

Hexanediol-1,4 (I); (A, when R = CH<sub>3</sub>, X = Y = H)  
 5-Bromohexanediol-1,4 (II); (A, when R = CH<sub>3</sub>, X = Br, Y = H)  
 3,5-Dibromohexanediol-1,4 (III); (A, when R = CH<sub>3</sub>, X = Y = Br)  
 Heptanediol-1,4 (IV); (A, when R = C<sub>2</sub>H<sub>5</sub>, X = Y = H)  
 3,5-Dichloroheptanediol-1,4 (V); (A, when R = C<sub>2</sub>H<sub>5</sub>, X = Y = Cl)  
 3,5-Dibromoheptanediol-1,4 (VI); (A, when R = C<sub>2</sub>H<sub>5</sub>, X = Y = Br)

The first stage of syntheses of the above mentioned glycols I-IV consisted in treating furfural with methylmagnesium iodide or ethylmagnesium bromide. As the result of this reaction, the appropriate alkyl(2-furyl)carbinols were formed. These alcohols subjected to the action of mineral acid in ethanol were transformed into ethyl ester of 3-ketopentancarboxylic-1 acid, or ethyl ester of 3-ketohexancarboxylic-1 acid. The first of these compounds, under the effect of reducing agents, gave hexanediol-1,4 (I), whereas the second ones — heptanediol-1,4 (IV). Under the effect of bromine or chloride both the esters gave the appropriate halogen derivatives, which as the result of the reduction were transformed into halogen diols II, III, V or VI. On the base of diols I/VI and tolylene-2,4-diisocyanate(2,4-TDI) or the mixture of 2,4-TDI and 2,6-TDI at weight ratio 4 : 1, not reported in literature polyurethane resins were obtained and subjected to the total derivatographic analysis. First of all thermal resistance of resins obtained from diols I and IV and appropriate TDI isomers was examined and compared with thermostability of polyurethanes obtained on the base of diols II, III, V and VI and the same diisocyanates.

The obtained results showed that resins, for the synthesis of which glycols II, III, V and VI were used, have higher thermal resistance than resins obtained on the base of diols I and II. Moreover the resins of the first type revealed the advantageous features of self-extinguishing.

On the base of the carried out investigations it has been established that halogen diols II, III, V and VI may find their application for the synthesis of self-extinguishing and slow-burning polyurethane materials.

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### SOME STRUCTURAL PECULIARITIES AND PROPERTIES OF ALUMINIUM HALIDE COMPLEXES WITH CARBONYL COMPOUNDS OF BENZENE, THIOPHENE, AND FURAN SERIES

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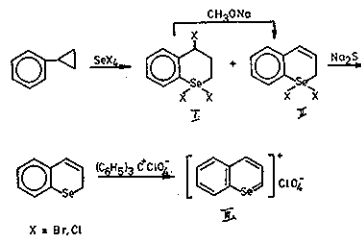
### REACTIONS OF PHENYLCYCLOPROPANE WITH TETRAHALIDES OF SELENIUM

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The reaction of phenylcyclopropane with the tetrahalides of selenium was investigated. It appeared that the 1,1,4-trihalogen derivatives of 1-selenochromane (I) and 1,1-dihalogen derivatives of 1-selenochrom-3-ene (II) could be obtained by heating an etheric solution of the above substances. It means that the cyclopropane ring splits and subsequently a cyclization takes place to give the benzene ring



Scheme 1

The structure of the compounds thus obtained was proved by n.m.r. spectra and by conversion of the 1,1-dihalogen 1-selenochrom-3-ene in the 1-selenochromylum perchlorate (III) described in literature (scheme 1).

The antimicrobial activity of the 1,1,4-trihalogen derivatives of 1-selenochromane and 1,1-dihalogen derivatives of 1-selenochrom-3-ene was investigated. It was revealed that these compounds exhibit antibacterial and anti-yeast activity.

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### SUBSTITUENT EFFECTS ON THE DISPOSITION OF THIIRANE 1,1-DIOXIDES AND THIIRENE 1,1-DIOXIDES IN KOH-t-BuOH. Cal Y. Meyers<sup>a</sup>, Walter S. Mathews, Gregory J. McCollum,

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Treatment of sulfones with KOH-CCl<sub>4</sub>-t-BuOH provides thiirane 1,1-dioxide and thiirene 1,1-dioxide intermediates which decompose rapidly and specifically into products whose nature is dependent on the substitution pattern of these intermediates. Some examples are:

