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NEW PERFLUORO-1,3-DITHIETANE-CHEMISTRY

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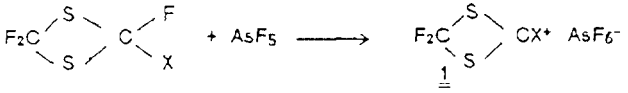
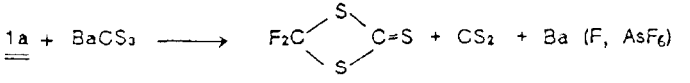
The series of 1,3-dithietane-2-ylium salts has been completed

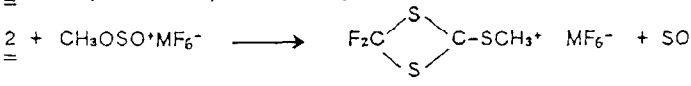


(1a-d X = F, Cl [1], Br [2], I)

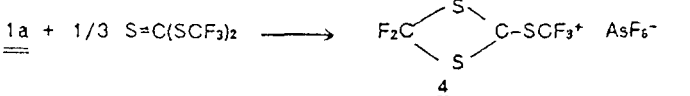
These cations are attacked by nucleophiles, e.g. with CS_3^{2-} a thiocarbonyl-group is introduced:



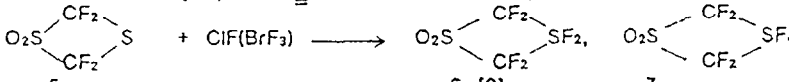
2 is alkylated in liqu. SO_2 to give an trithiocarbenium ion:



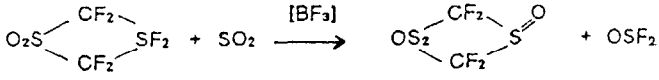
The perfluorinated analog of 3 is obtained in a one step synthesis



A second aspect in the chemistry of dithietanes are oxidative additions to the sulfur of this ring system. 5 is easily oxidized by halogen fluorides:



With AsF_5 6 forms a stable sulfonium salt, in the presence of BF_3 6 is readily solvolysed



The BF_3-catalysed solvolysis of SF-derivatives seems to be a general synthetic method, several other examples will be presented.

Stabilities, structures, spectroscopic properties and reactivities of the compounds described will be discussed.

1 A. Waterfeld, R. Mews, Chem. Ber., 118 (1985) 4997.
2 J. Antel, K. Harms, P.G. Jones, R. Mews, G.M. Sheldrick, A. Waterfeld, Chem. Ber. 118 (1985) 5006.
3 W. Sundermeyer, M. Witz, J. Fluorine Chem., 26 (1984) 395.