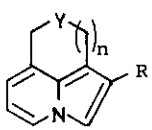
SYNTHESES AND REACTIONS OF SOME NEW CONDENSED HETEROCYCLIC COMPOUNDS BEARING CYCL[3.2.2]AZINE NUCLEI

Michihiko Noguchi, Noriyuki Tanigawa and Shoji Kajigaeshi
Department of Industrial Chemistry, Faculty of Engineering,
Yamaguchi University, Tokiwadai, Ube, Yamaguchi 755, Japan

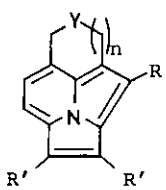
Some condensed cycl[3.2.2]azines (2) were prepared by the reaction of the [hi] condesed indolizines (1) with acetylenes in the presence of appropriate oxidants. Since the first report at 1961 by Boekelheide[1] these reactions were regarded to proceed in a concerted manner; [$_{\pi}8$ + $_{\pi}2$] process. However, the identification of the reaction intermediates and those conversions to the corresponding cyclazines revealed for the cyclazine synthesis to undergo stepwise in our case at least.

Further functionalization of the obtained cycl[3.2.2]azines was examined. The cyclazine (1) (n= 1, Y= CH, R= Ph, R'= CO_2Me) was treated with DDQ in a 10% aqueous dioxane to yield a 7H-pyrrolizino[2,3,4,5-ija]quinolin-7-one derivative (3), a cycl[3.2.2]azine analogue of phenalenone (4).

Also, the physical properties of the 7H-pyrrolizino[2,3,4,5-ija]quinolin-7-ones (3) and the reaction pathway to 3 were investigated.



(1)



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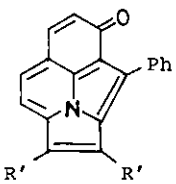

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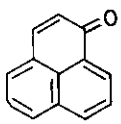

(4)

1) A. Galbraith, T. Small, R. A. Barnes and V. Boekelheide, J. Am. Chem. Soc., 83, 453(1961).