Applied Organometallic Chemistry

(Appl. Organometal. Chem.)

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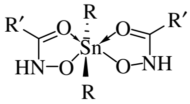
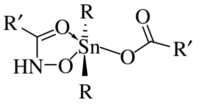
Volume 21 Number 11

Papers published online November 2007

Section: Bioorganometallic Chemistry



a

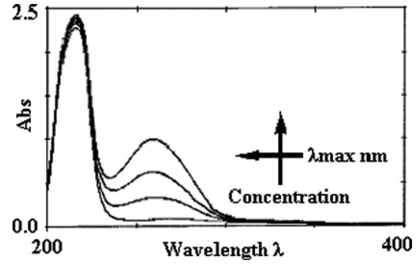


b

Two series of diorganotin(IV) complexes with dihalogenobenzohydroxamate ligands were prepared and shown to exhibit *in vitro* cytotoxic activities towards human leukemic promyelocites HL-60, BGC-823, BEL-7402 and KB cell lines which, in some cases, are identical to, or even higher than, that of cisplatin. The dependence of the cytotoxic activity on some factors was also studied.

X. Shang, J. Wu, A. J. L. Pombeiro* and Q. Li* 919–925

Mononuclear diorganotin(IV) complexes with arylhydroxamates: syntheses, structures and assessment of in vitro *cytotoxicity*



Drug-Fe(II) complexes have been synthesized. Structures of the complexes have been investigated using spectroscopic technique. All the complexes exhibit higher antibacterial activity than parental compounds. The absorption titration for sperm herring DNA and gel electrophoresis for pBR322 DNA show interpretative binding and cleavage of DNA with drug-Fe(II) complexes.

P. B. Pansuriya and M. N. Patel* 926–934

DNA-binding, antibacterial and spectral investigations of drug–Fe(II) complexes

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Identification statement

Applied Organometallic Chemistry (Print ISSN 0268-2605; Online ISSN 1099-0739 at Wiley InterScience, www.interscience.wiley.com) (USPS 005409) is published monthly by John Wiley & Sons, Ltd., The Atrium, Southern Gate, Chichester, West Sussex, PO19 8SQ, UK. Periodicals postage paid at Rahway, NJ. Air freight and mailing in the USA by Mercury Airfreight International Ltd. Inc., 365 Blair Road, Avenel, NJ 07001, USA. USA POSTMASTER—please send address changes to *Applied Organometallic Chemistry*, c/o Mercury Airfreight International Ltd. Inc., 365 Blair Road, Avenel, NJ 07001, USA.

AOCHEX 21(11) 919–1004 (2007)
ISSN 0268-2605

0268-2605(200711)21:11<>1.0.TX;2-S

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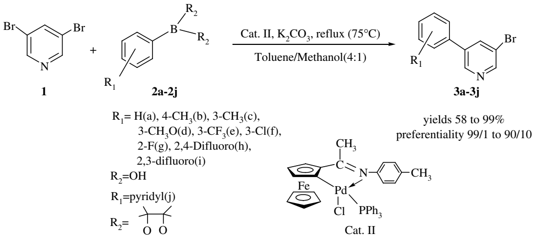
Section: Materials, Nanoscience and Catalysis

The mono-arylpyridyl bromides are very useful key intermediates that can be further functionalized to generate bioactive compounds. It is possible to obtain mono-arylation products of 3,5-dibromopyridine with high preferentiality and high yields by air- and moisture-stable palladacycle (catalyst **II**) catalyzed Suzuki reaction under the conditions of K_2CO_3 – toluene – methanol (4 : 1, v/v), reflux (75 °C), 5.6 equiv. of 3,5-dibromopyridine with the ratio (mono : bis) ranging from of 99 : 1 to 90 : 10. This new method could also be used to easily achieve 3-bromo-5-pyridylpyridine (**3j**) with pyridyl – pyridyl bond formation.



