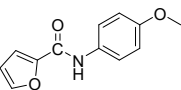
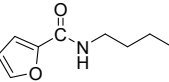
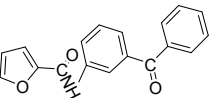
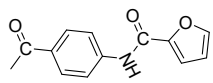
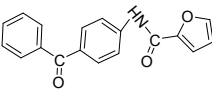
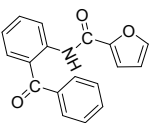
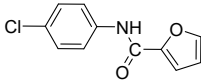
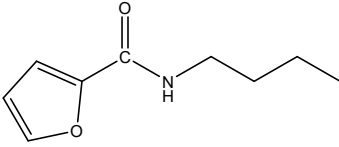
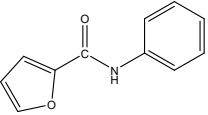
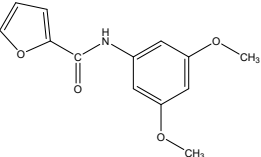
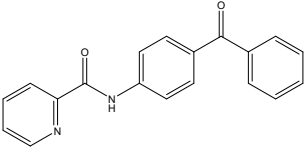
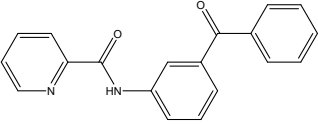
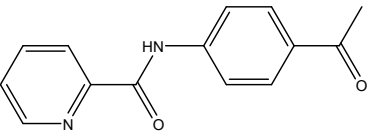
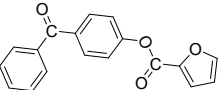
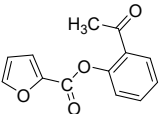


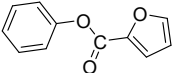
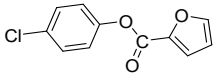
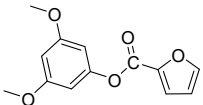
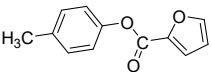
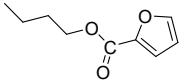
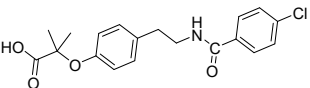
Appendices

Appendix A

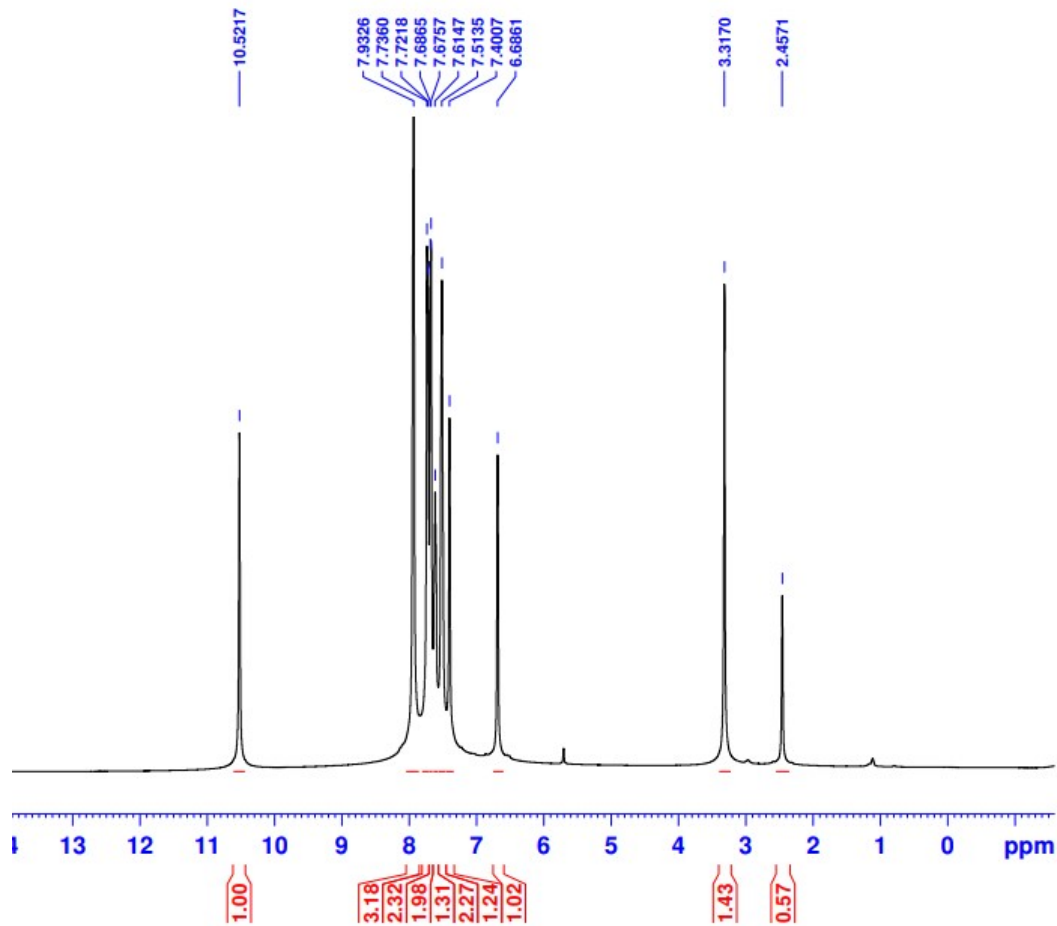
Table 8. Molecular descriptors of the new novel compounds. NA: not active or no significant difference. NT: not tested.

Name	Structural Formula	TG/HG %reduction	Chemical Formula	MWt	Henry's law	tPSA (Å ²)	C log P	CMR	HB donor	HB acceptor
A5		86%	C ₁₂ H ₁₁ NO ₃	217.22	8.53	47.56	1.9014	5.8988	1	4
A7		84%	C ₉ H ₁₃ NO ₂	167.21	6.33	38.33	1.624	4.6259	1	3
A2		84%	C ₁₈ H ₁₃ NO ₃	291.31	10.75	55.4	3.3332	8.2926	1	4
A4		82%	C ₁₃ H ₁₁ NO ₃	229.24	10.04	55.4	1.7342	6.2452	1	4
A1		80%	C ₁₈ H ₁₃ NO ₃	291.31	10.75	55.4	3.3332	8.2926	1	4
A3		NA	C ₁₈ H ₁₃ NO ₃	291.31	10.75	55.4	3.7632	8.2926	1	4
A6		NA	C ₁₁ H ₈ ClNO ₂	221.64	7.43	38.33	2.7966	5.7733	1	3
A7		84%	C ₉ H ₁₃ NO ₂	167.21	6.33	38.33	1.624	4.6259	1	3

A8		NA	C11H9NO2	187.20	7.3	38.33	1.826	5.2819	1	3
A9		NA	C13H13NO4	247.25	9.76	56.79	1.9261 4	6.5157	1	5
A10		70%	C19H14N2O2	302.33	13.63	58.53	3.4492 2	8.8676	1	4
A11		95%	C19H14N2O2	302.33	13.63	58.53	3.4492 2	8.8676	1	4
A12		92%	C14H12N2O2	240.26	12.92	58.53	1.8502 2	6.8202	1	4
B1		NA	C18H12O4	292.29	6.72	52.6	4.1349	8.077	0	4
B2		NA	C13H10O4	230.22	6.02	52.6	2.5359	6.0296	0	4

B3		NT	C ₁₁ H ₈ O ₃	188.18	3.28	35.53	2.796	5.0663	0	3
B6		NT	C ₁₁ H ₇ ClO ₃	222.62	3.41	35.53	3.649	5.5577	0	3
B4		NT	C ₁₃ H ₁₂ O ₅	248.23	5.74	53.99	2.8771	6.3001	0	5
B7		NT	C ₁₂ H ₁₀ O ₃	202.21	3.24	35.53	3.295	5.5301	0	3
B5		NT	C ₉ H ₁₂ O ₃	168.19	2.48	35.53	2.874	4.4103	0	3
BZF		74%	C ₁₉ H ₂₀ ClNO ₄	361.82	13.91	75.63	3.6982	9.6841	2	5

A1



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Operator: Rola Hassouneh
nmr500@ju.edu.jo

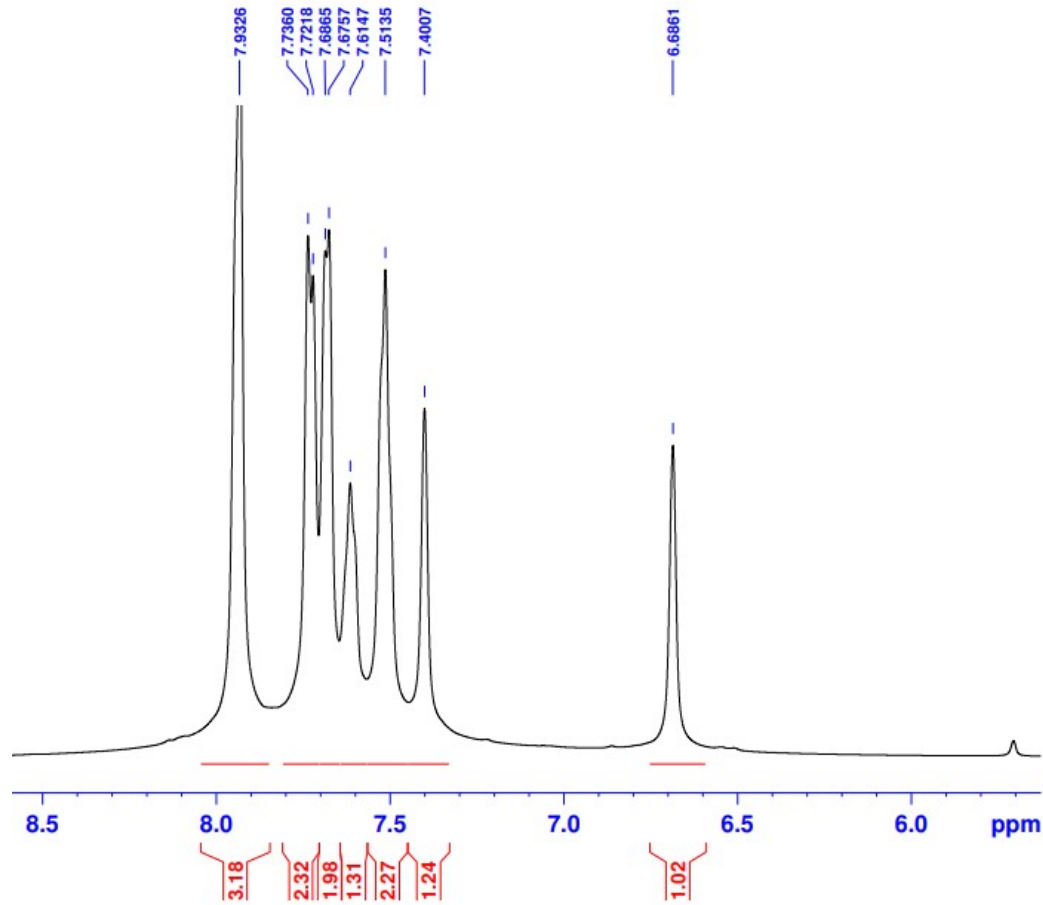
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PULPROG zg
TD 65536
SOLVENT DMSO
NS 37
DS 0
SWH 8305.647 Hz
FIDRES 0.126734 Hz
AQ 3.9452672 sec
RG 35.17
DW 60.200 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TDO 1

===== CHANNEL f1 =====
SF01 500.1333839 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 0.10

A1



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Current Data Parameters
NAME 18aug15jalal
EXPNO 191
PROCNO 1

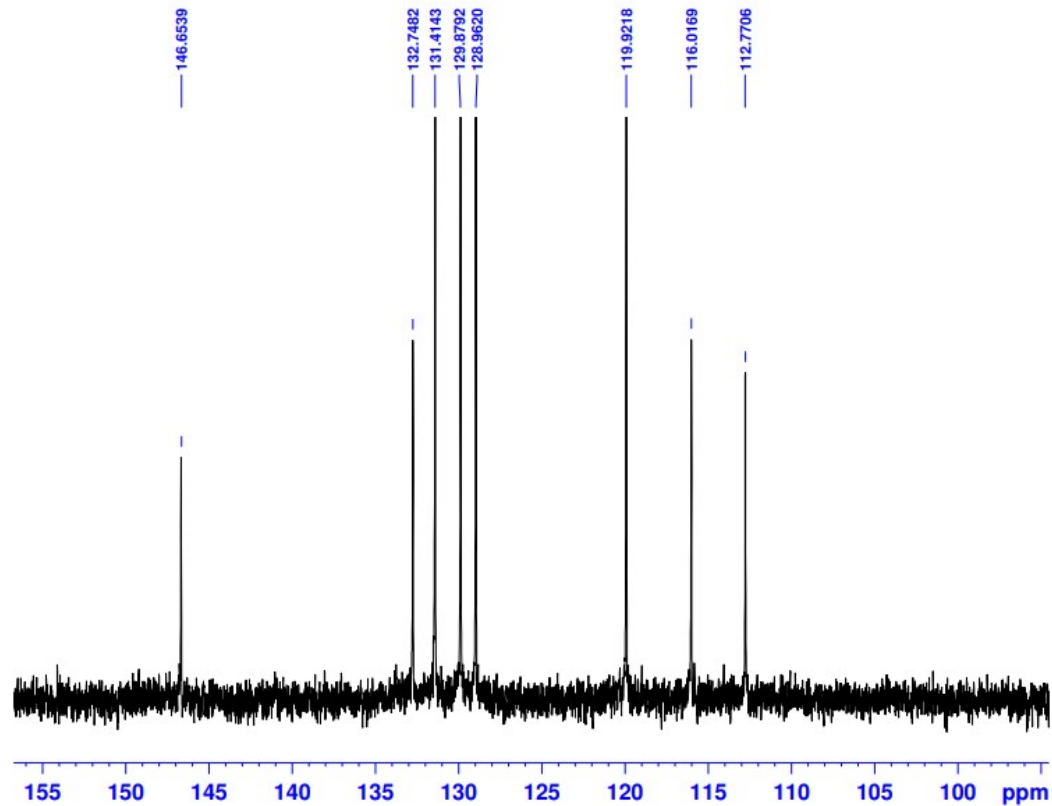
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SOLVENT DMSO
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DS 0
SWH 8305.647 Hz
FIDRES 0.126734 Hz
AQ 3.9452672 sec
RG 35.17
DW 60.200 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1333839 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 0.10

A1

dept135



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Instrument Model:
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Current Data Parameters
NAME 18aug15jalal
EXPNO 133
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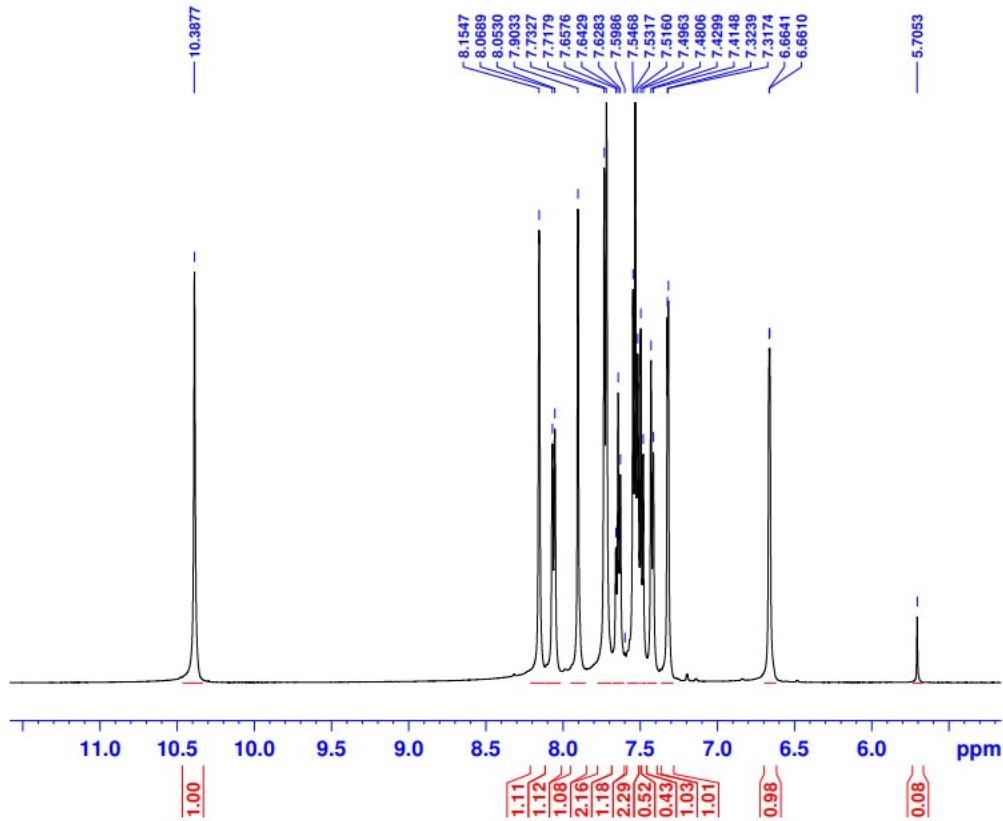
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PULPROG deptap135
TD 65536
SOLVENT DMSO
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DS 4
SWH 28409.092 Hz
FIDRES 0.433488 Hz
AQ 1.1534336 sec
RG 202.06
DW 17.600 usec
DE 6.50 usec
TE 298.0 K
CNS2 145.0000000
D1 2.00000000 sec
D2 0.00344828 sec
D12 0.0002000 sec
TDO 1

----- CHANNEL f1 -----
SF01 125.7688904 MHz
NUC1 13C
P1 9.80 usec
P13 2000.00 usec
PLW0 0 W
PLW1 93.32499695 W
SFXAM[5] Crp60comp.4
SFOAL5 0.500
SPOFFS5 0 Hz
SFXW5 13.69400024 W

----- CHANNEL f2 -----
SF02 500.1315995 MHz
NUC2 1H
CFDPRG[2] waltz16
F3 11.50 usec
F4 23.00 usec
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
NEW EM
SFB 0
LB 1.00 Hz
GB 0
PC 1.40

A2

F3BP
NMR

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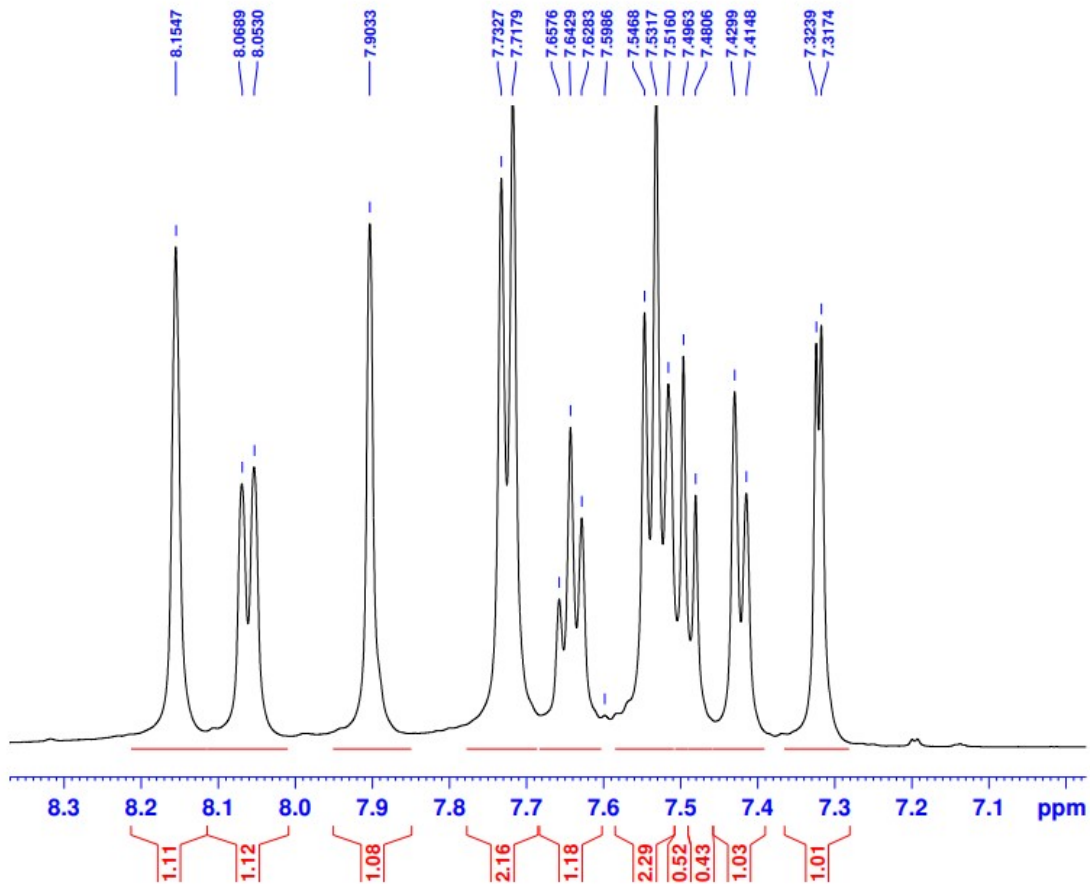
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TD 65536
SOLVENT DMSO
NS 4
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SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 17.8
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 500.1328380 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A2

F3BP
NMR

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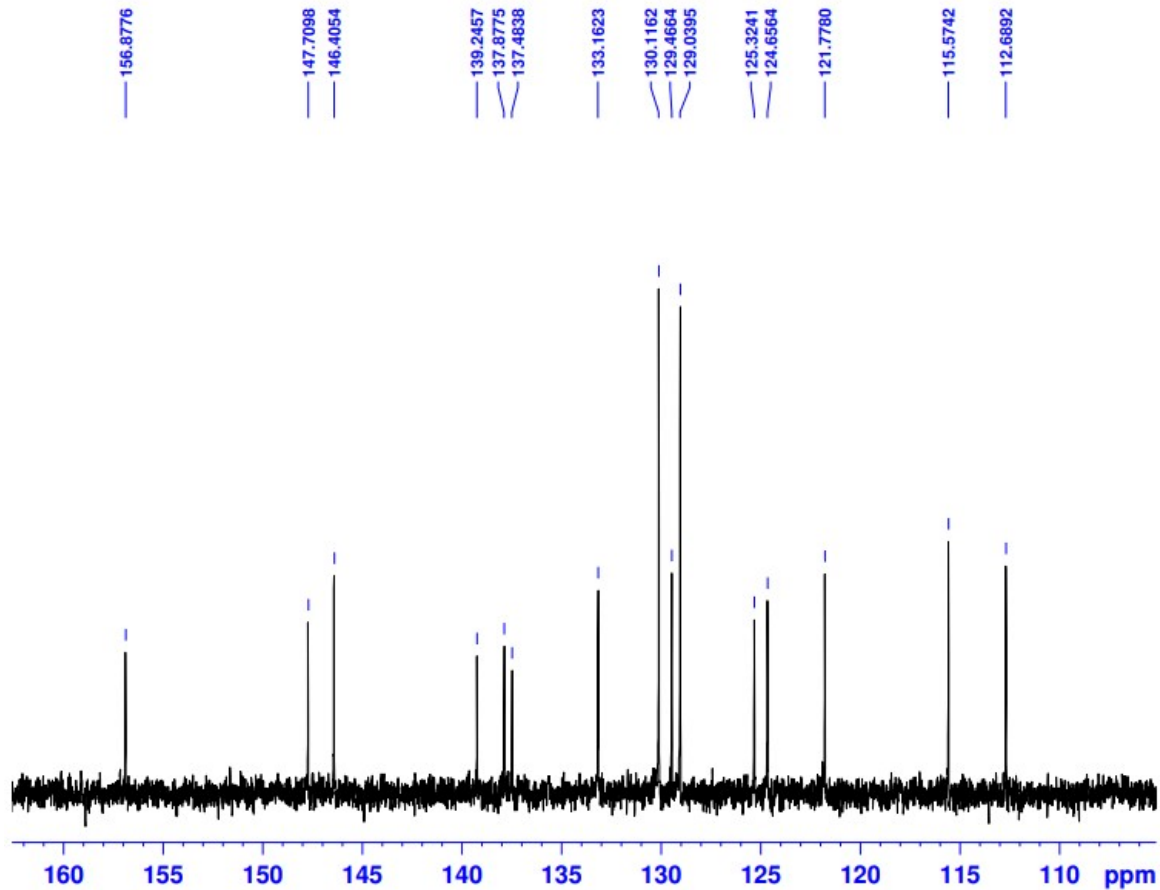
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EXPNO 461
PROCNO 1

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Time 10.13
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PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 17.8
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1328380 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A2

F3BP
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
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Current Data Parameters
NAME 18sep15jalal
EXPNO 462
PROCNO 1

