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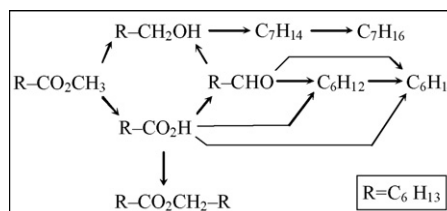
Articles

O.İ. Şenol, E.-M. Ryymin, T.-R. Viljava, A.O.I. Krause

Journal of Molecular Catalysis A: Chemical 268 (2007) 1

Reactions of methyl heptanoate hydrodeoxygenation on sulphided catalysts

Hydrodeoxygenation (HDO) of methyl heptanoate produced hydrocarbons from intermediate oxygen-containing and sulphur-containing compounds on sulphided NiMo/ γ -Al₂O₃ and CoMo/ γ -Al₂O₃ catalysts by hydrogenation and acid-catalysed reactions such as hydrolysis, esterification and dehydration. Use of the NiMo catalyst is favourable for the HDO of aliphatic oxygen-containing compounds such as esters, alcohols and acids, but at the cost of increased hydrogen consumption.

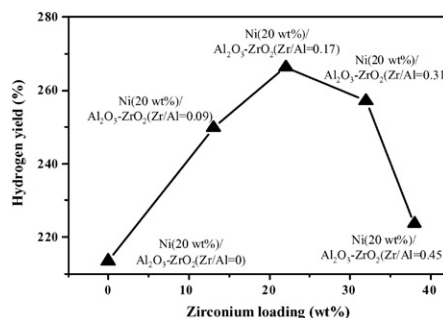


Jeong Gil Seo, Min Hye Youn, In Kyu Song

Journal of Molecular Catalysis A: Chemical 268 (2007) 9

Hydrogen production by steam reforming of LNG over Ni/Al₂O₃-ZrO₂ catalysts: Effect of Al₂O₃-ZrO₂ supports prepared by a grafting method

Al₂O₃-ZrO₂ supports with various zirconium contents were prepared by a grafting method. The Ni (20 wt%)/Al₂O₃-ZrO₂ catalysts were applied to the hydrogen production by steam reforming of LNG. Among the catalysts tested, the Ni(20 wt%)/ZrO₂-Al₂O₃ (Zr/Al = 0.17) catalyst showed the highest hydrogen yield.

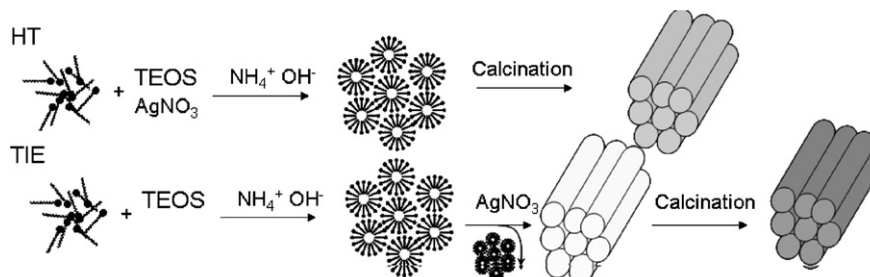


W. Gac, A. Derylo-Marczewska, S. Pasieczna-Patkowska, N. Popivnyak, G. Zukocinski

Journal of Molecular Catalysis A: Chemical 268 (2007) 15

The influence of the preparation methods and pre-treatment conditions on the properties of Ag-MCM-41 catalysts

The structural, surface, redox and catalytic properties of the Ag-MCM-41 materials obtained by the direct hydrothermal synthesis and template ion-exchange methods were compared. It was stated strong influence of the pretreatment and reaction conditions on the performance of catalysts in the CO oxidation reaction. The catalysts showed high activity at low temperatures after reduction.

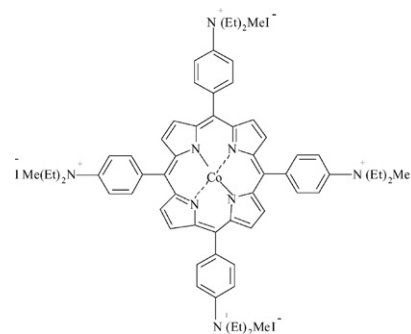


**M. Hassanein, S. Gerges, M. Abdo,
S. EL-Khalafy**

Journal of Molecular Catalysis A: Chemical 268
(2007) 24

Autoxidation of 2,6-di-*tert*-butylphenol catalyzed by 5,10,15,20-tetrakis[4-(diethylammonio)phenyl]porphyrinacobalt(II) tetraiodide in water

Cationic cobalt(II) tetraarylporphyrin **1** has been prepared and was used as an efficient catalyst for autoxidation of 2,6-di-*tert*-butylphenol.

