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Volume 19 Number 7

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Section: Speciation Analysis and Environment

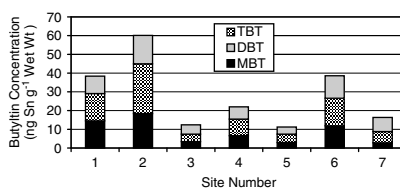
Little data about toxic effect of triphenyltin (TPT) on aquatic plants is available. The purpose of this paper is to study the toxic effect of TPT on duckweed, *Lemna polyrhiza*, and the bioconcentration factor of TPT by *Lemna polyrhiza*. At 5 µg/l concentration TPT treatment, a toxic effect on growth of *Lemna polyrhiza* appeared. The 8 day IC₅₀ of TPT to *Lemna polyrhiza* was 19.22 µg/l. TPT stimulated peroxidase activity and nitrate reductase activity at 2 and 5 µg/l. TPT reduced chloroplast activity of *Lemna polyrhiza* at 2 and 5 µg/l. Bioconcentration factors of TPT for *Lemna polyrhiza* were 4.3 and 10.9 at 2 and 5 µg/l, respectively.

Toxic effect of triphenyltin on <i>Lemna polyrhiza</i>				
Zhihui Song and Guolan Huang				
8 day IC ₅₀	19.22 µg/L			
TPT concentration	Control (0 µg/l)	2 µg/l	5 µg/l	Unit
Nitrate reductase activity	1	2.3	4.8	Times
Peroxidase activity	1	1.6	2.1	Times
Chloroplast activity	100	33.8	13.6	%
Sugar content	100	49	13	%
BCFs	-	4.3	10.9	

Z. Song* and G. Huang 807–810

Toxic effect of triphenyltin on Lemna polyrhiza

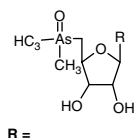
A survey of organotin compounds comprising tributyltin (TBT), dibutyltin (DBT) and monobutyltin (MBT) in sediment and clam (*Meretrix meretrix*) was undertaken in Vietnam in 2003. Measurable amounts of TBT, DBT and MBT were found in all samples.



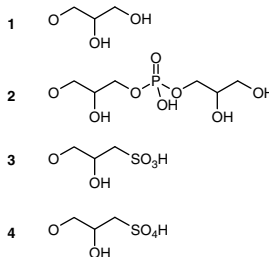
D. D. Nhan, D. T. Loan, I. Tolosa and S. J. de Mora* 811–818

Occurrence of butyltin compounds in marine sediments and bivalves from three harbour areas (Saigon, Da Nang and Hai Phong) in Vietnam

In the marine environment, arsenic accumulates in seaweed and occurs mostly in the form of arsenoribofuranosides (often called arsenosugars). This study investigated the degradation pathways of arsenosugars from decaying seaweed in a mesocosm experiment.



R =



P. Pengprecha*, M. Wilson, A. Raab and J. Feldmann 819–826

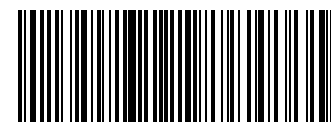
Biodegradation of arsenosugars in marine sediment

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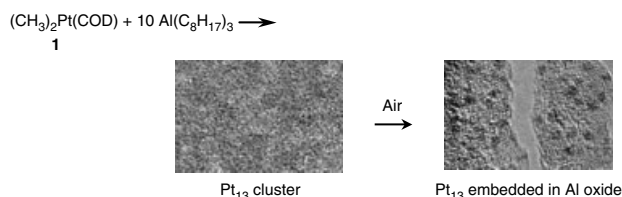
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0268-2605(200507)19:7<>1.0.TX;2-7

Section: Materials, Nanoscience and Catalysis

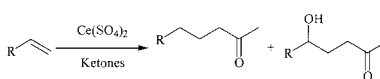
A Pt₁₃ cluster (0.75 ± 0.10 nm) stabilized by an organoaluminium shell has been prepared for the first time. Slow oxidation transforms the organoaluminium shell into an aluminium oxide matrix in which Pt₁₃ clusters are uniformly dispersed. The one-shell structure of the cluster was confirmed by X-ray absorption near-edge spectrum.



