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JOURNAL OF MOLECULAR CATALYSIS A: CHEMICAL

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Articles

Yan Wang, Caixia Feng, Zhensheng Jin, Jiwei Zhang, Jianjun Yang, Shunli Zhang

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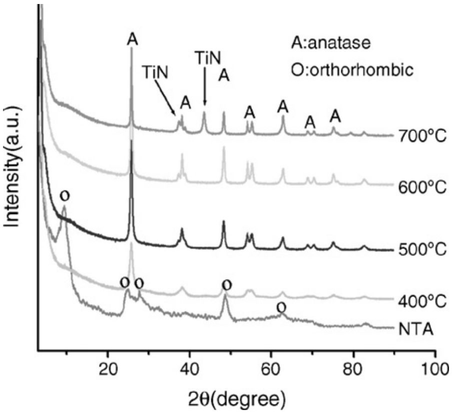
A novel N-doped TiO_2 with high visible light photocatalytic activity



Ping Yang, Wei Zhang, Yukou Du, Xiaomei Wang

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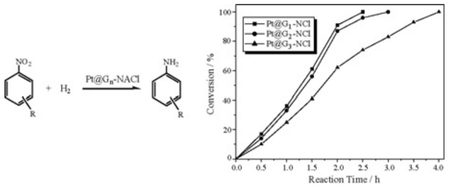
Hydrogenation of nitrobenzenes catalyzed by platinum nanoparticle core-polyaryl ether trisacetic acid ammonium chloride dendrimer shell nanocomposite

Platinum nanoparticle core-polyaryl ether trisacetic acid ammonium chloride dendrimer shell nanocomposite proved to be an active and efficient catalyst for the hydrogenation of nitrobenzenes to anilines under an atmosphere pressure of H_2. The Pt nanoparticles capped by the dendrimer are stable during the catalytic hydrogenation process. The catalytic activity of the dendritic catalyst decreased with the increase of the generation of the dendrimer. The catalyst can be recovered and recycled for at least four times.



Sofia M. Bruno, Bernardo Monteiro, Maria Salete Balula, Filipe M. Pedro, Marta Abrantes, Anabela A. Valente, Martyn Pillinger, Paulo Ribeiro-Claro, Fritz E. Kühn, Isabel S. Gonçalves

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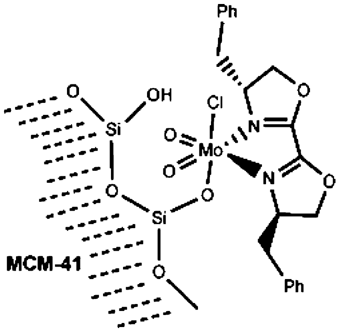
Synthesis and catalytic properties in olefin epoxidation of chiral oxazoline dioxomolybdenum(VI) complexes

The complexes $[MoO_2X_2(N,N)]$ (X = Cl, $OSiPh_3$) containing a chiral oxazoline ligand were prepared and characterised. In the catalytic epoxidation of cyclooctene or *trans*-β-methylstyrene by *tert*-butylhydroperoxide, the bis(chloro) complex gave good yields of epoxides, but very low asymmetric induction in the case of 1-phenylpropylene oxide formed from *trans*-β-methylstyrene. Grafting of the bis(chloro) complex onto the mesoporous silica MCM-41 gave a recyclable heterogeneous catalyst for the epoxidation of cyclooctene.



doi:10.1016/S1381-1169(06)01281-7

K. Bachari, O. Cherifi

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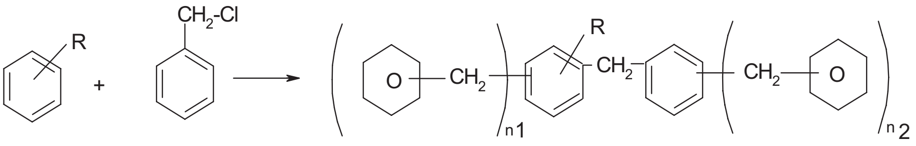
Study of the benzylation of benzene and other aromatics by benzyl chloride over transition metal chloride supported mesoporous SBA-15 catalysts

The benzylation of benzene and other aromatics by benzyl chloride to diphenylmethane over $FeCl_3$, $InCl_3$, $GaCl_3$, $ZnCl_2$, $CuCl_2$ and $NiCl_2$ supported on mesoporous SBA-15 at 353 K has been investigated.



Which n_1 and n_2 = 0, 1 or 2, $n_1 + n_2 \leq 3$ and R= H, CH_3, $2CH_3$, OCH_3.

Y.H. Taufiq-Yap, C.K. Goh, G.J. Hutchings, N. Dummer, J.K. Bartley

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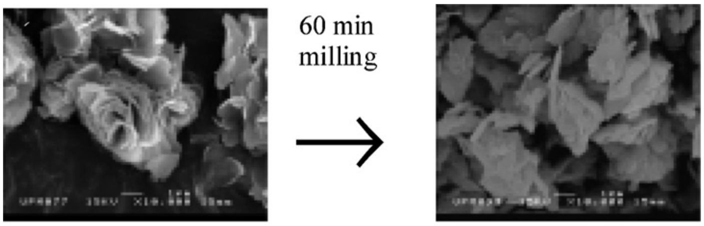
Effects of mechanochemical treatment to the vanadium phosphate catalysts derived from $VOPO_4{\cdot}2H_2O$

Mechanochemically treated vanadium phosphate catalysts.



