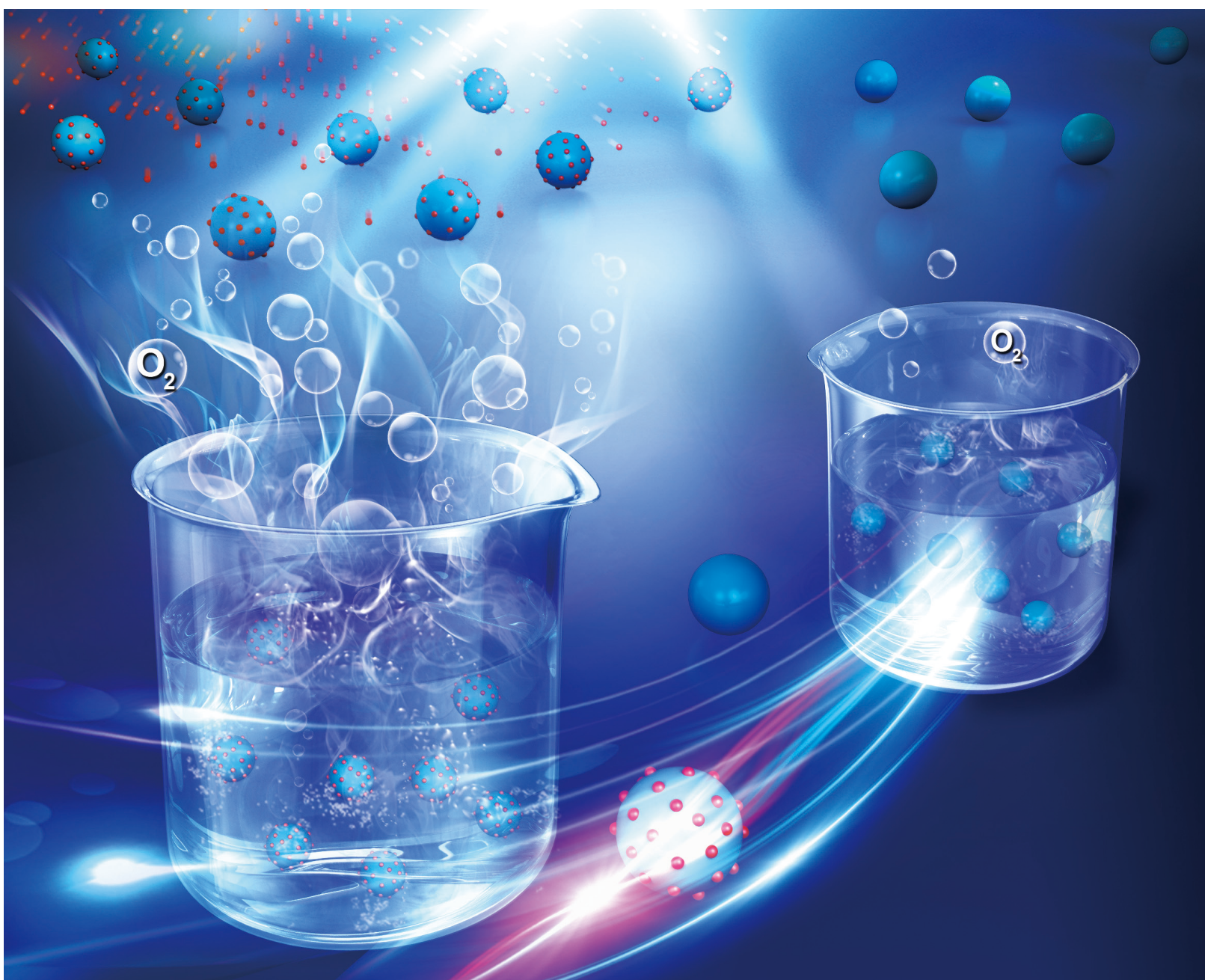




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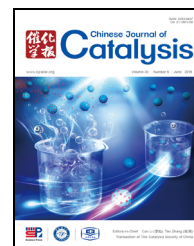
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Graphical Contents

