

ALLYL ETHERS OF HETEROCYCLIC ENOLS

Sir:

During research carried out in connection with the preparation of substances allied in structure to the alkaloid coniine, it became necessary to study the preparation and pyrolysis of the allyl ethers of heterocyclic enols. It is well known that α - and γ -N-heterocyclic enols show a marked tautomeric mobility of the enolic hydrogen between oxygen and nitrogen with preferential attachment to the nitrogen. The O-ethers are more difficult to prepare than the N-ethers, the best yields of the former being obtained via the silver salts or chlorine substituted derivatives.

The alkoxy ethers on heating usually undergo a rearrangement of the alkyl group, which wanders invariably to the nitrogen atom in preference to a nuclear carbon atom. One might expect that the allyl group would undergo an analogous migration [*cf.* Hurd, "The Pyrolysis of Carbon Compounds," The Chemical Catalog Company, 1929, pp. 205 and 223]. Tschitschibabin and Jeletsky [*Ber.*, **57**, 1158-61 (1924)] report having pyrolyzed O-allyl-carbostyryl into the N-isomeride.

It has been found in the course of the present work that the migration of the allyl group can occur from oxygen to the adjacent β -unsaturated carbon atom. Thus 4-allyloxyquinaldine pyrolyzes almost quantitatively on heating for a short time, at 200°, to 3-allyl-4-hydroxyquinaldine, the constitution of which has been proved by its synthesis from α -allyl- β -phenylaminocrotonic ester. This is interesting since, in the case of 4-methoxyquinaldine, migration of the methyl group takes place to the nitrogen atom [Conrad and Limpach, *Ber.*, **20**, 956 (1887)].

The significance of these results, and of those obtained with other oxy-N-heterocyclic substances, will be reported shortly in greater detail.

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NEW BOOKS

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The experience of a century has taught scientists in general and chemists in particular to expect papers of interest and pronouncements of lasting importance at the meetings of the British Association. It is hard for us to say whether the attractively published volume before us, a complete record of the Proceedings of the Chemistry Section, contains any pronouncement of an epoch-making character, but it is easy to discover that every paper is an interesting account of some of the very latest work. A scholarly dis-