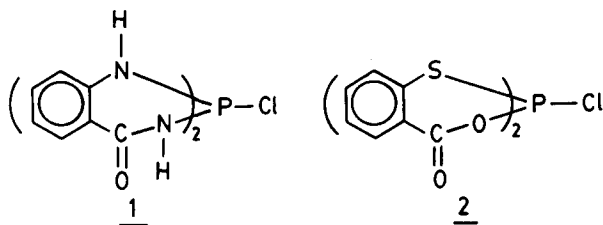


Synthesis and characterization of six-membered spirobicyclic organophosphoranes and metallophosphoranes

B N ANAND*, SURESH BERI and KUSUM AGGARWAL
Department of Chemistry, Panjab University, Chandigarh 160014, India

Phosphoranylation of O-aminobenzamide and O-mercaptobenzoic acid with pentachlorophosphorane at elevated temperature results in the isolation of some novel six-membered spirobicyclic phosphoranes **1** and **2**. These hypervalent moieties, besides containing both sulphur and nitrogen being bonded to pentacoordinate phosphorus, have an open centre of reactivity in the form of a cleavable P-Cl bond.

This centre of reactivity has been used to synthesize potential anticancer spirobicyclic organophosphoranes containing a peptide linkage. A symbiosis of transition metal and hypervalent chemistry has also been achieved by carrying out nucleophilic substitution reactions of **1** and **2** with some transition metal carbonylates. The resulting transition metal substituted spirobicyclic phosphoranes are highly reactive and undergo carbonyl substitution reactions at the transition metal centre. All the species have been characterized by ^1H , ^{31}P NMR as well as by other physico-chemical methods.



* For correspondence