Supporting Information for:

Total Synthesis of Buergerinin F and Buergerinin G

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Table S1. Comparison of ^1H - and ^{13}C -NMR data for synthetic **1** vs those reported for the material isolated from *Scrophularia buergeriana*.^a

Position	$^1\text{H}^b$		$^{13}\text{C}^c$	
	Synthetic	Isolated	Synthetic	Isolated
1	4.37 (1 H, dd, 6.7, 2.1 Hz)	4.47 (1H, dd, 6.7, 2.0 Hz)	84.4	84.5
3	4.10 (1 H, td, 8.4, 6.4 Hz)	4.10 (1H, td, 8.6, 6.4 Hz)	68.8	68.8
	3.93 (1H, td, 8.4, 3.3 Hz)	3.95 (1H, td, 8.6, 3.2 Hz)		
4	2.11 (1H, ddd, 13.2, 6.4, 3.4 Hz)	2.12 (1H, ddd, 13.1, 6.4, 3.2 Hz)	36.1	36.2
	1.82 (1H, td, 13.3, 8.8 Hz)	1.85 (1H, td, 13.1, 8.6 Hz)		
5			91.5	91.6
6	2.24 (1H, td, 12.8, 6.4 Hz)	2.25 (1H, td, 12.9, 6.3 Hz)	30.6	30.7
	1.39 (1H, dd, 13.0, 3.8 Hz)	1.40 (1H, dd, 12.9, 3.8 Hz)		
7	3.97 (1H, dd, 12.2, 6.1 Hz)	4.00 (1H, dd, 12.2, 6.3 Hz)	61.3	61.4
	3.69 (1H, td, 12.2, 3.9 Hz)	3.70 (1H, td, 12.2, 3.8 Hz)		
8			108.5	108.6
9	2.37 (1H, dd, 14.3, 6.7 Hz)	2.42 (1H, dd, 14.4, 6.7 Hz)	44.7	44.8
	2.02 (1H, dd, 14.3, 2.2 Hz)	2.05 (1H, dd, 14.4, 2.0 Hz)		
10	1.49 (3H, s)	1.50 (3H, s)	24.2	24.3

^a NMR spectrum recorded in CHCl_3 at 400 MHz (^1H) or 100.6 MHz (^{13}C). ^bChemical shift in ppm. In parentheses are the signal integration and coupling constants, in Hz.

^cChemical shift in ppm.

Table S2. Comparison of ^1H - and ^{13}C -NMR data for synthetic **2** vs those reported for the material isolated from *Scrophularia buergeriana*.^a

Position	$^1\text{H}^b$		$^{13}\text{C}^c$	
	Synthetic	Isolated	Synthetic	Isolated
1	4.85 (dd, 1H, 6.8, 1.8 Hz)	4.75 (1H, dd, 6.4, 1.3 Hz)	84.2	84.2
3			174.6	174.5
4	2.75 (1H, d, 18.0 Hz)	2.75 (1H, d, 18.0 Hz)	39.3	39.2
	2.53 (1H, d, 18.0 Hz)	2.55 (1H, d, 18.0 Hz)		
5			85.9	85.9
6	2.27 (1H, td, 12.9, 6.5 Hz)	2.25 (1H, td, 12.9, 6.4 Hz)	29.8	29.7
	1.47 (1H, dd, 12.9, 3.7 Hz)	1.46 (1H, dd, 12.9, 3.8 Hz)		
7	4.01 (1H, dd, 12.2, 6.4 Hz)	4.00 (1H, dd, 12.3, 6.4 Hz)	60.0	59.9
	3.69, (1H, td, 12.4, 3.8 Hz)	3.70 (1H, td, 12.3, 3.8 Hz)		
8			107.8	107.7
9	2.50 (dd, 1H, 14.9, 6.8 Hz)	2.49 (1H, dd, 14.8, 6.4 Hz)	42.7	42.7
	2.21 (H, dd, 14.8, 1.8 Hz)	2.20 (1H, dd, 14.8, 1.3 Hz)		
10	1.50 (3H, s)	1.50 (3H, s)	23.9	23.9

^a NMR spectrum recorded in CHCl_3 at 400 MHz (^1H) or 100.6 MHz (^{13}C). ^bChemical shift in ppm. In parentheses are the signal integration and coupling constants, in Hz.

