

Reissert Compound Studies: a Phthalazine Reissert Compound¹

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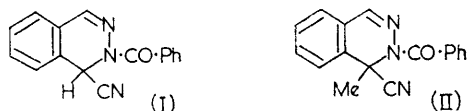
A WIDE variety of Reissert compounds² have been prepared from quinolines³ and isoquinolines⁴ and their value as synthetic intermediates demonstrated. We now report the first synthesis of a Reissert compound from a diaza-heterocyclic compound.

Reaction of phthalazine (0.05 mole), benzoyl chloride (0.2 mole), and potassium cyanide (0.2 mole) in methylene chloride-water⁵ gave a 55% yield of solid,* m.p. 163—164° (from ethanol), which was demonstrated to be (I) by its analysis, infrared spectra, and reactions.

Hydrolysis of (I) in concentrated hydrochloric acid in the presence of 2,4-dinitrophenylhydrazine⁶ gave a quantitative yield of benzaldehyde 2,4-dinitrophenylhydrazone, while hydrolysis with

hydrobromic acid in acetic acid⁷ gave an 89% yield of phthalazine-1-carboxylic acid hydrobromide,* m.p. 198—200°.

Treatment of (I) with methyl iodide and sodium hydride in dimethylformamide⁸ gave a near quantitative yield of (II),* m.p. 143—145° (from ethanol). Hydrolysis of (II) with sodium hydroxide solution gave a near quantitative yield of 1-methylphthalazine.⁹



(Received, December 9th, 1966; Com. 973.)

* Correct analytical data has been obtained for all new compounds.

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