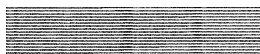


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(CUIHUA XUEBAO)

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相关信息

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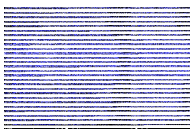
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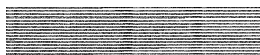
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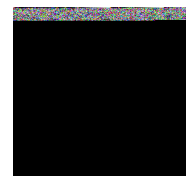
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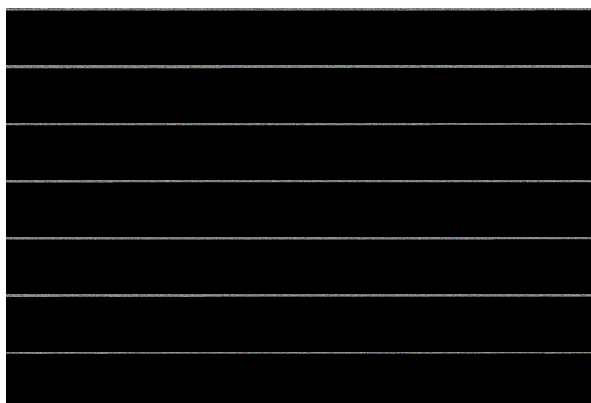
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Reviews

Chin. J. Catal., 2011, 32: 1–16 doi: 10.1016/S1872-2067(10)60154-4

Progress in Ru-Based Amorphous Alloy Catalysts for Selective Hydrogenation of Benzene to Cyclohexene

SUN Haijie, GUO Wei, ZHOU Xiaoli, CHEN Zhihao, LIU Zhongyi*, LIU Shouchang
Zhengzhou University

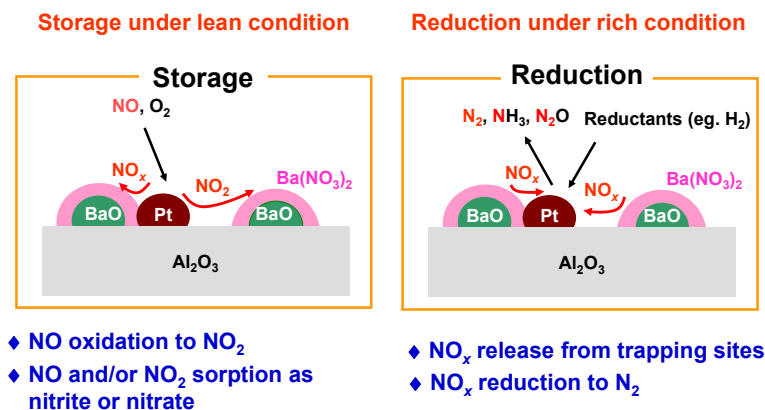


Recently developed Ru-based amorphous alloy catalysts for benzene selective hydrogenation to cyclohexene were reviewed. Pilot plant tests indicated that the catalysts are suitable for industrial use.

Chin. J. Catal., 2011, 32: 17–26 doi: 10.3724/SP.J.1088.2011.00904

NO_x Storage-Reduction Catalysis and Structure-Performance Relationship of Pt-BaO Catalyst

HU Zhun, SUN Keqiang*, XU Boqing
Tsinghua University



NSR catalysis is characterized by the alternative lean/rich conditions, and the combination of the stoichiometric reaction and the catalytic reaction on NSR catalyst. The fundamental chemistry on Pt-BaO catalyst was discussed followed by the role of Pt, BaO, and support material.

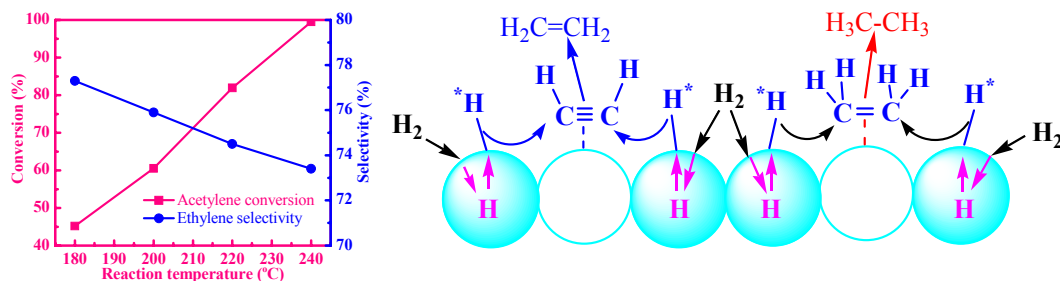
Communications

Chin. J. Catal., 2011, 32: 27–30 doi: 10.1016/S1872-2067(10)60155-6

Selective Hydrogenation of Acetylene over a MoP Catalyst

ZHOU Guilin, WANG Puguang, JIANG Zongxuan, YING Pinliang, LI Can*

Dalian Institute of Chemical Physics, Chinese Academy of Sciences; Shannxi Yanchang Petroleum Co., Ltd.



