

Supporting Information

A PdMo bimetallic with Precise Wavelength Adjustment and Catalysis for Synergistic Photothermal Ablation and Hydrogen Therapy of Cancer at Different Depths

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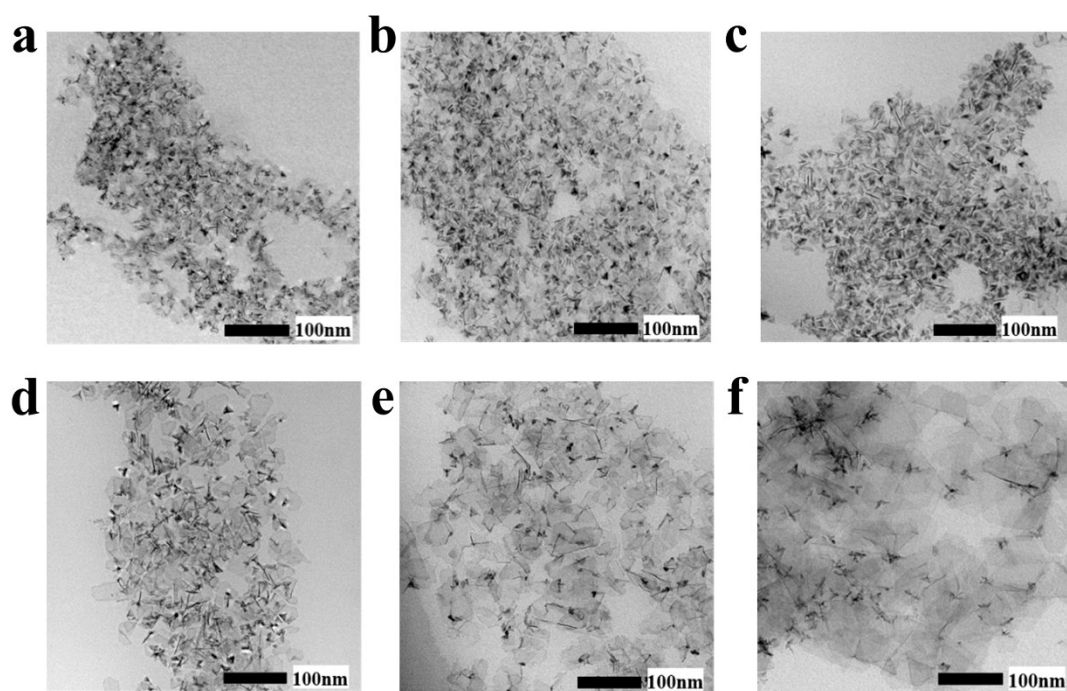


Fig. S1 (a~f) Typical TEM images of PdMo bimetallic collected after reaction times of 10min (a), 20min (b), 33min (c), 40min (d), 60min (e), 74 min (f).

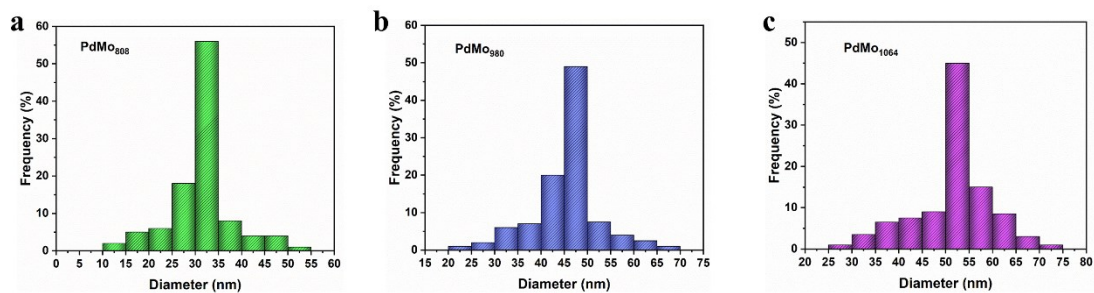


Fig. S2 (a~c) Particle size distribution of PdMo₈₀₈, PdMo₉₈₀ and PdMo₁₀₆₄ nanosheets.

