

研究论文

用不同碳源对LiFePO₄的碳包覆改性

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摘要:

采用共沉淀方法结合原位碳包覆合成了LiFePO₄/C复合正极材料. 对碳化过程和包覆LiFePO₄进行了研究. 结果表明: 在不同碳源的热解过程中, 由于分子量和结构的不同, 分解温度和碳化产物的结构也不相同; 不同碳源的碳包覆对LiFePO₄的晶体结构有一定的影响, 而且由于碳包覆层结构的差异所包覆改性的LiFePO₄表现出不同的电化学性能. 文中还讨论了不同碳源对碳包覆后LiFePO₄/C的电化学性能的影响.

关键词: 无机非金属材料 磷酸铁锂 共沉淀 原位碳包覆 碳化

On the modification of the carbon-coated LiFePO₄ materials by different carbon sources

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Abstract:

This study was concerning the carbonation and modification of carbon coating method of LiFePO₄. The structure and the electrochemical performance were characterized by TG-DTA, XRD, TEM and electrochemical performance testing. The results showed that different molecular weights and structures of the carbon sources resulted in different decomposition temperatures and structures of carbonized products, and the electrochemical performance of the LiFePO₄/C composite materials was effected by different carbon sources also.

Keywords: inorganic non-metallic materials lithium iron phosphate co-precipitation method carbon-coating in suit carbonation

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