Electronic Supplementary Material (ESI) for Nanoscale.

Supplementary Information

Dry writing highly conductive electrodes on papers by silver nanoparticle-graphene hybrid pencils

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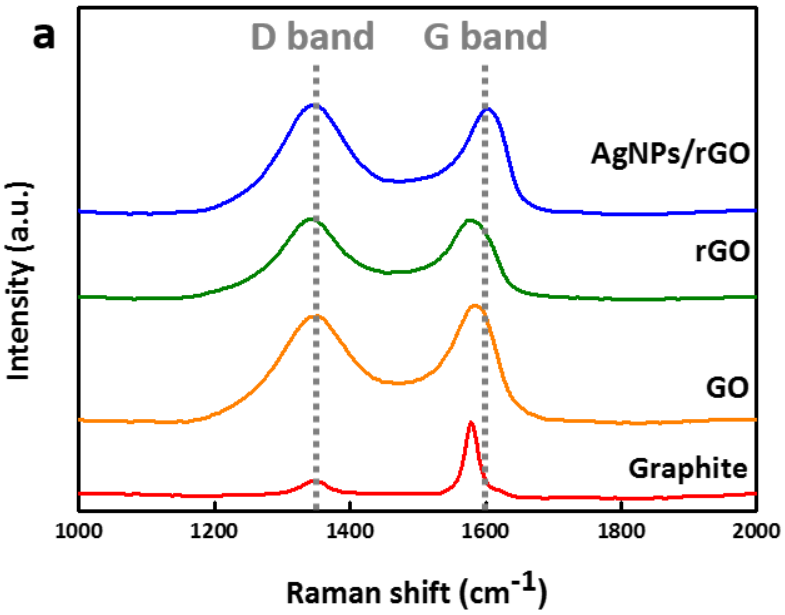

b

Samples	D band (cm^{-1})	G band (cm^{-1})	I_D/I_G
AgNP/rGO	1347	1603	1.03
Reduced GO	1344	1577	1.01
GO	1352.5	1583.5	0.91
Graphite	1349.5	1579	0.36

Figure S1. Raman spectra analysis of chemically transformed compounds. (a) Raman spectra of graphite/GO/rGO /(AgNPs/rGO) are compared. (b) Table with representative band positions (D and G band) of each spectra and the ratio of intensity of D band and G band.

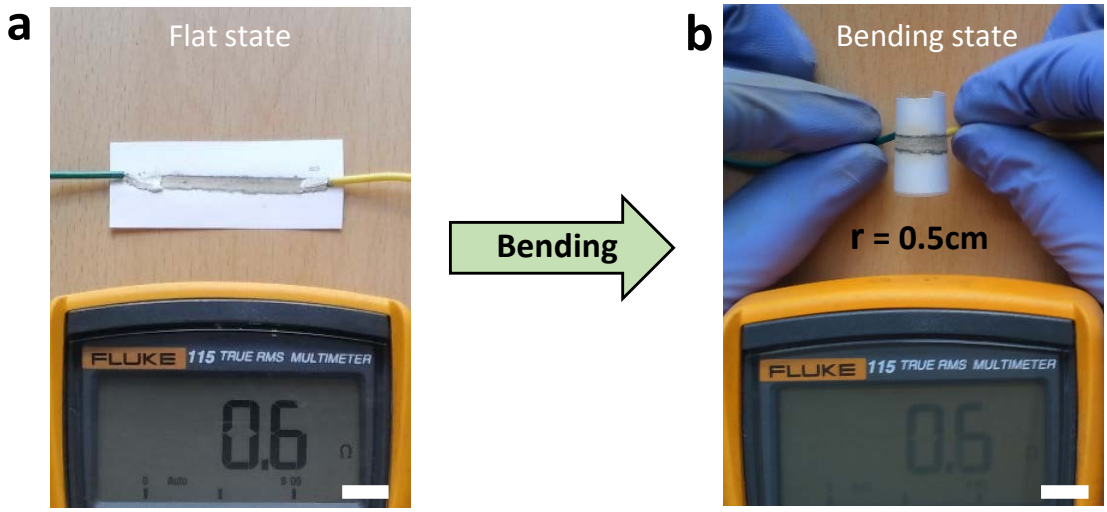

Figure S2. Mechanical bending stability of conductive lines drawn on copy paper. Resistance measurement of test electrode (L= 4 cm, W= 3 mm) for (a) flat and (b) bended states. Bending radius of curvature was 5 mm.

