Supplementary Material

Highly Ordered Mesoporous NiCo2O4 as a High Performance Anode Material for Li-ion Batteries

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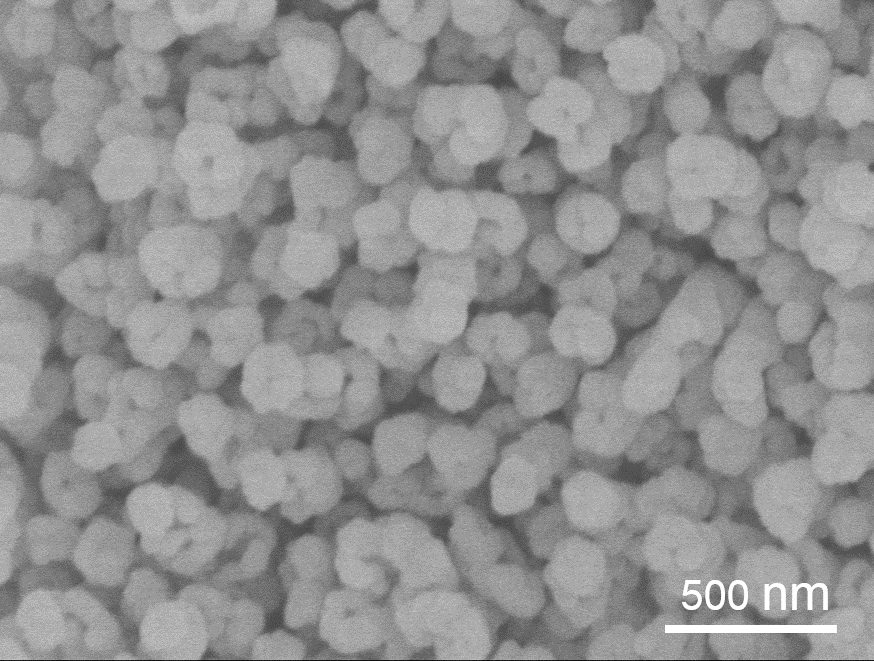
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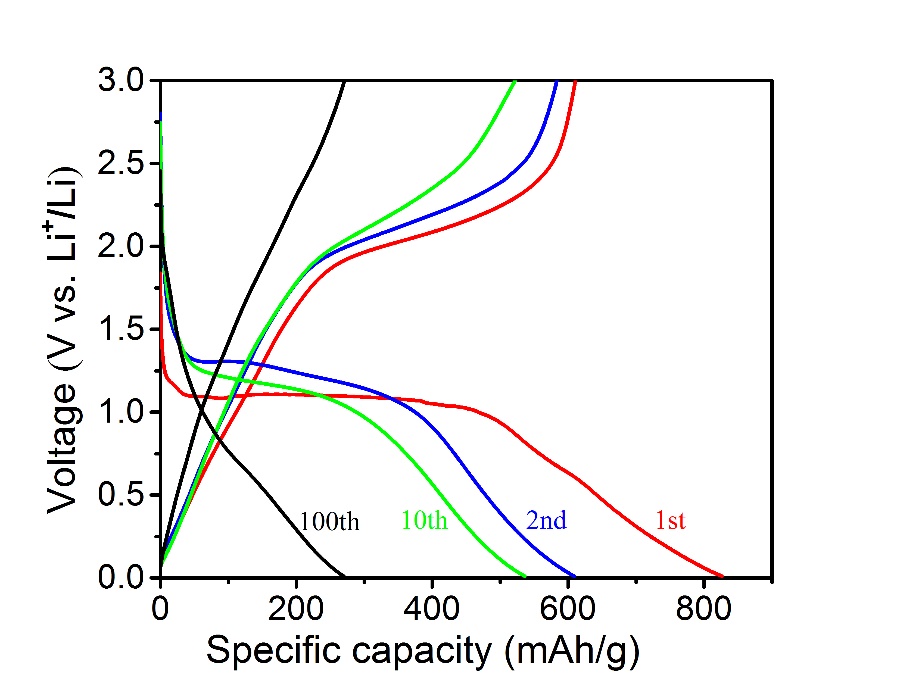
**1. Electrochemical Measurements**

The electrochemical performances of mesoporous NiCo2O4 microspheres were carried out using coin cells (CR2032), in which lithium was used as the counter electrode and reference electrode. The working electrode was constituted by the (70 Wt %) mesoporous NiCo2O4 microspheres, (20 Wt %) acetylene carbon black and (10 Wt %) polyvinylidene fluoride (PVDF). After stirring, the mixed materials were pasted uniformly on to the copper foil substrate. Finally, this electrode was moved to a vacuum oven at 60 °C overnight. The microporous polythene (Celgard2400) was used as a separator, and the electrolyte employed was 1 M LiPF6 in ethylene carbonate and diethyl carbonate. The test cells were assembled in an argon-filled glovebox (UniLab, MBRAUN, Germany). The galvanostatic charge-discharge cycling was carried out using NEWARE-BTS battery tester with a potential window of 0.01-3.0V at room temperature. All the cells were measured on an Autolab (PGSTAT302N) electrochemistry workstation.

