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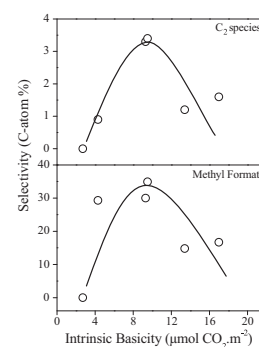
Articles

Shahin Goodarznia, Kevin J. Smith

Journal of Molecular Catalysis A: Chemical 320 (2010) 1

Properties of alkali-promoted Cu–MgO catalysts and their activity for methanol decomposition and C₂-oxygenate formation

The decomposition of CH₃OH has been investigated over high surface area MgO, Cu–MgO, K–Cu–MgO and Cs–Cu–MgO catalysts. At 101 kPa and 498 K, methyl formate was a primary product of CH₃OH decomposition, whereas CO was a secondary product. There was an optimum intrinsic catalyst basicity at which the selectivity to C₂ species and methyl formate reached a maximum.

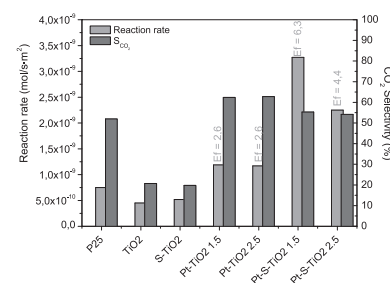


G. Colón, M. Maicu, M.C. Hidalgo, J.A. Navío, A. Kubacka, M. Fernández-García

Journal of Molecular Catalysis A: Chemical 320 (2010) 14

Gas phase photocatalytic oxidation of toluene using highly active Pt doped TiO₂

An enhanced toluene photocatalytic oxidation rates and CO₂ selectivity is displayed by Pt–S–TiO₂, indicating a synergetic effect between Pt deposition and sulphate pretreatment.

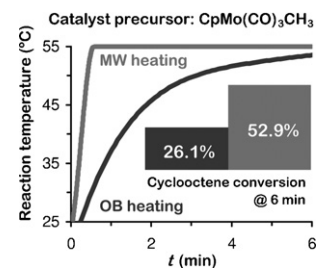


Marta Abrantes, Patrícia Neves, Margarida M. Antunes, Sandra Gago, Filipe A. Almeida Paz, Alirio E. Rodrigues, Martyn Pillinger, Isabel S. Gonçalves, Carlos M. Silva, Anabela A. Valente

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Microwave-assisted molybdenum-catalysed epoxidation of olefins

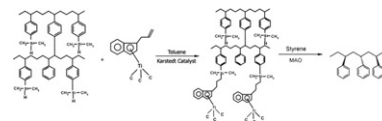
This work presents a comparison between microwave-assisted heating and conventional oil bath heating for liquid-phase olefin epoxidation using CpMo(CO)₃CH₃ as catalyst precursor and *tert*-butylhydroperoxide as oxidant. Results showed that the microwave-assisted method benefits the initial reaction rate and the recyclability of the system, without affecting selectivities to the epoxides.



Sohrab Rahmani, A.A. Entezami*Journal of Molecular Catalysis A: Chemical* 320 (2010) 27

Preparation of tethered half-titanocene complex on cross-linked polystyrene beads for using in syndiospecific polymerization of styrene

Tethering a catalytic complex on support was employed in the immobilization of 1-allylindenyltrichlorotitanium on silyl hydride functionalized polystyrene beads. This polymer-supported catalyst was employed in styrene polymerization using MAO as a cocatalyst. Results showed that the supported catalyst displays a high activity toward the formation of syndiotactic polystyrene with a high syndiotacticity.

**M. Badawi, L. Vivier, D. Duprez***Journal of Molecular Catalysis A: Chemical* 320 (2010) 34

Kinetic study of olefin hydrogenation on hydrotreating catalysts

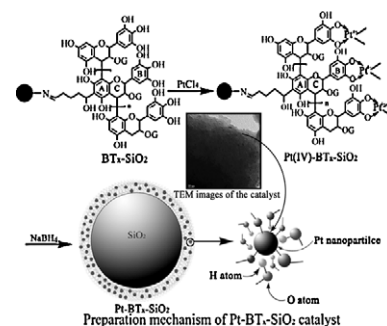
After approximations made on the Langmuir–Hinshelwood theory, a pseudo Eley–Rideal model was obtained for CoMo/Al₂O₃ and NiMo/Al₂O₃ sulfided catalysts and the kinetic constants have been determined from this law:

$$r_A = \frac{k_A K_A P_A P_{H_2}}{1 + K_A P_A}$$

Xin Huang, Li Li, Xuepin Liao, Bi Shi*Journal of Molecular Catalysis A: Chemical* 320 (2010) 40

Preparation of platinum nanoparticles supported on bayberry tannin grafted silica bead and its catalytic properties in hydrogenation

A series of novel platinum heterogeneous catalysts was prepared by supporting platinum nanoparticles on bayberry tannin grafted SiO₂ beads, which exhibited excellent catalytic activity, stability, and reusability in aqueous hydrogenation of unsaturated compounds. The strategy developed in this study could be applied to the synthesis of other highly dispersed metal nanoparticle catalysts.

