北京大学
Peking University

Supporting Information

Tailoring CoO-ZnO Nanorod and Nanotube Arrays for Lithium Battery Anode Materials

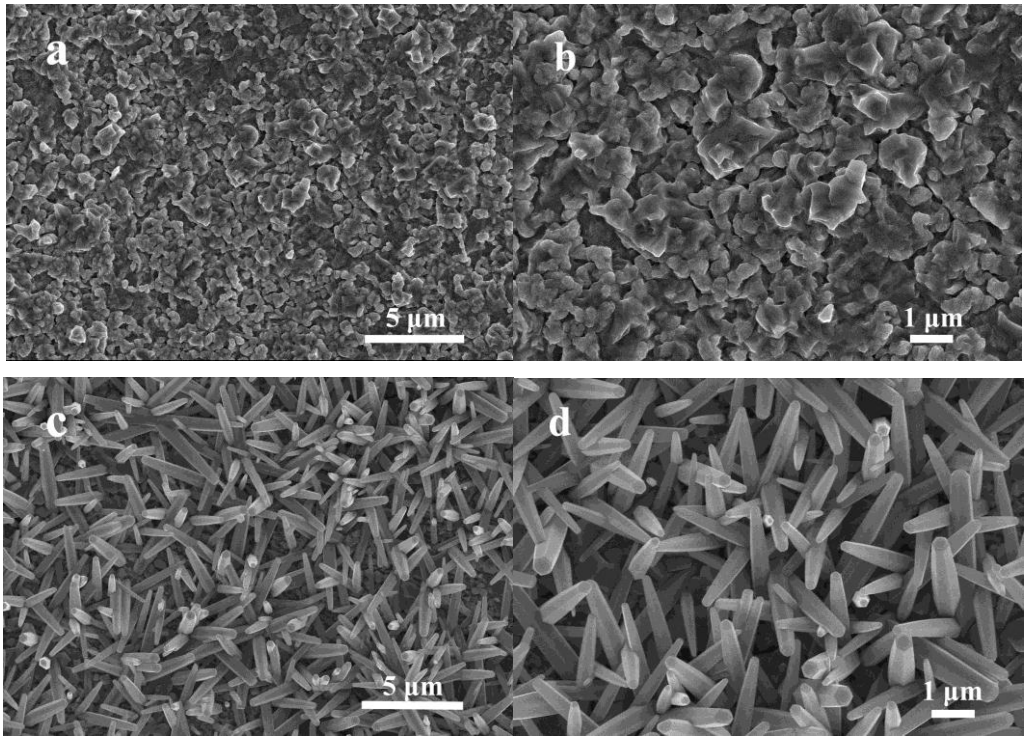

Figure SI1. SEM images of copper substrate with (a) low magnification and (b) low magnification; SEM images of ZnO nanorods prepared on the copper substrate with (c) low magnification and (d) high magnification.

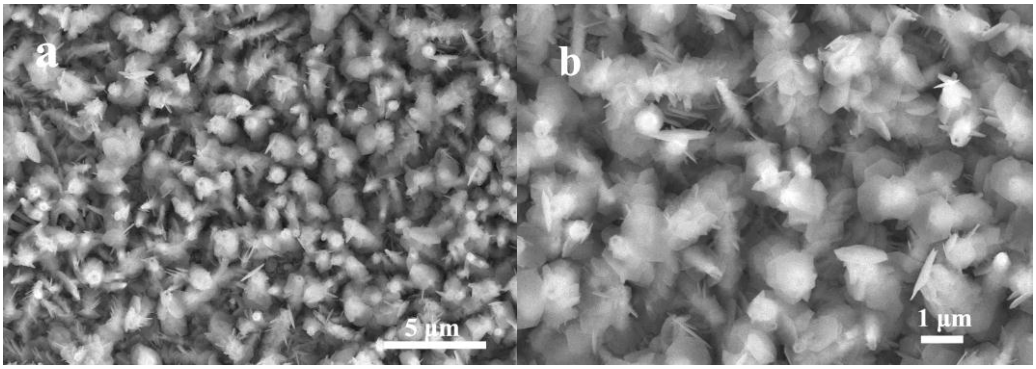

Figure SI2. SEM images of CoO-ZnO composite materials obtained at the concentration of $Co(NO_3)_2$ 0.15M on the copper substrate with (a) low magnification and (b) high magnification.

