

Contents

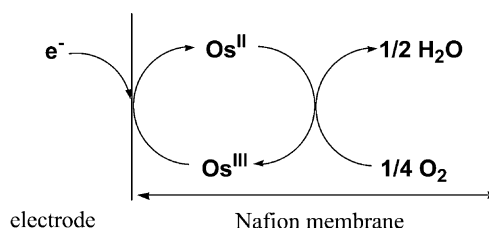
Articles

Toshiyuki Abe, Kuniaki Shoji, Akio Tajiri

Journal of Molecular Catalysis A: Chemical 208 (2004) 11

Electrocatalysis of molecular aggregate composed of an osmium complex and a polymer membrane for dioxygen reduction

Electrocatalytic O₂ reduction was studied using a modified electrode coated with a Nafion[®] membrane dispersing an osmium complex ([Os^{III}(bpy)₂Cl₂]Cl). The four-electron transfer reduction of O₂ into H₂O was found to take place via the one-electron redox process of the complex (Os^{III/II}), suggesting that the electrocatalysis originates from an aggregate formed in the polymer matrix.

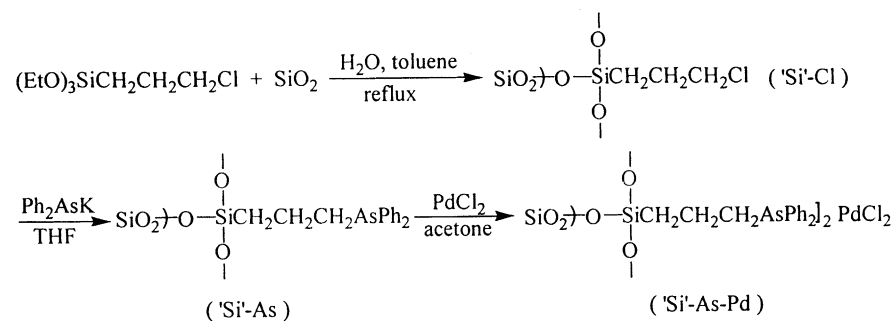


**Mingzhong Cai, Yizheng Huang,
Ronghua Hu, Caisheng Song**

Journal of Molecular Catalysis A: Chemical 208 (2004) 17

Synthesis of silica-supported poly- γ -diphenylarsinopropylsiloxane palladium complex and its catalytic behavior for Heck carbonylation of aryl halides

The synthesis of a silica-supported poly- γ -diphenylarsinopropylsiloxane palladium complex has been described. This polymeric palladium complex is an efficient catalyst for Heck carbonylation of aryl halides and can be recovered and reused.

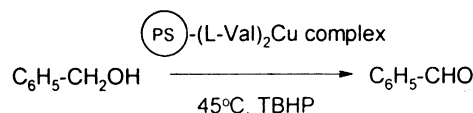


**V.B. Valodkar, G.L. Tembe,
M. Ravindranathan, R.N. Ram, H.S. Rama**

Journal of Molecular Catalysis A: Chemical 208 (2004) 21

Catalytic oxidation by polymer-supported copper(II)-L-valine complexes

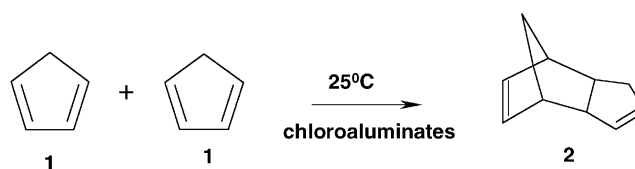
L-Valine was anchored to 6 and 8% cross-linked poly(styrene-divinyl benzene) resin and its complex with copper acetate was prepared. The polymer-supported Cu complexes behave as versatile and recyclable catalysts for the oxidation of benzyl alcohol, cyclohexanol and styrene. The influence of different reaction parameters on conversion and selectivity to products are reported.



Anil Kumar, Sanjay S. Pawar

Journal of Molecular Catalysis A: Chemical 208 (2004) 33

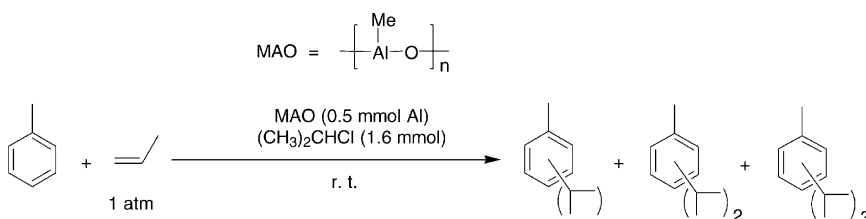
AlCl₃-catalysed dimerization of 1,3-cyclopentadiene in the chloroaluminate room temperature ionic liquid


Junpei Kuwabara, Daisuke Takeuchi, Kohtaro Osakada

Journal of Molecular Catalysis A: Chemical 208 (2004) 39

MAO-catalyzed Friedel–Crafts reactions of toluene with chloroalkanes and with propylene

