

Supporting information:

A series of novel host materials based on 10,11-dihydro-5*H*-dibenzo[*b,f*]azepine unit for highly efficient green and red organic light-emitting diodes

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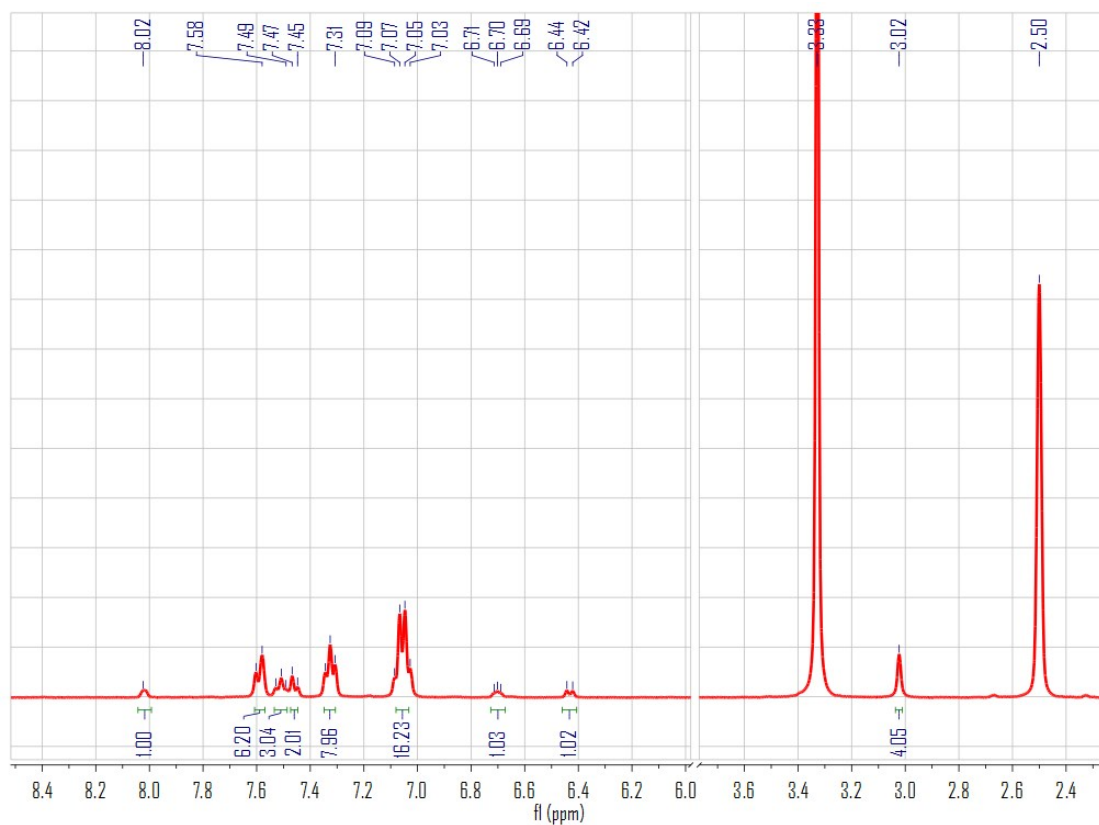


Fig. S1. ^1H NMR spectrum of **D-PY** ($\text{DMSO-}d_6$).

