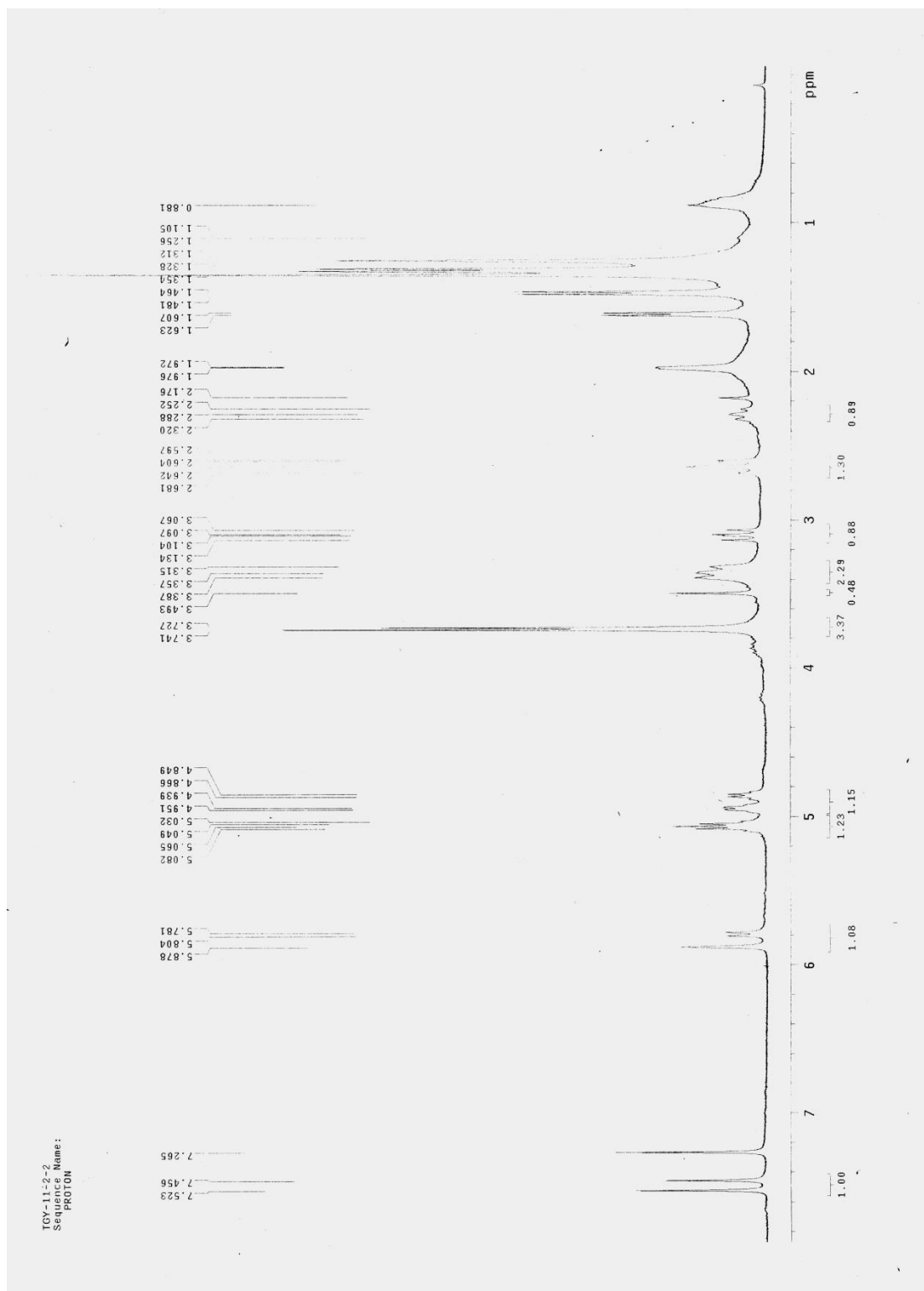
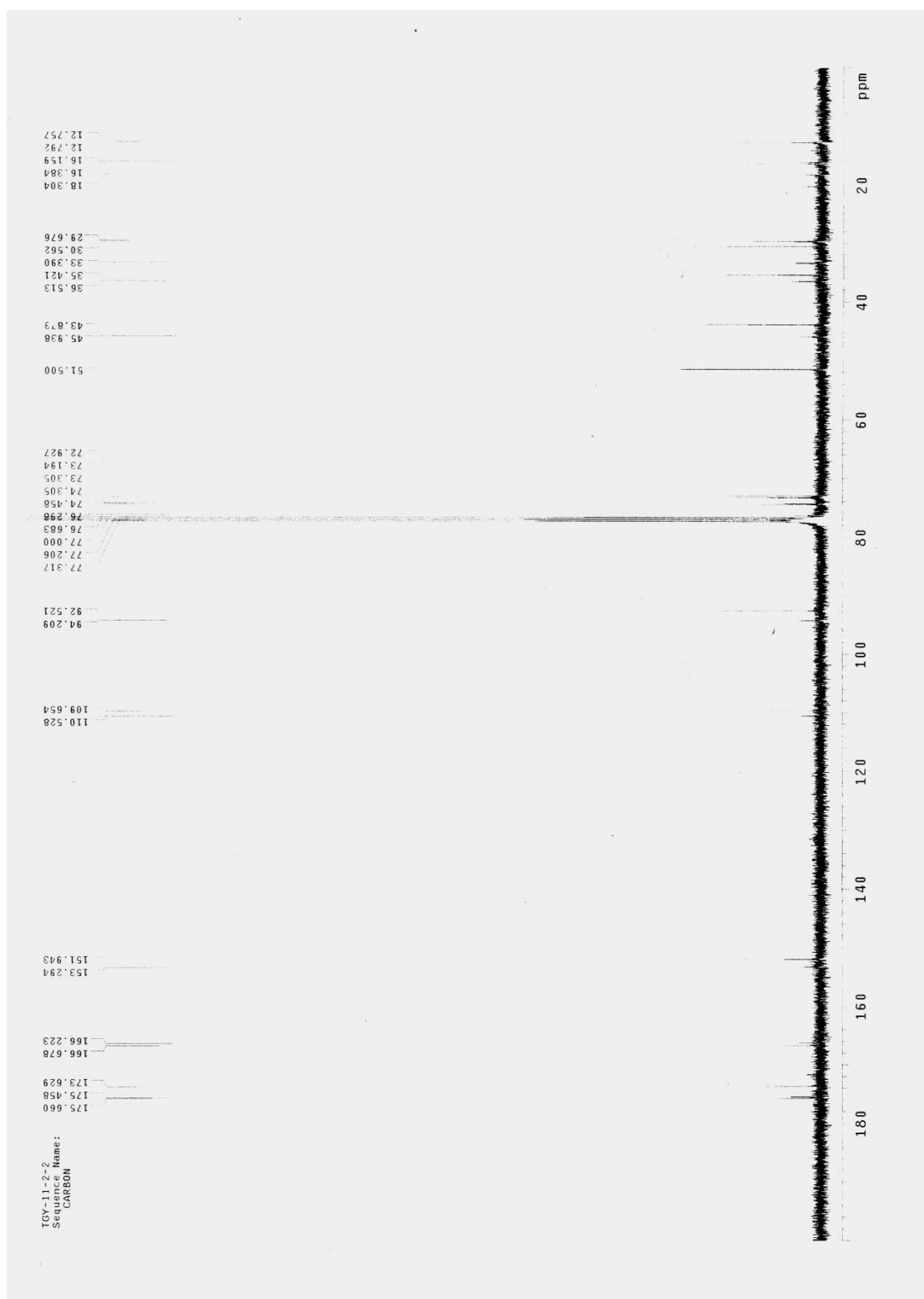


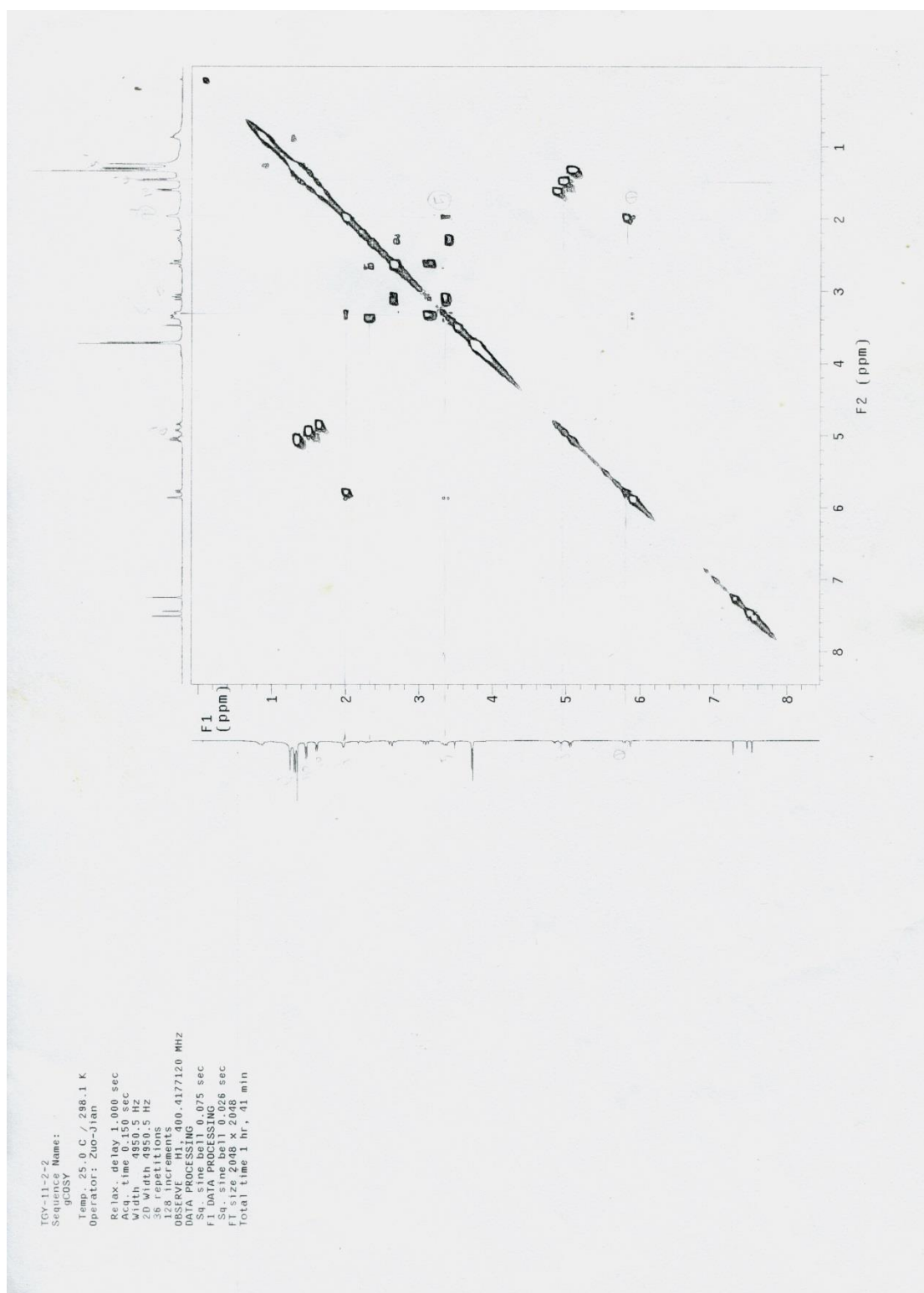
^1H NMR spectrum of Gonocarin A (1)



