



## Contents

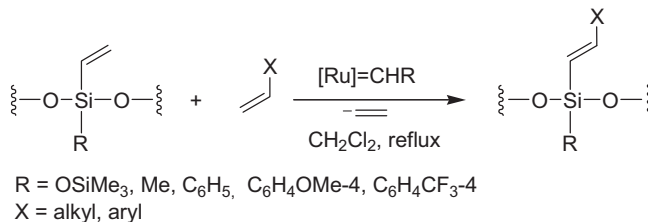
## Articles

**Patrycja Żak, Cezary Pietraszuk,  
Bogdan Marciniak**

*Journal of Molecular Catalysis A: Chemical 289 (2008) 1*

Cross-metathesis of vinyl-substituted linear and cyclic siloxanes with olefins in the presence of Grubbs catalysts

The cross-metathesis of vinyl-substituted linear and cyclic oligosiloxanes with styrenes, alkenes and selected allyl derivatives proceeds efficiently in the presence of Grubbs catalysts. Respective products have been obtained with high yields and selectivities.

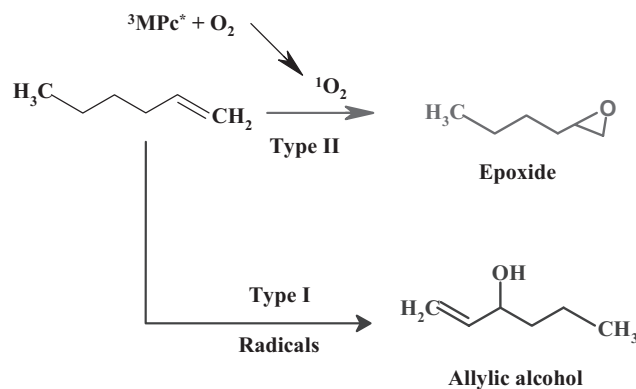


**Vongani Chauke, Tebello Nyokong**

*Journal of Molecular Catalysis A: Chemical 289 (2008) 9*

Photocatalytic oxidation of 1-hexene using GaPc and InPc octasubstituted derivatives

Photocatalytic oxidation of 1-hexene by GaPc and InPc derivatives results in the formation of 1,2-epoxyhexane and 1-hexen-3-ol as the main products.

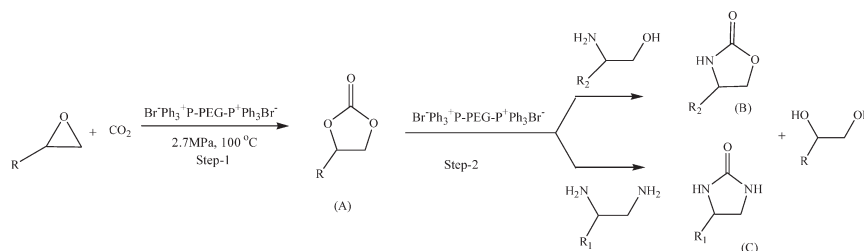


**Yogesh P. Patil, Pawan J. Tambade,  
Sachin R. Jagtap, Bhalchandra M. Bhanage**

*Journal of Molecular Catalysis A: Chemical 289 (2008) 14*

Synthesis of 2-oxazolidinones/2-imidazolidinones from CO<sub>2</sub>, different epoxides and amino alcohols/alkylene diamines using Br<sup>−</sup>Ph<sub>3</sub><sup>+</sup>P-PEG<sub>600</sub>-P<sup>+</sup>Ph<sub>3</sub>Br<sup>−</sup> as homogenous recyclable catalyst

Syntheses of various 2-oxazolidinones/2-imidazolidinones were carried out using polyethylene glycol functionalized phosphonium salt as an efficient homogenous recyclable catalyst via sequential addition of CO<sub>2</sub>, different epoxides and amino alcohols/alkylene diamines. The effects of various reaction parameters such as temperature, reaction time and catalyst concentration were investigated in detail.

