

Supporting Information

Fused Silver Nanowires with Metal Oxide Nanoparticles and Organic Polymers for Highly Transparent Conductors

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Table ST1. Comparison between high-temperature annealing treatment and TiO₂ sol-gel solution treatment.

Figure S1. (A) Optical transmittance spectra of AgNW-TiO₂ films with different sheet resistances. (B) Plot of sheet resistance *versus* film transmittance at 550 nm for AgNW-TiO₂ films.

Figure S2. Scanning electron micrographs of a pristine AgNW film without treatment. (A) Top view of crossed AgNWs. The arrow indicates the intersection point of two crossed AgNWs. (B) Cross-sectional SEM image of the intersection point indicated by an arrow in (A). (C) Enlarged cross-sectional SEM image.

Table ST1. Comparison between high-temperature annealing treatment and TiO₂ sol-gel solution treatment. The solution treatment can achieve resistance reduction similar to the high-temperature annealing method.

Sheet Resistance before treatment	Treatment method	Sheet resistance after treatment
>1 MΩ/sq	200 °C annealing for 15 min	~30 Ω/sq
>1 MΩ/sq	TiO ₂ sol-gel solution treatment	~20 Ω/sq

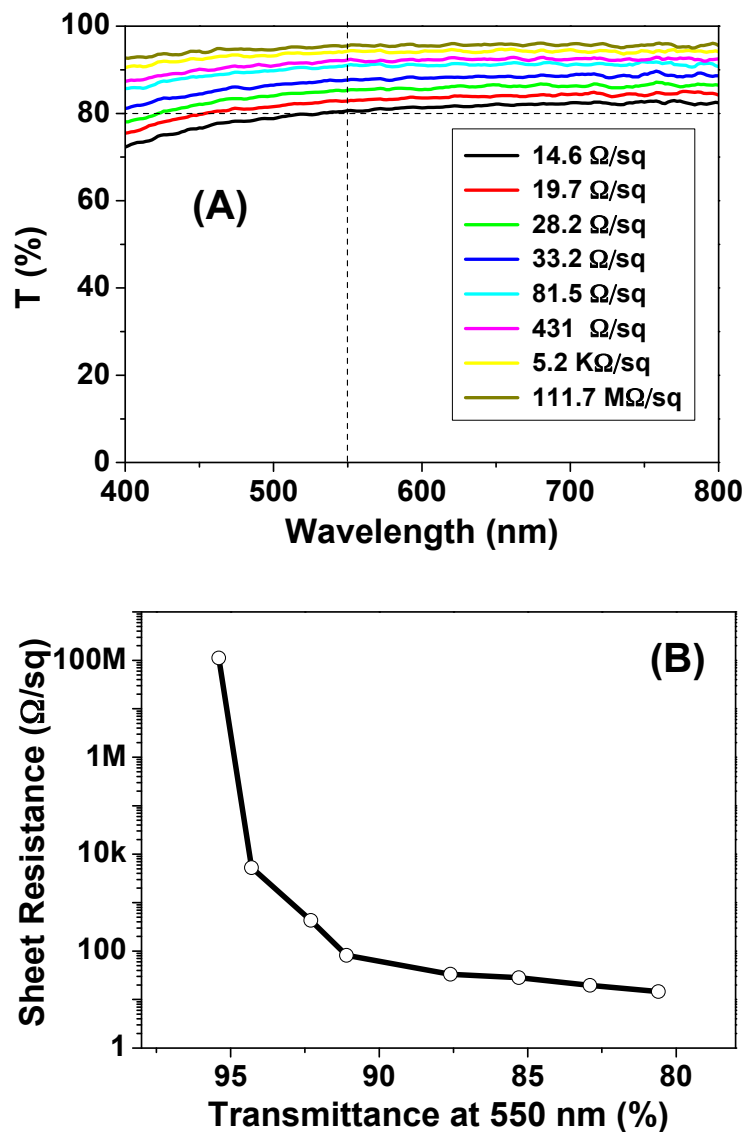


Figure S1. (A) Optical transmittance spectra of AgNW-TiO₂ films with different sheet resistances. (B) Plot of sheet resistance *versus* film transmittance at 550 nm for AgNW-TiO₂ films. Sheet resistances were measured using 4-point probe method.

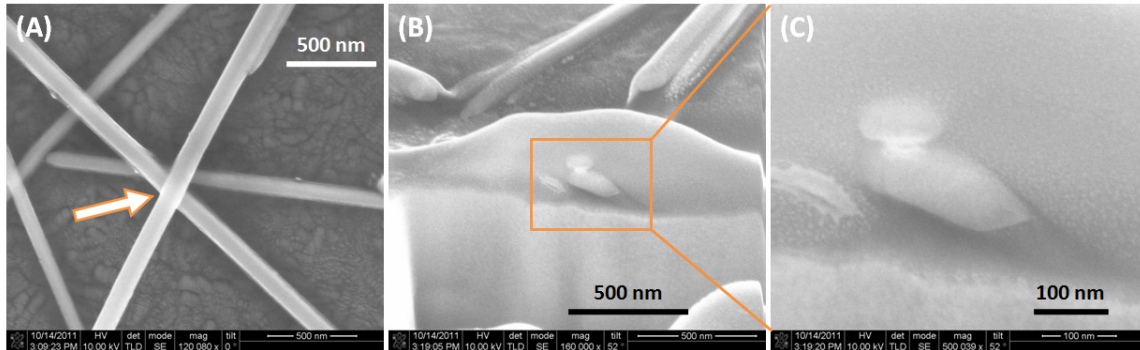


Figure S2. Scanning electron micrographs of a pristine AgNW film without treatment. (A) Top view of crossed AgNWs. The arrow indicates the intersection point of two crossed AgNWs. (B) Cross-sectional SEM image of the AgNW intersection point indicated by an arrow in (A). (C) Enlarged cross-sectional SEM image. The cross-sectional image is obtained through focused ion beam (FIB) milling technology. A small gap (~ 8 nm) can be observed between two crossed AgNWs. Platinum may diffuse into the gap when the platinum pat was deposited onto the intersection point in the FIB cutting process.