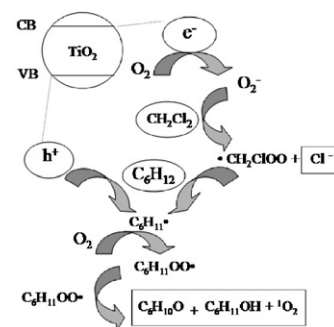


**M.A. Brusa, Y. Di Iorio, M.S. Churio,
M.A. Grela**

Journal of Molecular Catalysis A: Chemical 268
(2007) 29

Photocatalytic air oxidation of cyclohexane in CH₂Cl₂-C₆H₁₂ mixtures over TiO₂ particles. An attempt to rationalize the positive effect of dichloromethane on the yields of valuable oxygenates

Yields of stable products cyclohexanol, cyclohexanone, carbon dioxide, and chloride ions formed under monochromatic irradiation of TiO₂ in CH₂Cl₂-C₆H₁₂ mixtures were determined as a function of cyclohexane molar fraction, *x*. This data, together with a spin trapping study of reactive radicals and singlet oxygen, is used to assess the role of dichloromethane in improving the yields of valuable oxygenates.

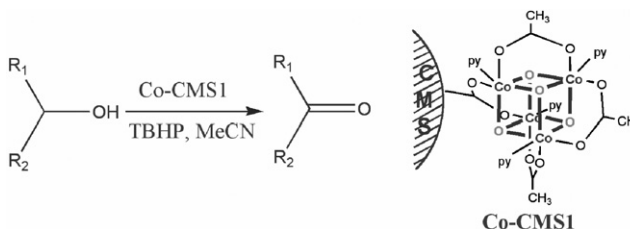


**Purabi Sarmah, Rajesh Chakrabarty,
Prodeep Phukan, Birinchi K. Das**

Journal of Molecular Catalysis A: Chemical 268
(2007) 36

Selective oxidation of alcohols catalysed by a cubane-like Co(III) oxo cluster immobilised on porous organomodified silica

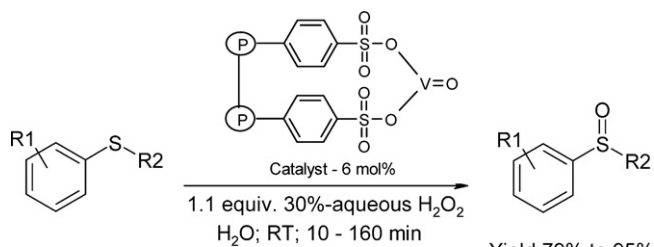
A tetrameric cubane-like complex [Co₄(μ₃-O)₄(μ-O₂CCH₃)₄(py)₄] immobilised on porous organomodified silica catalyses the selective oxidation of alcohols in heterogeneous phase with TBHP as the oxidant under atmospheric pressure.



K. Leon Prasanth, H. Maheswaran

Journal of Molecular Catalysis A: Chemical 268
(2007) 45

Selective oxidation of sulfides to sulfoxides in water using 30% hydrogen peroxide catalyzed with a recoverable VO(acac)₂ exchanged sulfonic acid resin catalyst



At least for 5 reaction cycles for R1=H; R2=Me

Yield 79% to 95%

13 examples

**Masoud Salavati-Niasari,
Seyed Nezamoddin Mirsattari**

Journal of Molecular Catalysis A: Chemical 268 (2007) 50

Synthesis, characterization and catalytic oxy-functionalization of cyclohexene with *tert*-butylhydroperoxide and hydrogen peroxide in the presence of alumina-supported Mn(II), Co(II), Ni(II) and Cu(II) bis(2-hydroxyanil)benzil complexes

New square-planar Mn(II), Cu(II), Ni(II) and Co(II) complexes of a tetradentate Schiff-base ligand “bis(2-hydroxyanil)benzil, H₂[habenzil]”; have been prepared and characterized by elemental analyses, IR, UV-vis, conductometric and magnetic measurements. Alumina-supported metal complexes (ASMC; [M(habenzil)/Al₂O₃]) catalyze the oxidation of cyclohexene with *tert*-butylhydroperoxide (TBHP) and H₂O₂. Oxidation of cyclohexene with TBHP gave 2-cyclohexene-1-one, 2-cyclohexene-1-ol and 1-(*tert*-butylperoxy)-2-cyclohexene whereas, oxidation with H₂O₂ resulted in the formation of cyclohexene oxide and cyclohexene-1,2-diol. Manganese(II) complex supported on alumina “[Mn(habenzil)]/Al₂O₃” shows significantly higher catalytic activity than other catalysts.

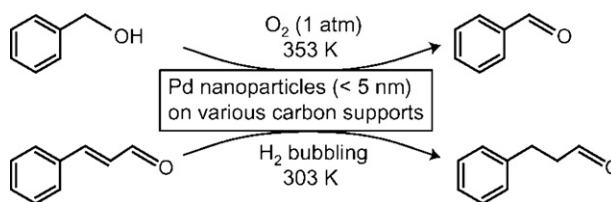


**Takashi Harada, Shigeru Ikeda,
Mayu Miyazaki, Takao Sakata, Hirotarō Mori,
Michio Matsumura**

Journal of Molecular Catalysis A: Chemical 268 (2007) 59

A simple method for preparing highly active palladium catalysts loaded on various carbon supports for liquid-phase oxidation and hydrogenation reactions

The carbon-supported palladium nanoparticles below 5 nm in diameter are obtained by a simple liquid-phase reduction of a chloride precursor with potassium borohydride in the presence of appropriate amounts of sodium hydroxide. The catalyst exhibited high activity for liquid-phase oxidation of benzyl alcohol using molecular oxygen and hydrogenation of the C=C bond in cinnamaldehyde under mild reaction conditions.

