

Supporting Information

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Quinolone Alkaloids Along with Other Constituents from Zanthoxylum rhetsa and their Chemotaxonomic Significance

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and Monira Ahsan¹**

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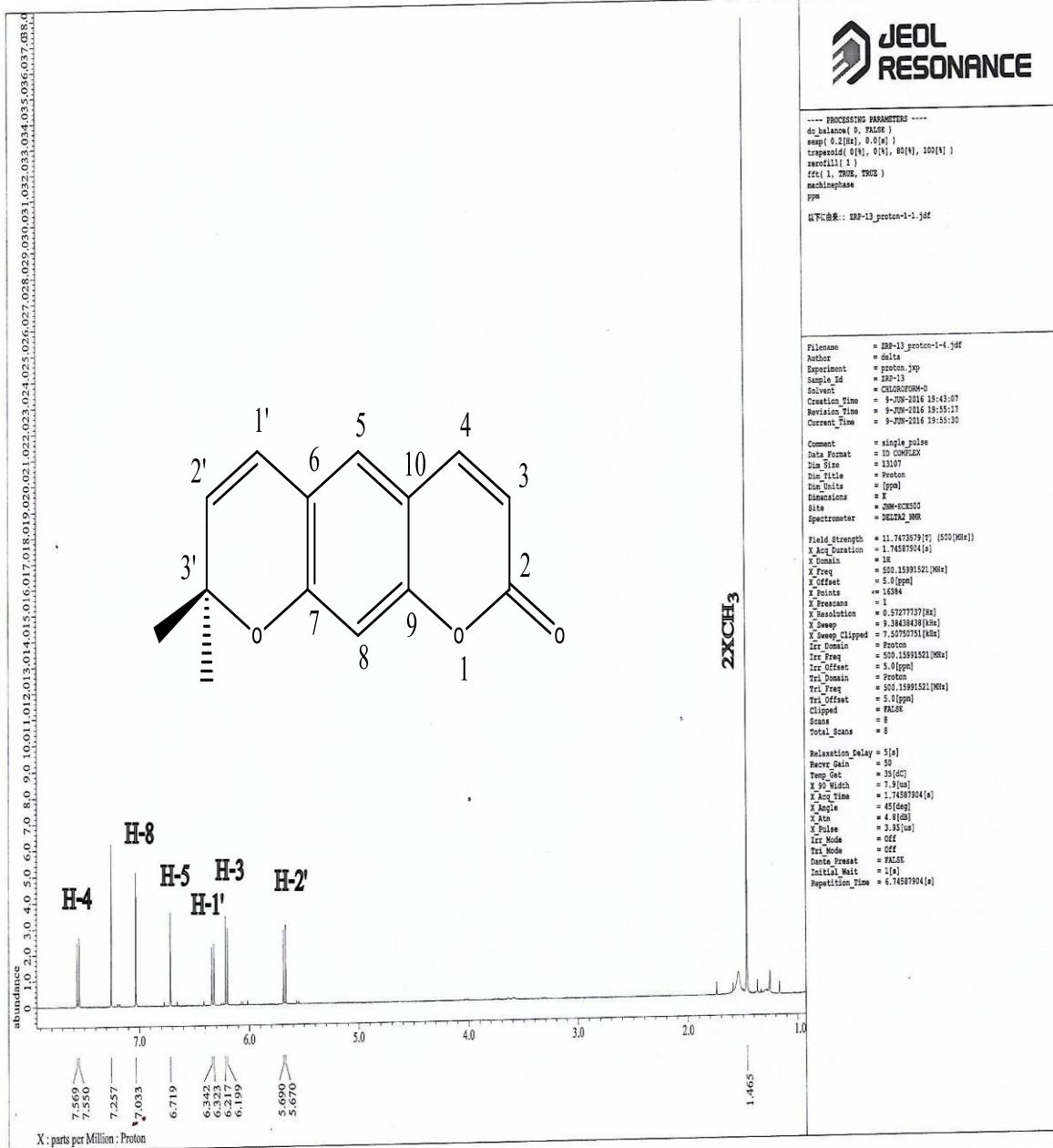
³*Department of Clinical Pharmacy and Pharmacology, Faculty of Pharmacy, University of Dhaka,
Bangladesh*

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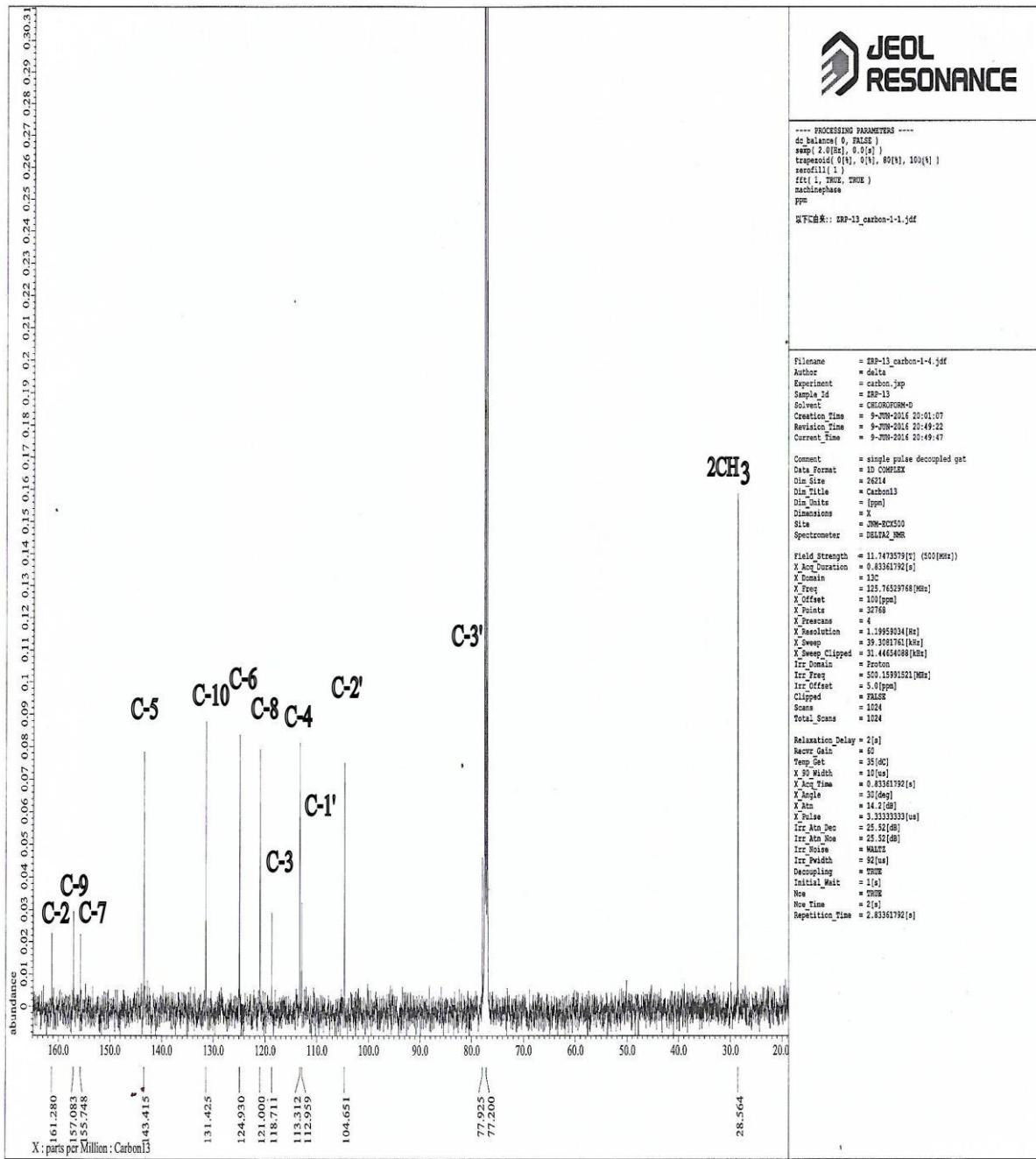
* Corresponding author: E- Mail: **fatema.zohora41@gmail.com** (F. T. Zohora), Phone +88-01675338774.

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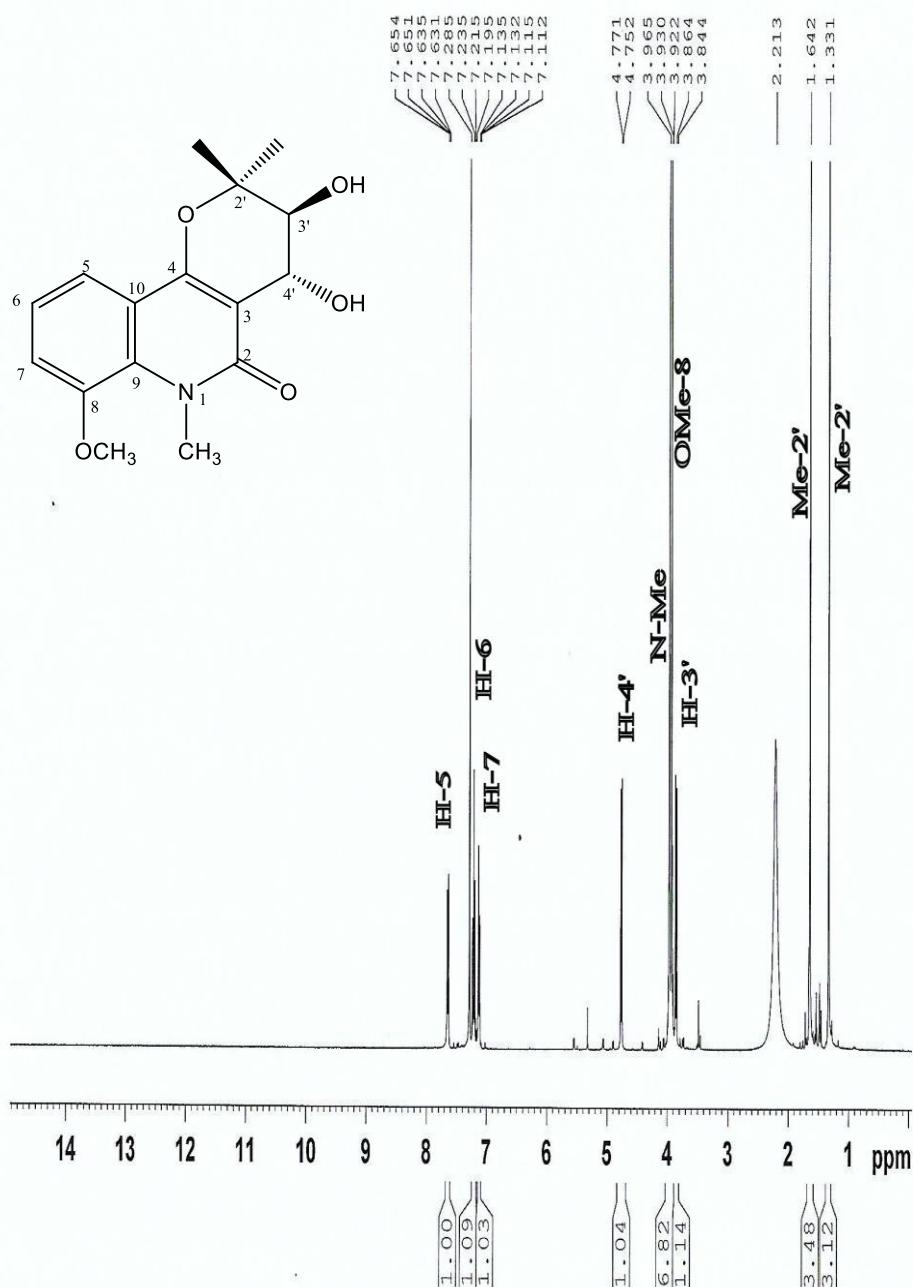
S1: ^1H NMR (500 MHz, CDCl_3) Spectrum of Compound **1**(Xanthyletin).



S2: ^{13}C NMR spectrum (150 MHz, CDCl_3) of Compound 1(Xanthyletin).

Xanthyletin (I): white crystals; $^1\text{H-NMR}$ (500 MHz, CDCl_3): δ 7.56 (1H, d, $J= 9.5$ Hz, H-4), 7.03 (1H, s, H-5), 6.72 (1H, s, H-8), 6.33 (1H, d, $J= 10.0$ Hz, H-4'), 6.21 (1H, d, $J= 9.5$ Hz, H-3), 5.68 (1H, d, $J= 10$ Hz, H-3'), 1.47 (6H, s, 2 x Me, H-5', 6').

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_12



Current Data Parameters
 NAME DU_ZRP_12
 EXPNO 1
 PROCN0 1

F2 - Acquisition Parameter:
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 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 165.43
 DW 62.400 us
 DE 6.50 us
 TE 298.9 K
 D1 2.0000000 sec
 TDO 1

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 NUC1 1H
 P1 14.75 us
 PLW1 12.0000000 W

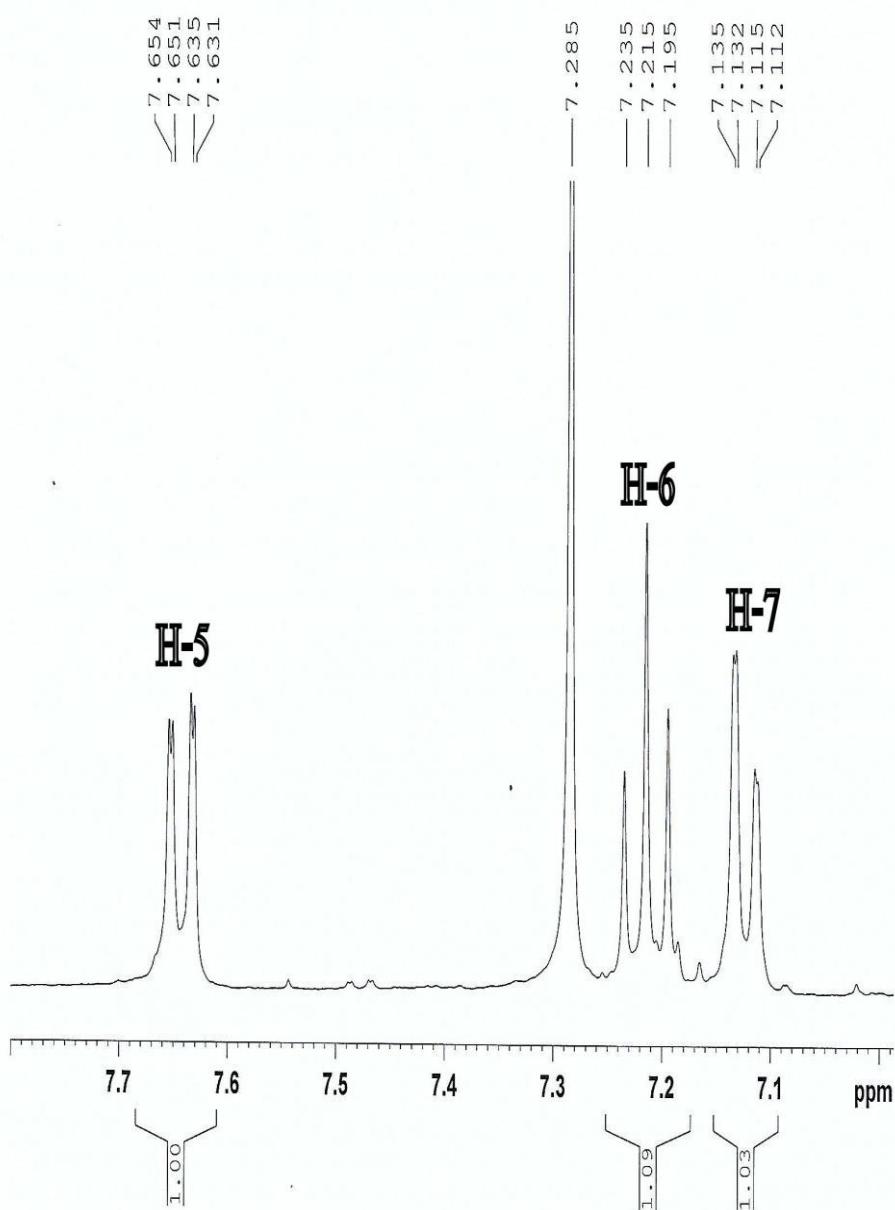
F2 - Processing parameters
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 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

S3: ^1H NMR (400 MHz, CDCl_3) Spectrum of Compound 2 (Zanthodioline)

Wazed Miah Science Research Center (WMSRC)

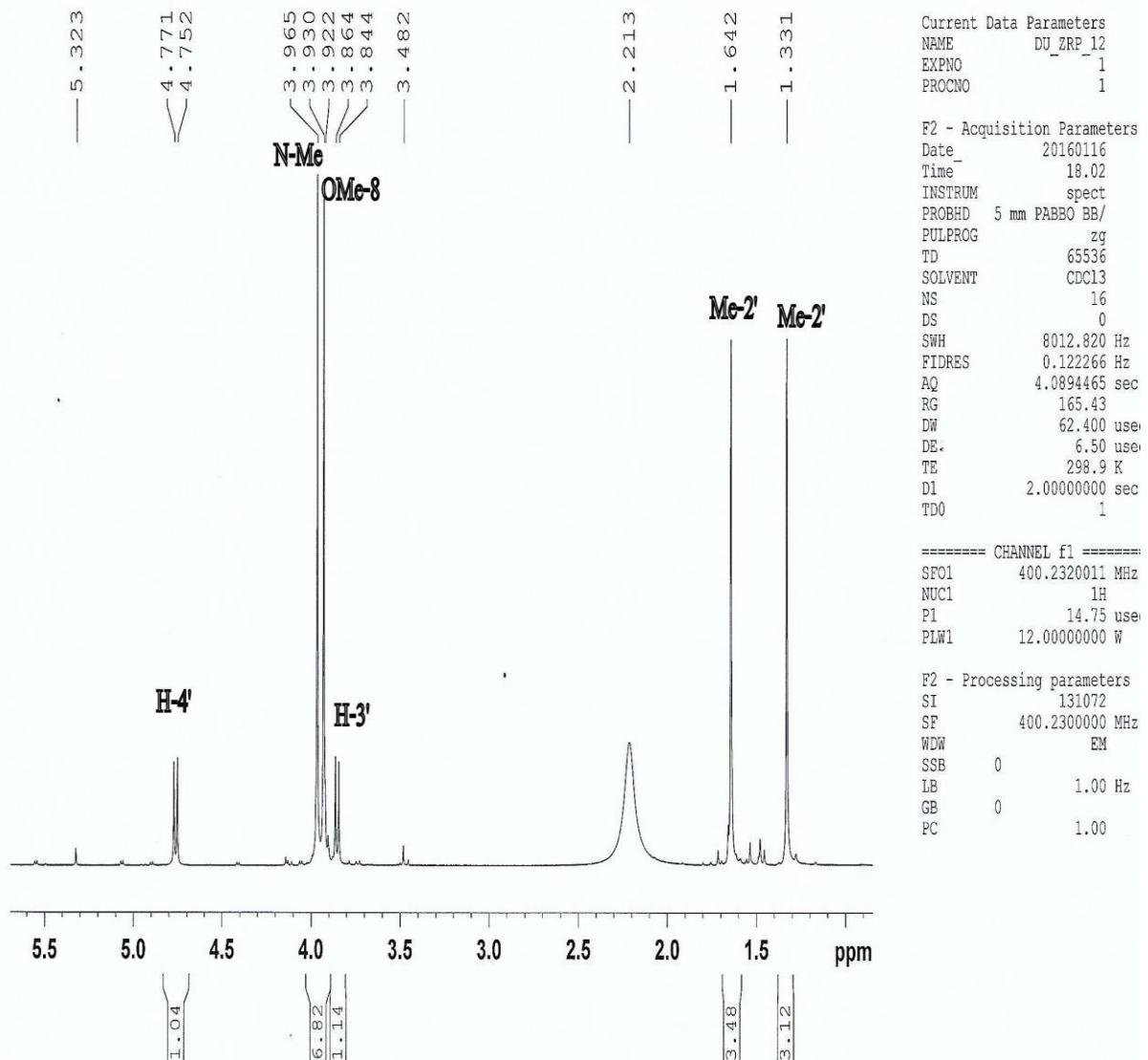
Jahangirnagar University

Sample: DU_ZRP_12



S4 : Partially expanded ^1H NMR spectrum (400 MHz, CDCl_3) of Compound 2

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Jahangirnagar University
Sample: DU_ZRP_12

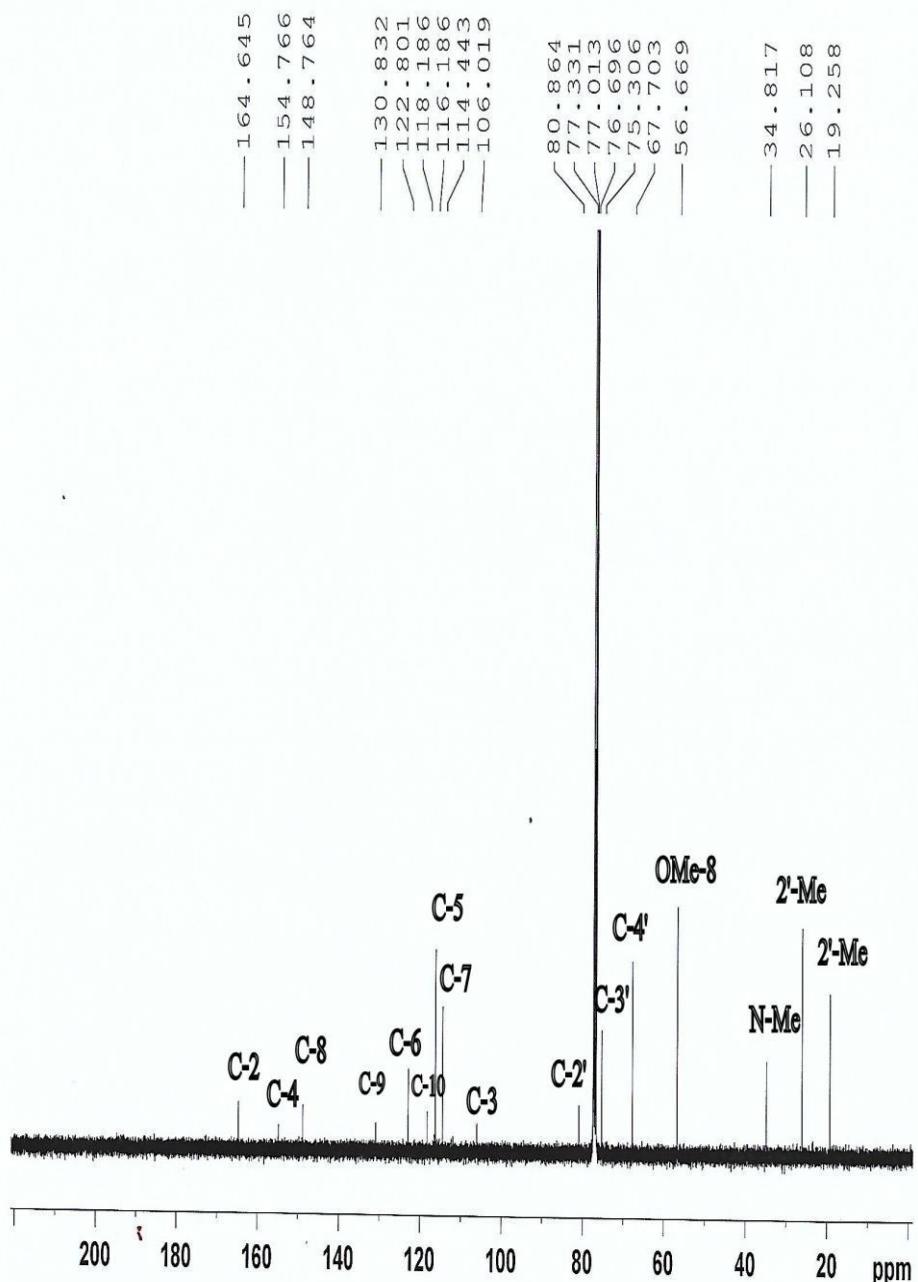


S5 : Partially expanded ^1H NMR (400 MHz, CDCl_3) Spectrum of Compound 2
(Zanthodioline)

Wazed Miah Science Research Center (WMSRC)

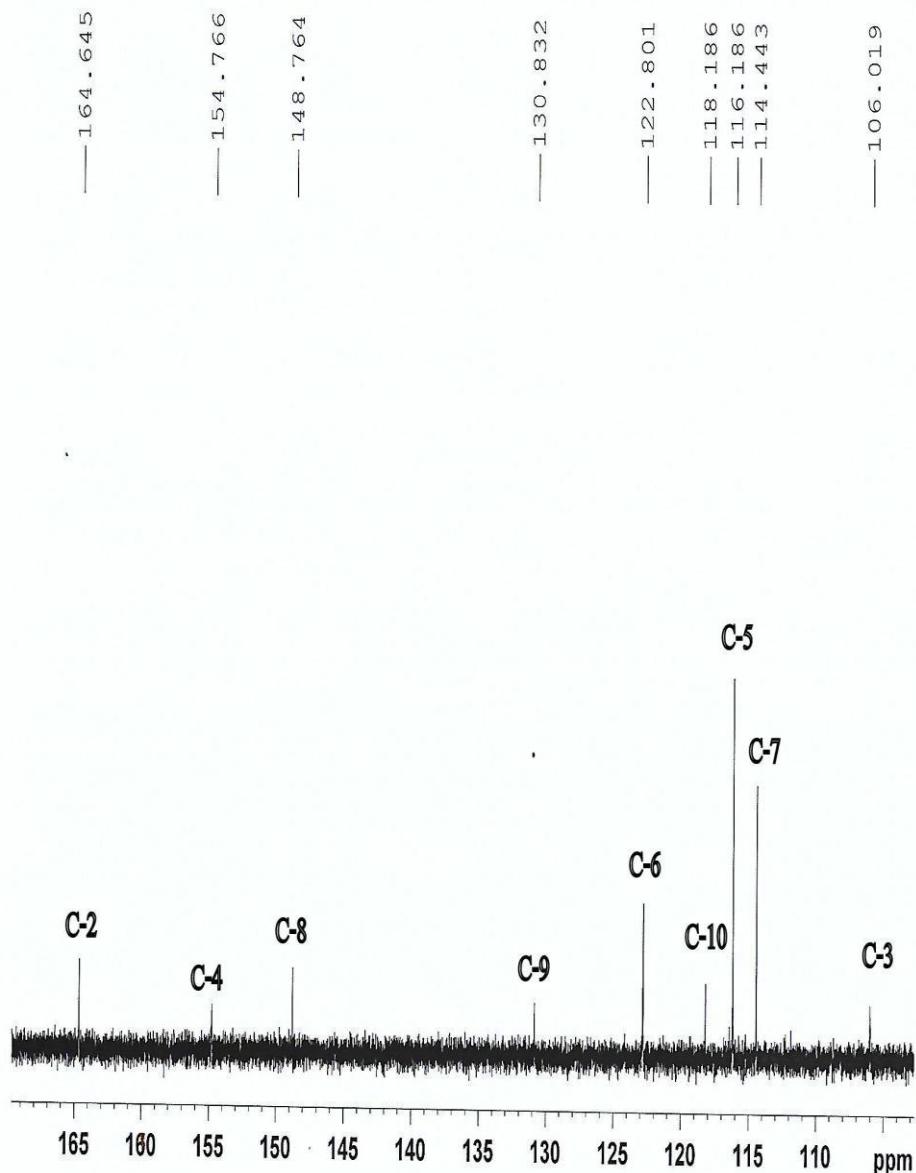
Jahangirnagar University

Sample: DU_ZRP_12



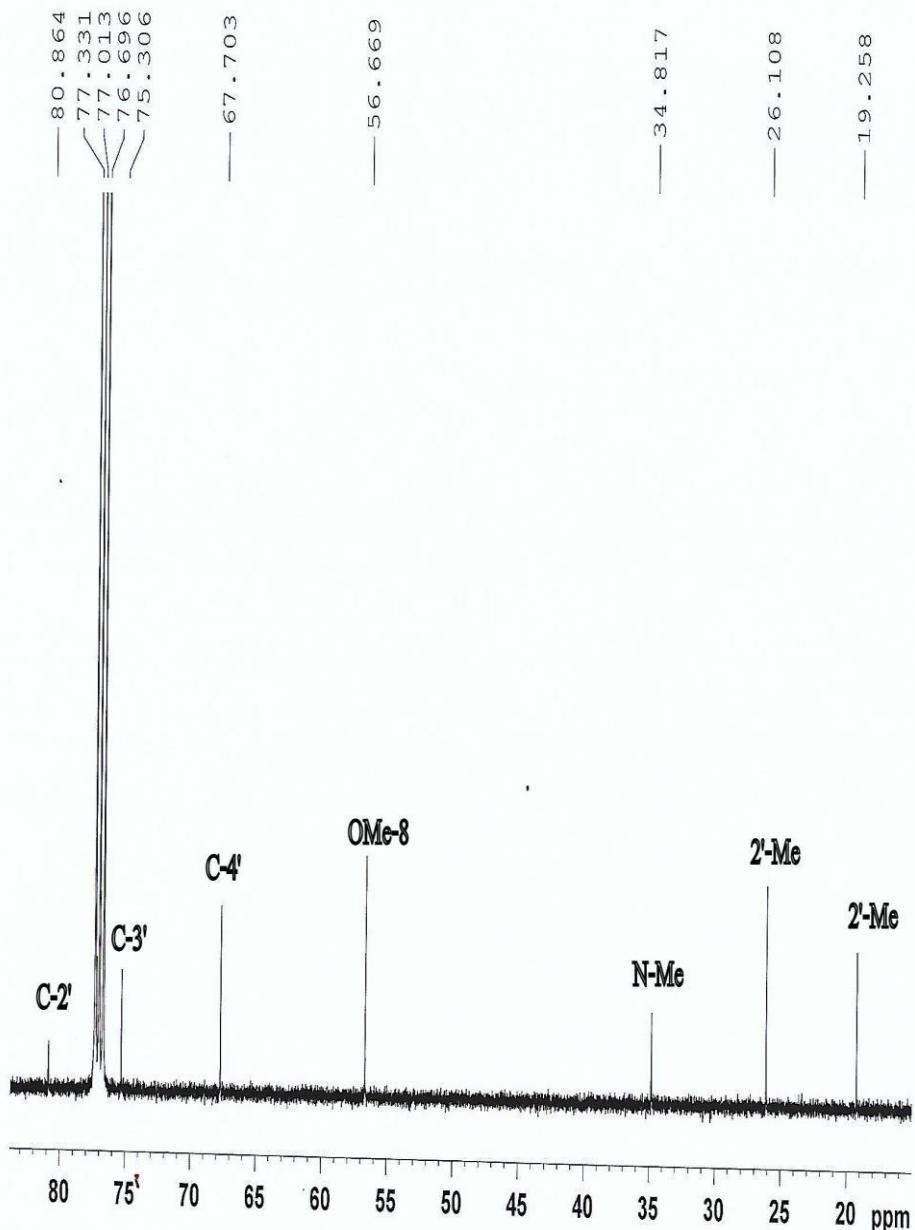
S6: ^{13}C NMR spectrum (100 MHz, CDCl₃) of Compound 2 (Zanthodioline)

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 Jahangirnagar University
 Sample: DU_ZRP_12



S7 : Partially expanded ¹³C NMR spectrum (100 MHz, CDCl₃) of Compound 2 (Zanthodioline)

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 Jahangirnagar University
 Sample: DU_ZRP_12



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 2
 PRCCNO 1

F2 - Acquisition Parameters
 Date 20160116
 Time 18.07
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg
 TD 524288
 SOLVENT CDCl₃
 NS 4096
 DS 0
 SWH 25252.525 H
 FIDRES 0.048165 H
 AQ 10.3809023 s
 RG 208.5
 DW 19.800 u
 DE 6.50 u
 TE 300.2 K
 D1 1.0000000 s
 D11 0.03000000 s
 TDO 1

