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Supporting Information

Fused Triphenylamine Moiety Based Fluorescent Emitters for Deep Blue OLEDs with High Luminance and Low Turn-on Voltages

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KEYWORDS Deep blue emitters, High luminance, Low turn-on voltage, High efficiency

Figures

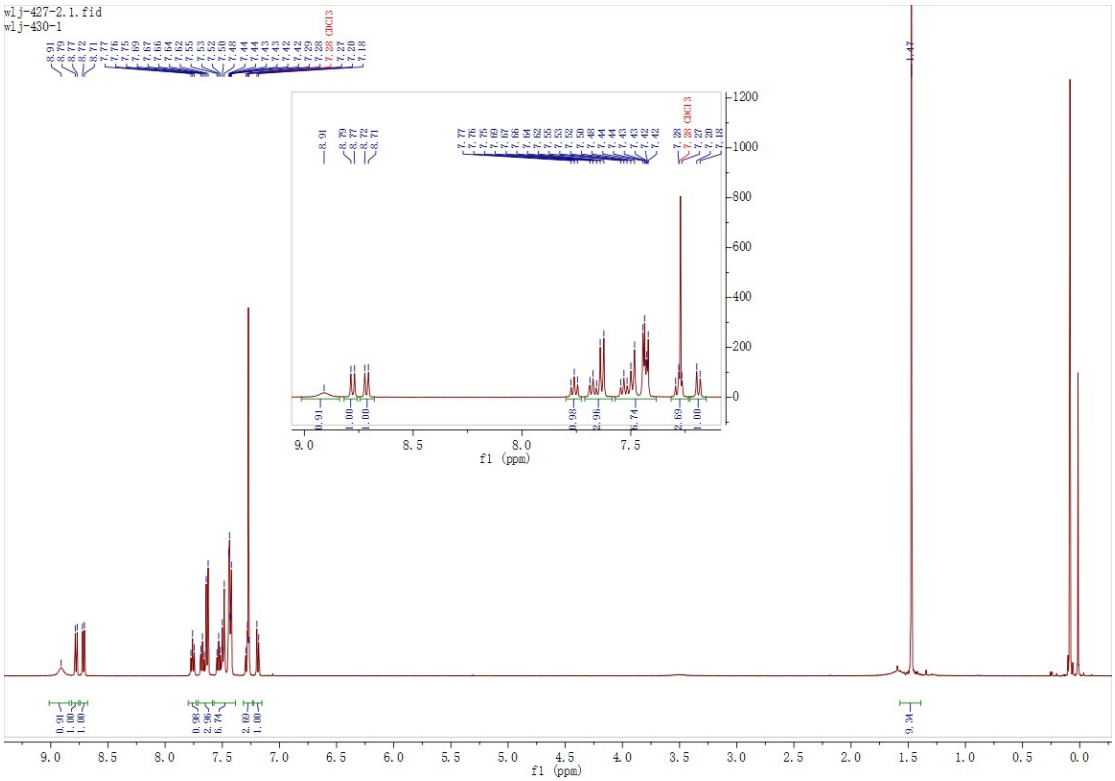

Figure S1. ^{1}H-NMR spectra of PI-Br (1).