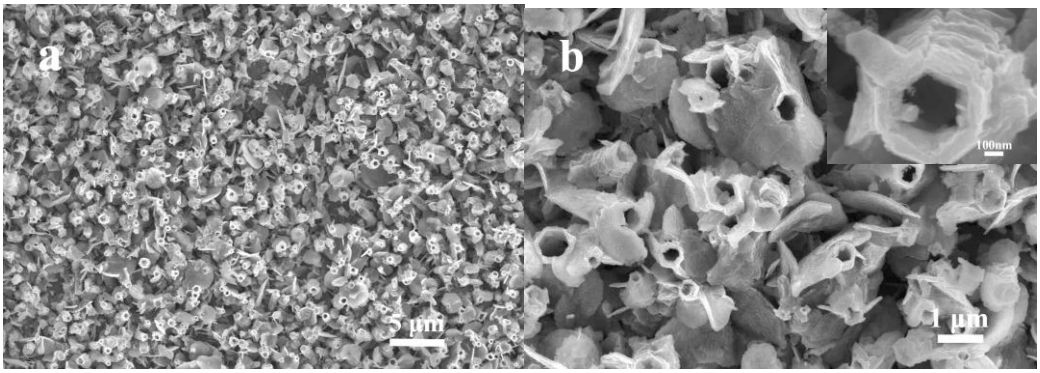

Figure SI3. SEM images of CoO-ZnO composite materials obtained at the concentration of $Co(NO_3)_2$ 0.15M on the copper substrate with (a) low magnification and (b) high magnification.

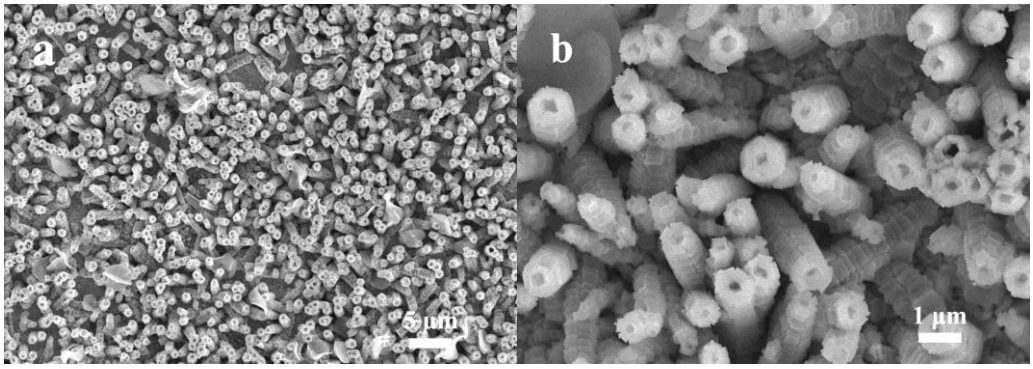

Figure SI4. SEM images of CoO-ZnO composite materials obtained at the concentration of $Co(NO_3)_2$ 0.18M on the copper substrate with (a) low magnification and (b) high magnification.

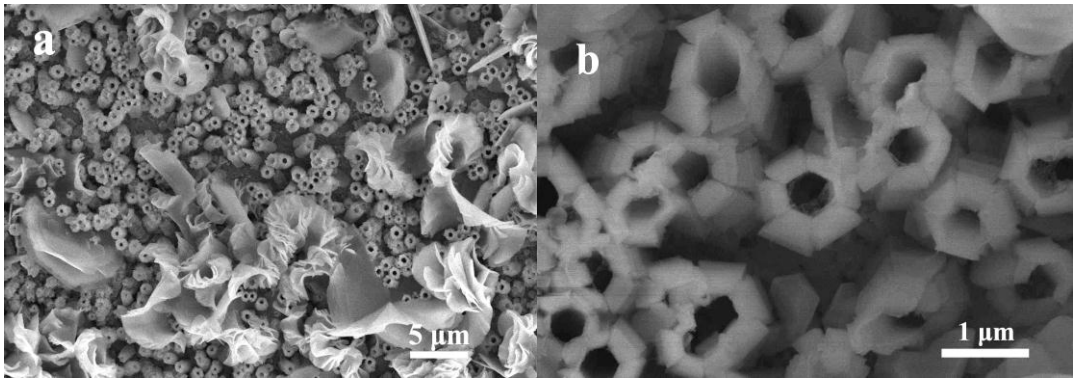

Figure SI5. SEM images of CoO-ZnO composite nanotube arrays obtained at the concentration of $Co(NO_3)_2$ 0.2M on the copper substrate with (a) low magnification and (b) high magnification.

