

Chemodivergent, multicomponent-tandem facile synthesis of novel 1*H*-pyrazolo[1,2-*b*]phthalazine-5,10-dione using acetic acid functionalized imidazolium salt {[cmdmim]⁺]} as a recyclable catalyst

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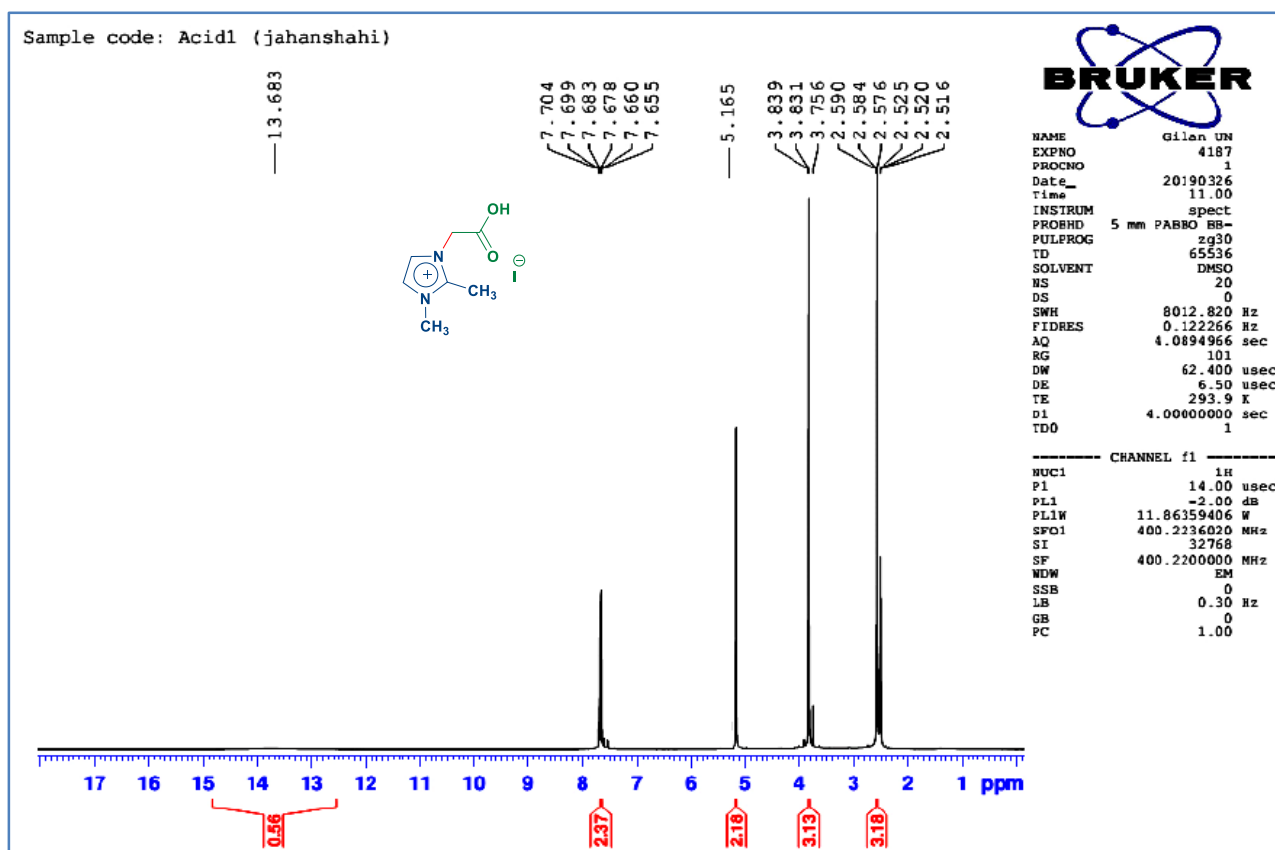
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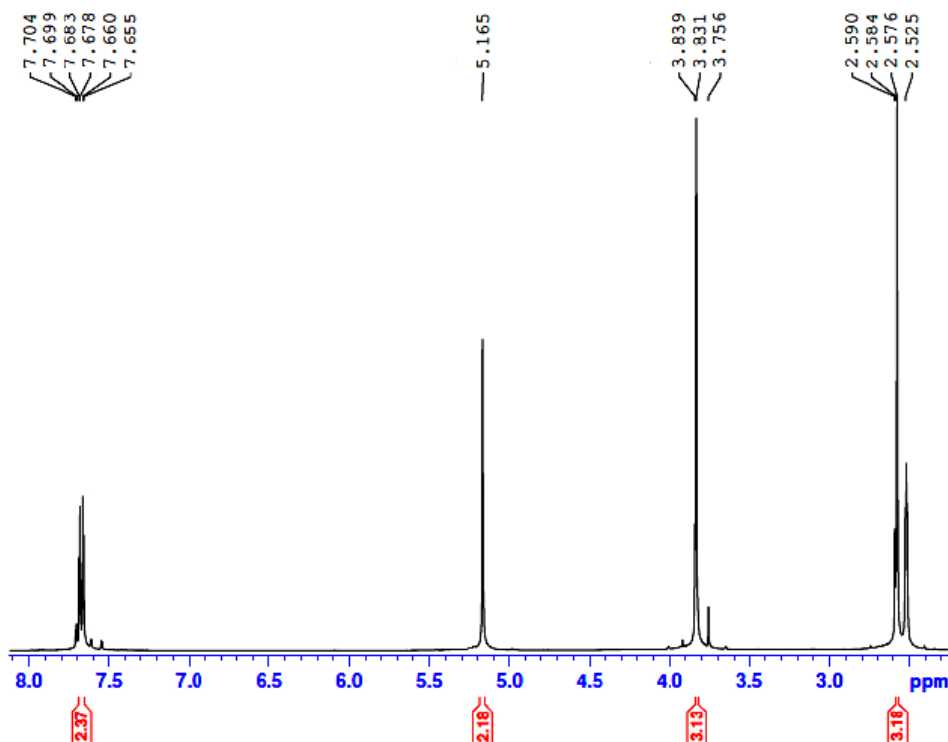
IR and NMR data of all compounds

Spectral data for [cmdmim]⁺

(S₁):



Sample code: Acid1 (jahanshahi)

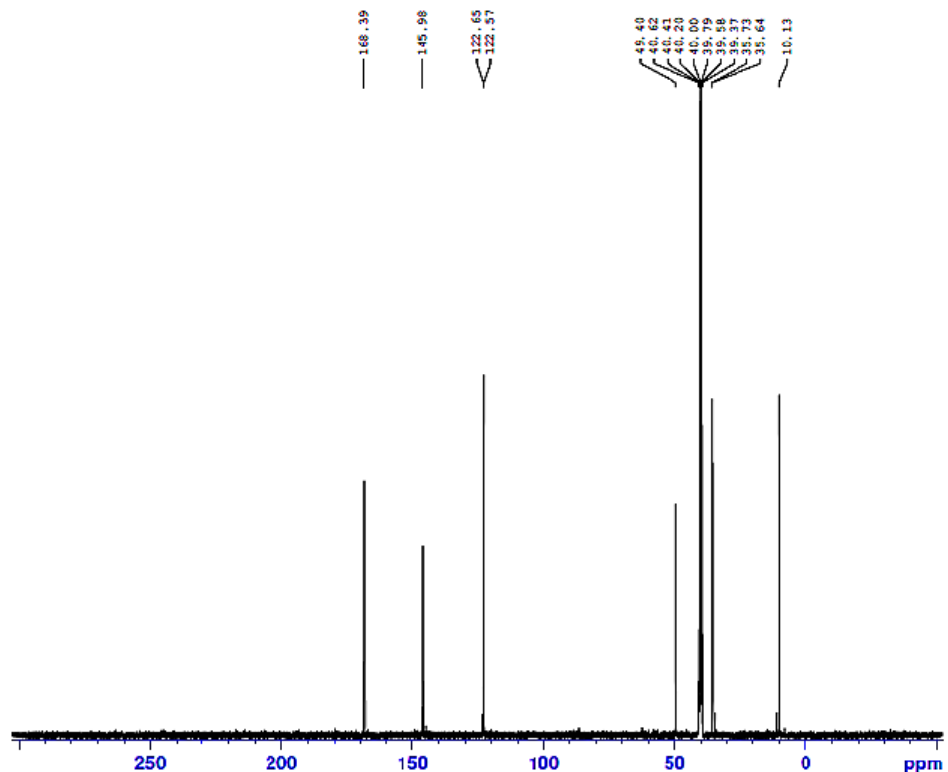


NAME Gilan UN
EXPNO 4187
PROCNO 1
Date_ 20190326
Time 11.00
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 MHz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 101
DW 62.400 usec
DE 6.50 usec
TE 293.9 K
D1 4.0000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

(S₂):

Sample code: Acid1 (jahanshahi)



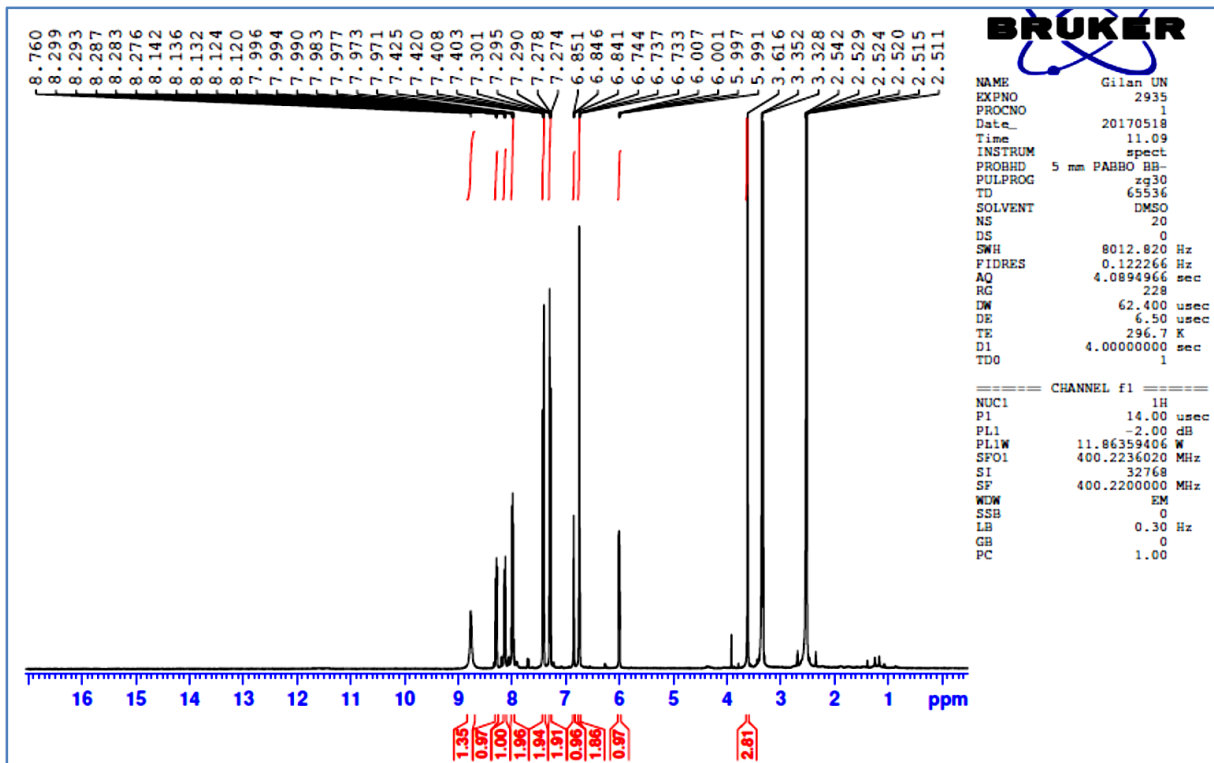
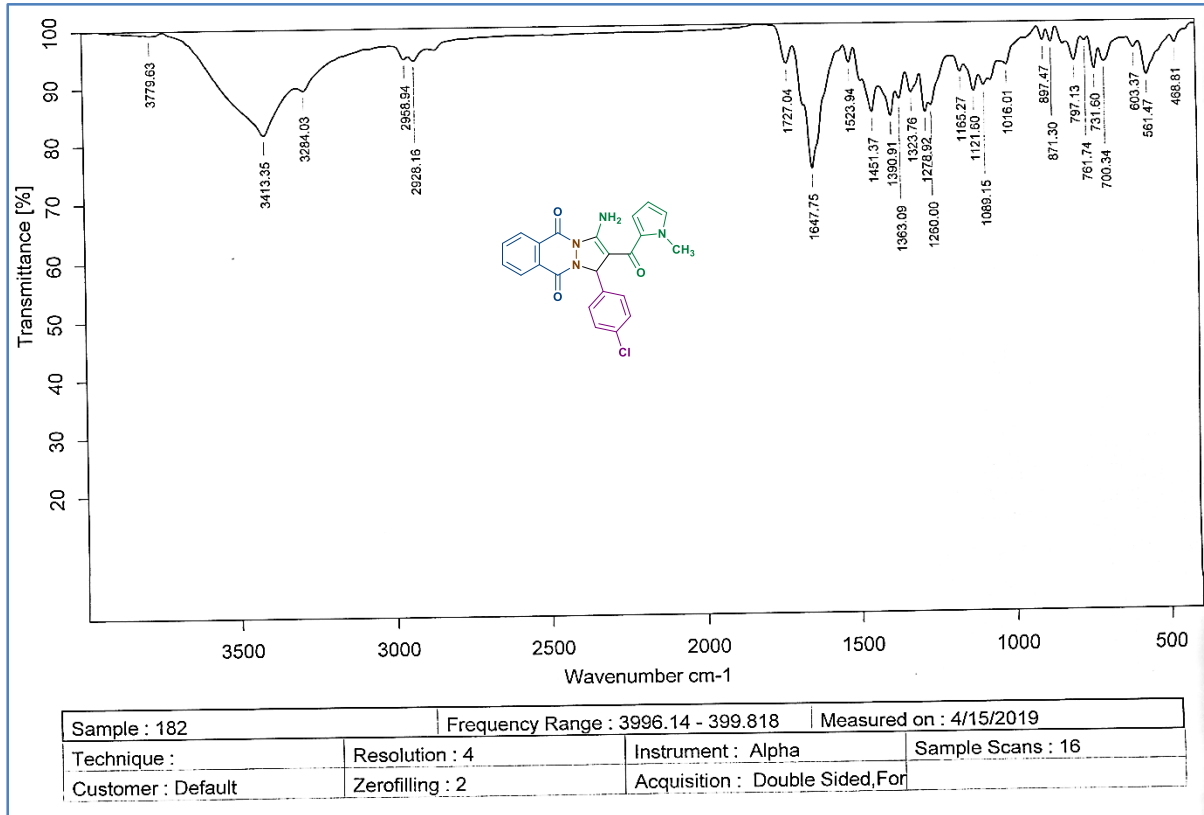
NAME Gilan UN
EXPNO 2754
PROCNO 1
Date_ 20170101
Time 9.28
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 270
DS 0
SWH 35714.285 Hz
FIDRES 0.544957 Hz
AQ 0.9175540 sec
RG 2050
DW 14.000 usec
DE 6.50 usec
TE 294.4 K
D1 1.00000000 sec
D11 0.03000000 sec
TD0 1

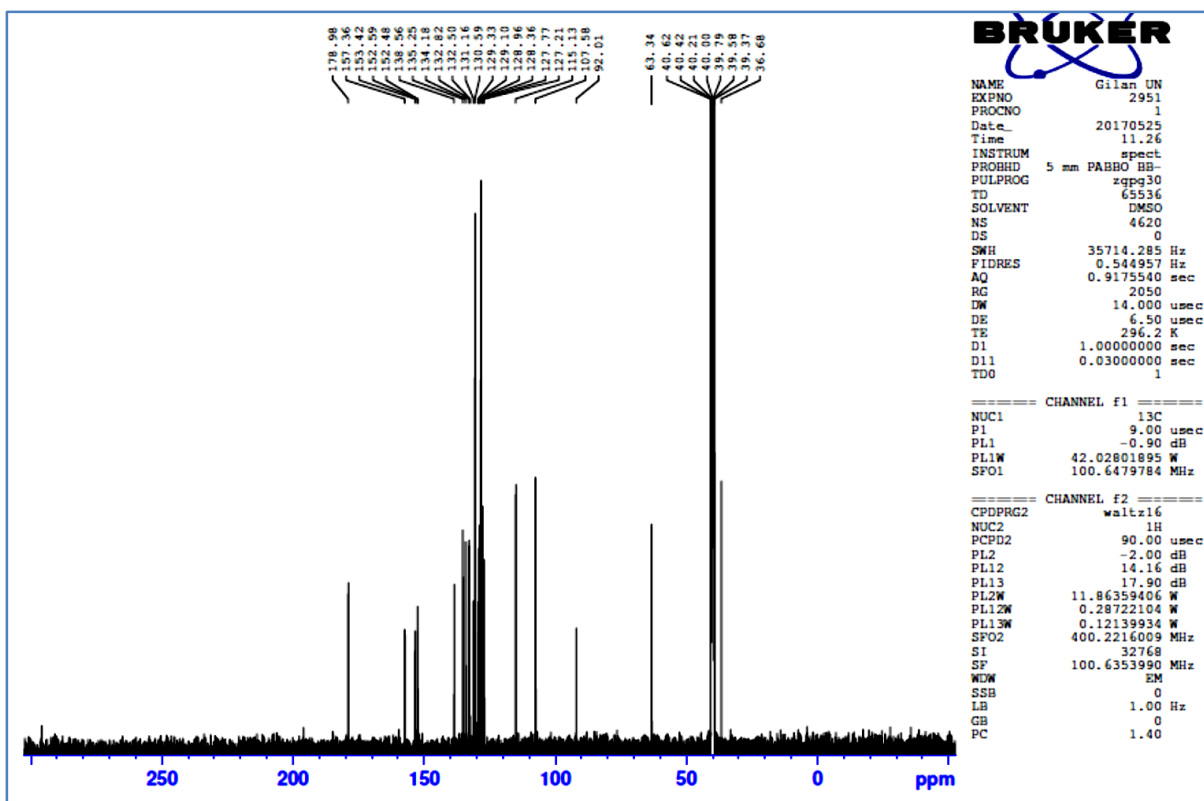
===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

===== CHANNEL f2 =====
CPDPRG2 waitz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL2W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

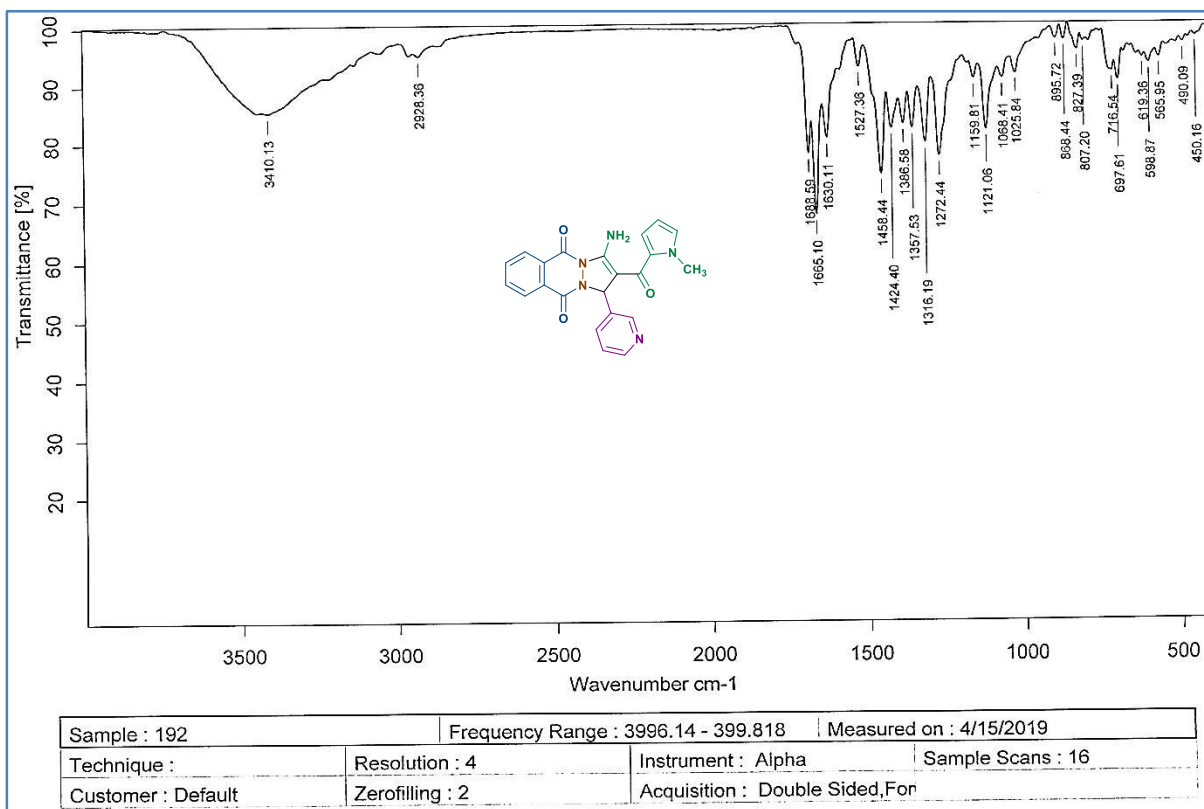
Spectral data for pyrrole-substituted pyrazolo[1,2-b]phthalazine

