

Electronic Supplementary Information

Microenvironment-responsive multifunctional hydrogels with spatiotemporal sequential release of tailored recombinant humanized collagen type III for the rapid repair of infected diabetic chronic wounds

Cheng Hu^a, Wenqi Liu^a, Linyu Long^a, Zhicun Wang^a, Yihui Yuan^a, Wen Zhang^a, ShuYi He^a, Jian Wang^c, Li Yang^{a}, Lu Lu^b, Yunbing Wang^a*

^a National Engineering Research Center for Biomaterials, Chuanda-Jinbo Joint Research Center, Sichuan University, Chengdu, 610064, People's Republic of China

^b Key Laboratory of Medical Molecular Virology (MOE/NHC/CAMS), School of Basic Medical Sciences and Shanghai Public Health Clinical Center, Fudan-Jinbo Joint Research Center, Fudan University, Shanghai, 200302, People's Republic of China

^c Shanxi Jinbo Biomedicine Co., Ltd, Taiyuan, 030000, People's Republic of China

***Corresponding Author:**

*E-mail: yanglisc@scu.edu.cn. Tel.: 86-28-85410280 (L. Y.).

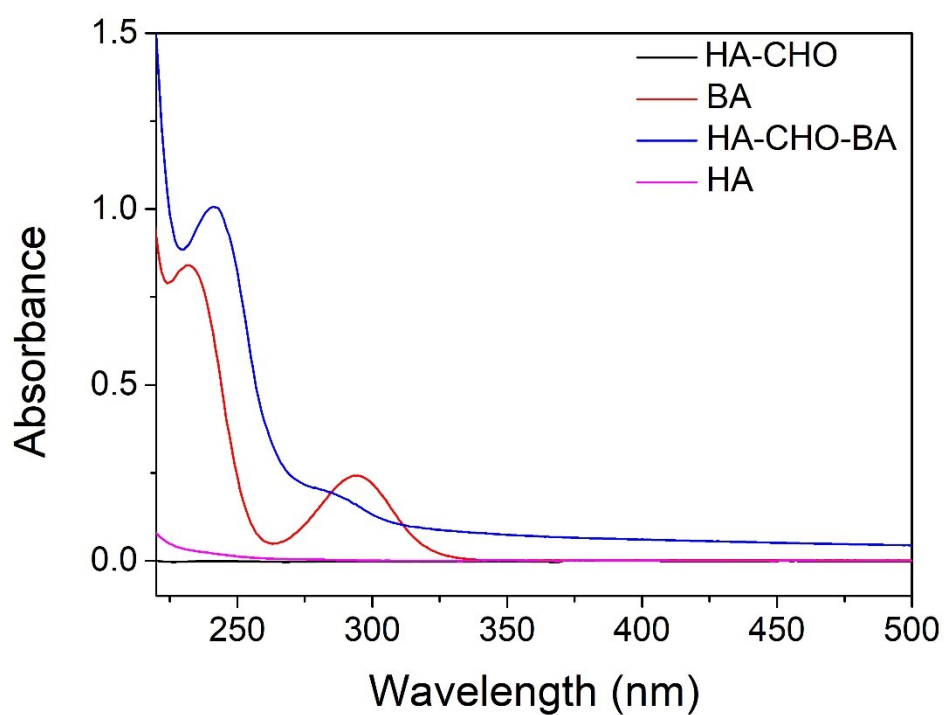


Figure S1. UV-Vis spectra of BA, HA, HA-CHO and HA-CHO-BA.

