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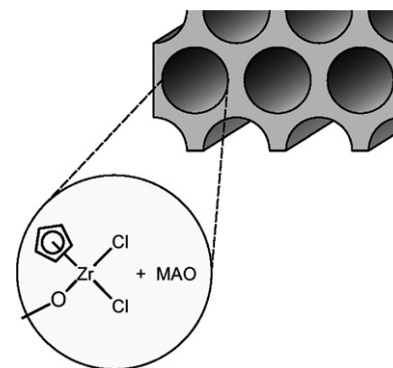
Articles

Jani P.J. Turunen, Tuula T. Pakkanen

Journal of Molecular Catalysis A: Chemical 263 (2007) 1

Characterization of stepwise prepared, silica supported zirconocene catalysts designed for olefin polymerization

Mesoporous silica fiber was treated with $ZrCl_4$ and subsequently with LiCp or LiInd to produce a heterogeneous catalyst designed for olefin polymerization. Emphasis of the study was put on the characterization of the resulting $ZrCl_xL/SiO_2$ structure with elemental analysis, FTIR and solid state 1H and ^{13}C NMR, but the activity in the polymerization of ethylene was also tested.

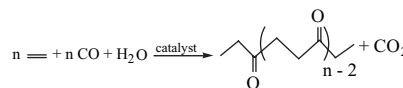


**Andrea Vavasori, Alessia Bellieni,
Lucio Ronchin, Federico Dall'Acqua,
Luigi Toniolo, Gianni Cavinato**

Journal of Molecular Catalysis A: Chemical 263 (2007) 9

Selective alternating copolymerisation of carbon monoxide and ethene catalysed by $[PdCl_2(dppf)]$ in acetic acid–water as a solvent [dppf = 1,1'-bis(diphenylphosphino)ferrocene]

$[PdCl_2(dppf)]$ catalyses the CO–ethene copolymerisation in $CH_3COOH-H_2O$. Productivity is maximum when AcOH is 40% ($mol\ mol^{-1}$) ($15,500g(gPd\ h)^{-1}$, $90^\circ C$, 4.5MPa, CO/ethene 1/1); the limiting viscosity number (LVN) increases upon increasing AcOH concentration; added NaAcO lowers the productivity and increases the LVN. Under higher ethene pressure productivity and LVN increase; under higher CO pressure productivity decreases, LVN increases.

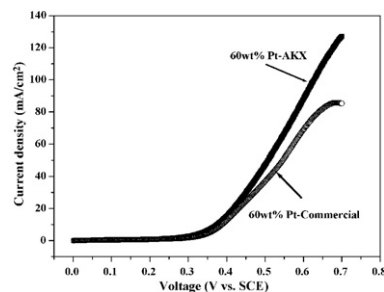


**Pil Kim, Ji Bong Joo, Wooyoung Kim,
Jongsik Kim, In Kyu Song, Jongheop Yi**

Journal of Molecular Catalysis A: Chemical 263 (2007) 15

Preparation of highly dispersed Pt catalyst using sodium alkoxide as a reducing agent and its application to the methanol electro-oxidation

A highly dispersed Pt catalyst was prepared using sodium alkoxide as a reducing agent for Pt ions, and it was applied to the methanol electro-oxidation. The prepared catalyst (Pt-AKX) showed high Pt loading and narrow Pt size distribution. In the methanol electro-oxidation, the Pt-AKX catalyst exhibited a better catalytic performance than the commercial catalyst.

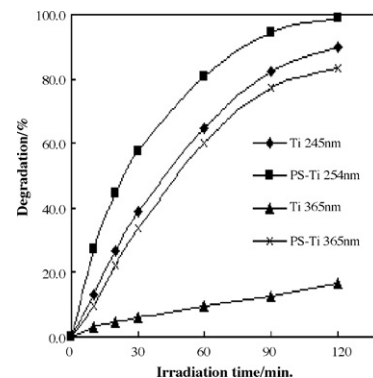


Zhi-Cai Wang, Heng-Fu Shui

Journal of Molecular Catalysis A: Chemical 263 (2007) 20

Effect of PO_4^{3-} and $\text{PO}_4^{3-}\text{-SO}_4^{2-}$ modification of TiO_2 on its photocatalytic properties

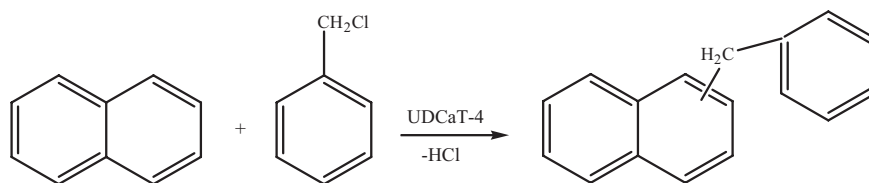
Novel photocatalysts are prepared by the surface modification of PO_4^{3-} and $\text{PO}_4^{3-}\text{-SO}_4^{2-}$ on TiO_2 , respectively. The synergistic effect between photocatalytic activity and surface acidity of catalyst is observed. The modification of TiO_2 by PO_4^{3-} and $\text{PO}_4^{3-}\text{-SO}_4^{2-}$ can enhance distinctly its photocatalytic activity, especially the photocatalytic activity irradiation on 365 nm light.