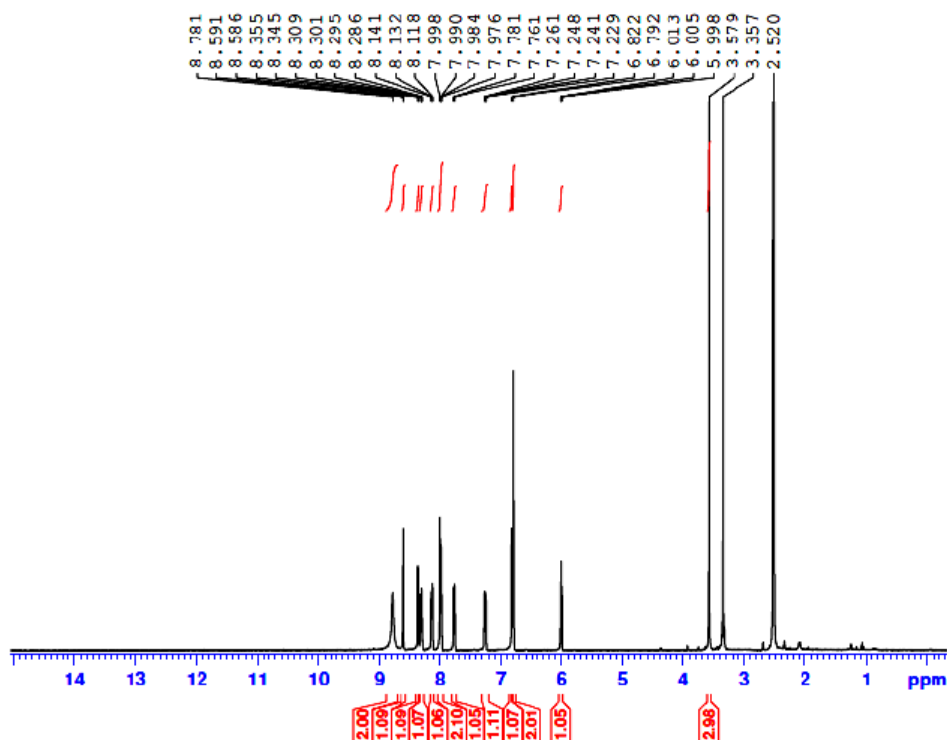
5a:





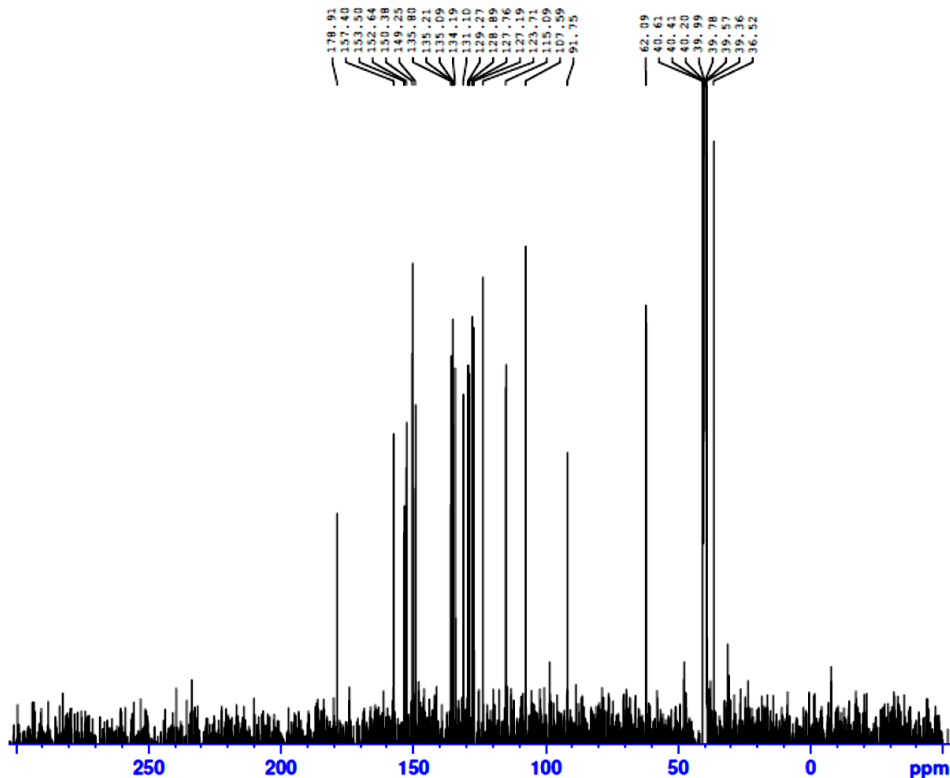
5b:





NAME	Gilan UN	
EXPNO	3321	
PROCNO	1	
Date_	20171231	
Time	8:39	
INSTRUM	spect	
PROBHD	5 mm PABBO	8 mm
PULPROG	zg30	
TD	65536	
SOLVENT	DMSO	
NS	20	
DS	0	
SWH	8012.820	Hz
FIDRES	0.122266	Hz
AQ	4.0894966	sec
RG	256	
DW	62.400	
DE	6.50	
TE	294.1	
U1	4.00000000	
TD0	1	

```
===== CHANNEL f1 =====
NUC1                1H
P1                  14.00 usec
PL1                 -2.00 dB
PL1W                11.86359400 W
SFO1                400.2236020 MHz
SI                  32768
SF                  400.2200000 MHz
WDW                  EM
SSB                  0
LB                  0.30 Hz
GB                  0
PC                  1.00
```

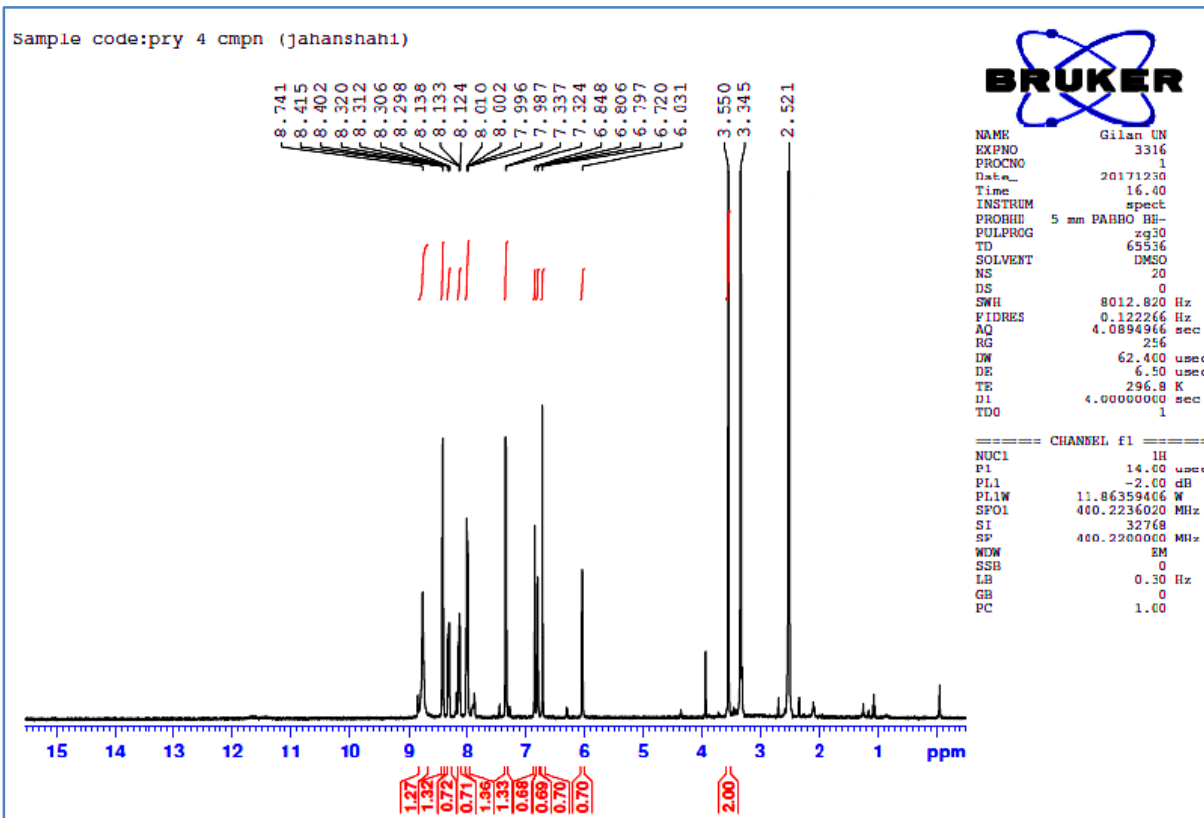
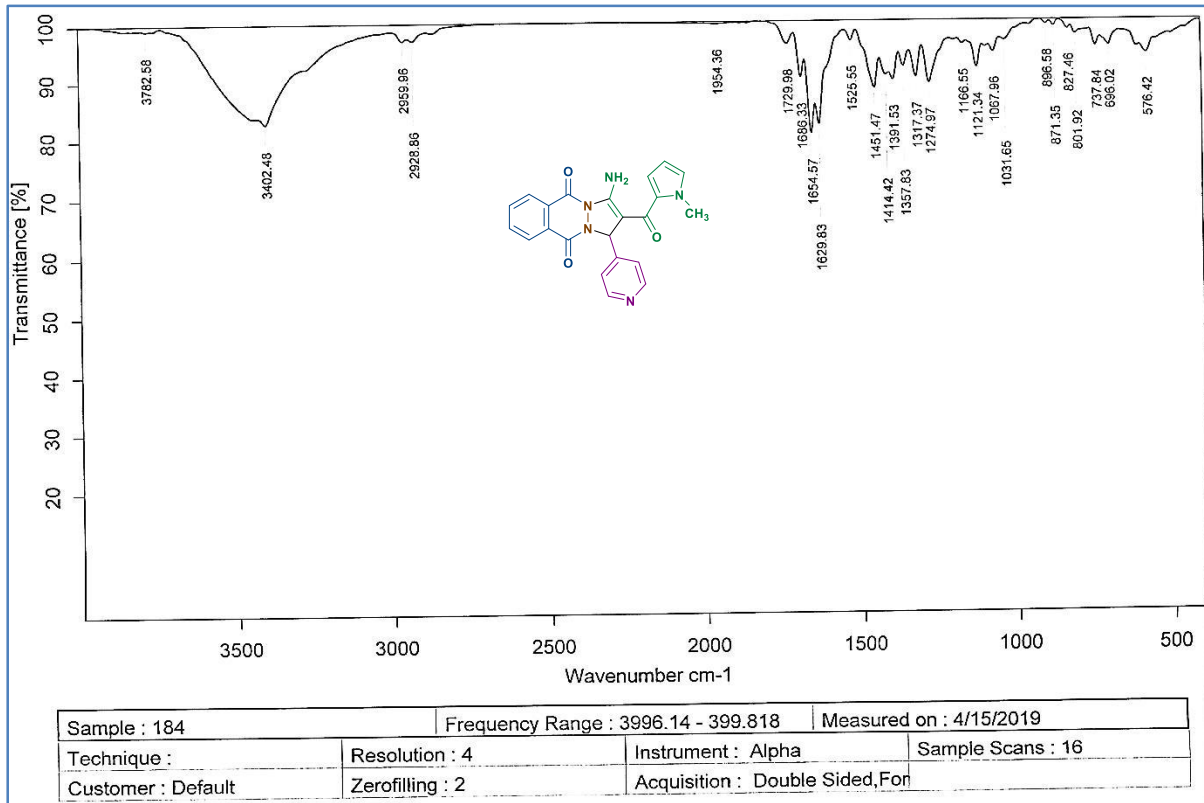


```
NAME          Glian UN
EXPNO         3322
PROCNO        1
Date_         20171231
Time          9.03
INSTRUM       spect
PROBHD        5 mm PABBO BB-
PULPROG       zgpg30
TD            65536
SOLVENT       DMSO
NS            2108
DS            0
SWH           35714.285 Hz
FIDRES        0.544957 Hz
AQ            0.9175540 sec
RG            2050
DE            14.000 usec
TE            6.50 usec
TE           294.9 K
D1            1.00000000 sec
D11           0.03000000 sec
TD0           1
```

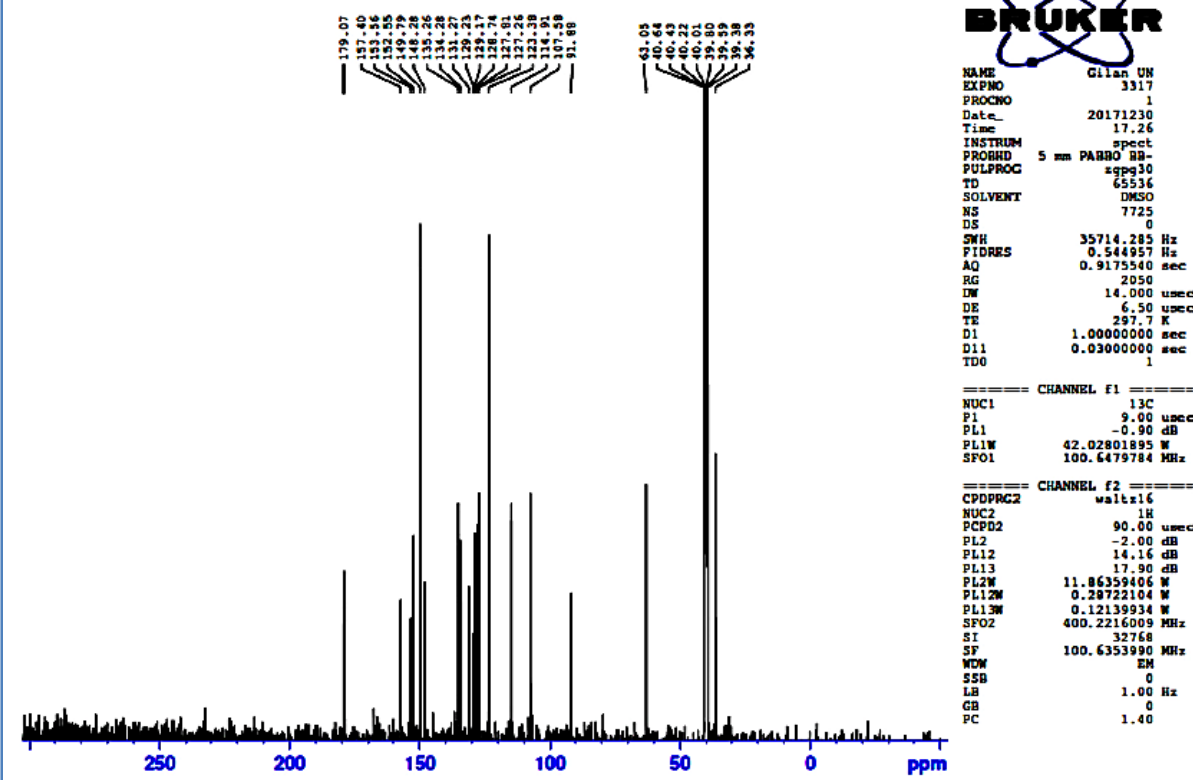
```
===== CHANNEL f1 =====
NUC1          13C
P1             9.00 usec
PL1           -0.90 dB
PL1W          42.02801895 W
SFO1         100.6479784 MHz
```

```
===== CHANNEL f2 =====
CPDRG2                wait:16
NUC2                   1H
PCPD2                  90.00 usec
PL2                    -2.00 dB
PL12                   14.16 dB
PL13                   17.90 dB
PL12W                  11.86359404 W
PL12W                  0.28721214 W
PL13W                  0.12139934 W
SFO2                   400.2216009 MHz
SI                     32768
SF                     100.6353990 MHz
WDM                    EM
SSB                    0
LB                     1.00 Hz
GB                     0
PC                     1.40
```

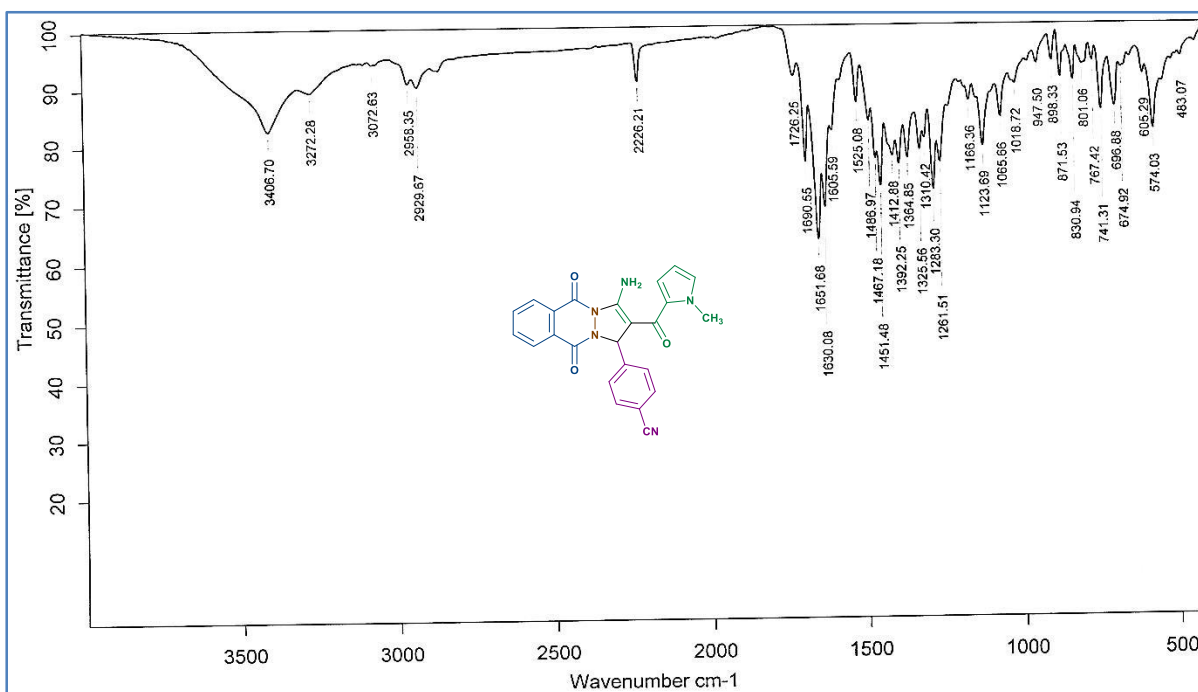
5c:



Sample code:pry 4 cmpn (jahanshahi)

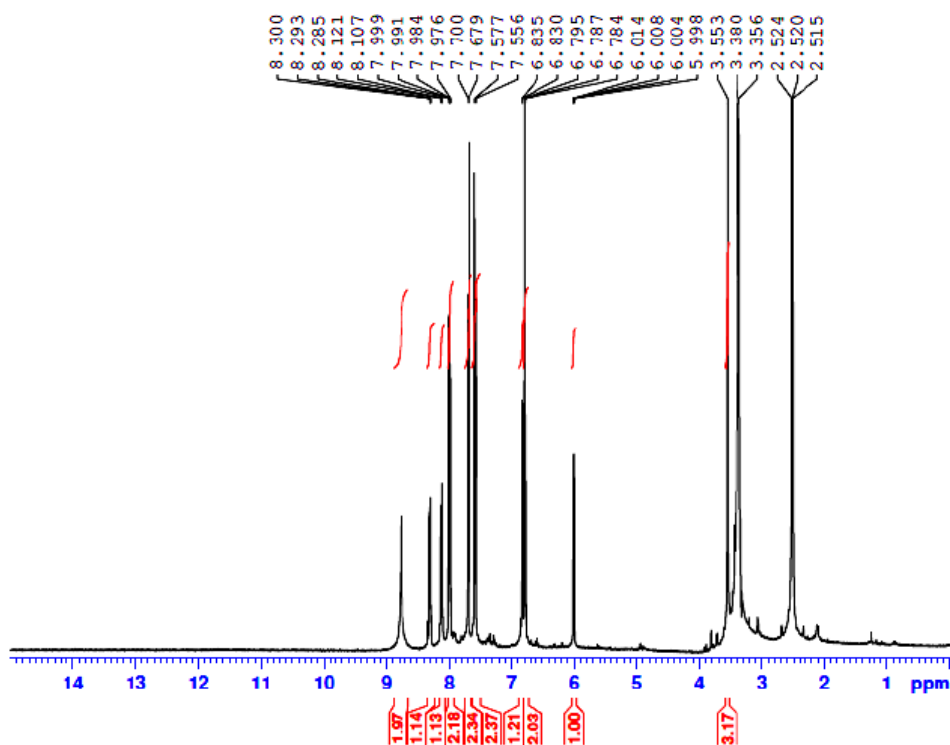


5d:



Sample : 187	Frequency Range : 3996.14 - 399.818	Measured on : 4/15/2019
Technique :	Resolution : 4	Instrument : Alpha
Customer : Default	Zerofilling : 2	Sample Scans : 16
	Acquisition : Double Sided,For	

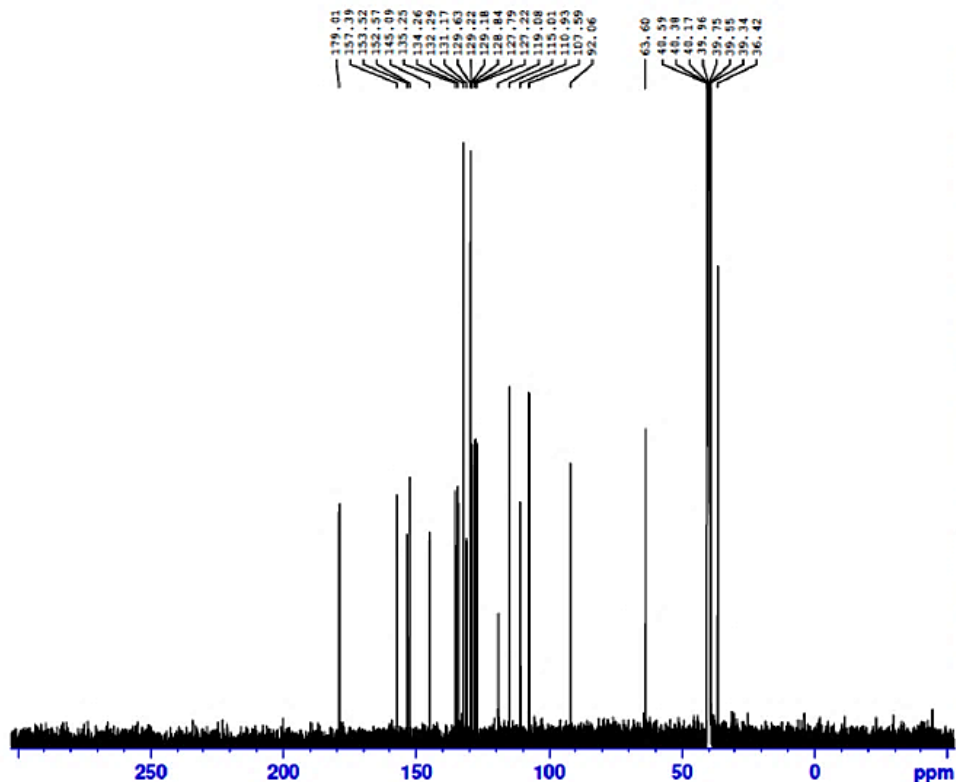
Sample code: paraciano phetal (jahanshahi)



NAME Gilan UN
EXPNO 3089
PROCNO 1
Date_ 20170812
Time 22.31
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 203
DW 62.400 usec
DE 6.50 usec
TE 293.9 K
D1 4.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Sample code: paraciano phetal (jahanshahi)

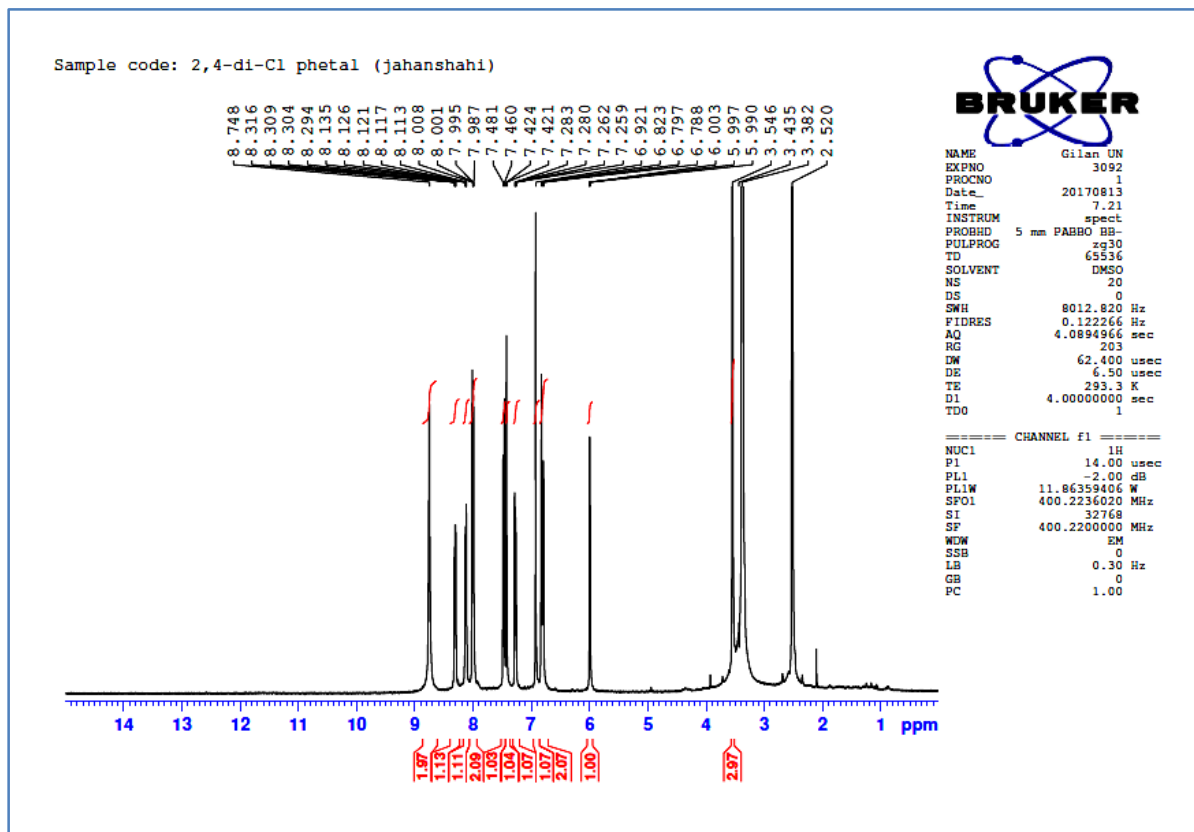
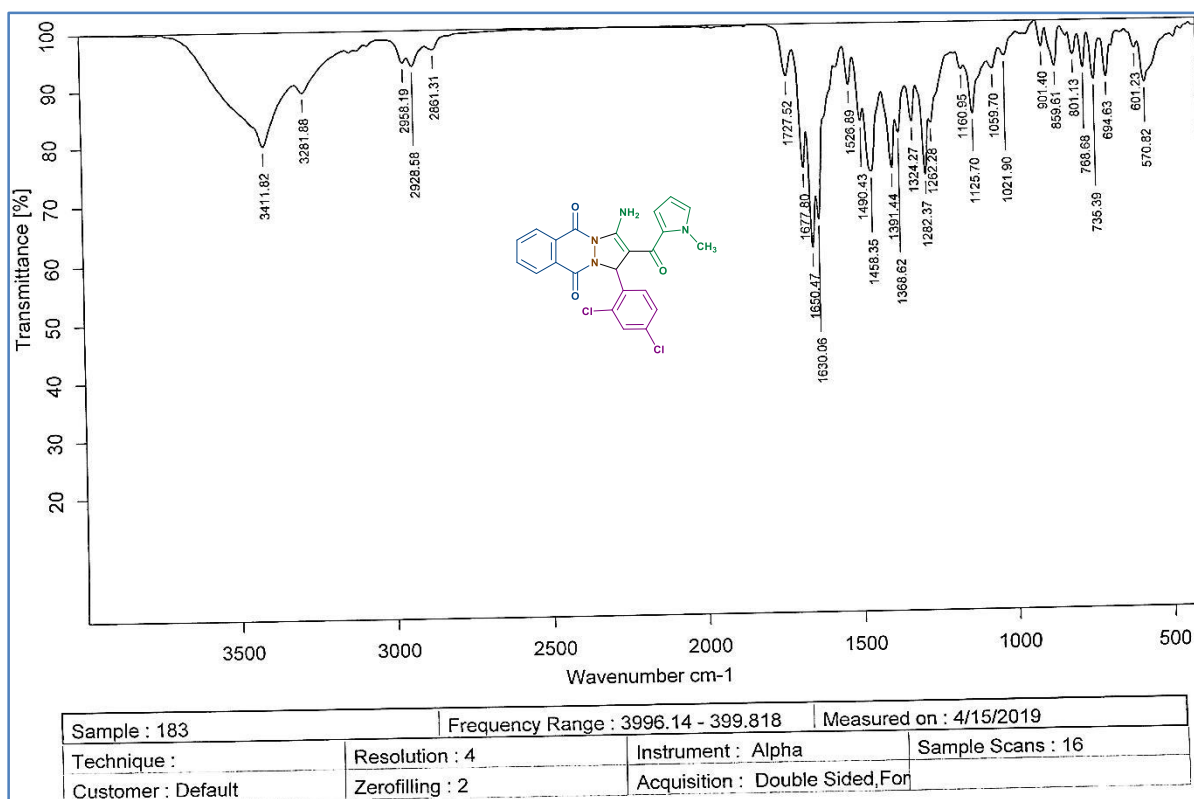


NAME Gilan UN
EXPNO 3090
PROCNO 1
Date_ 20170812
Time 22.34
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 8192
DS 0
SWH 35714.285 Hz
FIDRES 0.544957 Hz
AQ 0.9175540 sec
RG 2050
DW 14.000 usec
DE 6.50 usec
TE 293.9 K
D1 1.00000000 sec
D11 0.03000000 sec
TD0 1

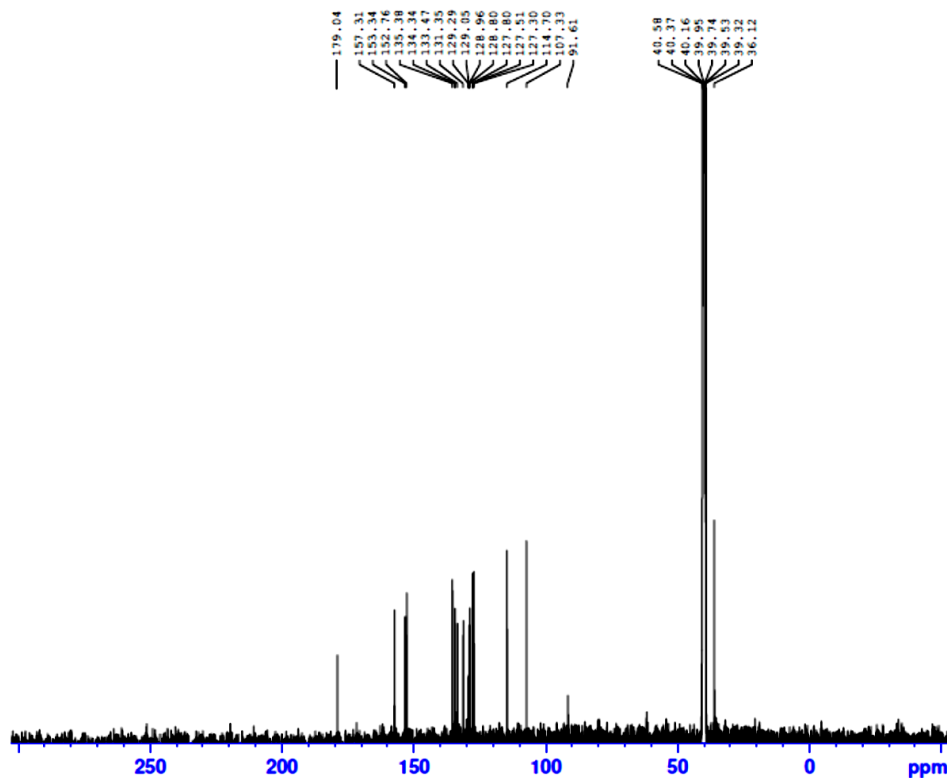
===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL2W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

5e:



Sample code: 2,4-di-Cl phetal (jahanshahi)

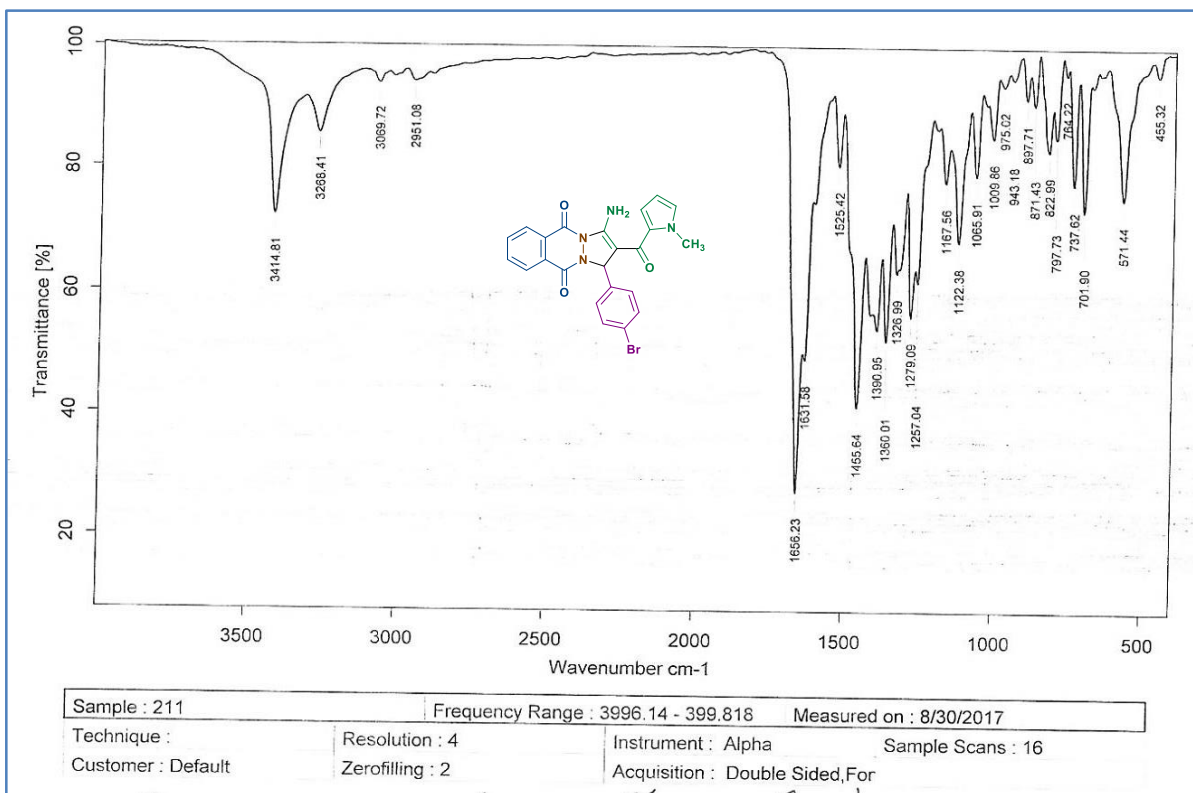


NAME Gilan UN
EXPTNO 3102
PROCNO 1
Date_ 20170818
Time 18.31
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 8192
DS 0
SWH 35714.285 Hz
FIDRES 0.544957 Hz
AQ 0.9175540 sec
RG 2050
DM 14.000 usec
DE 6.50 usec
TE 293.3 K
D1 1.00000000 sec
D11 0.03000000 sec
TD0 1

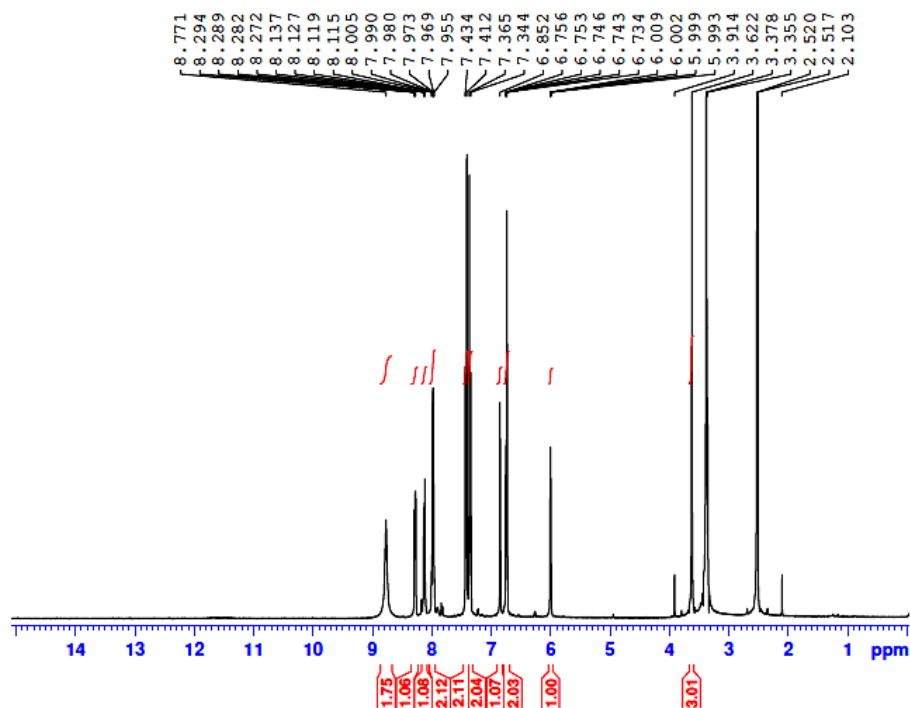
===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL2W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

5f:



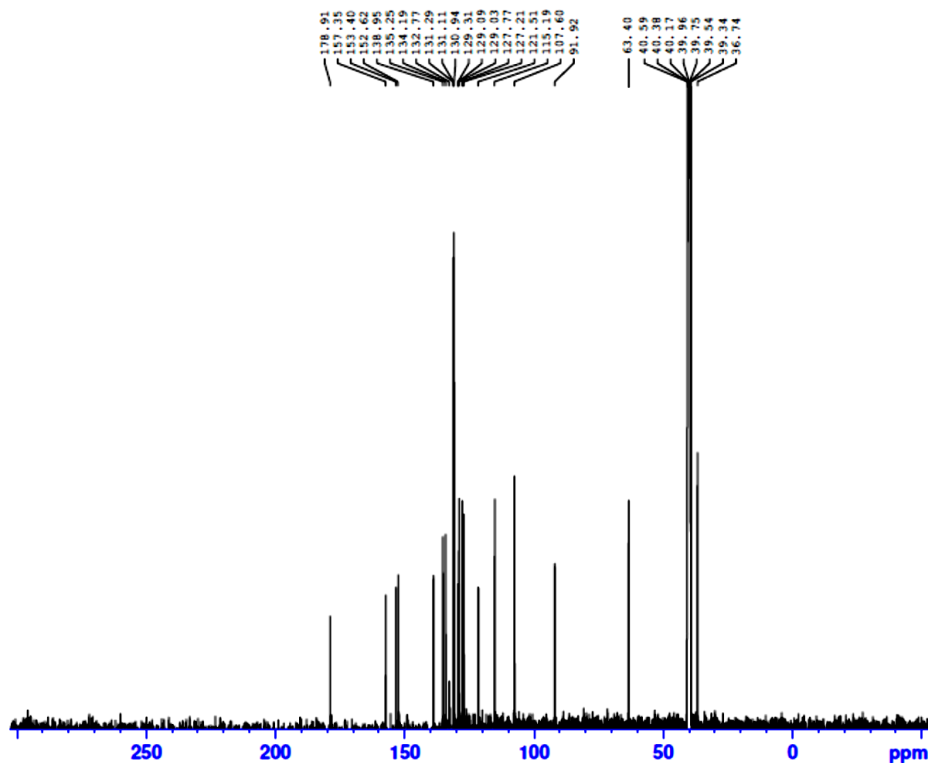
Sample code: para-Br phetal (jahanshahi)



NAME Gilan UN
EXPNO 3091
PROCNO 1
Date_ 20170813
Time 7.14
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 203
DW 62.400 usec
DE 6.50 usec
TE 293.1 K
D1 4.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Sample code: para-Br phetal (jahanshahi)

