



## Contents

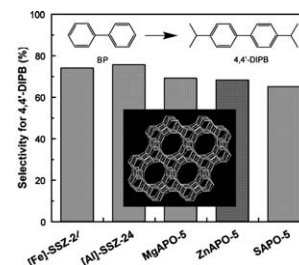
### Articles

**Hiroaki Kawagoe, Kenichi Komura, Jong-Ho Kim, Gon Seo, Yoshihiro Sugi**

*Journal of Molecular Catalysis A: Chemical 350 (2011) 1*

Preparation of [Fe]-SSZ-24 through the isomorphous substitution of [B]-SSZ-24 with iron, and its catalytic properties in the isopropylation of biphenyl

► Preparation and isopropylation of biphenyl over [Fe]-SSZ-24. ► Selective formation of 4,4'-diisopropylbiphenyl (4,4'-DIPB). ► Similar level of the selectivity for 4,4'-DIPB over LPMS with AFI topologies. ► Frameworks of LPMS govern shape-selective catalysis.

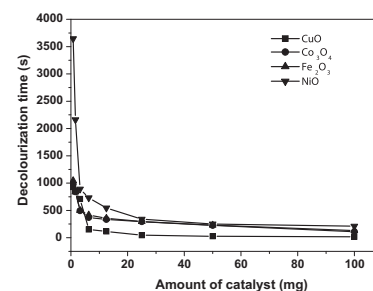


**Triveni Rajashekhar Mandlimath, Buvanewari Gopal**

*Journal of Molecular Catalysis A: Chemical 350 (2011) 9*

Catalytic activity of first row transition metal oxides in the conversion of p-nitrophenol to p-aminophenol

► Metal oxides possessing 'd<sup>n</sup>' (n = 5–9) electronic configuration are active. ► The oxides with 'd<sup>0</sup>', 'd<sup>3</sup>' and 'd<sup>10</sup>' configurations are inactive. ► Active oxides are CuO, Co<sub>3</sub>O<sub>4</sub>, Fe<sub>2</sub>O<sub>3</sub> and NiO. ► Copper and cobalt oxides are evolved as better catalysts with low concentration of NaBH<sub>4</sub>.

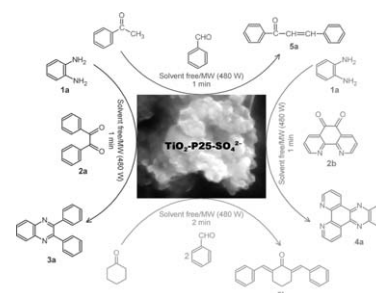


**B. Krishnakumar, M. Swaminathan**

*Journal of Molecular Catalysis A: Chemical 350 (2011) 16*

Solvent free synthesis of quinoxalines, dipyridophenazines and chalcones under microwave irradiation with sulfated Degussa titania as a novel solid acid catalyst

► TiO<sub>2</sub>-P25 possesses a unique type of surface involving both redox and acid–base site. ► TiO<sub>2</sub>-P25-SO<sub>4</sub><sup>2-</sup> has more acidic sites and so more efficient than bare TiO<sub>2</sub>-P25. ► Easy product isolation and catalyst reusability make this reaction eco-friendly.

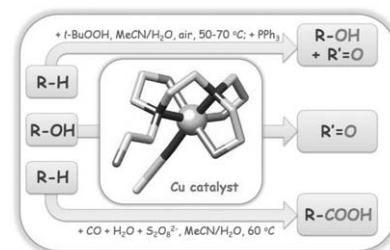


**Alexander M. Kirillov, Marina V. Kirillova, Lidia S. Shul'pina, Pawel J. Figiel, Katrin R. Gruenwald, M. Fátima C. Guedes da Silva, Matti Haukka, Armando J.L. Pombeiro, Georgiy B. Shul'pin**

*Journal of Molecular Catalysis A: Chemical* 350 (2011) 26

Mild oxidative functionalization of alkanes and alcohols catalyzed by new mono- and dicopper(II) aminopolyalcoholates

► Synthesis and X-ray crystal structures of mono and dicopper(II) complexes. ► Homogeneous oxidation catalysts. ► Oxidation of alkanes and alcohols by *t*-BuOOH. ► Cu-catalyzed transformation of cyclic and linear  $C_n$  alkanes to  $C_{n+1}$  carboxylic acids.

