

Mn(TFPP) Cl-manganeseporphyrin-catalyzed Alkenes

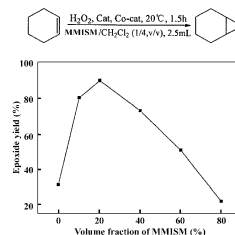
Epoxidation by Hydrogen Peroxide in a Room

Temperature Ionic Liquid

JING Se, LI Zhen, XIA Chun-gu

J. Mol. Catal. (China) **2008**,22(3) , 193 ~ 198

The cyclohexene conversion of 94.8% and selectivity to cyclohexene epoxide of 95.5% were obtained when the reaction



was performed in the mixed solvent of LMMIMS-CH₂Cl₂ (1/4, v/v) at room temperature. At the end of reaction, the ionic liquid-manganese(III) porphyrin system could be reused by extraction.

The Study of the Catalytic Activity of Functional

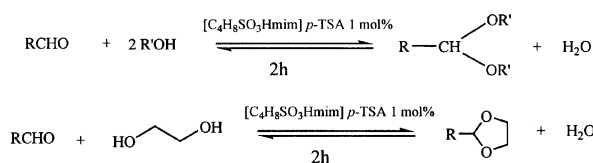
Ionic liquids for Acetalization

LONG Jin-xing, ZHAO Ying-wei, LIU Jian-hua,

LI Zhen, CHEN Jing

J. Mol. Catal. (China) **2008**,22(3) , 199 ~ 204

The SO₃H-functional ionic liquid [C₄H₈SO₃Hmim]*p*-TSA



is proved to be efficient catalyst in acetalization reaction under mild conditions. The catalyst can be recycled for 10 times without obvious loss of its activity although the dosage is only 1 mol% (relative to aldehyde).

Studies of Cation-Incorporated Hydrotalcites as Catalyst

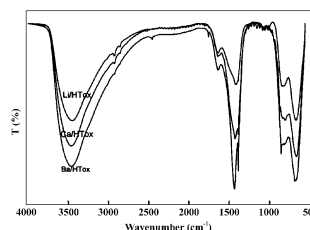
for Acetone condensation to Isophorone

LIU Yan-xia, SUN Kun-peng,

XU Xian-lun

J. Mol. Catal. (China) **2008**,22(3) , 205 ~ 208

Cation-incorporated (containing Li⁺、Ba²⁺、Ca²⁺) hydrotalcites were synthesized and were found to

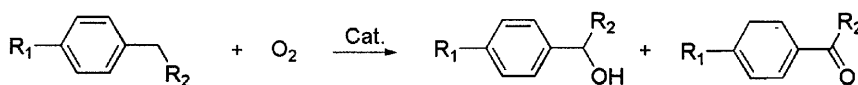


be efficient catalysts for the condensation of acetone to isophorone. FT-IR results showed these samples had the same structure and surface property.

The Side Chain Oxidation of Alkylbenzene Catalyzed by Fluorinated Metalloporphyrin/High Valent Metal Salt System with Molecular Oxygen

LI Xiao-gang, FENG Xiu-juan, HE Ren

J. Mol. Catal. (China) **2008**,22(3) , 209 ~ 213



Catalyst: TPFPPCo/K₂Cr₂O₇

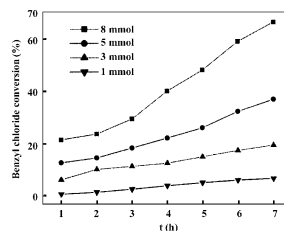
The high valent metal salt could remarkably promote the catalytic performance of fluorinated metalloporphyrin for the side chain oxidation of ethylbenzene and its derivative with molecular oxygen. Among of them, K₂Cr₂O₇ was the most effective. Under optimum conditions, the conversion of ethylbenzene reached 55.2% with 51.0% yield of acetophenone.