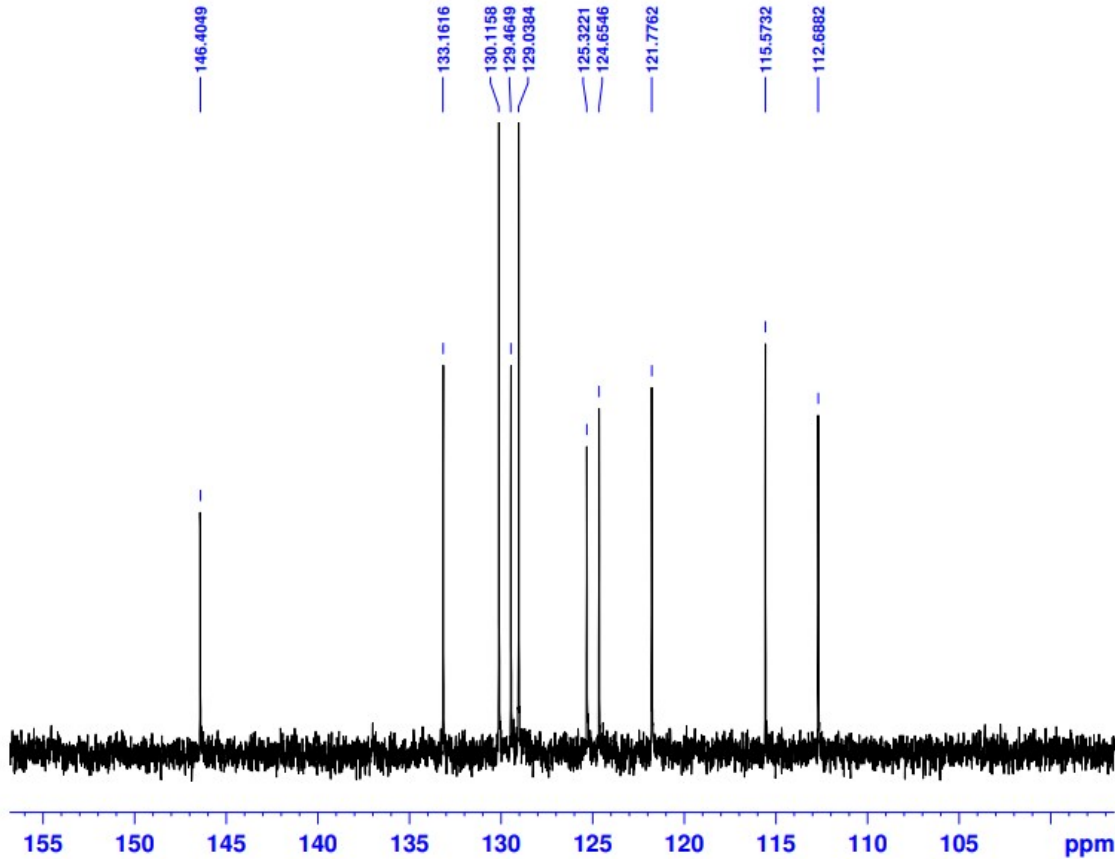
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Time 10.14
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 24
DS 4
SWH 25510.203 Hz
FIDRES 0.389255 Hz
AQ 1.2845056 sec
RG 202.06
DW 19.600 usec
DE 6.50 usec
TE 298.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7717803 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
PCPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

A3

F3BP
dept135

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 18sep15jalal
EXPNO 463
PROCNO 1

F2 - Acquisition Parameters
Date_ 20180923
Time 10.17
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG deptsp135
TD 65536
SOLVENT DMSO
NS 21
DS 4
SWH 23148.148 Hz
FIDRES 0.353213 Hz
AQ 1.4155777 sec
RG 202.06
DW 21.600 usec
DE 6.50 usec
TE 298.0 K
CNST2 145.0000000
D1 2.00000000 sec
D2 0.00344828 sec
D12 0.00002000 sec
TDO 1

----- CHANNEL f1 -----
SFO1 125.7705392 MHz
NUC1 13C
P1 9.80 usec
P13 2000.00 usec
PLM0 0 W
PLM1 93.32499695 W
SFRM1[5] Crp60comp. 4
SFOALS 0.500
SPOFFS5 0 Hz
SPW5 13.69400024 W

----- CHANNEL f2 -----
SFO2 500.1315995 MHz
NUC2 1H
CPOPRG[2] waltz16
P3 11.50 usec
P4 23.00 usec
PCPD2 80.00 usec
PLM2 17.37800026 W
PLM12 0.36307999 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SBB 0
LB 1.00 Hz
GB 0
PC 1.40

A3

F2BP
NMR



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Instrument Model:
Bruker 500 MHz-Avance III

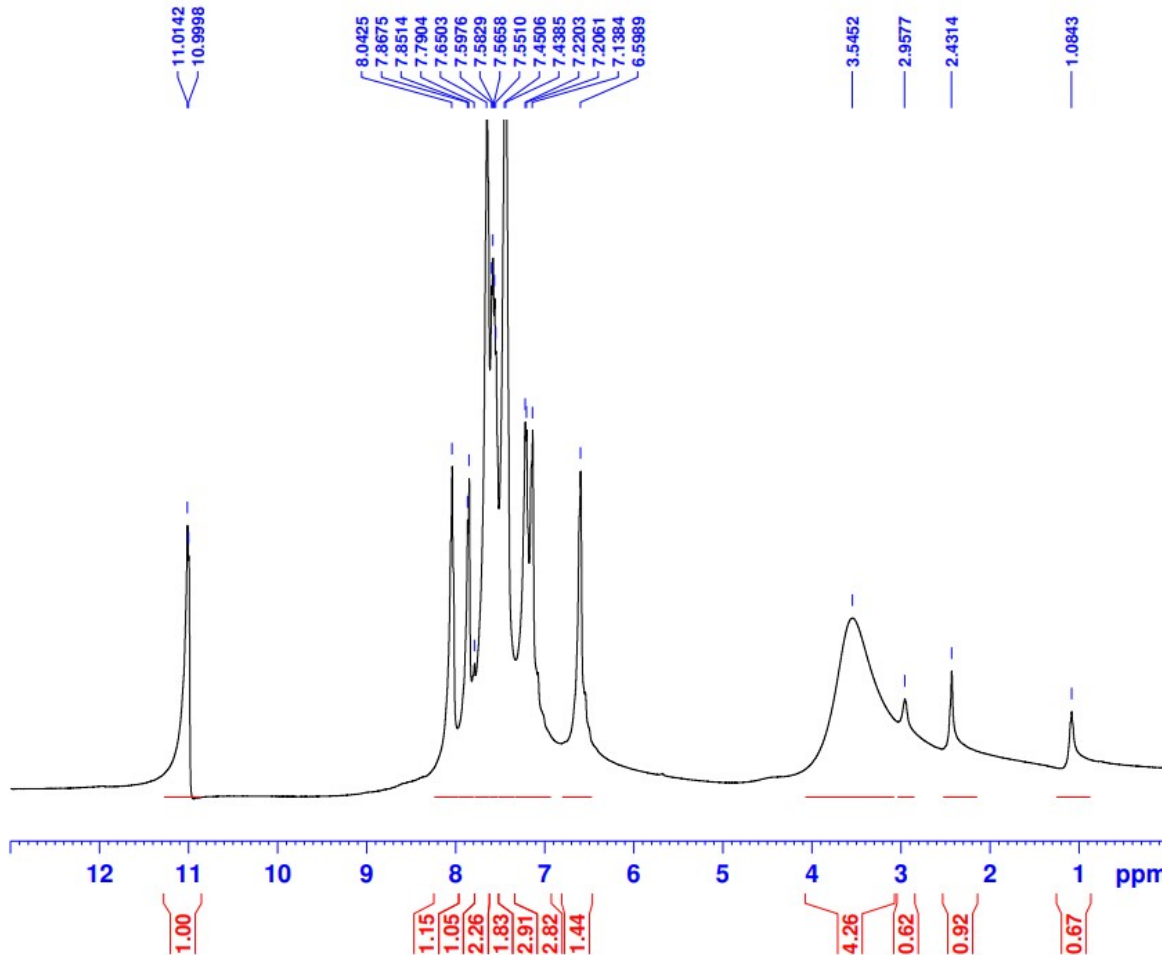
Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 18sep15jalal
EXPNO 431
PROCNO 1

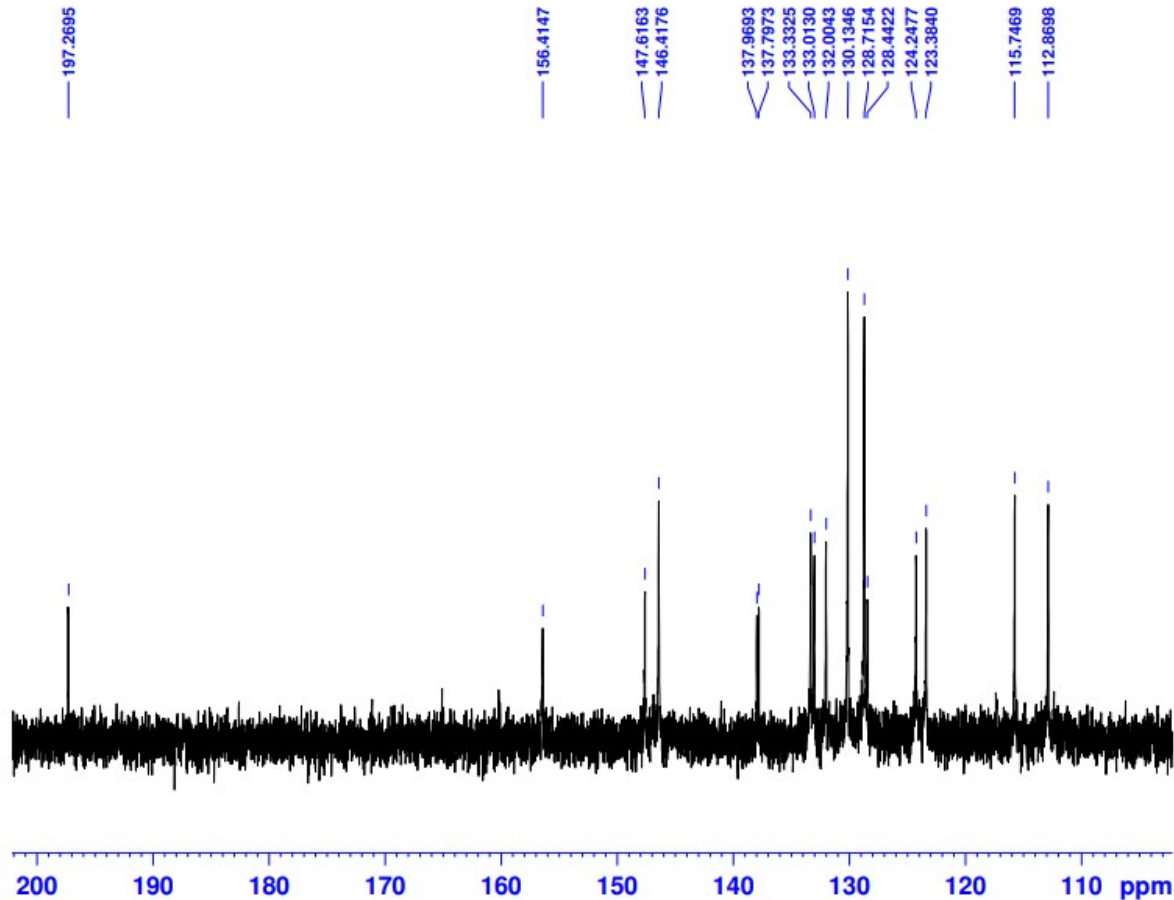
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Date_ 20180923
Time 9.31
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 8
DS 0
SWH 9328.358 Hz
FIDRES 0.142339 Hz
AQ 3.5127296 sec
RG 17.8
DW 53.600 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1328380 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00



A3

F2BP
C13

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Instrument Model:
Bruker 500 MHz-Avance III

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Current Data Parameters
NAME 18sep15jalal
EXPNO 432
PROCNO 1

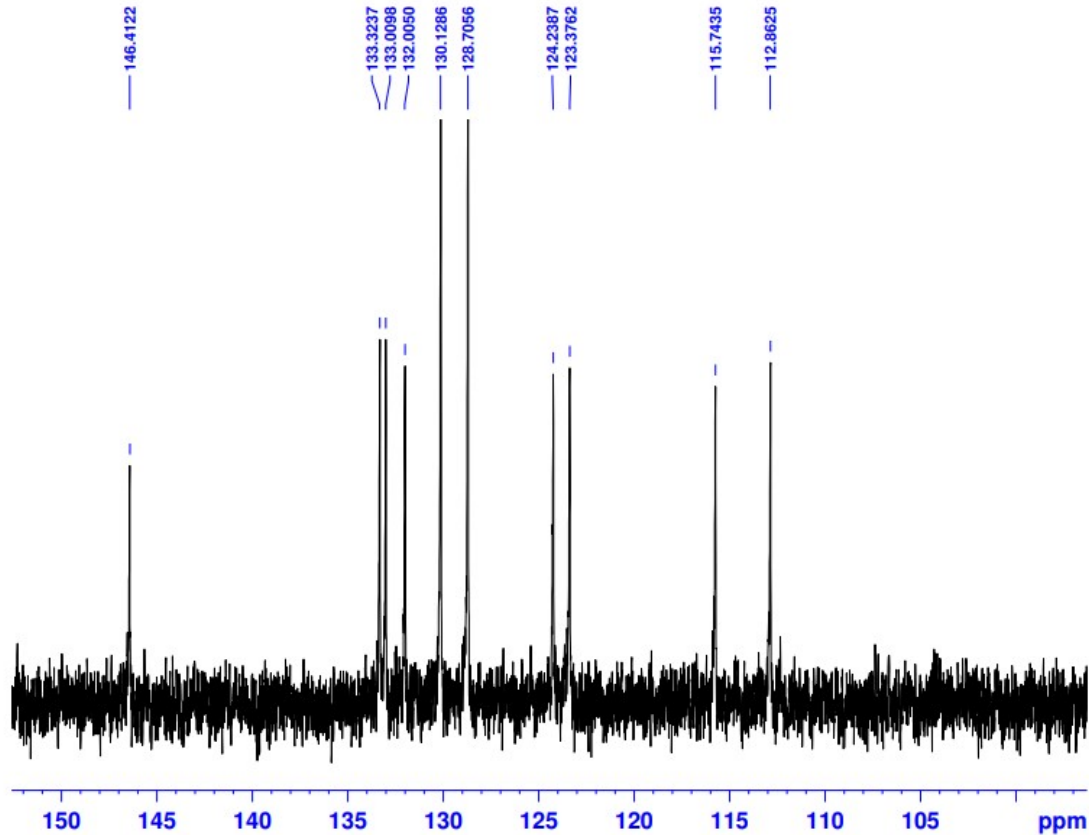
F2 - Acquisition Parameters
Date_ 20180923
Time 9.31
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 87
DS 4
SWH 25510.203 Hz
FIDRES 0.389255 Hz
AQ 1.2845056 sec
RG 202.06
DW 19.600 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7717803 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

A3

F2BP
dept135

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
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Current Data Parameters
NAME 18sep15jalal
EXPNO 433
PROCNO 1

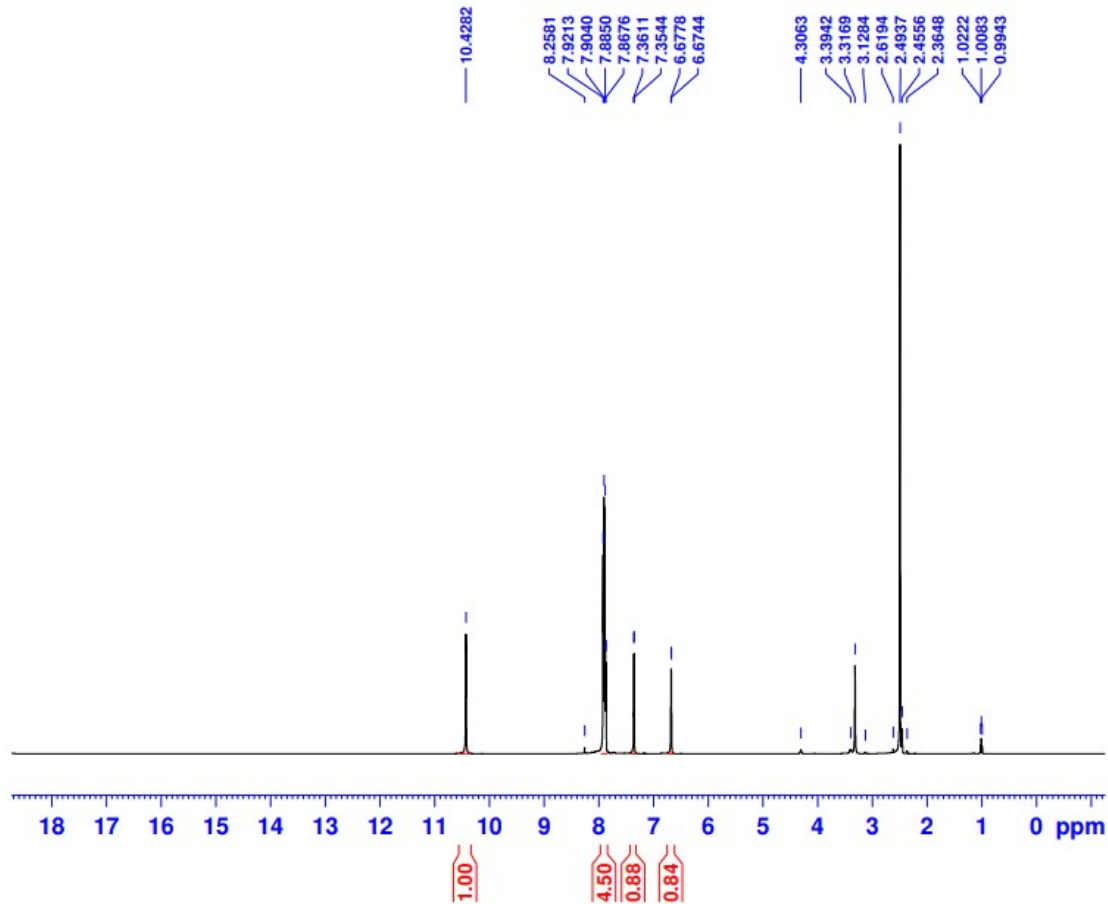
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Date_ 20180923
Time 9.38
INSTRUM spect
PROBHD 5 mm F2BP0 BB/
PULPROG deptap135
TD 65536
SOLVENT DMSO
NS 33
DS 4
SWH 23148.148 Hz
FIDRES 0.353213 Hz
AQ 1.4155777 sec
RG 202.06
DW 21.600 usec
DE 6.50 usec
TE 298.0 K
CNST2 145.0000000
D1 2.0000000 sec
D2 0.00344828 sec
D12 0.00002000 sec
TDO 1

----- CHANNEL f1 -----
SF01 125.7705392 MHz
NUC1 13C
P1 9.80 usec
P13 2000.00 usec
PLM0 0 W
PLM1 93.32499695 W
SPNAM[5] Crp60comp.4
SFOALS 0.500
SPOFFS5 0 Hz
SPW5 13.69400024 W

----- CHANNEL f2 -----
SF02 500.1315995 MHz
NUC2 1H
CPDPRG[2] waltz16
P3 11.50 usec
P4 23.00 usec
PCPD2 80.00 usec
PLM2 17.37800026 W
PLM12 0.36307999 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
NEW SW
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

A4

F4AP
NMR

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Instrument Model:
Bruker 500 MHz–Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

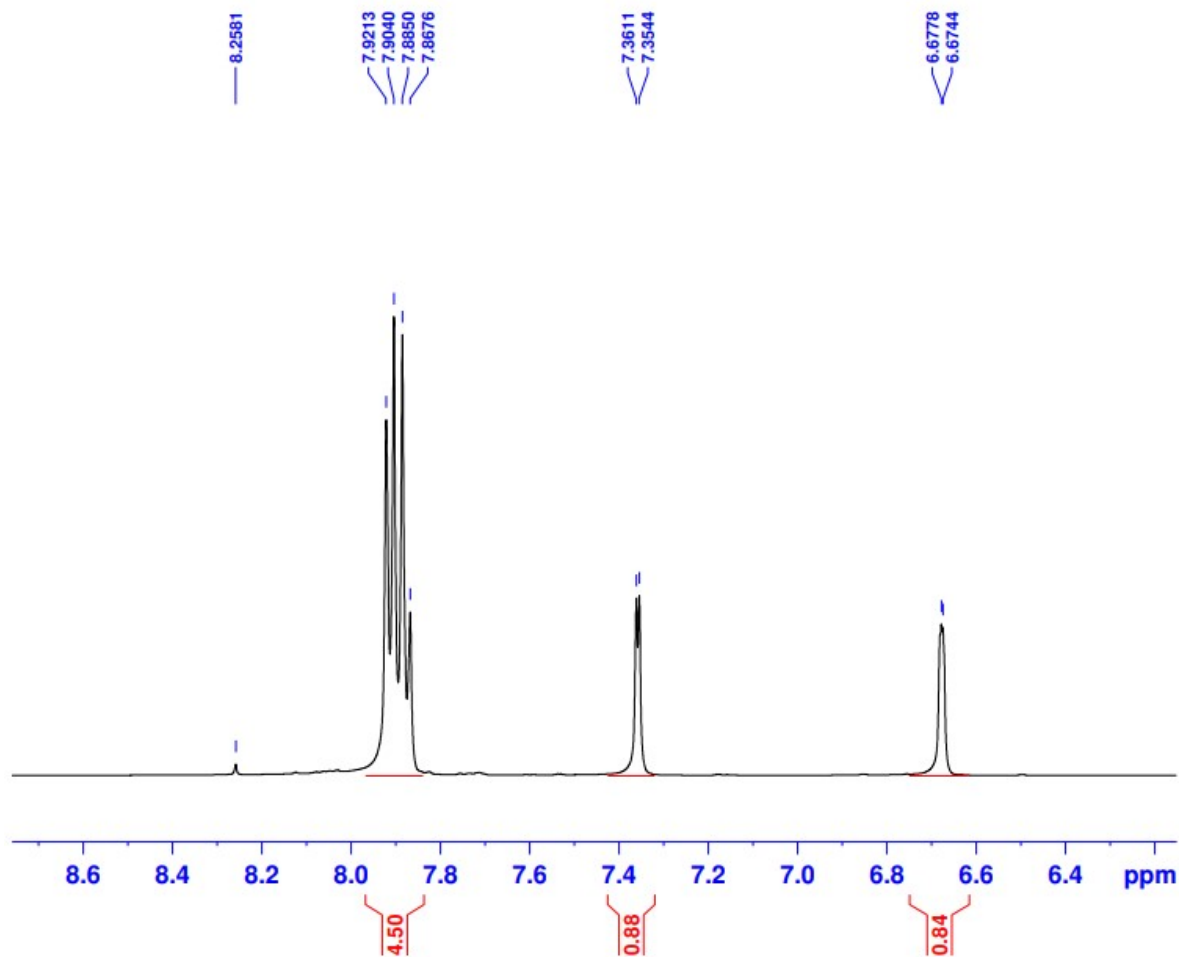
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EXPNO 941
PROCNO 1

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PULPROG zg
TD 65536
SOLVENT DMSO
NS 16
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 49.66
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 0.50 Hz
GB 0
PC 5.00

A4

F4AP
NMR

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

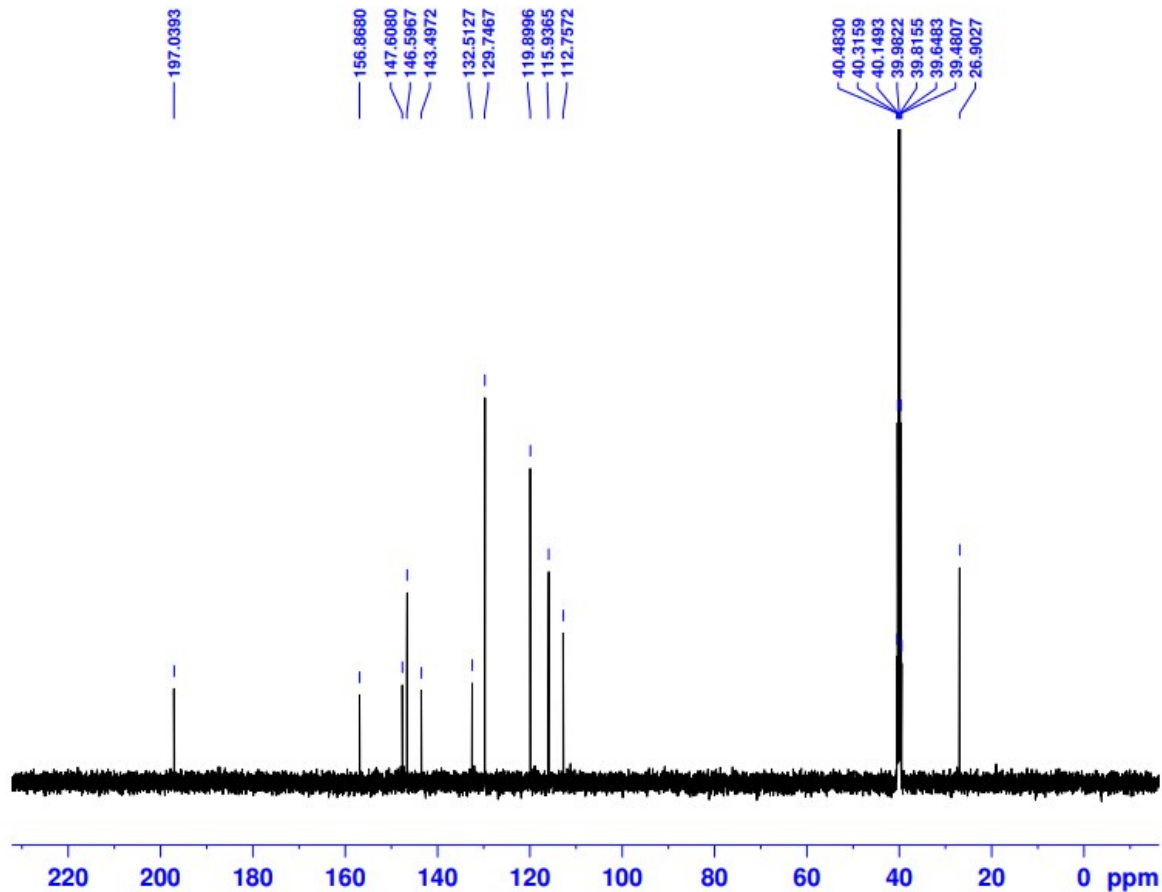
Current Data Parameters
NAME 18nov01jalal
EXPNO 941
PROCNO 1

F2 - Acquisition Parameters
Date_ 20181107
Time 12.58
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 16
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 49.66
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 0.50 Hz
GB 0
PC 5.00

