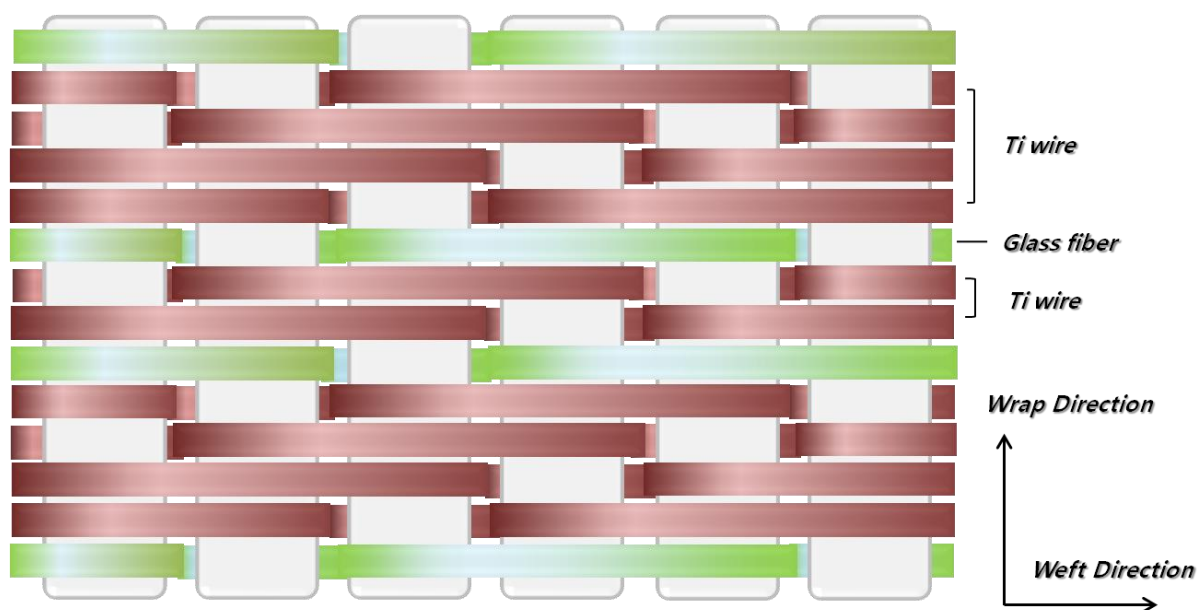


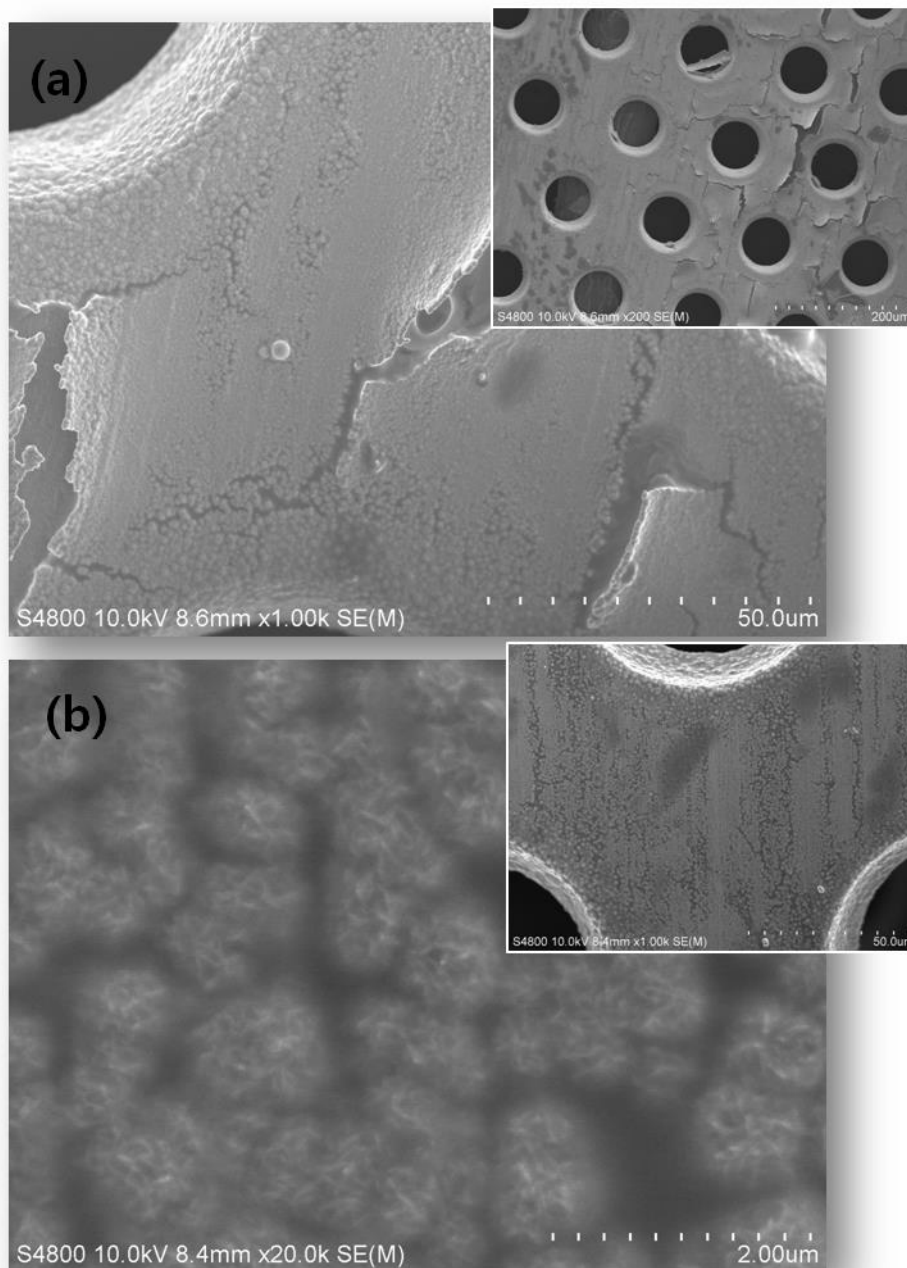
# Highly Flexible Dye-sensitized Solar Cells Produced by Sewing Textile Electrodes on Cloth

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