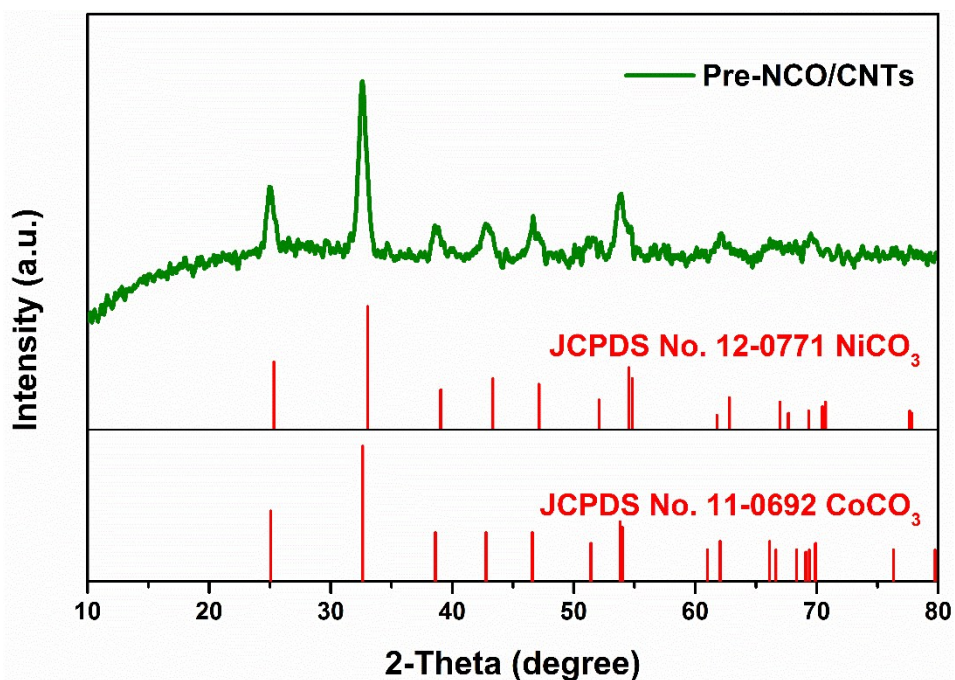
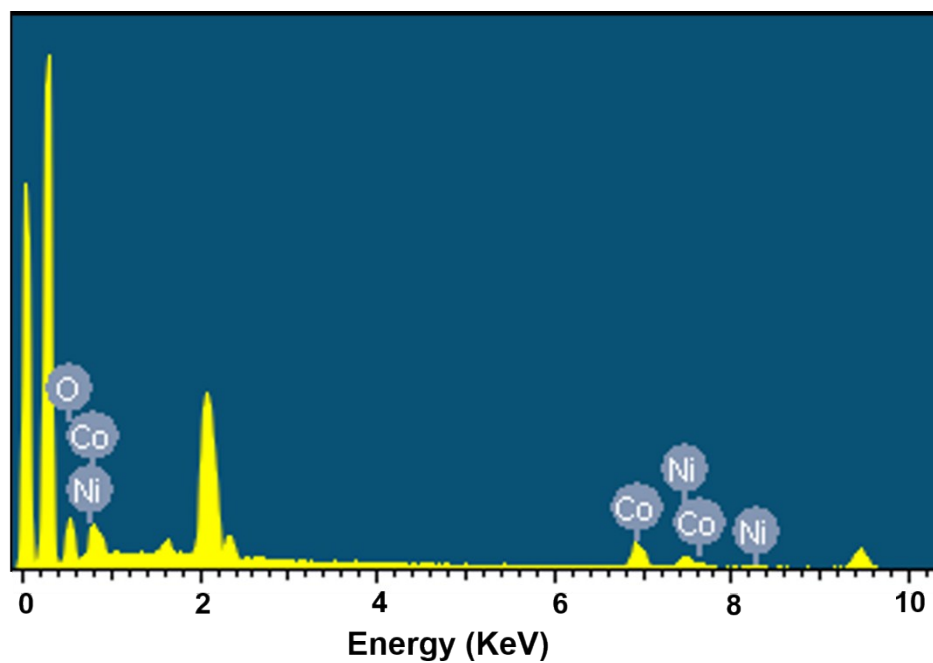


