

LE 11

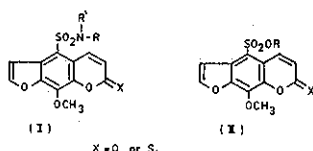
SYNTHESIS OF NEWER XANTHOTOXIN-4-SULFONAMIDES AND XANTHOTOXIN-4-SULFONIC ACID ESTERS WITH POTENTIAL ANTIMICROBIAL EFFECT

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Xanthotoxin-4-sulfonyl chloride reacts with an appropriate amino derivative or phenol to give the corresponding xanthotoxin-4-sulfonamides (I) or xanthotoxin-4-sulfonic acid esters (II) respectively. The structural assignments of the obtained products are based on analytical, chemical and spectroscopic results. Sulfonamides (I) have been subjected to the action of *s*-benzylisothionium hydrochloride, and reacted with dimethyl sulfate yielding the methylated sulfonamides with no cleavage of the coumarin ring. Thionation of the synthesized products by the action of P₂S₅ afforded the corresponding thioxanthotoxin derivatives in good yield.

IR and UV data is discussed. The quite promising results of the antimicrobial activity of the resulted compounds is presented.



LE 12

SYNTHESIS AND PROPERTIES OF OXODIHYDROFURANS

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OXYGEN-CONTAINING HETEROCYCLES ON THE BASIS OF 1,3-DIOLS. SYNTHESIS AND PROPERTIES

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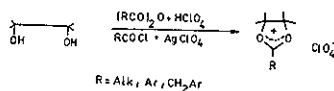
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LE 14

1,3-DIOXOLANUM SALTS AND THEIR APPLICATION IN ORGANIC CHEMISTRY

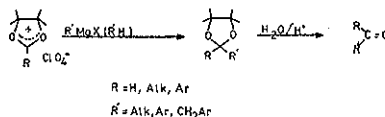
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A simple synthetic route to 1,3-dioxolanum salts, which consist of acylation of pinaconic glycols by anhydrides and acyl chlorides in the presence of perchloric acid or AgClO₄ has been developed.

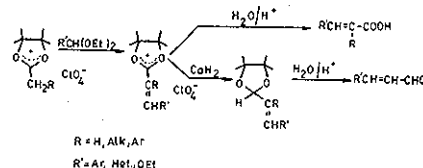


The salt of 1,3-dioxolanum may be used as effective alkylation and formylation agents.

The reaction of dioxolanum salts with active aromatic, heterocyclic and organomagnesium compounds lead to the formation of 1,3-dioxolanes, which by hydrolysis yields the corresponding carbonyl compounds: alkylarylketones, alkylbenzylketones, benzophenones, deoxybenzoinones, aromatic, heterocyclic and aryl-acetic aldehydes:



2-Alkylgroups of 1,3-dioxolanum salts were found to be active in the reactions of condensation with acetals of aromatic and heterocyclic aldehydes and orthoesters.



Hydrolysis or reduction of 2-styryldioxolanum salts lead to α,β -unsaturated acids and cinnamic aldehydes, respectively. This method allows to prolong the carbon chain of carbonyl compounds.

The reactions of 2- β -ethoxyvinylsubstituted 1,3-dioxolanum salts with water, amines or organomagnesium compounds has been discussed.

Cyanine dyes have been prepared based on the 1,3-dioxolanum salts and its derivatives.

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LE 15

NEW POSSIBILITIES OF APPLICATION OF FURFURAL FOR THE SYNTHESIS OF SELF-EXTINGUISHING POLYURETHANE INTERMEDIATES

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Hitherto unknown in the literature variants of converting of furfural to ethyl esters of 3-ketocarboxylic acids have been elaborated and the attempts of reduction of the latter compounds into appropriate glycols have been conducted. The general aim of the undertaken investigations was to obtain diols, that together with organic diisocyanates give the resistant to temperature, slow burning and self-extinguishing polyurethane resins. As the result, of undertaken in this field experimental studies the compounds I-IV of the general formula "A" given below, have been obtained.

