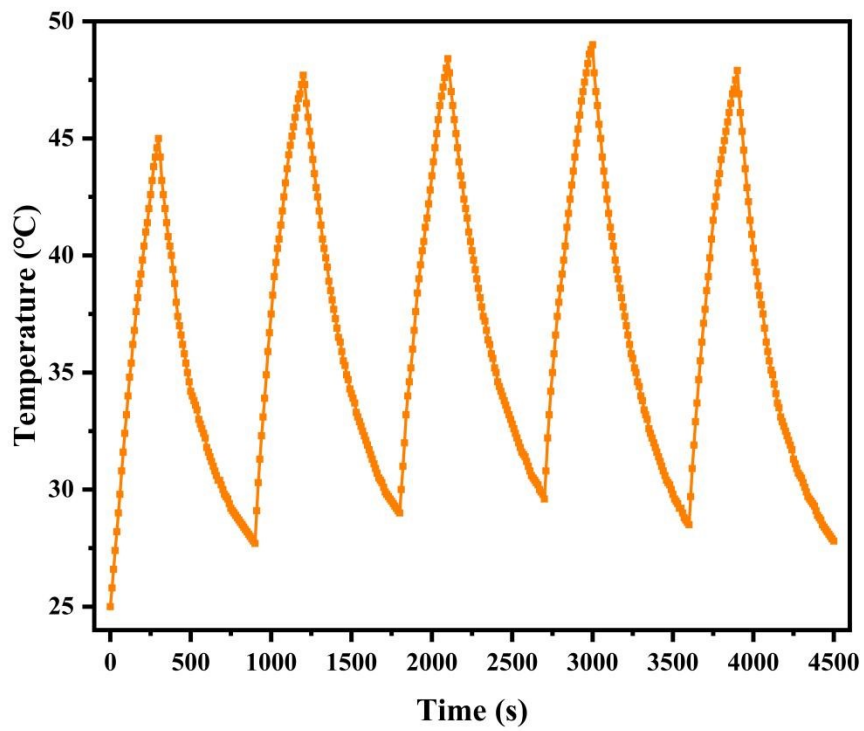


Figure S7. Five photothermal cycles of ZPPZF (750  $\mu\text{g}/\text{ml}$ ) under 808 nm laser irradiation (1.5  $\text{W}/\text{cm}^2$ ).

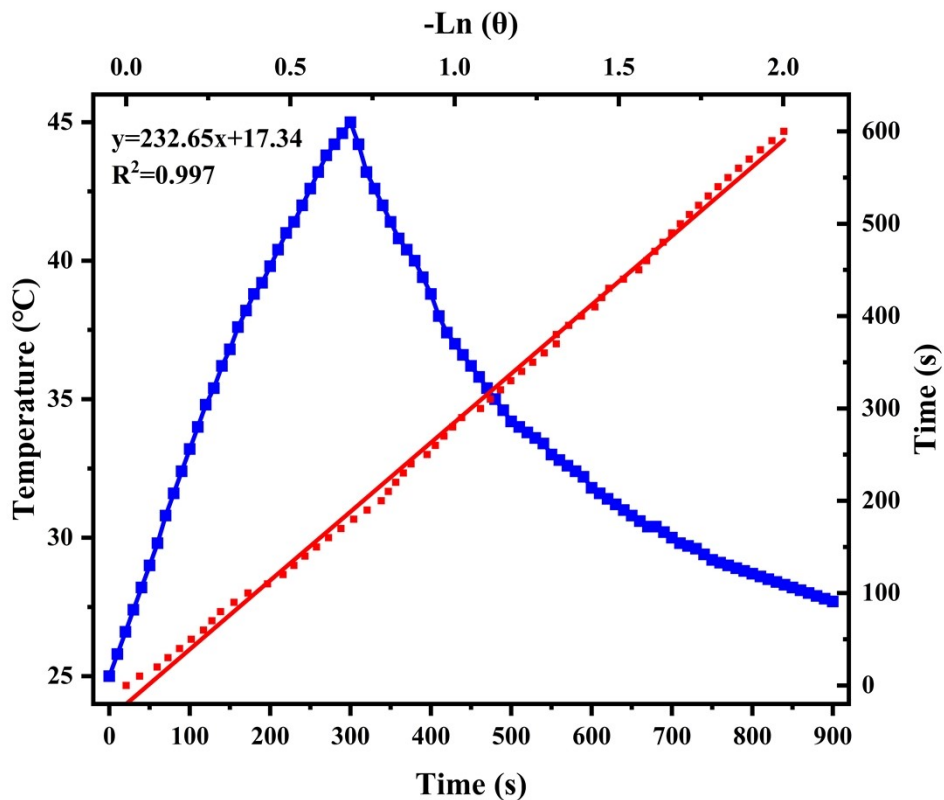


Figure S8. The heating curve under 808 nm laser, the cooling curve after the laser is turned off, and the relationship between cooling time and the negative natural logarithm of the driving force temperature.

