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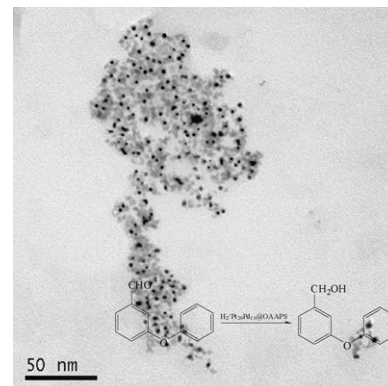
Articles

**Xiuli Li, Baozong Li, Manhuan Cheng,
Yukou Du, Xiaomei Wang, Ping Yang**

*Journal of Molecular Catalysis A: Chemical 284
(2008) 1*

Catalytic hydrogenation of phenyl aldehydes using bimetallic Pt/Pd and Pt/Au nanoparticles stabilized by cubic silsesquioxanes

Pt/Pd and Pt/Au bimetallic nanoparticles stabilized by octa(diacetic aminophenyl)silsesquioxanes (OAAPS) were prepared and used as catalysts for hydrogenation of phenyl aldehydes to phenyl alcohols with dihydrogen under mild conditions. Pt/Pd bimetallic nanoparticles stabilized by OAAPS showed much higher catalytic activity for the hydrogenation of phenyl aldehydes to phenyl alcohols than their monometallic counterparts. The Pd atoms in Pt/Pd nanoparticles promoted the activity of the catalytic hydrogenation mainly through geometric and electronic effects.

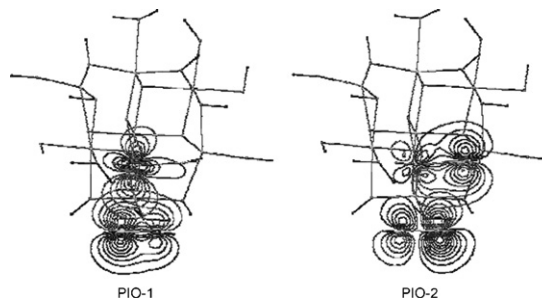


**Jaroslav Handzlik, Akinobu Shiga,
Joanna Kondziolka**

*Journal of Molecular Catalysis A: Chemical 284
(2008) 8*

Paired interacting orbitals (PIO) study of molybdena-alumina system active in alkene metathesis

Ethene metathesis on molybdena-alumina catalyst is investigated by using the paired interacting orbitals (PIO) theory. It is shown that the PIO analysis is a convenient tool for both qualitative and quantitative description of the process. It is concluded that the total overlap population can be a reactivity index for olefin metathesis catalysts.

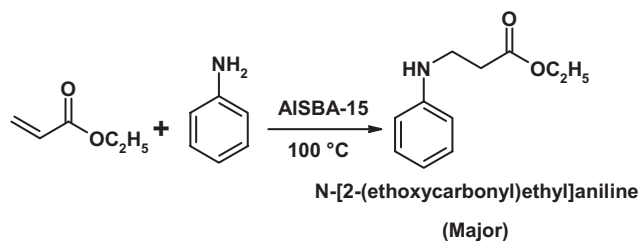


**Ganapati V. Shanbhag, S.M. Kumbar,
S.B. Halligudi**

*Journal of Molecular Catalysis A: Chemical 284
(2008) 16*

Chemoselective synthesis of β -amino acid derivatives by hydroamination of activated olefins using AISBA-15 catalyst prepared by post-synthetic treatment

Chemoselective anti-Markovnikov hydroamination reaction of activated olefins was effectively used to synthesize β -amino acid derivatives using AISBA-15 catalyst. The reaction depends on the total acidity in the catalyst and both Brønsted and Lewis acid sites are active centers for this reaction.

