

# Electronic Supplementary Information

for

## **A Multifunctional Supramolecular Hydrogel for Infected Wound Healing**

Tingting Ding<sup>†[a]</sup>, Jiajia Qi<sup>†[a]</sup>, Jingcheng Zou<sup>[b]</sup>, Hongxia Dan<sup>[a]</sup>,  
Hang Zhao<sup>\*[a]</sup>, Qianming Chen<sup>\*[a]</sup>

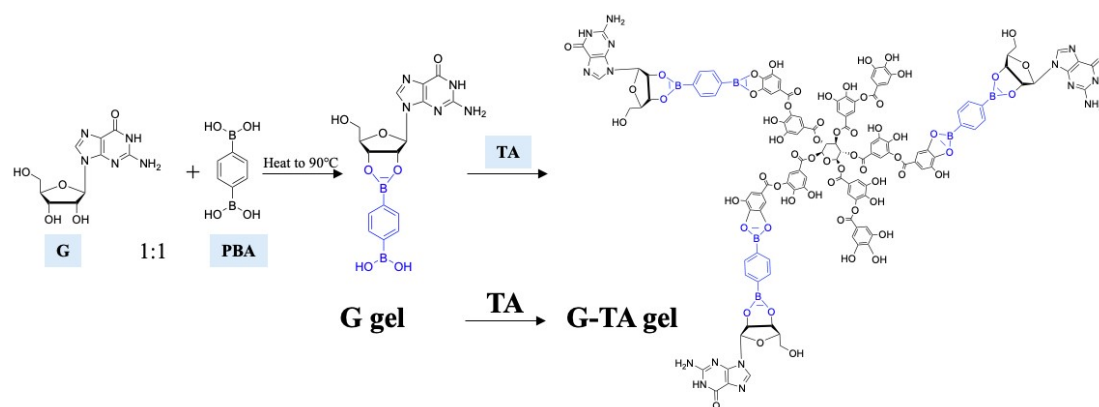
<sup>†</sup> These authors contributed equally to this work.

<sup>[a]</sup> State Key Laboratory of Oral Diseases, National Clinical Research Center for Oral Diseases, Chinese Academy of Medical Sciences Research Unit of Oral Carcinogenesis and Management, Med-X Center for Materials, West China Hospital of Stomatology, Sichuan University, Chengdu, Sichuan, 610041, P. R. China

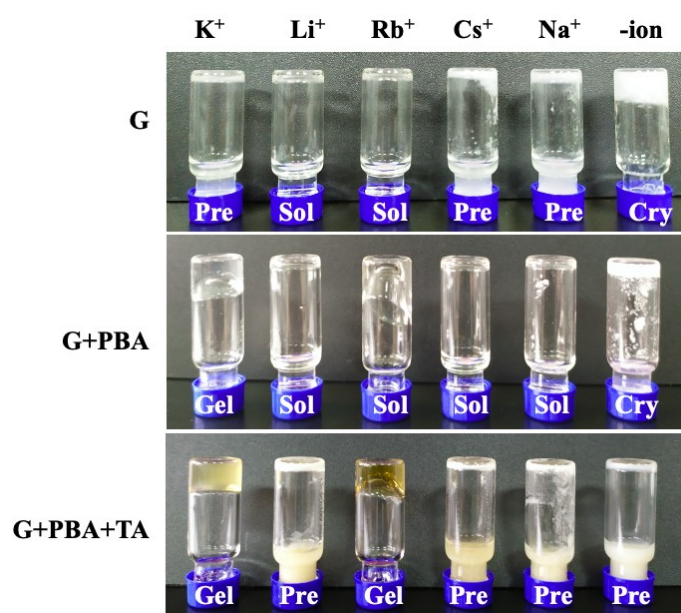
<sup>[b]</sup> West China Hospital, Sichuan University, Chengdu, Sichuan, 610041, P. R. China

\* these authors are the corresponding authors.

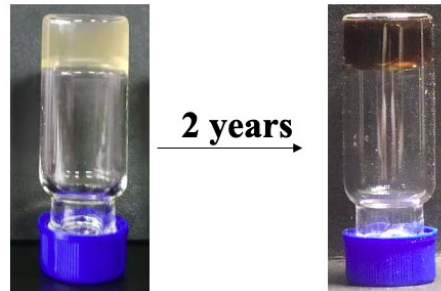
E-mail: zhaohangahy@scu.edu.cn; [qmchen@scu.edu.cn](mailto:qmchen@scu.edu.cn)



