Supporting Information

Photo-/piezo-activated ultrathin molybdenum disulfide nanomedicine for synergistic tumor therapy

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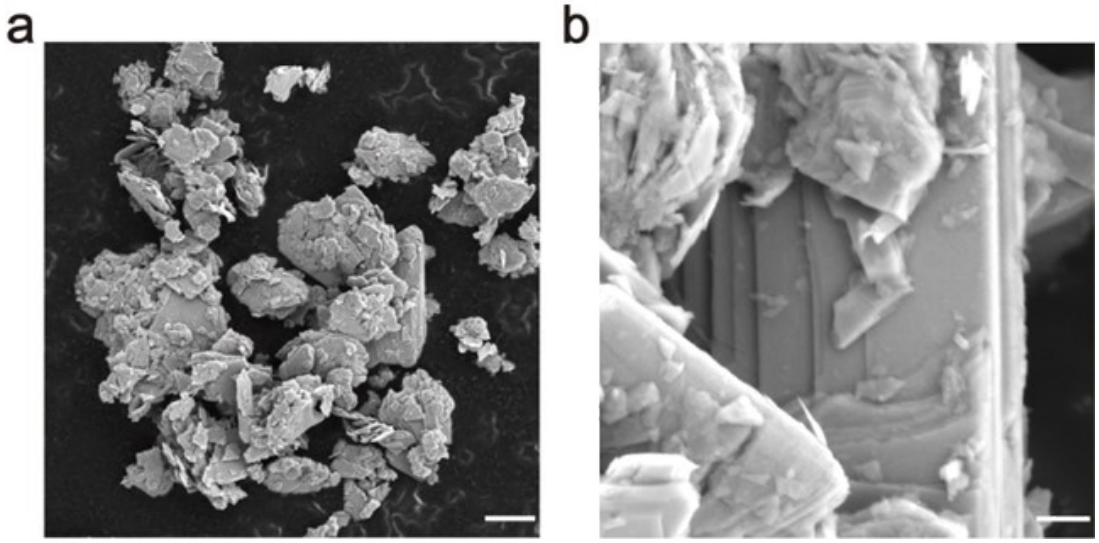

Figure S1. (a) SEM image of bulk MoS_2 (scale bar = 10 μm). (b) Enlarged SEM image of bulk MoS_2 (scale bar = 1 μm).

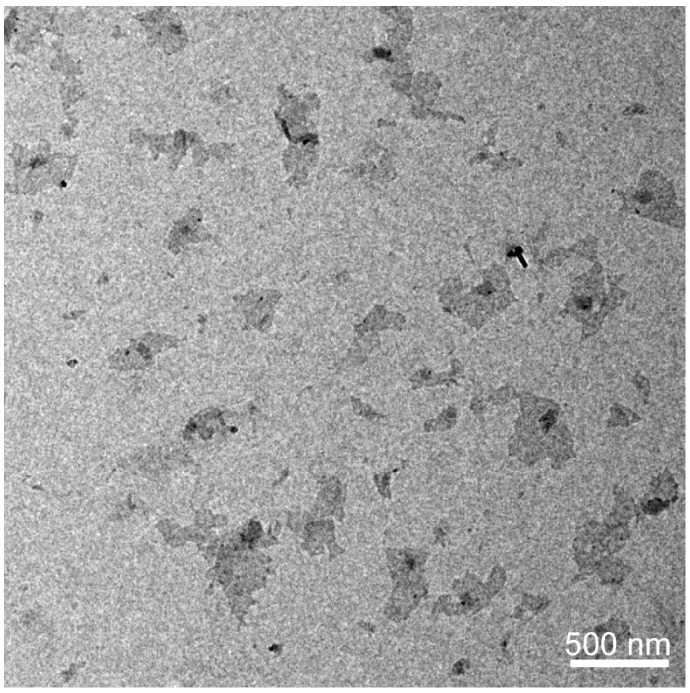

Figure S2. TEM image of single- or few-layer MoS_2-PEG nanosheets.

