

## **Electronic Supplementary Information (ESI)**

### **NiO nanorod arrays anchored Ni foam as binder-free anode materials for high-rate lithium ion batteries†**

Wanfeng Yang,<sup>a</sup> Guanhua Cheng,<sup>a</sup> Chaoqun Dong,<sup>a</sup> Qingguo Bai,<sup>a</sup> Xiaoting Chen,<sup>a</sup>

Zhangquan Peng, <sup>\*b</sup> Zhonghua Zhang<sup>\*a</sup>

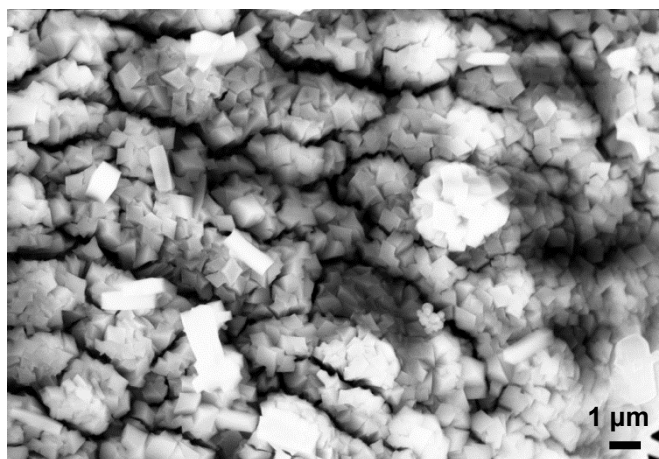
<sup>a</sup>Key Laboratory for Liquid-Solid Structural Evolution and Processing of Materials (Ministry of Education), School of Materials Science and Engineering, Shandong University, Jingshi Road 17923, Jinan, 250061, P.R. China

<sup>b</sup>State Key Laboratory of Electroanalytical Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun, Jilin 130022, China

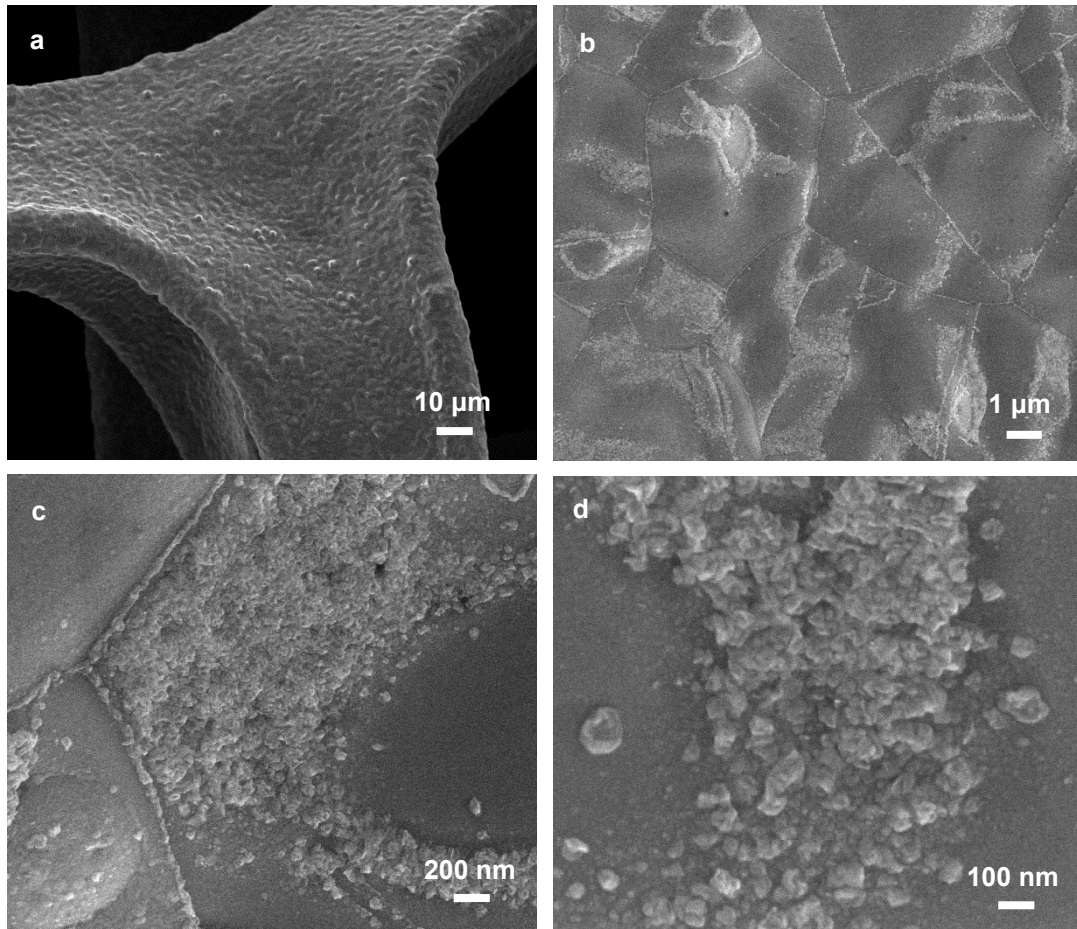
\*Corresponding author. Email: zh\_zhang@sdu.edu.cn (Z. Zhang), zqpeng@ciac.ac.cn (Z.Peng)

