

## Electronic Supplementary Information

Multifunctional and highly stretchable electronics based on silver nanowires / wrap yarn composite for wearable strain sensor and heater

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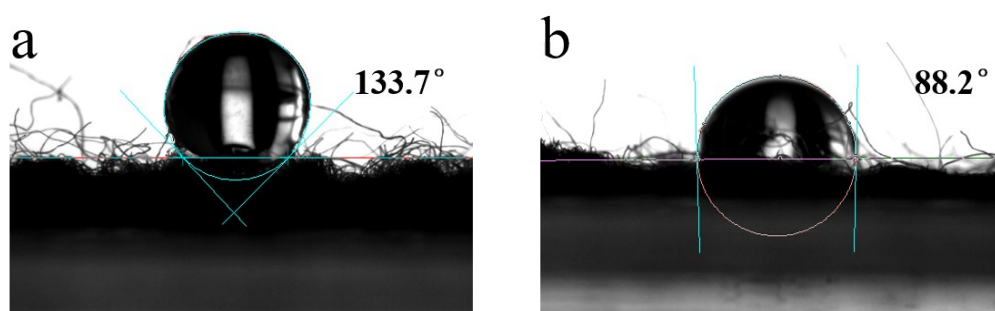


Fig. S1 (a, b) Optical photographs showing the contact angles of water on CPY as-prepared and after  $O_2$  plasma treatment.

Table S1 Relative concentration of elements in AgNWs/CPY.

Element	Weight (%)	Atomic (%)
C K	26.25	60.09
N K	0.94	1.84
O K	13.33	22.91
Ag L	59.48	15.16

Table S2 Relative concentration of elements in AgNWs-coated CPY without polydopamine.

Element	Weight (%)	Atomic (%)
C K	66.78	77.83
N K	0.02	0.02
O K	23.94	20.95
Ag L	9.25	1.20

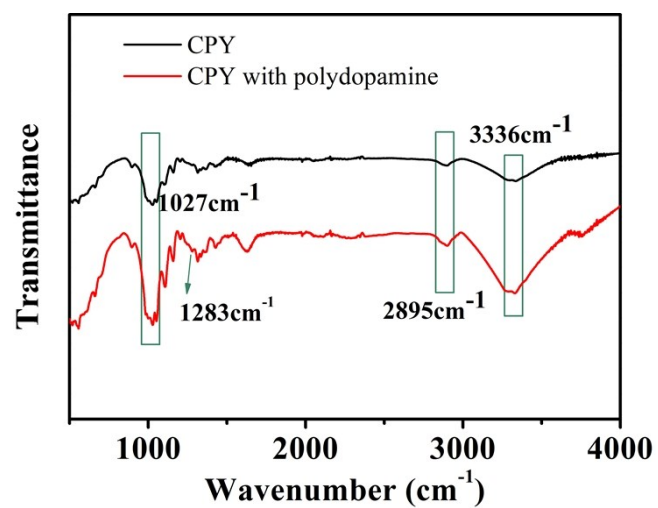


Fig. S2 FTIR spectra of CPY and CPY with polydopamine.

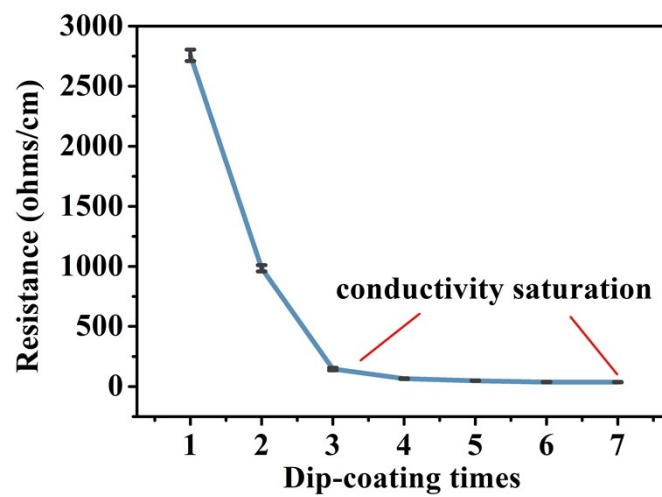


Fig. S3 Electrical resistance change of the CPYs for cycles of dip-coating of AgNWs.