J. Zhang, Y. Wu*, Z. Zhu, G. Ren, T. C. W. Mak and M. Song . . . . 935 – 940

Application of palladacycle catalyst in the synthesis of mono-arylpyridyl bromides

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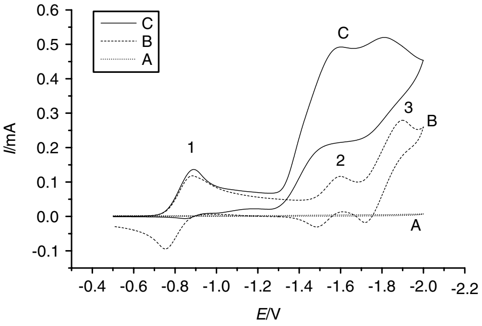
The electrochemical incorporation of carbon dioxide into amines catalyzed by electrogenerated Ni complex afforded carbamates in moderate yields under very mild condition ($p_{CO_2} = 1$ atm, room temperature) without any addition of probases. Cyclic voltammetry and mechanistic studies revealed the role of reduced nickel species in the activation of CO_2 and electrogenerated $CO_2^{\cdot-}$ as a base in the synthesis of carbamates.



D. F. Niu, L. Zhang, L. P. Xiao, Y. W. Luo and J. X. Lu* . . . . 941 – 944

Nickel-catalyzed coupling of CO_2 and amines: improved synthesis of carbamates

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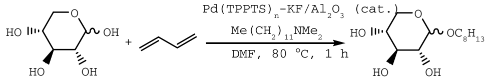
Recycling of the catalyst five times led to a turnover number higher than 500 for this atom-efficient chemical process.

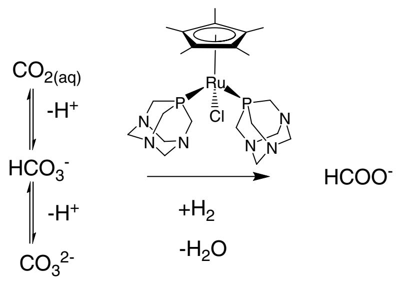


B. Estrine, S. Bouquillon, F. Hénin and J. Muzart* . . . . 945 – 946

Recycling in telomerization of butadiene with D-xylose: Pd(TPPTS)$_n$-KF/Al_2O_3 as an active catalyst

---

The water soluble Cp and Cp* ruthenium(II) complexes with PTA or mPTA ligands are moderately active in the reduction of CO_2/bicarbonate, the rate of the hydrogenation strongly depends on the pH. The catalytically active species are the [CpRu(H)(PTA)$_2$] and [Cp*Ru(H)(PTA)$_2$] hydrides.



S. S. Bosquain, A. Dorcier, P. J. Dyson, M. Erlandsson, L. Gonsalvi, G. Laurenczy* and M. Peruzzini . . . . 947 – 951

Aqueous phase carbon dioxide and bicarbonate hydrogenation

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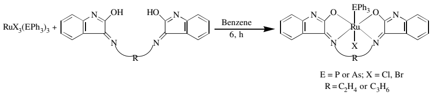
The synthesis and characterization of several hexa-coordinated ruthenium(III) Schiff base complexes of the type $[RuX(EPh_3)(L)]$ (X = Cl or Br; E = P or As; L = dianion of the tetradentate Schiff base) are reported. Based on analytical and spectral data, an octahedral geometry has been tentatively proposed for all of these complexes. The new complexes have been subjected to catalytic activity in the reaction of oxidation of alcohols in the presence of *N*-methylmorpholine-*N*-oxide.



S. Manivannan, R. Prabhakaran, K. P. Balasubramanian, V. Dhanabal, R. Karvembu, V. Chinnusamy and K. Natarajan* 952–957

Synthesis, spectral, electrochemical and catalytic studies of new Ru(III) tetradentate Schiff base complexes

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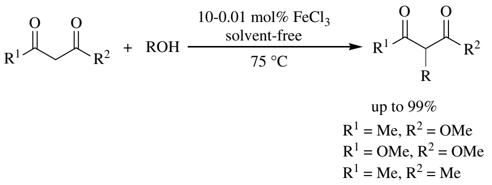
The direct substitution of alcohols and β-dicarbonyl compounds was catalyzed with $FeCl_3$ under solvent-free conditions. The catalyst loading could be decreased to 0.01 mol% in high activities.



Y. Yuan*, Z. Shi, X. Feng and X. Liu 958–964

Solvent-free reactions of alcohols with β-dicarbonyl compounds catalyzed by iron(III) chloride

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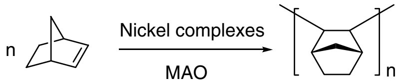
Nickel(II) complexes bearing β-diketiminate ligands exhibit characteristics of vinyl polymerization of norbornene when activated by MAO.



