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Rapid and cytocompatible cell-laden silk hydrogel formation via riboflavin-mediated crosslinking

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Table S1 Mesh size and crosslink density determined using the rubber elasticity theory.

Sample ID	ξ nm	n_e mol/m³
Silk_6%	11.2 (±0.6)	1.19(±0.2)
Silk_8%	12.6 (±0.7)	0.84 (±0.1)
Silk_10%	12.4 (±0.3)	0.87 (±0.1)
Silk_SPS 10	14.0 (±2)	0.65 (±0.2)
Silk_SPS 20	12.6 (±0.7)	0.85 (±0.1)
Silk_SPS 40	14.4 (±0.2)	0.56 (±0.02)

ξ: mesh size

n_e= crosslinks density

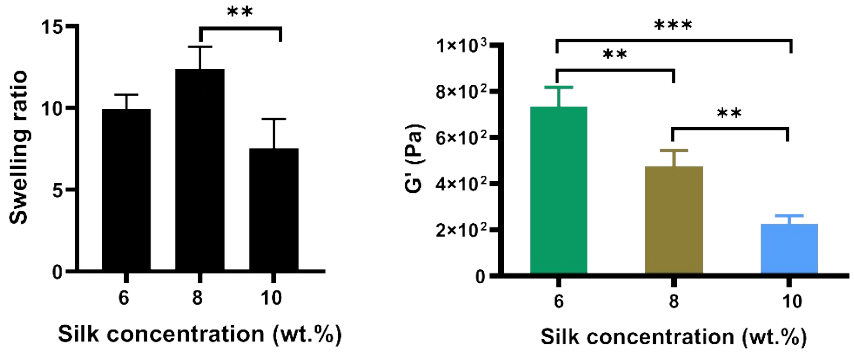

Fig. S1. (A) Swelling ratio of silk fibroin hydrogels prepared by varying silk fibroin content with RB 2mM and SPS 20 mM. (B) Shear elastic modulus of silk fibroin hydrogel at t=25 min. Data are presented as mean (n = 3-4) with standard deviation as error bars (statistical analysis: one-way ANOVA with Tukey's post-hoc analysis, **p < 0.01, ***p < 0.001).

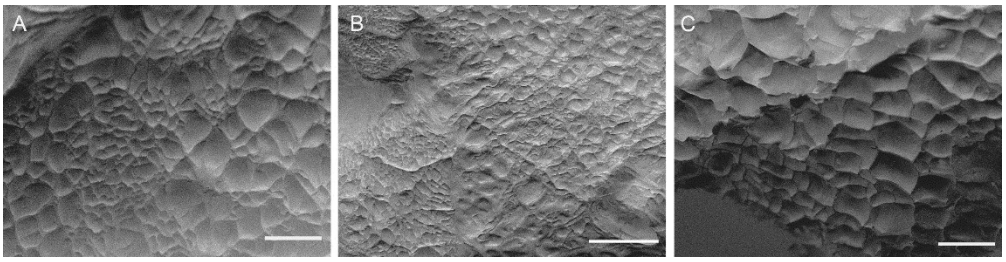

Fig. S2. Scanning Electron Microscopy (SEM) images of silk fibroin hydrogels at 6% (A), 8% (B) and 10% (C). Scale bar 100 µm. Samples were prepared by freeze-drying silk hydrogels for 2 days, followed by coating with gold (8nm) and imaged using a Phenom SEM.

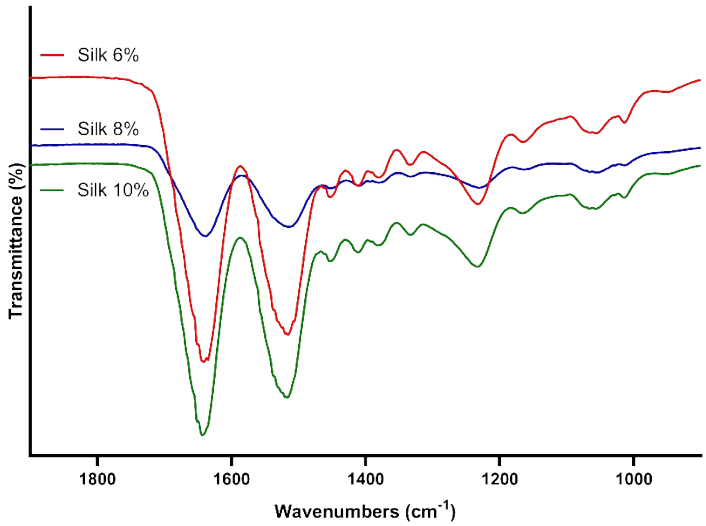

Fig. S3. FTIR spectra of freeze-dried silk fibroin hydrogels with silk fibroin content of 6%, 8% and 10%. Samples were prepared by freeze-drying silk hydrogels for 2 days. Their secondary structure was analyzed using a Perkin Elmer spectrum two FT-IR spectrometer.