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# Cornlike Ordered N-doped Carbon Coated Hollow Fe<sub>3</sub>O<sub>4</sub> by Magnetic Self-assembly for the Application of Li-Ion Battery

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## Abstract

Cornlike ordered N-doped carbon coated hollow Fe<sub>3</sub>O<sub>4</sub> (OH-Fe<sub>3</sub>O<sub>4</sub>@NC) composites are prepared through a facile strategy. The unique structure is composed of hundreds of N-doped carbon coated hollow Fe<sub>3</sub>O<sub>4</sub> nanospheres. Successive carbon shell and hollow structure address the irreversibility issue of Fe<sub>3</sub>O<sub>4</sub>-based electrodes. Owing to the unique cornlike ordered structure, the as-prepared OH-Fe<sub>3</sub>O<sub>4</sub>@NC composites exhibit appealing electrochemical performance as anode materials for

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