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Supporting Information

2 **Glycolysis Inhibition for Synergistic Phototherapy of Triple-** 3 **Negative Breast Cancer**

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11 Fujian, China

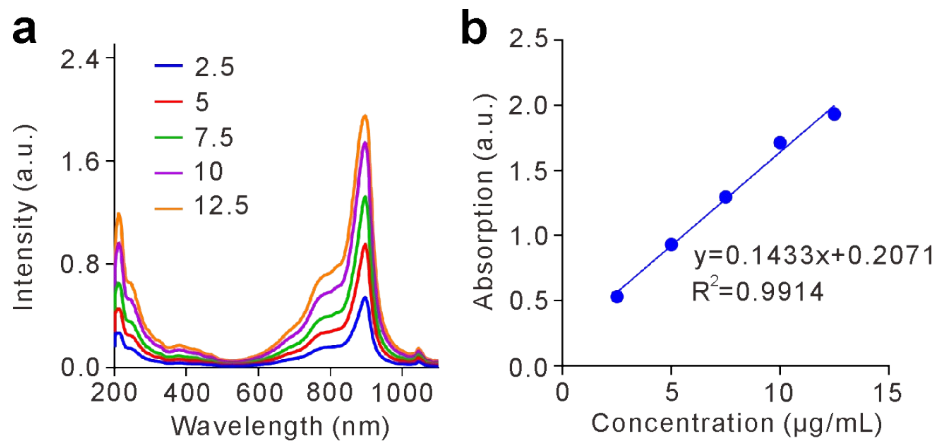
12 † Y. Fu, T. Bai and P. Xue contributed equally.

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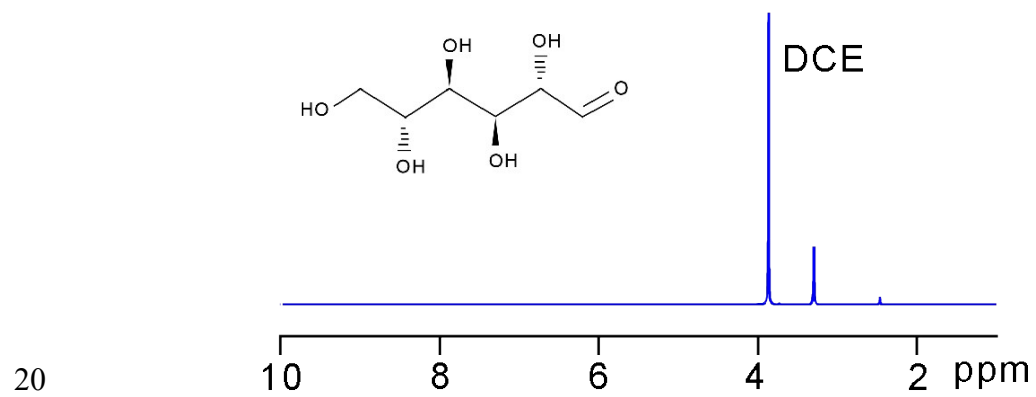
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17 **Figure S1.** (a, b) UV-vis absorption spectra of ICG solution (2.5, 5, 7.5, 10, and 15 µg/mL)

