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Thermochemistry of heteroatomic compounds. Part 6 ☆. Enthalpy of solvation and complex formation of some halides of three-coordinated phosphorus compounds in pyridine

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Abstract

Using previously published values of the enthalpies of solvation of some derivatives of three-coordinated phosphorus compounds, the contributions of the non-specific solvation enthalpies in the general solvation effect in benzene, *p*-xylene, methanol and pyridine have been calculated. Taking into account the known possibility of intramolecular complex formation between halogenated derivatives of P^{III} and pyridine, the magnitudes of specific interaction enthalpies for PCl_3, PBr_3, $(EtO)_2PCl$,  PCl and  PBr were determinated. Thermodynamic parameters of complex formation between cyclic chlorophosphites and 1-dimethylamino-3,3-dimethyl-propan-2-one have been obtained and are discussed.

Keywords: Complexation, Enthalpy of solvation; Halide; Phosphorous; Pyridine

1. Introduction

As has been shown previously [2], the enthalpies of specific interaction between three-coordinated phosphorus derivatives and some hydrogen-donor solvents, such as chloroform, can serve to some extent as special indicators of the electron density distributions in molecules and the intramolecular interactions of the bonds. This is

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☆ For Part 5, see Ref. [1].

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