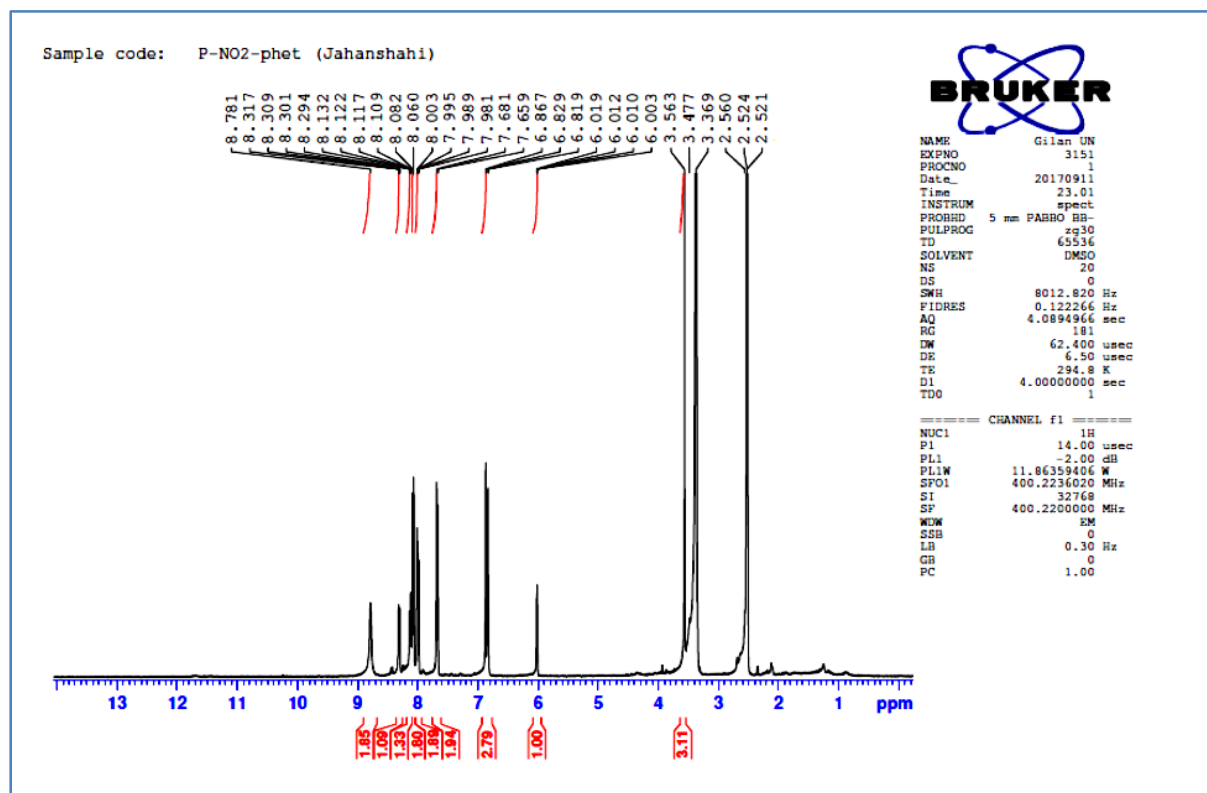
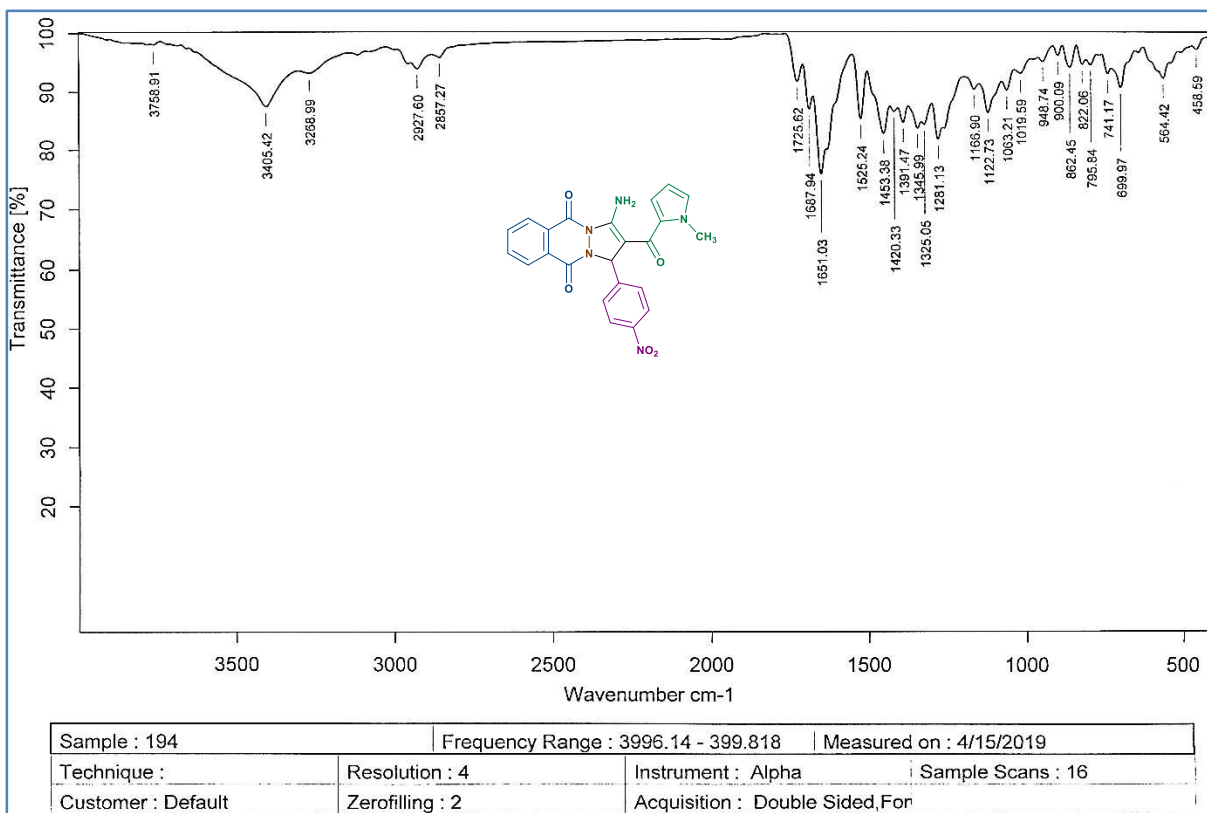


NAME Gilan UN
EXPNO 3103
PROCNO 1
Date_ 20170818
Time 23.23
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 8192
DS 0
SWH 35714.285 Hz
FIDRES 0.544957 Hz
AQ 0.9175540 sec
RG 2050
DW 14.000 usec
DE 6.50 usec
TE 293.3 K
D1 1.00000000 sec
D11 0.03000000 sec
TD0 1

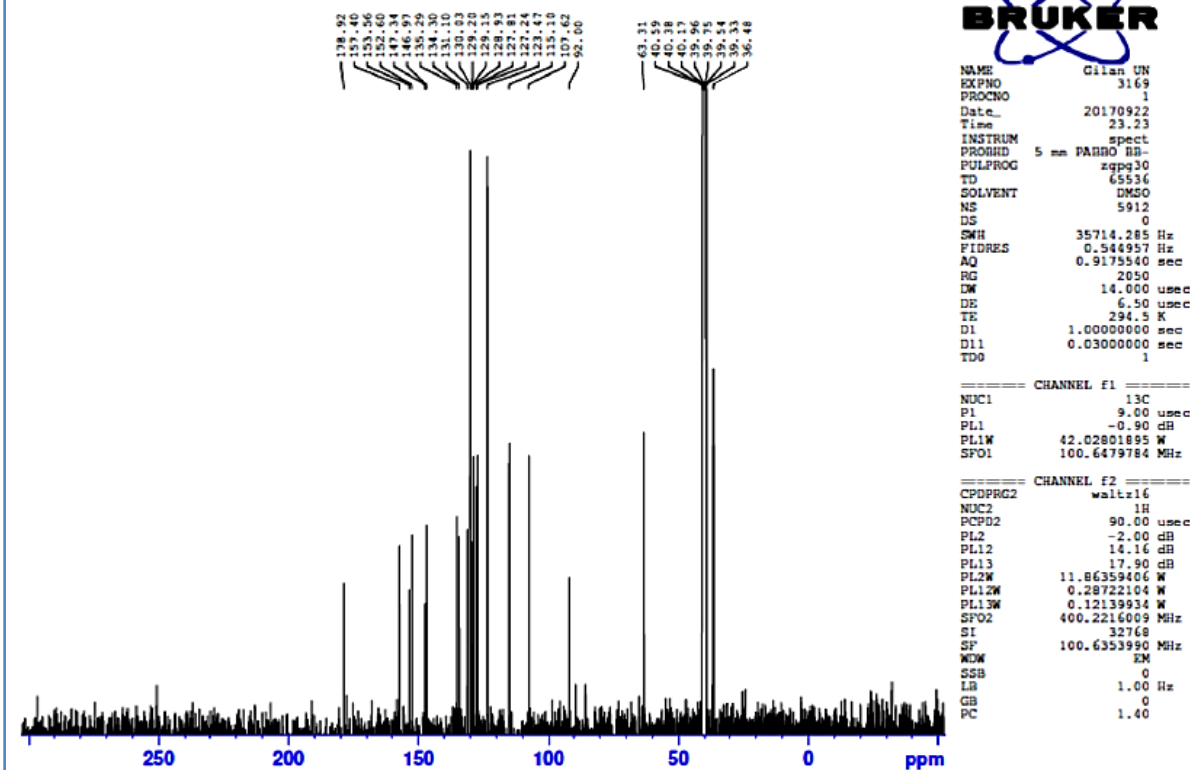
===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL2W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

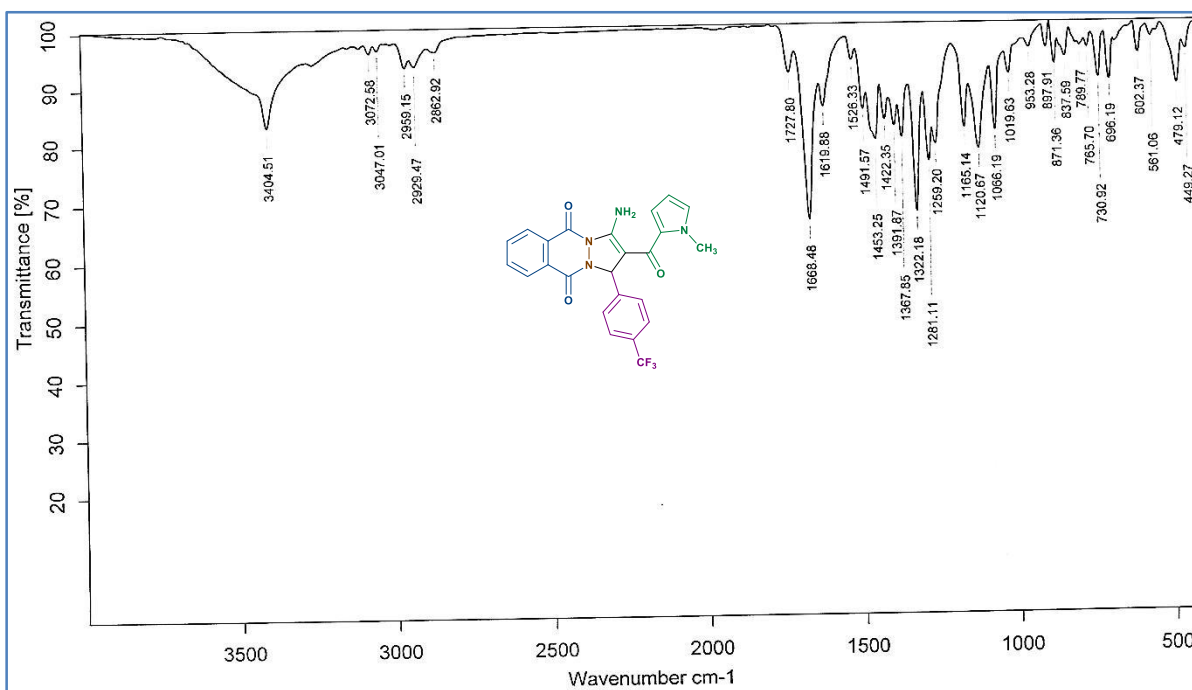
5g:



Sample code: P-N02-phet (Jahanshahi)

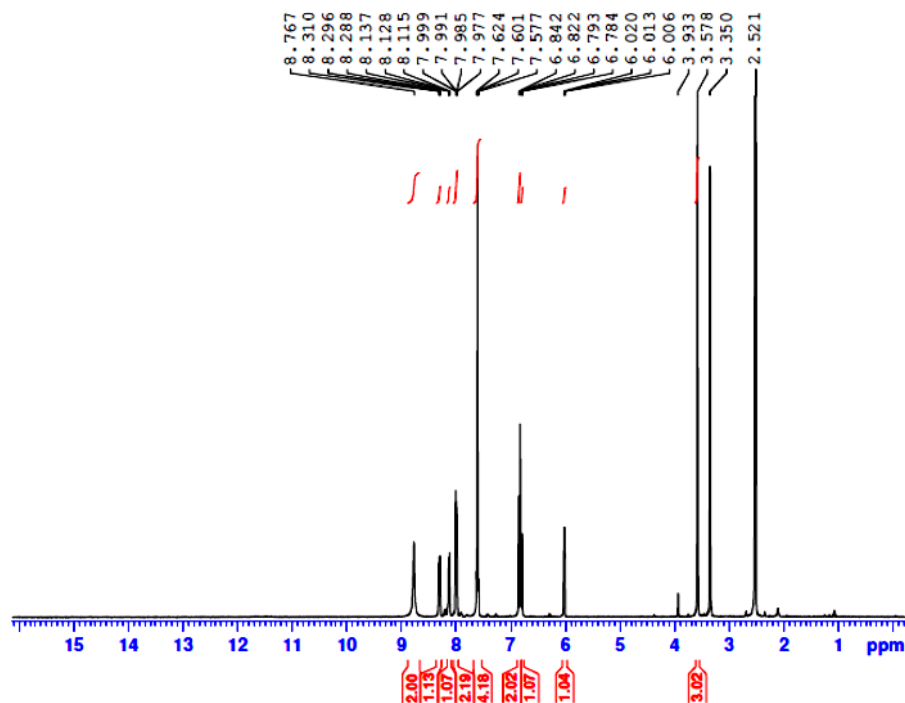


5h:



Sample : 191	Frequency Range : 3996.14 - 399.818	Measured on : 4/15/2019
Technique :	Resolution : 4	Instrument : Alpha
Customer : Default	Zerofilling : 2	Sample Scans : 16
	Acquisition : Double Sided,For	

Sample code:P-tri F ph cmp (jahanshahi)



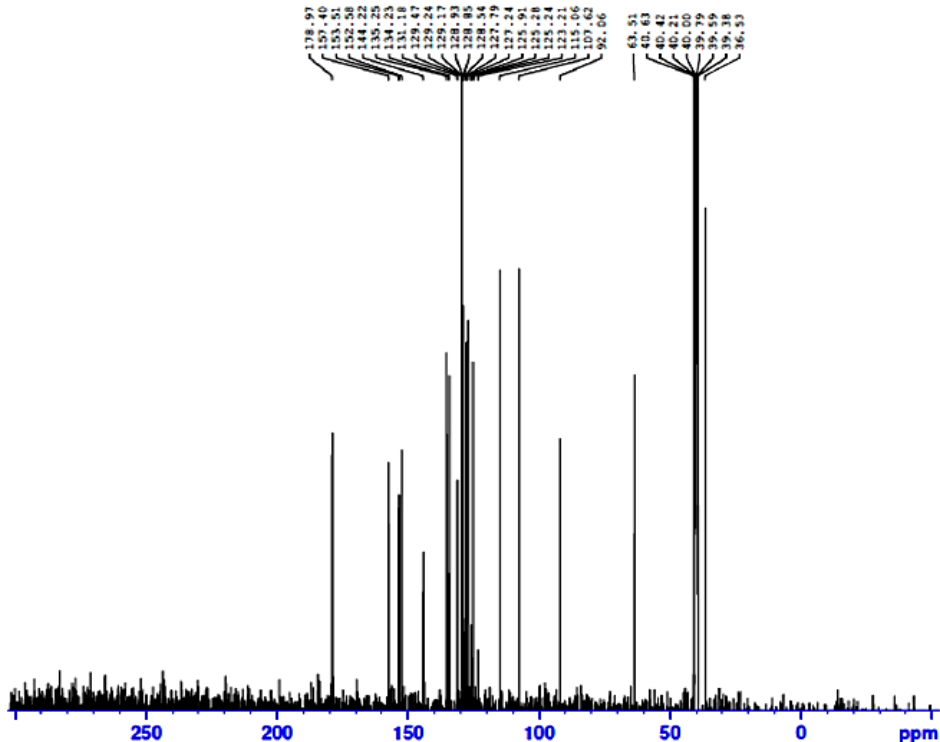
BRUKER

```

NAME      Gilan UN
EXPNO     3323
PROCNO    1
Date_     20171231
Time      11.25
INSTRUM    spect
PROBHD     5 mm PABBO BB-
PULPROG    zg30
TD         65536
SOLVENT    DMSO
NS         20
DS         0
SWH         8012.820 Hz
FIDRES     0.122266 Hz
AQ         4.0894966 sec
RG         256
DW         62.400 usec
DE         6.50 usec
TE         295.9 K
D1         4.0000000 sec
D10        1

===== CHANNEL f1 =====
NUC1       1H
P1         14.00 usec
PL1        -2.00 dB
PL1W       11.86359406 W
SFO1       400.2236020 MHz
SI         32768
SF         400.2200000 MHz
WDW        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
  
```

Sample code:P-tri F ph cmp (jahanshahi)