A4

F4AP
C13

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassounch
nmr500@ju.edu.jo

Current Data Parameters
NAME 18nov01jalal
EXPNO 942
PROCNO 1

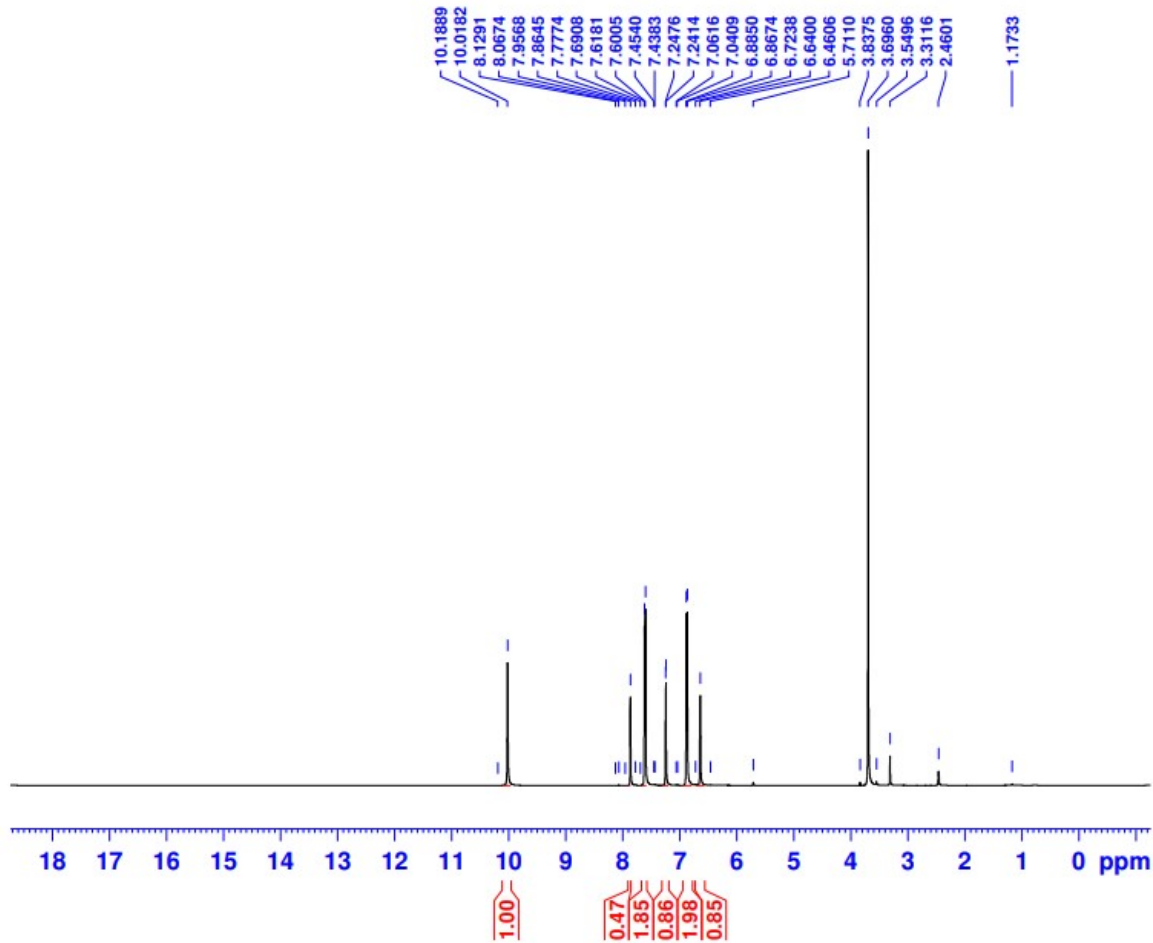
F2 - Acquisition Parameters
Date_ 20181107
Time 13.00
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 27
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.80

A5

F4As
NMR

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

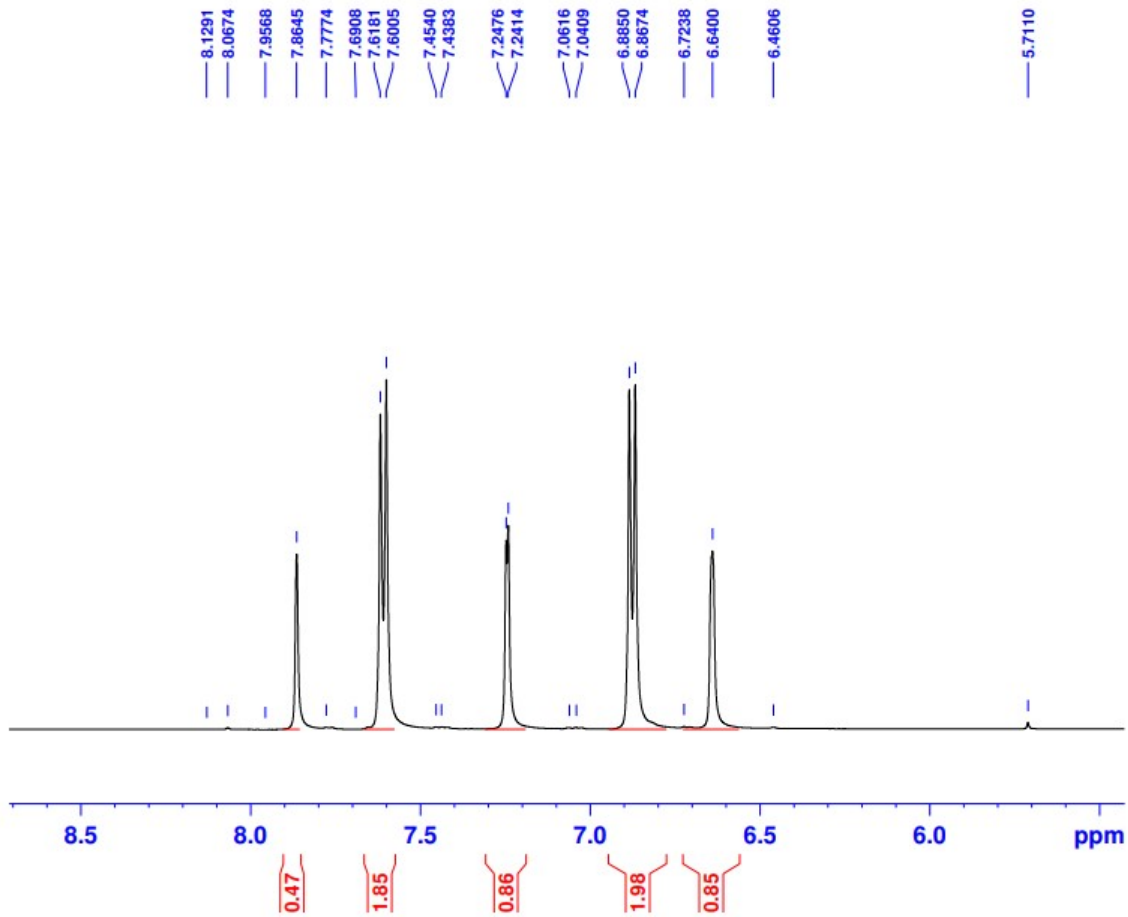
Current Data Parameters
NAME 19jan01jalal
EXPNO 711
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190106
Time 13.43
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 13.83
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A5

F 4As
NMR

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

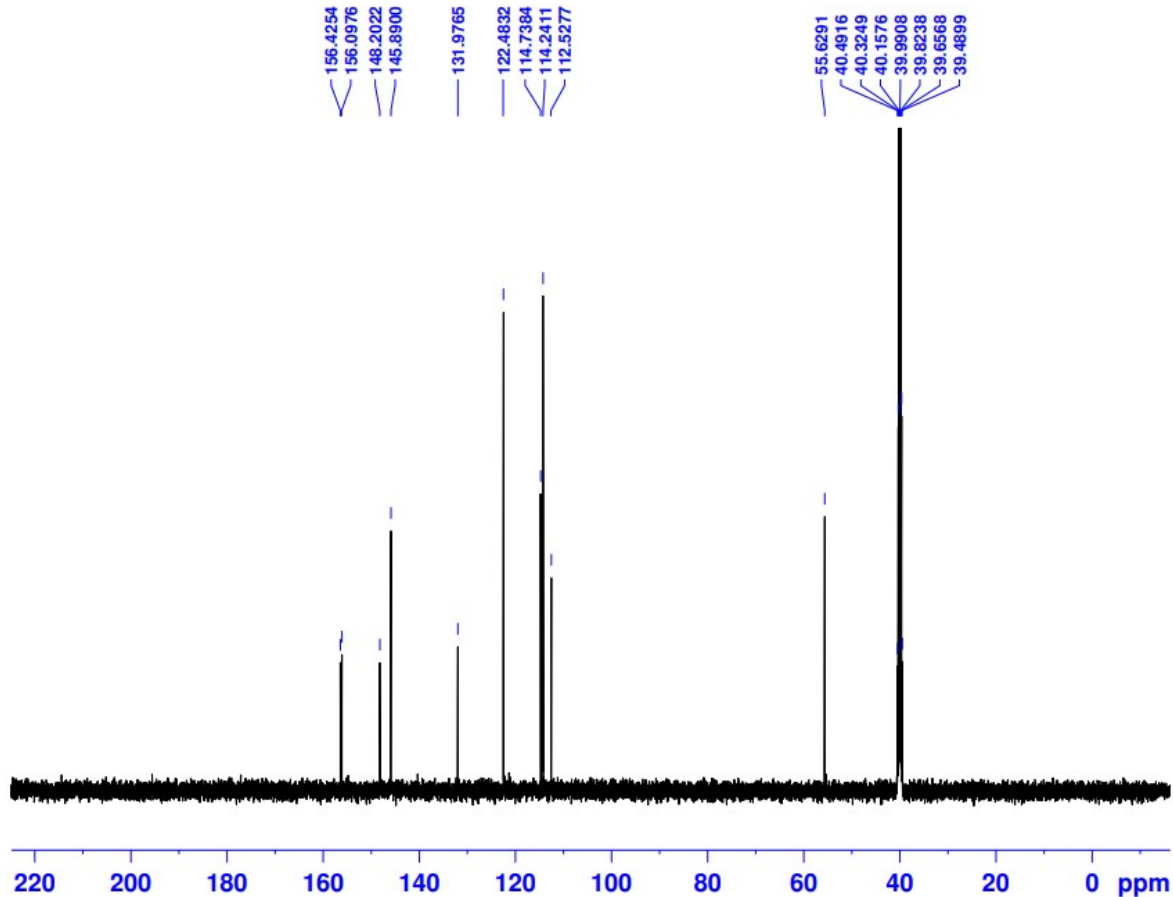
Current Data Parameters
NAME 19jan01jalal
EXPNO 711
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190106
Time 13.43
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 13.83
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A5

F4As
C13

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz–Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19jan01jalal
EXPNO 712
PROCNO 1

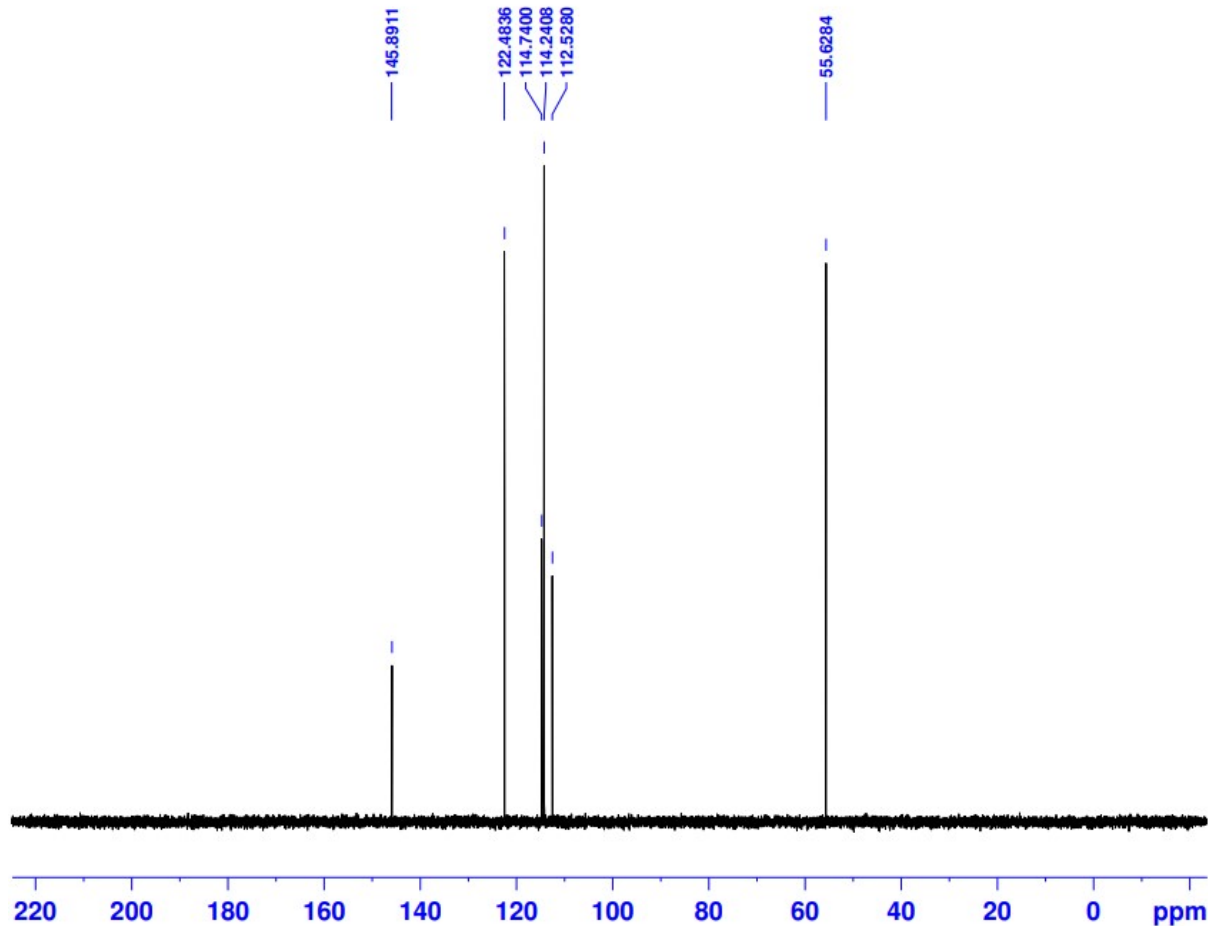
F2 - Acquisition Parameters
Date_ 20190106
Time 13.45
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 29
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

----- CHANNEL f1 -----
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

----- CHANNEL f2 -----
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
IR 1 00 Hz

A5

F4As
dept135

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz–Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19jan01jalal
EXPNO 713
PROCNO 1

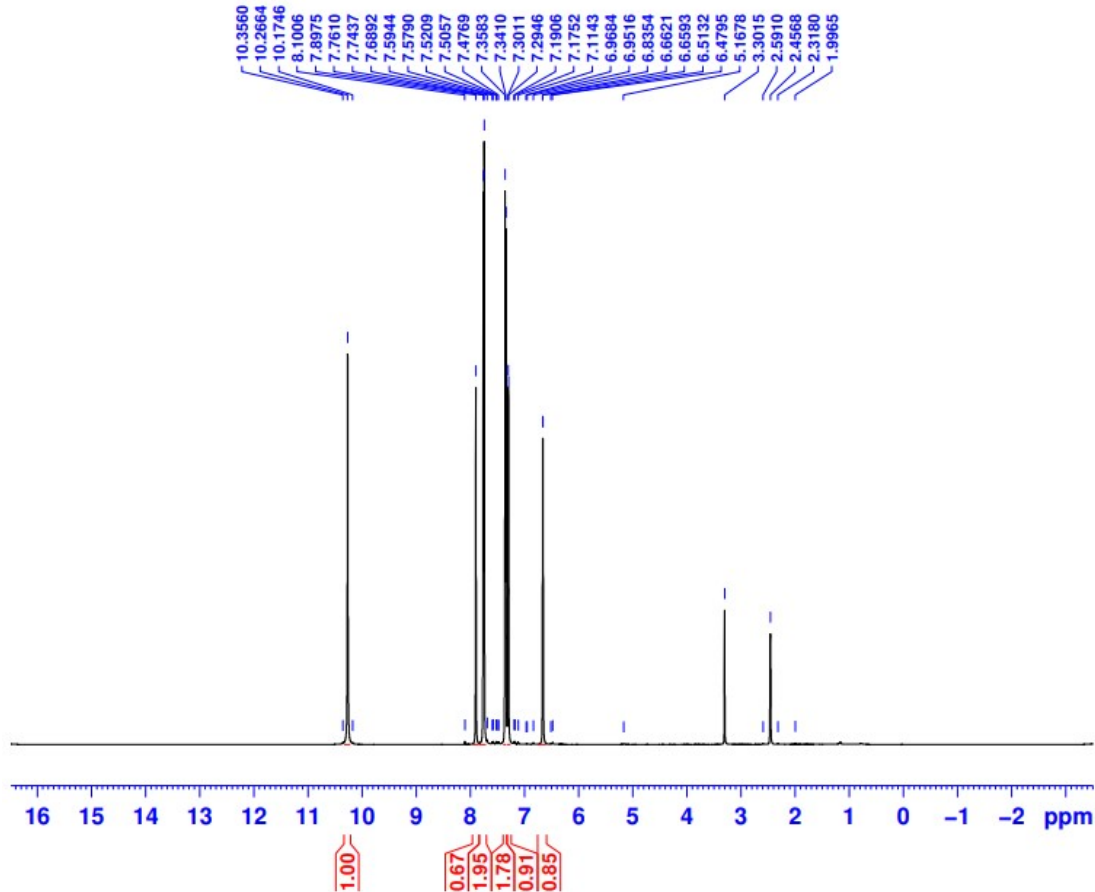
F2 - Acquisition Parameters
Date_ 20190106
Time 13.47
INSTRUM spect
PROBHD 5 mm F4BBO BB/
PULPROG deptsp135
TD 65336
SOLVENT DMSO
NS 33
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DM 16.000 usec
DE 6.50 usec
TE 298.2 K
CNST2 145.0000000
D1 2.00000000 sec
D2 0.00344828 sec
D12 0.00062000 sec
TD0 1

===== CHANNEL f1 =====
SF01 125.7704414 MHz
NUC1 13C
P1 9.80 usec
P13 2000.00 usec
PLW0 0 W
PLM1 93.32499695 W
SPNAM[5] Crp60comp.4
SFOAL5 0.500
SFOFFS5 0 Hz
SPW5 13.69400024 W

===== CHANNEL f2 =====
SF02 500.1315995 MHz
NUC2 1H
CPDPRG[2] waltz16
P3 11.50 usec
P4 23.00 usec
PCPD2 80.00 usec
PLW2 17.37800024 W
PLM2 0.36307999 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM

A6

F2CLAn
NMR

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

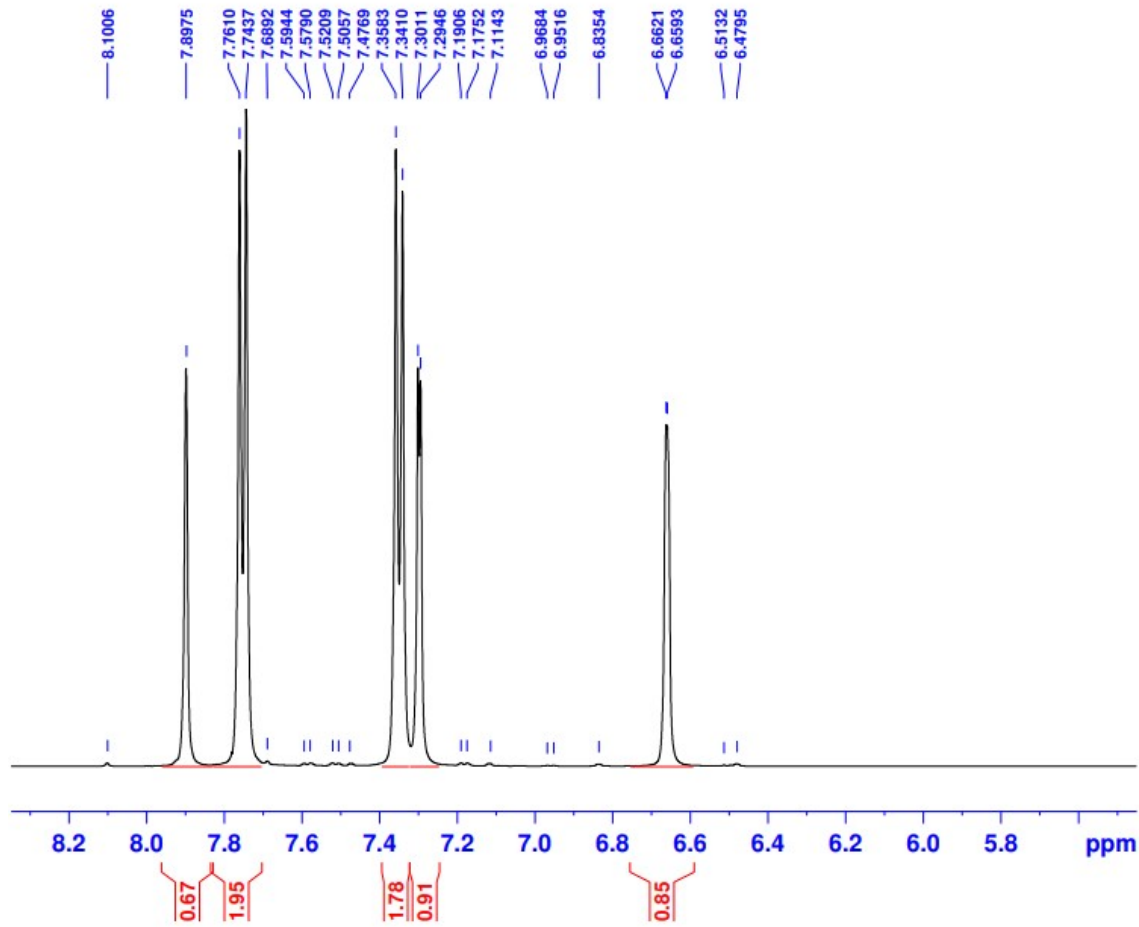
Current Data Parameters
NAME 19feb15jalal
EXPNO 2401
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.26
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 43.6
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A6

F2CLAn
NMR

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

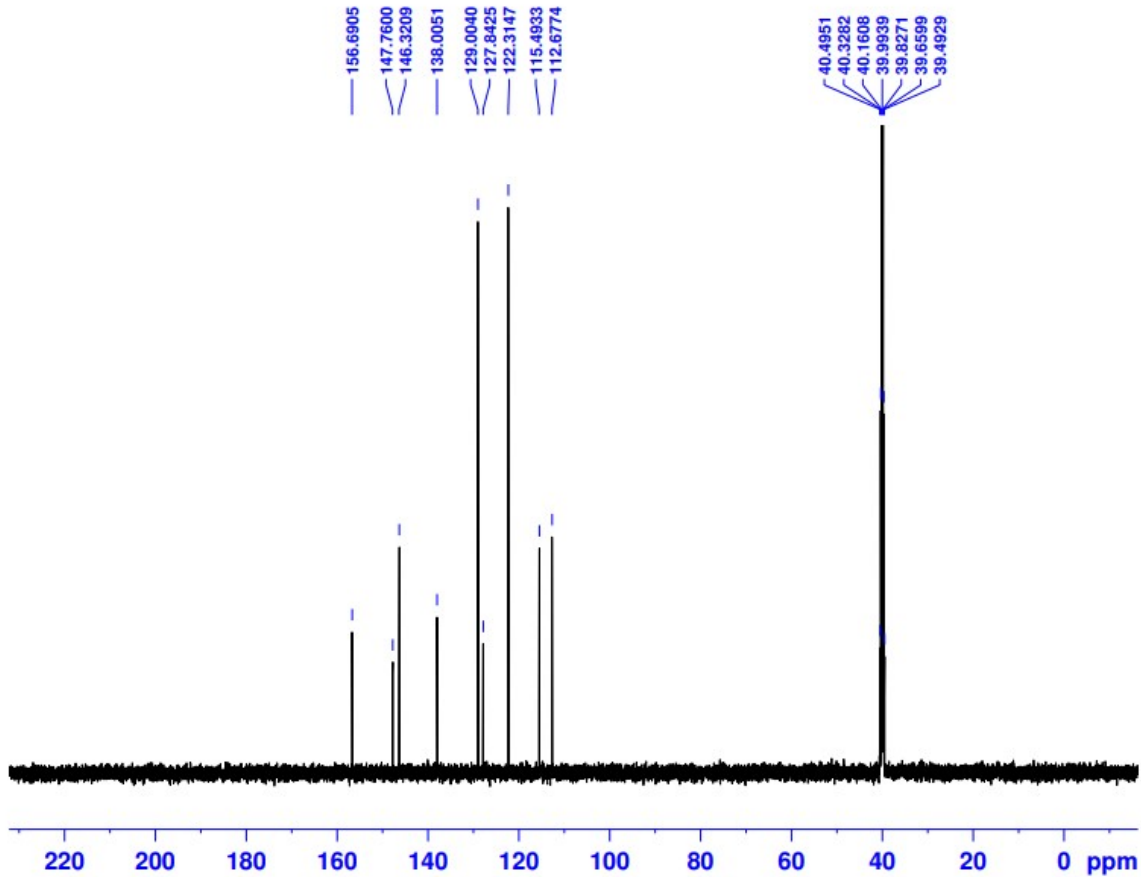
Current Data Parameters
NAME 19feb15jalal
EXPNO 2401
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.26
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 43.6
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TDO 1

===== CHANNEL f1 =====
SF01 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A6

F2CLAn
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19febl5jalal
EXPNO 2402
PROCNO 1

