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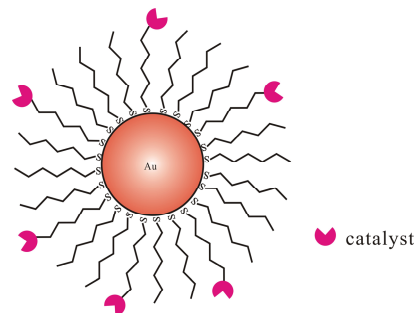
Review

Chin. J. Catal., 2010, 31: 1307–1315 doi: 10.1016/S1872-2067(10)60118-0

Monolayer-Protected Gold Nanoparticle Surface-Bound Catalysts: Preparation and Application

JIA Lifeng, HE Tao*, LI Zhipeng, LI Xue-Mei*
Nanjing University of Technology

Monolayer-protected gold nanoparticles were applied as catalyst using ligands that are catalytically active. Results show that these surface-bound catalysts demonstrate significant catalytic activity.



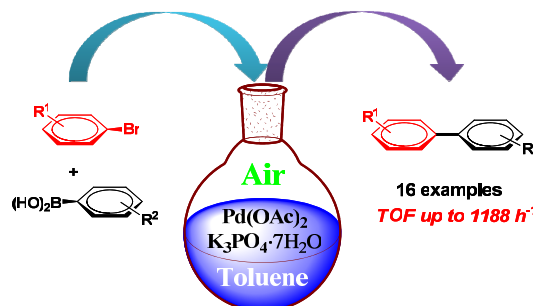
Communication

Chin. J. Catal., 2010, 31: 1316–1320 doi: 10.1016/S1872-2067(10)60119-2

An Efficient Protocol for a Pd(OAc)₂-Catalyzed Ligand-Free Suzuki Reaction in Toluene

LIU Ning, LIU Chun*, JIN Zilin
Dalian University of Technology

We developed a simple and efficient protocol for a Pd(OAc)₂-catalyzed aerobic ligand-free Suzuki reaction of aryl bromides with arylboronic acids in the presence of K₃PO₄·7H₂O in toluene.

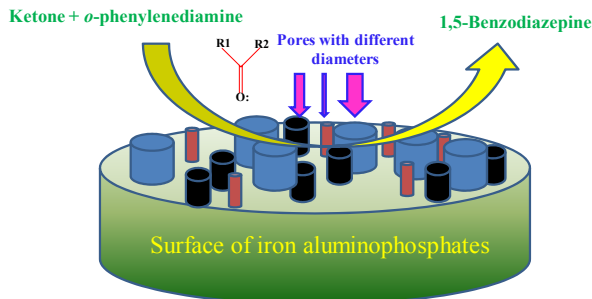


Articles

Chin. J. Catal., 2010, 31: 1321–1327 doi: 10.1016/S1872-2067(10)60120-9

Amorphous Mesoporous Iron Aluminophosphate Catalyst for the Synthesis of 1,5-Benzodiazepines

A. V. VIJAYASANKAR, S. DEEPA, B. R. VENUGOPAL, N. NAGARAJU*
St. Joseph's College Research Centre, India; Indian Institute of Science, India

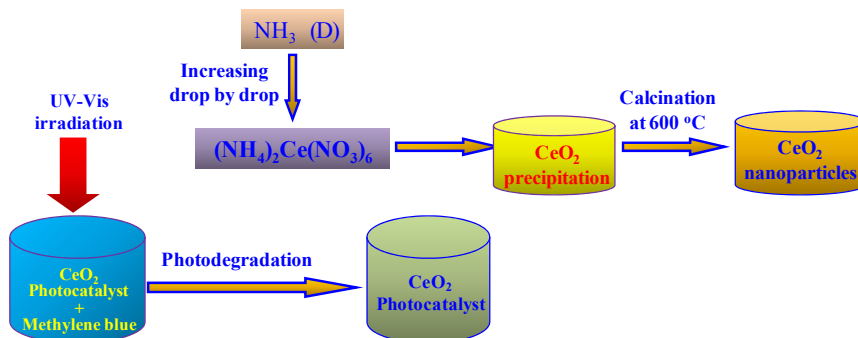


The catalytic activity of amorphous iron aluminophosphates for the selective synthesis of 1,5-benzodiazepines via condensation reaction is attributed to the synergetic effect (Al, P, and Fe) and mesoporous nature of the material.

