



## Contents

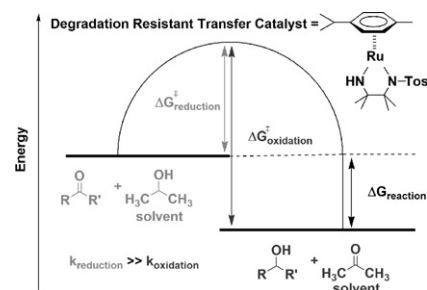
### Articles

**Matthias Bierenstiel, Magdalena Dymarska, Ebbing de Jong, Marcel Schlaf**

*Journal of Molecular Catalysis A: Chemical 290 (2008) 1*

An evaluation of the Noyori system "in reverse": Thermodynamic and kinetic parameters of secondary alcohol transfer dehydrogenation catalyzed by  $[(\eta^6\text{-}1\text{-}i\text{-Pr-}4\text{-Me-C}_6\text{H}_4)\text{Ru}(\text{HN-CR}'\text{R}''\text{-CR}'\text{R}''\text{NTs})]$ , R' = H, Me; Ph, R'' = H, Me

Even though it is an equilibrium reaction, "forward" and "reverse" are not the same in transfer hydrogenations catalyzed by the Noyori system! For a representative set of 2° alcohol/ketone pairs the dehydrogenations under oxidizing conditions in acetone solvent are typically at least an order of magnitude slower than the corresponding reductions under reducing conditions in *iso*-propanol solvent.

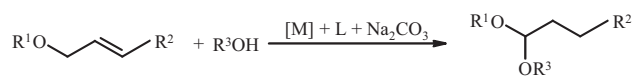


**Stanisław Krompiec, Robert Penczek, Mateusz Penkala, Michał Krompiec, Józef Rzepa, Marek Matlengiewicz, Joanna Jaworska, Stefan Baj**

*Journal of Molecular Catalysis A: Chemical 290 (2008) 15*

A selective convenient ruthenium-mediated synthesis of mixed acetals

Synthesis of mixed acetals (only 0–7% transacetalization).



$[\text{M}] = [\text{RuCl}_2(\text{PPh}_3)_3], [\text{Ru}_3(\text{CO})_{12}], \{[\text{RuCl}_2(\text{COD})]_x\}$ ;

L = PPh<sub>3</sub>, binap, P[(2,4,6-Me)<sub>3</sub>C<sub>6</sub>H<sub>2</sub>]<sub>3</sub>, SbPh<sub>3</sub>

R<sup>1</sup> = Bu, t-Bu, Cy, PhCH<sub>2</sub>, PhCH<sub>2</sub>CH<sub>2</sub>, PhOCH<sub>2</sub>CH<sub>2</sub>, ...

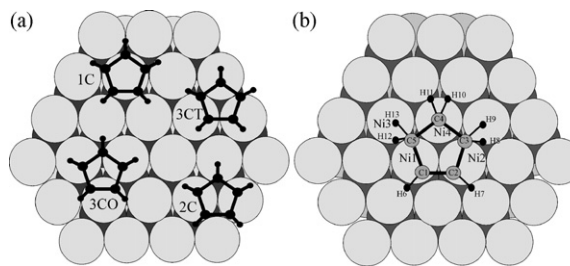
R<sup>2</sup> = H, CH<sub>2</sub>OBu

R<sup>3</sup> = Bu, Ph, PhCH<sub>2</sub>, PhCH<sub>2</sub>CH<sub>2</sub>, *m*-MeC<sub>6</sub>H<sub>4</sub>, *p*-HOC<sub>6</sub>H<sub>4</sub>, ...

**E. Germán, I. López-Corral, A. Juan, G. Brizuela**

*Journal of Molecular Catalysis A: Chemical 290 (2008) 23*

A bonding study of cyclopentene (*c*-C<sub>5</sub>H<sub>8</sub>) adsorption on Ni(1 1 1) surface

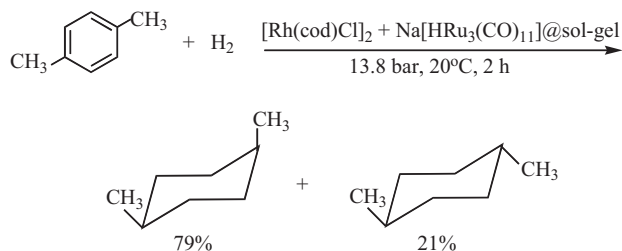


**Raed Abu-Reziq, Margarita Shenglof, Liza Penn, Tomer Cohen, Jochanan Blum**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 30

Hydrogenation of arenes, alkenes and alkynes catalyzed by a sol-gel entrapped mixture of  $[\text{Rh}(\text{cod})\text{Cl}]_2$  and  $\text{Na}[\text{HRu}_3(\text{CO})_{11}]$

Methylated benzenes are rapidly hydrogenated at 20 °C and 13.8 bar  $\text{H}_2$  by a catalyst composed of sol-gel co-entrapped  $[\text{Rh}(\text{cod})\text{Cl}]_2$  and  $\text{Na}[\text{HRu}_3(\text{CO})_{11}]$ . Under these conditions no metallic particles are formed in the reaction mixture. Other unsaturated substrate that require a temperature of 80–120 °C react via the formation of sol-gel entrapped metallic nano-particles.

