

Novel D- π -A type Triphenylamine based chromogens for DSSC: Design, synthesis and performance studies

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¹H and ¹³C NMR spectra of synthesized compounds

Spectrum 1 ¹H NMR of **MH**

Spectrum 2 ¹³C NMR of **MH**

Spectrum 3 ¹H NMR of **MT**

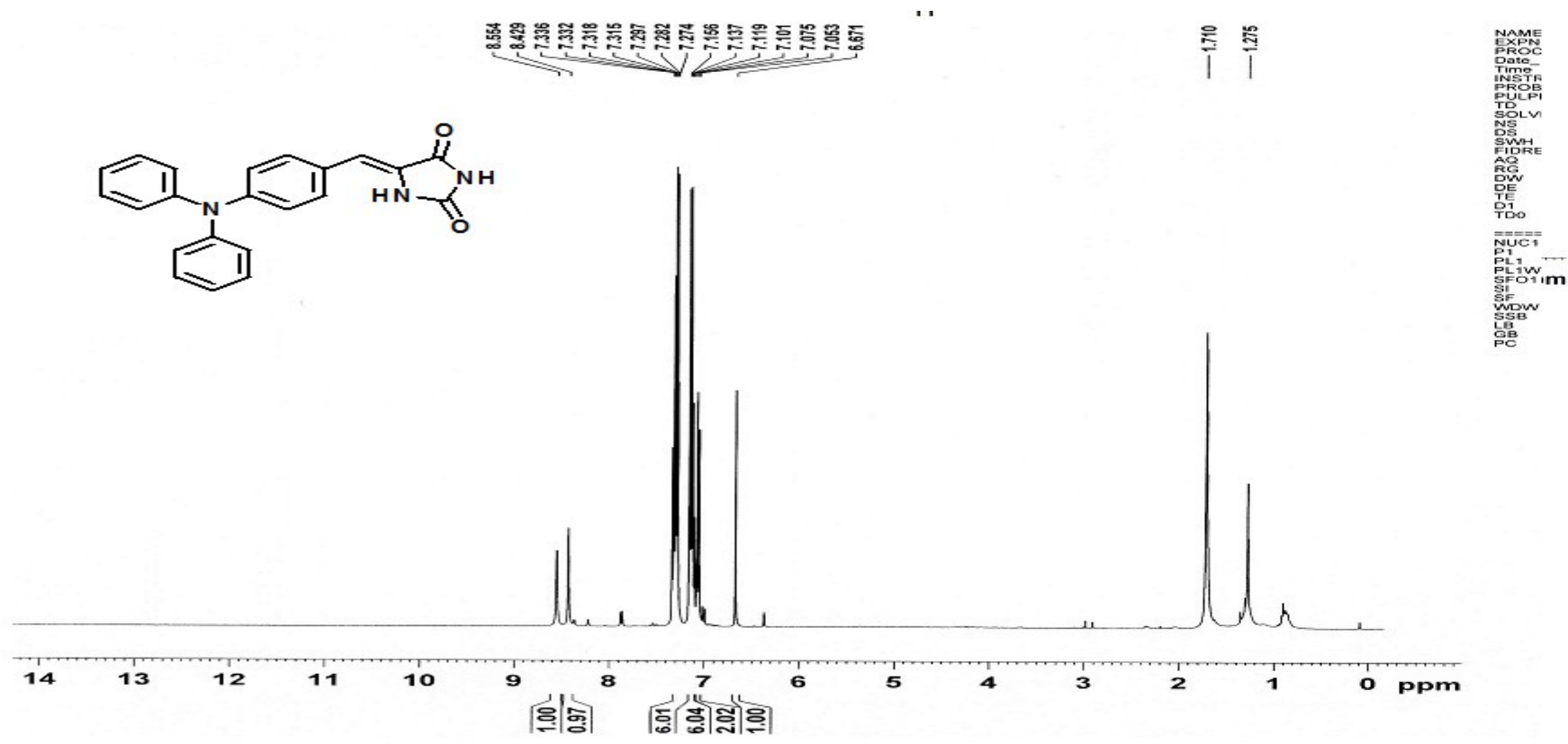
Spectrum 4 ¹³C NMR of **MT**

Spectrum 5 ¹H NMR of **DH**

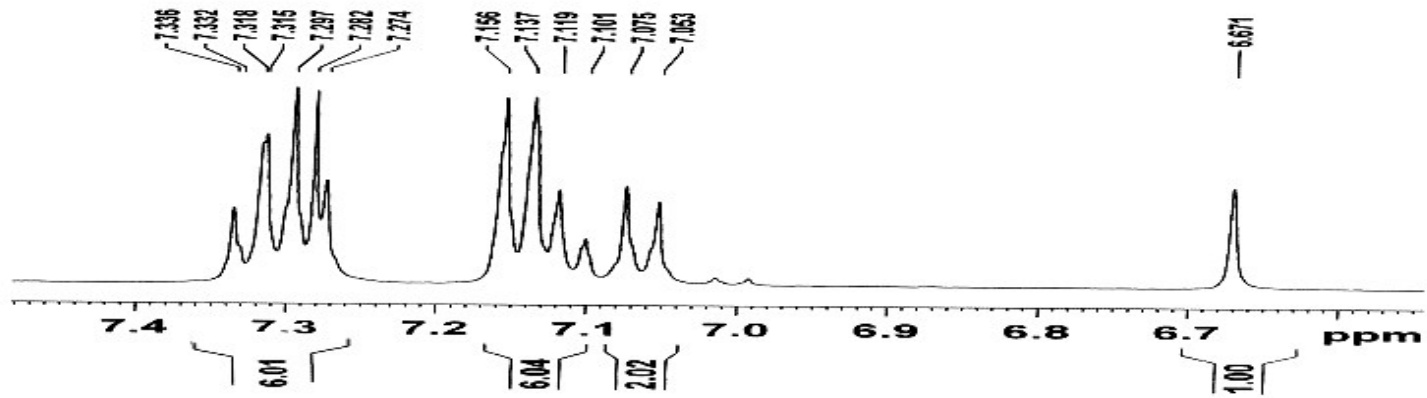
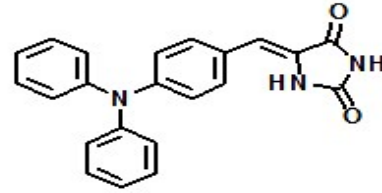
Spectrum 6 ¹³C NMR of **DH**

