

## Synthesis of mesoporous sodalite and its applications in base catalysis

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Mesoporous sodalite (MPSOD) was hydrothermally synthesized using an organosilane surfactant. Basicity of MPSOD was higher than that of CsNaX or KAlMCM-41 when compared under similar Al concentrations. The catalytic activities were evaluated for various base catalyzed reactions involving bulky and small substrates, viz. Knoevenagel condensation, Claisen-Schmidt condensation in liquid phase, and acetonylacetone cyclization in vapor phase. MPSOD showed higher catalytic activity than CsNaX, which can be attributed to rapid diffusion and mass transfer of bulky molecules through the mesopore channels. For small molecular reactions in the vapor phase, though the catalysts showed same initial activities, MPSOD retained high activity for a longer reaction period whereas CsNaX deactivated fast due to coke formation.