

Enantiodivergent routes to (+) and (-)-novioses from (-)-pantolactone

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Dr. Homi Bhabha Road,

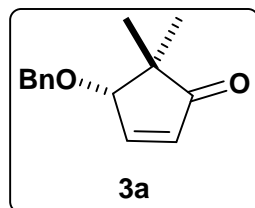
Pune 411008, Maharashtra,

India.

E-mail: ds.reddy@ncl.res.in

Tel. +91 20 25902445

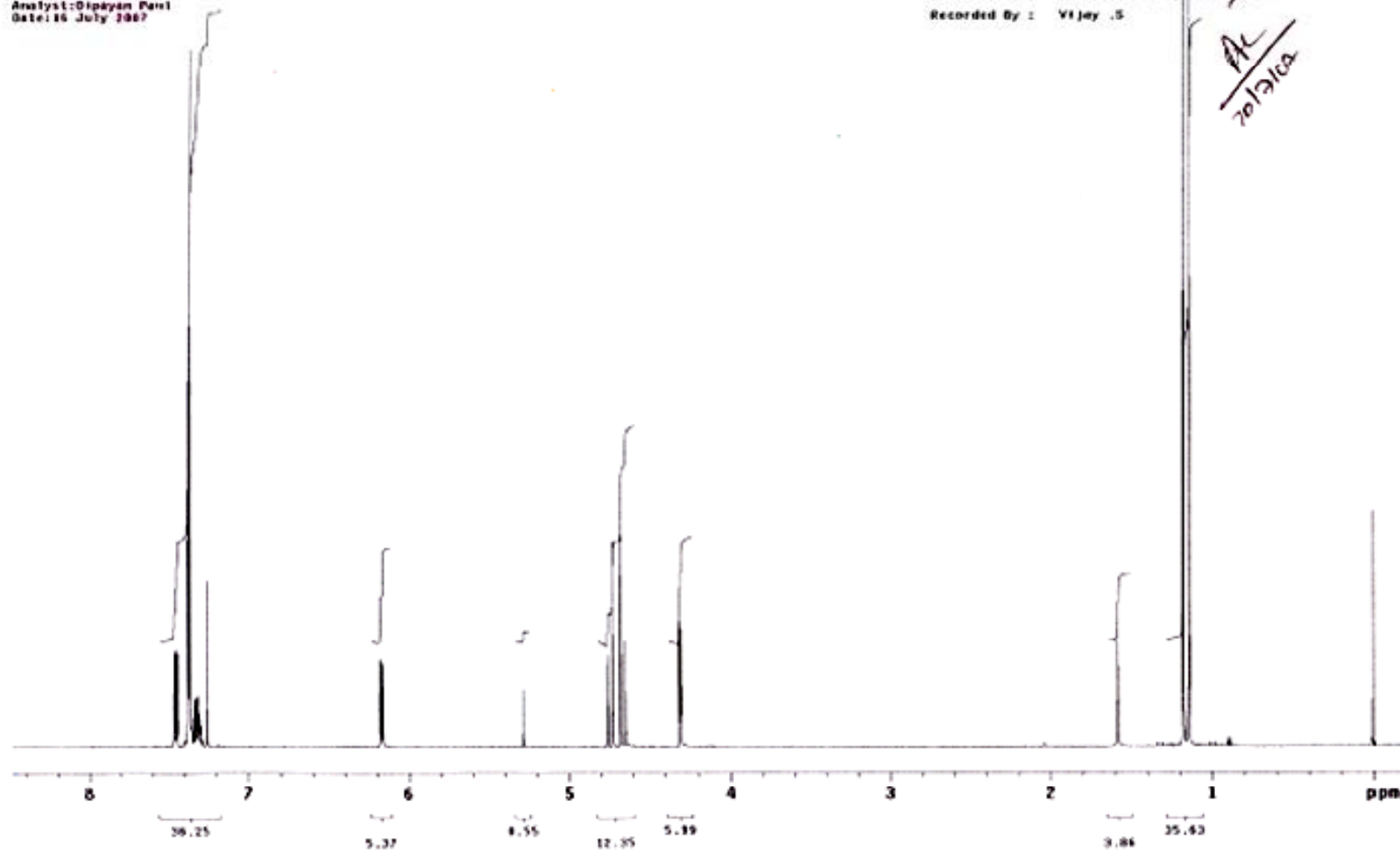
Fax. +91 20 25902629



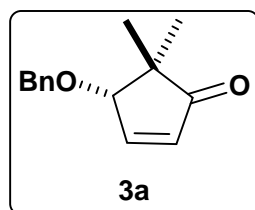
SE-996-MKM-016 1H NMR
AQ-03

AN.No:RE 8787/595
Analyst: Dipayan Paul
Date: 16 July 2007

Analytical Research, Discovery Research, DRL
Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Fri Jul 28 17:38:28 GMT 2007
Recorded By : Vijay .S



^1H NMR spectrum of 3a in CDCl_3



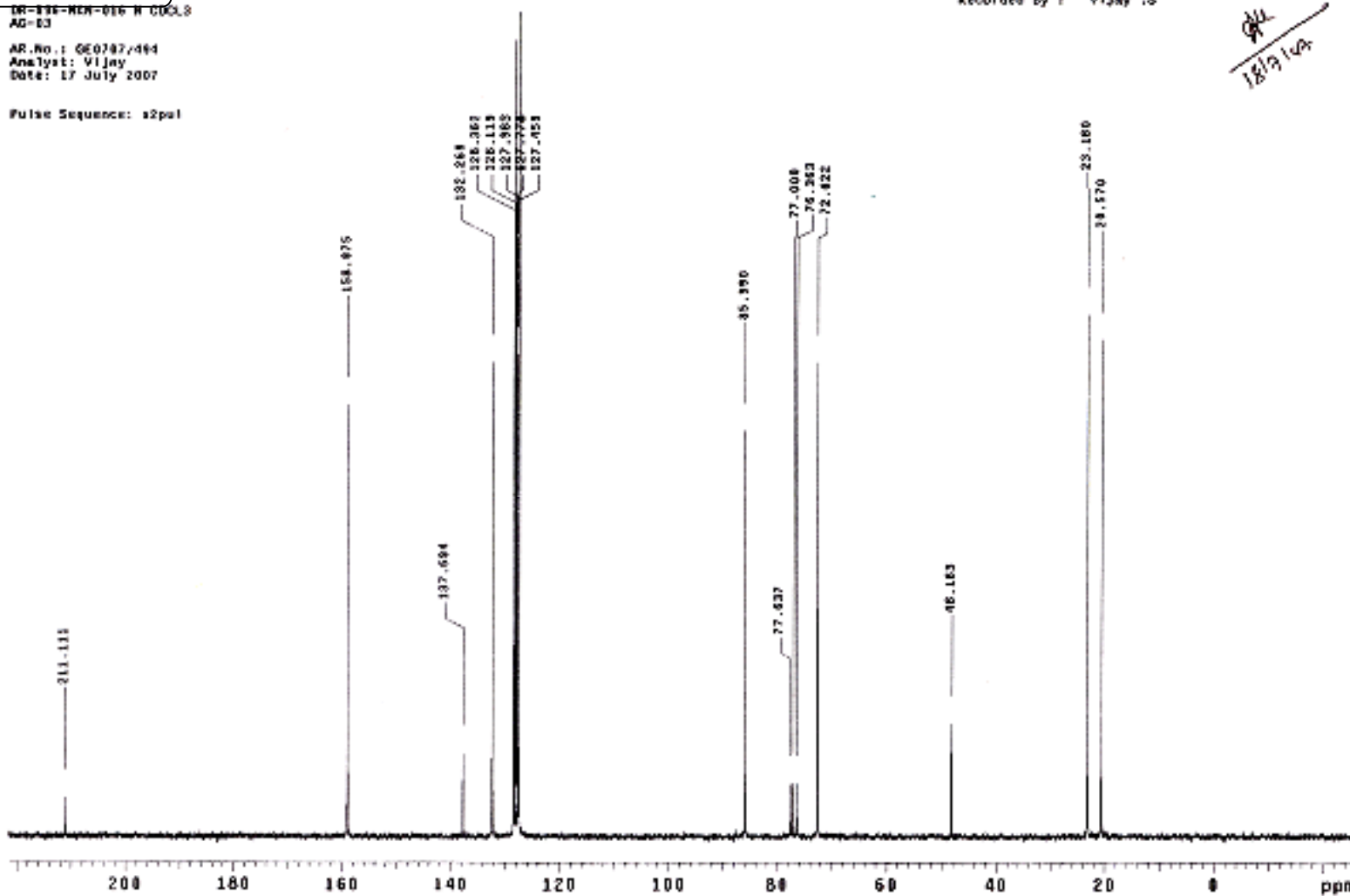
DR-100-MEN-016 H₂O CDCl₃
AQ-03

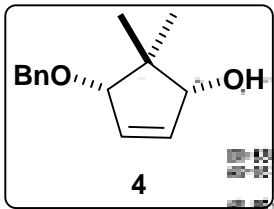
AR.No.: GE0787/d94
Analyst: Vijay
Date: 17 July 2007

Pulse Sequence: zgpg30

Analytical Research, Discovery Research, DRI
Instrument : Gemini-3000 (Varian 200MHz)
Date & Time : Wed Jul 18 10:05:05 PM 2007
Recorded By : Vijay .S

Handwritten: 18/7/07

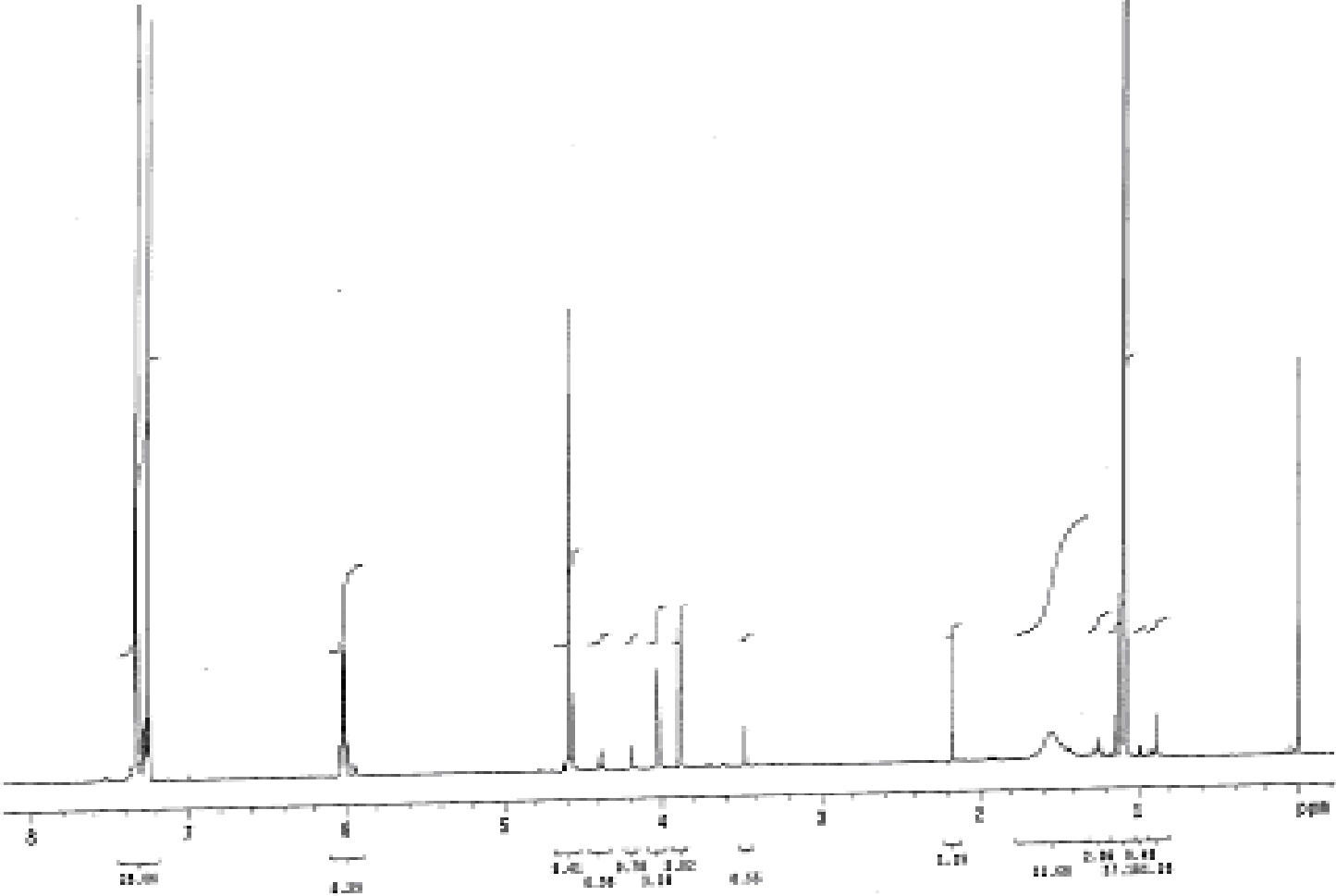


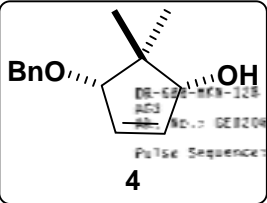


MS-859-883-1 (M 20 0011)
MS-85
anap (MS-854, 0058)
(Analytical) MS-854, 0058

Analytical Research, Discovery Research, 90,
Infrared : Mercury Plus (Polaris 4000)
Date & Time : Thu Jun 20 22:55:11 GMT 1999
Acquired By : Anap, J

