

## Contents

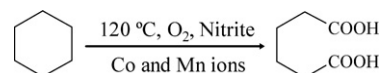
### Articles

**Yuichiro Suzuki, Emi Harada,  
Katsuhisa Nakamaru, Yasuhisa Takeda,  
Makoto Sano, Keiji Hashimoto,  
Takanori Miyake**

*Journal of Molecular Catalysis A: Chemical 276  
(2007) 1*

Direct oxidation of cycloalkanes with molecular oxygen to dicarboxylic acids using isoamyl nitrite

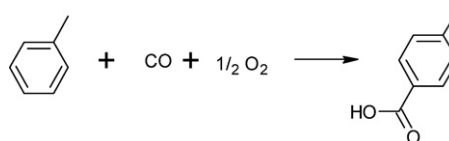
Oxidation of cycloalkanes with molecular oxygen using isoamyl nitrite was examined under mild conditions. Cycloalkanes were easily oxidized with molecular oxygen to give the corresponding cycloalcohols, cycloalkanones and dicarboxylic acids at 120 °C or lower temperatures. The oxidation of the cycloalkanes was promoted by adding soluble Co and Mn ions.



**Joseph J. Zakzeski, Alexis T. Bell**

*Journal of Molecular Catalysis A: Chemical 276  
(2007) 8*

Oxidative carbonylation of toluene to *p*-toluic acid catalyzed by rhodium in the presence of vanadium and oxygen



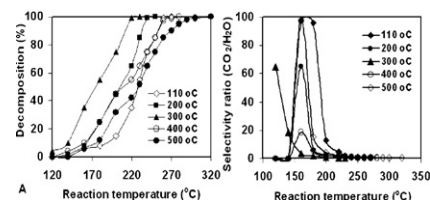
Catalyst: Rh(CF<sub>3</sub>COO)<sub>3</sub>/VO<sub>2</sub>(CH<sub>3</sub>COO)

**D.P. Das, K.M. Parida**

*Journal of Molecular Catalysis A: Chemical 276  
(2007) 17*

Fe(III) oxide pillared titanium phosphate (TiP): An effective catalyst for deep oxidation of VOCs

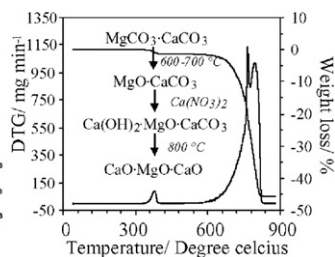
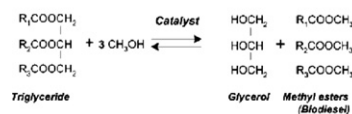
Fe(III) oxide pillared titanium phosphate was prepared by varying the weight percentage of trinuclear Fe(III) acetato complex. Modified as well as neat samples were characterized by PXRD, FTIR, TG-DTA, surface oxygen and redox sites determination and BET-surface area analysis. By varying experimental conditions it was observed that 5 wt% Fe(III) intercalated TiP activated at 300 °C show higher activity towards deep oxidation of representative volatile organic compounds (VOCs) such as acetone, methanol, 2-propanol and diethyl ether at low temperatures forming CO<sub>2</sub> and H<sub>2</sub>O.



**Chawalit Ngamcharussrivichai,  
Wipawee Wiwatnimit, Sarinyarak Wangnoi**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 24

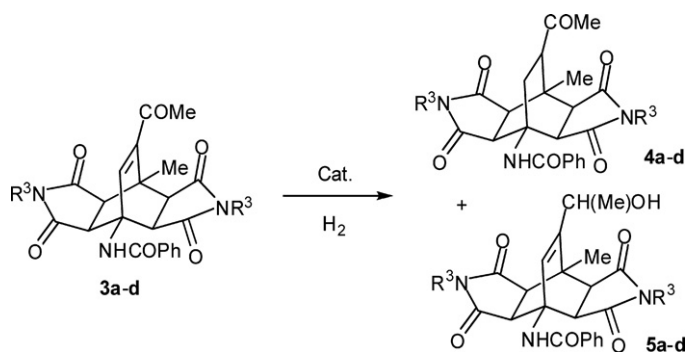
Modified dolomites as catalysts for palm kernel oil transesterification



**Florentina Iosif, Vasile I. Parvulescu,  
M. Elena Pérez-Bernal, Ricardo J. Ruano-Casero,  
Vicente Rives, Kristof Kranjc, Slovenko Polanc,  
Marijan Kočevar, Emilie Genin,  
Jean-Pierre Genêt, Véronique Michelet**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 34

