

## Electronic Supplementary Information (ESI)

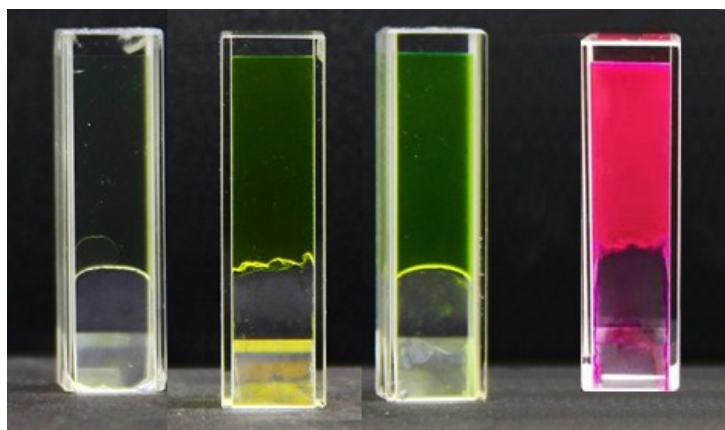
### Highly Efficient Full-Color and White Circularly Polarized Luminescent Nanoassemblies and Their Performance in Light Emitting Devices

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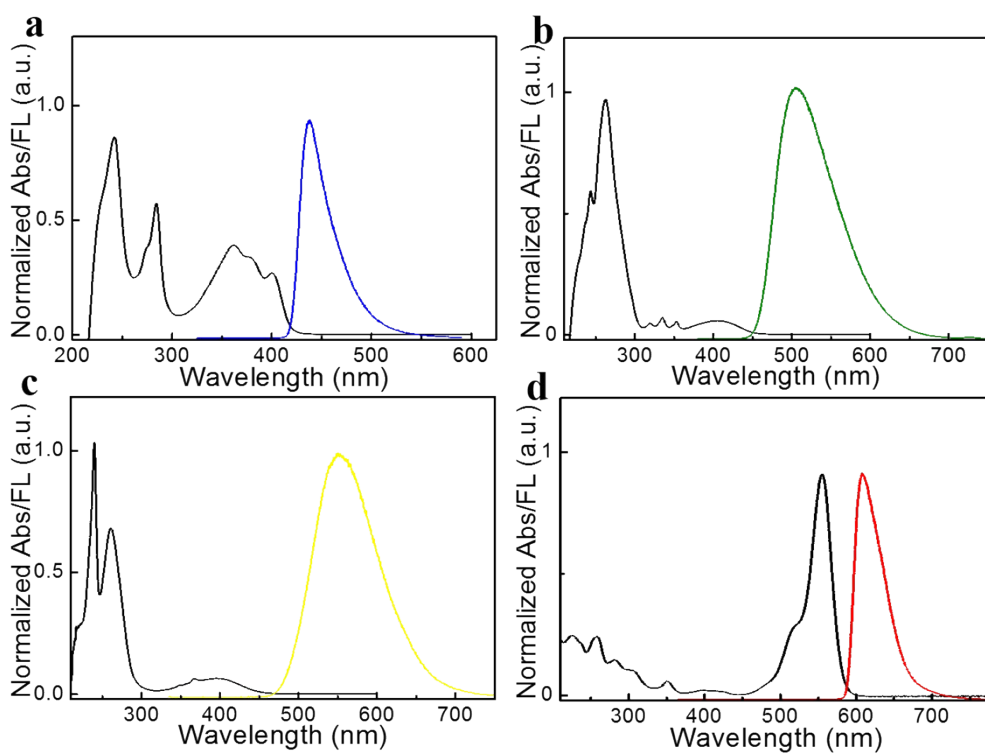
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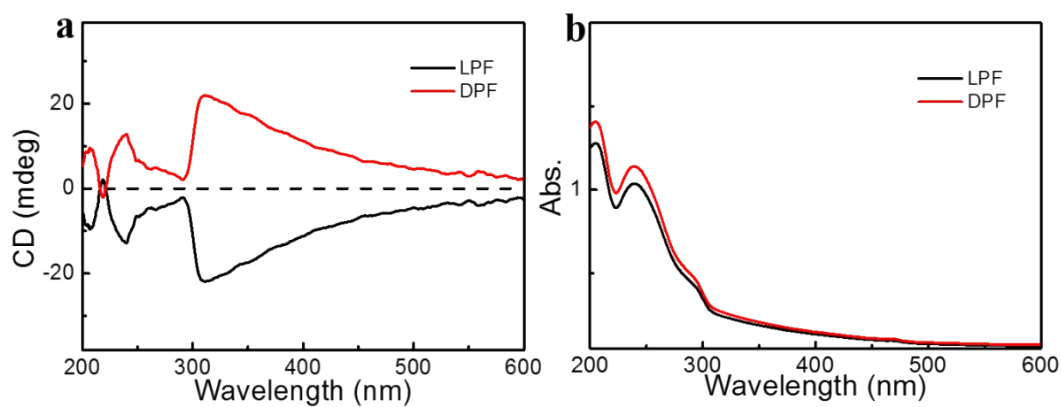
#### 1. Supplementary Figures



