Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A

Supporting Information

Transparent, stretchable, carbon-nanotube-inlaid conductors enabled by standard replication technology for capacitive pressure, strain and touch sensors

Xiaolong Wang,[a,b] Tingjie Li,[a] Jillian Adams[c] and Jun Yang*[a]

[a] *Department of Mechanical and Materials Engineering, the University of Western Ontario, London, Ontario, N6A 5B9, Canada. E-mail: jyang@eng.uwo.ca*
[b] *State Key Laboratory of Solid Lubrication, Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, Lanzhou 730000, P. R. China.*
[c] *Department of Mechanical and Mechatronics Engineering, University of Waterloo, Waterloo, Ontario, N2L 3G1, Canada.*

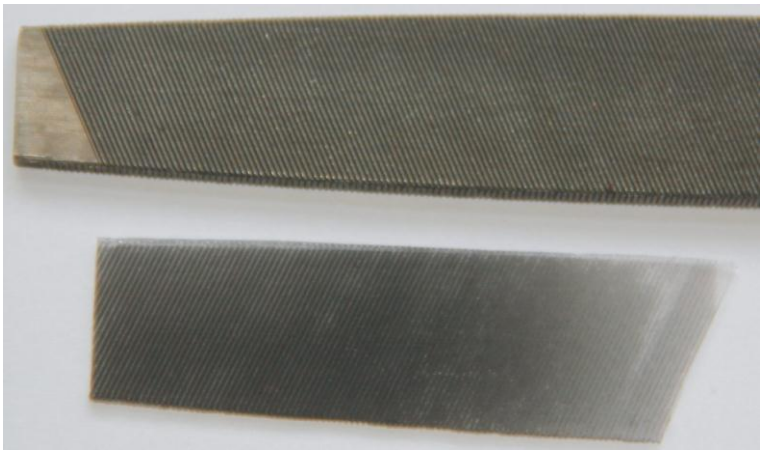

Fig. S1 Digital images of rasp (top) and the SWCNTs/PDMS obtained using rasp as substrate (bottom).

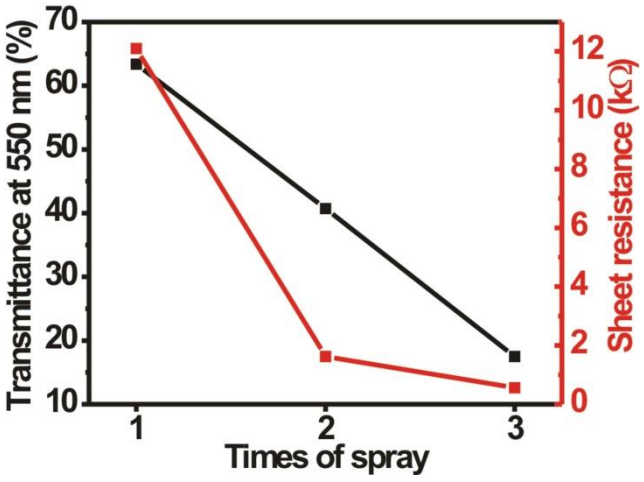

Fig. S2 Transmittance and sheet resistance of the SWCNTs/PDMS obtained by spray coating different amounts of suspension (1 time spray means spraying 20 mL of SWCNTs suspension).

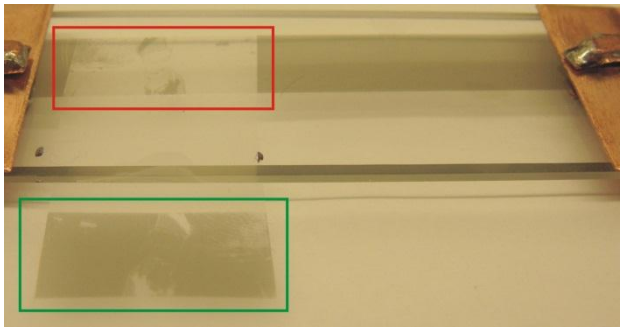

Fig. S3 Digital images of SWCNTs film coated PDMS after 1 tape test. The area in the red rectangle is the tape test area, and the green is the SWCNTs peeled off on the tape surface.

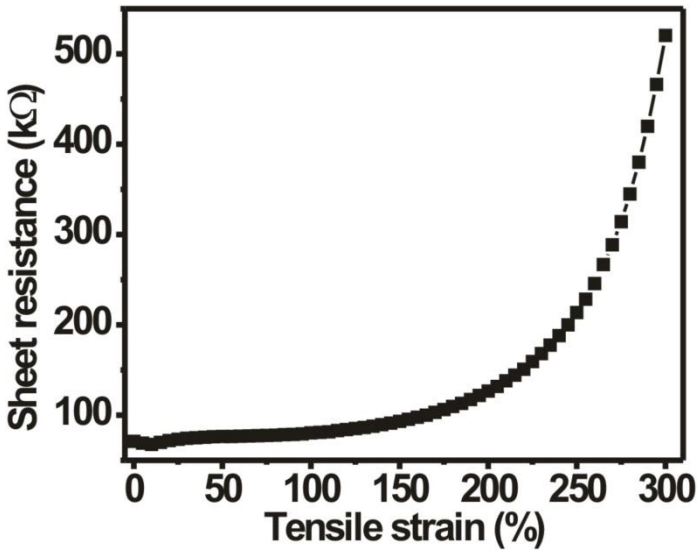

Figure S4. Resistance of SWCNTs/Ecoflex as function of tensile strain to 300%.

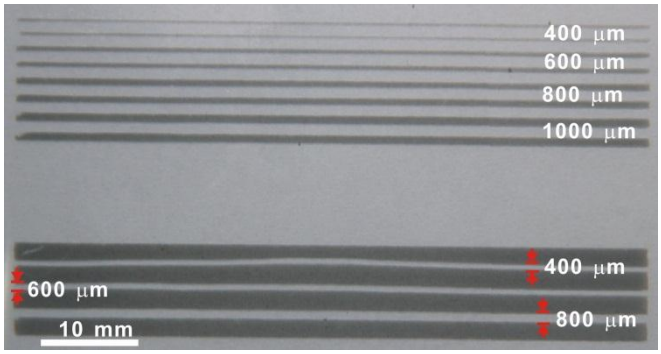

Fig. S5 Digital image of patterned SWCNTs line inlaid PDMS. (Top) patterned lines with width of 0.4 mm, 0.6 mm, and 0.8 mm (spacing between line 1 mm). (Bottom) 2 mm of width SWCNTs lines with 0.8 mm, 0.6 mm, and 0.4 mm of spacing between lines, respectively.

Movie S1 Stretchability demonstration of SWCNTs/PDMS integrated circuit with LED under tensile strain 0% to 50%.

Movie S2 Flexibility demonstration of SWCNTs/PDMS integrated circuit with LED under bending and twisting.

Movie S3 Mechanical stability demonstration of SWCNTs/PDMS integrated circuit with LED under finger erasing.