Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supporting Information

No hysteresis TIPS-pentacene:polystyrene Blend-based Organic Field Effect Transistor by Extruded Direct Ink Writing and the Application in Resistive Load Inverter Circuit

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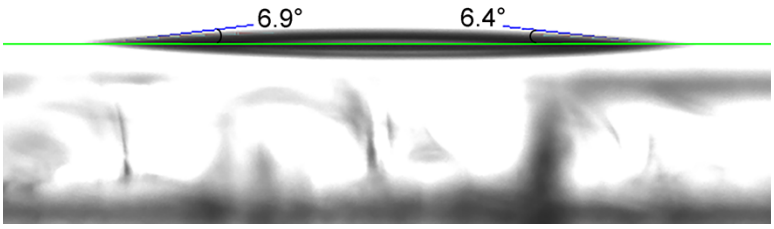

Fig. S-1 Toluene contact angles on Parylene dix-SR surface.

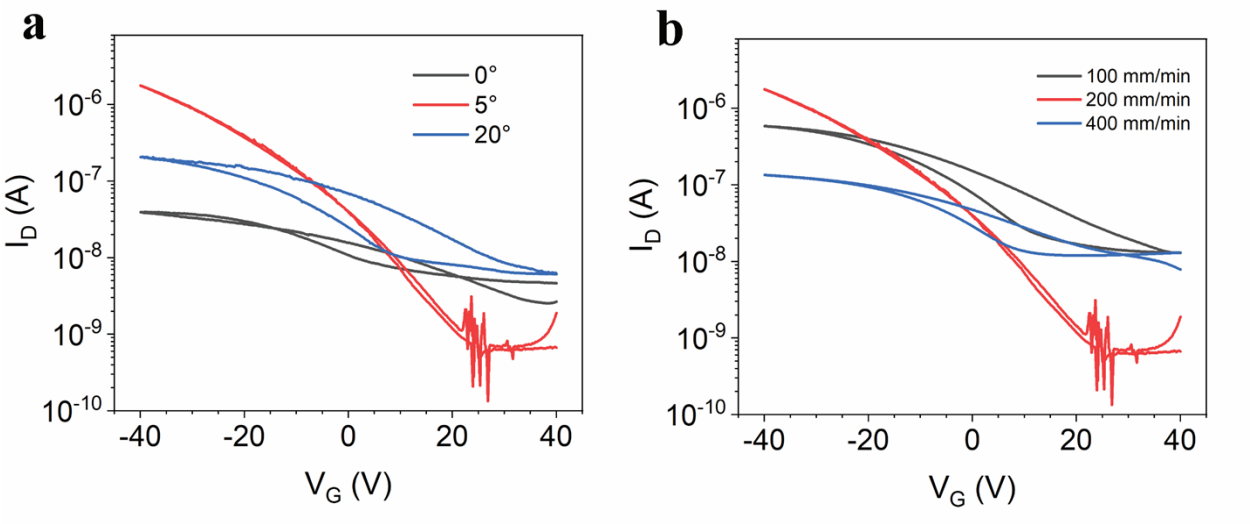

Fig. S-2 The transfer curves of OFETs with (a) different tilted substrates and (b) different printing speeds.

Table S-1. The electrical performance of OFET with different OSC deposition techniques including our work and previous studies.

Technique	Threshold voltage (V)	Maximum Mobility ($cm^{-2}\ V^{-1}\ s^{-1}$)	I_{ON}/I_{OFF}	Ref.
Spun-cast	-10	0.40	6.0×10^6	[1]
Inkjet-printed	-20.40	0.064	2.80×10^4	[2]
Ultrasonically-based printed	-	0.142	-	[3]
Spray-coated	-5.2	0.22	3.32×10^4	[4]
Blade coated	-8.59	1.74	1.45×10^9	[5]
Drop-casted	21.86	1.00	3.30×10^3	This work
Motor-controlled Extrusion-based printed	1.46	0.14	2.70×10^3	This work

