counterparts and it thus seems probable that for these complex ions, attractive dispersion forces more than compensate for the increased polar forces. Similar remarks apply to the smaller b of $[Co(CO)_4]^-$, Table 3, compared to that for $>C=O$ of Table 1.

The results presented here have clear implications for the 'atom-atom' potential formulation widely used in lattice-energy and crystal-packing programs. First, the potential energy between non-bonded atoms cannot, in many cases, be adequately represented by a spherically symmetric force field. Second, in most applications of the atom-atom method, the potential-energy parameters which are associated with an atom are assumed to be independent of its chemical environment. Since we have presented here evidence that effective non-bonded atomic shapes are environment-sensitive, it follows that atom-atom potential-energy parameters are environment-dependent also.

Further surveys for the atoms studied here, and for others, in different chemical environments, are currently being carried out in these laboratories.

Financial assistance from the Natural Sciences and Engineering Research Council of Canada is gratefully acknowledged.

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SHORT COMMUNICATION

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Acta Cryst. (1985). B41, 279

Structural investigations of phosphorus–nitrogen compounds. 1. The structures of the three monospiro compounds: $N_3P_3[O(CH_2)_2O]Cl_4$, $N_3P_3[O(CH_2)_3O]Cl_4$ and $N_3P_3[O(CH_2)_4O]Cl_4$. The relationship of OPO bond angles in PO_2N_2 tetrahedra with ^{31}P chemical shifts.

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(*Received* 3 *May* 1985)

Abstract

A printer's error is corrected. In the paper by Contractor, Hursthouse, Shaw, Shaw & Yılmaz [*Acta Cryst.* (1985). B41, 122-131], Fig. 9 shows the incorrect numbering for one atom. A corrected figure is given.

The correct numbering for molecule (3) is shown in Fig. 9.

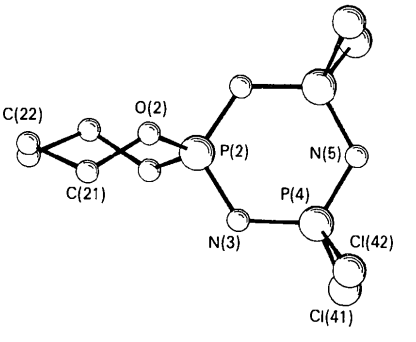

Fig. 9. Molecular diagram of (3) showing the conformation of the phosphate ring.

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