

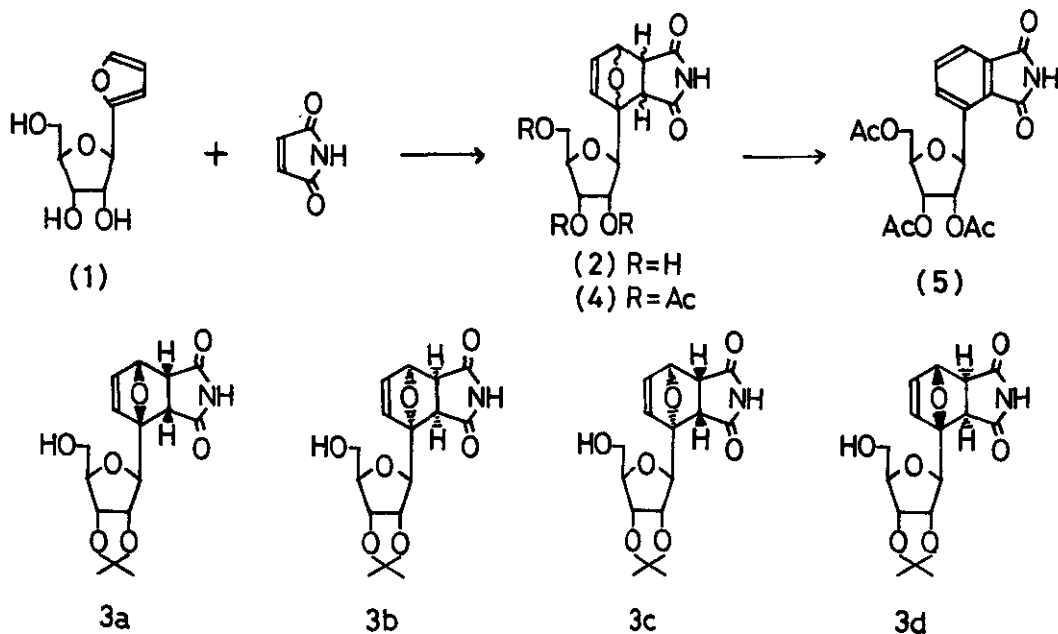
SYNTHESIS OF THE PHTHALIMIDE C-NUCLEOSIDE,
A BENZOLOGUE OF SHOWDOMYCIN

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Recently, we reported that the conversion of the furan ring of 2-(2,3,5-tri-O-benzoyl- β -D-ribofuranosyl)furan into pyridazine ring was performed by the Clauson-Kaas method to give the novel C-nucleosides, 3- β -D-ribofuranosylpyridazine and 3- β -D-ribofuranosyl-4,5-dihydro-6(1H)-pyridazinone.¹ We would now like to report the synthesis of a benzologue of Showdomycin (2- β -D-ribofuranosylmaleimide) from 2- β -D-ribofuranosylfuran (1).

Cycloaddition of (1) with maleimide followed by the treatment with acetone/TsOH gave four diastereomeric mixture (3). The formation of endo-adducts (3a and 3b) and exo-adducts (3c and 3d) in the ratio of 11:1 shows the stereoselective addition of maleimide to the glycosylfuran. Aromatization of (4) with sulfuric acid provided 3-(2,3,5-tri-O-acetyl- β -D-ribofuranosyl)phthalimide (5). The details of the synthesis, and ¹H NMR and ¹³C NMR spectra of the reaction products will be discussed.



¹ I. Maeba, F. Usami and H. Furukawa, J. Org. Chem., "accepted"