

Synthesis and Characterization of Si-MCM-41 by Different Acid Medium

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The mesoporous MCM-41 molecular sieves are synthesized by self-assembly of silica-surfactant in which inorganic species simultaneously condense, giving rise to mesoscopically ordered composites formation.

The mesoporous Si-MCM-41 materials have been synthesized using sodium metasilicate as silica source and cetyltrimethylammonium bromide as template under hydrothermal conditions. The as-synthesized Si-MCM-41 have been also modified by 3-aminopropyl-triethoxysilane for pore modification. The materials have been characterized by XRD, FT-IR, SEM, TEM and N₂-adsorption for the proof of mesoporous, thermal stability, template removal, pore size, pore volume, surface area, environments of silanol group, morphology and uniform pore size.