Mechanochemically treated vanadium phosphate catalysts

Biswanath Das, Anjoy Majhi, Joydeep Banerjee, Nikhil Chowdhury

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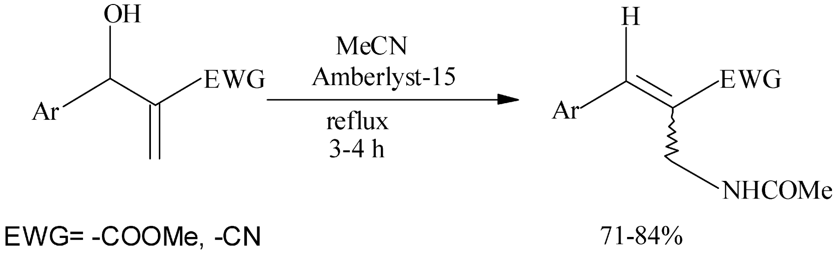
A convenient highly stereoselective synthesis of allyl amides from Baylis–Hillman adducts using Amberlyst-15 as a heterogeneous reusable catalyst



K.M. Parida, P.K. Pattnayak, P. Mohapatra

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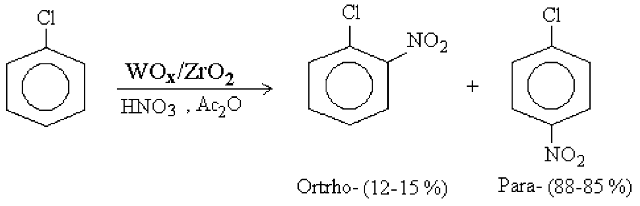
Liquid phase mononitration of chlorobenzene over WO_x/ZrO_2: A study of catalyst and reaction parameters

WO_x/ZrO_2 samples with varying concentration of W (10–25 wt.%) prepared by co-precipitation method and characterized by XRD, surface area and NH_3 TPD. The catalytic activities of the prepared samples were evaluated by carrying out mononitration of chlorobenzene. The sample with 15 wt.% W shows stabilized tetragonal phase and high surface area and also presence of acid sites of varying strength. The 15 wt.% W/ZrO_2 sample shows a yield more than 78% and *para*-selectivity of 86%.



**Satoshi Kamiguchi, Satoko Takaku,
Mitsuo Kodomari, Teiji Chihara**

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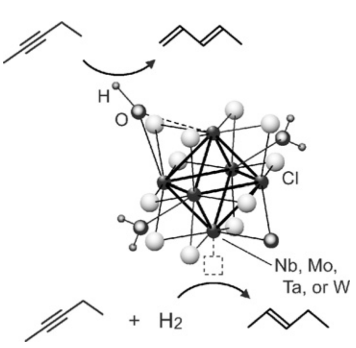
Variable catalytic behavior of Nb, Mo, Ta, W, and Re halide clusters: Isomerization of alkynes to conjugated dienes under nitrogen and hydrogenation to alkenes under hydrogen

When treated in flowing nitrogen, Nb, Ta, and W halide clusters exhibit a catalytic isomerization reaction of alkynes to conjugated dienes. In flowing hydrogen, Nb, Mo, and W clusters catalyze partial hydrogenation reactions to form alkenes. Hydroxo ligands are involved in the isomerization reaction mechanism, whereas the hydrogenation reactions proceed via a mechanism where the metal atom releases its halogen ligand.



**G. Satish Kumar, M. Vishnuvarthan,
M. Palanichamy, V. Murugesan**

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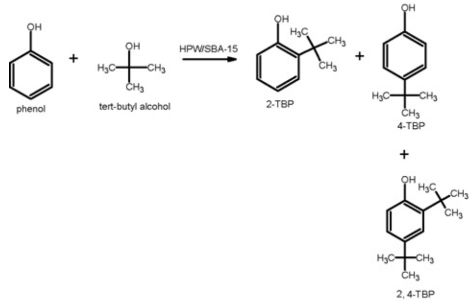
SBA-15 supported HPW: Effective catalytic performance in the alkylation of phenol

The present investigation reveals that Keggin structure of phosphotungstic acid is retained even at higher loadings in SBA-15. The 30%PW/SBA-15 material is found to possess high Bronsted acidity as evidenced from the pyridine adsorption studies. The catalytic activity of PW/SBA-15 samples in the *tert*-butylation of phenol illustrates that 30%PW/SBA-15 is the most active catalyst.



Zhaohui Li, Hun Xue, Xuxu Wang, Xianzhi Fu

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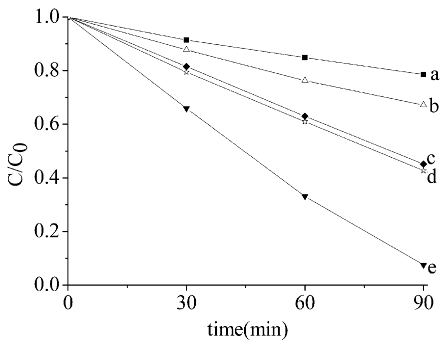
Characterizations and photocatalytic activity of nanocrystalline $La_{1.5}Ln_{0.5}Ti_2O_7$ (Ln = Pr, Gd, Er) solid solutions prepared via a polymeric complex method

Nanocrystalline $La_{1.5}Ln_{0.5}Ti_2O_7$ (Ln = Pr, Gd, Er) solid solutions were prepared by a polymeric complex method. The difference in the photocatalytic activity for the degradation of methyl orange on $La_{1.5}Ln_{0.5}Ti_2O_7$ (Ln = La, Pr, Gd, Er) can be related to the different Ln 4f shell.



**Anand Ramanathan, Dirk Klomp,
Joop A. Peters, Ulf Hanefeld**

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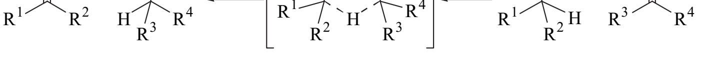
Zr-TUD-1: A novel heterogeneous catalyst for the Meerwein–Ponndorf–Verley reaction

The Meerwein–Ponndorf–Verley reduction and Oppenauer oxidation.



Ivan García-Orozco, Raúl Quijada, Karen Vera, Mauricio Valderrama

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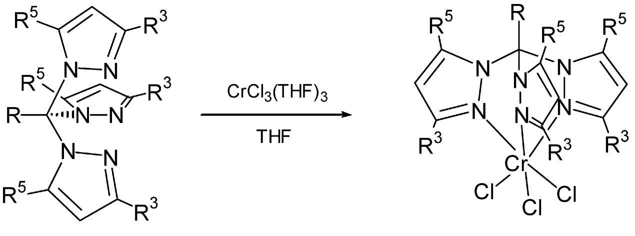
Tris(pyrazolyl)methane–chromium(III) complexes as highly active catalysts for ethylene polymerization

Five chromium compounds with tris(pyrazolyl)methane ligands were obtained. These complexes in the presence of methylalumoxane (MAO) are highly active in ethylene polymerization. It was found that the activity of catalyst depends on their structure. The changes in the reaction conditions of polymerization were studied.



