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Supporting Information

For

Detection of Electrolyte Leakage from Lithium-Ion Batteries Using Miniaturized Sensor Based on Functionalized Double-Walled Carbon Nanotubes

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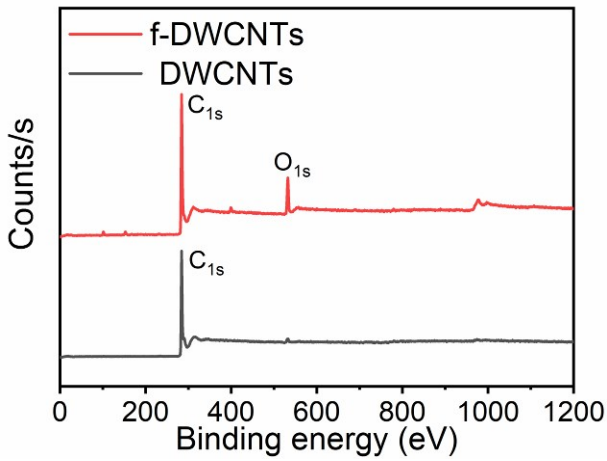

Figure S1. XPS spectra of f-DWCNTs and DWCNTs.

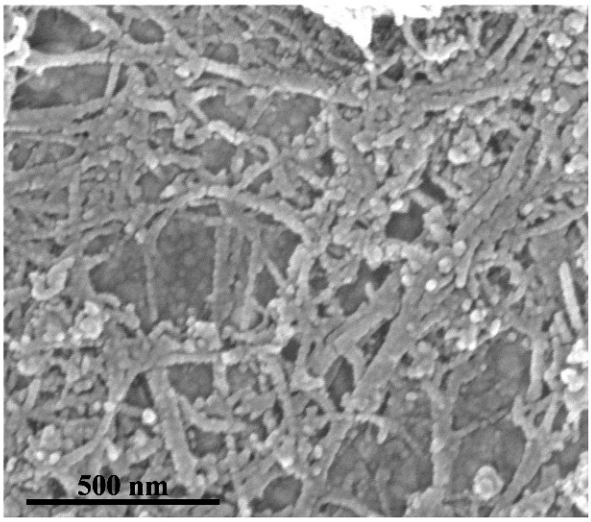

Figure S2. The SEM image of f-DWCNTs film.

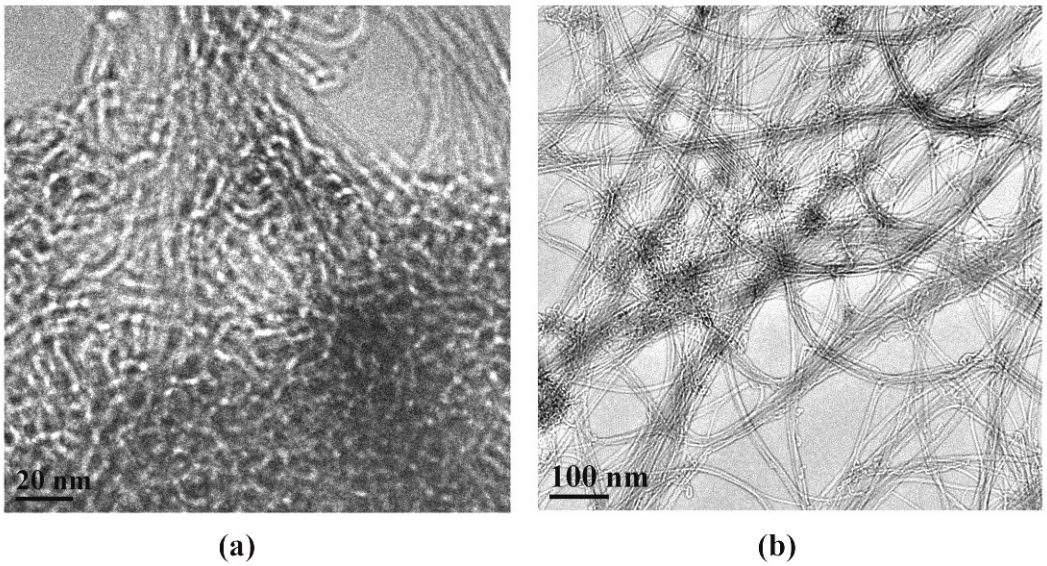

Figure S3. TEM images of (a) f-DWCNTs and (b) DWCNTs.