**Ganapati D. Yadav, Suraj A. Purandare**

Journal of Molecular Catalysis A: Chemical 263 (2007) 26

Efficacy of a novel mesoporous solid acid catalyst UDCaT-4 in liquid phase benzylation of naphthalene

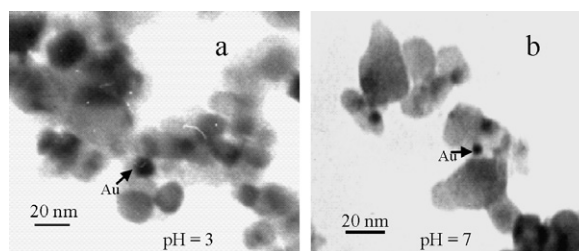
A novel mesoporous solid acid catalyst is synthesized and tested in the monobenylation of naphthalene with 100% selectivity.

**V. Iliev, D. Tomova, L. Bilyarska, G. Tyuliev**

Journal of Molecular Catalysis A: Chemical 263 (2007) 32

Influence of the size of gold nanoparticles deposited on TiO_2 upon the photocatalytic destruction of oxalic acid

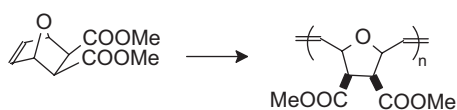
Upon attaching gold on the TiO_2 surface by photoreduction the dimensions of the Au nanoparticles decreases upon increasing the pH of the medium. The photocatalytic activity of TiO_2 , modified with gold, was found to increase with the decrease of the gold nanoparticles size on the surface of the photocatalytic material.

**Anne-Françoise Mingotaud, Michael Krämer, Christophe Mingotaud**

Journal of Molecular Catalysis A: Chemical 263 (2007) 39

Catalytic surfactants for ring-opening metathesis polymerization and ring-closing metathesis in non-degassed micellar solutions

New Hoveyda-type catalysts have been synthesized and characterized. The presence of hydrophobic chains ensures that they are surface-active, therefore, being the first inisurf molecules for ROMP being able to function even in non-degassed water.

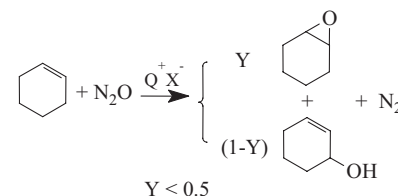


László J. Csányi, Károly Jáky, János T. Kiss,
István Ilisz, Péter Forgó, György Dombi

Journal of Molecular Catalysis A: Chemical 263
(2007) 48

Liquid-phase oxidation of cyclohexene and of tetralin by N_2O in the presence of onium salts under mild experimental conditions

Cyclohexene and tetralin can be oxidized by N_2O in the presence of quaternary ammonium salts (Q^+X^-) under mild experimental conditions (70°C , atmospheric pressure). The kinetical observations and the changes in the IR spectrum of N_2O support the ion-pair interactions between the oxidant and the onium salts which result in an enhanced rate of O-transfer from the oxidant.

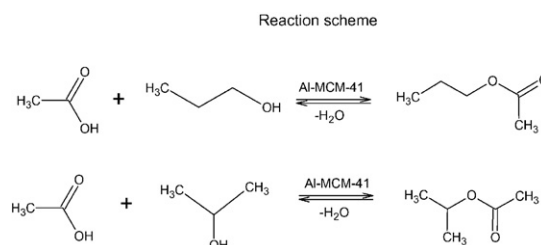


N. Gokulakrishnan, A. Pandurangan,
P.K. Sinha

Journal of Molecular Catalysis A: Chemical 263
(2007) 55

Esterification of acetic acid with propanol isomers under autogeneous pressure: A catalytic activity study of Al-MCM-41 molecular sieves

The catalytic activity of the Al-MCM-41 material was tested in the esterification of acetic acid using propanol isomers under autogeneous pressure. Al-MCM-41 (Si/Al = 30) was found to be more active than other Si/Al ratios owing to its high density of Brønsted acid sites and the reaction was also influenced by hydrophobic properties of the catalyst. Further, the reaction is proposed to occur mainly within the pores of the catalyst.

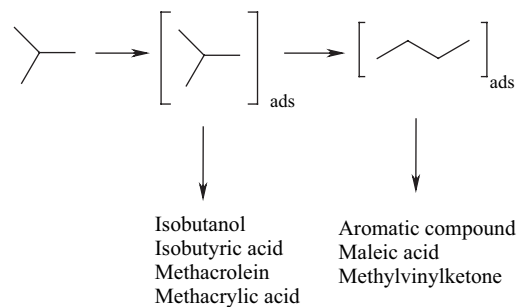


Anna Di Capua, Jean-Luc Dubois,
Michel Fournier

Journal of Molecular Catalysis A: Chemical 263
(2007) 62

Fine analysis of by-products of the selective oxidation of isobutane into methacrolein and methacrylic acid over Mo-V-P catalyst

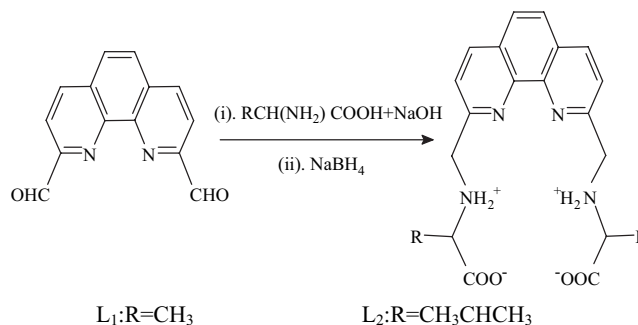
The brackets refer to a substrate adsorbed on a acid site.



