SYNTHESIS AND STEREOCHEMISTRY OF TELOMERS OF VINYLENE CARBONATE AS SYNTHETIC INTERMEDIATES FOR CARBOHYDRATES

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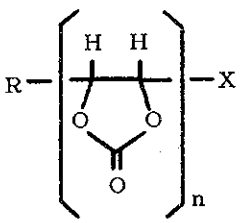
Vinylene carbonate (1,3-dioxol-2-one) underwent smooth telomerization with various polyhalogenomethanes as telogens in the presence of the radical initiator, benzoyl peroxide or azobisisobutyronitrile, to give rise to type 1, telomers, which could be synthetic key intermediates for carbohydrates. Stereochemistry of the lower telomers 1 ($n \leq 4$) stereoselectively formed and their chemical reactions involving selective reduction, nucleophilic substitution, and reductive ring opening, were described. Stereochemistry of the n = 2 telomers, 5-bromo-5'-mono-(and di-) bromomethyl-{4,4'-bi-1,3-dioxolane}-2,2'-diones was determined as trans-syn-trans and trans-anti-trans configuration by chemical correlation with the authentic 5-bromo-5-deoxy-D-lyxose and -xylose. Abnormal telomerization involving unusual hydrogen abstraction from telogens by the peroxide-derived radicals was observed in the case of bromoform and methylene bromide employed as telogens, in contrast to those of polychloromethanes.



1 : n=1, 2, 3·····

THERMAL RING EXPANSION OF 1-AZIRINES (VINYL NITRENE)

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CYCLIZATION OF β-KETOSULFOXIDE. THE SYNTHESIS OF INDOLE, BENZOTHIOPHENE AND CARBAZOLE DERIVATIVES

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PHOTOCHEMICAL RING CONTRACTION OF 3(2H)-PYRIDAZINONES

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REACTIONS OF HETERO-AROMATICS WITH BENZOYL PEROXIDE

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