

Synthesis of mesoporous Fe-incorporated Alumina particles with regular pores

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Iron containing mesoporous materials are applied to various reactions such as hydrocarbon oxidation, gas phase oxidation and selective reduction. In particular, the iron-incorporated mesoporous materials are attractive as catalysts due to high selectivity and activity compared with iron containing materials. However, there are only few reports on the iron-incorporated mesoporous materials. Moreover, iron-incorporated mesoporous alumina has not been reported yet. In the previous study, the mesoporous Si-doped alumina with high thermal stability was prepared with an ultrasonic spray method. In this study, iron-incorporated mesoporous alumina containing silica has been successfully synthesized, and it tested as a potential catalyst for selective reduction, hydrocarbon oxidation and redox reaction in reaction at high temperature.