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The geometric structures of phosphorus-containing heterocycles - Communication 10. A conformational analysis of 2-phenyl-1,3,2-dioxaphosphorinanes

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Abstract

1. Bond polarity parameters have been determined for the phosphorus in 2-phenyl-5,5-dimethyl-1,3,2-dioxaphosphorinanes and their phosphoryl and thiophosphoryl derivatives. 2. It has been established that the chair conformation with axial arrangement of the phenyl group is the preferred conformation in the 2-phenyl-5,5-dimethyl-1,3,2-dioxaphosphorinanes. The phosphoryl and thiophosphoryl analogs of the phosphorinanes exist as equilibrium mixtures of two chair forms, with the point of equilibrium shifted toward the conformer with equatorial arrangement of the phenyl group.

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