

Supporting Information

Controllable synthesis of nitrogen-doped graphene oxide by tablet-sintering for efficient lithium/sodium-ion storage

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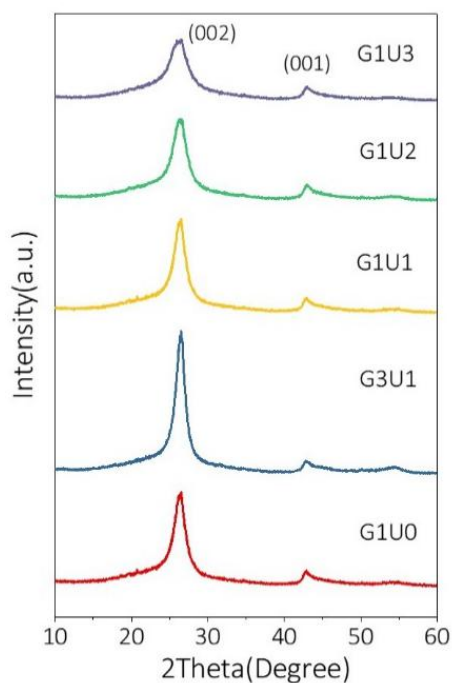


Fig. S1 X-ray diffraction (XRD) patterns of as-obtained samples.

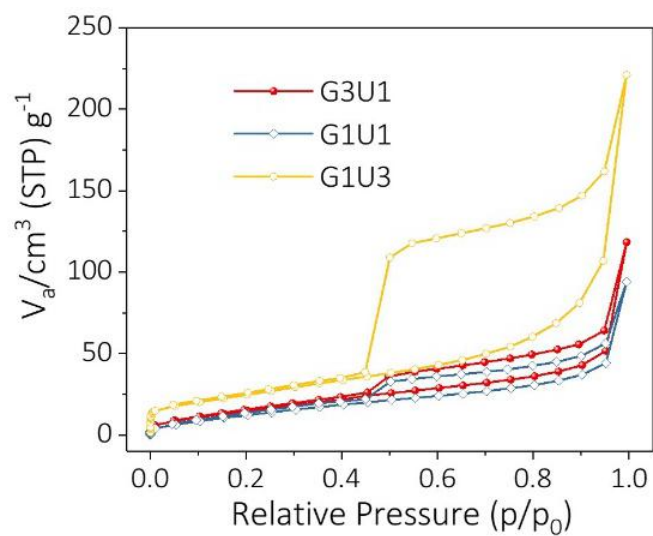


Fig. S2 N₂ adsorption/desorption isotherms of different samples.

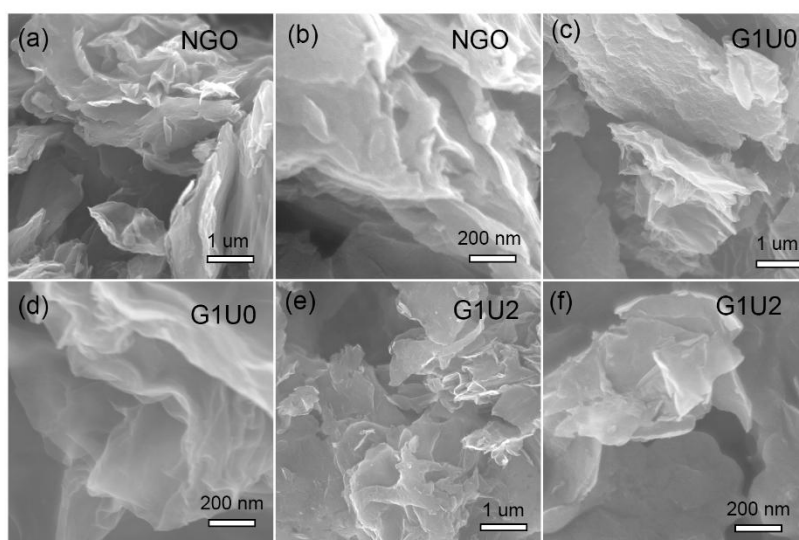


Fig. S3 Scanning electron microscope (SEM) images of (a, b) NGO; (c, d) G1U0 and (e, f) G1U2.

