

## Contents

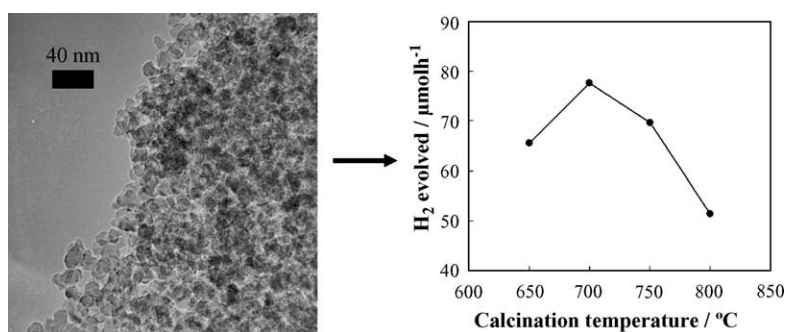
### Articles

**Thammanoon Sreethawong, Supachai Ngamsinlapasathian, Yoshikazu Suzuki, Susumu Yoshikawa**

*Journal of Molecular Catalysis A: Chemical 235 (2005) 1*

Nanocrystalline mesoporous Ta<sub>2</sub>O<sub>5</sub>-based photocatalysts prepared by surfactant-assisted templating sol–gel process for photocatalytic H<sub>2</sub> evolution

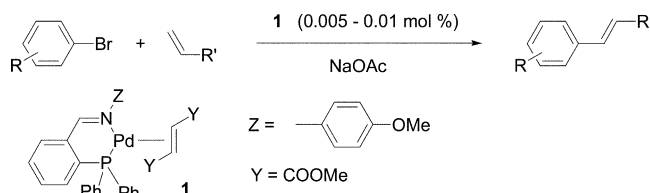
Typical TEM image of nanocrystalline mesoporous Ta<sub>2</sub>O<sub>5</sub> prepared by surfactant-assisted templating sol–gel process of laurylamine hydrochloride/tantalum pentaethoxide modified with acetylacetonate system and calcined at 700 °C for 4 h, exhibiting high photocatalytic H<sub>2</sub> evolution activity.



**Alberto Scrivanti, Matteo Bertoldini, Ugo Matteoli, Valentina Beghetto, Simonetta Antonaroli, Alessia Marini, Bruno Crociani**

*Journal of Molecular Catalysis A: Chemical 235 (2005) 12*

Highly efficient Heck olefin arylation in the presence of iminophosphine–palladium(0) complexes

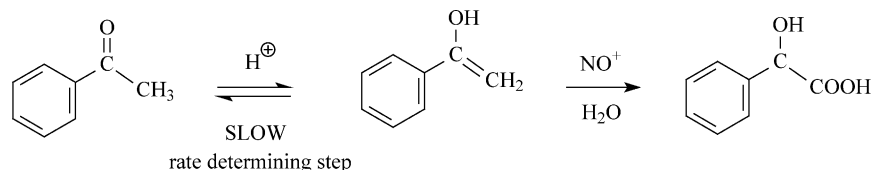


**N.C. Marziano, L. Ronchin, C. Tortato, A. Zingales, L. Scantamburlo**

*Journal of Molecular Catalysis A: Chemical 235 (2005) 17*

Selective oxidations by nitrosating agents. Part 1: Oxidations of ketones in concentrated sulfuric acid

Selective oxidations by nitrous acid in aqueous sulfuric acid towards alkyl side chains of enolizable ketones are reported. For instance, the oxidation of acetophenone to benzoylformic acid occurs in high yields (>95%) at 25 °C in the narrow acidity range 72–80% of sulphuric acid concentration. Details of the process between enolizable ketones and electrophilic species in concentrated aqueous acid solutions are also discussed.

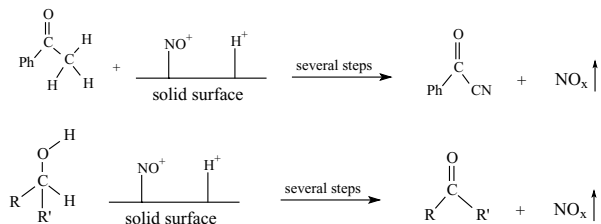


**N.C. Marziano, L. Ronchin, C. Tortato, S. Ronchin, A. Vavasori**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 26

Selective oxidations by nitrosating agents. Part 2: Oxidations of alcohols and ketones over solid acid catalysts

The reactivity of a nitrosating agent ( $\text{N}_2\text{O}_3$ ) on oxidations of alcohols and of acetophenone were tested. Active electrophilic surface nitronium ions ( $\text{NO}^+$ ) was detected on  $\text{H}_2\text{SO}_4/\text{SiO}_2$  catalysts by Raman spectroscopy, suggesting a surface ionic mechanism of oxidation. Alcohols are selectively oxidized to ketones and aldehydes in high yield, at  $25^\circ\text{C}$  in 1,2-dichloroethane and using sulfonated styrene divinyl benzene resins as catalysts. Under the same reaction conditions, acetophenone is selectively oxidized to benzoyl cyanide in high yield and selectivity. The comparison with oxidation carried out in aqueous solution and the reactivity of the intermediates isolated in such system gives new insight on the mechanism of the heterogeneous reactions.

