Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Effect of a heavy heteroatom on triplet formation and interactions in single conjugated polymer molecules and aggregates

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Supporting Information

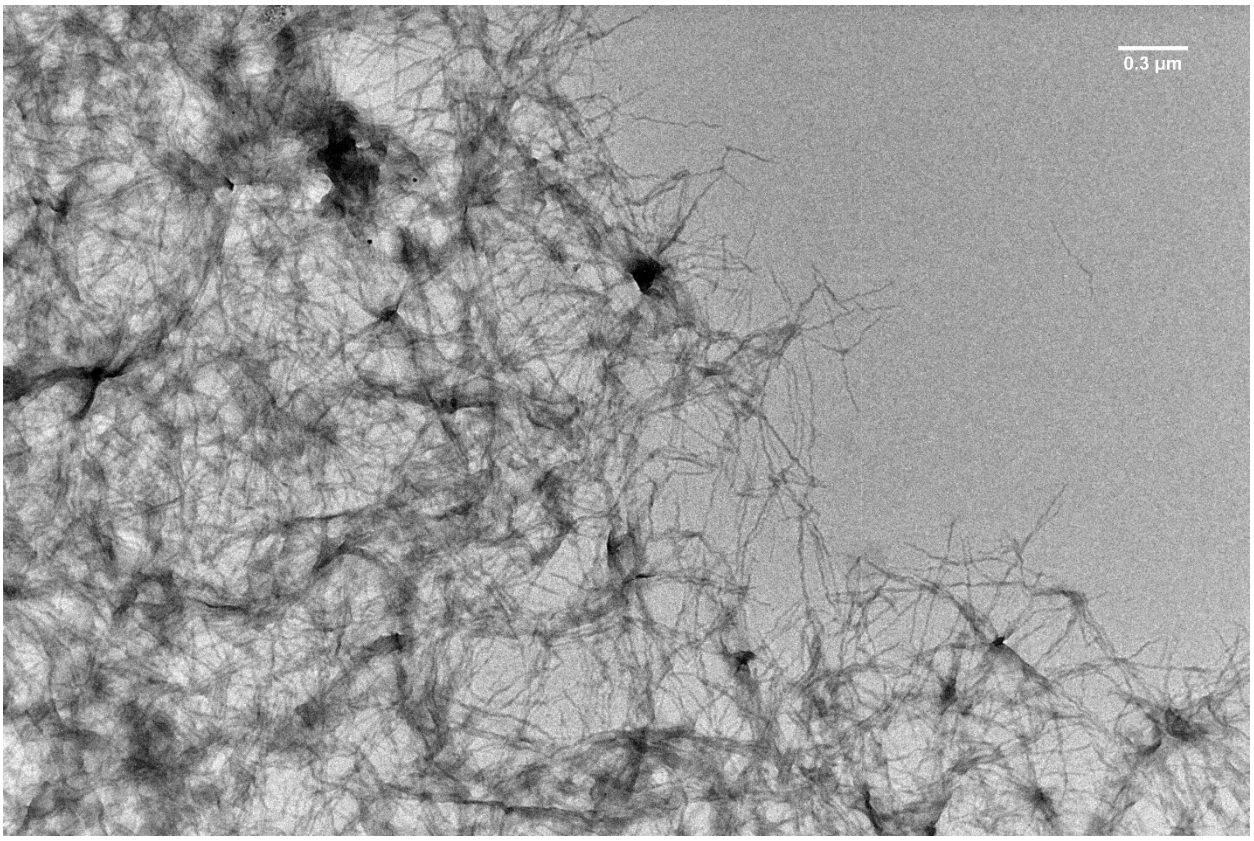

Figure S1. TEM images of P3HS cast from anisole (scale bar= 300 nm).

