

Electrically Conductive Silicone-based Nanocomposites Incorporated with Carbon Nanotube and Silver Nanowire for Stretchable Electrodes

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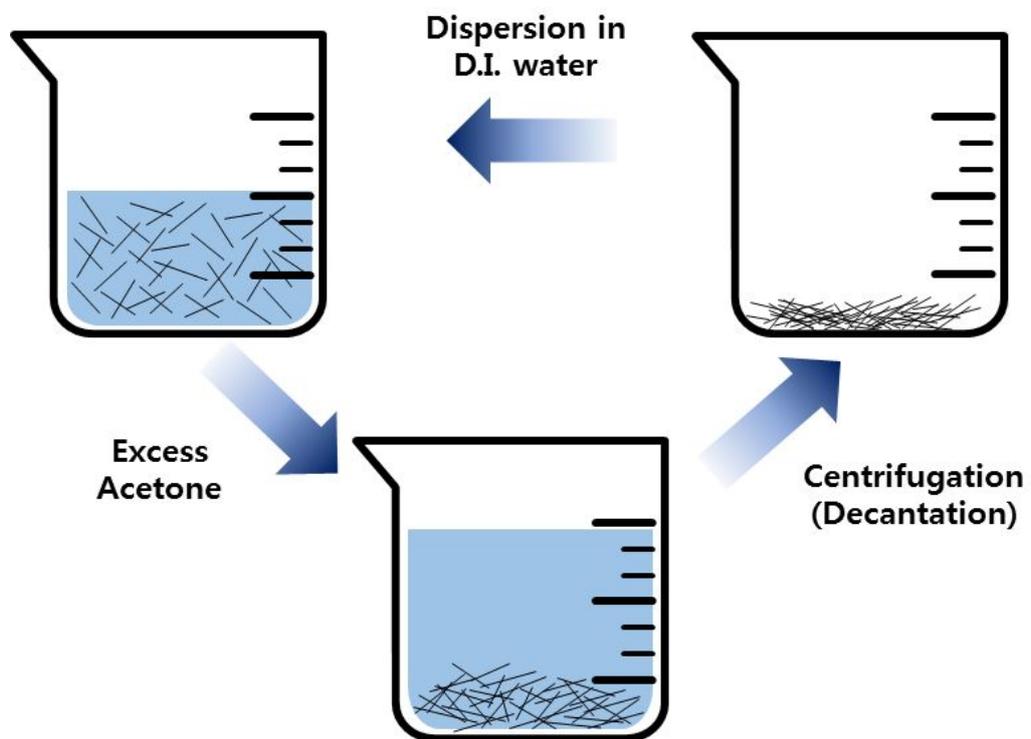


Figure S1. Schematic diagram illustrating the purification process of AgNW.



Figure S2. Dispersion stability of CNT in different solvent: (a) Water, (b) ethylene glycol, and (c) IPA.

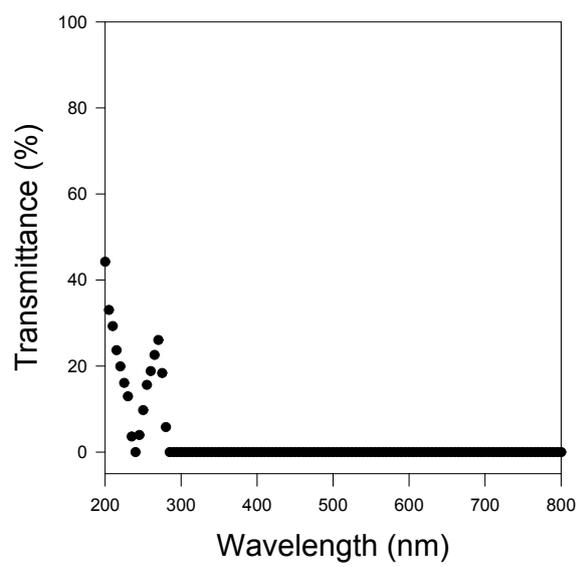


Figure S3. Dispersion of PVP-capped AgNW in IPA.

