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Phosphorylated aminoacetal in the synthesis of new acyclic, cyclic, and heterocyclic polyphenol structures

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Abstract

New phosphorylated aminoacetal has been synthesized by the Kabachnik-Fields reaction; its reactivity has been studied in acid-catalyzed condensation with linear polyphenols (2-methylresorcinol, resorcinol, pyrogallol) and the Mannich reaction with macrocyclic polyphenol (calix[4]resorcinol). It has been determined for the first time that acid-catalyzed reaction of phosphorus-containing acetal with resorcinol and its derivatives in ethanol in the presence of hydrochloric acid gives new phosphorylated piperazines in addition to the compounds of diarylmethane series. Condensation of macrocyclic polyphenol (calix[4]resorcinol) with formaldehyde and N-((dihexylphosphoryl) methyl)-2, 2-dimethoxyethylamine (the Mannich reaction) has resulted in novel tetrasubstituted calixarene containing aminophosphine oxide and acetal groups on the "upper rim" of molecule. © 2014 Wiley Periodicals, Inc.

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