

Electrolyte containing lithium cation in squaraine-sensitized solar cells:
interactions and consequences on the performances and charge transfer
dynamics

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Supporting Information

Figure S1. Photo-luminescence decay of VG1 (0.1 mM) in ethanol solution with different concentration of CDCA. The bi-exponential deconvolution and the IRF is also reported for each PL decay.

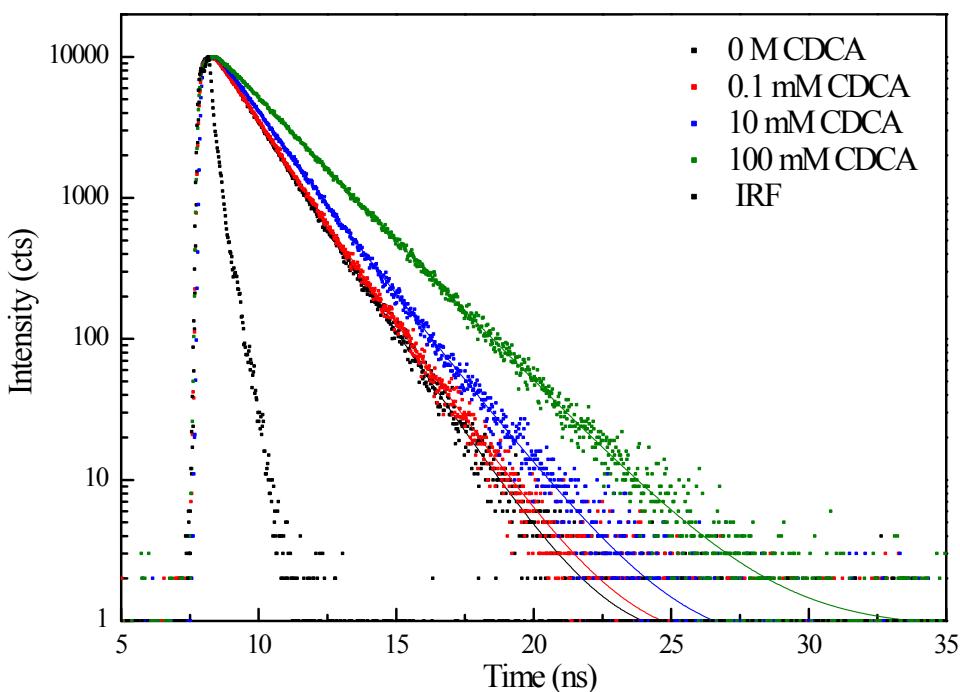


Figure S2. 2D (a) and 3D (b) mapping of the emission/excitation steady state spectra of VG1 0.1 mM dye solution in Ethanol without and with 10 mM of CDCA.

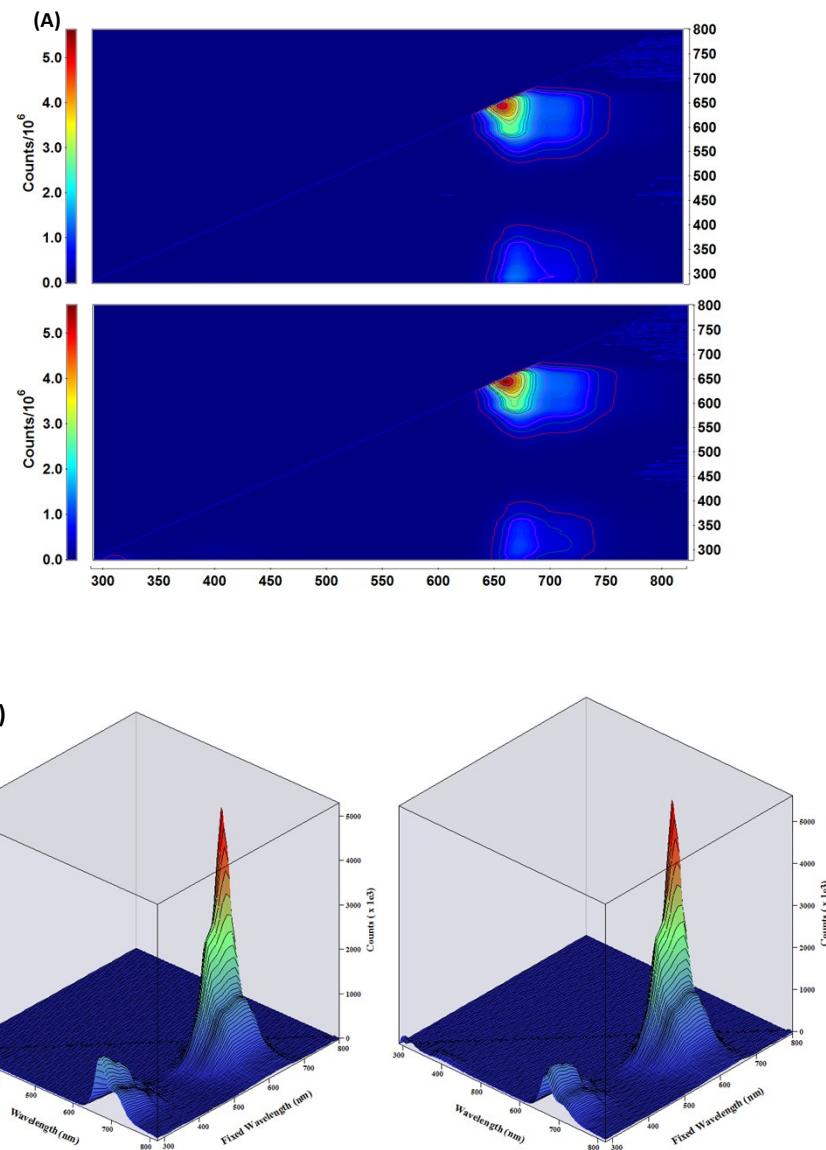


Figure S3. Time-resolved PL decays for VG1-based DSSC containing different amount of Li^+ in the electrolyte. The deconvoluted exponentials decays are indicated by the plain line.