BRUKER

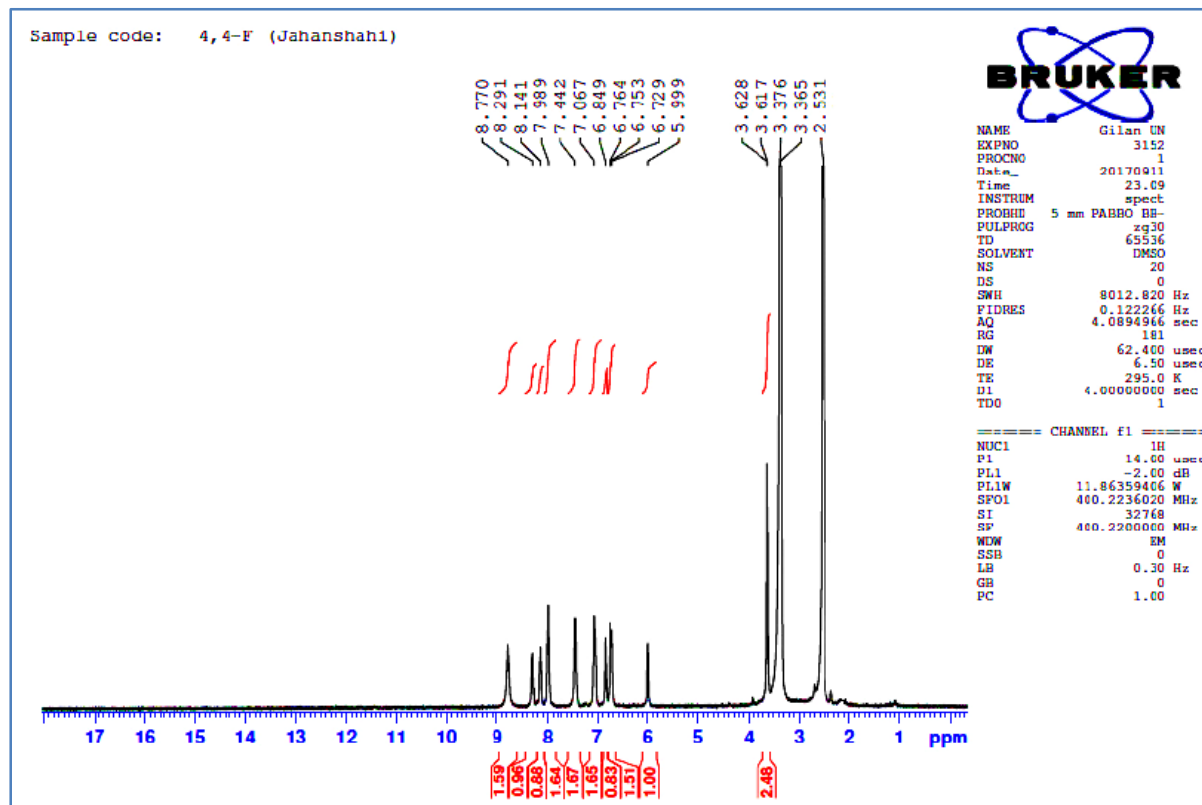
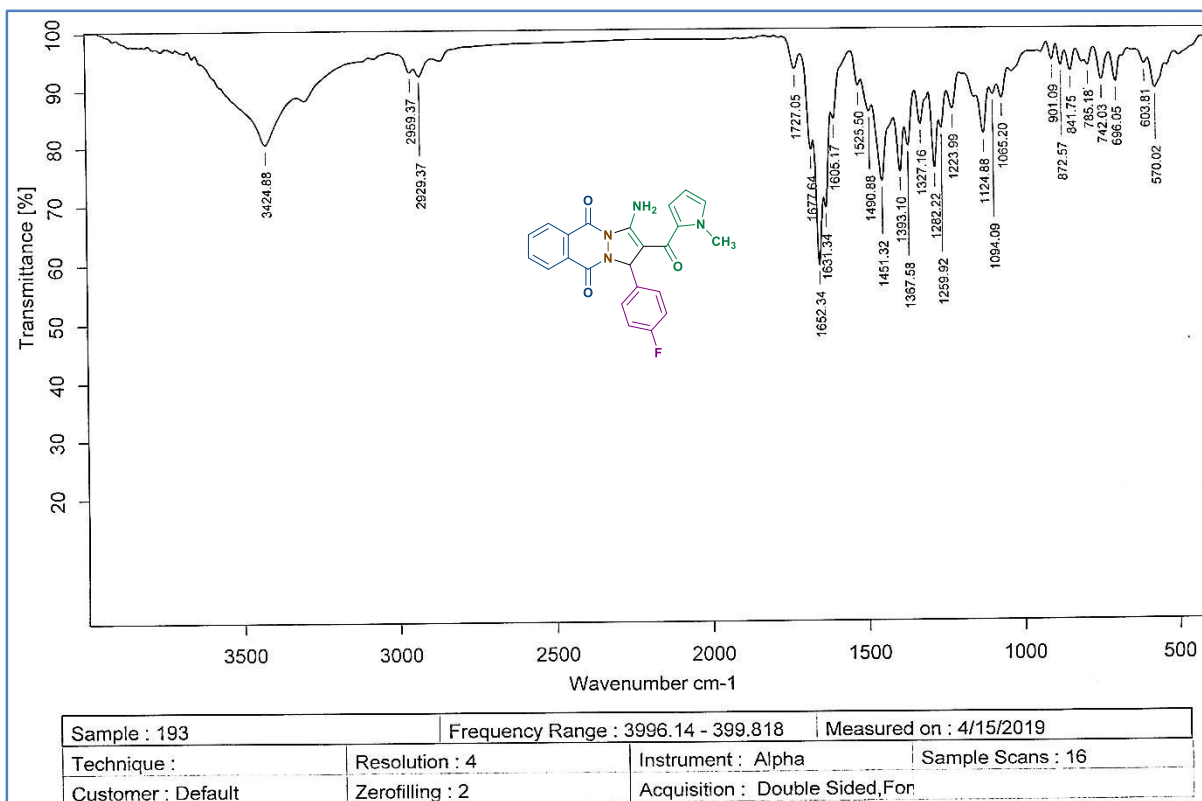
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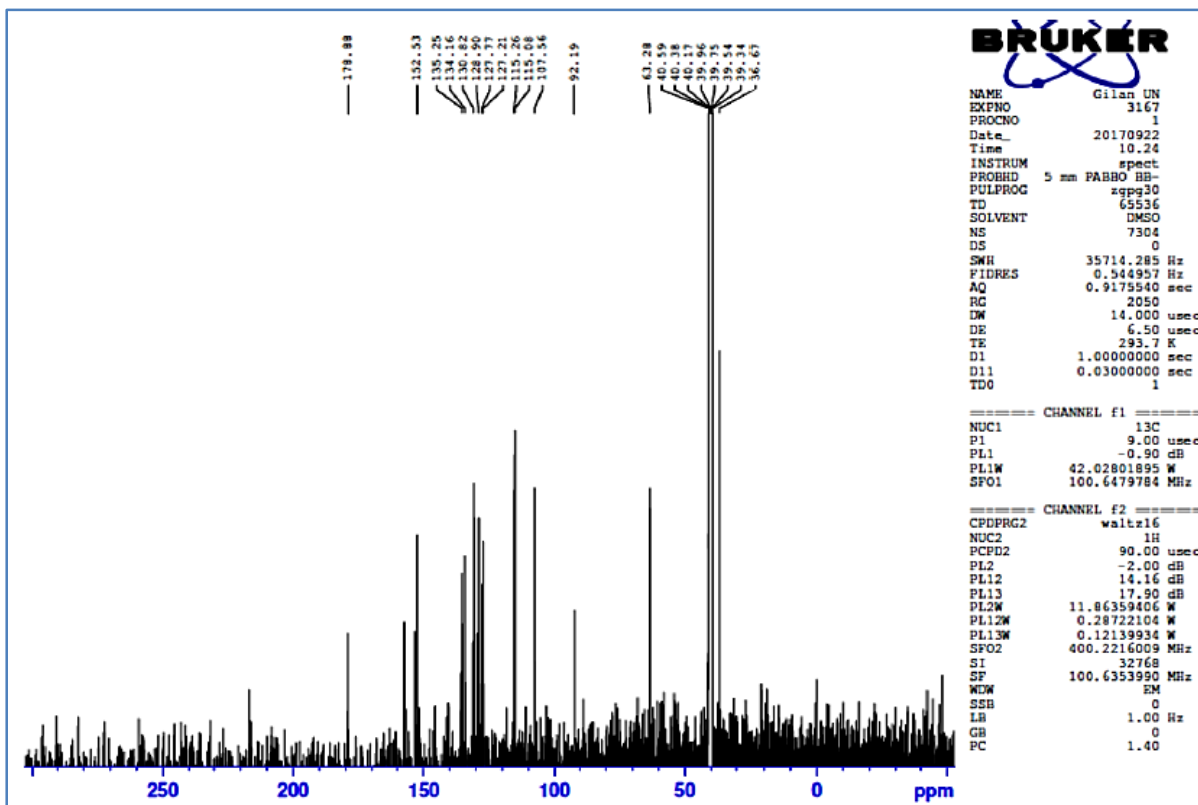
NAME      Gilan UN
EXPNO     3324
PROCNO    1
Date_     20171231
Time      11.26
INSTRUM    spect
PROBHD     5 mm PABBO BB-
PULPROG    zgpg30
TD         65536
SOLVENT    DMSO
NS         2882
DS         0
SWH         35714.285 Hz
FIDRES     0.544957 Hz
AQ         0.9175540 sec
RG         2050
DW         14.000 usec
DE         6.50 usec
TE         296.0 K
D1         1.0000000 sec
D11        0.0300000 sec
D10        1

===== CHANNEL f1 =====
NUC1       13C
P1         9.00 usec
PL1        -0.90 dB
PL1W       42.02801895 W
SFO1       100.6479784 MHz

