

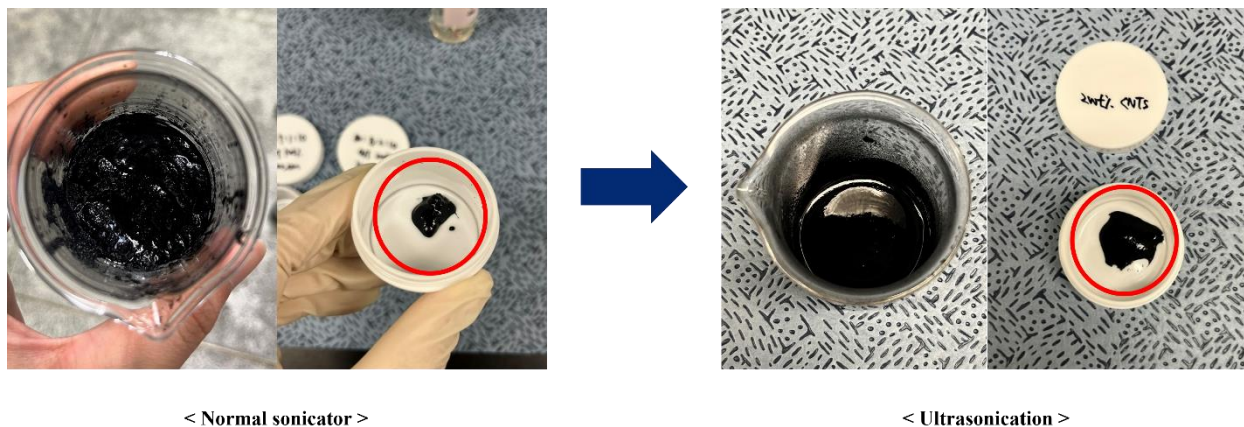
## Supplementary Materials

### **Improving Electrochemical Performance of Ultrahigh-Loading Cathodes via the Addition of Multi-Walled Carbon Nanotubes**

