

# AC Electrodeposition of PEDOT Films in Protic Ionic Liquids for Long-Term Stable Organic Electrochemical Transistors

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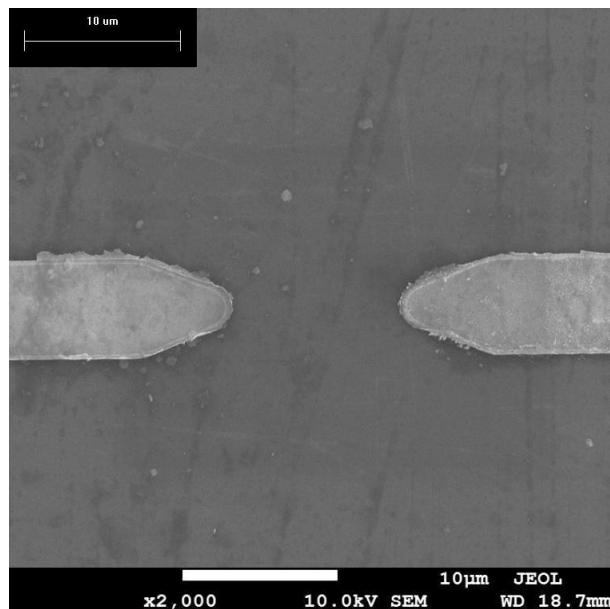
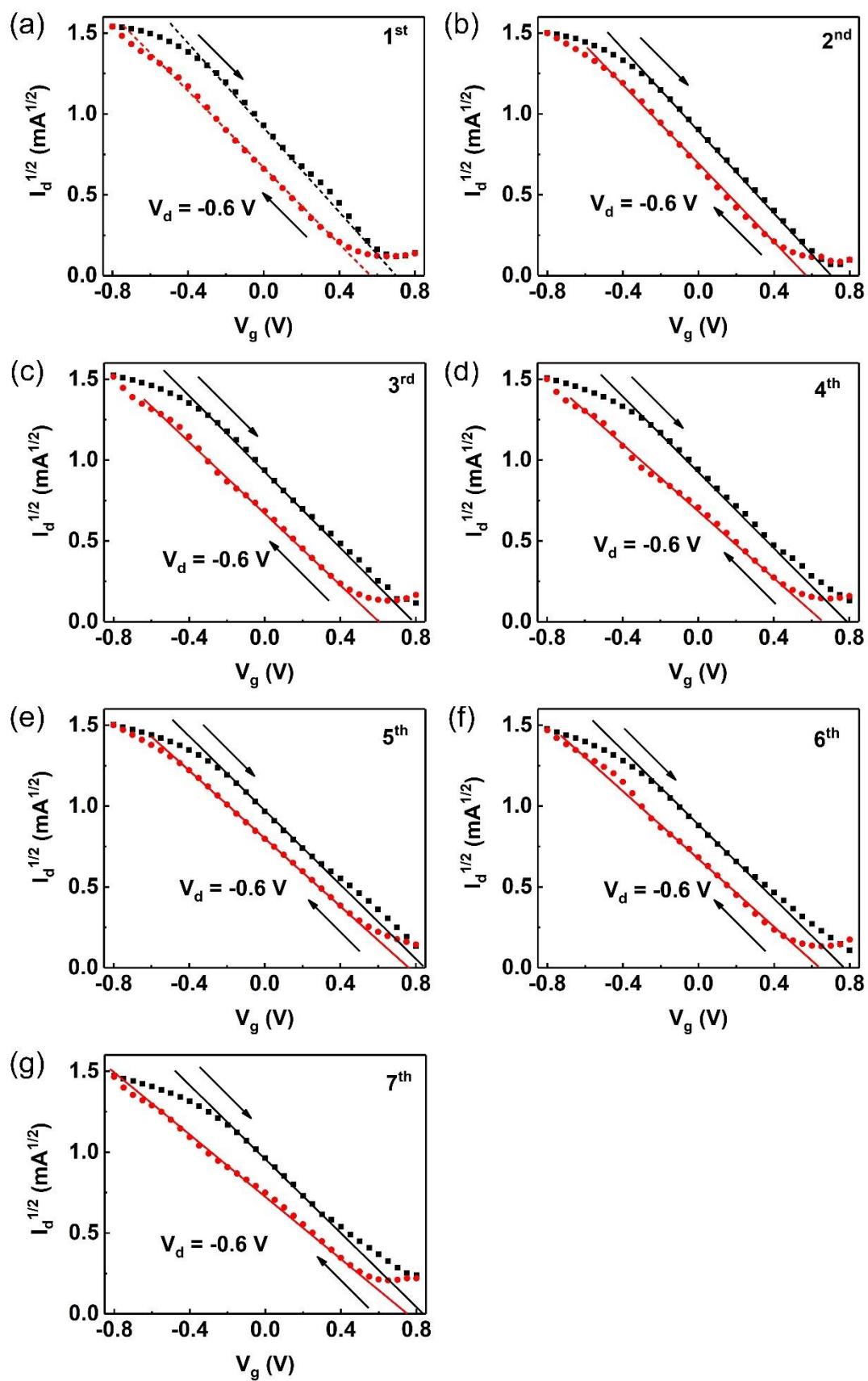


Figure S1. SEM image of the electrodes without electrodeposition



**Figure S2.** Hysteretic transfer curves for  $V_d = -0.6$  V within one week.

**Table 1.** Steady- and transient-state characteristics of the organic electrochemical transistor (OECT) in long-term investigations.

	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	Mean ± SD
g <sub>m,max</sub>   (mS)	2.57	2.76	2.80	2.76	2.81	2.88	2.97	2.79 ± 0.12
I <sub>on</sub> /I <sub>off</sub>	575.0	497.9	477.8	544.8	395.5	442.1	597.3	504.3 ± 72.7
V <sub>T</sub> (V)	0.67	0.70	0.76	0.78	0.82	0.75	0.81	0.75 ± 0.05
H <sub>y</sub> (V)	0.12	0.13	0.15	0.12	0.11	0.13	0.11	0.12 ± 0.01
τ <sub>on</sub> (ms)	214	232	228	186	202	182	192	205.1 ± 20.0
τ <sub>off</sub> (ms)	226	205	232	219	210	230	208	218.6 ± 11.1