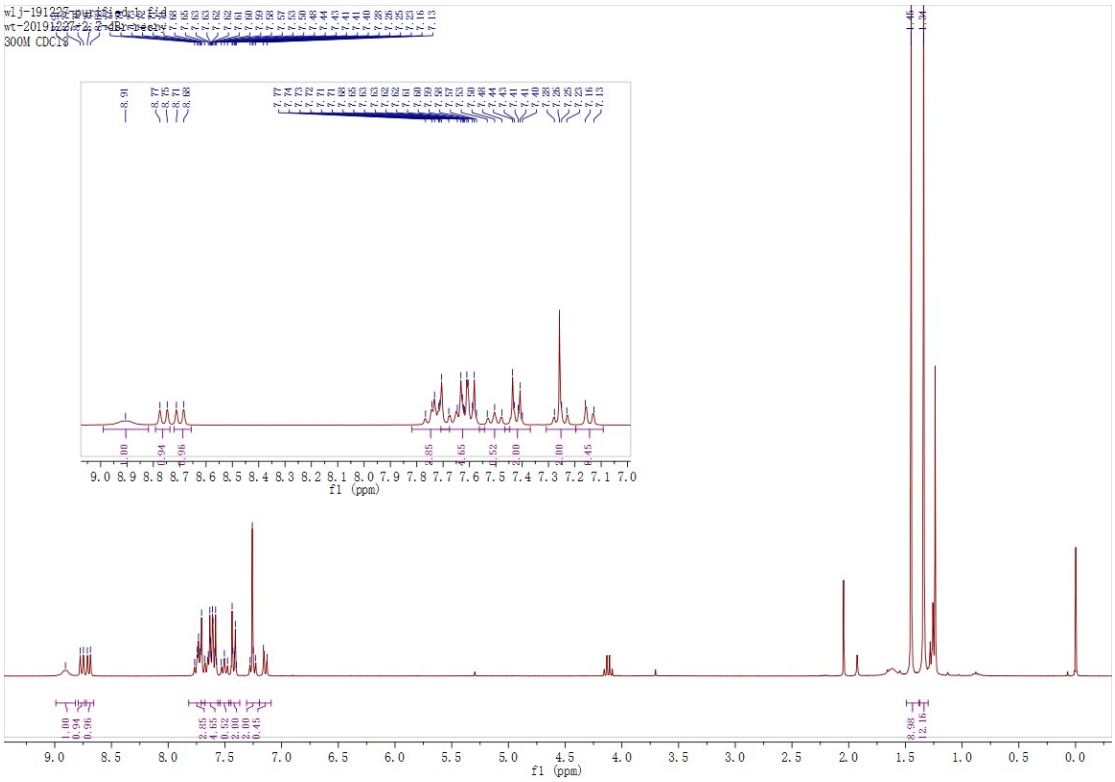

Figure S2. ^{1}H-NMR spectra of PI-Borate ester (2).

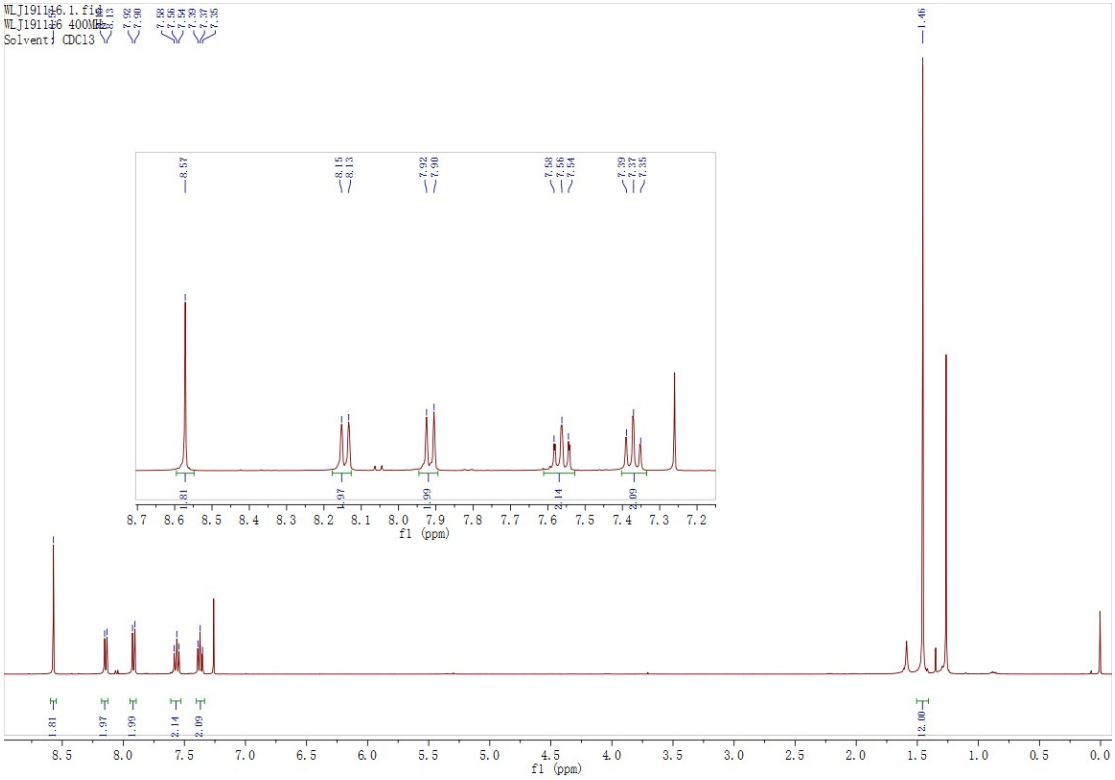

Figure S3. ^{1}H-NMR spectra of FTPA borate ester (3).

