

Supporting Information

Naphthalene Diimide–Diketopyrrolopyrrole Copolymers as Non-Fullerene Acceptors for Use in Bulk-Heterojunction All-Polymer UV–NIR Photodetectors

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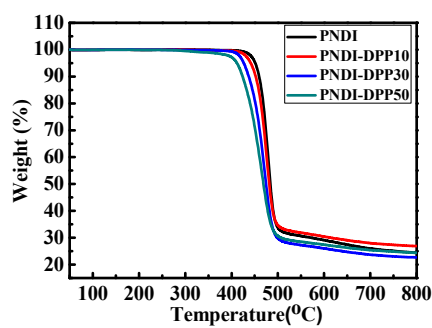


Figure S1. TGA thermograms of polymers under nitrogen flow.

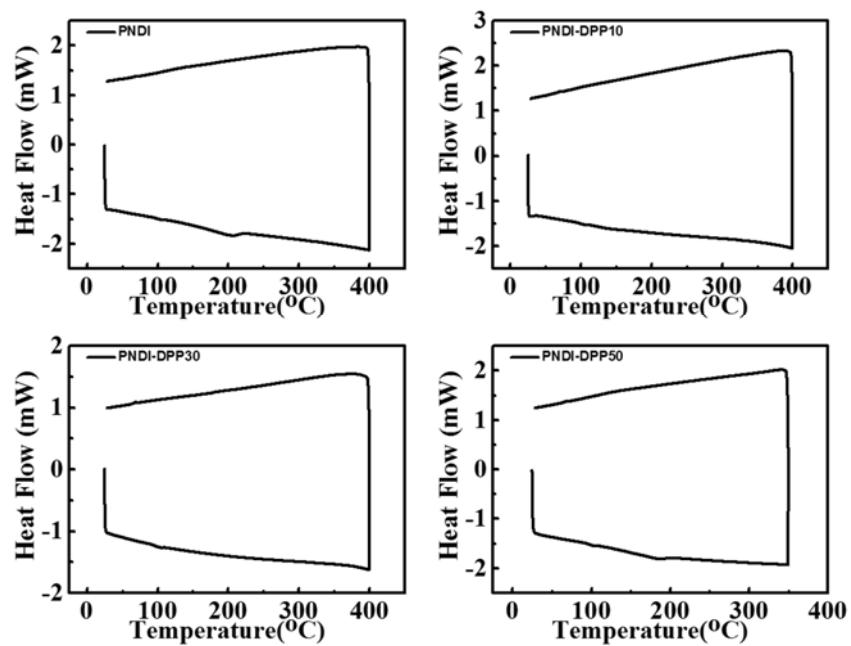


Figure S2. The second heating and cooling DSC scans of polymers under nitrogen flow.

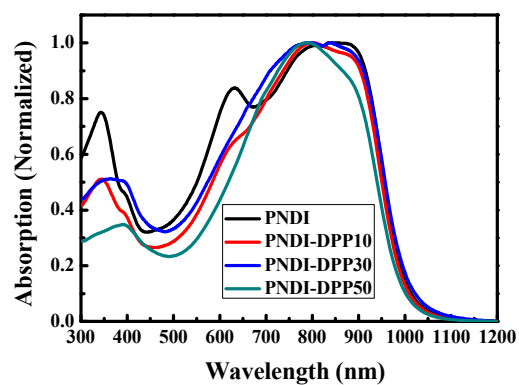


Figure S3. Absorption of the films of polymer blends spin-coated on glass.

