

Abstract Submitted  
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**Control of Polymer Electrodes Shape via Microflow Control in a Drying Droplet**<sup>1</sup> YUNSEOK JANG, Korea Institute of Machinery & Materials — We demonstrated a simple patterning method for the deposition of polymer electrodes such as poly(3,4- ethylenedioxythiophene)/poly(styrenesulfonate) (PEDOT/PSS). We made use of the difference in wettability between hydrophobic surfaces and hydrophilic surfaces to make the patterns. However, the patterns made with our patterning method created undesirable ring-like stains, which were caused by the outward flow of the solute within the PEDOT/PSS solution drop. To achieve homogenous device performance, we proposed a simple process for removing this ring-like stain by making the surface tension gradient in the PEDOT/PSS solution drop. Because this surface tension gradient causes the inward flow of the solute within the PEDOT/PSS solution drop, the ring-like stain is removed. Finally, we confirmed the potential of our patterning method for polymer electrodes such as the PEDOT/PSS by fabricating pentacene thin-film transistors (TFTs) and measuring the electrical properties of the pentacene TFTs.

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