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Structure and Basicities of Aliphatic Organophosphorus Compounds

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Structure and Basicities of Aliphatic Organophosphorus Compounds

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As an extension of our previous works concerning the basicities of aliphatic phosphoric amides and phosphinoxides, the influence of structure is studied for some series of parent compounds, such as :

$XP(tBu)_3$ with X = lone pair ; O ; S ; NH .

$OP\left[N(CH_2)_x\right]_3$ with x = 2 ; 3 ; 4 ; 5 .

The techniques used here are mainly :

- determination of gas phase basicities by ion cyclotron resonance mass spectrometry ;
- determination of Broensted basicities by titration in an non-aqueous solvent system ;
- dipole moment measurements.

The results will be discussed by comparison with other series of similar compounds.

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