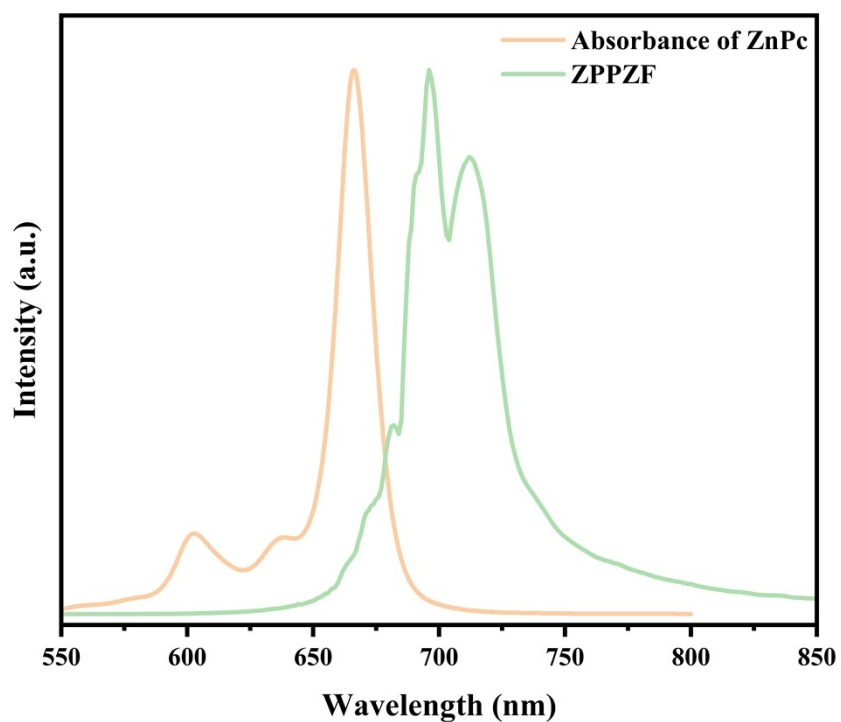


Figure S9. Absorption spectrum of ZnPc in PBS and the afterglow spectrum of ZPPZF.

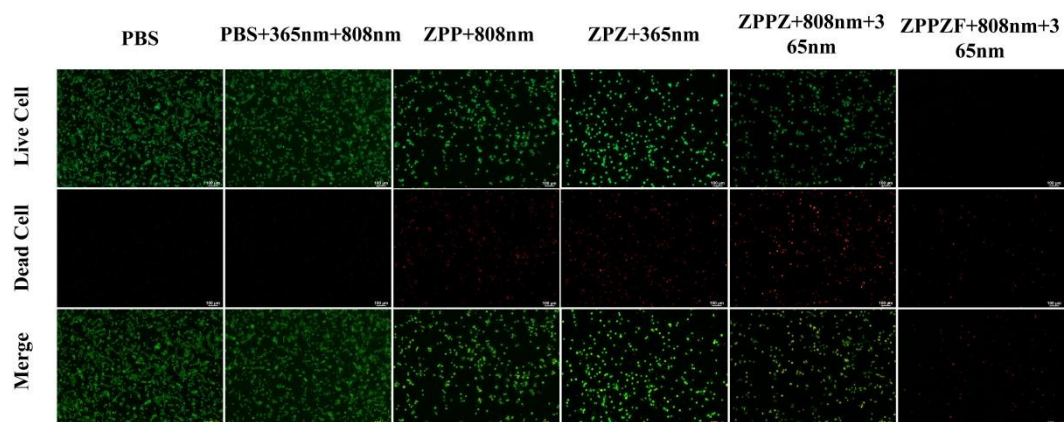


Figure S10. CLSM images of OCM-1 cells with different treatments (Live cells were stained green with calcein-AM, and dead cells were stained red with PI).