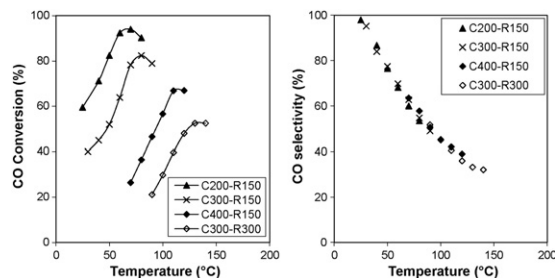


**Salvatore Scirè, Carmelo Crisafulli,
Simona Minicò, Guglielmo Guido Condorelli,
Alessandro Di Mauro**

Journal of Molecular Catalysis A: Chemical 284
(2008) 24

Selective oxidation of CO in H₂-rich stream over gold/iron oxide: An insight on the effect of catalyst pretreatment

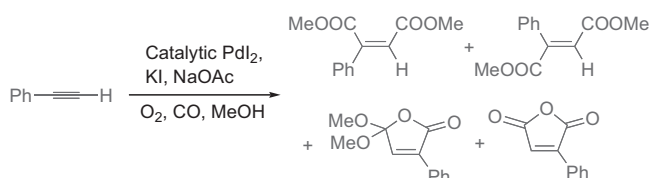
The performance of Au/iron oxide catalysts towards PROX reaction was found to be strongly affected by catalyst pretreatment. This was related to the change in the iron oxide phase caused by pretreatment. CO oxidation activity of iron oxide species was found in the order: ferrihydrite > hematite > magnetite. A Mars-van Krevelen mechanism, involving lattice oxygen of the iron oxide and CO and H₂ adsorbed on gold, was proposed.



**Christophe Grosjean, Katarina Novakovic,
Stephen K. Scott, Andrew Whiting,
Mark J. Willis, Allen R. Wright**

Journal of Molecular Catalysis A: Chemical 284
(2008) 33

Product identification and distribution from the oscillatory *versus* non-oscillatory palladium(II) iodide-catalysed oxidative carbonylation of phenylacetylene

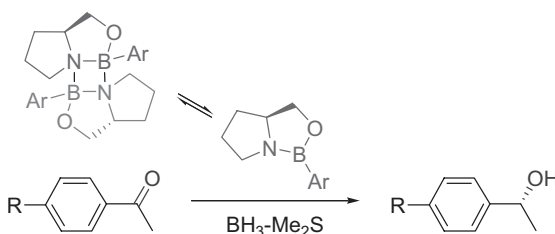


Juanjuan Du, Zhiyi Li, Da-Ming Du, Jiayi Xu

Journal of Molecular Catalysis A: Chemical 284
(2008) 40

Unexpected influence and its origin in rationally tuning the electronic effect of catalysts in the asymmetric borane reduction of ketones

An unexpected influence of the electronic effect of catalysts on the enantioselectivity in the asymmetric borane reduction of ketones was observed and attributed to the catalyst dimerization. The unsuccessful tuning is attributable to the fact that hydride transfer in the catalytic cycle is the rate-determining step in the reduction catalyzed by *B*-aryl catalysts.

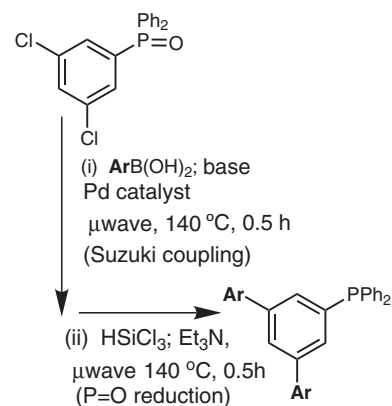


**Karen Damian, Matthew L. Clarke,
Christopher J. Cobley**

Journal of Molecular Catalysis A: Chemical 284
(2008) 46

Microwave accelerated Suzuki coupling of chloro-aryl phosphine-oxides: A method for introducing diversity into phosphine ligands

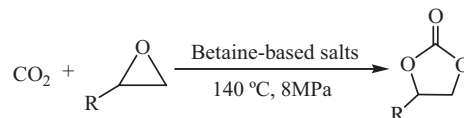
Suzuki coupling of chloro-aryl phosphine-oxides does not take place under conventional heating conditions, but using a suitable catalyst and microwave heating allows cross-coupling to proceed in high yield. Combining these reactions with microwave heated P=O reduction allows the preparation of aryl-substituted phosphine ligands.