^cChemical shift in ppm.

1

Current Data Parameters
 NAME hjs6097
 EXPNO 70
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030118
 Time 11.44
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 128
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 181
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300249 MHz
 MDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPMCH 0.40000 ppm/cm
 HZCH 160.05202 Hz/cm

Current Data Parameters
 NAME hys6097
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030106
 Time 18.52
 INSTRUM spect
 PROBO 5 mm BBO BB-1
 PULPROG zgpg30
 TO 66536
 SOLVENT CDCl3
 NS 475
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.393387 Hz
 AQ 1.3042184 sec
 RG 16384
 DM 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 d1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

CHANNEL f1
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SFO1 100.6237959 MHz

CHANNEL f2
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SFO2 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127702 MHz
 MDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 210.00 ppm
 F1 21128.68 Hz
 F2P -10.000 ppm
 F2 -1006.13 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.62697 Hz/cm

2

Current Data Parameters
 NAME h157013
 EXPNO 50
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030119
 Time 21.34
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SMH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300247 MHz
 MDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPMCM 0.40000 ppm/cm
 HZCM 150.05202 Hz/cm

2

Current Data Parameters
 NAME hjs6014
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20020913
 Time 16.53
 INSTRUM spect
 PROBO 5 mm BBO BB-1
 PULPROG zg30
 TO 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SNH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300252 MHz
 NQW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 FIP 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPMCM 0.40000 ppm/cm
 HZCM 160.05202 Hz/cm

Current Data Parameters
 NAME hjs6014
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20020913
 Time 17.00
 INSTRUM spect
 PROBHD 5 mm BB-1
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 360
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 2048
 DW 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

===== CHANNEL f2 =====
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127740 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 21.50 cm
 F1P 220.000 ppm
 F1 22134.81 Hz
 F2P -10.000 ppm
 F2 -1006.13 Hz
 PPMCM 10.69767 ppm/cm
 HZCM 1076.32275 Hz/cm

34.8302
 26.8219
 19.1953

86.0608
 77.3186
 77.0005
 76.6829
 74.2715
 67.1463
 64.7642

135.5683
 135.5279
 133.2215
 133.1528
 129.7760
 129.7507
 127.7398
 127.7263

Current Data Parameters
 NAME hjs6021
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20020916
 Time 23:59
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TO 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9793372 sec
 RG 181
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300249 MHz
 NDM EN
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

10 NMR plot parameters
 CX 30.00 cm
 F1P 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPMH 0.40000 ppm/cm
 HZCM 160.05202 Hz/cm

Current Data Parameters
 NAME hjs6021
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20020917
 Time 0.21
 INSTRUM spect
 PROBHD 5 mm BB0 BB-1
 PULPROG zgpg30
 TO 65536
 SOLVENT CDC13
 NS 384
 DS 4
 SNH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 4096
 DM 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.0002000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

----- CHANNEL f2 -----
 CPOPRG2 waitz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127702 MHz
 NQW 0
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

ID NMR plot parameters
 CX 30.00 cm
 FIP 230.000 ppm
 F1 23140.94 Hz
 F2P -10.000 ppm
 F2 -1006.13 Hz
 PPMCM 8.00000 ppm/cm
 HZCM 804.90216 Hz/cm

Current Data Parameters
 NAME hjs6067
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021018
 Time 20.13
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TO 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.0000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300252 MHz
 WDW EN
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPM0M 0.40000 ppm/cm
 HZ0M 160.05202 Hz/cm

Current Data Parameters
 NAME hjs6067
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021018
 Time 20.45
 INSTRUM spect
 PROBD 5 mm BB-1
 PULPROG zgpg30
 TO 65536
 SOLVENT CDC13
 NS 574
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.363387 Hz
 AQ 1.3042164 sec
 RG 16384
 DM 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

----- CHANNEL f2 -----
 CPOPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127290 MHz
 MDW EN
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 215.000 ppm
 F1 21631.74 Hz
 F2P -5.000 ppm
 F2 -503.06 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.82672 Hz/cm

Current Data Parameters
 NAME hjs6085y
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021126
 Time 21:57
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SHH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.0000000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300247 MHz
 NDM EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPMCM 0.40000 ppm/cm
 HZCM 160.05202 Hz/cm