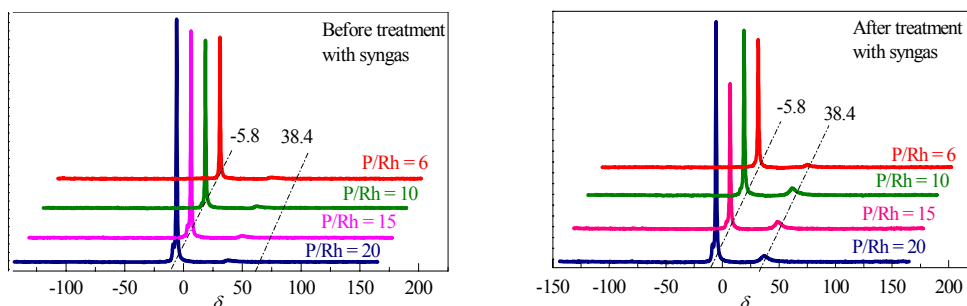
H_2 molecules can be activated by a MoP catalyst to form active hydrogen species, which can obtain the supplement from the gas phase hydrogen by hydrides in the bulk of MoP catalyst. Ethylene selectivity can exceed 73% when the acetylene conversion is higher than 99%.

Chin. J. Catal., 2011, 32: 31–35 doi: 10.1016/S1872-2067(10)60156-8

Influence of Phosphine Concentration on Propylene Hydroformylation over the $\text{PPh}_3\text{-Rh/SiO}_2$ Catalyst

YAN Li, DING Yunjie*, LIU Jia, ZHU Hejun, LIN Liwu

Dalian Institute of Chemical Physics, Chinese Academy of Sciences



In a syngas atmosphere, the physically adsorbed PPh_3 in $\text{PPh}_3\text{-Rh/SiO}_2$ catalysts migrate onto the surface of Rh/SiO_2 and are chemically adsorbed before promoting the in situ formation of carbonyl phosphine complexes.

Articles

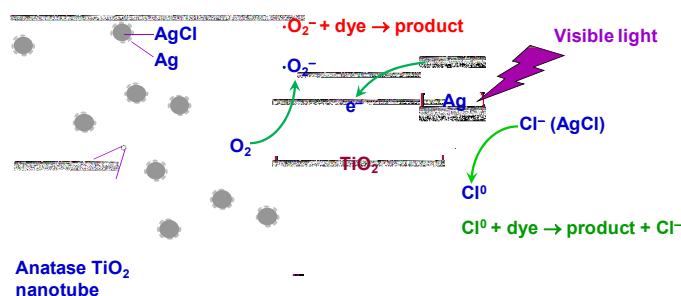
Chin. J. Catal., 2011, 32: 36–45 doi: 10.1016/S1872-2067(10)60157-X

Preparation and Photocatalytic Activity of Ag@AgCl Modified Anatase TiO_2 Nanotubes

WEN Yanyuan, DING Hanming*

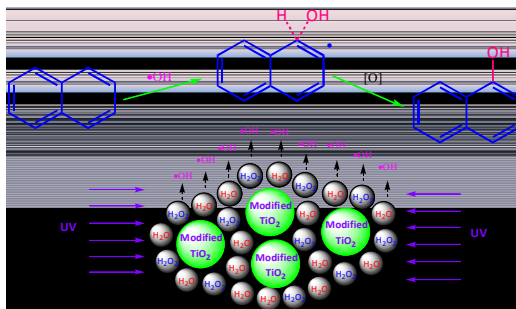
East China Normal University

A photocatalyst prepared by loading Ag@AgCl nanoparticles onto anatase TiO_2 nanotubes exhibited high photocatalytic activity under visible light due to the surface plasma resonance effect and fast separation of photoinduced electron-hole pairs.



Photocatalytic Conversion of Naphthalene to α -Naphthol Using Nanometer-Sized TiO_2

SHI Huixian, ZHANG Tianyong*, WANG Hongliang, WANG Xiao, HE Meng
Tianjin University; Fuzhou University



The $\bullet\text{OH}$ radicals generated on a UV-illuminated TiO_2 photocatalyst led to the direct hydroxylation of naphthalene to α -naphthol. We investigated the effects of cosolvents, electron acceptors, and surface modification on the direct synthesis of α -naphthol from naphthalene using photocatalytic processes.

Deactivation Modes of Solid Catalysts with Different Active Sites

K. KUMBILIEVA*, L. PETROV

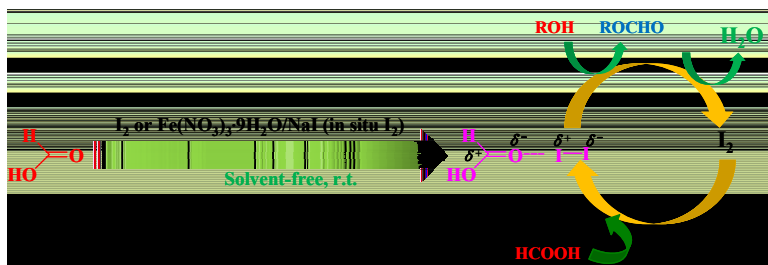
Institute of Catalysis, Bulgarian Academy of Sciences, Bulgaria; King Abdulaziz University, Kingdom of Saudi Arabia

$$\varphi(t) = \sum_{j=1}^3 \varphi_j(t) = \varphi_1(t) + \varphi_2(t) + \varphi_3(t)$$

An approach is suggested for modeling deactivation kinetics of multi-functional catalysts with two or three different active centers. To be consistent with Hinshelwood-Langmuir kinetics, the catalyst surface is considered as containing two/three co-existing ideal adsorbed layers that are each characterized by its intrinsic catalyst activity ($\varphi(t)$) and deactivation ($\mathcal{D}(t)$) functions.

