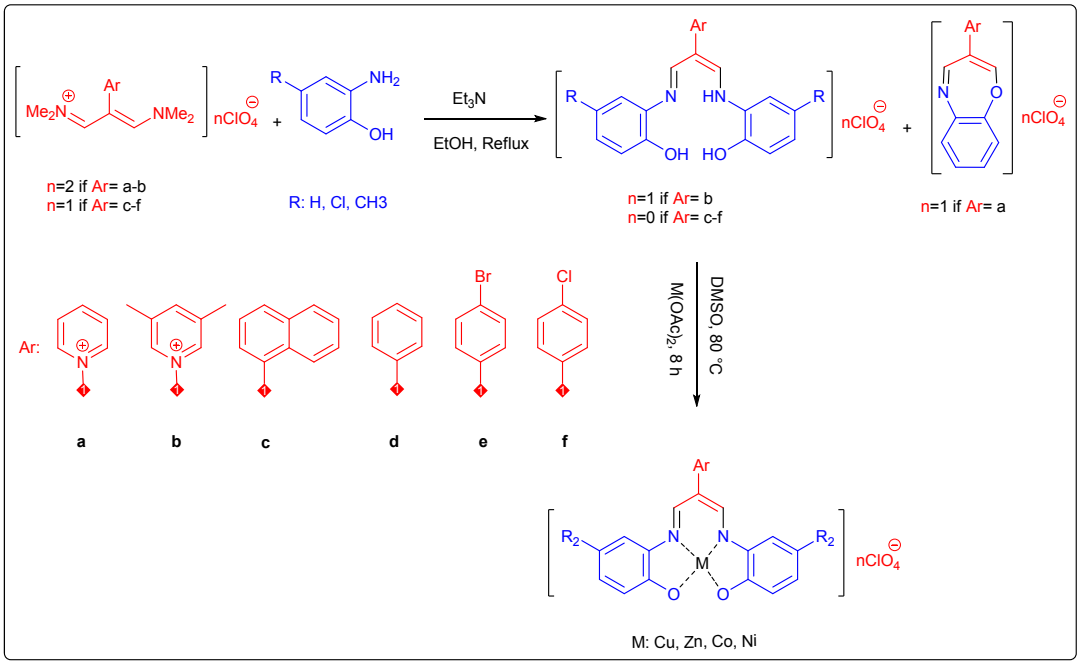
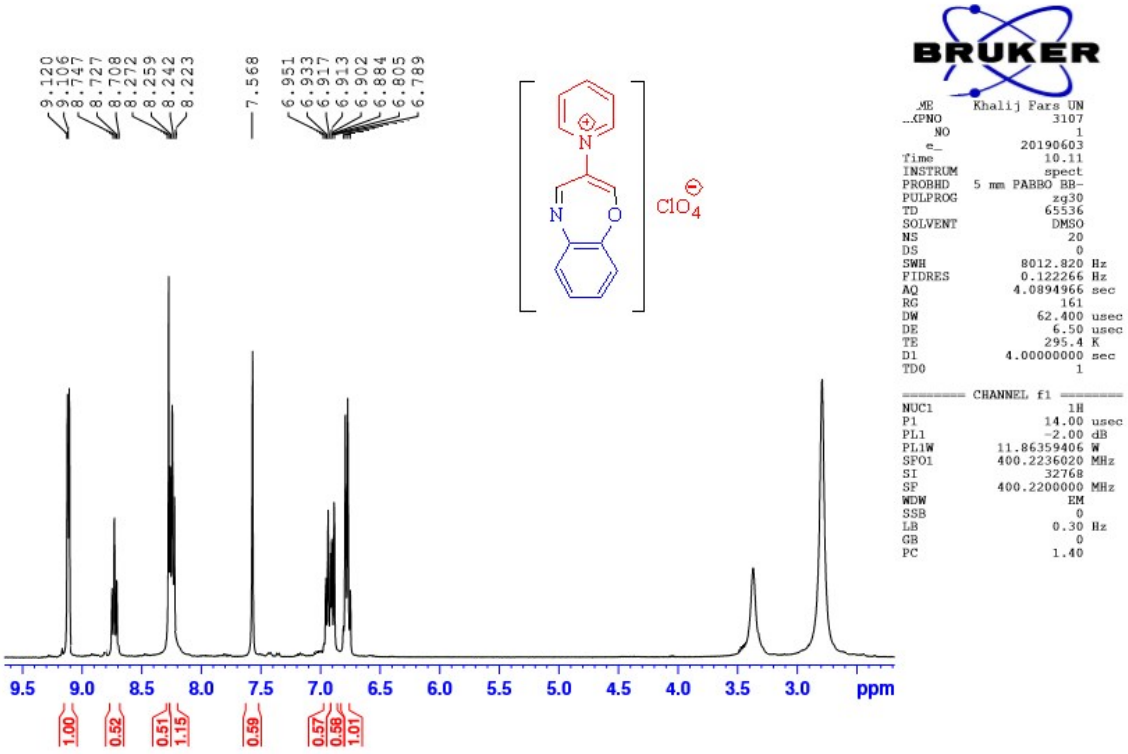
Electronic Supplementary Material (ESI) for RSC Advances.

Synthesis of new allylidene amino phenol-containing Schiff bases and metal complexes formation using trimethinium salts

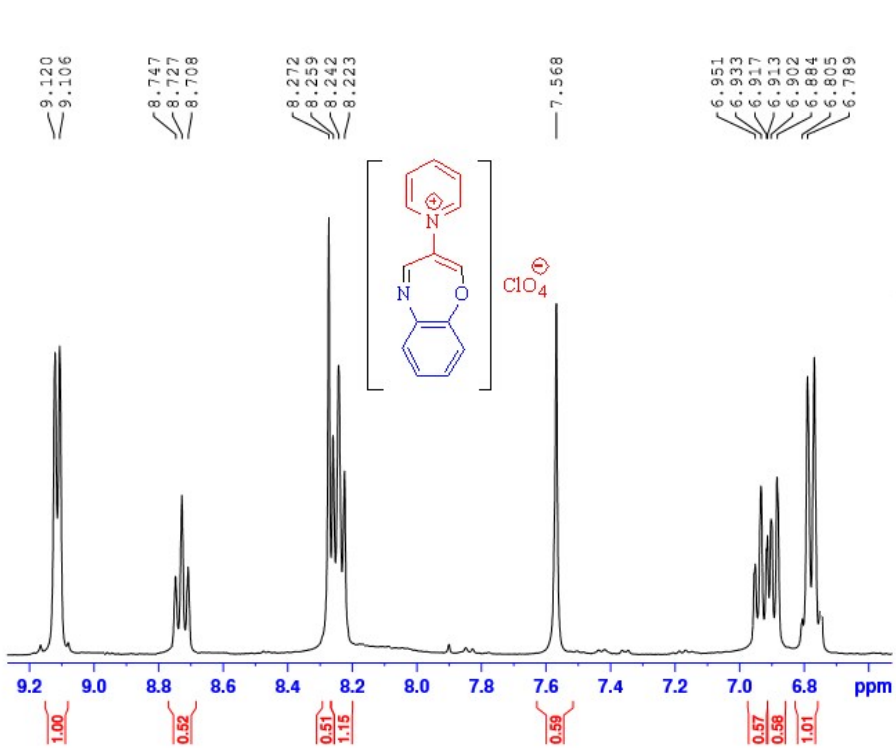


1-(Benzo[b][1,4]oxazepin-3-yl)pyridinium perchlorate 3a:

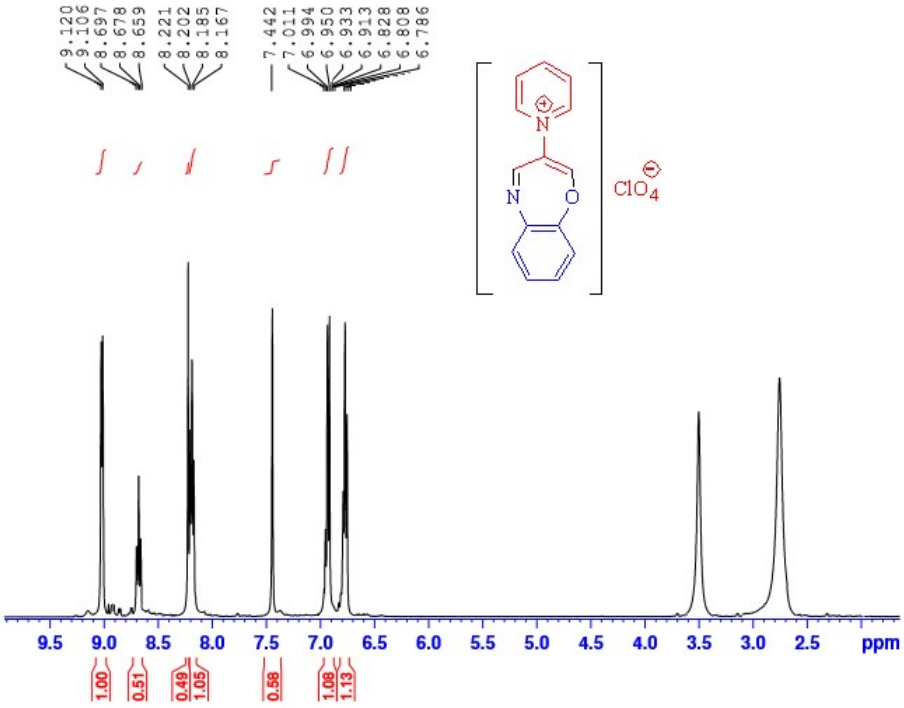


BRUKER

ME	Khalij Fars UN
XPNO	3107
NO	1
e_	20190603
Time	10.11
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	161
DW	62.400 usec
DE	6.50 usec
TE	295.4 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	1.40

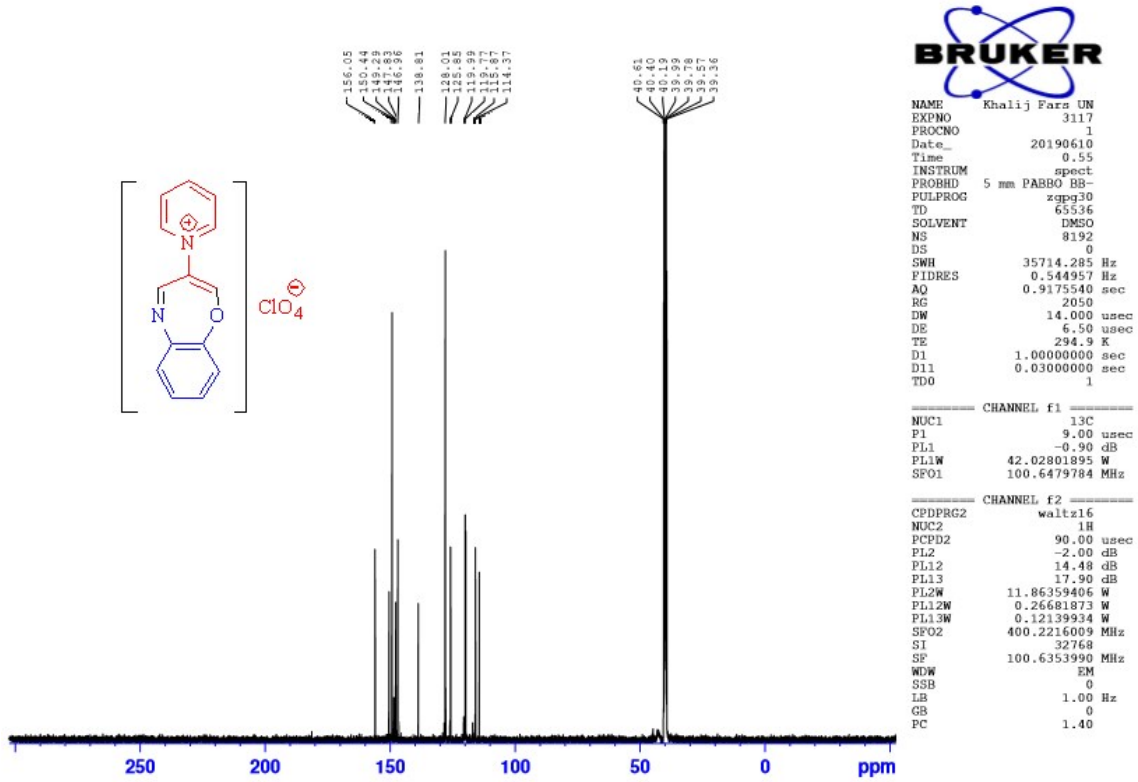



```
NAME        Khalij Pars UN
EXPNO             3107
PROCNO               1
Date_         20190603
Time             10.11
INSTRUM          spect
PROBHD   5 mm PABBO BB-
PULPROG          zg30
TD              65536
SOLVENT          DMSO
NS                 20
DS                  0
SWH          8012.820 Hz
FIDRES       0.122266 Hz
AQ           4.0894966 sec
RG                161
DW             62.400 usec
DE              6.50 usec
TE             295.4 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               1.40
```



