

Supporting Information

Endowing TADF Luminophors with AIE Properties Though Adjusting Flexible Dendrons for Highly Efficient Solution-Processed Non-doped OLEDs.

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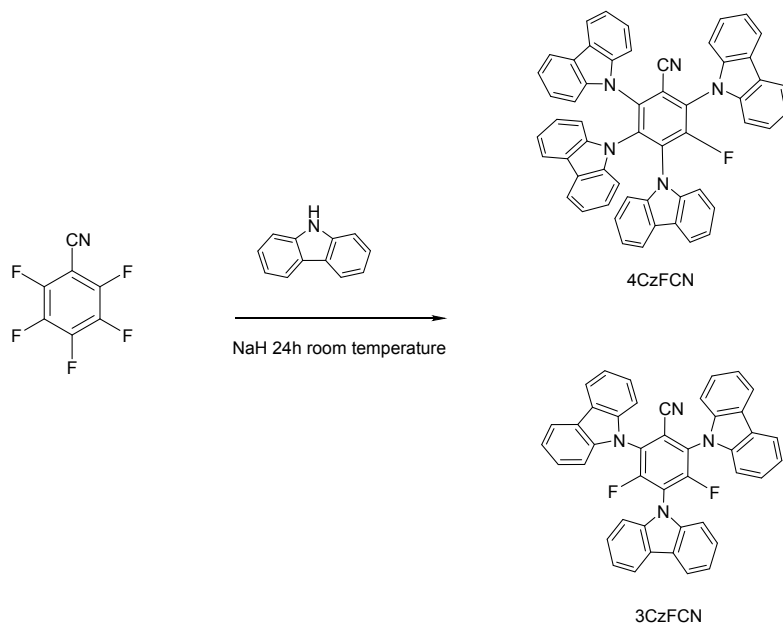
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KEYWORDS: Thermally activated delayed fluorescence (TADF), Aggregation-induced emission (AIE), Core-dendron system, solution-processed, Organic light-emitting diodes (OLED).

Figure Captions



Scheme S1 Synthetic routes of 4CzFCN and 5CzFCN

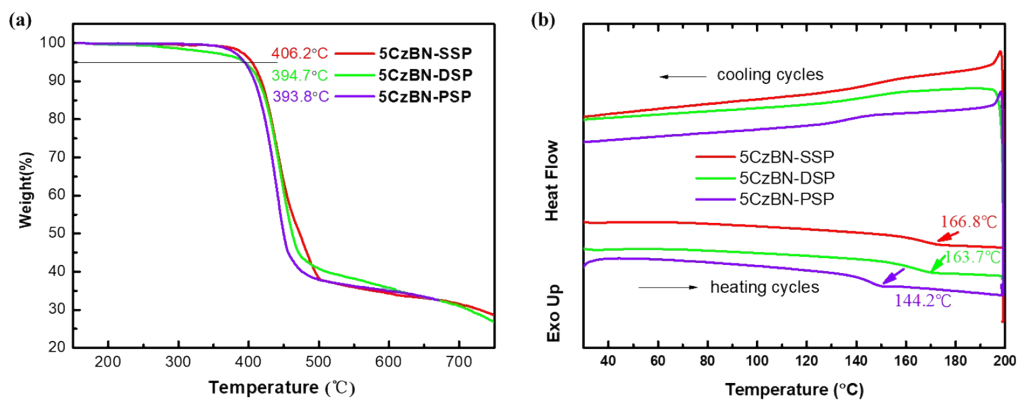


Figure S1 TGA and DSC traces of 5CzBN-SSP, 5CzBN-DSP and 5CzBN-PSP recorded at a heating rate of 10°C/min.

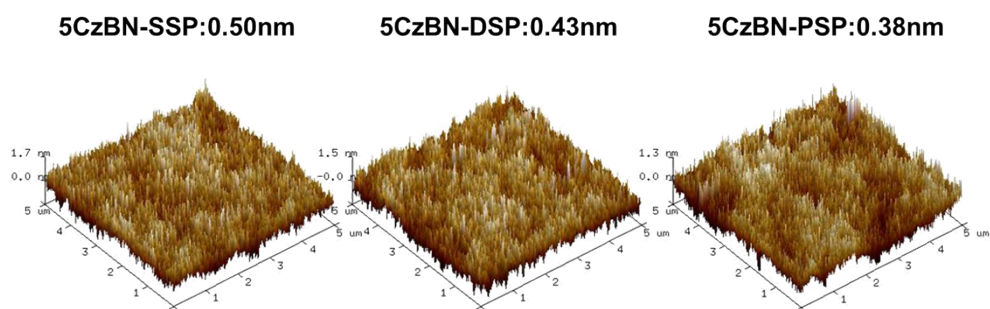


Figure S2 AFM topographic images of 5CzBN-SSP, 5CzBN-DSP and 5CzBN-PSP.

