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## Polarity and Conformations of Phosphorylethylenes and Phosphorylacetates in Solution

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## POLARITY AND CONFORMATION 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 draw the conclusion that, in the contrast to the crystal state, the corresponded dipoles prefer an anti array in solution.

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