Nanotechnology

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The objective of this work is study the synthesis and the characterization of nanostructured catalysts, consisting of association of metal osides nanoparticles and evaluation of their catalystic proprieties.
Four types of nanostructured catalysts have been synthetised in basic medium that are Al2-SiO2, MoO2-Al2O3-SiO2,CeO2-Al2O3-SiO2 and MoO2-CeO2-Al2O3-SiO2 by sol-gel process (supercritical spraying of sol). These catalysts were characterized by various methods such as transmission electronic microscopy (TEM), X-ray diffraction (XRD), infraded spectroscopy Fourier transform (FTIR), the BET method and the zeta metry. These catalysts nanostructured exhibit a good selectivity in the izomerization reaction of normal hexane and in the transformation of cyclohexane.
The synthesis of these nanostructured catalysts at different concentrations is made pae soft chemistry, sol-gel method. The interest of this method lies in its flexibility in effect, and from soils prepared was obtained nanopowder.
The developed nanostructured catalysts are characterized by different physicochemical methods of analysis that revealed several conclusions .

References:

[1] Q.Yuau , H.Duan,L.Li, Controlled synthesis and assembly of ceria-based nanomaterials, Elsevier Inc,2009

[2] KarzynaRaulin-Woznika,these de doctorat 2009

[3] Indirka .Udaikourama Arachchidje;Sol-gel route for mrtal 2008