Supplementary Information

Metal / Metal Sulfides Functionalized Single-walled Carbon Nanotubes: FTO-free Counter Electrodes for Dye Sensitized Solar Cells

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Figure 1: X-ray diffraction (XRD) spectra of Co$_{8.4}$S$_8$ and Co$_{8.4}$S$_8$ on CNT: (i) undetected Co$_{8.4}$S$_8$ peak in Co$_{8.4}$S$_8$ spectra, and (ii) peak of CNT (101).

Figure 2: XRD spectra of Ni$_3$S$_2$ with (above) and without (below) CNT film as a base layer: * mound from amorphous carbon.
Fig. 3. (a) Charge transfer ($R_{CT}$) and (b) bulk diffusion ($R_{Diff}$) resistances obtained from Nyquist plots when biased across the range of 0.45V to 0.7V; (c) a Nyquist plot of the same CNT/nanocomposites-based symmetrical half cells when biased at 0.7V. Data for Pt (without CNT) is shown here for reference.

Fig. 4. Bode plots for (a) Pt/FTO, (b) Pt/CNT, (c) CoS/CNT and (d) NiS/CNT when their corresponding symmetrical half cells were biased at 0.7V.