

Supplementary materials

Demonstrating Biological Fate of Nanoparticle-Loaded Dissolving Microneedles with Aggregation-Caused Quenching Probes: Influence of Application Sites

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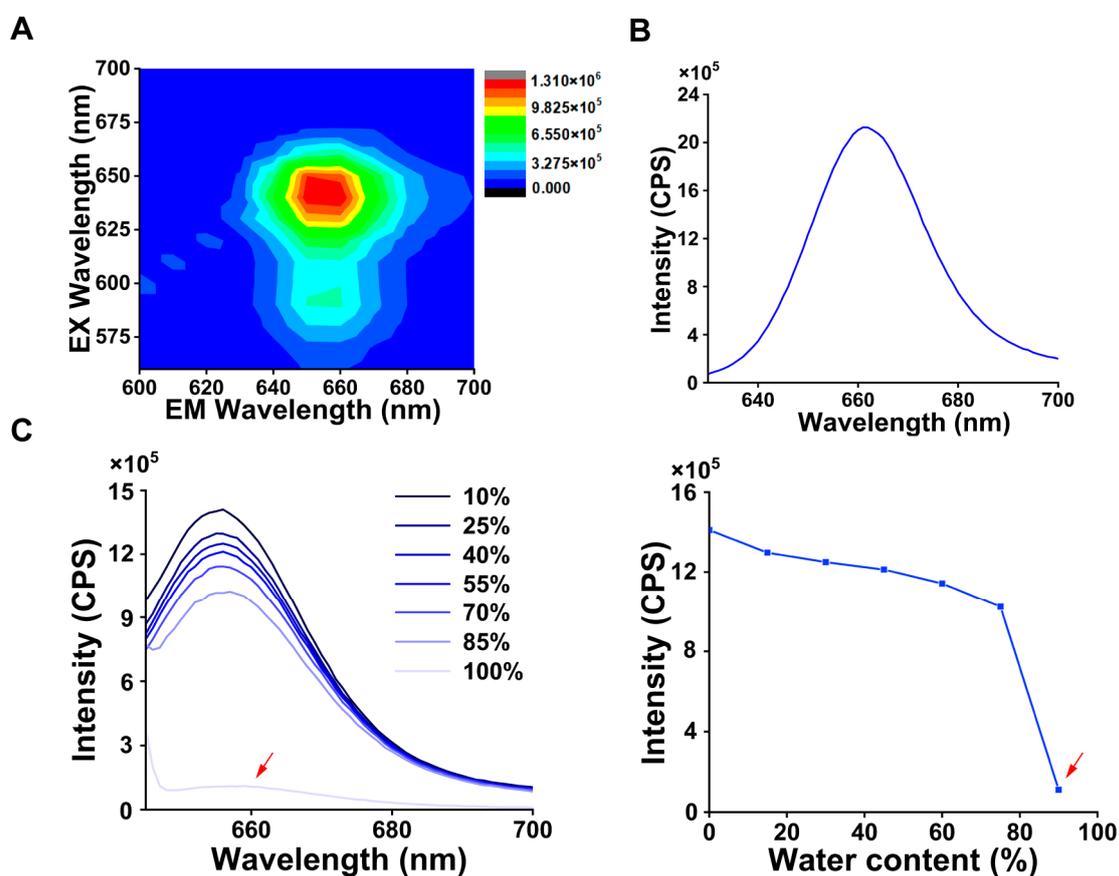


Figure S1. (A) Fluorescence emission contour map of P4 probes. (B) Fluorescence emission spectrum of P4 probes. (C) Fluorescence emission spectra (left) and peak intensity transition (right) of P4 probes in water-acetonitrile co-solvent with 10-100% (v/v) water content.