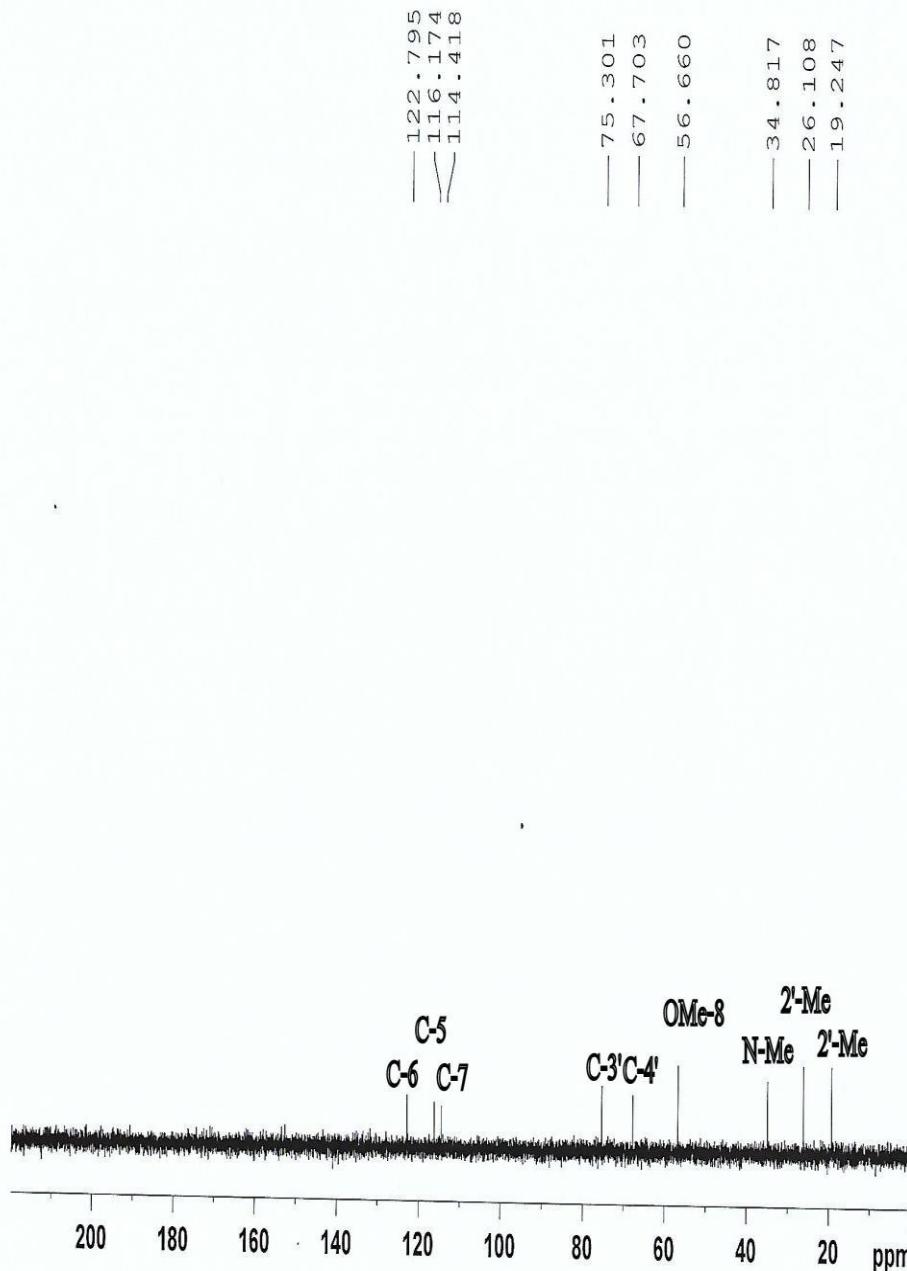
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 PI 10.00 us
 PLW1 49.0000000 W

===== CHANNEL f2 =====
 SFO2 400.2320011 MHz
 NUC2 ¹H
 CPDPRG[2] waltz16
 PCPD2 90.00 us
 PLW2 12.0000000 W
 PLW12 0.32231000 W
 PLW13 0.26107001 W

F2 - Processing parameters
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 SSB 0
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 GB 0
 PC 1.40

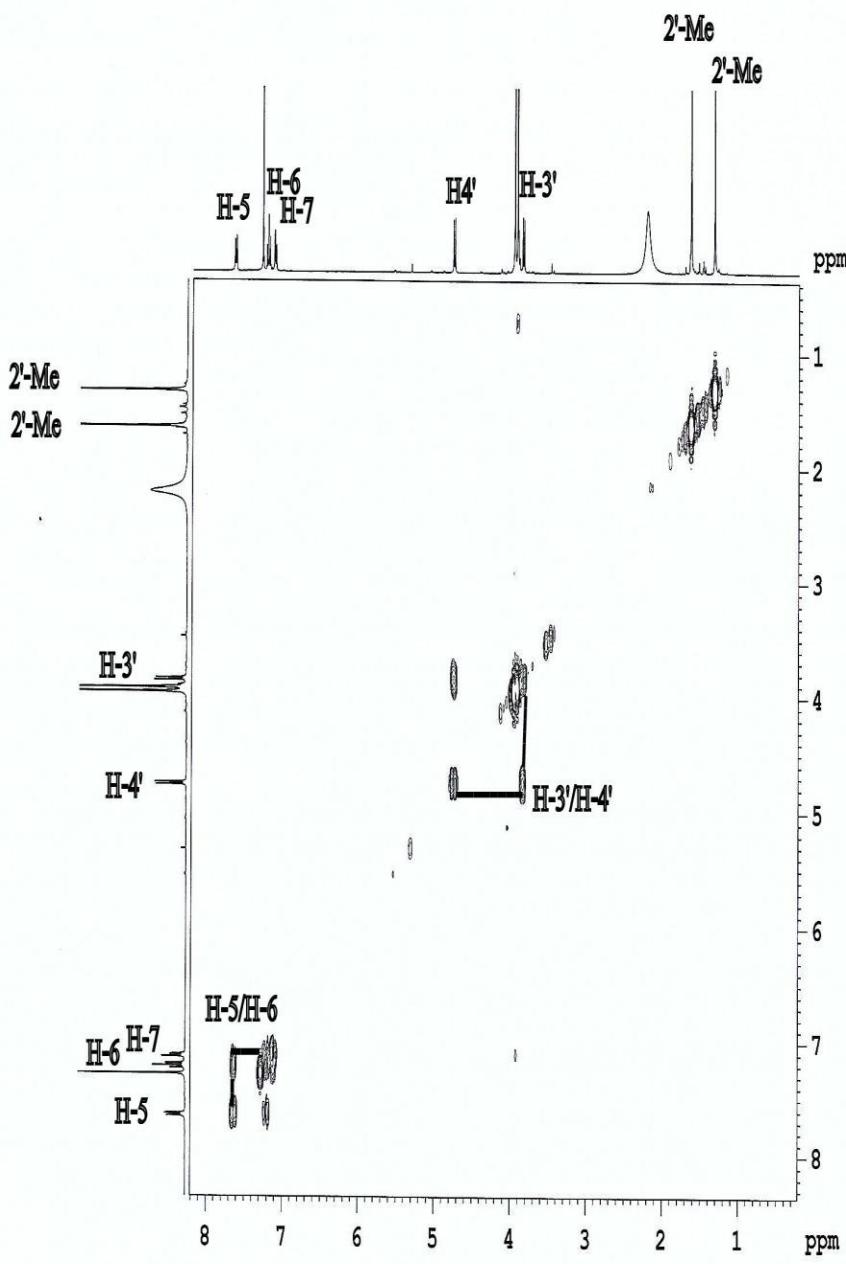
S8 : Partially expanded ¹³C NMR spectrum (100 MHz, CDCl₃) of Compound 2
 (Zanthodioline)

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 Sample: DU_ZRP_12, dept-135



S9: DEPT-135 spectrum of Compound 2 (Zanthodioline)

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 Jahangirnagar University
 Sample: DU_ZRP_12, cosy



Current Data Parameters
 NAME DU_ZRP_12
 EXPNO 4
 PROCN 1

F2 - Acquisition Parameters
 Date 20160117
 Time 8.14
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG cosyppf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 298.9 K
 D0 0.00000300 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 D16 0.00020000 sec
 ENQ 0.00012480 sec

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P0 14.75 usec
 P1 14.75 usec
 PLW1 12.0000000 W
 ===== GRADIENT CHANNEL =====
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 GP21 10.00 %
 P16 100.00 usec

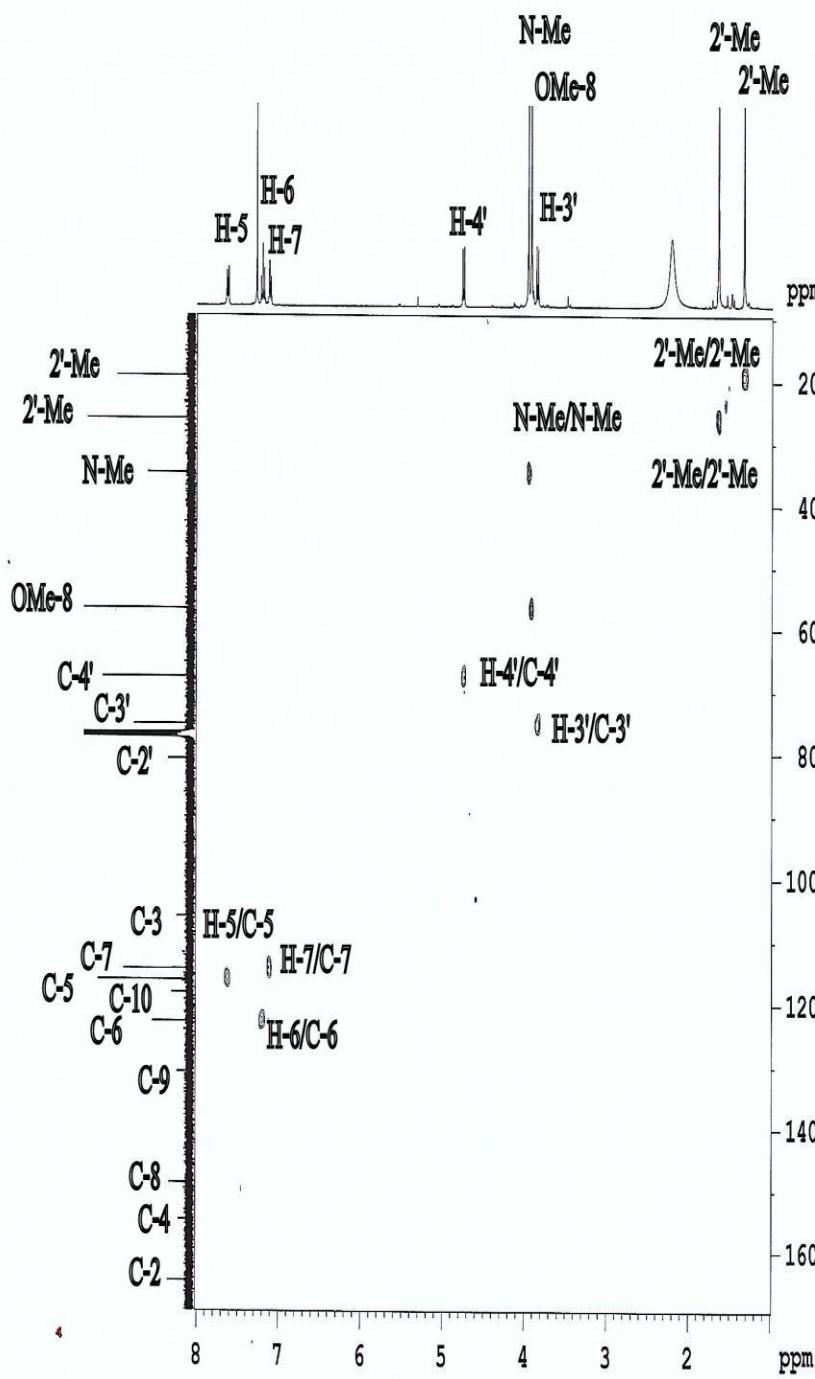
P1 - Acquisition parameters
 TD 128
 SF01 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 PR MODE QF

F2 - Processing parameters
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 SF 400.2300010 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40

P1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300011 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

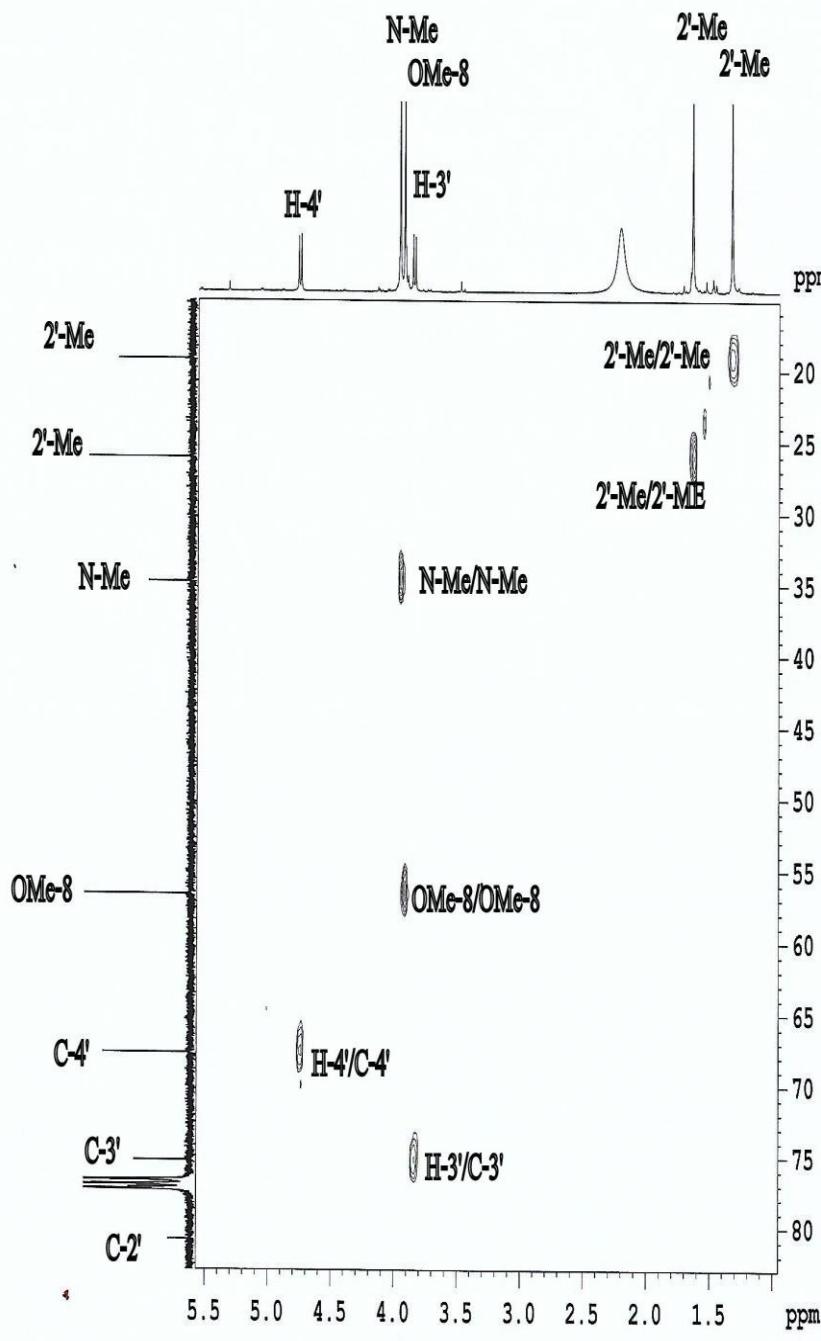
S10: COSY-NMR spectrum (400 MHz, CDCl_3) of Compound 2 (Zanthodioline)

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 Jahangirnagar University
 Sample: DU_ZRP_12, hsqc



S11 : HSQC- NMR spectrum (400 MHz, CDCl₃) of Compound 2 (Zanthiodioline)

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 Jahangirnagar University
 Sample: DU_ZRP_12, hsqc



Current Data Parameters
 NAME DU_ZRP_12
 EXPTNO 5
 PROBHDPL 5
 TD 2048
 SOLVENT CDCl3
 DW 400
 DE 4
 SWH 8012.820 Hz
 FIDRES 3.91210 Hz
 AQ 0.1277052 sec
 RG 208.5
 DM 62.400 usec
 TB 6.50 usec
 TS 298.6 K
 CNT2 145.000000
 CNT17 -0.500000
 D0 0.00000000 sec
 DI 1.00000000 sec
 TM 0.00000000 sec
 D11 0.00000000 sec
 D16 0.00000000 sec
 D11 0.00000000 sec
 D16 0.00000000 sec
 D24 0.00000000 sec
 INQ 0.00001980 sec

===== CHANNEL F1 =====

SP01 400.2320011 MHz
 NUC1 1H
 PI1 14.75 usec
 P2 29.50
 P2B 0 usec
 R1M1 12.0000000 W

===== CHANNEL F2 =====

SP02 100.6479798 MHz
 NUC2 13C
 CRDPFG[2] garp
 P3 10.00 usec
 P14 500.00 usec
 P1A 2000.00 usec
 PCP2C 60.00 usec
 P2B 0 W
 R1M2 49.0000000 W
 R1M1 49.7656201 W
 SPIN0[3] Crp80,0.5,20.1
 SP0A3 0.500
 SP0FF33 0 Hz
 SPW3 7.48659992 W
 SPIN0[7] Crp80,comp,4
 SP0A7 0.500
 SP0FFST 0 Hz
 SPW7 7.48659992 W

===== GRADIENT CHANNEL =====

GRADIN[1] SMC010.100
 GRADIN[2] SMC010.100
 GRADIN[3] SMC010.100
 GRADIN[4] SMC010.100
 GR21 80.00 %
 GR22 20.10 %
 GR23 11.00 %
 GR24 -5.00 %
 P16 1000.00 usec
 P19 600.00 usec

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 SP01 1024
 FIDRES 197.98355 Hz
 SW 251.899 ppm
 FIDNOCV Echo-Antiecho

F2 - Processing parameters

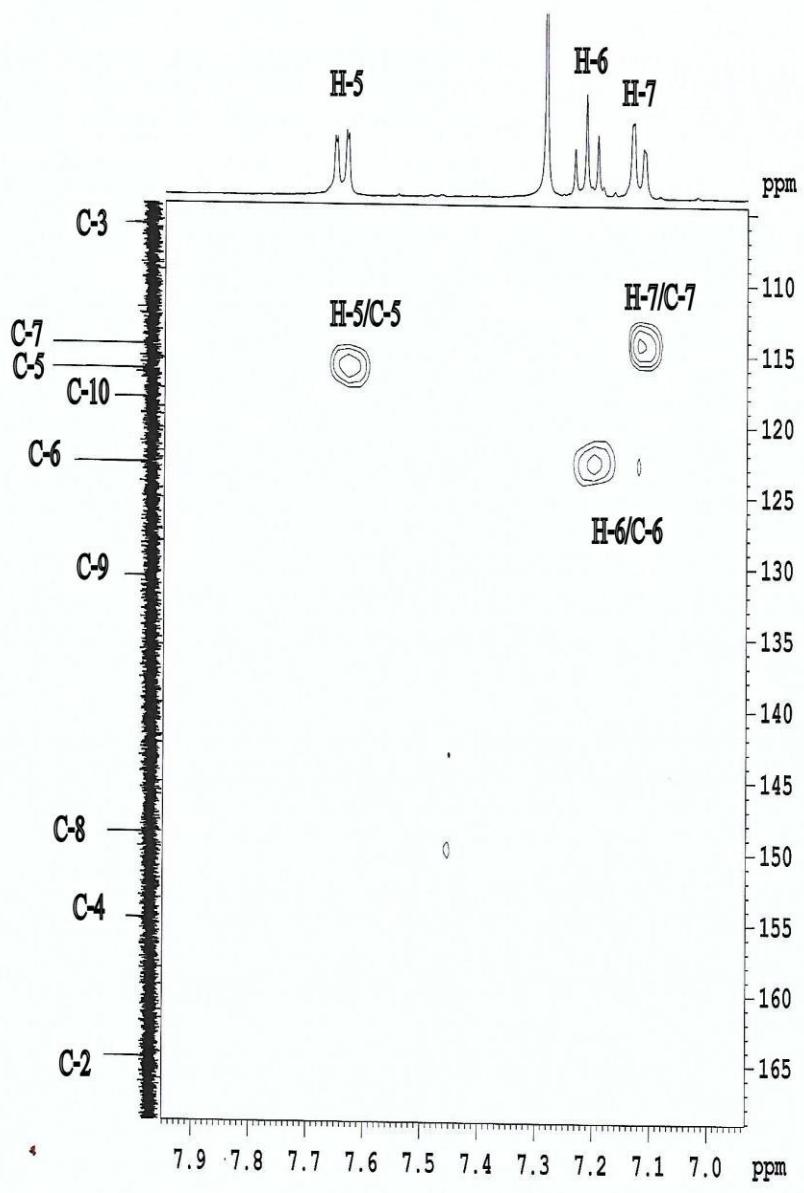
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 WM 0.00000000
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.40

F1 - Processing parameters

SI 1024
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 SF 100.6379165 MHz
 MW 0.00000000
 SSB 2
 LB 0 Hz
 GB 0

S12: Partially expanded HSQC- NMR spectrum (400 MHz, CDCl₃) of Compound 2
 (Zanthodioline)

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 Sample: DU_ZRP_12, hsqc



Current Data Parameters
 NAME DU_ZRP_12
 EXPRO 5
 PROCHO 1

FI - Acquisition Parameters
 DATE_201117
 TIME_ 8.26
 INSTRUM spect
 PROBHD 5 mm PABBO BB
 PULPROG hsqcetsgppspgrd
 TD 2048
 SCAMEN CDC13
 NS 4
 DS 1
 SWH 8012.820 Hz
 FIDRES 3.95150 Hz
 AQ 0.1277652 sec
 RG 208.5
 DM 62.400 usec
 SR 6.50 usec
 TR 298.6 K
 CHAN1 145.000000
 CHAN17 -1.500000
 DO 0.000000 sec
 D1 1.0000000 sec
 D4 0.0017214 sec
 D11 0.0300000 sec
 D12 0.0030000 sec
 D21 0.0030000 sec
 D24 0.0003000 sec
 TDC 0.00001980 sec

***** CHANNEL F1 *****
 SPQ1 400.23200311 MHz
 NUC1 1H
 F1 14.75 usec
 P1 29.50 usec
 P2B 0 usec
 P1WI 12.00000000 W

***** CHANNEL F2 *****
 SPQ2 100.6419778 MHz
 NUC2 13C
 CPURNG1 garp
 P3 10.00 usec
 P1A 600.00 usec
 P2A 2000.00 usec
 PCP2 80.00 usec
 P3A 0 W
 P4A 49.00000000 W
 P1M2 0.76563001 W
 SPINW[3] Crp@0,0.1,20.1
 SPINL3 0.500
 SPINP3 0 Hz
 SPIN3 7.48655992 W
 SPINW[7] Crp@0,comp,4
 SPINL7 0.500
 SPINP7 0 Hz
 SPFW 7.48655992 W

***** GRADIENT CHANNEL *****
 GRINW[1] SW@10.100
 GRINW[2] SW@10.100
 GRINW[3] SW@10.100
 GRINW[4] SW@10.100
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 GFI2 20.00 s
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 GFI4 -5.00 s
 P16 1000.00 usec
 P19 600.00 usec

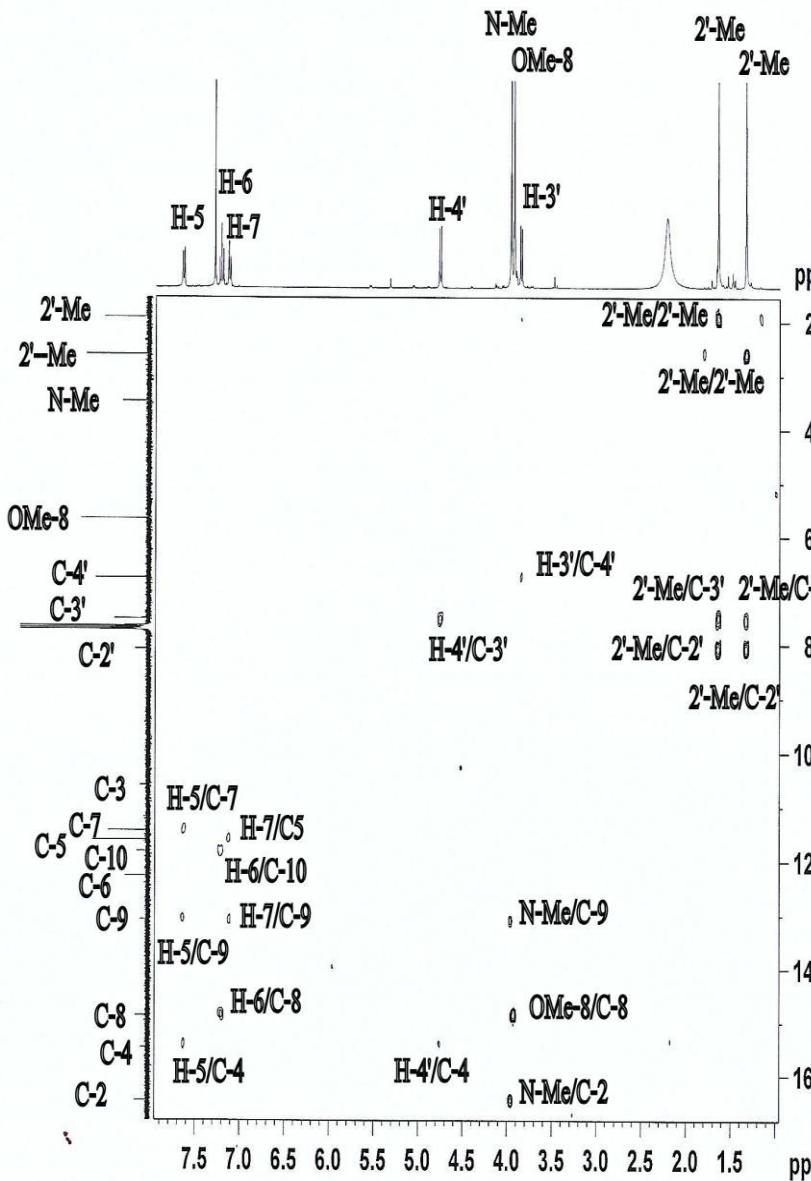
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 FIDRES 197.653152 Hz
 SW 20.889 ppm
 FIDNOE Echo-Antiecho

FI - Processing parameters
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 SF 400.2300000 MHz
 NWD 251168
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.40

FI - Processing parameters
 SI 1024
 MC2 echo-antiecho
 SF 100.6379165 MHz
 NWD 251168
 SSB 2
 LB 0 Hz
 GB 0

S13: Partially expanded HSQC-NMR spectrum (400 MHz, CDCl₃) of Compound 2
 (Zanthodioline)

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 Sample: DU_ZRP_12, hmbc



Current Data Parameters
 NAME DU_ZRP_12
 EXNO 6
 PROGNO 1

F2 - Acquisition Parameters
 Date 20160117
 Time 8.36
 INSTRUM spect
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 PULPROG hmbcplindgf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62,400 used
 DE 6.50 used
 TE 299.0 K
 CNT12 145.000000
 CNT13 10.000000
 D0 0.0000000 sec
 D1 1.0000000 sec
 D2 0.0344828 sec
 D6 0.0500000 sec
 D16 0.0002000 sec
 IND 0.00001980 sec

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P1 14.75 usec
 P2 29.50 usec
 PLW1 12.0000000 W

===== CHANNEL f2 =====
 SF02 100.6479773 MHz
 NUC2 13C
 P1 10.00 usec
 PLW2 49.0000000 W

===== GRADIENT CHANNEL =====
 GPMAM[1] SINEQ10.100
 GPMAM[2] SINEQ10.100
 GPMAM[3] SINEQ10.100
 GP21 50.00 %
 GP22 30.00 %
 GP23 10.10 %
 P16 1000.00 usec

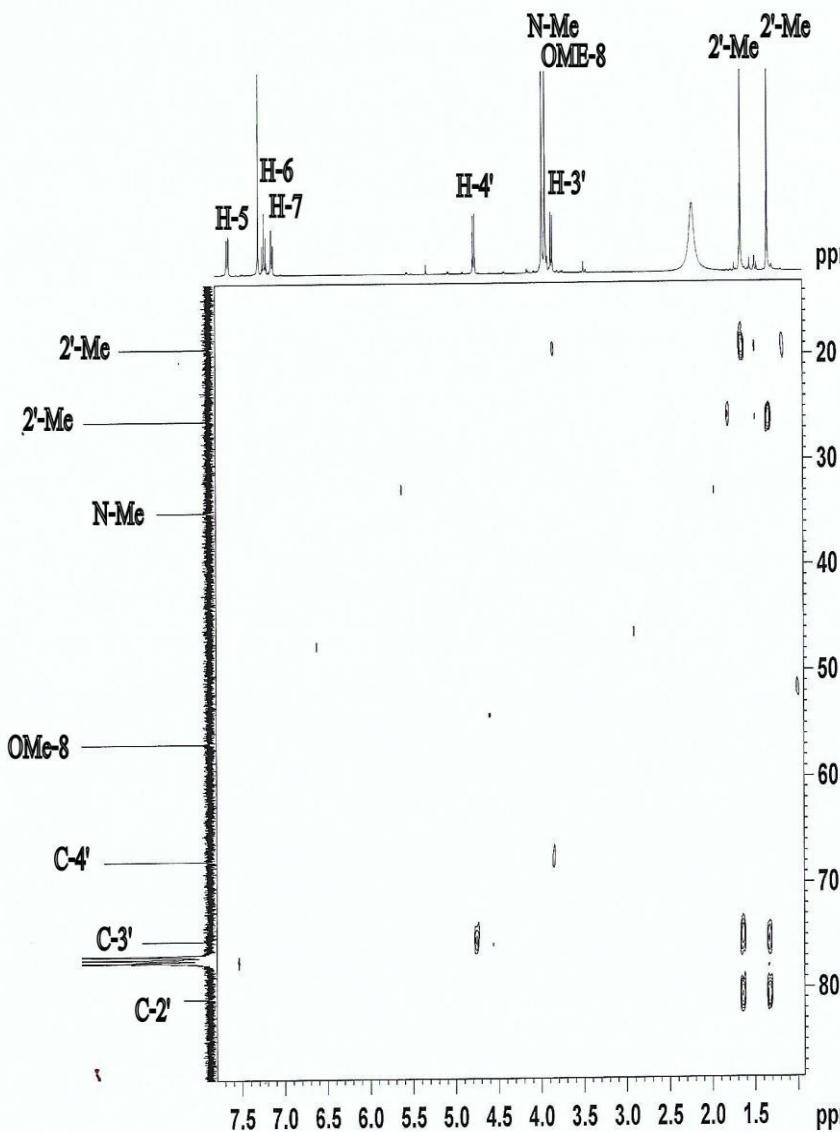
F1 - Acquisition parameters
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 SW 250.099 ppm
 PRWIDE QF

F2 - Processing parameters
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 SF 400.2300000 MHz
 MW0 SINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 100.6379135 MHz
 MW0 SINE
 SSB 0
 LB 0 Hz
 GB 0

S14: HMBC- NMR spectrum (400 MHz, CDCl₃) of Compound 2 (Zanthodioline)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_12, hmbc



Current Data Parameters
 NAME DU_ZRP_12
 EXENO 6
 PROCN0 1

F2 - Acquisition Parameters
 Date 20160117
 Time 8.36
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 PULPROG hmbcplndgf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TM 29.3 K
 CNT12 145.0000000
 CNT13 10.0000000
 DD 0.0000300 sec
 D1 1.0000000 sec
 D2 0.0034482 sec
 D6 0.0500000 sec
 D16 0.000920000 sec
 IN0 0.00001980 sec

===== CHANNEL f1 =====
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 NUC1 1H
 P1 14.75 usec
 F2 29.50 usec
 PLM1 12.0000000 W

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 NUC2 13C
 P3 10.00 usec
 PLM2 49.00000000 W

