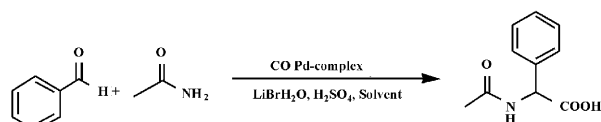


Effect of Solvents on Palladium-catalyzed Amidocarbonylation of Benzaldehyde, Acetamide and CO

LI Cheng, ZHAO Shui-xia,
ZHAO qing-lu, WANG Lai-lai

J. Mol. Catal. (China) **2008**, 22(2), 97 ~ 100

The Palladium-catalyzed amidocarbonylation of benzaldehyde, acetamide and CO was investigated using different co-



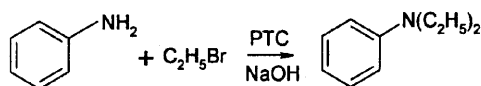
catalysts in various solvents. In contrast with high boiling point solvent N-methylpyrrolidone (NMP), the separation and purification of the desired product were greatly simplified and the reaction interface became more friendly using acetonitrile, polyethyleneglycol (PEG) and 1-hexyl-3-methylimidazolium hexafluorophosphate as solvents. For the first time PEG as solvent was employed in the reaction.

Study on Synthesis of N, N -Diethylaniline Using Ionic Liquids as Phase Transfer Catalysts

SHAO Li-li, WANG Wen-juan,
WANG You-fei, GONG Guo-zhen,
YANG Jian-guo

J. Mol. Catal. (China) **2008**, 22(2), 101 ~ 104

N, N - Diethylaniline was synthesized from aniline and



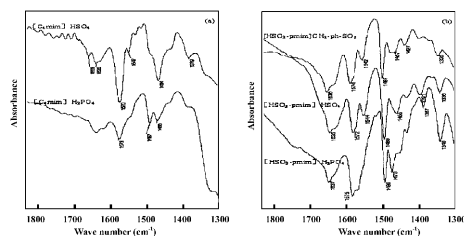
bromoethane with ionic liquids as phase transfer catalysts under atmospheric pressure. The optimum reaction conditions were mole ratio of aniling to bromoethane 1 : 2.5, the phase transfer catalyst 1.2 g (0.004 mol), the reaction temperature 60 °C and the reaction time 6 h under atmospheric pressure. The yield of N, N- diethylaniline reached to above 97% .

Synthesis of Tributyl Citrate using Acidic Functional Ionic Liquid as Catalyst

YONG Liang, XIE Cong-xia,
YANG Kai, YU Shi-tao,
LIU Fu-sheng

J. Mol. Catal. (China) **2008**, 22(2), 105 ~ 110

The Acidic functional ionic liquids were synthesized and identified . The brönsted acidity of the acidic functional ionic li-



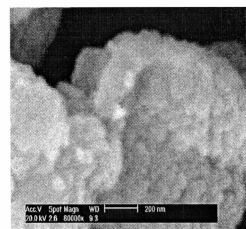
quids were determined, using pyridine as IR spectroscopic probes. [HSO₃-pmim] HSO₄, as acidic functional ionic liquid, had much better acidic catalytic activity and much better reusability to synthesis of TBC.

Synthesis and Characterization of Mordenite Nanocrystal

XING Shu-jian, CHENG Zhi-lin,
YU Hai-bin, XIANG Shou-he

J. Mol. Catal. (China) **2008**, 22(2), 111 ~ 116

The hollow spherical and elliptic mordenite crystals with average particle size less than 100 nm has been hydrothermally prepared by addition of NaCl and Na₂SO₄ to the system and the

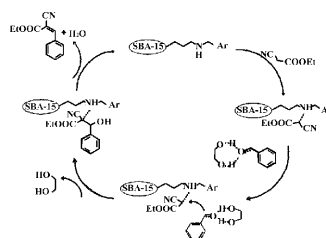


agitation crystallization. The SEM photograph shows that the hollow spherical and elliptic mordenite crystals are composed of many smaller nanoparticles.