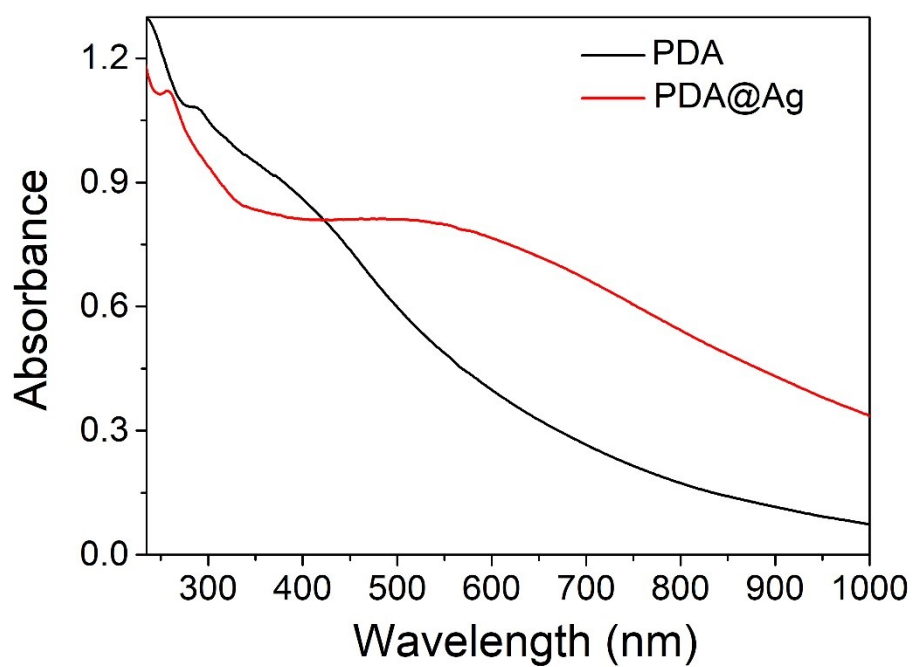


Figure S2. The UV-Vis spectra of PDA NPs and PDA@Ag.

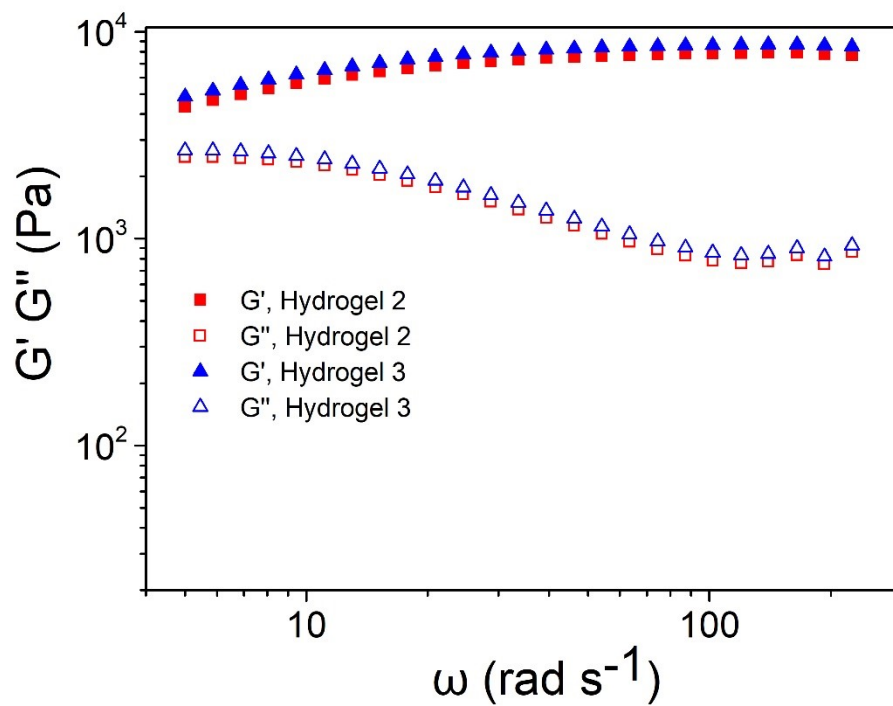


Figure S3. The frequency sweep tests of hydrogel 2 and hydrogel 3.

