



Contents

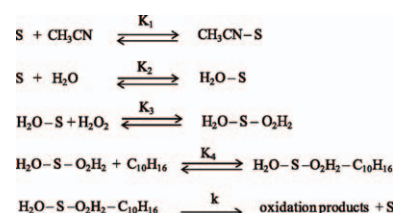
Articles

Analia L. Cánepa, Eduardo R. Herrero, Mónica E. Crivello, Griselda A. Eimer, Sandra G. Casuscelli

Journal of Molecular Catalysis A: Chemical 347 (2011) 1

H₂O₂ based α -pinene oxidation over Ti-MCM-41. A kinetic study

► Kinetics of pinene oxidation on Ti-MCM-41 using H₂O₂ has been studied. ► A kinetic model including the adsorption of reactants and solvent was developed. ► Kinetic parameters as reaction orders and apparent activation energy were determined.

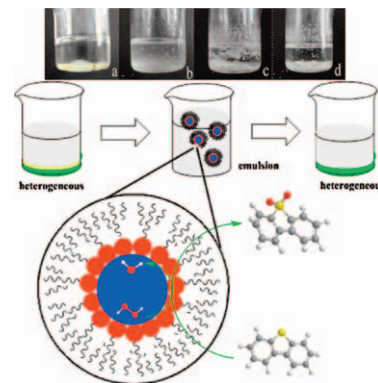


Wenshuai Zhu, Guopeng Zhu, Huaming Li, Yanhong Chao, Yonghui Chang, Guangying Chen, Changri Han

Journal of Molecular Catalysis A: Chemical 347 (2011) 8

Oxidative desulfurization of fuel catalyzed by metal-based surfactant-type ionic liquids

► MSILs were designed by pairing quaternary ammonium cation with polyoxometalate anions. ► [(CH₃)N(n-C₈H₁₇)₃]₂Mo₂O₁₁ can be self-separated at the end of the reaction. ► For self-separation, [(CH₃)N(n-C₈H₁₇)₃]₂Mo₂O₁₁ is convenient for recycle. ► MSILs can deeply remove refractory organosulfur in both model oil and prehydrotreated gasoline.

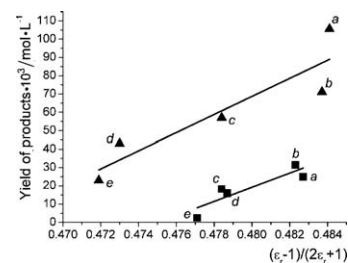


Alexander Pokutsa, Orest Fliunt, Yulia Kubaj, Tomasz Paczeński, Pawel Blonarz, Ruslan Prystanskiy, Jacques Muzart, Roman Makitra, Andriy Zaborovskiy, Andrzej Sobkowiak

Journal of Molecular Catalysis A: Chemical 347 (2011) 15

Relationships between the efficiency of cyclohexane oxidation and the electrochemical parameters of the reaction solution

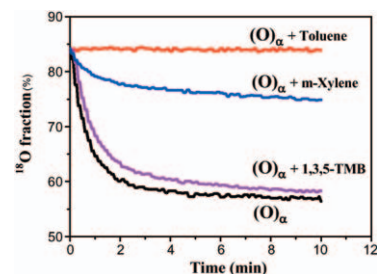
► Efficient VO(acac)₂-catalyzed cyclohexane oxidation by H₂O₂ under mild conditions. ► Promotion of the process by small amounts of oxalic acid. ► Efficiency dependence on the electrochemical characteristics of the reaction mixture.



Vladimir I. Sobolev, Konstantin Yu. Koltunov*Journal of Molecular Catalysis A: Chemical* 347 (2011) 22

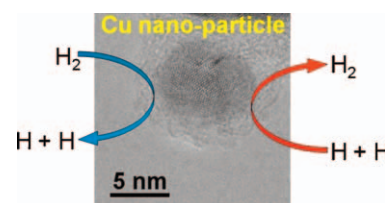
Location, stability, and reactivity of oxygen species generated by N_2O decomposition over Fe-ZSM-5 and Fe-Beta zeolites

► Active oxygen species were generated over Fe-ZSM-5 and Fe-Beta zeolites. ► These species are located inside the micropores of zeolites. ► The species are very stable in the absence of the organic traces in the gas phase. ► Their accessibility depends on the diameter of the zeolite channels.

**Ken Judai, Shigenori Numao, Junichi Nishijo, Nobuyuki Nishi***Journal of Molecular Catalysis A: Chemical* 347 (2011) 28

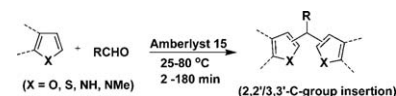
In situ preparation and catalytic activation of copper nanoparticles from acetylide molecules

► In situ preparation of copper nanoparticles for catalytic application. ► Particle size and dispersion can be controlled by the substituent of the acetylide precursor. ► Acetylide precursor provided amorphous carbon outer layers protecting against oxidation during and after the segregation. ► The carbon protective layers are permeable enough to allow catalytic reactions.

