

Supporting Information

Atomically Thin Mesoporous NiCo₂O₄ Grown on Holey Graphene for Enhanced Pseudocapacitive Energy Storage

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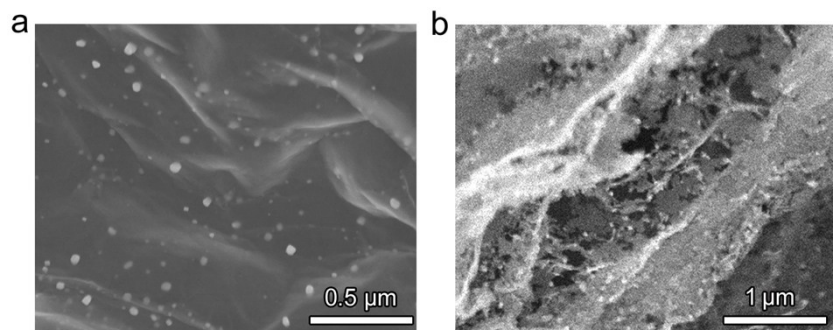


Figure S1. SEM images of HG prepared under different calcination conditions. a) 800 °C for 1 h. b) 900 °C for 2 h.

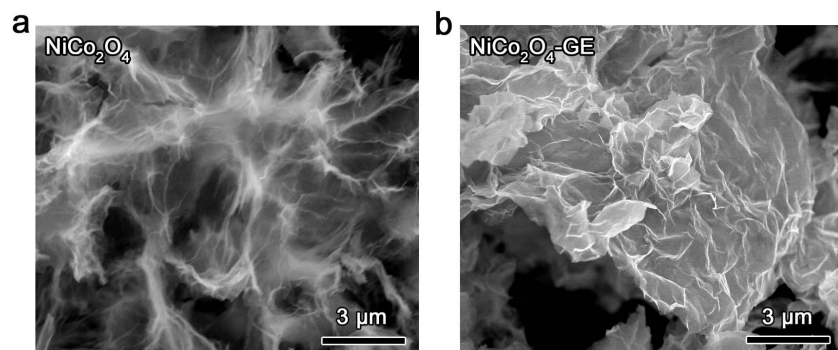


Figure S2. SEM images of atomically thin nanosheets. a) NiCo_2O_4 . b) $\text{NiCo}_2\text{O}_4\text{-GE}$.

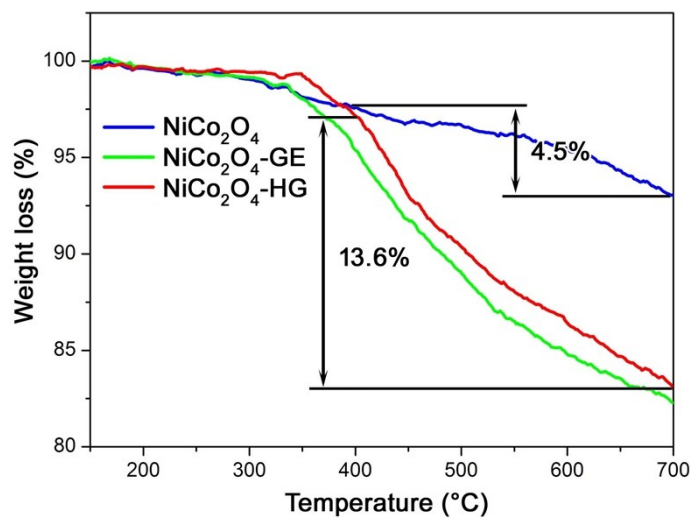


Figure S3. TGA of NiCo_2O_4 , $\text{NiCo}_2\text{O}_4\text{-GE}$ and $\text{NiCo}_2\text{O}_4\text{-HG}$. The initial 1.2% weight loss before 300 °C is attributed to the evaporation of moisture and the decomposition of crystal water in the precursor. The 4.5% weight loss in NiCo_2O_4 results from the carbonization of P123. As a result, the weight percentages of graphene in $\text{NiCo}_2\text{O}_4\text{-GE}$ and $\text{NiCo}_2\text{O}_4\text{-HG}$ are calculated as $13.6\% - 4.5\% = 9.1\%$.