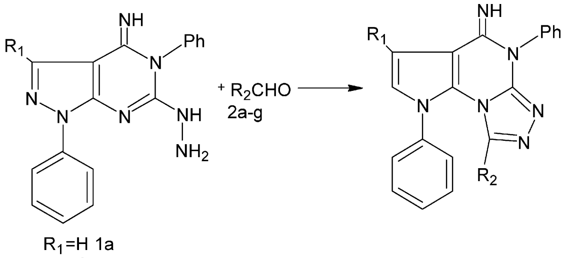
1a-e **2a-e**

Nasim Seifi, M. Hassan Zahedi-Niaki, M. Reza Barzegari, Abolghasem Davoodnia, Raheleh Zhiani, Amir Aghaei Kaju

Journal of Molecular Catalysis A: Chemical 260 (2006) 77

Synthesis of 8-aryl-1*H*-pyrazolo[4,3-e][1,2,4]triazolo[4,3-a] pyrimidine-4(5H)-imine by using the Preyssler's anion $[NaP_5W_{30}O_{110}]^{14-}$ as a green and eco-friendly catalyst

Preyssler's polyanion $H_{14}[NaP_5W_{30}O_{110}]$ (H_{14}-P_5) have proved to be an efficient heterogeneous catalysts for reaction of 6-hydrazino-1,5-diphennyl-1*H*-pyrazolo[3,4-d]pyrimidine -4-imine with aromatic aldehyde to yield 8-aryl-1*H*-pyrazolo[4,3-e][1,2,4]triazolo[4,3-a]pyrimidine-4(5H)-imine.



R_1=H 1a
R_1=CH_3 1b

(1a, 1b) **3**

Sittichai Natesakhawat, Xueqin Wang, Lingzhi Zhang, Umit S. Ozkan

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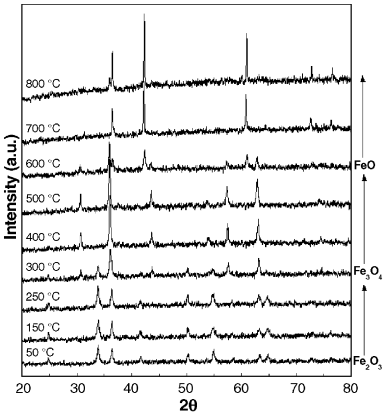
Development of chromium-free iron-based catalysts for high-temperature water-gas shift reaction

Chromium-free iron-based catalysts were prepared and studied in regard to their performance in the high-temperature water-gas shift reaction (HTS). Use of textural and structural promoters was investigated. The figure shows the evolution of different phases in Fe–Al catalyst during the temperature-programmed reduction through use of *in situ* XRD technique.



Zhang Jingchang, Wang Hongbin, Liu Hongtao, Cao Weiliang

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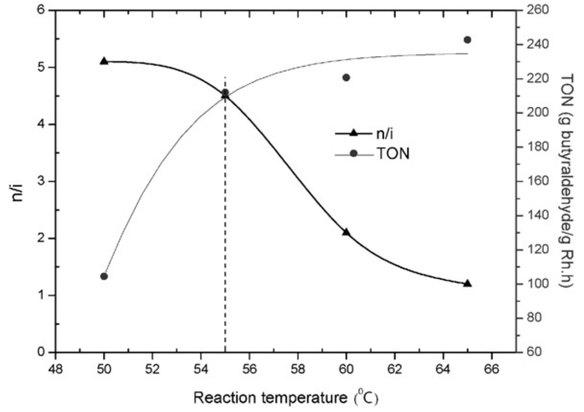
Hydroformylation of propylene in supercritical CO_2 + H_2O and supercritical propylene + H_2O



Hossein Naeimi, Fariba Salimi, Khadigeh Rabiei

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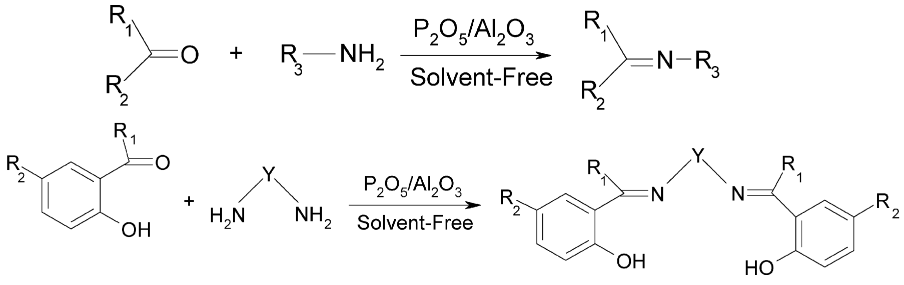
Mild and convenient one pot synthesis of Schiff bases in the presence of P_2O_5/Al_2O_3 as new catalyst under solvent-free conditions



Chan Sik Cho, Daksha B. Patel

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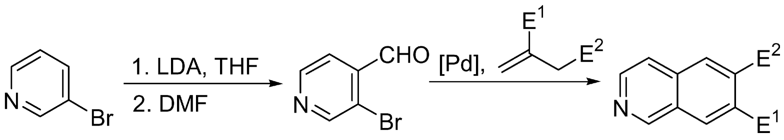
A new route for isoquinolines catalyzed by palladium

3-Bromopyridine-4-carbaldehyde is cyclized with suitably electron withdrawing group substituted alkenes in the presence of a palladium catalyst to give isoquinolines.



Salvatore Scirè, Giuseppe Burgio, Carmelo Crisafulli, Simona Minicò

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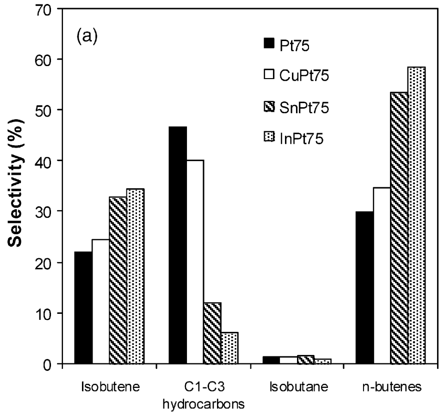
One-step conversion of *n*-butane to isobutene over H-beta supported Pt and Pt,M (M = Cu, In, Sn) catalysts: An investigation on the role of the second metal

Addition of a second metal M (M = Cu, In or Sn) to Pt/H-beta catalysts has been found to affect positively the one-step conversion of *n*-butane to isobutene, enhancing isobutene yields in the order Pt,In > Pt,Sn ≫ Pt,Cu > Pt. This order was related to the extent of the Pt–M interaction degree occurring on M-doped Pt samples.



