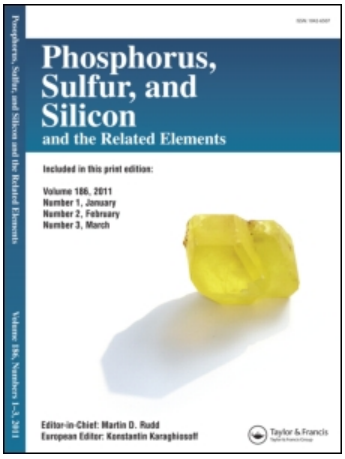

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Phosphorylated Dihydrofurans and Furans via Intramolecular Cyclization of Allenic Alcohols

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PHOSPHORYLATED DIHYDROFURANS AND FURANS VIA INTRAMOLECULAR CYCLIZATION OF ALLENIC ALCOHOLS

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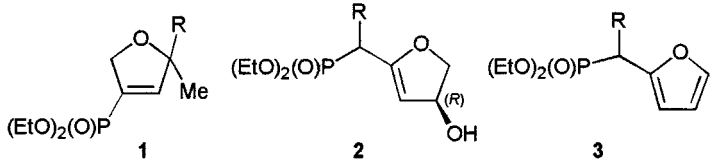
Allenes have been widely used as building blocks in organic chemistry for construction of five and six-membered carbocyclic and heterocyclic ring systems. In continuation of earlier works in developing new synthetic strategies for the construction of phosphonic heterocycles, herein present the synthesis of the 4-(diethylphosphono)-2,5-dihydrofurans **1** on the base of diethylphosphono-substituted α-allenic alcohols, (3*R*) 5-(3-hydroxy-2,3-dihydrofuryl) (diethylphosphono)-alkanes **2** from the (3*R*)-*5*-substituted-5-(diethylphosphono)penta-3,4-dien-1,2-dioles and diethylphosphono(2-furyl)alkanes **3** using phosphorus containing allenes as intermediates.



SCHEME 1

The starting phosphorylated allenes was synthesized directly from acetylenic alcohols by Horner-Mark [2,3]-sigmatropic rearrangement of the unstable phosphites generated in situ by reaction with diethyl chlorophosphite in the presence of triethylamine.

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