Bilayer Hydrogel with Protective Film and Regenerative Hydrogel for Effective Diabetic Wounds Treatment

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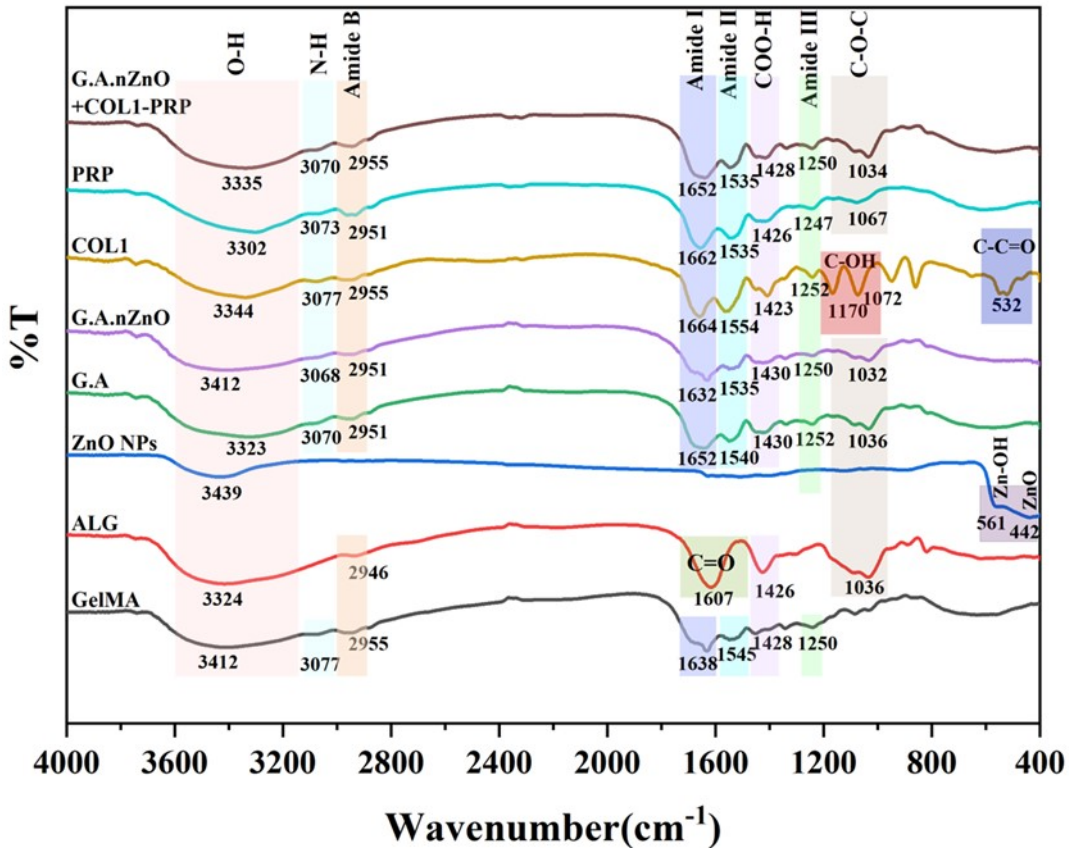
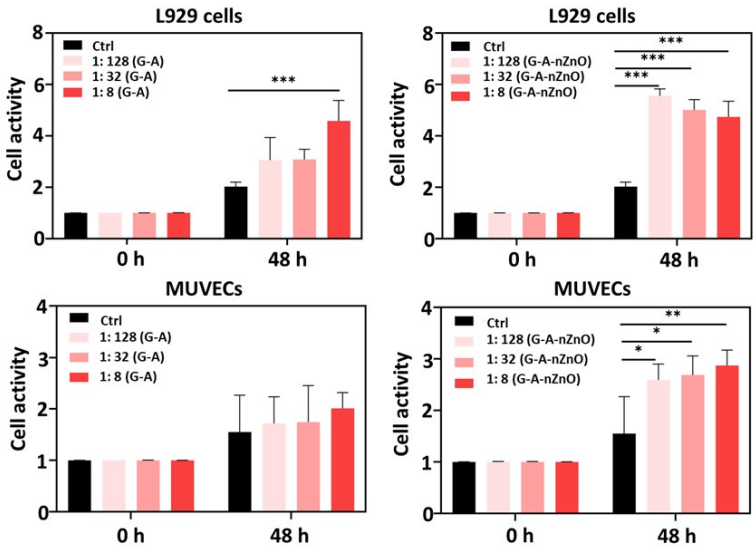
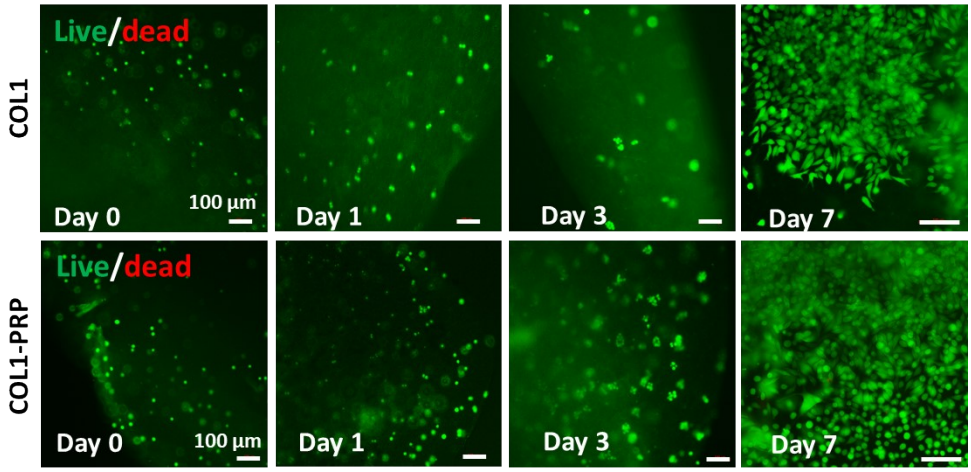
Supplementary Figures



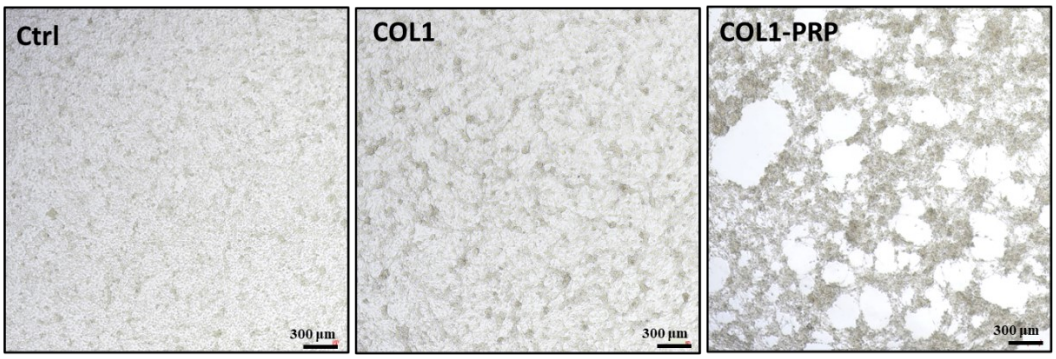
Supplementary Figure 1. FT-IR spectra of various components and hydrogels. Spectra include G.A.nZnO + COL1-PRP, PRP, COL1, G.A.nZnO, G.A, ZnO NPs, ALG, and GelMA. The identified peaks correspond to different functional groups such as O-H, N-H, Amide I, Amide II, Amide III, COO-H, C=O, C-O-C, and Zn-OH. The specific wavelengths at which these peaks occur are highlighted.



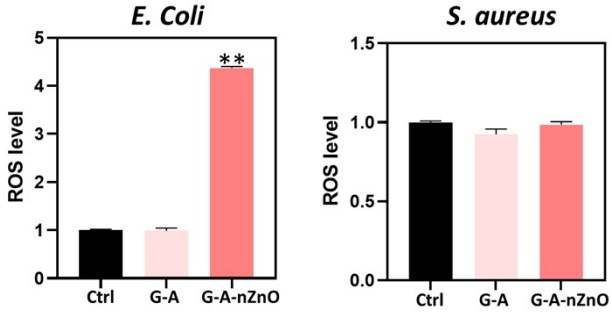
Supplementary Figure 2. CCK-8 assay of L929 cells and MUVECs on Day 0, Day 1 and Day 3 after treatment with the extract liquid of GelMA-ALG film and GelMA-ALG-nano ZnO film at dilution ratios of 1:8, 1:32, and 1:128 at 0 h and 48 h. (n = 3; * indicates p<0.05, ** indicates p<0.01, relative to Ctrl group.)



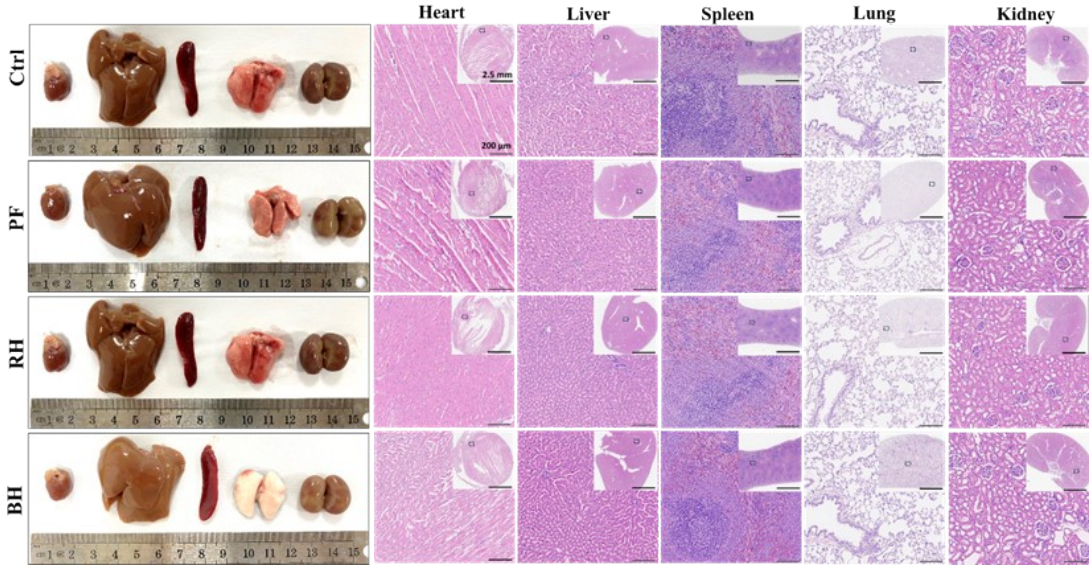
Supplementary Figure 3. Live-dead images show the viability of L929 cells cultured in 3D COL1 hydrogel and COL1-PRP hydrogel.



Supplementary Figure 4. Tube formation of MUVECs in medium containing COL1-PRP hydrogel extract liquid in culture plate without Matrigel coating.



Supplementary Figure 5. Reactive oxygen species (ROS) levels in *E. coli* and *S. aureus* after treatment with Ctrl, G-A hydrogel, and G-A-nZnO hydrogel. (n = 3; * indicates p<0.05, ** indicates p<0.01, relative to Ctrl group.)



Supplementary Figure 6. *In vivo* toxicity of ZnO nanoparticles. Morphology and H&E staining of heart, liver, spleen, lung, and kidney tissues in diabetic rats after treatment with protective film, regenerative hydrogel, bilayer hydrogel, and the control group.