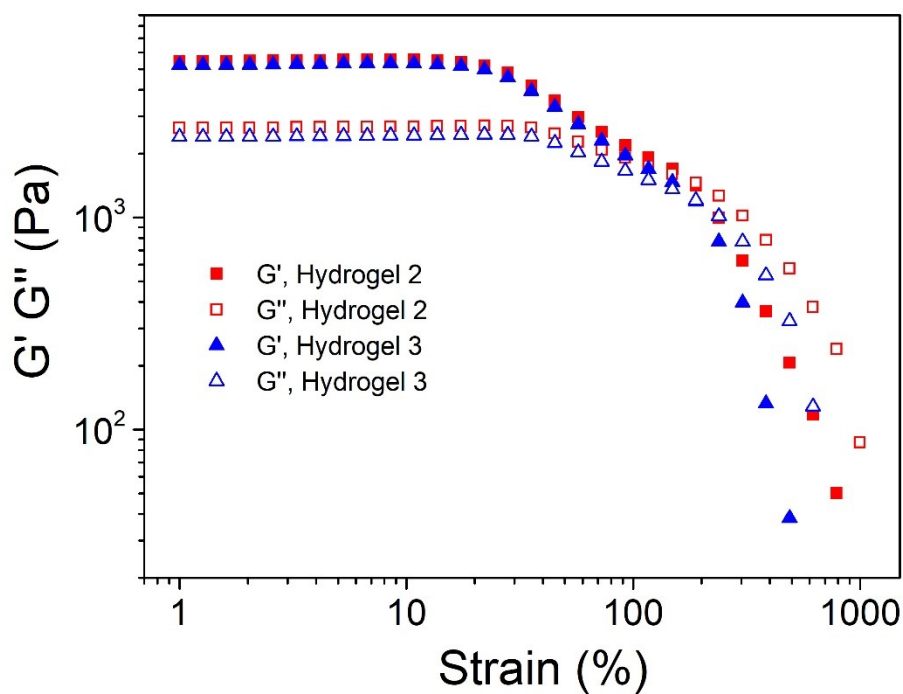


Figure S4. The amplitude sweep tests of hydrogel 2 and hydrogel 3.

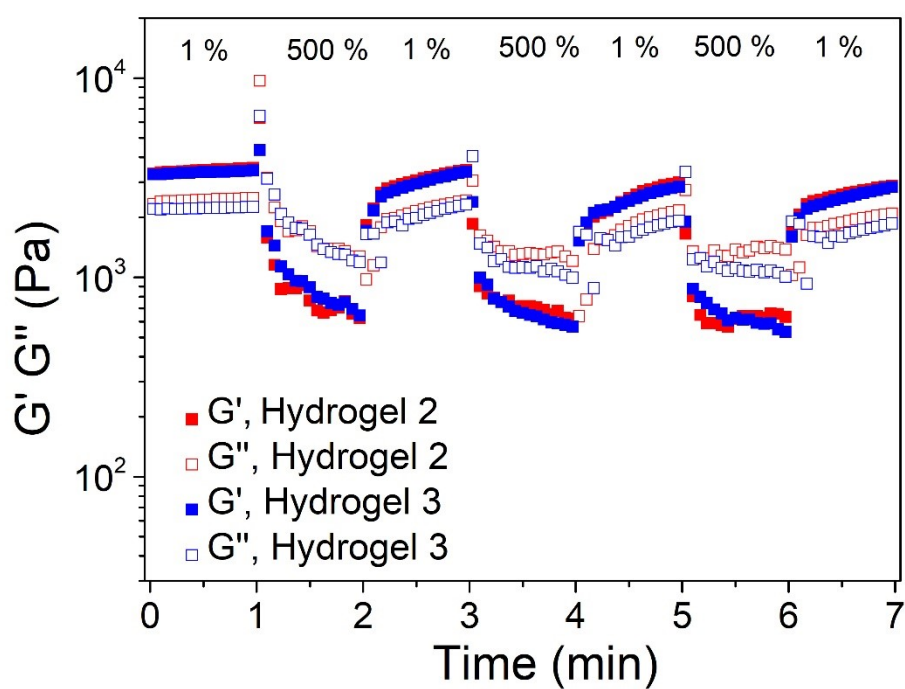


Figure S5. Step-strain sweep tests of hydrogel 2 and hydrogel 3.