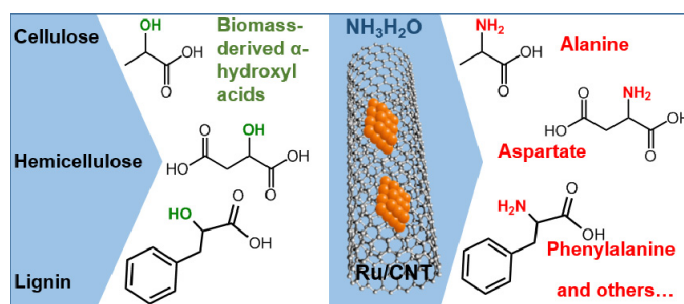
Highlight

Chin. J. Catal., 2018, 39: 1013–1016 doi: 10.1016/S1872-2067(18)63093-1

Chemical transformation of sugars into amino acids

Tao Zhang*

Dalian Institute of Chemical Physics, Chinese Academy of Sciences



Amino acids were produced from woody biomass intermediates through Ru/CNT catalyst in a rapid and efficient chemical approach.

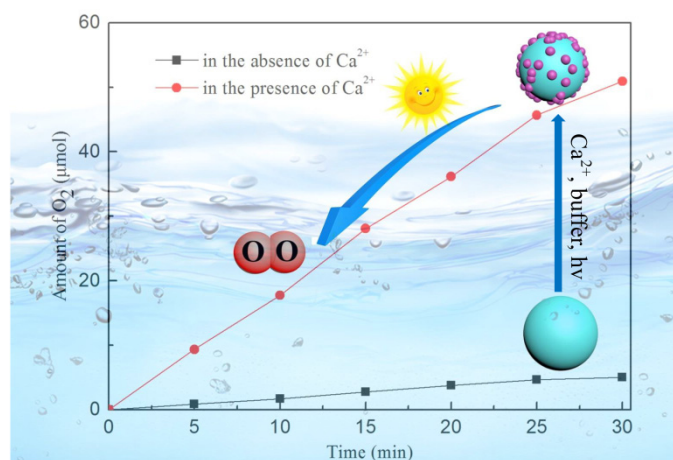
Articles

Chin. J. Catal., 2018, 39: 1017–1026 doi: 10.1016/S1872-2067(18)63075-X

In situ doping brushite on zinc manganese oxide toward enhanced water oxidation performance: Mimicry of an oxygen-evolving complex

Miao Jiang, Junying Chen*, Yingwei Li*

South China University of Technology



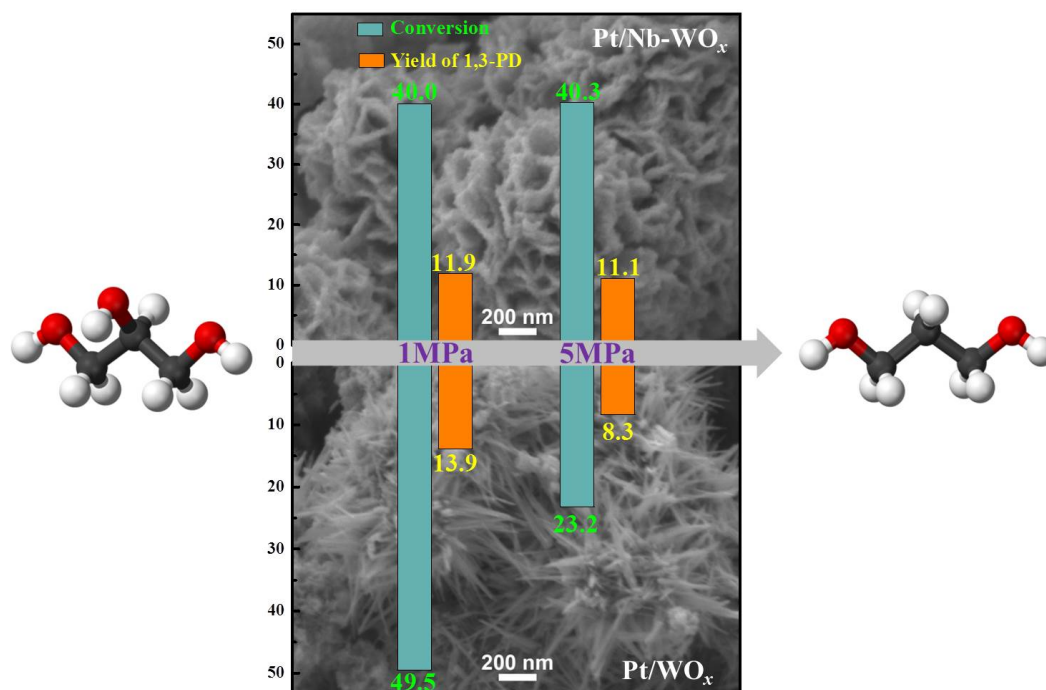
Brushite was *in situ* doped on MOF-templated zinc-manganese oxide via photodeposition in neutral water containing phosphate and calcium(II) ions, and was responsible for enhanced photocatalytic water oxidation performance.

