



Article

# Carbon Nanotube–Carbon Nanocoil Hybrid Film Decorated by Amorphous Silicon as Anodes for Lithium-Ion Batteries

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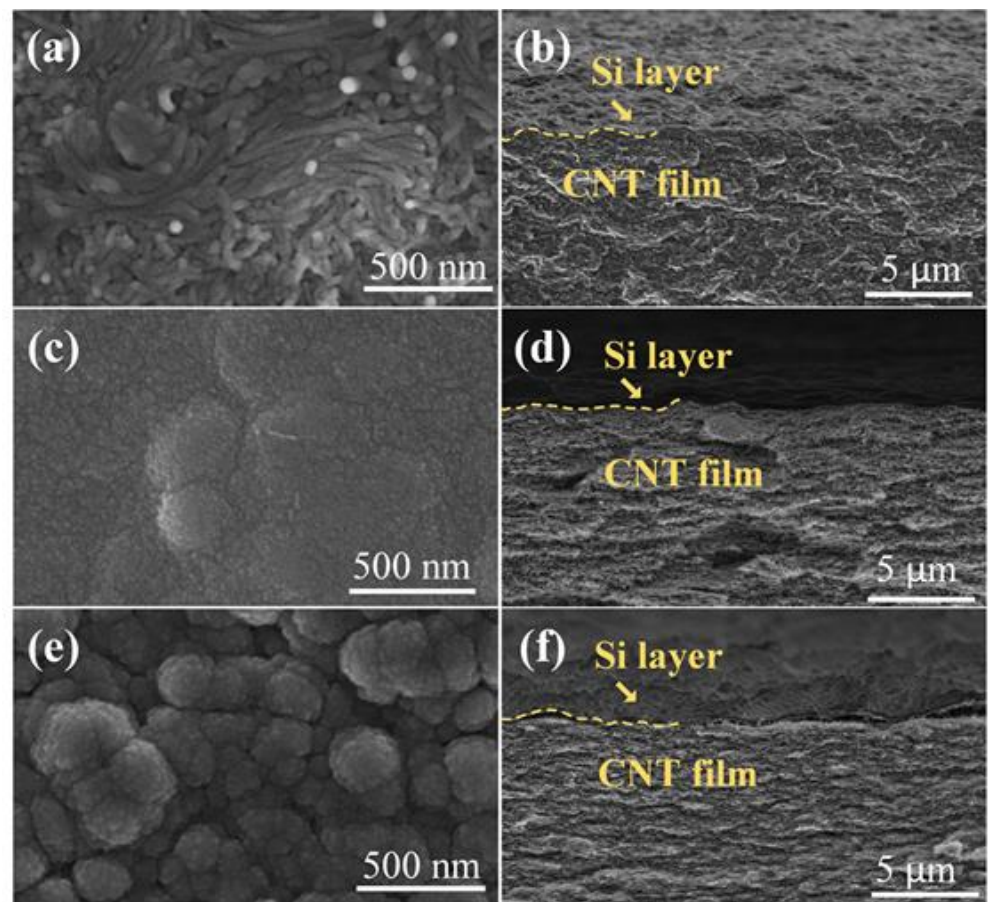
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1. Figure. S1 The surface and cross-section morphology of Si sputtered on CNT film at different powers (50 W, 75 W, 150 W). (a and b) Si/CNT film-50 W electrode. (c and d) Si/CNT film-75 W electrode. (e and f) Si/CNT film-150 W electrode.

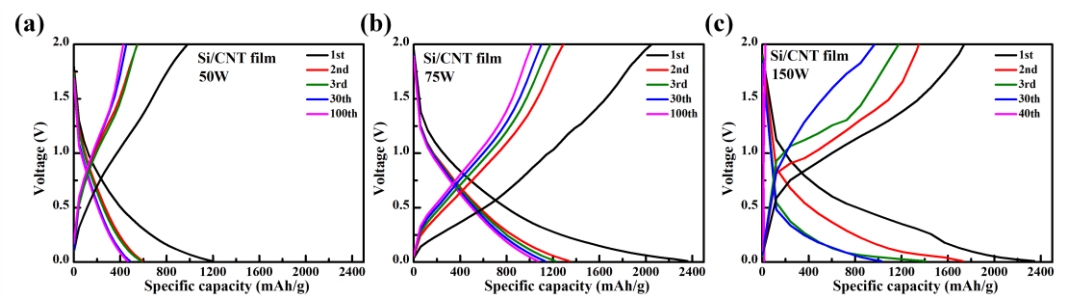
2. Figure. S2 Charge and discharge curves silicon sputtered on CNT film at different powers (50 W, 75 W, 150 W) at a specific current of 50 mA/g in the voltage window of 0.01~2.00V (vs. Li/Li+). (a) Si/CNT film-50 W electrode; (b) Si/CNT film-75 W electrode; (c) Si/CNT film-150 W electrode.

