

Supplementary Information

A novel anodic stainless steel 304-L as an emerging electrode material for high energy density asymmetric supercapacitor: Experimental and DFT studies

Jawad Ahmad^{1†}, Muhammad Danish^{1†}, Ghafar Ali^{1,5*}, Maaz Khan¹, Shahzad Anwar², Gul Rahman³, Mashkoor Ahmad¹, Yi Xie⁴, Seunguk Cheon⁵, Sung Oh Cho⁵, Imran Shakir⁶

¹Nanomaterials Research Group, Physics Division, PINSTECH, Islamabad 45650, Pakistan.

²Physics Department, Islamia College University Peshawar, KPK, Pakistan.

³Physics Department, Quaid-i-Azam University, Islamabad 45320, Pakistan.

⁴State Key Laboratory of Silicate Materials for Architectures, Wuhan University of Technology, No. 122, Luoshi Road, Wuhan 430070, China.

⁵Department of Nuclear and Quantum Engineering, Korea Advanced Institute of Science and Technology (KAIST), 291 Daehak-ro, Yuseong-gu, Daejeon 34141, Republic of Korea.

*Corresponding authors: Ghafar Ali, e-mail: ghafarali@kaist.ac.kr

†Both authors have equal contributions.

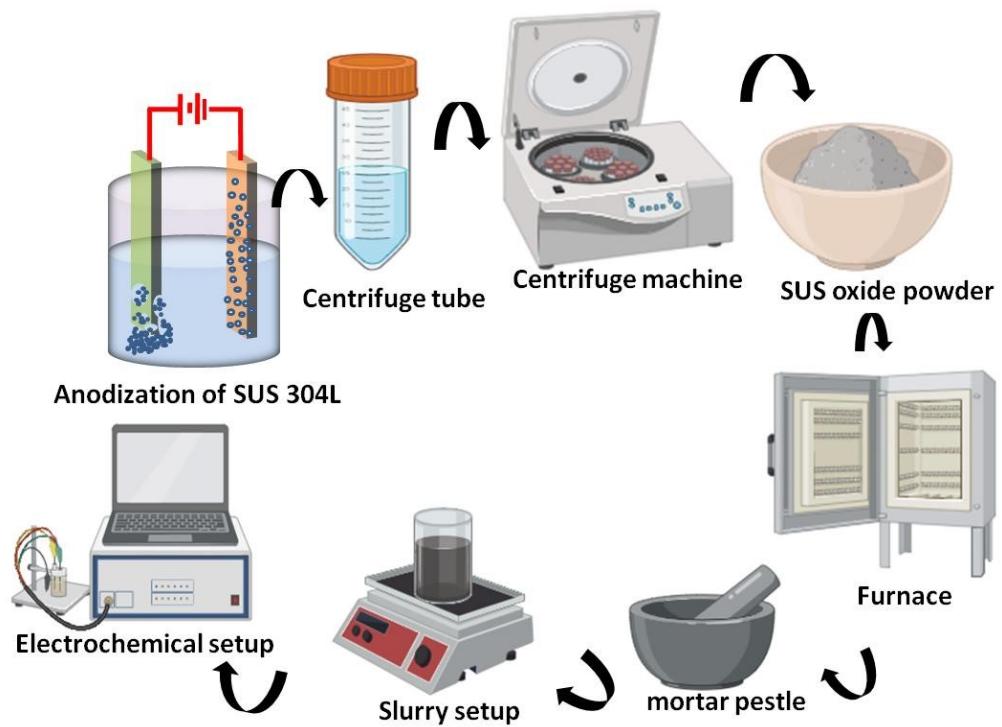


Fig. S1: Schematic illustration of SUS-304L oxide nanostructure synthesis via anodization and the electrochemical setup.

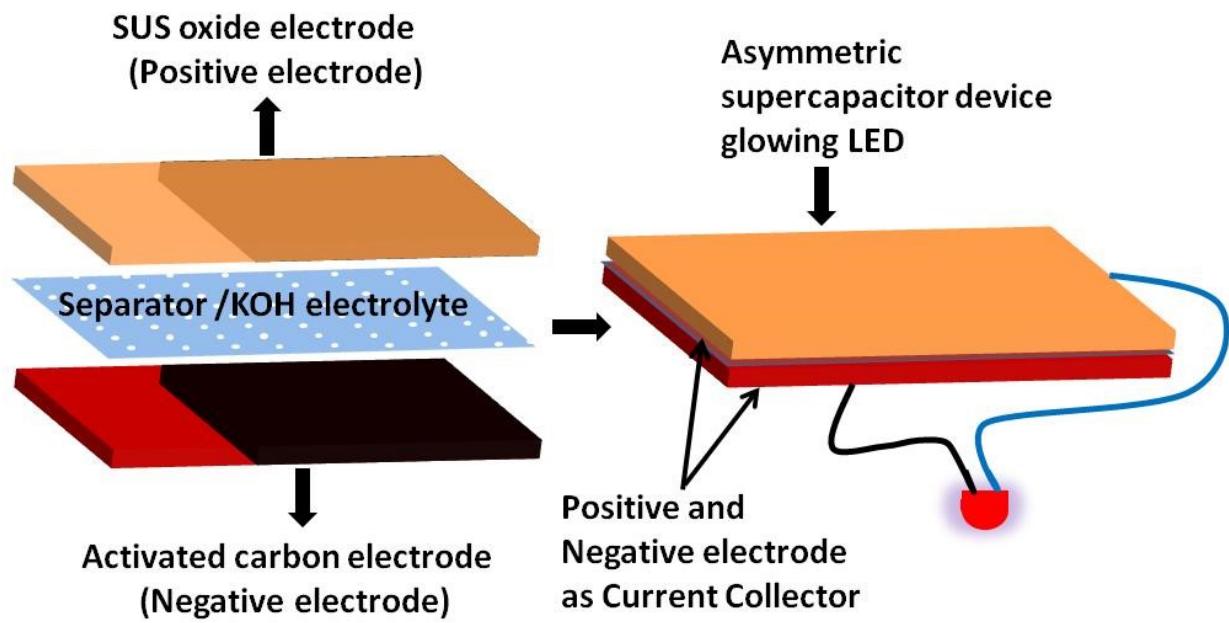


Fig. S2: Schematic diagram of the fabricated device.

