

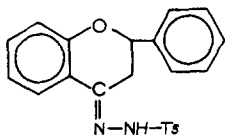
THE REACTION OF FLAVANONE, FLAVONE AND 3-HYDROXYFLAVANONE WITH TOSYLHYDRAZINE. CONVERSION OF 3-HYDROXYFLAVANONE INTO 3-HYDROXYFLAVONE.

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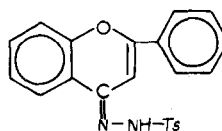
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(Received 4 May 1965)

FLAVANONE hydrazone may be prepared from flavanone and hydrazine /1/, while the corresponding carbonyl derivative of flavone has been obtained only indirectly, through 4-thionflavone /2/. When tosylhydrazine is used as the carbonyl reagent, flavanone and flavone both give the tosylhydrazones /I, II/.



I M.p. 177°5'

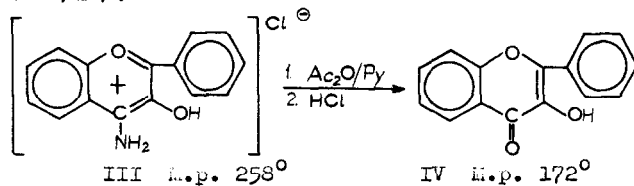


II M.p. 206°

These compounds may prove useful in the preparation of flavonoids of different states of oxidation, either by the Bamford-Stevens reaction /3/, or by reduction with complex metal hydrides /4/.

The synthesis of the tosylhydrazones has been accomplished in both cases in boiling ethanol in the presence of hydrochloric acid catalyst. The products are pale yellow crystalline compounds.

When 3-hydroxyflavanone is allowed to react with tosylhydrazine under the same conditions, *p*-toluenesulphonamide can be isolated, and a product having the structure of a 4-amino-3-hydroxy-flavylium salt /III/ is obtained. The diacetyl derivative of this compound is hydrolyzed by hydrochloric acid to afford 3-hydroxyflavone /IV/.



The product was found in all respects identical with authentic 3-hydroxyflavone prepared according to Bogdan and Rákosi /5/.

Satisfactory analyses and IR spectral data consistent with the structures given have been obtained for the three new compounds reported.

Work on the elucidation of the details of this new interesting conversion of a flavanonol into a flavonol is in progress.

We wish to thank Dr. I. Tömösközi for valuable discussions during this work, and Miss I. Egyed for performing and interpreting the infrared analyses.

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