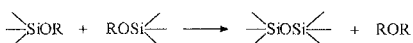
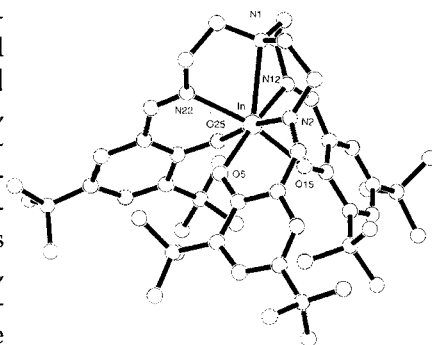


## Index Abstracts

On the basis of his own and literature data, the author considers and gives theoretical substantiation to the routes for the formation and decomposition of linear and cyclic oligo- and polysiloxanes through an intramolecular reaction of geminal fragmentation of Si(OR)X groups with the intermediate formation ( $\alpha$ -elimination) of short-lived silanones  $R_2Si=O$ . The latter further undergoes polymerization or insertion into Si—X bonds (X=O, Cl, etc.) of trapping reagents.



The interaction of In(III) with tripodal Schiff base ligands ( $L_{(1-6)}$ ) prepared from the condensation of substituted salicylaldehydes with tris(2-aminoethyl)amine gives a range of neutral complexes of the type [In(III)(L)] (salicylaldehyde  $L_1$ , *o*-vanillin  $L_2$ , 5-methoxysalicylaldehyde  $L_3$ , 5-nitrosalicylaldehyde  $L_4$  (shown), 3,5-di-*t*-butylsalicylaldehyde  $L_5$ , 5-bromosalicylaldehyde  $L_6$ ). These complexes were investigated spectroscopically, and in two cases by single crystal X-ray diffraction, and are found to have heptacoordinate In (III) centres.



M. G. Voronkov

A Third Route to the Formation and Decomposition of Siloxane Structures. To Siloxanes through Silanones

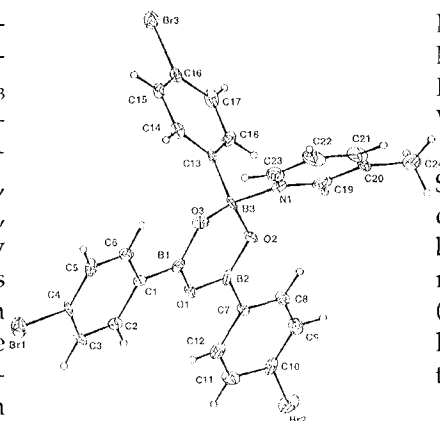
235–241

J. Parr, A. T. Ross and  
A. M. Z. Slawin

Complexes of Indium (III) with  
Tripodal Schiff Base Ligands

243–249

Twenty five 1:1 adducts of the tri-arylboroxines  $(4\text{-BrC}_6\text{H}_4)_3\text{B}_3\text{O}_3$ ,  $(3\text{-NO}_2\text{C}_6\text{H}_4)_3\text{B}_3\text{O}_3$ ,  $(3\text{-NH}_2\text{C}_6\text{H}_4)_3\text{B}_3\text{O}_3$  with N-donor ligands (cyclohexylamine, 4-picoline, 3-picoline, piperidine, morpholine, isobutylamine, triethylamine, pyridine, isoquinoline, benzylamine) have been prepared by reaction of stoichiometric quantities of ligand with tri(aryl)boroxine in  $\text{Et}_2\text{O}$  at room temperature. Variable temperature studies on selected adducts revealed ligand dissociation recombination ( $\Delta G^{\ddagger} 39\text{-}54 \text{ kJ.mol}^{-1}$ ) was occurring and the X-ray structure of 3-picoline  $(4\text{-BrC}_6\text{H}_4)_3\text{B}_3\text{O}_3$  is reported.

