

Supplementary Information

A Novel Multifunctional Polymer Ionic Liquid as an Additive in Iodide Electrolyte Combined with Silver-Mirror Coating Counter Electrodes for Quasi-Solid-State Dye-Sensitized Solar Cells

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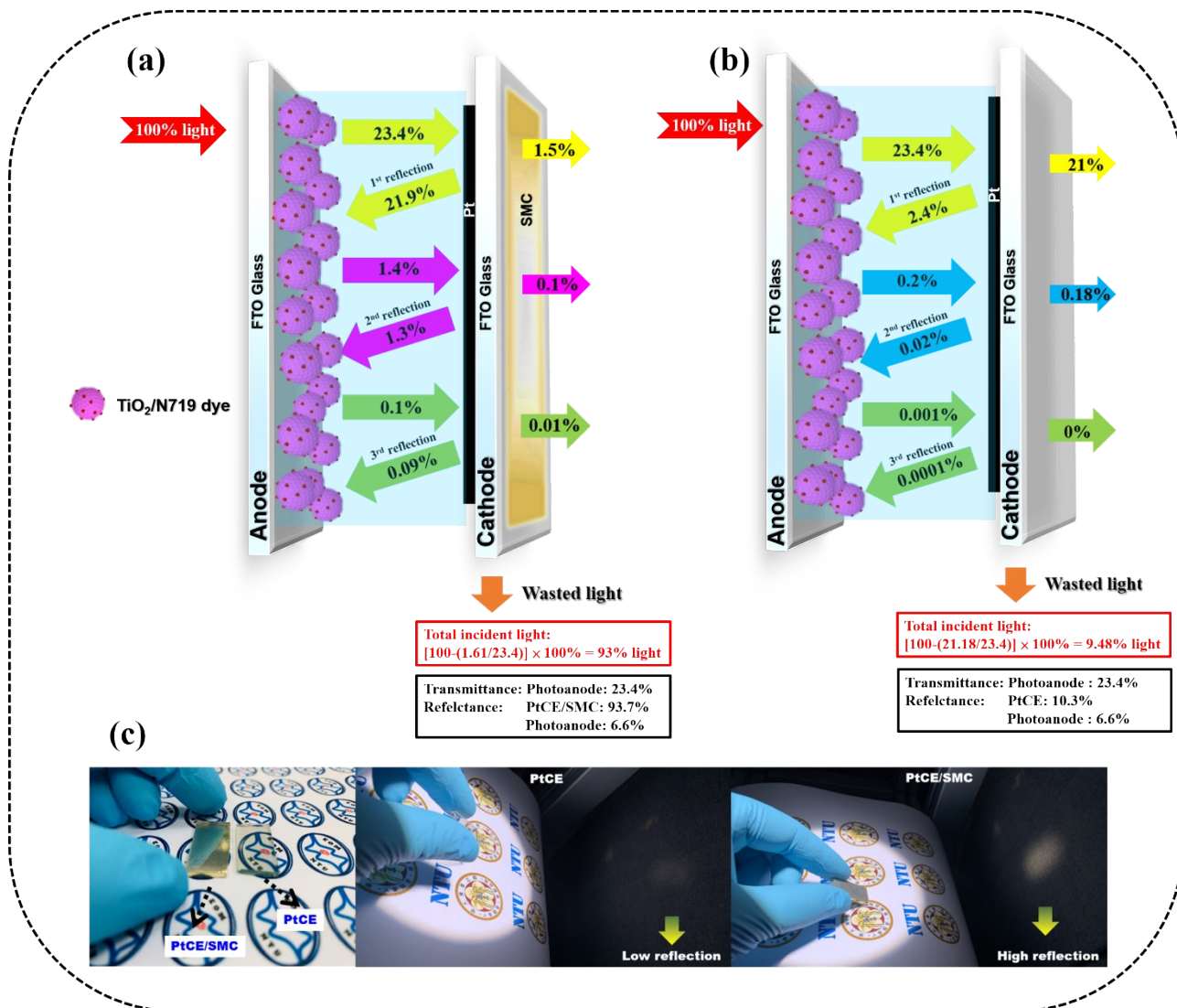
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Scheme S1 The schematic shows the percentage of total incident light corresponding to different counter electrodes after three reflections of incident light for a DSSC with (a) silver mirror counter electrode (PtCE/SMC) (b) platinum counter electrode (PtCE) and (c) digital photographical images for PtCE/SMC and PtCE and their light reflection process.

