

Supporting Information

Title: Tailored Solution Combustion Synthesis of High Performance ZnCo_2O_4 Anode Materials for Lithium-ion Batteries

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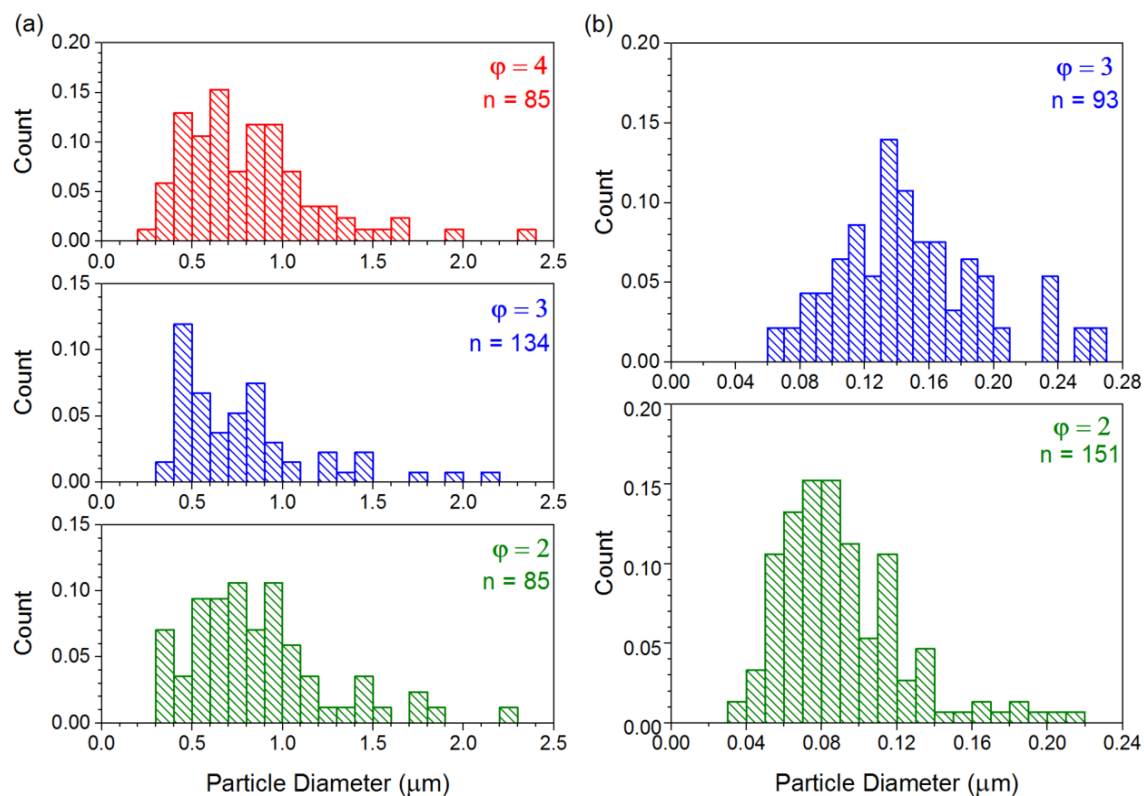


Figure S1. Histograms for SEM images in Figure 4. (a) Histograms from secondary particle size (agglomerates) from 3 μm scale images. (b) Histograms for primary particle size from 500 nm scale images. n = counted species used for histogram analysis.

