

## Supporting Information

# Surfactant-Assisted Solvothermal Synthesis of $\text{NiCo}_2\text{O}_4$ as Anodes for Lithium-ion Batteries

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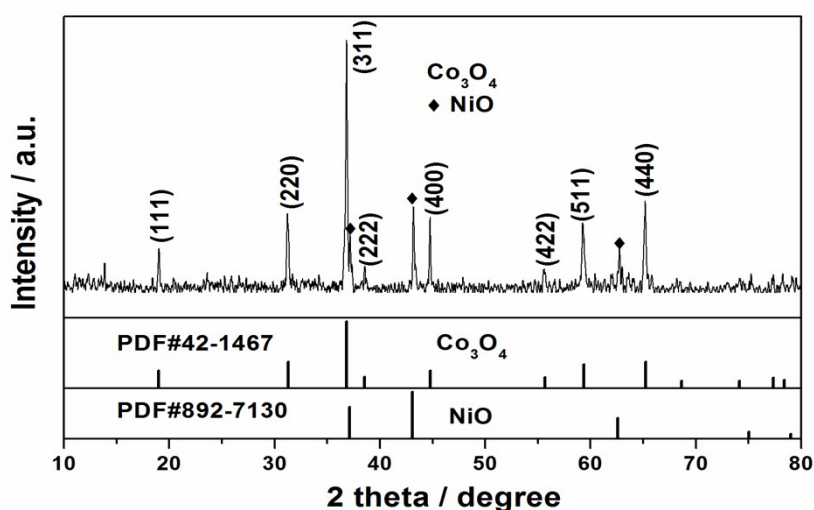


Figure SI-1 The XRD of  $\text{NiCo}_2\text{O}_4$  by calcining the precursors at 600 °C

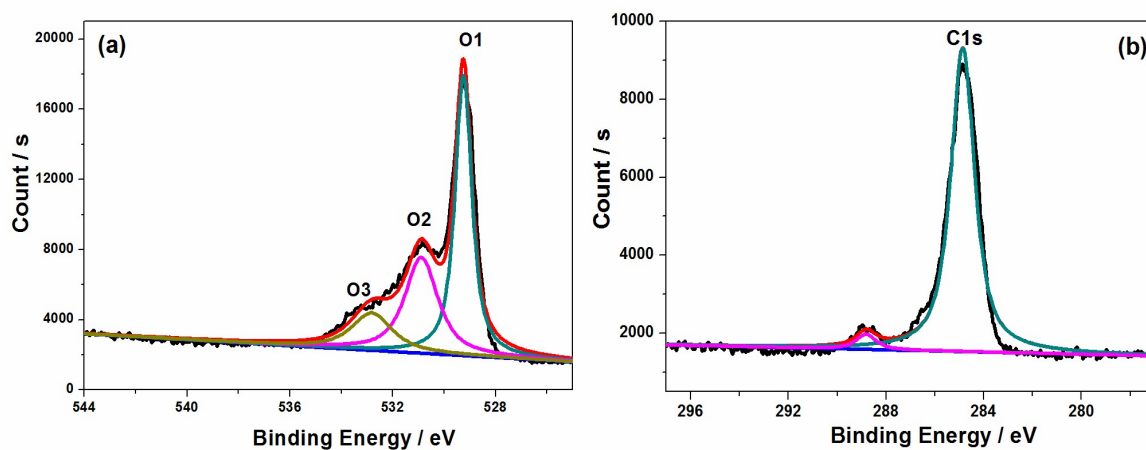


Figure SI-2 The XPS of  $\text{NiCo}_2\text{O}_4$  (a)  $\text{O}1s$  spectrum and (b)  $\text{C}1s$  spectrum

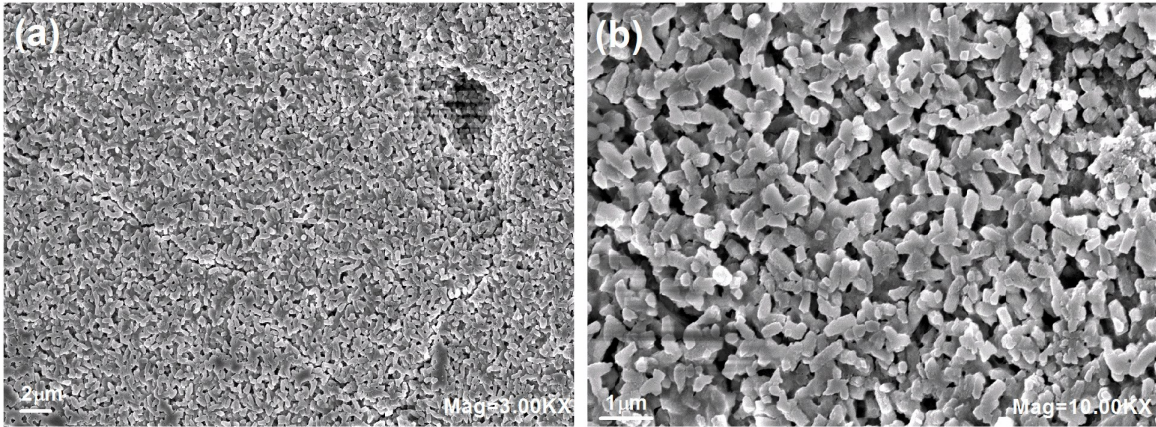


Figure SI-3 SEM of NiCo<sub>2</sub>O<sub>4</sub> electrode after cycling at different magnification

Table SI-1 Comparison of electrochemical properties of different cathode materials for NiCo<sub>2</sub>O<sub>4</sub>

Materials	Synthesis method	Initial capacity (mAh/g)/coulombic efficiency (%)	Capacity retention	Reference
NiCo <sub>2</sub> O <sub>4</sub> nanorods	Co-precipitation method	1400/60.14	400mAh/g after 25 cycles (100mA/g)	[1]
NiCo <sub>2</sub> O <sub>4</sub> nanosheets	Microwave method	1520/52.5	767 mAh/g after 50 cycles (100mA/g)	[2]
NiCo <sub>2</sub> O <sub>4</sub> microflowers	Solvothermal method	1770/71.58	952 mAh/g after 50 cycles (100mA/g)	[3]
NiCo <sub>2</sub> O <sub>4</sub> nanorods	Co-precipitation method	1364/75.15	650 mAh/g after 150 cycles (100mA/g)	[4]
NiCo <sub>2</sub> O <sub>4</sub> /carbon nanoflakes	Hydrothermal method	798.5/82.1	555.8 mAh/g after 30 cycles (40mA/g)	[5]
NiCo <sub>2</sub> O <sub>4</sub> nanoplates	Co-precipitation method	1265/72.56	836 mAh/g after 50 cycles (60mA/g)	[6]
NiCo <sub>2</sub> O <sub>4</sub> microsphere	Solvothermal method	1160/79.36	729 mAh/g after 50 cycles (100mA/g)	[7]

NiCo <sub>2</sub> O <sub>4</sub> microsphere	Solvothermal method	1712/70.91	1198mAh/g after 30 cycles (200mA/g)	[8]
NiCo <sub>2</sub> O <sub>4</sub> nanoparticles	microemulsion and hydrothermal method	1176/75.41	1175 mAh/g after 45 cycles (100mA/g)	This work

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