Short Communications

The Structure of the Products Formed in the Reaction of β -Dialkylaminoethyl Chlorides with 2-Hydroxythiazoles

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In a paper from these laboratories some years ago ¹ a series of compounds were described, which were prepared by the reaction of a β -dialkylaminoethyl chloride with the sodium salt of a 2-hydroxythiazole (thiazol-2-one). The reaction products were thought to be 2-(β -dialkylaminoethoxy)-thiazoles (I).

However, later work in this field 2,3 has indicated that in alkylations of this type the alkyl residue enters the 3-position in the thiazole nucleus, the reaction product being an N-substituted thiazol-2-one (II). The structure of the products formed in the above reaction was therefore reinvestigated using infrared spectroscopy.

It was found that all compounds in this series showed a very strong absorbtion band in the range 1 655—1 640 cm⁻¹, which

can only be due to a carbonyl group. No absorbtion bands were observed near 1 250 cm⁻¹ and in the 1 150-1 060 cm⁻¹ region which are characteristic for aryl ethers ⁴ and which are found in the infrared spectrum of 2-methoxythiazole ³.

It can therefore be concluded that the products formed in the reaction of β -dialkylaminoethyl chlorides with the so-dium salt of a 2-hydroxythiazole are 3-(β -dialkylaminoethyl)-thiazol-2-ones (II) and not 2-(β -dialkylaminoethoxy)-thiazoles (I).

The infrared spectra were recorded in KCl discs on a Perkin-Elmer No. 21 instrument with an NaCl prism.

Dahlbom, R. Acta Chem. Scand. 7 (1953)

 Klein, G. and Prijs, B. Helv. Chim. Acta 37 (1954) 2057.

 DeStevens, G., Frutchey, A., Halamandaris, A. and Luts, H. A. J. Am. Chem. Soc. 79 (1957) 5263.

 Bellamy, L. J. The infra-red spectra of complex molecules, 2nd Ed., Methuen & Co, London 1958, p. 117.

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