

Supplementary Information

Improvement of Lithium Anode Deterioration for Ameliorating Cyclabilities of Non-aqueous Li-CO₂ Batteries

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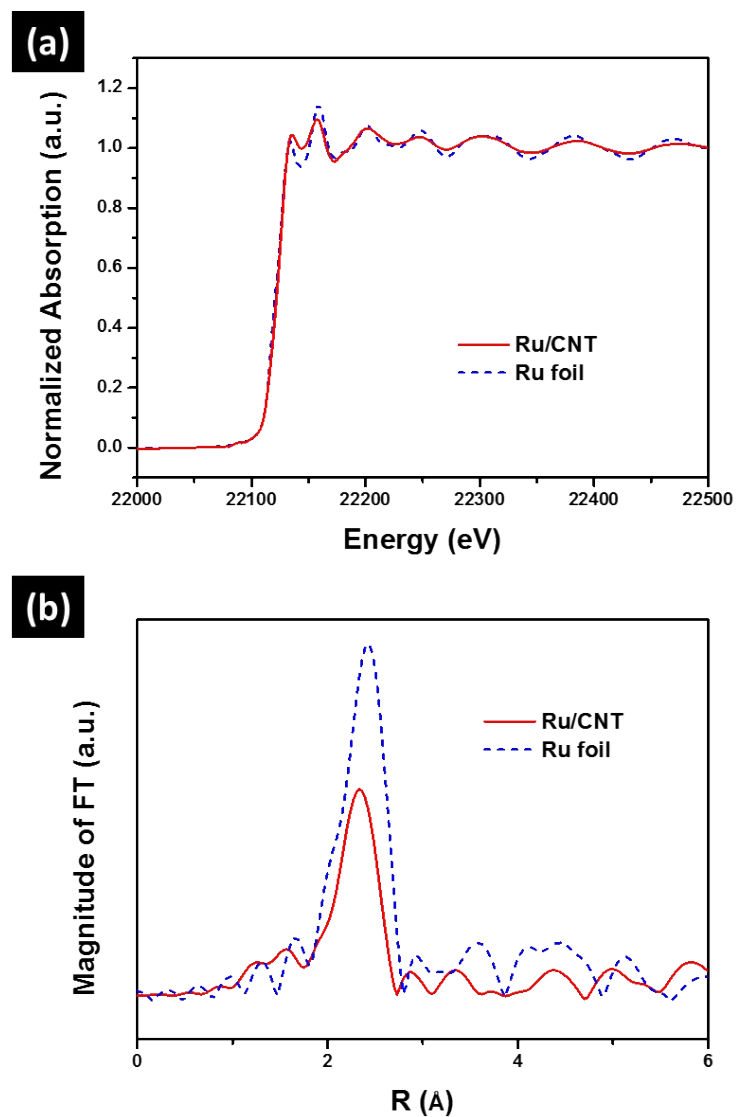


Fig. S1 Mo K-edge (a) XANES spectra and (b) radial distribution for Fourier transform k^2 -weighted EXAFS signal of Ru/CNT catalyst material and Ru foil standard.

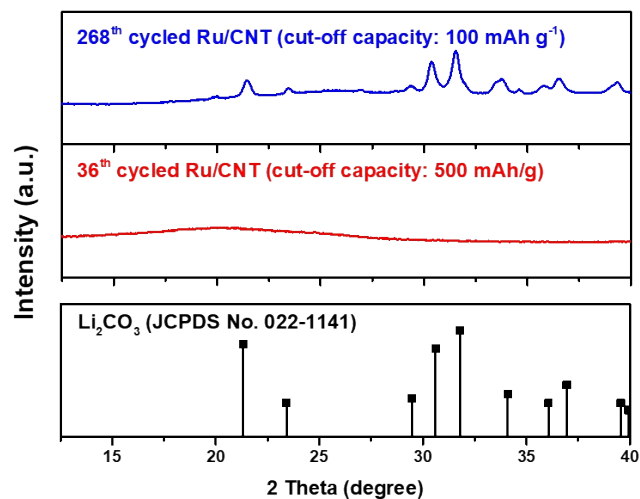


Fig. S2 Ex-situ grazing incidence synchrotron XRD spectra of Ru/CNT catalyst cathode after the cycling test at a current density of 100 mA g⁻¹ with different cut-off capacity conditions.

