

Electronic Supplementary Information

Mode tunable p-type Si nanowire transistor based zero drive load logic inverter

Kyeong-Ju Moon,^a Tae-II Lee,^a Sang-Hoon Lee,^a Young-Uk Han,^b Moon-Ho Ham^b and Jae-Min Myoung^{*a}

^a Department of Materials Science and Engineering, Yonsei University, 134 Shinchondong, Seoul, 120-749, Korea. Fax: +82-2-365-2680; Tel: +82-2-2123-2843; E-mail: jmmyoung@yonsei.ac.kr

^b School of Materials Science and Engineering, Gwangju Institute of Science and Technology, 123 Oryongdong, Gwangju, 500-712, Korea. Fax: +82-62-715-2304; Tel: +82-62-715-2321

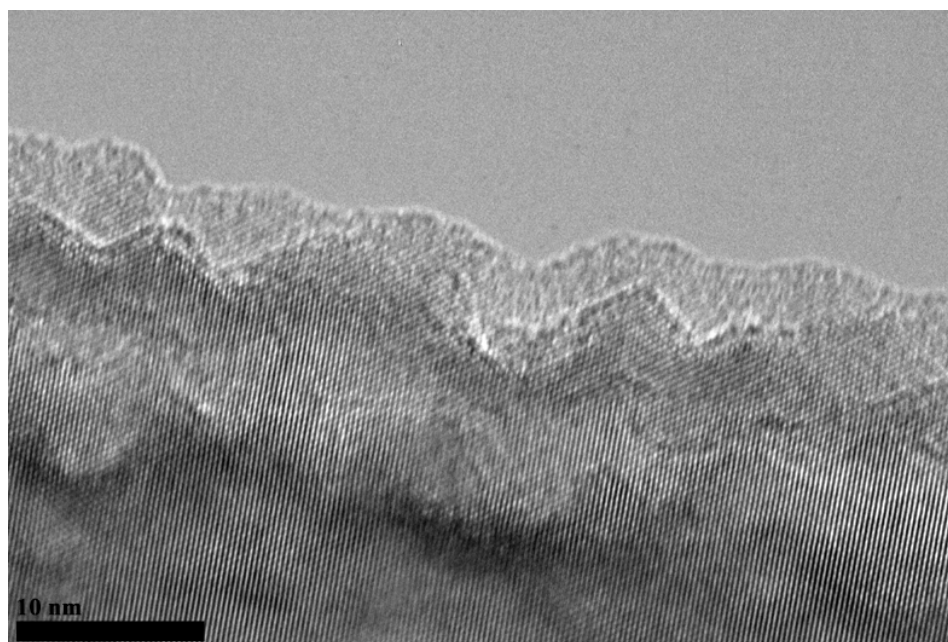


Figure S1. High-resolution TEM images of *p*-type Si NWs fabricated by the electroless etching method. The lengths of arbitrary straight lines along the length of a NW and the length of the surface profile curves were 52.3 nm and 69.1 nm, respectively. This result implies that Si NWs have a rough surface and can absorb more OH⁻ ions.

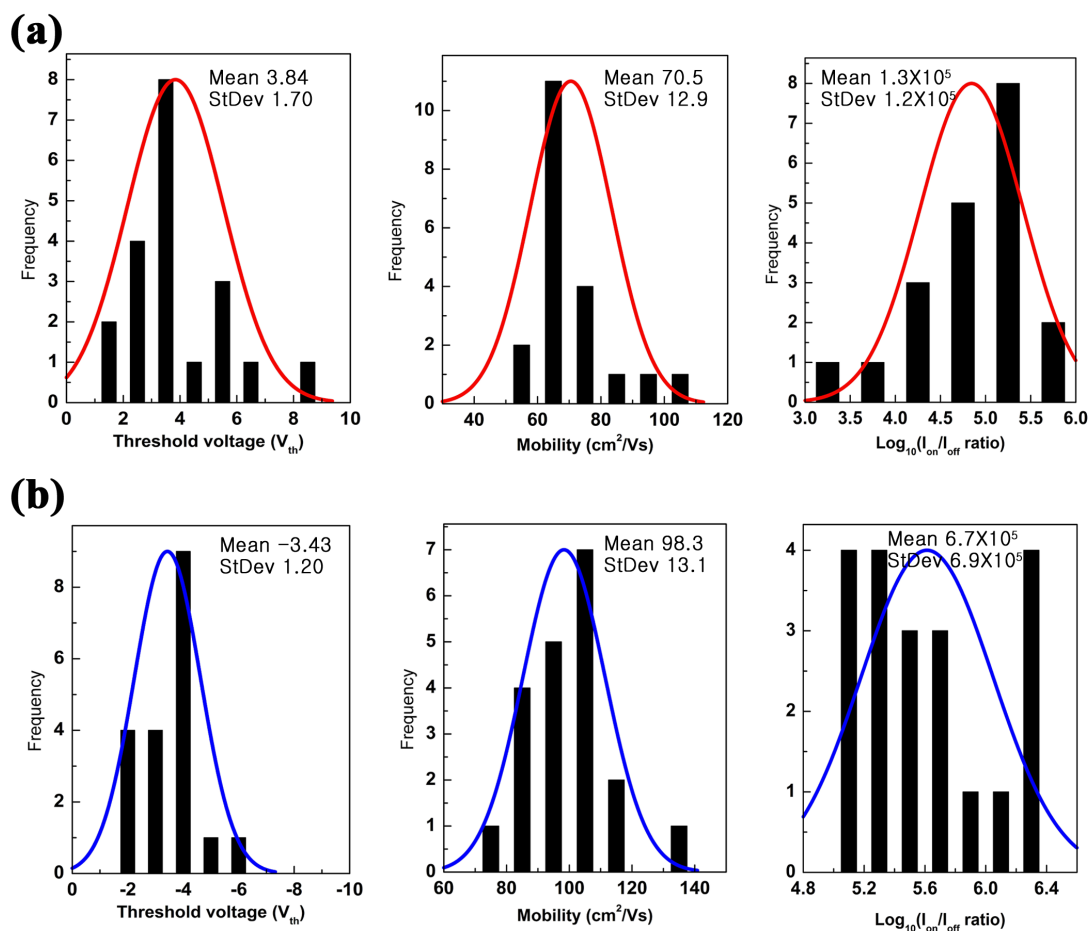


Figure S2. The statistical analysis of threshold voltages, field-effect mobilities, and I_{on}/I_{off} ratio of FETs fabricated from (a) the non-implanted Si NWs and (b) the implanted Si NWs on PVP layers.