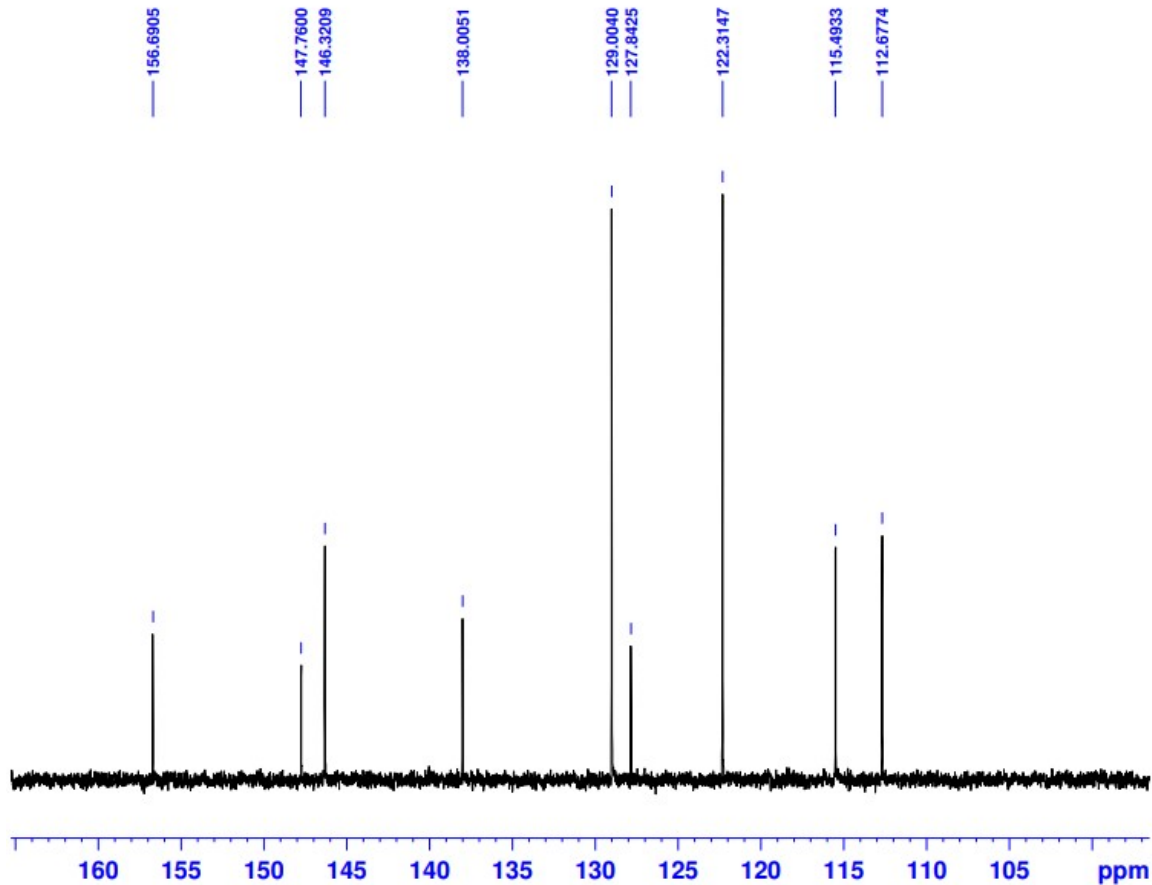
F2 - Acquisition Parameters
Date_ 20190225
Time 13.28
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 31
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DM 16.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

A6

F2CLAn
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19feb15jalal
EXPNO 2402
PROCNO 1

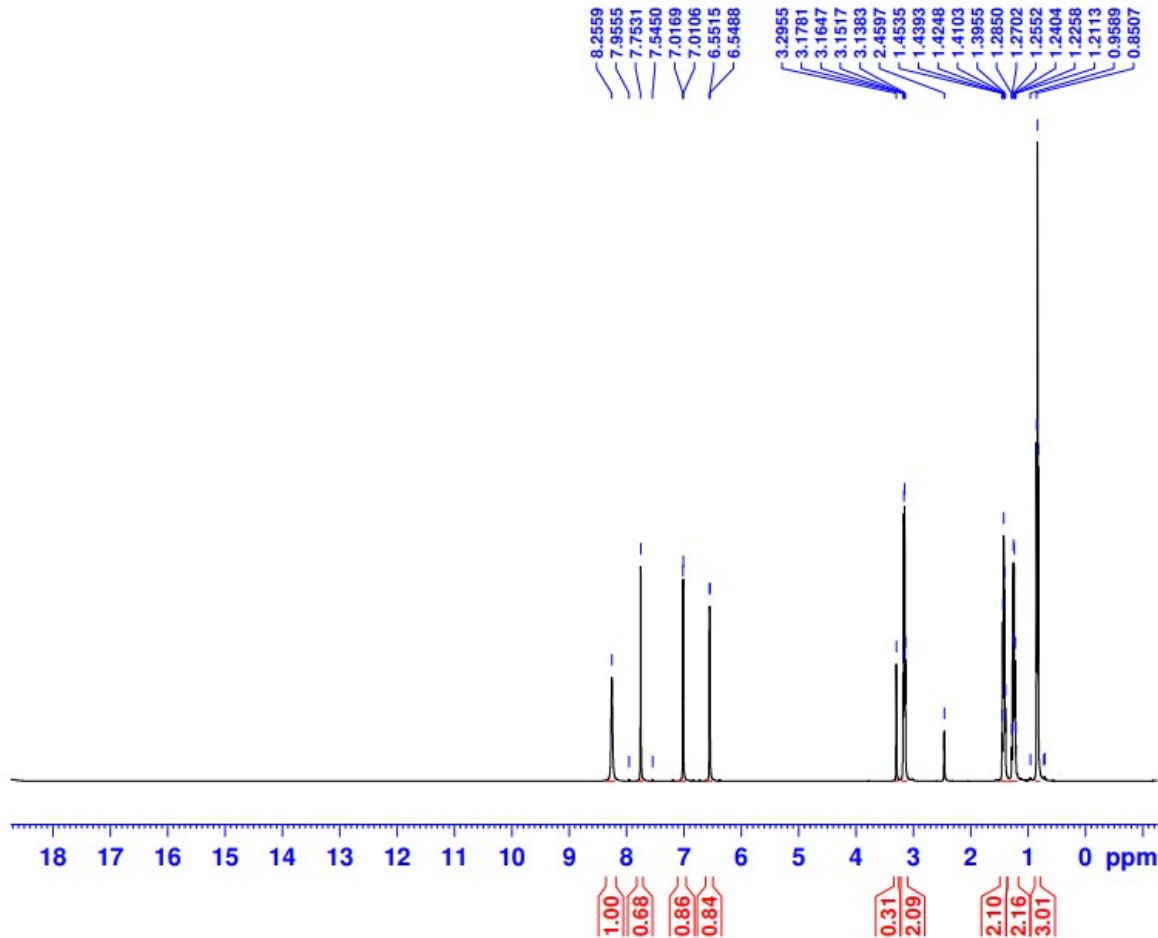
F2 - Acquisition Parameters
Date_ 20190225
Time 13.28
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 31
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.0000000 sec
D11 0.0300000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

A7

F4BuA
NMR

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

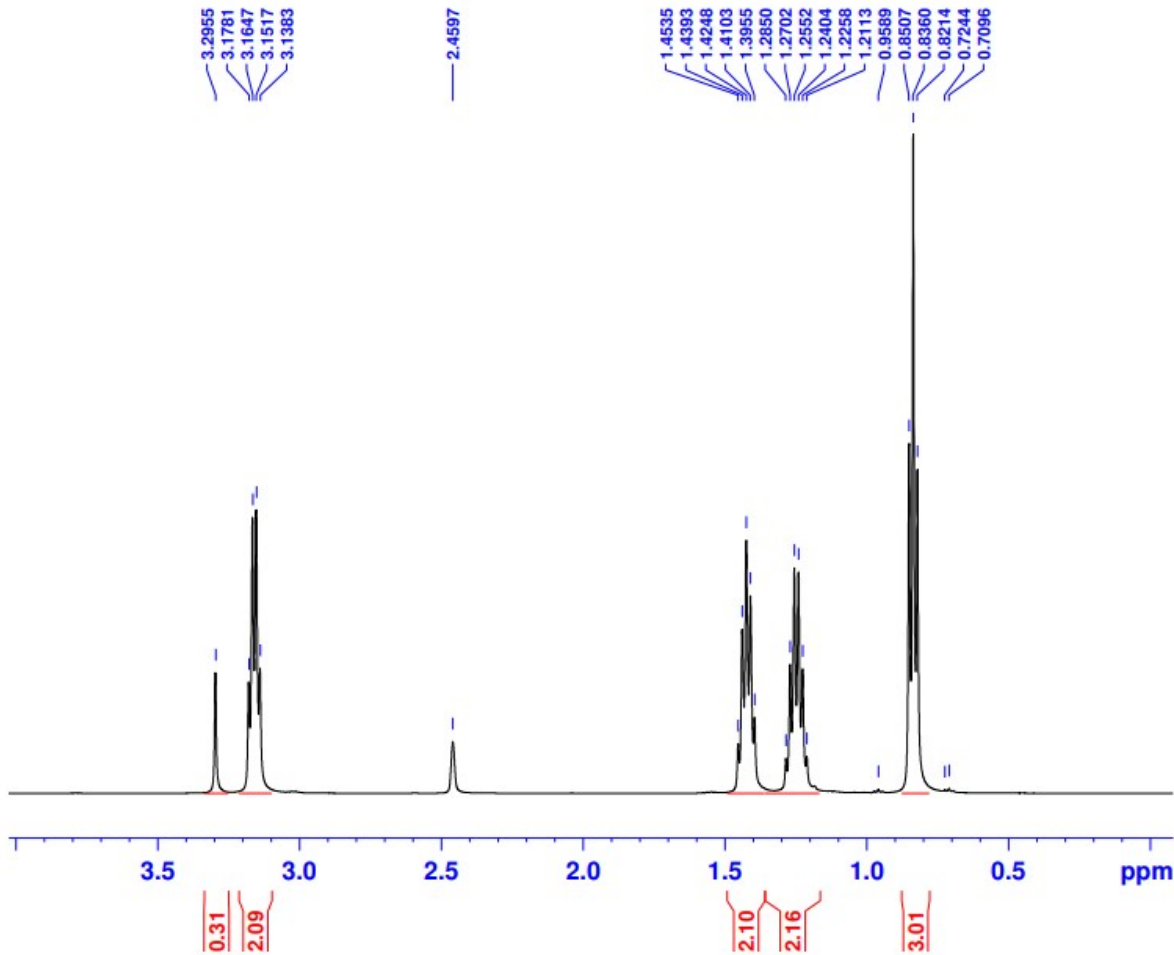
Current Data Parameters
NAME 19jan01jalal
EXPNO 721
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190106
Time 13.50
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 13.83
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A7

F4BuA
NMR

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

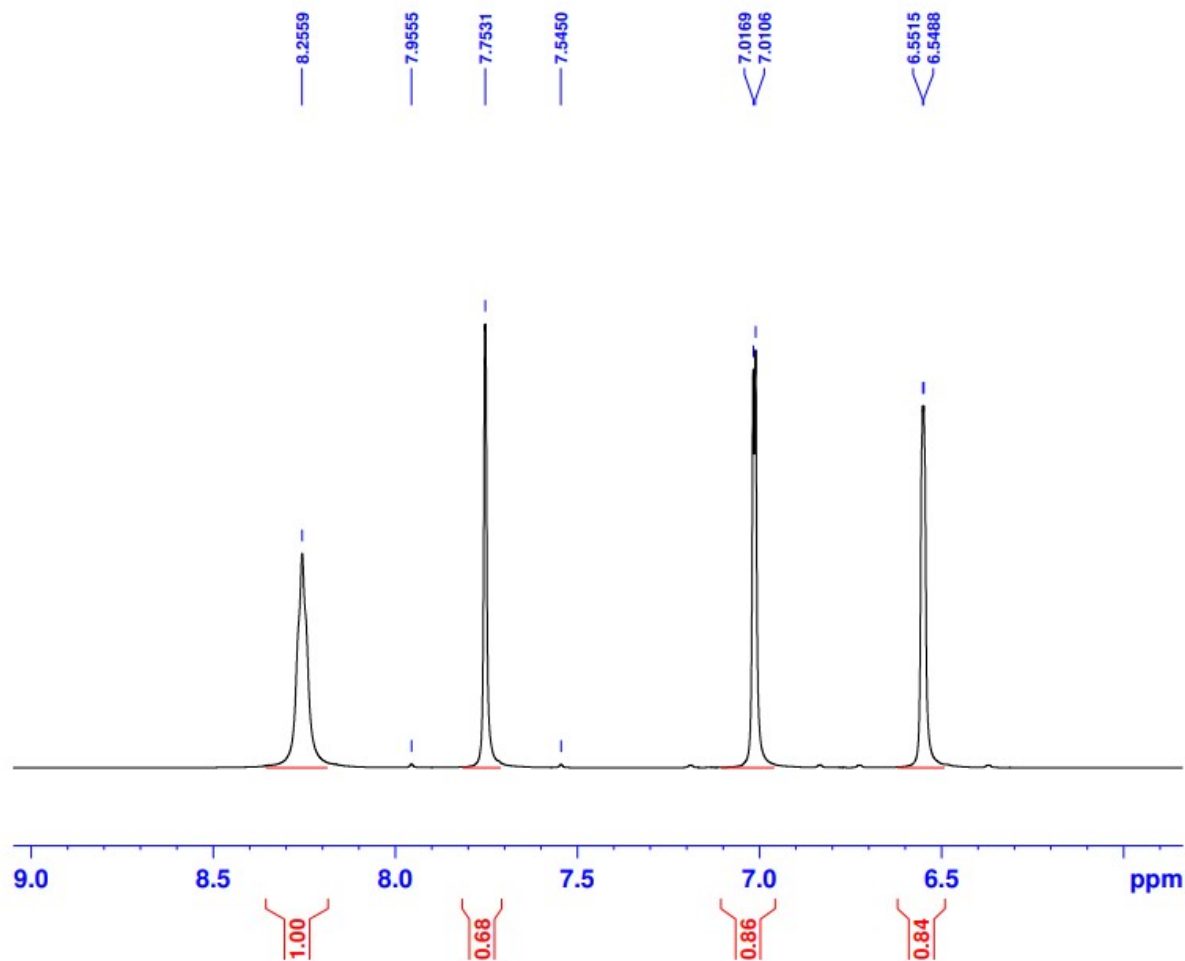
Current Data Parameters
NAME 19jan01jalal
EXPNO 721
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190106
Time 13.50
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 13.83
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A7

F4BuA
NMR

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

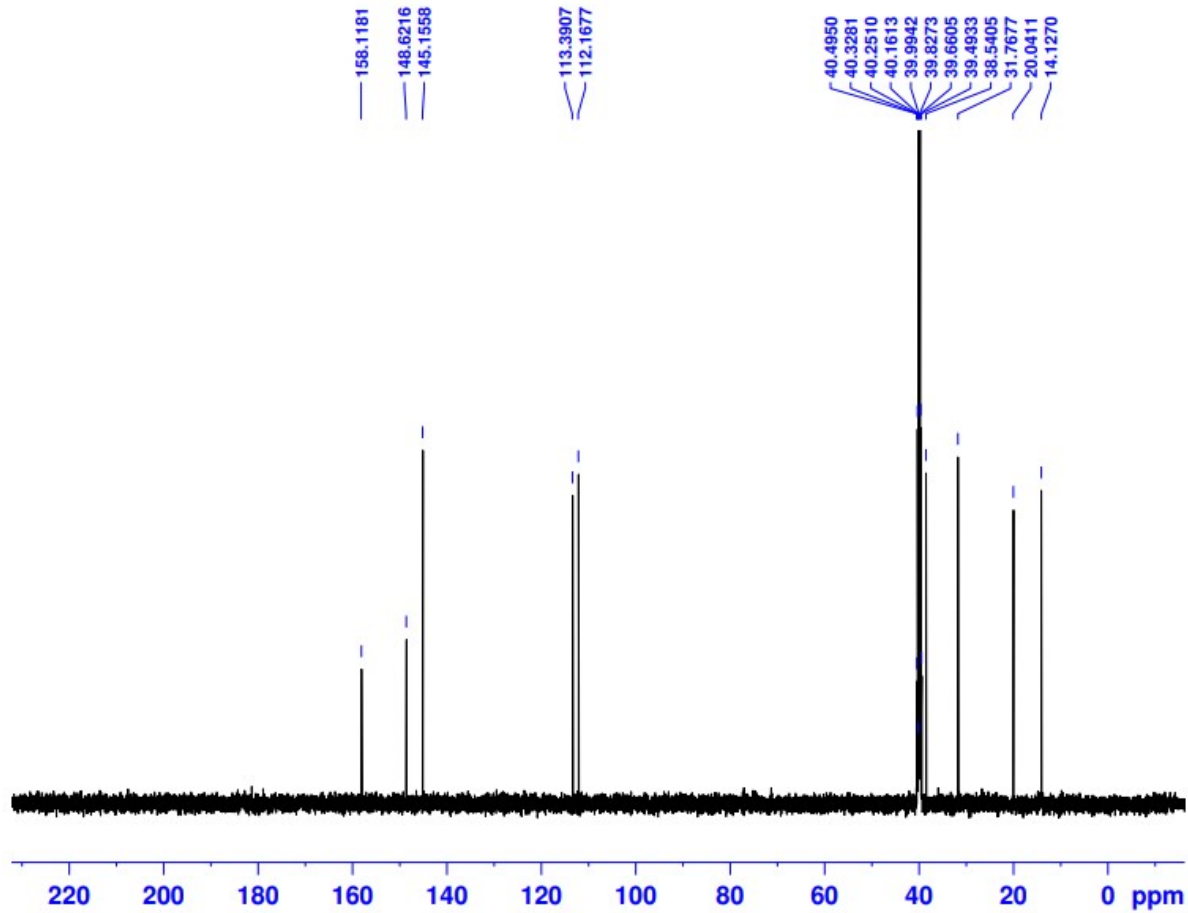
Current Data Parameters
NAME 19jan01jalal
EXPNO 721
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190106
Time 13.50
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 13.83
DW 50.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A7

F4BuA
C13

The University of Jordan
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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19jan01jalal
EXPNO 722
PROCNO 1

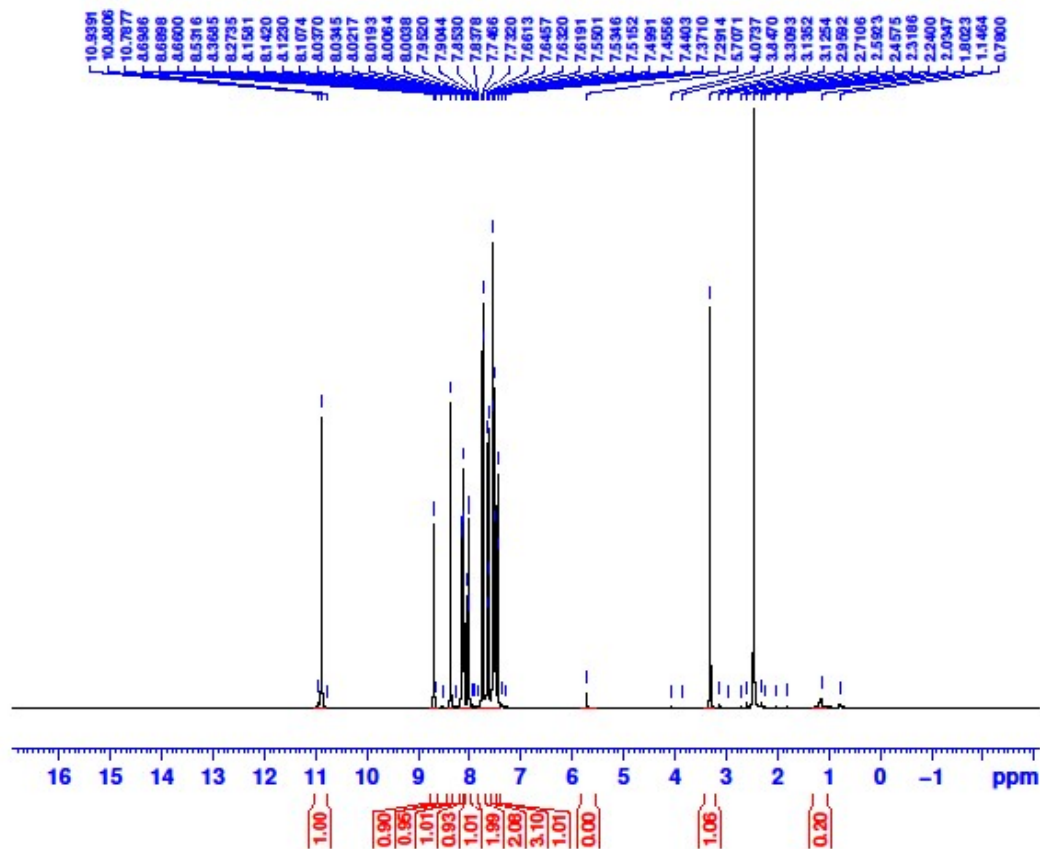
F2 - Acquisition Parameters
Date_ 20190106
Time 13.52
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 35
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.2 K
D1 2.00000000 sec
D11 0.03000000 sec
TDO 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

P 3BP
NMR



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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

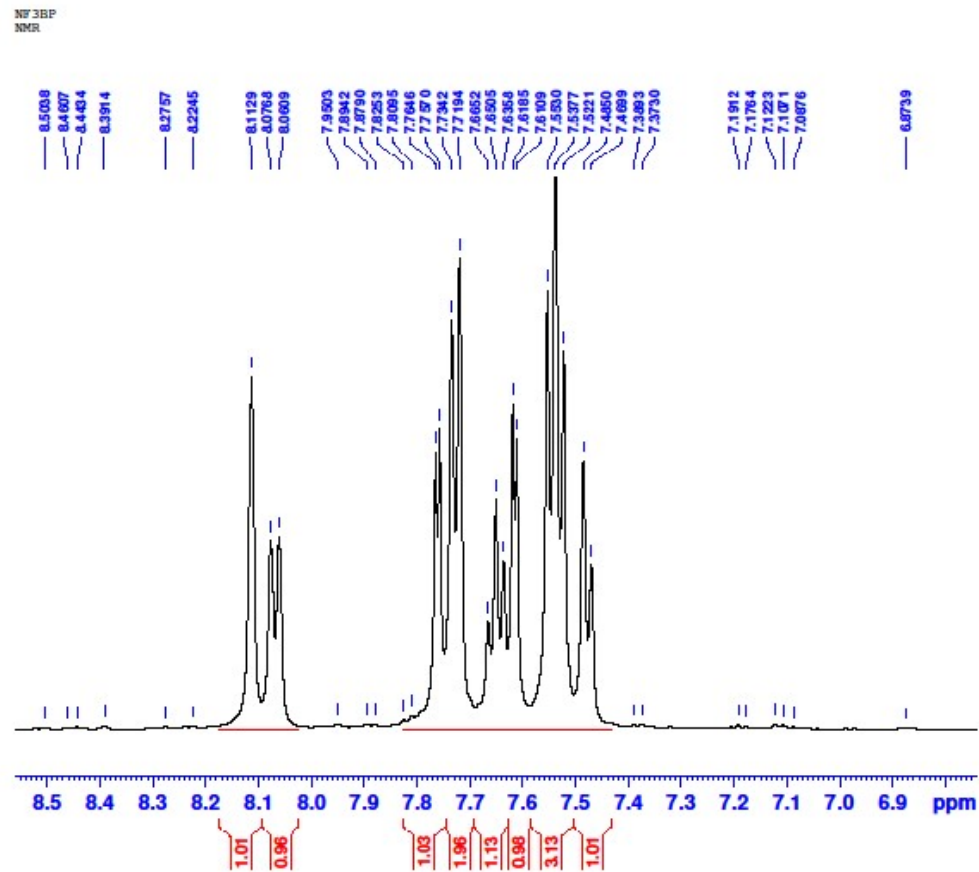
Current Data Parameters
NAME 19oct01jalal
EXPNO 1541
PROCNO 1

F2 - Acquisition Parameters
Date_ 20191013
Time 12.43
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 31.74
DW 50.000 usec
DE 6.50 usec
TE 299.0 K
D1 2.00000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 500.1334791 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A11



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Department of Chemistry

Instrument Model
Bruker 500 MHz–Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19oct01jalal
EXPNO 1591
PROCNO 1

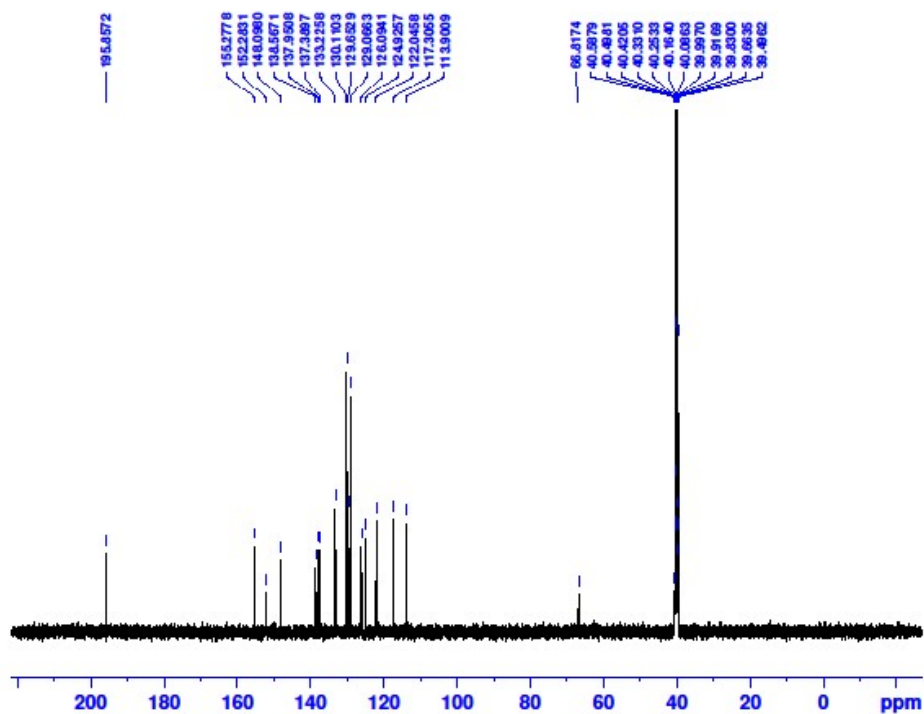
F2 - Acquisition Parameters
Date_ 20191013
Time 13.35
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 22.83
DW 50.000 usec
DE 6.50 usec
TE 299.0 K
D1 2.00000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 500.1334791 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

A11

NR3BP
NMR



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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19oct01jalal
EXPNO 1592
PROCNO 1

