Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting information

Metal-free and purely organic phosphorescent light-emitting diodes using phosphorescence harvesting hosts and organic phosphorescent emitters

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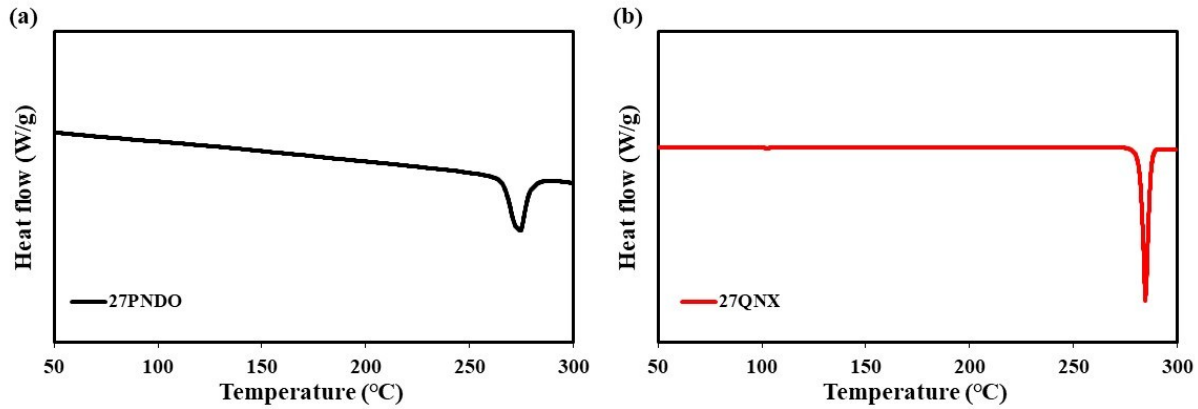

Figure S1. Differntial scanning calorimetry curves of (a) 27PNDO and (b) 27QNX. T_m: 27PNDO (274.3 ℃) and 27QNX (284.5 ℃)

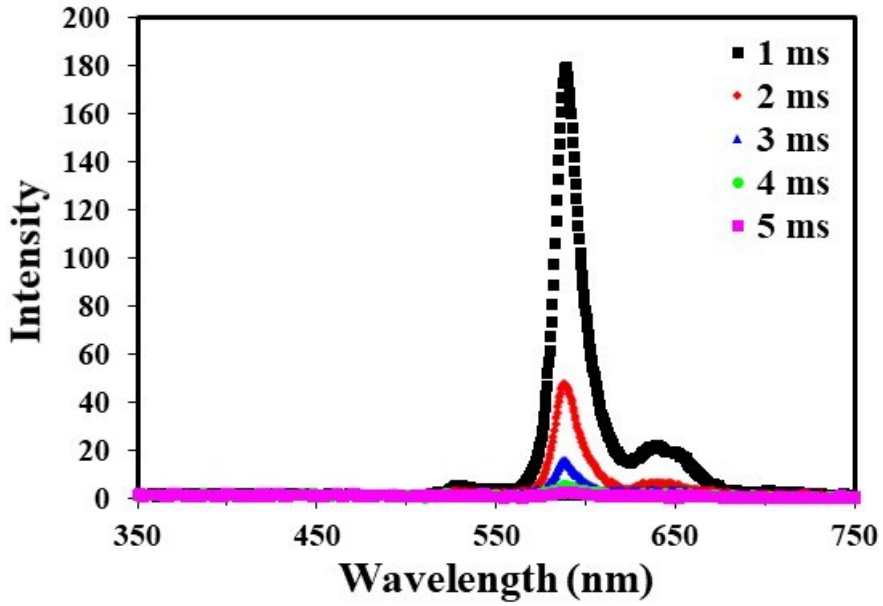

Figure S2. PL spectra of the 27QNX:27PNDO film according to delay time variation.

(Doping concentration was 1 wt%.)

