

Self-Assembling Oxidized Silk Fibroin Nanofibrils with Controllable Fractal Dimension

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Supporting Information

Figure S1, The titration curve of chitosan

Figure S2, Viscosity of chitosan (1 wt %, dissolving in 1% acetic acid) solution for layer-by-layer coating

Figure S3 SEM observation for the surface of composite membranes

Figure S4, SEM observation for the cross-section of composite membranes

Figure S5, Viscosity of 0.2 wt% SF and 0.2 wt% OxSF solution

Figure S6, The mechanical properties of chitosan and SF-chitosan composite membranes

Figure S7, The ANOVA tests of hardness and modulus for OxSF-chitosan composite membranes.

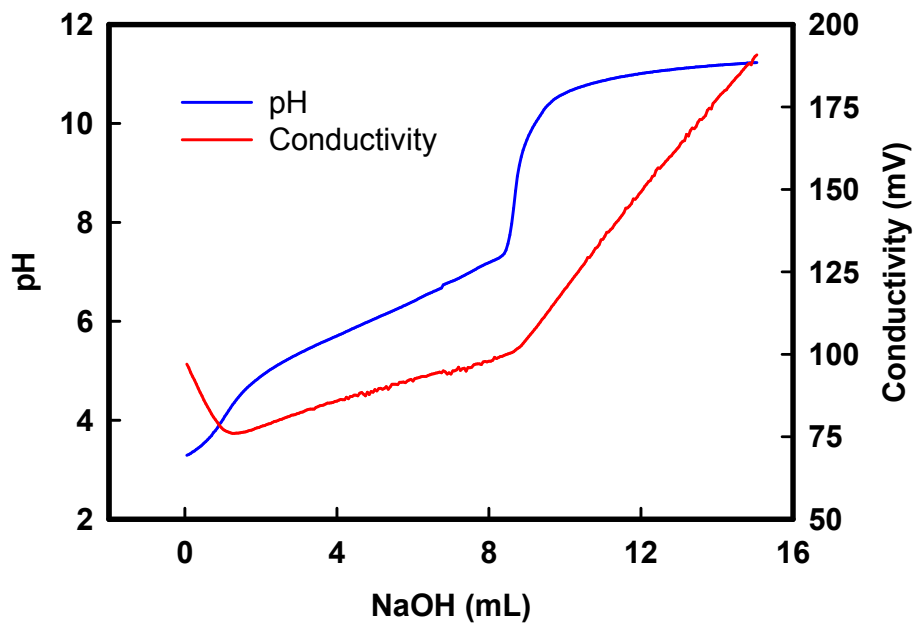


Figure S1, The titration curve of the commercial chitosan (Sigma, medium molecular weight, MSDS 448877)

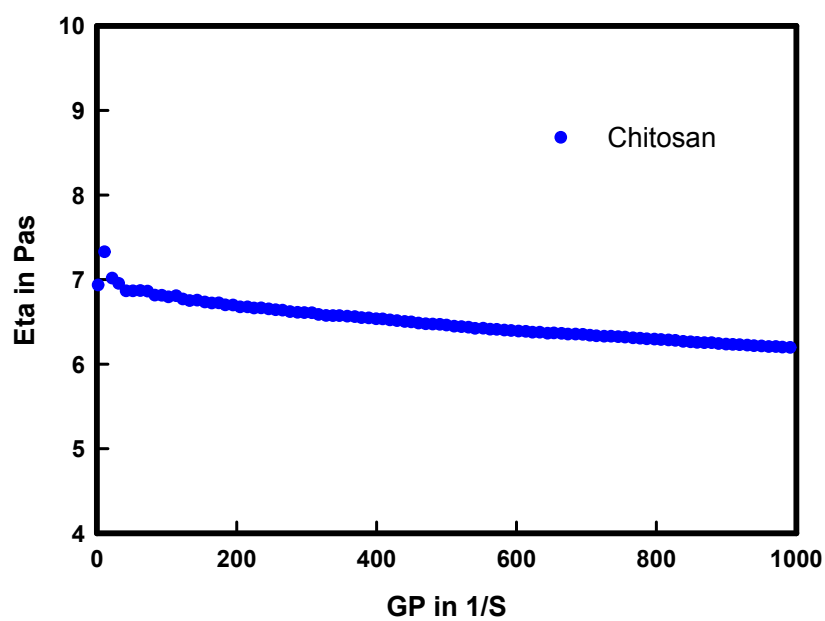


Figure S2, Viscosity of chitosan (1 wt %, dissolving in 1% acetic acid) solution for layer-by-layer coating