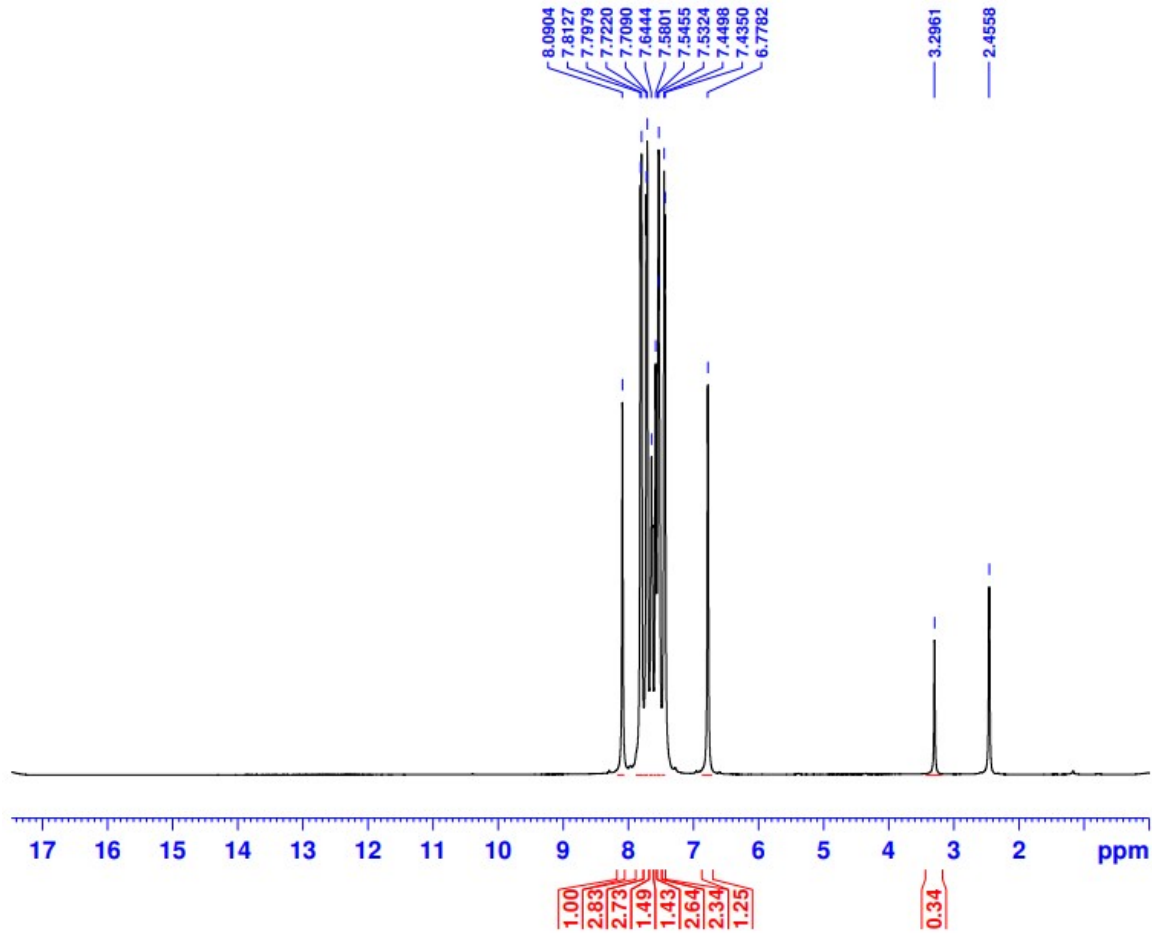
F2 - Acquisition Parameters
Date_ 20191013
Time 13.36
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT dmsc
NS 37
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
IN 16.000 usec
DE 6.50 usec
TE 299.1 K
D1 2.00000000 sec
D11 0.53000000 sec
TD0 1

----- CHANNEL F1 -----
SFO1 125.7700308 MHz
NUC1 13C
P1 10.00 usec
PLW1 96.27500153 W

----- CHANNEL F2 -----
SFO2 500.1320005 MHz
NUC2 1H
CPOPRG2 waltz16
PCPD2 80.00 usec
PLW2 13.3239995 W
PLW12 0.29978001 W
PLW13 0.15079001 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

B1

F4OH
HNMR

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassounch
nmr500@ju.edu.jo

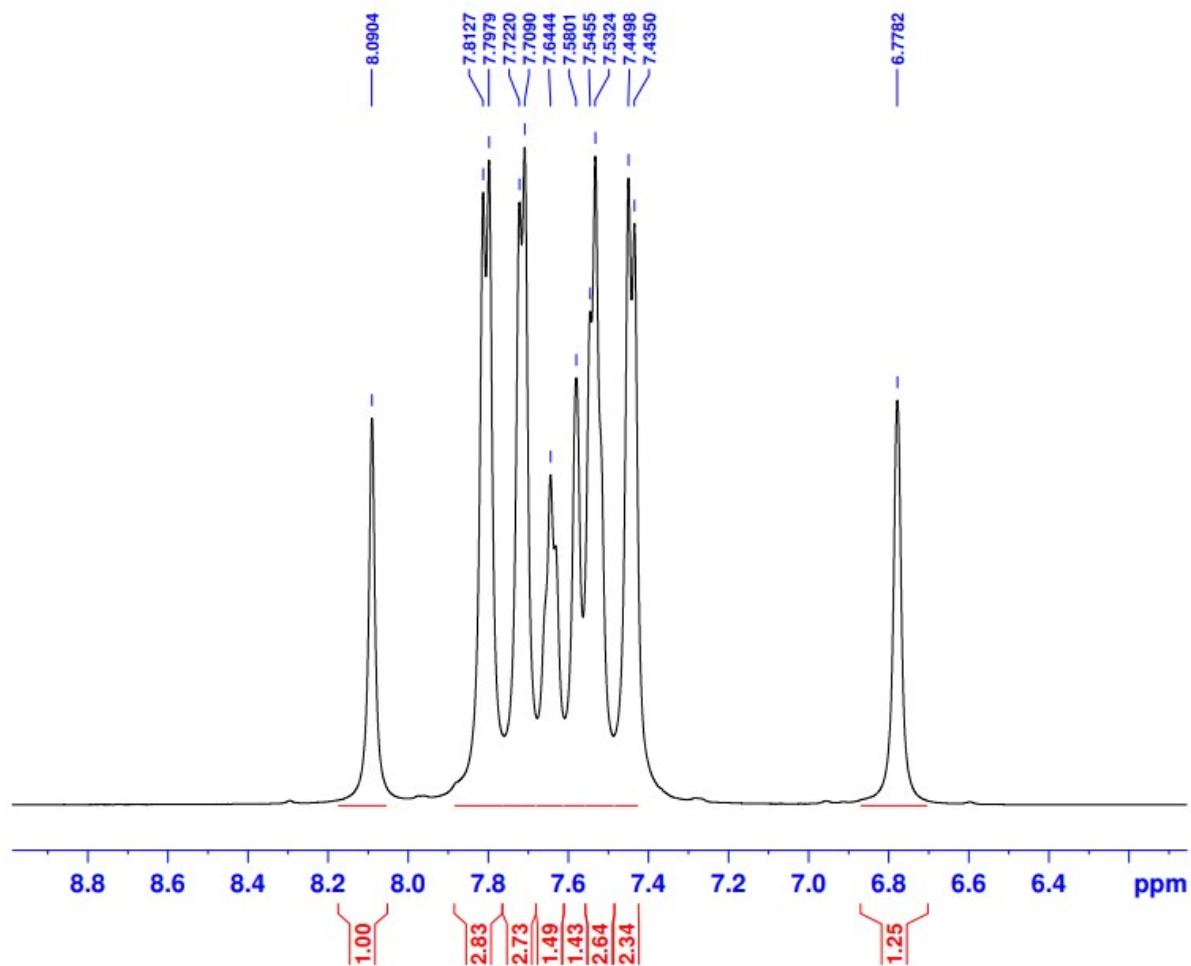
Current Data Parameters
NAME 18oct01jalal
EXPNO 321
PROCNO 1

F2 - Acquisition Parameters
Date_ 20181003
Time 10.35
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 8741.259 Hz
FIDRES 0.133381 Hz
AQ 3.7486591 sec
RG 31.74
DW 57.200 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 5.00

B1

F4OH
HNMR

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

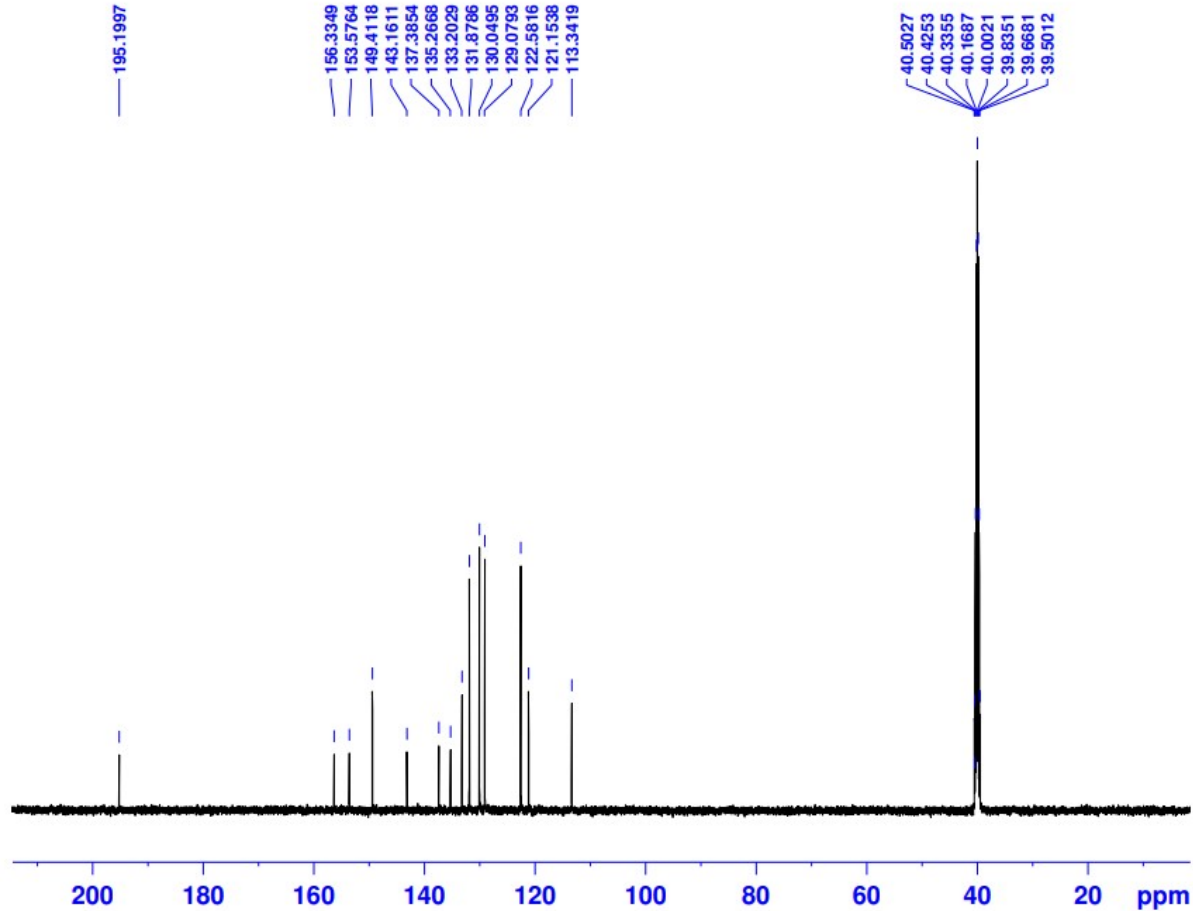
Current Data Parameters
NAME 18oct01jalal
EXPNO 321
PROCNO 1

F2 - Acquisition Parameters
Date_ 20181003
Time 10.35
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 8741.259 Hz
FIDRES 0.133381 Hz
AQ 3.7486591 sec
RG 31.74
DW 57.200 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1343971 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 5.00

B1

F4OH
C13

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 18oct01jalal
EXPNO 322
PROCNO 1

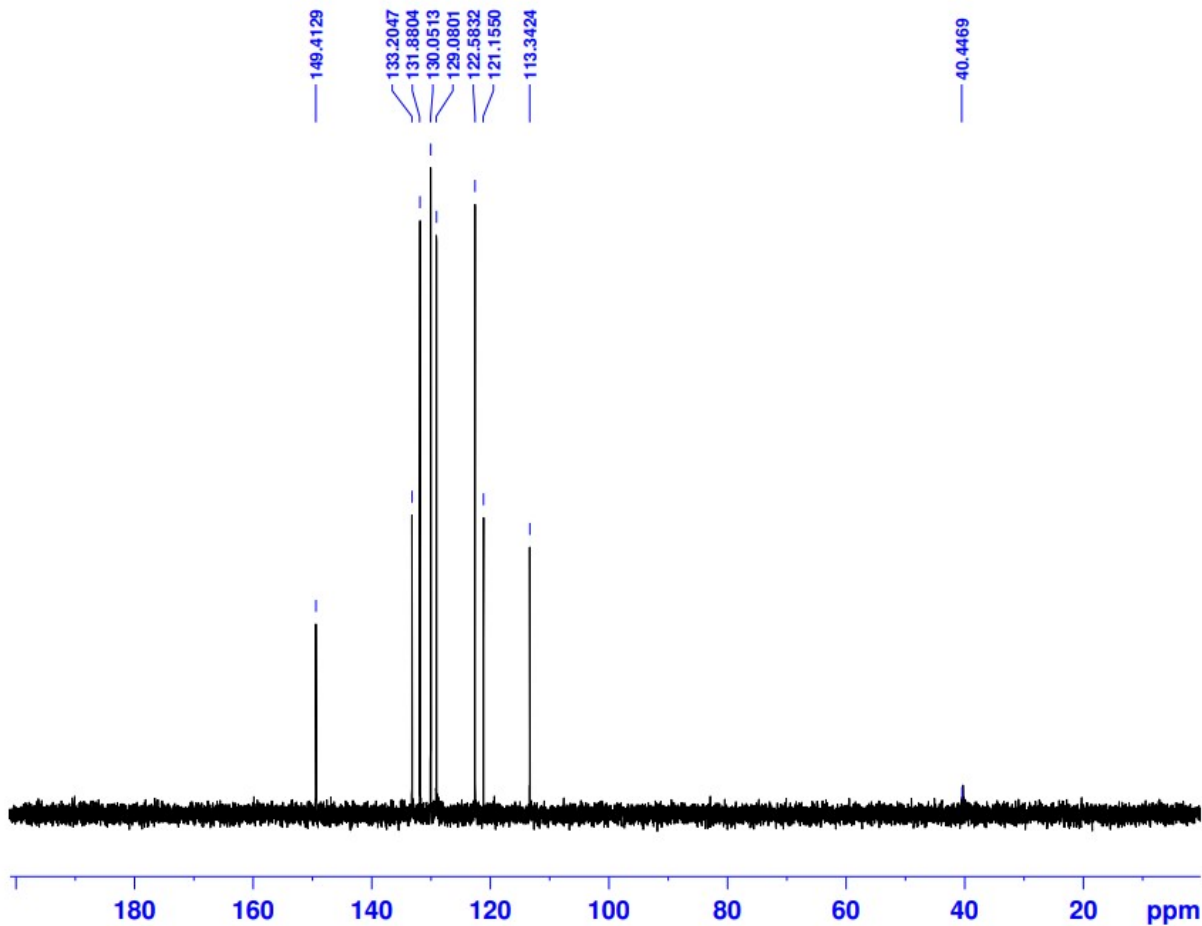
F2 - Acquisition Parameters
Date_ 20181003
Time 10.41
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 116
DS 4
SWH 26785.715 Hz
FIDRES 0.408718 Hz
AQ 1.2233387 sec
RG 202.06
DW 18.667 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

----- CHANNEL f1 -----
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

----- CHANNEL f2 -----
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

B1

F4OH
dept135

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 18oct01jalal
EXPNO 323
PROCNO 1

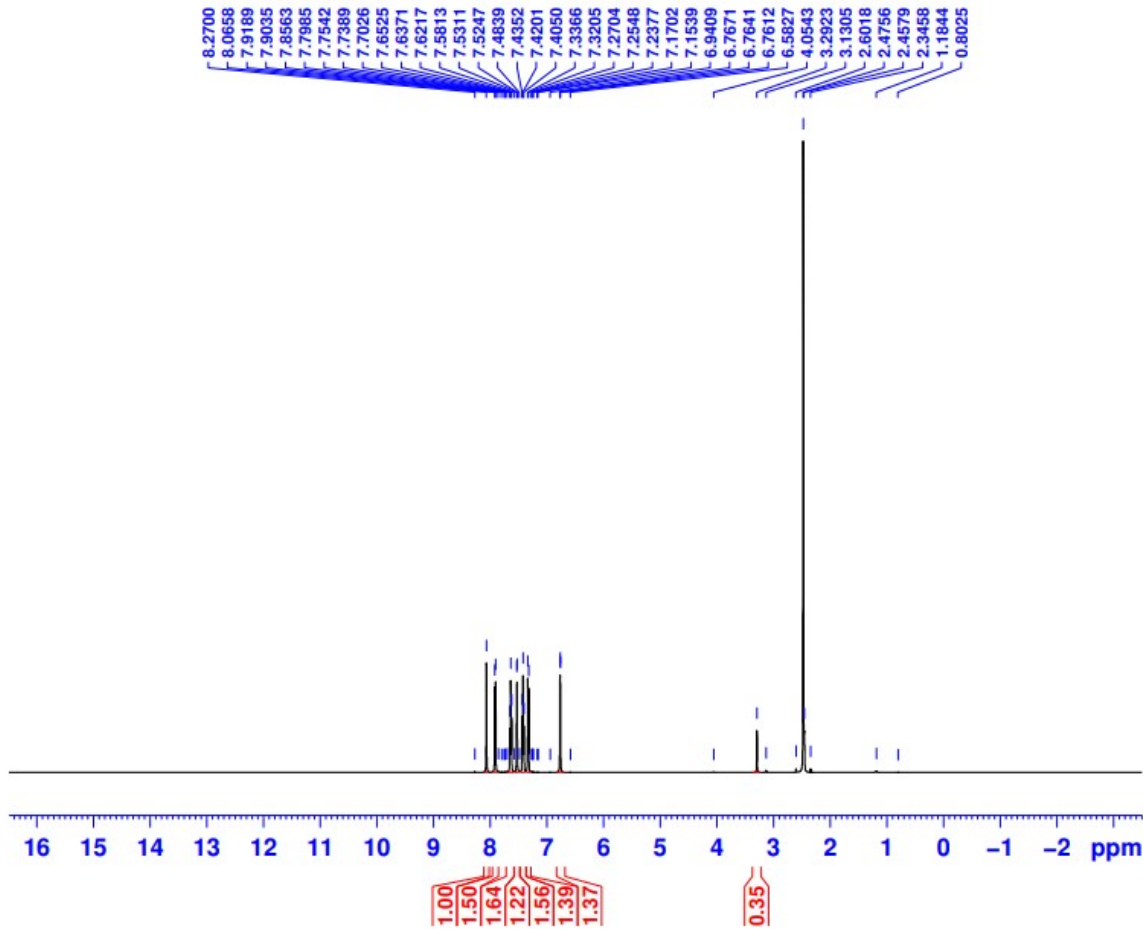
F2 - Acquisition Parameters
Date_ 20181003
Time 10.44
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG deptsp135
TD 65536
SOLVENT DMSO
NS 66
DS 4
SMH 25252.525 Hz
FIDRES 0.385323 Hz
AQ 1.2976128 sec
RG 202.06
DM 19.800 usec
DE 6.50 usec
TE 298.0 K
CNST2 145.0000000
D1 2.00000000 sec
D2 0.30344828 sec
D12 0.00002000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.770414 MHz
NUC1 13C
P1 9.80 usec
P13 2000.00 usec
PLM0 0 W
PLM1 93.32499695 W
SPNAM[5] Crp60comp.4
SPOALS 0.500
SPOFFS5 0 Hz
SPW5 13.69400024 W

===== CHANNEL f2 =====
SFO2 500.1315995 MHz
NUC2 1H
CFDPRG[2] waltz16
P3 11.50 usec
P4 23.00 usec
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz

B2

F2ohap
NMR

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
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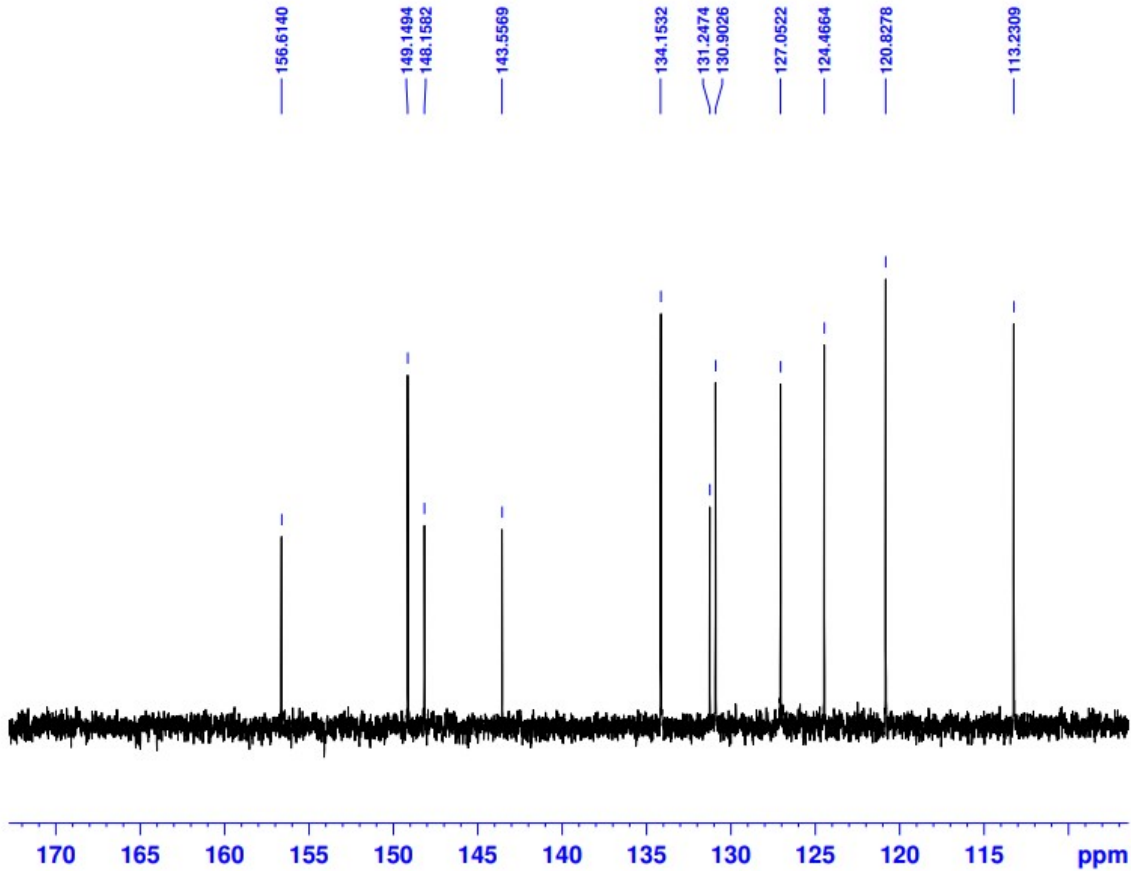
Current Data Parameters
NAME 19feb15jalal
EXPNO 2391
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.22
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 43.6
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B2

F2ohap
C13

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19febl5jalal
EXPNO 2392
PROCNO 1

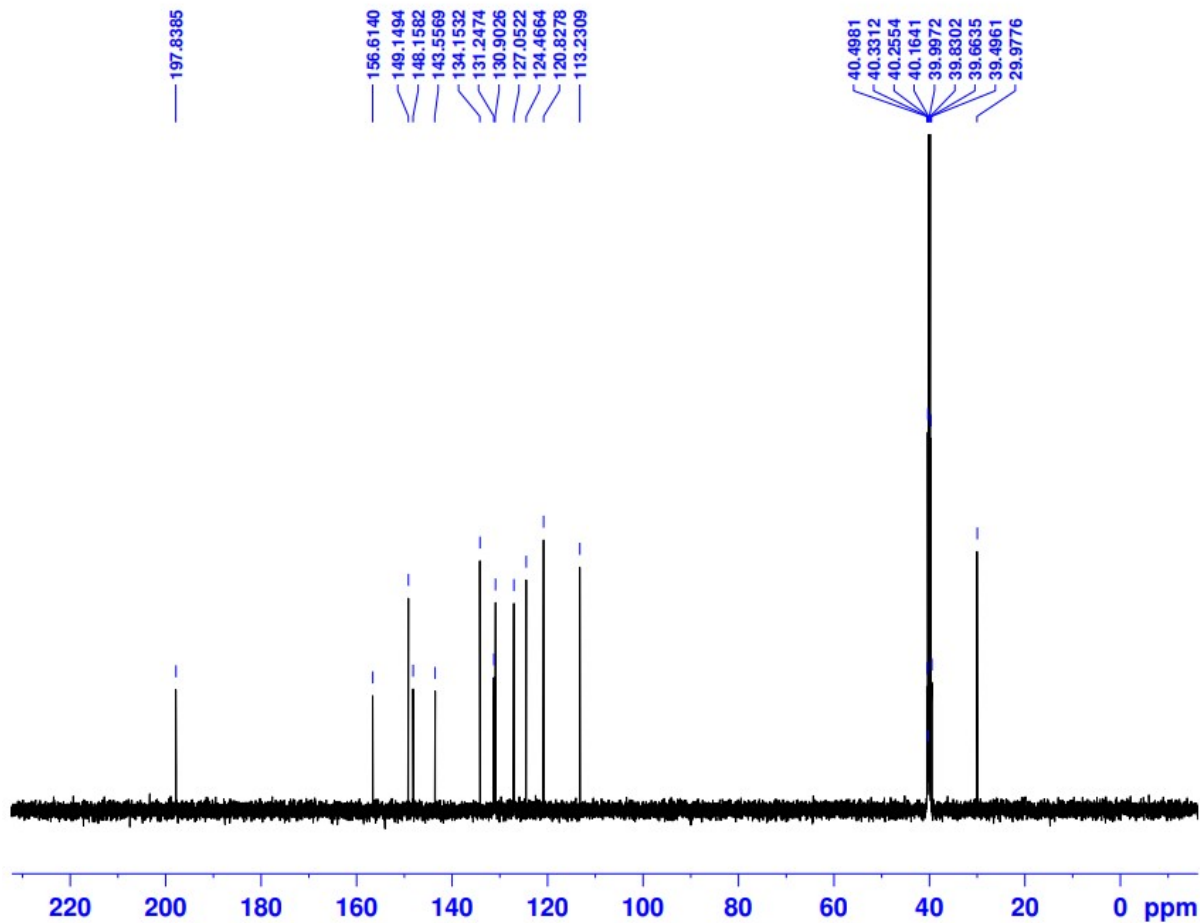
F2 - Acquisition Parameters
Date_ 20190225
Time 13.23
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 25
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

