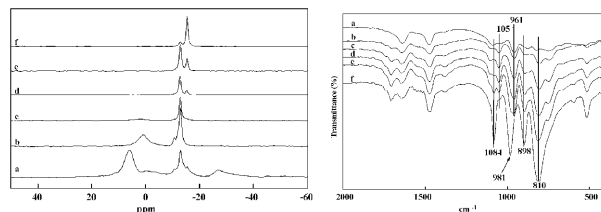


A Spectroscopic Study on Heteropolyphosphatungstate in The Alcohol Oxidation

ZHANG Sheng-jun, ZHAO Gong-da, GAO Shuang,
XI Zu-wei, XU Jie

J. Mol. Catal. (China) **2007**, 21(6), 499 ~ 502

The IR and ^{31}P NMR spectra study on alcohol oxidation



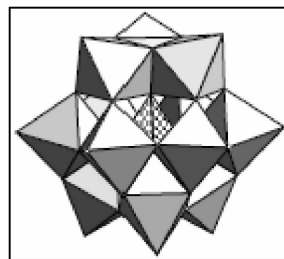
catalyzed by heteropoly-phosphatutugstate before, during and after reaction.

Characterization and Catalytic Performance of Tungstophosphoric Acid Catalysts Supported on Activated Carbon

LIU Xiao-di, LIU Shi-rong

J. Mol. Catal. (China) **2007**, 21(6), 503 ~ 509

Tungstophosphoric acid catalysts supported on activated carbon were studied, including their fourier transform infrared spectroscopy, X-ray diffraction spectrum, scanning electron



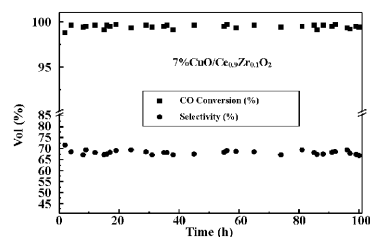
microscopy, and application in butylglycosidation.

The catalytic activity for selective CO oxidation at low temperature over $\text{CuO}/\text{Ce}_{0.9}\text{Zr}_{0.1}\text{O}_2$ in hydrogen-rich gas

HU Tao, YANG Jian, ZHAO Jun, WANG Dan-jun,
SONG Huan-ling, CHOU Ling-jun

J. Mol. Catal. (China) **2007**, 21(6), 510 ~ 514

Deactivation test over 7 % $\text{CuO}/\text{Ce}_{0.9}\text{Zr}_{0.1}\text{O}_2$ catalyst on the selective oxidation of CO in a feed with the presence of CO_2 and H_2O . The $\text{CuO}/\text{Ce}_{0.9}\text{Zr}_{0.1}\text{O}_2$ catalyst achieves target conversion (below 100 ppm), long stability, high selectivity for the competitive



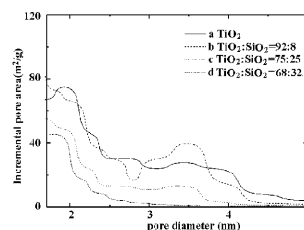
oxidation of CO in the presence of moist excess H_2 and CO_2 . Previous studies have used similar catalysts and have come close to achieving the target result, but the reaction temperature is higher than PEMFC anode operating temperature (80 ~ 150 °C) in simulative gas.

The Effect of Silica on Catalytic Properties of Titania/Silica Mixed Oxides in Preparation of Poly (ethylene terephthalate)

YANG Jing-hui, KONG Fan-tao, Ma Xin-sheng

J. Mol. Catal. (China) **2007**, 21(6), 515 ~ 519

$\text{TiO}_2/\text{SiO}_2$ mixed oxides, used as catalyst for PET synthesis, was prepared. The effect of SiO_2 on the crystallization of



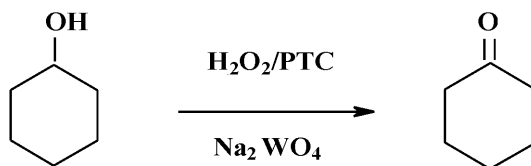
TiO_2 , surface acidity and pore structure of $\text{TiO}_2/\text{SiO}_2$ was investigated.

