**Electronic Supplementary Information** 

## Novel triethylsilylethynyl anthracene-based organic semiconductors for high performance field effect transistors

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Figure S1. Thin film X-ray diffraction (XRD) results for (a) TESAN-BT and (b) TESAN-TT before and after solvent annealing



Figure S2. Areal capacitance of  $Cytop^{TM}$ -treated SiO2 (300nm) dielectric layer as a function of measured frequency. Capacitance was measured using an SR 720 LCR meter at frequencies ranging from 100 Hz to 100 kHz. (MIM device structure was used.) The capacitance value measured at 100-120 Hz (9.6 nF/cm<sup>2</sup>) was used to extract the mobility.



Figure S3. Single crystal X-ray diffraction (XRD) results for (a) TESAN-BT and (b) TESAN-TT.

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