

## Effects of Lithium Content on Structure and Electrochemical Properties of Li-rich Cathode Material $\text{Li}_{1.2+x}\text{Mn}_{0.54}\text{Ni}_{0.13}\text{Co}_{0.13}\text{O}_2$

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Lithium content is one of crucial factors for the electrochemical properties of Li-rich cathode materials. The effects on crystalline structure and electrochemical properties are thoroughly investigated by Rietveld refinement, characterization and electrochemical tests. With the increasing of Li content, cation disorder is alleviated and the redox reaction of  $\text{Mn}^{4+}/\text{Mn}^{3+}$  gets obvious. The sample with 10% extra-lithium exhibits highest discharge capacity, best cyclic stability and smallest charge transfer resistance.

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**Keywords:** Gel-combustion method; Li-rich cathode material; Lithium content; Rietveld refinement; electrochemical performance.

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