MS-854, 0058

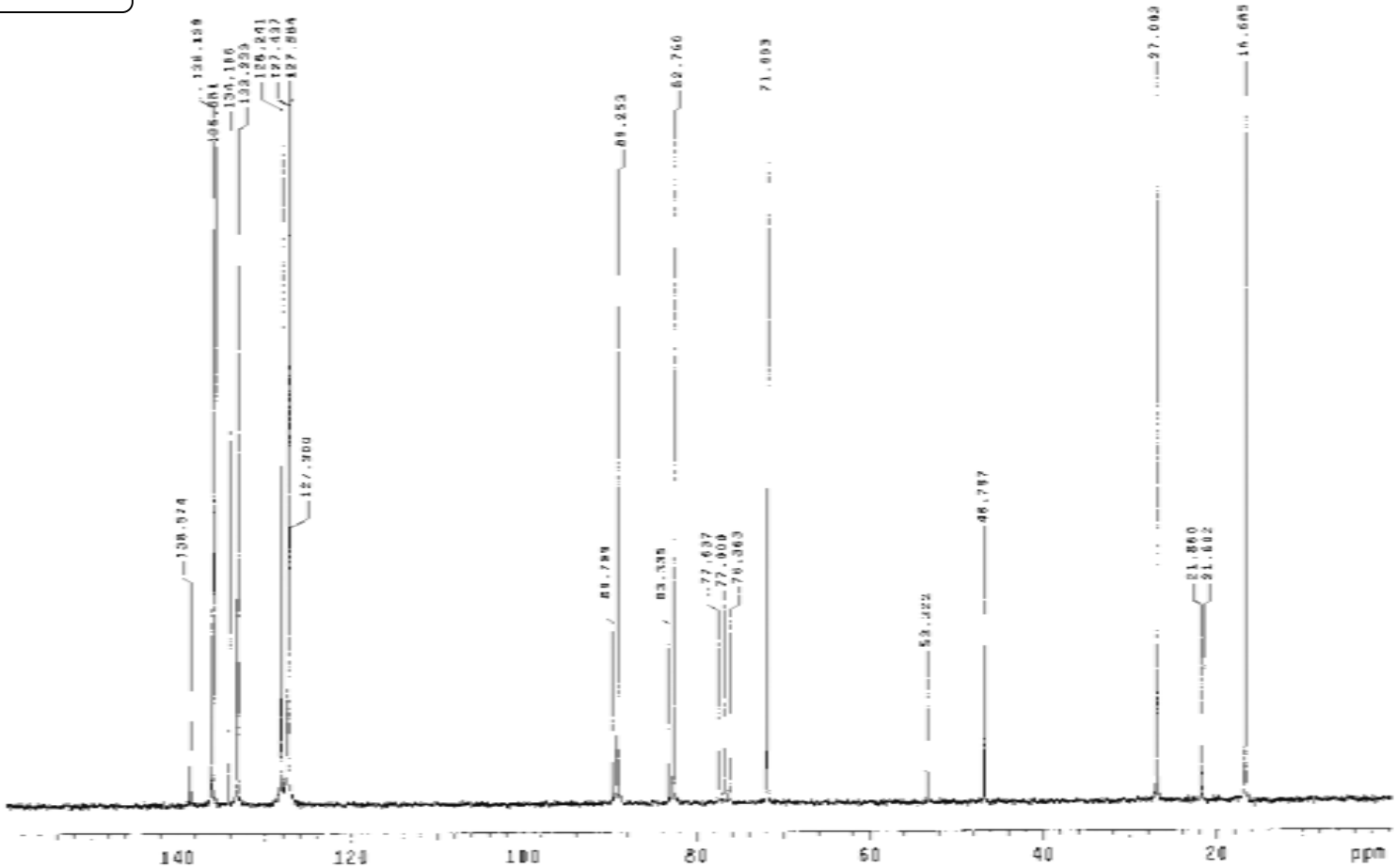


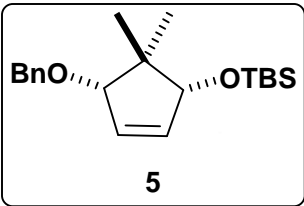


DE-500-800-128 in CDCl₃
AQ3
No.: GE0204-839
Pulse Sequence: gzgpg1

Instrument : Gemini-2000 (200MHz)
Date & Time : Thu Feb 16 13:41:51 GMT 2006
Recorded By : Marioj

~~76100108~~

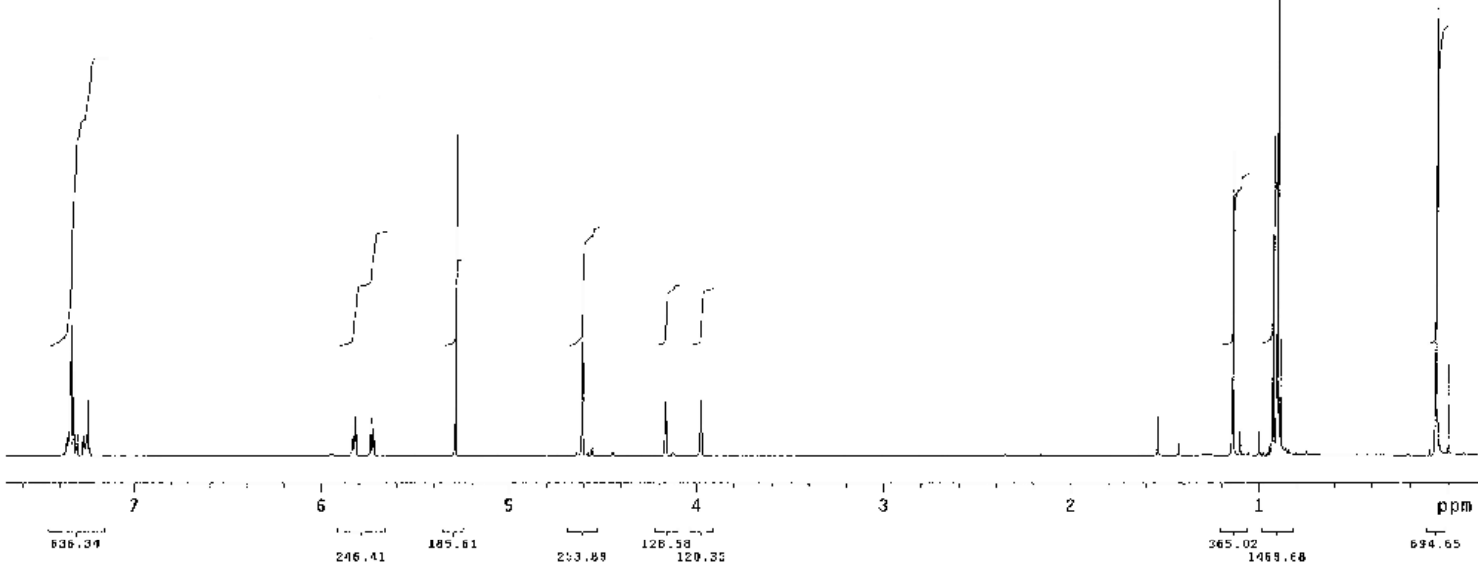


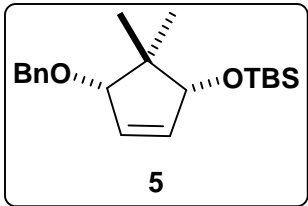


600-MHz 1H NMR IN CDCl₃
AQ-7
AR.No:HE0206/455
Pulse Sequence: zgpg30

Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Thu Feb 10 14:07:49 Oct 2006
Recorded By : Sreekanth Sharma

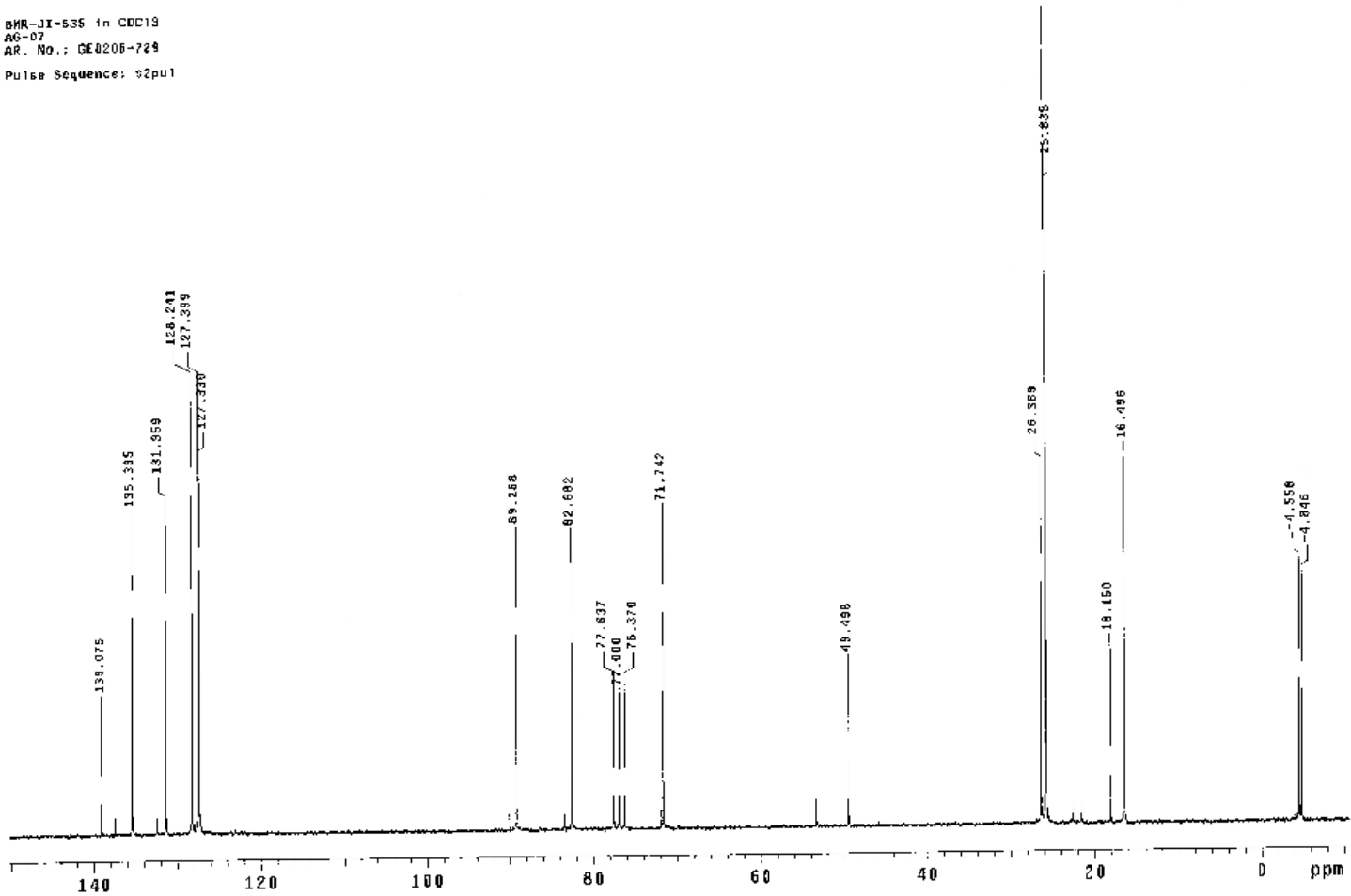
16/12/16

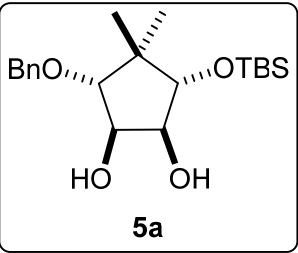




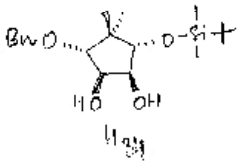
BMR-JI-535 in CDCl₃
A6-07
AR. No.: GE0206-729
Pulse Sequence: zgpg30

Instrument : Gemini-2000 (200MHz)
Date & Time : Fri Feb 17 09:54:48 GMT 2006
Recorded By : Nandj

