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We have shown that 2-methylbenzimidazole (I), despite the low acidity of the methyl group hydrogen atoms [1], undergoes a cyclocondensation reaction with acetylacetone upon prolonged refluxing in DMF in the presence of zinc chloride to form 1,3-dimethylpyrido[1,2-a]-benzimidazole (III, 30-40% yield, mp 114°C [2]). The reaction mixture undergoes extensive tarring due, apparently, to degradation of the intermediate unsaturated ketone II.



Compound III was separated chromatographically on an aluminum oxide column using chloroform. The cyclocondensation of the perchlorate of I with acetylacetone occurs more readily upon refluxing in acetic anhydride. Acetoacetic ester does not react with 2-methylbenzimidazole under these conditions.

LITERATURE CITED

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