

# Supporting Information

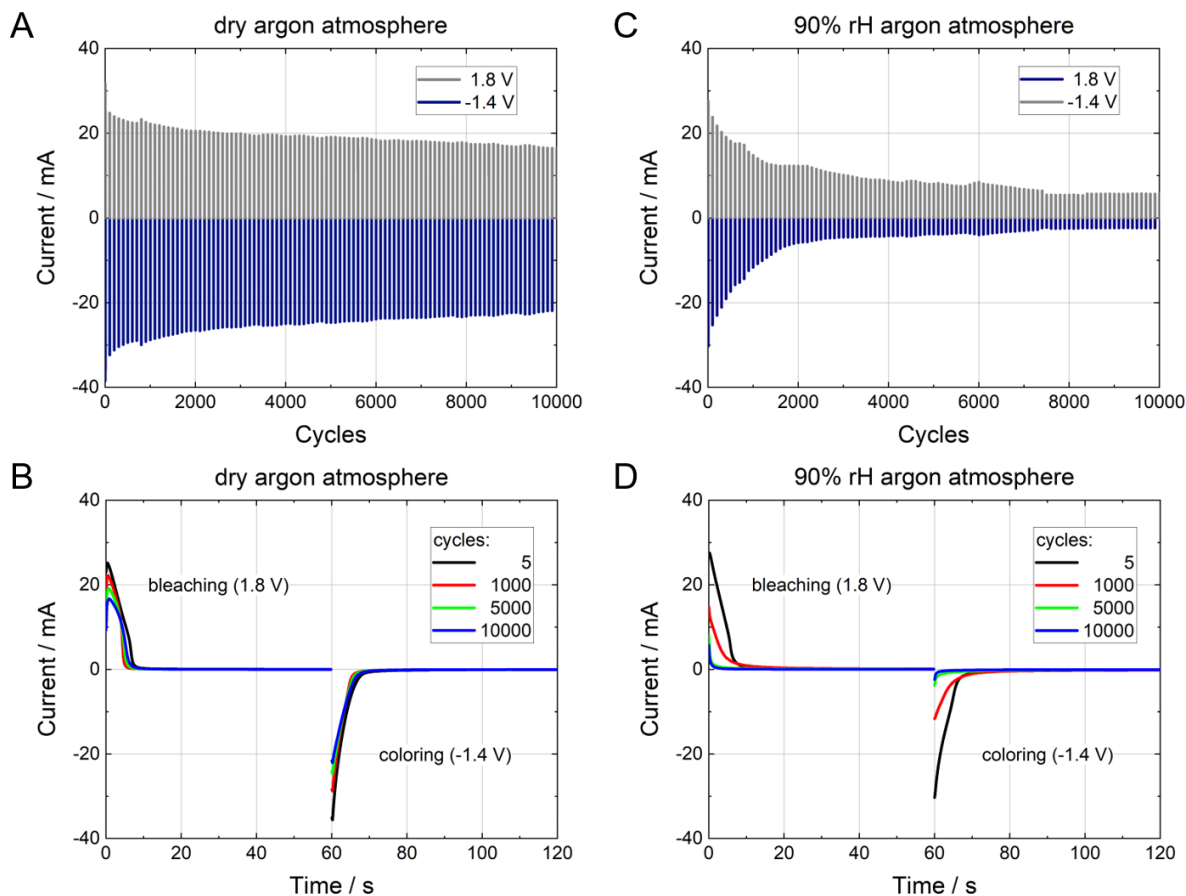
## **Avoiding Voltage-Induced Degradation in PET-ITO-Based Flexible Electrochromic Devices**

