Photo-oxidation Coupled Kabachnik–Fields and Bigenelli reactions for Direct Conversion of Benzyl alcohols to α-Aminophosphonates and Dihydropyrimidones

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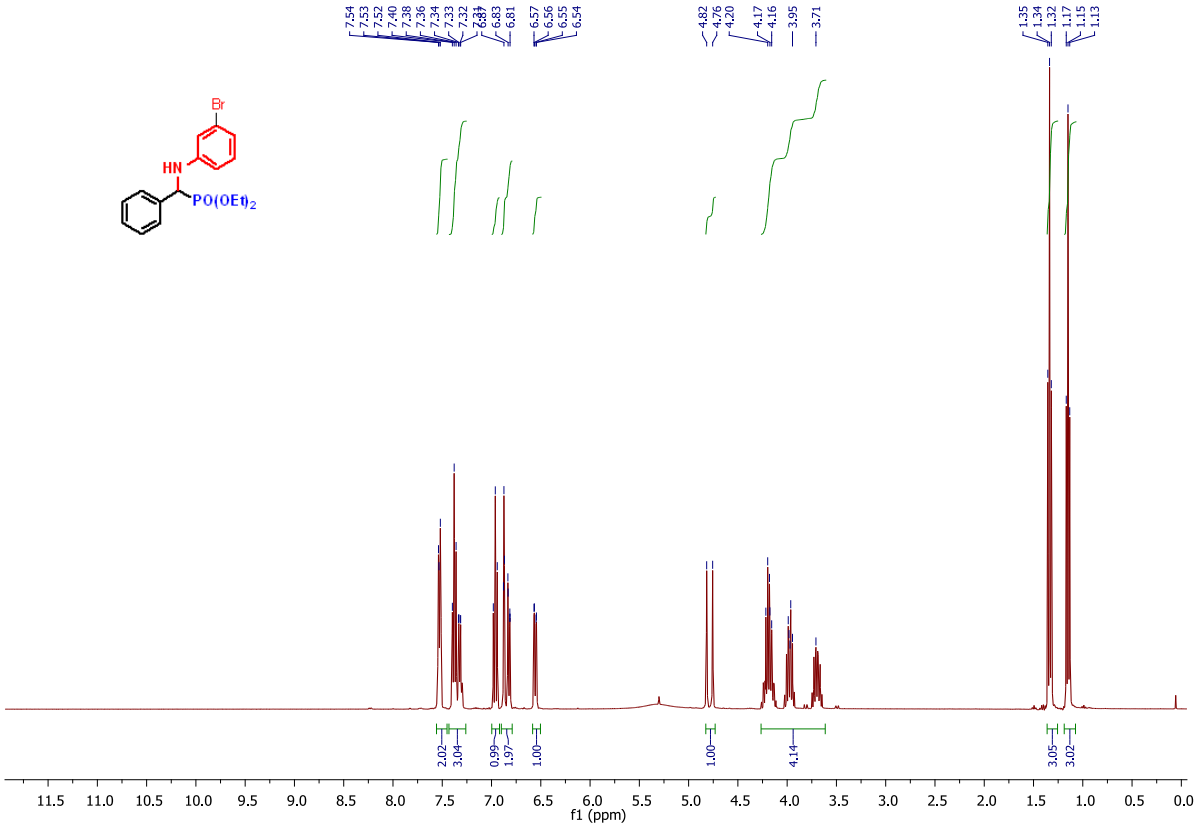
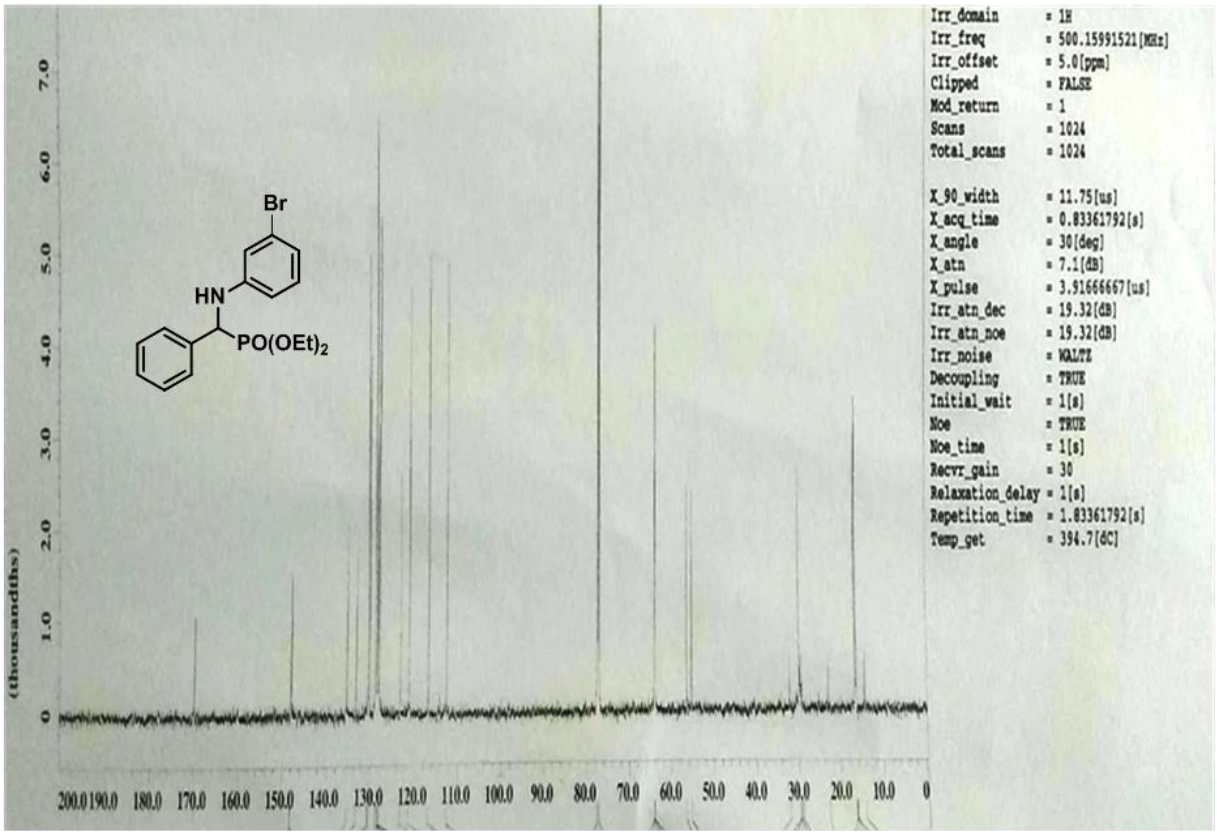
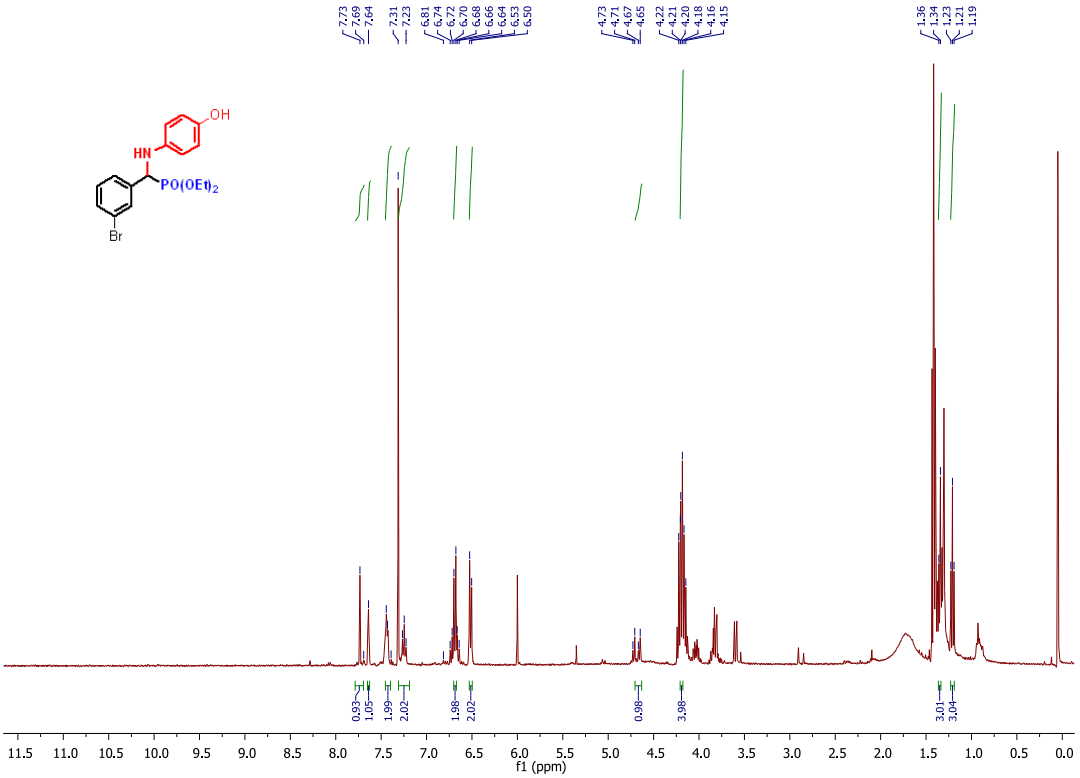
Table: List of Known Compounds and their References

