

## *Supplementary Information*

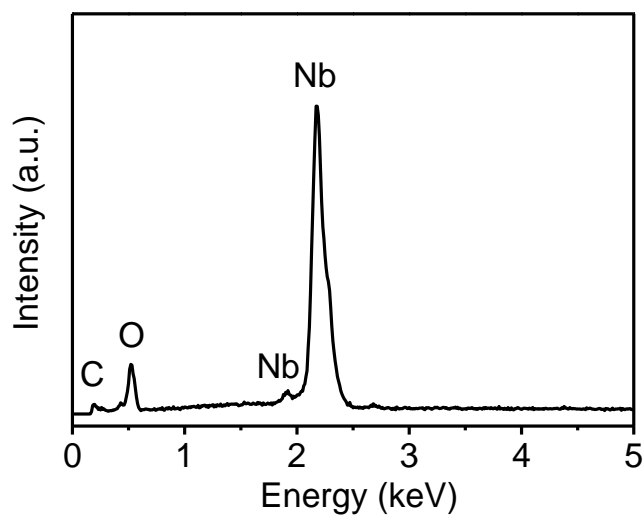
### **Electrospun porous LiNb<sub>3</sub>O<sub>8</sub> nanofibers with enhanced lithium-storage properties**

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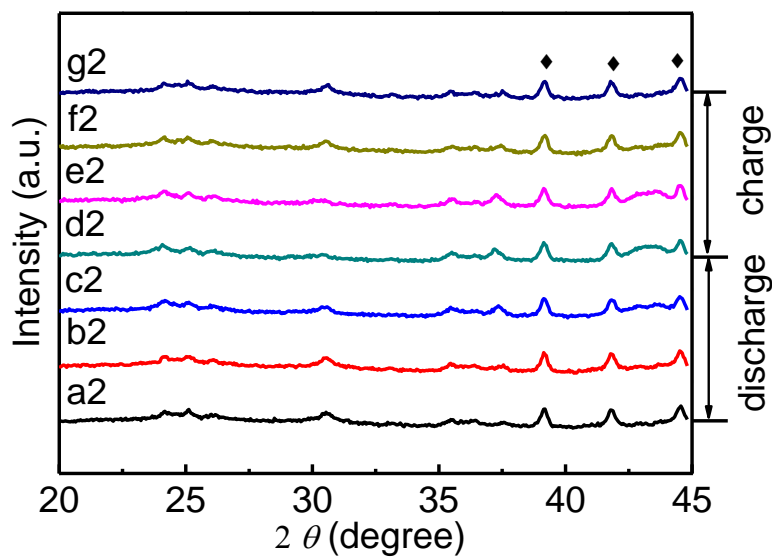
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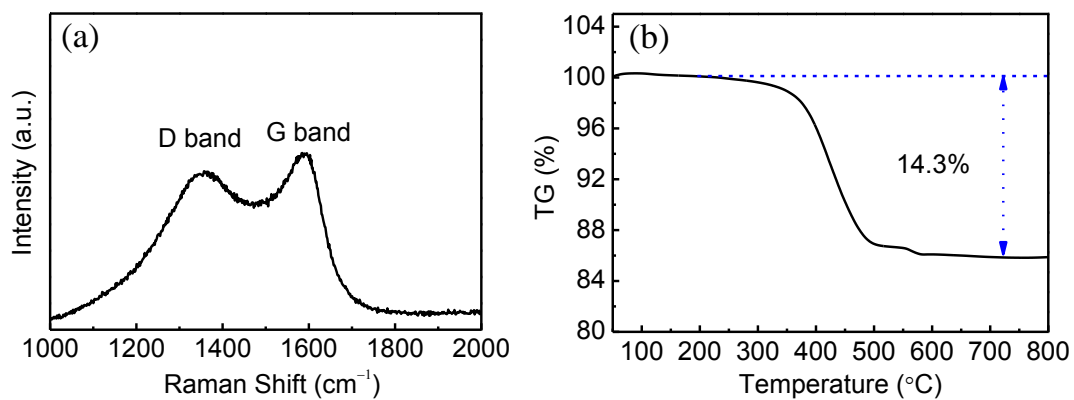
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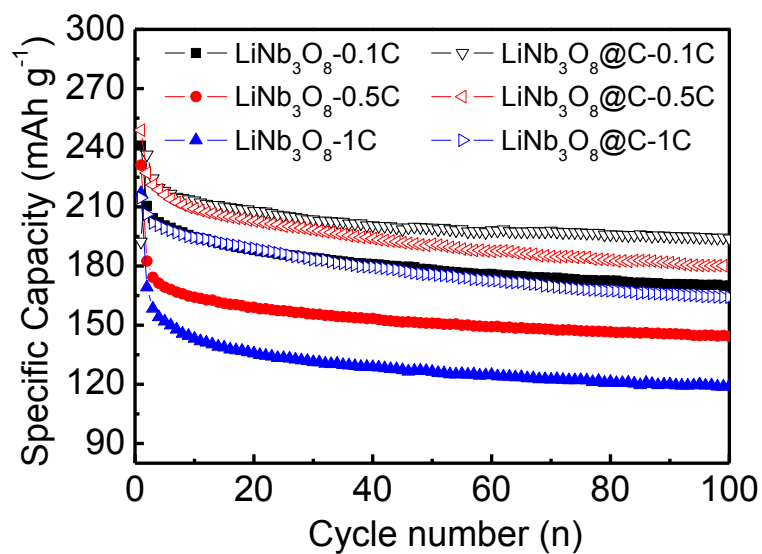
**Fig. S1** A typical EDX spectrum of  $\text{LiNb}_3\text{O}_8$ , suggesting the existence of Nb, O, and C, where the signal of C is generated from the conducting tape for the sample holder.



**Fig. S2** The in-situ XRD patterns in the range of 20–45° of  $\text{LiNb}_3\text{O}_8$  anode during the second cycle at  $30 \text{ mA g}^{-1}$  at specified points shown in Figure 8a.



**Fig. S3** (a) Raman spectrum and (b) TG result of the LiNb<sub>3</sub>O<sub>8</sub>@C nanofibers measured at a heating rate of 10 °C min<sup>-1</sup> in a flowing air.



**Fig. S4** Comparison of the cycling stability at various C-rates for the carbon-free and coated LiNb<sub>3</sub>O<sub>8</sub> samples.