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催化学报 Chinese Journal of Catalysis

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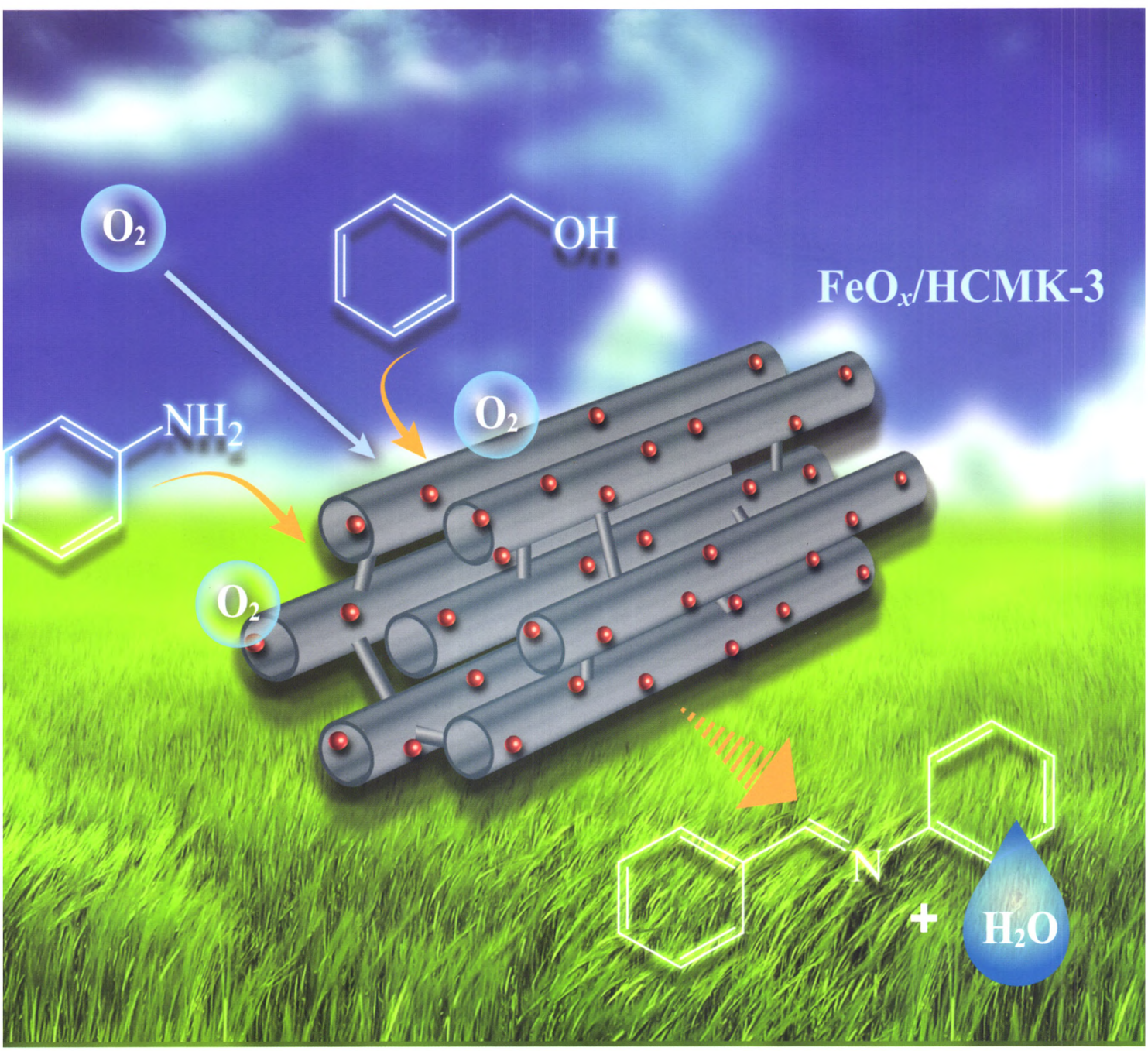