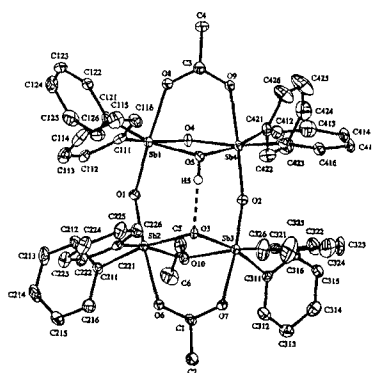


M. A. Beckett, D. E. Hibbs, M. B. Hursthouse, P. Owen, K. M. A. Malik and K. S. Varma

Synthesis and Characterisation of Amine Adducts of Tri(4-bromophenyl)boroxine, Tri(3-nitrophenyl)boroxine, and Tri(3-aminophenyl)boroxine; Molecular Structure of 3-Picoline-tri(4-bromophenyl)boroxine

251-258

Two  $\text{Sb}_4\text{O}_6$  'cage' molecules, containing bridging oxo-, hydroxo- and carboxylato-ligands, have been synthesised and the crystal structure of a related compound,  $[(\text{SbPh}_2)_4(\mu\text{-O})(\mu\text{-OH})(\mu\text{-OEt})(\mu\text{-O}_2\text{CMe})_2]$ , which also contains a bridging ethoxo-group, has been determined.

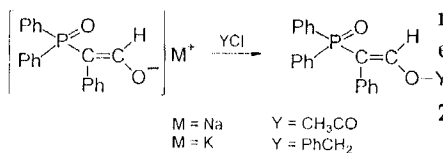


M. N. Gibbons, K. M. A. Malik, M. B. Hursthouse and D. B. Sowerby

Carboxylate Bridged Octa-phenyltetra-antimony(V) 'Cage' Compounds;  $[(\text{SbPh}_2)_4(\mu\text{-O})_4(\mu\text{-OH})_2(\mu\text{-O}_2\text{CR})_2 \cdot \text{HO}_2\text{CR}]$ , where  $\text{R}=\text{Me}$  or  $t\text{-Bu}$  and the Crystal Structure of  $[(\text{SbPh}_2)_4(\mu\text{-O})_4(\mu\text{-OH})(\mu\text{-OEt})(\mu\text{-O}_2\text{CMe})_2]$

259-265

(E)-Enolate structure is proved of the isolated sodium and potassium derivatives of 2-(diphenylphosphinoyl)-2-phenyl ethenol. Their regioselective O-acylation and O-alkylation is studied.

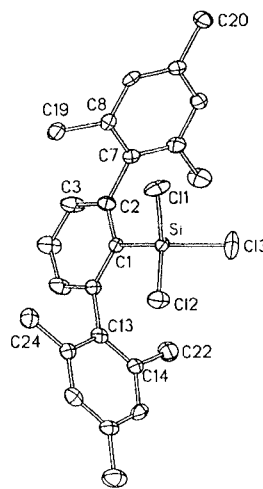


J. Petrova, S. Momchilova and E. T. K. Haupt

Sodium and Potassium Derivatives of 2-(Diphenylphosphinoyl)-2-Phenyl-Ethenol: Synthesis, Structure and Reactivity

267-273

The synthesis and characterization of the primary terphenyl silanes and chlorosilanes 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiCl<sub>3</sub> (**1a**), 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiCl<sub>3</sub> (**1b**) (shown), 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiHCl<sub>2</sub> (**2a**), 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiHCl<sub>2</sub> (**2b**), 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiH<sub>3</sub> (**3a**), 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiH<sub>3</sub> (**3b**) and 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiCl<sub>2</sub>SiCl<sub>3</sub> (**4**), (where Mes = 2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub> and Trip = 2,4,6-*i*-Pr<sub>3</sub>C<sub>6</sub>H<sub>2</sub>) are described. Compounds (**1a**, **1b**), (**2a**, **2b**) and (**4**) were prepared by the reaction between SiCl<sub>4</sub>, SiHCl<sub>3</sub> or Si<sub>2</sub>Cl<sub>6</sub>, respectively, and the appropriate aryl lithium reagent (2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>Li or 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>Li·OEt<sub>2</sub>). Compounds (**3a**) and (**3b**) were prepared by reduction of (**1a**) and (**1b**) with LiAlH<sub>4</sub>, respectively. An improved synthesis of the precursor 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>I is also given.

