

Electronic Supplementary Information (ESI)

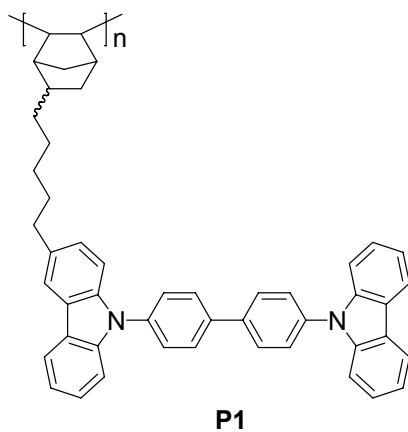
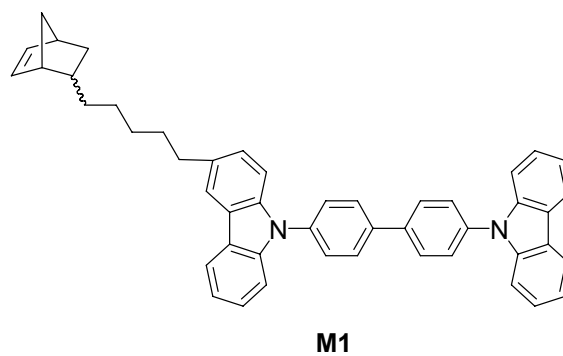
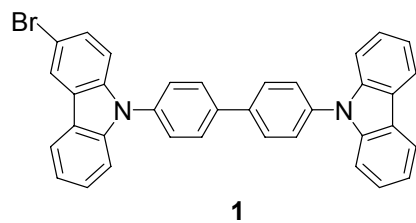
Vinyl-type polynorbornene with 9,9'-(1,1'-biphenyl)-4,4'-diylbis-9H-carbazole side groups as a host material for highly efficient green phosphorescent organic light-emitting diodes

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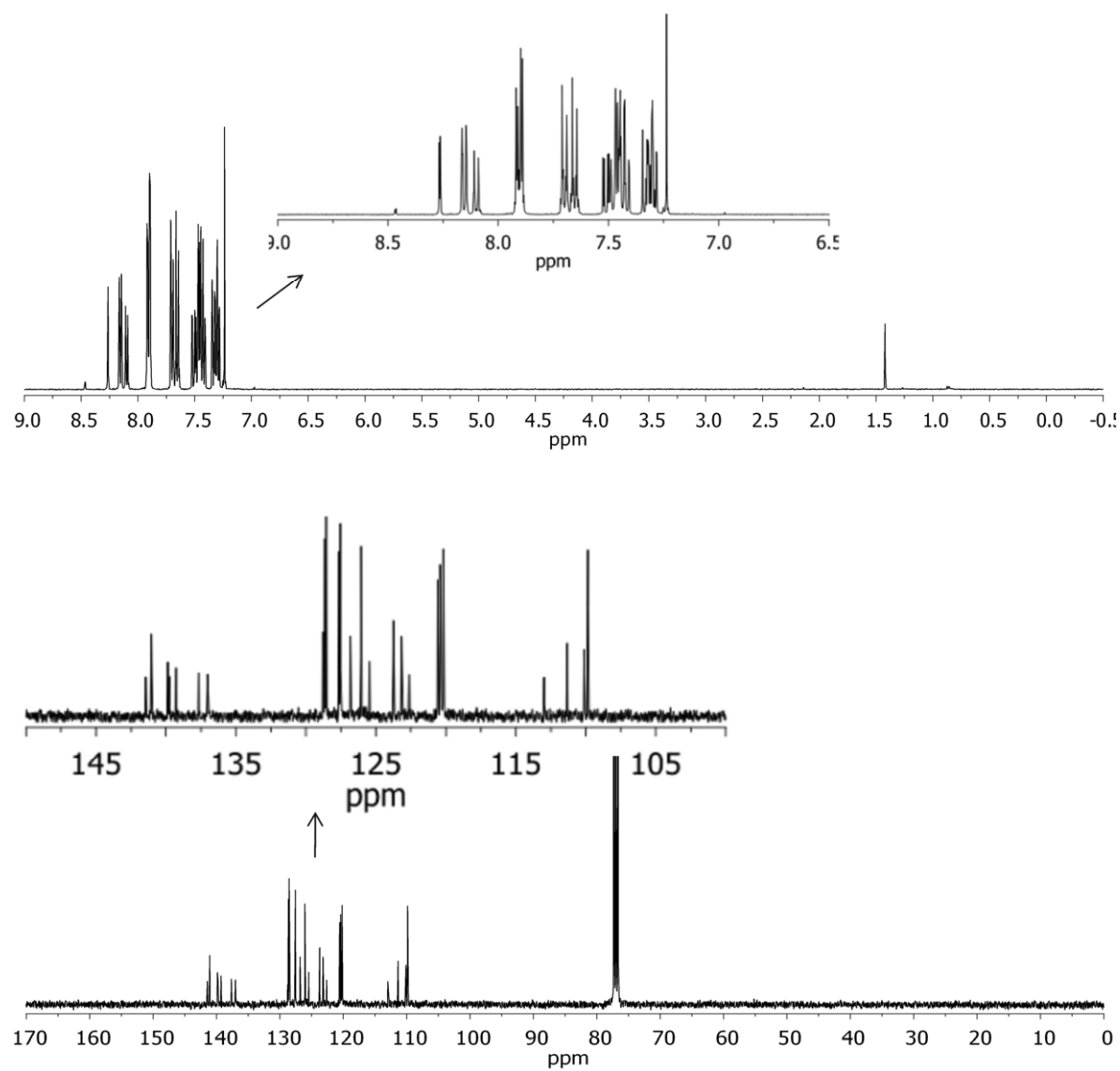