Synthetic CeO₂ Nanoparticle Catalysis of Methylene Blue Photodegradation: Kinetics and Mechanism

H. R. POURETEDAL*, A. KADKHODAIE

Malek-Ashtar University of Technology, Iran; Islamic Azad University, Iran

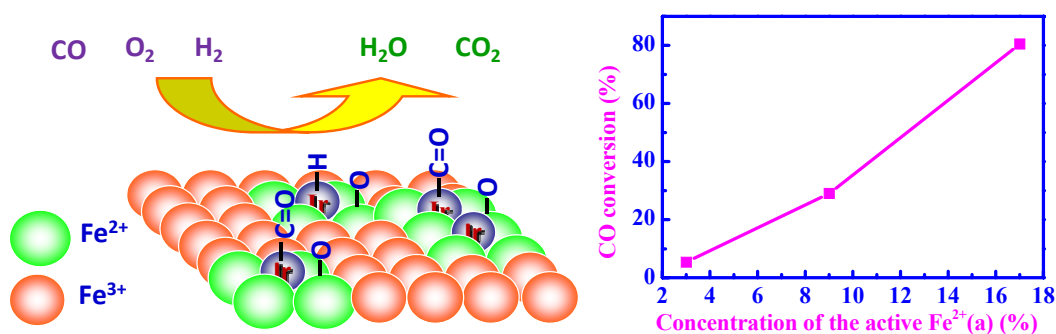


We prepared CeO₂ nanocrystals by a simple precipitation method. The CeO₂ nanoparticles were calcined at 600 °C and they consisted of a pure-phase in a cubic fluorite structure. These CeO₂ nanoparticles catalyze the photodegradation of methylene blue in a pseudo first order reaction.

⁵⁷Fe Mössbauer Spectroscopy of Ir-Fe catalysts for Preferential CO Oxidation in H₂

LIU Kuo, ZHANG Wansheng, WANG Junhu, WANG Aiqin, HUANG Yanqiang, JIN Changzi, SHEN Jianyi*, ZHANG Tao*

Dalian Institute of Chemical Physics, Chinese Academy of Sciences; Nanjing University



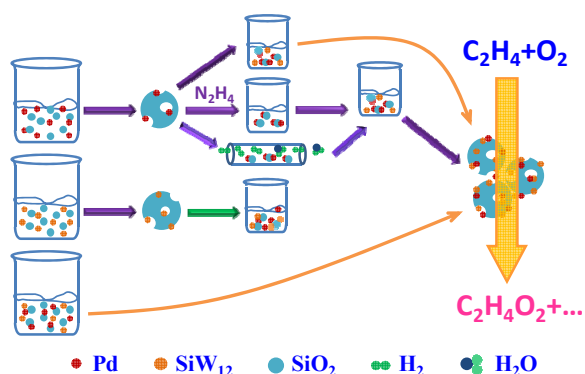
Fe²⁺(a) species of IrFe/Al₂O₃ was responsible for CO oxidation under H₂-rich conditions, and the amount of the active Fe²⁺(a) relates closely with the Ir-Fe interaction.

The Effect of Preparation Procedure on the Performance of Pd-SiW₁₂/SiO₂ Catalysts for the Direct Oxidation of Ethylene to Acetic Acid

XU Shuliang, CHU Wenling*, YANG Weishen*

Dalian Institute of Chemical Physics,
Chinese Academy of Sciences

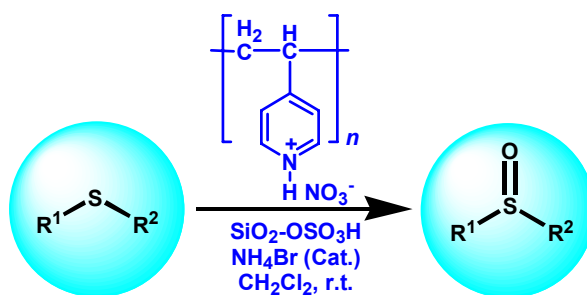
Pd-SiW₁₂/SiO₂ catalysts were investigated to elucidate the effect of preparation procedure on the direct oxidation of ethylene to acetic acid.