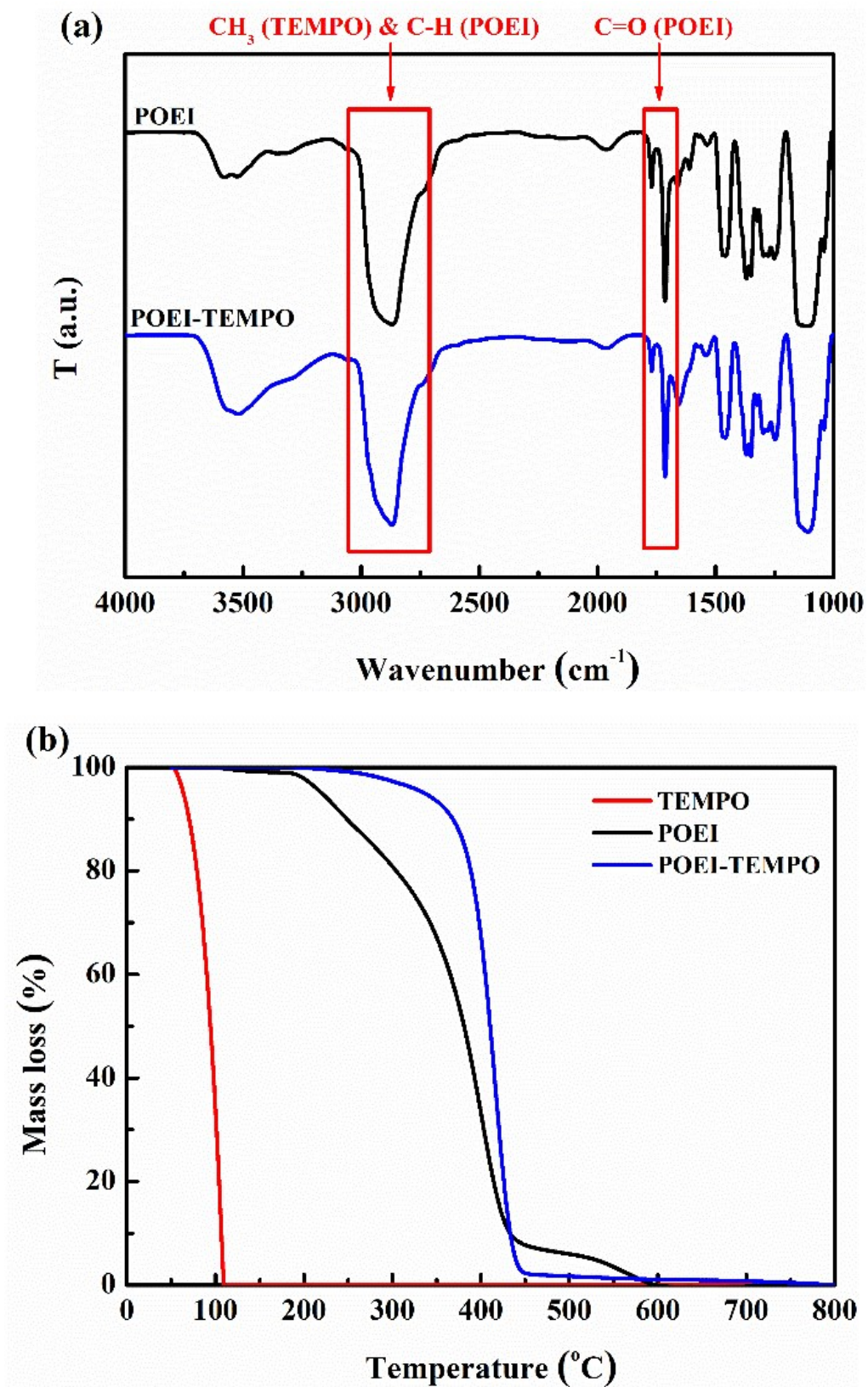
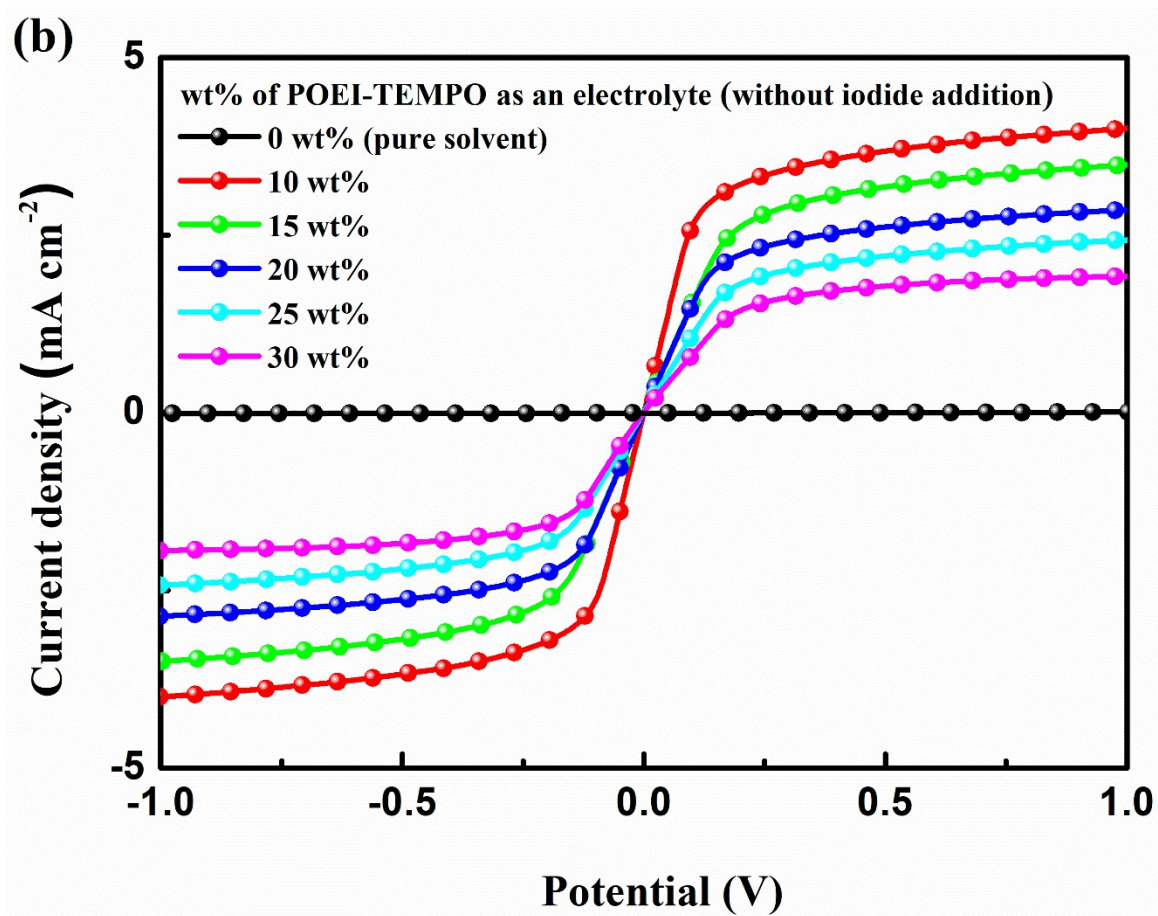
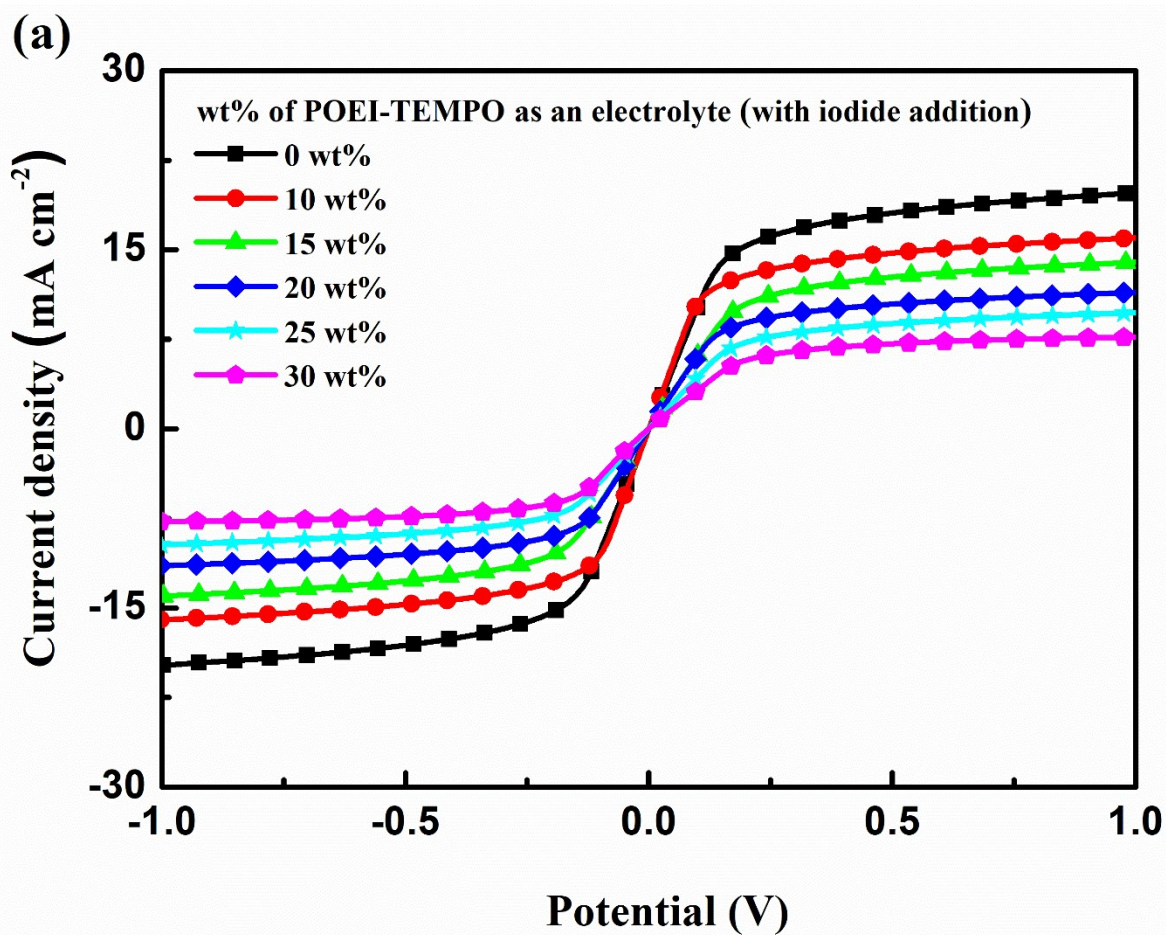


Fig. S1 (a) FT-IR and (b) thermogravimetric analysis curves for the TEMPO, POEI, and POEI-TEMPO.



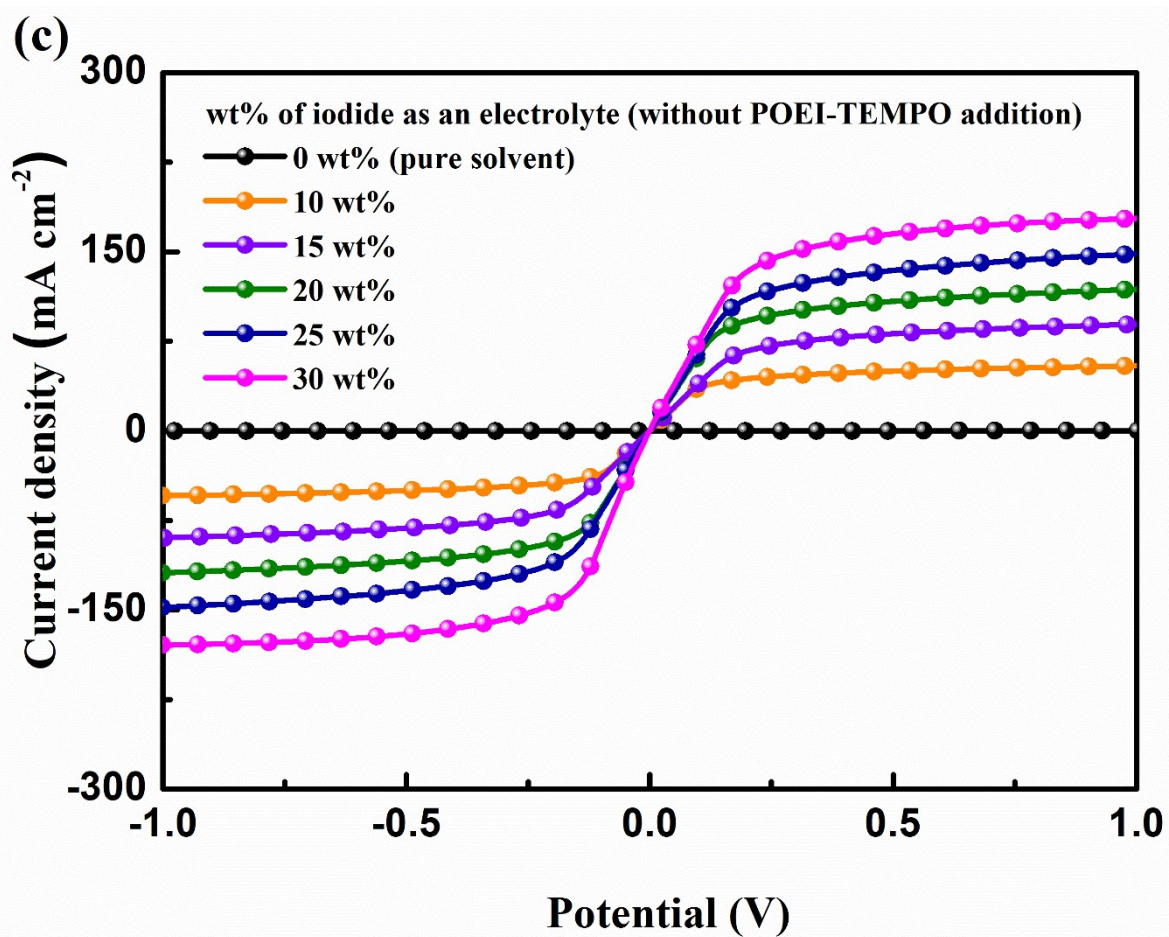


Fig. S2 Linear sweep voltammetry curves