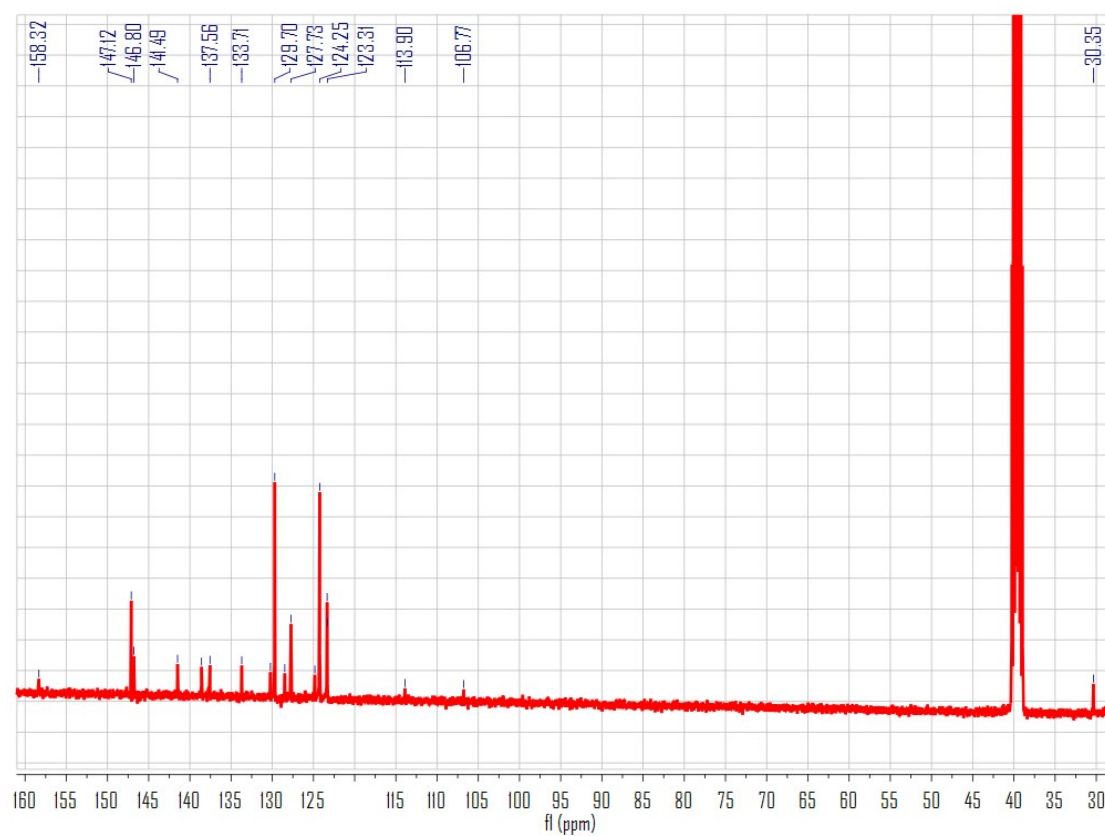


Fig. S2. ^{13}C NMR spectrum of **D-PY** ($\text{DMSO-}d_6$).

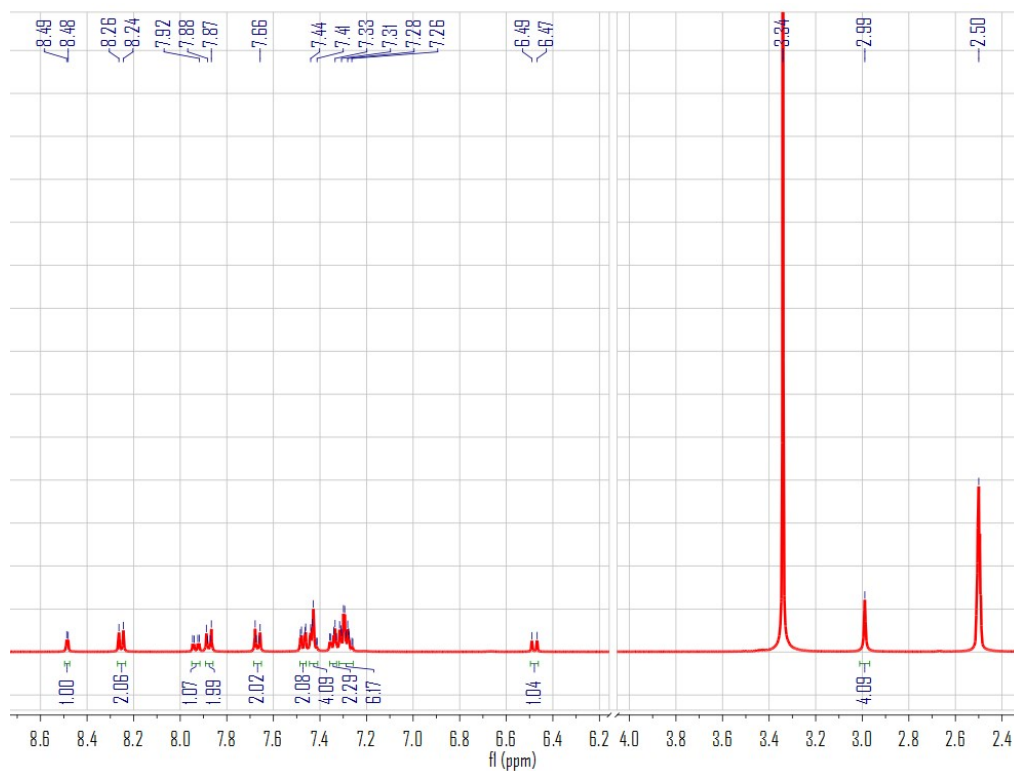


Fig. S3. ^1H NMR spectrum of S-CZ (DMSO- d_6).

