

Supplementary Information

A multifunctional substance P-conjugated chitosan hydrochloride hydrogel accelerates full-thickness wound healing by enhancing synchronized vascularization, extracellular matrix deposition, and nerve regeneration

Hao Li ^a, Mengna Li ^b, Pei Liu ^a, Kaiyang Wang ^a, Haoyu Fang ^a, Junhui Yin ^c, Daoyu Zhu ^a, Qianhao Yang ^a, Junjie Gao ^{a,c}, Qinfei Ke ^b, Hongping Yu ^{*a,d}, Yaping Guo ^{*b}, Youshui Gao ^{*a}, Changqing Zhang ^a

^a Department of Orthopaedic Surgery, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, Shanghai 200233, China

^b The Education Ministry Key Lab of Resource Chemistry and Shanghai Key Laboratory of Rare Earth Functional Materials, Shanghai Normal University, Shanghai 200234, China

^c Institute of Microsurgery on Extremities, Shanghai Jiao Tong University Affiliated Sixth People's Hospital, Shanghai 200233, China

^d The First Affiliated Hospital of Xiamen University, Xiamen 361005, China

Hao Li and Mengna Li contributed equally to this work.

* Corresponding authors.

E-mail addresses: yuhp09@126.com (H. Yu), ypguo@shnu.edu.cn (Y. Guo), gaoyoushui@sjtu.edu.cn (Y. Gao)

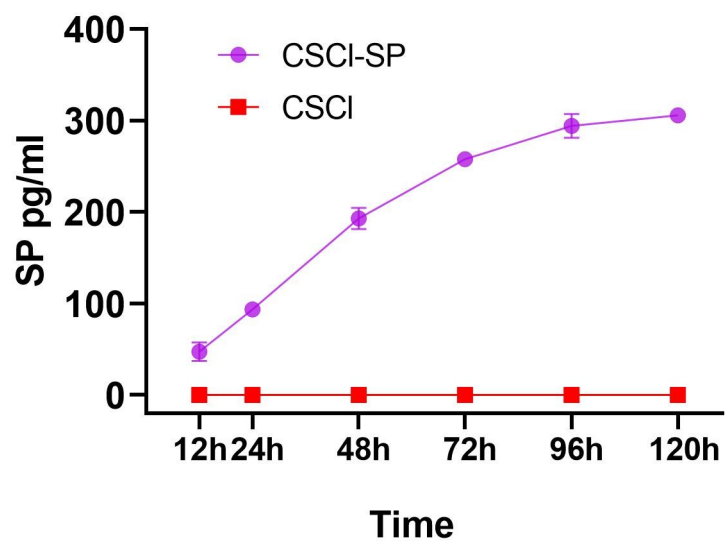


Fig. S1 Release rates and release profiles of CSCI and CSCI-SP.

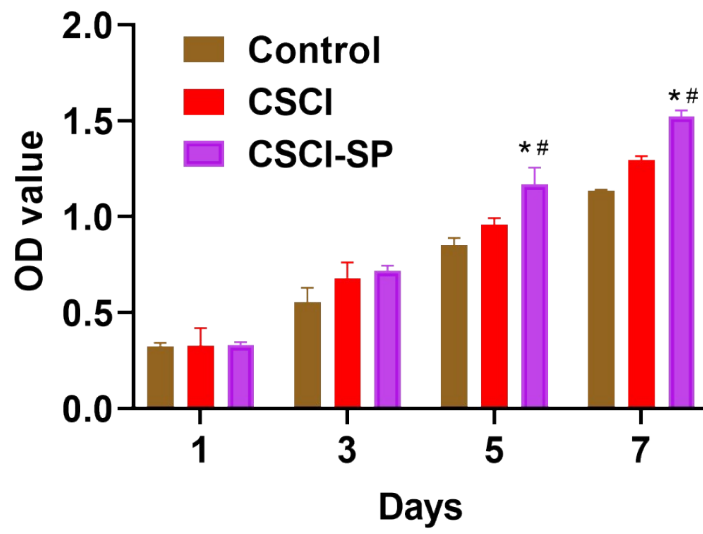


Fig. S2 Effects of dissolution products on the proliferation of HUVECs. CSCI-SP hydrogel significantly promoted the proliferation of HUVECs on day 5 and 7. # indicates significant differences between the CSCI hydrogel and CSCI-SP hydrogel. * $P < 0.05$, # $P < 0.05$

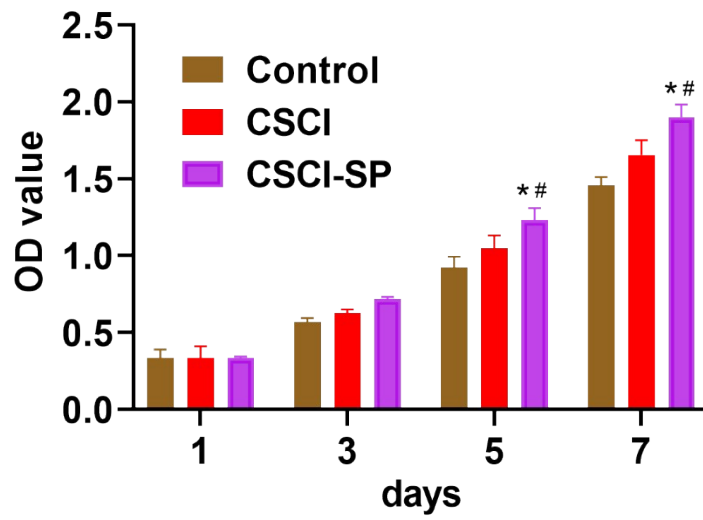


Fig. S3 Effects of dissolution products on the proliferation of fibroblasts. CSCI-SP hydrogel significantly promoted the proliferation of fibroblasts on day 5 and 7. # indicates significant differences between the CSCI hydrogel and CSCI-SP hydrogel. * $P < 0.05$, # $P < 0.05$.

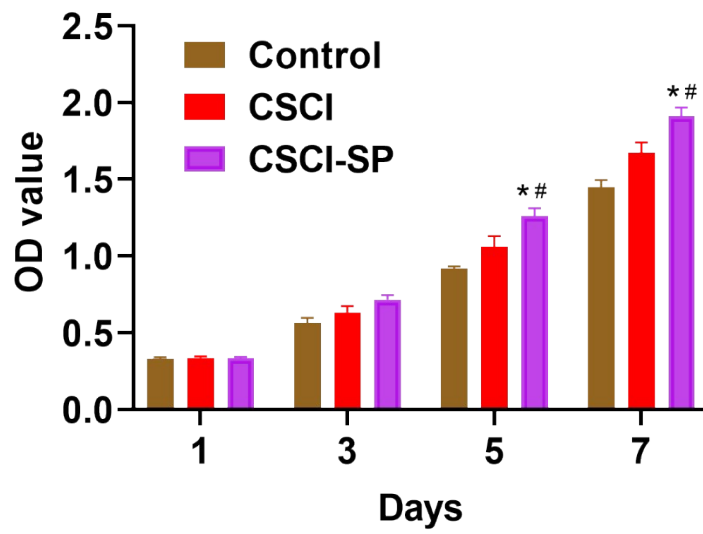


Fig. S4 Effects of dissolution products on the proliferation of Neuro 2A cells. CSCI-SP hydrogel significantly promoted the proliferation of Neuro 2A cells on day 5 and 7. # indicates significant differences between the CSCI hydrogel and CSCI-SP hydrogel. * $P < 0.05$, # $P < 0.05$.