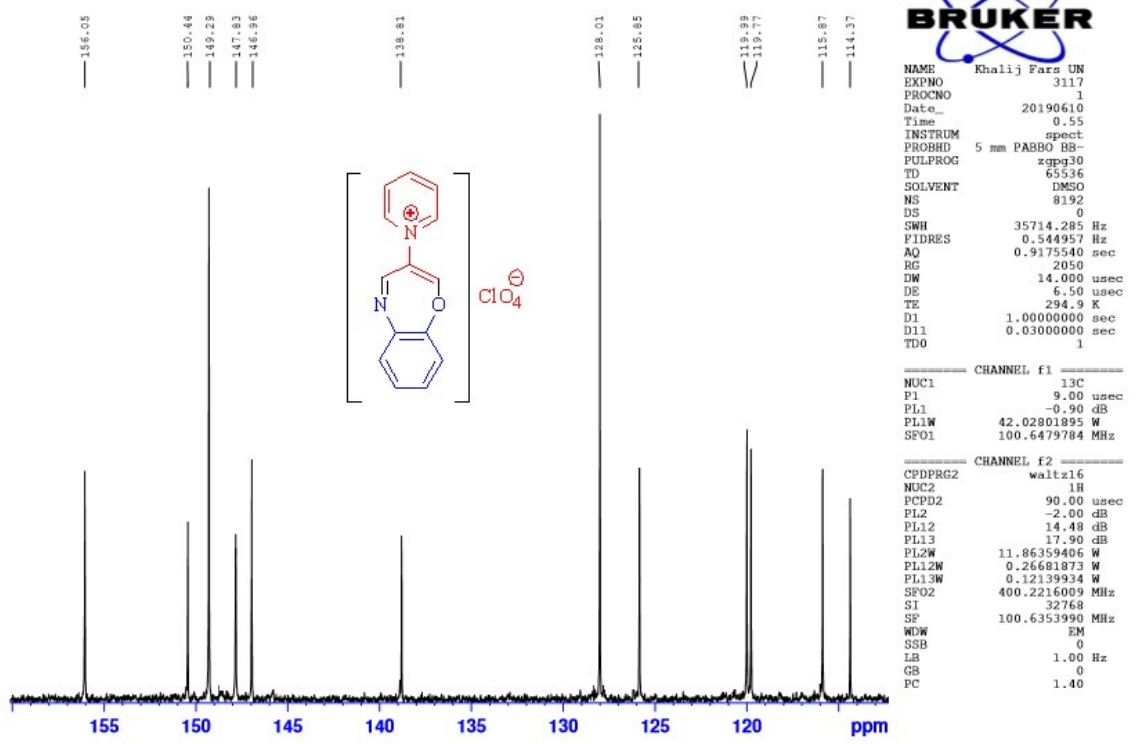

```
NAME        Khalij Pars UN
EXPNO             3118
PROCNO               1
Date_         20190622
Time              8.49
INSTRUM          spect
PROBHD   5 mm PABBO BB-
PULPROG          zg30
TD              65536
SOLVENT          DMSO
NS                 20
DS                  0
SWH          8012.820 Hz
FIDRES       0.122266 Hz
AQ           4.0894966 sec
RG                101
DW             62.400 usec
DE              6.50 usec
TE             295.6 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               1.40
```

(Exchange in D_2O)



BRUKER

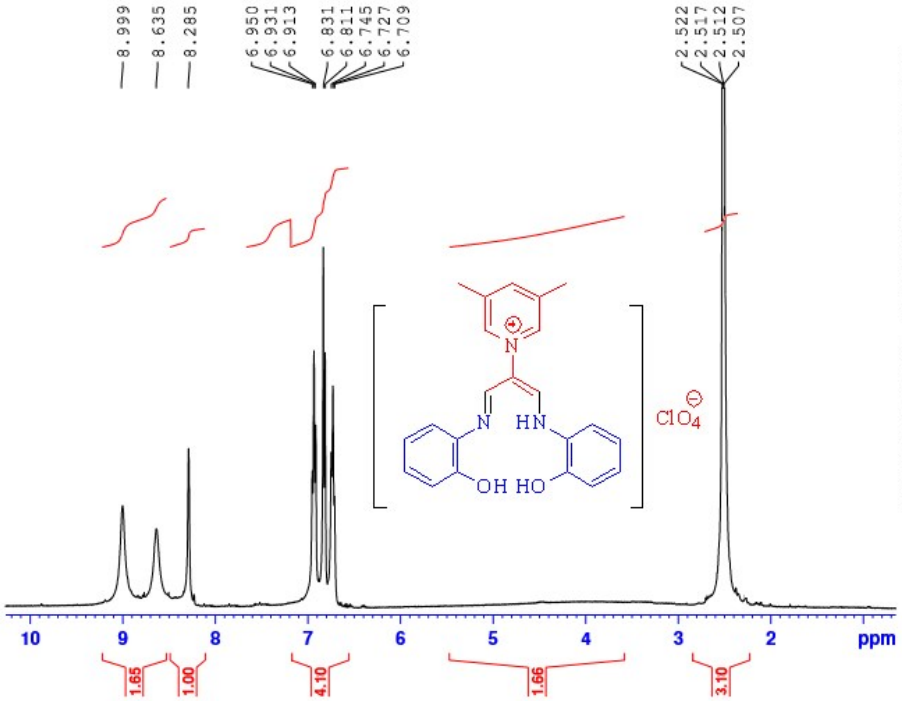
NAME	Khalij Fars UN
EXPNO	3117
PROCNO	1
Date_	20190610
Time	0.55
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	8192
DS	0
SWH	35714.285 Hz
FIDRES	0.544957 Hz
AQ	0.9175540 sec
RG	2050
DW	14.000 usec
DE	6.50 usec
TE	294.9 K
D1	1.00000000 sec
D11	0.03000000 sec
TD0	1
======== 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	14.48 dB
PL13	17.90 dB
PL2W	11.86359406 W
PL12W	0.26681873 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



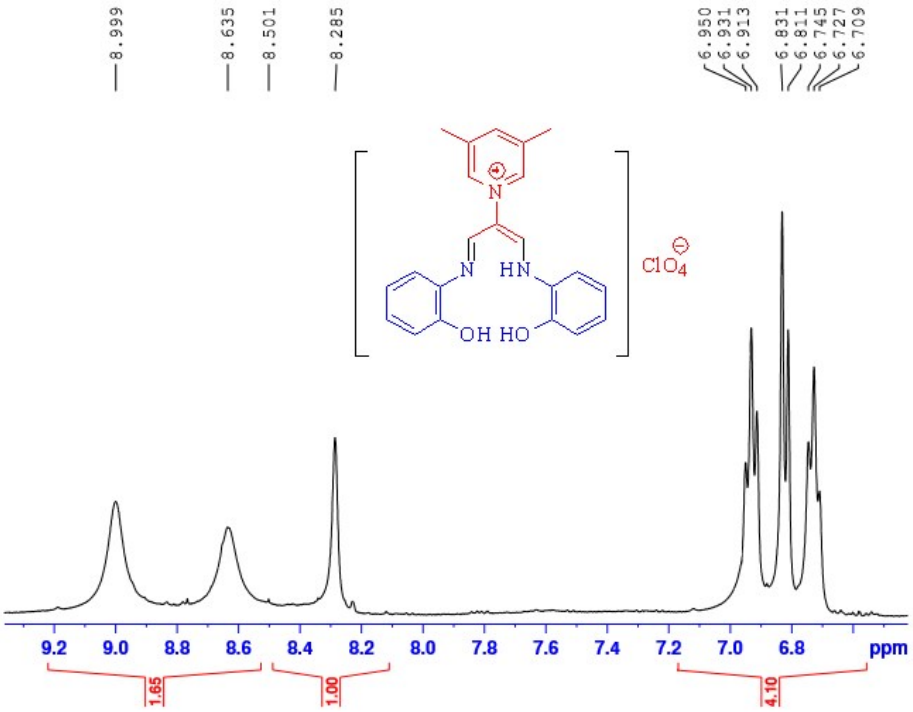
BRUKER

NAME	Khalij Fars UN
EXPNO	3117
PROCNO	1
Date_	20190610
Time	0.55
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	294.9 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	14.48 dB
PL13	17.90 dB
PL2W	11.86359406 W
PL12W	0.26681873 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

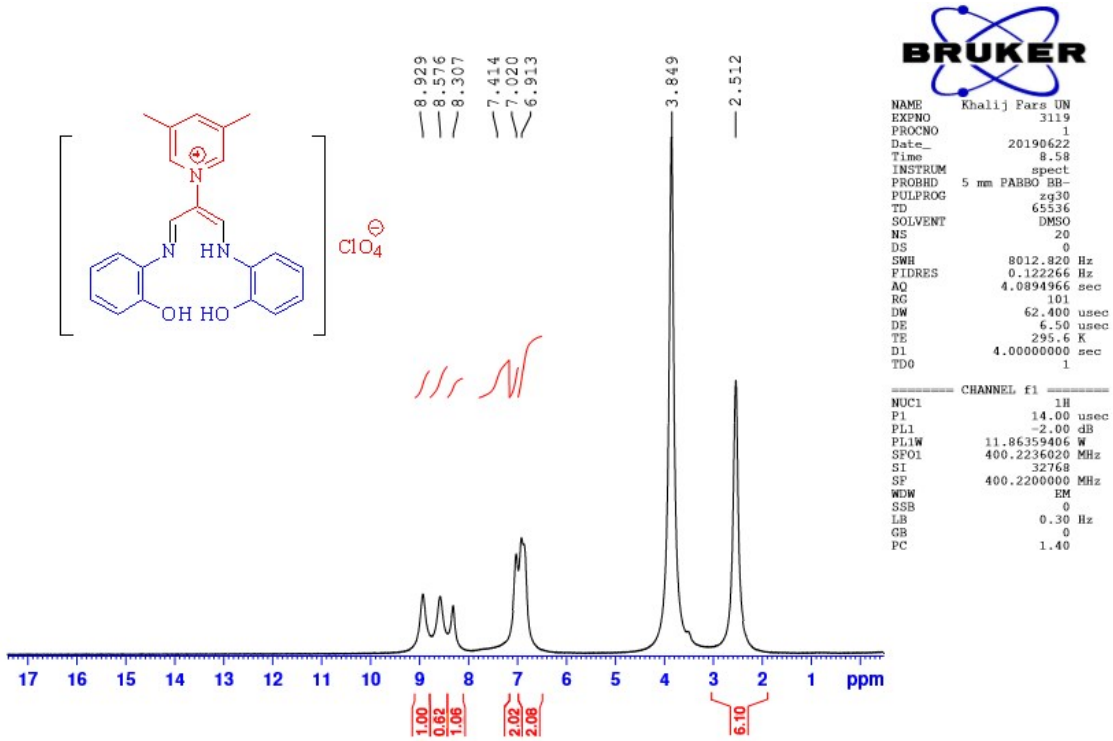
1-((2-Hydroxyphenyl)amino)-3-((2-hydroxyphenyl)imino)propen-2-yl)-3,5-dimethylpyridinium perchlorate 3b




```
NAME          Khalij Pars UN
EXPNO               3109
PROCNO                 1
Date_           20190603
Time               11.30
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                   161
DW             62.400 usec
DE              6.50 usec
TE                295.8 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                  1.40
```




```
NAME          Khalij Pars UN
EXPNO               3109
PROCNO                 1
Date_           20190603
Time               11.30
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                   161
DW             62.400 usec
DE              6.50 usec
TE                295.8 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                  1.40
```



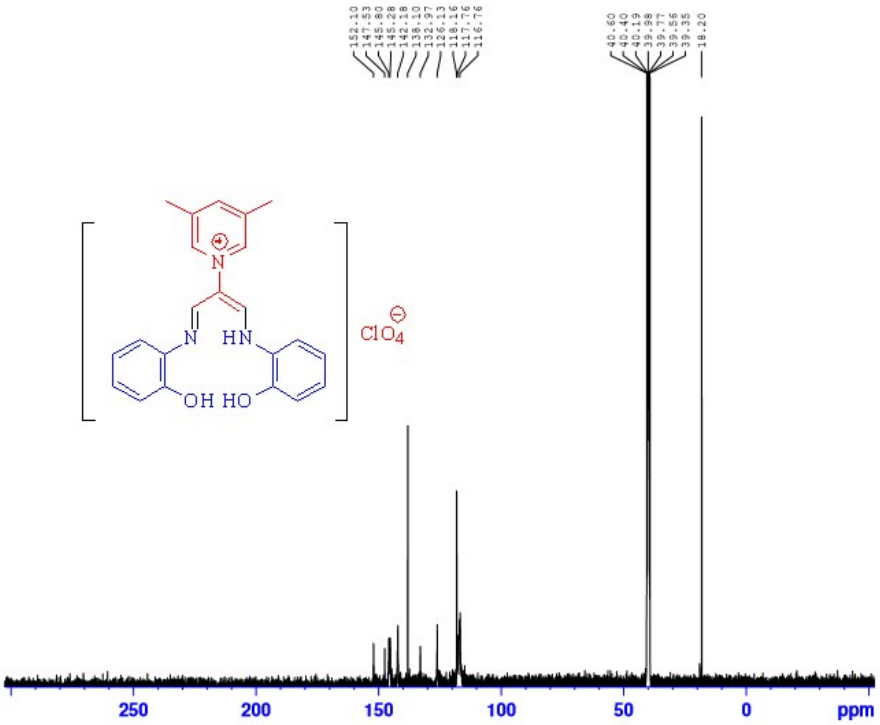
BRUKER

NAME	Khalij Fars UN
EXPNO	3119
PROCNO	1
Date_	20190622
Time	8.58
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	101
DW	62.400 usec
DE	6.50 usec
TE	295.6 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	1.40

(**Exchange in D_2O**)



BRUKER

NAME	Khalij Fars UN
EXPNO	3113
PROCNO	1
Date_	20190605
Time	16.59
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	295.2 K
D1	1.00000000 sec
D11	0.03000000 sec
TD0	1