F. Wen, H. Bönemann*, R. J. Mynott, B. Spliethoff, C. Weidenthaler, N. Palina, S. Zinoveva and H. Modrow 827–829

Short communication: Preparation of Pt₁₃ clusters in the presence of trialkylaluminium

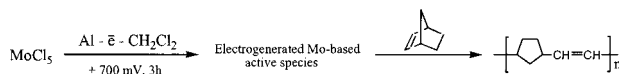
The reaction of olefins with cerium(IV) sulfate tetrahydrate in acetone–H₂O under reflux for 5 h gave 2-oxo- and 2-oxo-5-hydroxy derivatives.



K. Itoh, T. Ueki, H. Mikami, W. Chai, H. Sakamaki and C. A. Horiuchi* 830–833

Reaction of olefins using cerium(IV) sulfate tetrahydrate in carbonyl compounds–H₂O

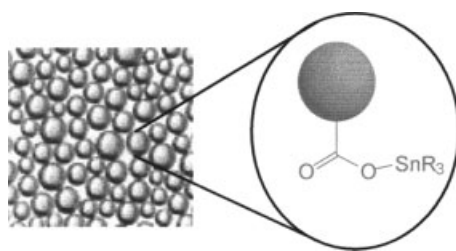
An electrochemically generated molybdenum-based catalyst system is applied to the ring-opening metathesis polymerization of norbornene. The results are compared with those obtained using a tungsten-based catalyst system.



O. Dereli, C. Aydoğdu, B. Düz and Y. İmamoğlu* 834–840

Application of electrochemically generated molybdenum-based catalyst system to the ring-opening metathesis polymerization of norbornene and a comparison with the tungsten analogue

New catalytic systems derived from low-cost ion-exchange resins were prepared by functionalization of free carboxylic units with different triorganotin derivatives. The products obtained were characterized and tested in the transesterification reaction between ethyl acetate and primary, secondary and tertiary alcohols. The trialkyltin carboxylate anchored to the resin shows a promising activity that can be related to steric hindrance of the tin substituent, as well as to the alcoholic substrate.

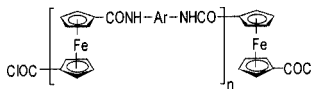


L. Angiolini*, D. Caretti, L. Mazzocchetti, E. Salatelli, R. Willem and M. Biesemans 841–847

Cross-linked resins functionalized with triorganotin carboxylates: synthesis, characterization and preliminary catalytic screening in transesterification

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Four ferrocene containing polyamides (aramids) were prepared by low temperature solution polycondensation of 1,1'-ferrocenedicarboxylic acid chloride with 1,4-diaminophenylene, 4,4'-diaminophenyl ether, 4,4'-diaminobiphenyl and 1,8-diaminonaphthalene and were characterized by their solubilities, inherent viscosities, elemental analysis, FTIR spectroscopy, differential scanning calorimetry and thermogravimetry.



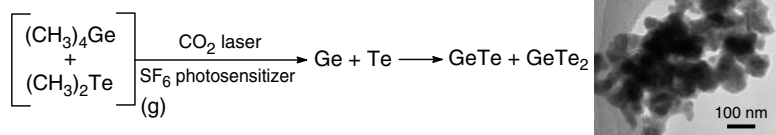
Z. Akhter*, M. A. Bashir and M. Saif ullah Khan 848–853

Synthesis, characterization and thermal degradation kinetics of ferrocene-containing aramids

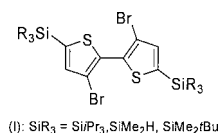
IR laser irradiation of gaseous $(\text{CH}_3)_4\text{Ge}-(\text{CH}_3)_2\text{Te}-\text{SF}_6$ mixtures results in homogeneous decomposition of both organometallics and deposition of nanostructured germanium tellurides GeTe_x ($x = 1, 2$), the formation of which is explained by an intermediacy of germanium and tellurium clusters and by reaction between these clusters in a hot laser-induced zone. This is the first example of synthesis of germanium tellurides in the gas phase.