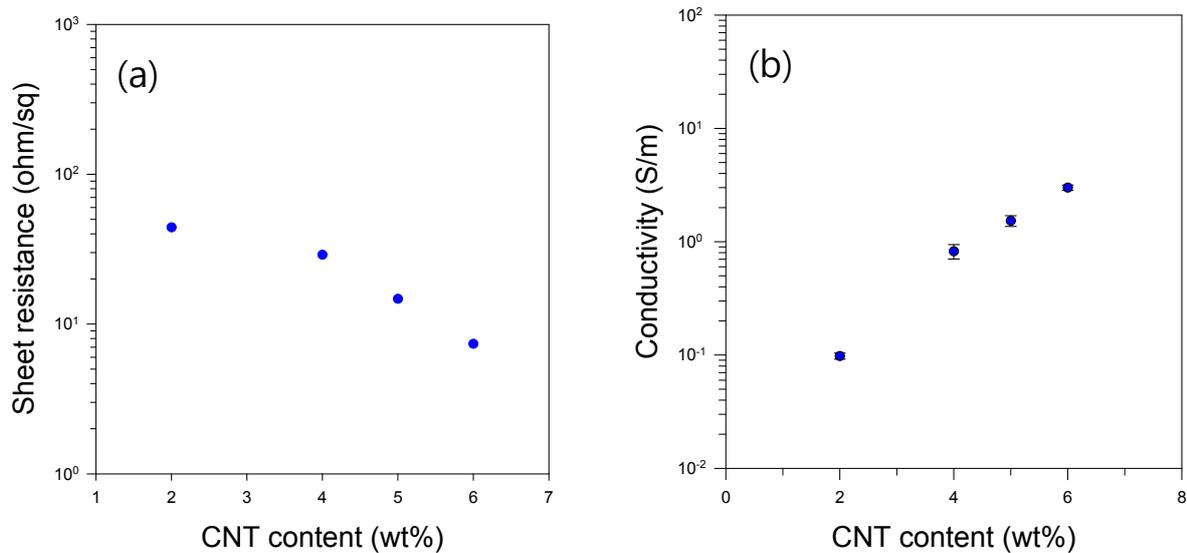


Figure S4. Electrical properties of PDMS/CNT nanocomposites as a function of CNT content: (a) Sheet resistance and (b) electrical conductivity.

