# Supporting Information

# Injectable double network hydrogel with hemostasis and antibacterial activity for promoting multidrug−resistant bacteria infected wound healing

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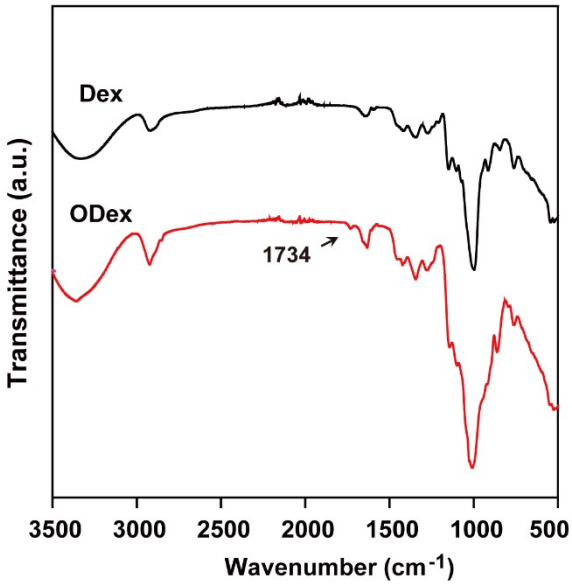


**Figure S1.** The FT-IR spectrum result of ODex and Dex. A new signal at 1734 $cm^{-1}$ represents the aldehyde group.

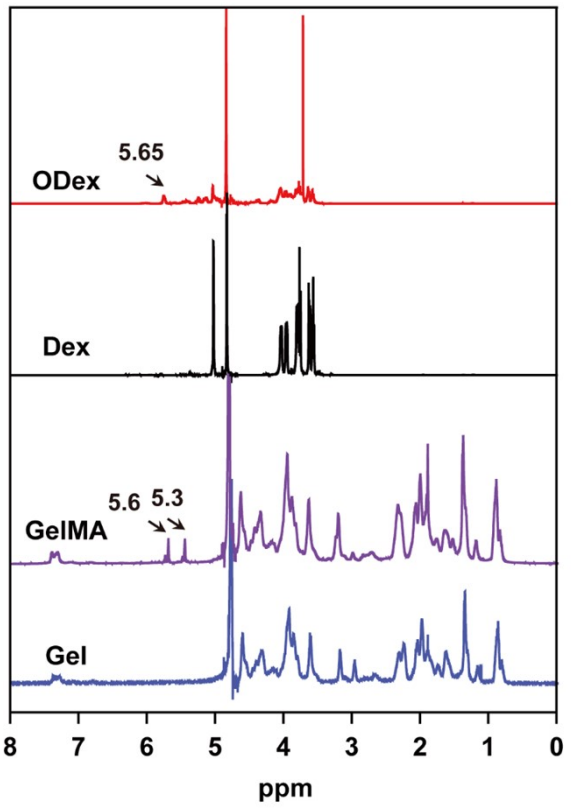


**Figure S2.** $^{1}H$ NMR spectrums of ODex, Dex, GelMA, and Gel. Materials were dissolved in $D_2O$. A peak at 5.65 ppm indicating successful synthesis of ODex. A pair of peaks at 5.3 ppm and 5.6 ppm, indicating that the methacrylic group was successfully grafted onto the gelatin.

