

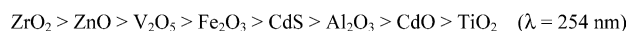
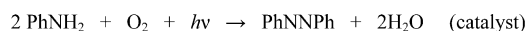
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Articles

C. Karunakaran, S. Senthilvelan

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Photocatalysis with ZrO_2 : oxidation of aniline

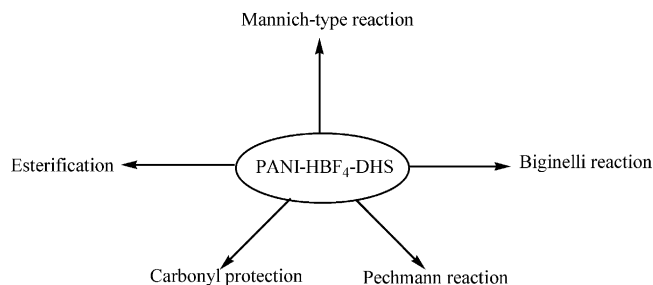


Srinivasan Palaniappan, Amalraj John

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A novel polyaniline–fluoroboric acid–dodecylhydrogensulfate salt: versatile reusable polymer based solid acid catalyst for organic transformations

A novel polyaniline–fluoroboric acid–dodecylhydrogensulfate (PANI–HBF₄–DHS) salt was directly synthesized via emulsion polymerization pathway. PANI–HBF₄–DHS salt is used as catalyst for the first time in various organic reactions such as Mannich-type reaction, Biginelli reaction, Pechmann reaction, esterification and carbonyl protection. The advantages of the PANI–HBF₄–DHS salt are ease of preparation, easy handling, easy recovery, easy work-up, reusability and versatility.

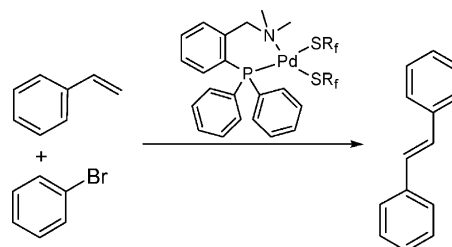


Jaime G. Fierro-Arias, Rocío Redón, Juventino J. García, Simón Hernández-Ortega, Rubén A. Toscano, David Morales-Morales

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Pd catalyzed Heck reaction with the catalytic system [Pd(Ph₂PC₆H₄-2-(CH₂NMe₂))(SR_F)₂]. Examination of the electronic effects of fluorinated thiolates

A series of palladium complexes of the type [Pd(Ph₂PC₆H₄-2-(CH₂NMe₂))(SR_F)₂] have been synthesized and the effect of the fluorinated thiolates in the catalytic performance of these complexes examined in the Heck coupling reaction experiments indicate that reducing the electron-withdrawing strength of the substituents on the S moiety may favor higher yields in the Pd catalyzed Heck reaction using [Pd(Ph₂PC₆H₄-2-(CH₂NMe₂))(SR_F)₂] as catalysts.

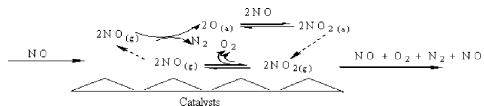


Junjiang Zhu, Dehai Xiao, Jing Li, Xiaofan Xie, Xiangguang Yang, Yue Wu

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Recycle—new possible mechanism of NO decomposition over perovskite(-like) oxides

