



### CYCLOHEXYL ETHYLPHOSPHONOFUORIDATE

CAS number : 7284-84-6  
 MF :  $C_8H_{16}FO_2P$   
 Solvent/Lock :  $CDCl_3/CDCl_3$   
 Nucleus :  $^{13}C$   
 Apparatus : Bruker AMX360  
 Frequency : 90.56 MHz  
 Temperature : 23°C  
 Concentration :  $\approx 40$  mg/ml

Reference : TMS internal  
 Spectral width : 8620 Hz  
 Pulse Width :  $4 \mu s$  ( $90^\circ$ )  
 Repetition Time : 1 s  
 Data points : FID = 32K, SPC = 32K  
 Line Broadning : No  
 Peak Width 1/2 height : peak 25.04 ppm 0.5 Hz

a :  $\delta = 18.09$  ppm ;  $J_{P-a} = 146.5$  Hz ;  $J_{F-a} = 24.6$  Hz  
 b :  $\delta = 6.18$  ppm ;  $J_{P-b} = 7.2$  Hz ;  $J_{F-b} = 0.8$  Hz  
 c :  $\delta = 77.32$  ppm ;  $J_{P-c} = 7.6$  Hz  
 d :  $\delta = 33.62$  &  $33.42$  ppm ;  $J_{P-d} = 3.2$  &  $5.4$  Hz ;  
 $J_{F-d} = 0.0$  &  $1.5$  Hz  
 e :  $\delta = 23.48$  ppm ;  $J_{P-e} = \# 2$  Hz  
 f :  $\delta = 25.04$  ppm

