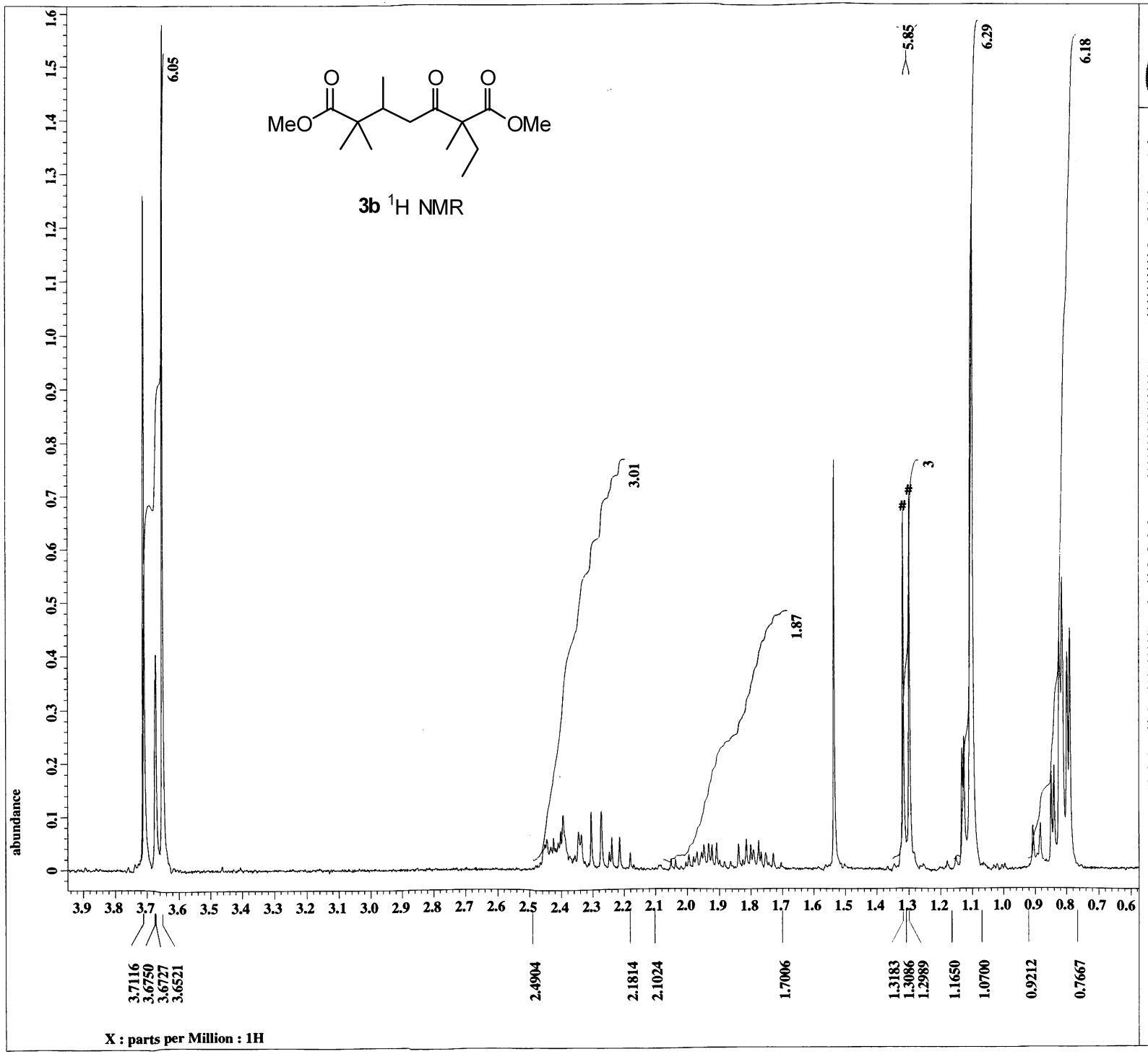
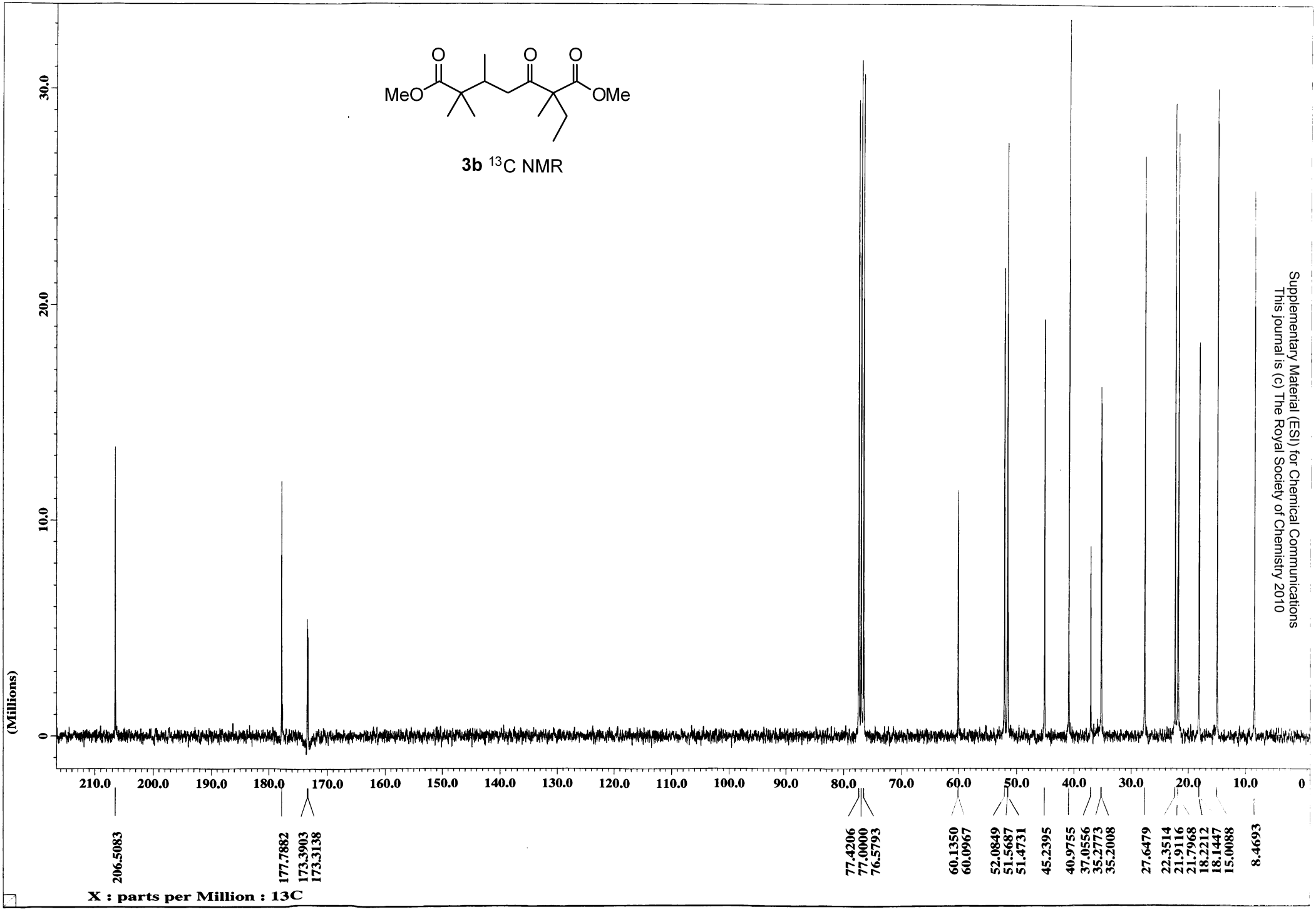
3a ^{1}H NMR
MeO
OMe
X : parts per Million : 1H
(Millions)
3.716
3.655
2.499
2.343
2.310
2.292
2.281
2.275
2.252
2.216
1.366
1.350
1.107
0.815
0.805
0.794
3.003
6.004
6.001
6.54
19.55
2.002
1

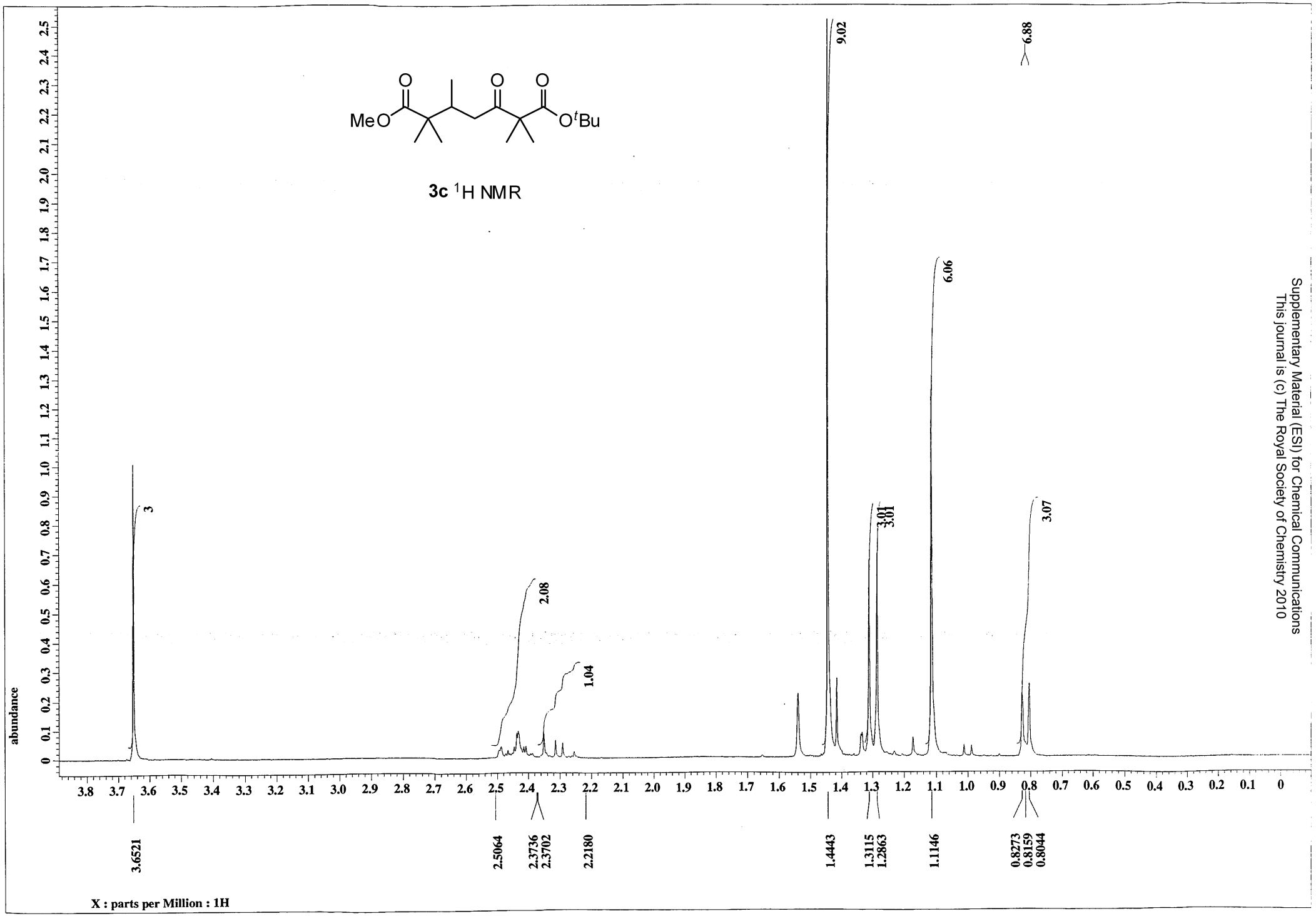
OMe
O
O
O
MeO
3a ^{13}C NMR
206.8714
177.9218
174.0211
77.4204
76.9997
76.5790
55.8516
52.3715
51.7023
45.3158
40.6502
35.4109
22.4276
22.0069
21.9304
15.0659
X : parts per Million : 13C
(Millions)

