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Vibrational spectra and conformational isomerism of 2-phenoxy-5,6-benz-1,3,2-dioxaphosphepins

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Abstract

Using vibrational spectroscopy methods in different aggregate states and solutions with variation of the polarity of the medium, we have studied 2-phenoxy-5,6-benz-1-3,2-dioxaphosphepin and its oxo, thio, and seleno analogs. In the liquid and solutions, they exist as a conformational equilibrium of three forms: two chair forms, differing in the orientation of the phenoxyl radical, and a twist form. The population of the twist form is no more than 25%. The content of the chair conformers is determined by the solvent. In the crystal, all the compounds have the chair form with axial phenoxyl group. © 1989 Plenum Publishing Corporation.

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