

456  
MW

 $\text{C}_3\text{H}_{10}\text{FP}$ 
**Trimethylphosphine – hydrogen fluoride (1/1)**

(weakly bound complex)

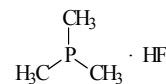
 $\text{C}_{3v}$ 

 (effective symmetry class)  
(large-amplitude motion)

$r_0$	$\text{\AA}$		
	$(\text{CH}_3)_3\text{P} \cdot \text{HF}$	$(\text{CH}_3)_3\text{P} \cdot \text{DF}$	$(\text{CD}_3)_3\text{P} \cdot \text{HF}$
$R_{\text{cm}}$	3.626(3)	3.586(3)	3.678(4)
P...F	3.121(3)	3.123(3)	3.115(4)

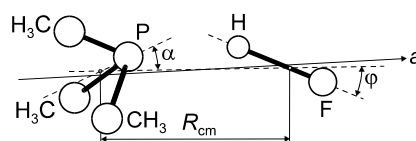
  

$\theta_0$	deg		
	$(\text{CH}_3)_3\text{P} \cdot \text{HF}$	$(\text{CH}_3)_3\text{P} \cdot \text{DF}$	$(\text{CD}_3)_3\text{P} \cdot \text{HF}$
$\alpha^a$ )	7(3)	7(3)	7(3)
$\varphi^a$ )	13.4(16)	11.2(14)	13.4(16)



The intermolecular binding energy is relatively weak; the intermolecular stretching force constant is  $17.2 \text{ N m}^{-1}$ .

<sup>a</sup>) Average value. See figure for the definition.



Cooke, S.A., Legon, A.C.: Chem. Phys. Lett. **288** (1998) 441.