J. Pola*, D. Pokorná, M. J. Diáñez, M. J. Sayagués, Z. Bastl and V. Vorlíček 854–858

IR laser-induced synthesis of nanostructured germanium telluride in the gas phase



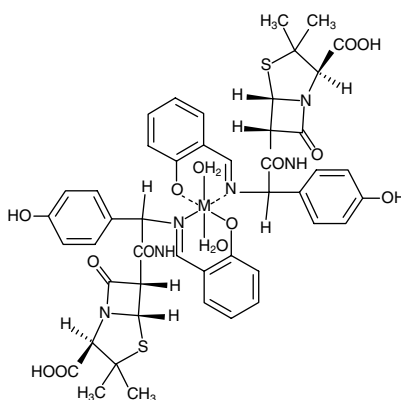
5,5'-Bis(silyl)-functionalized 3,3'-dibromo-2,2'-dithiophenes (I) can be synthesized very efficiently by reaction of 3,3',5,5'-tetrabromodithiophene with two equivalents of *n*-BuLi and the respective silyl chloride in tetrahydrofuran. The substitution pattern of silyl functionalization has a significant influence on the degree of π -conjugation of dibromo-dithiophenes and their molecular packing in the solid state, as determined by single crystal X-ray crystallography. These features are essential for potential applications in molecular electronics.



T. Baumgartner* 859–863

Synthesis and X-ray single-crystal structure study of 5,5'-bis(silyl)-functionalized 3,3'-dibromo-2,2'-dithiophenes

Copper(II) and zinc(II) complexes of Schiff bases derived from amoxicillin and cephalexin have been prepared and characterized. These complexes showed an enhanced biological activity with low toxicity.



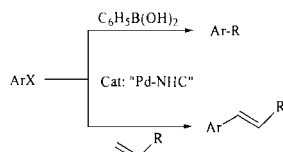
M. S. Iqbal*, I. H. Bukhari and M. Arif 864–869

Preparation, characterization and biological evaluation of copper(II) and zinc(II) complexes with Schiff bases derived from amoxicillin and cephalexin

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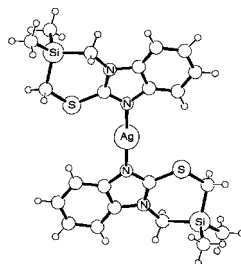
A convenient method for Heck and Suzuki cross-coupling reactions is presented, employing a catalyst formed *in situ* from Pd(OAc)₂, air-stable 1,3-dialkylbenzimidazolium chlorides.



Y. Gök, N. Gürbüz, İ. Özdemir*,
B. Çetinkaya and E. Çetinkaya
870–874

Benzimidazolin-2-ylidene-palladium-catalysed coupling reactions of aryl halides

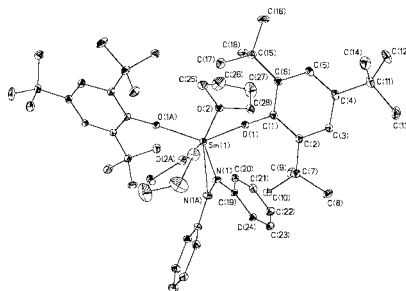
The structure of a silver nitrate complex with two molecules of the 2-mercaptobenzimidazole derivative is presented.



P. Arsenyan, R. Abele*, S. Belyakov,
E. Abele and E. Lukevics
875–876

Crystallographic report: The crystal structure of bis-(3,3-dimethyl-3,4-dihydro-2H-1-thia-4a,9-diaza-3-sila-fluorene) silver nitrate

The title complex was synthesized by the reaction of divalent Sm(OAr)₂(THF)₃ (Ar = C₆H₂-*tert*-Bu₃-2,4,6; THF = tetrahydrofuran) with one equivalent of azobenzene in THF. In the complex, the N–N bond length for the azobenzene species is lengthened. The two Sm–N bond lengths are intermediate between the donor bond and the single bond.

