ARTICLE

Engineering Macrophage Membrane-Camouflaged Nanoplatforms with Enhanced Macrophage Function for Mediating Sonodynamic Therapy of Ovarian Cancer

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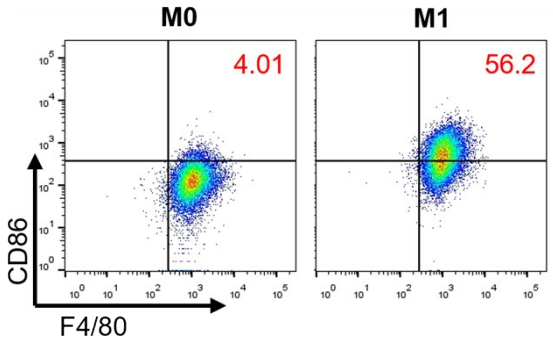

Figure S1. FCM analysis of the polarization of M0 (RAW 264.7 cells) toward M1 macrophages (CD86$^+$ F4/80$^+$).

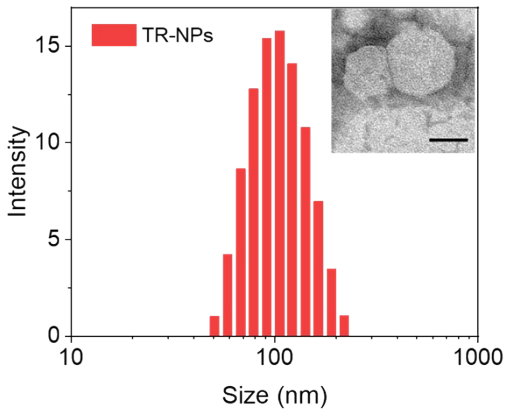

Figure S2. TEM images and size distribution of TR-NPs, scale bar: 50 nm.

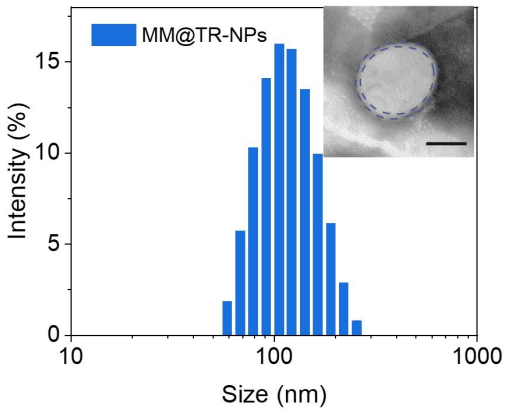

Figure S3. TEM images and size distribution of MM@TR-NPs, scale bar: 50 nm, the dashed line represents the cell membrane structure.

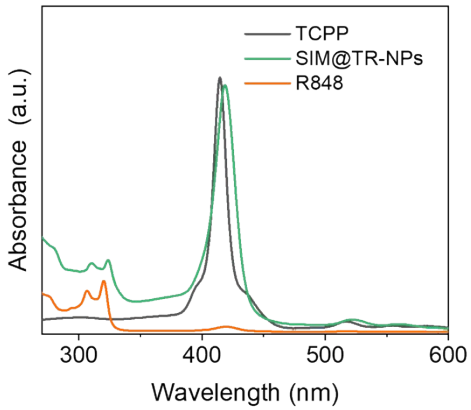

Figure S4. The UV–vis absorption spectra of free TCPP, SIM@TR-NPs and free R848.

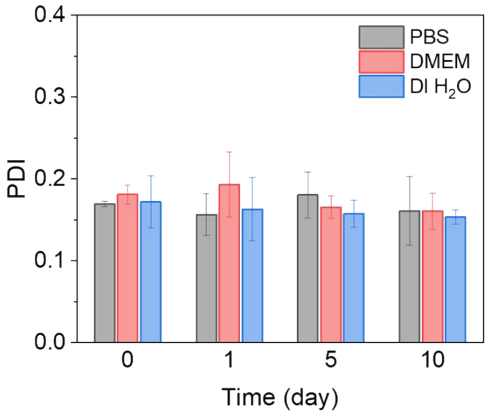

Figure S5. PDI of SIM@TR-NPs for different periods.

