REACTION OF 3,4-DIHYDROISOQUINOLINE N-OXIDE WITH 2-ACETYL-1,3-CYCLOALKANEDIONES

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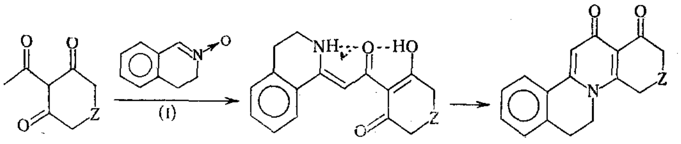
In contrast to 1,3-dipolar cycloaddition, the 1,3-addition of the Michael type still remains a little studied section of the chemistry of nitrones. We established that N-oxide (I) reacts with β-triketones (II)-(IV) by a scheme that is analogous to that described previously for the condensation of triacylmethanes with 3,4-dihydroisoquinolines [1]. Thus, the corresponding enamino triketones (V) and (VII) are formed when nitrone (I) is heated with β-triketones (I) and (IV) in refluxing alcohol. Ketones (V) and (VII) in refluxing DMF were respectively converted in over 90% yield to the tetracyclic pyridones (VIII) and (X)



(II)Z = —
(III)Z = CH_2
(IV)Z = CMe_2

(V)Z = —, mp 231-233°
(VI)Z = CH_2
(VII)Z = CMe_2, mp 176-180°

(VIII)Z = —, mp 350° (decompn.)
(IX)Z = CH_2, mp 247-248°
(X)Z = CMe_2, mp 253-256°

Quinolizine (IX) was obtained from (I) and (III) without isolating the intermediate enamino triketone (VI). The structure of the newly synthesized compounds (V), (VII), and (VIII)-(X) was proved by spectral and chemical methods.

LITERATURE CITED

1. A. A. Akhrem, A. M. Moiseenkov, V. A. Krivoruchko, F. A. Lakhvich, and A. I. Poselenov, Izv. Akad. Nauk SSSR, Ser. Khim., 2078 (1972).

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