

Supporting Information

Understanding the Critical Role of Ag Nanophase in Boosting the Initial Reversibility of Transition Metal Oxide Anodes for Lithium Ion Batteries

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Table S1. The areal fractions and binding energies of all sub-peaks detectable in C1s spectra for Ag-free and 10 wt% Ag-added electrodes

		M-C (283.3 eV)	C-C (284.7 eV)	C-O (286.2 eV)	C=O (287.3 eV)	O-C=O (288.7 eV)	C-F (289.8 eV)
10 wt%- Ag added cell	Discharged	14.2	39.9	11.2	2.6	5.2	26.9
	Charged	-	63.0	5.0	4.5	6.6	20.9
Ag-free cell	Discharged	10.3	65.1	7.2	3.4	5.5	8.5
	Charged	-	77.3	4.0	3.4	5.7	9.5

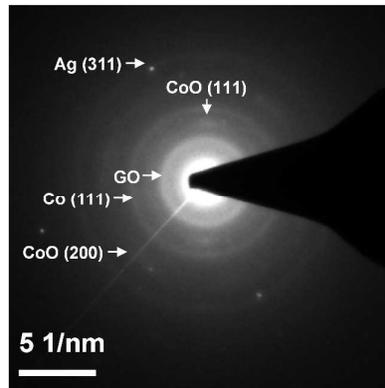


Figure S1. SAED pattern for fully-charged, 10 wt% Ag-added electrode.

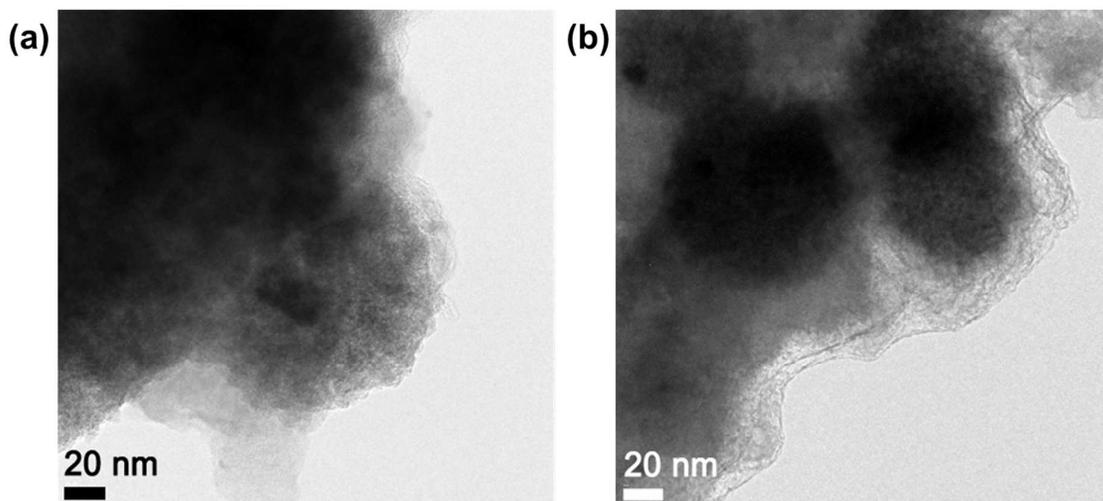


Figure S2. TEM images of the fully re-charged (a) Ag-CoO and (b) Ag-free CoO composites.

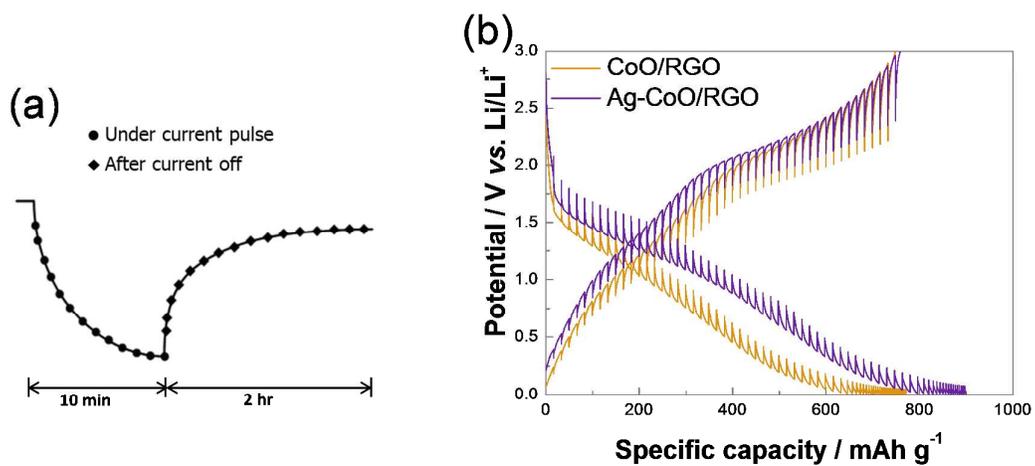


Figure S3. (a) Schematic illustration of GITT measurements. (b) GITT profiles for cells employing Ag-free and Ag-added electrodes.