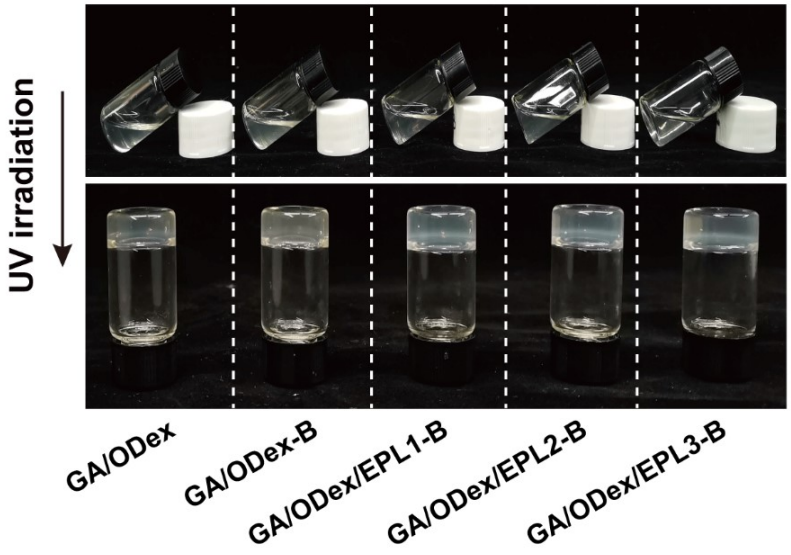


**Figure S3.** Photograph of gelation process. (The total volume of hydrogel precursor solution is 2 mL)

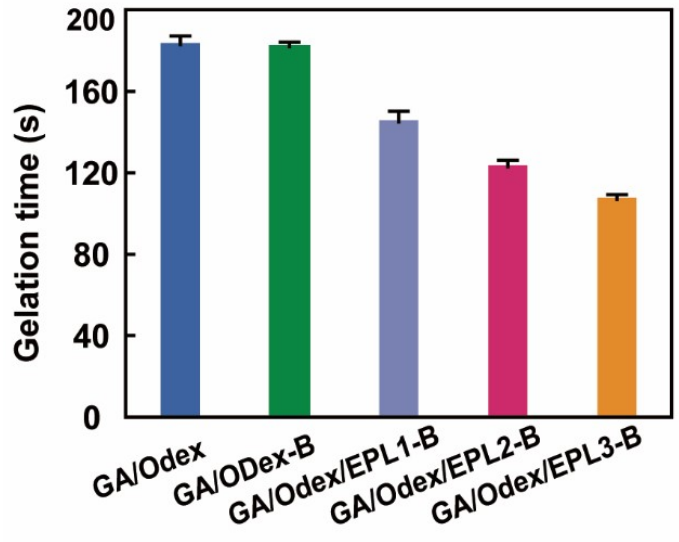


**Figure S4.** Gelation time of hydrogels with different concentrations of EPL. (The total volume of hydrogel precursor solution is 2 mL)

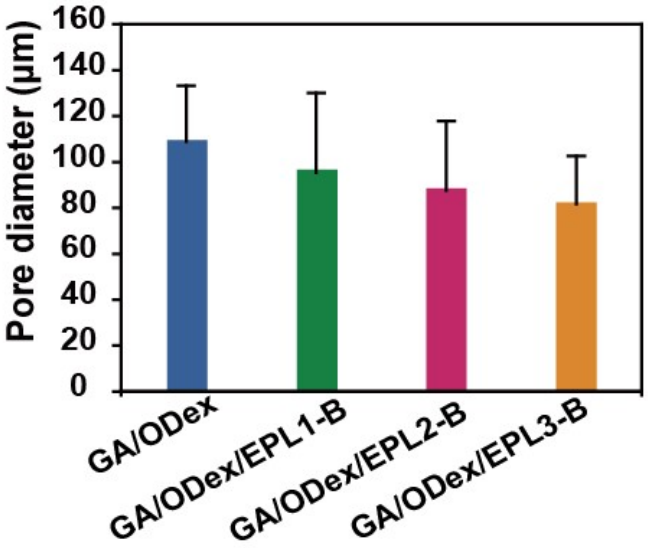


**Figure S5.** Pore size distribution of hydrogels. At least 30 pores in each group were calculated. The pore size of the hydrogel gradually decreases with the increase of EPL content.