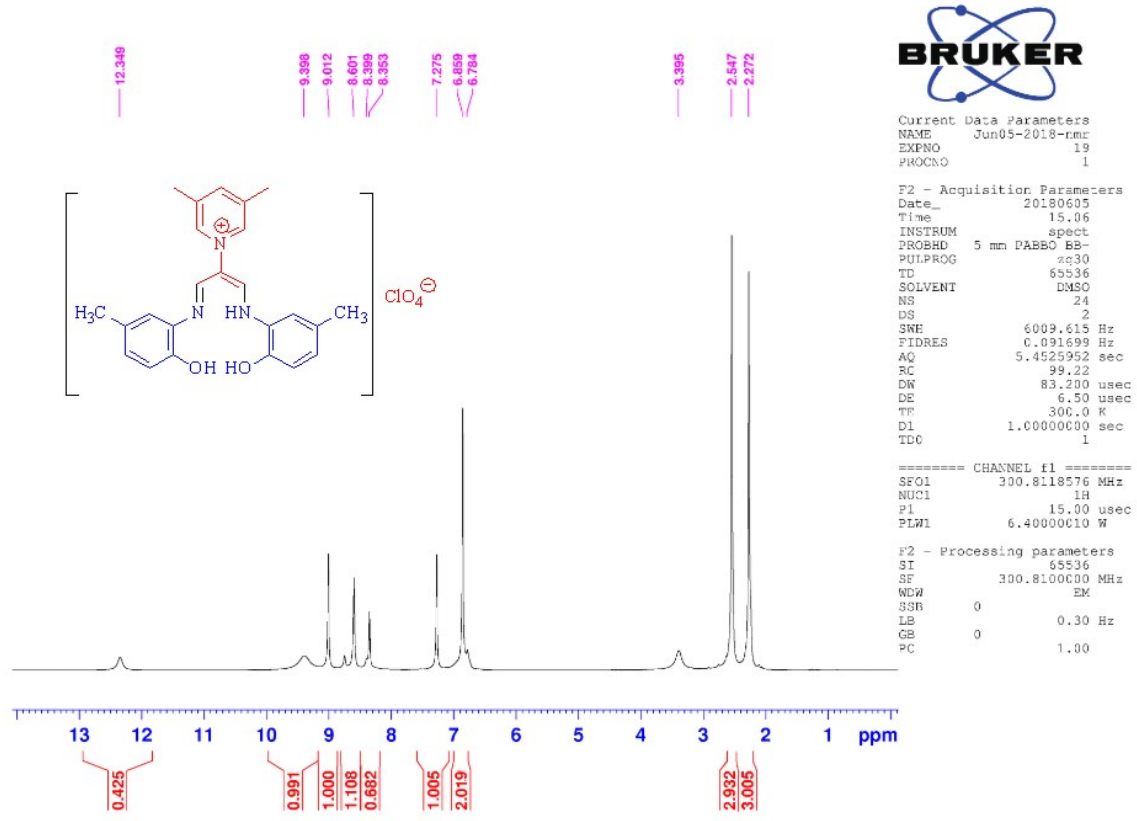
======== CHANNEL f1 ========

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

======== CHANNEL f2 ========

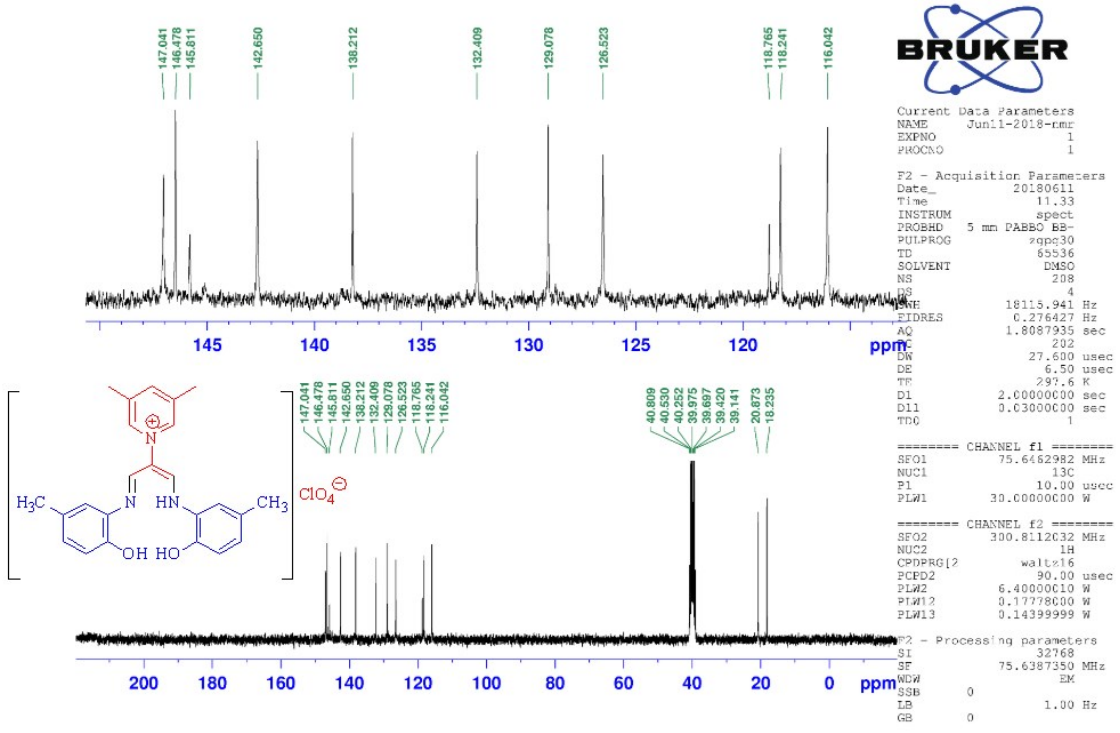
CPDPRG2	waltz16
NUC2	1H
PCPD2	90.00 usec
PL2	-2.00 dB
PL12	14.48 dB
PL13	17.90 dB
PL2W	11.86359406 W
PL12W	0.26681873 W
PL13W	0.12139934 W
SFO2	400.2216009 MHz
SI	32768
SF	100.6353990 MHz
WDW	EM
SSB	0
LB	1.00 Hz
GB	0
PC	1.40

1-((2-Hydroxy-5-methylphenyl)amino)-3-((2-hydroxy-5-methylphenyl)imino) propen-2-yl)-3,5-dimethylpyridinium perchlorate 3c:

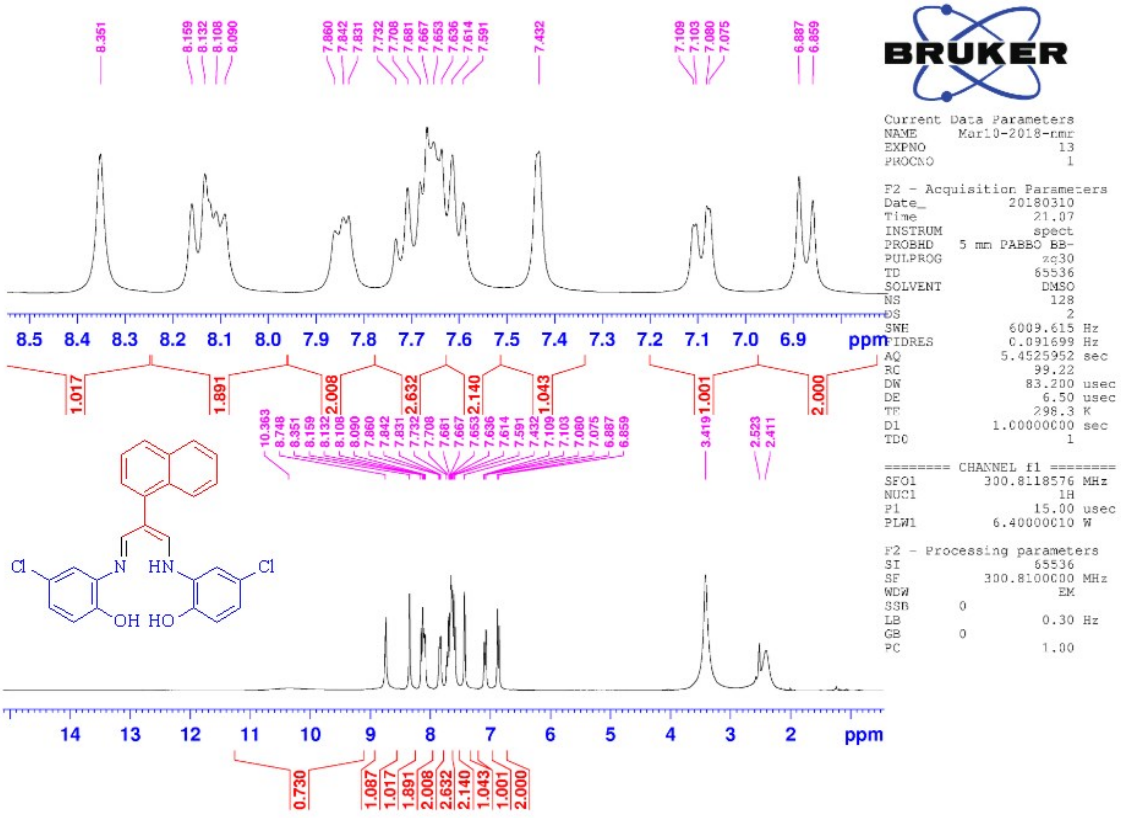


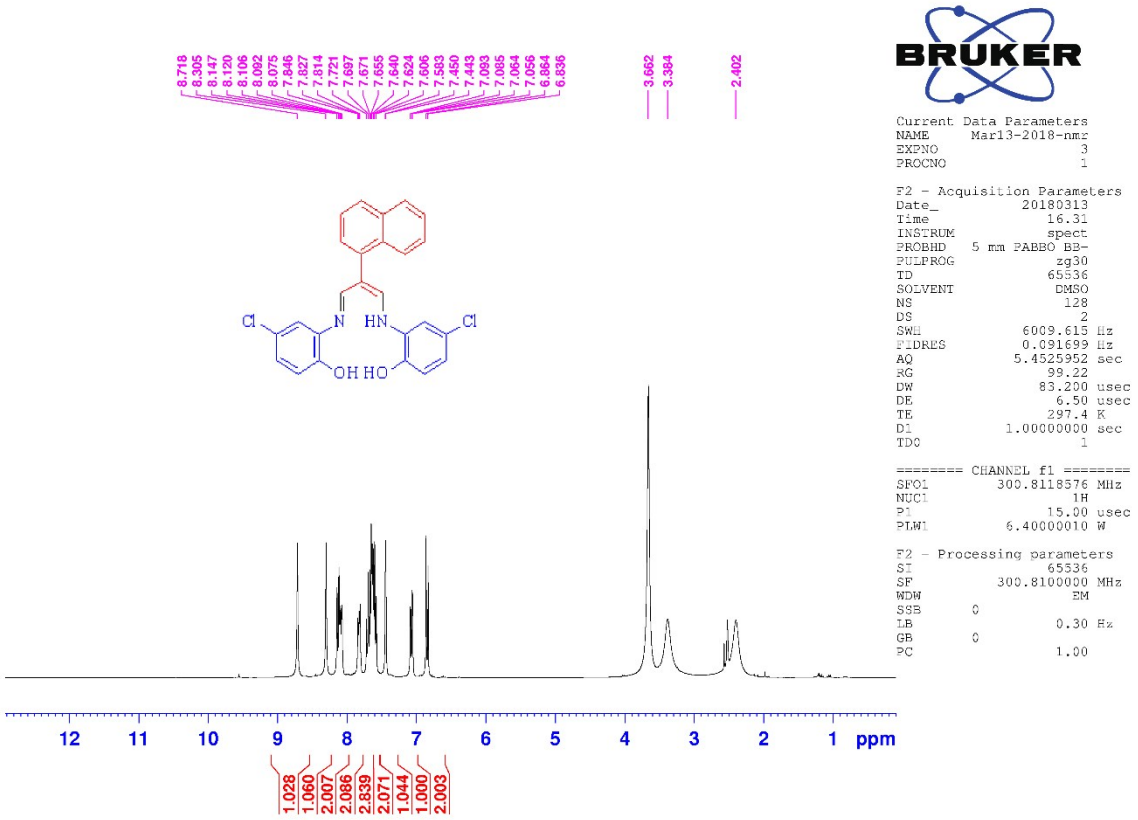
BRUKER

```
Current Data Parameters
NAME        Jun05-2018-nmr
EXPNO                   19
PROCNO                   1

F2 - Acquisition Parameters
Date_             20180605
Time                 15.06
INSTRUM              spect
PROBHD   5 mm PABBO BB-
PULPROG              zg30
TD                  65536
SOLVENT              DMSO
NS                     24
DS                      2
SWH              6009.615 Hz
FIDRES           0.091699 Hz
AQ               5.4525952 sec
RG                   99.22
DW                  83.200 usec
DE                   6.50 usec
TE                  300.0 K
D1               1.00000000 sec
TD0                     1

======== CHANNEL f1 ========
SFO1          300.8118576 MHz
NUC1                    1H
P1                   15.00 usec
PLW1          6.40000010 W

F2 - Processing parameters
SI                  65536
SF            300.8100000 MHz
WDW                    EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```



4-Chloro-3-((5-chloro-2-hydroxyphenyl)amino)-2-(naphthalen-1-yl)allylidene) amino)phenol 3d:





BRUKER

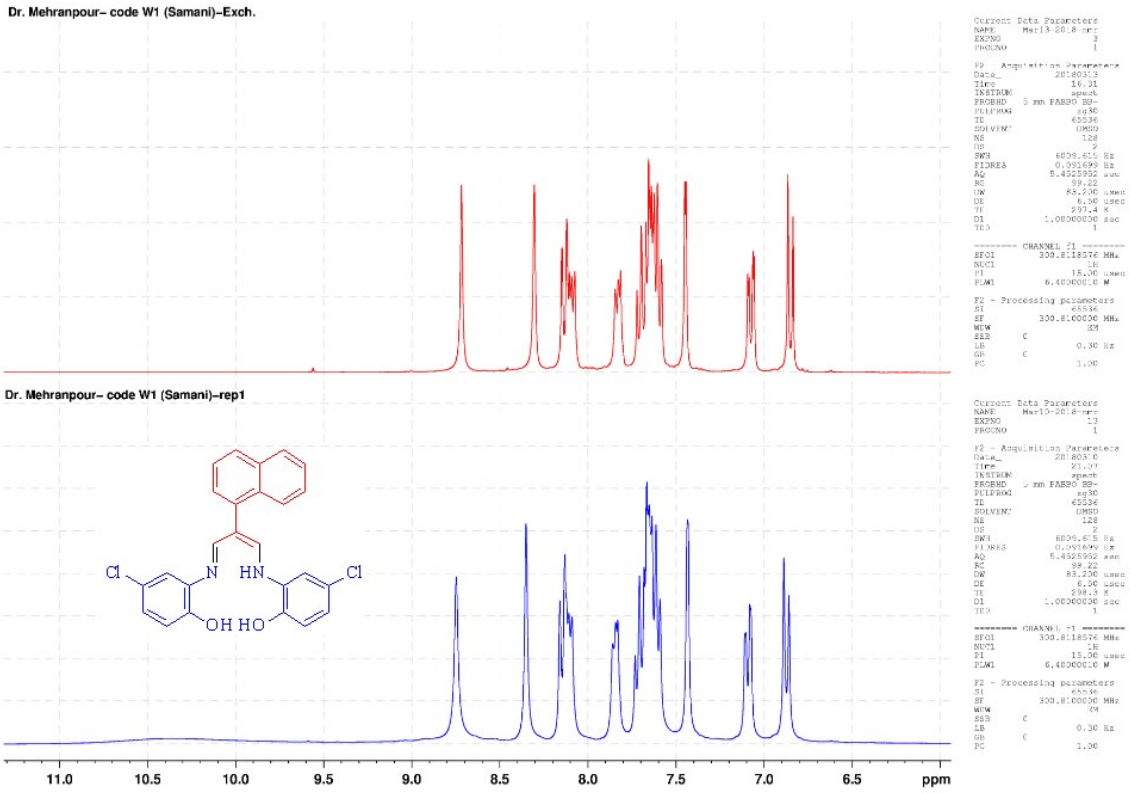
Current Data Parameters
NAME Mar13-2018-nmr
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20180313
Time 16.31
INSTRUM spect
PROBHD 5 mm PABBO BB-
PULPROG zg30
TD 65536
SOLVENT DMSO
NS 128
DS 2
SWH 6009.615 Hz
FIDRES 0.091699 Hz
AQ 5.4525952 sec
RG 99.22
DW 83.200 usec
DE 6.50 usec
TE 297.4 K
D1 1.00000000 sec
TD0 1

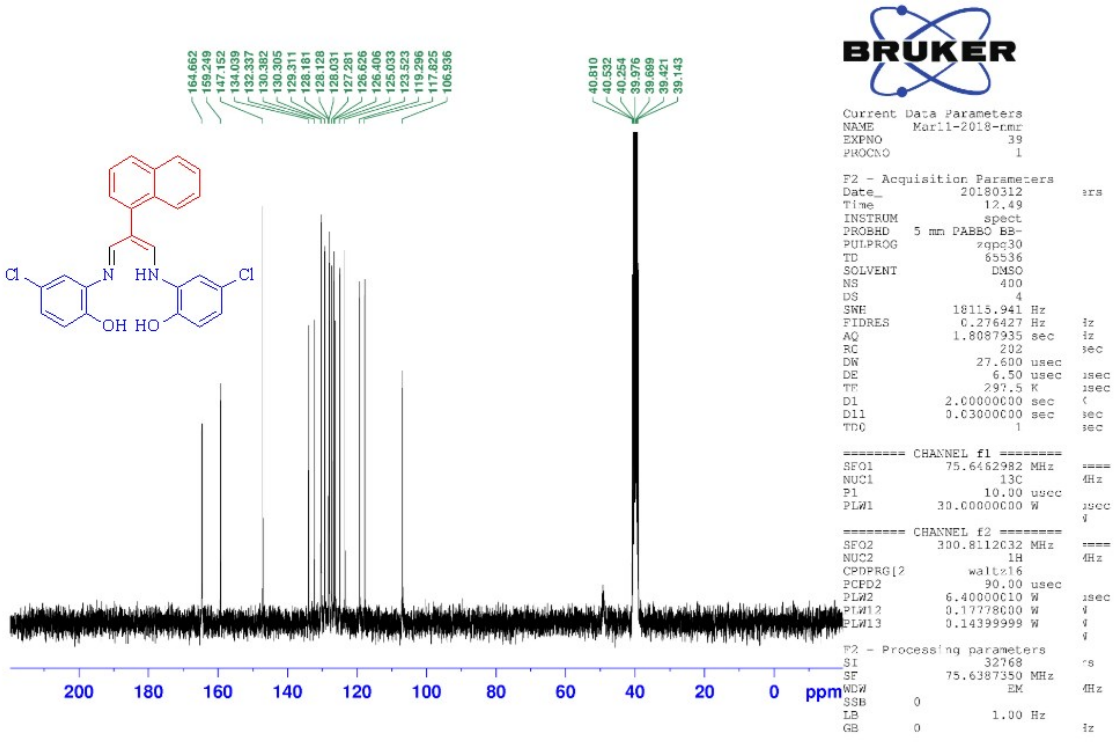
======== CHANNEL f1 ========
SFO1 300.8118576 MHz
NUC1 1H
P1 15.00 usec
PLW1 6.40000010 W

F2 - Processing parameters
SI 65536
SF 300.8100000 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

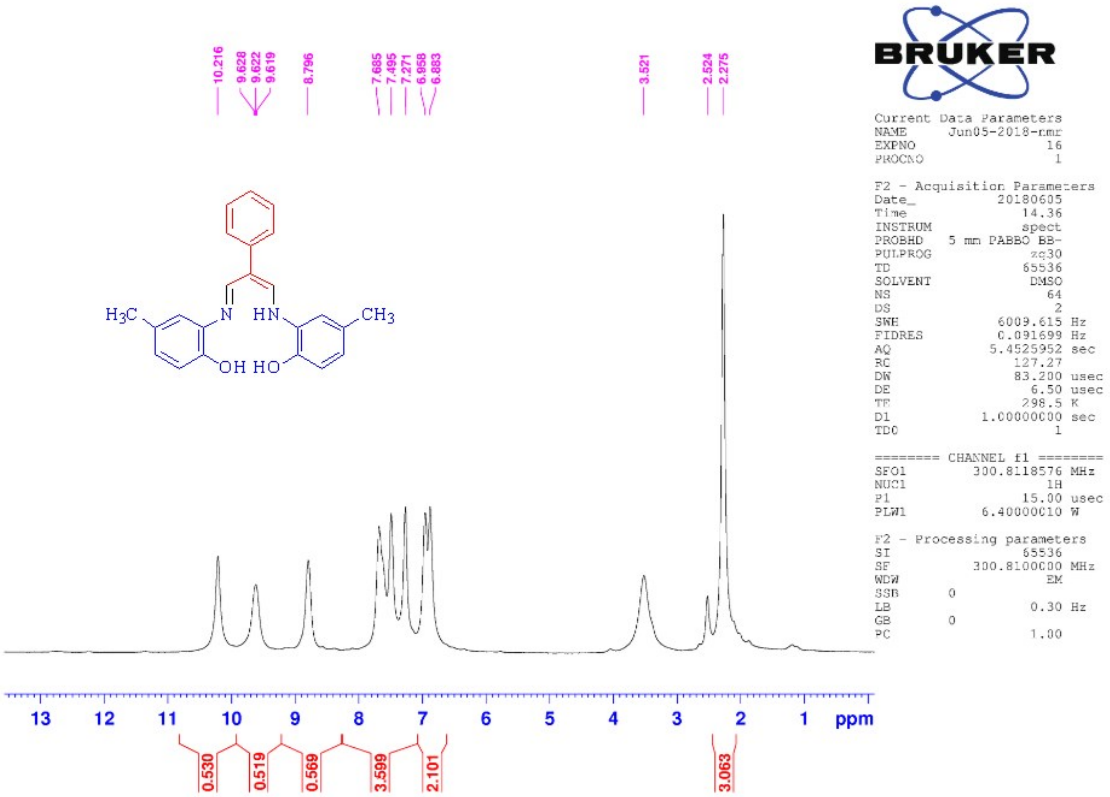
(**Exchange in D_2O**)



(**Exchange in D_2O**)



3-((2-Hydroxy-5-methylphenyl)amino)-2-phenylallylidene)amino)-4-methylphenol 3e:



BRUKER

```
Current Data Parameters
NAME      Jun05-2018-nmr
EXPNO                 16
PROCNO                 1

F2 - Acquisition Parameters
Date_           20180605
Time              14.36
INSTRUM           spect
PROBHD   5 mm PABBO BB-
PULPROG            zg30
TD                65536
SOLVENT            DMSO
NS                    64
DS                     2
SWH            6009.615 Hz
FIDRES         0.091699 Hz
AQ             5.4525952 sec
RG                127.27
DW               83.200 usec
DE                6.50 usec
TE                298.5 K
D1            1.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         300.8118576 MHz
NUC1                   1H
P1                 15.00 usec
PLW1          6.40000010 W

F2 - Processing parameters
SI                 65536
SF           300.8100000 MHz
WDW                   EM
SSB       0
LB                 0.30 Hz
GB        0
PC                 1.00
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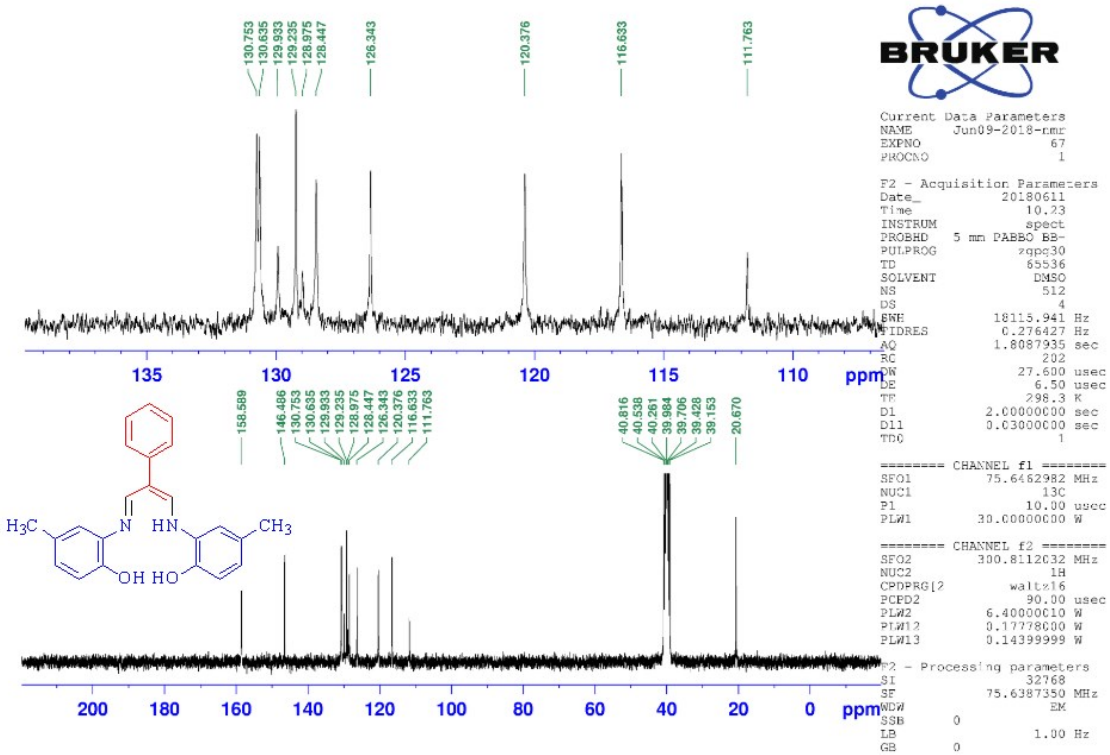

BRUKER

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Current Data Parameters
NAME      Jun09-2018-nmr
EXPNO                 67
PROCNO                 1

F2 - Acquisition Parameters
Date_           20180611
Time              10.23
INSTRUM           spect
PROBHD   5 mm PABBO BB-
PULPROG          zgpg30
TD                65536
SOLVENT            DMSO
NS                   512
DS                     4
SWH           18115.941 Hz
FIDRES         0.276427 Hz
AQ             1.8087935 sec
RG                   202
DW               27.600 usec
DE                6.50 usec
TE                298.3 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         75.6462982 MHz
NUC1                  13C
P1                10.00 usec
PLW1         30.00000000 W

======== CHANNEL f2 ========
SFO2         300.8112032 MHz
NUC2                   1H
CPDPRG[2          waltz16
PCPD2             90.00 usec
PLW2          6.40000010 W
PLW12         0.17778000 W
PLW13         0.14399999 W

