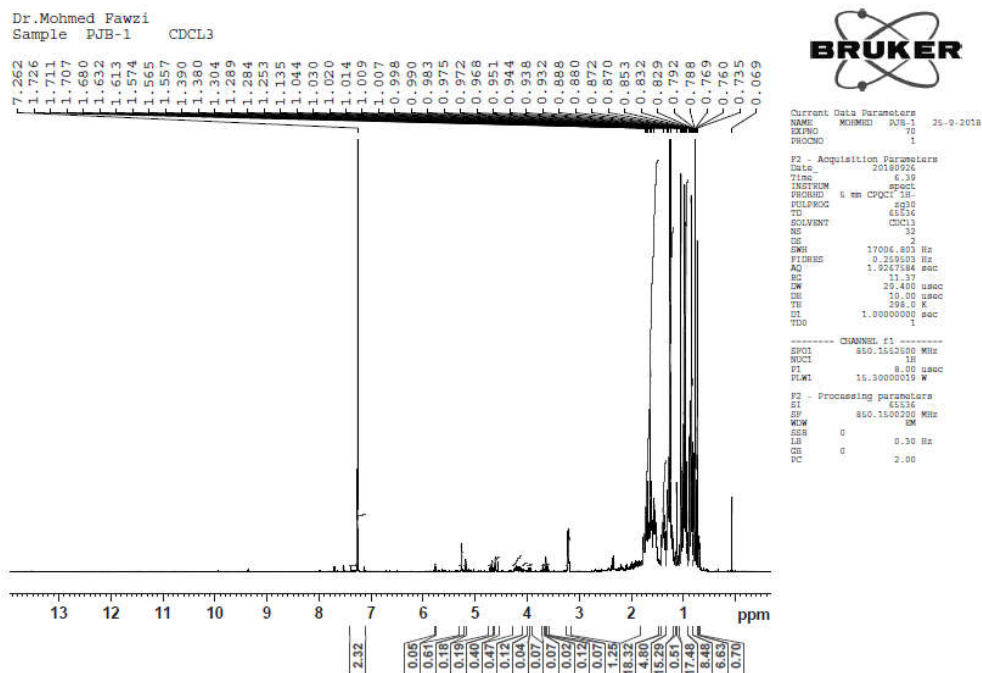
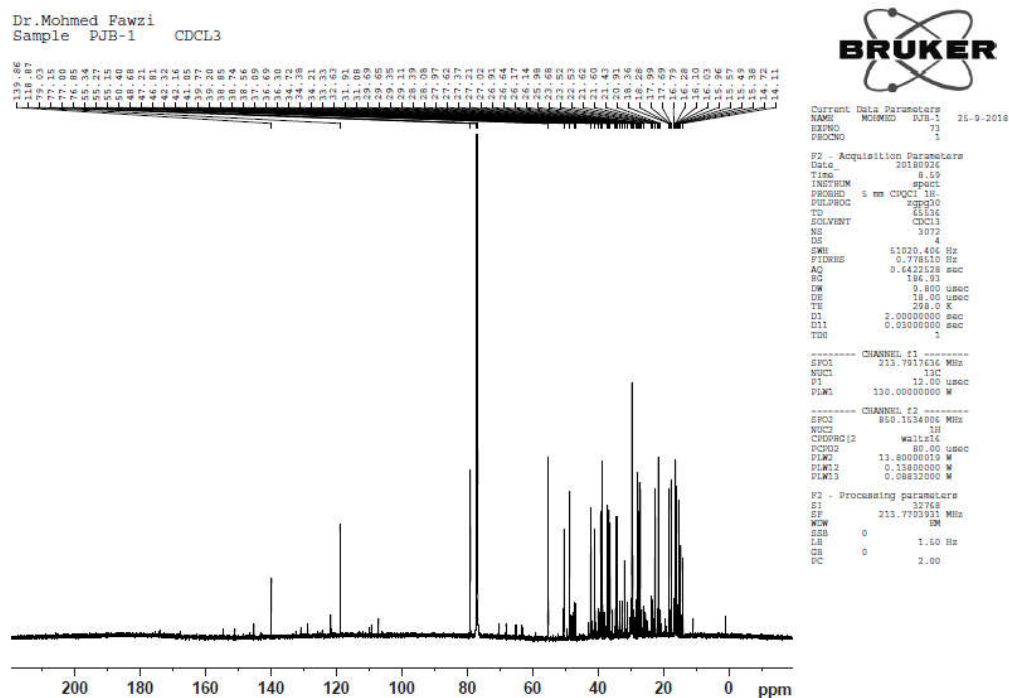