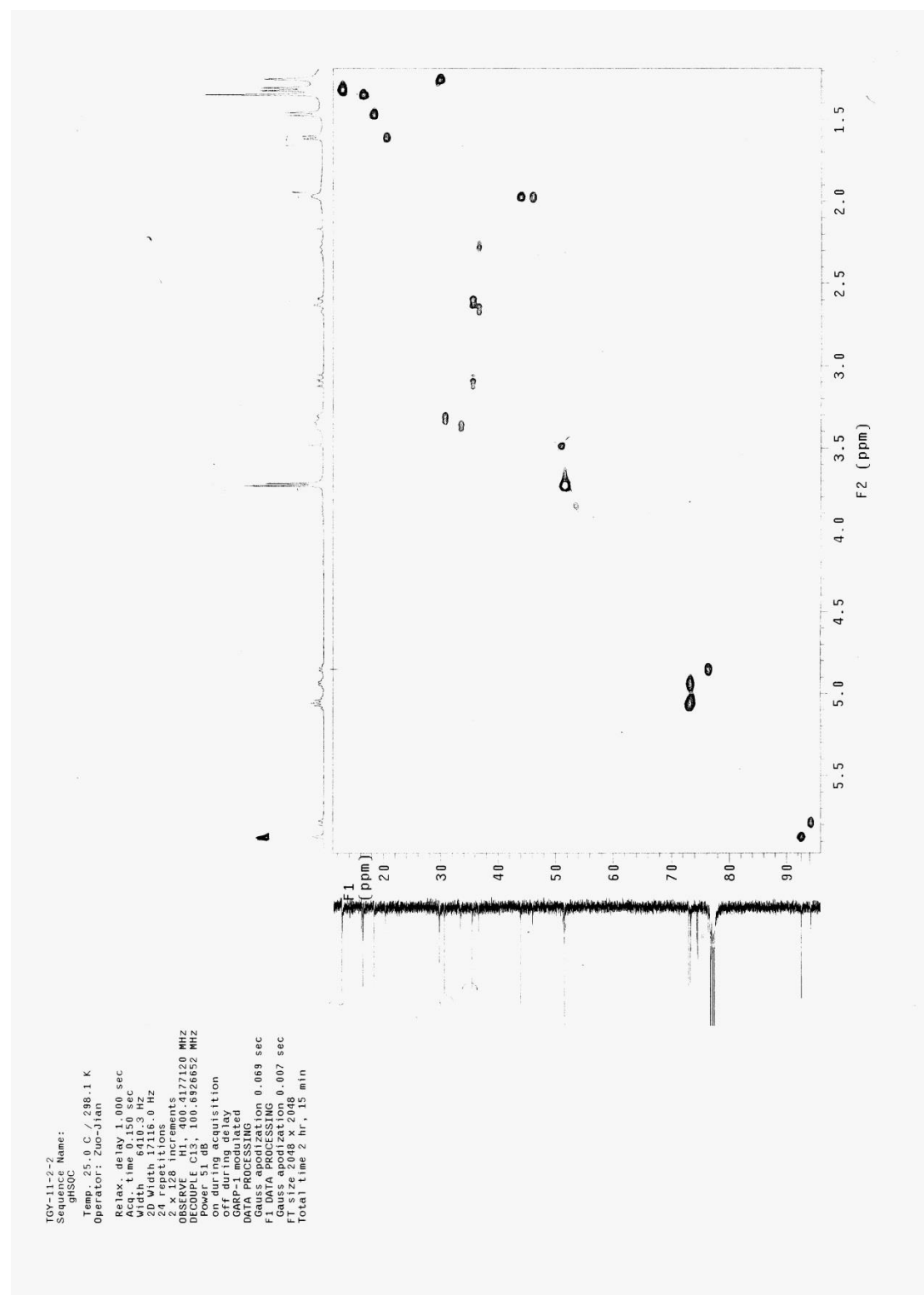
¹³C NMR spectrum of Gonocarin A (1)



COSY spectrum of Gonocarin A (1)

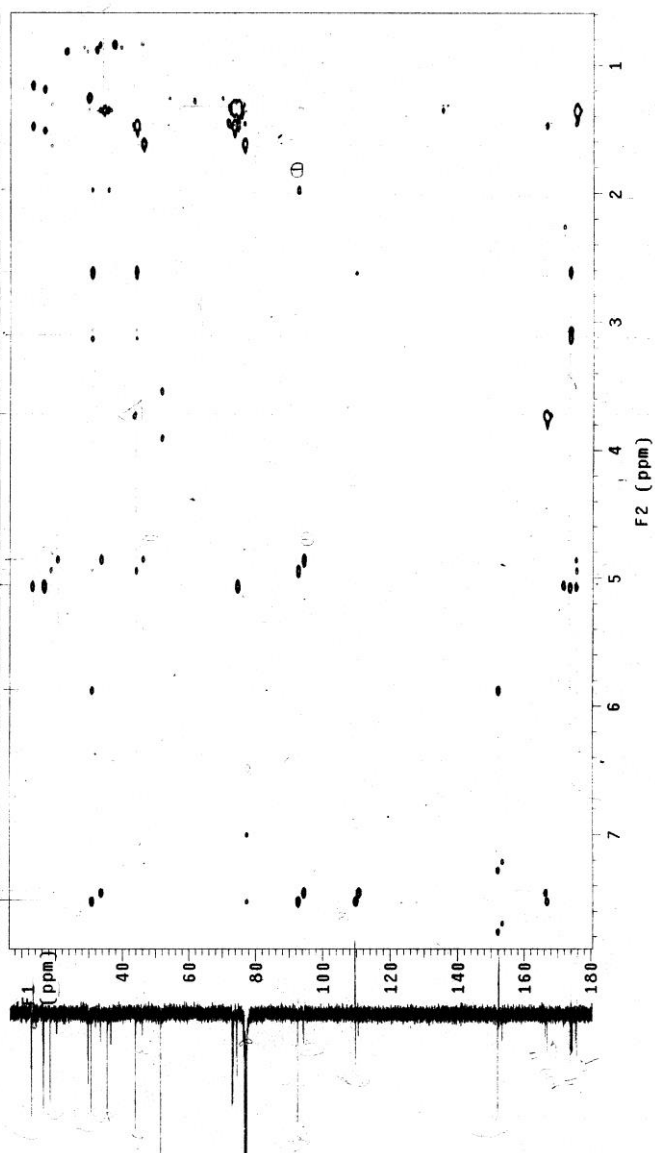