Y. Li * , M. Gao and Q. Wu .. 965–969

Vinyl polymerization of norbornene by nickel(II) complexes bearing β-diketiminate ligands

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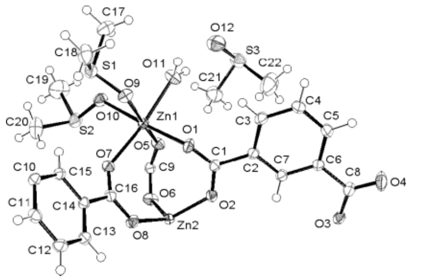
An easy way of producing three-dimensional metal-organic coordination polymers involving zinc(II) benzene-dicarboxylates is reported. Zinc dicarboxylates obtained from the reaction of zinc oxide with benzene dicarboxylic acids yield after suspension in DMSO and subsequent heating crystalline compounds displaying complex zeotypic structures.



T. A. Zevaco*, D. Männle, O. Walter and E. Dinjus 970–977

An easy way to achieve three-dimensional metal–organic coordination polymers: synthesis and crystal structure of dizinc diisophthalate bis-dimethylsulfoxide monohydrate: $[Zn_2(ip)_4(DMSO)_2(H_2O)\cdot 3\,DMSO]_n$

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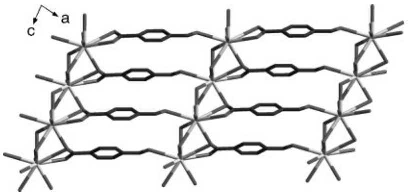
Section: Main Group Metal Compounds

A novel barium(II) coordination polymer, $[Ba(4\text{-}FBA)_2(4\text{-}FBAH)]_n$, **I**, containing neutral and deprotonated 4-formylbenzoic acid ligands has been synthesized. The adjacent barium(II) atoms are bridged by the 4-FBA$^-$ ligand into a 2D lamellar structure which exhibits blue fluorescent emission in the solid state at room temperature.



Z.-P. Deng, S. Gao*, L.-H. Huo 978–982

The first two-dimensional barium coordination polymer based on neutral and deprotonated 4-formylbenzoic acid

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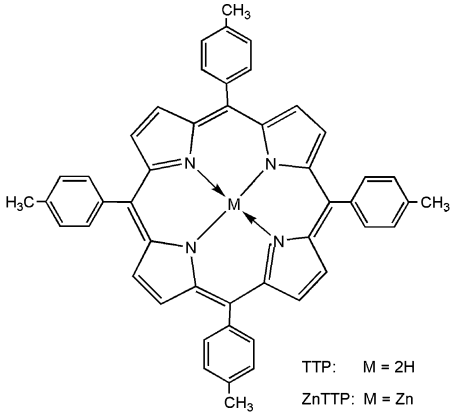
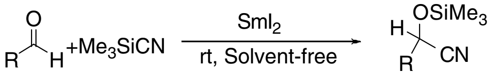
The charge transfer complexes formation of 5,10,15,20-tetra(4-tolyl)porphyrin and Zn-5,10,15,20-tetra(4-tolyl) porphyrin with some aromatic nitro acceptors such as 2,4,6-trinitrophenol (picric acid), 3,5-dinitrosalicylic acid, 3,5-dinitrobenzoic acid and 2,4-dinitrophenol have been studied spectrophotometrically in dichloromethane, chloroform and carbontetrachloride solutions at different temperatures.



M. E. El-Zaria* and A. R. Genady 983–993

Spectroscopic studies of charge transfer complexes of meso-*tetra*-p-*tolylporphyrin and its zinc complex with some aromatic nitro acceptors in different organic solvents*

A novel method for the cyanosilylation of various aldehydes using 0.5 mol% SmI_2 under solvent-free conditions is reported. The corresponding cyanosilylethers are obtained in high yields (up to 99%) in relatively short reaction time.



S. C. George, S. S. Kim* and S. T. Kadam 994–998

Solvent-free cyanosilylation of aldehydes catalyzed by SmI_2

Book Review

R. Cornelis, J. Caruso, H. Crews and K. G. Heumann 999–1000

Handbook of elemental speciation, handbook of elemental speciation II: species in the environment, food, medicine and occupational health

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