Spectrum 7 ¹H NMR of **DT**

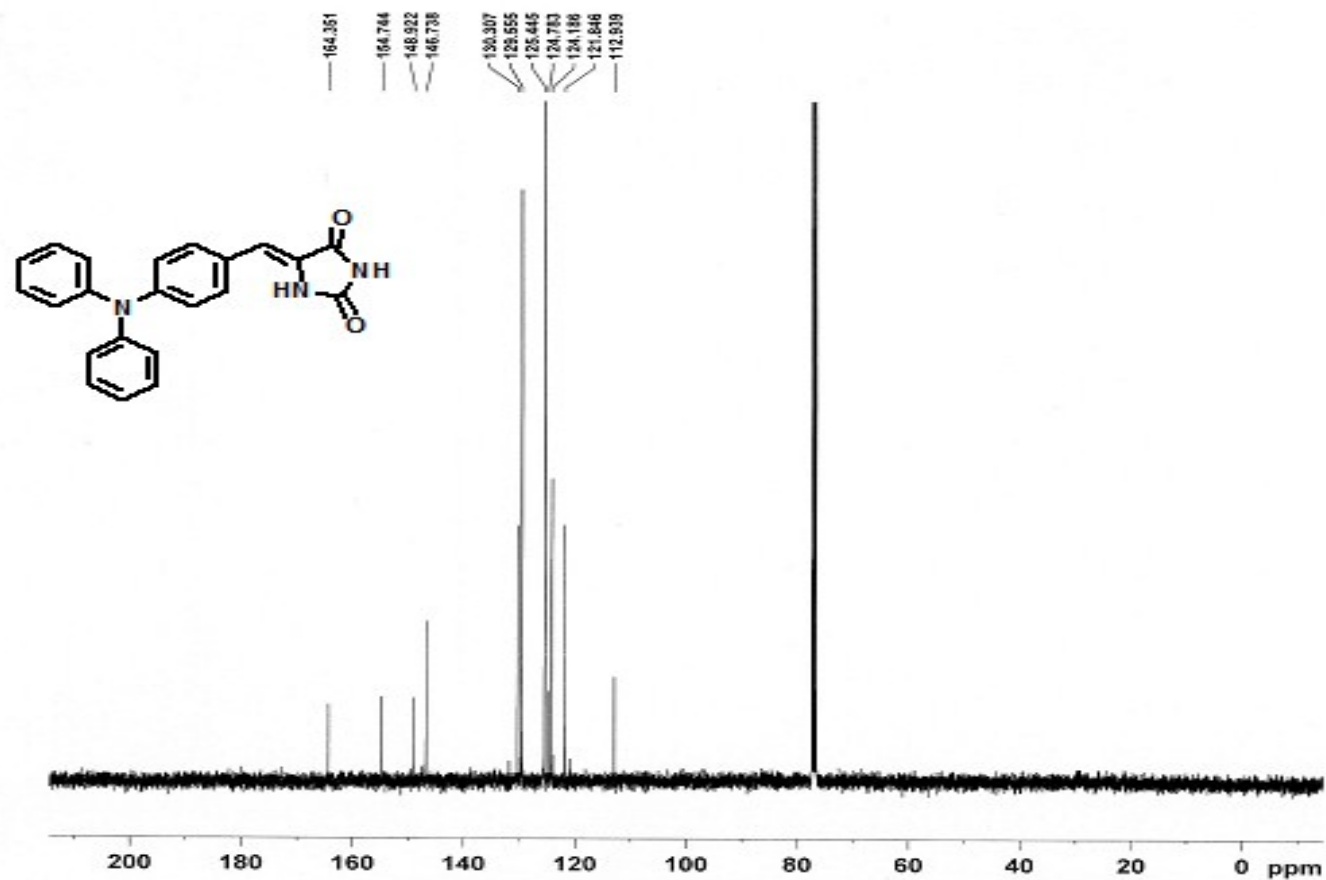
Spectrum 8 ¹³C NMR of **DT**



Spectrum 1 ¹H NMR of MH



Spectrum 1 ^1H NMR of **MH**



```

NAME Azet H 13C
EXPNO 5
PROCNO 1
Date_ 20110611
Time 15.20
INSTRUM spect
PROBHD 5 mm PABBO SB-
PULPRDG 2000
TD 65536
SOLVENT CDCl3
NS 512
DS 0
SWH 24008.461 Hz
FIDRES 0.386706 Hz
AQ 1.3621898 sec
RG 203
DVB 20.800 usec
DE 6.50 usec
TE 295.2 K
D1 3.0000000 sec
D11 0.0000000 sec
TD0 1

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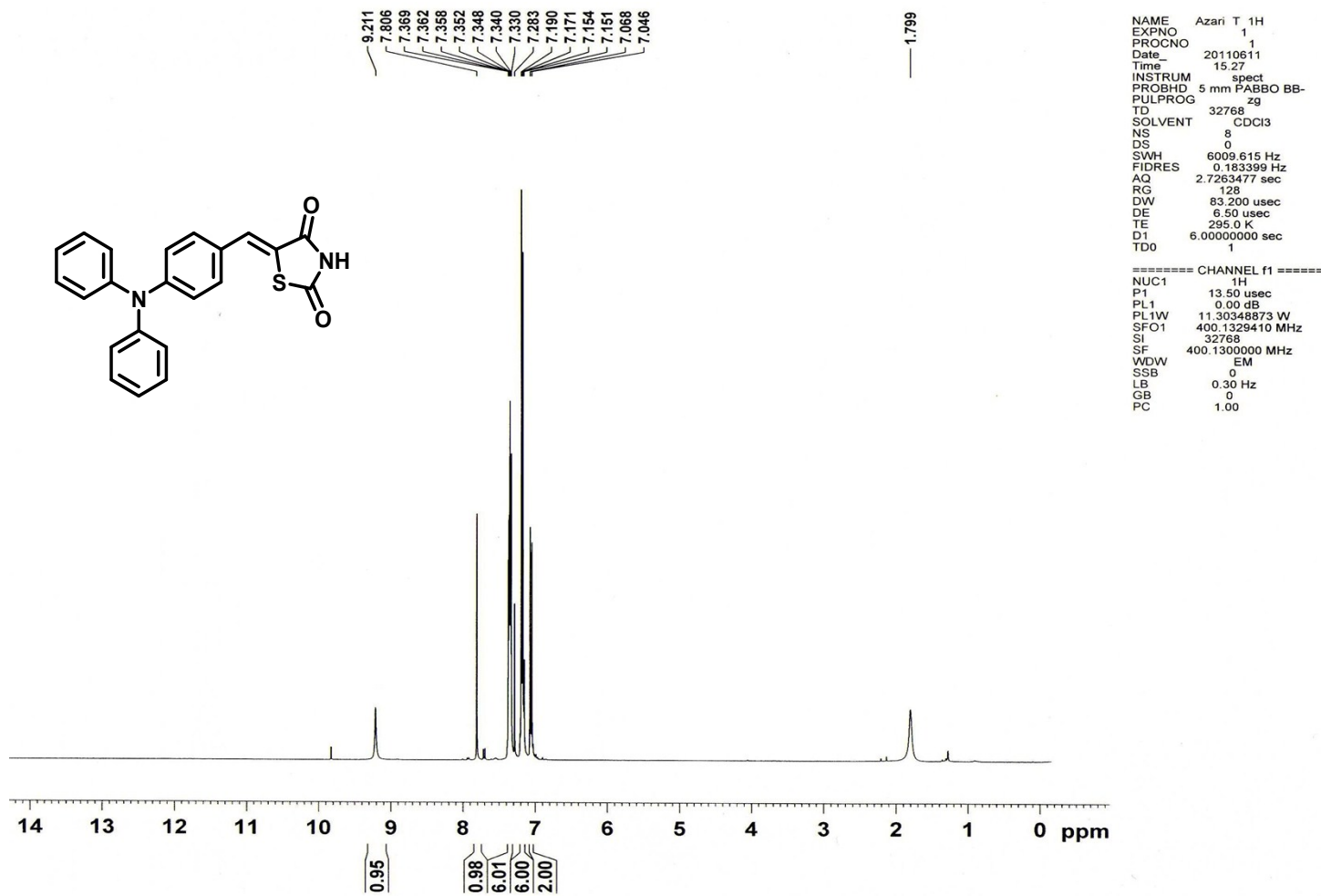
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===== CHANNEL f1 =====
NUC1 13C
P1 7.60 usec
PL1 -2.00 dB
PL1W 50.0202510 W
SFO1 100.626258 MHz

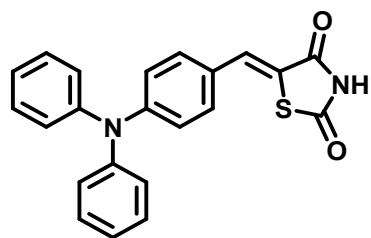
===== CHANNEL f2 =====
CPDPRG2 wa2t16
NUC2 1H
PCPD2 25.00 usec
PL2 0.00 dB
PL12 16.00 dB
PL13 16.00 dB
PL2W 11.20048873 W
PL12W 0.26589381 W
PL13W 0.26589381 W
SFO2 400.1316065 MHz
SI -27.88
SF 100.6127500 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

