Applied Organometallic Chemistry

(Appl. Organometal. Chem.)

CONTENTS

Volume 19 Number 12 *Papers published online December 2005*

Section: Bioorganometallic Chemistry

1,1'-(dicarbohydrazono) ferrocenes prepared by condensing 1,1'-diacetylferrocene with 2-furoic hydrazide, 2-thiophenecarboxylic hydrazide and 2-salicylic hydrazide respectively. These were characterized by spectral and analytical data and then were used for complexation with Co (II), Cu (II), Ni (II) and Zn (II) metals. The synthesized compounds were screened for their *in-vitro* antibacterial activity against *Escherichia coli, Klebsiella pneumonae, Proteus mirabilis, Pseudomonas aeruginosa, Salmonella typhi, Shigella dysentriae, Bacillus cereus, Corynebacterium diphtheriae, Staphylococcus aureous and Streptococcus pyogenes strains and for <i>in-vitro* antifungal activity against *Trichophyton longifusus, Candida albicans, Aspergillus flavus, Microsporum canis, Fusarium solani* and *Candida glaberata*.

CH₃

$$\begin{array}{c}
CH_3 \\
NH
\end{array}$$

$$\begin{array}{c}
CH_3 \\
CH_3
\end{array}$$

$$\begin{array}{c}
CH_3 \\
R'
\end{array}$$

$$\begin{array}{c}
CH_3 \\
R'
\end{array}$$

$$\begin{array}{c}
CH_3 \\
R'
\end{array}$$

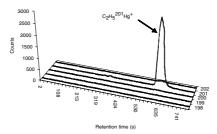
$$\begin{array}{c}
CH_3 \\
NH
\end{array}$$

$$\begin{array}{c}
CH_3 \\
R'
\end{array}$$

Organometallic compounds with biologically active molecules: in vitro antibacterial and antifungal activity of some 1,1'-(dicarbohydrazono) ferrocenes and their cobalt(II), copper(II), nickel(II) and zinc(II) complexes

Section: Speciation Analysis and Environment

This article describes a simple and efficient synthesis procedure for isotopically enriched monoethylmercury chloride (C_2H_5 $^{201}\mbox{HgCl}$) from commercially available $^{201}\mbox{HgO}$ (98.11% isotopic purity) and tetraethylin.



High yield synthesis and characterization of isotopically enriched monoethylmercury chloride ($C_2H_5^{201}HgCl$)

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Section: Materials, Nanoscience and Catalysis

Aldol-type condensation reactions of a number of cyclic-, acyclic- and substituted cyclic-ketones were investigated by the $W(CO)_6/CCI_4/UV$ system.

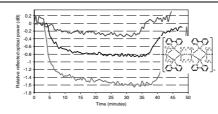
A comparative study on aldol-type condensation reactions of cyclic, acyclic and substituted cyclic ketones by the $W(CO)_6/CCI_4/UV$ system

The four phosphorescent cyclometalated iridium complexes with 2,5-diphenylpyridine based ligands have been synthesized and characterized to investigate the effect of the simple ligand modification on photophysics, thermostability and electrochemistry.

M. L. Xu, W. L. Li*, Z. W. An, Q. Zhou and G. Y. Wang 1225-1231

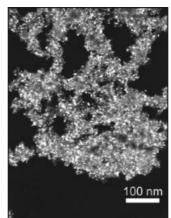
Synthesis and characterization of phosphorescent cyclometalated iridium complexes containing 2,5-diphenylpyridine based ligands

The organometallic vapochromic material $[Au_2Ag_2(C_6F_5)_4(phen)_2]_n$ is able to detect volatile organic compounds such as acetone, even in water solution, by implementation in an optical fibre sensor via a sol-gel doped with the vapochromic complex deposited onto a monomode fibre connected to a coupler.



New preparation of gold – silver complexes and optical fibre environmental sensors based on vapochromic $[Au_2Ag_2(C_6F_5)_4-(phen)_2]_n$

A new method for the preparation of Pd(0)/PANI nanocomposites is presented. This material shows good activity as catalyst in both Suzuki-Miyaura and Heck couplings.



Heck and Suzuki-Miyaura couplings catalyzed by nanosized palladium in polyaniline

Section: Main Group Metal Compounds

1,1-Organoboration using triethyl-, triallyland triphenylborane (BEt₃, BAll₃, BPh₃) of dimethysilylethynyl(trimethyl)stannane,

 $Me_3Sn-C \equiv C-Si(H)Me_2$, affords alkenes bearing three different organometallic groups at the C = C bond. Isomerisation (cis/trans) is caused by consecutive 1,1-deorganoboration

+ BEt₃ or BPh₃
or BPh₃
+ BEt₃ or BPh₃
+ BAll₃
+ BAll₃
+ BAll₃

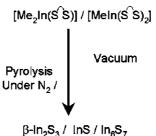
R₂B
- H
SiMe₂

R = Et, Ph
R = Et, All. Ph

and 1,1-organoboration. Electron-deficient Si-H-B bridges are identified by characteristic NMR parameters. All products were characterised by multinuclear NMR spectroscopy (¹H, ¹¹B, ¹³C, ²⁹Si and ¹¹⁹Sn NMR).

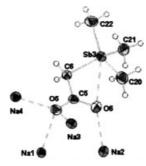
1,1-Organoboration of silylethynyltin compounds studied by multinuclear magnetic resonance spectroscopy: isomerization at the C=C bonds and electrondeficient Si-H-B bridges

Reaction of trimethylindium with tris(dithiolato) indium(III) in appropriate stoichiometry readily yields methylindium(III) dithiolates. These complexes have been characterized using IR, NMR and mass spectral techniques. Their suitability as precursors for deposition of indium sulfides has also been evaluated.



A convenient synthesis of methylindium(III) dithiolate complexes – precursors for indium sulfides

The antimony analogue of choline and a supramolecular sodium complex of stiba betaine have been synthesized and characterized by single crystal X ray diffraction and other methods.



Synthesis and structures of stiba choline bromide, $[Me_3SbCH_2CH_2OH]Br$ and $(Me_3SbCH_2COO)_8(NaBr)_7(MeOH)_9(H_2O)$, a supramolecular derivative of stiba betaine

The $[Cd(bipy)_3][PF_6]_2$ complex exhibits a moderately large quantum yield of 1.07 \times 10⁻², in acetonitrile solution at 25 °C, a result that is ascribed to the complexation of cadmium(II) by three 2,2′-bipyridine ligands in a distorted octahedral geometry.



N. Kundu, D. Mandal, M. Chaudhury* and E. R. T. Tiekink* 1268 – 1270

Luminescence characteristics and X-ray crystal structure of $[Cd(bipy)_3][PF_6]_2$ (bipy = 2,2'-bipyridine)

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