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DEOXYGENATION OF SULFOXIDES WITH BORON SULFIDE

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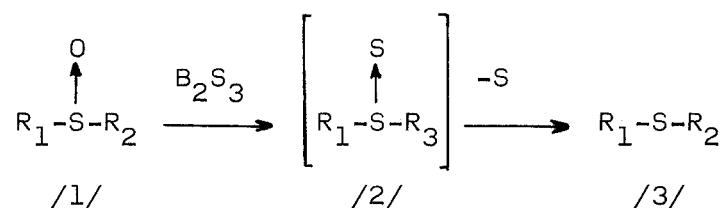
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Among the reagents used for reducing sulfoxides to sulfides there are a number of sulfur-containing compounds /sulfite, mercaptans, carbodithioic acid, mono- and dithiophosphoric acids, sulfinyl chlorides, thionyl chloride, phosphorus pentasulfide/.

We have found that sulfoxides are deoxygenated to sulfides by boron sulfide.

This method is suitable for the reduction of dialkyl, alkyl-aryl, diaryl, as well as, cyclic sulfoxides. Using this reagent in an inert solvent /benzene, methylene chloride/ dimethyl-sulfoxide, methyl-phenyl-sulfoxide, diphenyl-sulfoxide and l-thioflavanone sulfoxide transform, at room temperature, to the corresponding sulfide, with good yield.



In the course of the reaction the boron sulfide may possibly react by converting the sulfoxides /1/ to the thiosulfoxides /2/, which, with a spontaneous loss of sulfur form the corresponding sulfides /3/.