F2 - Processing parameters
SI                 32768
SF           75.6387350 MHz
WDW                   EM
SSB       0
LB                 1.00 Hz
GB        0
```
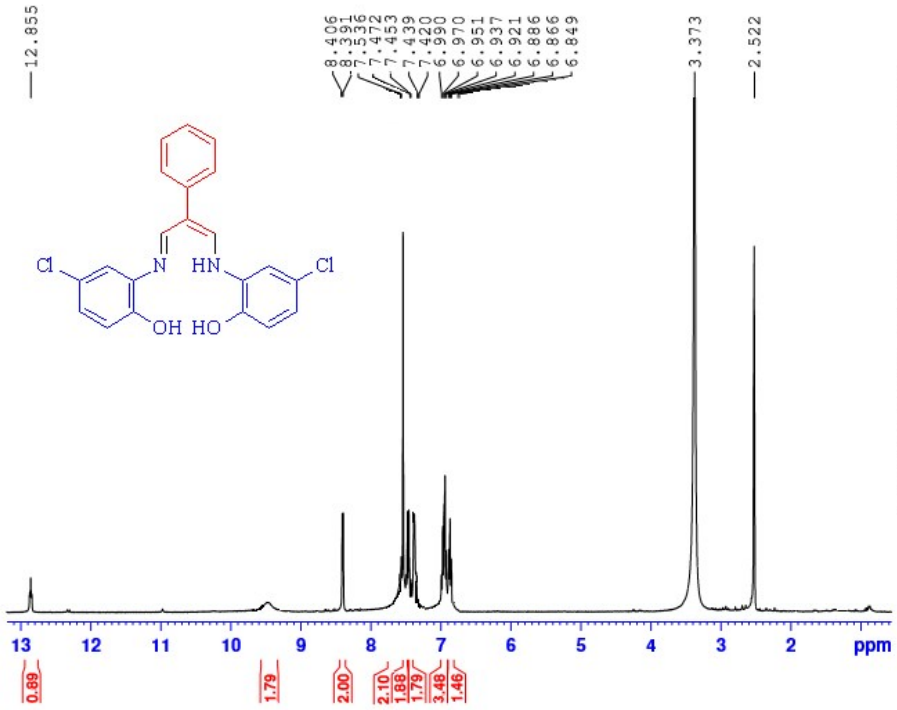

4-Chloro-3-((5-chloro-2-hydroxyphenyl)amino)-2-phenylallylidene) amino) phenol 3f:

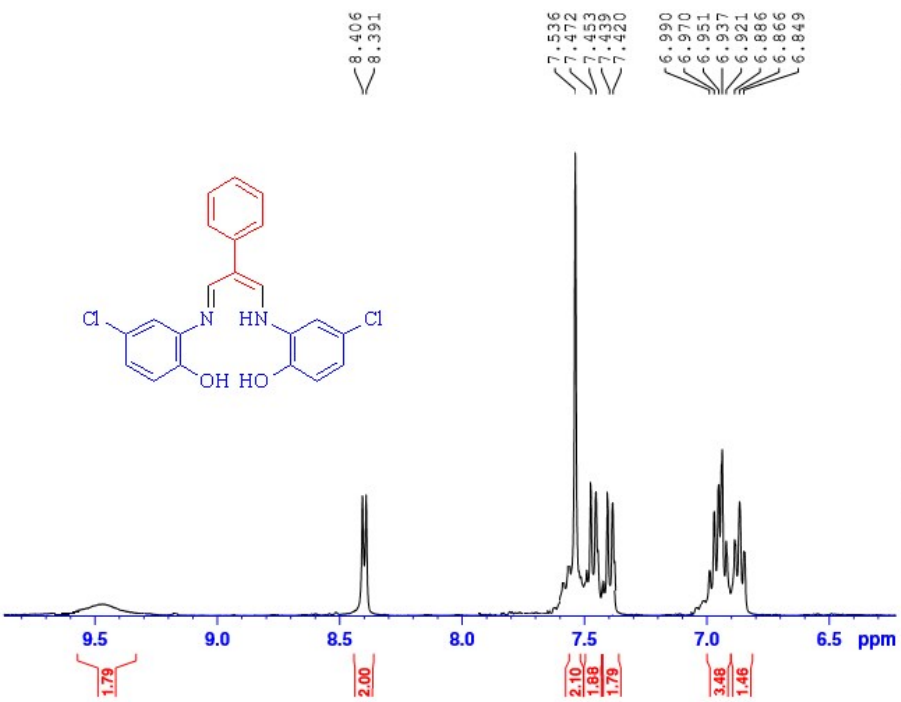


BRUKER

NAME	Khalij Pars UN
EXPNO	3106
PROCNO	1
Date_	20190603
Time	10.06
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	295.4 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	1.40

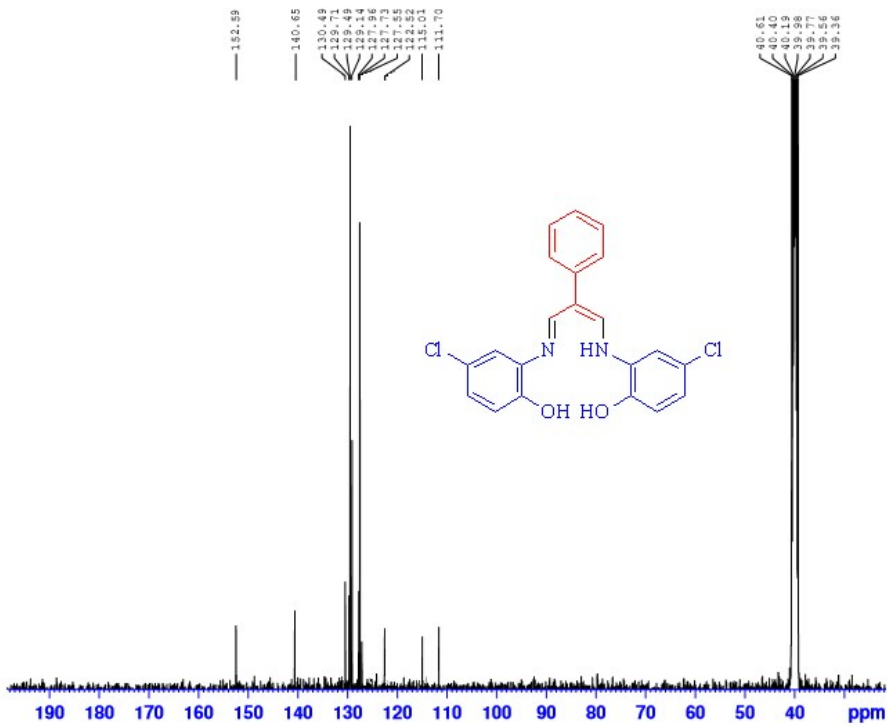


BRUKER

NAME	Khalij Pars UN
EXPNO	3106
PROCNO	1
Date_	20190603
Time	10.06
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	295.4 K
D1	4.00000000 sec
TD0	1

======== CHANNEL f1 ========

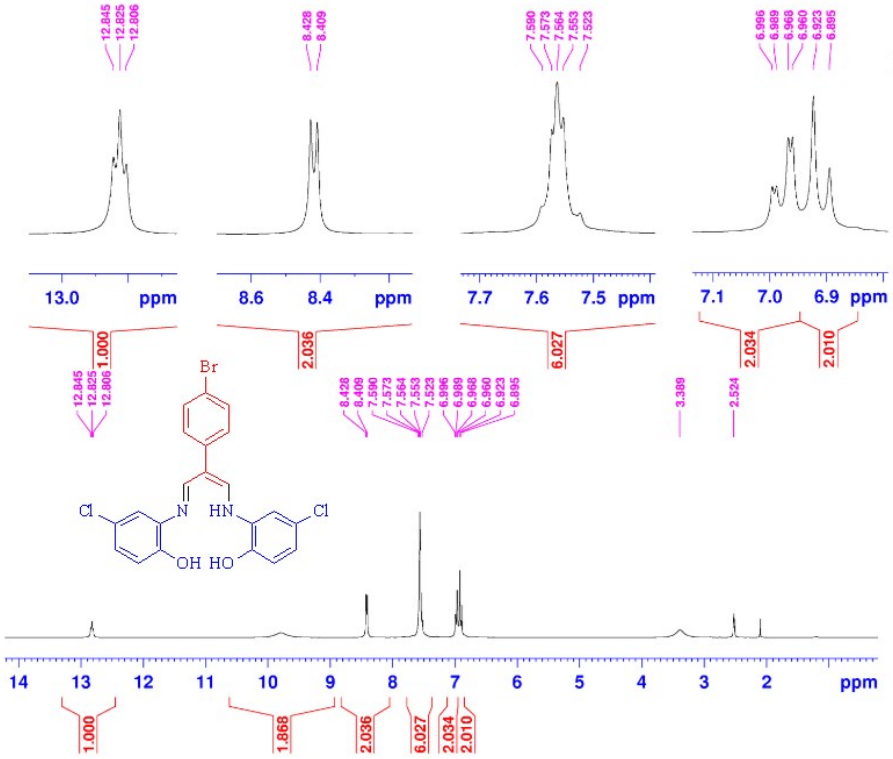
NUC1	1H
P1	14.00 usec
PL1	-2.00 dB
PL1W	11.86359406 W
SFO1	400.2236020 MHz
SI	32768
SF	400.2200000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.40



BRUKER

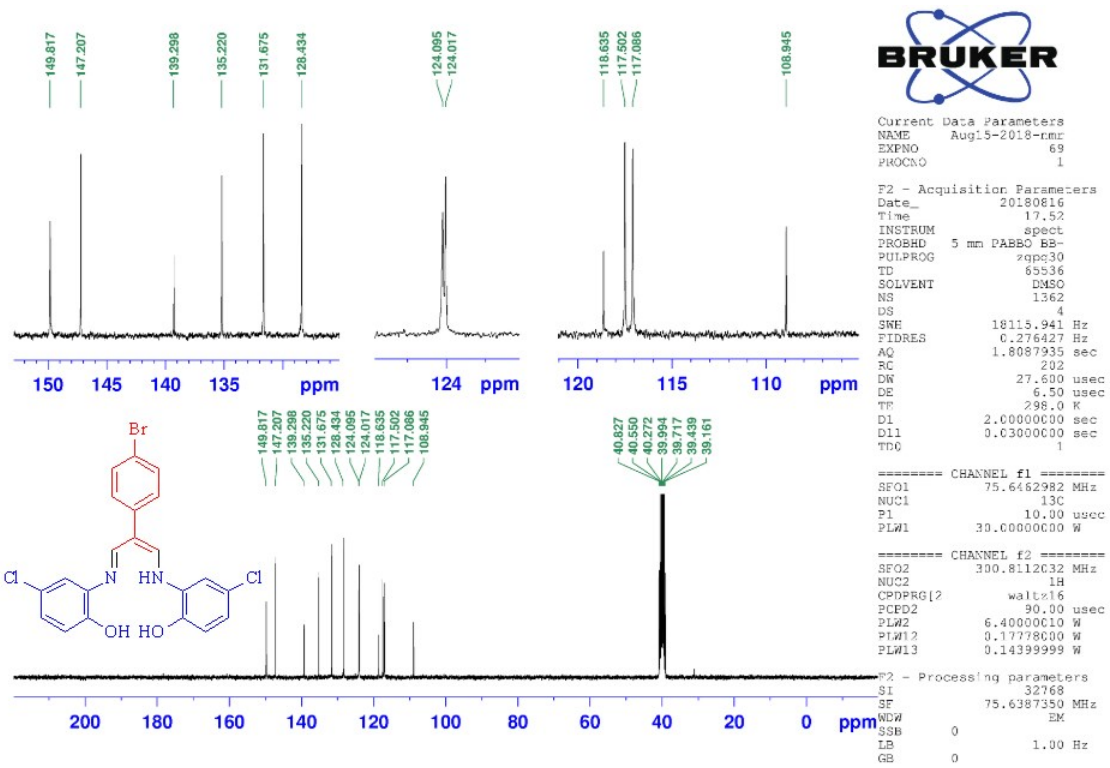
NAME	Khalij Fars UN
EXPNO	3114
PROCNO	1
Date_	20190608
Time	16.03
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	8192
DS	0
SWH	35714.285 Hz
FIDRES	0.544957 Hz
AQ	0.9175540 sec
RG	2050
DW	14.000 usec
DE	6.50 usec
TE	294.4 K
D1	1.00000000 sec
D11	0.03000000 sec
TD0	1
======== 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	14.48 dB
PL13	17.90 dB
PL2W	11.86359406 W
PL12W	0.26681873 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

2-(4-Bromophenyl)-3-((5-chloro-2-hydroxyphenyl)amino)allylidene)amino)-4-chlorophenol 3g:

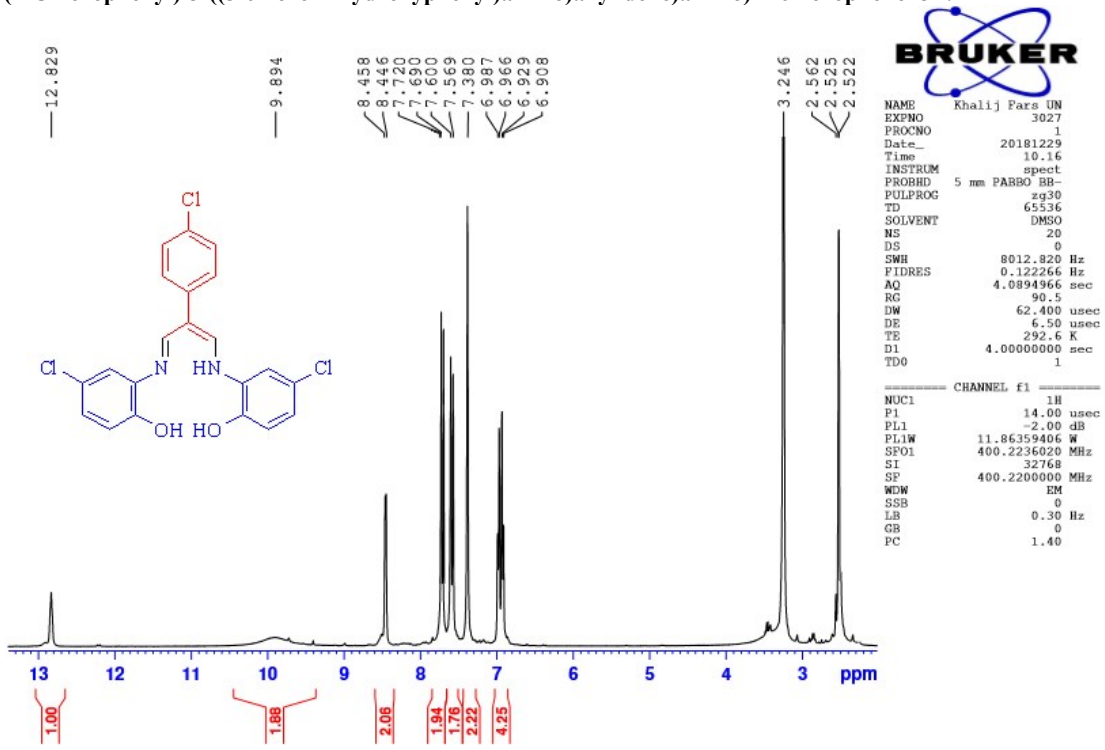


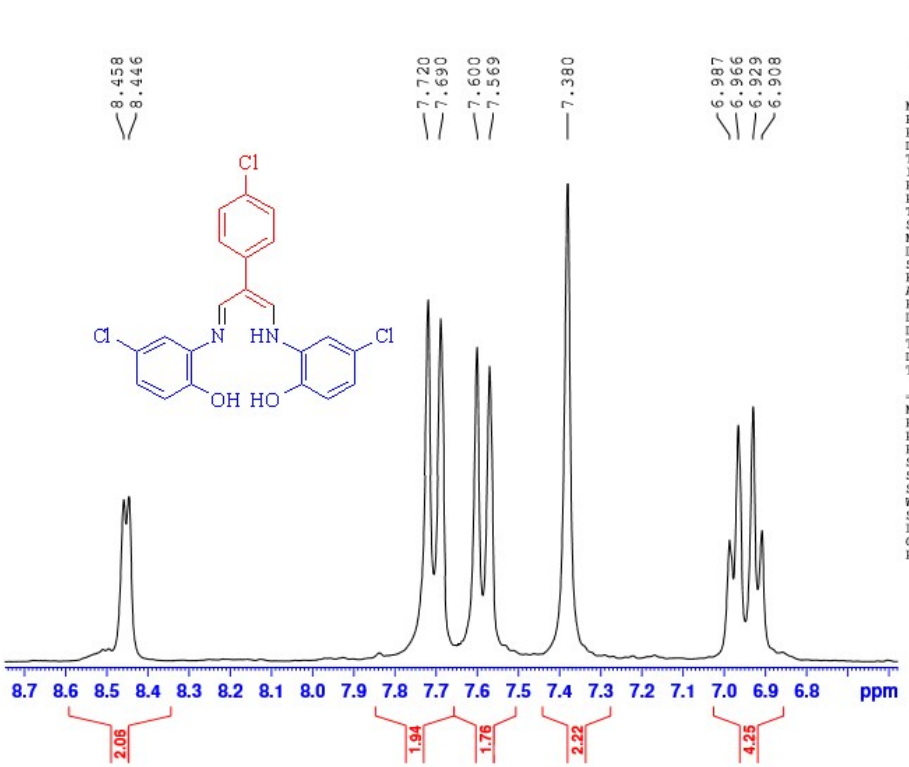
BRUKER

Current Data Parameters	
NAME	Aug13-2018-nmr
EXPNO	37
PROCNO	1
F2 - Acquisition Parameters	
Date_	20180813
Time	17.28
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zg30
TD	65536
SOLVENT	DMSO
NS	56
DS	2
SWH	6009.615 Hz
FIDRES	0.091699 Hz
AQ	5.4525952 sec
RG	143.92
DW	83.200 usec
DE	6.50 usec
TE	296.8 K
D1	1.00000000 sec
TD0	1
======== CHANNEL f1 ========	
SFO1	300.8118576 MHz
NUC1	1H
P1	15.00 usec
PLW1	6.40000010 W
F2 - Processing parameters	
SI	65536
SF	300.8100000 MHz
WDW	EM
SSB	0
LB	0.30 Hz
GB	0
PC	1.00



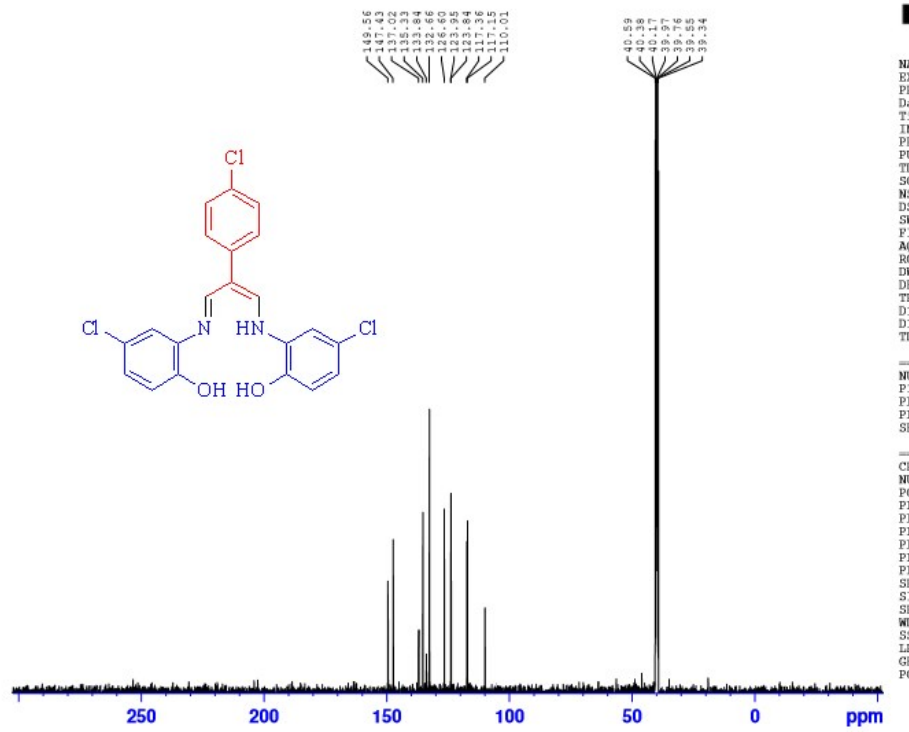
2-(4-Chlorophenyl)-3-((5-chloro-2-hydroxyphenyl)amino)allylidene)amino)-4-chlorophenol 3h:





BRUKER

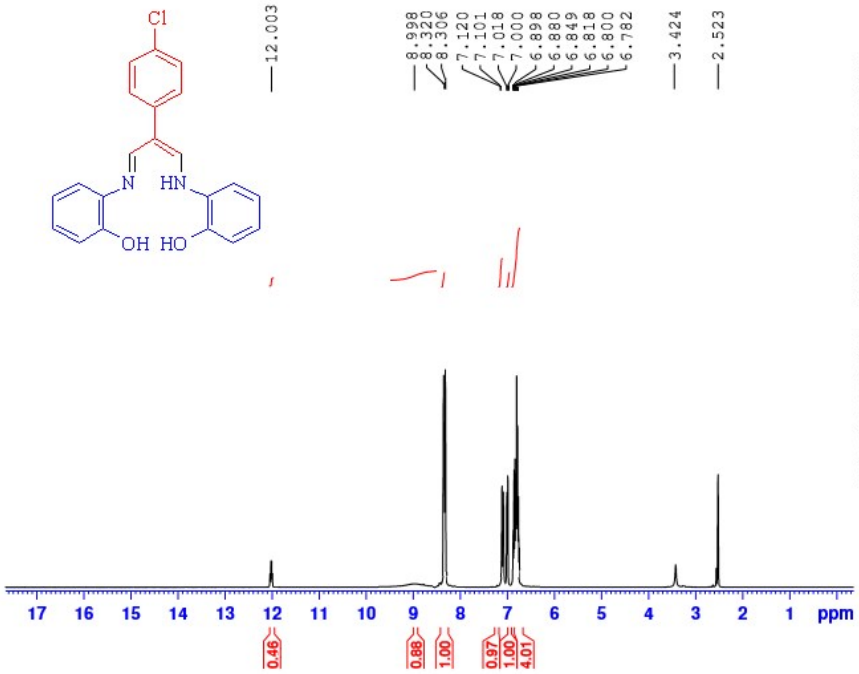
```
NAME          Khalij Pars UN
EXPNO               3027
PROCNO                 1
Date_           20181229
Time               10.16
INSTRUM            spect
PROBHD   5 mm PABBO BB-
PULPROG             zg30
TD                 65536
SOLVENT             DMSO
NS                    20
DS                     0
SWH           8012.820 Hz
FIDRES        0.122266 Hz
AQ            4.0894966 sec
RG                  90.5
DW               62.400 usec
DE                6.50 usec
TE               292.6 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                1.40
```



BRUKER

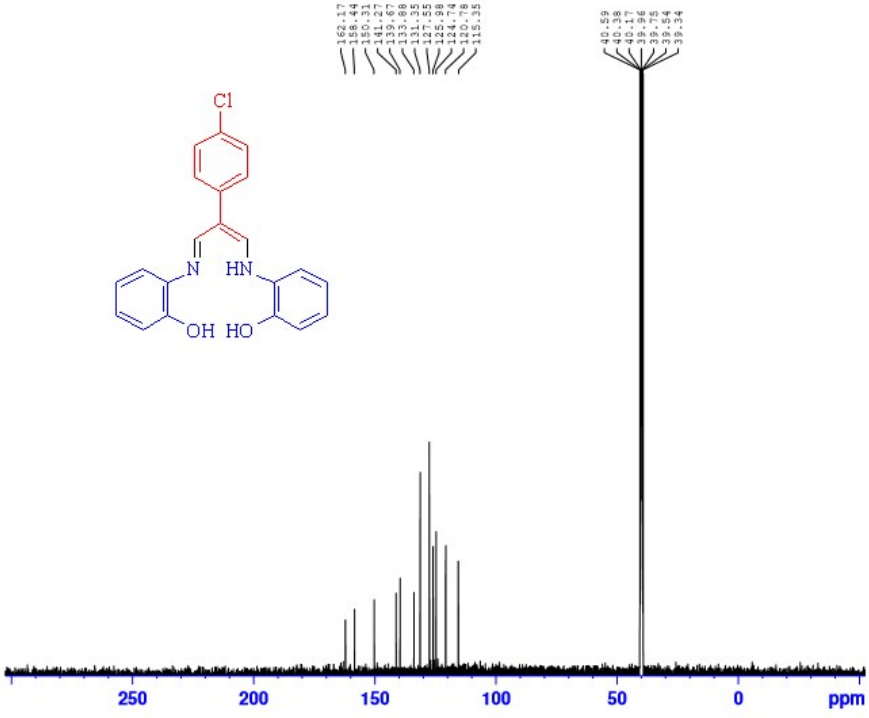
```
NAME          Khalij Pars UN
EXPNO               3028
PROCNO                 1
Date_           20181229
Time               10.17
INSTRUM            spect
PROBHD   5 mm PABBO BB-