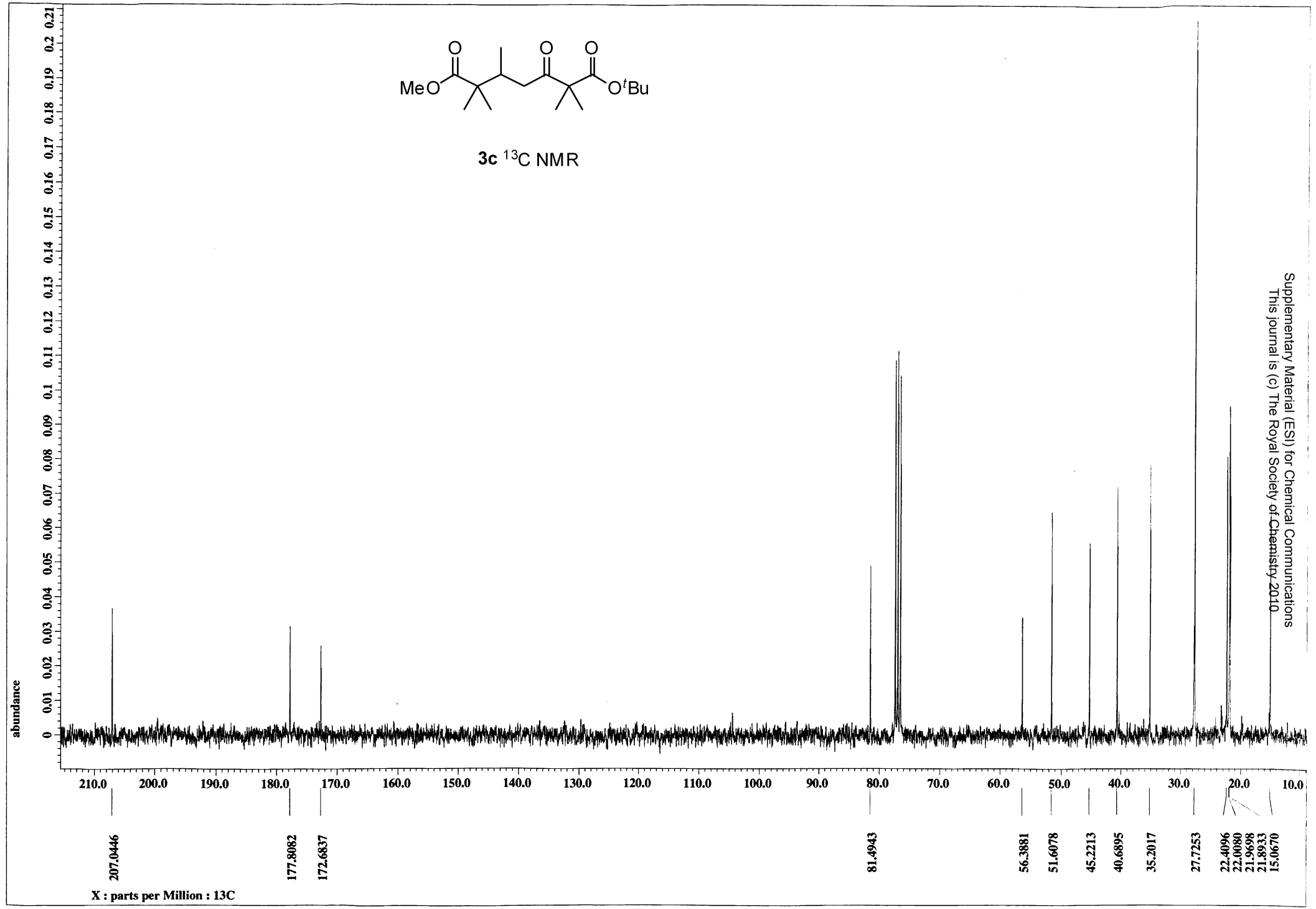


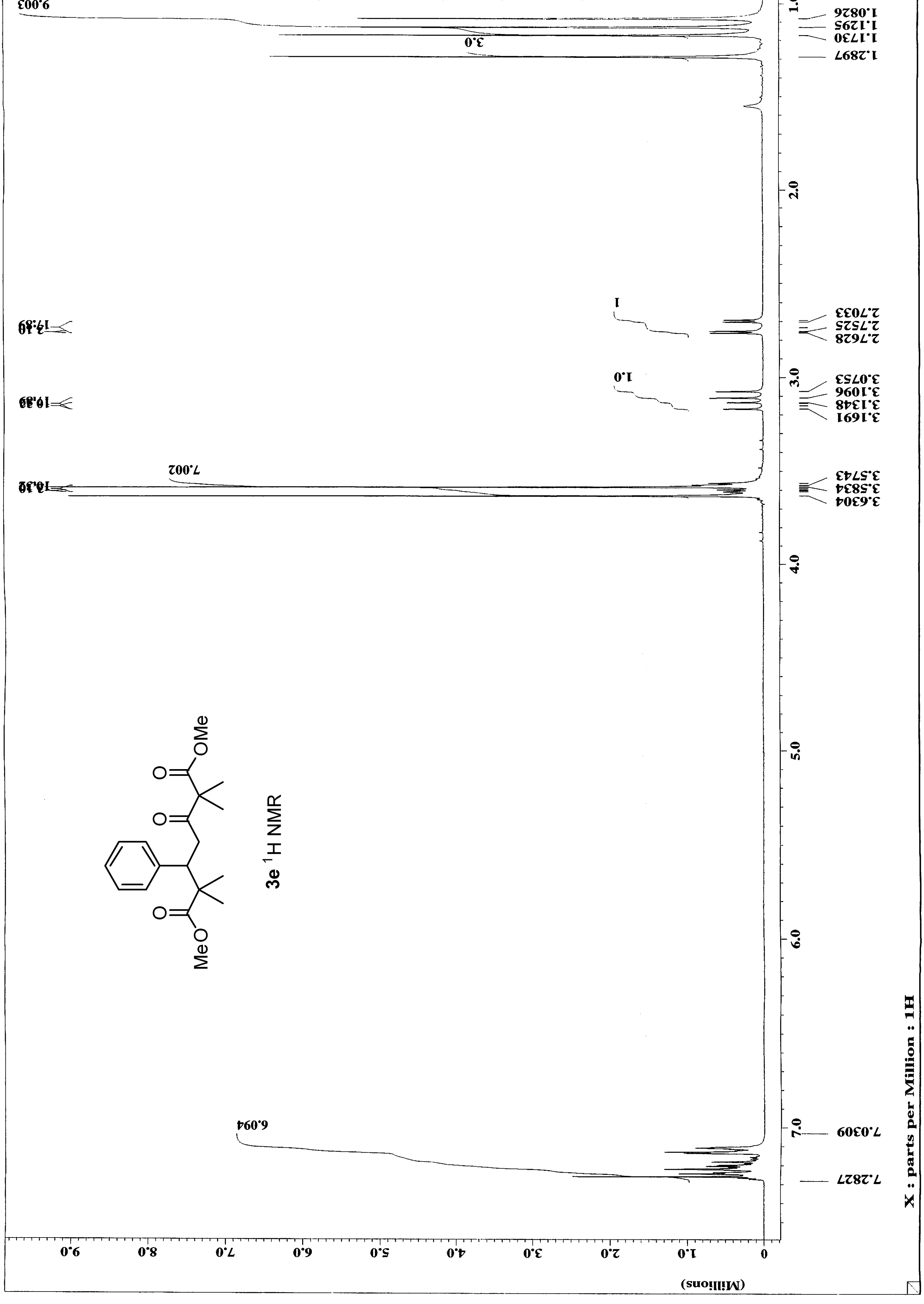
JEOL

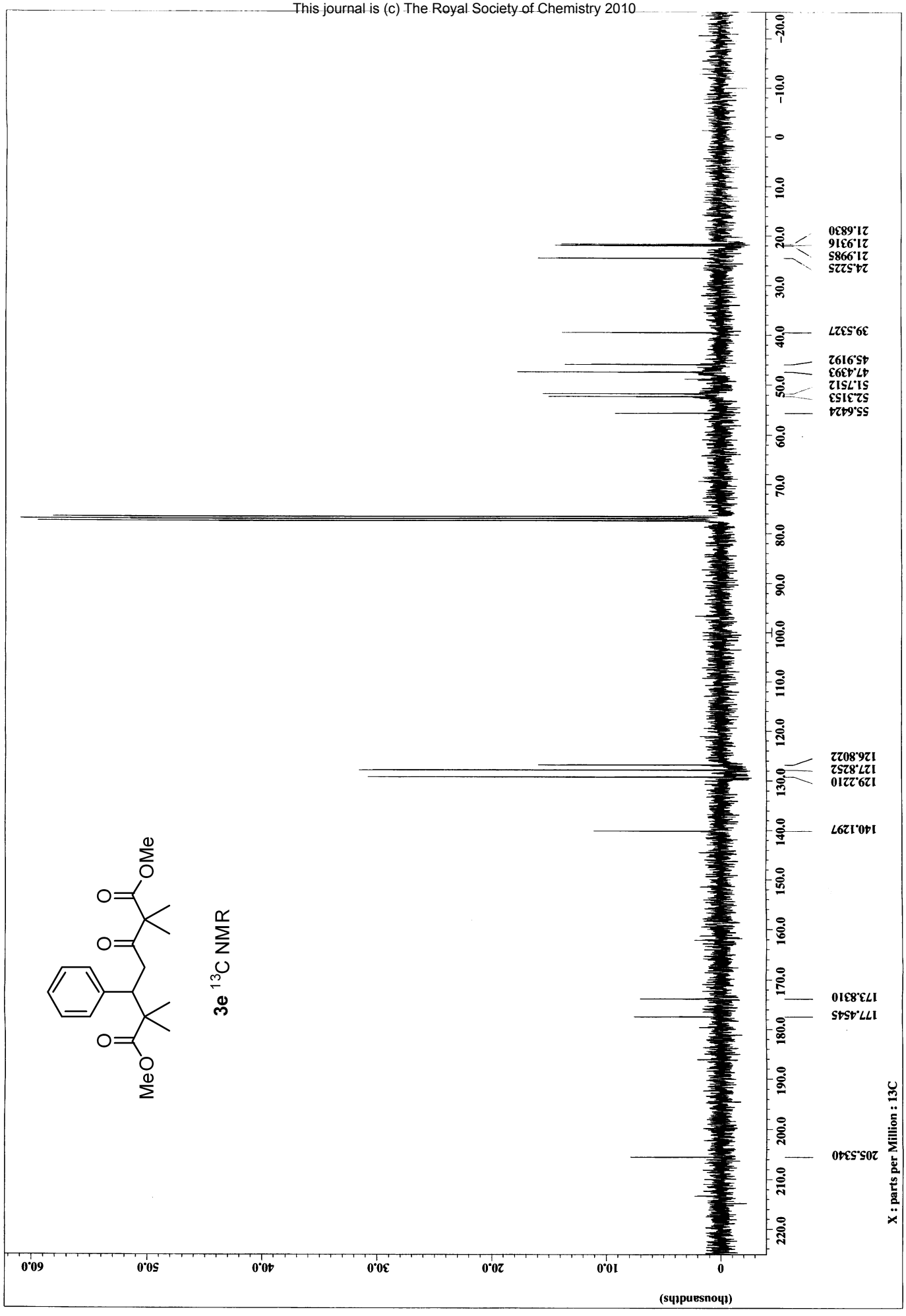
Filename	= single_pulse-2127.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= YN-382-1H
Solvent	= CHLOROFORM-D
Creation_time	= 7-APR-2009 20:14:27
Revision_time	= 7-APR-2009 20:22:41
Current_time	= 7-APR-2009 20:22:49
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 52
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 403.8[dC]

