STRUCTURE OF PERFAMINE

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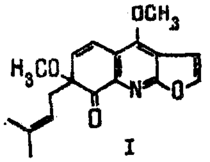
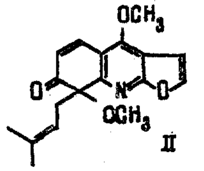
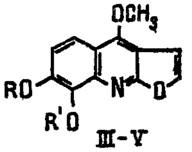
The alkaloid perfamine has been isolated previously from the neutral fraction of the seeds of *Haplophyllum perforatum*, this being the first representative of the furanoquinoline series in which the benzene ring is modified into a gem-substituted cyclohexadienone ring. As a result of the study of spectral characteristics, structure (I) or (II) was put forward for perfamine [1].



I

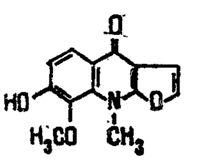


II

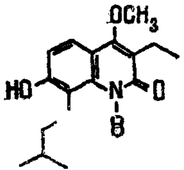


III-V

III $R = CH_3$; $R' = H$ IV $R = H$; $R' = CH_3$ V $R = R' = CH_3$



VI



VII

The action on perfamine of concentrated sulfuric acid in anhydrous dioxane gave a phenolic compound the methylation of which with diazomethane yielded skimmianine (V). The IR spectrum and melting point (224-225°C) of the phenolic compound were not identical with those of haplopine (IV), and therefore structure (III) is proposed for it and, correspondingly, (I) for perfamine [1, 2].

However, as Grina et al. [3], who isolated compound (III) from *Zanthoxylum arborescens* and compound (IV) from *Z. microcarpum* [4], have shown, the product of the acid cleavage of perfamine proved to be identical with (IV), and not with (III). This induced us to reanalyze the substance obtained by the action of concentrated sulfuric acid on perfamine. It was found that the cleavage product was haplopine sulfate. Consequently, structure (II) is correct for perfamine. The product of the reaction of perfamine with methyl iodide obtained previously [5] therefore has the structure (VI), and the hydrogenation product [2] the structure (VII).

LITERATURE CITED

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