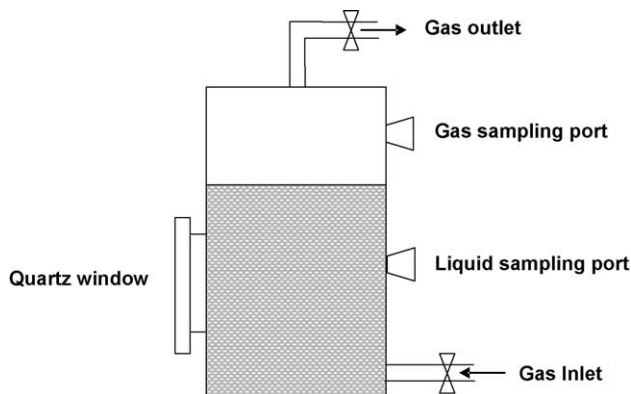
A new mechanism for NO decomposition over the perovskite(-like) catalyst is proposed and is thought to be performed in a 'recycle' way, in which the recycle of NO₂ (its formation and dissociation) plays an important role in the reaction and relates greatly with the activity.



A. Hameed, M.A. Gondal

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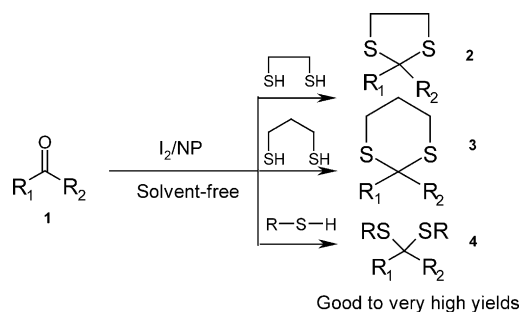
Production of hydrogen-rich syngas using p-type NiO catalyst: a laser-based photocatalytic approach



Mohamed Zahouily, Abdessamad Mezdar, Jamila Rakik, Abdelhakim Elmakssoudi, Ahmed Rayadh, Saïd Sebti

Journal of Molecular Catalysis A: Chemical 233 (2005) 43

A mild and efficient method for the protection of carbonyl compounds as dithioacetals, dithiolanes and dithianes catalysed by iodine supported on natural phosphate

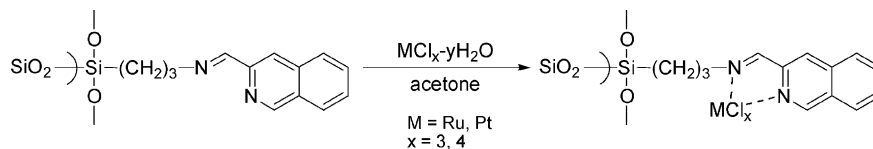


Jana Horniakova, Hideki Nakamura, Reiichiro Kawase, Kenichi Komura, Yoshihiro Kubota, Yoshihiro Sugi

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Pyridine-derived ruthenium and platinum complexes immobilized on ordered mesoporous silica as catalysts for Heck vinylation

Ruthenium and platinum complexes immobilized on a quinoline-carboimine functionalized FSM-16 mesoporous silica were prepared and applied for Heck vinylation of aryl iodides. The catalysts were compared with Ru and Pt chlorides impregnated on the same support.

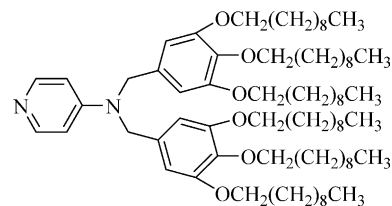


Nian-Fa Yang, Hang Gong, Wei-Jun Tang, Qing-Hua Fan, Chang-Qun Cai, Li-Wen Yang

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Phase selectively soluble dendritic derivative of 4-(*N,N*-dimethylamino)pyridine: an easily recyclable catalyst for Baylis–Hillman reactions

A new type of soluble, alkyl-modified dendritic DMAP was synthesized, and successfully applied in the thermomorphic binary system (DMF/cyclohexane, 1/1, v/v) for Baylis–Hillman reaction, and the dendritic catalyst could be easily recycled by changing the temperature of the system.