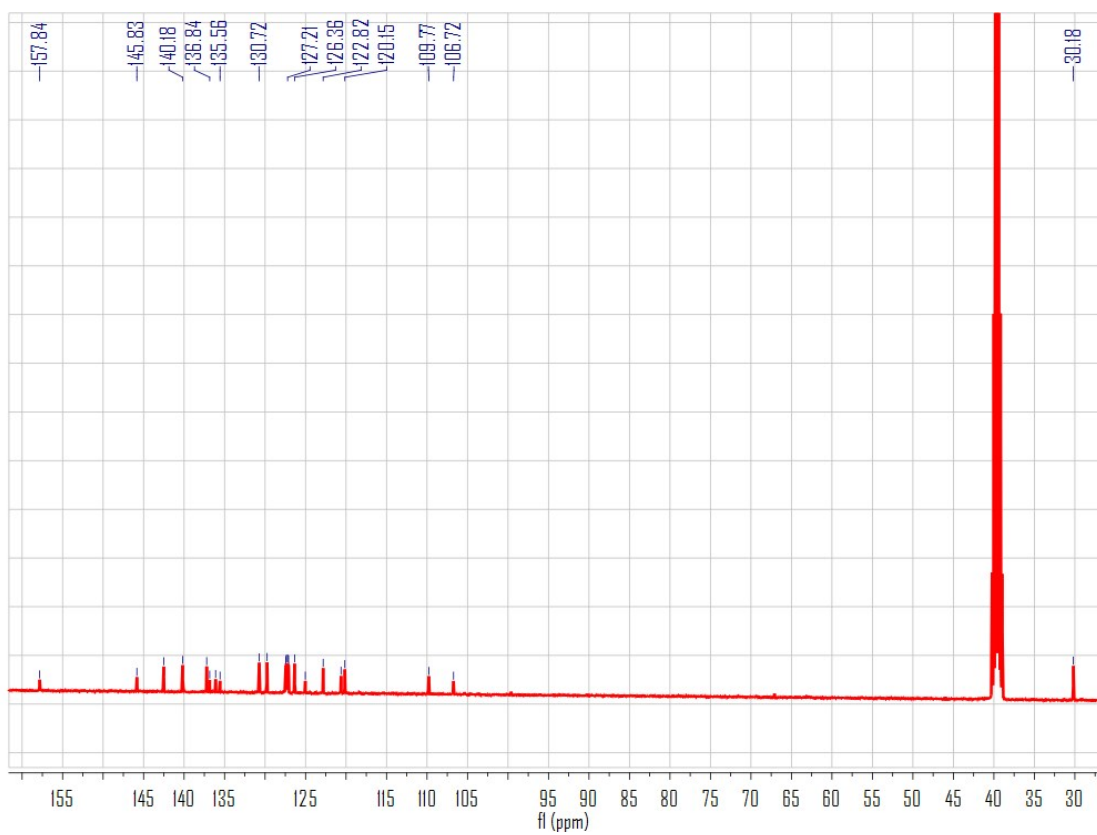


Fig. S4. ^{13}C NMR spectrum of S-CZ (DMSO- d_6).

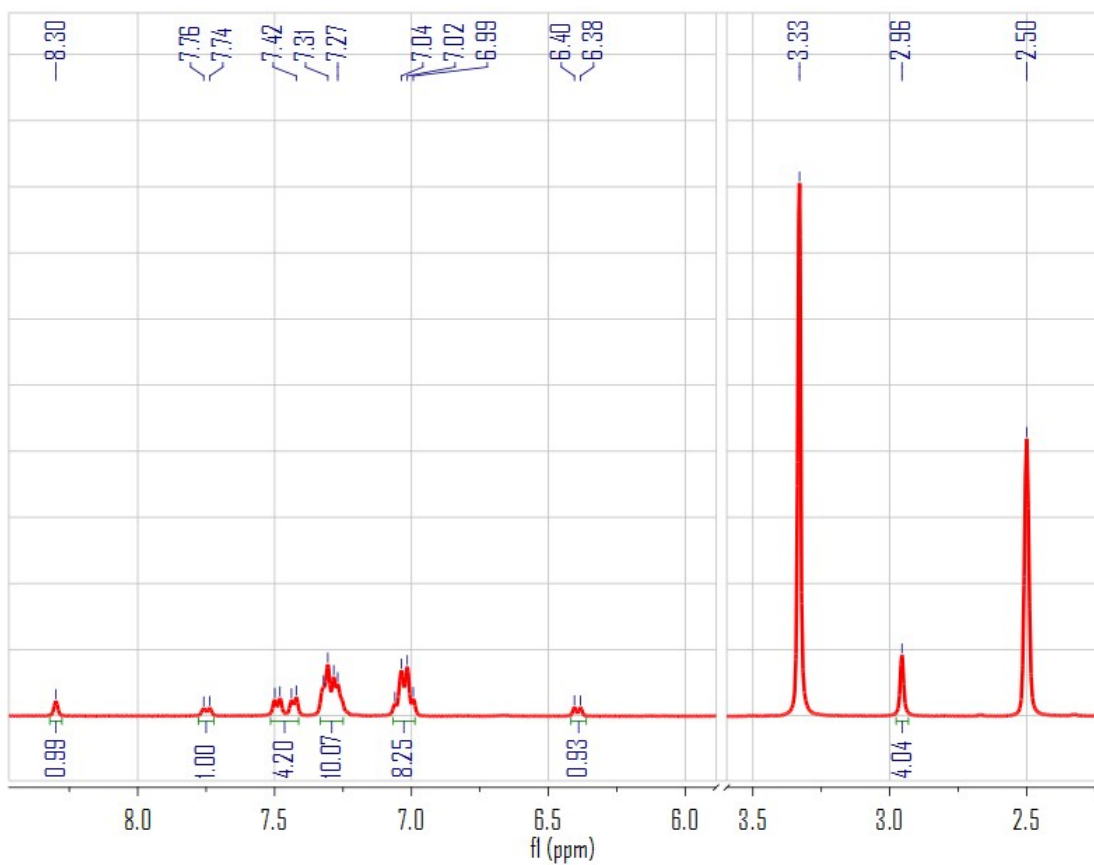


Fig. S5. ^1H NMR spectrum of **S-TPA** ($\text{DMSO-}d_6$).