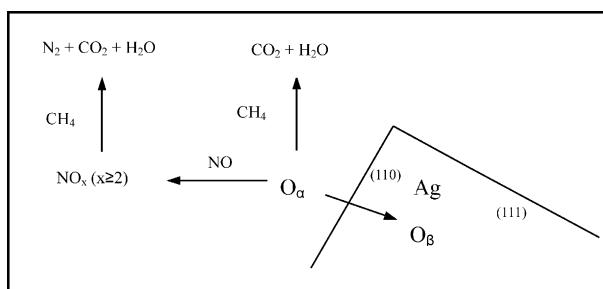


**Chuan Shi, Mojie Cheng, Zhenping Qu, Xinhao Bao**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 35

On the correlation between microstructural changes of Ag-H-ZSM-5 catalysts and their catalytic performances in the selective catalytic reduction of  $\text{NO}_x$  by methane

The surface adsorbed oxygen species ( $\text{O}_\alpha$ ) participate the SCR reaction in two ways: one is oxidation of  $\text{NO}$  into active intermediates  $\text{NO}_x$  ( $x \geq 2$ ); the other is catalyzing the direct combustion of  $\text{CH}_4$ . The migration of surface oxygen into the bulk ( $\text{O}_\beta$ ) was supposed to be responsible for the different catalytic behaviors of silver entities in the  $\text{CH}_4$ -SCR of  $\text{NO}_x$ .

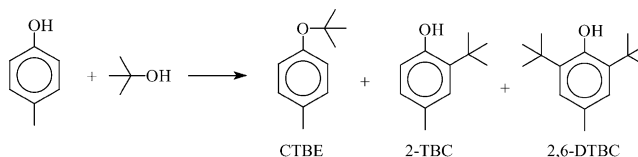


**S. Sarish, Biju M. Devassy, S.B. Halligudi**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 44

*tert*-Butylation of *p*-cresol over  $\text{WO}_x/\text{ZrO}_2$  solid acid catalysts

The alkylation of *p*-cresol with *tert*-butanol was investigated using  $\text{WO}_x/\text{ZrO}_2$  as catalysts. Under the optimised reaction conditions of  $130^\circ\text{C}$ , *tert*-butanol/phenol molar ratio 3 and  $\text{WHSV } 4.3\text{h}^{-1}$ , the most active catalyst 15%  $\text{WO}_3/\text{ZrO}_2$  calcined at  $800^\circ\text{C}$ , gave 69.8% *p*-cresol conversion with selectivity to 2-*tert*-butyl-*p*-cresol 92.4%, 2,6-di-*tert*-butyl-*p*-cresol 6.3% and *p*-cresol *tert*-butyl ether 1.3%.

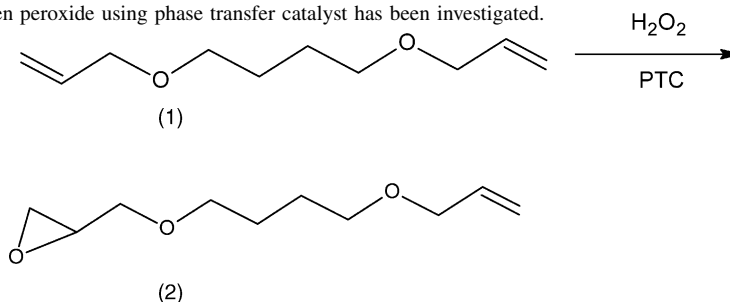


**E. Kaczmarczyk, E. Janus, E. Milchert**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 52

Epoxidation of 1,4-diallyloxybutane to 1-allyloxy-4-glycidyloxybutane by the method of phase transfer catalysis

The epoxidation of 1,4-diallyloxybutane (1) to 1-allyloxy-4-glycidyloxybutane (2) with 30 wt% hydrogen peroxide using phase transfer catalyst has been investigated.



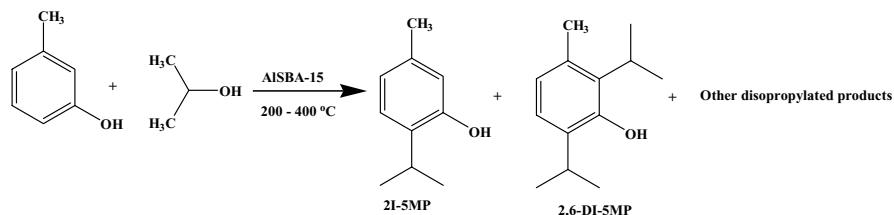
Two different catalytic systems were used: phosphoric(V) acid - sodium tungsten(VI) dihydrate ( $\text{PO}_4^{3-}/\text{WO}_4^{2-}$ ) and phosphotungstic acid hydrate  $\text{H}_3\text{PW}_{12}\text{O}_{40}$ . Methyltriocylammonium chloride under trade name Aliquat<sup>®</sup> 336 as phase transfer catalyst was used. The process in the presence of an auxiliary solvents was carried.

**A. Vinu, G. Satish Kumar, K. Ariga, V. Murugesan**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 57

Preparation of highly ordered mesoporous AISBA-15 and its application to isopropylation of *m*-cresol

Vapor phase alkylation of *m*-cresol with isopropanol was carried out over large pore AISBA-15 catalysts with different  $n_{Si}/n_{Al}$  ratios. 2-Isopropyl-5-methylphenol (2I-5MP) was obtained as a major product with high selectivity. AISBA-15 (45) was found to be the most active catalyst in this study. It showed 73.5% *m*-cresol conversion and a selectivity of 45.68% for 2I-5MP under the optimized reaction conditions. Further, large pore AISBA-15 (45) catalyst was not deactivated when the reaction was carried out for several hours of reaction time.

