THE MASS SPECTROMETRY OF THE TETRAHYDROBERBERINE ALKALOIDS

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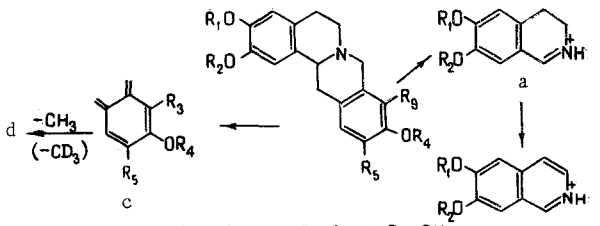
Previously, in a consideration of the mass spectra of a series of tetrahydroberberine alkaloids it was observed that the presence of a hydroxy group in ring D is responsible for the appearance in the spectra of a strong peak of the ion *a* [1]. The authors concerned consider that the hydrogen necessary for the formation of this ion migrates from ring C or D.

It appeared to us to be most likely that this is the hydrogen from the hydroxy group. In order to confirm this hypothesis, we recorded the mass spectra of scoulerine (I) and coramine (II) deuterated at the hydroxy groups. Analysis of the spectra obtained showed that the ion *a* arises almost completely through the migration of the hydrogen from the hydroxy group. As is known, the position of the hydroxy group in ring D is not important. An interesting feature is observed in the 9,10- and 10,11-dimethoxy derivatives. In the first case, the combined intensity of ions *a* and b is several times higher than in the second. The possibility of the formation of these ions in the case of the 9,10-disubstituted derivatives by the migration of the hydrogen from the methoxy group at C-9 was disproved by studying the mass spectrum of the dimethyl ether of scoulerine obtained by methylation with CD_3I in an alkaline medium. Apparently, in these cases hydrogen migrates from the aromatic ring D. On considering the same spectrum it can be seen that the loss of a methyl radical from the ion c is preferentially from the methoxy group at C-9.



LITERATURE CITED

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