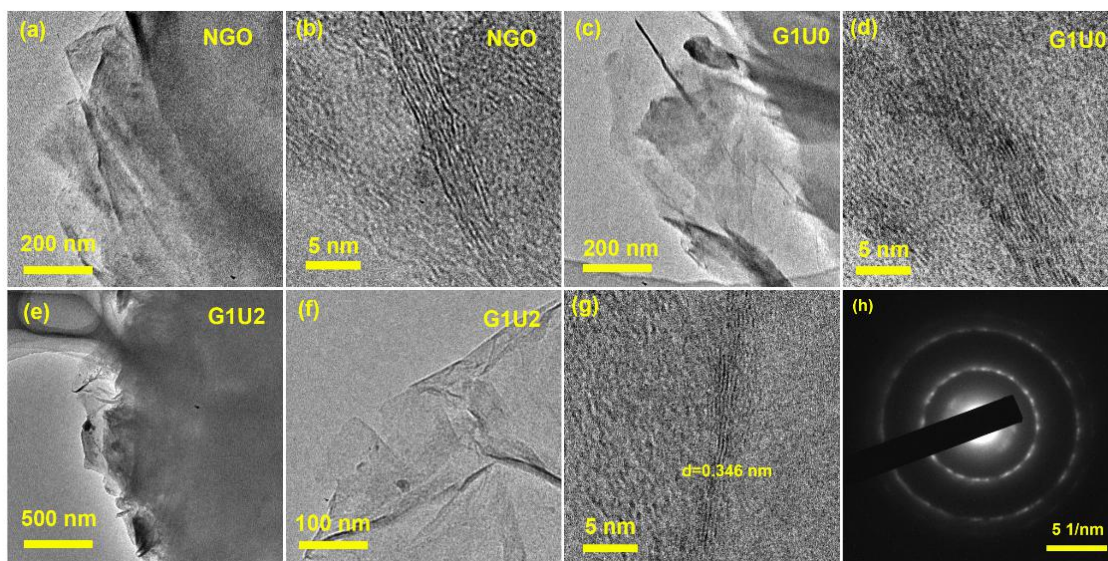


Fig. S4 Transmission electron microscope (TEM) images of as-obtained samples: (a, b) NGO, (c, d) G1U0, (e, f) G1U2, (g) High-resolution TEM and selected area electron diffraction (SAED) (h) images of G1U2.

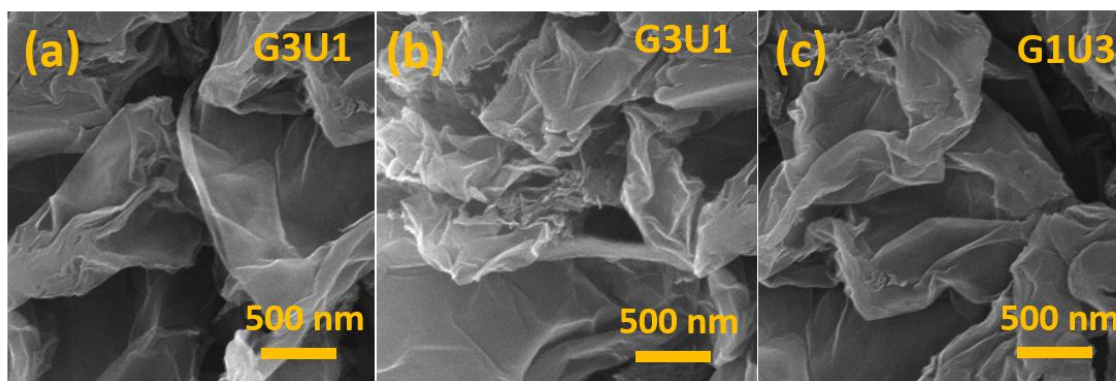


Fig. S5 SEM images of (a) G3U1, (b) G1U1 and (c) G1U3 samples.

