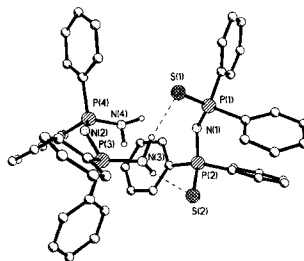


## Index Abstracts

Single crystal X-ray studies of  $[(H_2NP-Ph_2)_2 N]^+ [N\{P(S)Ph_2\}_2]^-$  reveal multiple cross hydrogen bonding between the two ions.



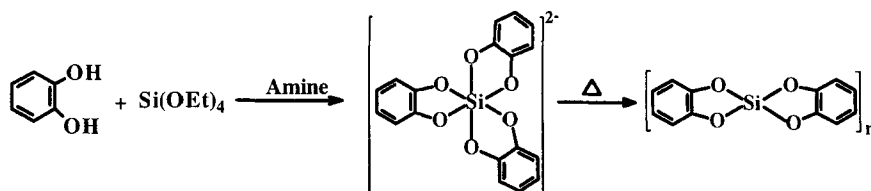
Tuan Q. Ly, Alexandra M. Z. Slawin and J. Derek Woollins

Synthesis and Structural Studies of  $[(H_2NPPH_2)_2 N]^+ [N\{P(S)-Ph_2\}_2]^-$

The hypervalent tris(catecholato)silicate ion with six different ammonium counter cations have been synthesized and their thermal behaviour investigated. Results indicate counter ion influence on solubility, stability and the formation of spirosilane.

J. V. Kingston, Babu Vargheese and M. N. Sudheendra Rao

Synthesis and Characterization of Tris(catecholato) Silicates,  $[(C_6H_4O_2)_3 Si]^{2-}$  with Different Counter Cations – First Pyrolysis Study and X-ray Structure of  $[\{(CH_3)_2CH\}_2 NH_2]_2 [(C_6H_4O_2)_3 Si] \cdot 2CH_3CH \cdot H_2O$



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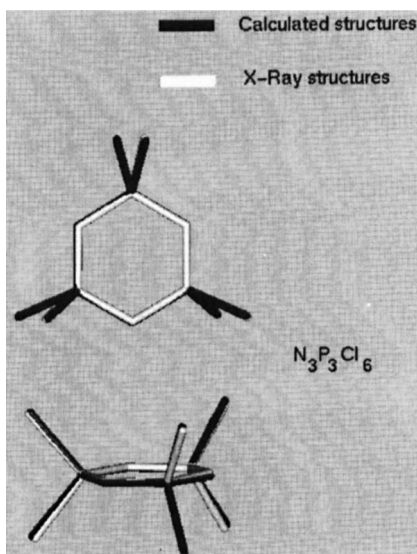
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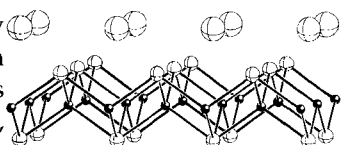
Since the prime synthesis in 1834 of hexachlorocyclotriphosphazene,  $N_3P_3Cl_6$ , its electronic structure and morphology constitute a real challenge both for theorists and experimentalists. Thus, we were urged to achieve molecular modelling of  $N_3P_3Cl_6$  and relatives by using suitable softwares produced by Biosym Technologies in order to propose CVFF and ESFF parameters for all atoms, mainly for endocyclic P ones which are actually neither P(IV) nor P(V) entities. This approach appeared to be quite convenient for reproducing geometries and conformations of any cyclophosphazenic moiety.



K. Vercruyssen, C. Vidal and J.-F. Labarre

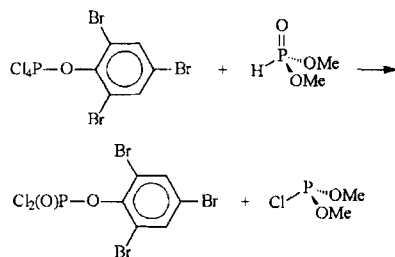
A Molecular Modelling Approach of the Actual Hybridization State of Endocyclic Phosphorus Atoms in Cyclophosphazenes

In the course of the study of ternary and quaternary sulfides based on an earth-alkali or alkali cation, it is presently reported on two of these,  $Rb_2Cu_3FeS_4$  and  $Rb_2Cu_3MnS_4$  which are crystalline analogs (ThCr<sub>2</sub>Si<sub>2</sub>-type), and whose magnetic properties are rather different despite a similar electrical behavior.



A M. Mouallem-Bahout, O. Peña, J. Gaudé, C. Carel, A. Ouammou and A. Nadiri  
Two Quaternary Sulfides  $Rb_2Cu_3FeS_4$  and  $Rb_2Cu_3MnS_4$  Magnetic Interactions and Electrical Behavior

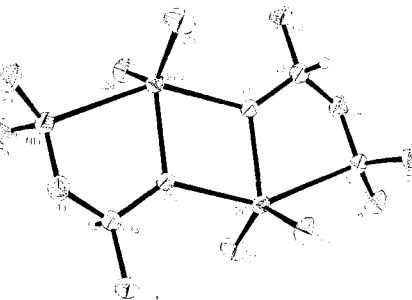
The reactions of phosphorus pentachloride with vary amounts of 2,4,6-tribromophenol have been studied by  $^{31}P$  NMR spectroscopy. Regardless of the stoichiometry, these reactions yield mixtures of  $Cl_{5-n}P(OC_6H_2Br_3)_n$  ( $n=1-3$ ) phosphoranes. All three phosphoranes can non-oxidatively chlorinate dimethyl phosphonate to form dimethyl chlorophosphonite in quantitative yield.