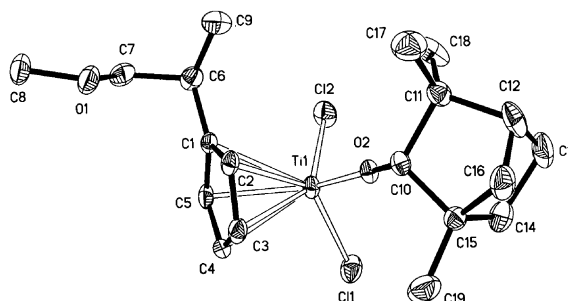
The reaction of 2-chloropropane with toluene in the presence of methylalumoxane (MAO) produces a mixture of mono-, and diisopropyltoluenes. Catalytic activity of MAO in this reaction is similar to that of AlCl₃. MAO catalyzes the Friedel–Crafts reaction of propylene with toluene in the presence of chloroalkanes to form a mixture of mono-, di-, and triisopropyltoluenes.


Yanlong Qian, Hao Zhang, Junxia Zhou, Wei Zhao, Xueqin Sun, Jiling Huang

Journal of Molecular Catalysis A: Chemical 208 (2004) 45

Synthesis and polymerization behavior of various substituted half-sandwich titanium complexes Cp'TiCl₂(OR⁺) as catalysts for syndiotactic polystyrene

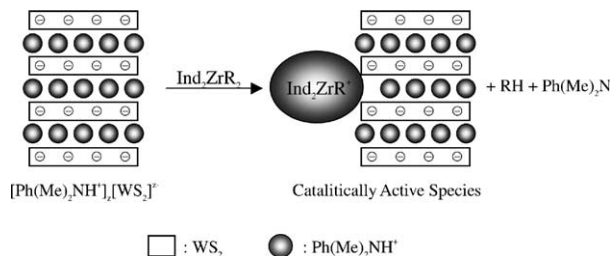
A new set of chiral alkoxy substituted half-sandwich titanium complexes of Cp'TiCl₂(OR⁺) were synthesized, characterized and tested as catalyst precursors for the syndiospecific polymerization of styrene. The structure of complex **8** was confirmed by X-ray diffraction. The effects of variation on temperature, Al/Ti ratio for catalytic activity and Syndiotactic polystyrene (s-PS%) were also studied.


Satoru Yamada, Akihiro Yano, Morihiko Sato, Takahito Itoh

Journal of Molecular Catalysis A: Chemical 208 (2004) 55

Effect of “topotactic” reduction product of tungsten disulfide on catalytic activity of metallocene catalyst for olefin polymerization

Addition of *N,N*-dimethylanilinium ion (Ph(Me)₂NH⁺) intercalated WS₂ as a cocatalyst to Ind₂ZrCl₂/Et₃Al was found to improve significantly the catalytic activity for ethylene polymerization. It was proposed that neutral dialkylmetallocene was protonated by Ph(Me)₂NH⁺ in the interlayer space of WS₂, especially on the surface of the cocatalyst, to form the cationic monoalkylmetallocene and that the two-dimensional macroanion of WS₂ functioned as a non-coordinating anion and a carrier for the cationic species.

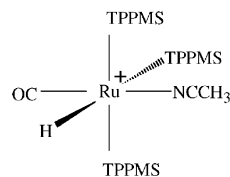


P.J. Baricelli, L. Izaguirre, J. López, E. Lujano, Francisco López-Linares

Journal of Molecular Catalysis A: Chemical 208 (2004) 67

Synthesis, characterization and catalytic hydrogenation in aqueous-biphasic system of a new water soluble complex $\text{RuH}(\text{CO})(\text{NCMe})(\text{TPPMS})_3[\text{BF}_4]$

In this work, we are reporting the synthesis, characterization and preliminaries catalytic studies of the new hydrosoluble ruthenium complex $[\text{RuH}(\text{CO})(\text{CH}_3\text{CN})(\text{TFFMS})_3]\text{BF}_4$, during the biphasic hydrogenation reaction of 1-hexene and cyclohexene. The hydrosoluble complex was active in the hydrogenation of 1-hexene and cyclohexene under the following reaction conditions: $T = 80^\circ\text{C}$, $P = 400$ psi of hydrogen, S/C ratio = 100:1 and water/heptane = 1:1. Under this reaction conditions, only the corresponding saturated product is obtained without evidence of isomerization products.

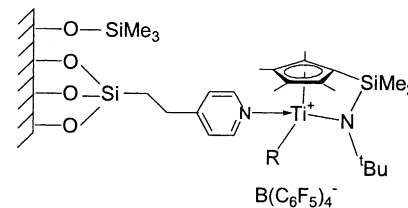


Kittichote Musikabhumma, Thomas P. Spaniol, Jun Okuda

Journal of Molecular Catalysis A: Chemical 208 (2004) 73

Tritylpyridinium tetrakis(pentafluorophenyl)borate as an efficient activator for “constrained-geometry” catalysts in ethylene polymerization

Ethylene polymerization by linked amido-cyclopentadienyl or “constrained-geometry” titanium catalysts, $\text{Ti}(\eta^5\text{-C}_5\text{Me}_4\text{SiMe}_2\text{N}^t\text{Bu})\text{X}_2$ ($\text{X} = \text{Me}, \text{Bz}, \text{Cl}$) was found to proceed with high activity when activated with tritylpyridinium tetrakis(pentafluorophenyl)borate, $[\text{Ph}_3\text{C}(\text{C}_5\text{H}_5)]^+[\text{B}(\text{C}_6\text{F}_5)_4]^-$. The silica-supported tritylpyridinium tetrakis(entafluorophenyl)borate (PySTB) also produced high molecular weight polyethylenes with excellent morphology and high bulk density.

