

## Contents

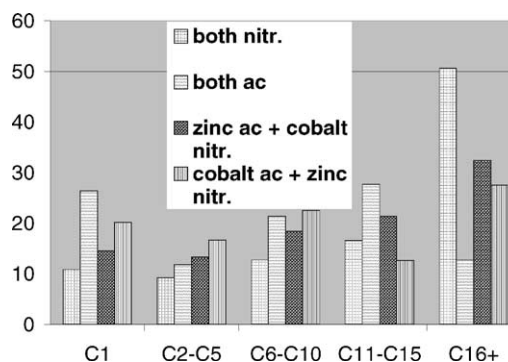
### Articles

**Nobuntu N. Madikizela-Mnqanqeni,  
Neil J. Coville**

*Journal of Molecular Catalysis A: Chemical 225  
(2005) 137*

The effect of cobalt and zinc precursors on Co (10%)/Zn (x%)/TiO<sub>2</sub> (x=0, 5) Fischer–Tropsch catalysts

Co/Zn/TiO<sub>2</sub> catalysts prepared from zinc/cobalt nitrate produced larger Co particles and more wax (>C<sub>16</sub>) when compared to the other catalyst combinations.

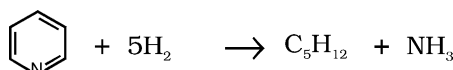


**Hamid A. Al-Megren, Tiancun Xiao,  
Sergio L. Gonzalez-Cortes,  
Soliman H. Al-Khowaiter, Malcolm L.H. Green**

*Journal of Molecular Catalysis A: Chemical 225  
(2005) 143*

Comparison of bulk CoMo bimetallic carbide, oxide, nitride and sulfide catalysts for pyridine hydrodenitrogenation

A comparison between Co<sub>4</sub>Mo<sub>6</sub> catalysts in carbide, nitride, sulfide, and oxide forms was studied for HDN of pyridine. The activities of these catalysts at steady state are shown in the order of: CoMoC<sub>x</sub>>CoMoN<sub>x</sub>>CoMoS<sub>x</sub>>CoMoO<sub>x</sub>.

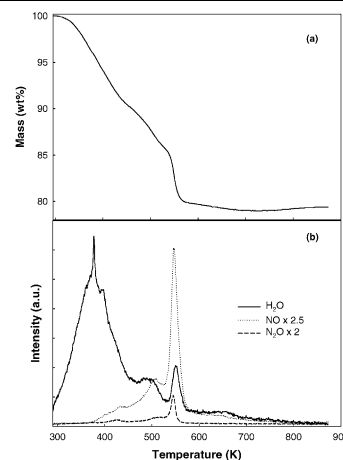


**K.V. Murthy, Patricia M. Patterson,  
Mark A. Keane**

*Journal of Molecular Catalysis A: Chemical 225  
(2005) 149*

C–X bond reactivity in the catalytic hydrodehalogenation of haloarenes over unsupported and silica supported Ni

Hydrodehalogenation over Ni/SiO<sub>2</sub> follows the order fluorobenzene>chlorobenzene>bromobenzene>iodobenzene. Catalyst activation is monitored by on-line TG/MS (see representative profile) with pre-/post-reaction characterization that links loss of catalyst activity to disruption of H<sub>2</sub>/catalyst interactions. Debromination of 1,3-bromochlorobenzene exceeded dechlorination as a result of Cl/Br exchange.

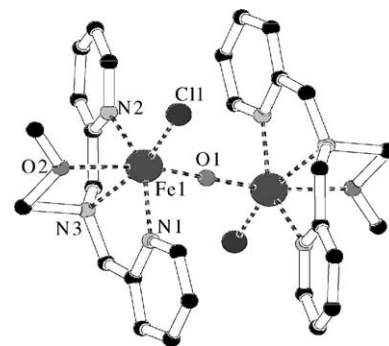


**Stefania Tanase, Carole Foltz, René de Gelder, Ronald Hage, Elisabeth Bouwman, Jan Reedijk**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 161

Control of the catalytic oxidations mediated by an oxo-bridged non-heme diiron complex: role of additives and reaction conditions

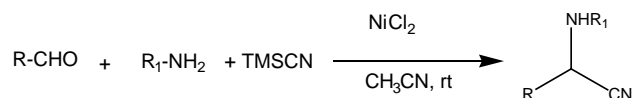
The iron complex  $\{[\text{Fe}(\text{mebpa})\text{Cl}]_2\text{O}\}(\text{ClO}_4)_2$  efficiently catalyzes both the oxidation of alkanes and alkenes with  $\text{H}_2\text{O}_2$  as oxidant under mild conditions. In all cases, the observed catalytic activity is highly dependent not only on the catalyst and additive, but also on the used reaction conditions.