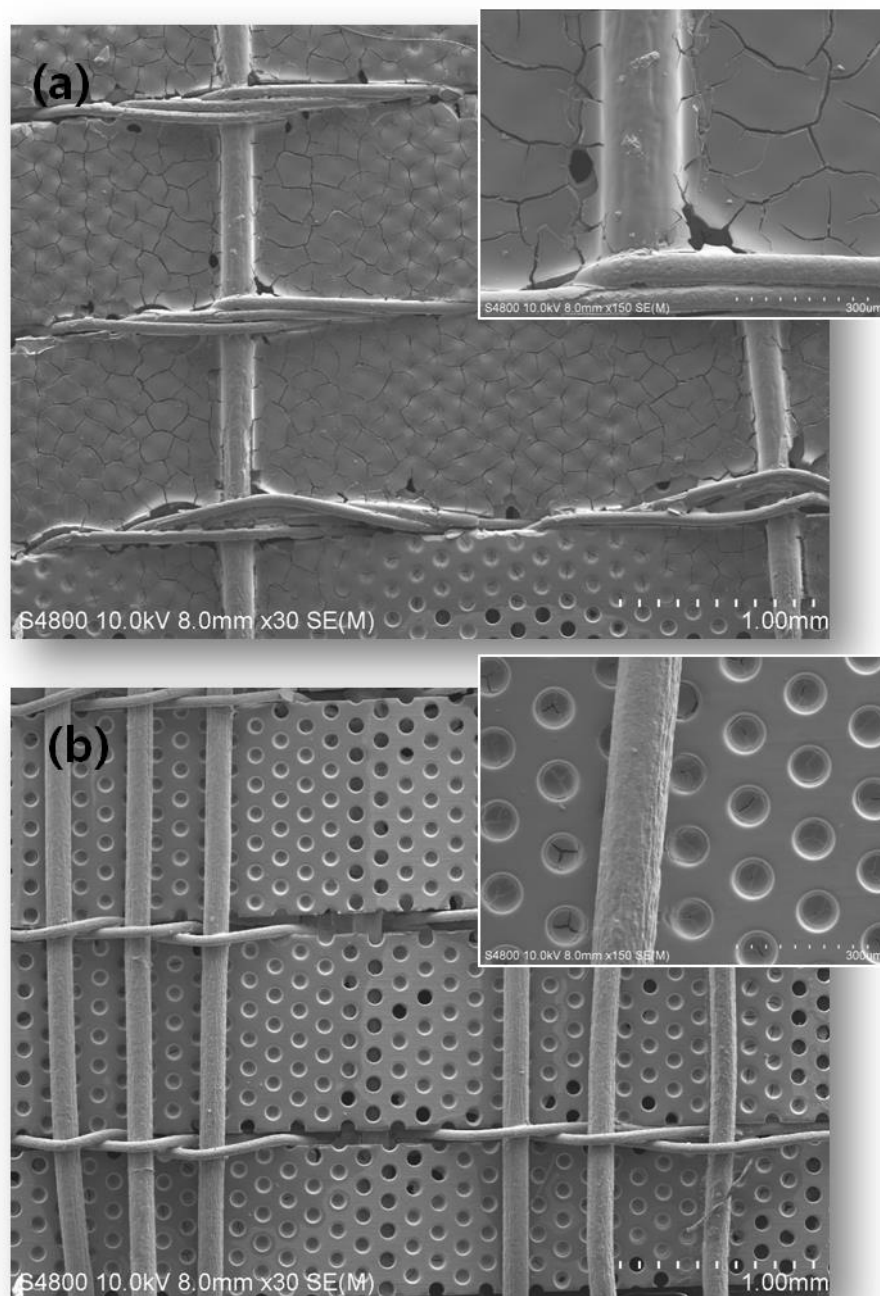
Nano Hybrid Technology Research Center, Creative and Fundamental Research Division,  
Korea Electrotechnology Research Institute