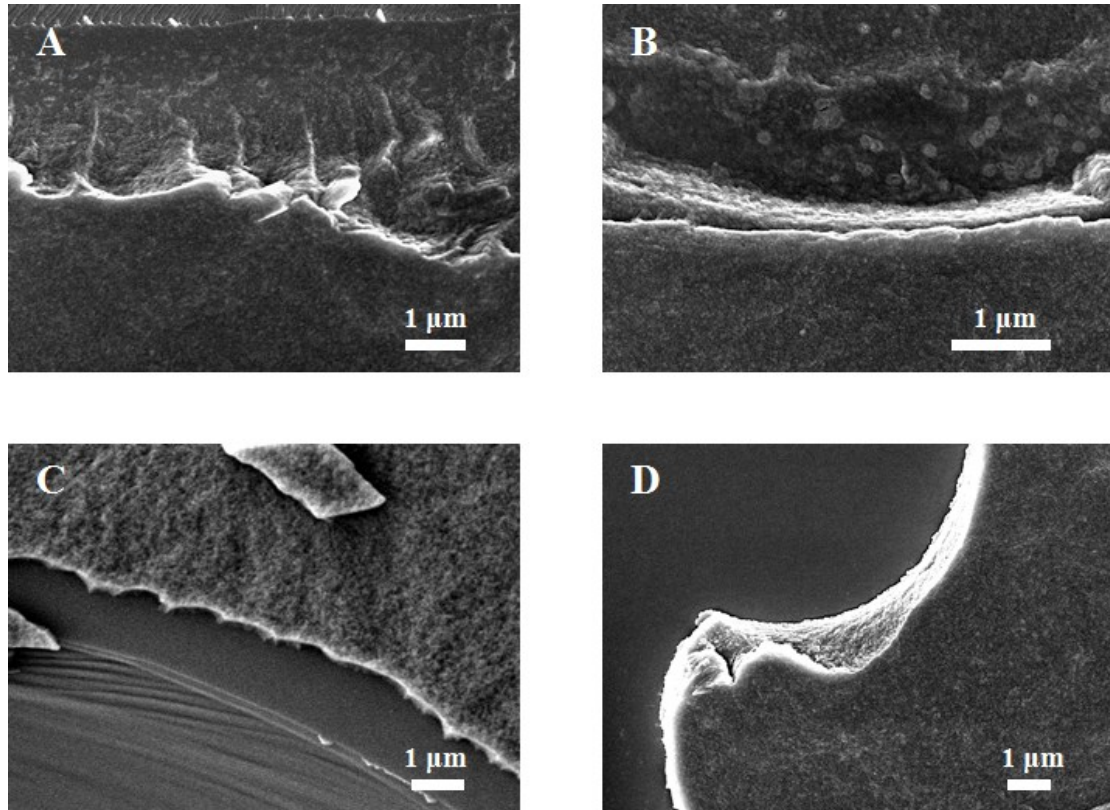


Figure S3. The SEM observation for the surface of (A) chitosan membrane, (B) SF-chitosan membrane, (C) 0.5 mM OxSF-chitosan membrane, and (D) 2 mM OxSF-chitosan membrane, respectively.