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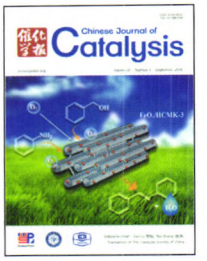


Chinese Journal of Catalysis

Graphical Contents

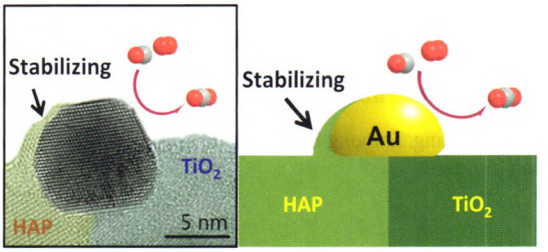
Highlights

Chin. J. Catal., 2016, 37: 1441–1442 doi: 10.1016/S1872-2067(16)62526-3

Ultrastable nanogold catalyst—on the way going to practical application

Masatake Haruta *
Tokyo Metropolitan University, Japan;
Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China

In the SMSI effect tuned catalyst, Au/TiO_2-HAP, the Au NPs are located at the TiO_2/HAP interfaces, forming anchored and partially covered Au NPs which are ultrastable and highly active for various high temperature reactions.

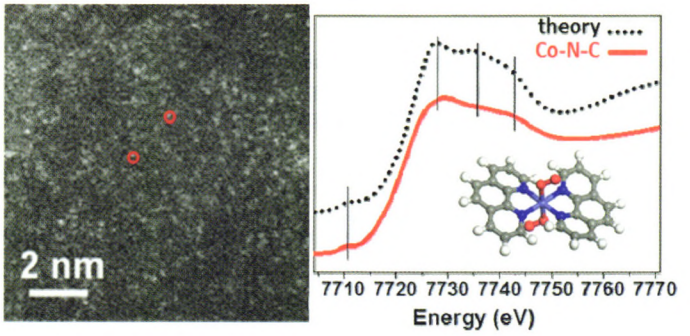


Chin. J. Catal., 2016, 37: 1443–1445 doi: 10.1016/S1872-2067(16)62520-2

Single Co atom catalyst stabilized in C/N containing matrix

Can Li *
Dalian Institute of Chemical Physics, Chinese Academy of Sciences

The single-atom Co-N-C catalyst recently published on *Chemical Sciences* (**2016**, 7, 5758–5764) has been highlighted in terms of correlation between homogeneous and heterogeneous catalysis.



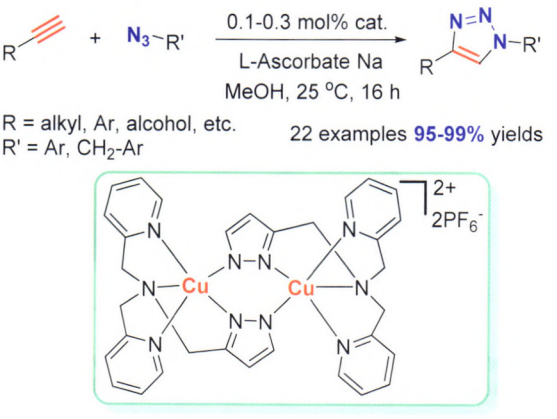
Communication

Chin. J. Catal., 2016, 37: 1446–1450 doi: 10.1016/S1872-2067(15)61121-4

Highly active binuclear Cu(II) catalyst bearing an unsymmetrical bipyridine-pyrazole-amine ligand for the azide-alkyne cycloaddition reaction

Baofeng Han, Xiao Xiao, Lan Wang, Wenjing Ye *, Xiaoping Liu *
Shenyang Pharmaceutical University

Binuclear Cu(II) complex bearing an unsymmetrical bipyridine-pyrazole-amine ligand was synthesized. The complex was an excellent catalyst in the CuAAC reaction. At 0.1–0.3 mol% catalyst loading all the 1,4-disubstituted triazoles were obtained in 95–99% isolated yields.



