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

Supplementary Information

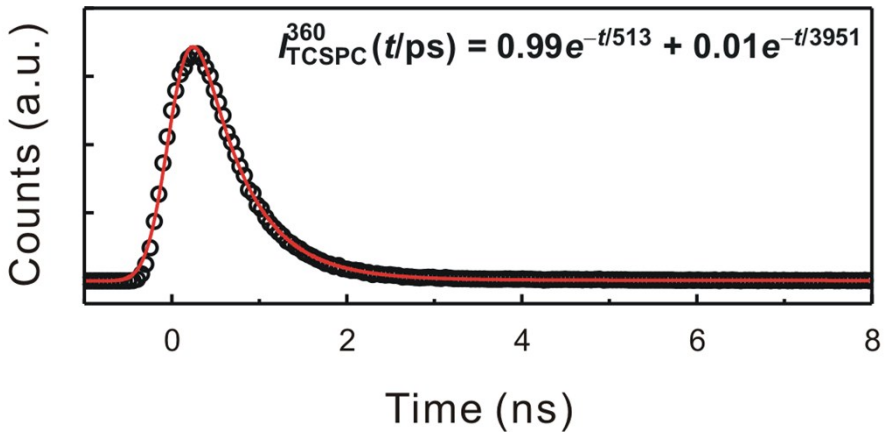
