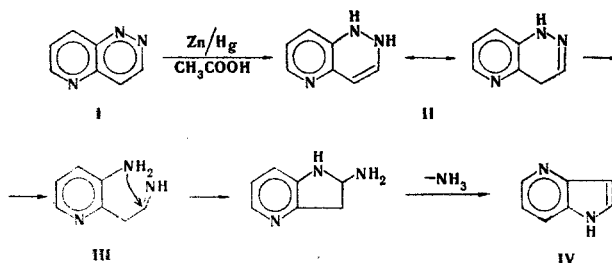


REDUCTIVE REARRANGEMENT OF 5-AZACINNOLINE
TO 4-AZAINDOLE

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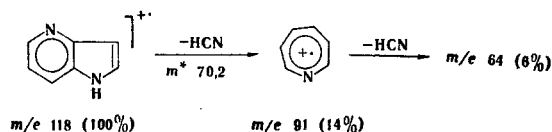
UDC 547.85.759 : 543.51

It is known that rearrangement to give indole occurs in the reduction of cinnoline with zinc amalgam in 30% acetic acid (for example, see [1]).



We have found that under similar conditions 5-azacinnoline (I) is converted to 4-azaindole (IV) in 20% yield. In analogy with the rearrangement of cinnoline, 5-azacinnoline I is probably reduced to dihydro structure II in the first step of the reaction, after which it is converted to intermediate III with cleavage of the N-N bond. The resulting compound undergoes cyclization and loses a molecule of ammonia to give 4-azaindole IV.

The physical constants of the 4-azaindole obtained (melting point and UV spectrum) were in agreement with the literature data [2]. In addition to the molecular ion, peaks of (M-HCN) and (M-2HCN) ions were observed in its mass spectrum, and this confirmed the azaindole structure.



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