ADVANCED FUNCTIONAL MATERIALS

Supporting Information

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Ice-Templated Protein Nanoridges Induce Bone Tissue Formation

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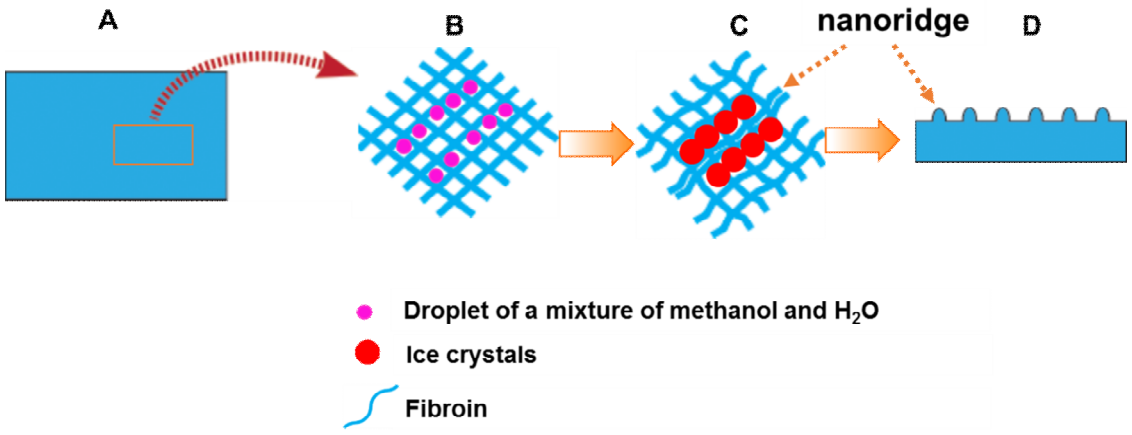

Figure S1. Schematic illustration showing the possible mechanism of the nanoridge formation on the film surface. (A) The film surface, which is made of silk fibroin, is treated to become hydrophobic by methanol and then immersed in H_2O. (B) The aqueous droplets (Figure S2B) in the resultant film tend to be spherical due to the hydrophobic nature of the film. (C) After the water is frozen into ice, the volume expansion pushes the surrounding silk fibroin to be aggregated into a nanoridge. (D) The side view of C.

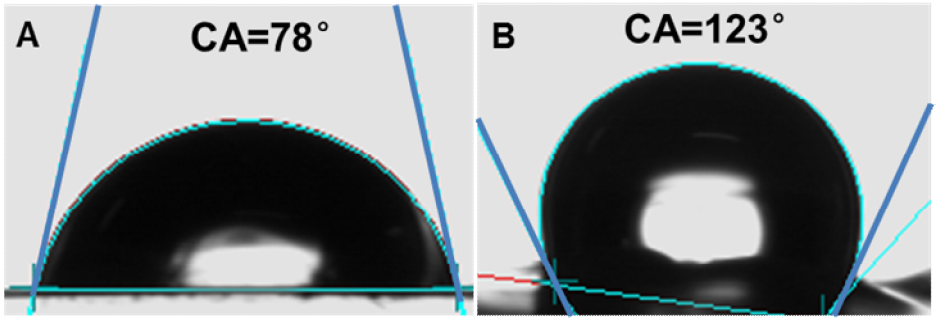

Figure S2. Contact angle (CA) measurements of the SF film before (A) and after (B) being treated by methanol (B).