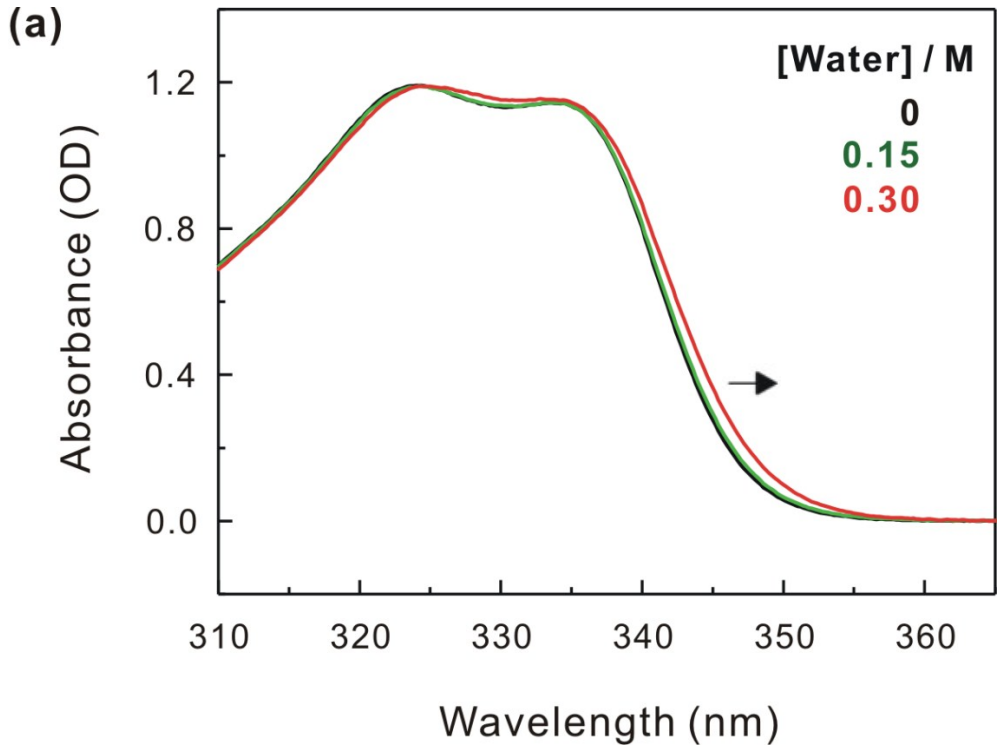
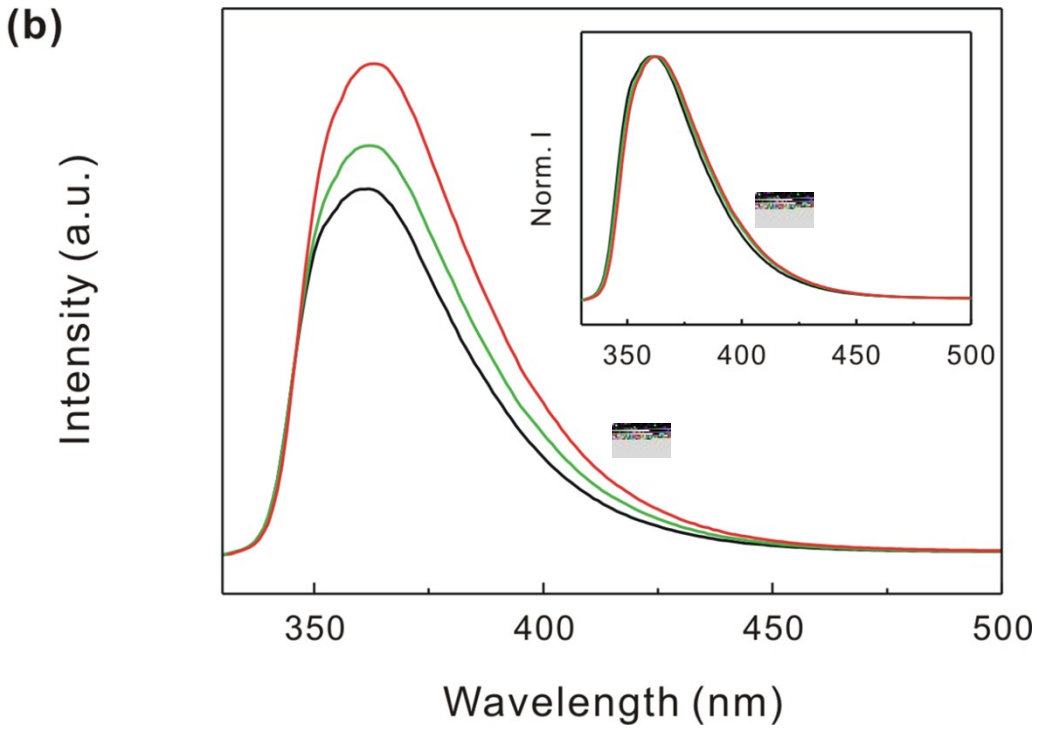
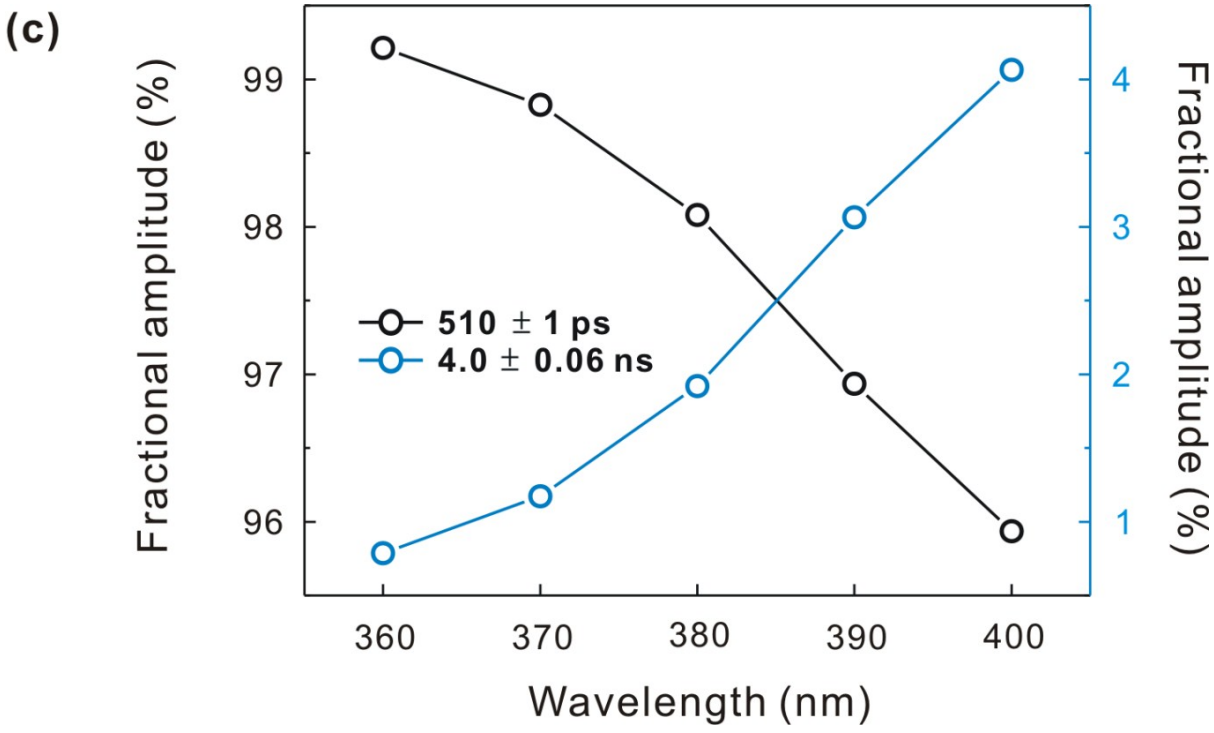


