Electronic Supplementary Information

High-Capacitance Polyurethane Ionogel for Low-Voltage Operated Organic Transistors and Pressure Sensors

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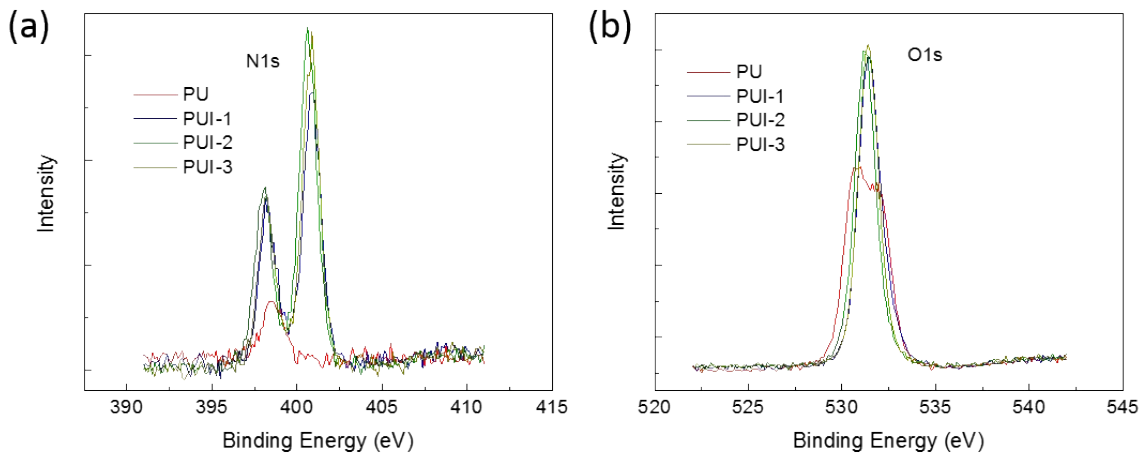

Fig. S1. XPS spectra for the core level peaks of (a) N-1s and (b) O-1s in the pristine PU and PU ionogel gate dielectrics.

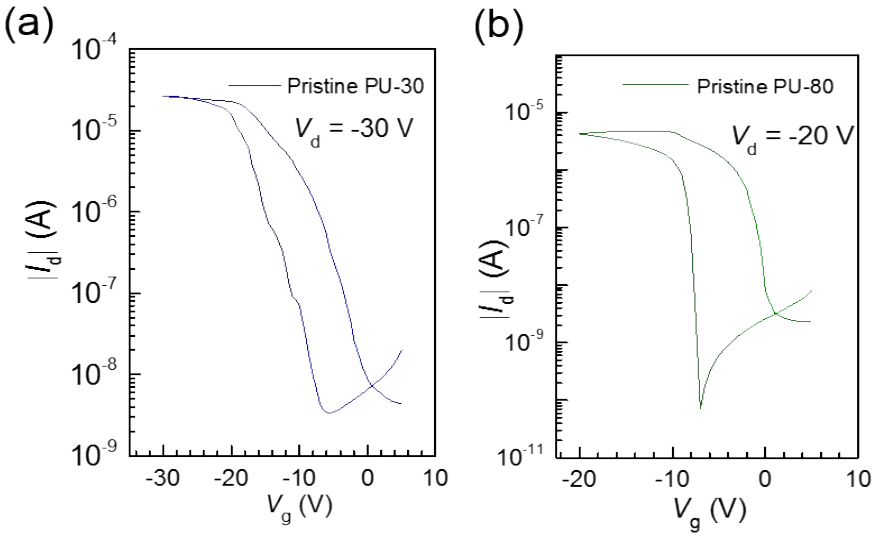

Fig. S2. Transfer characteristics of F8T2 organic thin-film transistors (OTFTs) with neat (a) PU-30 and (b) PU-80 gate dielectrics.

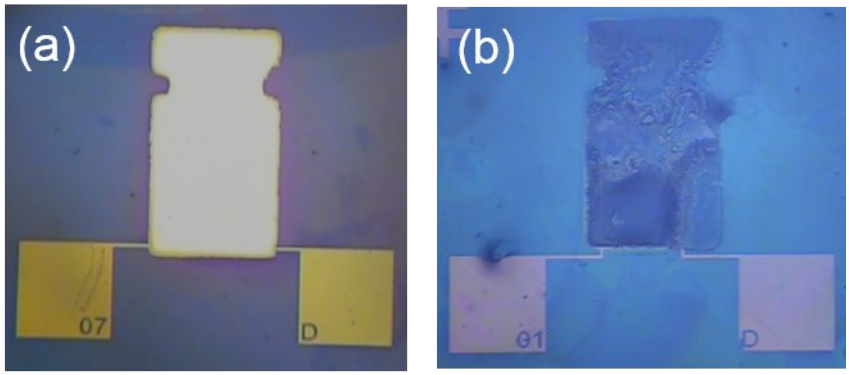

Fig. S3. Optical image of the fabricated F8T2 organic thin-film transistors (OTFTs) on glass substrate; (a) PIB-2 and (b) polyurethane-ionogel (PUI) gate dielectrics. No continuous metallic layer can be formed on the PUI.

