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THE PREPARATION AND SOME REACTIONS OF 3-THIETANONES

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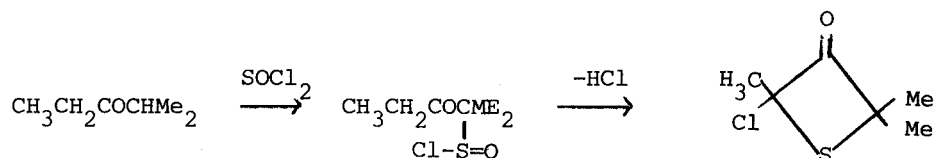
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THE PREPARATION AND SOME REACTIONS OF 3-THIETANONES

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3-Thietanones have been prepared by treating certain ketones with thionyl chloride or sulphur dichloride. In the case of ketones containing a tertiary alpha proton the initial product obtained on treatment with thionyl chloride is the sulphenyl chloride which then cyclises to the thietanone.



However ketones containing secondary or primary alpha protons only initially form the α -chloro- α -sulphenyl chloride which subsequently cyclises. We have investigated the catalytic role of pyridine in this reaction and have suggested the formation of a quaternary salt which aids cyclisation. Certain properties of the thietanones have been studied and both infrared and nmr absorption spectra of a number of thietanones will be discussed. Thietanones undergo nucleophilic attack and may either undergo an interesting ring-opening rearrangement to yield an unsaturated acid or undergo an $\text{S}_{\text{N}}2$ -type substitution depending on the nucleophile.