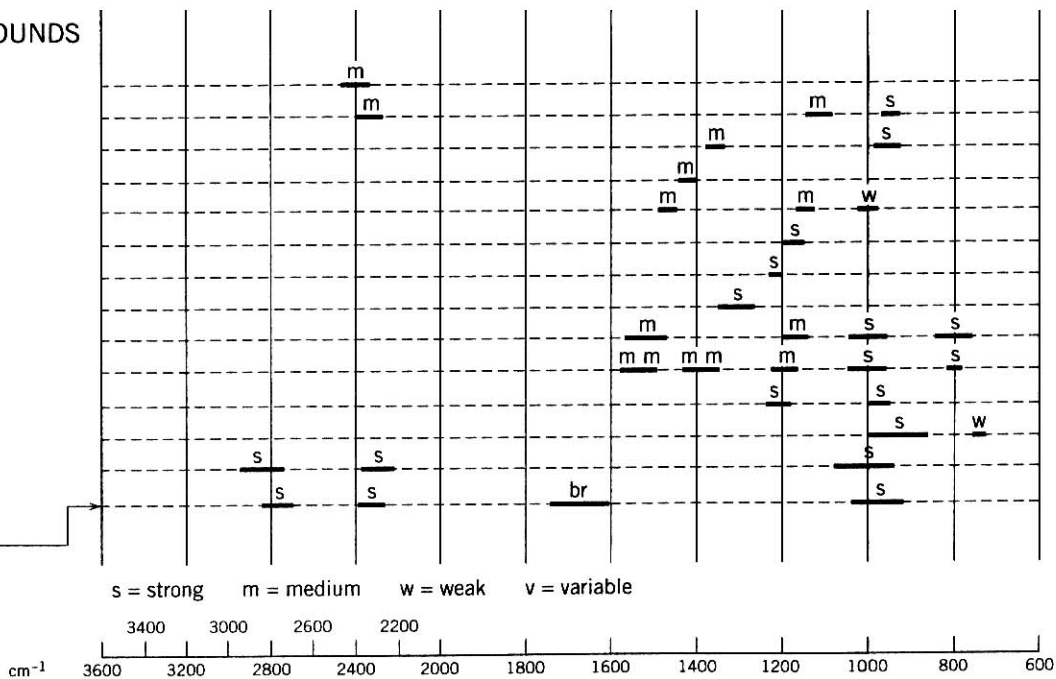


Infrared Absorptions

PHOSPHORUS COMPOUNDS

PH
 PH₂
 PCH₃
 PCH₂—
 PC₆H₅
 (Aliphatic)₃P=O
 (Aromatic)₃P=O
 (RO)₃P=O
 P—O—CH₃
 P—O—CH₂CH₃
 P—OC₆H₅
 P—O—P
 P—O—H
 $\begin{array}{c} \text{O} \\ \parallel \\ \text{P—OH} \end{array}$ (SINGLE OH)



¹H-³¹P Coupling Constants

Proton-Phosphorus

$\begin{array}{c} \text{O} \\ \parallel \\ >\text{PH} \end{array}$	630-707	
(CH ₃) ₃ P	2.7	
(CH ₃) ₃ P=O	13.4	
(CH ₃ CH ₂) ₃ P	0.5 (HCCP)	13.7 (HCP)
(CH ₃ CH ₂) ₃ P=O	11.9 (HCCP)	16.3 (HCP)
$\begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_3\text{P}(\text{OR})_2 \end{array}$	10-13	
$\begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_3\text{C}(\text{P}(\text{OR})_2) \end{array}$	15-20	
CH ₃ OP(OR) ₂	10.5-12	
P[N(CH ₃) ₂] ₃	8.8	
O=P[N(CH ₃) ₂] ₃	9.5	