

## Supplementary Information for

# **Fabrication of Silk Hydrogel Scaffolds with Aligned Porous Structures and Tunable Mechanical Properties**

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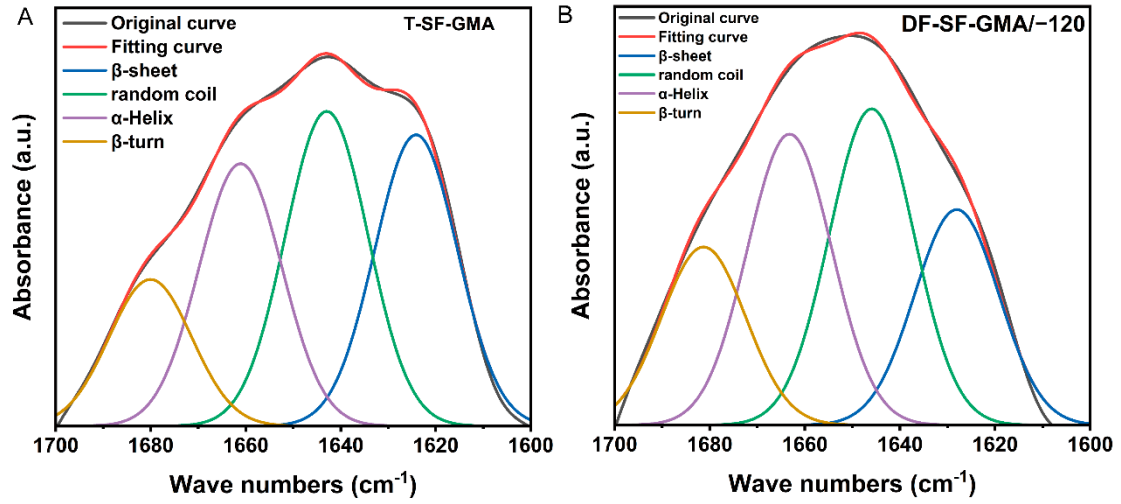


Figure S1. The deconvolution of FTIR spectra for the amide I band for (A) T-SF-GMA and (B) DF-SF-GMA/-120 hydrogels.