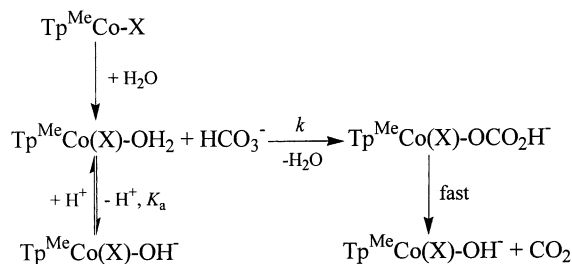


Ying-Ji Sun, Lei Z. Zhang, Peng Cheng, Hua-Kuan Lin, Shi-Ping Yan, Dai-Zheng Liao, Zong-Hui Jiang, Pan-Wen Shen

Journal of Molecular Catalysis A: Chemical 208 (2004) 83

Experimental and theoretical studies of the dehydration kinetics of two inhibitor-containing half-sandwich cobalt(II) complexes

The dehydration kinetic measurements of HCO_3^- catalyzed by two inhibitor-containing half-sandwich cobalt(II) complexes have been performed by the stopped-flow techniques. Results from this work indicate that the five-coordinated aqua complex must be the reactive catalytic species in the catalyzed dehydration reaction and the rate-determining step is the substitution of the labile water molecule by HCO_3^- .

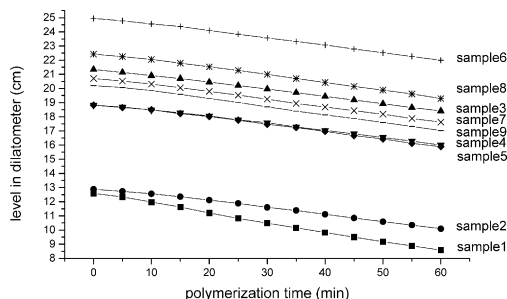


Dianyu Chen, Zhigang Xue, Zhixing Su

Journal of Molecular Catalysis A: Chemical 208 (2004) 91

Dual role study of 12-molybdophosphoric acid on styrene polymerization

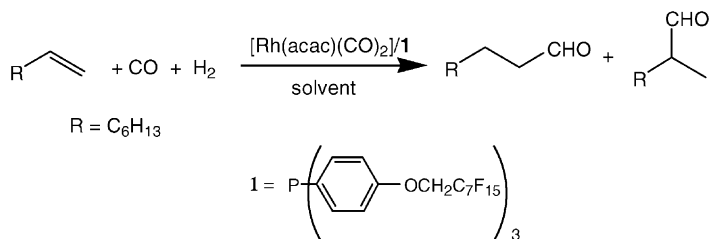
12-Molybdophosphoric acid (12-MPA) was studied in present paper as a special polymerized catalyst with dual catalysis role of initiation and inhibition. Dilatometry results indicated that 12-MPA played its inhibition function of in free radical polymerization of styrene initiated by AIBN, although we had reported the initiation role not long ago.



Ali Aghmiz, Carmen Claver,
Anna M. Masdeu-Bultó, David Maillard,
Denis Sinou

Journal of Molecular Catalysis A: Chemical 208
(2004) 97

Hydroformylation of 1-octene with rhodium cat-
alysts in fluorous systems

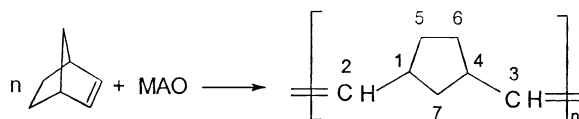


Valia Amir-Ebrahimi, John J. Rooney

Journal of Molecular Catalysis A: Chemical 208
(2004) 103

Methylaluminoxane as a novel catalyst and coca-
talyst for ring-opening metathesis polymerisation
of norbornene

Methylaluminoxane (MAO) alone catalyses the ring-opening metathesis polymerisation of norbornene. It is also a very effective cocatalyst when used with various Mo and W compounds for this reaction, giving very stereo-blocky polymers.

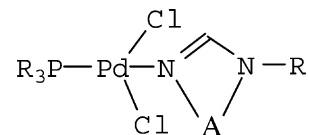


İsmail Özdemir, Bekir Çetinkaya, Serpil Demir

Journal of Molecular Catalysis A: Chemical 208
(2004) 109

Synthesis of novel 1-alkylimidazoline and 1-alkyl-
benzimidazole palladium(II) complexes as effi-
cient catalysts for Heck and Suzuki reactions
involving arylchlorides

The synthesis and characterization of the new palladium(II) complexes of the type [PdCl₂(PR₃)L], (L = 1-alkyl-2-imidazoline or 1-alkylbenzimidazole) have been prepared. *N*-coordinated complexes of palladium(II) gave high catalytic activity in the Suzuki coupling and Heck reaction of aryl halides.

