

Supporting information

## **Facile One-pot Synthesis of Flower-like Ellagic Acid Microparticles**

### **Incorporating Anti-Microbial Peptides for Enhanced Wound Healing**

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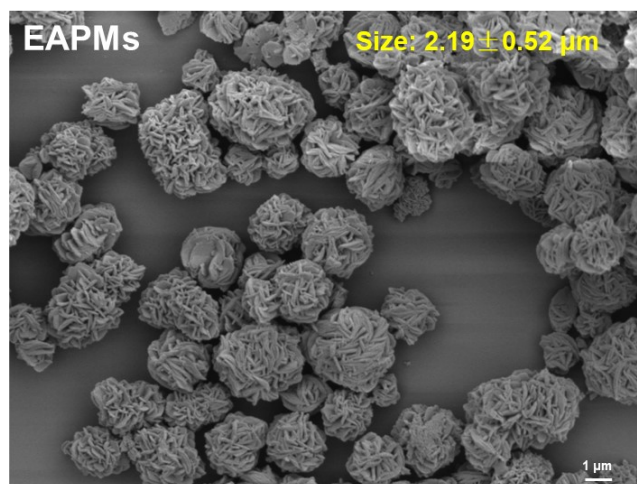
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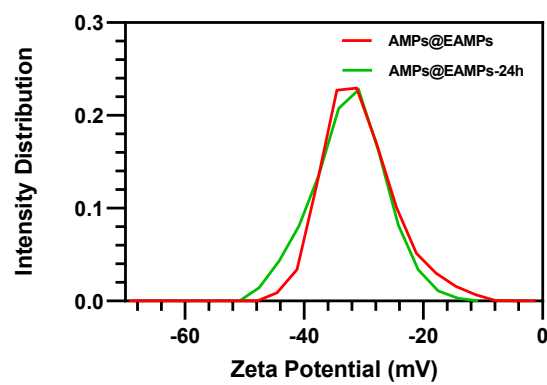
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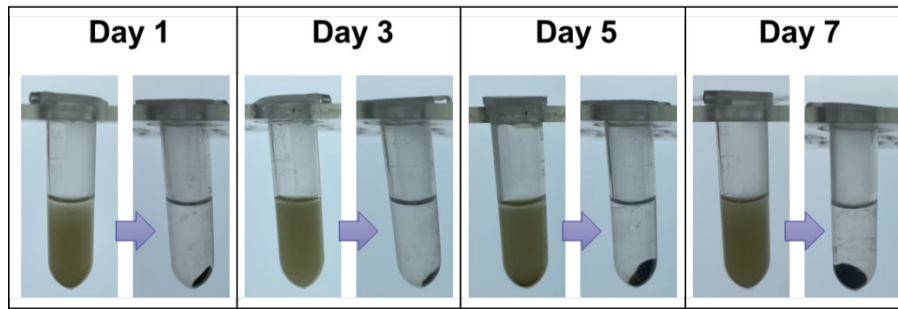
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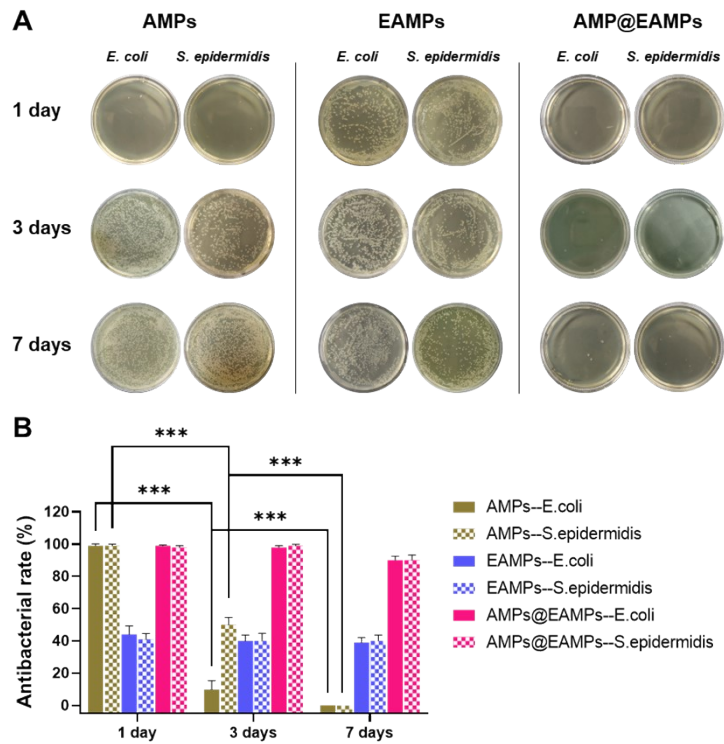
**Figure S1.** SEM image of EAMPs. The size of EAMPs was measured as  $2.19 \pm 0.52 \mu\text{m}$ .



