

Supporting Information

Spray-Coatable Ionogels Based on Silane-Ionic Liquids for Low Voltage, Flexible, Electrolyte-gated Organic Transistors

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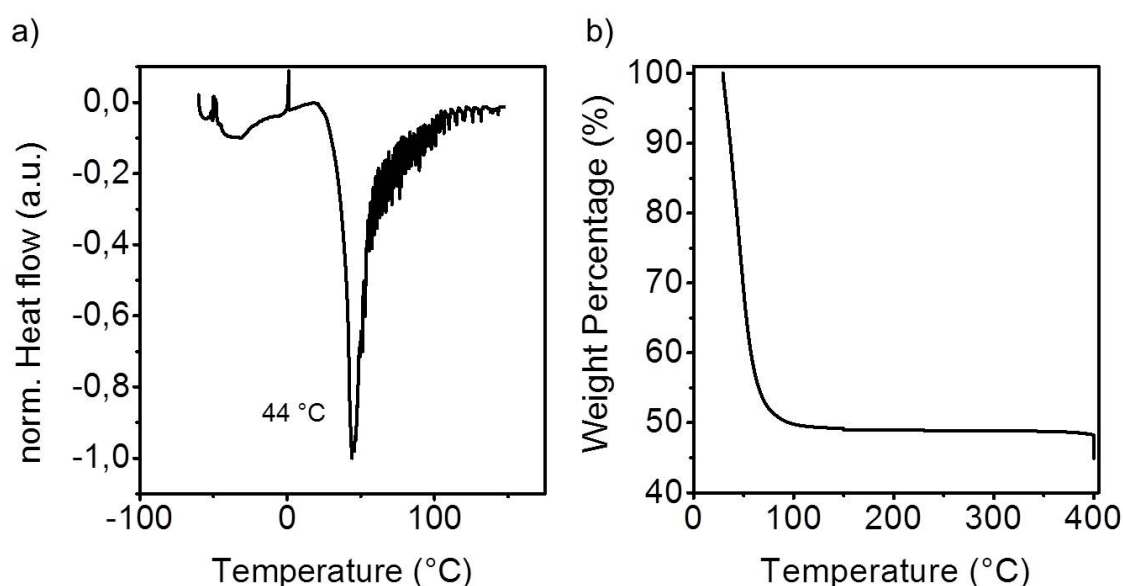


Figure S1.

(a) Differential scanning calorimetry (DSC) and (b) thermal gravimetric analysis (TGA) of silane-based ionogel precursor with a molar ratio of FA:TMOS:[(EtO)₃SiPMIM][TFSI] = 61:1:3 at a heating rate of 10 K/min in ambient air.

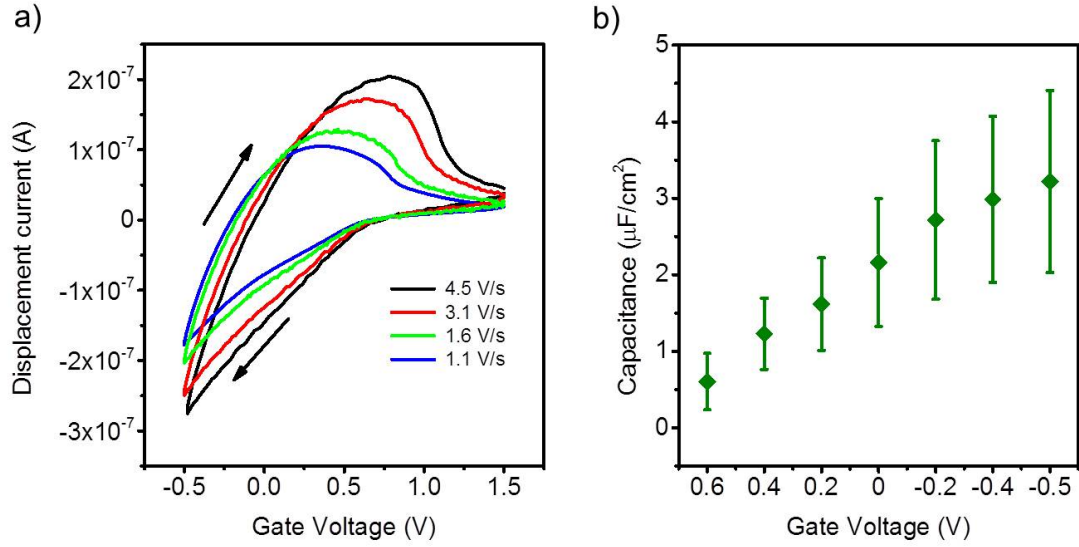


Figure S2.

a) Displacement current measurements for ionogel-gated P3HT-FETs (source and drain electrode grounded) at various sweep rates for silane-based spraycoated ionogels. The channel area was used to calculate the capacitance from the forward sweep according to:

$$I_{disp}(V_g) = A \cdot C_i(V_g) \frac{dV_g}{dt}$$

b) Extracted areal capacitance at different gate voltages from +0.6 V to -0.5V (averaged over 5 devices).

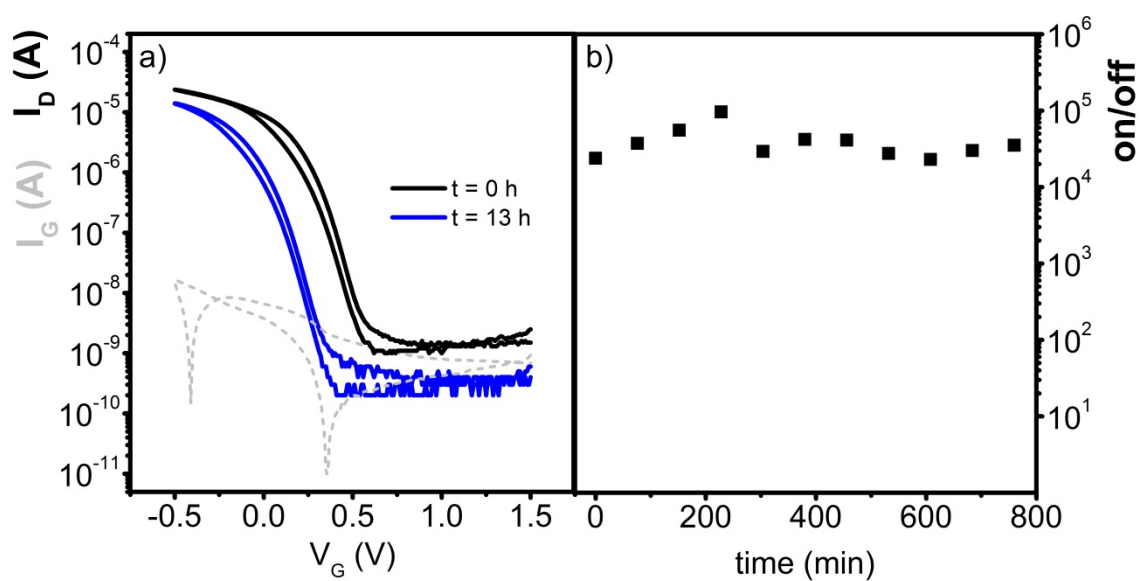


Figure S3.

Stability of P3HT-FET with spray-coated silane-based ionogel in nitrogen atmosphere: a) transfer characteristics at start and after 13 h (one transfer sweep every 5 min, $V_{DS} = 1.0$ V), b) on/off current ratio vs. time.