HMQC spectrum of Gonocarin A (1)

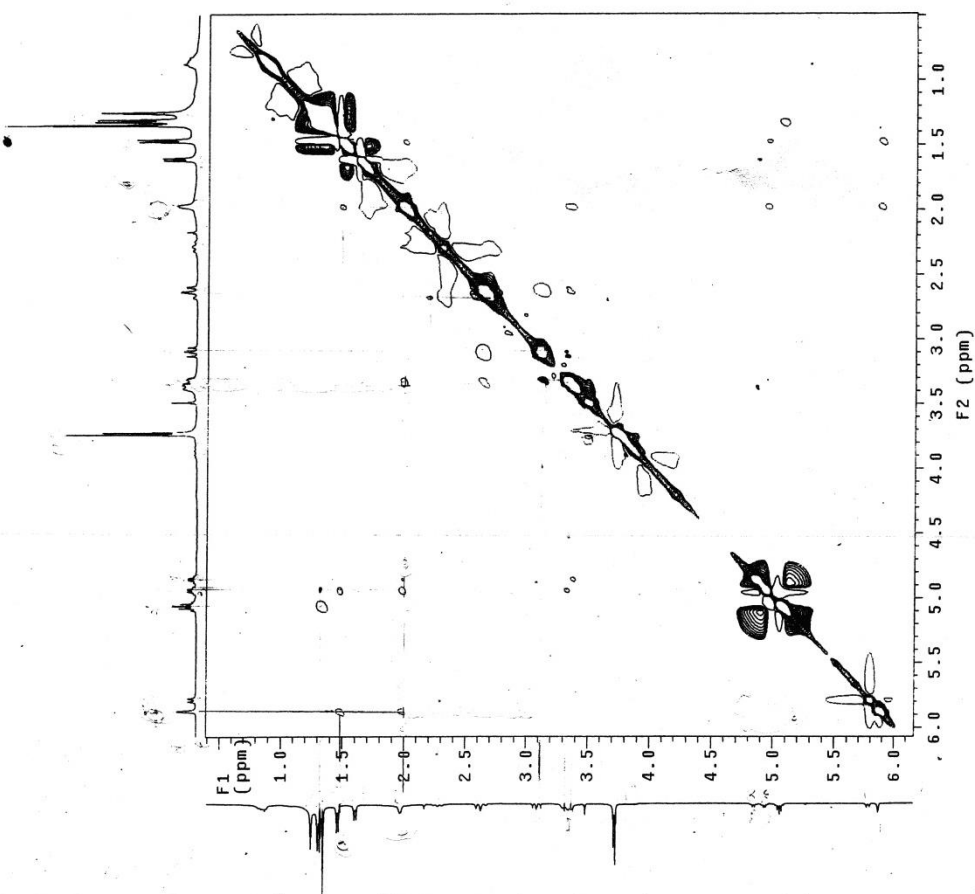


HMBC spectrum of Gonocarin A (1)

TOY-11-9-2
Sequence Name:
gHMB
Temp. 25.0 C / 298.1 K
Operator: Zuo-Jian
