

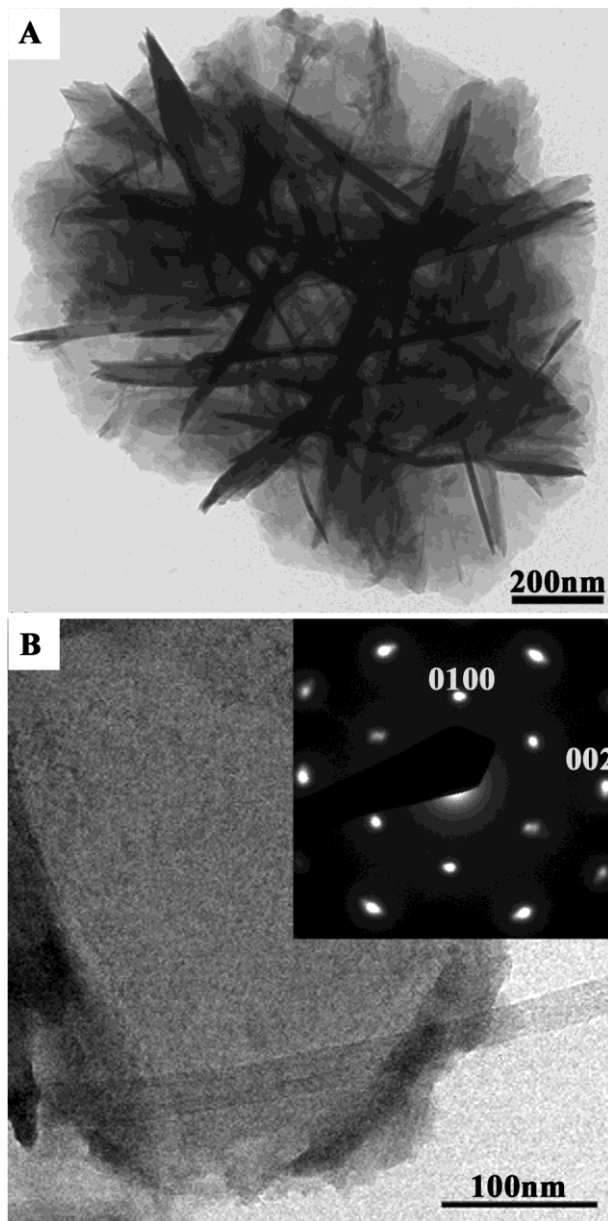
## Electronic Supplementary Information

**Sequential Crystallization of Sea Urchin-like Bimetallic (Ni, Co) Carbonate Hydroxide and Its Morphology Conserved Conversion to Porous NiCo<sub>2</sub>O<sub>4</sub> Spinel for Pseudocapacitors**

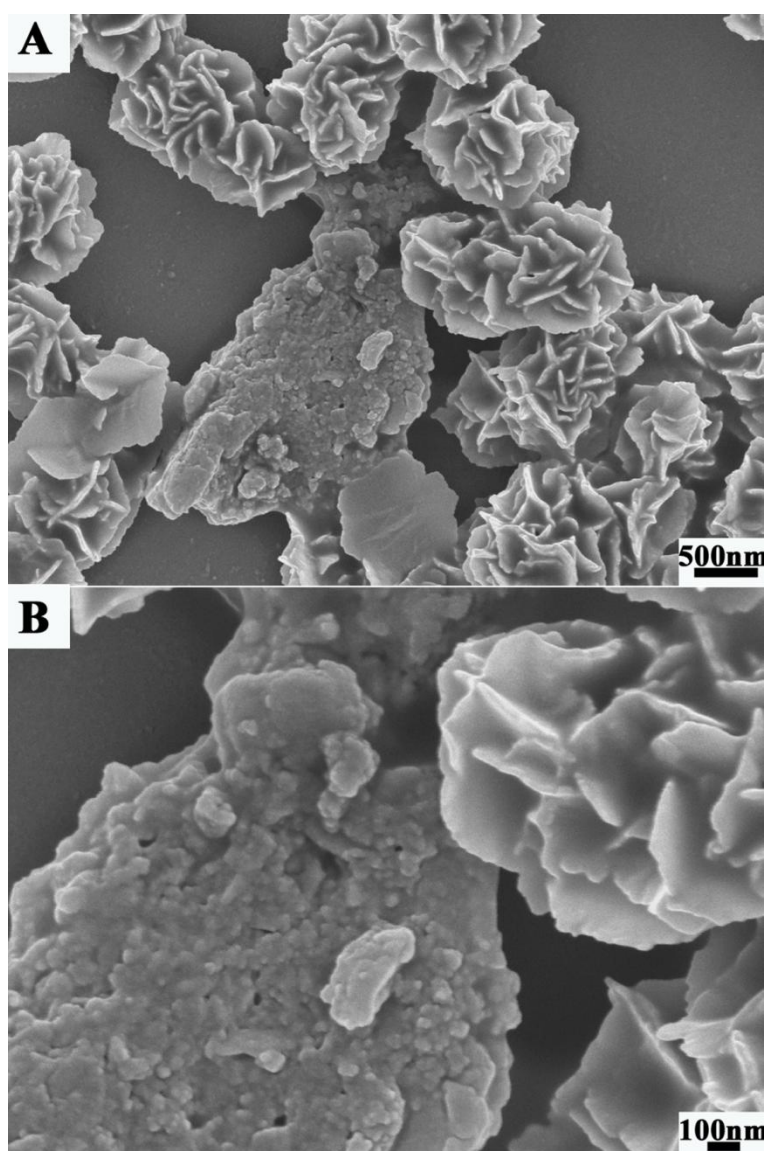
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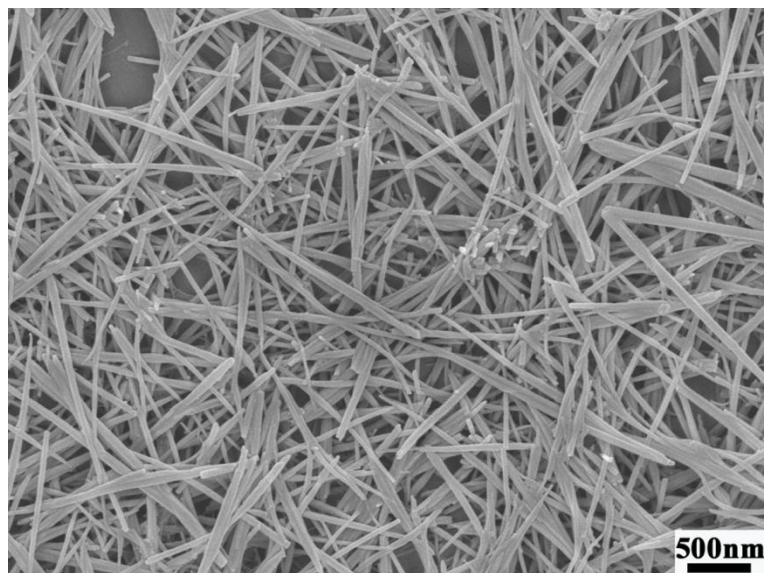
E-mail: [chsyang@ust.hk](mailto:chsyang@ust.hk)



