Synthesis and Characterization of Highly Dispersed Tungsten oxide into SBA Molecular Sieve

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Incorporation of transition metals such as Ti, V, Cr into the framework of the molecular sieves is a general method for introducing catalytic sites into mesoporous materials. Numerous attempts have been made to prepared transition metal-substituted mesoporous materials for making them into effective catalysts which are available of treating large molecules. Tungsten-containing mesoporous materials have attracted much attention in past years. Several groups have tried to synthesized mesoporous tungsten oxide materials or incorporated tungsten into mesoprous materials. However, the oligomer species formed as framework-skeleton synthesized are still a problem for all transition-metal doped mesoporous materials. Herein, the new tungsten SBA molecular sieve using highly dispersed method was showed the attractive performance in direct catalytic conversion. The *p6mm* hexagonal structure of WSBA molecular sieve was showed on powder diffraction patterns. TEM and BET measurement show WSBA with narrowed distribution pore size and rigid structure after the reaction. The high dispersion of tungsten oxide into molecular skeleton was confirmed by UV and Raman spectrum.
Keywords: tungsten, high dispersion, mesoporous materials