**Surya Kanta De**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 169

Nickel(II) chloride catalyzed one-pot synthesis of  $\alpha$ -aminonitriles

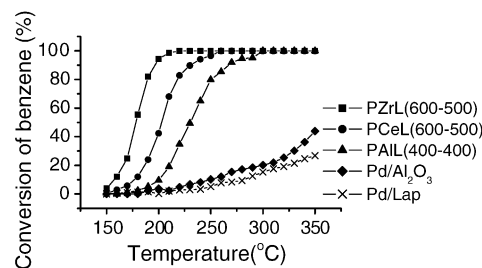


**Li Jinjun, Jiang Zheng, Hao Zhengping, Xu Xiuyan, Zhuang Yahui**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 173

Pillared laponite clays-supported palladium catalysts for the complete oxidation of benzene

The pillared clays supported palladium catalysts are much more active in catalytic complete oxidation of benzene than conventional alumina supported one, and zirconia pillar appeared to be the most efficient promoter.

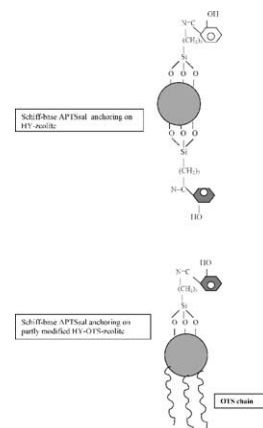


**Sahar I. Mostafa, Shigeru Ikeda, Bunsho Ohtani**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 181

Transition metal Schiff-base complexes chemically anchored on Y-zeolite: their preparation and catalytic epoxidation of 1-octene in the suspension and phase boundary systems

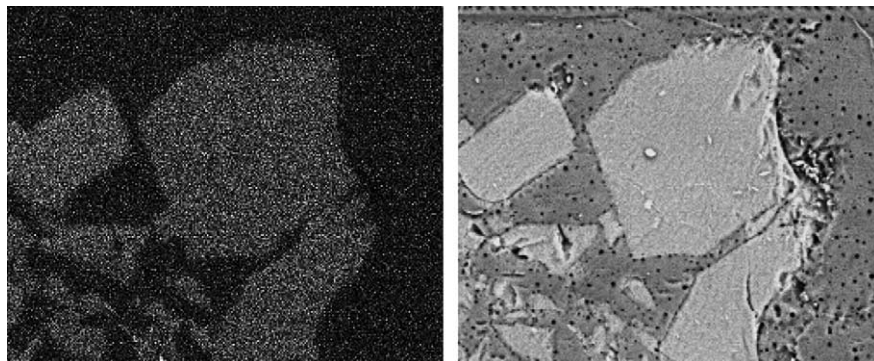
The Schiff-base (APTSsal) transition metal complexes anchored on Y-zeolite were prepared and characterized. The anchored Schiff-bases imposed stable planar coordination sphere on the metal ions, allowing epoxidation of 1-octene in the axial position in the presence of molecular oxygen. The epoxidation of 1-octene was also achieved by employing the partly modified Y-zeolite with *n*-octadecyltrichlorosilane (OTS) Schiff-base complexes in the presence of 30%  $\text{H}_2\text{O}_2$  under a phase-boundary system.



**Benedetto Corain, Claudio Burato,  
Paolo Centomo, Silvano Lora,  
Wolfgang Meyer-Zaika, Günter Schmid**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 189

Generation of size-controlled gold(0) and palladium(0) nanoclusters inside the nanoporous domains of gel-type functional resins. Part I: Synthetic aspects and first catalytic data in the liquid phase

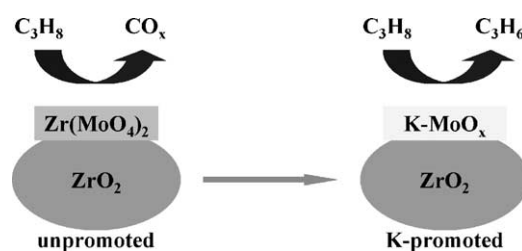


**S.N. Koc, G. Gurdag, S. Geissler, M. Guraya,  
M. Orbay, M. Muhler**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 197

The oxidative dehydrogenation of propane over potassium-promoted molybdenum oxide/sol-gel zirconia catalysts

Potassium addition suppressed the interaction of molybdenum oxide and zirconia, and zirconium molybdate formation was prevented. Thus, the propylene yield increased in ODH of propane reaction.