Formylation of Alcohol with Formic Acid under Solvent-Free and Neutral Conditions Catalyzed by Free I_2 or I_2 Generated in Situ from $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}/\text{NaI}$

Rostami AMIN*, Khazaei ARDESHIR*, Alavi-Nik HEIDAR ALI, Toodeh-Roosta ZAHRA
University of Kurdistan, Iran; Bu-Ali Sina University, Iran

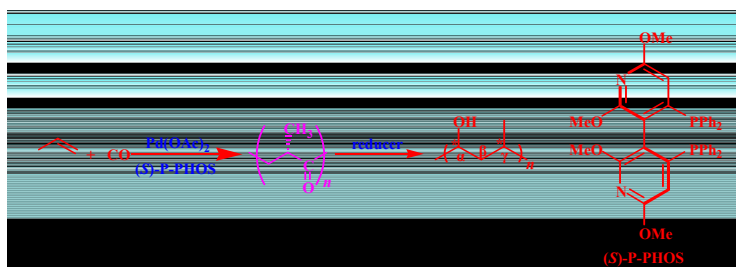


Free I_2 or I_2 generated in situ from $\text{Fe}(\text{NO}_3)_3 \cdot 9\text{H}_2\text{O}/\text{NaI}$ efficiently catalyzed the formylation of various alcohols by formic acid, giving good to excellent yields under solvent-free conditions at room temperature.

Synthesis of Chiral Functionalized Polymers by Alternating Copolymerization of Propene and CO Using the $\text{Pd}(\text{OAc})_2/(\text{S})\text{-P-PHOS}$ Catalyst

WANG Lailai*, JIA Xiaojing, WAN Bo

Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences

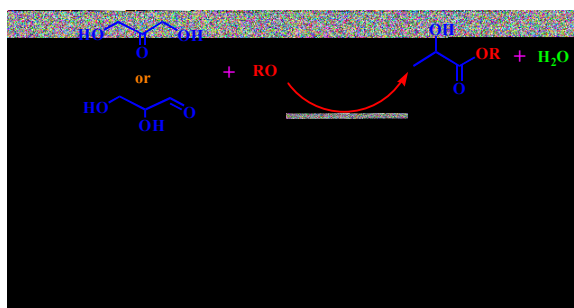


$\text{Pd}(\text{OAc})_2/(\text{S})\text{-P-PHOS}$ was used for the copolymerization of propene and CO to give chiral polyketones. The diastereoselective reduction of the product using excess LiAlH_4 and NaBH_4 gave novel chiral polyalcohols.

Hydroxyapatite Supported Lewis Acid Catalysts for the Transformation of Trioses in Alcohols

ZHANG Zehui*, ZHAO (Kent) Zongbao

Dalian Institute of Chemical Physics, Chinese Academy of Sciences



A hydroxyapatite supported tin(II) chloride catalyst (SnCl_2/HAP) showed high catalytic activity toward the transformation of hydroxyacetone in *n*-butanol to give *n*-butyl lactates in a high yield of 73.5%.

Pt-Au/CNT@TiO₂ as a High-Performance Anode Catalyst for Direct Methanol Fuel Cells

WANG Xiuyu, ZHANG Jingchang*, ZHU Hong

Beijing University of Chemical Technology



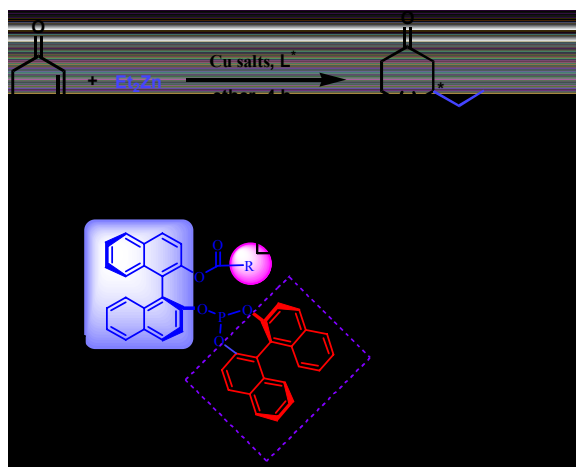
New electrocatalytic materials, Pt-Au/CNT@TiO₂, prepared using the UV-photoreduction method for direct methanol fuel cells were investigated. The mechanism of catalysis for this catalyst and the experiments conducted were explained.

New Chiral Monophosphite Ligands Containing BINOL and/or H₈-BINOL Bearing Adamantyl Substituents: Effect of Ligand Scaffold on the Enantioselective 1,4-Conjugate Addition of Diethylzinc to Cyclic Enones

WAN Bo, KWONG Fuk Yee*, WANG Lailai*, XU Lijin, ZHAO Qinglu, XING Aiping

Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences; The Hong Kong Polytechnic University; Renmin University of China

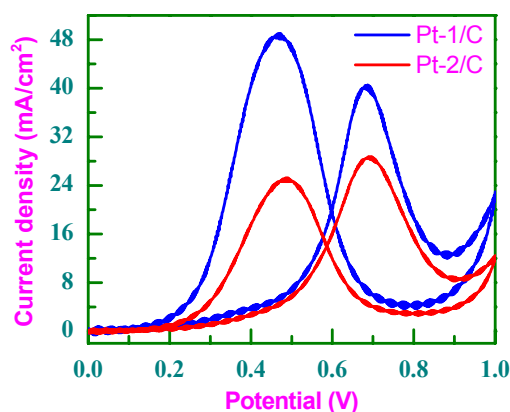
A series of new bulky monophosphite ligands derived from BINOL/H₈-BINOL and adamantanecarbonyl chloride were used in the copper-catalyzed enantioselective 1,4-conjugate addition of diethylzinc to cyclic enones (up to 79% ee).