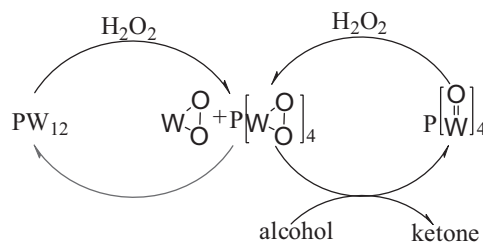


**Shengjun Zhang, Gongda Zhao, Shuang Gao, Zuwei Xi, Jie Xu**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 22

Secondary alcohols oxidation with hydrogen peroxide catalyzed by  $[n\text{-C}_{16}\text{H}_{33}\text{N}(\text{CH}_3)_3]_2\text{PW}_{12}\text{O}_{40}$ : Transform-and-retransform process between catalytic precursor and catalytic activity species

A new transform-and-retransform process was first discovered between  $[\text{PW}_{12}\text{O}_{40}]^{3-}$  and  $\{\text{PO}_4[\text{WO}(\text{O}_2)_2]_4\}^{3-}$  in alcohol oxidation catalyzed by 12-phosphotungstate. The  $\text{PW}_4$  was formed from  $\text{PW}_{12}$  by reacting with  $\text{H}_2\text{O}_2$ ,  $\text{PW}_4$  and  $\text{PW}_{12}$  kept equilibrium during reaction, and the most of  $\text{PW}_4$  could transform to  $\text{PW}_{12}$  again after reaction.

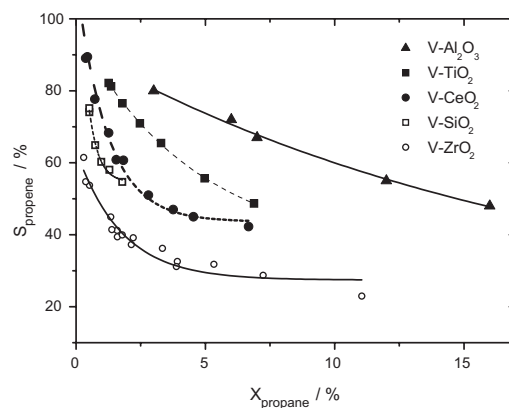


**Arne Dinse, Benjamin Frank, Christian Hess, Daniela Habel, Reinhard Schomäcker**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 28

Oxidative dehydrogenation of propane over low-loaded vanadia catalysts: Impact of the support material on kinetics and selectivity

This study investigates the influence of the support material on the catalytic performance of supported vanadia catalysts (surface density of vanadium  $< 2 \text{ V nm}^{-2}$ ) on the oxidative dehydrogenation of propane (ODP). It is shown that the respective support material strongly influences the selectivity towards the desirable product propene as well as the catalytic activity. The highest selectivity catalyst is achieved with an alumina supported vanadia catalyst.

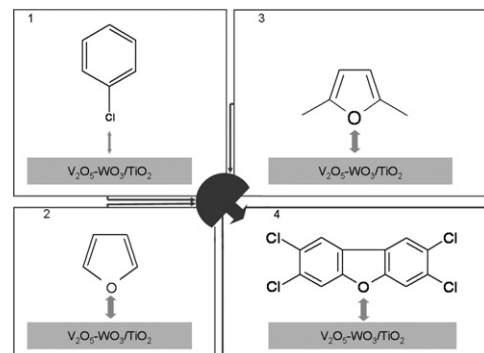


**D.P. Debecker, R. Delaigle, P. Eloy, E.M. Gaigneaux**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 38

Abatement of model molecules for dioxin total oxidation on  $\text{V}_2\text{O}_5\text{-WO}_3/\text{TiO}_2$  catalysts: The case of substituted oxygen-containing VOC

Chlorobenzene derivatives are widely employed as models for dioxins in the study of heterogeneous catalysts. However, the central ring of a polychlorinated dibenzofuran (PCDF) includes an oxygen bridge which could play an important role in the catalytic process. Using furan and 2,5-dimethylfuran as new models, we show that the behavior of the target pollutant could indeed be dictated by its oxygenated moiety.