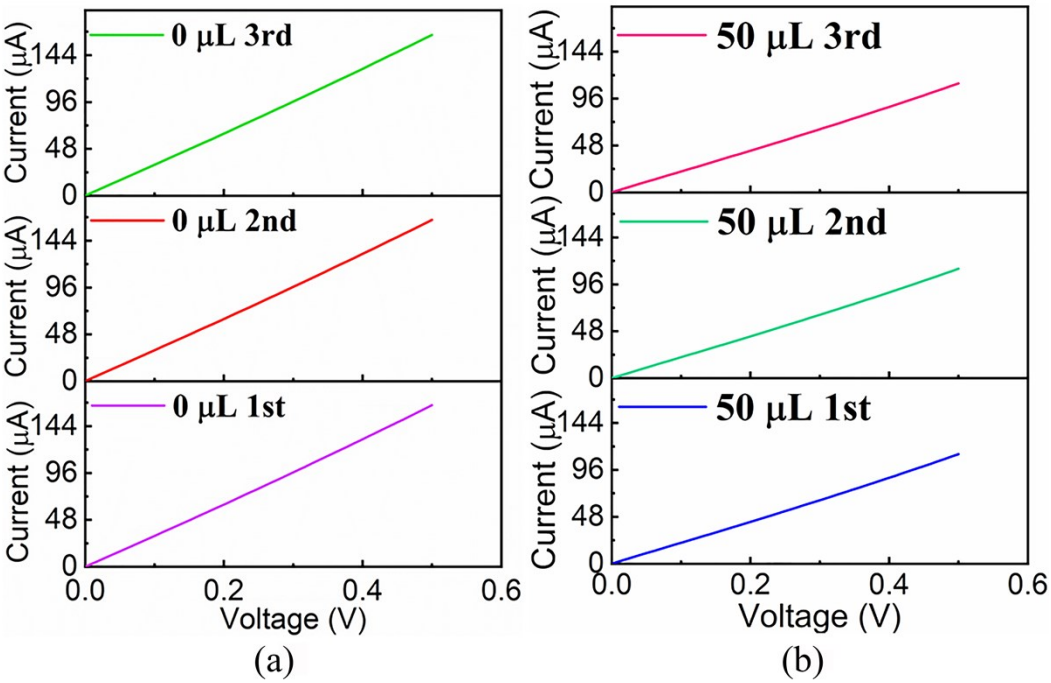

Figure S4. I-V curves of the sensor based on f-DWCNTs detecting (a) 0 μL and (b) 50 μL DMC for 3 times continuously.

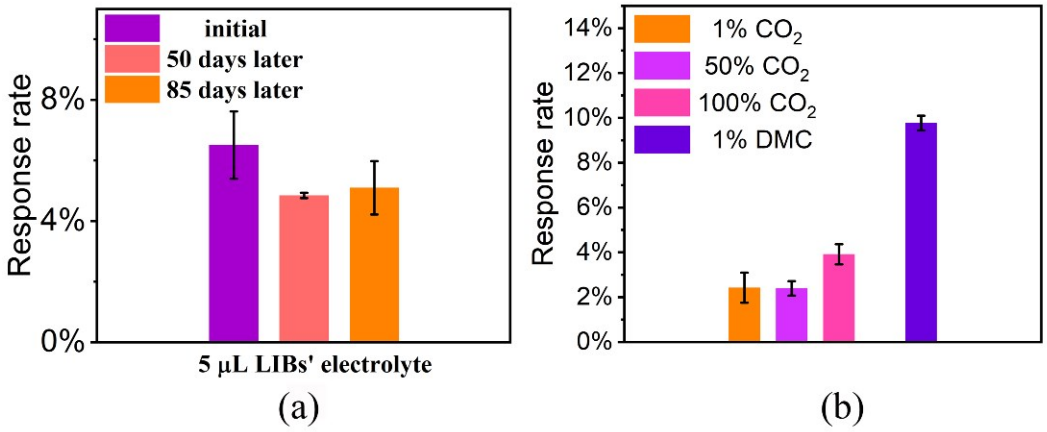

Figure S5. (a) Response rate of the sensor detecting 5 µL LIBs' electrolyte when put in ambient condition for 50 days and 85 days. (b) Response rate of the sensor when put in CO_2 and DMC vapour.

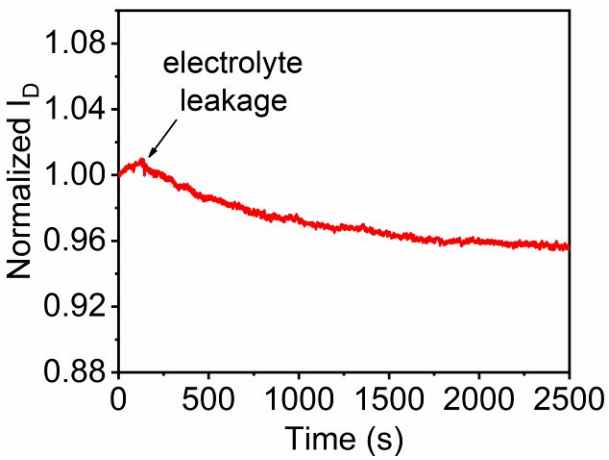

Figure S6. The normalized output current of the sensor after electrolyte leakage.