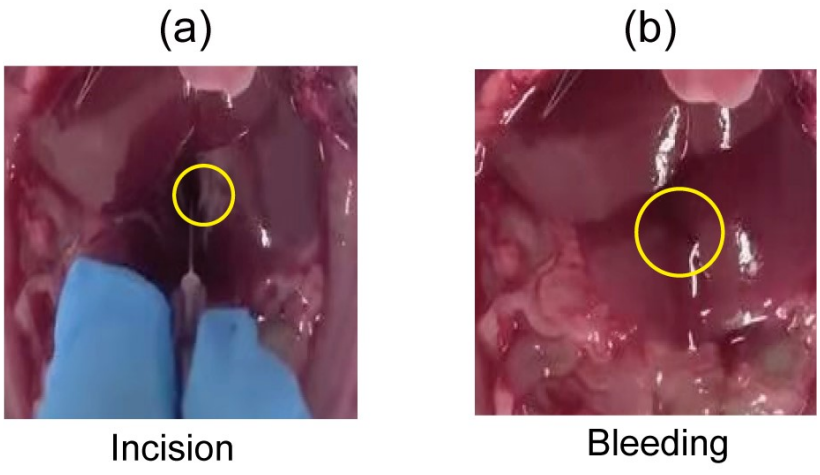


**Figure S6.** Liver hemostasis model. (a) Incision and (b) bleeding.

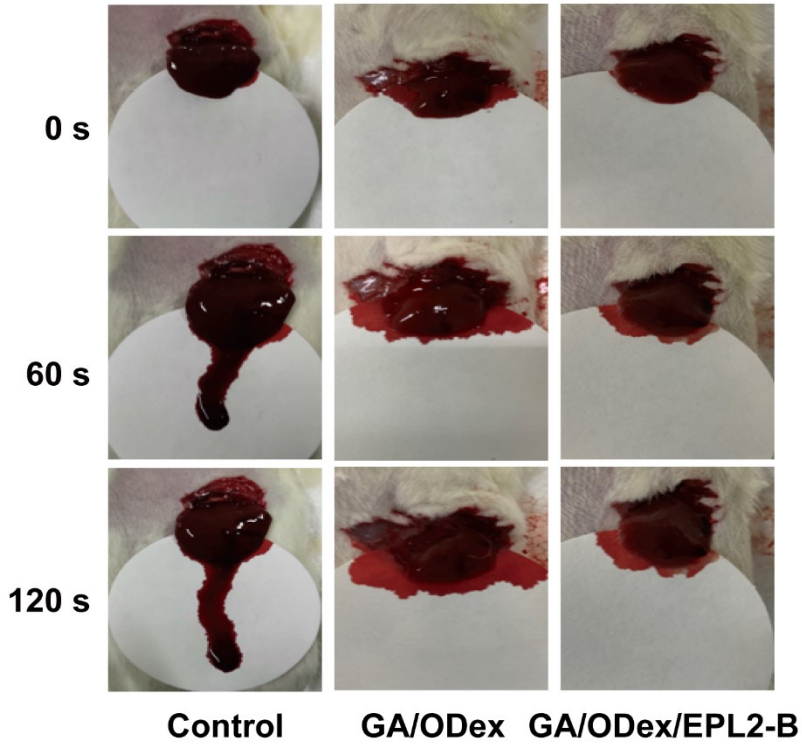


**Figure S7.** Photograph of the hemostatic process of the rat liver. The entire hemostasis time for control group was about 5 min.