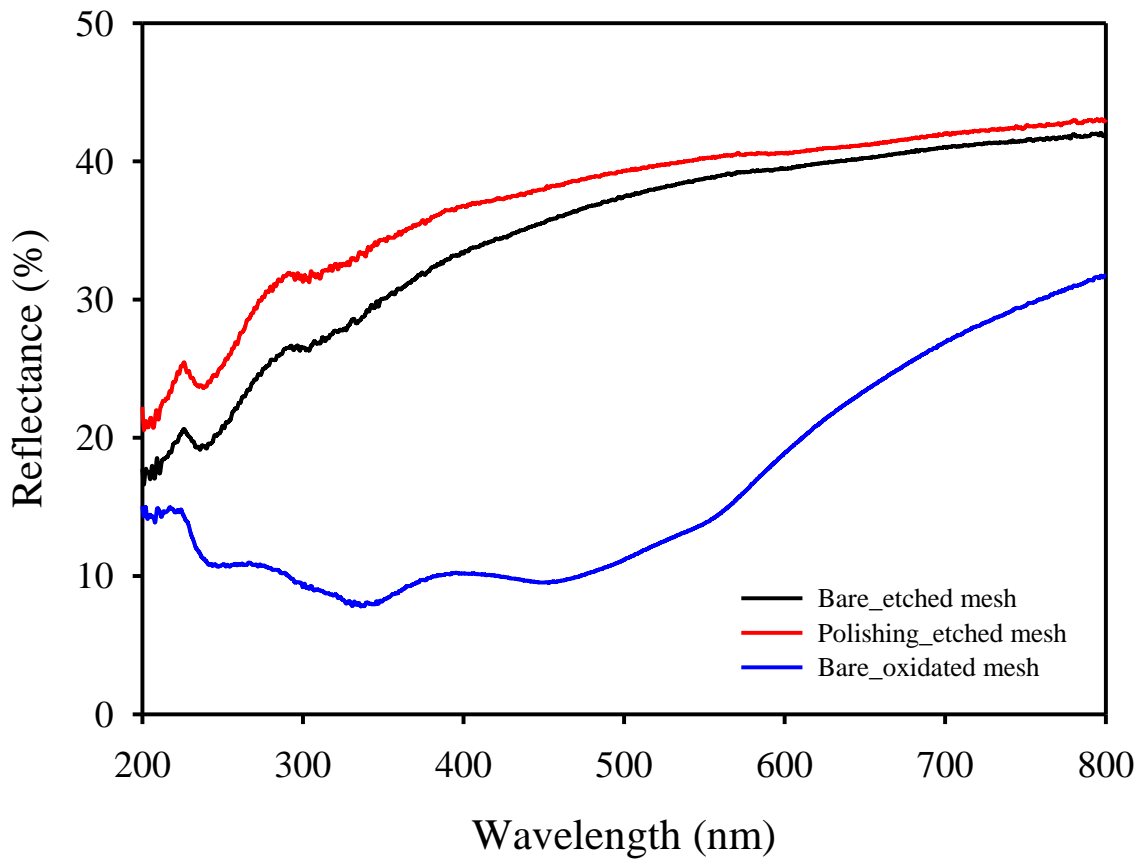
**Figure S1.** Schematics of (3,1) twill structured weaving structure using glass fiber and Ti wire.



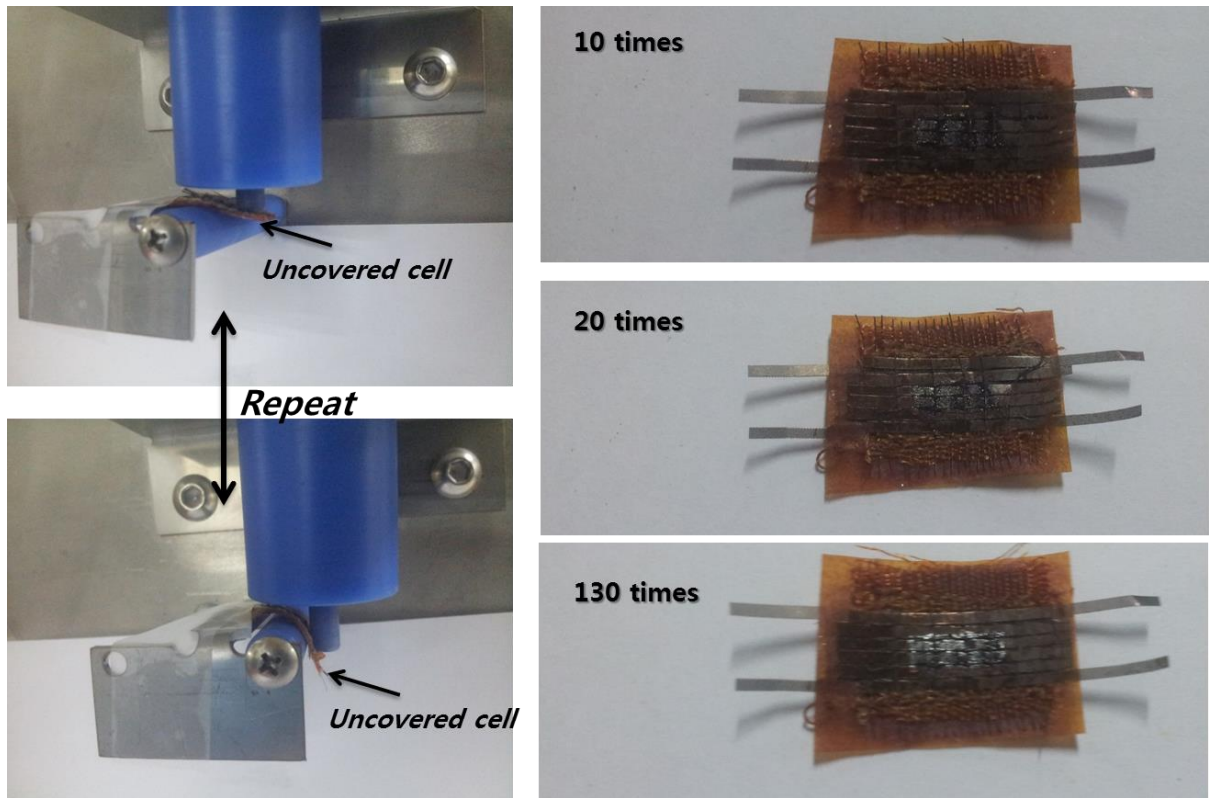
**Figure S2.** Scanning electron microscopy (SEM) images of the counter electrode after (a) electroplating, followed by (b) Pt paste deposition and heat treatment. After Pt paste deposition and heat treatment, a cluster of thin Pt flakes was observed.