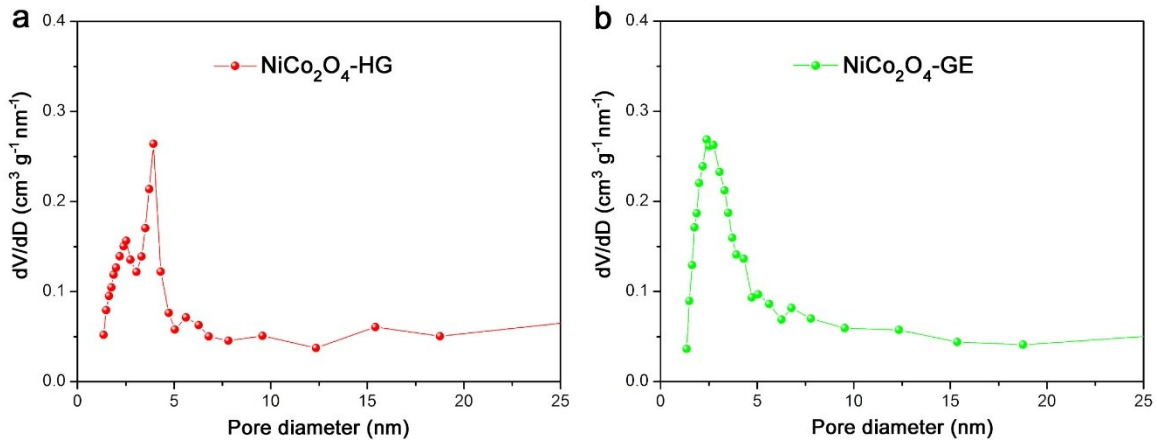


Figure S4. Pore size distributions of $\text{NiCo}_2\text{O}_4\text{-HG}$ and $\text{NiCo}_2\text{O}_4\text{-GE}$.

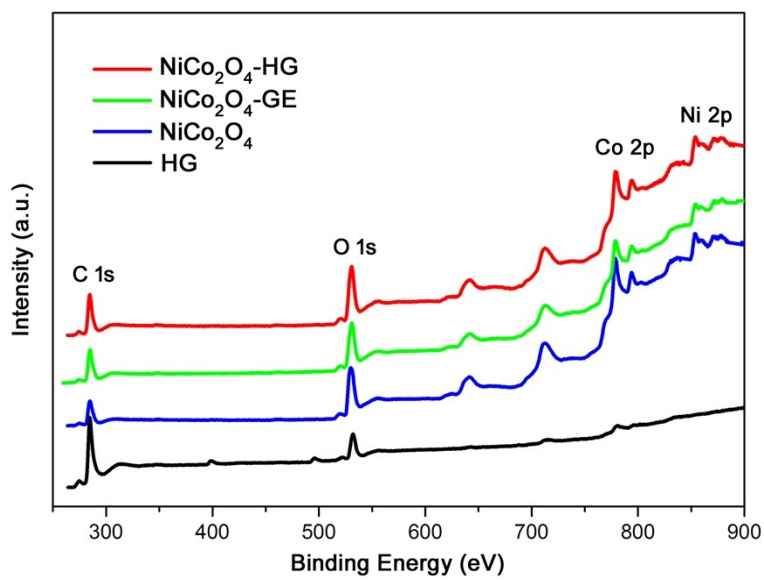


Figure S5. XPS survey spectra of HG, NiCo₂O₄, NiCo₂O₄-GE and NiCo₂O₄-HG.

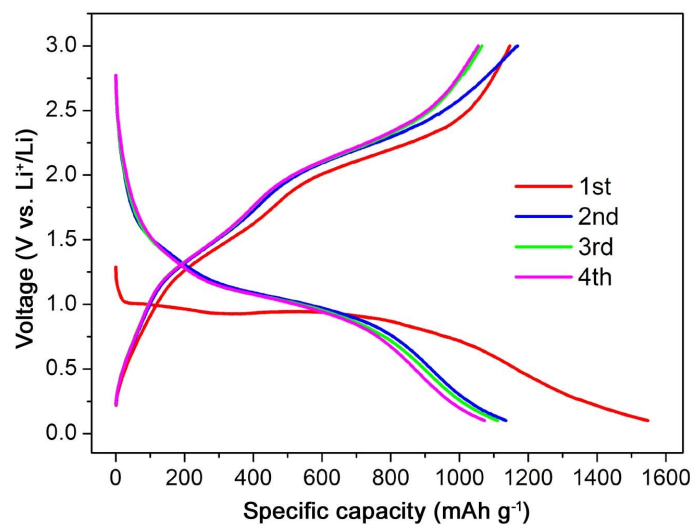


Figure S6. Discharge-charge voltage profiles of NiCo₂O₄-HG at 0.2 C.

