

Supporting Information

For

Overcoming Silk Fibroin Electrospinning Limitations: Ultra-High Surface Area Nanofibers and Microfilms Through Ethyl Cellulose-Assisted High-Speed Spinning

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Number of movies: 1

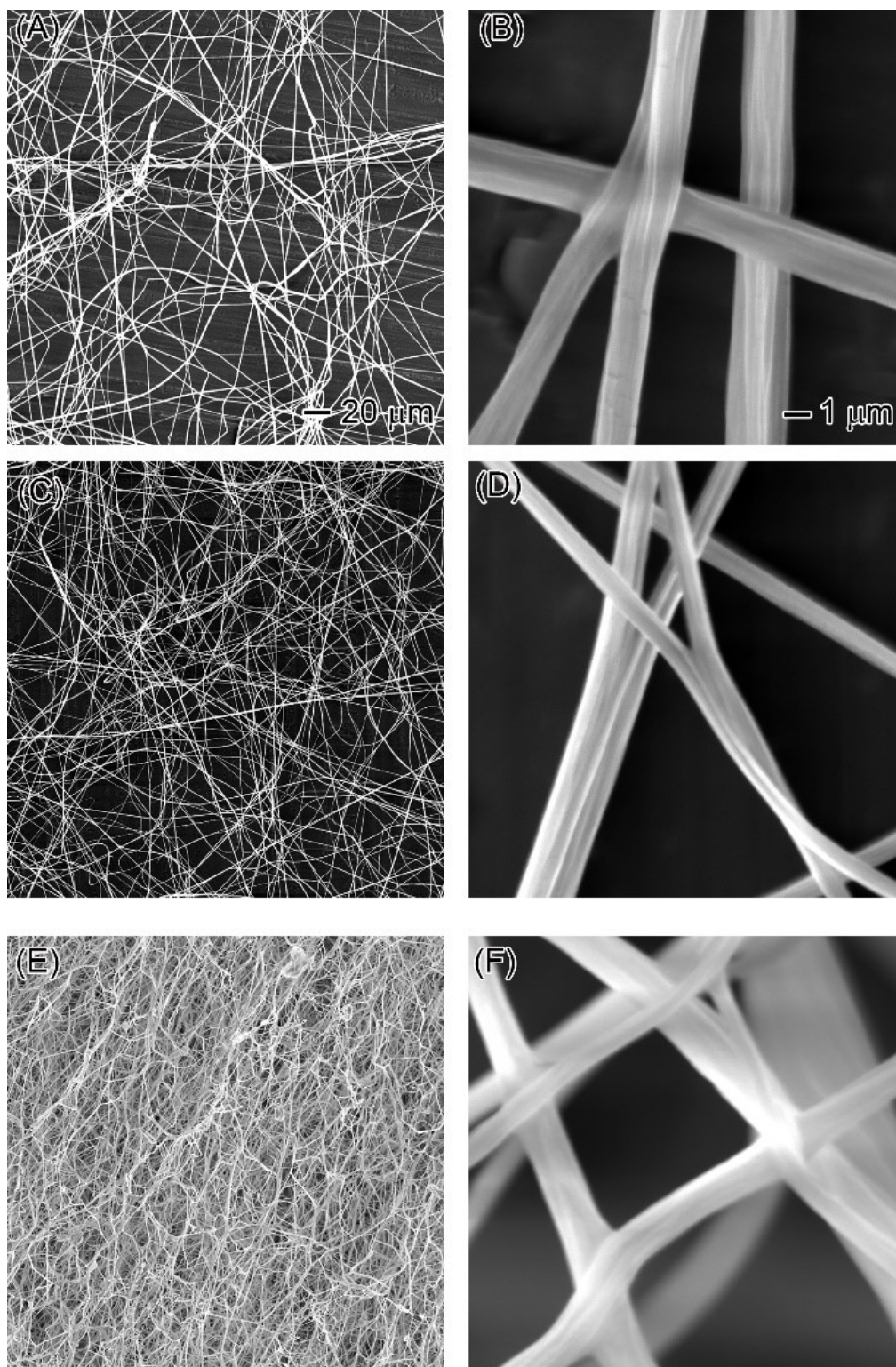


Figure S1. SEM images showing the morphology of EC-SF fibers at various concentrations of CaCl_2 : (A) 13%, (B) 26%, and (C) 52%. The scale bars in (A) and (B) also apply to the corresponding images in the same column.

