

LETTERS TO THE EDITOR

THE CONVERSION OF 3-PHENYLOXAZOLIDINE INTO *p, p'*-DI(3-OXAZOLIDYL)DIPHENYLMETHANE

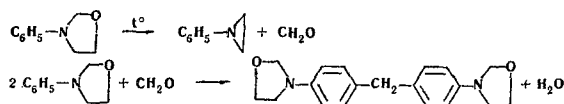
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Khimiya Geterotsiklicheskikh Soedinenii, Vol. 4, No. 1, p. 182, 1968

UDC 547.787.2

The opening of the oxazolidine ring under the action of organic acid derivatives has been reported in the literature [1].

In a study of the reaction of acetic anhydride with 3-phenyloxazolidine we isolated a colorless crystalline substance which proved, against expectation, to be *p, p'*-di(3-oxazolidyl)diphenylmethane (I). The I formed was identical with the *p, p'*-di(3-oxazolidinyl)diphenylmethane obtained from monoethylaniline and formaldehyde in the presence of hydrochloric acid. When 3-phenyloxazolidine was heated in the absence of acetic anhydride, compound I was again formed. The formation of I can apparently be represented by the following scheme.



It was impossible to isolate the *N*-phenylethylenimine formed as a by-product from the reaction mixture because of its resinification, apparently owing to its sensitivity to the action of heat, air, and various reagents [3].

It is known [4, 5] that *p, p'*-di(3-oxazolidinyl)diphenylmethane is the basis of phenol-oxazolidine moulding materials. The transformation of 3-phenyloxazolidine into *p, p'*-di(3-oxazolidinyl)diphenylmethane that we have observed makes it possible when necessary to obtain these materials directly from 3-phenyloxazolidine. Moreover, the formaldehyde liberated during the reaction may accelerate the process.

***p, p'*-Di(3-oxazolidinyl)diphenylmethane.** A mixture of 10 g (0.07 mole) of 3-phenyloxazolidine and 10 ml (0.1 mole) of acetic anhydride was heated at 120°–130° C for 2 hr. After cooling, the mixture set to a light brown viscous mass. The crystals that deposited were separated off and recrystallized from ethanol. Yield 6.9 g (33%), mp 142° C. Found, %: N 9.10, 9.04. Calculated for C₁₉H₂₂N₂O₂, %: N 9.03.

A mixture with an authentic sample obtained by Petrov and Gosteva's method [3] melted without depression. The IR spectra of the two samples were identical.

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11 November 1966

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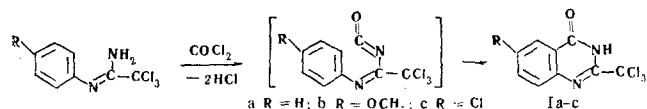
A NEW METHOD OF OBTAINING 4-QUINAZOLONES

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Khimiya Geterotsiklicheskikh Soedinenii, Vol. 4, No. 1, pp. 182–183, 1968

UDC 547.856.1

The action of phosgene on *N*-arylamidines in toluene gives 4-quinazolones in quantitative yields. The reaction probably takes place with the formation of isocyanates of carbimide acids which are immediately converted into 4-quinazolones (cf. [1, 2])



For example, a solution or a suspension of 0.2 mole of the amine in toluene is added slowly with stirring to a solution 0.04 mole of phos-

gene in 20 ml of anhydrous toluene cooled to –15° C. With the continuous passage of phosgene, the reaction mixture is gradually heated to 130°–140° C (bath temperature) and is kept there for 1 hr. The solvent is distilled off in vacuum to half the original volume and the 4-quinazolone that has precipitated is separated off, washed with ether, and dried. Yield 90–93%.

2-Trichloromethyl-4-quinazolone (Ia), mp 211°–212° C; the compound gave no depression of the melting point in admixture with a sample that we had obtained previously [1].

6-Methoxy-2-trichloromethyl-4-quinazolone (Ib), mp 206°–207° C (from a mixture of methanol and water). Found, %: C 41.29; H 2.43. Calculated for C₁₀H₇Cl₃N₂O₂, %: C 40.91; H 2.40.