

Supporting Information for

Tailored Ni₂P nanoparticles supported on N-doped carbon as a superior anode material for Li-ion batteries

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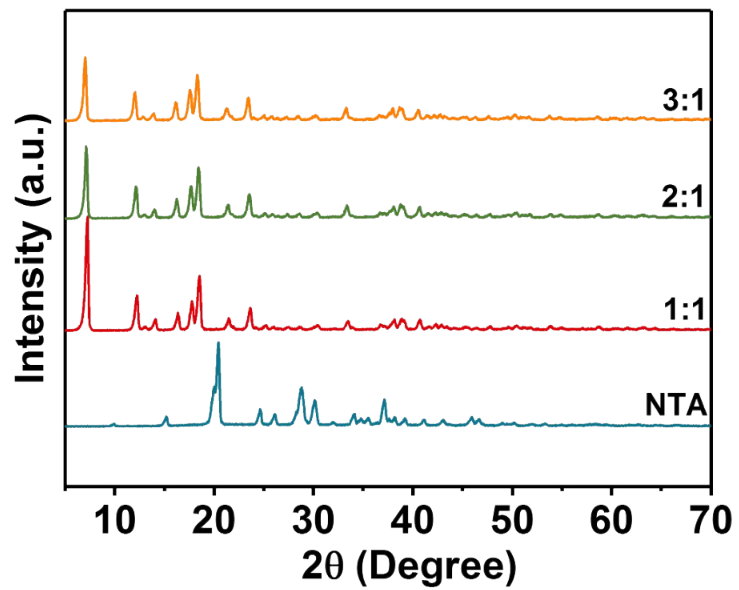


Figure S1. XRD patterns of the synthesis Ni-NTA with different molar ratio of Ni²⁺ and NTA.

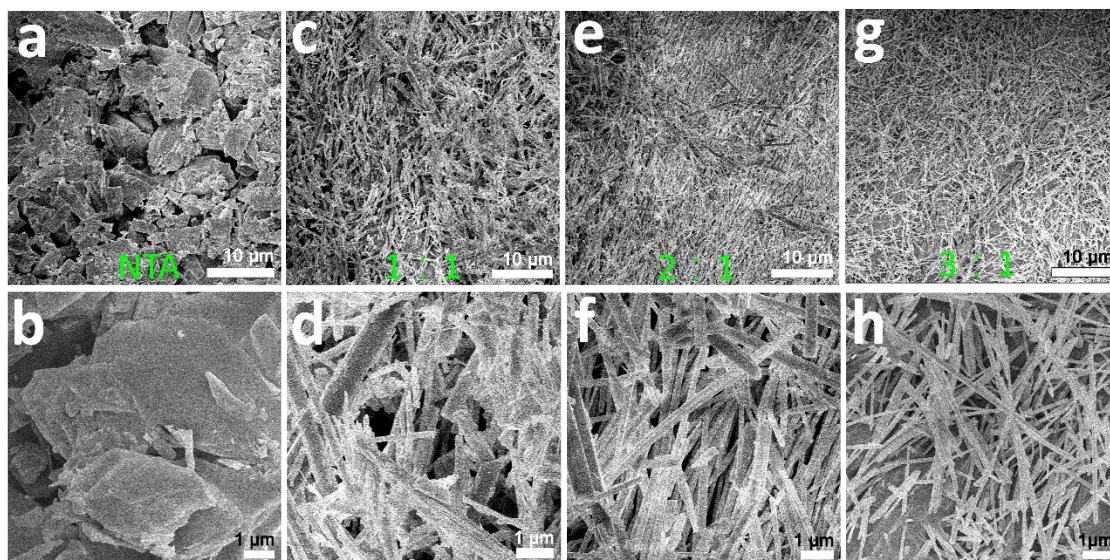


Figure S2. SEM images of Ni-NTA with different molar ratios of Ni^{2+} and NTA: (a, b) NTA, (c, d) 1:1 (e, f) 2:1, (g, h) 3:1.

