

heterogeneous catalysis, catalysts

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A Novel Method for Incorporation of Heteroatoms into the Framework of Ordered Mesoporous Silica Materials Synthesized in Strong Acidic Media.

— Al and Ti heteroatoms are introduced into the framework of ordered mesoporous silica materials in strong acidic media ($\text{pH} \leq 0$) in the presence of triblock polymer templates, resulting in the formation of MAS-7 and MTS-9. First, precursors containing zeolite nanoclusters are prepared. Second, the preformed precursors are used to assemble with triblock copolymers. The samples are characterized by XRD, TEM, ^{27}NMR , and UV/VIS spectroscopy. MAS-7 shows higher catalytic activity in the cracking of cumene and 1,3,5-triisopropylbenzene than Al-SBA-15, and MTS-9 exhibits higher catalytic activity in phenol hydroxylation by H_2O_2 than Ti-SBA-15. — (HAN, YU; XIAO, FENG-SHOU; WU, SHUO; SUN, YINYONG; MENG, XIANGJU; LI, DONSHENG; LIN, SEN; DENG, FENG; AI, XUANJUN; J. Phys. Chem. B 105 (2001) 33, 7963-7966; Dep. Chem., Jilin Univ., Changchun 130023, Peop. Rep. China; EN)