

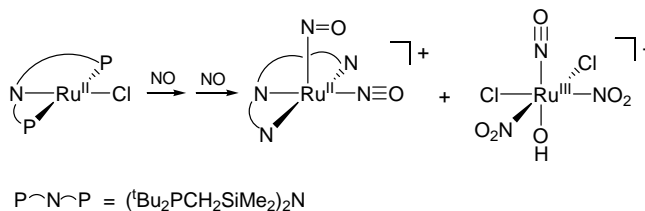


**Lori A. Watson, Maren Pink,  
Kenneth G. Caulton**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 51

The fate of nitric oxide in its reaction with the 14-valence-electron planar species [(<sup>t</sup>Bu<sub>2</sub>PCH<sub>2</sub>SiMe<sub>2</sub>)<sub>2</sub>N]RuCl

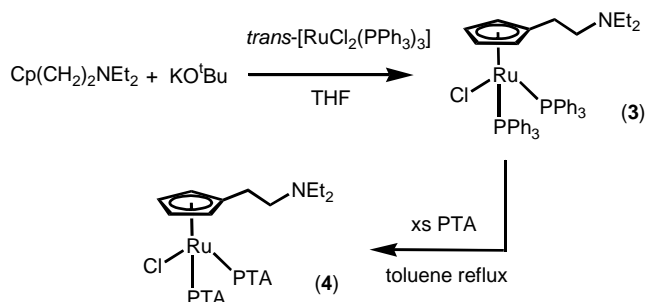
The 14 valence electron, “doubly unsaturated” (PNP)RuCl consumes multiple NO molecules, with oxygen transfer, to produce NO<sub>2</sub><sup>-</sup> ligands.



**Sandra Bolaño, Luca Gonsalvi,  
Fabrizio Zanolini, Francesco Vizza,  
Valerio Bertolasi, Antonio Romerosa,  
Maurizio Peruzzini**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 61

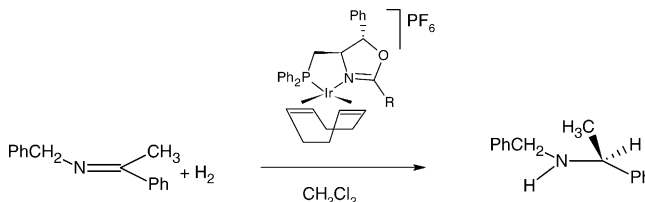
Water soluble ruthenium cyclopentadienyl and aminocyclopentadienyl PTA complexes as catalysts for selective hydrogenation of  $\alpha,\beta$ -unsaturated substrates (PTA=1,3,5-triaza-7-phosphaadamantane)



**Maria B. Ezhova, Brian O. Patrick,  
Brian R. James, Francis J. Waller,  
Michael E. Ford**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 71

New chiral *N,P*-oxazolines, and their Ir complexes in asymmetric hydrogenation of an imine

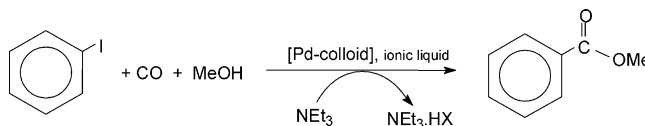


**W. Wojtków, A.M. Trzeciak, R. Choukroun,  
J.L. Pellegatta**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 81

Pd colloid-catalyzed methoxycarbonylation of iodobenzene in ionic liquids

A Pd colloid prepared by reduction of the [Pd( $\eta^3$ -allyl)<sub>2</sub>Cl]<sub>2</sub> precursor with Vcp<sub>2</sub> (vanadocene) in the presence of polyvinylpyrrolidone (PVP) as a protecting polymer was found to be an active and stable catalyst of methoxycarbonylation of iodobenzene carried out in an ionic liquid (IL) medium. At the optimal reaction conditions, the yield of methoxycarbonylation catalyzed by Pd colloid decreases in the order: [<sup>n</sup>Bu<sub>4</sub>N]Br > [<sup>n</sup>Bu<sub>4</sub>N]I > [<sup>n</sup>Bu<sub>4</sub>N]Cl > [bumepty]PF<sub>6</sub> > [Et<sub>4</sub>N]Br > [bumepty]Cl > [bumepty]BF<sub>4</sub> > [Et<sub>4</sub>N]Cl > [bmim]PF<sub>6</sub> > [bmim]BF<sub>4</sub> > [bmim]Cl.

