

Previous findings regarding the favorable influence of several amino acids resulting from protein hydrolysis have been confirmed and extended. This influence may be attributed either to a direct "activating" effect dependent upon the structural nature of these substances as α -amino acids, or to conservation of the enzyme by retarding its hydrolysis. While the hypothesis of direct "activation" exerted by α -amino compounds as such is not disproved, the results of tests with hippuric acid fail to give it any support. The results obtained in this investigation can all be explained on the basis of the conservation hypothesis alone.

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NOTES

Confirmation of the Occurrence of Linalyl Esters in Peaches.—It has previously been recorded by the present authors¹ that the odorous constituents of the peach consist chiefly of esters of the aliphatic terpene alcohol linalool, $C_{10}H_{18}O$, which is isomeric with geraniol. The evidence for this conclusion, apart from the characteristic odor of the alcohol obtained by the hydrolysis of its esters, was the fact that, when subjected to oxidation by a chromic acid mixture, it yielded an aldehyde having the properties of citral. In a recent investigation of the odorous constituents of the apple² special consideration was given to the possible presence of geraniol. It was then found that by the oxidation of the small amount of alcoholic substances resulting from the hydrolysis of the apple esters, which consisted chiefly of amyl alcohol, it was possible not only to obtain evidence of the formation of citral but also of the degradation products of the latter, which are acetone and levulinic acid.

Inasmuch as linalool, when treated with a chromic acid mixture, is first converted through intramolecular change into geraniol and then yields the same oxidation products as the latter, it was deemed desirable to confirm further the presence of linalool in the peach by an examination of the oxidation products for acetone and levulinic acid as well as for citral. For this purpose a distillate from 135 kg. of fresh peach pulp was repeatedly cohobated in a current of steam until the odorous constituents were contained in a volume of 1350 cc. The esters contained in this concentrated liquid were hydrolyzed by heating with pure sodium hydroxide in a flask provided with a reflux condenser. The alkaline liquid was then subjected to steam distillation and the distillate extracted with aldehyde-free ether. The alcoholic product thus obtained amounted to 0.2797 g. or 0.00021% of the weight of peach pulp employed. On subsequent oxidation with a chromic acid mixture and examination of the products, as described in connection with the identification of geraniol in the apple,² it was found

¹ THIS JOURNAL, 43, 1725 (1921).

² *Ibid.*, 44, 2938 (1922).

that, in addition to the previously observed formation of citral, small amounts of acetone and levulinic acid were produced.

In order to obtain further evidence of the identity of the alcohol contained in the peach with linalool, the following comparative experiment was conducted. An ethereal solution of 0.25 g. of pure linalool was first allowed to evaporate in a small pressure-flask until the solvent was completely removed and the residue then subjected to oxidation. An examination of the resulting products clearly indicated the formation of very small amounts of both acetone and levulinic acid, together with citral. The results were thus essentially the same as those obtained by the oxidation of the alcoholic constituent of the peach, and no doubt could, therefore, be entertained of the identity of this alcohol with linalool.

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The Benzene-ethoxyquinaldines.—In a recent paper on "The 6-Alkyloxyquinaldines" Gutekunst and Gray¹ write, "The 6-methoxy- and 6-ethoxyquinaldines have been mentioned several times in the literature, but we were unable to find any reference to their method of preparation."

The 5-, 6-, and 7-ethoxyquinaldines have been described by the present writer in a paper which appeared in the *Transactions of the Chemical Society* 121, 169 (1922), [see *C. A.*, 16, 1249 (1922)]. The 6-isomeride was prepared from *p*-phenetidine and acetaldehyde by the Doebner-Miller condensation.

The preparation of the 5- and 7-isomerides by this method was also examined. This involved the preparation of *m*-phenetidine, which was obtained by reduction of the corresponding nitrophenyl ether. In preparing the latter it was found, in agreement with the similar observation of the above authors for the *p*-nitrophenyl alkyl ethers, that *m*-nitrophenetole could be obtained in 70% yield by warming sodium *m*-nitrophenoxide in aqueous alcoholic solution with ethyl iodide for 5–6 hours under a reflux condenser.

The Doebner-Miller synthesis from *m*-phenetidine having proved unsatisfactory, the pure 5- and 7-ethoxyquinaldines were finally prepared by warming the sodium derivative of the corresponding hydroxyquinaldine (obtained from the amino base) with ethyl iodide in alcoholic solution under a reflux condenser.

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¹ Gutekunst and Gray, *THIS JOURNAL*, 44, 1741 (1922).