Articles

Chin. J. Catal., 2016, 37: 1451–1460 doi: 10.1016/S1872-2067(16)62506-8

Aerobic oxidative coupling of alcohols and amines to imines over iron catalysts supported on mesoporous carbon

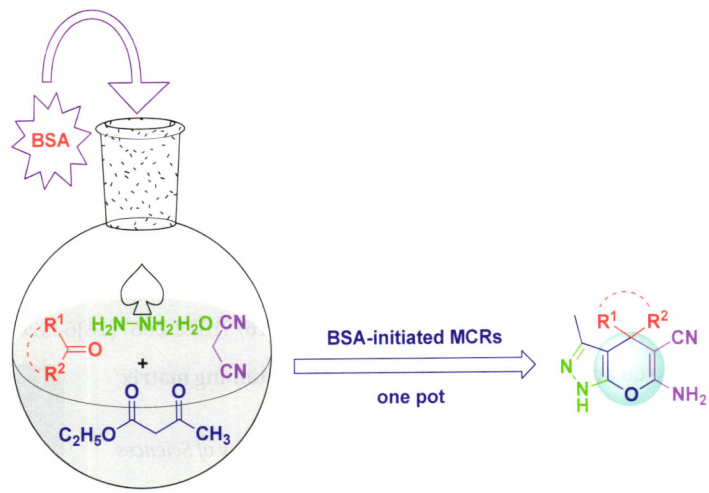
Longlong Geng, Jinling Song, Bin Zheng, Shujie Wu, Wenxiang Zhang, Mingjun Jia, Gang Liu *
Jilin University

Mesoporous-carbon-supported iron oxide is a highly efficient and recyclable catalyst for imine synthesis by oxidative coupling of alcohols and amines with air as the oxygen source.

Chin. J. Catal., 2016, 37: 1461–1468 doi: 10.1016/S1872-2067(15)61088-9

Bovine serum albumin: An efficient and green biocatalyst for the one-pot four-component synthesis of pyrano[2,3-c]pyrazoles

Xingtian Huang, Zhipeng Li, Dongyang Wang, Yiqun Li *
Jinan University

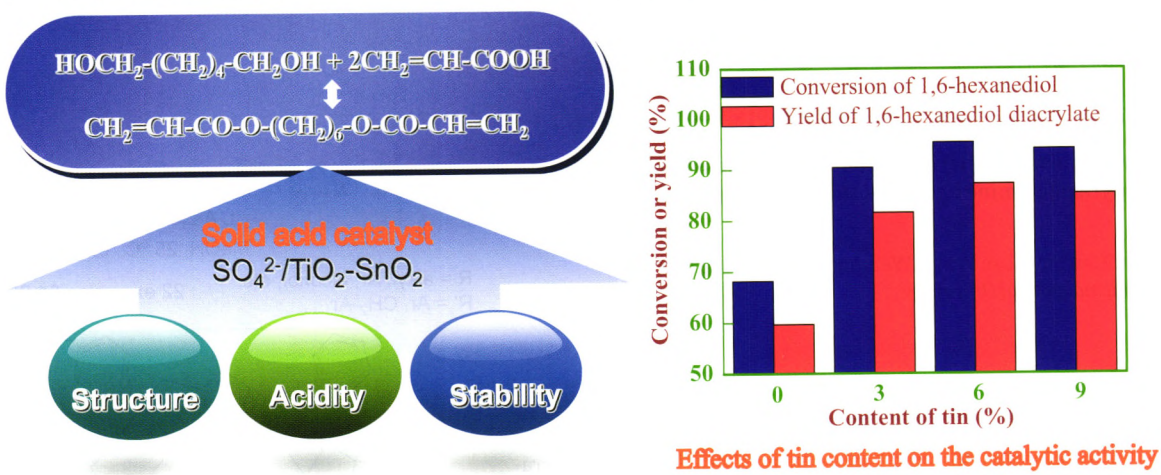


Bovine serum albumin has been used as an efficient and reusable biocatalyst for the synthesis of pyrano[2,3-c]pyrazoles under mild and environmentally benign conditions.