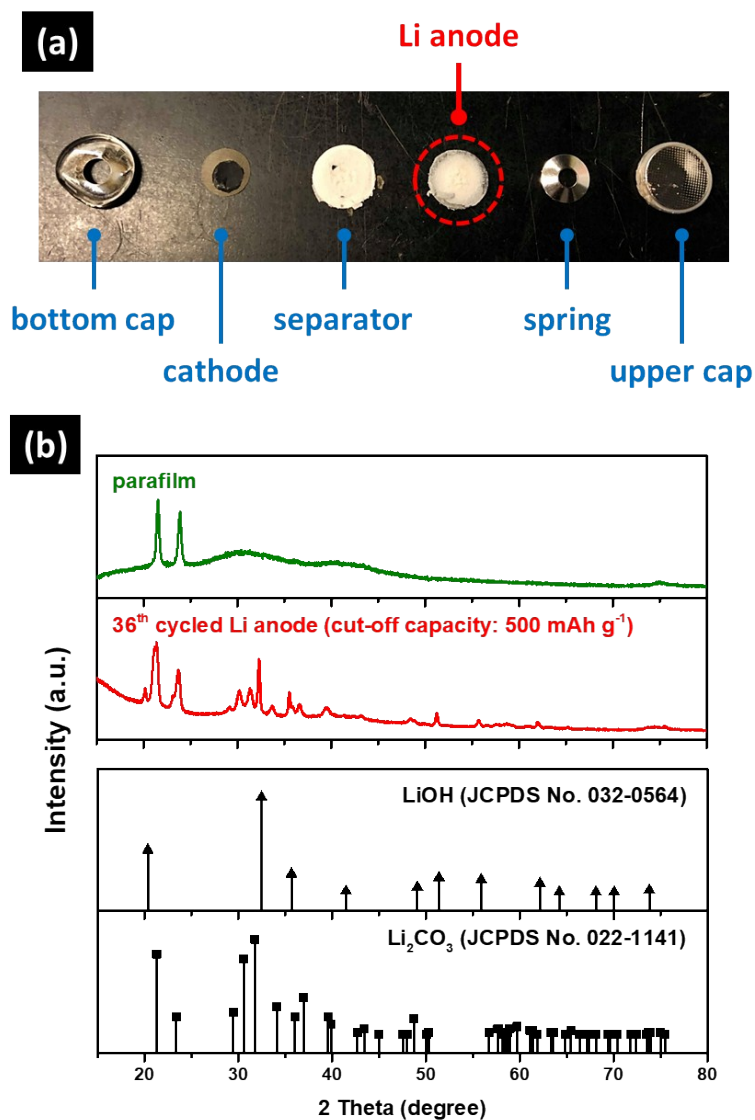


Fig. S3 (a) Photograph of disassembled coin cell after cycling at a current density of 100 mA g⁻¹ with a cut-off capacity of 500 mAh g⁻¹. (b) Ex-situ in-house XRD profile of Li anode after cycling measurement at a current density of 100 mA g⁻¹ under a cut-off capacity of 500 mAh g⁻¹.

