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Articles

Neszta Ungvári, Tamás Kégl, Ferenc Ungváry

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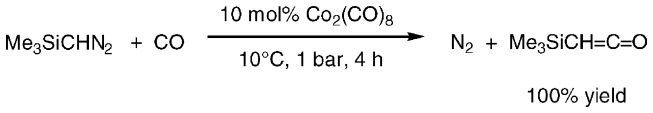
Octacarbonyl dicobalt-catalyzed selective carbonylation of (trimethylsilyl)diazomethane to obtain (trimethylsilyl)ketene

The selective carbonylation of (trimethylsilyl)diazomethane to (trimethylsilyl)ketene in the presence of octacarbonyl dicobalt is the first highly efficient catalytic reaction in which a carbene carbon monoxide coupling is involved.



Emilian Angelescu, Michel Che, Marius Andruh, Rodica Zăvoianu, Guylène Costentin, Cătălin Miricã, Octavian Dumitru Pavel

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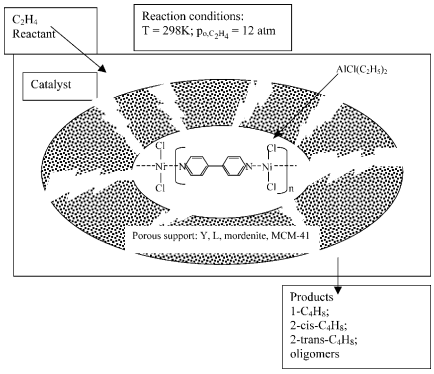
Ethylene selective dimerization on polymer complex catalyst of Ni(4,4′-bipyridine)Cl_2 coactivated with $AlCl(C_2H_5)_2$

The polymer complex Ni(4,4′-bipyridine)Cl_2 co-activated with $AlCl(C_2H_5)_2$ and dispersed on micro- or mesoporous supports is an active and selective catalyst for ethylene dimerization to normal butenes under mild reaction conditions. The complex supported on MCM-41 molecular sieve exhibited the highest activity and allowed also the obtaining of highest amounts of oligomers.



Juha Pulkkinen, Pavel Zachar, Vojtech Albert Borek, Reino Laatikainen, Vladimir Kral

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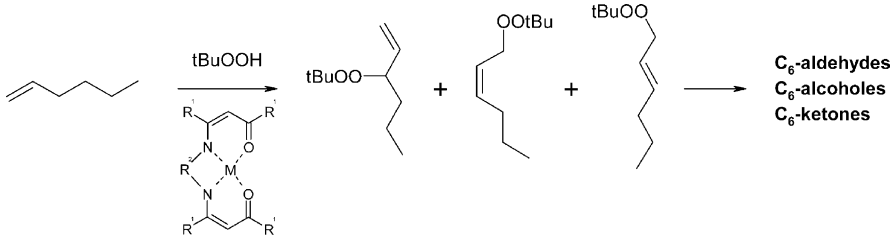
Application of novel metallocomplexes for mimicking of cytochrome P450. Analysis of product distribution for 1-hexene as a substrate



doi:10.1016/S1381-1169(04)00423-6

Stanisław Krompiec, Nikodem Kuźnik, Robert Penczek, Józef Rzepa, Julita Mrowiec-Białoń

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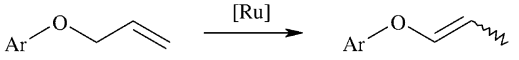
Isomerization of allyl aryl ethers to their 1-propenyl derivatives catalysed by ruthenium complexes

Double bond migration in allyl aryl ethers was catalysed by ruthnium complexes. Interesting *E*/*Z* control was achieved using $[RuCl_2(COD)]_x + PR_3$ catalytic system.



[Ru]=[RuClH(CO)(PPh_3)$_3$], [$RuCl_2$(1,5-cod)] + PR_3,...
Ar= Ph, Cl-C_6H_4, O_2N-C_6H_4, OHC-C_6H_4, AllilO-C_6H_4,...

Jörn Albers, Eckhard Dinjus, Stephan Pitter, Olaf Walter

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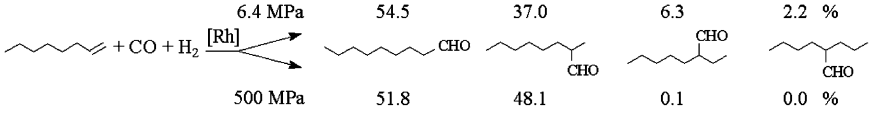
High-pressure effects in the homogeneously catalyzed hydroformylation of olefins

The homogeneously catalyzed hydroformylation of linear olefins was investigated at pressures ranging from 7 to 550 MPa. A change in the selectivity was observed, which was reflected by a change of the product distribution. At high pressures, increased yields of aldehydes were also obtained from the hydroformylation of sterically hindered olefins.