Effect of Pt Oxidation State on Methanol Oxidation Activity

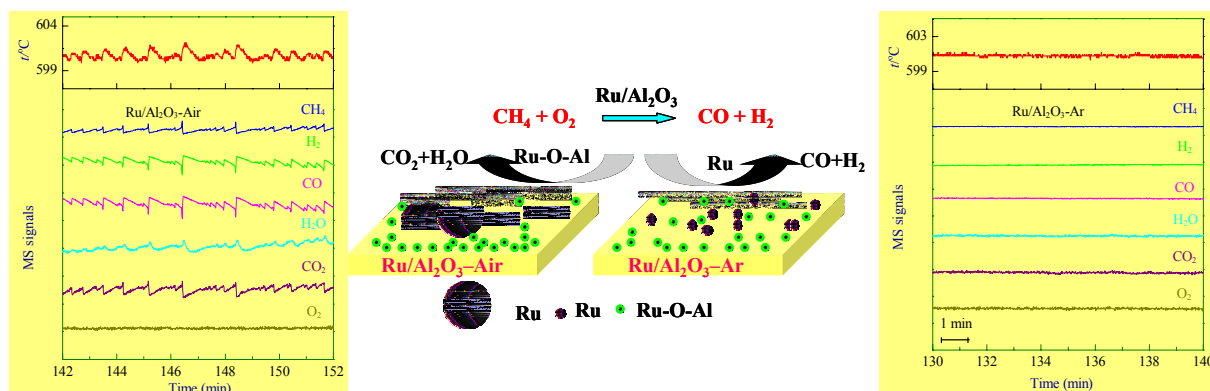
ZENG Jianhuang, SHU Ting, LIAO Shijun, LIANG Zhenxing*
South China University of Technology

We prepared a Pt catalyst that was deliberately oxidized and compared it with a catalyst that was not oxidized for application in methanol oxidation. We found that the catalyst prepared by deliberate oxidation did not have high activity because of its inactive oxidation states.



Effect of Calcination Atmospheres on the Performance of Ru/Al₂O₃ Catalyst for Partial Oxidation of Methane to Syngas

ZHENG Haozhan, WANG Meiliu, HUA Weiqi, WENG Weizheng*, YI Xiaodong, HUANG Chuanjing, WAN Huilin*
Xiamen University; Yantai Wanhua Polyurethanes Co., Ltd.



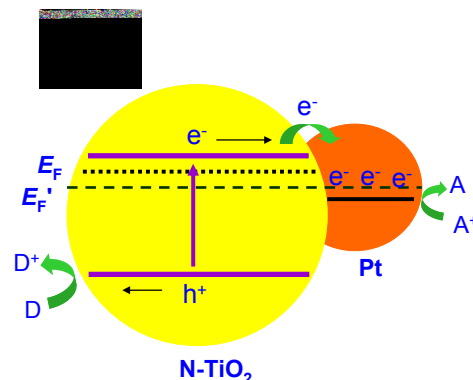
The oscillations in the temperature of catalyst bed and the concentrations of gas phase species at the exit of reactor were observed during the partial oxidation of methane to syngas over Ru/Al₂O₃ calcined in air at 600 °C for 4 h.

Influence of Pt Promoter on the Visible Light Photocatalytic Properties of N-Doped TiO₂

ZHENG Huarong, CUI Yanjuan, ZHANG Jinshui, DING Zhengxin, WANG Xinchun*

Fuzhou University

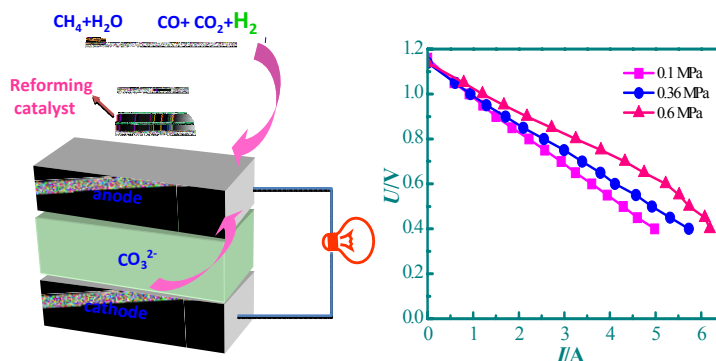
Loading nanosized Pt on N-TiO₂ can efficiently promote the capture of photo-generated electrons resulting in a remarkable enhancement in photocatalytic activity under visible light illumination.