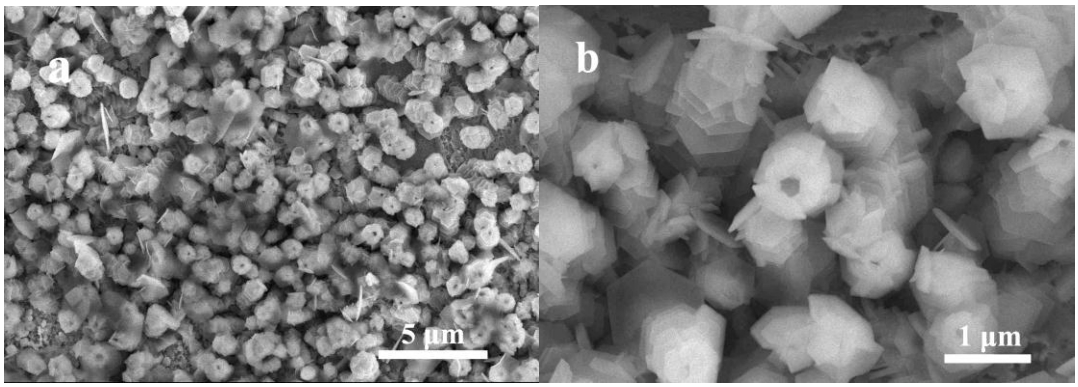

Figure SI6. SEM images of CoO-ZnO composite materials obtained at the concentration of $Co(NO_3)_2$ 0.22M on the copper substrate with (a) low magnification and (b) high magnification.

