Supporting Information

Triarylamine-based hydrido-carboxylate rhenium(I) complexes as photosensitizers for dye-sensitized solar cells.

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Figure S1. Hydrogens on **D35** derivatives labeled for NMR spectra interpretation

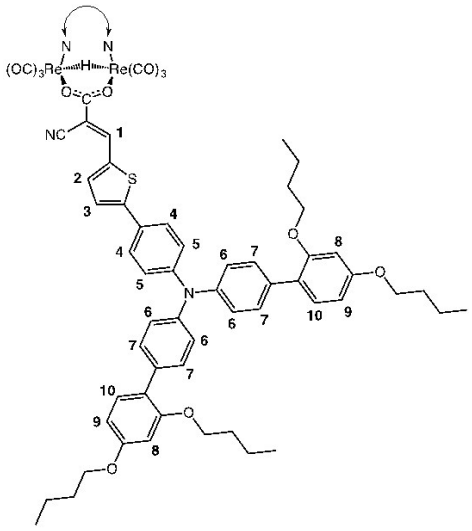

Figure S2. ^{1}H NMR spectrum of $[Re_2(\mu\text{-}H)(\mu\text{-}D35)(CO)_6(\mu\text{-}ppd)]$ in CD_2Cl_2 (400 MHz)

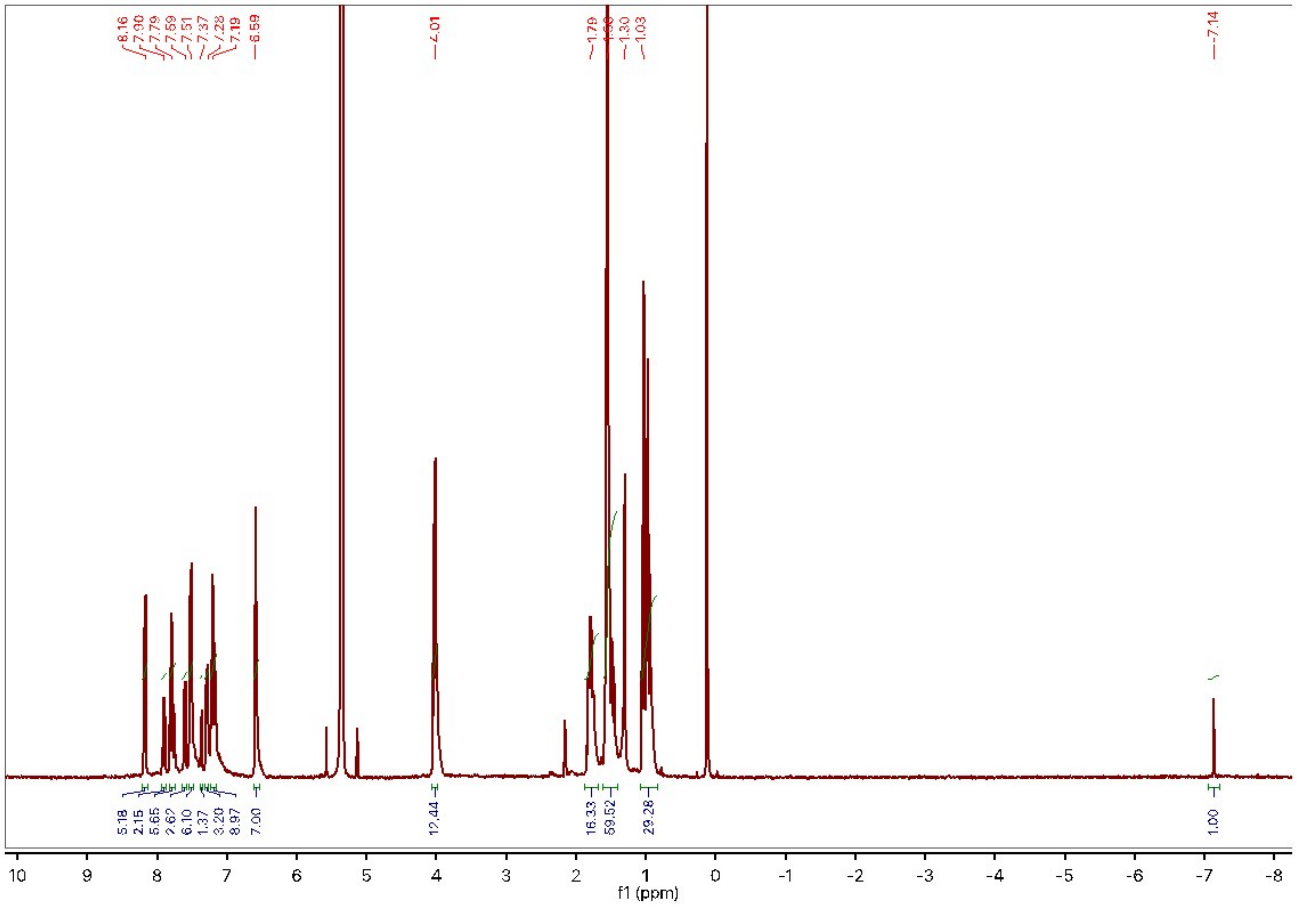

Figure S3. ^{1}H NMR spectrum of **2** in CD_2Cl_2 (400 MHz)