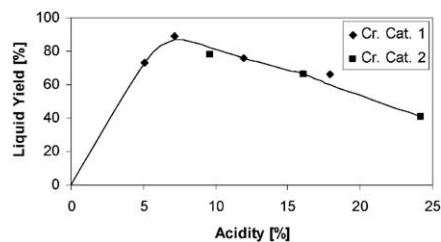


**Nnamso S. Akpanudoh, Karishma Gobin, George Manos**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 67

Catalytic degradation of plastic waste to liquid fuel over commercial cracking catalysts. Effect of polymer to catalyst ratio/acidity content

The catalytic degradation of polyethylene over two commercial cracking catalysts, containing 20% and 40% ultrastable Y zeolite respectively, was studied in a semi-batch reactor. More specifically the effect of the polymer to catalyst ratio – expressed as the acidity content of the polymer/catalyst system – was studied on the formation of liquid hydrocarbons. After a sharp increase at small values, the liquid yield seemed to have a negative correlation to the acidity content, showing a maximum at acidity values around 7% of a pure US-Y.

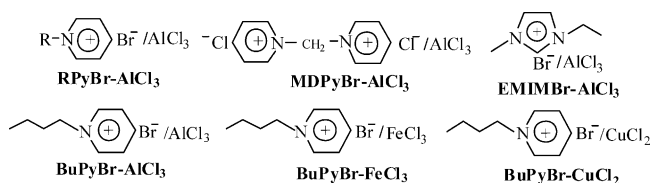


**Zhongkui Zhao, Bing Yuan, Weihong Qiao, Zongshi Li, Guiru Wang, Lübo Cheng**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 74

The metal ion modified ionic liquids promoted free-solvent alkylations of  $\alpha$ -methylnaphthalene with long-chain olefins

Various ionic liquids enhanced free-solvent alkylations of  $\alpha$ -methylnaphthalene with long-chain olefins have been investigated. It is found that the metal ion modified alkyipyridinium chloroaluminate ionic liquids (RPyBr- $AlCl_3$ ), especially butylpyridinium chloroaluminate (BuPyBr- $AlCl_3$ , 0.71–0.75 molar fraction of aluminum trichloride) indicated excellent catalytic performance for the alkylations of  $\alpha$ -methylnaphthalene.

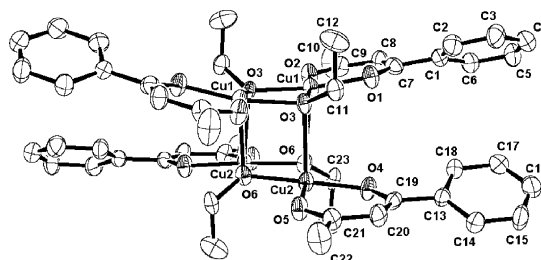


**József Kaizer, Róbert Csonka, Gábor Speier, Michel Giorgi, Marius Réglér**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 81

Synthesis, structure and catecholase-like activity of a new dicopper(II) complex with benzoylacetate ligand

Tetrameric ethoxo-bridged copper(II)-benzoylacetate complex  $Cu_4(bnac)_4(\mu-OEt)_4$  was isolated and characterized. Single crystal X-ray structure of the tetrameric complex is also reported. The in situ-generated  $Cu_2(bnac)_2(\mu-OEt)_2(4R-py)_4$  complexes show catecholase 2 activity. The study reveals the importance of the electron density on the copper centers influenced by the nature of axial ligands.

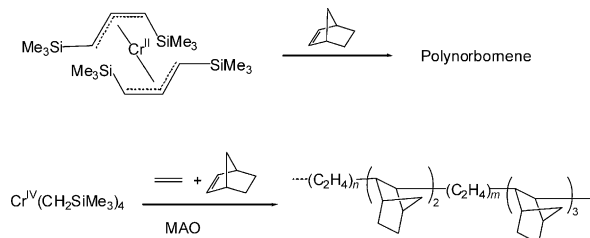


**Timothy J. Woodman, Yann Sarazin, Shaun Garratt, Gerhard Fink, Manfred Bochmann**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 88

Chromium allyl and alkyl catalysts for the vinyl polymerization of norbornene and ethylene–norbornene copolymerizations

The catalytic behavior of Cr(II) and Cr(IV) catalyst precursors for the polymerization of ethylene and norbornene are compared. Cr(allyl)<sub>2</sub>/MAO catalysts polymerize norbornene but not ethylene, whereas Cr(II) undergoes one-electron transfer with B(C<sub>6</sub>F<sub>5</sub>)<sub>3</sub> to generate [Cr<sup>III</sup>(allyl)<sub>2</sub>]<sup>+</sup> which readily polymerizes ethylene. By contrast, the Cr(IV) complex Cr(CH<sub>2</sub>SiMe<sub>3</sub>)<sub>4</sub>/MAO oligomerizes norbornene but is highly active for ethylene/norbornene copolymerizations to high molecular weight copolymers with up to 60mol% norbornene content. Significantly, activity increases with norbornene concentration.