B2

F2ohap
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19feb15jalal
EXPNO 2392
PROCNO 1

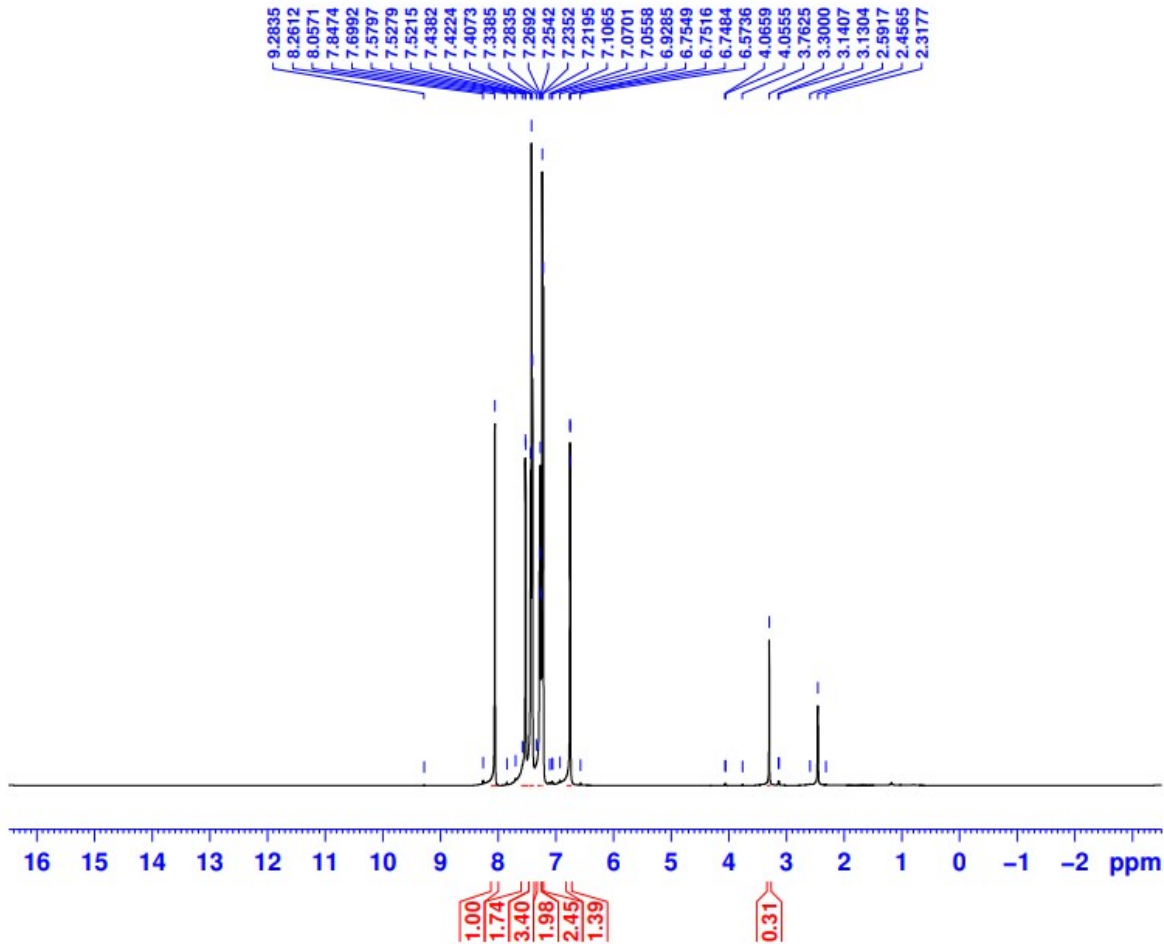
F2 - Acquisition Parameters
Date_ 20190225
Time 13.23
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 25
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

----- CHANNEL f1 -----
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

----- CHANNEL f2 -----
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz

B3

f2ph
NMR

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

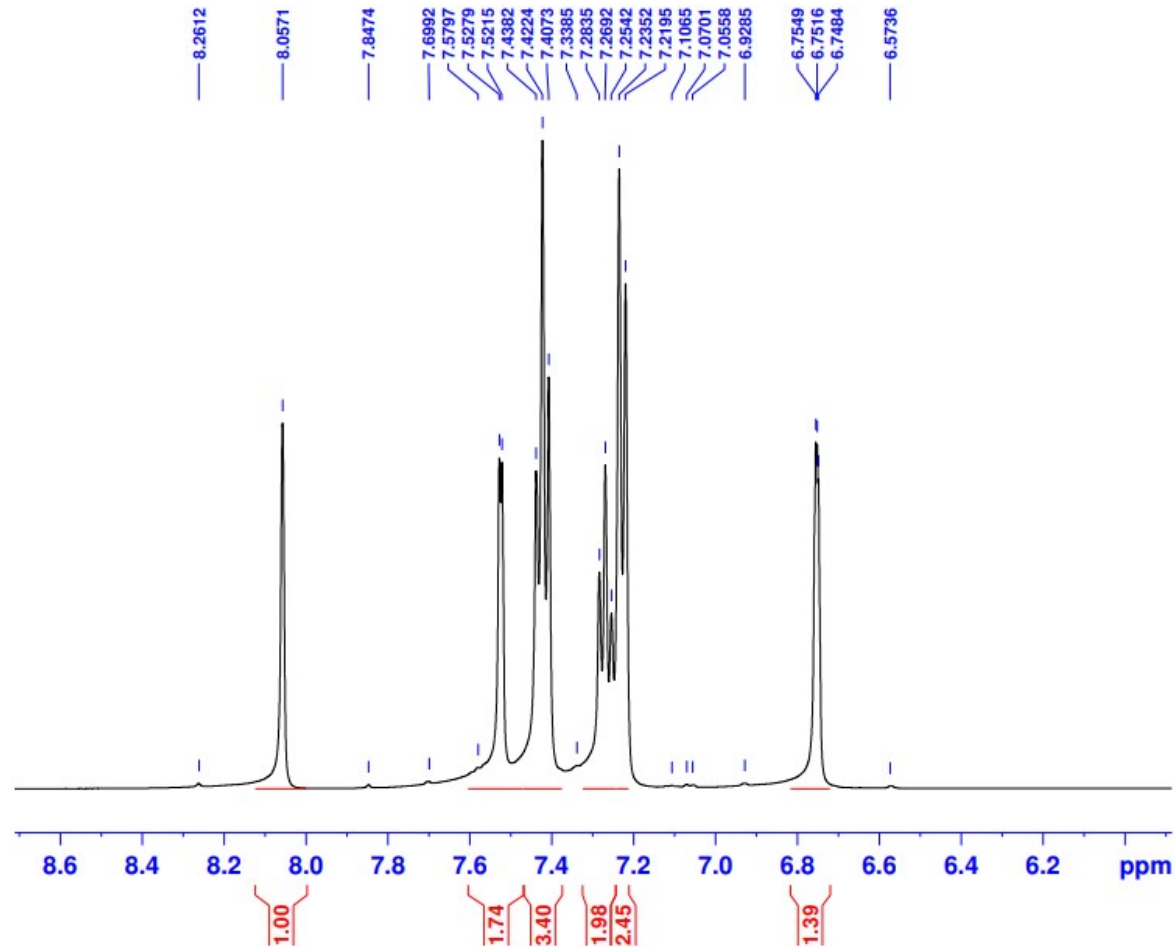
Current Data Parameters
NAME 19feb15jalal
EXPNO 1981
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190224
Time 12.39
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 71.89
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TDO 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B3

f2ph
NMR

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassounh
nmr500@ju.edu.jo

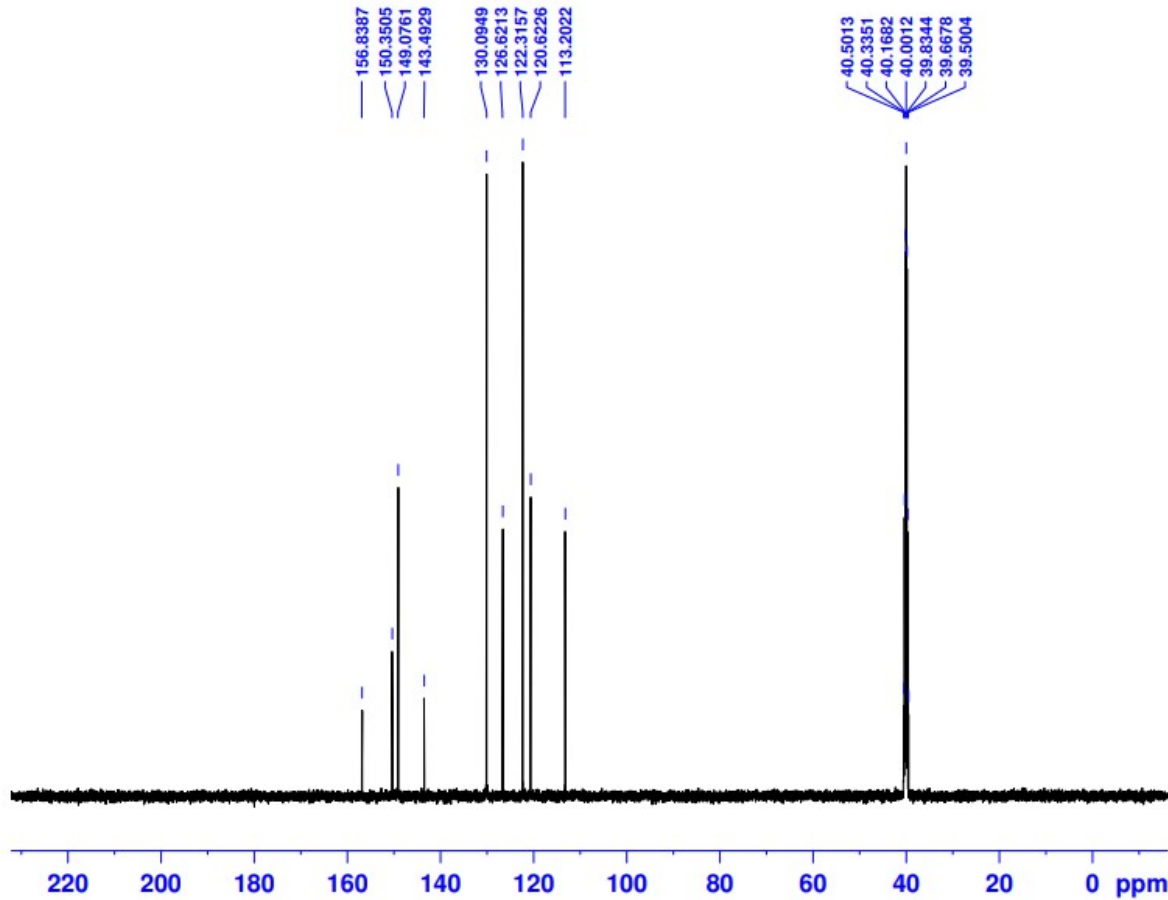
Current Data Parameters
NAME 19feb15jalal
EXPNO 1981
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190224
Time 12.39
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 71.89
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B3

f2ph
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19feb15jalal
EXPNO 1982
PROCNO 1

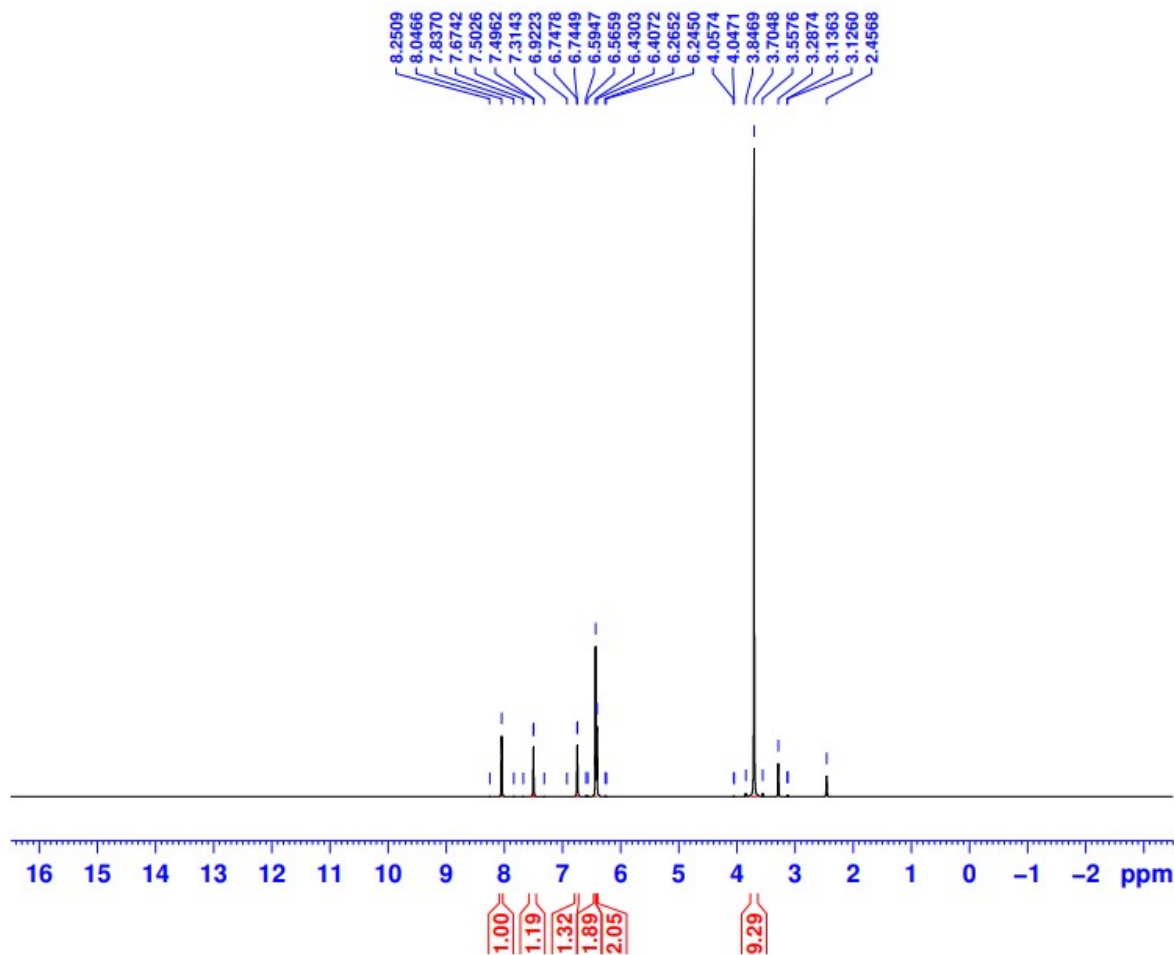
F2 - Acquisition Parameters
Date_ 20190224
Time 12.42
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 66
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

B4

F2Dmph
NMR

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

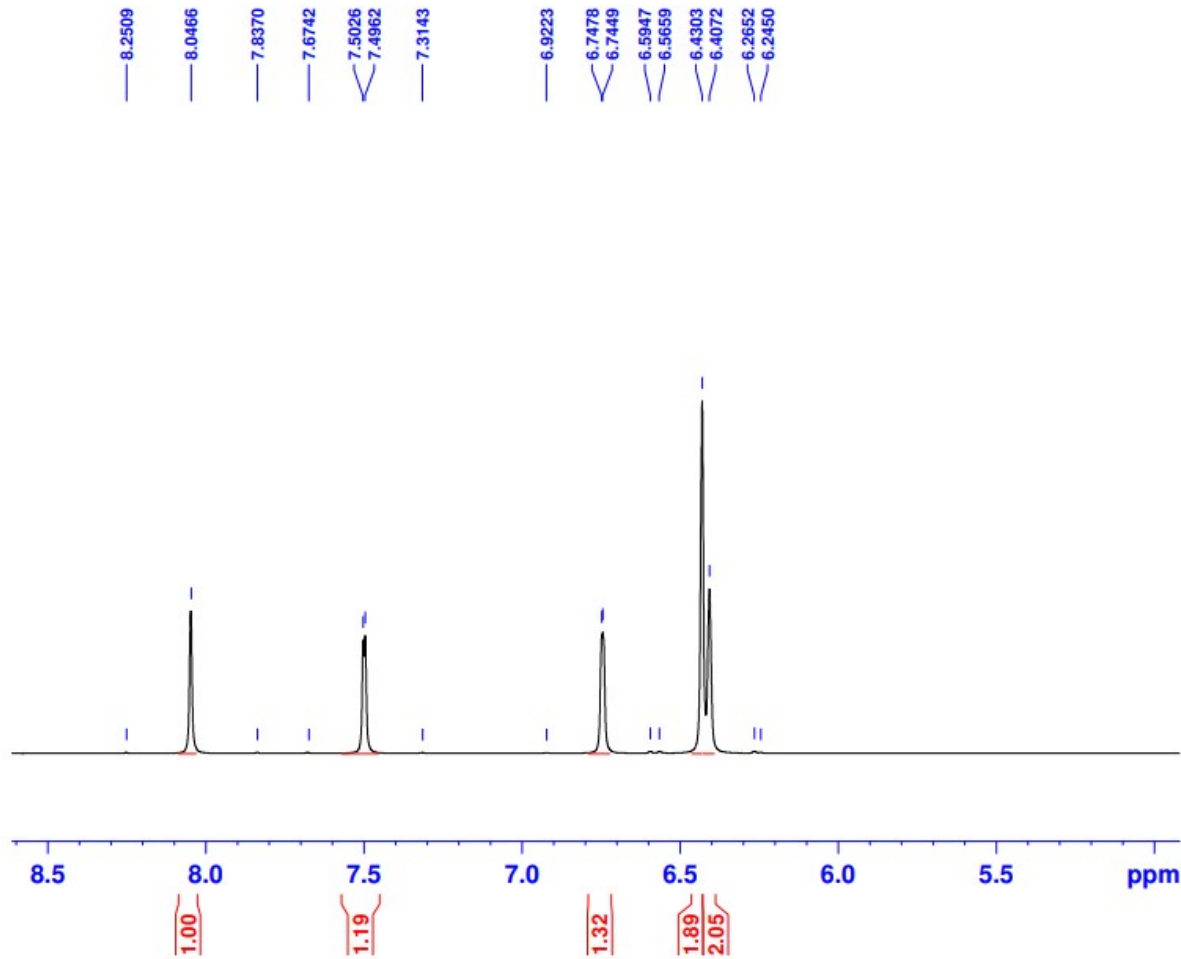
Current Data Parameters
NAME 19feb15jalal
EXPNO 2411
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.31
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 43.6
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B4

F2Dmph
NMR

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

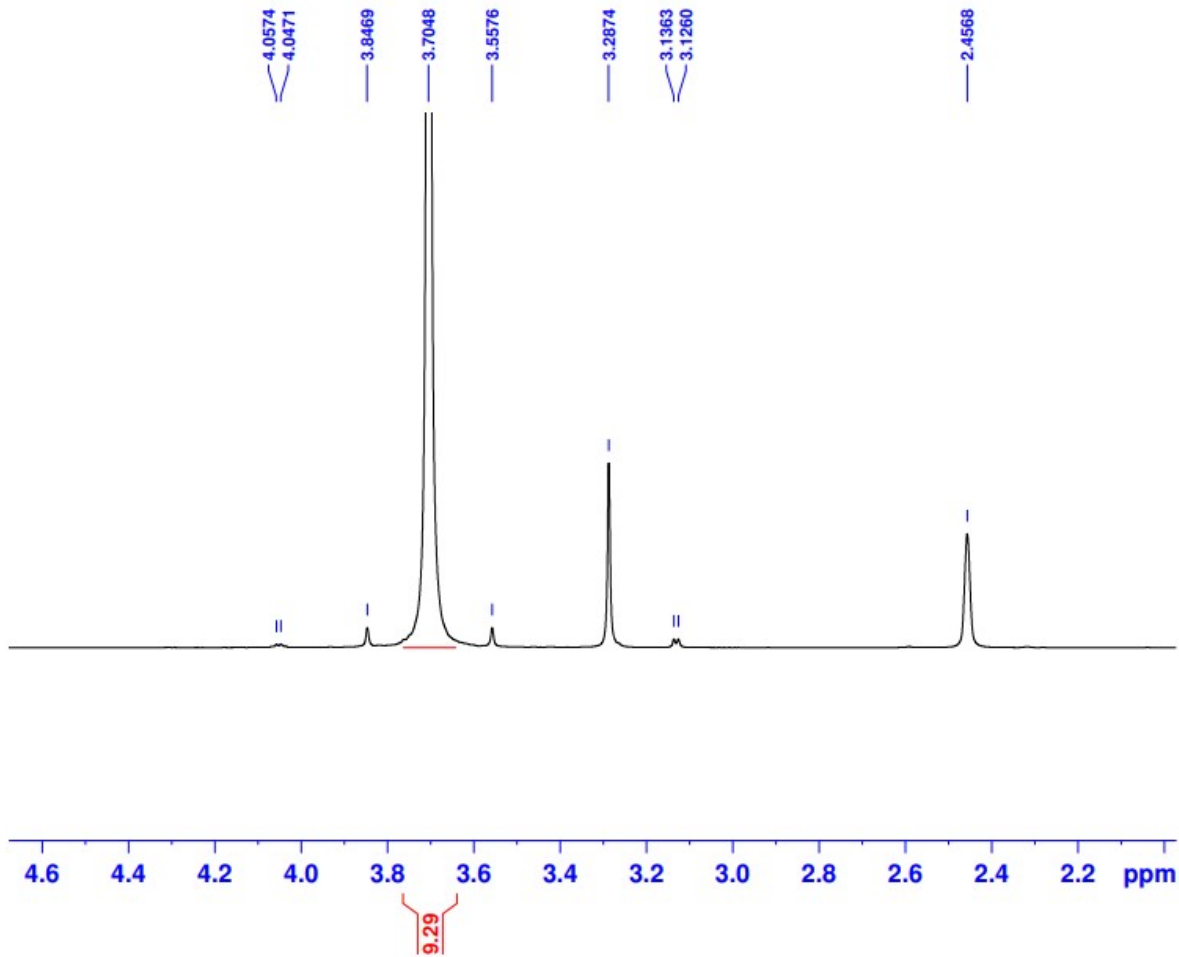
Current Data Parameters
NAME 19feb15jalal
EXPNO 2411
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.31
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 43.6
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B4

F2Dmph
NMR

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

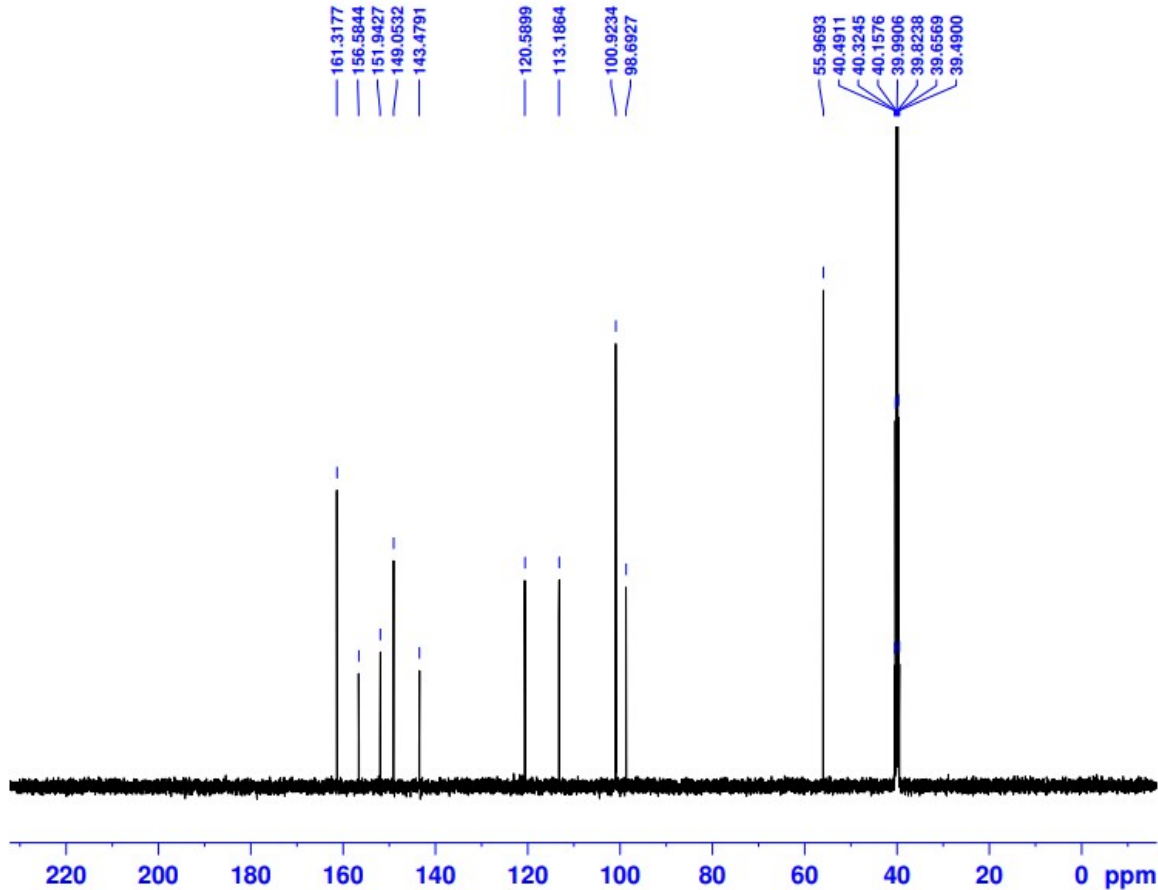
Current Data Parameters
NAME 19feb15jalal
EXPNO 2411
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.31
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 43.6
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B4

