

Catalyst-free, a Green, and Efficient Protocol for the Synthesis of 1,8-dioxooctahydroxanthenes in Magnetized Water

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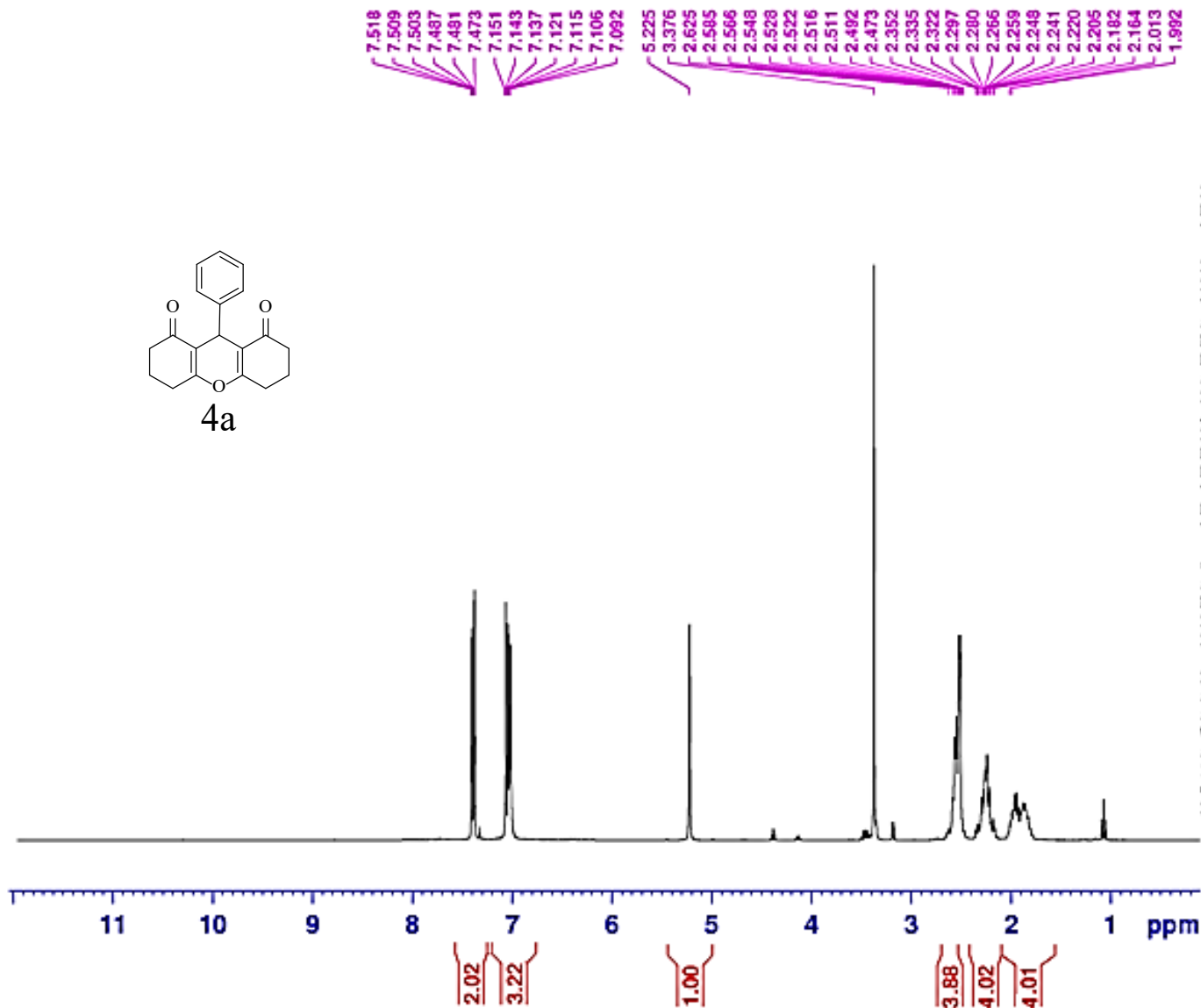
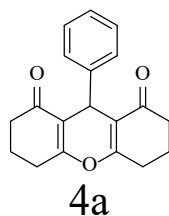
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Supplementary Information