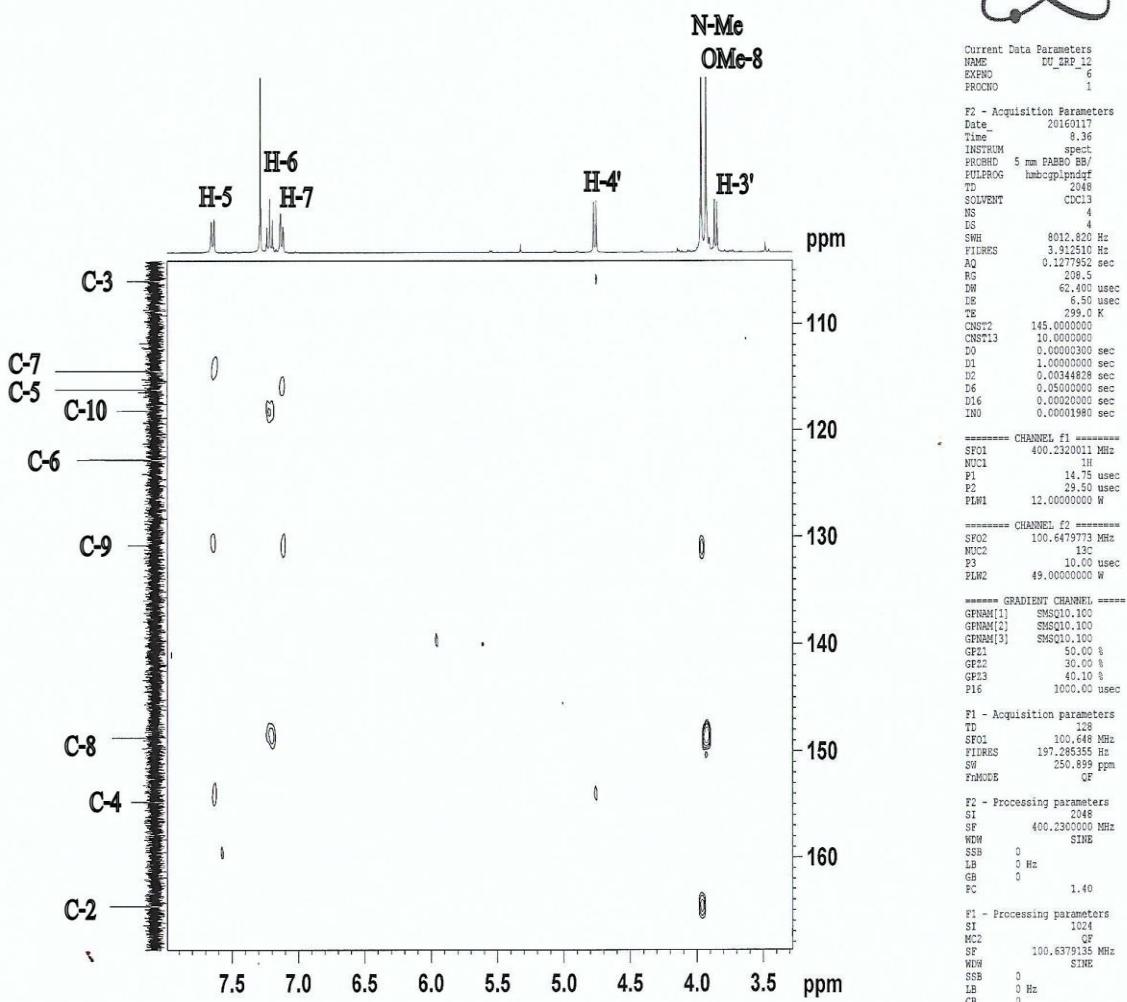
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 GENNM1[3] SNSQ10.100
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 GPZ2 30.00 %
 GPZ3 40.10 %
 P16 1000.00 usec

F1 - Acquisition parameters
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 SF01 100.648 MHz
 FIDRES 197.285355 Hz
 SW 250.899 ppm
 PRMODE QF
 F2 - Processing parameters
 SI 2048
 SF 400.2300000 MHz
 NDW SINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 100.6379135 MHz
 WDW SINE
 SSB 0
 LB 0 Hz
 GB 0

S15 : Partially expanded HMBC- NMR spectrum (400 MHz, CDCl₃) of Compound 2 (Zanthodioline)

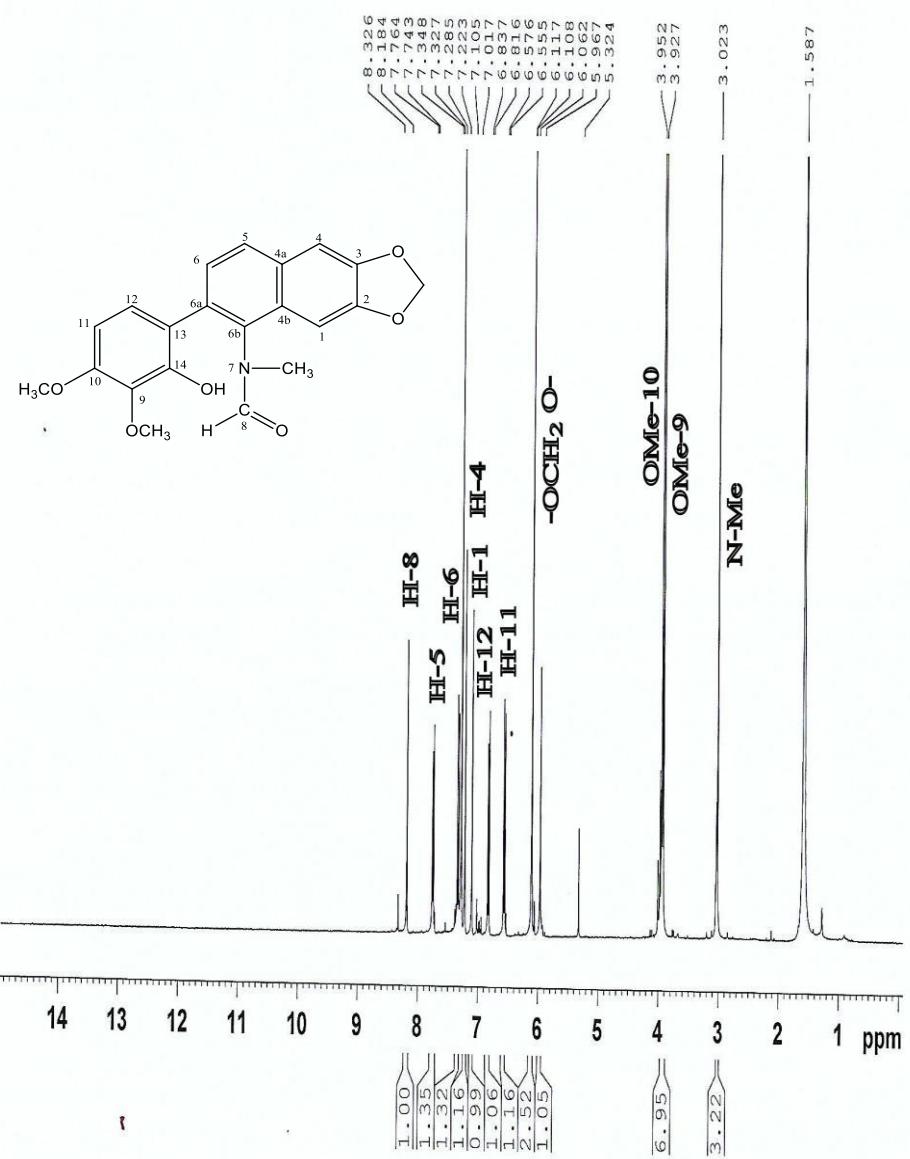
Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_12, hmbc



S16: Partially expanded HMBC- NMR spectrum (400 MHz, CDCl₃) of Compound 2 (Zanthodioline).

Zanthodioline (2): white crystals; ¹H-NMR (500 MHz, CDCl₃): δ 7.64 (dd, $J= 8.0, 1.2$ Hz, H-5), 7.22 (1H, t, $J= 8.0$ Hz, H-6), 7.12 (1H, dd, $J= 8.0, 1.2$ Hz, H-7), 4.76 (1H, d, $J= 8$ Hz, H-4'), 3.97 (3H, s, N-Me), 3.93 (3H, s, OMe-8), 3.84 (1H, d, $J= 8$ Hz, H-3'), 1.64 (3H s, H-2' Me), 1.33 (3H, s, H-2' Me). ¹³C-NMR (125 MHz, CDCl₃): δ 164.6 (C-2), 154.8 (C-4), 148.8 (C-8), 130.8 (C-9), 122.8 (C-6), 118.2 (C-10), 116.2 (C-5), 114.4 (C-7), 106.0 (C-3), 80.9 (C-2'), 75.3 (C-3'), 67.7 (C-4'), 56.7 (OMe-8), 34.8 (N-Me), 26.1 (C-2' Me), 19.3 (C-2' Me).

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 Sample: DU_ZRP_20



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 1
 PROCNO 1

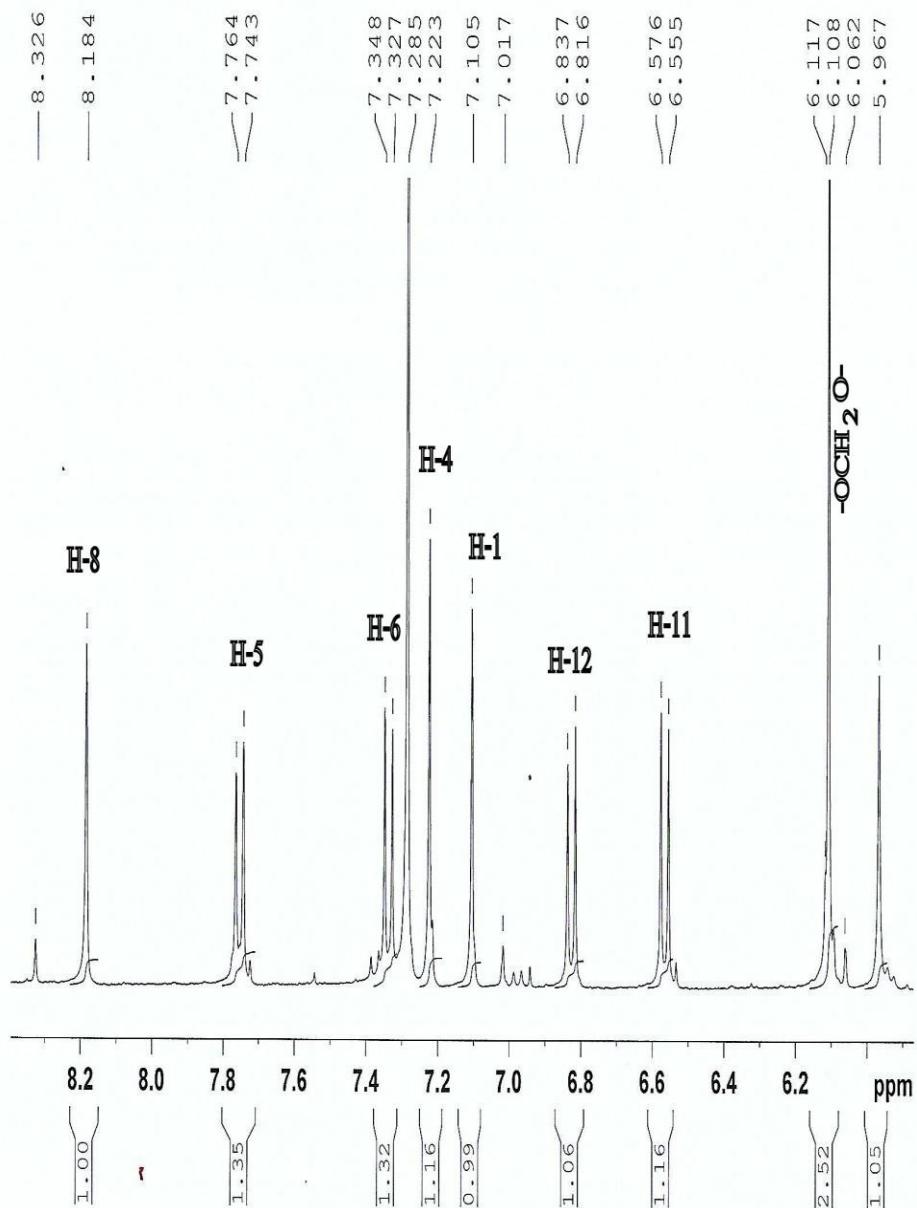
F2 - Acquisition Parameter
 Date 20160116
 Time 10.46
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 165.43
 DW 62.400 us
 DE 6.50 us
 TE 298.6 K
 D1 2.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 SFO1 400.2320011 MHz
 NUC1 1H
 P1 14.75 us
 PLW1 12.0000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

S17 : ¹H NMR (400 MHz, CDCl₃) Spectrum of Compound 3 (Arnottianamide).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_20



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 1
 PROCNO 1

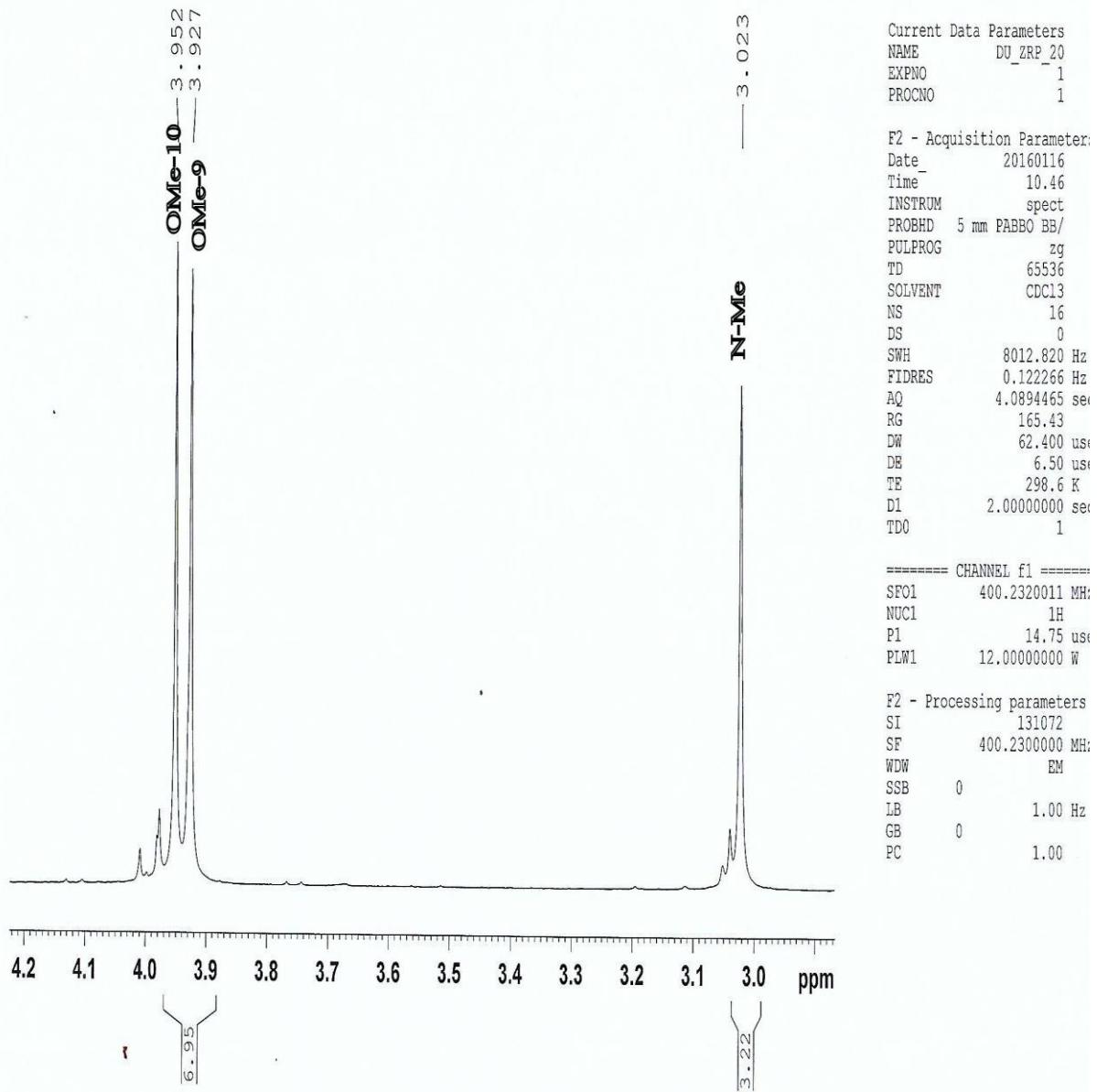
F2 - Acquisition Parameters
 Date 20160116
 Time 10.46
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl₃
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 165.43
 DW 62.400 use
 DE 6.50 use
 TE 298.6 K
 D1 2.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 SF01 400.2300011 MHz
 NUC1 1H
 P1 14.75 use
 PLW1 12.0000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

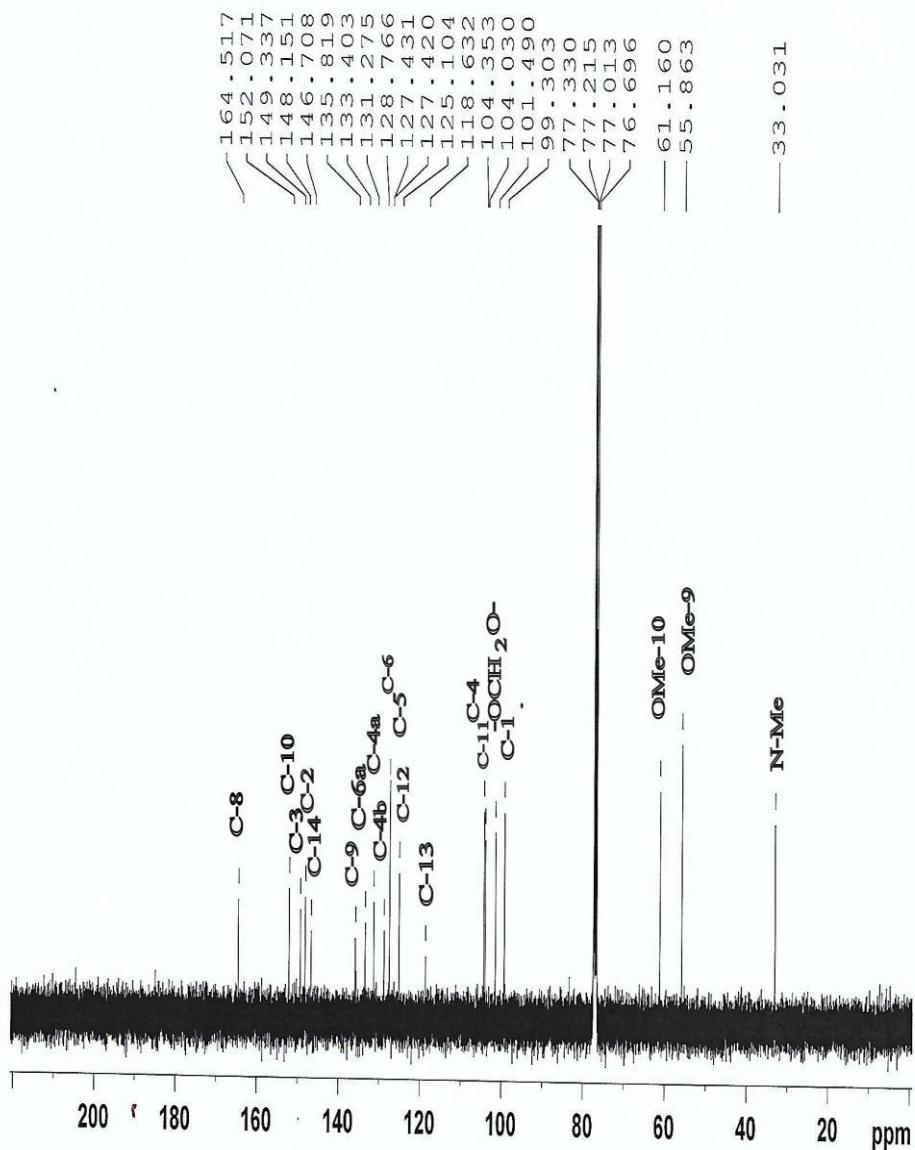
S18 : Partially expanded ¹H NMR (400 MHz, CDCl₃) spectrum of Compound 3 (Arnottianamide).

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 Sample: DU_ZRP_20



S19 : Partially expanded ¹H NMR (400 MHz, CDCl₃) spectrum of Compound 3 (Arnottianamide).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_20



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameter
 Date 20160116
 Time 16.52
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg
 TD 524288
 SOLVENT CDCl3
 NS 1576
 DS 0
 SWH 25252.525 Hz
 FIDRES 0.048165 Hz
 AQ 10.3809023 sec
 RG 208.5
 DW 19.800 us
 DE 6.50 us
 TE 300.7 K
 D1 1.0000000 sec
 D11 0.03000000 sec
 TDO 1

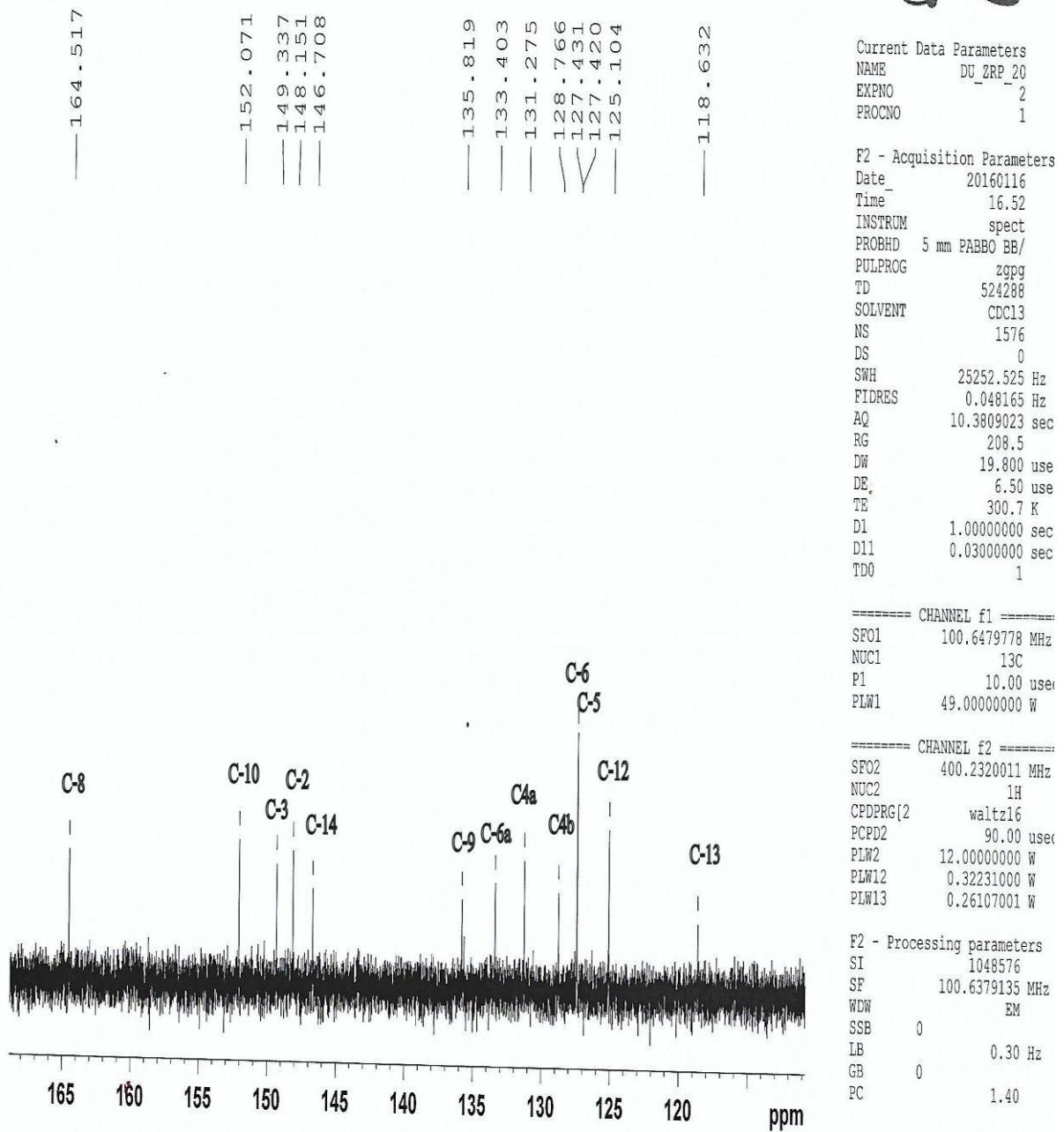
===== CHANNEL f1 =====
 SFO1 100.647978 MHz
 NUC1 13C
 P1 10.00 us
 PLW1 49.0000000 W

===== CHANNEL f2 =====
 SFO2 400.2320011 MHz
 NUC2 1H
 CDPDPRG[2] waltz16
 PCPD2 90.00 us
 PLW2 12.0000000 W
 PLW12 0.32231000 W
 PLW13 0.26107001 W

F2 - Processing parameters
 SI 1048576
 SF 100.6379135 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.40

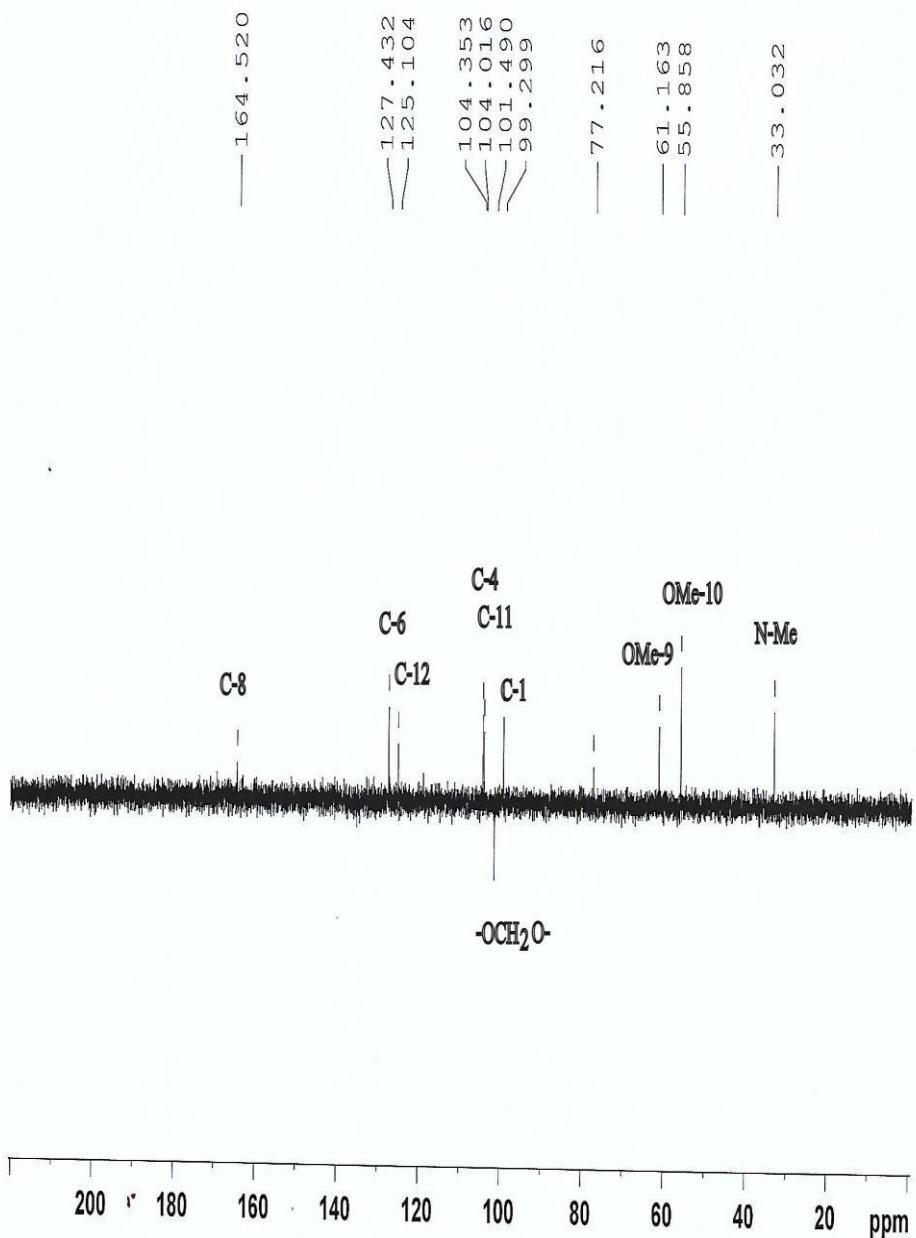
S20 : ^{13}C NMR spectrum (100 MHz, CDCl_3) of Compound 3 (Arnottianamide).

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 Sample: DU_ZRP_20



S21: Partially expanded ¹³C NMR spectrum (100 MHz, CDCl₃) of Compound 3 (Arnottianamide).

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 Sample: DU_ZRP_20, dept-135



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 3
 PROCN0 1

F2 - Acquisition Parameters
 Date 20160116
 Time 16.57
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG depts135
 TD 65536
 SOLVENT CDCl3
 NS 1536
 DS 4
 SWH 25252.525 Hz
 FIDRES 0.385323 Hz
 AQ 1.2976128 sec
 RG 208.5
 DW 19.800 usec
 DE 6.50 usec
 TE 300.1 K
 CNST2 145.000000
 D1 1.0000000 sec
 D2 0.00344828 sec
 D12 0.00002000 sec
 TDO 1

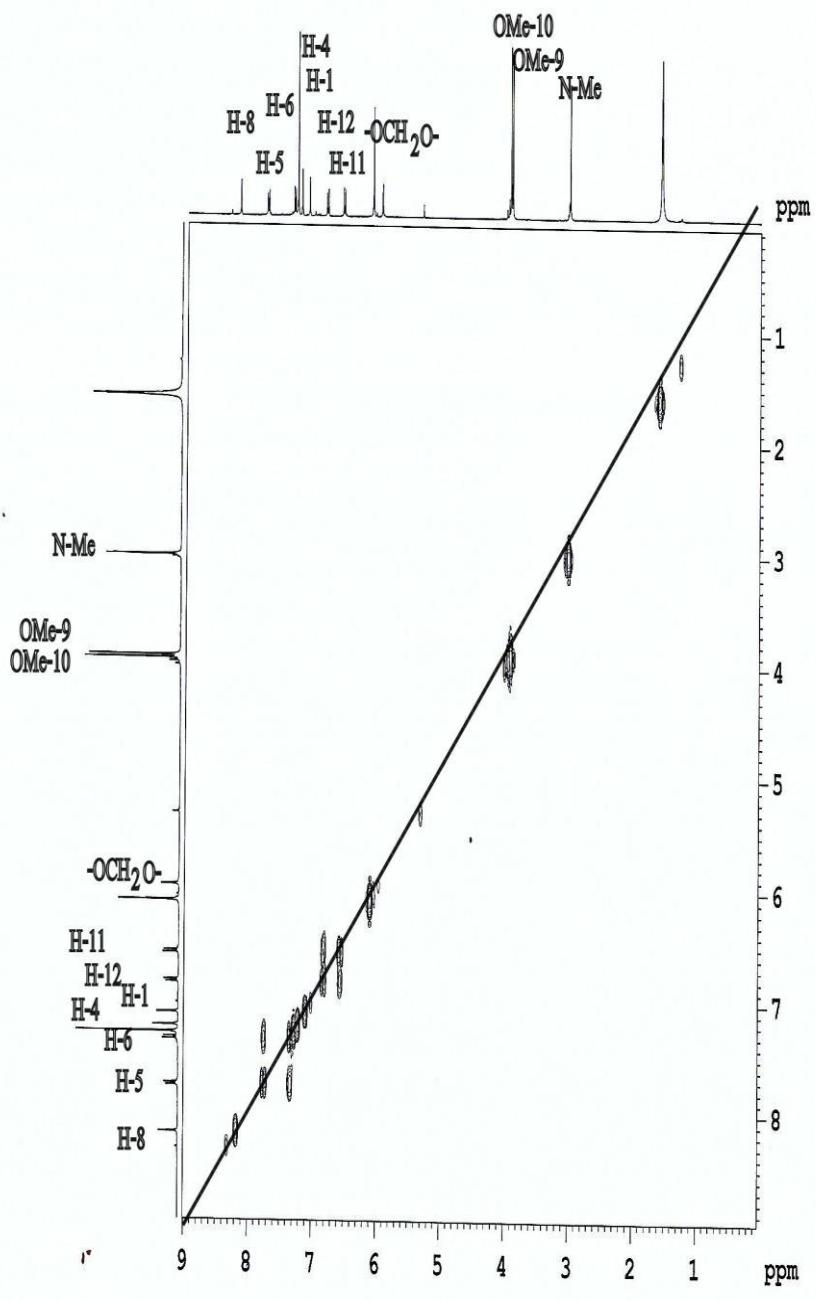
===== CHANNEL f1 =====
 SF01 100.6479773 MHz
 NUC1 13C
 P1 10.00 usec
 P13 2000.00 usec
 PLW0 0 W
 PLW1 49.0000000 W
 SPNAM[5] Crp60comp.4
 SPOAL5 0.500
 SPOFFS5 0 Hz
 SEW5 7.48659992 W

===== CHANNEL f2 =====
 SF02 400.2320011 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 P3 14.75 usec
 P4 29.50 usec
 PCPD2 90.00 usec
 PLW2 12.0000000 W
 PLW12 0.32231000 W

F2 - Processing parameters
 SI 32768
 SF 100.6379135 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

S22 : DEPT-135 NMR spectrum (100 MHz, CDCl₃) of Compound 3 (Arnottianamide).