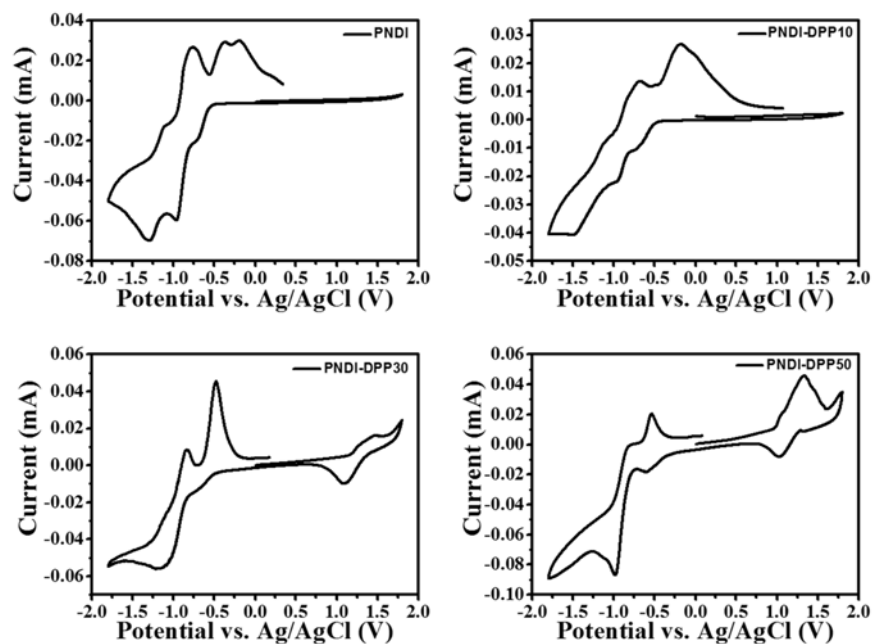


Figure S4. Cyclic voltammograms of polymer films on Pt electrode in 0.1 M *n*-Bu₄NPF₆ solution in dry acetonitrile with a scan rate of 50 mV/s.

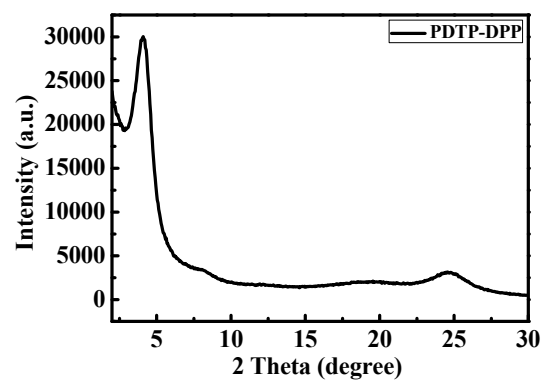


Figure S5. The out-of-plane GIXRD diagram of PDTP-DPP

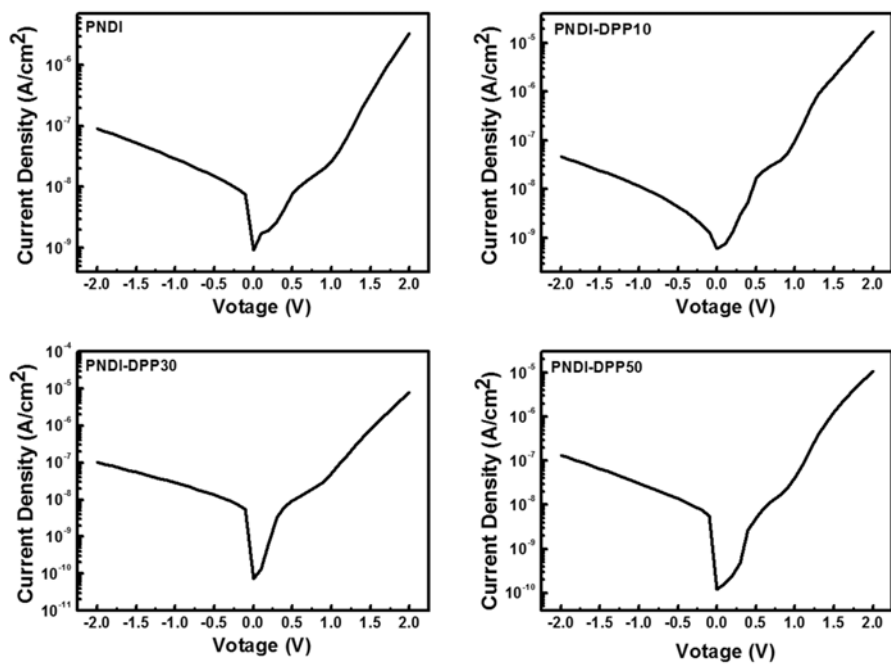


Figure S6. Current density-voltage characteristics of polymer photodetectors in dark.