Pilot Study on the Use of Methane Steam Reforming Catalyst in Molten Carbonate Fuel Cell

LI Guanglong, ZHOU Li*, WANG Yingxu, WANG Pengjie, LIN Huaxin, ZHU Xiuling, SHAO Zhigang

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

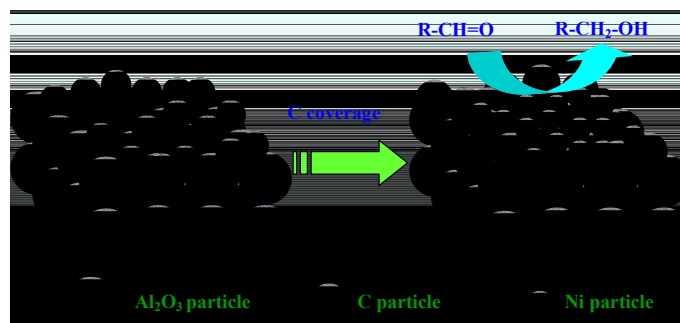


The methane steam reforming catalyst Ni-Ce-La/Al₂O₃ can keep DIR-MCFC getting along very well. High gas pressure made the cell polarization augmented and the performance increased.

Preparation and Characterization of Carbon-Covered Alumina Supported Ni Catalyst and Its Catalytic Performance for Hydrogenation

LI Haitao, CHEN Haoran, ZHANG Yin, GAO Chunguang, ZHAO Yongxiang*

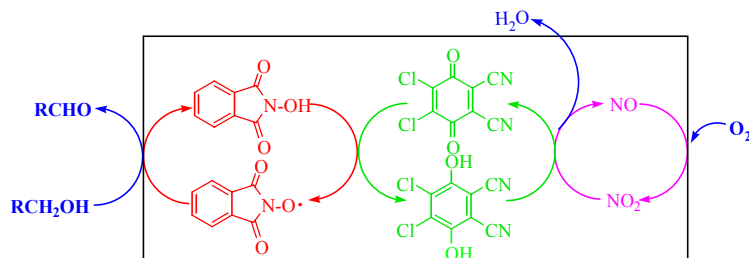
Shanxi University



For the Ni/Al₂O₃ catalyst, the coverage of carbon on Al₂O₃ surface results in increasing nickel dispersion, decreasing metal-support interaction, and an improvement in catalytic activity for hydrogenation of 1,4-butanediol.

Selective Oxidation of Alcohols Catalyzed by a Transition Metal-Free System of NHPI/DDQ/NaNO₂

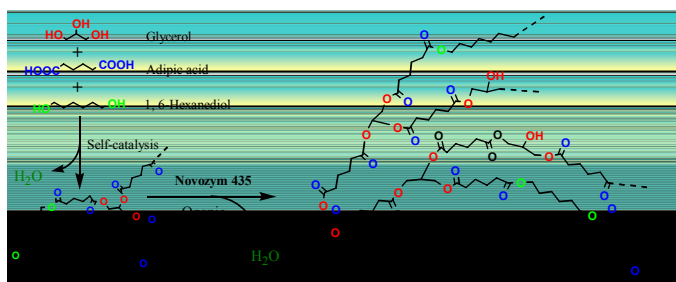
ZHOU Lipeng, ZHANG Chaofeng, FANG Tao, ZHANG Bingbing, WANG Ying, YANG Xiaomei*, ZHANG Wei, XU Jie
Zhengzhou University; Dalian Institute of Chemical Physics, Chinese Academy of Sciences



A transition metal-free catalyst system composed of *N*-hydroxyphthalimide (NHPI), 2,3-dichloro-5,6-dicyano-*benzoquinone* (DDQ), and NaNO₂ effectively catalyzed the selective oxidation of alcohols to the corresponding aldehydes or ketones using O₂ as oxidant.

Synthesis of Hyperbranched Polyester by Combination of Prepolymerization with Enzymatic Condensation Polymerization and Its Characterization

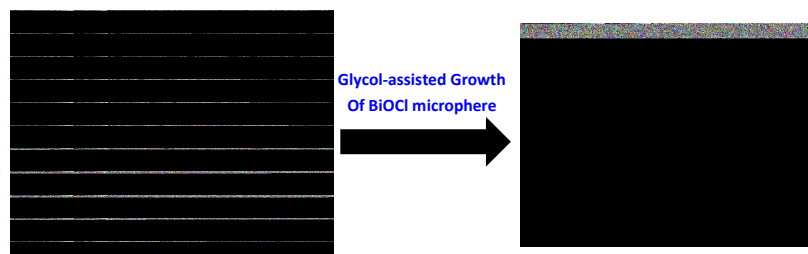
LIN Zhijian, LI Guangji*, LONG Junyuan, ZONG Minhua
South China University of Technology



Hyperbranched aliphatic polyester was synthesized by the prepolymerization of comonomers followed by lipase-catalyzed condensation polymerization in organic media using glycerol, 1,6-hexanediol, and adipic acid as comonomers and using Novozym 435 as a biocatalyst.