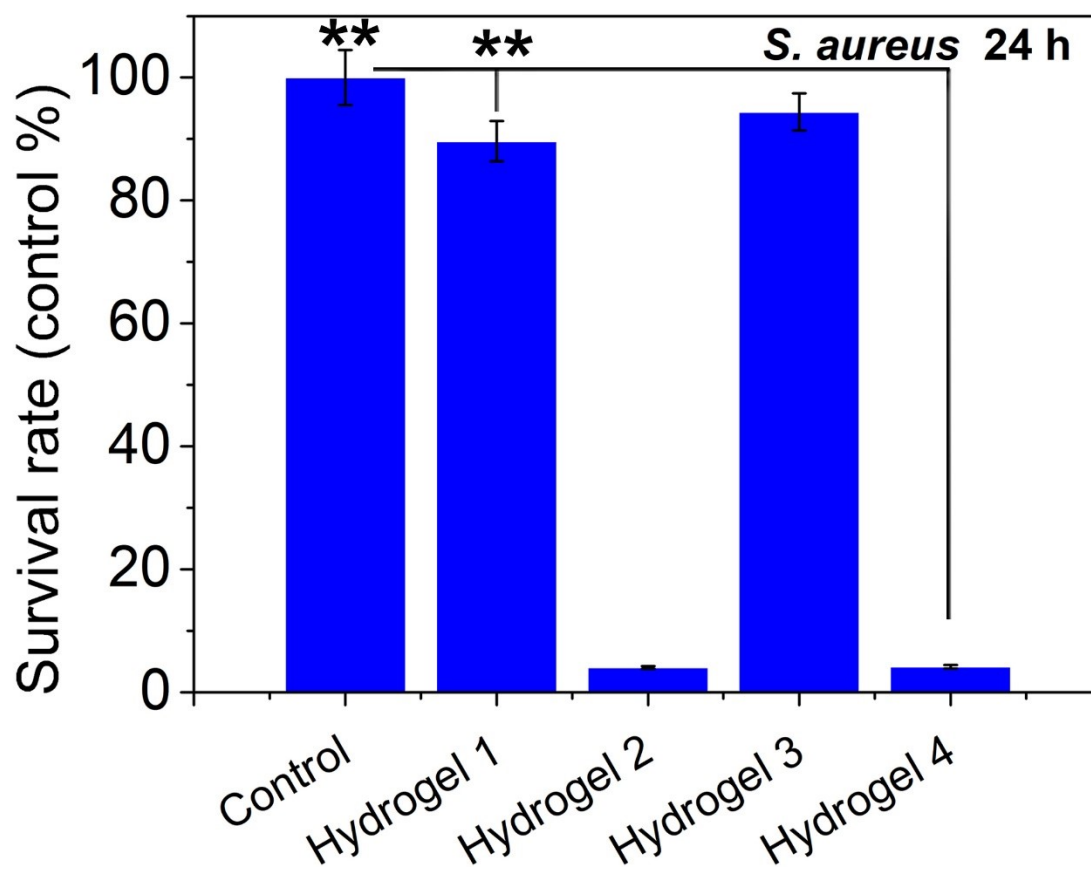


Figure S6. The survival ratios of *S. aureus* at 24 h.