Catalytic Oxidation of Sulfides to Sulfoxides by Poly(4-vinylpyridinium nitrate), Silica Sulfuric Acid and Ammonium Bromide as Catalyst

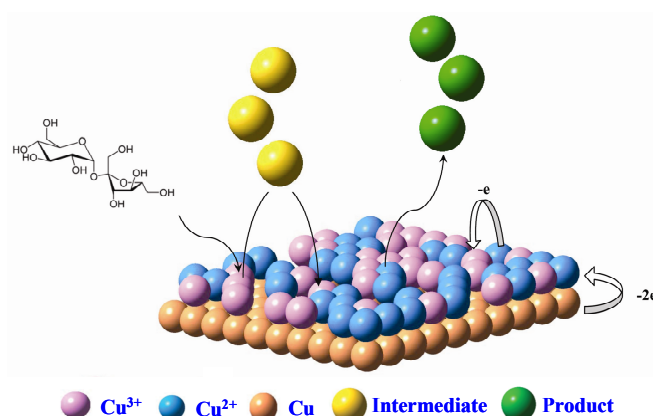
Arash GHORBANI-CHOGHAMARANI*, Sara SARDARI
Ilam University, Iran; Islamic Azad University, Iran

Various sulfides were oxidized chemoselectively to their corresponding sulfoxides by poly(4-vinylpyridinium nitrate), silica sulfuric acid, and a catalytic amount of ammonium bromide at room temperature under mild and heterogeneous conditions.



Electrochemical Oxidation of Saccharose on Copper (Hydr)oxide-Modified Electrode in Alkaline Media

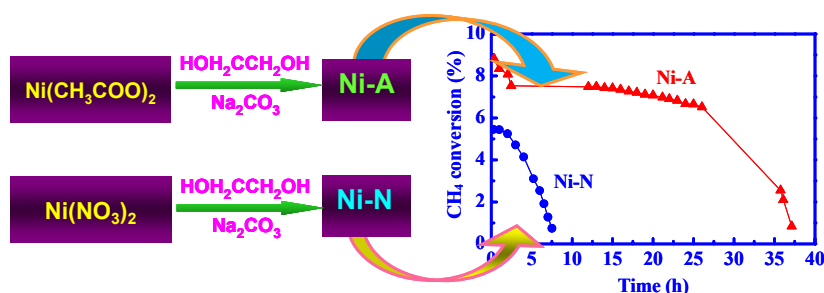
Majid JAFARIAN*, Mehdi RASHVAND AVEI, Iman DANAEI, Fereydoon GOBAL, Mohammad G. MAHJANI
K. N. Toosi University of Technology, Iran; Petroleum University of Technology, Iran; Sharif University of Technology, Iran



The electrochemical oxidation of saccharose on a copper (hydr)oxide-modified electrode by the electrochemical generation of Cu^{III} active sites and their consumption by saccharose is discussed.

Influence of Nickel Precursors on the Catalytic Activity of Non-supported Ni for Methane Decomposition

ZHANG Wei, GE Qingjie*, XU Hengyong*
Dalian Institute of Chemical Physics, Chinese Academy of Sciences



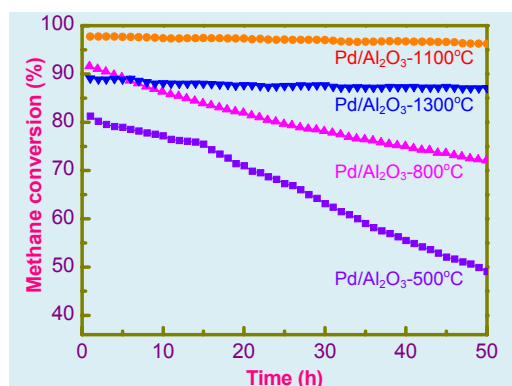
A Ni catalyst prepared from a nickel acetate precursor exhibited higher methane decomposition activity than a Ni catalyst prepared from nickel nitrate.

