Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Patterned Few Nanometers Thick Silver Films with High Optical Transparency and High Electrical Conductivity

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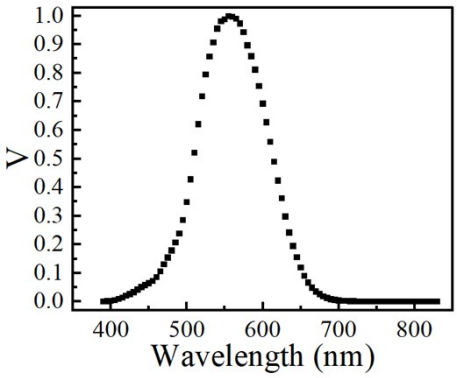

Fig. S1. CIE "physiologically-relevant" luminous efficiency function (2 degree). Data source: http://www.cvrl.org/.

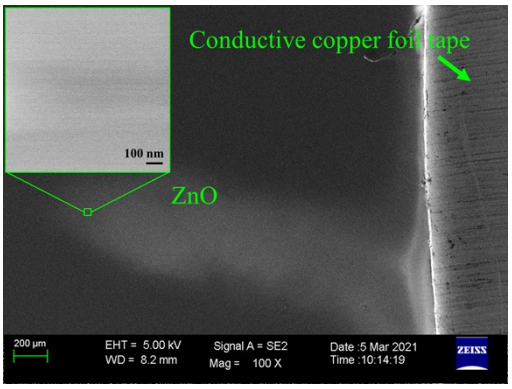

Fig. S2. SEM image of the quartz substrate coated with a ~ 40-nm thick ZnO seed layer. The ZnO could not be seen clearly because of its poor conductivity. The inset is a zoomed-in image of ZnO..

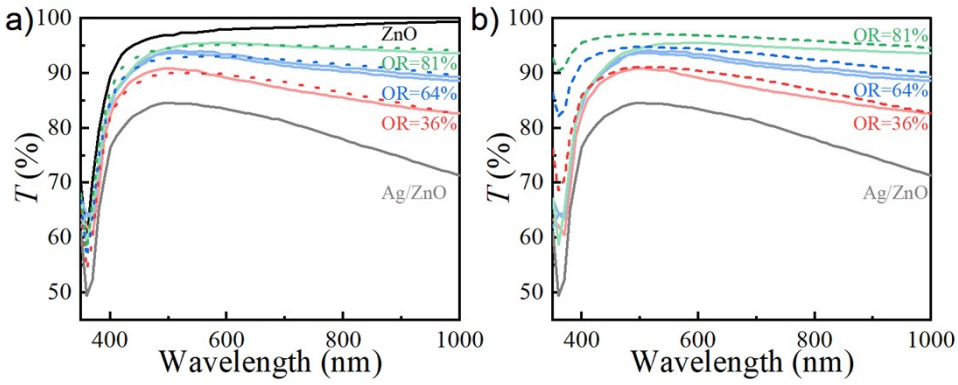

Fig. S3. Comparison of measured (solid curves) and calculated (dash curves) transmittance spectra of our patterned sub-10 nm ultrathin Ag films with OR = 36% (p = 50 µm, w = 20 µm), 64% (p = 50 µm, w = 10 µm; p = 100 µm, w = 20 µm), and 81% (p = 100 µm, w = 10 µm): a) measured transmittance spectra of the grid spacing (i.e., ~ 40-nm thick ZnO seed layer; black curve) and the grid line (i.e., the 8.4-nm ultrathin Ag film on top of the ZnO seed layer; Ag/ZnO; grey curve) are employed in the calculation; b) the grid spacing transmittance is assumed to be 1 in the whole wavelength range in the calculation. Equation (2) in the main text are employed for the calculations.