

Supporting information

Applying of C8-BTBT-based EGOFETs at Different pH Values of the Electrolyte

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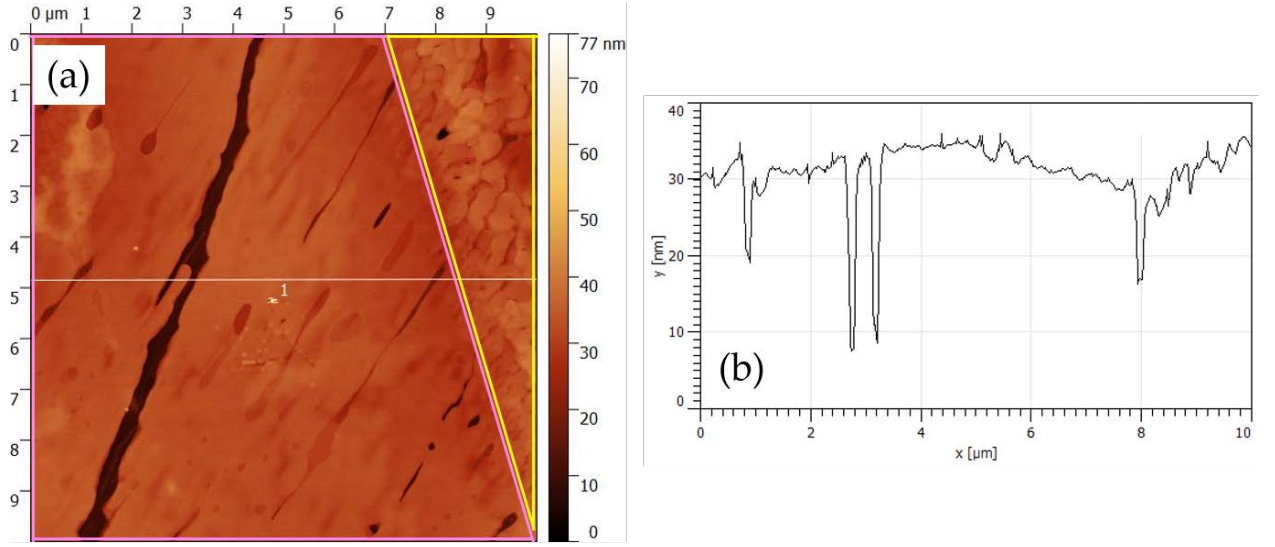


Figure S1. AFM scan of the surface of active layer at the interface between the transistor channel (the most part of the scan, pink frame) and the device contact (the upper right angle, framed with a yellow triangle): (a) topology, (b) cross-section through white line 1.

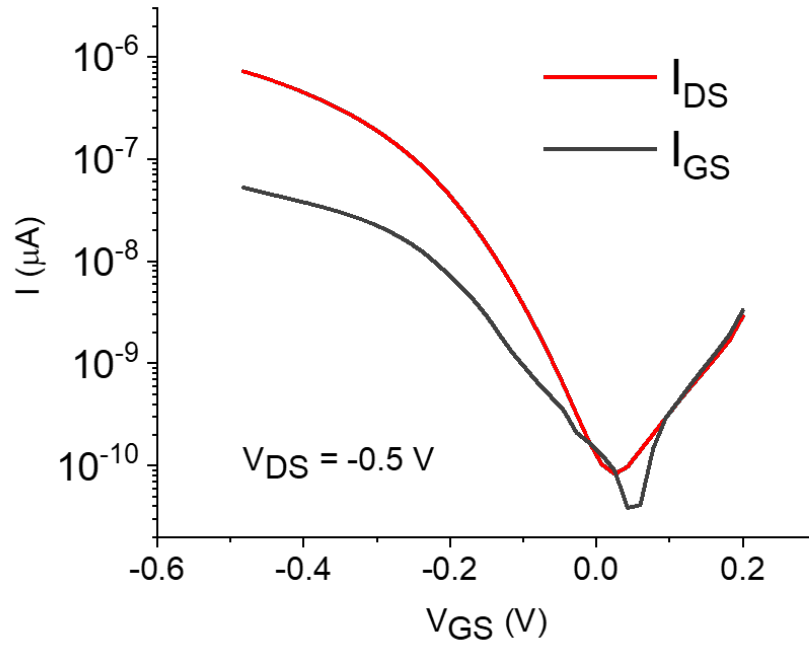


Figure S2. The transfer characteristics of an EGOFET including both I_{DS} (red curve) and I_{GS} (black curve) registered in 0.1M NaCl after stabilization for a typical device.