```

Spectrum 2 ¹³C NMR of MH



Spectrum 3 ¹H NMR of MT



```

NAME Azari T 1H
EXPNO 1
PROCNO 1
Date_ 20110611
Time 15.27
INSTRUM spect
PROBHD 5 mm PABBO BI
PULPROG zg
TD 32768
SOLVENT CDCl3
NS 8
DS 0
SWH 6009.615 Hz
FIDRES 0.183399 Hz
AQ 2.7263477 sec
RG 128
DW 83.200 usec
DE 6.50 usec
TE 295.0 K
D1 6.00000000 sec
TD0 1

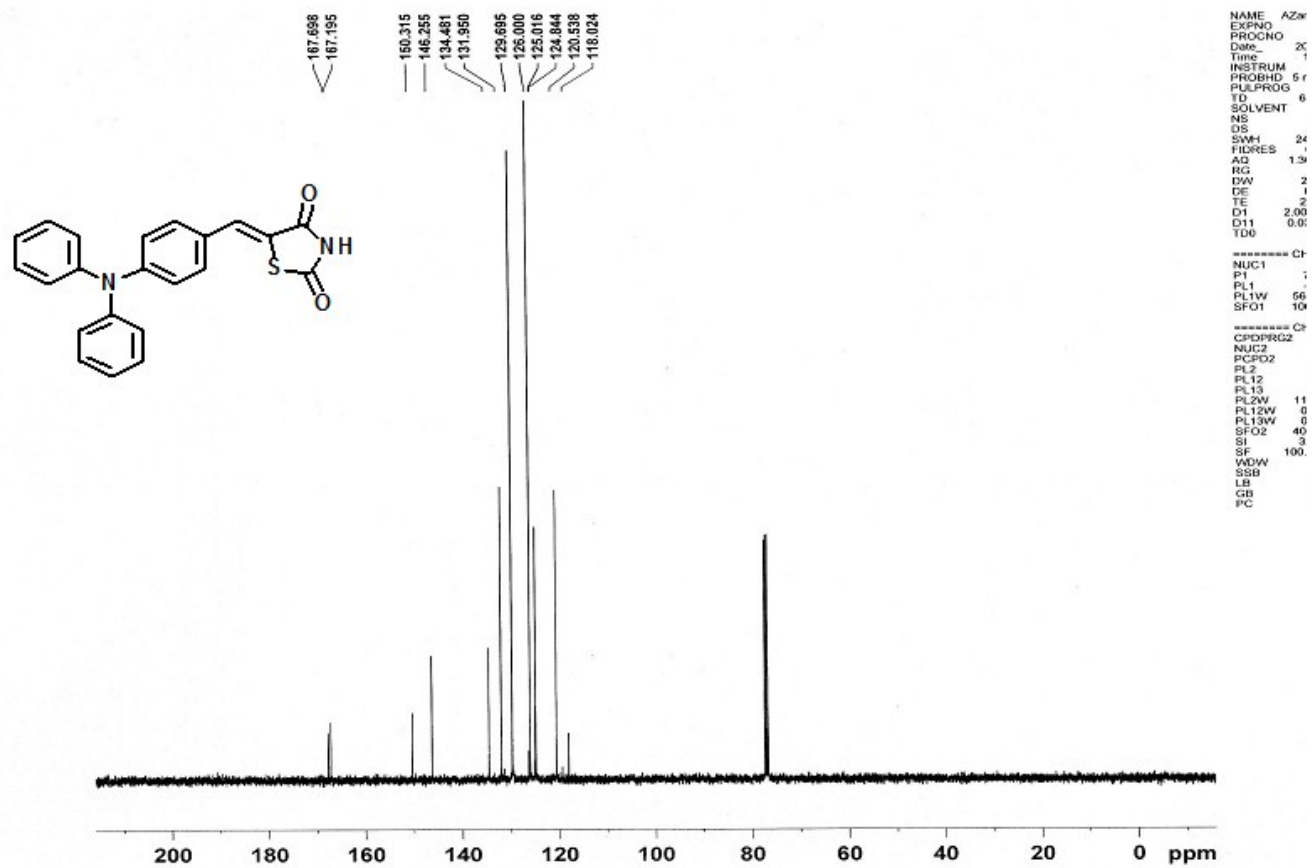
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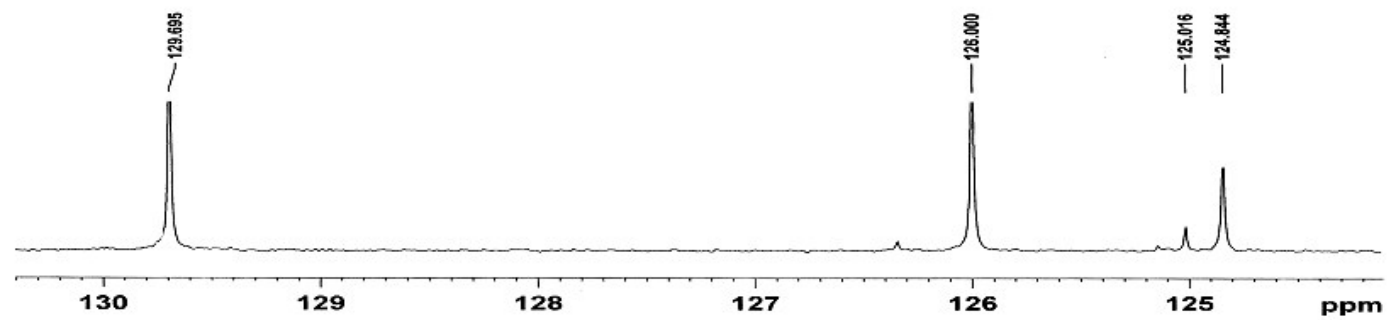
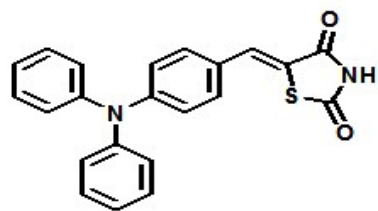
===== CHANNEL f1 ==
NUC1 1H
P1 13.50 usec

