

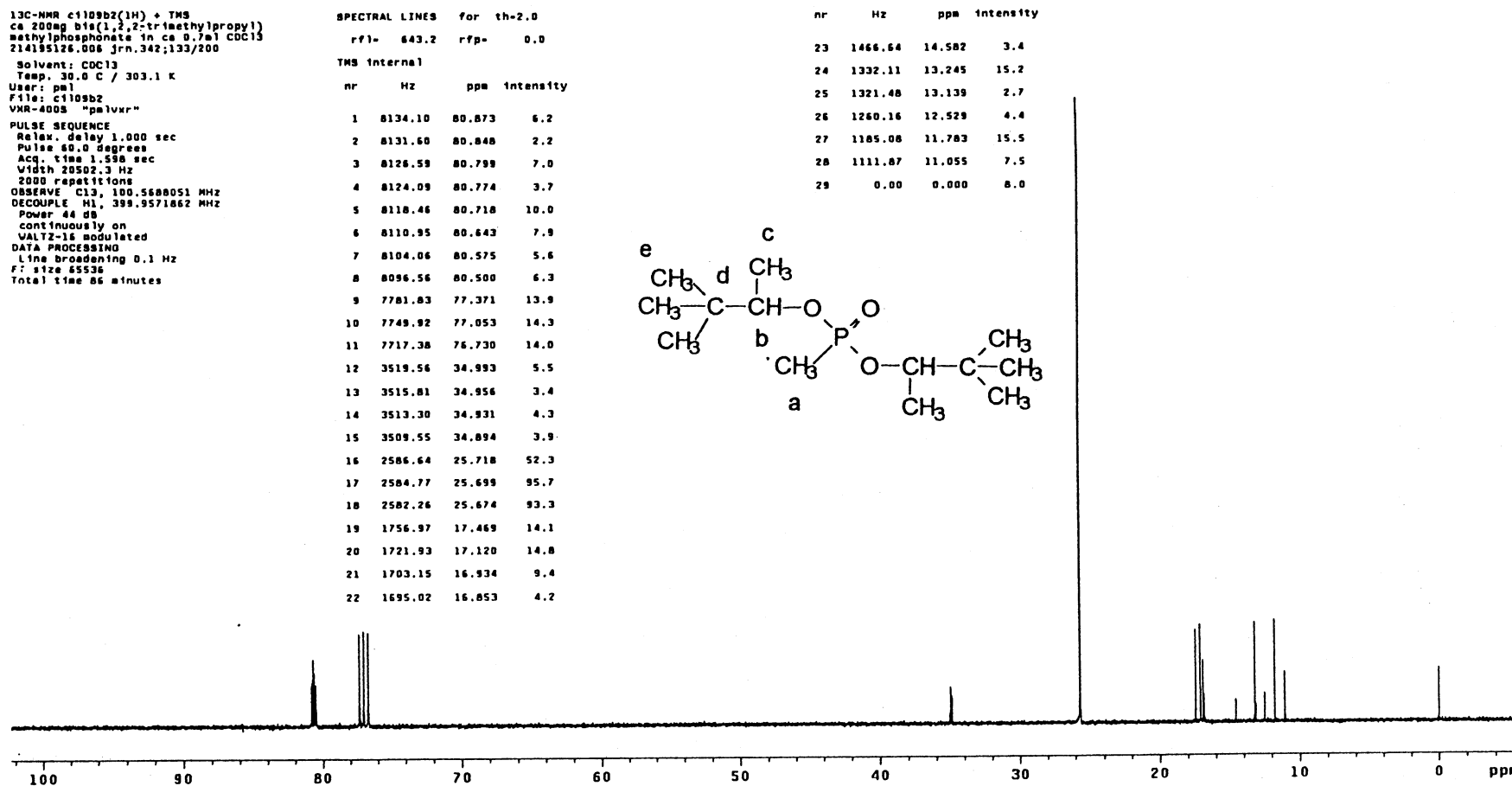
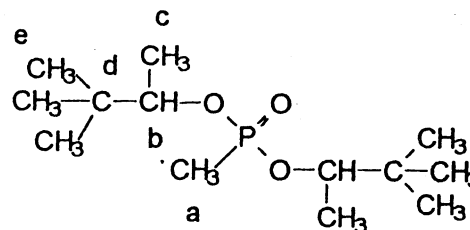
<sup>13</sup>C-NMR c1109b2(1H) + TMS  
ca 200mg bis(1,2,2-trimethylpropyl)  
methylphosphonate in ca 0.7ml CDCl<sub>3</sub>  
214195126.006 jrn.342;133/200

Solvent: CDCl<sub>3</sub>  
Temp. 30.0 C / 303.1 K  
User: pal  
File: c1109b2  
VXR-400S "palvvr"  
PULSE SEQUENCE  
Relax. delay 1.000 sec  
Pulse 60.0 degrees  
Acq. time 1.598 sec  
Width 20502.3 Hz  
2000 repetitions  
OBSERVE C13, 100.568051 MHz  
DECOUPLE H1, 399.9571662 MHz  
Power 44 dB  
continuously on  
WALTZ-16 modulated  
DATA PROCESSING  
Line broadening 0.1 Hz  
F: size 65536  
Total time 86 minutes

SPECTRAL LINES for th=2.0  
rf1= 643.2 rfp= 0.0

TMS internal  
nr Hz ppm intensity

nr	Hz	ppm	intensity
1	8134.10	80.873	6.2
2	8131.60	80.840	2.2
3	8126.59	80.799	7.0
4	8124.09	80.774	3.7
5	8118.46	80.718	10.0
6	8110.95	80.642	7.9
7	8104.06	80.575	5.6
8	8096.56	80.500	6.3
9	7781.83	77.371	13.9
10	7749.92	77.053	14.3
11	7717.38	76.730	14.0
12	3519.56	34.993	5.5
13	3515.81	34.956	3.4
14	3513.30	34.931	4.3
15	3509.55	34.894	3.9
16	2586.64	25.718	52.3
17	2584.77	25.699	95.7
18	2582.26	25.674	93.3
19	1756.97	17.469	14.1
20	1721.93	17.120	14.8
21	1703.15	16.934	9.4
22	1695.02	16.853	4.2



Bis(1,2,2-trimethylpropyl) methylphosphonate  
CAS 7040-58-6

Nucleus : <sup>13</sup>C{<sup>1</sup>H}  
Frequency : 100.6 MHz  
Concentration : ca. 200 mg/0.7 ml CDCl<sub>3</sub>  
Reference TMS internal. Resolution. : 0.7 Hz (TMS)  
Instrument : Varian VXR 400S

Temperature : 30 °C  
Spectral width : 20502.3 Hz  
Data point (FID) : 64 K  
Pulse angle : 13.2 μs (60°)  
Number of pulses : 2000  
Repetition time : 2.6 s  
Line broadening : 0.1 Hz  
Data points (spec) : 64 K

three isomers

aI: 12.5 ppm J(aIP) : 147.2 Hz  
aII: 11.8 ppm J(aIIP) : 147.8 Hz  
aIII: 13.9 ppm J(aIIIP) : 145.3 Hz  
b: 80.3-80.8 ppm  
c: 16.7-17.4 ppm  
d: 34.7-35.0 ppm  
e: 25.5-25.7 ppm