Contents lists available at ScienceDirect

Journal of Molecular Catalysis A: Chemical

journal homepage: www.elsevier.com/locate/molcata

Contents

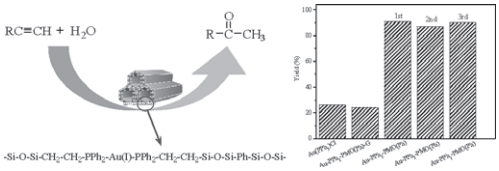
Articles

Fengxia Zhu, Fang Zhang, Xushi Yang, Jianlin Huang, Hexing Li

Journal of Molecular Catalysis A: Chemical 336 (2011) 1

Periodic mesoporous organogold(I)silica as an active and reusable catalyst for alkyne hydration

► We developed a facile approach to prepare a new heterogenized organogold(I) catalyst. ► The catalyst displayed ordered mesoporous structure with high surface area. ► The catalyst contained both phenyl and organometal as integral parts of silica walls. ► The catalyst was active than free $Au(PPh_3)Cl$ in alkyne hydration and could be reused. ► Bicoordination model of Au(I) and high surface hydrophobility may enhance activity.

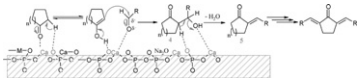


Abderrahim Solhy, Walid Amer, Mohamed Karkouri, Rachid Tahir, Abdeslam El Bouari, Aziz Fihri, Mostapha Bousmina, Mohamed Zahouily

Journal of Molecular Catalysis A: Chemical 336 (2011) 8

Bi-functional modified-phosphate catalyzed the synthesis of α-α′-(*EE*)-bis(benzylidene)-cycloalkanones: Microwave versus conventional-heating

► Hydroxyapatite is modified by sodium nitrate to give a bifunctional acid-base catalyst (Na-HAP). ► Na-HAP efficiently catalyzed the cross-aldol condensation of arylaldehydes and cycloketones to afford a series of α-α′-(*EE*)-bis(benzylidene)-cycloalkanones. ► A comparative study between two methods of heating (conventional heating and microwave irradiation) was achieved. ► The Na-HAP was easily recovered and efficiently re-used.

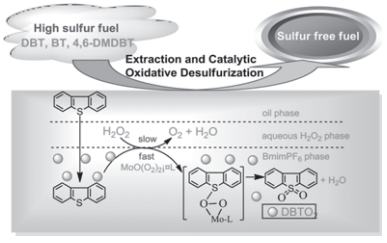


WenShuai Zhu, Huaming Li, QingQing Gu, Peiwen Wu, Guopeng Zhu, Yongsheng Yan, Guangying Chen

Journal of Molecular Catalysis A: Chemical 336 (2011) 16

Kinetics and mechanism for oxidative desulfurization of fuels catalyzed by peroxo-molybdenum amino acid complexes in water-immiscible ionic liquids

► Peroxo-molybdenum amino acid complexes were effective wide-ranging catalysts in ECODS. ► High desulfurization was not only in water-miscible IL but also in water-immiscible IL. ► The most difficult refractory compound, 4,6-DMDBT in HDS, can be removed completely. ► Reaction mechanism in water-miscible and water-immiscible ILs was investigated. ► Desulfurization difference between using simple catalysts and PMAACs was explained.



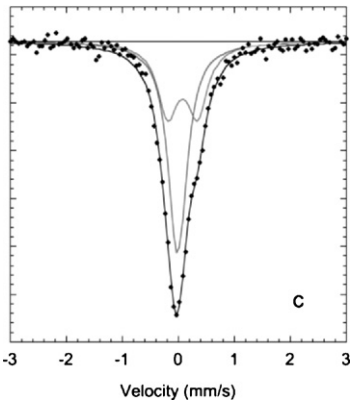
doi:10.1016/S1381-1169(11)00011-2

Nandita Lakshminarayanan, John N. Kuhn, Hyunkyu Choi, Jean-Marc M. Millet, Umit S. Ozkan

Journal of Molecular Catalysis A: Chemical 336 (2011) 23

Variation of structure and properties of $La_{1-x}Sr_xCo_{0.2}Fe_{0.8}O_{3-\delta}$ with Sr content: Implications for oxidation activity

► The effect of Sr loading on the bulk structure, surface characteristics and catalytic properties of Fe-based perovskite-type oxides has been examined. ► Sr loading is shown to impact oxygen non-stoichiometry and the transition to cubic structure. ► These materials show high resistance to coking, making them potential candidates as SOFC anodes.