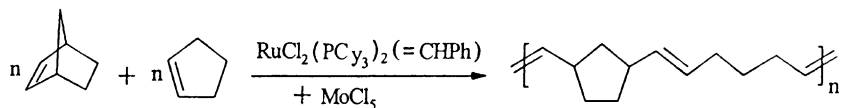


Valia Amir-Ebrahimi, John J. Rooney

Journal of Molecular Catalysis A: Chemical 208
(2004) 115

Remarkable alternating effect in metathesis copo-
lymerization of norbornene and cyclopentene
using modified Grubbs ruthenium initiators

When the Grubbs initiator, RuCl₂(PCy₃)₂ (=CHPh), is used with MoCl₅ in dry dichloromethane as solvent, but not in ethers, to catalyse the metathesis of mixtures of norbornene and cyclopentene, a strongly alternating copolymer is formed. The use of WCl₆ in place of MoCl₅ moderates the catalyst more severely such that almost only homopolymer of cyclopentene is obtained. These results are attributed to cage formation that greatly reduces access of the more bulky norbornene to the metallacarbene.

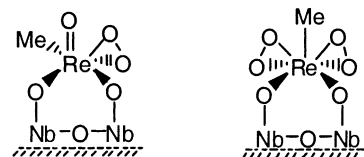


Ming Li, James H. Espenson

Journal of Molecular Catalysis A: Chemical 208 (2004) 123

Kinetic study of epoxidations by urea–hydrogen peroxide catalyzed by methyltrioxorhenium(VII) on niobia

Relative rates were measured by competition kinetics for concurrent, heterogeneous epoxidations of olefins with urea–hydrogen peroxide (UHP) in CDCl_3 catalyzed by MeReO_3 on Nb_2O_5 .



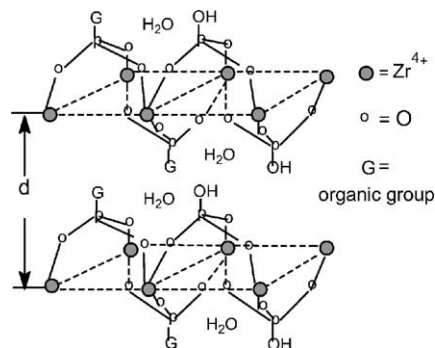
Catalytically active intermediates

Ma Xuebing, Fu Xiangkai

Journal of Molecular Catalysis A: Chemical 208 (2004) 129

Synthesis of the novel layered amorphous and crystalline zirconium phosphate–phosphonates $\text{Zr}(\text{HPO}_4)[\text{O}_3\text{PCH}_2\text{N}(\text{CH}_2\text{CH}_2)_2\text{O}]\cdot n\text{H}_2\text{O}$, $\text{Zr}(\text{HPO}_4)[\text{O}_3\text{PCH}_2\text{N}(\text{CH}_2\text{CO}_2\text{H})_2]\cdot n\text{H}_2\text{O}$, zirconium phosphonates $\text{Zr}[(\text{O}_3\text{PCH}_2)_2\text{NCH}_2\text{CO}_2\text{H}]\cdot n\text{H}_2\text{O}$ and the catalytic activities of their palladium complexes in hydrogenation

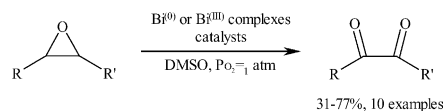
The layered amorphous and crystalline samples of $\text{Zr}(\text{HPO}_4)[\text{O}_3\text{PCH}_2\text{N}(\text{CH}_2\text{CH}_2)_2\text{O}]\cdot n\text{H}_2\text{O}$ (1a, 2a), $\text{Zr}(\text{HPO}_4)[\text{O}_3\text{PCH}_2\text{N}(\text{CH}_2\text{CO}_2\text{H})_2]\cdot n\text{H}_2\text{O}$ (1b, 2b) and $\text{Zr}[(\text{O}_3\text{PCH}_2)_2\text{NCH}_2\text{CO}_2\text{H}]\cdot n\text{H}_2\text{O}$ (1c, 2c) were synthesized for the first time. The samples were comparatively characterized by XRD, IR, TG and elemental analysis. XRD data showed that the crystalline samples 2a, 2b and 2c are highly crystalline with interlayer spacings of 1.606, 1.538 and 1.239 nm respectively. Their palladium complexes possessed good activities in the hydrogenation of carbon-carbon double bond. The catalytic activities of the palladium complexes of amorphous 1a, 1b and 1c is 1.5–3.1 times as high as that of the palladium complexes of crystalline 2a, 2b and 2c.