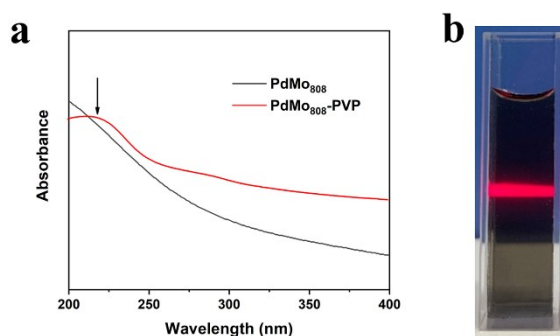


Fig. S3 (a) UV-vis absorption spectra of PdMo₈₀₈ nanosheets before and after ligand exchange. (b) Digital photo of PdMo₈₀₈@AB@HA dispersed in water exhibiting Tyndall effect.

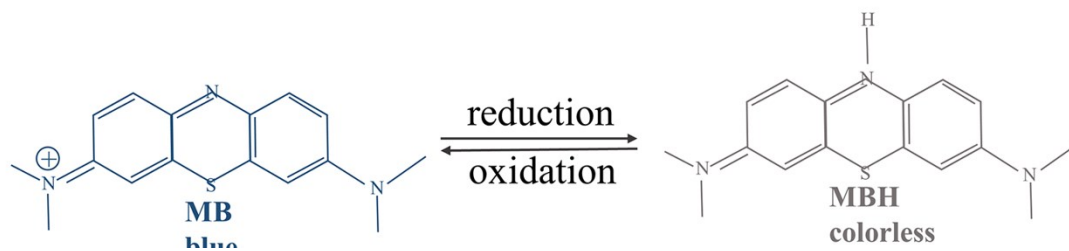


Fig. S4 The hydrogen detection mechanism of the MB probe based on the color change during the redox reaction.

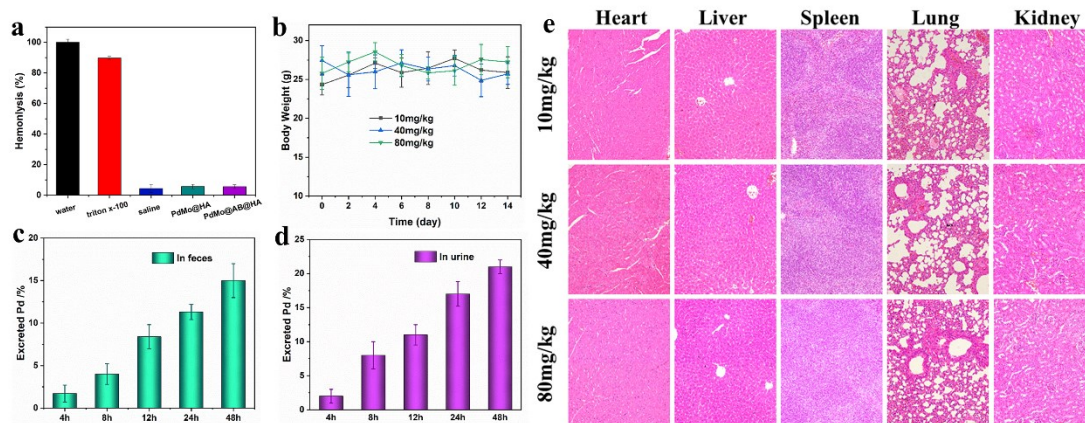


Fig. S5 (a) Hemolysis assays of PdMo@HA and PdMo@AB@HA. (b) Body weight changing curves of mice during 14 days observation period. The amounts of Pd excreted by the mice after at 4, 8, 12, 24, and 48 h after intravenous injection of PdMo₈₀₈@AB@HA in (c) feces and urine (d). (e) Histological analysis by H&E staining of the major organs of Kunming mice 14 days after injection of PdMo₈₀₈@AB@HA at elevated doses: 10, 40 and 80 mg/kg.