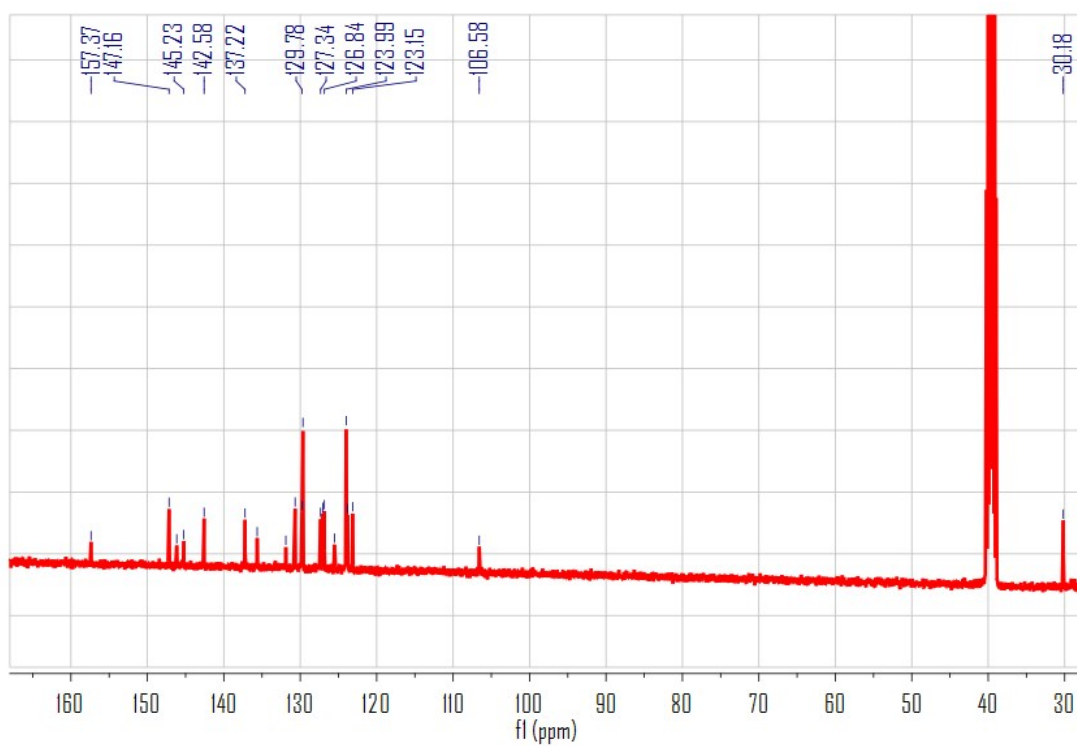


Fig. S6. ^{13}C NMR spectrum of **S-TPA** ($\text{DMSO-}d_6$).

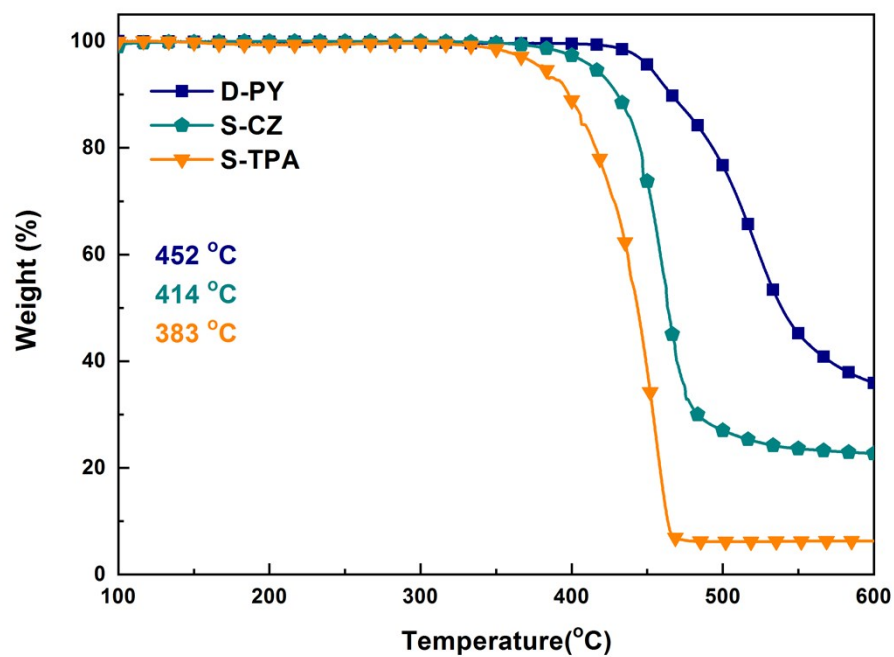


Fig. S7. Thermogravimetric analysis (TGA) curves of **D-PY**, **S-CZ**, and **S-TPA**.

