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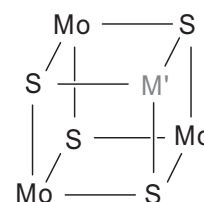
Articles

Konrad Herbst, Michael Brorson, Anna Carlsson

Journal of Molecular Catalysis A: Chemical 325 (2010) 1

Hydrotreating activities of alumina-supported bimetallic catalysts derived from noble metal containing molecular sulfide clusters $\text{Mo}_3\text{S}_4\text{M}'$ ($\text{M}' = \text{Ru, Rh, Ir, Pd, Pt}$)

Hydrotreating activities of sulfide cluster-derived bimetallic catalysts are compared with the sum of activities of the corresponding monometallic catalysts, revealing synergies for Mo/Rh and Mo/Ir catalysts.



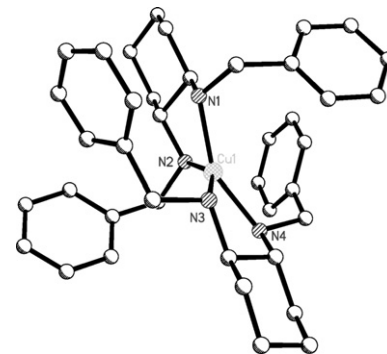
$\text{M}' = \text{Ru, Rh, Ir, Pd, Pt}$

Matthew D. Jones, Christine J. Cooper, Mary F. Mahon, Paul R. Raithby, David Apperley, Joanna Wolowska, David Collison

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Cu(II) homogeneous and heterogeneous catalysts for the asymmetric Henry reaction

New homogeneous Cu(II) complexes have been prepared, fully characterised and tested for the asymmetric Henry reaction. Heterogeneous Cu(II) catalysts have been synthesised for comparison purposes.

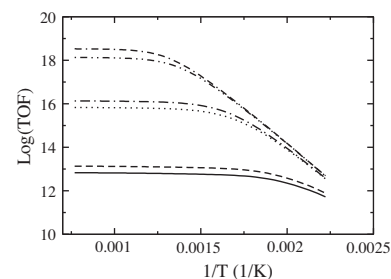


Karsten Rasim, Manfred Bobeth, Wolfgang Pompe, Nicola Seriani

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A microkinetic model of ammonia decomposition on a Pt overlayer on Au(1 1 1)

Ammonia decomposition on the surfaces Pt(1 1 1), Pt(1 0 0), and a Pt overlayer on Au(1 1 1) has been studied by DFT calculations. Steady-state surface coverages and ammonia decomposition rates have been obtained by microkinetic modeling. Interestingly the Pt overlayer on Au(1 1 1) has been found to be significantly more active with respect to ammonia decomposition compared to the pure Pt surfaces.

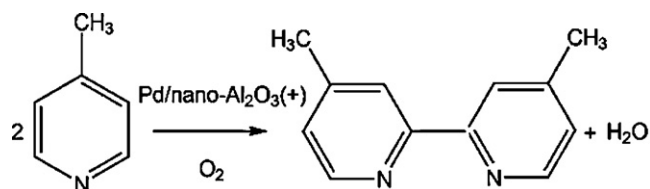


**Luke M. Neal, Samuel D. Jones, Michael L. Everett,
Gar B. Hoflund, Helena E. Hagelin-Weaver**

Journal of Molecular Catalysis A: Chemical 325 (2010) 25

Characterization of alumina-supported palladium oxide catalysts used in the oxidative coupling of 4-methylpyridine

A number of PdO/Al₂O₃ catalysts were characterized using XPS, TEM and XRD. The results reveal that the most active catalysts (palladium oxide supported on nanoparticle alumina; PdO/n-Al₂O₃(+)) have both PdO_x (x > 1) and Pd⁰ species, in addition to PdO, on the surface. Small nm-sized structures in the support are also important for a high catalytic activity.

