Electronic Supplementary Information (ESI)

Microfluidics-enabled Rational Design for Ag-ZnO Nanocomposite Films for Enhanced Photoelectrochemical Performance

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Section 1. Estimation of residence time distribution (RTD) of reactant streams in micro-T-mixer

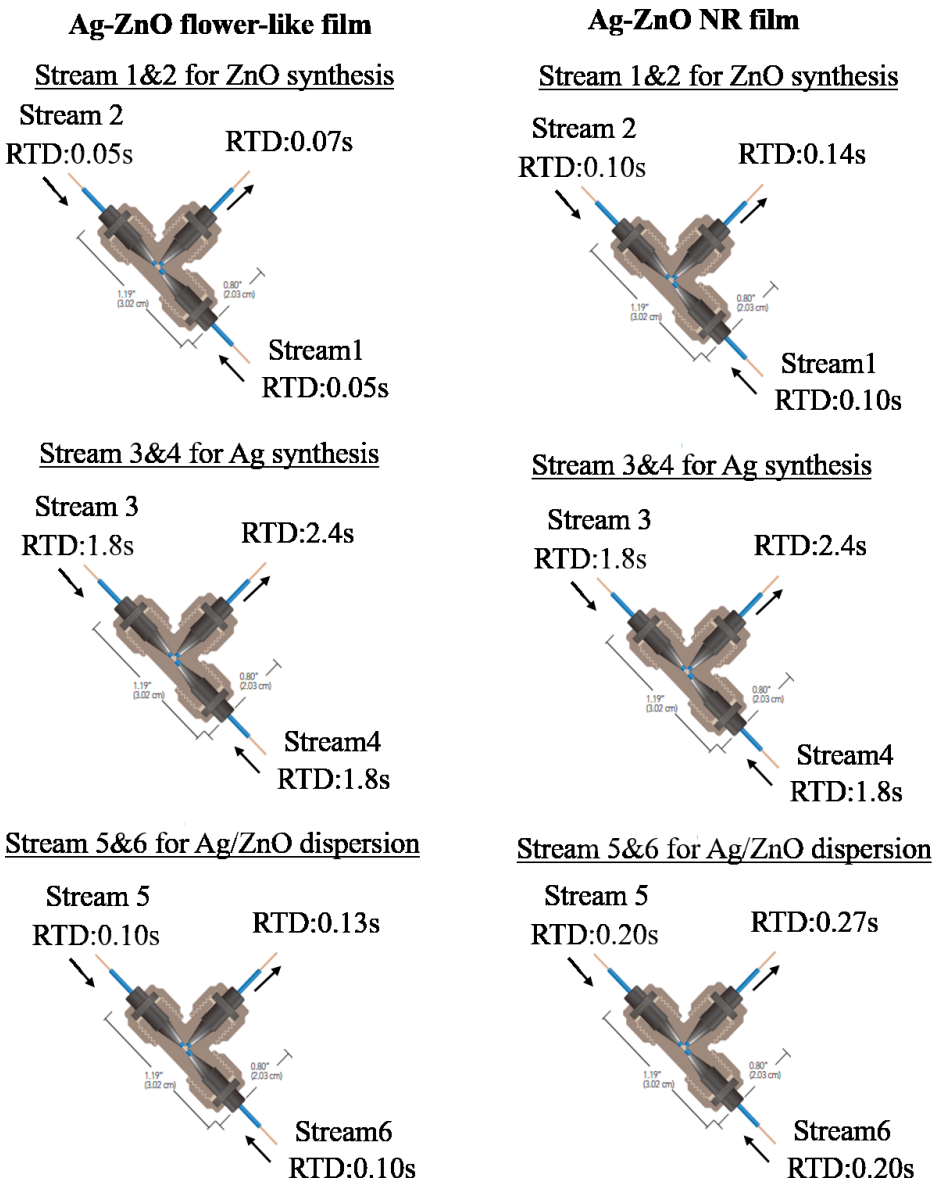

Figure S1. Residence time distribution (RTD) of the reactant streams in the individual micro-T-mixers.

The dimension of the T-mixer was provided by the T-mixer supplier, IDEX Health & Science LLC. The RTD was then estimated by dividing the volume of the reactor by the flow rate.