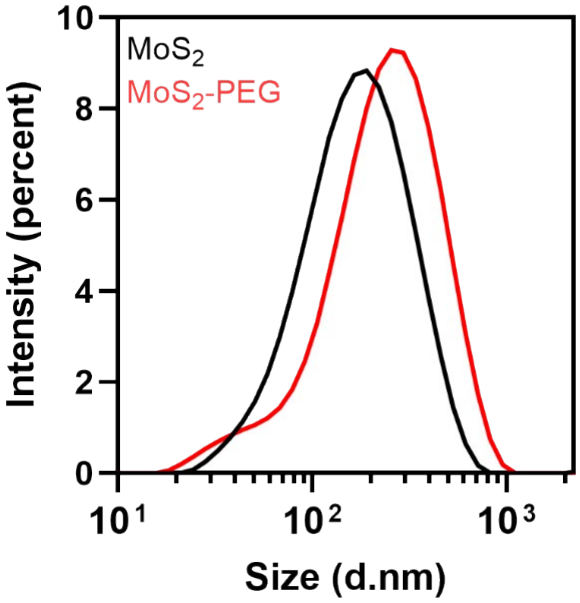

Figure S3. Size distribution of MoS_2 nanosheets before and after LA-PEG modification.

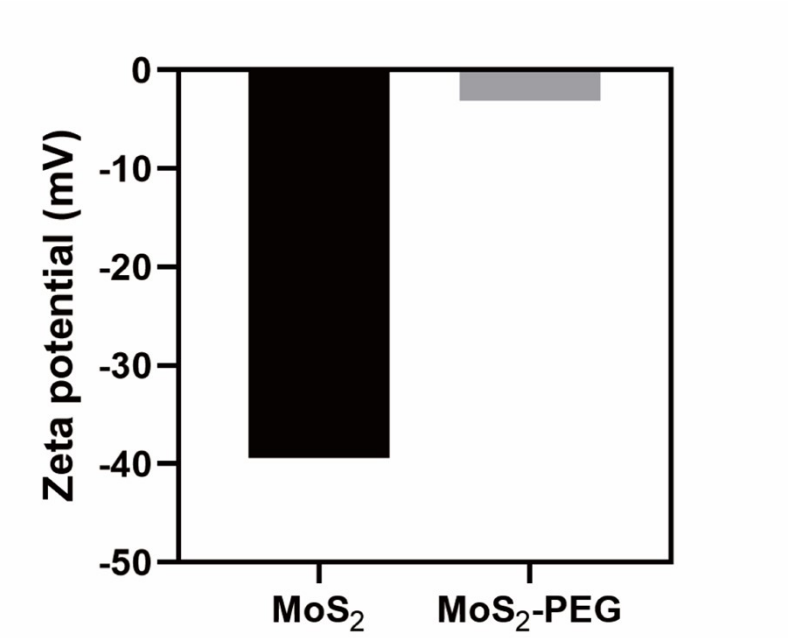

Figure S4. Zeta potentials of MoS_2 nanosheets before and after LA-PEG modification.