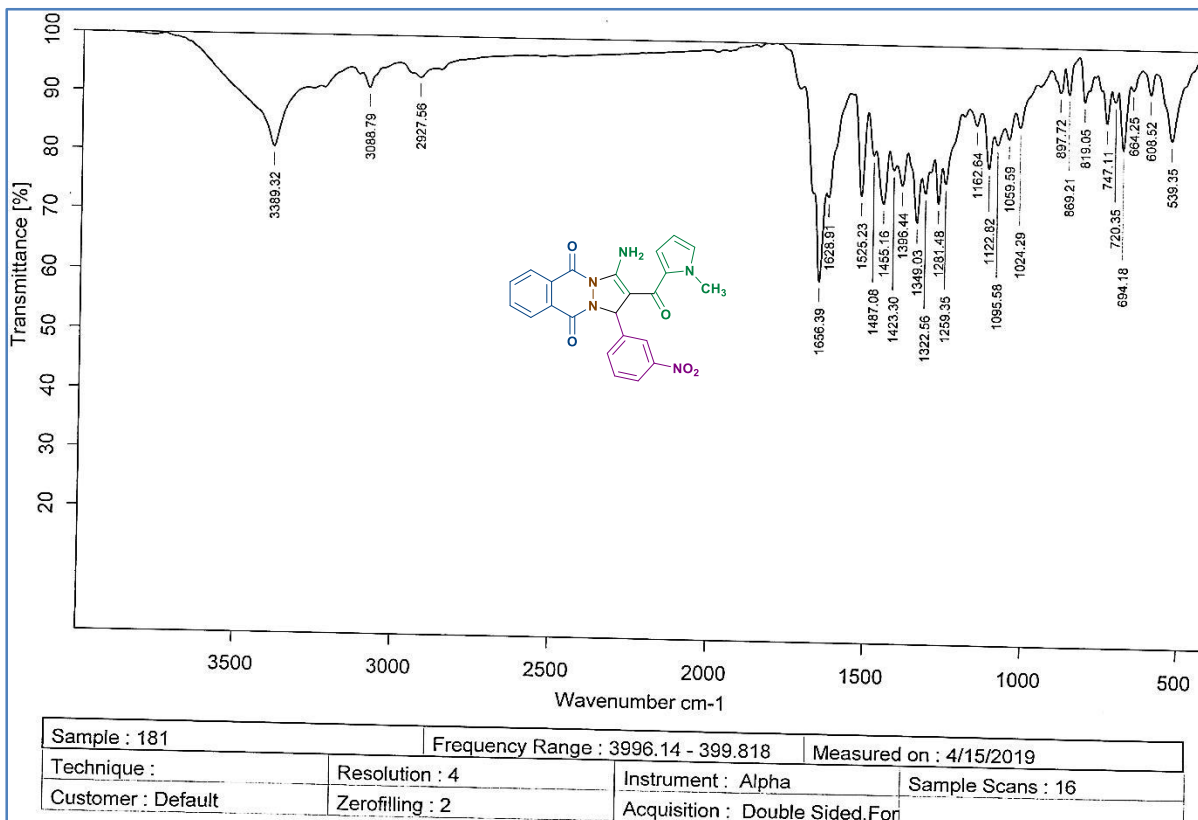
===== CHANNEL f2 =====
CPDPRG2    waltz16
NUC2       1H
PCPD2      90.00 usec
PL2        -2.00 dB
PL12       14.16 dB
PL13       17.90 dB
PL2W       11.86359406 W
PL12W      0.28722104 W
PL13W      0.12139934 W
SFO2       400.2216009 MHz
SI         32768
SF         100.6353990 MHz
WDW        EM
SSB        0
LB         1.00 Hz
GB         0
PC         1.40
  
```

5i:

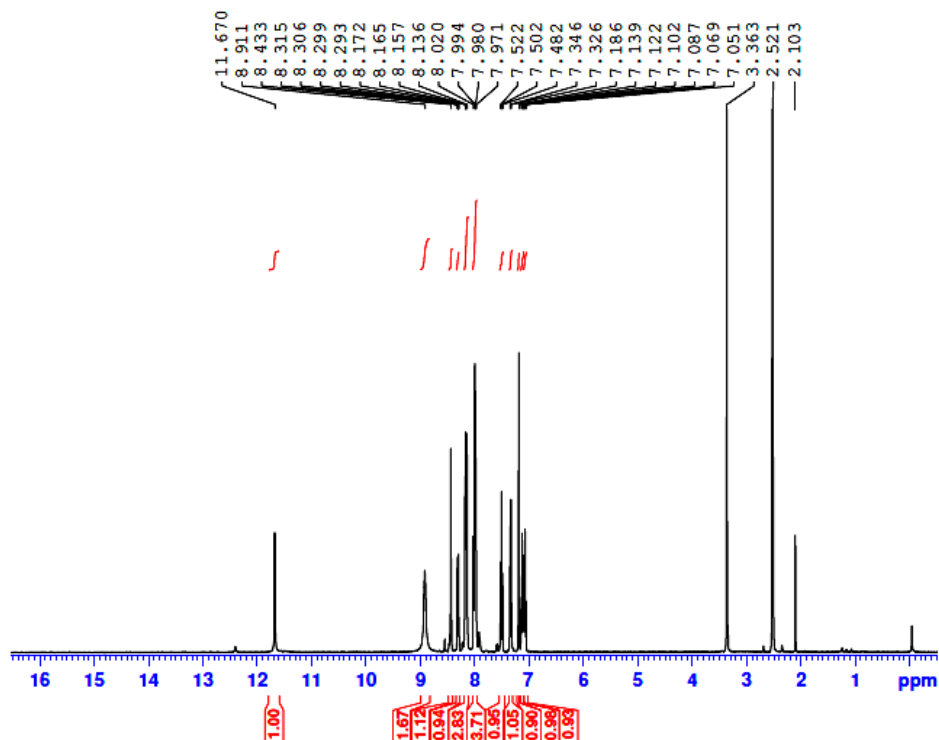




5j:



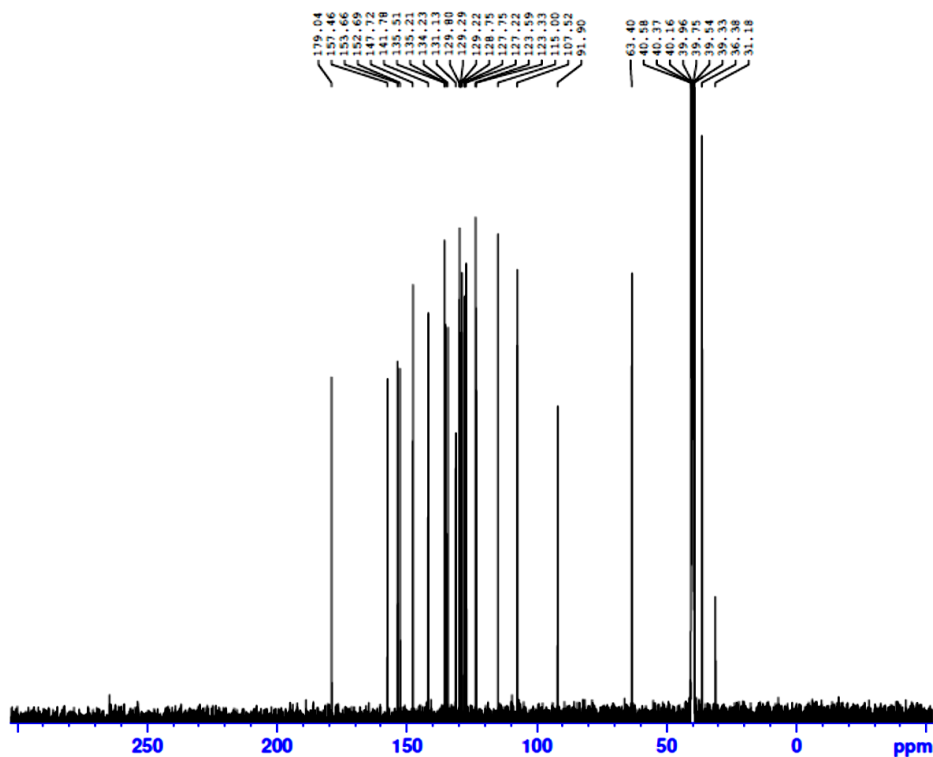
Sample code: 3 NO2 CN ph indol (jahanshahi)



NAME Gilan UN
EXPNO 3318
PROCNO 1
Date_ 20171231
Time 7.43
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 256
DM 62.400 usec
DE 6.50 usec
TE 294.4 K
D1 4.00000000 sec
TDO 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Sample code: 3-NO2-phet (Jahanshahi)

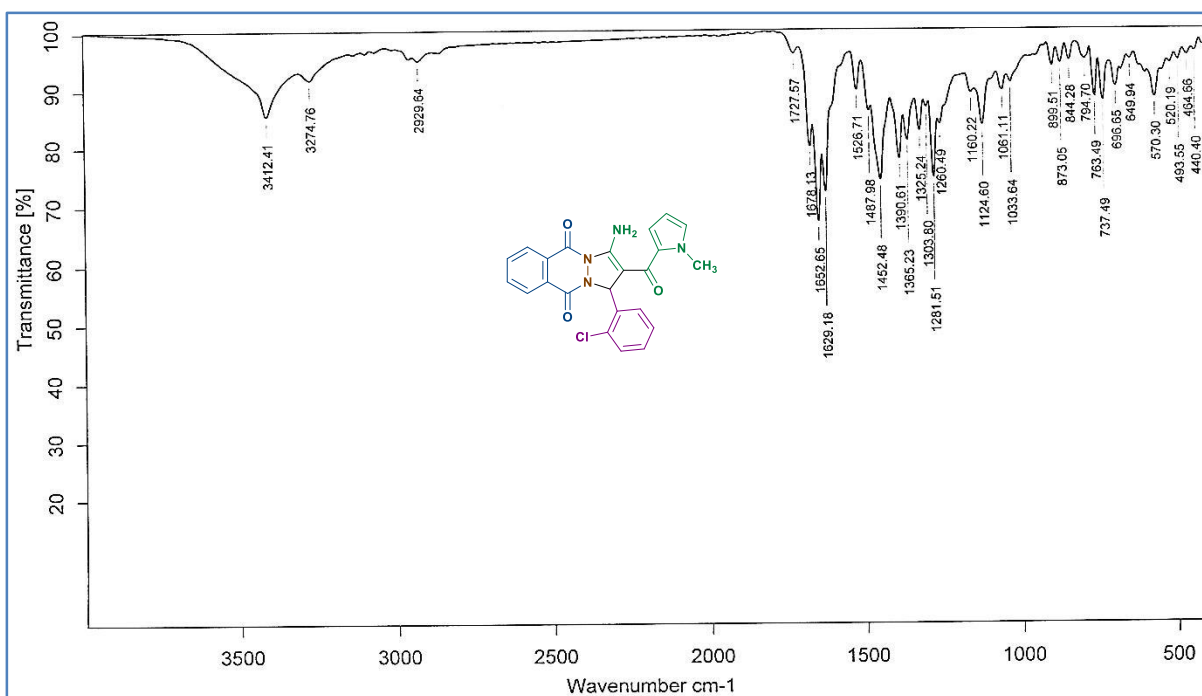


NAME Gilan UN
EXPNO 3168
PROCNO 1
Date_ 20170922
Time 18.59
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 8192
DS 0
SWH 35714.285 Hz
FIDRES 0.544957 Hz
AQ 0.9175540 sec
RG 2050
DM 14.000 usec
DE 6.50 usec
TE 294.5 K
D1 1.00000000 sec
D11 0.03000000 sec
TDO 1

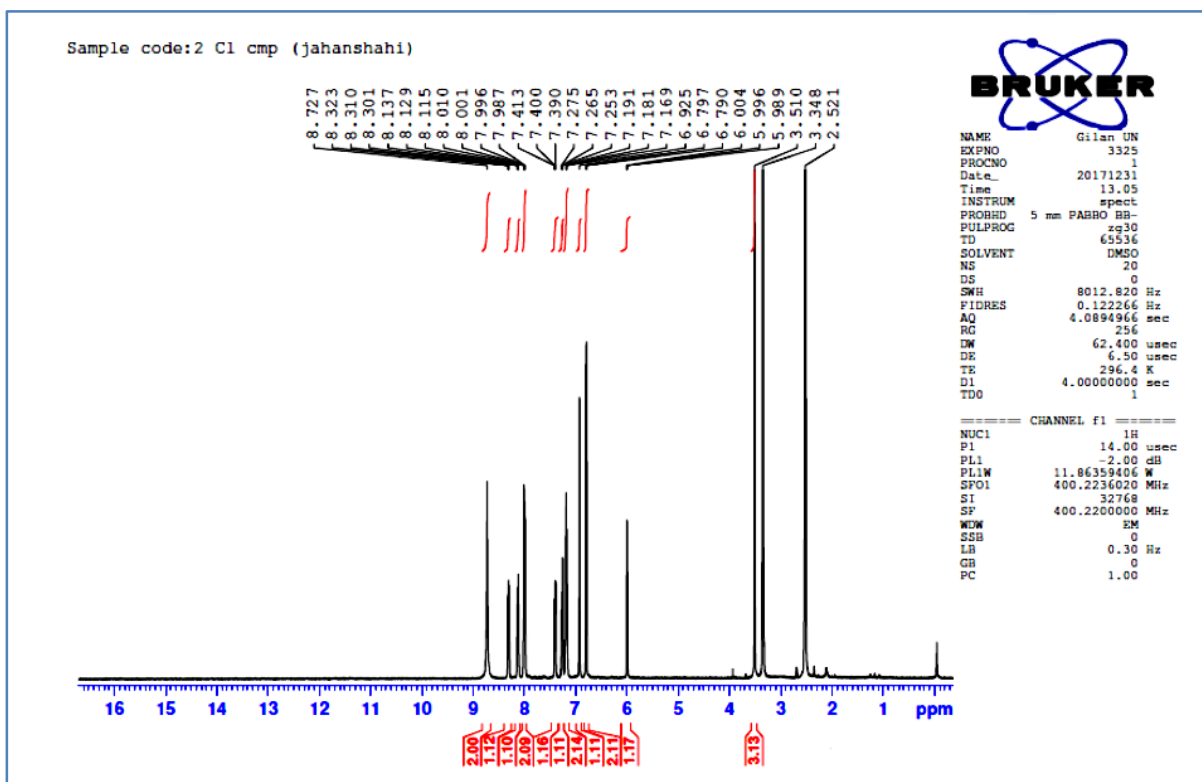
===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL2W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

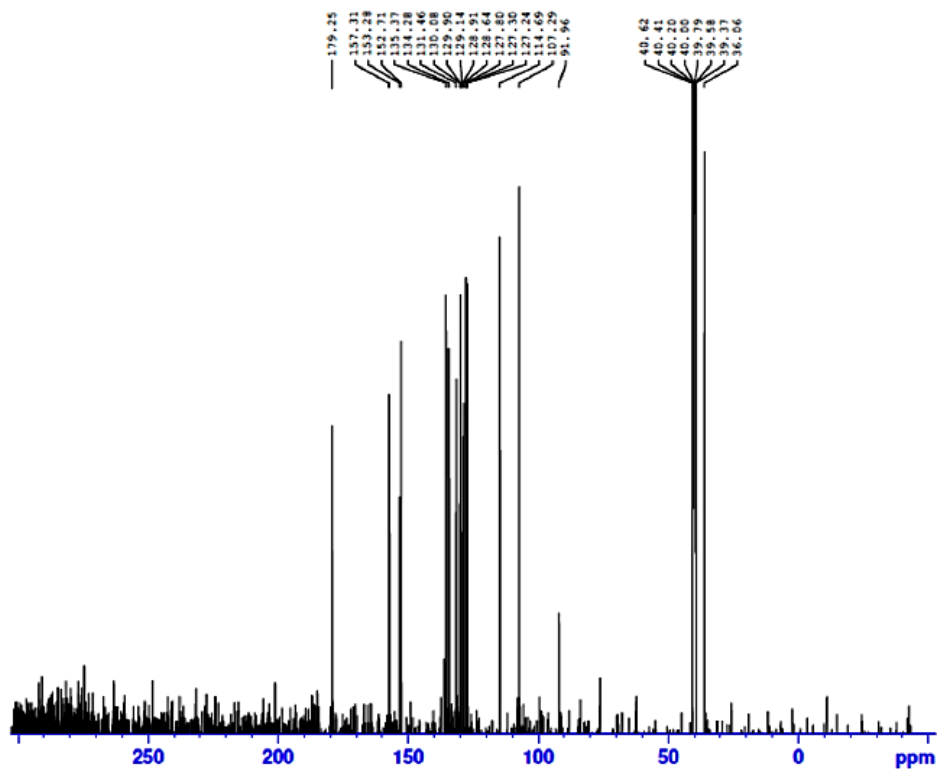
5k:



Sample : 196		Frequency Range : 3996.14 - 399.818		Measured on : 4/15/2019	
Technique :		Resolution : 4		Instrument : Alpha	
Customer : Default		Zerofilling : 2		Sample Scans : 16	
				Acquisition : Double Sided,For	



Sample code:2 Cl cmp (jahanshahi)

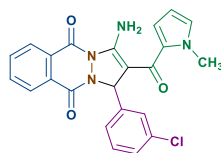
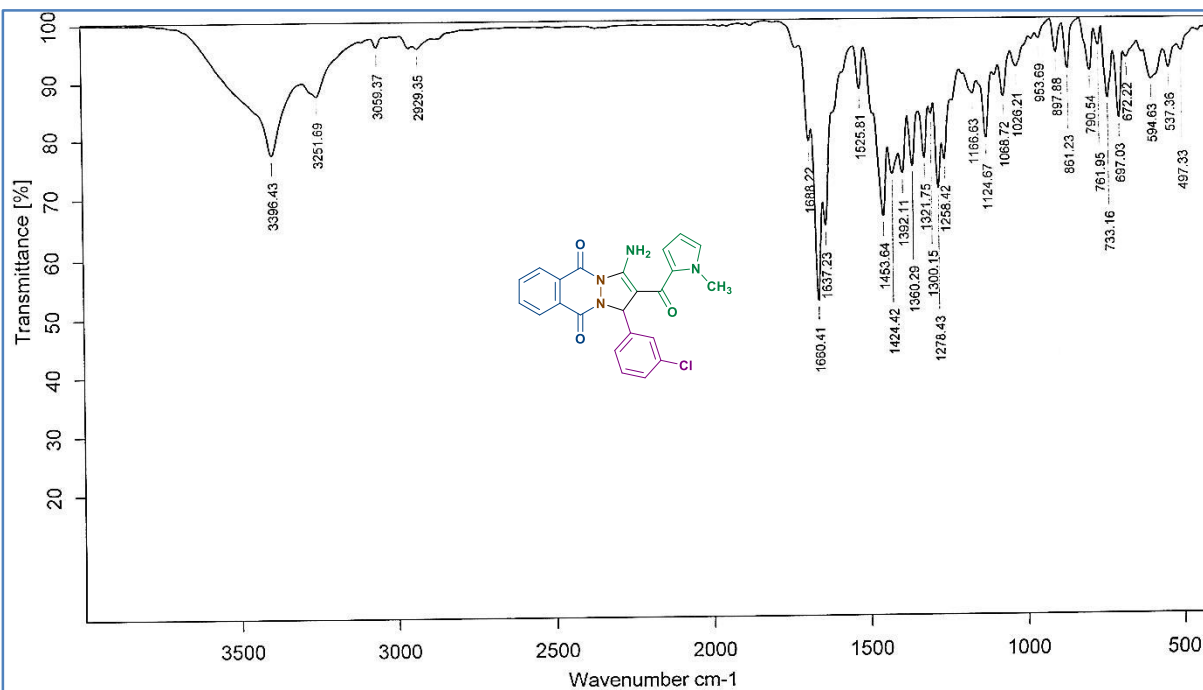


NAME: Gilan UN
EXPNO: 3335
PROCNO: 1
Date_: 20180101
Time: 16.18
INSTRUM: spect
PROBHD: 5 mm PABBO BB-
PULPROG: zgpg30
TD: 65536
SOLVENT: DMSO
NS: 3000
DS: 0
SWH: 35714.285 Hz
FIDRES: 0.544957 Hz
AQ: 0.9175540 sec
RG: 2050
EW: 14.000 usec
DE: 6.50 usec
TE: 295.4 K
D1: 1.00000000 sec
D11: 0.03000000 sec
TD0: 1

===== CHANNEL f1 =====
NUC1: 13C
P1: 9.00 usec
PL1: -0.90 dB
PL1W: 42.02801895 W
SFO1: 100.6479784 MHz

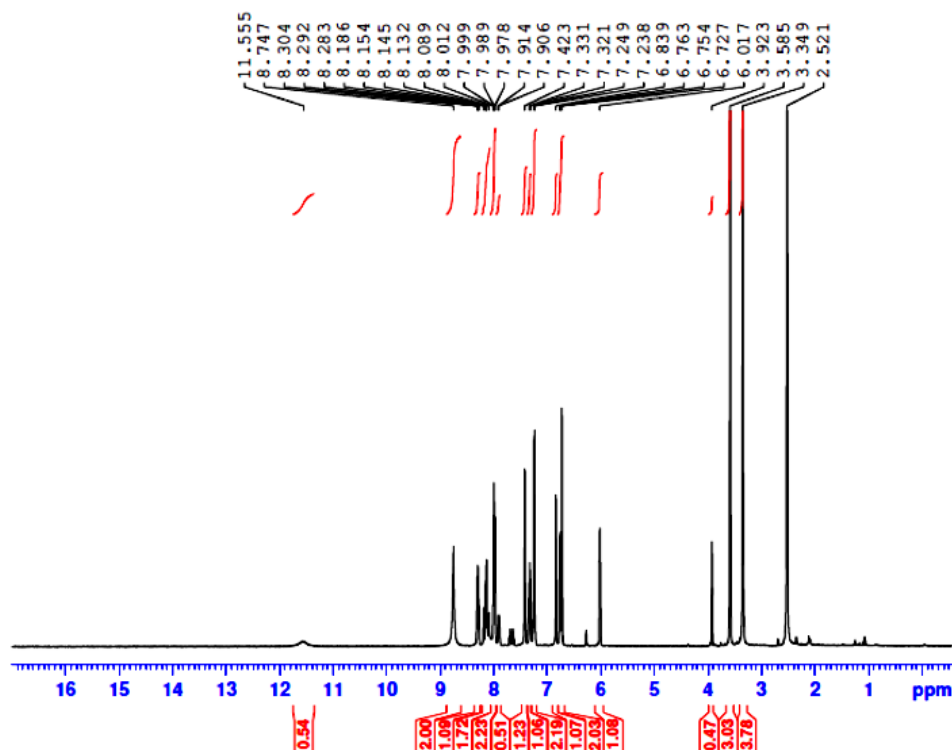
===== CHANNEL f2 =====
CPDPRG2: waltz16
NUC2: 1H
PCPD2: 90.00 usec
PL2: -2.00 dB
PL12: 14.16 dB
PL13: 17.90 dB
PL2W: 11.86359406 W
PL12W: 0.28722104 W
PL13W: 0.12139934 W
SFO2: 400.2216009 MHz
