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Cycloexpansion reactions in benzo[e]-1,3,- -diheterophosphorin-4-ones and 4-oxo-1,3- 2-dioxaphospholanes

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Abstract

The peculiarities of the reactions of 2-R-benzo[d]-1,3,2-dioxaphosphorin-4-ones, 2--naphtho[d]-1,3,2-dioxaphosphorin-4-ones, 2-R-8-azabenz[e]-1,3,2-dioxaphosphorin-4-ones, and 2-R-1,3,2-dioxaphospholan-4-ones with unsaturated compounds are summarized in the review. The reactions proceed in the mild conditions and lead to the formation of the seven- and six-membered heterocycles 1,3,2-dioxa-, 1,3,2-oxaza-, 1,4,2-dioxa-, and 1,4,2-oxazaphosphepines and 1,3,2- and 1,4,2-dioxaphosphorinanes with a high regio- and stereoselectivity. The hydrolysis and thermolysis of the some benzophosphepine derivatives leads to the substituted fluorinated ketones and various nonphosphorus heterocycles. Copyright © Taylor & Francis Group, LLC.

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Keywords

Benzodioxaphosphorine, Benzooxazaphosphorine, Chloral, Dihydroxyterephthalic acid, Dioxaphosphepine, Dioxaphospholane, Dioxaphosphorinane, Hexafluoroacetone, Hydroxynicotinic acid, Hydroxypicolinic acid, Mandelic acid, Oxazaphosphepine, Pamoic acid, Phosphonate, Salicylic acid