**Kamaljit Singh, Shivali Sharma, Amit Sharma***Journal of Molecular Catalysis A: Chemical* 347 (2011) 34

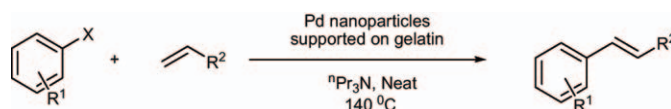
Unique versatility of Amberlyst 15. An acid and solvent-free paradigm towards synthesis of bis(heterocycl) methane derivatives

► Bis(heterocycl) methanes have been synthesized in good yields using Amberlyst 15 as catalyst. ► This catalytic approach provides synthetic flexibility as various heterocycles have been prepared. ► It employs recyclable catalyst of industrial and environmental significance. ► The reaction is run without any solvent medium.

**Habib Firouzabadi, Nasser Iranpoor, Arash Ghaderi***Journal of Molecular Catalysis A: Chemical* 347 (2011) 38

Solvent-free Mizoroki–Heck reaction catalyzed by palladium nano-particles deposited on gelatin as the reductant, ligand and the non-toxic and degradable natural product support

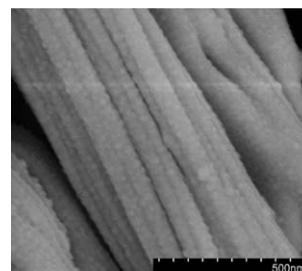
► Uniform palladium nanoparticles were synthesized. ► Gelatin was used as a support for palladium nanoparticles. ► Solvent- and ligand-free Mizoroki–Heck reaction was reported. ► The nanoparticles were stable toward air and moisture. ► The nanoparticles were recyclable for ten runs in the Mizoroki–Heck reaction.



Yang Liao, Xin Huang, Xuepin Liao, Bi Shi*Journal of Molecular Catalysis A: Chemical* 347 (2011) 46

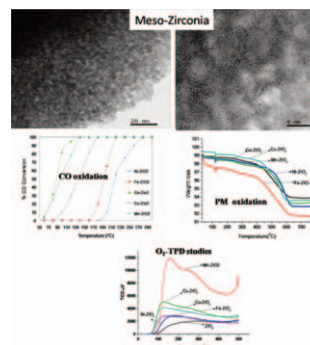
Preparation of fibrous sulfated zirconia ($\text{SO}_4^{2-}/\text{ZrO}_2$) solid acid catalyst using collagen fiber as the template and its application in esterification

► Fibrous mesoporous ZrO_2 was prepared using collagen fiber as the template. ► Subsequently impregnated in H_2SO_4 solution to obtain fibrous $\text{SO}_4^{2-}/\text{ZrO}_2$ solid acid. ► The novel $\text{SO}_4^{2-}/\text{ZrO}_2$ catalyst was highly activity in esterification. ► Its activity is much higher than other nonfibrous solid acid catalysts. ► Reused 6 times without significant loss of activity.

**Pradeep Daggali, S. Waghmare, S. Rayalu, Y. Teraoka, Nitin Labhsetwar***Journal of Molecular Catalysis A: Chemical* 347 (2011) 52

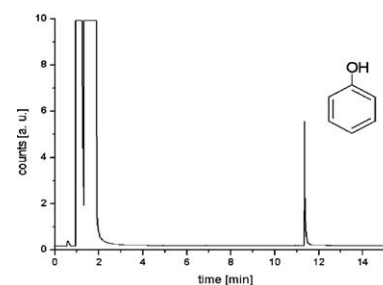
Transition metals supported on mesoporous ZrO_2 for the catalytic control of indoor CO and PM emissions

► Mesoporous ZrO_2 catalysts show superior activity than commercial catalysts. ► The effect of CO_2 , SO_2 and H_2O on CO oxidation activity was also investigated. ► Despite partial deactivation by SO_2 , the catalysts show good CO oxidation activity. ► Surface area is probably not so important for PM oxidation reaction. ► O_2 -TPD contributes to understand the different catalytic performances of synthesized catalysts.

**Manuel Schulz, Christian Paulik, Günther Knör***Journal of Molecular Catalysis A: Chemical* 347 (2011) 60

Studies on the selective two-electron photo-oxidation of benzene to phenol using polyoxometalates, water and simulated solar radiation

► Robust self-assembling catalyst system for the very selective formation of phenol directly from benzene and water. ► Green C–H bond activation triggered and controlled under solar photocatalytic conditions. ► Unifying mechanistic aspects of a biomimetic and bio-inspired vanadium(V)-peroxo photochemistry.

**S.S. Shinde, C.H. Bhosale, K.Y. Rajpure***Journal of Molecular Catalysis A: Chemical* 347 (2011) 65

Photocatalytic oxidation of salicylic acid and 4-chlorophenol in aqueous solutions mediated by modified AlFe_2O_3 catalyst under sunlight

► A novel approach for degradation of organic impurities in water is proposed. ► Visible light photocatalysis of $\text{TiO}_2/\text{Fe}_2\text{O}_3$ for salicylic acid and 4-CP has been studied. ► Degradation is realized by absorption, COD and TOC analysis of samples. ► Comparison of all catalyst in terms of efficient degradation of water is studied.

