244. *The Isomerism of the Oximes. Part XXXVIII. The Constitution of the Acetyl Derivatives of α- and β-Aldoximes.*

By O. L. Brady and H. J. Grayson.

The assumption has always been made that the acetyl group in the acetyl derivatives of the α- and β-aldoximes is attached to oxygen, (I) or (II), and not to nitrogen, (III) or (IV).

(I.) (II.) (III.) (IV.)

Such a structural difference in these compounds might account for the ease with which one loses acetic acid to give a nitrile. Some eight years ago this question was investigated, and since one of us has been asked what evidence was available on the point, we are putting our results on record.

The change from the tervalent to the quadrivalent state of the nitrogen atom in oxime

derivatives is marked by a pronounced shift of the absorption band of the compound towards the visible end of the spectrum. This is shown by the absorption spectra of the

FIG. 1.

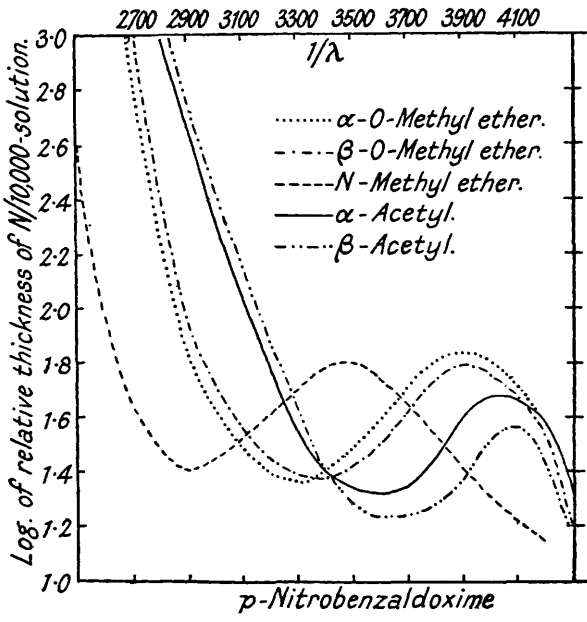
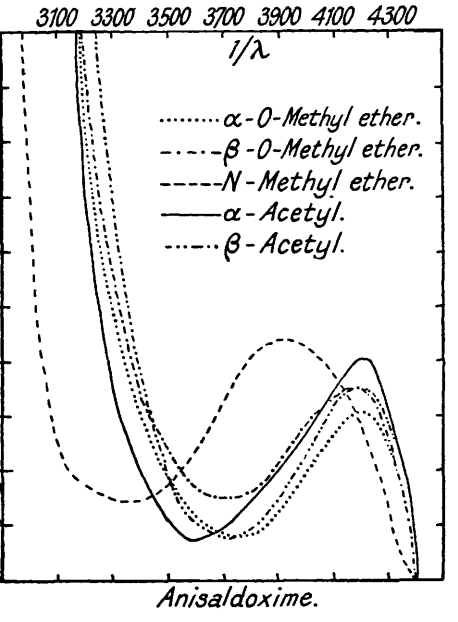


FIG. 2.



α- and β-*O*-methyl ethers, (V) and (VI), and the *N*-methyl ether (VII) (Brady, J., 1914, **105**, 2112).

R·CH ‖ N·OMe (V.)	R·CH ‖ MeO·N (VI.)	R·CH ‖ O←NMe (VII.)

From the accompanying curves for derivatives of *p*-nitrobenzaldoxime and anisaldoxime it will be seen that the absorption of the two isomeric acetyl derivatives is very similar and approximates more closely to that of the *O*-ethers than of the *N*-ether. There seems, therefore, no reason to doubt that the α- and β-acetyl derivatives are similarly constituted and have the acetyl group attached to oxygen in both cases.

UNIVERSITY COLLEGE, LONDON. [*Received, June 21st*, 1933.]