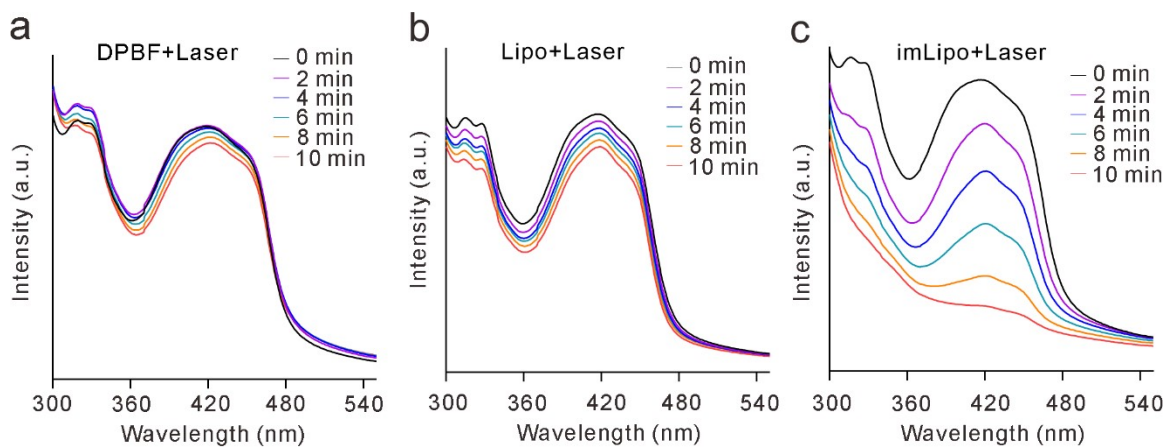
18 (a) and its standard curve (b) calculated by absorption at 808 nm from (a).

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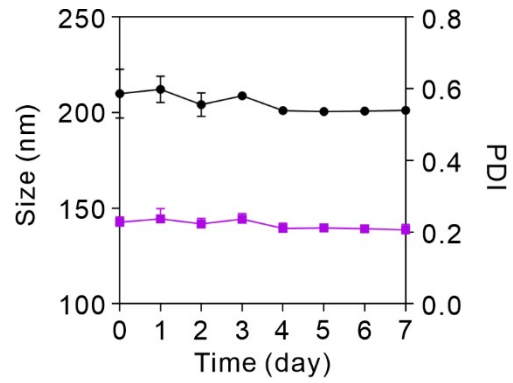


21 **Figure S2.** H1-NMR spectra of supernatant in DMSO-d6.

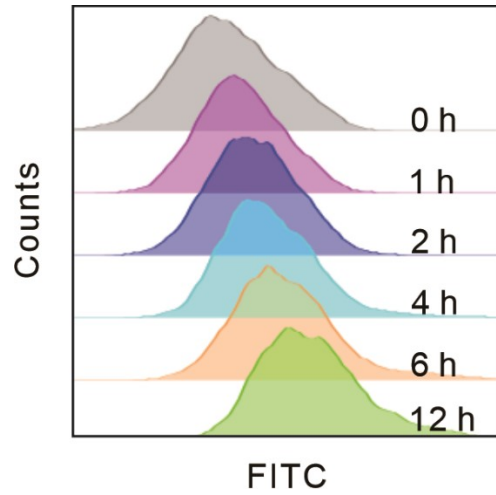
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24 **Figure S3.** Evaluation the ROS generation ability of imLipo. (a-c) UV-vis absorbance
25 spectra of DPBF only (a), DPBF+Lipo (b), and DPBF+imLipo (c) exposed to 808 laser
26 irradiation for different time points (0, 2, 4, 6, 8, and 10 min). The concentration of Lipo
27 and imLipo used is 100 $\mu\text{g}/\text{mL}$.

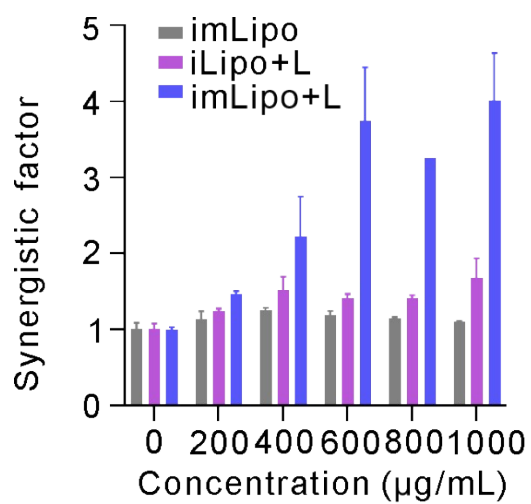


29 **Figure S4.** Colloidal stability of imLipo. The hydrodynamic size and PDI value of imLipo
30 during storage in PBS buffer supplemented with 10% FBS for different days.



