Electronic Supplementary Information

Zn-doped TiO_2 Electrodes in Dye-Sensitized Solar Cells for Enhanced Photocurrent

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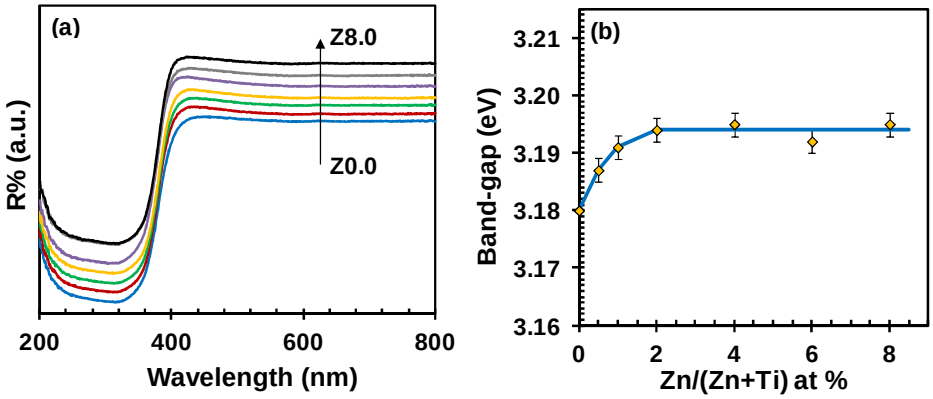

Figure SI1. (a) UV-vis diffuse reflectance spectra of the prepared samples (offset by 5), from bottom to top: Z0.0, Z0.5, Z1.0, Z2.0, Z4.0, Z6.0, Z8.0), and (b) the band-gap calculated from (a).

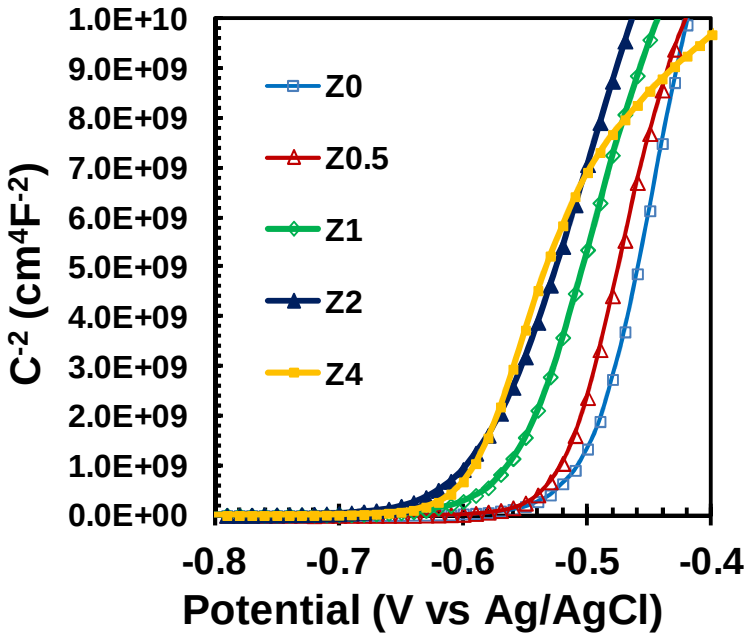

Fig. SI2 Mott-Schottky plots of the Z0, Z0.5, Z1, Z2 and Z4 samples.

Table S1 The calculated E_{fb} and charge carrier (donor) density from Mott-Schottky plots (Figure SI2).

Sample Name	Zn/(Zn+Ti) at %	E_{fb} (eV vs Vacuum)	Charge Carrier Density (cm^3)
Z0	0	-4.16	2.36×10^{19}
Z0.5	0.5	-4.14	2.52×10^{19}
Z1	1	-4.10	3.20×10^{19}
Z2	2	-4.05	3.50×10^{19}
Z4	4	-4.04	3.57×10^{19}

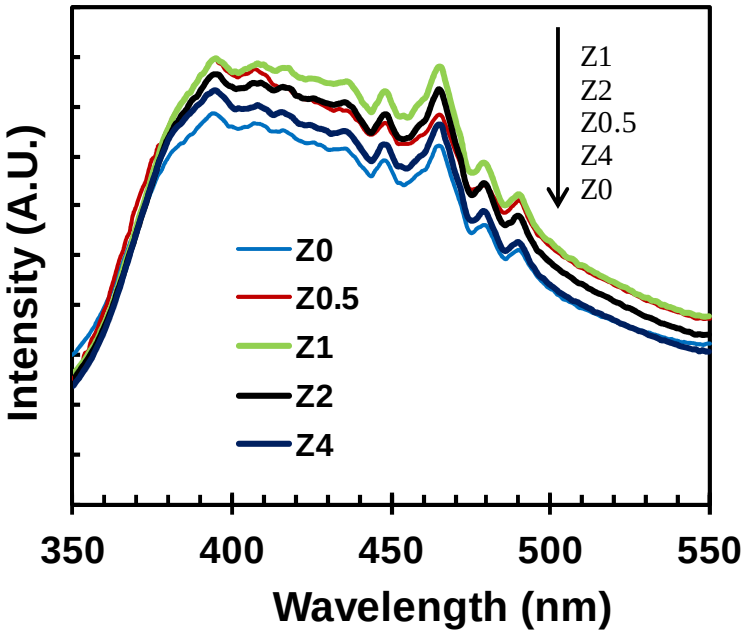

Fig. SI3 The photoluminescence spectra of Z0, Z0.5, Z1, Z2 and Z4 samples (Excited at 300nm).

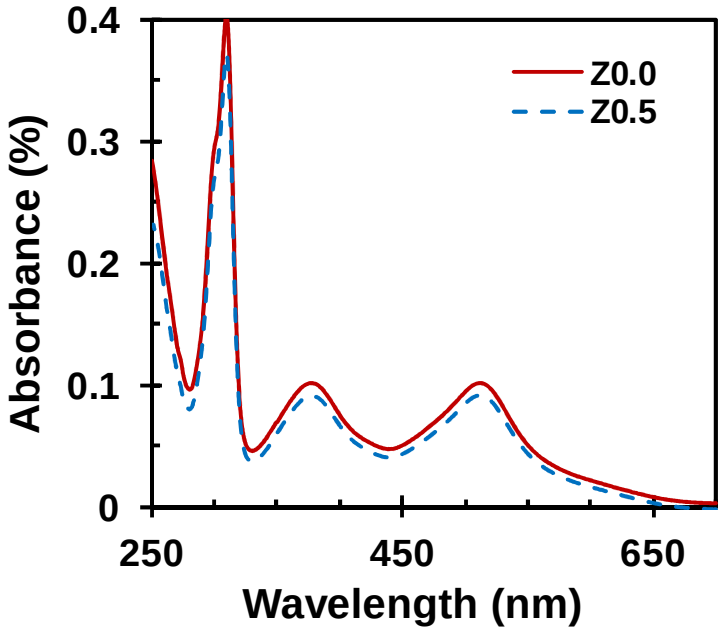

Figure SI4. UV-vis spectra of desorbed dye from the Z0.0 and Z0.5 samples.