

A Complementary Absorption Small Molecule for Efficient Ternary Organic Solar Cells

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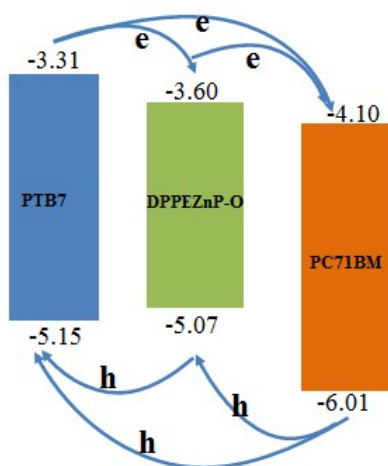


Figure S1. Energy levels of PTB7, DPPEZnP-O and PC₇₁BM.

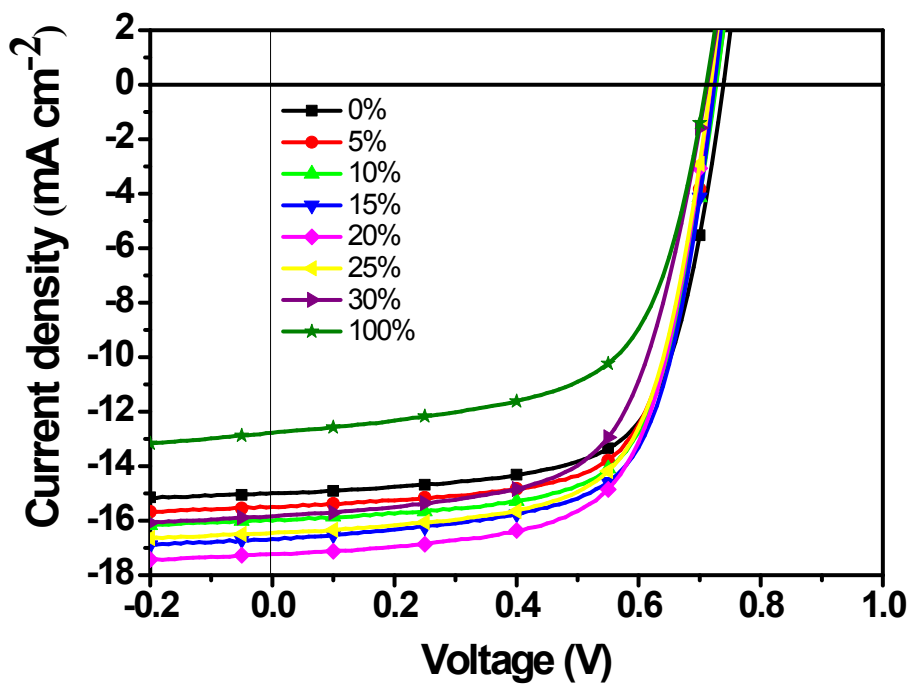


Figure S2. J-V characteristics of the solar cells based on the PTB7:DPPEZnP-O:PC₇₁BM blend.