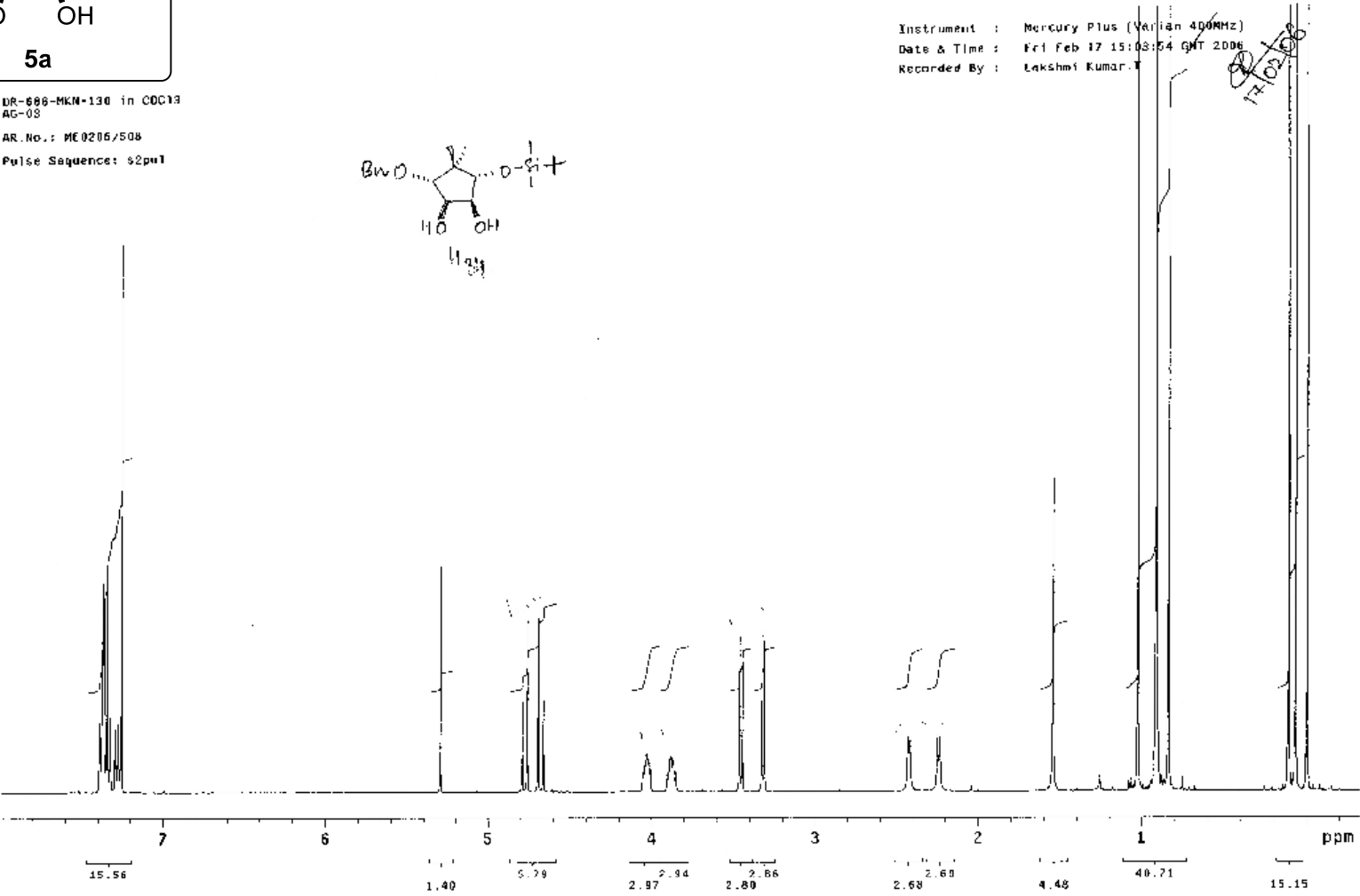


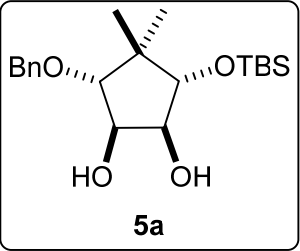


DR-600-MKN-130 in CDCl₃
AG-03
AR.No.: ME0205/508
Pulse Sequence: zgpg30



Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Fri Feb 17 15:03:54 GMT 2006
Recorded By : Lakshmi Kumar
17/02/06

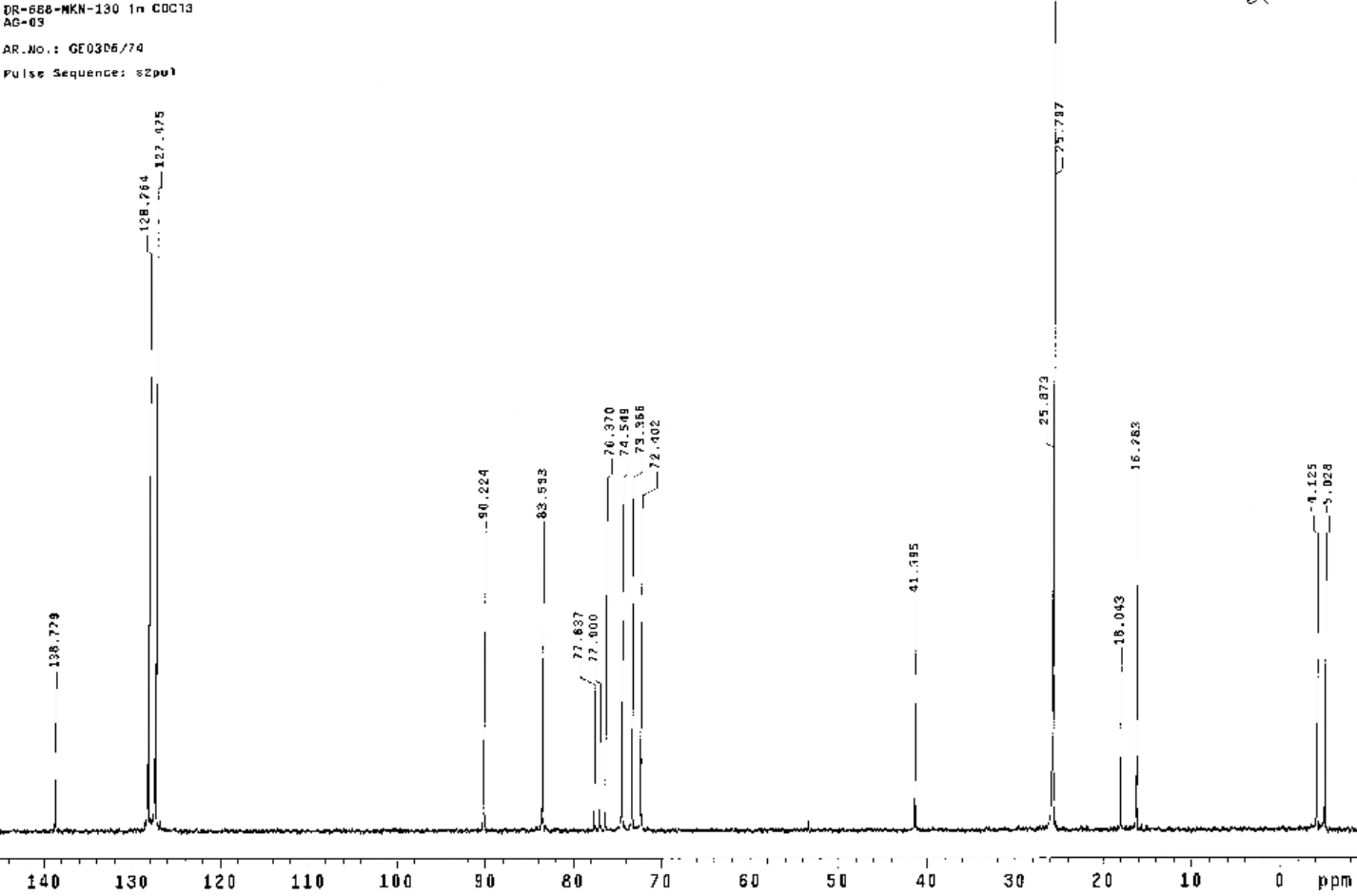


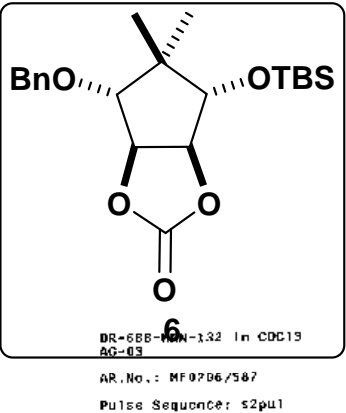


DR-688-MKN-130 1n CDCl3
AG-03
AR.No.: GE0306/74
Pulse Sequence: s2pu1

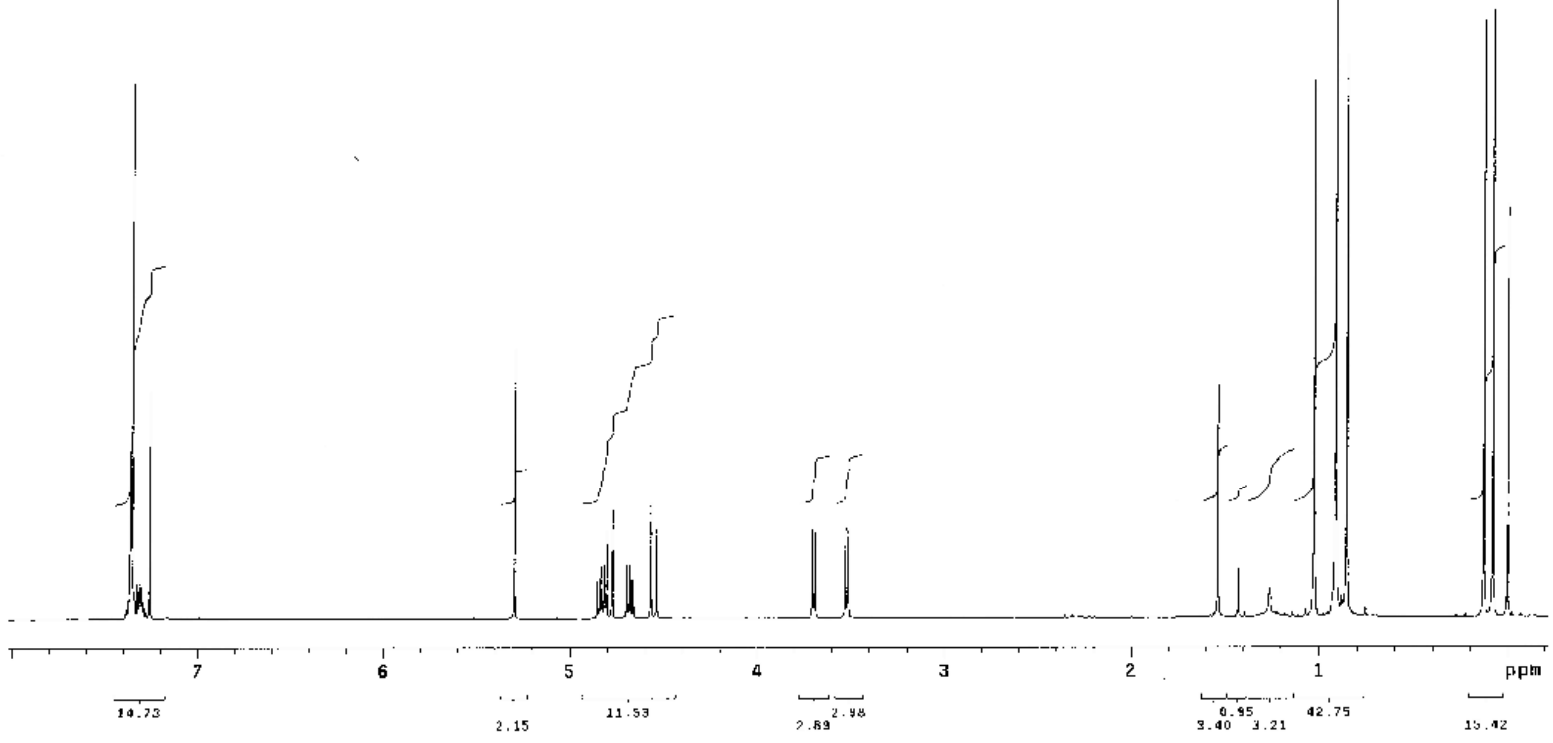
Instrument : Gemini-2000 (200MHz)
Date & Time : Thu Mar 2 13:22:33 PM 2006
Recorded By : Lakshmi Kumar.T

