The Reaction of *o*-Carboxybenzenediazonium Salts with Carbonyl Compounds

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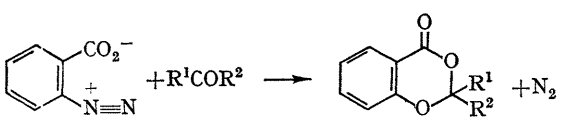
Summary 1,3-Benzodioxan-4-ones are obtained from *o*-carboxybenzenediazonium salts and carbonyl compounds.

o-CARBOXYBENZENEDIAZONIUM salts, as such or in the form of the inner salt (I), react with aliphatic, water-soluble ketones or aldehydes (R^1COR^2, with R^1,R^2 = H or n-alkyl) in aqueous solution giving 1,3-benzodioxan-4-ones (II):



(I) (II)

The reaction takes place at room temperature or slightly above (preferably at 40—50°) even on using the acid solution resulting from the diazotisation of anthranilic acid. A solution of the diazonium salt prepared from anthranilic acid, sodium nitrite, and of 6M-hydrochloric acid is mixed with acetone and water (10 : 1). The temperature is then gradually raised and kept at 40—50° for 3 hr. The compound (II; $R^1 = R^2 = Me$), m.p. 58—59,[1] is obtained by distillation of the neutral part at 56—59°, 0·1 torr. Phenol, salicylic acid, and benzoic acid are also formed.

The reaction appears to be a general one. Higher homologues with R^1 and/or R^2 = H or alkyl have been prepared.

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[1] D. T. Mowry, W. H. Yanko, and E. I. Ringwald, *J. Amer. Chem. Soc.*, 1947, **69**, 2358.