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33 **Figure S5.** The fluorescent intensity of 4T1 incubated with 50 µg/mL FITC-imLipo at
34 various time points (0, 1, 2, 4, 6, and 12 h).
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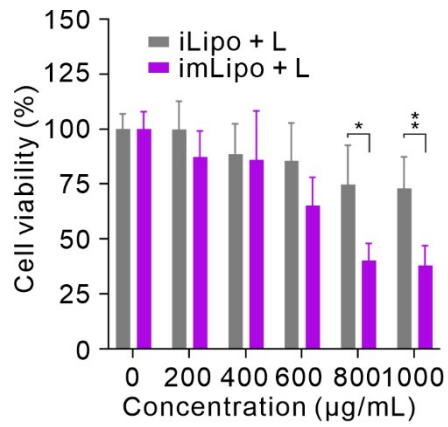
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39 **Figure S6.** Synergistic factor of imLipo, iLipo+L, and imLipo+L calculated from cell
40 viability results in Figure 2a, b.

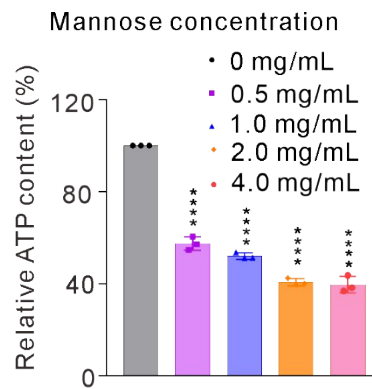
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42 **Figure S7.** Cell viability of 4T1 cells incubated with various concentrations of iLipo and
43 imLipo and exposed to laser illumination (808 nm, 0.5 W/cm², 10 min) in an N₂
44 atmosphere.

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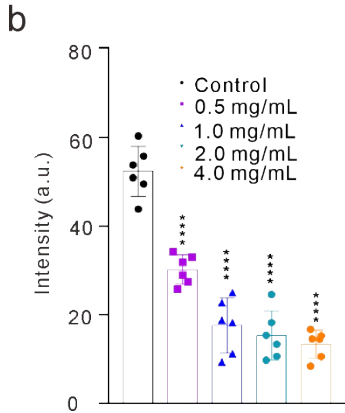
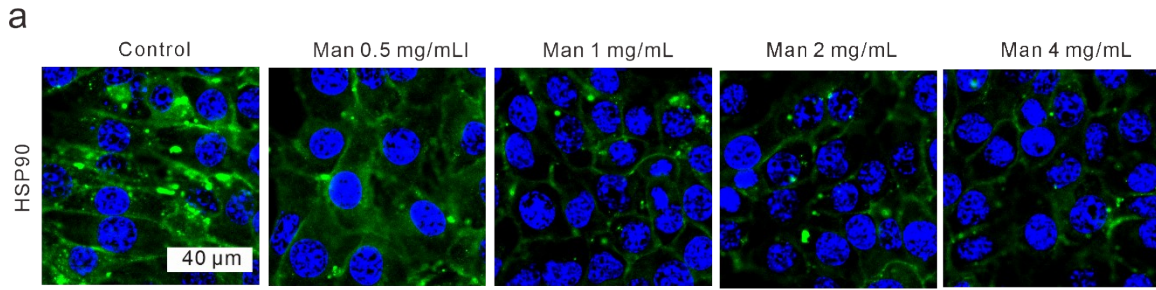


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48 **Figure S8.** Relative ATP contents of 4T1 cells treated with different concentrations of
49 mannose for 24 h. **P < 0.01, ****P < 0.0001 and ns: not significant (p > 0.05), analyzed
50 by one-way ANOVA, followed by Dunnett's multiple comparisons test. Data represent
51 mean ± s.d.

