

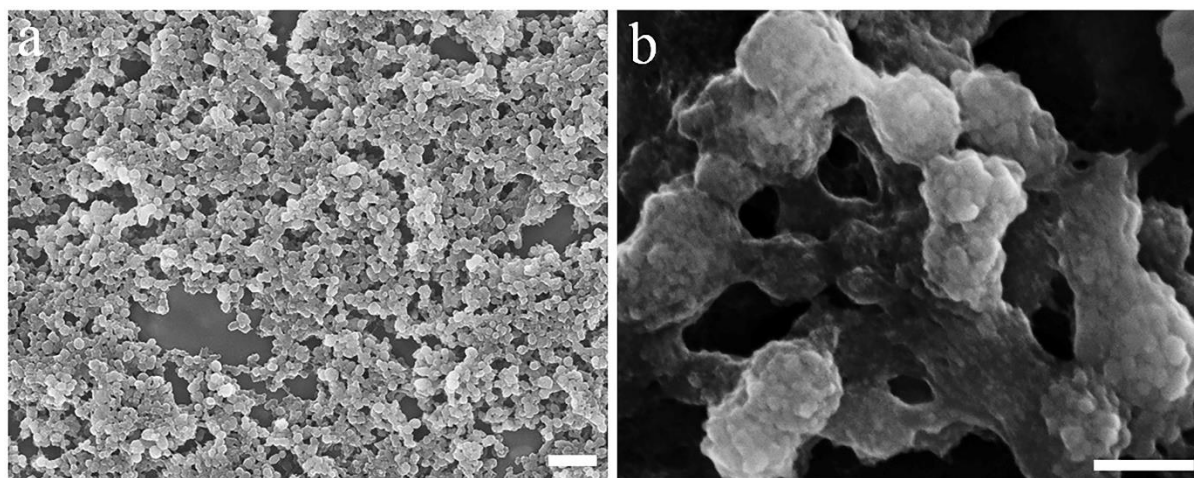
Supplementary Information

Bioactive Hierarchical Silk Fibers Created by Bioinspired Self-Assembly

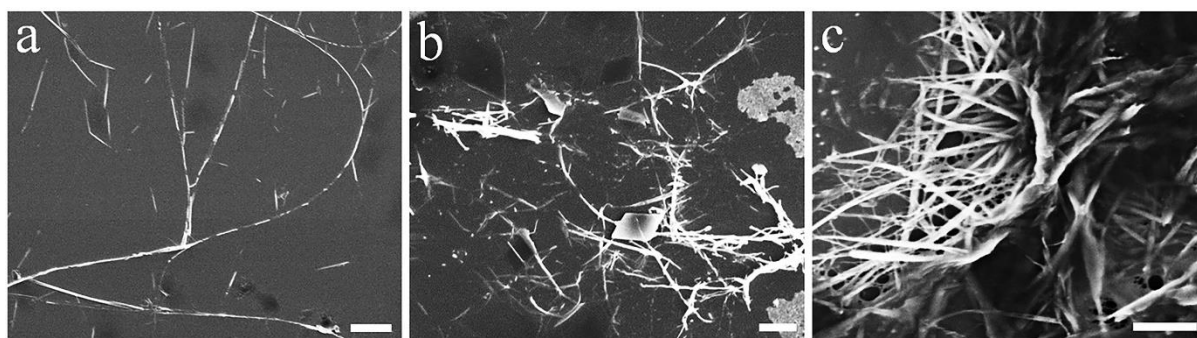
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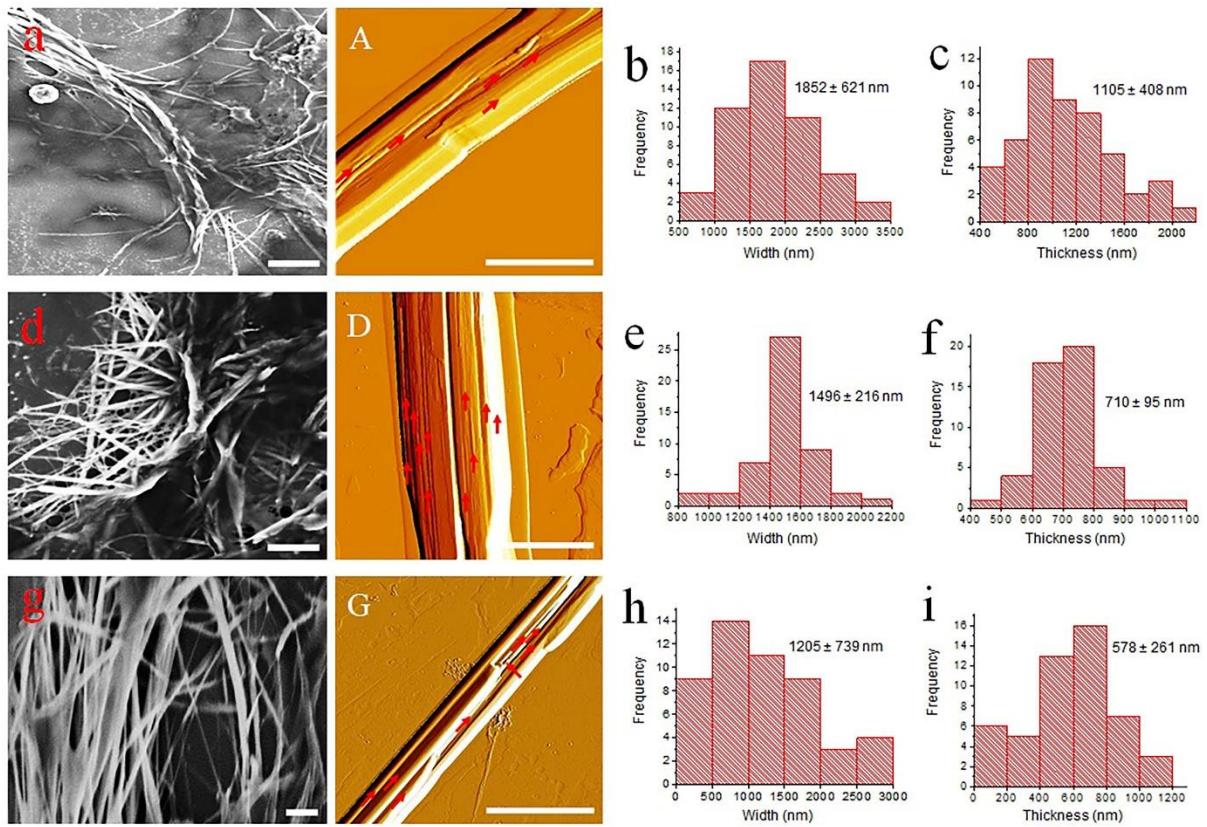
Supplementary Figures