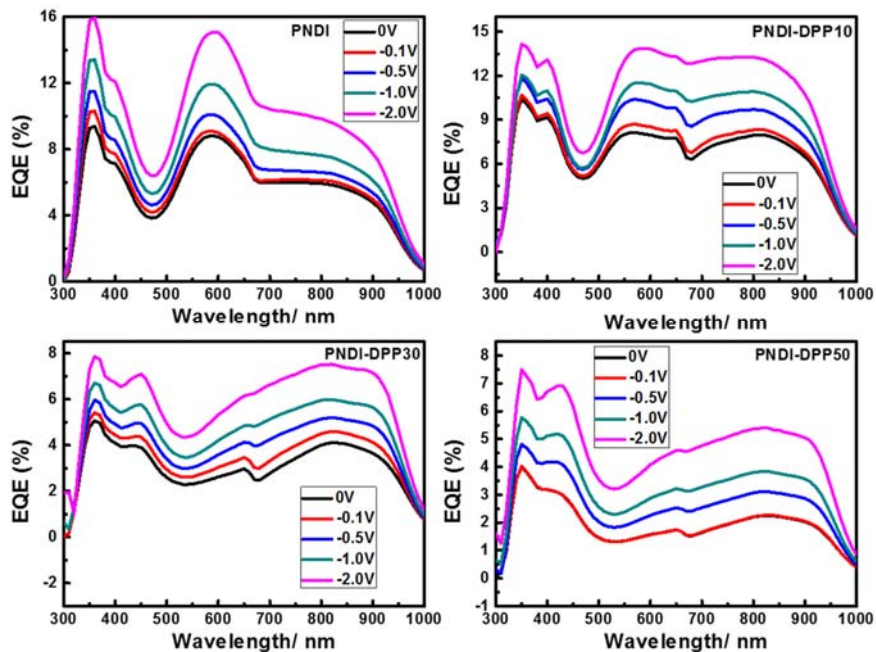


Figure S7. Spectral EQE of polymer photodetectors at different biases.

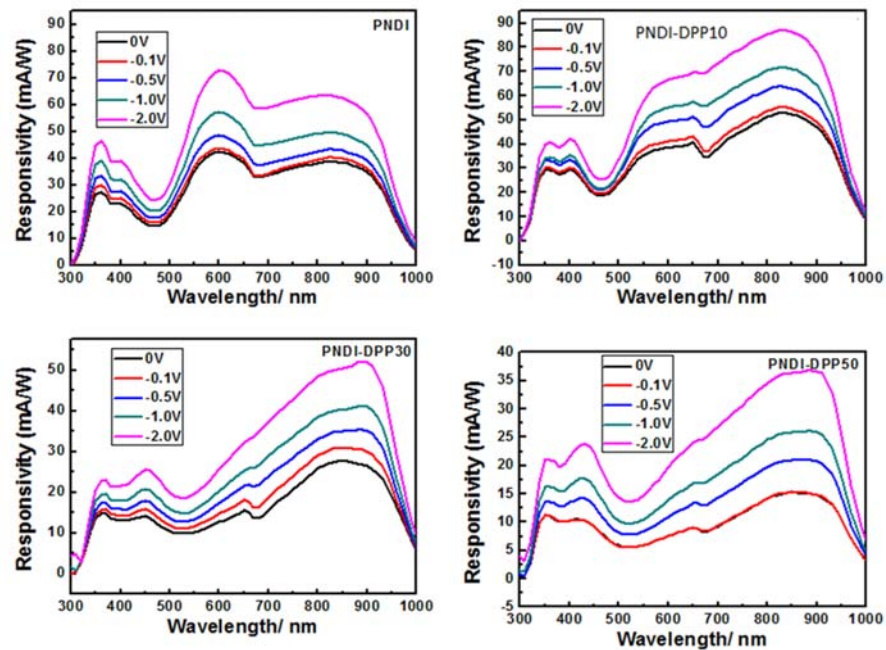


Figure S8. Spectral responsivity of polymer photodetectors at different biases.