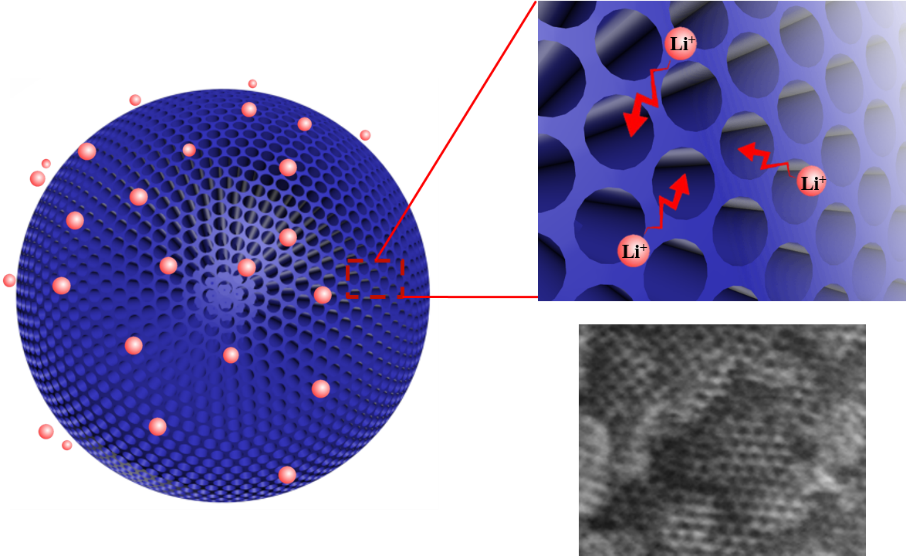
# 2. Supplementary Data

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**Figure S1**. low-resolution SEM image of ordinary NiCo2O4.

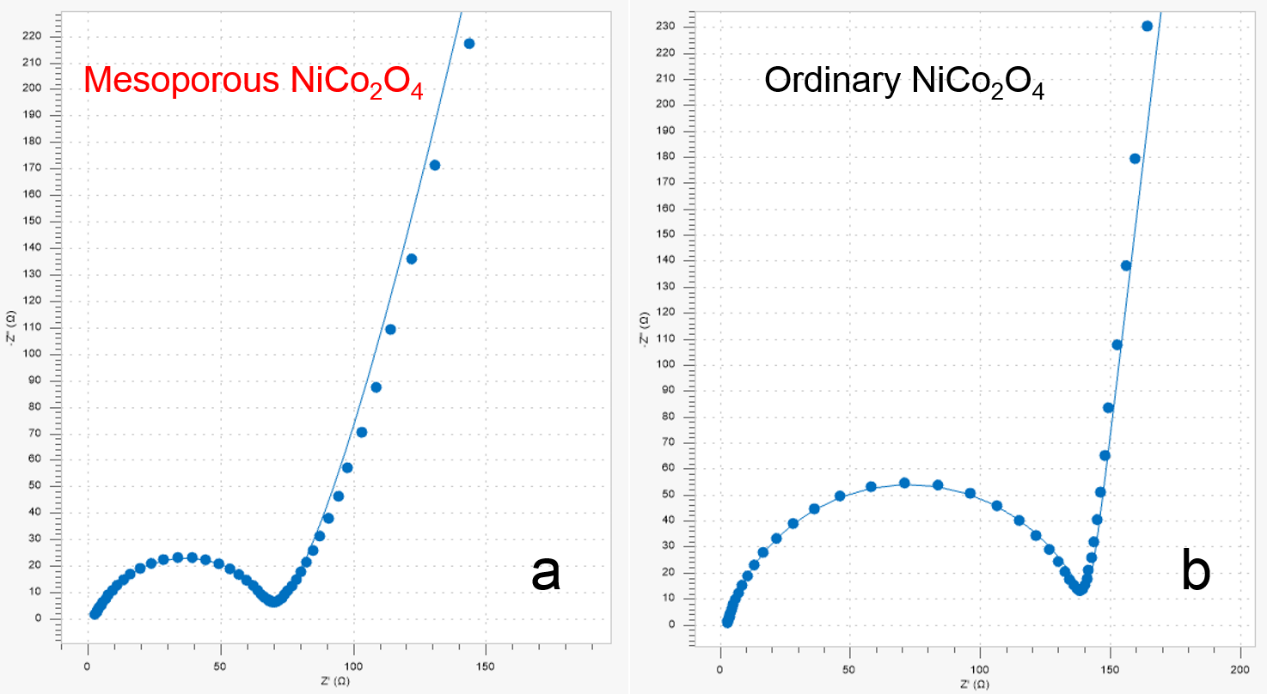


**Figure S2**. Galvanostatic discharge and charge profiles for 1st, 2nd, 10th, 100th cycles of ordinary NiCo2O4 at the current densities of 100 mA.g-1.



**Figure S3**. Schematic illustration of the 3D mesoporous network of ion transport

pathways and TEM image of its pore. The scale bar is 10nm.



**Figure S4**. EIS spectra of (a) mesoporous NiCo2O4, (b) ordinary NiCo2O4 electrodes that contain the fitting curves.

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| **Table S1**: Electrochemical impedance spectroscopy (EIS): initial resistance (Rs) and charge transfer resistance (Rct). |
| Materials Rs (Ω) Rct (Ω) |
| Ordinary NiCo2O4 2.5 134  Mesoporous NiCo2O4 1.8 1 66 |
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