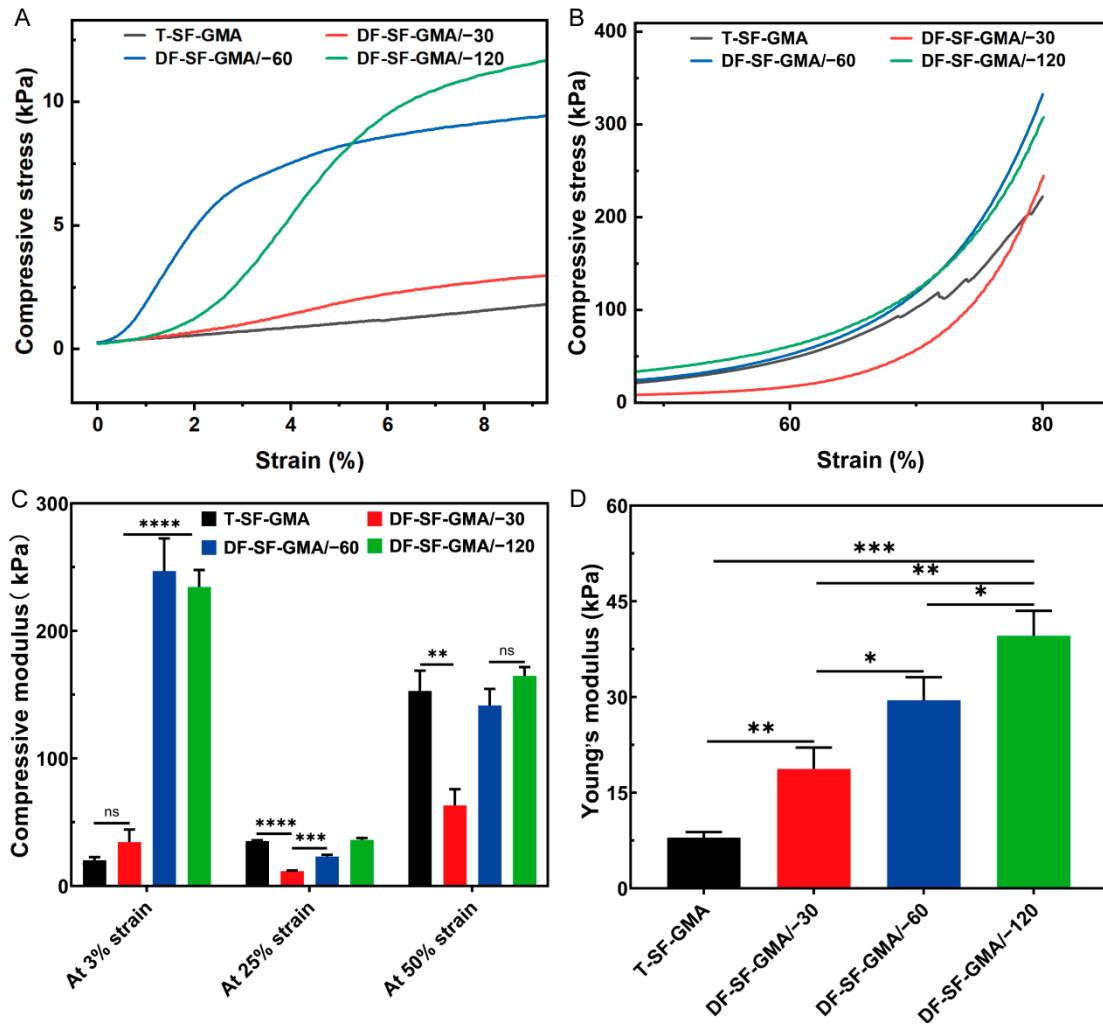


Figure S2. Physical properties of DF-SF-GMA hydrogels. The compressive stress-strain curves at early (A) and late stage (B). (C) The compressive modulus of all the hydrogels at different strains. The compressive modulus of DF-SF-GMA/-60 and DF-SF-GMA/-120 were much

higher than other groups. (D) Tensile elastic modulus of T-SF-GMA and DF-SF-GMA hydrogels (\*  $P < 0.05$ ; \*\*  $P < 0.01$ ; \*\*\*  $P < 0.001$ ; and \*\*\*\*  $P < 0.0001$ ,  $n = 3$ ).

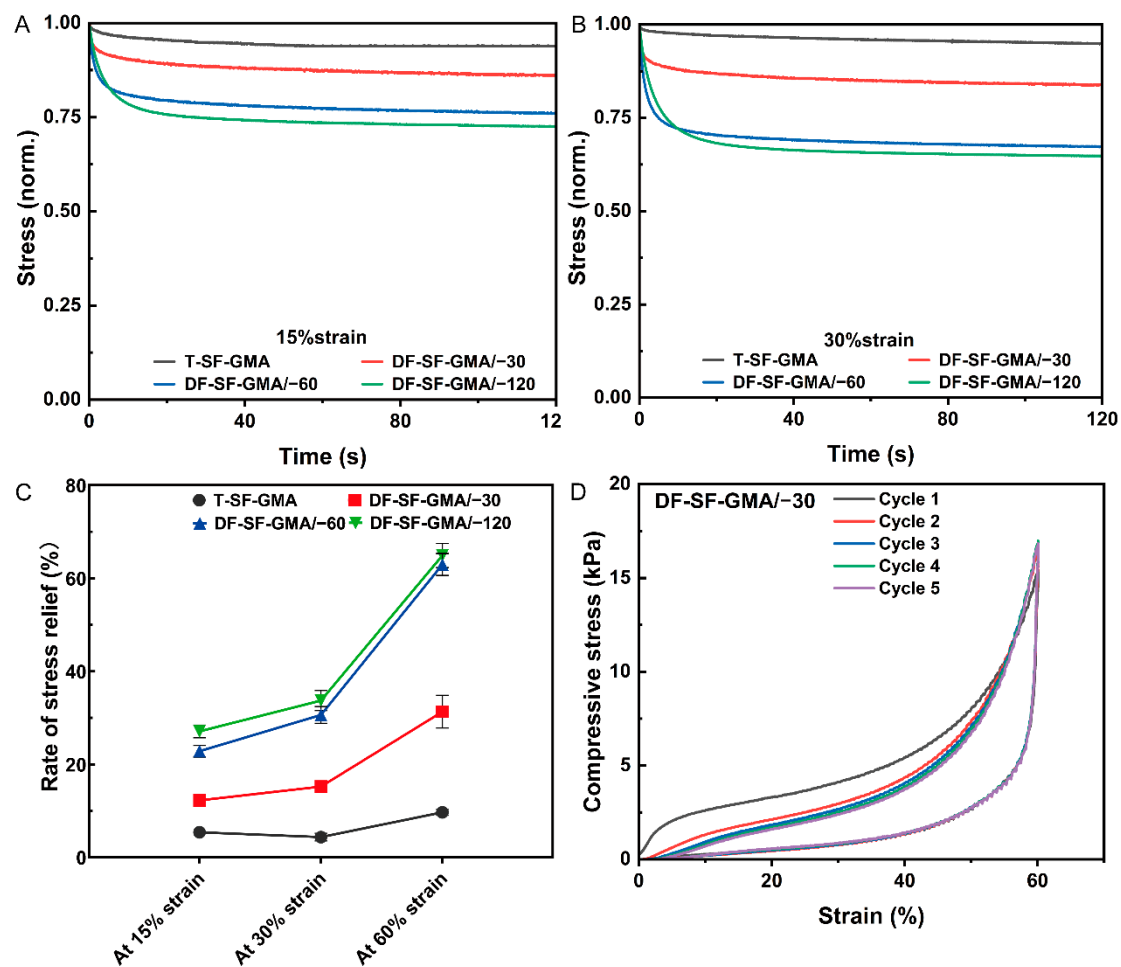


Figure S3. Viscoelastic properties of T-SF-GMA and DF-SF-GMA hydrogels. Stress relaxation test of T-SF-GMA and DF-SF-GMA hydrogels at a strain of (A) 15% and (B) 30%. Stress is normalized by the initial stress. (C) The ratio of relaxed stress to initial stress at 60 s. (D) Cyclic compression test of DF-SF-GMA/-30 hydrogels under 60% strain.