## Supporting information



**Fig. S1** XRD pattern of the NCO/CNTs precursors and standard patterns of NiCO<sub>3</sub> and CoCO<sub>3</sub>.



**Fig. S2** EDS spectrum of the NCO/CNTs composites

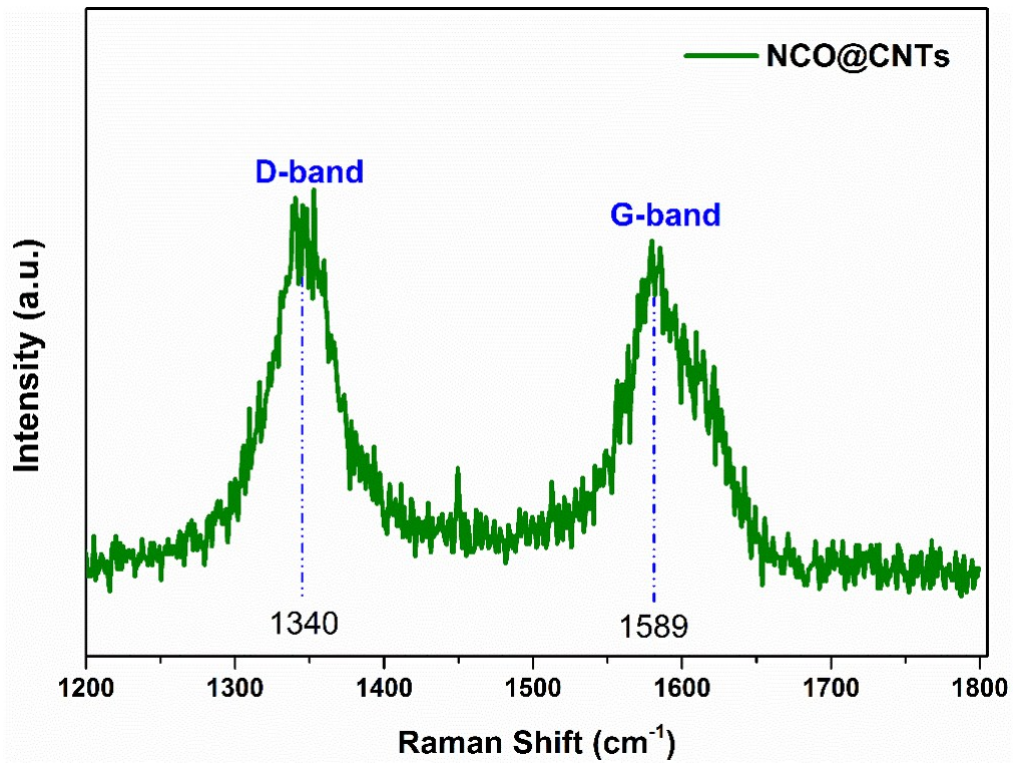