Figure S1. Fluorescence kinetic profiles of 7HQ (5×10^{-4} M) in THF obtained at 360 nm when excited at 320 nm using TCSPC.




(b)
Intensity (a.u.)
Norm. I
350
400
450
500
Wavelength (nm)


(c)
Fractional amplitude (%)
99
98
97
96
510 ± 1 ps
4.0 ± 0.06 ns
4
3
2
1
Fractional amplitude (%)
360
370
380
390
400
Wavelength (nm)

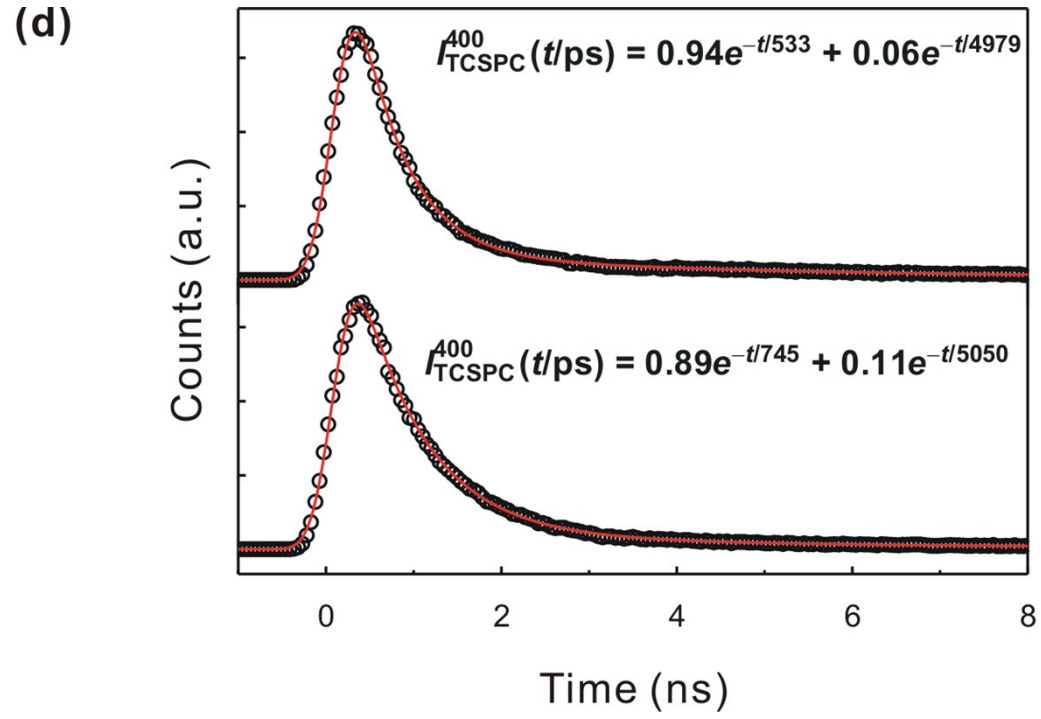


Figure S2. Steady-state spectra and time-resolved fluorescence decay profile: effects of water addition. The concentrations of 7HQ are 10^{-4} M. (a) Absorption spectra of 7HQ in THF. (b) Emission spectra obtained with excitation at 320 nm. Inset: Normalised emission spectra. The concentrations of water are denoted in the figure. (c) Fractional amplitude distributions of two decay components of 7HQ (5×10^{-4} M) in neat THF, 510 ps and 3.95 ns, monitored over 360-400 nm with excitation at 320 nm. (d) Time-resolved fluorescence kinetic profiles of 7HQ (5×10^{-4} M) in neat THF (upper), and [added water] = 0.15 M (lower), monitored at 400 nm with excitation at 340 nm. Fits are given according to the equations in the panel.