Heterogeneous hydrogenation of bicyclo[2.2.2] octenes on Rh/TPPTS/LDH catalysts

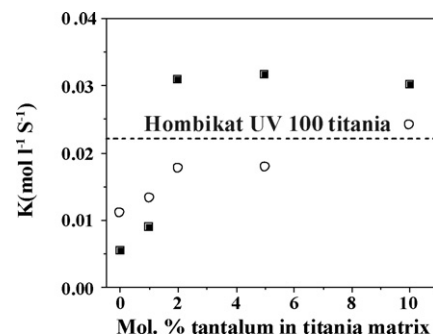


**K.V. Baiju, P. Shajesh, W. Wunderlich,  
P. Mukundan, S. Rajesh Kumar,  
K.G.K. Warriar**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 41

Effect of tantalum addition on anatase phase stability and photoactivity of aqueous sol-gel derived mesoporous titania

Photocatalytic activity of titania has been modified by the addition of tantalum. The aqueous sol-gel method starting from cheap salt precursors gives compositions with very high photoactivity better than commercially available Hombikat UV 100.

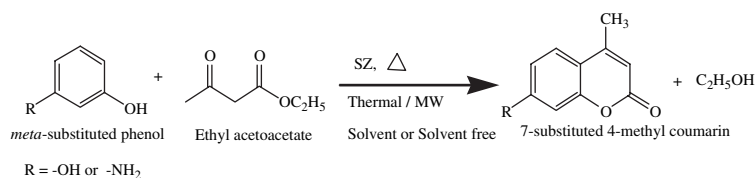


**Beena Tyagi, Manish K. Mishra, Raksh V. Jasra**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 47

Synthesis of 7-substituted 4-methyl coumarins by Pechmann reaction using nano-crystalline sulfated-zirconia

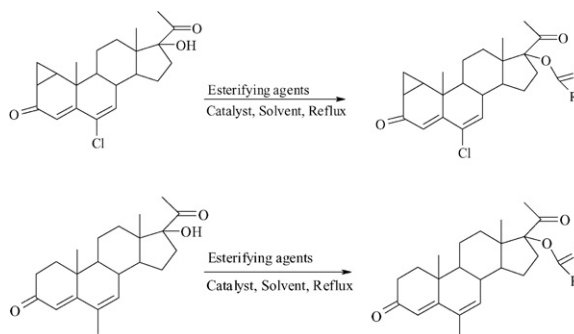
The nano-crystalline sulfated-zirconia catalysts showed excellent catalytic activity for the synthesis of 7-substituted 4-methyl coumarins via solvent free Pechmann reaction. Slow kinetics was observed in the presence of solvents. High substrate to catalyst ratio and the reusability of the catalyst after simple activation for several times with similar catalytic activity are the novel properties of the catalyst.



**Z. Rezaei, S. Khabnadideh, M.M. Zarshenas,  
M.R. Jafari**

*Journal of Molecular Catalysis A: Chemical* 276  
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Esterification of tertiary alcohols in steroids under  
different conditions

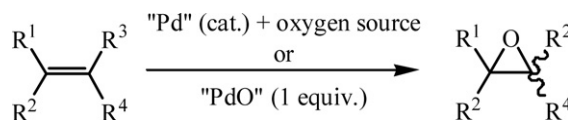


**Jacques Muzart**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 62

Pd-mediated epoxidation of olefins

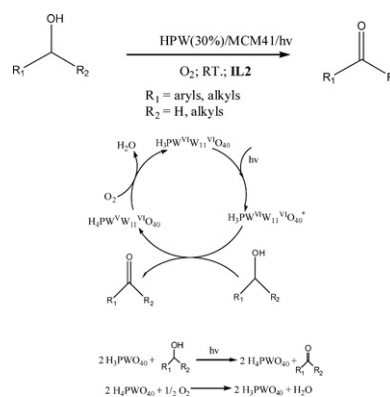
A review is presented on the epoxidation of olefins using either stoichiometric amounts of oxopalladium complexes or the association of palladium compounds with oxygen sources.