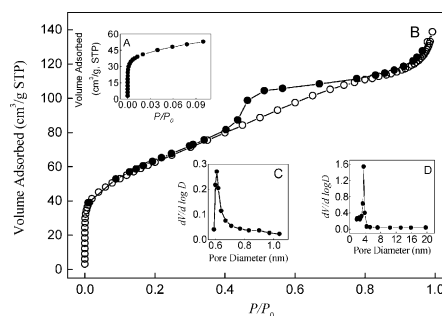


**Yu Yang, Qingyin Wu, Yihang Guo,  
Changwen Hu, Enbo Wang**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 203

Efficient degradation of dye pollutants on nanoporous polyoxotungstate-anatase composite under visible-light irradiation

The photocatalytic activity of  $H_3PW_{12}O_{40}/TiO_2$  can be enhanced by the synergistic effect resulting from the combination of the starting polyoxometalates and the anatase  $TiO_2$  support, and bimodal pore system under visible irradiation. This novel catalyst exhibited the potential to be effective in the treatment of organic pollutants in aqueous system.

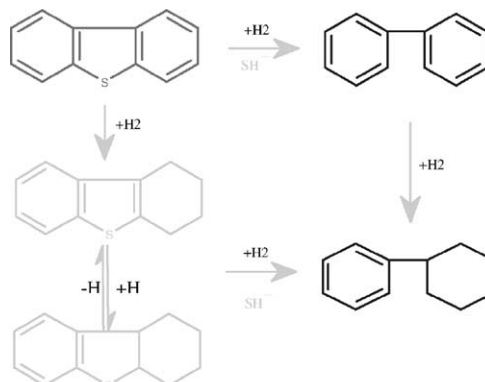


**Shuwen Gong, Haokan Chen, Wen Li,  
Baoqing Li, Tiandou Hu**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 213

Dibenzothiophene hydrodesulfurization over alumina-supported  $\beta-Mo_2N_{0.78}$  catalyst

The reaction network for HDS of dibenzothiophene over  $\beta-Mo_2N_{0.78}/\gamma-Al_2O_3$  catalyst.

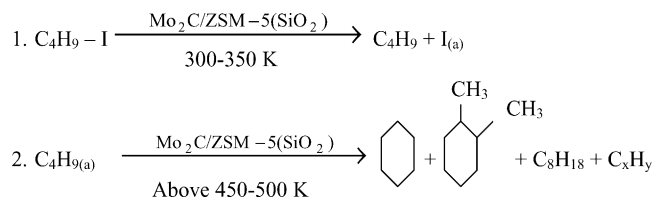


**Frigyes Solymosi, Tamás Bánsági,  
Tímea Süli Zakar**

*Journal of Molecular Catalysis A: Chemical* 225  
(2005) 217

Adsorption and reactions of butyl species over  
Mo<sub>2</sub>C catalyst

Butyl iodide adsorbs readily on ZSM-5 and decomposes at higher temperature to different C<sub>x</sub>H<sub>y</sub> compounds. Addition of Mo<sub>2</sub>C to ZSM-5 and SiO<sub>2</sub>, enhanced the rate of the decomposition, promoted the coupling of butyl species formed in the dissociation and catalyzed the production of xylene and benzene. It was assumed that Mo<sub>2</sub>C interacting with the acidic sites of the support is the active centre for the latter processes.