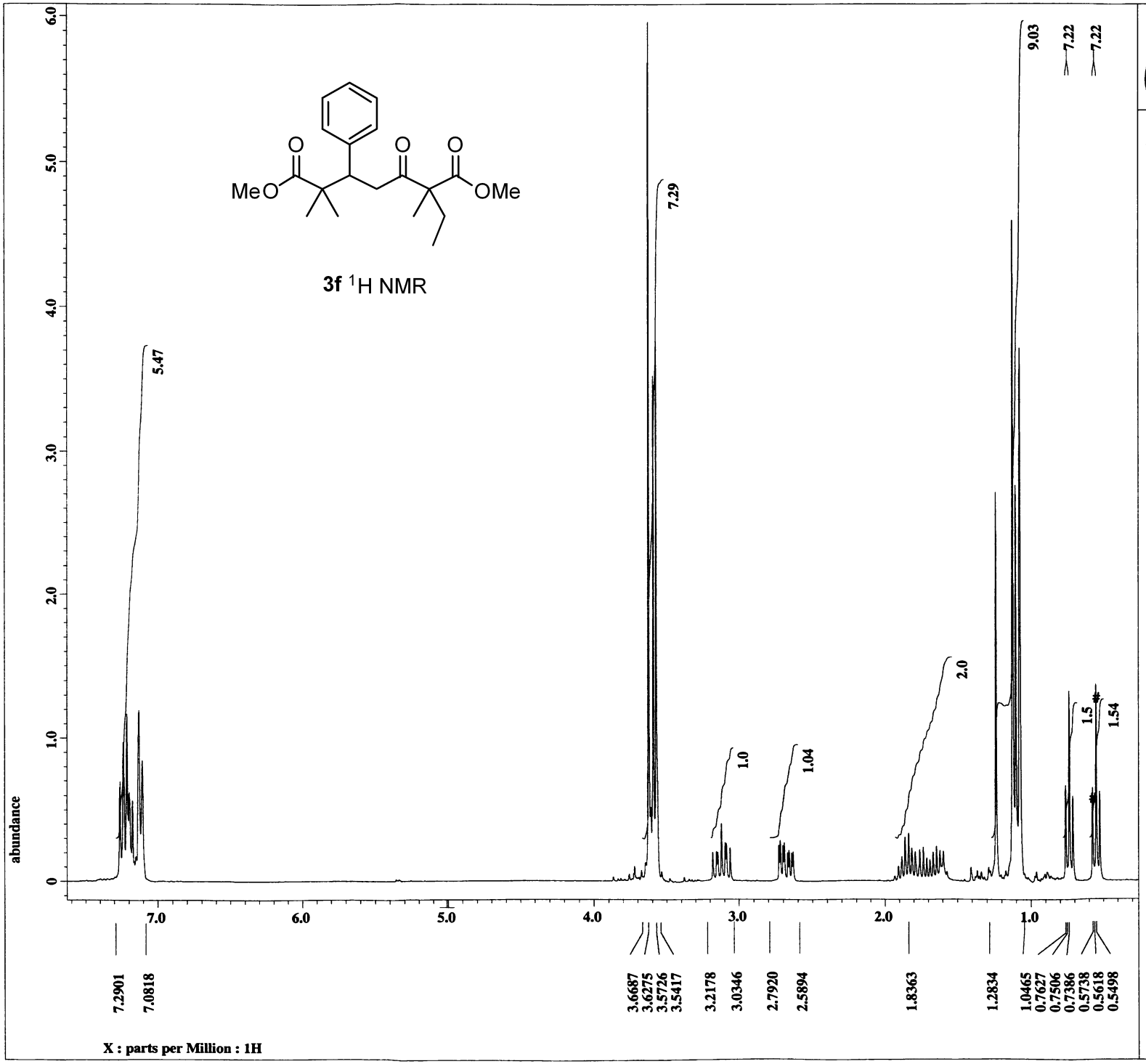

MeO
OMe
3b ^{13}C NMR
(Millions)
30.0
20.0
10.0
0
210.0 200.0 190.0 180.0 170.0 160.0 150.0 140.0 130.0 120.0 110.0 100.0 90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0 0
206.5083
177.7882
173.3903
173.3138
77.4206
77.0000
76.5793
60.1350
60.0967
52.0849
51.5687
51.4731
45.2395
40.9755
37.0556
35.2773
35.2008
27.6479
22.3514
21.9116
21.7968
18.2212
18.1447
15.0088
8.4693
X : parts per Million : 13C
Supplementary Material (ESI) for Chemical Communications
This journal is (c) The Royal Society of Chemistry 2010





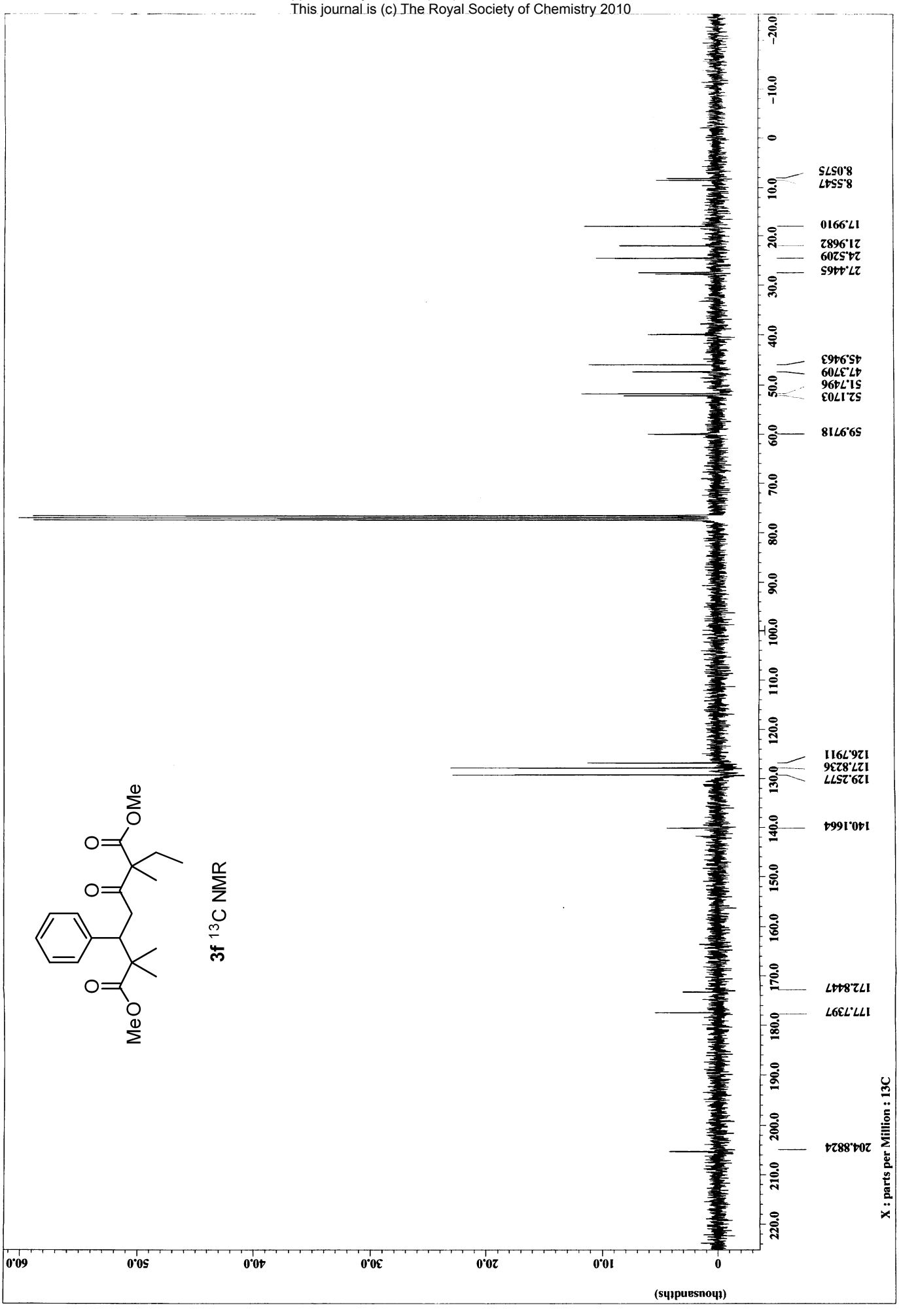


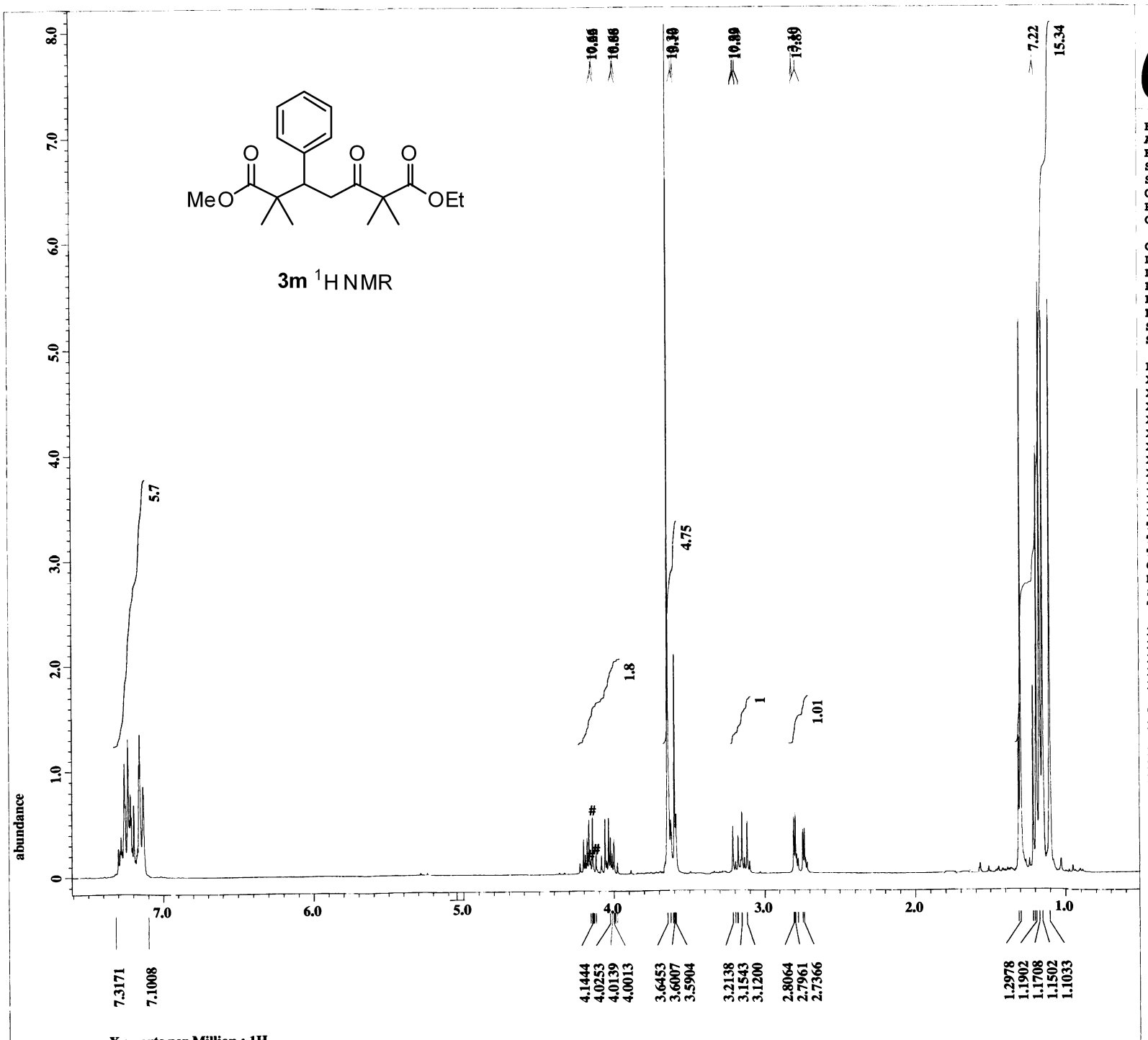

OMe
O
O
O
MeO
3e ^{13}C NMR
205.5340
177.4545
173.8310
140.1297
129.2210
127.8252
126.8022
55.6424
52.3153
51.7512
47.4393
45.9192
39.5327
24.5225
21.9985
21.9316
21.6830
X : parts per Million : 13C
(thousandths)



JEOL

Filename	= YN-340-1H-6.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= YN-340-1H
Solvent	= CHLOROFORM-D
Creation_time	= 16-MAR-2009 17:30:12
Revision_time	= 6-MAY-2009 19:42:04
Current_time	= 6-MAY-2009 19:42:27
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 44
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 25[dC]