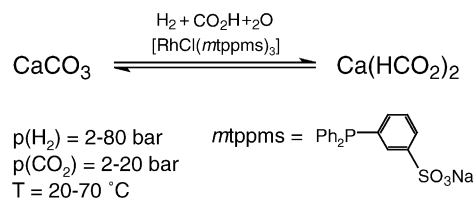


**István Józszai, Ferenc Joó**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 87

Hydrogenation of aqueous mixtures of calcium carbonate and carbon dioxide using a water-soluble rhodium(I)-tertiary phosphine complex catalyst

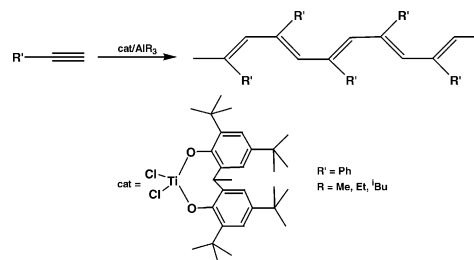
A mild method has been developed for the hydrogenation of calcium carbonate to calcium formate in aqueous suspensions under CO<sub>2</sub> + H<sub>2</sub> pressure catalyzed by [RhCl(*m*tppps)<sub>3</sub>] (*m*tppps = monosulfonated triphenylphosphine) at 20–70 °C and 10–100 bar total pressure. In certain cases the yield of formate exceeded 100% (based on CaCO<sub>3</sub>) which implies the concomitant hydrogenation of carbon dioxide, too.

**Jolanta Ejfler, Michał Kobyłka, Marek Hojniak, Piotr Sobota**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 93

The influence of cocatalysts on phenylacetylene oligo- and polymerization

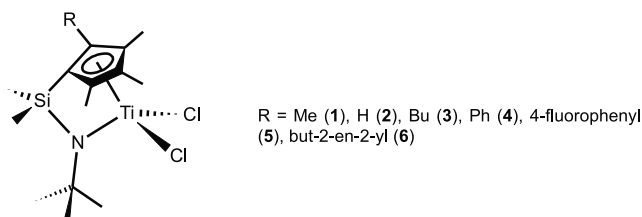
Catalytic properties of titanium bisphenolate complexes with 2,2'-ethylidenebis-(4,6-di-*tert*-butylphenol) (*edbp*H<sub>2</sub>) towards polymerization of phenylacetylene (PA) are reported. It was found that the catalytic activity and products formation depend strongly on the used cocatalyst AlR<sub>3</sub> (R = Me, Et, <sup>t</sup>Bu). *trans*-PPA was formed when [Ti(*edbp*)Cl<sub>2</sub>]/AlEt<sub>3</sub> catalytic system was explored and cyclotrimerization products for [Ti(*edbp*)Cl<sub>2</sub>]/Al<sup>t</sup>Bu<sub>3</sub> catalyst.

**Robert Skeřil, Pavel Šindelář, Zdenek Salajka, Vojtech Varga, Ivana Císařová, Jiří Pinkas, Michal Horáček, Karel Mach**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 97

Copolymerization of ethene with styrene using CGC catalysts: the effect of the cyclopentadienyl ligand substitution on the catalyst activity and copolymer structure

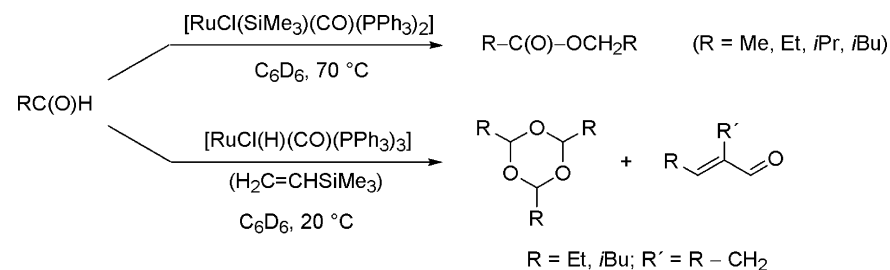
Catalysts 1/MAO–3/MAO at molar ratios Al/Ti = 900 and styrene/ethene = 10 at 50 °C produced pseudo-random copolymer containing up to 47.8 mol% of incorporated styrene.

