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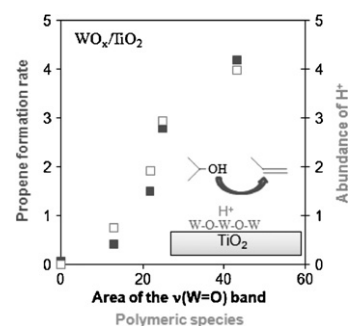
Articles

Thomas Onfroy, Vanessa Lebarbier, Guillaume Clet, Marwan Houalla

Journal of Molecular Catalysis A: Chemical 318 (2010) 1

Quantitative relationship between the nature of surface species and the catalytic activity of tungsten oxides supported on crystallized titania

The surface species of WO_x/TiO_2 catalysts, were correlated with the abundance of relatively strong Brønsted acid sites and isopropanol dehydration activity. A direct correlation was observed between the abundance of these acid sites, the intensity of the infrared band attributed to the most condensed W species and propene formation rate.

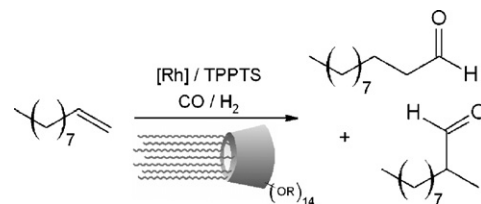


Nezha Badi, Philippe Guégan, François-Xavier Legrand, Loïc Leclercq, Sébastien Tilloy, Eric Monflier

Journal of Molecular Catalysis A: Chemical 318 (2010) 8

β -Cyclodextrins modified by alkyl and poly(ethylene oxide) chains: A novel class of mass transfer additives for aqueous organometallic catalysis

A novel class of β -CDs bearing alkyl chains on the secondary face and poly(ethylene oxide) chains on the primary face was synthesized and their behaviour in rhodium-catalysed biphasic hydroformylation of 1-decene was evaluated. High conversion and selectivities were obtained with a β -CD bearing methyl group on the secondary face and PEO chains on the primary face.

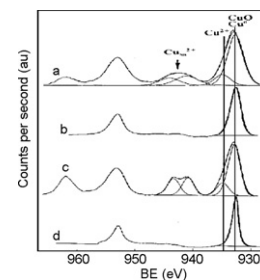


Renan Tavares Figueiredo, Heloysa Martins Carvalho Andrade, José L.G. Fierro

Journal of Molecular Catalysis A: Chemical 318 (2010) 15

Influence of the preparation methods and redox properties of $Cu/ZnO/Al_2O_3$ catalysts for the water gas shift reaction

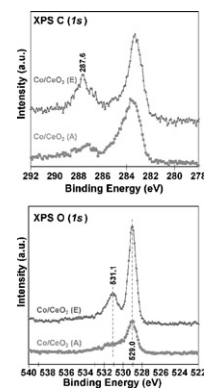
In this work, different coprecipitation sequences were used to prepare three types of $Cu/ZnO/Al_2O_3$ catalysts, used on the water gas reaction at low shift temperature. A remarkable activity was found to be related to the catalyst ability to restore the copper surface dispersion after the reduction or the oxidation pre-treatment.



Hua Song, Umit S. Ozkan*Journal of Molecular Catalysis A: Chemical* 318 (2010) 21

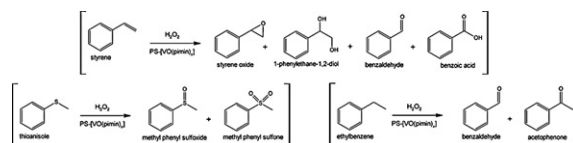
The role of impregnation medium on the activity of ceria-supported cobalt catalysts for ethanol steam reforming

Co/CeO₂ catalysts that were prepared in an organic (e.g., ethanol) medium during impregnation gave higher H₂ yields in ethanol steam reforming than those prepared in aqueous media. Characterization results showed the presence of oxygenated carbonaceous species left on the surface from the impregnation step. These species, that were stable through oxidation and reduction pre-treatment steps, may possibly contribute to the activity, selectivity and stability of the catalysts by keeping the Co particles segregated and by blocking the sites for side reactions.

**Zenixole R. Tshentu, Chamunorwa Togo, Ryan S. Walmsley***Journal of Molecular Catalysis A: Chemical* 318 (2010) 30

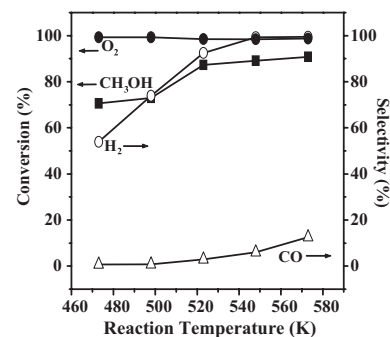
Polymer-anchored oxovanadium(IV) complex for the oxidation of thioanisole, styrene and ethylbenzene

This paper describes the synthesis of a polymer-anchored oxovanadium(IV) complex, and its catalytic activity towards the oxidation of styrene, thioanisole and ethylbenzene using hydrogen peroxide as the oxidant.