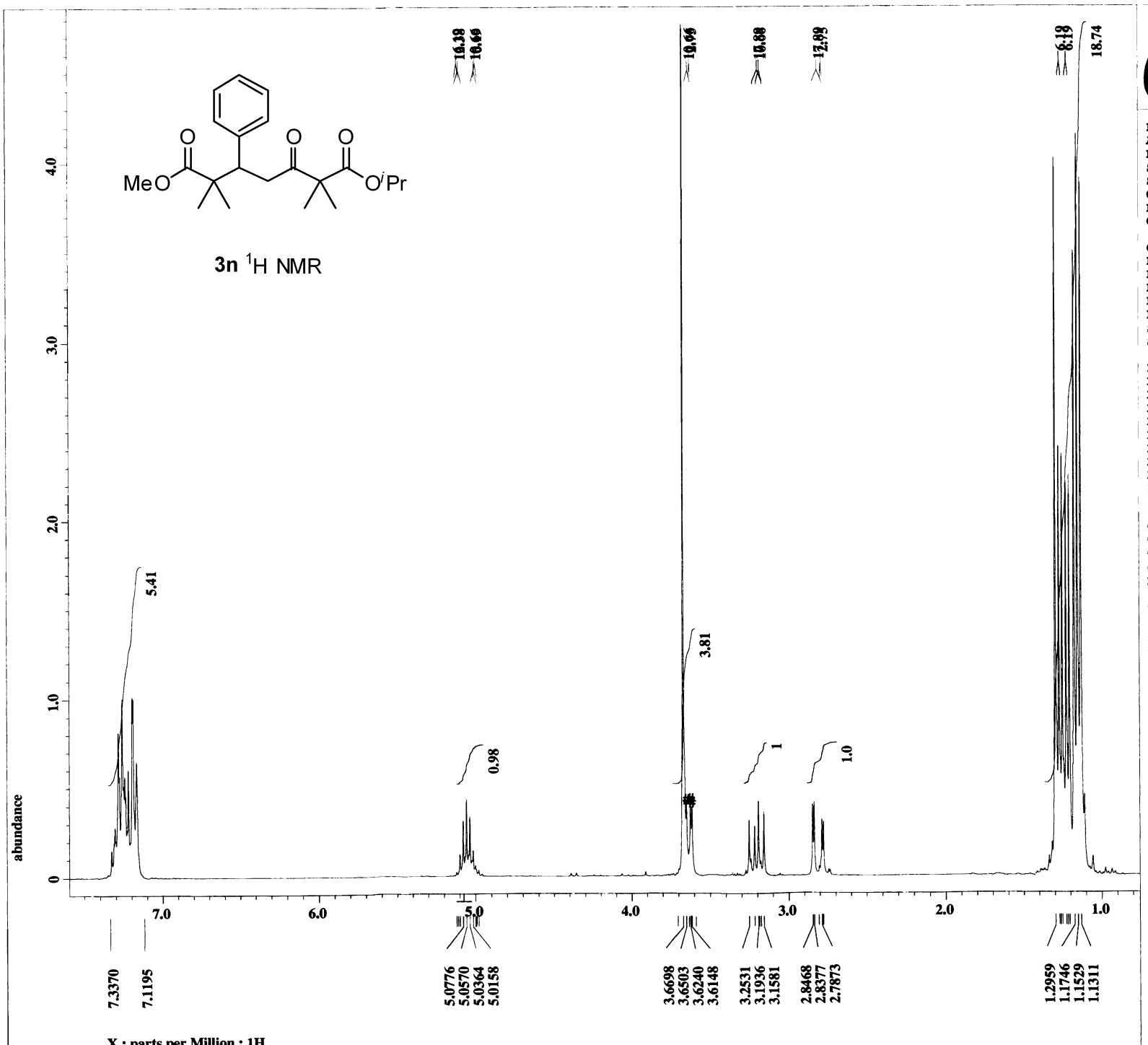

8.0575
8.5547
17.9910
21.9682
24.5209
27.4465
45.9463
47.3709
51.7496
52.1703
59.9718
126.7911
127.8236
129.2577
140.1664
172.8447
177.7397
204.8824
X : parts per Million : 13C
(thousandths)
MeO
OMe
3f ^{13}C NMR



JEOL

Filename	= HT-613-1H-3.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= HT-613-1H
Solvent	= CHLOROFORM-D
Creation_time	= 30-JUL-2009 13:37:01
Revision_time	= 26-AUG-2009 11:09:34
Current_time	= 26-AUG-2009 11:10:00
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 12.5[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 6.25[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 34
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 24.1[dC]

13.8519
21.5960
21.8828
21.9306
24.4355
39.4361
45.8609
47.2950
51.6833
52.2570
55.5554
61.1866
126.7439
127.7669
129.1532
140.0810
173.3424
177.3674
205.5522
X : parts per Million : 13C
(thousandths)
MeO
OEt
3m ^{13}C NMR

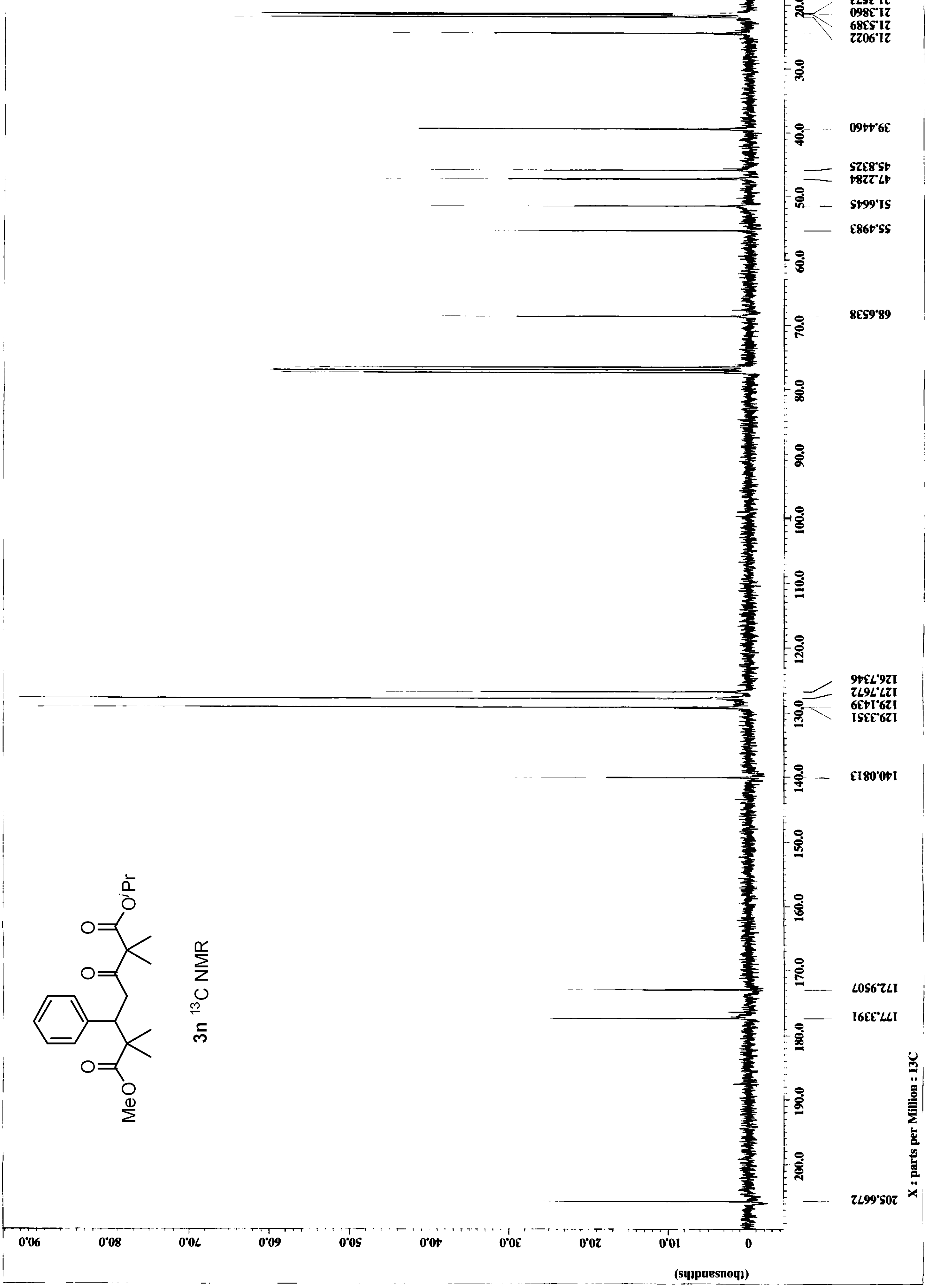


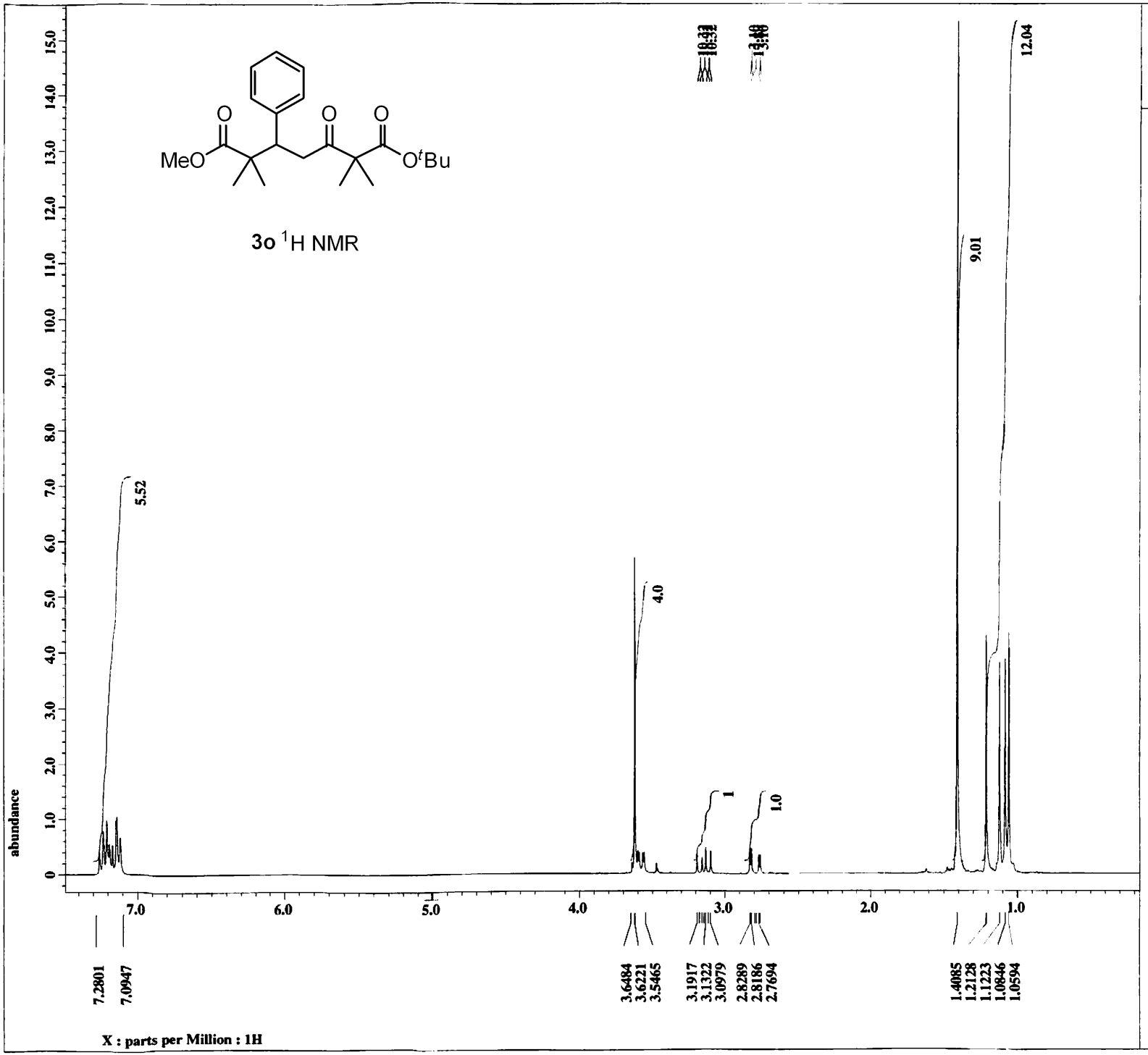
Filename = HT-612-1H-3.jdf
Author = delta
Experiment = single_pulse.ex2
Sample_id = HT-612-1H
Solvent = CHLOROFORM-D
Creation_time = 29-JUL-2009 15:00:09
Revision_time = 26-AUG-2009 16:46:28
Current_time = 26-AUG-2009 16:46:34

Comment = single_pulse
Data_format = 1D REAL
Dim_size = 13107
Dim_title = 1H
Dim_units = [ppm]
Dimensions = X
Site = ECA300 (2 JMT30-2)
Spectrometer = DELTA2_NMR

Field_strength = 7.0586013[T] (300[MHz
X_acq_duration = 2.90717696[s]
X_domain = 1H
X_freq = 300.52965592[MHz]
X_offset = 5[ppm]
X_points = 16384
X_prescans = 0
X_resolution = 0.34397631[Hz]
X_sweep = 5.63570784[kHz]
Irr_domain = 1H
Irr_freq = 300.52965592[MHz]
Irr_offset = 5[ppm]
Tri_domain = 1H
Tri_freq = 300.52965592[MHz]
Tri_offset = 5[ppm]
Clipped = FALSE
Mod_return = 1
Scans = 8
Total_scans = 8

