

**Efficient Hole Extraction and Dark Current Suppression in Organic
Photodetectors Enabled by Atomic-layer-deposition of Ultrathin Co₃O₄ Interlayer**

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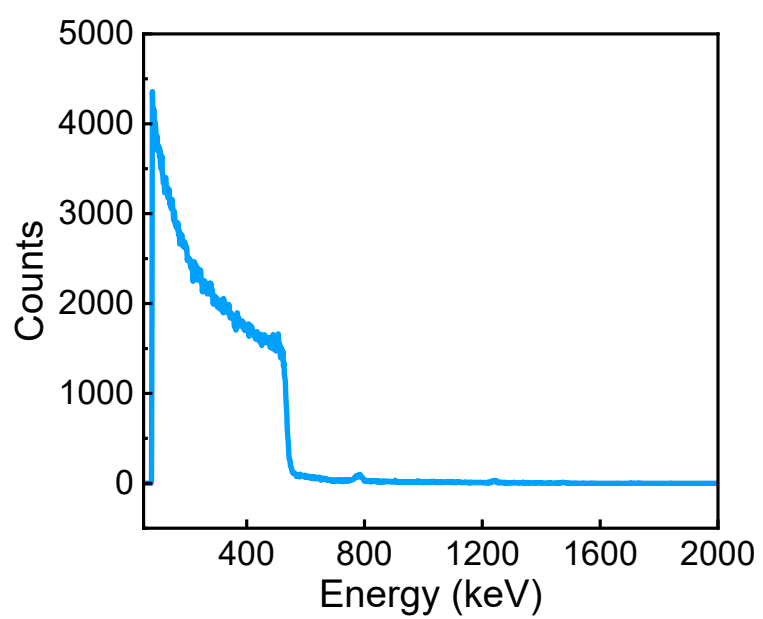


Fig. S1 RBS spectrum of the glass carbon

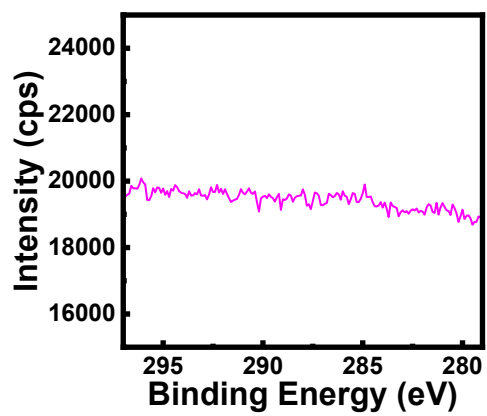


Fig. S2 XPS spectra of C 1s

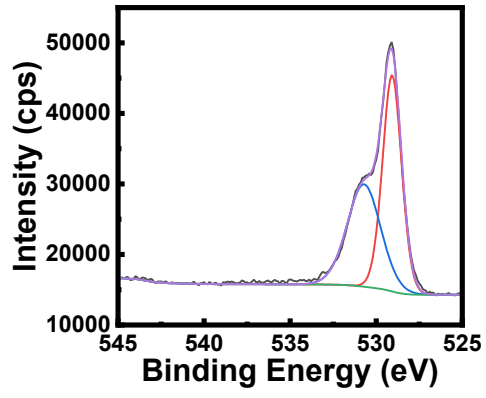


Fig. S3 O 1s spectra for a 10 nm Co_3O_4 film (200 cycles)

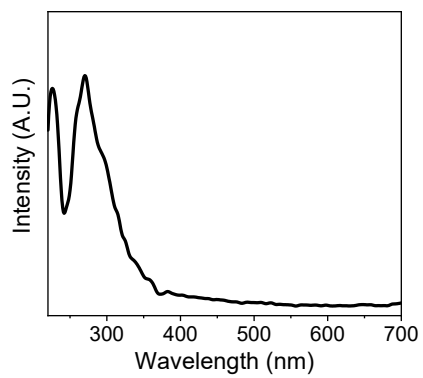


Fig. S4 UV-vis absorption spectra of the ALD Co₃O₄ film (10 nm)

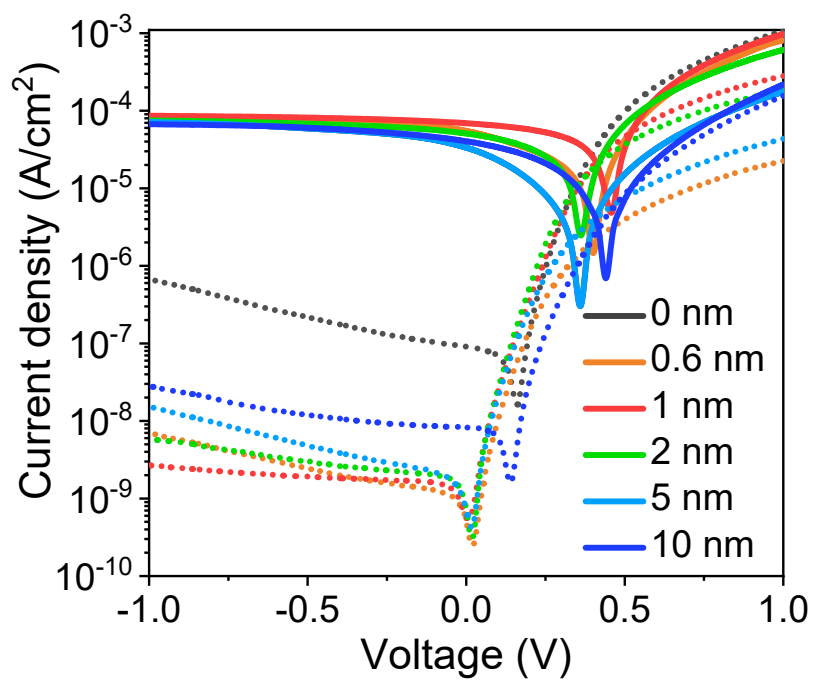


Fig. S5 J-V curves of the OPDs with different Co₃O₄ thickness in dark and under the same light irradiation.

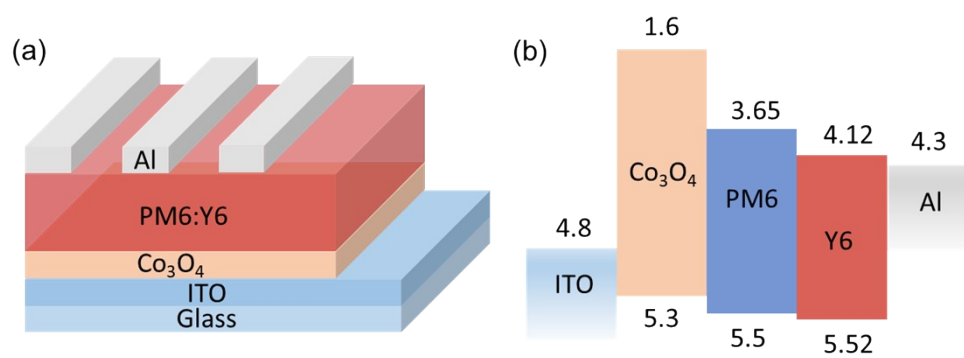


Fig. S6 (a) Structure of the OPD with a Co_3O_4 anode interlayer. (b) Energy diagram of the OPD composed of ITO/ Co_3O_4 /PM6:Y6/ Al.