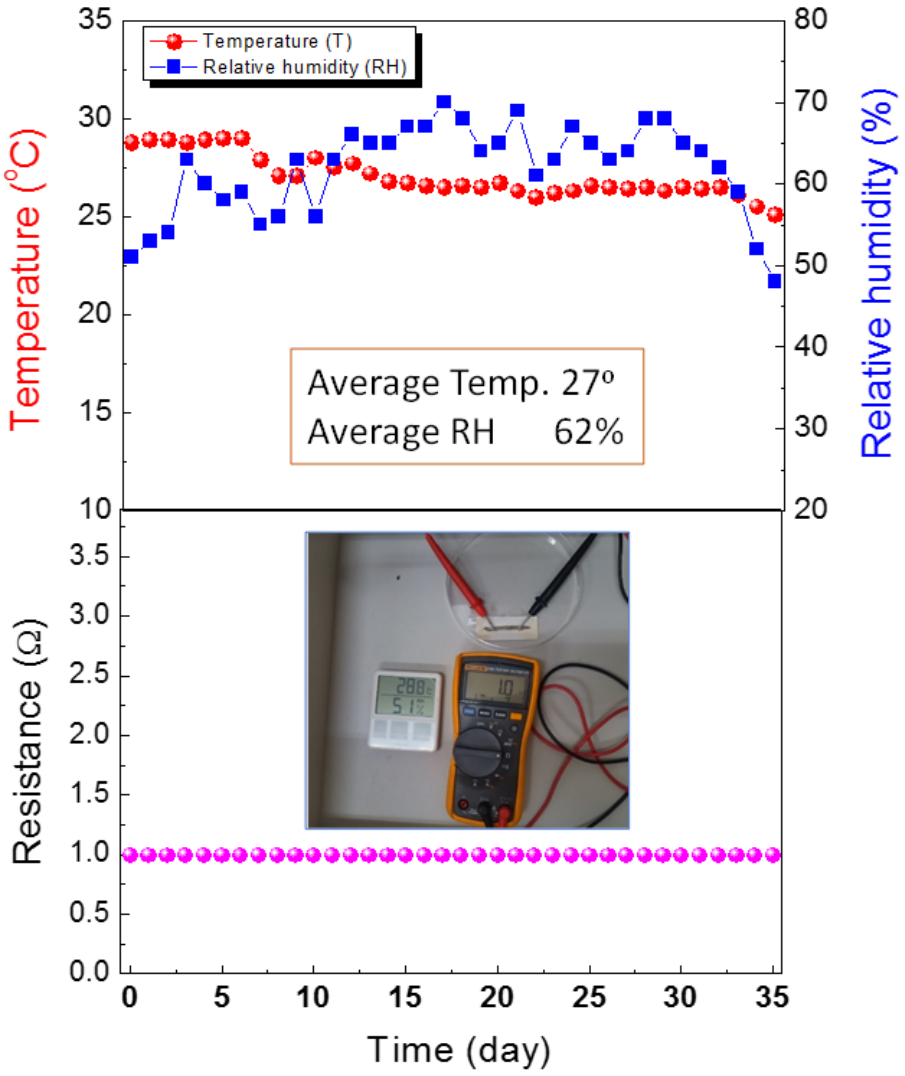

Figure S3. Long –term stability of conductive line drawn on paper under ambient conditions. Measured resistance data with time under ambient condition. The resistance/temperature/relative humidity were recorded every day for 35 days (average temperature of 27 ℃ and relative humidity of 62 ℃ during the test).

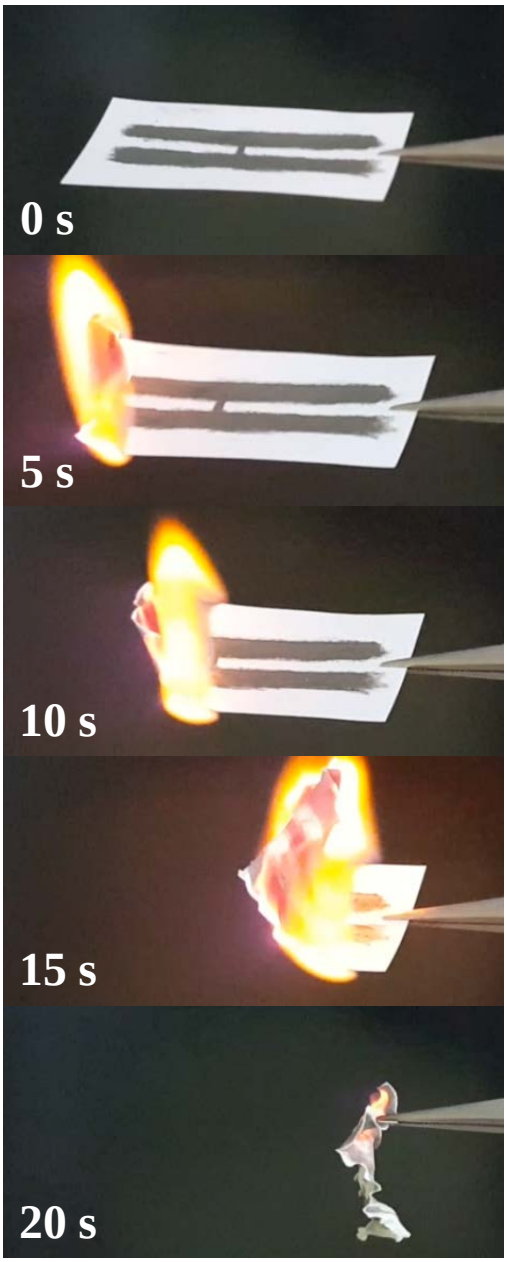

Figure S4. Data removal by burning the devices. Secure data removal is possible due to the nature of papers.