

SYNTHESIS OF ANALOGS OF OLIGOURIDYLIC ACID

D. Ē. Zarin'

The alkylation of silyl derivatives of uracils with diethyl bromomalonate and reduction of diethyl 1-uracilylmalonate were studied in order to obtain 1-(1,3-dihydroxy-2-propyl)uracil, which is the starting compound for the synthesis of symmetrical analogs of oligouridylic acid. The possibility of selective tritylation of one of the hydroxy groups in 1-(1,3-dihydroxy-2-propyl)uracil was established. Preparative methods for the synthesis of phosphate esters of 1-(1,3-dihydroxy-2-propyl)uracil were developed. The mechanism of the formation of a phosphoric acid diester bond in the synthesis of an analog was investigated by pulse ^{31}P NMR spectroscopy, and it is shown that the synthesis of the diester can be realized by means of both dicyclohexylcarbodiimide and 2,4,6-triisopropylbenzenesulfonyl chloride. In the reaction of the latter the formation of a triester also was recorded. The mechanism of the reaction does not differ substantially from the mechanism of natural dinucleoside monophosphates. Analogs of oligouridylic acid from the dimer to oligomers with a degree of polymerization ranging from nine to 10 were obtained by polycondensation of 1-(1,3-dihydroxy-2-propyl)uracil phosphate and were fractionated with respect to their molecular weights.

Institute of Organic Synthesis, Academy of Sciences of the Latvian SSR; scientific supervisor R. A. Zhuk.

NITRO AND AMINO DERIVATIVES OF 1-THIAINDENYL AND 1-THIAINDANYL SULFONES AND SYNTHESSES BASED ON THEM

A. Kh. Kadyrov

The nitration of alkyl-1-thiaindene and 1-thiaindan 1,1-dioxides with concentrated nitric acid, mixtures of nitric and acetic acids, and potassium or ammonium nitrate and sulfuric acid was studied. Mononitro derivatives are formed in high yields in the nitration of 1-thiaindene and 1-thiaindan 1,1-dioxides with potassium or ammonium nitrate in sulfuric acid. The optimum conditions for the preparation of dinitro derivatives of 1-thiaindene 1,1-dioxides were worked out. Mononitro-1-thiaindene and 1-thiaindan 1,1-dioxides were reduced to the corresponding amines, and a number of the latter were synthesized. N-Arenesulfonamido-1-thiaindene 1,1-dioxides have spasmolytic activity, while 6-amino-1-thiaindene 1,1-dioxides have light- and heat-stabilizing properties for cellulose acetate.

V. I. Nikitin Institute of Chemistry, Academy of Sciences of the Tadzhik SSR; scientific supervisors Professor I. U. Numanov and I. M. Nasyrov.

STUDY OF THE NITRATING ACTIVITY OF A MIXTURE OF NITRIC ACID AND ACETIC ANHYDRIDE IN REACTIONS WITH FURAN COMPOUNDS

M. A. Trushule

This research is devoted to a study of the optimum conditions for the preparation of a mixture of nitric acid and acetic anhydride, its stability during storage, the peculiarities of its nitrating activity, and its safer use. Furan compounds were selected as model compounds. In solutions of acetyl nitrate in acetic anhydride