Supporting information

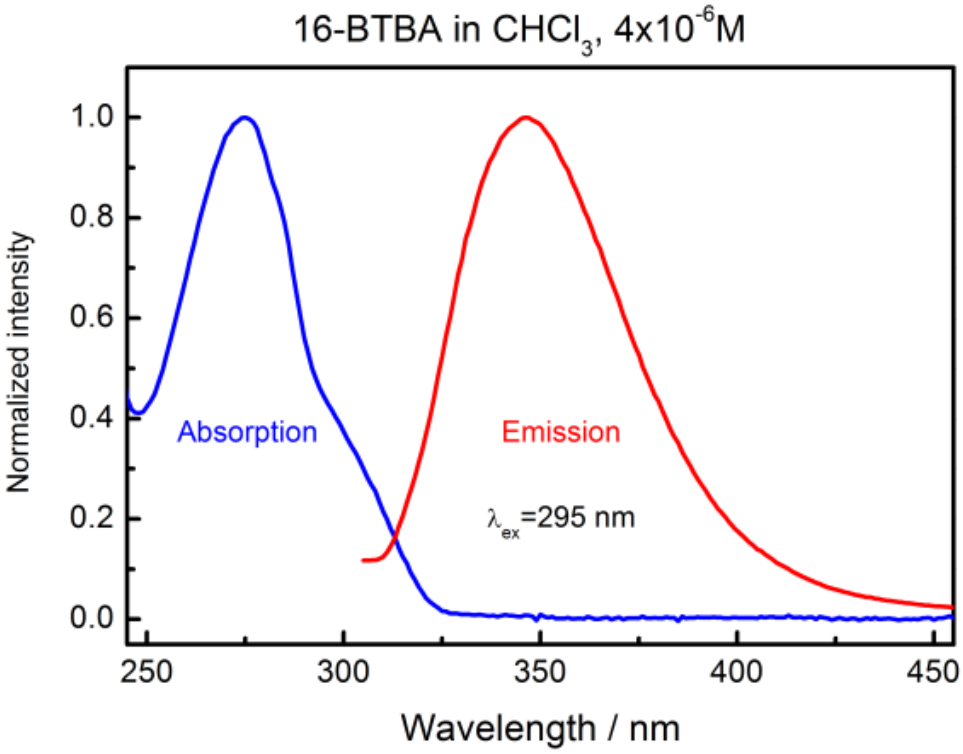

Figure S_1: The steady state absorption and emission spectra of BTBA in chloroform solution.

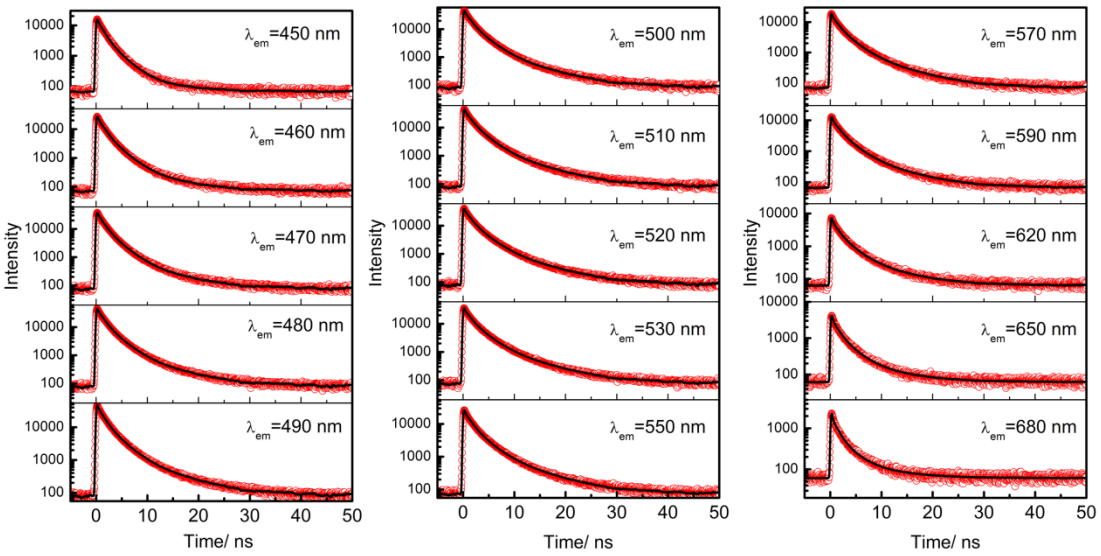

Figure S_2: The time-resolved fluorescence transients of 16-EDFONP in $CHCl_3$ solution (0.01 M) upon 440 nm excitation. The fitting parameters were summarized in Table S_1 and the fitted curves were indicated by black solid line

