

## Electrochemical deposition as a unique solution processing method for insoluble organic optoelectronic materials

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### Supplementary Information

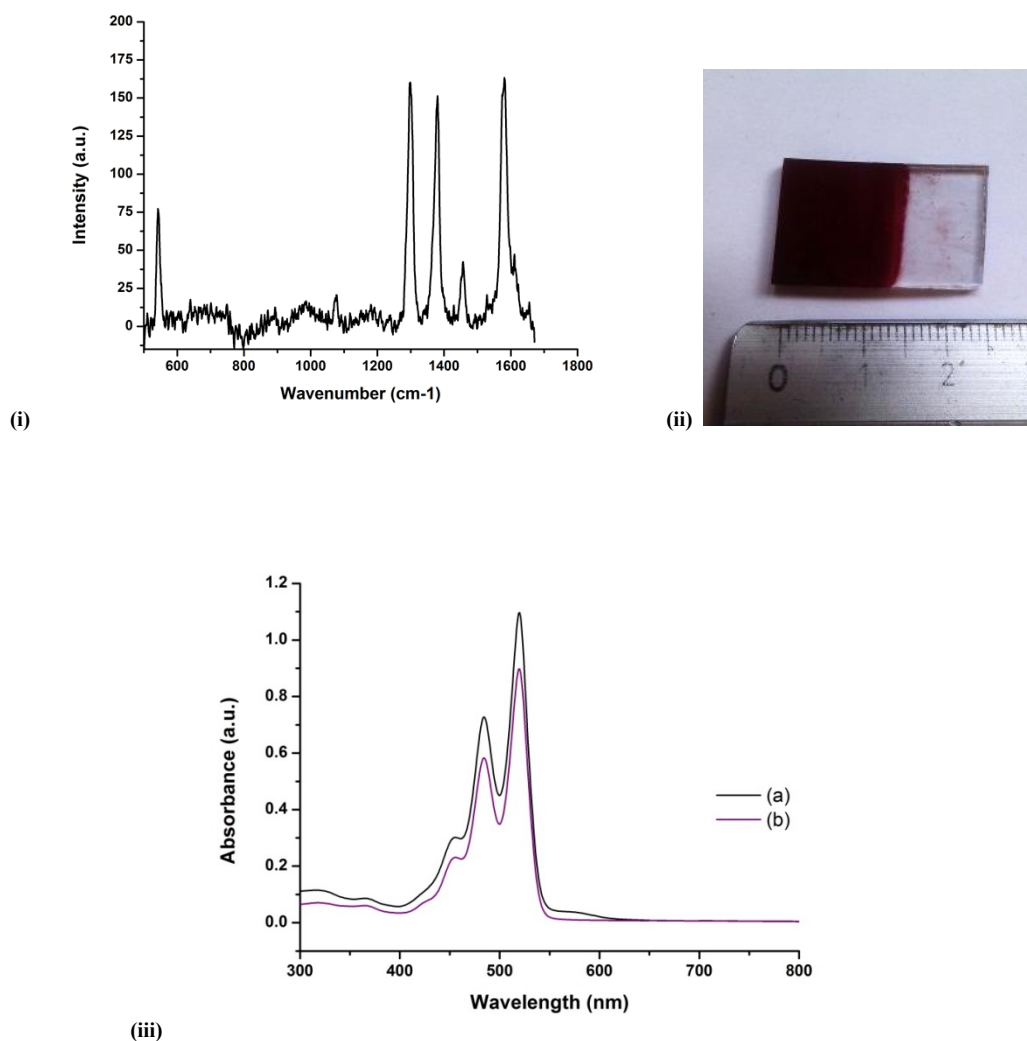
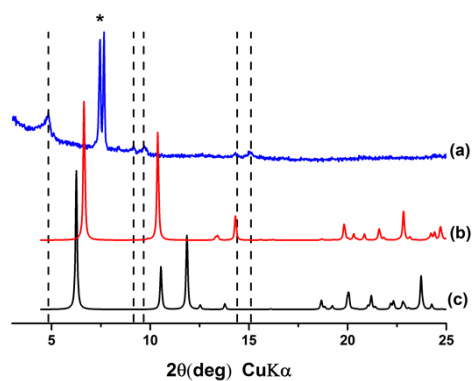


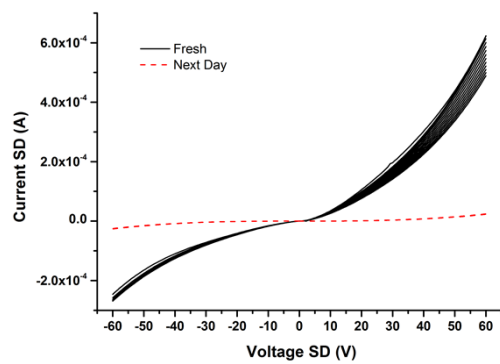
Fig. S1 (i) Raman scattering spectrum of the BuPTCDI film. (ii) Photograph of a BuPTCDI film deposited at 0.30V for 1800s (iii) UV/Vis spectra of (a) BuPTCDI dissolved in THF and (b) Recovered electrodeposited BuPTCDI film in THF

**Table S1:** Observed Raman wavenumbers of thin film of BuPTCDI

Peaks (cm <sup>-1</sup> )	Assignments
542	Perylene deformation
1076	C-H bend
1298	C-H bend + ring stretch
1381	Perylene ring stretch
1458	Perylene ring stretch
1581	C=C stretch



**Fig. S2** Different XRD patterns of BuPTCDI (a) Electrodeposited film; and projected spectra from the single crystal data from (b) J. Mizuguchi, *Z. Kristallogr. NCS*, 2003, pp. 131-133 and (c) E. Hadicke and F. Graser, *Acta Crystallographica Section C*, 1986, 42, 189-195



**Fig. S3** Drain current  $I_d$  vs. source-drain voltage  $V_d$  curves for various source-gate voltages for BuPTCDI field effect transistors of a fresh film and the same film the next day.