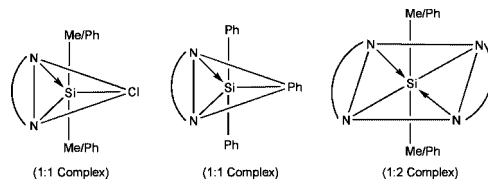


F. Yuan* and X. Liu
877–878

*Crystallographic report: Crystal structure of bis(2,4,6-tri-*tert*-butylphenolato-O) bis(tetrahydrofuran-O) samarium (N, N-η²-azobenzene) diethyl ether solvate*

Section: Main Group Metal Compounds

Microwave-assisted synthesis and spectroscopic studies of dimethyl-, diphenyl- and triphenyl-silicon(IV) chelates derived from the reactions of organochlorosilanes with the sodium salt of a biologically active nitrogen donor ligand N¹NH are described. The resulting products were isolated and characterized. On the basis of electronic, infrared, ¹H, ¹³C and ²⁹Si NMR spectral studies, trigonal bipyramidal and octahedral geometries are suggested for the complexes. All the compounds have also been found to act as nematicides and insecticides by reducing the numbers of *Meloidogyne incognita* and *Trogoderma granarium* respectively.



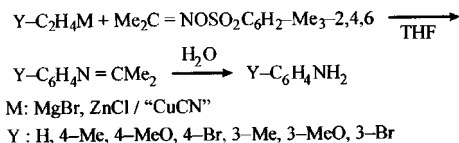
R. V. Singh*, M. Jain and C. N. Deshmukh
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879–886

Microwave-assisted synthesis and insecticidal properties of biologically potent organosilicon(IV) compounds of a sulfonamide imine

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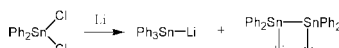
Substituent effects on reactivity for the electrophilic amination of phenylmagnesium bromides and catalytic phenyl zinc cyanocuprates with acetone *O*-(2,4,6-trimethylphenylsulfonyl)oxime were determined by competitive kinetics. The reactions give linear Hammett plots. Mechanisms of these reactions are also discussed.



E. Erdik* and Ö. Ömür 887–893

Competitive kinetic study of the amination of organomagnesium and -zinc reagents with acetone O-sulfonyloxime

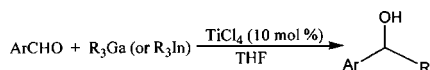
Reduction of dichlorodiphenylstannane with lithium followed by the treatment with methyl iodide gave methyltriphenylstannane, dimethyldiphenylstannane and 1,2-dimethyldistannane. 1,2-Dilithiodistannane and triphenylstannyllithium were intermediates of this reaction.



M. Saito*, Y. Okamoto and M. Yoshioka 894–897

Reduction of dichlorodiphenylstannane

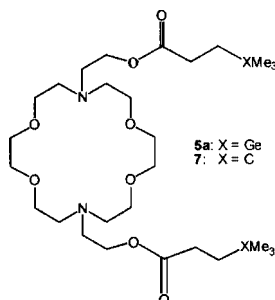
The utilization of organogallium and organoindium compounds as alkylation reagents in the addition to aldehydes was realized with titanium tetrachloride as catalyst. The asymmetric addition of trialkylgallium to aldehydes was also investigated using chiral titanium catalysts with ee values up to 84%.



Z. Dai, M. Shao, X. Hou, C. Zhu*, Y. Zhu and Y. Pan** 898–902

Utilization of organogallium and organoindium compounds as alkylation reagents in organic synthesis: the addition of trialkylgallium and trialkylindium to aldehydes catalyzed by Lewis acids

The cation capture/transport abilities of diaza-crown ethers with (5a) and without (7) side chains containing germanium, and 4,13-diaza-18-crown-6 (8) were found to decrease in the order 5a > 7 > 8. Titration and ⁷³Ge NMR failed to give unequivocal rationalization of the results.



Y. Nakamura and Y. Takeuchi* 903–907

Azacrown ethers modified with germanium-containing side-chains as heteroditopic hosts

Book Review

D. R. Williams 908

Metal ions in biological systems, Vol. 42, Metal complexes in tumor diagnosis and as anticancer agents

Book Review

H. Waldman and P. Janning 909

Chemical biology, a practical course