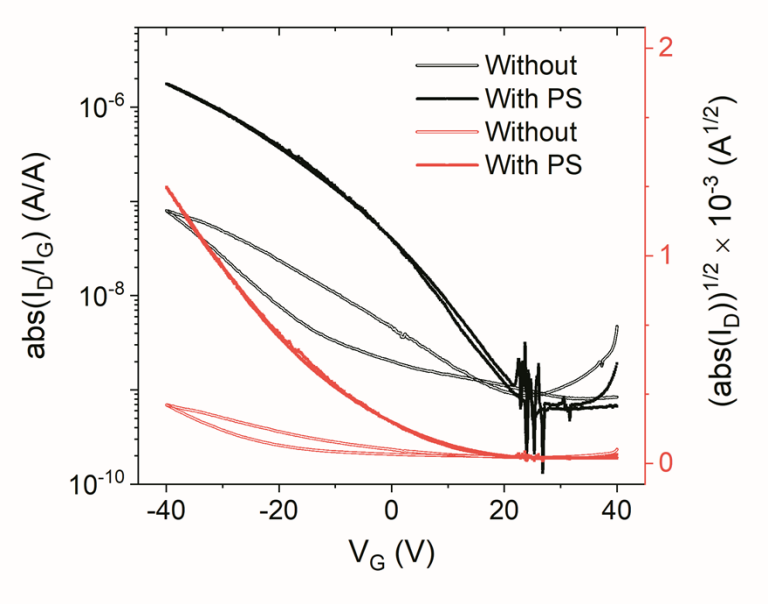

Fig. S-3 The transfer curves of OFETs with and without PS as an active layer.

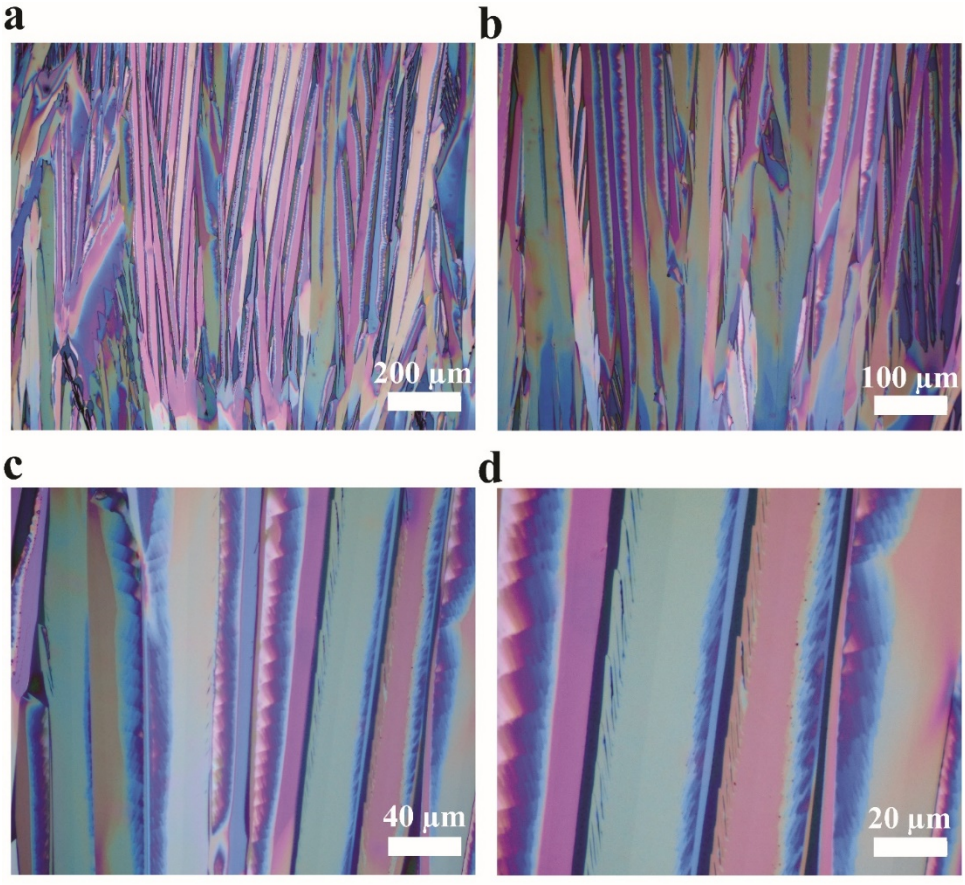

Fig. S-4 Polarized (75 degrees) optical microscope images of TIPS-pentacene: PS blend films with 25 °C in-situ annealing temperature (a) 200 µm (b) 100 µm (c) 40 µm (d) 20 µm.

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