Supporting Information

Enhancing thermal oxidation stability of silver nanowire transparent electrodes by using a cesium carbonate-incorporated overcoating layer

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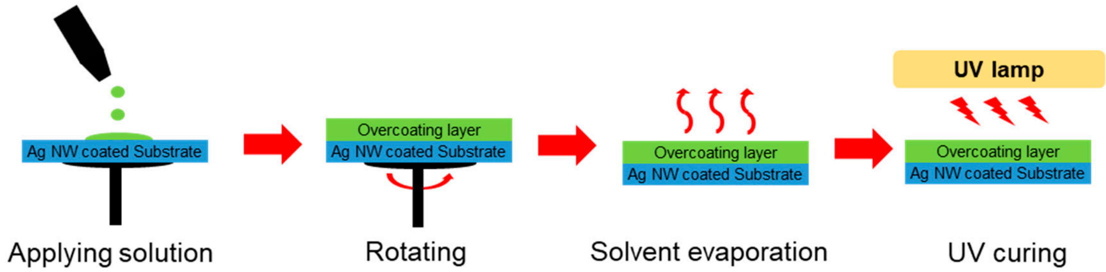

Figure S1. Schematic illustration of the steps involved in fabricating the overcoating layer.

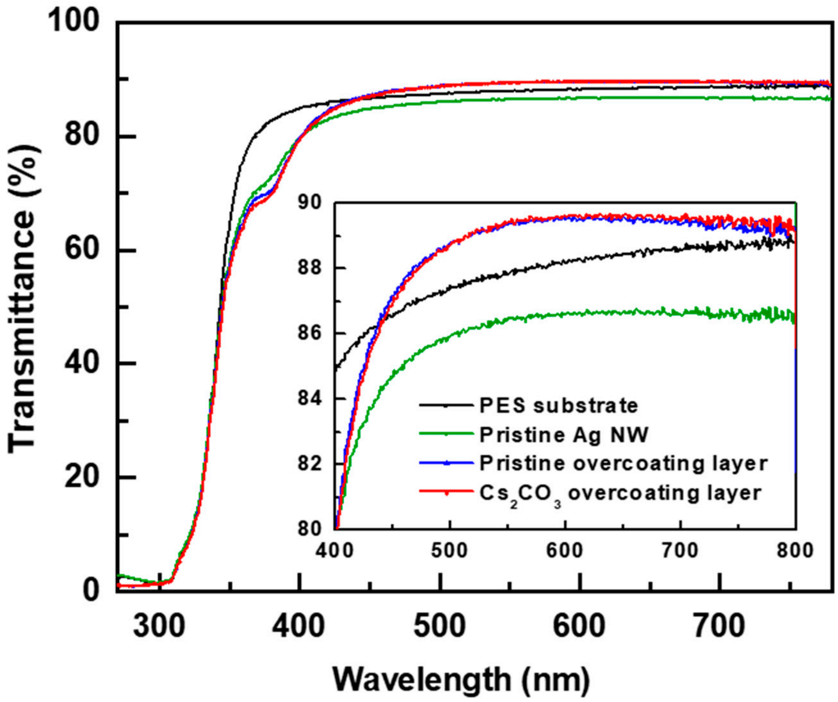

Figure S2. Optical transmission spectra of the PES substrate, pristine Ag NWs, Ag NWs covered with the pristine overcoating layer, and Ag NWs covered with the Cs_2CO_3-incorporated overcoating layer. Inset shows the magnified optical transmission spectra of the samples from 80% to 90% transmittance.

Table 1. Comparison of our experimental results with previous reports.

Reference	Overcoating material	Deposition method	Ambient stability test
Lee et al. [1]	Graphene	Transfer printing	70 °C, 70% RH, 8 days
Hwang et al. [2]	Al_2O_3	ALD	380 °C, 100 min
Chen et al. [3]	PEDOT:PSS	Spin coating	Air, 108 h
Chen et al. [4]	ZnO	ALD	300 °C, 6 h
Ahn et al. [5]	Reduced graphene oxide	Dip coating	70 °C, 70% RH, 8 days
This work	Cs_2CO_3 incorporated layer	Spin coating	85 °C, 85% RH, 55 days

Table S2. Optical transmittance, sheet resistance, and haze values of the samples.

	Transmittance (%)	Sheet resistance (ohm/□)	Haze
Pristine Ag NW	87.29	66	0.83
Pristine overcoating layer	89.90	66	0.77
Cs_2CO_3 0.05 wt% overcoating layer	89.95	61	0.88
Cs_2CO_3 0.1 wt% overcoating layer	89.79	64	0.82
Cs_2CO_3 1 wt% overcoating layer	89.58	63	5.12

References

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[5] Ahn, Y.; Jeong, Y.; Lee, Y. Improved thermal oxidation stability of solution-processable silver nanowire transparent electrode by reduced graphene oxide. *ACS Appl. Mater. Inter.* **2012,** 4, 6410-6414.