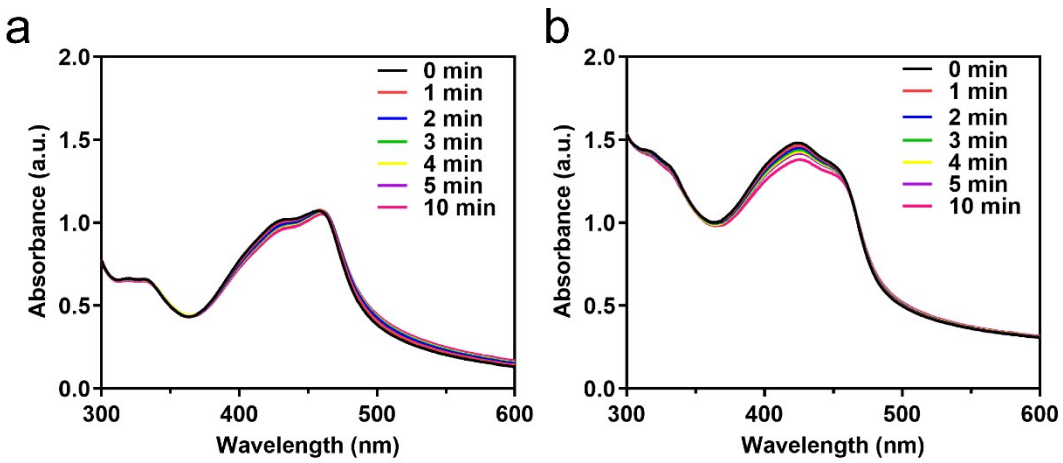

Figure S5. Time-dependent DPBF degradation after treatment (a) without and (b) with only MoS_2-PEG nanosheets.

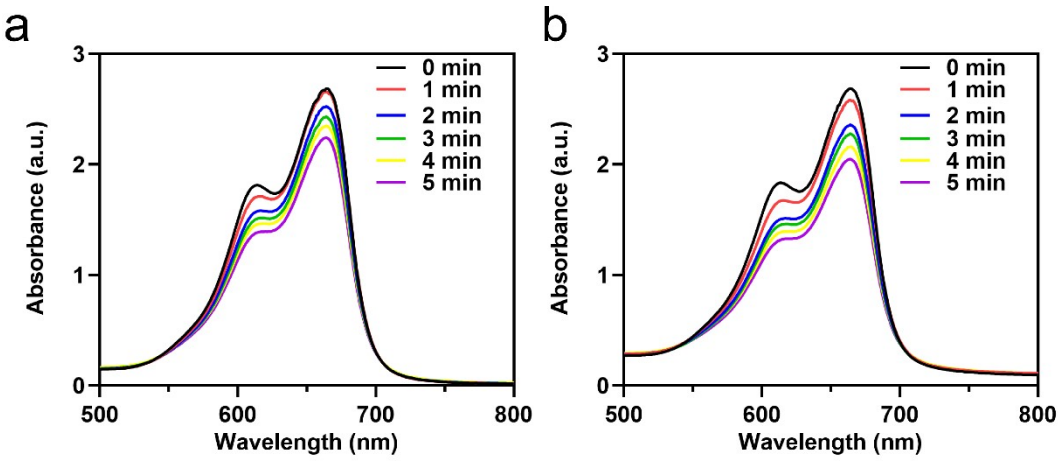

Figure S6. (a) Time-dependent MB oxidation under only US irradiation (1 MHz, 1 W/cm^2, 50% duty cycle). (b) Time-dependent MB oxidation after incubated with MoS_2-PEG nanosheets under US irradiation.