V.R. Choudhary, C. Samanta, T.V. Choudhary

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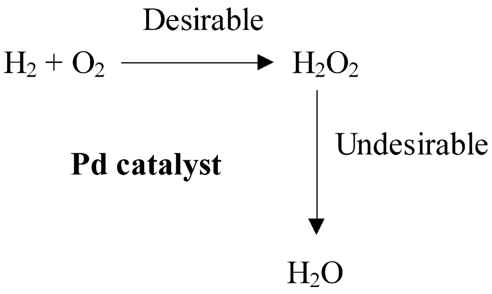
Factors influencing decomposition of H_2O_2 over supported Pd catalyst in aqueous medium



Huili Tang, Yu Ren, Bin Yue, Shirun Yan, Heyong He

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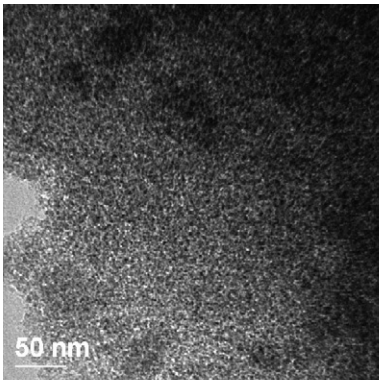
Cu-incorporated mesoporous materials: Synthesis, characterization and catalytic activity in phenol hydroxylation

Novel Cu-incorporated mesoporous materials (CMMs) with 3D worm-like framework were synthesized by sol–gel method using glutaric acid as the template. These materials show high activity in phenol hydroxylation comparable to TS-1. The influence of various reaction parameters on the performance of the catalyst and the mechanism of phenol hydroxylation over CMMs was discussed.



Federica Colombo, Maurizio Benaglia, Simonetta Orlandi, Fabio Usuelli

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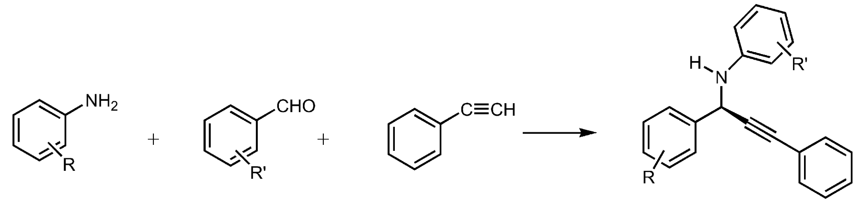
Asymmetric multicomponent copper catalyzed synthesis of chiral propargylamines

A three-component stereoselective reaction between an aldehyde, an amine and phenylacetylene to afford optically active propargyl amines in good yields was developed. The reaction is catalysed by copper complexes of enantiomerically pure bis-imines. The best results were obtained with imines readily prepared in very high yields from the commercially available binaphtyl diamine.

A very simple experimental procedure at room temperature allowed to obtain optically active propargyl amines in very good yields and enantioselectivity up to 75%.



ee up to 75%

Rubin Huang, Nileshkumar Kukalyekar, Cor E. Koning, John C. Chadwick

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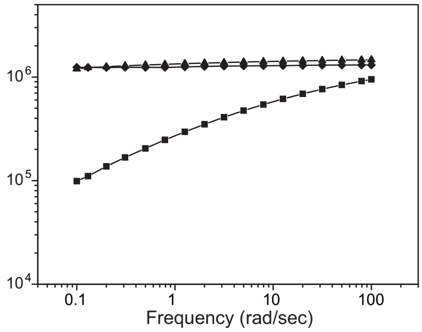
Immobilization and activation of 2,6-bis(imino)pyridyl Fe, Cr and V precatalysts using a $MgCl_2/AlR_n(OEt)_{3-n}$ support: Effects on polyethylene molecular weight and molecular weight distribution

In contrast to the relatively broad molecular weight distribution of polyethylene prepared with various bis(imino)pyridyl iron complexes immobilized on a $MgCl_2/AlR_n(OEt)_{3-n}$ support, immobilization of a bis(imino)pyridyl vanadium(III) complex on the same support gave very narrow molecular weight distribution, indicative of a single active species in the case of vanadium but not with iron. The vanadium-based system also gave significantly higher molecular weight.

Shear frequency dependence of storage modulus (G') at constant strain of (◆ and ▲) polyethylene ($\bar{M}_w/\bar{M}_n$ = 1.8–2.1) prepared using an immobilized V catalyst, compared to (■) a reference polyethylene ($\bar{M}_w/\bar{M}_n$ = 5.6) prepared using an immobilized iron catalyst.



Ken-Ichi Nakamura, Takanori Miyake, Toru Konishi, Toshimitsu Suzuki

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Oxidative dehydrogenation of ethane to ethylene over NiO loaded on high surface area MgO

NiO loaded high surface area magnesium oxide afforded 36.8% of ethylene in the oxidative dehydrogenation of thane without dilution.

$$\mathbf{CH_3\text{-}CH_3 + 1/2O_2 \xrightarrow{NiO\ /\ MgO} CH_2{=}CH_2 + H_2O}$$

Meng-Fei Luo, Zhi-Ying Pu, Mai He, Juan Jin, Ling-Yun Jin

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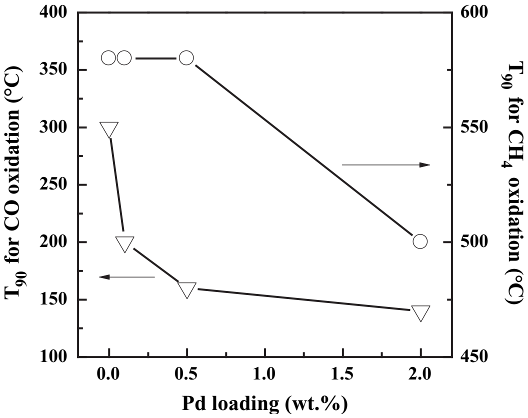
Characterization of PdO/$Ce_{0.8}Y_{0.2}O_{1.9}$ catalysts for carbon monoxide and methane oxidation

At low Pd loading (0.1 wt.% and 0.5 wt.%), only highly dispersed PdO exists, and it grows to crystalline structure as Pd loading increases up to 2 wt.%. Both the highly dispersed PdO and the crystalline structure PdO are active sites for CO oxidation, while the crystalline structure PdO is active site for CH4 oxidation.