Preparation of Nano BiOCl Microsphere and Its Fabrication Mechanism

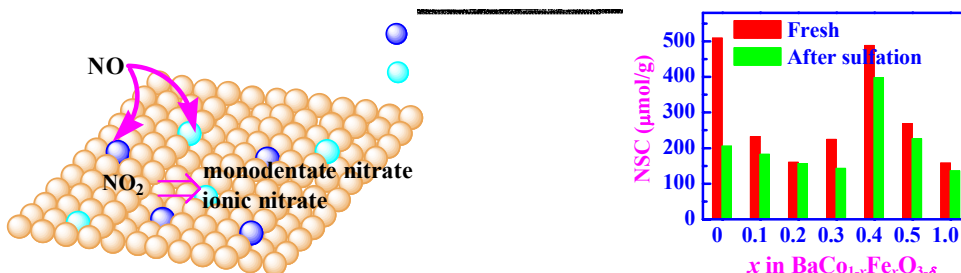
LIU Hongqi, GU Xiaona, CHEN Feng*, ZHANG Jinlong
East China University of Science and Technology



The formation of nano BiOCl microsphere follows a glycol-assisted growth process, in which the Bi–O–Bi structure of BiOCl grows up radially from the crystal nucleus via the interlinking action of the glycol.

Preparation, Structure and Performance of Defected Perovskite $\text{BaCo}_{1-x}\text{Fe}_x\text{O}_{3-\delta}$ Catalyst for NO_x Storage and Reduction

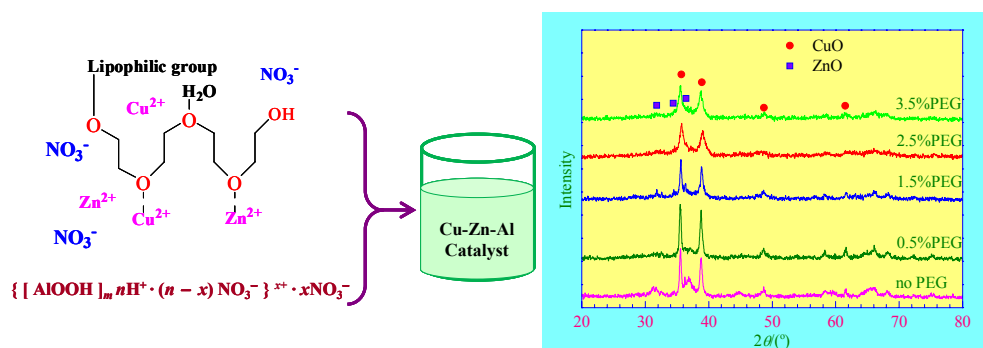
PAN Guanghong, MENG Ming*, LI Xingang
Tianjin University



With the Co atoms at B-sites being substituted by 40% Fe, the sulfur resistance ability of BaCoO_3 perovskite is greatly increased. Its NO_x storage capability (NSC) is mainly determined by the active lattice oxygen and surface oxygen vacancies.

Preparation of Cu-Zn-Al Bifunctional Catalyst by Sol-Gel Method with the Assistance of PEG and Its Catalytic Performance

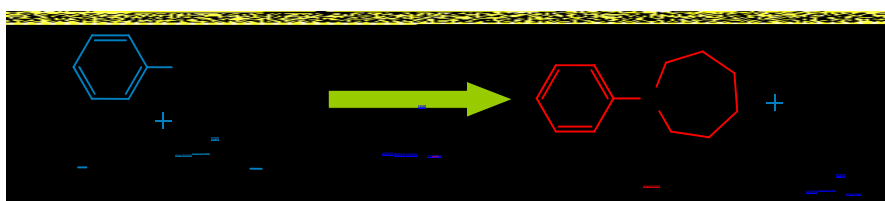
FAN Jinchuan, HUANG Wei*, WU Shijian
Taiyuan University of Technology



A series of Cu-Zn-Al catalyst samples for direct synthesis of dimethyl ether from syngas were prepared by the sol-gel method with the assistance of polyethylene glycol (PEG) additive. PEG can enhance catalytic activity of the catalyst but has no effect on its stability.

Efficient Vapor-Phase Synthesis of 1-Phenylazepane from Aniline and 1,6-Hexanediol over $\text{CoO}/\text{SiO}_2\text{-Al}_2\text{O}_3$ Catalyst

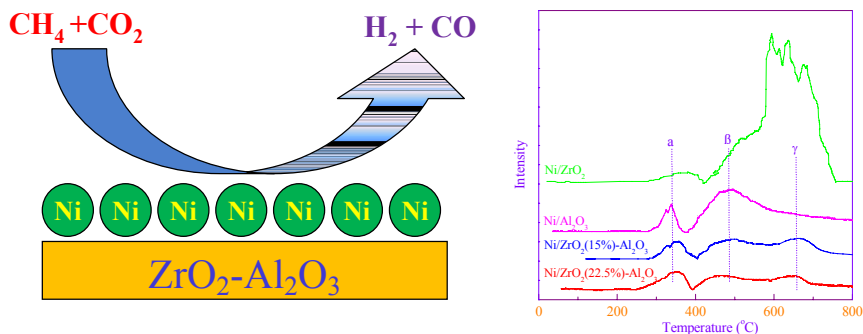
LIU Xinghai, ZHU Haiyan, SHI Lei*, SUN Qi
Liaoning Normal University



1-Phenylazepane was efficiently synthesized by a vapor-phase method from aniline and 1,6-hexanediol over $\text{CoO}/\text{SiO}_2\text{-Al}_2\text{O}_3$ catalyst with the title product yield of above 80%.