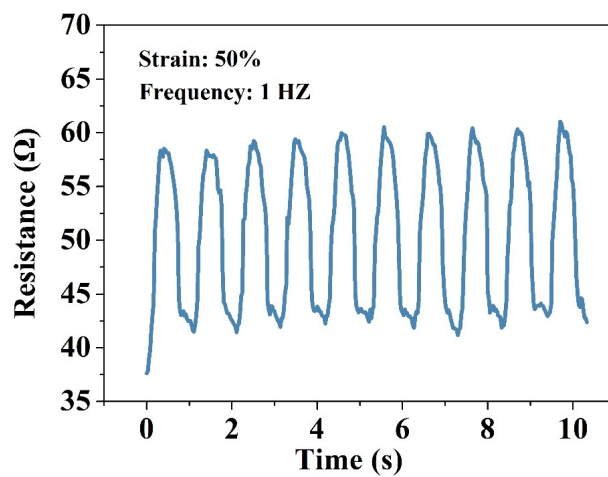


Fig. S4 Resistance change of the strain sensor under the strains of 0%-50% at 1 Hz.

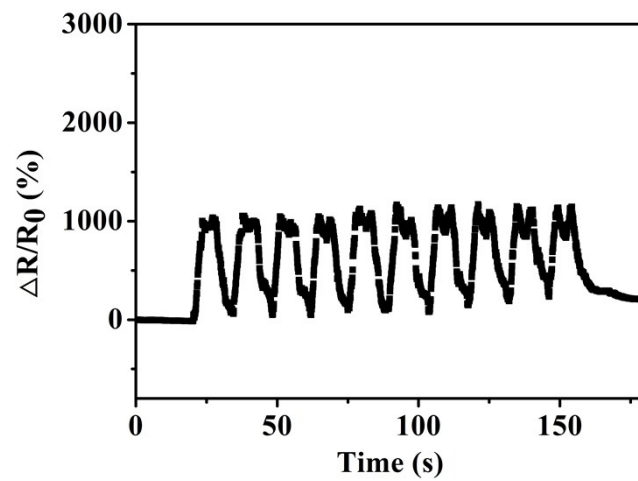


Fig. S5 Relative resistance response under cyclic stretching-releasing with 200% strain.

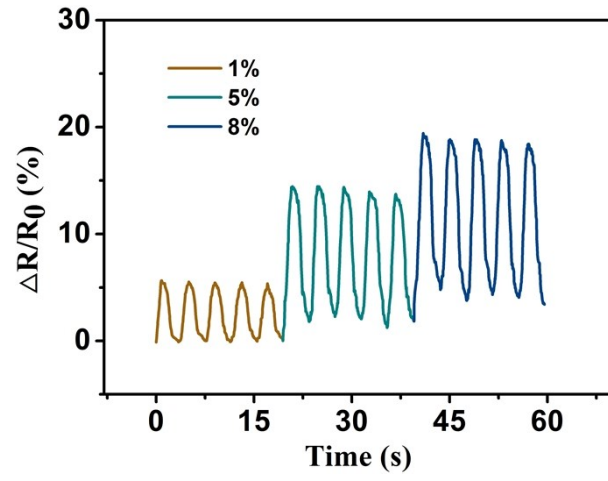


Fig. S6 Relative resistance change under small strains of 1%, 5% and 8%.



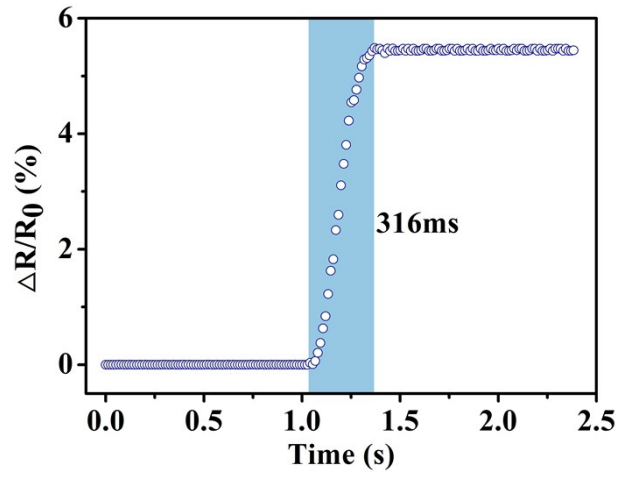


Fig. S7 Response time of the AgNWs/CPY strain sensor at 1% strain.