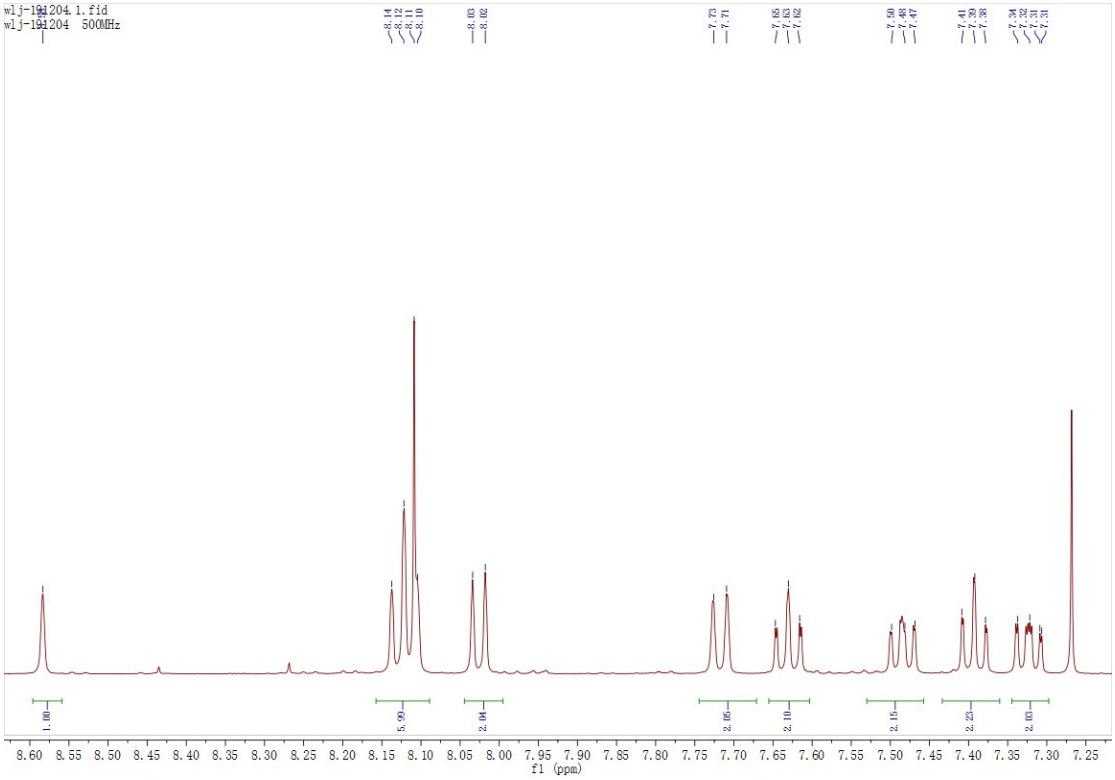

Figure S4. [1]H-NMR spectra of FTPA- An (4).