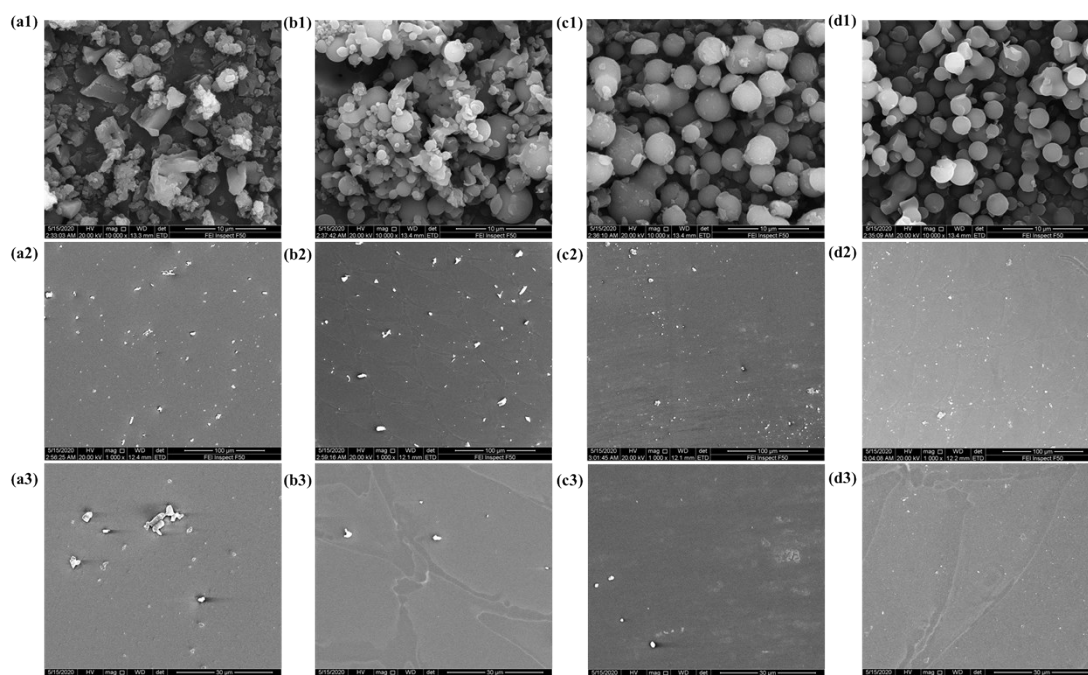


Figure S3 The SEM images of (a)5CzBN, (b)5CzBN-SSP, (c) 5CzBN-DSP and (d) 5CzBN-PSP, where a1-d1 were in the solid states, a2-d2 and a3-d3 were in solution-processed film states at various magnifications of 1000 and 4000, respectively.

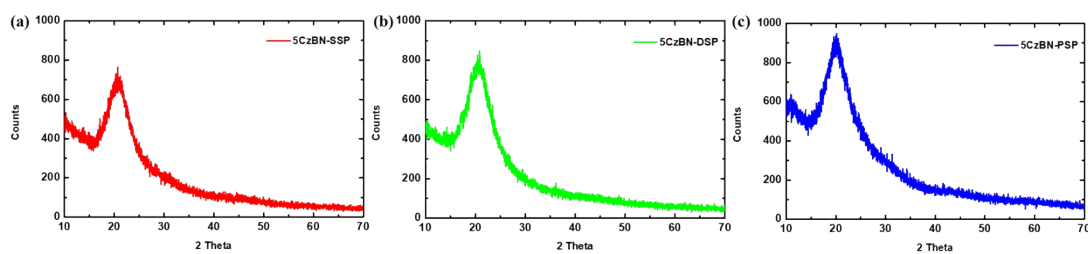


Figure S4 The XRD plots of 5CzBN-SSP, 5CzBN-DSP and 5CzBN-PSP.

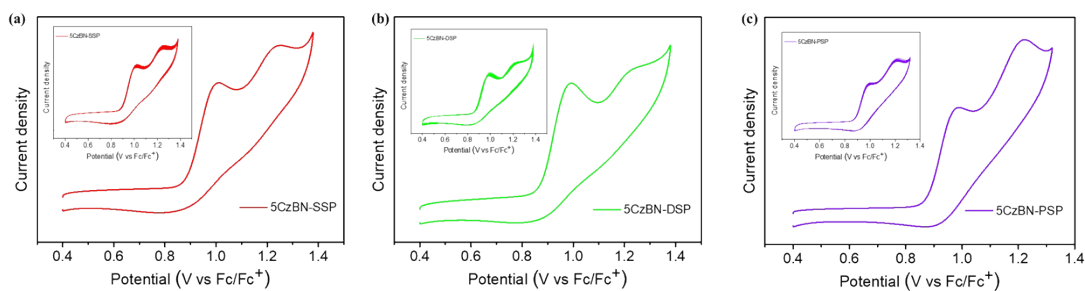


Figure S5 Cyclic voltammogram of 5CzBN-SSP (a), 5CzBN-DSP (b) and 5CzBN-PSP(c) after one circle and 100 circles (inset).

