Supporting Information

Rapid printing of 3D porous scaffolds for breast reconstruction

Pengcheng Zhao[a,b], Biling Wang[a], Lu Wang[b], Zexin Fu[b], Jun Hu[a], Yande Liu[a,*], Ji Wang[b,*], Yong He[c,*]

a School of Mechatronics & Vehicle Engineering, East China Jiaotong University, Nanchang 330013, China

b Center for Plastic & Reconstructive Surgery, Department of Plastic & Reconstructive Surgery, Zhejiang Provincial People's Hospital (Affiliated People's Hospital, Hangzhou Medical College), Hangzhou 310014, China

c Key Laboratory of 3D Printing Process and Equipment of Zhejiang Province, School of Mechanical Engineering, Zhejiang University, Hangzhou 310027, China

*Corresponding author

Corresponding authors' e-mail addresses:

*Yong He：yongqin@zju.edu.cn

*Ji Wang：jiwang1004@zju.edu.cn

*Yande Liu：jxliuyd@163.com

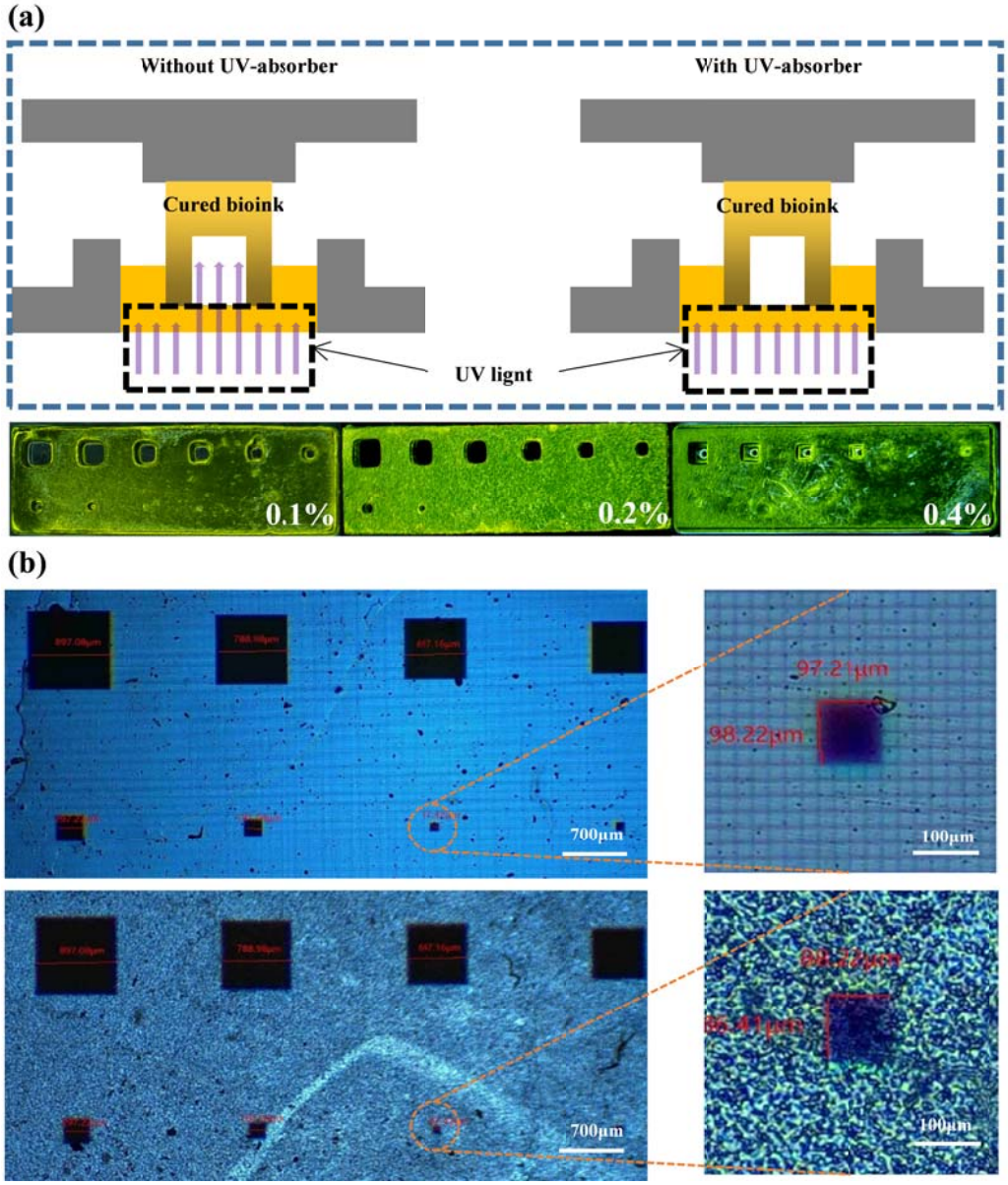

Figure S1. The most important factor affecting the printing accuracy. (a) Effect of adding different concentrations of UV-absorber on the printing accuracy. (b) The projection contrast diagram of smooth glass and rough glass troughs clearly showed that the projection accuracy of smooth glass is higher, and each pixel can be distinguished.

