

## Supporting Information

### Wafer-scale porous GaN single crystal substrates and its application in energy storage

Jiaoxian Yu,<sup>a,†‡</sup> Lei Zhang,<sup>b,‡</sup> Jianxing Shen<sup>a</sup>, Zhiliang Xiu<sup>a</sup> and Suwen Liu<sup>a</sup>

a. Department of Materials Science and Engineering, Qilu University of Technology, Jinan 250353, P. R. China

b. State Key laboratory of Crystal Material, Shandong University, Jinan, 250100

<sup>†</sup>E-mail: yjx0327@qlu.edu.cn

<sup>‡</sup>These authors (Jiaoxian Yu and Lei Zhang) contributed equally to this work.

#### SEM characterization of porous GaN

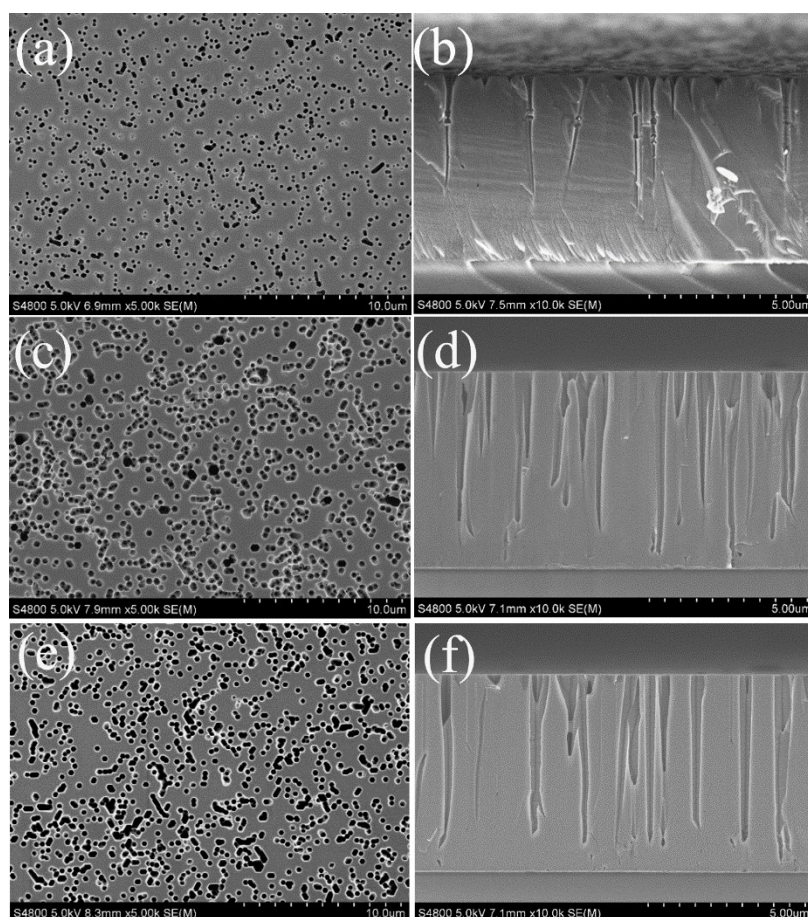


Figure S1. Surface and cross section SEM images of porous GaN samples annealed at 1150 °C for different times (a, b) 45min, (c, d) 75min, (e, f) 90 min.

## High-resolution X-ray diffraction (HRXRD) rocking curves of as grown GaN and porous GaN samples

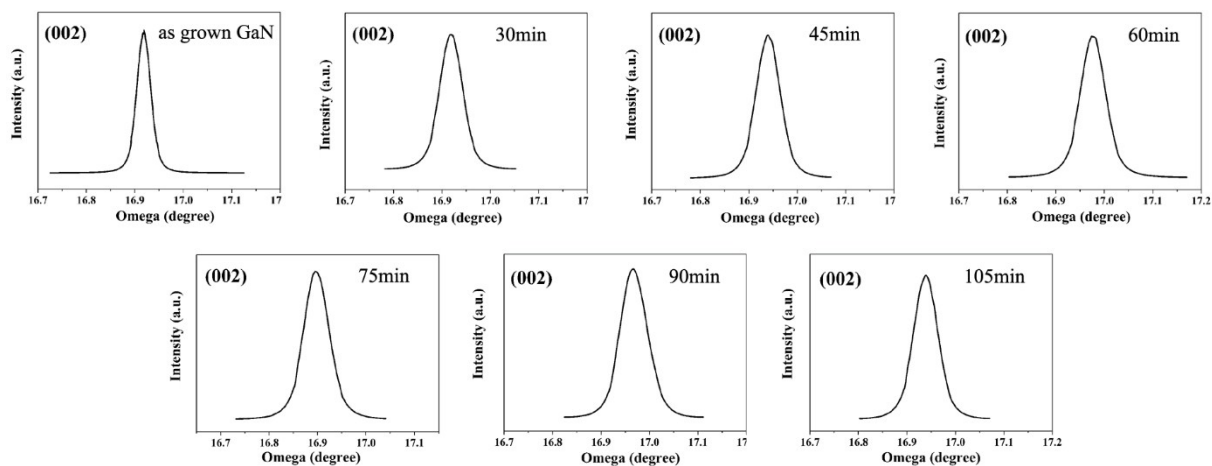


Figure S2. High-resolution X-ray diffraction (HRXRD) (002)  $\omega$ -scans rocking curves of as grown GaN and porous GaN samples annealed at 1150 °C for different times 30min, 45min, 60min, 75min, 90min, 105min.

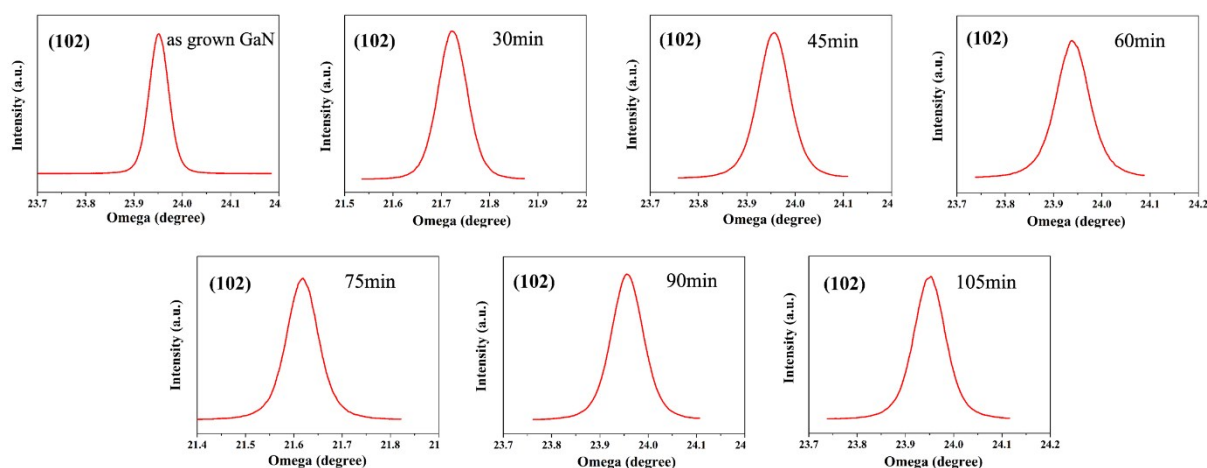


Figure S3. High-resolution X-ray diffraction (HRXRD) (102)  $\omega$ -scans rocking curves of as grown GaN and porous GaN samples annealed at 1150 °C for different times 30min, 45min, 60min, 75min, 90min, 105min.