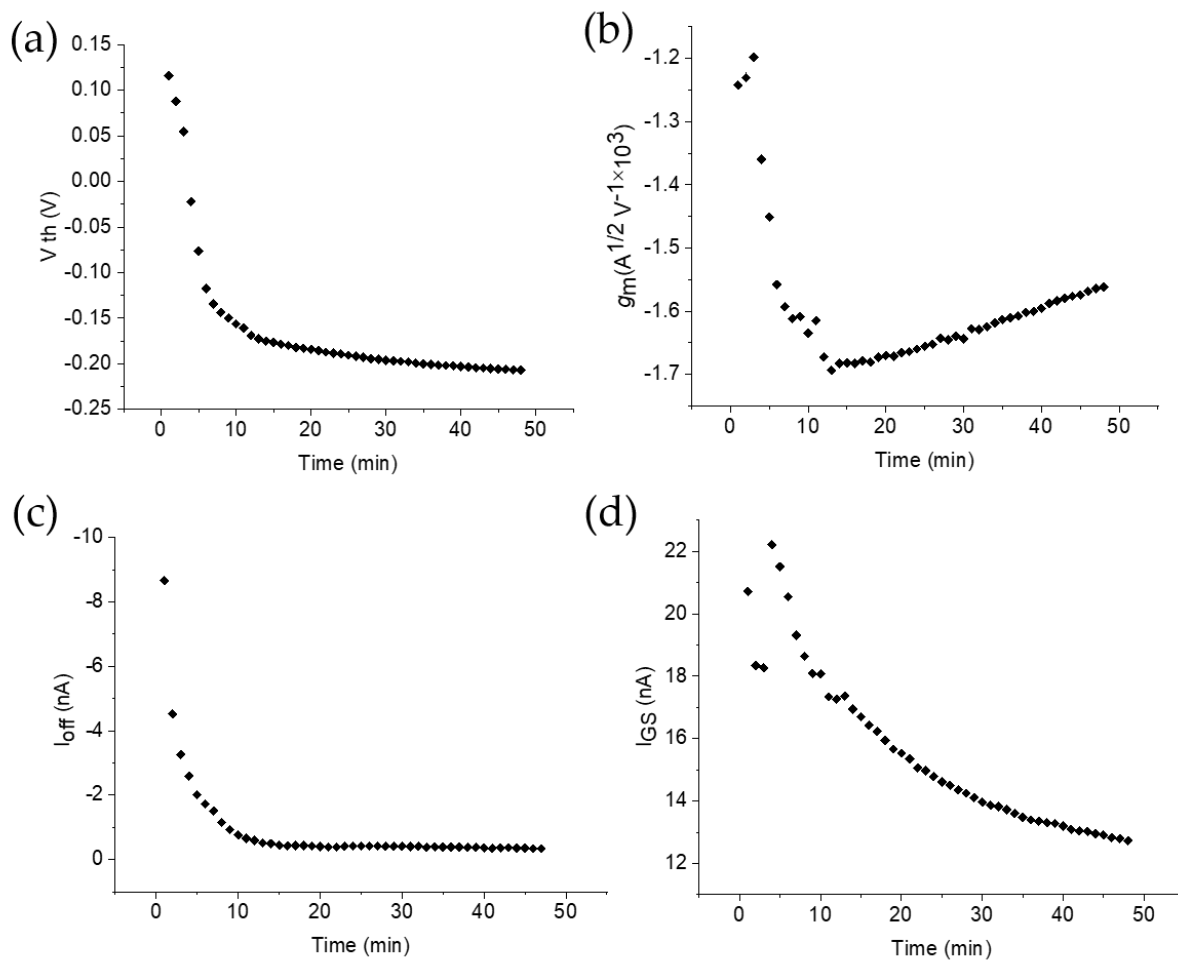


Figure S3. Electrical parameters degradation of an EGOFET during cyclic measurements: (a) the threshold voltage; (b) the transconductance; (c) the off current; (d) the gate current.