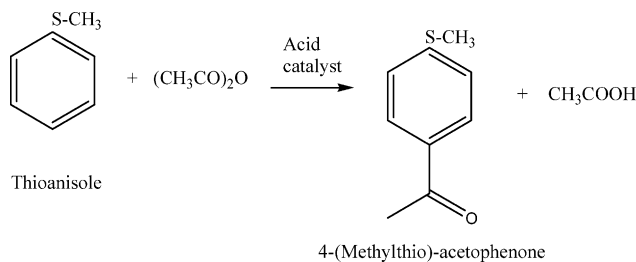


**Ganapati D. Yadav, Ramesh D. Bhagat**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 98

Experimental and theoretical analysis of Friedel–Crafts acylation of thioanisole to 4-(methylthio)acetophenone using solid acids

Experimental and theoretical analysis of selective acylation of thioanisole with acetic anhydride to 4-(methylthio)acetophenone was performed with Amberlyst-15, which was the best catalyst vis-a-vis 20% w/w Cs-DTP/K-10 (clay supported heteropolyacid), Indion-190 and Indion-130.

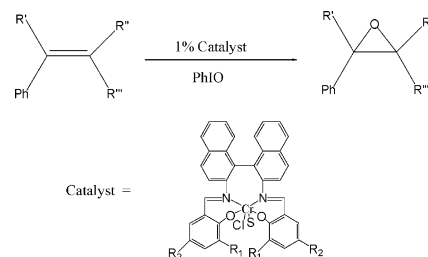


**Zheng-Kai Li, Lei Liang, Li Yang, Hua Chen, Xiang-Ge Zhou**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 108

Asymmetric epoxidation catalyzed by Cr(III)-binaphthyl Schiff base complexes

A series of chromic complexes with binaphthyl Schiff base as ligands are synthesized. Their catalytic abilities in asymmetric epoxidation and the effects of reaction conditions such as temperature, solvent and additive have also been studied, leading to the highest ee of 65% for 4-chlorostyrene; the reaction seems to involve a Cr(V)-oxo active species.

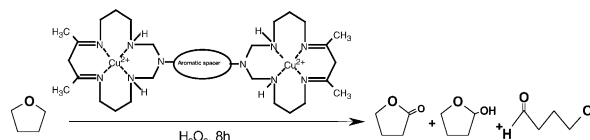


**Masoud Salavati-Niasari, Ahmad Amiri**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 114

Binuclear copper(II) complexes of new bis(macrocylic) 16-membered pentaaza subunits are linked together by bridging nitrogen of amine: Synthesis, characterization and catalytic activity

New bis(macrocylic) dicopper(II) complexes containing phenylene bridges between 16-membered pentaaza macrocyclic subunits have been synthesized via one-pot template condensation of aromatic nitrogen–nitrogen linker, formaldehyde, 1,3-diaminopropane, copper(II) and 2,4-pentanedione in a 1:4:4:2:2 molar ratio results in the formation of new series of binuclear copper(II) complexes ([Cu(Me<sub>2</sub>[16]aneN<sub>5</sub>)<sub>2</sub>R](ClO<sub>4</sub>)<sub>4</sub> and [Cu(Me<sub>2</sub>[16]aneN<sub>5</sub>)<sub>2</sub>RCl<sub>4</sub>]). Elemental analyses, IR, UV–vis spectroscopy, conductometric and magnetic measurements have been used to characterize the new bis(macrocylic) binuclear copper(II) complexes. These bis(macrocylic) complexes catalyzed efficiently the selective oxidation of tetrahydrofuran into tetrahydrofuran-2-one and a small amount of tetrahydrofuran-2-ol and 4-hydroxybutyraldehyde using diluted H<sub>2</sub>O<sub>2</sub> as the oxidant. 1,1'-Diphenylsulfonbis(8,10-dimethyl-1,3,7,11,15-pentaazacyclohexadeca-7,11-diene)copper(II) perchlorate shows significantly higher catalytic activity than other bis(macrocycle) binuclear copper(II) complexes.

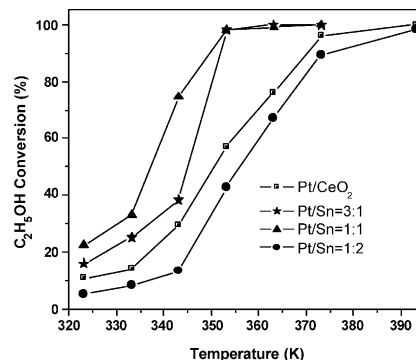


**Xiaolan Tang, Baocai Zhang, Yong Li, Yide Xu, Qin Xin, Wenjie Shen**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 122

The role of Sn in Pt–Sn/CeO<sub>2</sub> catalysts for the complete oxidation of ethanol

The Pt–Sn/CeO<sub>2</sub> catalysts were found to be highly active for the complete oxidation of ethanol. The addition of tin resulted in the changes in both surface structure of metallic phase and the electronic Pt–Sn interaction, thus promoting the catalytic performances. The electronic configuration of Pt by Sn as well as the formation of PtSn alloy was the key factors in determining the nature of the active sites.

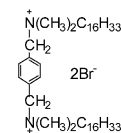
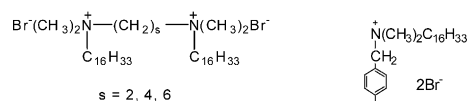
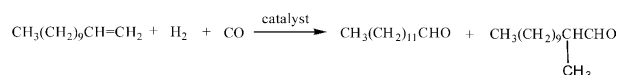


**Min Li, Haiyan Fu, Min Yang, Hongjie Zheng, Yu-e He, Hua Chen, Xianjun Li**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 130

Micellar effect of cationic gemini surfactants on organic/aqueous biphasic catalytic hydroformylation of 1-dodecene

Hydroformylation of 1-dodecene catalyzed by water-soluble rhodium complex RhCl(CO)(TPPTS)<sub>2</sub> [TPPTS=tris(sodium-*m*-sulfonatophenyl) phosphine] was carried out in the micellar system. Higher reaction rates and higher regioselectivities toward the desired linear aldehyde were obtained in the cationic gemini surfactant solutions than those in the conventional monomeric surfactant CTAB solutions.

