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Dipiiosphoniomethanes with Hydrogen Atom, OH- And SH-Groups at Phosphorus

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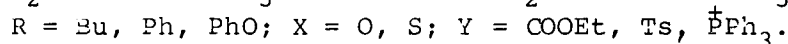
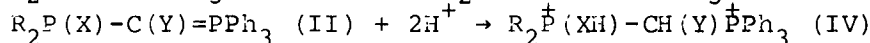
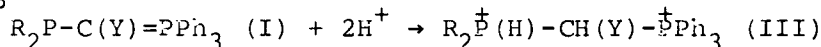
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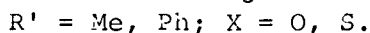
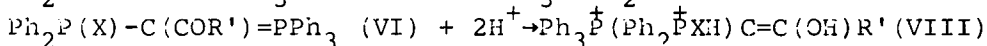
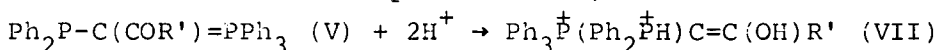
DIPHOSPHONIOMETHANES WITH HYDROGEN ATOM, OH- AND SH- -GROUPS AT PHOSPHORUS

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Recently it has been shown that the interaction of equimolar amount of HHLg with phosphinosubstituted ylides (I) and phosphoryl- and thiophosphorylsubstituted ylides (II) leads to monoprotection products: at the carbon or phosphorus of (I) and at the carbon or oxygen (sulfur) of (II)¹. We have found that products of double protonation, diphosphoniomethanes with P-H (III) and P-OH (IV) bonds respectively, are formed by the action of excess acid (HSO_3F , HHLg).



Diprotonation of ylides (V) and (VI) with acyl groups at the carbon proceeds at the phosphorus atom and the C=O of (V), or at the PO and CO groups of (VI), and gives two geometric isomers of the enolic form of diphosphoniosubstituted acetone and acetophenone (VII, VIII).



Compound $\text{Ph}_3\overset{+}{\text{P}}(\text{Ph}_2\overset{+}{\text{P}}\text{OH})\text{C}=\text{C}(\text{OH})\text{Me}$ 2Br was isolated in crystalline form. According to X-ray analysis, OH- and POH-groups are in trans-position and form strong H-bonds with Br^- .

1. T.A.Mastryukova, M.I.Kabachnik, Usp. Khim., 1983, 52, 1751.