

Supplemental Information

Visible-Blind Near-Infrared Organic Photodetectors

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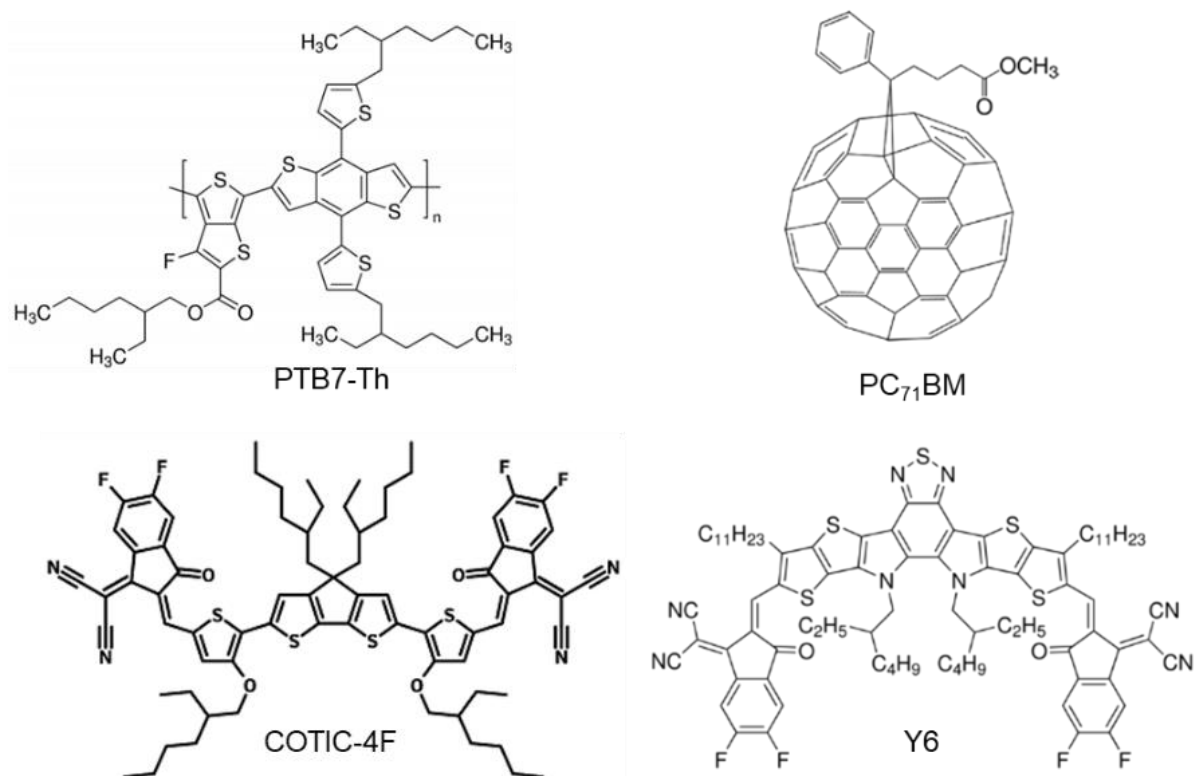


FIG. S1. Molecular structures of the functional materials used in this work.

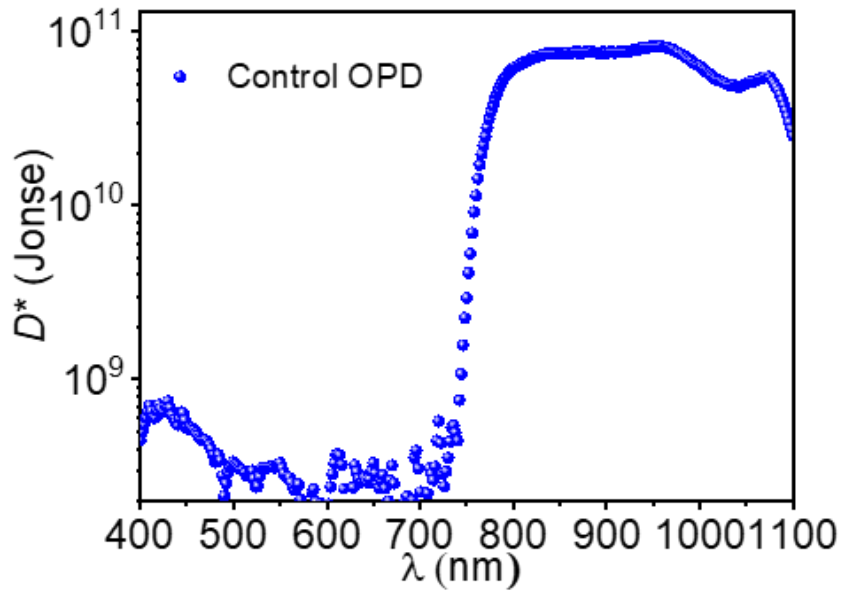


FIG. S2. D^* obtained for the control OPD with a pristine PTB7-Th polymer optical depletion layer operated at $-0.1V$.