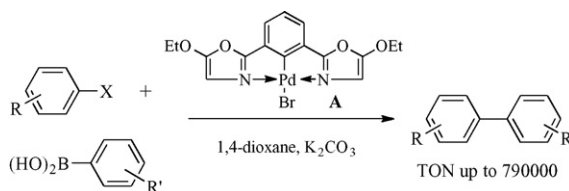


Qunli Luo, Stefan Eibauer, Oliver Reiser

Journal of Molecular Catalysis A: Chemical 268 (2007) 65

Novel bis(oxazole) pincer ligands for catalysis: Application in Suzuki-Miyaura cross coupling reactions under aerobic conditions

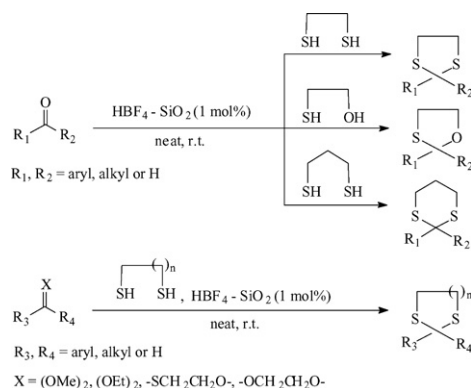
Introducing bis(oxazole) pincer ligands to catalysis: the bis(oxazole) pincer palladium complex **A** proved to be an extremely robust catalyst for Suzuki-Miyaura cross coupling reactions, allowing the synthesis of biaryls under aerobic conditions with high turn over numbers and rates.



**Vinod T. Kamble, Babasaheb P. Bandgar,
Dnyanoba B. Muley, Neeta S. Joshi**

Journal of Molecular Catalysis A: Chemical 268 (2007) 70

An expedient and efficient chemoselective protection of carbonyl compounds and transthioacetalization of *O,O*- and *S,O*-acetals catalyzed by HBF₄-SiO₂

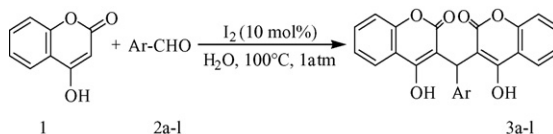


**Mazaahir Kidwai, Vikas Bansal,
Poonam Mothsra, Shilpi Saxena,
Rishi K. Somvanshi, Sharmistha Dey,
Tej P. Singh**

Journal of Molecular Catalysis A: Chemical 268
(2007) 76

Molecular iodine: A versatile catalyst for the synthesis of bis(4-hydroxycoumarin) methanes in water

Molecular iodine provides a simple, efficient, rapid and environmentally benign route for Michael addition of various aromatic and heteroaromatic aldehydes with 4-hydroxycoumarin or dimedone using water as a solvent.

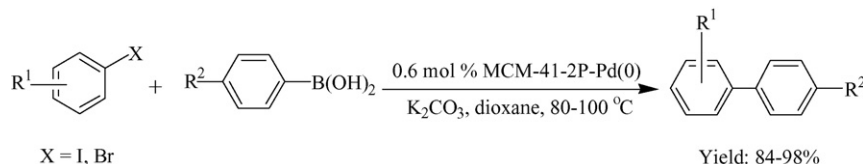


Mingzhong Cai, Junchao Sha, Qiuhua Xu

Journal of Molecular Catalysis A: Chemical 268
(2007) 82

MCM-41-supported bidentate phosphine palladium(0) complex as an efficient catalyst for the heterogeneous Suzuki reaction

MCM-41-supported bidentate phosphine palladium(0) complex [MCM-41-2P-Pd(0)] was conveniently synthesized from commercially available and cheap γ -aminopropyltriethoxysilane via immobilization on MCM-41, followed by reacting with diphenylphosphinomethanol and palladium chloride and then the reduction with hydrazine hydrate. This complex is a highly active catalyst for the heterogeneous Suzuki reaction and can be reused many times without loss of activity.

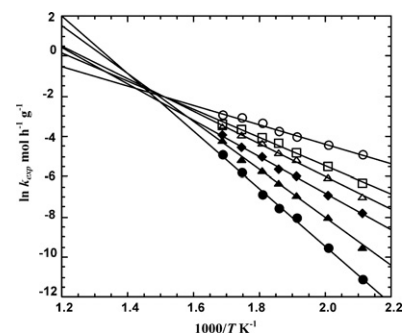


Mark A. Keane, Ragnar Larsson

Journal of Molecular Catalysis A: Chemical 268
(2007) 87

Isokinetic behaviour in gas phase catalytic hydrodechlorination of chlorobenzene over supported nickel

The experimentally determined kinetics (see Fig.) for the gas phase hydrodechlorination of chlorobenzene over a series of supported Ni catalysts delivers an isokinetic temperature (T_{iso}) at 669 ± 2 K which is accounted for using the Selective Energy Transfer model in terms of resonance resulting from energy transfer from a catalytic Ni-H vibration (at 940 cm^{-1}) to the out-of-plane C-H vibration (at 740 cm^{-1}) of chlorobenzene.