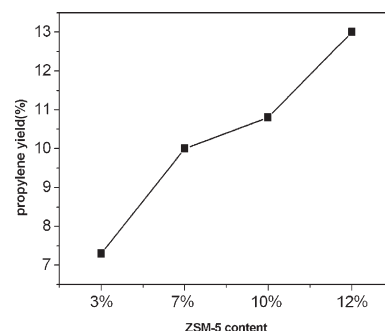


**Xionghou Gao, Zhicheng Tang, Haitao Zhang,
Dong Ji, Gongxuan Lu, Zhifeng Wang,
Zhengguo Tan**

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Influence of particle size of ZSM-5 on the yield of propylene in fluid catalytic cracking reaction

The influence of particle size of ZSM-5 zeolites on the yield of propylene and physicochemical properties of catalysts in fluid catalytic cracking reaction was investigated.

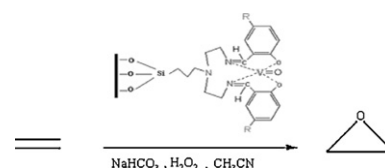


K.M. Parida, Sudarshan Singha, P.C. Sahoo

Journal of Molecular Catalysis A: Chemical 325 (2010) 40

A facile method for promoting activities of vanadium-schiffbase complex anchored on organically modified MCM-41 in epoxidation reaction

A heterogeneous catalytic system (V-MCM-41) displays a most pronounced efficiency with NaHCO₃ as co-catalyst and H₂O₂ as oxidant in a CH₃CN medium at room temperature towards epoxidation reaction.

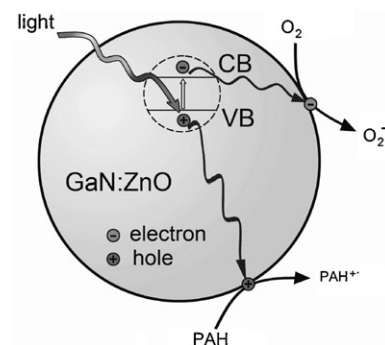


**Jiahui Kou, Zhaosheng Li, Yong Guo, Jun Gao,
Ming Yang, Zhigang Zou**

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Photocatalytic degradation of polycyclic aromatic hydrocarbons in GaN:ZnO solid solution-assisted process: Direct hole oxidation mechanism

GaN:ZnO exhibits excellent activity for the photodegradation of PAHs, and the activity can be obviously improved by loading Pt. The degradation of PAHs in the system of GaN:ZnO is induced by the formation of holes. The holes generated then interact with PAHs to produce PAHs⁺, which is active enough to react with O₂.

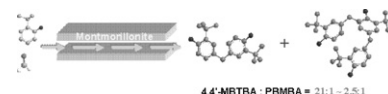


Zhi Liu, Qiaoling Xu, Xutao Peng, Dao Li, Xingyi Wang

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Confinement effect as a tool for selectivity orientation in heterogeneous synthesis of 4,4'-diamino-3,3'-dibutyl-diphenyl methane over montmorillonite catalysts

Montmorillonite was successfully employed as a heterogeneous catalyst in the condensation of *o*-tert-butylaniline with paraformaldehyde for its significant confinement effect on the synthesis of 4,4'-MBTBA.

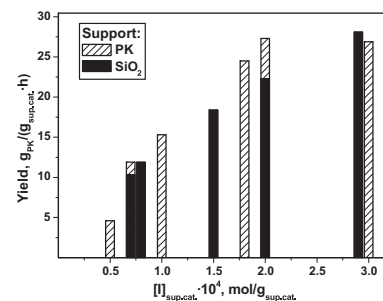


Olga M. Chukanova, Kirill A. Alpherov, Gennadiy P. Belov

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Ethylene and carbon monoxide copolymerization catalyzed by supported palladium catalyst

The kinetic regularities of the CO/C₂H₄ copolymerization catalyzed by (dppp)Pd(TsO)₂ (I) have been studied under homogeneous conditions and in slurry with supported catalysts I/support (support: polyketone or silica gel).

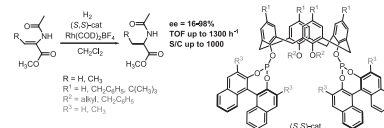


Shasha Liu, Christian A. Sandoval

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Evaluation of calix[4]arene-based chiral diphosphite ligands in Rh-catalyzed asymmetric hydrogenation of simple dehydroamino acid derivatives

The versatile calix[4]arene framework yielded chiral diphosphite ligands applicable for Rh-catalyzed asymmetric hydrogenation of dehydroamino acid derivatives. Optimum efficiency was obtained for: R¹ = -C(CH₃)₃; R² = -CH₂CH₂CH₃; and R³ = H.