Chin. J. Catal., 2018, 39: 1027–1037 doi: 10.1016/S1872-2067(18)63074-8

Pt/Nb-WO_x for the chemoselective hydrogenolysis of glycerol to 1,3-propanediol: Nb dopant pacifying the over-reduction of WO_x supports

Man Yang, Xiaochen Zhao*, Yujing Ren, Jia Wang, Nian Lei, Aiqin Wang*, Tao Zhang

Dalian Institute of Chemical Physics, Chinese Academy of Sciences; University of Chinese Academy of Sciences; Northwest A&F University



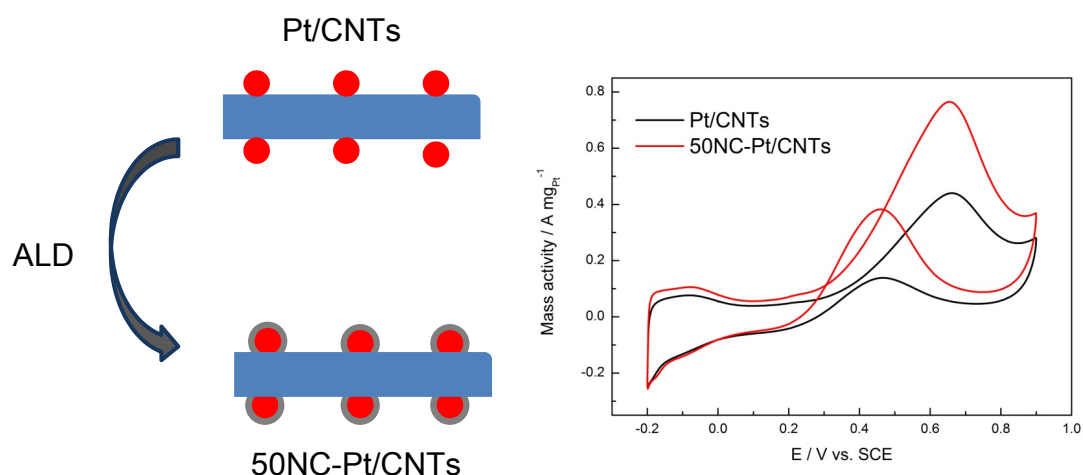
Pt/2%Nb-WO_x successfully reconciled the conflicts between H₂ activation and W-reduction and demonstrated a promising performance in the selective hydrogenolysis of glycerol to 1,3-propanediol across an unprecedentedly wide H₂ pressure range.

Chin. J. Catal., 2018, 39: 1038–1043 doi: 10.1016/S1872-2067(18)63066-9

N-doped carbon modified Pt/CNTs synthesized by atomic layer deposition with enhanced activity and stability for methanol electrooxidation

Huimin Yang, Baiyan Zhang, Bin Zhang, Zhe Gao, Yong Qin*

Institute of Coal Chemistry, Chinese Academy of Sciences; University of Chinese Academy of Sciences

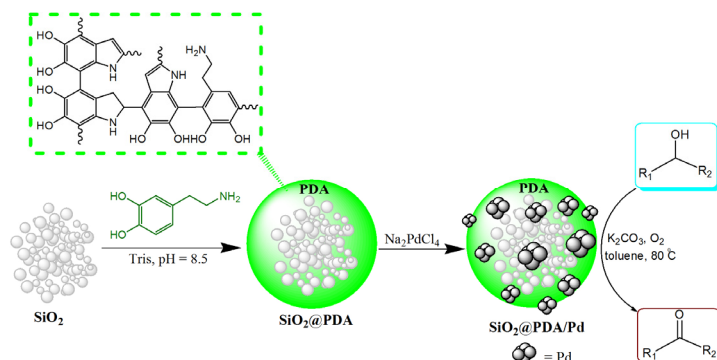


Uniform polyimide films are deposited on the outer face of a Pt/CNTs catalyst by atomic layer deposition. After pyrolysis, polyimide films are converted to porous N-doped carbon films. By precisely adjusting the thickness of the polyimide films, the optimized 50NC-Pt/CNTs catalyst shows 1.7-fold enhancement in activity in the methanol electrooxidation reaction.