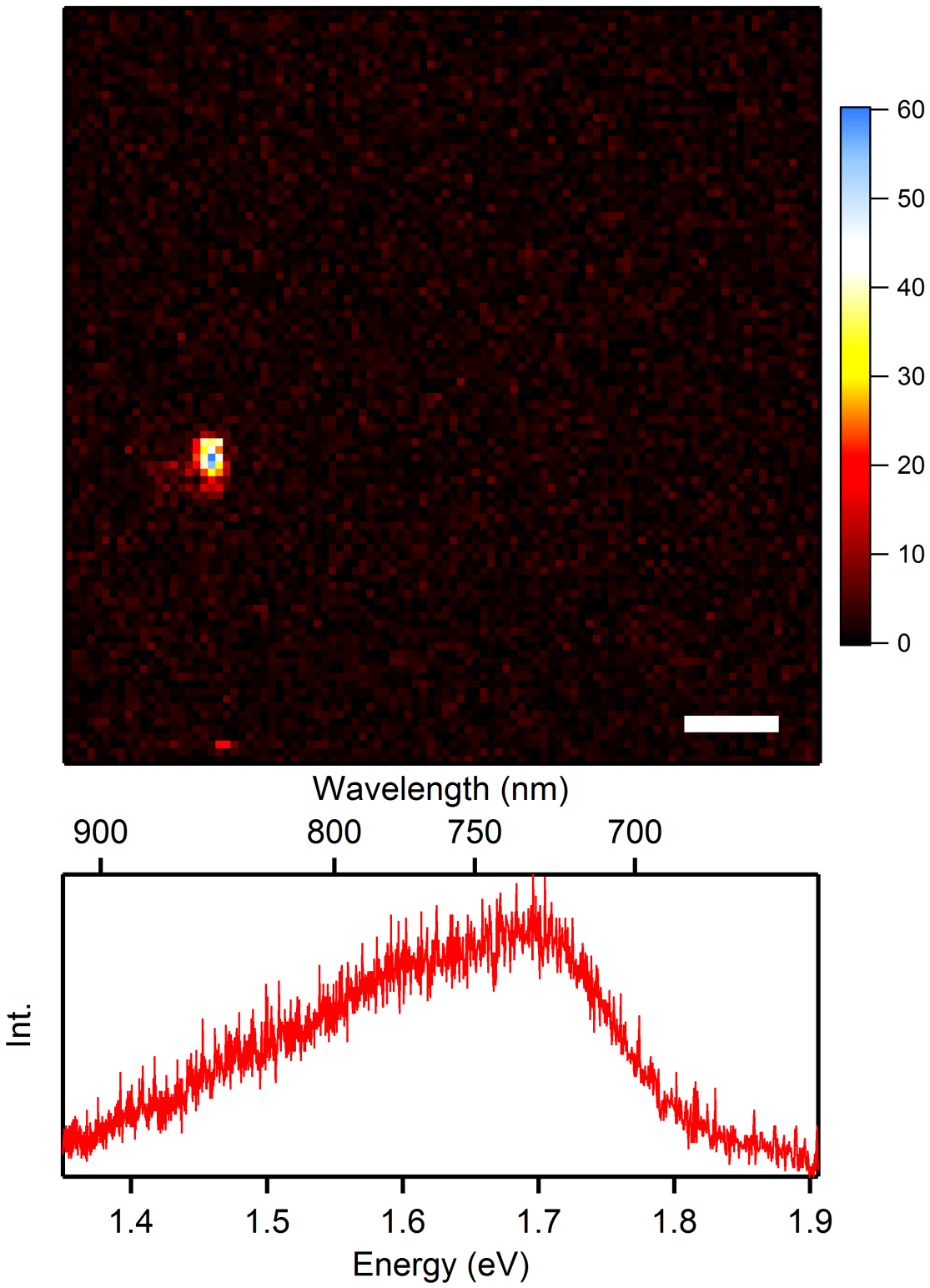

Figure S2. PL image (a) of concentrated P3HS dispersed in polystyrene (toluene). The scale bar is 5 µm. Pl spectra from the brightest spot seen in the image. Both image and spectra were collected with an excitation wavelength of 1.92 eV (647 nm).

