

Supplementary information

Phosphatized Mild-prepared-NiCo LDHs Cabbage-like Sphere Exhibits Excellent Performance as Supercapacitor Electrode

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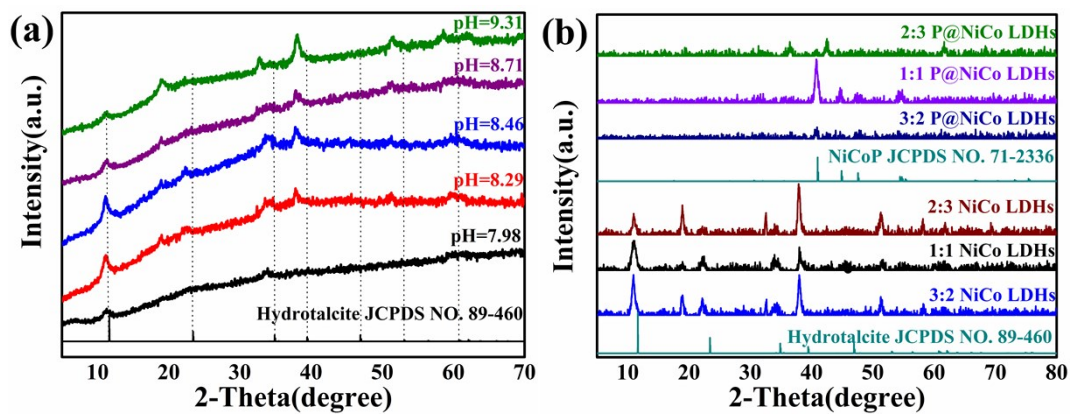


Fig. S1. XRD patterns of (a) the obtained NiCo-LDHs under the different initial pH values and (b) 3:2 NiCo LDHs,

1:1 NiCo LDHs, 2:3 NiCo LDHs, 3:2 P@NiCo LDHs, 1:1 P@NiCo LDHs, 2:3 P@NiCo LDHs.

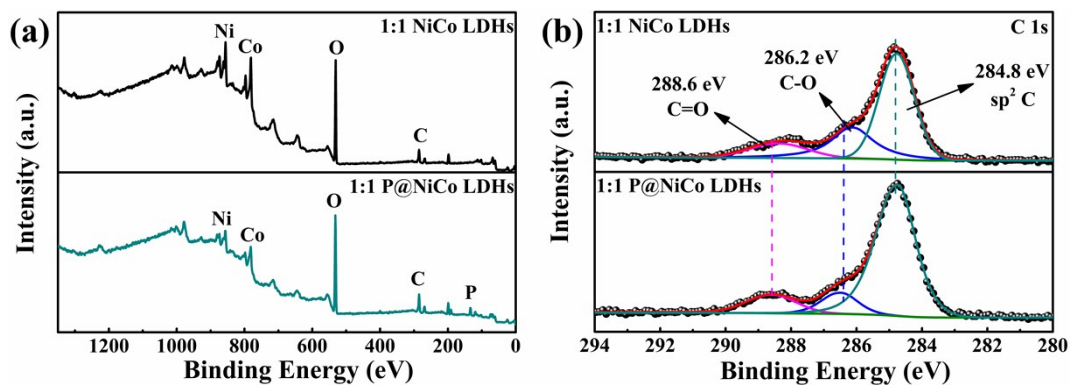


Fig. S2. The (a) full XPS spectra and (b) C 1s spectra of the 1:1 NiCo LDHs and 1:1 P@NiCo-LDHs.

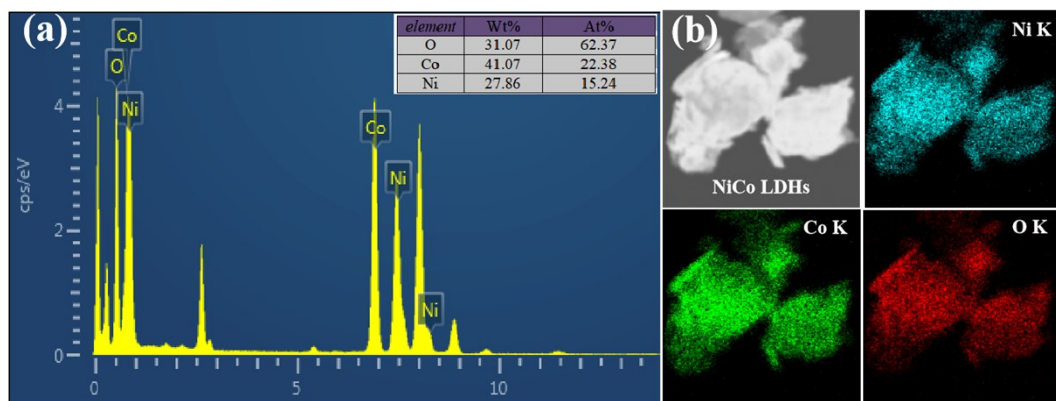


Fig. S3. TEM images of (a) EDX pattern of the NiCo LDHs, (b) EDS mapping of Ni, Co and O element on LDHs microspheres.

