Supporting Information

Synthesis and performance of hollow LiNi$_{0.5}$Mn$_{1.5}$O$_4$ with different particle sizes for lithium-ion batteries

Yuan Xue, a Zhen-Bo Wang, a,* Li-Li Zheng a, b, Fu-Da Yu a, b, Bao-Sheng Liu a, Yin Zhang, a Yu-Xiang Zhou b

a School of Chemical Engineering and Technology, Harbin Institute of Technology, No. 92 West-Da Zhi Street, Harbin, 150001 China

b School of Science, Harbin Institute of Technology, No.92 West-Da Zhi Street, Harbin, 150001 China

* Corresponding author. Tel.: +86-451-86417853; Fax: +86-451-86418616.

Email: wangzhb@hit.edu.cn (Z.B. Wang)

Figure S1. SEM micrographs of mixture of MnCO$_3$-4 before calcined (a), when temperatures reach 850 °C (b) and after calcined at 850 °C for 1, 2, 4, 6, 10 hours (c~g).
Figure S2. SEM micrographs of product obtained by LiOH and MnCO$_3$-4 without Ni(NO$_3$)$_2$.

Figure S3. Cycling performance of four LiNi$_{0.5}$Mn$_{1.5}$O$_4$ samples at rates of 1 C, 2 C and 5 C.