**Angela Sorkau, Kerstin Schwarzer, Christoph Wagner, Eike Poetsch, Dirk Steinborn**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 105

Dimerization and cyclotrimerization of aldehydes: ruthenium catalyzed formation of esters, 1,3,5-trioxanes, and aldol condensation products from aldehydes

[RuCl(SiMe<sub>3</sub>)(CO)(PPh<sub>3</sub>)<sub>2</sub>] was found to catalyze dimerization of aldehydes RC(O)H yielding esters RC(O)–OCH<sub>2</sub>R in a Tishchenko type reaction. [RuCl(H)(CO)(PPh<sub>3</sub>)<sub>3</sub>] did not act as catalyst yielding esters, but in the presence of H<sub>2</sub>C = CHSiMe<sub>3</sub> catalytic formation of cyclotrimers of aldehydes (RCHO)<sub>3</sub> and aldol condensation products RCH = CR'–C(O)H was observed.

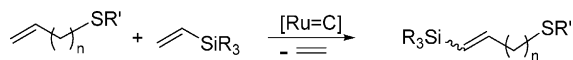


**Bogdan Marciniak, Dariusz Chadyniak,  
Stanisław Krompiec**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 111

Ruthenium catalyzed cross-metathesis versus silylative coupling of vinyl and allyl sulfides with vinylsilanes

A new catalytic route for synthesis of unsaturated organosilicon compounds with vinylic functionality ( $R'(O)_3SiCH=CH(CH_2)_nSR$  (where  $R = t\text{-Bu, Ph}$ ,  $R' = \text{Me, Et, Me}_3\text{Si}$   $n = 0, 1$ ), based on cross-metathesis of vinyltrialkoxo- and vinyltris(trimethylsiloxy)silanes with vinyl and allyl, *t*-butyl (phenyl) sulfides catalyzed by the second generation Grubbs catalyst.



$R_3 = (\text{OEt})_3, \text{Me}_3, \text{Me}_2\text{Ph}$

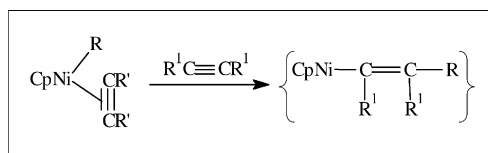
$n = 0$   $R' = t\text{-Bu, Et, Ph}$ ;  
 $n = 1$   $R' = t\text{-Bu, Ph}$

**Stanisław Pasynekiewicz, Ewa Olędzka,  
Antoni Pietrzykowski**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 117

Polymerization of alkynes on nickelocene based catalysts: considerations on polymerization mechanism

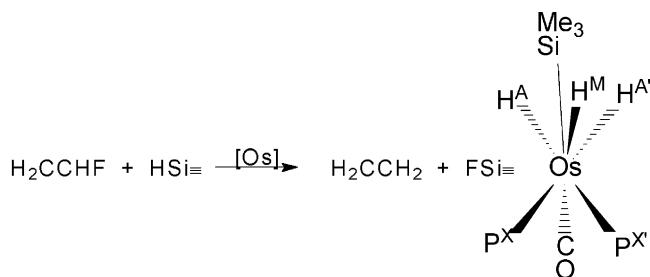
Novel nickelocene based catalysts were used for polymerization of 2-butyne, 1-phenyl-1-propyne, bis(trimethylsilyl)acetylene and trimethylsilylacetylene. An active catalytic species of polymerization appeared to be  $\{\text{CpNiR}\}$  stabilized by alkyne molecule. Cyclization is catalyzed by  $\{\text{CpNiH}\}$  species.



