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## Phosphorus, Sulfur, and Silicon and the Related Elements

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### Structure and Reactivity of Arsazocompounds in Comparison with Phosphorus Analogs

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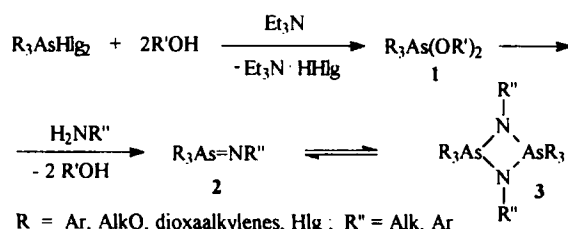
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## Structure and Reactivity of Arsazocompounds in Comparison with Phosphorus Analogs

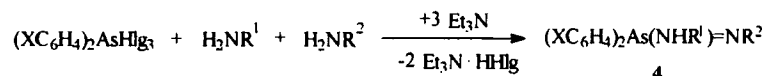
G.I. KOKOREV<sup>a</sup>, I.A. LITVINOV<sup>b</sup> and I.A. NAUMOV<sup>b</sup>

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A suitable effective method of arsazocompounds 2 synthesis through the alkoxyarsoranes 1 has been suggested. In dependence on the nature of substituents R and R'' arsazocompounds (as their phosphorus analogs) may exist in monomeric (2) and dimeric (3) forms, that has been confirmed by X-ray analysis.



Symmetric and nonsymmetrical arsamidines 4 have been obtained in reaction of diarsitrihalogenarsoranes with corresponding amines. Composition and structure of the compounds obtained have been confirmed by the methods of elemental analysis, IR and NMR spectroscopy, mass-spectrometry. Chemical methods and X-ray analysis of arsamidinic salts have also been used.



It is shown that arsamidines 4 are prone to prototropic tautomerism which manifestations are in a good agreement with the theory of acidic-basic tautomeric equilibrium, as it takes place also for their phosphorus analogs.

Reactivity of arsazocompounds in reactions with various electrophilic and nucleophilic reagents (HX, RX, H<sub>2</sub>O, H<sub>2</sub>S, CS<sub>2</sub>, ROH, RSH, RCHO, RCOOH, RC(O)Hlg, etc.) has been investigated. A lot of similar and different features in structure and chemical behavior of arsenic and phosphorus derivatives are indicated and discussed.