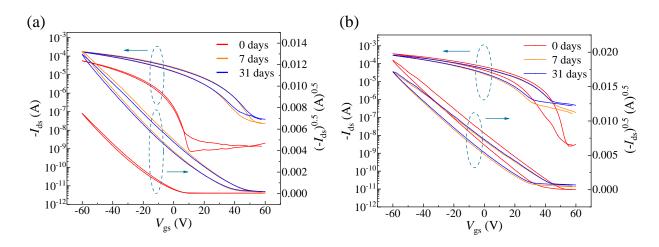
Electronic Supplementary Material (ESI) for Materials Advances. This journal is © The Royal Society of Chemistry 2023

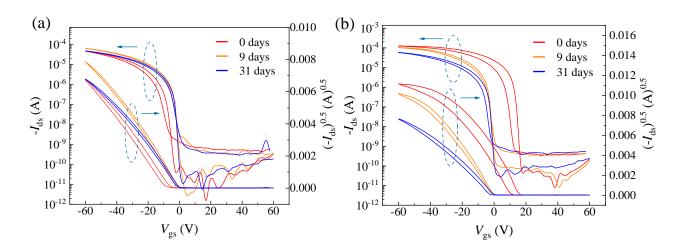
## Supporting information

## In-situ Tuning the Performance of Polymer Field-Effect Transistors by Soft Plasma Etching

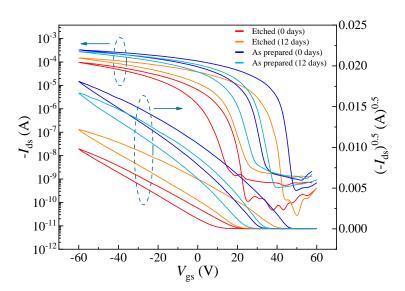
Zhen Hu<sup>#</sup>, Dongfan Li<sup>#\*</sup>, Wanlong Lu, Zongze Qin, Yixin Ran, Xin Wang, Guanghao Lu<sup>\*</sup>



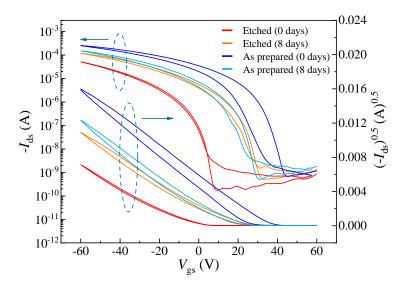
**Figure S1.** The trend in air stability of OFET devices prepared using PCDTPT material before and after soft plasma etching treatment. (a) The change in transfer curve of the device after being exposed to air for a period of time with soft plasma etching treatment for 25 seconds. (b) The change in transfer curve of the device after being exposed to air for a period of time without soft plasma etching treatment.



**Figure S2.** The trend in air stability of OFET devices prepared using IDT-BT material before and after soft plasma etching treatment. (a) The change in transfer curve of the device after being exposed to air for a period of time with soft plasma etching treatment for 30 seconds. (b) The change in transfer curve of the device after being exposed to air for a period of time without soft plasma etching treatment.



**Figure S3.** Comparison of the change in transfer curve of OFET devices prepared using DPP-DTT material, which underwent soft plasma etching treatment for 20 seconds and those that did not undergo treatment, after being exposed to air for a period of time.



**Figure S4.** The comparison of transfer curves between OFET devices prepared with blended solution components (PCDTPT:PS = 1:9), after undergoing 30 s of soft plasma etching treatment, and those without such treatment, after being exposed to air for a period of time.