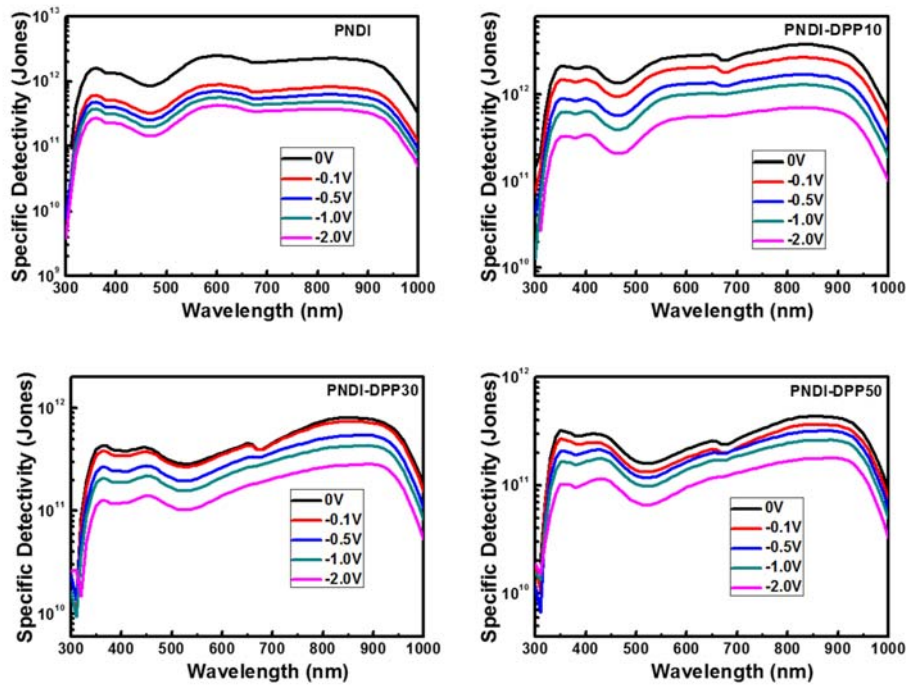
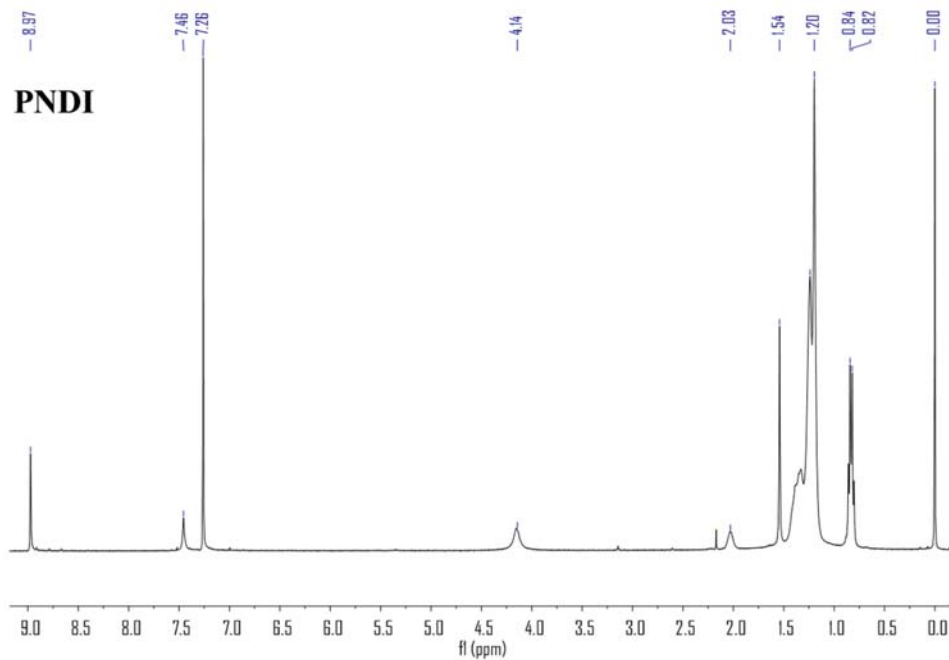
