Supporting Information

$CoNiO_2$/TiN-TiO_xN_y Composites for Ultrahigh Electrochemical Energy Storage and Simultaneous Glucose Sensing

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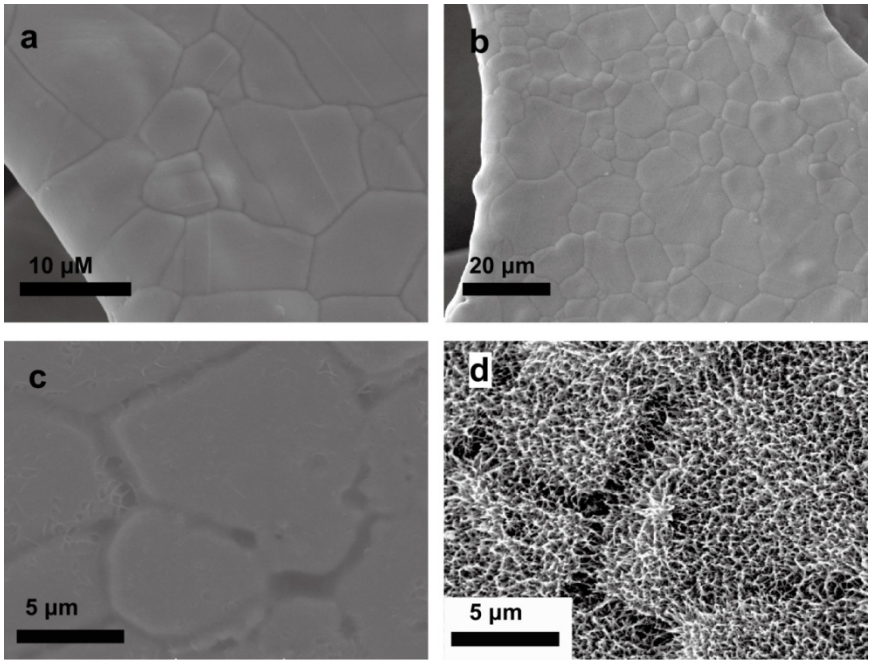

Figure S1. SEM image of (a) pure Ni foam, (b) TiO_2 thin film, (c)TiN-TiO_xN_y thin film, and (d) $CoNiO_2$ NW/ TiN-TiO_xN_y thin film composite.

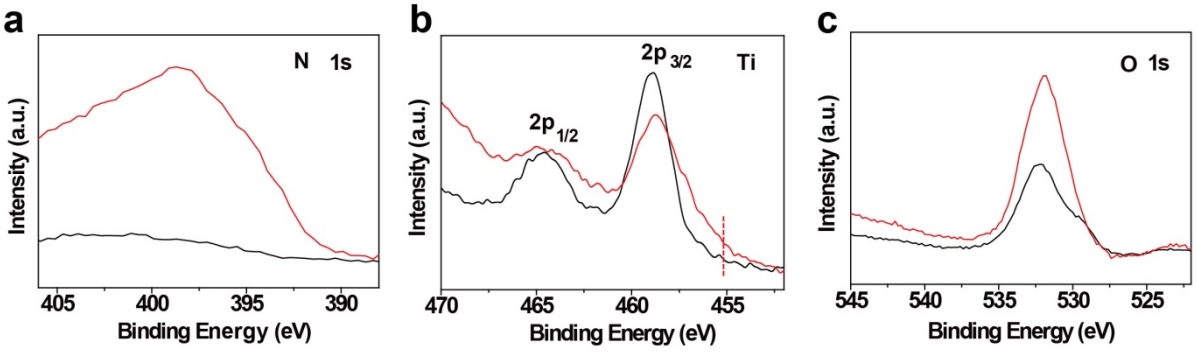

Figure S2. XPS spectra. (a) N 1s , (b) Ti $2p_{3/2,1/2}$, (c) O 1s peaks of TiO_2 thin film before (black curve) and after ammonia treatment (red curve).