Chin. J. Catal., 2018, 39: 1044–1050 doi: 10.1016/S1872-2067(18)63049-9

Facile *in-situ* synthesis and deposition of monodisperse palladium nanoparticles on polydopamine-functionalized silica gel as a heterogeneous and recyclable nanocatalyst for aerobic oxidation of alcohols

Hojat Veisi *, Ahmad Nikseresht, Shahin Mohammadi, Saba Hemmati
Payame Noor University, Iran

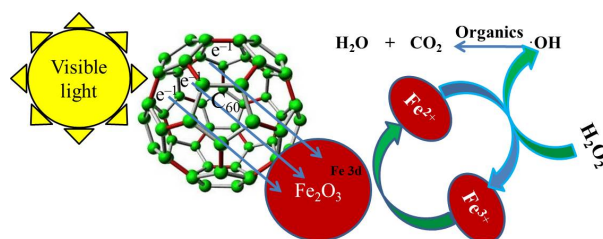


This study described a protocol for *in-situ* synthesis of Pd nanoparticles immobilized on polydopamine coated-silica gel as a novel nanocatalyst for aerobic oxidation of alcohols.

Chin. J. Catal., 2018, 39: 1051–1059 doi: 10.1016/S1872-2067(18)63067-0

Preparation of a fullerene[60]-iron oxide complex for the photo-fenton degradation of organic contaminants under visible-light irradiation

Cong-yang Zou, Ze-da Meng, Wen-chao Ji, Shou-qing Liu, Zheming Shen *, Yuan Zhang, Ni-shan Jiang
Shanghai Jiao Tong University; Suzhou University of Science and Technology Shihu Campus

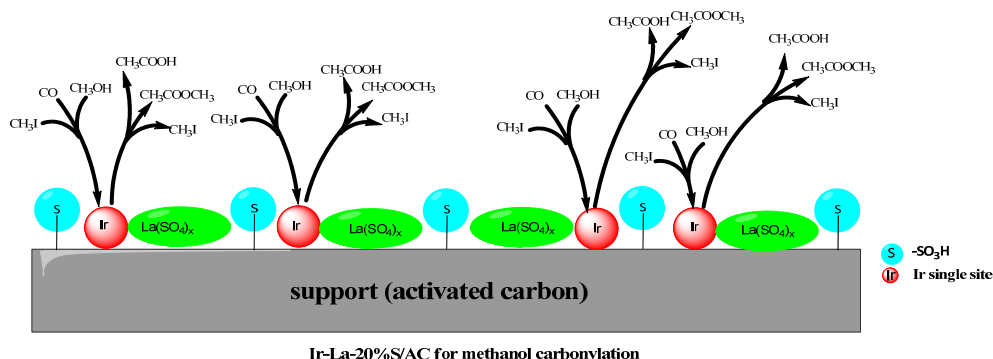


This is a highly efficient heterogeneous photo-Fenton system. The C₆₀ on the Fe₂O₃ surface is expected to improve the photocatalytic behavior. ·OH plays a major role in the system and degrades the organic compounds to CO₂ and H₂O.

Chin. J. Catal., 2018, 39: 1060–1069 doi: 10.1016/S1872-2067(18)63019-0

Acid-promoted Ir-La-S/AC-catalyzed methanol carbonylation on single atomic active sites

Zhou Ren, Yuan Lyu *, Siqian Feng, Xiangan Song, Yunjie Ding *
Dalian Institute of Chemical Physics, Chinese Academy of Sciences; University of Chinese Academy of Sciences