**Wun-Syong Chen, Feg-Wen Chang, L. Selva Roselin, Ti-Cheng Ou, Szu-Chia Lai***Journal of Molecular Catalysis A: Chemical* 318 (2010) 36

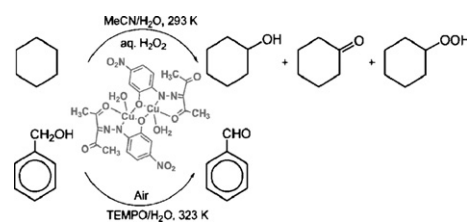
Partial oxidation of methanol over copper catalysts supported on rice husk ash

Rice husk ash was used as support to copper (Cu/RHA) and tested their feasibility for partial oxidation of methanol (POM) to produce H₂. The Cu/RHA catalyst with 10.2 wt.% Cu loading, calcined at 673 K has higher copper dispersion, smaller Cu particle size and higher Cu surface area. This catalyst exhibits higher activity and selectivity for POM to produce H₂.

**Kamran T. Mahmudov, Maximilian N. Kopylovich, M. Fátima C. Guedes da Silva, Paweł J. Figiel, Yauhen Yu. Karabach, Armando J.L. Pombeiro***Journal of Molecular Catalysis A: Chemical* 318 (2010) 44

New copper(II) dimer with 3-(2-hydroxy-4-nitrophenylhydrazo)pentane-2,4-dione and its catalytic activity in cyclohexane and benzyl alcohol oxidations

The copper(II) complex [Cu₂(H₂O)₂(μ-L)₂] (H₂L = 3-(2-hydroxy-4-nitrophenylhydrazo)pentane-2,4-dione) is catalytically active in the peroxidative oxidation of cyclohexane and in the TEMPO-mediated aerobic oxidation of benzylic alcohols.



Eman Fahmy Aboelfetoh, Michael Fechtelkord, Rudolf Pietschnig

Journal of Molecular Catalysis A: Chemical 318 (2010) 51

Structure and catalytic properties of MgO-supported vanadium oxide in the selective oxidation of cyclohexane

MgO-supported vanadium oxide catalysts have been prepared which contain ortho-Mg₃V₂O₈, pyro-Mg₂V₂O₇ and MgV₂O₅ phases as surface species and for higher loadings show good activity in the conversion of cyclohexane to cyclohexylhydroperoxide and improved leaching behavior. The prepared catalysts have been characterized by several techniques such as XRD, FT-IR, DR-spectroscopy, BET, ⁵¹V solid-state NMR, SEM and EDX.

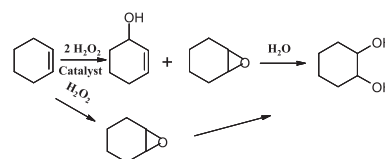


A. Satyanarayana Reddy, Chien-Yen Chen, Chien-Cheng Chen, Shu-Hua Chien, Chin-Jung Lin, Kao-Hung Lin, Chih-Lei Chen, Shiuan-Chih Chang

Journal of Molecular Catalysis A: Chemical 318 (2010) 60

Synthesis and characterization of Fe/CeO₂ catalysts: Epoxidation of cyclohexene

The activity of iron–cerium oxide catalysts in cyclohexene oxidation using aqueous H₂O₂ (30%, v/v) was investigated. The highest cyclohexene conversion (99 mol%) and epoxide selectivity (98 mol%) rates were observed using 5%Fe/CeO₂ at 100 °C: this greater activity and selectivity was attributed to monolayer dispersion of the Fe species and enhanced reducibility of the catalyst.

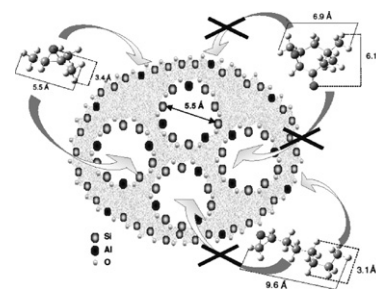


David P. Serrano, Rafael van Grieken, Juan Antonio Melero, Alicia García, Carolina Vargas

Journal of Molecular Catalysis A: Chemical 318 (2010) 68

Nanocrystalline ZSM-5: A catalyst with high activity and selectivity for epoxide rearrangement reactions

Nanocrystalline ZSM-5 has been tested in the liquid phase rearrangement of different bulky epoxides, showing in all cases a high selectivity towards the desired products. Compared to a reference zeolite sample, nanocrystalline ZSM-5 presents a quite superior activity due to the improved accessibility to the active sites derived from its small crystal size.