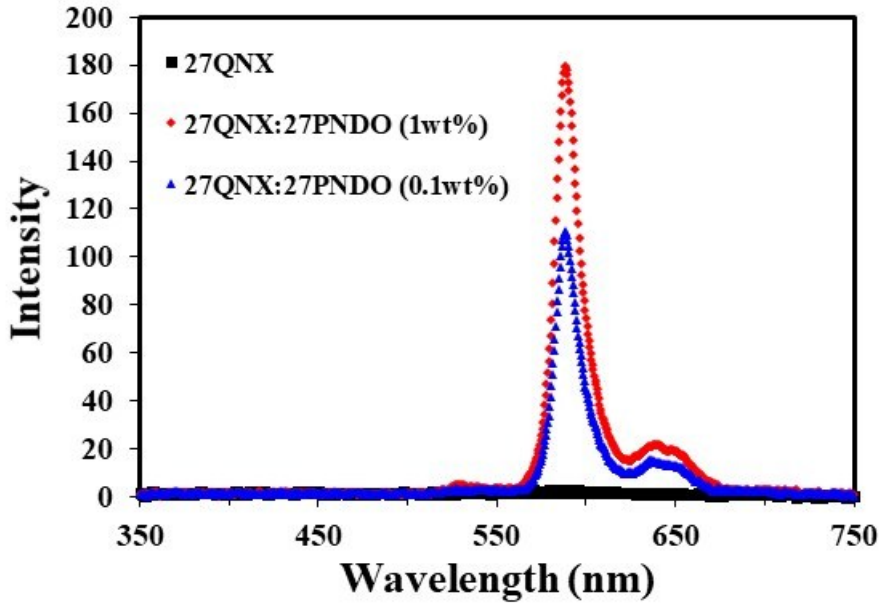

Figure S3. PL spectra of the 27QNX:27PNDO films according to doping concentration.

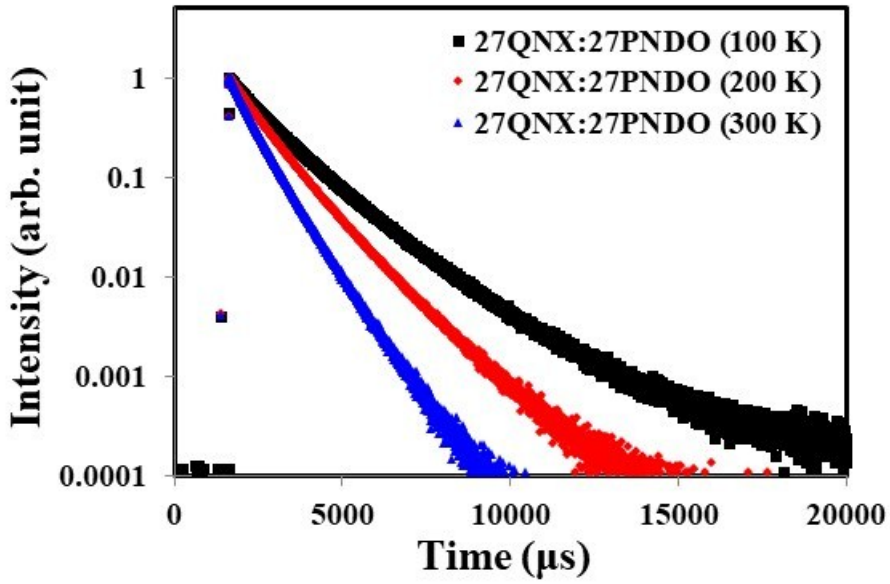

Figure S4. Transient decay curves of 27QNX:27PNDO film at different temperature. (Doping concentration was 1 wt%.)

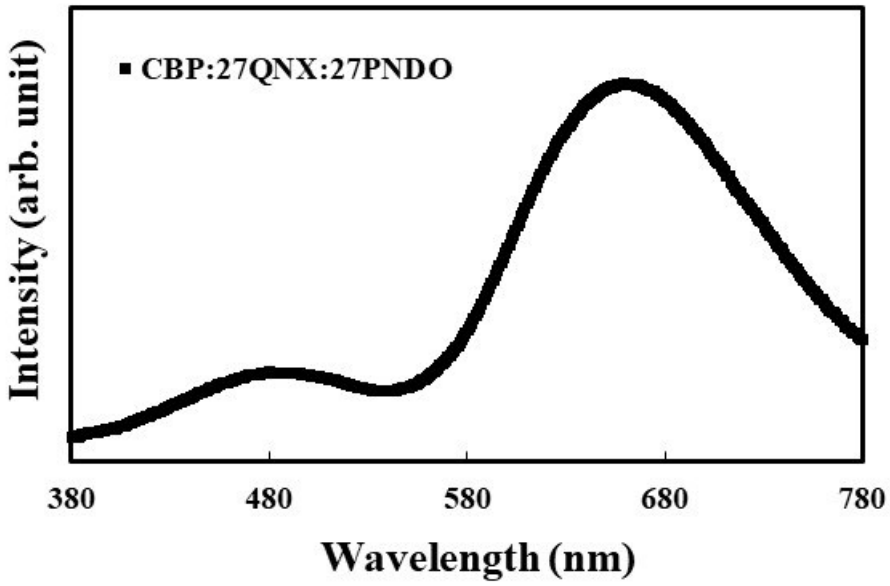

Figure S5. EL spectrum of CBP:27QNX:27PNDO device. (Doping concentrations of 27QNX and 27PNDO were 30 and 1%, respectively)