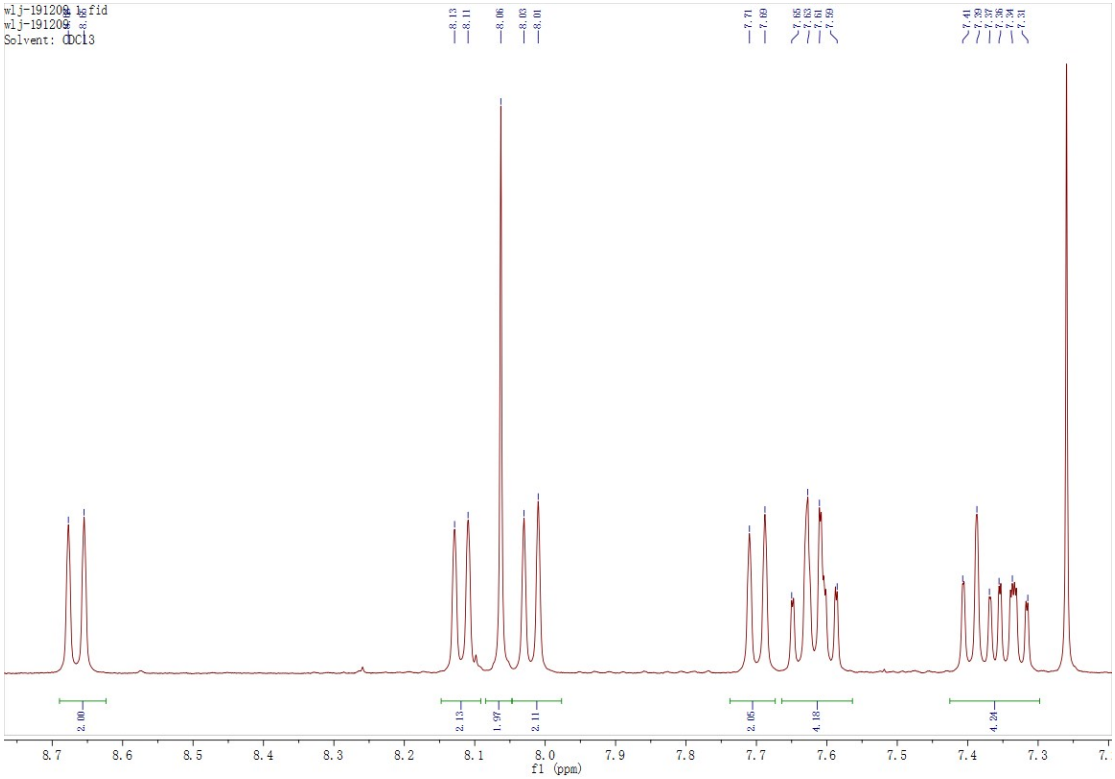

Figure S5. [1]H-NMR spectra of FTPA-An-Br (5).

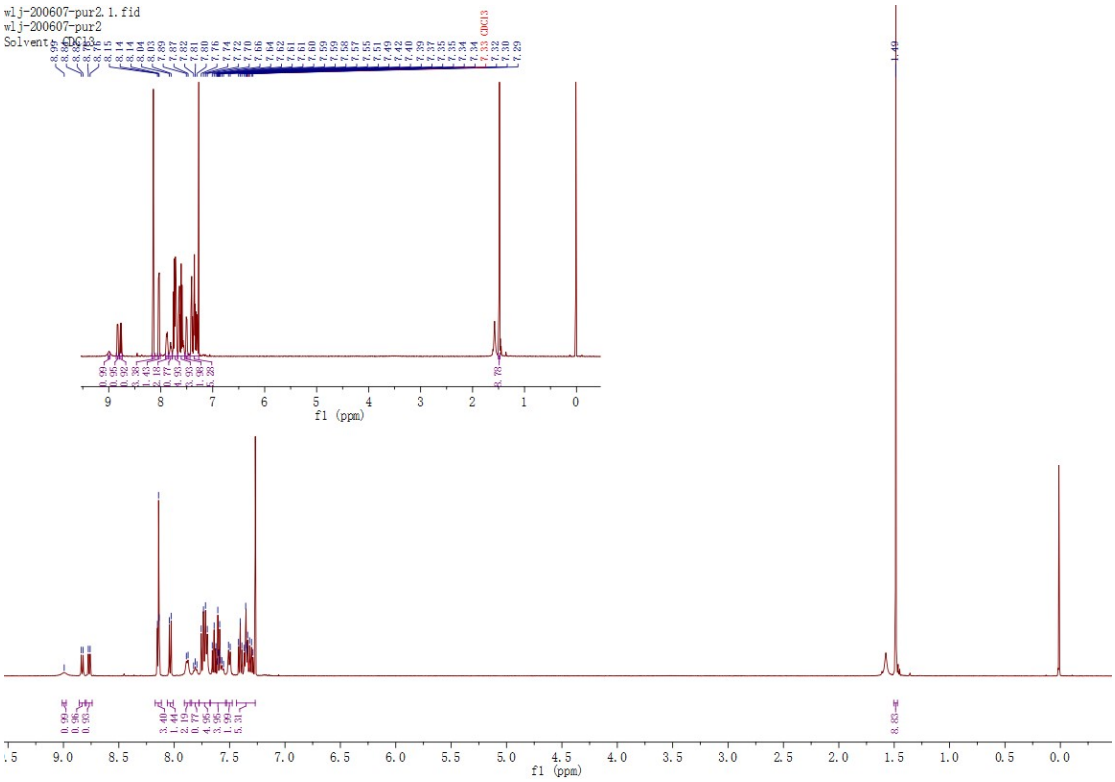

Figure S6. ^{1}H-NMR spectra of PIAN-FTPA.