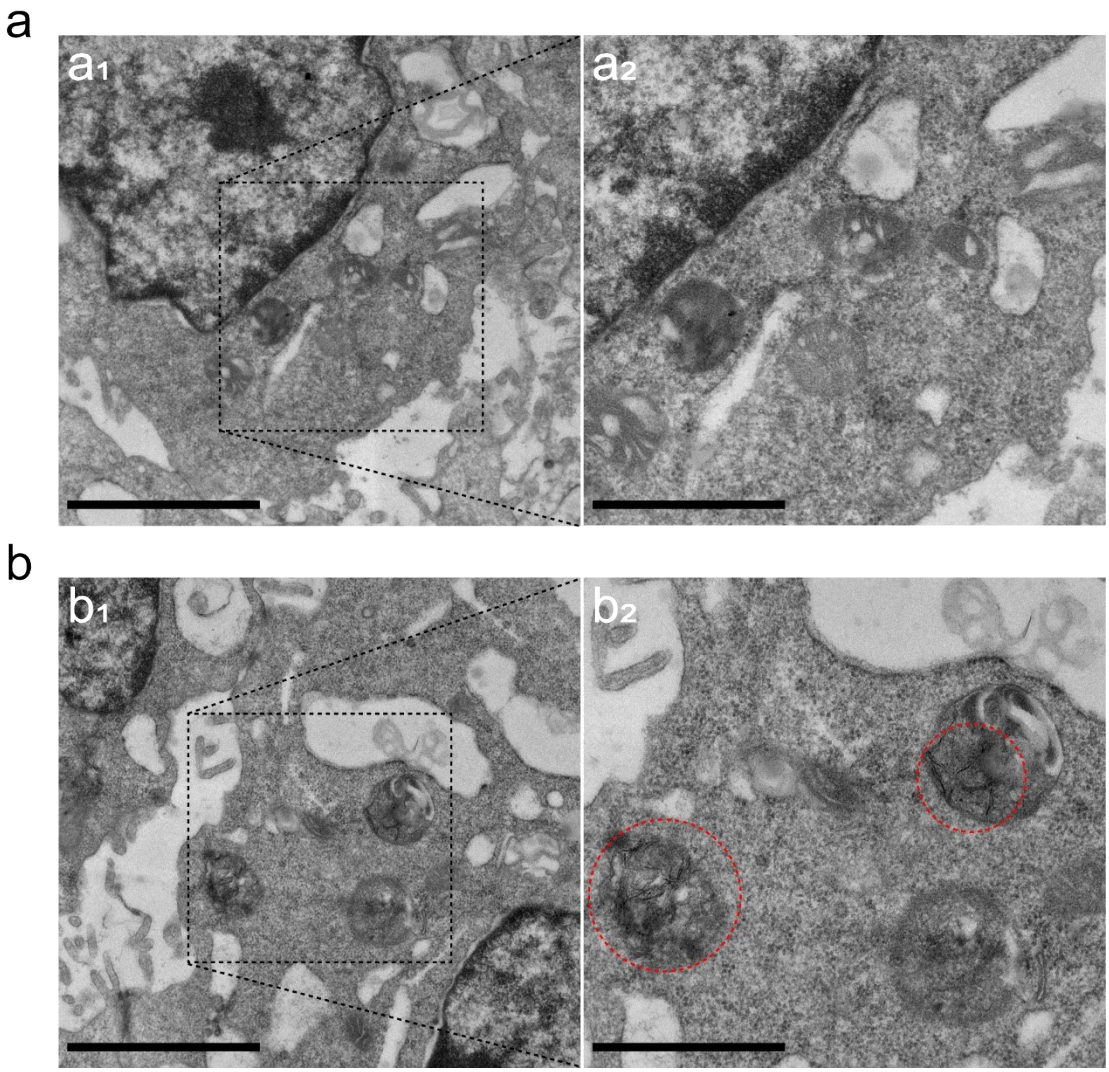

Figure S7. Bio-TEM images of 4T1 cells incubated (a) without and (b) with MoS_2-PEG nanosheets. (scale bars: 2 μm for (a1) and (b1); 1 μm for (a2) and (b2)).