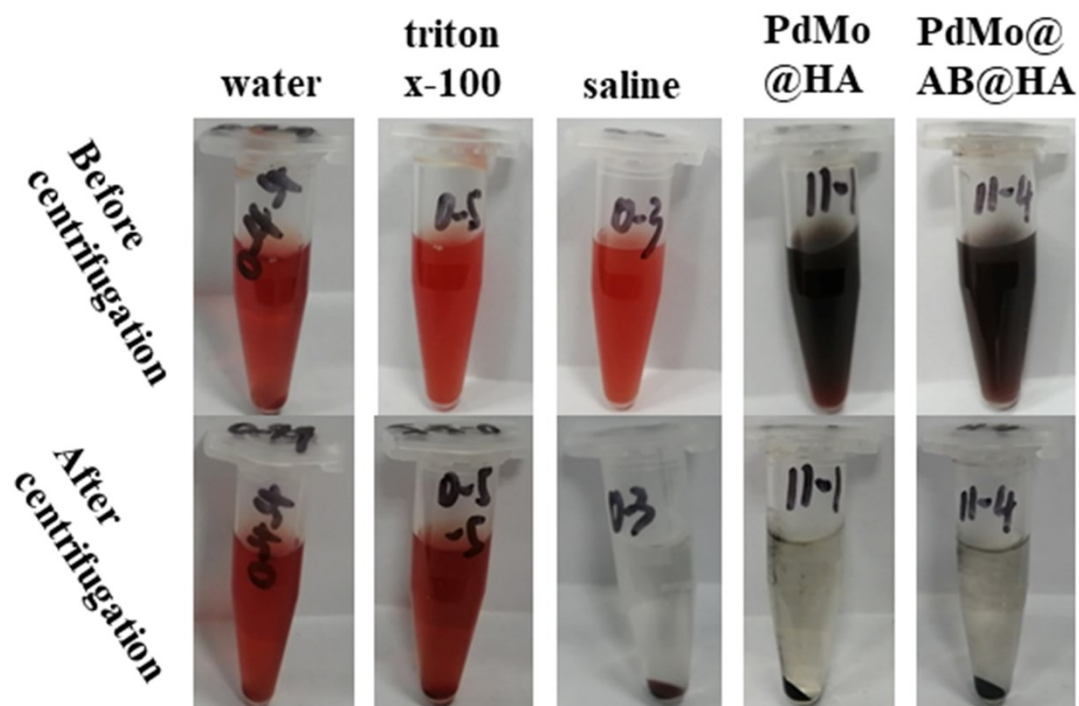


Fig. S6 Corresponding digital photos of hemolysis assays before and after centrifugation.