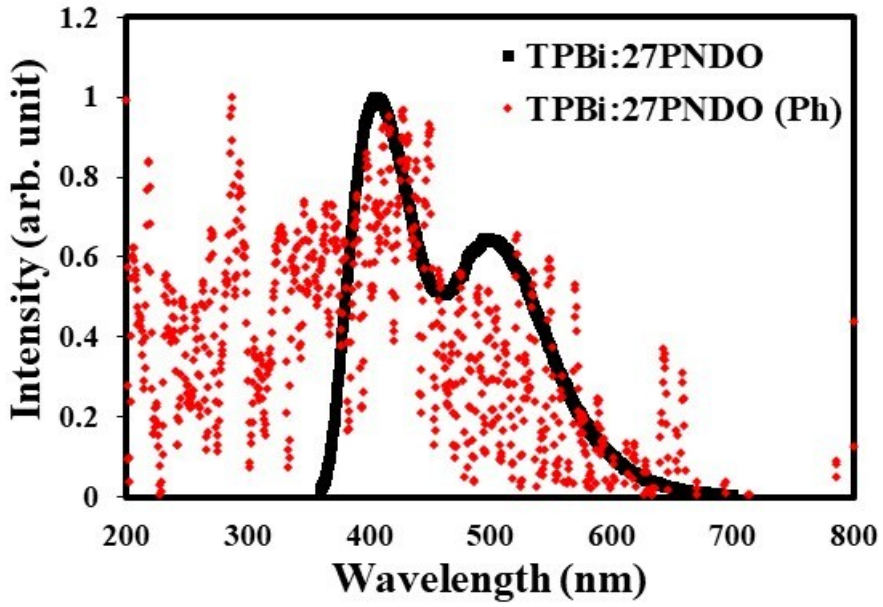

Figure S6. PL spectra of the TPBi:27PNDO film. (Doping concentration was 1 wt%. Ph: after delay time of 1 ms)

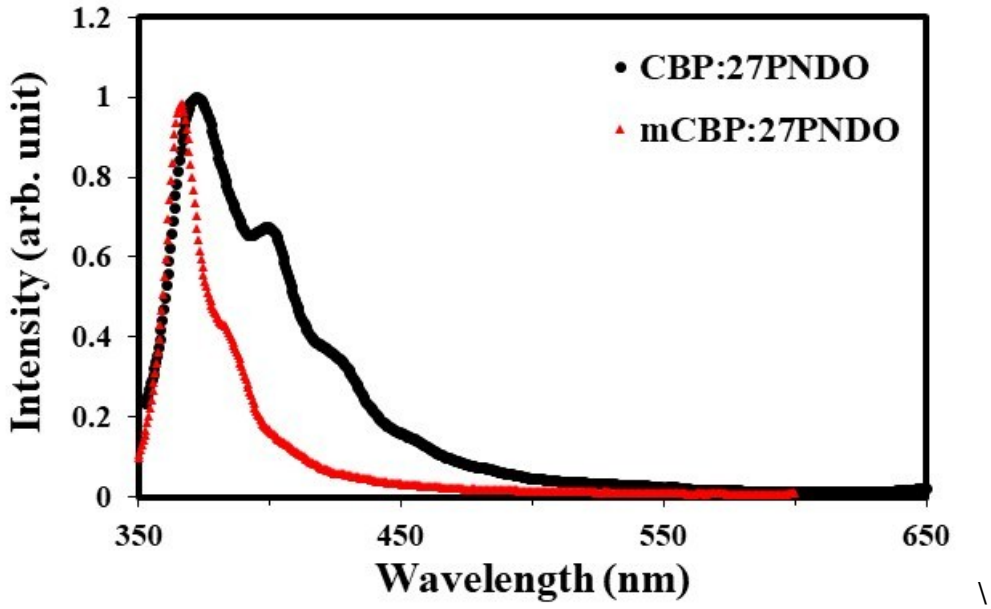

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Figure S7. PL spectra of 4,4'-di(9*H*-carbazol-9-yl)-1,1'-biphenyl (CBP):27PNDO and 3,3'-di(9*H*-carbazol-9-yl)-1,1'-biphenyl (mCBP):27PNDO films. (Doping concentration was 1 wt%.)

