Short Communication

(Co_{0.94}Fe_{0.06})₃O₄ Nanoparticles Embedded Porous Hollow Carbon Nanowire Derived from Co-based metal-organic Frameworks and Its Capacitive Behavior

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In this work, (Co_{0.94}Fe_{0.06})₃O₄ nanoparticles embedded porous hollow carbon nanowire were prepared by a low temperature calcinations of Co₂(BDC)₂(dabco) powder loaded with Fe³⁺ ions. The overall morphology of the MOF material was largely maintained after this low temperature calcinations process. The morphological and compositional characteristics of the calcination products are investigated. It is found that the calcination leads to the generation of (Co_{0.94}Fe_{0.06})₃O₄ nanoparticles decorated porous carbon hollow nanowire. The supercapacitance behavior of the (Co_{0.94}Fe_{0.06})₃O₄ nanoparticles decorated porous carbon hollow nanowire was also explored.

Keywords: Metal Organic Framework, (Co_{0.94}Fe_{0.06})₃O₄, Nanowire, Supercapacitor, Porous carbon

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