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## **Supplementary Information**

## Efficient and Controllable Vapor to Solid doping of the Polythiophene P3HT by Low Temperature Vapor Phase Infiltration

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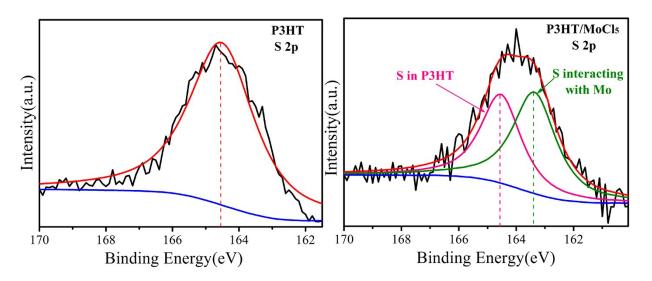


Figure S1. S 2p XPS spectra of pristine P3HT (left), and P3HT/MoCl<sub>5</sub>(5 cycles VPI, 70 °C)(right).

In the S 2p XPS spectra, the peak located at 164.56 eV corresponds to the S 2p signal of pristine P3HT. After applying 5 cycles of the MoCl<sub>5</sub> infiltration process at 70 °C, the intensity of the S 2p peak of pristine P3HT decreases and a new peak at a binding energy of 163.39 eV develops, which indicates an electronic exchange between P3HT and MoCl<sub>5</sub> and thus an interaction of Mo with S.