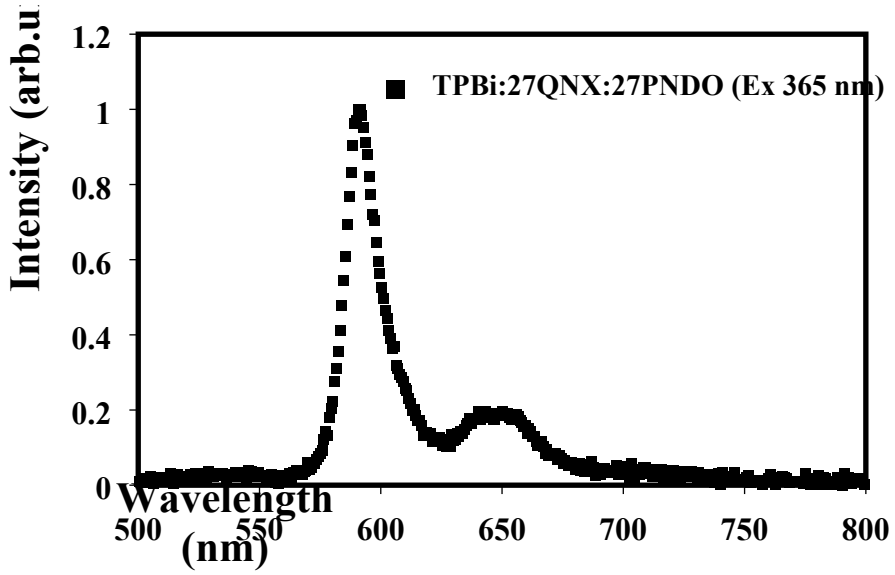

Figure S8. PL spectra of TPBi:27QNX:27PNDO under excitation wavelength of 365 nm.