S1: 32768
SF: 100.6353990 MHz
WDW: EM
SSB: 0
LB: 1.00 Hz
GB: 0
PC: 1.40

51:



Sample : 186	Frequency Range : 3996.14 - 399.818	Measured on : 4/15/2019
Technique :	Resolution : 4	Instrument : Alpha
Customer : Default	Zerofilling : 2	Sample Scans : 16
	Acquisition : Double Sided,For	

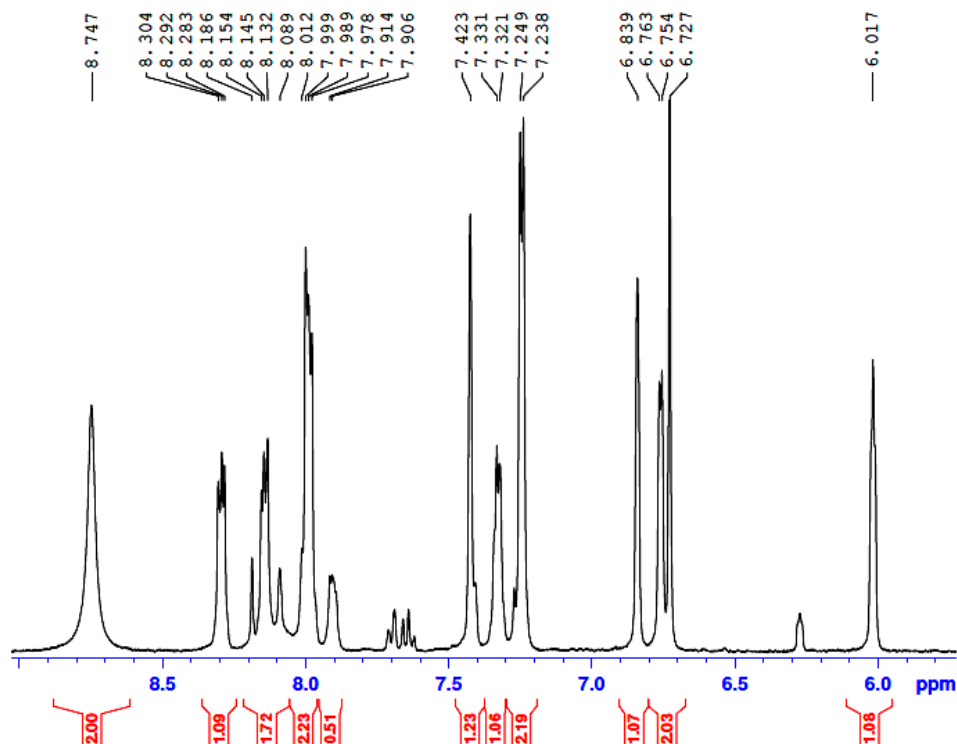
Sample code:3 Cl cmp (jahanshahi)



NAME Gilan UN
EXPNO 3326
PROCNO 1
Date_ 20171231
Time 13.14
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 256
DW 62.400 usec
DE 6.50 usec
TE 296.4 K
D1 4.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

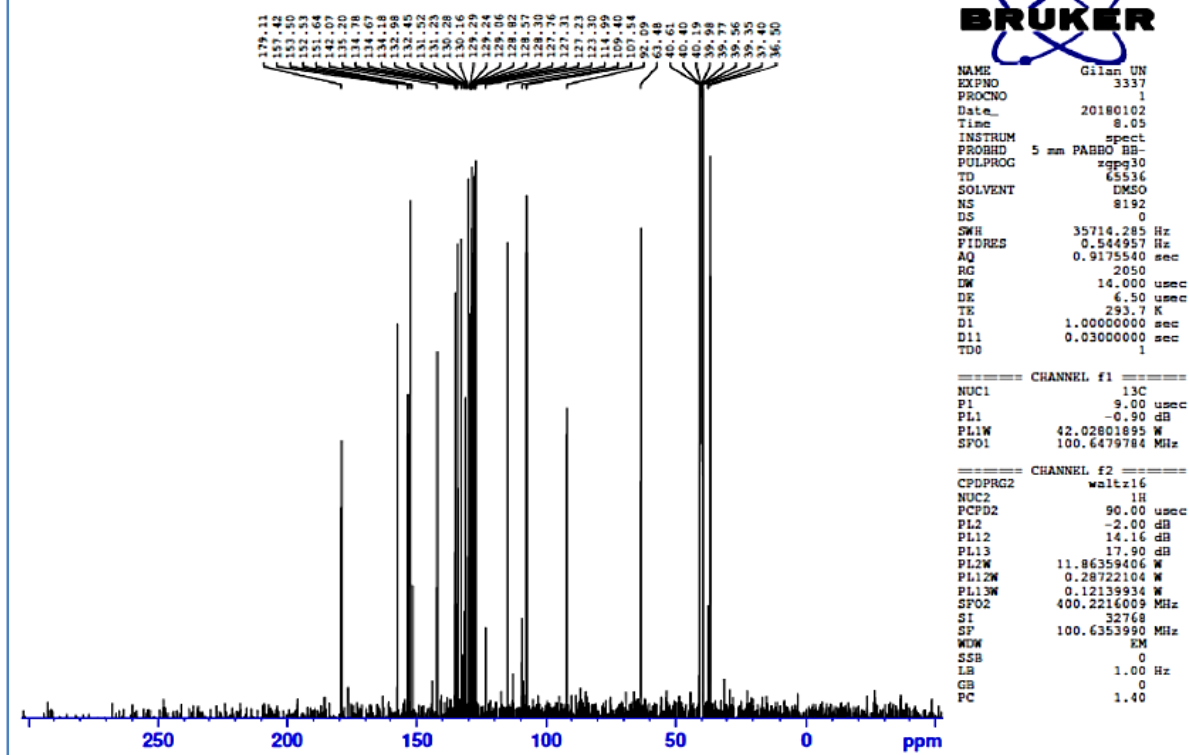
Sample code:3 Cl cmp (jahanshahi)



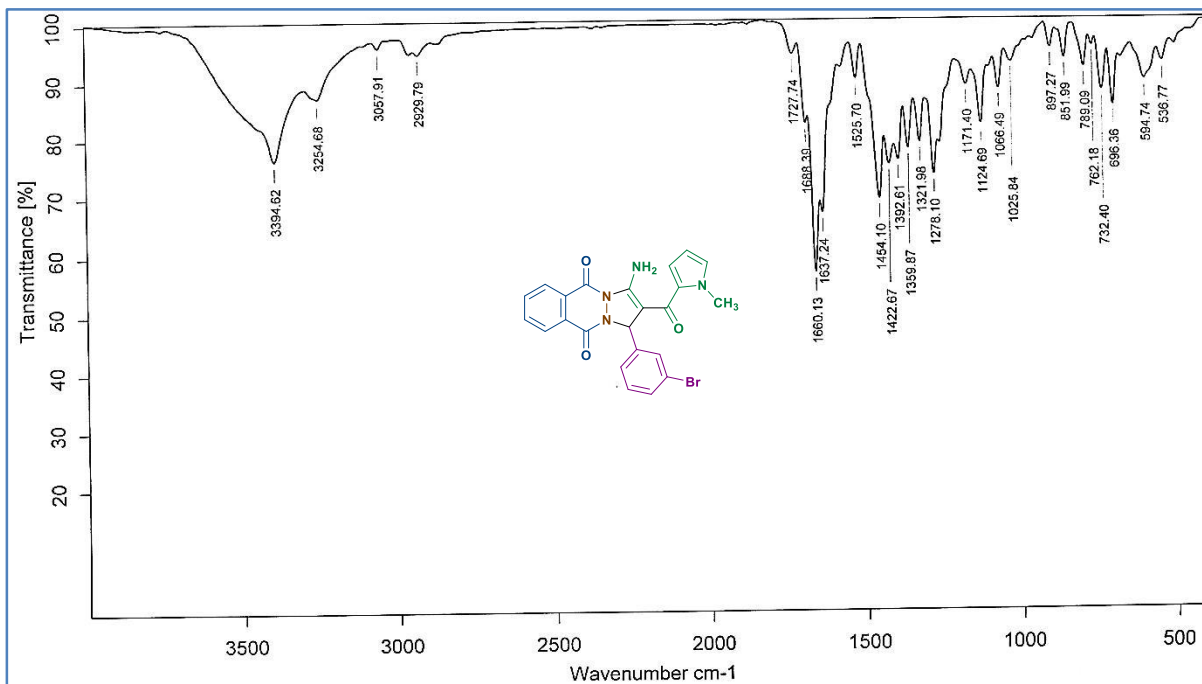
NAME Gilan UN
EXPNO 3326
PROCNO 1
Date_ 20171231
Time 13.14
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 256
DW 62.400 usec
DE 6.50 usec
TE 296.4 K
D1 4.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Sample code:3 C1 cmp (jahanshahi)

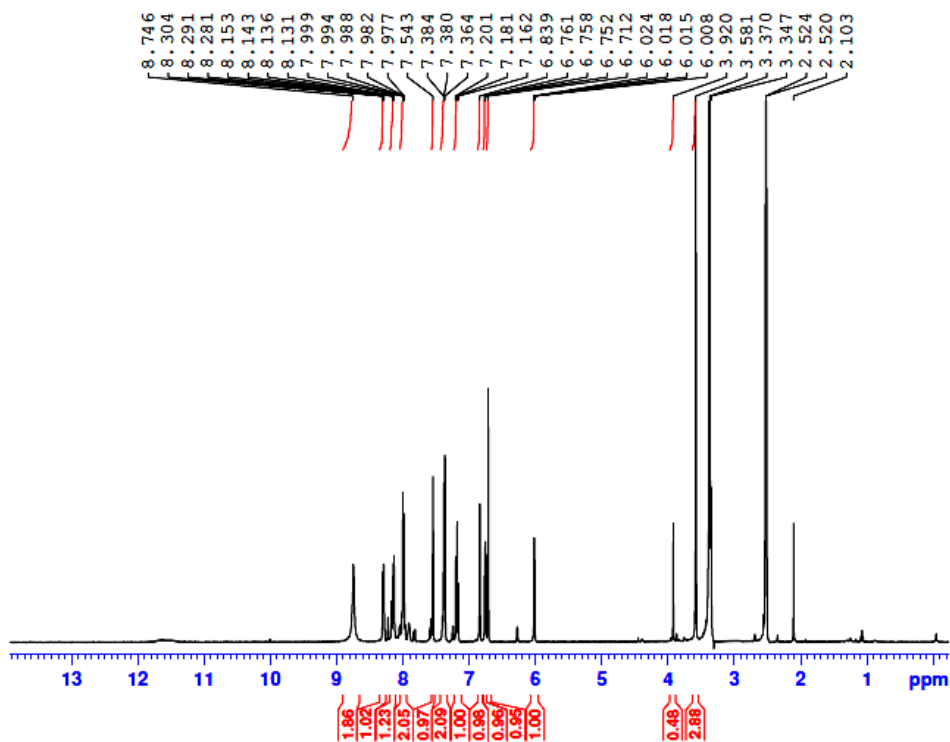


5m:



Sample : 185	Frequency Range : 3996.14 - 399.818	Measured on : 4/15/2019
Technique :	Resolution : 4	Instrument : Alpha
Customer : Default	Zerofilling : 2	Sample Scans : 16
		Acquisition : Double Sided, For

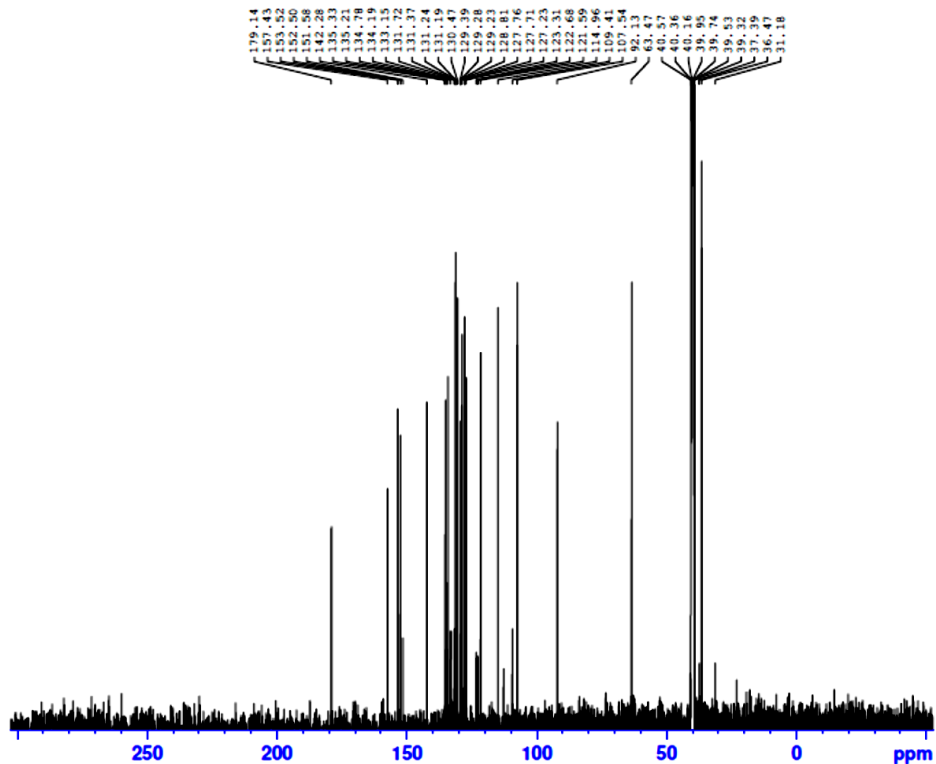
Sample code: 3-Br-phet (Jahanshahi)



NAME Gilan UN
EXPNO 3150
PROCNO 1
Date_ 20170911
Time 22.51
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 20
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 181
DW 62.400 usec
DE 6.50 usec
TE 294.8 K
D1 4.00000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Sample code: 3-Br-phet (Jahanshahi)

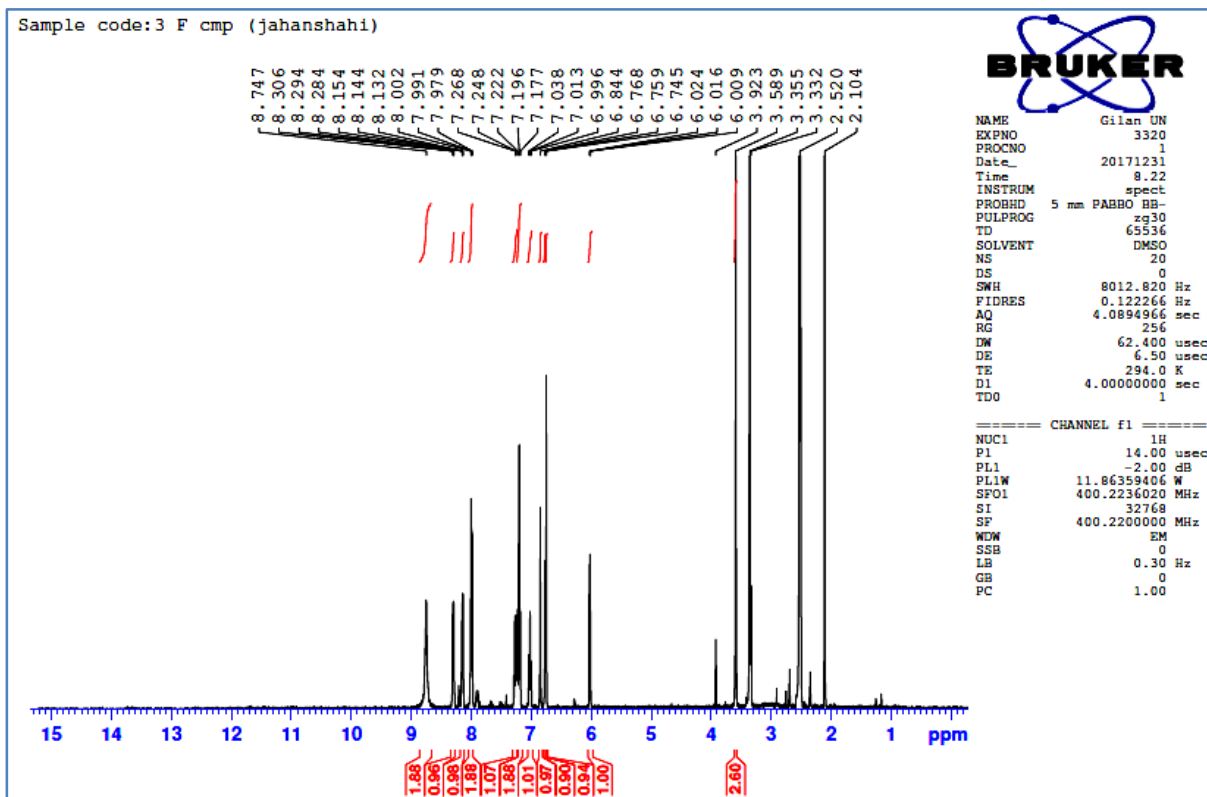
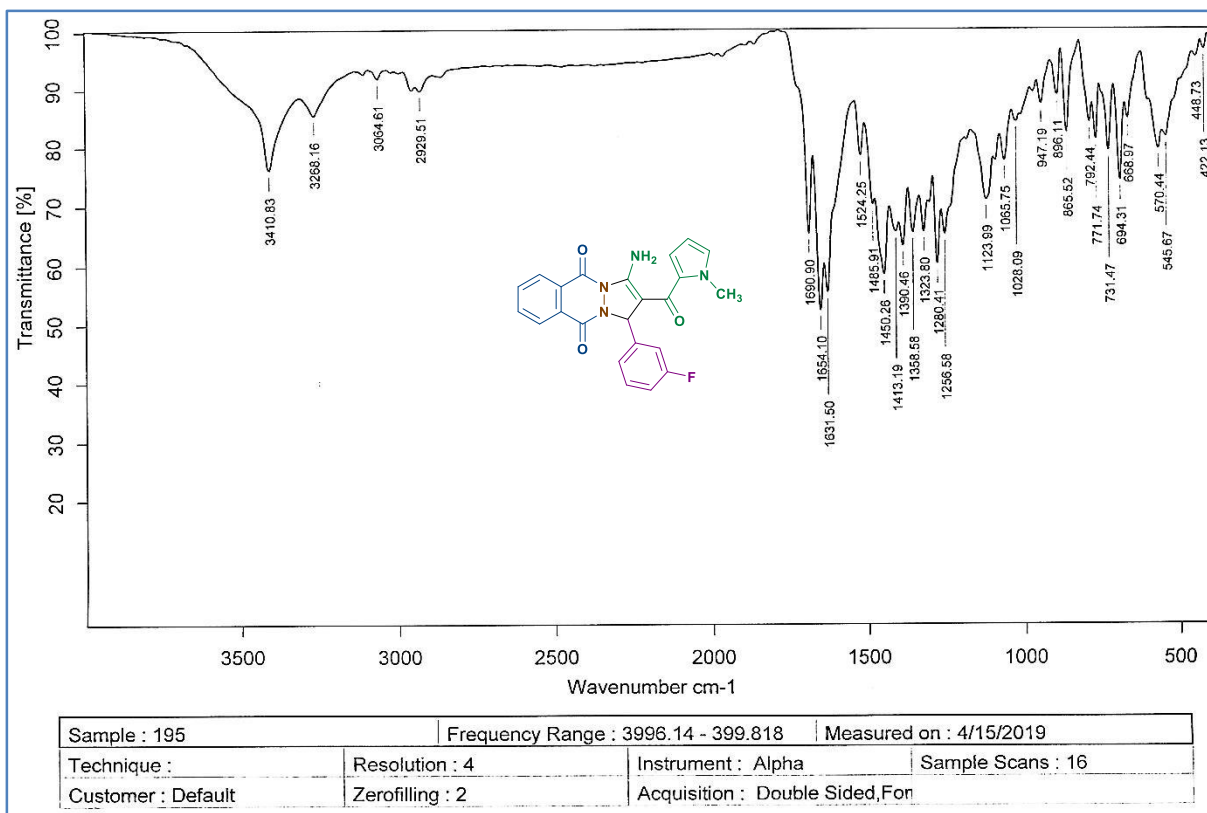


NAME Gilan UN
EXPNO 3170
PROCNO 1
Date_ 20170923
Time 3.57
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 8192
DS 0
SWH 35714.285 Hz
FIDRES 0.544957 Hz
AQ 0.9175540 sec
RG 2050
DW 14.000 usec
DE 6.50 usec
TE 294.3 K
D1 1.00000000 sec
D11 0.03000000 sec
TD0 1

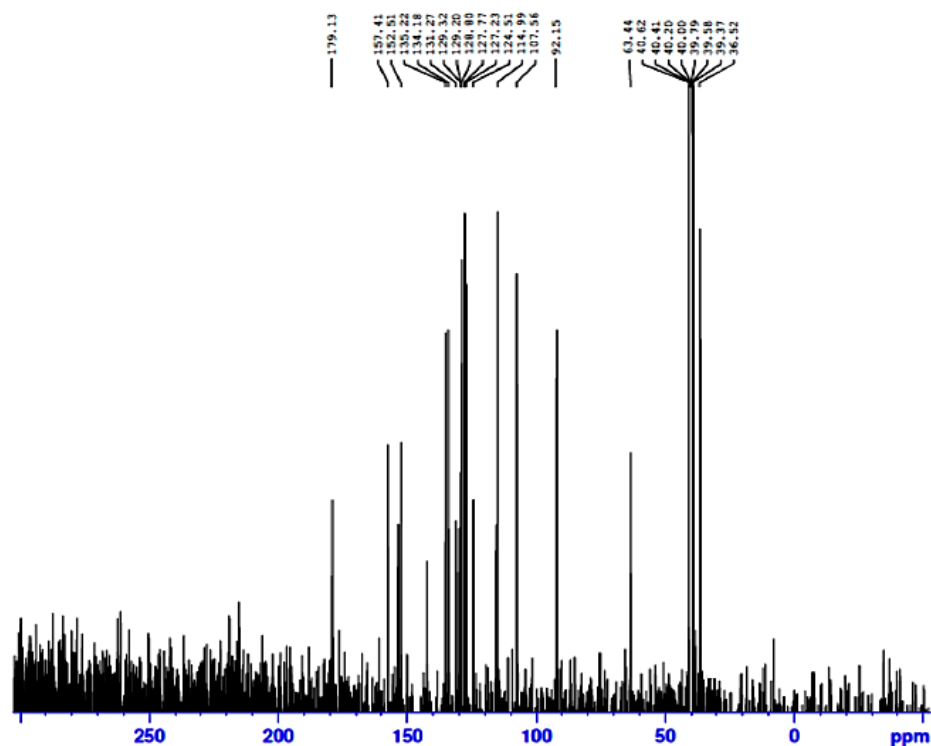
===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

===== CHANNEL f2 =====
CPDPRG2 waitz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL2W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

5n:



Sample code: 3 F cmp (jahanshahi)

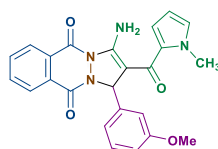
