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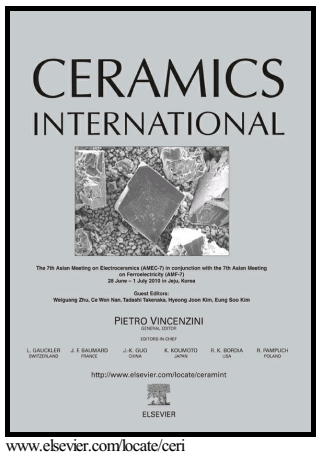

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$MnCo_2O_4$ nanospheres for improved lithium storage performance

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ABSTRACT

Mesoporous $MnCo_2O_4$ nanospheres with an average diameter of approximately 480 nm have been synthesized by a polyvinyl pyrrolidone (PVP)-assisted solvothermal method followed by thermal annealing. $MnCo_2O_4$ nanospheres consist of many nanoparticles having sizes in range of 20-50 nm, the specific area of the sample being 24.4 m^2 g^{-1}. When used as the anode material for lithium ion batteries, the mesoporous $MnCo_2O_4$ nanospheres show not only an excellent cycling stability, but also an outstanding rate capability. More specially, the discharge capacities of 749.1 and 629.6 mAh g^{-1} can be retained at current densities of 200 and 400 mA g^{-1} after 50