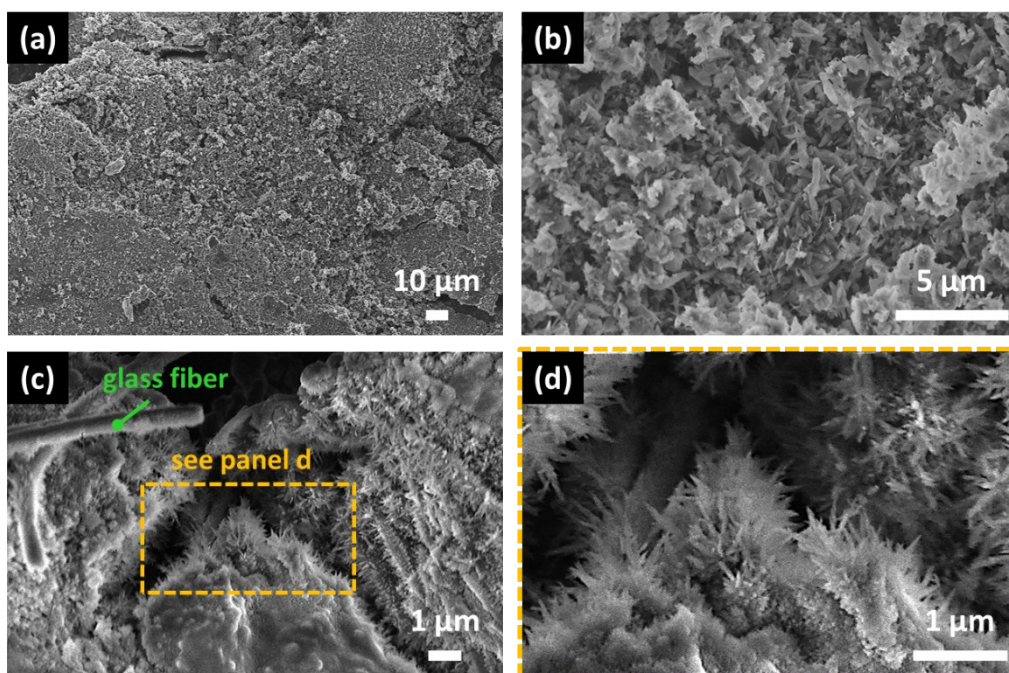


Fig. S4 (a-d) SEM images with different magnifications of Li anode after the cycling measurement under a cut-off capacity of 500 mAh g⁻¹.

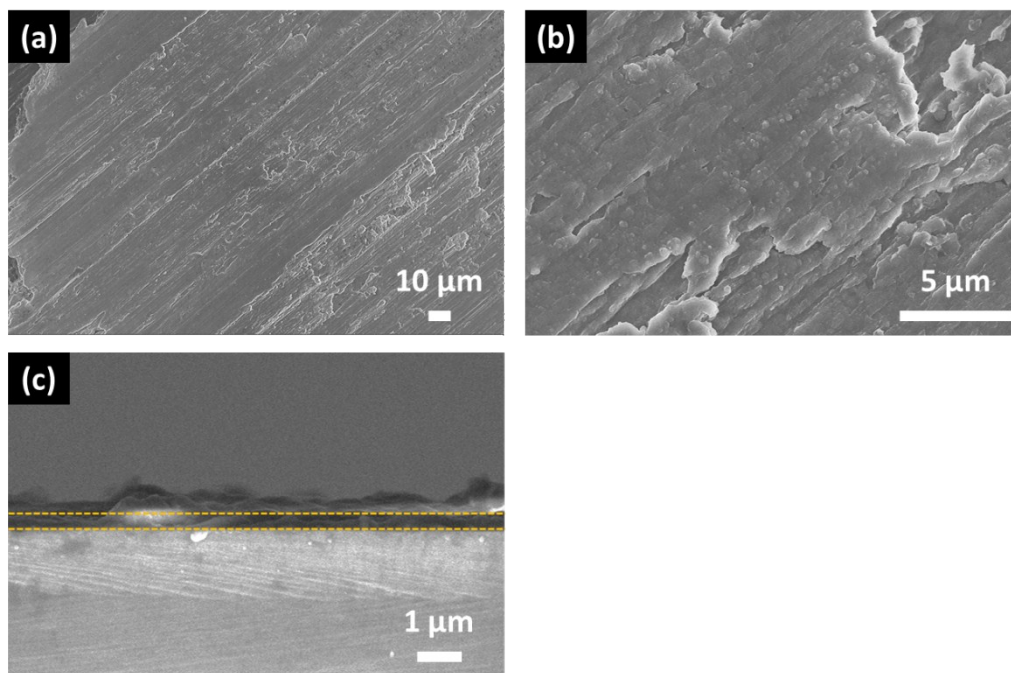


Fig. S5 (a-b) SEM images with different magnifications of C/Li anode. (C) Cross-sectional SEM image of C thin film (in-between two orange dash lines) on Si wafer for the thickness estimation.