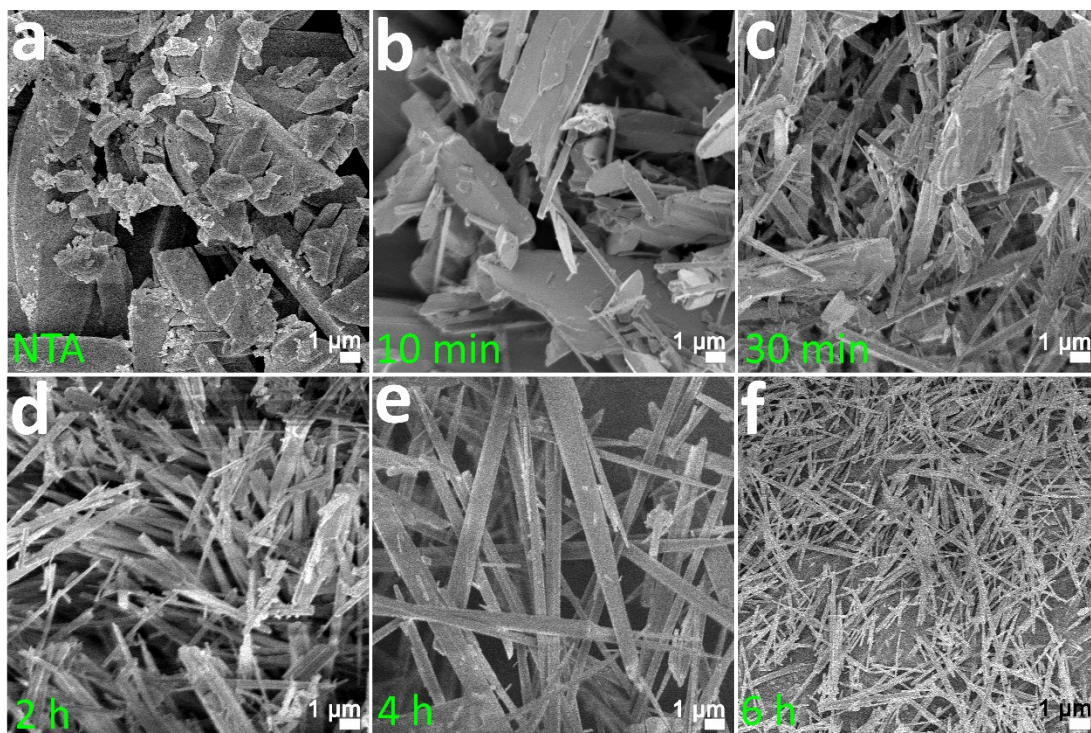


Figure S3. SEM images of Ni-NTA with different hydrothermal time: (a) NTA, (b) 10 min, (c) 30 min, (d) 2 h, (e) 4 h, (f) 6 h.

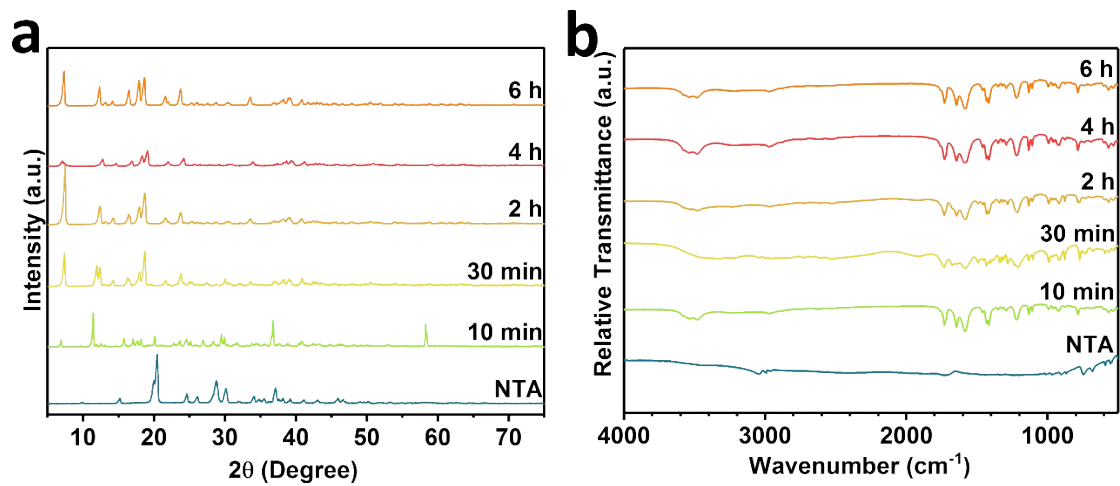


Figure S4. XRD patterns (a) and FTIR spectra (b) of Ni-NTA with different hydrothermal time.

