

RESEARCH ARTICLE

Biological 3D-printed viscoelastic scaffolds with controllable stress relaxation rates

Supplementary File
Table S1. Half-stress relaxation times of SL-gelatin scaffolds at different porosity levels and angles

Half-stress relaxation time (s)		Porosity (%)		
		50	60	70
Angle (°)	90	44.063 ± 2.883	37.067 ± 10.52	33.703 ± 5.869
	60	38.711 ± 2.790	25.757 ± 2.440	25.613 ± 3.400
	45	29.558 ± 2.115	25.600 ± 2.662	23.263 ± 2.451

Abbreviation: SL, the crystalline silk fibroin fiber solution.

Table S2. Half-stress relaxation times of SL-gelatin scaffolds under varying filament diameters and porosity levels

Half-stress relaxation time (s)		Filament diameter (mm)		
		0.7	0.9	1.1
Porosity (%)	50	19.182 ± 6.064	28.210 ± 2.243	44.063 ± 2.883
	60	17.603 ± 1.981	26.312 ± 3.786	37.067 ± 10.520
	70	20.679 ± 2.777	25.360 ± 5.140	33.703 ± 5.869

Abbreviation: SL, the crystalline silk fibroin fiber solution.

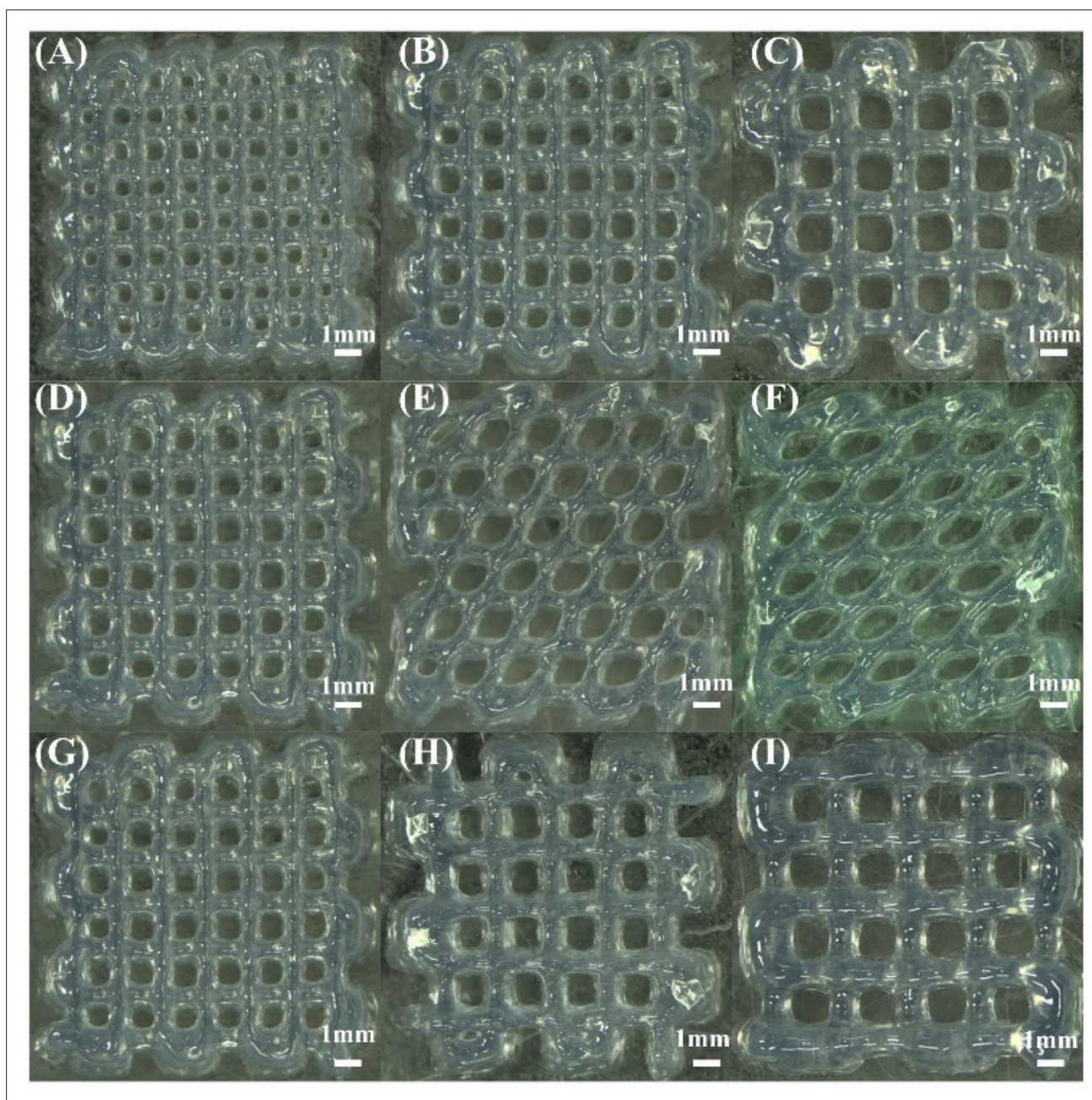


Figure S1. Optical images of scaffolds with different printing parameters. (A–C) Optical images of scaffolds with varying porosities: 50% (A), 60% (B), and 70% (C). (D–E) Optical images of scaffolds with different printing angles: 90° (A), 60° (B), and 45° (C). (G–I) Optical images of scaffolds with different filament diameters: 0.7 mm (G), 0.9 mm (H), and 1.1 mm (I). Scale bars: 1 mm (A–I).