

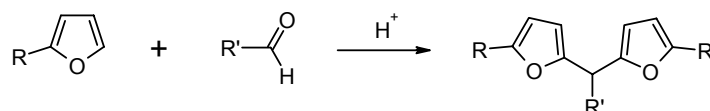
## 2-Furfurylamine in Di- and Trifurylmethanes Synthesis

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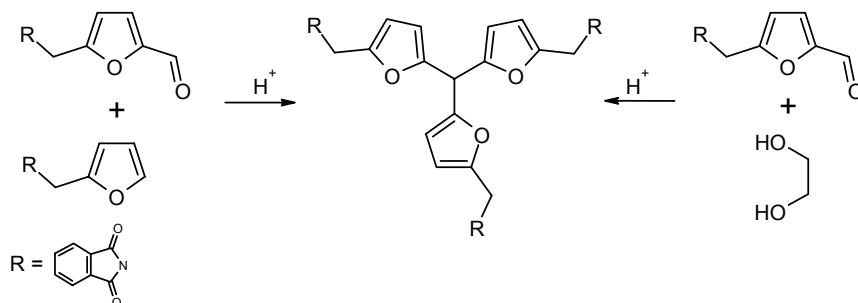
The development of new approaches to calixarenes and crown-ethers is of interest during many years because of various properties and usefulness of such compounds. Continuing investigation of di- and trifurylmethanes we proposed that such compounds bearing corresponding substituents at position 5 of furan ring can be used as analogues of calixarenes or be applied for crown ethers preparation.

Among known approaches for aryldifuryl- and trifurylmethanes synthesis acid catalyzed condensation of substituted furans with aldehydes is widely used.



Because the main goal of our study was preparation of methane structures having aminomethyl groups at position 5 of furan rings we have developed facile ways for synthesis of corresponding N-acyl substituted 2-furfurylamines and furaldehydes. The furylmethane structures were prepared by reaction of obtained furfurylamide and carbonyl compounds.

There are two ways for symmetric trifurylmethanes formation: the first is reaction of N-substituted furfurylamine with corresponding furaldehydes, and the second one includes interaction between substituted furaldehyde and ethylene glycol in the presence of ion-exchange resin Amberlyst 15.



Hydrazinolysis of obtained compounds resulted in preparation of di- and trifurylmethanes bearing unsubstituted aminomethyl groups.