Chin. J. Catal., 2016, 37: 1469–1476 doi: 10.1016/S1872-2067(16)62474-9

A new solid acid SO_4^{2-}/TiO_2 catalyst modified with tin to synthesize 1,6-hexanediol diacrylate

Xiaxia Bai, Liuyi Pan, Peng Zhao, Daidi Fan, Wenhong Li *
Northwest University; Baoji University of Arts and Sciences; Shaanxi University of Chinese Medicine

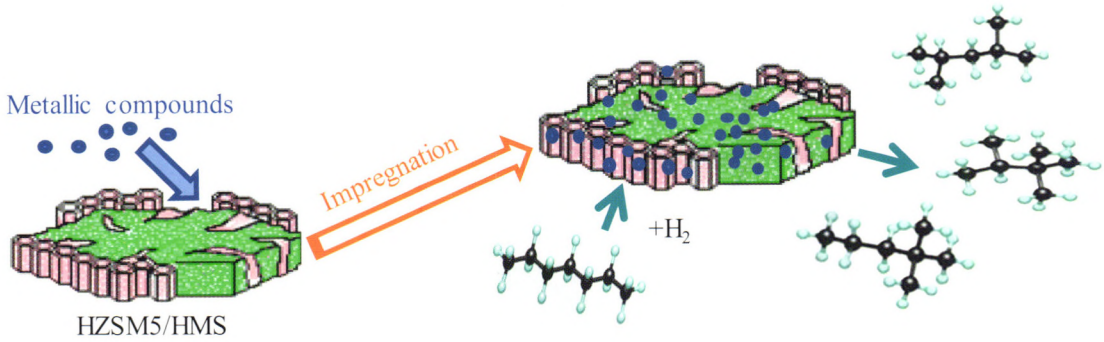


This work aimed to modify the solid acid catalyst used to synthesize 1,6-hexanediol diacrylate. The SO_4^{2-}/TiO_2 catalyst doped with tin is superior to the unmodified catalyst, which is explained by the structural features, acidity and thermostability of the modified catalyst.

Chin. J. Catal., 2016, 37: 1477–1486 doi: 10.1016/S1872-2067(15)61114-7

Experimental and kinetic study of *n*-heptane isomerization on nanoporous Pt-(Re,Sn)/HZSM5-HMS catalysts

N. Parsafard*, M. H. Peyrovi, M. Rashidzadeh
University of Shahid Beheshti, Iran; Research Institute of Petroleum Industry (RIPI), Iran

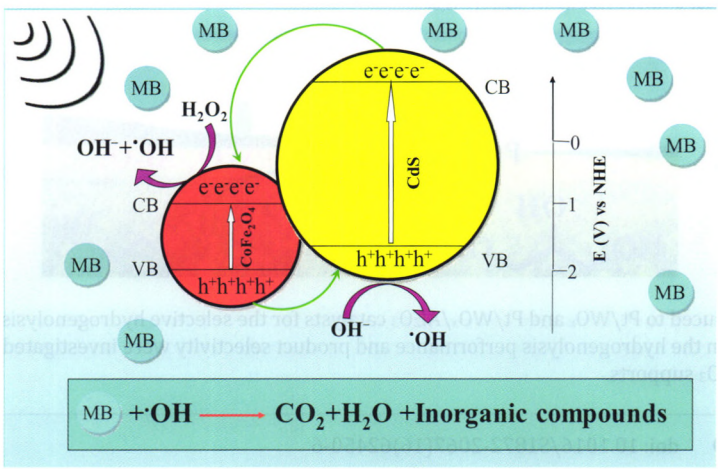


The characterization of improved catalysts for *n*-C_7 isomerization reaction, the effects of Re and Sn addition and temperature on activity, selectivity, catalytic stability, octane number and kinetics were investigated.

Chin. J. Catal., 2016, 37: 1487–1495 doi: 10.1016/S1872-2067(16)62473-7

$CoFe_2O_4$/CdS nanocomposite: Preparation, characterisation, and application in sonocatalytic degradation of organic dye pollutants

Saeed Farhadi*, Firouzeh Siadatnasab
Lorestan University, Iran



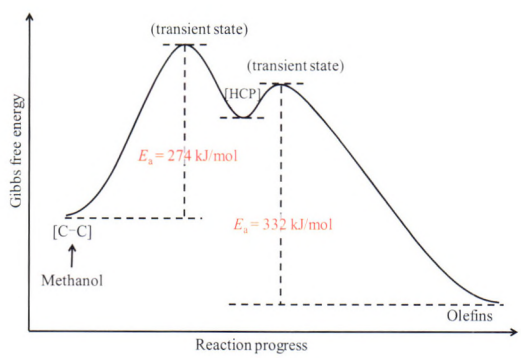
Magnetically separable $CoFe_2O_4$/CdS nanocomposite as an efficient sonocatalyst was synthesized by the hydrothermal technique and used for H_2O_2-assisted degradation of pollutant dyes under ultrasonic irradiation.

Chin. J. Catal., 2016, 37: 1496–1501 doi: 10.1016/S1872-2067(15)61110-X

Methanol-to-olefin induction reaction over SAPO-34

You Zhou, Liang Qi, Yingxu Wei, Cuiyu Yuan, Mozhi Zhang, Zhongmin Liu*
Dalian Institute of Chemical Physics, Chinese Academy of Sciences;
University of Chinese Academy of Sciences

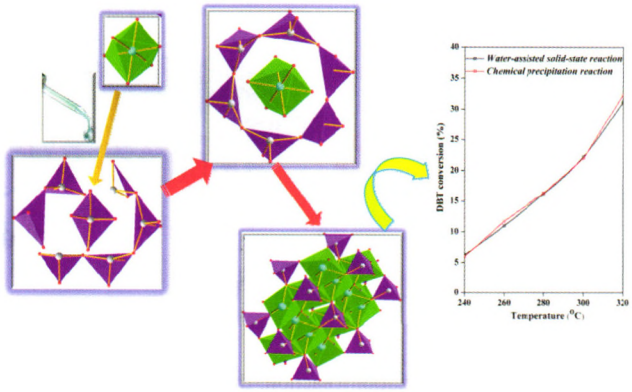
During the MTO induction reaction over SAPO-34 we found that the whole induction period could be divided into three reaction stages. The induction reaction behavior was different from that over the ZSM-5 catalyst.



Chin. J. Catal., 2016, 37: 1502–1512 doi: 10.1016/S1872-2067(16)62453-1

Sustainable synthesis of ammonium nickel molybdate for hydrodesulfurization of dibenzothiophene

Huan Liu, Changlong Yin, Hongyu Zhang, Chenguang Liu *
China University of Petroleum (East China); Sinopec Safety Engineering Institute

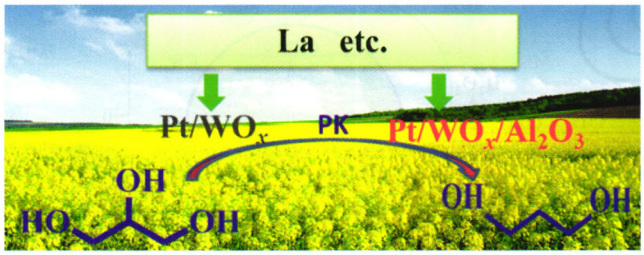


Ammonium nickel molybdate was synthesized, for the first time ever, using a water-assisted, solid-state method. The product exhibits comparable physicochemical and catalytic properties to ammonium nickel molybdate produced by a more traditional chemical precipitation method.