Preparation of Cyclohexanone through Oxidation of Cyclohexanol Using Ionic Liquids as Phase Transfer Catalysts

SHAO Li-li, WANG Wen-juan, PENG Hui-qi,
WANG You-fei, LIU Cai-hua, YANG Jian-guo

J. Mol. Catal. (China) **2007**, 21(6), 520 ~ 524

Cyclohexanol has been catalytically oxidized to cyclohexanone under a mild condition with $\text{Na}_2\text{WO}_4 \cdot 2\text{H}_2\text{O}$ as catalyst, H_2O_2 as oxidizing agent and ionic liquids as phase transfer catalysts. The effects of different phase transfer catalysts, the amount



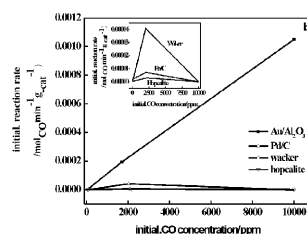
of catalyst $\text{Na}_2\text{WO}_4 \cdot 2\text{H}_2\text{O}$ the amount of H_2O_2 , reaction time, and temperature on the oxidation of cyclohexanol also have been studied. The conversion of cyclohexanol and the selectivity to cyclohexanone were about 100% and 99% respectively under optimum reaction condition. The activity of phase transfer catalysts still keep high stability after reused 5 times.

Reaction Kinetics on CO Oxidation over Different Catalysts at Room Temperature

DONG Tong-xin, WANG Dong-hui, LI Ming,
SHI Xi-cheng, ZHANG Ze-ting

J. Mol. Catal. (China) **2007**, 21(6), 525 ~ 528

The reaction kinetics of CO oxidation at ambient temperature on the nano-gold catalysts and commercial catalysts has been investigated using bath reactor. The CO conversion and initial



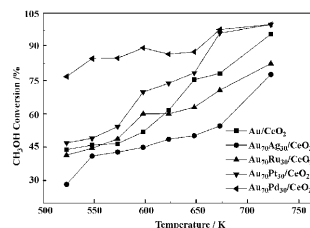
reaction rate constant have been calculated. The result shows that the nano-gold catalysts exert the best performance within the range of the concentration of the order from ppm to pct.

Effect of second constituent on the properties of the Au/CeO₂ catalyst for partial oxidation of methanol

CHEN Qing-bo, LUO Lai-tao

J. Mol. Catal. (China) **2007**, 21(6), 529 ~ 533

The Addition of the second constituent Pt or Pd can improve the activity of the Au/CeO₂ catalyst for partial oxidation of methanol



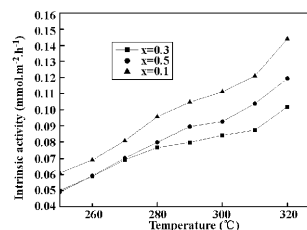
and $\text{Au}_{60}\text{Pd}_{40}/\text{CeO}_2$ catalyst shows higher activity, whereas adding Ag or Ru into Au/CeO_2 catalyst obtains lower activity.

Influence of Mn Addition on Synthesis of Lanthanum Based Mixed Oxides and its Properties for CO + NO Reaction

ZHONG Hua, ZENG Xi-ru

J. Mol. Catal. (China) **2007**, 21(6), 534 ~ 538

The NO reduction by CO, catalytic activity shows complete conversion below 400 °C and the order of activity increases with



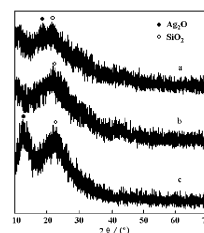
the increase of x. The catalytic activity is closely correlated with oxygen vacancy and trivalent ions at B-site.

Preparation and Catalytic Properties of Silica Supported Silver Oxide Complex Nanocatalyst

LIU Yu-zhang, CAI Bing-xin, ZHAN Yong-gong

J. Mol. Catal. (China) **2007**, 21(6), 539 ~ 544

The figure indicated the disposal progress of the complex nanocatalyst which prepared by Atomizing-combustion method with different Ag/Si ratios. In the figure, curve a indicated the complex nanocatalyst unroasted and unactivated, curve b indicated the complex nanocatalyst roasted and unactivated, curve c indicated the complex nanocatalyst roasted and activated. It is



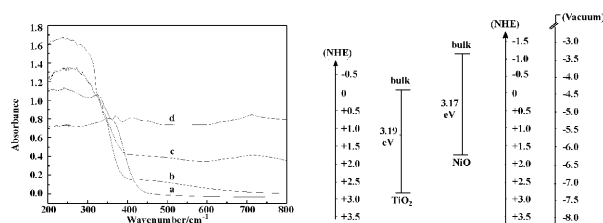
obviously find that the active-composition and the carrier's structure are changed after roasting and activation. under the catalysis of the complex nanocatalyst, it is the first time succeeded in gaining the epoxycyclohexane via one-step chemical combination of cyclohexane.