Relax. delay 1.000 sec
Acq. time 0.150 sec
Width 6410.3 Hz
2D Width 24161.9 Hz
28 x 1280 points
2 x 1280 FIDs
OBSERVE H1, 400.4177120 MHz
DATA PROCESSING
Sg. sine bell 0.075 sec
F1 DATA PROCESSING 0.008 sec
Gauss 0.000 sec
FT size 2048 x 2048
Total time 4 hr. 14 min

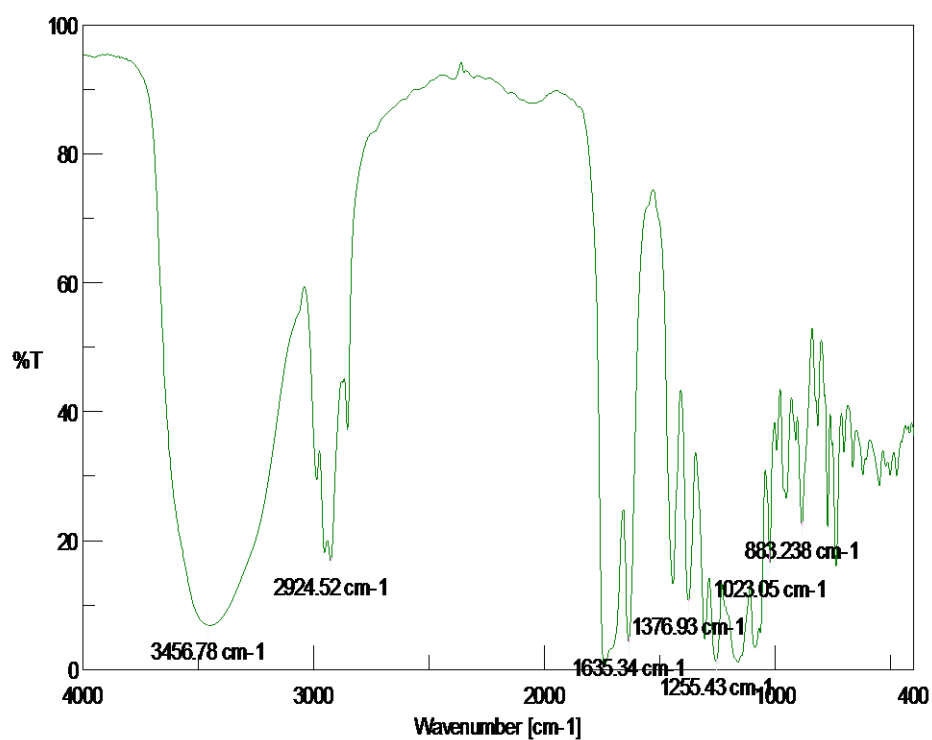