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 Sample: DU_ZRP_20, cosy



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 4
 PROCN 1

F2 - Acquisition Parameters
 Date 20160116
 Time 17.14
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 FULPROG cosyqpf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.6 K
 D0 0.00000300 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 D16 0.00020000 sec
 f1NO 0.00012480 sec

===== CHANNEL f1 =====
 SFO1 400.2320011 MHz
 NUC1 1H
 PO 14.75 usec
 PL 14.75 usec
 PLWI 12.00000000 W

===== GRADIENT CHANNEL =====
 GRADN[1] SMSQ10.100
 GPZ1 10.00 %
 P16 1000.00 usec

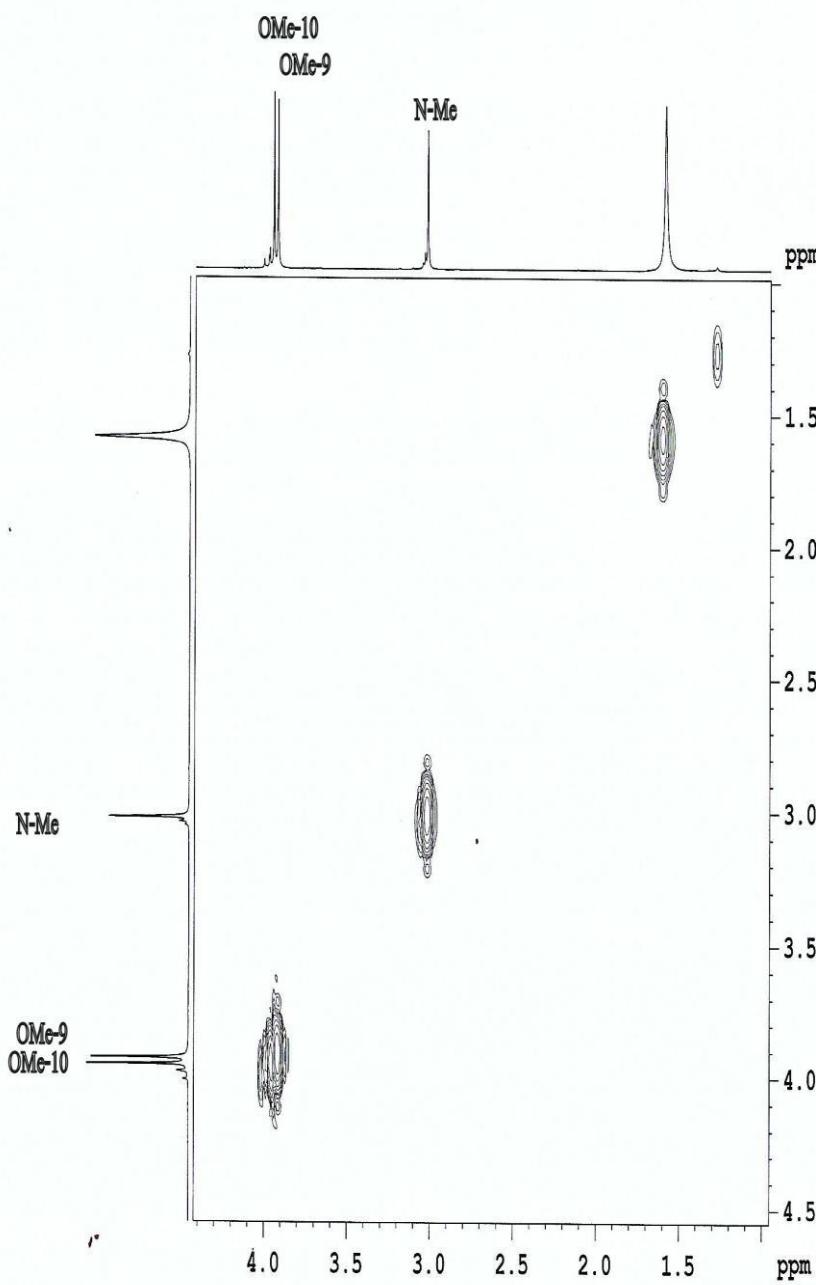
F1 - Acquisition parameters
 TD 128
 SFO1 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 FRMODE QF

F2 - Processing parameters
 SI 2048
 SP 400.2300000 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300000 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

S23: COSY-NMR spectrum (400 MHz, CDCl₃) of Compound 3 (Arnottianamide).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_20, cosy



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 4
 PROCN 1

F2 - Acquisition Parameters
 Date 20160116
 Time 17.14
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG cosyppgf
 TD 2048
 SOLVENT CDCl₃
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 209.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.6 K
 D0 0.00003300 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 D16 0.00020000 sec
 IMO 0.00012480 sec

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P0 14.75 usec
 P1 14.75 usec
 PLW1 12.0000000 W

===== GRADIENT CHANNEL =====
 GRADNM[1] SMSg10.100
 GPZ1 10.00 %
 P16 1000.000 usec

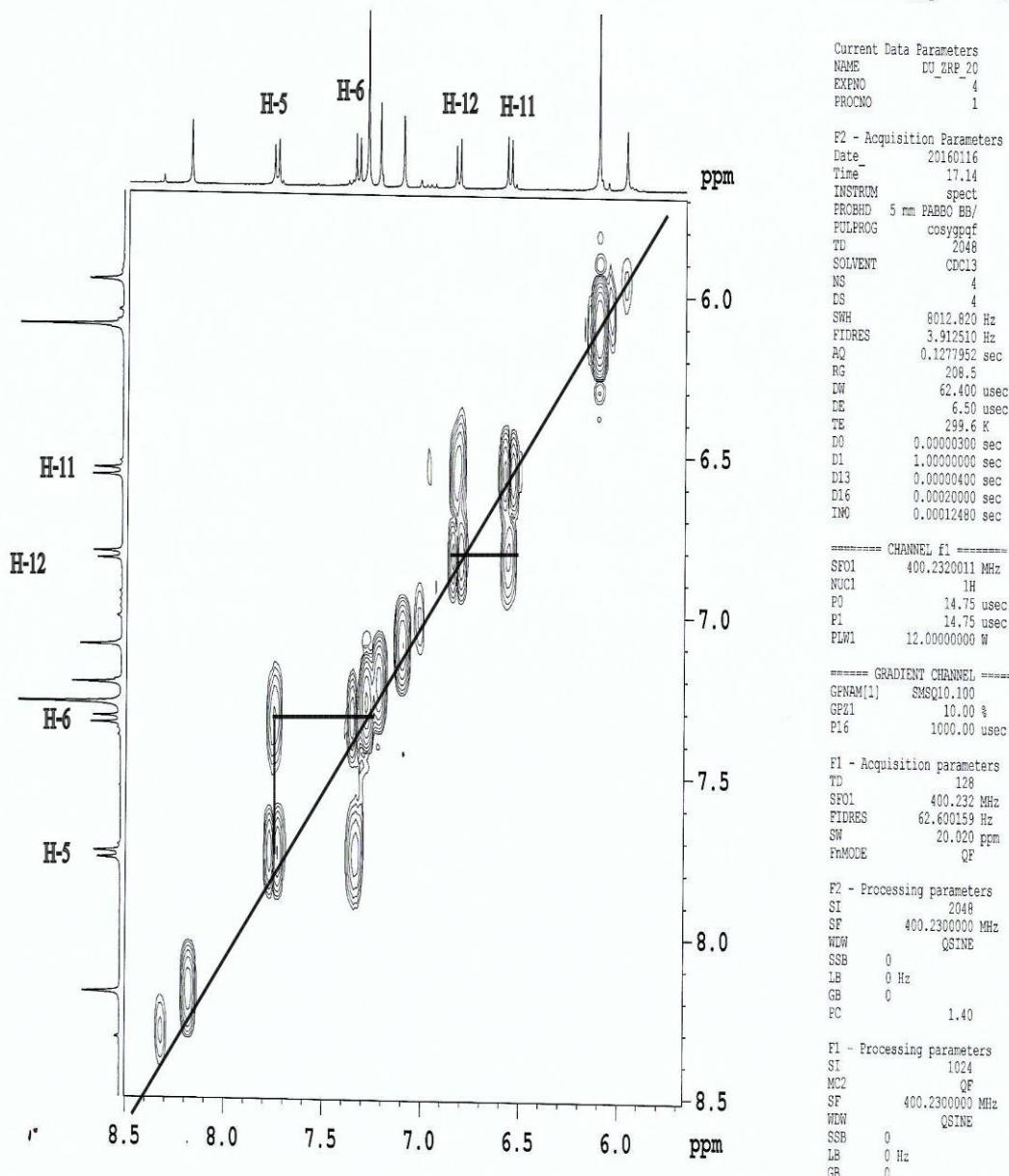
F1 - Acquisition parameters
 TD 128
 SF01 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 FMODE QF

F2 - Processing parameters
 SI 2048
 SF 400.2300000 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300000 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

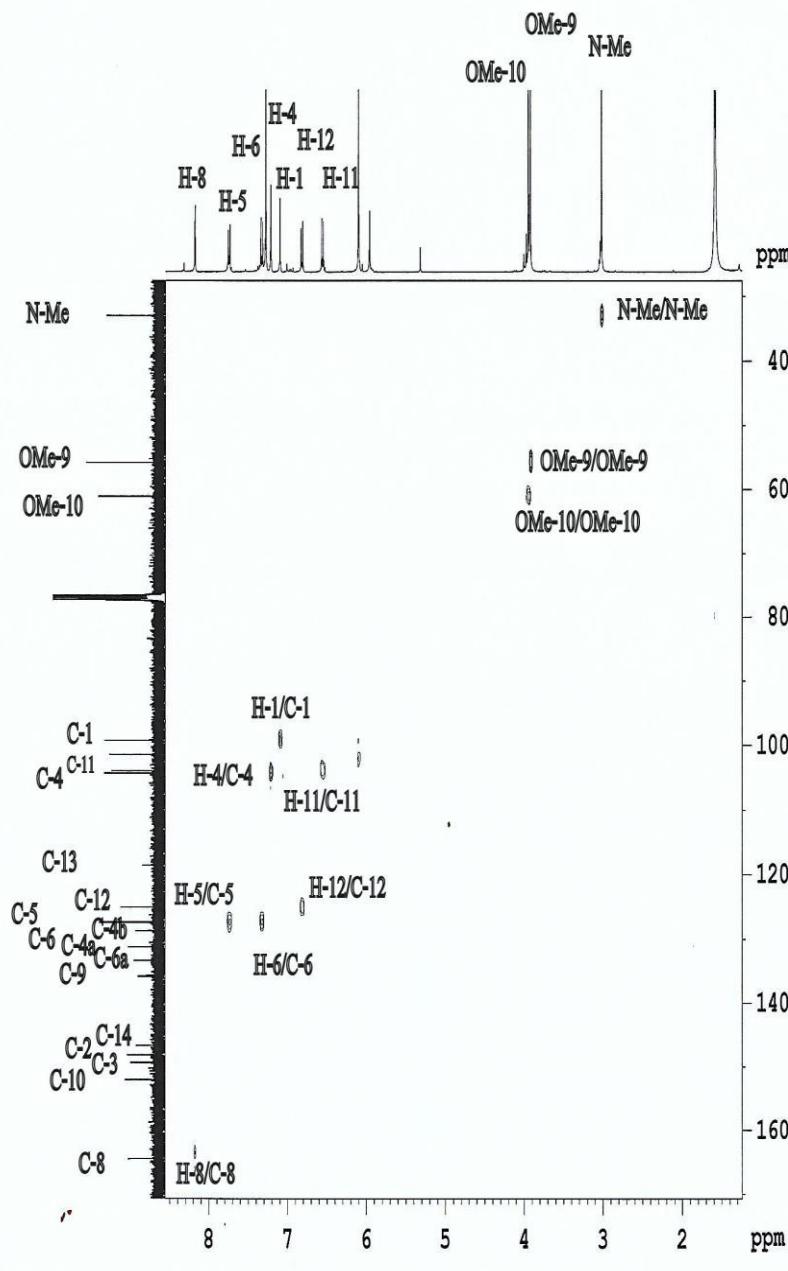
S24 : Partially expanded COSY- NMR spectrum (400 MHz, CDCl₃) of Compound 3 (Arnottianamide).

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 Jahangirnagar University
 Sample: DU_ZRP_20, cosy



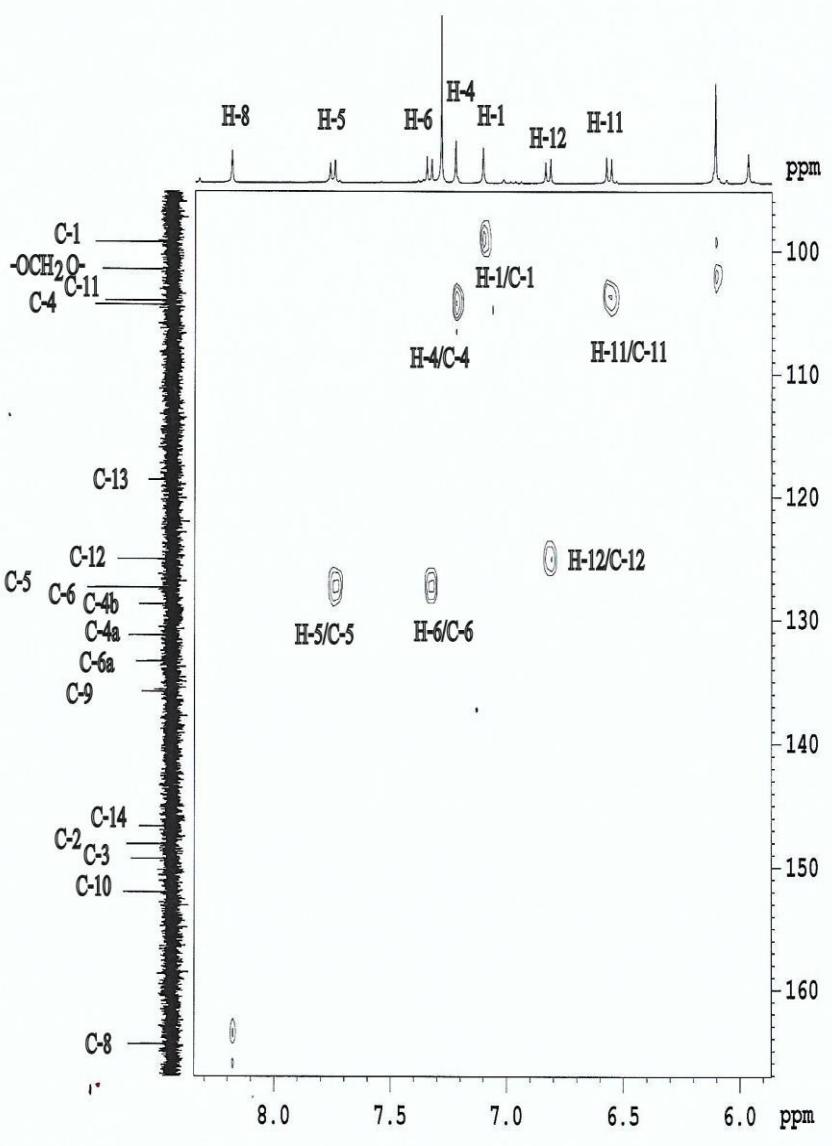
S25 : Partially expanded COSY- NMR spectrum (400 MHz, CDCl₃) of Compound 3
 (Arnottianamide).

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 Jahangirnagar University
 Sample: DU_ZRP_20, hsqc



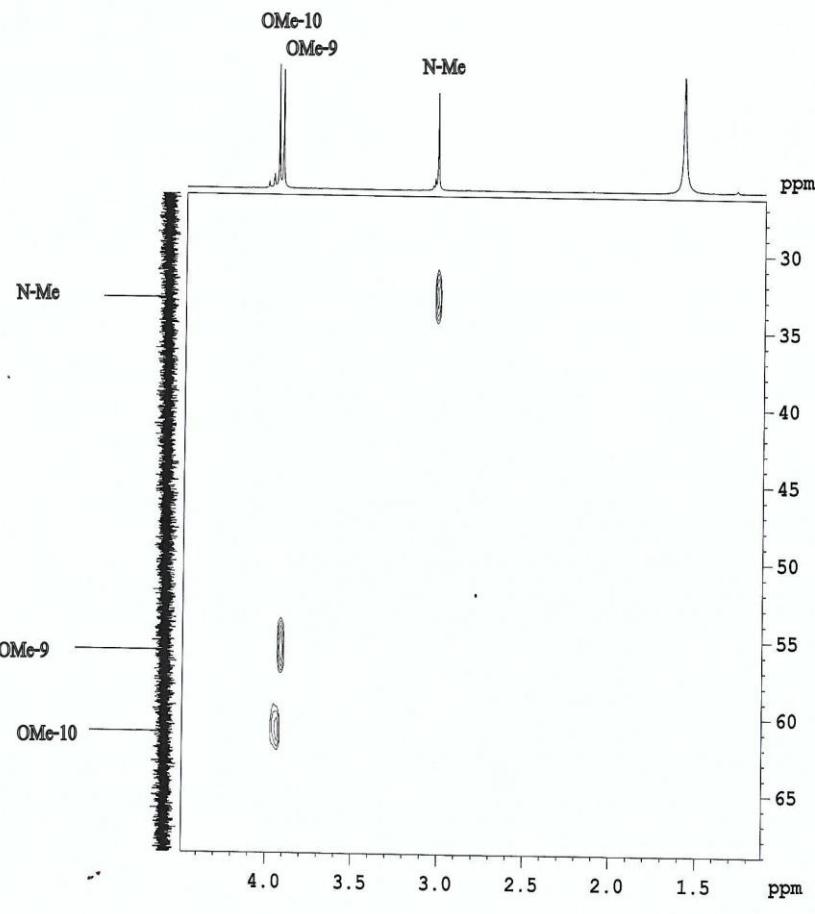
S26 : HSQC- NMR spectrum (400 MHz, CDCl₃) of Compound 3 (Arnottianamide).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_20, hsqc



Current Data Parameters
 NAME DU_ZRP_20
 EXPNO 5
 PROBID 1
 F2 - Acquisition Parameters
 Date_ 20160116
 Time_ 17:24
 INSTRUM spect
 PROBHD 5 mm PARROT BB
 PULPROG hsqceditgrap2.2
 TD 2048
 SCALING 1
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.91210 Hz
 AQ 0.127752 sec
 RG 32
 DW 62.400 usec
 DE 6.50 usec
 TE 298.1 K
 CPMG1 165.000000
 CPMG2 0.000000
 D1 1.000000 sec
 J2 1.000000 sec
 J3 0.0137414 sec
 D11 0.0002000 sec
 D16 0.0002000 sec
 D21 0.0003600 sec
 D24 0.0008800 sec
 IND 0.00001960 sec
 FIDW 0.00000000 W
 ***** CHANNEL f1 *****
 SP01 400.232011 MHz
 NC01 1H
 P1 14.75 usec
 P2 29.50 usec
 P2B 0 usec
 PDE 11.00000000 W
 ***** CHANNEL f2 *****
 SP02 100.647978 MHz
 NC02 13C
 GPPRGR2 0.000000
 P3 10.00 usec
 P14 500.00 usec
 P24 2000.00 usec
 PCP02 0 W
 PDE2 45.00000000 W
 RDE2 0.73562001 W
 SP03M3 Crp6,0,5,20,1
 SP03M3 0.500
 SP07FS3 0 Hz
 SP07 7.48639992 W
 SP07M71 Crp6,0,5,20,4
 SP07M71 0.500
 SP07S7 0 Hz
 SP07 7.48639992 W
 SP07M7 0 Hz
 ***** GRADIENT CHANNEL *****
 GR00M11 ENS210,100
 GR00M12 ENS210,100
 GR00M13 ENS210,100
 GR00M14 ENS210,100
 GR21 80.00 %
 GR22 20.10 %
 GR23 11.00 %
 GR24 <-5.00 %
 P18 100.00 usec
 P19 600.00 usec
 P1 - Acquisition parameters
 TD 128
 SP01 100.640 MHz
 FIDRES 197.268355 Hz
 SW 255.659 ppm
 PolNOCB Echo-PlanarEcho
 P1 - Processing parameters
 SI 3024
 SF 400.23000000 MHz
 MW 0.00000000
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.40
 P1 - Processing parameters
 SI 3024
 MC2 echo-antiecho
 SF 100.6379165 MHz
 MW 0.00000000
 SSB 2
 LB 0 Hz
 GB 0

S27 : Partially expanded HSQC- NMR spectrum (400 MHz, CDCl₃) of Compound 3 (Arnottianamide).



S28: Partially expanded HSQC- NMR spectrum (400 MHz, CDCl₃) of Compound 3 (Arnottianamide).

Arnottianamide (3): white amorphous; ¹H-NMR (500 MHz, CDCl₃): δ 8.18 (1H, s, H-8), 7.75 (1H, d, J= 8.4 Hz, H-5), 7.33 (1H, d, J= 8.4 Hz, H-6), 7.22 (1H, s, H-4), 7.11 (1H, s, H-1), 6.83 (1H, d, J= 8.4 Hz, H-12), 6.57 (1H, d, J= 8.4 Hz, H-11), 6.11 (2H, s, OCH₂O), 3.95 (3H, s, OMe-10), 3.93 (3H, s, OMe-9), 3.02 (3H, s, N-Me). ¹³C-NMR (125 MHz, CDCl₃): δ 164.5 (C-8), 152.1 (C-10), 149.3 (C-3), 148.2 (C-2), 146.7 (C-14), 135.8 (C-6b, 9), 133.4 (C-6a), 131.3 (C-4a), 128.8 (C-4b), 127.4 (C-5, 6), 125.1 (C-12), 118.6 (C-13), 104.4 (C-4), 104.0 (C-11), 101.5 (OCH₂O), 99.3 (C-1), 61.2 (OMe-10), 55.9 (OMe-9), 33.0 (N-Me).

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 Sample: DU_ZRC_20

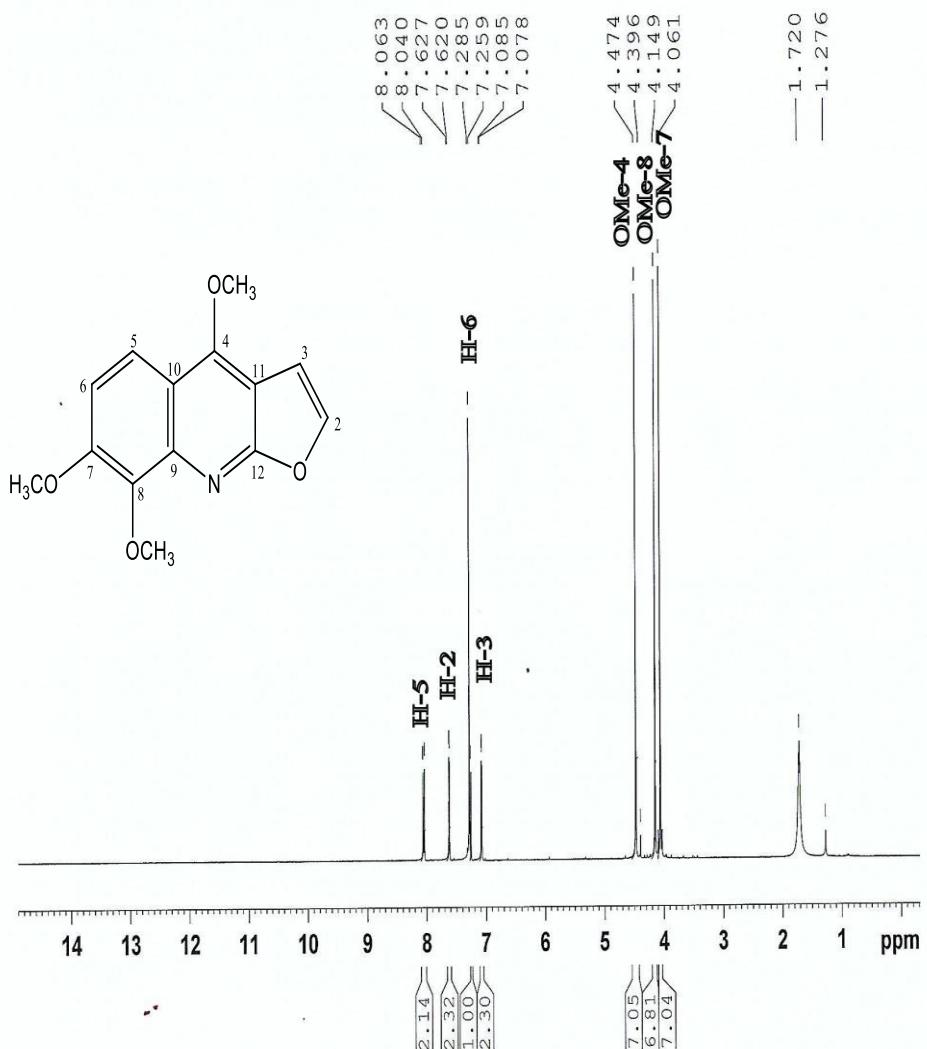


Current Data Parameters
 NAME DU_ZRC_20
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 PROCNO 1

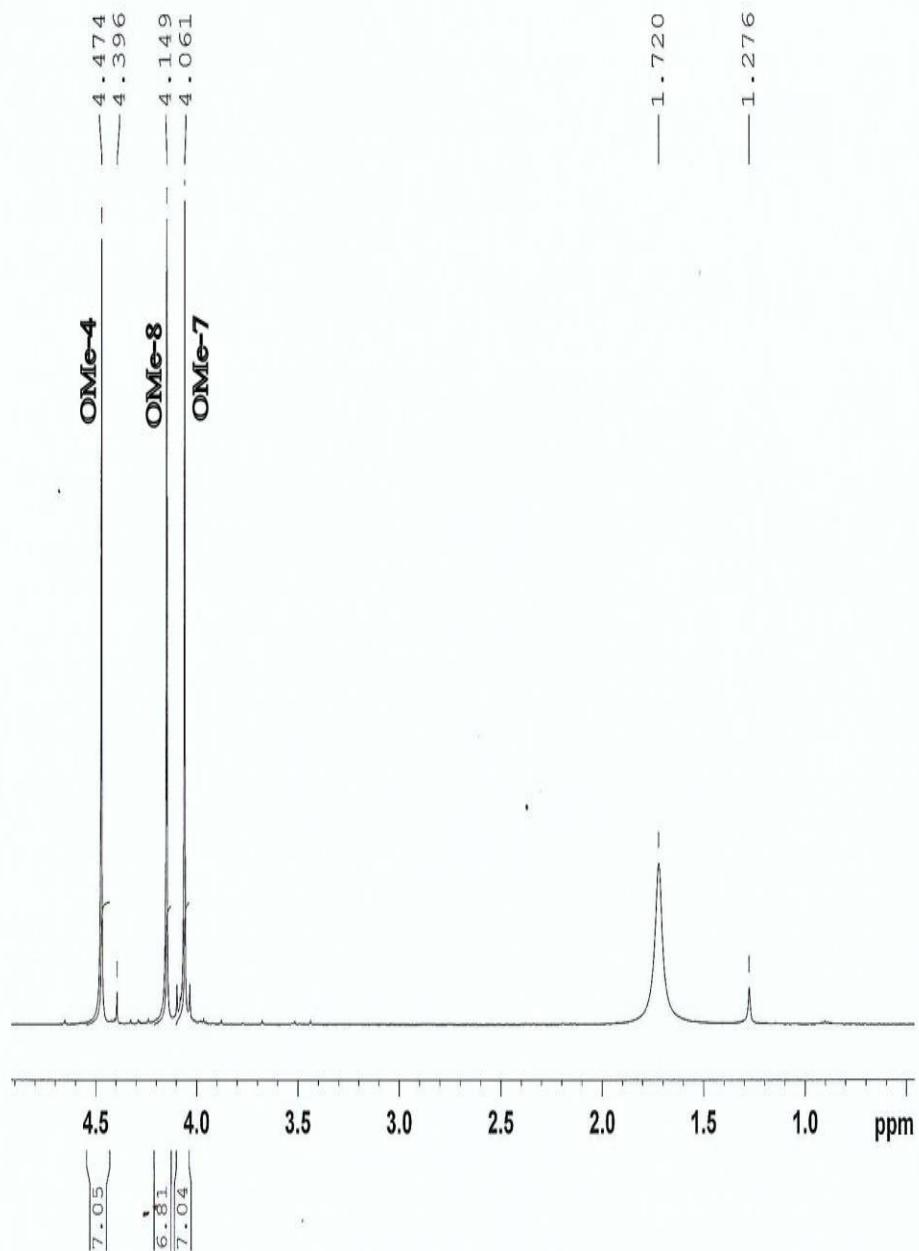
F2 - Acquisition Parameters
 Date 20160117
 Time 13.36
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 165.43
 DW 62.400 usec
 DE 6.50 usec
 TE 298.8 K
 D1 2.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P1 14.75 usec
 PLW1 12.0000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 0 1.00 Hz
 GB 0
 PC 1.00



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 Jahangirnagar University
 Sample: DU_ZRC_20

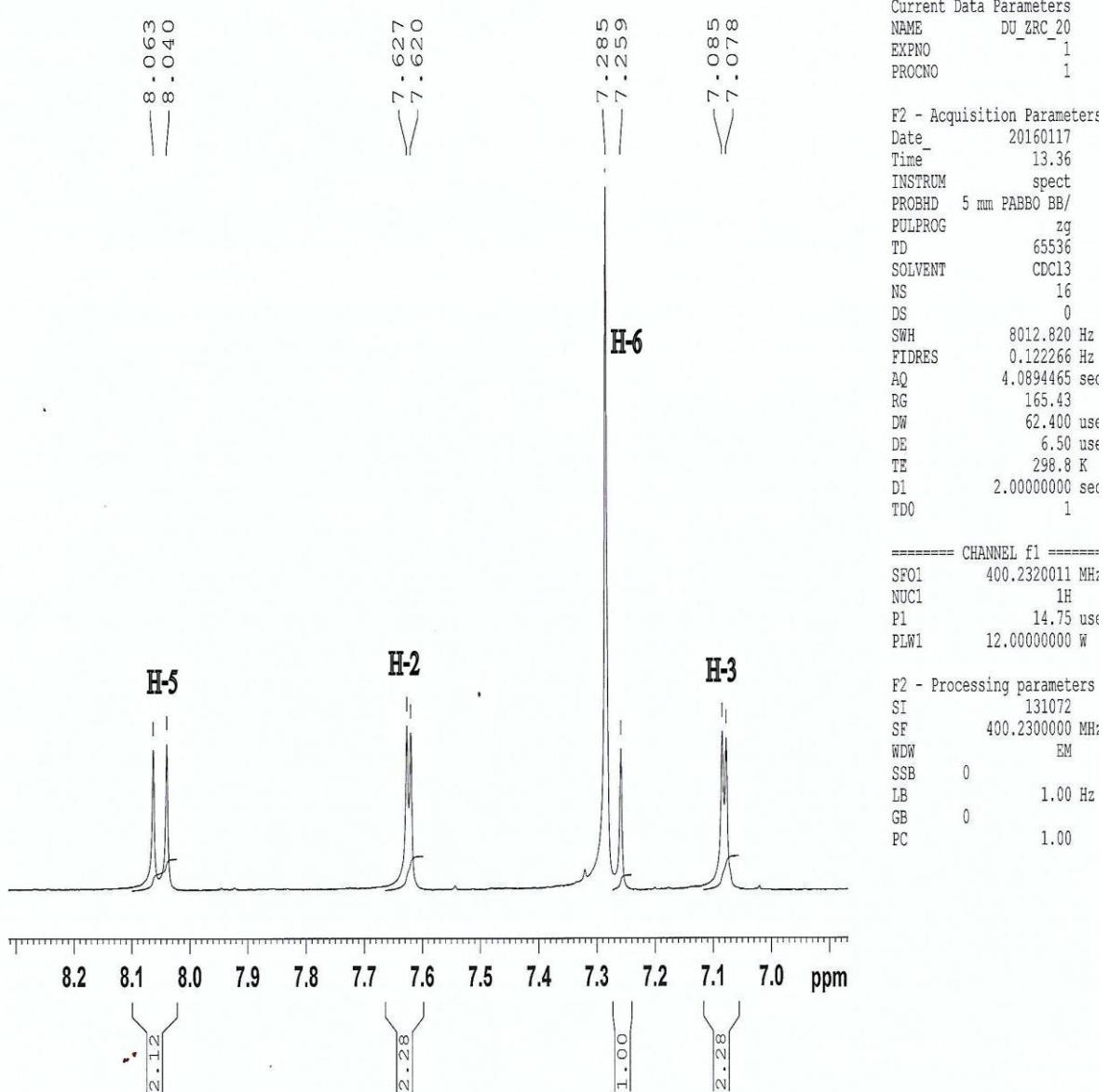


S30: Partially expanded ¹H NMR (400 MHz, CDCl₃) spectrum of Compound 4 (Skimmianine).