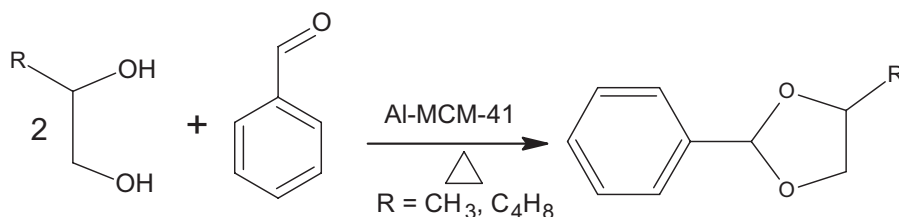


**S. Ajaikumar, A. Pandurangan**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 35

Reaction of benzaldehyde with various aliphatic glycols in the presence of hydrophobic Al-MCM-41: A convenient synthesis of cyclic acetals

The mesoporous Al-MCM-41 (Si/Al ratio 36, 57, 81 and 108) were synthesized by hydrothermal method. The synthesized catalysts were characterized by XRD, BET, TGA-DTG, FT-IR and TEM techniques. The reaction of benzaldehyde with aliphatic glycols was performed over prepared Al-MCM-41 catalysts.

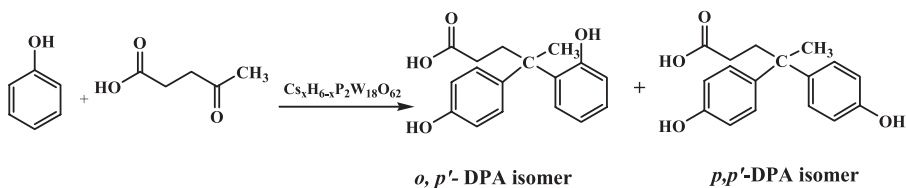


**Xiaodan Yu, Yihang Guo, Kexin Li, Xia Yang, Leilei Xu, Yingna Guo, Jianglei Hu**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 44

Catalytic synthesis of diphenolic acid from levulinic acid over cesium partly substituted Wells-Dawson type heteropolyacid

A series of insoluble cesium partly substituted Wells-Dawson-type heteropolyacid,  $\text{Cs}_x\text{H}_{6-x}\text{P}_2\text{W}_{18}\text{O}_{62}$  ( $x = 1.5-6.0$ ), are synthesized. As the unique and reusable solid acid catalysts,  $\text{Cs}_x\text{H}_{6-x}\text{P}_2\text{W}_{18}\text{O}_{62}$  have good catalytic performance for the condensation reaction of phenol with bio-platform molecule, levulinic acid, to produce diphenolic acid under solvent-free condition.

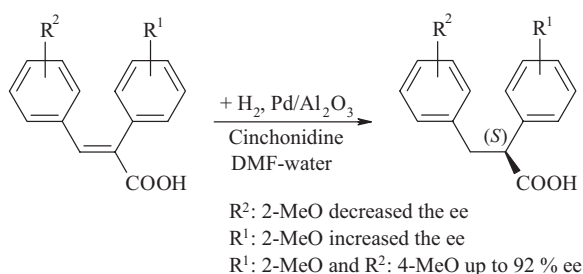


**György Szöllösi, Beáta Hermán, Károly Felföldi, Ferenc Fülöp, Mihály Bartók**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 54

Effect of the substituent position on the enantioselective hydrogenation of methoxy-substituted 2,3-diphenylpropenoic acids over palladium catalyst

The position of the methoxy substituent has crucial influence on the enantioselective hydrogenation of the methoxy-substituted 2,3-diphenylpropenoic acids over cinchonidine modified palladium catalyst. The highest ee, up to 92%, was obtained in the hydrogenation of (*E*)-2-(2-methoxyphenyl)-3-(4-methoxyphenyl)propenoic acid due to combined favourable steric and electronic effects of the substituents.

