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Supporting information

A Highly Conductive, Flexible Transparent Composite Electrode Based on the Lamination of Silver nanowires and Polyvinyl Alcohol

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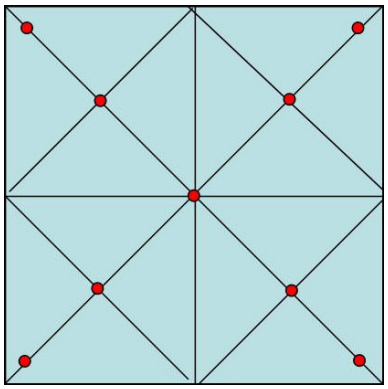

Fig. S1 Schematic drawing of the location of nine representative points. The sheet resistances for the films were measured at nine representative points marked by red circles, and the final values were averaged.

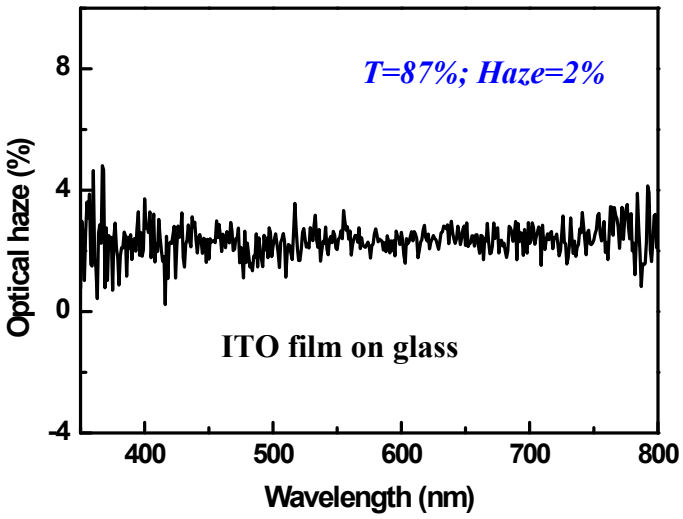

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Fig. S2 Relative plot of optical haze *versus* wavelength of ITO film on glass with the transmittance of 87%.

Calculation of the standard deviation and standard error

The standard deviations (SD) of the sheet resistance for the conductive films were calculated using a formula $SD = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \bar{x})}{n-1}}$, and the standard errors (SE) were determined using a formula $SE = \frac{SD}{\sqrt{n}}$. The percentage of SE was evaluated using a formula $\frac{SE}{R} \times 100\%$, where R is the average sheet resistance of the film.

Table S1 List of the increased ratio of the sheet resistance for the composite films after 90 and 180 days of storage.

Mechanical laminating pressure (MPa)	Increased ratio of R_s after 90 days	Increased ratio of R_s after 180 days
10	3.65	268.3
20	-0.18	68.6
30	1.85	138.0
40	0.09	61.8
50	1.13	106.5
60	2.79	104.5

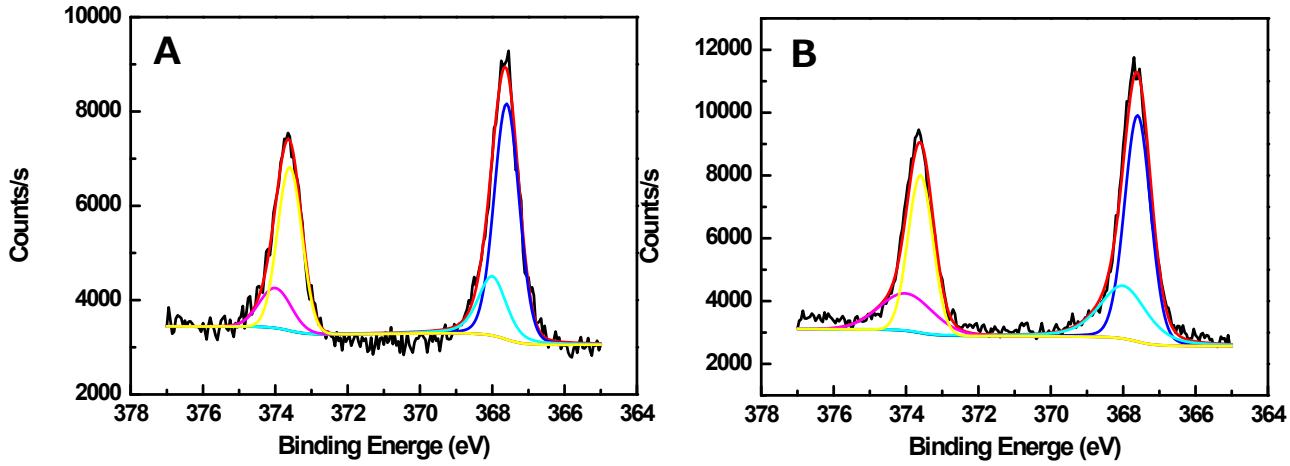

Fig. S3 Ag 3d XPS spectra for the composite films laminated using the pressure of 10 MPa (A) and 60 MPa (B) after 180 days of storage.

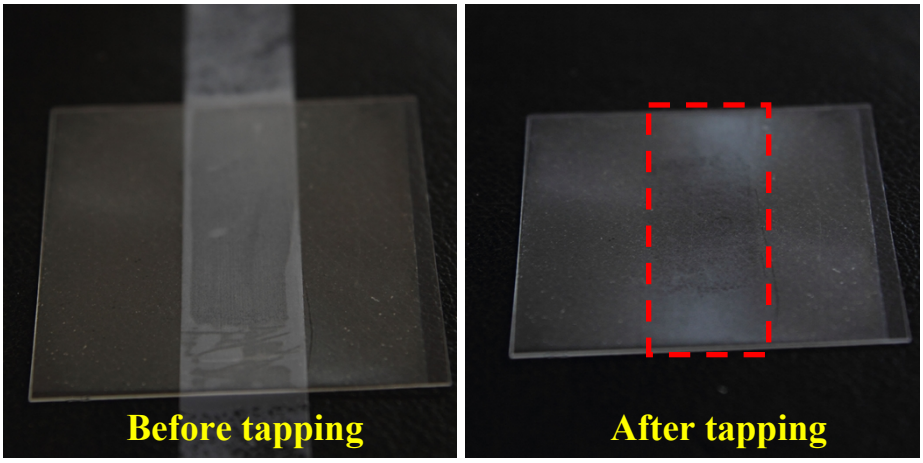

Fig. S4 Photography of the composite film before (left) and after tapping (right); the red dotted rectangle is the tapping area, indicating that the Ag NWs were hardly detached by the 3M Scotch tape.