

Supporting Information for

A Self-Powered Nanogenerator for the Electrical Protection of Integrated Circuits from Trace Amounts of Liquid

Zhuang Hui^{1,2,3}, Ming Xiao^{2,4}, Daozhi Shen⁵, Jiayun Feng^{2,6}, Peng Peng³, Yangai Liu^{1,*}, Walter W. Duley^{2,7}, Y. Norman Zhou^{2,4}

¹Beijing Key Laboratory of Materials Utilization of Nonmetallic Minerals and Solid Wastes, National Laboratory of Mineral Materials, School of Materials Science and Technology, China University of Geosciences, Beijing 100083, People's Republic of China

²Centre for Advanced Materials Joining, Department of Mechanics and Mechatronics Engineering, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada

³School of Mechanical Engineering and Automation, Beihang University, Beijing 100191, People's Republic of China

⁴Waterloo Institute of Nanotechnology, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada

⁵Institute for Quantum Computing, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada

⁶State Key Laboratory of Advanced Welding and Joining, Harbin Institute of Technology, Harbin 150001, People's Republic of China

⁷Department of Physics and Astronomy, University of Waterloo, Waterloo, Ontario N2L 3G1, Canada

*Corresponding author. E-mail: liuyang@cugb.edu.cn (Yangai Liu)

Supplementary Figures

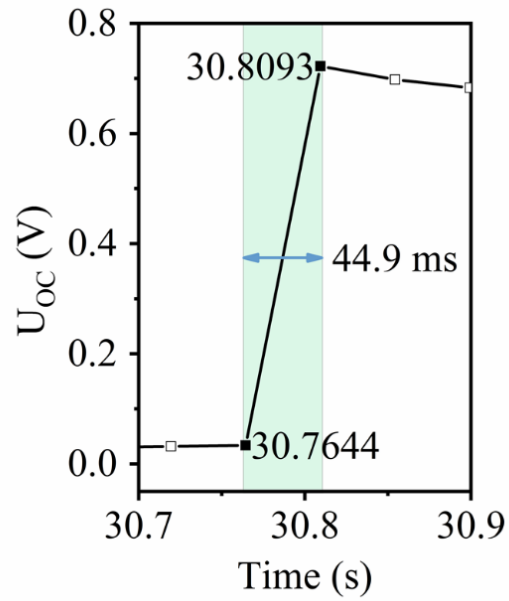


Fig. S1 The initial U_{OC} response in Fig. 3a at higher time resolution as measured with the multimeter. Note that the response time is limited by the intrinsic bandwidth of the multimeter

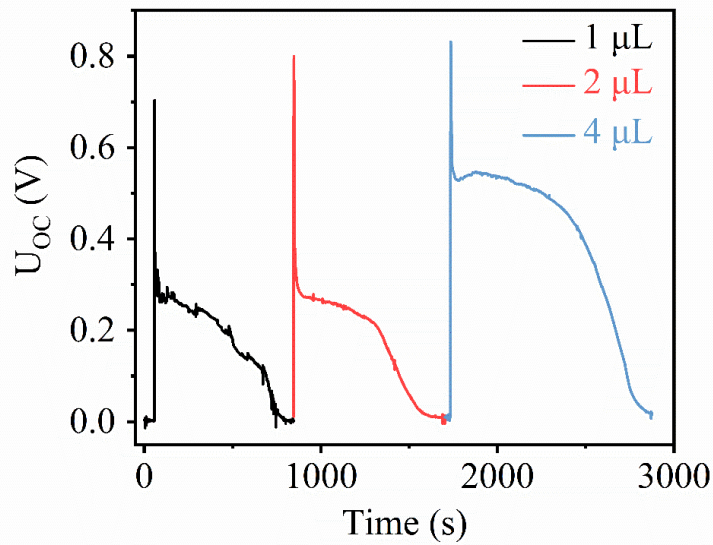


Fig. S2 The U_{OC} response of the C-T generator on dropping of 1, 2, and 4 μL of water

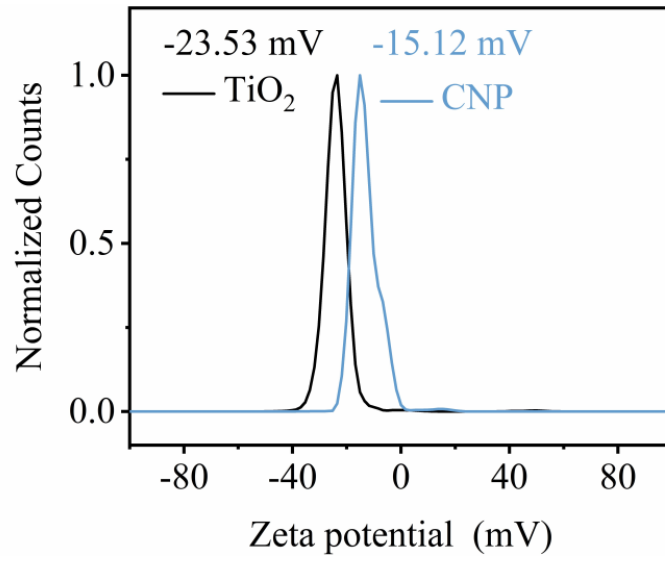


Fig. S3 Measured zeta potential for CNP and synthetic TiO₂ NWs dispersed in water with pH = 7

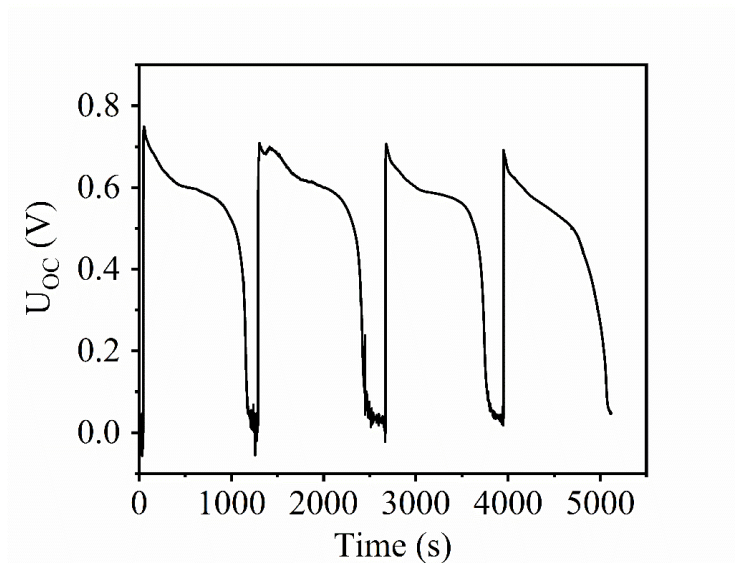


Fig. S4 U_{oc} response of the generator after a shelf life of six months