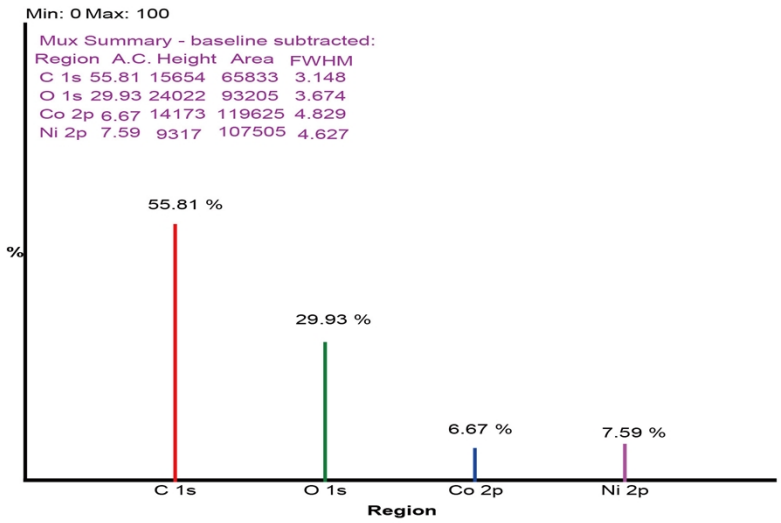

Figure S3. XPS result of Co and Ni atomic percentage. The powder was scrathed from the electrode.

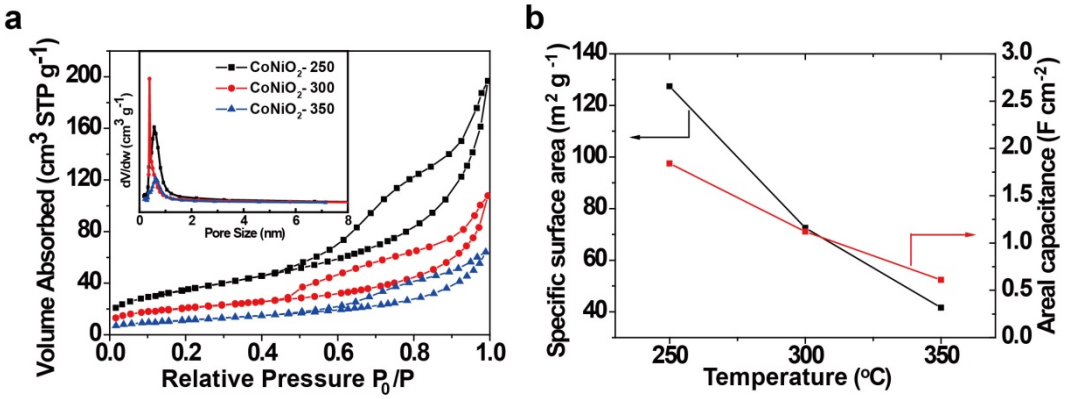

Figure S4. (a) N_2 sorption isotherms, and (b) the calculated specific surface area and areal capacitance values of $CoNiO_2$ electrodes under various calcination temperatures.

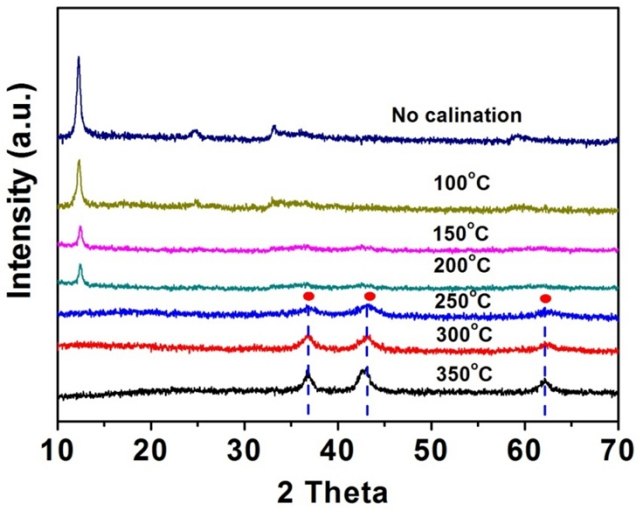

Figure S5. XRD patterns of samples calcined in N_2 under various temperatures. The red dots indicate the diffraction peaks of $CoNiO_2$.

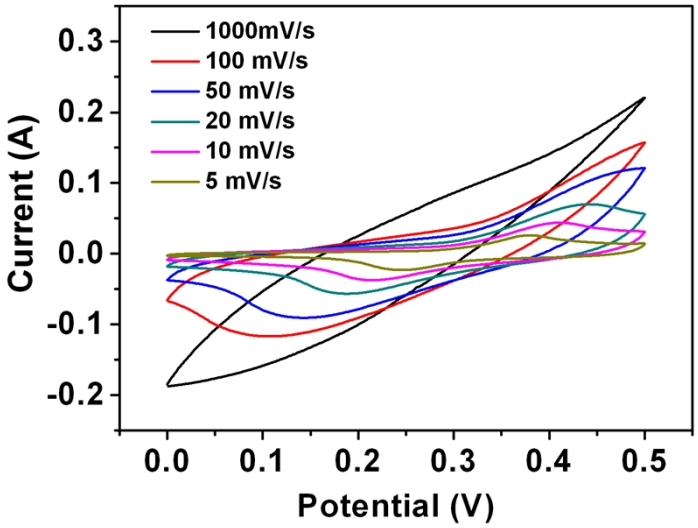

Figure S6. CV curves of the $CoNiO_2$/TiN-TiO_xN_y composite with different scan rates.