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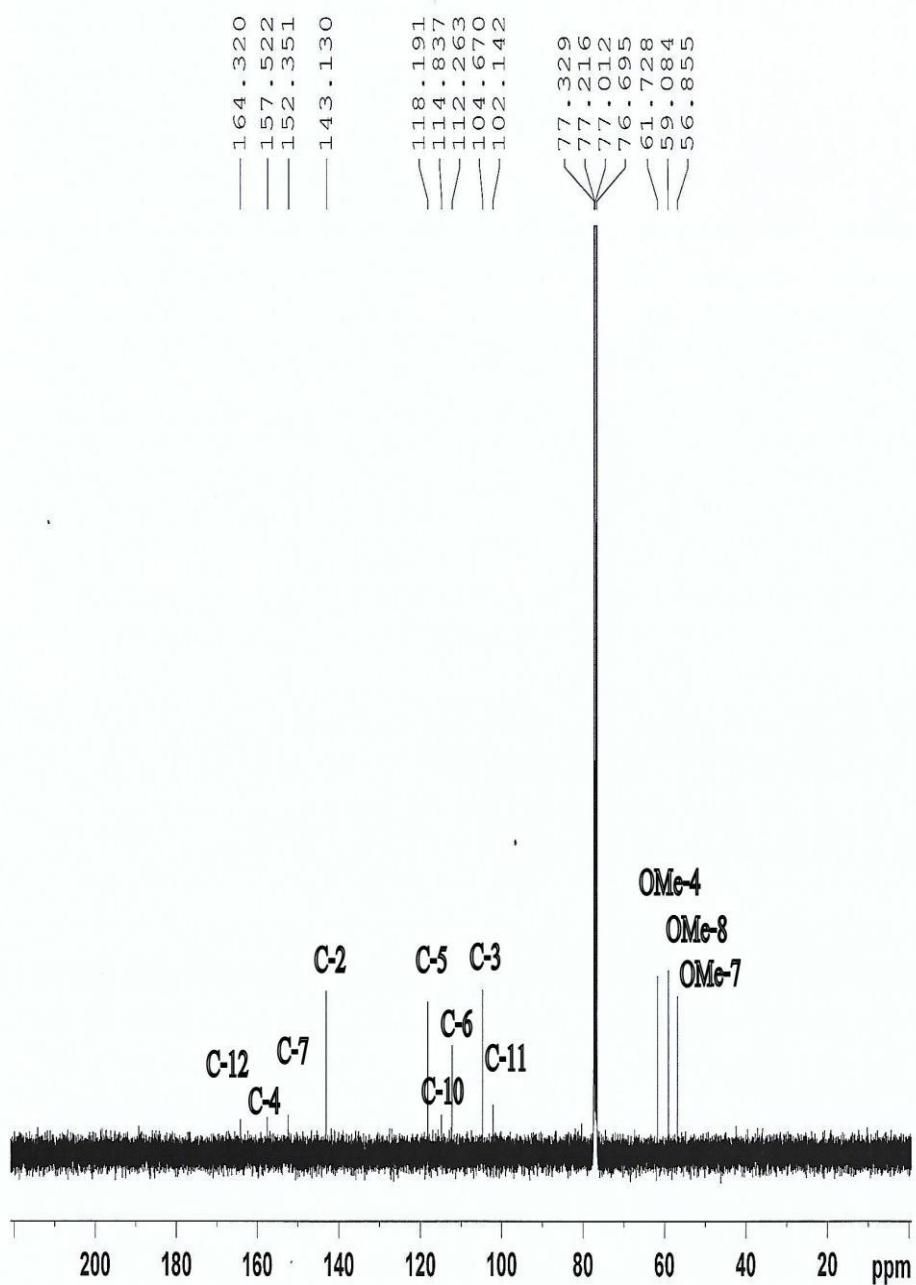
Jahangirnagar University

Sample: DU_ZRC_20



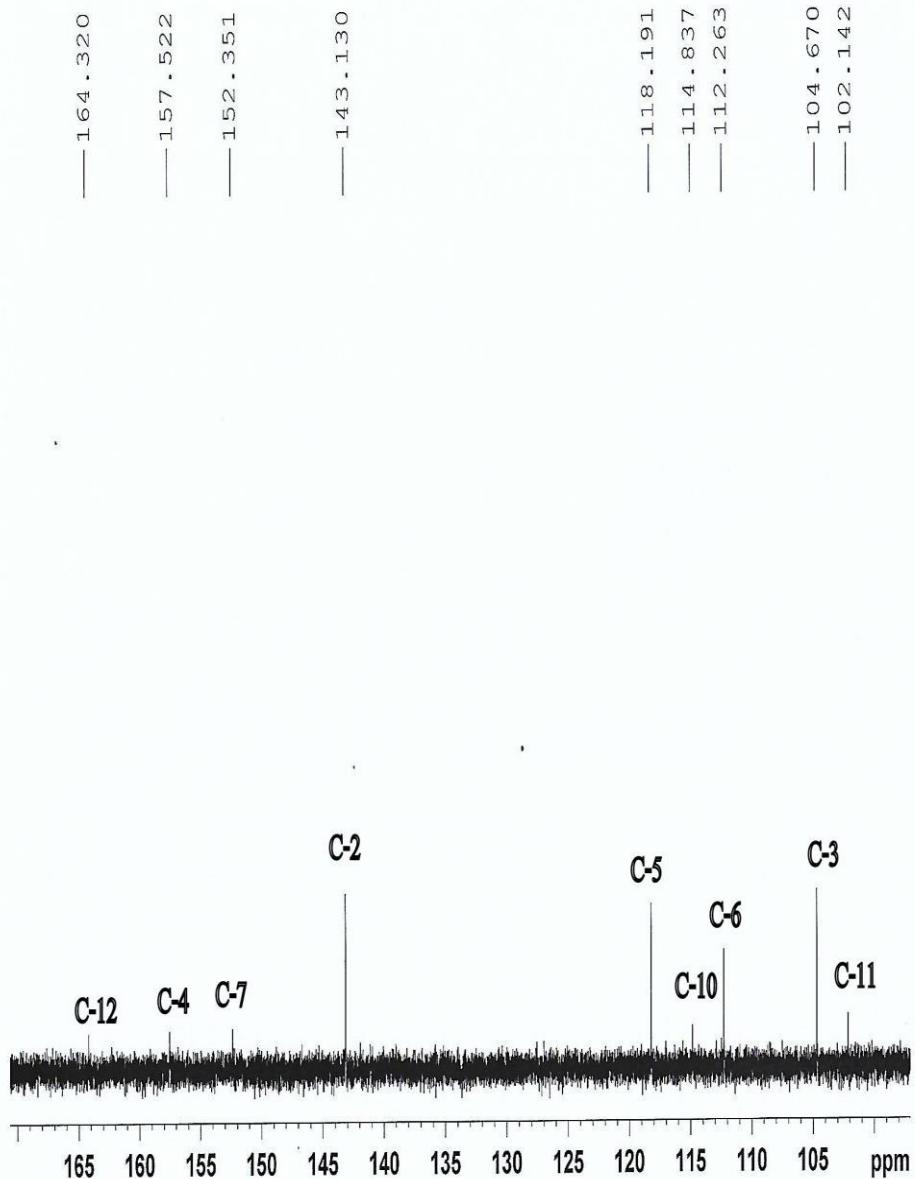
S31: Partially expanded ¹H NMR (400 MHz, CDCl₃) spectrum of Compound 4
(Skimmianine)

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 Jahangirnagar University
 Sample: DU_ZRC_20



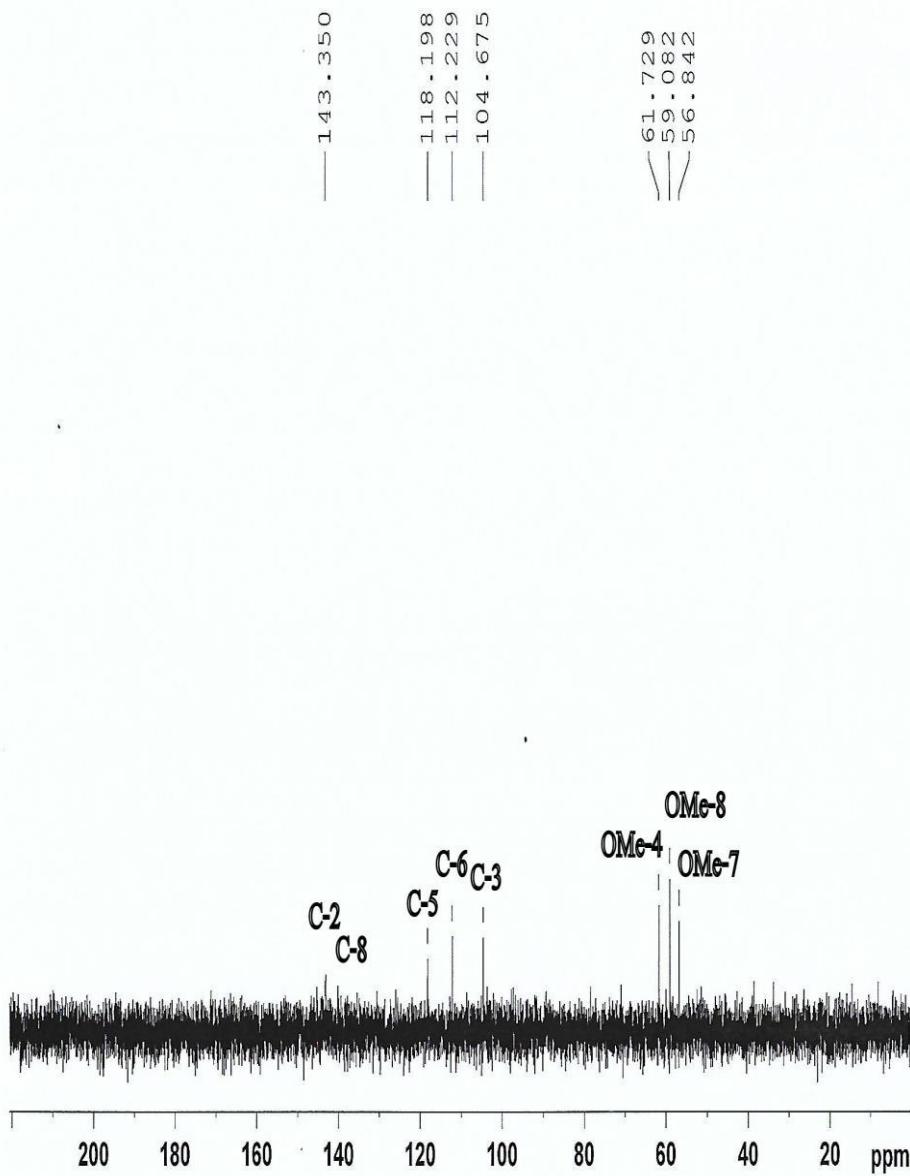
S32: ¹³C NMR (100 MHz, CDCl₃) spectrum of Compound 4 (Skimmianine)

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 Sample: DU_ZRC_20



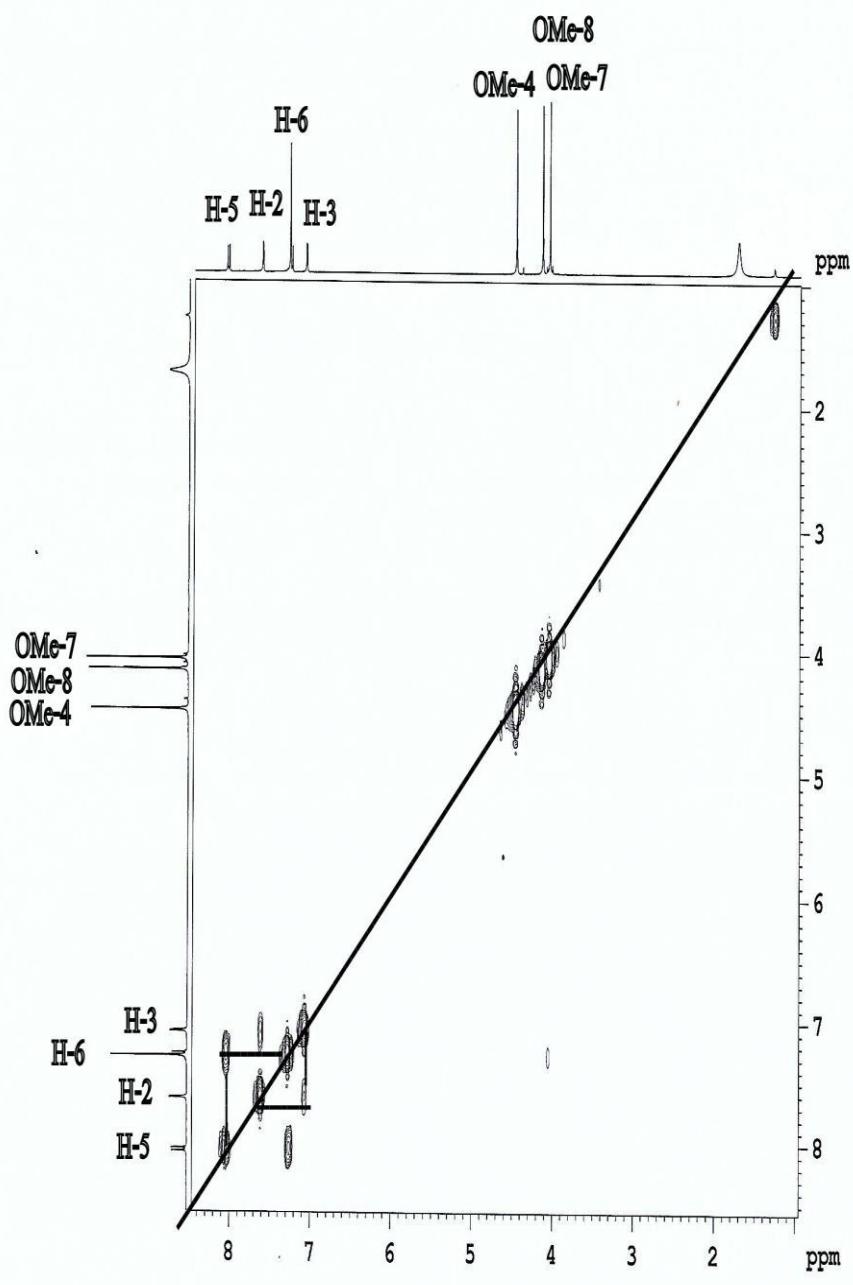
S33: Partially expanded ¹³C NMR (100 MHz, CDCl₃) spectrum of Compound 4 (Skimmianine).

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 Sample: DU_ZRC_20, dept-135



S34 : DEPT-135 NMR (100 MHz, CDCl₃) spectrum of Compound 4 (Skimmianine).

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 Jahangirnagar University
 Sample: DU_ZRC_20, cosy



Current Data Parameters
 NAME DU_ZRC_20
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters
 Date 20160117
 Time 19.25
 INSTRUM spect
 PROBHD 5 mm PARBO BB/
 PULPROG cosygqf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.127952 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.6 K
 D0 0.00000300 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 D16 0.00020000 sec
 JNO 0.00012480 sec

===== CHANNEL f1 =====
 SP01 400.2320011 MHz
 NUC1 1H
 P0 14.75 usec
 PI 14.75 usec
 PLW1 12.00000000 W

===== GRADIENT CHANNEL =====
 GRNM[1] SMSQ10.100
 GPZ1 10.00 %
 P16 1000.00 usec

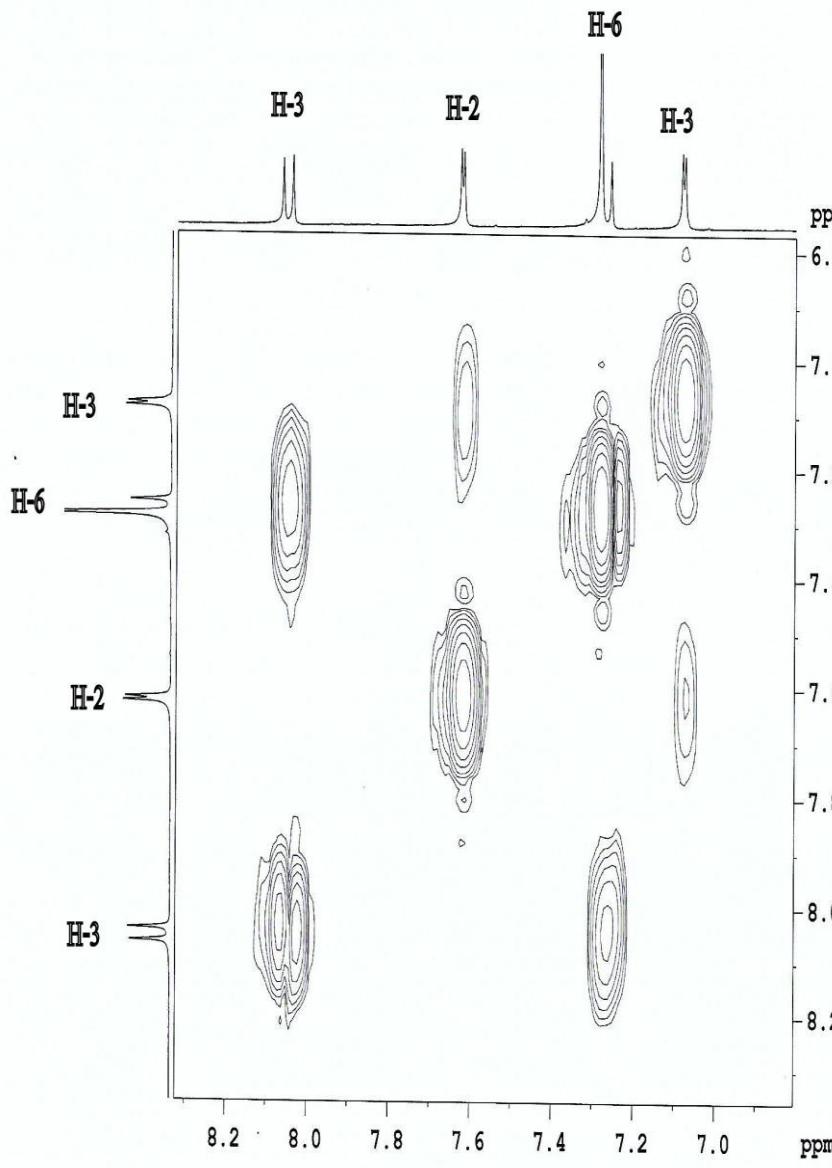
F1 - Acquisition parameters
 TD 128
 SP01 400.232 MHz
 FIDRES 62.60159 Hz
 SW 20.00 ppm
 FmMODE QF

F2 - Processing parameters
 SI 2048
 SF 400.2300010 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300011 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

S35 : COSY-NMR (400 MHz, CDCl_3) spectrum of Compound 4 (Skimmianine).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_20, cosy



Current Data Parameters
 NAME DU_ZRC_20
 EXPNO 4
 PROCN 1

F2 - Acquisition Parameters
 Date 20160117
 Time 19.25
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG cosyppf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.6 K
 DO 0.0000030 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 D16 0.00020000 sec
 * TIN 0.00012480 sec

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P0 14.75 usec
 P1 14.75 usec
 PLW1 12.0000000 W

===== GRADIENT CHANNEL =====
 GPNAM[1] SMSQ10.100
 GPZ1 10.00 °
 P16 1000.00 usec

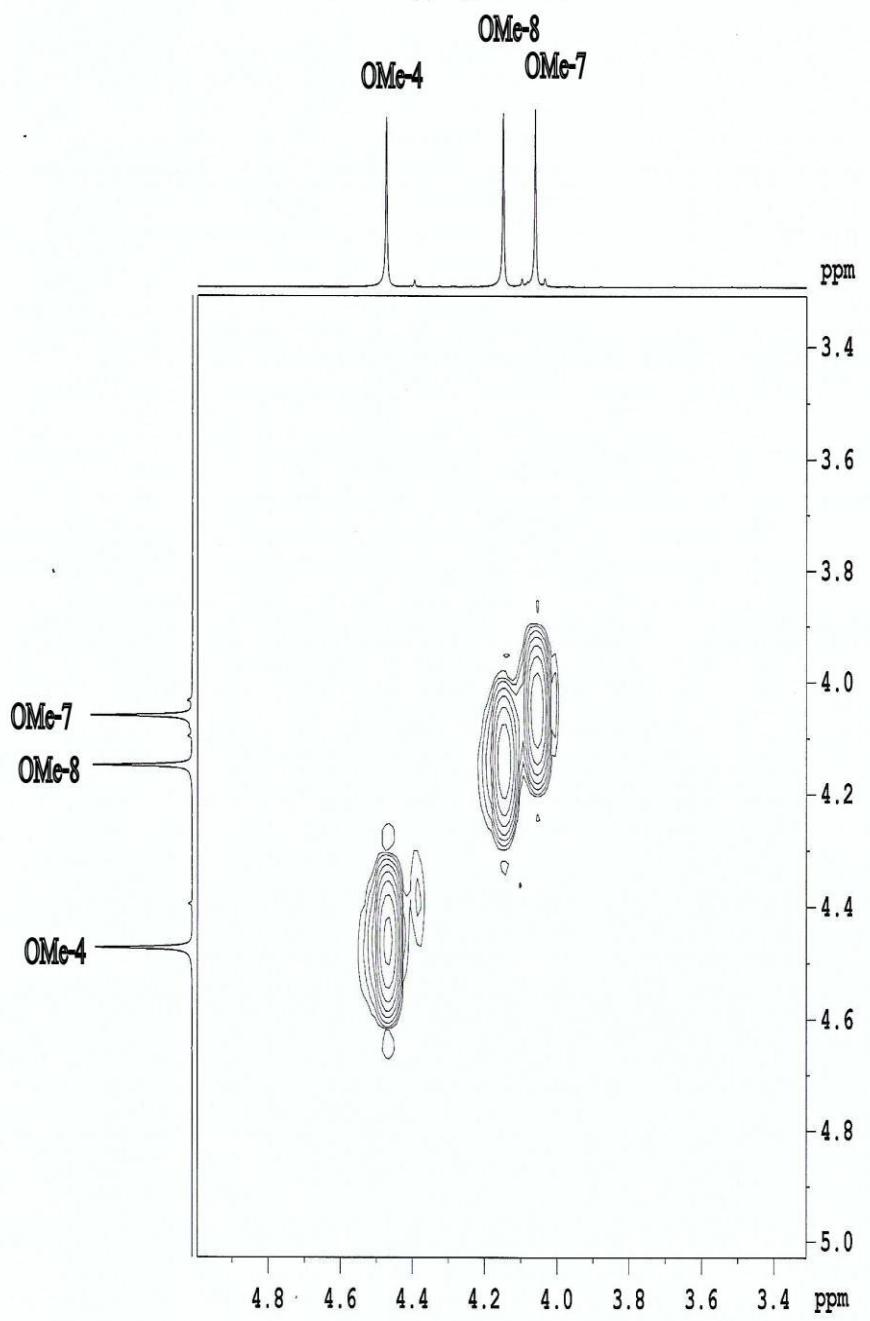
F1 - Acquisition parameters
 TD 128
 SF01 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 ENDMODE QF

F2 - Processing parameters
 SI 2048
 SF 400.2300010 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300011 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

S36 : Partially expanded COSY-NMR (400 MHz, CDCl₃) spectrum of Compound 4 (Skimmianine).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_20, cosy



Current Data Parameters
 NAME DU_ZRC_20
 EXPNO 4
 PROCN0 1

F2 - Acquisition Parameters
 Date 20160117
 Time 19.25
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG cosyqpgf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.6 K
 D0 0.00000300 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 D16 0.00020000 sec
 IN0 0.00012480 sec

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P0 14.75 usec
 P1 14.75 usec
 PLW1 12.0000000 W

===== GRADIENT CHANNEL =====
 GP0M[1] SMSQ10.100
 GP21 10.00 %
 P16 100.00 usec

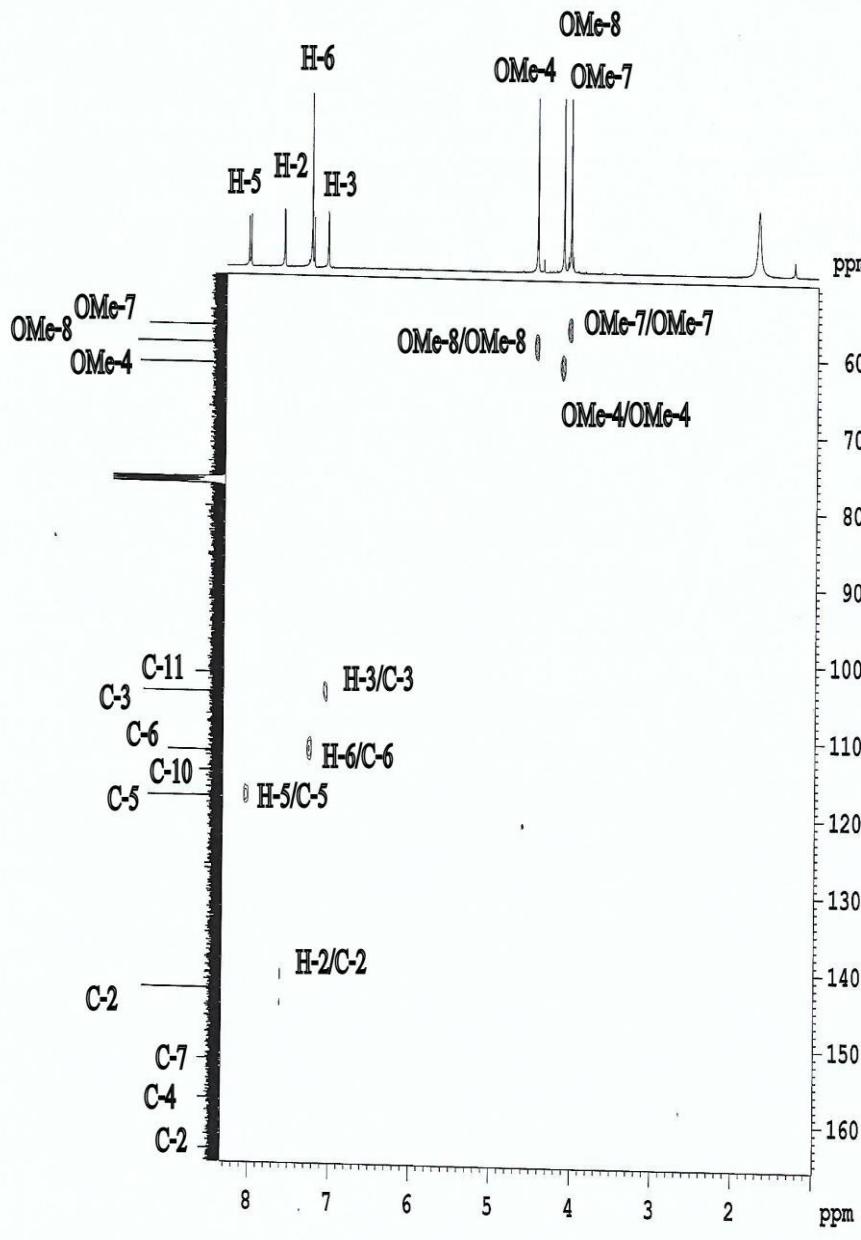
F1 - Acquisition parameters
 TD 128
 SF01 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 FmODE QF

F2 - Processing parameters
 SI 2048
 SF 400.2300010 MHz
 WDW GSINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300011 MHz
 WDW GSINE
 SSB 0
 LB 0 Hz
 GB 0

S37 : Partially expanded COSY-NMR (400 MHz, CDCl₃) spectrum of Compound 4
 (Skimmianine)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_20, hsqc



