

Electronic Supplementary Information

Redox couple related influences of π -conjugation extension in organic dye-sensitized mesoscopic solar cells

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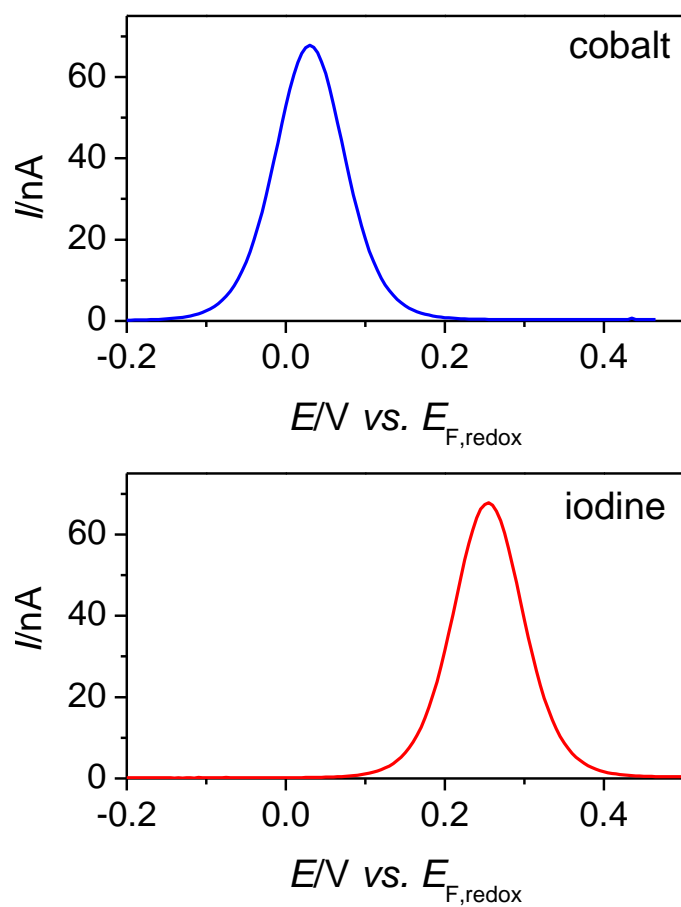


Fig. S1 Square-wave voltammograms of ferrocene dissolved in acetonitrile measured with the homemade cobalt and iodine reference electrodes.

Table S1 Dipole moments and polarizabilities of T1 and T3 calculated at the B3LYP level

dye	dipole/D	polarizability/Å ³
T1	10.8	87.5
T3	12.4	130.3

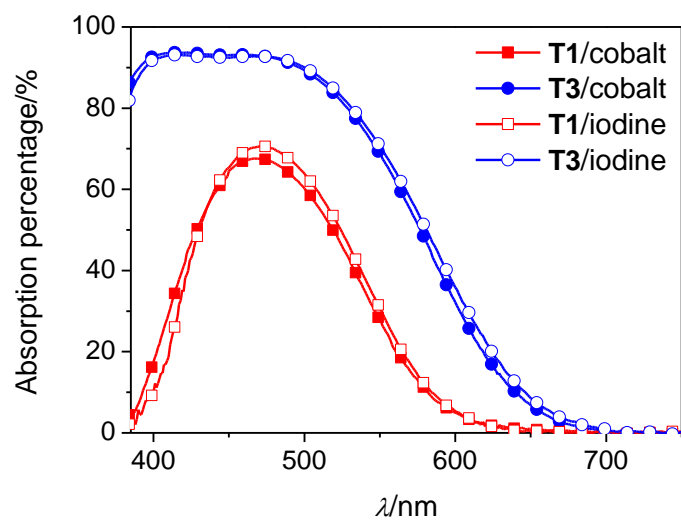


Fig. S2 Absorption percentages of 2.8- μm -thick, dye-coated titania films in contact with the cobalt and iodine electrolytes.

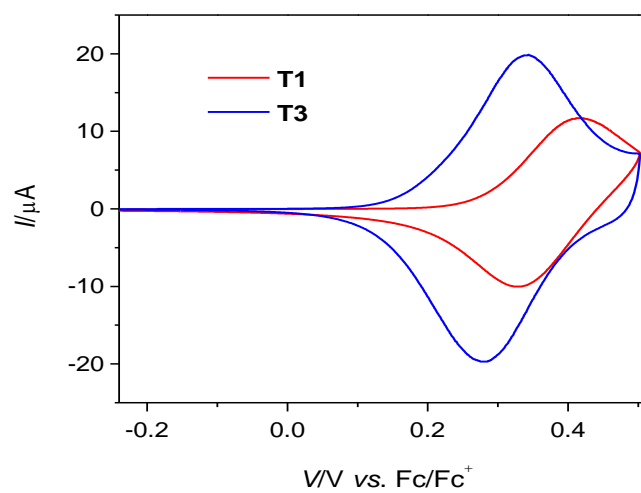


Fig. S3 Cyclic voltammograms of dye-coated titania films immersed in 1-ethyl-3-methylimidazolium bis(trifluoromethanesulfonyl)imide.

Table S2 Half-reaction time derived from transient absorption measurements

dye	inert electrolyte	cobalt electrolyte	iodine electrolyte
T1	3 ms	8 μ s	2 μ s
T3	6 ms	21 μ s	36 μ s