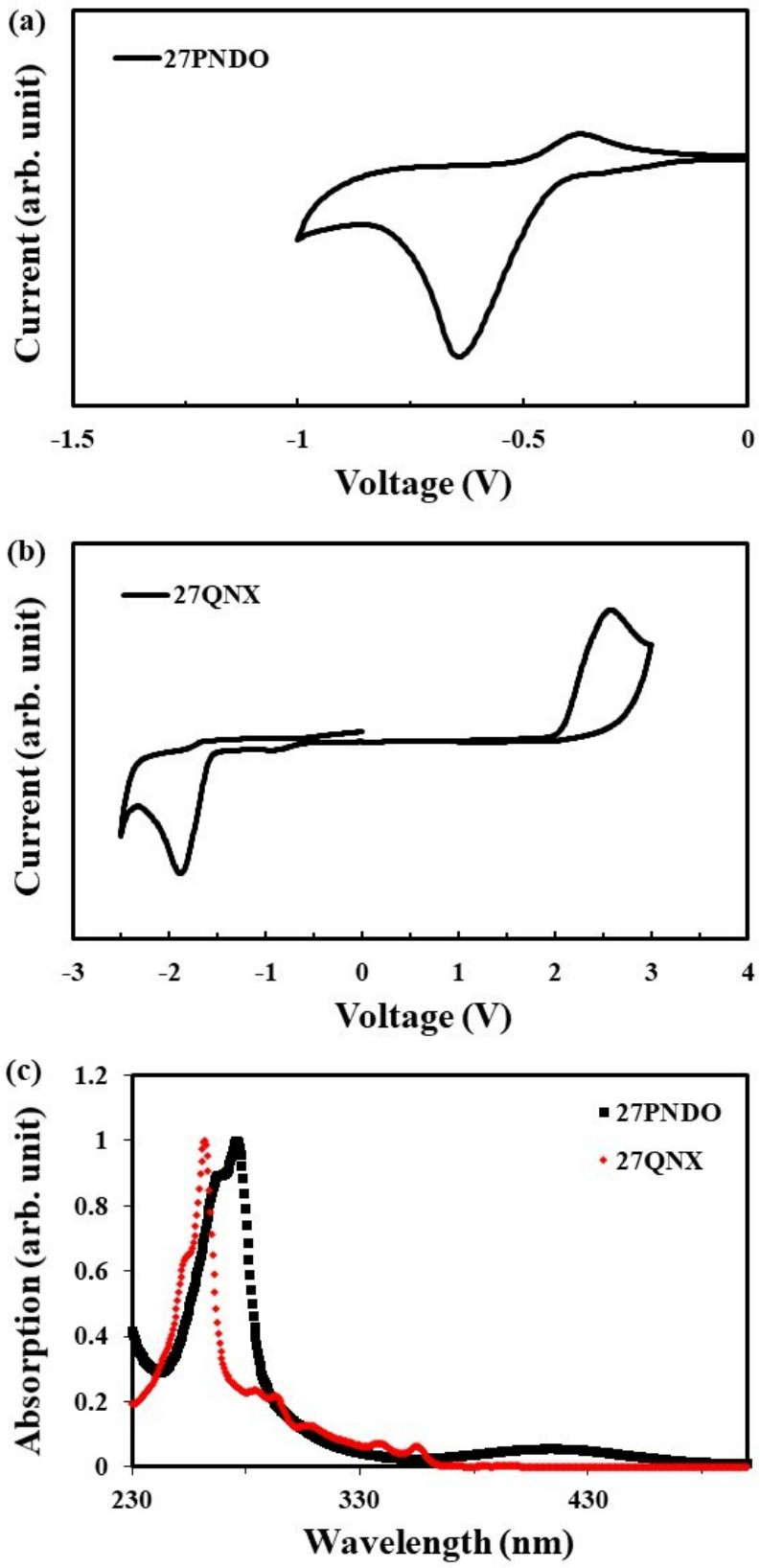

Figure S9.(a) A reduction curve of 27PNDO collected from cyclic voltammetry. (b) Oxidation and reduction curves of 27QNX collected from cyclic voltammetry. (c) UV-vis absorption spectra of 27PNDO and 27QNX.

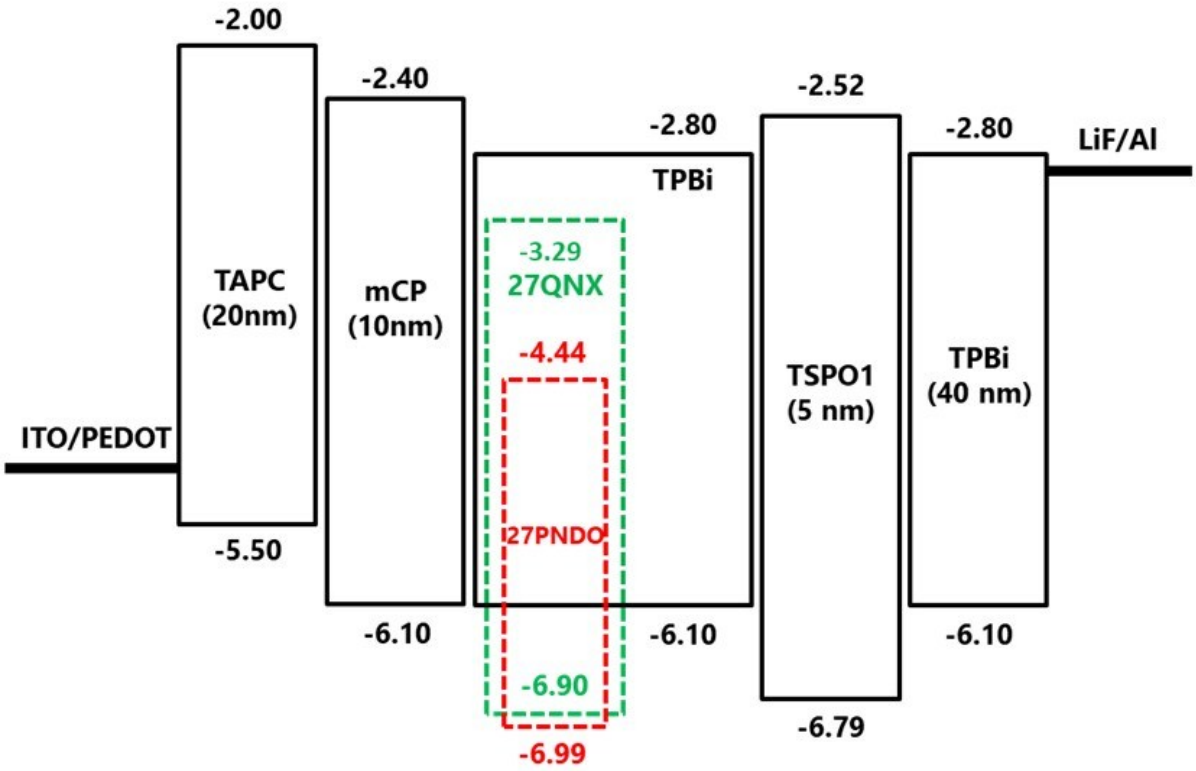

Figure S10. Energy level diagram of the TPBi:27QNX:27PNDO device.