Study on Structure and Property of the Photocatalytic material NiO-TiO₂/SiO₂

LIU Yin, KONG Ling-li, ZHONG Shun-he

J. Mol. Catal. (China) **2007**, 21(6), 545 ~ 549

The Solid material of supported coupled semiconductors NiO-TiO₂/SiO₂ material greatly enhances the absorption of UV light comparing to the transition photo-catalyst TiO₂. Its expanded edge energy and varied band position not only holds



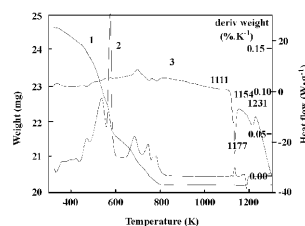
back the recombination of photoexcited electron-hole pairs; raises its utilization of the light energy but also improve the reaction ability between CO₂ and alcohol (methanol and ethanol).

Photodegradation of fermented molasses wastewater by combined Bi₂O₃-WO₃ catalysis and ozonation processes

LIU Zi-li, LIU Hong-mei

J. Mol. Catal. (China) **2007**, 21(6), 550 ~ 555

The degradations of fermented molasses wastewater was investigated by a combination of Bi₂O₃-WO₃-based photocatalysis and ozonation. The structure of the solid-state Bi₂O₃-WO₃ was



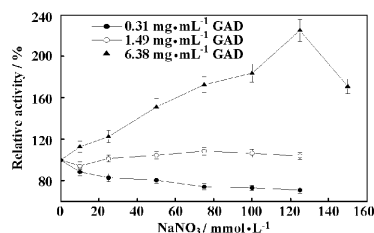
characterized by TG-DSC curve, X-ray diffraction, UV-Vis diffuse reflectance spectroscopy. The results showed that the effect of calcined temperatures on photo-catalytic activity of Bi₂O₃-WO₃ were obvious. The suitable calcined temperature was 1073K.

Mechanism of the Effects of Neutral Salts on Glutamate Decarboxylase Activity

YANG Sheng-yuan, LU Zhao-xin, LU Feng-xia,
BIE Xiao-mei, JIAO Yang, SUN Li-jun

J. Mol. Catal. (China) **2007**, 21(6), 556 ~ 560

The effects of various cations and anions on GAD activity and the effects of NaNO₃ on GAD activity at various protein concentrations were investigated respectively. The results indicated



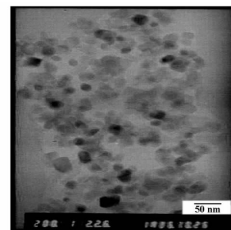
that the activation of neutral salts on GAD activity was the results of co-actions of weak inhibition and increasing the colloidal system's stability of GAD rather than the increase of hydrophobic interaction between subunits of GAD.

Synthesis Study of Biodegradable Aliphatic-Aromatic Copolyesters with Nano TiO₂-TBOT Catalyst

CHEN Xi-rong, ZHANG Wei, YAN Yi-fan,
ZHANG Yan-xia, ZHANG Jing-chang

J. Mol. Catal. (China) **2007**, 21(6), 561 ~ 565

Nanosized TiO₂, with the size, varying from 20 to 30 nanometer, was prepared from TiCl₄ by sol-gel method. TiO₂-TBOT



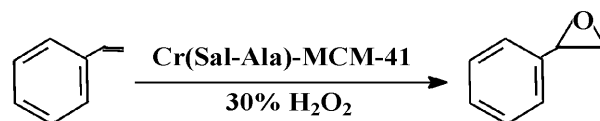
composite catalyst behaved high catalytic activity in synthesis reaction of aliphatic-aromatic copolyesters based on butanediol, adipic acid and terephthalic acid.

Preparation of Heterogenised Chromium Schiff Base Complex and Its Catalytic Performance for Styrene Epoxidation

WANG Xiao-li, WU Gong-de, GUO Qi-wen,
LI Jun-ping, ZHAO Ning, WEI Wei, SUN Yu-han

J. Mol. Catal. (China) **2007**, 21(6), 566 ~ 571

Conventional alanine-salicylaldehyde Schiff base chromium (III) complex was successfully immobilized onto MCM-41. The



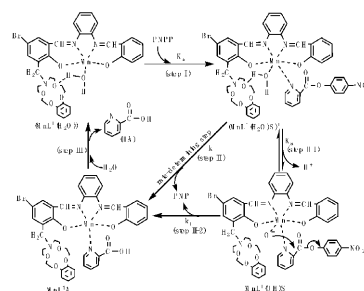
resulting immobilized complexes (Cr(Sal-Ala)-MCM-41) were effective catalysts for the epoxidation of styrene with 30% hydrogen peroxide and gave significant improvement in catalytic performance than their neat analogue.