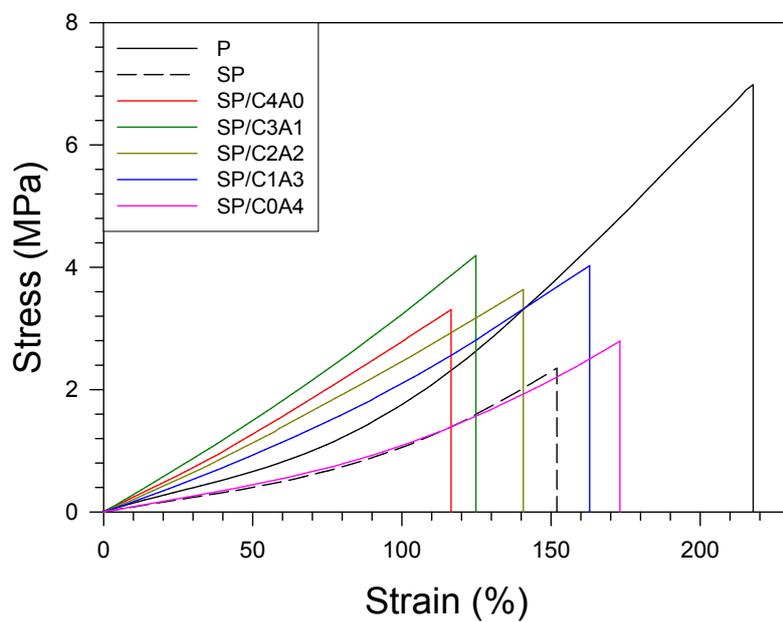
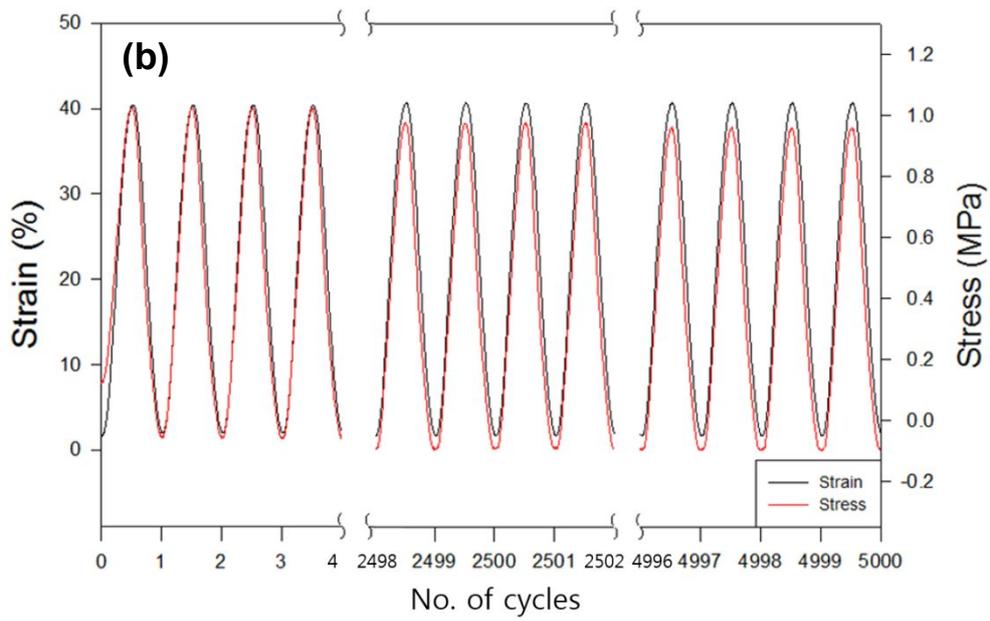
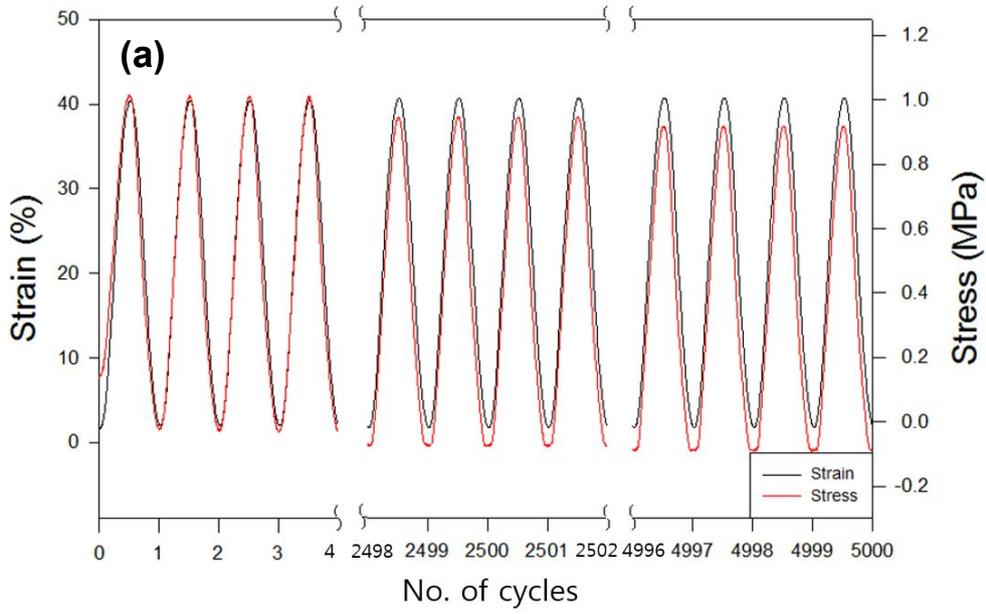


Figure S5. Stress–strain curves (tensile mode) of PDMS/CNT/AgNW nanocomposites with different CNT/AgNW ratios (wt%/wt%).



