Electronic Supplementary Information

for

A Multifunctional Supramolecular Hydrogel for Infected Wound Healing

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

Figure S1. Hydrogel formation ability in different M⁺. Sol: solution, Cry: crystallization, Pre: precipitation.
Figure S2. *In vitro* lifespan of G-TA hydrogel.

Figure S3. (A) $^{11}$B NMR spectra of PBA-KOH, G hydrogel and G-TA hydrogel in D$_2$O recorded at 25°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$_2$O$_2$ and set at 25°C for 10 days.

**Figure S5.** The ABTS$^+$ scavenging standard curve of Trolox.
Figure S6. (A) The $O_2^-$ removal capacity of the G-TA hydrogel and main components. TA concentration at 50 μM. (B) The $O_2^-$ 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 μm. (B). Weight of mice in the whole process of the experiment.