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Xenon difluoride readily reacts with various organo-sulphur compounds. In general, three types of products were isolated, the course of the reactions depending on the structure of the organo-sulphur substrate. Alkyl-phenyl substituted sulphides, 3,3-dibromothiochroman-4-one and thiochroman-4-ol reacted to form α -fluoro substituted products, 2,5-diphenyltetrahydrothiopyran-4-one, thiochroman-4-one and 3-bromothiochroman-4-one formed dehydrogenated products, while diphenyl-sulphide, dibenzothiophene and 10-thioxanthenone reacted to form sulfoxide and sulphone. The reaction mechanism and the reaction pathways, which are shown on the Scheme, will be discussed.