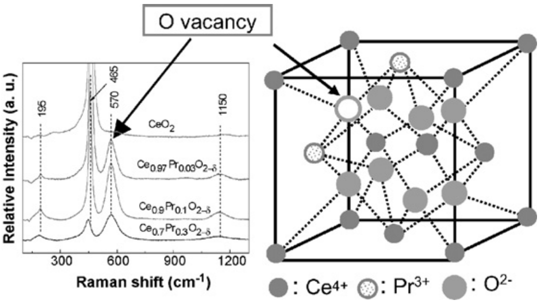


Meng-Fei Luo, Zong-Lan Yan, Ling-Yun Jin

Journal of Molecular Catalysis A: Chemical 260 (2006) 157

Structure and redox properties of $Ce_xPr_{1-x}O_{2-\delta}$ mixed oxides and their catalytic activities for CO, CH_3OH and CH_4 combustion

Pr^{3+} can be introduced into the CeO_2 crystal lattices to form solid solutions with lattice defects. The band around 570 cm^{-1} in $Ce_xPr_{1-x}O_{2-\delta}$ mixed oxides can be ascribed to the asymmetric vibration caused by the formation of oxygen vacancies. The presence of the oxygen vacancies favors CO oxidation and CH_3OH, while the activity of CH_4 oxidation is mostly related to reduction temperatures and redox properties.



Mojtaba Bagherzadeh, Reza Latifi, Laleh Tahsini

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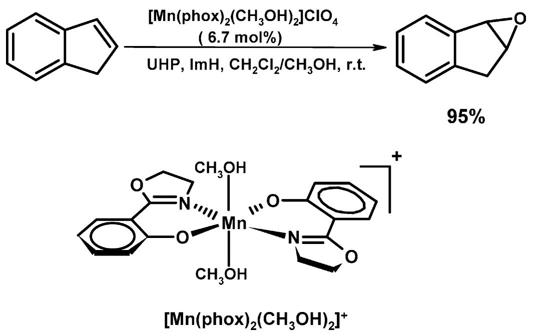
Catalytic activity of manganese(III)-oxazoline complexes in urea hydrogen peroxide epoxidation of olefins: The effect of axial ligands

Two manganese-oxazoline complexes $[Mn(phox)_2(CH_3OH)_2]ClO_4$ and $Mn(phox)_3$, have been used as catalyst in efficient epoxidation of olefins with urea hydrogen peroxide (UHP) in the presence of a nitrogenous base such as imidazole as co-catalyst in a mixture 1:1 of CH_2Cl_2/CH_3OH solvent system at room temperature. The best co-catalytic effect is observed in the presence of imidazole with strong π-donating ability resulting in effective proximal and hydrogen bonding interactions of this axial ligand with the intermediate catalyst–H_2O_2 complex. The epoxide yields are depended on the steric and electronic effects of the catalyst, olefin, and axial ligand.



A. Micek-Ilnicka

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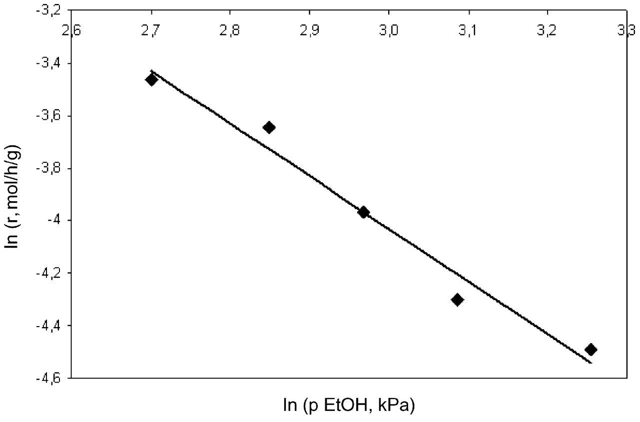
Kinetics of gas phase synthesis of ethyl-*tert*-butyl ether (ETBE) on Wells–Dawson catalyst



Muchchintala Maheswara, Vidavalur Siddaiah, Yerra Koteswara Rao, Yew-Min Tzeng, Chenchugari Sridhar

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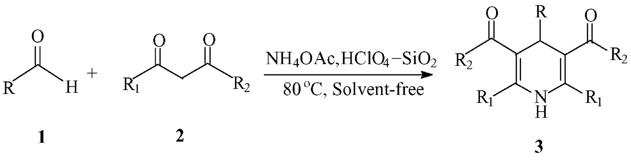
A simple and efficient one-pot synthesis of 1,4-dihydropyridines using heterogeneous catalyst under solvent-free conditions



Ji Woong Yoon, Jong-San Chang, Hee-Du Lee, Tae-Jin Kim, Sung Hwa Jhung

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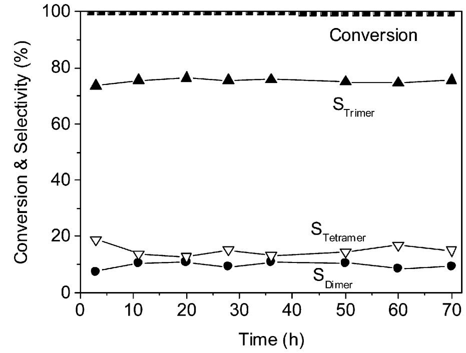
Trimerization of isobutene over cation exchange resins: Effect of physical properties of the resins and reaction conditions

Isobutene is quantitatively oligomerized with higher than or equal to 70% selectivity for trimers by using a cation exchange resin under selected conditions (viz., isobutene WHSV: 10 h^{-1}; temperature: 70 °C).