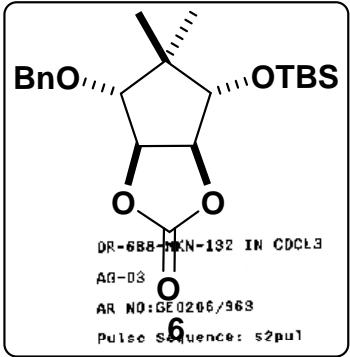
2/03/06



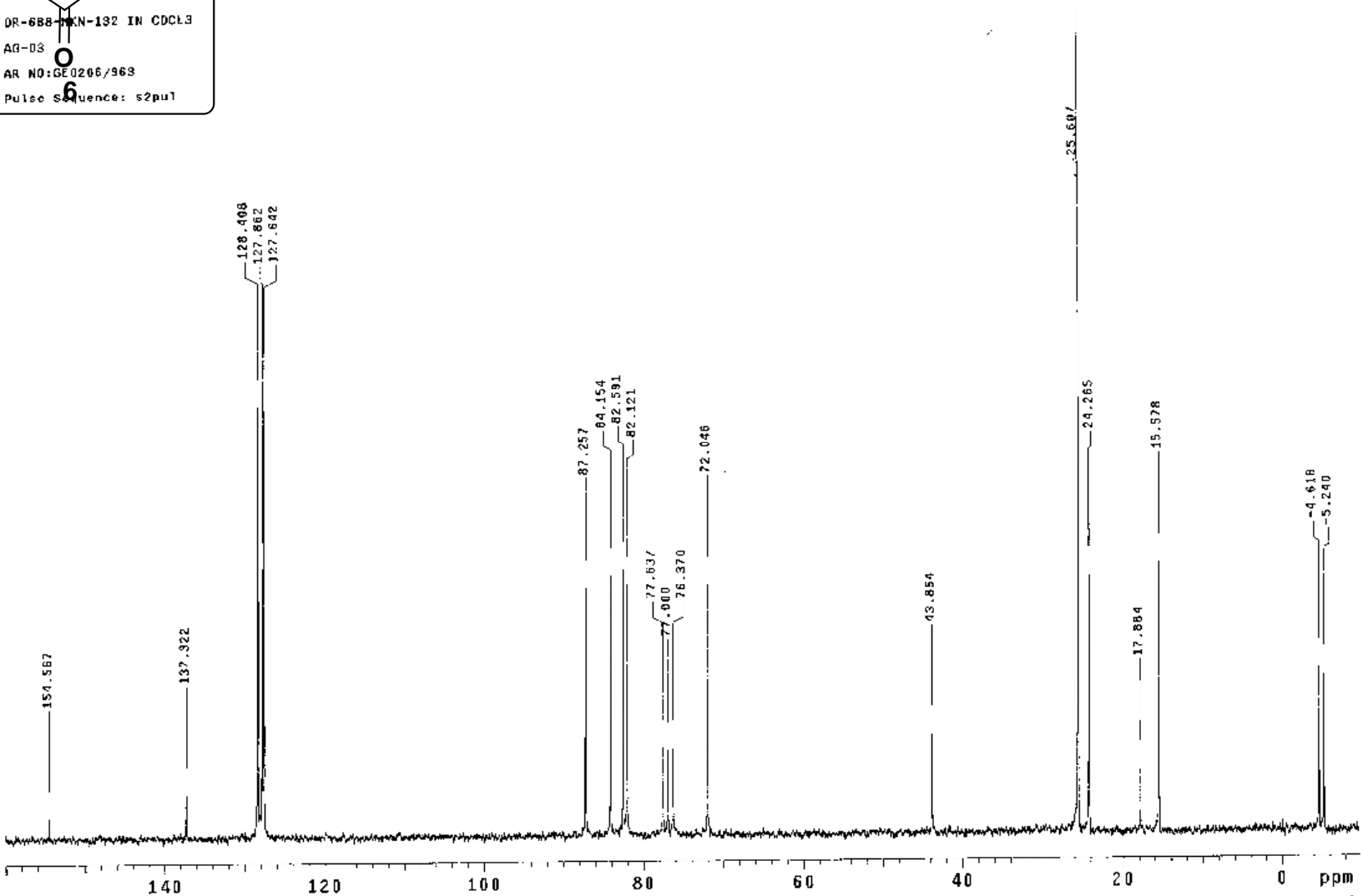


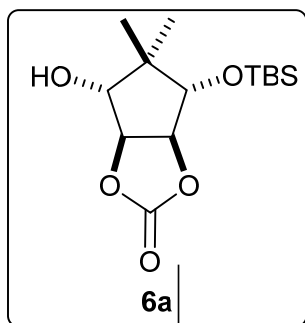
Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Tue Feb 21 10:12:04 GMT 2006
Recorded By : Lakshmi Kumar.T





Instrument : Gemini-2000 (200MHz)
Date & Time : Thu Feb 23 16:11:50 GMT 2006
Recorded By : Hanoj

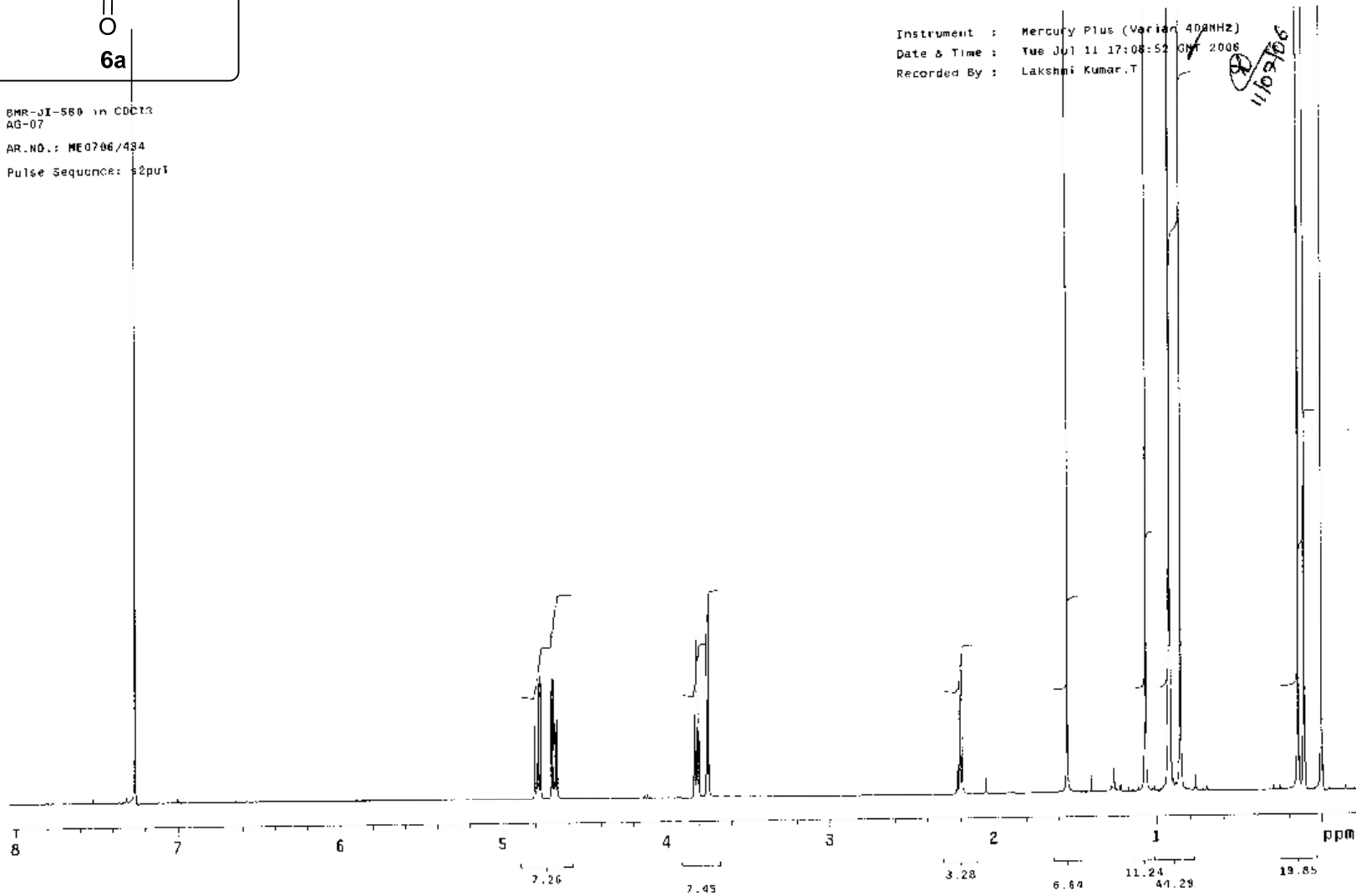


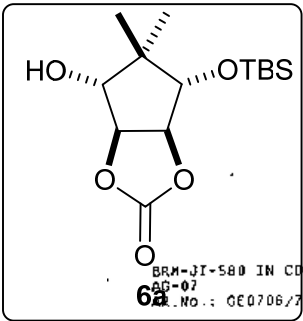


DMR-JI-580 in CDCl₃
AG-07
AR.NO.: ME0706/494
Pulse Sequence: zgpg30

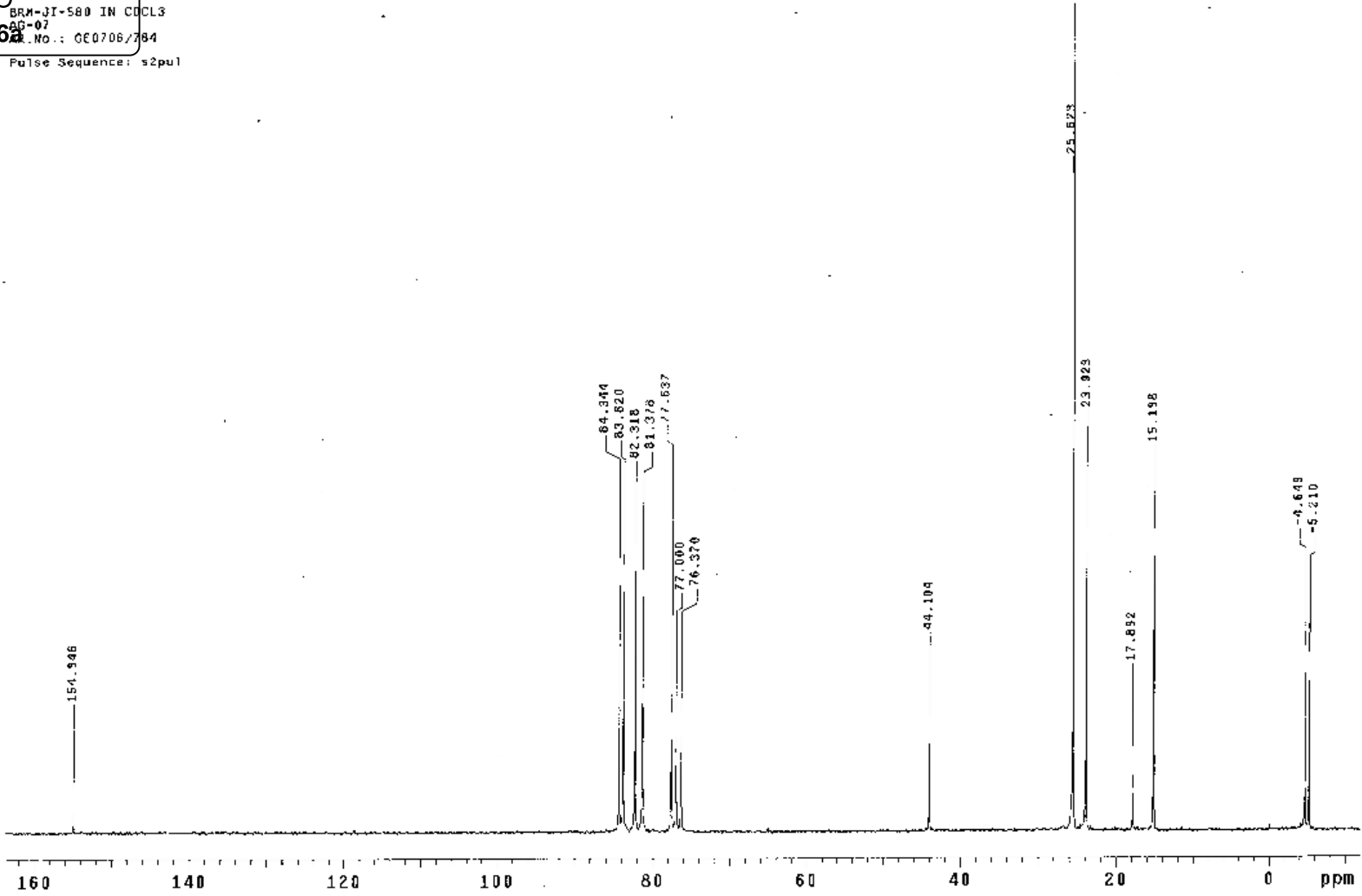
Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Tue Jul 11 17:08:52 GMT 2006
Recorded By : Lakshmi Kumar.T