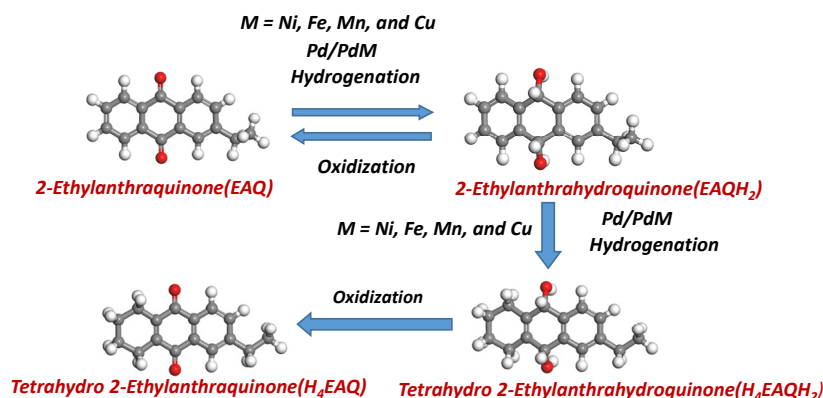


By addition of S species, the acid-promoted single-site Ir-La-S/AC catalyst, which displayed much high activity of carbonylation, was successfully prepared by co-impregnation method and applied in vapor-phase heterogeneous carbonylation of methanol.

Chin. J. Catal., 2018, 39: 1070–1080 doi: 10.1016/S1872-2067(18)63035-9

Hydrogenation of 2-ethylantraquinone with bimetallic monolithic catalysts: An experimental and DFT study

Yanyan Guo, Chengna Dai, Zhigang Lei *
Beijing University of Chemical Technology

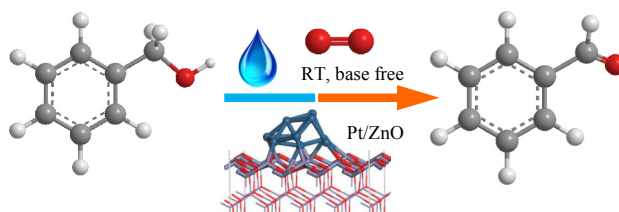


The high catalytic activity of Pd-Ni/SiO₂/cordierite monolithic catalyst is attributed to the small particle size, the strong interaction between Pd and Ni of Pd-Ni alloy and stronger adsorption between Pd₃Ni₁ (1 1 1) and the carbonyl group of eAQ.

Chin. J. Catal., 2018, 39: 1081–1089 doi: 10.1016/S1872-2067(18)63022-0

Green catalytic oxidation of benzyl alcohol over Pt/ZnO in base-free aqueous medium at room temperature

Juanjuan Liu, Shihui Zou *, Jiachao Wu, Hisayoshi Kobayashi *, Hongting Zhao, Jie Fan *
Hangzhou Dianzi University, China;
Zhejiang University, China;
Kyoto Institute of Technology, Japan

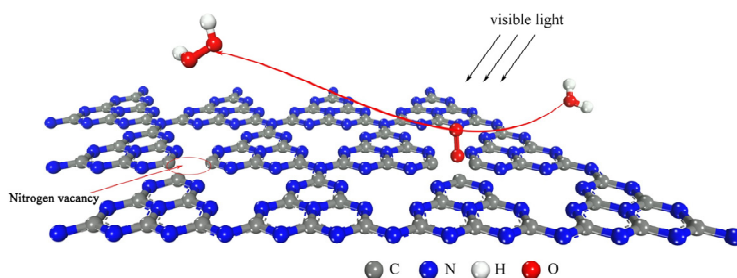


ZnO as a support can facilitate the adsorption of benzyl alcohol, which subsequently reacts with an activated oxygen species on a Pt catalyst to produce benzaldehyde at room temperature under base-free aqueous conditions.

Chin. J. Catal., 2018, 39: 1090–1098 doi: 10.1016/S1872-2067(18)63046-3

Preparation of N-vacancy-doped g-C₃N₄ with outstanding photocatalytic H₂O₂ production ability by dielectric barrier discharge plasma treatment

Xuhe Li, Jian Zhang *, Feng Zhou, Hongliang Zhang, Jin Bai, Yanjuan Wang, Haiyan Wang
Liaoning Shihua University; Fushun Research Institute of Petroleum and Petrochemicals, SINOPEC