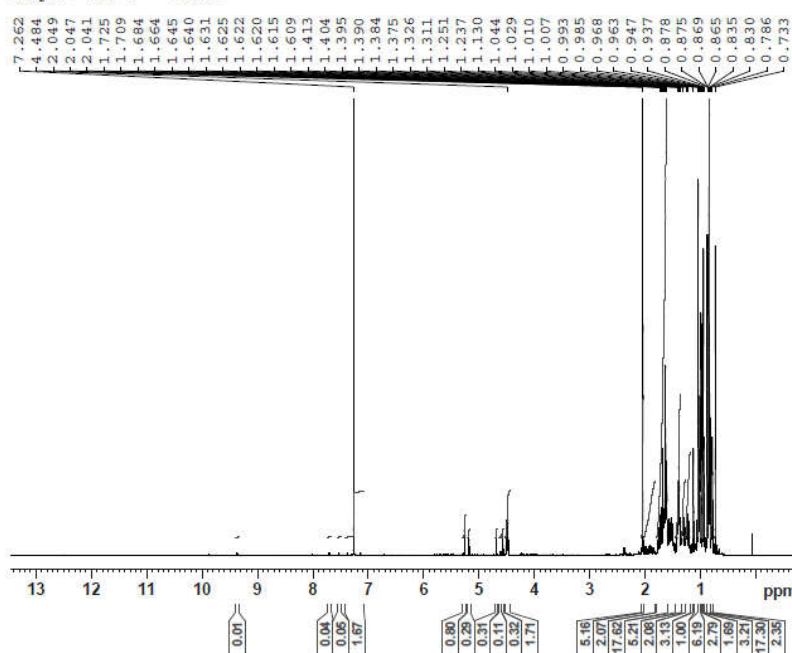
Supplementary material



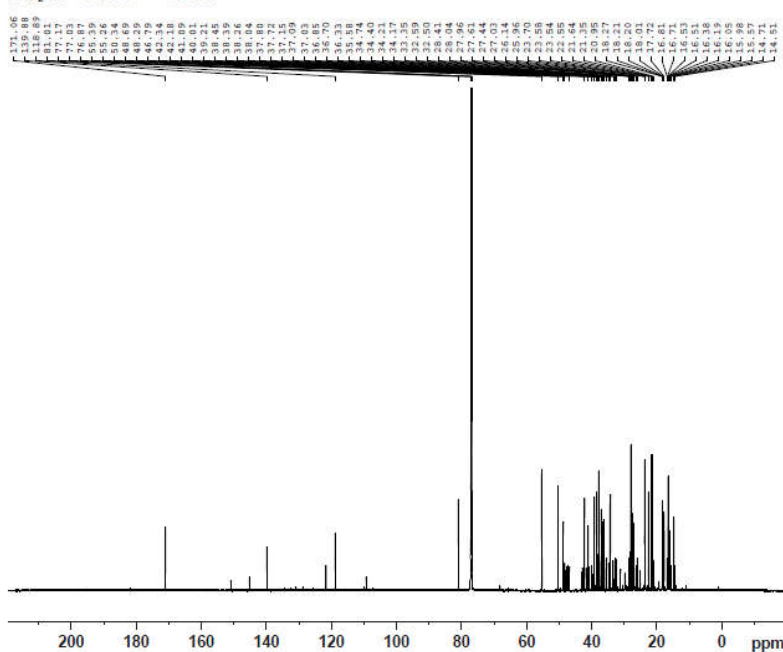
¹H NMR of compound 1.