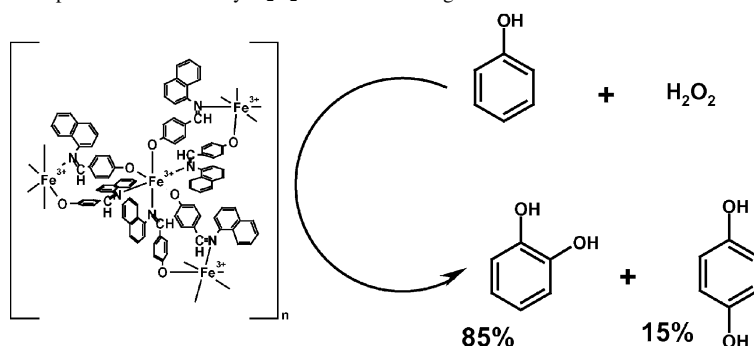


**Hanna S. Abbo, Salam J.J. Titinchi,  
Rajendra Prasad, Shri Chand**

*Journal of Molecular Catalysis A: Chemical* 225  
(2005) 225

Synthesis, characterization and study of polymeric  
iron(III) complexes with bidentate *p*-hydroxy  
Schiff bases as heterogeneous catalysts

Polymeric iron(III) complexes with Schiff base ligands, obtained by condensation of  $\alpha$ - or  $\beta$ -naphthyl amine with *p*-hydroxy benzaldehyde, were synthesized and their catalytic efficiency for selective oxidation of phenol to catechol by H<sub>2</sub>O<sub>2</sub> has been investigated.

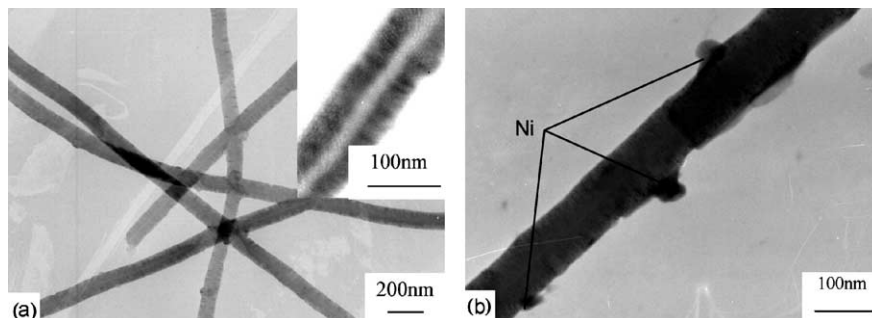


**Huaping Liu, Guoan Cheng, Ruiting Zheng,  
Yong Zhao**

*Journal of Molecular Catalysis A: Chemical* 225  
(2005) 233

Controlled growth of Ni particles on carbon nano-  
tubes for fabrication of carbon nanotubes

A number of particles were distributed on the surface of the bare carbon nanotubes, indicating that carbon nanotube-supported Ni was prepared successfully when the carbon nanotube substrates were boiled in dilute nitric acid without sensitizing and activating and directly immersed in the Ni bath.

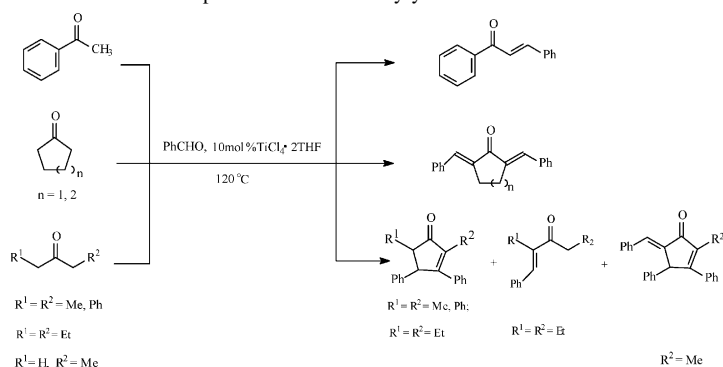


**Xiaochun Tao, Ruzhang Liu, Qinghua Meng,  
Yinyan Zhao, Yongbin Zhou, Jiling Huang**

*Journal of Molecular Catalysis A: Chemical* 225  
(2005) 239

The reaction of ketones with benzaldehyde cata-  
lyzed by TiCl<sub>4</sub>·2THF

In the presence of a catalytic amount of TiCl<sub>4</sub>·2THF, chosen ketones reacted with benzaldehyde to give different kinds of condensation products in satisfactory yields under mild conditions.