**Sylvain Antoniotti, Elisabet Duñach**

Journal of Molecular Catalysis A: Chemical 208 (2004) 135

Studies on the catalytic oxidation of epoxides to α -diketones by $\text{Bi}^{(0)}/\text{O}_2$ in DMSO

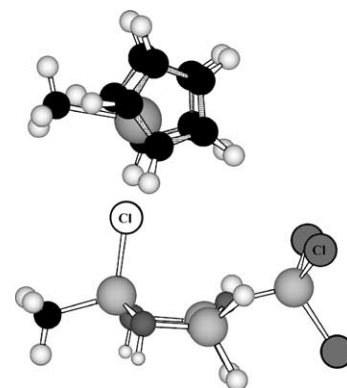
Catalytic oxidation of internal epoxides by bis-muth derivatives under molecular oxygen in DMSO affords the corresponding α -diketones. The influence of several parameters such as of the nature of the catalyst, $\text{Bi}^{(\text{III})}$ salts or $\text{Bi}^{(0)}$, the solvent, the presence of additives and other oxidants has been examined. The preparation of a series of linear and cyclic, aliphatic and aromatic α -diketones is reported in 31–77% yields.

**P.G. Belelli, D.E. Damiani, N.J. Castellani**

Journal of Molecular Catalysis A: Chemical 208 (2004) 147

Effect of a Lewis acid additive on active sites formation in zirconocene catalyst systems: a DFT study

The interaction of $\text{Cp}_2\text{ZrCl}_2/\text{MAO}$ catalytic system and AlCl_3 was studied theoretically. The stabilities of different ionic-pairs were considered and analyzed from the electronic structure point of view.

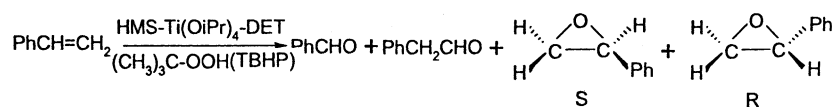


Zaihui Fu, Dulin Yin, Qingji Xie, Wei Zhao, Aixia Lv, Donghong Yin, Youzhi Xu, Luxi Zhang

Journal of Molecular Catalysis A: Chemical 208 (2004) 159

Ti complexes assembled HMS as effective catalysts for epoxidation of alkene

Ti tartrate complex ($\text{Ti}(\text{O}^i\text{Pr})_4 + \text{DET}$)-grafted hexagonal mesoporous silica (HMS) catalysts have been successfully prepared through three assembled pathways, and show the high catalytic activity and a definite epoxidative enantioselectivity for the epoxidation of styrene with tetrabutyl hydroperoxide (TBHP) as an oxidant.

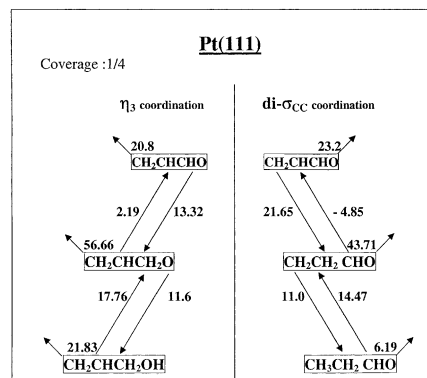


B.C. Khanra, Y. Jugnet, J.C. Bertolini

Journal of Molecular Catalysis A: Chemical 208 (2004) 167

Energetics of acrolein hydrogenation on Pt(1 1 1) and Ag(1 1 1) surfaces: a BOC-MP model study

Activation barriers for hydrogenation of acrolein to allyl alcohol and propanal on Pt(111) and Ag(111) surfaces are estimated by bond-order conservation-Morse potential (BOC-MP) model. A comparison of the barriers explains the lower selectivity for allyl alcohol compared to that for propanal.

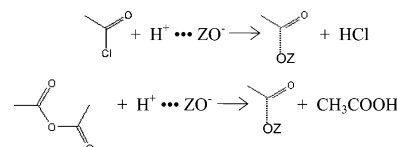


O. Kresnawahjuesa, R.J. Gorte, David White

Journal of Molecular Catalysis A: Chemical 208 (2004) 175

Characterization of acylating intermediates formed on H-ZSM-5

Acetyl-zeolite intermediate is formed below 400K when typical Friedel-Craft acylating agents such as acetyl chloride and acetic anhydride reacted with Brønsted-acid site of H-ZSM-5.

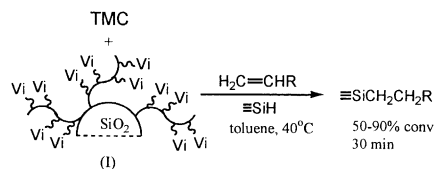


Z.M. Michalska, Ł. Rogalski, K. Różga-Wijas, J. Chojnowski, W. Fortuniak, M. Ścibiorek

Journal of Molecular Catalysis A: Chemical 208 (2004) 187

Synthesis and catalytic activity of the transition metal complex catalysts supported on the branched functionalized polysiloxanes grafted on silica

Hybrid supports (I) prepared by grafting on silica vinyl-functionalized linear and branched polysiloxanes were used for immobilizing the transition metal complexes, TMC (Pt, Rh). These heterogenized catalysts effectively catalyzed hydrosilylation of terminal alkene. The catalyst activity was found to be dependent on the type of a parent complex, the degree of branching and the content of the vinyl ligands.