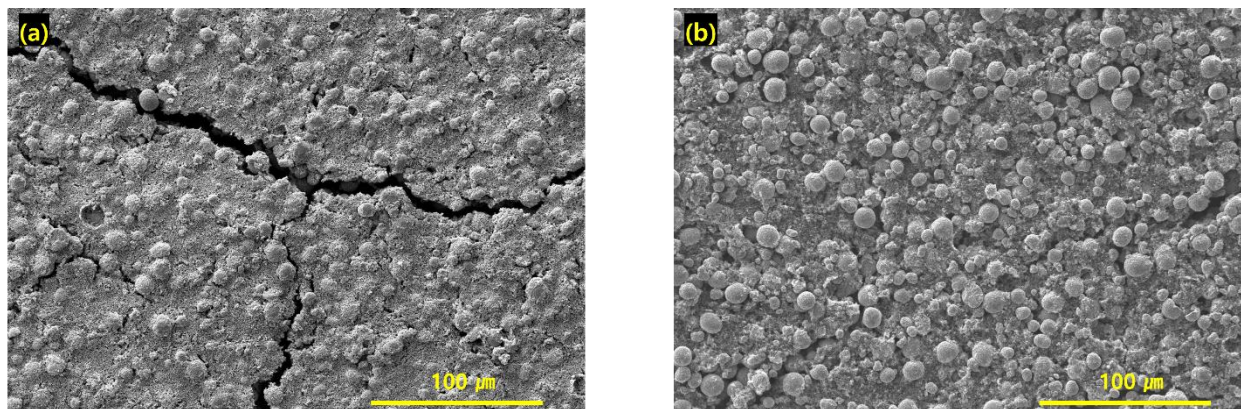
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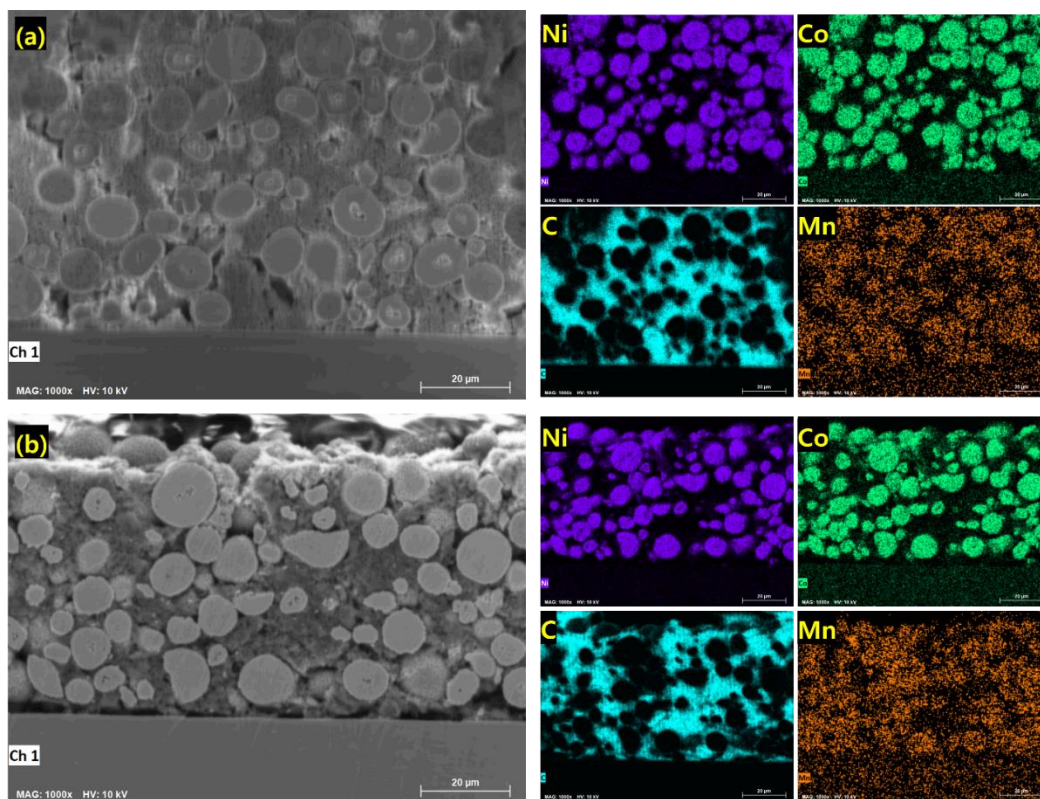
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**Figure S1.** Comparison of MWCNTs dispersion using normal sonication and ultrasonication. MWCNTs are homogenously distributed through ultrasonication.