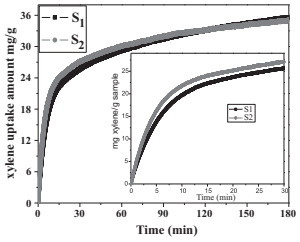


Xiujie Li, Chuanfu Wang, Shenglin Liu, Wenjie Xin, Yuzhong Wang, Sujuan Xie, Longya Xu

Journal of Molecular Catalysis A: Chemical 336 (2011) 34

Influences of alkaline treatment on the structure and catalytic performances of ZSM-5/ZSM-11 zeolites with alumina as binder

► Influences of alkaline treatment on the structural properties and catalytic performances of ZSM-5/ZSM-11 composite zeolites with alumina as binder at different preparation steps were studied. ► ZSM-5/ZSM-11-Al_2O_3 catalyst for 1-hexene isomerization and aromatization reaction. ► ZSM-5/ZSM-11 after extrusion followed by alkaline treatment exhibited best catalytic performance among four samples. ► Better mass transfer performance for aromatic molecules in sample S_2 was verified by the *m*-xylene uptake experiments using tapered element oscillating microbalance (TEOM).

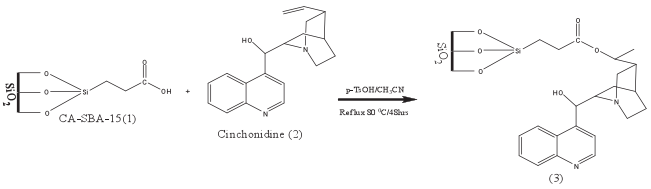


Muhammad Usman Azmat, Yong Guo, Yun Guo, Yanqin Wang, Guanzhong Lu

Journal of Molecular Catalysis A: Chemical 336 (2011) 42

An easy and effective approach towards heterogeneous Pt/SiO_2-cinchonidine catalyst system for enantioselective hydrogenation of ethyl pyruvate

► A unique heterogeneous chiral catalyst is developed for hydrogenation. ► Cinchonidine is directly tethered with CA-SBA-15. ► Pt nanoparticles deposit in the channels of cinchonidine-tethered CA-SBA-15. ► Catalyst system provides a maximum of 70.8% e.e. value with adequate recyclability.

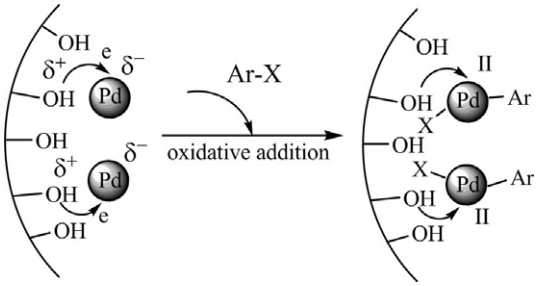


Zhe Gao, Yingjun Feng, Fangming Cui, Zile Hua, Jian Zhou, Yan Zhu, Jianlin Shi

Journal of Molecular Catalysis A: Chemical 336 (2011) 51

Pd-loaded superparamagnetic mesoporous $NiFe_2O_4$ as a highly active and magnetically separable catalyst for Suzuki and Heck reactions

► NF300 support combines magnetic, mesoporous and basic solid properties. ► Pd/NF300 catalyst showed high activity for both Suzuki and Heck reactions. ► A synergetic catalytic effect was proposed.

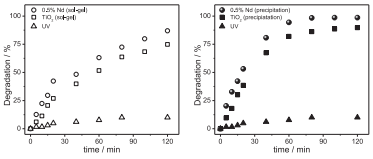


T.L.R. Hewer, E.C.C. Souza, T.S. Martins, E.N.S. Muccillo, R.S. Freire

Journal of Molecular Catalysis A: Chemical 336 (2011) 58

Influence of neodymium ions on photocatalytic activity of TiO_2 synthesized by sol–gel and precipitation methods

► Nd doping had an influence on the physical and chemical properties of TiO_2. ► The syntheses route and Nd presence play a very important role in the TiO_2 properties. ► Nd doping change the transition phase temperature of TiO_2. ► Nd–TiO_2 is photocatalytic more efficient than undoped TiO_2.

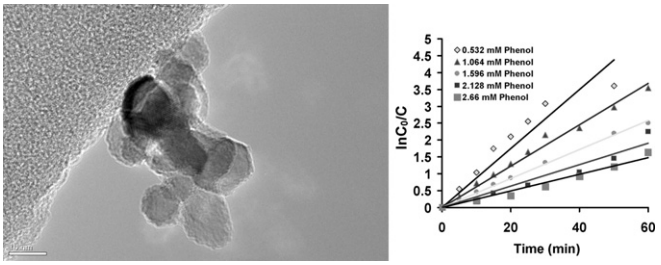


Khizar Hayat, M.A. Gondal, Mazen M. Khaled, Shakeel Ahmed

Journal of Molecular Catalysis A: Chemical 336 (2011) 64

Effect of operational key parameters on photocatalytic degradation of phenol using nano nickel oxide synthesized by sol–gel method

► Nano NiO was prepared by modified sol–gel method. ► Synthesized nano NiO was characterized using HRTEM, FESEM, XRD and EDX techniques. ► The particle size was 6.5 nm estimated by Scherrer formula and confirmed by HRTEM. ► 97% Photocatalytic degradation of phenol was achieved over the synthesized nano-NiO. ► The key operational parameters significantly influence the degradation of phenol.