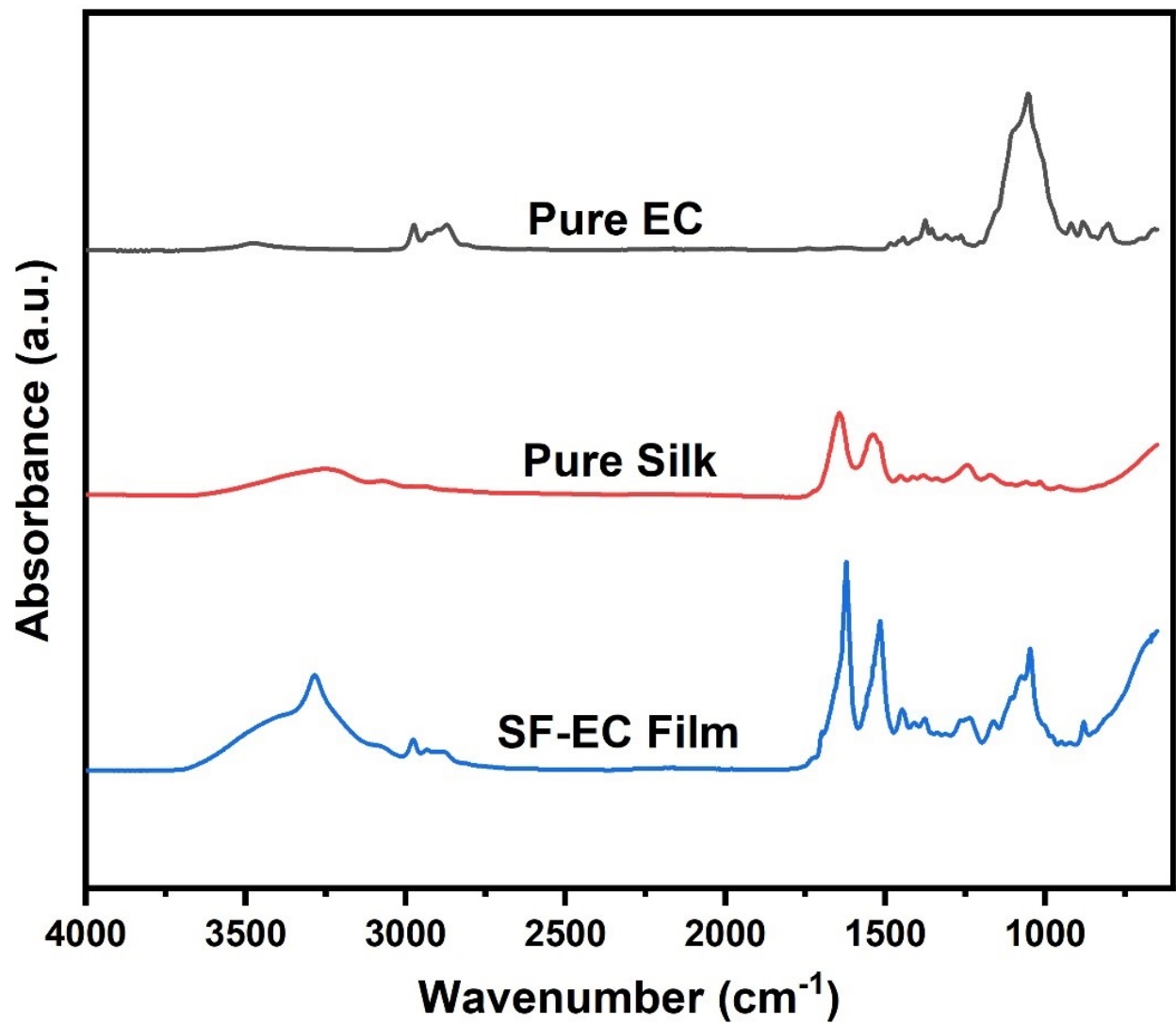


Figure S2. FTIR spectra of pure EC, pure silk, and EC-SF film.