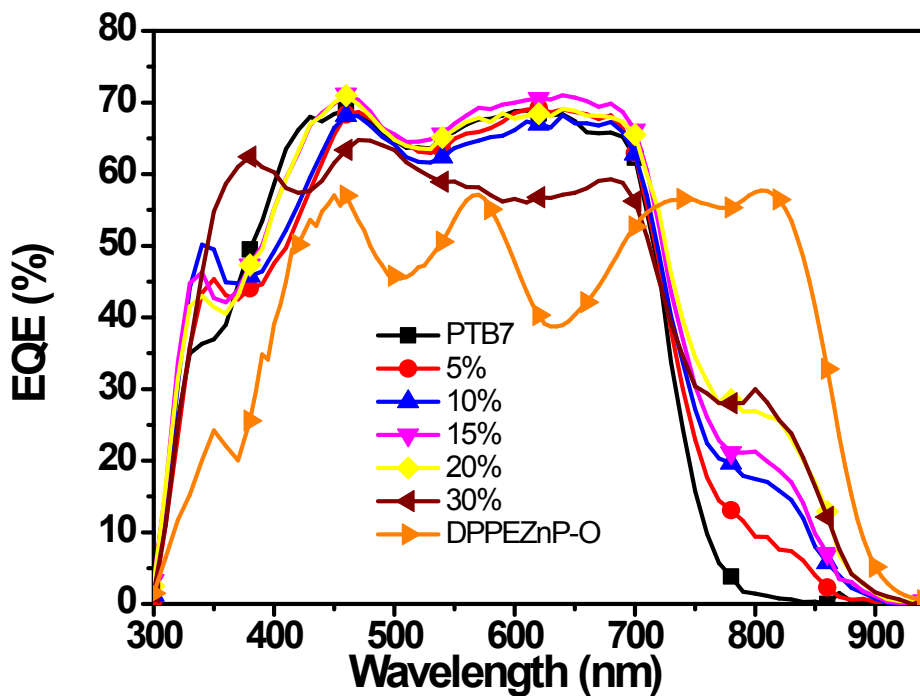


Figure S3. EQE spectra of ternary solar cells with different DPPEZnP-O incorporation.

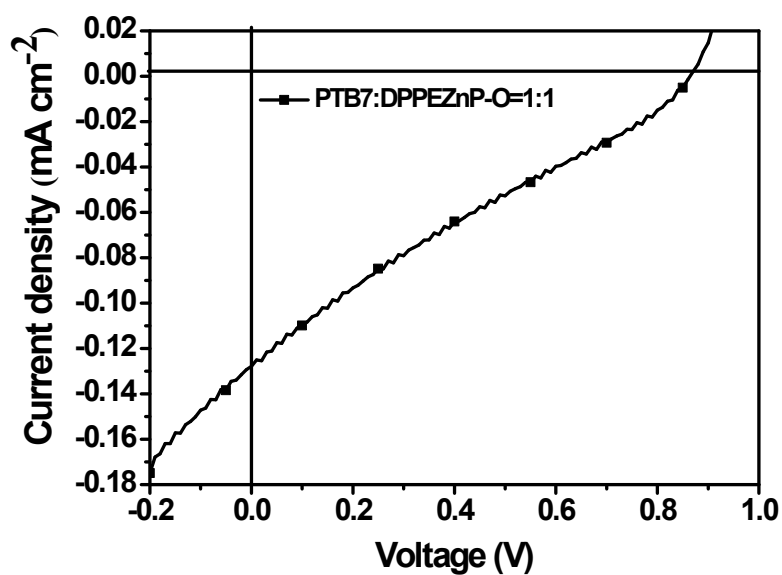


Figure S4. J-V curves of solar cells based on PTB7:DPPEZnP-O in a ratio of 1:1.

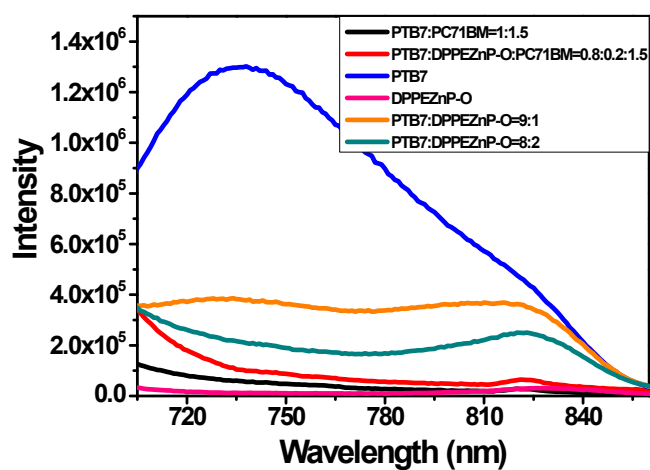


Figure S5. PL spectra of pristine PTB7 and DPPEZnP-O films, PTB7:DPPEZnP-O films with different DPPEZnP-O incorporation ratio and PTB7:DPPEZnP-O:PC₇₁BM film under 680 nm light excitation.