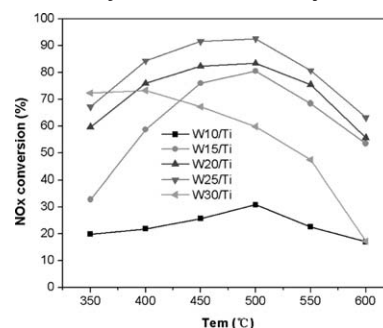


**He Zhang, Jian Han, Xiaowei Niu, Xu Han, Guodong Wei, Wei Han**

*Journal of Molecular Catalysis A: Chemical* 350 (2011) 35

Study of synthesis and catalytic property of  $WO_3/TiO_2$  catalysts for NO reduction at high temperatures

► A series of  $WO_3$ -*m*%/ $TiO_2$  samples were fabricated via a simple sol-gel method. ► Catalysts with  $WO_3$  loading of 25% exhibited good catalytic properties over 500 °C. ► The isolate and dimeric tetrahedrally  $WO_3$  play a major role for the SCR reaction. ► The acidity is not a major factor for the SCR performance at high temperatures.

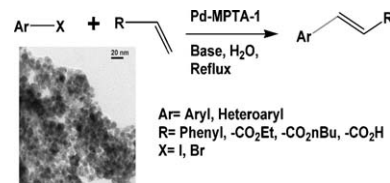


**John Mondal, Arindam Modak, Asim Bhaumik**

*Journal of Molecular Catalysis A: Chemical* 350 (2011) 40

One-pot efficient Heck coupling in water catalyzed by palladium nanoparticles tethered into mesoporous organic polymer

► Pd-grafted functionalized mesoporous polymer nanoparticles. ► Heck coupling over heterogeneous catalyst. ► Water as solvent. ► C-C bond formation.

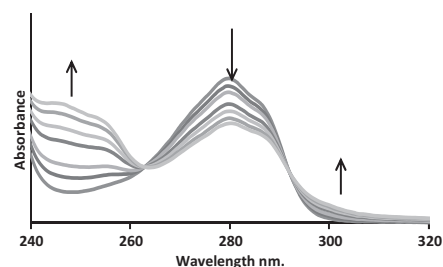


**Taofeek B. Ogunbayo, Tebello Nyokong**

*Journal of Molecular Catalysis A: Chemical* 350 (2011) 49

Photocatalytic transformation of chlorophenols under homogeneous and heterogeneous conditions using palladium octadecylthio phthalocyanine

► Palladium phthalocyanine adsorbed onto single walled carbon nanotubes. ► Adsorbed conjugates used for photocatalysis of chlorophenols. ► Homogeneous photocatalysis also studied. ► Homogeneous catalysis more efficient than heterogeneous catalysis.

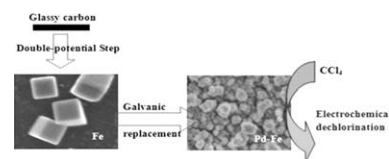


**Cuicui Qiu, Xiaoqiang Dong, Minghu Huang, Sihui Wang, Houyi Ma**

*Journal of Molecular Catalysis A: Chemical* 350 (2011) 56

Facile fabrication of nanostructured Pd–Fe bimetallic thin films and their electrodechlorination activity

► Developing a facile electrodeposition technique for fabricating Fe nano-films. ► Fabrication of nanostructured Pd–Fe thin films via a galvanic replacement reaction. ► Composition, morphology and microstructure of the Pd–Fe films can be controlled. ► Pd–Fe nano-catalysts exhibit very high activity for the CT dechlorination. ► Distinguishing the dechlorination activity of different types of hydrogen.

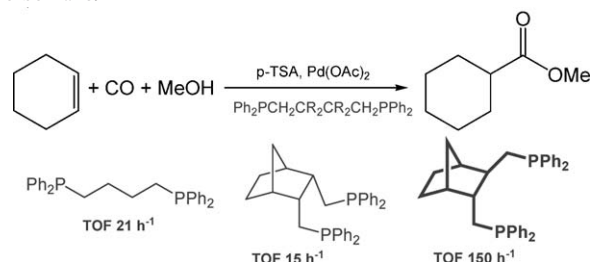


**I.E. Nifant'ev, S.A. Batashev, S.A. Toloraya, A.N. Tavtorkin, N.T. Sevostyanova, A.A. Vorobiev, V.V. Bagrov, V.A. Averyanov**

*Journal of Molecular Catalysis A: Chemical* 350 (2011) 64

Effect of the structure and concentration of diphosphine ligands on the rate of hydrocarbomethoxylation of cyclohexene catalyzed by palladium acetate/diphosphine/TsOH system

► Present work represents first systematic study devoted to a comparative investigation of the most conventional bis-diphenyl-diphosphines in cyclohexene hydrocarbomethoxylation taken as a model reaction, aiming to study the optimal backbone of the diphosphine for the process. ► Rate of the process depends strongly on the geometry of the diphosphine added (related TOFs are given for all studied diphosphines). ► Diphosphines which work well in ethylene hydrocarbomethoxylation are almost inactive in cyclohexene hydrocarbomethoxylation. ► The most performant diphosphine has bicyclic structure – trans-2,3-bis-(diphenylphosphinomethyl)-norbornane.