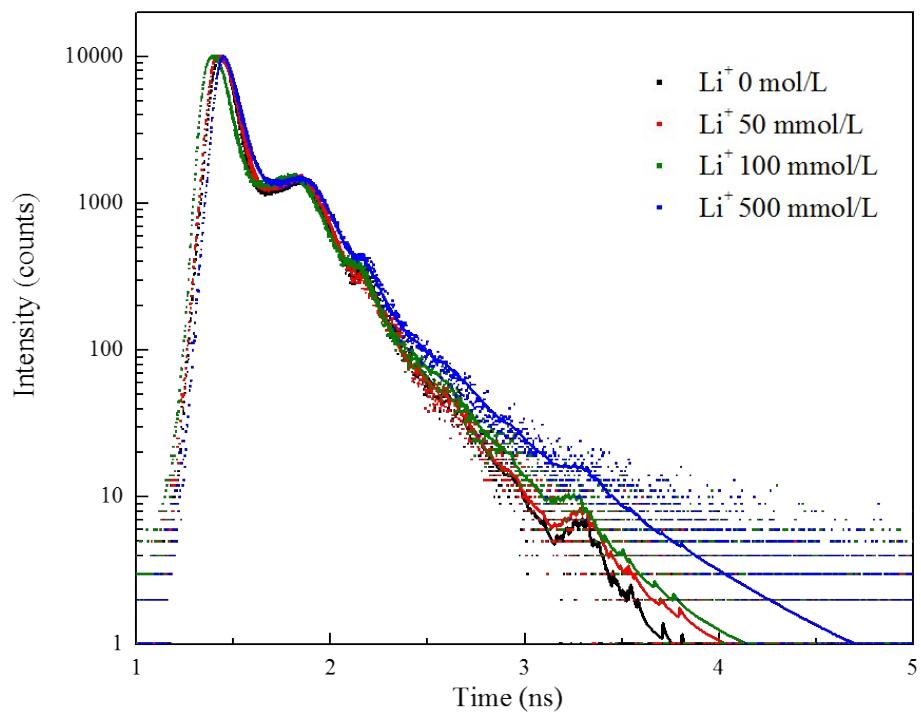


Figure S4. Example of femtosecond transient decay (dot) of VG1-based DSSC probed at 508 nm, 555 nm and 590 nm (pumped at 640 nm) for an electrolyte-free of lithium. The solid line corresponds to the fit of the decay with a sum of two stretched exponentials.

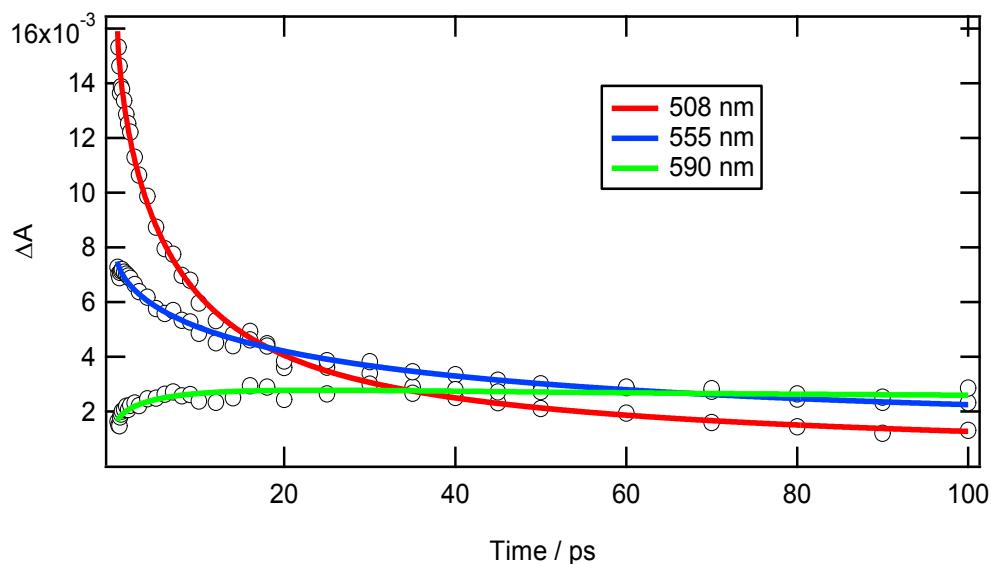


Figure S5. Mass spectrogram of VG1 alone in ethanol (a) and containing an equivalent of LiI corresponding to a complete device including an electrolyte with 500 mmol/L ($7.4 \cdot 10^{-5}$ mol of LiI) (b).