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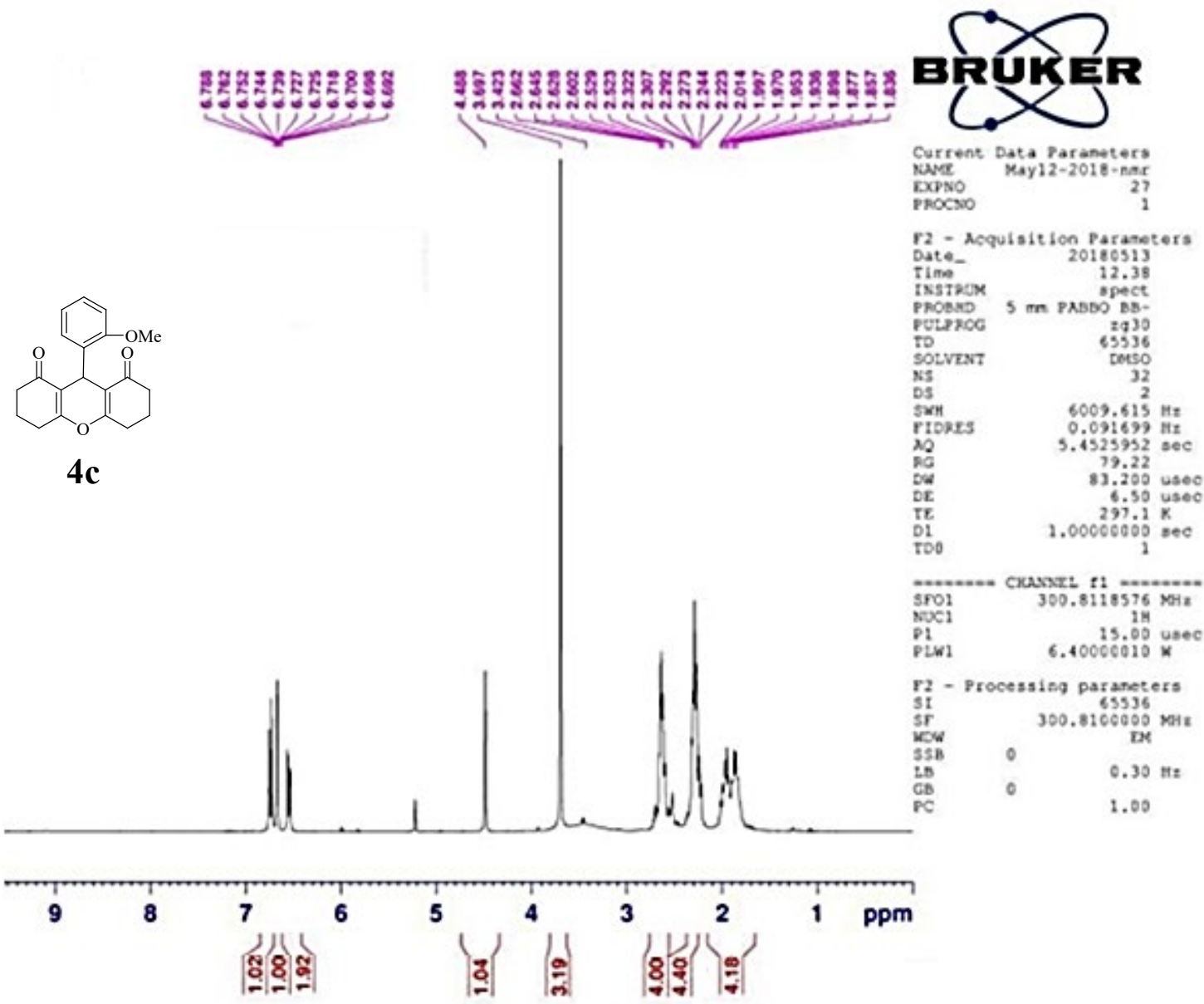
Copies of ^1H NMR and ^{13}C NMR spectrum of products **4a**, **4c**, **4e**, **4f**, **4g**, **4h**, **4j**, **4n**

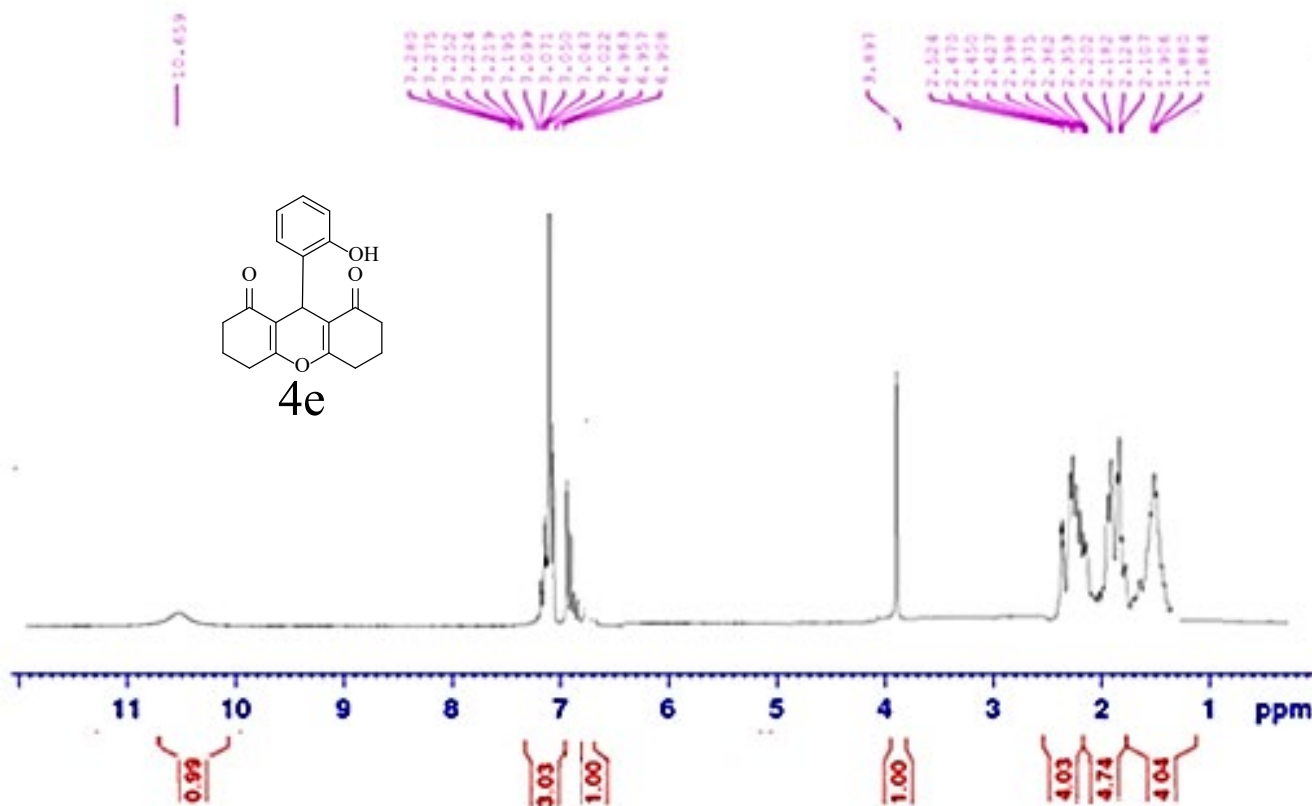


F2 - Acquisition Parameters
 Date_ 20151230
 Time 21.24
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zg30
 TD 65536
 SOLVENT DMSO
 NS 16
 DS 2
 SWH 6024.096 Hz
 FIDRES 0.091920 Hz
 AQ 5.4394879 sec
 RG 113.32
 DW 83.000 usec
 DE 6.50 usec
 TE 294.6 K
 D1 1.00000000 sec
 TD0 1

