

Supporting Information:

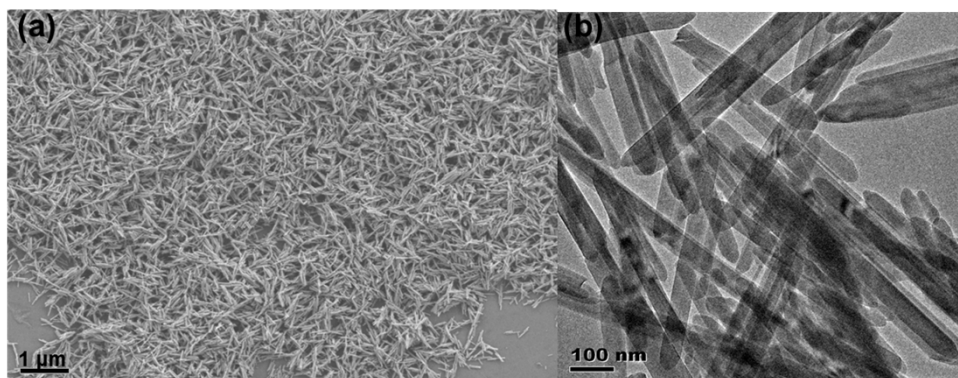


Fig. S1 (a) is the low-magnification SEM image to show the prepared $\text{NiNH}_4\text{PO}_4\text{H}_2\text{O}$ nanorods in a large scale and (b) is magnified TEM image to show the rod-like morphology for $\text{NiNH}_4\text{PO}_4\text{H}_2\text{O}$ samples.

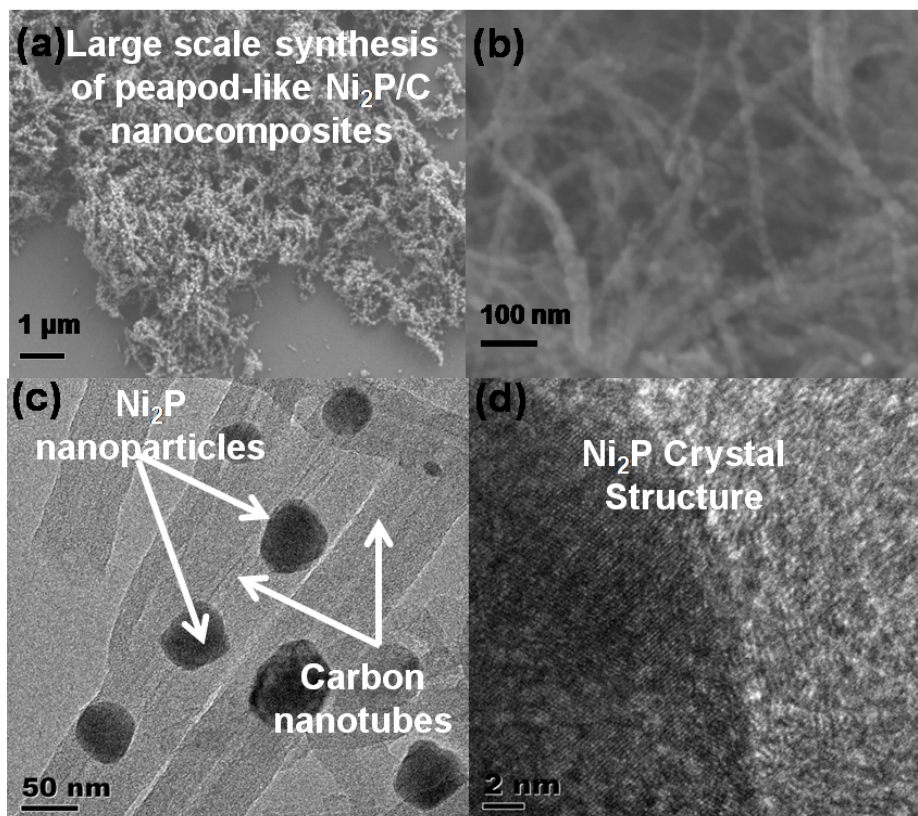


Fig. S2 (a) and (b) are the low-magnification and high-magnification SEM images of peapod-like $\text{Ni}_2\text{P}/\text{C}$ nanocomposites, respectively; (c) is the magnified TEM image to show the typical status of the peapod-like morphology for the $\text{Ni}_2\text{P}/\text{C}$ nanocomposites; (d) is the HRTEM image to clearly show the crystal structure of the $\text{Ni}_2\text{P}/\text{C}$ nanocomposites.