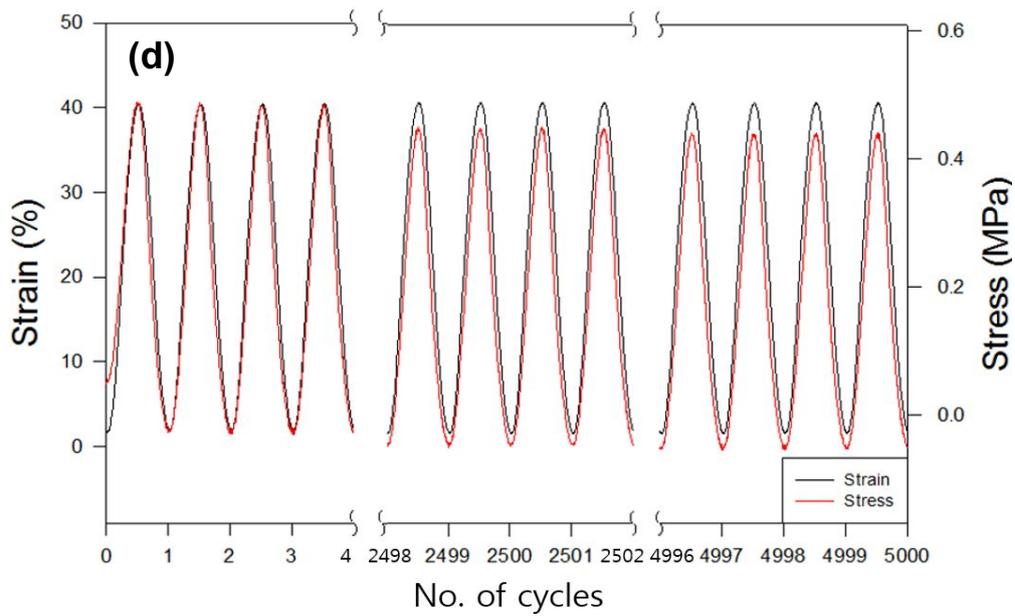
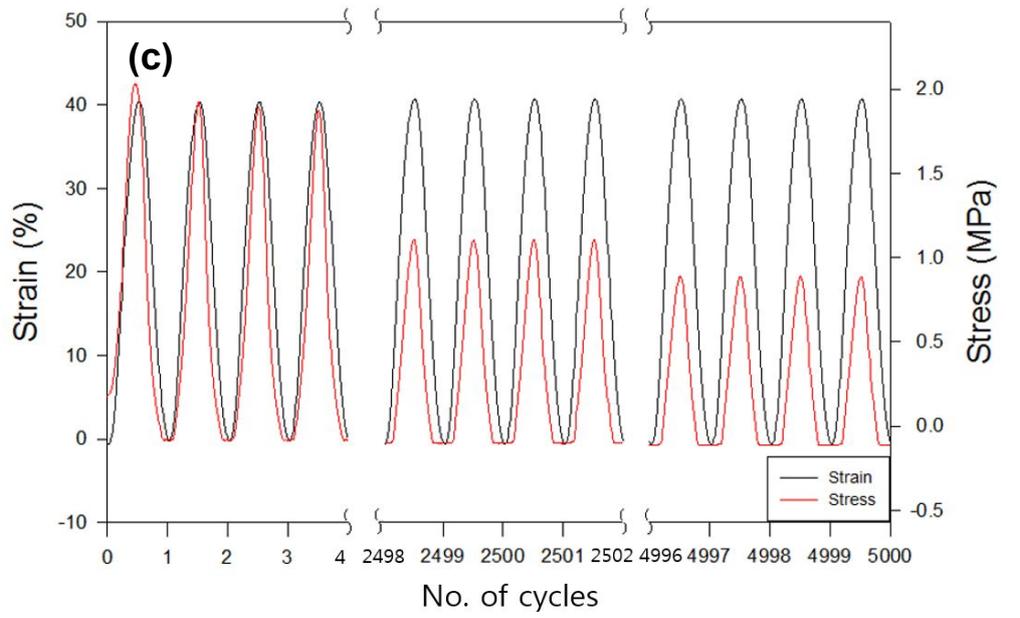


Figure S6. Dynamic properties of PDMS/CNT/AgNW with different CNT/AgNW ratios (wt%/wt%) during cyclic strain tests: (a) P, (b) SP, (c) SP/C4/A0, and (d) SP/C0/A4.

