

# Micro-texturing of the conductive PEDOT:PSS polymer for super-hydrophobic Organic Electrochemical Transistors

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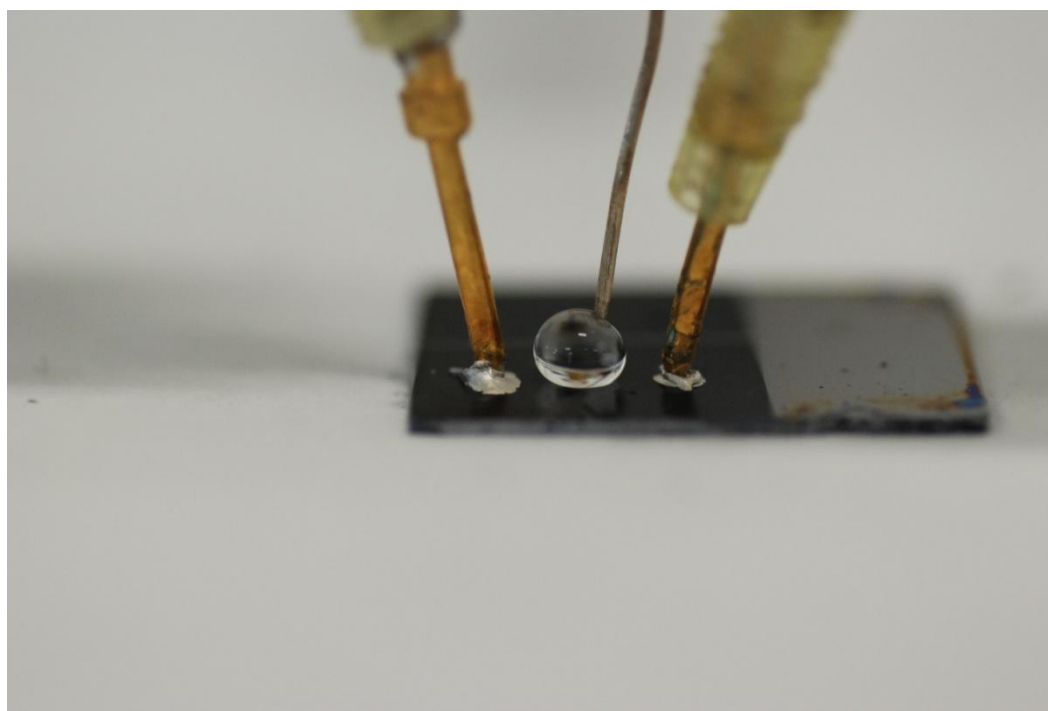
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## Supporting Information #1

Here, photographs of the real micro patterned OECT devices are reported. Notice, in Figures from Figure S1.1 to S1.3, the solution assuming a neat spherical shape with contact angles larger than 170°. Also notice the source and drain electrodes integrated into the micro-patterned substrate, while the gate is immersed in the solution.

