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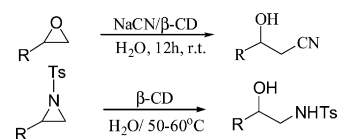
Articles

**B. Srinivas, V. Pavan Kumar, R. Sridhar,
K. Surendra, Y.V.D. Nageswar, K. Rama Rao**

*Journal of Molecular Catalysis A: Chemical 261
(2007) 1*

Regioselective nucleophilic opening of epoxides and aziridines under neutral conditions in the presence of β -cyclodextrin in water

Various of β -hydroxy nitriles and β -amino alcohols have been synthesized regioselectively from epoxides and *N*-tosyl aziridines in the presence of β -cyclodextrin in good yields.



**Atsushi Takahashi, Masaaki Haneda,
Tadahiro Fujitani, Hideaki Hamada**

*Journal of Molecular Catalysis A: Chemical 261
(2007) 6*

Selective reduction of NO_2 with acetaldehyde over $\text{Co}/\text{Al}_2\text{O}_3$ in lean conditions

$\text{Co}/\text{Al}_2\text{O}_3$ shows the highest activity for selective reduction of NO_2 with acetaldehyde (CH_3CHO). The role of Co is to promote the production of the enolate species, which acts as the intermediate for NO_2 reduction by CH_3CHO .

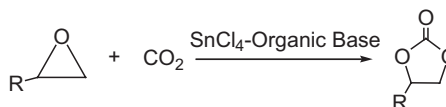


Huanwang Jing, SonBinh T. Nguyen

*Journal of Molecular Catalysis A: Chemical 261
(2007) 12*

SnCl_4 -organic base: Highly efficient catalyst system for coupling reaction of CO_2 and epoxides

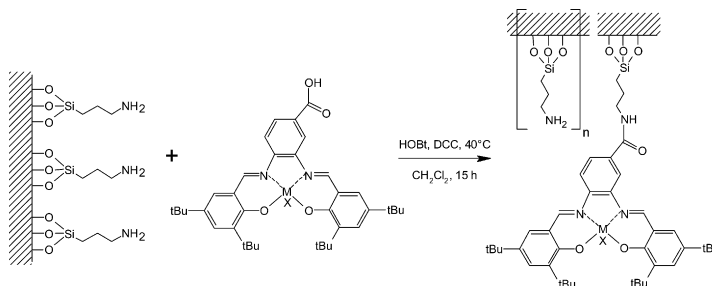
A simple and highly efficient catalyst system of SnCl_4 -organic base was developed to catalyze the coupling reaction of carbon dioxide and epoxides in very mild condition to yield the cyclic carbonates. The proposed mechanism was described in terms of in-situ ^{119}Sn NMR investigations.



**Tatiana Luts, Wladimir Suprun,
Diana Hofmann, Olaf Klepel, Helmut Papp**

Journal of Molecular Catalysis A: Chemical 261 (2007) 16

Epoxidation of olefins catalyzed by novel Mn(III) and Mo(IV) Salen complexes immobilized on mesoporous silica gel. Part I. Synthesis and characterization of homogeneous and immobilized Mn(III) and Mo(IV) Salen complexes

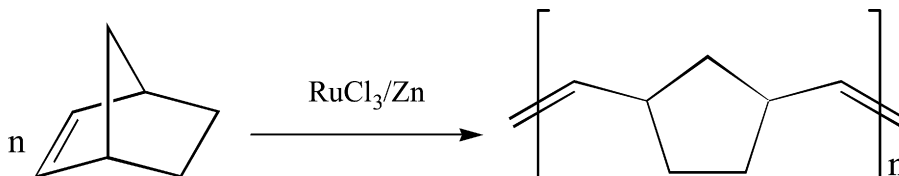


Ross P. Fitzgerald, A. Denise Rooney

Journal of Molecular Catalysis A: Chemical 261 (2007) 24

Novel co-catalytic activity of zinc metal with classical initiators for the ring opening polymerisation of norbornene

Zinc metal was shown to considerably increase the activity of the metal(III) chloride salts of ruthenium, iridium and osmium as metathesis initiators for the ROMP of norbornene. Comparison of this system to a similar one used for the dimerisation of acrylates provides evidence that the hydride mechanism does not occur; an alternative mechanism involving a metallacyclopentane is proposed.

