

## Supplementary Information

### **Zinc-chelated cuttlefish ink melanin nanoparticles complexed sprayable chitosan-based hydrogel to promote infected wounds healing**

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## 1. Results

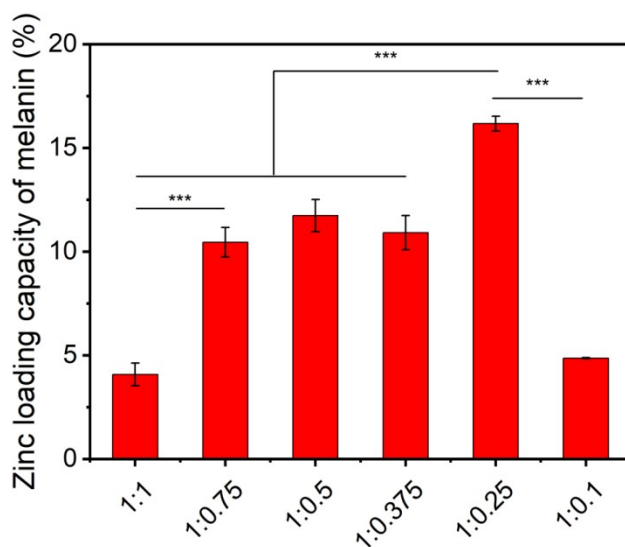


Fig. S1. Zinc ion loading rate of Me@Zn<sup>2+</sup> with different concentration ratios of melanin to zinc ions.

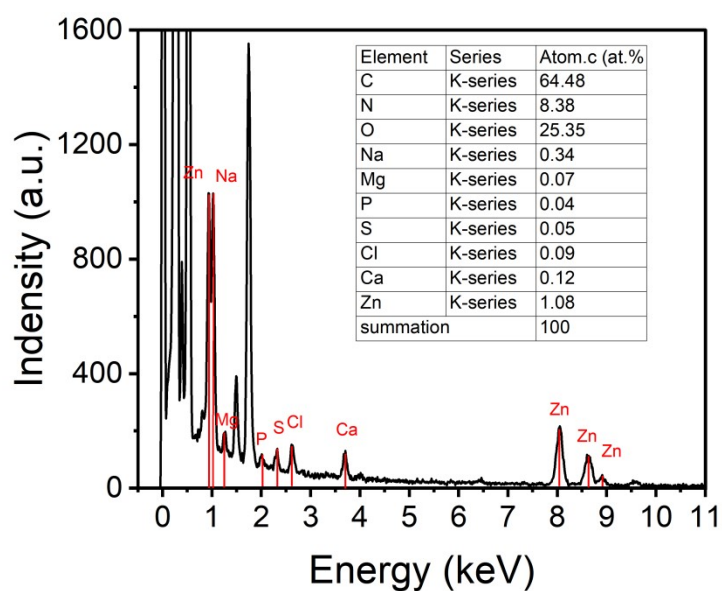


Fig. S2. Surface total spectrum and elemental ratio of EDS.

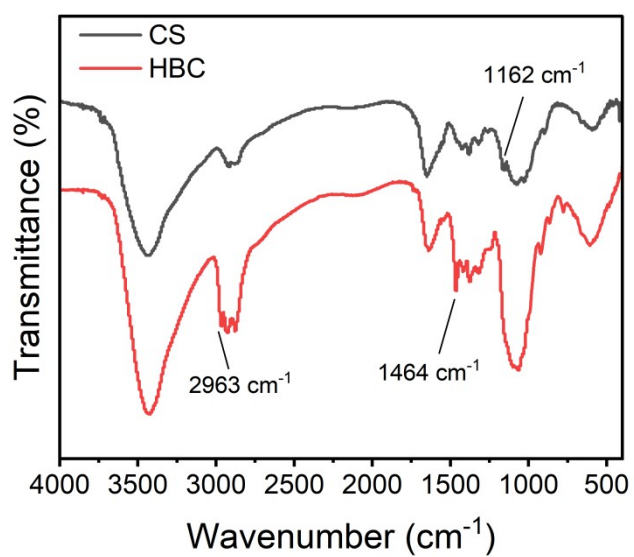


Fig. S3. FT-IR spectra of CS and HBC.