Fig. S3 Raman spectrum of the NCO/CNTs composites

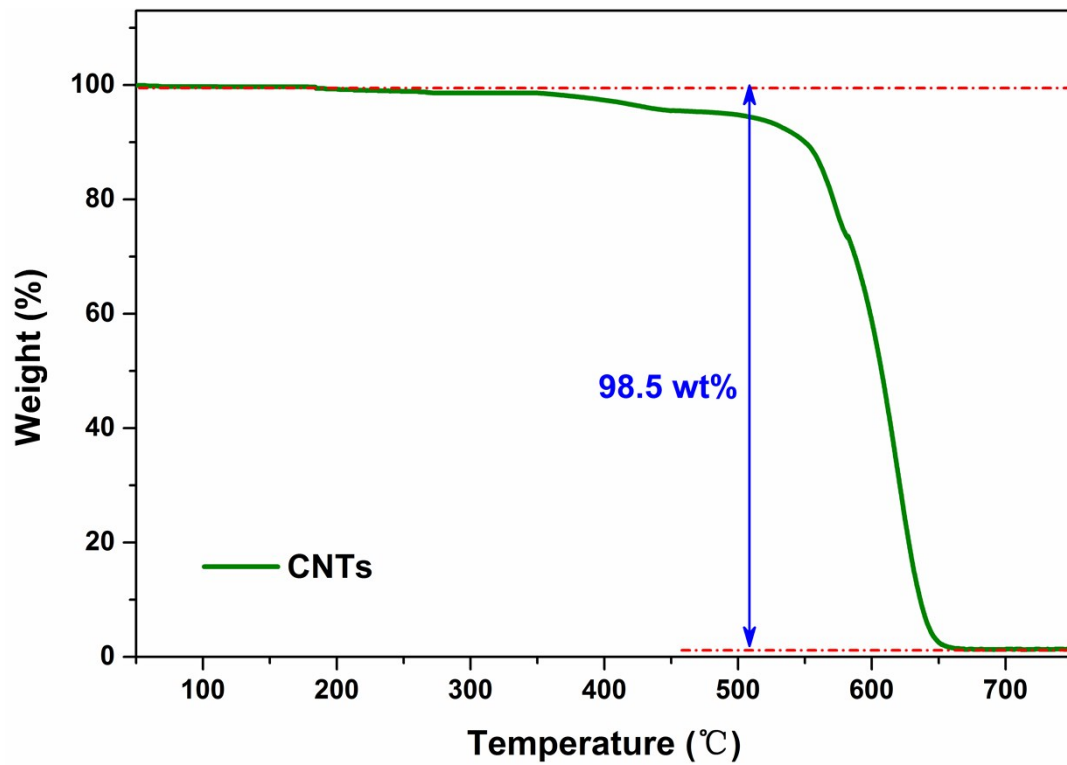
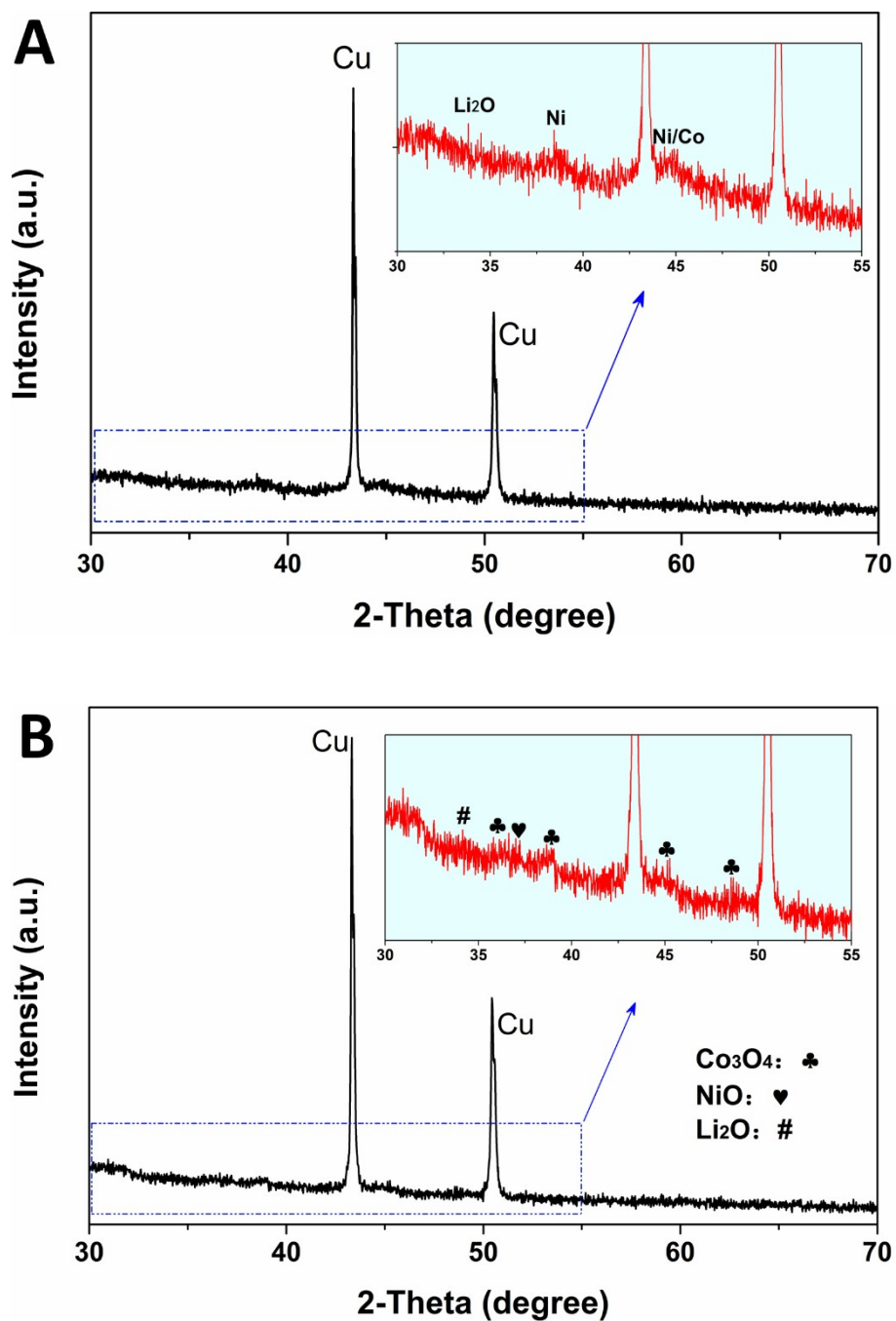
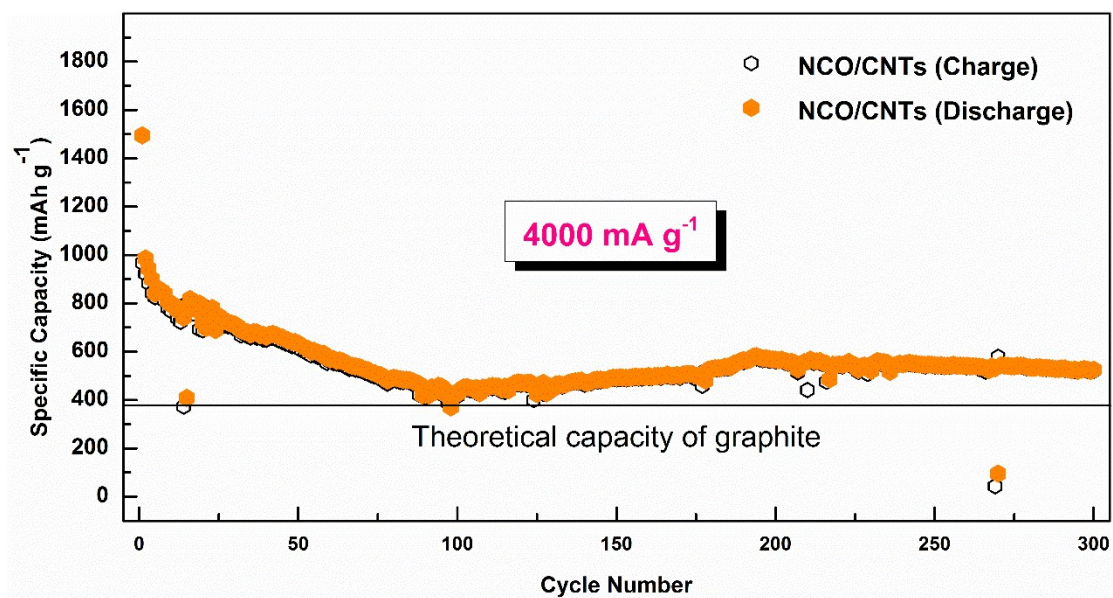


Fig. S4 TG curve of pure CNTs.



**Fig. S5** XRD pattern of a discharged NCO/CNTs electrode (A) and a recharged NCO/CNTs electrode (B) after the 100th cycle.



**Fig. S6** Cycling performance of the NCO/CNTs composites as anode materials for LIBs at an extremely high current density of 4000 mA g<sup>-1</sup>.