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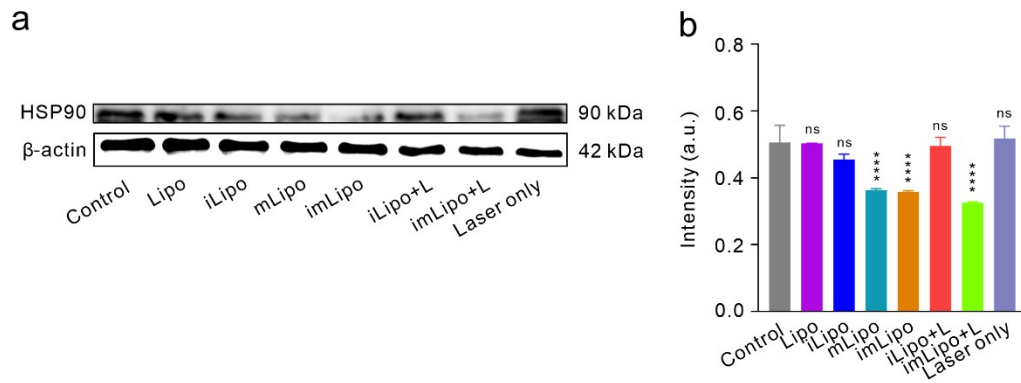
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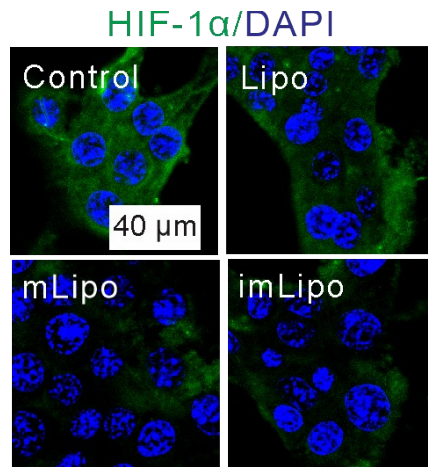
55 **Figure S9.** (a) Immunofluorescence images of 4T1 cells treated with different
56 concentrations of Man for 24 h. Green stained with HSP90, Blue stained with DAPI. Scale
57 bars are 40 μ m. (b) Statistical analysis the fluorescent intensity in (a). **P < 0.01, ****P
58 < 0.0001 and ns: not significant ($p > 0.05$), analyzed by one-way ANOVA, followed by
59 Dunnett's multiple comparisons test. Data represent mean \pm s.d.

60



61 **Figure S10.** Western blotting images of HPS90 protein (a) from 4T1 cells received with
 62 various treatments and corresponding statistical results (b) from a.

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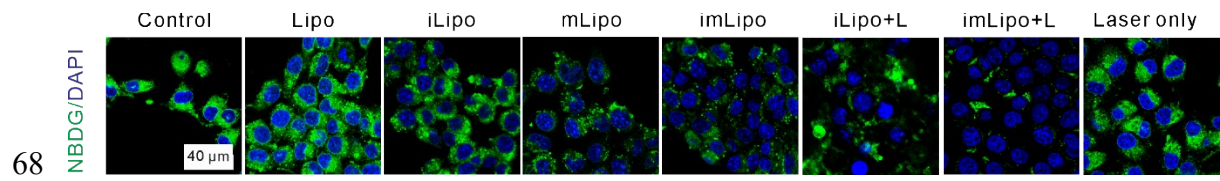


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65 **Figure S11.** Immunofluorescence images of 4T1 cells incubated with indicated probe (400

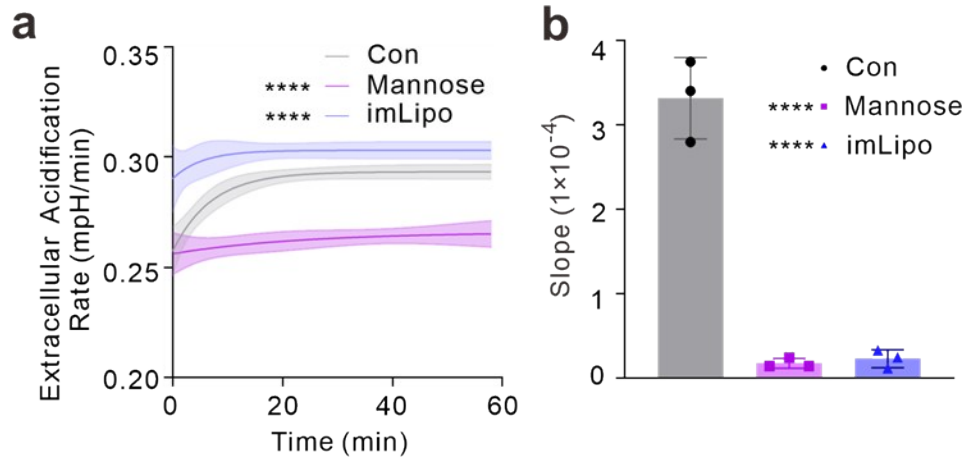
66 $\mu\text{g}/\text{mL}$) and stained with HIF-1 α . Scale bars are 40 μm .