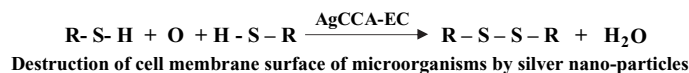


**V. Shashikala, V. Siva Kumar, A.H. Padmasri,
B. David Raju, S. Venkata Mohan, P.
Nageswara Sarma, K.S. Rama Rao**

Journal of Molecular Catalysis A: Chemical 268
(2007) 95

Advantages of nano-silver-carbon covered alumina catalyst prepared by electro-chemical method for drinking water purification

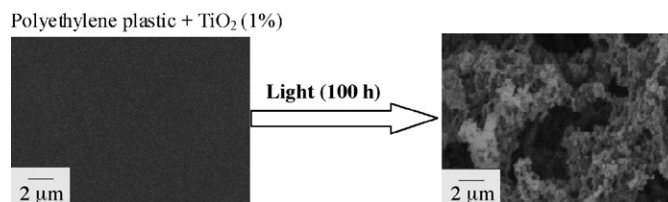
The present work highlights the high efficiency of silver deposited on carbon covered alumina (CCA) by electro-chemical (EC) deposition method over conventional impregnation method, in controlling the microorganisms in water. Formation of uniform sized Ag nano-particles over CCA in EC method, combined characteristics of carbon and alumina in CCA and the advantage associated with EC method with no pre-treatment conditions like reduction are the reasons for getting high activity.



**Xu Zhao, Zongwei Li, Yi Chen, Liyi Shi,
Yongfa Zhu**

Journal of Molecular Catalysis A: Chemical 268
(2007) 101

Solid-phase photocatalytic degradation of polyethylene plastic under UV and solar light irradiation

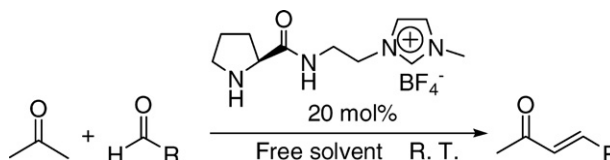


**Shang-Dong Yang, Lu-Yong Wu, Ze-Yi Yan,
Zhen-Liang Pan, Yong-Min Liang**

Journal of Molecular Catalysis A: Chemical 268
(2007) 107

A novel ionic liquid supported organocatalyst of pyrrolidine amide: Synthesis and catalyzed Claisen–Schmidt reaction

A novel organocatalyst of pyrrolidine amide based on room temperature ionic liquid (RTIL) has been developed to perform Claisen–Schmidt reaction with acetone or cyclic ketone and various aromatic aldehydes at room temperature under free-solvent condition. The (*E*)- α,β -unsaturated ketone products were obtained in good yields. The ionic liquid supported pyrrolidine amide catalyst can be readily recovered and reused successfully without any significant loss of catalytic activity.

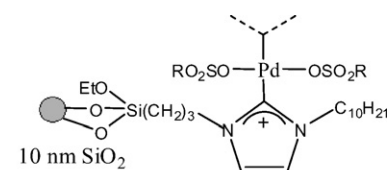


Shikcha Tandukar, Ayusman Sen

Journal of Molecular Catalysis A: Chemical 268
(2007) 112

N-heterocyclic carbene–palladium complex immobilized on silica nanoparticles. Recyclable catalyst for high yield Suzuki and Heck coupling reactions under mild conditions

N-heterocyclic carbene–palladium (NHC–Pd) complexes immobilized on ~10 nm silica nanoparticles were synthesized. These nanoparticles remain suspended in a variety of solvents with the catalyst sites readily accessible to the reactants. The catalysts showed excellent activity towards Suzuki and Heck coupling reactions. The nano-sized particles can be easily recovered and repeatedly reused without loss of activity.



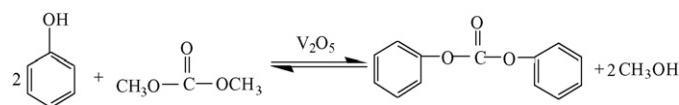
Recyclable Suzuki and Heck Coupling Catalyst

**Dong-Shen Tong, Jie Yao, Yue Wang,
Hong-Ying Niu, Gong-Ying Wang**

Journal of Molecular Catalysis A: Chemical 268
(2007) 120

Transesterification of dimethyl carbonate with phenol to diphenyl carbonate over V_2O_5 catalyst

Pure V_2O_5 catalyst was used in the transesterification of dimethyl carbonate with phenol. It was found that the fresh V_2O_5 catalyst had highly initial activity for the reaction and the deactivation of the catalyst was mainly ascribed to the conversion of crystal structure. However, the catalytic activity and catalyst structure could be recovered by calcination of the used catalyst in air.

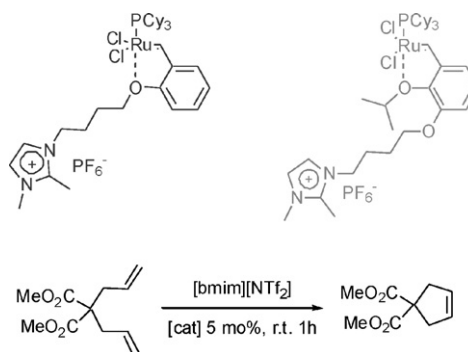


**Cyril Thurier, Cédric Fischmeister,
Christian Bruneau, H el ene Olivier-Bourbigou,
Pierre H. Dixneuf**

Journal of Molecular Catalysis A: Chemical 268
(2007) 127

Ionic imidazolium containing ruthenium complexes
and olefin metathesis in ionic liquids