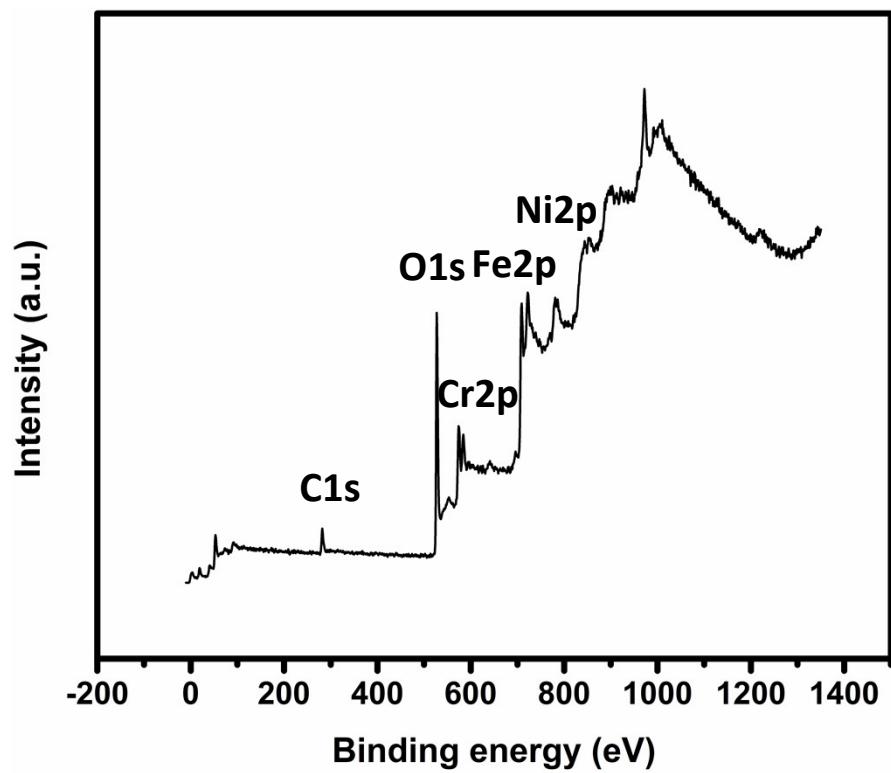


Fig. S3: XPS survey spectrum of SUS-304L oxide nanostructure.

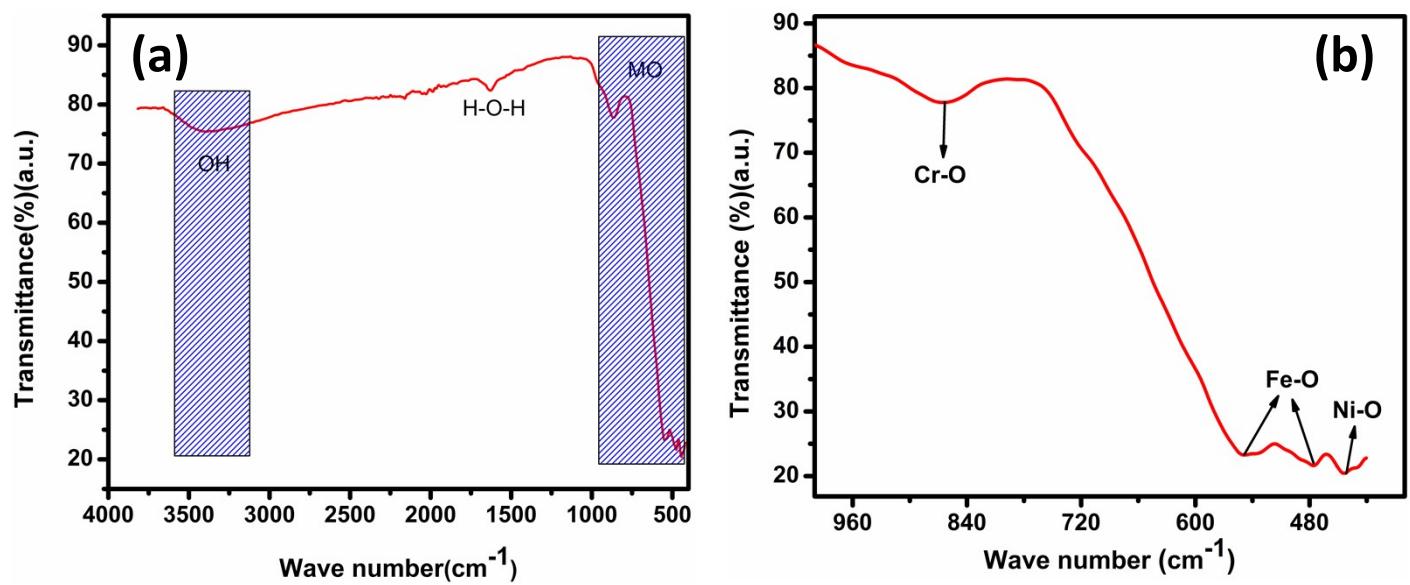


Fig. S4: FTIR spectrum of SUS-304L oxide nanostructure.