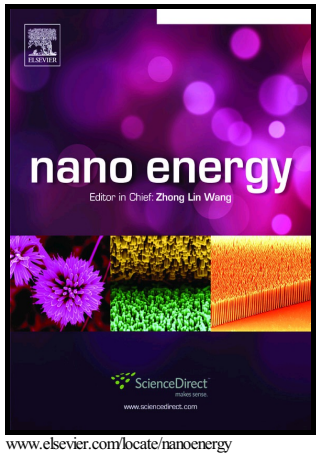

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Abstract

NASICON structured $NaTi_2(PO_4)_3$ with stable and open framework has become a promising electrode material for sodium-ion batteries. However, the intrinsic low electronic conductivity of $NaTi_2(PO_4)_3$ leads to inferior rate capability and poor active material utilization. Herein, we first report the synthesis of carbon-coated hierarchical $NaTi_2(PO_4)_3$ mesoporous microflowers (NTP/C-F), *via* a facile and controllable solvothermal method and subsequent annealing treatment. The unique structural features endow the NTP/C-F with excellent structural stability, enhanced charge transfer kinetics, and suppressed polarization. This architecture exhibits superior sodium storage performance: high initial capacity (125 mA h g^{-1} at 1 C), outstanding rate capability (95 mA h g^{-1} at 100 C), and ultra-long cycling stability (capacity retention of 77.3% after 10, 000 cycles at 20 C). Time-resolved *in-situ* X-ray diffraction study reveals the typical

[1] These authors contributed equally to this work.