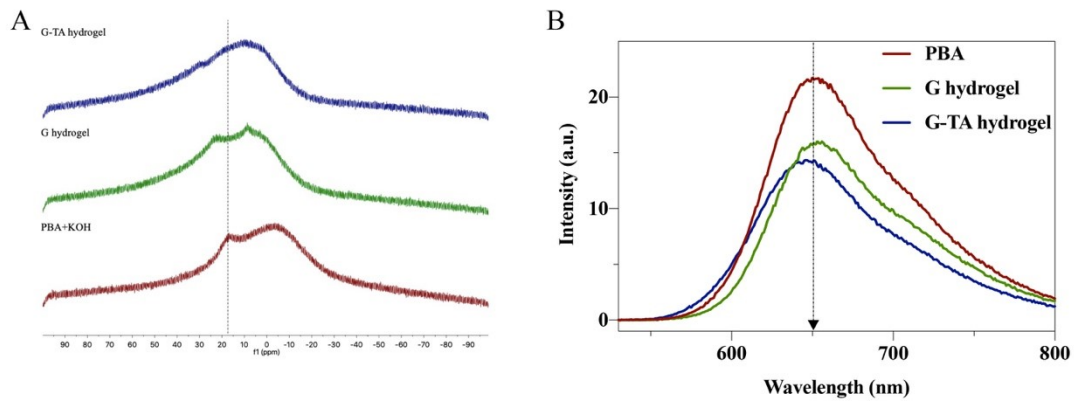
**Scheme S1.** The chemical illustration of the G-TA gel formation by steps.



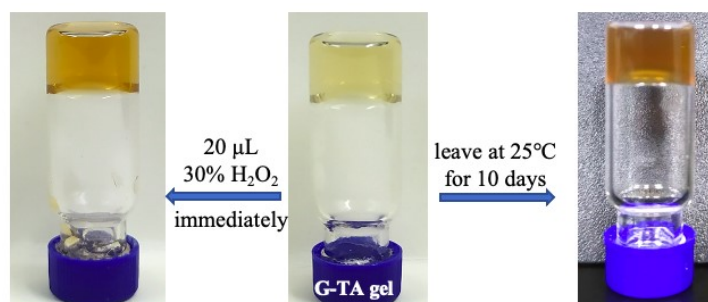
**Figure S1.** Hydrogel formation ability in different  $\text{M}^+$ . Sol: solution, Cry: crystallization, Pre: precipitation.



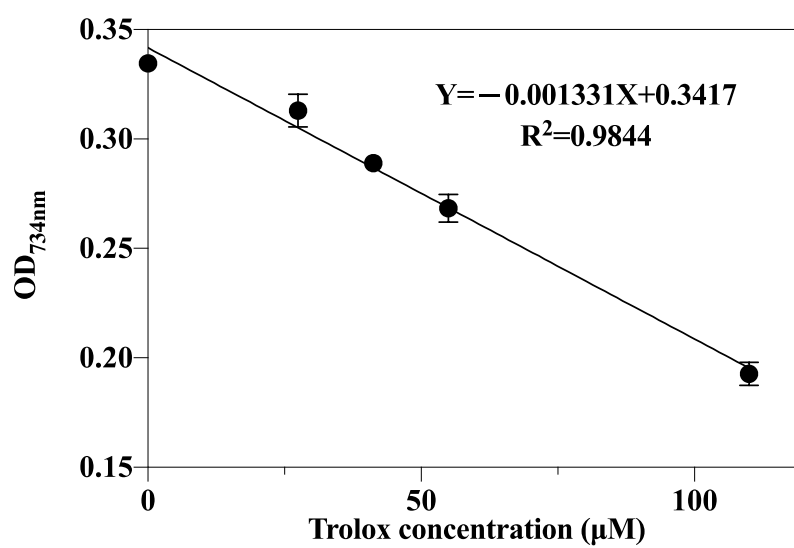
**Figure S2.** *In vitro* lifespan of G-TA hydrogel.