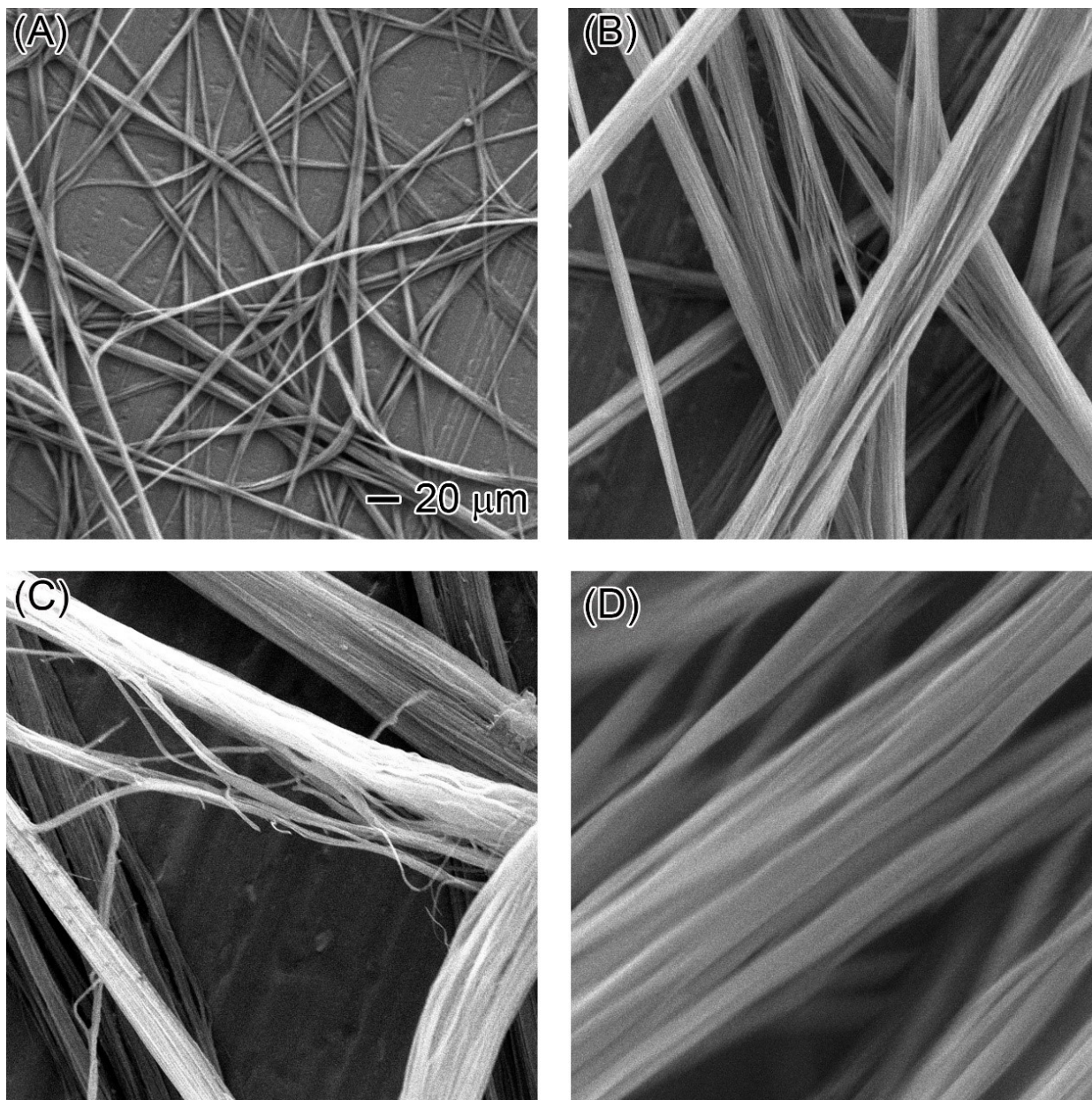


Figure S3. SEM images showing the morphology of SF nanofibers obtained after ethanol hot-steam treatment of EC-SF fibers.

