Supporting Information

Enhancing Photoresponsivity of Self-Aligned MoS₂ Field-Effect Transistor by Piezo-Phototronic Effect from GaN Nanowire

Xingqiang $Liu^{\dagger +}$, Xiaonian $Yang^{\dagger +}$, Guoyun $Gao^{\dagger +}$, Zhenyu $Yang^{\S}$, Haitao Liu^{\dagger} , Qiang Li^{\dagger} , Zheng Lou^{\dagger} , Guozhen Shen † , Lei Liao § , Caofeng $Pan^{\dagger , *}$, Zhong $Lin Wang^{\dagger , \perp}$

[†]Beijing Institute of Nanoenergy and Nanosystems, Chinese Academy of Sciences; National Center for Nanoscience and Technology (NCNST), Beijing, 100083, P. R. China.

[‡] State Key Laboratory for Superlattices and Microstructures, Institute of Semiconductor, Chinese Academy of Sciences, Beijing 100083, China.

§Department of Physics and Key Laboratory of Artificial Micro- and Nano-structures of Ministry of Education, Wuhan University, Wuhan 430072, PR China.

¹School of Materials Science and Engineering, Georgia Institute of Technology Atlanta, Georgia 30332-0245, USA

^{*}To whom correspondence should be addressed. E-mail: <u>cfpan@binn.cas.cn</u> (C. Pan)

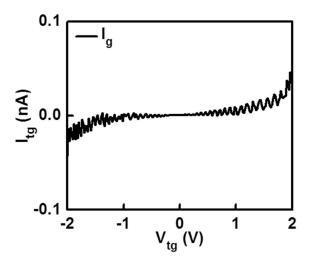


Figure S1. The gate leakage current of the self-aligned MoS₂ FET.

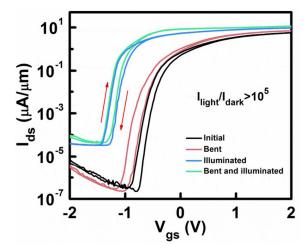


Figure S2. Comparison of the transfer characteristics of the same device under different test conditions with the arrows indicating hysteresis direction.