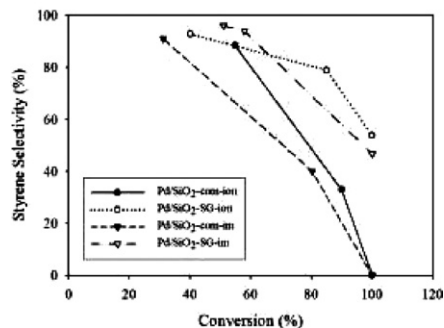


**Joongjai Panpranot, Kunnika Phandinthong,
Terachai Sirikajorn, Masahiko Arai,
Piyasan Praserttham**

Journal of Molecular Catalysis A: Chemical 261 (2007) 29

Impact of palladium silicide formation on the catalytic properties of Pd/SiO₂ catalysts in liquid-phase semihydrogenation of phenylacetylene

Palladium silicide was formed on the sol-gel derived SiO₂ supported Pd catalysts prepared by ion-exchange method (Pd/SiO₂-SG-ion). However, the catalysts exhibited superior performances than commercial SiO₂ supported ones in liquid-phase semihydrogenation of phenylacetylene. It was probably due to an inhibition of a product of styrene, which is adsorbed on the surface of Pd, more strongly on Pd/SiO₂-SG in which Pd is electron-deficient as shown by larger binding energy from XPS results.

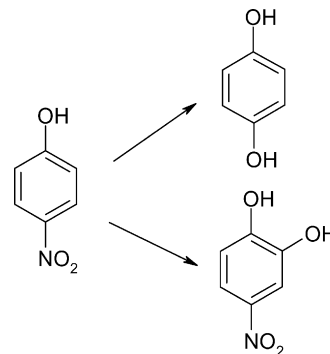


**Eloïse Marais, Rosalyn Klein, Edith Antunes,
Tebello Nyokong**

Journal of Molecular Catalysis A: Chemical 261 (2007) 36

Photocatalysis of 4-nitrophenol using zinc phthalocyanine complexes

ZnPc_{mix} containing a mixture of sulfonated ZnPc complexes is a favourable catalyst for the transformation of 4-Np to hydroquinone and 4-nitrocatechol, since it is stable, whereas ZnPc(COOH)₈ degrades readily during the catalysis, and tetrasulfonated ZnPc₄ is an ineffective catalyst.

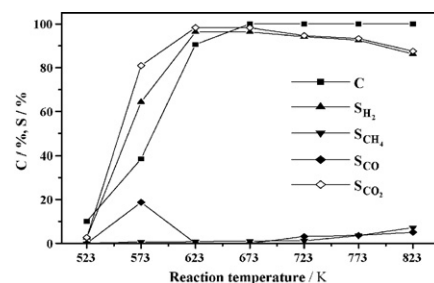


Xun Hu, Gongxuan Lu

Journal of Molecular Catalysis A: Chemical 261 (2007) 43

Investigation of steam reforming of acetic acid to hydrogen over Ni–Co metal catalyst

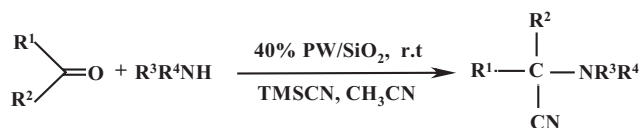
At 673 K, acetic acid was converted to hydrogen completely over Ni–Co catalyst via steam reforming. The selectivities to H₂ and CO₂ reached maximum values 96.3% and 98.1%, respectively, while the selectivity to CH₄ maintained about 0.7%.

**Ezzat Rafiee, Solmaz Rashidzadeh, Alireza Azad**

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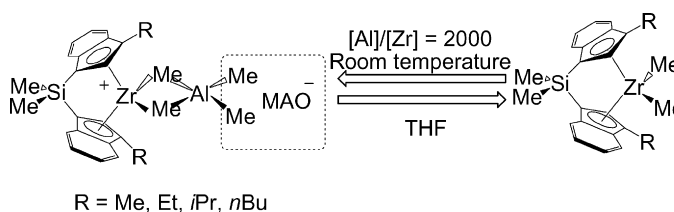
Silica-supported heteropoly acids: Highly efficient catalysts for synthesis of α -aminonitriles, using trimethylsilyl cyanide or potassium cyanide

α -Aminonitriles were prepared in excellent yields and very short reaction times in the presence of silica supported H₃PW₁₂O₄₀ (a heteropoly acid) as an environmentally friendly, inexpensive and reusable catalyst.