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69 **Figure S12.** Fluorescence images of 4T1 cells treated with 400 μg/mL imLipo followed
70 by laser irradiation and stained with 2-NBDG.

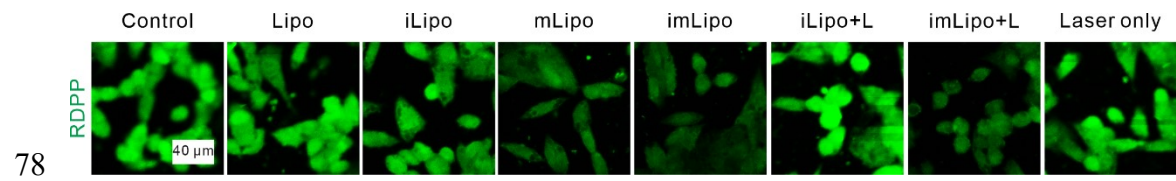
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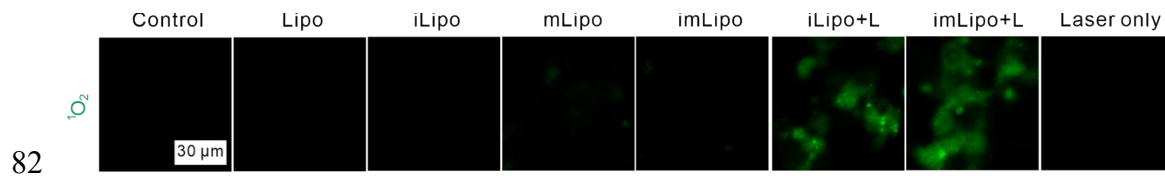
73 **Figure S13.** Extracellular acidification rate (a) and slope (b) of 4T1 cells with different
 74 treatments. The concentration of mannose and imLipo is 400 $\mu\text{g}/\text{mL}$ and 400 $\mu\text{g}/\text{mL}$. **P
 75 < 0.01 , ****P < 0.0001 and ns: not significant ($p > 0.05$), analyzed by one-way ANOVA,
 76 followed by Dunnett's multiple comparisons test. Data represent mean \pm s.d.

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79 **Figure S14.** The fluorescent images of 4T1 treated with indicated treatments and stained
80 with RDPP. Scale bars are 40 μ m.

