

Supplementary Material

# Heat Scanning for the Fabrication of Conductive Fibers

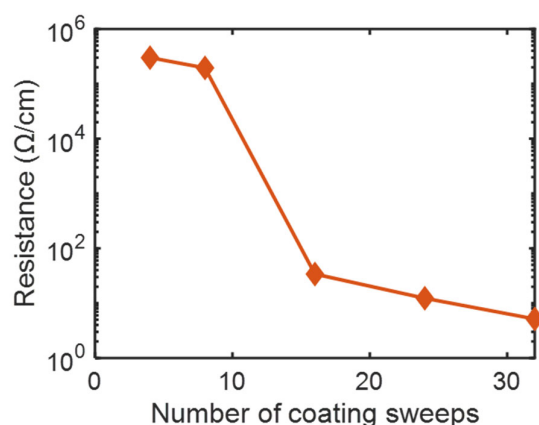
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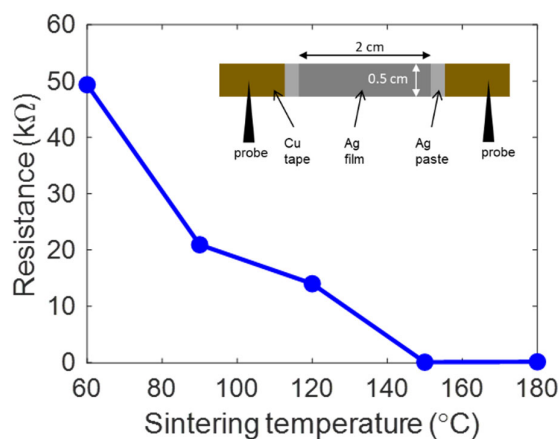
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## Resistance change with coating sweeps



**Figure S1.** Changes in electrical resistance for AgNP-deposited nylon fibers prepared by using different numbers of AgNP coating sweeps (3 min/cm, 7.2 W).

## Thermal damage of hotplate sintering



**Figure S2.** The resistances of AgNP films (size: 0.5 cm × 2 cm) sintered at different temperatures for 10 min, which reveals a threshold temperature for sintering at ~150 °C.

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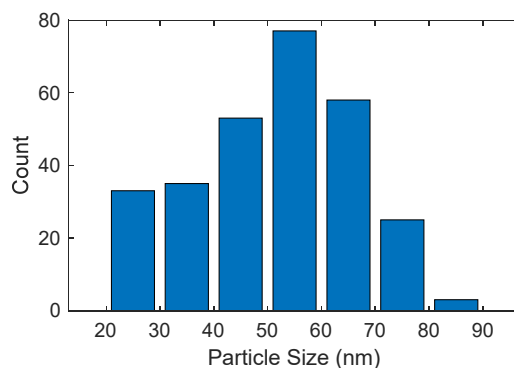
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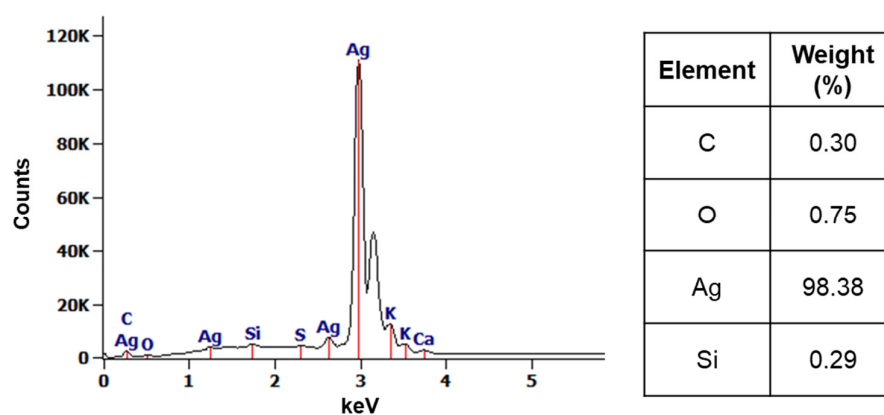
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### Size distribution of AgNPs