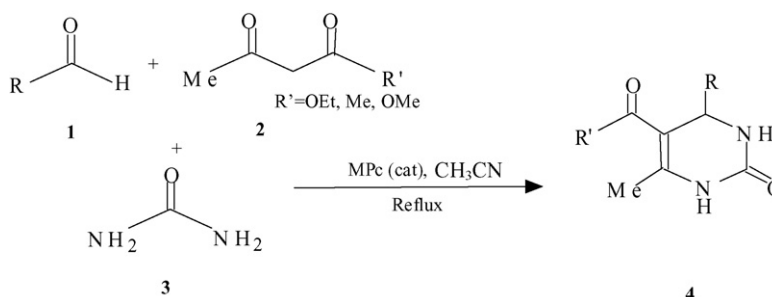
Two new first generation Hoveyda and Blechert type catalysts designed to operate in ionic liquid media have been prepared and their activity and recyclability tested in Ring Closing Metathesis.



**Suman L. Jain, Jomy K. Joseph,
Sweety Singhal, Bir Sain**

Journal of Molecular Catalysis A: Chemical 268
(2007) 134

Metallophthalocyanines (MPcs) as efficient hetero-
geneous catalysts for Biginelli condensation:
Application and comparison in catalytic activity of
different MPcs for one pot synthesis of 3,4-
dihydropyrimidin-2-(1H)-ones

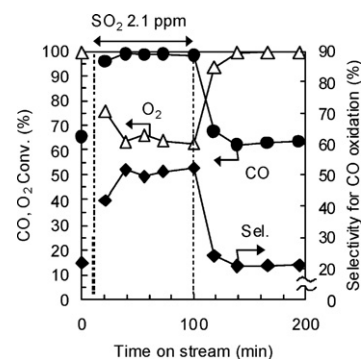


**Hidenobu Wakita, Tatsuya Takeguchi,
Wataru Ueda**

Journal of Molecular Catalysis A: Chemical 268
(2007) 139

Enhancement of selectivity for preferential CO
oxidation over SO₂-pretreated Ru/Al₂O₃ catalyst by
the presence of sulfur compounds

The preferential CO oxidation on a Ru/Al₂O₃ cata-
lyst pretreated with SO₂ in the reactant gas was
investigated in the presence/absence of sulfur com-
pound (SO₂ or H₂S). In the presence of 2.1 ppm sul-
fur compound, CO was preferentially oxidized at
150 °C. On the other hand, in the absence of sulfur
compounds, the H₂ oxidation was promoted.

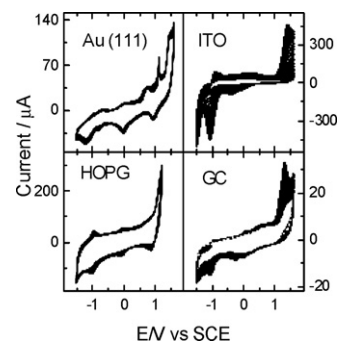


**Francisco Armijo, M^a Carmen Goya,
Mat as Reina, M. Josefina Canales,
M^a Carmen Ar evalo, M^a Jes us Aguirre**

Journal of Molecular Catalysis A: Chemical 268
(2007) 148

Electrocatalytic oxidation of nitrite to nitrate medi-
ated by Fe(III) poly-3-aminophenyl porphyrin
grown on five different electrode surfaces

Five electrodic surfaces modified with poly-
meta-tetraaminophenylporphyrin-Fe(III) were studied
as electrocatalysts of the oxidation of nitrite to
nitrate in a range of pH from 4 to 10. Electroactivity
of the polymeric film strong depends on the surface,
becoming HOPG the most active in terms of the
requirement of potential. Modified monocrystalline
gold is active but polycrystalline is not.

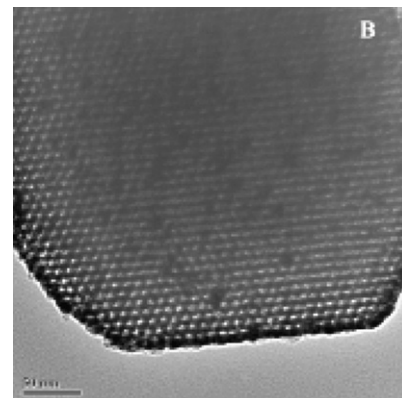


**Ling-Xia Zhang, Zi-Le Hua, Xiao-Ping Dong,
Lei Li, Hang-Rong Chen, Jian-Lin Shi**

Journal of Molecular Catalysis A: Chemical 268
(2007) 155

Preparation of highly ordered Fe-SBA-15 by physical-
vapor-infiltration and their application to liquid
phase selective oxidation of styrene

Highly ordered Fe-SBA-15 with an extraordinary
high Fe loading amount up to 24 mol% has been
prepared by a new simple physical-vapor-infiltration
method and show a significantly high selectivity for
benzaldehyde in liquid phase selective oxidation of
styrene with hydrogen peroxide as the oxygen
source.

