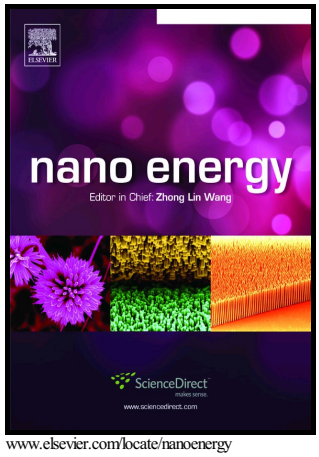

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Abstract:

Compared to other energy storage types, capacitive energy-storage serves increasingly significant roles in shortening reversible cycling times and enlarging high power than traditional batteries. It still suffers from the low pseudo-capacitive level and short of electrodes, along with low energy density. Considering the great theoretical capacity, here 1D chain-like Co_3O_4 is prepared though the thermal oxidation of the self-assembled rod-like Co-precursor. Followed by *in-situ* polymerization of pyrrole monomer, the Co_3O_4 were encapsulated in the transparent PPy shell. Particle size-tuning, 1D architecture-altering, conducting PPy introduction could effectively broaden the energy distribution of ions, increase the speed of ions directional transferring and improve the conductivity with protecting electrode materials. As Li-storage anodes, Co_3O_4/PPy delivers a stable capacity of 816.6 mAh g^{-1} at 1.0 A g^{-1} after 300 cycles.