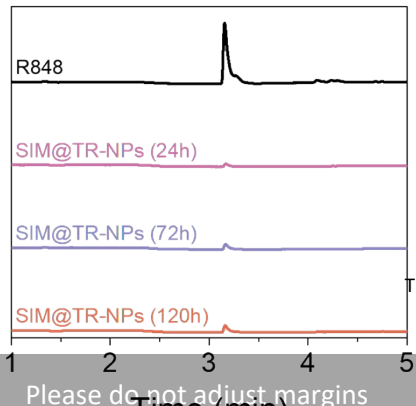

Figure S6. Long-term release of R848 from SIM@TR-NPs.

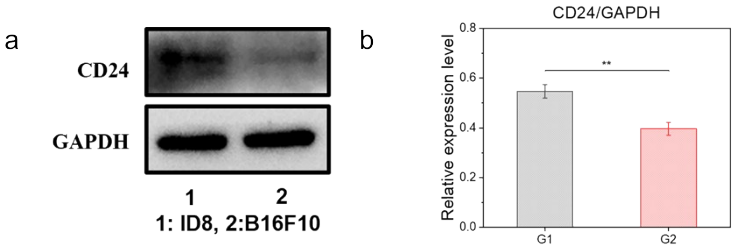

Figure S7. (a) Western blot results of CD24 expression in ID8 and B16F10 cells. (b) Quantitative analysis of CD24 expression in ID8 and B16F10 cells by western blotting, n =3. G1: ID8, G2: B16F10.

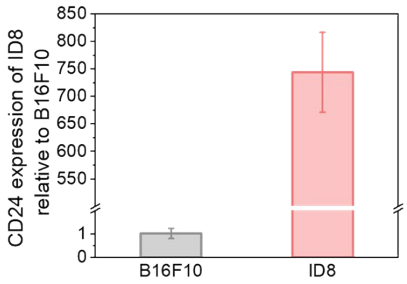

Figure S8. Gene expression of CD24 in ID8 and B16F10 cells measured by quantitative RT-PCR, n =3.

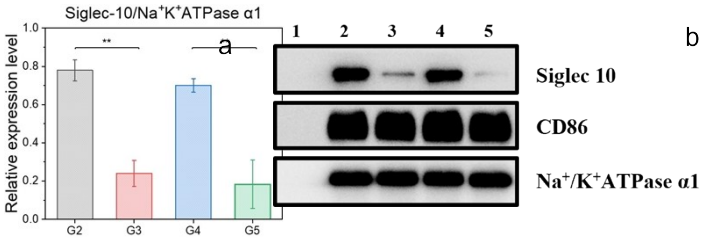

Figure S9. (a) Siglec-10 protein expression in TR-NPs, SIM@TR-NPs, MM@TR-NPs, SIM and MM as determined by Western blotting. (b) Quantitative analysis of Siglec-10 protein expression in ID8 and B16F10 cells by western blotting, n =3. The protein signals Na^+/K^+-ATPase α1 served as controls. CD86 served as M1 macrophage cell-membranes protein marker. 1: TR-NPs, 2: SIM@TR-NPs, 3: MM@TR-NPs, 4: SIM. 5: MM).

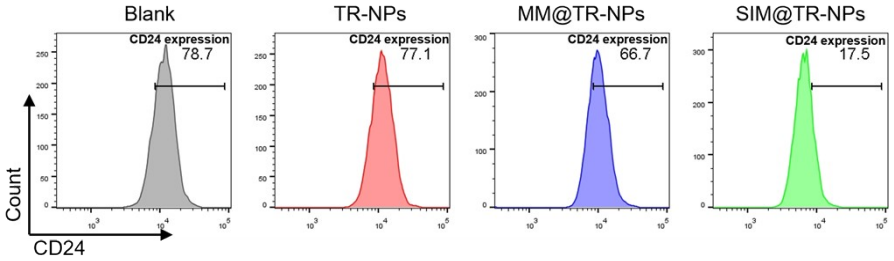

Figure S10. FCM analysis of CD24 expression in ID8 cells after different treatments.