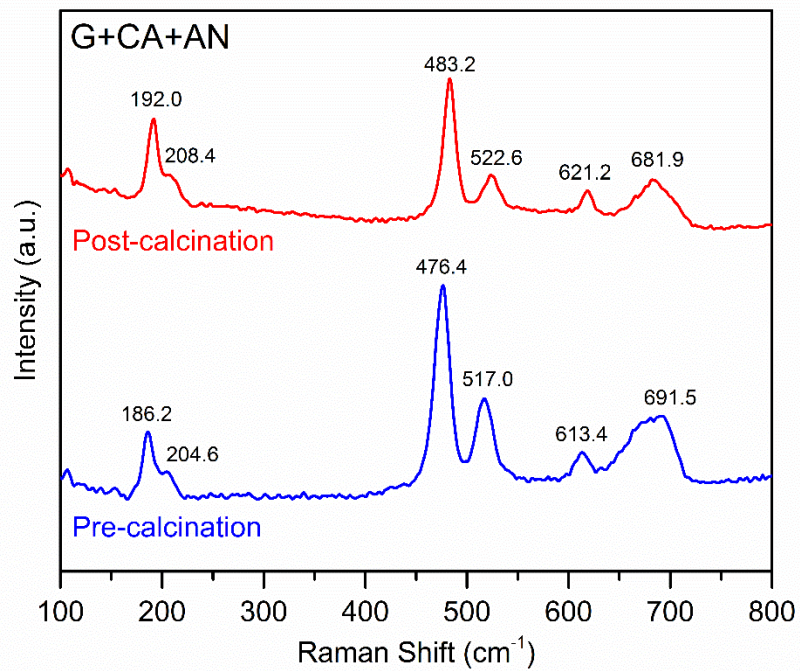


Figure S2. Raman spectra at 633 nm wavelength for pre-calcined and post-calcined G+CA+AN materials.

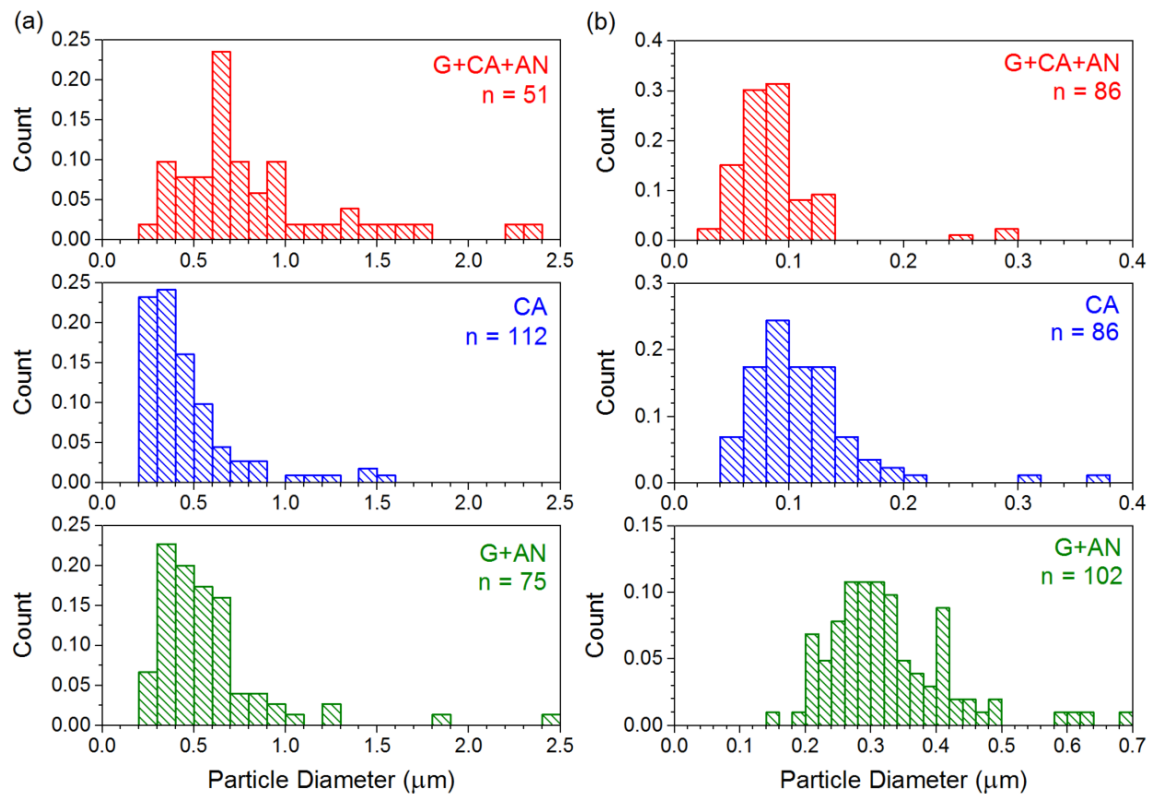


Figure S3. Histograms for SEM images in Figure 7. (a) Histograms for secondary particle size (agglomerates) from 3 μm scale images. (b) Histograms for primary particle size from 500 nm scale images.