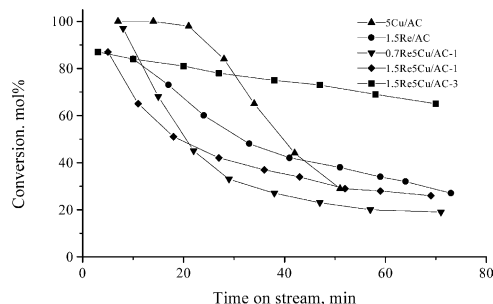


**T. Tsoncheva, S. Vankova, O. Bozhkov, D. Mehandjiev**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 245

Effect of rhenium on copper supported on activated carbon catalysts for methanol decomposition

The addition of rhenium to copper supported on activated carbon materials in appropriate metals ratio and preparation method, significantly increases their catalytic stability in methanol decomposition to CO and hydrogen at higher temperatures. Formation of catalytic active complex, including both rhenium and copper species in various oxidation states is assumed.

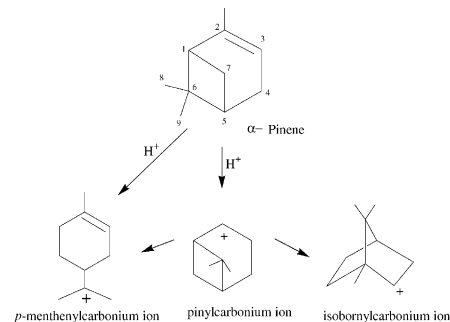


**G. Gündüz, R. Dimitrova, S. Yilmaz, L. Dimitrov, M. Spassova**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 253

Isomerisation of  $\alpha$ -pinene over Beta zeolites synthesised by different methods

The isomerisation of  $\alpha$ -pinene was studied over Beta zeolites synthesised by different methods. The main products are camphene, terpinenes, terpinolenes and heavy products. Beta zeolites with micro-/mesopores reveal excellent activity because of the appropriate balance between acidity and bimodal pore system. The microporous Beta samples show low activity despite the good total acidity most probably because of the steric effect for the formation of the intermediate cations.

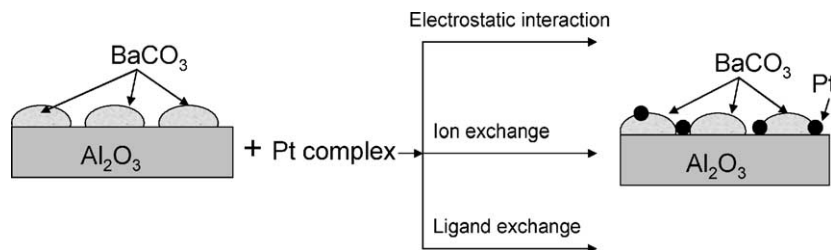


**Jazaer Dawody, Magnus Skoglundh, Staffan Wall, Erik Fridell**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 259

Role of Pt-precursor on the performance of Pt/BaCO<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub>·NO<sub>x</sub> storage catalysts

Monolith Pt/BaCO<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub>NO<sub>x</sub> storage catalysts were prepared using one of the following platinum precursors for each catalyst: (i) hexachloroplatinic acid [H<sub>2</sub>Pt(Cl)<sub>6</sub>], (ii) tetraammineplatinum hydroxide [Pt(NH<sub>3</sub>)<sub>4</sub>(OH)<sub>2</sub>], (iii) diammineplatinum nitrite [Pt(NH<sub>3</sub>)<sub>2</sub>(NO<sub>2</sub>)<sub>2</sub>] and (iv) platinum nitrate [Pt(NO<sub>3</sub>)<sub>2</sub>]. The Pt dispersion is strongly affected by the interaction between the Pt complex and the BaCO<sub>3</sub>/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> surface during the Pt impregnation.



**V.N. Panchenko, I.G. Danilova, V.A. Zakharov, E.A. Paukshtis**

*Journal of Molecular Catalysis A: Chemical* 225 (2005) 271

Silica-supported zirconocene/(perfluorophenyl)-borate catalyst for propylene polymerization. DRIFTS study of the catalyst formation and surface species

IR spectroscopy has been used to study the interaction of silica with PhNEt<sub>2</sub> (N) and B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub> (B) and subsequent interaction of the support SiO<sub>2</sub>/[N + B] with dimethylzirconocene Me<sub>2</sub>Si(2-Me-Ind)<sub>2</sub>ZrMe<sub>2</sub> (RL<sub>2</sub>ZrMe<sub>2</sub>). The data were obtained on the composition of the surface compounds appeared at both stages of catalyst synthesis.