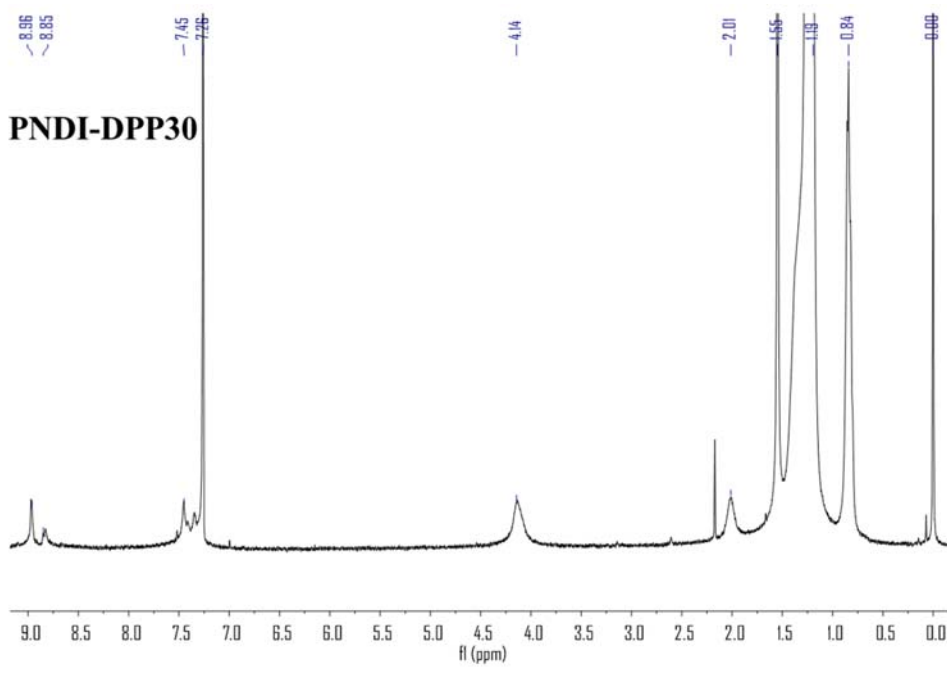
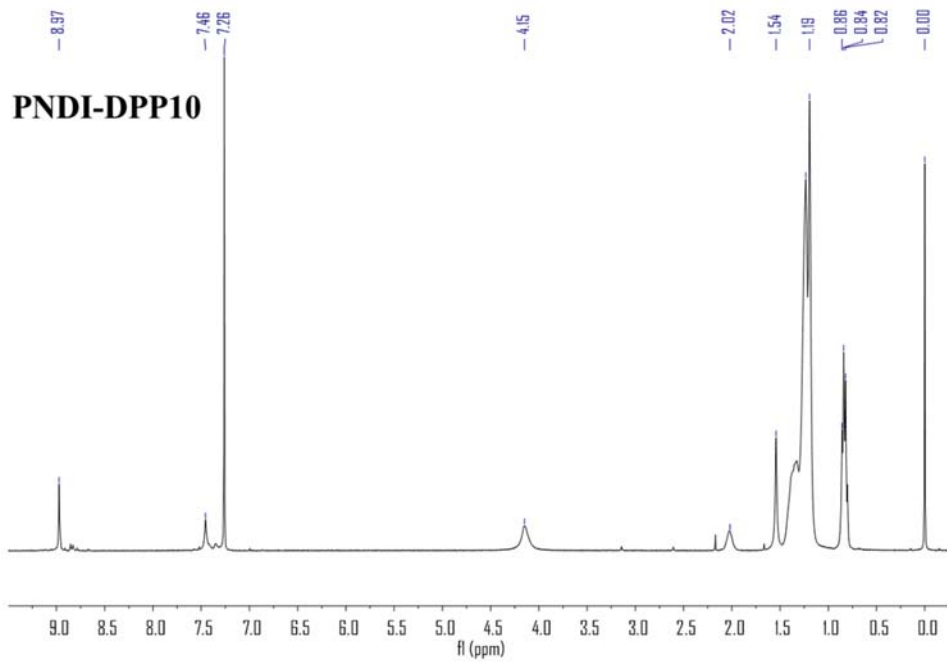