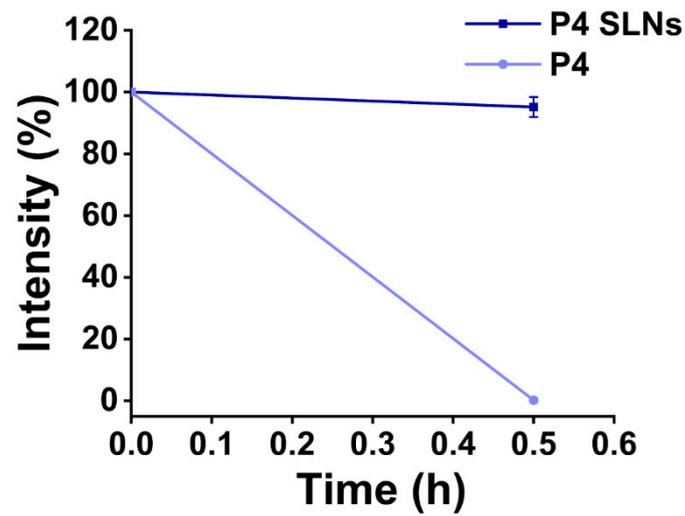


Figure S2. Fluorescence intensity of P4 and P4 SLNs incubated with phosphate-buffered saline solution for 0.5 h, respectively ($n = 3$). Data are expressed as mean \pm SD.

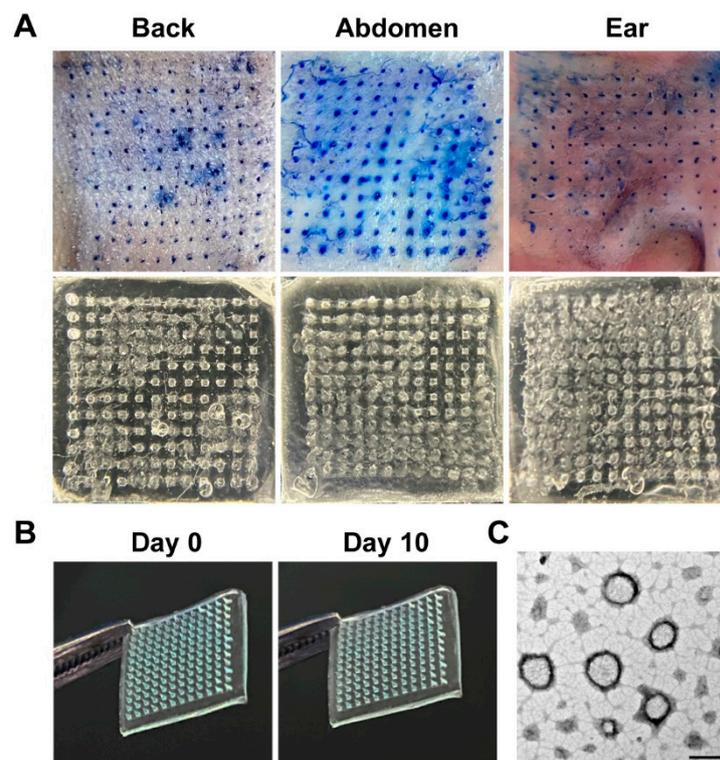


Figure S3. (A) The photographs of the skin by trypan blue staining (up) and the base of DMNs (down) after inserting with P4 SLNs@DMNs. (B) The appearance of P4 SLNs@DMNs before and after 10 days. (C) TEM image of dissolved P4 SLNs from P4 SLNs@DMNs (scale bar: 200 nm).