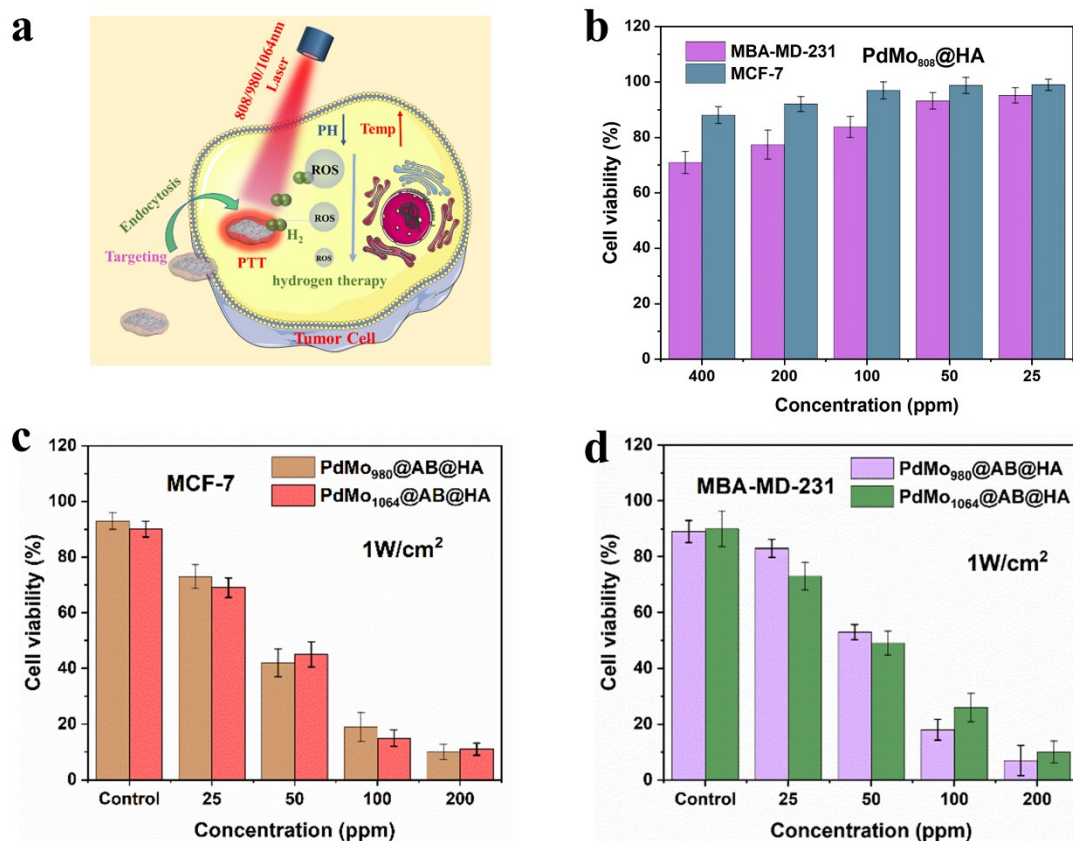


Fig. S7 (a) Schematic illustration of PdMo@AB@HA composite nanosheets as the anticancer agents for synergistic PTT/hydrogen therapy. (b) Cell viabilities of two kinds of cancer cells (MBA-MD-231 and MCF-7) after incubation with PdMo₈₀₈@HA at various concentrations (25, 50, 100, 200, 400 ppm). (c, d) Cell viabilities of MCF-7 and MBA-MD-231 cells after incubation with PdMo₉₈₀@AB@HA and PdMo₁₀₆₄@AB@HA at different concentrations (0, 25, 50, 100, 200ppm) followed by laser irradiation at irradiance of 1.0W/cm².