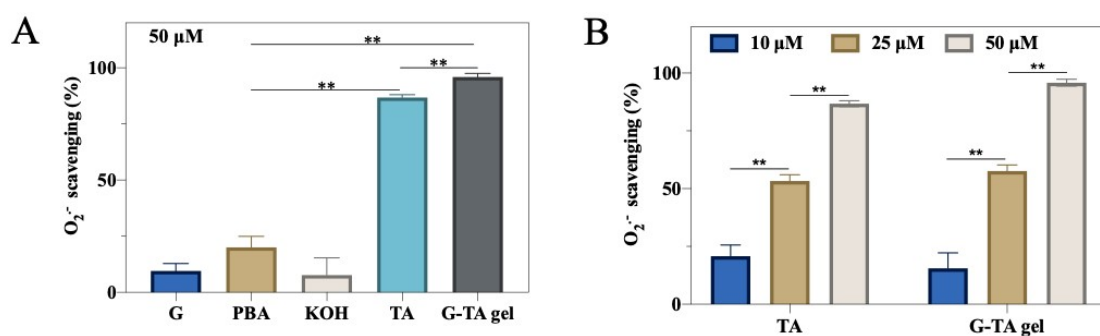
**Figure S3.** (A)  $^{11}\text{B}$  NMR spectra of PBA-KOH, G hydrogel and G-TA hydrogel in  $\text{D}_2\text{O}$  recorded at  $25^\circ\text{C}$ . (B) Fluorescence intensity of PBA-KOH, G hydrogel and G-TA hydrogel in Alizarin Red S.



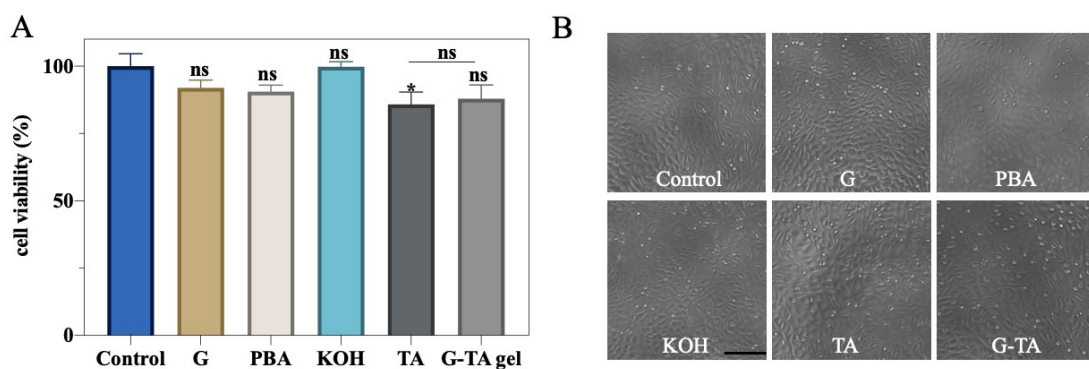
**Figure S4.** Transformation in color of G-TA gel immediately after addition of  $H_2O_2$  and set at 25°C for 10 days.



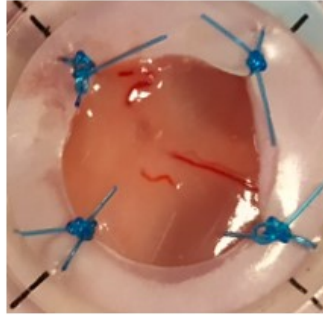
**Figure S5.** The ABTS<sup>+</sup> scavenging standard curve of Trolox.



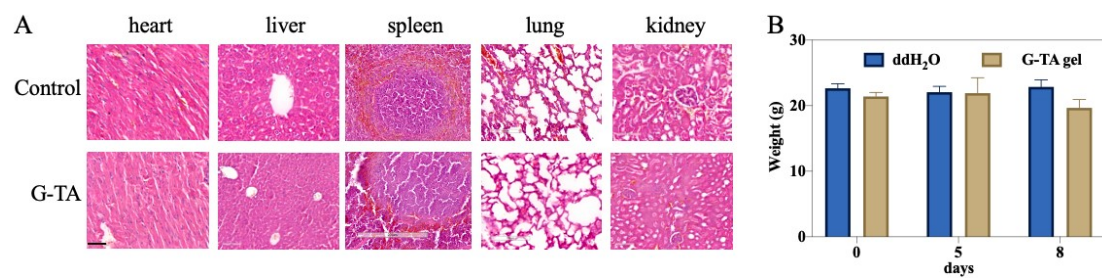
**Figure S6.** (A) The O<sub>2</sub><sup>·-</sup> removal capacity of the G-TA hydrogel and main components. TA concentration at 50 μM. (B) The O<sub>2</sub><sup>·-</sup> removal capacity of the G-TA hydrogel at different concentrations.



**Figure S7.** Effects of the G-TA hydrogel on L929 cells *in vitro*. (A) cell counting kit-8 (CCK-8). (B) cell images recorded by a microscope. Scale bar: 100 μm.



**Figure S8.** A silicone round splint fixed to avoid wound shrinkage at the early stage.



**Figure S9.** (A). H&E staining of major organs (heart, kidney, liver, lung, and spleen) after 8 days. Scale bar: 50  $\mu$ m. (B). Weight of mice in the whole process of the experiment.