===== CHANNEL f1 =====
 SFO1 300.8484063 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 6.40000010 W

F2 - Processing parameters
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 SF 300.8465480 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00





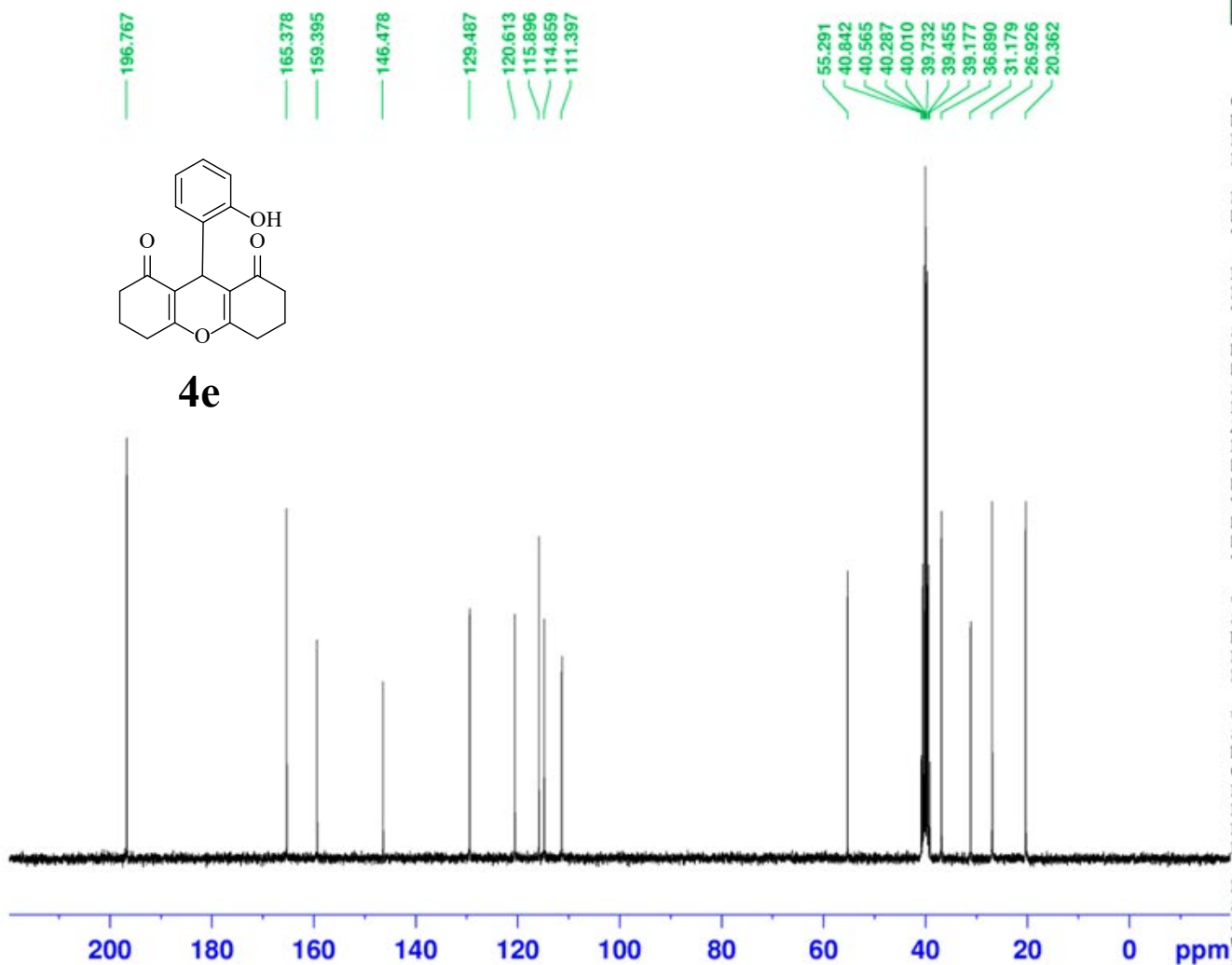
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PROCNO    1

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PROCNO    5 mm PABBO 99-
PULPROG   zg30
TD         65536
SOLVENT    DMSO
NS         128
DS         2
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FIDRES     0.091699 KHz
AQ         5.4525552 sec
RG         72.14
DM         83.200 used
DE         6.50 used
TE         296.8 K
D1         1.00000000 sec
TD0        1

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NUC1       1H
P1         15.00 used
P1M1      6.40000010 M

F2 - Processing parameters
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MCW        EM
SSB        0
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GB         0
PC         1.00
    