The Synthesis, Characterization of Functionalized SBA-15 and the Solvent Effect in Knoevenagel Condensation

GAO Jin-bao, WANG Li-bing,
LIU Xiu-li, GAO Guo-hua

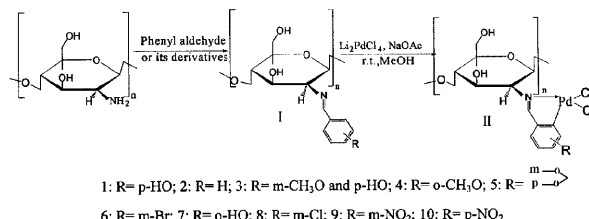
J. Mol. Catal. (China) **2008**, 22(2), 117 ~ 122



Catalytic Performance of Chitosan-imine-palladacycle Complexes in the Reaction of Iodobenzene with Acrylic Acid

LIU Pu, ZHANG Peng, LIU Ye,
LI San-hua, WANG Xiang-yu

J. Mol. Catal. (China) **2008**, 22(2), 123 ~ 127

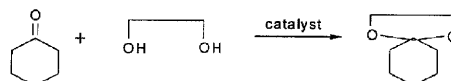


The catalytic performance of chitosan-imine-palladacycle complexes **1-10** was studied by the reaction of iodobenzene or its derivatives with acrylic acid.

Characterization of Activities of Catalysts using the Probe Reaction of Ketalization

GONG Guo-zhen, WANG You-fei,
LIANG Xue-zheng, GAO Shan,
YANG Jian-gu

J. Mol. Catal. (China) **2008**, 22(2), 128 ~ 131

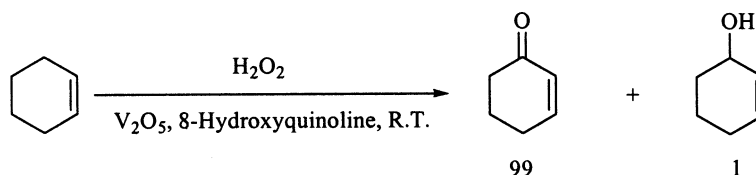


By raising a new conception of relative activity, the ketalization of cyclohexanone and glycol was used as the probe reaction to characterize activities of various acid catalysts. This method is simple and fast and can directly show different activities of different catalysts.

Modification of 8-Hydroxyquinoline on Cyclohexene Oxidation Catalyzed by V₂O₅

LI Jia-qi, MAO Li-qiu,
YIN Du-lin, GUO Jun

J. Mol. Catal. (China) **2008**, 22(2), 132 ~ 136



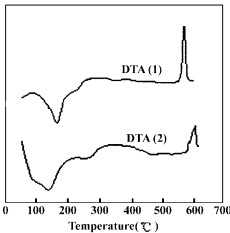
The catalytic oxidation of cyclohexene with hydrogen peroxide by V₂O₅ in acetone was modified through the addition of 8-hydroxyquinoline, which was high selectively converted to 2-cyclohexen-1-one at room temperature.

Catalytic Synthesis of n – Butyl Acetate with Attapulgite Supported Heteropolyacid

LI Gui-xian, WANG Xiao-ning, SI Hai-juan,
WANG Kong-zhao, HU Dong-cheng

J. Mol. Catal. (China) 2008,22(2) , 137 ~ 141

n Butyl acetate was prepared from acetic acid and n-butanol via supported heteropoly acid catalyst prepared by Attapulgite. The effect of preparation condition (acid concentration, roast temperature, the supported quantity) and reaction time, reaction temperature , the ratio of alcohol and acid , and the dosage of



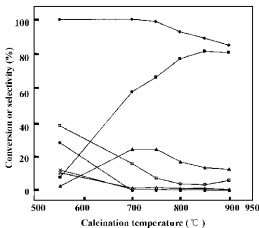
catalyst on reaction have been investigated. The optimized condition are as follows; the reaction temperature is 115 °C , the reaction time is 115 min, the ratio of alcohol and acid 2.5: 1, the amount of HAW/PAL is 3% (based on total mass of reaction substances). Under the optimum conditions, and the percentage of esterification could reach 94% .

Influence of Calcination Temperature on Structure, Composition and Catalytic Performance of Si-Ba-Cs-P Complex Oxide Catalyst

SUN Yan-hui, YAN Hai-sheng,
LIU Dong-xue, ZHAO De-feng

J. Mol. Catal. (China) 2008,22(2) , 142 ~ 147

Monoethanolamine (MEA) intramolecular dehydration catalyzed by Si-Ba-Cs-P complex oxide catalysts is highly influenced by conditions at the time of catalyst calcination. When catalyst was calcinated at 550 °C , the high MEA intermolecular dehydr-



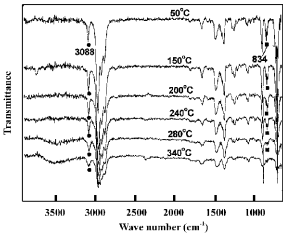
ation activity was achieved, but ethylenimine (EI) selectivity was low. When catalyst was calcinated at 800 ~ 900 °C , both high MEA intramolecular dehydration activity and high EI selectivity could be obtained. The various acidities and pore structures are influenced by phase changes of active sites formed at different calcination temperatures and result in different reaction activity of MEA dehydration.