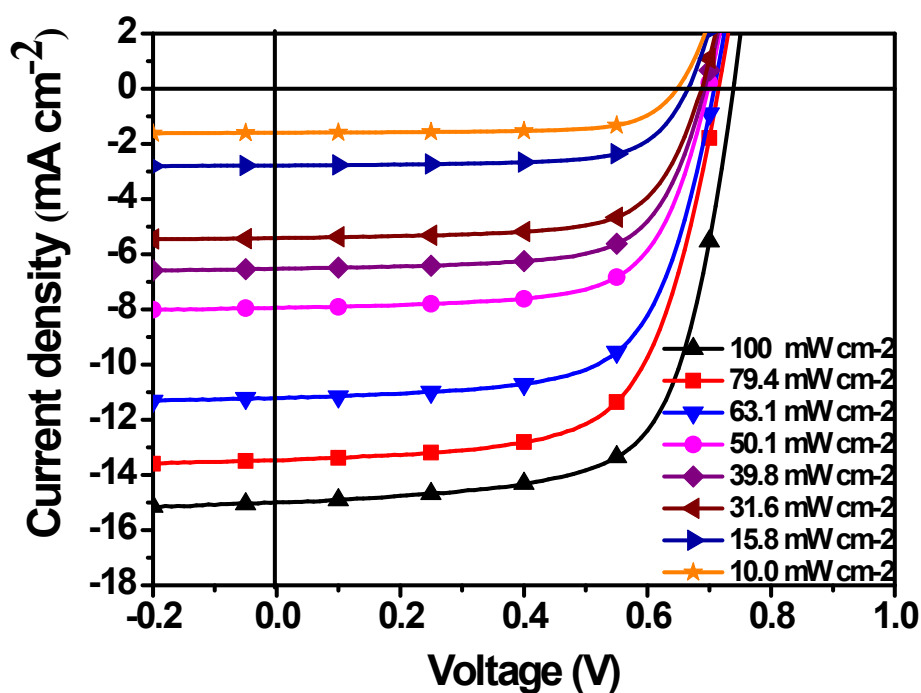


Figure S6. J-V curves of binary solar cells based on PTB7:PC₇₁BM under different light intensities from 10 mW cm⁻² to 100 mW cm⁻².