Figure S9. Specific detectivity of polymer photodetectors at different biases.





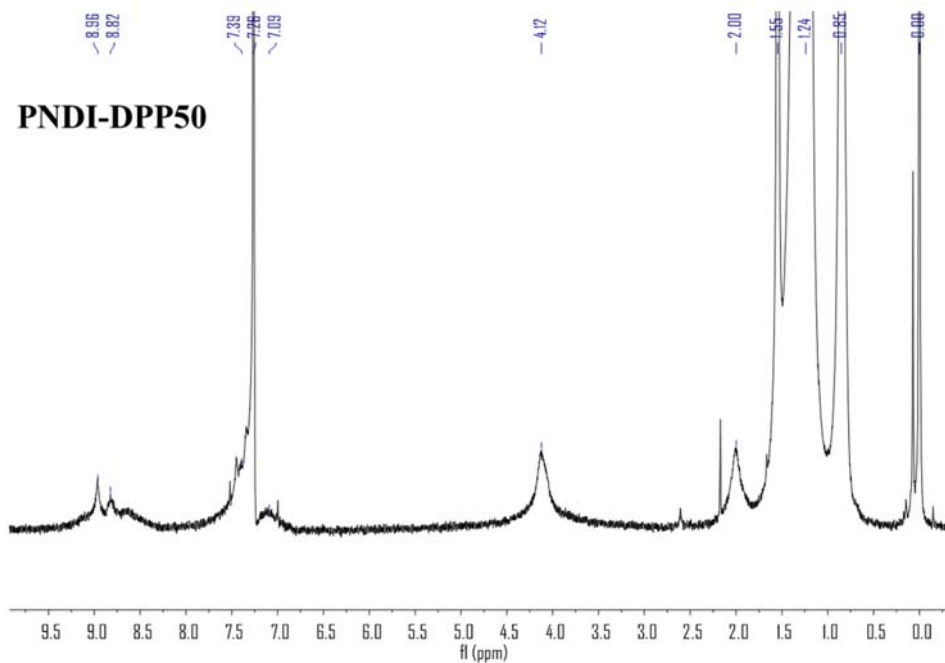


Figure S10. ^1H -NMR spectra of polymers in CDCl_3 at room temperature.

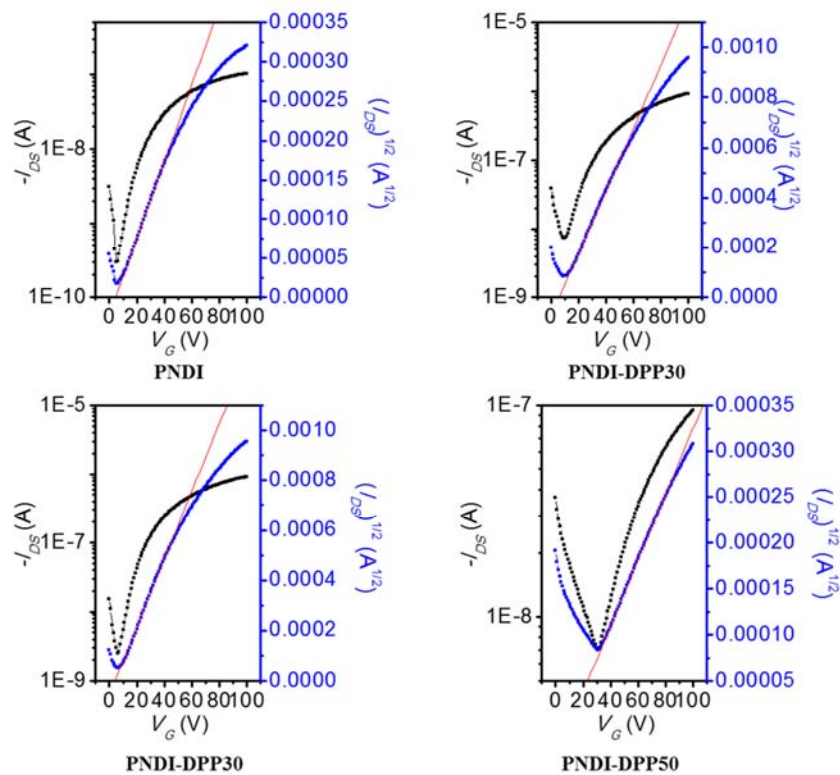


Figure S11. Transfer curves of polymer field-effect transistors.

Table S1. Characteristics of polymer transistors.

Polymer	μ_e (cm ² V ⁻¹ s ⁻¹)	V_{th} (V)	I_{on}/I_{off}
PNDI	1.6×10^{-4}	5	10^3
PNDI-DPP10	1.0×10^{-3}	5	10^2
PNDI-DPP30	1.2×10^{-3}	4	10^3
PNDI-DPP50	8.5×10^{-4}	24	10^2