Alkyl-modified dendritic DMAP

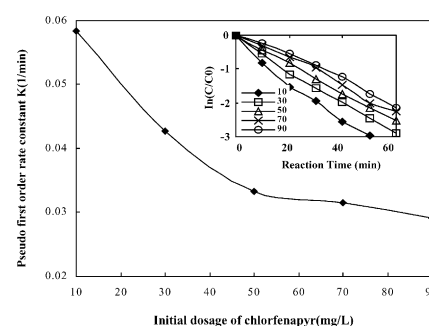
Yongsong Cao, Jiuxin Chen, Lu Huang, Yue-long Wang, Ying Hou, Yitong Lu

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Photocatalytic degradation of chlorfenapyr in aqueous suspension of TiO₂

The direct photolysis and the photocatalytic degradations of chlorfenapyr in TiO₂ suspensions were studied using UV irradiation. Both the direct photolysis and photocatalytic degradations of chlorfenapyr follow pseudo-first-order degradation kinetics ($C_t = C_0 e^{-kt}$). Photolysis reactions were slow, and the corresponding photocatalysis rates were increased by about 2.5 and 3 times in the presence of TiO₂ at 300 and 350nm of UV, respectively. The effects of initial concentration of chlorfenapyr, pH, TiO₂ amount, hydrogen peroxide addition, radiation source and temperature on the photocatalysis degradation rate were also examined. The pseudo-first-order photodegradation rates of chlorfenapyr at various initial dosages of chlorfenapyr, where the initial pH level is 6, the

initial concentration of TiO₂ was 800mgL⁻¹, T = 25°C, irradiated by UV 300nm.

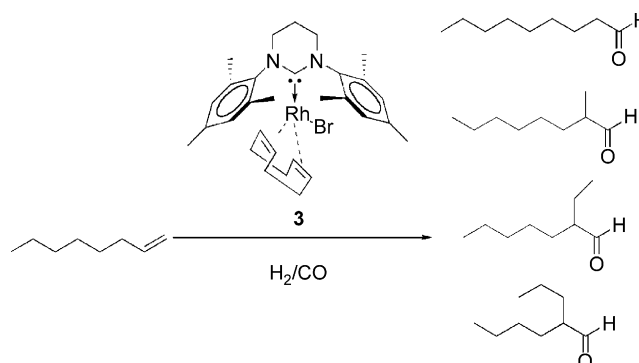


Martin Bortenschlager, Monika Mayr, Oskar Nuyken, Michael R. Buchmeiser

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Hydroformylation of 1-octene using rhodium-1,3-R₂-3,4,5,6-tetrahydropyrimidin-2-ylidenes (R=2-Pr, mesityl)

The hydroformylation activity of four different Rh(I) *N*-heterocyclic carbene complexes for 1-octene is reported. TOFs up to 1500h⁻¹ were reached.

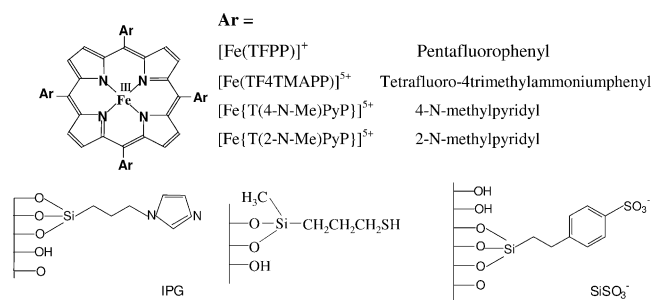


Maria Silvia Monsalves Moreira, Patrícia R. Martins, Rebeca B. Curi, Otaciro R. Nascimento, Yassuko Iamamoto

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Iron porphyrins immobilised on silica surface and encapsulated in silica matrix: a comparison of their catalytic activity in hydrocarbon oxidation

Different iron porphyrins, either immobilised on silica surface or encapsulated in silica matrix, have been used as catalyst in hydrocarbon oxidation by PhIO or H₂O₂, and results have been compared.

