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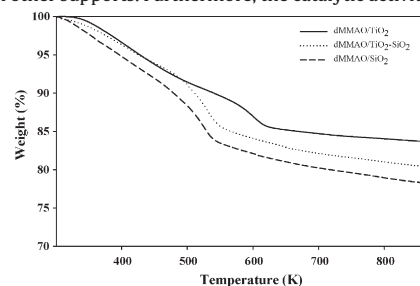
Articles

Sonthaya Srijumng, Pattiya Suttipitakwong, Bunjerd Jongsomjit, Piyan Praserthdam

Journal of Molecular Catalysis A: Chemical 294 (2008) 1

Effect of supports and solvents on ethylene polymerization with titanium complex consisting of phenoxy-imine ligands/dMMAO catalytic system

Ethylene polymerization by titanium complex having two phenoxy-imine with different supports and solvents has been investigated. It was found that the catalytic activity depended on supports used, and especially on the types of solvent medium. For the supported system, catalytic activities decreased in the following order: $\text{TiO}_2 > \text{TiO}_2\text{-SiO}_2 > \text{SiO}_2$. This can be attributed to the strong interaction of the TiO_2 with dried MMAO (dMMAO) and the larger amount of dMMAO present on the TiO_2 than other supports. Furthermore, the catalytic activity was significantly affected by the solvent medium. According to the homogeneous system, the catalytic activities increased in the order of: toluene > heptane > chlorobenzene \gg dichloromethane up on difference solvent mediums. On the other hand, for the supported system, the catalytic activity was the highest when heptane was employed. In order to give a better explanation, the different types of ion-pairs formed was proposed. The properties of polymers were further discussed in more details.

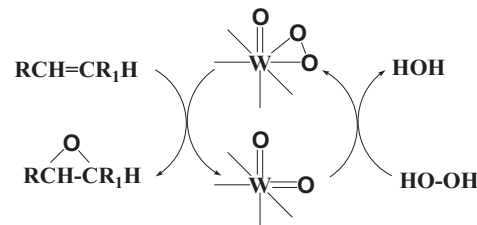


Rohit H. Ingle, N. K. Kala Raj

Journal of Molecular Catalysis A: Chemical 294 (2008) 8

Lacunary Keggin type polyoxotungstates in conjunction with a phase transfer catalyst: An effective catalyst system for epoxidation of alkenes with aqueous H_2O_2

$\text{Na}_9[\text{SbW}_9\text{O}_{33}]$ in conjunction with a PTC (methyl tricaprly ammonium chloride) is a highly efficient catalyst for the selective epoxidation of a variety of alkenes using aqueous H_2O_2 without addition of any solvents. In most cases selectivity for the epoxide was excellent. The reactions can be carried out in the absence of any organic solvents. IR studies support the formation of tungsten-peroxo species and stability of catalyst in the presence of phase transfer catalyst when aqueous H_2O_2 was used as the oxidant. The catalyst can be reused after careful decomposition of unreacted peroxide of the final reaction mixture.

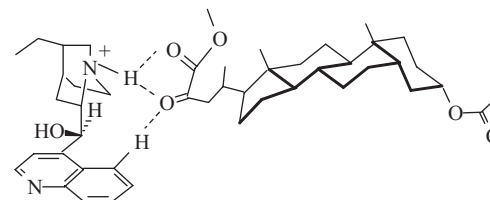


Kornél Szőri, Katalin Balázsik, Károly Felföldi, Imre Bucsi, Szabolcs Cserényi, György Szöllősi, Elemér Vass, Miklós Hollósi, Mihály Bartók

Journal of Molecular Catalysis A: Chemical 294 (2008) 14

New data on the effect of steric constraints on the chiral induction in the Orito reaction: Hydrogenation of activated steroid ketones

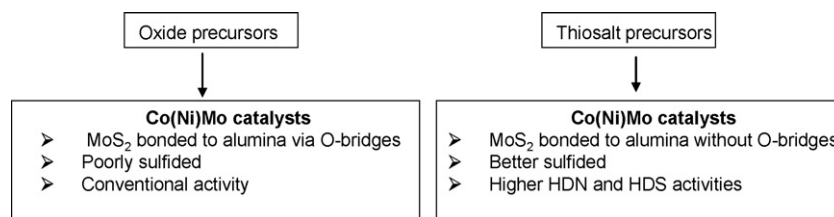
After optimization of the experimental conditions, the Orito reaction may be rendered suitable for the asymmetric hydrogenation of activated steroid ketones.