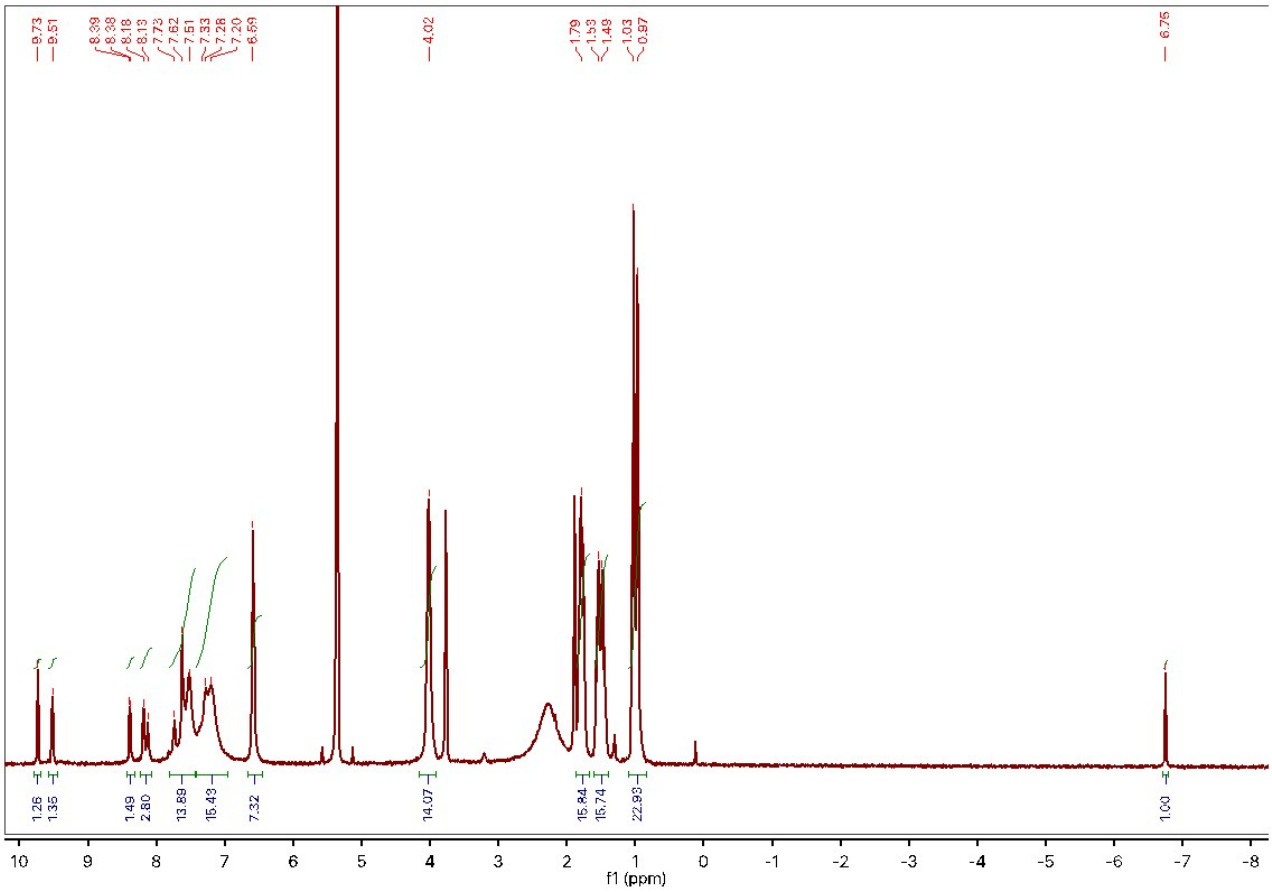

Figure S4. ^{1}H NMR spectrum of **3** in CD_2Cl_2 (400 MHz)