Yanhua Luo, Hai Lin, Huakuan Lin

Journal of Molecular Catalysis A: Chemical 263
(2007) 70

Kinetics and mechanism of promoted hydrolysis of 2-hydroxypropyl-*p*-nitrophenyl phosphate (HPNP) by complexes of RPAIa and RPVal with La(III), Gd(III)

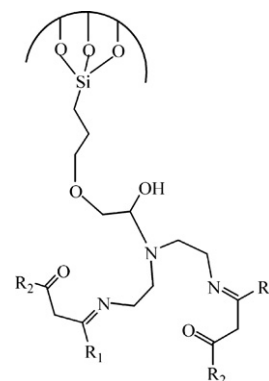


Chrysoula Vartzouma, Elisavet Evaggellou, Yiannis Sanakis, Nick Hadjiliadis, Maria Louloudi

Journal of Molecular Catalysis A: Chemical 263 (2007) 77

Alkene epoxidation by homogeneous and heterogenised manganese(II) catalysts with hydrogen peroxide

Three Schiff base ligands derived from three different 1,3-diones and diethylenetriamine have been synthesized and subsequently grafted on a silica surface via covalent bonds. Supported and non-supported manganese complexes have been evaluated as catalysts for alkene epoxidation with hydrogen peroxide. The observed high catalytic activity of the immobilised manganese complexes is highlighted, since they present efficient systems overcoming competitive H_2O_2 dismutation, in conjunction with advantages of the heterogeneous catalysts.

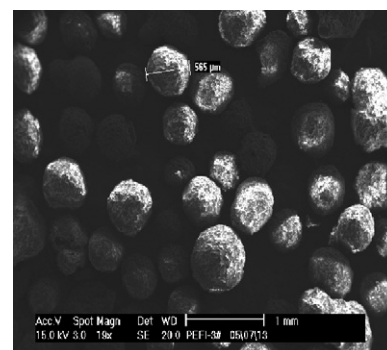


Renwei Xu, Dongbing Liu, Shibo Wang, Na Wang, Bingquan Mao

Journal of Molecular Catalysis A: Chemical 263 (2007) 86

Preparation of spherical $MgCl_2$ -supported bis(phenoxy-imine) zirconium complex for ethylene polymerization

Bis-[*N*-(3-*tert*-butylsalicyliden)cyclohexylamino] zirconium(IV) dichloride has been directly impregnated onto MAO modified spherical $MgCl_2$ support. The supported catalyst showed high activity for ethylene polymerization with proper catalytic life-span. Finally, PEs with spherical morphology and high bulk density (over 0.35 g/ml) were obtained, without reactor fouling. SEM image of PE particles produced by supported bis(phenoxy-imine) zirconium catalyst.

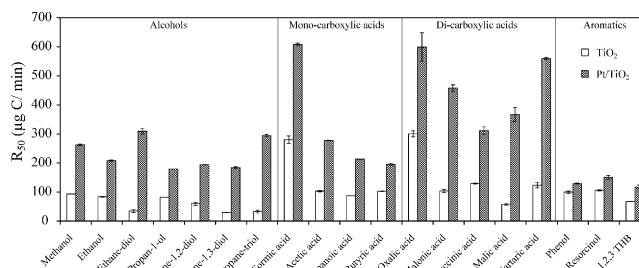


Frans Denny, Jason Scott, Ken Chiang, Wey Yang Teoh, Rose Amal

Journal of Molecular Catalysis A: Chemical 263 (2007) 93

Insight towards the role of platinum in the photocatalytic mineralisation of organic compounds

Nanosized platinum deposits on titanium dioxide are capable of catalysing the non-illuminated mineralisation of selected organics under ambient conditions. Moreover, it appears the catalytic properties of platinum play a role during photocatalytic mineralisation of these and other organics. The extent of catalytic action is related to the number and type of functional groups in the molecule and the molecules structure.

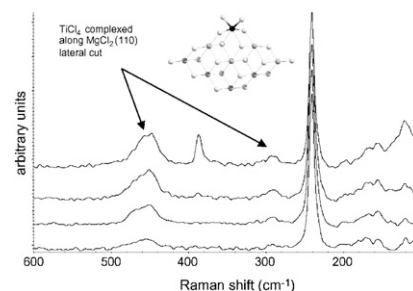


Luigi Brambilla, Giuseppe Zerbi, Fabrizio Piemontesi, Stefano Nascetti, Giampiero Morini

Journal of Molecular Catalysis A: Chemical 263 (2007) 103

Structure of $MgCl_2$ - $TiCl_4$ complex in co-milled Ziegler-Natta catalyst precursors with different $TiCl_4$ content: Experimental and theoretical vibrational spectra

In this work a series of new data on catalyst precursors relevant in the field of polyolefin catalysis are presented. The experimental FT-Raman spectra of $MgCl_2$ - $TiCl_4$ catalyst precursors show clear signals ascribed to three different $TiCl_4$ - $MgCl_2$ complexes; the nature of these complexes has been interpreted with the help of quantum chemical calculations. After washing of the precatalyst with *n*-hexane only one type of complex is found thus it can be proposed as the prototype of $TiCl_4$ - $MgCl_2$ complex in the catalyst. Moreover, a quantitative determination of $TiCl_4$ content by Raman spectroscopy is proposed.