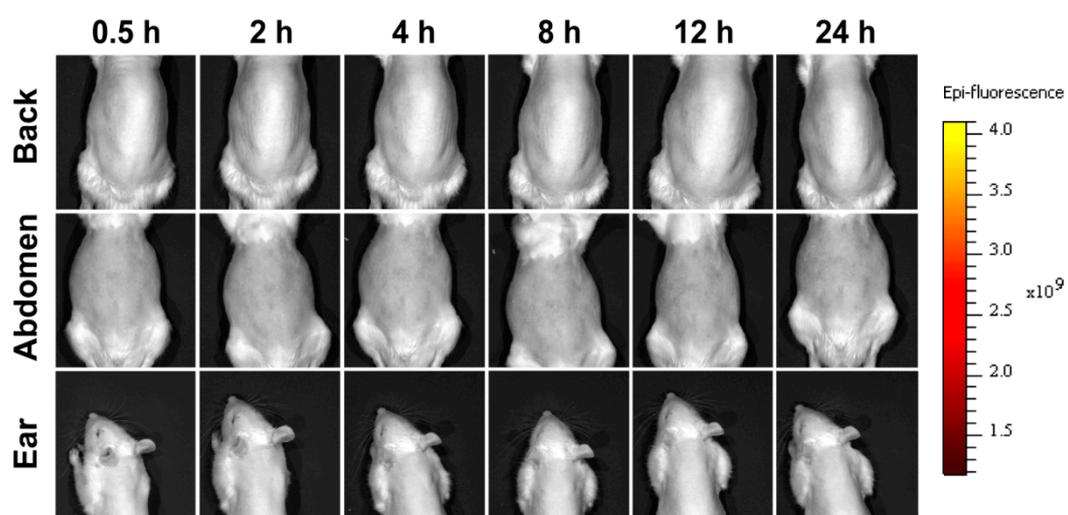


Figure S4. *In vivo* live imaging. Representative live images of rats without any treatment.

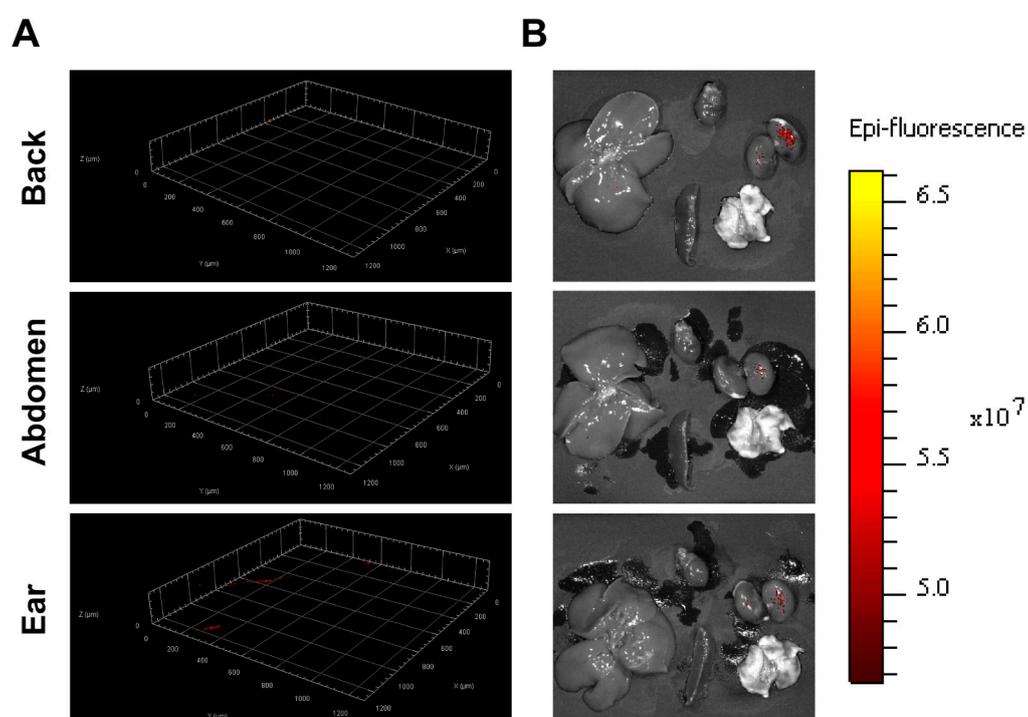


Figure S5. *Ex vivo* imaging. (A) Representative CLSM 3D reconstruction images of the skin of back, abdomen, and ear without any treatment at 4 h. (B) Representative fluorescent images of major organs without any treatment at 4 h.