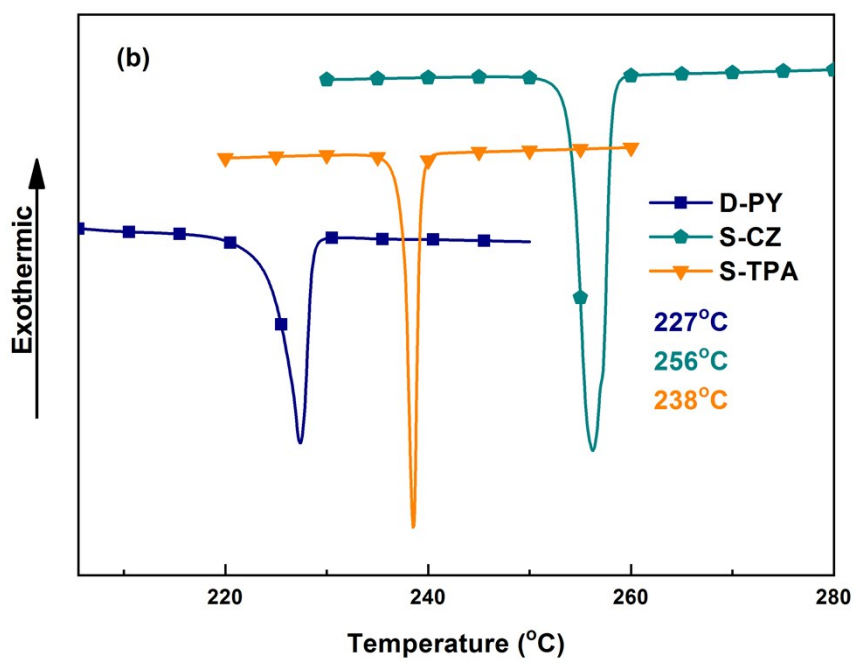
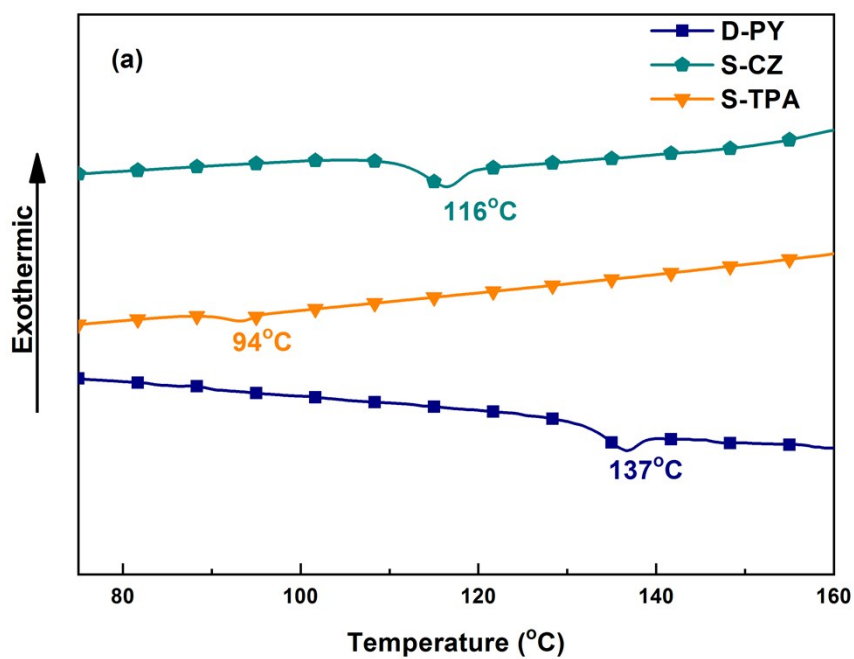


Fig. S8. Differential scanning calorimetry (DSC) curves of **D-PY**, **S-CZ**, and **S-TPA**.

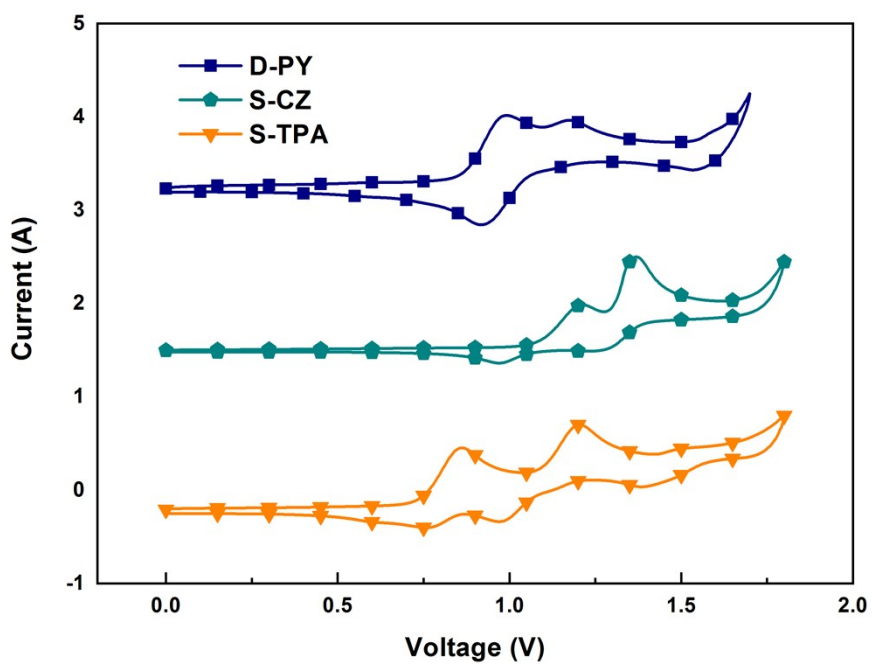


Fig. S9. Cyclic voltammogram curves of **D-PY**, **S-CZ**, and **S-TPA**.

