

Supporting information

**Ionic Liquid-Assisted Synthesis of Nanostructured ZnFe₂O₄ Particles as
Anode Material for Lithium Ion Batteries:
Performance Evaluation with Special Emphasis on Metal Dissolution**

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Experimental details for Si, Sn and Ge materials and electrodes for metal ion dissolution studies:

For the metal ion dissolution commercial silicon (Nanostructured & Amorphous Materials, Inc.; primary particle size: 50-70 nm), tin (US Research Nanomaterials, Inc.; primary particle size: 60-80 nm) and germanium (SkySpring Nanomaterials, primary particle size: 70-120 nm) were used. These materials were studied without further carbon coating or surface modification. In each case, composite electrodes were prepared using a composition of 80 wt.% active material, 10 wt.% of conductive carbon black agent C-nergy Super C65 (Imerys Graphite & Carbon) and 10 wt.% of sodium-carboxymethyl cellulose (Na-CMC, Walocel CRT 2000 PA 12) as binder. The electrode preparation process and cell preparation followed as described for ZnFe₂O₄-based electrodes.

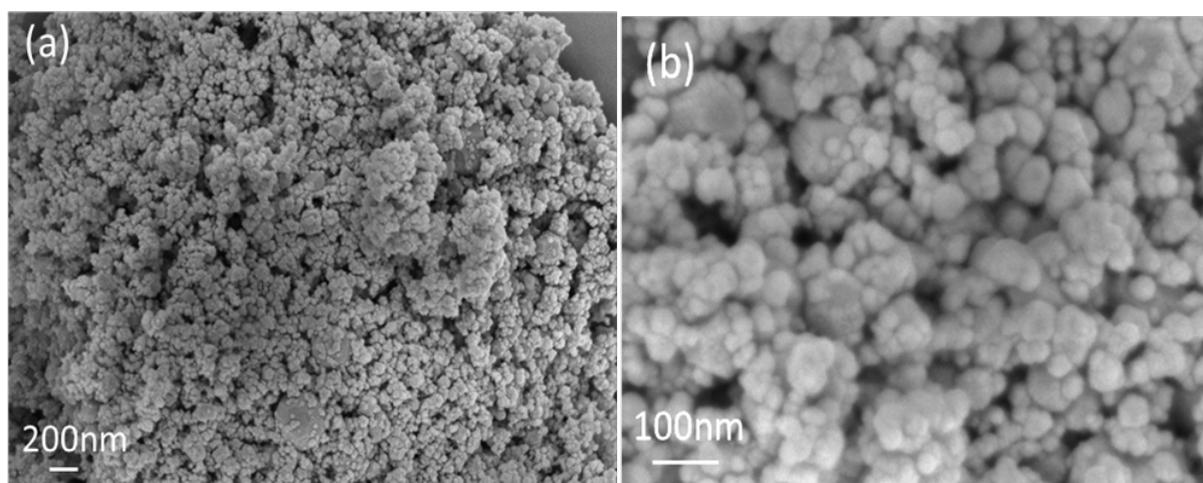


Figure S1. SEM images of commercial ZnFe₂O₄ particles.

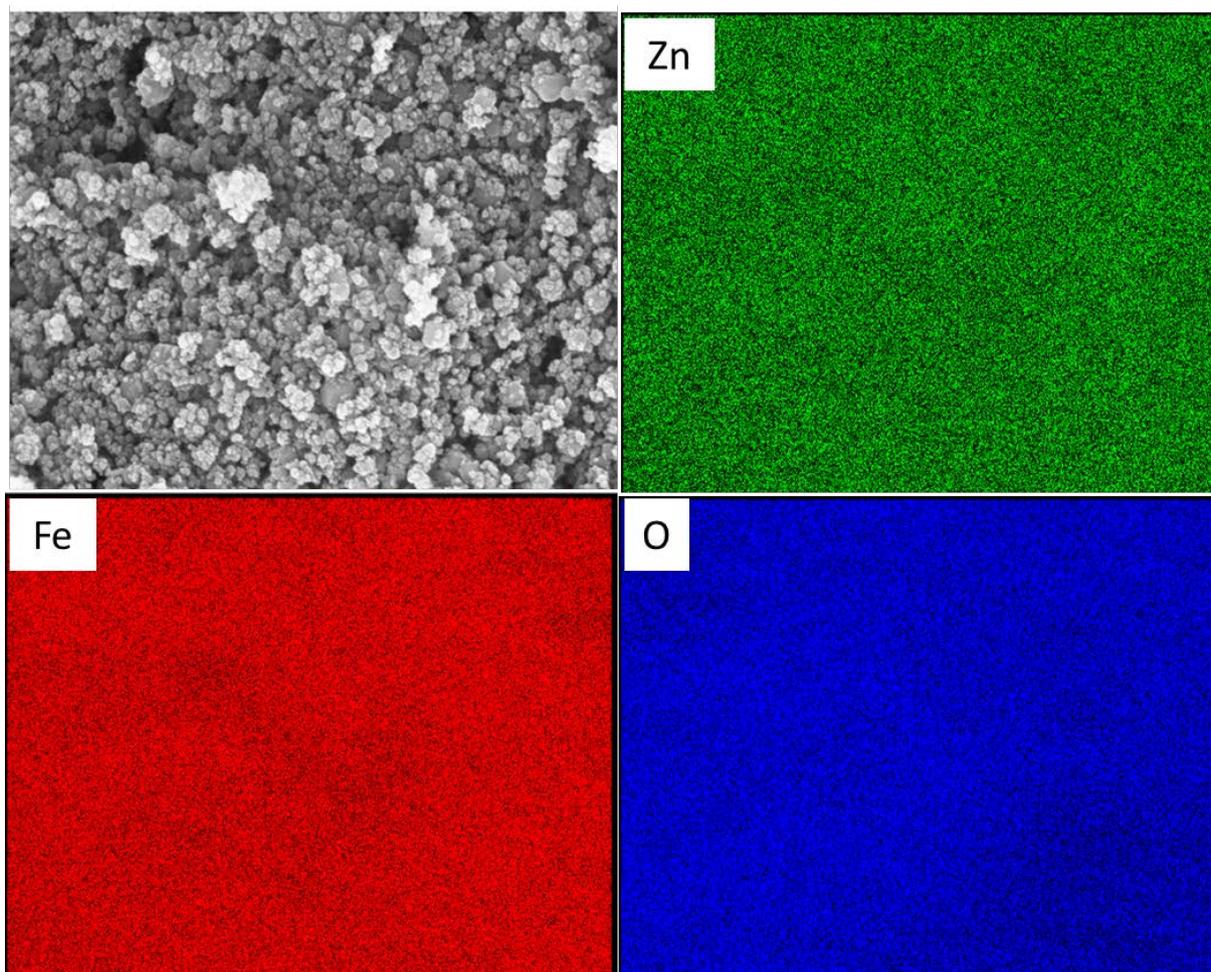


Figure S2. EDX mapping of the self-prepared ZnFe₂O₄ particles.