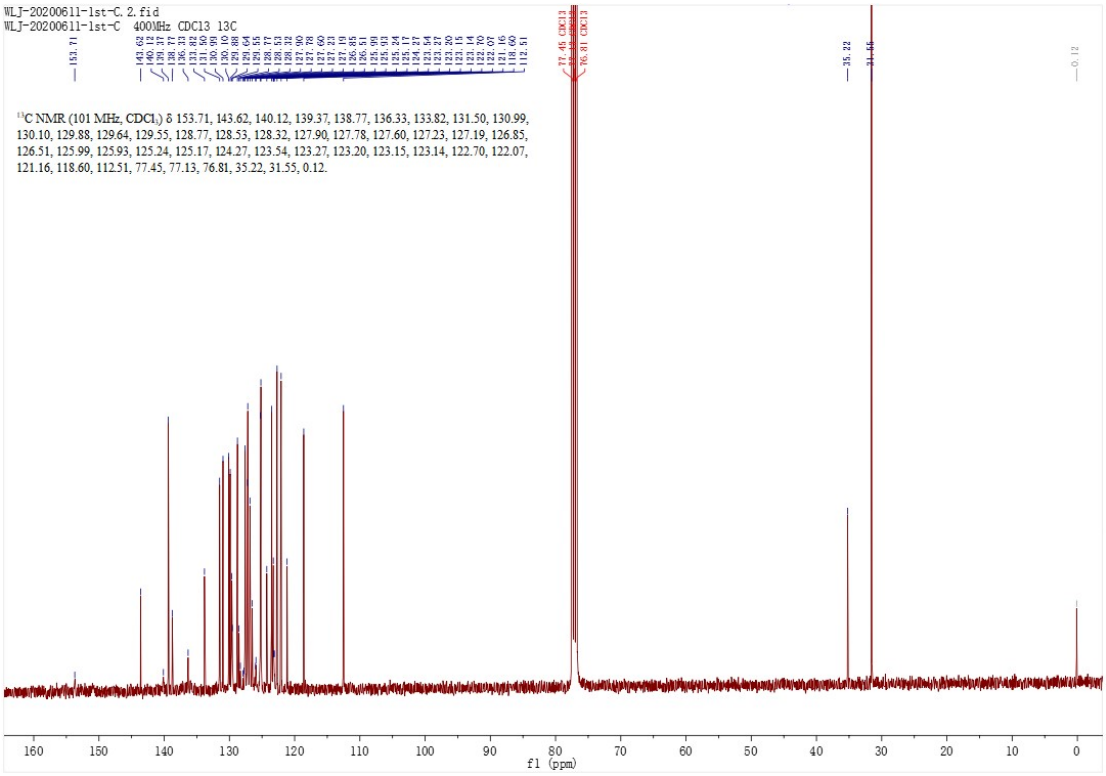

Figure S7. ^{13}C-NMR spectra of PIAN-FTPA.

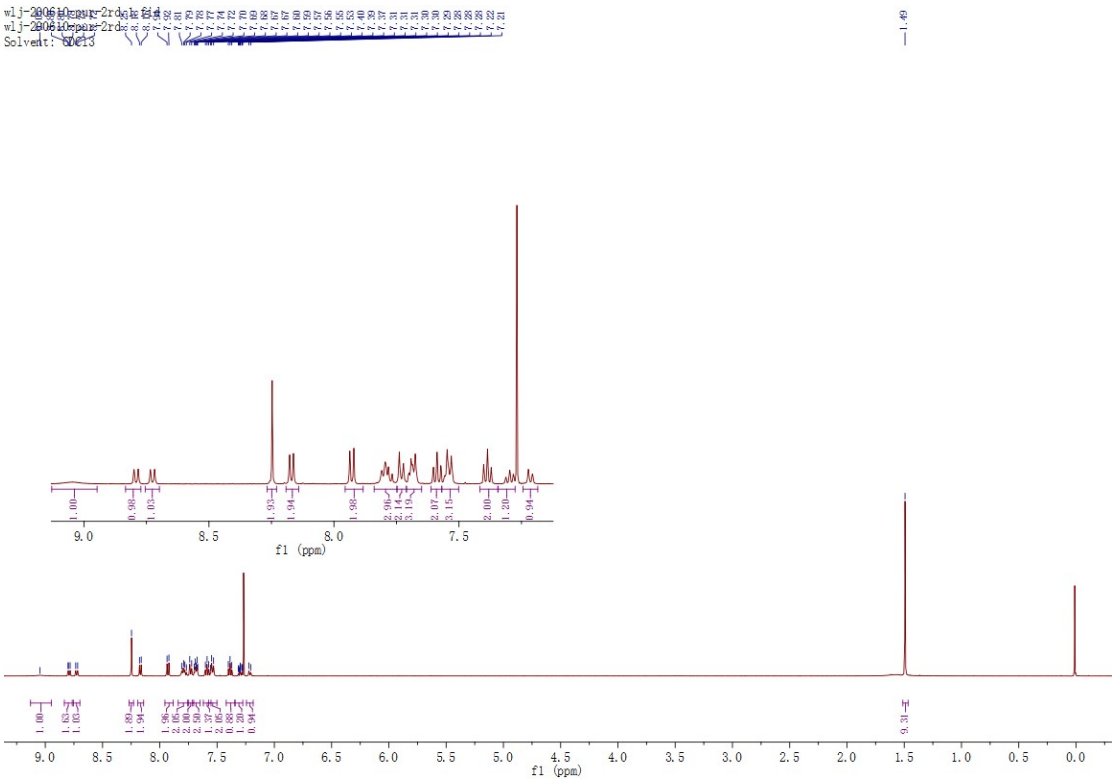

Figure S8. ^{1}H-NMR spectra of PI-FTPA.