**Kenton B. Renkema,  
Ulrike Werner-Zwanziger, Mark D. Pagel,  
Kenneth G. Caulton**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 125

Room-temperature hydrosilylation of the C–F bond of vinyl fluoride catalyzed by osmium hydrides

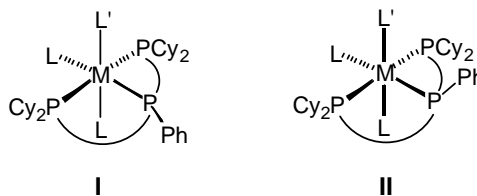


**Patrick W. Blosser, Judith C. Gallucci,  
Andrew Wojcicki**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 133

A study of *syn-anti* isomerism of six-coordinate ruthenium(II) complexes containing  $\text{PhP}(\text{CH}_2\text{CH}_2\text{CH}_2\text{PCy}_2)_2$  (Cytpp) ligand

The *syn* and *anti* isomers of  $[\text{mer-Ru}(\kappa^2\text{-O}_2\text{CX})(\text{CO})(\text{Cytpp})]^n$  ( $n=0$ ,  $X=\text{O}$ ;  $n=+1$ ,  $X=\text{Me, Ph, OMe, OEt}$ ) and *cis-mer-RuX}\_2(\text{CO})(\text{Cytpp}) ( $X=\text{I or Cl}$ ) were synthesized and found to be configurationally stable with respect to isomerization and upon ligand substitution. This stability contrasts with that of previously studied related ruthenium(II) Cytpp complexes containing weakly coordinating ligands.*

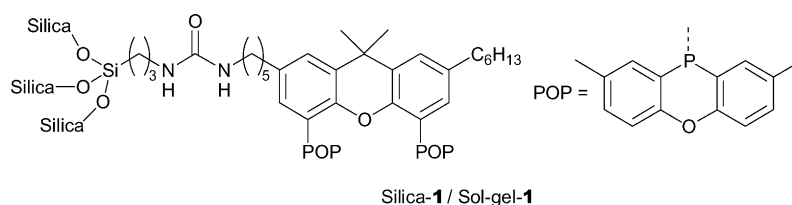


**R.P.J. Bronger, J.P. Bermon, J.N.H. Reek,  
P.C.J. Kamer, P.W.N.M. van Leeuwen,  
D.N. Carter, P. Licence, M. Poliakoff**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 145

The immobilisation of phenoxaphosphine-modified xanthene-type ligand on polysiloxane support and application thereof in the hydroformylation reaction

The rhodium catalysed hydroformylation of 1-octene using a novel heterogenised Xantphos-type ligand is presented. The catalyst shows a high selectivity and stability during hydroformylation studies in both toluene and supercritical carbon dioxide. The catalyst can be recovered by simple phase separation and recycled without significant changes in activity and selectivity.

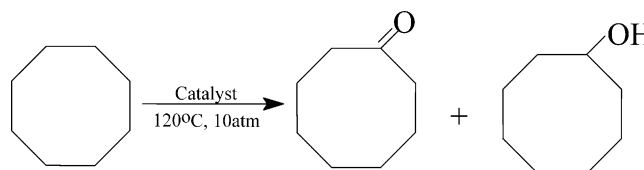


**J. Haber, K. Pamin, J. Połtowicz**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 153

Cationic metalloporphyrins and other macrocyclic compounds in zeolite matrix as catalysts for oxidation with dioxygen

Cationic iron, cobalt and manganese porphyrins, cobalt salen and cobalt phthalocyanine catalysts and these metallocomplexes encapsulated inside zeolite NaX supercages were investigated in oxidation of cyclooctane with molecular oxygen (as air) to cyclooctanone and cyclooctanol without the use of sacrificial co-reductant. We have found that the catalytic activity of catalysts depends on the structure of macrocyclic ring and the type of metal. The product yields and the selectivity to ketone and alcohol are strongly modified by encapsulation in the zeolite matrix.

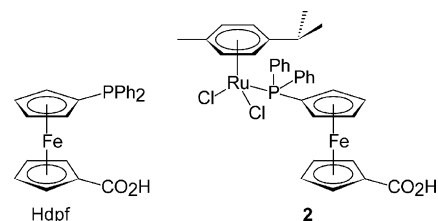


**Petr Štěpnička, Jan Demel, Jiří Čejka**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 161

Preparation and catalytic application of MCM-41 modified with a ferrocene carboxyphosphine and a ruthenium complex

MCM-41 molecular sieves modified with Hdpf and/or,  $[\{\text{Ru}(\eta^6\text{-}p\text{-cymene})\text{Cl}(\mu\text{-Cl})\}_2]$  and the molecular compound **2** were used as catalysts for the reaction between propargyl alcohol and benzoic acid to give 2-oxopropyl benzoate.