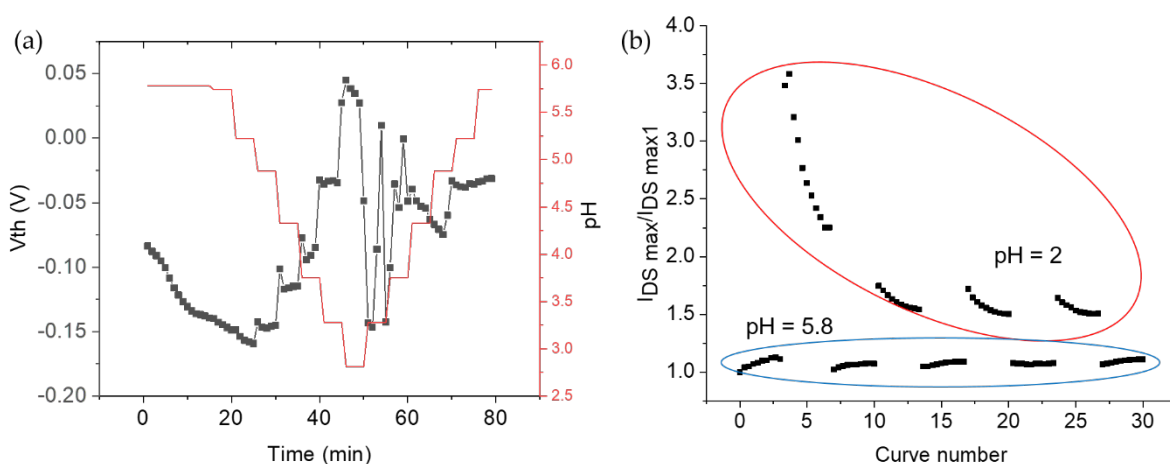


Figure S4. (a) The pH dependence of the threshold voltage shift during addition of HCl acid (forward, from 20 to 50 min) and NaOH solution (backward, from 50 to 80 min). (b) Variations of the on-current during successive replacements of the electrolyte from a solution with pH = 5.8 to a solution with pH = 2 and vice versa for 9 successive measurements.

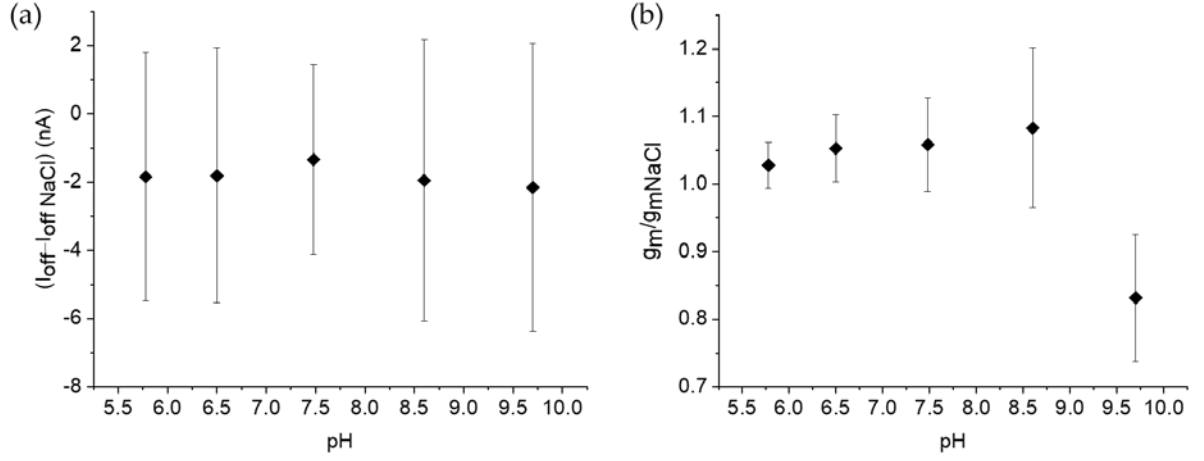


Figure S5. The pH dependence in basic solutions (during NaOH addition) of (a) the off-current shift; (b) the normalized transconductance shift. The data were obtained with devices manufactured on a Si/SiO₂ substrate and averaged over 4 different EGOFETs.