**Yinxi Zhou, Suqin Hu, Xiumin Ma,
Shuguang Liang, Tao Jiang, Buxing Han**

Journal of Molecular Catalysis A: Chemical 284
(2008) 52

Synthesis of cyclic carbonates from carbon dioxide
and epoxides over betaine-based catalysts

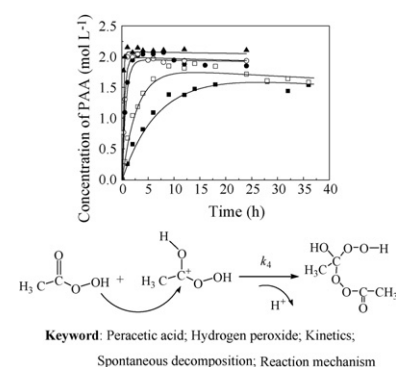


**Xuebing Zhao, Keke Cheng, Junbin Hao,
Dehua Liu**

Journal of Molecular Catalysis A: Chemical 284
(2008) 58

Preparation of peracetic acid from hydrogen peroxide,
part II: Kinetics for spontaneous decomposition
of peracetic acid in the liquid phase

A homogeneous kinetic model with consideration of the synthesis, hydrolysis and spontaneous decomposition of peracetic acid (PAA) in the liquid phase under an acid condition was developed. The reaction mechanism was investigated. It was proved that the rate-determining step for the spontaneous decomposition of PAA molecule and a proton-activated carbonyl intermediary.

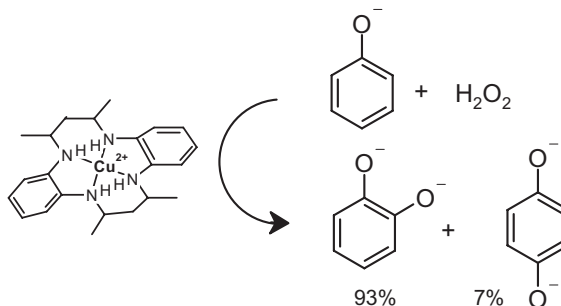


**Vipin Kumar Bansal, Rajeev Kumar,
Rajendra Prasad, Surendra Prasad, Niraj**

Journal of Molecular Catalysis A: Chemical 284
(2008) 69

Catalytic chemical and electrochemical wet oxidation
of phenol using new copper(II) tetraazamacrocyclic
complexes under homogeneous conditions

Synthesis and characterization of new copper(II) macrocycle complexes and their role in the electrochemical and regioselective chemical oxidation of phenol are described. Effects of temperature, time, reagent and catalyst amounts and pH on the overall conversion as well as on product selectivity have been investigated.

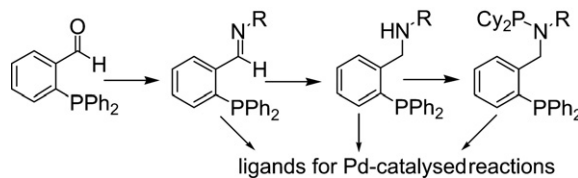


D. Bradley G. Williams, Marié Pretorius

Journal of Molecular Catalysis A: Chemical 284
(2008) 77

Synthesis and evaluation of phosphine–N ligands
in transition metal-catalysed C–C bond forming
reactions

Various readily available P–N ligands with substantial variety at N (oxidation state and functionalisation) were prepared and successfully applied in several Pd-catalysed transformations.

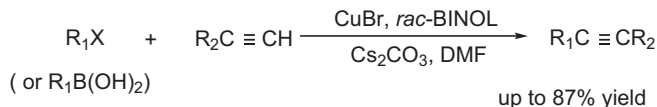


Jincheng Mao, Jun Guo, Shun-Jun Ji

Journal of Molecular Catalysis A: Chemical 284 (2008) 85

CuBr/*rac*-BINOL-catalyzed Sonogashira reaction of terminal alkynes with aryl halides or arylboronic acids

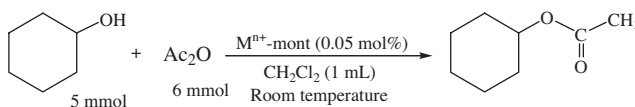
CuBr/*rac*-BINOL-catalyzed Sonogashira coupling reaction of aryl halides with terminal alkynes was conducted smoothly to afford the corresponding products with moderate to good yields. We found that the inexpensive catalytic system was also suitable for the coupling reaction of arylboronic acids with terminal alkynes.