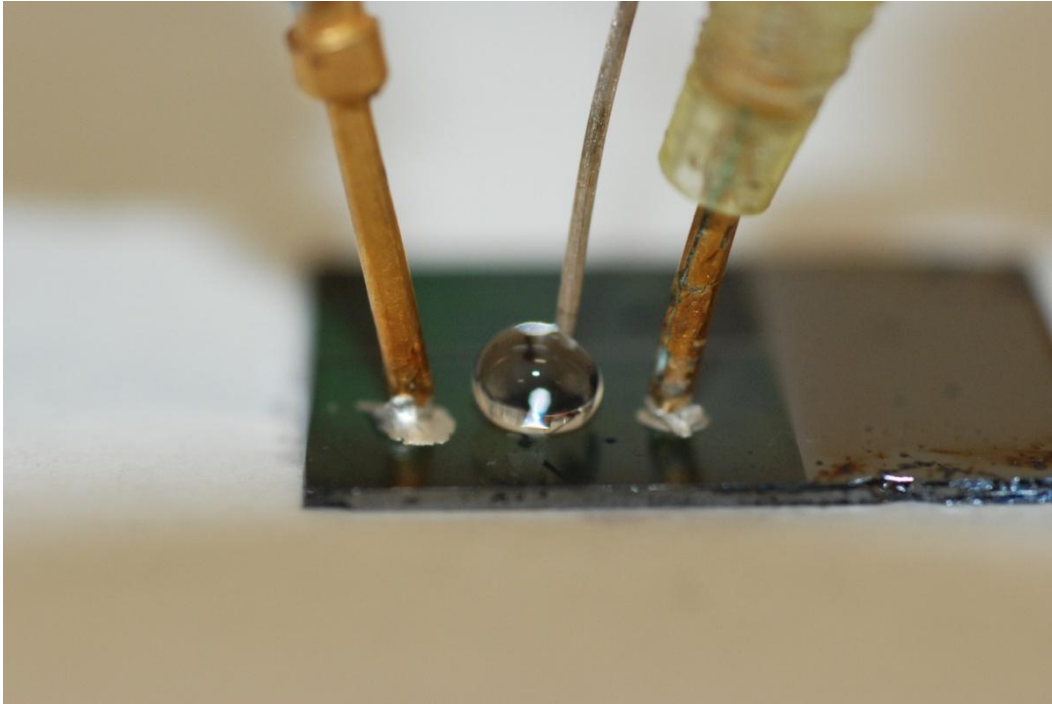


**Figure S1.1**

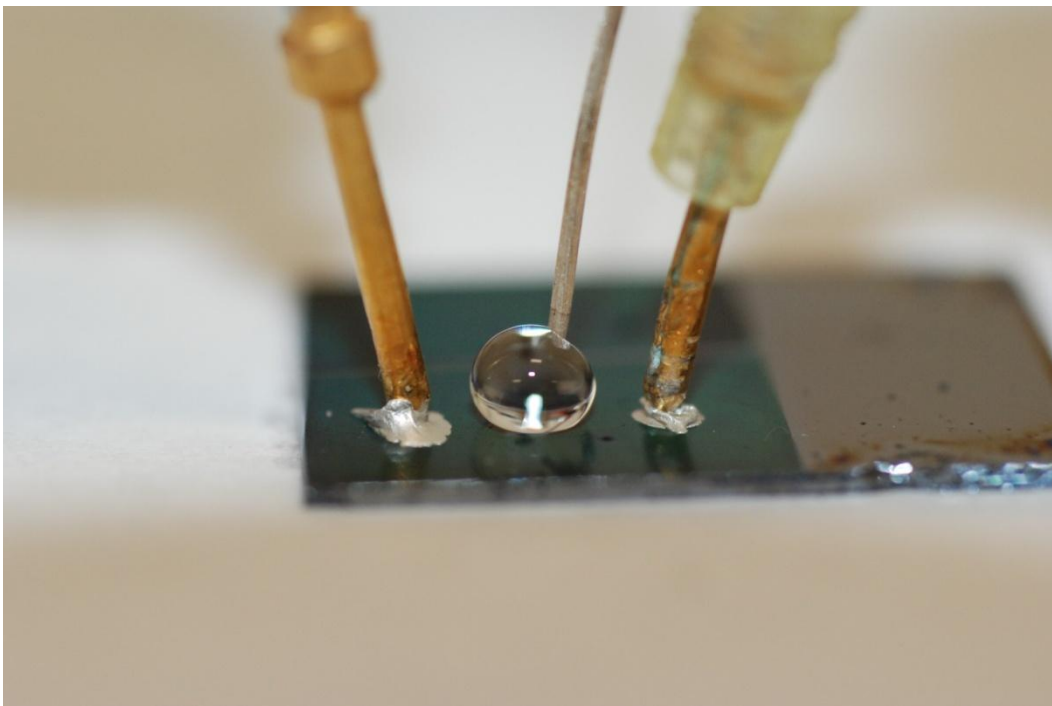
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**Figure S1.2**



**Figure S1.3**

## **Supporting Information #2**

In Figure S2.1, the response for different MgCl concentration, from  $10^{-7}$  to  $10^{-3}$  M, has been reported. The response of the device is expressed as the current modulation  $\Delta I/I_0 = |I_{ds,off} - I_{ds,0}|/I_{ds,0}$ , where  $I_{ds,off}$  is the off current ( $V_{gs} > 0$ ) and  $I_{ds,0}$  the on current ( $V_{gs} = 0$ ). The reported values of

modulation depends on the MgCl concentration for different  $V_g$ . The red line, representing  $10^{-7}$  M, produces a modulation in current that is lower for each  $V_g$  value respect to the green line of  $10^{-5}$  M, and coherently  $10^{-3}$  results with a higher response respect to  $10^{-5}$  M.

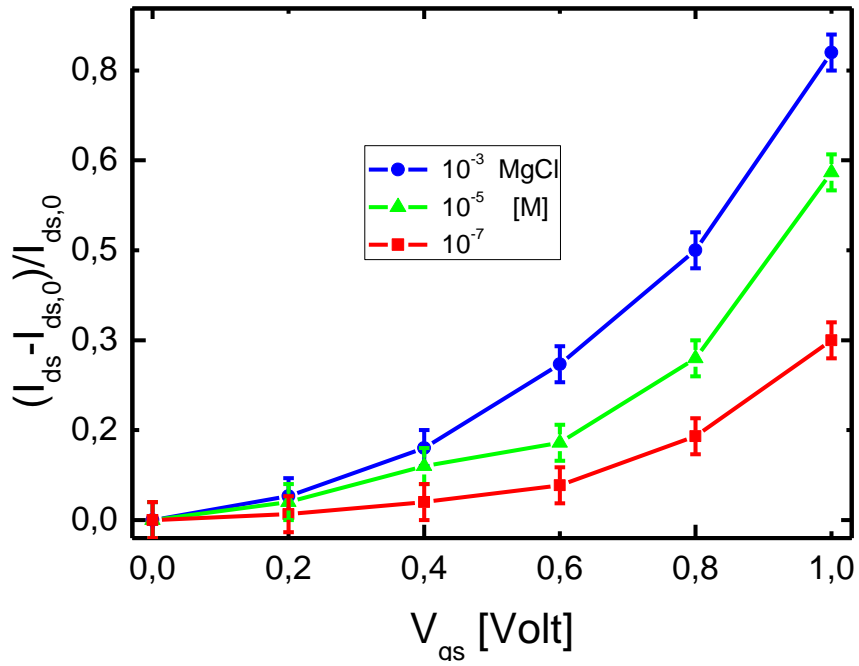


Figure S2.1