Fig. S1 ^1H (top) and ^{13}C (bottom) NMR spectra of **1**.

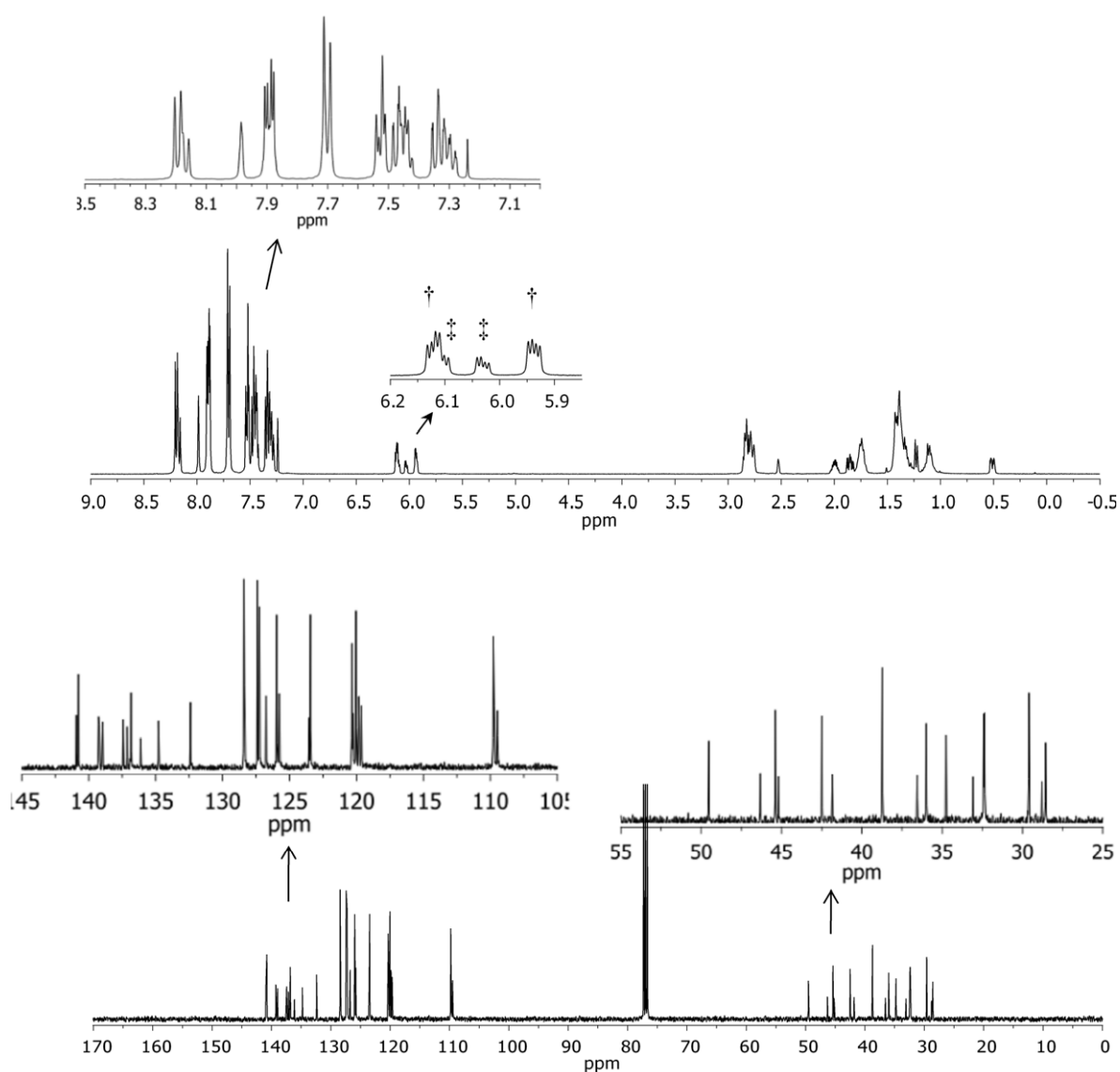


Fig. S2 ^1H (top) and ^{13}C (bottom) NMR spectra of **M1** († from *endo* isomer and ‡ from *exo* isomer; *endo/exo* = 2/1).

