

Supplementary Information

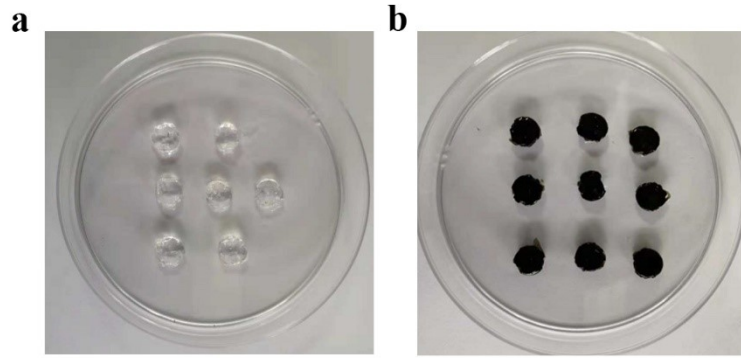
Photo-responsive self-healing hydrogel loaded with immunoadjuvants and MoS₂ nanosheets for combating post-resection breast cancer recurrence

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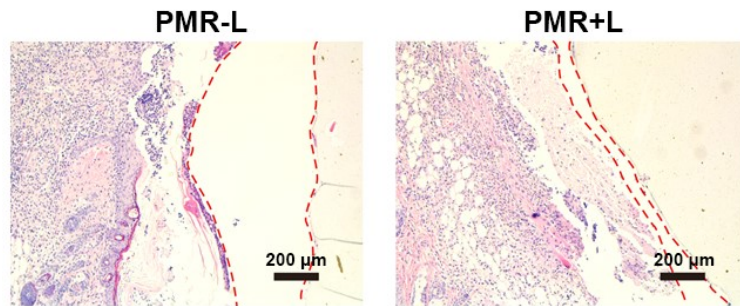
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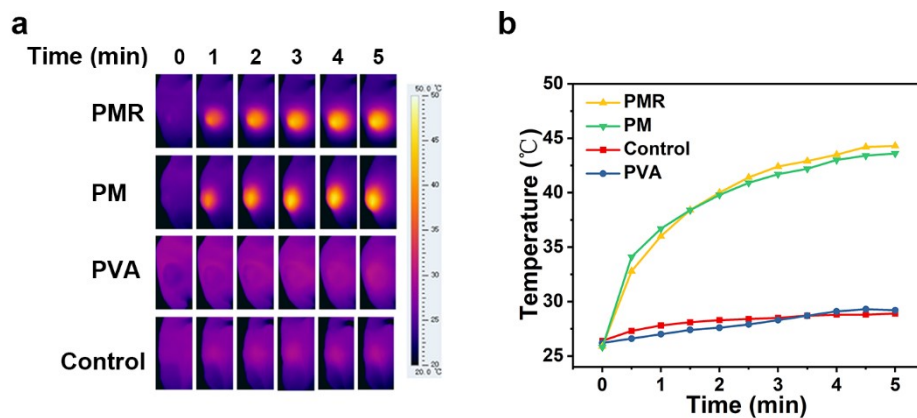
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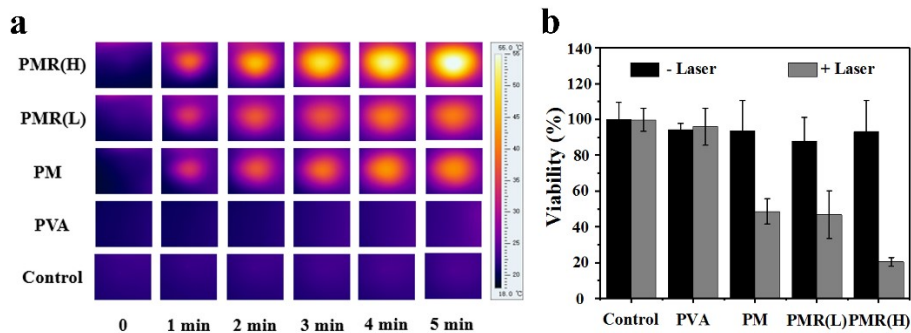
Supplementary Fig. 1 Representative photograph of the PVA hydrogel (a) and PMR hydrogel (b).



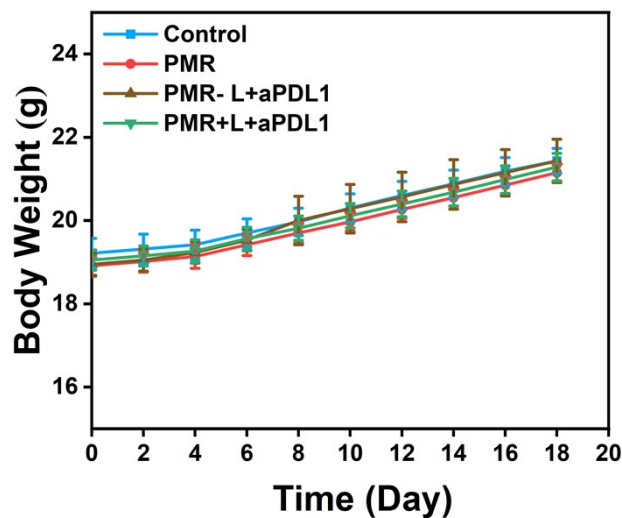
Supplementary Fig. 2 H&E staining of subcutaneous tissue with PMR hydrogel with (right) or without NIR irradiation (left).



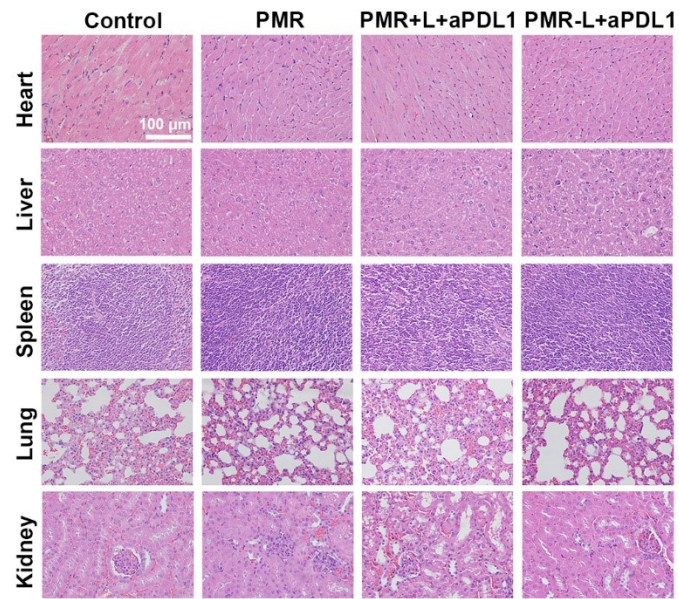
Supplementary Fig. 3 In vivo photothermal performance in a mouse model. (a) Infrared radiation (IR) thermal images at the subcutaneous area of mice under NIR irradiation. (b) Real-time temperature profiles.



Supplementary Fig. 4 Biocompatibility of the self-healing hydrogel and the photothermal induced cytotoxicity to cancer cells. **(a)** Infrared radiation (IR) thermal images of the different hydrogels after incubation with 4T1 cell under NIR irradiation. **(b)** Cell viability of different hydrogels after incubation with 4T1 cell under NIR irradiation.



Supplementary Fig. 5 Time-dependent body weight of mice after different treatments.



Supplementary Fig. 6 Histological analysis of the major organs (heart, liver, spleen, lungs, and kidneys) collected from the mice with different treatments. Scale bar: 100 μm .