Methane Combustion over Pd/Al₂O₃ Catalyst: Effect of Calcination Temperature

GAO Diannan, WANG Sheng, LIU Ying, ZHANG Chunxi, WANG Shudong*

Dalian Institute of Chemical Physics, Chinese Academy of Sciences

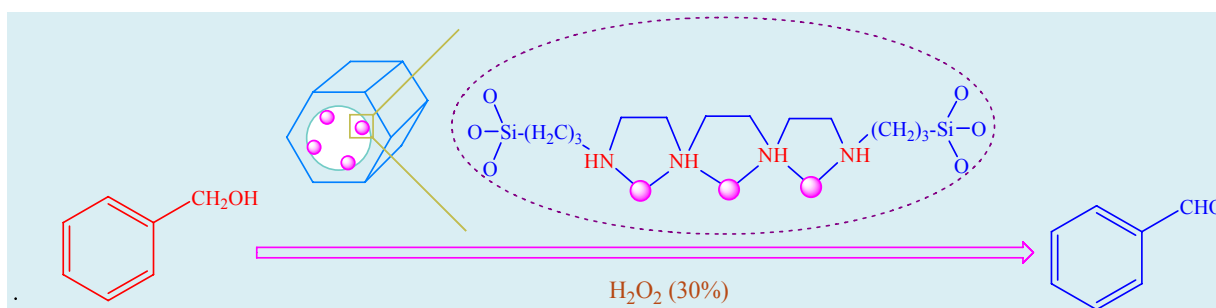
The calcination temperature for the Al₂O₃ support significantly affected the stability of the Pd/Al₂O₃ catalyst. When the calcination temperature increased, the structure of the support and the intensity of the acid sites changed slightly, and the dispersion of Pd and the interaction between Al₂O₃ and Pd decreased.



Selective Oxidation of Benzyl Alcohol Catalyzed by Pd/PMO-SBA-15 Catalyst

LIU Cheng, TAN Rong*, YIN Donghong*, YU Ningya, ZHOU Yuxu

Hunan Normal University; China Tobacco Hunan Industrial Corporation

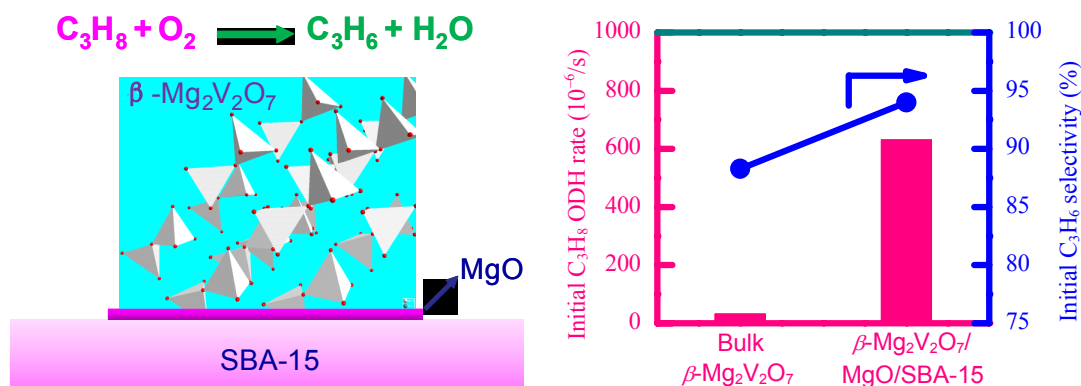


Pd nanoparticles stabilized by the incorporation of triethylenetetramine units in a periodic mesoporous organosilica (PMO) of SBA-15 were found to be an efficient catalyst for the selective oxidation of benzyl alcohol using hydrogen peroxide as an oxidant in water.