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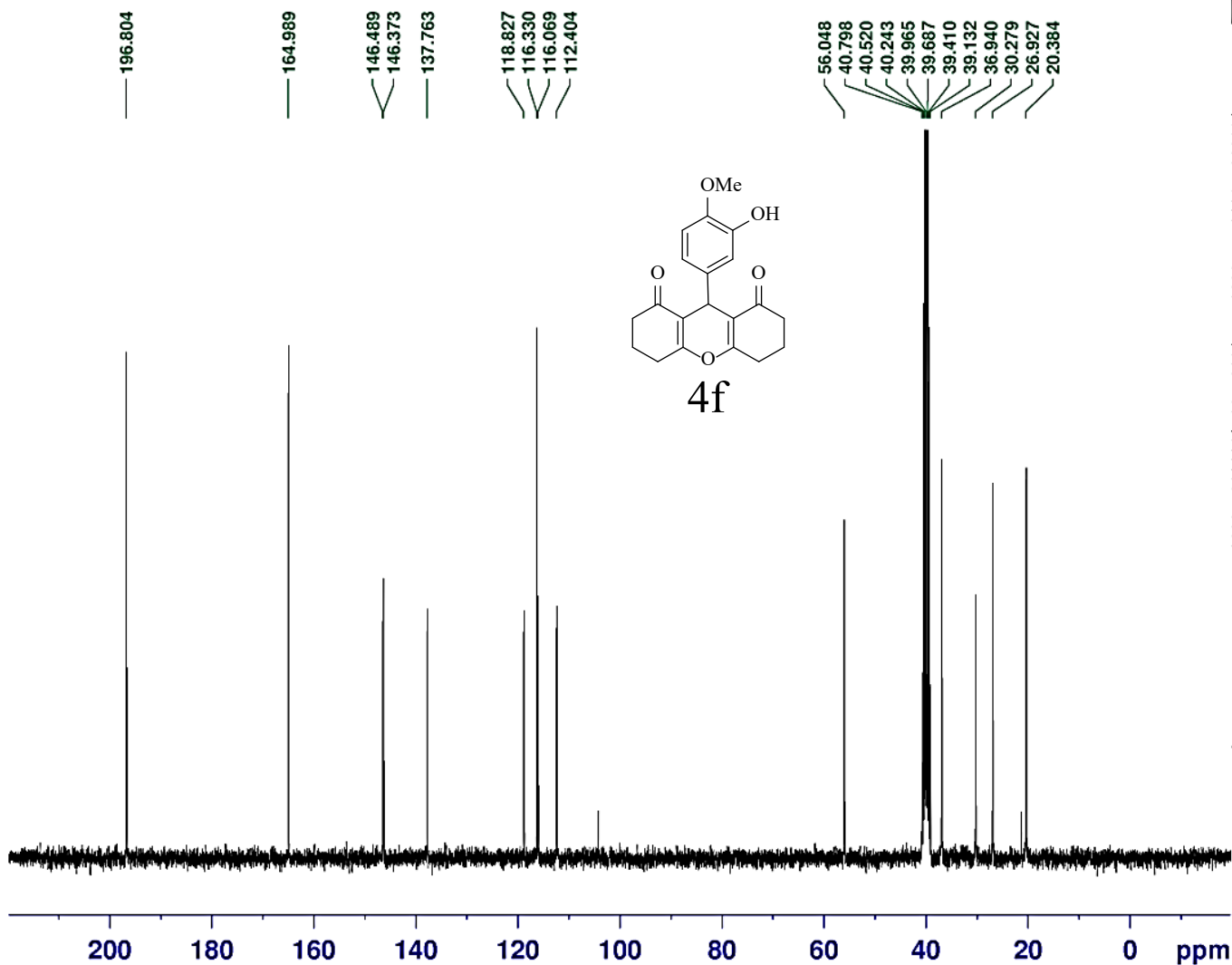
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 NAME May29-2018-nmr
 EXPNO 53
 PROCNO 1

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 Date_ 20180601
 Time 23.48
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zgpg30
 TD 65536
 SOLVENT DMSO
 NS 264
 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 298.2 K
 D1 2.0000000 sec
 D11 0.03000000 sec
 TD0 1

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

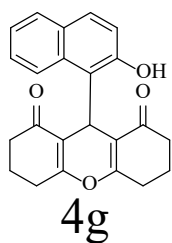
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 CPDPRG[2] waltz16
 PCPD2 90.00 usec
 PLW2 6.40000010 W
 PLW12 0.17778000 W
 PLW13 0.14399999 W

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



Current Data Parameters
 NAME May15-2018-nmr
 EXPNO 25
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20180516
 Time 13.24
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zgpg30
 TD 65536
 SOLVENT DMSO
 NS 240
 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 297.9 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