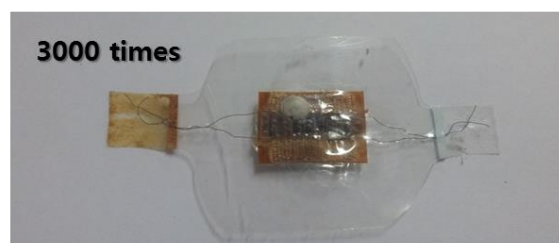
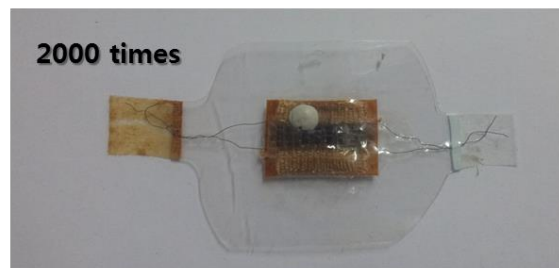
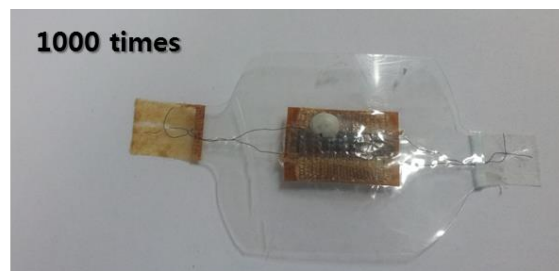
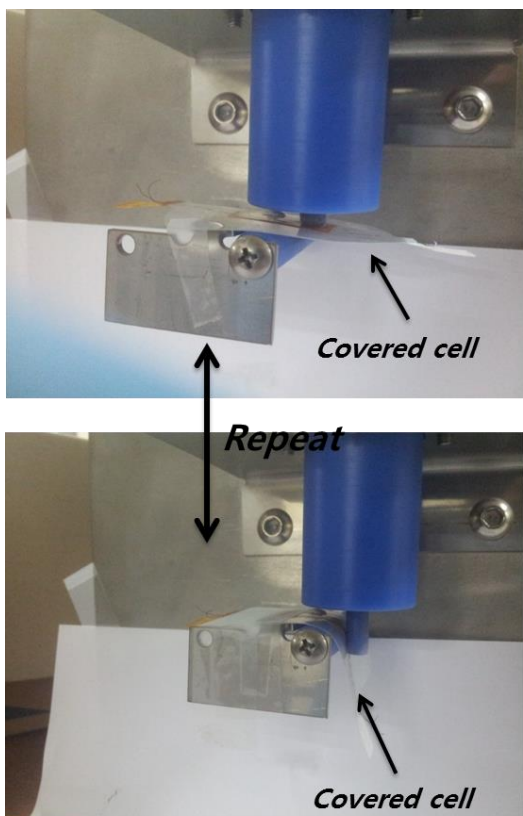
**Figure S3.** SEM images of a textile-based DSSC photoanode electrode after deposition of  $\text{TiO}_2$  nanoporous films, followed by heat treatment. (a) Front and (b) back face. Three Ti wrap wires support the stainless steel ribbon wefts on the back side. One Ti wrap runs through the front face, maintaining as flat a surface as possible, even after weaving. The Ti wrap wires were woven with Ti weft wires to form a mechanically robust woven structure.



