Mini Review

Recent Development of Graphene-Based Materials for Cathode Application in Lithium Batteries: A Review and Outlook

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Graphene composites have great potential in the field of lithium ion batteries due to their high specific surface area, high specific capacity, excellent electrical conductivity and remarkable chemical stability. In cathode materials, graphene can not only form a conductive network to improve the conductivity of composite materials but also buffer the volume effect that occurs during charging and discharging processes, improving the rate performance and cycle life of the material. In addition, it can theoretically be used to design large capacity and high stability lithium-ion batteries. Therefore, the preparation of graphene composites with different compositions and structures is a very important subject. Researchers have prepared graphene composites with different compositions and structures by various methods in recent years, and the results of these studies are summarized in this review.

Keywords: lithium ion battery; Cathode material; Review; Electrode modification; Energy material

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