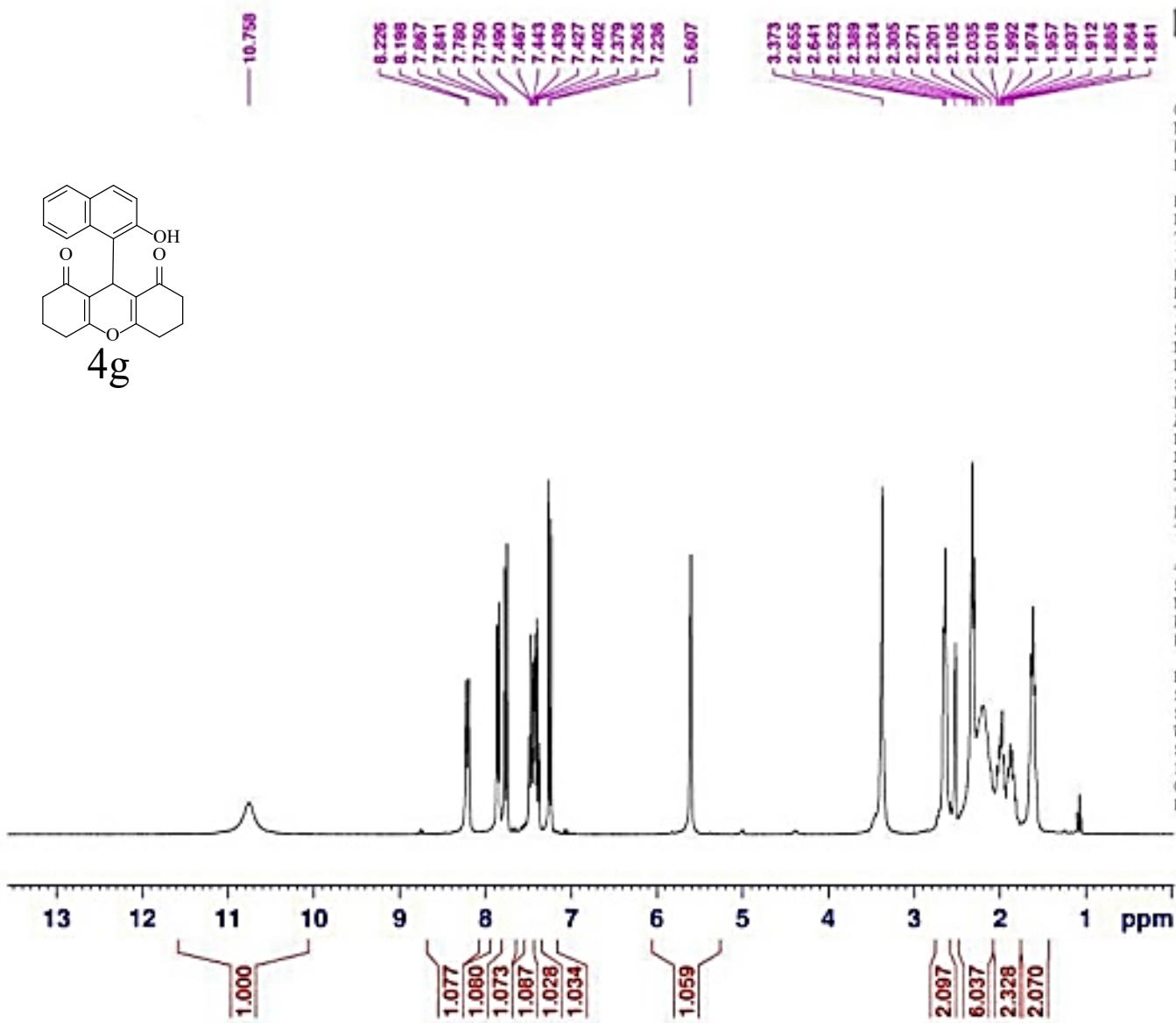


Current Data Parameters
 NAME May29-2018-nmr
 EXPNO 56
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20180602
 Time 15.37
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 PULPROG zg30
 ID 65536
 SOLVENT DMSO
 NS 32
 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 1.0000000 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





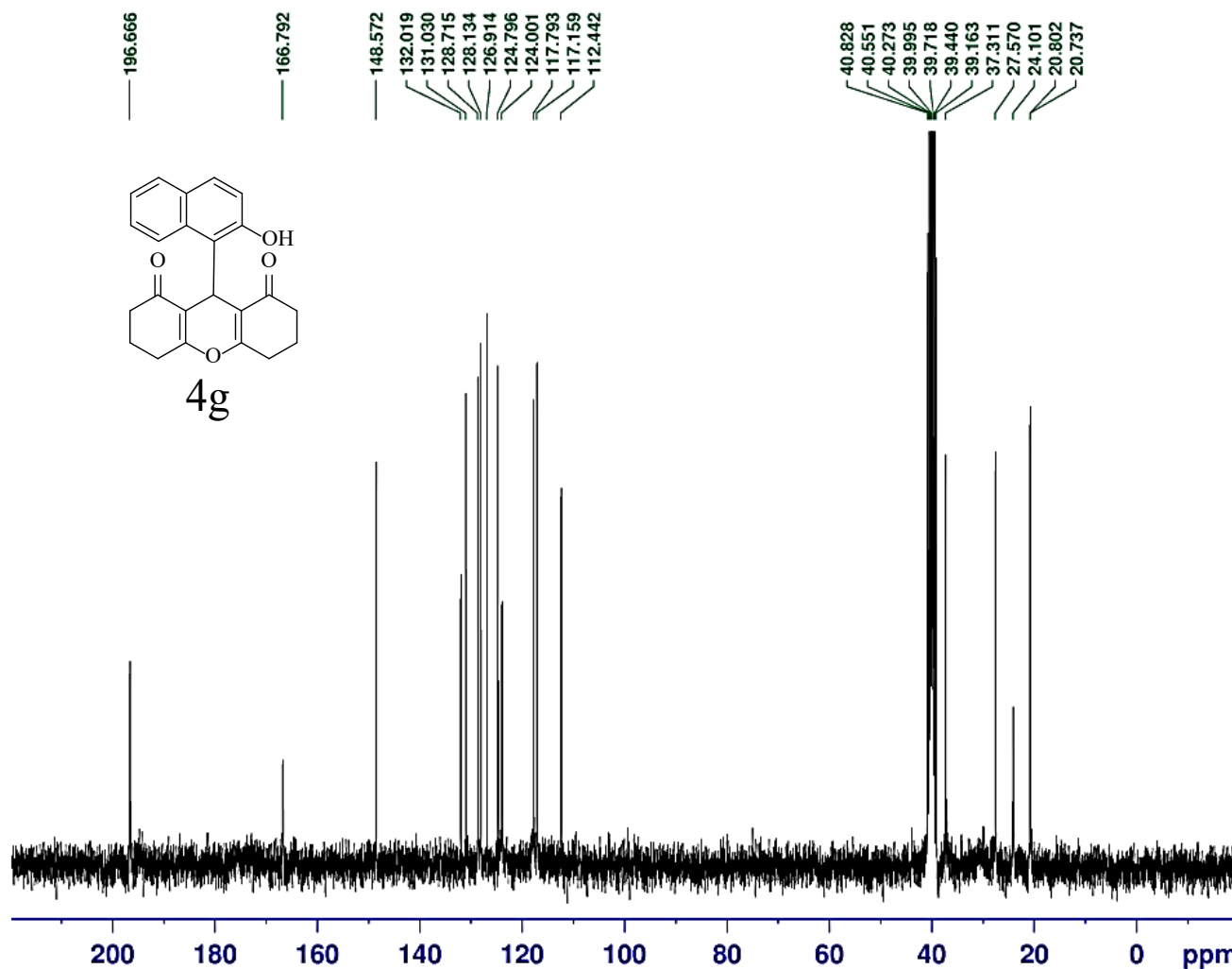