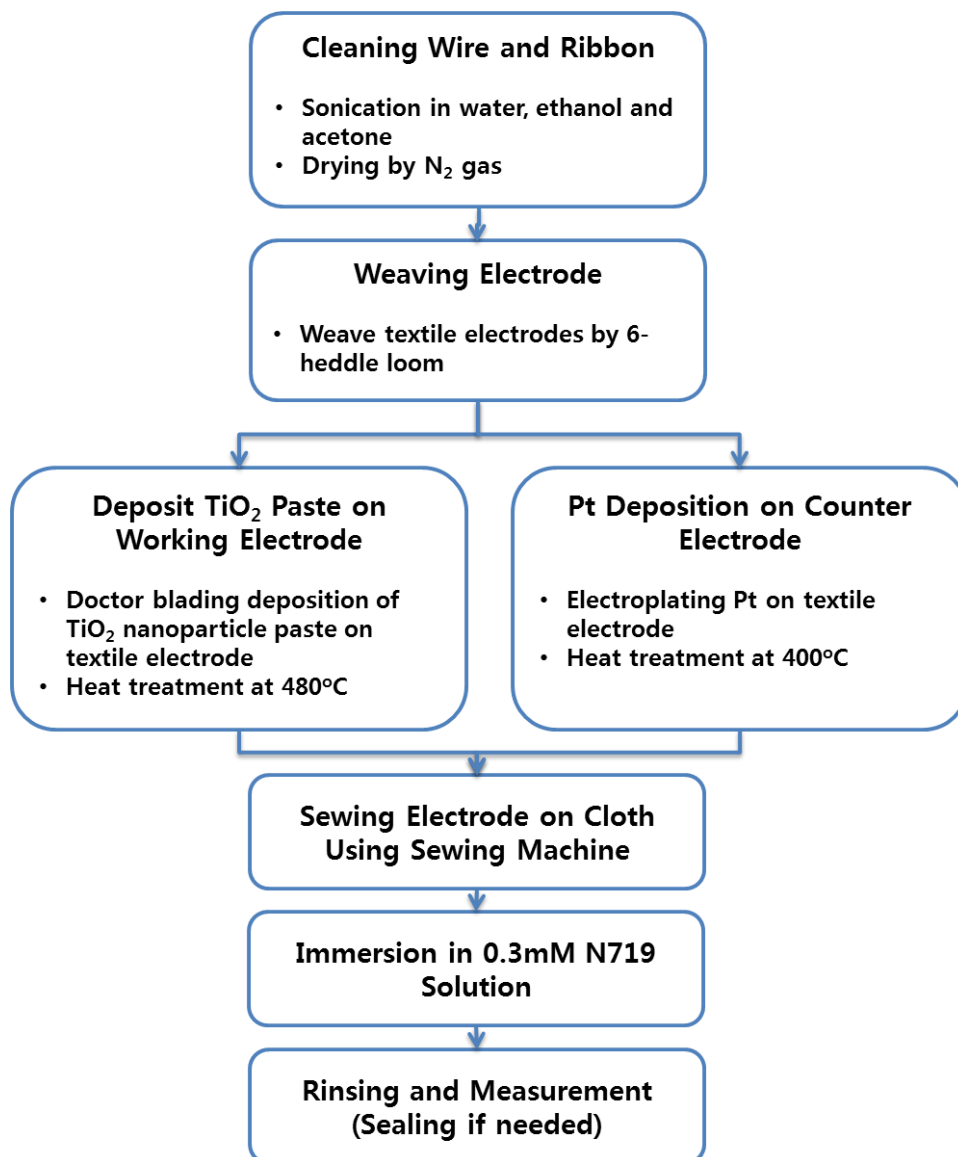
**Figure S4.** The reflectance of stainless steel ribbon used for textile electrodes before and after heat treatment.



**Figure S5.** The repeating bend test using pressing plunge (right) and the uncover cell after repeated bending test.



**Figure S6.** The repeating bend test using pressing plunger (right) and the sealed cell after repeated bending test.



**Figure S7.** Flow chart for experimental procedures.