Accepted Manuscript

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PII: S0013-4686(17)32241-7

DOI: 10.1016/j.electacta.2017.10.119

Reference: EA 30505

To appear in: *Electrochimica Acta*

Received Date: 18 June 2017

Revised Date: 17 October 2017

Accepted Date: 17 October 2017

Please cite this article as: H. Li, X. Wei, P. Yang, Y. Ren, S. Wang, Y. Xing, S. Zhang, Uniform $Li_{1.2}Ni_{0.13}Co_{0.13}Mn_{0.54}O_2$ hollow microspheres with improved electrochemical performance by a facile solvothermal method for lithium ion batteries, *Electrochimica Acta* (2017), doi: 10.1016/j.electacta.2017.10.119.

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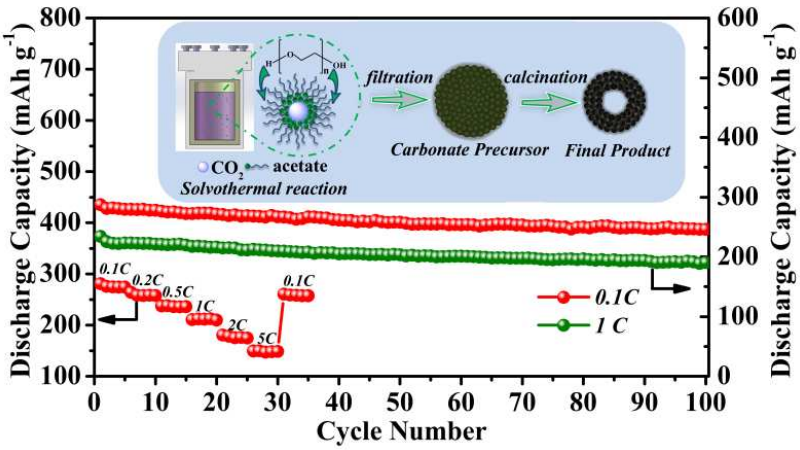

We designed a facile solvothermal method to prepare $Li_{1.2}Ni_{0.13}Co_{0.13}Mn_{0.54}O_2$ hollow microspheres with considerable uniformity and monodispersity. In this method, lithium ions and transition metal are precipitated simultaneously in the ethanol-PEG mixed solvent system to form carbonate precursors, which subsequently transform into self-assembled hollow microspheres by a heat treatment. As cathode material for LIBs, $Li_{1.2}Ni_{0.13}Co_{0.13}Mn_{0.54}O_2$ hollow microspheres exhibit remarkable cycling stability and excellent rate capability with improved electrochemical kinetics properties.