Compound	Reference	Melting Point(°C) (Literature)	Melting Point(°C) (measured)
4a	34g (*Appl. Organometal. Chem.* **2017**, 31, e3877)	121-123	119-122
4b	34b (*OCAIJ* **2011**, 7, 320-324)	Not known	152-155
4c	34f (*RSC Adv.* **2014**, 4, 45831-45837)	Not known	145-148
4d	34i (*Med. Chem. Res.* **2019**, 28, 528–544.)	Not known	185-187
4e	34a (*ARKIVOC* **2007**, *(xiii)*, 155-166)	Not known	179-181
4f	unknown	Not known	165-167
4g	34e (*J. Chem. Sci. **2013**, 125, 537–544*)	155-156	156-158
4h	34d (*J. Iran. Chem. Soc. **2013**, 10, 677–684*)	88-89	85-88
4i	34h (*Chemistry Select.* **2018**, 3, 5552 – 5558)	149-151	147-149
4j	34e (*J. Chem. Sci. **2013**, 125, 537–544*)	111-113	110-112
4k	34c (*Appl. Organometal. Chem.* **2011**, 25, 47-53)	181-183	182-183
5a	35a (*Appl Organometal Chem.* **2019**, 33, e4629)	200-202	199-201
5b	35a (*Appl Organometal Chem.* **2019**, 33, e4629)	213-215	211-214
5c	35a (*Appl Organometal Chem.* **2019**, 33, e4629)	196-198	197-199
5d	35b (*ACS Catal.* **2013**, 3, 1420−1430)	168-170	167-169
5e	35c (*RSC Adv.* **2018**, 8, 40243-40251)	185-186	182-185

