

Supplementary Information

Lithium Storage Properties of Nucleation-Dominated Manganese Carbonate Nanoparticles

Yun Seong Ahn,^a Zahid Husain Momin,^a Joo-Young Han,^a Nguyen Van Du,^b Jong-Min Oh,^a Sang-Mo Koo,^a Jong Ho Won,^c Se Yun Kim,^d Jae-Geun Ha^{a,}, Joonwon Lim,^{e,*} and Weon Ho Shin^{a,*}*

^a Department of Electronic Materials Engineering, Kwangwoon University, Seoul 01897, Republic of Korea.

^b Faculty of Fundamental Science, Phenikaa University, Yen Nghia, Ha-Dong District, Hanoi, 10000, Vietnam.

^c Department of Energy Engineering, Dankook University, Cheonan-si, Chungnam 31116, Republic of Korea.

^d Department of Materials Engineering and Convergence Technology, Gyeongsang National University, Jinju 52828, Republic of Korea.

^e Department of Information Display, Kyung Hee University, Seoul 02447, Republic of Korea

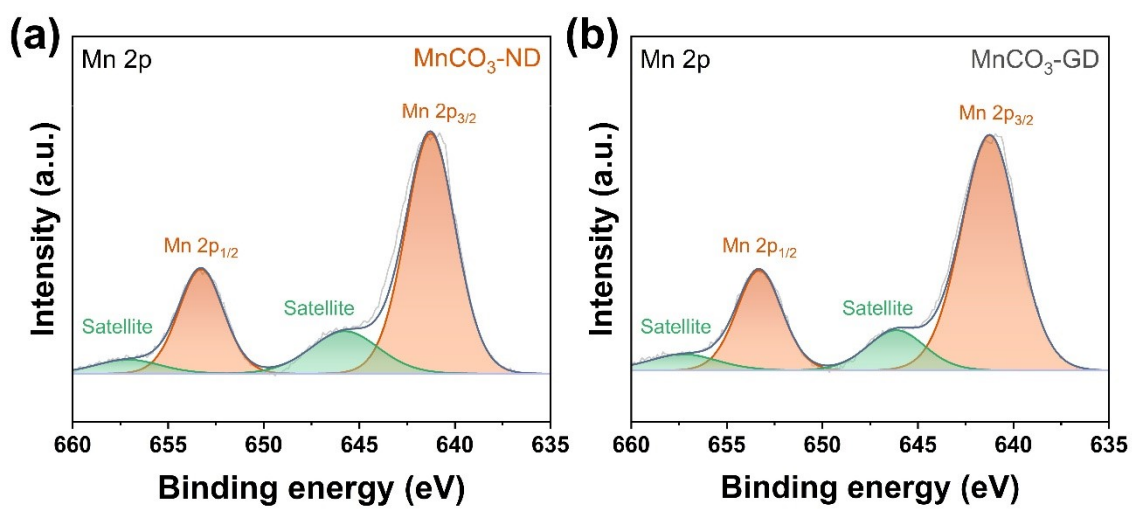


Figure S1. XPS Mn 2p spectra of (a) MnCO₃-ND and (b) MnCO₃-GD.

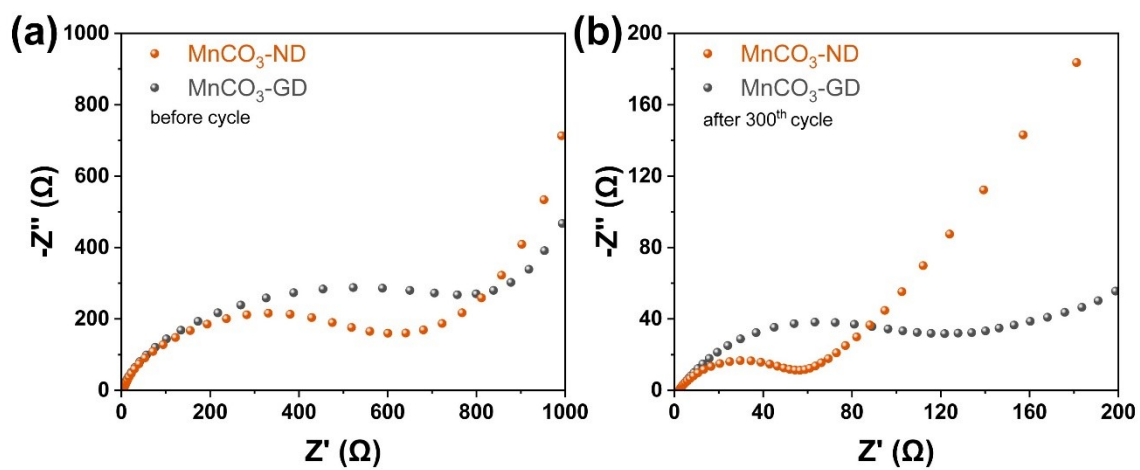


Figure S2. Nyquist plots of MnCO₃-ND and MnCO₃-GD electrodes (a) before cycling and (b) after 300 cycles at 1.0 A g⁻¹.

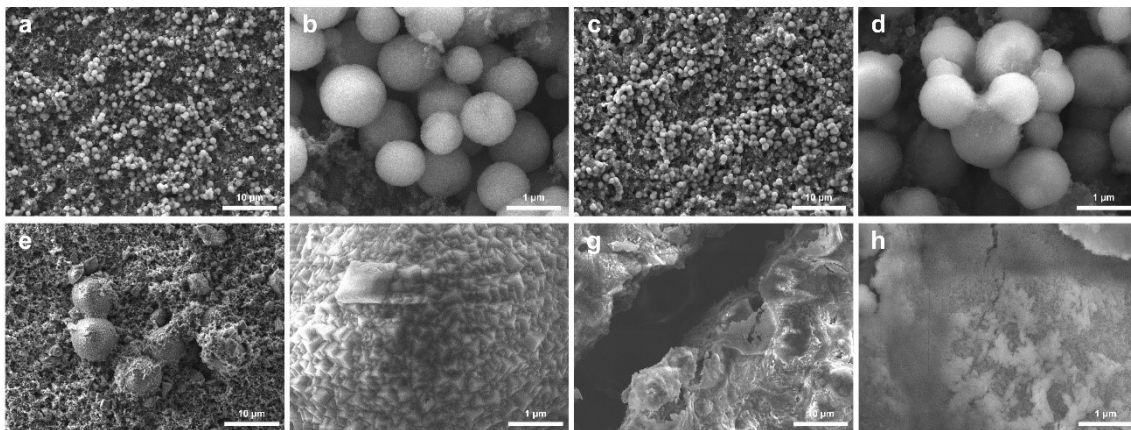


Figure S3. SEM images of MnCO₃ electrodes at a current density of 1.0 A g⁻¹: (a and b) MnCO₃-ND before cycling; (c and d) MnCO₃-ND after 100 cycles; (e and f) MnCO₃-GD before cycling; (g and h) MnCO₃-GD after 100 cycles.