Supporting Information

Effect of Annealing on Exciton Diffusion in a High Performance Small Molecule Organic Photovoltaic Material

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1. Fluorescence spectra in film and solution

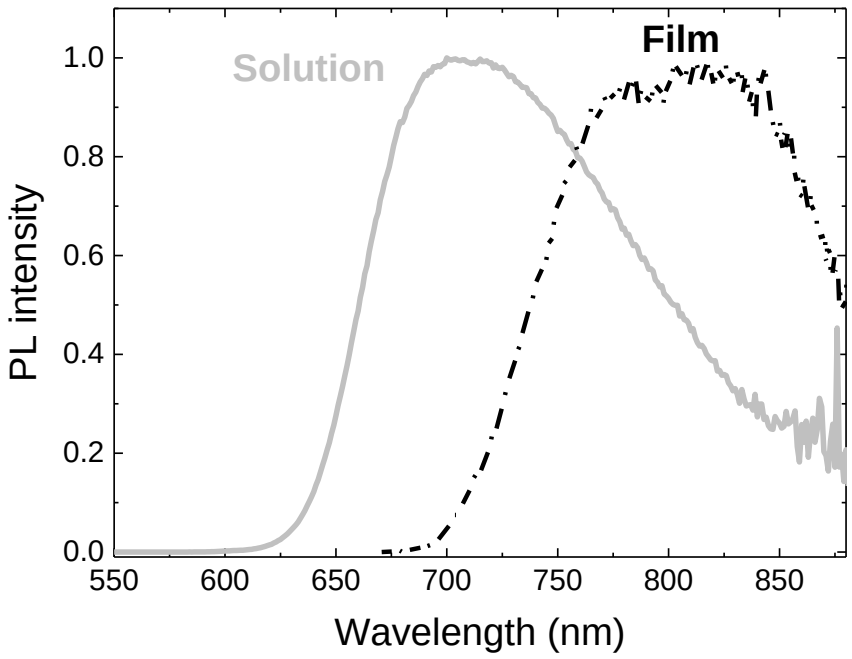

Figure S1 Time-integrated fluorescence spectra of DTS($FBTTh_2$)$_2$ in solution and in as cast film.