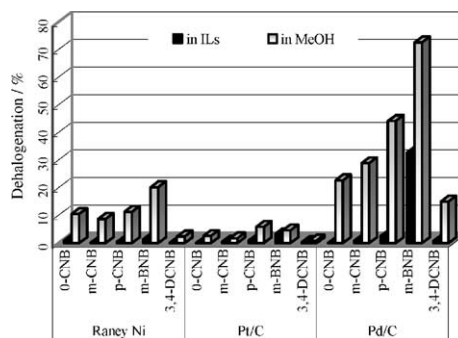


Gemini surfactants

**Dan-Qian Xu, Zhi-Yan Hu, Wei-Wei Li, Shu-Ping Luo, Zhen-Yuan Xu**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 137

Hydrogenation in ionic liquids: An alternative methodology toward highly selective catalysis of halonitrobenzenes to corresponding haloanilines



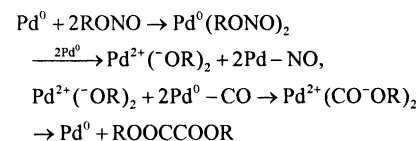
**Gao Zhengong, Liu Zhongchen, He Fei, Xu Genhui**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 143

Combined XPS and in situ DRIRS study of mechanism of Pd–Fe/α-Al<sub>2</sub>O<sub>3</sub> catalyzed CO coupling reaction to diethyl oxalate

The mechanism for the reaction of CO coupling to diethyl oxalate (DEO) over Pd–Fe/α-Al<sub>2</sub>O<sub>3</sub> in gaseous phase at normal pressure was studied by X-ray photoelectron spectroscopy (XPS) and in situ diffuse reflectance infrared spectroscopy (DRIRS) techniques. The adsorption of two reactants, carbon monoxide and ethyl nitrite, on the catalyst was observed, respectively with in situ DRIRS as well as the catalysts after ethyl nitrite adsorption and after in situ reaction were also characterized by XPS measurement. These observational results show that (1) The ethyl nitrite on the catalyst surface has a dissociative chemisorption which leads to the oxidation of Pd<sup>0</sup> to Pd<sup>2+</sup> (active component on the catalyst). So the reaction is a redox process; (2) Two intermediates, palla-

dium complexes, in the reaction process are involved. From this, the mechanism steps of the reaction were proposed and the two intermediates were inferred.

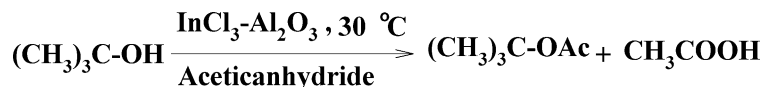


**Masoud Salavati-Niasari, Tahereh Khosousi, Samansa Hydarzadeh**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 150

Highly selective esterification of *tert*-butanol by acetic acid anhydride over alumina-supported  $\text{InCl}_3$ ,  $\text{GaCl}_3$ ,  $\text{FeCl}_3$ ,  $\text{ZnCl}_2$ ,  $\text{CuCl}_2$ ,  $\text{NiCl}_2$ ,  $\text{CoCl}_2$  and  $\text{MnCl}_2$  catalysts

Esterification of *tert*-butanol by acetic anhydride to *tert*-butyl acetate over  $\text{InCl}_3/\text{Al}_2\text{O}_3$ ,  $\text{GaCl}_3/\text{Al}_2\text{O}_3$ ,  $\text{FeCl}_3/\text{Al}_2\text{O}_3$ ,  $\text{MnCl}_2/\text{Al}_2\text{O}_3$ ,  $\text{CoCl}_2/\text{Al}_2\text{O}_3$ ,  $\text{NiCl}_2/\text{Al}_2\text{O}_3$ ,  $\text{CuCl}_2/\text{Al}_2\text{O}_3$  and  $\text{ZnCl}_2/\text{Al}_2\text{O}_3$  catalysts have been investigated. The yield of *tert*-butyl acetate obtained was over 99.5%; when the reaction conditions used were as follows: the molar ratio of *tert*-butanol/acetic acid anhydride=1.1, the catalysts/(*tert*-butanol+acetic anhydride) wt. ratio=0.026, reaction temperature=30°C, and reaction time=2h. The esterification activity of the alumina supported metal chloride catalysts is in the following order:  $\text{InCl}_3 > \text{GaCl}_3 > \text{FeCl}_3 > \text{ZnCl}_2 > \text{CuCl}_2 > \text{NiCl}_2 > \text{CoCl}_2 > \text{MnCl}_2$ .

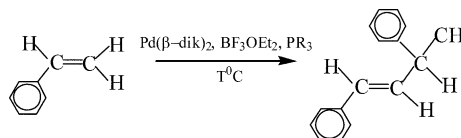


**Gomboo Myagmarsuren, Vitalii S. Tkach, Fedor K. Schmidt, Mesyef Mohamad, Dmitrii S. Suslov**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 154

Selective dimerization of styrene to 1,3-diphenyl-1-butene with bis( $\beta$ -diketonato)palladium/boron trifluoride etherate catalyst system

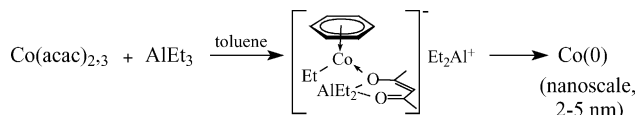
The selective dimerization of styrene to 1,3-diphenyl-1-butene over  $\text{Pd}(\beta\text{-diketonato})_2/\text{BF}_3\text{OEt}_2$  catalyst systems in both “phosphine-free” and “phosphine-modified” fashions has been investigated. Styrene dimers up to 95% consists of *trans*-1,3-diphenyl-1-butene. Reaction products were characterized with  $^1\text{H}$ ,  $^{13}\text{C}$  NMR, IR, MS-GC spectroscopy and GC analysis. Palladium hydride complexes are likely to be catalytically active species.