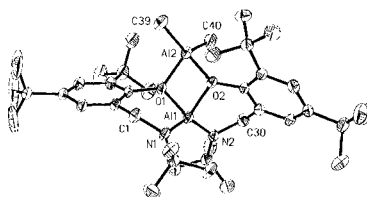


R. S. Simons, S. T. Haubrich, B. V. Mork, M. Niemeyer and P. P. Power

The Syntheses and Characterization of the Bulky Terphenyl Silanes and Chlorosilanes 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiCl<sub>3</sub>, 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiCl<sub>3</sub>, 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiHCl<sub>2</sub>, 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiHCl<sub>2</sub>, 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiH<sub>3</sub>, 2,6-Trip<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiH<sub>3</sub> and 2,6-Mes<sub>2</sub>C<sub>6</sub>H<sub>3</sub>SiCl<sub>2</sub>SiCl<sub>3</sub>

275–283

Two equivalents of some bidentate amino alcohols (AA) are combined with LiAlH<sub>4</sub> to form unique chelated aluminates of the form [(AA)<sub>2</sub>Al]Li(THF)<sub>2</sub>. One of the compounds undergoes a salt elimination when combined with Me<sub>2</sub>AlCl to form the bimetallic derivative, [(AA)<sub>2</sub>Al]AlMe<sub>2</sub>(shown). By comparison, a related reaction with [ArO<sub>4</sub>Al][Li(THF)<sub>4</sub>] (Ar = aryloxy) leads to elimination of one of the aryloxy groups and the subsequent formation of neutral products.

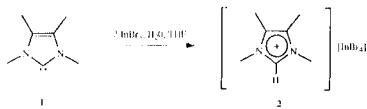


M. S. Hill and D. A. Atwood

Chelated Anionic Aluminum

285–292

Treatment of 2:1 mixture of InBr<sub>3</sub> and H<sub>2</sub>O with 1 equivalent of the imidazol-2-ylidene carbene, affords the imidazolium salt, [HCN(Me)<sub>2</sub>(-Me)<sub>2</sub>N(Me)][InBr<sub>4</sub>] **2**, in good yield. The proposed mechanism for the formation of **2** and its X-ray crystal structure are described.

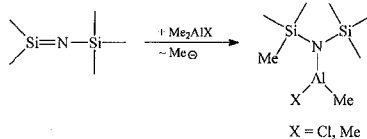


D. E. Hibbs, M. B. Hursthouse, C. Jones and N. A. Smithies

Synthesis, Crystal and Molecular Structure of 1,3,4,5-Tetramethylimidazolium Tetrabromoindium (III)

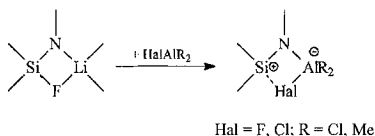
293–296

In the reaction of iminosilanes and methylalanes monomeric silylaminoalanes are obtained by a nucleophilic methanide-ion migration from aluminium to silicon.



J. Niesmann, U. Klingebiel, C. Röpken, M. Noltemeyer and R. Herbst-Irmer

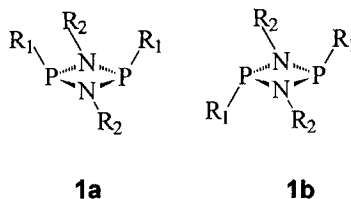
Four-membered (SiNLiF)-rings react with  $\text{ClAlMe}_2$  or  $\text{AlCl}_3$  with formation of (SiNAlHal)-rings, four-membered rings with bridging fluorine or chlorine atoms. These compounds may be considered as silyliumhaloaluminates. The partial zwitter ion character is supported by the low-field  $^{29}\text{Si}$ -NMR shifts.



Iminosilanes as Precursors for Monomeric Bis(silyl)amino-methylalanes and Silyliumtrichloroaluminates – Synthesis and Crystal Structures

297–308

*Ab Initio* (3-21G(\*), MP2/3-21G(\*), MP2/3-21G(\*) molecular orbital calculations show that the *cis-trans* (**1a** – **1b**) interconversion of diazadiphosphetidines proceeds rather *via* an “edge” inversion than the classical “vertex” inversion at phosphorus. The semiempirical MNDO results are largely of the same quality as those obtained with the 3-21G(\*) basis.