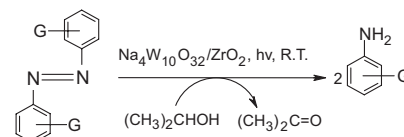


Saeid Farhadi, Shahnaz Sepahvand

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Na₄W₁₀O₃₂/ZrO₂ nanocomposite prepared via a sol-gel route: A novel, green and recoverable photocatalyst for reductive cleavage of azobenzenes to amines with 2-propanol

Na₄W₁₀O₃₂/ZrO₂ nanocomposite prepared via a sol-gel route: a novel, green and recoverable photocatalyst for reductive cleavage of azobenzenes to amines with 2-propanol, sodium decatungstate–zirconia (Na₄W₁₀O₃₂/ZrO₂) nanocomposite was prepared through entrapment of Na₄W₁₀O₃₂ into zirconia matrix by a sol-gel route. This nanocomposite was used as a green and recyclable heterogeneous photocatalyst for rapid and efficient reductive cleavage of azobenzenes into corresponding amines with 2-propanol.

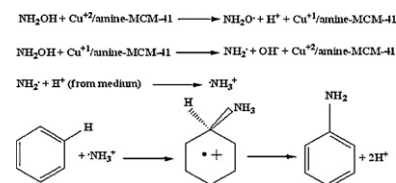


G = various electron-donating and -withdrawing substituents

K.M. Parida, Dharitri Rath, S.S. Dash*Journal of Molecular Catalysis A: Chemical* 318 (2010) 85

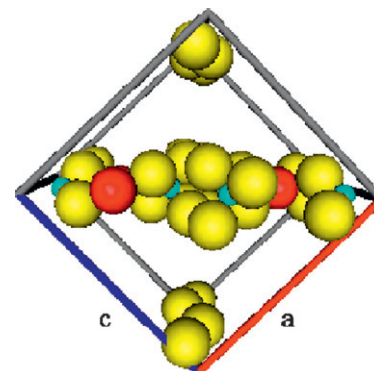
Synthesis, characterization and catalytic activity of copper incorporated and immobilized mesoporous MCM-41 in the single step amination of benzene

Cu-amine-MCM-41 samples show good activity for single step liquid phase amination of benzene to aniline. The 20Cu-amine modified sample shows highest catalytic activity having 72.2% benzene conversion and 100% aniline selectivity. Cu and amine modified samples prepared by co-condensation method show better activity than samples prepared by impregnation technique and that of without amine.

**Takehiko Ono, Kazuya Utsumi, Satoshi Tsukamoto, Hiroyuki Tamaru, Masakazu Kataoka, Fumio Noguchi***Journal of Molecular Catalysis A: Chemical* 318 (2010) 94

Roles of bulk $\gamma(\text{L})\text{-Bi}_2\text{Mo}_2\text{O}_9$ and surface $\beta\text{-Bi}_2\text{Mo}_2\text{O}_9$ in the selective catalytic oxidation of C_3H_6

(1 0 1) plane of $\beta\text{-Bi}_2\text{Mo}_2\text{O}_9$ formed on $\gamma(\text{L})\text{-Bi}_2\text{Mo}_2\text{O}_9$ seems to be active and selective sites for partial oxidation of C_3H_6 . The acrolein formation from C_3H_6 takes place at β -phase sites and the incorporation of oxygen from gaseous O_2 at the anion vacancies of $\gamma(\text{L})$ -phase. Bi (●), Mo (●), O (●)

**Zhanwei Xu, Guoxiang Zhang, Zeyuan Cao, Jianshe Zhao, Hejun Li***Journal of Molecular Catalysis A: Chemical* 318 (2010) 101

Effect of N atoms in the backbone of metal phthalocyanine derivatives on their catalytic activity to lithium battery

N atoms in the backbone strongly affect their catalytic sites and catalytic activity of MPC derivatives to Li/SOCl_2 battery. The discharge energy of Li/SOCl_2 battery catalyzed by MPCs and MTAPs depending on the central metal ion of the compounds, while it catalyzed by MPTpzs almost independent of central metal ions. MTAPs are the most effective catalysts among them.

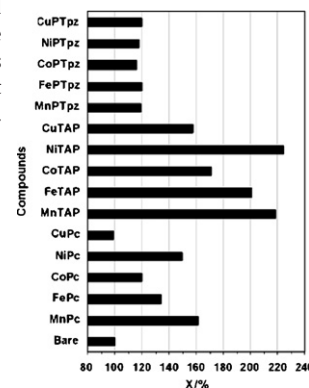
**Umang Singh, Sandeep Verma, H.N. Ghosh, M.C. Rath, K.I. Priyadarsini, A. Sharma, K.K. Pushpa, S.K. Sarkar, T. Mukherjee***Journal of Molecular Catalysis A: Chemical* 318 (2010) 106

Photo-degradation of curcumin in the presence of TiO_2 nanoparticles: Fundamentals and application

Photo-degradation of curcumin in the presence of TiO_2 nanoparticles in aqueous-organic mixed solvents was studied upon excitation with UV-vis and only visible light from a 450 W xenon lamp. The mechanism of photo-degradation was investigated by using external hole and electron quenchers. This study was successfully applied in removing the yellow turmeric stain from cotton fabrics.