Aliakbar Tarlani, Abdelkhalek Riahi, Mansour Abedini, Mostafa Mohammadpour Amini, Jacques Muzart

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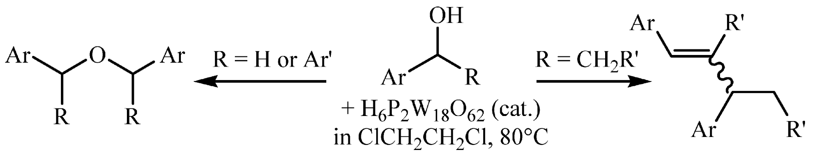
Wells–Dawson tungsten heteropolyacid-catalyzed reactions of benzylic alcohols, influence of the structure of the substrate



Mingzhong Cai, Qiuhua Xu, Jianwen Jiang

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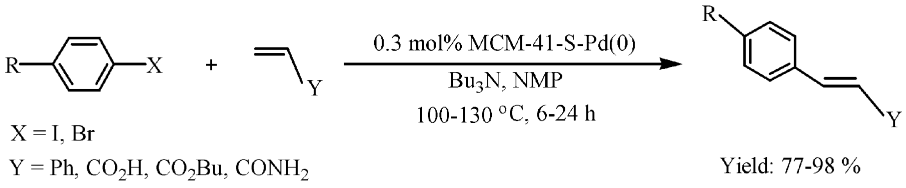
The first MCM-41-supported thioether palladium(0) complex: A highly active and stereoselective catalyst for Heck arylation of olefins with aryl halides

The first MCM-41-supported thioether palladium(0) complex has been synthesized from 3-(2-cyanoethylsulfanyl)propyltriethoxysilane via immobilization on MCM-41, followed by reacting with palladium chloride, and then the reduction with hydrazine hydrate. This complex exhibited excellent performance in Heck arylation of olefins with aryl halides.



Henri Arzoumanian, Robert Bakhtchadjian, Reinaldo Atencio, Alexander Briceno, Gabriel Verde, Giuseppe Agrifoglio

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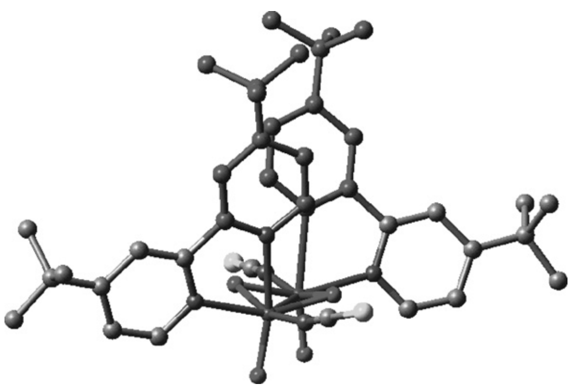
Characterization of a reduced molybdenum-oxo compound derived from an oxo-transfer process under stoichiometric conditions

The stoichiometric oxidation of phosphanes or alcohols by a Mo(VI) dioxo complex (**1**) followed both by UV spectroscopy results in the formation of a Mo (V) dimer with two μ-oxo bridges and two terminal oxo functions (**3**). Its structure is determined by an X-ray analysis. The follow up by UV spectroscopy of the oxygen atom transfer process shows clearly that complex **3** is the end product of a series of intermediates. Its high stability towards oxygen atom donors suggets strongly that it cannot be part of any catalytic cycle.

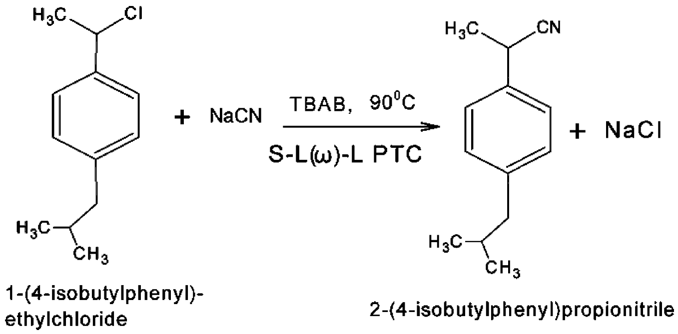


Ganapati D. Yadav, J. Leo Ceasar

Journal of Molecular Catalysis A: Chemical 260 (2006) 202

Novelties of cyanide displacement reaction in ibuprofen amide process by phase transfer catalysis: Solid–liquid versus solid–liquid (omega)–liquid systems

The rates of nitrile substitution are augmented when the solid–liquid system is converted into a three phase system with trace quantity of water as omega phase under PTC.

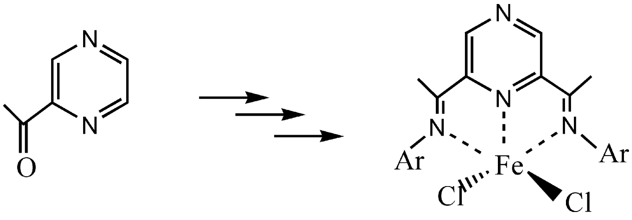


L. Beaufort, F. Benvenuti, A.F. Noels

Journal of Molecular Catalysis A: Chemical 260 (2006) 210

Iron(II)–ethylene polymerization catalysts bearing 2,6-bis(imino)pyrazine ligands. Part I. Synthesis and characterization

The synthesis of a new series of 2,6-bis(imino)pyrazinyl ligands, where the aryl groups Ar = naphtyl, 2,6-dimethylphenyl, 2,6-diisopropylphenyl, 2,4,6-trimethylphenyl, and their iron(II) complexes is described starting from monoacetylpyrazine.

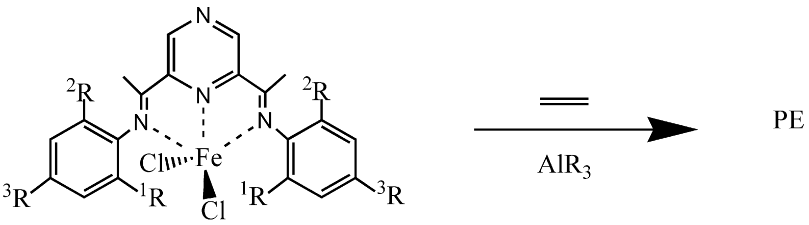


L. Beaufort, F. Benvenuti, A.F. Noels

Journal of Molecular Catalysis A: Chemical 260 (2006) 215

Iron(II)–ethylene polymerization catalysts bearing 2,6-bis(imino)pyrazine ligands. Part II. Catalytic behaviour, homogeneous and heterogeneous insights

New iron(II) complexes ligated to tridentate pyrazine-bis(2,6-arylimino) ligands have been used as ethylene polymerization catalysts after activation with alkylaluminiums. The new complexes display a lesser catalytic activity than those ligated to the corresponding pyridine-bis(2,6-arylimino) ligands.

