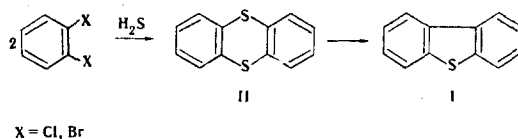


# HIGH-TEMPERATURE SYNTHESIS OF DIBENZOTHIOPHENE

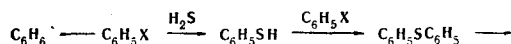
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UDC 547.736

We have established that dichloro- and dibromobenzene form dibenzothiophene I (in 70% yield) at 600–620° in a flow system in a hollow quartz tube (655-mm long and 30 mm in diameter) in the presence of excess hydrogen sulfide at a contact time of 40–50 sec.



An intermediate is evidently thianthrene (II), which is converted to dibenzothiophene at 600° [1]. Thermolysis of chloro- or bromobenzenes with hydrogen sulfide at 700° also leads to dibenzothiophene (in 20% yield) along with benzene and thiophenol.



The reaction evidently proceeds through a step involving the formation of diphenyl sulfide, which is known to undergo complete conversion to dibenzothiophene at 700–900°.

The physical constants of I and II, including their IR and ESR spectra, are in agreement with the literature data, and the results of elementary analysis are in agreement with the calculated values.

## LITERATURE CITED

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Irkutsk Institute of Organic Chemistry, Siberian Branch of the Academy of Sciences of the USSR, Irkutsk 664033. Translated from *Khimiya Geterotsiklicheskikh Soedinenii*, No. 1, p. 131, January, 1977. Original article submitted June 11, 1976.

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