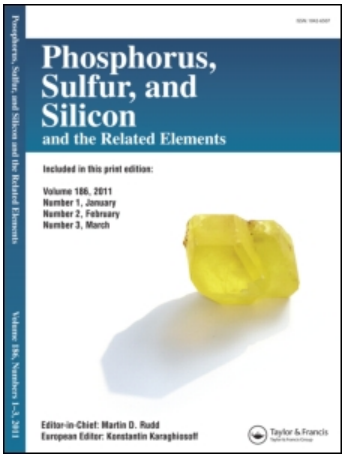

Phosphorus, Sulfur, and Silicon and the Related Elements

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Synthesis and Structural Study of 3,5-Cyclophosphorus Derivatives of 1,2-O-Alkylidene-6-Desoxy-6-Halogeno-α-D-Glucofuranoses

Svetlana B. Khrebtova[a]; Anna R. Bekker[a]; Vitalii K. Belskii[a]; Mikhail P. Koroteev[a]; Eduard E. Nifantyev[a]
[a] Moscow Pedagogical State University, Moscow, Russia

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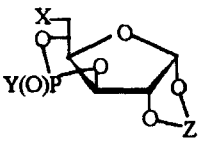
SYNTHESIS AND STRUCTURAL STUDY OF 3,5-CYCLOPHOSPHORUS DERIVATIVES OF 1,2-O-ALKYLIDENE-6-DESOXY-6-HALOGENO-α-D-GLUCOFURANOSES

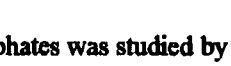
SVETLANA B. KHREBTOVA, ANNA R. BEKKER, VITALII K. BELSKII, MIKHAIL P. KOROTEEV, and EDUARD E. NIFANTYEV
Moscow Pedagogical State University, 1 M. Pirogovskaya, Moscow 119882, Russia

Reactions of 3,5-halogenocyclophosphates of 1,2-*O*-alkylidene-6-desoxy-6-halogeno-α-D-glucofuranoses with water, alcohols, and amines were studied, which permit the obtaining of corresponding 3,5-cyclophosphates, their salts, and amides:



X = Cl, Br

Y = NHR, NR_2, OR, OH, OMet

Z = 

The structure of the obtained cyclophosphates was studied by means of X-ray diffraction analysis and NMR spectroscopy. It was shown that the obtained amidophosphites have predominantly an inverse configuration, and the phosphates conserve the initial conformation.

Cis-amidophosphates can be obtained by the interaction of 3,5,6-bicyclophosphites of 1,2-*O*-alkylideneglucofuranoses with *N*-chloramines.

Phosphorinane cycles of different phosphate can have the chair conformation, as well as the boat or twist one. The furanose cycles have always the twist-envelop conformation with the C3 atom declined to the C5 atom.

The aklylating effect of glucofuranose methylcyclophosphates was revealed.

The study of the regulation of cell fission by the obtained cyclophosphates was launched.