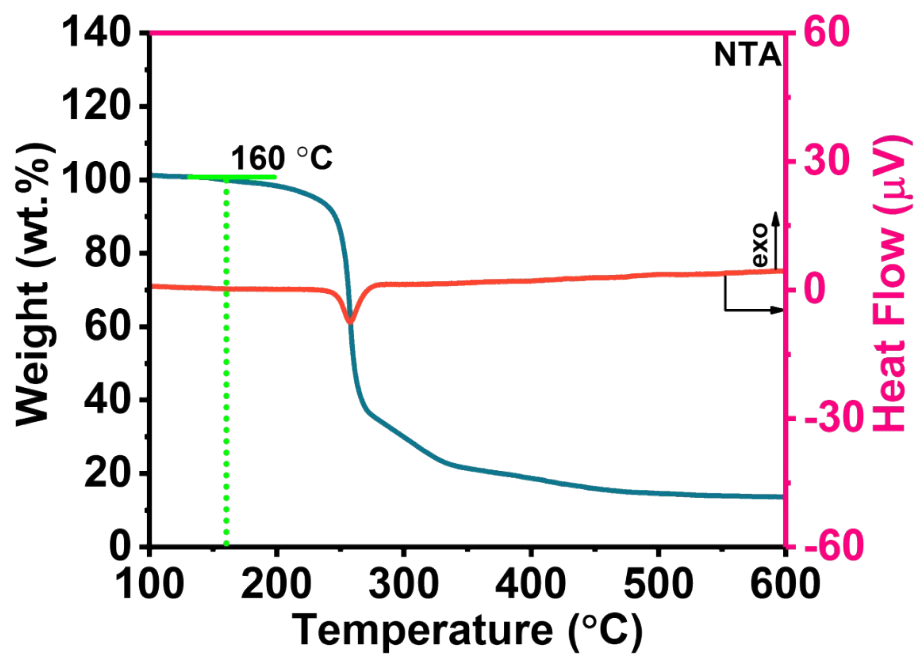


Figure S5. TGA-DTA of NTA.

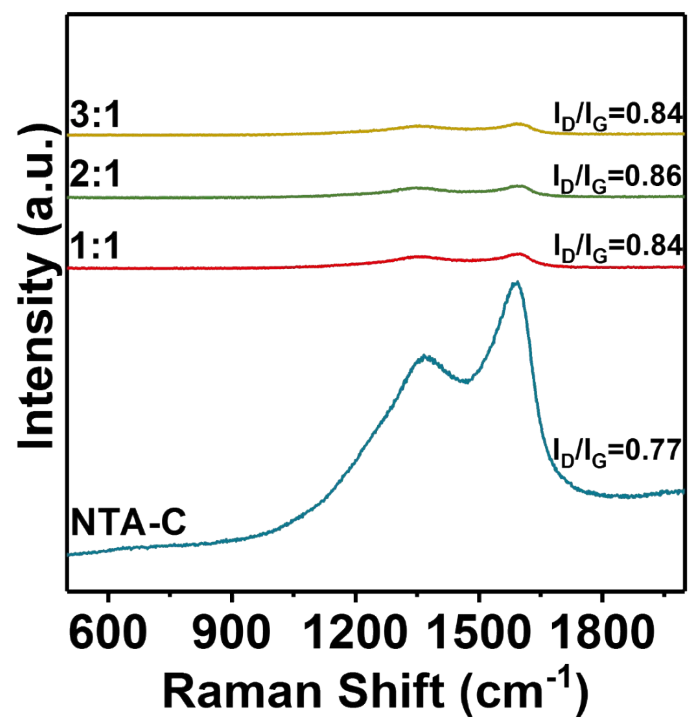


Figure S6. Raman spectra of pyrolysis product Ni@C with different molar ratios of Ni²⁺ and NTA.