**Ken-ichi Shimizu, Tomoya Higuchi, Emi Takasugi, Tsuyoshi Hatamachi, Tatsuya Kodama, Atsushi Satsuma**

Journal of Molecular Catalysis A: Chemical 284 (2008) 89

Characterization of Lewis acidity of cation-exchanged montmorillonite K-10 clay as effective heterogeneous catalyst for acetylation of alcohol

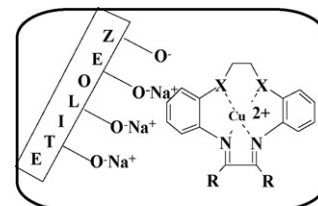
Among metal ion-exchanged montmorillonite (M^{n+} -mont) and various Fe^{3+} catalysts, Fe^{3+} -mont was most effective for the acetylation of cyclohexanol with acetic anhydride. Using probe molecules sensitive to Lewis acid, IR and microcalorimetric experiments were conducted for characterizing acidity of each catalyst, and the relationship between the acidity and catalytic activity is discussed.

**Masoud Salavati-Niasari**

Journal of Molecular Catalysis A: Chemical 284 (2008) 97

Host (nanocavity of zeolite-Y)/guest ($[\text{Cu}(\text{R})_2\text{-N}_2\text{X}_2]^{2+}$ (R = H, CH_3 ; X = NH, O, S) nanocomposite materials: Synthesis, characterization and catalytic oxidation of ethylbenzene

Copper(II) complexes of 12-membered macrocyclic ligands having three different donating atoms (N_2O_2 , N_2S_2 and N_4) in the macrocyclic ring have been encapsulated in the nanocavity of zeolite-Y by the flexible-ligand method. Copper(II) complexes with macrocyclic ligands were entrapped in the nanocavity of zeolite-Y by a two-step process in the liquid phase: (i) adsorption of precursor ligand; 1,2-di(*o*-aminophenyl-, amino, oxo, thio)ethane, N_2X_2 ; in the supercages of the $\text{Cu}(\text{II})\text{-NaY}$, and (ii) in situ condensation of the $\text{Cu}(\text{II})$ precursor complex; $[\text{Cu}(\text{N}_2\text{X}_2)]^{2+}$; with glyoxal or biacetyl. The new host-guest nanocomposite materials (HGNM); $[\text{Cu}(\text{R})_2\text{-N}_2\text{X}_2]^{2+}\text{-NaY}$ (R = H, CH_3 ; X = NH, O, S); have been characterized by FT-IR, DRS and UV-vis spectroscopic techniques, XRD and elemental analysis, as well as nitrogen adsorption. The “neat” and encapsulated complexes exhibited good catalytic activity in the oxidation of ethylbenzene at 333 K, using *tert*-butylhydroperoxide (TBHP) as the oxidant. Acetophenone was the major product.



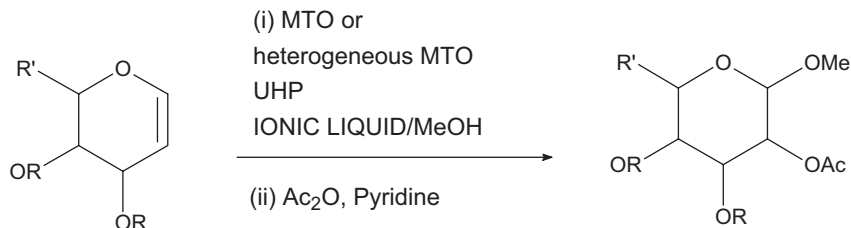
$[\text{Cu}(\text{R})_2\text{-N}_2\text{X}_2]^{2+}\text{-NaY}$
X = NH, S, O
R = H, CH_3