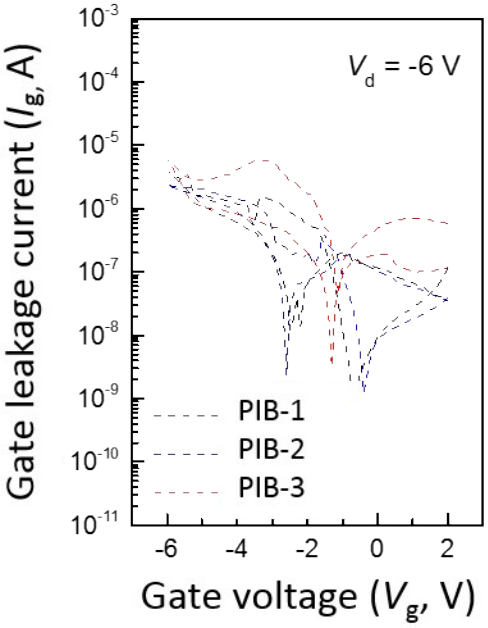

Fig. S4. Gate-leakage current levels of F8T2 organic thin-film transistors (OTFTs) with polyurethane ionogel/bilayer (PIB) dielectrics.

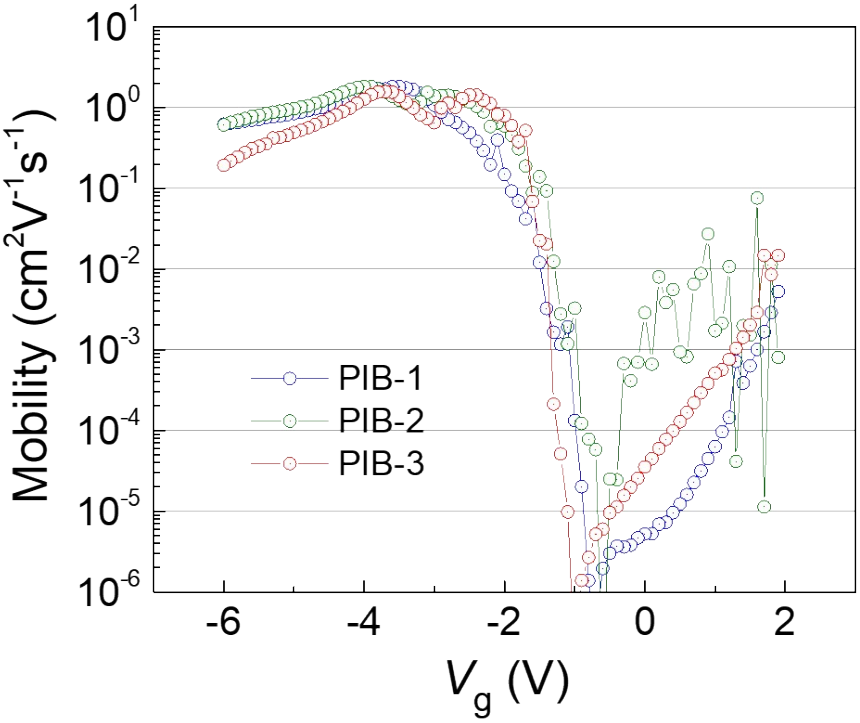

Fig. S5. Mobility as function of gate voltage of F8T2 OTFTs with PIB dielectrics.

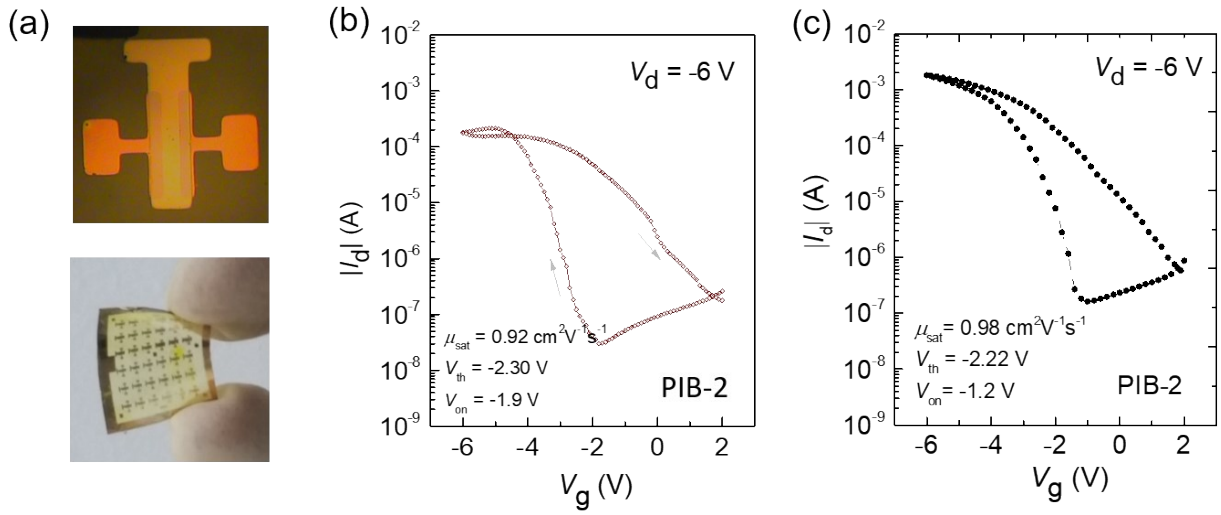

Fig. S6. (a) Optical image of the fabricated 150 °C-annealed F8T2/PIB-2 organic thin-film transistors (OTFTs) on polyethylene naphthalate (PEN) substrate with thermally deposited top-gate electrodes and (b) transfer characteristics of 150 °C-annealed F8T2/PIB-2 OTFT on PEN substrate. (c) Transfer characteristics of 150 °C-annealed F8T2/PIB-2 OTFT on glass substrate.