NOESY spectrum of Gonocarin A (1)

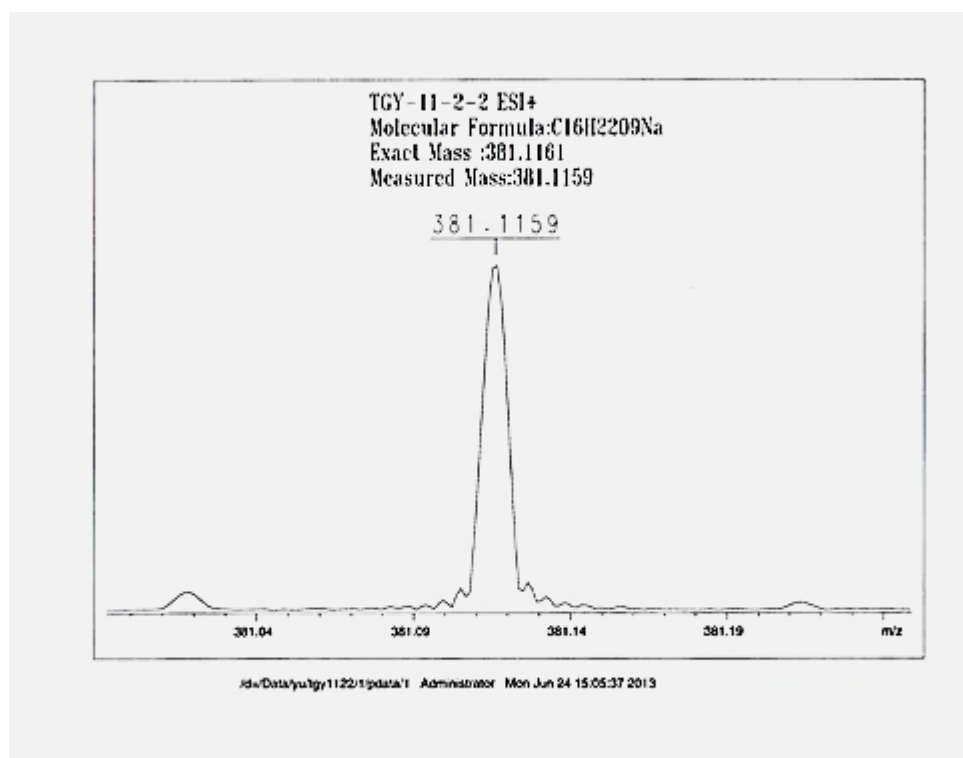


TOY-11-2-2
 Sequence Name:
 NOESY
 Temp: 25.0 C / 298.1 K
 Operator: Zuo-Jian
 Relax. delay 1.000 sec
