Electronic Supplementary Information for PCCP article
The exciton dynamics in tetracene thin films

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Fig. 1 Ultrafast time-resolved PL at 575 nm of tetracene thin films after pumping at 500 nm, achieving an exciton density of $4 \times 10^{17} \text{cm}^{-3}$ at a number of different temperatures. The fit parameters are $1/k_1 = 80\text{ps}$ and $\beta_{ss\alpha} = 0.34$.

Fig. 2 Ultrafast time-resolved PL of tetracene thin films at 560 nm after pumping at 500 nm, achieving an exciton density of $\sim 8 \times 10^{17} \text{cm}^{-3}$. The single exponential fit uses of value of $1/k_1 = 80\text{ps}$. The mixed kinetics model uses an additional parameter $\beta_{ss\alpha} = 0.54$. 
Fig. 3 Transients at 575 nm when various pump wavelengths were used. The power was adjusted according to the absorption spectrum in order to obtain an exciton density of approximately $2 \times 10^{18} \text{ cm}^{-3}$ in all experiments. This relatively high exciton density was required because a filter was used to omit the longest wavelength pump pulses (540 nm) from the transient data. The filter also reduced the intensity of the photoluminescence signal, and as such a greater exciton density was required in order for a reasonable signal to noise ratio to be achieved.
Fig. 4 Contour plots of the normalized PL of Tc thin films as a function of time and wavelength conducted at 77 K, 100 K, and 125 K after excitation at 500 nm. The exciton density at which the experiments were conducted are also shown.
Fig. 4 Contour plots of the normalized PL of Tc thin films as a function of time and wavelength conducted at 150 K, 175 K, and 200 K after excitation at 500 nm. The exciton density at which the experiments were conducted are also shown.
Fig. 4 Contour plots of the normalized PL of Tc thin films as a function of time and wavelength conducted at 225 K, 250 K, and 275 K after excitation at 500 nm. The exciton density at which the experiments were conducted are also shown.