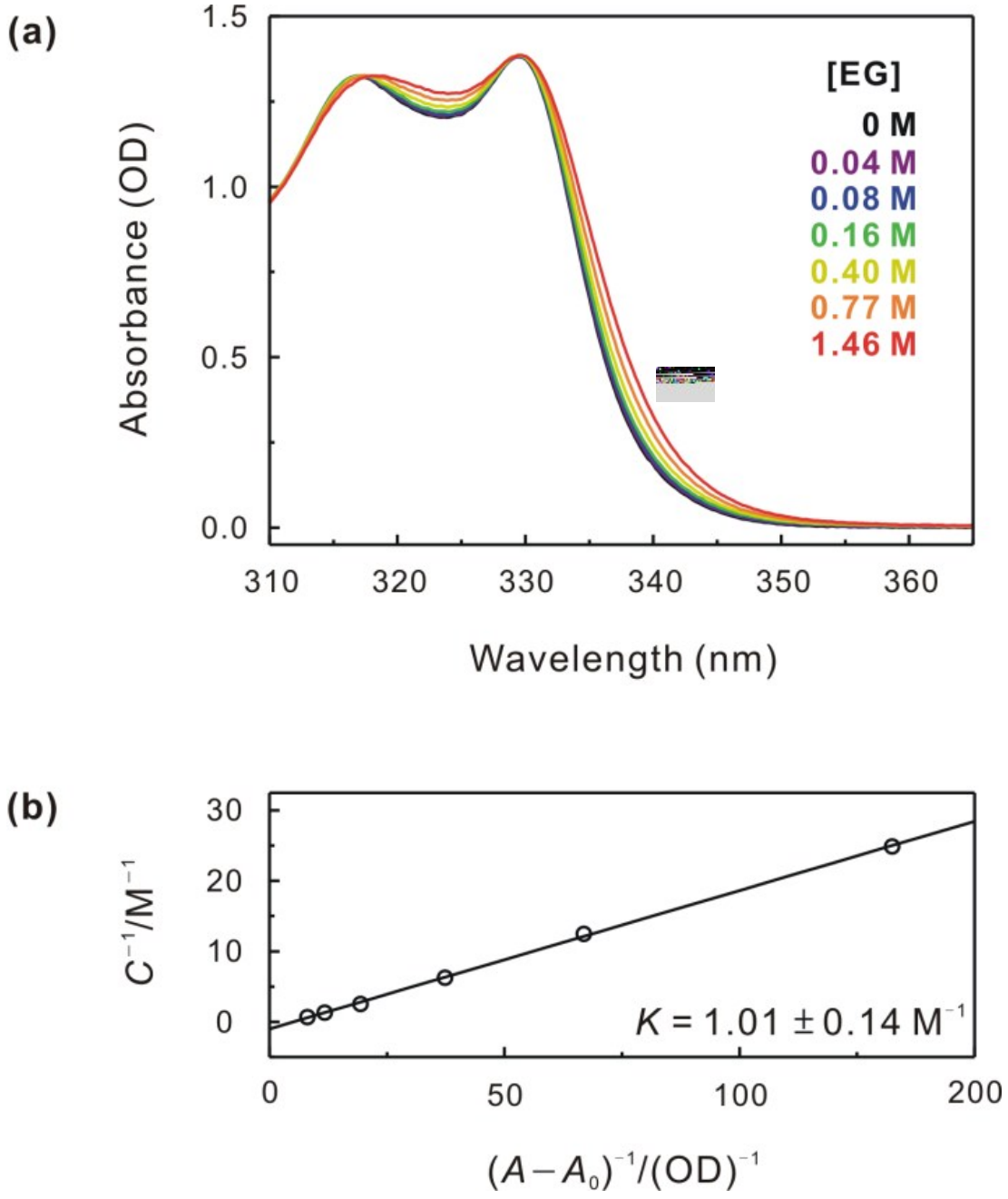


Figure S3. Steady-state spectra: effects of EG addition. (a) Absorption spectra of 7MQ (2×10^{-4} M) in THF. The concentrations of EG are given in the figure. (b) Plot of reciprocals of molar EG concentration versus reciprocal absorbance, $(A - A_0)^{-1}$, at 345 nm.