Current Data Parameters

NMRS DU_ZRC_20

EXPNO 5

PROCNO 1

P2 - Acquisition Parameters

Date 20120312

Time 19:36

INSTRUM spect

PROBHD 5 mm PARBO BB

PULPROG hsqceditgspgr2

TD 2048

SWV 128

SCALING CDCl3

NS 4

DW 8012.820 Hz

FIDRES 3.812010 Hz

AD 0.1177892 sec

TZ 20.15

RW 64

DE 6.50 usec

TE 299.9 K

CNS12 145.000000

CNS17 -0.500000

DD 0.0000000 sec

D1 1.0000000 sec

D4 0.0317214 sec

D11 0.0300000 sec

D16 0.0300000 sec

D21 0.0300000 sec

D24 0.0009500 sec

IMD 0.00001980 sec

===== CHANNEL F1 =====

SP01 400.232001 MHz

NUC1 1H

FI 14.75 usec

P2 29.50 usec

P2B 0 usec

P1M1 12.0000000 W

===== CHANNEL F2 =====

SP02 100.6479790 MHz

NUC2 13C

CPDPRG[2] 90 deg

P3 10.00 usec

P14 500.00 usec

P24 2000.00 usec

PCP24 80.00 usec

PAB2 0 W

PAB2 49.00000000 W

PAB2 0.76563001 W

SPGR[3] Cpmg60,0.5,20,1

SPGR[4] 0.500

SPCPFS3 0 Hz

SPCPFS4 7.4865992 W

SPCPFS5 0 Hz

SPCPFS6 7.4865992 W

SPCPFS7 0 Hz

SPCPFS8 7.4865992 W

===== GRADIENT CHANNEL =====

GRADIN1[1] SMCQ1,100

GRADIN1[2] SMCQ1,100

GRADIN1[3] SMCQ1,100

GRADIN1[4] SMCQ1,100

GRF1 80.00 %

GRF2 20.10 %

GRF3 11.00 %

GRF4 -5.00 %

P16 1000.00 usec

P19 600.00 usec

FI - Acquisition parameters

TD 2048

SP01 100.6479790 MHz

FIDRES 197.285365 Hz

SW 250.895 ppm

P0NOCR Edic-Autoclock

PL - Processing parameters

S1 1024

S2 400.2320000 MHz

WDM QSTINE

SSB 2

LB 0 Hz

GB 0

PC 1.40

PL - Processing parameters

S1 1024

S2 echo-suspect

CF 100.6379165 MHz

NCW 2512

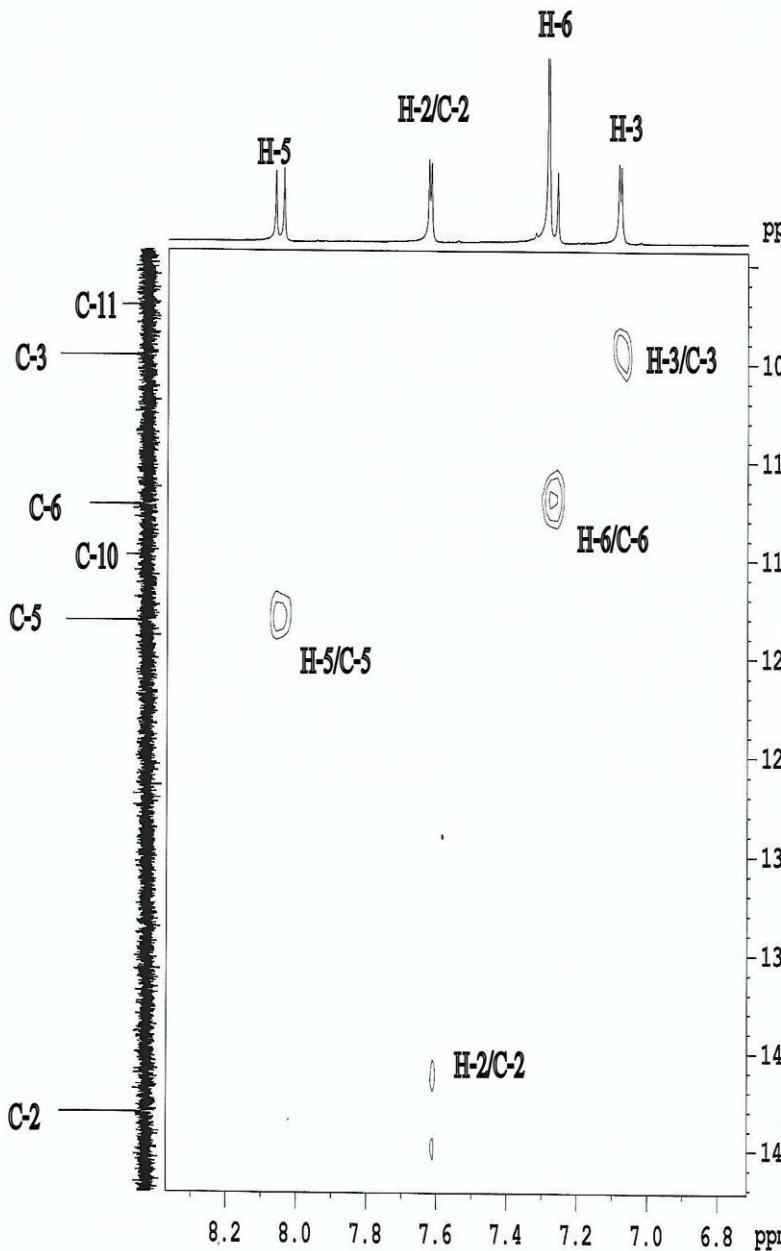
SSB 2

LB 0 Hz

GB 0

S38: HSQC-NMR (400 MHz, CDCl_3) spectrum of Compound 4 (Skimmianine).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_20, hsqc



```

Current Data Parameters
NAME DU_ZRC_20
EXPRO 5
PROCNO 1

P2 - Acquisition Parameters
Date_ 20101117
Time_ 19:36
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG hsqceditgppr2_d
TD 2048
SOLVENT CDCl3
NS 4
DS 4
SWH 8012.820 Hz
FIDRES 3.019312 Hz
AQ 0.127752 sec
RG 208.5
DW 62.400 usec
DE 6.50 usec
TE 298.9 K
CPSIG1 145.000000
CPSIG2 145.000000
D0 0.0000000 sec
D1 0.0000000 sec
D4 0.0137414 sec
D11 0.0300000 sec
D16 0.0002000 sec
D21 0.0346000 sec
D24 0.0008900 sec
INO 0.0001580 sec

***** CHANNEL F1 *****
SP01 400.000001 MHz
NUC1 1H
P1 14.75 usec
P2 25.55 usec
P2B 0 usec
PLW1 10.000000 W

***** CHANNEL F2 *****
SP02 100.447978 MHz
NUC2 13C
CP2BM2[2] garp
P3 10.05 usec
P14 500.00 usec
P24 2000.00 usec
PCP02 80.00 usec
PLW2 0 W
PDC2 45.0000000 W
PDCM2 0.74560001 W
SP04M2[2] Cpmg0/0.5,20,1
SP04L2 0.500
SP05F2 0 Hz
SP06 7.4865992 W
SP06M2[1] Cpmg0/comp,4
SP06L2 0.500
SP07F2 0 Hz
SP07 7.4865992 W

***** GRADIENT CHANNEL *****
GR0M1[1] SWSQ10.100
GR0M2[2] SWSQ10.100
GR0M3[3] SWSQ10.100
GR0M4[4] SWSQ10.100
GP21 80.00 %
GP22 20.10 %
GP23 11.00 %
GP24 -5.00 %
P16 1000.00 usec
P19 600.00 usec

F1 - Acquisition parameters
TD 128
SP01 100.668 MHz
FIDRES 197.285355 Hz
SW 250.899 ppm
PMLINE Echo-Antiecho

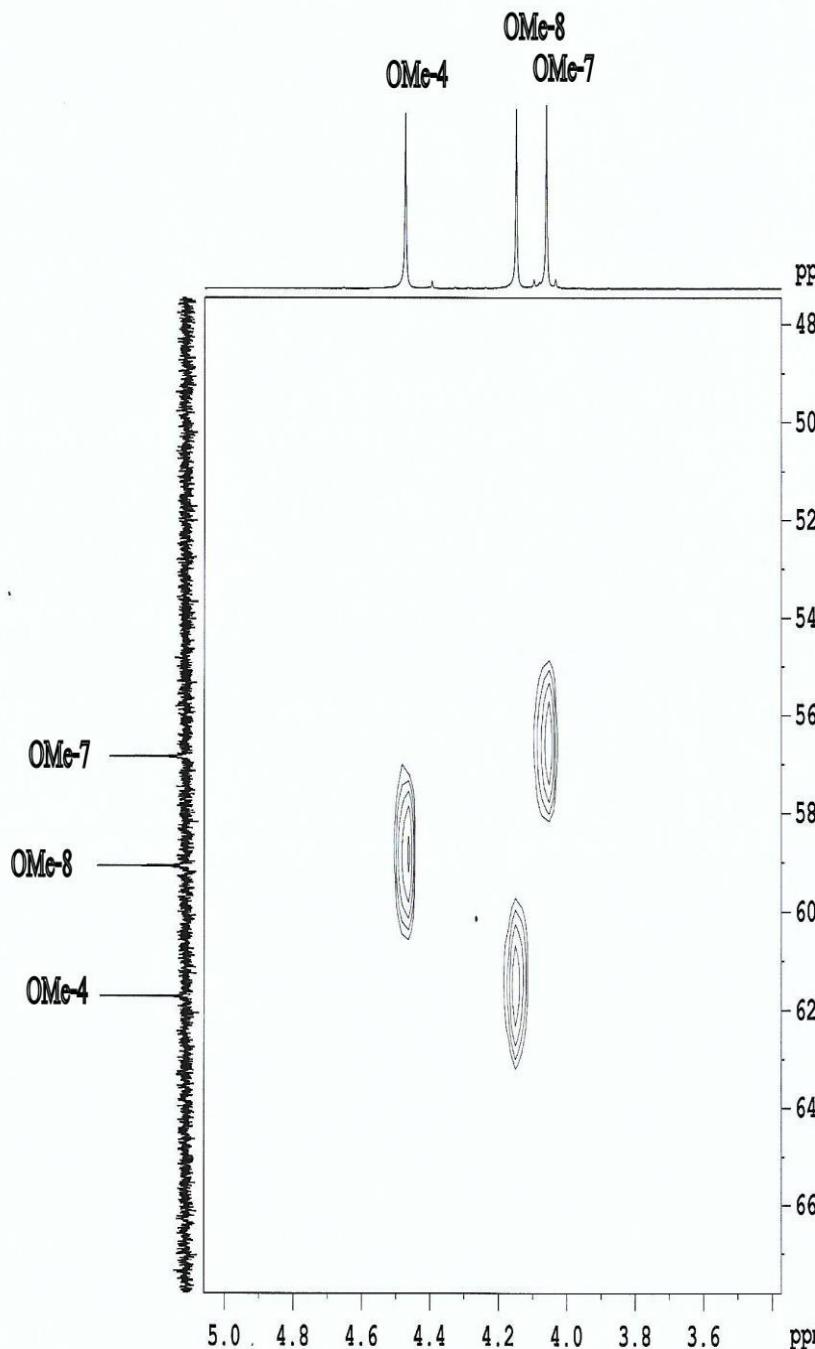
F2 - Processing parameters
SI 1024
SF 400.000000 MHz
WDW QSIMSE
SSB 2
LB 0 Hz
GB 0
PC 1.40

F1 - Processing parameters
SI 1024
SF 100.668 MHz
WDW echo-antiecho
SSB 2
LB 0 Hz
GB 0

```

S39: Partially expanded HSQC-NMR (400 MHz, CDCl_3) spectrum of Compound 4 (Skimmianine).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_20, hsqc



Current Data Parameters
 NAME DU_ZRC_20
 EXHIB 5
 PROBNO 1

F2 - Acquisition Parameters
 Date 20160117
 Time 19:36
 INSTRUM spect
 PROBHD 5 mm PABBO BB
 PULPROG hsqcetgpsp2.2
 TD 2048
 SCALING 0.0013
 NS 4
 SWH 8012.820 Hz
 FIDRES 3.12531 Hz
 AQ 0.1277562 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 298.9 K
 CRST2 145.0000000
 CRSTL7 -0.5000000
 D0 0.00000000 sec
 D1 1.00000000 sec
 D4 0.0017814 sec
 D11 0.0300000 sec
 D14 0.0320000 sec
 D21 0.0300000 sec
 D24 0.0300000 sec
 IR3 0.0001980 sec

***** CHANNEL F1 *****
 SP01 400.2320011 MHz
 NC01 1H
 P1 14.75 usec
 P2 29.50 usec
 P2B 0 usec
 P1M1 12.0000000 W

***** CHANNEL I2 *****
 SP02 100.6479778 MHz
 NC02 13C
 CP90PG(2) 90°
 P3 10.00 usec
 P14 400.00 usec
 P24 2000.00 usec
 PCP02 80.00 usec
 PLW0 0 W
 PLW2 49.00000000 W
 PLW12 0.76563201 W
 SPINW[3] Crp60,0.5,20.1
 SPQ013 0.500
 SPCHFS3 0 Hz
 SPW3 7.49655992 W
 SPINW[7] Crp50,comp,4
 SPQ017 0.500
 SPCHFS7 0 Hz
 SPW7 7.49655992 W

***** GRADIENT CHANNEL *****
 GHW0[1] SWSQ10.100
 GHW0[2] SWSQ10.100
 GHW0[3] SWSQ10.100
 GHW0[4] SWSQ10.100
 GP01 82.00 %
 GP02 22.10 %
 GP03 11.00 %
 GP04 -5.00 %
 P16 100.00 usec
 P19 800.00 usec

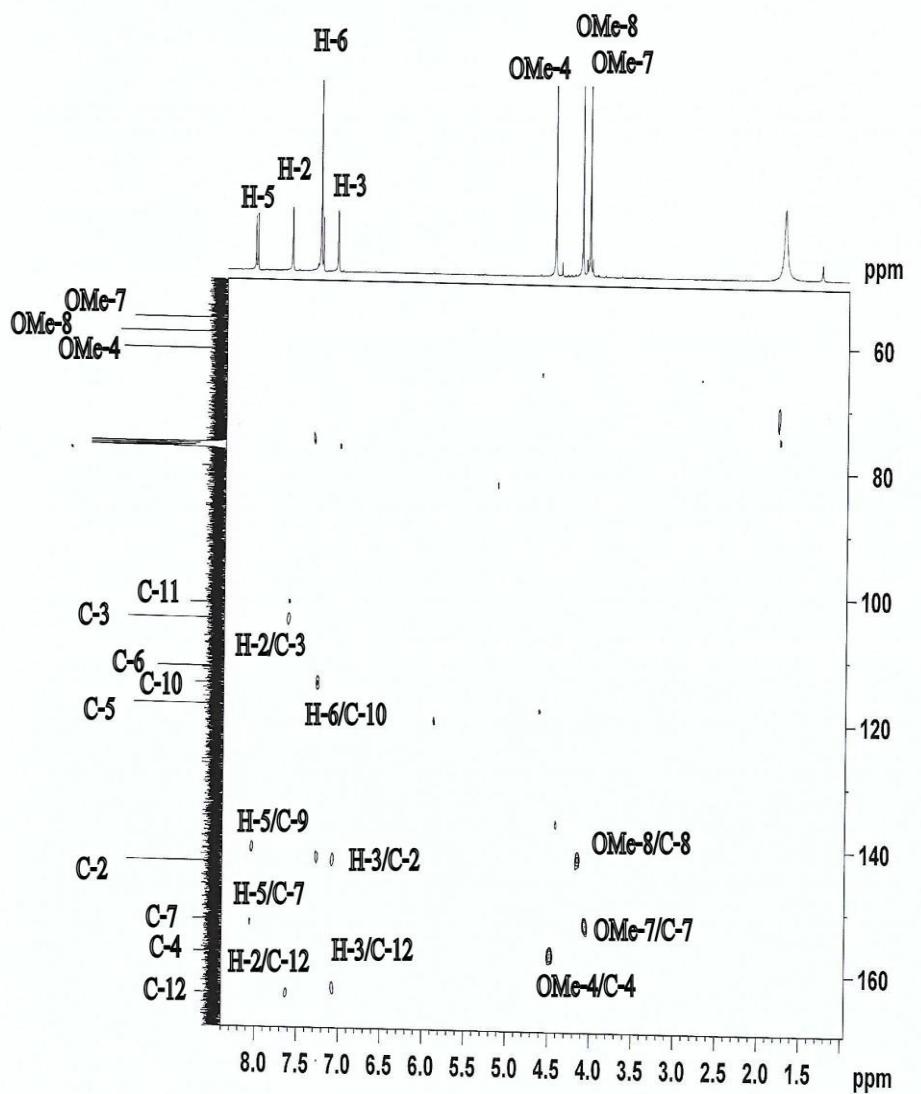
F1 - Acquisition parameters
 TD 1024
 SP01 100.648 MHz
 FIDRES 197.385355 Hz
 SW 250.899 ppm
 FIDNOE Echo-Antiecho

F1 - Processing parameters
 SI 1024
 SF 400.2300000 MHz
 QSWE QSWINE
 SSB 2
 LB 0 Hz
 GS 0
 PC 1.40

F1 - Processing parameters
 SI 1024
 NC2 echo-antiecho
 SF 100.6379165 MHz
 QSWE QSWINE
 SSB 2
 LB 0 Hz
 GS 0

S40: Partially expanded HSQC-NMR (400 MHz, CDCl₃) spectrum of Compound 4 (Skimmianine)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_20, hmbc



Current Data Parameters
 NAME DU_ZRC_20
 EXPNO 6
 PROCN 1

F2 - Acquisition Parameters
 Date 20160117
 Time 19.46
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG hmbcplndif
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 239.2 K
 CPMG 145.000000
 CNST13 10.000000
 D0 0.0000300 sec
 D1 1.0000000 sec
 D2 0.00344828 sec
 D6 0.05000000 sec
 D16 0.00020000 sec
 IN0 0.00001980 sec

CHANNEL f1
 SF01 400.1320011 MHz
 NUC1 1H
 PI 14.75 usec
 P2 29.50 usec
 PLW1 12.0000000 W

CHANNEL f2
 SF02 100.6479773 MHz
 NUC2 13C
 P1 10.00 usec
 PLW2 49.0000000 W

GRADIENT CHANNEL
 GRNM[1] SMC10.100
 GRNM[2] SMC10.100
 GRNM[3] SMC10.100
 GPZ1 50.00 °
 GPZ2 30.00 °
 GPZ3 45.10 °
 P16 1000.00 usec

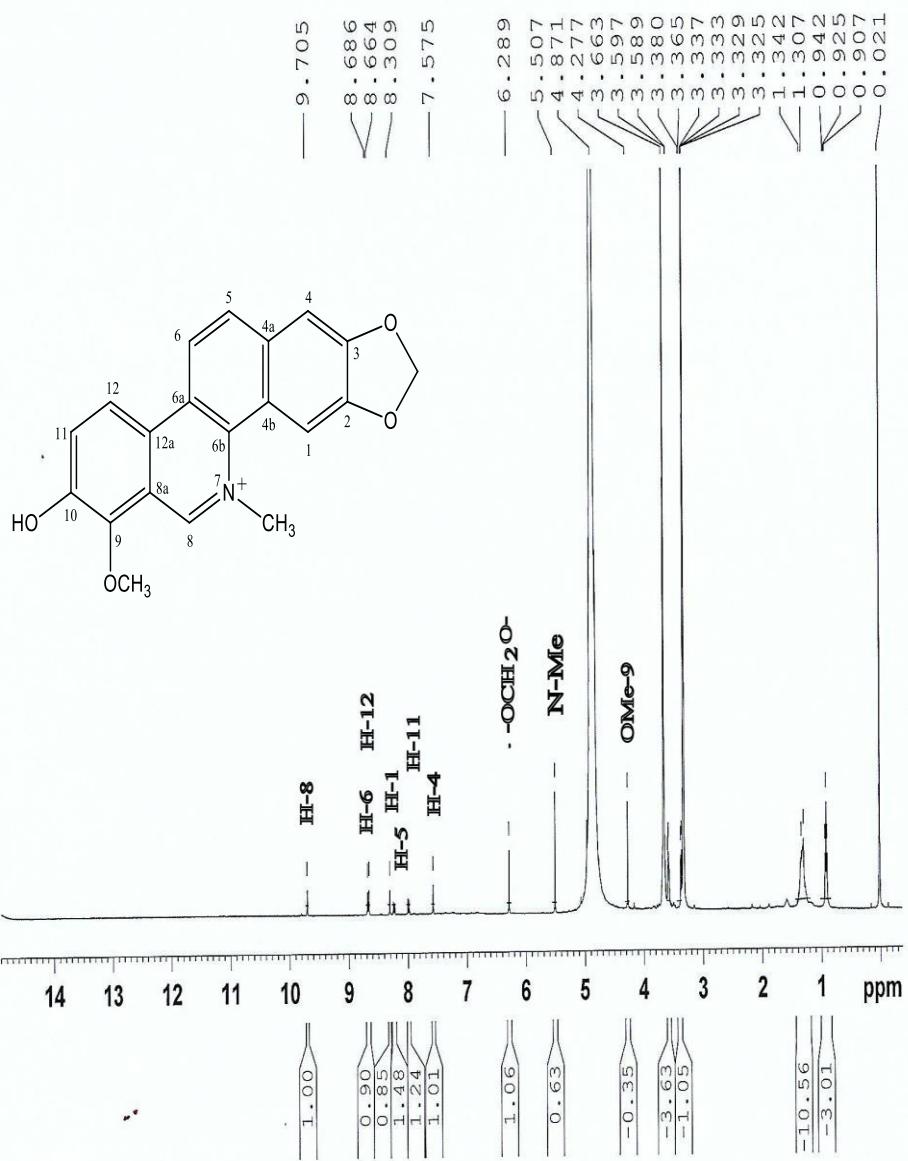
E1 - Acquisition parameters
 TD 128
 SF01 100.648 MHz
 FIDRES 197.28355 Hz
 SW 250.899 ppm
 FmMode QF

F2 - Processing parameters
 SI 2048
 SF 400.2000000 MHz
 MW0 SINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40
 F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 100.6379135 MHz
 MW0 SINE
 SSB 0
 LB 0 Hz
 GB 0

S41: HMBC-NMR (400 MHz, CDCl_3) spectrum of Compound 4 (Skimmianine)

Skimmianine (**4**): colourless crystals; ^1H -NMR (500 MHz, CDCl_3): δ 8.05 (1H, d, $J= 9.2$ Hz, H-5), 7.62 (1H, d, $J= 2.8$ Hz, H-2), 7.27 (1H, d, $J= 9.2$ Hz, H-6), 7.08 (1H, d, $J= 2.8$ Hz, H-3), 4.47 (3H, s, OMe-4), 4.15 (3H, s, OMe-8), 4.06 (3H, s, OMe-7). ^{13}C -NMR (125 MHz, CDCl_3): δ 164.3 (C-12), 157.5 (C-4), 152.4 (C-7), 143.1 (C-2), 142.0 (C-8), 141.5 (C-9), 118.2 (C-5), 114.8 (C-10), 112.3 (C-6), 104.7 (C-3), 102.1 (C-11), 61.7 (OMe-8), 59.1 (OMe-4), 56.9 (OMe-7).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_7



Current Data Parameters
 NAME DU_ZRC_7
 EXPNO 1
 PROCNO 1

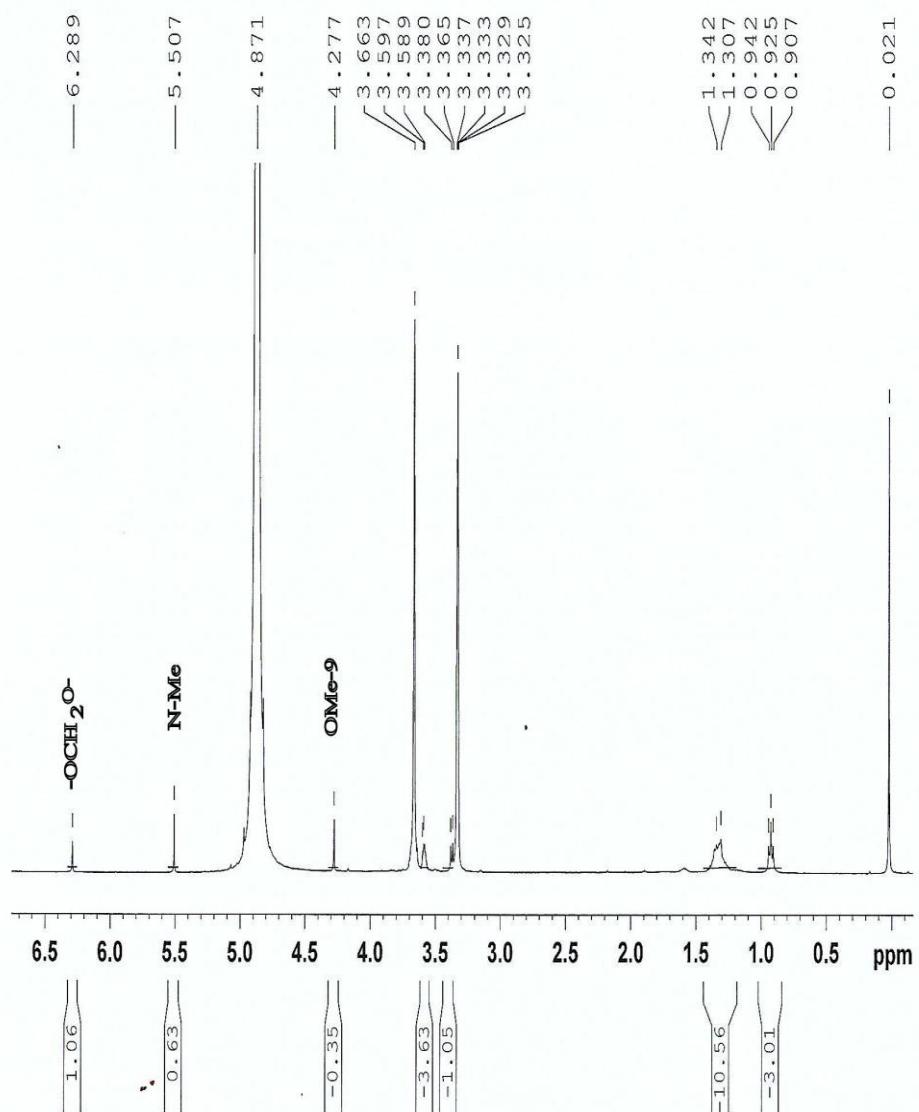
F2 - Acquisition Parameters
 Date 20160123
 Time 11.46
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 58.24
 DW 62.400 usec
 DE 6.50 usec
 TE 298.4 K
 D1 2.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P1 14.75 usec
 PLW1 12.00000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0 1.00 Hz
 PC 1.00

S42 : ¹H-NMR spectrum (400 MHz, CDCl₃+CD₃OD) of Compound 5 (Fagaridine).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_7



Current Data Parameters
 NAME DU_ZRC_7
 EXPNO 1
 PROCNO 1

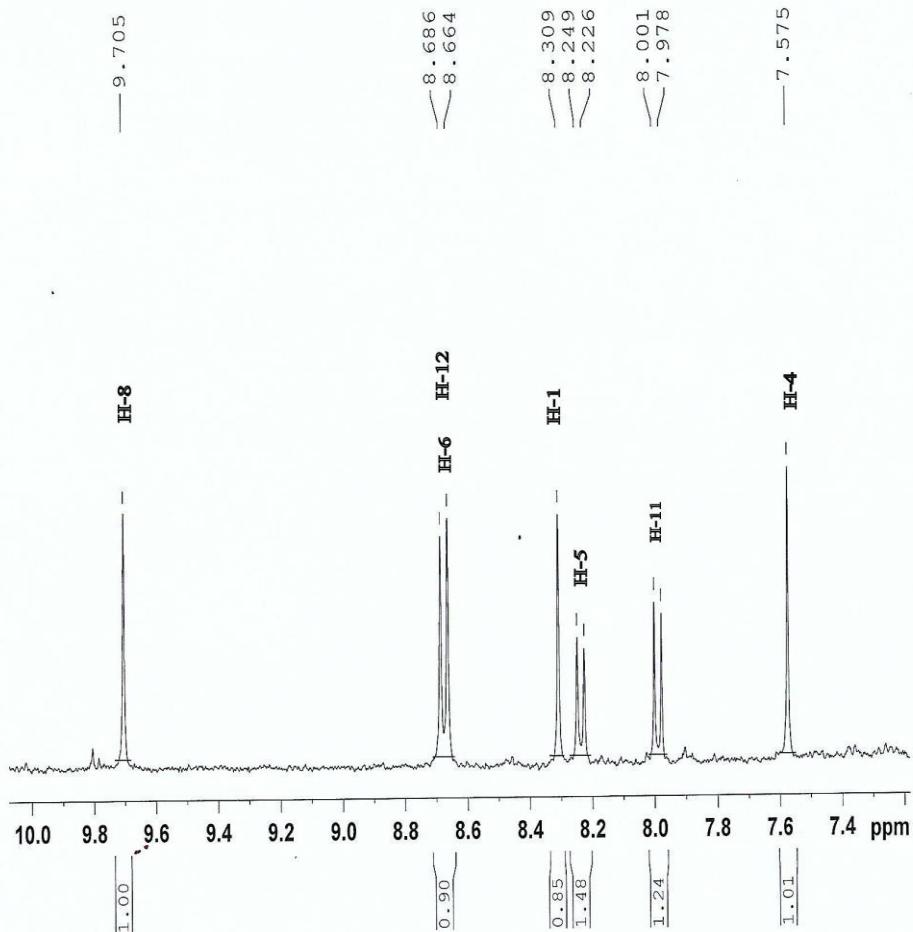
F2 - Acquisition Parameters
 Date 20160123
 Time 11.46
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 58.24
 DW 62.400 usec
 DE 6.50 usec
 TE 298.4 K
 D1 2.0000000 sec
 TDO 1

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 P1 14.75 usec
 PLW1 12.00000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

S43 : Expansion of ¹H-NMR spectrum (400 MHz, CDCl₃+CD₃OD) of Compound 5 (Fagaridine).

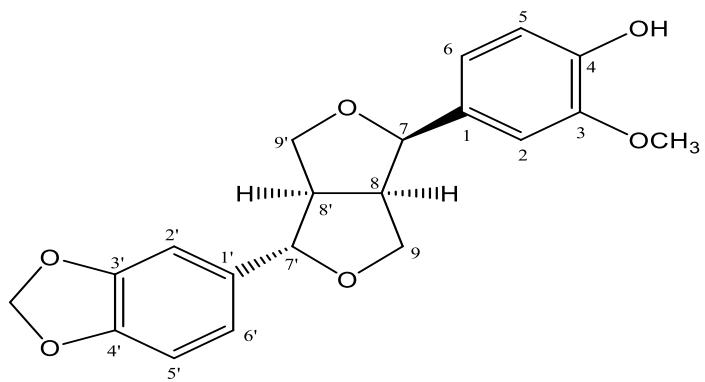
Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_7



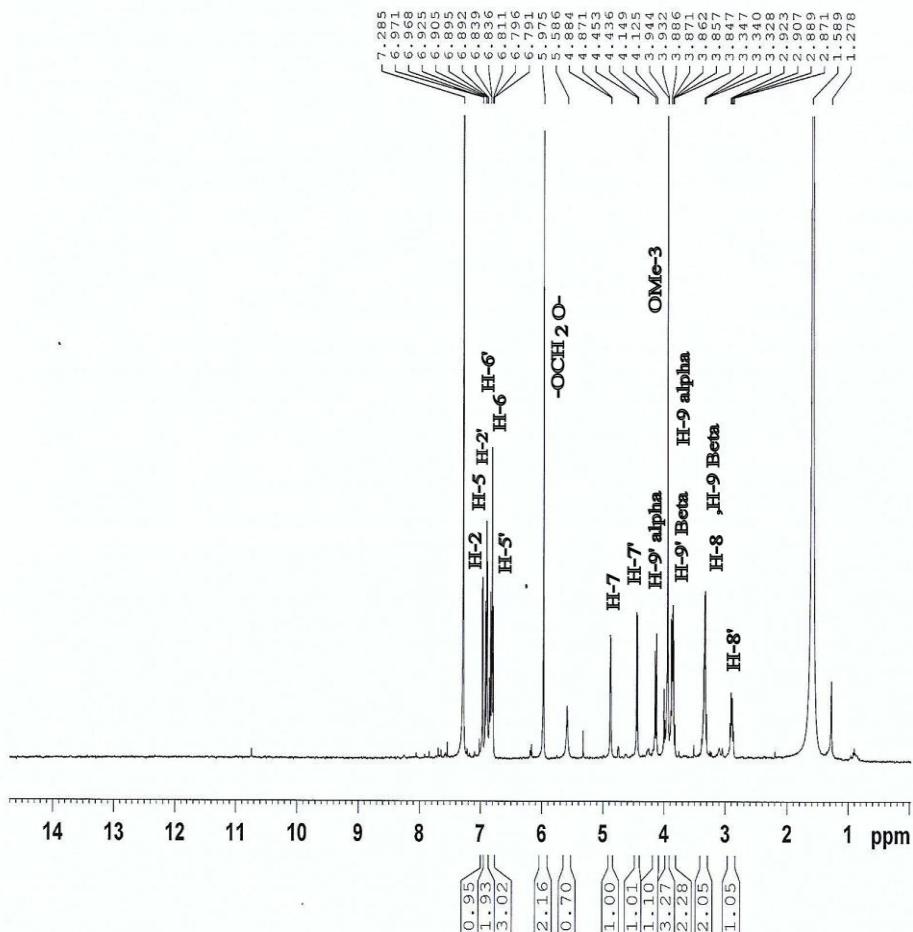
Current Data Parameters
 NAME DU_ZRC_7
 EXPNO 1
 PROCNO 1
 F2 - Acquisition Parameters
 Date 20160123
 Time 11.46
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT MeOD
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 58.24
 DW 62.400 usec
 DE 6.50 usec
 TE 298.4 K
 D1 2.0000000 sec
 TDO 1
 ===== CHANNEL f1 =====
 SFO1 400.2320011 MHz
 NUC1 1H
 P1 14.75 usec
 PLW1 12.0000000 W
 F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

S44 : Expansion of ^1H -NMR spectrum (400 MHz, $\text{CDCl}_3+\text{CD}_3\text{OD}$) of Compound 5 (Fagaridine).

Fagaridine (5): light yellow powder; ^1H -NMR (500 MHz, CDCl_3): δ 9.71 (1H, s, H-8), 8.67 (1H, d, $J=8.8$ Hz, H-12), 8.31 (1H, s, H-1), 8.24 (1H, d, $J=9.2$ Hz, H-5), 7.99 (1H, d, $J=9.2$ Hz, H-11), 7.57 (1H, s, H-4), 7.54 (1H, d, $J=8.8$ Hz, H-6), 6.23 (2H, s, OCH_2O), 5.50 (3H, s, N-Me), 4.28 (3H, s, OMe-9).