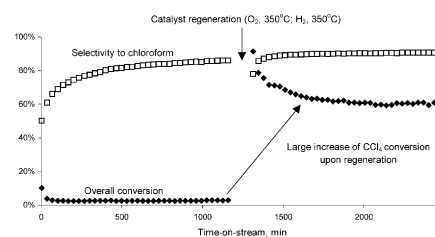


**M. Legawiec-Jarzyna, A. Śrębowata,  
W. Juszczyk, Z. Karpinski**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 171

Hydrodechlorination of dichlorodifluoromethane, carbon tetrachloride and 1,2-dichloroethane over Pt/Al<sub>2</sub>O<sub>3</sub> catalysts

Alumina-supported platinum is an efficient catalyst in CCl<sub>4</sub> hydrodechlorination (HdCl) to chloroform, whereas in HdCl of CCl<sub>2</sub>F<sub>2</sub> and 1,2-dichloroethane this metal exhibits rather low activity. A partial removal of post-reaction residues from the catalyst by oxidative pretreatment brings about a substantial increase of the overall conversion level in CCl<sub>4</sub> hydrodechlorination. Temperature-programmed experiments suggest that a partial removal of coke leads to the formation of very active catalyst, less susceptible to poisoning by chlorine.

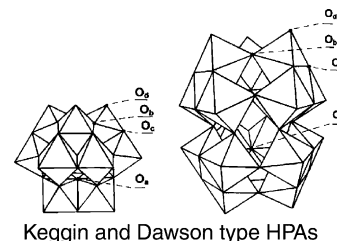


**A. Bielański, A. Lubańska**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 179

FTIR investigation on Wells–Dawson and Keggin type heteropolyacids: dehydration and ethanol sorption

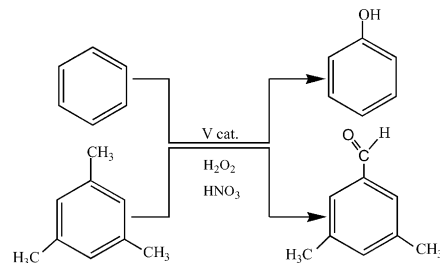
The changes in the secondary structure on dehydration, of Wells–Dawson and Keggin type heteropolyacids,  $H_6P_2W_{18}O_{62}$  and  $H_3PW_{12}O_{40}$ , as well as during the sorption of ethanol, were observed using FTIR spectroscopy. Frequency of peaks indicates stronger hydrogen bonds formed in the Wells–Dawson type secondary structure than in that of Keggin type one. Sorption of ethanol leads to protonation of  $C_2H_5OH$  molecules and the formation of secondary structure involving ethoxonium ions forming hydrogen bonds between HPA anions.

**Patrícia M. Reis, José Armando L. Silva, João J.R. Fraústo da Silva, Armando J.L. Pombeiro**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 189

Peroxidative oxidation of benzene and mesitylene by vanadium catalysts

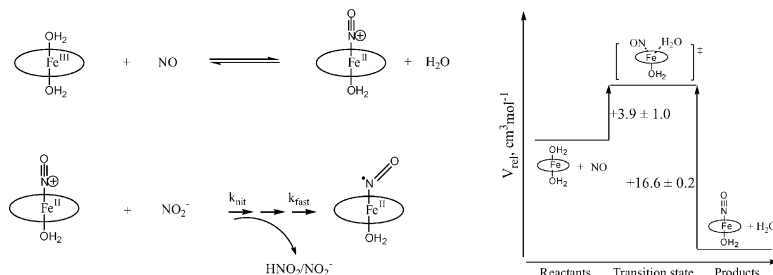
Benzene and mesitylene undergo peroxidative oxidation by vanadium (IV and V) catalysts with *N,O*-ligands, like *Amavadin* models and related ones, to give, at room temperature, phenol and 3,5-dimethylbenzaldehyde, respectively.