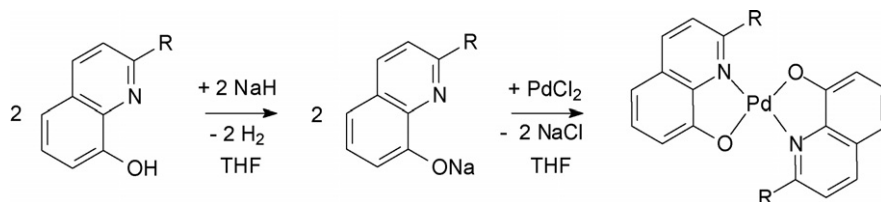


**Sandra Taubmann, Helmut G. Alt**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 44

Homogeneous and heterogeneous dehydrogenation reactions of cyclooctane with palladium(II) complexes as catalysts

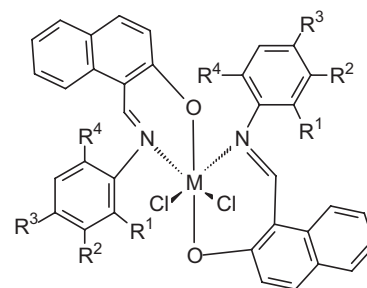
A series of new palladium(II) complexes with heteroatomic chelating ligands (carboxylates and alcoholates) was synthesized. The catalytic activities of the palladium complexes were successfully tested for catalytic CH-activation reactions of cyclooctane. They gave TONs of 2.6–26.5 (300 °C, 16 h) in homogeneous solution and 4.6–21.4 (400 °C, 5 h) in heterogeneous reactions.



**Sandra Taubmann, Helmut G. Alt***Journal of Molecular Catalysis A: Chemical* 289 (2008) 49

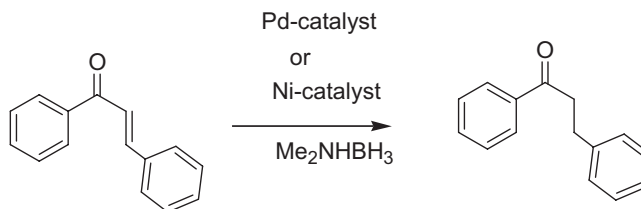
Catalytic dehydrogenation of cyclooctane in homogeneous solution with titanium, zirconium and hafnium complexes containing N,O-chelating ligands

A series of new titanium, zirconium and hafnium complexes with the heteroatom chelating ligands hydroxyquinolines, hydroxypyridines and hydroxyimines were synthesized and successfully tested for the catalytic CH activation reactions of cyclooctane.

**Partha P. Jana, Rupam Sarma, Jubaraj B. Baruah***Journal of Molecular Catalysis A: Chemical* 289 (2008) 57

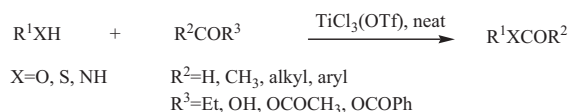
Reduction of  $\alpha,\beta$ -unsaturated carbonyl compounds by palladium(II) and nickel(II) complexes having nitrogen-containing ligands

The reduction reactions of  $\alpha,\beta$ -unsaturated carbonyl compounds by palladium(II) and nickel(II) complexes having nitrogen-containing ligands are studied. The  $[\text{Pd}(\text{bpy})\text{Cl}_2]$  is an efficient catalyst for selective double bond reduction. The product selectivity and efficacy of copper(II), nickel(II) and palladium(II) catalyst are compared.

**Habib Firouzabadi, Nasser Iranpoor, Soghra Farahi***Journal of Molecular Catalysis A: Chemical* 289 (2008) 61

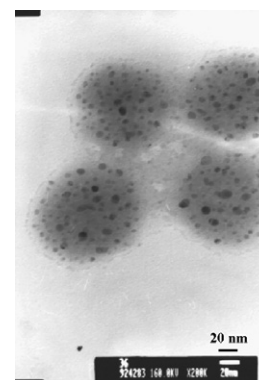
Solid trichlorotitanium(IV) trifluoromethanesulfonate  $\text{TiCl}_3(\text{OTf})$  catalyzed efficient acylation of  $-\text{OH}$  and  $-\text{SH}$ : Direct esterification of alcohols with carboxylic acids and transesterification of alcohols with esters under neat conditions

Solid  $\text{TiCl}_3(\text{OTf})$  catalyzed acylation of  $-\text{OH}$  and  $-\text{SH}$  groups with acetic and benzoic anhydride in the absence of any organic solvents. Transesterification of alcohols with ethyl acetate and ethyl formate was carried out efficiently. Direct esterification of alcohols with carboxylic acids also proceeded well in the absence of any organic solvents.

