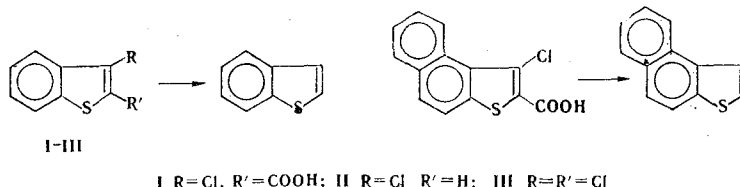


NEW METHOD FOR THE PREPARATION OF UNSUBSTITUTED BENZO[b]- AND  
NAPHTHO[2,1-b]THIOPHENES

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We have found that difficult-to-obtain unsubstituted benzo[b]- and naphtho[2,1-b]thiophenes can be prepared in one step from the corresponding readily obtainable halo or carboxy derivatives [1, 2] by heating at 170–240°C in organic acids in the presence of excess powdered copper.



The benzo- and naphthothiophenes obtained were identified by gas-liquid chromatography and PMR spectroscopy.

The best yields (40–80%) of the benzo- and naphthothiophenes were obtained when the reaction was carried out in benzoic acid at 220°C with a fourfold molar excess of powdered copper.

When the process is carried out at the lower limits of the indicated temperature range, 3-chlorobenzo[b]thiophene can be obtained from 3-chloro-2-carboxybenzo[b]thiophene.

The use of higher aliphatic acids (palmitic and undecanoic acids) decreases the yields of benzo[b]thiophene significantly (to 30%) and leads to the formation, in addition to the latter, of aliphatic hydrocarbons due to decarboxylation of the aliphatic carboxylic acids themselves.

LITERATURE CITED

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