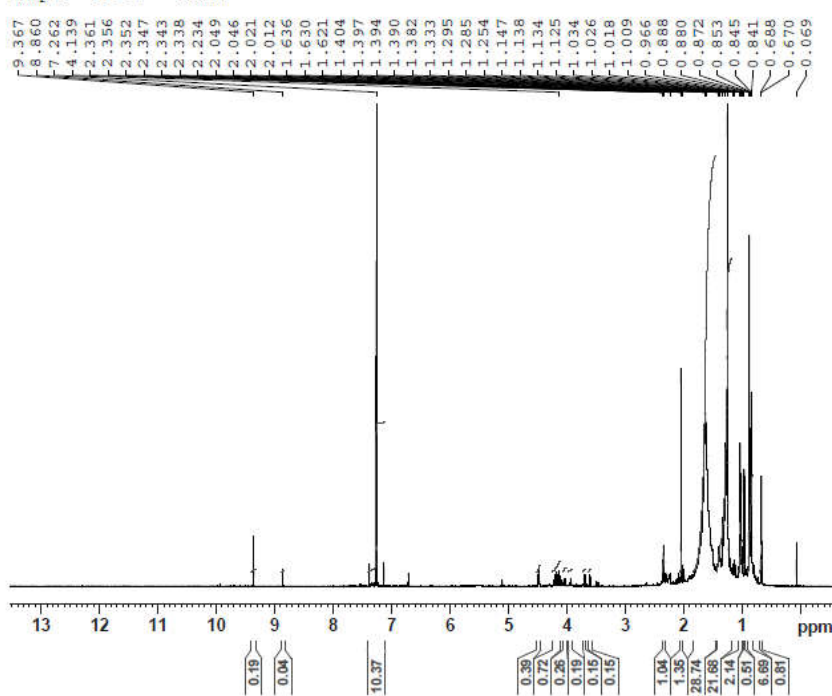
¹³C NMR of compound 1

¹H NMR of compound 2

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Sample PJA-3 CDCL3

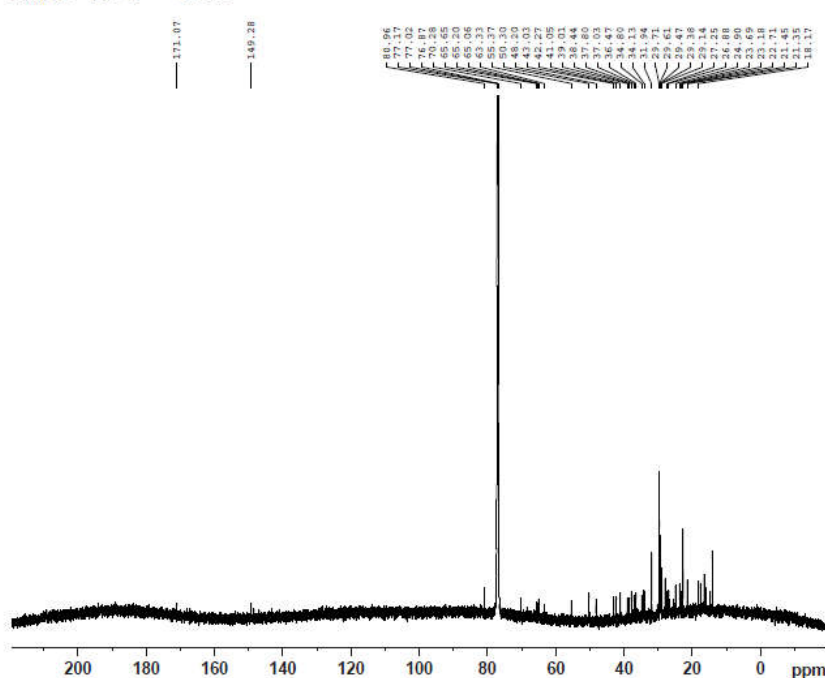
 ^{13}C NMR of compound 2

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Sample PJC-1 CDCL3



¹H NMR of compound 3

Dr.Mohmed Fawzi
Sample PJC-1 CDCL3



¹³C NMR of compound 3

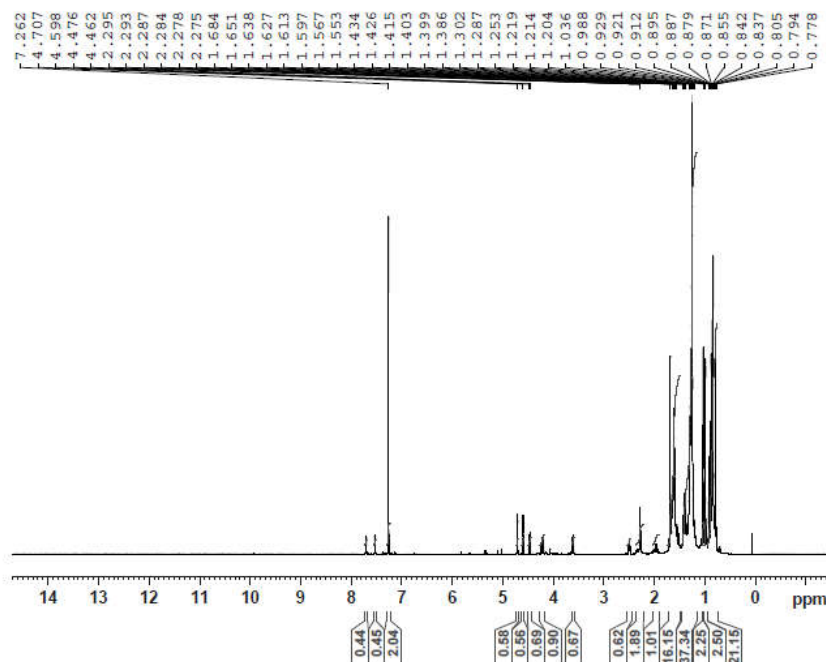


Current Data Parameters
NAME MOHAMED PJC-1 25-9-2018
EXPNO 110
PROCNO 1
F2 - Acquisition Parameters
Date 20180926
Time 12.12
INSTRUM spect
PROBHD 5 mm CPOCT 1H-
PULPROG zgpg30
TD 65536
SOLVENT CDCL3
NS 32
DS 2
SWH 17004.803 Hz
FIDRES 0.259503 Hz
AQ 1.9267584 sec
RG 12.46
DM 32.400 usec
DE 18.00 usec
TE 298.0 K
D1 1.30000000 sec
TD0 1
----- CHANNEL f1 -----
SFO1 850.1552600 MHz
NUC1 1H
P1 8.00 usec
PLW1 15.30000019 W
F2 - Processing parameters
SI 65536
SF 850.1500200 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 2.00



Current Data Parameters
NAME MOHAMED PJC-1 25-9-2018
EXPNO 112
PROCNO 1
F2 - Acquisition Parameters
Date 20180926
Time 12.44
INSTRUM spect
PROBHD 5 mm CPOCT 1H-
PULPROG zgpg30
TD 13336
SOLVENT CDCL3
NS 5072
DS 4
SWH 51020.406 Hz
FIDRES 0.778510 Hz
AQ 0.64232528 sec
RG 186.93
DM 5.800 usec
DE 18.00 usec
TE 298.0 K
D1 3.00000000 sec
D11 0.03000000 sec
TD0 1
----- CHANNEL f1 -----
SFO1 213.7917436 MHz
NUC1 13C
P1 12.00 usec
PLW1 130.00000000 W
----- CHANNEL f2 -----
SFO2 850.1534006 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 13.80000019 W
PLW12 0.13800000 W
PLW13 0.88832000 W
F2 - Processing parameters
SI 13718
SF 213.7703875 MHz
WDW EM
SSB 0
LB 2.00 Hz
GB 0
PC 2.00