```

Spectrum 3 ^1H NMR of **MT**



Spectrum 4 ¹³C NMR of MT

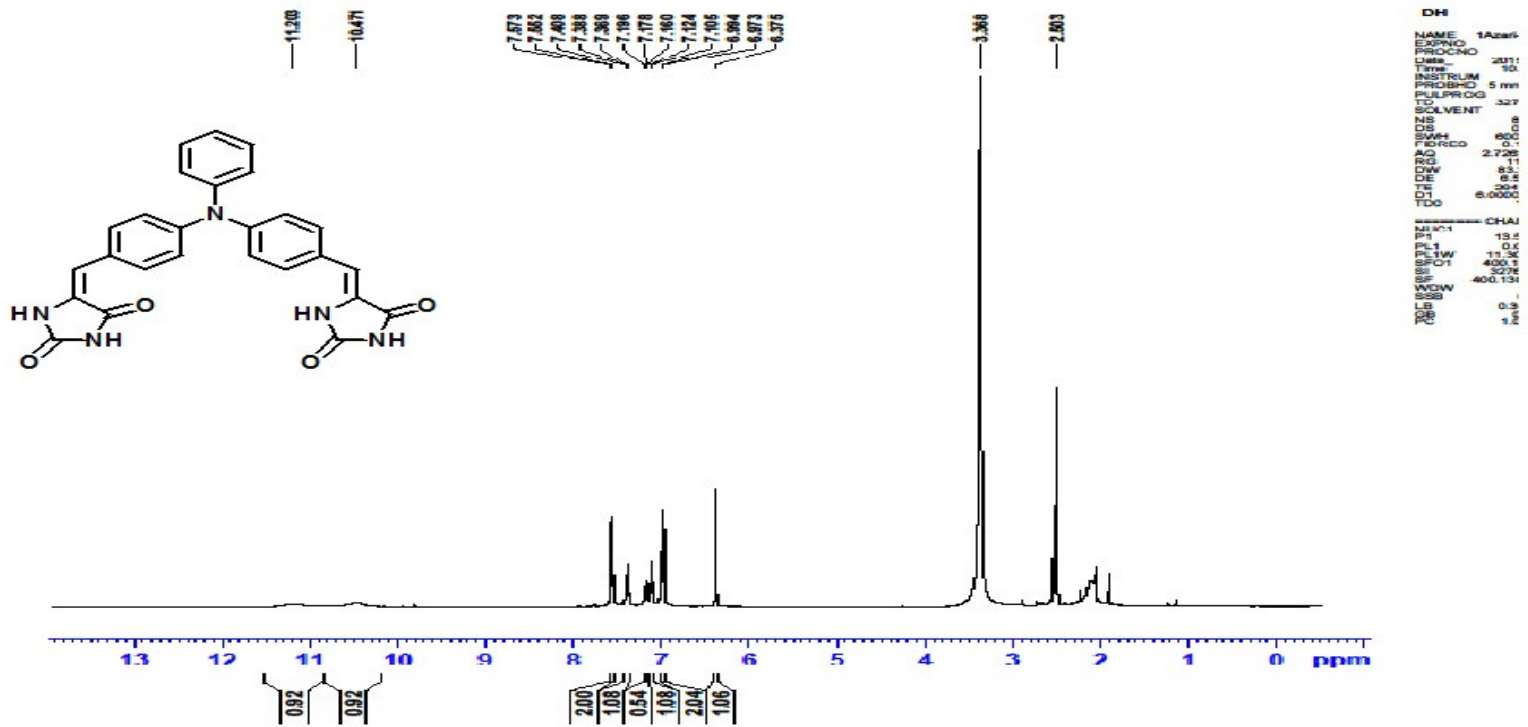


NAME
EXPNO
PROCX
Date_
Time
INSTR1
PROB1
PULPR
TD
SOLVE
NS
DS
SWH
FIDRET
AQ
RG
DW
DE
TE
D1
D11
TD0

NUC1
P1
PL1
PL1W
SFO1

CPDFF
NUC2
PCPD2
PL2
PL12
PL13
PL2W
PL12W
PL13W
SFO2
SI
SI
WDW
SSH
LB
GB
PC

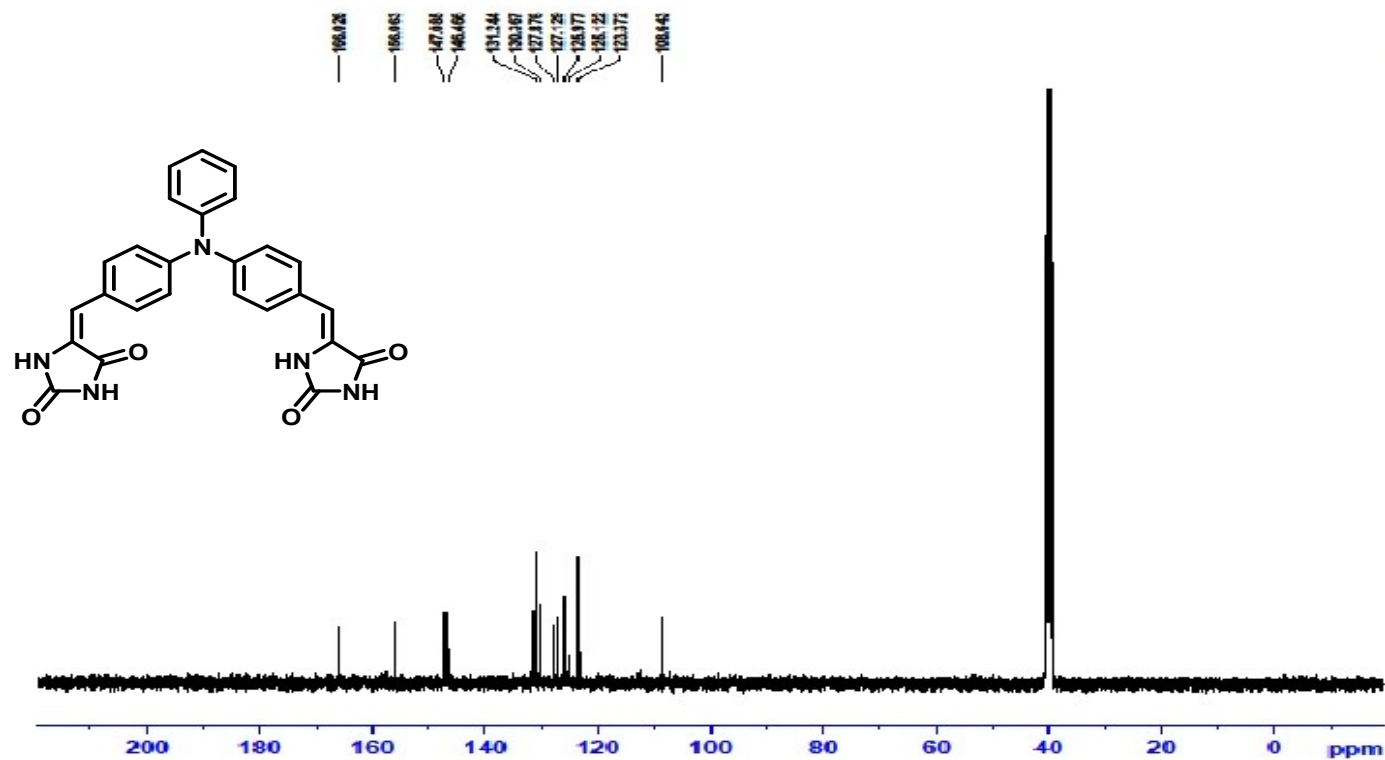
Spectrum 4 ¹³C NMR of MT



Spectrum 5 ¹H NMR of DH



Spectrum 5 ^1H NMR of **DH**



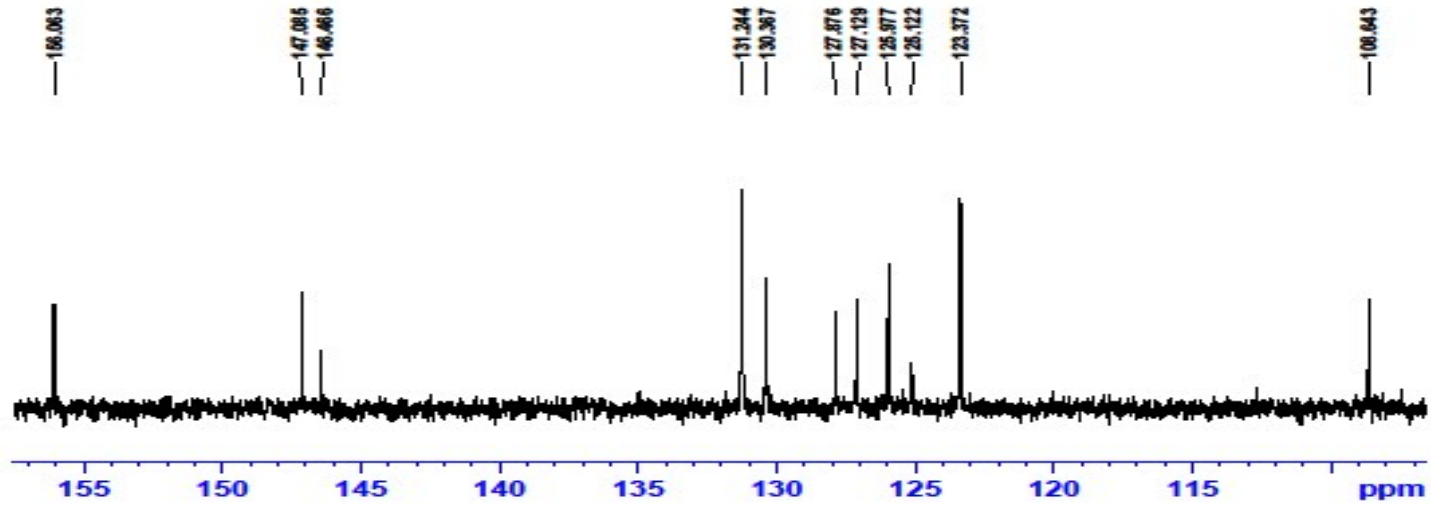