^{1}H NMR and ^{13}C NMR spectra of compounds



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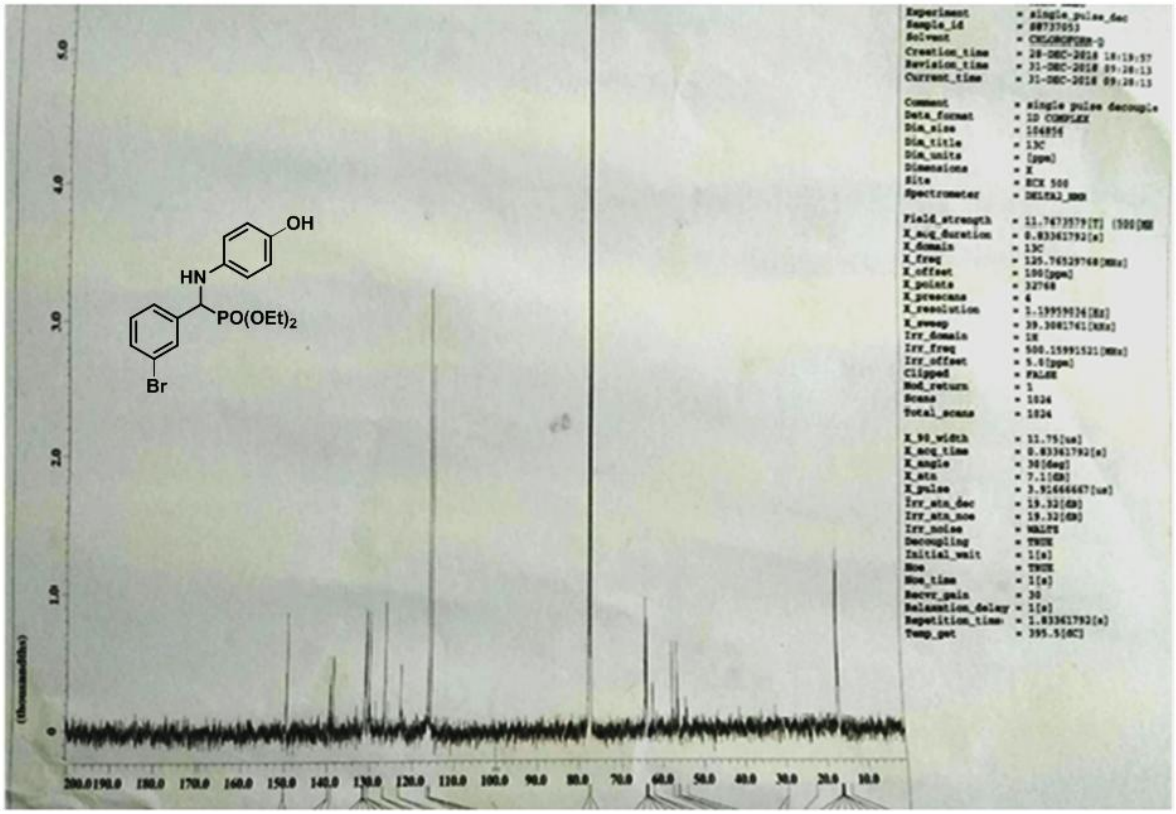
Br
f1 (ppm)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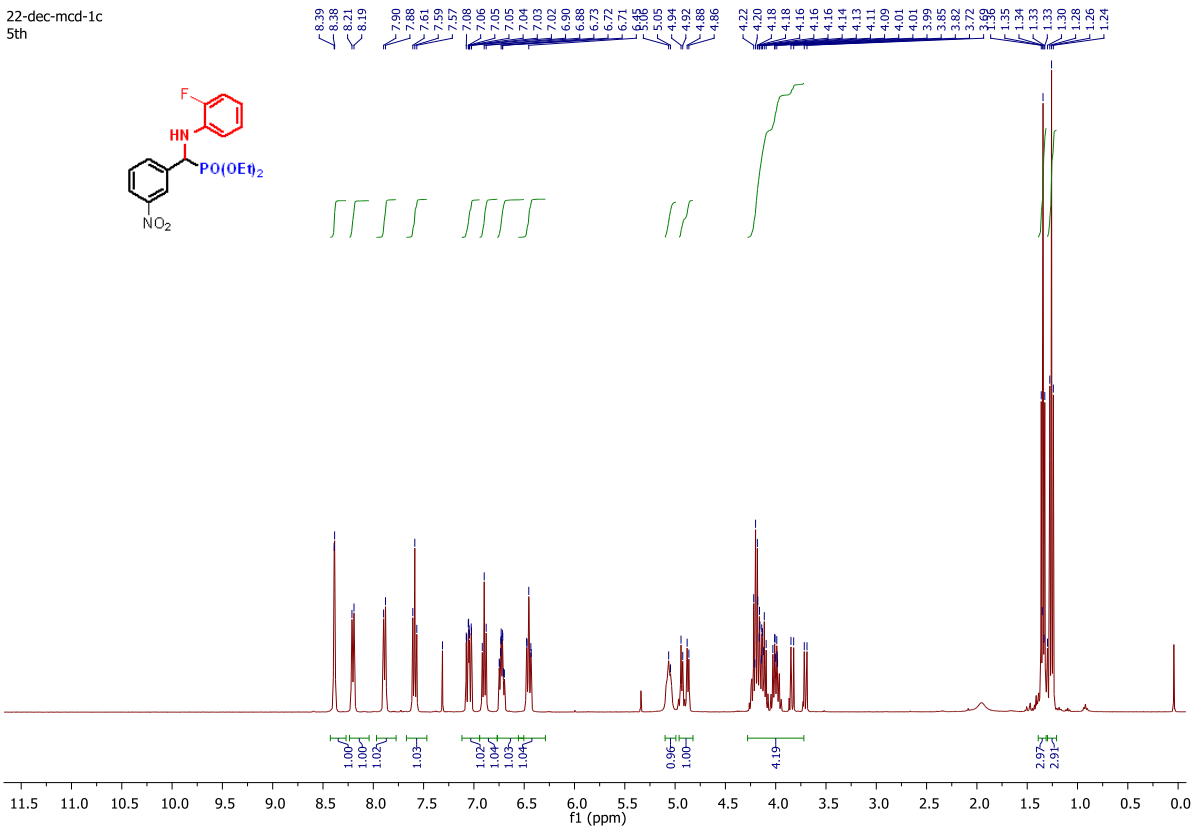
HN
PO(OEt)2
Br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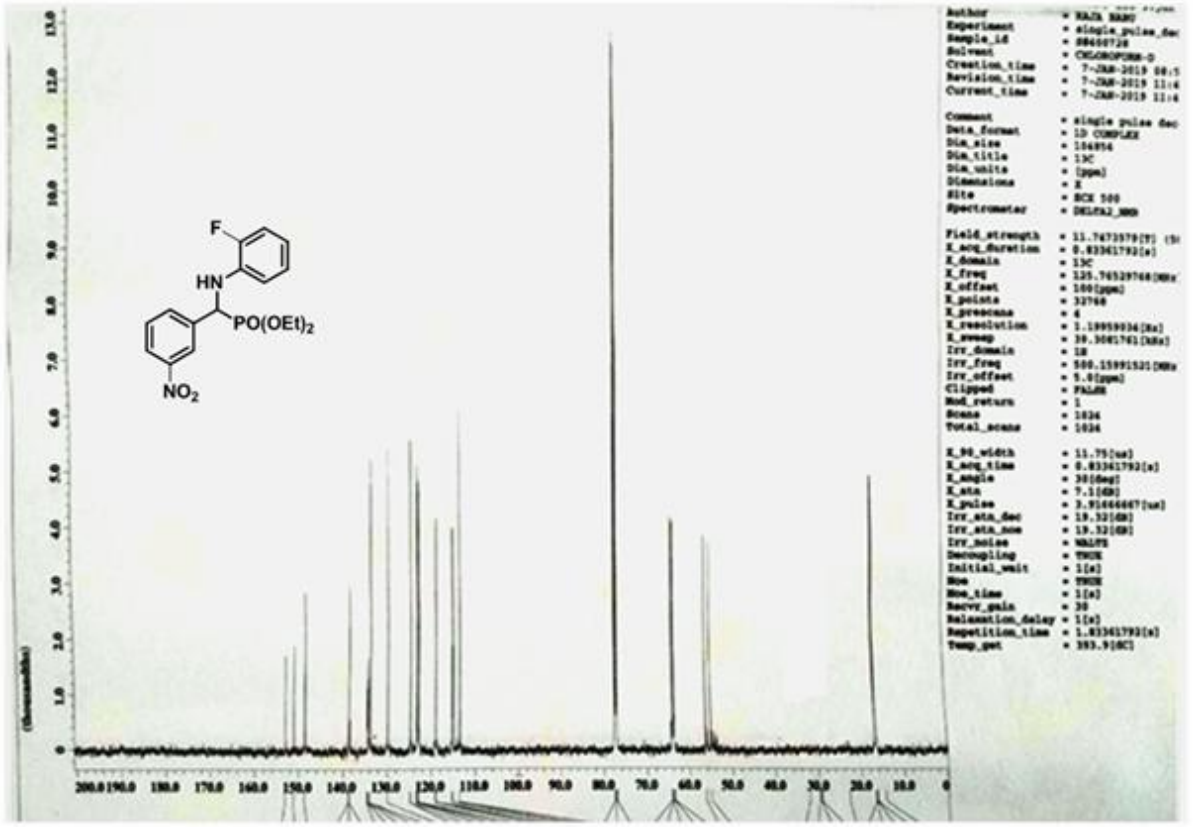