F2Dmph
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19Feb15jalal
EXPNO 2412
PROCNO 1

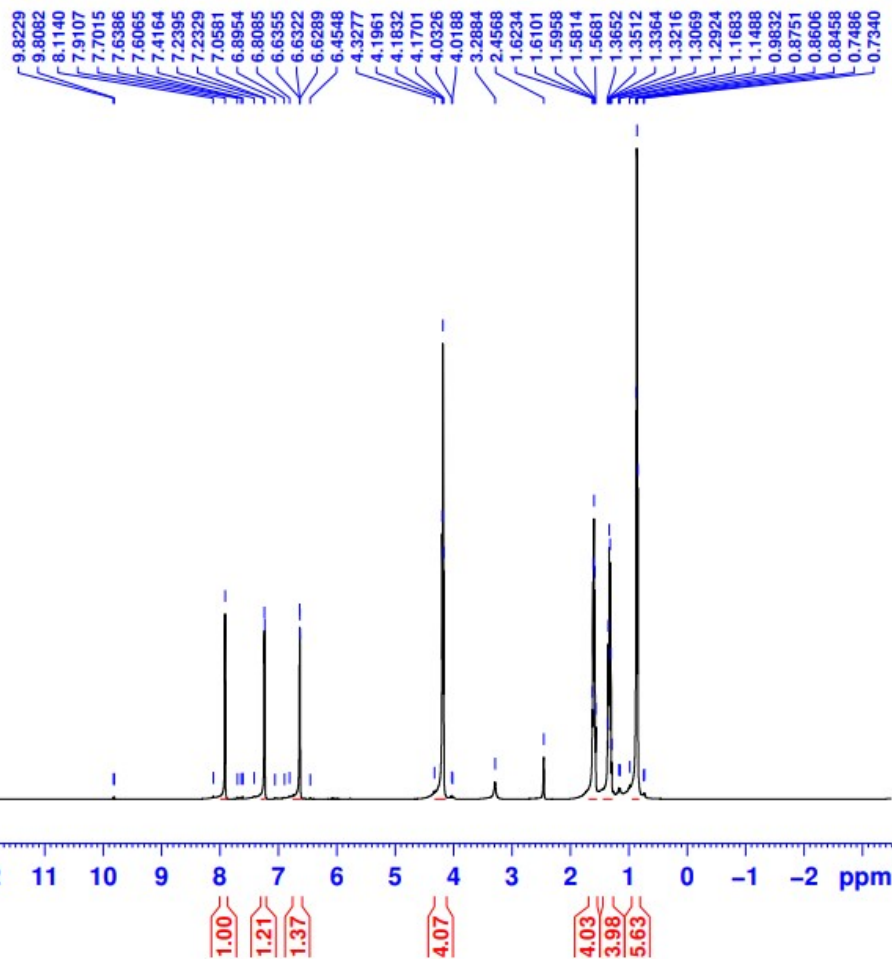
F2 - Acquisition Parameters
Date_ 20190225
Time 13.32
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 38
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.3 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

B5

F2BuOH
NMR

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

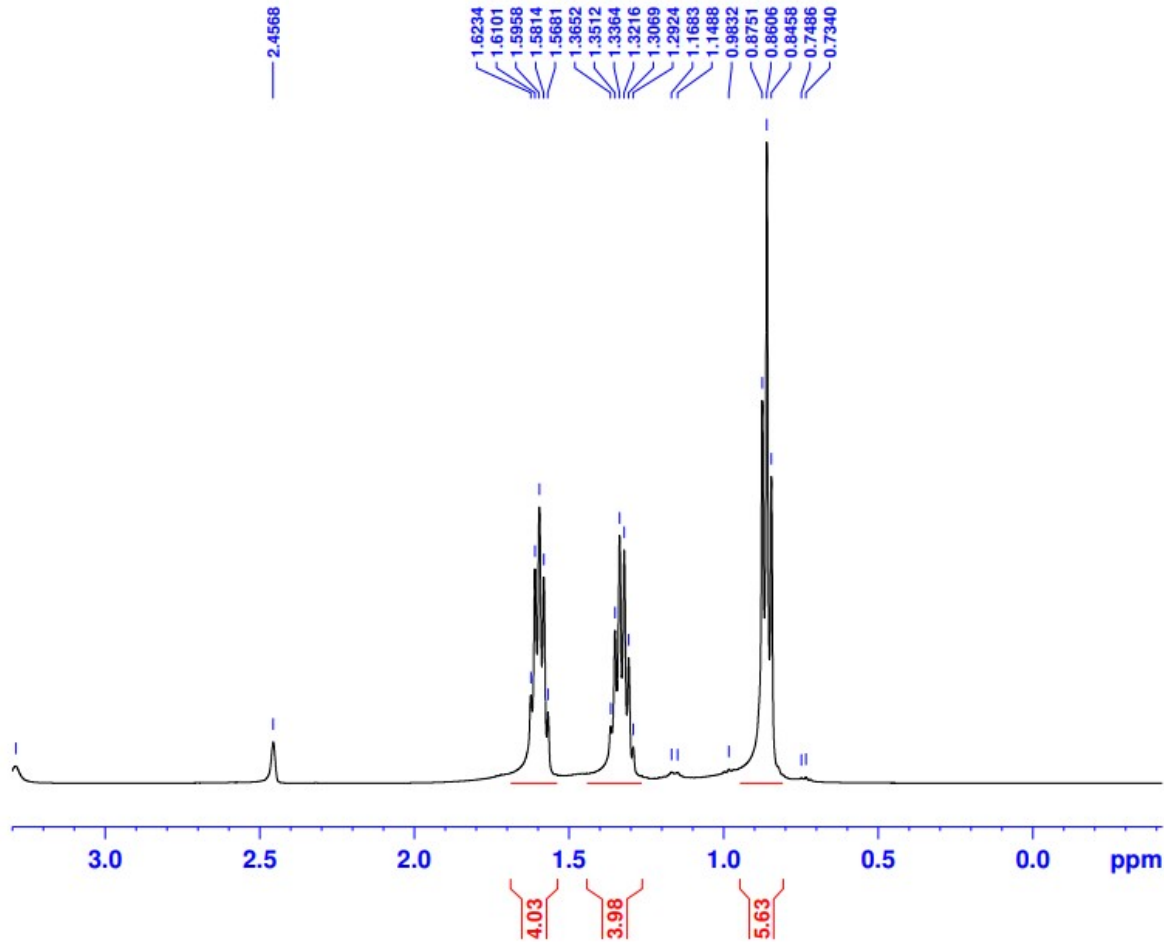
Current Data Parameters
NAME 19feb15jalal
EXPNO 2421
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.37
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 17.8
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B5

F2BuOH
NMR

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nrm500@ju.edu.jo

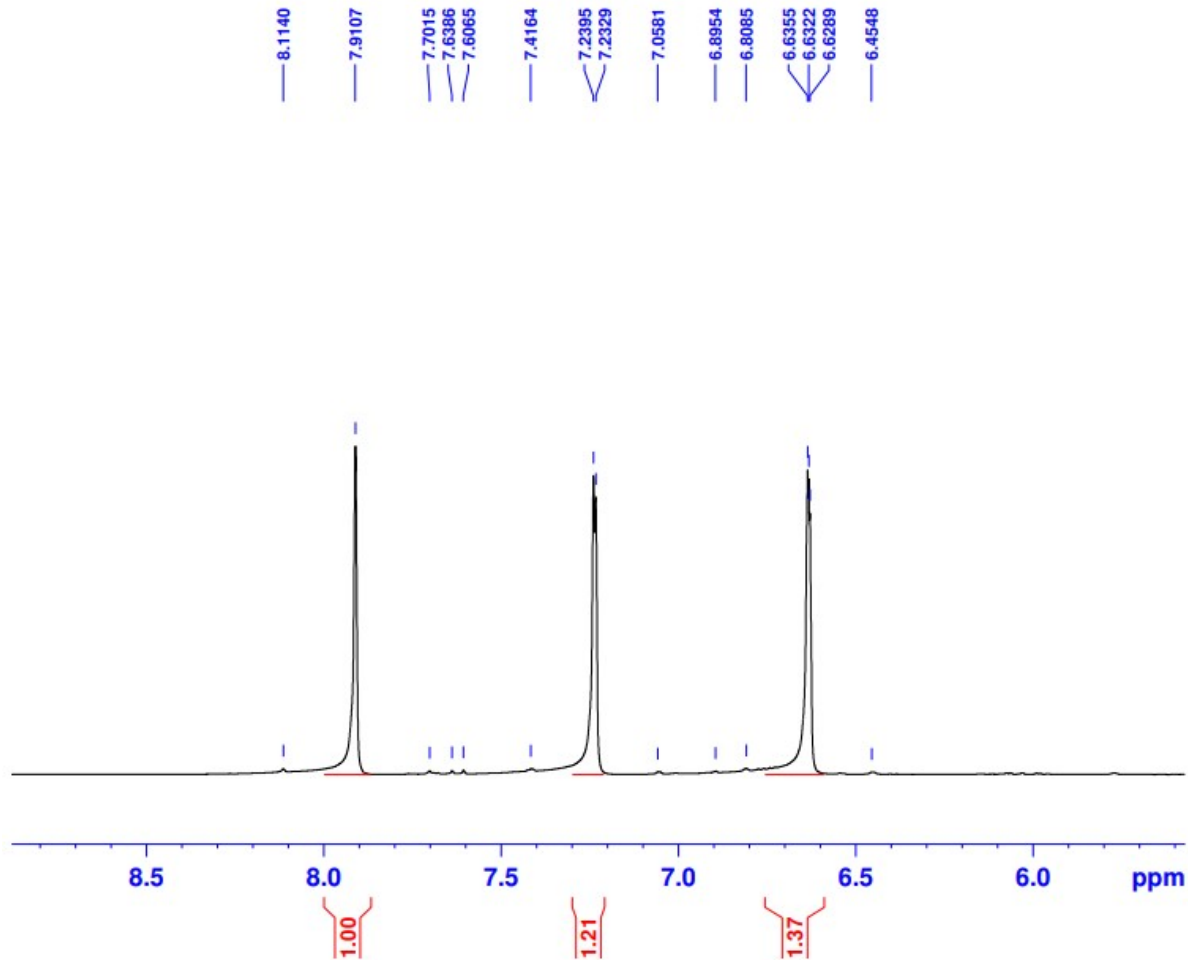
Current Data Parameters
NAME 19feb15jalal
EXPNO 2421
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.37
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 17.8
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B5

F2BuOH
NMR

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

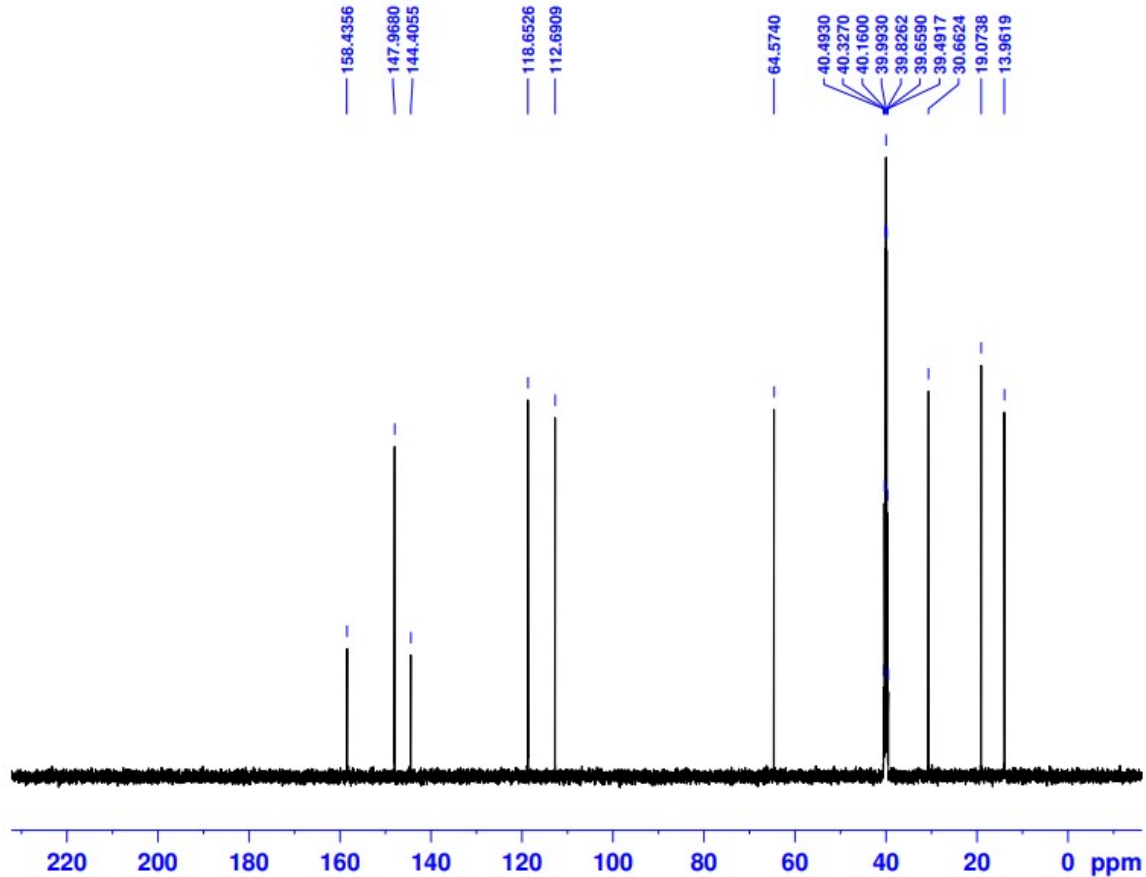
Current Data Parameters
NAME 19feb15jalal
EXPNO 2421
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.37
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 17.8
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B5

F2BuOH
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19feb15jalal
EXPNO 2422
PROCNO 1

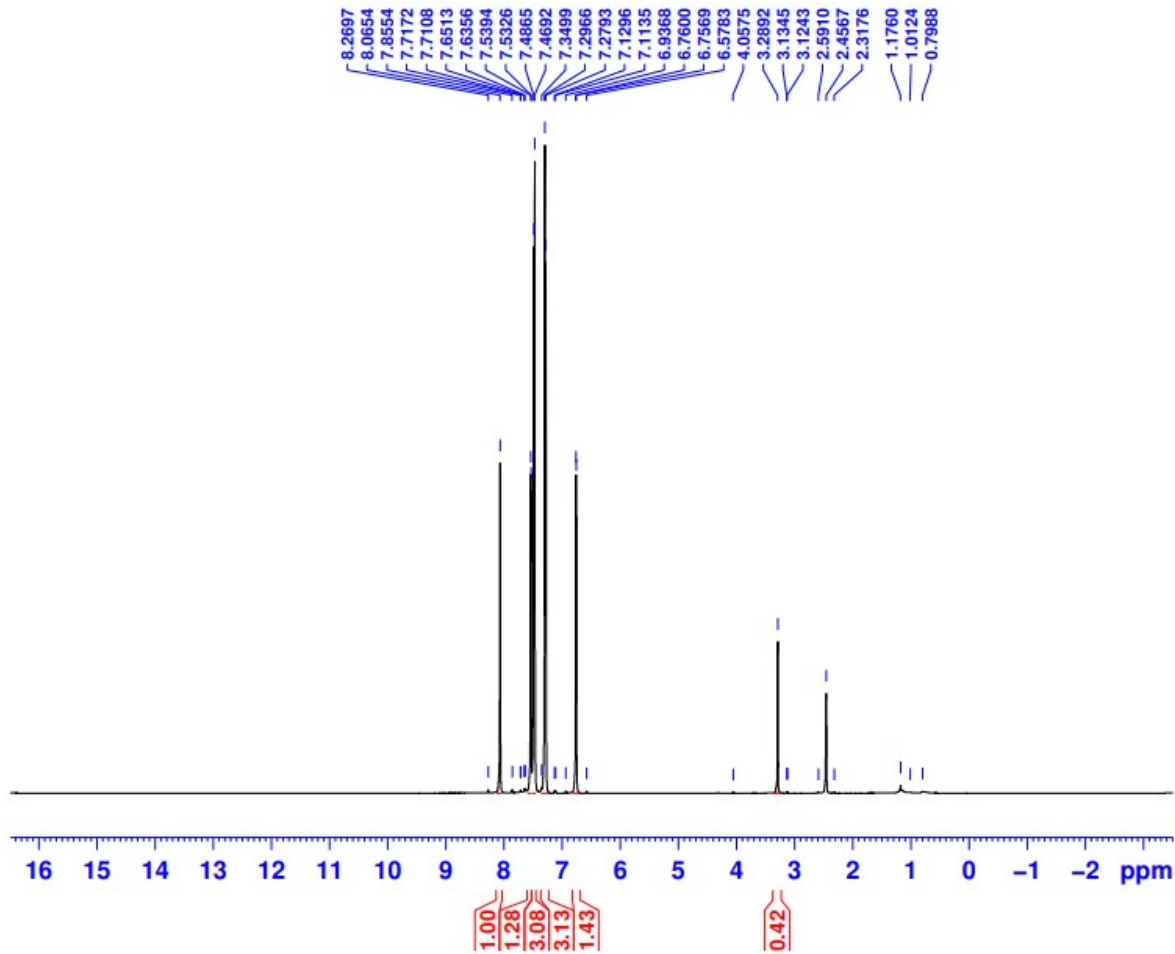
F2 - Acquisition Parameters
Date_ 20190225
Time 13.38
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 42
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

B6

F2CLPH
NMR

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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

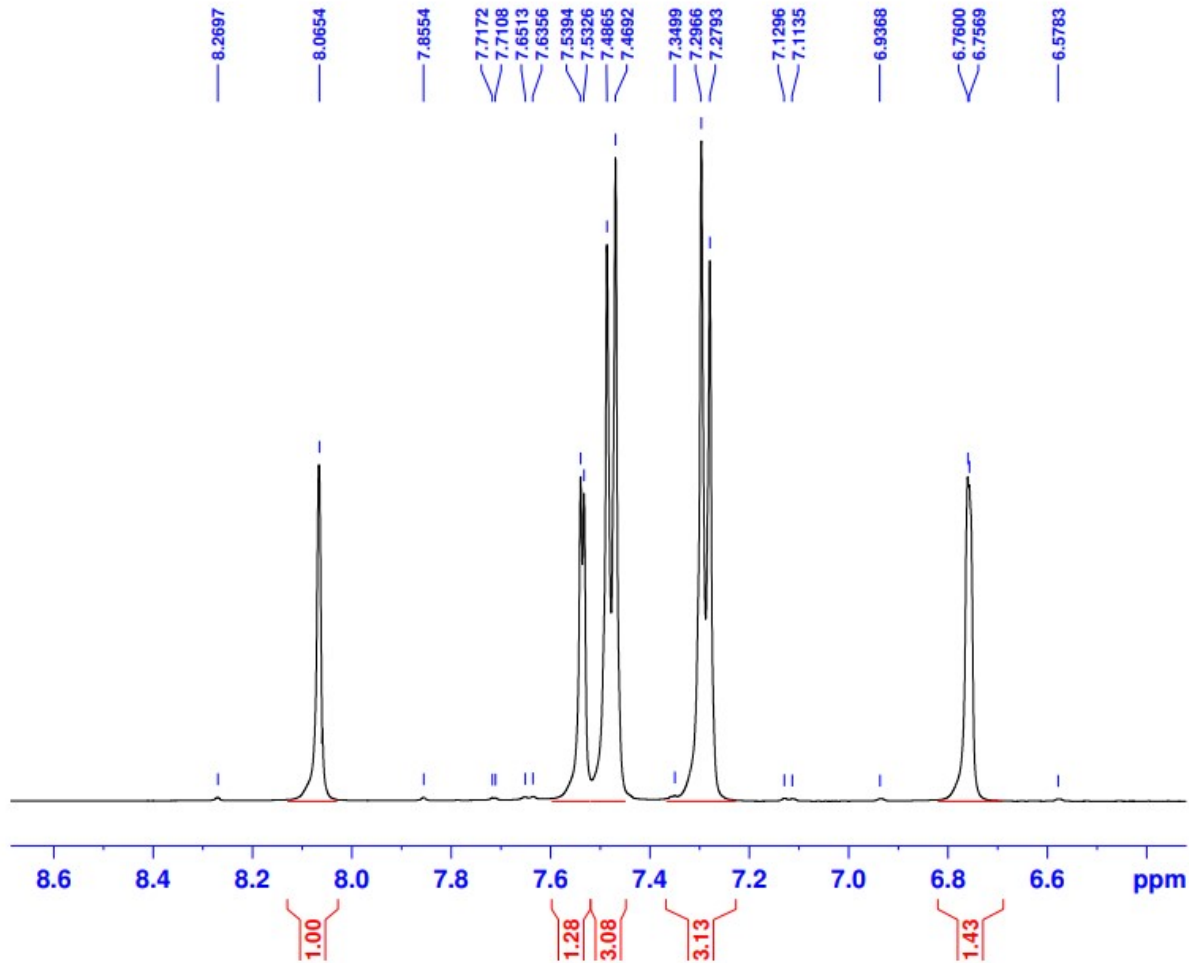
Current Data Parameters
NAME 19feb15jalal
EXPNO 2361
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.11
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 56.03
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B6

F2CLPH
NMR

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

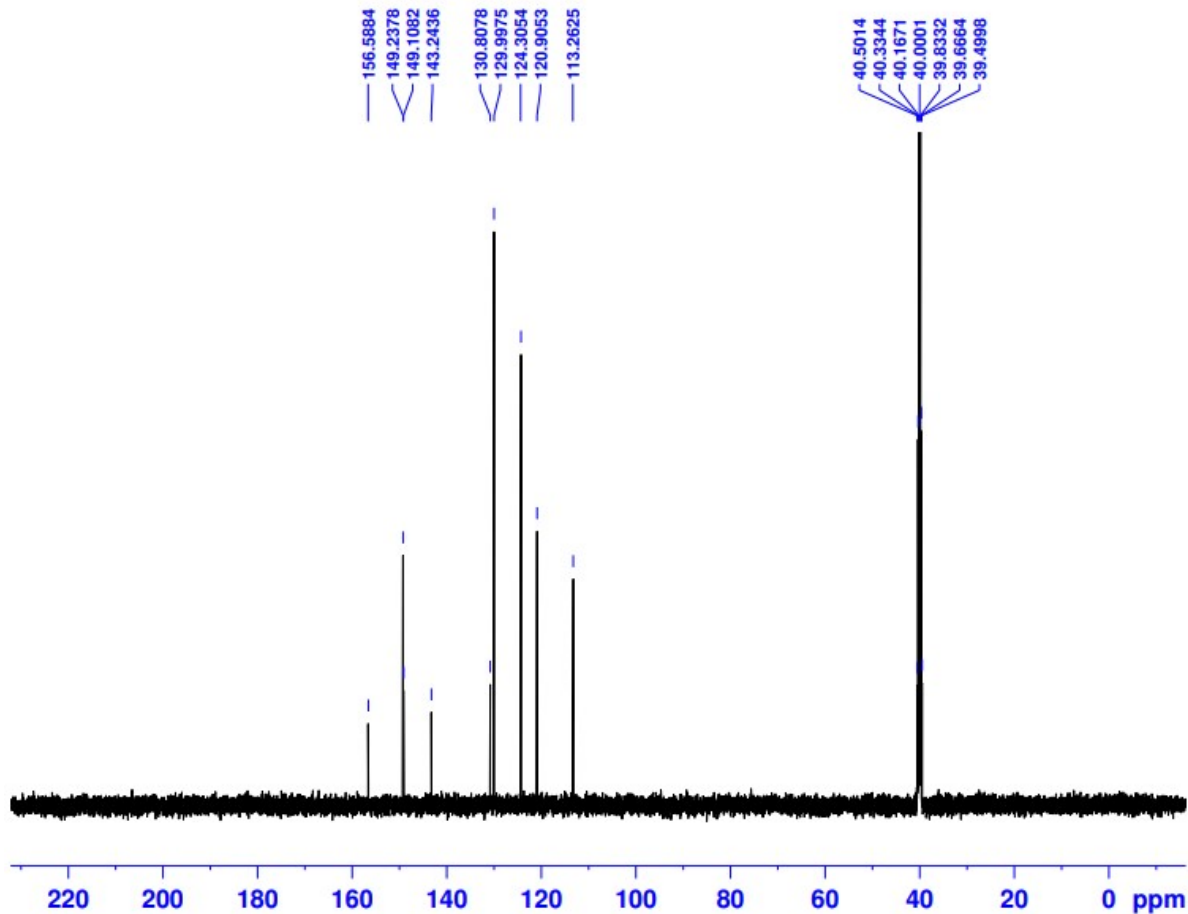
Current Data Parameters
NAME 19febl5jalal
EXPNO 2361
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.11
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 56.03
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B6

F2CLPH
C13

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19feb15jalal
EXPNO 2362
PROCNO 1

