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### Further Observations on the Behavior of Vanillin Substitution Products: (a) The Perkin Reaction; (b) The Preparation of Substituted Vanillic Acids

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## REACTION OF SOME CARBONYL AND THIOCARBONYL COMPOUNDS WITH PHENYLHYDRAZINE

L. CHAS. RAIFORD AND W. T. DADDOW

When the carbonyl group is joined directly to carbon and hydrogen (aldehydic) or to carbon and carbon (ketonic) it reacts with phenylhydrazine to give the corresponding phenylhydrazone. When the radical is joined directly to nitrogen and hydrogen, as in formanilide, the products are aniline and formylphenylhydrazine. Substitution productions of formanilide behave similarly. If the radical is joined directly to nitrogen and nitrogen, as in diphenylurea, the products are aniline and a semicarbazide. The corresponding thiourea behaves similarly, and gives a thiosemicarbazide. If the reaction with the thioureas is carried out in the presence of a desulphurizing agent, guanidine derivatives are obtained.

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## FURTHER OBSERVATIONS ON THE BEHAVIOR OF VANILLIN SUBSTITUTION PRODUCTS; (a) THE PERKIN REACTION; (b) THE PREPARATION OF SUBSTITUTED VANILLIC ACIDS

L. CHAS. RAIFORD, VICTOR S. WEBSTER AND DWIGHT J. POTTER

The chlorine and bromine substitution products of vanillin previously described by Raiford and collaborators [J. Am. Chem. Soc., 52, 4576-86 (1930)] have been converted by the Perkin reaction into the corresponding cinnamic acids. When the latter are oxidized by alkaline permanganate they are converted into the original vanillin derivatives and not into the vanillic acids. To obtain the acids it has been necessary to hydrolyze the nitriles, which in turn were obtained from the oximes.

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## THE COMPOSITION OF THE UNSATURATED FATTY ACIDS OF ANIMAL TISSUES

H. G. SMITH

Very little information is available as to the composition of the unsaturated fatty acids of animal tissues, especially as regards the location of the double bonds. This is a report of preliminary ex-