## **Supporting information**

## Neutrophil mediated postoperative photoimmunotherapy against melanoma skin cancer

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Fig. S1 TEM images of TLipI (A), TLipT (B), TLip (C) and Lip (D) NPs, respectively.



**Fig. S2** <sup>1</sup>O<sub>2</sub> generation behaviors of PBS, <sub>T</sub>Lip, <sub>T</sub>LipT, <sub>T</sub>LipI and <sub>T</sub>LipIT NPs without NIR laser irradiation based on SOSG assay.



**Fig. S3** TNF- $\alpha$  (A) and IFN- $\gamma$  (B) levels in the lower chamber of DC/B16F10 transwell system; TNF- $\alpha$  (C) and IFN- $\gamma$  (D) levels in the lower chamber of DC transwell system. The lower chamber was treated with 100 µg mL<sup>-1</sup> <sub>T</sub>Lip, <sub>T</sub>LipI, <sub>T</sub>LipT and <sub>T</sub>LipIT NPs (equivalent to liposome content) for 24 h without NIR laser irradiation, and the supernatants were analyzed by Elisa.



Fig. S4 Standard curve of <sub>T</sub>LipIT according to IR780 absorbance.



Fig. S5 Viability assessment of NEs after 6 h of incubation with various concentrations of  $_{T}$ LipIT based on MTT assay.



Fig. S6 Hydrodynamic size variation of  $_{T}$ LipIT NPs suspended in DMEM culture medium containing 10% FBS within 12 h.



Fig. S7 Surgical procedure images of tumor model.



**Fig. S8** Mice body weight with (A) or without (B) NIR laser irradiation (0.75 W cm<sup>-2</sup>, 5 min).