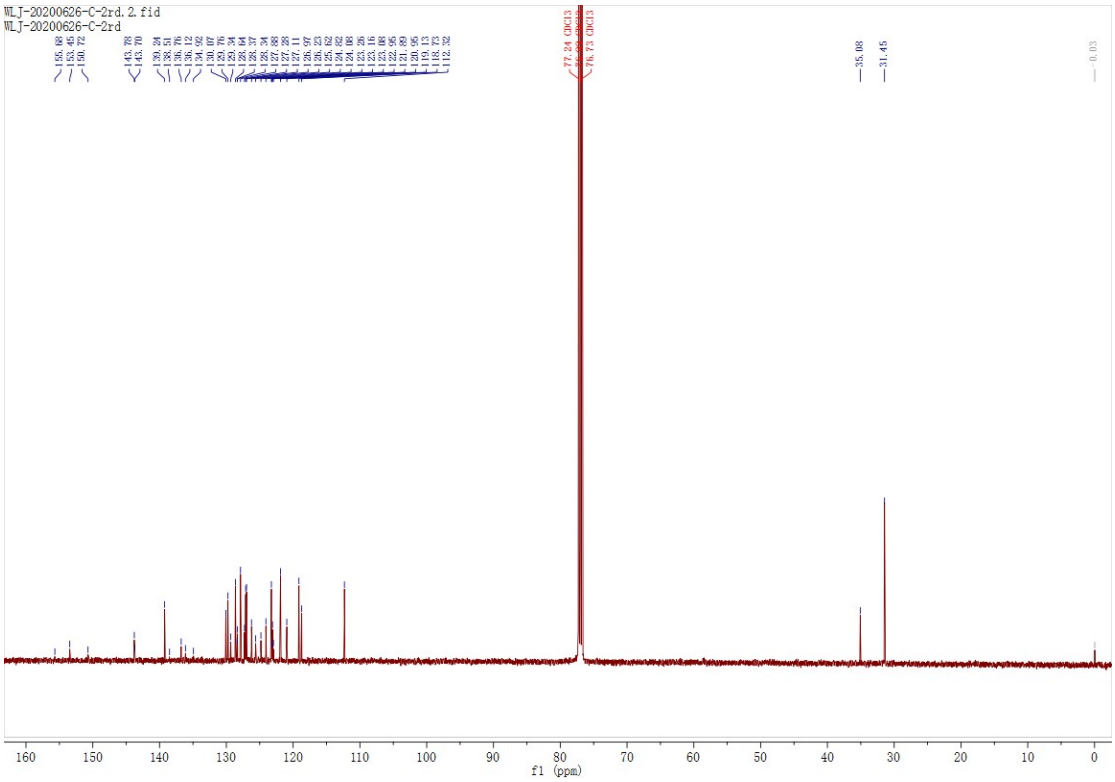

Figure S9. ^{13}C-NMR spectra of PI-FTPA.