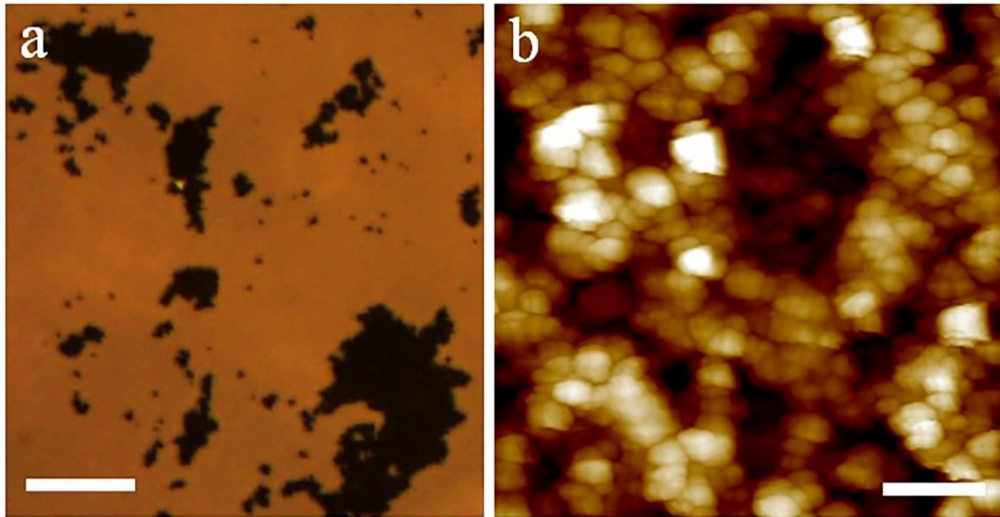
Supplementary Fig. 1 Morphology of crystallized silk fibroin (SF) droplets/spheres fabricated in this work. (a) An SEM image of SF spheres made of smaller droplets at a low magnification. (b) An SEM image of SF spheres made of smaller droplets at a high magnification. Scale bars: 1000 and 200 nm in (a) and (b), respectively.



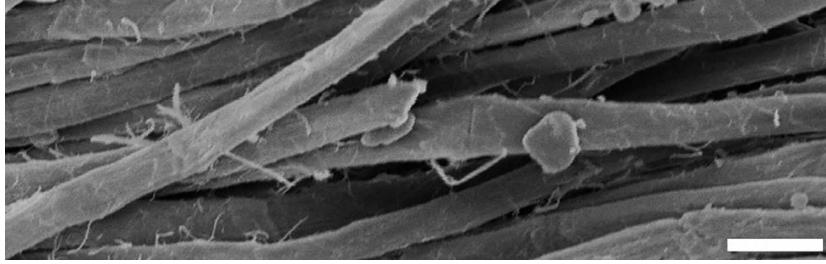
Supplementary Fig. 2 SEM morphology of the self-assembled silk fibroin fibers after rotary inducing-treatment for 5 minutes at different rotating speeds of (a) 500 rpm, (b) 1000 rpm and (c) 3000 rpm. Scale bars: 20, 10 and 15 μm in (a), (b) and (c), respectively.



Supplementary Fig. 3 Morphology, and width and thickness distribution of the self-assembled silk fibroin fibers after rotary inducing-treatment at a rotating speed of 3000 rpm for (a-c) 3 minutes, (d-f) 5 minutes and (g-i) 10 minutes. Scale bars: 20, 4, 15, 2, 10, and 4 μm in (a), (A), (d), (D), (g) and (G), respectively.



Supplementary Fig. 4 The resultant structures after the mixture of solid silk fibroin particles/ethanol being treated using the rotary assembly system (developed in this work) with a speed of 3000 rpm for 10 minutes. (a) A microscopic image. (b) An AFM image. Scale bars: 65 μm and 1000 nm in (a) and (b), respectively.



Supplementary Fig. 5 SEM morphology of natural silk fibroin fibers. Scale bar: 20 μm .