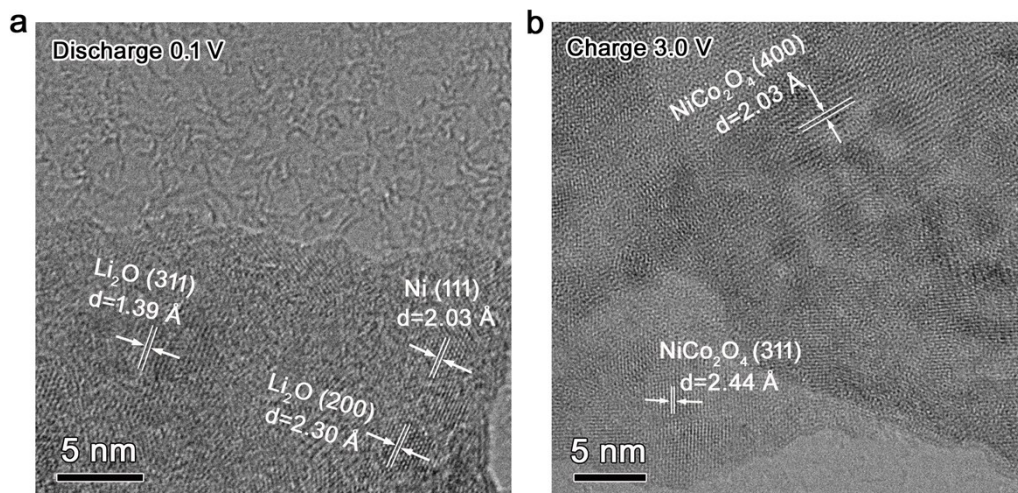


Figure S7. HR-STEM images of NiCo_2O_4 -HG electrodes. a) Fully discharged state at 0.1 V. b) Fully charged state at 3.0 V.

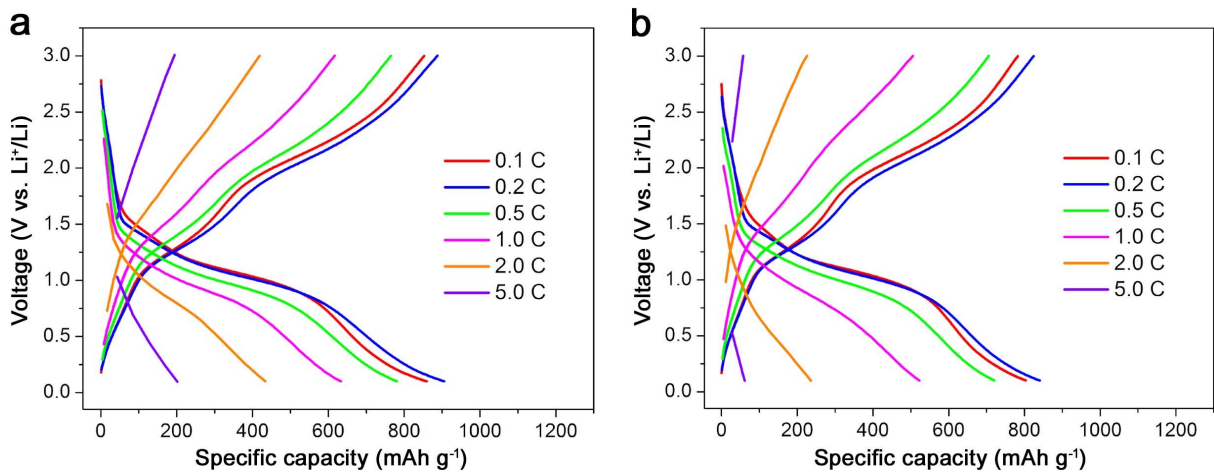


Figure S8. Discharge–charge voltage profiles of NiCo₂O₄-HG at different C-rates. a) NiCo₂O₄-HG. b) NiCo₂O₄-GE.

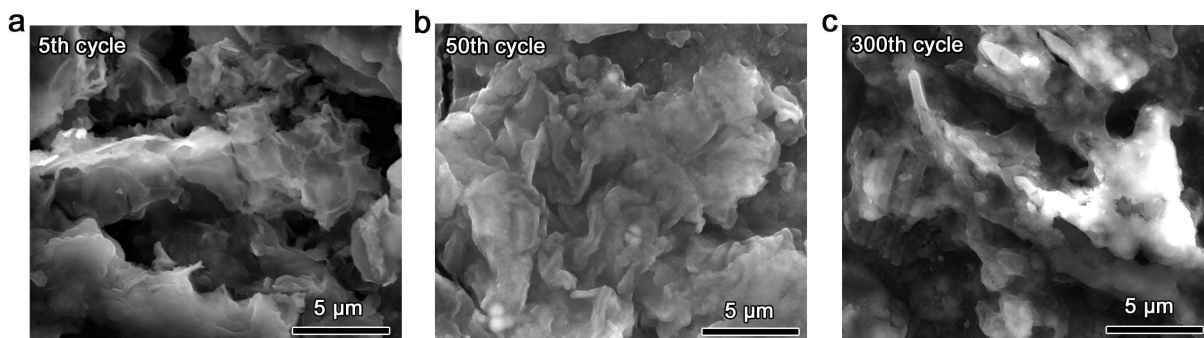


Figure S9. SEM images of NiCo₂O₄-HG during Li⁺ storage. a) after 5 cycles. b) after 50 cycles. c) after 300 cycles.