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Articles

Lianjun Liu, Jinge Cai, Lei Qi, Qiang Yu, Keqin Sun, Bin Liu, Fei Gao, Lin Dong, Yi Chen

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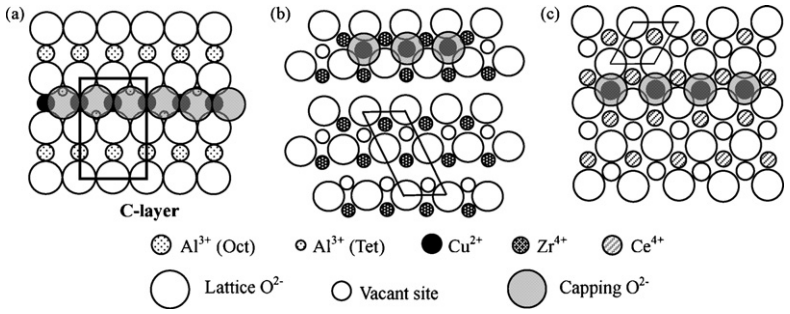
Influence of supports structure on the activity and adsorption behavior of copper-based catalysts for NO reduction

The copper species on the surface of γ-Al_2O_3, t-ZrO_2, CeO_2 and $Ce_{0.67}Zr_{0.33}O_2$ were in different coordination environments, which naturally influenced their activity, reducibility, adsorption type and reactivity of NO.



Nianhua Xue, Na Liu, Lei Nie, Yao Yu, Min Gu, Luming Peng, Xuefeng Guo, Weiping Ding

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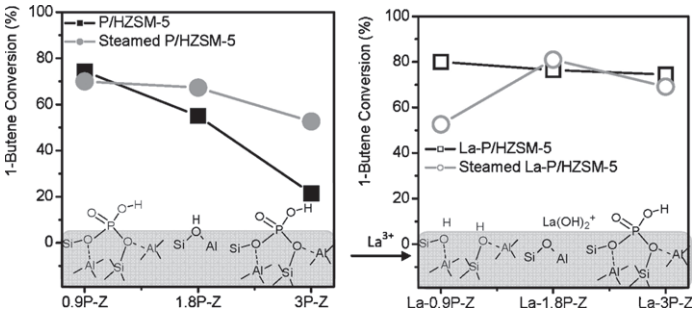
1-Butene cracking to propene over P/HZSM-5: Effect of lanthanum

Introducing lanthanum to P/HZSM-5 led to further enhanced apparent hydrothermal stability for 1-butene cracking and prohibition of P leaching in steam at high temperatures.



Laura A. Peña, Patrick E. Hoggard

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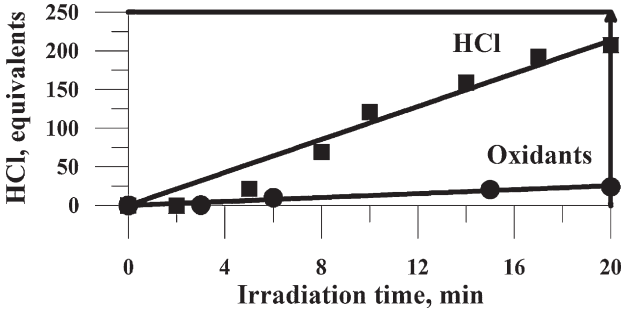
Hexachlororhodate(III) and the photocatalytic decomposition of chloroform

Irradiation of $(Bu_4N)_3RhCl_6$ in $CHCl_3$ yields HCl, phosgene and peroxides. Photodecomposition is slowed by chloride ion and stopped almost entirely by deoxygenation or deuteration of the solvent.



doi:10.1016/S1381-1169(10)00262-1

Xiao Yun, Xingbang Hu, Zhiyuan Jin, Jinghui Hu, Chao Yan, Jia Yao, Haoran Li

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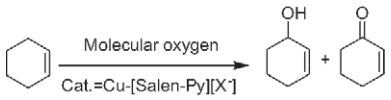
Copper-salen catalysts modified by ionic compounds for the oxidation of cyclohexene by oxygen

Copper-salen catalysts modified by ionic compounds were synthesized. The counteranion can affect the catalytic activity and the polarity of solvents can adjust the cation–anion interaction, which affects the catalyst reactivity.



