

**Electronic Supplementary Information (ESI) for**

**Charge transfer doping with an organic layer to  
achieve a high-performance p-type WSe<sub>2</sub> transistor**

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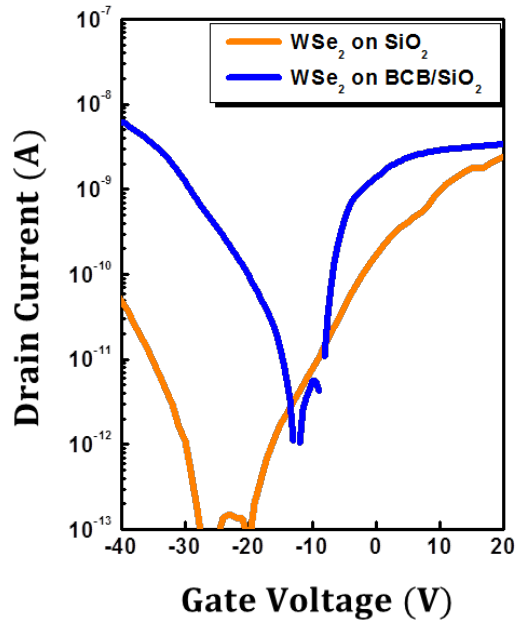


Fig. S1. Transfer characteristics of WSe<sub>2</sub> transistors with (blue) and without (orange) a BCB layer.

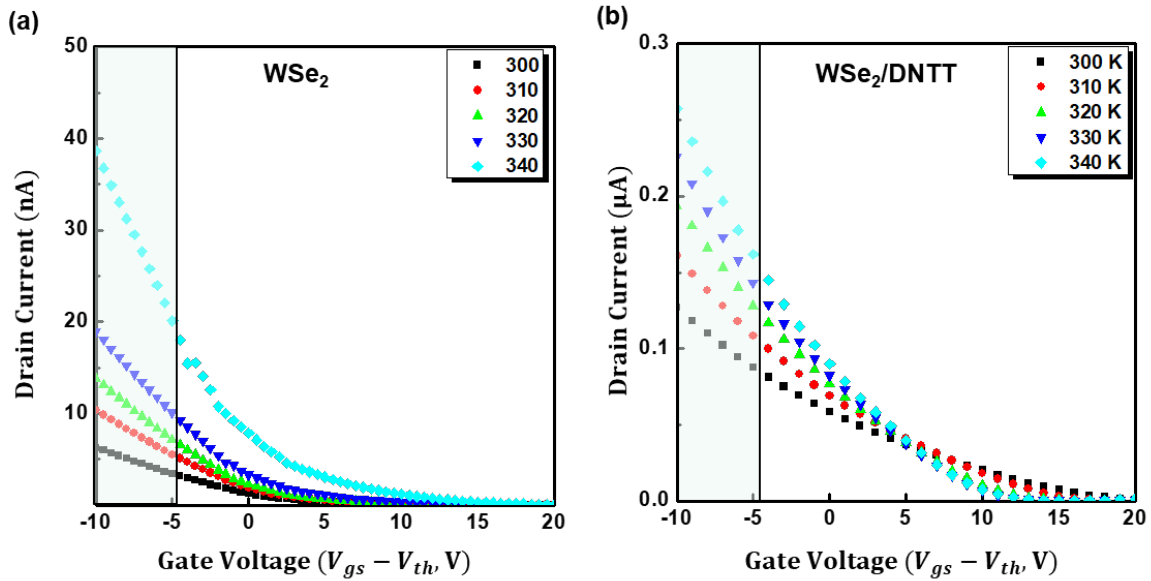


Fig. S2. Extraction of field-effect mobility of the (a) WSe<sub>2</sub> FET and (b) WSe<sub>2</sub>/DNNT FET. After extracting the threshold voltages of the devices, the transfer characteristics of the devices are retraced as a function of the gate overdrive voltage ( $V_{gs} - V_{th}$ ). The field-effect mobility is estimated from the slopes within the  $-5$  to  $-10$  V overdrive voltage range.