Current Data Parameters
 NAME hjs6085y
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021126
 Time 22.37
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 706
 DS 4
 SMH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 8192
 DM 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.0002000 sec

===== CHANNEL f1 =====
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

===== CHANNEL f2 =====
 CPDPR62 waitz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127740 MHz
 NDM EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

ID parameters
 CX 30.00 cm
 FJP 210.000 ppm
 F1 21128.66 Hz
 F2P -10.000 ppm
 F2 -1006.13 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.82703 Hz/cm

Current Data Parameters
 NAME h156052y
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021225
 Time 18.27
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 57
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

----- CHANNEL f1 -----
 NUC1 ¹H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300249 MHz
 NDM EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 FIP 11.000 ppm
 F1 4401.43 Hz
 F2 -1.000 ppm
 F2 -400.13 Hz
 PPMCM 0.40000 ppm/cm
 HZCM 160.05202 Hz/cm

Current Data Parameters
 NAME h156092y
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021225
 Time 18.40
 INSTRUM spect
 PROBO 5 mm BBO BB-1
 PULPROG zgpg30
 TD 65536
 SOLVENT CDCl3
 NS 217
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 7298.2
 DM 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.0002000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.612732 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 200.000 ppm
 F1 20122.55 Hz
 F2P -10.000 ppm
 F2 -1006.13 Hz
 PPM0N 7.00000 ppm/cm
 HZCM 704.28937 Hz/cm

Current Data Parameters
 NAME nj56086
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021203
 Time 20.13
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SMH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 57
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300244 MHz
 MDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 FIP 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPBCH 0.40000 ppm/cm
 HZCM 160.05202 Hz/cm

Current Data Parameters
NAME hjs6086
EXPNO 11
PROCNO 1

F2 - Acquisition Parameters
Date_ 20021202
Time 20 56
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 70
DS 4
SWH 25125.629 MHz
FIDRES 0.383387 Hz
AQ 1.3042164 sec
RG 16384
DM 19.900 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

----- CHANNEL f1 -----
NUC1 13C
P1 5.90 usec
PL1 -6.00 dB
SF01 100.6237959 MHz

----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 15.80 dB
PL13 15.80 dB
SF02 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127290 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 30.00 cm
F1P 160.000 ppm
F1 16098.04 Hz
F2P -10.000 ppm
F2 -1006.13 Hz
PPMCM 5.66667 ppm/cm
HZCM 570.13879 Hz/cm

10

Current Data Parameters
 NAME hjs6093
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021226
 Time 16.54
 INSTRUM spect
 PROBO 5 mm BBO BB-1
 PULPROG zg30
 TO 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SWH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DM 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300247 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPMCH 0.40000 ppm/cm
 HZCH 160.05202 Hz/cm

10

Current Data Parameters
NAME hjs6093
EXPNO 11
PROCNO 1

F2 - Acquisition Parameters
Date_ 20021226
Time 16.56
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zgpg30
TO 65536
SOLVENT CDCl3
NS 104
DS 4
SWH 25125.629 Hz
FIDRES 0.383367 Hz
AQ 1.3042164 sec
RG 3649.1
DM 19.900 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.0002000 sec

----- CHANNEL f1 -----
NUC1 13C
P1 5.90 usec
PL1 -6.00 dB
SF01 100.6237959 MHz

----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 15.80 dB
PL13 15.80 dB
SF02 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127725 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 30.00 cm
F1P 210.000 ppm
F1 21128.66 Hz
F2P -10.000 ppm
F2 -1006.13 Hz
PPMCM 7.33333 ppm/cm
HZCM 737.82697 Hz/cm

ppm

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Current Data Parameters
NAME      nj56094
EXPNO     10
PROCNO    1

F2 - Acquisition Parameters
Date_     20021230
Time      19 55
INSTRUM   spect
PROBHD     5 mm BBO BB-1
PULPROG   zg30
TD         32768
SOLVENT    CDC13
NS         15
DS         2
SWH         8278.146 Hz
FIDRES     0.252629 Hz
AQ         1.979372 sec
RG         90.5
DM         60.400 usec
DE         6.00 usec
TE         300.0 K
D01        1.00000000 sec