5th
F
HN
PO(OEt)2
NO2
f1 (ppm)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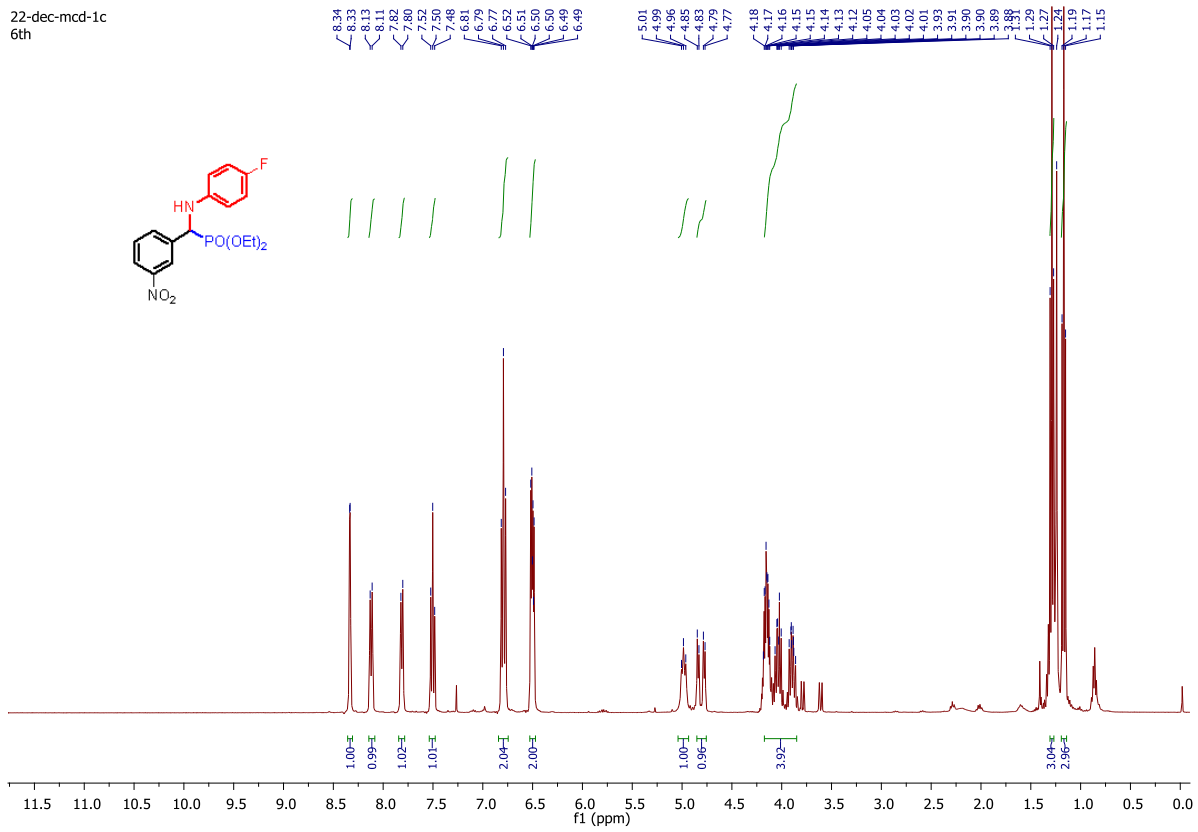
HN
PO(OEt)2
NO2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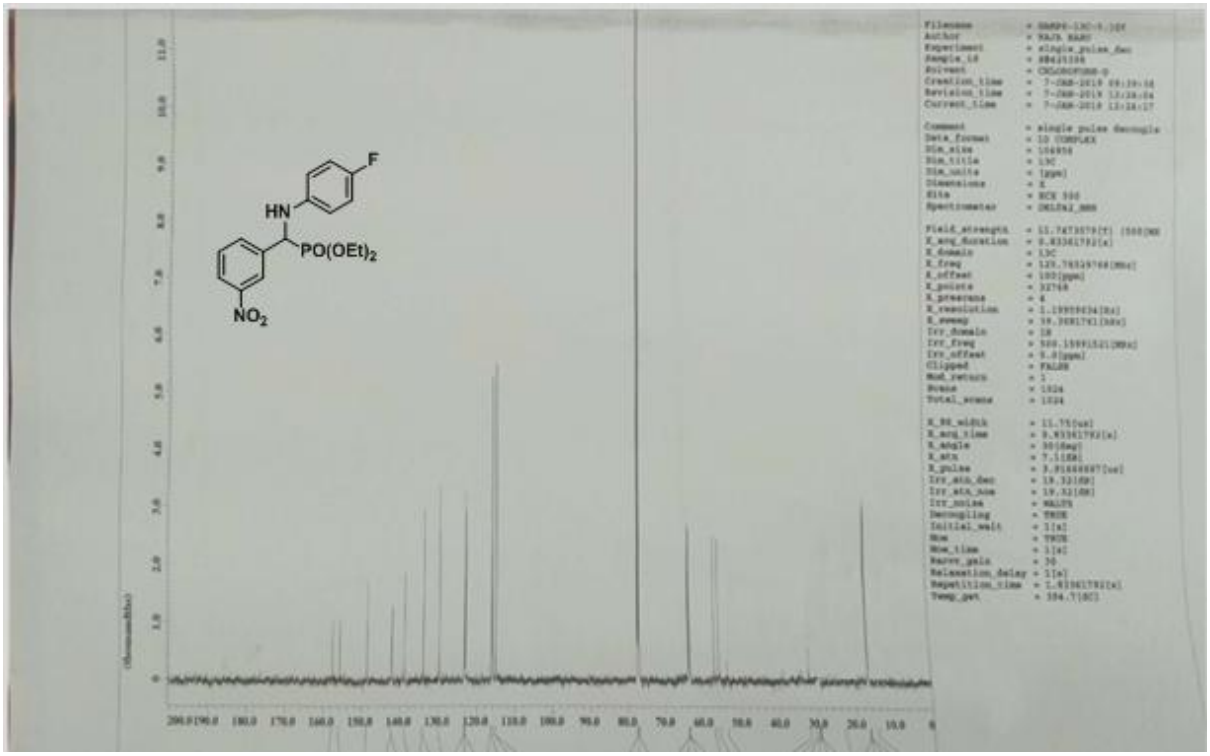
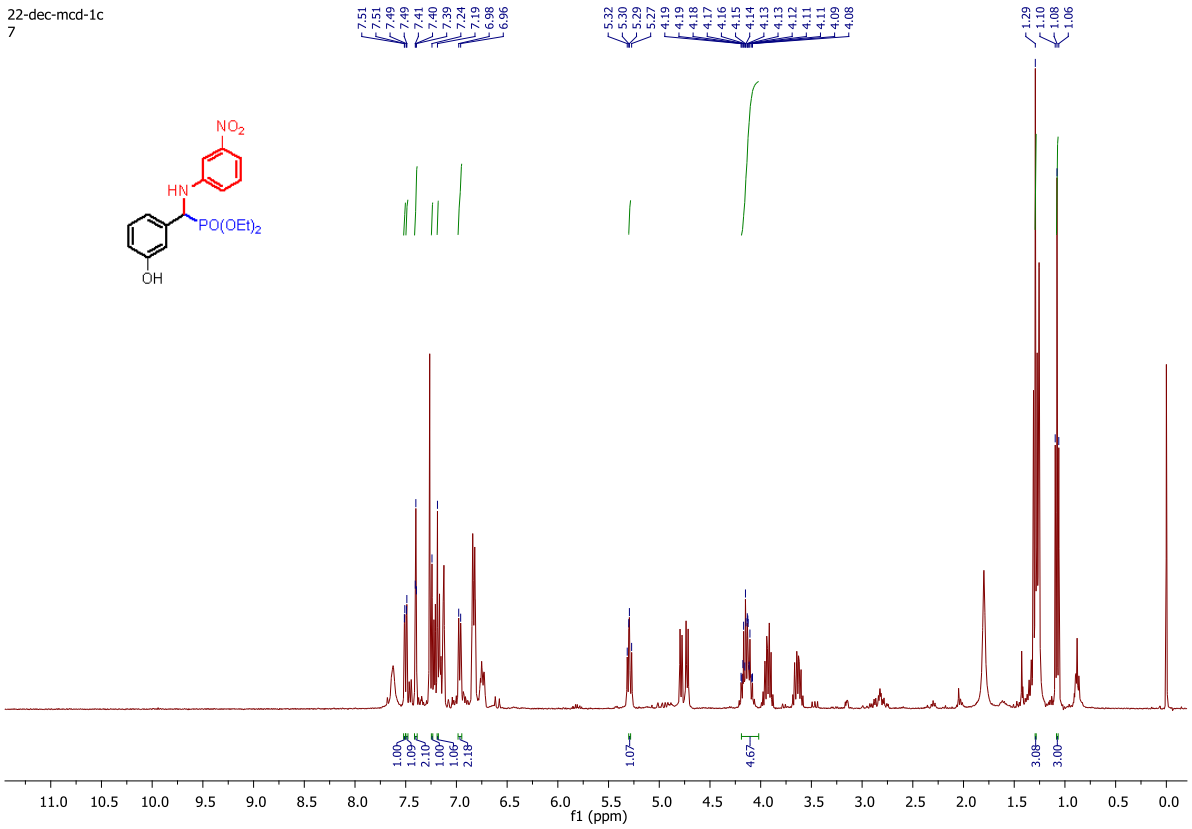
6th
F
HN
PO(OEt)2
NO2
f1 (ppm)


