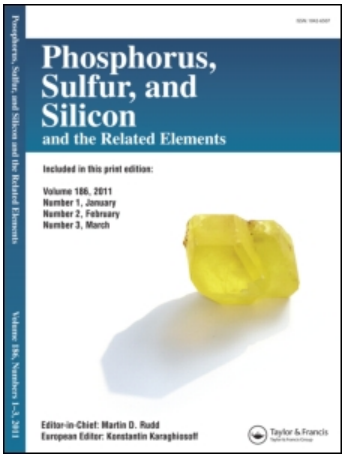

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Polarity and Conformatios of Phosphorylethylenes and Phosphorylacetates in Solution

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POLARITY AND CONFORMATIOS OF PHOSPHORYLETHYLENES AND PHOSPHORYLACETATES IN SOLUTION.

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A series of derivatives $R^1R^2P(X)R^3$, where $R^1=R^2=Ph$, $R^3=$ $-CH=CH-Me$, X=O(I); $R^1=Me$, $R^2=Ph$, $R^3=$ $-CH=CH_2$, X=O(II); $R^1=R^2=Ph$, $R^3=$ $-CH=CH_2$, X=Se(III) and $R^1R^2P(O)-CH_2C(O)OX$, where $R^1=Ph$, $R^2=$ $-CH=CH_2$, X=Ment*(IV); $R^1=Ph$-2-OMe, $R^2=Ph$, X=Ment*(V); $R^1=R^2=CH_2Ph$, X=Et(I), were investigated by means of dipole moments method. The problem of conjugation in phosphorylethylenes and conformation behaviour of phosphorylacetates was considered. DM (exp.) of (I-IV), determined in CCl_4 solution are 4.48(I), 4.27(II), 4.97(III), 4.21(IV), 5.21(V) and 4.02 D (VI). The intramolecular electronic interactions of phosphoryl group with unsaturated fragment did not displays in polarity properties of compounds (I-III). The experimental dipole moments of derivatives (I-III) are equal to the calculated values of DM. DM (IV-VI) is very sensitive to orientation of the P=O and C=O polar bonds. Because DM (exp.) of these compounds very sensitive to its orientation. DM (calc.) for cis- and trans- orientation of P=O and C=O dipoles are really different, that allows to drow the conclution that, in the contrast to the crystal state, the corresponded dipoles prefer an anti array in solution.

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