REACTIONS OF KETENETHIOACETALS HAVING PYRIDINUM SALTS

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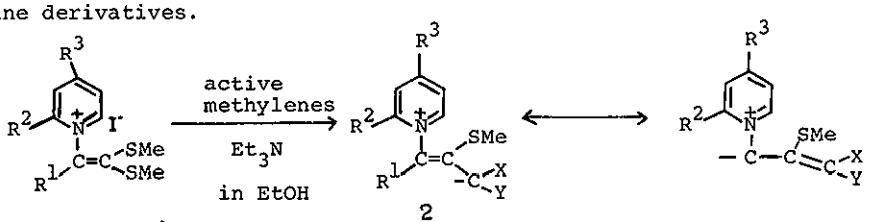
In this paper, we report the reactions of 1-[2,2-bis(methylthio)vinyl]pyridinium iodide derivatives (1a - k) with nucleophiles as active methylene compounds or amines in various conditions.

The reaction of 1 with active methylenes (malononitrile, methyl cyanoacetate, cyanoacetamide, phenylsulfonylacetonitrile) in the presence of triethylamine as base in EtOH under refluxing gave allylide derivatives (2a - f) in good yields.

When potassium hydroxide was used instead of triethylamine, the reaction of 1 with active methylene compounds did not give allylides, but afforded cleavage compounds of pyridine ring, N-(4,4-dicyano-1,2,3-hexatrienyl),N-[2,2-bis(methylthio)vinyl]amine derivatives (3a - k) in excellent yields.

Next, the reaction of 1-[1-benzoyl-2,2-bis(methylthio)vinyl]-2-methylpyridinium iodides (1d,f) with malononitrile or phenylsulfonylacetonitrile gave 2-phenyl-3-vinylindolizine derivatives (4a,b,c), which were useful for synthetic intermediate of indolizine derivatives.



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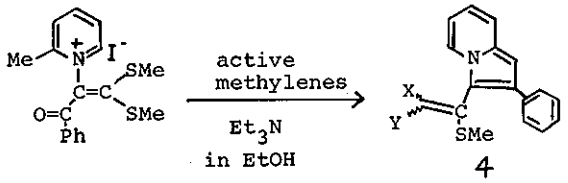

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