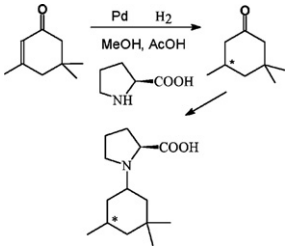


Nóra Győrffy, Antal Tungler

Journal of Molecular Catalysis A: Chemical 336 (2011) 72

Effect of basic and acidic additives on the (*S*)-proline and Pd mediated kinetic resolution of 3,5,5-trimethyl cyclohexanone and asymmetric hydrogenation of isophorone

► Acids increased reaction rate but decreased selectivity in kinetic resolution. ► Triethyl amine increased rate and selectivity as well. ► Both acids and bases decreased enantioselectivity in isophorone hydrogenation. ► The neutral medium was necessary for the direct asymmetric C═c hydrogenation.

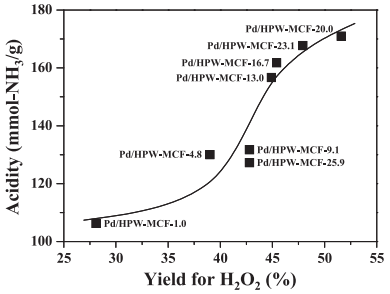


Sunyoung Park, Dong Ryul Park, Jung Ho Choi, Tae Jin Kim, Young-Min Chung, Seung-Hoon Oh, In Kyu Song

Journal of Molecular Catalysis A: Chemical 336 (2011) 78

Direct synthesis of hydrogen peroxide from hydrogen and oxygen over palladium catalyst supported on $H_3PW_{12}O_{40}$-incorporated MCF silica

► Direct synthesis of hydrogen peroxide from hydrogen and oxygen was conducted. ► Palladium catalyst supported on $H_3PW_{12}O_{40}$-incorporated MCF silica was used. ► Acidity of Pd/$H_3PW_{12}O_{40}$-MCF catalyst played an important role. ► Yield for hydrogen peroxide increased with increasing acidity of the catalyst.

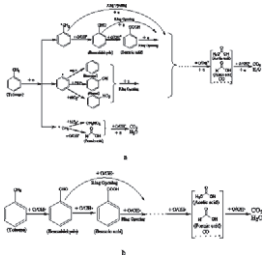


Haibao Huang, Daiqi Ye, Dennis Y.C. Leung, Fada Feng, Xiujuan Guan

Journal of Molecular Catalysis A: Chemical 336 (2011) 87

Byproducts and pathways of toluene destruction via plasma-catalysis

► The catalyst could significantly enhance the toluene destruction and reduce byproducts. ► The PAC process exhibited the highest efficiency in both toluene and O_3 destruction. ► More reactive species from O_3 catalytic decomposition is responsible for the increased activity. ► The pathways of toluene destruction in plasma-catalysis are greatly different to that in the NTP alone.

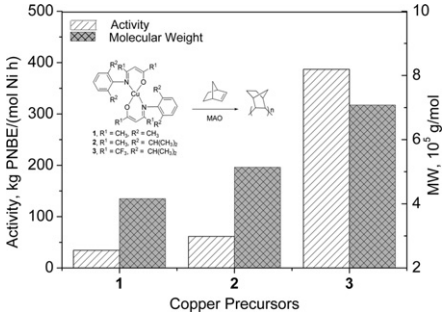


Lixia Pei, Haiyang Gao

Journal of Molecular Catalysis A: Chemical 336 (2011) 94

Bis(β-ketoamino) copper complexes for vinyl polymerization of norbornene: Correlation between precursor structure and catalytic activity

► Novel fluorinated bis(β-ketoamino) copper complex **3** is synthesized. ► Bulky steric substituents and electron-withdrawing groups can enhance activity. ► Cu(I) species for norbornene polymerization. ► Ligand abstraction.



Pravin V. Shinde, Vilas B. Labade, Bapurao B. Shingate, Murlidhar S. Shingare

Journal of Molecular Catalysis A: Chemical 336 (2011) 100

Application of unmodified microporous molecular sieves for the synthesis of poly functionalized pyridine derivatives in water

► Catalytic activity of acidic as well as basic sites present over the microporous molecular sieves has been demonstrated. ► These acid–base sites display the combined catalytic reactivity in tap/deionized water. ► Unmodified microporous molecular sieves has been used for the first time in water for carrying organic transformation. ► This synthetic strategy works under essentially neutral conditions by conventional as well as ultrasound method. ► Effect of ultrasound irradiations on the rate acceleration of reaction has been discussed.

S.M. Islam, Anupam Singha Roy, Paramita Mondal, Manir Mubarak, Sanchita Mondal, Dildar Hossain, Satabdi Banerjee, S.C. Santra

Journal of Molecular Catalysis A: Chemical 336 (2011) 106

Synthesis, catalytic oxidation and antimicrobial activity of copper(II) Schiff base complex

► A new heterogeneous and homogeneous Cu(II) complex has been synthesized. ► Both Cu(II) complexes oxidized alkenes with 30% H_2O_2 in air at room temperature. ► Both Cu(II) complexes oxidized alkanes and aromatic alcohols under above conditions. ► Homogeneous Cu(II) complex shows antibacterial activity. ► Heterogeneous Cu(II) complex can be recycled up to five times.