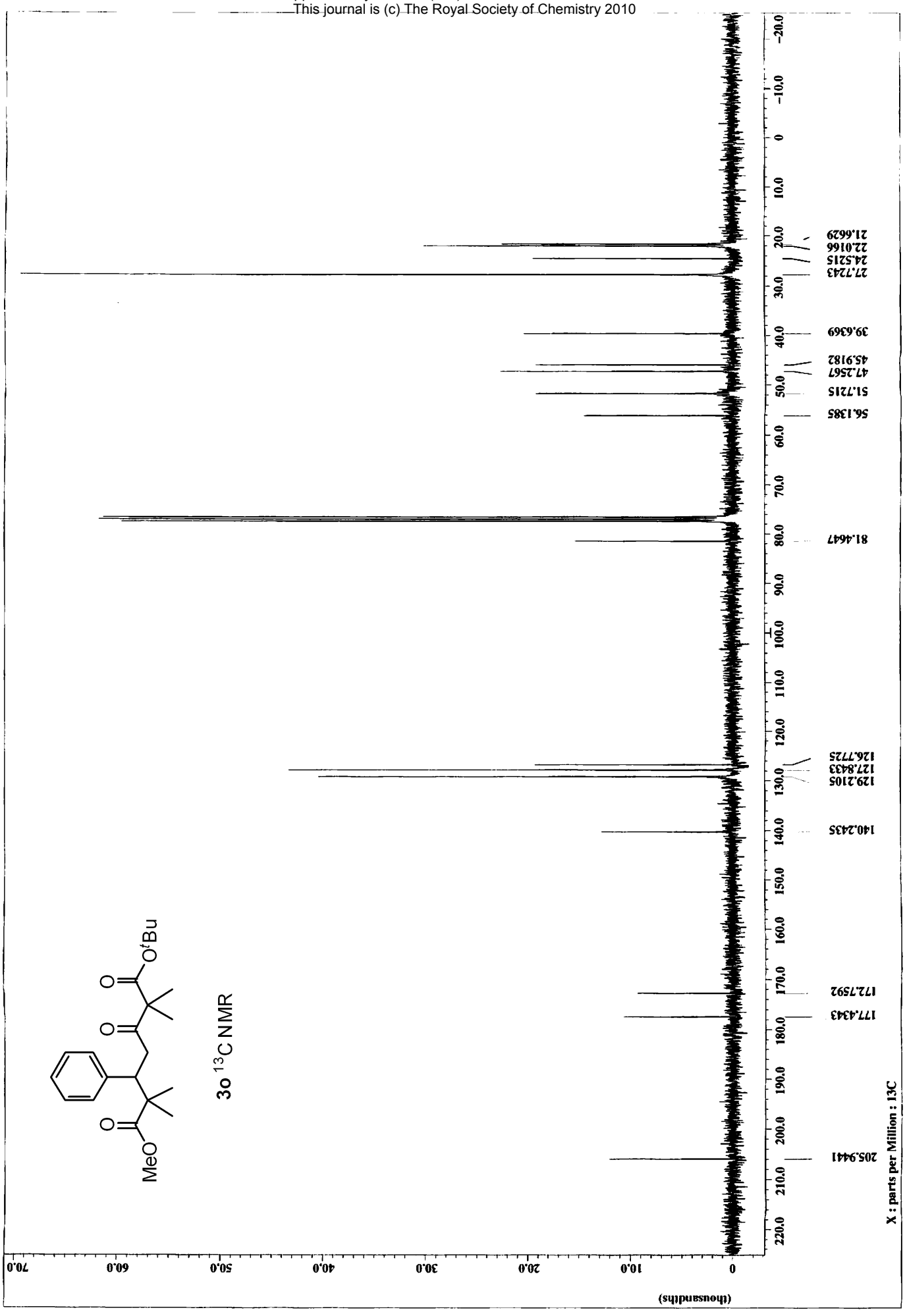
X_90_width = 12.5[us]
X_acq_time = 2.90717696[s]
X_angle = 45[deg]
X_atn = 6.4[dB]
X_pulse = 6.25[us]
Irr_mode = Off
Tri_mode = Off
Dante_presat = FALSE
Initial_wait = 1[s]
Recvr_gain = 32
Relaxation_delay = 5[s]
Repetition_time = 7.90717696[s]
Temp_get = 24[dC]

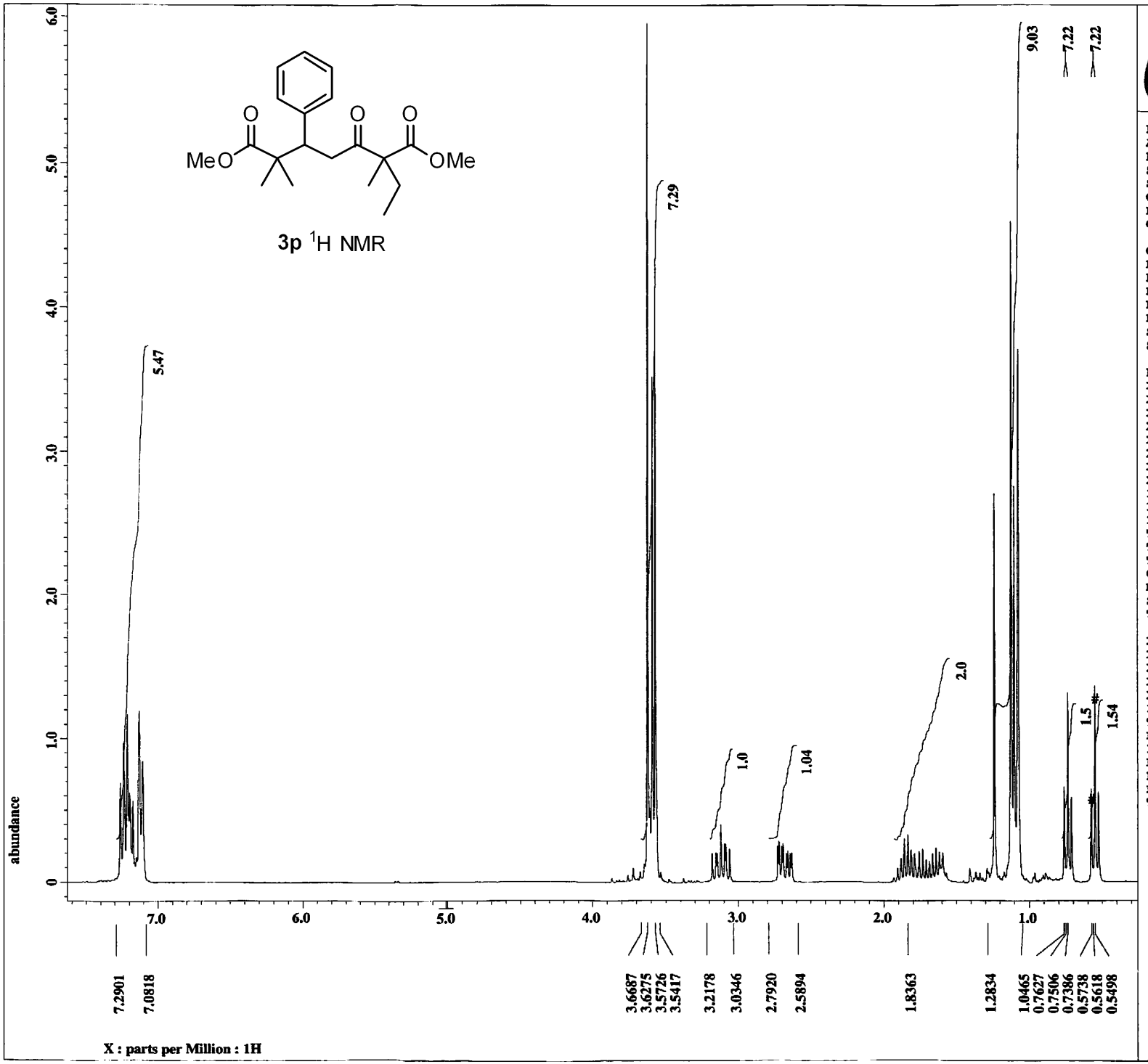




JEOL

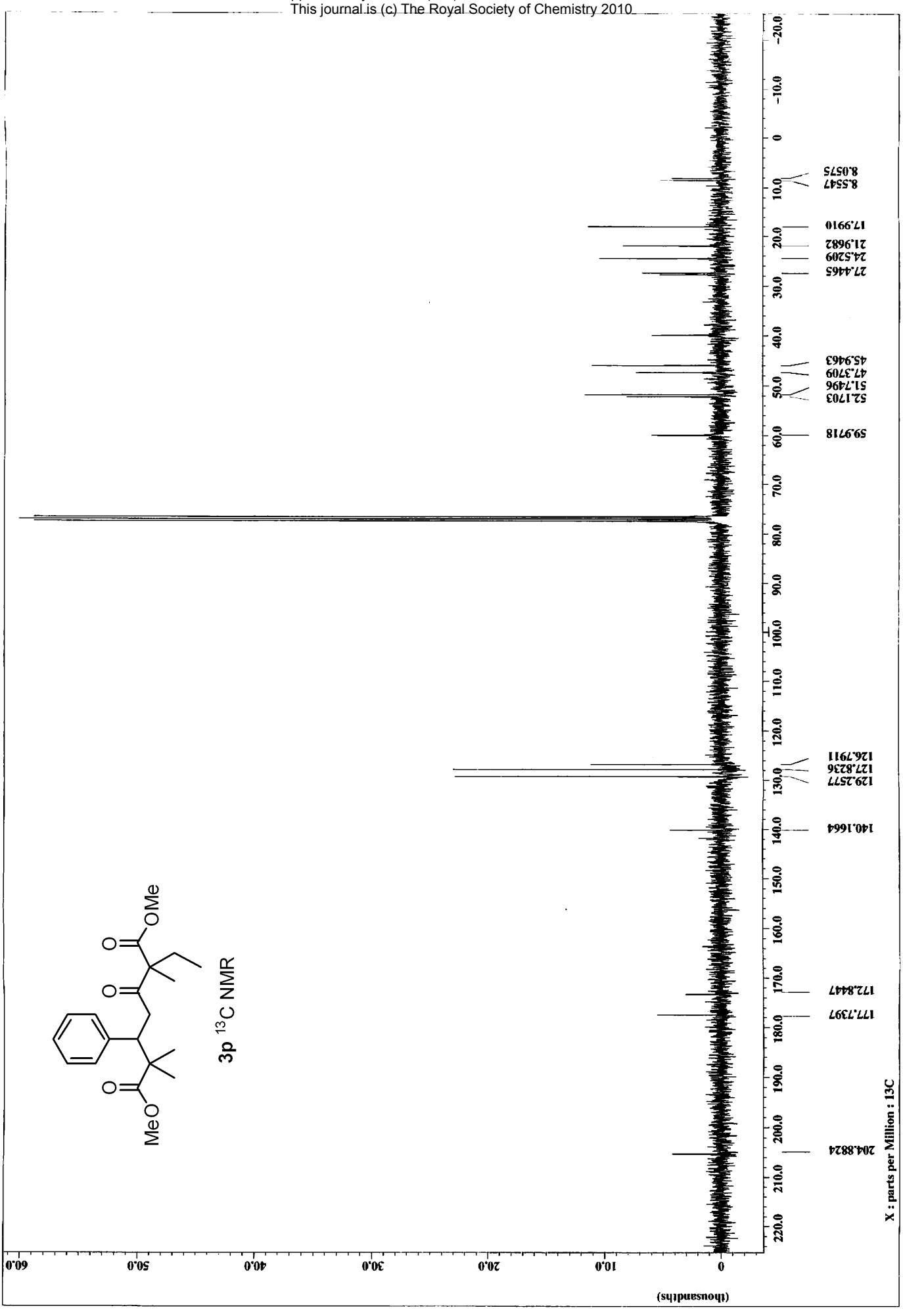
Filename	= YN-379-1H-2.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= YN-379-1H
Solvent	= CHLOROFORM-D
Creation_time	= 16-MAR-2009 18:26:38
Revision_time	= 7-APR-2009 20:48:25
Current_time	= 7-APR-2009 20:48:47
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz]
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 38
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 25.1[dC]