**Carlos Alonso-Moreno, Antonio Antiñolo, Fernando Carrillo-Hermosilla, Pedro Carrión, Ana M. Rodríguez, Antonio Otero, José Sancho**

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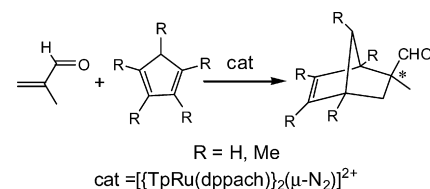
Activation process of 3-alkyl-substituted *ansa*-bis(indenyl) zirconocenes by MAO

**Manuel Jiménez-Tenorio, M. Dolores Palacios, M. Carmen Puerta, Pedro Valerga**

Journal of Molecular Catalysis A: Chemical 261 (2007) 64

TpRu complexes as recoverable Lewis acid catalysts for enantioselective solvent-free cycloaddition reactions (Tp = hydrotris(pyrazolyl)borate)

The bridging dinitrogen complexes $[(\text{TpRu}(\text{L}))_2(\mu\text{-N}_2)]\text{[PF}_6\text{]}_2$ (L = *R,R*- or *S,S*-dppach) are catalyst precursors for the solvent-free enantioselective Diels–Alder reaction between methacrolein and cyclopentadiene or pentamethylcyclopentadiene; they have shown to be also active for the enantioselective 1,3-dipolar cycloaddition reaction between methacrolein and benzylidenephénylamine N-oxide.

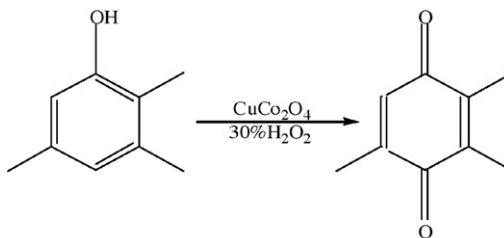


Ying Li, Wei Liu, Mingzhu Wu, Zhongzhou Yi, Jucheng Zhang

Journal of Molecular Catalysis A: Chemical 261 (2007) 73

Oxidation of 2,3,5-trimethylphenol to 2,3,5-trimethylbenzoquinone with aqueous hydrogen peroxide in the presence of spinel CuCo_2O_4

CuCo_2O_4 synthesized by sol-gel method using inorganic salts presented highly conversion (100%) and reasonable selectivity (80%) of catalytic oxidation of TMP to TMQ using aqueous hydrogen peroxide as oxidant for the first time. The rate of TMP conversion and the yield of the products largely depend on the experimental conditions. Compared to the conventional methods, this method could be more eco-friendly.

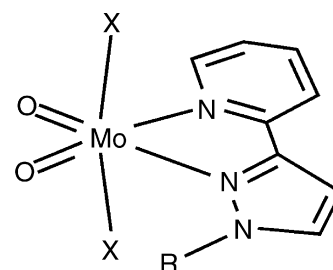


Sofia M. Bruno, Cláudia C.L. Pereira, Maria Salete Balula, Mariela Nolasco, Anabela A. Valente, Alan Hazell, Martyn Pillinger, Paulo Ribeiro-Claro, Isabel S. Gonçalves

Journal of Molecular Catalysis A: Chemical 261 (2007) 79

New chloro and triphenylsiloxy derivatives of dioxomolybdenum(VI) chelated with pyrazolylpyridine ligands: Catalytic applications in olefin epoxidation

Dioxomolybdenum(VI) complexes bearing substituted pyrazolylpyridines were prepared and characterised by ^1H NMR, IR and Raman spectroscopy, and single crystal X-ray diffraction. The complexes are active and selective catalysts for the liquid-phase epoxidation of olefins by *tert*-butylhydroperoxide. Kinetic studies were carried out to determine the dependence of the initial rate of cyclooctene conversion on either the initial amount of cyclooctene, oxidant or catalyst.