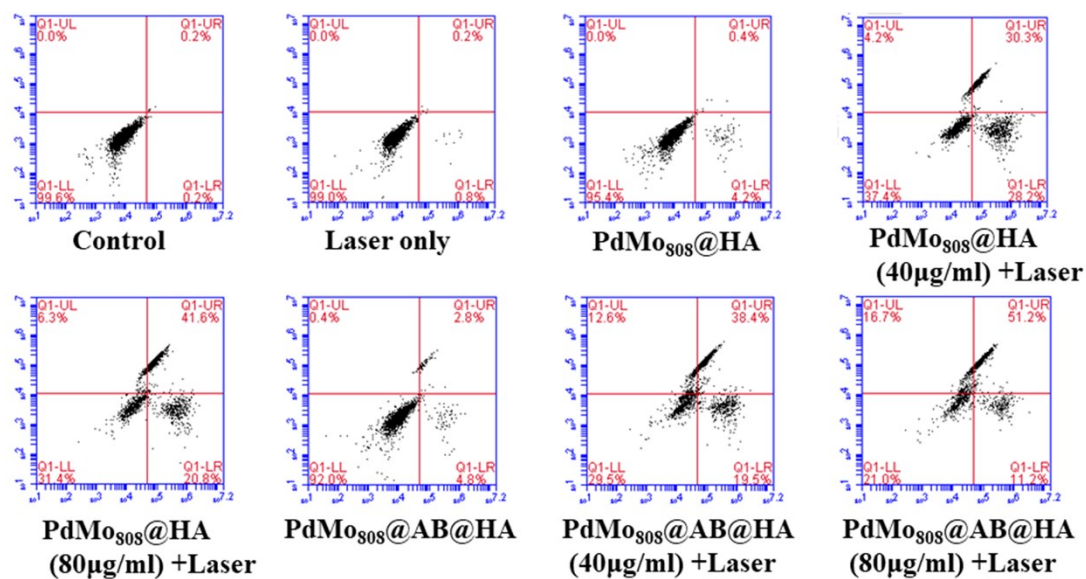


Fig. S8 (a) Flow cytometry study of MCF-7 cells treated separately with control, laser only, PdMo₈₀₈@HA, PdMo₈₀₈@HA (40ug/ml) +Laser, PdMo₈₀₈@HA (80ug/ml) +Laser, PdMo₈₀₈@AB@HA, PdMo₈₀₈@AB@HA (40ug/ml) +Laser and PdMo₈₀₈@AB@HA (80ug/ml)+Laser.

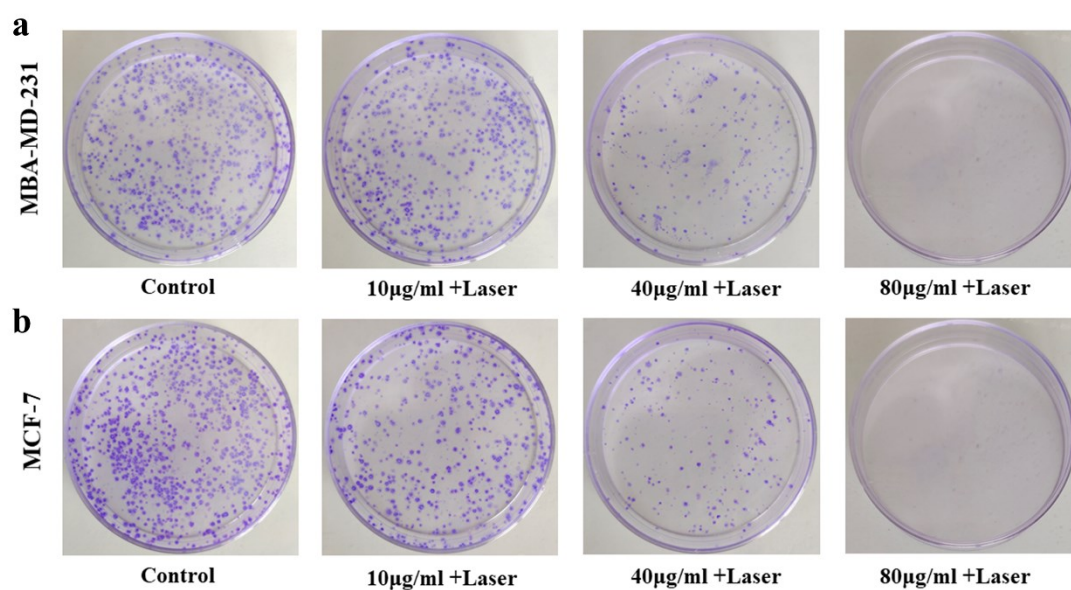


Fig. S9 (a, b) Digital photos of clonogenic assay of MBA-MD-231 and MCF-7 cells after incubation with PdMo₈₀₈@AB@HA at different concentrations (10, 40, 80ug/ml) followed by laser irradiation.