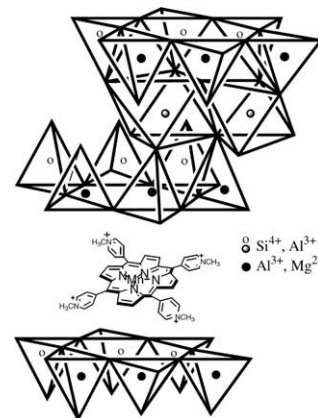


**Claudia Crestini, Alessandra Pastorini,
Pietro Tagliatesta**

Journal of Molecular Catalysis A: Chemical 208
(2004) 195

Metalloporphyrins immobilized on montmorillonite as biomimetic catalysts in the oxidation of lignin model compounds

meso-Tetrakis(tetramethylpyridinio)porphyrin pentaacetate immobilized on the smectite clay montmorillonite is an efficient biomimetic catalyst for hydrogen peroxide oxidation of lignin model compounds.

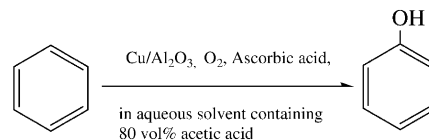


**Hiroshi Kanzaki, Takahiro Kitamura,
Rei Hamada, Satoru Nishiyama,
Shigeru Tsuruya**

Journal of Molecular Catalysis A: Chemical 208
(2004) 203

Activities for phenol formation using Cu catalysts supported on Al₂O₃ in the liquid-phase oxidation of benzene in aqueous solvent with high acetic acid concentration

Comparatively high yield of phenol, keeping the apparent Cu leaching low, was obtained through the direct oxygenation of benzene using Cu catalyst supported on Al₂O₃ (Cu/Al₂O₃) in the aqueous solvent containing around 80vol.% acetic acid.

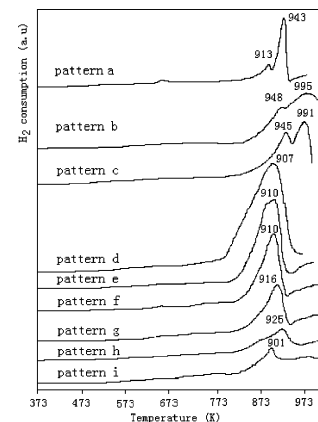


Huachang Jiang, Weimin Lu, Huilin Wan

Journal of Molecular Catalysis A: Chemical 208
(2004) 213

The effect of MoV_{0.3}Te_{0.23}P_xO_n catalysts with different phosphorus content for selective oxidation of propane to acrolein

The effect of MoV_{0.3}Te_{0.23}P_xO_n catalysts with different phosphorus content for selective oxidation of propane to acrolein and with XRD and TPR characterization.

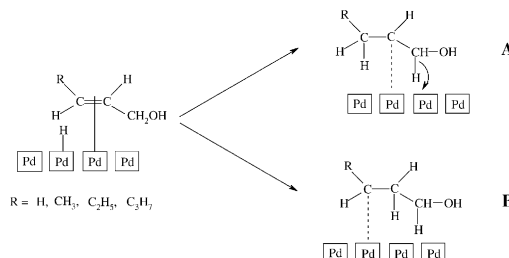


**M.G. Musolino, P. De Maio, A. Donato,
R. Pietropaolo**

Journal of Molecular Catalysis A: Chemical 208
(2004) 219

Hydrogenation versus isomerization in α,β -unsaturated alcohols reactions over Pd/TiO₂ catalysts

Hydrogenation and isomerization of α,β -unsaturated alcohols have been investigated in tetrahydrofuran over Pd/TiO₂ catalysts at 303K and 0.01MPa partial hydrogen pressure. The double bond isomerization reaction of these substrates affords also the corresponding saturated aldehydes or ketones. Catalytic activity and selectivity depend strongly on the steric and electronic effects characteristic of the organic substrate. A mechanism involving two σ -alkyl palladium bonded intermediates was proposed.

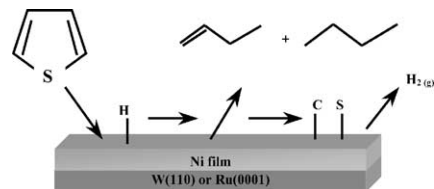


Neetha A. Khan, Jingguang G. Chen

Journal of Molecular Catalysis A: Chemical 208 (2004) 225

Thiophene HDS chemistry on monolayer Ni films on W(1 1 0) and Ru(0 0 1)

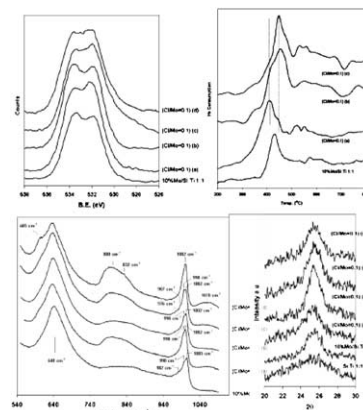
In this paper, we have shown thiophene chemistry on surfaces covered with monolayer Ni films. Adding Ni to the closed-packed surfaces of W and Ru alters the HDS activity of these surfaces at temperatures below 300K, and the resulting reactivity is unlike either pure metal. However, above 1ML Ni, the Ni/W(110) and Ni/Ru(0001) surfaces begin to act like Ni surfaces.