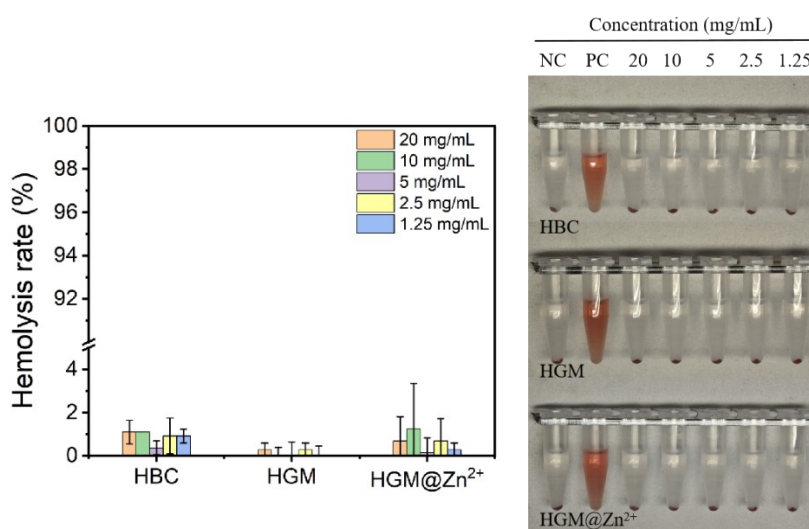


Fig. S4. Blood compatibility of extracts from different materials.

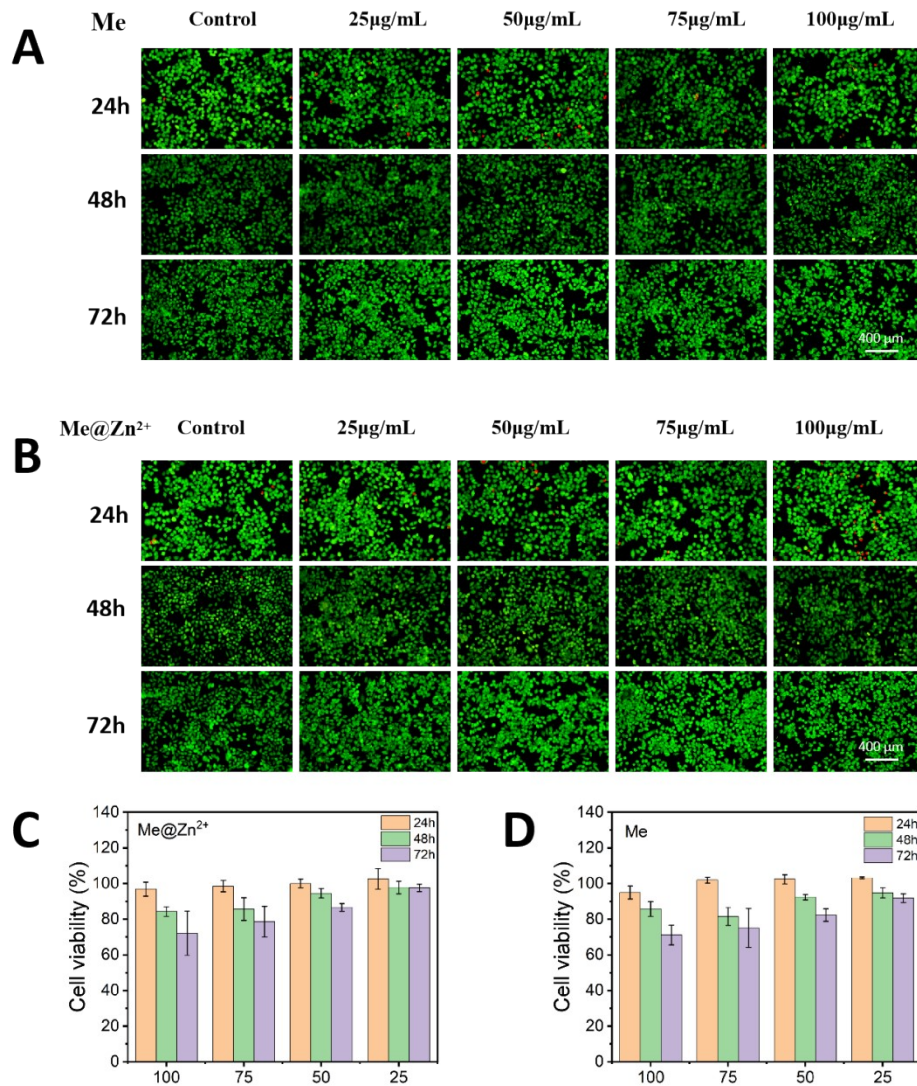


Fig. S5. (A) Live/dead staining of L929 cells co-cultured with Me for 24, 48, and 72 hours. (B) Live/dead staining of L929 cells co-cultured with Me@Zn<sup>2+</sup> for 24, 48, and 72 hours. (C) Cell viability of L929 cells co-cultured with Me detected by the CCK-8 assay. (D) Cell viability of L929 cells co-cultured with Me@Zn<sup>2+</sup> detected by the CCK-8 assay.