F
HN
PO(OEt)2
NO2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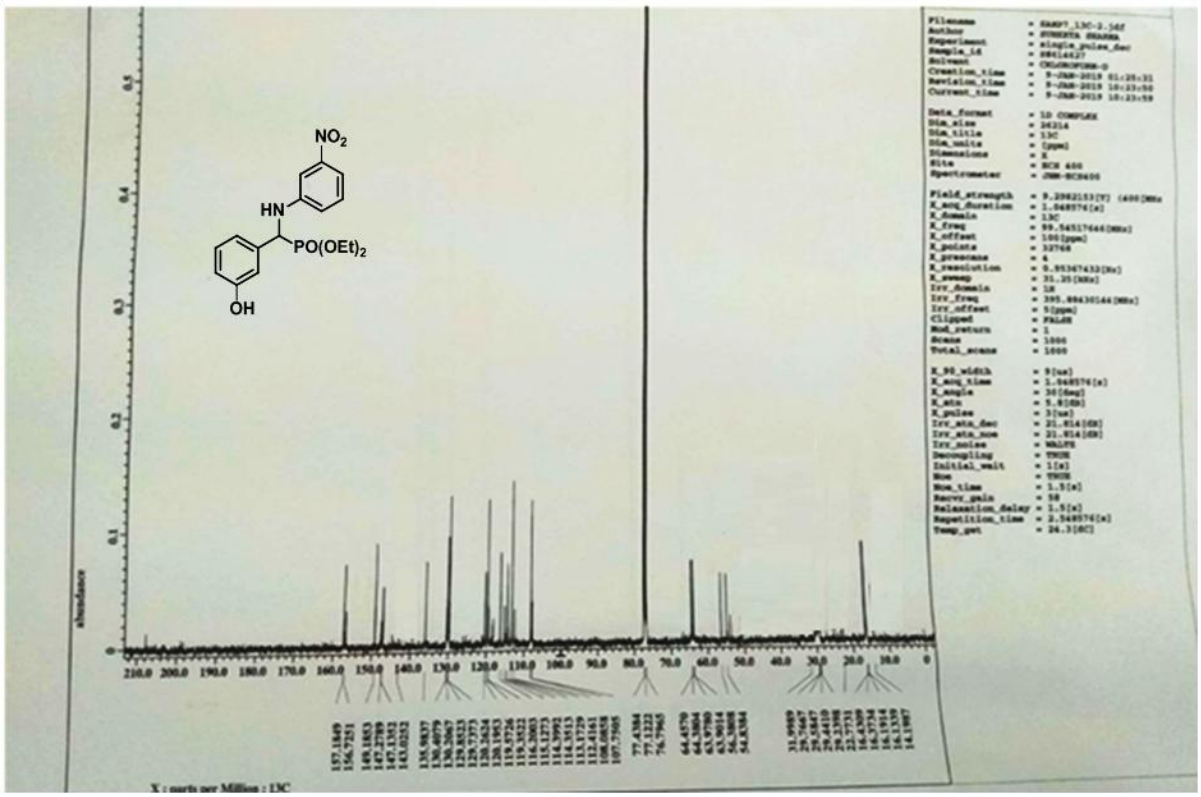
7
NO2
HN
PO(OEt)2
OH
f1 (ppm)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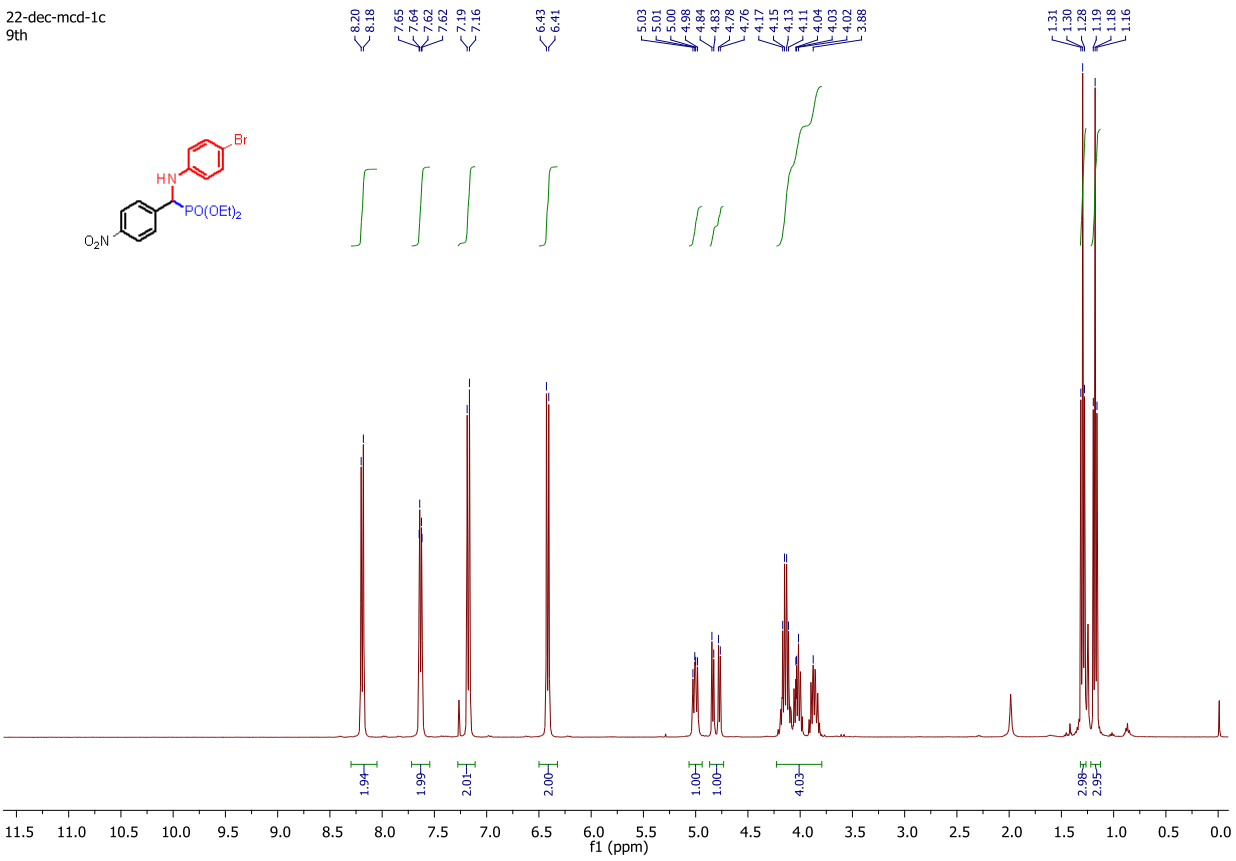
HN
PO(OEt)2
OH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9th
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8.18
7.65
7.64
7.62
7.62
7.19
7.16
6.43
6.41
5.03
5.01
5.00
4.98
4.84
4.83
4.78
4.76
4.17
4.15
4.13
4.11
4.04
4.03
4.02
3.88
1.31
1.30