Wazed Miah Science Research Center (WMSRC)
Jahangirnagar University
Sample: DU_ZRC_10



Current Data Parameters
NAME DU_ZRC_10
EXPNO 1
PROCNO 1

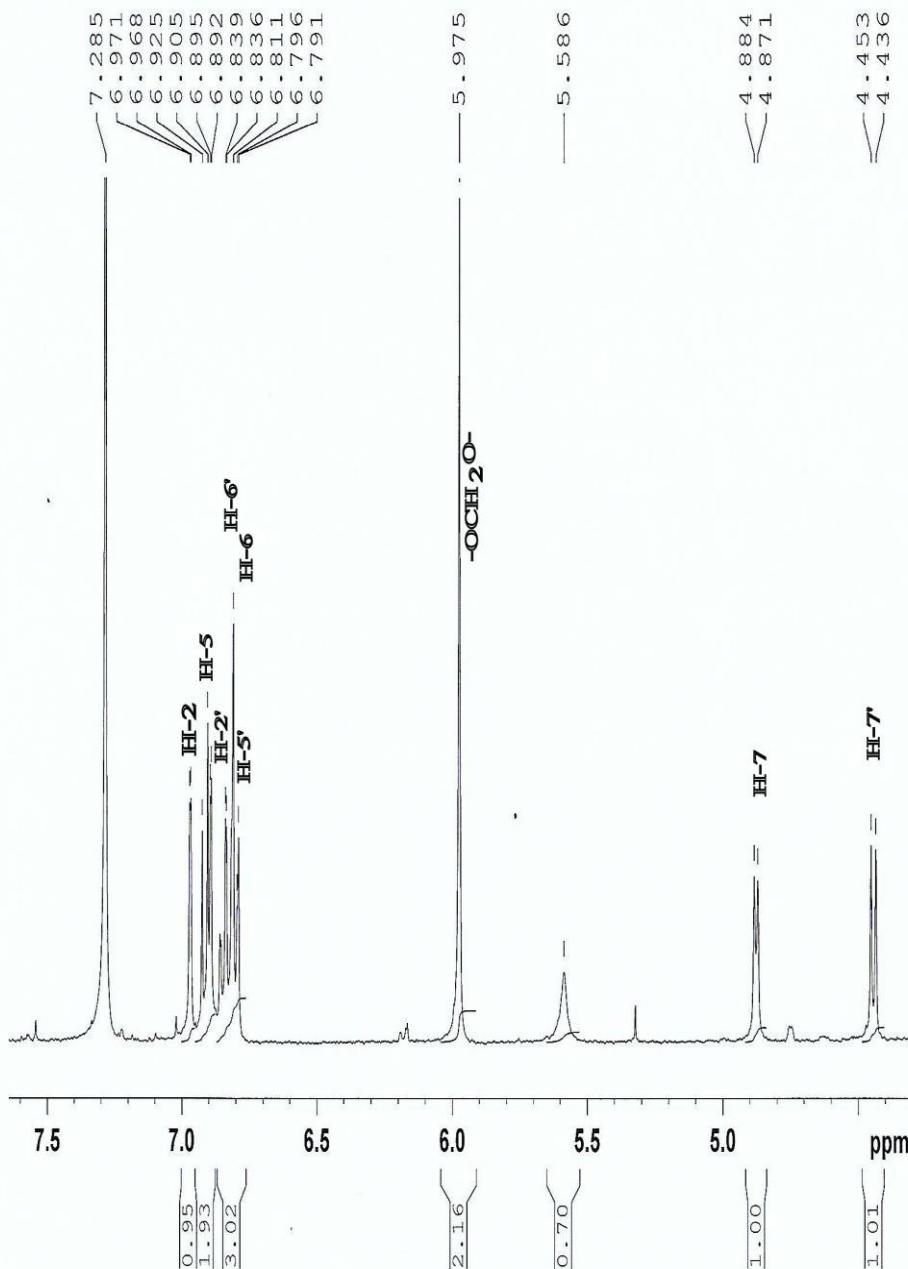
F2 - Acquisition Parameter
Date 20160117
Time 8.52
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg
TD 65536
SOLVENT CDCl3
NS 16
DS 0
SWH 8012.820 Hz
FIDRES 0.122266 Hz
AQ 4.0894465 se
RG 165.43
DW 62.400 us
DE 6.50 us
TE 298.6 K
D1 2.0000000 se
TD0 1

===== CHANNEL f1 =====
SF01 400.2320011 MH
NUC1 1H
P1 14.75 us
PLW1 12.0000000 W

F2 - Processing parameters
SI 131072
SF 400.2300000 MH
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.00

S45: ^1H -NMR spectrum (400 MHz, CDCl_3) of Compound 6 (Pluviatilol).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10



Current Data Parameters
 NAME DU_ZRC_10
 EXPNO 1
 PROCNO 1

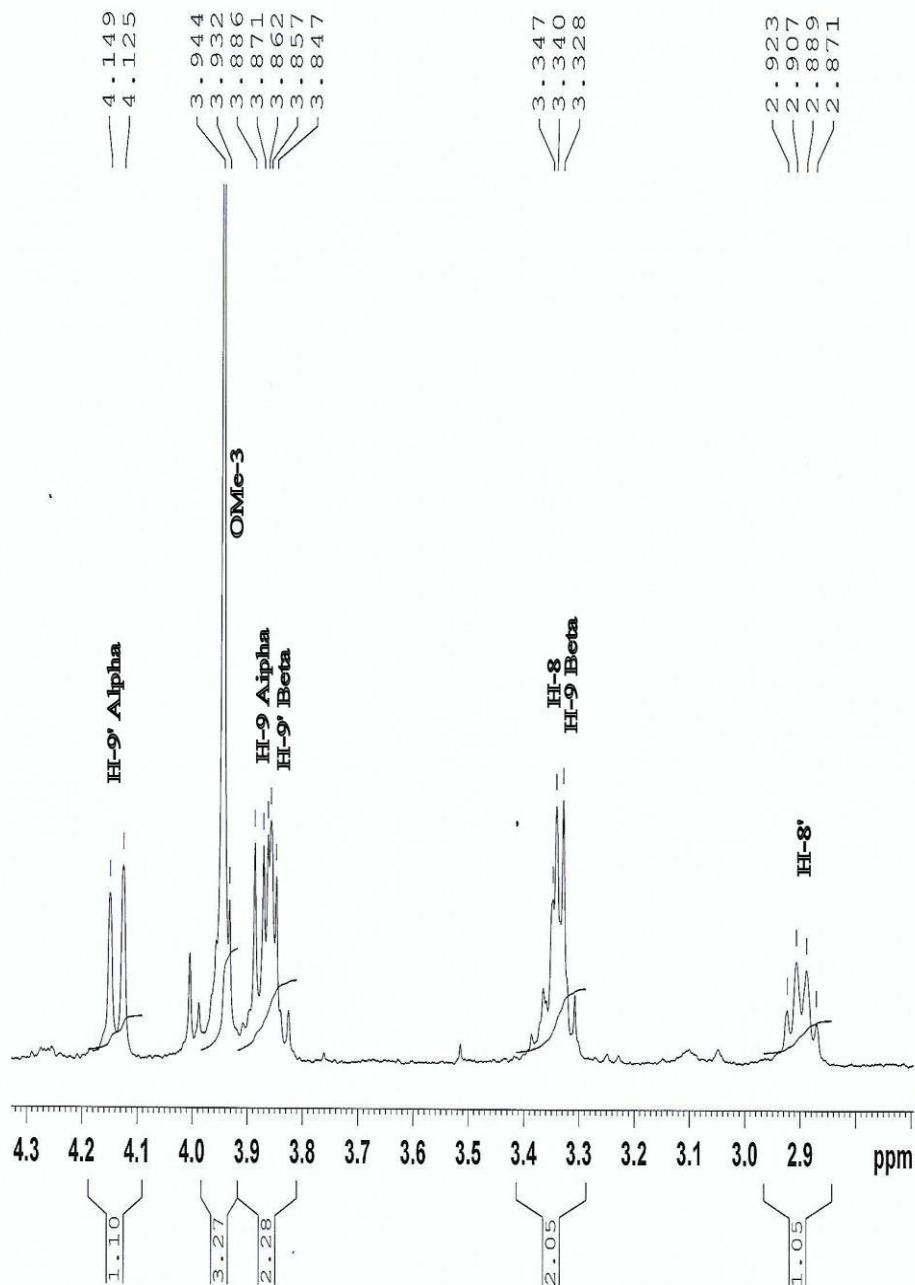
F2 - Acquisition Parameter
 Date 20160117
 Time 8.52
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl₃
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 se
 RG 165.43
 DW 62.400 us
 DE 6.50 us
 TE 298.6 K
 D1 2.0000000 se
 TDO 1

===== CHANNEL f1 =====
 SFQ1 400.2320011 MHz
 NUC1 1H
 P1 14.75 us
 PLW1 12.0000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

S46 : Partially expanded ¹H-NMR spectrum(400 MHz, CDCl₃) of Compound 6 (Pluviatilol)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10



Current Data Parameters
 NAME DU_ZRC_10
 EXPNO 1
 PROCNO 1

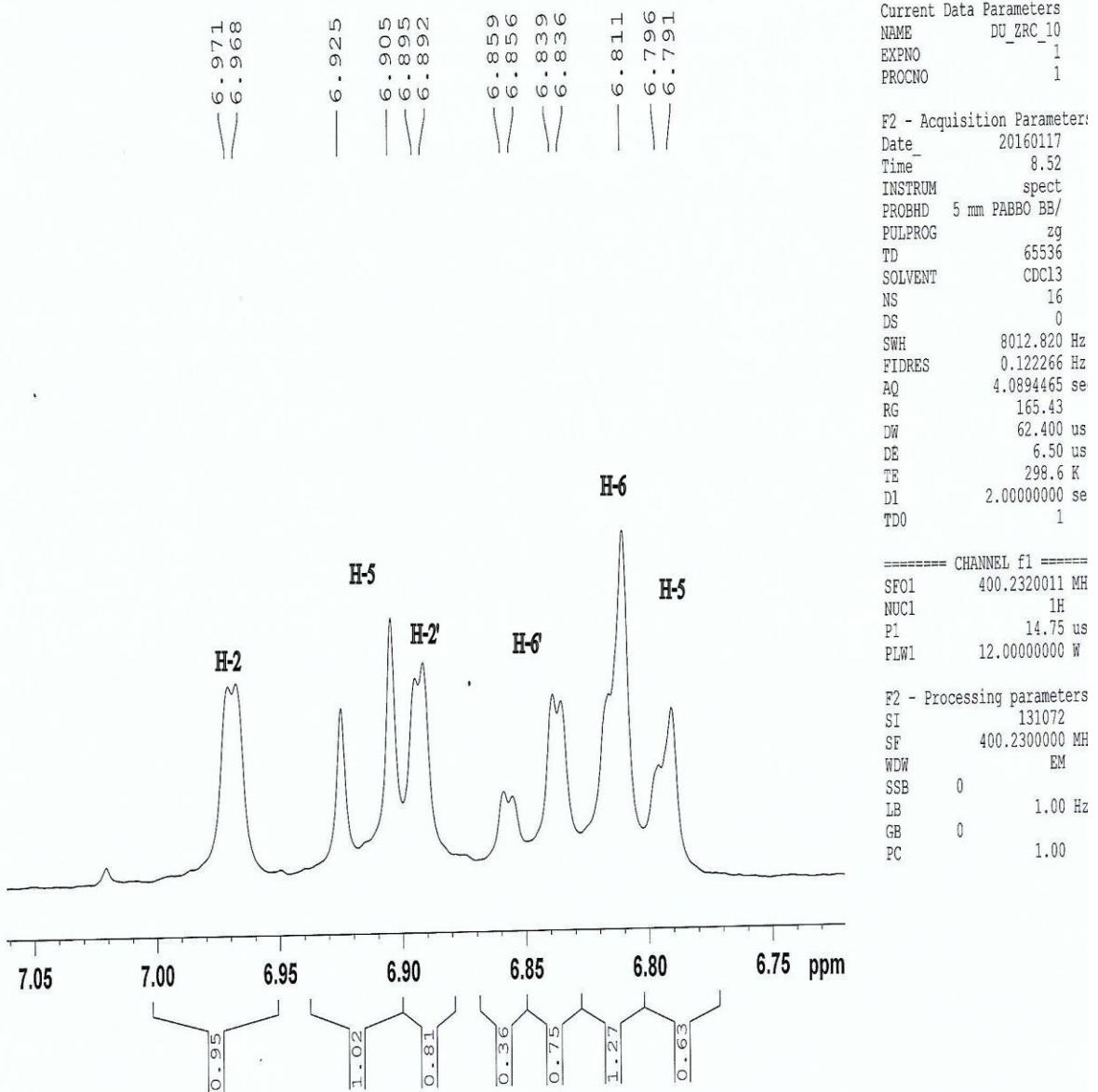
F2 - Acquisition Parameter
 Date 20160117
 Time 8.52
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl₃
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 se
 RG 165.43
 DW 62.400 us
 DE 6.50 us
 TE 298.6 K
 D1 2.0000000 se
 TDO 1

===== CHANNEL f1 =====
 SFO1 400.2320011 MH
 NUC1 1H
 P1 14.75 us
 PLW1 12.0000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MH
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

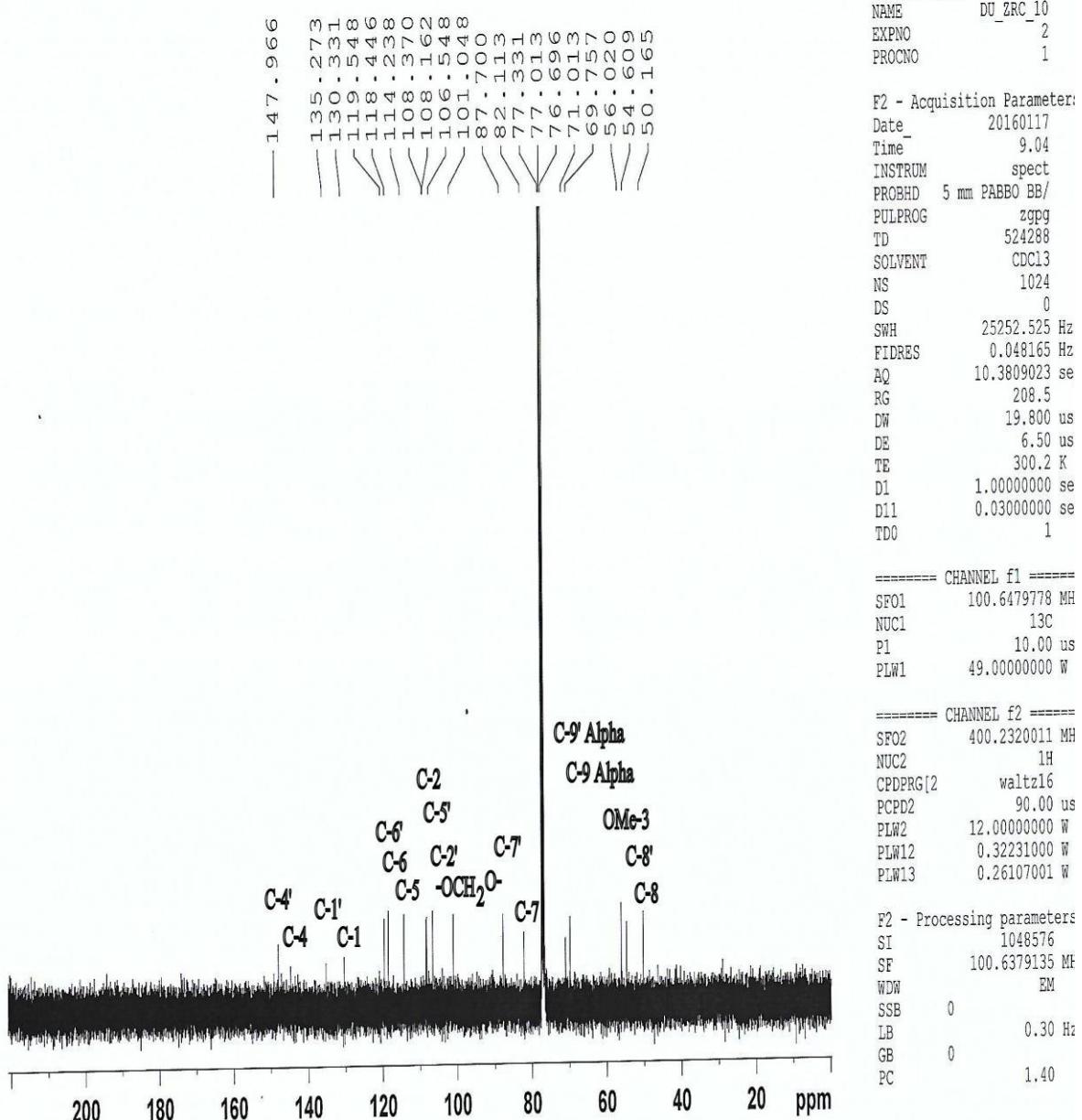
S47: Partially expanded ¹H-NMR spectrum (400 MHz, CDCl₃) of Compound 6 (Pluviatilol).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10



S48: Partially expanded ¹H-NMR spectrum (400 MHz, CDCl₃) of Compound 6 (Pluviatilol).

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 Jahangirnagar University
 Sample: DU_ZRC_10



S49 : ¹³C NMR spectrum (100 MHz, CDCl₃) of Compound 6 (Pluviatilol).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10



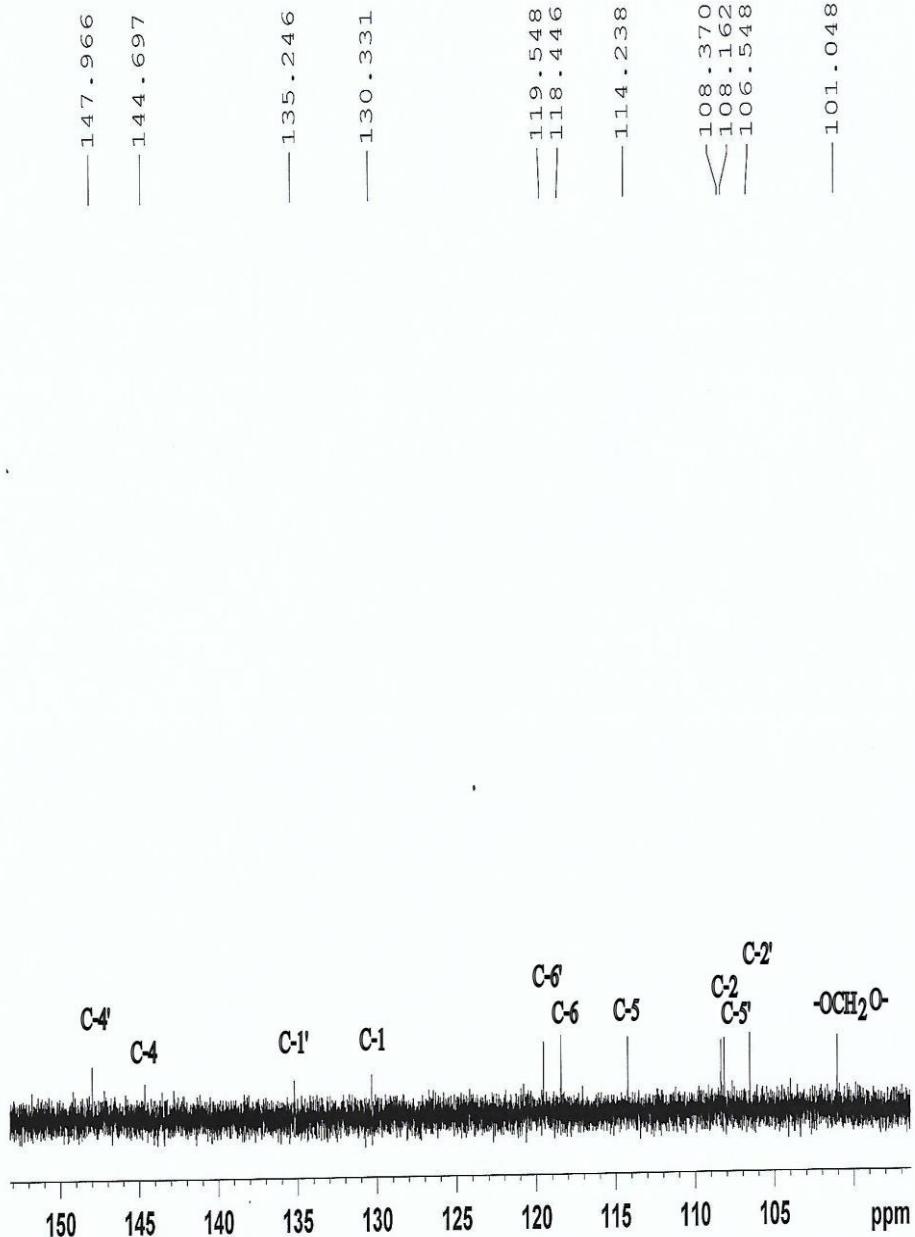
Current Data Paramete
 NAME DU_ZRC
 EXPNO
 PROCNO

F2 - Acquisition Para
 Date 201601
 Time 9.
 INSTRUM spe
 PROBHD 5 mm PABBO B
 PULPROG zg
 TD 5242
 SOLVENT CDC
 NS 10
 DS
 SWH 25252.5
 FIDRES 0.0481
 AQ 10.38090
 RG 208
 DW 19.8
 DE 6.
 TE 300
 D1 1.000000
 D11 0.030000
 TDO

===== CHANNEL f1 =
 SF01 100.64797
 NUC1 1
 P1 10.
 PLW1 49.000000

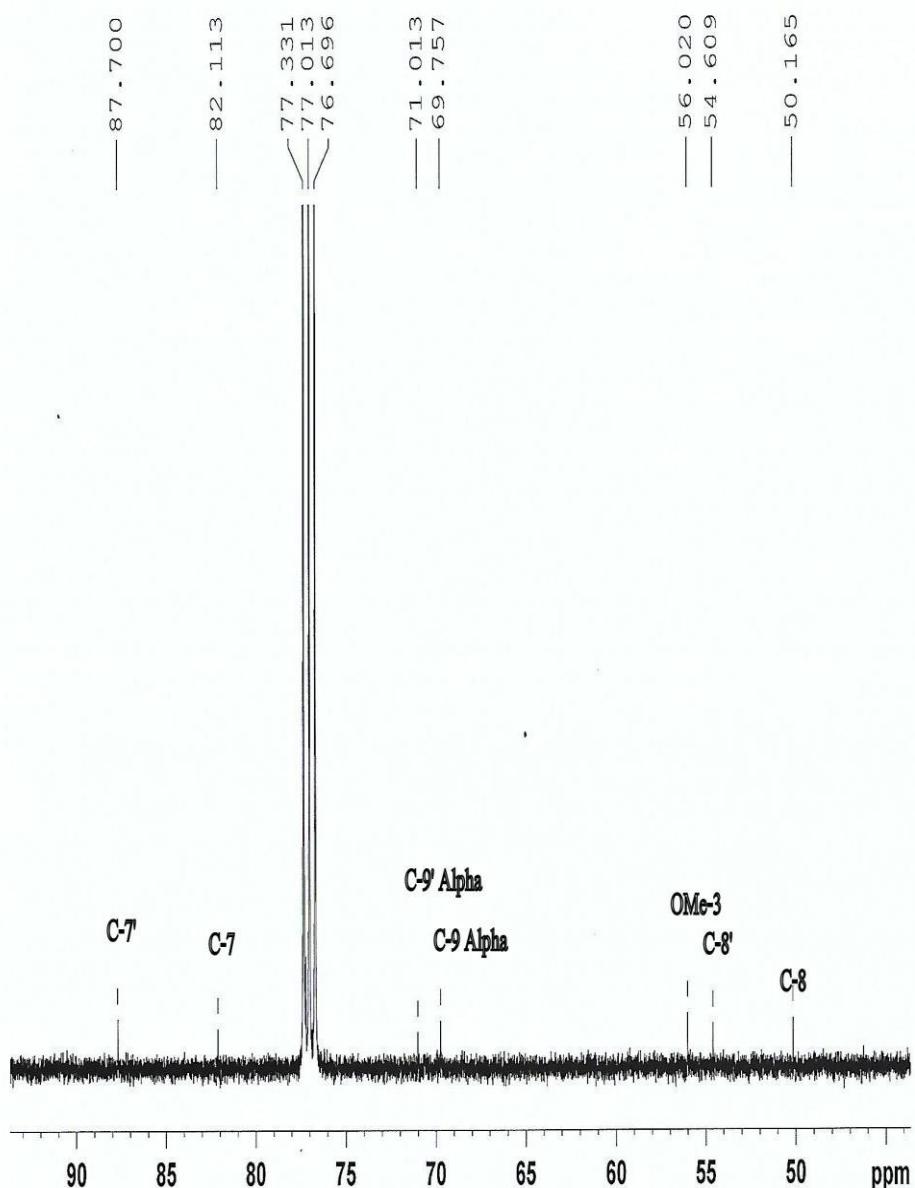
===== CHANNEL f2 =
 SF02 400.23200
 NUC2
 CPDPRG[2] waltz
 PCPD2 90.
 PLW2 12.000000
 PLW12 0.322310
 PLW13 0.261070

F2 - Processing para
 SI 10481
 SF 100.63791
 WDW
 SSB 0 0.
 LB 0
 GB 0
 PC



S50: Partially expanded ^{13}C -NMR spectrum (100 MHz, CDCl_3) of Compound 6 (Pluviatilol)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10



Current Data Parameters
 NAME DU_ZRC_10
 EXPNO 2
 PROCNO 1

F2 - Acquisition Parameters
 Date 20160117
 Time 9.04
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zgpg
 TD 524288
 SOLVENT CDCl3
 NS 1024
 DS 0
 SWH 25252.525 Hz
 FIDRES 0.048165 Hz
 AQ 10.3809023 sec
 RG 208.5
 DW 19.800 usec
 DE* 6.50 usec
 TE 300.2 K
 D1 1.0000000 sec
 D11 0.03000000 sec
 TDO 1

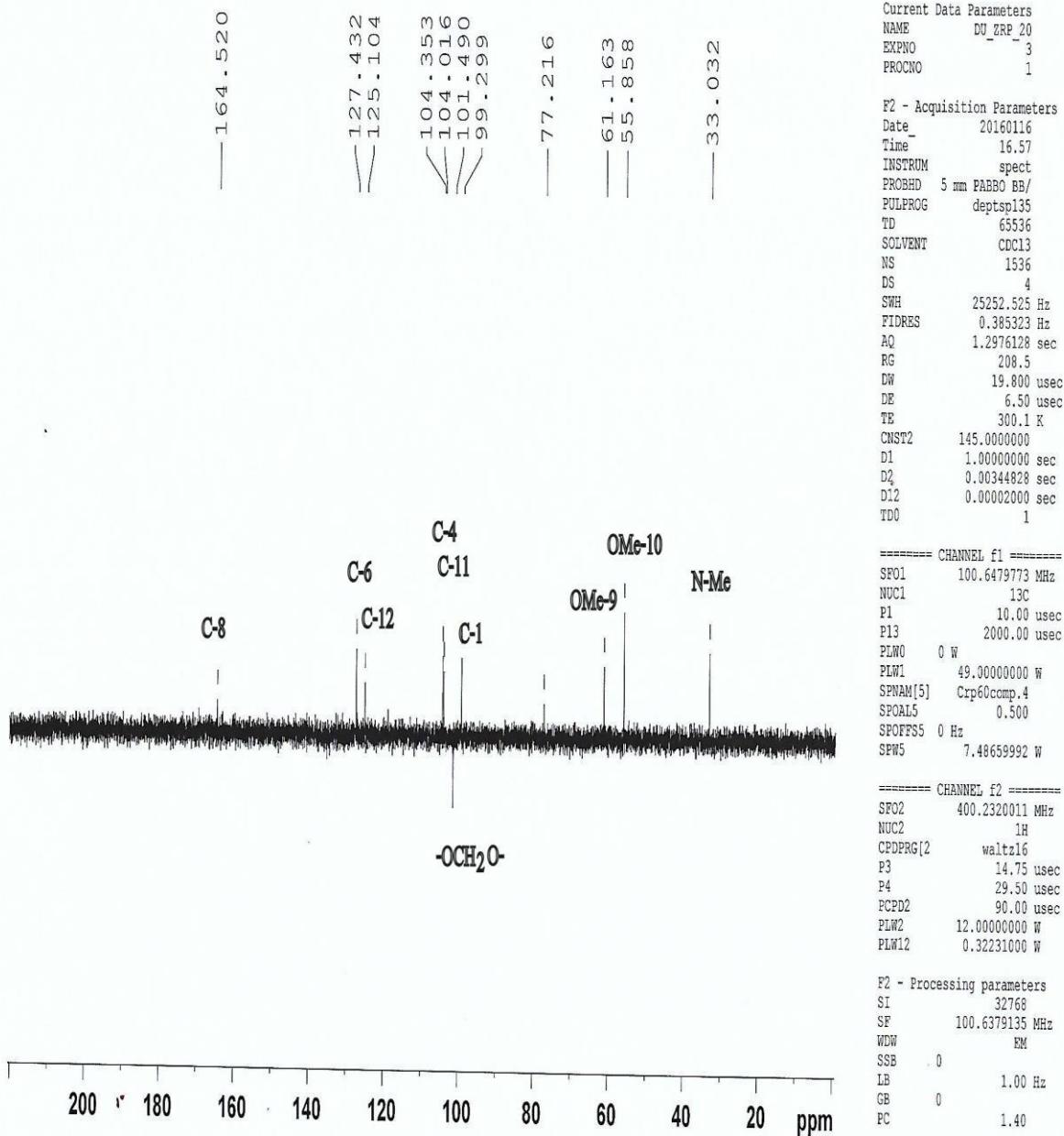
===== CHANNEL f1 =====
 SF01 100.6479778 MHz
 NUC1 13C
 P1 10.00 usec
 PLW1 49.0000000 W

===== CHANNEL f2 =====
 SF02 400.2320011 MHz
 NUC2 1H
 CPDPRG[2] waltz16
 PCPD2 90.00 usec
 PLW2 12.0000000 W
 PLW12 0.32231000 W
 PLW13 0.26107001 W

F2 - Processing parameters
 SI 1048576
 SF 100.6379135 MHz
 WDW 0 EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.40

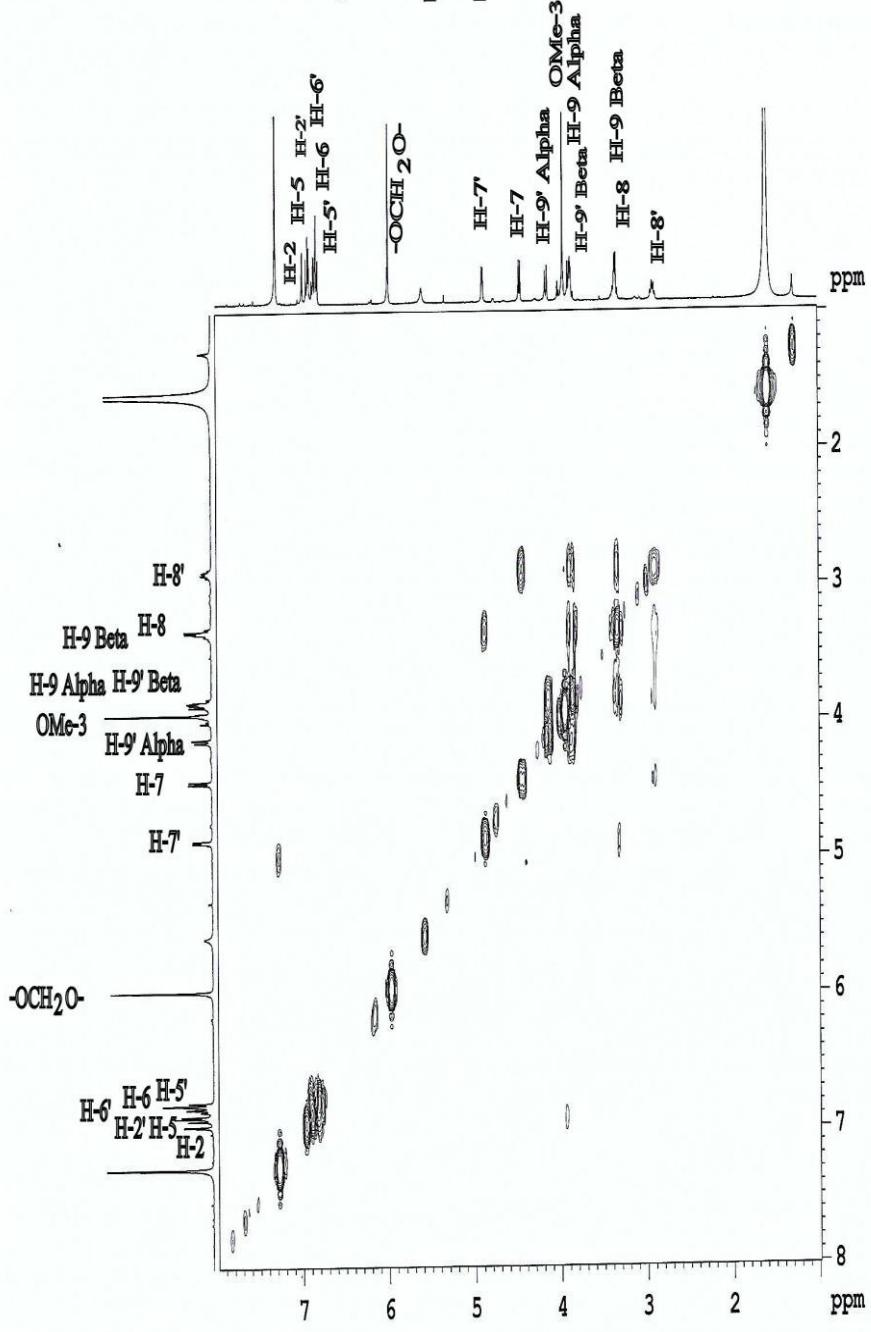
S51: Partially expanded ^{13}C -NMR spectrum (100 MHz, CDCl_3) of Compound 6 (Pluviatilol)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRP_20, dept-135



S52: DEPT-135 NMR spectrum (100 MHz, CDCl₃) of Compound **6** (Pluviatilol).

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10, cosy



Current Data Parameters
 NAME DU_ZRC_10
 EXPNO 4
 PROCN 1

F2 - Acquisition Parameters
 Date 20160117
 Time 12.52
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG cosyppgt
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.2 K
 D0 0.00000300 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 *D16 0.00020000 sec
 INQ 0.00012480 sec

===== CHANNEL f1 =====
 SFO1 400.2320011 MHz
 NUC1 1H
 P0 14.75 usec
 P1 14.75 usec
 PLM1 12.00000000 W

===== GRADIENT CHANNEL =====
 GENRM[1] SMSQ10.100
 GPZ1 10.00 %
 P16 1000.00 usec

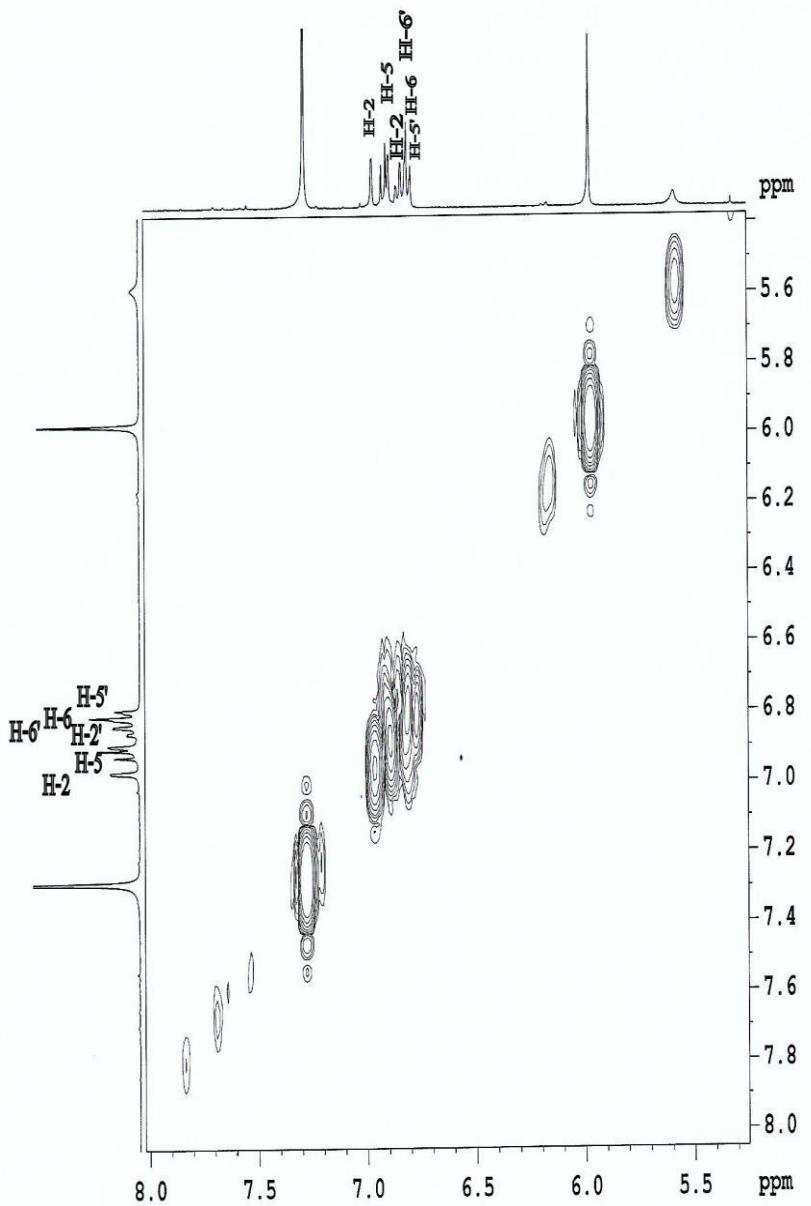
F1 - Acquisition parameters
 TD 128
 SFO1 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 F1MODE QF

F2 - Processing parameters
 SI 2048
 SF 400.2300010 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300011 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

S53: COSY-NMR spectrum (400 MHz, CDCl₃) of Compound **6** (Pluviatilol).