Preparation of SBA-15 Supported β -Mg₂V₂O₇ Catalysts and Their Properties in Oxidative Dehydrogenation of Propane

ZHANG Shenghong, ZHANG Hongpeng, SUN Jiying, LIU Haichao*

Peking University



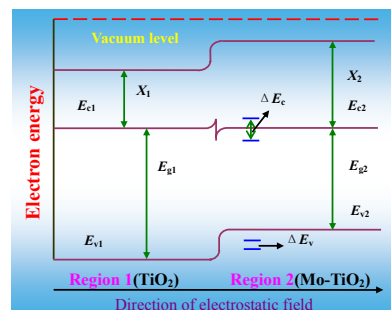
Compared with the bulk β -Mg₂V₂O₇, the β -Mg₂V₂O₇ dispersed on MgO-modified SBA-15 shows higher initial oxidative dehydrogenation rates and initial propene selectivity in oxidative dehydrogenation (ODH) of propane.

Preparation, Characterization, and Photocatalytic Activity of TiO₂/Mo-TiO₂

LIU Xingping, JIANG Rongying, LIU Song*

South China University of Technology

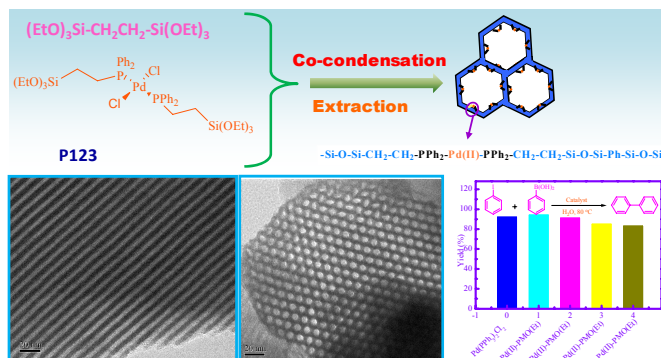
TiO₂/Mo-TiO₂ composite photocatalysts with an n-n junction semiconductor structure have a higher photocatalytic destruction rate for methyl orange than the Mo-TiO₂ photocatalyst and undoped TiO₂.



Preparation of Ordered Mesoporous Organometallic Pd(II) and Its Catalytic Performance for Suzuki Reactions in Water Medium

ZHU Fengxia, YANG Xushi, YANG Didi, LI Hexing*

Shanghai Normal University

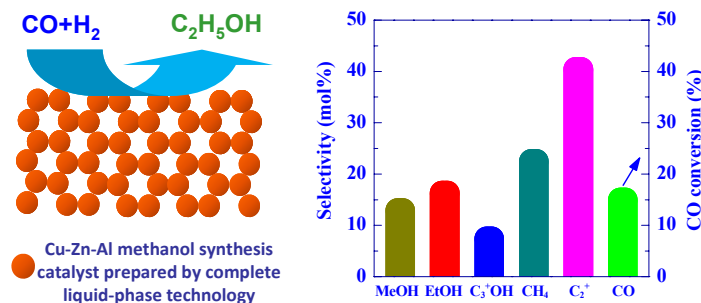


A novel Pd(II) organometal and ethyl bridged periodic silica was prepared by surfactant-directed co-condensation of (EtO)₃SiCH₂CH₂Si(OEt)₃ and Pd [PPh₂(CH₂)₂Si(OEt)₃]₂Cl₂ and exhibited high catalytic efficiency and durability in water-medium Suzuki reactions.

