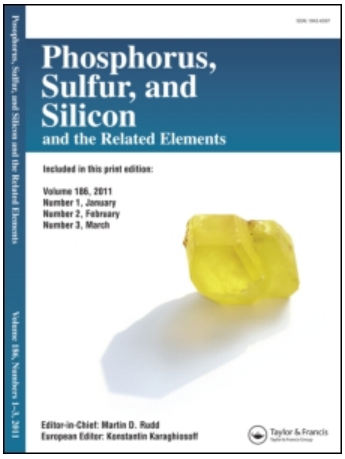

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Phosphorylated Bromonitroethene in the Reactions with NH- and CH-Acids

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PHOSPHORYLATED BROMONITROETHENE IN THE REACTIONS WITH NH- AND CH- ACIDS

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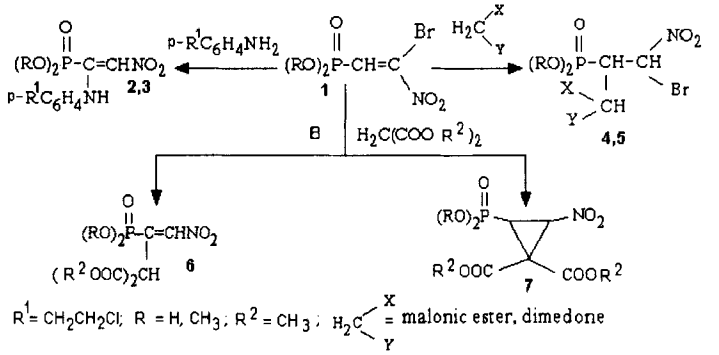
Abstract The interaction between *O,O*-di(2-dichloroethyl)-2- bromo-2-nitroethenephosphonate and some NH- and CH-acids is discussed.

The highly reactive halonitroethenes attract the attention of scientists so as they are active synthons in the synthesis of various classes of organic compounds. Phosphorylated halonitroethenes can represent particular interest, because of phosphoryl group introduction "a priori" makes the reactivity of such compounds to be higher and allows to synthesize a big number of biologically active compounds.
The very first study of interaction between *O,O*-di(2-chloroethyl)-2-nitroethenephosphonate **(1)**[1] with some representatives of NH-and CH-acids such as anyline, p-toluydine, dimedone, and malonic ester was conducted by our research group.



In contrast with well-known halonitroethenes[2] reactions, interactions of compound **(1)** even with low basic aromatic amines were found to proceed in ether at room temperature according to addition-elimination mechanism and result in recently unknown phosporylated nitroenamines **(2,3)**.

The interaction between bromonitroethenephosphonate **(1)** with dimedone and malonic ester proceeds along the more complicated pathways. Condensation in the presence of equimole amounts of sodium methylate results in the mixture of products isolated by column chromatography. Individual Michael's adducts **(4,5)** with total yield 20% and mixture of products of their dehydrobromination were isolated. Analysis of the spectral data shows the products of compound **(4)** dehydrobromination to be the mixture of the structural isomers - substituted nitroethenephosphonate **(6)** and nitrocyclopropanephosphonate **(7)**. The structure of synthesized compounds is proved by methods of mass-spectrometry, IR, UV and ^{1}H, ^{13}C, ^{31}P NMR spectroscopy.

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