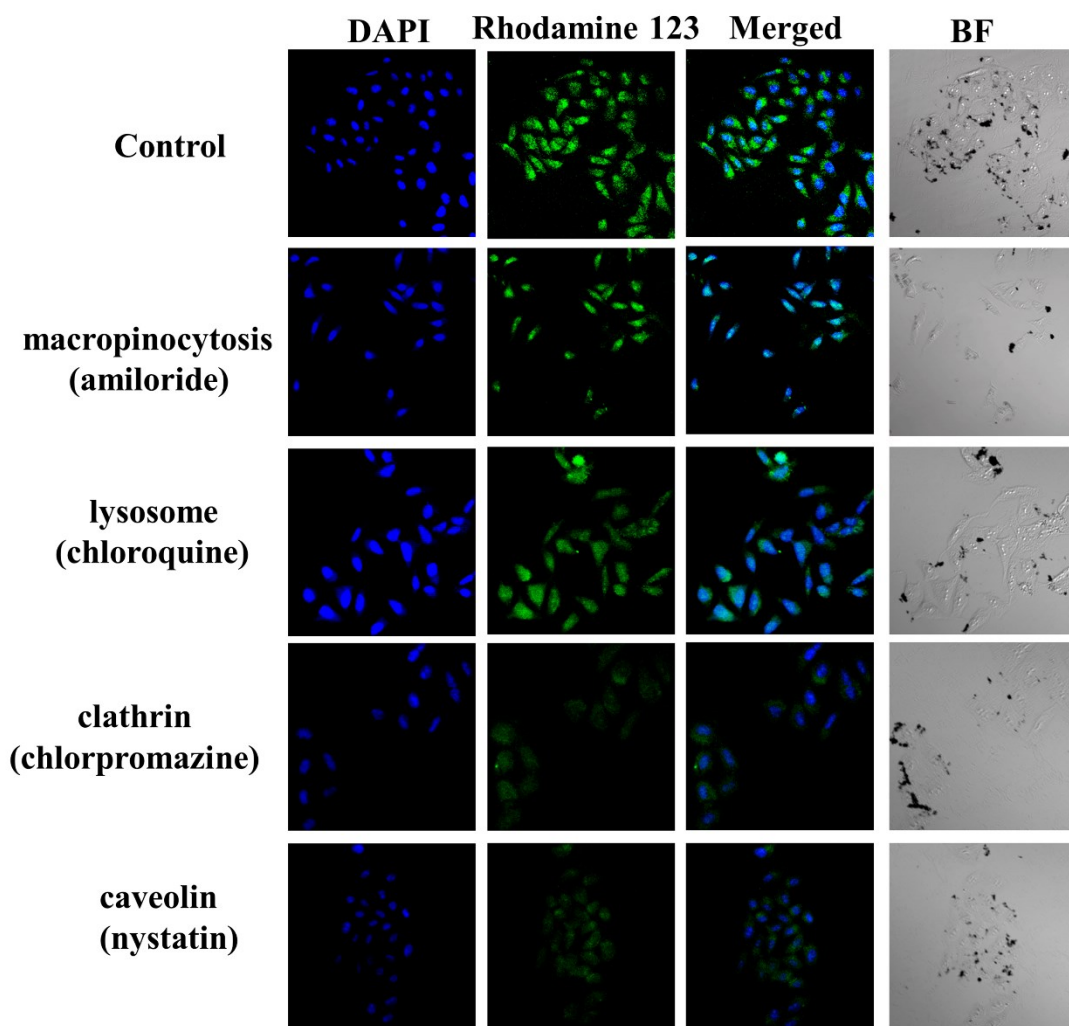


Fig. S10 CLSM images of endocytosis mechanism of PdMo₈₀₈@AB@HA composite nanosheets.