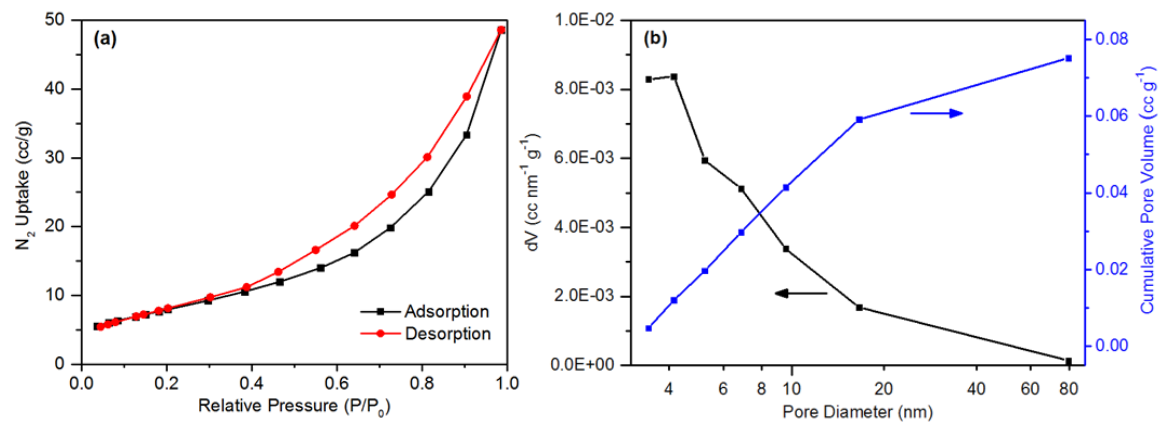


Figure S4. For the G+CA+AN sample, (a) N_2 adsorption-desorption isotherms obtained at 77K; (b) Pore size and volume distribution curves.

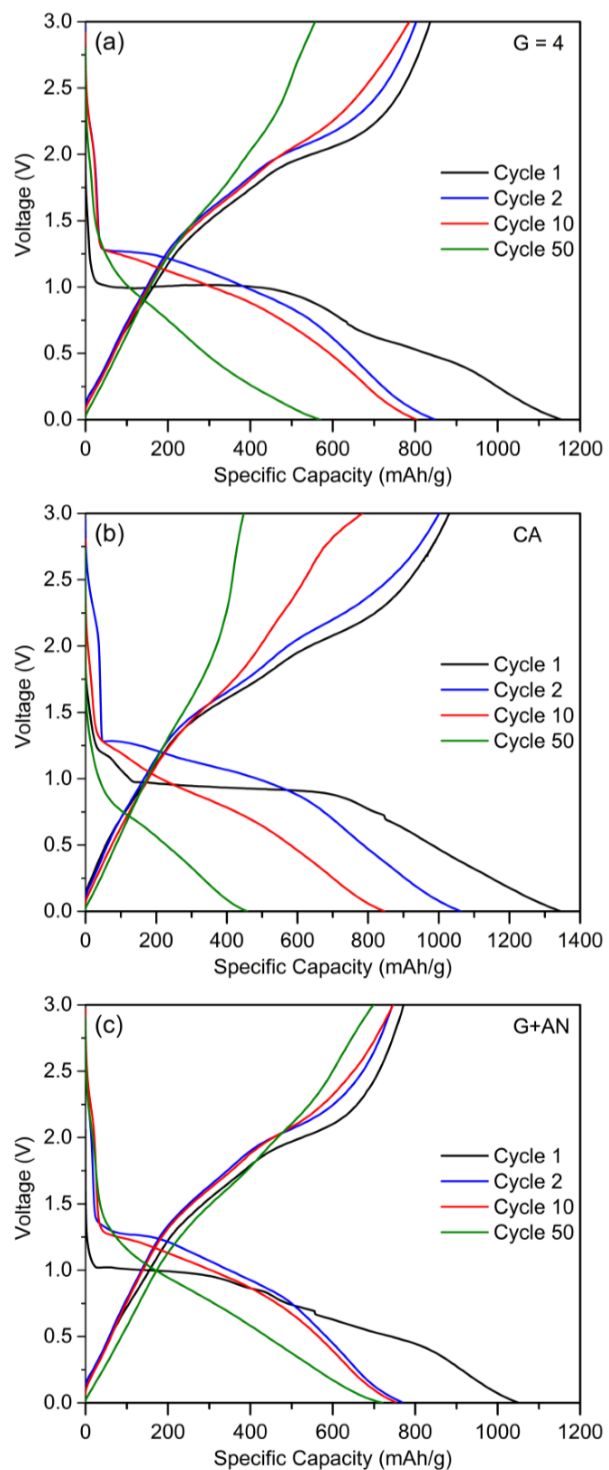


Figure S5. Charge-discharge voltage profiles for the ZnCo_2O_4 anodes produced using various fuel systems corresponding to C/10 rate from Figures 5 and 9. (a) G: $\Phi = 4$ calcined at 400°C . (b) CA. (c) G+AN.