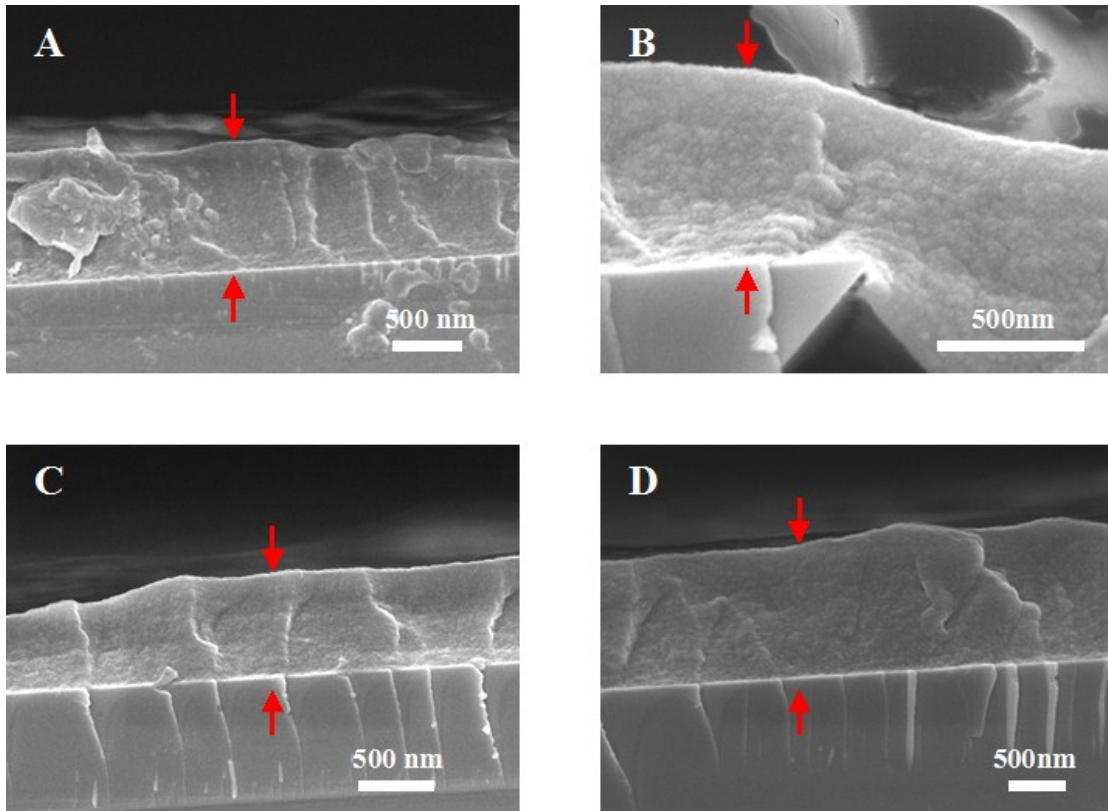


Figure S4. The SEM observation for the cross-section of (A) chitosan membrane, (B) SF-chitosan membrane, (C) 0.5 mM OxSF-chitosan membrane, and (D) 2 mM OxSF-chitosan membrane, respectively. The thickness of the as prepared composite films were both over 600 nm (red arrows).

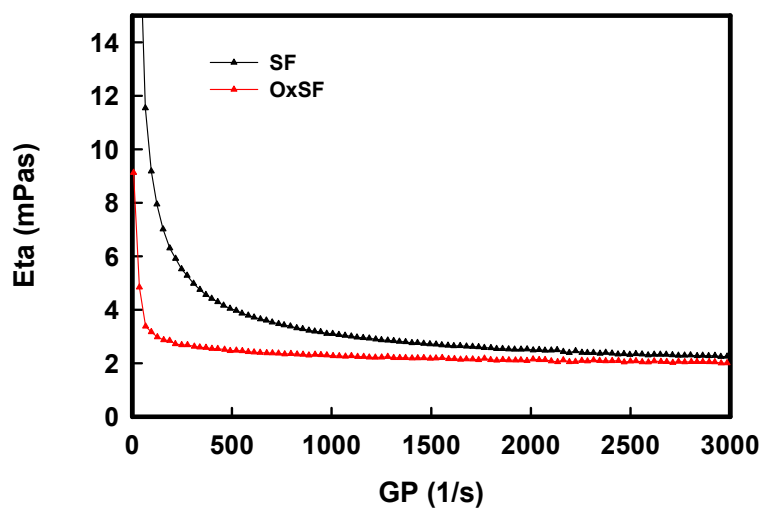


Figure S5. Viscosity of 0.2 wt% SF and 0.2 wt% OxSF solution.