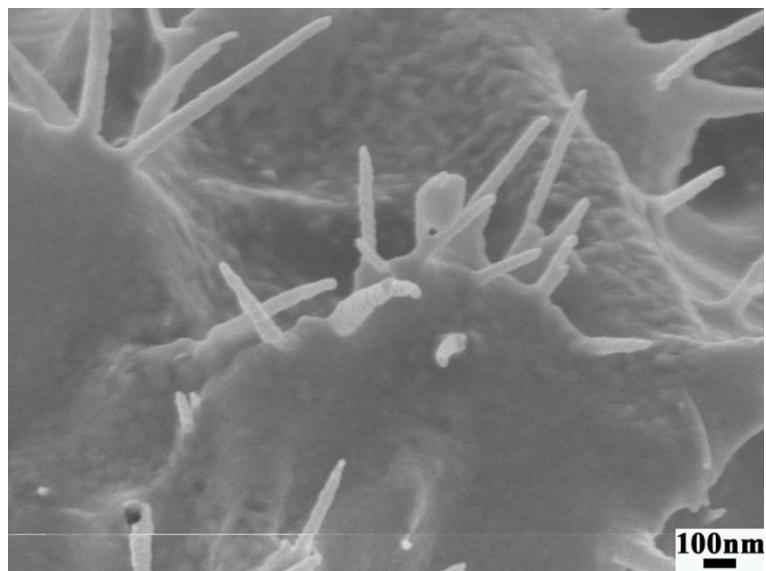
**Figure SI-1.** TEM images of (A) flower-like nickel carbonate hydroxide and (B) the corresponding building block nanoplates (Inset: the SAED pattern of nanoplates).



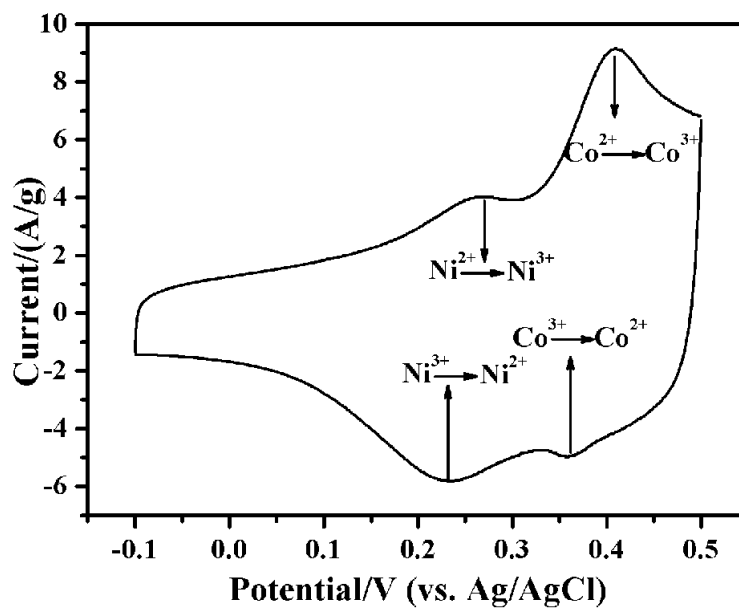
**Figure SI-2.** SEM images of nickel carbonate hydroxide after 1.5 h reaction: (A) low and (B) high magnifications. It's suggested that flower-like nickel carbonate hydroxide are crystallized from nanoparticles with less than 100 nm in a diameter.



**Figure SI-3.** SEM images of cobalt carbonate hydroxide formed after 1.5 h reaction.



**Figure SI-4.** SEM images of bimetallic carbonate hydroxide formed at the Co/Ni molar ratio of 2:1 after 2.5 h reaction. Bimetallic carbonate hydroxide nanorods are nucleated and grown at the edge of nickel carbonate hydroxide nanoplates.



**Figure SI-5.** CV of a  $\text{NiCo}_2\text{O}_4$  electrode in 1.0 M KOH solution at a scan rate of 5 mV/s. Note that the oxidation of  $\text{Ni}^{2+}$  and the reduction of  $\text{Co}^{3+}$  are more difficult to discern.