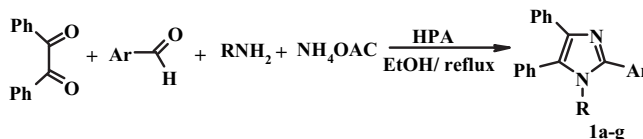


**Majid M. Heravi, Fatemeh Derikvand,
Fateme F. Bamoharram**

Journal of Molecular Catalysis A: Chemical 263
(2007) 112

Highly efficient, four-component one-pot synthesis of tetrasubstituted imidazoles using Keggin-type heteropolyacids as green and reusable catalysts

An efficient and improved procedure for the synthesis of tetrasubstituted imidazoles is developed by Keggin-type heteropolyacid (HPA) catalyzed four-component one-pot coupling protocol in refluxing ethanol.

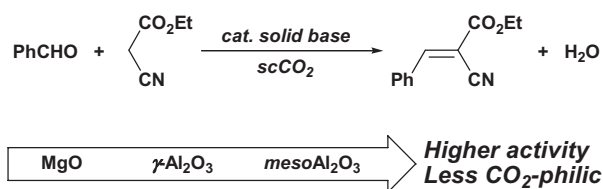


Tsunetake Seki, Makoto Onaka

Journal of Molecular Catalysis A: Chemical 263
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Elucidation of basic properties of mesoporous alumina through the temperature-programmed desorption of carbon dioxide and heterogeneous basic catalysis of mesoporous alumina for the Knoevenagel reaction in supercritical CO₂

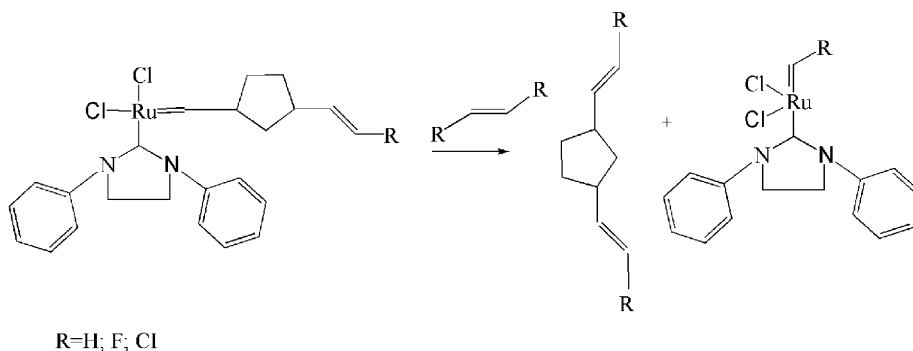
High performance of mesoporous alumina as a solid base catalyst in supercritical CO₂ medium has been deeply discussed comparing the CO₂-TPD results with the activities for the Knoevenagel reaction.



**Serguei Fomine, Joel Vargas Ortega,
Mikhail A. Tlenkopatchev**

Journal of Molecular Catalysis A: Chemical 263
(2007) 121

Metathesis of halogenated olefins. A computational study of ruthenium alkylidene mediated reaction pathways

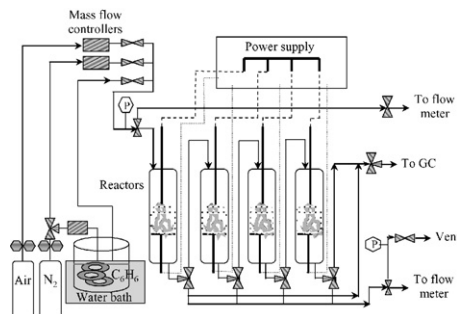


**Sumaeth Chavadej, Witan Kiatubolpaiboon,
Pramoch Rangsunvigit, Thammanoon
Sreethawong**

Journal of Molecular Catalysis A: Chemical 263
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A combined multistage corona discharge and catalytic system for gaseous benzene removal

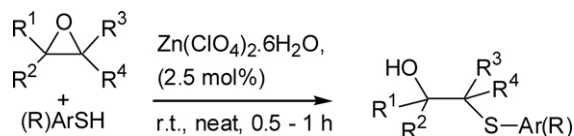
A combined multistage corona discharge and catalytic system used for removal of gaseous benzene.



Shivani, Asit K. Chakraborti

Journal of Molecular Catalysis A: Chemical 263 (2007) 137

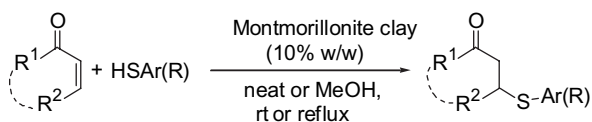
Zinc perchlorate hexahydrate as a new and highly efficient catalyst for synthesis of 2-hydroxysulfides by opening of epoxide rings with thiols under solvent-free conditions: Application for synthesis of the key intermediate of diltiazem

**Gaurav Sharma, Raj Kumar, Asit K. Chakraborti**

Journal of Molecular Catalysis A: Chemical 263 (2007) 143

A novel environmentally friendly process for carbon-sulfur bond formation catalyzed by montmorillonite clays

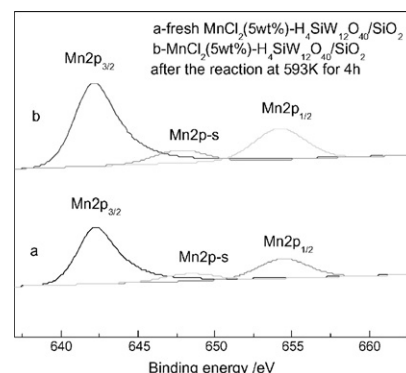
Montmorillonite K 10 and KSF catalyzed the chemoselective carbon-sulfur bond formation by conjugate addition of thiols to α,β -unsaturated carbonyl compounds.