**Hao-Yu Shen, Hong-Lei Mao, Li-Yan Ying,  
Qing-Hua Xia**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 73

Photocatalytic selective aerobic oxidation of  
alcohols to aldehydes and ketones by HPW/MCM-41  
in ionic liquids

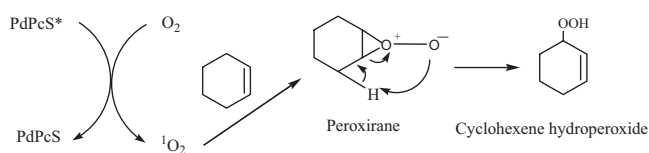


**Xiaojin Xue, Yiming Xu**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 80

Selective photooxidation of cyclohexene with  
molecular oxygen sensitized by palladium  
phthalocyaninesulfonate

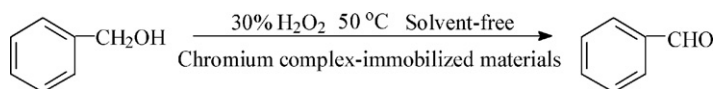
The sensitized oxidation of cyclohexene by the title complex under visible light irradiation in an aerated aqueous solution of acetonitrile gave cyclohexene hydroperoxide as the major product with a selectivity as high as 99%. But the product yield and selectivity, as well as the catalyst stability were greatly dependent on the properties of the solvent used.



**Xiaoli Wang, Gongde Wu, Junping Li,  
Ning Zhao, Wei Wei, Yuhan Sun**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 86

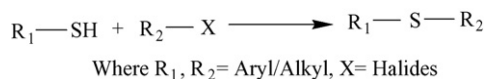
Selective oxidation of benzyl alcohol catalyzed by  
Cr(salen) complexes immobilized on MCM-41



**Ajeet Kumar, Prashant Singh, Santosh Kumar,  
Ramesh Chandra, Subho Mozumdar**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 95

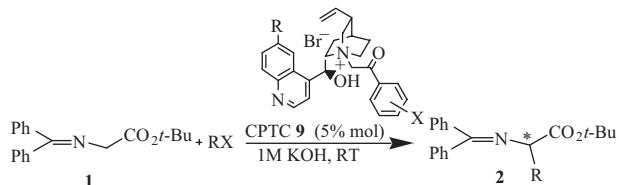
A facile one-pot synthesis of thioethers using  
heteropoly acids



**Xin Wang, Jian Lv, Lei Liu, Yongmei Wang,  
Yang Wu**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 102

A novel *N*-acetophenone cinchona ammonium salts  
as chiral phase transfer catalysts for the alkylation  
of Schiff base in water

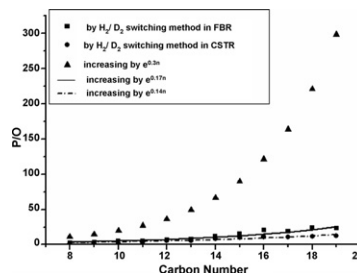


**Yanli Liu, Shenke Zheng, Buchang Shi,  
Jinlin Li**

*Journal of Molecular Catalysis A: Chemical* 276  
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Deuterium tracer study of Fischer–Tropsch  
synthesis: A method to eliminate accumulation  
problems

We first confirm that product accumulations in Fisher–Tropsch synthesis (FTS) occur in small fixed bed reactor. After accumulation correction and secondary hydrogenation correction, the paraffin to olefin ratio of hydrocarbons produced by this reaction increase with increasing molecular size by a rate of  $e^{0.15n}$ , which is much smaller than the values obtained by conventional method.

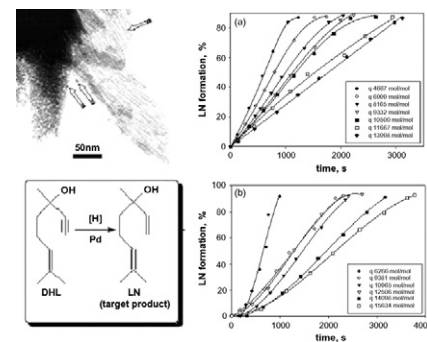


**Irina B. Tsvetkova, Lyudmila M. Bronstein, Stanislav N. Sidorov, Olga L. Lependina, Mikhail G. Sulman, Pyotr M. Valetsky, Barry Stein, Linda Zh. Nikoshvili, Valentina G. Matveeva, Alexander I. Sidorov, Boris B. Tikhonov, Galina N. Demidenko, L. Kiwi-Minsker, Esther M. Sulman**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 116

Structure and behavior of nanoparticulate catalysts based on ultrathin chitosan layers

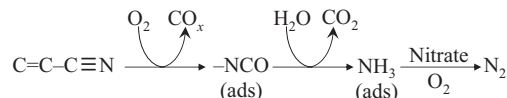
Deposition of ultrathin poly(sodium-4-styrenesulfonate)/chitosan layers on a mesoporous alumina surface and the formation of catalytic Pd nanoparticles in mesopores covered by such layers was studied. The Pd nanoparticles do not exceed 2–3 nm, revealing that these layers can control nucleation and growth of nanoparticles. The catalytic behavior of these catalysts has been investigated in selective hydrogenation of dehydrolinalool to linalool.