**Rick B. Watson, Shannon L. Lashbrook, Umit S. Ozkan**

Journal of Molecular Catalysis A: Chemical 208 (2004) 233

Chlorine modification of Mo/silica-titania mixed-oxide catalysts for the oxidative dehydrogenation of ethane

A series of molybdenum-based catalysts have been prepared and studied in regard to their performance in the oxidative dehydrogenation (ODH) of ethane. The effect of alkali (K and Li) and halide (Cl^-) modifiers on catalyst performance has been evaluated by doping at a low level (dopant/Mo molar ratio = 0.1). The changes in reaction performance are related to the nature of the supported MoO_x surface species that are significantly affected by the introduction of chlorine. While the addition of halide modifiers is known to positively affect the gas-phase mechanisms of ethane ODH at higher temperatures ($>650^\circ\text{C}$), current work indicates that the effect for surface redox mechanisms over MoO_x -based catalysts may be somewhat less-pronounced, but still beneficial, at lower temperatures of operation.

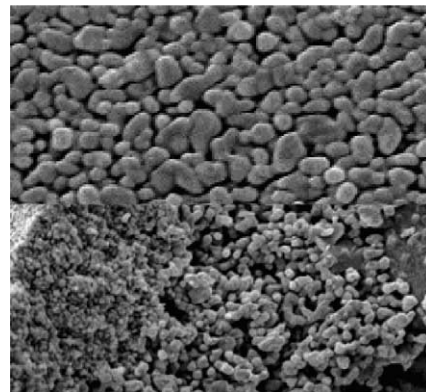
**C. Constantin, V. Pârvulescu, A. Bujor, G. Popescu, B.L. Su**

Journal of Molecular Catalysis A: Chemical 208 (2004) 245

Mesoporous nickelsilicate membranes on porous alumina supports

I. Effect of nature and surface pretreatment of alumina supports on the catalytic membrane formation

Ordered mesoporous nickelsilicate catalytic membranes have been synthesized on the surface of γ -alumina disk and α -alumina tube by dip coating and immersion and intensively characterized. Their permeation and separation properties have been evaluated and correlated with nature of alumina supports, their surface treatment and conditions of the hydrothermal synthesis.

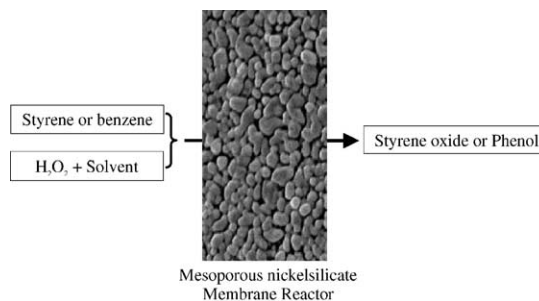
**V. Pârvulescu, C. Constantin, G. Popescu, B.L. Su**

Journal of Molecular Catalysis A: Chemical 208 (2004) 253

Mesoporous nickelsilicate membranes on porous alumina supports

II. Catalytic reactor for oxidation of aromatic hydrocarbons

The catalytic properties of nickelsilicate membranes have been evaluated in the reaction of styrene and benzene with H_2O_2 and compared with powdery catalyst in the batch reactor. The significant difference in selectivity was noted that membrane gave styrene oxide as only and final product while batch reactor led to the formation of deeper oxidation product: benzaldehyde.

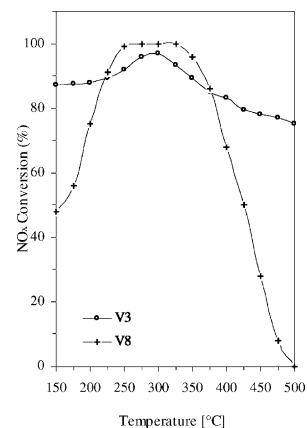


S. Djerad, L. Tifouti, M. Crocoll, W. Weisweiler

Journal of Molecular Catalysis A: Chemical 208 (2004) 257

Effect of vanadia and tungsten loadings on the physical and chemical characteristics of V₂O₅-WO₃/TiO₂ catalysts

The selective catalytic reduction of NO_x by ammonia over 3%V₂O₅-9%WO₃/TiO₂ and 8%V₂O₅-9%WO₃/TiO₂ catalyst prepared by the sol-gel method have been investigated. More significant changes in activity occurs on the catalyst V8 which displayed a higher NO_x conversion but in a narrow temperature range while V3 exhibits a lower reactivity but with high selectivity to N₂ over the whole temperature range.