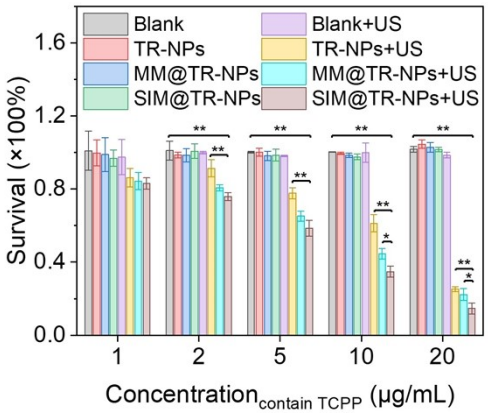

Figure S11. ID8 tumor cells survival rate after different treatments with NPs at different concentrations. *$p < 0.05$, **$p < 0.01$, n=3.

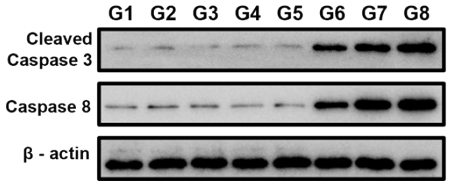

Figure S12. Expression level of apoptosis protein markers by Western blotting after different treatments. G1–G8 represent Blank, TR-NPs, MM@TR-NPs, SIM@TR-NPs, Blank + US, TR-NPs + US, MM@TR-NPs + US, SIM@TR-NPs + US, respectively.

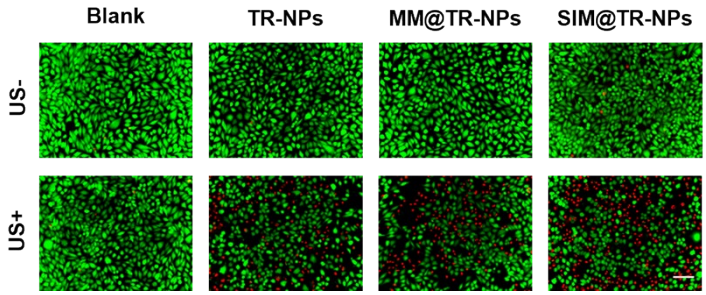

Figure S13. CLSM images of calcein-AM/PI live/dead double-staining after different treatments.

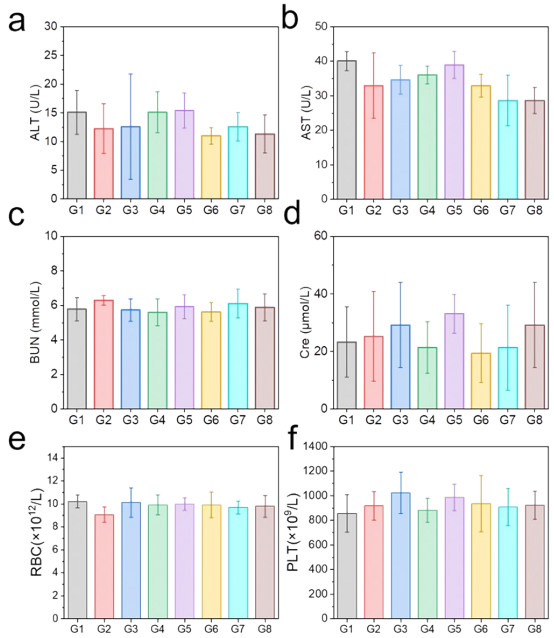

Figure S14. The biosafety evaluation of SIM@TR-NPs in mice. Analysis of liver function makers of (a) ALT and (b) AST and analysis of kidney function makers of (c) BUN, and (d) CRE in serum. Analysis of (e) red blood cell (RBC) counts and (f) platelet (PLT) counts. G1–G8 represent Blank, TR-NPs, MM@TR-NPs, SIM@TR-NPs, Blank + US, TR-NPs + US, MM@TR-NPs + US, SIM@TR-NPs + US, respectively. Data are presented as the mean ± SD, n = 3.