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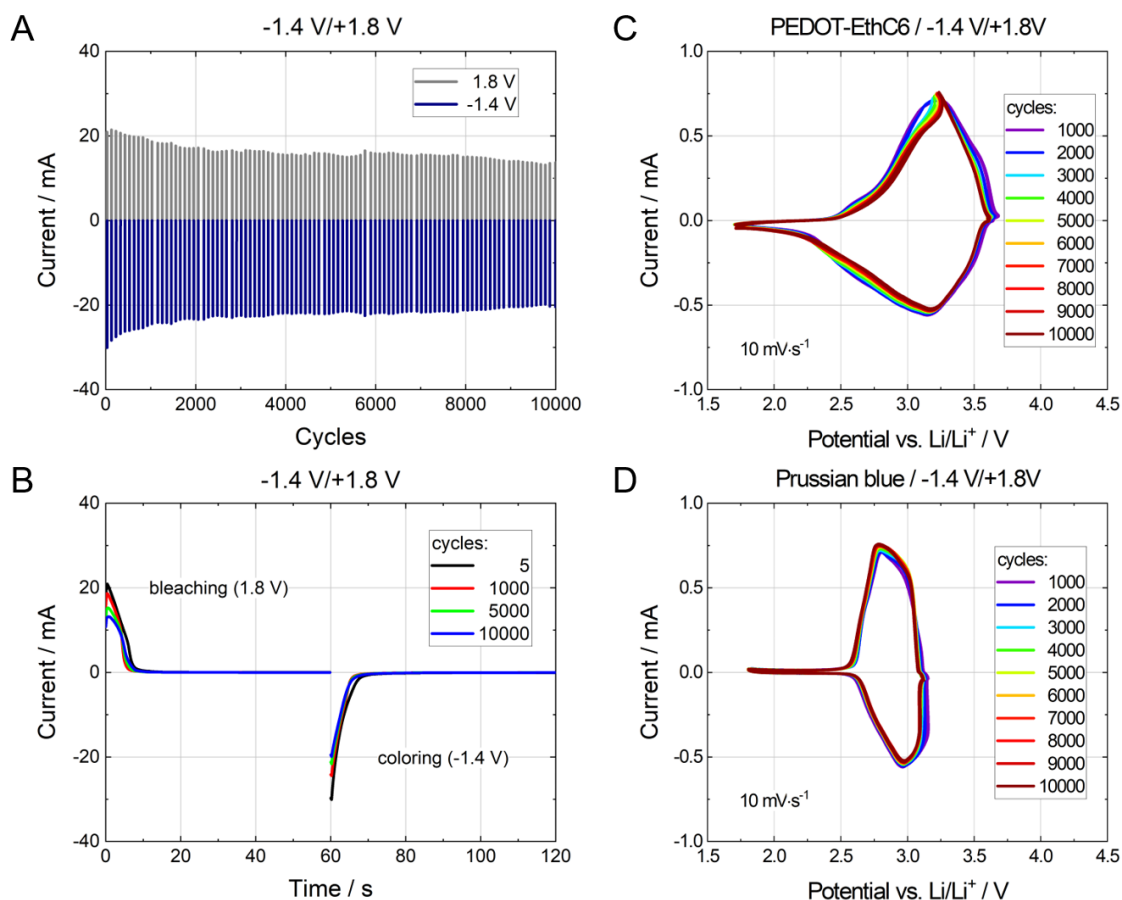
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**Additional electrochemical data of the cycling stability investigations of PEDOT-EthC6/PB based ECDs in a dry and humid argon atmosphere (90% rH), operated with a driving voltage of -1.4 V/+1.8V.**



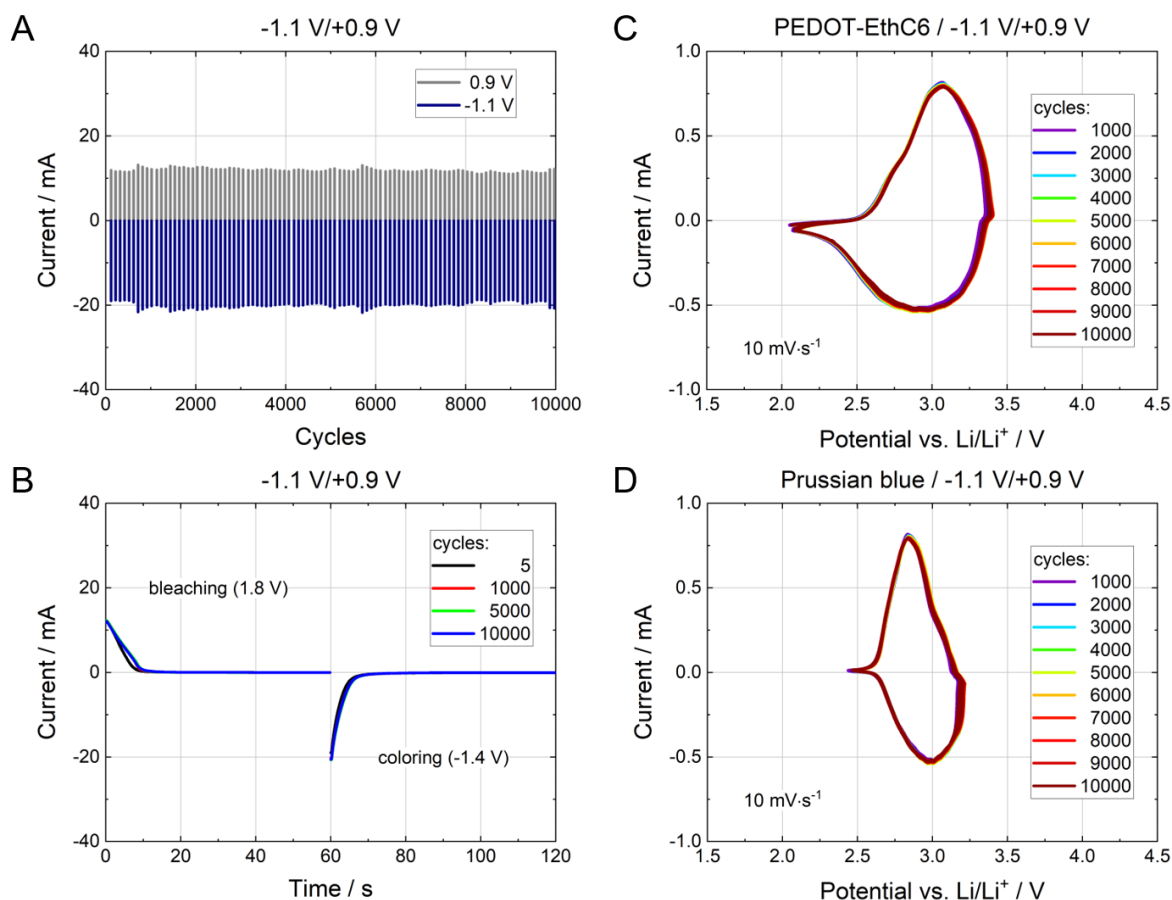
**Figure S1.** Current evolution over the course of 10,000 switching cycles and response time analysis of PEDOT-EthC6/PB based ECDs in a dry (A and B) and a humid (C and D) argon atmosphere (90% rH), operated with a driving voltage of -1.4 V/+1.8 V.