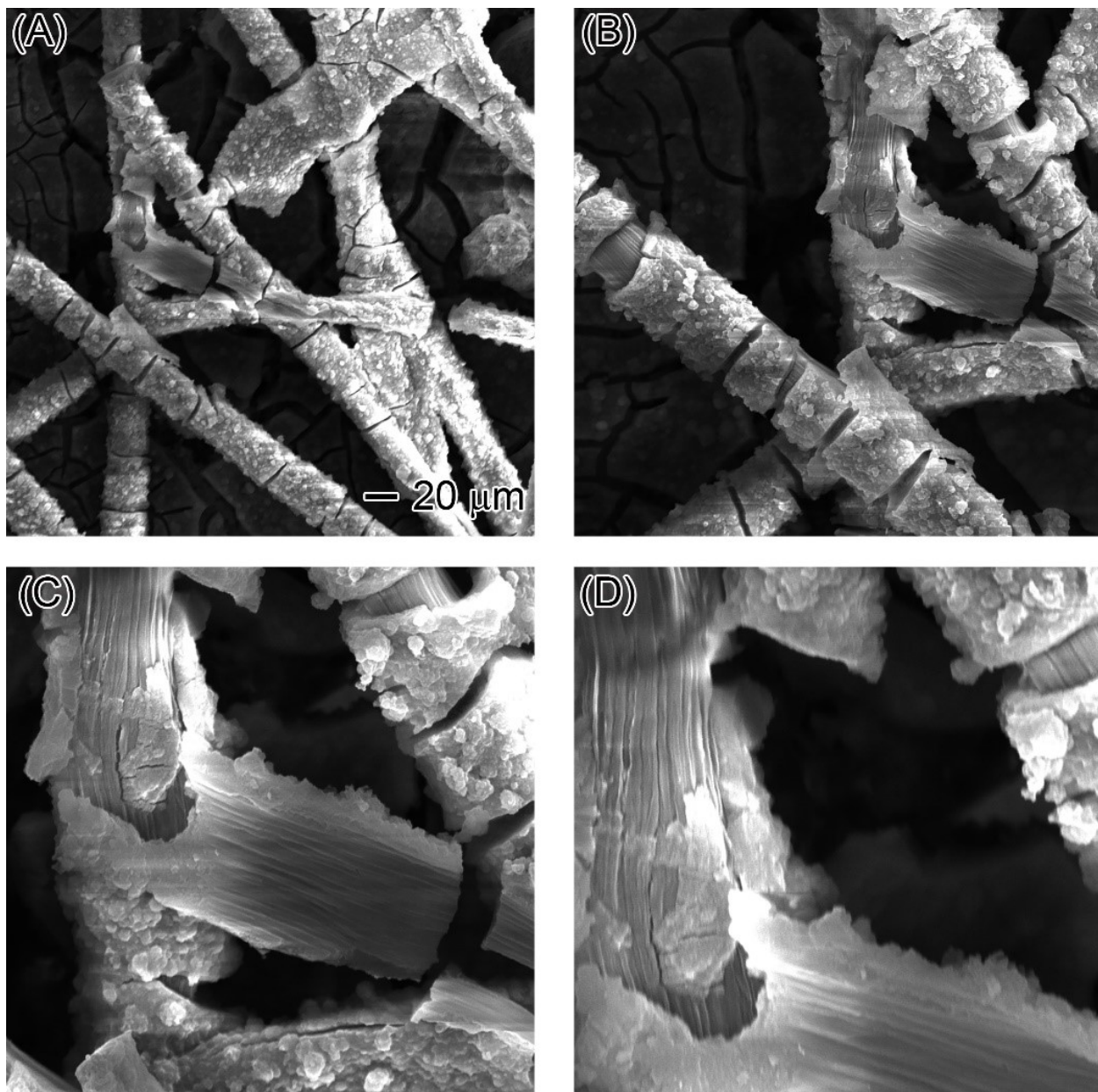


Figure S4. SEM images showing the morphology of SF nanofibers obtained after treating EC-SF fibers with insufficient ethanol. The scale bar in (A) also applies to other images.

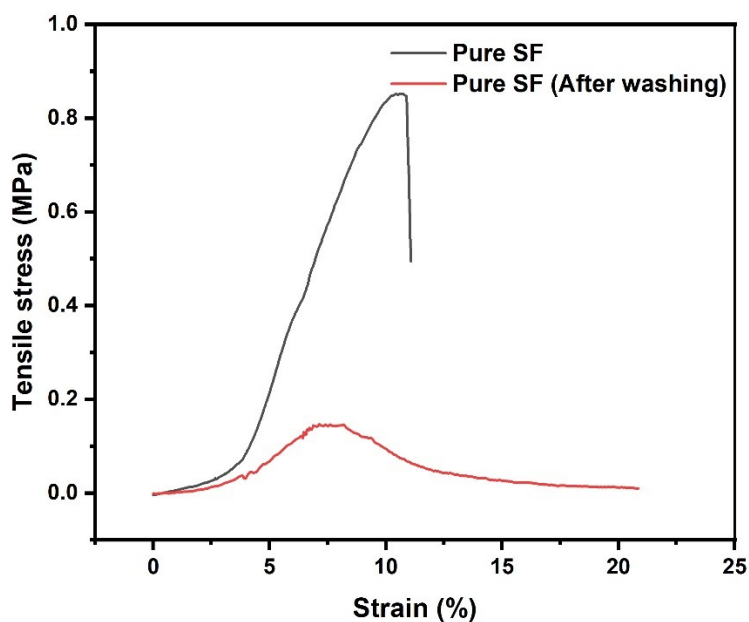


Figure S5. Tensile stress–strain curves of pure SF fibrous membranes before and after washing, showing