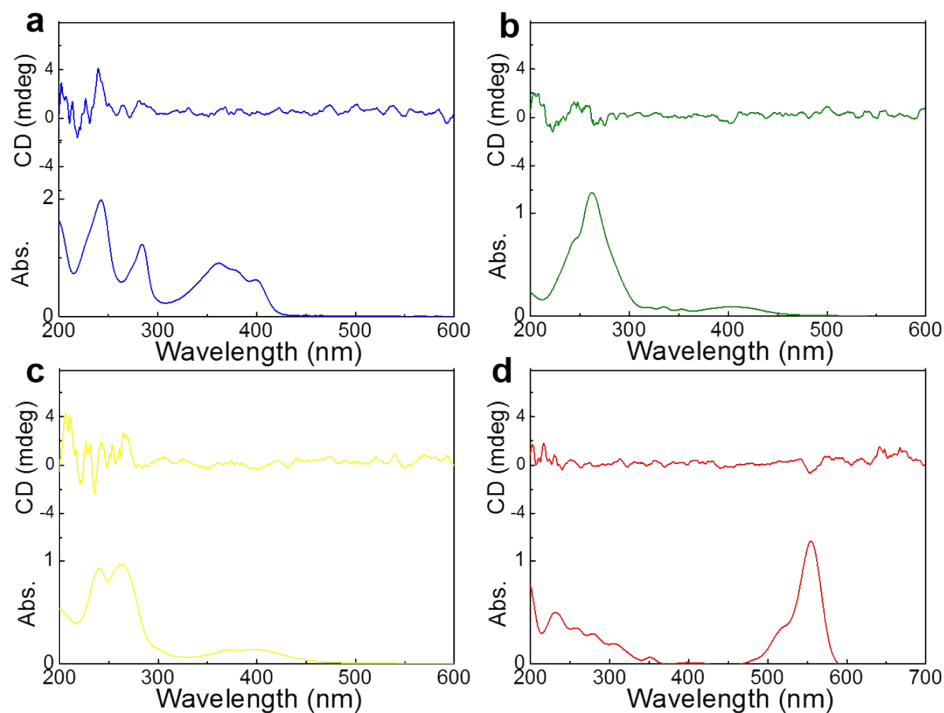
**Figure S1.** Photographs of the cogels of LPF-Py, LPF-2An, LPF-1An, and LPF-RB under ambient light. The solvent is acetonitrile. [LPF-Py] = 6 mg/mL, [LPF-2An] = 6 mg/mL, [LPF-1An] = 6 mg/mL, and [LPF-RB] = 12 mg/mL.