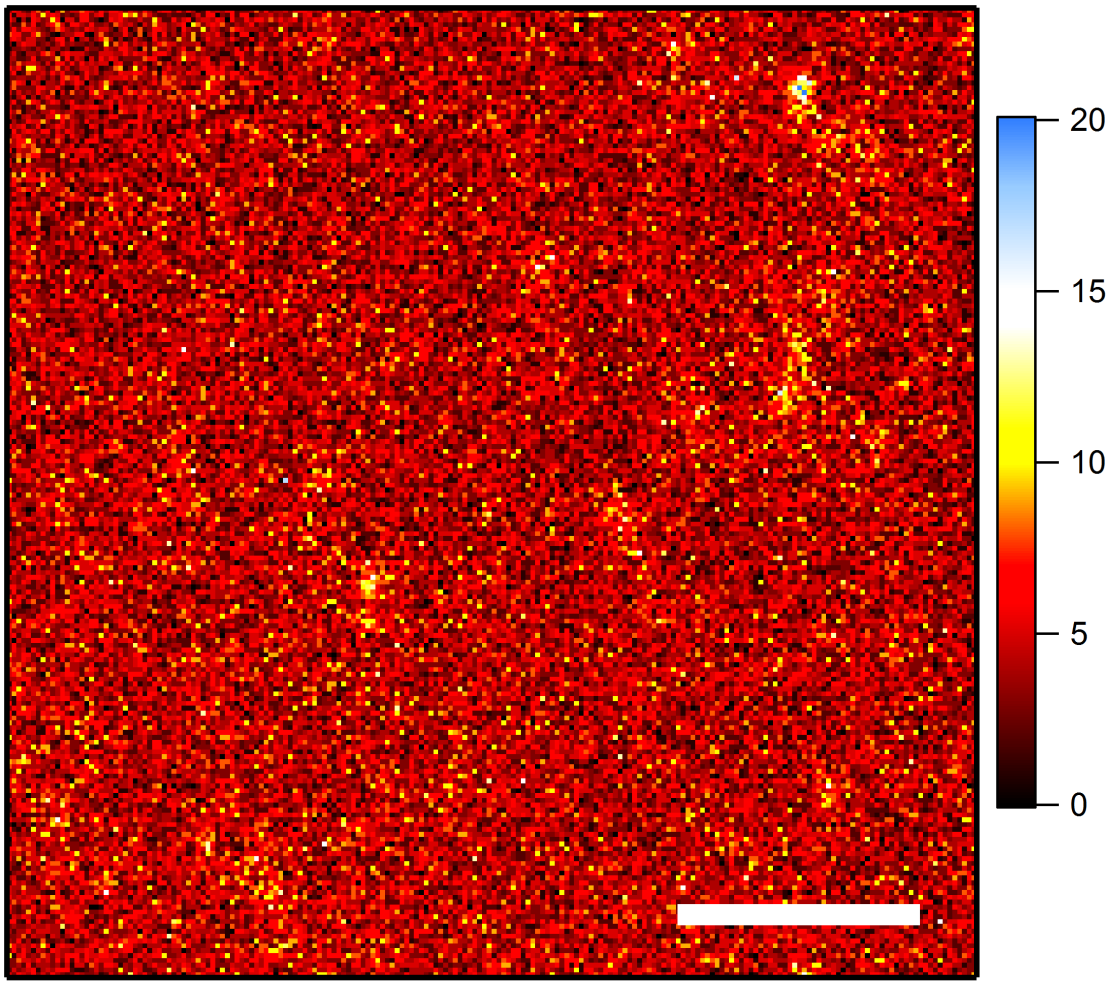

Figure S3. Pl image of dilute P3HS dispersed in polystyrene (toluene, scale bar =5 μm). The PL image was collected with an excitation wavelength of 1.92 eV (647 nm).