3. Figure. S3 Raman spectra of Si/CNT-CNC film, Si/CNT film, Si/Cu, CNT film and CNT-CNC film electrode.

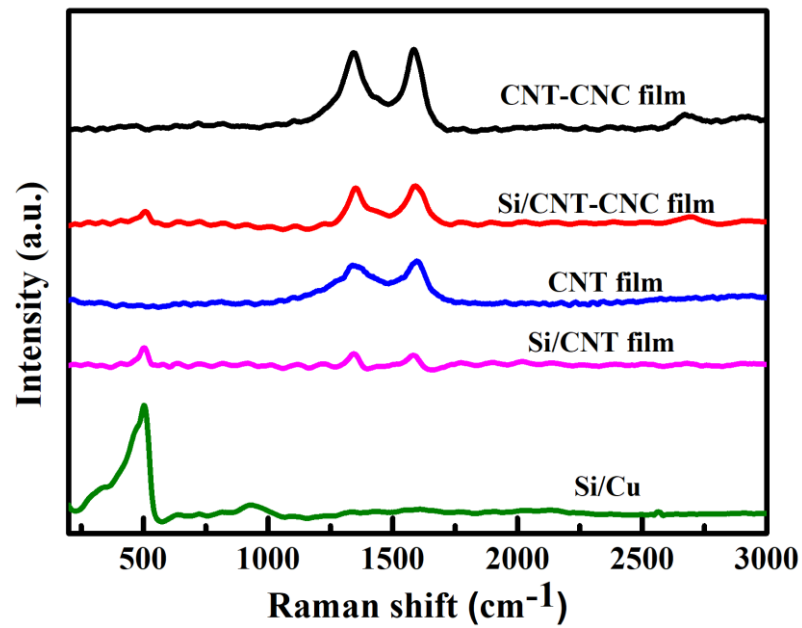
4. Figure. S4 Galvanostatic charge/discharge profiles and cyclic voltammograms of CNT film, CNT-CNC film, Si/CNT film, Si/CNT-CNC film electrode. (a-d) CNT film and CNT-CNC film. (e-h) Si/CNT film and Si/CNT-CNC film.



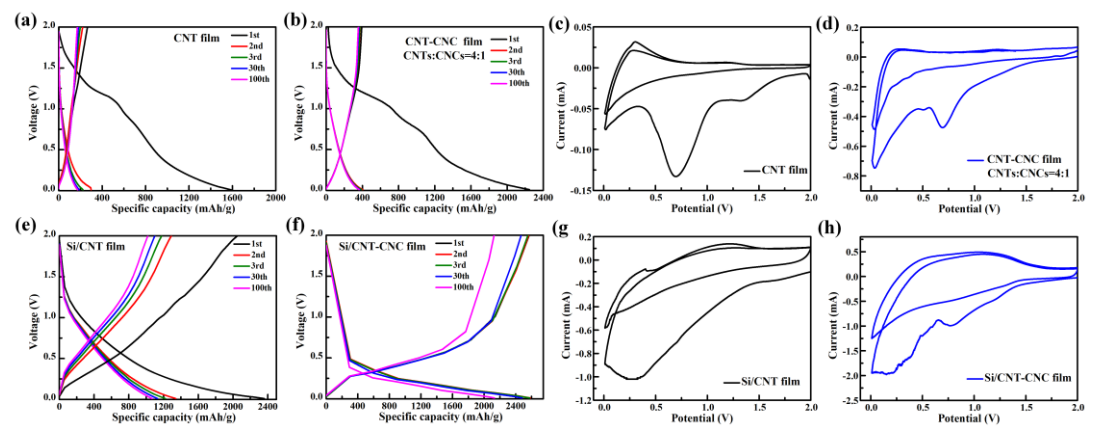
**Figure S1.** The surface and cross-section morphology of silicon sputtered on CNT film at different powers (50 W, 75 W, 150 W). (a and b) Si/CNT film-50 W electrode. (c and d) Si/CNT film-75 W electrode. (e and f) Si/CNT film-150 W electrode.



**Figure S2.** Charge and discharge curves silicon sputtered on CNT film at different powers (50 W, 75 W, 150 W) at a specific current of 50 mA/g in the voltage window of 0.01~2.00V (vs. Li/Li<sup>+</sup>). (a) Si/CNT film-50 W electrode; (b) Si/CNT film-75 W electrode; (c) Si/CNT film-150 W electrode.



**Figure S3.** Raman spectra of Si/CNT-CNC film, Si/CNT film, Si/Cu, CNT film and CNT-CNC film electrode.



**Figure S4.** Galvanostatic charge/discharge profiles and cyclic voltammograms of CNT film, CNT-CNC film, Si/CNT film, Si/CNT-CNC film electrode. (a-d) CNT film and CNT-CNC film. (e-h) Si/CNT film and Si/CNT-CNC film.