PULPROG           zgpg30
TD                 65536
SOLVENT             DMSO
NS                  1520
DS                     0
SWH          35714.285 Hz
FIDRES        0.544957 Hz
AQ            0.9175540 sec
RG                  2050
DW               14.000 usec
DE                6.50 usec
TE               292.6 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              14.48 dB
PL13              17.90 dB
PL2W        11.86359406 W
PL12W        0.26681873 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                1.20
```

2-(4-Chlorophenyl)-3-((2-hydroxyphenyl)amino)allylidene)amino)phenol 3i:



BRUKER

NAME	Khalij Fars UN
EXPNO	3008
PROCNO	1
Date_	20181226
Time	17.08
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	101
DW	62.400 usec
DE	6.50 usec
TE	293.2 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	1.40

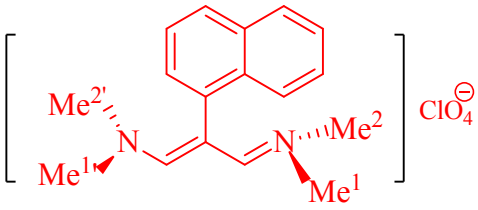


BRUKER

NAME	Khalij Fars UN
EXPNO	3012
PROCNO	1
Date_	20181227
Time	9.50
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	6100
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	294.0 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	14.48 dB
PL13	17.90 dB
PL2W	11.86359406 W
PL12W	0.26681873 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	1.20

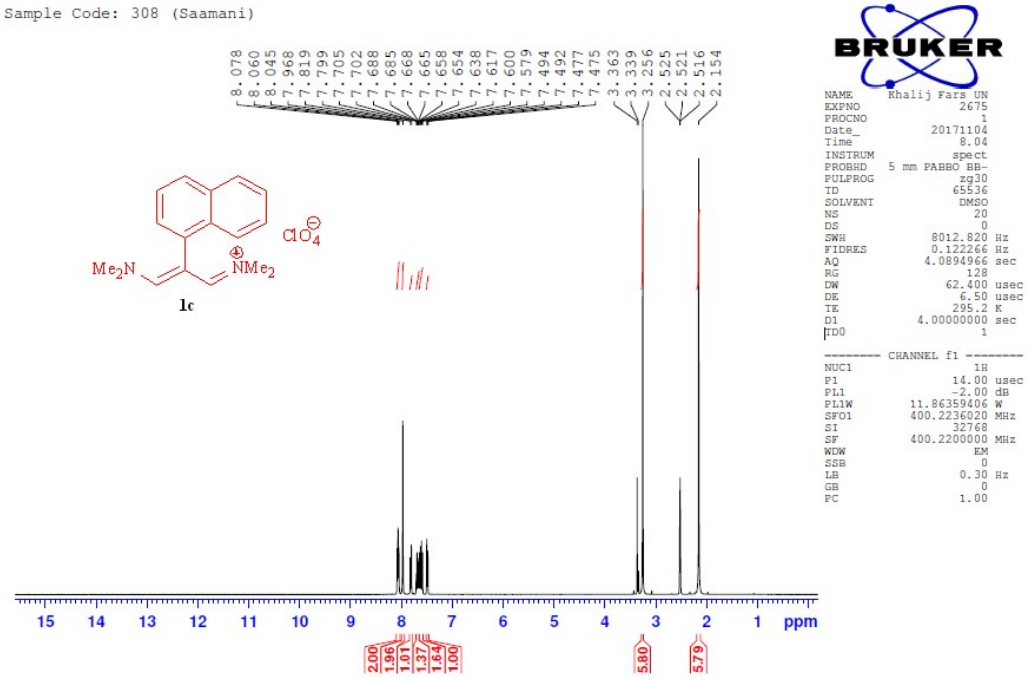
Spectral data of trimethinium salt 1c-1f:

N - (3- (dimethylamino) -2- (naphthalen-1-yl) allylidine) - N-methyl metamine perchlorate 1c:

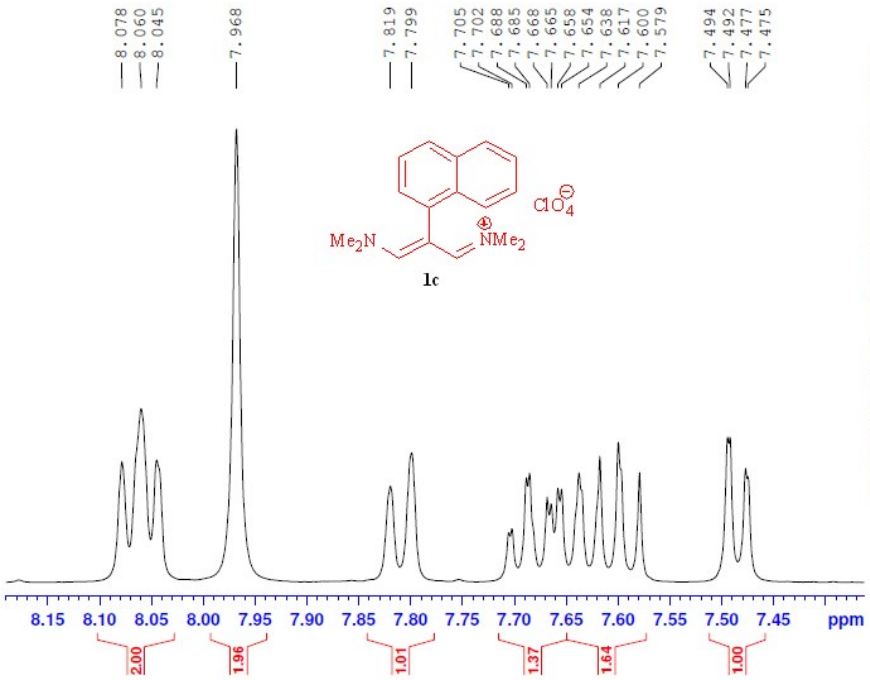


1c

Yellow powder; Yield (70%); m.p. 206-208 °C; ^{1}H NMR (DMSO-d_6, 400 MHz) δ (ppm): 2.15 (s, 6H, $NMe^{2,2'}$), 3.25 (s, 6H, $NMe^{1,1'}$), 7.48 (dd, J= 0.8, 6.8 Hz, 1H), 7.57-7.70 (m, 3H), 7.80 (d, J= 8 Hz, 2H), 7.96 (s, 2H), 8.06 (t, J= 6.6 Hz, 2H). ^{13}C NMR (DMSO-d_6, 100 MHz) δ (ppm): 49.0, 102.3, 125.7, 126.1, 127.2, 128.1, 129.1, 129.9, 130.3, 130.9, 133.2, 134.1, 164.3.



Sample Code: 308 (Saamani)

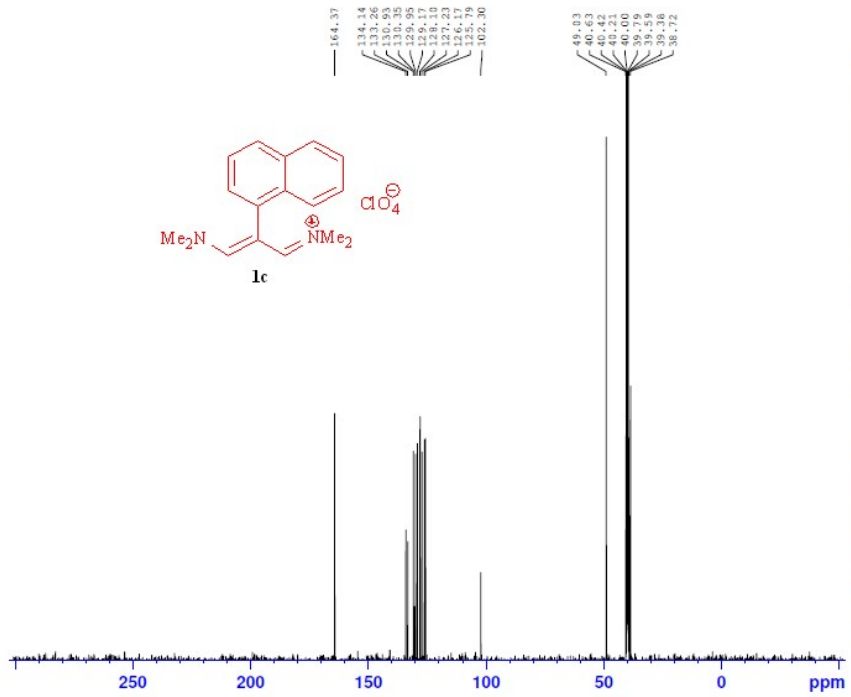


1c

BRUKER

NAME	Khalij Fars UN
EXPNO	2675
PROCNO	1
Date_	20171104
Time	8.04
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	128
DW	62.400 usec
DE	6.50 usec
TE	295.2 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

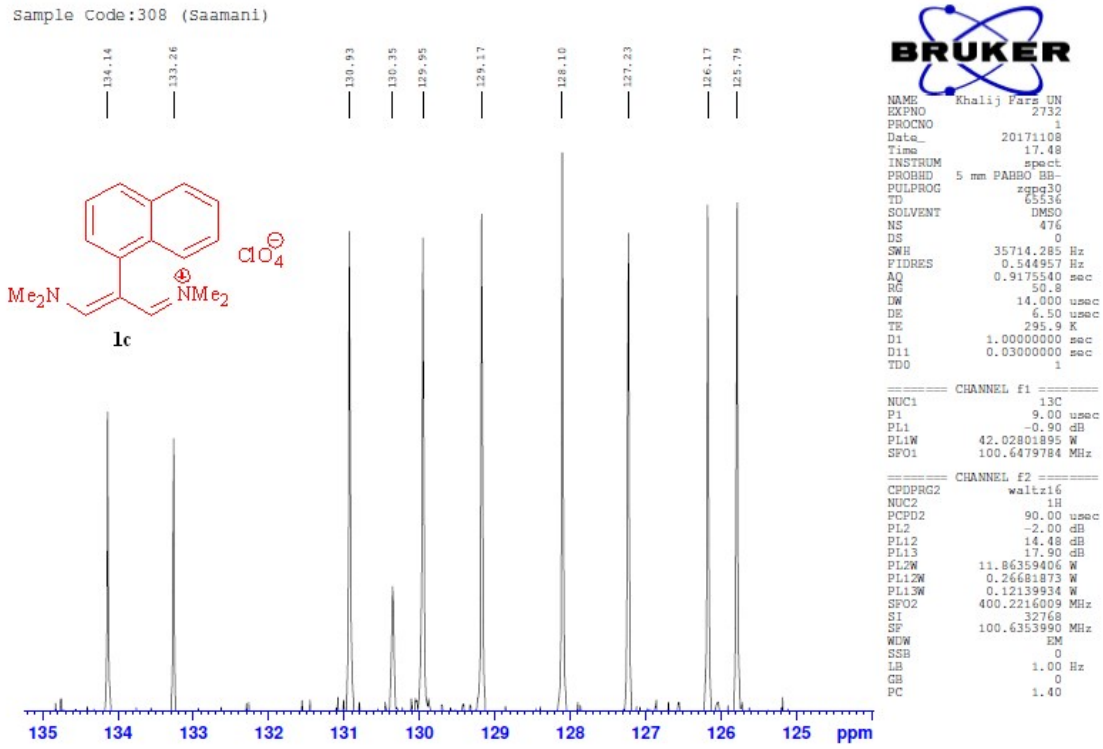
Sample Code:308 (Saamani)



1c

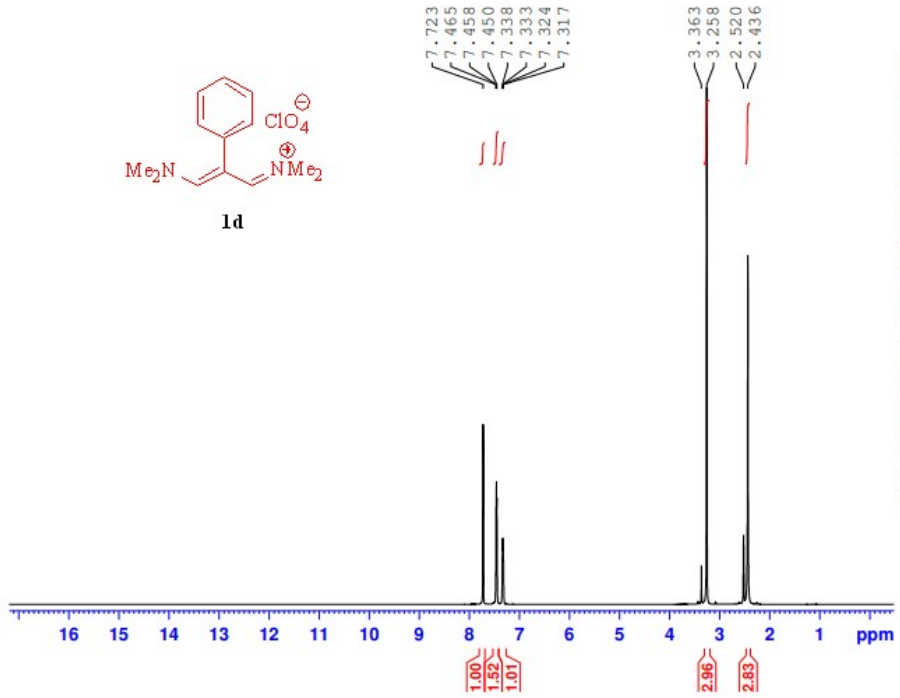
BRUKER

NAME	Khalij Fars UN
EXPNO	2732
PROCNO	1
Date_	20171108
Time	17.48
INSTRUM	spect
PROBHD	5 mm PABBO BB-
PULPROG	zgpg30
TD	65536
SOLVENT	DMSO
NS	476
DS	0
SWH	35714.285 Hz
FIDRES	0.544957 Hz
AQ	0.9175540 sec
RG	50.8
DW	14.000 usec
DE	6.50 usec
TE	295.9 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	14.48 dB
PL13	17.90 dB
PL2W	11.86359406 W
PL12W	0.26681873 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



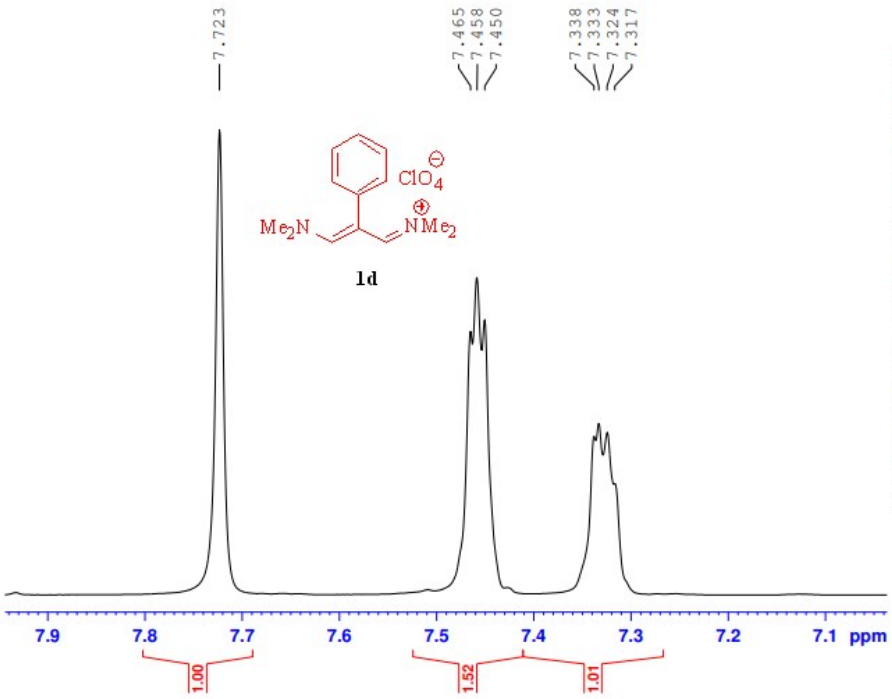
N - (3- (dimethylamino) -2- (phenylallylidine) - N-methyl metamine perchlorate 1d:

White powder; Yield (75%); m.p. 200-202 °C; ^{1}H NMR (DMSO-d_6, 400 MHz) δ (ppm): 2.43 (s, 6H), 3.25 (s, 6H), 7.31-7.33 (m, 2H), 7.45 (t, J= 3 Hz, 3H), 7.72 (s, 2H). ^{13}C NMR (DMSO-d_6, 100 MHz) δ (ppm): 49.0, 105.5, 128.9, 129.2, 132.6, 133.0, 163.3.



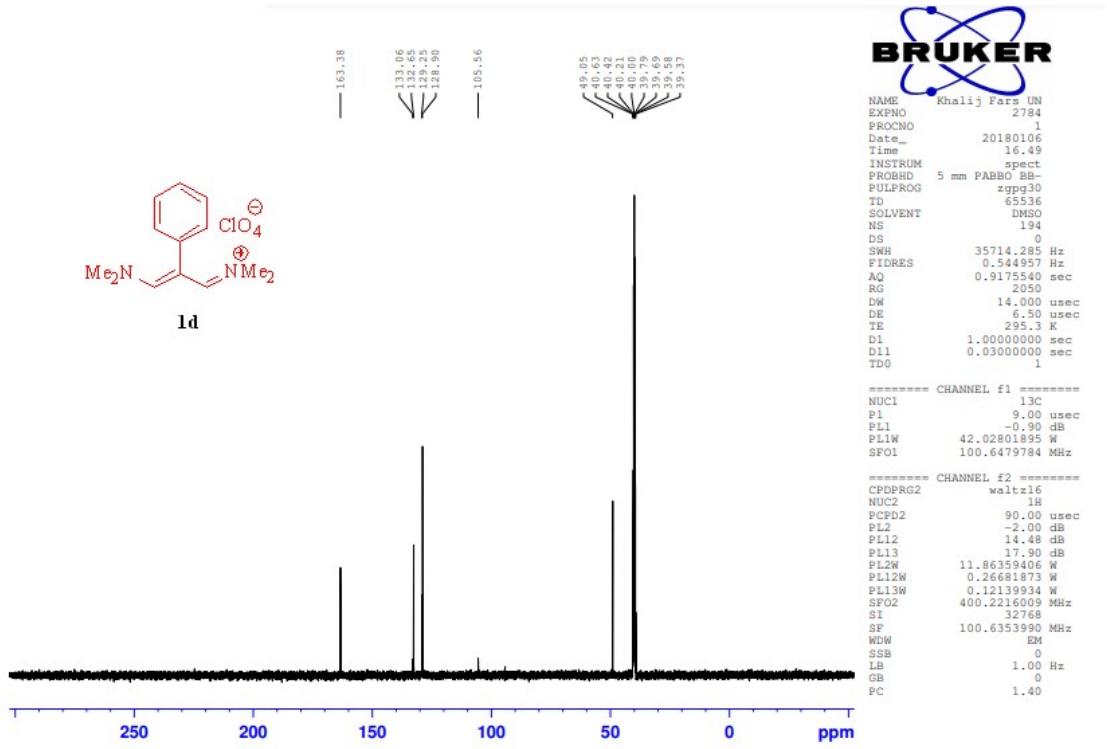
1d

