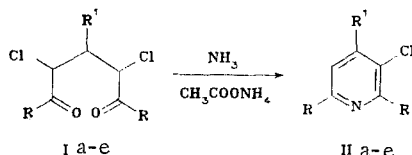


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The reaction of acyclic 1,5-diketones with ammonia yields dihydropyridines. The reaction of chlorine-substituted 1,5-diketones with nitrogen-containing reagents has not been reported in the literature.

We have discovered that α,α' -dichlorosubstituted 1,5-diketones Ia and Ib react with ammonia in ether or ethanol at room temperature to form the corresponding β -chloropyridines [IIa with mp 153-154°C (from ethanol) and IIb with mp 112-113°C (from ethanol)] instead of the possible products of the replacement of the halogen atom by an amino group.



I, II a $R=R'=C_6H_5$; b $R=C_6H_5$, $R'=CH_3$; c $R=C_6H_5$, $R'=C_6H_4-OCH_3$; d $R=C_6H_4-OCH_3$, $R'=C_6H_5$; e $R=R'=C_6H_4-OCH_3$; p

Analogous compounds arise in the heterocyclization of 1,5-diketones Ia-e with ammonium acetate under conditions of the Chichibabin reaction. In this case, the reaction is carried out in acetic acid at 60-80°C. The yields of the β -chloropyridines are 80-90% [IIc with mp 150-152°C (from ethanol), IIId with mp 142-144°C (from ethanol), and IIe with mp 158-159°C (from ethanol)]. The IR spectra of IIa-e have bands for the pyridine ring C=C bonds at 1540-1545 cm^{-1} . The elemental analysis of these compounds were in accord with the calculated values.