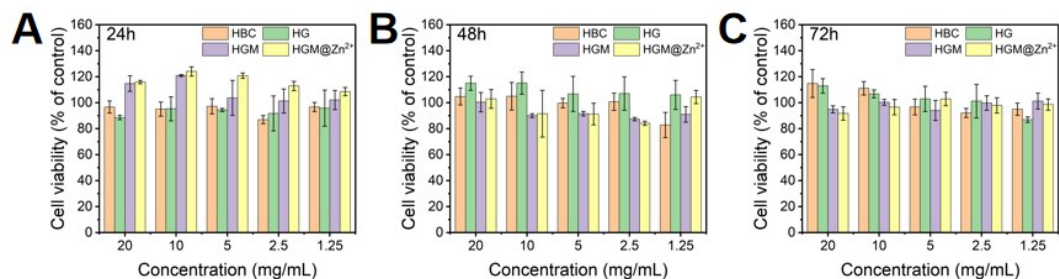


Fig. S6. Cell viability of L929 cells co-cultured with different material extracts for 24 (A), 48 (B), and 72 (C) hours was determined using the CCK-8 assay.

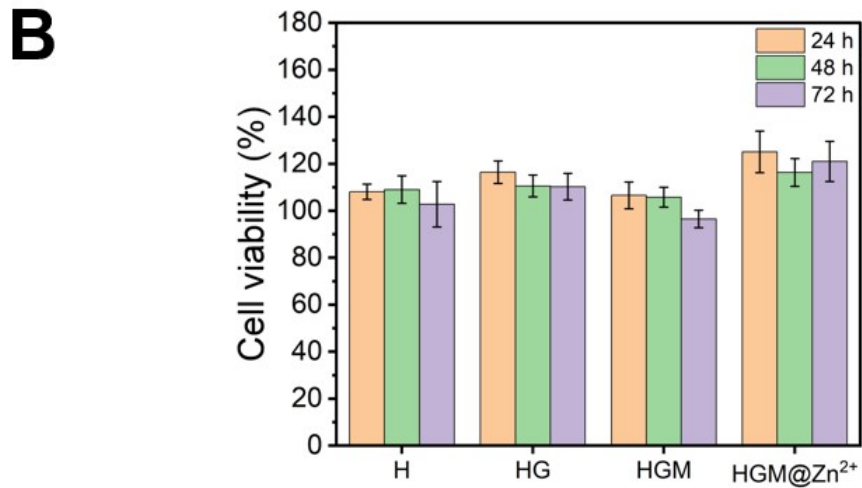
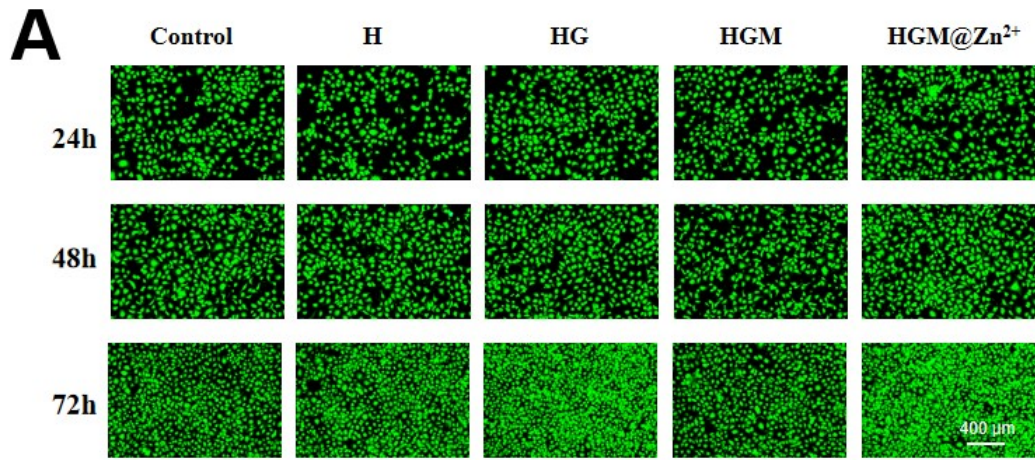


Fig. S7. (A) Live/dead staining of HUVEC cells co-cultured with different materials. (B) Cell viability detected by the CCK-8 assay.

