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REACTIONS OF FLUOROTHIOCARBONYL COMPOUNDS IN THE HF-SOLVENT SYSTEM

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The Fluorothioketones F_2CS , $FClCS$ and $F_3CSC(S)F$, which show only moderate solubility and reactivity in anhydrous HF at room temperature, undergo rapid reactions in HF/SbF_5 solutions even at lower temperatures. Cationic species are formed which participate in Friedel-Crafts type reactions directly in the HF-solution resulting in thioacylation at aromatic rings. In this way benzene yields $PhC(S)SCF_3$ from the reaction of $F_3CSC(S)F$ in HF/SbF_5 . The same product can be obtained from the reaction of F_2CS via rearrangement of the cationic intermediate. Further reactions of this type are presented. ^{19}F - and ^{13}C -NMR investigations provide information about the intermediates in solution.