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NEW RING ISOMERIZATION OF FLAVONES

CONVERSION OF 7-METHYL-WOGONIN INTO 7-METHYL-OROXYLIN A

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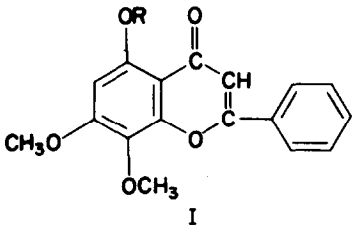
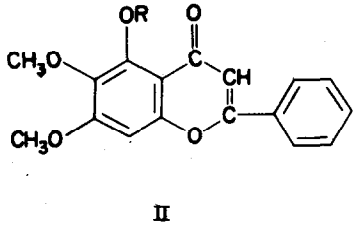
IT is known that in the case of flavones, the Wessely-Moser[1] ring isomerization affords only compounds with free hydroxyl groups, since besides isomerization, also all ether groups are split on the effect of hydrogen iodide participating in the reaction.

In our experiments, ring isomerization was carried out with potassium ethylate. In this way, we succeeded in converting 7-methyl-wogonin[2] (I; R=H) into 5-hydroxy-6,7-dimethoxy-flavone, 7-methyl-oroxylin A[3] (II; R=H) on preserving all ether groups in an intact manner. Benzylation of



I



II

5-hydroxy-7,8-dimethoxy-flavone (I; R=H) a compound which can readily be produced, gave 5-benzyloxy-7,8-dimethoxy-flavone (I; R=$C_6H_5CH_2$, m.p. 135-136°.

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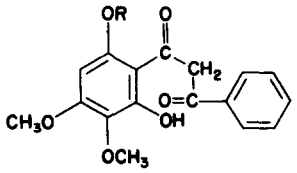
[1] F. Wessely and G.H. Moser, Monatsh. 56, 97 (1930).

[2] R.C. Shah, C.R. Mehta and T.S. Wheeler, J. Chem. Soc. 1555 (1938).

[3] G. Bargellini, Gazz. Chim. Ital. 49, 47 (1919).

On the effect of potassium ethylate, the benzyle derivate converted into 2-hydroxy-3,4-dimethoxy-6-benzyloxy-dibenzoyl-methane (III; R=$C_6H_5CH_2$, m.p. 147°).



III

The catalytic debenzylation of this latter compound led to 2,6-dihydroxy-3,4-dimethoxy-dibenzoylmethane (III; R=H, m.p. 99-104°) which, on treatment at 100° in vacuo, afforded in a 90% yield 7-methyl-oroxylin A[3] (II; R=H, m.p. 162-163°). This compound proved to be identical with authentic 7-methyl-oroxylin A in every respect.

Our investigations in order to extend this reaction are in progress. Our communication will shortly be published in detail in Chemische Berichte.