1.28
1.19
1.18
1.16
Br
HN
PO(OEt)2
O2N
1.94
1.99
2.01
2.00
1.00
1.00
4.03
2.98
2.95
11.5
11.0
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
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3.5
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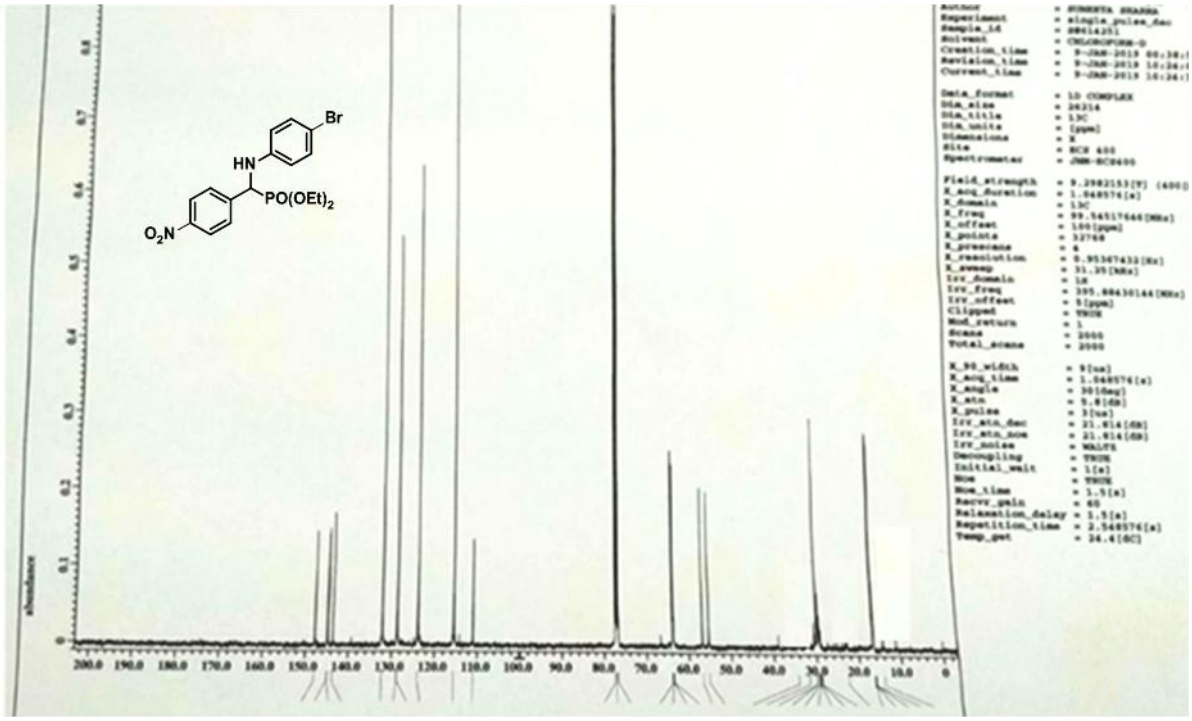
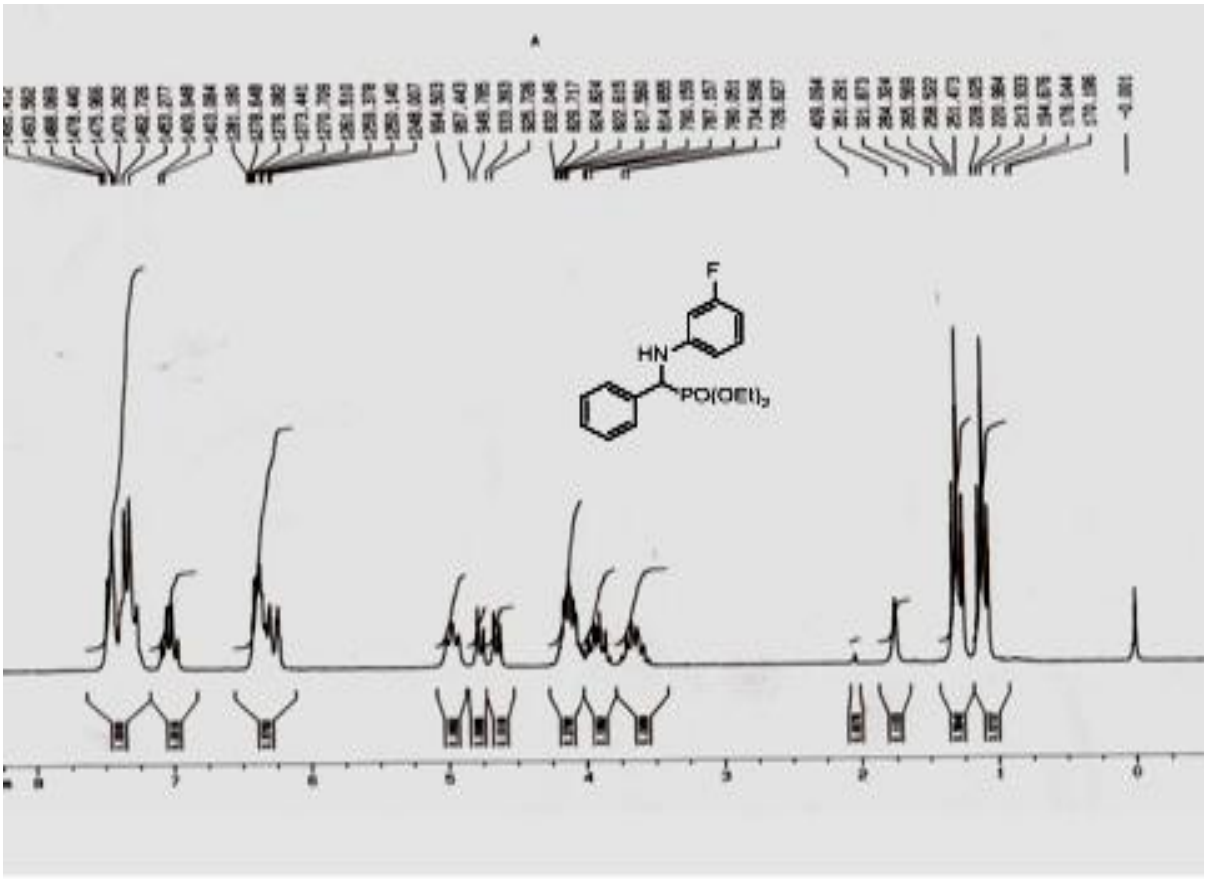
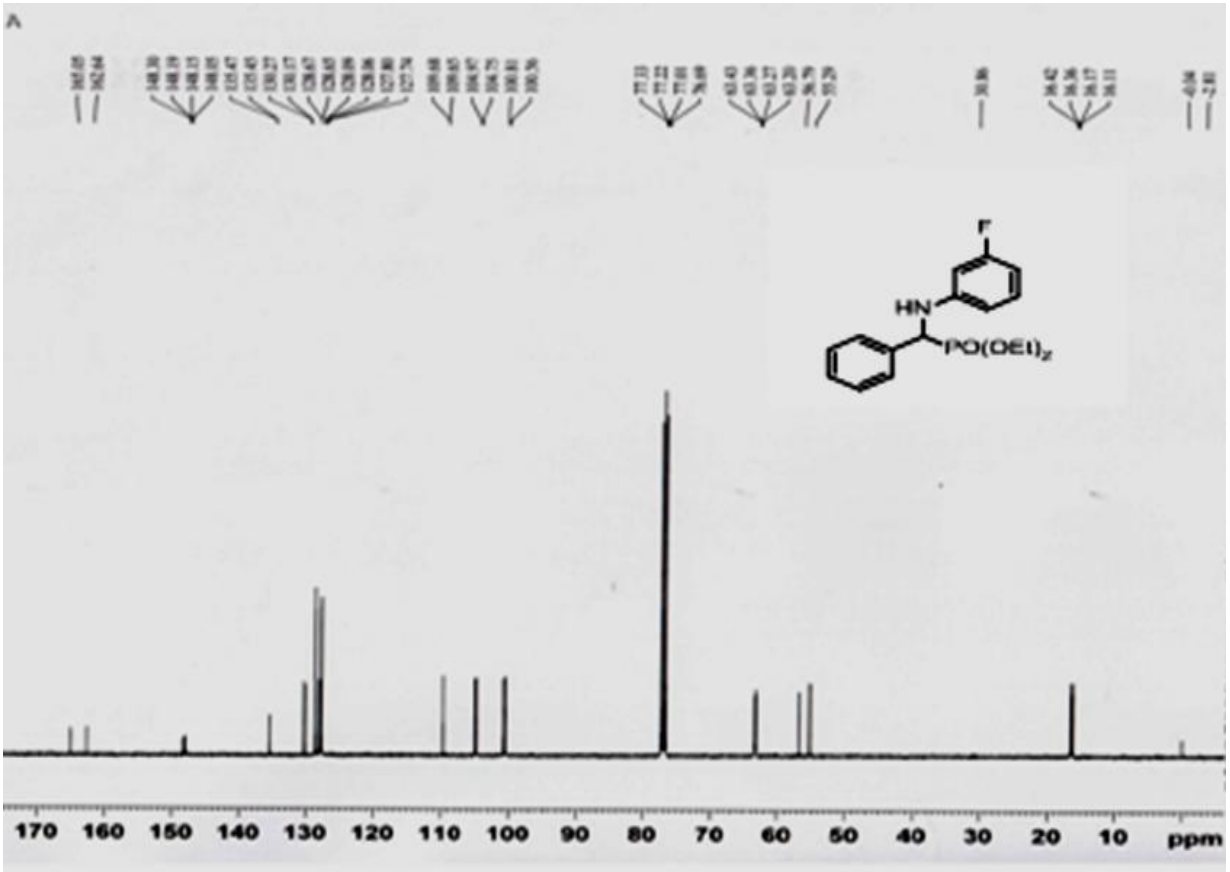
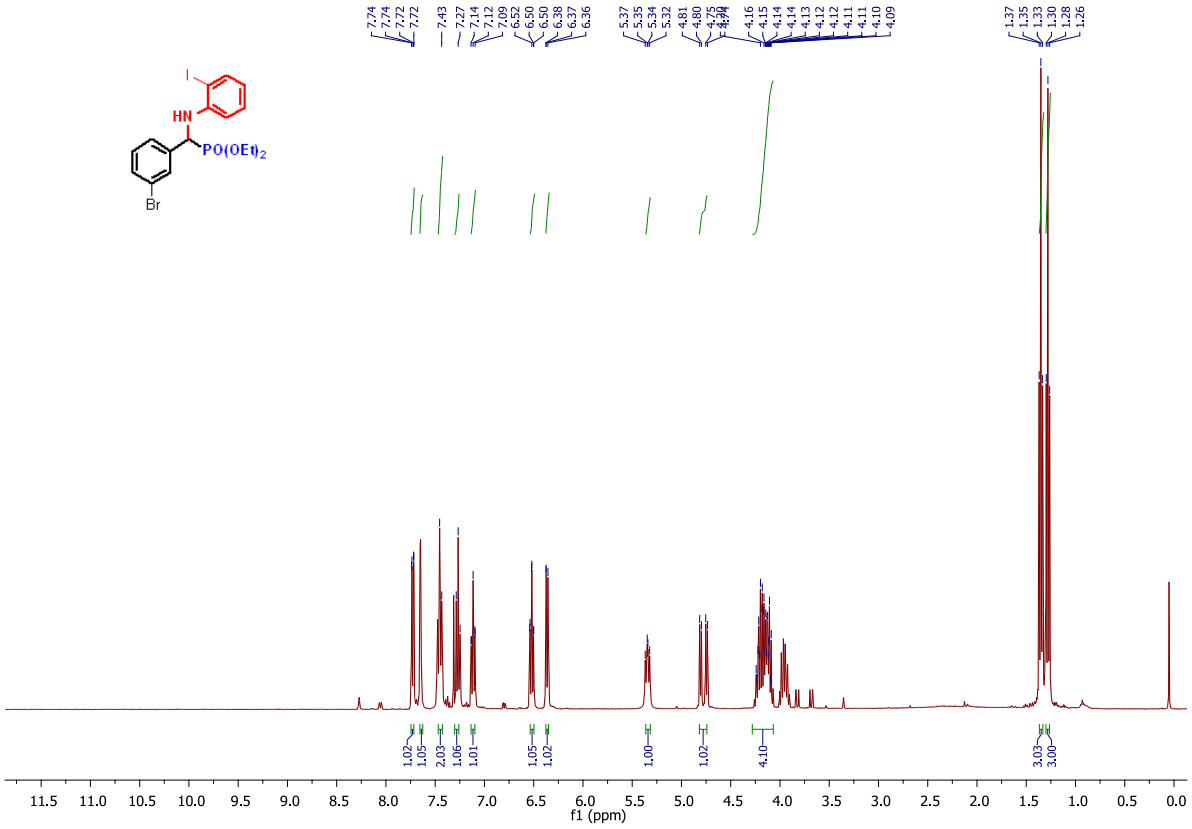
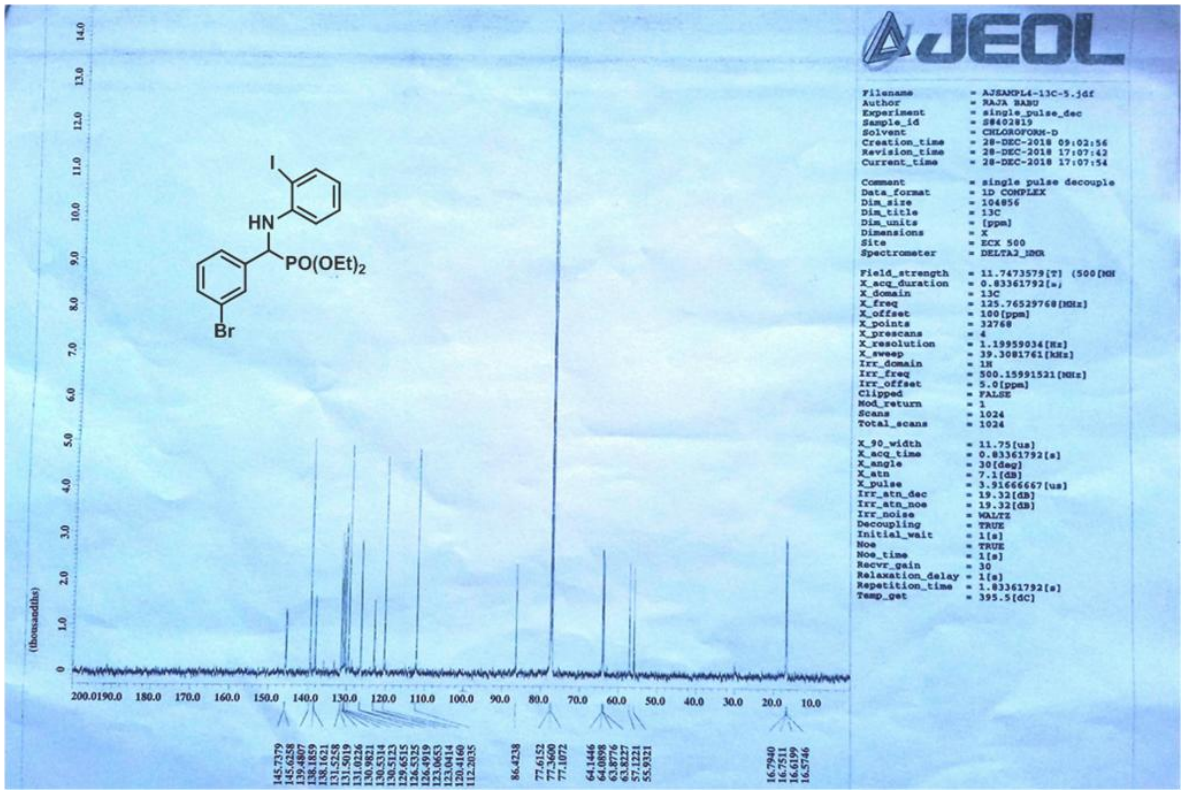
2.5
2.0
1.5
1.0
0.5
0.0
f1 (ppm)