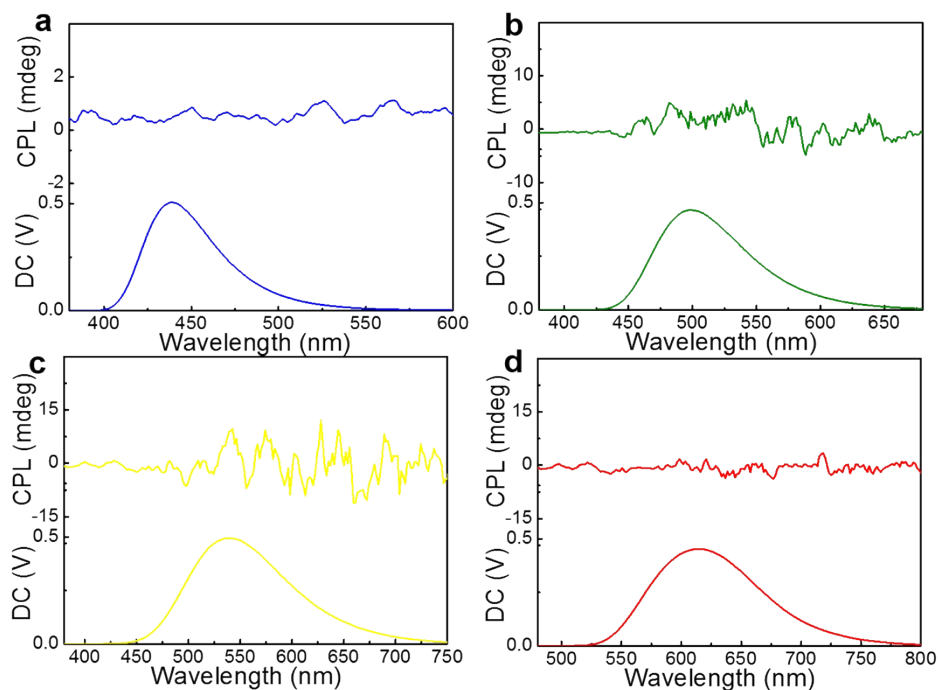
**Figure S2.** The normalized absorption and fluorescence spectra of the solution of Py (a), 2An (b), 1An (c), and RB (d), the solvent is acetonitrile.



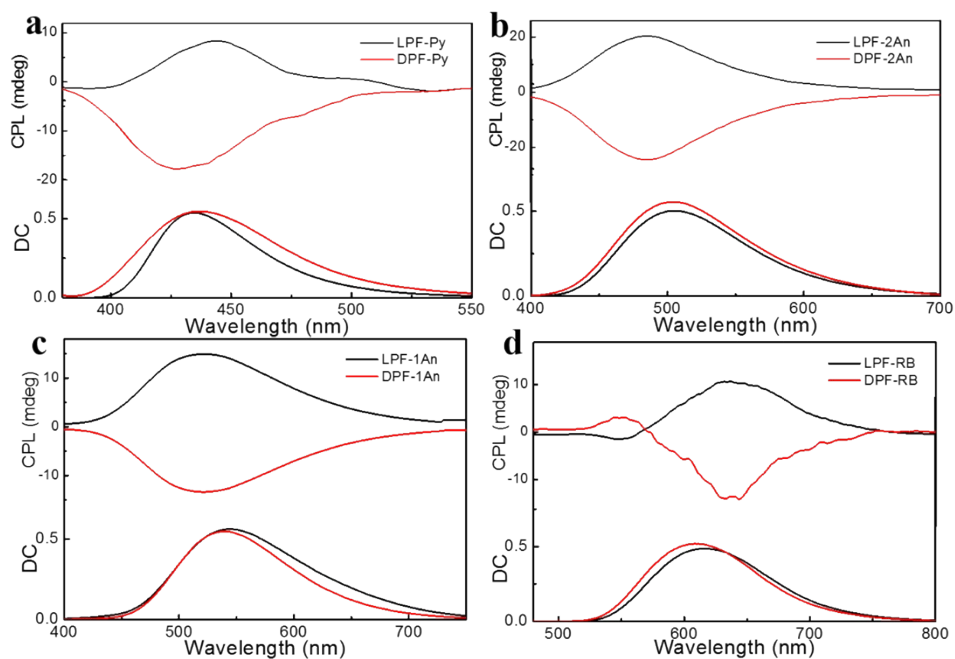
**Figure S3.** CD and UV-Vis spectra of LPF and DPF gels. The solvent is acetonitrile. [LPF/DPF] = 5 mg/mL.