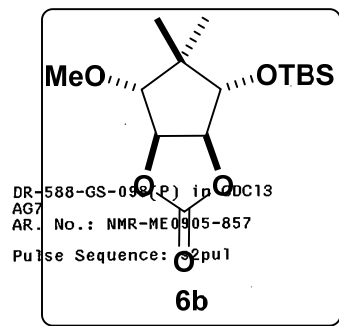
11/05/06





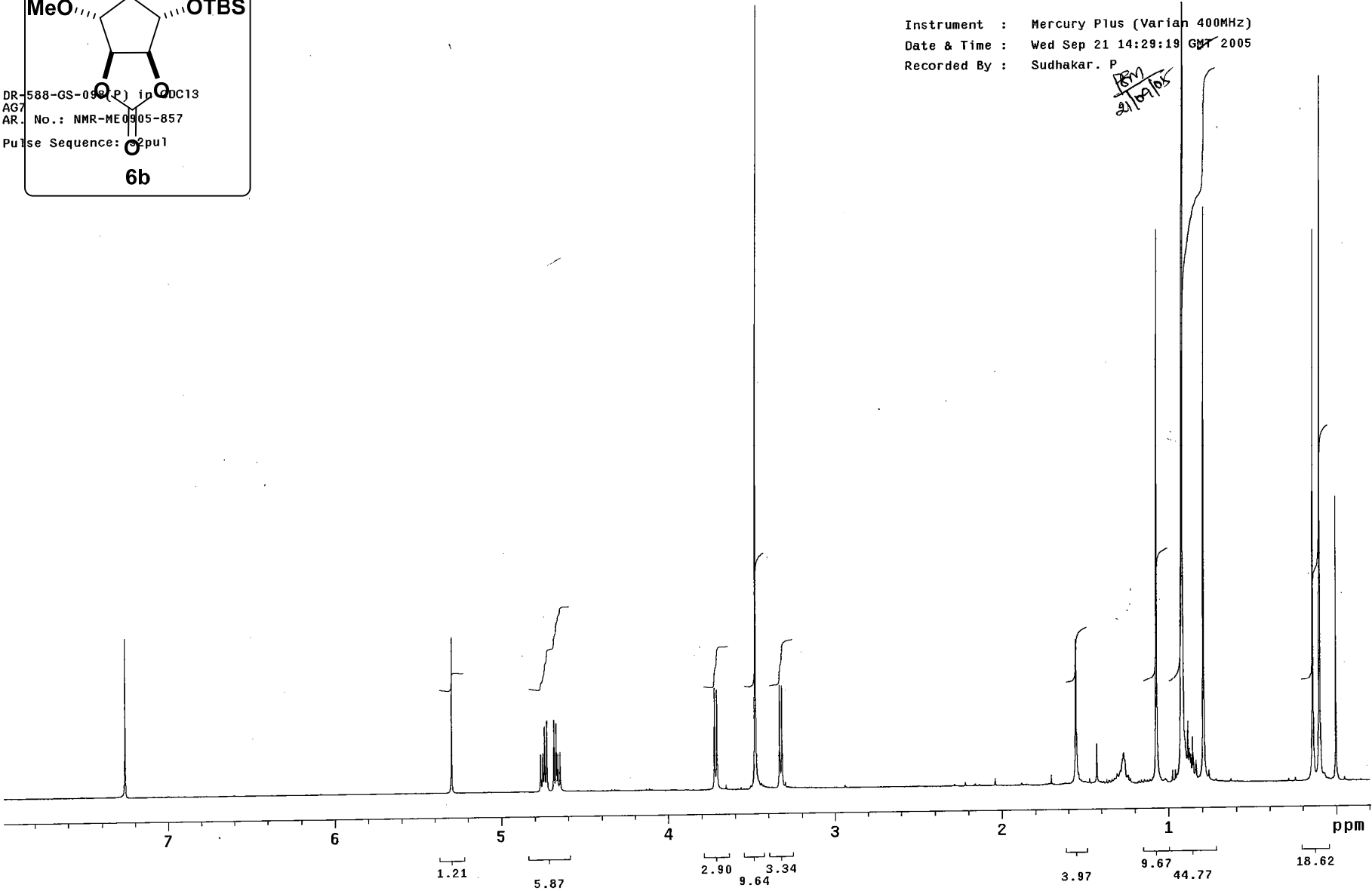
Instrument : Gemini-2000 (200MHz)
Date & Time : Sat Jul 22 16:02:16 GMT 2005
Recorded By : Manoj





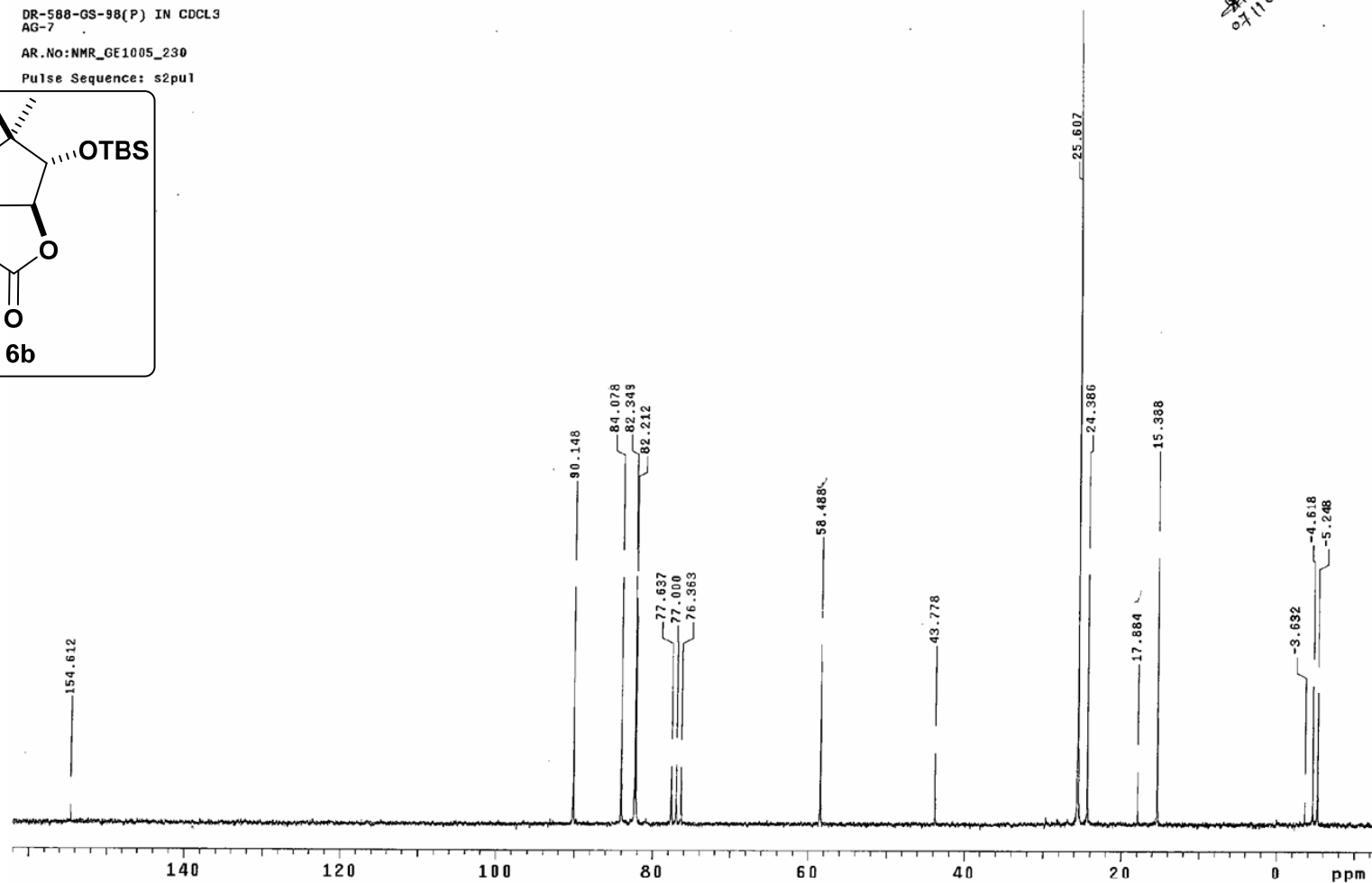
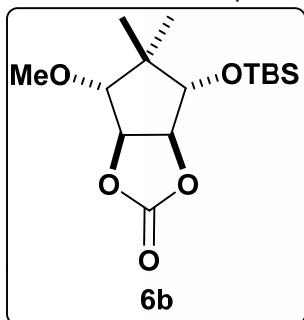
Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Wed Sep 21 14:29:19 GMT 2005
Recorded By : Sudhakar. P

BM
21/09/05



Instrument : Gemini-2000 (200MHz)
Date & Time : Fri Oct 7 14:38:01 GMT 2005
Recorded By : Sreekanth .B .R.

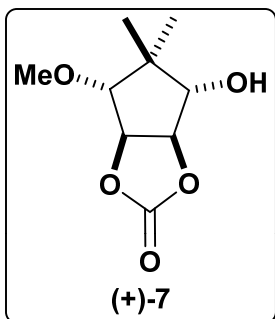
DR-588-GS-98(P) IN CDCl₃
AG-7
AR.No:NMR_GE1005_230
Pulse Sequence: s2pu1



DR-588-GS-100 IN CDCL₃
D₂O-EXCH
AG-7

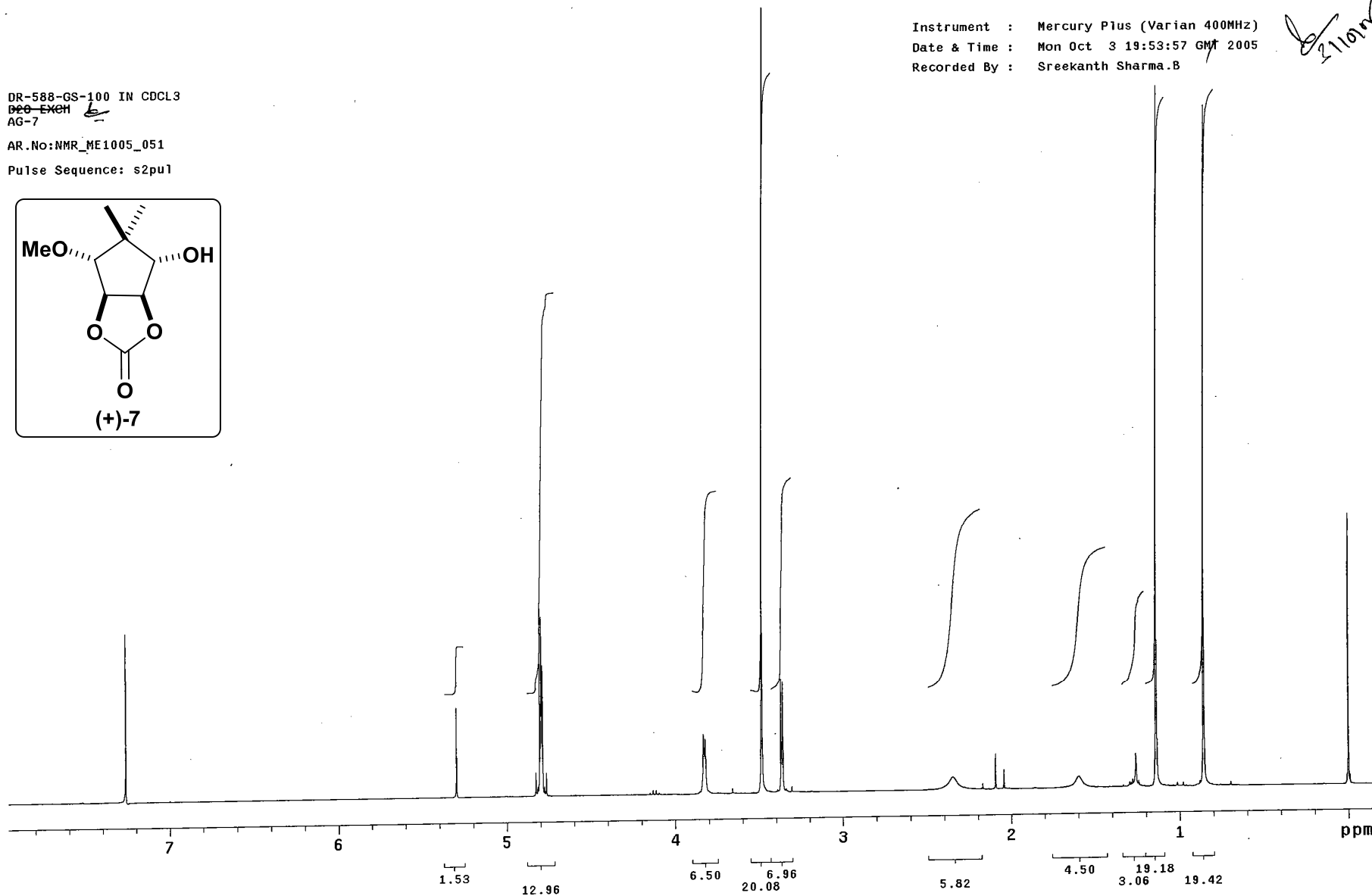
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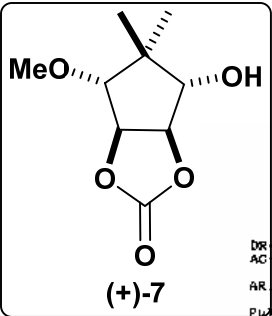
Pulse Sequence: s2pu1



Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Mon Oct 3 19:53:57 GMT 2005
Recorded By : Sreekanth Sharma.B

