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Supporting Information

A Direct Crossed Polymerization of Triphenylamines and Cyclohexanones *via* C=C bond formation: the Method and Its Bioimaging Application

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Scheme S1. Synthetic routes of PDD and NTBD.



Figure S1. (a) Emission spectra of different mass concentration of LP in DMF. (b) Plot of the relative emission intensity (I/I_0) at 565 nm wavelength. I_0 = PL spectra intensity of LP mass concentration of 6 x 10⁻³ g/L. (Inset) Photographs of LP under UV lamp. Concentration: 6 x 10⁻³ g/L (left) and 6 x 10⁻² g/L (right), λ_{ex} = 435 nm.



Figure S2. (a) Emission spectra of different mass concentration of BP in THF. (b) Plot of the relative PL intensity (I/I_0) at 580 nm. I_0 = PL emission intensity of BP mass concentration of 1 x 10⁻² g/L. (Inset) Photographs of P1 under UV lamp. Concentration: 1 x 10⁻² g/L (left) and 1 x 10⁻¹ g/L (right). λ_{ex} = 480 nm.



Figure S3. (a) Emission spectra of LP (in THF) with temperature increased from 0 to 60 ^oC by a step size of 5 ^oC. (b) The relative emission intensity (I/I_0) of LP under different temperature. (λ_{ex} = 435 nm; I_0 = intensity of LP under 0 ^oC). (Inset) Photographs of LP at 0 ^oC and 60 ^oC under UV lamp.



Figure S4. (a) Emission spectra of BP (in THF) with temperature increased from 0 to 60 $^{\circ}$ C by a step size of 5 $^{\circ}$ C. (b) The relative emission intensity (*I*/*I*₀) of BP under different temperature. λ_{ex} = 480 nm; *I*₀ = intensity of BP under 0 $^{\circ}$ C). (Inset) Photographs of BP at 0 $^{\circ}$ C and 60 $^{\circ}$ C.



Figure S5. Hydrodynamic diameter distribution of LP in water (50 g/mL).



Figure S6. The PL intensity and the maximum wavelength of LP vs the solvent polarity parameters Δf .



Figure S7. The PL intensity and the maximum wavelength of BP vs the solvent polarity parameters Δf .

	$\mathbf{M}_{\mathbf{n}}$	$\mathbf{M}_{\mathbf{w}}$	$\mathbf{M}_{w}/\mathbf{M}_{n}$
LP	20500	29800	1.45
BP	11000	15800	1.44
A 10		B 40 10 20	
	Retention Time (min)	Retention Time (min)	

Table S1. The GPC date for the linear and branched polymers.