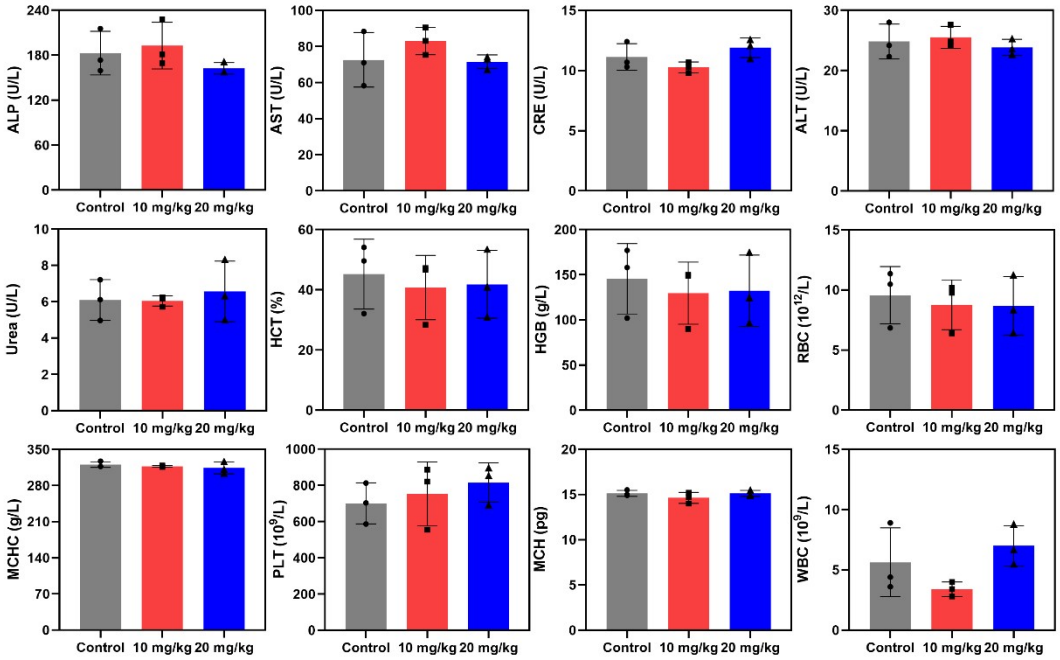

Figure S8. Blood routine and blood biochemical indices after different treatments.

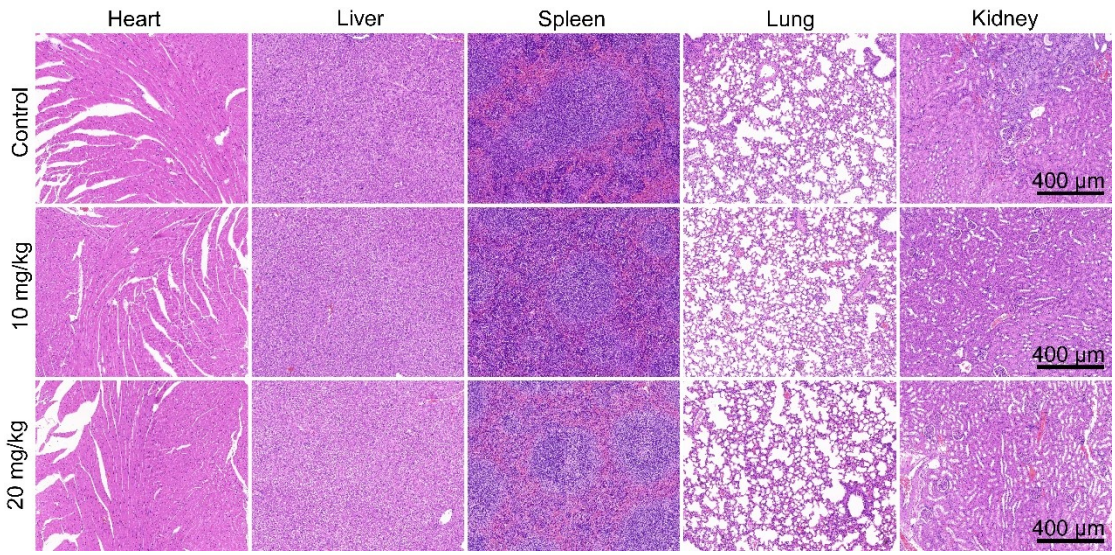

Figure S9. H&E staining of main organs including heart, liver, spleen, lung, and kidney after different treatments.