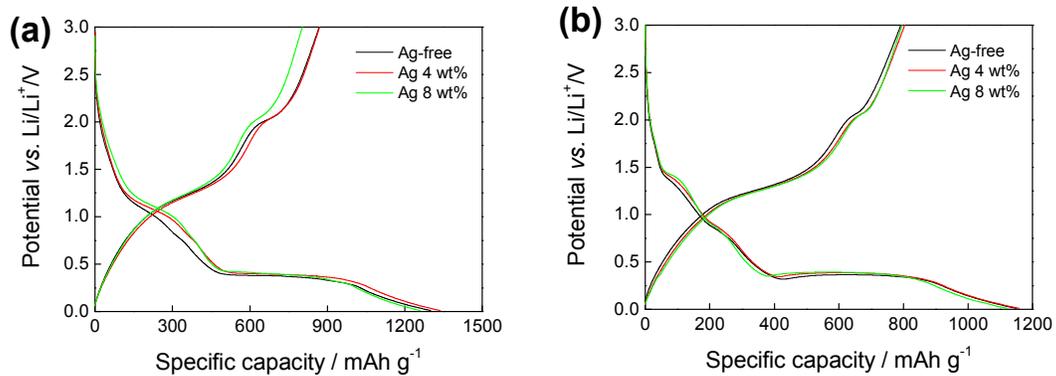


Figure S4. Electrochemical voltage profiles during the first cycling of cells employing (a) Ag NW-MnO₂/RGO and (b) Ag NP-MnO₂/RGO composite electrodes. For both composite electrodes, the compositions of Ag nanoparticle were varied from 0 to 8 wt%.

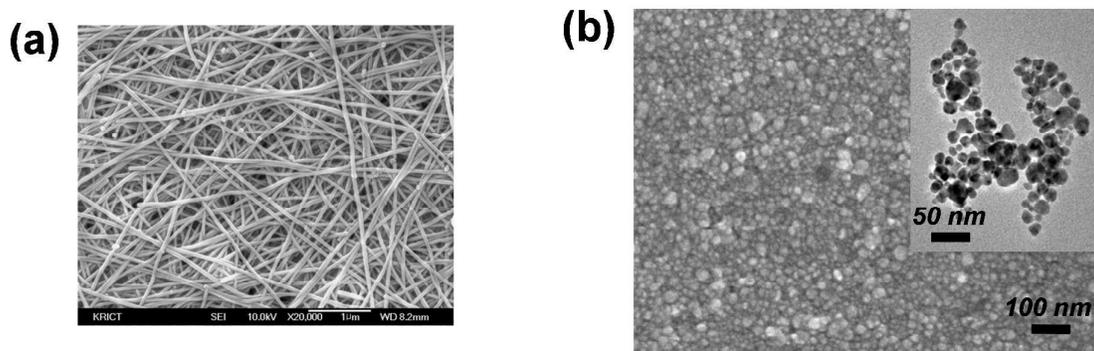


Figure S5 SEM image of (a) Ag nanowires and TEM images of (b) Ag nanoparticles

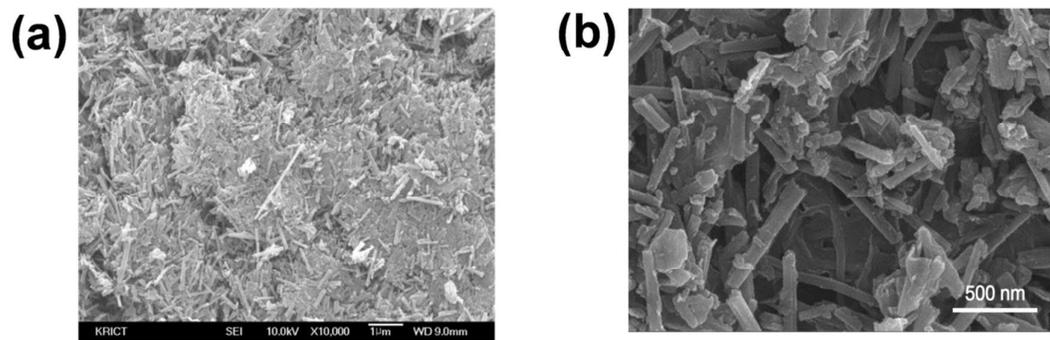


Figure S6. SEM images showing the morphologies of (a) Ag NW-MnO₂/RGO and (b) Ag NP-MnO₂/RGO composite materials.