**Alexander Theodoridis, Rudi van Eldik**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 197

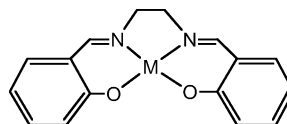
The role of positively charged meso-substituents on the kinetics of the reductive nitrosylation of iron(III)-porphyrins. The catalytic role of nitrite

The cationic  $[Fe^{III}(TMPyP)(H_2O)_2]^{5+}$  porphyrin reacts dissociatively with NO to form  $[Fe^{II}(TMPyP)(H_2O)(NO^+)]^{5+}$ . This species can react with nitrite, to form  $[Fe^{II}(TMPyP)(H_2O)(NO^*)]^{5+}$ . Concentration, temperature and pressure dependences for the “on” and “off” reaction, as well as for the subsequent reaction with nitrite were studied to clarify the underlying reaction mechanism.

**Maria D.M.C. Ribeiro da Silva, Jorge M. Gonçalves, Ana L.R. Silva, Paula C.F.C. Oliveira, Bernd Schröder, Manuel A.V. Ribeiro da Silva**

*Journal of Molecular Catalysis A: Chemical* 224 (2004) 207

Molecular thermochemical study of Ni(II), Cu(II) and Zn(II) complexes with *N,N'*-bis(salicylaldehyde)ethylenediamine



M = Cu(II), Ni(II); Zn(II)

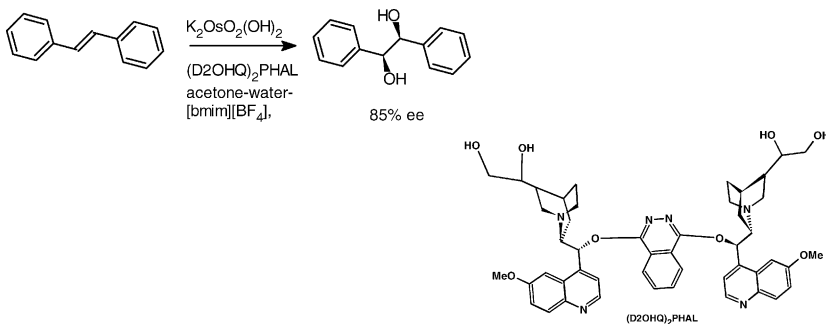
ML = [Cu(salen)], [Ni(salen)] and [Zn(salen)]

**Qingbin Liu, Zhanhui Zhang,  
Fred van Rantwijk, R.A. Sheldon**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 213

Osmium-catalyzed asymmetric dihydroxylation of olefins in ionic liquids. The effect of the chiral ligand structure on recyclability

The osmium-catalyzed hydroxylation of *trans*-stilbene in aqueous acetone-ionic liquid medium was enantioselective (85% ee) in the presence of the chiral ligand (D2OHQ)<sub>2</sub>PHAL. The chiral ligand was formed from a precursor under the reaction conditions and was recycled together with the ionic liquid.

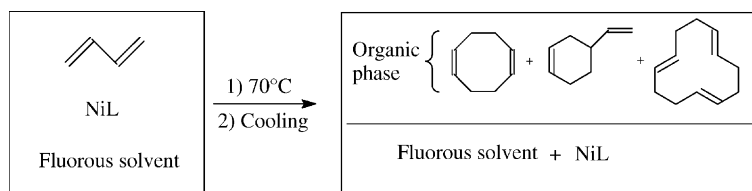


**Renata Matusiak, Yves Castanet,  
André Mortreux**

*Journal of Molecular Catalysis A: Chemical* 224  
(2004) 217

Dimerisation of butadiene catalyzed by nickel-tris[(1*H*,1*H*,2*H*,2*H*-perfluorodecyl)phenyl]phosphites complexes in fluorocarbon-hydrocarbon biphasic medium

Triarylphosphites bearing long chain fluoruous ponytails have been tested in nickel-based cyclodimerisation of butadiene under fluoruous biphasic conditions. *Ortho*-substituted ligands were found as the most effective in terms of activity, selectivity and stability. Recycling experiments of the catalytic system are also reported.



L = Fluorous triarylphosphite