

Synthesis and characterization of mesoporous silicalite-1

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An attempt was made to prepare a new type of mesoporous silicalite-1 (MS-1) via assembly of preformed nanosized silicalite-1 precursors in a polymer surfactant solution. MFI zeolite nanoprecursors were first prepared by a low-temperature hydrothermal step using TPAOH as template and then assembled using a polymer surfactant (P 123) that served as the structure-directing agent for the mesopores. The MS-1 samples made were characterized by XRD, TEM/ED, IR, and pore size distribution/surface area measurements.