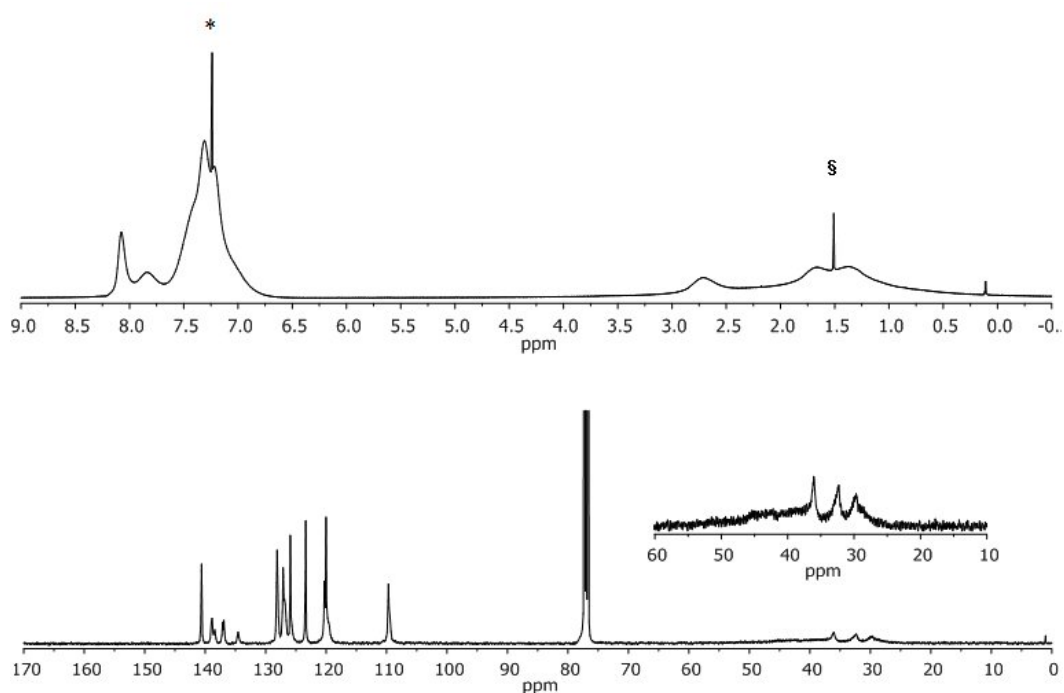


Fig. S3 ^1H (top) and ^{13}C (bottom) NMR spectra of **P1** (* and § from residual CHCl_3 and H_2O , respectively, in deuterated chloroform).

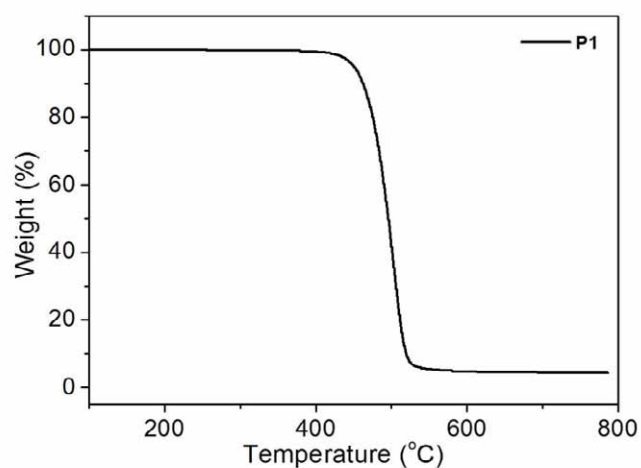


Fig. S4 TGA curve of **P1**.

