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Alkoxy compounds - XXI. Synthesis, configuration, and conformation of some 5-alkoxymethyl-2,5-dialkyl-1,3-dioxanes

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Abstract

Twenty-six previously unreported 5-alkoxymethyl-2,5-dialkyl-1,3-dioxanes have been synthesized by the condensation of 2-alkoxymethyl-2-alkylpropane-1,3-diols with aldehydes. It has been shown by an analysis of the PMR spectra of these dioxanes that the 1,3-dioxanes considered are mixtures of two stereoisomers. In some cases these mixtures have been resolved into the individual isomers by vacuum fractionation in efficient columns. The configurations and conformations of the stereoisomeric 5-alkoxymethyl-2,5-dialkyl-1,3-dioxanes have been established by the NMR method; it has been shown that the lower-boiling isomers have the trans configuration and predominantly the chair conformation and the higherboiling isomers the cis configuration and predominantly an unsymmetrical boat conformation. © 1970 The Faraday Press, Inc.

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