**Qingde Zhang, Yisheng Tan, Caihong Yang, Yizhuo Han**

Journal of Molecular Catalysis A: Chemical 263 (2007) 149

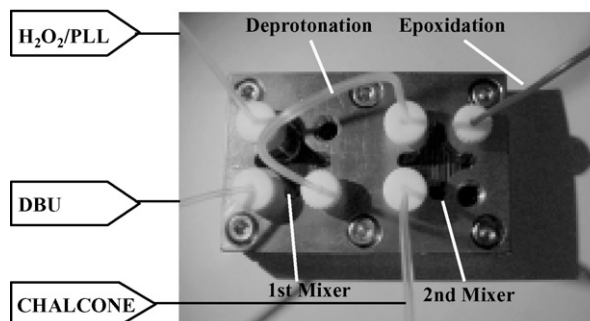
MnCl₂ modified H₄SiW₁₂O₄₀/SiO₂ catalysts for catalytic oxidation of dimethyl ether to dimethoxymethane

Dimethoxymethane (DMM) has been synthesized through catalytic oxidation of dimethyl ether over MnCl₂ modified H₄SiW₁₂O₄₀/SiO₂ catalysts prepared by impregnation method in a continuous flow type fixed-bed reactor with ratio of $n_{\text{DME}}/n_{\text{O}_2} = 1 : 1$ at 593 K and 0.1 MPa. XPS shows that some Mn⁴⁺ species of the fresh catalyst plays an important role and may be reduced to Mn²⁺ or Mn³⁺ species in the synthesis of DMM from DME oxidation reaction.

**Suet-Ping Kee, Asterios Gavriilidis**

Journal of Molecular Catalysis A: Chemical 263 (2007) 156

Batch versus continuous mg-scale synthesis of chalcone epoxide with soluble polyethylene glycol poly-L-leucine catalyst

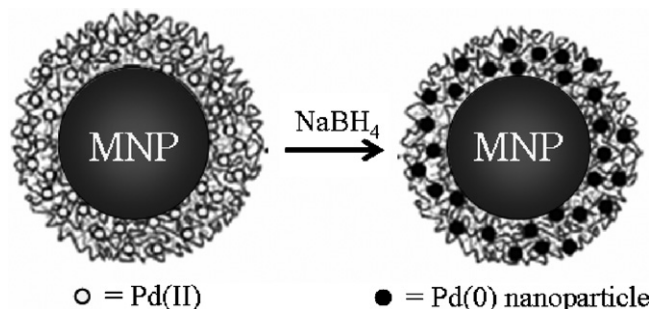


Yuhong Wang, Jin-Kyu Lee

Journal of Molecular Catalysis A: Chemical 263 (2007) 163

Recyclable nano-size Pd catalyst generated in the multilayer polyelectrolyte films on the magnetic nanoparticle core

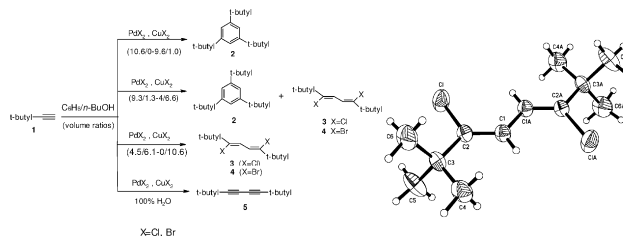
Pd nanoparticles were generated within multilayer polyelectrolyte films fabricated on a magnetic ferrite core by a layer-by-layer (LbL) self-assembly technique, and these hybrid core-shell composites showed the catalytic activity in the hydrogenation of olefinic alcohols with excellent recyclability.

**Jin-Sheng Cheng, Guo-Feng Wei, Shi-Wen Huang, Jin-Zhao, Huan-Feng Jiang**

Journal of Molecular Catalysis A: Chemical 263 (2007) 169

Solvent-controlled chemoselective palladium-catalyzed oligomerization of *tert*-butyl acetylene

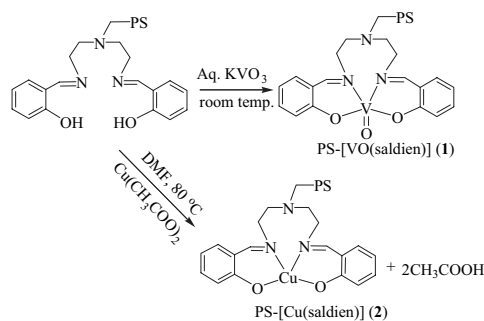
Recently, we found that solvent play an important role in influencing the chemoselectivity of the Pd(II)-catalyzed reactions. Solvent controls the chemoselectivity of PdX₂-catalyzed oligomerization of *tert*-butyl acetylene: 1,3,5-tri-*tert*-butylbenzene, (3*Z*, 5*Z*)-2,2,7,7-tetramethyl-3,6-dichloro-3,5-octadiene, (3*Z*, 5*Z*)-2,2,7,7-tetramethyl-3,6-dibromo-3,5-octadiene and 2,2,7,7-tetramethyl-3,5-octadiyne were obtained, respectively, by regulating the solvent.

**Mannar R. Maurya, Sweta Sikarwar**

Journal of Molecular Catalysis A: Chemical 263 (2007) 175

Oxidation of phenol and hydroquinone catalysed by copper(II) and oxovanadium(IV) complexes of *N,N'*-bis(salicylidene)diethylenetriamine (H₂saldien) covalently bonded to chloromethylated polystyrene

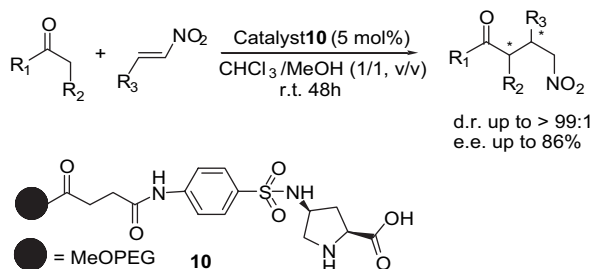
Oxidation of phenol and hydroquinone catalysed by polymer-anchored complexes, PS-[VO(saldien)] and PS-[Cu(saldien)] in water and acetonitrile are reported.