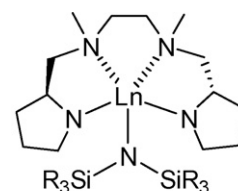


**Romain Heck, Emmanuelle Schulz,
Jacqueline Collin, Jean-François Carpentier**

Journal of Molecular Catalysis A: Chemical 268
(2007) 163

Group 3 metal complexes based on a chiral tetraden-
tate diamine-diamide ligand: Synthesis and use in
polymerization of (D,L)-lactide and intramolecular
alkene hydroamination catalysis

New chiral yttrium, lanthanum and neodymium
amido complexes have been readily prepared and
shown to feature interesting catalytic activities in
the ring-opening polymerization of *racemic*-lactide
at room temperature to yield isotactic-enriched
polylactides and also highly active for the room
temperature hydroamination/cyclization of some
aminoalkenes, though those later reactions proceed
with low enantioselectivities.



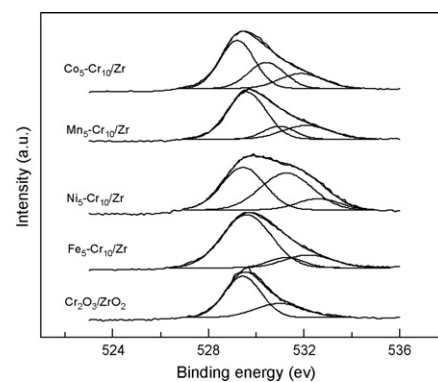
Ln = Y, Nd, La
SiR₃ = SiMe₃, SiHMe₂

**Shuang Deng, Huiquan Li, Songgeng Li,
Yi Zhang**

Journal of Molecular Catalysis A: Chemical 268
(2007) 169

Activity and characterization of modified
Cr₂O₃/ZrO₂ nano-composite catalysts for oxidative
dehydrogenation of ethane to ethylene with CO₂

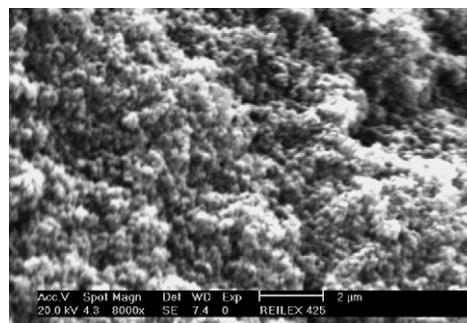
The distribution of chromium species, oxygen
species and base/acid properties on the surface of
modified Cr₂O₃/ZrO₂ catalyst cooperatively deter-
mined the catalytic activity in dehydrogenations of
ethane to ethylene using CO₂ as an oxidant.



**Maria Giammatteo, Leonardo Tauro,
Angelo A. D'Archivio, Luciano Galantini,
Alberto Panatta, Enzo Tettamanti,
Karel Jerabek, Benedetto Corain**

Journal of Molecular Catalysis A: Chemical 268
(2007) 176

Cross-linked poly-4-vinylpyridines as useful sup-
ports in metal catalysis: micro- and nanometer scale
morphology

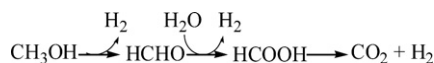


**Tetsuya Shishido, Yoshihiro Yamamoto,
Hiroyuki Morioka, Katsuomi Takehira**

Journal of Molecular Catalysis A: Chemical 268 (2007) 185

Production of hydrogen from methanol over Cu/ZnO and Cu/ZnO/Al₂O₃ catalysts prepared by homogeneous precipitation: Steam reforming and oxidative steam reforming

Cu/ZnO/Al₂O₃ catalyst prepared by homogeneous precipitation showed high catalytic activity for both steam reforming and oxidative steam reforming of methanol. It was confirmed by the temperature-programmed desorption experiments that CH₃OH was first dehydrogenated to HCHO, which then underwent a nucleophilic attack of H₂O to form HCOOH, followed by the decomposition to H₂ and CO₂.

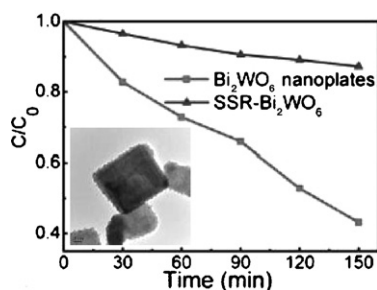


Lin Zhou, Wenzhong Wang, Lisha Zhang

Journal of Molecular Catalysis A: Chemical 268 (2007) 195

Ultrasonic-assisted synthesis of visible-light-induced Bi₂MO₆ (M = W, Mo) photocatalysts

Visible-light-induced Bi₂MO₆ (M = W, Mo) photocatalysts have been successfully synthesized via a new ultrasonic-assisted method. The photocatalytic activities were about 4–6 times higher than that of the products prepared by traditional solid-state reaction. The present study suggests a promising method, as an effective improvement of traditional solid-state reaction processes, for the synthesis of other photocatalysts.