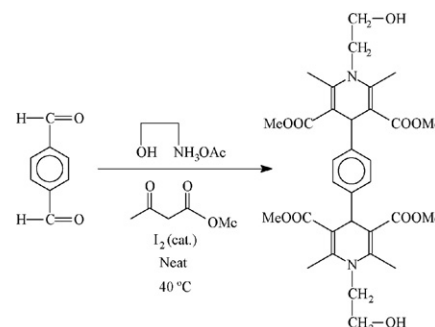
X = Cl, OSiPh₃
R = n-butyl, -CH₂(CO)OEt

Mohammad Ali Zolfigol, Peyman Salehi, Ahmad Khorramabadi-Zad, Mohsen Shayegh

Journal of Molecular Catalysis A: Chemical 261 (2007) 88

Iodine-catalyzed synthesis of novel Hantzsch *N*-hydroxyethyl 1,4-dihydropyridines under mild conditions

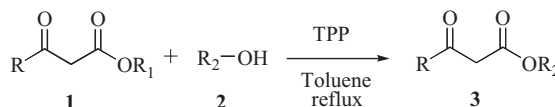
A mixture of ethanolanmonium acetate and various aldehydes in the presence of methyl acetoacetate were converted to *N*-hydroxyethyl 1,4-dihydropyridines under mild and solvent-free conditions in good to excellent yields. Molecular iodine catalyzed the described reaction efficiently and also improved the reaction yields.



J.S. Yadav, B.V.S. Reddy, A.D. Krishna, Ch. Suresh Reddy, A.V. Narsaiah

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Triphenylphosphine: An efficient catalyst for transesterification of β -ketoesters

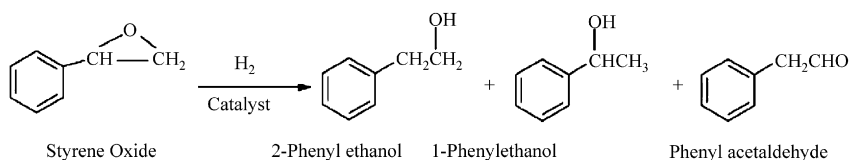


**Ilham Kirm, Francisco Medina,
Jesús E. Sueiras, Pilar Salagre, Yolanda Cesteros**

Journal of Molecular Catalysis A: Chemical 261 (2007) 98

Hydrogenation of styrene oxide in the presence of supported platinum catalysts to produce 2-phenylethanol

Gas-phase hydrogenation of styrene oxide was investigated using platinum catalysts on different supports. Obtained results indicate that the catalytic activity and selectivity were affected by the nature of the support. In the presence of a basic support such as MgO high conversion and practically total selectivity to 2-phenylethanol were obtained.

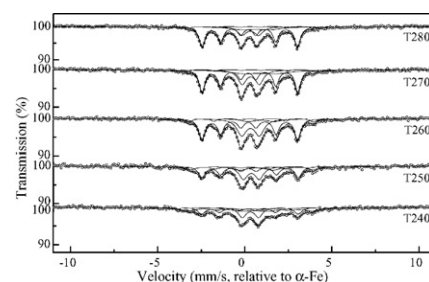


**Qing-Lan Hao, Fu-Xia Liu, Hong Wang,
Jie Chang, Cheng-Hua Zhang,
Liang Bai, Hong-Wei Xiang, Yong-Wang Li,
Fan Yi, Bin-Fu Xu**

Journal of Molecular Catalysis A: Chemical 261 (2007) 104

Effect of reduction temperature on a spray-dried iron-based catalyst for slurry Fischer–Tropsch synthesis

This investigation focused on the effects of catalyst pre-treatment on its FTS performance. It was found that the total content of carbides of the reduced catalysts increased with the increase in reduction temperature. FTS activity and deactivation rates decrease with the increase in the reduction temperature, while the reverse trend is found for WGS activity. With the increase in the reduction temperature, the hydrocarbon product distribution shifts towards the lower molecular weight products.