Chin. J. Catal., 2016, 37: 1513–1520 doi: 10.1016/S1872-2067(16)62479-8

Effect of promoters on the selective hydrogenolysis of glycerol over Pt/W-containing catalysts

Jia Wang, Nian Lei, Chaojun Yang, Yang Su, Xiaochen Zhao *, Aiqin Wang *
Dalian Institute of Chemical Physics, Chinese Academy of Sciences

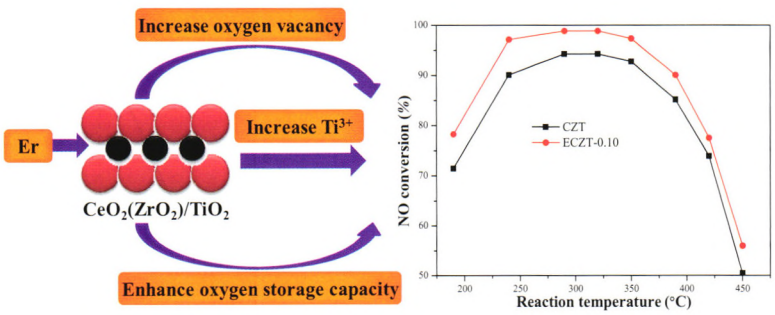


Different promoters were introduced to Pt/WO_x and Pt/WO_x/Al_2O_3 catalysts for the selective hydrogenolysis of glycerol to 1,3-propanediol. The effects of these promoters on the hydrogenolysis performance and product selectivity were investigated and detailed comparisons were made both with and without Al_2O_3 supports.

Chin. J. Catal., 2016, 37: 1521–1529 doi: 10.1016/S1872-2067(16)62450-6

Promotional effects of Er incorporation in $CeO_2(ZrO_2)/TiO_2$ for selective catalytic reduction of NO by NH_3

Qijie Jin, Yuesong Shen *, Shemin Zhu *, Xihong Li, Min Hu
Nanjing Tech University; Shandong Gemsky Environmental Technology Co.

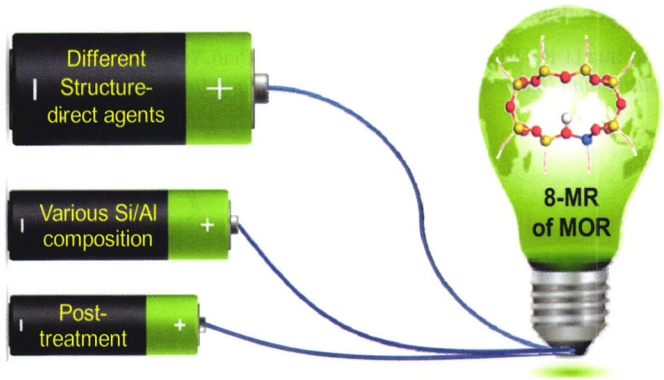


Er addition increased the concentrations of oxygen vacancies and Ti^{3+}, which improved the catalytic activity of $CeO_2(ZrO_2)/TiO_2$ for selective catalytic reduction of NO by NH_3.

Chin. J. Catal., 2016, 37: 1530–1538 doi: 10.1016/S1872-2067(16)62484-1

Modifying the acidity of H-MOR and its catalytic carbonylation of dimethyl ether

Meixia Wang, Shouying Huang *, Jing Lü, Zaizhe Cheng, Ying Li, Shengping Wang, Xinbin Ma *
Tianjin University; Collaborative Innovation Center of Chemical Science and Engineering (Tianjin)

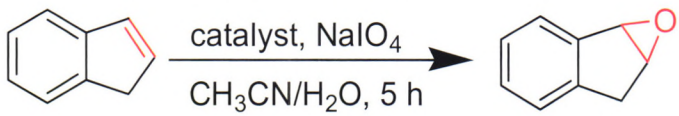


Using hydrothermal synthesis that favored a higher proportion of Brönsted acid sites in the 8-membered ring channel gave a higher yield of methyl acetate from dimethyl ether carbonylation.