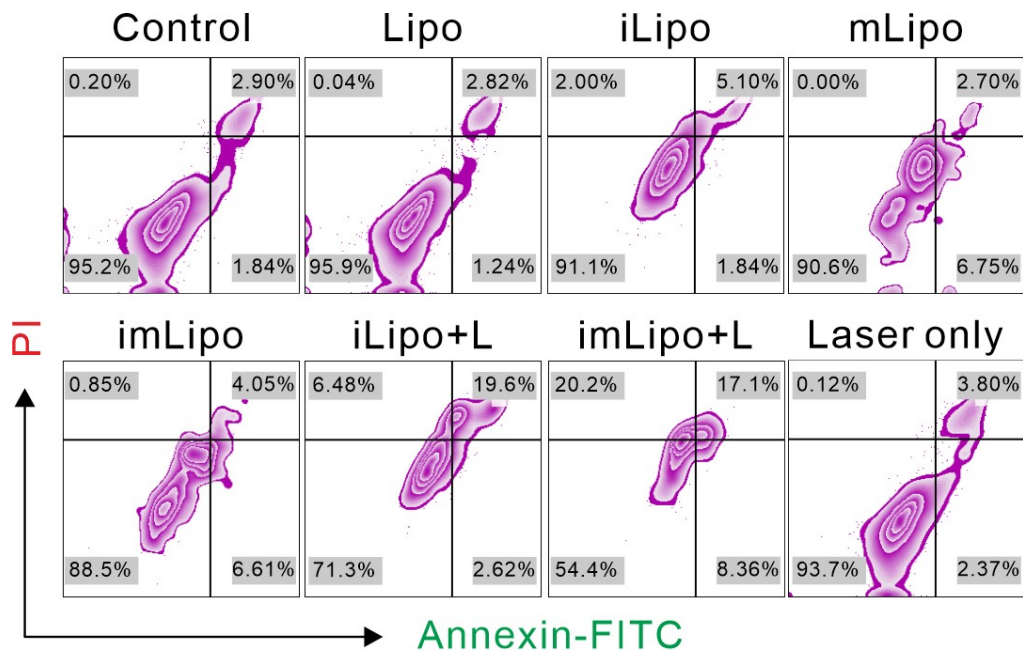
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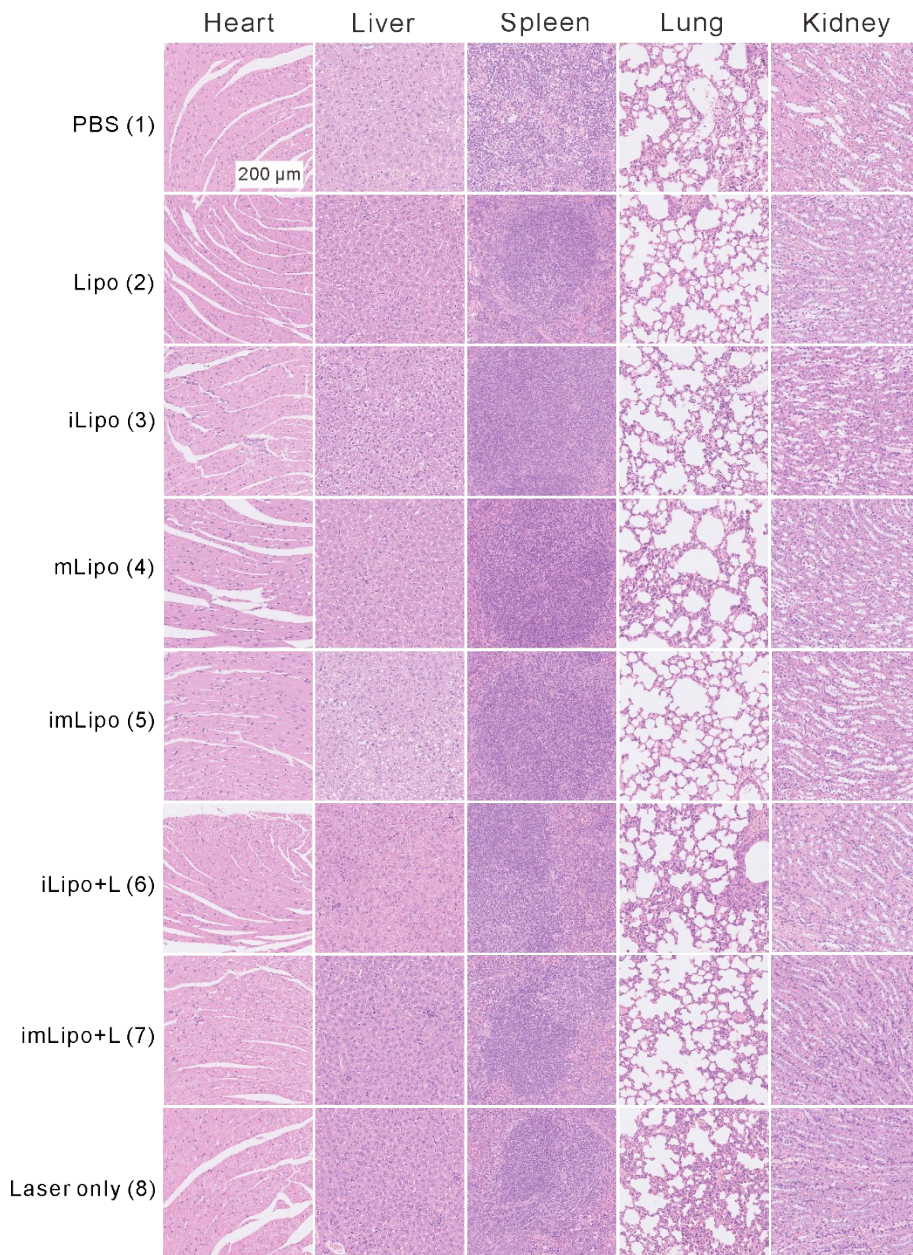
83 **Figure S15.** The fluorescent images of intracellular $^1\text{O}_2$ of 4T1 cells under various
84 treatments. The concentration of Lipo, iLipo, mLipo, and imLipo is 400 $\mu\text{g}/\text{mL}$. Scale
85 bars are 30 μm .