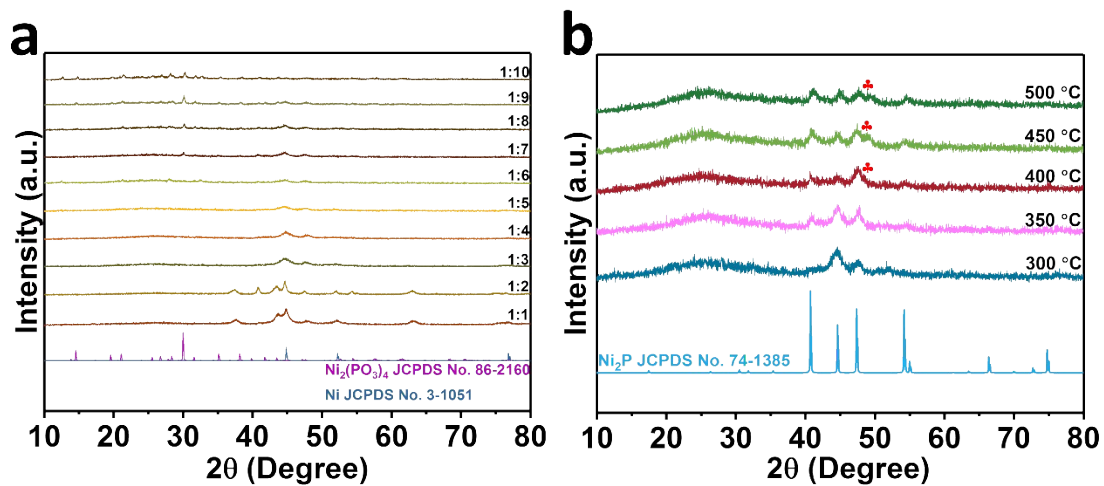


Figure S7. XRD patterns of $\text{Ni}_2\text{P}@NPC$ with different: (a) molar ratios of Ni@C and NaH_2PO_2 , (b) phosphating temperature.

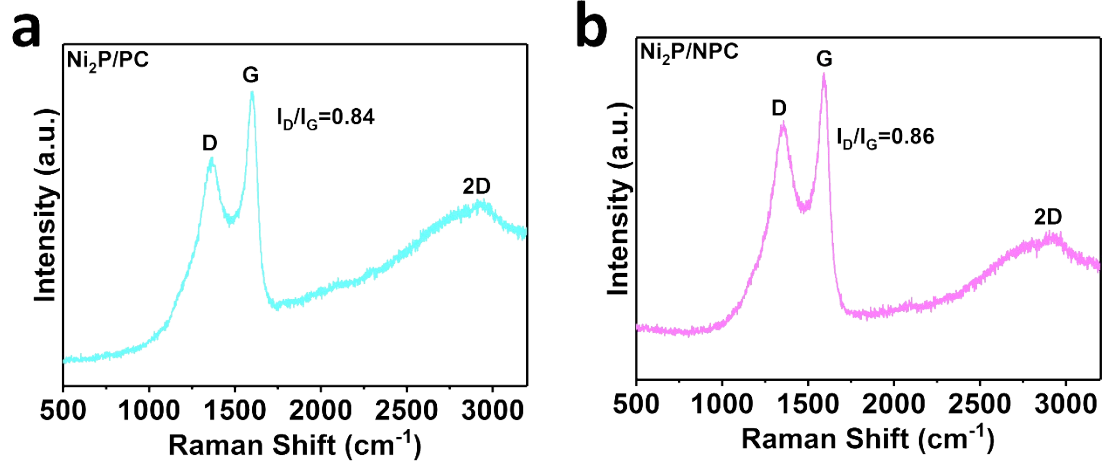


Figure S8. Raman spectra of (a) $\text{Ni}_2\text{P}/\text{PC}$, (b) $\text{Ni}_2\text{P}/\text{NPC}$

