

Electronic Supplementary Information

Vertical organic transistors with permeable base: from fundamentals to performance prediction

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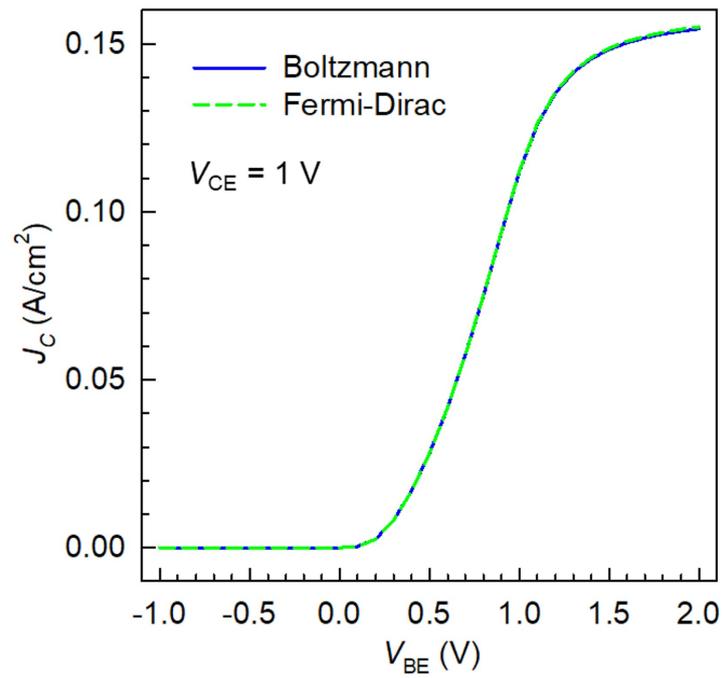


Figure S1. Direct comparison between the transfer curves of the OPBT obtained by simulations with the Boltzmann and the Fermi-Dirac carrier statistics. The device structure and all the input parameters are the same as those that produced the optimized fit to the experimental C₆₀ device.

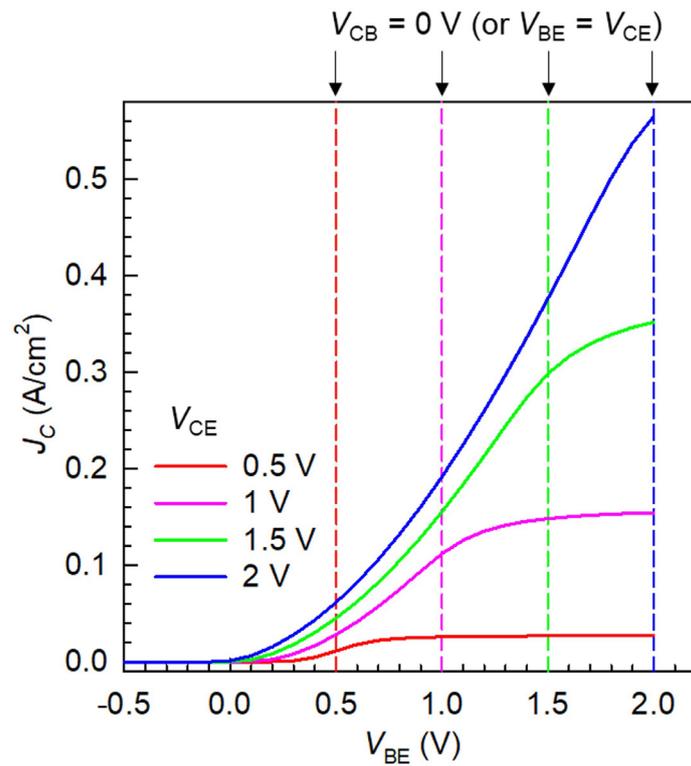


Figure S2. Simulation data showing the direct impact of the value of applied V_{CE} on the transfer characteristics. These results visualize the occurrence of J_C saturation at a voltage point roughly satisfying $V_{CB} = 0$ V.

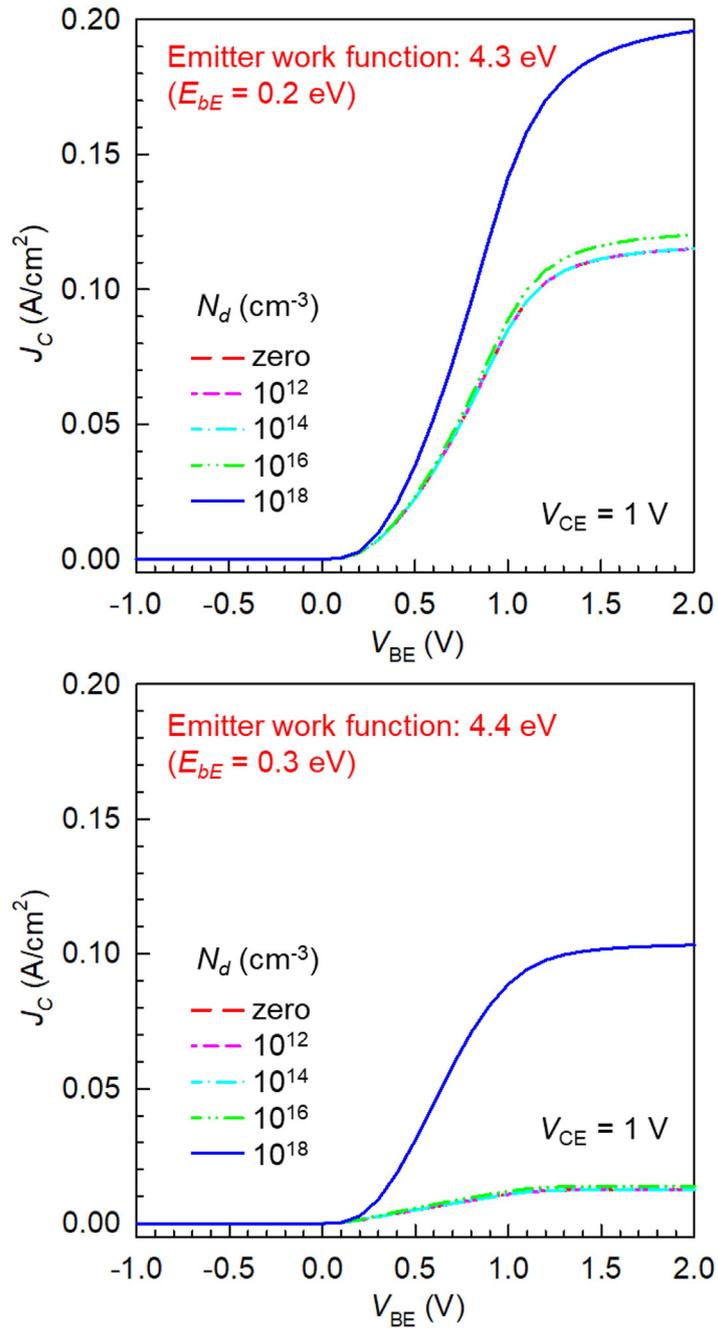


Figure S3. Simulation data showing the significant impact of the emitter work function (and the corresponding emitter electron-injection barrier E_{bE}) on the transfer characteristics. Each graph contains the doping density variation for the doped C₆₀ region.