**F.K. Schmidt, L.O. Nindakova, B.A. Shainyan, V.V. Saraev, N.N. Chipanina, V.A. Umanetz**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 161

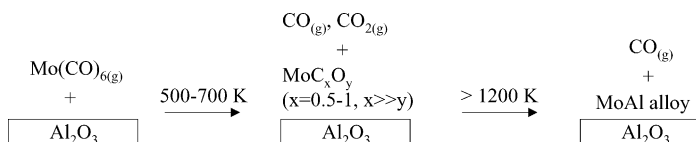
Hydrogenation catalysts formation in the system  $\text{AlEt}_3\text{-Co}(\text{acac})_{2,3}$



**Y. Wang, F. Gao, W.T. Tysoe**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 173

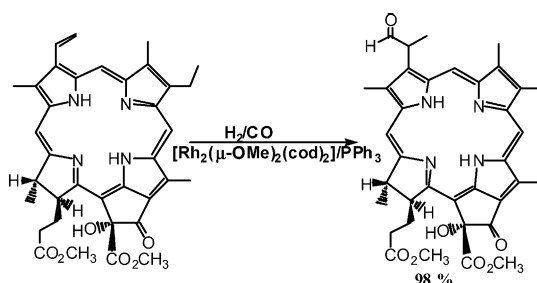
Interaction of molybdenum hexacarbonyl with dehydroxylated alumina thin films at high temperatures: Formation and removal of surface carbides



Andreia F. Peixoto, Mariette M. Pereira,  
Andreia F. Sousa, Alberto A.C. Pais,  
M. Graça P.M.S. Neves, Artur M.S. Silva,  
José A.S. Cavaleiro

*Journal of Molecular Catalysis A: Chemical* 235  
(2005) 185

Improving regioselectivity in the rhodium catalyzed hydroformylation of protoporphyrin-IX and chlorophyll *a* derivatives

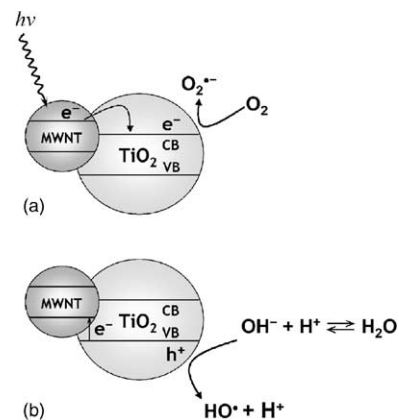


Wendong Wang, Philippe Serp, Philippe Kalck,  
Joaquim Luís Faria

*Journal of Molecular Catalysis A: Chemical* 235  
(2005) 194

Visible light photodegradation of phenol on MWNT-TiO<sub>2</sub> composite catalysts prepared by a modified sol-gel method

A synergetic effect could be ascribed to MWNT acting as photosensitizer in a photocatalytic process. This can be described in terms of (a) photo-induced electron transfer into the TiO<sub>2</sub> conduction band following light absorption by MWNT. The catalytic nature of the process demands that (b) back electron transfer occurs from the valence band of TiO<sub>2</sub> with formation of a hole, which is neutralized by oxidation of the adsorbed OH<sup>-</sup>.

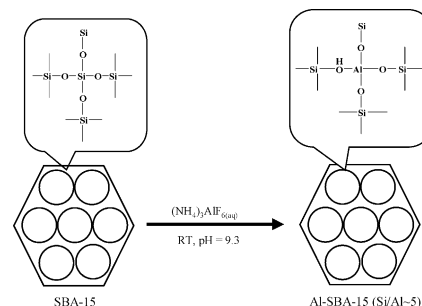


Hsien-Ming Kao, Chun-Chiang Ting, Shih-Wei  
Chao

*Journal of Molecular Catalysis A: Chemical* 235  
(2005) 200

Post-synthesis alumination of mesoporous silica SBA-15 with high framework aluminum content using ammonium hexafluoroaluminate

Incorporation of high aluminum contents into the silica framework of SBA-15 was achieved by treating SBA-15 with an aqueous (NH<sub>4</sub>)<sub>3</sub>AlF<sub>6</sub> solution at pH 9.3 at room temperature. The Al-SBA-15 material thus obtained exhibited a high framework aluminum content (up to a bulk Si/Al ratio near 5), good structural integrity, and well-developed Brønsted acidity.