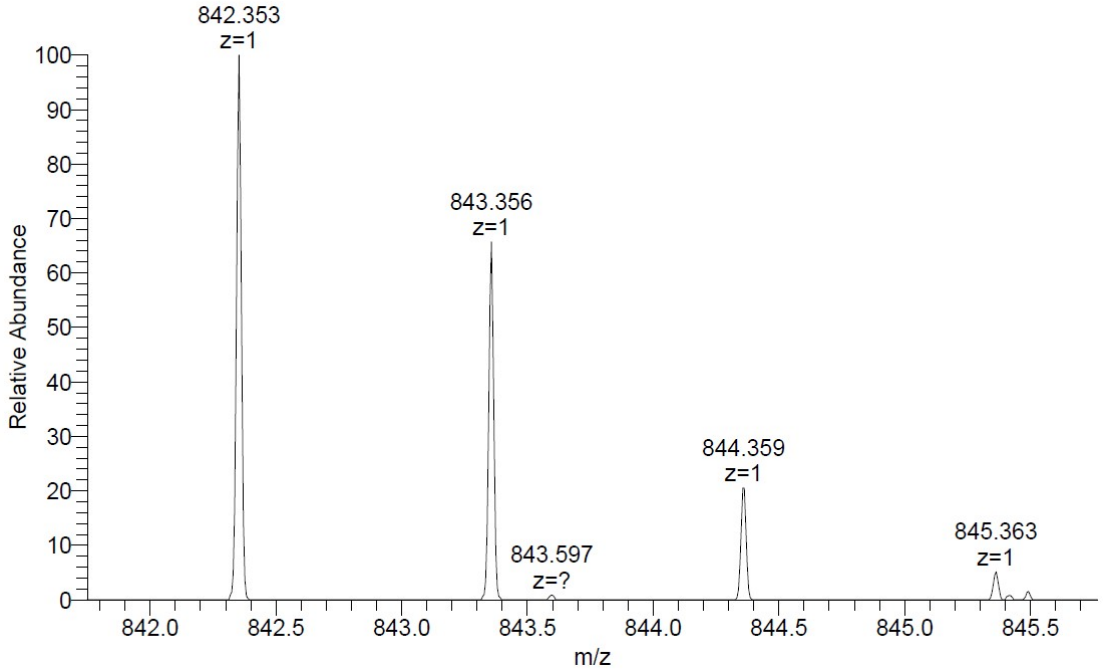

Figure S10. HRMS of PIAN-FTPA.

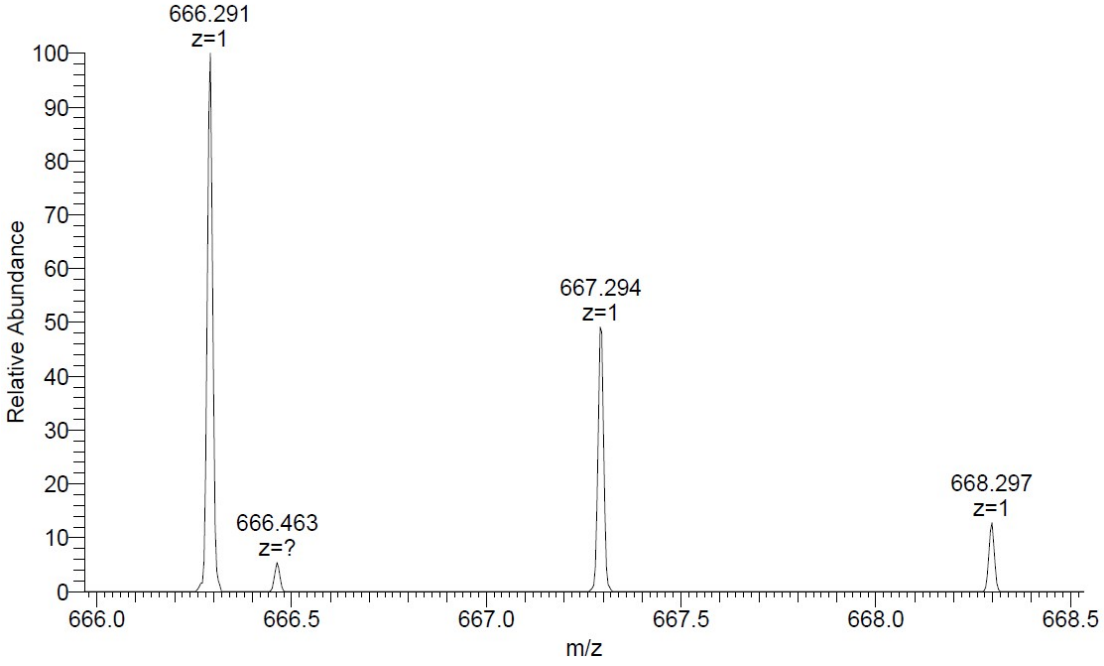

Figure S11. HRMS of PI-FTPA.