V. Sundaramurthy, A.K. Dalai, J. Adjaye
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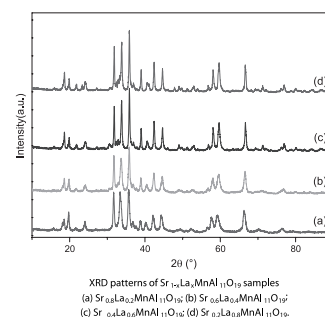
 Tetraalkylthiomolybdates-derived Co(Ni)Mo/ γ -Al₂O₃ sulfide catalysts for gas oil hydrotreating

Tetraalkylthiomolybdates-derived Co(Ni)Mo/ γ -Al₂O₃ sulfide catalysts show better HDN and HDS activities than those of catalysts obtained from the oxide precursor because of better sulfidation and presence of carbo-sulfide phases. The catalyst prepared by *in situ* decomposition cetyltrimethylammonium thiomolybdate showed an improved HDN and HDS activities as result of better dispersion of active phase on the support via microemulsion.


Fengxiang Yin, Shengfu Ji, Pingyi Wu, Fuzhen Zhao, Chengyue Li
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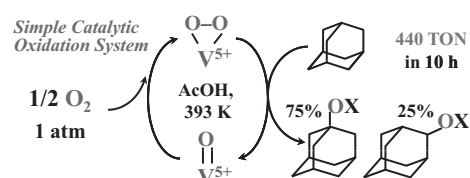
Preparation, characterization, and methane total oxidation of AAl₁₂O₁₉ and AMAl₁₁O₁₉ hexaaluminate catalysts prepared with urea combustion method

A series of AAl₁₂O₁₉ (A = La, Sr, Ba, Ca, Ce), AMAl₁₁O₁₉ (A = La, Sr; M = Cu, Mn, Fe, Ni, Mg) and Sr_{1-x}La_xMnAl₁₁O₁₉ hexaaluminates were prepared successfully by the urea combustion method. The prepared hexaaluminates had a pure and complete phase structure and an excellent catalytic activity for methane combustion. The method is a new, simple and environment friendly preparation method of hexaaluminates.


Hirokazu Kobayashi, Ichiro Yamanaka
Journal of Molecular Catalysis A: Chemical 294 (2008) 37

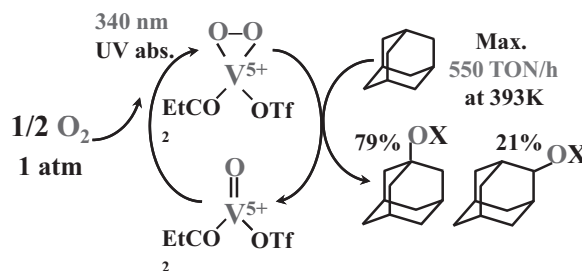
Oxidation of adamantane with O₂ catalysed by VO(acac)₂ and reactivity of active species in acetic acid

The oxidation of adamantane by VO(acac)₂ catalyst with 1 atm O₂ in acetic acid at 393 K was studied. The major product was 1-adamantanol, and minor ones were 2-adamantanol and 2-adamantanone. The selectivity of 1-adamantanol (3°-selectivity) was almost constant at 75% under all oxidation conditions.


Hirokazu Kobayashi, Ichiro Yamanaka
Journal of Molecular Catalysis A: Chemical 294 (2008) 43

High production of adamantane oxygenates in propionic acid using VO(acac)₂ and Eu(OTf)₃ with O₂

Adamantane was effectively oxidised to adamantane oxygenates and its esters in propionic acid using the V catalyst with 1 atm O₂. The maximum yield of the sum of oxygenates was 1.04 M (65%, 3300 TON) in 6 h.

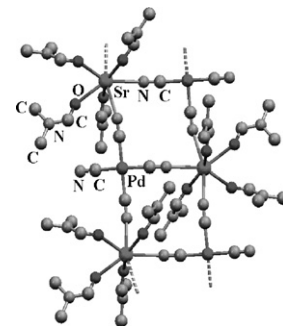


Errun Ding, Satyakrishna Jujuri, Matthew Sturgeon, Sheldon G. Shore, Mark A. Keane

Journal of Molecular Catalysis A: Chemical 294 (2008) 51

Novel one step preparation of silica supported Pd/Sr and Pd/Ba catalysts via an organometallic precursor: Application in hydrodechlorination and hydrogenation

Silica supported Pd/Ba (and Pd/Sr, see Fig.) have been prepared using $\{(DMF)_xBa(or Sr)(CN)_4\}_n$ as precursor. The bimetallics delivered activities that were up to two orders of magnitude greater than that of Pd/SiO₂, a response that we attribute to a surface Ba/Pd (and Sr/Pd) synergy that enhances Pd dispersion (and H₂ chemisorption capacity) allied to a more effective C–Cl activation for hydrogen attack.

