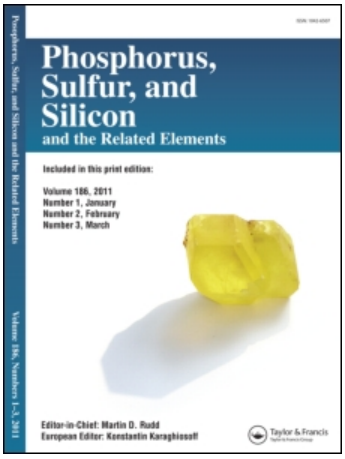

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The Reactions of Hydrophosphoranes with Cyclopentadienones

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THE REACTIONS OF HYDROPHOSPHORANES WITH CYCLOPENTADIENONES

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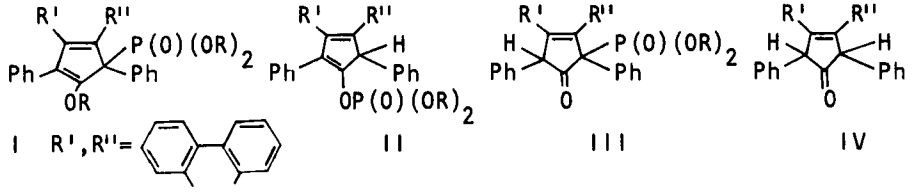
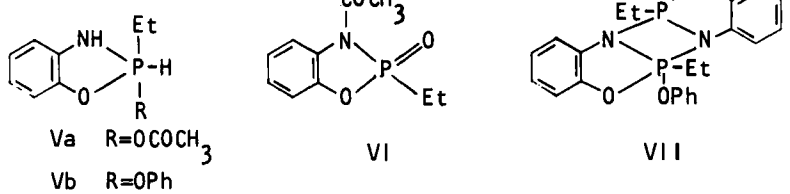
Phencyclone reacts with trialkylphosphites regiospecifically to give the adduct (I) containing the bond phosphorus -- C^2 atom of cyclone. In the presence of carboxylic acids the reaction products were phosphate (II), β-ketophosphonate (III) and dihydrophencyclone (IV).



I R',R''= II III IV

The change of the reaction direction is assumed to be due to the action of hydrophosphorane $(RO)_3$-P-(H)-OCOR being formed from trialkylphosphite and carboxylic acid. In order to check this possibility we carried out the reaction of phencyclone with stable hydrophosphoranes (Va) and (Vb). In these reactions dihydrophencyclone (V) and other N-acetyl-2-oxo-1,3,2-oxazaphospholane (VI) or phosphorane (VII) are formed



Va R=OCOCH$_3$
Vb R=OPh

VI VII

Other cyclones react with phosphoranes (Va) and (Vb) in the same manner. The schemes of the reactions are discussed.