Section 2. XRD spectra of the pristine ZnO films

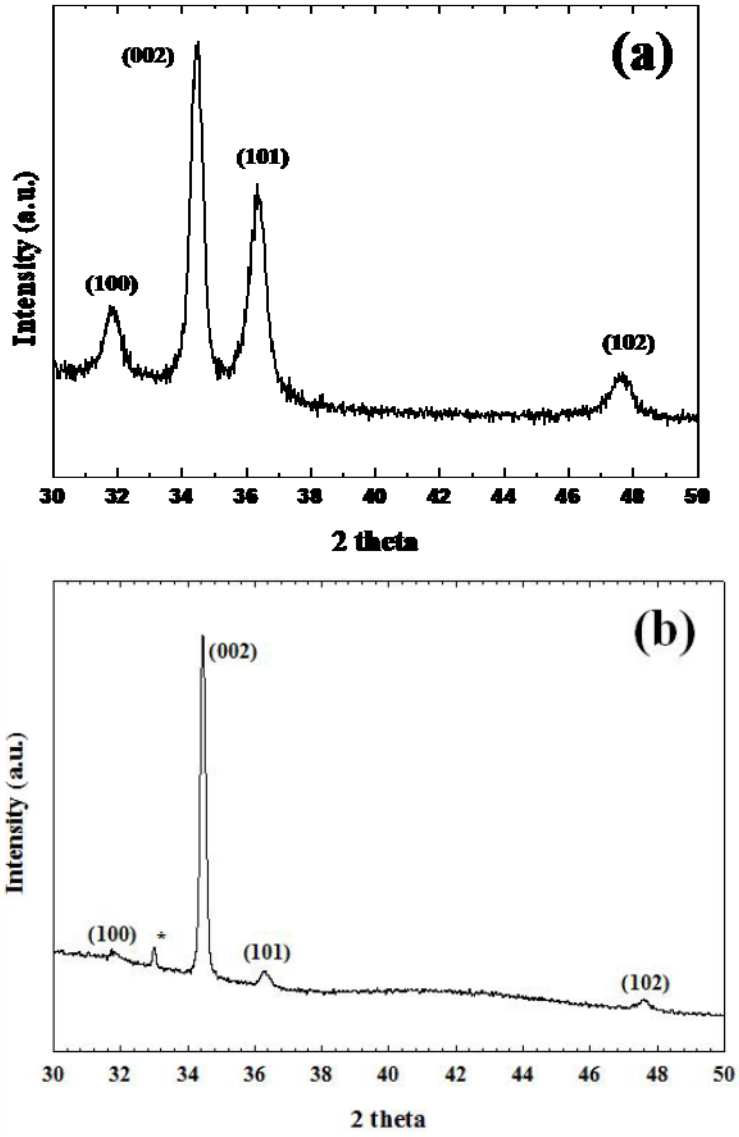

Figure S2. XRD spectrum of (a) pristine flower ZnO film and (b) ZnO NR array film (*: Si substrate).

Section 3. Thickness measurement of Ag-ZnO flower-like film and Ag-ZnO NR film prepared on Si/SiO_2 and FTO glass substrate