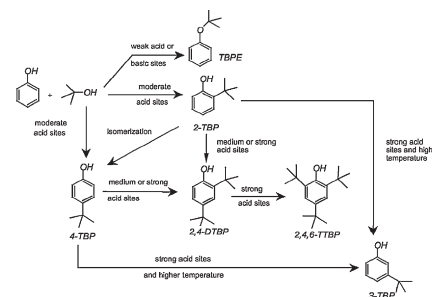


K. Bachari, A. Touileb, M. Touati, O. Cherifi

Journal of Molecular Catalysis A: Chemical 294 (2008) 61

Catalytic properties of Ga–HMS-*n* materials in the tertiary butylation of phenol

In this paper, we report the results of *tert*-butylation of phenol over the gallium-containing hexagonal mesoporous silica materials (Ga–HMS-*n*). These materials were synthesized with various Si/Ga ratios and characterized by powder X-ray diffraction (XRD), transmission electron microscopy (TEM), N₂ adsorption, temperature-programmed desorption (TPD) of pyridine and ⁷¹Ga MAS-NMR spectroscopy and its catalytic activity was tested in the *tert*-butylation of phenol.

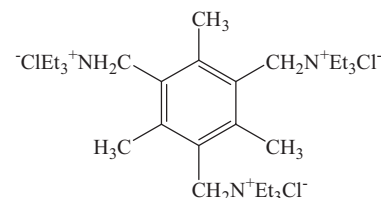


Eagambaram Murugan, Prakash Gopinath

Journal of Molecular Catalysis A: Chemical 294 (2008) 68

Catalytic activity of novel soluble multi-site phase transfer catalyst in dichlorocarbene addition to α -pinene

A novel soluble multi-site phase transfer catalyst containing three active sites was synthesized and characterized. The catalytic efficacy was examined through dichlorocarbene addition to α -pinene reaction using NaOH (20%, w/w) at 40 °C and compared with commercial single-site PTCs under identical reaction conditions. A detailed kinetic study was conducted for dichlorocarbene addition to α -pinene using TTEAMCM.



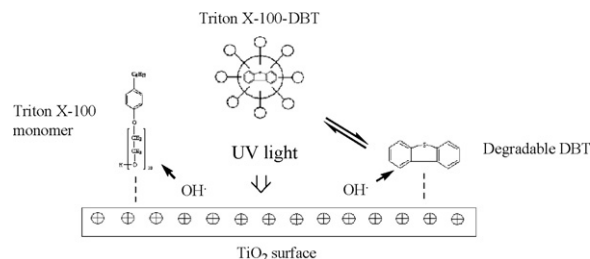
Structure of MPTC

Ronald Vargas, Oswaldo Núñez

Journal of Molecular Catalysis A: Chemical 294 (2008) 74

The photocatalytic oxidation of dibenzothiophene (DBT)

DBT is solubilized into Triton X-100 micelles from where it exchanges with water and becomes ready for degradation. At Triton X-100 at [Triton X-100] > CMC (critical micelle concentration), DBT is readily degraded without degrading Triton X-100 at $t_{1/2}$ ca. 120 min. Triton X-100 monomers only slightly compete with DBT for the TiO₂ catalytic site.

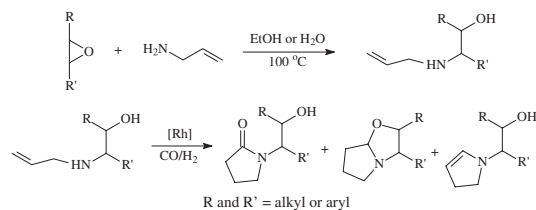


J. Limberger, M. Mottin, F.F. Nachtigall, E.E. Castellano, R.G. da Rosa

Journal of Molecular Catalysis A: Chemical 294 (2008) 82

Rhodium-catalyzed carbonylation of allylaminoalcohols: Catalytic synthesis of *N*-(2-hydroxy-alkyl)-gamma-lactams and bicyclic oxazolidines

Allylaminoalcohols derived from cyclohexene oxide, styrene oxide, (*R*)-(+)-limonene oxide, and ethyl-3-phenyl-glicidate, were carbonylated using RhClCO(PPh₃)₂ as a precatalyst. Under these conditions, γ -lactams and oxazolidines were obtained as the principal products from cyclocarbonylation and hydroformylation pathways, respectively. Further, an iridium complex, analogous to the expected rhodium-intermediate in the cyclocarbonylation process, was isolated and its structure determined crystallographically.



Orlando Lisboa, Morella Sánchez, Fernando Ruette

Journal of Molecular Catalysis A: Chemical 294 (2008) 93

Modeling extra framework aluminum (EFAL) formation in the zeolite ZSM-5 using parametric quantum and DFT methods

Final species formed in modelling the ZSM5 zeolite dealumination process. Dark balls go with O atoms, small white balls are H atoms, and gray balls correspond to Si atoms.