2. Time-resolved fluorescence spectra in film

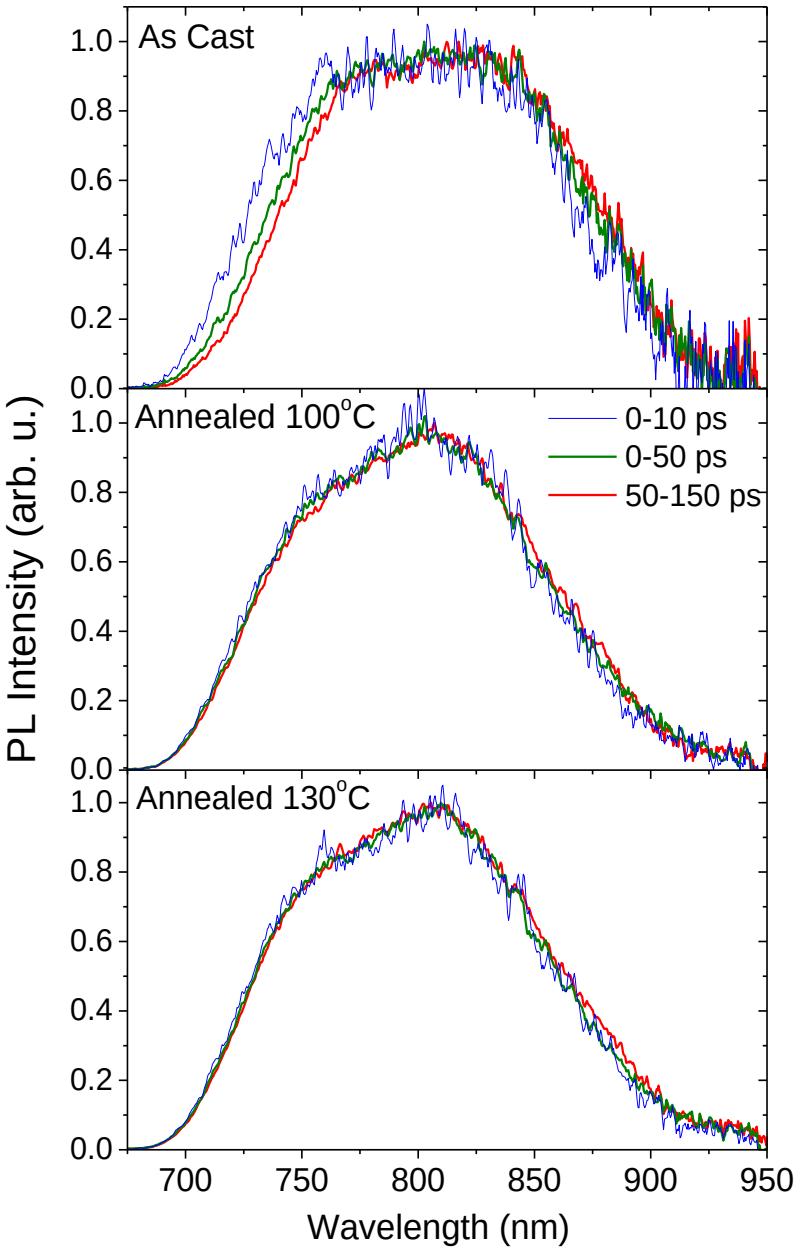

Figure S2. Fluorescence spectra of as-cast and annealed DTS(FBTTh$_2$)$_2$ films measured in different time windows after excitation at 650 nm.

3. Fluorescence decays in films on quenching substrate and in reference films.

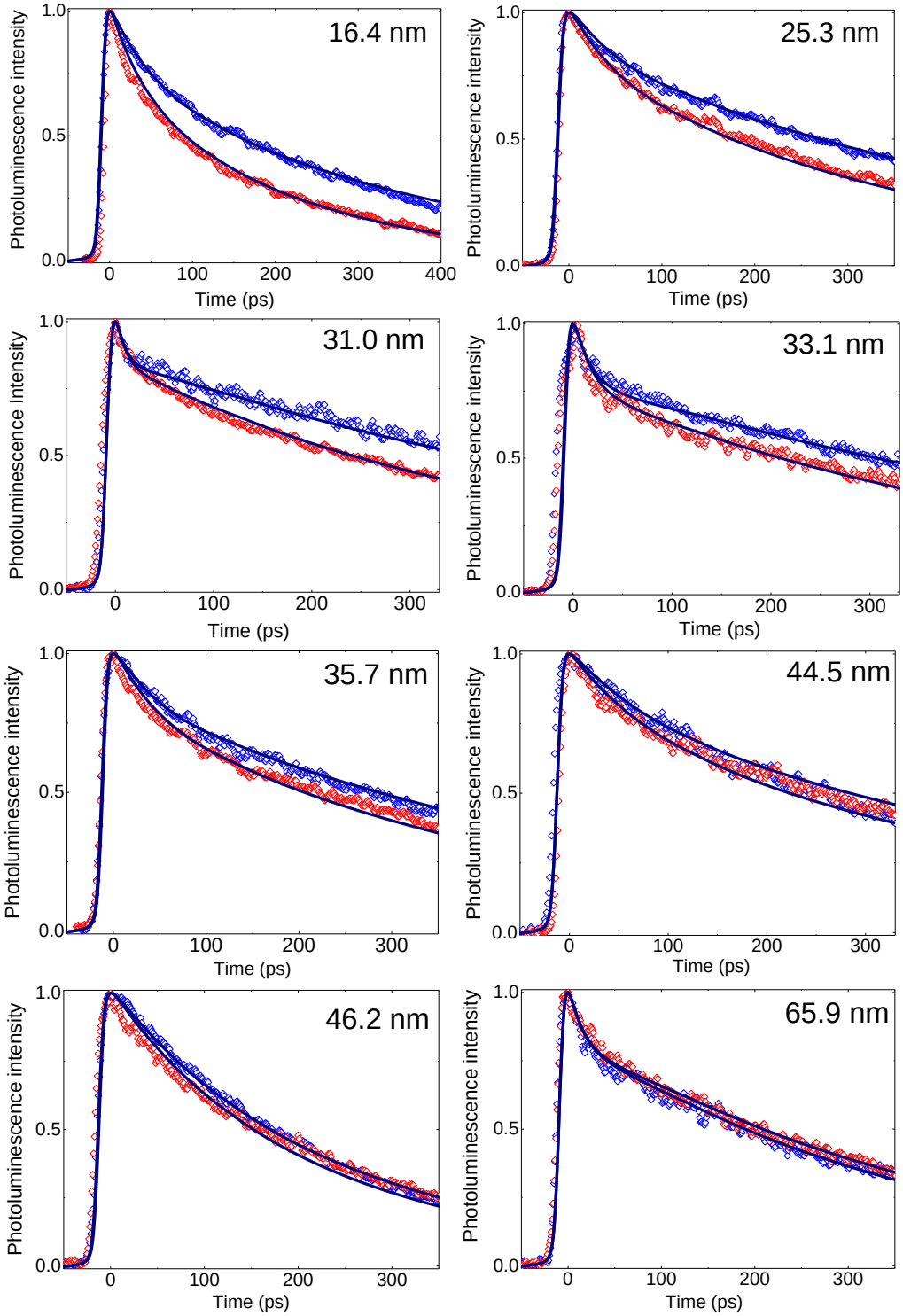

Figure S3 Time resolved fluorescence for as-cast DTS(FBTTh$_2$)$_2$ films with varying thicknesses deposited on quencher layer (crosslinked PCBSD). The photoluminescence decay of each DTS(FBTTh$_2$)$_2$ film in the presence of the quencher is shown in red alongside a pristine film (blue symbols) of the same thickness. (Global fitting to the PL decays are shown as dark blue solid lines.)