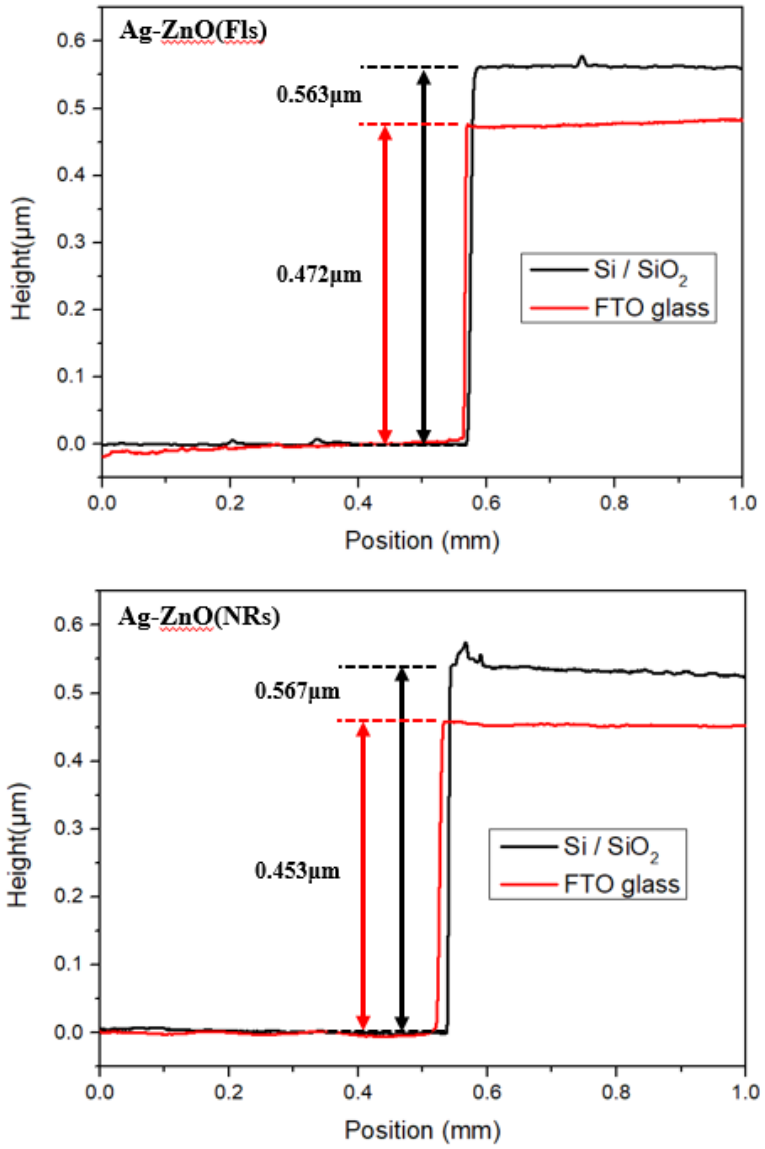

Figure S3. Thickness measurement of Ag-ZnO flower-like film and Ag-ZnO NR film prepared on Si/SiO_2 and FTO glass substrate.

The nanocomposite films were deposited for 6 min. and 14 min. on Si/SiO_2 substrate and FTO glass substrate, respectively.

Section 4. Bandgap energy of the pristine ZnO films and the nanocomposite films.

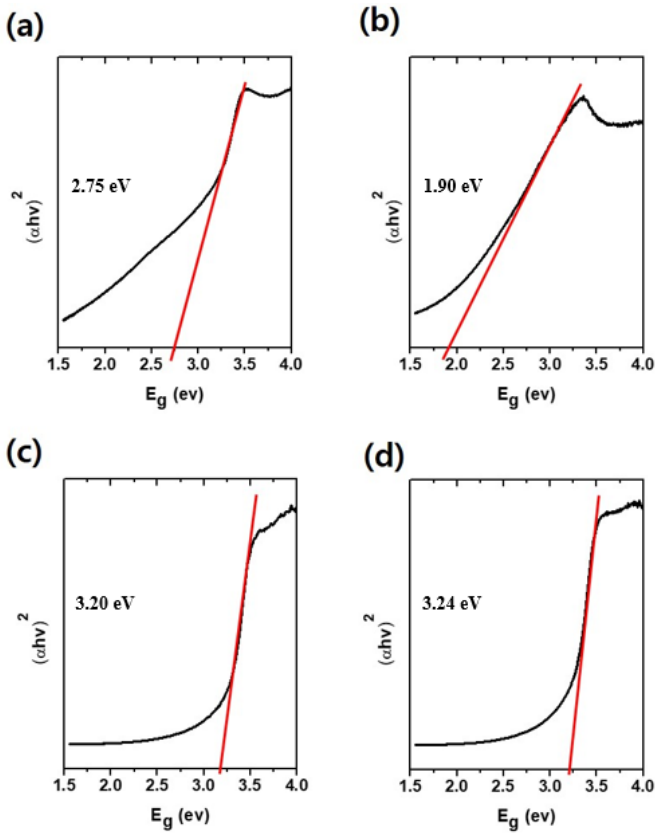

Figure S4. Bandgap energy of (a) Ag-ZnO NR film, (b) Ag-ZnO flower-like film, (c) pristine flower ZnO film and (d) pristine ZnO NR array film.