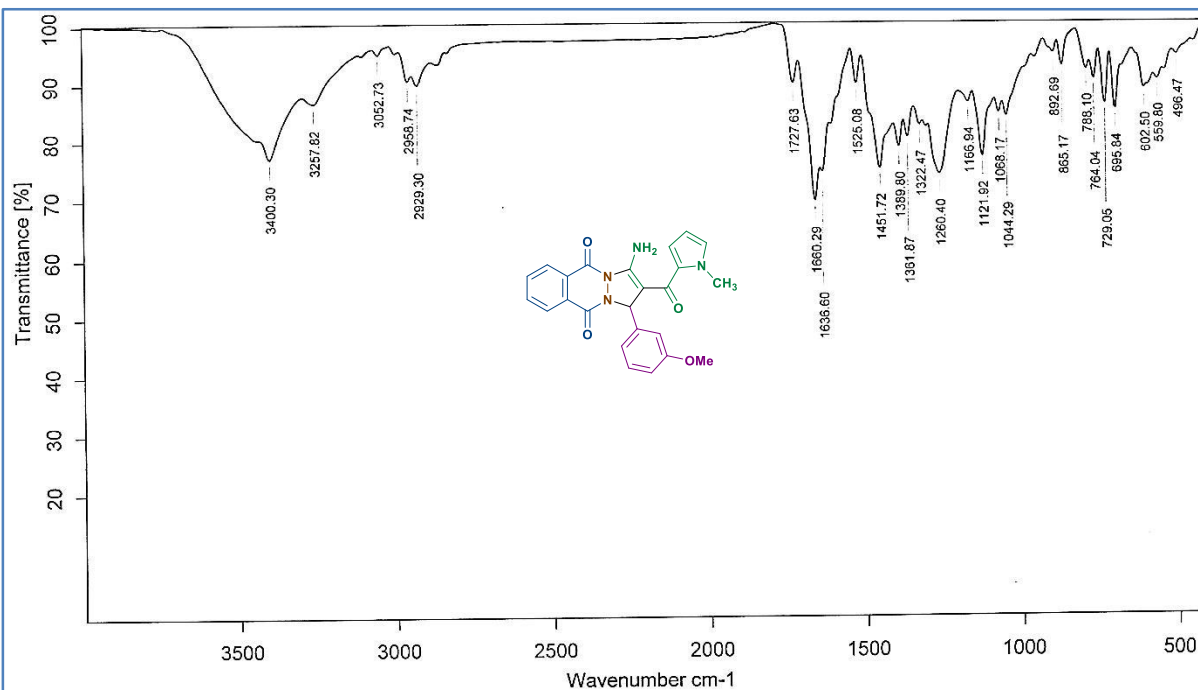


NAME Gilan UN
EXPNO 3336
PROCNO 1
Date 20180101
Time 17.59
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 8192
DS 0
SWH 35714.285 Hz
FIDRES 0.544957 Hz
AQ 0.9175540 sec
RG 2050
DW 14.000 usec
DE 6.50 usec
TE 295.6 K
D1 1.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

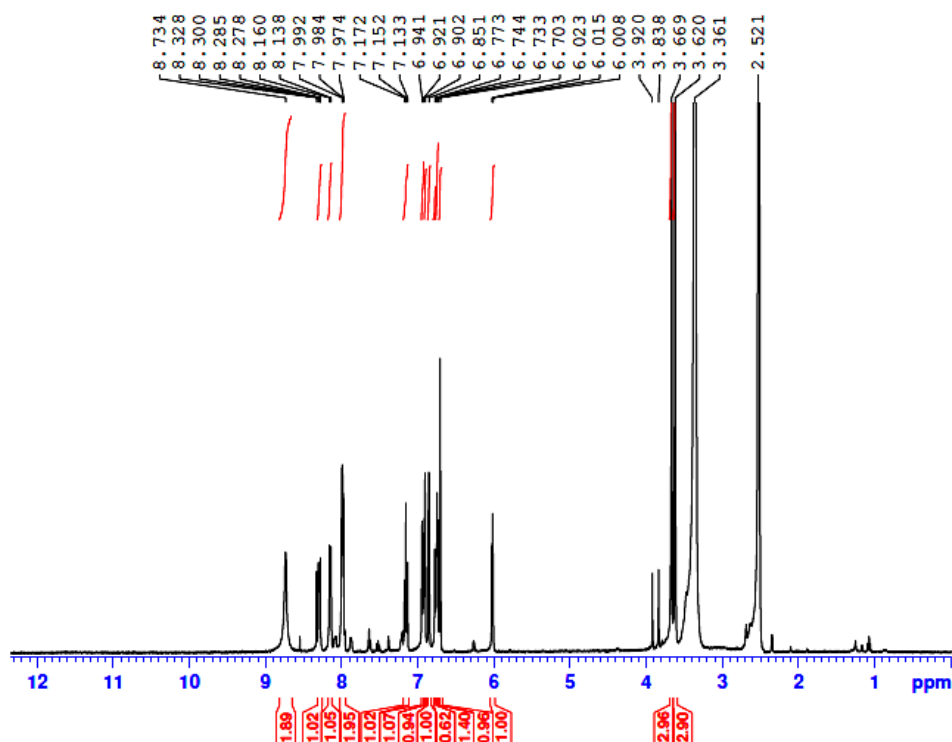
===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL2W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

50:



Sample : 190	Frequency Range : 3996.14 - 399.818	Measured on : 4/15/2019
Technique :	Resolution : 4	Instrument : Alpha
Customer : Default	Zerofilling : 2	Sample Scans : 16
	Acquisition : Double Sided, For	

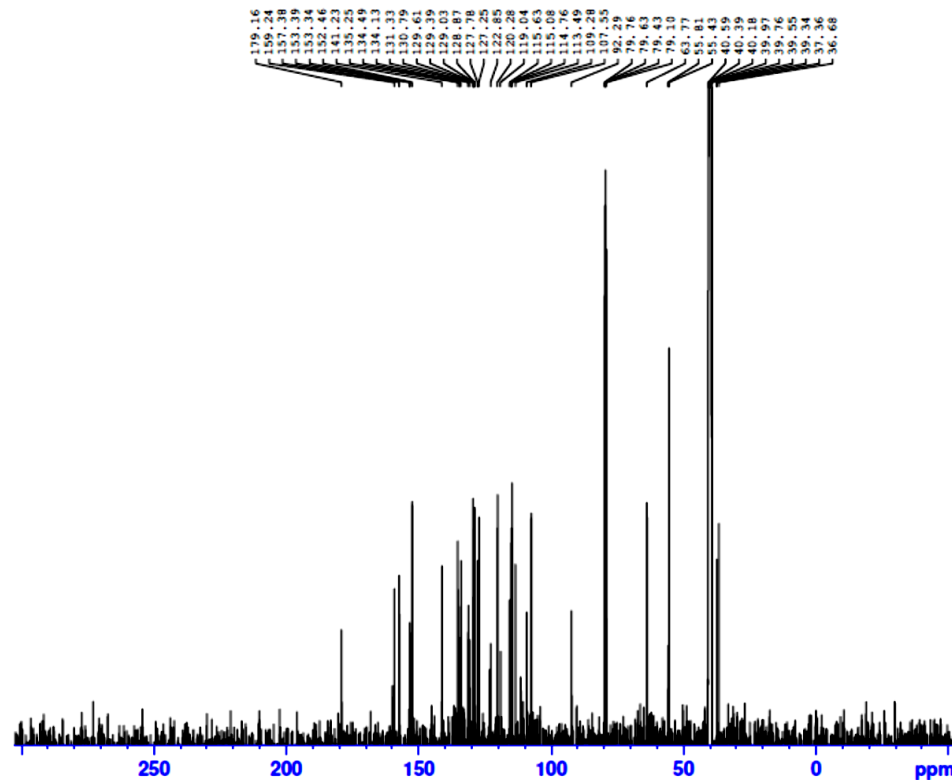
Sample code: 3-OMe (Jahanshahi)



NAME Gilan UN
EXPNO 3173
PROCNO 1
Date_ 20170927
Time 12.56
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 40
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894966 sec
RG 203
DW 62.400 usec
DE 6.50 usec
TE 295.1 K
D1 4.0000000 sec
TD0 1

===== CHANNEL f1 =====
NUC1 1H
P1 14.00 usec
PL1 -2.00 dB
PL1W 11.86359406 W
SFO1 400.2236020 MHz
SI 32768
SF 400.2200000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

Sample code: 3-OMe (Jahanshahi)

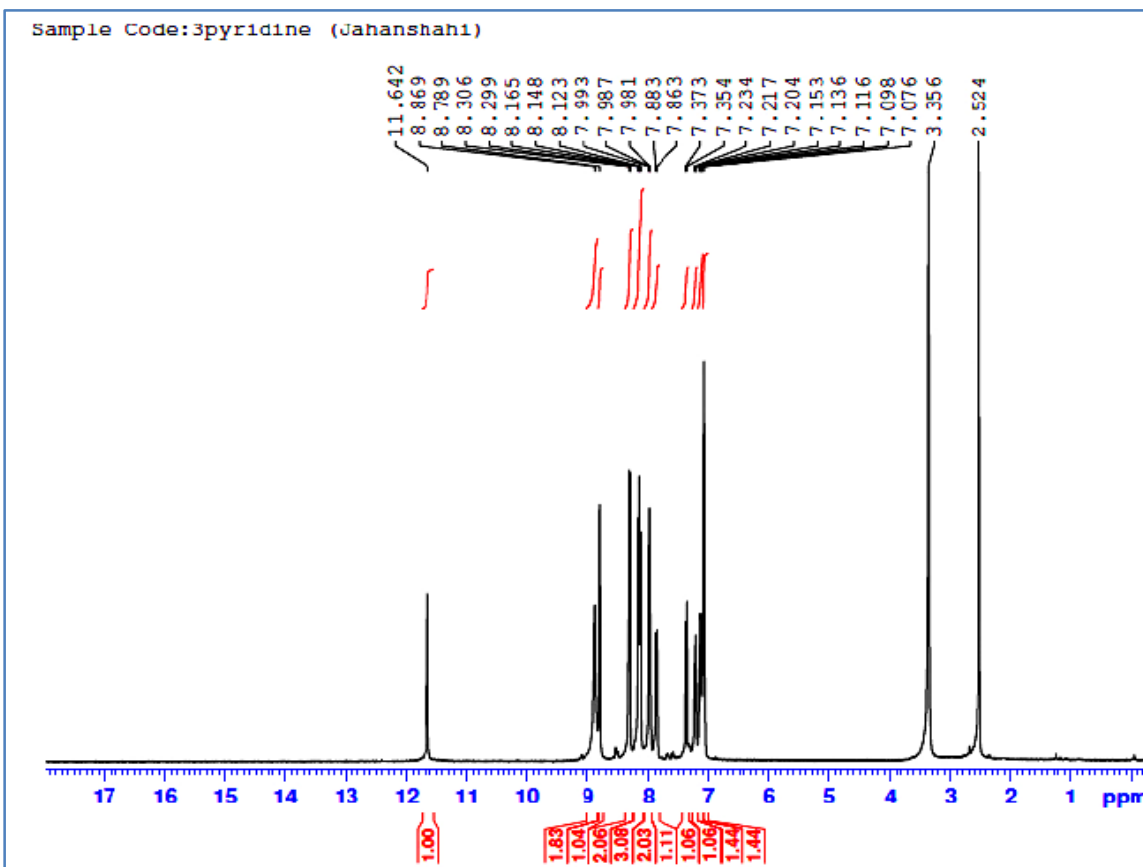
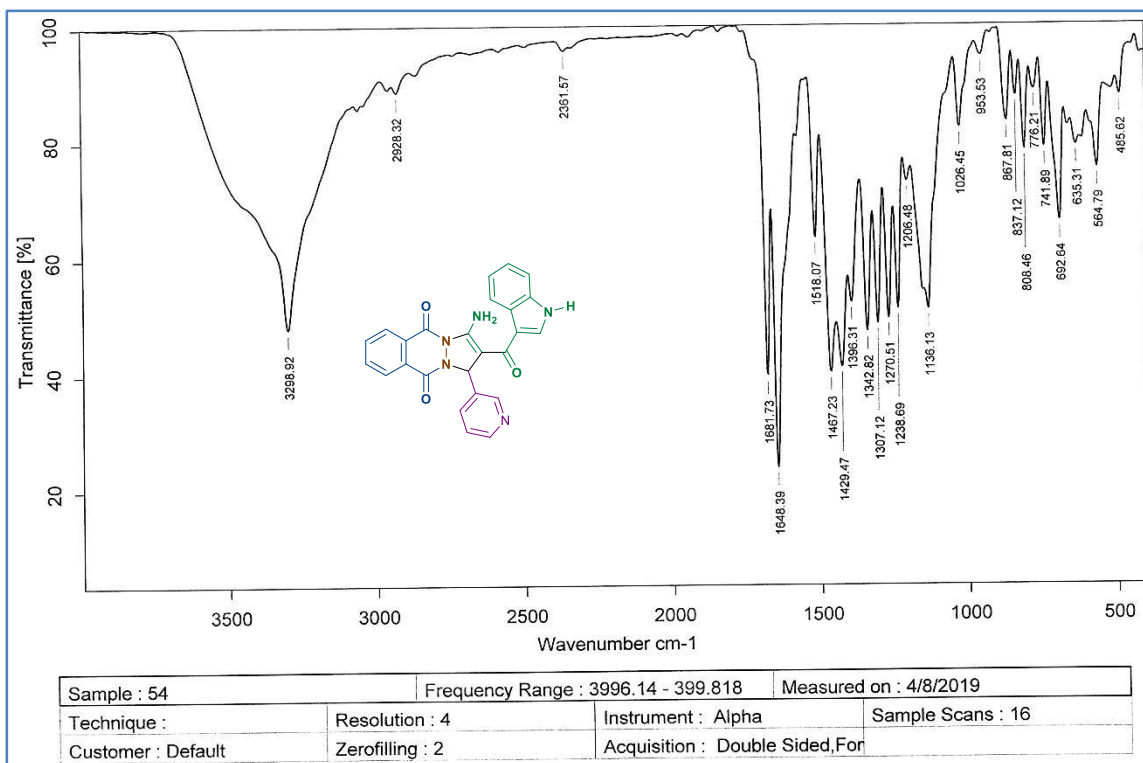


NAME Gilan UN
EXPNO 3213
PROCNO 1
Date_ 20171011
Time 17.49
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 8192
DS 0
SWH 35714.285 Hz
FIDRES 0.544857 Hz
AQ 0.9175540 sec
RG 2050
DW 14.000 usec
DE 6.50 usec
TE 295.1 K
D1 1.00000000 sec
D11 0.03000000 sec
TD0 1

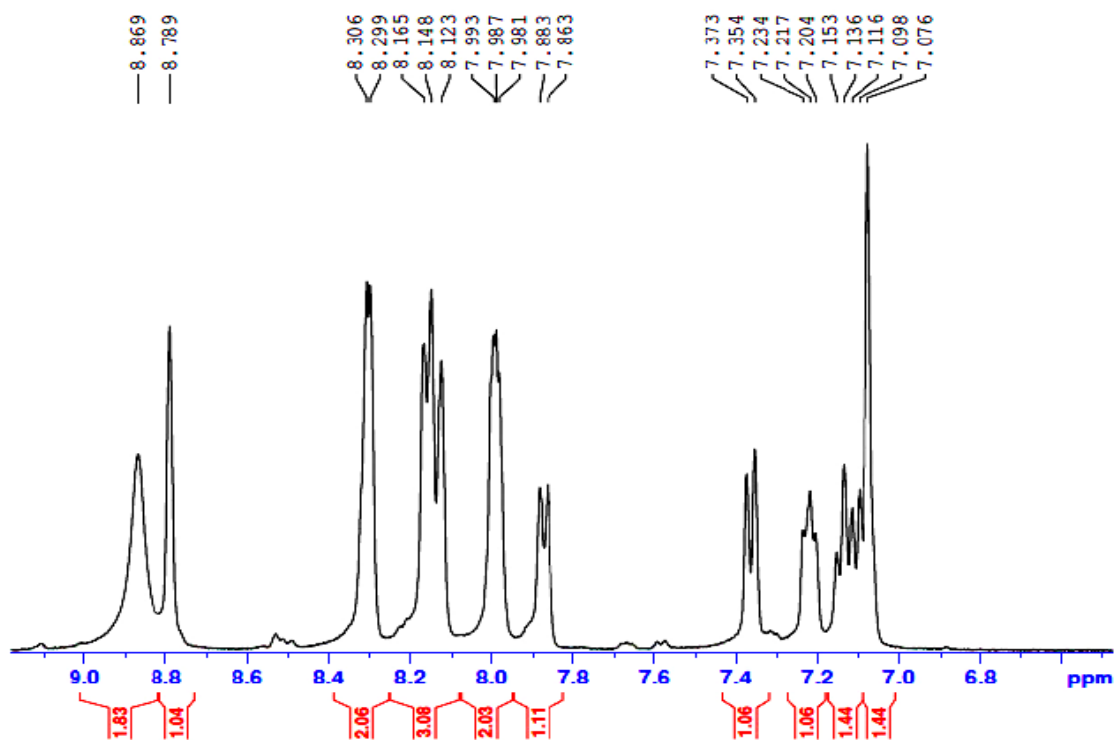
===== CHANNEL f1 =====
NUC1 13C
P1 9.00 usec
PL1 -0.90 dB
PL1W 42.02801895 W
SFO1 100.6479784 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 90.00 usec
PL2 -2.00 dB
PL12 14.16 dB
PL13 17.90 dB
PL12W 11.86359406 W
PL12W 0.28722104 W
PL13W 0.12139934 W
SFO2 400.2216009 MHz
SI 32768
SF 100.6353990 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

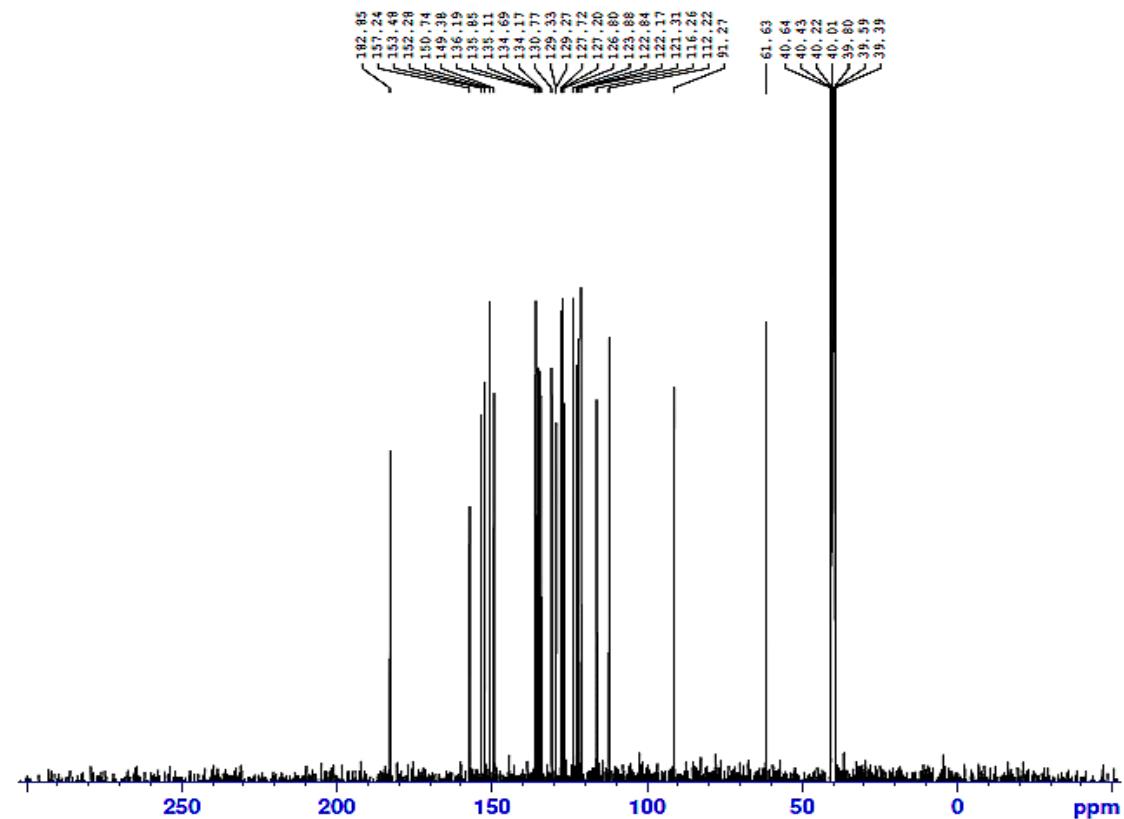
5p:



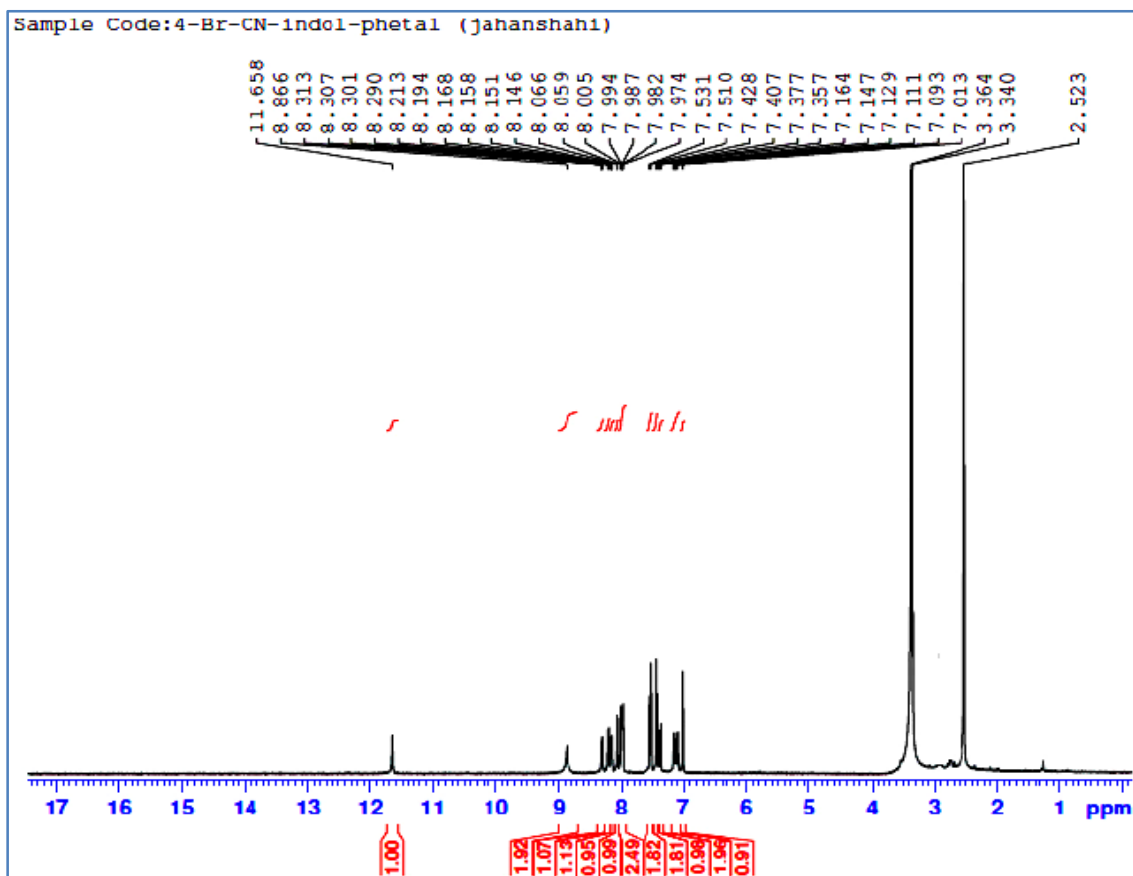
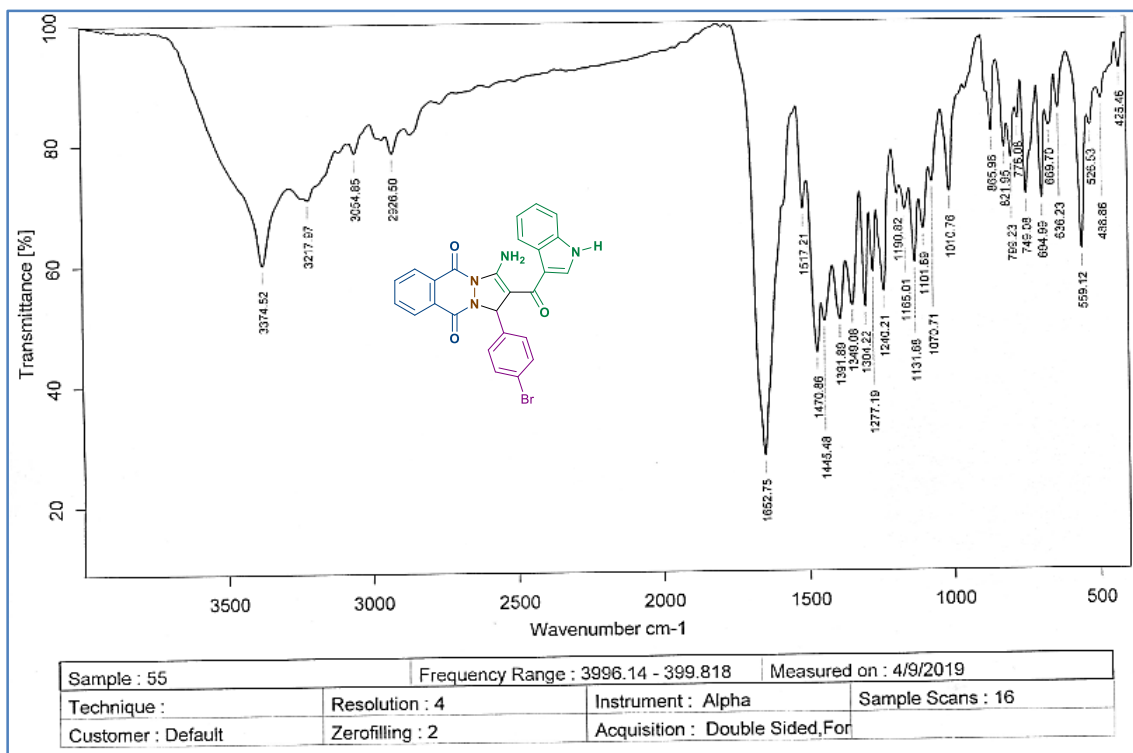
Sample Code:3pyridine (Jahanshahi)



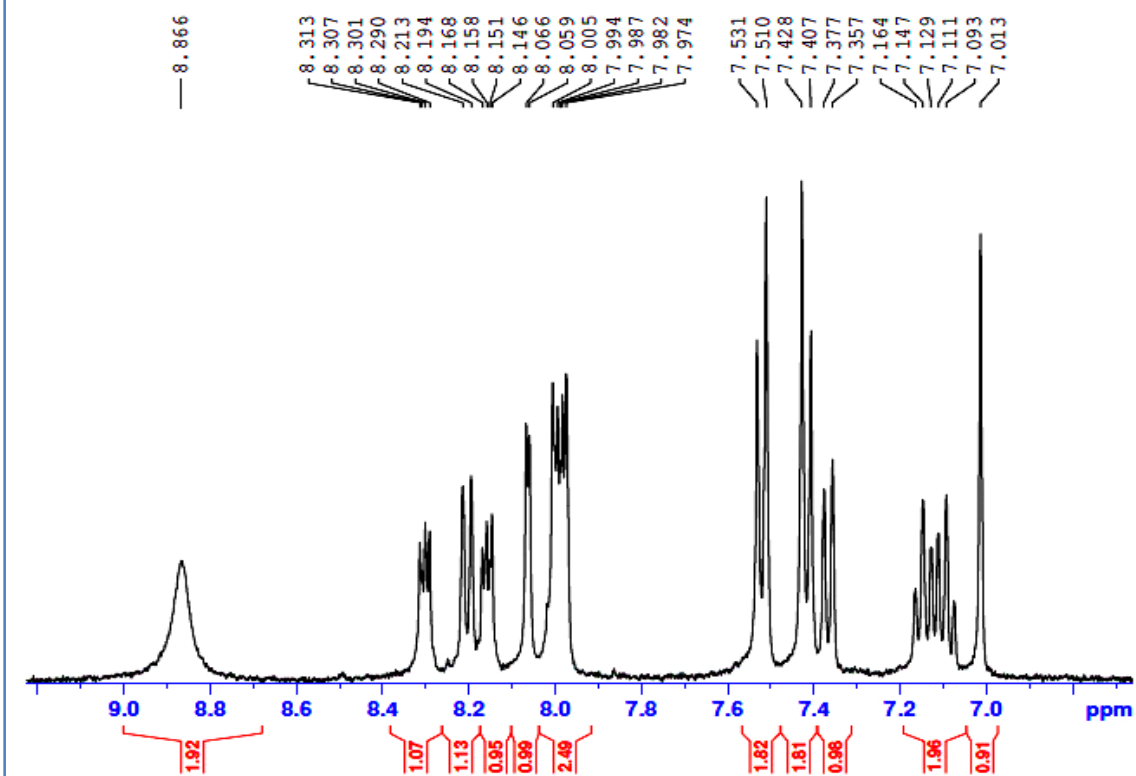
Sample Code:3pyridine (Jahanshahi)



5q:



Sample Code: 4-Br-CN-indol-phetal (jahanshahi)



Sample Code: 4-Br-CN-indol-phetal (jahanshahi)