Dr.Mohmed Fawzi
Sample PJB-3 CDCL₃



Current Data Parameters
NAME: MOHMED FJB-3
EXPNO: 80
PROCNO: 1
25-9-2018

F2 - Acquisition Parameters
Date_: 20180926
Time: 9.46
INSTRUM: spect
PROBHD: 5 mm CPQCI 1H-
PULPROG: zg30
TD: 65536
SOLVENT: CDCl₃
NS: 32
DS: 2
SWH: 17006.803 Hz
FIDRES: 0.259503 Hz
AQ: 1.9267584 sec
RG: 10.55
DM: 29.400 usec
DE: 10.00 usec
TE: 298.0 K
D1: 1.00000000 sec
TD0: 1

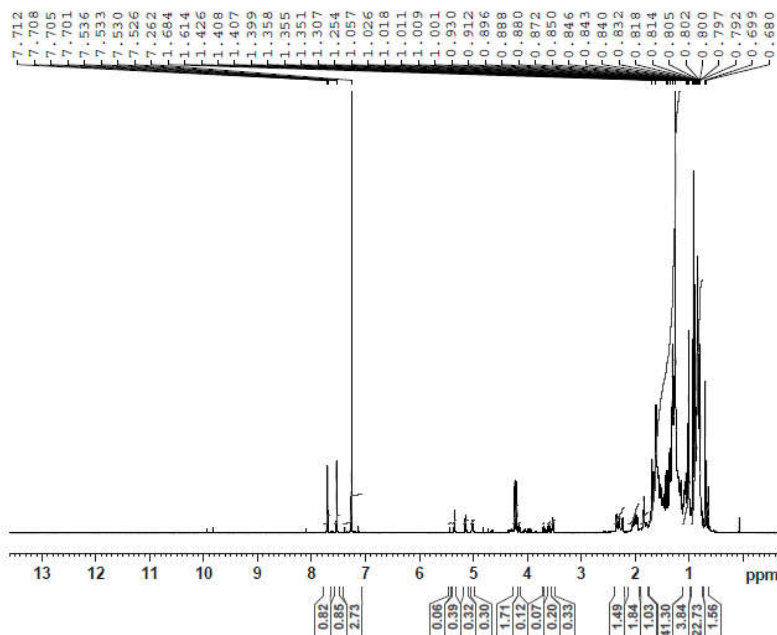
CHANNEL f1
SP01: 850.1562500 MHz
NUC1: 1H
P1: 8.00 usec
PLW1: 15.30000019 W

F2 - Processing parameters
SI: 65536
SF: 850.1562500 MHz
WDW: DM
SSB: 0
LB: 0.30 Hz
GB: 0
PC: 2.00

¹H NMR of compound 4

¹³C NMR of compound 4

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Sample PJB-4 CDCL₃



Current Data Parameters
NAME: MOHMED FJB-4
EXPNO: 100
PROCNO: 1
25-9-2018

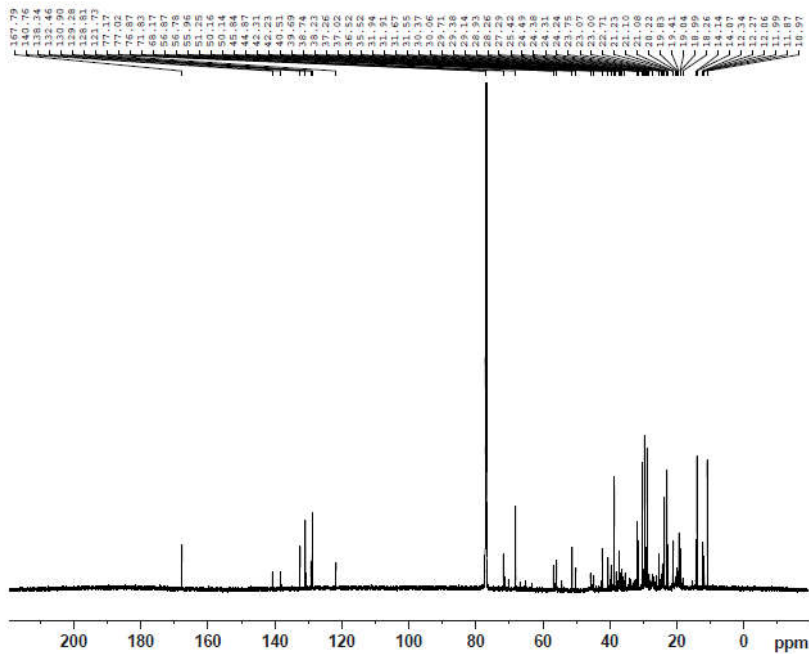
F2 - Acquisition Parameters
Date_: 20180926
Time: 10.34
INSTRUM: spect
PROBHD: 5 mm CPQCI 1H-
PULPROG: zg30
TD: 65536
SOLVENT: CDCl₃
NS: 32
DS: 2
SWH: 17006.803 Hz
FIDRES: 0.259503 Hz
AQ: 1.9267584 sec
RG: 11.37
DM: 29.400 usec
DE: 10.00 usec
TE: 298.0 K
D1: 1.00000000 sec
TD0: 1

