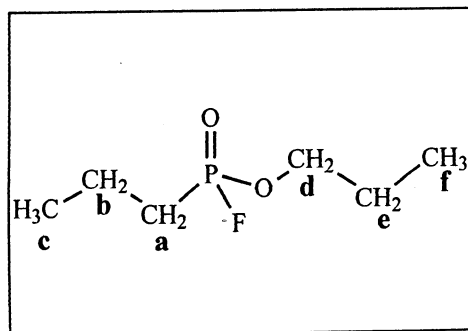


Apparatus : Bruker DPX 360  
 Frequency : 360.13 MHz  
 Temperature : 25°C  
 Pulse Width : 18  $\mu\text{s}$  (90°)  
 Repetition Time : 4 s  
 Concentration :  $\approx$  20 mg/ml  
 Solvent/Lock :  $\text{CDCl}_3/\text{CDCl}_3$   
 Reference : TMS internal  
 Spectral width : 2780 Hz  
 Data points : FID = 16K  
 SPC = 16K  
 Line Broadening : No  
 Resolution : TMS 0.5 Hz

### n-PROPYL n-PROPYLPHOSPHONOFUORIDATE

MF :  $\text{C}_6\text{H}_{14}\text{FO}_2\text{P}$  CAS :



#### ASSIGNMENT

a :  $\delta \approx 1.89$  ppm ;  $J_{\text{P-a}} = 18.6$  Hz ;  $J_{\text{F-a}} = 4.3$  Hz

$J_{\text{a-b}}$  not measured

b :  $\delta \approx 1.73$  ppm ;  $J_{\text{P-b}} = 14.4$  Hz

c :  $\delta = 1.06$  ppm ;  $J_{\text{P-c}} = 1.4$  Hz ;  $J_{\text{F-c}} = 0.8$  Hz ;  $J_{\text{b-c}} = 7.3$  Hz

d :  $\delta = 4.17$  &  $4.13$  ppm ;  $J_{\text{P-d}}$  = 9.1 & 7.6 Hz

$J_{\text{d-d'}}$  = -10.1 Hz ;  $J_{\text{F-d}}$  = 1.5 & 0.5 Hz ;  $J_{\text{d-e}} = 6.5$  Hz

e :  $\delta = 1.74$  ppm

f :  $\delta = 0.98$  ppm ;  $J_{\text{e-f}} = 7.4$  Hz