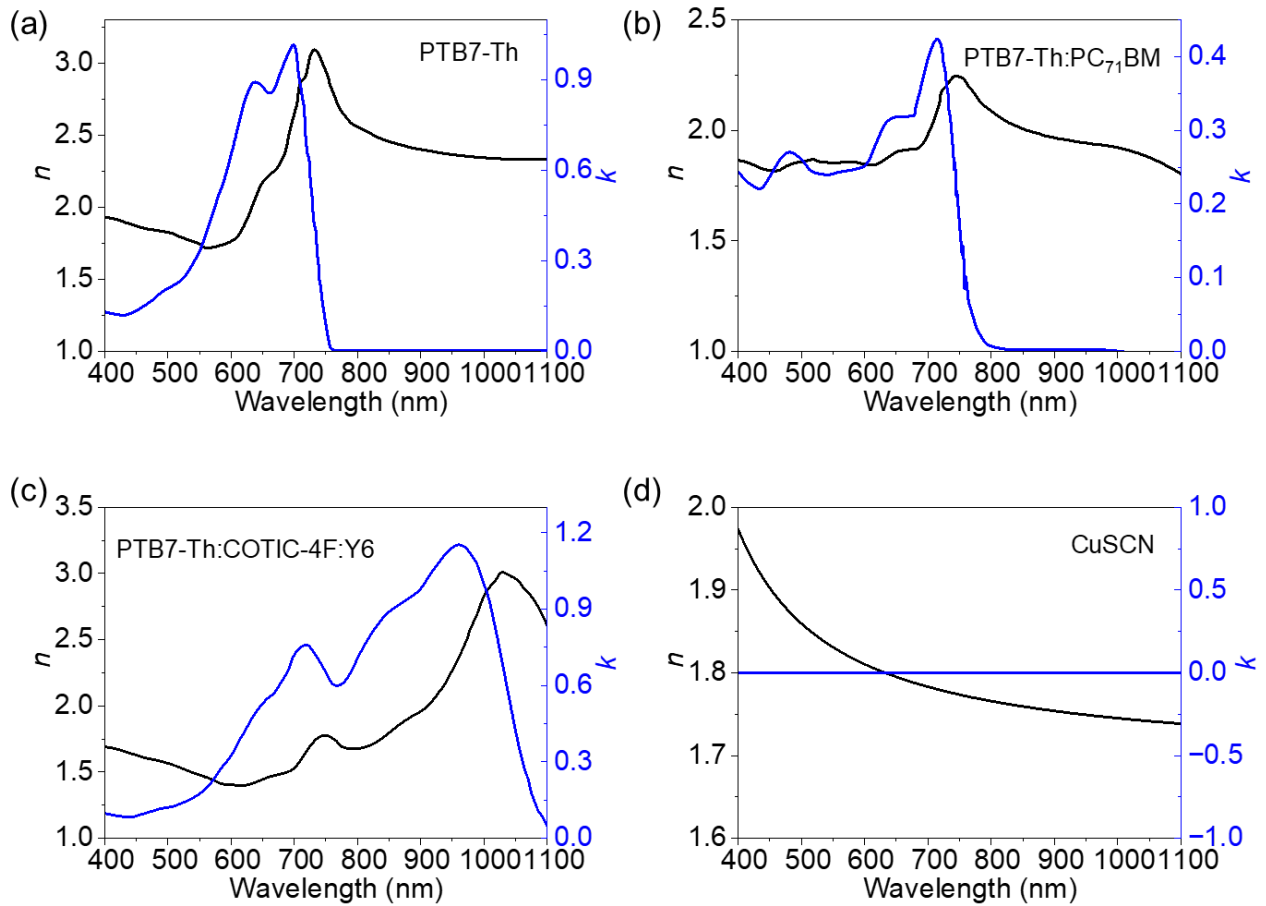


FIG. S3. Wavelength-dependent refractive indexes, $n(\lambda)$, and extinction coefficients, $k(\lambda)$, measured for (a) PTB7-Th layer, (b) binary PTB7-Th: PC71BM (1:1) BHJ layer, (c) ternary PTB7-Th:COTIC-4F:Y6 (1:1.05:0.45) BHJ layer, and (d) CuSCN layer.