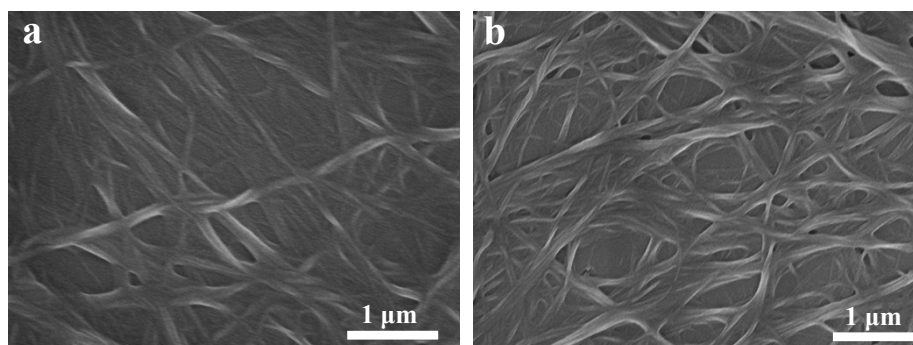
**Figure S4.** CD and UV/Vis spectra of fluorescent aromatic molecules with different colors of Py(a), 2An (b), 1An (c), and RB (d). The solution of these fluorescent aromatic molecules were CD-silent due to their achiral nature, the solvent is acetonitrile.



**Figure S5.** CPL spectra of Py (a), 2An (b), 1An (c), and RB (d). The solution of these fluorescent aromatic molecules were CPL-silent due to their achiral nature, the solvent is acetonitrile.



**Figure S6.** CPL and fluorescence spectra of the cogels composed of LPF/DPF-Py(a), LPF/DPF-2An(b), LPF/DPF-1An(c), and LPF/DPF-RB(d), respectively.

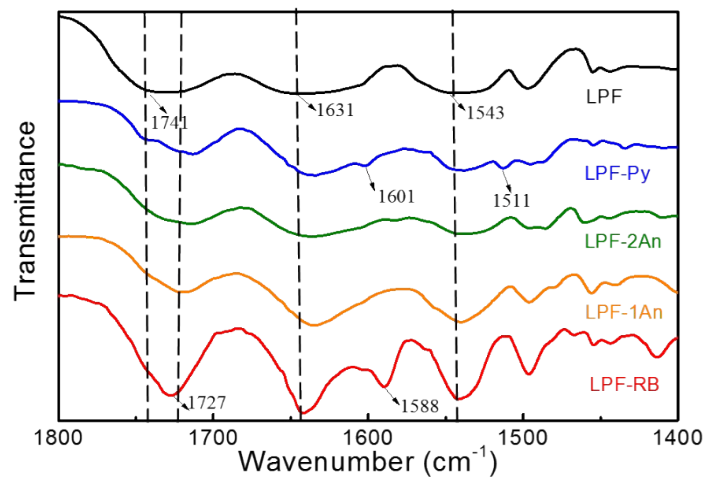


**Figure S7.** SEM images of assemblies of LPF and DPF.

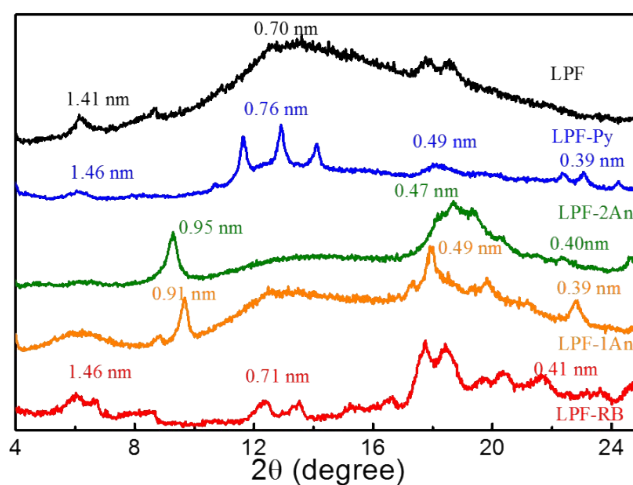
**Table S1.** Optical properties of various color cogels.

