

SYNTHESES OF HETEROCYCLES BY THE USE OF
CYCLOPROPENIUM ION AS A STARTING MATERIAL

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In our series of study on cyclopropenium ions, the reactions of trialkylthio-cyclopropenium ion (I) with various nucleophiles were investigated. Alkyl amines, hydrazines, hydroxylamine, amidines, β -cyanoethylamine, ethyl thioglycollate and glycollates were found to react with I in mild conditions to afford pyrrole, pyrazole, isooxazole, pyrimidine, pyridine, thiophene and furan derivatives, respectively. These reactions provide a new synthetic method of various heterocyclic compounds.

It should be noticed that the characteristic ring expansion reaction of I is caused by the strain of cyclopropenium ring.