**Baskaran Rajesh, Natarajan Sasirekha, Shao-Pai Lee, Hsin-Yi Kuo, Yu-Wen Chen***Journal of Molecular Catalysis A: Chemical* 289 (2008) 69

Investigation of Fe-P-B ultrafine amorphous nanomaterials: Influence of synthesis parameters on physicochemical and catalytic properties

Fe-P-B amorphous nanomaterials prepared using chemical reduction method were characterized by XRD, TEM,  $\text{N}_2$  sorption, electron diffraction and XPS. The structure, morphology, and composition of Fe-P-B nanoalloys have been significantly influenced by the iron precursor and the type of solvent used. Fe-P-B has higher specific activity per weight of the catalyst than Fe-P and Fe-B.

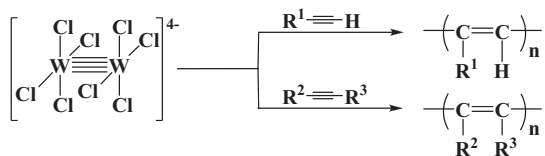


**Georgios Floros, Nikolaos Saragas,  
Patrina Paraskevopoulou, Ioannis Choinopoulos,  
Spyros Koinis, Nikolaos Psaroudakis,  
Marinos Pitsikalis, Konstantinos Mertis**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 76

Catalytic polymerization of alkynes with the quadruply bonded octachloroditungsten anion

The quadruply bonded halide  $\text{Na}_4[\text{W}_2\text{Cl}_8(\text{THF})_x](\text{W}_2^{4+}, \Sigma^2\pi^46^2)$  is an efficient single-component initiator for the high-yield homogeneous or heterogeneous polymerization of monosubstituted alkynes. Internal alkynes are polymerized less effectively with the yield decreasing by increasing the steric requirements of the substrate. The polymerization of phenylacetylene in THF proceeds in a multistage manner. Direct evidence for the metathetical nature of this reaction is also presented.



$R^1 = \text{Ph}, {}^n\text{Bu}, {}^t\text{Bu}, \text{Me}_3\text{Si}, \text{C}_{10}\text{H}_7, \text{C}_{12}\text{H}_9$

$R^2 = R^3 = \text{Me}; R^2 = \text{Me}, R^3 = {}^n\text{Pr}; R^2 = R^3 = \text{Et};$

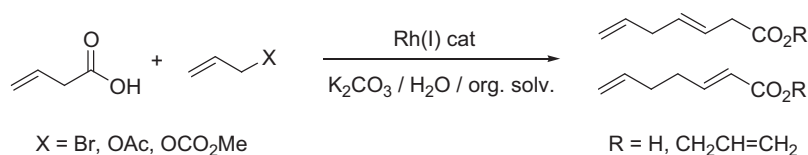
$R^2 = \text{Ph}, R^3 = \text{Me}; R^2 = \text{Ph}, R^3 = \text{Et}$

**Paolo Bottarelli, Mirco Costa**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 82

Organometallic catalysis in aqueous–organic two-phase systems: Rhodium-catalyzed coupling reaction of but-3-enoic acid with allyl derivatives; influence of the reaction media

An effective rhodium-catalyzed procedure for the synthesis of 2,6- and 3,6-heptadienoic acids and their allyl esters is described. Combinations of different allyl substrates with various alkaline aqueous–organic two-phase systems and the presence of a phosphinic ligand allowed tuning the regioselectivity with regard to the 2,6- or 3,6-heptadienoic derivative formation and the chemoselectivity with regard to the heptadienoic acids or allyl esters.

