REACTIONS OF HALOKETENES WITH ETHYL *N*-(2-PYRIDYL)FORMIMIDATES AND 2-ARYLIDENEAMINOPYRIDINES

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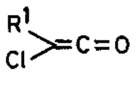
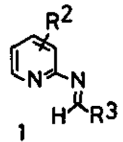
Most typical reaction of haloketenes with C=N bonds is the cycloaddition to imines to give 2-azetidinones, whereas the reaction with compounds bearing a conjugated C=N bond gives [2 + 4] cycloadducts.

In this paper we wish to report the reactions of haloketenes with ethyl *N*-(2-pyridyl)formimidates and 2-arylideneaminopyridines, both of which have a C=*N* bond conjugated with the ring C=N bond.

When ethyl *N*-(2-pyridyl)formimidates (1, R^3 = OEt) were allowed to react with dichloroketene in ether (or DME), three compounds, pyrido[1,2-*a*]pyrimidin-4(4*H*)-ones (2, R^1 = Cl, R^3 = OEt), 2-azetidinones (3, R^3 = OEt), and esters (4, R^3 = OEt, R^4 = Et or Me) were obtained in good yields. Similarly, 2-arylideneaminopyridines (1, R^3 = aryl) also reacted with haloketenes giving compounds 2, 3, and 4 (R^3 = aryl). The esters 4, on treatment with triethylamine, cyclized to the imidazo[1,2-a]pyridines 5. Treatment of 2 (R^1 = Cl, R^3 = aryl) with alcoholic potassium hydroxide gave the imidazo[1,2-a]pyridines 6, while 2 (R^2 = 6-Me), on heating, were transformed into the 1,8-naphthylidines 7.



R^1=H, Cl, Ph



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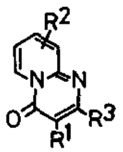
R^2= H, Me
R^3 = OEt, aryl



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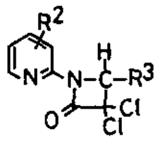

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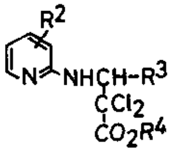

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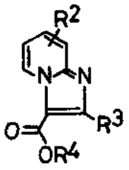

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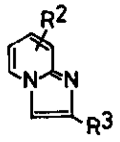

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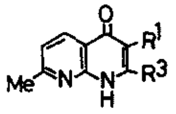

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