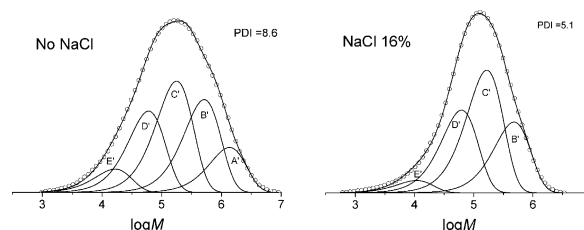


Xue Jiang, Yong-ping Chen, Zhi-qiang Fan, Qi  
Wang, Zhi-sheng Fu, Jun-ting Xu

*Journal of Molecular Catalysis A: Chemical* 235  
(2005) 209

Propylene polymerization catalyzed by novel supported titanium catalysts MgCl<sub>2</sub>/NaCl/DNBP/TiCl<sub>4</sub> with different NaCl content

A series of MgCl<sub>2</sub>/NaCl/ID/TiCl<sub>4</sub> type supported catalysts were prepared by comilling NaCl with MgCl<sub>2</sub>·*n*-EtOH adduct and reacting the mixture with TiCl<sub>4</sub> and internal electron donor (ID=di-*n*-butyl phthalate). The NaCl doped catalysts showed lower catalytic activity and higher isospecificity in catalyzing propylene polymerization. There was a marked change of the molecular weight distribution (MWD) of polymer with NaCl content. Catalyst containing 16 mol% NaCl produced PP with much broadened MWD (PDI=13) than the undoped catalyst when TEA was used as the activator, while the TIBA activated catalyst produced PP with much narrower MWD.



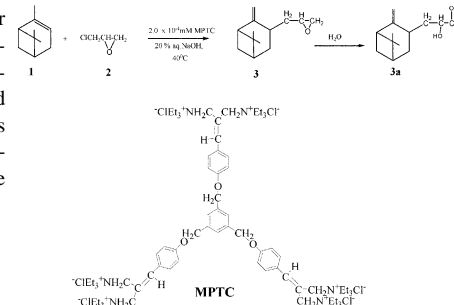
MWD of PP synthesized undoped and doped catalysts with TIBA as cocatalyst

**E. Murugan, A. Siva**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 220

Preparation of a novel soluble multi-site phase transfer catalyst and the kinetic study for the C-alkylation of  $\alpha$ -pinene

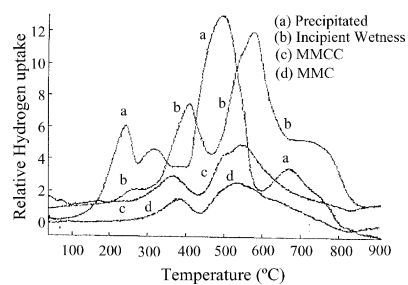
Novel soluble “multi-site (6 site)” phase transfer catalyst viz. 1,3,5-tris(4-(2,2'-bis(*N*-triethylammoniummethylene chloride)eth-1-ene)phenoxy-methyl)benzene (TBTEAPB) has been prepared by a simplified method and characterized. It is shown to be  $\cong 6$  and 3 times as effective as single-site and di-site PTCs respectively in catalyzing the C-alkylation of  $\alpha$ -pinene with epichlorohydrin.

**D.J. Duvenhage, N.J. Coville**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 230

Fe:Co/TiO<sub>2</sub> bimetallic catalysts for the Fischer-Tropsch reaction. Part 4: A study of nitrate and carbonyl derived FT catalysts

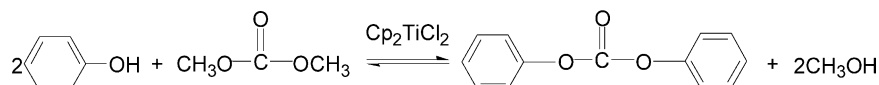
A series of Fe:Co/TiO<sub>2</sub> catalysts show lower activity than the equivalent Co/TiO<sub>2</sub> catalyst but with selectivity patterns similar to a Fe modified Co/TiO<sub>2</sub> catalyst.

**TPR profiles****Hongying Niu, Jie Yao, Yue Wang, Gongying Wang**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 240

Cp<sub>2</sub>TiCl<sub>2</sub> used as a catalyst for the transesterification between dimethyl carbonate and phenol to diphenyl carbonate

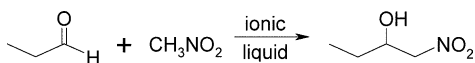
Titanocene dichloride (Cp<sub>2</sub>TiCl<sub>2</sub>) was found to be a novel and efficient catalyst for this reaction. Cp<sub>2</sub>TiCl<sub>2</sub> is more stable in air condition than other titanium esters and can enhance the conversion of phenol greatly, and it can reach its maximum catalytic activity at low catalyst amount.

**Anil Kumar, Sanjay S. Pawar**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 244

Catalyzing Henry reactions in chloroaluminate ionic liquids

Henry reactions can be catalyzed in chloroaluminate ionic liquids containing excess of organic component with its easy recycling.



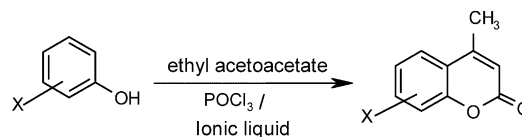


**Mahesh K. Potdar, Meghana S. Rasalkar, Swapnil S. Mohile, Manikrao M. Salunkhe**

Cleaner and economically viable protocols for coumarin synthesis via Pechmann condensation have been developed by employing neutral ionic liquids.

