

Investigation of conformational equilibrium in a series of some 1,3-dioxo-2-phosphorinanes

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Abstract

1. The IR spectra of certain 1,3-dioxo-2-phosphorinanes were studied under conditions of various polarities of the medium and temperatures, and it was shown that 2,4-dimethyl-2-thiono- and 2-chloro-2-thiono-1,3-dioxo-2-phosphorinanes are characterized by stabilization of one conformational form, while for 2-methyl-2-thiono-1,3-dioxo-2-phosphorinane a dynamic equilibrium of two conformers is realized with an appreciable dependence of their amounts on the dielectric permeability of the medium. 2. An equilibrium of three conformers was detected for 2-chloro-4-methyl-2-thiono-1,3-dioxo-2-phosphorinane. It was hypothesized that, together with the "chair" conformation of the ring with axial and equatorial positions of the P=S bond, the conformer with an equatorial arrangement of the P=S bond and a "boat" form of the ring participates in the equilibrium. © 1973 Consultants Bureau.

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