Study on Selective Hydrodesulfurization Catalysts for Fluid Catalytic Cracking Gasoline Using in-situ Infrared

ZHANG Jing-cheng, YIN Wen-kui,
SHANG Hong-yan, WEI Fei,
LIU Chen-guang

J. Mol. Catal. (China) 2008,22(2) , 148 ~ 152

Adsorption properties of 1-octene, diisobutylene, thiophene and diisobutylene - thiophene over Co - Mo - S / CNT catalysts for

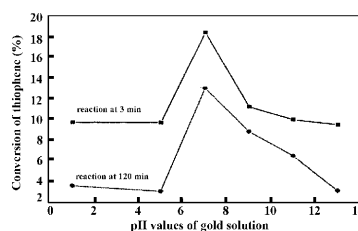


selective hydrodesulfurization (HDS) of fluid catalytic cracking (FCC) gasoline were subjected to in-situ IR analyses. The hydrogenation of diisobutylene and thiophene on the surface of Co-Mo-S/CNT may occur on two noncompetitive separate active sites.

Influence of pH Values of Gold Solution on Hydrodesulfurization of Thiophene over Au-Pd/SiO₂ Catalysts

MA Chun-yan, JIN Ming-shan,
LIAO Wei-ping, HE Tao,
SUO Zhang-huai

J. Mol. Catal. (China) **2008**,22(2), 153 ~ 157

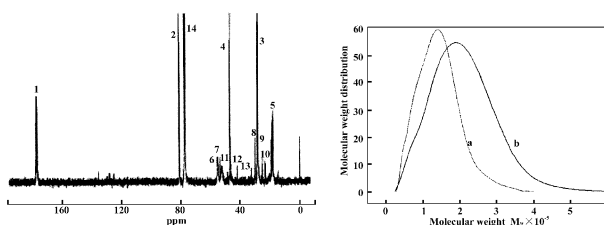


Au-Pd/SiO₂ catalyst prepared by gold solution with pH value of 7 gave the best HDS activity of thiophene. The formation of Au_xPd_y phase in Au-Pd/SiO₂ catalysts is responsible for improving the anti-sulfur capability.

Copolymerization of Norbornene and tert-ButylMethacrylate Catalyzed by Fe(acac)₃-Al(*i*-Bu)₃

HU Min-jie, YANG Jian-ping ,
ZHOU Guo-quan, GAO Hao-qi,
FANG Jiang-hua

J. Mol. Catal. (China) **2008**,22(2), 158 ~ 161

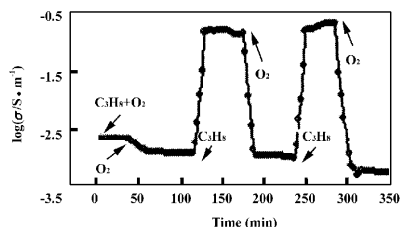


We have demonstrated the unprecedented copolymerization of norbornene and tert-butyl methacrylate catalyzed by Fe(acac)₃-Al(*i*-Bu)₃. The molecular weight distribution below 1.5 for yield up to 60%.

In Situ Electrical Conductivity Study of FeVO₄ Catalyst

XU Ai-ju, ZHAORIGETU Bao,
Jia Mei-lin, LIN Qin

J. Mol. Catal. (China) **2008**,22(2), 162 ~ 165



The FeVO₄ catalyst was prepared by solid state salt grinding method. Electrical conductivity of FeVO₄ catalyst was measured

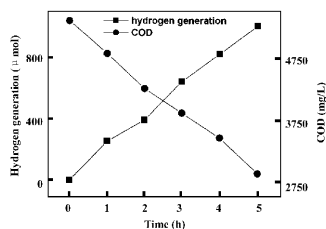
under different sequential gaseous atmospheres and at different temperatures to determine its conductivity type.

Photocatalytic Hydrogen Generation Using Glycerol Wastewater over Pt/TiO₂

LI Min, LI Yue-xiang,
PENG Shao-qin, LU Gong-xuan,
LI Shu-ben

J. Mol. Catal. (China) **2008**, 22(2), 166 ~ 171

Using glycerol as electron donor, the photocatalytic hydrogen generation over Pt/TiO₂ has been investigated. The

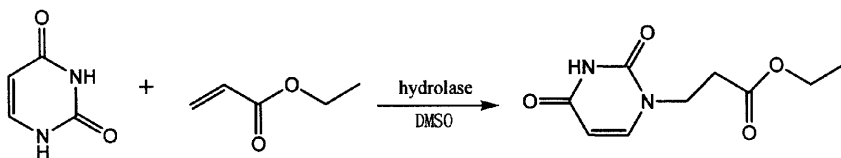


results show that glycerol not only can improve the efficiency of photocatalytic hydrogen generation but also be decomposed effectively. The factors which affect photocatalytic hydrogen generation were studied. A possible reaction mechanism was discussed.