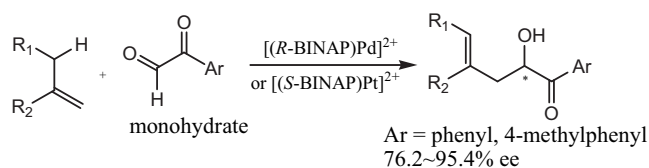


**He-Kuan Luo, Hai-Yan Yang, Tan Xiang Jie,
Ong Siong Chiew, Herbert Schumann,
Lim Bee Khim, Christina Lim**

Journal of Molecular Catalysis A: Chemical 261 (2007) 112

Water-tolerant enantioselective carbonyl-ene reactions with palladium(II) and platinum(II) Lewis acid catalysts bearing BINAP

Palladium(II) and platinum(II)-BINAP Lewis acid catalysts have been proved to be water-tolerant in enantioselective carbonyl-ene reactions. The enantioselective carbonyl-ene reactions of phenylglyoxal monohydrate and 4-methylphenylglyoxal monohydrate with alkenes were investigated demonstrating good to excellent enantioselectivities with e.e. values as high as 95.4%.

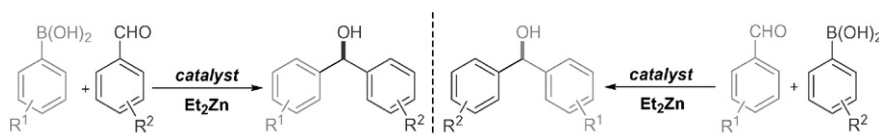


**Marcio W. Paixao, Marcelo de Godoi,
Cristiano R.B. Rhoden, Bernhard Westermann,
Ludger A. Wessjohann, Diogo S. Lüttke,
Antonio L. Braga**

Journal of Molecular Catalysis A: Chemical 261 (2007) 120

The application of chiral, non-racemic *N*-alkylephedrine and *N,N*-dialkylnorephedrine as ligands for the enantioselective aryl transfer reaction to aldehydes

The catalytic enantioselective arylation of several aldehydes using arylboronic acids as the source of transferable aryl groups is described; the reaction is found to proceed in excellent yields and high enantioselectivities (up to 96% ee) in the presence of a chiral amino alcohol derived from ephedrines and congeners.



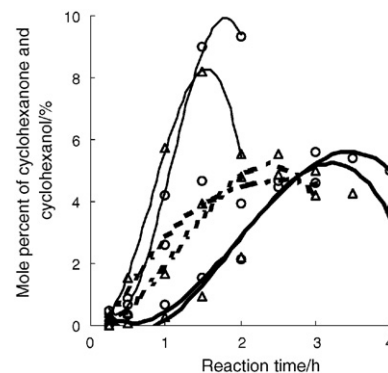
both enantiomers, same chiral ligand

Guan Huang, Can-Cheng Guo, Si-Si Tang

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Catalysis of cyclohexane oxidation with air using various chitosan-supported metallotetraphenylporphyrin complexes

Cyclohexane oxidation was catalyzed by chitosan-supported chloro (tetraphenylporphyrinato) iron or manganese, and (tetraphenylporphyrinato) cobalt complexes. It was found that the supported catalysts had different catalytic activity and selectivity for ketone and alcohol, and that the catalytic activity of the supported metaloporphyrins depended on the different character of metalloporphyrins and the properties of chitosan microenvironment.


Jingyi Li, Wanhong Ma, Chuncheng Chen, Jincui Zhao, Huaiyong Zhu, Xueping Gao

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Photodegradation of dye pollutants on one-dimensional TiO₂ nanoparticles under UV and visible irradiation

Titanium dioxides nanoparticles with one-dimensional geometry, nanorods and nanostripes, were used as photocatalysts to photodegrade Rhodamine B under ultraviolet (UV) and visible irradiation. The nanorods catalyst exhibited very interesting photocatalytic properties. Moreover, the 1D TiO₂ nanoparticles can be readily separated from aqueous suspensions by sedimentation after the reaction. Various analytical techniques were employed to characterize TiO₂ catalysts and monitor the photocatalytic reaction. It was found that the catalytic performance of the catalysts is greatly dependent on their structures.