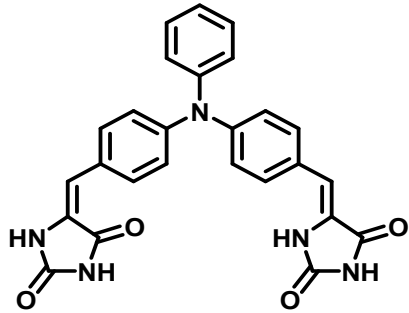
DH

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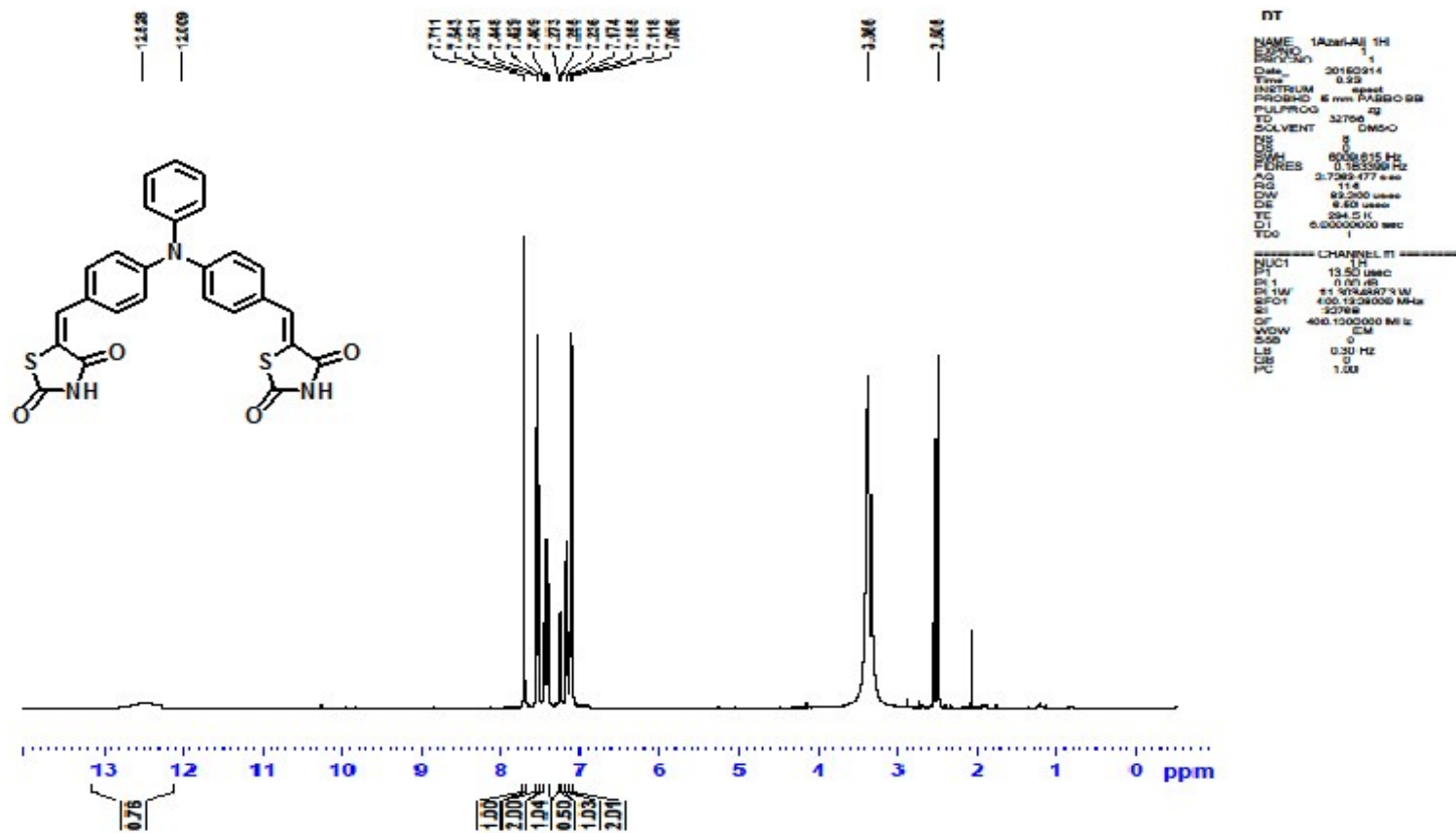
NAME: 1406146_13C
PROCNO: 1
VEXP: 10232
PROBHD: 5 mm QNP1H2 90
PULPROG: zgpg30
SOLVENT: DMSO
NS: 64
DS: 4
AQ: 1.24000000
RG: 327.500000
AQ2: 0.000000
F2: 100.626180
F1: 500.137000
NUC1: 13C
NUC2: 1H
PCPDW: 1.000000
PCPDW2: 1.000000
PCPDW3: 1.000000
PCPDW4: 1.000000
PCPDW5: 1.000000
PCPDW6: 1.000000
PCPDW7: 1.000000
PCPDW8: 1.000000
PCPDW9: 1.000000
PCPDW10: 1.000000
PCPDW11: 1.000000
PCPDW12: 1.000000
PCPDW13: 1.000000
PCPDW14: 1.000000
PCPDW15: 1.000000
PCPDW16: 1.000000
PCPDW17: 1.000000
PCPDW18: 1.000000
PCPDW19: 1.000000
PCPDW20: 1.000000
PCPDW21: 1.000000
PCPDW22: 1.000000
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PCPDW94: 1.000000
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PCPDW96: 1.000000
PCPDW97: 1.000000
PCPDW98: 1.000000
PCPDW99: 1.000000
PCPDW100: 1.000000

