

Vanadium incorporated into three dimensional MCM-48 mesoporous molecular sieve materials

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The direct incorporation of vanadium into the three dimensional framework of MCM-48 was carried out by changing various parameters such as pH and hydrothermal condition. Under the optimized condition, it was found that high amount of vanadium content upto 4.9wt.% can be loaded with ease. The material obtained therein showed very high specific surface area (~900m²/g) and pore diameter (~5.1nm). The catalytic activity of the synthesized material was tested in the oxidation of cyclohexane.