4. Fluorescence decays in thicker films.

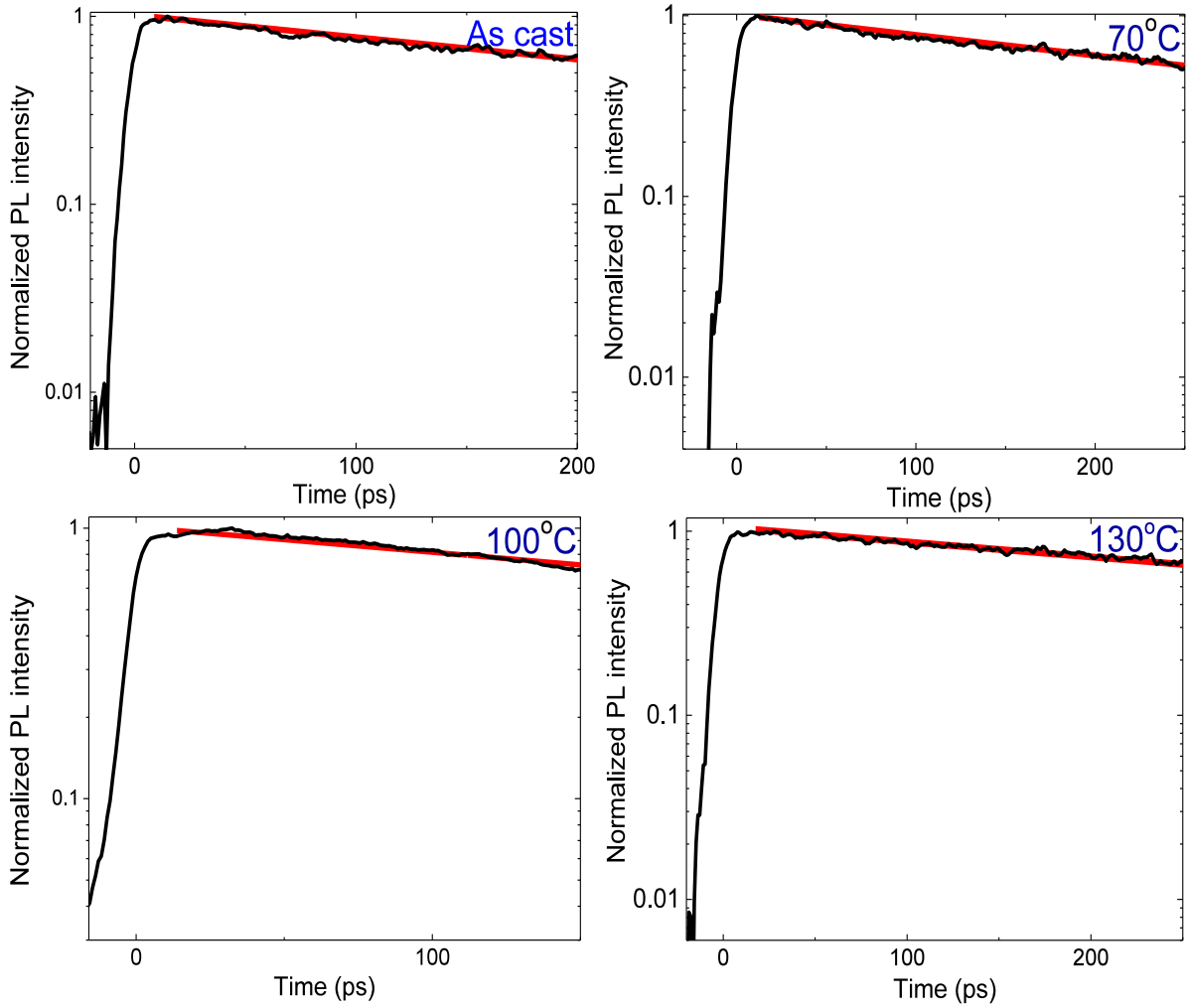

Figure S4 Photoluminescence decay measured in 53 nm thick as-cast and annealed films at low excitation densities, with the single exponential fittings shown in red.