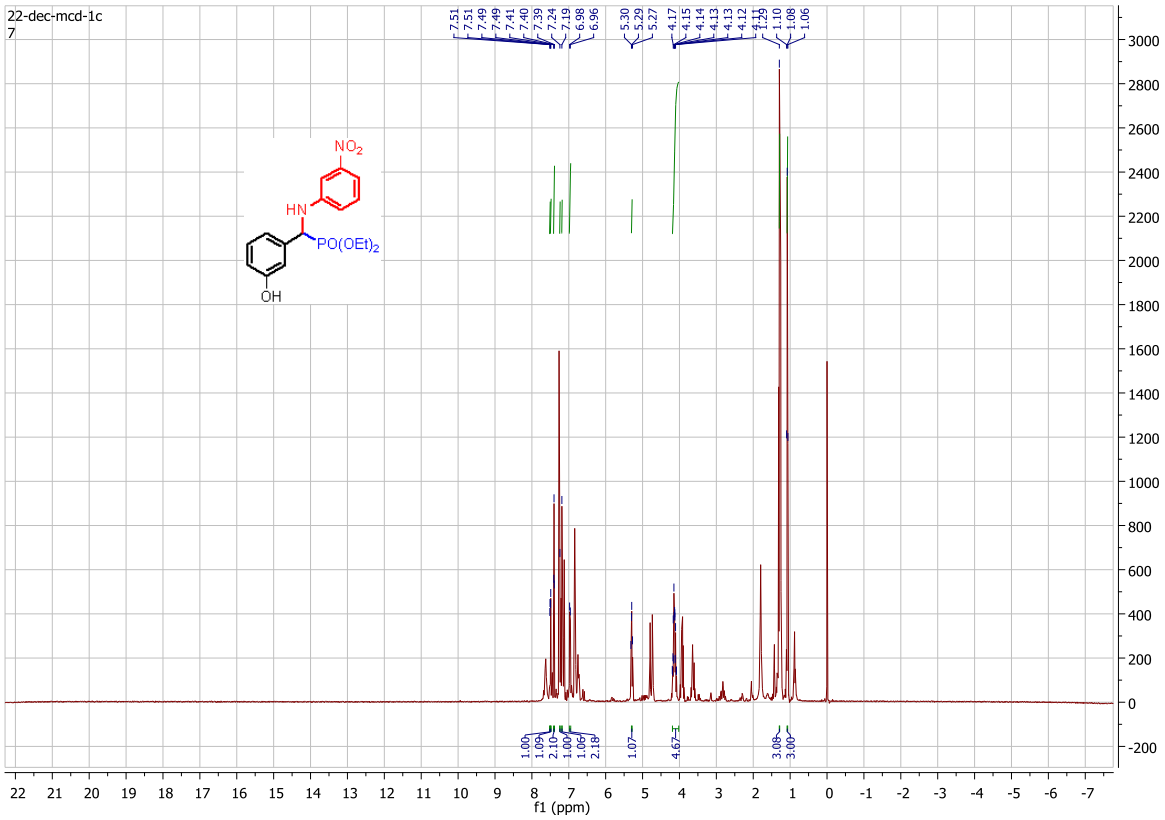

Br
HN
PO(OEt)2
O2N

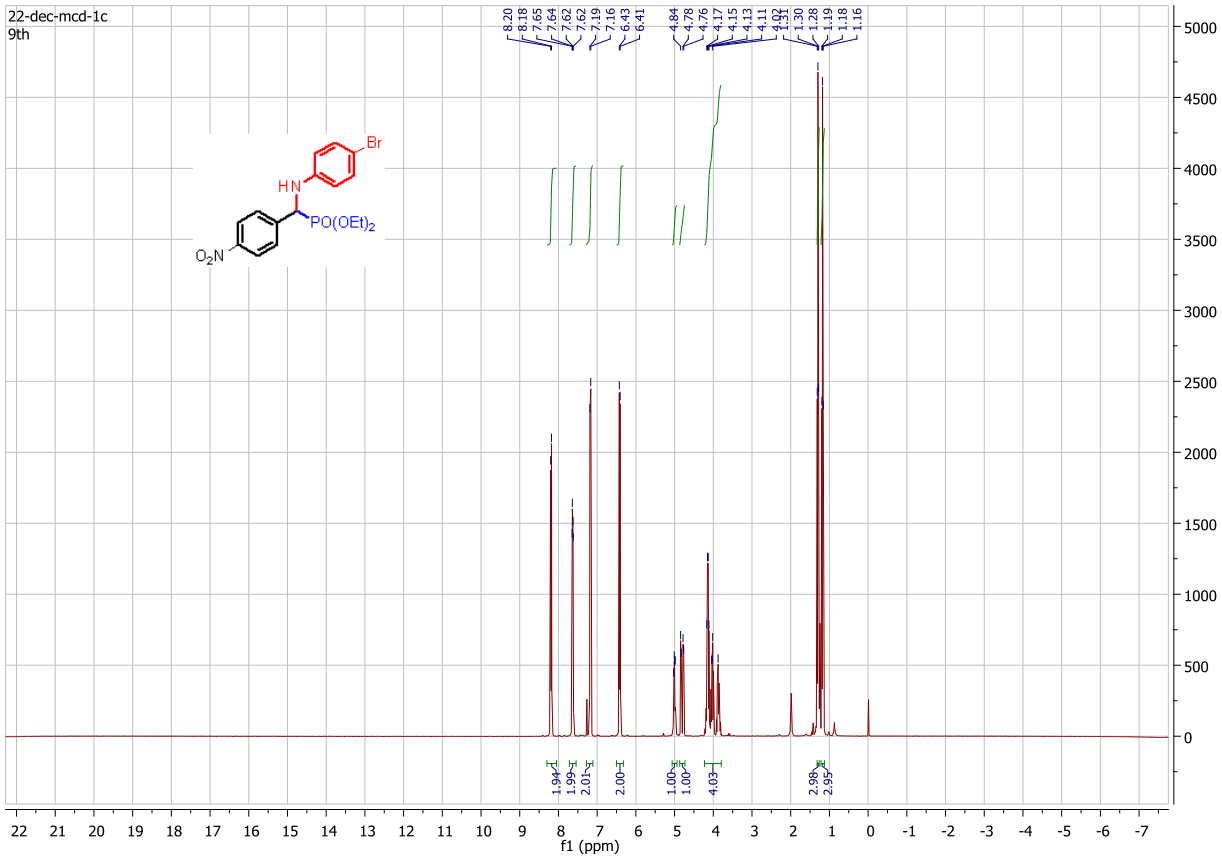

F
HN
PO(OEt)2

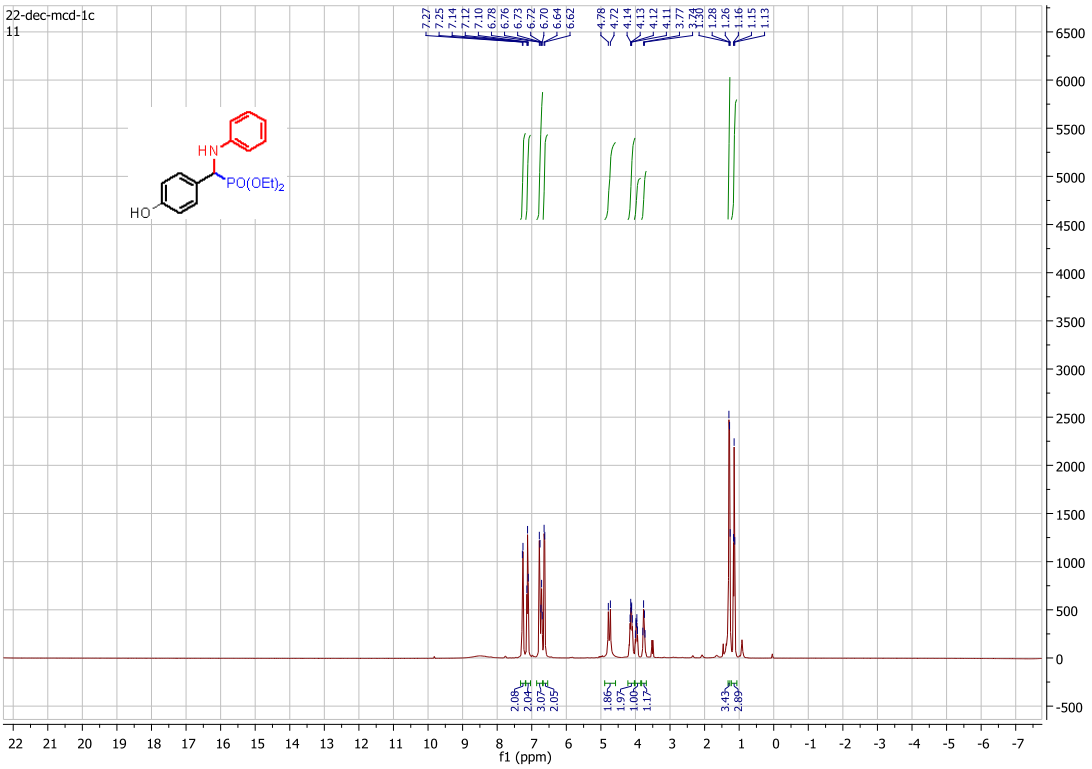

F
HN
PO(OEt)2
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
ppm


HN
PO(OEt)2
Br
f1 (ppm)


JEOL
HN
PO(OEt)2
Br
(thousandths)


22-dec-mcd-1c
7
NO2
HN
PO(OEt)2
OH
f1 (ppm)


22-dec-mcd-1c
9th
Br
HN
PO(OEt)2
O2N
f1 (ppm)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HN
PO(OEt)2
HO
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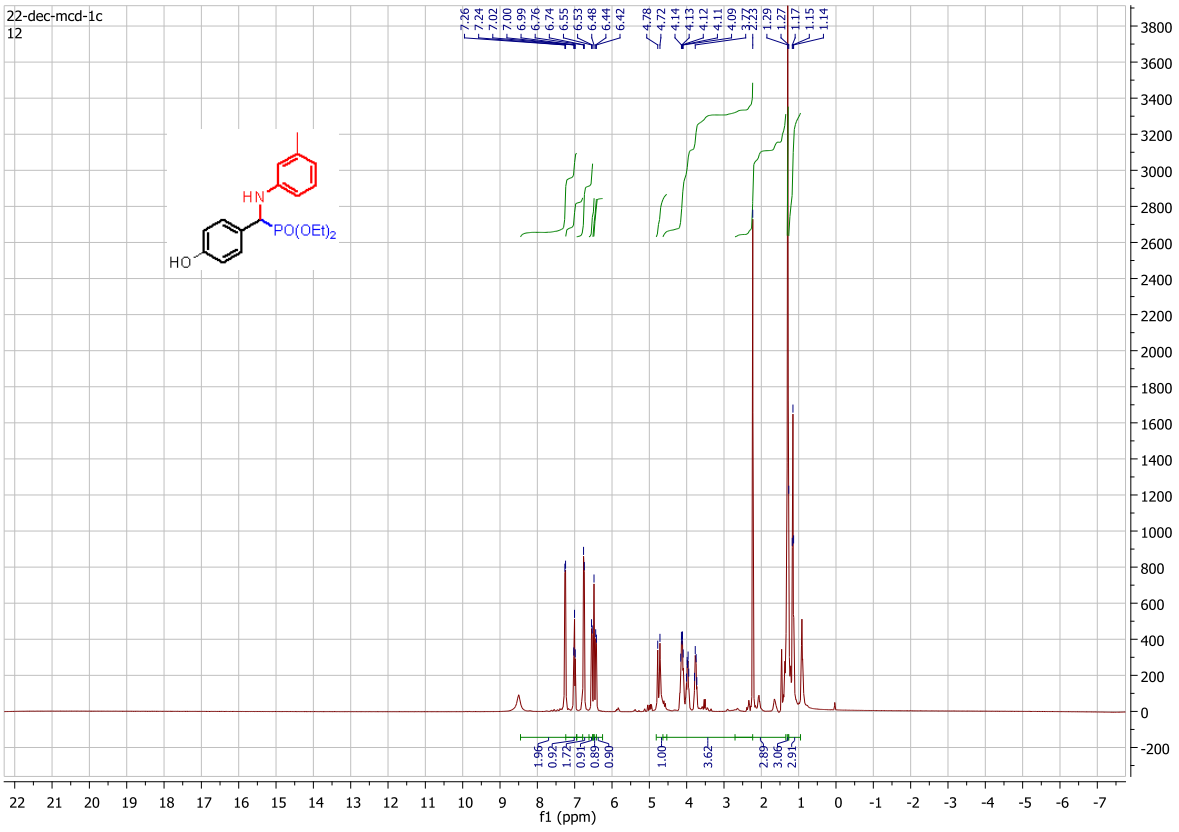
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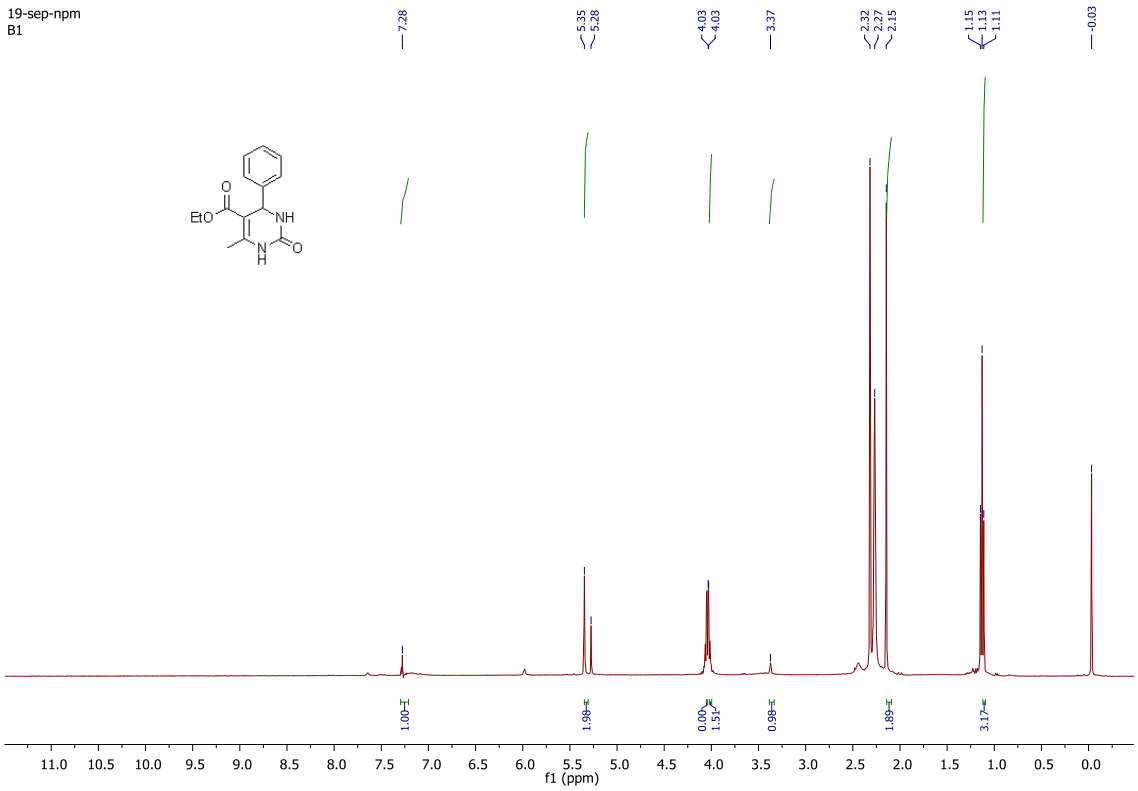
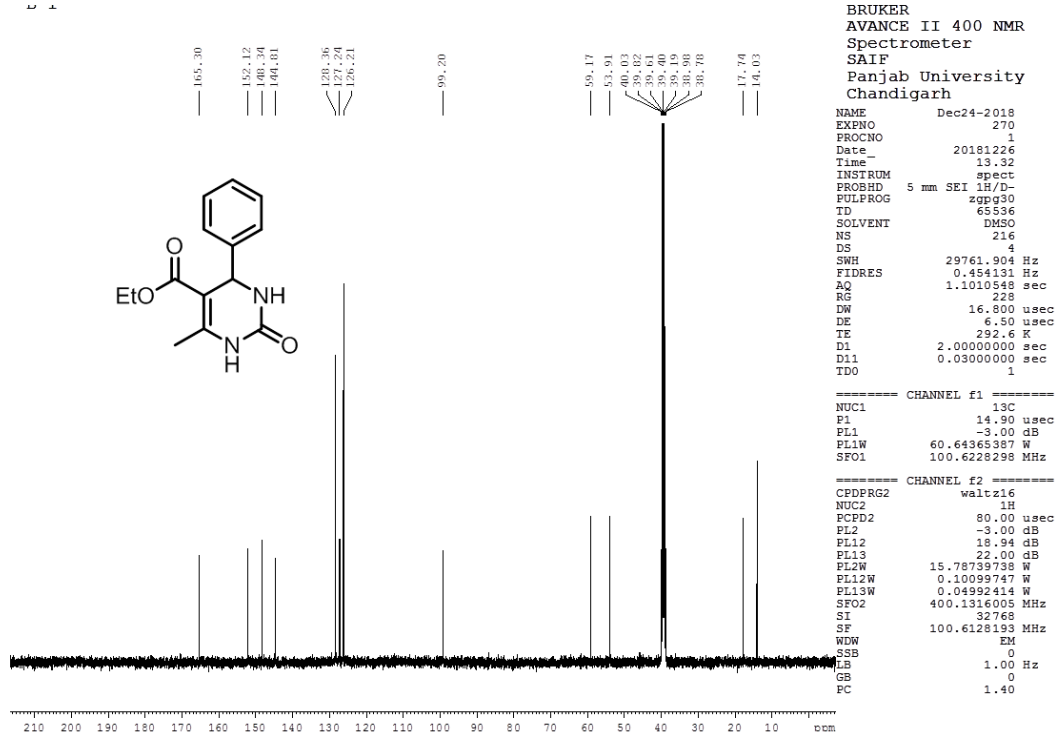
PO(OEt)2
HO
f1 (ppm)