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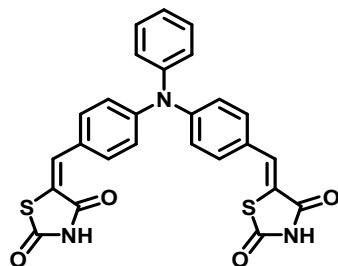
Spectrum 6 ¹³C NMR of DH



Spectrum 6 ^{13}C NMR of **DH**



Spectrum 7 ¹H NMR of DT

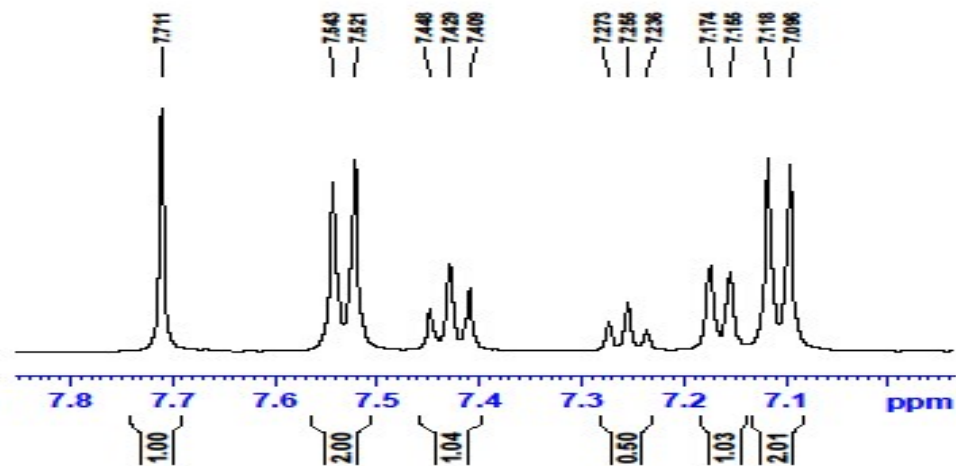


DT

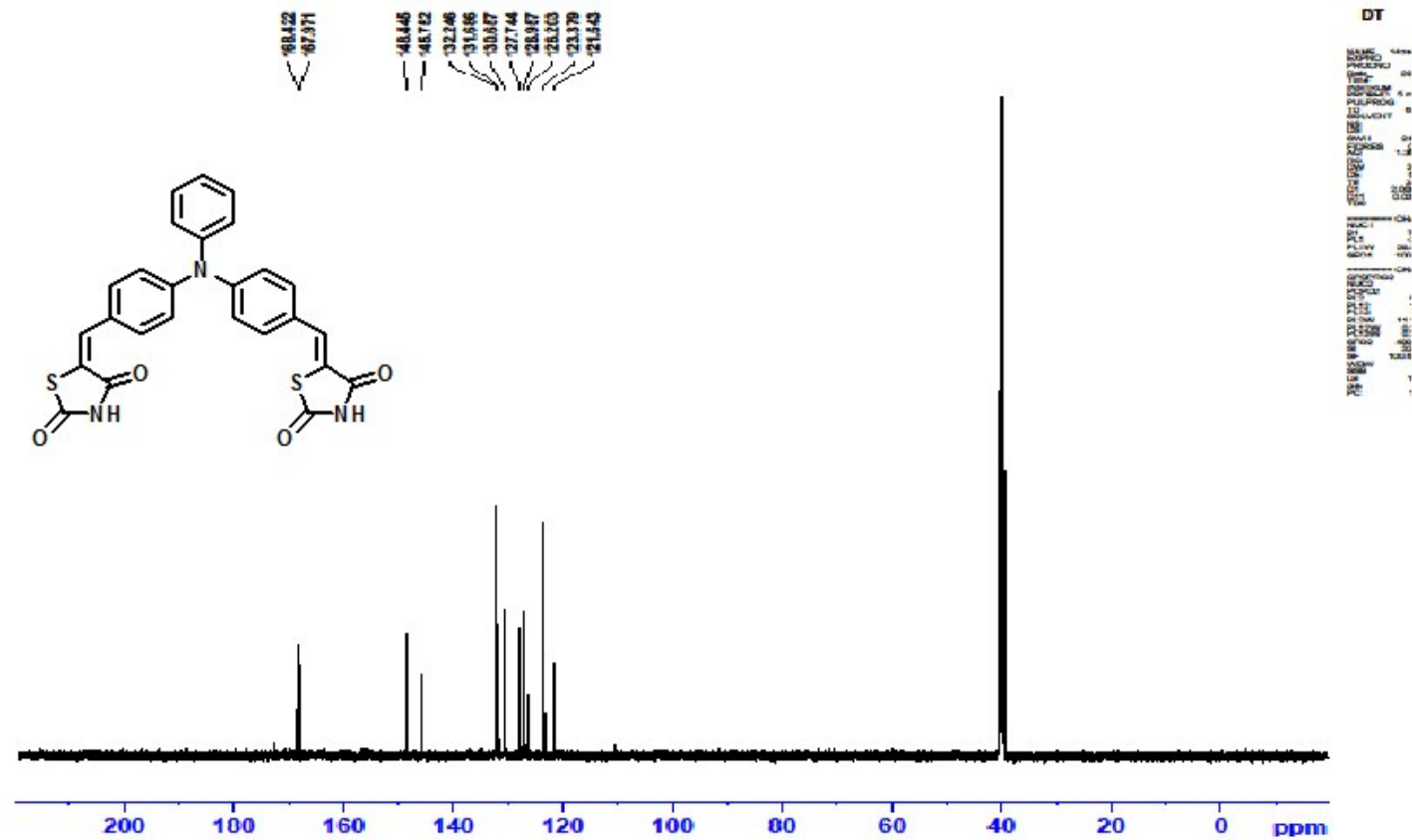
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NAME 1AzarAJ 1H
EXPNO 1
PROCNO 1
Date_ 20150314
Time 9.33
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg
TD 32768
SOLVENT DMSO
NS 8
DS 0
SWH 8000.615 Hz
FIDRES 0.183399 Hz
AQ 2.7295477 sec
RG 114
DE 63.200 usec
DS 8.50 usec
TE 294.5 K
D1 6.0000000 sec
TD0 1
----- CHANNEL f1 -----
NUC1 1H
P1 13.50 usec
PL1 0.00 dB
PL1W 11.30348873 W
SFO1 400.1326009 MHz
SI 32768
SF 400.1300000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

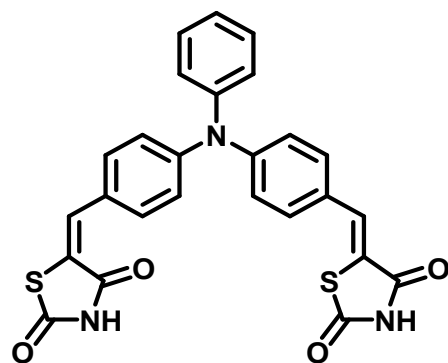