**Liuqun Gu, Yongyong Wu, Yazhu Zhang, Gang Zhao**

Journal of Molecular Catalysis A: Chemical 263 (2007) 186

A new class of efficient poly(ethylene-glycol)-supported catalyst based on proline for the asymmetric Michael addition of ketones to nitrostyrenes

A new class of efficient poly(ethylene-glycol)-supported catalysts based on proline was designed to catalyze the asymmetric Michael addition of ketones to nitrostyrenes.

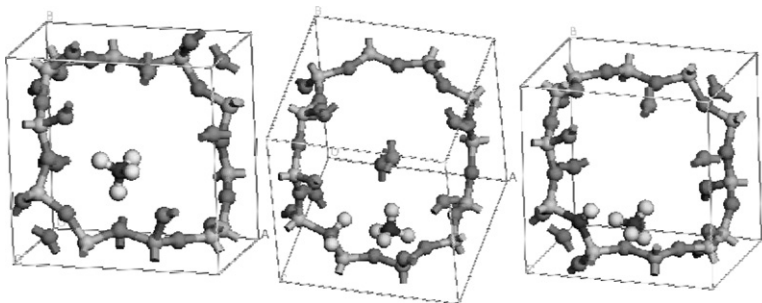


**Mohamed Elanany, Bao-Lian Su,
Daniel P. Vercauteren**

Journal of Molecular Catalysis A: Chemical 263
(2007) 195

The effect of framework organic moieties on the acidity of zeolites: A DFT study

Density functional calculations on periodic models of CHA topology were carried out to measure the effect of organic moieties incorporation, viz., CH₂ and NH on the Brønsted acid site strength of zeolites. Results from adsorption energies of ammonia, deprotonation energies, and (s_x^+/s_x^-) are consistent and show the following order of decreasing the Brønsted acid site strength: H-CHA > H-ZOL-C > H-ZOL-N.

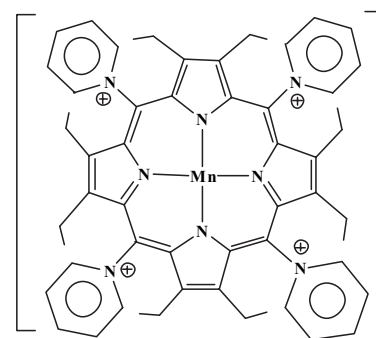


**Constance Bochot, Jean-François Bartoli,
Yves Frapart, Patrick M. Dansette,
Daniel Mansuy, Pierrette Battioni**

Journal of Molecular Catalysis A: Chemical 263
(2007) 200

Synthesis and spectroscopic, electrochemical, and catalytic properties of a new manganese porphyrin bearing four positive charges close to the metal

A new Mn-porphyrin, Mn(OEPy₄P), was synthesized in three steps from Zn-β-octaethylporphyrin, and characterized by elemental analysis, mass spectrometry, UV-vis and dual polarization mode EPR spectroscopy, and electrochemistry. It catalyzed alkene epoxidation and alkane hydroxylation by PhIO and hydroxylation of aromatic compounds by H₂O₂ in CH₂Cl₂-CH₃CN, as well as hydroxylation of the drug diclofenac by oxone in water.

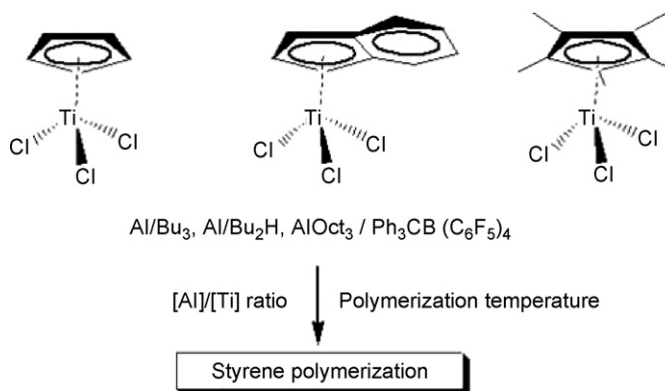


Mn(OEPy₄P)

Naofumi Naga

Journal of Molecular Catalysis A: Chemical 263
(2007) 206

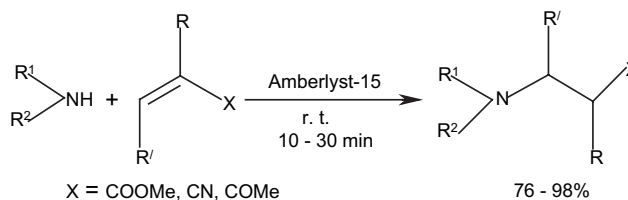
Styrene polymerization with half-sandwiched titanocene trichloride catalysts combined with alkylaluminum-Ph₃CB(C₆F₅)₄ cocatalyst systems



Biswanath Das, Nikhil Chowdhury

Journal of Molecular Catalysis A: Chemical 263
(2007) 212

Amberlyst-15: An efficient reusable heterogeneous catalyst for aza-Michael reactions under solvent-free conditions