**Tetsuya Nanba, Shouichi Masukawa, Junko Uchisawa, Akira Obuchi**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 130

Mechanism of acrylonitrile decomposition over Cu-ZSM-5

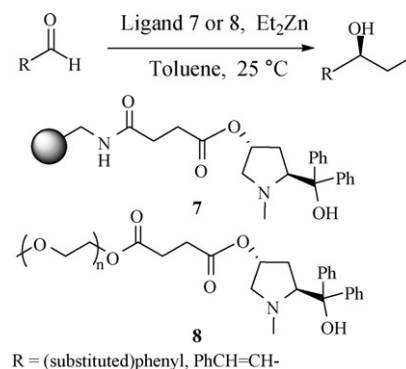


**Li-Ting Chai, Quan-Rui Wang, Feng-Gang Tao**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 137

The synthesis of supported proline-derived ligands and their application in asymmetric diethylzinc addition to aldehydes

Polymer (aminomethylated polystyrene resin and MeO-PEG) supported proline-derived ligands have been prepared facilely, and shown to be highly active with good enantioselectivity (up to 90% ee) for the catalyzed asymmetric diethylzinc addition to aldehydes. Particularly, the insoluble polymer-supported catalyst could be reused for several catalytic runs without significant loss of enantioselectivity after readily recoverable procedure.

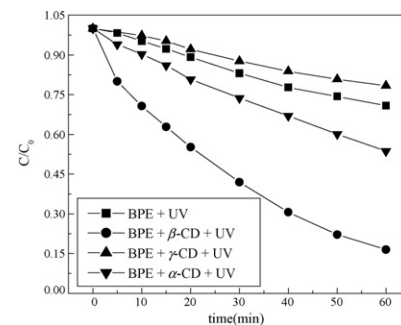


**Guanghui Wang, Xiaofei Xue, Haifeng Li, Feng Wu, Nansheng Deng**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 143

$\beta$ -Cyclodextrin-enhanced photodegradation of bis(4-hydroxyphenyl)ethane under UV irradiation

The enhanced photodegradation behavior of bis(4-hydroxyphenyl)ethane (BPE) in the presence of  $\beta$ -CD was investigated under a 30 W UV lamp ( $\lambda_{\text{max}} = 254 \text{ nm}$ ); the photodegradation reaction rate constant of BPE in aqueous solution with  $\beta$ -CD showed a 5.37-fold increase. After 60 min UV irradiation,  $\beta$ -CD increased the photodegradation efficiency of  $10.0 \text{ mg l}^{-1}$  BPE by about 54.4%.

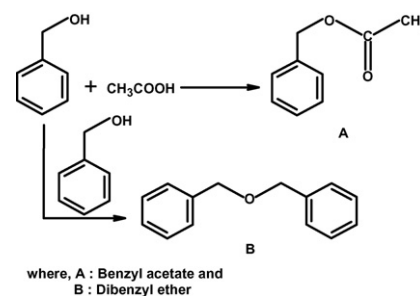


**Dhanashri P. Sawant, A. Vinu, Josena Justus, P. Srinivasu, S.B. Halligudi**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 150

Catalytic performances of silicotungstic acid/zirconia supported SBA-15 in an esterification of benzyl alcohol with acetic acid

Liquid phase esterification of benzyl alcohol (BA) to benzyl acetate (Peach fragrance) with an acetic acid (AA) has been investigated with 12-silicotungstic acid supported on zirconia embedded inside SBA-15 (STA/ZrO<sub>2</sub>/SBA-15) as the catalyst. Fifteen wt.% STA/22.4 wt.% ZrO<sub>2</sub>/SBA-15 calcined at 1123 K was found to have the highest acidity and more active in the reaction.