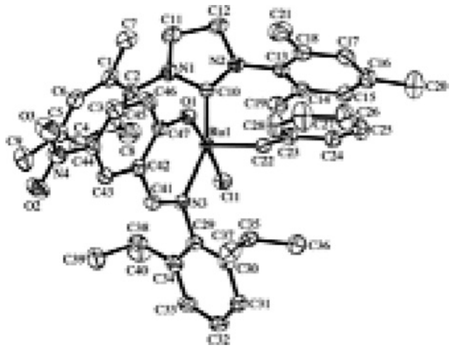


Bart Allaert, Nicolai Dieltiens, Nele Ledoux, Carl Vercaemst, Pascal Van Der Voort, Christian V. Stevens, Anthony Linden, Francis Verpoort

Journal of Molecular Catalysis A: Chemical 260 (2006) 221

Synthesis and activity for ROMP of bidentate Schiff base substituted second generation Grubbs catalysts

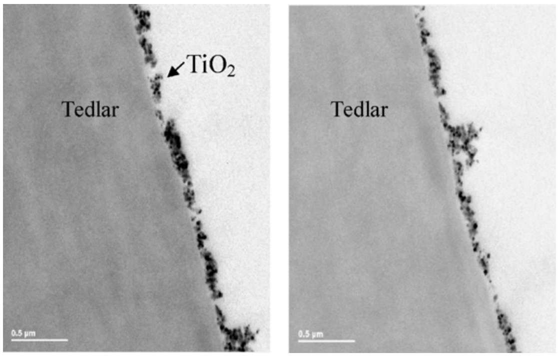
The Schiff base substituted complexes were synthesized from a pyridine substituted second generation catalyst and a Schiff base Thallium salt. The catalyst shows good activity for the ROMP of COD (cyclooctadiene) and DCPD (dicyclopentadiene) after thermal activation.



Yu Zhiyong, E. Mielczarski, J.A. Mielczarski, D. Laub, L. Kiwi-Minsker, A. Renken, J. Kiwi

Journal of Molecular Catalysis A: Chemical 260 (2006) 227

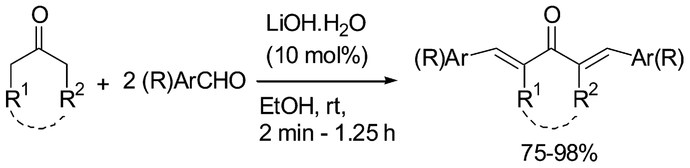
Stabilization mechanism of TiO_2 on flexible fluorocarbon films as a functional photocatalyst



Srikant Bhagat, Ratnesh Sharma, Asit K. Chakraborti

Journal of Molecular Catalysis A: Chemical 260 (2006) 235

Dual-activation protocol for tandem cross-aldol condensation: An easy and highly efficient synthesis of α,α′-bis(aryl/alkylmethylidene)ketones

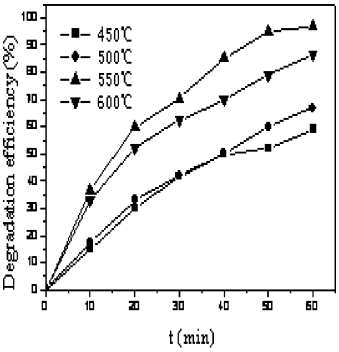


Jianhui Sun, Xiaolei Wang, Jingyu Sun, Ruixia Sun, Shengpeng Sun, Liping Qiao

Journal of Molecular Catalysis A: Chemical 260 (2006) 241

Photocatalytic degradation and kinetics of Orange G using nano-sized Sn(IV)/TiO_2/AC photocatalyst

The Sn(IV)/TiO_2/AC was prepared by the dip-coating technique with TiO_2 sol–gel. In order to find the optimal calcination temperature for Sn(IV)/TiO_2/AC preparation, the photocatalysts calcinated at different temperatures in the range of 450–600 °C were used to degrade OG. The photocatalytic activity of Sn(IV)/TiO_2/AC was significantly influenced by the calcination temperature and the optimal calcination temperature was 550 °C.

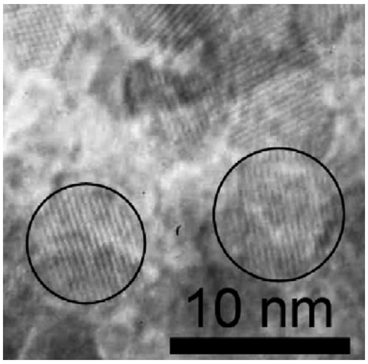


Ryoji Inaba, Takayuki Fukahori,
Masato Hamamoto, Teruhisa Ohno

Journal of Molecular Catalysis A: Chemical 260 (2006) 247

Synthesis of nanosized TiO_2 particles in reverse micelle systems and their photocatalytic activity for degradation of toluene in gas phase

Nanosized pure TiO_2 particles with high crystallinity and large surface area were prepared by hydrolysis of tetrabutyl titanate in water/TX-100/isooctane reverse micelle solutions as reaction media followed by hydrothermal treatment to improve crystallinity. The size of ultrafine particles was controlled by changing the water content of the reverse micelle solution. The TiO_2 particles showed monodispersity, large surface area and high degrees of crystallinity and thermostability. The activity of the TiO_2 nanoparticles was higher than that of commercially available anatase fine particles, such as ST-01, which is the one of the most active photocatalysts for degradation of organic compounds in the gas phase.