**Additional electrochemical data of PEDOT-EthC6/PB based ECD with an auxiliary reference electrode (lithium), operated with a cell voltage of -1.4 V/+1.8 V.**



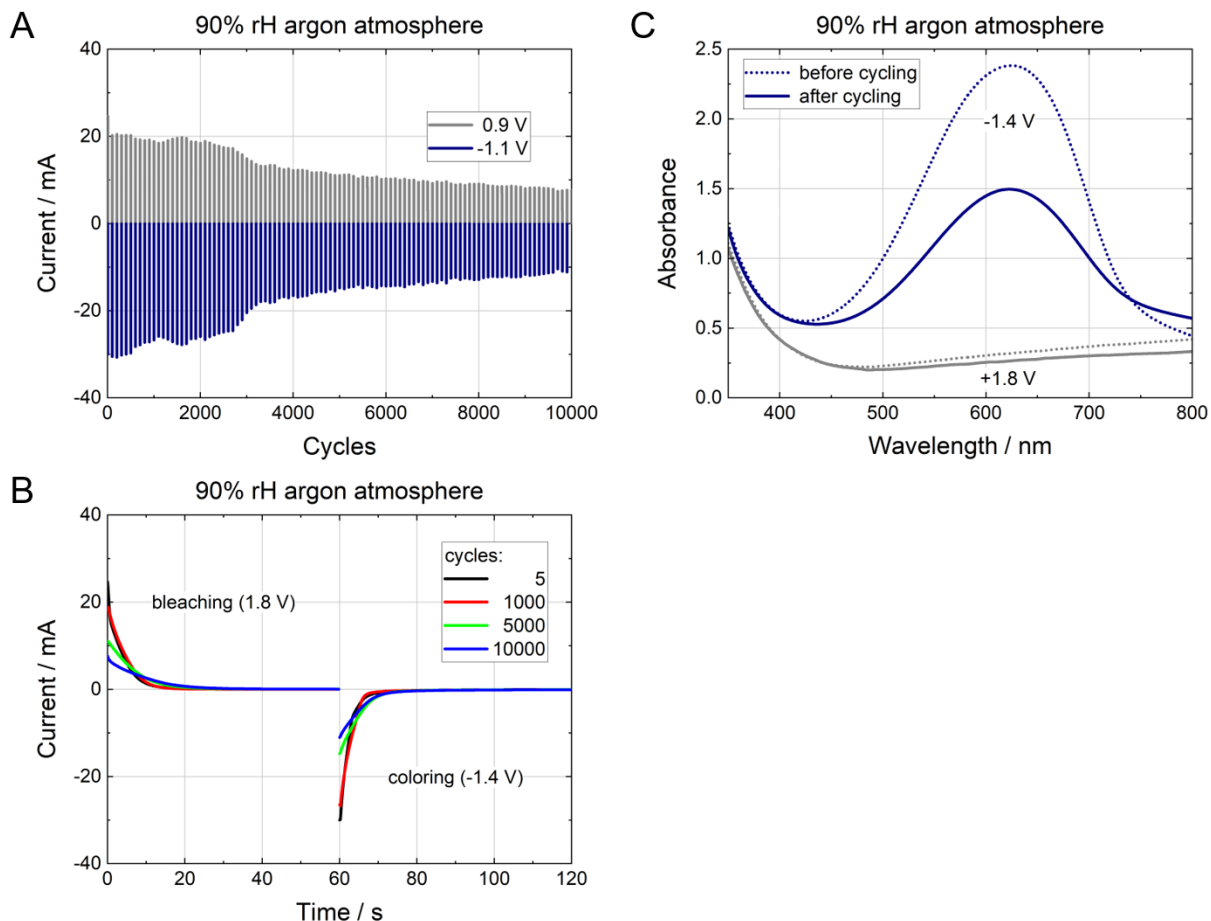
**Figure S2.** Additional electrochemical data of a PEDOT-EthC6/PB device with an auxiliary reference electrode (lithium), operated with a cell voltage of -1.4 V/+1.8 V. Cycling stability analysis including current evolution (A), response time analysis (B) and CVs of every 1,000<sup>th</sup> switching cycle of the PEDOT-EthC6 (C) and PB (D) electrodes, respectively.

