

## **Supporting Information**

### **Biomimetic Gradient Hydrogels with High Toughness and Antibacterial Properties**

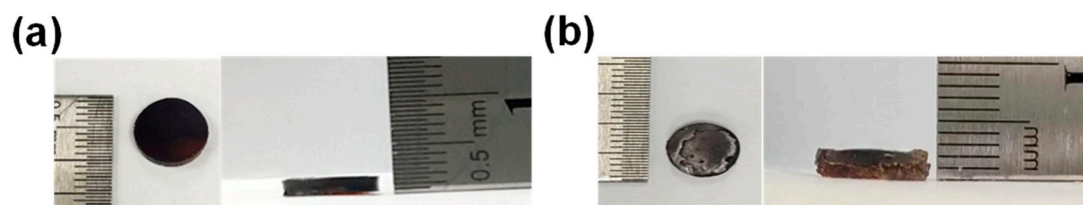
Mingzhu Zeng<sup>1,2,3</sup>, Zhimao Huang<sup>2,3</sup>, Xiao Cen<sup>2,3</sup>, Yinyu Zhao<sup>2,3</sup>, Fei Xu<sup>1</sup>, Jiru Miao<sup>2,3</sup>,  
Quan Zhang<sup>1,\*</sup>, Rong Wang<sup>2,3,\*</sup>

<sup>1</sup> Institute of Smart Biomedical Materials, School of Materials Science and Engineering, Zhejiang Sci-Tech University, Hangzhou 310018, China

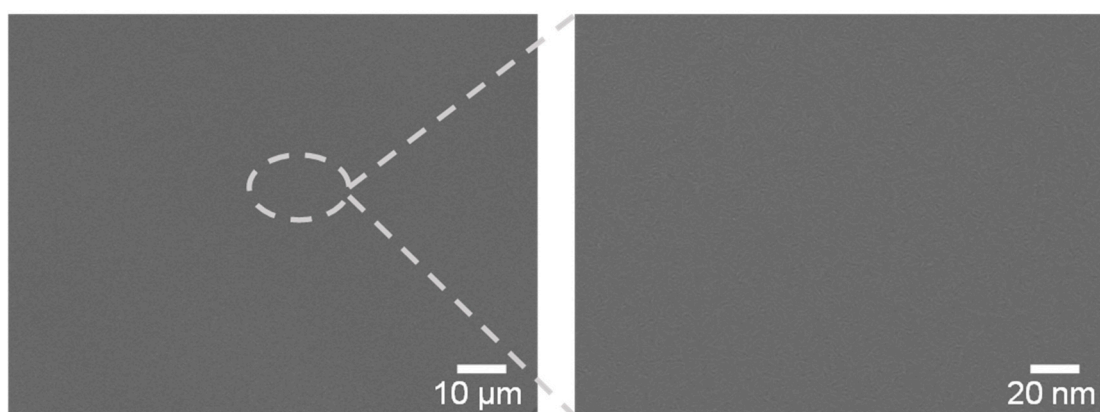
<sup>2</sup> Zhejiang International Scientific and Technological Cooperative Base of Biomedical Materials and Technology, Institute of Biomedical Engineering, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Ningbo, 315201, China

<sup>3</sup> Ningbo Cixi Institute of Biomedical Engineering, Ningbo 315300, China

\*Correspondence address. Tel: 0571-86840651; E-mail: [quanzhang@zstu.edu.cn](mailto:quanzhang@zstu.edu.cn) (Q. Zhang);  
[rong.wang@nimte.ac.cn](mailto:rong.wang@nimte.ac.cn) (R. Wang).



**Figure S1.** Photos of TAPS-Cu15 hydrogel (a) before compression and (b) after compression at 90% strain.



**Figure S2.** SEM images of cross-sections of TAPS-Cu15 hydrogel.