	Solution			Cogels						
	$\lambda_{em}^a)$ nm	$\Phi_F^b)$ %	$\tau_{avg}^c)$ ns	$\lambda_{em}^a)$ nm	$\Phi_F^b)$ %	$\tau_{avg}^c)$ ns	$g_{lum}^d)$ (+) ( $\times 10^{-3}$ )	$\Phi_F^b)$ %	$\tau_{avg}^c)$ ns	$g_{lum}^d)$ (-) ( $\times 10^{-3}$ )
				(LPF)	(LPF)	(LPF)	( $\times 10^{-3}$ )	(DPF)	(DPF)	( $\times 10^{-3}$ )
Py	435	69.4	35.6	435	48.0	26.7	2.85	45.6	23.5	-2.95
2An	500	21.9	55.6	500	18.5	32.4	4.20	17.7	30.2	-3.83
1An	540	23.2	46.8	540	17.3	30.2	2.16	14.1	31.4	-2.32
RB	610	16.1	68.3	610	10.1	19.2	1.20	11.2	24.0	-1.4

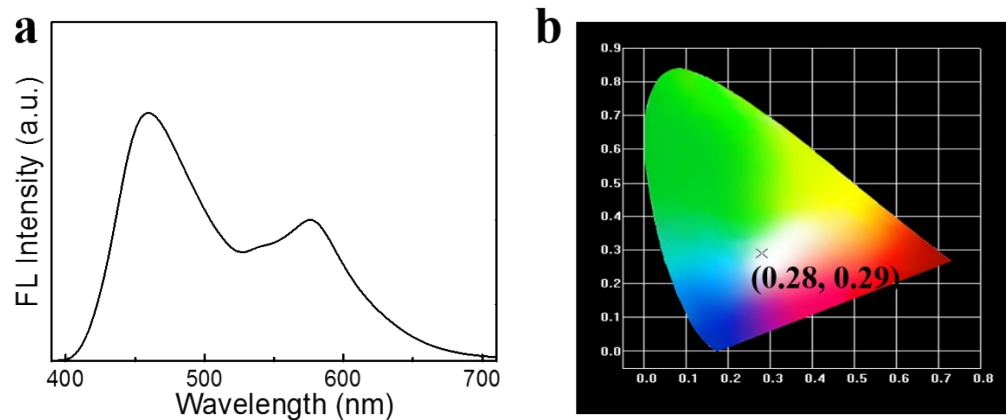
a) Absorption maximum in acetonitrile; b) PL measured in acetonitrile; c) Absolute fluorescence quantum yield obtained using the calibrated integrating sphere system; d) Fluorescence lifetime ( $\tau_{avg}$ ) calculated using the equation  $\tau_{avg} = A_1\tau_1 + A_2\tau_2$ .



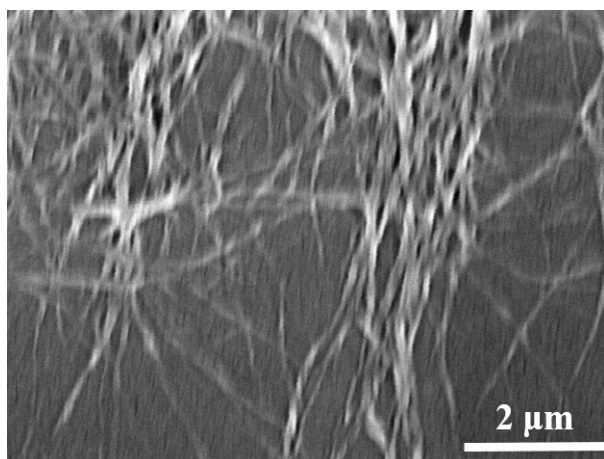
**Figure S8.** FTIR spectra of LPF, LPF-Py, LPF-2An, LPF-1An, and LPF-RB co-gels.



**Figure S9.** XRD plots of the xerogels of LPF, LPF-Py, LPF-2An, LPF-1An, and LPF-RB.



**Figure S10.** Fluorescence spectra of the white-emitting solution (a); Commission Internationale de l'Éclairage coordinate value of the white-emitting solution where the CIE coordinate value is (0.28, 0.29) (b).



**Figure S11.** SEM image of the white cogels.