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Phosphorylacetaldehydes in Reactions with N-Electro-Philes. Synthesis of new Promising Synthons

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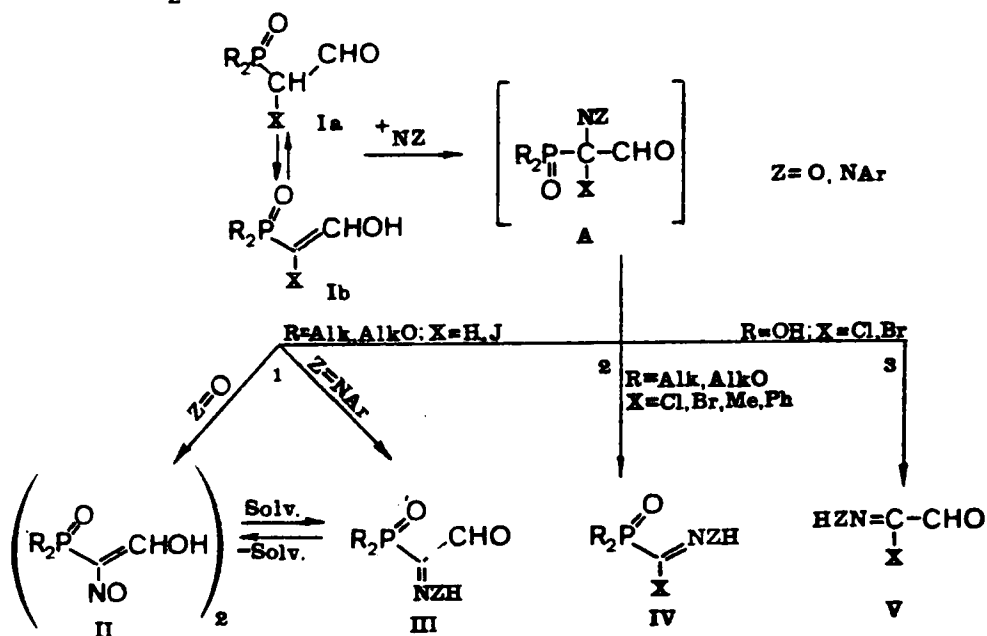
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PHOSPHORYLACETALDEHYDES IN REACTIONS WITH N-ELECTROPHILES. SYNTHESIS OF NEW PROMISING SYNTHONS

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The reactions of phosphorylacetalddehydes I with N-electrophiles (^+NO , $^+\text{N}_2\text{Ar}$) proceed selectively via intermediate A in accordance with one of the three directions depending on the nature of the substituents X and R. The nature of the end product is determined by the competitive electrofugic power of $\text{R}_2\text{P}(\text{O})$, X and CHO.



It has been shown that phosphoryl can be the leaving group in such type of reactions and the following preferable cleavage groups have been proposed: $(\text{HO})_2\text{P}(\text{O}) > \text{J} > \text{CHO} > \text{Br} > \text{Cl} > \text{Alk}_2\text{P}(\text{O})$. Compounds III, IV, V are new promising synthons in organic phosphorus chemistry. Different classes of new phosphorus containing compounds including heterocycles were obtained on the basis of their reactions with nucleophilic reagents, by dipolar cycloaddition reactions with dipolarophiles etc.