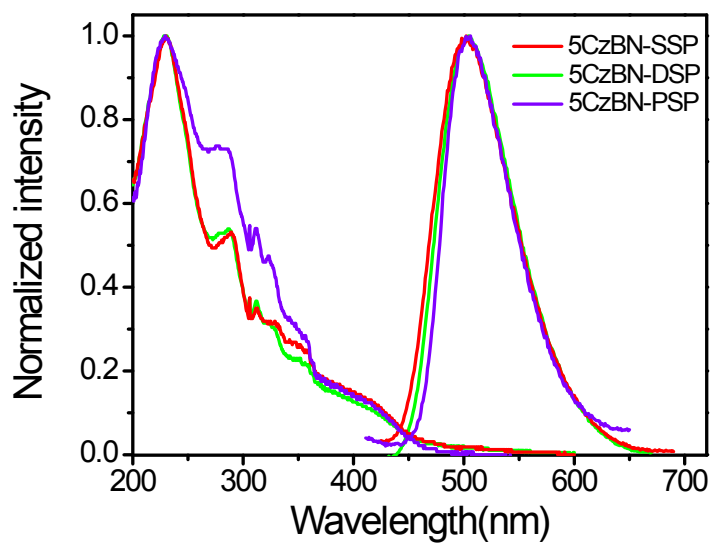


Figure S6 UV-vis absorption and fluorescence spectra of 5CzBN-SSP, 5CzBN-DSP and 5CzBN-PSP in spin-coated films.

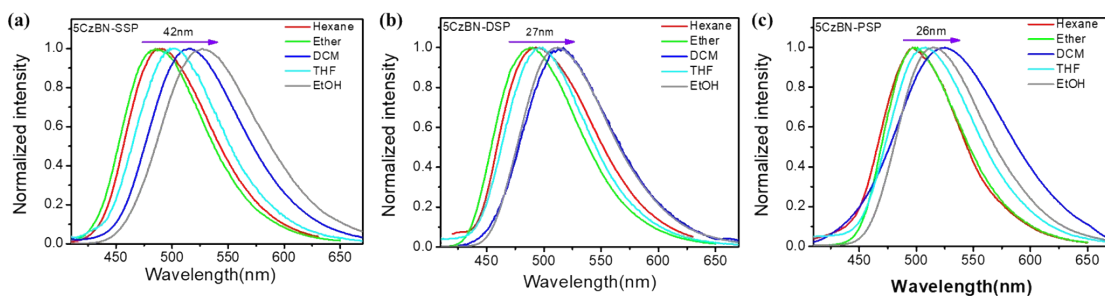


Figure S7 The PL spectra of (a) 5CzBN-SSP, (b) 5CzBN-DSP, (c) 5CzBN-PSP in hexane, ether, CH_2Cl_2 , THF and EtOH.

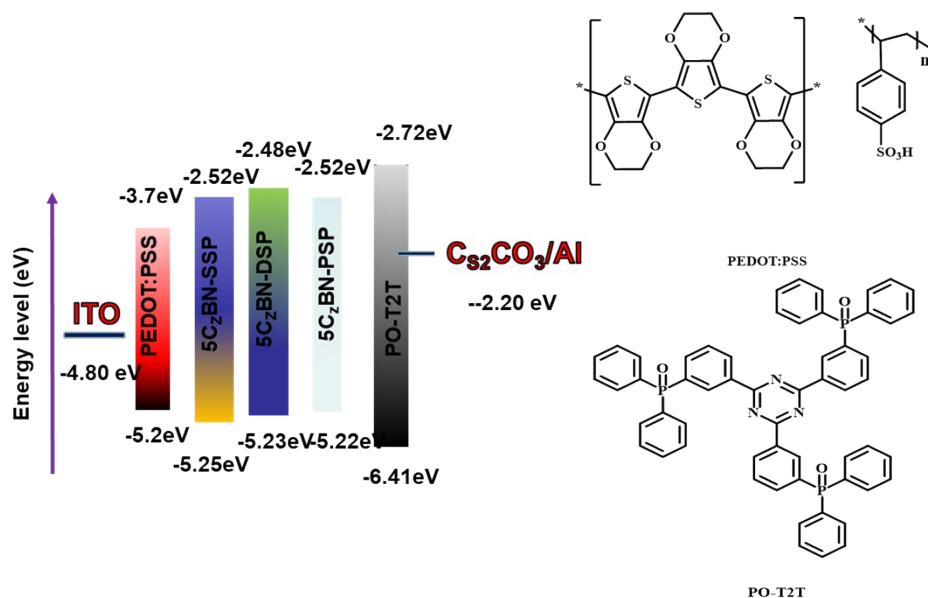


Figure S8 schematic energy-level diagrams and the fabrication process of the devices

