Applied Organometallic Chemistry

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CONTENTS

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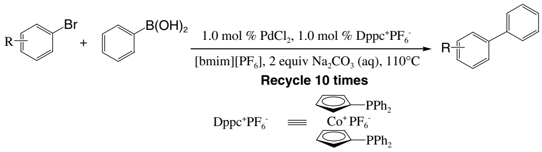
Section: Materials, Nanoscience and Catalysis

An air-stable and highly efficient PdCl$_2$–Dppc$^+$PF$_6^-$–[bmim][PF$_6$] catalytic system has been developed for the Suzuki coupling reaction of various aryl bromides with phenylboronic acid. The catalytic system can be recycled at least 10 times with minimal loss of activity.



Y. Ren, G.-A. Yu, J. Guan and S. H. Liu* **1–4**

New recyclable catalytic system: PdCl$_2$–Dppc$^+$PF$_6^-$–[bmim][PF$_6$] for the Suzuki coupling reaction

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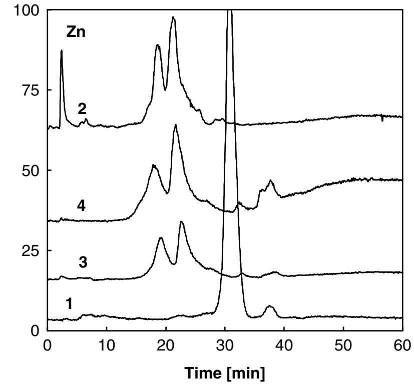
The on-line coupling of LC and ICP-MS was used for fractionation and detection of species of Cu, Fe, I, Se and Zn in human serum. The method was optimized and the uncertainties of results were estimated. The anion exchange chromatography proved better separation capability (both intra- and inter-element) than size-exclusion chromatography.



O. Mestek*, J. Komínková, R. Koplík, M. Kodíček and T. Zima **5–14**

Quantification of trace elements in human serum fractions by liquid chromatography and inductively coupled plasma mass spectrometry

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Identification statement

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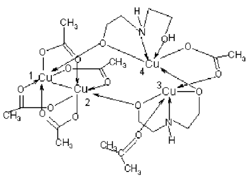
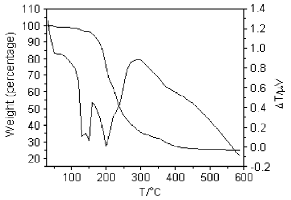




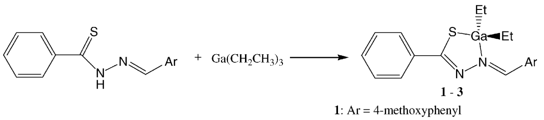
Tetranuclear complexes of copper and cobalt have been prepared under ambient conditions from corresponding metal acetates in acetone, using triethanolamine and diethanolamine as ligands. The thermal behaviour of these complexes has been investigated in order to test the suitability of these complexes as potential MOCVD precursors for growing oxide thin films.

M. Das* and S. A. Shivashankar . . 15–25

Synthesis, characterization and investigation of the thermal behaviour of six novel polynuclear cobalt and copper complexes for potential application in MOCVD

Section: Main Group Metal Compounds

Three diethylgallium complexes of type Et_2GaL [L = *N*-(4-methoxy) benzylidenethiobenzahydrazonato (**1**), *N*-(4-*N*, *N*-dimethylamino)benzy lidenethiobenzahydrazonato (**2**), *N*-(9-anthryl)methylenethio benzahydrazonato (**3**)] were synthesized by the reaction of triethylgallium with appropriate *N*-arylmethylenethiobenzahydrazones and characterized. Monolayer light-emitting diodes based on the diethyl[*N*-arylmethylenethio benzahydrazonato]gallium doped poly(vinylcarbazole) were fabricated by a spin coating method. The photoluminescent and electroluminescent properties of **1** and **3** were studied. The electroluminescence bands are located in the blue/green region (465 and 510 nm for complexes **1** and **3**, respectively).