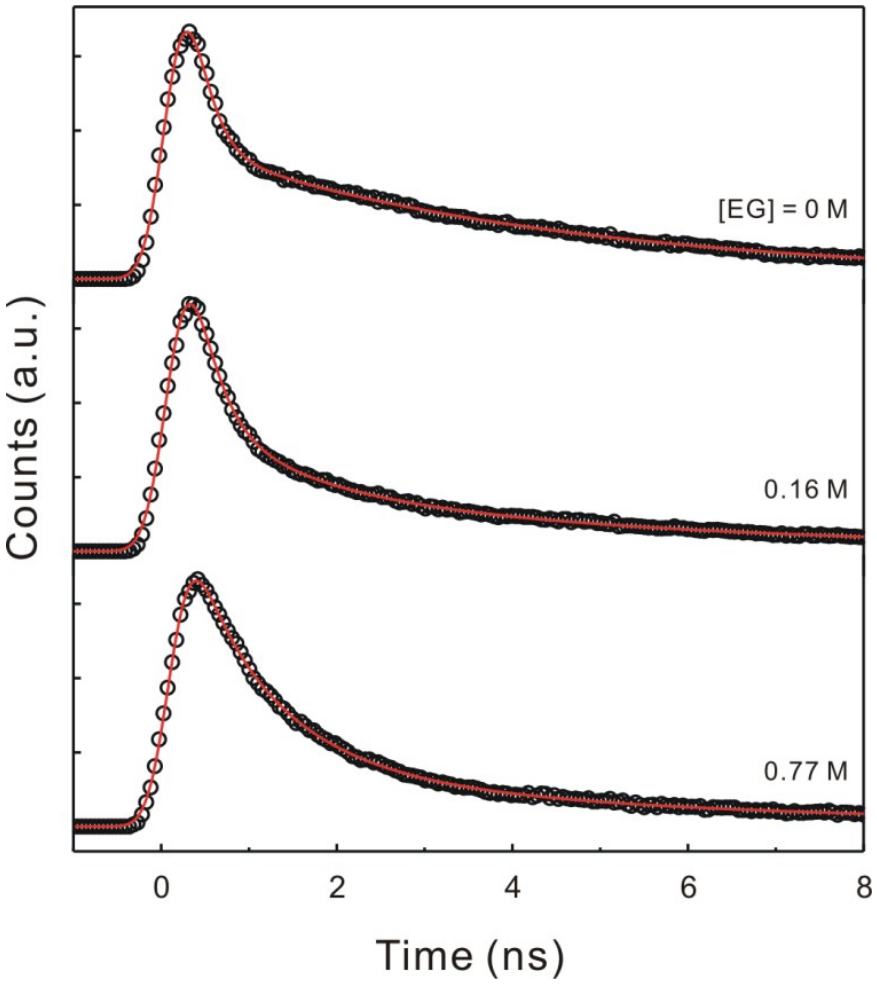


Figure S4. Time-resolved fluorescence: effects of H-bond complexation with EG. Fluorescence transients of 7MQ in THF (5×10^{-4} M) collected at 400 nm with excitation at 320 nm. EG concentrations are given in the panel. Time evolution profiles are established as $I^{400}_{\mathrm{TCSPC}}(t/\mathrm{ps}) = 0.98e^{-t/169} + 0.02e^{-t/4203}$, $I^{400}_{\mathrm{TCSPC}}(t/\mathrm{ps}) = 0.59e^{-t/196} + 0.23e^{-t/659} + 0.18e^{-t/5253}$, and $I^{400}_{\mathrm{TCSPC}}(t/\mathrm{ps}) = 0.28e^{-t/278} + 0.59e^{-t/743} + 0.13e^{-t/5152}$ for [EG] = 0, 0.16 and 0.77 M, respectively.