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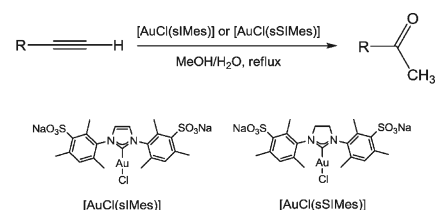
Csilla Enikő Czégéni, Gábor Papp, Ágnes Kathó, Ferenc Joó

Journal of Molecular Catalysis A: Chemical 340 (2011) 1

Water-soluble gold(I)–NHC complexes of sulfonated IMes and SIMes and their catalytic activity in hydration of alkynes

► Direct sulfonation of IMesH⁺Cl[−] and SIMesH⁺Cl[−] in fuming sulfuric acid. ► Water-soluble [AuCl(sIMes)], **3a** and [AuCl(sSIMes)], **3b** synthesized. ► Catalytic hydration of alkynes with **3a** and **3b** in H₂O/MeOH 1/1 or in neat water. ► High catalytic activities: TOF up to 1980h^{−1}, catalyst concentration 100–740ppm. ► No need for Brønsted acid co-catalysts or activation by silver(I) salts.

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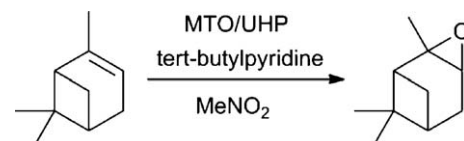


Typhène Michel, Daniel Betz, Mirza Cokoja, Volker Sieber, Fritz E. Kühn

Journal of Molecular Catalysis A: Chemical 340 (2011) 9

Epoxidation of α -pinene catalyzed by methyltrioxorhenium(VII): Influence of additives, oxidants and solvents

► Methyltrioxorhenium catalyzes the epoxidation of α pinene. ► The reaction is hampered by diol formation. ► Product formation highly depends on the reaction conditions. ► Optimization of reaction parameters yields 95% α pinene oxide in 3h.

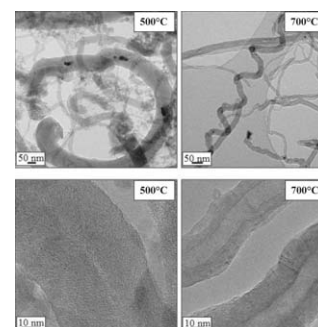


Daniela Zambelli Mezalira, Luiz Dias Probst, Stéphane Pronier, Yann Batonneau, Catherine Batiot-Dupeyrat

Journal of Molecular Catalysis A: Chemical 340 (2011) 15

Decomposition of ethanol over Ni/Al₂O₃ catalysts to produce hydrogen and carbon nanostructured materials

► 10, 20, 33wt.% Ni/Al₂O₃ for the decomposition of ethanol to H₂ and carbon materials. ► Spinel phase NiAl₂O₄ formed with low nickel loading: 10, 20%. ► Maximum hydrogen and carbon production with 33wt.% Ni/Al₂O₃. ► At 500°C: nanofibers mainly formed, at 700°C: production of MWCNTs favored.

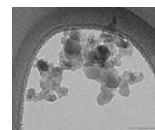


Gustavo Romanelli, Gustavo Pasquale, Ángel Sathicq, Horacio Thomas, Juan Autino, Patricia Vázquez

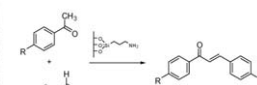
Journal of Molecular Catalysis A: Chemical 340 (2011) 24

Synthesis of chalcones catalyzed by aminopropylated silica sol-gel under solvent-free conditions

- ▶ Nanosilica was prepared by sol-gel process and functionalized with 3-aminopropyltriethoxysilane.
- ▶ Catalysts with aminopropylated silica sol-gel were used in synthesis of chalcones in solvent free conditions.
- ▶ Green chemistry synthesis of chalcones by Claisen-Schmidt preparation. ▶ The catalysts were reused twice, and it was observed that a minor loss in catalyst weight during each recycles.



TEM micrographs of Si-G sample



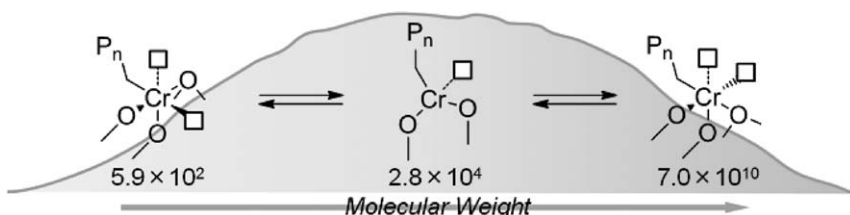
Chalcone synthesis by Claisen-Schmidt procedure

Kiwamu Tonosaki, Toshiaki Taniike, Minoru Terano

Journal of Molecular Catalysis A: Chemical 340 (2011) 33

Origin of broad molecular weight distribution of polyethylene produced by Phillips-type silica-supported chromium catalyst

- ▶ Properties of Cr/SiO₂ were sensitive to the coordination environment. ▶ A ligand at an equatorial position led to a lower molecular weight. ▶ A ligand at an axial position led to a higher molecular weight.