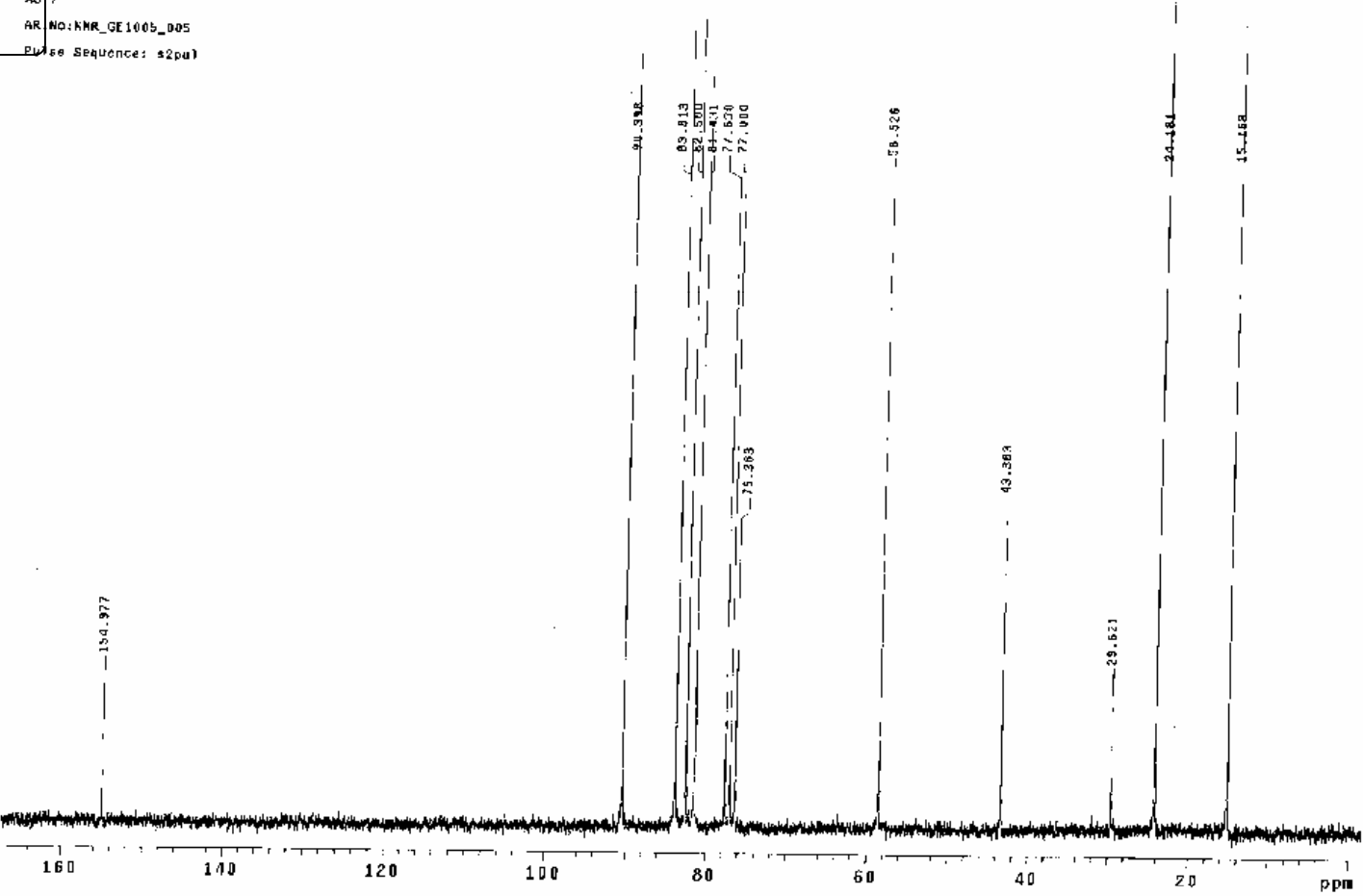
Handwritten signature
21/10/12

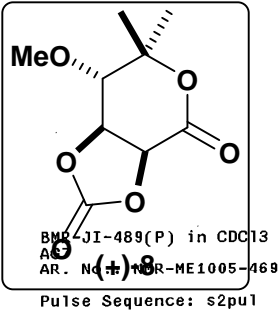




DR-588-05-143 IN CDCl₃
AC-7
AR No: KMR_GE1005_005
Pulse Sequence: zgpg30

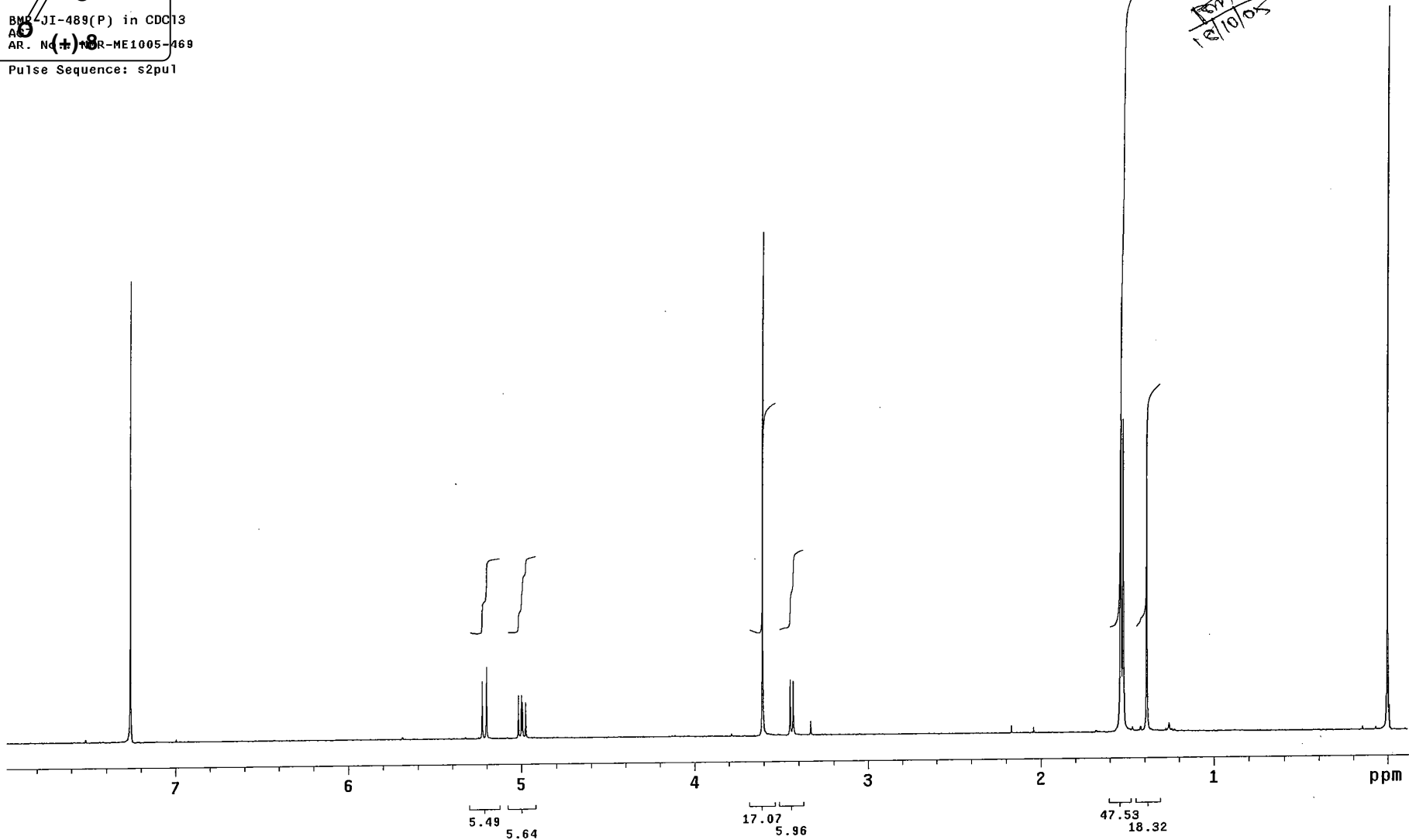
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Recorded By : Sreeranth .B .R

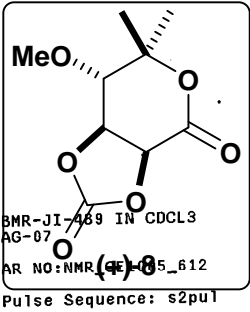




Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Tue Oct 18 14:06:02 GMT 2005
Recorded By : Sudhakar. P

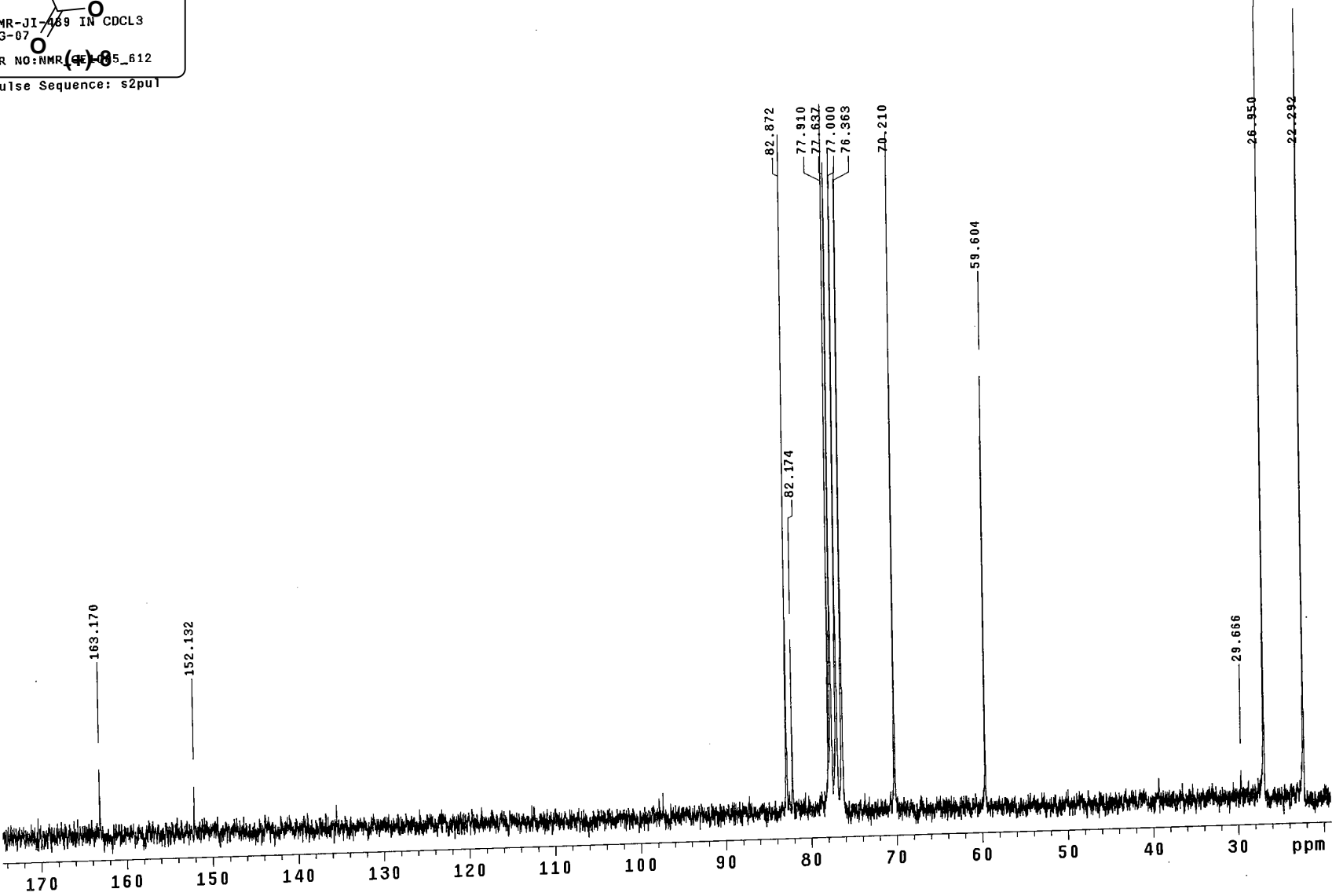
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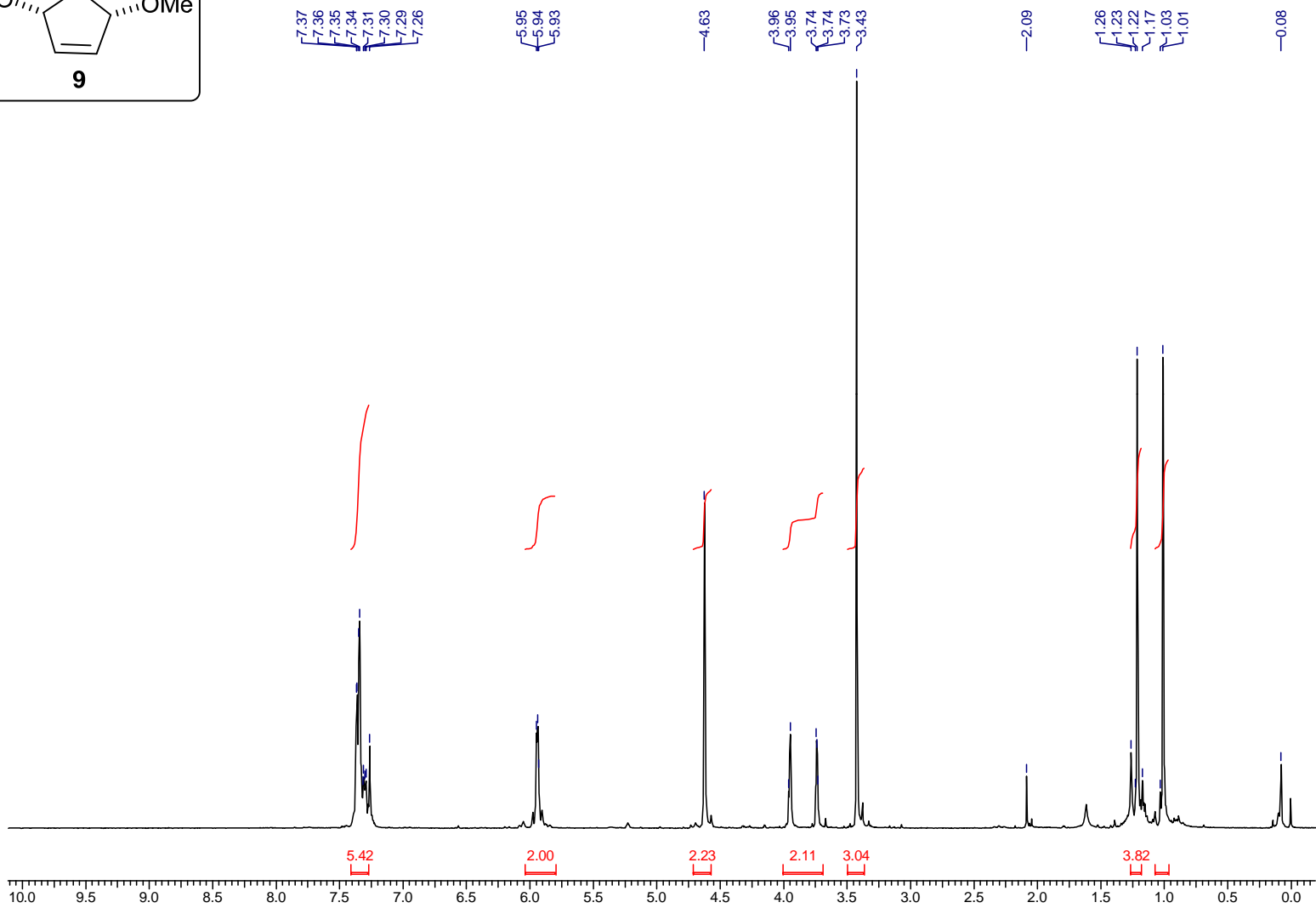
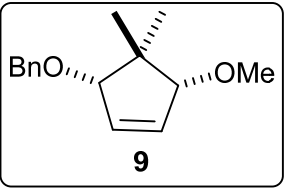