Structure and Anti-carbon Capacity of $\text{ZrO}_2\text{-Al}_2\text{O}_3$ Mixed Oxides in Ni-Based Catalyst for CH_4/CO_2 Reforming

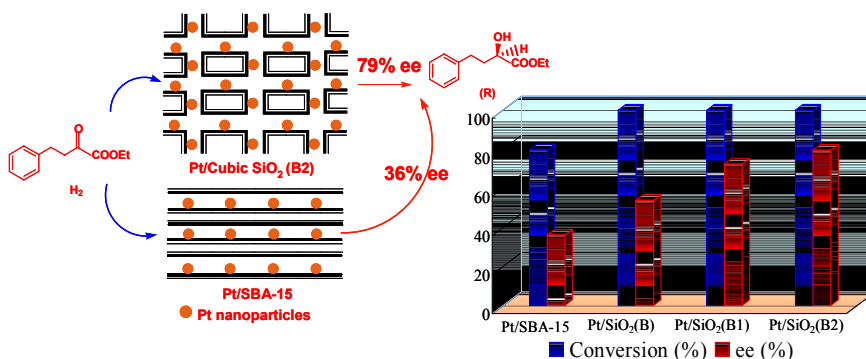
LIU Xinmei*, GAO Xiao, LI Xiang
China University of Petroleum



The mesoporous $\text{ZrO}_2\text{-Al}_2\text{O}_3$ mixed oxides were prepared by a bihydrolysis route and used as catalyst support for reforming reaction of CH_4/CO_2 . The physical structure and reaction performance of the mixed oxides were characterized.

Enantioselective Hydrogenation of α -Ketoesters on Mesoporous Matrix Supported Platinum Catalysts

CHEN Zhijian, LI Xiaohong, LI Can*
Dalian Institute of Chemical Physics, Chinese Academy of Sciences

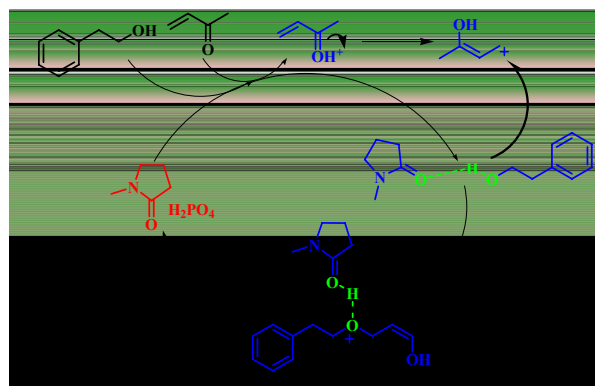


The Pt catalysts supported on Al_2O_3 -grafted cubic mesoporous silica and cubic mesoporous silica exhibit much higher activity and enantioselectivity (ee over 79%) than those of the Pt/SBA-15 catalysts.

Oxa-Michael Addition Catalyzed by Amide-Based Acidic Ionic Liquids

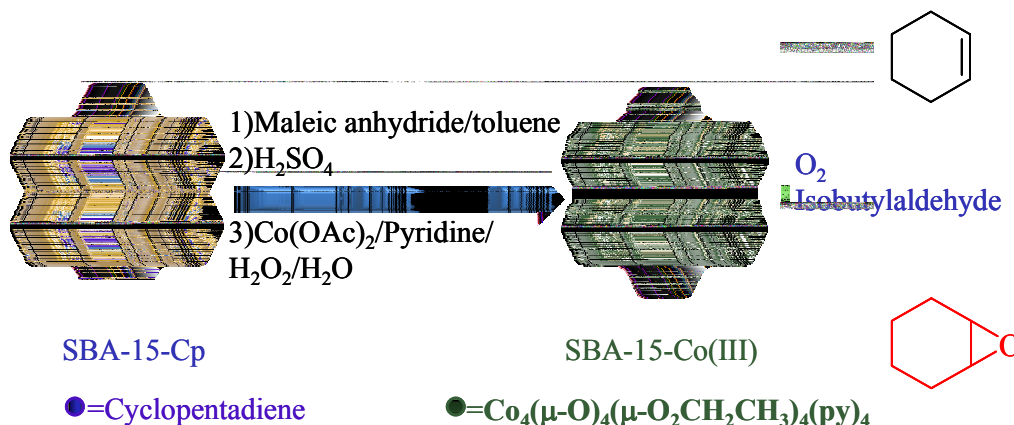
GUO Hui, WANG Junliang, LI Xia, LÜ Deshui, LIN Xianfu*
Zhejiang University

A series of amide-based acidic ionic liquids were synthesized and applied in the Oxa-Michael addition of β -phenylethanol to methyl vinyl ketone. Based on the experiment, a possible reaction mechanism was proposed and its evidence was given.