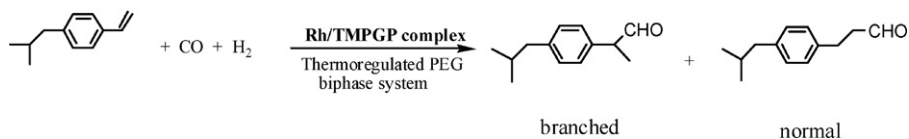
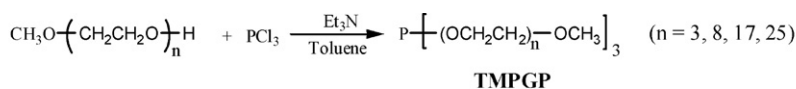


**Cuilan Feng, Yanhua Wang, Jingyang Jiang,
Yuchuan Yang, Zilin Jin**

Journal of Molecular Catalysis A: Chemical 268 (2007) 201

Rh/TMPGP complex catalyzed hydroformylation of *p*-isobutylstyrene in thermoregulated PEG biphasic system

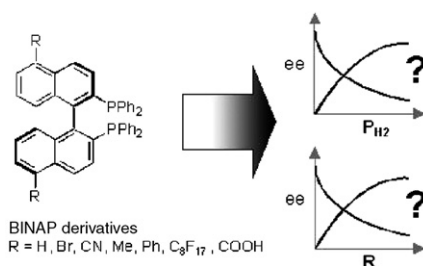
A series of novel phosphite ligands tri-(methoxyl polyethylene glycol)-phosphite (TMPGP) have been synthesized and used in the rhodium-catalyzed hydroformylation of *p*-isobutylstyrene (IBS) in thermoregulated polyethylene glycol (PEG) biphasic system. Under the optimum conditions, the conversion of IBS and the yield of aldehyde are 100% and 96%, respectively. In addition, the catalyst could be easily separated from products and efficiently recovered.



**M. Alame, M. Jahjah, M. Berthod, M. Lemaire,
V. Meille, C. de Bellefon**

Journal of Molecular Catalysis A: Chemical 268 (2007) 205

New 5,5'-disubstituted BINAP derivatives: Syntheses and pressure and electronic effects in Rh asymmetric hydrogenation

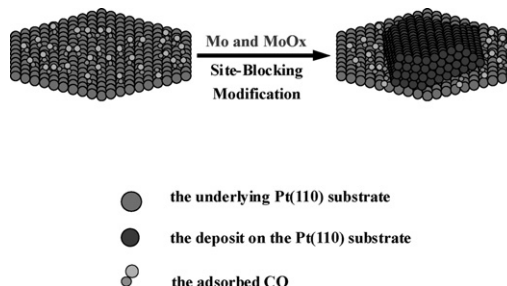


Zhiqian Jiang, Weixin Huang, Hong Zhao,
Zhen Zhang, Dali Tan, Xinhe Bao

Journal of Molecular Catalysis A: Chemical 268
(2007) 213

Dispersion and site-blocking effect of molybdenum oxide for CO chemisorption on the Pt(1 1 0) substrate

Scheme of CO chemisorption on the Mo/Pt(1 1 0) and MoOx/Pt(1 1 0) model surfaces is illustrated as follows. The presence of the metallic molybdenum and MoOx species suppresses CO chemisorption on the Pt(1 1 0) substrate, indicating a physically site-blocking effect. However, the interaction between the MoOx and the underlying Pt(1 1 0) substrate has no influence on CO desorption temperature.

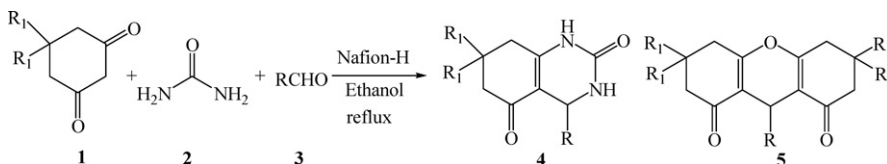


Haixia Lin, Qingjie Zhao, Bin Xu,
Xiaohong Wang

Journal of Molecular Catalysis A: Chemical 268
(2007) 221

Nafion-H catalyzed cyclocondensation reaction for the synthesis of octahydroquinazolinone derivatives

A facile and environmentally friendly Nafion-H catalyzed multicomponent reaction for synthesis of octahydroquinazolinone derivatives is described. The ability to reuse the catalyst, high yields and easy purification are important features of this process. All products are characterized by ¹H NMR, ¹³C NMR, EI-MS and IR, and the structure of one Biginelli product (**4k**) was determined by single-crystal X-ray diffraction.

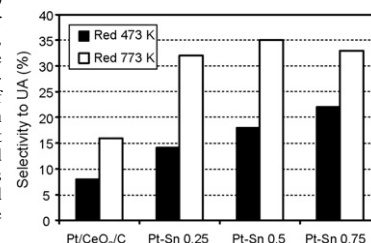


J.C. Serrano-Ruiz, A. Sepúlveda-Escribano,
F. Rodríguez-Reinoso, D. Duprez

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(2007) 227

Pt–Sn catalysts supported on highly-dispersed ceria on carbon. Application to citral hydrogenation

A novel kind of bimetallic Pt–Sn catalysts supported on carbon and promoted with highly-dispersed ceria were prepared by a co-impregnation method and tested in the liquid phase hydrogenation of citral after reduction at low (473 K) and high (773 K) temperatures. They were characterized by N₂ adsorption at 77 K, X-ray diffraction, temperature-programmed reduction (TPR), transmission electron microscopy (TEM) and CO chemisorption at room temperature. Results from N₂ adsorption, XRD and TEM indicated that impregnation method used here led to a highly-dispersed ceria on carbon. Conversely to massive CeO₂, TPR profile of CeO₂/C showed two broad overlapped peaks at low temperatures (803 and 903 K), which are indicative of the easier reduction of the supported promoter. Addition of platinum partially promotes the reduction of surface ceria, this indicating a close metal–promoter interaction. Ceria reducibility was increased with tin addition. The reduction treatment at 773 K produced a strong decrease in the CO adsorption capacity in all cases, although this loss was more relevant for the monometallic catalyst. After reduction at low temperature (473 K), the monometallic Pt/CeO₂/C was the most active catalyst, while the presence of tin reduced the catalytic activity. Reduction at high temperature (773 K) produced the decrease of activity in the case of monometallic sample while bimetallic catalysts, specially the one with Sn/Pt = 0.25, increased the citral conversion values. Reduction treatment at 773 K also increased selectivity to unsaturated alcohols (geraniol and nerol) of bimetallic samples, which presented in all cases higher values than their monometallic counterpart. The onset of new Pt–CeO_x and Pt–SnO_x sites after the reduction process is proposed to explain the increase in activity and selectivity of bimetallic catalysts.