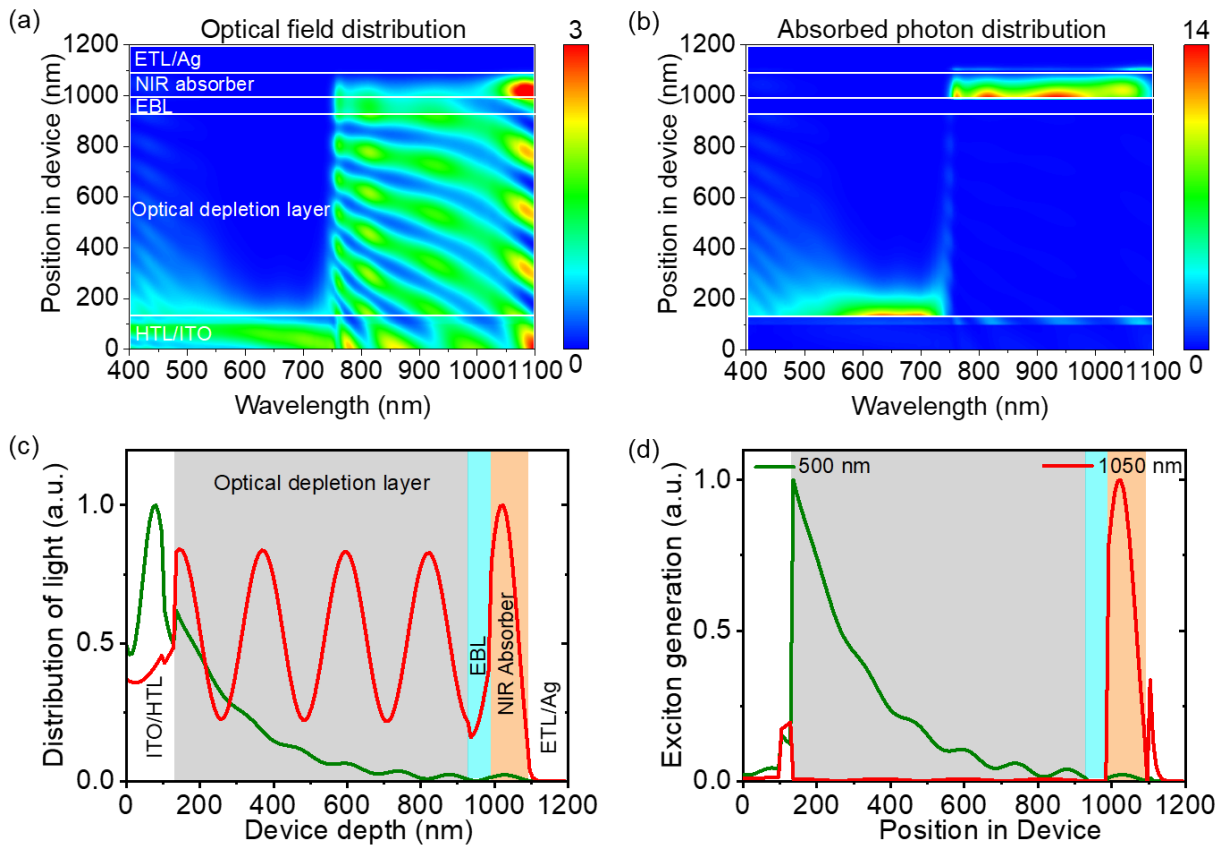


FIG. S4. Distribution of (a) optical field and (b) absorbed photon in a control OPD with an 800 nm thick pristine PTB7-Th polymer optical depletion layer. (c) Optical field distribution and (d) absorbed photon distribution calculated for a control OPD at 500 and 1050 nm.

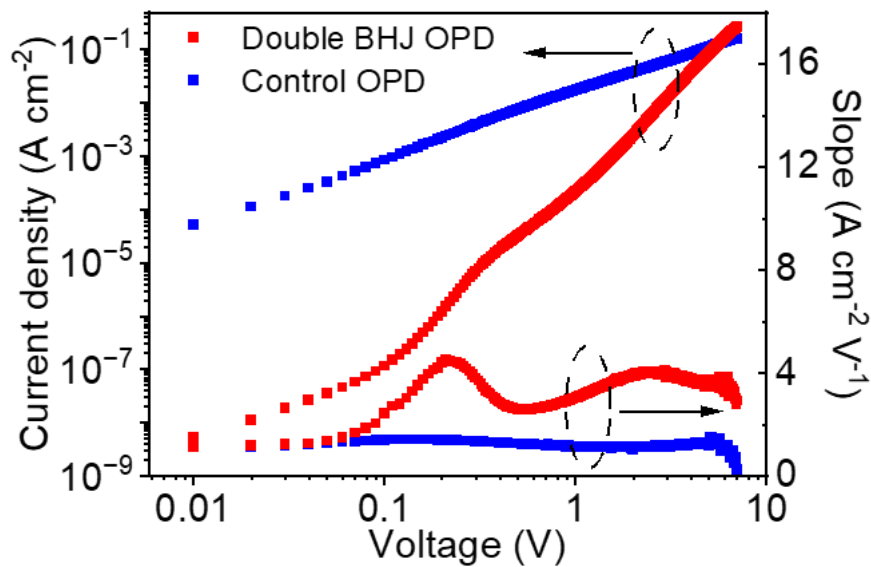


FIG. S5. (a) Slope of J - V characteristics and J - V characteristics (in log-log plot) measured for the hole-only devices of ITO/PEDOT:PSS/PTB7-Th:PC₇₁BM/CuSCN/Ag and ITO/PEDOT:PSS/PTB7-Th/CuSCN/Ag.