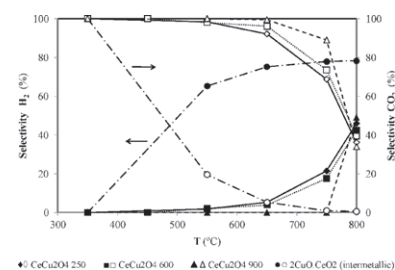


Ana C. Ferreira, A.M. Ferraria, A.M. Botelho do Rego, Antônio P. Gonçalves, A. Violeta Girão, Rosário Correia, T. Almeida Gasche, Joaquim B. Branco

Journal of Molecular Catalysis A: Chemical 320 (2010) 47

Partial oxidation of methane over bimetallic copper–cerium oxide catalysts

Bimetallic copper–cerium oxide catalysts were obtained by two routes using either the intermetallic compound CeCu₂ or the sol–gel reaction in the presence of urea. The structure and morphology of the copper–cerium oxides particles were significantly different depending on the synthetic method. The catalysts performance was investigated for the catalytic partial oxidation of methane (POM). The activity and selectivity of 2CuO–CeO₂ (intermetallic route sample) was comparable to that of noble metals, e.g. 5 wt% Rh/Al₂O₃, and stable for a large period of time on stream. The interaction between copper and cerium oxide phases seems to be responsible for such good catalytic behavior, which is a direct consequence of the synthetic method used in this work.

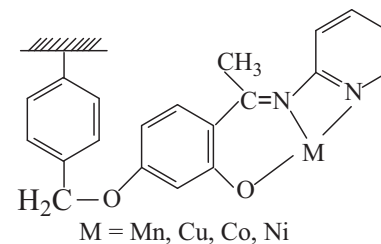


Yue Chang, Yurong Lv, Feng Lu, Fei Zha, Ziqiang Lei

Journal of Molecular Catalysis A: Chemical 320 (2010) 56

Efficient allylic oxidation of cyclohexene with oxygen catalyzed by chloromethylated polystyrene supported tridentate Schiff-base complexes

The abilities of supported tridentate Schiff-base complexes to catalytic oxidation of cyclohexene with oxygen were studied. PS-DA-Cu exhibited certain strongest catalytic activities and the conversion of cyclohexene was 51.9%.

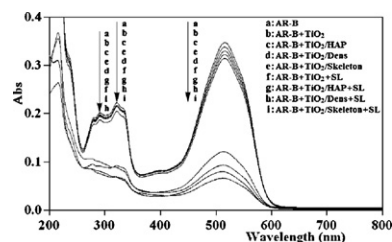


Jun Wang, Chengwu Li, Xiaoyu Luan, Jia Li, Baoxin Wang, Liqun Zhang, Rui Xu, Xiangdong Zhang

Journal of Molecular Catalysis A: Chemical 320 (2010) 62

Investigation on solar photocatalytic activity of TiO₂ loaded composite: TiO₂/Skeleton, TiO₂/Dens and TiO₂/HAP

The TiO₂/Skeleton (a), TiO₂/Dens (b) and TiO₂/HAP (c) composites were prepared and photocatalytic activities were evaluated by degradation of Acid Red B under solar light irradiation. The results showed that the photocatalytic activity of the TiO₂ catalyst can be greatly enhanced by using appropriate amount of loaded biomaterials or biomimetic material.

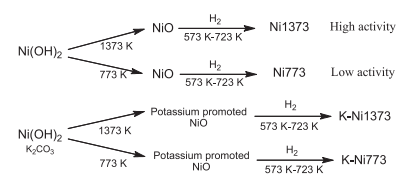


Tsutomu Osawa, Takashi Futakuchi, Tomoharu Imahori, I-Yin Sandy Lee

Journal of Molecular Catalysis A: Chemical 320 (2010) 68

Hydrogen–deuterium exchange of methane on nickel and potassium promoted nickel prepared by the reduction of nickel oxide

The hydrogen–deuterium exchange reactions of methane in a deuterium stream were studied over a reduced nickel and K₂O promoted reduced nickel. The effects of the addition of K₂O resulted in the decrease in the exchange activity due to the inhibition of step defect sites and/or the promotion of the change of nickel crystal structure.