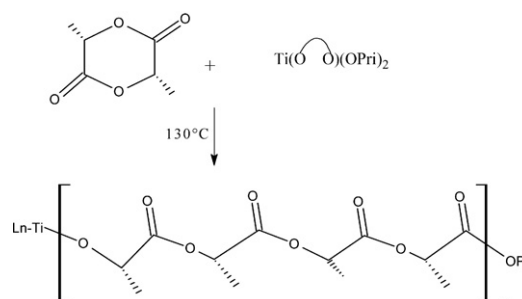


P.S. Umare, G.L. Tembe, K.V. Rao,
U.S. Satpathy, B. Trivedi

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Catalytic ring-opening polymerization of L-lactide by titanium biphenoxy-alkoxide initiators

Homogeneous Ti(IV) complexes of substituted biphenols have been investigated as Lewis acidic catalysts for the ring opening polymerization L-lactide in the bulk. The PLAs synthesized were found to be highly crystalline with low M_w and narrow polydispersities.

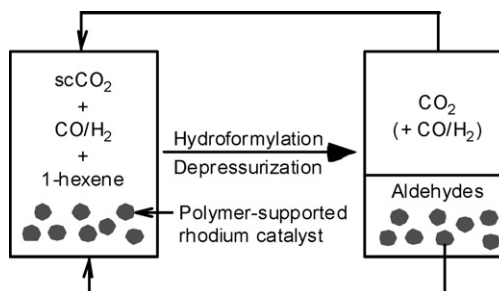


**Shin-Ichiro Fujita, Shuji Akihara,
Shinya Fujisawa, Masahiko Arai**

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(2007) 244

Hydroformylation of 1-hexene using polymer-supported rhodium catalysts in supercritical carbon dioxide

Hydroformylation of 1-hexene was carried out in supercritical CO₂ (scCO₂) using polymer-supported rhodium catalysts. The influence of the reaction conditions and catalyst preparation variables were investigated. The catalyst is recyclable for the reaction and the reaction rate and selectivity of the hydroformylation in scCO₂ are much higher than those in organic solvents.

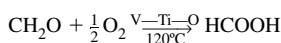


**Galina Ya. Popova, Tamara V. Andrushkevich,
Yurii A. Chesalov, Valentin N. Parmon**

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Transient response study of the formaldehyde oxidation to formic acid on V–Ti–O catalyst: FTIR and pulse study

Mechanism of the formaldehyde oxidation to formic acid on V–Ti–O catalyst has been investigated by pulse and spectrokinetic (in situ FTIR) methods:



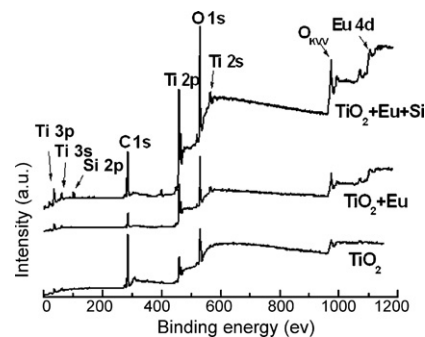
Bidentate symmetrical formates and asymmetric formates are observed by adsorption formaldehyde both in the presence and in the absence of dioxygen in the temperature range between 100 and 200 °C. Formic acid may form by two parallel pathways: by an associative mechanism through the oxidative elimination of bidentate formates and by a stepwise redox Mars–van Krevelen mechanism through the decomposition of asymmetrical formates, but the associative mechanism seems to be preferable in this case.

**Wu Xiaohong, Qin Wei, Ding Xianbo,
He Weidong, Jiang Zhaohua**

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(2007) 257

Dopant influence on the photo-catalytic activity of TiO₂ films prepared by micro-plasma oxidation method

Mesoporous titanium dioxide films were fabricated on titanium plates by the micro-plasma oxidation method. To increase the photo-catalytic activity of the films, Eu(NO₃)₃ and Na₂SiO₃ were added to the electrolyte solution. The photo-catalytic activity of these films turned out to be improved by the additives to the electrolyte solution.



**Dorian Polo-Cerón, Santiago Gómez-Ruiz,
Sanjiv Prashar, Mariano Fajardo,
Antonio Antiñolo, Antonio Otero,
Isabel López-Solera, Manuel L. Reyes**

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Synthesis of chiral unbridged zirconocene complexes: Applications in the polymerization of ethylene and propylene

The preparation and characterization of new unbridged zirconocene complexes containing chiral substituents and their catalytic activity and selectivity in the polymerization of ethylene and propylene are described.

