Supporting Information

Fabrication of Silk Scaffolds with Nano-Microscaled Structures and Tunable Stiffness

Liying Xiao[a,#], Shanshan Liu[b,#], Danyu Yao[a], Zhaozhao Ding[a], Zhihai Fan[c], Qiang Lu[a,*], David L Kaplan[d]

[a]National Engineering Laboratory for Modern Silk & Collaborative Innovation Center of Suzhou Nano Science and Technology, Soochow University, Suzhou 215123, People's Republic of China

[b]School of Medicine, Shenzhen University, Shenzhen 518060, People's Republic of China

[c]Department of Orthopedics, The Second Affiliated Hospital of Soochow University, Suzhou 215000, People's Republic of China

[d]Department of Biomedical Engineering, Tufts University, Medford, MA 02155, USA

Corresponding author:

Qiang Lu, Tel: (+86)-512-67061649; E-mail: Lvqiang78@suda.edu.cn

[#] The authors have contributed equally to the first author

Experimental Section

SEM

The morphology of the scaffolds was observed using scanning electron microscopy (SEM, Hitachi S-4800, Hitachi, Tokyo, Japan) at 3 kV. Samples were mounted on a copper plate and sputter-coated with gold prior to imaging.[1]

Silk Dissolution

The scaffolds were incubated in phosphate saline (PBS) at 37 °C to evaluate degradation behaviors.[2, 3, 4] Samples (40 ± 5 mg) were soaked in PBS solution at scaffold/solution weight ratios of 1:99. At designated time points (1, 3, 6, 9, and 12 days), five samples for each group were rinsed with distilled water and prepared for mass balance assessment.

Results

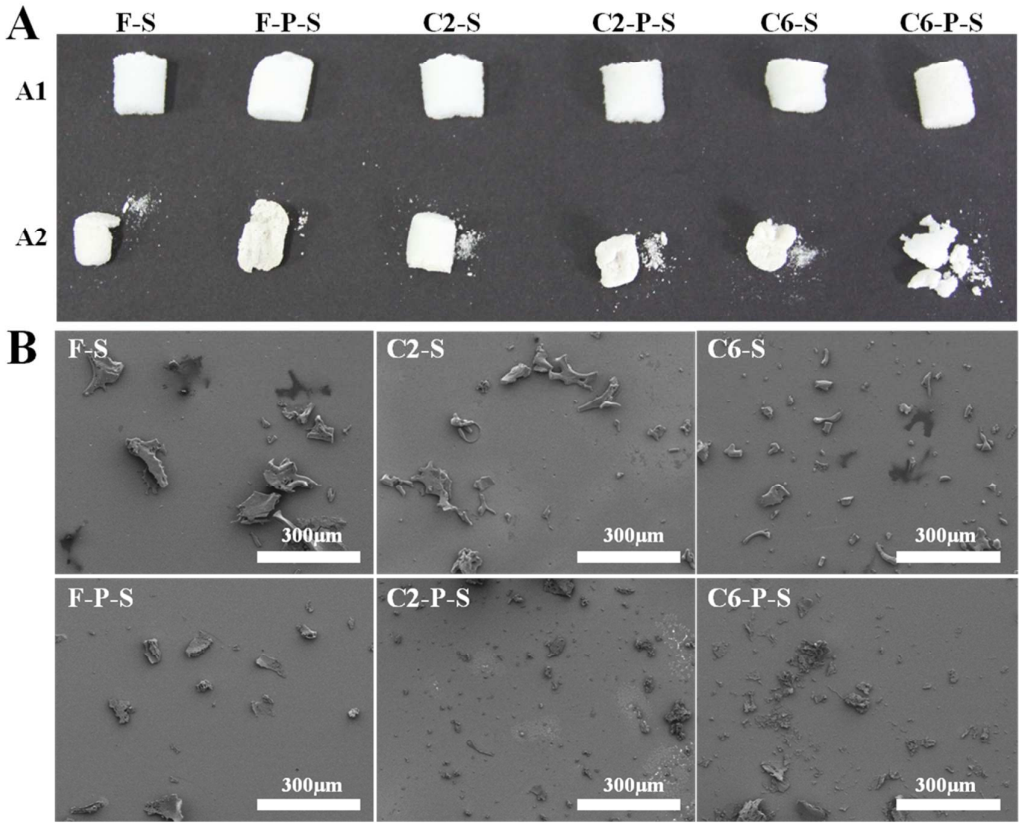

Figure S1. Macroscopic view of the silk scaffolds before (A1) and after cultured in PBS solution for 9 d at 37□ (A2); SEM image of the powder exfoliated from silk scaffolds after 9 d at 37□ (B). The samples were as follows: F-S, silk scaffolds prepared by salt-leaching process; F-P-S, silk scaffolds derived from silk solution with pH adjustment; C2-S, silk scaffolds derived from fast concentrated silk solution; C2-P-S, silk scaffolds derived from fast concentrated silk solution with pH adjustment; C6-S, silk scaffolds derived from slowly concentrated silk solution; C6-P-S, silk scaffolds derived from slowly concentrated silk solution with pH adjustment.

Supporting Information References

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