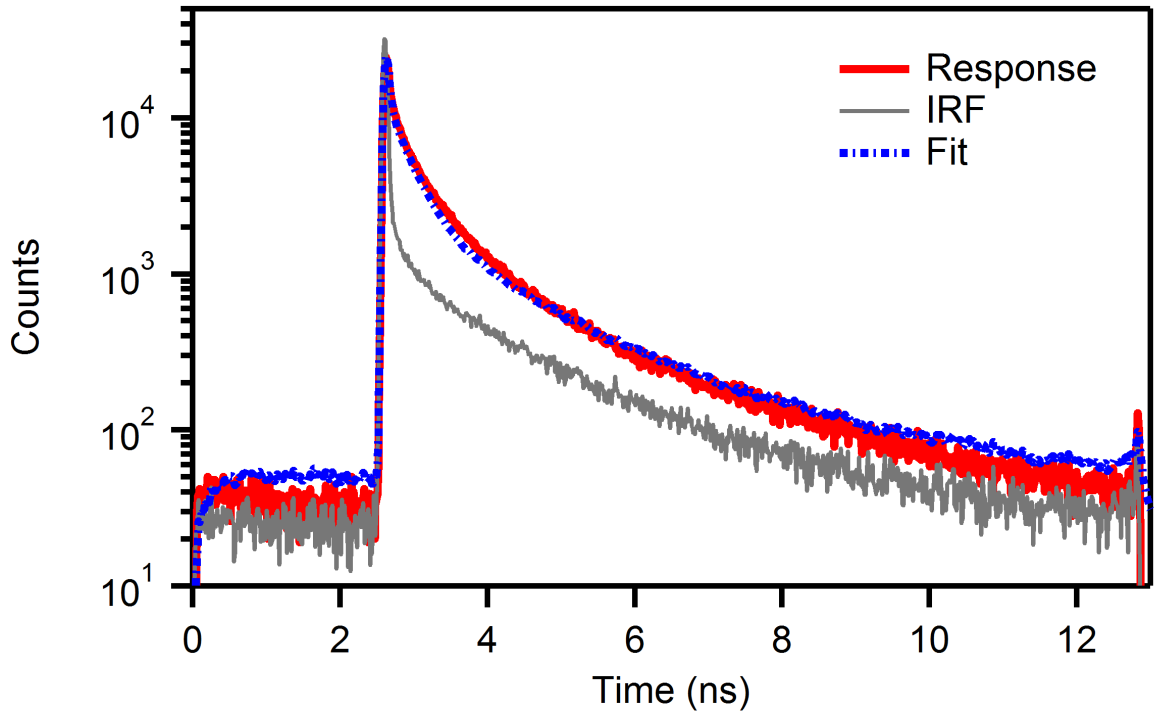

Figure S4. A representative TCSPC response from a single P3HS chain, instrument response function, and the corresponding fit using a double exponential model, shown below. The resulting fitting parameters for A, τ_1, and τ_2 were 0.804, 0.026 ns, 0.268 ns.

Fitting Model:

$$I(t) = A * \exp\left(\frac{-t}{\tau_1}\right) + (1 - A) * \exp\left(\frac{-t}{\tau_2}\right)$$