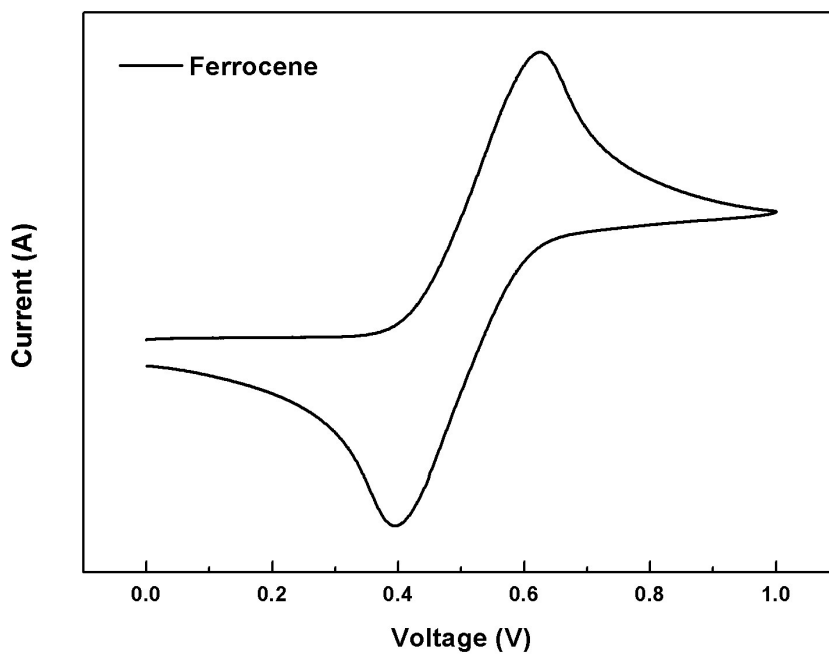


Fig. S10. Cyclic voltammogram curve of ferrocene.

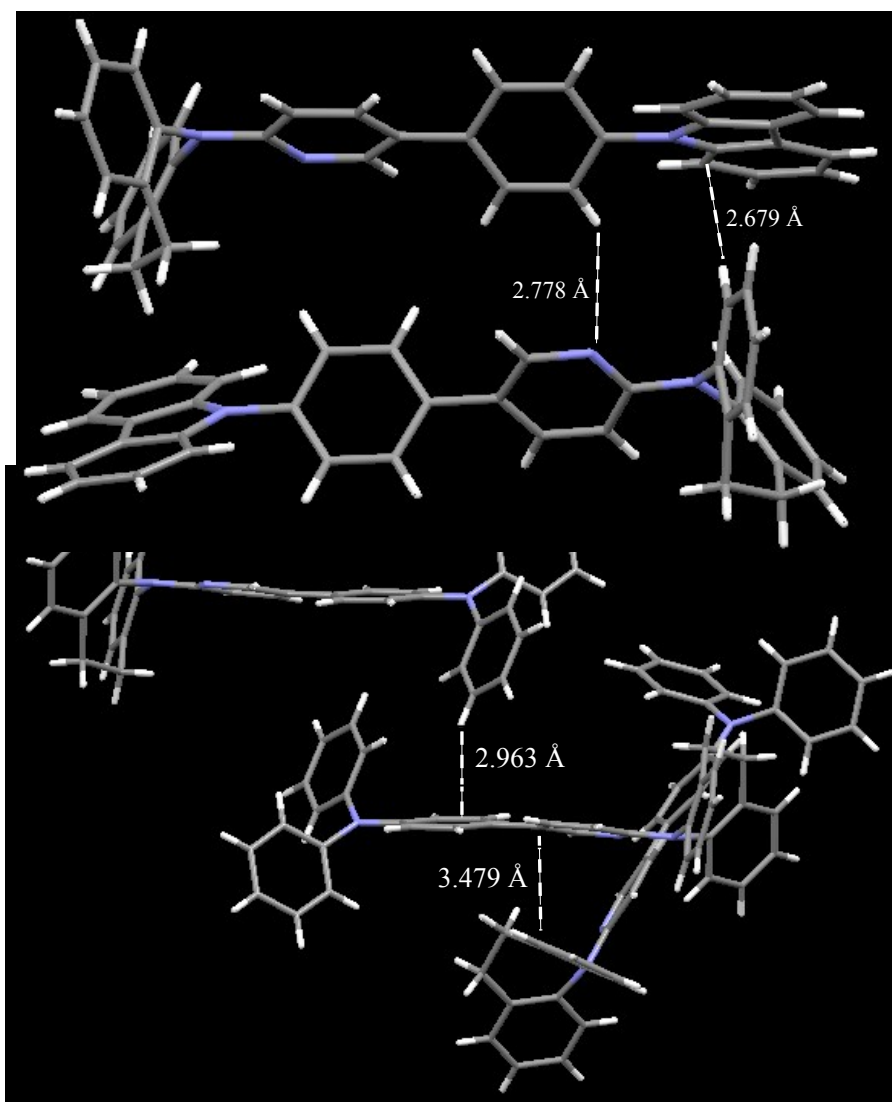


Fig. S11. Packing pattern of S-CZ, and S-TPA at solid state.