Raffaele Saladino, Claudia Crestini, Marcello Crucianelli, Gianluca Soldaini, Francesca Cardona, Andrea Goti

Journal of Molecular Catalysis A: Chemical 284 (2008) 108

Ionic liquids in methyltrioxorhenium catalyzed epoxidation-methanolysis of glycals under homogeneous and heterogeneous conditions

The efficient and high yielding domino epoxidation-methanolysis of glycals has been achieved under environment friendly conditions by oxidation with UHP and H_2O_2 in ionic liquids (ILs) catalyzed by methyltrioxorhenium and different heterogeneous methyltrioxorhenium derivatives.

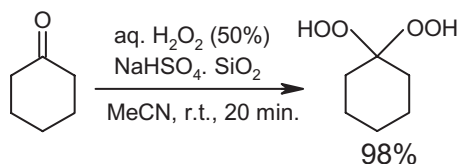


**Biswanath Das, Boyapati Veeranjanyulu,
Maddeboina Krishnaiah, P. Balasubramanyam**

Journal of Molecular Catalysis A: Chemical 284
(2008) 116

Synthesis of *gem*-dihydroperoxides from ketones using silica-supported sodium hydrogen sulfate as a heterogeneous catalyst

NaHSO₄·SiO₂ was found to be an efficient catalyst for the synthesis of *gem*-dihydroperoxides from ketones and aqueous (50%) H₂O₂ under mild and heterogeneous conditions at room temperature within a short period of time. The method presented here has the advantages of environmental benignancy, good to excellent yields and simple operational procedure.



**Praveen K. Tandon, Manisha Purwar,
Satpal Singh, Nidhi Srivastava**

Journal of Molecular Catalysis A: Chemical 284
(2008) 120

Un-catalyzed and iridium(III) catalyzed oxidation of *p*-methoxy benzaldehyde by cerium(IV)

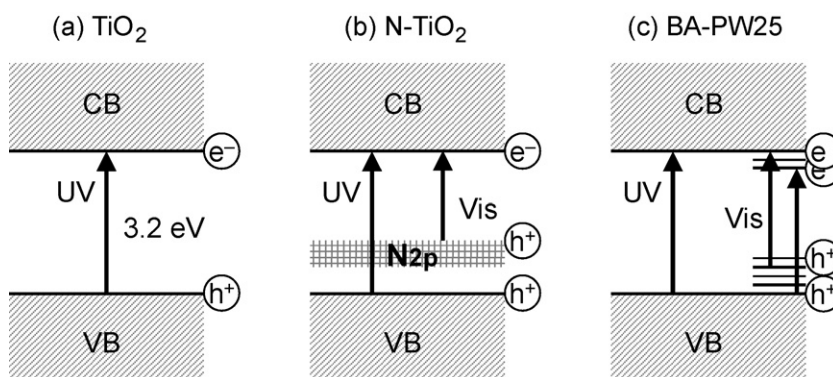
Rate of separately studied un-catalyzed oxidation of anisaldehyde by Ce^{IV} was calculated by the intercept of catalyst graph of Ir^{III} catalyzed reaction. Order in oxidant was different in two conditions. It was found that anisic acid was the product of oxidation and Ce^{IV} is not reduced before the slow step. Rate law for catalyzed oxidation is given as

$$-\frac{d[\text{Ce}^{\text{IV}}]}{dt} = \frac{kK_1K_2[\text{Ce}^{\text{IV}}][\text{S}][\text{Ir}^{\text{III}}]}{1 + K_1K_2[\text{Ce}^{\text{IV}}][\text{S}]}$$

**Taizo Sano, Eric Puzenat, Chantal Guillard,
Christophe Geantet, Sadao Matsuzawa**

Journal of Molecular Catalysis A: Chemical 284
(2008) 127

Degradation of C₂H₂ with modified-TiO₂ photocatalysts under visible light irradiation

