# 1,2-DITHIOLYLIUM SALTS IN THE SYNTHESIS OF 1,2-TETRATHIAFULVALENES

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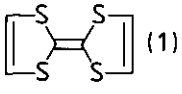
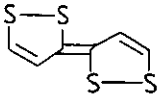
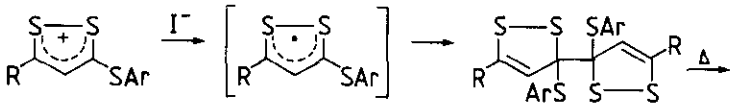
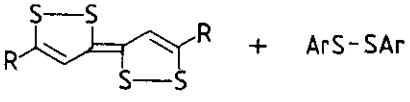
Many different methods are available for the synthesis of 1,3-TTF's (1) whereas only a few methods are available for the synthesis of the isomeric 1,2-TTF compounds (2).


(1)


(2)

Thermolysis of 3-arylthio-1,2-dithiolylium salts in the inlet system of a mass spectrometer shows, that the thermolysis gives rise to a 1,2-TTF, probably via the following pathway.





The influence of the nature of the aryl substituents on the reaction will be discussed.

The analogous thermolysis of 3-alkylthio-1,2-dithiolylium salts does not give rise to the corresponding 1,2-TTF's. These salts can, however, be transformed into 1,2-TTF's by electrochemical reduction of the salts to the corresponding dimers, which can further be thermolysed into the appropriate 1,2-TTF's. The reaction probably proceeds via the same pathway as depicted for the thermolysis of the 3-arylthio-1,2-dithiolylium salts.

This synthetic pathway will be discussed along with the electrochemistry of the 3-alkylthio-1,2-dithiolylium salts.