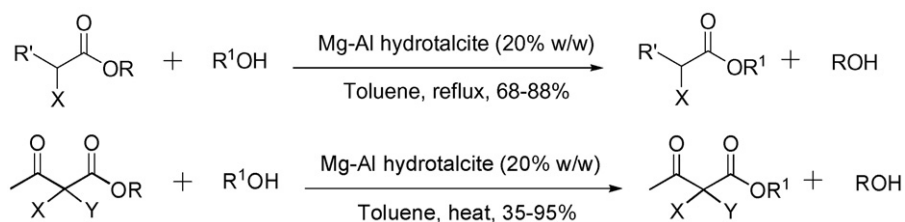


**Vivek J. Bulbule, Hanumant B. Borate, Yogesh S. Munot, Vishnu H. Deshpande, Sangmeshwer P. Sawargave, Abaji G. Gaikwad**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 158

Transesterification of  $\alpha$ -haloesters and  $\beta$ -ketoesters over Mg–Al-hydrotalcites (HT)-like anionic clays

Transesterification of  $\alpha$ -haloesters was achieved by reaction of alcohols in the presence of Mg–Al-HT-like anionic clays.  $\beta$ -Ketoesters were also transesterified under similar conditions on reaction with alcohols with a wide variety of functional groups.

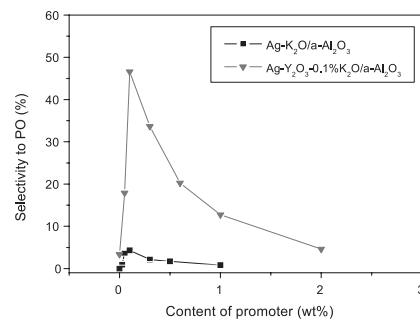


**Wei Yao, Guanzhong Lu, Yanglong Guo, Yun Guo, Yanqin Wang, Zhigang Zhang**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 162

Promotional effect of Y<sub>2</sub>O<sub>3</sub> on the performance of Ag/ $\alpha$ -Al<sub>2</sub>O<sub>3</sub> catalyst for epoxidation of propylene with molecular oxygen

The Ag/ $\alpha$ -Al<sub>2</sub>O<sub>3</sub> catalysts modified with rare earth, alkali and alkaline earth metal oxides for the epoxidation of propylene by molecular oxygen were prepared and characterized by XRD, SEM, CO<sub>2</sub>-TPD, BET and pore diameter distribution. The results show that adding 0.1 wt% Y<sub>2</sub>O<sub>3</sub> into the Ag/K<sub>2</sub>O/ $\alpha$ -Al<sub>2</sub>O<sub>3</sub> catalyst increases the selectivity to propylene oxide from 4.3% to 46.8% with 4.0% conversion of propylene at 245 °C.

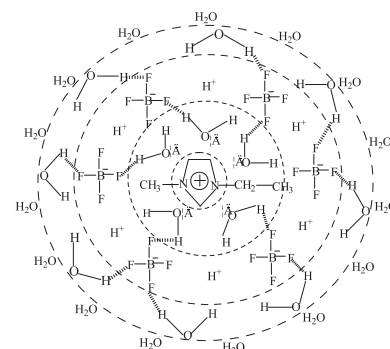


**Xinqiang Zhao, Liyan Hu, Yanlou Geng, Yanji Wang**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 168

The structure of acidified ionic liquid [emim]BF<sub>4</sub> and its catalytic performance in the reaction for 4,4'-MDC synthesis

Acidified ionic liquid (H<sup>+</sup>[emim]BF<sub>4</sub>) was prepared and its structure was first ascertained. The cation of H<sup>+</sup>[emim]BF<sub>4</sub> is composed of a central imidazole molecule surrounded by a water layer in which excessive HBF<sub>4</sub> molecules are dissolved. H<sup>+</sup>[emim]BF<sub>4</sub> showed high catalytic performance in the synthesis of methylene diphenyl dimethylcarbamate (4,4'-MDC). It could be reused 4 times after being purified.