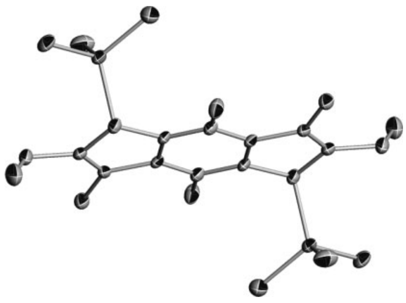
1 - 3

1: Ar = 4-methoxyphenyl
2: 4-*N*,*N*-dimethylaminophenyl
3: 9-*N*-anthryl

Y. Shen*, X. Huang, S. Xu, J. Deng and Y. Zhang 26–30

*Blue/green light-emitting diode based on diethyl[*N*-arylmethylenethiobenzahydrazonato]gallium complexes*

Disilylation of 2,6-diethyl-3,4,7,8-tetramethyl-1,5-dihydro-s-indacene is regioselective and stereoselective. The stereoselectivity was modified by changing the experimental conditions, allowing an understanding of the reaction mechanism. The structure of the 'meso' diastereoisomer was established by X-ray diffractometry



M. Dahrouch, F. Burgos, A. Castel, I. Chavez, H. Gornitzka, J. M. Manriquez, P. Rivière*, M. Rivière-Baudet, J. Alvarez and M. Onyszchuk 31–38

Regio and stereo selectivity in the silylation of 2,6-diethyl-3,4,7,8-tetramethyl-1,5-dihydro-s-indacene

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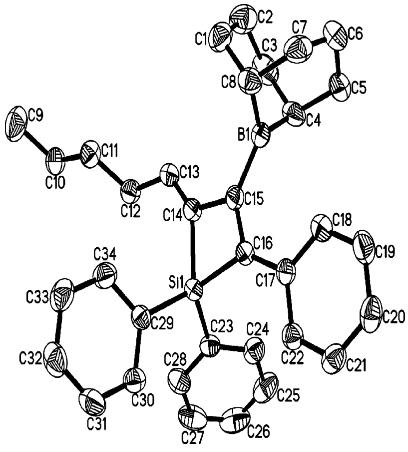
The combination of consecutive 1,2-hydroboration and 1,1-organoboration of alkyn-1-yl(chloro)diphenylsilanes with 9-borabicyclo[3.3.1]nonane led to 1-silacyclobutenes. Intermediates were detected by NMR spectroscopy and one silacyclobutene was studied by X-ray crystallography, the calculated molecular gas phase geometry of model compounds being in good agreement with the experimental structure.



B. Wrackmeyer*, E. Khan and R. Kempe 39–45

Boryl-substituted 1-silacyclobutenes. Formation and molecular structure

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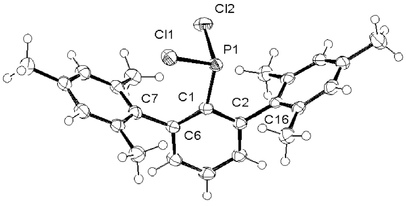
A detailed procedure for the preparation of 2,6-$(2,4,6\text{-}Me_3C_6H_2)_2C_6H_3PCl_2$ is presented. Owing to steric congestion, the phosphane unit within the title compound is dislocated from the central position which is associated with a difference in the P–C–C angles of 20.3(2)° and a compression of the Cl–P bond distance of the chlorine atom involved in this repulsive interaction.



C. Overländer, J. J. Tirrée, M. Nieger, E. Niecke, C. Moser, S. Spirk, and R. Pietschnig* 46–48

Preparation and molecular structure of 2,6-dimesitylphenyldichlorophosphane

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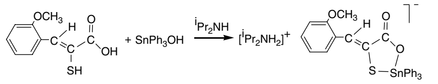
The syntheses of 3-(2-methoxyphenyl)-2-sulfanylpropenoic acid, [H_2(*o*-mpspa)] and di-isopropylammonium [3-(2-methoxyphenyl)-2-sulfanylpropenoato] triphenylstannate(IV), [HQ][$SnPh_3$(*o*-mpspa)], are reported. The characterization of both compounds by means of mass spectrometry and vibrational spectroscopies, as well as by multinuclear (^1H, ^{13}C and, for the complex, ^{119}Sn) NMR spectroscopy, is described. In the case of [HQ][$SnPh_3$(*o*-mpspa)], the crystal structure is also reported.



P. Álvarez-Boo, J. S. Casas, E. E. Castellano, M. D. Couce, R. Farto, E. Freijanes and J. Sordo* 49–53

Synthesis, characterization and antibacterial activity of 3-(2-methoxyphenyl)-2-sulfanylpropenoic acid and di-isopropylammonium [3-(2-methoxyphenyl)-2-sulfanylpropenoato] triphenylstannate(IV). The crystal structure of [HQ][$SnPh_3$(o-mpspa)]

Book Review

D. J. Cardin 54

Inorganic and organometallic polymers

Book Review

F. Dewhurst 55

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