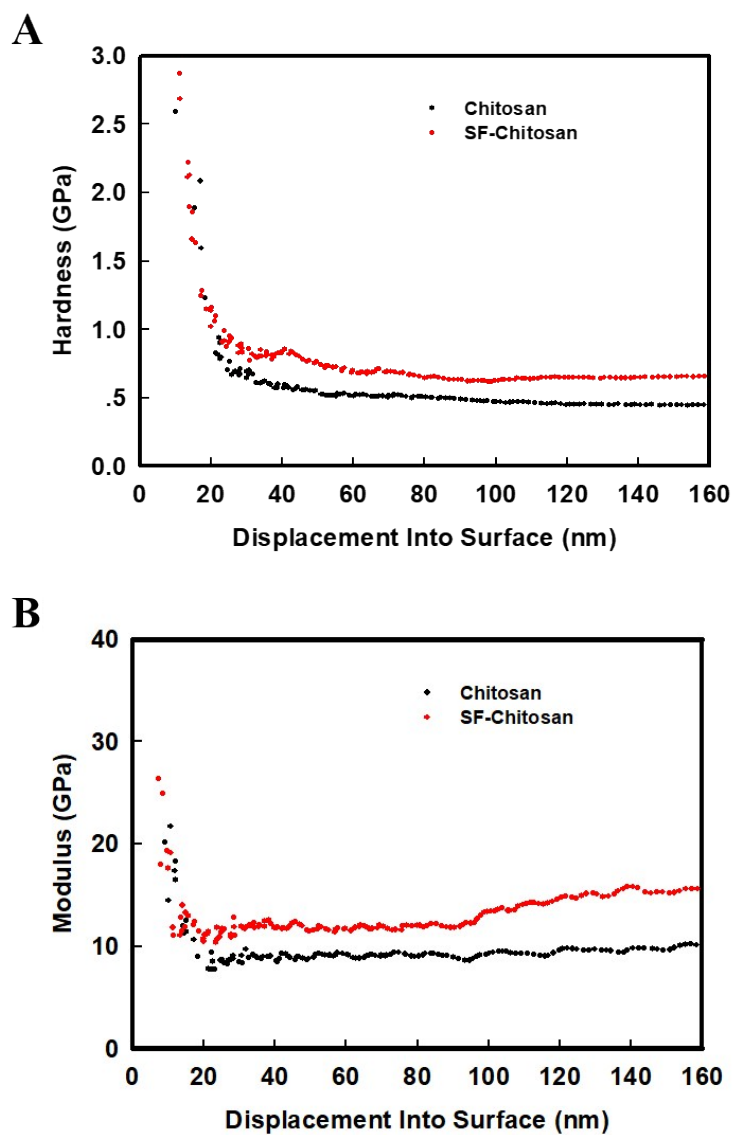


Figure S6. The (A) hardness and (B) modulus of chitosan and SF-chitosan composite membranes

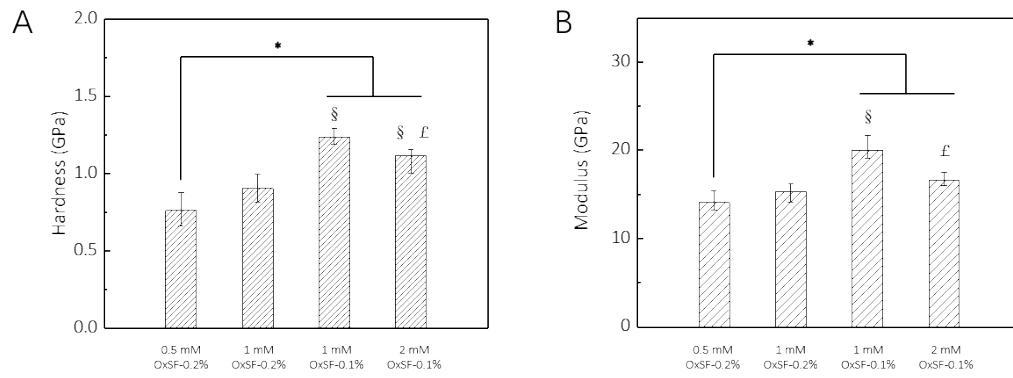


Figure S7, The ANOVA tests of hardness and modulus for OxSF-chitosan composite membranes. Data represent mean SD (n = 5), asterisk (*) means $p \leq 0.05$, symbol (§) denotes the p value of data ≤ 0.05 relative to 1 mM OxSF-0.2%, symbol (£) denotes the p value of data ≤ 0.05 relative to 1 mM OxSF-0.1%.