

化学

通过担体改性制备高分散态的Pt/C催化剂

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摘要 通过在5%O₂+N₂流中加热气化和浓HNO₃表面氧化处理, 获得表面改性活性炭担体, 采用H₂PtCl₆水溶液浸渍法制备Pt/C催化剂。实验结果表明: 铂在未经改性的担体表面的粒径分布不均匀, 且易发生再团聚而形成较多的大颗粒铂粒子; 改性担体上的铂呈均匀分布的高分散状态, 其平均粒径为7 nm。

关键词 [Pt/C催化剂](#) [活性炭担体](#) [表面改性](#)

分类号

Preparation of Highly Dispersed Pt/C Catalyst by Impregnating Modified Carbon Supports

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Abstract Carbon supports were modified by different treatments, including gasification under a gas flow of 5%O₂+N₂ in the range of 385-425 °C and oxidation with concentrated HNO₃ under controlled conditions, in order to obtain materials with different surface properties. The modified carbon supports were directly impregnated with the aqueous chloroplatinic acid to generate Pt/C catalysts. Analytic results by XRD and TEM demonstrate that the dispersion of platinum crystallites on the modified carbon supports is very high with a mean diameter of 7 nm, while the segregation of platinum crystallites occurs obviously for unmodified carbon supports.

Key words [Pt/C catalyst](#) [carbon supports](#) [surface modification](#)

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