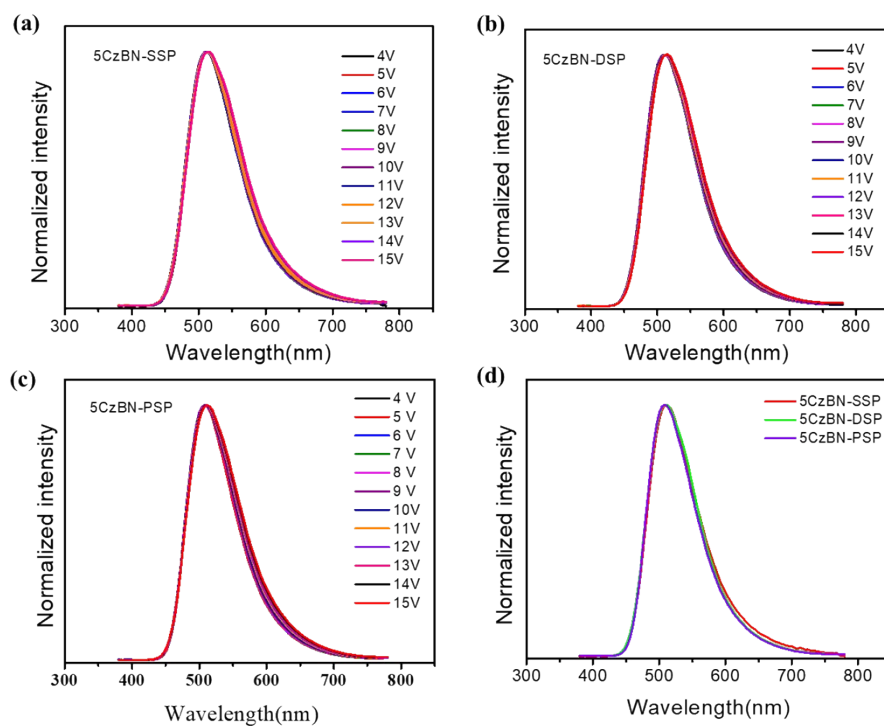


Figure S9 (a) EL spectra of 5CzBN-SSP in various voltages, (b) EL spectra of 5CzBN-DSP in various voltages, (c) EL spectra of 5CzBN-PSP in various voltages, (d) EL spectra of three materials at 10 V.

Table S1 Comparison of EL performance of solution-processed nondoped OLEDs based on AIE materials.

	Solution-processed EML	EL (nm)	CE _{max} [cd A ⁻¹ l ⁻¹]	PE _{max} [lm W ⁻¹]	EQE _{max} [%]	CIE(x,y)	Reference
Fully solution process	5CzBN-PSP	508	58.7	46.2	20.1	(0.28,0.54)	This work
	G2B	500	14.0	11.5	5.7	(0.26,0.48)	[47]
	G3B	516	7.7	5.7	2.9	(0.31,0.50)	[47]
ETL evaporation	TPEF	478	4.55	-	2.17	(0.21,0.32)	[48]
	TPE-2PN2PB	543	8.3	7.5	2.6	(0.37,0.54)	[49]
	TPE-DFCz	500	1.16	-	0.46	(0.24,0.43)	[50]
	p-DTPACO	517	10.8	8.2	3.7	(0.33,0.51)	[51]
	Cz-AQ	600/680	-	-	0.75/1.15	-	[52]
	G2B	500	11.3	7.1	4.8	(0.25,0.44)	[47]
	SFC	536	3.67	-	1.37	(0.36,0.52)	[53]
	CzTAZP	515	23.1	-	9.4	(0.27,0.58)	[54]
	m-ACSO2	486	37.9	23.8	17.2	(0.21,0.34)	[55]
	BPCP-2CPC	524	40.8	28.5	13.4	(0.33,0.54)	[32]
	Ac3TRZ3	520	11.4	-	3.5	(0.30,0.54)	[56]
	CzTAZPO	537	29.1	-	12.8	(0.37,0.56)	[57]
	3CzTPE	479	4.35	-	2.81	(0.18,0.29)	[58]