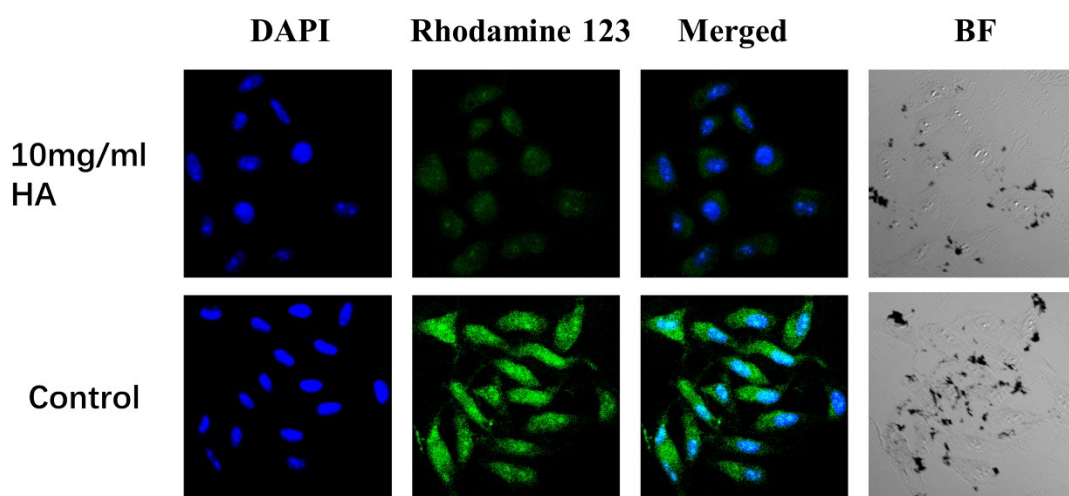


Fig. S11 CLSM images of competitive inhibition of PdMo₈₀₈@AB@HA composite nanosheets.

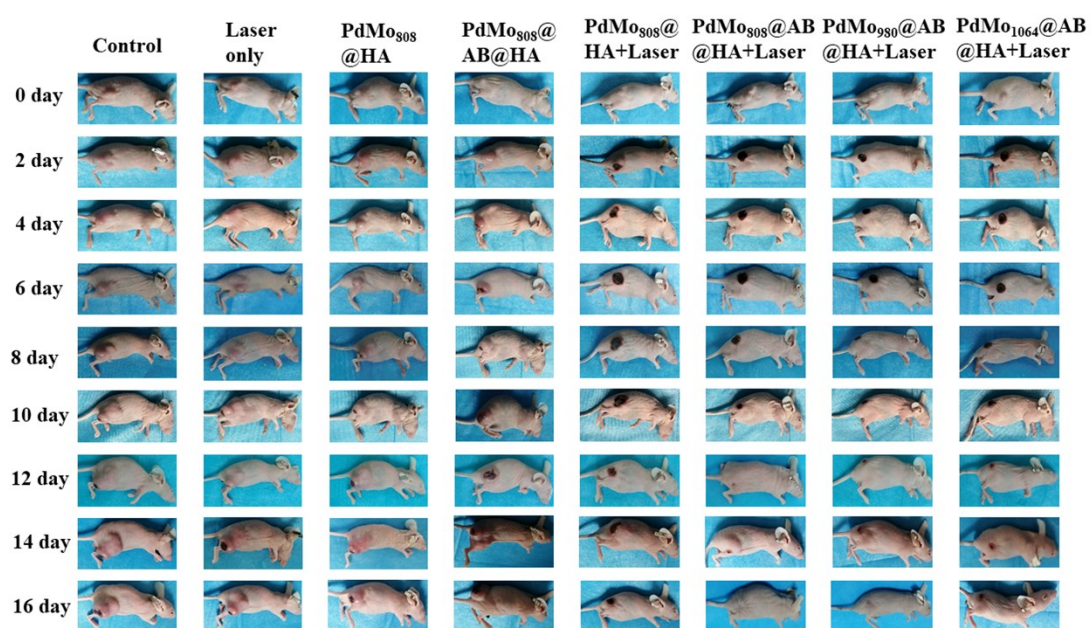


Fig. S12 Photographs of MBA-MD-231 tumor-bearing mice after the control and different treatments in 16 days' period.