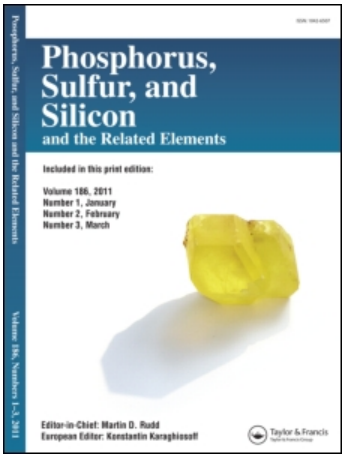

Phosphorus, Sulfur, and Silicon and the Related Elements

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Silicon, Boron and Arsenic Derivatives of Phosphorus(Iv) Thioacids in Synthesis of Novel Organothiophosphorus Compounds

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Silicon, Boron and Arsenic Derivatives of Phosphorus(Iv) Thioacids in Synthesis of Novel Organothiophosphorus Compounds

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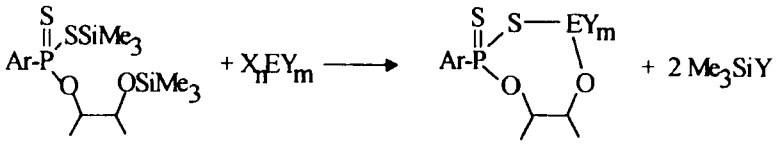
We have found that S-boron O-alkyl(aryl)dithiophosphonates react with organic substances containing reactive multiple bonds such as methyl acrylate, vinyl butyl ether, vinyl acetate under mild conditions to form products of insertions into the S-B bond. The similar results were obtained in the case of S-arsenic O-alkyl(aryl)dithiophosphonates.

New types of seven and eight membered phosphacyclanes containing endocyclic fragment P-S-E (E = C, Si, Ge, Sn, P, As, Sb, Bi) were synthesized in the reactions of disilyl dithio- and trithiophosphonates with halides, alkoxides, phenoxides and mercaptides of main groups IV and V elements.



Ar = 4-MeOC$_6$H$_4$; E = C, Ge, Sn, P, As, Sb, Bi; X = Cl, Br, SR, OR;
Y = Cl, Br, Ph, SR, OR; R = Alk, Ph; n = 2, 3; m = 0, 1

Their spectral, structural and physical properties have been studied.