Reductive Cyclisation of *o*-Nitrophenyl Benzoate to 2-Phenylbenzoxazole

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Summary Triethyl phosphite has been found to react with *o*-nitrophenyl benzoate, to give 2-phenylbenzoxazole.

THE reduction of nitro-compounds by trialkyl phosphites to give nitrogen heterocycles is well known.[1] Recently, Kametani *et al.* have synthesised benzo[*c*]naphthyridines, from 3-ethoxycarbonyl-4-(2-nitrophenyl)pyridines, and oxazolo[5,4-*b*]quinolines from 4-(2-nitrobenzylidene)oxazol-5-ones by cyclisation with triethyl phosphite.[2]

We have now found that the same reagent causes a similar insertion into the carbonyl group of an *o*-nitrophenyl ester, leading, in one step, to the formation of a benzoxazole. Thus, *o*-nitrophenyl benzoate (20·0 mmole) with triethyl phosphite (60·0 mmole) in t-butylbenzene (400 mmole) (N_2 atmosphere, reflux, 2 hr.) gave 2-phenylbenzoxazole (68%). Neither a longer reaction time (7 hr.), nor an excess of triethyl phosphite (90·0 mmole), raised the yield significantly.

We thank Professor J. I. G. Cadogan for his interest and helpful discussions.

(*Received, May 12th*, 1969; *Com.* 659.)

[1] J. I. G. Cadogan, *Quart. Rev.*, 1968, **22**, 222.
[2] T. Kametani, T. Yamanaka, and H. Ogasawara, *J. Chem. Soc.* (*C*), 1969, 385.