[Tel/Fax: +86-531-88396978.](tel:+86-531-88396978)

### **Supplementary Figures (Figure S1-S4)**



**Figure S1.** SEM image of the as-anodized nickel foam coated with nickel oxalate dihydrate blocks.



**Figure S2.** SEM images of the directly annealed Ni foam electrode.

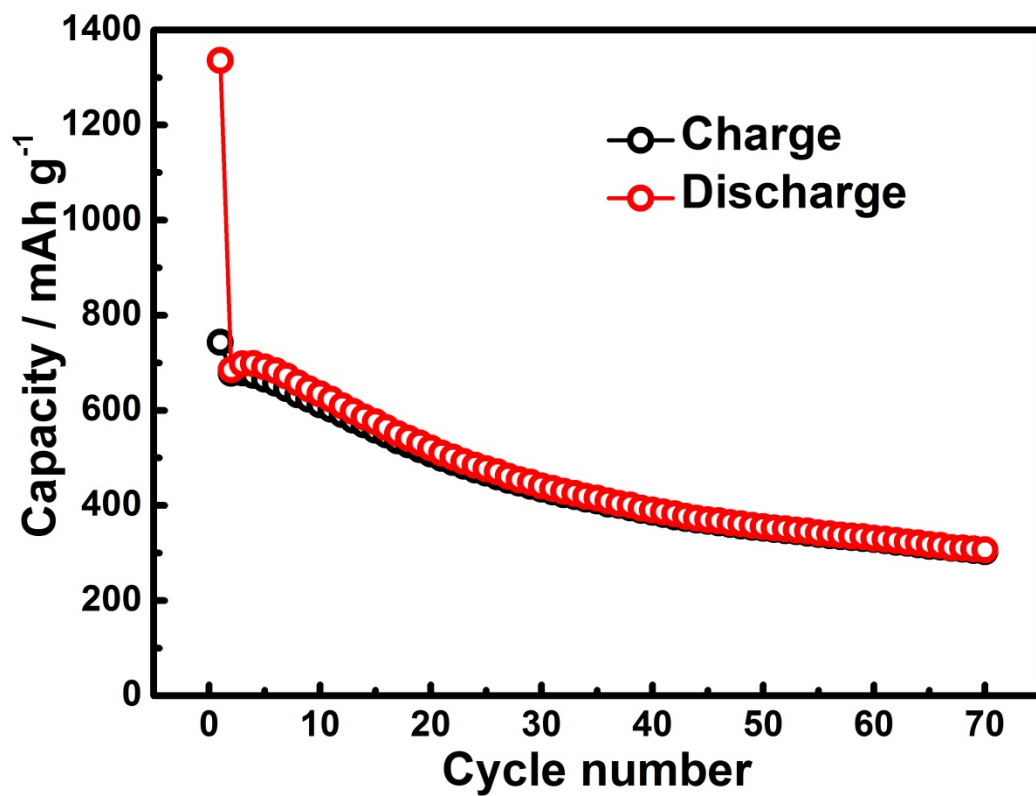
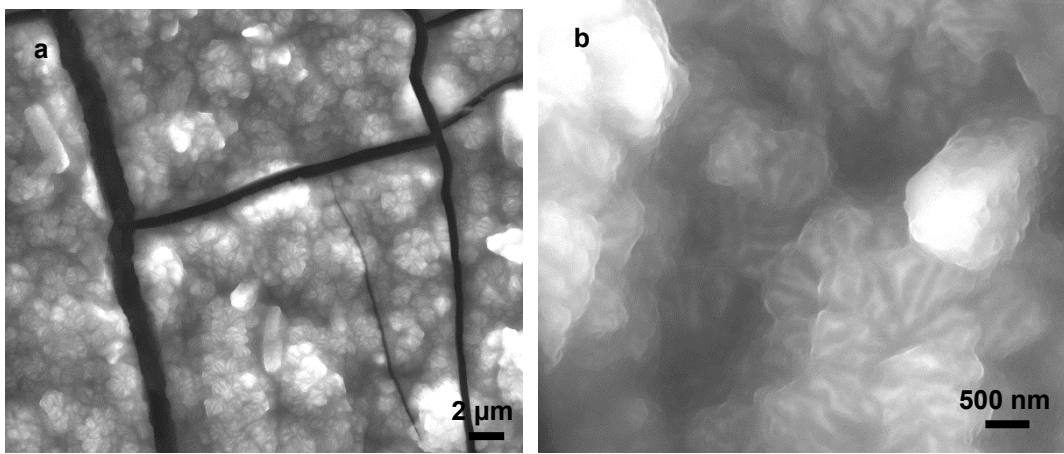


Figure S3. Cycling performance of the directly annealed Ni foam electrode at a current density of 2 A g<sup>-1</sup>.



**Figure S4.** SEM images of the NiO nanorod-anchored Ni foam electrode after 70 discharge-charge cycles at  $1 \text{ A g}^{-1}$ .