Supporting Information

Conductive Ternary Network of Highly Stretchable AgNWs/AgNPs Conductors Based on Polydopamine-Modified Polyurethane Sponge**

By Liming Li a, Chunhua Zhu a, Yeping Wu a, Jianhua Wang a, Tailiang Zhang b, and Yu Liu a

(a) Institute of Chemical Materials, China Academy of Engineering Physics, Mianyang, Sichuan 621900, China
(b) School of Chemistry and Chemical Engineering, Southwest Petroleum University, Xindu, Sichuan 610500, China

Figure S1. SEM images of AgNW (a) and PU sponge (b).

Figure S2. Optical microscope images of (a) PUS-AgNW-Ag-PDMS and (b) PDA-PUS-AgNW-Ag-PDMS stretchable conductors.
**Figure S3.** (a) Electrical resistance of PDA-PU-AgNW-PDMS (black) and PU-AgNW-PDMS (red) stretchable conductors at different radii in the first bending cycle. (b) Electrical resistance of PDA-PU-AgNW-Ag-PDMS (black) and PU-AgNW-Ag-PDMS (red) stretchable conductors at different radii in the 1000th bending cycle.

**Figure S4.** Electrical resistance of (a) PDA-PU-AgNW-Ag-PDMS and (b) PDA-PU-AgNW-PDMS stretchable conductor as a function of bending cycles at bending radius of 3 cm.

**Figure S5.** Optical images of a bulb illuminated by using a PDA-PUS-AgNW-Ag-PDMS stretchable film as the connecting wire under a) no strain, b) bending.