SUPPORTING INFORMATION

Nanowire-based Multifunctional Antireflection coatings for Solar cells

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The transmission and reflectance spectra shown in the main text are from direct light measurements. However, given the nature of the NWs, it is possible that the diffuse component may be significant. In order to assure the accuracy of the data, a series of measurements were conducted in a setup equipped with an integrating sphere, to take diffuse light into account. Transmission was measured for all combinations possible, that is: bare glass, ZnO NWs, ITO coated glass and ZnO NWs on ITO coated glass. Further, solar cells where fabricated, with all the polymer layers. Transmission through them was measured. These results are shown on figure S1(a). The ZnO coated samples have a slightly higher transmission the their counterparts without NWs. More importantly, when the solar cell is constructed, the ZnO NW coated cell shows a lower transmission through the polymer, consistent with the results that more light is being absorbed at the polymer layer. In fact, figure S1(b) shows the reflectance from the solar cells upon the addition of a Al back contact on the cell (Refer to figure 1 on main text for solar cell structure). Reflection for the ZnO NW coated solar cell is reduced.

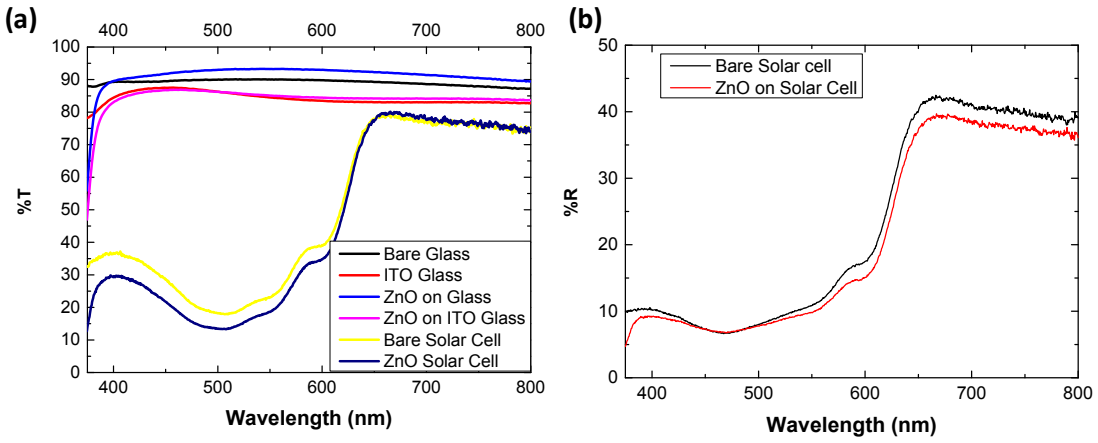

Figure S1: Optical properties of the various components making the solar cell measured through an integrating sphere (a) Transmission spectra of individual components and a solar cell without a metal back contact (b) reflection spectra of full solar cells with back contact