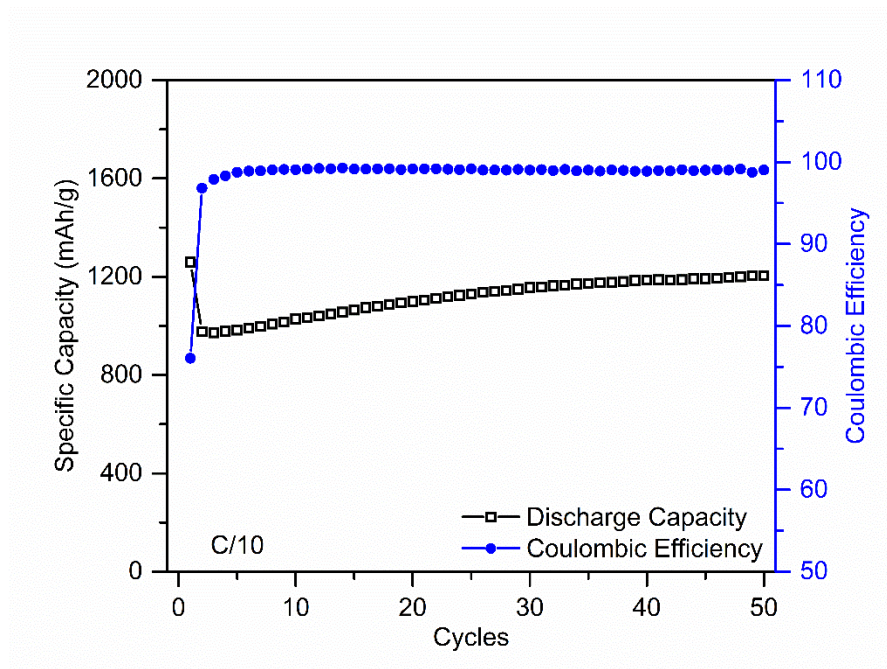


Figure S6. Galvanostatic cycling at C/10 rate for ZnCo_2O_4 materials prepared by G+CA+AN system. Used to plot voltage profile and differential capacity plot for Figure 10c-d.

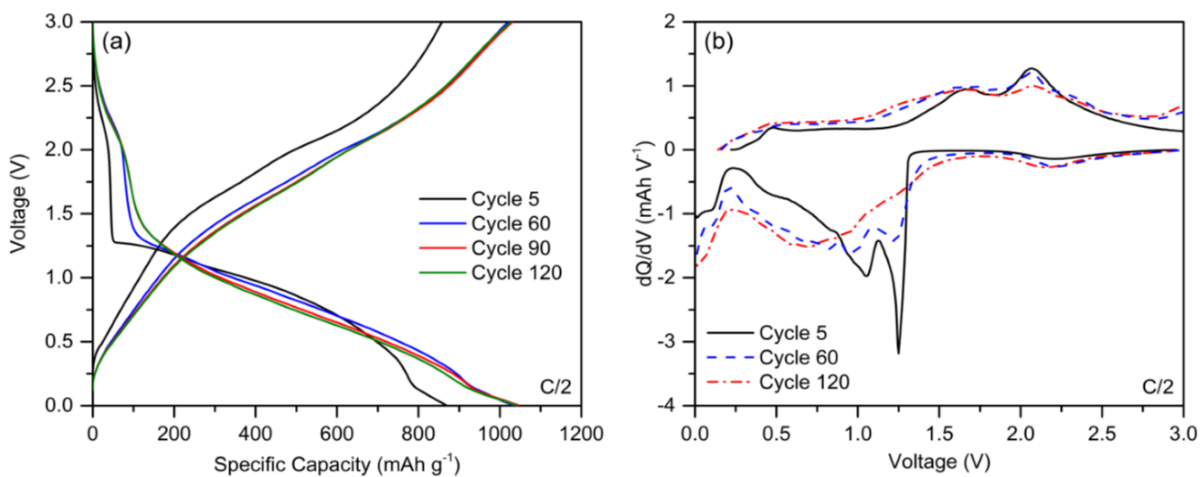


Figure S7. Electrochemical analysis of G+CA+AN material for long-term cycling at C/2 rate. (a) Charge-discharge voltage profiles for the 5th, 60th, 90th, and 120th cycles. (b) Differential capacity plots for the 5th, 60th, and 120th cycles.