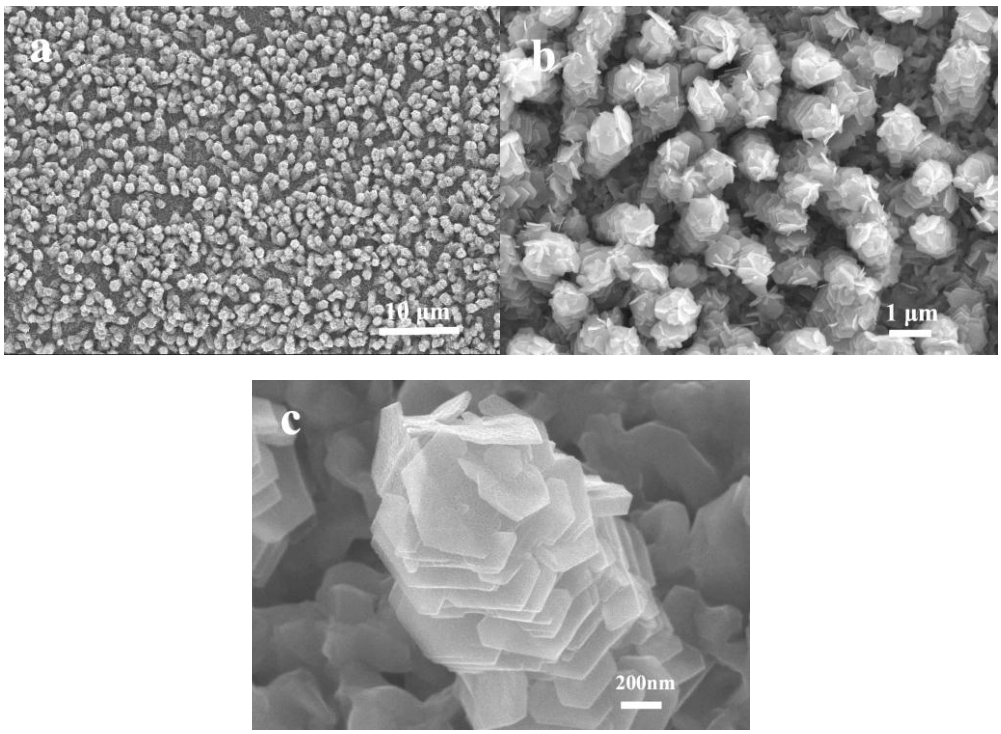

Figure SI7. SEM images of $ZnCo_2O_4$ hierarchy nanocolumn arrays obtained at the concentration of $Co(NO_3)_2$ 0.25M on the copper substrate with (a) low magnification, (b) and (c) high magnification.

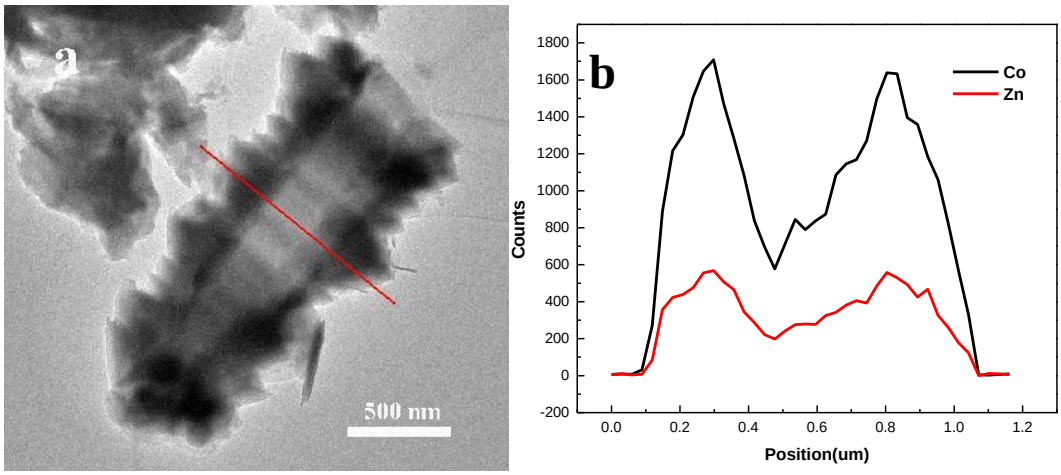

Figure SI8. (a)TEM image of CoO-ZnO composite nanotube; (b) linear EDS result of the CoO-ZnO composite nanotube.

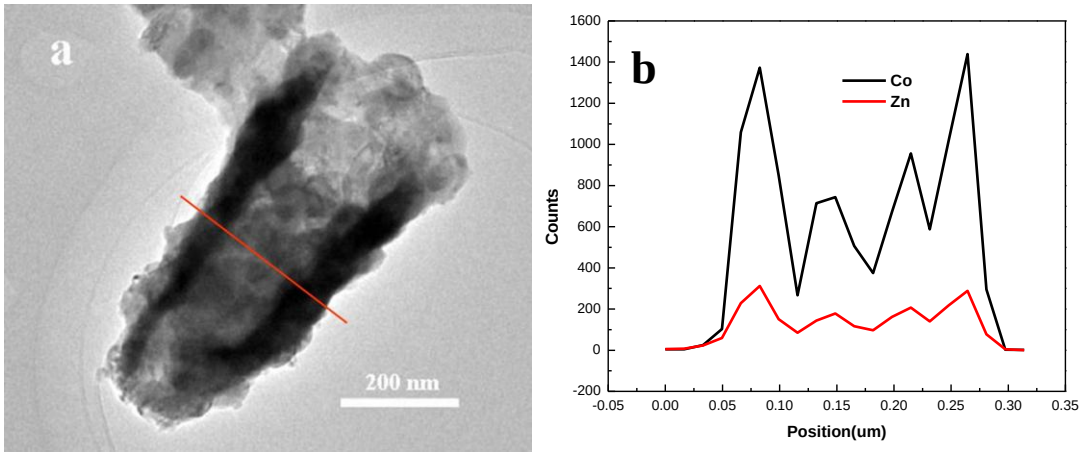

Figure SI9. (a) TEM image of CoO-ZnO composite nanotube; (b) linear EDS result of the CoO-ZnO composite nanotube; (c) diffraction patterns of the nanotube.

