

## NOVEL FLUOROPHOSPHORANES

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Compounds of the general formula  $\text{Ar}_4\text{PF}$  have been prepared from the ionic bromides  $\text{Ar}_4\text{P}^+\text{Br}^-$  via the hydrogendifluorides  $\text{Ar}_4\text{P}^+\text{HF}_2^-$ . Ionic ( $\text{Ar}_4\text{P}^+\text{F}^-$ ), molecular ( $\text{Ar}_4\text{PF}$ ), and dimeric ( $\text{Ar}_4\text{P}^+\text{Ar}_4\text{PF}_2^-$ ) forms of the monofluorophosphoranes have been prepared. Infrared and multinuclear n.m.r. spectroscopy are especially useful techniques for the characterisation of these species.

The infrared spectrum of the anhydrous form of the hydrogendifluoride  $\text{Ph}_4\text{P}^+\text{HF}_2^-$  shows evidence for the distortion of the  $\text{HF}_2^-$  ion due to ion-pairing. This compound acts as a powerful source of nucleophilic and basic  $\text{F}^-$  in solution.