L. Bonoldi, L. Abis, L. Fiocca, R. Fusco, L. Longo, F. Simone, S. Spera

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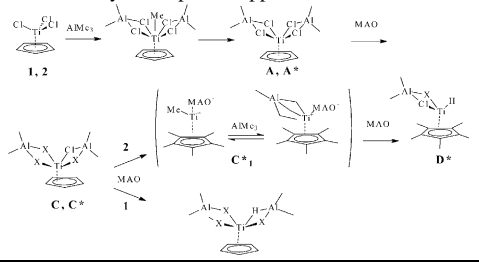
Monotitanocene catalysts: an ESR study of Ti(III) derivatives formed in presence of MAO and other organoaluminium compounds

The Ti(III) complexes generated in the reaction of $Cp'TiCl_3$ [$Cp' = C_5H_5 = Cp$ (**1**), $C_5Me_5 = Cp^*$ (**2**), $Me = CH_3$] with methyl-aluminoxane (MAO) were investigated by the electron spin resonance (ESR) technique.
At low Al/Ti molar ratio (10) the only product is the trinuclear bimetallic complex $Cp'Ti[(\mu\text{-}Cl)_2AlMe_2]_2$ (A, A*).
At higher Al/Ti ratio (300, 500) a stable titanium hydride compound (D) forms in the system **1**/MAO while in the system **2**/MAO two alkylated species appear, one of which is the cationic one [Cp^*Ti-TiMe]$^{++}$$AlMe_3$.



Yulai Hu, David J. Birdsall, Alison M. Stuart, Eric G. Hope, Jianliang Xiao

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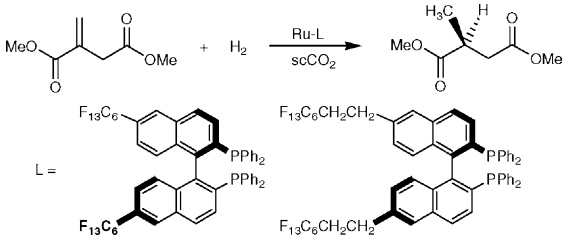
Ruthenium-catalysed asymmetric hydrogenation with fluoroalkylated BINAP ligands in supercritical CO_2

Fluoroalkylated BINAP ligands have been evaluated in the ruthenium-catalysed asymmetric hydrogenation of dimethyl itaconate in supercritical CO_2 as well as MeOH.



Vishal B. Sharma, Suman L. Jain, Bir Sain

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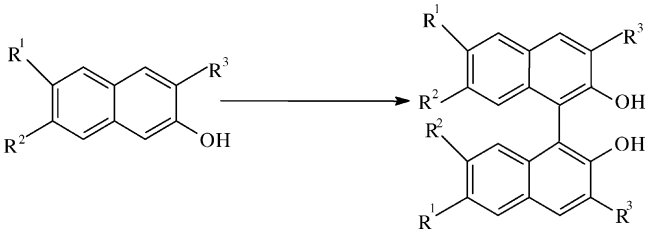
Copper (II) Schiff base catalysed aerobic oxidative coupling of 2-naphthols: an efficient and simple synthesis of binaphthols



Anil Kumar, Shipra Mital

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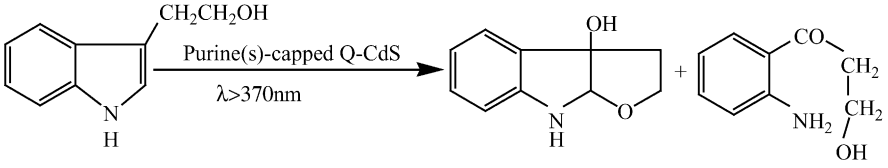
Electronic and photocatalytic properties of purine(s)-capped CdS nanoparticles in the presence of tryptophol

Tryptophol replaces the loosely bound purine from the outer shell of the purine(s)-capped Q-CdS. Visible light irradiation of the oxygenated reaction mixture containing purine(s)- capped Q-CdS and trypyophol yields 3-hydroxyindoline and 1-(2-aminophenyl)-3-hydroxypropan-1-one as the products of oxidation. Dynamics of charge carriers and their reactivity in the irradiated CdS differ for different purine(s) used as capping agent.



Majid Moghadam, Shahram Tangestaninejad, Valiollah Mirkhani, Iraj Mohammadpour-Baltork, Reza Shaibani

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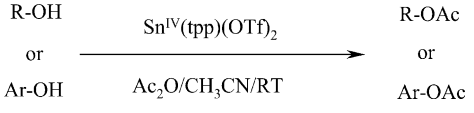
Rapid and efficient acetylation of alcohols and phenols with acetic anhydride catalyzed by electron-deficient tin(IV) porphyrin

Rapid and efficient esterification of primary, sterically-hindered secondary and tertiary alcohols, and phenols with acetic anhydride: was achieved in the presence of $Sn^{IV}(tpp)(CF_3SO_3)_2$ as catalyst in high yields.