that washing markedly reduced the tensile strength and mechanical integrity of the SF fiber network.

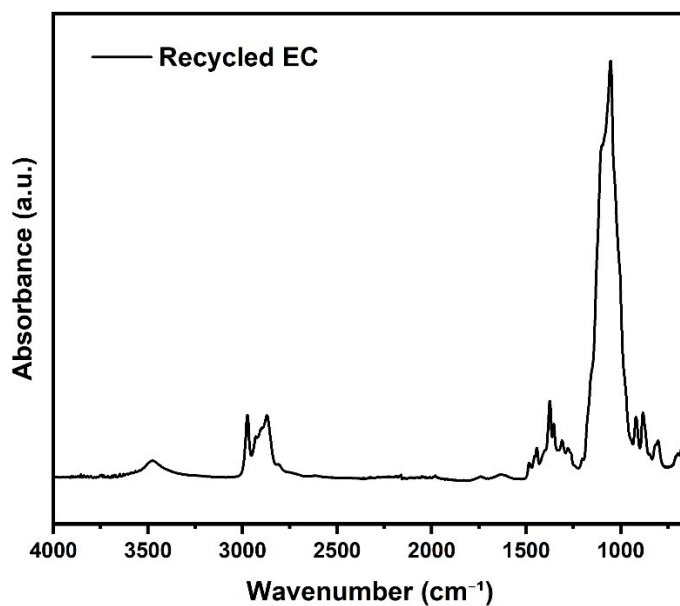


Figure S6. FTIR spectrum of recycled EC, confirming the retention of characteristic EC functional groups after recycling.



Movie S1. Dissolution of EC-SF composite fibers in 60% ethanol, forming EC-SF microfilms.