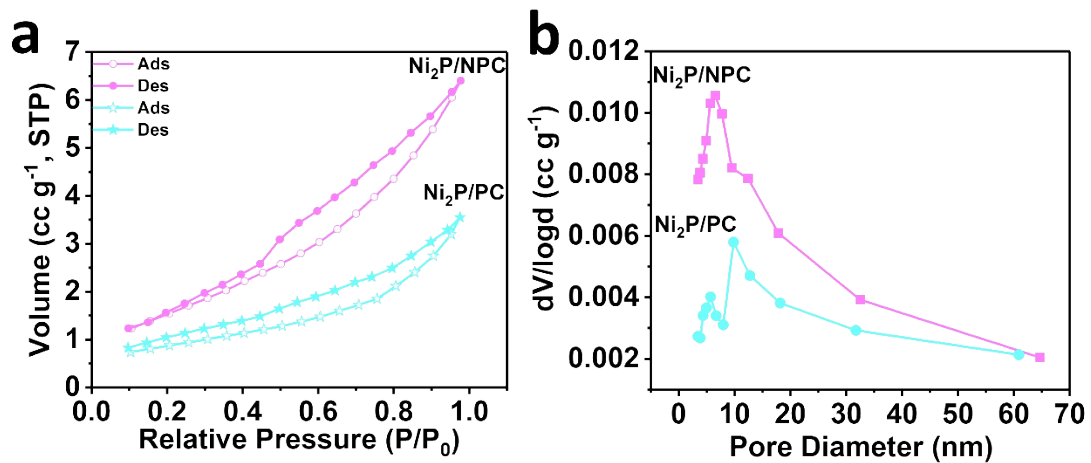


Figure S9. N_2 adsorption/desorption isotherms (a) pore size distribution plots, (b) of

Ni_2P/PC and Ni_2P/NPC .

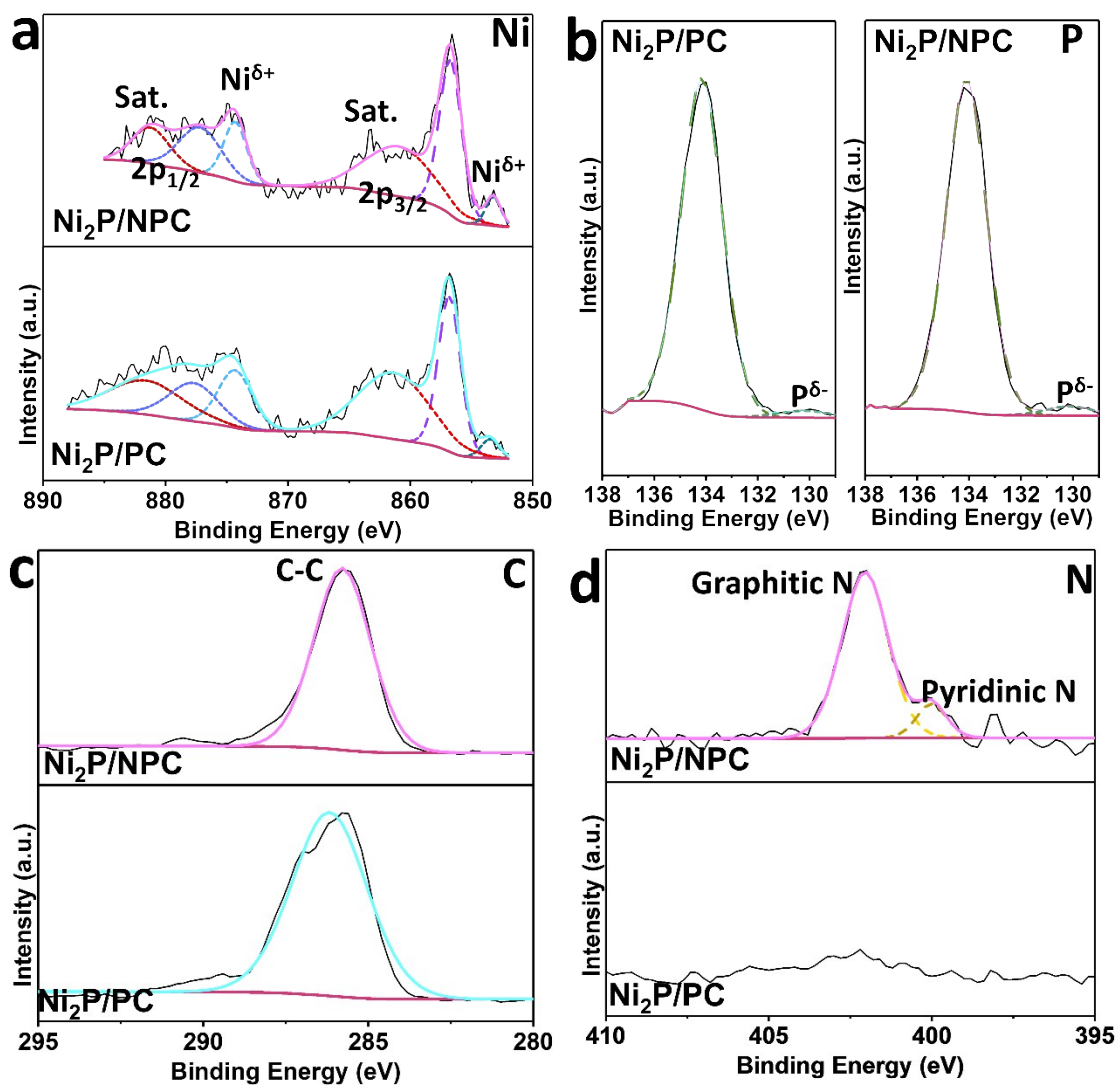


Figure S10. High resolution XPS spectra of (a) Ni 2p, (b) P 2p, (c) C 1s, (d) N 1s for

$\text{Ni}_2\text{P}/\text{PC}$ and $\text{Ni}_2\text{P}/\text{NPC}$.