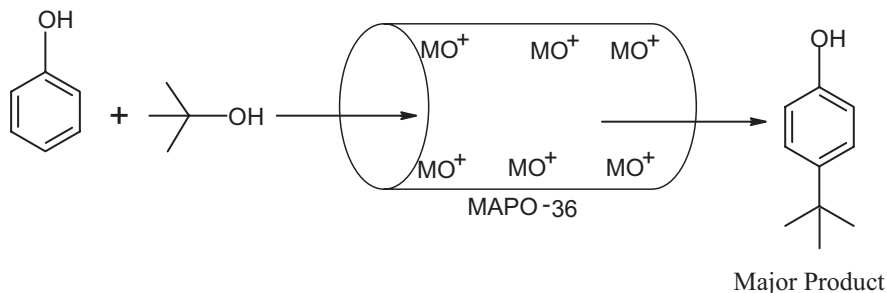


**S. Vishnu Priya, J. Herbert Mabel,  
S. Gopalakrishnan, M. Palanichamy, V. Murugesan**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 60

Lewis acid metal ion-exchanged MAPO-36 molecular sieve: Characterisation and catalytic activity

MAPO-36 was ion-exchanged with  $\text{Fe}^{3+}$ ,  $\text{Zn}^{2+}$ ,  $\text{La}^{3+}$  and  $\text{Ce}^{3+}$  ions. Vapour phase *tert*-butylation of phenol was carried over ion-exchanged and parent catalysts. The major product was found to be *p-tert*-butylphenol. The main active site was suggested to be  $\text{MO}^+$  ( $\text{M} = \text{Fe}^{3+}$ ,  $\text{La}^{3+}$  and  $\text{Ce}^{3+}$ ).

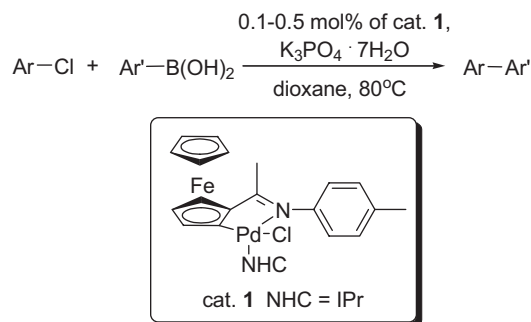


**Mengjun Cui, Jingya Li, Ajuan Yu, Jinli Zhang,  
Yangjie Wu**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 67

Carbene adduct of cyclopalladated ferrocenylimine: Efficient catalyst for the Suzuki coupling of sterically hindered aryl chlorides with a weaker base and low catalyst loading

One-pot synthesis of the carbene adduct of cyclopalladated ferrocenylimine complex has been described. This complex has been successfully applied to Suzuki coupling reaction. Various aryl chlorides and boronic acids can be coupled efficiently with a mild base  $\text{K}_3\text{PO}_4 \cdot 7\text{H}_2\text{O}$  and low catalyst loadings. This system has been proven to be compatible with the sterically hindered aryl chlorides and some boronic acids in high yields.

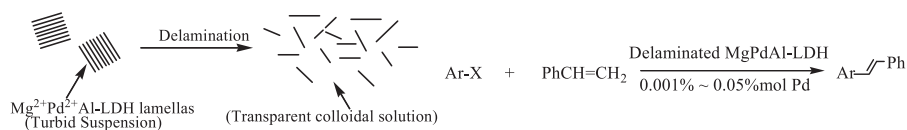


**Shiyong Liu, Xuanzhen Jiang, Guanglan Zhuo**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 72

Heck reaction catalyzed by colloids of delaminated Pd-containing layered double hydroxide

Pd(II)-doped colloidal layered double hydroxide (LDH) has been prepared from delamination of glycinate-intercalated ternary-component  $\text{MgPdAl-LDH}$  ( $[\text{Mg}_{0.95}\text{Pd}_{0.05}\text{Al}_{1/3}(\text{OH})_2][\text{Gly}_{1/3} \cdot m\text{H}_2\text{O}]$ ) in formamide. Owing to the largely enhanced accessibility for reactant molecules resulting from the nature of high inner surface area of LDHs, these palladium-bearing nanosheets showed excellent efficiency in Heck reactions in a wide range of substrate molecules.

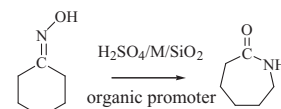


**N.C. Marziano, L. Ronchin, C. Tortato, A. Vavasori,  
M. Bortoluzzi**

*Journal of Molecular Catalysis A: Chemical* 290 (2008) 79

Catalyzed Beckmann rearrangement of cyclohexanone oxime in heterogeneous liquid/solid system. Part 2: Influence of acid catalysts and organic promoters

The influence of some transition metal oxide promoters in the catalyzed Beckmann rearrangement of cyclohexanone oxime was studied by preparing several heterogeneous  $\text{H}_2\text{SO}_4/\text{M}/\text{SiO}_2$  catalysts using  $\text{SiO}_2$  as support and  $\text{H}_2\text{SO}_4$  as acid source. A definite effect of each metal has been observed. The influence of some organic promoters on the reaction pathway was also investigated. Acetic and trifluoroacetic anhydrides gave the best results, even if only the latter allowed the rearrangement even without solid acid catalysts. Finally, some preliminary results on a homogeneous organic catalyzed process are reported.



Run conditions: T 298 K, reaction volume 20 ml, solvent 1,2 dichloroethane, catalyst 500 mg, cyclohexanone oxime concentration 0.24-0.72  $\text{mol dm}^{-3}$ , organic promoter 1.2  $\text{mol dm}^{-3}$ .