Study on the Enzymatic Michael Addition of Uracil to Ethyl Acrylate

WANG Lei, DU chuang, XIE Yong-cheng,
MA Ling, DING Zhi-yong, WANG Zhi,
CAO Shu-gui

J. Mol. Catal. (China) **2008**, 22(2), 172 ~ 176



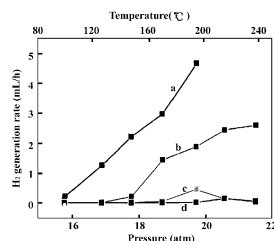
Four kinds of hydrolase were used to catalyze the Michael addition reaction of uracil to ethyl acrylate. The optimum conditions were screened out. Under the optimum conditions, 61.2% yield of the product was obtained.

Investigation of Photothermal-catalytic Hydrogen evolution from Water Splitting under Different Pressure

LI Qiu-ye, DU Quan-chao,
LU Gong-xuan

J. Mol. Catal. (China) **2008**, 22(2), 177 ~ 181

A new type of photothermal-catalytic water splitting reaction was conducted on a series of photocatalysts (TiS₂, Pt /



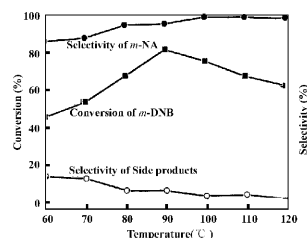
TiO₂, Ga₂O_{3-x}N_x, TiO_{2-x}N_x) under visible light irradiation, and the results showed that the pressure had a large effect on the photocatalytic activity of hydrogen evolution.

Selective Hydrogenation of *m*-Dinitrobenzene to *m*-Nitroaniline over the Supported-Iridium Catalyst

LIU Xin-mei, CHEN Jun-ru, LI Xian-jun

J. Mol. Catal. (China) **2008**, 22(2), 182 ~ 184

The supported-iridium catalyst was used for the selective hydrogenation of *m*-dinitrobenzene to *m*-nitroaniline. It exhibited



excellent catalytic performance and *m*-nitroaniline was obtained with high selectivity.

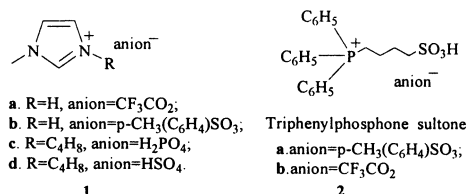
The Hydrophilic Ionic Liquids and Their Application in Catalysis

LU Rui-ling, LIU Jian-hua,

LI Zhen, CHEN Jing

J. Mol. Catal. (China) **2008**, 22(2), 185 ~ 192

The influence of water on the chemical and physical charac-



ters of ionic liquids are introduced, and also the influencing factors on the hydrophilicity of ionic liquids are discussed. The application of ionic liquids which are hydrophilic in catalytic reactions as catalysts are reviewed.

欢迎订阅《分子催化》

《分子催化》是由中国科学院主管、科学出版社出版,由中国科学院兰州化学物理研究所主办的向国内外公开发行的学术刊物. 主要报导有关分子催化方面的最新进展与研究成果. 辟有学术论文、研究简报、研究快报及进展评述等栏目. 内容侧重于络合催化、酶催化、光助催化、催化过程中的立体化学问题、催化反应机理与动力学、催化剂表面态的研究及量子化学在催化学科中的应用等. 工业催化过程中均相催化剂、固载化的均相催化剂、固载化的酶催化剂等的活化、失活和再生,以及用于新催化过程的催化剂的优选与表征等方面的稿件,本刊也很欢迎. 读者对象主要是科研单位及工矿企业中从事催化工作的科技人员、研究生、高等院校化学系和化工系师生. 欢迎相关专业人员投稿.

本刊为双月刊,每逢双月末出版,大16开本,约16万字,每册定价18.00元.

本刊为国内外公开发行. 中国标准刊号: ISSN 1001-3555/CN 62-1039/O6. 邮发代号: 54-69. E-mail 信箱: FZCH@lzb.ac.cn 网址: www.mcc.ac.cn

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