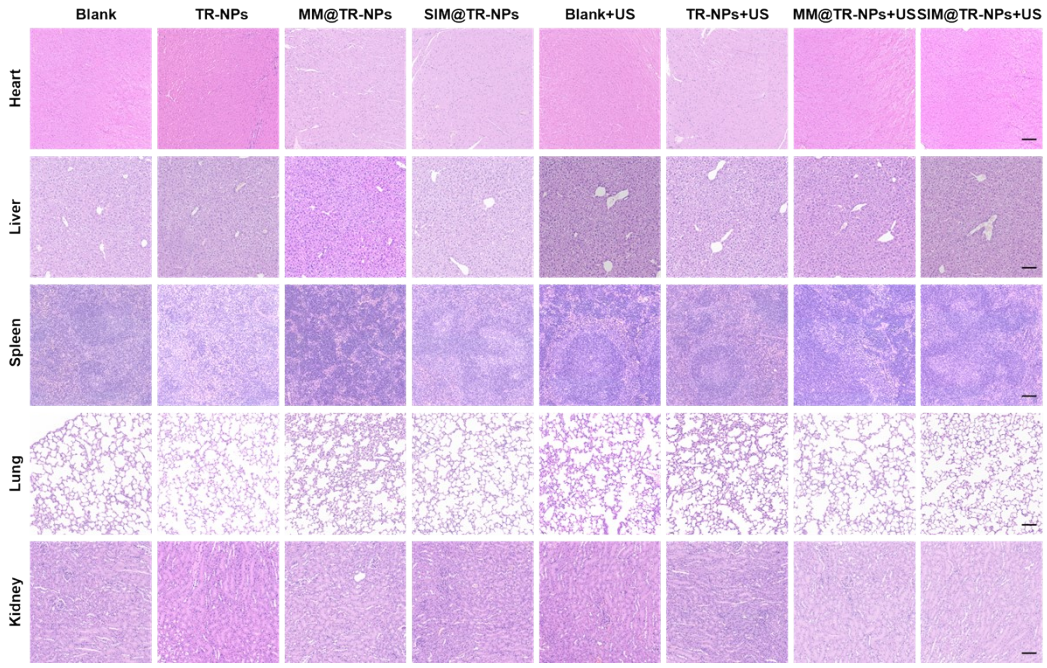

Figure S15. The biosafety evaluation of SIM@TR-NPs in mice. Representative H&E staining results of the toxicity in the major organs (heart, liver, spleen, lung, and kidney). Scale bars: 100 μm.