Chin. J. Catal., 2016, 37: 1539–1549 doi: 10.1016/S1872-2067(16)62489-0

Enantioselective epoxidation of unfunctionalized olefins by Jacobsen's catalyst immobilized on amino-modified ZnPS-PVPA

Jing Huang *, Yan luo, Jiali Cai
Xihua University; Southwest University; Chongqing University of Arts and Science

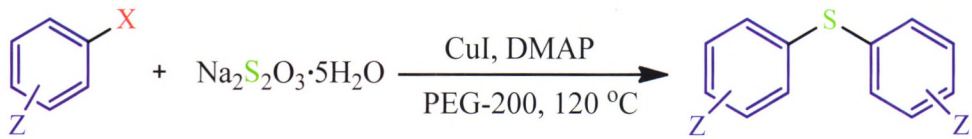


The recyclable catalysts immobilized salen Mn(III) onto ZnPS-PVPA upon diamines displayed superior catalytic ability both for experimental scale and for large-scale reactions.

Chin. J. Catal., 2016, 37: 1550–1554 doi: 10.1016/S1872-2067(16)62486-5

Thiol-free route to diaryl sulfides by Cu catalyzed coupling of sodium thiosulfate with aryl halides

Najmeh Nowrouzi *, Mohammad Abbasi, Hadis Latifi
Persian Gulf University, Iran



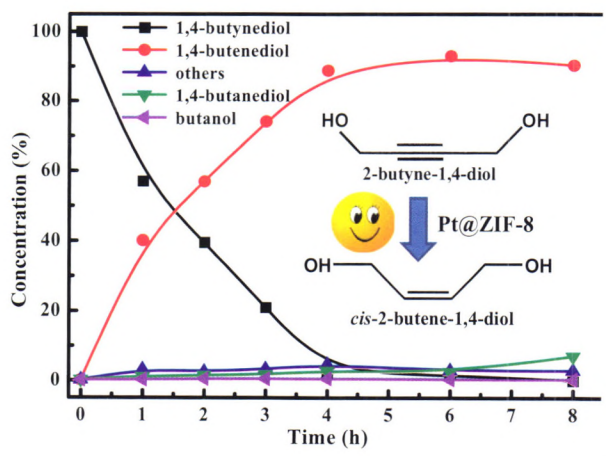
X = Br, I
Z = electron-donating and electron-withdrawing groups

Cu catalyzed coupling of aryl halides and $Na_2S_2O_3 \cdot 5H_2O$ was developed to make symmetrical diaryl sulfides.

Chin. J. Catal., 2016, 37: 1555–1561 doi: 10.1016/S1872-2067(16)62497-X

One-step synthesis of Pt@ZIF-8 catalyst for the selective hydrogenation of 1,4-butynediol to 1,4-butenediol

Chuang Li, Mingming Zhang, Xin Di, Dongdong Yin, Wenzhen Li, Changhai Liang *
Dalian University of Technology, China;
Iowa State University, USA

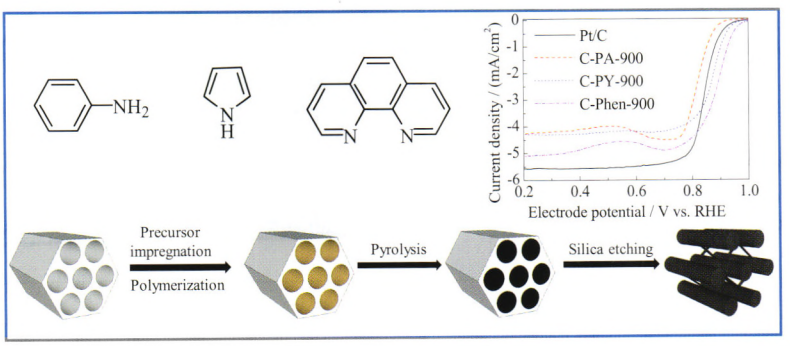


Pt@ZIF-8 was synthesized by a one-step method, and applied in the hydrogenation of 2-butyne-1,4-diol to 2-butene-1,4-diol, exhibiting high activity, selectivity, and absolute reusability.