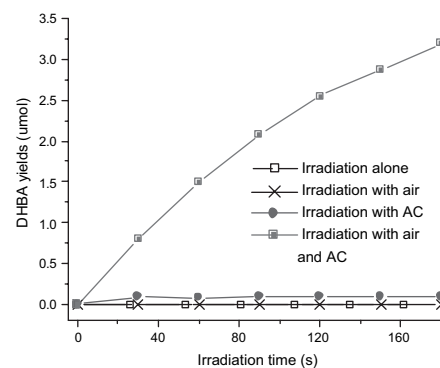


**Xie Quan, Yaobin Zhang, Shuo Chen,
Yazhi Zhao, Fenglin Yang**

Journal of Molecular Catalysis A: Chemical 263 (2007) 216

Generation of hydroxyl radical in aqueous solution by microwave energy using activated carbon as catalyst and its potential in removal of persistent organic substances

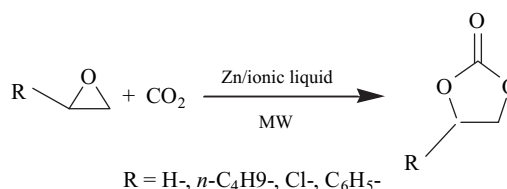
A novel and rapid method for sequential generation of $\cdot\text{OH}$ in aqueous solution using microwave energy was presented. Dose of activated carbon, air supply, and MW power proved to be key factors influencing $\cdot\text{OH}$ generation. About 72–100% degradation (corresponding to 40% and 82% TOC removal) was observed in 60 min for two levels of PCP concentrations (500 and 2000 mg/L).



**Fumitaka Ono, Kun Qiao, Daisuke Tomida,
Chiaki Yokoyama**

Journal of Molecular Catalysis A: Chemical 263 (2007) 223

Rapid synthesis of cyclic carbonates from CO_2 and epoxides under microwave irradiation with controlled temperature and pressure

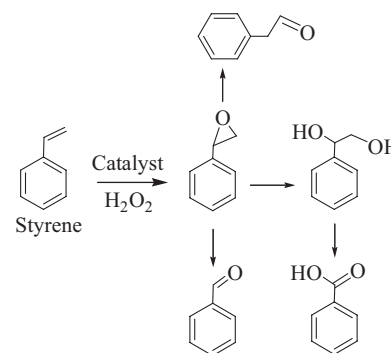


**Mannar R. Maurya, Anil K. Chandrakar,
Shri Chand**

Journal of Molecular Catalysis A: Chemical 263 (2007) 227

Oxidation of phenol, styrene and methyl phenyl sulfide with H_2O_2 catalysed by dioxovanadium(V) and copper(II) complexes of 2-aminomethylbenzimidazole-based ligand encapsulated in zeolite-Y

Dioxovanadium(V) and Copper(II) complexes of Schiff bases derived from salicylaldehyde and 2-aminomethylbenzimidazole have been encapsulated in the cavity of zeolite-Y and characterized. These complexes catalyse the oxidation, by peroxide, of phenol, styrene and methyl phenyl sulfide in good yield.

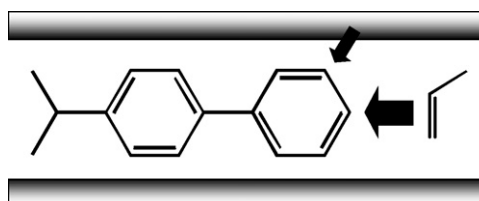


**Hiroyoshi Maekawa, Shyamal Kumar Saha,
Shafeek Abdul Rashid Mulla,
Suresh B. Waghmode, Kenichi Komura,
Yoshihiro Kubota, Yoshihiro Sugi**

Journal of Molecular Catalysis A: Chemical 263 (2007) 238

Shape-selective alkylation of biphenyl over metalloaluminophosphates with AFI topology

The isopropylation of biphenyl (BP) was examined over metalloaluminophosphates with AFI topology (MAPO-5; M: Mg, Ca, Sr, Ba, and Zn). Catalytic activities of MgAPO-5 and ZnAPO-5 were much higher than CaAPO-5, SrAPO-5, and BaAPO-5. The selectivities of 4,4'-diisopropylbiphenyl (4,4'-DIPB) for all MAPO-5 are in the level of 70–80%. MAPO-5 allows selective formation of 4,4'-DIPB inside their channels through a transition state with minimal constraints.

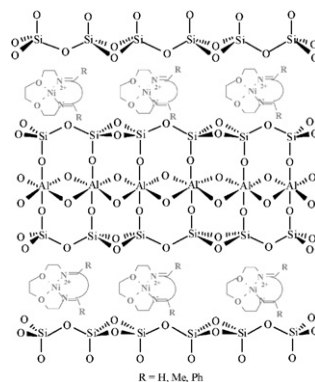


Masoud Salavati-Niasari

Journal of Molecular Catalysis A: Chemical 263 (2007) 247

Synthesis, characterization and catalytic oxidation of cyclohexene with molecular oxygen over host (montmorillonite-K10)/guest (nickel(II) complexes of 12- and 13-membered diaza dioxo Schiff-base macrocyclic ligand) nanocatalyst (HGN)

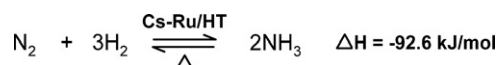
Nickel(II) complexes of 12- and 13-membered diaza dioxo Schiff-base macrocyclic ligand; ($R_2[12]1,3$ -diene N_2O_2), ($R_2[13]1,4$ -diene N_2O_2), $R = H, Me$ and Ph ; was entrapped into an montmorillonite-K10 (denoted as K10) by simultaneous/pillaring encapsulation method. In all cases the nickel(II) 12- and 13-membered diaza dioxo Schiff-base complex is mainly physically entrapped within the matrix, although some host-guest interactions with the matrix could be present. The host-guest nanocatalyst; HGN; $[(Ni(R_2[12]1,3\text{-diene}N_2O_2)]^{2+}@K10$, $[(Ni(R_2[13]1,4\text{-diene}N_2O_2)]^{2+}@K10$; is catalytically very efficient as compared to other neat complexes for oxidation of cyclohexene with molecular oxygen as oxidant in the absence of solvent at 70 °C, affording 2-cyclohexene-1-ol and 2-cyclohexene-1-one.