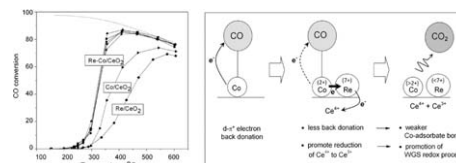


Kingkaew Chayakul, Tipaporn Srithanratana, Sunantha Hengrasmee

Journal of Molecular Catalysis A: Chemical 340 (2011) 39

Effect of Re addition on the activities of Co/CeO₂ catalysts for water gas shift reaction

- ▶ Activity of Co/CeO₂ increases upon addition of Re. ▶ XANES results indicate movement of electrons from Co to Re d-orbitals. ▶ Lowering of back-donated electrons of Co orbitals leads to weaken of Co-CO bond.
- ▶ Re promotes the reduction of CeO₂ to Ce₂O₃ leading to oxygen vacancies that facilitates WGS reaction.

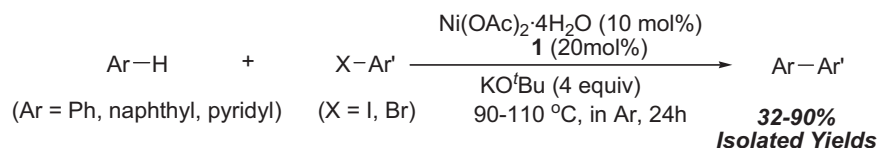


Guanlei Xie, Tingyi Li, Xiaoming Qu, Jincheng Mao

Journal of Molecular Catalysis A: Chemical 340 (2011) 48

Nickel-catalyzed direct C-H arylation of unactivated arenes with aryl halides

- ▶ Direct C-H arylation. ▶ Coupling of unactivated arenes with aryl halides. ▶ Readily available Ni(OAc)₂·4H₂O.
- ▶ Without using any additives.

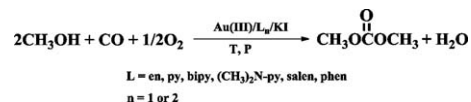


Jinjin Li, Jianglin Hu, Yanlong Gu, Fuming Mei, Tao Li, Guangxing Li

Journal of Molecular Catalysis A: Chemical 340 (2011) 53

Catalytic activities and properties of Au(III)/Schiff-base complexes in methanol oxidative carbonylation

► Oxidative carbonylation is an efficient method for synthesizing dimethyl carbonate. ► $[\text{AuCl}_2(\text{phen})]\text{Cl}/\text{KI}$ was successfully employed in the reaction for the first time. ► I^- and phen complexes used in the reaction show synergistic effect on the activity. ► The oxidation state of gold during the reaction and the role of KI were discussed.

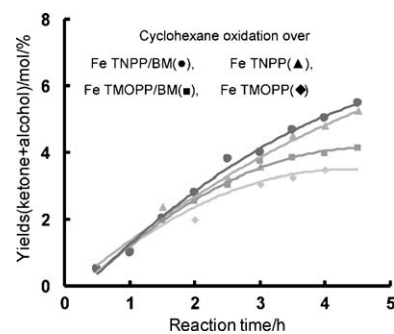


Guan Huang, Zong-Chang Luo, Feng Xiang, Xuan Cao, Yong-An Guo, Yue-Xiu Jiang

Journal of Molecular Catalysis A: Chemical 340 (2011) 60

Catalysis behavior of boehmite-supported iron tetraphenylporphyrins with nitro and methoxyl substituents for the aerobic oxidation of cyclohexane

► Fe TNPP shows stronger activation of O_2 than Fe TMOPP. ► Fe TNPP has stronger catalytic efficiency than Fe TMOPP. ► Fe TNPP/BM shows stronger activation of O_2 than Fe TMOPP/BM. ► Fe TNPP/BM has stronger catalytic efficiency than Fe TMOPP/BM.

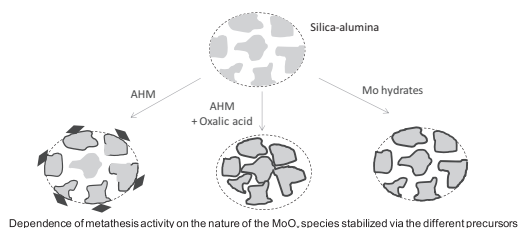


Damien P. Debecker, Mariana Stoyanova, Uwe Rodemerck, Eric M. Gaigneaux

Journal of Molecular Catalysis A: Chemical 340 (2011) 65

Preparation of $\text{MoO}_3/\text{SiO}_2\text{-Al}_2\text{O}_3$ metathesis catalysts via wet impregnation with different Mo precursors

► Classical wet impregnation of silica-alumina with AHM has several downsides. ► Preparation of $\text{MoO}_3/\text{SiO}_2\text{-Al}_2\text{O}_3$ can be improved by changing the Mo precursor. ► Oxalic acid added to AHM impedes the formation of inactive species. ► Mo hydrates favours the uniform dispersion of Mo. ► Higher metathesis activities are reached.