CHANNEL f1
SP01: 850.1562500 MHz
NUC1: 1H
P1: 8.00 usec
PLW1: 15.30000019 W

F2 - Processing parameters
SI: 65536
SF: 850.1562500 MHz
WDW: DM
SSB: 0
LB: 0.30 Hz
GB: 0
PC: 2.00

¹H NMR of compound 5

Dr.Mohmed Fawzi
Sample PJB-4 CDCL3



Current Data Parameters
NAME MOHED PJB-4 25-9-2018
EXPNO 102
PROCNO 1

F2 - Acquisition Parameters
Date_ 20180926
Time 10.40
INSTRUM spect
PROBHD 5 mm CPQCI 1H-
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 2032
DS 4
SWH 51020.400 Hz
FIDRES 0.778110 Hz
AQ 0.6422558 sec
RG 186.93
DM 9.800 usec
DE 18.00 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

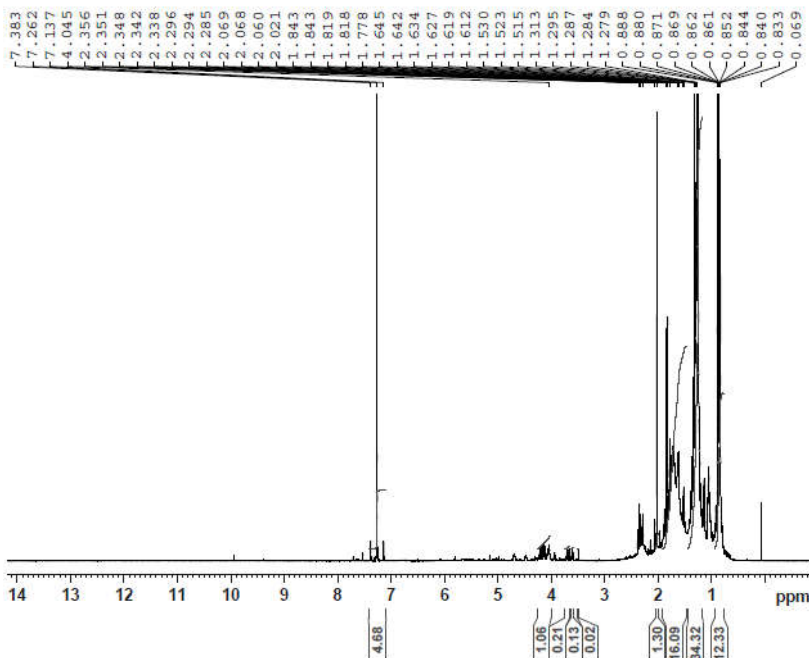
----- CHANNEL f1 -----
SP01 213.7917616 MHz
NUC1 13C
P1 12.00 usec
PLM1 136.0000000 W

----- CHANNEL f2 -----
SP02 850.1534006 MHz
NUC2 1H
CYCWD[2] wait4
PCPD 80.00 usec
PLM2 13.80000019 W
PLM12 0.18000000 W
PLM13 0.08832000 W

F2 - Processing parameters
SI 32768
SF 213.7703815 MHz
WDW EM
SSB 0
LB 1.50 Hz
GB 0
PC 2.00