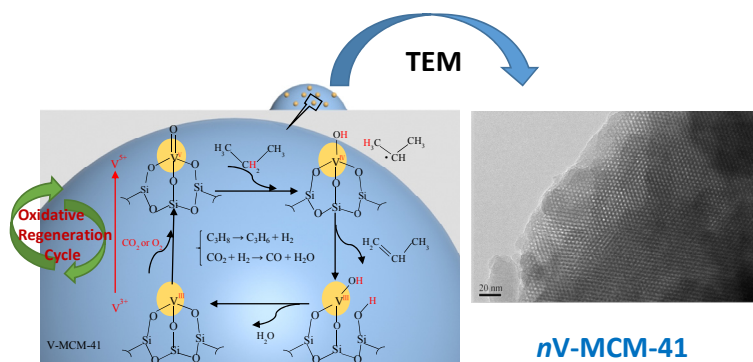


N vacancies can chemisorb and activate O₂ molecules, thus promoting the transfer of photogenerated electrons from g-C₃N₄ to adsorbed O₂ molecules, leading to enhanced photocatalytic H₂O₂ production ability.

Chin. J. Catal., 2018, 39: 1099–1109 doi: 10.1016/S1872-2067(18)63048-7

Preparation and catalytic properties of mesoporous *n*V-MCM-41 for propane oxidative dehydrogenation in the presence of CO₂

Zai-Fang Han, Xu-Liang Xue, Jian-Min Wu, Wan-Zhong Lang *, Ya-Jun Guo
Shanghai Normal University

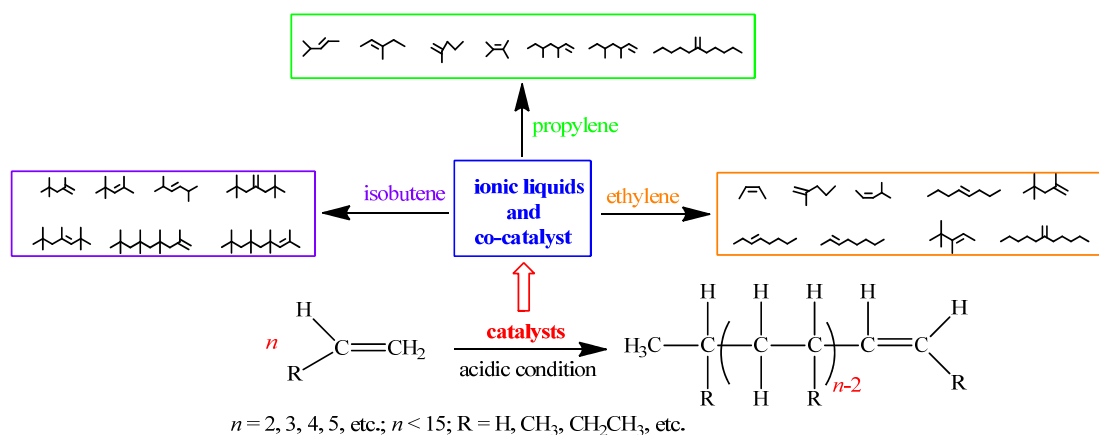


*n*V-MCM-41 catalysts prepared by the one-step method maintain highly ordered mesoporous structures and large specific surface areas. The 6.8V-MCM-41 catalysts exhibit highly dispersed V oxide and excellent catalytic performance in the oxidative dehydrogenation of propane.

Chin. J. Catal., 2018, 39: 1110–1120 doi: 10.1016/S1872-2067(18)63071-2

Olefin oligomerization via new and efficient Brønsted acidic ionic liquid catalyst systems

Guoqin Wang, Heyuan Song, Ruiyun Li, Zhen Li, Jing Chen *
Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences; University of Chinese Academy of Sciences

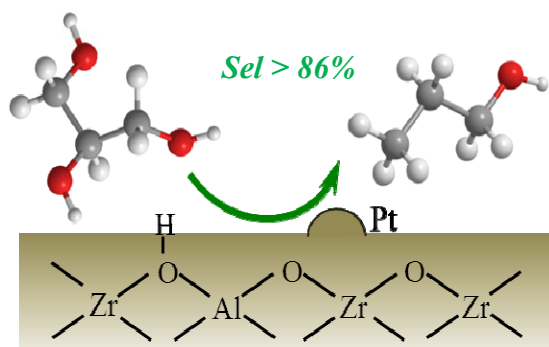


In this work, light olefin (ethylene, propylene, and isobutene) oligomerization was carried out using Brønsted-acidic ionic liquids and co-catalyst systems, which exhibit good catalytic activity. Further, the structures of the resultant oligomers and their selectivity were analyzed.