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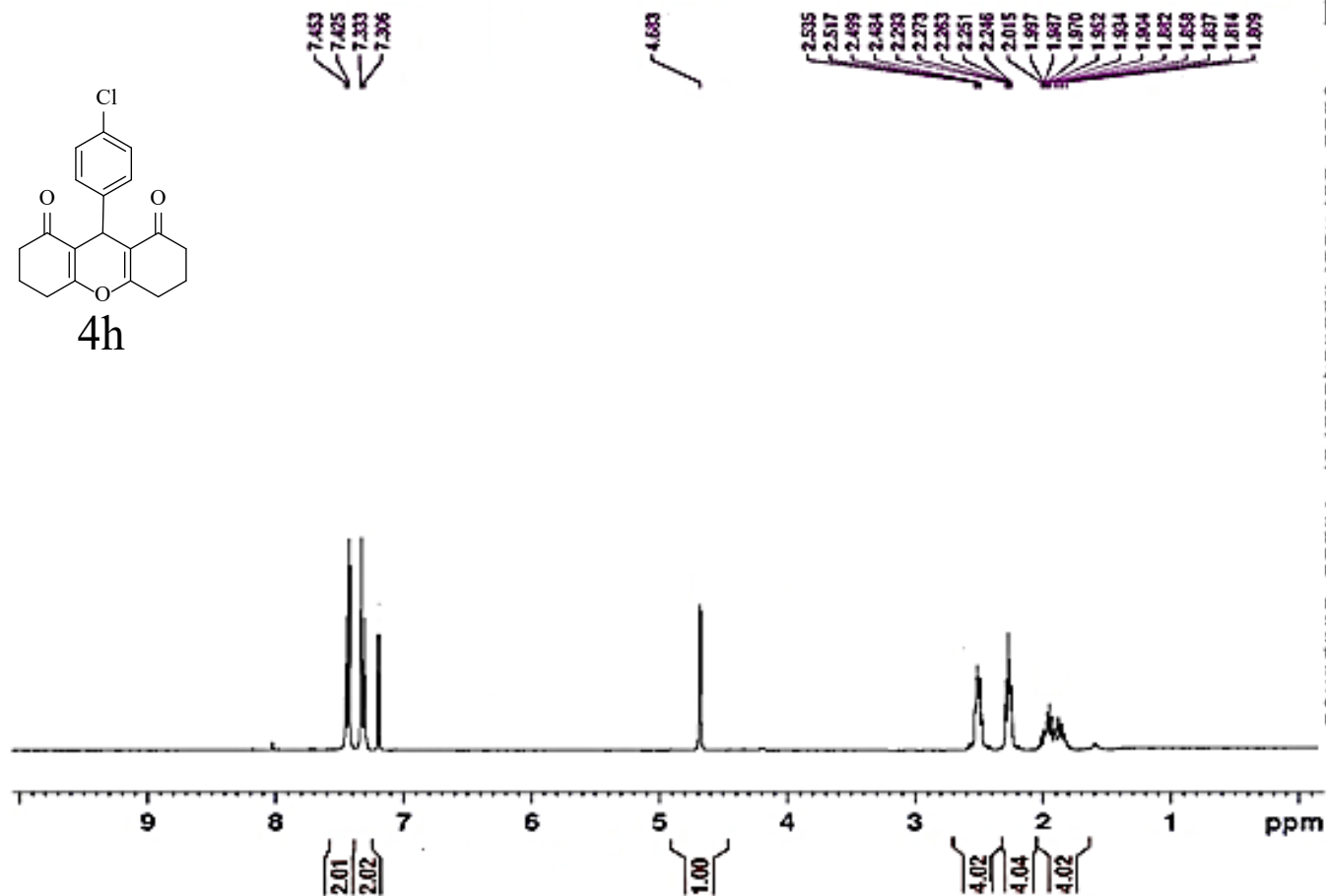
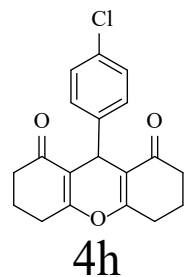
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 PULPROG zgpg30
 TD 65536
 SOLVENT DMSO
 NS 668
 DS 4
 SWH 18115.941 Hz
 FIDRES 0.276427 Hz
 AQ 1.8087935 sec
 RG 202
 DW 27.600 usec
 DE 6.50 usec
 TE 297.6 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