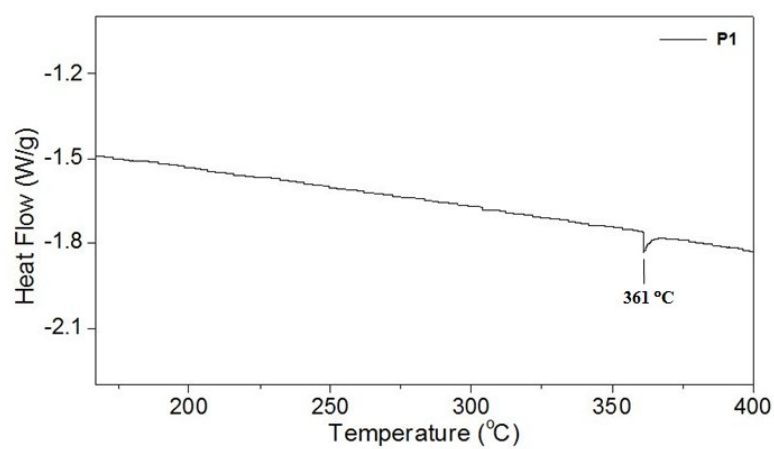


Fig. S5 DSC curve of **P1**.

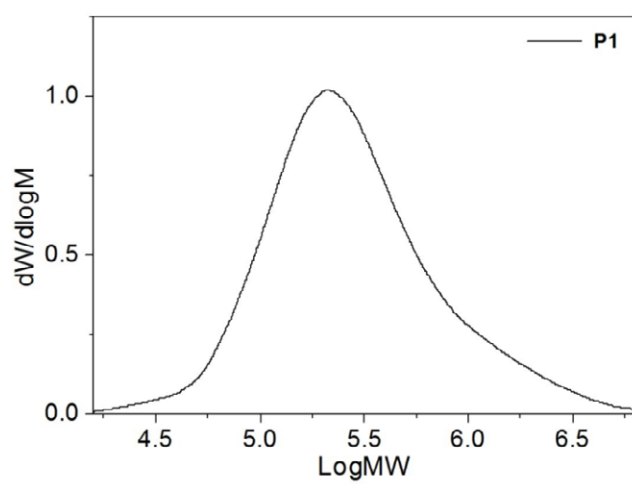


Fig. S6 GPC trace of **P1**.

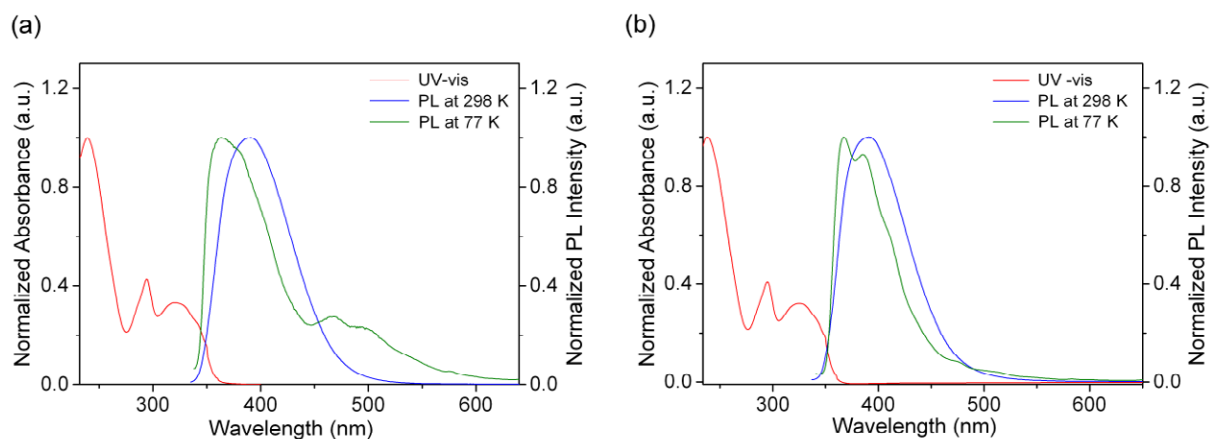


Fig. S7 UV-Vis absorption and PL spectra of (a) **M1** and (b) **P1** in CH_2Cl_2 .