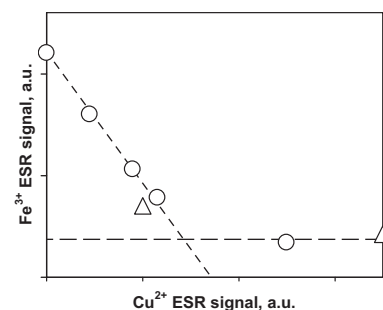


Alexei V. Kucherov, Dmitry E. Doronkin, Alexandr Yu. Stakheev, Arkady L. Kustov, Marie Grill

Journal of Molecular Catalysis A: Chemical 325 (2010) 73

ESR study of competition between Fe³⁺ and Cu²⁺ active sites for NO_x selective catalytic reduction by NH₃ in Cu-Fe-Beta catalyst

Replacement of Fe³⁺ by Cu²⁺ in zeolitic cationic sites occurs upon Fe-Beta treatment by copper. This results in gain in low-temperature deNO_x activity and loss in activity at high temperatures.

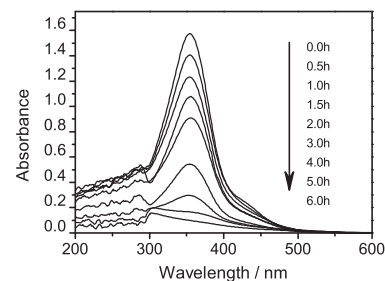


Yan Wang, Yuchao Zhao, Yan Ma, Hui Liu, Yu Wei

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Photo-oxidation of Mordant Yellow 10 in aqueous dispersions of ferrihydrite and H₂O₂

Ferrihydrite could catalyze the degradation of Mordant Yellow 10 (MY 10) in the presence of trace of H₂O₂. The UV radiation further increased its degradation rate.

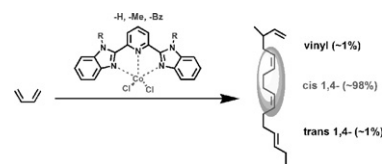


Vinukrishnan Appukkuttan, Lin Zhang, Ju Young Ha, Deepak Chandran, Bijal Kottukkal Bahuleyan, Chang-Sik Ha, Il Kim

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Stereospecific polymerizations of 1,3-butadiene catalyzed by Co(II) complexes ligated by 2,6-bis(benzimidazolyl)pyridines

Highly stereoregular polybutadiene polymers with 1,4-*cis* isomeric content is synthesized using a series of 2,6-bis(benzimidazolyl)pyridine Co(II) on activation with alkylaluminum cocatalysts under moderate reaction conditions.

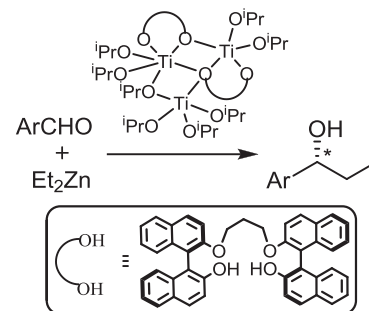


Artur R. Abreu, Mirtha Lourenço, Daniel Peral, Mário T.S. Rosado, Maria E.S. Eusébio, Óscar Palacios, J. Carles Bayón, Mariette M. Pereira

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Enantioselective ethylation of aromatic aldehydes catalysed by titanium(IV)-*bis*-BINOLate-2',2''-propylether complexes: An inside view of the catalytic active species

¹H NMR, CD, ESI-MS and PM6 calculation were used to investigate the nature of the catalytic active species, using *bis*-BINOLate-2',2''-propylether-titanium complexes in ethylation of aldehydes.



P. Hejduk, M. Szaleniec, M. Witko

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Molecular and dissociative adsorption of water at low-index V₂O₅ surfaces: DFT studies using cluster surface models

DFT cluster modeling of the water adsorption in the molecular and dissociative manner at the low-index (0 1 0), (1 0 0) and (0 0 1) surfaces of V₂O₅.