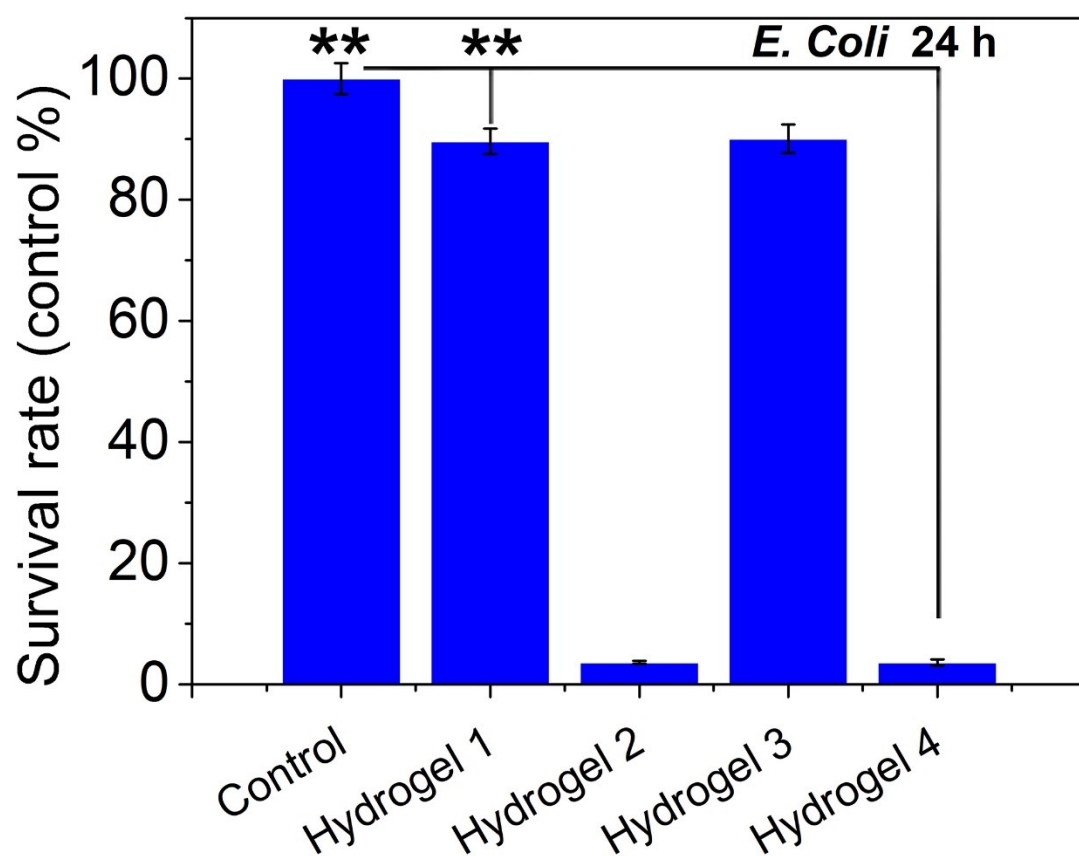


Figure S7. The survival ratios of *E. coli* at 24 h.

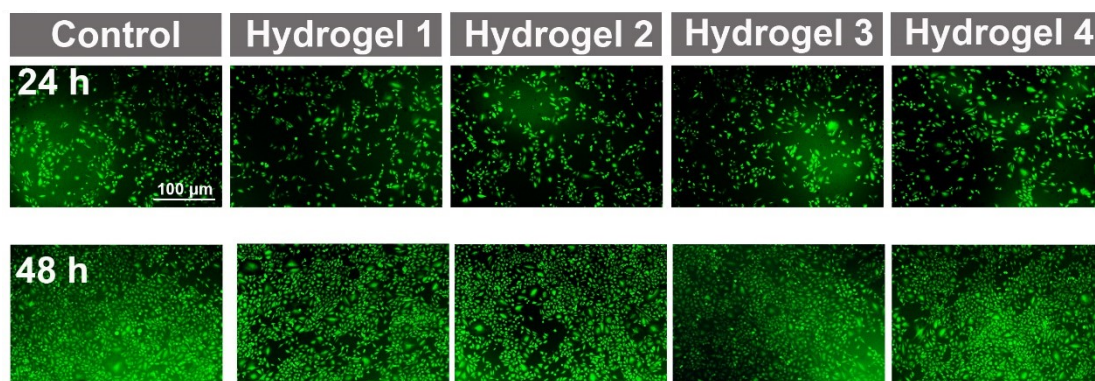


Figure S8. The FDA staining of HUVECs after treatment with different hydrogel at

24 and 48 h. Scale bars: 100 μm .

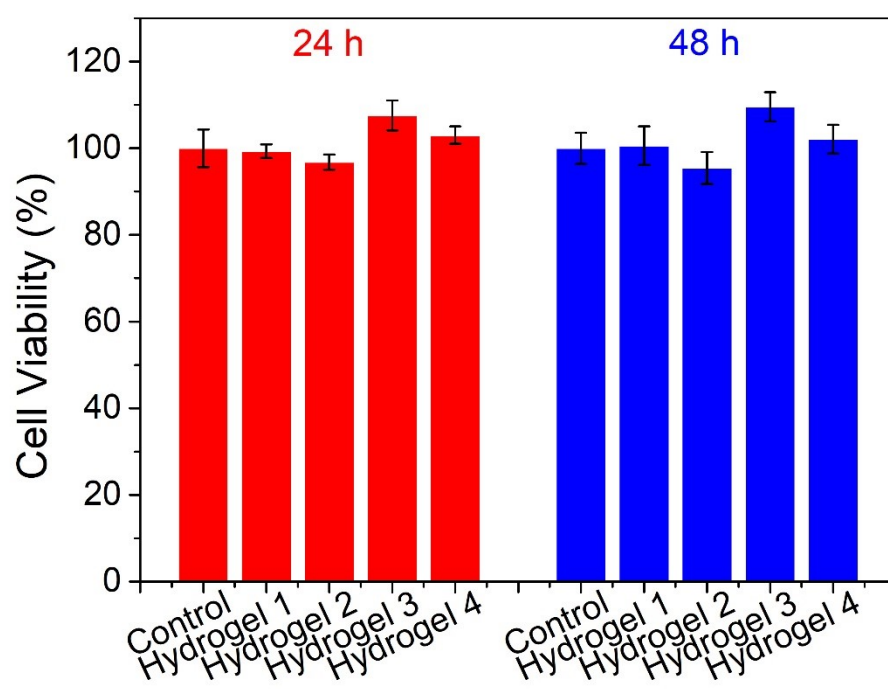


Figure S9. Cell viability of HUVECs after treatment with different hydrogel at 24 and

48 h.