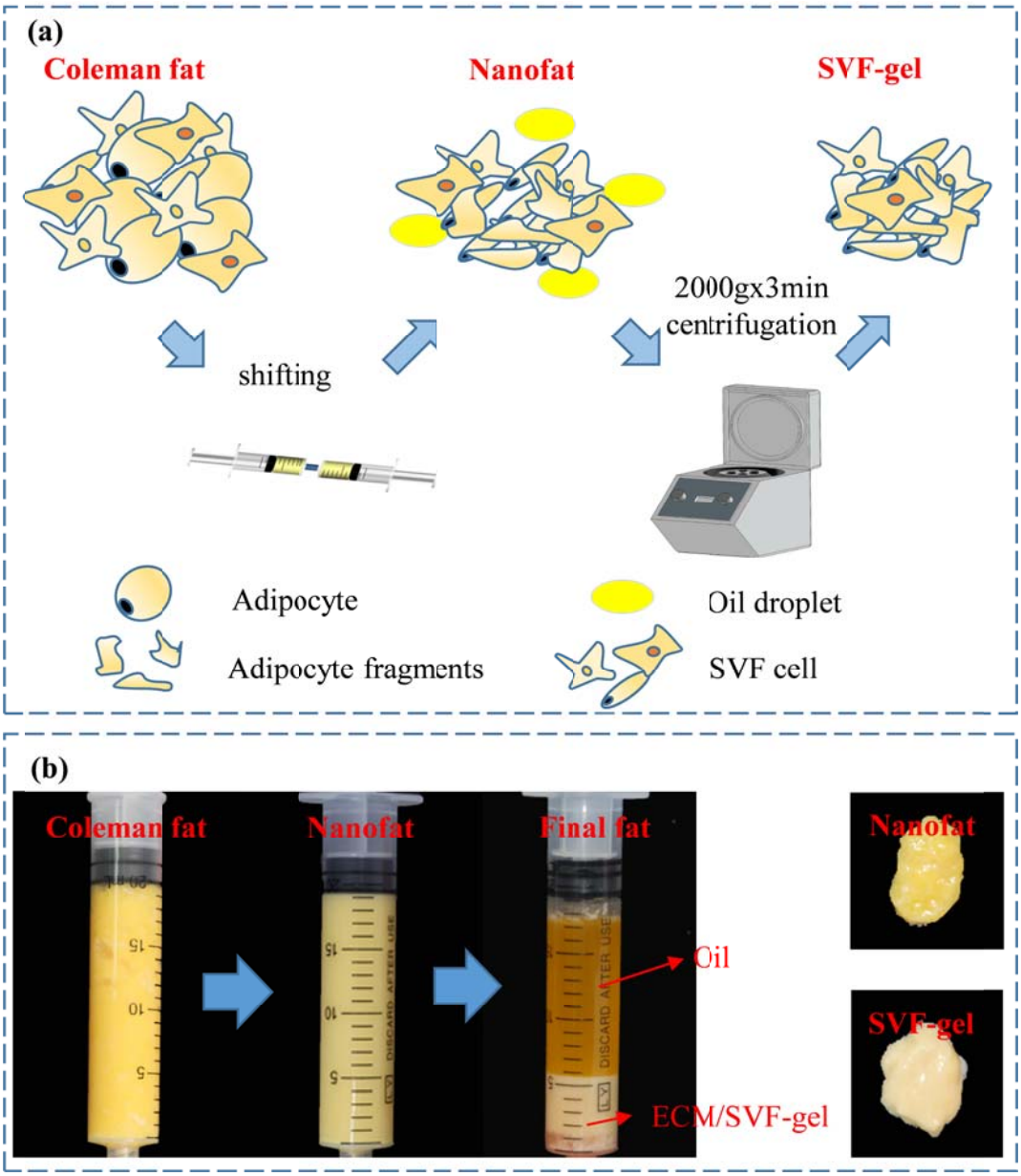

Figure S2. Fat harvesting. (a) Schematic diagram of obtaining SVF gels. Coleman fat was emulsified by shifting several times to obtain nanofat. The obtained nanofat was centrifuged at 2000 g for 3 min, and the centrifuged fat was degreased to obtain the SVF gels we needed. (b) The process of obtaining SVF-gels and the comparison between nanofat and SVF-gels.