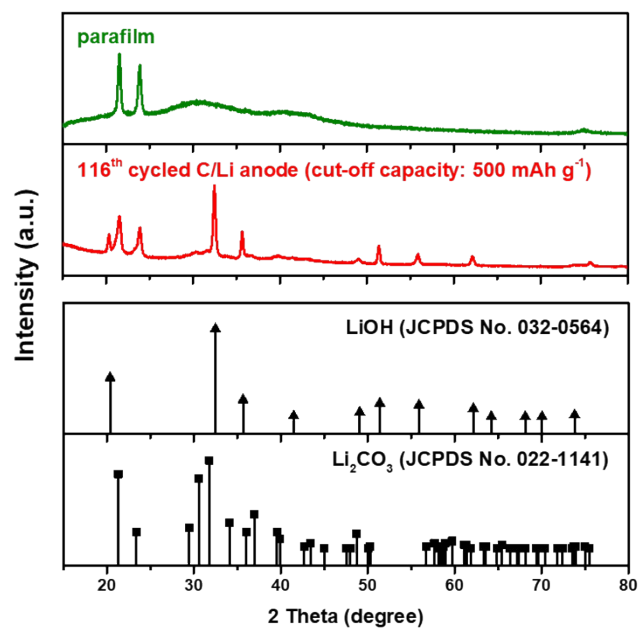


Fig. S6 Ex-situ in-house XRD profile of C/Li anode after cycling measurement at a current density of 100 mA g⁻¹ under a cut-off capacity of 500 mAh g⁻¹.

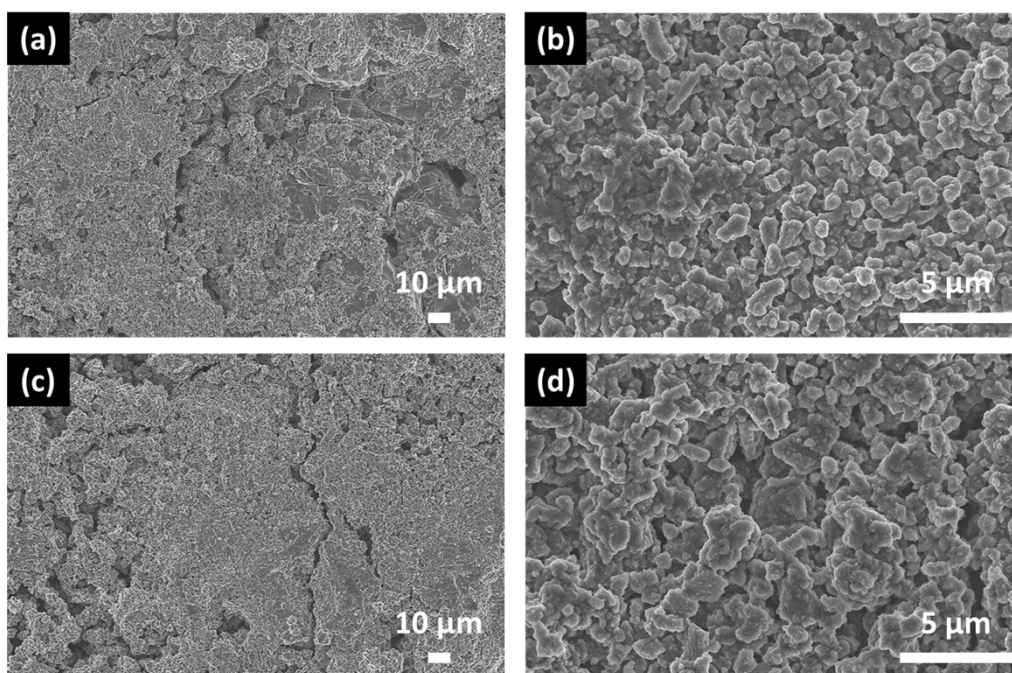


Fig. S7 (a-d) SEM images with different magnifications of various regions on C/Li anode after the cycling measurement under a cut-off capacity of 500 mAh g⁻¹.