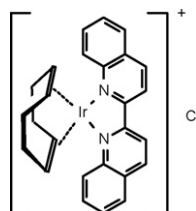


Silke Taubmann, Helmut G. Alt

Journal of Molecular Catalysis A: Chemical 284
(2008) 134

Catalytic homogeneous CH-activation reactions of cyclooctane with [Ir(cod)LL]X complexes (LL = *N,N*-chelating ligands, amines, phosphines; X = Cl, PF₆)

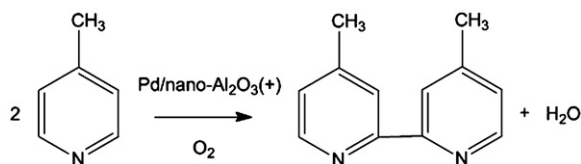
[Ir(cod)LL]X complexes (LL = chelating ligands, amines, phosphines; X = Cl, PF₆) are able to catalyze the selective homogeneous dehydrogenation of cyclooctane to give cyclooctene. The activities and selectivities depend on the ligand structure of the corresponding coordination compound and the addition of external additives.



Luke M. Neal, Helena E. Hagelin-Weaver

Journal of Molecular Catalysis A: Chemical 284 (2008) 141

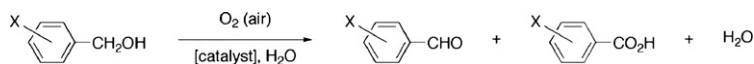
C–H activation and C–C coupling of 4-methylpyridine using palladium supported on nanoparticle alumina

**Brian P. Buffin, Nadine L. Belitz, Sara L. Verbeke**

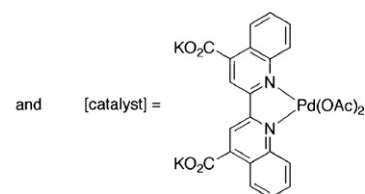
Journal of Molecular Catalysis A: Chemical 284 (2008) 149

Electronic, steric, and temperature effects in the Pd(II)-biquinoline catalyzed aerobic oxidation of benzylic alcohols in water

The Pd-catalyzed aerobic oxidation of various benzyl alcohol derivatives was investigated. Product selectivity is highly dependent on the nature and position of the substituents on the alcohol as well as the level of catalyst loading. An examination of electronic effects reveals that electron-donating substituents increase the reaction rate. The temperature dependence of 4-methoxybenzyl alcohol oxidation was also evaluated.



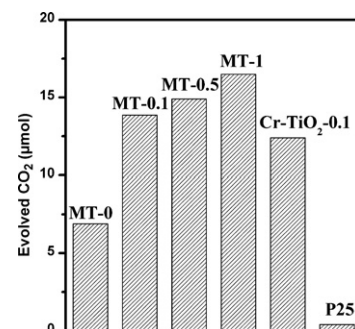
where X = $-\text{NO}_2$, $-\text{OCH}_3$, $-\text{CH}_3$, $-\text{F}$, $-\text{Cl}$, $-\text{Br}$, $-\text{I}$, or $-\text{CF}_3$

**Xiaoxing Fan, Xinyi Chen, Shaopeng Zhu, Zhaosheng Li, Tao Yu, Jinhua Ye, Zhigang Zou**

Journal of Molecular Catalysis A: Chemical 284 (2008) 155

The structural, physical and photocatalytic properties of the mesoporous Cr-doped TiO₂

The visible-light-active Cr-doped mesoporous TiO₂ photocatalyst possesses a homogeneous pore diameter of about 8 nm with high surface area of 117 m²/g and a crystalline anatase pore wall doped by Cr³⁺. For the photodecomposition of gaseous acetaldehyde, the photocatalytic activities of the Cr-doping mesoporous TiO₂ are higher than those of nonporous Cr-doped TiO₂ and mesoporous TiO₂ under visible light irradiation ($\lambda > 460$ nm).

**Irene M.J. Vilella, Sergio R. de Miguel, Osvaldo A. Scelza**

Journal of Molecular Catalysis A: Chemical 284 (2008) 161

Pt, PtSn and PtGe catalysts supported on granular carbon for fine chemistry hydrogenation reactions