Effect of Carbon Promoters on the Performance of Cu-Zn-Al Catalyst Prepared by Complete Liquid-Phase Technology

HUANG Wei*, LI Wenhui, SUN Jingxiao, YIN Lihua

Taiyuan University of Technology



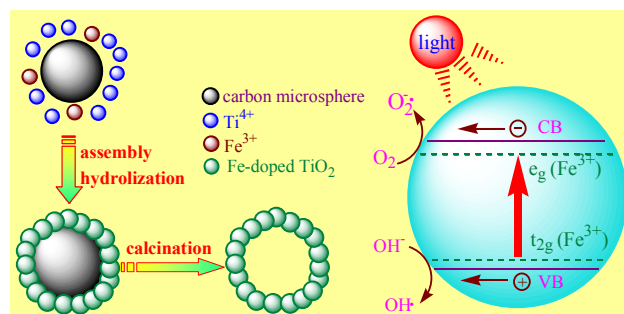
Cu-Zn-Al methanol synthesis catalysts prepared by complete liquid-phase technology shows the capacity of producing ethanol and C₂+ hydrocarbons, and the addition of carbon microspheres can significantly decrease the size of Cu⁰ particles and improve the selectivity for methanol.

Photocatalytic Activity of Fe-Doped Titania Hollow Spheres Prepared by Hydrothermal Precipitation

KUANG Jidong, LIN Bizhou*, CHEN Yilin, PIAN Xuetao, ZHANG Kezhi, ZHANG Ou

Huaqiao University

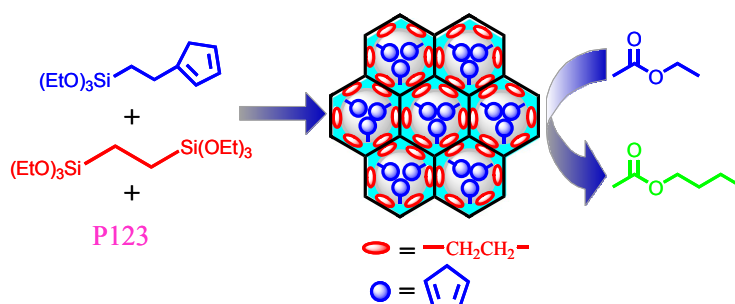
Fe-doped titania hollow spheres were prepared by a hydrothermal precipitation method with carbon microspheres (C-MS) as the template and exhibited higher photocatalytic activity for the degradation of methylene blue under visible light irradiation.



Preparation, Characterization and Application of Cyclopentadiene-Containing Mesoporous Ethanesilica

ZHOU Yuan, GAO Pengfei, ZHANG Tieming, WANG Yongzhao, ZHAO Yongxiang*

Shanxi University

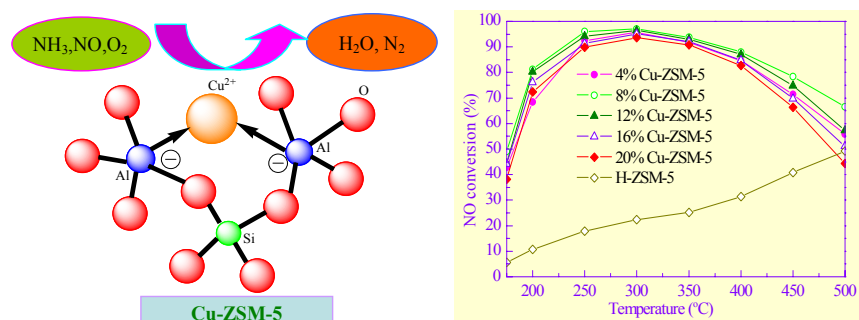


Mesoporous silica functionalized with the cyclopentadiene group in the mesopore was synthesized by co-condensation of silicon precursors with 1,2-bis(triethoxysilyl)ethane and (2-(cyclopenta-1,3-dienyl)ethyl)triethoxysilane using block copolymer P123 as a template in acid medium. This material exhibited catalytic activity in the transesterification of ethyl acetate and *n*-butanol.

Activity of Monolith Cu-ZSM-5 Catalyst for Selective Catalytic Reduction of NO with NH_3

ZHANG Qiulin, QIU Chuntian, XU Haidi, LIN Tao, GONG Maochu, CHEN Yaoqiang*

Sichuan University



The Cu-ZSM-5 catalyst has considerable performance for selective catalytic reduction of NO with NH_3 , and the more Cu ions occupied the cation sites of ZSM-5, so the catalytic activity of the catalyst is higher.