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Supporting Information

Covalently-Functionalized Carbon Nanotubes as Stable Cathode Materials of Lithium/Organic Batteries

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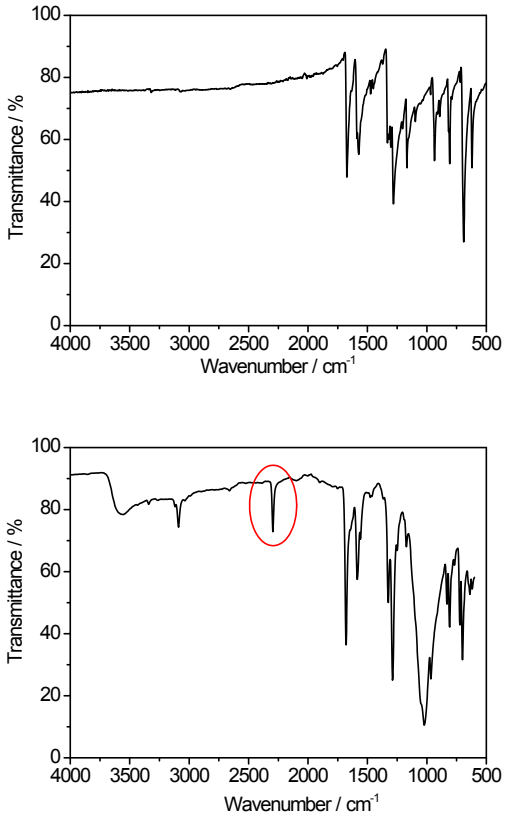

Fig. S1 IR spectra of the 2-aminoanthraquinone (left) and the diazo-anthraquinone (right). The signal around 2300 cm^{-1} can be attributed to the "$N\equiv N^{+}$" function of the diazonium salt.

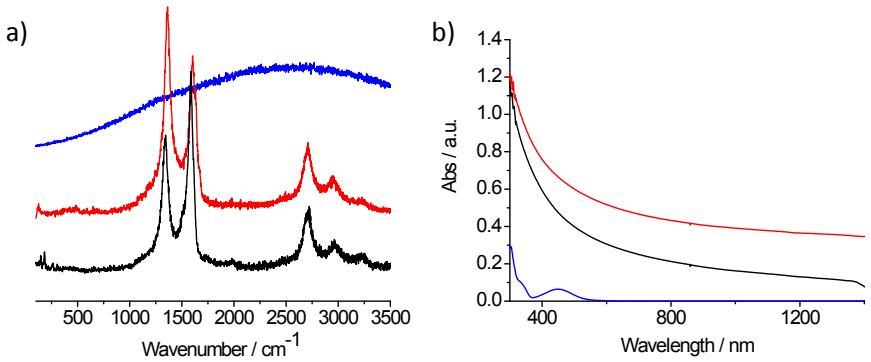

Fig. S2 Raman (λ_{exc} = 532nm) and UV-Vis-NIR absorption spectra of MWNT (black), MWNT-anthraquinone **2** (red) and 2-aminoanthraquinone (blue). Raman spectra show the increase of the D-band after functionalization; on the spectrum of 2-aminoanthraquinone only a broad signal of fluorescence can be observed.

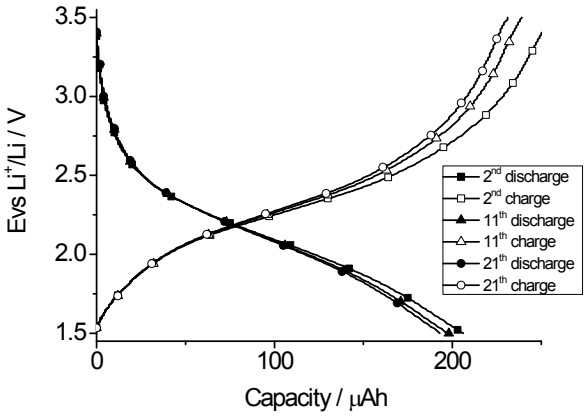

Fig. S3 example of 2nd, 11th and 21st charge/discharge profiles for MWNT-anthraquinone **2** used as a positive electrode material in a Li/organic cell (2 mg sample, 5 $mA \cdot g_{electrode}^{-1}$ applied).

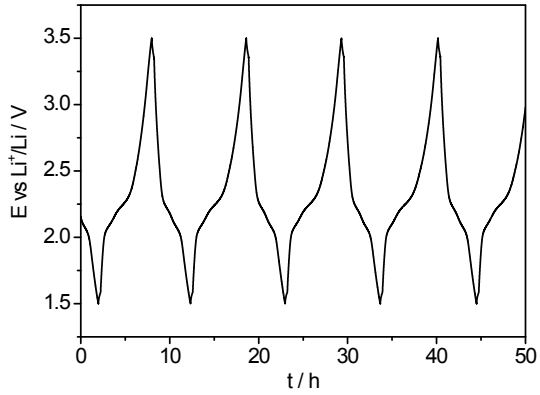

Fig. S4 Charge/discharge profiles for MWNTs mixed with anthraquinone used as a positive electrode material in a Li/organic cell (2 mg sample, 5 $mA \cdot g_{electrode}^{-1}$ applied). Specific capacities close to 20-25 $mAh \cdot g_{electrode}^{-1}$ are observed for the first cycles.