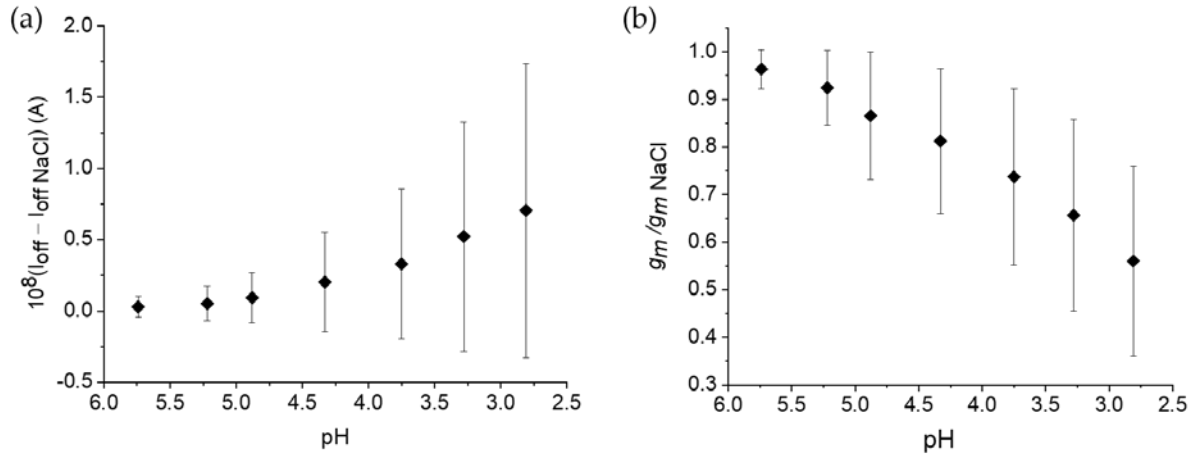


Figure S6. The pH dependencies of (a) the off-current shift; (b) the normalized transconductance shift. The data were obtained with the devices manufactured on a PEN substrate and averaged over 4 different EGOFETs.

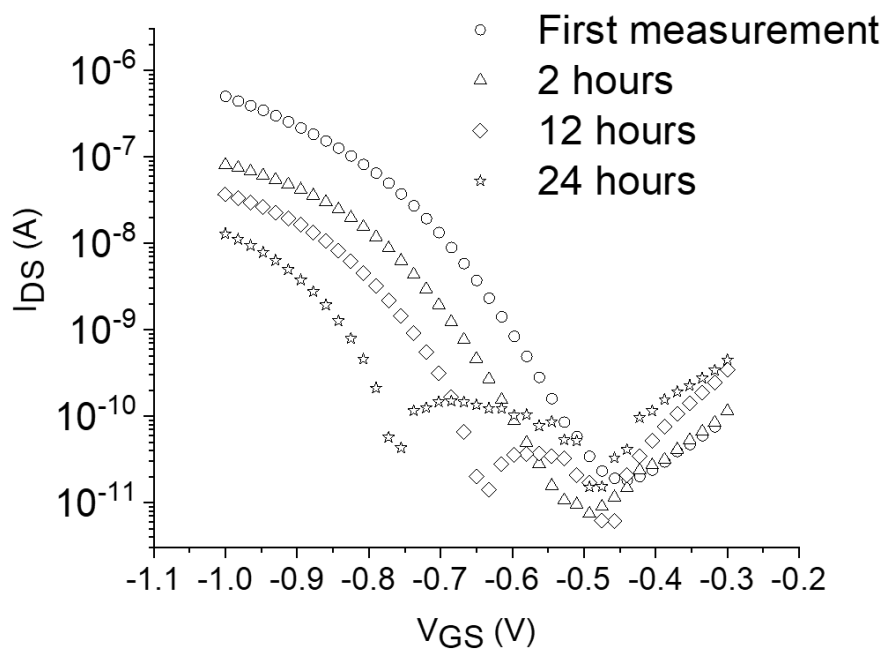


Figure S7. The transfer characteristics of an EFOFET in the flow chamber during 24 hours long continuous measurements: at the first measurement (circles), after 2 hours (triangles), after 12 hours (squares) and after 24 hours (stars).