SYNTHESIS OF NEW BENZOPYRANO-/4,3-b/-PYRIDINE RING SYSTEMS

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We have studied the reductive amination reactions of flavonoids using the Leuckart-Walach reaction.

We have found that starting from flavanone as the main product of the reaction we obtained a new compound 2-/2'-hydroxyphenyl/-4,5-diphenyl-5-H/1/-benzopyrano-/4,3-b/-pyridine.

This is due to the fact that the heterocyclic ring of the flavanone, as a result of the effect of the base, opens to form 2'-hydroxychalcone, which converts, with the enamine produced, into compound I.

This is also verified by the fact that in the presence of excess ammonium-acetate we got compound I from flavanone, and the corresponding benzotiopyrano derivatives II, III from 1-tioflavanone and its 1,1-dioxide with 2'-hydroxychalcone.

X = O I.
S II.
SO_2 III.