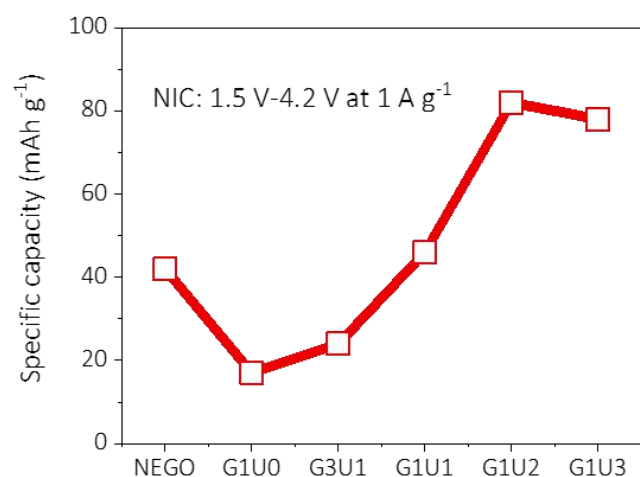


Fig. S6 Specific capacities of different samples working in NICs at 1 A g⁻¹ from 1.5 V to 4.2

V.

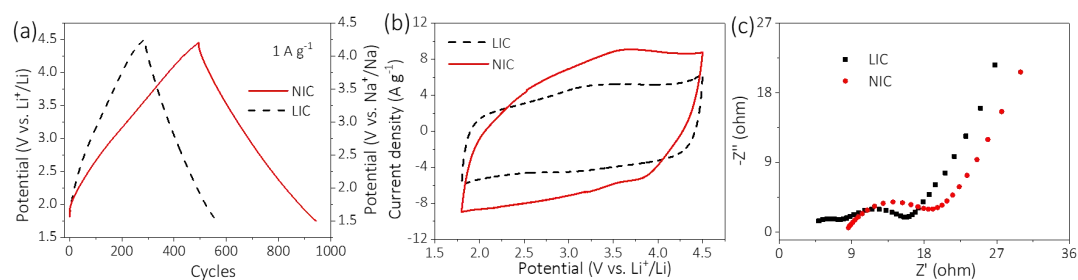


Fig. S7 (a) Comparison of GCD curves for LIC and NIC at 1 A g⁻¹; (b) CV curves LIC and NIC under 50 mV/s from 1.8 V to 4.5 V (vs. Li⁺/Li); (c) EIS curves of LIC and NIC.

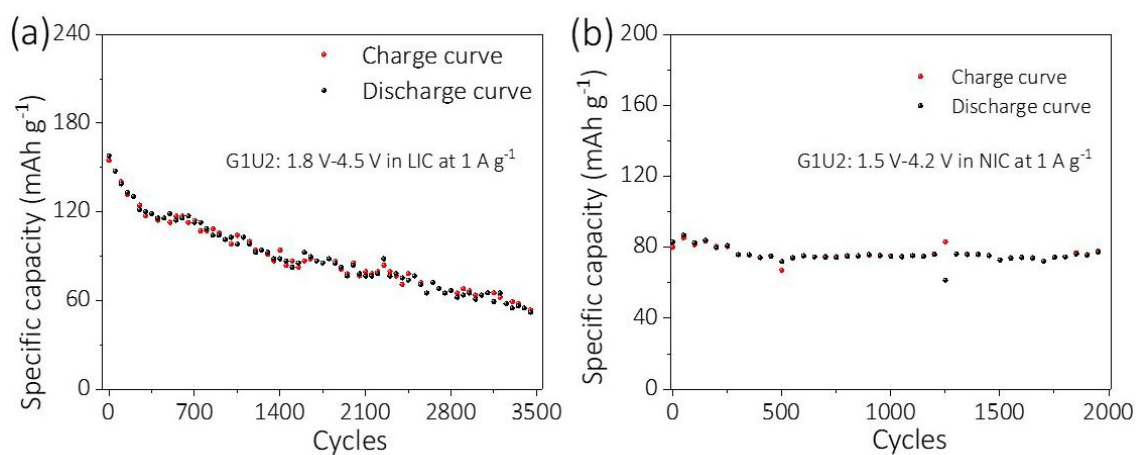


Fig. S8 Cycling performance of GIU2 at 1 A g⁻¹ in (a) LIC from 1.8 V to 4.5 V and (b) NIC from