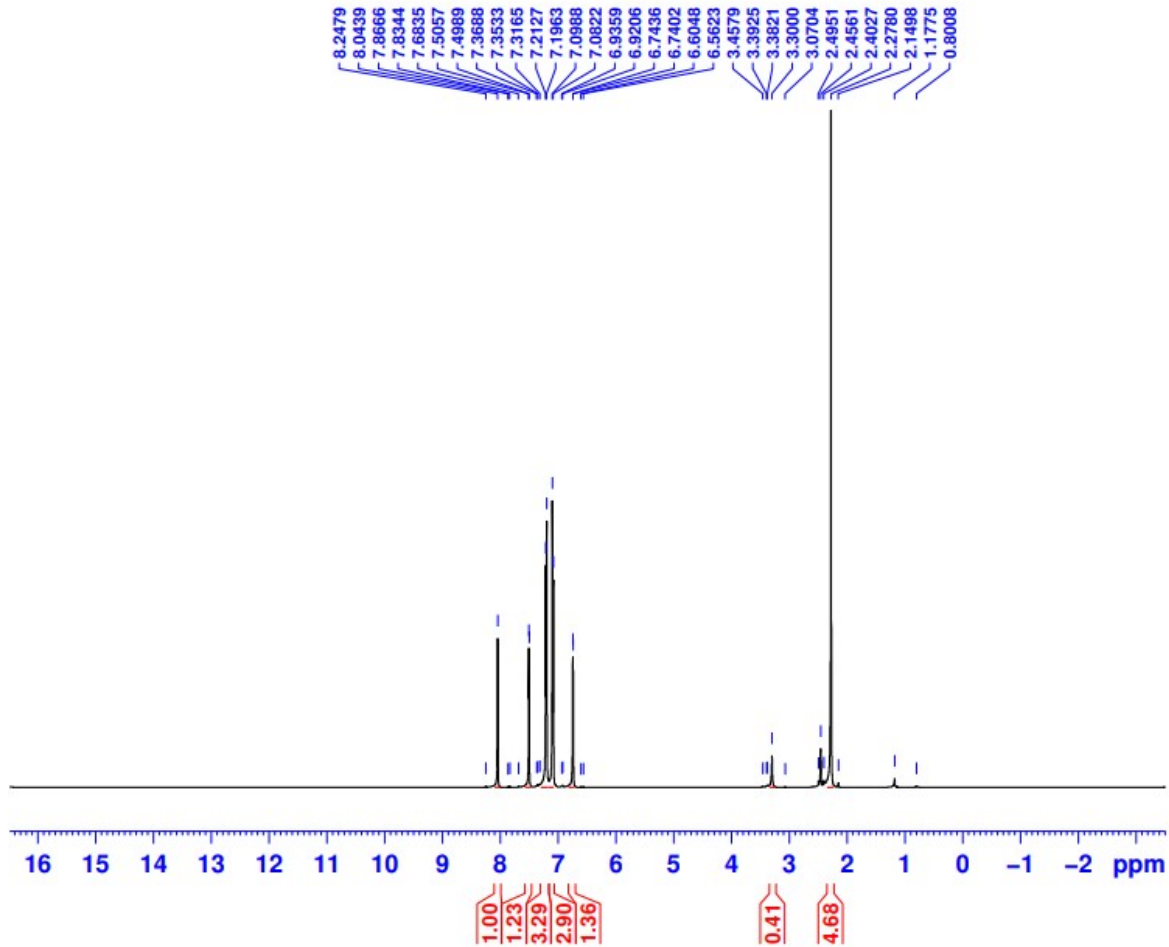
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Time 13.13
INSTRUM spect
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PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 23
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.1 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG2 waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

B7

F2Cr
NMR

The University of Jordan
Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

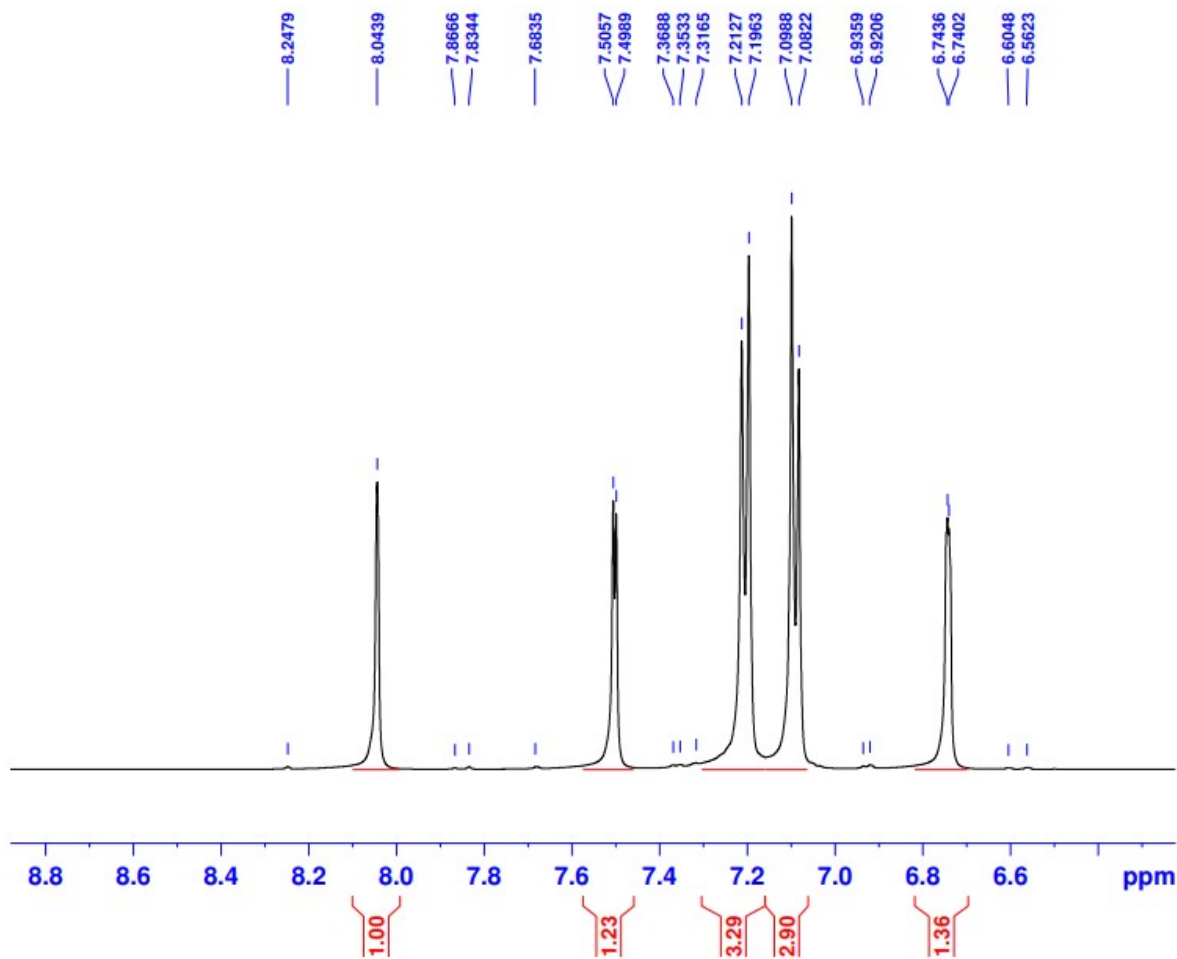
Current Data Parameters
NAME 19feb15jalal
EXPNO 2381
PROCNO 1

F2 - Acquisition Parameters
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Time 13.16
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 56.03
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

==== CHANNEL f1 =====
SFO1 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B7

F2Cr
NMR

The University of Jordan
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Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

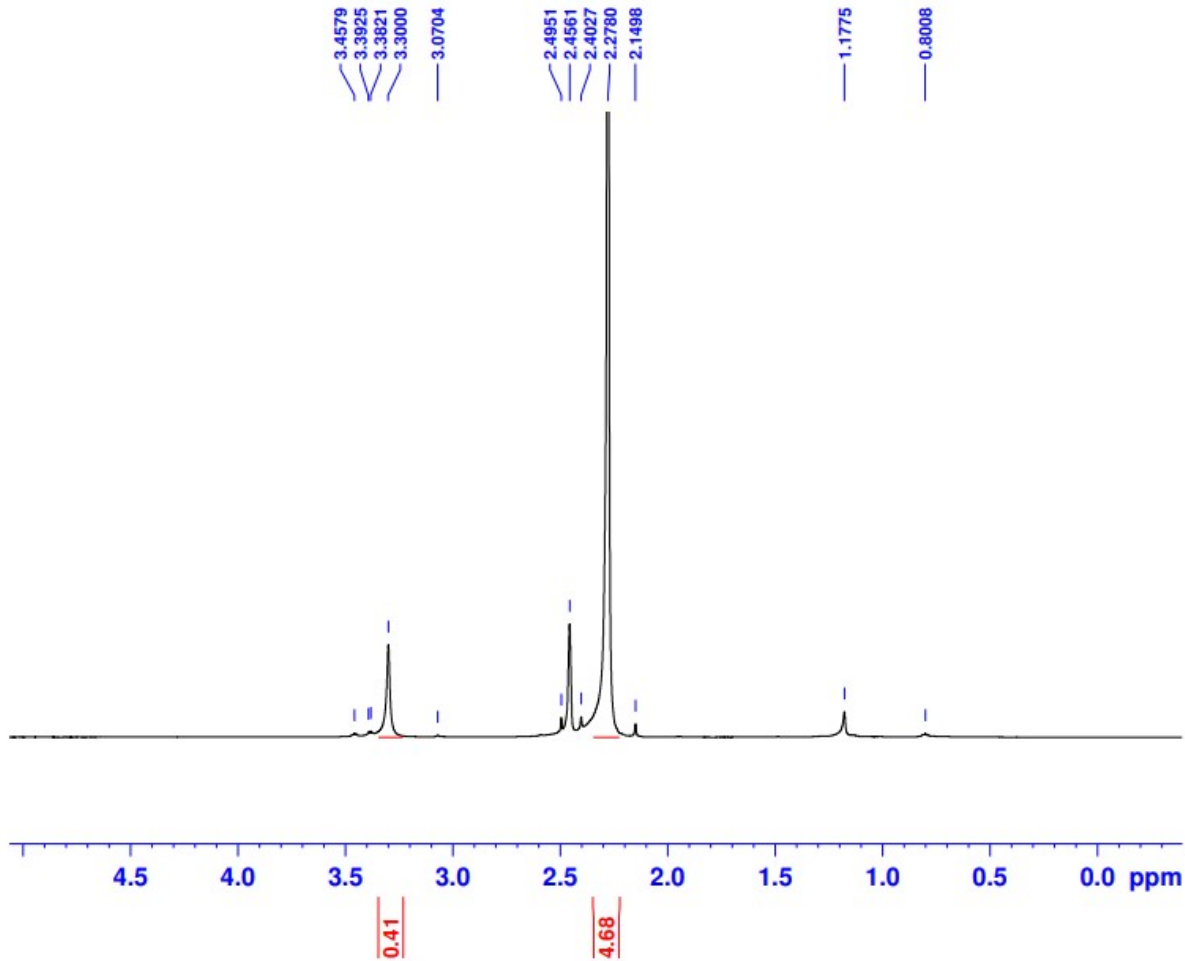
Current Data Parameters
NAME 19feb15jalal
EXPNO 2381
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.16
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 56.03
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B7

F2Cr
NMR

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

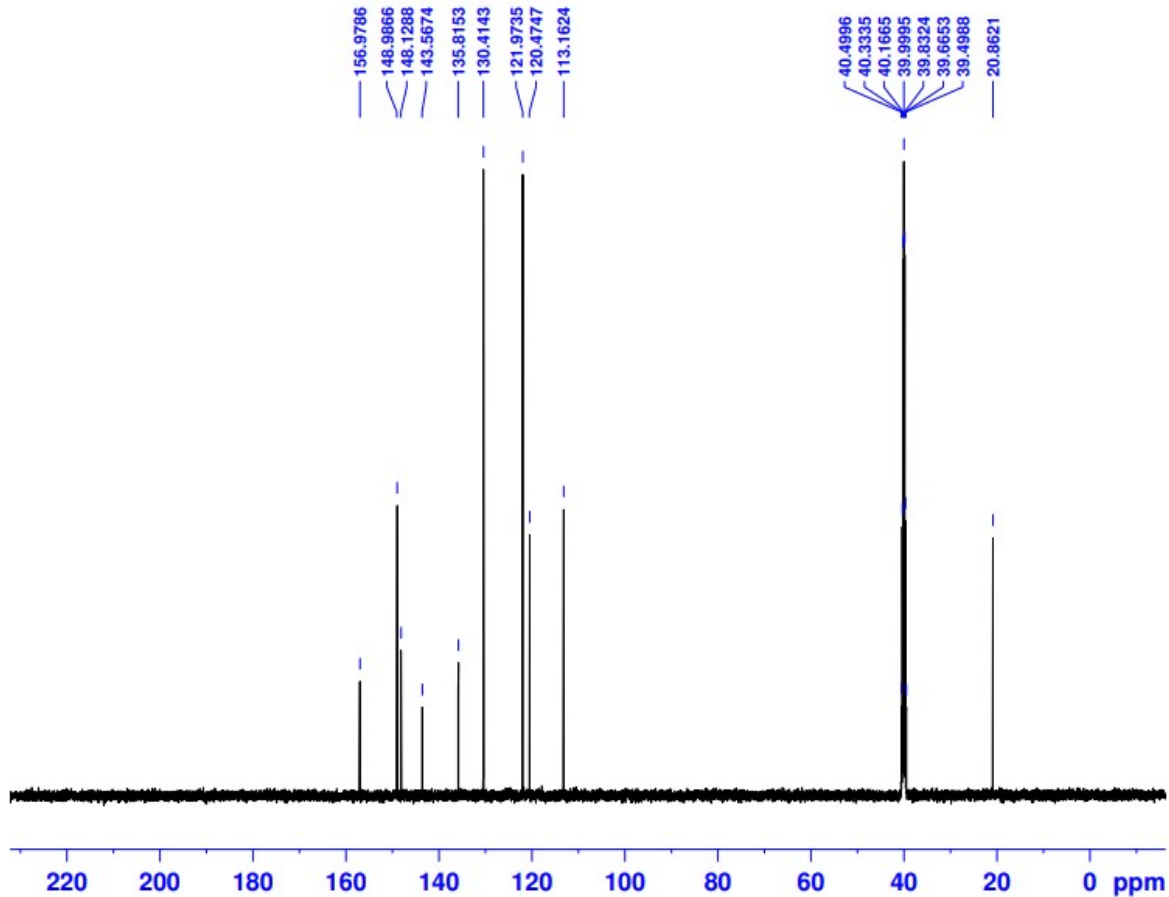
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NAME 19feb15jalal
EXPNO 2381
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.16
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT DMSO
NS 4
DS 0
SWH 10000.000 Hz
FIDRES 0.152588 Hz
AQ 3.2767999 sec
RG 56.03
DW 50.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
TD0 1

===== CHANNEL f1 =====
SF01 500.1332736 MHz
NUC1 1H
P1 10.60 usec
PLW1 17.39999962 W

F2 - Processing parameters
SI 131072
SF 500.1300270 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

B7

F2Cr
C13

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Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19feb15jalal
EXPNO 2382
PROCNO 1

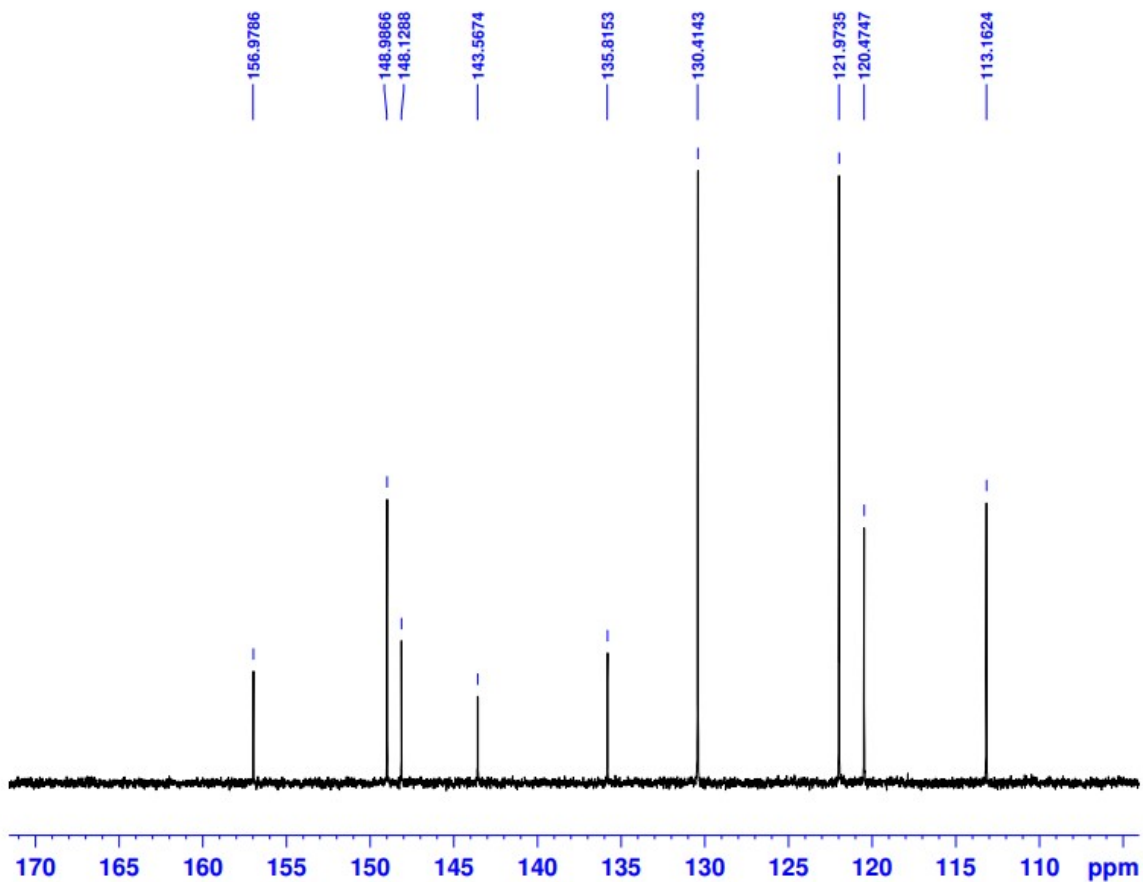
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Date_ 20190225
Time 13.19
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 47
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

===== CHANNEL f2 =====
SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

B7

F2Cr
C13

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Faculty of Science
Department of Chemistry

Instrument Model:
Bruker 500 MHz-Avance III

Operator: Rola Hassouneh
nmr500@ju.edu.jo

Current Data Parameters
NAME 19feb15jalal
EXPNO 2382
PROCNO 1

F2 - Acquisition Parameters
Date_ 20190225
Time 13.19
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zgpg30
TD 65536
SOLVENT DMSO
NS 47
DS 4
SWH 31250.000 Hz
FIDRES 0.476837 Hz
AQ 1.0485760 sec
RG 202.06
DW 16.000 usec
DE 6.50 usec
TE 298.0 K
D1 2.00000000 sec
D11 0.03000000 sec
TD0 1

===== CHANNEL f1 =====
SFO1 125.7713681 MHz
NUC1 13C
P1 9.80 usec
PLW1 93.32499695 W

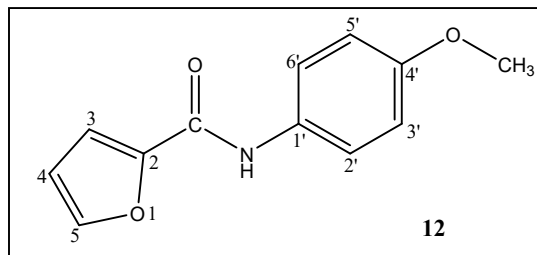
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SFO2 500.1320005 MHz
NUC2 1H
CPDPRG[2] waltz16
PCPD2 80.00 usec
PLW2 17.37800026 W
PLW12 0.36307999 W
PLW13 0.22982000 W

F2 - Processing parameters
SI 32768
SF 125.7577890 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.50

Appendix B

Mass spectra

F4As (C12)



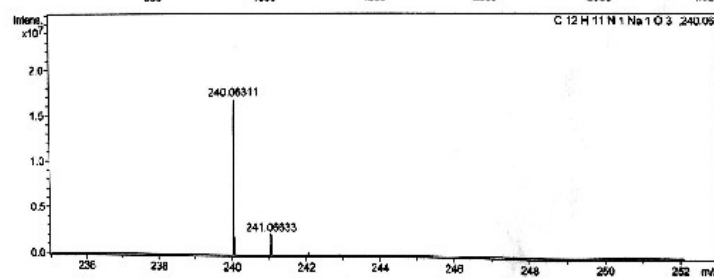
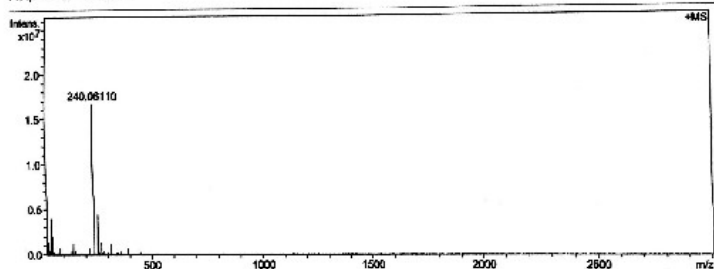
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Mass Spectrum Molecular Formula Report

Analysis Info Acquisition Date 1/15/2018 11:48:43 AM
 Analysis Name F:\Data\2018\JAN13\AREEJ_000029.d Operator Bruker_PC
 Method ESI_pos_20181024 Instrument apex-IV
 Sample Name F4AS
 Comment AGN+chclS

Acquisition Parameter



Sum Formula	Sigma	m/z	Err (ppm)	Mean Err (ppm)	Err (mDa)	rdB	N Rule	e ⁻
C ₁₂ H ₁₁ N ₁ O ₃	0.092	240.06311	8.37	8.17	2.01	7.50	ok	even

Bruker Daltonics DataAnalysis 3.4

printed: 1/15/2018 11:48:21 AM

Page 1 of 1



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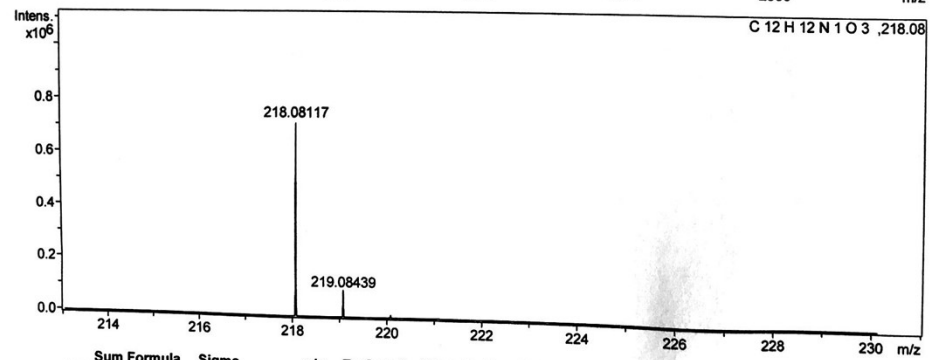
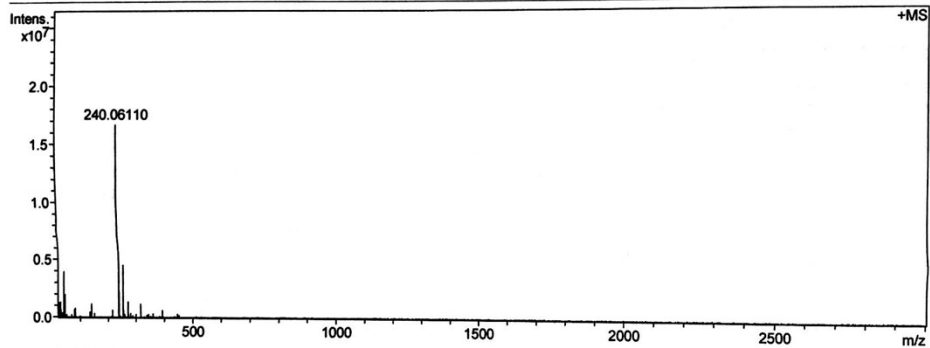
Mass Spectrum Molecular Formula Report

Analysis Info

Analysis Name F:\Data\2019JAN13\AREEJ_000029.d
Method ESI_pos_20181024
Sample Name F4AS
Comment ACN+chcl3

Acquisition Date 1/15/2019 11:46:43 AM

Operator Bruker_PC
Instrument apex-IV

Acquisition Parameter


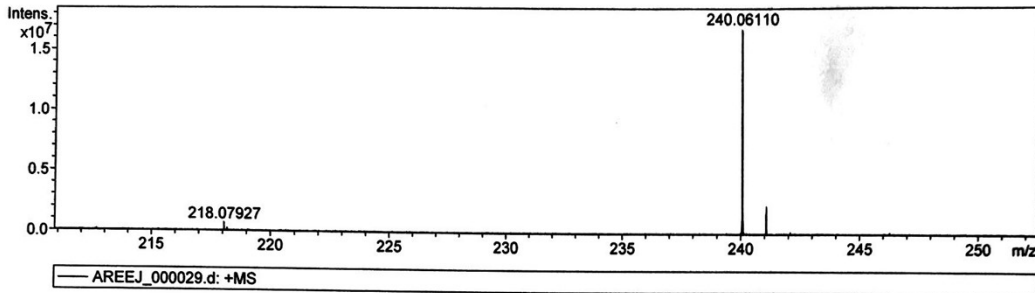
Sum Formula	Sigma	m/z	Err [ppm]	Mean Err [ppm]	Err [mDa]	rdB	N Rule	e ⁻
C 12 H 12 N 1 O 3	0.010	218.08117	8.72	8.06	1.90	7.50	ok	even

Mass Spectrum List Report

Analysis Info

Analysis Name F:\Data\2019\JAN13\AREEJ_000029.d
 Method ESI_pos_20181024
 Sample Name F4AS
 Comment ACN+chcl3

Acquisition Date 1/15/2019 11:46:43 AM
 Operator Bruker_PC
 Instrument apex-IV

Acquisition Parameter


#	m/z	I	I %
1	26.25429	1302858	7.7
2	30.00496	1400276	8.3
3	30.35563	559375	3.3
4	30.58470	581072	3.4
5	30.72794	560416	3.3
6	30.80649	561995	3.3
7	30.86824	563195	3.3
8	30.92163	571071	3.4
9	31.02984	584816	3.5
10	31.10576	606216	3.6
11	31.14863	629470	3.7
12	31.15687	584529	3.5
13	31.18847	575271	3.4
14	31.31186	656621	3.9
15	31.50048	567100	3.4
16	42.00681	3985585	23.6
17	46.35324	2015775	11.9
18	82.97911	878313	5.2
19	82.98098	775881	4.6
20	142.98987	1247417	7.4
21	218.07927	720905	4.3
22	240.04174	1339233	7.9
23	240.06110	16868448	100.0
24	240.08055	1258463	7.5
25	241.06461	2340288	13.9
26	256.03479	4632475	27.5
27	257.03856	664203	3.9
28	274.27146	1435566	8.5
29	318.29684	1252740	7.4
30	395.43701	728201	4.3