Chin. J. Catal., 2016, 37: 1562–1568 doi: 10.1016/S1872-2067(16)62498-1

Nitrogen-doped ordered mesoporous carbon: Effect of carbon precursor on oxygen reduction reactions

Xiao-hua Li, Kai Wan, Quan-bing Liu, Jin-hua Piao, Yu-ying Zheng, Zhen-xing Liang *
South China University of Technology; Guangdong University of Technology



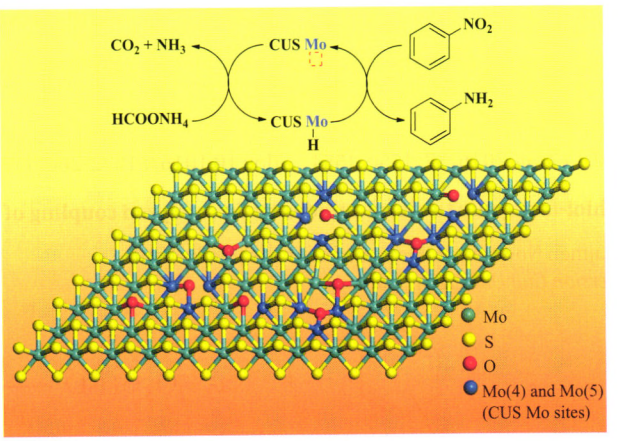
This work investigated carbon precursor influence on resultant nitrogen-doped ordered mesoporous carbon electrocatalysts. Precursors significantly influence both the composition and textural properties. Precursor and experimental pyrolysis design improves electrocatalytic activity for the oxygen reduction reaction.

Chin. J. Catal., 2016, 37: 1569–1578 doi: 10.1016/S1872-2067(16)62504-4

Chemoselective transfer hydrogenation to nitroarenes mediated by oxygen-implanted MoS_2

Chaofeng Zhang, Xu Wang, Mingrun Li, Zhixin Zhang, Yehong Wang, Rui Si, Feng Wang *
Dalian Institute of Chemical Physics, Chinese Academy of Sciences; Shanghai Institute of Applied Physics, Chinese Academy of Sciences; University of Chinese Academy of Sciences

We present an efficient approach for the chemoselective synthesis of arylamines from nitroarenes and formate over an oxygen-implanted MoS_2 catalyst (O-MoS_2). The O-MoS_2 was prepared by incomplete sulfidation and reduction of the ammonium molybdate precursor. O-MoS_2 with abundant CUS Mo sites efficiently catalyzed the chemoselective reduction of nitroarenes to arylamines.



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快 讯

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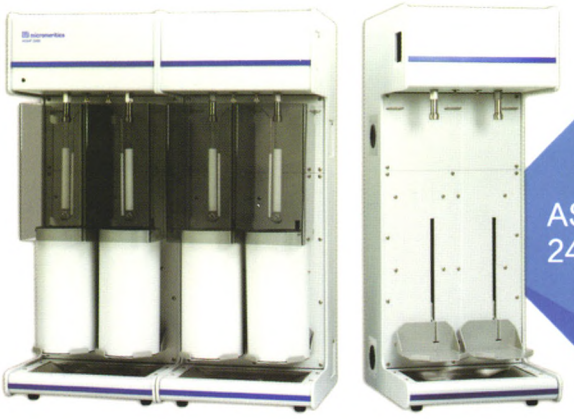

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