**Additional electrochemical data of PEDOT-EthC6/PB based ECD with an auxiliary reference electrode (lithium), operated with a cell voltage of -1.1 V/+0.9 V.**



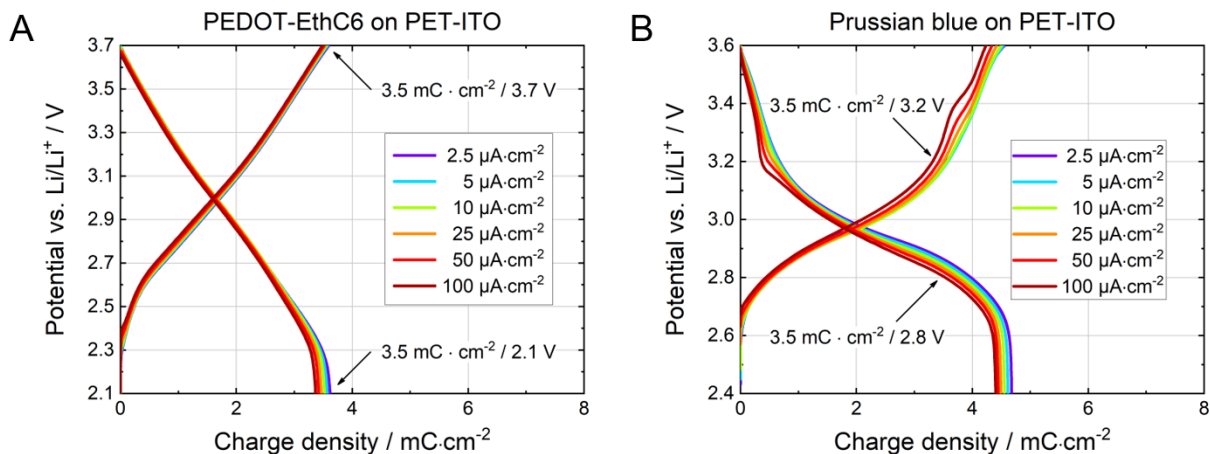
**Figure S3.** Additional electrochemical data of a PEDOT-EthC6/PB device with an auxiliary reference electrode (lithium), operated with a cell voltage of -1.1 V/+0.9 V. Cycling stability analysis including current evolution (A), response time analysis (B) and CVs of every 1,000<sup>th</sup> switching cycle of the PEDOT-EthC6 (C) and PB (D) electrodes, respectively.

**Additional electrochemical data of the cycling stability investigations of PEDOT-EthC6/PB based ECDs with unbalanced electrode configuration (charge density ratio) in a humid (90% rH) argon atmosphere**



**Figure S4.** Current evolution over the course of 10,000 switching cycles (A), response time analysis (B) and spectro-electrochemical measurements before/after cycling (C) of the PEDOT-EthC6/PB based ECD in a humid argon atmosphere (90% rH), operated with a driving voltage of -1.4 V/+1.8 V.

**Galvanostatic charging/discharging experiments of the PEDOT-EthC6 and PB electrodes for calculating the cell voltage window of the PEDOT-EthC6/PB based ECD with unbalanced cell configuration (charge density ratio).**



**Figure S5.** Galvanostatic charging/discharging experiments of the PEDOT-EthC6 (A) and PB (B) electrodes for calculating the cell voltage window of the PEDOT-EthC6/PB based ECD with unbalanced electrode configuration (charge density ratio).