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Keyphrases

Peyote alkaloids
Peyonine structure determination
Mass spectrometry
IR spectrophotometry—structure
UV spectrophotometry—structure
NMR spectrometry

Remarks on Synthesis of Benzofurans

Sir:

A recent note in this Journal by P. K. Sharma *et al.* (1) reported the synthesis of several substituted benzofurans. It appears, however, that there are some discrepancies in this report worthy of further mention.

The authors describe the reaction of benzyl bromide with hydroxymethyl propiophenone,[1] and *p*-nitrobenzyl bromide with 2-hydroxypropiophenone and 2-hydroxy-3-aceto-6-methylpropiophenone to yield, respectively, 4-methyl-6-phenylbenzofuran, 2-(*p*-nitrophenyl)benzofuran, and 2-aceto-5-methyl-7-nitrophenylbenzofuran. The products to be expected (2) in the first two cases, respectively, are 2-phenyl-3-ethyl-5-methylbenzofuran and 2-(*p*-nitrophenyl)-3-ethylbenzofuran, while in the third case the product might be expected to be 2-(*p*-nitrophenyl)-3-ethyl-4-methyl-7-acetylbenzofuran and/or 2-(*p*-nitrophenyl)-3,6-dimethyl-7-propionylbenzofuran. On first consideration the discrepancies appear to be one of nomenclature (2, 3), but additional contemplation reveals the problem to be an error on the part of the authors. Utilizing the reactants and conditions stated it is impossible to obtain the products alleged. Since the authors offer no analytical data or spectra to substantiate their claims, it is doubtful as to the true nature of the products. For example, the authors report the melting point of their alleged 2-(*p*-nitrophenyl)benzofuran to be 193°, while the literature value (4), substantiated by a good carbon–hydrogen analysis, is 182°. Indeed, in view of the same literature report (4), the reaction between benzyl bromide and hydroxymethyl propiophenone might *not* be expected to proceed under the *mild* conditions described, but might terminate at the benzyloxy stage.[2] Finally, the structure depicted for their alleged compound 2-aceto-5-methyl-7-nitrophenylbenzofuran is actually 1-methyl-4-acetyl-8-nitro*di*benzofuran (2).

[1] Private communication from P. K. Sharma, reveals that 2-hydroxy-5-methyl propiophenone is the "hydroxymethyl propiophenone" described.

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[2] P. K. Sharma notes in a private communication that potassium hydroxide, not potassium carbonate as reported, was used.

Keyphrases

Benzofurans—synthesis
Product identity (published) questioned