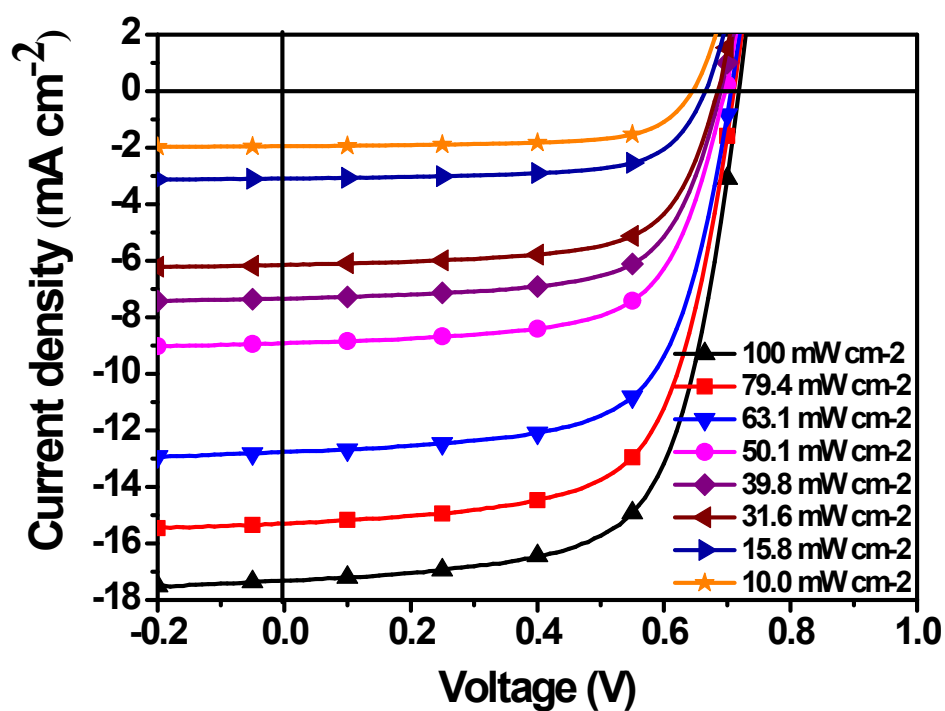


Figure S7. J-V curves of the optimized ternary solar cells with 20% DPPEZnP-O composition under different light intensities from 10 mW cm⁻² to 100 mW cm⁻².

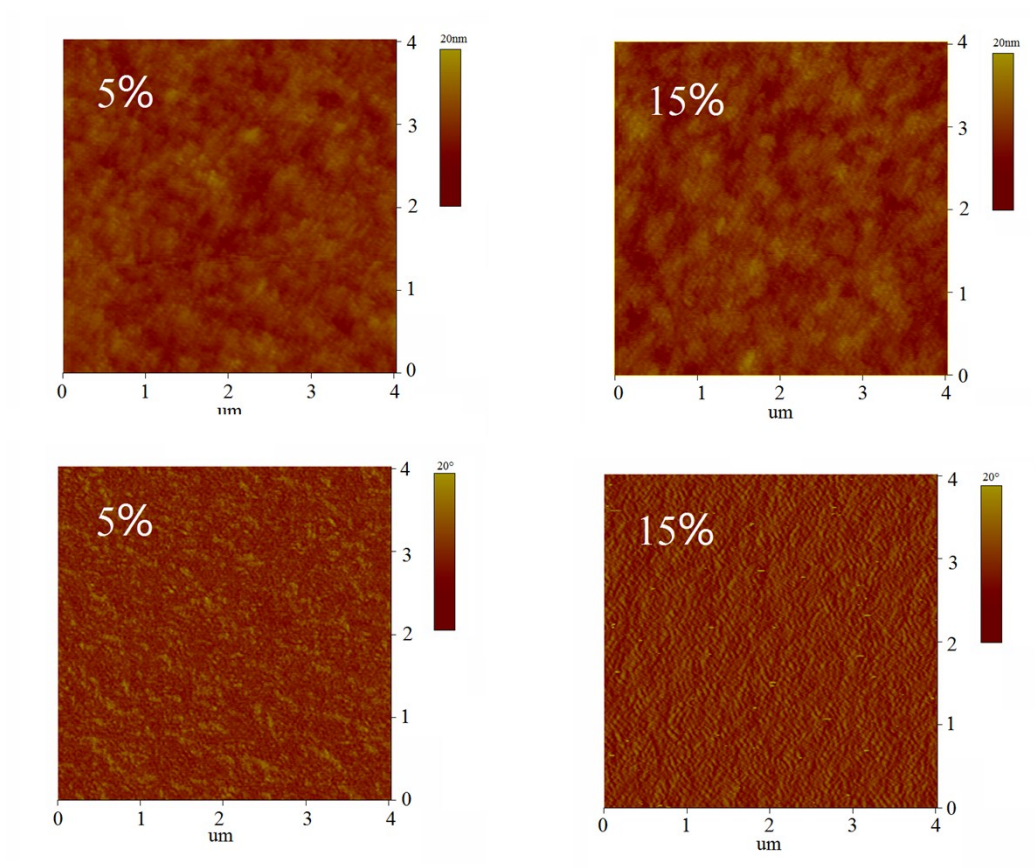


Figure S8. AFM height images (top) and phase images (bottom) of PTB7:DPPEZnP-O:PC₇₁BM films spin-coated on ITO/PEDOT:PSS substrates with different DPPEZnP-O incorporation.