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Unsaturated Analogues of Phosphorylcholines

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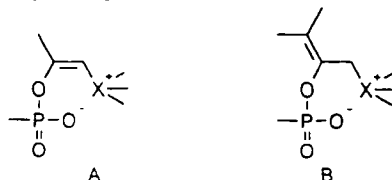
Unsaturated Analogues of Phosphorylcholines

SERGE E. PIPKO, YURI V. BALITSKY and ANATOLI D. SINITSIA

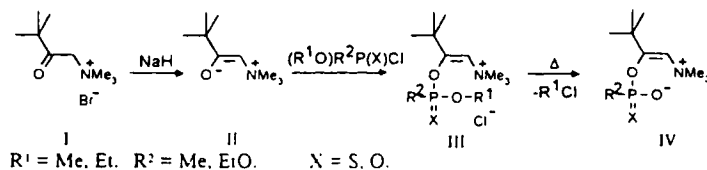
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The vinyl esters of phosphorus acids, containing onium group in β -position, for example, betaines type A and B ($X = N, P$), have a number of features, attracting to them significant attention of researchers.^[1] First of all, these compounds are interesting as examples of hydrolytically stable inhibitors of acetylcholinesterase, possessing complex action.



The literature information, however, deal only with β -ammoniummethyl derivatives of B type. The phosphorus-containing quaternary ene-ammonium salts and corresponding betaines of A type ($X = N$) remained unknown until now. We have found that such betaines can be readily obtained by phosphorylation of nitrogen ylides stabilized by carbonyl group.^[2]



Originally, during reaction of betaines (II) with chloroanhydrides of phosphorus acids ene-ammonium derivatives (III) are formed, which on heating in acetonitrile or methylethylketone, or spontaneously, upon long standing, turn into betaines (IV) through dealkylation. According to NMR spectra, the reaction proceeds stereospecifically, with formation of one out of possible Z-E-isomers.

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