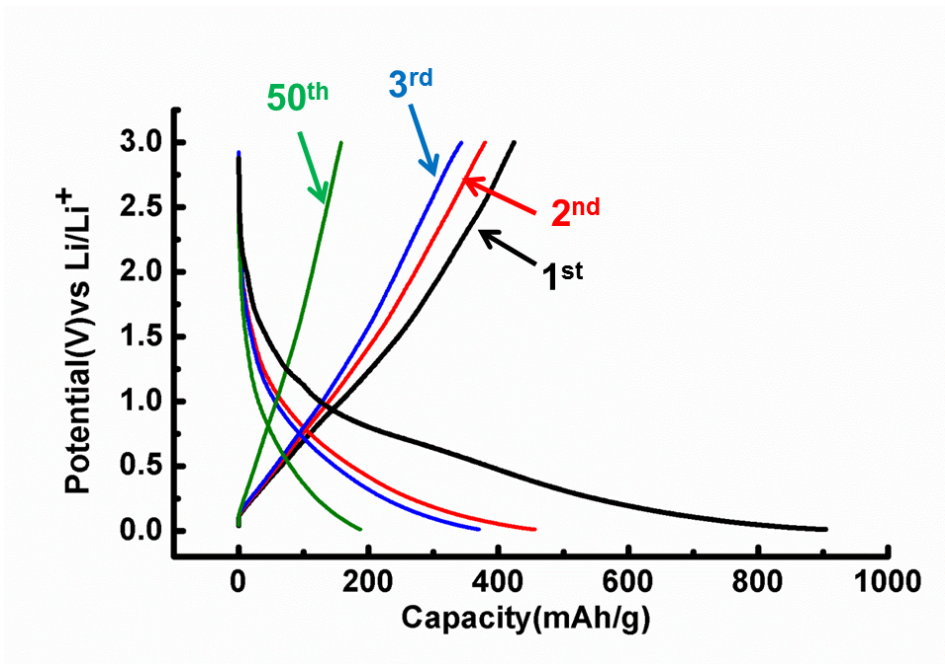


Fig. S3 Discharge-charge curves for Ni₂P electrodes.

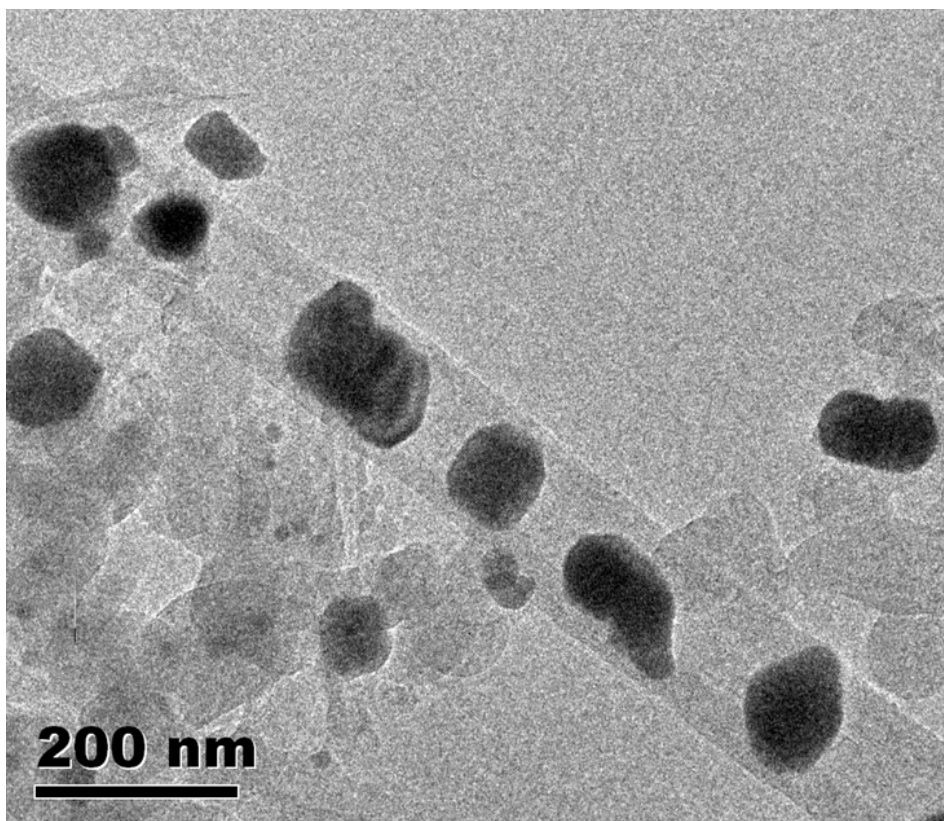


Fig. S4 is the low-resolution TEM image to reveal that peapod-like structure is well maintained after 200 cycles' galvanostatic charge-discharge.

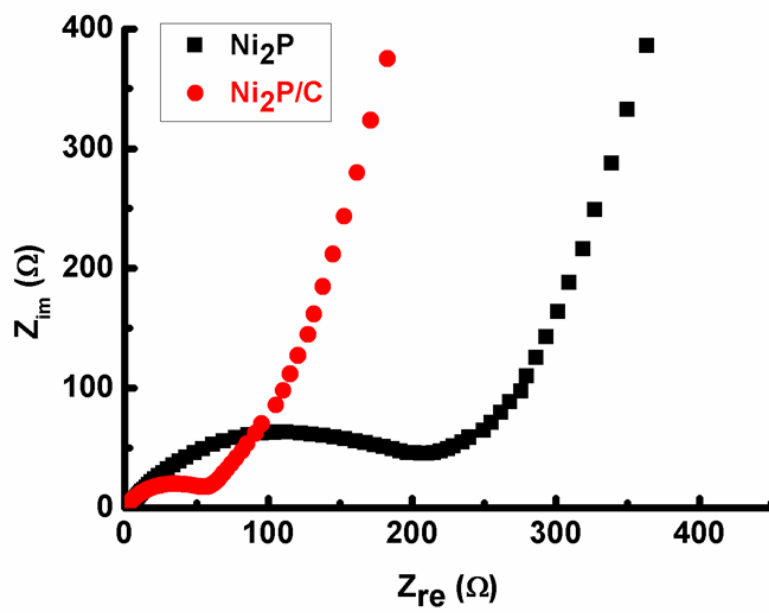


Fig. S5 Nyquist plots of the Ni_2P/C nanocomposite and Ni_2P electrodes