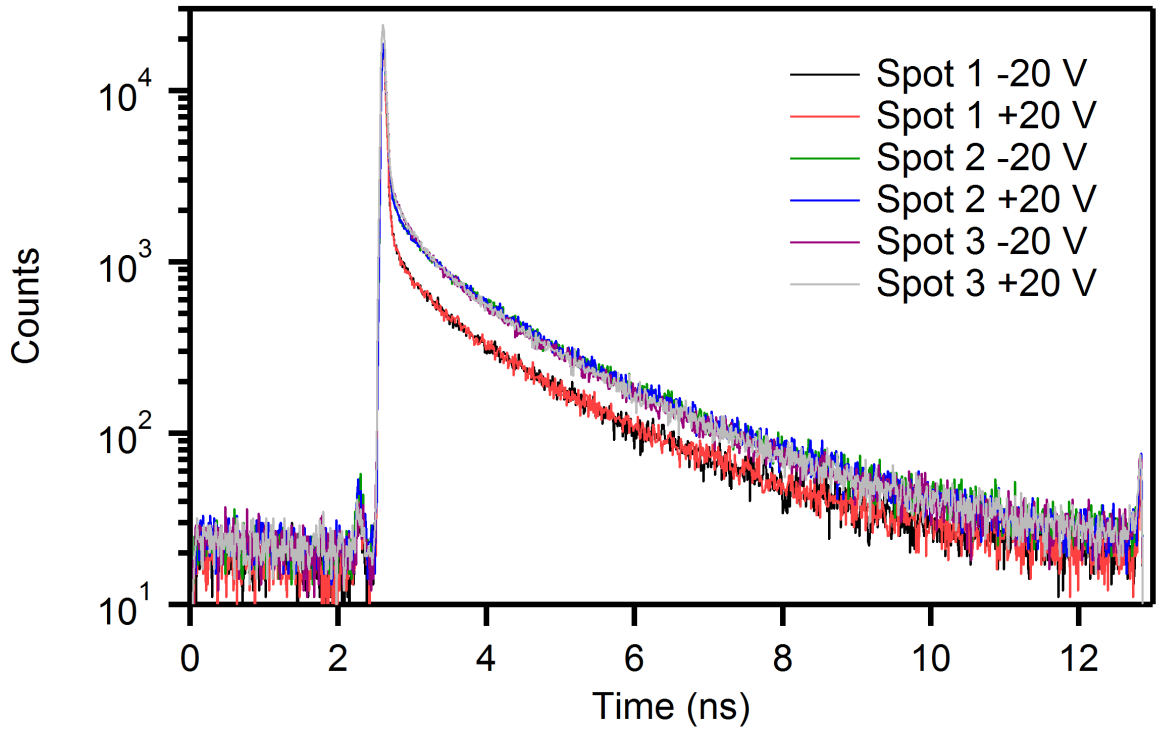

Figure S5. Representative TCSPC response of an induvial P3HS spot under positive and negative bias.

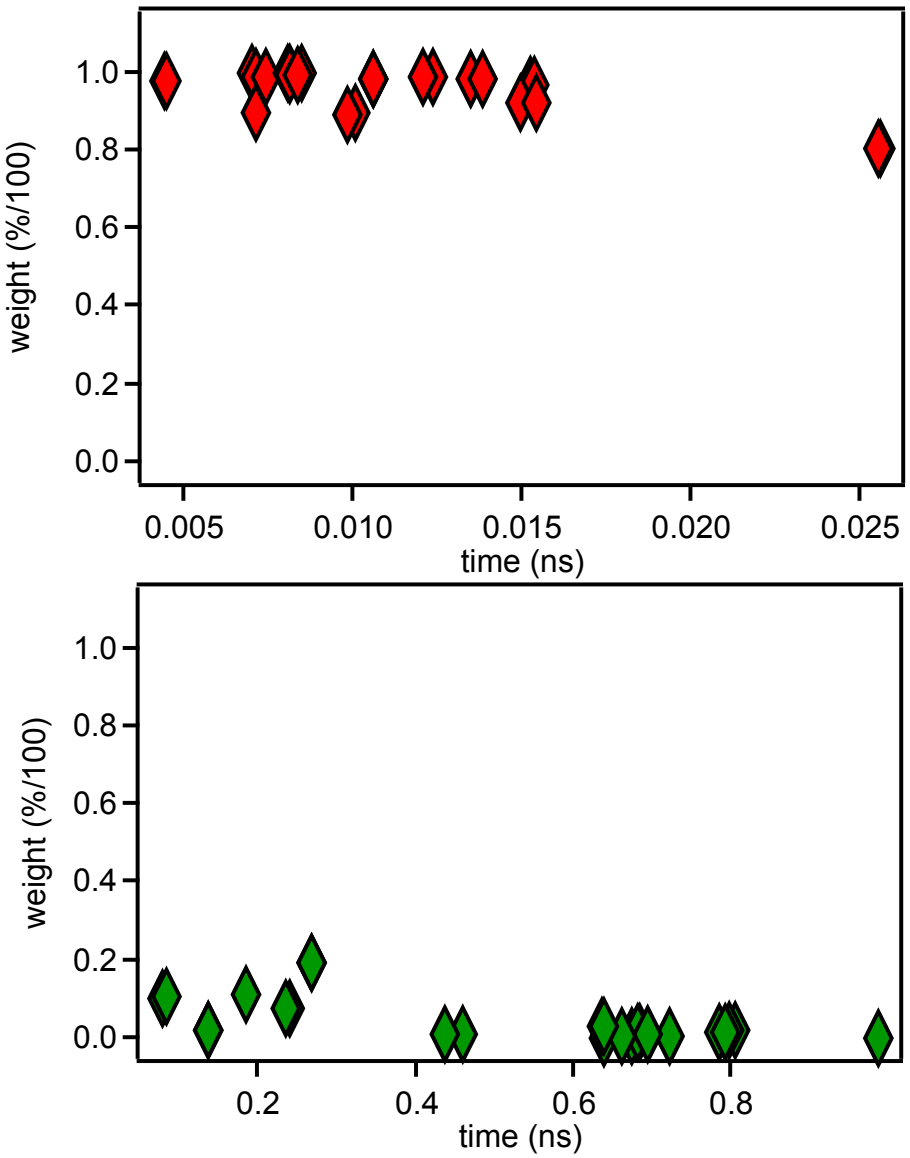

Figure S6. Distributions of TCSPC responses with an applied square-wave electric field (+/- 40V) for the fast (top panel) and slow (bottom panel) decay components.