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## **Electronic Supplementary Information**

## $\pi$ - $\pi$ stacking: a strategy to improve the electron mobilities of bipolar hosts for TADF and phosphorescent devices with low efficiency roll-off

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62782197.







Figure S2. Atomic force microscopy (AFM) imagines of D1-D6 films.



Figure S3. UV/Vis absorption and PL spectra of D1-D6 in different solvents  $(1 \times 10^{-5} \text{ mol } L^{-1})$  for comparison.



Figure S4. PL spectra of D1-D6 films.



Figure S5. Comparison of calculated HOMO and LUMO energy levels (gray) with the experimental energy levels (black) of D1-D6.



Figure S6. Charge mobilities of D1-D6 at the electric field of  $6 \times 10^7$  V m<sup>-1</sup>.



Figure S7. PL spectra of 10 wt% 4CzIPN doped D1-D6 films.



Figure S8. Energy diagrams of green TADF OLEDs.



Figure S9. Energy diagrams of green PHOLEDs.





Figure S11. <sup>13</sup>C NMR spectra of D1-D6.



Figure S12. MALDI-TOF MS of D1-D6.