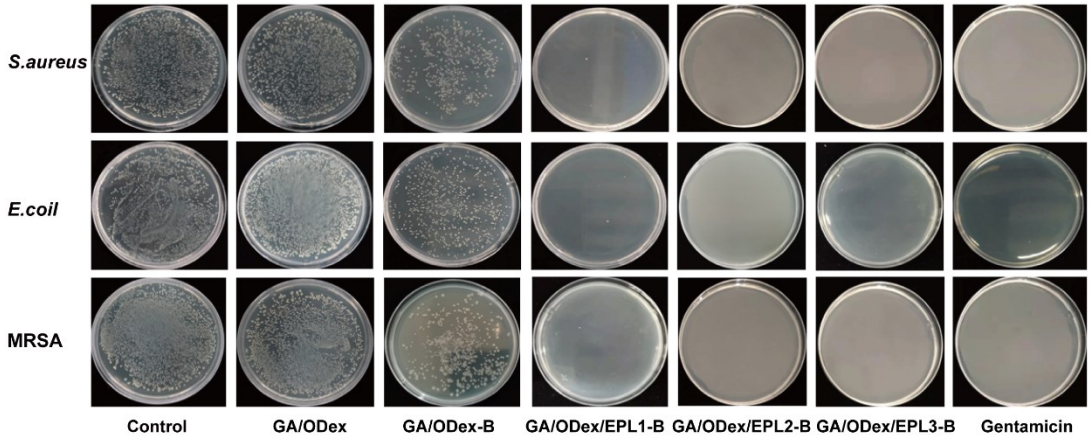


**Figure S8.** Typical images of *S.aureus, E.coli*, and MRSA colony plate count.

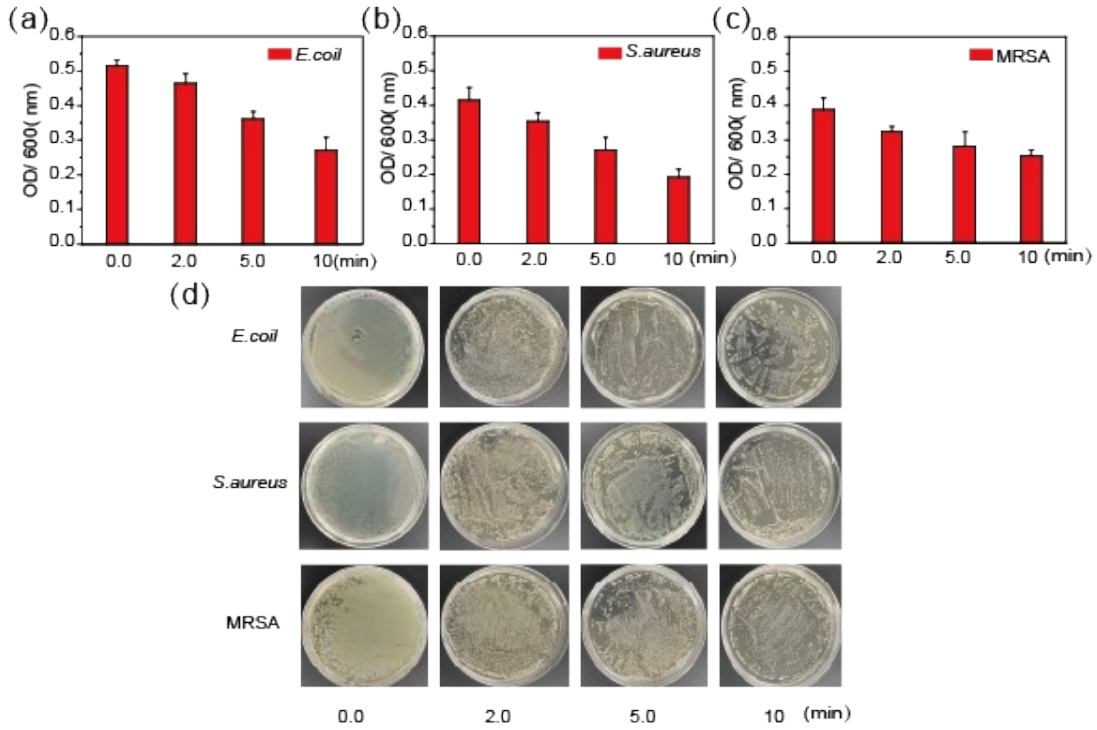


**Figure S9.** (a) *E. coli*, (b) *S. aureus*, and (c) MRSA viable bacteria count. (d) Typical images of *S.aureus, E.coli*, and MRSA colony plate count. Method: 1 mL of the bacterial suspension containing $1 \times 10^6$ CFU was seeded to a 24−well plate. Afterward, the bacterial suspension was exposed to UV irradiation with time set as 2 min, 5 min, and 10 min, respectively. After culturing at 37°C for 2 h, the bacterial liquid was collected, and 100 μL of the bacterial liquid was transferred to a 96-well plate. The OD values were measured with a microplate reader (Bio-Rad680, USA). Meanwhile, 20 μL of bacterial suspension was diluted by 1 mL of PBS, and then incubate at 37°C for 12 h.