Guoming Zhao, Jinghui Shi, Gang Liu, Yan Liu, Zhenlu Wang, Wenxiang Zhang, Mingjun Jia

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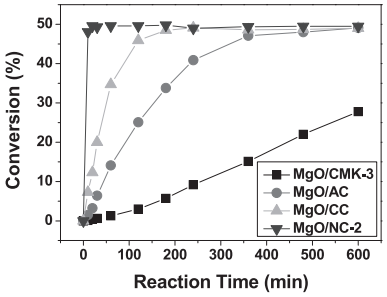
Efficient porous carbon-supported MgO catalysts for the transesterification of dimethyl carbonate with diethyl carbonate

Carbon-supported MgO materials are highly active and stable heterogeneous catalysts for the transesterification reaction of dimethyl carbonate with diethyl carbonate to ethyl methyl carbonate.



Chao-Ming Huang, Guan-Ting Pan, Po-Yang Peng, Thomas C.-K. Yang

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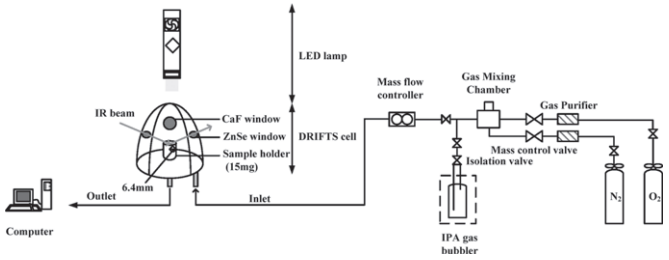
In situ DRIFT study of photocatalytic degradation of gaseous isopropanol over $BiVO_4$ under indoor illumination

DRIFTS is one of the most frequently used tools for simultaneously obtaining information concerning the reaction and the characteristics of the catalyst surface.



Zorica D. Petrović, Dušica Simijonović, Vladimir P. Petrović, Svetlana Marković

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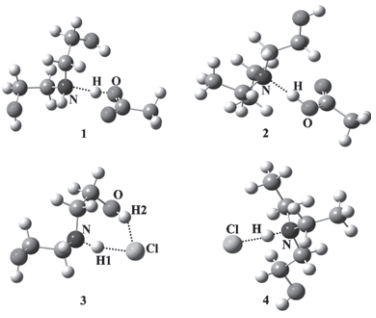
Diethanolamine and N,N-diethylethanolamine ionic liquids as precatalyst-precursors and reaction media in green Heck reaction protocol

The reaction of $PdCl_2$ with diethanolamine and N,N-diethylethanolamine ionic liquids **1**–**4** provides the effective and recyclable ionic liquid–palladium catalytic systems for green Heck reaction.



V. Iliev, D. Tomova, S. Rakovsky, A. Eliyas, G. Li Puma

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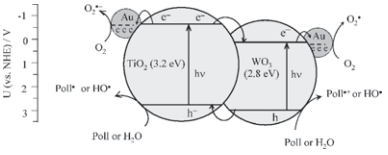
Enhancement of photocatalytic oxidation of oxalic acid by gold modified WO_3/TiO_2 photocatalysts under UV and visible light irradiation

The higher UV–visible photonic efficiency of $Au/WO_3/TiO_2$ photocatalyst compared to TiO_2 is explained by better charge carrier separation and increased lifetime of the electron–hole pairs in the composite.



Tae Yeon Kim, Takashi Sugimura

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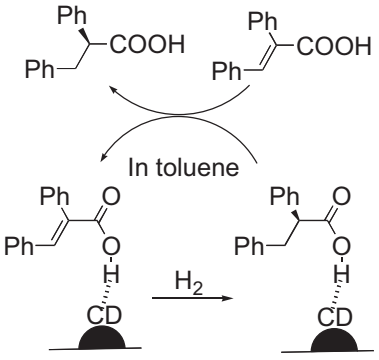
Is amine addition vital for highly enantioselective hydrogenation of α,β-unsaturated carboxylic acid over cinchonidine-modified palladium?