```
NAME          Khalij Fars UN
EXPNO               2783
PROCNO                 1
Date_           20180106
Time               16.47
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                  71.8
DW                62.400 usec
DE                 6.50 usec
TE                295.0 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
```



1d

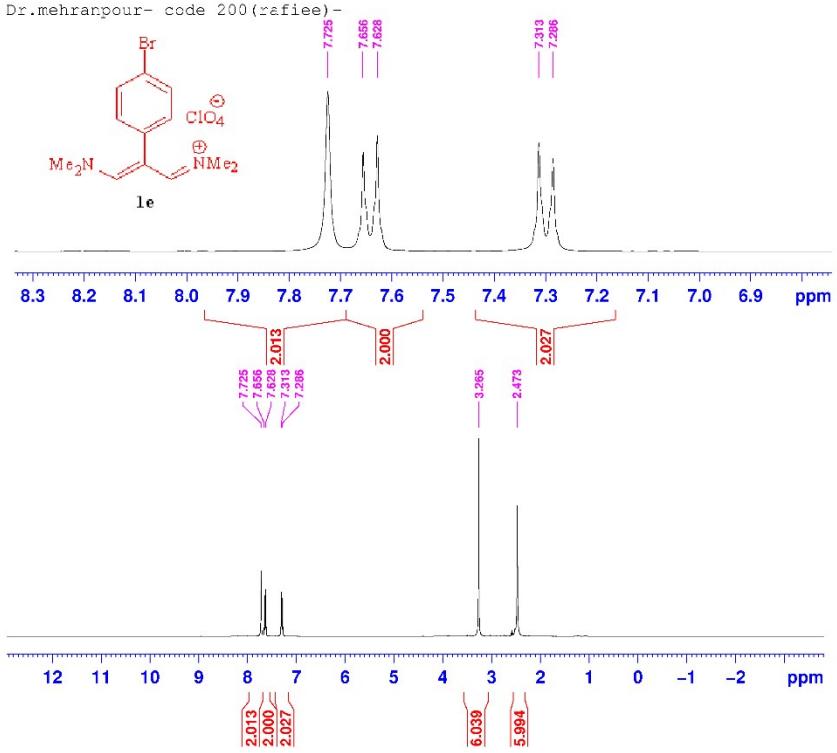
```
NAME          Khalij Fars UN
EXPNO               2783
PROCNO                 1
Date_           20180106
Time               16.47
INSTRUM            spect
PROBHD   5 mm PABBO BB-
PULPROG             zg30
TD                 65536
SOLVENT             DMSO
NS                    20
DS                     0
SWH             8012.820 Hz
FIDRES          0.122266 Hz
AQ              4.0894966 sec
RG                  71.8
DW                62.400 usec
DE                 6.50 usec
TE                295.0 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
```



N-(2-(4-bromophenyl)-3-(dimethylamino) -allylidene)-N-methylmethanaminium perchlorate 1e:

White powder; Yield (85%); m.p. 148-150 °C; ^{1}H NMR (DMSO-d_6, 300 MHz) δ (ppm): 2.47 (s, 6H), 3.26 (s, 6H), 7.29 (d, J= 8.1 Hz, 2H), 7.64 (d, J= 8.4 Hz, 2H), 7.72 (s, 2H). ^{13}C NMR (DMSO-d_6, 75 MHz) δ (ppm): 49.1, 104.0, 122.6, 131.7, 132.4, 134.7, 163.3.

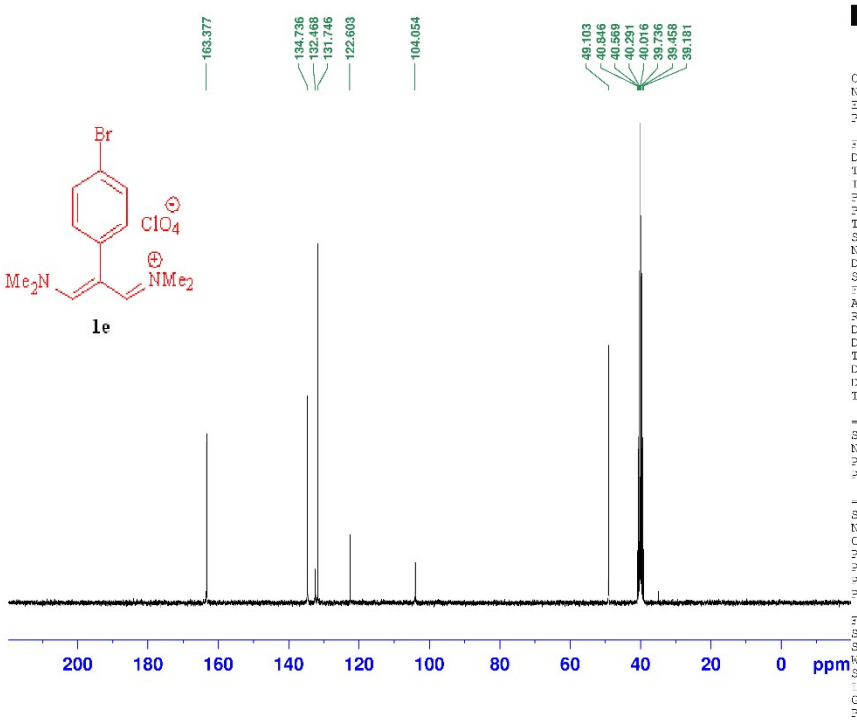
Dr.mehranpour- code 200(rafiee)-



BRUKER