of (a) POEI-TEMPO coupled with iodide (b) pristine POEI-TEMPO (c) pristine iodide addition as the electrolytes, at a scan rate of 10 mV s⁻¹.

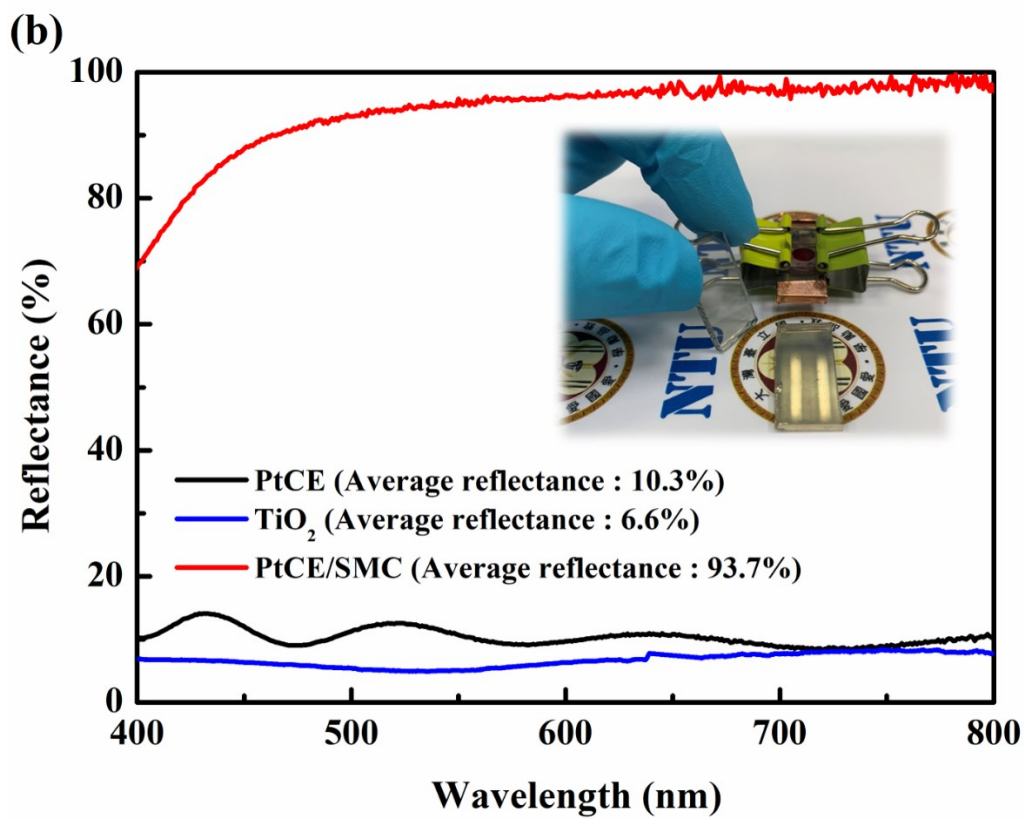
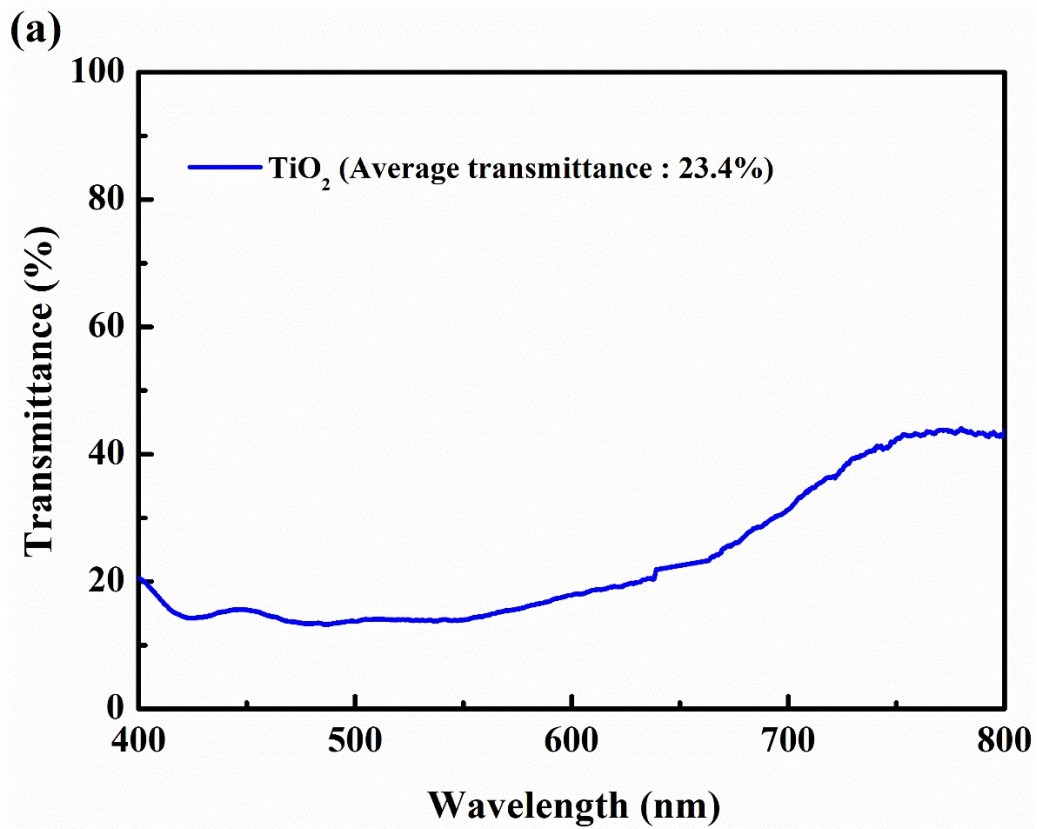


Fig. S3 UV-Vis spectra of (a) only TiO₂ photoanode transmittance and (b) reflectance of TiO₂ photoanode and different counter electrodes PtCE and PtCE/SMC. The inset contains the photographical image of PtCE, PtCE/SMC and fabricated cell.