Enantioselective hydrogenation of unsaturated acids over the cinchonidine-modified Pd/C does not require amine addition in toluene due to weaker acidity of the product to cause the smooth desorption.



M.E. Sad, C.L. Padró, C.R. Apesteguía

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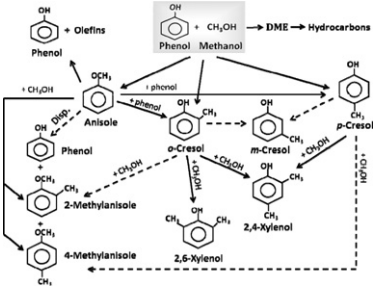
Study of the phenol methylation mechanism on zeolites HBEA, HZSM5 and HMCM22

The reaction network of phenol methylation was investigated on zeolites HBEA, HZSM5 and HMCM22. Reaction pathways to primary (anisole, *o*-cresol, *p*-cresol) and secondary (*m*-cresol, xylenols, methylanisoles) products were established.



Arpita Sarkar, Sudip K. Ghosh, Panchanan Pramanik

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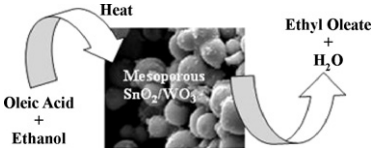
Investigation of the catalytic efficiency of a new mesoporous catalyst SnO_2/WO_3 towards oleic acid esterification

A new mesoporous SnO_2/WO_3 composite oxide has been synthesized to investigate its catalytic activity towards esterification of oleic acid with ethanol to produce ethyl oleate.



Hiroshi Yamashita, Yumi Mitsukura, Hiroko Kobashi

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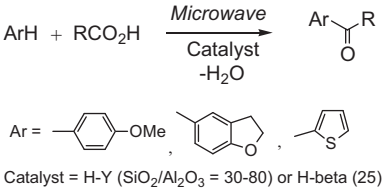
Microwave-assisted acylation of aromatic compounds using carboxylic acids and zeolite catalysts

Acylation of aromatic compounds with carboxylic acids smoothly proceeded at 190–230 °C in the presence of H–Y or H–beta zeolite catalysts under microwave irradiation to give aromatic ketones efficiently.



Cecilia Mondelli, Christoph Bucher, Alfons Baiker, Ryan Gilmour

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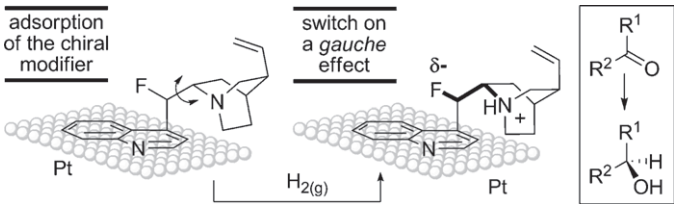
A novel class of fluorinated cinchona alkaloids as surface modifiers for the enantioselective heterogeneous hydrogenation of α-ketoesters

A novel class of fluorinated chiral surface modifiers has been evaluated for the heterogeneous platinum-catalyzed asymmetric hydrogenation of α-keto esters.



Shengnan Wang, Minchao Zhang, Luwei Zhong, Wangqing Zhang

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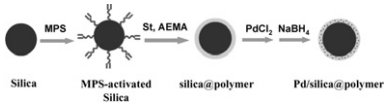
A strategy to immobilize noble metal nanoparticles on silica microspheres

A thin layer of coordination polymer is coated on silica microspheres by dispersion polymerization, and then noble metal nanoparticles are immobilized initially by coordination followed by reduction.



Vlasta Brezová, Peter Billik, Zuzana Vrecková, Gustav Plesch

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Photoinduced formation of reactive oxygen species in suspensions of titania mechanochemically synthesized from $TiCl_4$

TiO_2 nanopowders were synthesized mechanochemically from $TiCl_4/(NH_4)_2CO_3$ (series **TC**) or $TiCl_4/(NH_4)_2CO_3/Na_2SO_4$–$Na_2SO_4{\cdot}10H_2O$ (series **TCSM**), and post-annealed at 150–850 °C. Their photoinduced activity was tested by *in situ* EPR spectroscopy.