•技术交流•

# $LiNi_{0.77}Al_{0.03}Co_{0.2}O_2$ 正极材料研究

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摘要：采用液相共沉淀法，得到 $LiNi_{0.77}Al_{0.03}Co_{0.2}O_2$ 正极材料，对材料进行结构和电化学性能测试。研究发现：该材料的电化学性能比 $LiNiO_2$ 有很大的提高，其首次充放电比容量分别为 175 mAh/g 和 168 mAh/g，首次充放电效率为 96.4％，30 次循环后放电容量保持在 167 mAh/g，循环效率达到 98.5％以上。

关键词：共沉淀；正极材料；比容量；循环性能

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# The study of $LiNi_{0.77}Al_{0.03}Co_{0.2}O_2$ cathode material

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**Abstract：** Cathode material $LiNi_{0.77}Al_{0.03}Co_{0.2}O_2$ was synthesized by a coprecipitation method and its structure and electrochemical properties was tested. The results showed that the properties of the material were considerably enhanced. Its initial charge-discharge specific capacity was 175 mAh/g and 168 mAh/g respectively with the cycle efficiency of 96.4%. Its discharge specific capacity could still retain 167 mAh/g after 30 cycles and coulombic efficiency was over 98.5%.

**Key words：** coprecipitation；cathode material；specific capacity；cycle performance