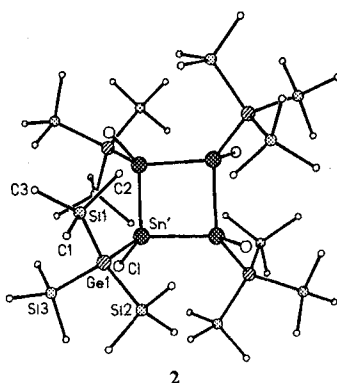


I. Silaghi-Dumitrescu, F. Lara-Ochoa and I. Haiduc

“Edge” or “Vertex” Inversion at Phosphorus in the *cis-trans* Isomerization of Diazadiphosphetidines? Model MNDO and *ab initio* Molecular Orbital Calculations

309–314

The 1:2 reaction of  $\text{SnCl}_2$  with  $\text{Li}(\text{THF})_{2.5}\text{Ge}(\text{SiMe}_3)_3$  gave both colorless (**1**) and red (**2**) crystalline products. The former was identified as  $[(\text{Me}_3\text{Si})_3\text{Ge}]_2\text{SnCl}_2$ , while FAB-MS,  $^{119}\text{Sn}$  NMR and an X-ray structure determination on **2** revealed it to be a heteroleptic cyclotetrastannane,  $[(\text{Me}_3\text{Si})_3\text{GeSnCl}]_4$ . Similar reactions of  $\text{SnF}_2$  and  $\text{SnI}_2$  gave only reduction.

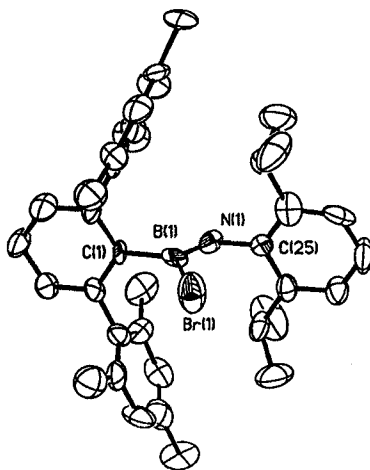


S. Mallela, W.-P. Su, Y.-S. Chen, J. D. Korp and R. A. Geanangel

The Reaction of Tin(II) Halides with  $\text{Li}(\text{THF})_{2.5}\text{Ge}(\text{SiMe}_3)_3$ : The X-ray Crystal Structure of a New Cyclotetrastannane

315–322

Reaction of (2,6-dimesitylphenyl)boron dibromide,  $(\text{Mes}_2\text{C}_6\text{H}_3)\text{BBr}_2$ , **I**, with [(2,6-di-*i*-propylphenyl)amino]lithium,  $[(i\text{-Pr}_2\text{C}_6\text{H}_3)\text{N}(\text{H})\text{Li}]$ , affords 2,6-dimesitylphenyl[(2,6-di-*i*-propylphenyl)-amino]boron bromide,  $(\text{Mes}_2\text{C}_6\text{H}_3)\text{B}(\text{Br})\text{N}(\text{H})[(i\text{-Pr}_2\text{C}_6\text{H}_3)]$ , **II**. **II** has been characterized by elemental analyses,  $^1\text{H}$  and  $^{13}\text{C}$  NMR, and single crystal X-ray diffraction. *ab initio* examination of model molecules  $\text{CH}_3\text{BBr}_2$ , **III**, and  $\text{CH}_3\text{B}(\text{Br})\text{NH}_2$ , **IV**, supports a measure of  $\pi$ -bonding in the B—N bonds in **III** and **IV**.



X.-W. Li, Y. Xie, J. Su, H. F. Schaefer III, and G. H. Robinson

Synthesis and Molecular Structure of  $(\text{Mes}_2\text{C}_6\text{H}_3)\text{B}(\text{Br})\text{N}(\text{H})[(i\text{-Pr}_2\text{C}_6\text{H}_3)]$  and an *ab initio* Examination of  $\text{CH}_3\text{BBr}_2$  and  $\text{CH}_3\text{B}(\text{Br})\text{NH}_2$

323–327