¹³C NMR of compound 5

Dr.Mohmed Fawzi
Sample PJC-2 CDCL3



Current Data Parameters
NAME MOHED PJC-2 25-9-2018
EXPNO 100
PROCNO 1

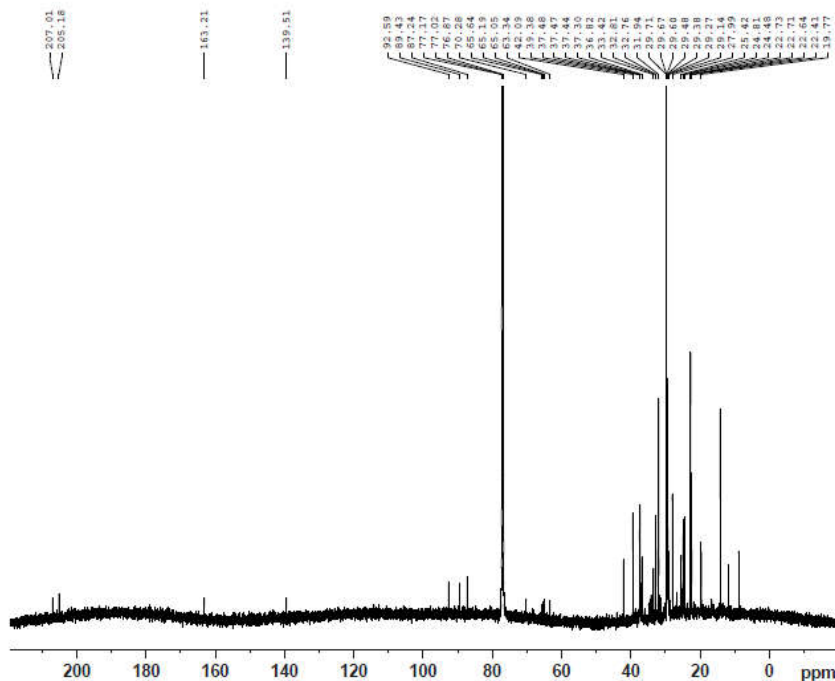
F2 - Acquisition Parameters
Date_ 20180926
Time 14.37
INSTRUM spect
PROBHD 5 mm CPQCI 1H-
PULPROG zg30
TD 65536
SOLVENT CDCl3
NS 32
DS 2
SWH 17006.803 Hz
FIDRES 0.259503 Hz
AQ 1.2267184 sec
RG 12.46
DM 29.400 usec
DE 10.00 usec
TE 298.0 K
D1 1.00000000 sec
TD0 1

----- CHANNEL f1 -----
SP01 850.1552100 MHz
NUC1 1H
P1 8.00 usec
PLM1 15.30000019 W

F2 - Processing parameters
SI 65536
SF 850.1500200 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 2.00

¹H NMR of compound 6

Dr.Mohmed Fawzi
Sample PJC-2 CDCL3



Current Data Parameters
NAME MOHMED PJC-2 25-9-2018
EXPNO 122
PROCNO 1

F2 - Acquisition Parameters
Date_ 20180926
Time 16:57
INSTRUM spect
PROBHD 5 mm CPQCI 1H-
PULPROG zgpg30
TD 65536
SOLVENT CDCL3
NS 3072
DS 4
SWH 51020.400 Hz
FIDRES 0.778510 Hz
AQ 0.6422528 sec
RG 186.55
DM 9.800 usec
DE 18.00 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

----- CHANNEL f1 -----
SFO1 253.7017634 MHz
NUC1 13C
P1 12.00 usec
PLM1 130.0000000 W

----- CHANNEL f2 -----
SFO2 850.1534006 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD 85.00 usec
PLM2 13.80000019 W
PLM12 0.13800000 W
PLM13 0.08832000 W

F2 - Processing parameters
SI 32768
SF 253.7703875 MHz
MCM RM
SSB 0
LB 1.50 Hz
GB 0
PC 2.00

^{13}C NMR of compound 6