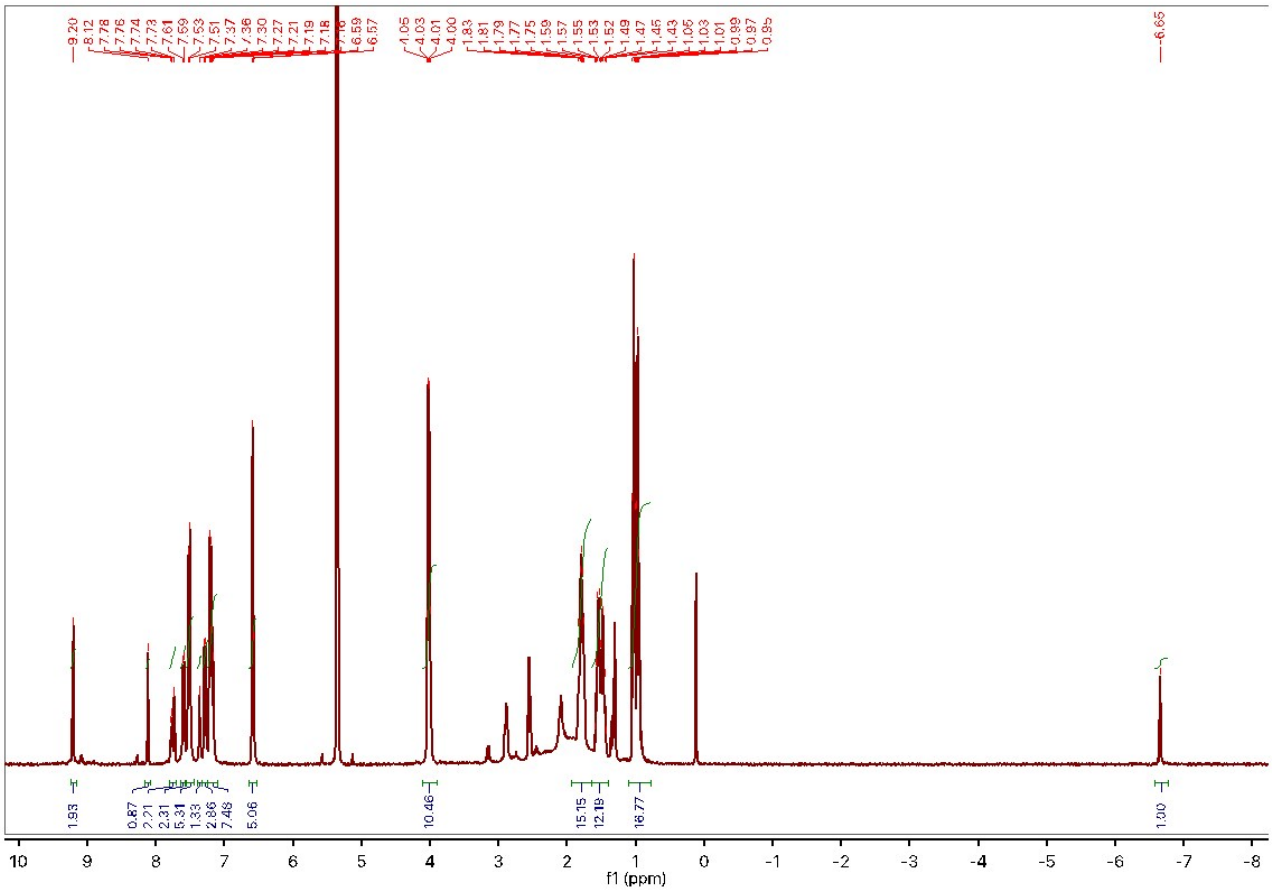

Figure S5: UV-Vis absorption spectra of dyes **1-3** absorbed on TiO_2

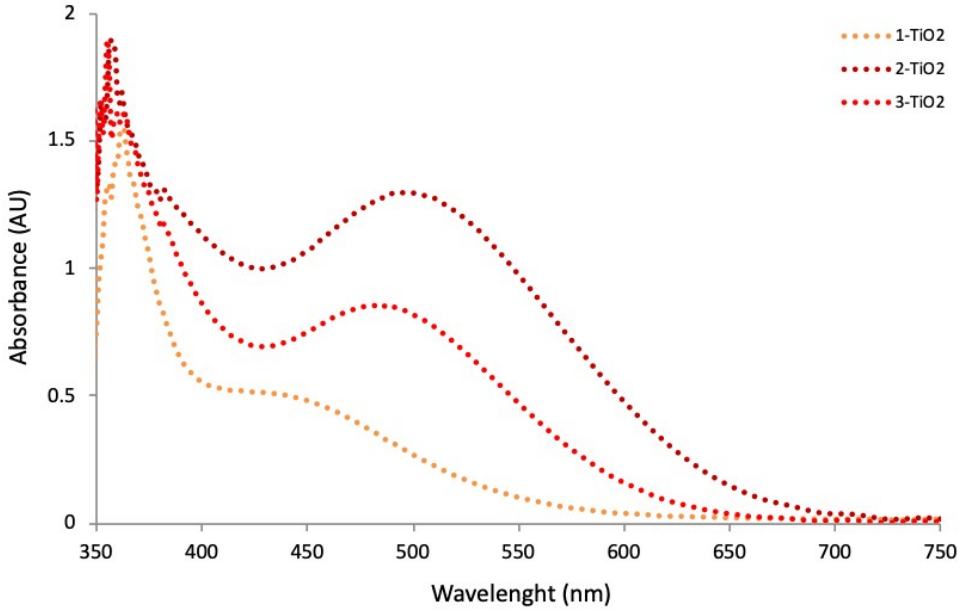

Table S1: Photovoltaic parameters for optimized cells sensitized by **1** using homemade Iodine based (IE) and cobalt (CE) electrolytes. SnO_2 has been used as semiconductor only with dye **1**, in two different conditions: as transparent layer alone and coupled with a TiO_2 scattering layer (please note that thickness, counters and electrolytes are comparable to the all- TiO_2cells reported in the draft). In addition to that, I have also tried a bromide/tribromide electrolyte on these cells with tin oxide, but the electrolyte almost instantly swept away/degraded the dye and those cells did not perform at all.

DYE 1	I^-/I^{3-}				Co^{2+}/Co^{3+}			
	J_{sc} (mA/cm^2)	V_{oc} (V)	FF	η (%)	J_{sc} (mA/cm^2)	Voc (V)	FF	η (%)
SnO_2 transparent layer	-0.57	0.36	0.62	0.13	-0.66	0.34	0.56	0.13
SnO_2 transparent layer + TiO_2 scattering layer	-1.41	0.39	0.6	0.33	-2.17	0.39	0.65	0.55