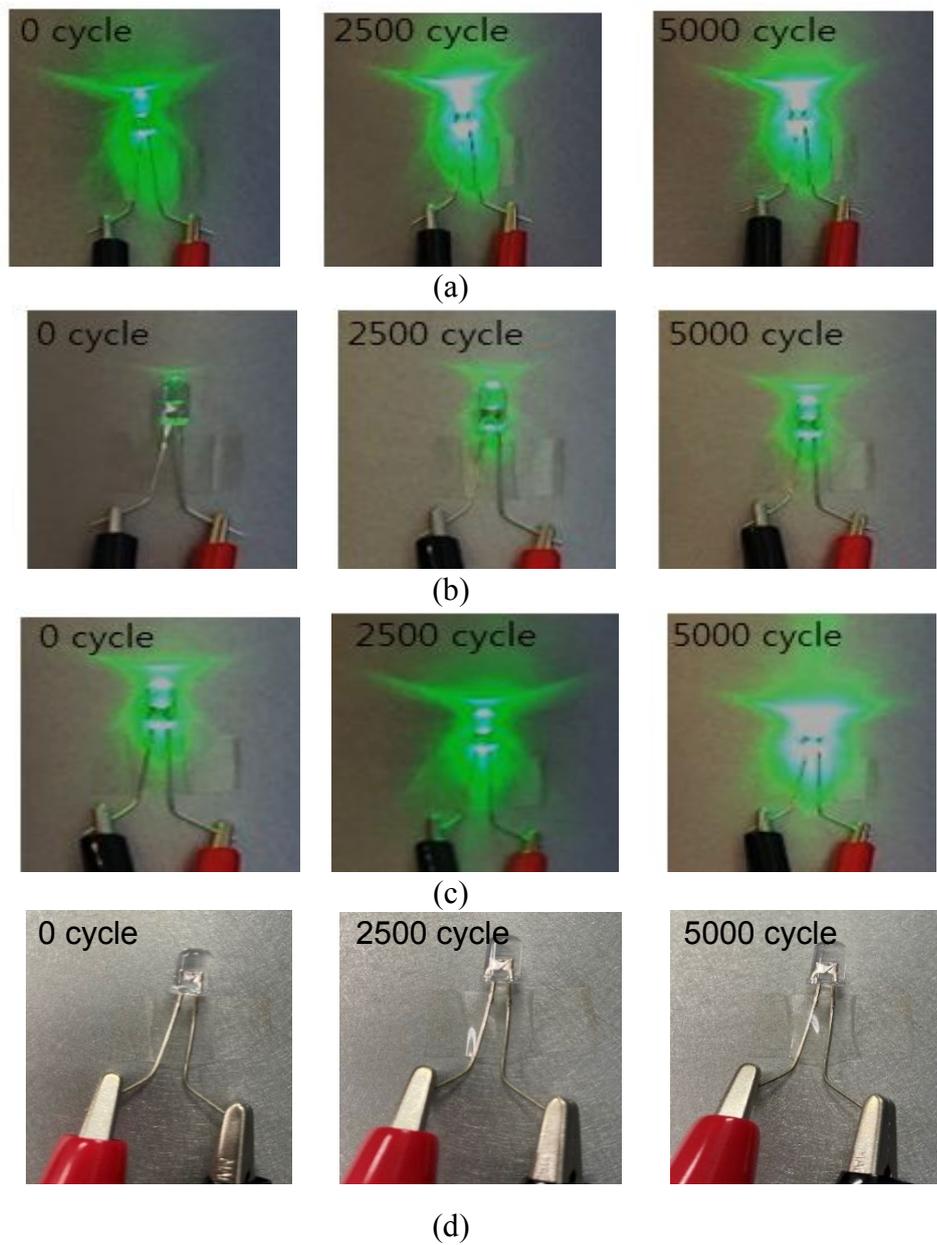


Figure S7. Change of LED light according to cycle: (a) SP/C4-A0 (b) SP/C3.5-A0.5 (c) SP/C2.5/A1.5 (d) SP/C0/A4

Table S1. Tensile properties of PDMS/CNT nanocomposites as a function of CNT content

	Tensile strength (MPa)	Elongation at break (%)	Young's modulus (MPa)
CNT 2%	3.01±0.2	180.4±0.6	1.11±0.12
CNT 4%	3.51±0.2	116±0.78	2.64±0.18
CNT 5%	2.46±0.2	107.1±11.3	2.72±0.4
CNT 6%	2.08±0.5	77.02±10.2	3.09±0.21

Table S2. Tensile properties of PDMS/CNT/AgNW nanocomposites

Mechanical properties	PDMS	PDMS + Silicone oil	C4- A0	C3.5- A0.5	C3- A1	C2.5- A1.5	C2- A2	C1- A3	C0- A4
Tensile strength (MPa)	7.4 ± 0.7	2.3 ± 0.3	3.5 ± 0.2	3.6 ± 0.3	4 ± 0.3	3.7 ± 0.4	3.4 ± 0.3	4.1 ± 0.2	2.8 ± 0.1
Elongation at break (%)	225 ± 18.5	144 ± 9.0	116 ± 0.8	123 ± 1.5	123 ± 7.1	148 ± 9.2	147 ± 13.6	160 ± 6.2	172 ± 7.4
Young's modulus (MPa)	1.5 ± 0.01	0.8 ± 0.02	2.6 ± 0.2	2.3 ± 0.1	2.6 ± 0.2	2.1 ± 0.1	1.7 ± 0.3	1.7 ± 0.2	0.9 ± 0.04