**P. Seetharamulu, V. Siva Kumar, A.H. Padmasri, B. David Raju, K.S. Rama Rao**

Journal of Molecular Catalysis A: Chemical 263 (2007) 253

A highly active nano-Ru catalyst supported on novel Mg-Al hydrotalcite precursor for the synthesis of ammonia

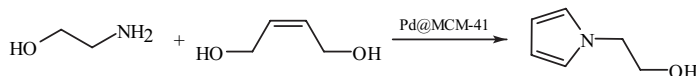
The nano-Cs-Ru/HT catalyst prepared by polyol reduction method showed superior ammonia synthesis activity under atmospheric pressure over the catalyst prepared from conventional impregnation method. The higher activity of the Cs-Ru/HT (ED) catalyst has been attributed to the presence of easily reducible Ru species and highly dispersed nano-particles of Ru.

**Jan Demel, Jiří Čejka, Snejana Bakardjieva, Petr Štěpnička**

Journal of Molecular Catalysis A: Chemical 263 (2007) 259

Grafting of palladium nanoparticles onto mesoporous molecular sieve MCM-41: Heterogeneous catalysts for the formation of an *N*-substituted pyrrol

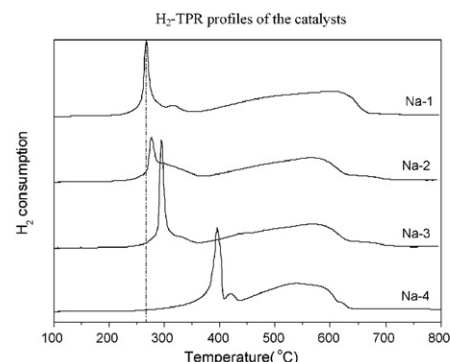
MCM-41 supported palladium nanoparticles were shown to promote condensation reaction of 2-ethanolamine with *cis*-butene-1,4-diol to give *N*-(2-hydroxyethyl)pyrrol with a good selectivity and yields. The properties of the supported catalysts were studied chemically and by N_2 -adsorption isotherms, X-ray diffraction and HR TEM.

**Xia An, Baoshan Wu, Wenjuan Hou, Haijun Wan, Zhichao Tao, Tingzhen Li, Zhixin Zhang, Hongwei Xiang, Yongwang Li, Bingfu Xu, Fan Yi**

Journal of Molecular Catalysis A: Chemical 263 (2007) 266

The negative effect of residual sodium on iron-based catalyst for Fischer-Tropsch synthesis

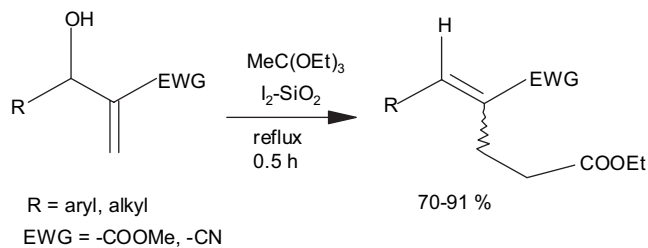
The H_2 -TPR profiles indicated that residua of sodium affected the reduction of the catalysts significantly, which play an important role in the FTS performances of iron-based catalysts.



**Biswanath Das, Anjoy Majhi,
K. Ravinder Reddy, Katta Venkateswarlu**

Journal of Molecular Catalysis A: Chemical 263
(2007) 273

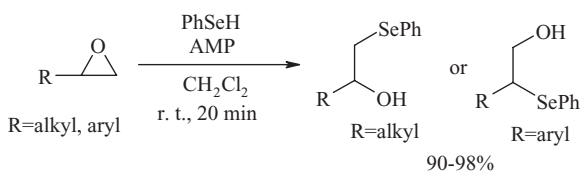
I_2 - SiO_2 : An efficient heterogeneous catalyst for the Johnson–Claisen rearrangement of Baylis–Hillman adducts



Biswanath Das, V. Saidi Reddy, R. Ramu

Journal of Molecular Catalysis A: Chemical 263
(2007) 276

A rapid and high-yielding synthesis of β -hydroxy-selenides by regio- and stereoselective ring-opening of epoxides with benzeneselenol using ammonium-12-molybdophosphate



**Majid M. Heravi, Khadijeh Bakhtiari,
Hossein A. Oskooie, Shima Taheri**

Journal of Molecular Catalysis A: Chemical 263
(2007) 279

Synthesis of 2,4,5-triaryl-imidazoles catalyzed by $NiCl_2 \cdot 6H_2O$ under heterogeneous system

The synthesis of 2,4,5-triaryl-imidazoles from benzyl, aldehydes and NH_4OAc , as ammonia source, in the presence of catalytic amount of $NiCl_2 \cdot 6H_2O$ supported onto acidic alumina in very good yields under heterogeneous system is reported.