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Spectrum 7 ¹H NMR of DT



Spectrum 8 ¹³C NMR of DT



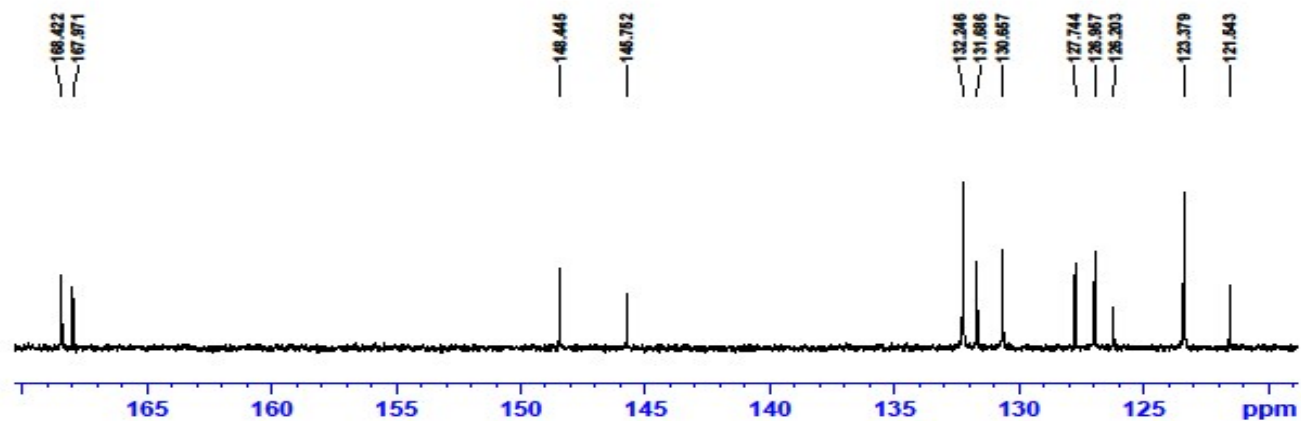
DT

```

NAME: 0406148 13C
PROCNO: 1
EXPNO: 20150314
F2: 9.40
PROBHD: 5 mm 1H/13C BBI-
PULPROG: zgpg
TD: 65536
SOLVENT: DMSO
NS: 400
DS: 4
SWH: 24026.481 Hz
F2RES: 0.260788 Hz
AQ: 1.267098 sec
RG: 370
DE: 0.50 uMm
TE: 300.2 K
DT: 0.0000000 sec
CT: 0.0000000 sec
TSD: 1
  
```

```

===== CHANNEL f1 =====
NUC1: 13C
P1: 7.50 uMm
PL1: 0.10 dB
PL12: 06.5000000 W
RF1: 100.6200000 MHz
===== CHANNEL f2 =====
CPDPRG2: waltz16
NUC2: 13C
P2: 80.00 uMm
PL2: 0.10 dB
PL13: 18.00 dB
PL14: 18.00 dB
PL15: 11.2000000 W
PL16: 0.2000000 W
PL17: 0.2000000 W
RF2: 400.1218000 MHz
SFO: 100.6200000 MHz
SSB: 0
WDW: EM
GB: 0
PC: 1.00 Hz
  
```



Spectrum 8 ^{13}C NMR of DT