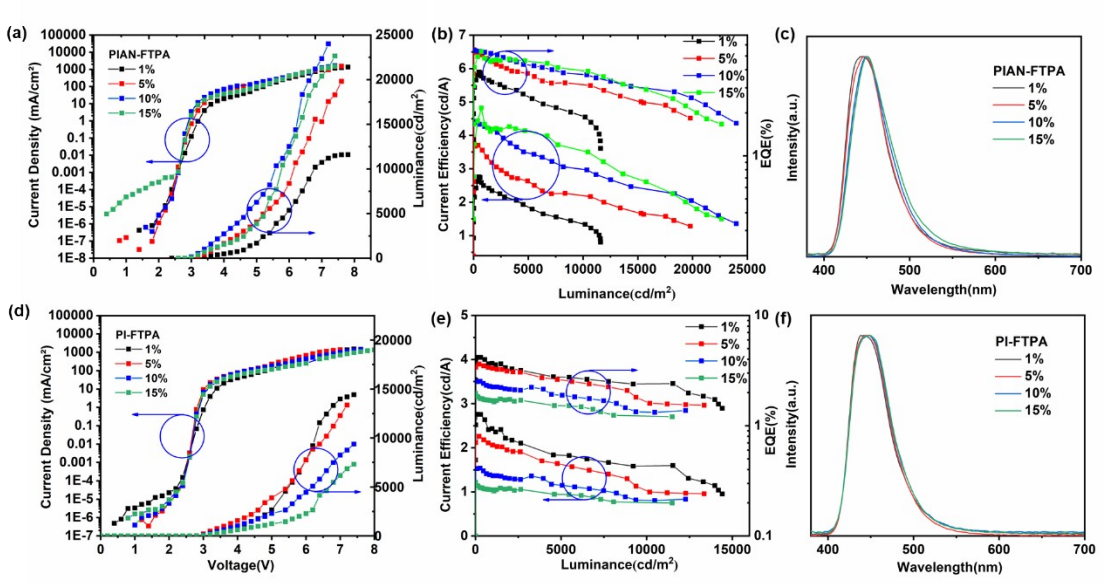

Figure S12. Electroluminescence characteristics of OLEDs based on PIAN-FTPA and PI-FTPA. *J–V–L* characteristics of PIAN-FTPA devices (a) and PI-FTPA devices (d); EQE and CE vs luminance characteristics of PIAN-FTPA devices (b) and PI-FTPA devices (e); EL spectra at 4V of PIAN-FTPA (c) and PI-FTPA (f);

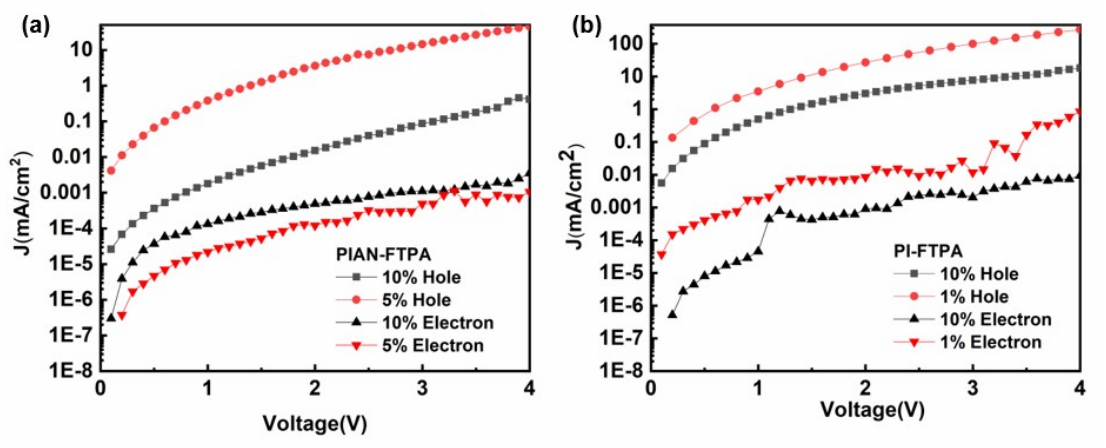

Figure S13. The carrier mobility of EML layer of PIAN-FTPA (a) and PI-FTPA (b).

Table S1 the performance of some reported blue OLEDs

Material	Turn-on voltage(V)	EQE(%)	L_{max}(cd/m^2)	CIE	Ref.
PIAN-FTPA	2.8	5.74	24000	0.15,0.09	This work
PI-FTPA	2.8	4.17	14420	0.14,0.07	This work
BD3	3.7	12	4778	0.15,0.06	[1]
CN-SBAF	2.7	12.6	~6000	0.15,0.10	[2]
PPI-PPIPCz	3.2	8.1	13950	0.15,0.08	[3]
NAXPT	2.8	6.6	~4000	0.15,0.07	[4]
PyINA	3.4	5.05	13600	0.16,0.06	[5]
CBPMCN	3.4	4.71	10800	0.15,0.08	[6]
BBPA	3.6	10.27	~4000	0.15,0.05	[7]
DTXSAF	4.1	7.7	~1000	0.15,0.08	[8]
PPi-Mid	3.15	6.01	14350	0.15,0.08	[9]
v-DABNA	3.4	34.4		0.12,0.11	[10]
DPy-PPI	3.2	4.24	~4000	0.14,0.06	[11]
pTAHPI	2.8	8.13	18100	0.15,0.23	[12]
PBI-PPI-TPA	2.8	6.88	10612	0.15,0.09	[13]

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