Syntheses Of Indolizine Derivatives And Their Reactions

Keiji Kurata, Yasushi Tajima, Hiroyoshi Awaya, Yoshinori Tominaga,
Yoshiro Matsuda and Goro Kobayashi
Faculty of Pharmaceutical Sciences, Nagasaki University
1-14 Bunkyo-machi, Nagasaki, 852, Japan

In our series of study on indolizine derivatives, the reactions of pyridinium N-ylides and thiazolium N-ylide with carbon disulfide or some ketenethioacetal derivatives (22) were investigated.

1-Ethoxycarbonylmethyl-2,6-dimethylpyridinium bromide (9) was treated with sodium hydride, carbon disulfide and then dimethyl sulfate to afford methyl 2-hydroxy-5-methylindolizine-3-dithiocarboxylate (11).

Also, imidazo[1,2-a]pyridine-3-dithiocarboxylate derivatives (17,18) were obtained from 1-ethoxycarbonylmethyl-2-aminopyridinium bromide derivatives (15).

Pyridinium salt (9) reacted with 22 to give indolizine derivatives; intermolecular ring closure products (23,25) and intramolecular ones (24,26).

While, 2-aminopyridinium salts (15) reacted with 22 only to give intramolecular ring closure products; 2-hydroxy-5-methyl-3-(1-methylthio)vinylimidazo[1,2-a]pyridine derivatives (27).

On the other hand, imidazo[2,1-b]thiazole derivatives (30,32) were synthesized from 3-methoxycarbonylmethyl-2-aminothiazolium bromide (28) with 22 via stable intermediates (29,31)