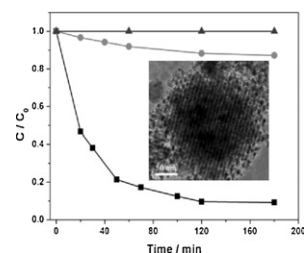


Songmei Sun, Wenzhong Wang, Meng Shang, Jia Ren, Ling Zhang

Journal of Molecular Catalysis A: Chemical 320 (2010) 72

Efficient catalytic oxidation of tetraethylated rhodamine over ordered mesoporous manganese oxide

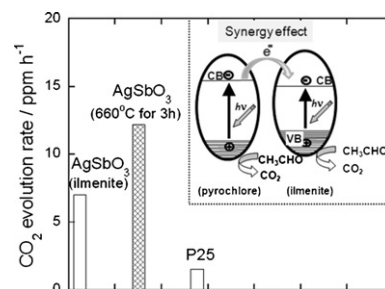
Ordered mesoporous manganese oxide (m-MnO_x) which composed of catalytic active MnO₂ and Mn₂O₃ was prepared and extensively characterized. The mesoporous manganese oxide has been demonstrated to be highly active in the catalytic oxidation of tetraethylated rhodamine.



Tetsuya Kako, Jinhua Ye*Journal of Molecular Catalysis A: Chemical* 320 (2010) 79

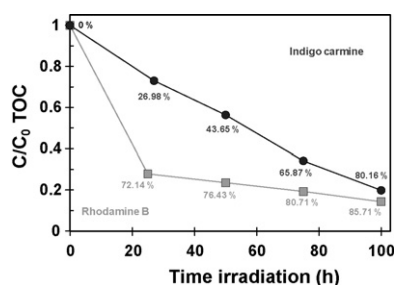
Synergistic effect of different phase on the photocatalytic activity of visible light sensitive silver antimonates

Ilmenite-type AgSbO_3 partially phase-transformed into pyrochlore by post-heat treatment at 660°C for 3 h and the mixed phase sample was obtained. This mixed phase sample showed about twice and eight times higher photocatalytic activity under visible light irradiation than ilmenite-type AgSbO_3 and P25, respectively, because of the synergy effect.

**A. Martínez-de la Cruz, S. Obregón Alfaro***Journal of Molecular Catalysis A: Chemical* 320 (2010) 85

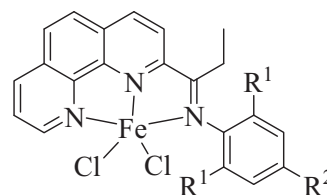
Synthesis and characterization of $\gamma\text{-Bi}_2\text{MoO}_6$ prepared by co-precipitation: Photoassisted degradation of organic dyes under vis-irradiation

The analysis of total organic content of the samples irradiated at different times showed that the mineralization of rhodamine B and indigo carmine by a $\gamma\text{-Bi}_2\text{MoO}_6$ photocatalyst is feasible.

**Min Zhang, Wenjuan Zhang, Tianpengfei Xiao, Jun-Feng Xiang, Xiang Hao, Wen-Hua Sun***Journal of Molecular Catalysis A: Chemical* 320 (2010) 92

2-Ethyl-ketimino-1,10-phenanthroline iron(II) complexes as highly active catalysts for ethylene oligomerization

The 2-(1-arylimiopropyl)-1,10-phenanthrolines and their iron complexes are synthesized and sufficiently characterized by elemental and spectroscopic analyses. Activated by MAO, the title iron complexes with better thermal stability perform ethylene oligomerization with narrower distribution of oligomers.

**Kun Qian, Jun Fang, Weixin Huang, Bo He, Zhiquan Jiang, Yunsheng Ma, Shiqiang Wei***Journal of Molecular Catalysis A: Chemical* 320 (2010) 97

Understanding the deposition-precipitation process for the preparation of supported Au catalysts

In this paper, we successfully elucidate the deposition-precipitation process for the preparation of $\text{Au}/\text{CoO}/\text{SiO}_2$ catalysts. The Au precursor preferentially deposits on hydrogen-bonded hydroxyls and then on isolated hydroxyls in $\text{Co}(\text{OH})_2$ on SiO_2 , eventually forming large and fine Au nanoparticles in the $\text{Au}/\text{CoO}/\text{SiO}_2$ catalyst, respectively. The activity of $\text{Au}/\text{CoO}/\text{SiO}_2$ catalysts in CO oxidation depends on the size of supported Au nanoparticles.