Preparation of Tricatalyst with Graft-Type and its Catalytic Activity

QI Chang-sheng, GAO Bao-jiao,
YANG Ying, GUO Hao-peng

J. Mol. Catal. (China) **2008**, 22(3), 214 ~ 219

The graft type tricatalyst QPSt/SiO₂ has higher catalytic

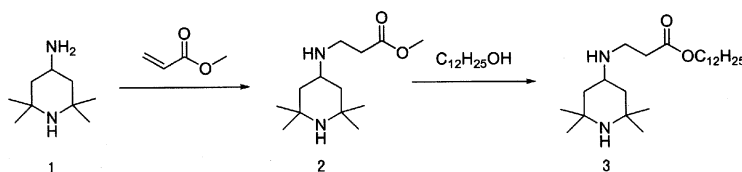


activity in the synthesis of benzyl acetate, and its catalytic activity is enhanced with the increase of the used amount.

Synthesis of a New Novel Light Stabilizer Dodecyl 3-(2, 2, 6, 6-Tetramethylpiperidin-4-yl-Amino) Propanoate

WANG Juan, WANG Yue, CHEN Li-gong, LI Yang, YAN Xi-long,
WANG Dong-hua, DENG Yi

J. Mol. Catal. (China) **2008**, 22(3), 220 ~ 223



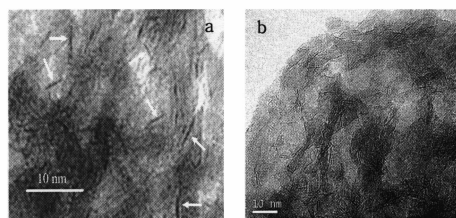
The title compound, dodecyl 3-(2, 2, 6, 6-tetramethylpiperidin-4-yl-amino) propanoate, was prepared from 3-(2, 2, 6, 6-tetramethylpiperidin-4-yl)-amine and methyl acrylate through Michael addition, then the product of Michael addition and dodecyl alcohol through transesterification. Technology parameters involved in transesterification were optimized.

Study on Characterization and Hydrogenization Performance of CoMoS/ γ -Al₂O₃ Catalyst Prepared by In-situ Decomposition Method

XIA Yuan-liang

J. Mol. Catal. (China) **2008**, 22(3), 224 ~ 229

A novel CoMoS/ γ -Al₂O₃ Catalyst was prepared by In-situ decomposition method. The morphological structure of catalysts was characterized by XRD, XPS and HRTEM. The results of



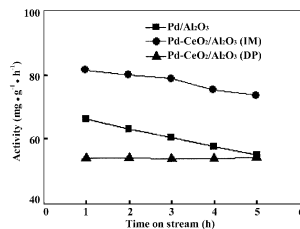
HRTEM indicated that the dispersion of MoS₂ on the catalyst surface was better, and the stacking degree of MoS₂ was higher than the catalyst that prepared by means of traditional method, these reason led the sulfide CoMoS/ γ -Al₂O₃ hydrotreating catalyst have a better HDS performance.

Influence of Preparation Methods on HDS Performance of Pd-CeO₂/Al₂O₃ Catalyst

LU Xun, LUO Lai-tao,
CHEN Xin-sun

J. Mol. Catal. (China) **2008**, 22(3), 230 ~ 235

Pd-CeO₂/Al₂O₃ (IM) catalyst prepared by the impregnation method exhibit much higher HDS activity than that of the Pd/Al₂O₃, but Pd-CeO₂/Al₂O₃ prepared by deposition precipitation

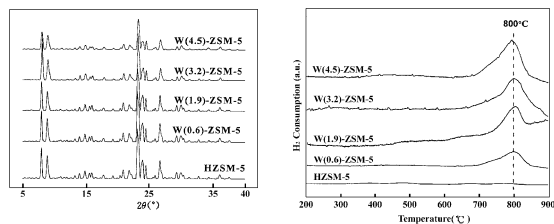


method show lower activity. The interaction between Pd, Ce³⁺ and Cl⁻¹ forms a interfacial structure of Pd-Cl⁻¹-Ce³⁺ in Pd-CeO₂/Al₂O₃ (IM) catalyst, which was responsible for the high activity of the catalyst.