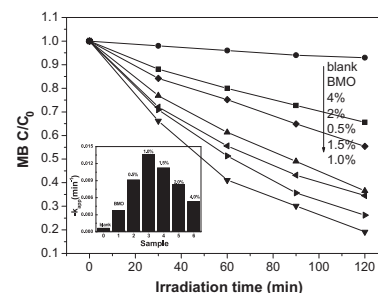


Feng Zhou, Rui Shi, Yongfa Zhu

Journal of Molecular Catalysis A: Chemical 340 (2011) 77

Significant enhancement of the visible photocatalytic degradation performances of $\gamma\text{-Bi}_2\text{MoO}_6$ nanoplate by graphene hybridization

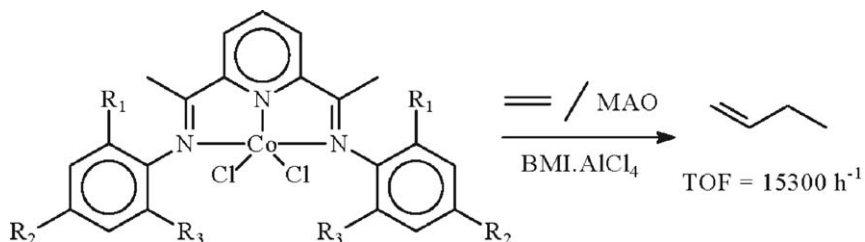
► A novel visible light photocatalyst, graphenehybridized $\gamma\text{-Bi}_2\text{MoO}_6$ was prepared ► The photocatalytic activity was raised 4 times higher than that of $\gamma\text{-Bi}_2\text{MoO}_6$ ► The mechanism is a higher separation efficiency of photoinduced electrons and holes.



Daniel Thiele, Roberto Fernando de Souza*Journal of Molecular Catalysis A: Chemical* 340 (2011) 83

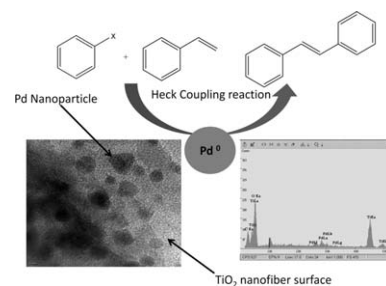
Biphasic ethylene oligomerization using bis(imino)pyridine cobalt complexes in methylbutylimidazolium organochloroaluminate ionic liquids

► Bis(imino)pyridine cobalt (II) complexes were investigated for ethylene oligomerization immobilized in BMI- AlCl_4 . ► Cobalt catalyst showed moderate activity for ethylene oligomerization. ► Cobalt catalyst showed high selectivities for ethylene dimerization. ► Cobalt catalyst showed selectivities for 1-butene formation up to 87%.

**Emilly A. Obuya, William Harrigan, Dickson M. Andala, Jennifer Lippens, Thomas C. Keane, Wayne E. Jones Jr.***Journal of Molecular Catalysis A: Chemical* 340 (2011) 89

Photodeposited Pd nanoparticle catalysts supported on photoactivated TiO_2 nanofibers

► Electrospun titania nanofibers as a porous support for Pd nanoparticle catalyst. ► The photodeposited Pd- TiO_2 catalyst was fully characterized. ► A Uv-vis method was developed to simplify real time analysis of catalyst activity.

**Xiaoling Xu, Chunyi Li, Honghong Shan***Journal of Molecular Catalysis A: Chemical* 340 (2011) 99

Effect of phosphorus on novel bifunctional additives for enhancing the production of propylene and removal of SO_2 in FCC process

► During the substitution of MgAl_2O_4 for Kaolin clay, matrix of a typical propylene additive, ZSM-5 interacted with MgAl_2O_4 . ► The interaction between MgAl_2O_4 and ZSM-5 caused the decrease of ZSM-5 activity in improving propylene yield. ► The particularly higher hydrogen transfer activity of MgAl_2O_4 than Kaolin clay in VGO cracking also contributed to the lower ZSM-5 activity for improving propylene yield. ► The modification of MgAl_2O_4 with P retarded the interaction between MgAl_2O_4 and ZSM-5. ► The P doping into the spinel also reduced the hydrogen transfer activity of MgAl_2O_4 .