Studies on the Kinetics of PNPP Hydrolysis Promoted by Unsymmetrical Salen-Mn(III) Complexes

WANG Ying, JIANG Wei-dong, FENG Xue-song,
LI Jian-zhang, ZENG Xian-cheng, CHEN Hua

J. Mol. Catal. (China) **2007**, 21(6), 572 ~ 578

Two unsymmetrical Salen-Mn(III) complexes have been employed to catalyze the hydrolysis of p-nitrophenol picolinate (PNPP) under various conditions. Two orders of magnitude rate



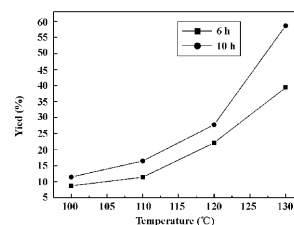
enhancements have been observed. Interesting structural effect of the title complexes on the hydrolytic rate of PNPP has also been discovered.

Studies on Catalytic Property of Complex P4VP-Cu(II) Supported on Silica Gel Particles

KONG De-lun, GAO Bao-jiao, ZHANG Yan

J. Mol. Catal. (China) **2007**, 21(6), 579 ~ 584

The catalytic oxidation of ethylbenzene to acetophenone was performed using molecular oxygen as oxidant under atmospheric pressure, and using the complex of poly(4-vinyl pyridine) and



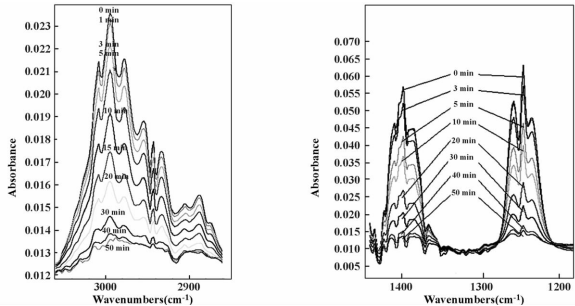
Cu(II) as catalyst, which is grafted on the surface of silica gel-silica gel particles, and the catalyst P4VP-Cu(II)/SiO₂ has excellent catalytic activity and selectivity.

FT-IR and GC-MS Study on the Gas Solid Phase Photocatalysis of DECP over Nano-TiO₂

ZHANG Jian-hong, GUO Nan, XI Hai-ling

J. Mol. Catal. (China) 2007,21(6) , 585 ~ 589

Dangerous Sarin like chemicals such as DMMP, TPP, DECP (Diethyl chlorophosphite) were photocatalytically degraded by photocatalytic oxidation on nano-TiO₂(P25) . DECP can be degraded to inorganic compounds by the chain-reaction of



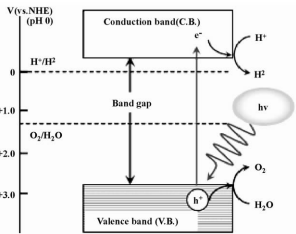
radicals. The products include CO₂ ,H₂O ,CO ,HCl ,et al.

Recent Progress of Photocatalytic Hydrogen Generation from Water Splitting

LI Qiu-ye, LU Gong-xuan

J. Mol. Catal. (China) 2007,21(6) , 590 ~ 598

Photocatalytic hydrogen generation from water splitting is a challenging topic due to its potential to obtain hydrogen energy from abundant water. Many efforts have been made in this field and a



series of interested results have been obtained. The progress of photocatalytic hydrogen production in the recent years is reviewed in this paper.

Advances in Removal of NO by non-thermal Plasmas and Catalysts

Li Hui-juan, Jiang Xiao-yuan, Zheng Xiao-ming

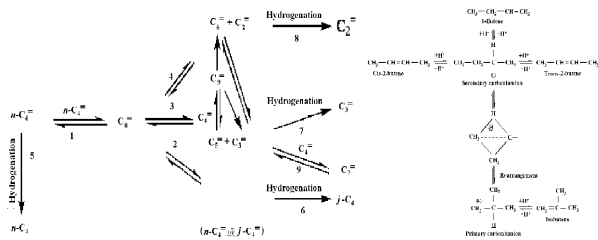
J. Mol. Catal. (China) 2007,21(6) , 599 ~ 604

Development of Research in Isomerization Catalysts for Light Linear Olefins

JIANG Jie, SONG Chun-min, XU Ben-jing, YAN Zi-feng

J. Mol. Catal. (China) 2007,21(6) , 605 ~ 611

The mechanism and the isomerization catalysts of light linear olefins were discussed. The studies on the isomerization catalysts



of light linear olefins were reviewed.