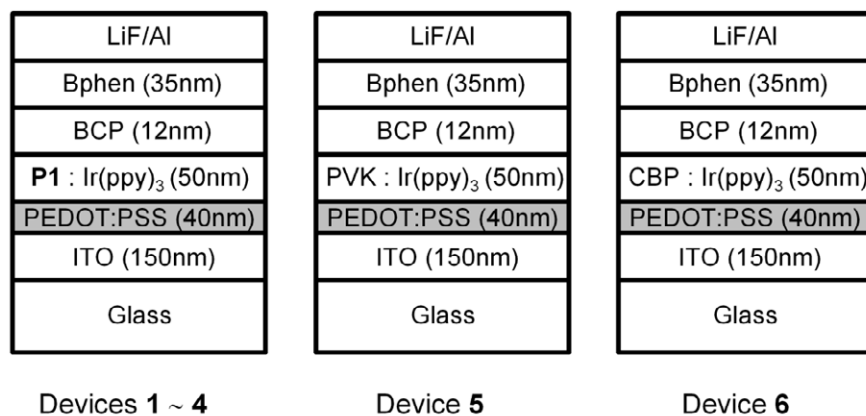


Fig. S8 Device configurations for all devices **D1 – D6**

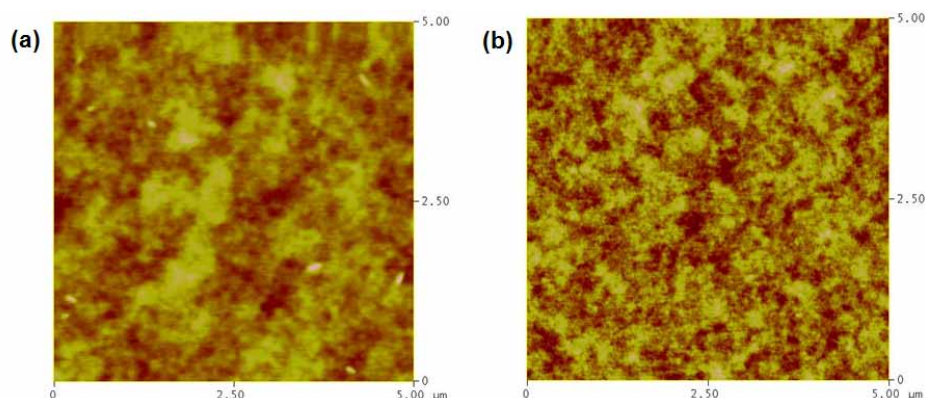


Fig. S9 Atomic force microscopy (AFM) images of (a) **P1** doped with 4 wt% *fac*-Ir(ppy)₃ and (b) PVK doped with 4 wt% *fac*-Ir(ppy)₃. In the 5 $\mu\text{m} \times 5 \mu\text{m}$ – field of view of AFM images, the average roughness of the surfaces are 0.3 nm and 0.4 nm, respectively.

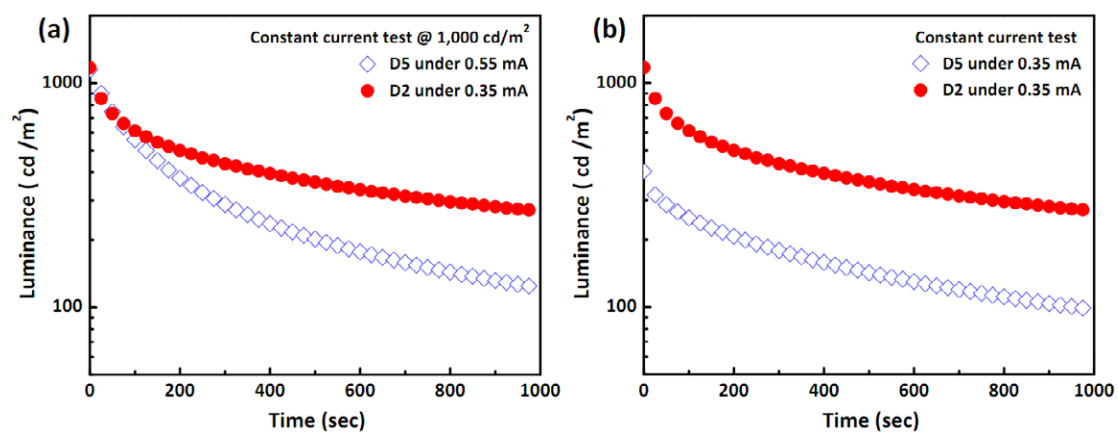


Fig. S10 Lifetime test for PhOLED based on **P1 (D2)** and **PVK (D5)**. (a) **D2** and **D5** are biased under 0.35-mA and 0.55-mA constant current condition, respectively, to yield the initial luminance of 1,000 cd/m². (b) **D2** and **D5** are biased under 0.35-mA constant current condition with the different initial luminances. The device areas of **D2** and **D5** are same as 9 mm².