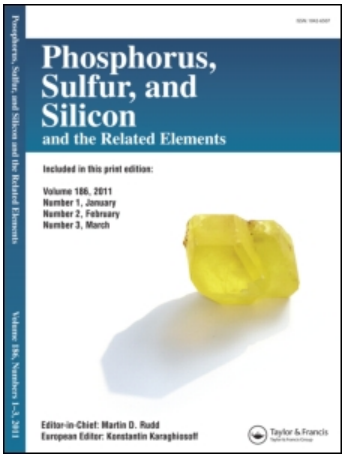

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Reactions of Phosphaalkenes with Hydrides of Elements of III and IV Groups

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REACTIONS OF PHOSPHAALKENES WITH HYDRIDES OF ELEMENTS OF III AND IV GROUPS

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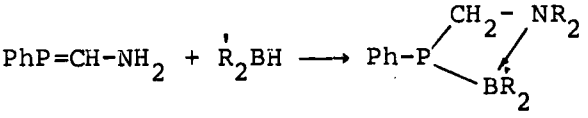
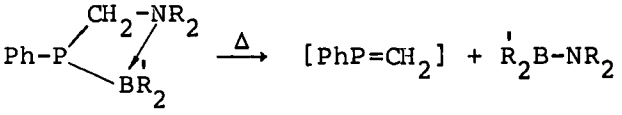
Reactions of phosphaalkenes with the hydrides of B, Al , Si, Sn were studied. The reaction of hydroboration of phosphaalkenes was carried out:



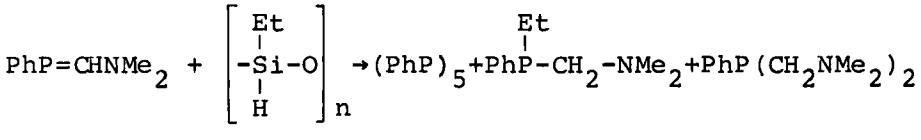
The obtained compounds undergo β-elimination upon heating:



The unstable methylenphenylphosphine can be trapped by boran, $[PhP{=}CH_2]$ + $R_2BH \longrightarrow PhPH{-}CH_2{-}BR_2$.
The reaction product is stable in the coordinated dimolecular form. Dimethylaminomethylenphenylphosphine reacts with aluminium hydride with the formation of a complex compound:

$$PhP{=}CHNMe_2 + AlH_3 \rightarrow PhP{=}CHNMe_2 \cdot AlH_3 \xrightarrow{AcAcH} PhP{=}CHNMe_2 + Al(AcAc)_3$$

Polyethylhydridosiloxane forms products of alkylation with phosphaalkene



Tributylstannane reacts only under rigid conditions, at about 190°:

$$PhP{=}CH{-}NMe_2 + Bu_3SnH \longrightarrow (PhP)_5 + Bu_3Sn{-}SnBu_3 \ .$$