Electronic Supplementary Material (ESI) for RSC Advances.

Dynamic covalent hydrogel of natural product baicalin with antibacterial activities

Zhen-Zhen Wang,[a]* Yuan Jia,[a] Guoqiang Wang,[a] Hongjuan He,[a] Lihua Cao,[a] Yanmei Shi,[a] Mingsan Miao,[a]* and Xiu-Min Li[b, c]*

[a]Academy of Chinese Medical Science, Henan University of Chinese Medicine, Zhengzhou, China

[b]Department of Pathology, Microbiology &Immunology, New York Medical College, Valhalla, NY, USA

[c]Department of Otolaryngology, New York Medical College, Ardsley, NY

*Corresponding authors: zzwang@hactcm.edu.cn; XiuMin_Li@NYMC.edu

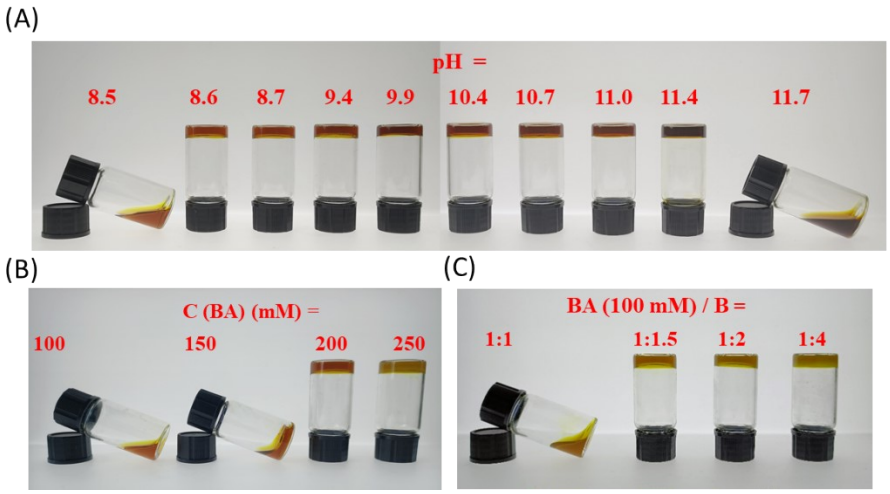

Fig. S1 The Baicalin (BA) hydrogels. (A) BA/$Na_2B_4O_7$ mixtures at different pH conditions. (B) BA/ $Na_2B_4O_7$ mixtures (4:1) mixture at different concentration. (C) BA/ $Na_2B_4O_7$ mixtures at different ratios.

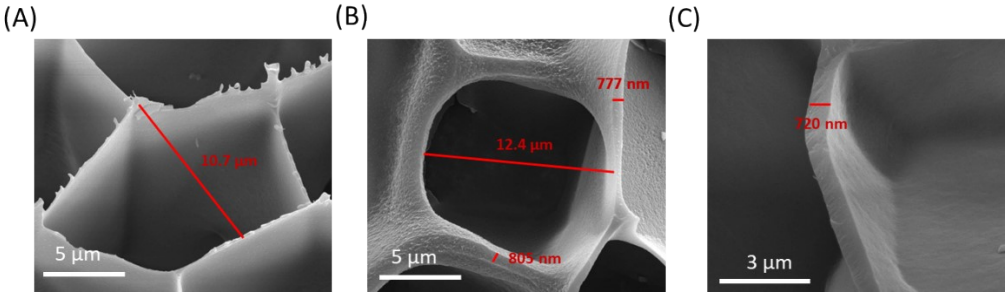

Fig. S2 The pore structure of BA hydrogel under SEM. (A) The pore with 10.7 μm diameter; (B) The pore with 12.4 μm diameter; (B) The wall with 720 nm thickness.