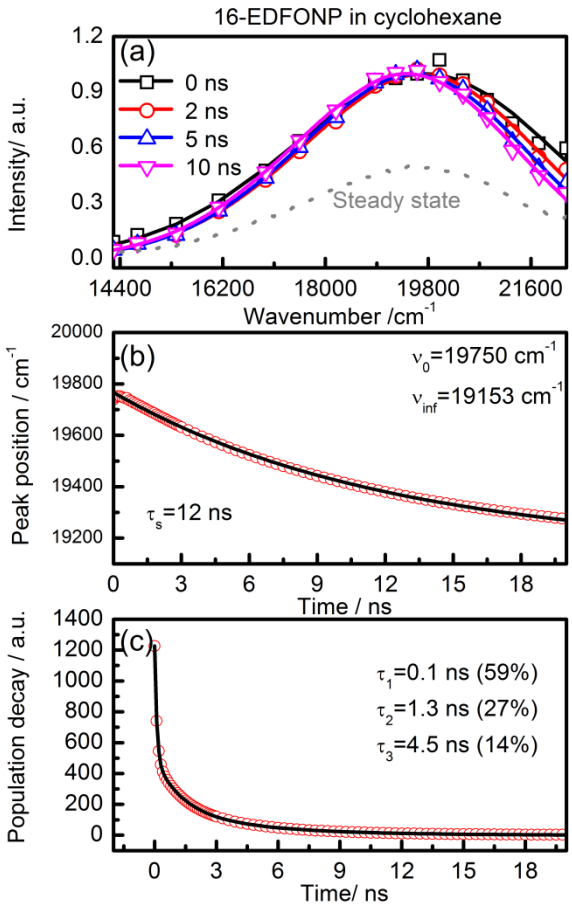

Figure S_3: (a) the time-resolved emission spectra (b) the peak positions vs. time (c) the population decay of 16-EDFONP in cyclohexane

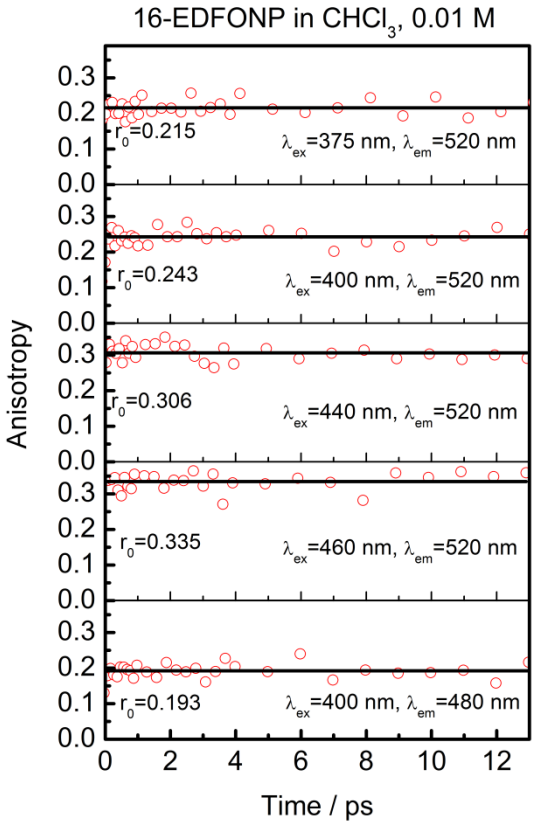

Figure S_4: The femtosecond resolved fluorescence anisotropy decays of 16-EDFONP upon different excitation and emission wavelengths.

Table S_1: The global analysis parameters of the time-resolved fluorescence transients of 16-EDFONP (0.01 M, in $CHCl_3$) under 440 nm excitation. The time coefficients τ_1, τ_2, τ_3 and $\tau_4$were fixed at 0.1 ns, 0.9 ns, 2.4 ns and 7.1 ns, respectively.

λ_{em}	τ_1(%)	τ_2(%)	τ_3(%)	τ_4(%)
450 nm	0.37	0.41	0.21	0.01
460 nm	0.41	0.36	0.21	0.01
470 nm	0.43	0.34	0.21	0.02
480 nm	0.45	0.32	0.21	0.2
490 nm	0.47	0.29	0.21	0.02
500 nm	0.48	0.28	0.22	0.03
510 nm	0.50	0.26	0.22	0.03
520 nm	0.42	0.28	0.26	0.04
530 nm	0.5	0.24	0.23	0.04
550 nm	0.5	0.23	0.23	0.04
570 nm	0.49	0.23	0.23	0.04
590 nm	0.5	0.21	0.24	0.05
620 nm	0.5	0.22	0.23	0.05
650 nm	0.58	0.19	0.2	0.04
680 nm	0.67	0.18	0.12	0.03