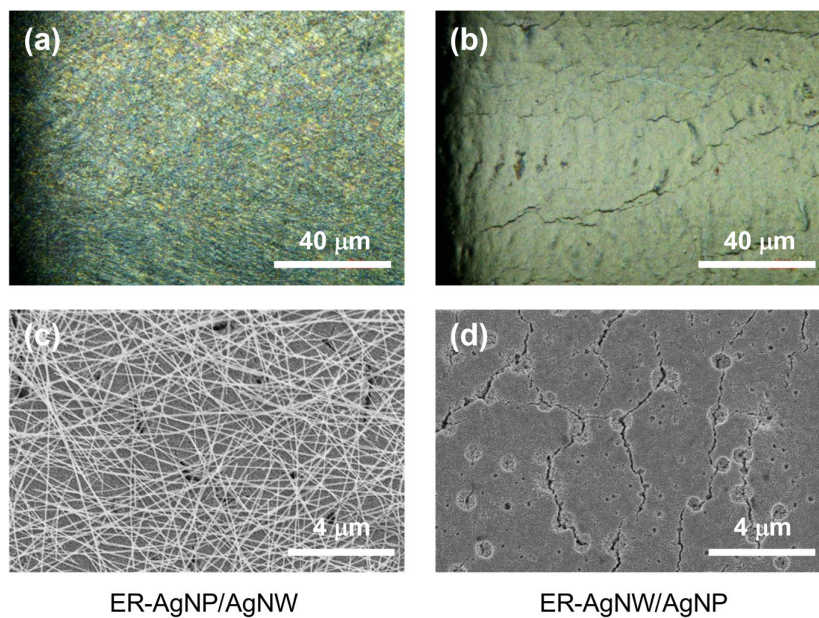
**Figure S3.** Size distribution of sintered AgNPs (7.2 W, 0.5 min/cm) on a nylon fiber.

### Composition of deposited AgNP layer



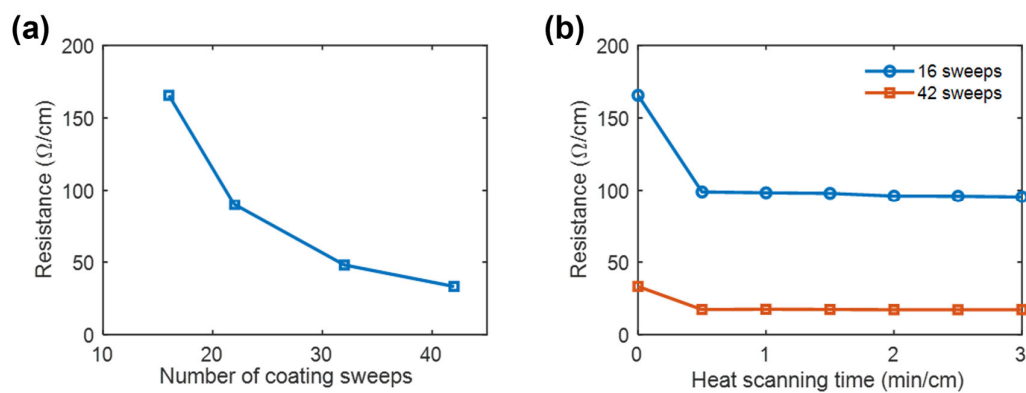
**Figure S4.** EDX spectrum of the deposited AgNP layer (left) and the calculated elemental composition (right).

## ER-AgNP/AgNW and ER-AgNW/AgNP



**Figure S5.** Optical microscopy images and SEM images for (a, c) ER-AgNP/AgNW and (b, d) ER-AgNW/AgNP.

## Changes in resistance with coating sweeps for ER-AgNW fibers



**Figure S6.** (a) Changes in resistance for ER-AgNW nylon fibers prepared by using different numbers of coating sweeps (0.5 min/cm, 7.2 W). (b) Changes in resistance across heat scanning time for the ER-AgNW nylon fibers prepared with 16 and 42 coating sweeps.