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 Jahangirnagar University
 Sample: DU_ZRC_10, cosy



Current Data Parameters
 NAME DU_ZRC_10
 EXPNO 4
 PROCNO 1

F2 - Acquisition Parameters
 Date 20160117
 Time 12.52
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG cosyppgf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.2 K
 D0 0.0000300 sec
 D1 1.0000000 sec
 D13 0.0000400 sec
 D16 0.0002000 sec
 IN0 0.00012480 sec

===== CHANNEL f1 =====
 SFO1 400.2320011 MHz
 NUC1 1H
 F0 14.75 usec
 P1 14.75 usec
 PLW1 12.0000000 W

===== GRADIENT CHANNEL =====
 GPNAM[1] SMSQ10.100
 GP21 10.00 %
 P16 1000.00 usec

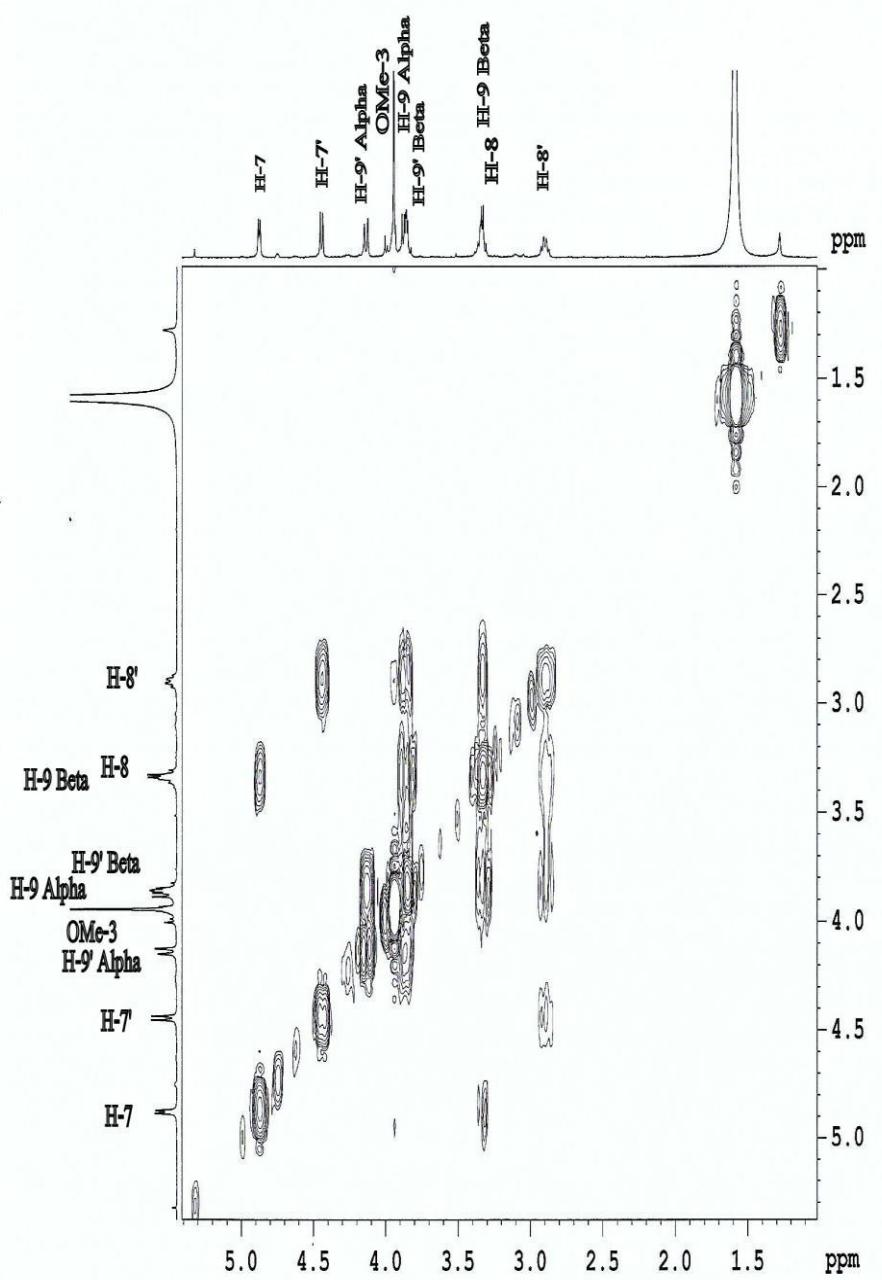
P1 - Acquisition parameters
 TD 128
 SFO1 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 FMODE QF

P2 - Processing parameters
 SI 2048
 SF 400.2300010 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 FC 1.40

P1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300011 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

S54 : Partially expanded COSY-NMR spectrum (400 MHz, CDCl₃) of Compound **6** (Pluviatilol)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10, cosy



Current Data Parameters
 NAME DU_ZRC_10
 EXPNO 1
 PROCNO 1

F2 - Acquisition Parameters
 Date 20160117
 Time 12.52
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG cosyppgf
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.820 Hz
 FIDRES 3.912510 Hz
 AQ 0.1277952 sec
 RG 208.5
 DW 62.400 usec
 DE 6.50 usec
 TE 299.2 K
 D0 0.00000300 sec
 D1 1.0000000 sec
 D13 0.00000400 sec
 D16 0.0002000 sec
 TIN 0.00012480 sec

===== CHANNEL f1 =====
 SF01 400.2320011 MHz
 NUC1 1H
 PO 14.75 usec
 PI 14.75 usec
 PLW1 12.00000000 W

===== GRADIENT CHANNEL =====
 GENAM(1) SMSQ10.100
 GPZ1 10.00 %
 PL6 1000.00 usec

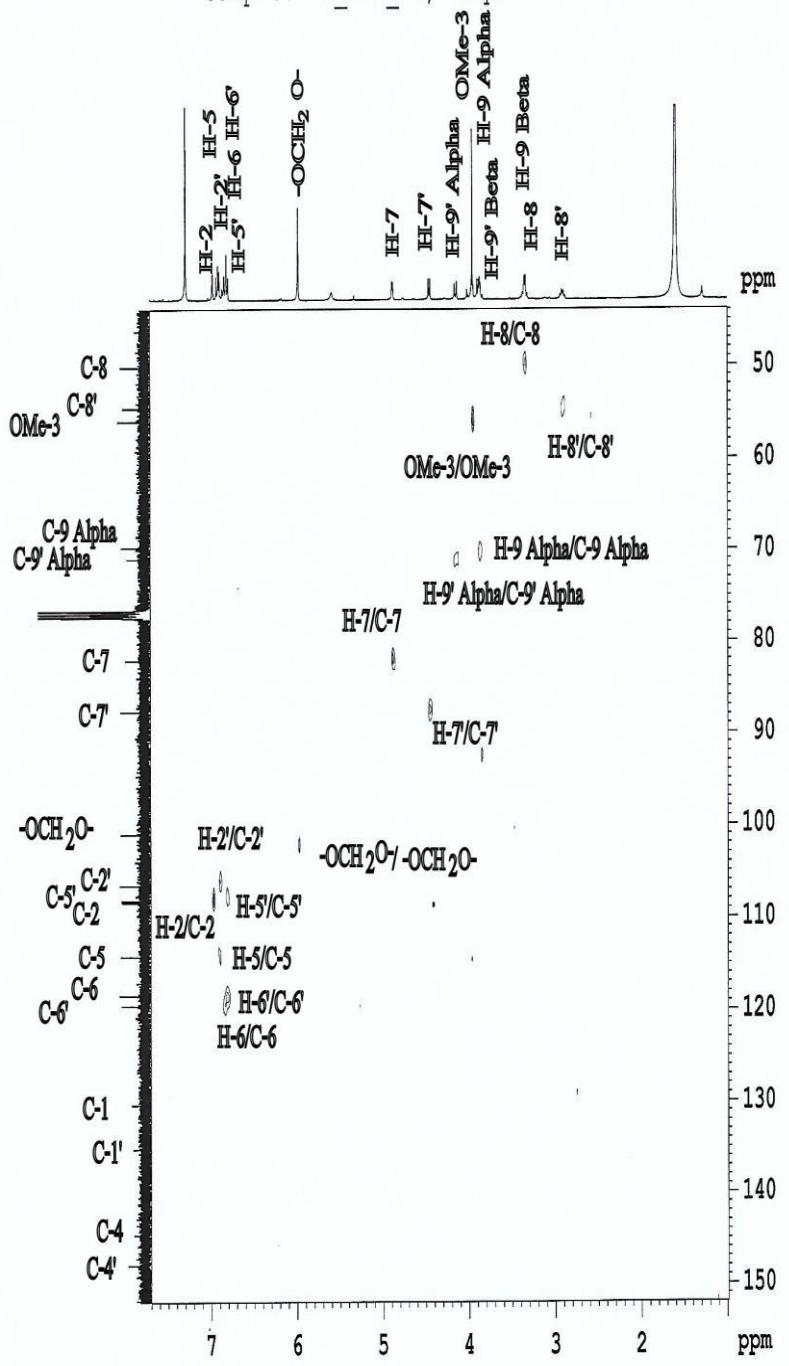
F1 - Acquisition parameters
 TD 128
 SF01 400.232 MHz
 FIDRES 62.600159 Hz
 SW 20.020 ppm
 FMODE QF

F2 - Processing parameters
 SI 2048
 SF 400.2300010 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 1024
 MC2 QF
 SF 400.2300011 MHz
 WDW QSINE
 SSB 0
 LB 0 Hz
 GB 0

S55 : Partially expanded COSY-NMR spectrum (400 MHz, CDCl₃) of Compound **6**
 (Pluviatilol)

Wazed Miah Science Research Center (WMSRC)
 Jahangirnagar University
 Sample: DU_ZRC_10, hsqc



Current Data Parameters
 NAME DU_ZRC_10
 EXPNO 5
 PROBNO 1

F2 - Acquisition Parameters
 Date 20160117
 Time 13.02
 INSTRUM spect
 PROBODIM 5 mm TBI800 BBF
 PULPROG hsqcetgpspgr2
 TD 2048
 SOLVENT CDCl3
 NS 4
 DS 4
 SWH 8012.800 Hz
 FIDRES 3.912510 Hz
 AC 0.1277952 sec
 R1 1.000 sec
 IR 64.00 usec
 RW 6.50 usec
 TZ 398.9 K
 CHANW 145.0000000
 CHAN17 -0.5000000
 D1 0.00000000 sec
 D1 1.00000000 sec
 D1 0.00172414 sec
 D11 0.03000000 sec
 D16 0.00000000 sec
 D21 0.00860000 sec
 D24 0.00009500 sec
 D3 0.00001980 sec

===== CHANNEL F1 =====
 SF01 400.2320011 MHz
 NC1 1H
 F1 14.75 usec
 P1 29.50 usec
 P2 0 usec
 P1M1 12.0000000 W
 ===== CHANNEL F2 =====
 SF02 100.6479778 MHz
 NC2 13C
 CPFRG[2] garp
 P3 10.00 usec
 P14 500.00 usec
 ZSI 2000.00 usec
 PCP2 80.00
 P1W1 49.00000000 W
 P1W2 0.76563001 W
 SPINW[3] Crp60,0.5,20.1
 SPOL3 0.500
 SPFFTS3 0 Hz
 SPW3 7.48659992 W
 SPINW[7] Crp60,comp,4
 SPOL7 0.500
 SPFFST 0 Hz
 SPWT 7.48659992 W

===== GRADIENT CHANNEL =====
 GRDM[1] SWSQ10.100
 GRDM[2] SWSQ10.100
 GRDM[3] SWSQ10.100
 GRDM[4] SWSQ10.100
 GRZ1 80.00 %
 GRZ2 20.00 %
 GRZ3 11.00 %
 GRZ4 -5.00 %
 P16 1000.00 usec
 P19 600.00 usec

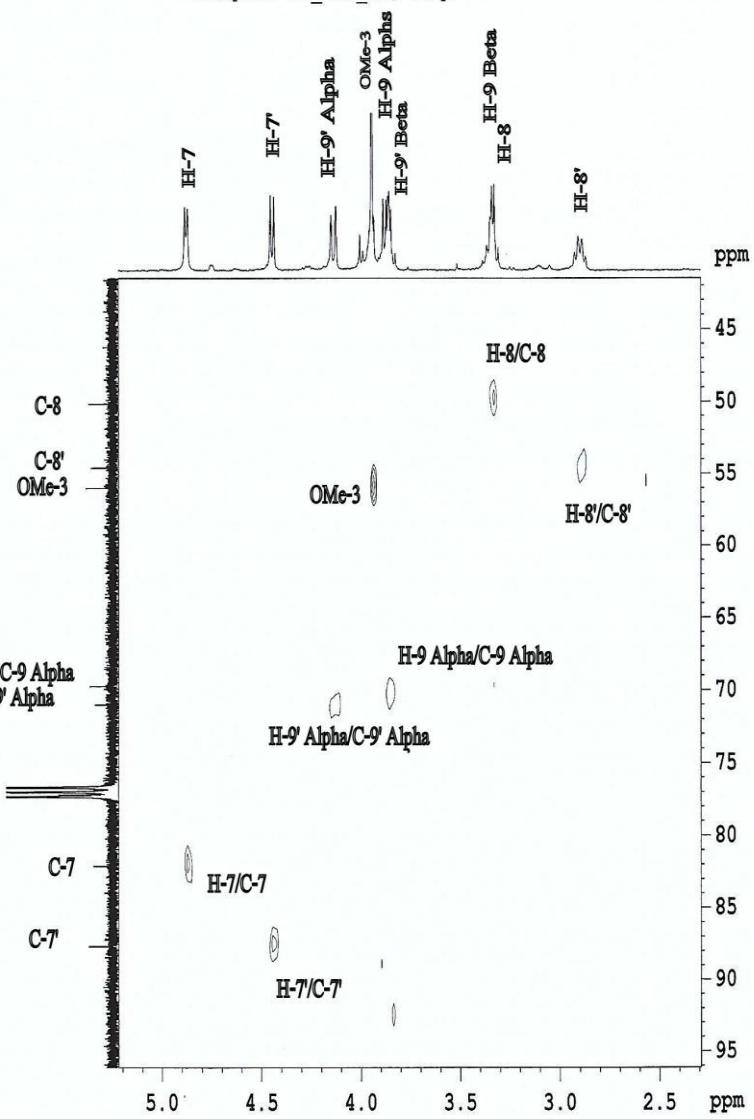
F1 - Acquisition parameters
 TD 2048
 SF01 100.648 MHz
 FIDRES 197.35355 Hz
 SW 250.899 ppm
 PROBDE Echo-Antiecho

F2 - Processing parameters
 SI 32768
 SF 400.2300000 MHz
 NW 1024
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.40

F1 - Processing parameters
 SI 32768
 NC1 echo-antiecho
 SF 100.6379365 MHz
 NW 1024
 SSB 2
 LB 0 Hz
 GB 0

S56: HSQC-NMR spectrum (400 MHz, CDCl₃) of Compound 6 (Pluviatilol).

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 Sample: DU_ZRC_10, hsqc



Current Data Parameters
 NMRA 80.000000
 NMRA 10
 ESR 1
 PROB1 1
 F1 - Acquisition parameters
 Date 20160117
 Time 13.02
 INSTRNM spect
 PROB1 5 mm PABO PROB
 PG3PRG hsqcedit.prg, v2.2
 T1 2048
 SOLVENT CDCl3
 NS 4
 D1 4
 SWH 8012.420 Hz
 FTRES 3.91210 Hz
 AQ 0.1277952 sec
 T2 1048
 DM 64.103 usec
 DE 6.50 usec
 TE 298.9 K
 CHANZ 148.00000000000000
 CHANZ 148.00000000000000
 D0 0.000000000 sec
 D1 1.000000000 sec
 D4 0.00017214 sec
 D11 0.00000000 sec
 D16 0.00020000 sec
 D21 0.00006000 sec
 D24 0.00008900 sec
 IR0 0.00001980 sec

===== CHANNEL 1 =====
 SP01 400.220011 MHz
 MC01 100
 PI 14.75 usec
 P2 29.50 usec
 P2B 0 usec
 PPI0 12.0000000 W

===== CHANNEL 2 =====
 SP02 103.647978 MHz
 MC02 100
 CDRSPG[2] garp
 P3 10.00 usec
 P4 500.00 usec
 P24 2000.00 usec
 PCP02 80.00
 PLW0 0 W
 PLW2 49.0000000 W
 PLW3 0.7065310 W
 SWRMS[3] Crp40,0.5,20.1
 SPQAL3 0.500
 SPQF03 0 Hz
 SPW1 7.4945992 W
 SPW4[1] Crp60,comp,4
 SPQAL7 0.500
 SPRFST 0 Hz
 SW7 7.49459992 W

===== GRADIENT CHANNEL =====
 GRDM1[1] SWSQ10.100
 GRDM1[2] SWSQ11.100
 GRDM1[3] SWSQ12.100
 GRDM1[4] SWSQ13.100
 GP21 80.00 %
 GP22 20.10 %
 GP23 1.10 %
 GP24 -5.00 %
 P16 1000.00 usec
 P19 600.00 usec

F1 - Acquisition parameters
 ID 128
 SP01 175.448 MHz
 FTRES 197.32000000000000
 SW 250.398 ppm
 FMCYC Echo-Antiecho

F2 - Processing parameters
 SI 1024
 SF 400.230000 MHz
 SWW QSINE
 SSB 2
 LB 0 Hz
 GB 0
 PC 1.40

F1 - Processing parameters

SI 1024

MC2 echo-antiecho

SF 100.63795166 MHz

NW QSINE

SSB 2

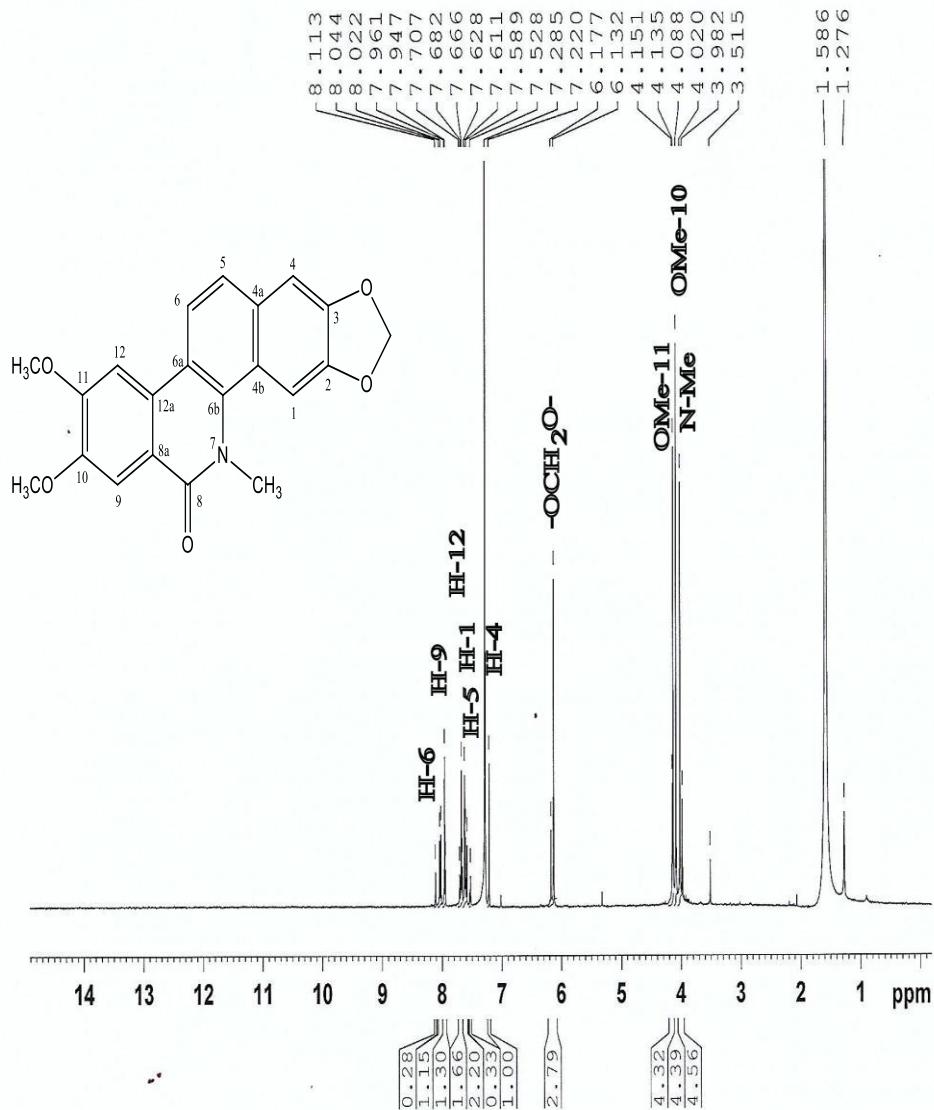
LB 0 Hz

GS 0

S57: Partially expanded HSQC-NMR spectrum (400 MHz, CDCl₃) of Compound **6** (Pluviatilol)

Pluviatilol (6): white crystals; ¹H-NMR (500 MHz, CDCl₃): δ 6.97 (1H,d, *J*= 1.2 Hz, H-2), 6.92 (1H, d, *J*= 8.0 Hz, H-5), 6.89 (1H, d, *J*= 1.2 Hz, H-2'), 6.85 (1H, dd, *J*= 8.0, 1.2 Hz, H-6'), 6.81 (1H, dd, *J*=8.0, 2.0 Hz, H-6), 6.80 (1H, d, *J*= 8.0 Hz, H-5'), 5.98 (2H, s, OCH₂O), 4.87 (1H, d, *J*= 5.2 Hz, H-7), 4.44 (1H, d, *J*= 6.8 Hz, H-7'), 4.13 (1H, d, *J*= 9.6 Hz, H-9' α), 3.93 (3H, s, OMe-3), 3.87 (1H, dd, *J*= 9.6, 6.0 Hz, H-9 α), 3.86 (1H, m, H-9' β), 3.34 (1H, m, H-8), 3.34 (1H, m, H-9 β), 2.89 (1H, dd, *J*= 7.2, 6.4 Hz, H-8'). ¹³C-NMR (125 MHz, CDCl₃): δ 148.0* (C-4'), 147.2* (C-3'), 145.9* (C-3), 144.7* (C-4), 130.3 (C-1), 119.5 (C-6'), 118.4 (C-6), 114.2 (C-5), 108.4 (C-2), 108.2 (C-5'), 106.5 (C-2'), 101.0 (OCH₂O), 87.7 (C-7'), 82.1 (C-7), 71.0 (C-9'), 69.8 (C-9), 56.0 (OMe-3), 54.6 (C-8'), 50.2 (C-8).

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 Sample: DU_ZRC_19



Current Data Parameters
 NAME DU_ZRC_19
 EXPNO 1
 PROCNO 1

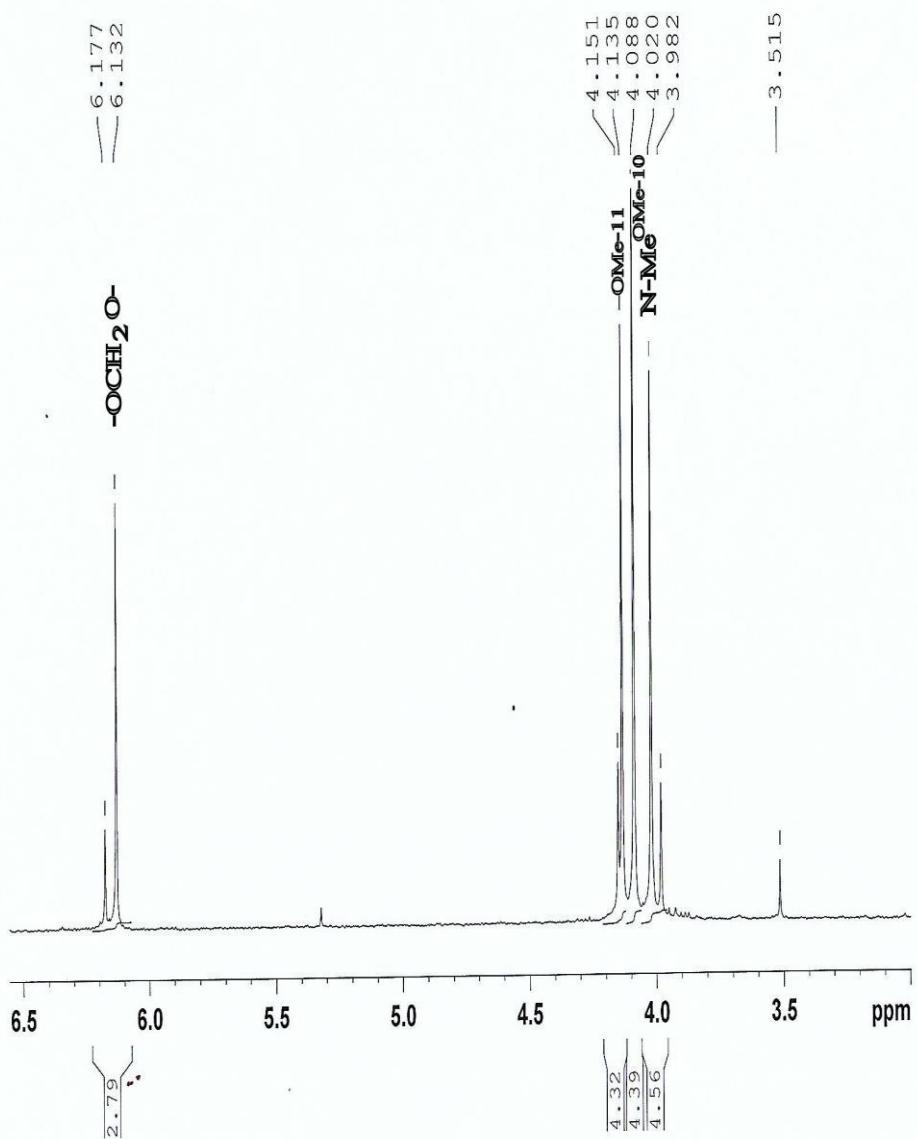
F2 - Acquisition Parameter
 Date 20160117
 Time 20.02
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl3
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 se
 RG 165.43
 DW 62,400 us
 DE 6.50 us
 TE 298.8 K
 D1 2.0000000 se
 TD0 1

===== CHANNEL f1 =====
 SFO1 400.2320011 MHz
 NUC1 1H
 P1 14.75 us
 PLW1 12.0000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

S58: ¹H NMR (400 MHz, CDCl₃) spectrum of Compound 7 (Oxynitidine).

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 Jahangirnagar University
 Sample: DU_ZRC_19



Current Data Parameters
 NAME DU_ZRC_19
 EXPNO 1
 PROCNO 1

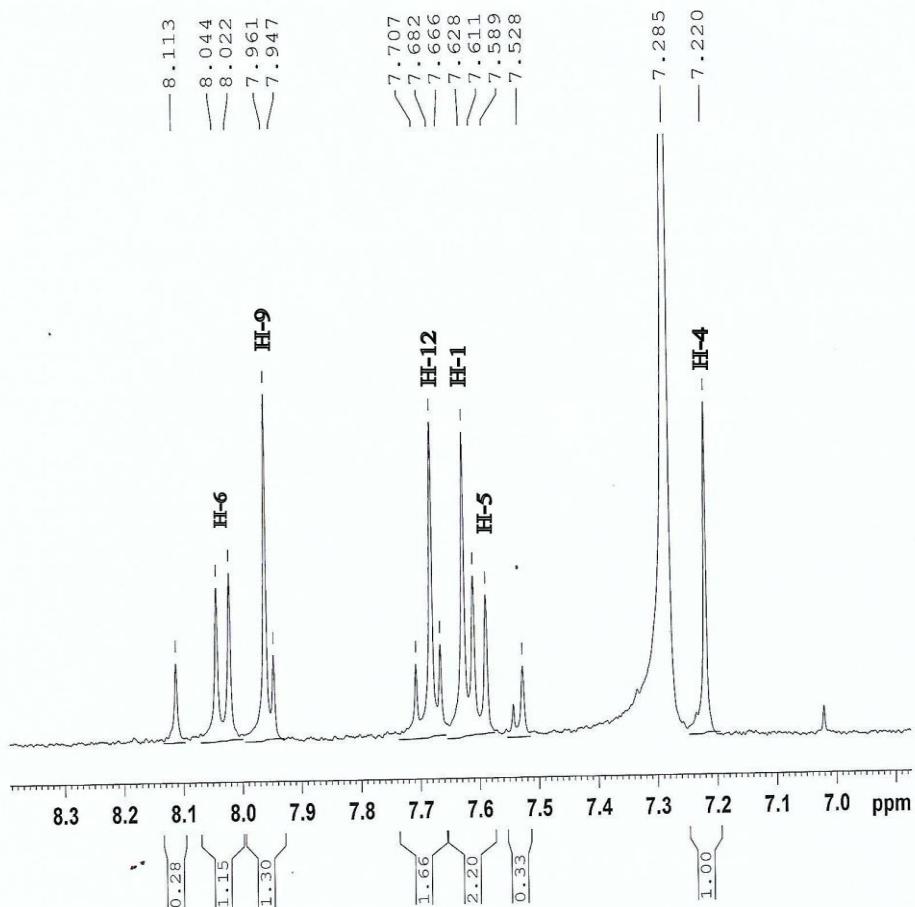
F2 - Acquisition Parameters
 Date 20160117
 Time 20.02
 INSTRUM spect
 PROBHD 5 mm PABBO BB/
 PULPROG zg
 TD 65536
 SOLVENT CDCl₃
 NS 16
 DS 0
 SWH 8012.820 Hz
 FIDRES 0.122266 Hz
 AQ 4.0894465 sec
 RG 165.43
 DW 62.400 usec
 DE 6.50 usec
 TE 298.8 K
 D1 2.0000000 sec
 TDO 1

===== CHANNEL f1 ======
 SFO1 400.2320011 MHz
 NUC1 1H
 P1 14.75 usec
 PLW1 12.0000000 W

F2 - Processing parameters
 SI 131072
 SF 400.2300000 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.00

S59: Expansion of ¹H NMR (400 MHz, CDCl₃) spectrum of Compound 7 (Oxynitidine).

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 Jahangirnagar University
 Sample: DU_ZRC_19



S60: Expansion of ¹H NMR (400 MHz, CDCl₃) spectrum of Compound 7 (Oxynitidine).

Oxynitidine (**7**): white amorphous; ¹H-NMR (500 MHz, CDCl₃): δ 8.02 (1H, d, *J*= 8.8 Hz, H-6), 7.96 (1H, s, H-9), 7.68 (1H, s, H-12), 7.63 (1H, s, H-1), 7.60 (1H, d, *J*= 8.8 Hz, H-5), 7.22 (1H, s, H-4), 6.13 (2H, s, OCH₂O), 4.14 (3H, s, OMe-11), 4.08 (3H, s, OMe-11), 4.02 (3H, s, N-Me).

