Supporting Information

Bulky Pyridinylfluorene-functionalizing Approach to Diarylfluorenes-based Bipolar Host Materials for Efficient Red, Green, Blue and White Electrophosphorescent Devices

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Fig. S1. TGA (a) and DSC (b-d) curves of the hosts in nitrogen atmosphere.
Fig. S2. Cyclic voltammogram of the three hosts measured with a scan rate of 100 mV s⁻¹ in acetonitrile solutions (a: Oxide curves; b: Reductant curves).
Fig. S3. Top): The energy level alignment diagram of the PhOLEDs (B-3, G1-3 and R1-3), Bottom): The structure for PhOLEDs and molecular structures of the used compounds used in these devices. Bphen (4,7-Diphenyl-1,10-diazaphenanthrene); 3TPyMB (Tris(2,4,6-trimethyl-3-(pyridine-3-yl)phenyl)borane); CzPy-PyFM; CzPy-DPyFM; T$_3$DPyFM; m-MTDATA (4,4',4''-Tris(N-3-methyl-phenyl-N-pjenylamino)
triphenyl-amine); \( \text{Ir(ppy)}_3 \) (Tris(2-phenyl-pyridine)iridium(III)); \( \text{Ir(MDQ)}_2(\text{acac}) \) (Bis(2-methyl-dibenzo[f, h]guinoxaline) (acetyl-acetonate)); FIrpic (Bis(4,6-difluoro-phenyl-pyridine) (picolinate)iridium(III)); ITO (indium tin oxide).

**Fig. S4.** Phosphorescence spectra of the three hosts measured at 77 K in CH\(_2\)Cl\(_2\).
Fig. S5. The EL spectra of the blue, green, red and white devices at different driving voltages.
Fig. S6. Current efficiency (solid)–luminance–power efficiency (hollow) characteristics of the blue (a), green (b), red (c) and white (d) devices, respectively.
**Fig. S7.** (a-d) The EL spectra of the blue, green, red and white devices at different driving voltages, (e) current efficiency–luminance, (f) power efficiency–luminance and (g) EQE vs current density curves of the optimized devices based on R2 utilizing CzPy-DPyFM host.

**Fig. S8.** The MALDI-TOF-MS spectrum of T$_3$PyFM
Fig. S9. $^1$H NMR spectrum of T₃PyFM in CDCl₃

Fig. S10. $^{13}$C NMR spectrum of T₃PyFM in CDCl₃
**Fig. S11.** The MALDI-TOF-MS spectrum of CzPy-PyFM

**Fig. S12.** $^1$H NMR spectrum of CzPy-PyFM in CDCl$_3$
Fig. S13. $^{13}$C NMR spectrum of CzPy-PyFM in CDCl$_3$

Fig. S14. The MALDI-TOF-MS spectrum of CzPy-DPyFM
**Fig. S15.** $^1$H NMR spectrum of CzPy-DPyFM in CDCl$_3$

**Fig. S16.** $^{13}$C NMR spectrum of CzPy-DPyFM in CDCl$_3$