Heng-dao Quan, Masanori Tamura, Yasuhisa Matsukawa, Junji Mizukado, Takashi Abe, Akira Sekiya

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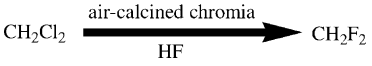
Investigation into chromia-based catalyst and its application in preparing difluoromethane

A high oxidation state of Cr species exists in the air-calcined chromia-based catalysts, which exhibit a higher catalytic activity than Cr(III). Moreover, the tretment of chromia with HF at low temperature leads to facile crystallization of the chromia-based catalyst and a decrease in the catalytic activity.



Pil Kim, Younghun Kim, Heesoo Kim, In Kyu Song, Jongheop Yi

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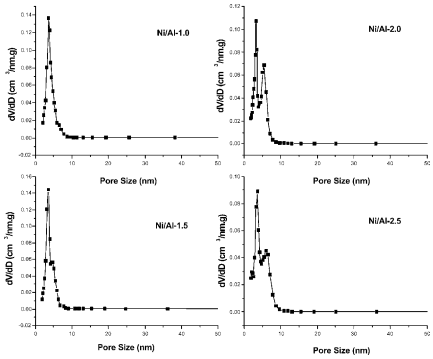
Synthesis and characterization of mesoporous alumina for use as a catalyst support in the hydrodechlorination of 1,2-dichloropropane: effect of preparation condition of mesoporous alumina

Mesoporous γ-aluminas were synthesized by a post-hydrolysis method with different mole ratios of surfactant/aluminum precursor. The effect of mole ratio of surfactant/aluminum precursor on the catalytic performance of Ni/γ-alumina catalysts was investigated for the hydrodechlorination of 1,2-dichloropropane (DCPA).



X. Hao, L. Quach, J. Korah, W.A. Spieker, John R. Regalbuto

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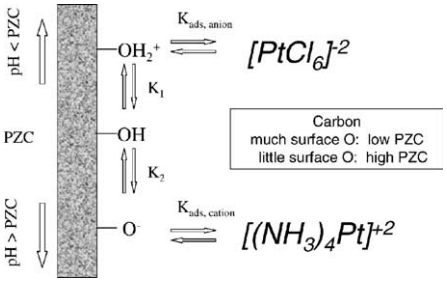
The control of platinum impregnation by PZC alteration of oxides and carbon

While ion-doped oxides do not follow the electrostatic adsorption mechanism shown below, the adsorptive properties of carbon can be controlled by varying the carbon point of zero charge (PZC).



A. Hameed, M.A. Gondal

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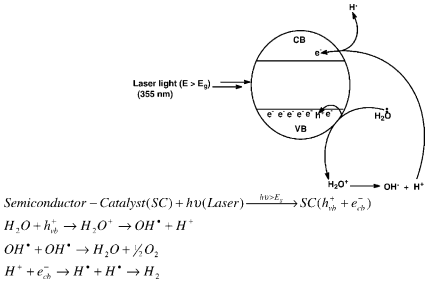
Laser induced photocatalytic generation of hydrogen and oxygen over NiO and TiO_2

A comparative study of photocatalytic splitting of water into hydrogen and oxygen over NiO and TiO_2 was carried out using 355 nm laser radiations. It was observed that by using a monochromatic high photon flux light source, such as laser, the problem of low photonic efficiencies could be resolved.



L. Djakovitch, M. Wagner, C.G. Hartung, M. Beller, K. Koehler

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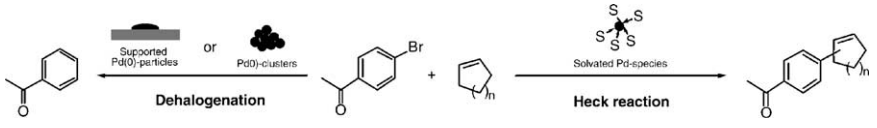
Pd-catalyzed Heck arylation of cycloalkenes—studies on selectivity comparing homogeneous and heterogeneous catalysts



M.A. Debeila, N.J. Coville, M.S. Scurrell, G.R. Hearne

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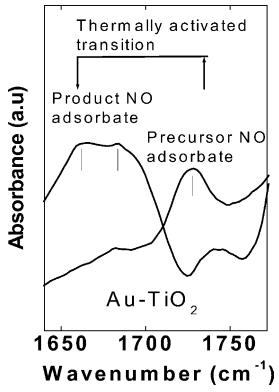
Direct observation of thermally activated NO adsorbate species on Au–TiO_2: DRIFTS studies

No adsorbate (precursor) state, detected at room temperature, changed to the product state under thermal activation. The product state is thermally stable and once is formed, is irreversible.