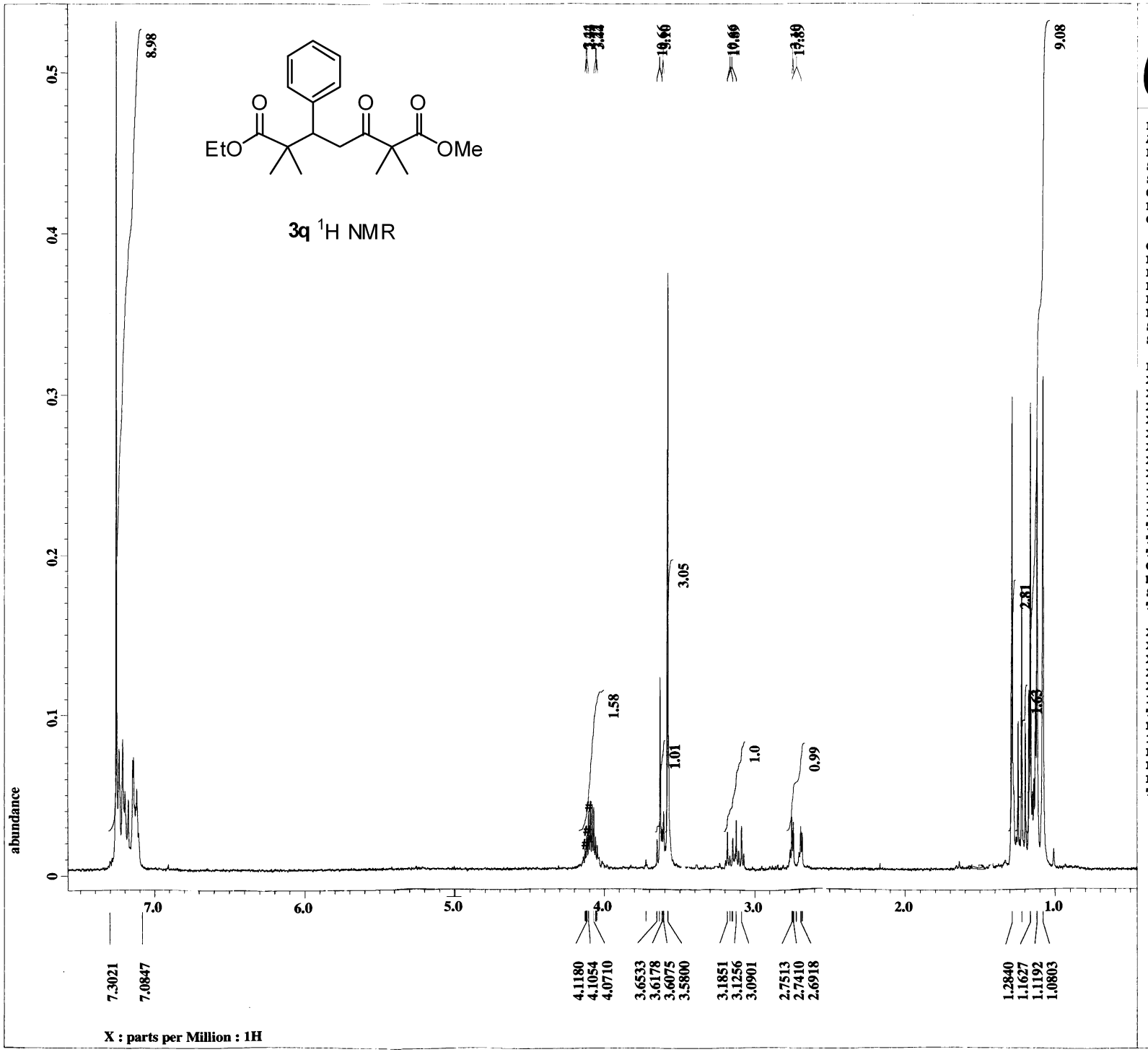

3o ^{13}C NMR
MeO
O
O
O
O^{t}Bu
205.9441
177.4343
172.7592
140.2435
129.2105
127.8433
126.7725
81.4647
56.1385
51.7215
47.2567
45.9182
39.6369
27.7243
24.5215
22.0166
21.6629
X : parts per Million : 13C
(thousandths)



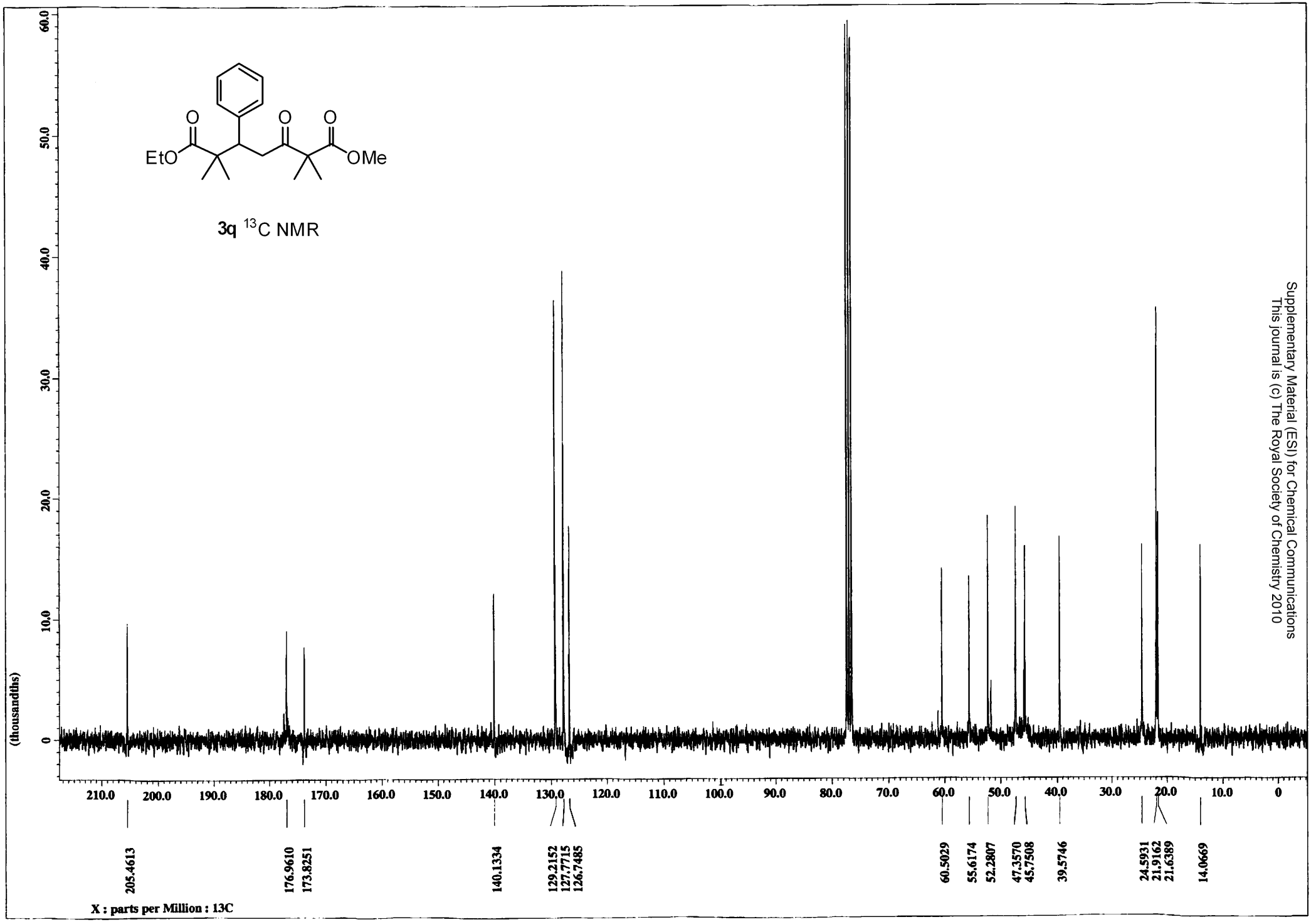
JEOL

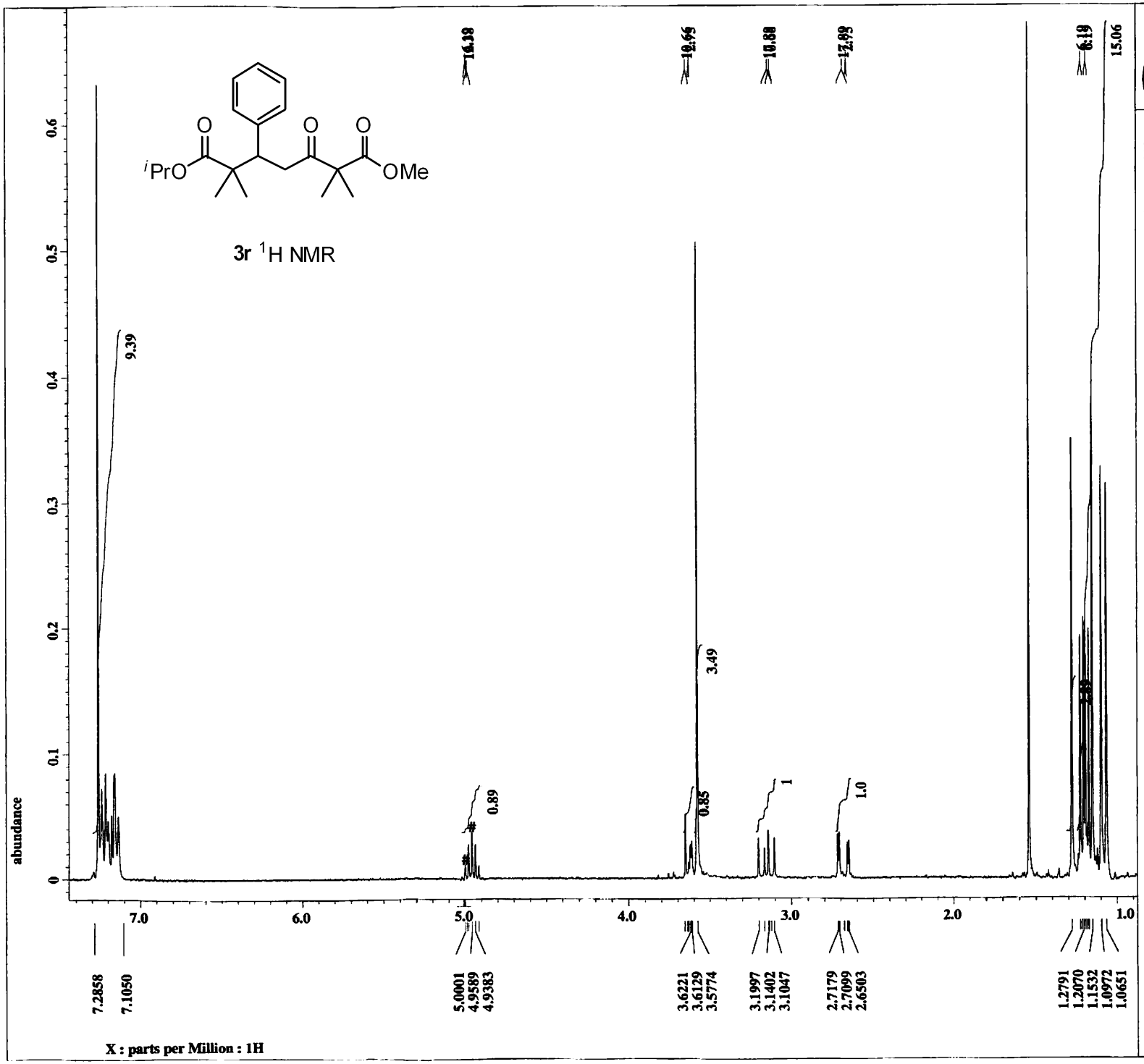
Filename	= YN-340-1H-6.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= YN-340-1H
Solvent	= CHLOROFORM-D
Creation_time	= 16-MAR-2009 17:30:12
Revision_time	= 6-MAY-2009 19:42:04
Current_time	= 6-MAY-2009 19:42:27
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 44
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 25[dC]


8.0575
8.5547
17.9910
21.9682
24.5209
27.4465
45.9463
47.3709
51.7496
52.1703
59.9718
126.7911
127.8236
129.2577
140.1664
172.8447
177.1397
204.8824
X : parts per Million : 13C
(thousandths)
3p ^{13}C NMR
OMe
MeO