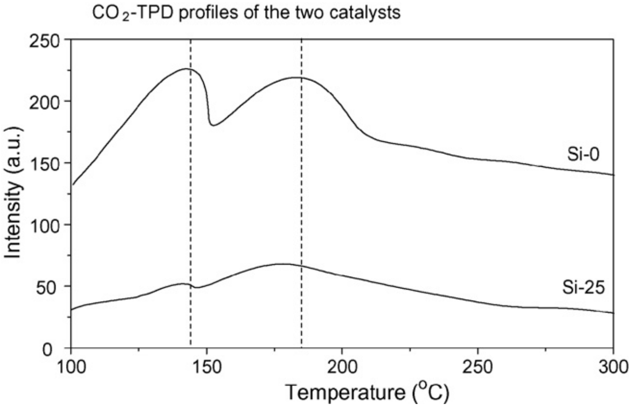


Hai-Jun Wan, Bao-Shan Wu, Zhi-Chao Tao,
Ting-Zhen Li, Xia An, Hong-Wei Xiang,
Yong-Wang Li

Journal of Molecular Catalysis A: Chemical 260 (2006) 255

Study of an iron-based Fischer–Tropsch synthesis catalyst incorporated with SiO_2

The addition of SiO_2 weakens the surface basicity, which plays an important role in the carburization and CO adsorption of iron-based catalyst, as well as FTS performance.

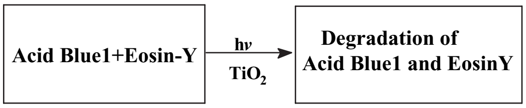


Debabrata Chatterjee, Shimanti Dasgupta,
Rita S. Dhodapkar, Nageswar N. Rao

Journal of Molecular Catalysis A: Chemical 260 (2006) 264

Simultaneous degradation of non-emissive and emissive dyes on visible light illuminated TiO_2 surface

Under visible light irradiation acid blue1 undergoes appreciable degradation in presence of a sensitizing dye (eosinY or thionine). However, concomitant disappearance of eosinY or thionine due self-sensitized degradation was also noticed.

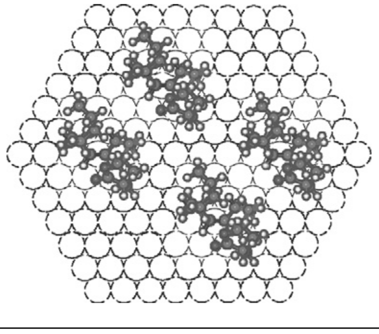


Maria I. Cabrera, Ricardo J. Grau

Journal of Molecular Catalysis A: Chemical 260 (2006) 269

Liquid-phase hydrogenation of methyl oleate on a Ni/α-Al_2O_3 catalyst: A study based on kinetic models describing extreme and intermediate adsorption regimes

The kinetics of the hydrogenation of methyl oleate on a Ni/α-Al_2O_3 catalyst was studied in the absence of mass-transport limitation, at $398 \leq T \leq 443$ K and $3.7 \leq P_{H2} \leq 6.5$ bar. The model considering semi-competitive adsorption gave additional indication that the adsorbed molecule of methyl oleate could cover up to seven surface sites.

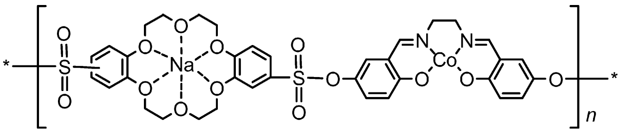


Rong-Min Wang, Zong-Fan Duan, Yu-Feng He, Zi-Qiang Lei

Journal of Molecular Catalysis A: Chemical 260 (2006) 280

Heterogeneous catalytic aerobic oxidation behavior of Co–Na heterodinuclear polymeric complex of Salen-crown ether

A new kind of Co–Na heterodinuclear polymer complex based on Salen Schiff base and crown ether is applied to aerobic oxidation of cyclohexene, alkylbenzenes and linear aliphatic olefins under mild conditions. The mechanism of the oxidation is investigated.



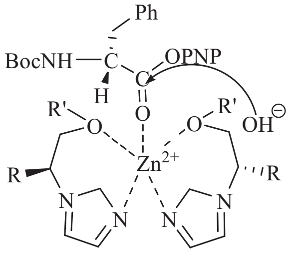
P-Salen-BsdB18C6-(Co-Na)

He-Yan Jiang, Chen-He Zhou, Kui Luo, Hua Chen, Jing-Bo Lan, Ru-Gang Xie

Journal of Molecular Catalysis A: Chemical 260 (2006) 288

Chiral imidazole metalloenzyme models: Synthesis and enantioselective hydrolysis for α-amino acid esters

Chiral imidazole hydrolytic metalloenzyme models have been synthesised and investigated for enantioselective hydrolysis of Boc-α-amino acid esters, and the result indicates that both hydrolysis rates and enantioselectivities are increased with increases in the alkyl chain length and the number of the alkyl chains in the lipophilic chiral imidazole-type surfactants in many cases.

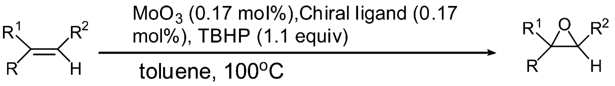


Elisabete da Palma Carreiro, Carlos Monteiro, Guo Yong-en, Anthony J. Burke, Ana Isabel Rodrigues

Journal of Molecular Catalysis A: Chemical 260 (2006) 295

Catalytic epoxidation of olefins using MoO_3 and TBHP: Effect of the addition of chiral 2-substituted pyridines on the catalytic rate and asymmetric induction

Attempts were made at epoxidising enantioselectively some simple olefins using MoO_3, TBHP and a variety of chiral non-racemic 2-substituted pyridine ligands. No asymmetric induction was observed despite evidence of ligand acceleration. A maximum conversion of 88% and a maximum selectivity of ≥ 98% were observed.



Qiong Xu, Xin-Mei Liu, Jun-Ru Chen, Rui-Xiang Li, Xian-Jun Li

Journal of Molecular Catalysis A: Chemical 260 (2006) 299

Modification mechanism of Sn^{4+} for hydrogenation of *p*-chloronitrobenzene over PVP-Pd/γ-Al_2O_3

The hydrogenation activity of *p*-CNB and the selectivity to form *p*-CAN over PVP-Pd/γ-Al_2O_3 was obviously promoted by the addition of Sn^{4+}. Hydrogenolysis reaction of C–Cl was completely blocked when the molar ratio of Sn^{4+} to Pd was up to 5. The modification mechanism of Sn^{4+} could be the interaction between Sn^{4+} and $-NO_2$ group of the substrate increased the polarity of N=O bond and accelerated the hydrogenation of nitro group. Because of the same reason, the polarity of C–Cl bond was decreased and the strength of C–Cl bond was increased, so that the dehalogenation reaction was greatly inhibited.