Samuel M. Silvestre, Jorge A.R. Salvador, James H. Clark

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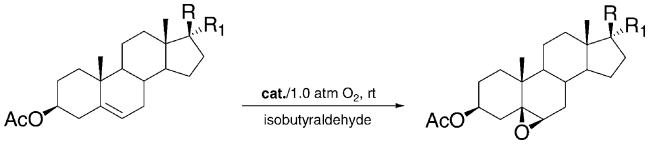
β-Selective epoxidation of Δ^5-steroids by O_2 using surface functionalised silica supported cobalt catalysts

A general catalytic and relatively environment friendly method for β-epoxidation of Δ^5-steroids has been developed, which uses silica supported cobalt as catalysts and molecular oxygen as the oxidant. The reactions are regio- and stereoselective.



S.M. Yunusov, E.S. Kalyuzhnaya, B.L. Moroz, A.S. Ivanova, T.V. Reshetenko, L.B. Avdeeva, V.A. Likholobov, V.B. Shur

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New ammonia synthesis catalysts based on supported potassium carbonyl ruthenates as precursors of catalytically active ruthenium particles and potassium promoter

New supported "single-component" ruthenium catalysts for ammonia synthesis derived from various potassium carbonyl ruthenates such as $K_2[Ru_6(CO)_{18}]$, $K_4[Ru_4(CO)_{12}]$, $K_6[Ru_6(CO)_{16}]$, $K_6[Ru_4(CO)_{11}]$ and $K_2[Ru(CO)_4]$ are reported. The highest activity is exhibited by the $K_6[Ru_4(CO)_{11}]$- and $K_2[Ru(CO)_4]$-based systems. An introduction of potassium metal into the catalysts leads to further increase in the ammonia synthesis rate.

$$N_2 + 3H_2 \rightleftharpoons 2NH_3$$

250-400°C, 1 atm, Ru/support = 9 wt. %

Supports: "Sibunit" and CFC-III carbons, MgO, γ-Al_2O_3, γ-Al_2O_3/C

Haiyang Zhu, Mingmin Shen, Yan Kong, Jianming Hong, Yuhai Hu, Tiandong Liu, Lin Dong, Yi Chen, Can Jian, Zhong Liu

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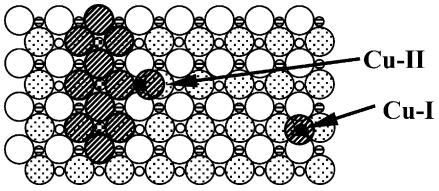
Characterization of copper oxide supported on ceria-modified anatase

The dispersion of copper oxide and the state of the dispersed copper oxide species on ceria-modified TiO_2 closely depend on the ceria loading amounts.



Boping Liu, Yuwei Fang, Minoru Terano

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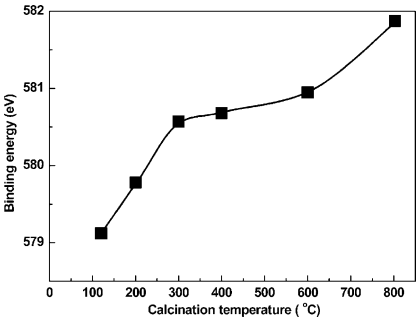
High resolution X-ray photoelectron spectroscopic analysis of transformation of surface chromium species on Phillips CrO_x/SiO_2 catalysts isothermally calcined at various temperatures

The specific transformation of Cr(III) acetate into bulky CrO_3 and subsequently into chromate species ($Cr(VI)O_{x,surf}$) on Phillips catalysts isothermally calcined at various temperatures ($120 \sim 800$ °C) has been elucidated by XPS. As the precursor of active site on calcined Phillips catalyst, chromate species was found to be gradually becoming more electron-deficient with increasing calcination temperature of the catalyst.



Qingrong Peng, Yong Yang, Youzhu Yuan

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Immobilization of rhodium complexes ligated with triphenyphosphine analogs on amino-functionalized MCM-41 and MCM-48 for 1-hexene hydroformylation

The Rh–P complexes attached to amino-group functionalized MCM-41 and MCM-48 showed catalytic activity and normal heptanal selectivity comparable to the corresponding homogeneous ones for the hydroformylation of 1-hexene. The advantage in the product selectivity towards the normal heptanal due to the larger cone angle of the ligands over $Rh–PPh_3$ in the homogeneous systems was also observed in the heterogeneous ones.