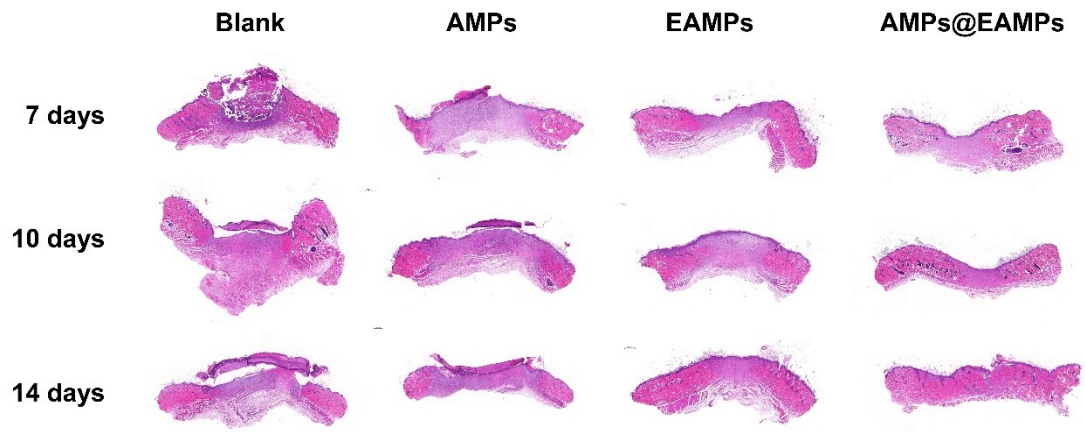
**Figure S2.** The surface charge of AMPs@EAMPs before and after 24 h incubation in PBS (pH 7.4) at  $37 \text{ }^\circ\text{C}$ .



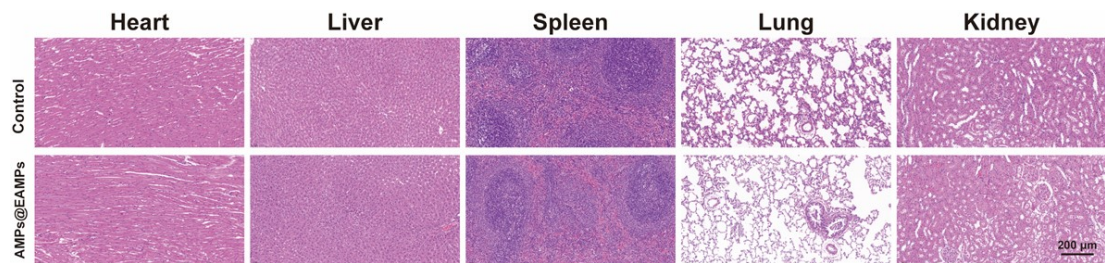
**Figure S3.** The long-term stability of 1 mg/mL AMPs@EAMPs during 7 days incubation in PBS (pH 7.4) at 37 °C. Left: AMPs@EAMPs solutions that were uniform, stable, and consistent in color during 7 days of incubation. Right: AMPs@EAMPs were completely separated by centrifugation, with the supernatant being clear



**Figure S4.** Reusability test of AMPs, EAMPs and AMPs@EAMPs after 1, 3, 7 days incubation with *E. coli* and *S. epidermidis*. (A) Agar plates observed after 24 h incubation of *E. coli* and *S. epidermidis* after treatments. (B) The statistical results of anti-bacterial rates. Data are presented as the mean  $\pm$  SD ( $n \geq 4$ ), \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .



**Figure S5.** H&E images illustrating the progression of wound healing in the dorsal skin of rats at 7, 10, and 14 days after surgery.



**Figure S6.** H&E-stained images of major organs (heart, liver, spleen, lung and kidney) extracted from the control and AMPs@EAMPs groups.