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Supporting Information

New Pyrene Cored Small Organic Molecule with Flexible Alkyl Spacer: The Potential Solution Processable Blue Emitter with Bright Photoluminescence

1. Figure S1. ¹H and ¹³C NMR spectra of 9-(5-bromopentyl)-9H-carbazole

2. Figure S2. ¹H and ¹³C NMR spectra of 9-(5-(4-iodophenoxy)pentyl)-9H-carbazole

3. Figure S3. ¹H and ¹³C NMR spectra of 9-(5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenoxy)pentyl)-9H-carbazole

4. Figure S4. ¹H and ¹³C NMR spectra of 1,3,6,8-tetrakis(4-((5-(9H-carbazol-9-yl)pentyl)oxy)phenyl)pyrene (**PY-II**)

5. Figure S5. MALDI-TOF spectrum of **PY-II**

6. Figure S6. TG curve of PY-II

- 7. Figure S7. DSC curve of PY-II
- 8. Figure S8. Cyclic voltammogram of PY-II

9. Figure S9. CE and PE characteristics of PY-II OLED device

10. Figure S10. Atomic force microscope image of **PY-II** spin coated thin film on ITO coated glass

11. Figure S11. Visible absorption (VIS) and photoluminescence (PL) spectra of PY-II in chloroform computed with DFT.

12. Figure S12. Photoluminescence (PL) decay spectra of PY-II.



Fig. S1. ¹H (upper) and ¹³C NMR (lower) spectra of 9-(5-bromopentyl)-9H-carbazole



Fig. S2. ¹H (upper) and ¹³C NMR (lower) spectra of 9-(5-(4-iodophenoxy)pentyl)-9H-carbazole



Fig. S3. ¹H (upper) and ¹³C NMR (lower) spectra of 9-(5-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2yl)phenoxy)pentyl)-9H-carbazole



Fig. S4. ¹H (upper) and ¹³C NMR (lower) spectra of 1,3,6,8-tetrakis(4-((5-(9H-carbazol-9-yl)pentyl)oxy)phenyl)pyrene (**PY-II**)







Fig.S6 TGA curve of PY-II



Fig. S7 DSC curve of PY-II



Fig. S8 Cyclic voltammogram of PY-II



Fig. S9 CE and PE characteristics of PY-II based OLED devices.



Fig. S10 Atomic force microscope image of PY-II spin coated thin film on ITO coated glass



Fig. S11 Visible absorption (VIS) and photoluminescence (PL) spectra of **PY-II** in chloroform computed with DFT.



Fig. S12 Photoluminescence (PL) decay spectra of PY-II.



Fig. S13 Electroluminescent (EL) peak variation with respect to different applied bias using **PY-II** based OLED devices.