===== 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



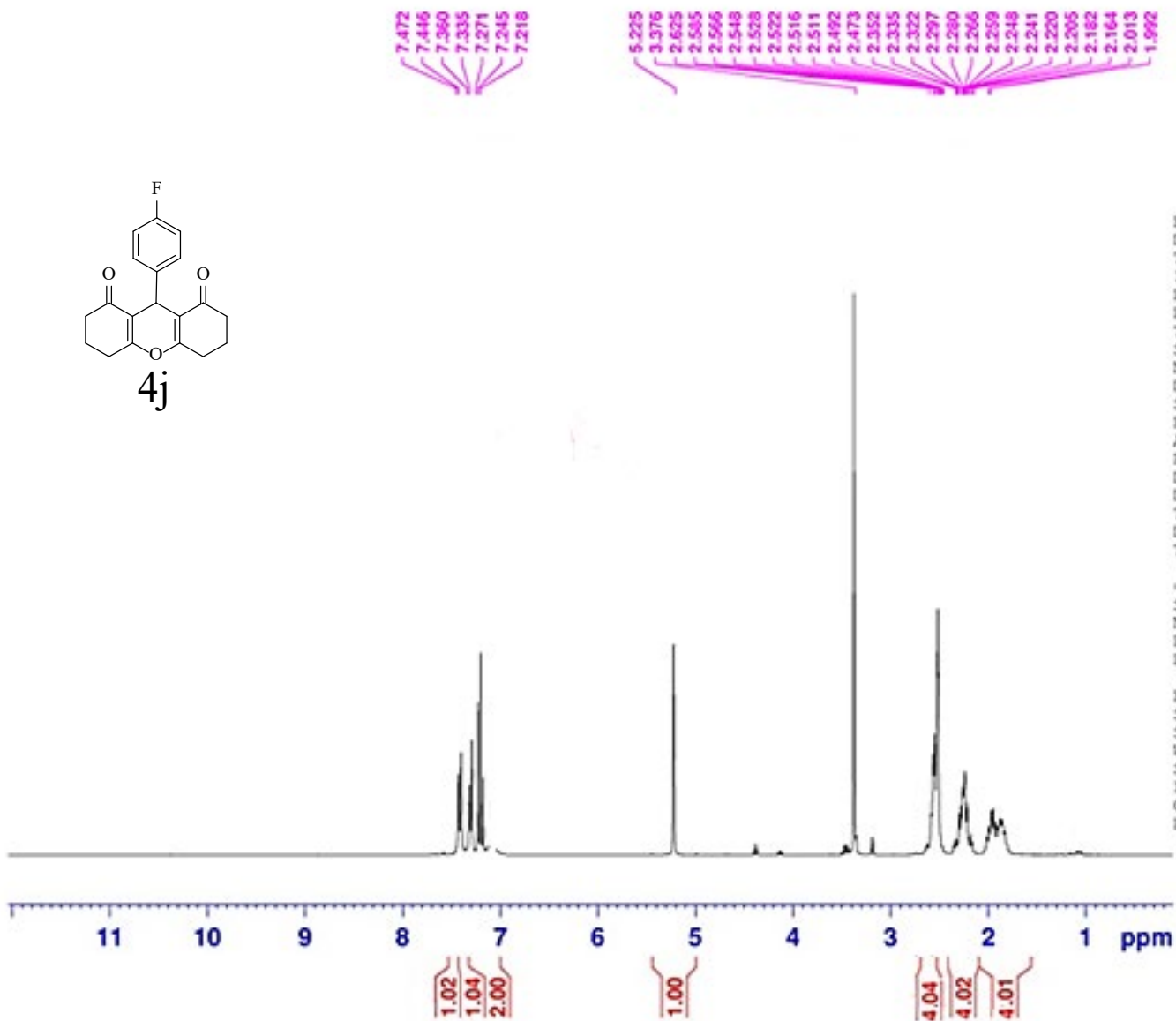
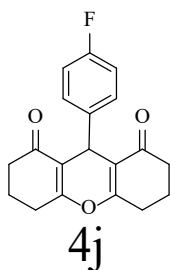


Current Data Parameters
 NAME Shahroud U
 EXPNO 119
 PROCNO 1

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 Time 19.15
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 PULPROG zg30
 TD 65536
 SOLVENT CDCl3
 NS 80
 DS 2
 SWH 6024.096 Hz
 FIDRES 0.091920 Hz
 AQ 5.4394879 sec
 RG 158.22
 DW 83.000 usec
 DE 6.50 usec
 TE 296.5 K
 D1 1.00000000 sec
 TD0 1

----- CHANNEL f1 -----
 SFO1 300.8484063 MHz
 NUC1 1H
 P1 15.00 usec
 PLW1 6.40000010 W

F2 - Processing parameters
 SI 65536
 SF 300.8465761 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