Keith E. Branham, Gray M. Gray, Prakash C. Bharara and Houston Byrd

$^{31}P\{^1H\}$  NMR Studies of the Preparation of Dichlorotris(2,4,6-tribromophenoxy)-phosphorane, Trichlorobis(2,4,6-tribromophenoxy)-phosphorane and Tetrachloro(2,4,6-tribromophenoxy) phosphorane, and their Nonoxidative Chlorination Reaction with Dimethyl Phosphonate

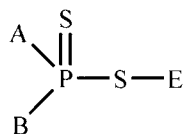
Chiral dimethylindiumaminoalkoxides of general formula  $\text{Me}_2\text{InOR}^*$  [ $\text{OR}^* = (+); (-)$  -2-piperidyl-methoxy (1), (+); (-)-dimethylamino-2-propoxy (2), (S)-(+)-amino-2-propoxy (3), (S)- $\alpha, \alpha$ -diphenyl-2-pyrrolidinyl-methoxy (4)] have been prepared by reaction of  $\text{Me}_3\text{In}$  with the corresponding aminoalcohols  $\text{HOR}^*$  and characterized by  $^1\text{H}$  and  $^{13}\text{C}$  nmr spectroscopy and X-ray crystallography. Dimeric molecules of 1–4 are composed of two  $\mu^2$ -O-bridged chelating rings, the latter formed due to N—In donor-acceptor interaction. This geometry is comparable with that of aluminium and gallium analogues previously investigated. In the case of 1 and 4, the formation of the N—In bond proceeds stereospecifically. The absolute structure of 3 and 4 was confirmed by refinement of the Flack parameter.



Elmar Hecht, Thomas Gelbrich, K.-H. Thiele Joachim Sieler

Chiral Dimethylindium Aminoalkoxides

Various methods of synthesizing, phase states, physical properties, structure, spectral features, chemical properties and application of main group III element derivatives of phosphorus(V) thioacids with the  $\text{P}(\text{S})\text{SE}$  ( $\text{E} = \text{B}, \text{Al}, \text{Ga}, \text{In}$ ) structural fragment are reviewed.



$\text{E} = \text{B}, \text{Al}, \text{Ga}, \text{In}$

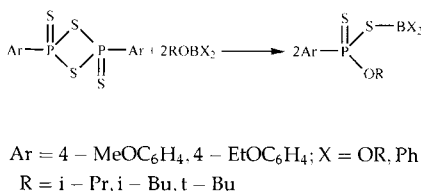
$\text{A}, \text{B} = \text{O} \text{---} \text{Alk}, \text{Alk}, \text{Ar};$

$\text{A-B} = \text{O} \text{---} \text{Alkylene} \text{---} \text{O}$

Il'yas S. Nizamov and Elvira S. Batyeva

Group 13 Element Derivatives of Pentavalent Phosphorus Thioacids. Synthesis, Structure and Properties

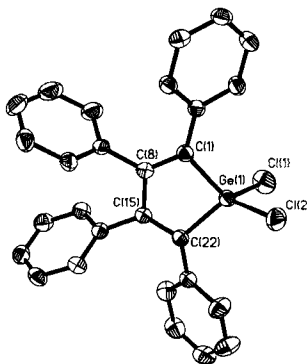
New boron derivatives of dithiophosphonic acids were obtained in the reactions of Lawesson's reagent and its 4-ethoxyphenyl homologue with trialkyl borates and O-isobutyl diphenylborate. Low frequency ultrasound irradiation (frequency 22 kHz, power 130 Wt) leads to reduction in reaction temperature and time in the reactions studied. The prepared compounds were identified by IR,  $^1\text{H}$ , and  $^{31}\text{P}$  NMR and mass spectra as well as elemental analyses.



Il'yas S. Nizamov, Gul'nur G. Sergeenko, Elvira S. Batyeva, Nail M. Azancheev and Vladimir A. Al'fonsov

Reactions of 1,3,2,4-Dithiadiphosphetane-2,4-disulfides with Alkyl Borates

The reaction of 1,4-dilithiotetraphenylbutadiene with germanium(IV) chloride and tin(IV) chloride affords heterocycles  $\text{Ph}_4\text{C}_4\text{GeCl}_2$ , **I** and  $\text{Ph}_4\text{C}_4\text{SnCl}_2$ , **II**. Compounds **I** and **II**, which feature a planar tetraphenylbutadiene backbone, were characterized by elemental analyses,  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectroscopy and single crystal X-ray diffraction.



Synthesis and Molecular Structure of Germanium and Tin Tetraphenylbutadienyl Based Heterocyclic Halides

Sonya D. Goodwin, Pingrong Wei, Brent Beck, Jianrui Su and Gregory H. Robinson

The title ruthenium complex (**1**) was found to catalyze the hydrosilylation and/or dimerization of phenylacetylene in the presence of a variety of hydrosilanes. Chlorosilanes favored the formation of  $\beta$ -silylstyrenes while  $\text{HSiEt}_3$  favored the formation of 1,4-diphenylbutenyne. *Z*-isomers were the major product regardless of the substituents on silicon.

Nicholas M. Yardy and Frederick R. Lemke

$\text{RuCl}_2(\text{PPh}_3)_3$  Catalyzed Hydrosilylation and Dimerization of Phenylacetylene in the Presence of Various Hydrosilanes