1.5 to 4.2 V.

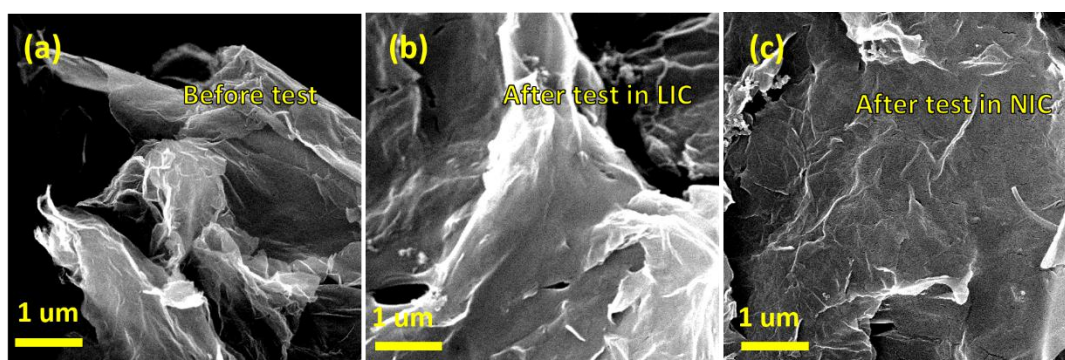


Fig. S9 SEM images of G1U2 electrodes: (a) before the electrochemical test; (b) G1U2 electrode after working as the cathodes of (b) LIC and (c) NIC for 2000 cycles under 1 A g^{-1} .

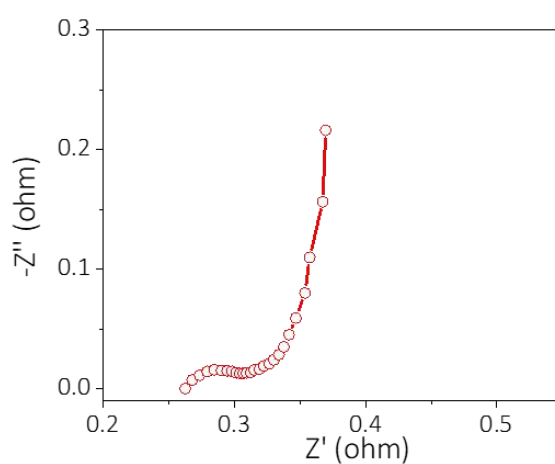


Fig. S10 EIS data of G1U2 in aqueous electrolyte (6 M KOH).

Table S1 Summary of structural parameters of as-prepared samples by XRD analysis.

	G1U0	G3U1	G1U1	G1U2	G1U3
Peak position (002)	26.02	26.28	26.16	26.06	25.81
FWHM of (002)	1.98	1.59	2.04	2.31	2.50
$d_{(002)}$ (nm)	0.343	0.340	0.341	0.343	0.346

Note: FWHM means the full width at half-maximum of the (002) peak.

Table S2 Summary of the specific surface areas (SSA), pore volumes and average pore sizes of as-obtained samples.

	NGO	G1U0	G3U1	G1U1	G1U2	G1U3
SSA (m ² g ⁻¹)	208	163	174	213	284	439
Pore Volume (cm ³ g ⁻¹)	0.264	0.088	0.164	0.342	0.494	0.615
Average pore size (nm)	6.51	16.9	8.15	7.63	6.17	6.36