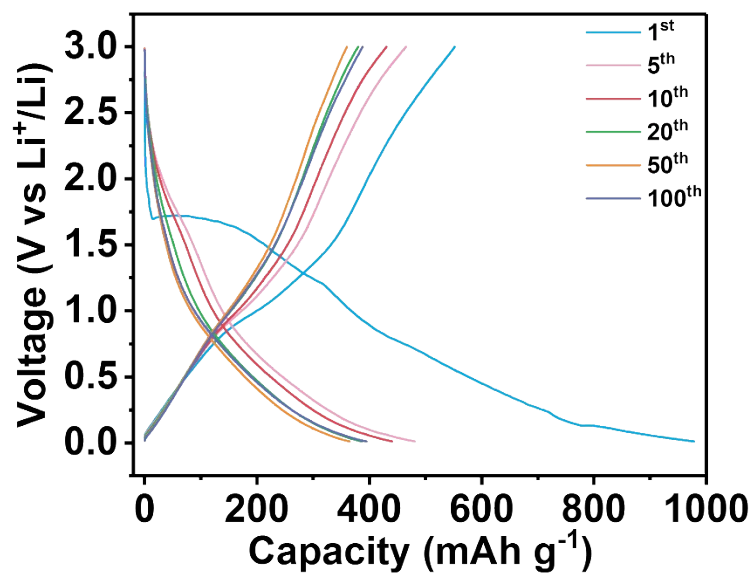


Figure S11. Charge/discharge curves of the Ni₂P@PC at a current density of 100 mA g⁻¹.

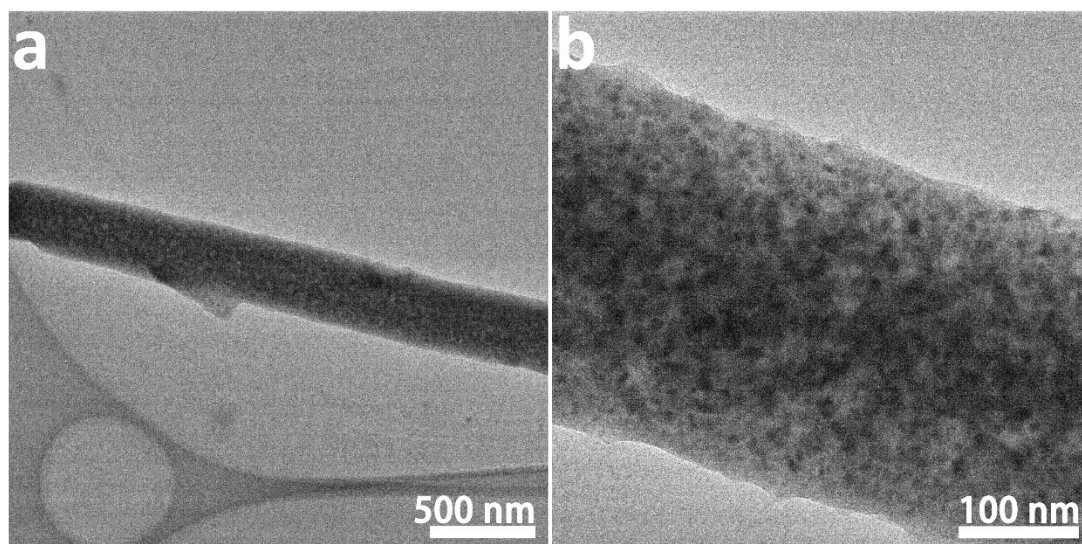


Figure S12. TEM image of Ni₂P@NPC after 178 cycles.

Table S1. The elemental analysis results of Ni₂P/PC and Ni₂P/NPC.

Elemental Analysis Results		
	C (wt%)	N (wt%)
Ni₂P/PC	11.39	0
Ni₂P/NPC	10.53	1.22