

MASS SPECTRUM OF THE FLAVANONE NARINGENINE

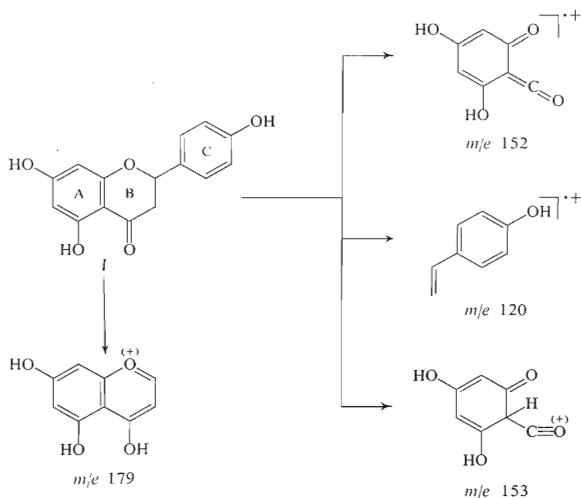
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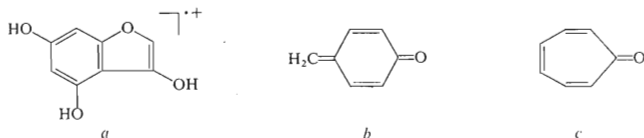
Using the example of naringenine, a new fragmentation process in phenolic flavanones is discussed.

Little attention has been paid in mass spectrometric investigations of fragmentations of flavanones to the compounds containing free phenolic groups¹⁻⁴. In our study of the mass spectrum of naringenine (*I*, Fig. 1) we observed, besides the earlier described types of fragment ions (Scheme 1), an abundant fragment *a* of mass



SCHEME 1

166-0264, corresponding to the composition $C_8H_6O_4$ (166-0266). The ion *a* was formed from the ionized molecule by the elimination of the neutral particle C_7H_6O in a process which required breaking two bonds on the same carbon atom. For its formation the presence of a free phenolic group in the position 4' is necessary: in O-methyl derivatives of flavanones ions of the type *a* do not occur. The split neutral



particle does not have the carbene structure; the process would not be hindered by the etherification of the phenolic group. Therefore, the neutral particle has to be formulated as quinonemethide *b* or as tropolone *c*. A shift of the phenolic hydrogen into the aromatic ring or even into the *benzylic*-position has to be assumed.

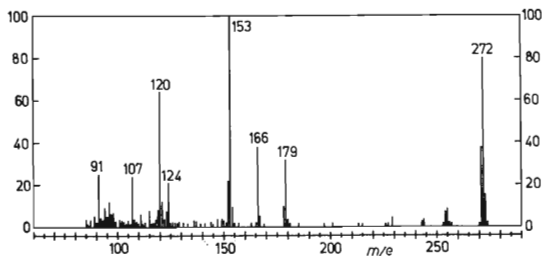


FIG. 1
Mass Spectrum of Naringine

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