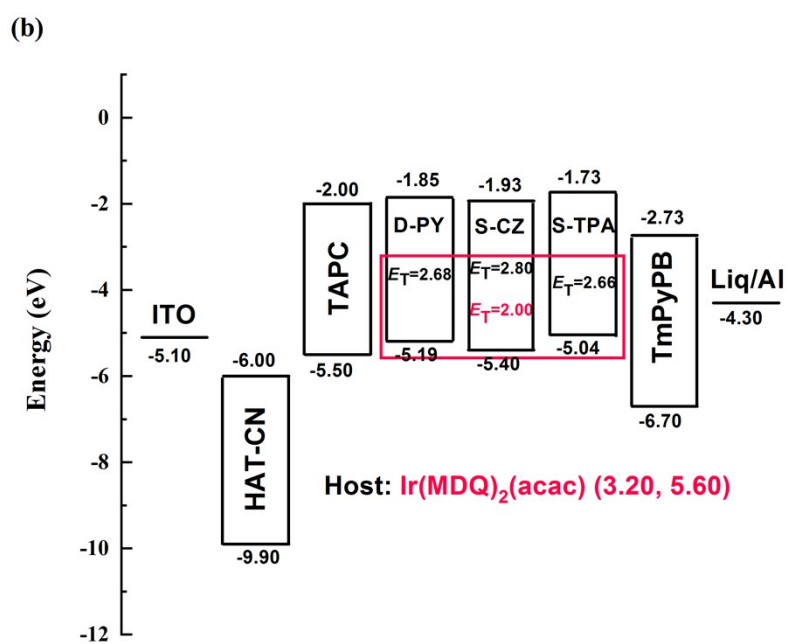
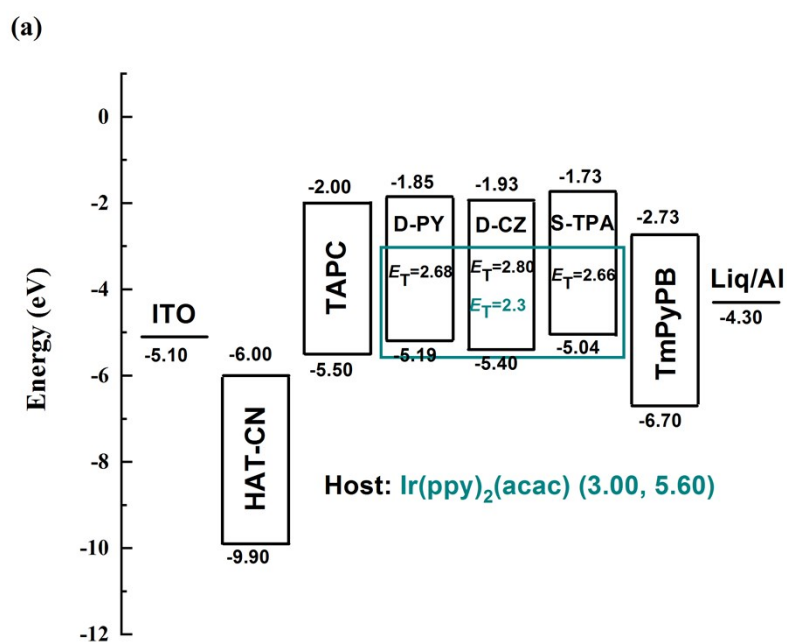


Fig. S12. Green (a), red (b) device structures and representative energy level diagram.

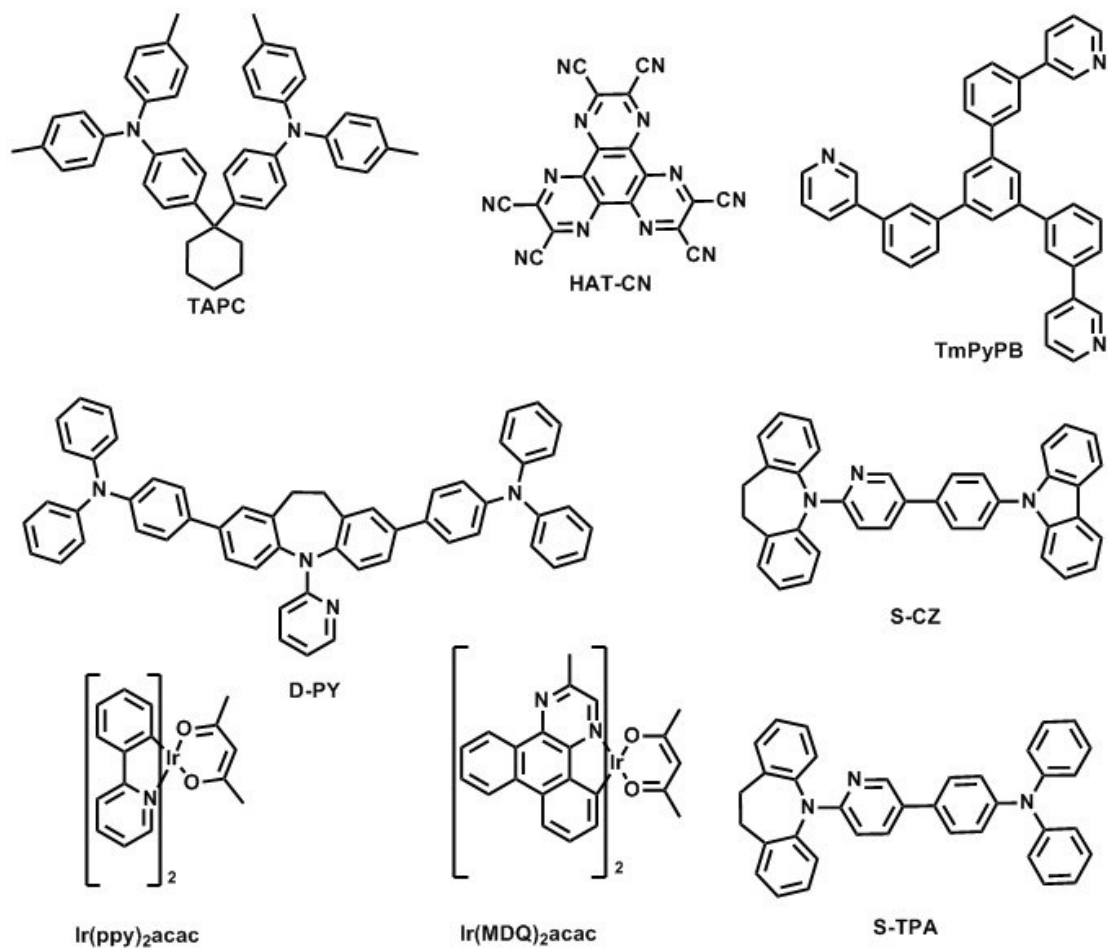


Fig. S13. Molecular structures of materials used in **D-PY**, **S-CZ**, and **S-TPA** based device.