Co(III)-Modified SBA-15: Preparation, Characterization and Catalytic Performance for Epoxidation of Cyclohexene

GAO Pengfei, ZHANG Tieming, ZHOU Yuan, ZHAO Yongxiang*
Shanxi University

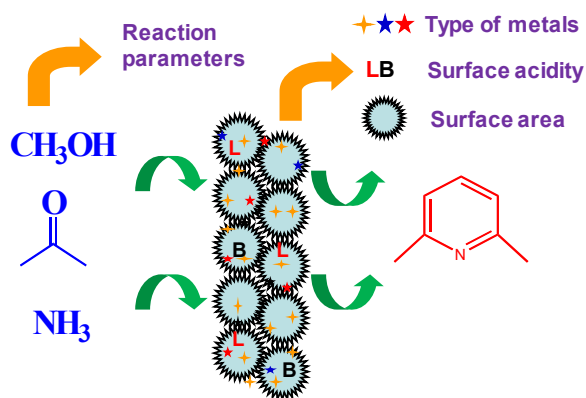


SBA-15-Co(III) was prepared by supporting the in situ formed Co(III) complex on SBA-15-(COOH)₂ and showed moderate activity in cyclohexene epoxidation.

Preparation of Polymetallic ZSM-5 Catalysts and Their Catalytic Performance for 2,6-Lutidine Synthesis

WEN Yanlong, ZHANG Yuecheng*, FENG Cheng, ZHANG Di,
XU Weihua, ZHAO Jiquan
Hebei University of Technology

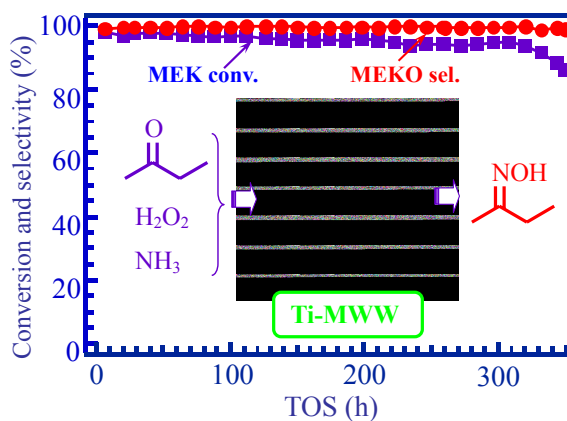
The catalytic performance of 6%Pb-0.5%Fe-0.5%Co/ZSM-5(200) in the synthesis of 2,6-lutidine from methanol, acetone, and ammonia depends on the doped metals, surface acidity and surface area of the catalyst.



Methyl Ethyl Ketone Ammoximation over Ti-MWW in a Continuous Slurry Reactor

ZHAO Song, XIE Wei, LIU Yueming, WU Peng*
East China Normal University

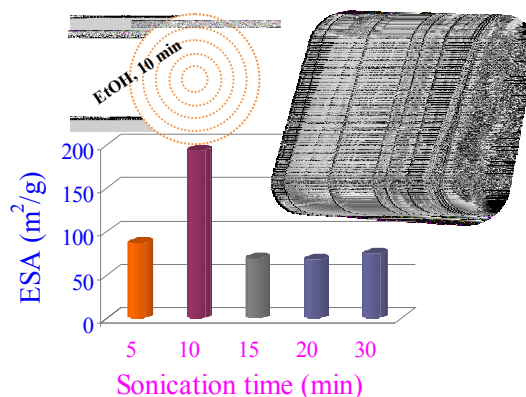
Ti-MWW serves as a robust catalyst for the liquid-phase ammoximation of methyl ethyl ketone (MEK) with NH_3 and H_2O_2 to corresponding oxime (MEKO) in a continuous slurry reactor, showing MEK conversion of 95%, MEKO selectivity of 99%, and a much longer life than conventional TS-1.



Effect of Preparation Conditions of Catalyst Ink on the Electrochemical Properties of Pt/C Catalyst

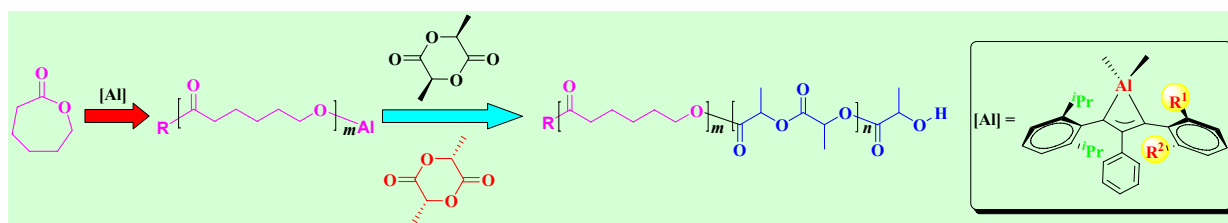
WANG Yi, ZENG Xiang'an, LIU Hong, SONG Shuqin*
Sun Yat-sen University

Pt/C catalyst produced from the catalyst ink prepared with ethanol as the dispersant after sonication for 10 min are well dispersed without obvious agglomeration of Pt particles. This leads to a high electrochemical surface area and high activity.



Polymerization of ϵ -Caprolactone and Copolymerization with *rac*-Lactide Catalyzed by Mono(amidinate) Aluminum Complexes

QIAN Feng, LIU Keyin, MA Haiyan*
East China University of Science and Technology



Mono(amidinate) aluminum complexes showed high catalytic activity for the ring-opening polymerization of ϵ -caprolactone in toluene at ambient temperature. Sequential copolymerization of ϵ -caprolactone and *rac*-lactide using mono(amidinate) aluminum complexes afforded poly(ϵ -caprolactone)-poly(*rac*-lactide) diblock copolymer.