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 249

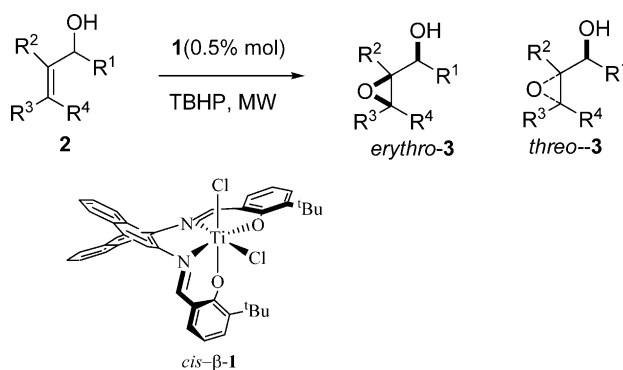
Convenient and efficient protocols for coumarin synthesis via Pechmann condensation in neutral ionic liquids



**Annunziata Soriente, Margherita De Rosa, Marina Lamberti, Consiglia Tedesco, Arrigo Scettri, Claudio Pellecchia**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 253

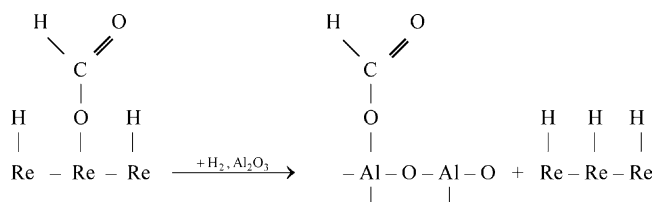
Synthesis, crystal structure and application in regio- and stereoselective epoxidation of allylic alcohols of a titanium binaphthyl-bridged Schiff base complex



**Frigyes Solymosi, Tímea Süli Zakar**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 260

FT-IR study on the interaction of CO<sub>2</sub> with H<sub>2</sub> and hydrocarbons over supported Re

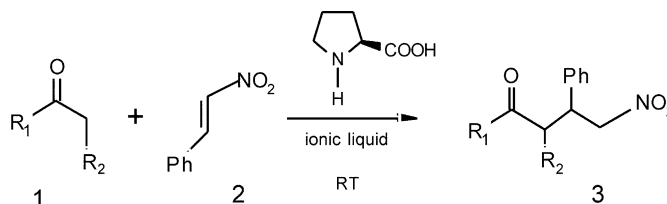


**Meghana S. Rasalkar, Mahesh K. Potdar, Swapnil S. Mohile, Manikrao M. Salunkhe**

L-Proline catalysed Michael addition of different ketones to nitrostyrene is studied in ionic liquid. 1-Methoxyethyl-3-methylimidazolium methanesulfonate, ionic liquid, enhanced enantioselectivity of the reaction as compared to those carried out employing conventional organic solvents.

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 267

An ionic liquid influenced L-proline catalysed asymmetric Michael addition of ketones to nitrostyrene

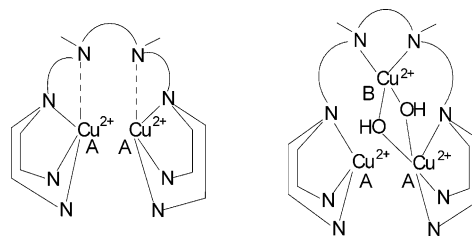


**Michele Gullotti, Laura Santagostini, Roberto Pagliarin, Alessandro Granata, Luigi Casella**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 271

Synthesis and characterization of new chiral octadentate nitrogen ligands and related copper(II) complexes as catalysts for stereoselective oxidation of catechols

Three new octadentate nitrogen ligands were employed for the synthesis of dinuclear and trinuclear copper(II) complexes. The complexes are active in the biomimetic oxidation of catechols to quinones and show stereoselective effects towards the optically active catechols l-Dopa and d-Dopa, and their methyl esters. In all cases, the preferred enantiomeric substrate has the l configuration.

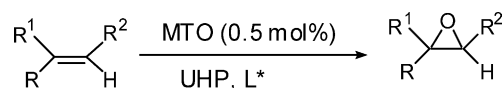


**Elisabete da Palma Carreiro, Guo Yong-En, Anthony J. Burke**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 285

Approaches towards catalytic asymmetric epoxidations with methyltrioxorhenium(VII) (MTO): Synthesis and evaluation of chiral non-racemic 2-substituted pyridines

In this paper, we report our results on the evaluation of six chiral 2-substituted pyridine ligands in the MTO catalysed epoxidation of olefins.

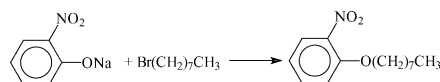


**Piao-Jen Lin, Hung-Ming Yang**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 293

Kinetics for etherification of sodium *o*-nitrophenoxide via third-liquid phase-transfer catalysis

Third-liquid phase-transfer catalyzed etherification for synthesizing *o*-nitrophenyl octyl ether:



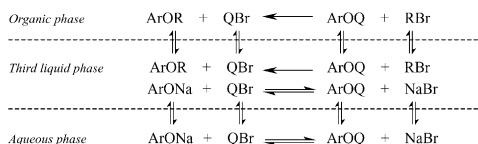
Aqueous reactant: sodium *o*-nitrophenoxide (ArONa)

Organic reactant: 1-bromooctane (RBr)

Phase-transfer catalyst: tetra-*n*-butylphosphonium bromide, etc. (QBr)

Product: *o*-nitrophenyl octyl ether (ArOR)

Reaction mechanism:



**Jixiang Chen, Rijie Wang, Jiyan Zhang, Fei He, Sen Han**

*Journal of Molecular Catalysis A: Chemical* 235 (2005) 302

Effects of preparation methods on properties of Ni/CeO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> catalysts for methane reforming with carbon dioxide

Nickel-based xerogel and aerogel catalysts have been prepared, and the method for the preparation of the aerogel leads to a higher specific surface area and higher dispersivity and homogeneity of nickel species than that of the xerogel.