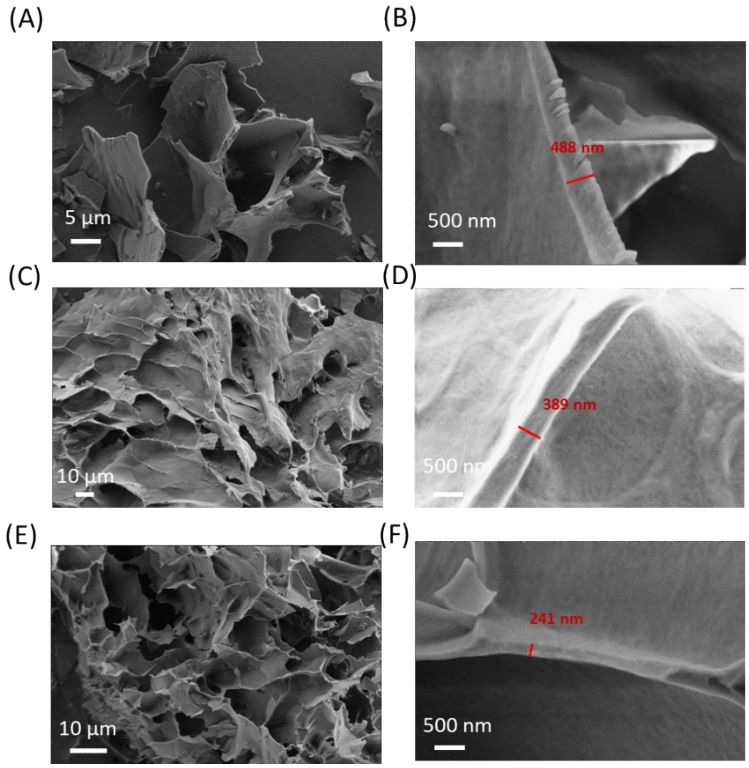

Fig. S3 The SEM images of BA hydrogel at different concentrations and BA/B ratios. (A)(B) BA:B=200 mM:200 mM; (C)(D) BA:B=200 mM:400 mM; (E)(F) BA:B=200 mM:800 mM.

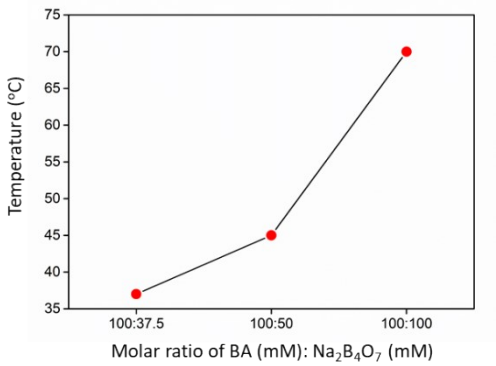

Fig. S4 The the critical gelation temperature of BA/ $Na_2B_4O_7$ hydrogel at different ratios.

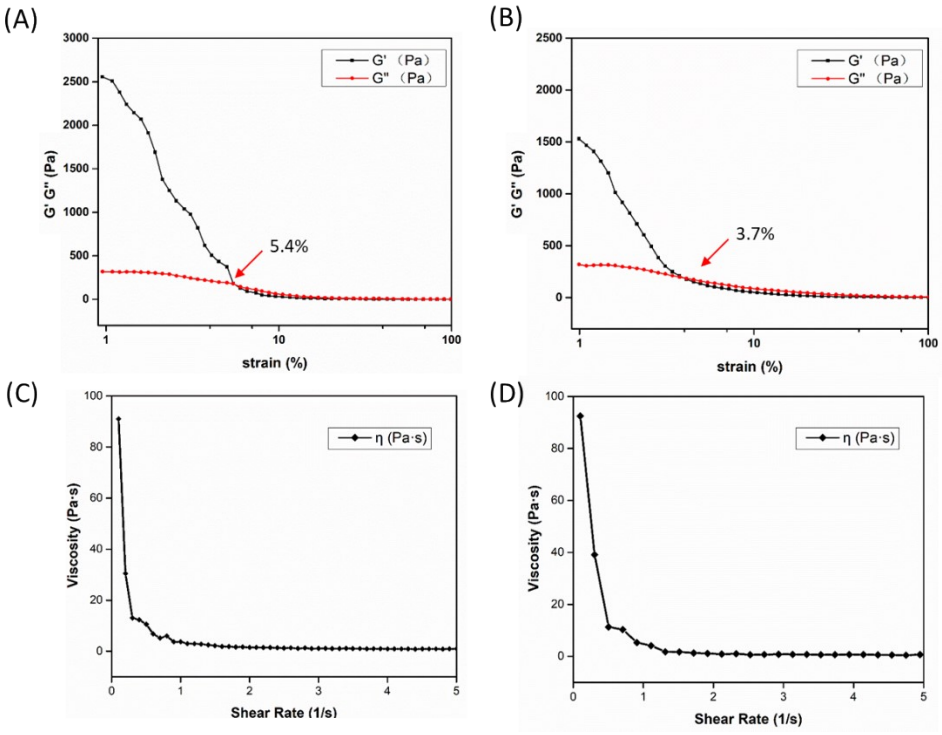

Fig. S5 Rheological tests of BA hydrogel at 30 °C and 40 °C respectively. G′ and G″ of hydrogel as a function of strain at a frequency of 1 Hz at 30 °C (A) and 40 °C (B); (B) Viscosity with the change of shear rate at 30 °C (C) and 40 °C (D).

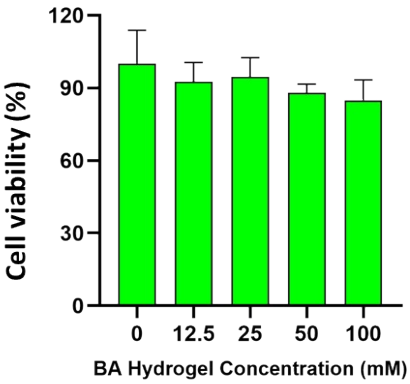

Fig. S6 Cell viability under different BA hydrogel concentration.