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Stereochemistry of seven-membered heterocycles. 3. Conformation of 5,6-dichloro-1,3-dioxacyclopent-5-enes and the planar-fragment effect

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Abstract

1. It is shown by dipole-moment measurements and IR and PMR spectroscopy that 2-R-5-6-dichloro-1,3-dioxacyclohept-5-enes ($R=C_6H_5$, $p-ClC_6H_4$, $p-NO_2C_6H_4$ and the corresponding cyclohexanone ketal exist in the flexible form; the 2-t-butyl analog exists in a chair-e-twist equilibrium depending on the polarity of the medium. 2. It is shown that a conformational planar-fragment effect occurs as a result of shielding of the C-Cl and C-H bonds in the chair form. © 1981 Plenum Publishing Corporation.

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