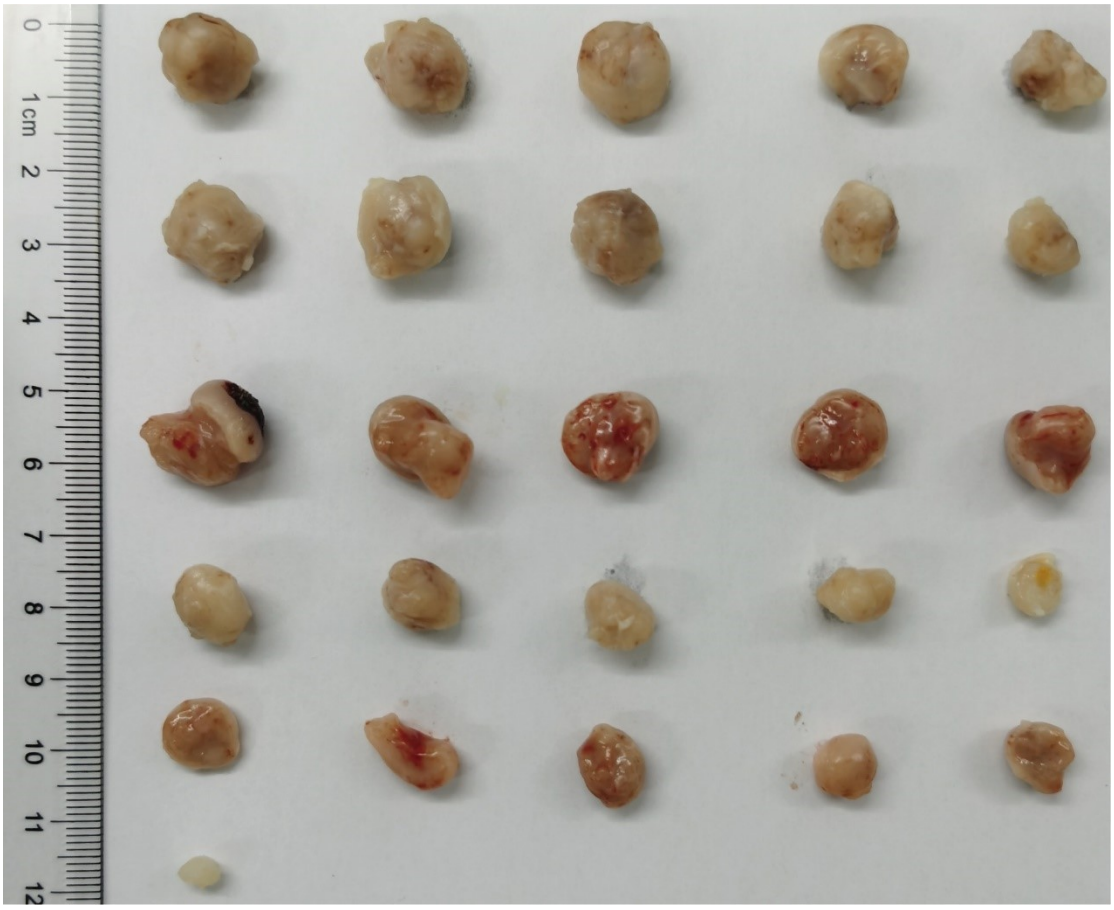

Figure S10. Digital photos of tumors removed from 4T1-tumor-bearing mice after different treatments on the 14th day.

Table S1. The relevant parameters of photothermal conversion efficiency of MoS_2 in previously published papers.

Materials	Concentration (μg/mL)	Irradiation time (s)	Wavelength (λ, nm)	Power density (W cm^{-2})	Photothermal conversion efficiency (η, %)
MoS_2-PEG (in this work)	200	600	1064	1.0	22.68%
MoS_2-CS[1]	100	600	808	1.0	24.7
PMOs–DOX@MoS_2-PEI–BSA–FA[2]	1000	300	808	1.0	62.5
MoS_2 NPs[3]	100	300	808	1.0	37.5%
MoS_2-NF	150	600	808	1.5	13.77%
MoS_2-NS[4]					25.68%
MoS_2[5]	600	300	808	0.2	38.3
MoS_2–HPG[6]	180	600	808	2.0	29.4%
MoS_2@BT-PDA-FA[7]	100	300	808	1.5	35.3%
MoS_2-PEG[8]	200	600	808	1.0	26.7%
Layered MoS_2 hollow spheres[9]	100	300	808	1.0	34.46%

Refences

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