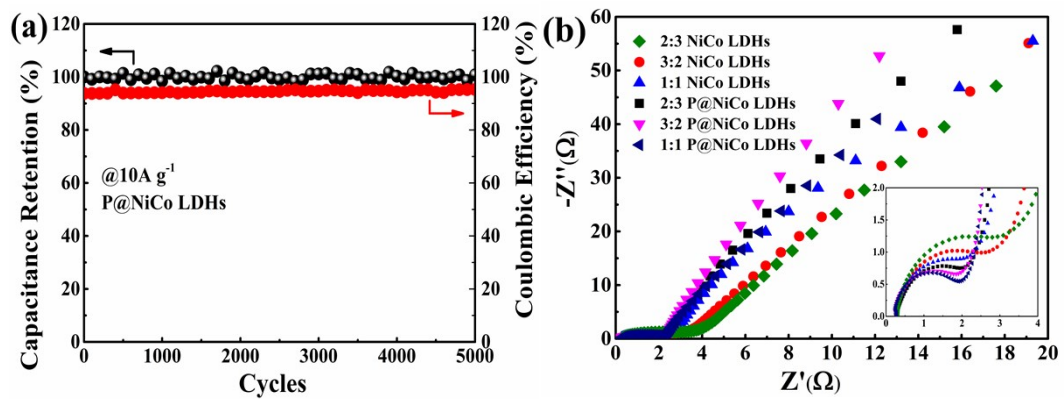


Fig. S4. (a) Cyclic performance of P@NiCo LDHs at a current density of $10\text{A}\cdot\text{g}^{-1}$ for 5000 cycles; (b) The EIS plots of different prepared electrode.

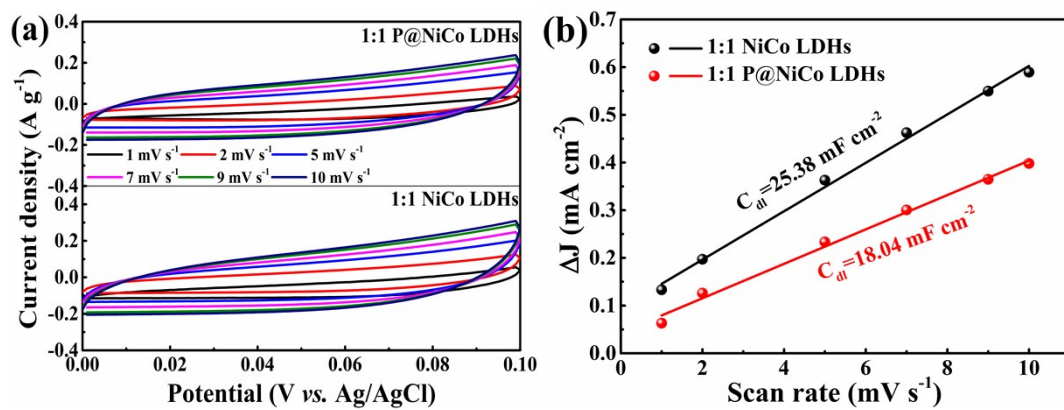


Fig. S5. (a) CV curves in the potential region 0-0.1 V to determine the ECSAs of the electrode materials before and after phosphating. (b) The measured capacitive currents plotted as a function of scan rate.

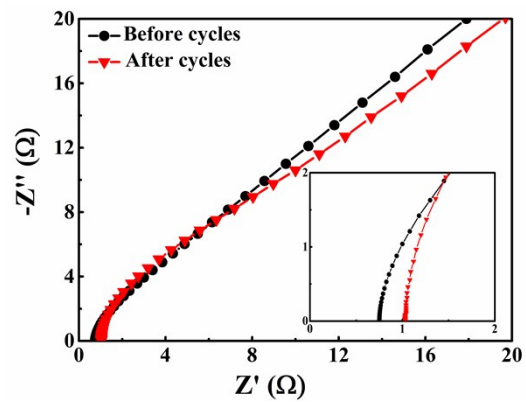


Fig. S6. Nyquist plot for P@NiCo LDHs//P@NiCo LDHs symmetric supercapacitor in the frequency range of 0.01 Hz to 100 kHz before and after cycles.

Table. S1. Structural parameters obtained from N₂ adsorption isotherms analysis.

samples	SBET(m ² g ⁻¹) ^{a)}	Pore volume(cm ³ g ⁻¹) ^{b)}	Average pore size(nm) ^{b)}
NiCo LDHs	60.93	0.16	21.79
P@NiCo LDHs	80.42	0.23	13.65

a)Obtained from BET method;

b)Total pore volume taken from the N₂ adsorption volume at a relative pressure (P/P₀) of 0.99.