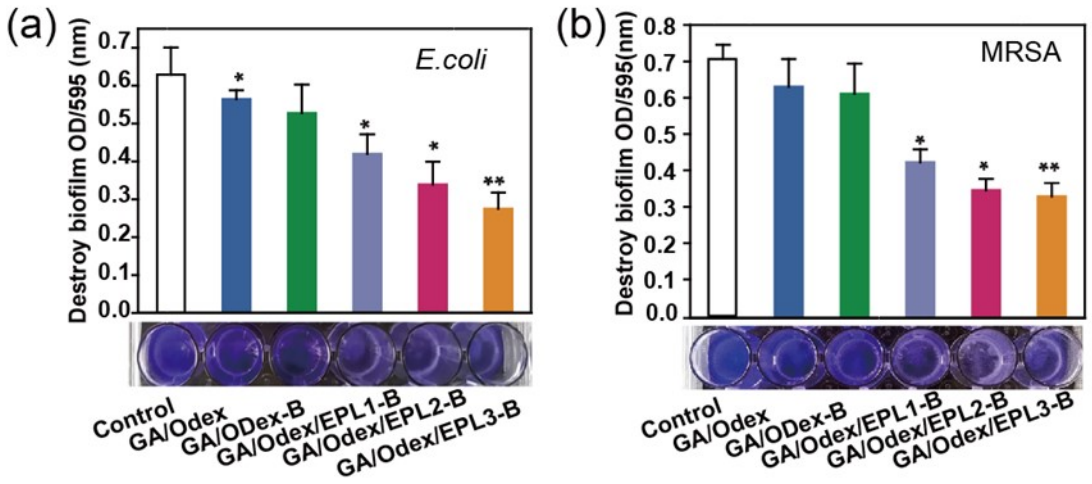


**Figure S10.** Different concentrations of GA/ODex/EPL−B destroy (a) *E.coli* biofilm and (b) MRSA biofilm.

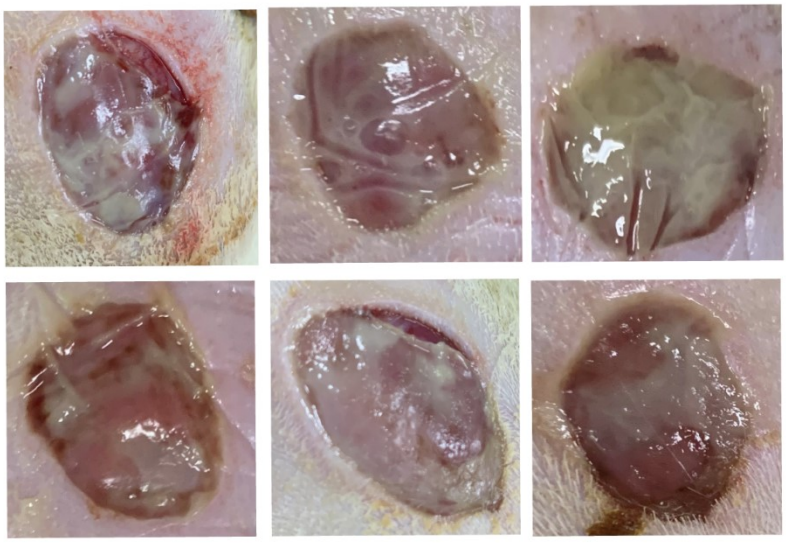

**Figure S11.** Typical photographs of MRSA-infected wound.

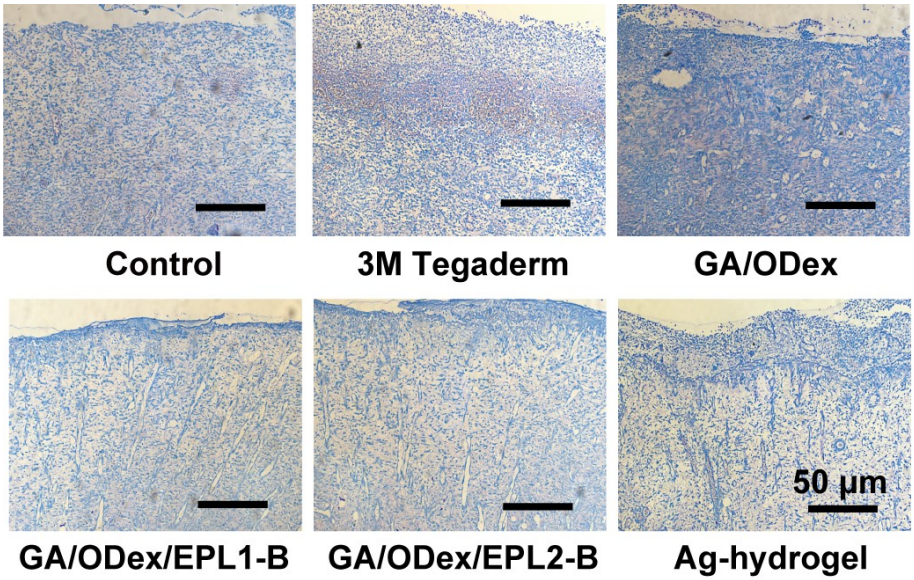


**Figure S12.** Giemsa staining of the infectious wound tissue after 2 days of treatment. Purple color indicates the residual bacteria.