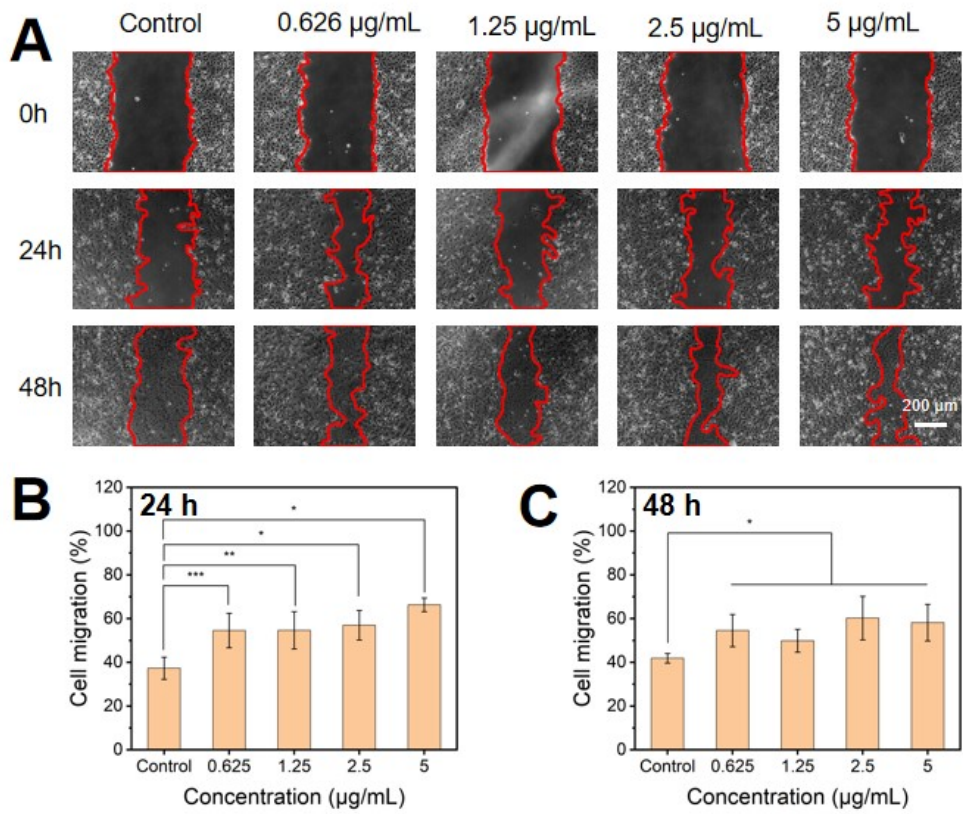


Fig. S8. Migration images of HUVEC cells treated with different concentrations of Zn<sup>2+</sup>. (B) Cell migration rate after 24 hours. (C) Cell migration rate after 48 hours

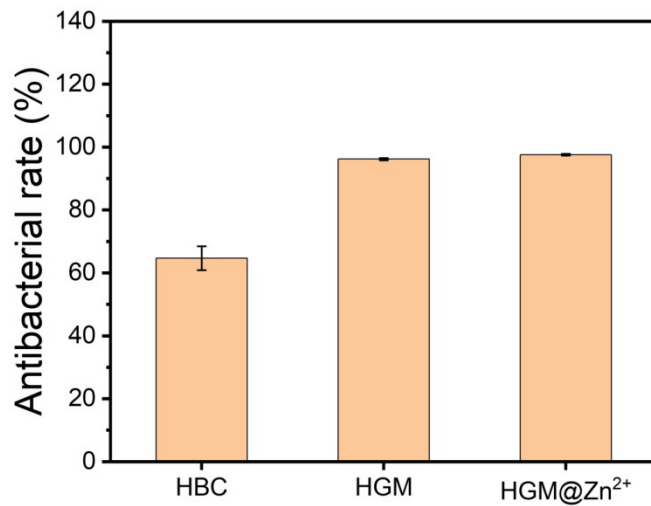


Fig. S9. The Antibacterial rate of different hydrogel wound dressings on infected wound.