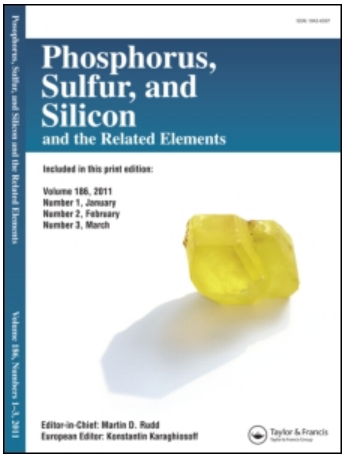

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A New Synthetic Rout to Phosphonate Analogues of Phosphatidyl Derivatives

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A NEW SYNTHETIC ROUT TO PHOSPHONATE ANALOGUES OF PHOSPHATIDYL DERIVATIVES

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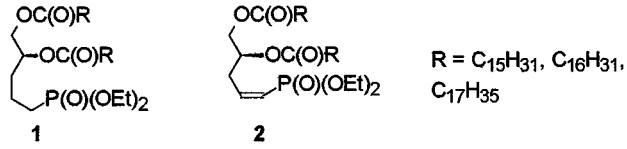
Structurally modified phospholipids have been widely used for drug delivery in liposomes and for physic-chemical and biochemistry studies of membrane structure and function. The utilization of a phosphonate group as a phosphate mimic in biological systems is a well-established strategy. In connection with our work on the application of phosphorylated allenes for the construction of unsaturated organophosphorus compounds, we report a new method for the preparation of the phosphonate analogues of phosphatidyl derivatives in which the *sn*-3 oxygen of the diacylglyceryl moiety is substituted by CH_2CH_2 (**1**) or CH=CH (**2**).



SCHEME 1

The phosphonate analogues (**1**) and (**2**) were synthesized by a simple and efficient three-step procedure: synthesis of the acetylenic alcohol; synthesis of the phosphorylated diol, by using Horner-Mark [2,3]-sigmatropic rearrangement; and synthesis of target phosphonates.

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