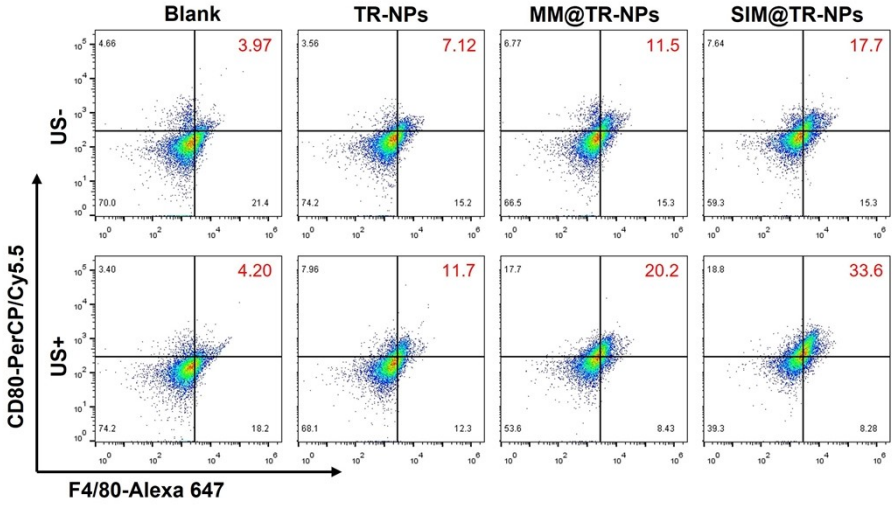

Figure S16. The FCM analysis of M1-macrophages in ID8 tumors after different treatments.

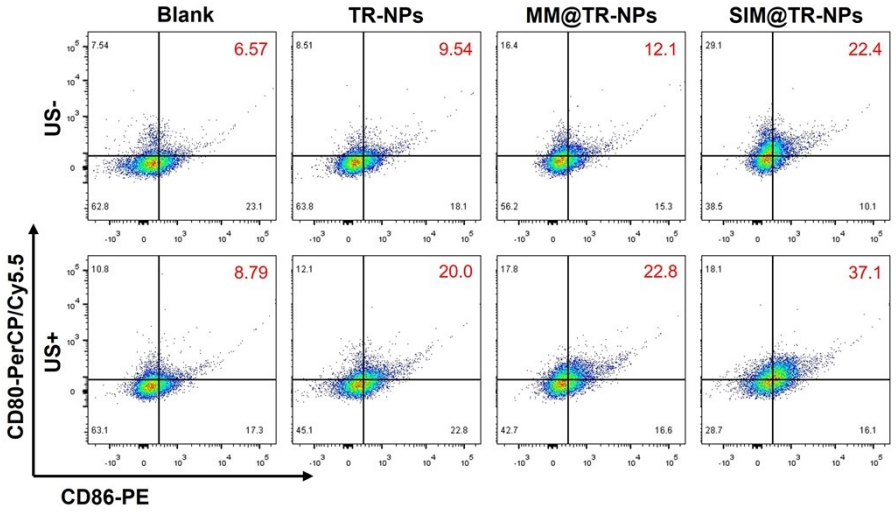

Figure S17. The FCM analysis of mature DCs in ID8 tumors after different treatments.

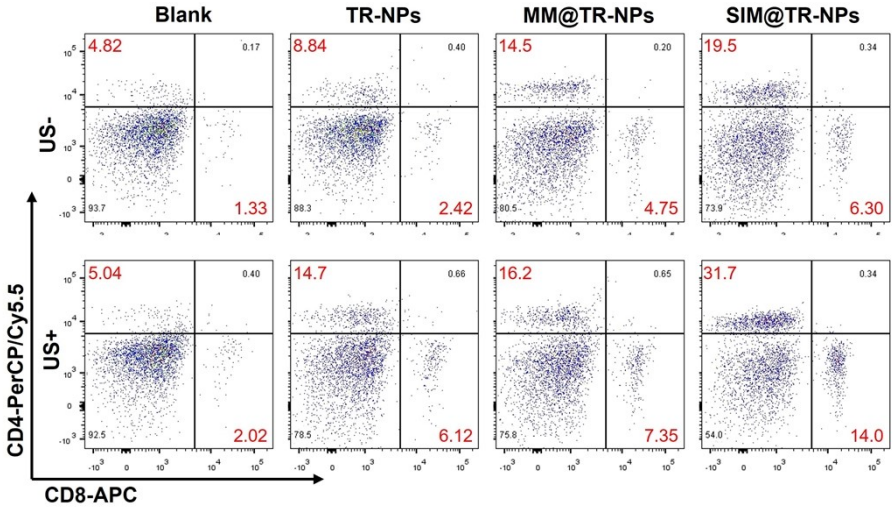

Figure S18. The FCM analysis of $CD4^+$ and $CD8^+$ T cells in ID8 tumors after different treatments.