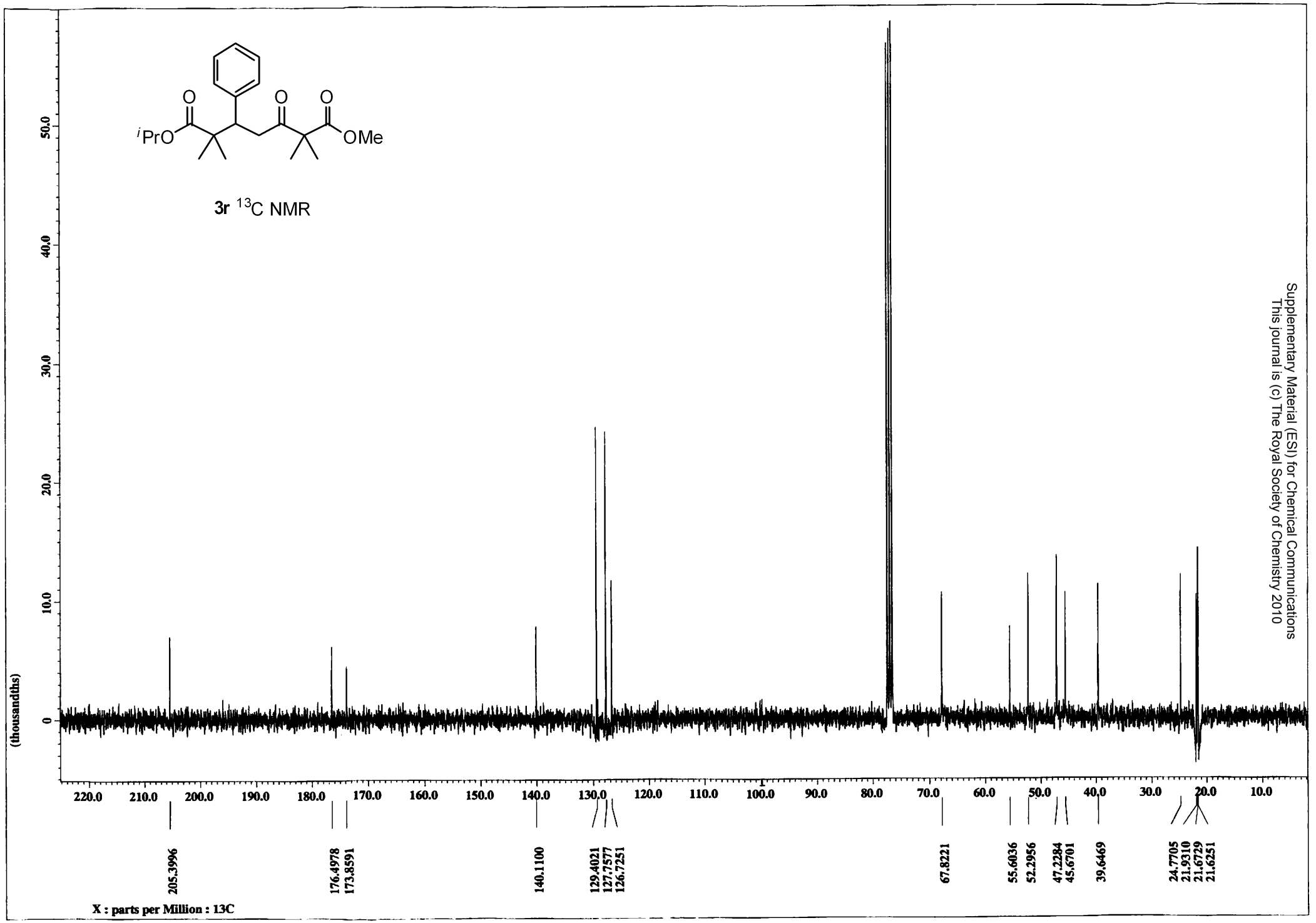


Filename	= HT-548-1H-5.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= HT-548-CLM
Solvent	= CHLOROFORM-D
Creation_time	= 28-MAY-2009 21:59:19
Revision_time	= 26-AUG-2009 11:04:07
Current_time	= 26-AUG-2009 11:04:37
Comment	= single_pulse
Data_format	= 1D COMPLEX
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 42
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 26.1[dC]





Filename	= HT-557-1H-3.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= HT-557-CLM
Solvent	= CHLOROFORM-D
Creation_time	= 3-JUN-2009 20:26:50
Revision_time	= 3-JUN-2009 21:15:33
Current_time	= 3-JUN-2009 21:16:00
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 42
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 25.6[dC]


3r ^{13}C NMR
(thousandths)
50.0
40.0
30.0
20.0
10.0
0
220.0 210.0 200.0 190.0 180.0 170.0 160.0 150.0 140.0 130.0 120.0 110.0 100.0 90.0 80.0 70.0 60.0 50.0 40.0 30.0 20.0 10.0
205.3996
176.4978
173.8591
140.1100
129.4021
127.7577
126.7251
67.8221
55.6036
52.2956
47.2284
45.6701
39.6469
24.7705
21.9310
21.6729
21.6251
X : parts per Million : 13C
Supplementary Material (ESI) for Chemical Communications
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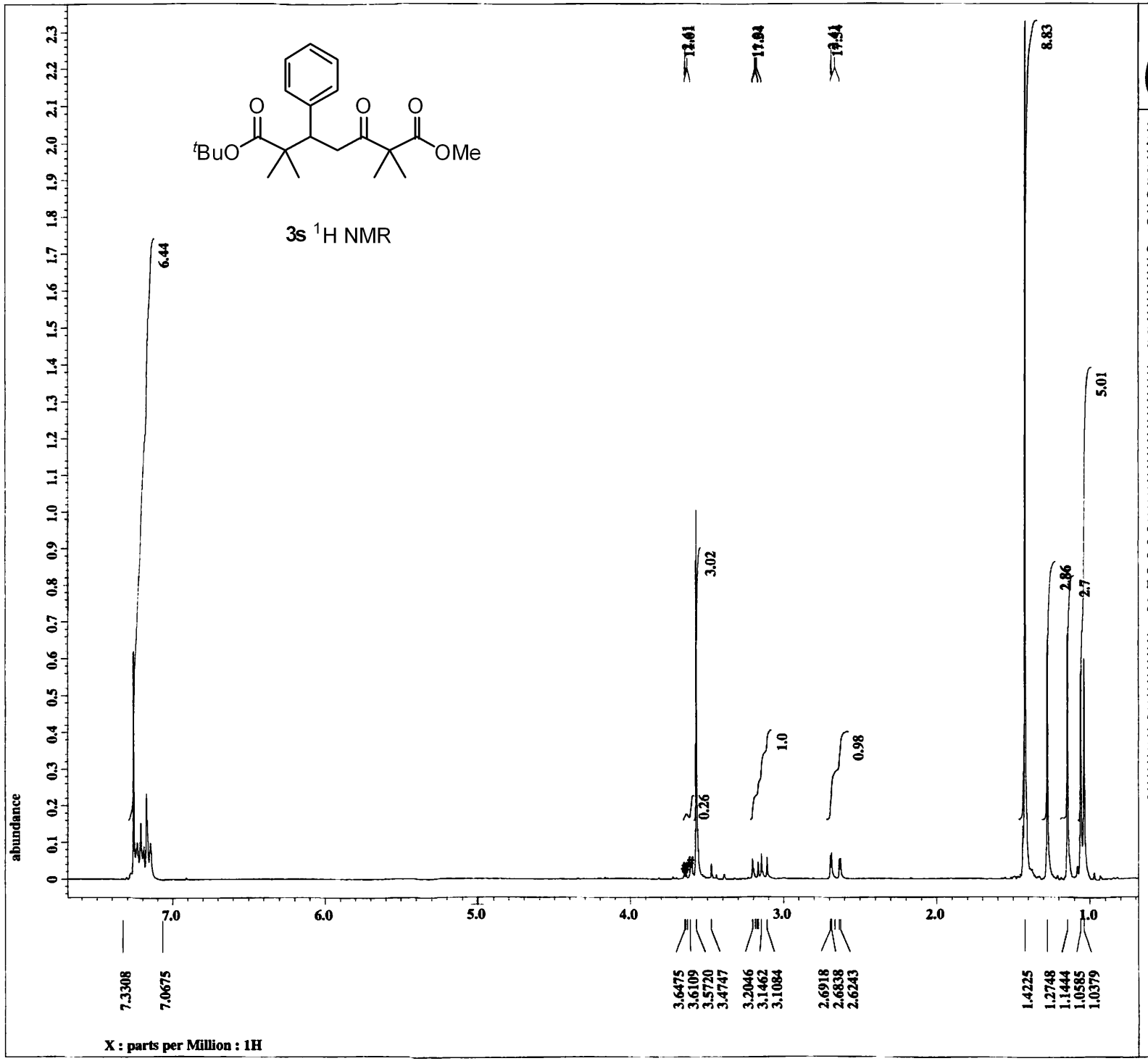
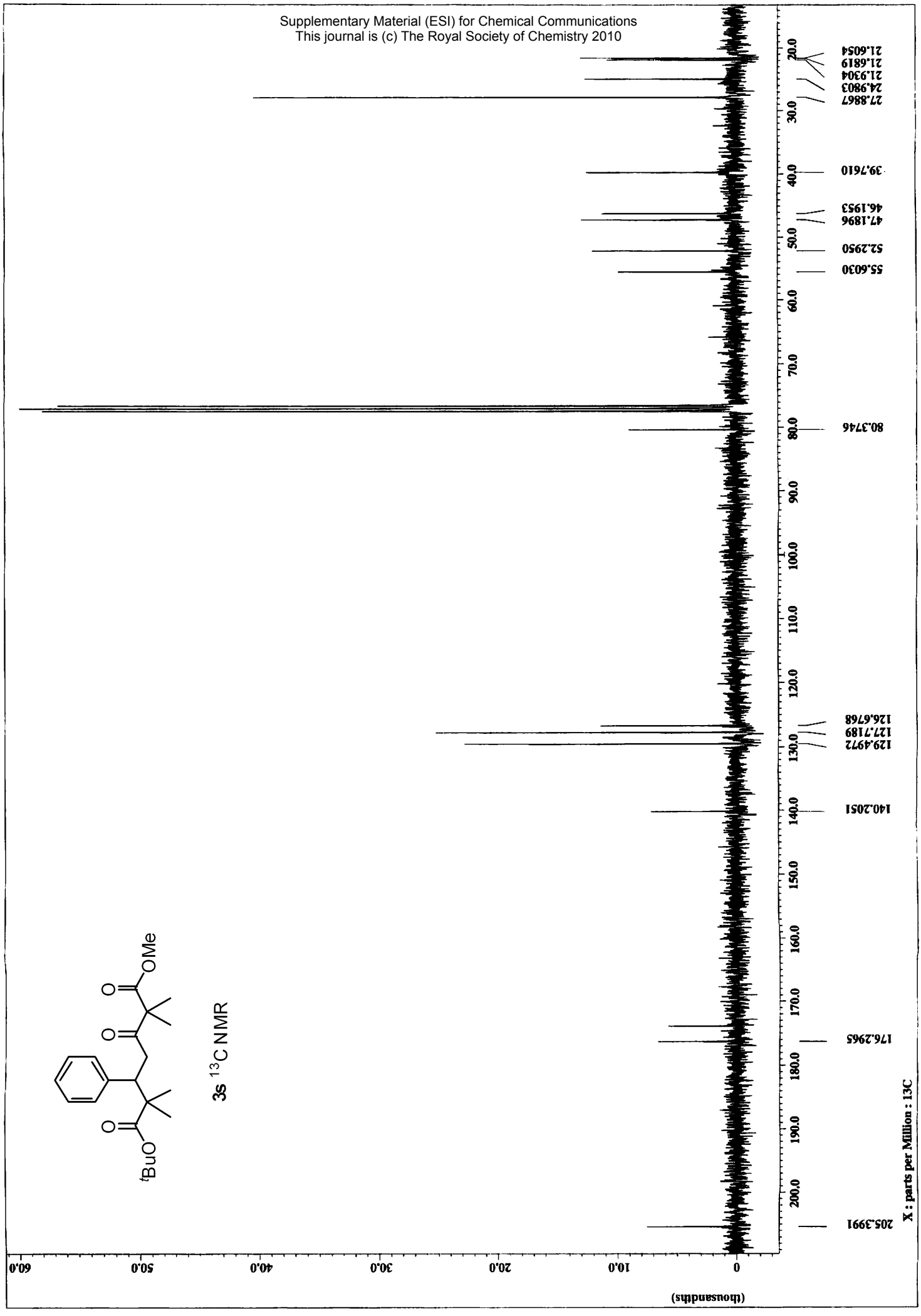
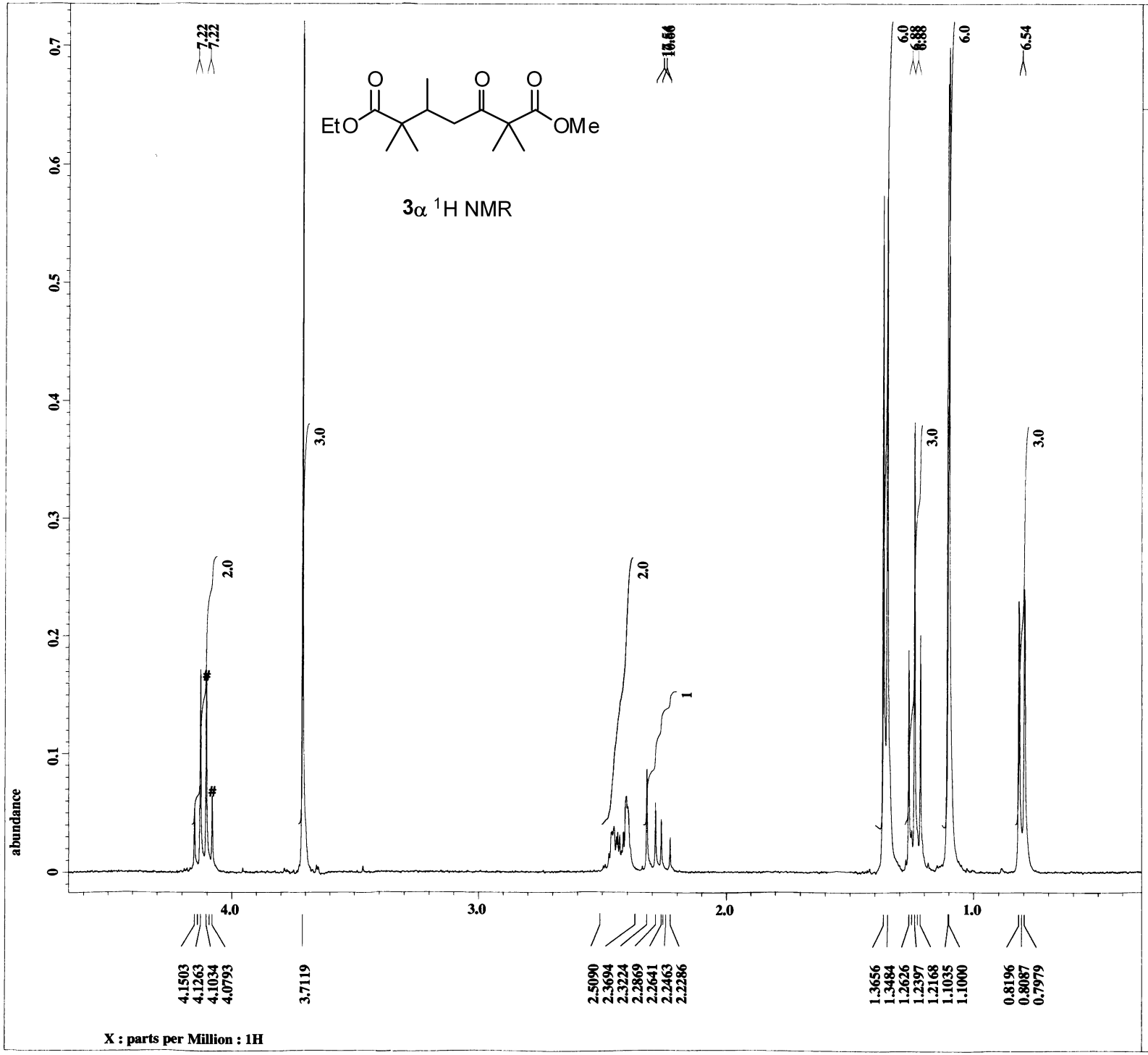