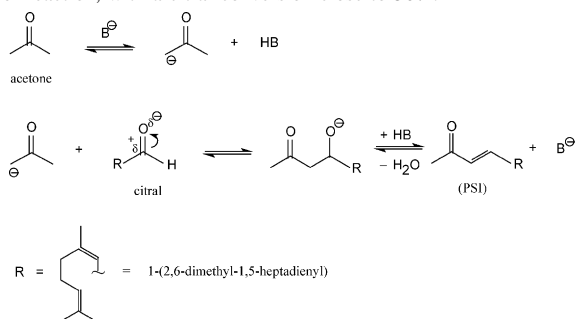


C. Noda Pérez, C.A. Henriques, O.A.C. Antunes, J.L.F. Monteiro

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Effect of acetone/citral molar ratio and reaction conditions in the aldol condensation of citral with acetone catalyzed by a Mg,Al-mixed oxide

The aldol condensation of citral with acetone catalyzed by a Mg,Al-mixed oxide (Al/(Al+Mg) molar ratio equal to 0.2) was studied. The influence of reaction parameters such as acetone/citral molar ratio, temperature, and reaction time was evaluated. The highest pseudoionone selectivity (90%) was achieved at 343K after 4h of reaction, with a citral conversion close to 50%.

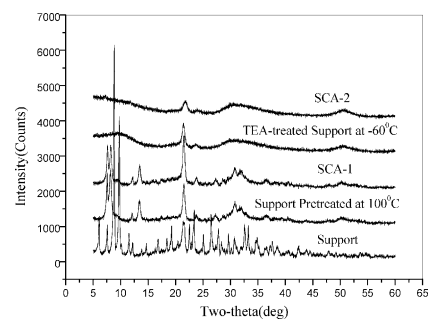


Rubin Huang, Dongbing Liu, Shibo Wang, Bingquan Mao

Journal of Molecular Catalysis A: Chemical 233 (2005) 91

Preparation of spherical MgCl₂ supported bis(imino)pyridyl iron(II) precatalyst for ethylene polymerization

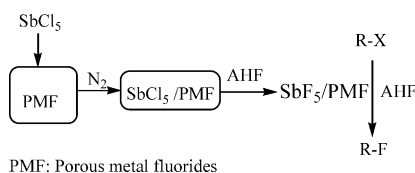
Novel spherical MgCl₂-supported iron-based catalyst systems for ethylene polymerization are developed, without the use of MAO or borate activators, starting from an adduct of magnesium chloride and ethanol. The activity and the resultant polymer properties are strongly dependent on the method of supported catalyst preparation. Polyethylene having spherical particle morphology is obtained with high catalyst activity.



Hui-e Yang, Heng-dao Quan, Masanori Tamura, Akira Sekiya

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Investigation into antimony pentafluoride-based catalyst in preparing organo-fluorine compounds

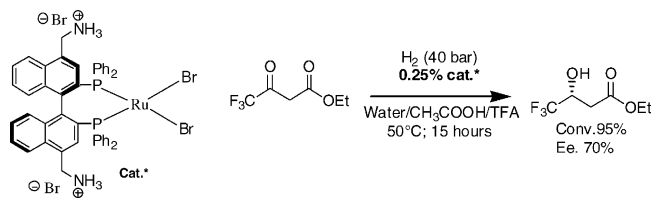


Mikaël Berthod, Gerard Mignani, Marc Lemaire

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Catalytic asymmetric hydrogenation of ethyltrifluoroacetoacetate with 4,4' and 5,5'-diamBINAP Ru(II) complexes in unusual conditions

Catalytic asymmetric hydrogenation of ethyltrifluoroacetoacetate with 4,4' and 5,5'-diamBINAP Ru(II) complexes in unusual conditions

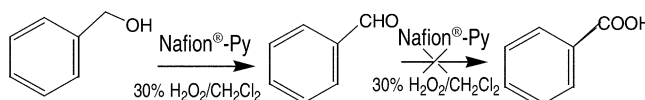


Jyh-Harng Ke, Annamalai Senthil Kumar, Jun-Wei Sue, Shanmuganathan Venkatesan, Jyh-Myng Zen

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Catalysis and characterization of a rugged lead ruthenate pyrochlore membrane catalyst

A heterogeneous Nafion® 417 membrane containing lead ruthenate pyrochlore (Py) catalyst ([NPy]) has been demonstrated for an efficient, 100% recoverable, 100% reusable and 100% selective primary alcohol oxidation to aldehyde. The Nafion® 417 membrane enhanced the Py crystallization with stable and continuous agglomerate-like structure in the [NPy] network.

