Supporting Information

Mn₃O₄ Hollow Spheres for Lithium-ion Batteries with High Rate and Capacity

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S1. Enlarged image of inset SAED image shown in Figure 2a.

Figure S1. Enlarged SAED image of as collected hollow Mn₃O₄ spheres. Note: The same as inset image shown in Figure 2a.
S2. SEM image of synthesized hollow Mn$_3$O$_4$ spheres.

![SEM image of synthesized hollow Mn$_3$O$_4$ spheres.](image)

**Figure S2.** SEM image of synthesized hollow Mn$_3$O$_4$ spheres.

S3. N$_2$ adsorption/desorption isotherm curve and pore size distribution of hollow Mn$_3$O$_4$ spheres.

![N$_2$ adsorption/desorption isotherm curve and pore size distribution of hollow Mn$_3$O$_4$ spheres.](image)

**Figure S3.** (a) N$_2$ isothermal curves, and (b) NLDFT pore size distribution curve of hollow Mn$_3$O$_4$ spheres. Note: NLDFT means non-local density functional theory.
S4. TEM images of hollow Mn$_3$O$_4$ spheres after charging/discharging process.

**Figure S4.** (a-d) TEM images of hollow Mn$_3$O$_4$ after 140 cycles. Note: c-d are from different spheres.