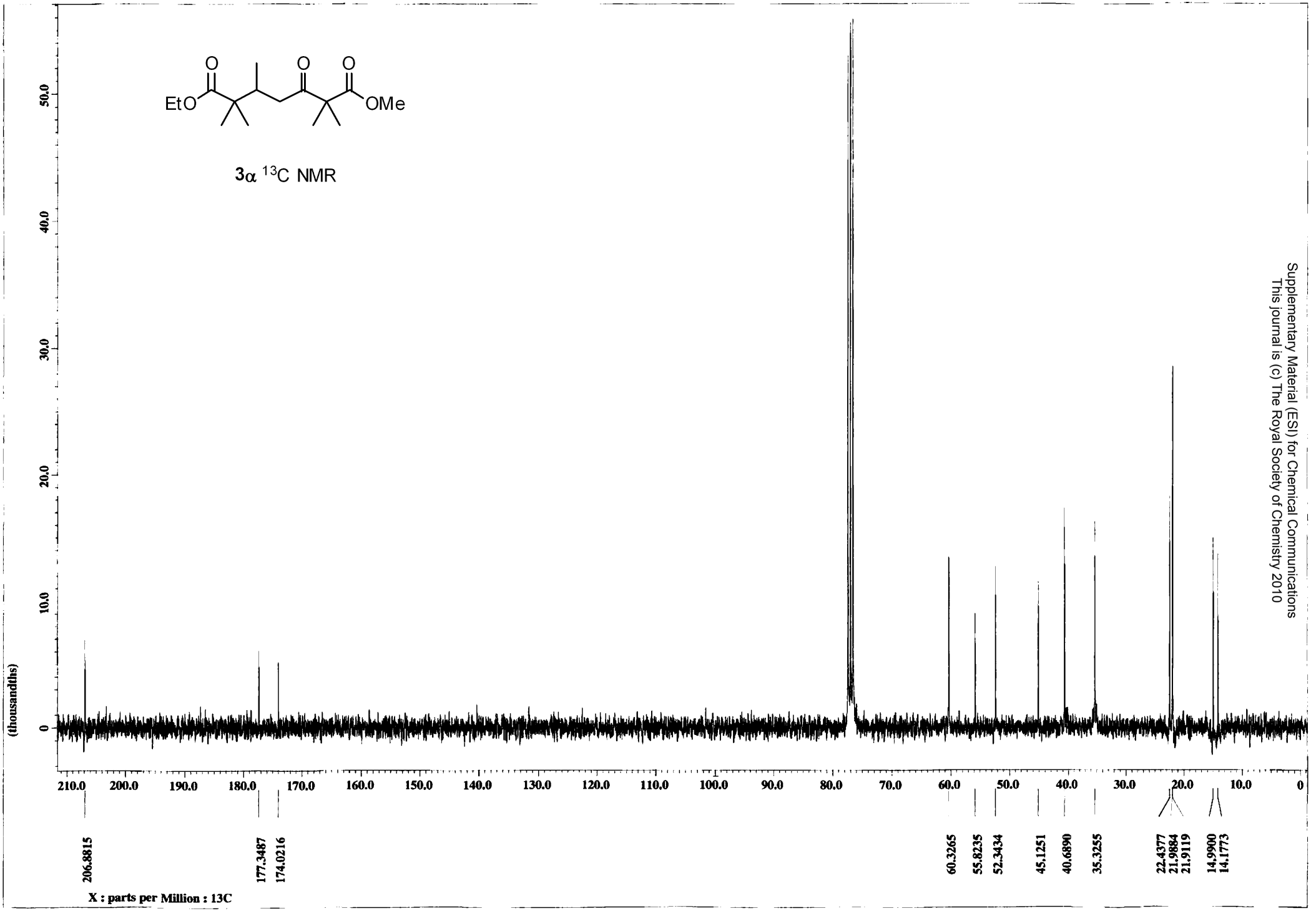
Filename	= HT-540-1H-7.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= HT-540-CLM
Solvent	= CHLOROFORM-D
Creation_time	= 25-MAY-2009 11:07:43
Revision_time	= 13-JUN-2009 12:59:11
Current_time	= 13-JUN-2009 12:59:22
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 42
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 26[dC]

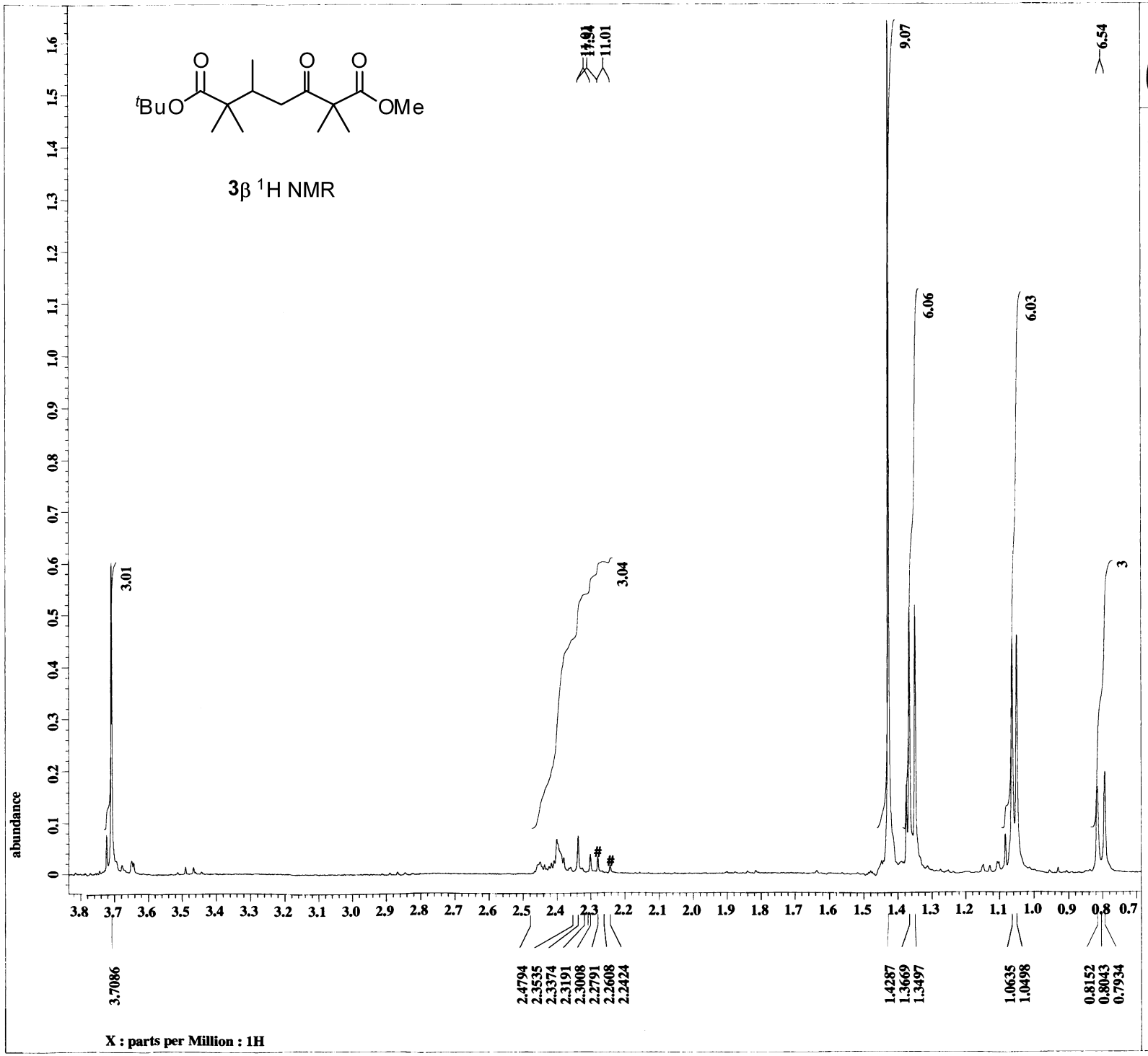

OMe
O
O
O
tBuO
3s 13C NMR
205.3991
176.2965
140.2051
129.4972
127.7189
126.6768
80.3746
55.6030
52.2950
47.1896
46.1953
39.7610
27.8867
24.9803
21.9304
21.6819
21.6054
(thousandths)
X : parts per Million : 13C



JEOL

Filename	= HT-623-1H-3.jdf
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= HT-623-CLM
Solvent	= CHLOROFORM-D
Creation_time	= 14-AUG-2009 18:45:41
Revision_time	= 14-AUG-2009 19:20:41
Current_time	= 14-AUG-2009 19:21:12
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 12.5[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 6.25[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 42
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 24.1[dC]





Filename	= single_pulse-13855.jd
Author	= delta
Experiment	= single_pulse.ex2
Sample_id	= HT-750-CLM
Solvent	= CHLOROFORM-D
Creation_time	= 8-DEC-2009 19:05:57
Revision_time	= 8-DEC-2009 19:40:05
Current_time	= 8-DEC-2009 19:40:06
Comment	= single_pulse
Data_format	= 1D REAL
Dim_size	= 13107
Dim_title	= 1H
Dim_units	= [ppm]
Dimensions	= X
Site	= ECA300 (2 JMT30-2)
Spectrometer	= DELTA2_NMR
Field_strength	= 7.0586013[T] (300[MHz
X_acq_duration	= 2.90717696[s]
X_domain	= 1H
X_freq	= 300.52965592[MHz]
X_offset	= 5[ppm]
X_points	= 16384
X_prescans	= 0
X_resolution	= 0.34397631[Hz]
X_sweep	= 5.63570784[kHz]
Irr_domain	= 1H
Irr_freq	= 300.52965592[MHz]
Irr_offset	= 5[ppm]
Tri_domain	= 1H
Tri_freq	= 300.52965592[MHz]
Tri_offset	= 5[ppm]
Clipped	= FALSE
Mod_return	= 1
Scans	= 8
Total_scans	= 8
X_90_width	= 11.4[us]
X_acq_time	= 2.90717696[s]
X_angle	= 45[deg]
X_atn	= 6.4[dB]
X_pulse	= 5.7[us]
Irr_mode	= Off
Tri_mode	= Off
Dante_presat	= FALSE
Initial_wait	= 1[s]
Recvr_gain	= 42
Relaxation_delay	= 5[s]
Repetition_time	= 7.90717696[s]
Temp_get	= 25.2[dC]