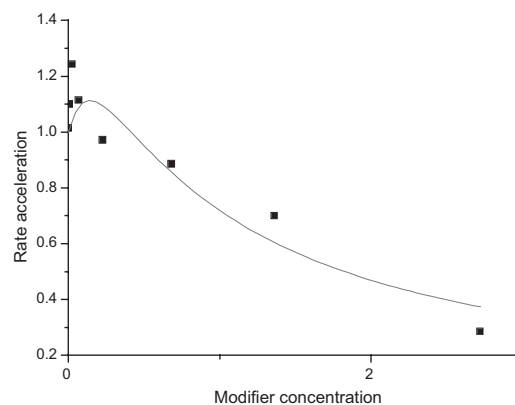


**Dmitry Yu. Murzin**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 91

Quantification of rate acceleration in asymmetric catalytic hydrogenation

A quantitative model is advanced for asymmetric catalytic hydrogenation allowing estimation of the ratio between the rate constants in the absence and the presence of the modifier. Comparison between experimental and calculated values for the observed rate acceleration as a function of the modifier concentration for 1,2-phenylpropanedione hydrogenation is given.

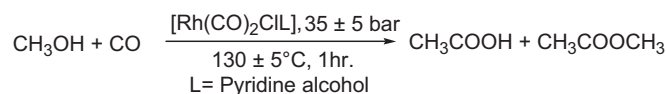


**Bhaskar Jyoti Sarmah, Bibek J. Borah,  
Biswajit Deb, Dipak Kumar Dutta**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 95

Dicarbonylrhodium(I) complexes of pyridine alcohol ligands and their catalytic carbonylation reaction

Rhodium(I) complexes of the type,  $[\text{Rh}(\text{CO})_2\text{Cil}] \text{L}$  L = 2-hydroxymethylpyridine, 3-hydroxymethylpyridine and 4-hydroxymethylpyridine have been synthesized. The complexes show higher efficiency as catalyst for carbonylation of methanol to acetic acid and methyl acetate at  $130 \pm 5^\circ\text{C}$  and  $30 \pm 5$  bar pressure than the industrially used species  $[\text{Rh}(\text{CO})_2\text{I}]^-$ .

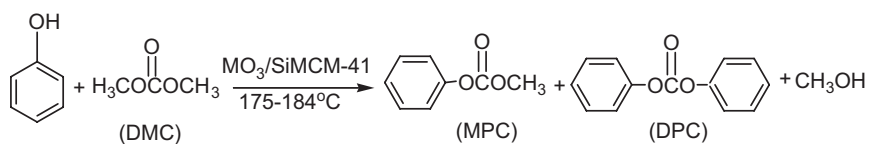


**Zhenhuan Li, Bowen Cheng, Kunmei Su, Yu Gu, Peng Xi, Minglin Guo**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 100

The synthesis of diphenyl carbonate from dimethyl carbonate and phenol over mesoporous MoO<sub>3</sub>/SiMCM-41

The catalyst activities of supported MoO<sub>3</sub> for diphenyl carbonate (DPC) synthesis in liquid-phase transesterification of dimethyl carbonate (DMC) and phenol were investigated. The yield of DPC and methyl phenyl carbonate (MPC) was greatly improved when MoO<sub>3</sub> was supported on SiMCM-41, and the high activity sites of MoO<sub>3</sub>/SiMCM-41 catalyst were isolated MoO<sub>4</sub><sup>2-</sup> tetrahedral and polymerized octahedral molybdate species.



**Athos C. Faria, Renata S. Mello, Elisa S. Orth, Faruk Nome**

*Journal of Molecular Catalysis A: Chemical* 289 (2008) 106

Hydrolysis of benzoic anhydride mediated by ionenes and micelles

Micellar catalysis of the hydrolysis of benzoic anhydride by hexadecyltrimethylammonium bromide (CTABr) and benzyldimethylhexadecylammonium chloride (BDHA) was compared with the ionene polymers, 2-hydroxy-3-ionene chloride (2-OH-33R) and poly[(dipropyliminium)-1,3-propanediyl bromide], 33R33. The ionene 2-OH-33R proved to be the most efficient catalyst and the catalytic efficiency follows the order 2-OH-33R > BDHA > 33R33 > CTABr.