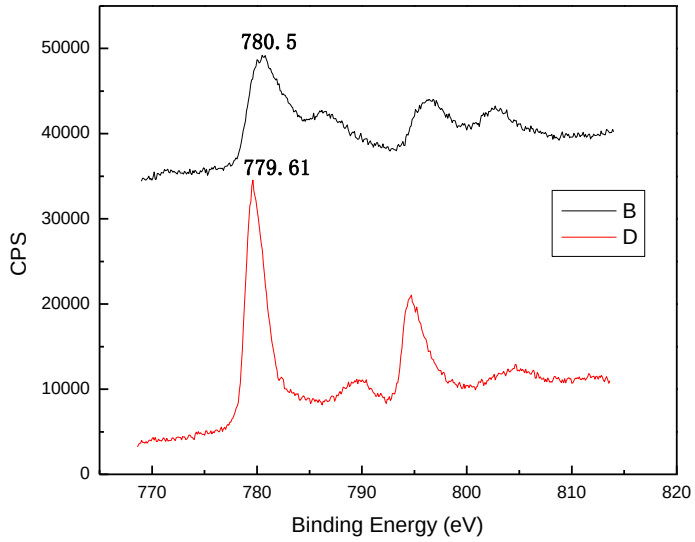

Figure SI10. XPS result of the samples annealed at 450℃ in nitrogen, line B is Co(Ⅱ) and line C is Co(Ⅲ).

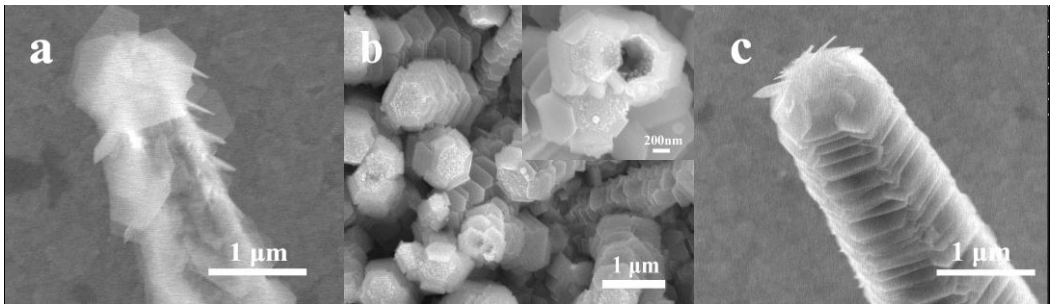

Figure SI11. SEM images of CoO-ZnO hierarchy nanocolumn obtained at 1h with the concentration of $Co(NO_3)_2$ (a) 0.1M; (b) 0.2M; (c)0.3M.

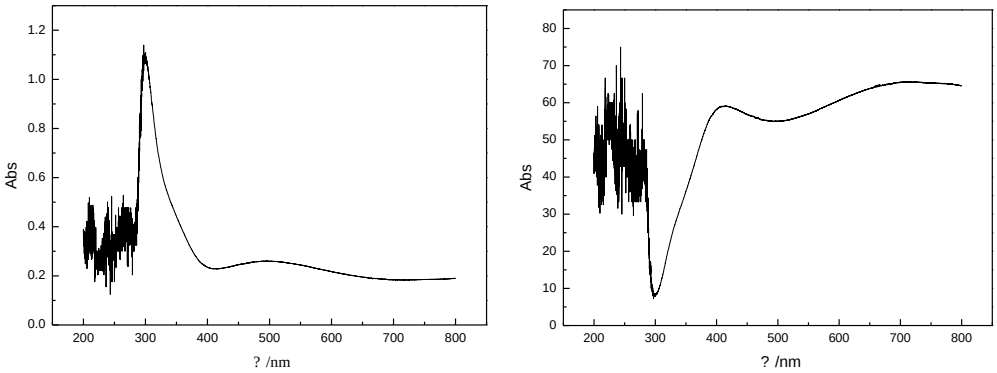

Figure SI12. UV-absorbance spectrum of $ZnCo_2O_4$ hierarchy nanocolumns.