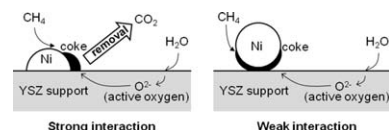


**Hiroki Takahashi, Tatsuya Takeguchi, Norikazu Yamamoto, Motofumi Matsuda, Eiko Kobayashi, Wataru Ueda**

*Journal of Molecular Catalysis A: Chemical* 350 (2011) 69

Effect of interaction between Ni and YSZ on coke deposition during steam reforming of methane on Ni/YSZ anode catalysts for an IR-SOFC

► Ni cermet anodes prepared from 8YSZ with initially various crystallite size. ► All anodes calcined at 1400°C showed rather similar electrochemical activity. ► Carbon deposition rate decreased with an increase in interaction between Ni and YSZ.

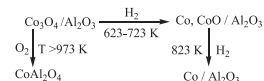


**Taraknath Das, Goutam Deo**

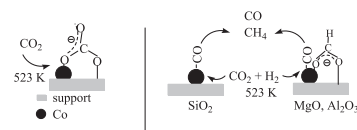
*Journal of Molecular Catalysis A: Chemical* 350 (2011) 75

Synthesis, characterization and *in situ* DRIFTS during the CO<sub>2</sub> hydrogenation reaction over supported cobalt catalysts

► The reduction temperature, loading, and support are important factors while designing the supported Co catalysts. ► *In situ* DRIFT spectroscopy and reactivity data obtained during the CO<sub>2</sub> hydrogenation reaction. ► Adsorbed formate and carbon monoxide observed over some supported Co catalysts during reaction. ► The formate species does not correlate with the CO<sub>2</sub> conversion and appears to be formed on the metal–support interface.



Nature of alumina supported cobalt catalysts under different conditions

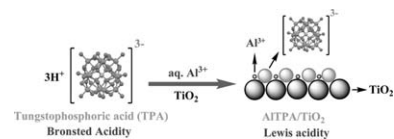


*In-situ* adsorption and CO<sub>2</sub> hydrogenation reaction over cobalt catalyst

**Ch. Ramesh Kumar, P.S. Sai Prasad, N. Lingaiah***Journal of Molecular Catalysis A: Chemical 350 (2011) 83*

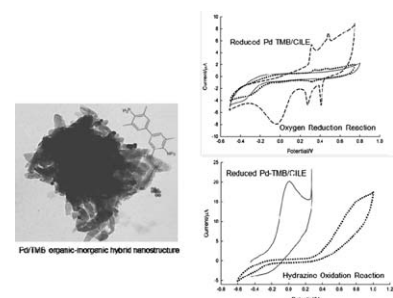
Aluminium exchanged heteropoly tungstate supported on titania catalysts: The generation of Lewis acidity and its role for benzylation reaction

- ▶ AITPA/TiO<sub>2</sub> as an efficient Lewis acid catalyst for the benzylation of arenes. ▶ Lewis acidity generated by exchange of Al with protons of heteropoly tungstate. ▶ Acidity relate to AITPA content and nature of support.
- ▶ The benzylation activity also depends on reaction parameters.

**Afsaneh Safavi, Elaheh Farjami***Journal of Molecular Catalysis A: Chemical 350 (2011) 91*

Enhanced electrocatalytic activity of a new carbon nanocomposite electrode based on organic–inorganic hybrid nanostructures

- ▶ A Pd(II) complex was incorporated into carbon ionic liquid electrode. ▶ The proposed nanocomposite electrode exhibits excellent electrocatalytic activity. ▶ The electrode acts as an effective electrocatalyst for the hydrogen evolution. ▶ It shows excellent electrocatalysis towards hydrazine electro-oxidation. ▶ Effective electrocatalysis was also observed for oxygen reduction reaction.

**Burcu Çelen, Dilara Ekiz, Erhan Pişkin, Gökhan Demirel***Journal of Molecular Catalysis A: Chemical 350 (2011) 97*

Green catalysts based on bio-inspired polymer coatings and electroless plating of silver nanoparticles

- ▶ Bio-inspired polydopamine (PDOP) coating were demonstrated for supported catalyst applications.
- ▶ Superior catalytic operational stability was obtained. ▶ PDOP coating alone exhibited ability to reduce *o*-nitroaniline.