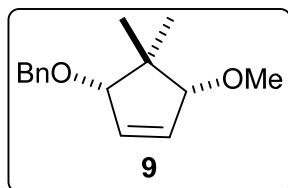


Instrument : Gemini-2000 (200MHz)
Date & Time : Sun Oct 23 11:15:08 GMT 2005
Recorded By : Manoj

Handwritten signature
231



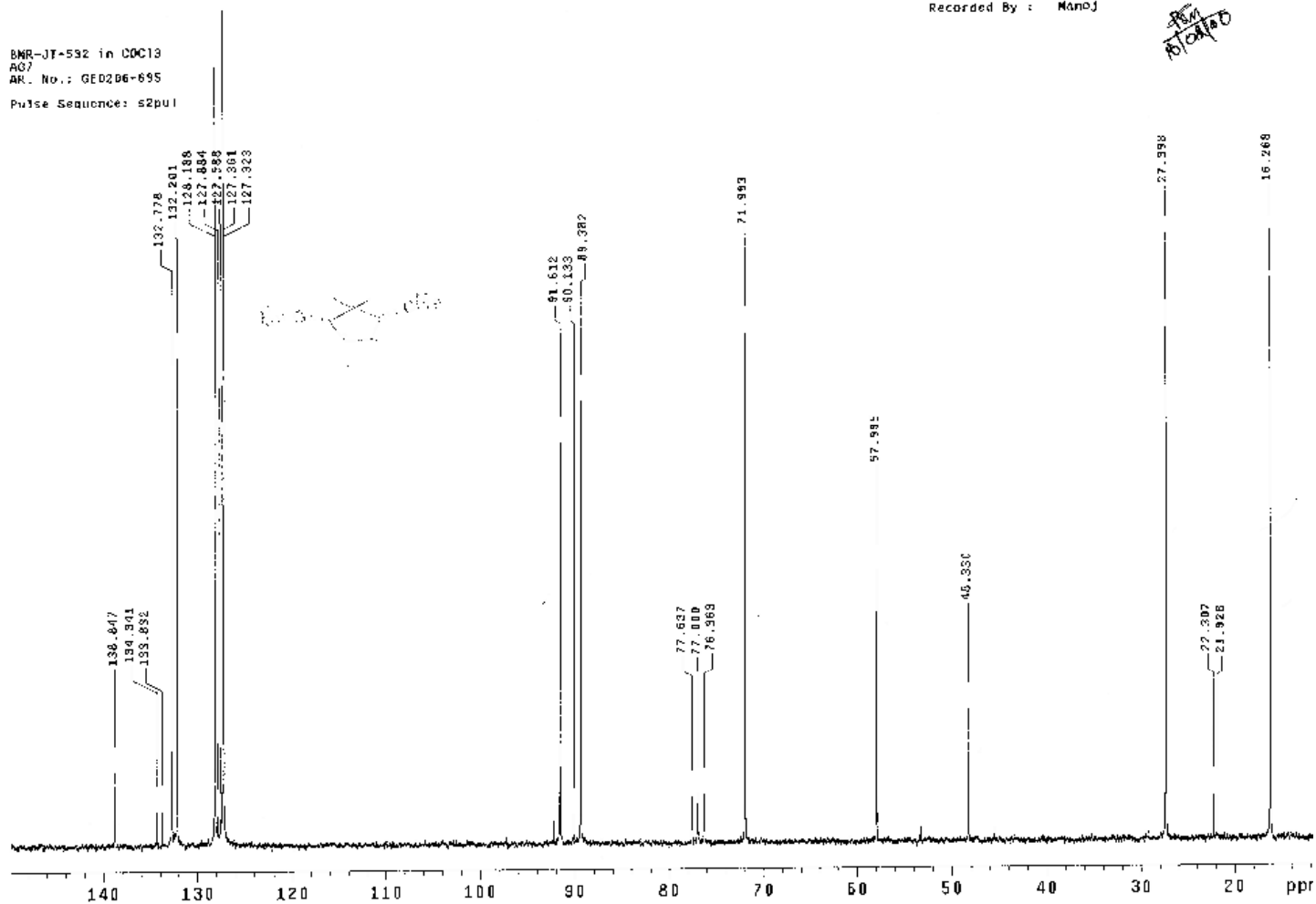


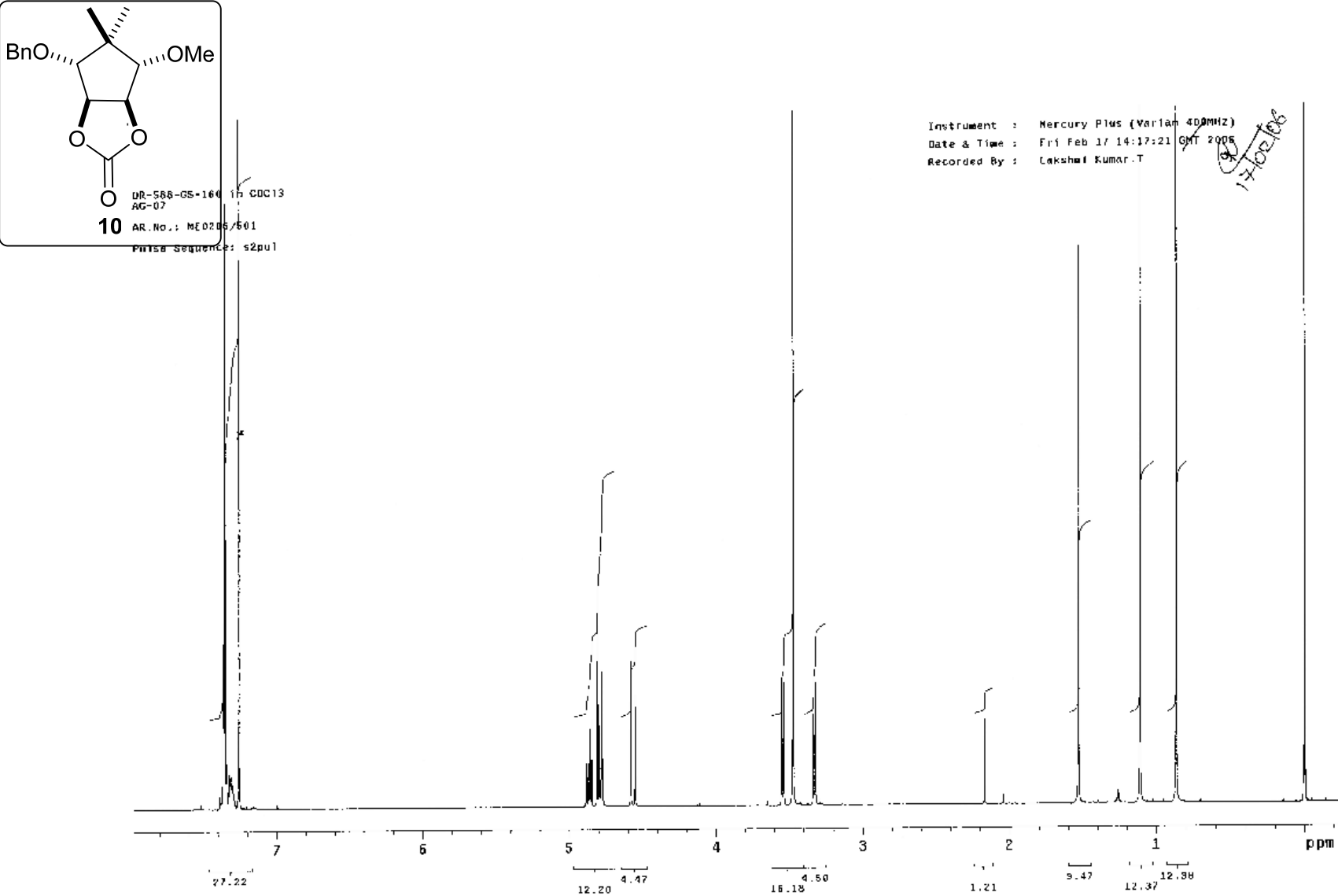


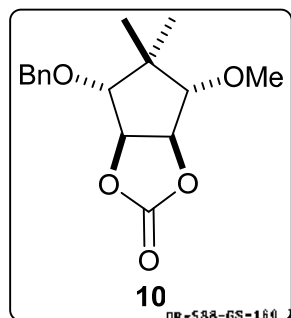
Instrument : Gemini-2000 (200MHz)
Date & Time : Thu Feb 16 12:29:12 GMT 2006
Recorded By : Manoj

Manoj
16/02/06

BMR-JT-532 in CDCl₃
AQ7
AN. No.: GE0206-695
Pulse Sequence: s2pul







OR-588-GS-180 IN CDCl₃

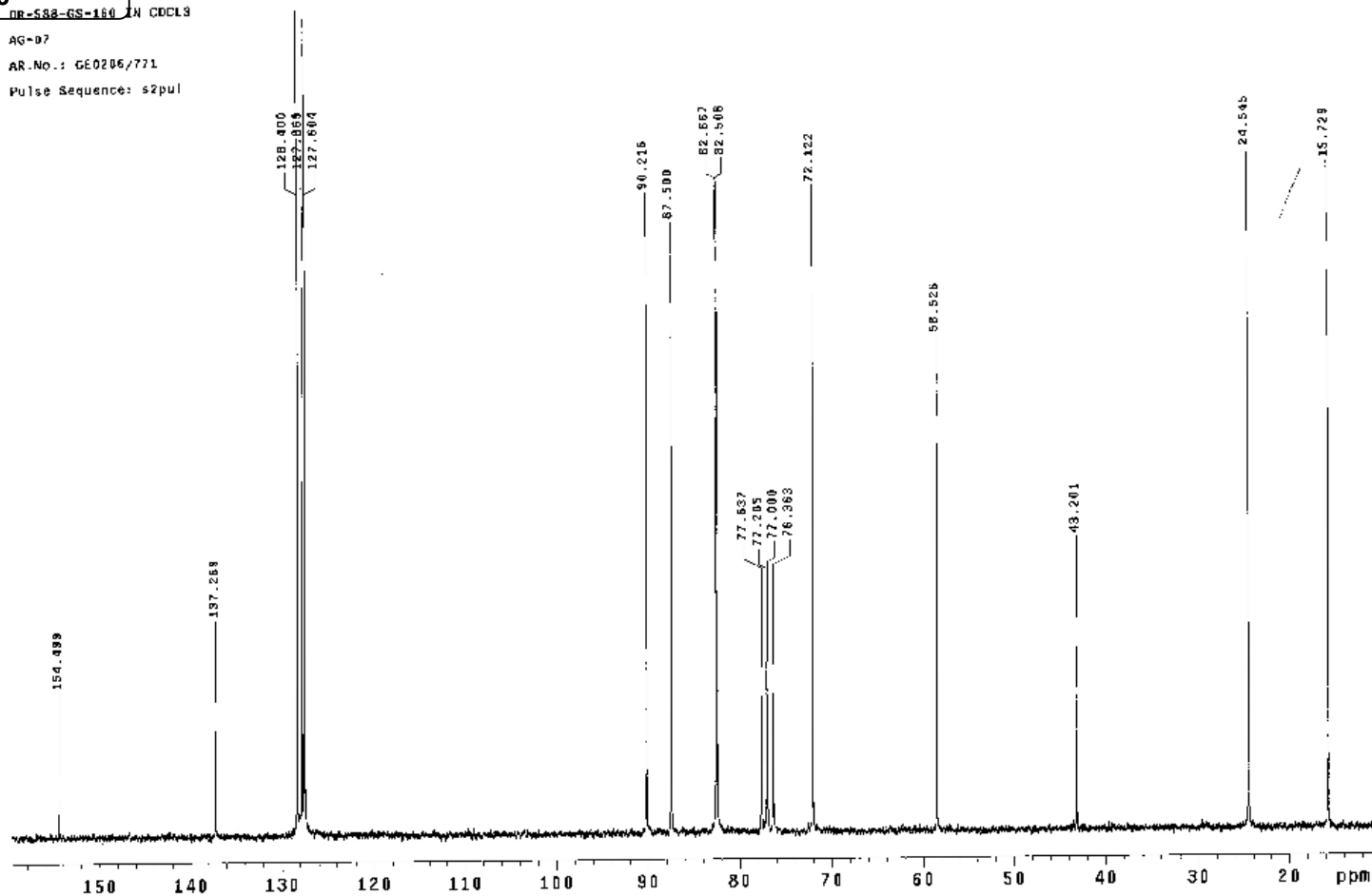
AG-07

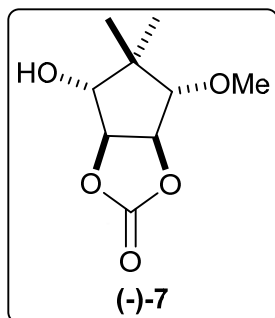
AR.No.: GE0206/771

Pulse Sequence: s2pul

Instrument : Gemin1-2000 (200MHz)
Date & Time : Fri Feb 17 21:30:40 GMT 2006
Recorded By : Manoj