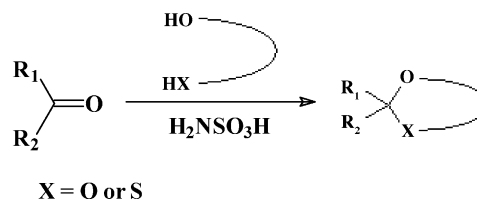


Bo Wang, Yanlong Gu, Guoyong Song, Tao Yang, Liming Yang, Jishuan Suo

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An efficient procedure for protection of carbonyls catalyzed by sulfamic acid

Sulfamic acid has been used as an efficient and recyclable catalyst for acetalization or ketalization between carbonyl compounds and diols. The inexpensive, incorrosive, green and stable catalyst with convenient reaction operation and recycling of the catalyst are the advantages established by this system. Sulfamic acid can be reused five times in model reaction without losing activity.

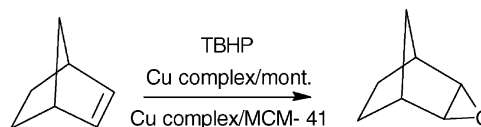


M. Ghadiri, F. Farzaneh, M. Ghandi, M. Alizadeh

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Immobilized copper(II) complexes on montmorillonite and MCM-41 as selective catalysts for epoxidation of alkenes

Immobilized Cu(II) complexes within montmorillonite and MCM-41 successfully catalyze the epoxidation of norbornene and *trans*-2-hexene-1-ol.



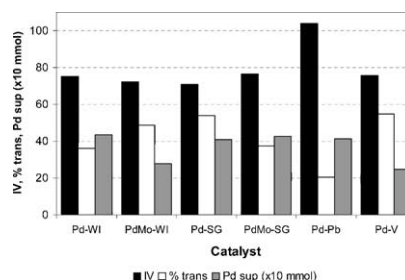
María B. Fernández, Cristian M. Piqueras, Gabriela M. Tonetto, Guillermo Crapiste, Daniel E. Damiani

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Hydrogenation of edible oil over Pd-Me/Al₂O₃ catalysts (Me=Mo, V and Pb)

This work presents the performance of supported Pd and Pd-Me (Me = Mo, V and Pb) catalysts in the hydrogenation of sunflower oil.

The figure shows the iodine number, percentage of *trans*-isomer and superficial palladium. Mo and V bimetallic catalysts present an activity similar to the Pd catalyst, and a greater *trans*-isomers selectivity. Pd-Pb sample shows the lowest hydrogenation activity.



Biju M. Devassy, G.V. Shanbhag, S.P. Mirajkar, Walter Böhringer, Jack Fletcher, S.B. Halligudi

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Silicotungstate-modified zirconia as an efficient catalyst for phenol *tert*-butylation

The alkylation of phenol with *tert*-butanol was investigated using zirconia modified with silicotungstic acid (STA) as catalysts. Under the reaction conditions of 140°C, *tert*-butanol/phenol molar ratio of 2 and LHSV of 4h⁻¹, the most active catalyst 15 % STA on ZrO₂ calcined at 750°C, gave 95.4 % phenol conversion with selectivity to 2-*tert*-butyl phenol 4.3 %, 4-*tert*-butyl phenol 59.2 % and 2,4-di-*tert*-butyl phenol 35.8 %.