===== CHANNEL f1 =====
NUC1       1H
P1         7.50 usec
PL1        -6.00 dB
SFO1       400.1324710 MHz

F2 - Processing parameters
SI         32768
SF         400.1300247 MHz
AQ         0
RG         0
SSB        0
LB         0.30 Hz
GB         0
PC         1.00

===== ID NMR plot parameters =====
CX         30.00 cm
F1P        11.000 ppm
F1         4401.43 Hz
F2P        1.000 ppm
F2         -400.13 Hz
P1PCHM     0.40000 ppm/cm
P2PCHM     150.05202 Hz/cm

```

11

Current Data Parameters
 NAME njs6094
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021230
 Time 20.06
 INSTRUM spect
 PROBN 5 mm BB-1
 PULPROG zgpg30
 TD 65536
 SOLVENT CDC13
 NS 237
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.363387 Hz
 AQ 1.3042164 sec
 RG 4096
 DW 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

----- CHANNEL f2 -----
 CPOPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127725 MHz
 NDM EN
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 FIP 220.000 ppm
 F1 22134.81 Hz
 F2 -10.000 ppm
 F2 -1006.13 Hz
 PPMCM 7.65657 ppm/cm
 HZCM 771.36456 Hz/cm

12

Current Data Parameters
 NAME h156094Y
 EXPNO 10
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20021231
 Time 14.39
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zg30
 TO 32768
 SOLVENT CDCl3
 NS 16
 DS 2
 SMH 8278.146 Hz
 FIDRES 0.252629 Hz
 AQ 1.9792372 sec
 RG 90.5
 DW 60.400 usec
 DE 6.00 usec
 TE 300.0 K
 D1 1.00000000 sec

----- CHANNEL f1 -----
 NUC1 1H
 P1 7.50 usec
 PL1 -6.00 dB
 SF01 400.1324710 MHz

F2 - Processing parameters
 SI 32768
 SF 400.1300244 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.00

1D NMR plot parameters
 CX 30.00 cm
 F1P 11.000 ppm
 F1 4401.43 Hz
 F2P -1.000 ppm
 F2 -400.13 Hz
 PPMH 0.40000 ppm/cm
 HZCM 160.05202 Hz/cm

12

Current Data Parameters
NAME hjs6094Y
EXPNO 11
PROCNO 1

F2 - Acquisition Parameters
Date_ 20021231
Time 14.50
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zgpg30
TD 65536
SOLVENT CDC13
NS 316
DS 4
SHH 25125.629 Hz
FIDRES 0.383387 Hz
AQ 1.3042164 sec
RG 2896.3
DN 19.900 usec
DE 6.00 usec
TE 300.0 K
d1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

----- CHANNEL f1 -----
NUC1 13C
P1 5.90 usec
PL1 -6.00 dB
SF01 100.6237959 MHz

----- CHANNEL f2 -----
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 15.80 dB
PL13 15.80 dB
SF02 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127732 MHz
NDM EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 30.00 cm
F1P 210.000 ppm
F1 21128.68 Hz
F2P -20.000 ppm
F2 -2012.26 Hz
PPHOM 7.56667 ppm/cm
HZCM 771.35495 Hz/cm

94.1471
87.6758
81.4755
77.3156
76.9984
76.6803
65.7640
64.0149
34.8625
31.8190
21.1354
2.9073
-0.0426

13

Current Data Parameters
NAME hjs6095
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030102
Time 13.56
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 71.8
DM 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

----- CHANNEL f1 -----
NUC1 ¹H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300247 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 30.00 cm
FIP 11.000 ppm
F1 4401.43 Hz
F2 -1.000 ppm
F2 -400.13 Hz
PPM0H 0.40000 ppm/cm
HZCM 160.05202 Hz/cm

13

Current Data Parameters
 NAME hjs6095
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030102
 Time 14.03
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zgpg30
 TD 65536