```
Current Data Parameters
NAME      Aug06-2018-nmr
EXPNO                 10
PROCNO                 1

F2 - Acquisition Parameters
Date_           20180806
Time               13.11
INSTRUM            spect
PROBHD   5 mm PABBO BB-
PULPROG            zg30
TD                65536
SOLVENT            DMSO
NS                   40
DS                    2
SWH           6009.615 Hz
FIDRES        0.091699 Hz
AQ            5.4525952 sec
RG                64.01
DW               83.200 usec
DE                6.50 usec
TE               295.8 K
D1            1.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1        300.8118576 MHz
NUC1               1H
P1               15.00 usec
PLW1        6.40000010 W

F2 - Processing parameters
SI                65536
SF          300.8100000 MHz
WDW                EM
SSB                0
LB                 0.30 Hz
GB                 0
PC                 1.00
```

C13-Dr.mehranpour- code 200(rafiee)-

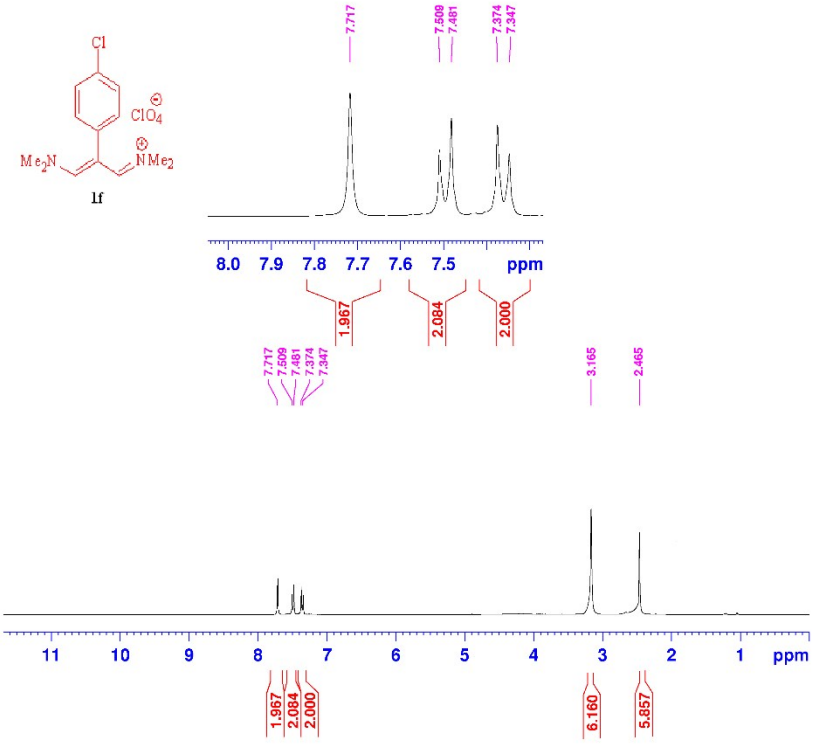


BRUKER

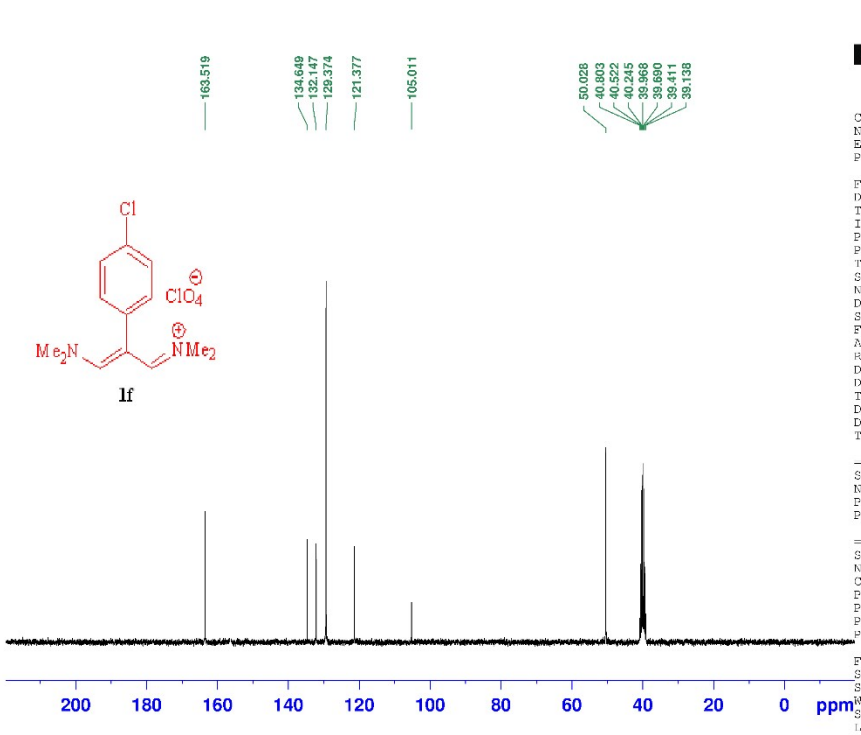
```
Current Data Parameters
NAME      Aug15-2018-nmr
EXPNO                 65
PROCNO                 1

F2 - Acquisition Parameters
Date_           20180816
Time               14.31
INSTRUM            spect
PROBHD   5 mm PABBO BB-
PULPROG          zgpg30
TD                65536
SOLVENT            DMSO
NS                   256
DS                     4
SWH          18115.941 Hz
FIDRES        0.276427 Hz
AQ            1.8087935 sec
RG                 202
DW               27.600 usec
DE                6.50 usec
TE               297.8 K
D1            2.00000000 sec
D11           0.03000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1        75.6462982 MHz
NUC1               13C
P1               10.00 usec
PLW1       30.00000000 W

======== CHANNEL f2 ========
SFO2       300.8112032 MHz
NUC2               1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2        6.40000010 W
PLW12       0.17778000 W
PLW13       0.14399999 W

F2 - Processing parameters
SI                32768
SF          75.6387350 MHz
WDW                EM
SSB                0
LB                 1.00 Hz
GB                 0
PC                 1.40
```

N-(2-(4-chlorophenyl)-3-(dimethylamino) -allylidene)-N-methylmethanaminium perchlorate 1f:

White powder; Yield (80%); m.p. 89-91 °C; ^{1}H NMR (DMSO-d_6, 300 MHz) δ (ppm): 2.46 (s, 6H), 3.16 (s, 6H), 7.36 (d, J= 8.1 Hz, 2H), 7.49 (d, J= 8.4 Hz, 2H), 7.71 (s, 2H). ^{13}C NMR (DMSO-d_6, 75 MHz) δ (ppm): 50.0, 105.0, 121.3, 129.3, 132.1, 134.6, 163.5.




```
Current Data Parameters
NAME      Aug06-2018-nmr
EXPNO                 11
PROCNO                 1

F2 - Acquisition Parameters
Date_           20180806
Time              13.17
INSTRUM            spect
PROBHD   5 mm PABBO BB-
PULPROG            zg30
TD                65536
SOLVENT            DMSO
NS                   16
DS                    2
SWH            6009.615 Hz
FIDRES         0.091699 Hz
AQ             5.4525952 sec
RG                33.22
DW               83.200 usec
DE                6.50 usec
TE               295.7 K
D1            1.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         300.8118576 MHz
NUC1               1H
P1                15.00 usec
PLW1          6.40000010 W

F2 - Processing parameters
SI                65536
SF           300.8100000 MHz
WDW                EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```



1f

```
Current Data Parameters
NAME      Sep21-2018-nmr
EXPNO                45
PROCNO                1

F2 - Acquisition Parameters
Date_          20180923
Time               9.30
INSTRUM           spect
PROBHD   5 mm PABBO BB-
PULPROG         zgpg30
TD              65536
SOLVENT            DMSO
NS                   96
DS                    4
SWH           18115.941 Hz
FIDRES        0.276427 Hz
AQ            1.8087935 sec
RG                  202
DW             27.600 usec
DE              6.50 usec
TE              297.7 K
D1           2.00000000 sec
D11          0.03000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         75.6462982 MHz
NUC1                 13C
P1                10.00 usec
PLW1        30.00000000 W

======== CHANNEL f2 ========
SFO2        300.8112032 MHz
NUC2                 1H
CPDPRG[2         waltz16
PCPD2             90.00 usec
PLW2         6.40000010 W
PLW12        0.17778000 W
PLW13        0.14399999 W

F2 - Processing parameters
SI                 32768
SF           75.6387350 MHz
WDW                   EM
SSB       0
LB                 1.00 Hz
GB        0
PC                 1.40
```