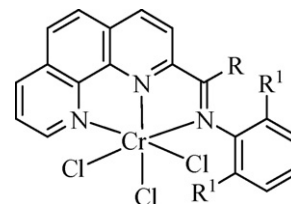
Hypothetic model of H<sup>+</sup>[emim]BF<sub>4</sub> cation

**Shu Zhang, Suyun Jie, Qisong Shi,  
Wen-Hua Sun**

*Journal of Molecular Catalysis A: Chemical* 276  
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Chromium(III) complexes bearing 2-imino-1,10-phenanthrolines: Synthesis, molecular structures and ethylene oligomerization and polymerization

A series of chromium(III) complexes ligated by tridentate ligands of 2-imino-1,10-phenanthrolines,  $\text{LCrCl}_3$  ( $\text{L} = 2\text{-}(\text{ArN} = \text{CR})\text{-1,10-phen}$ ) was synthesized and characterized. Upon activation with MAO, these complexes exhibited high activity for ethylene oligomerization and moderate activity for ethylene polymerization.

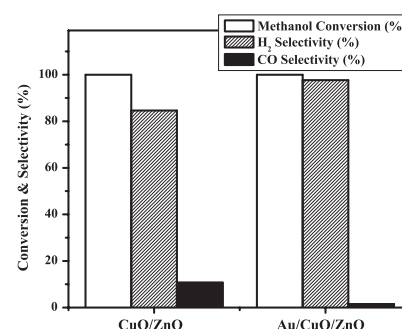


**Hsien-Chang Yang, Feg-Wen Chang,  
L. Selva Roselin**

*Journal of Molecular Catalysis A: Chemical* 276  
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Hydrogen production by partial oxidation of methanol over Au/CuO/ZnO catalysts

Partial oxidation of methanol ( $\text{CH}_3\text{OH} + 0.5\text{O}_2 \rightarrow 2\text{H}_2 + \text{CO}_2$ ) was studied over Au/CuO/ZnO and CuO/ZnO catalysts. The Au/CuO/ZnO catalysts are more active and exhibit higher hydrogen selectively with smaller amount of CO than CuO/ZnO catalysts. The enhanced activity of Au/CuO/ZnO catalyst is due to the strong interaction between Au and CuO species.

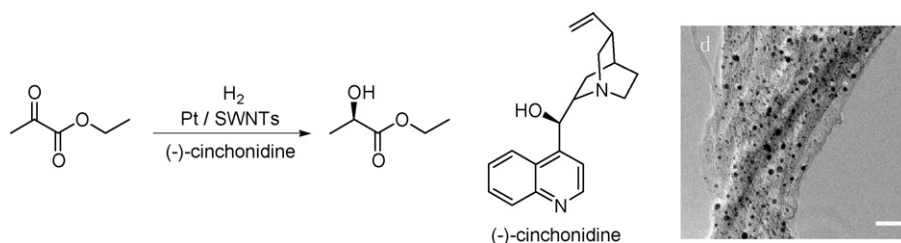


**Liang Xing, Feng Du, Jia-Jie Liang,  
Yong-Sheng Chen, Qi-Lin Zhou**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 191

Preparation of Pt/SWNTs for heterogeneous asymmetric hydrogenation of ethyl pyruvate

A series of SWNTs-supported Pt nanoparticle catalysts with different Pt loadings were prepared and applied in the asymmetric hydrogenation of ethyl pyruvate, providing (*R*)-ethyl lactate in high activity and moderate enantioselectivity.

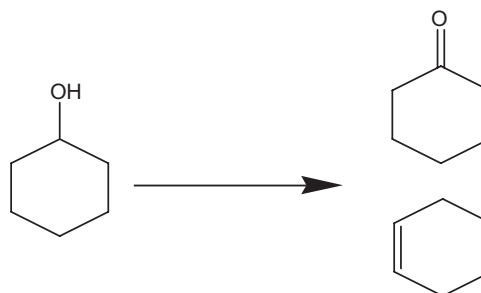


**Benjaram M. Reddy, Katuri J. Ratnam,  
Pranjal Saikia, Gode Thrimurthulu**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 197

Influence of alkaline earth metal on acid–base characteristics of  $\text{V}_2\text{O}_5/\text{MO-TiO}_2$  ( $\text{M} = \text{Ca}, \text{Sr}$  and  $\text{Ba}$ ) catalysts

Influence of MO ( $\text{M} = \text{Ca}, \text{Sr}$  and  $\text{Ba}$ ) on  $\text{TiO}_2$ -anatase phase stabilization and dispersion of  $\text{V}_2\text{O}_5$  over these have been investigated. The  $\text{MO-TiO}_2$  and  $\text{V}_2\text{O}_5/\text{MO-TiO}_2$  exhibit more selectivity towards cyclohexanone and cyclohexene respectively reflecting their acid–base properties.