Research on Catalytic Performance of W-Modified HZSM-5 Catalyst for C₄ Olefin Cracking

ZHANG Jian-jun, ZHOU Yu-ming,
YANG Kang-zhen, TANG Meng-han,
ZHANG Yi-wei

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ture of the catalyst was characterized by XRD and TPR. When used as a catalyst for n-butene cracking, the W/ZSM-5 catalyst shows great performance of catalytic cracking.

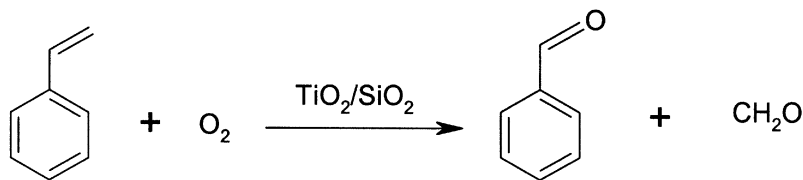
The W-Modified HZSM-5 catalyst was prepared. The struc-

Catalytic Oxidation of Styrene to Prepare Benzaldehyde over TiO₂/SiO₂

XIN Ke-ke, LI Wen- heng, ZHOU Xiao- ping

J. Mol. Catal. (China) **2008**, 22(3), 242 ~ 248

Major reaction:



Styrene oxidation by O₂ to prepare benzaldehyde and formaldehyde was investigated over TiO₂/SiO₂ catalysts. It was found that TiO₂ is an efficient catalyst for this reaction. However, the strength of TiO₂ is not good enough for catalyst formation and the reaction. The addition of SiO₂ improved the catalytic properties. The influences of TiO₂ to SiO₂ ratio, toluene to styrene ratio, toluene and styrene liquid flow, air flow, and catalyst calcination temperature on styrene conversion and benzaldehyde selectivity were investigated.

Preparation and Its Characterization of Nanometer

$\text{Ce}_{0.75}\text{Zr}_{0.25}\text{O}_2$ by Solid-solid

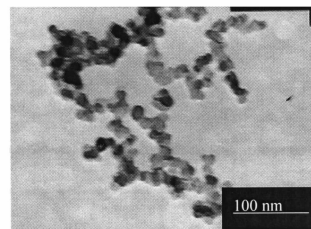
State Chemical Reaction Method

Zheng Yu-ying, Huang Hui-min,

Li Jun, DENG Ai-hua

J. Mol. Catal. (China) **2008**, 22(3), 249 ~ 253

The particles that were prepared by solid-solid chemical



reaction method were spherical shape with uniform dispersion, the average particles size was 15.8 nm, the S_{BET} was $85.4 \text{ m}^2/\text{g}$, and S_{BET} of the particles prepared by co-precipitation method was $81.9 \text{ m}^2/\text{g}$.

Kinetics and Mechanism of Catalytic Reduction

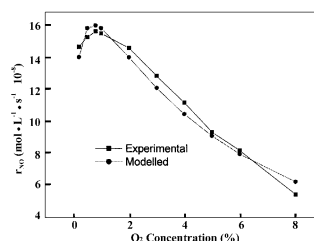
of NO by NH_3 over Mo/ZSM-5 Catalyst

HAN Ling-Cui, REN Pan-Jie,

LI Zhe, YANG Dong-hua

J. Mol. Catal. (China) **2008**, 22(3), 254 ~ 259

The mechanism of NO-SCR in the presence of ammonia has been presumed as L-H model. The reactants NO, NH_3 and O_2 are first adsorbed on the surface of catalyst, then the adsorbed



NO species reacted with adsorbed ammonia species on the surface to form N_2 and H_2O . And the calculations show an high consistency with the experiment results, which means the presumed mechanism is suitable to the performance of Mo/ZSM-5 catalyst.