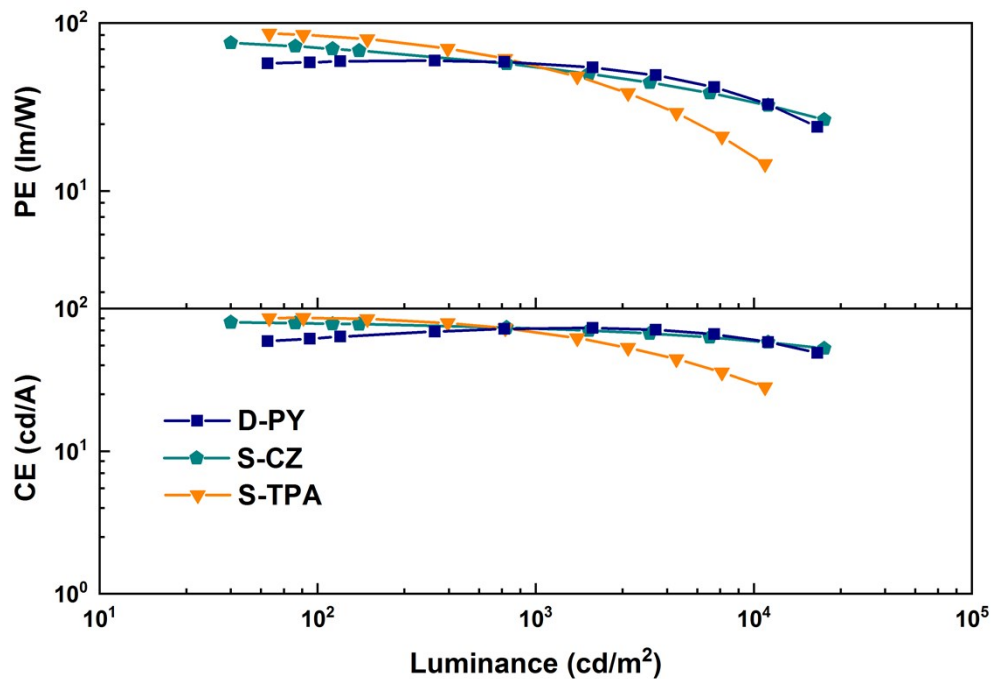


Fig. S14. CE-, and PE-*L* curves of Ir(ppy)₂(acac)-doped PHOLEDs hosted by **D-PY**,**S-CZ** and **S-TPA**.

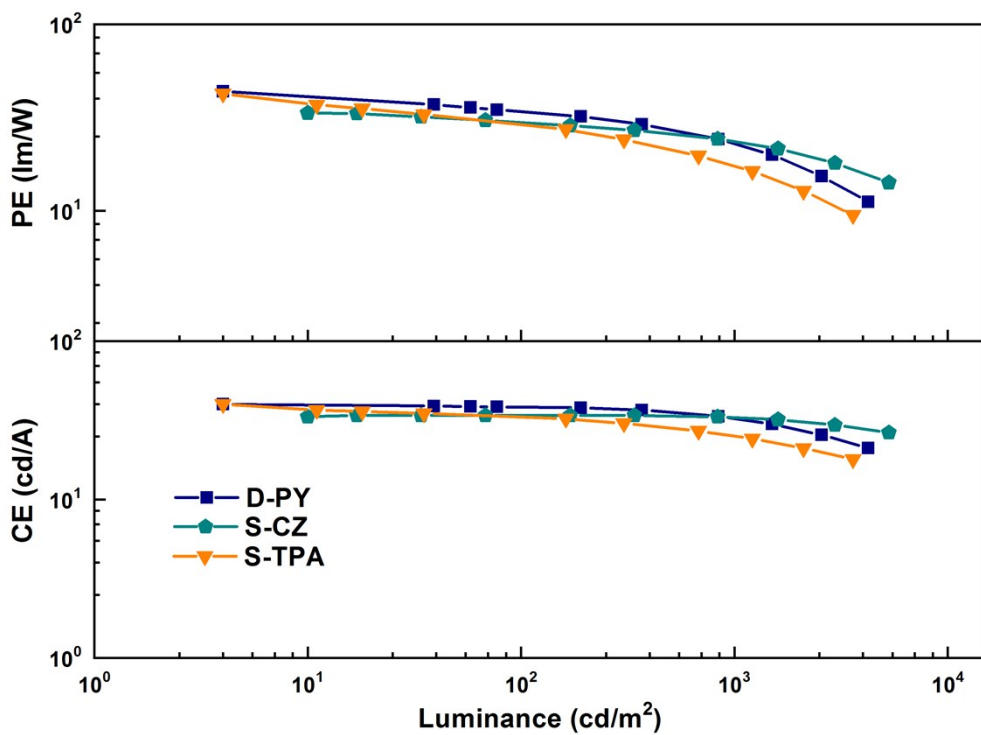


Fig. S15. CE-, and PE-*L* curves of Ir(MDQ)₂(acac)-doped PHOLEDs hosted by **D-PY**,**S-CZ** and **S-TPA**.