According to previous studies, we found that SVF-gels have the best fat retention rate, and cause the least inflammation after implantation. So we used this fat as the component of our prosthesis.

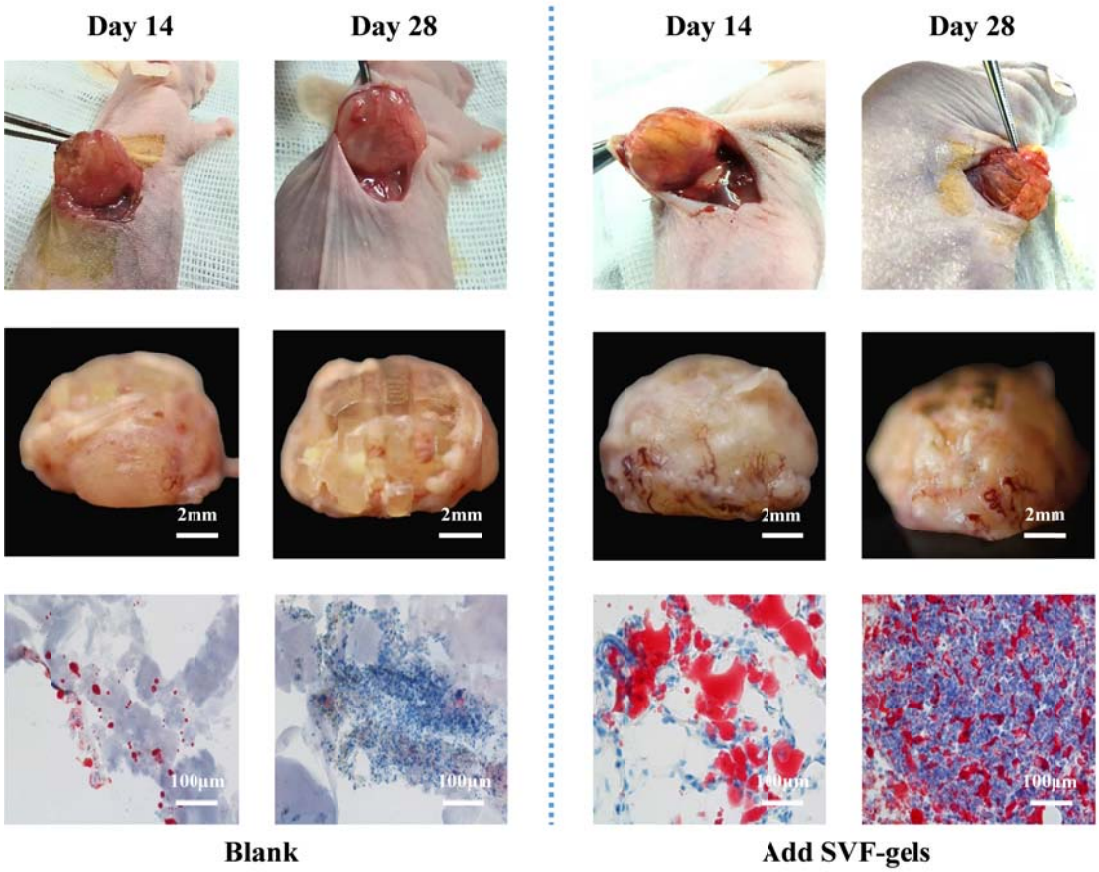

Figure S3. Oil red O staining. Oil red O staining was used to observe the fat derived from the prosthesis on day 14 and day 28.