BRUKER
AVANCE II 400 NMR
Spectrometer
SAIF
Panjab University
Chandigarh

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PROCNO	1
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SOLVENT	DMSO
NS	216
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AQ	1.1010548 sec
RG	228
DW	16.800 usec
DE	6.50 usec
TE	292.6 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	1
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NUC1	13C
P1	14.90 usec
PL1	-3.00 dB
PL1W	60.64365387 W
SFO1	100.6228298 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-3.00 dB
PL12	18.94 dB
PL13	22.00 dB
PL2W	15.78739738 W
PL12W	0.10099747 W
PL13W	0.04992414 W
SFO2	400.1316005 MHz
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Asif NMR
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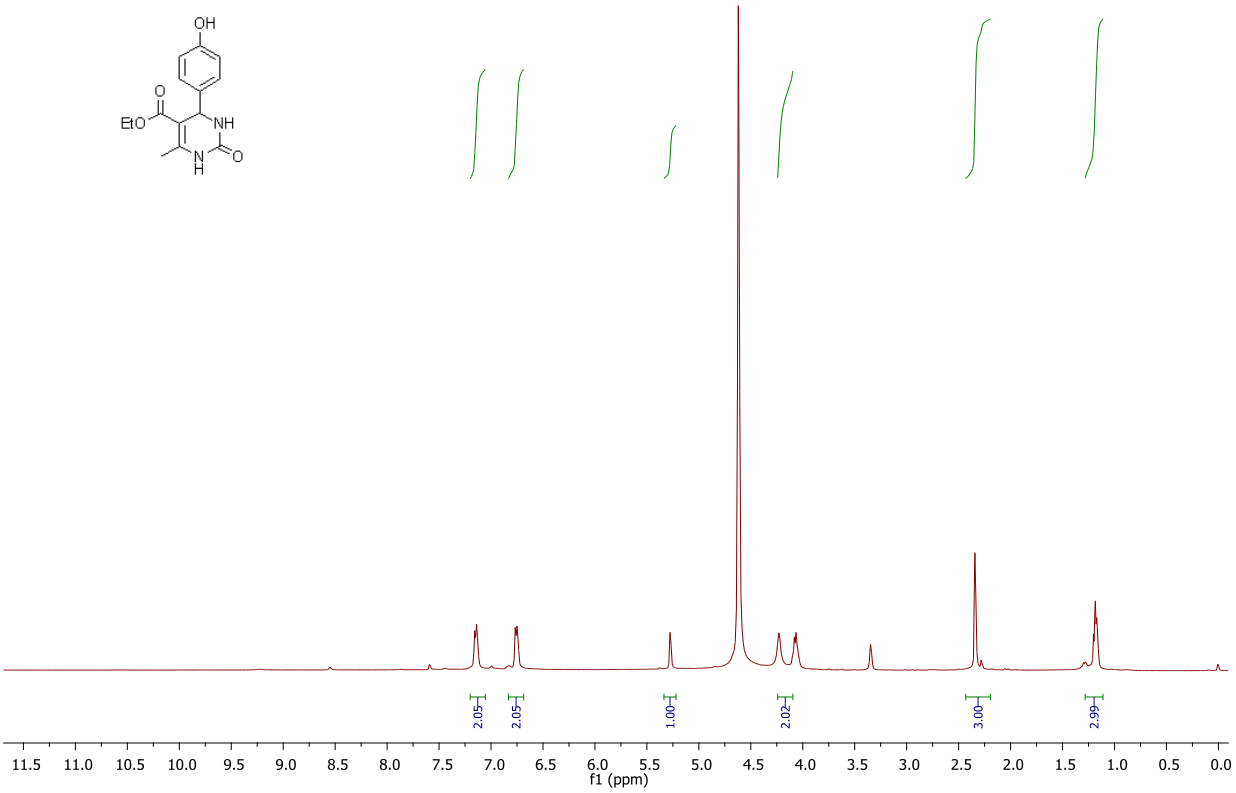

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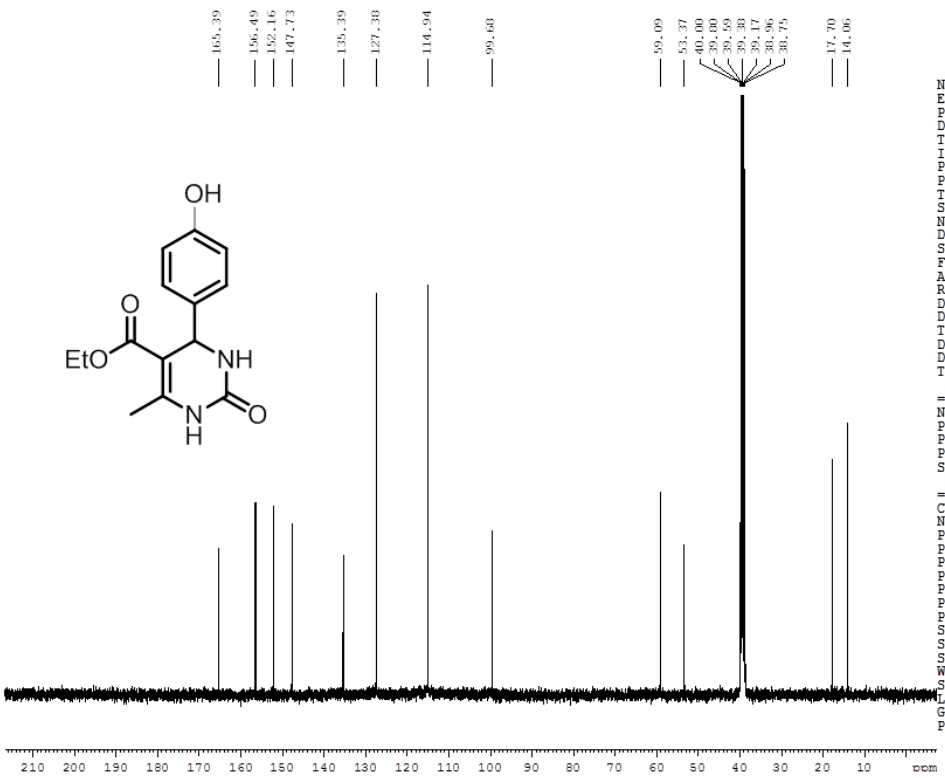

BRUKER
AVANCE II 400 NMR
Spectrometer
SAIF
Panjab University
Chandigarh

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PROCNO	1
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Time	14.03
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PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	376
DS	4
SWH	29761.904 Hz
FIDRES	0.454131 Hz
AQ	1.1010548 sec
RG	228
DW	16.800 usec
DE	6.50 usec
TE	292.6 K
D1	2.00000000 sec
D11	0.03000000 sec
TD0	1
======== CHANNEL f1 ========	
NUC1	13C
P1	14.90 usec
PL1	-3.00 dB
PL1W	60.64365387 W
SFO1	100.6228298 MHz
======== CHANNEL f2 ========	
CPDPRG2	waltz16
NUC2	1H
PCPD2	80.00 usec
PL2	-3.00 dB
PL12	18.94 dB
PL13	22.00 dB
PL2W	15.78739738 W
PL12W	0.10099747 W
PL13W	0.04992414 W
SFO2	400.1316005 MHz
SI	32768
SF	100.6128193 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

manishkumarmanu1986@gmail.com