

The preparation and application of carbon sphere for the use as catalyst support of direct methanol fuel cell (DMFC)

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In this work, spherical carbon particles were prepared by a hydrothermal method and followed by carbonization, to use as a support of PtRu catalyst. Prepared spherical carbon support and corresponding PtRu catalyst were systematically characterized by XRD, TEM, SEM and electrochemical method. For the comparison purpose, the commercial carbons were also employed as a support for the preparation of PtRu catalysts. Results showed that the PtRu catalyst supported on prepared carbon exhibited higher catalytic performance than those on commercial carbons. It was believed that the structure and surface properties of prepared carbon were favorable for higher metal dispersion, resulting in better catalytic performance.