Manoj

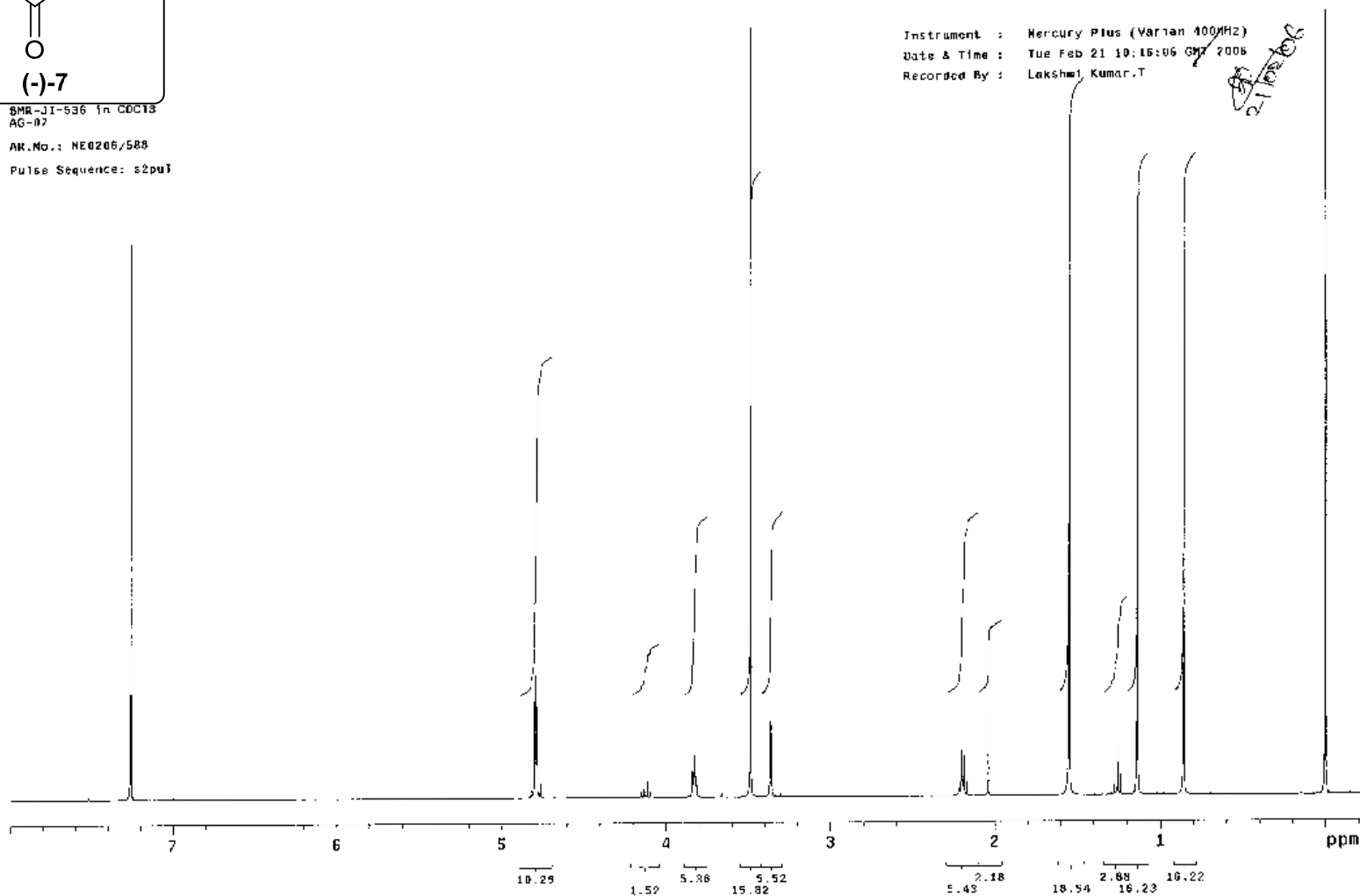


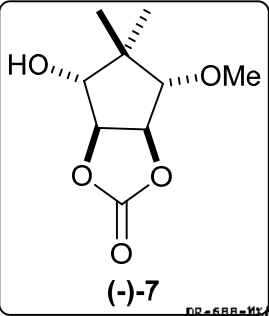


SMR-JI-536 in CDCl₃
AG-02

AK.No.: NE0266/588

Pulse Sequence: zgpg30

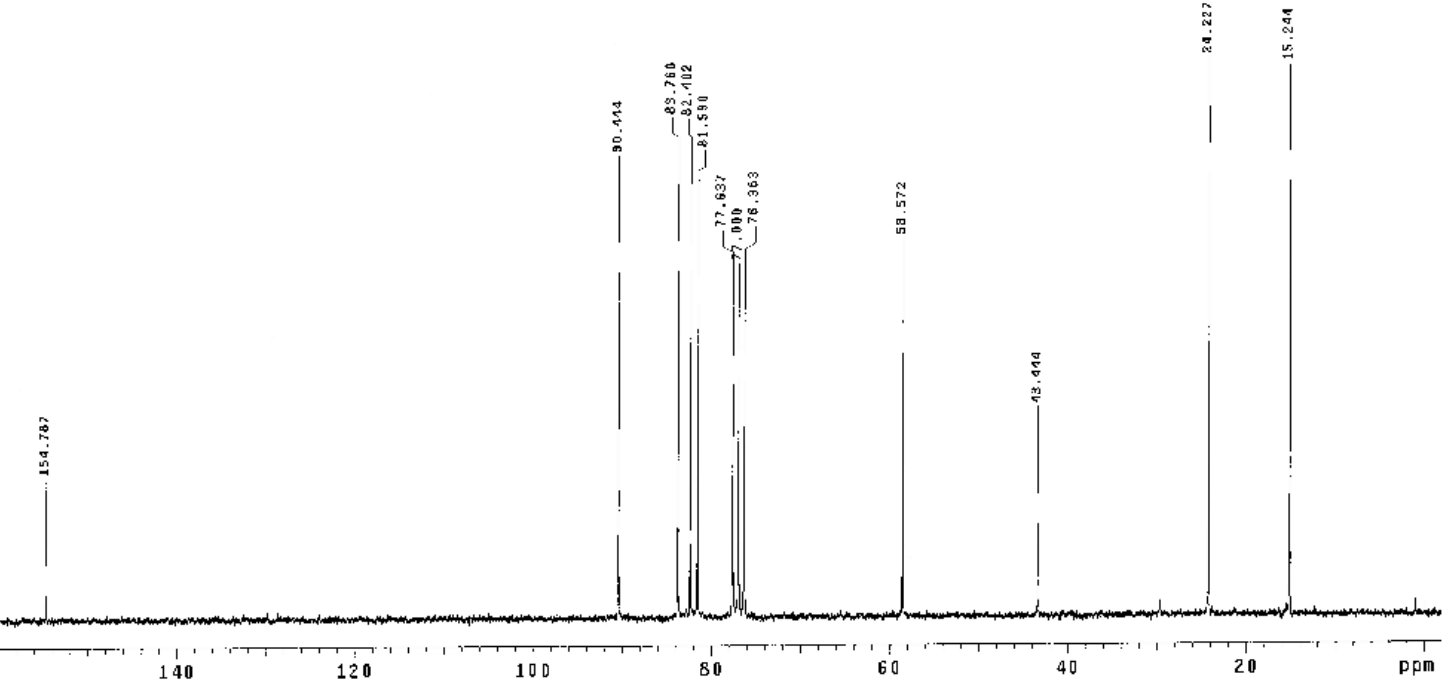


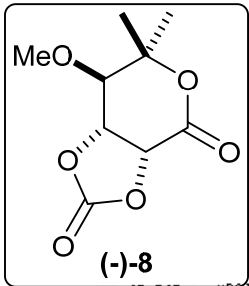


DP-688-MN-165 IN CDCl₃
AG-03
AR NO:GE0406/233
Pulse Sequence: g2pu1

Instrument : Gemini-2000 (200MHz)
Date & Time : Mon Apr 10 09:13:43 AM 2006
Recorded By : Manoj

for
2006106





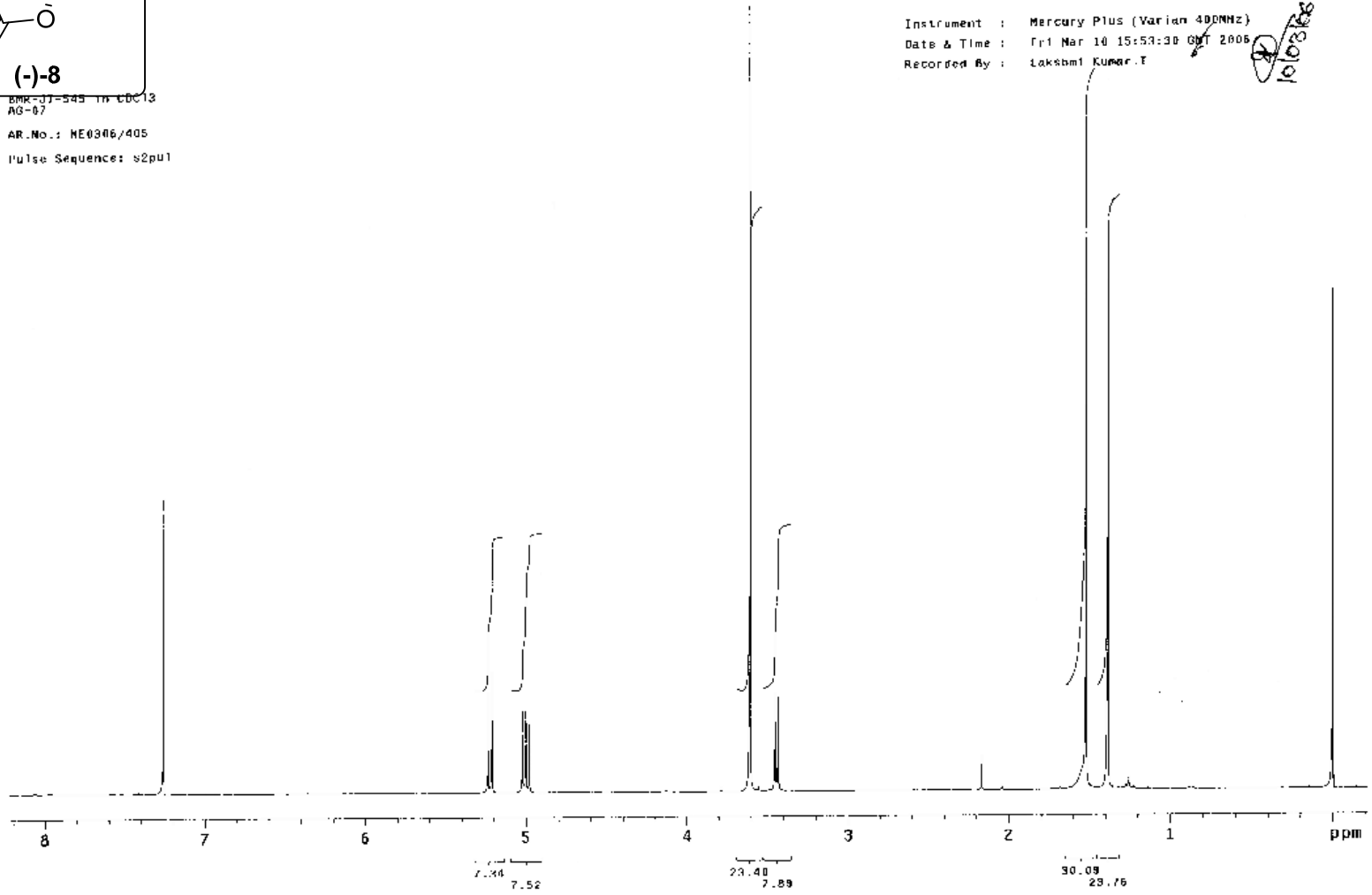
BMK-07-545 in CDCl₃
AG-07

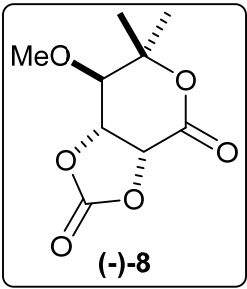
AR.No.: HE0306/405

Pulse Sequence: zgpg30

Instrument : Mercury Plus (Varian 400MHz)
Date & Time : Fri Mar 10 15:53:30 GMT 2005
Recorded By : Lakshmi Kumar.T

10.60123





BNR-JI-545 IN CDCl₃
AQ-07
AR NO: GE0306/976
Pulse Sequence: zgpg30