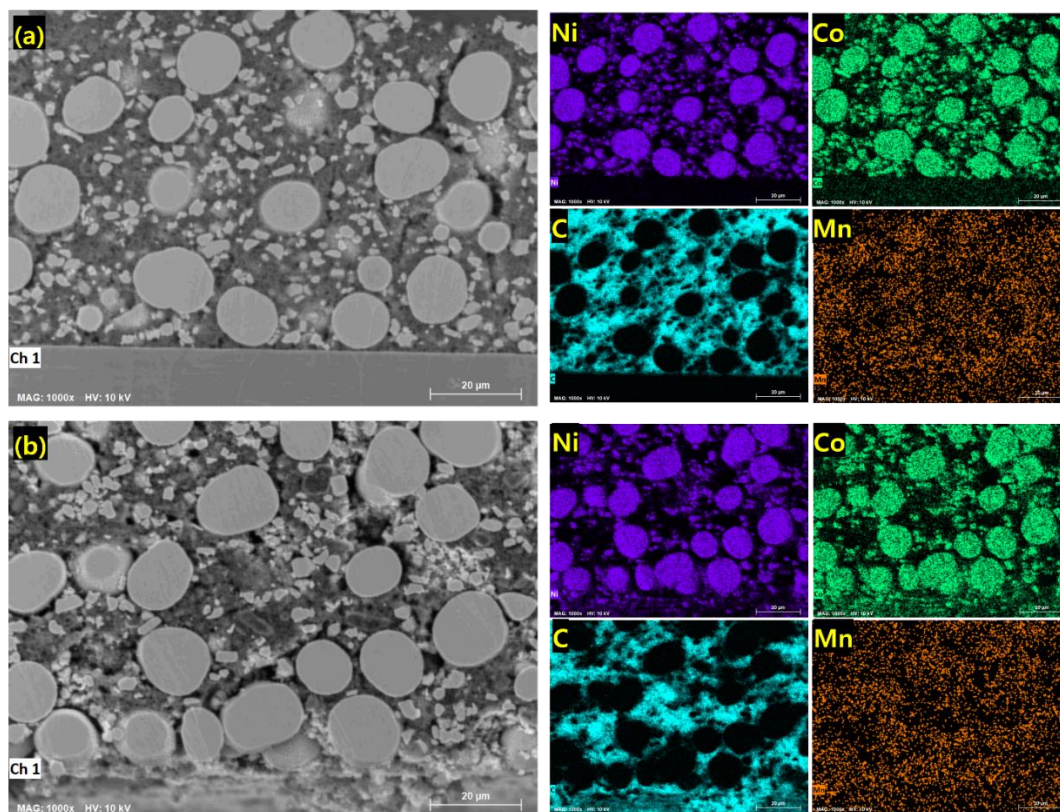


**Figure S2.** Surface images of electrodes after conducting C-rate capability test, performing recovery from high current rate of 1 C to lower rate of 0.1 C for (a) pristine cathode and (b) MWCNT-incorporated cathode.

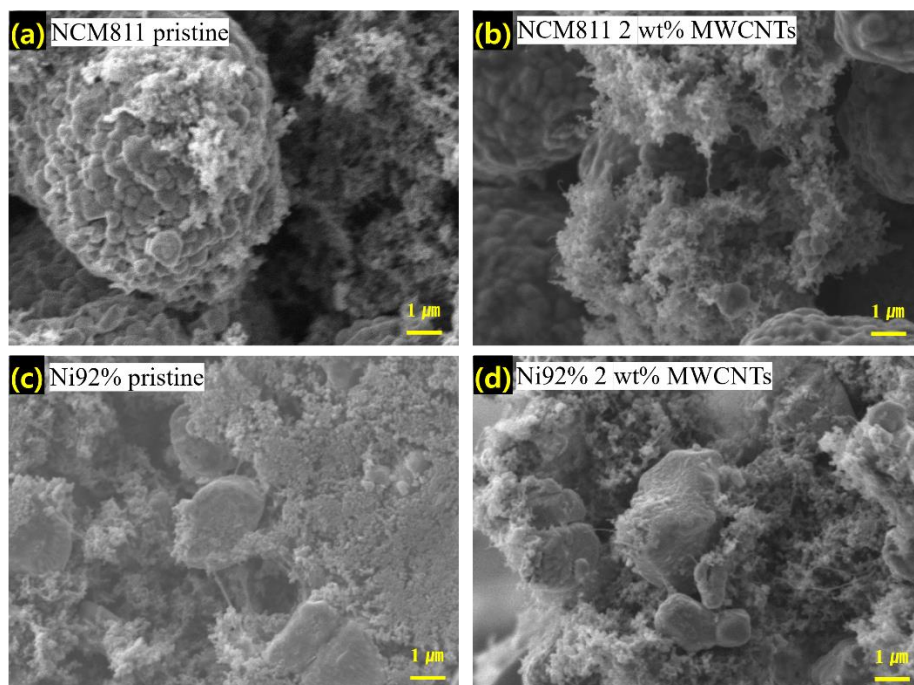


**Figure S3.** Energy dispersive spectroscopy mapping images of NCM811 cathode metals in the internal structure of the (a) electrode containing only carbon black and (b) electrode incorporating 2 wt% MWCNTs.





**Figure S4.** Energy dispersive spectroscopy mapping images of Ni92% cathode metals in the internal structure of the (a) electrode containing only carbon black and (b) electrode incorporating 2 wt% MWCNTs.



**Figure S5.** Images of inside the electrode with NCM811 (a) pristine electrode and (b) electrode with 2 wt% MWCNTs. Images of inside the electrode with Ni92% cathode (c) pristine electrode and (d) electrode with 2 wt% MWCNTs.