 SOLVENT CDC13
 NS 330
 DS 4
 SMH 25125.629 Hz
 FIDRES 0.363387 Hz
 AQ 1.3042164 sec
 RG 16384
 DM 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 d1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

----- CHANNEL f2 -----
 CDPORG2 waltz16
 NUC2 1H
 P2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1316005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127732 MHz
 MDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 210.000 ppm
 F1 21128.68 Hz
 F2P -10.000 ppm
 F2 -1006.13 Hz
 PPMCM 7.33333 ppm/cm
 HZCM 737.82697 Hz/cm

14

Current Data Parameters
NAME hjs7012
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030117
Time 17.23
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.252629 Hz
AQ 1.9792372 sec
RG 40.3
DM 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

----- CHANNEL f1 -----
NUC1 1H
P1 7.50 usec
PL1 -6.00 dB
SF01 400.1324710 MHz

F2 - Processing parameters
SI 32768
SF 400.1300023 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 30.00 cm
F1P 11.000 ppm
F1 4401.43 Hz
F2P -1.000 ppm
F2 -400.13 Hz
PPMCH 0.40000 ppm/cm
HZCN 160.05200 Hz/cm

14

Current Data Parameters
 NAME hjs7012
 EXPNO 11
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20030117
 Time 17.31
 INSTRUM spect
 PROBHD 5 mm BBO BB-1
 PULPROG zgpg30
 TO 65536
 SOLVENT CDC13
 NS 139
 DS 4
 SWH 25125.629 Hz
 FIDRES 0.383387 Hz
 AQ 1.3042164 sec
 RG 8192
 DM 19.900 usec
 DE 6.00 usec
 TE 300.0 K
 D1 2.00000000 sec
 d11 0.03000000 sec
 d12 0.00002000 sec

----- CHANNEL f1 -----
 NUC1 13C
 P1 5.90 usec
 PL1 -6.00 dB
 SF01 100.6237959 MHz

----- CHANNEL f2 -----
 CPDPRG2 waltz16
 NUC2 1H
 PCPD2 80.00 usec
 PL2 -6.00 dB
 PL12 15.80 dB
 PL13 15.80 dB
 SF02 400.1315005 MHz

F2 - Processing parameters
 SI 32768
 SF 100.6127755 MHz
 WDW EM
 SSB 0
 LB 1.00 Hz
 GB 0
 PC 1.40

1D NMR plot parameters
 CX 30.00 cm
 F1P 230.000 ppm
 F1 23140.94 Hz
 F2P -10.000 ppm
 F2 -1006.13 Hz
 PPMCM 8.00000 ppm/cm
 HZCM 804.90222 Hz/cm

16

Current Data Parameters

NAME h156100A
EXPNO 20
PROCNO 1

F2 - Acquisition Parameters

Date_ 20030110
Time 22.33
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 2
SWH 8278.146 Hz
FIDRES 0.25629 Hz
AQ 1.9792372 sec
RG 90.5
DM 60.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

CHANNEL f1

MIC1 1H
P1 7.50 usec
PL1 -6.00 dB
SFO1 400.1324710 MHz

F2 - Processing parameters

SF 32768
SF 400.1300113 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.00
1D NMR plot parameters
CX 30.00 cm
F1P 11.000 ppm
F1 4401.43 Hz
F2P -1.000 ppm
F2 -400.13 Hz
PPMCH 0.40000 ppm/cm
HZCH 160.05200 Hz/cm

16

Current Data Parameters
NAME h1s6100A
EXPNO 22
PROCNO 1

F2 - Acquisition Parameters
Date_ 20030110
Time 22:51
INSTRUM spect
PROBHD 5 mm BBO BB-1
PULPROG zgpg30
TD 65536
SOLVENT CDCl3
NS 137
DS 4
SWH 25125.629 Hz
FIDRES 0.363387 Hz
AQ 1.3042164 sec
RG 4096
DM 19.900 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

===== CHANNEL f1 =====
NUC1 13C
P1 5.90 usec
PL1 -6.00 dB
SF01 100.6237959 MHz

===== CHANNEL f2 =====
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -6.00 dB
PL12 15.80 dB
PL13 15.80 dB
SF02 400.1316005 MHz

F2 - Processing parameters
SI 32768
SF 100.6127725 MHz
WDW EN
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 30.00 cm
FIP 210.000 ppm
F1 21128.68 Hz
F2 -10.000 ppm
F2 -1006.13 Hz
PROM 7.33333 ppm/cm
MZCM 737.82687 Hz/cm