NEW RECYCLIZATION REACTION IN THE IMIDAZO[4,5-c]PYRIDINE SERIES

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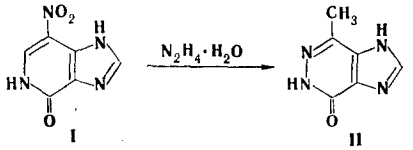
We have found that 7-methylimidazo[4,5-d]pyridazin-4-one (II) is unexpectedly formed in 90-95% yield (mp > 400°C, from DMF) when 7-nitroimidazo[4,5-c]pyridin-4-one (I) is heated with excess hydrazine hydrate at the boiling point of the mixture for 3-4 h. The identical character of II and an authentic sample was established by comparison of their IR and PMR spectra. The results of elementary analysis of the compound obtained were in agreement with the values calculated for structure II. PMR spectrum (CF_3COOH): 2.86 (s, 7-CH_3) and 9.50 ppm (s, 2-H). IR spectrum (in mineral oil): 1700 cm^{-1} (CO).



I II

Starting nitro compound I was obtained in 91% yield by nitration of imidazo[4,5-c]-pyridin-4-one with potassium nitrate in concentrated H_2SO_4 at 60-65°C and had mp > 400°C (from DMSO). IR spectrum (in mineral oil): 1695 cm^{-1} (CO). PMR spectrum (CF_3COOH): 9.01 (s, 6-H) and 9.48 ppm (s, 2-H). The results of elementary analysis were in agreement with the calculated values.

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