Off-stoichiometric Na$_{3-3x}$V$_{2+x}$(PO$_4$)$_3$/C Nanocomposites as Cathode Materials for High-performance Sodium-ion Batteries Prepared by High-energy Ball Milling

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Fig. S1. P2p XPS spectra of NVP-$x$ ($x=0-0.10$).
SEM experiments were done to compare the morphological changes of the NVP-$_x$ electrodes before cycling and after 100 cycles at 1 C. As shown in Fig. S2 (Supporting Information), there is no apparent difference between the SEM images of the electrode before cycling and after 100 cycles at 1 C. Before cycling, a compact electrode consisting of the NVP-$_x$ particles and acetylene black are observed. After 100 cycles at 1 C, the electrodes still maintain integral. Thus, the results suggested that the structures of NVP-$_x$ are stable and the amorphous carbons are helpful to assist in buffering volume change of Na ion insertion/extraction.