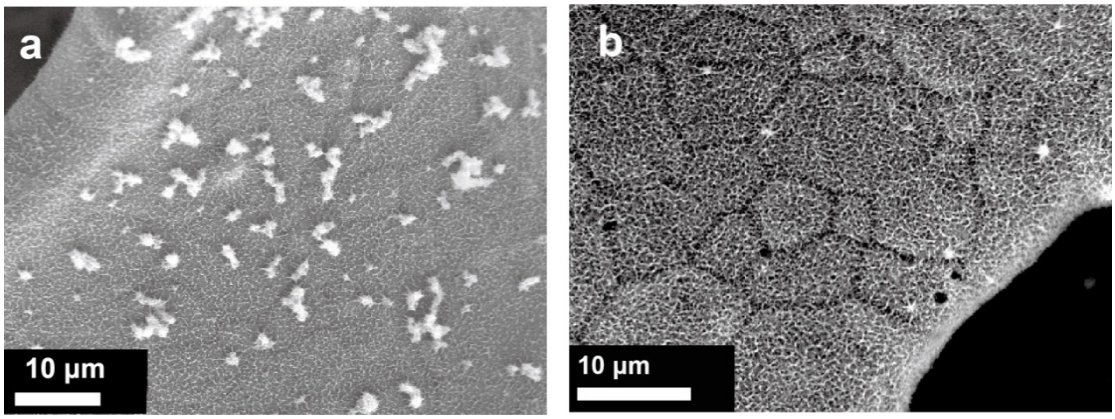

Figure S7. SEM images of (a) $CoNiO_2$ electrode and (b) $CoNiO_2$/TiN-TiO_xN_y composite electrodes.

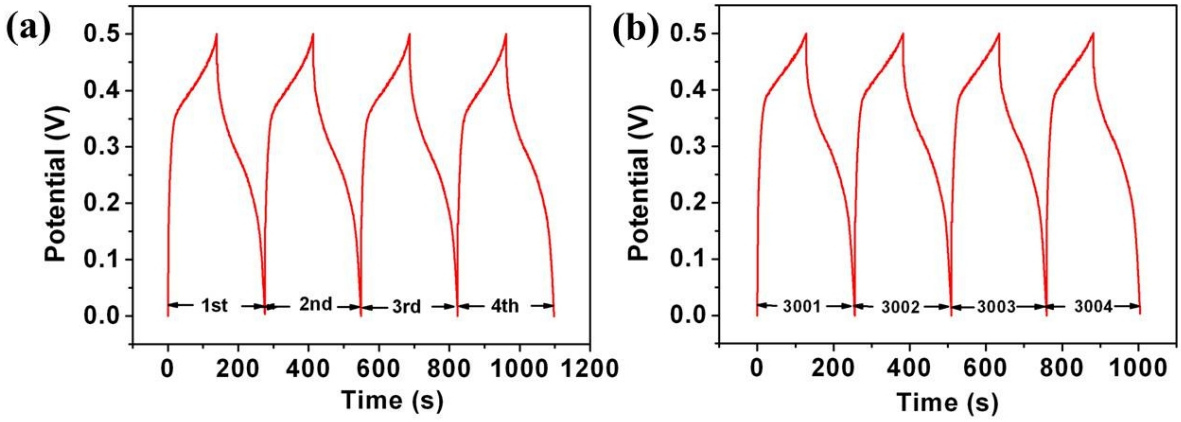

Figure S8. Charge/discharge curves of $CoNiO_2$/TiN-TiO_xN_y electrode in (a) the 1−4 cycles and (b) in the 3001−3004 cycles.

Table S1. The porosity properties of $CoNiO_2$ nanowires under various calcination temperatures.

Calcination Temperature (^oC)	BET surface area ($m^2\ g^{-1}$)	Average Pore Size (nm)	Pore Volume ($cm^3\ g^{-1}$)
250	127.4	8.48	0.308
300	72.5	8.00	0.169
350	41.6	8.44	0.100