Chin. J. Catal., 2018, 39: 1121–1128 doi: 10.1016/S1872-2067(18)63068-2

Glycerol hydrogenolysis to *n*-propanol over Zr-Al composite oxide-supported Pt catalysts

Chuang Li, Bo He, Yu Ling, Chi-Wing Tsang, Changhai Liang *
Dalian University of Technology;
Technological and Higher Education Institute of Hong Kong



Zr-Al mixed oxide-supported Pt catalysts with different Zr/Al mole ratios were synthesized by an impregnation method and used in the selective hydrogenolysis of glycerol to *n*-propanol with high activity, selectivity, and absolute reusability.

Chin. J. Catal., 2018, 39: 1129–1137 doi: 10.1016/S1872-2067(18)63069-4

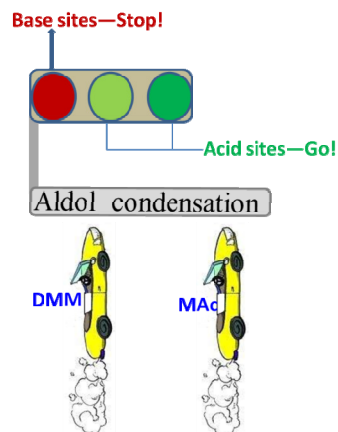
One-step aldol condensation reaction of dimethoxymethane and methyl acetate over supported Cs/ZSM-35 zeolite catalysts

Zhanling Ma, Xiangang Ma, Hongchao Liu, Wenliang Zhu *, Xinwen Guo, Zhongmin Liu *

Dalian University of Technology;

Dalian Institute of Chemical Physics, Chinese Academy of Sciences;

University of Chinese Academy of Sciences



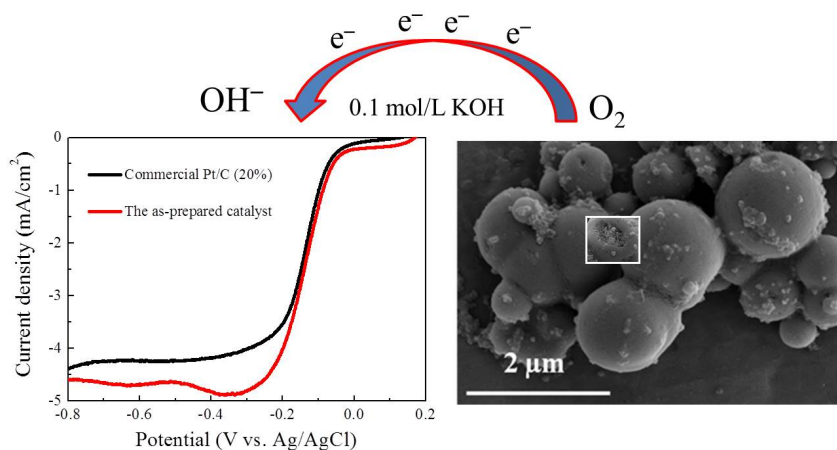
Acidity is indispensable for the aldol condensation reaction of DMM with MAc to prepare acrylic acid and its ester, whereas alkalinity is harmful.

Chin. J. Catal., 2018, 39: 1138–1145 doi: 10.1016/S1872-2067(18)63078-5

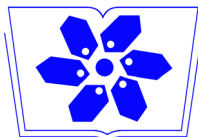
Simple synthesis of nitrogen-doped carbon spheres as a highly efficient metal-free electrocatalyst for the oxygen reduction reaction

Jinhui Tong *, Wenyan Li, Lili Bo, Wenhui Wang, Yuliang Li, Tao Li, Qi Zhang, Haiyan Fan *

Northwest Normal University, China; Gansu Agricultural University, China; Nazarbayev University, Kazakhstan



Porous N-doped carbon spheres were simply synthesized using inexpensive raw materials. The optimal sample exhibited a more effective ORR catalytic activity than commercial 20%Pt/C in 0.1 mol/L KOH.



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