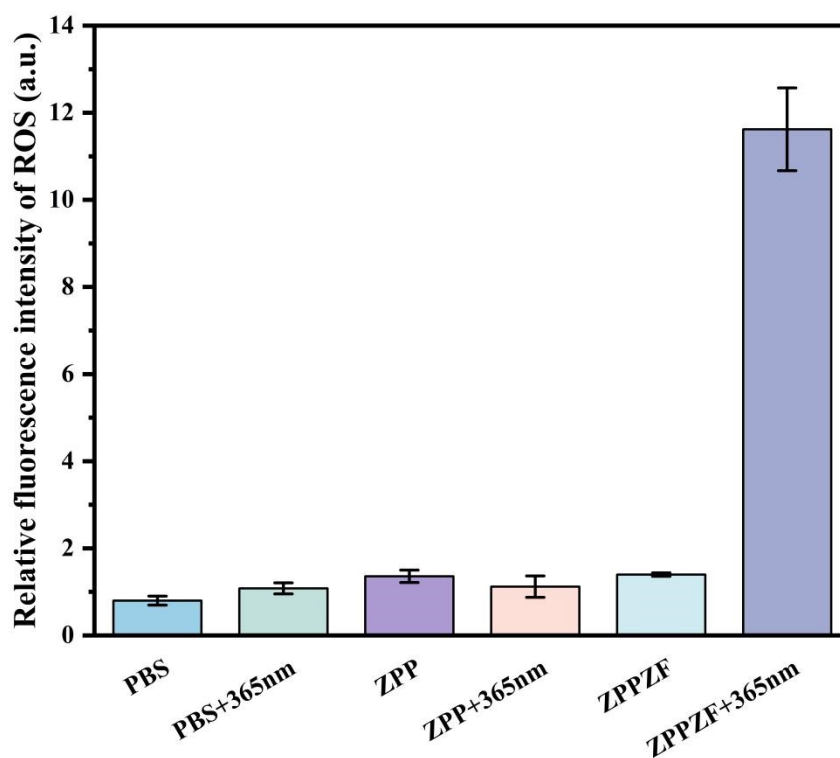


Figure S11. Average fluorescence intensity statistics (n=3).

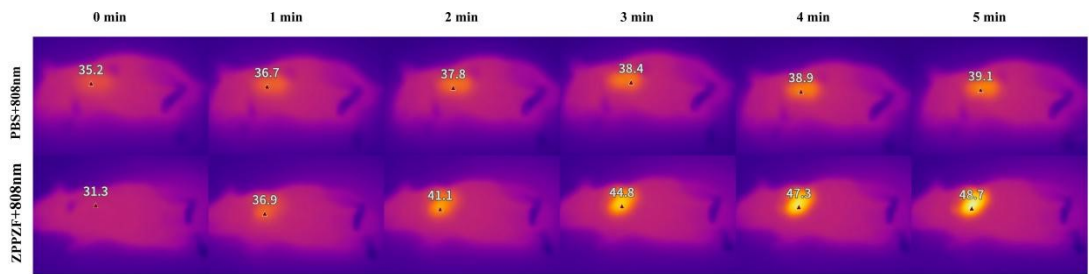


Figure S12. Thermal imaging of tumor-bearing mice.

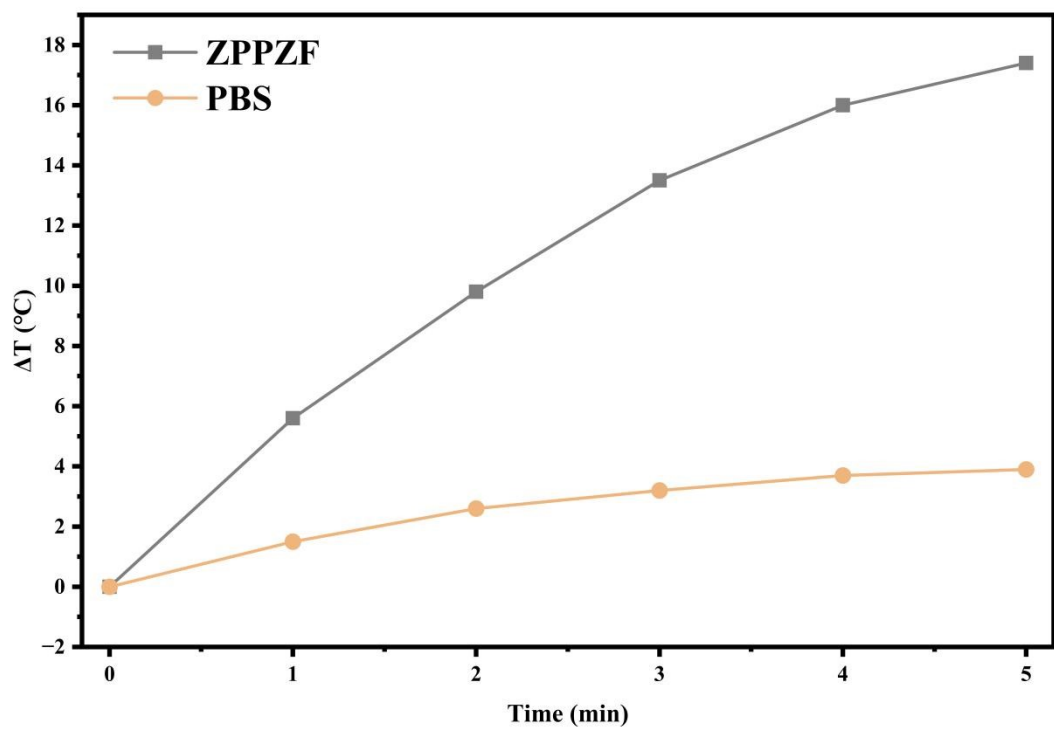


Figure S13. Curve of temperature changes at tumor sites in mice over time.