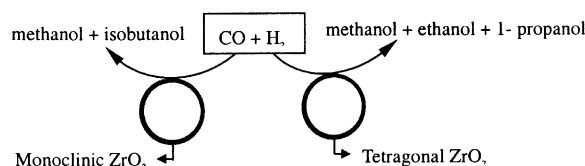


Daiping He, Yunjie Ding, Hongyuan Luo, Can Li

Journal of Molecular Catalysis A: Chemical 208 (2004) 267

Effects of zirconia phase on the synthesis of higher alcohols over zirconia and modified zirconia

ZrO₂-based catalyst is found to be an effective catalyst in the synthesis of ethanol or isobutanol, and their selectivities basically depend on the crystal phase of ZrO₂ surface.

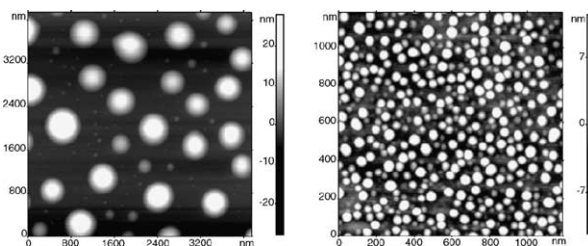


Natalia V. Semagina, Alexei V. Bykov, Esther M. Sulman, Valentina G. Matveeva, Stanislav N. Sidorov, Lidia V. Dubrovina, Peter M. Valetsky, Olga I. Kiselyova, Alexei R. Khokhlov, Barry Stein, Lyudmila M. Bronstein

Journal of Molecular Catalysis A: Chemical 208 (2004) 273

Selective dehydrolinalool hydrogenation with poly(ethylene oxide)-*block*-poly-2-vinylpyridine micelles filled with Pd nanoparticles

Dehydrolinalool (3,7-dimethyloct-6-ene-1-yne-3-ol, DHL) hydrogenation to linalool (3,7-dimethylocta-1,6-diene-3-ol, LN) was studied with Pd nanoparticles formed in poly(ethylene oxide)-*block*-poly-2-vinylpyridine (PEO-*b*-P2VP) micelles varying micelle characteristics by varying the solvent composition and pH of the reaction medium. The larger and denser the micelles (left), the slower the reaction, while selectivity reaches 99.4%. High reaction rates were observed for small micelles (right). The highest TOF achieved is 24.4s⁻¹.

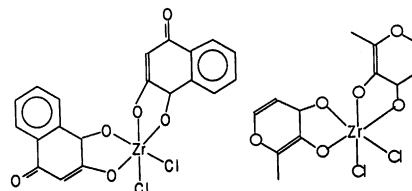


Carlos Carone, Viviane de Lima, Fernanda Albuquerque, Paula Nunes, Cristóvão de Lemos, João H.Z. dos Santos, Griselda B. Galland, Fernanda C. Stedile, Sandra Einloft, Nara R. de S. Basso

Journal of Molecular Catalysis A: Chemical 208 (2004) 285

Zirconium alkoxide complexes as catalysts for ethylene polymerization

The synthesis and catalytic activity of two zirconium complexes bearing 2-hydroxy-1,4-naphthoquinone and 3-hydroxy-2-methyl-4-pyrone as ligands is reported. Both catalysts were also grafted on silica and on methylaluminoxane (MAO)-modified silica and evaluated in ethylene polymerization.

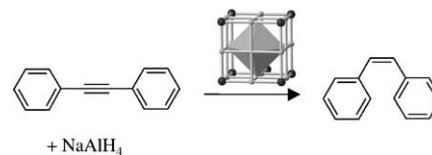


Stefan Kaskel, Klaus Schlichte, Tobias Kratzke

Journal of Molecular Catalysis A: Chemical 208 (2004) 291

Catalytic properties of high surface area titanium nitride materials

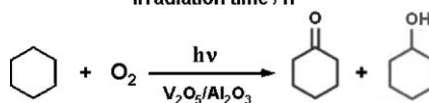
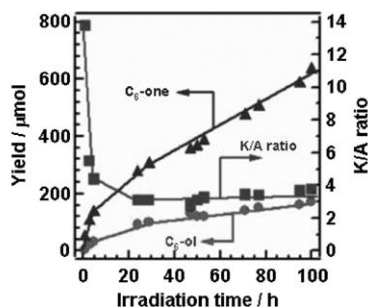
Titanium nitride nanoparticles show a high catalytic activity and selectivity in hydroalumination reactions.



Kentaro Teramura, Tsunehiro Tanaka, Masaya Kani, Tomohiro Hosokawa, Takuzo Funabiki

Journal of Molecular Catalysis A: Chemical 208 (2004) 299

Selective photo-oxidation of neat cyclohexane in the liquid phase over V₂O₅/Al₂O₃



András Fási, István Pálinkó, Ágnes Gömöry, Imre Kiricsi

Journal of Molecular Catalysis A: Chemical 208 (2004) 307

Ring opening, dimerisation and oligomerisation reactions of methyloxirane on solid acid and base catalysts

Methyloxirane undergoes a variety of reactions over catalysts of widely differing acid–base characteristics. Single ring opening, cyclic dimerisation and linear oligomerisation all occur on the nearly superacidic Nafion-H, while single ring opening is predominant over the basic Mg–Al hydrotalcite. The behaviour of K10 montmorillonite and NaN₃-loaded SiMCM-41 are in-between of the two extremes.