Synthesis of Sugar Ester by Enzyme

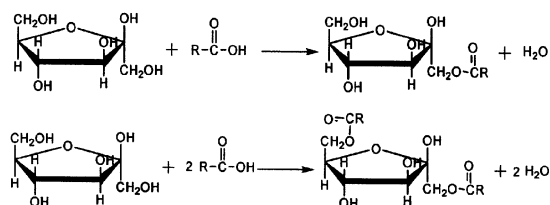
in a Solvent-free System

HU Jun, WANG Hai-ling, ZHU Kai,

XU Ning, HAN Ping-fang

J. Mol. Catal. (China) **2008**, 22(3), 260 ~ 264

The direct esterification of sugar and fatty acid in a solvent-



free system has attracted more and more scientists' attention, and the sugar ester has a great potential application in food and cosmetic industry and many other fields.

Research of Photocatalytic Degradation Partially

Hydrolyzed Polyacrylamide Influence Factors

in the Presence of Eu/TiO₂

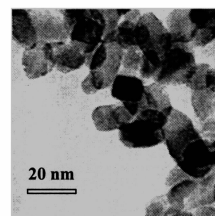
LI Jin-huan, KANG Wan-li,

YAN Wen-hua, LIU Zhong-he,

GUO Yi-hang

J. Mol. Catal. (China) **2008**, 22(3), 265 ~ 270

A new route, sol-gel co-condensation followed solvothermal treatment, to prepare europium oxide doped titania was devel

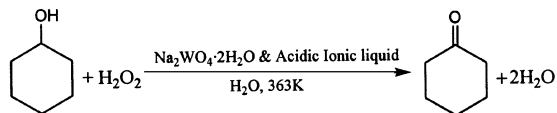


oped successfully. The composites exhibited enhanced photocatalytic activity towards partially hydrolyzed polyacrylamide (HPAM) degradation. The effect of photocatalytic conditions on degradation of HPAM was researched in the presence of UV light.

Environmentally Friendly Oxidation of Alcohols with Hydrogen Peroxide Catalyzed by Sodium Tungstate and Acidic Ionic Liquids

LANG Xian-jun, LI Zhen,
XIA Chun-gu

J. Mol. Catal. (China) **2008**, 22(3), 271 ~ 275

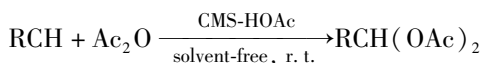


Sodium tungstate in combination with acidic ionic liquids is efficient catalyst system for oxidation of alcohols with 30% H_2O_2 at 363K under organic solvent free conditions. The present catalytic system is inexpensive, easy to handle and environmentally benign. In addition, it is reusable and exhibits consistent activity upon recycling.

Study on the Synergistic Effect and Reusability of Copper Methanesulfonate -Acetic Acid in Diacetoxylation of Aldehydes

WANG Min, SONG Zhi-guo,
GONG Hong, JIANG Heng

J. Mol. Catal. (China) **2008**, 22(3), 276 ~ 279



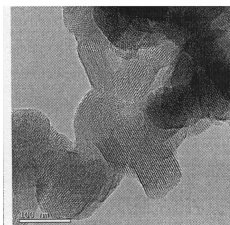
Copper methanesulfonate-acetic acid has been established as an efficient synergistic catalytic system for conversion of aldehydes to 1,1-diacetates in high yields at ambient temperature under solvent-free condition.

Recent Advances in Synthesis of Micro ~ mesoporous Composite Molecular Sieves

SONG Chun-min, YAN Zi-feng

J. Mol. Catal. (China) **2008**, 22(3), 280 ~ 287

Combined micro- and mesoporous materials were claimed to have advantages compared to the exclusively microporous or mesoporous materials. They provide improved diffusion rates for



transport in catalytic processes, better hydrothermal stability, multifunctionality to process a large variety of feedstocks, etc. Different porous materials that combine micro- and mesopores have been developed in the last few years.