

## Supplementary Material

### Spatial Balance of Photogenerated Charge Carriers in Active layers of Polymer Solar Cells

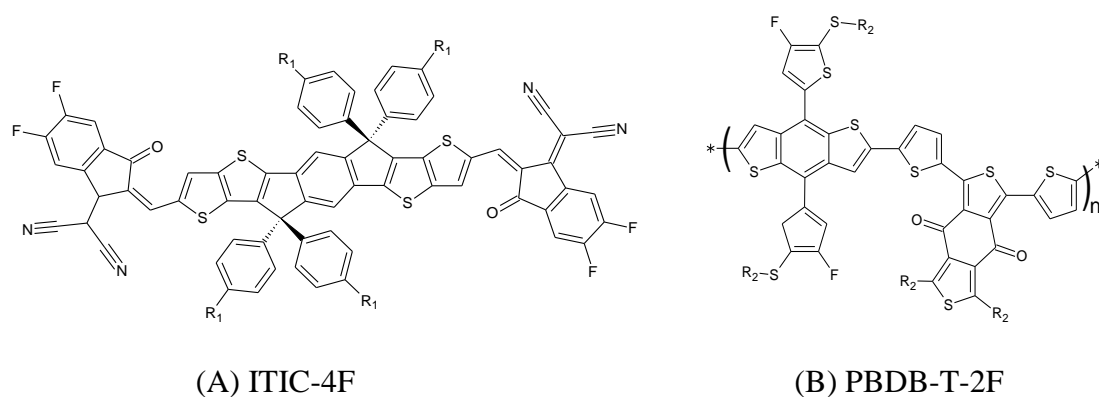
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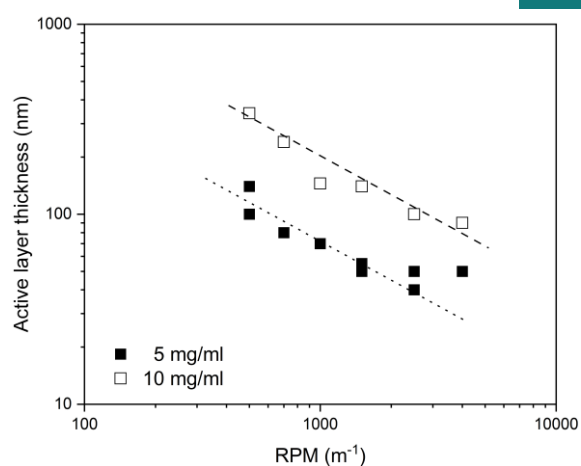
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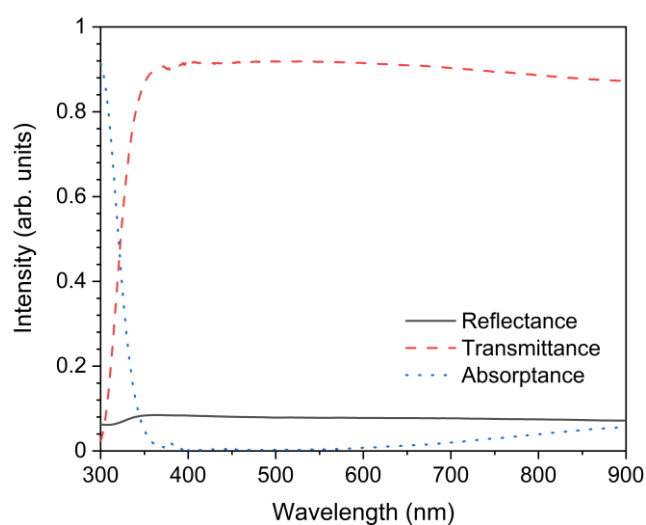
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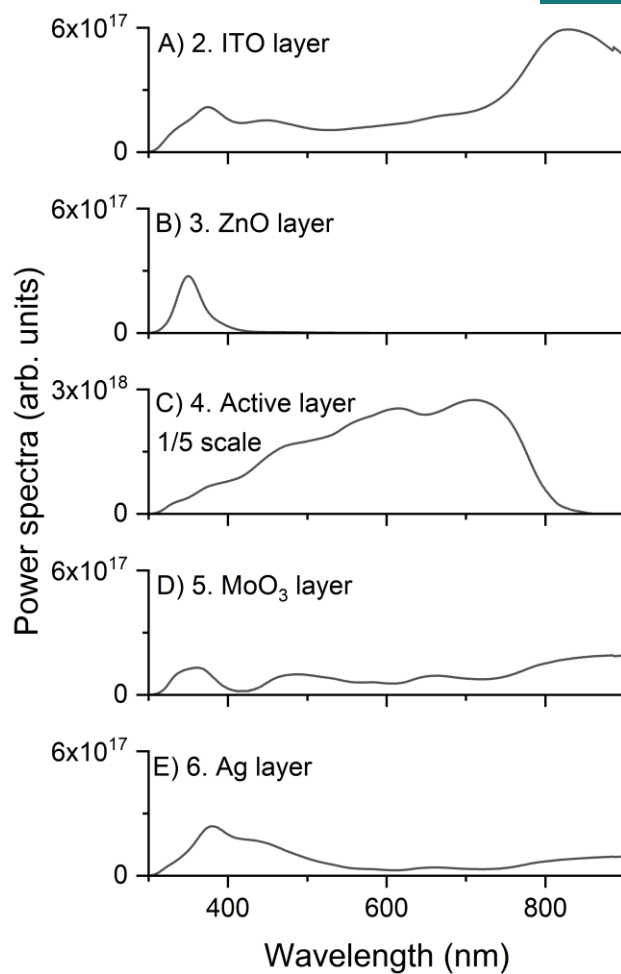
**Figure S1.** Chemical structures of (A) 3,9-bis(2-methylene-((3-(1,1-dicyanomethylene)-6,7-difluoro)-indanone))-5,5,11,11-tetrakis(4-hexylphenyl)-dithieno[2,3-d:2',3'-d']-s-indaceno[1,2-b:5,6-b']dithiophene (ITIC-4F), and (B) poly[(2,6-(4,8-bis(5-(2-ethylhexyl-3-fluoro)thiophen-2-yl)-benzo[1,2-b:4,5-b']dithiophene))-alt-(5,5-(1',3'-di-2-thienyl-5',7'-bis(2-ethylhexyl)benzo[1',2'-c:4',5'-c']dithiophene-4,8-dione)] (PBDB-T-2F). ( $R_1$  = 2-ethylhexyl,  $R_2$  = hexyl).



**Figure S2.** AL thickness as a function of spin-coating RPM.



**Figure S3.** Transmittance and reflectance of glass substrate used in this study.



**Figure S4.** The P spectra of all the layers, except the incoherent glass substrate of a device with a thickness of 100 nm, are shown. Owing to the significant amplitude difference, a 1/5 scale was used only for the active layer.