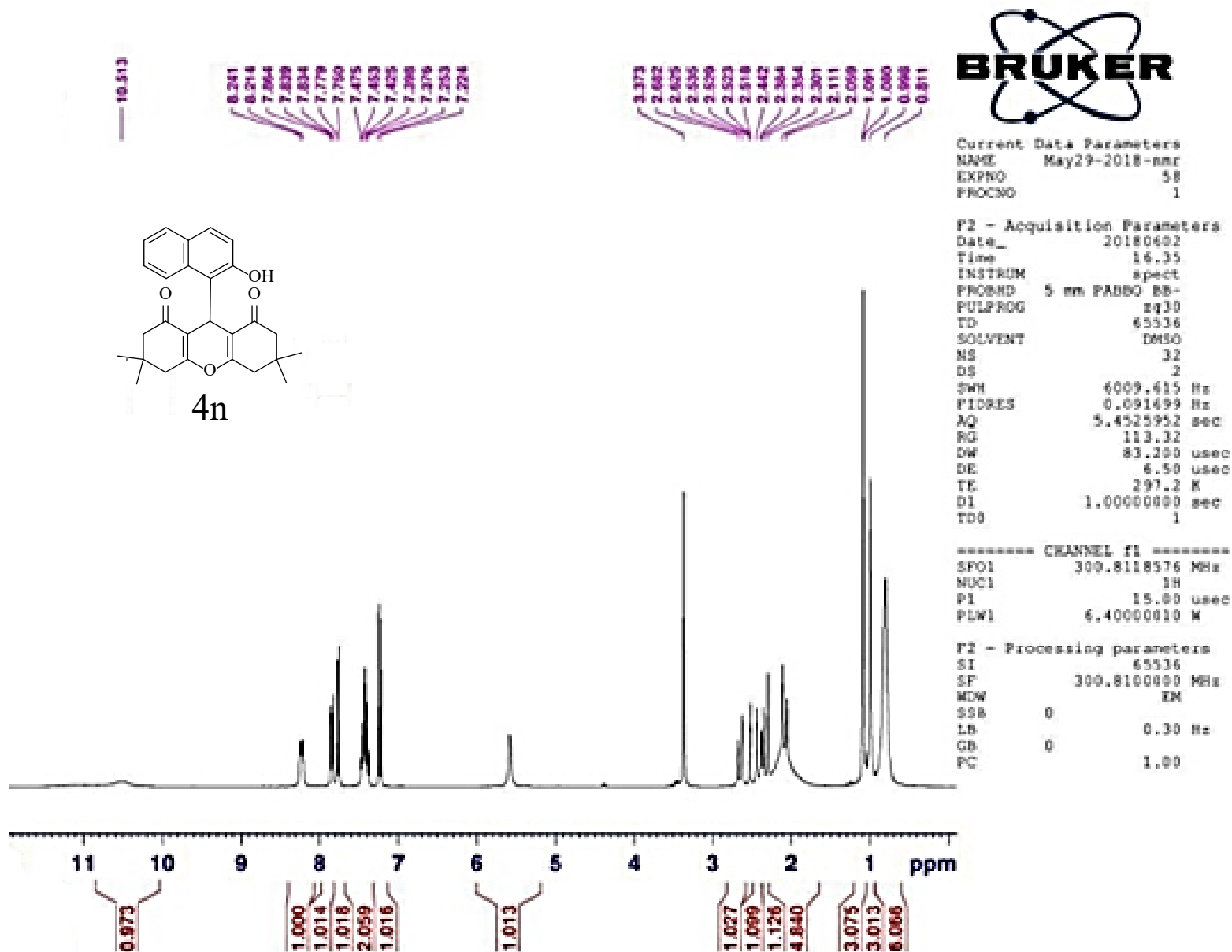


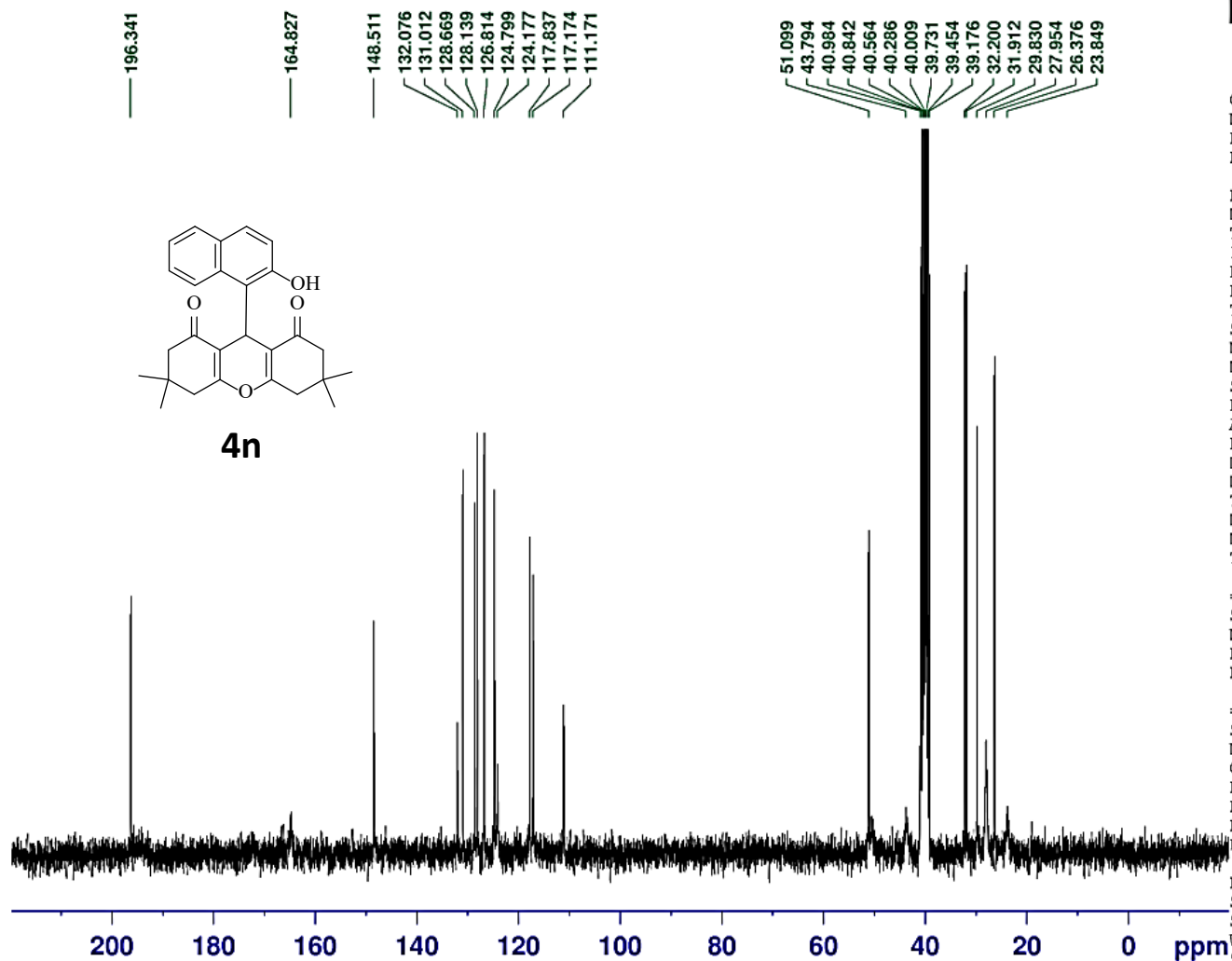
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F2 - Acquisition Parameters
Date_      20151230
Time       21.24
INSTRUM    spect
PROBHD     5 mm PABBO BB-
PULPROG    zg30
TD         65536
SOLVENT    DMSO
NS         16
DS         2
SWH        6024.096 Hz
FIDRES     0.091920 Hz
AQ         5.4394879 sec
RG         113.32
DW         83.000 usec
DE         6.50 usec
TE         294.6 K
D1         1.00000000 sec
TDO        1

===== CHANNEL f1 =====
SF01       300.8484063 MHz
NUC1       1H
P1         15.00 usec
PLW1       6.40000010 W

F2 - Processing parameters
SI         65536
SF         300.8465480 MHz
WDM        EM
SSB        0
LB         0.30 Hz
GB         0
PC         1.00
    
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Current Data Parameters
 NAME May29-2018-nmr
 EXPNO 59
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20180602
 Time 17.20
 INSTRUM spect
 PROBHD 5 mm PABBO BB-
 PULPROG zgpg30
 TD 65536
 SOLVENT DMSO
 NS 1024
 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 298.9 K
 D1 2.00000000 sec
 D11 0.03000000 sec
 TD0 1

==== CHANNEL f1 =====
 SF01 75.6462982 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 30.00000000 W

==== CHANNEL f2 =====
 SF02 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