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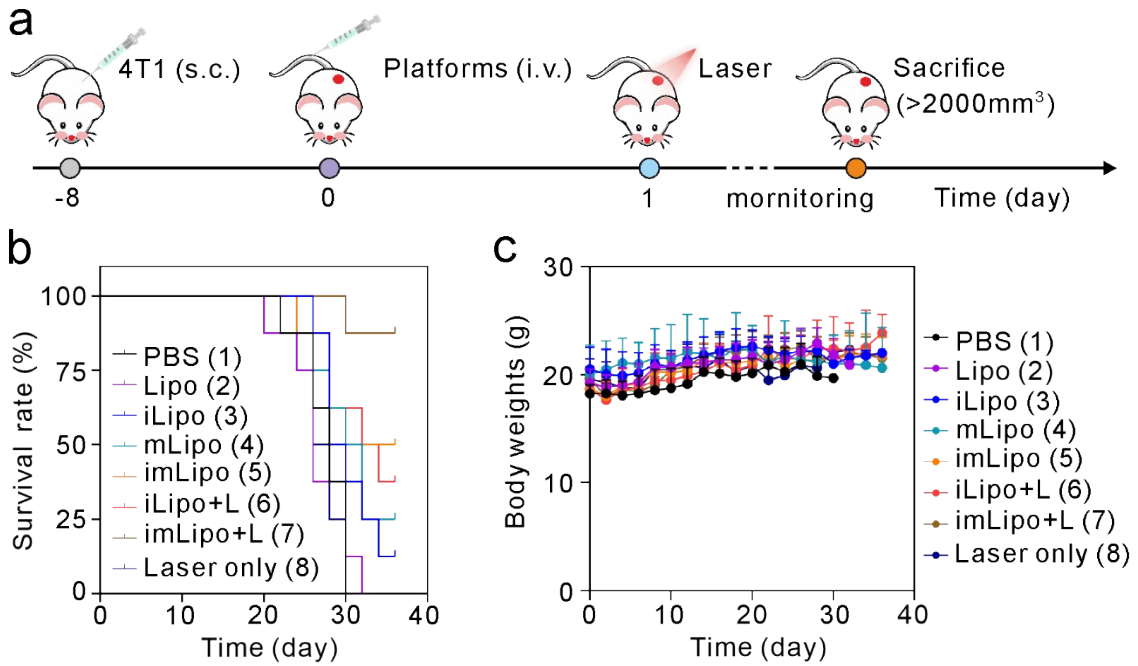
88 **Figure S16.** The apoptosis results of 4T1 cells under various treatments in the N₂
 89 atmosphere.



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91 **Figure S17.** H&E staining images of major organs of mice after receiving different
92 treatments. Scale bars are 200 μm.

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95 **Figure S18.** (a) Schematic illustration of tumor therapy. (b, c) Survival rates (b) and body
 96 weights (c) of mice received various treatments. The usage of injected nanoplatform is 2
 97 mg per mouse.