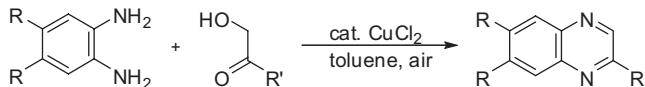


**Chan Sik Cho, Sung Gi Oh**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 205

Copper-catalyzed oxidative cyclization of  $\alpha$ -hydroxyketones with *o*-phenylenediamines leading to quinoxalines

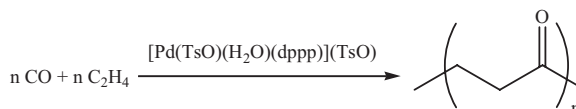
*o*-Phenylenediamines react with an array of  $\alpha$ -hydroxyketones in toluene in the presence of a catalytic amount of a copper catalyst to afford quinoxalines.

**Amandine Fabrello, Andrea Vavasori, Federico Dall'Acqua, Luigi Toniolo**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 211

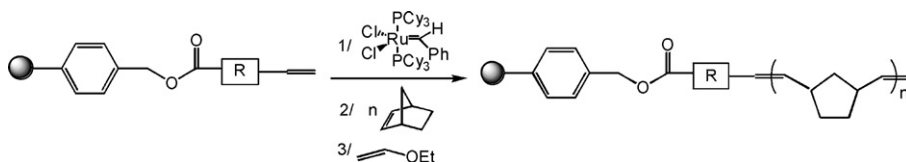
Influence of the reaction conditions on the productivity and on the molecular weight of the polyketone obtained by the CO–ethene copolymerisation catalysed by [Pd(TsO)(H<sub>2</sub>O)(dppp)](TsO) in MeOH

The influence of the pressure of the monomers, of the temperature and of the reaction time on the productivity on the CO–ethene copolymerisation catalysed by the title complex used in combination with TsOH and on the molecular weight of the resulting polyketone has been studied, together with the influence of the TsOH/Pd ratio. A power law rate equation for the productivity has been obtained. The results are discussed on the light of the mechanism of the copolymerisation reaction.

**Vincent Lapinte, Véronique Montebault, Axel Houdayer, Laurent Fontaine**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 219

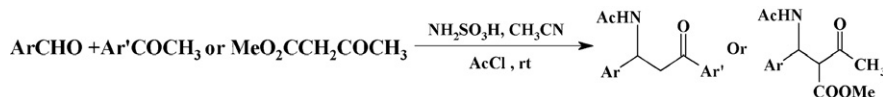
Surface initiated ring-opening metathesis polymerization of norbornene onto Wang and Merrifield resins

**Majid M. Heravi, Leila Ranjbar, Fatemeh Derikvand, Fatemeh F. Bamoharram**

*Journal of Molecular Catalysis A: Chemical* 276 (2007) 226

Sulfamic acid as a cost-effective catalyst instead of metal-containing acids for the one-pot synthesis of  $\beta$ -acetamido ketones

An efficient and improved procedure for the synthesis of  $\beta$ -acetamido carbonyl compounds is developed using sulfamic acid (SA) as a reusable, green catalyst at room temperature.

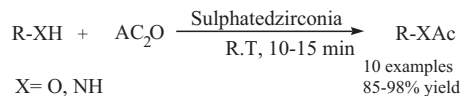




**K. Jeeva Ratnam, R. Sudarshan Reddy,  
N.S. Sekhar, M. Lakshmi Kantam, F. Figueras**

*Journal of Molecular Catalysis A: Chemical* 276  
(2007) 230

Sulphated zirconia catalyzed acylation of phenols,  
alcohols and amines under solvent free conditions



**Gonzalo Blay, Isabel Fernández,  
Víctor Hernández-Olmos,  
Alicia Marco-Aleixandre, José R. Pedro**

*Journal of Molecular Catalysis A: Chemical* 276  
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Tailoring the ligand structure to the reagent in the  
mandelamide-Ti(IV) catalyzed enantioselective  
addition of dimethyl- and diethylzinc to aldehydes

Tailoring the ligand structure to the reagent in the mandelamide-Ti(IV) catalyzed enantioselective addition of dimethyl- and diethylzinc to aldehydes. Mandelamides in the presence of titanium isopropoxide catalyze the enantioselective addition of dimethyl- and diethylzinc to aldehydes. Highest enantioselectivity requires tailoring the mandelamide ligand for each reagent.