 Acq. time 0.150 sec
 Width 4850.5 Hz
 2D Width 4850.5 Hz
 16 repetitions
 256 increments
 F2 range 1.00-4.77120 MHz
 DATA PROCESSING
 Gauss apodization 0.069 sec
 F1 DATA PROCESSING
 Gauss apodization 0.037 sec
 FT size 2048
 Total time 3 hr, 44 min

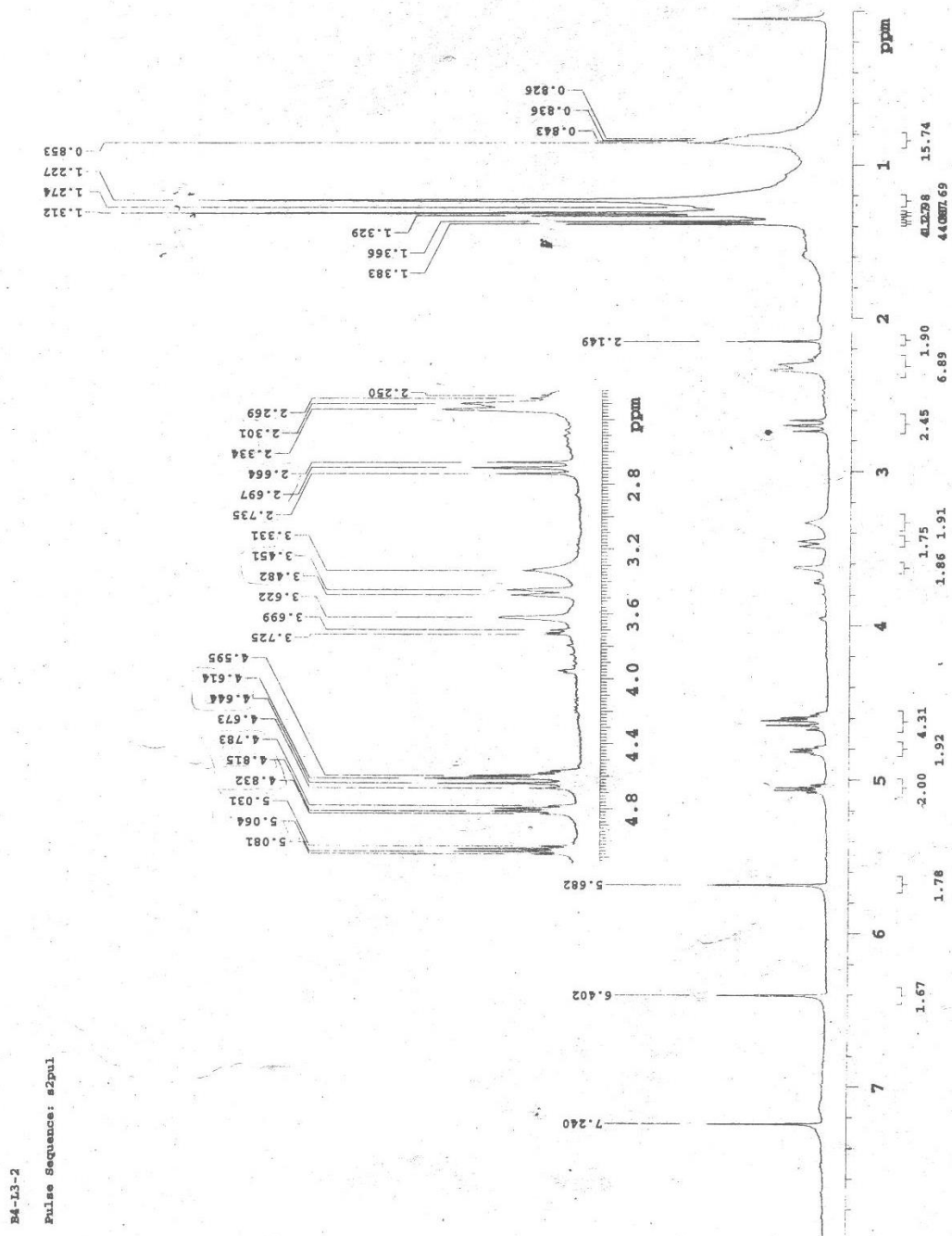
IR spectrum of Gonocarin A (1)



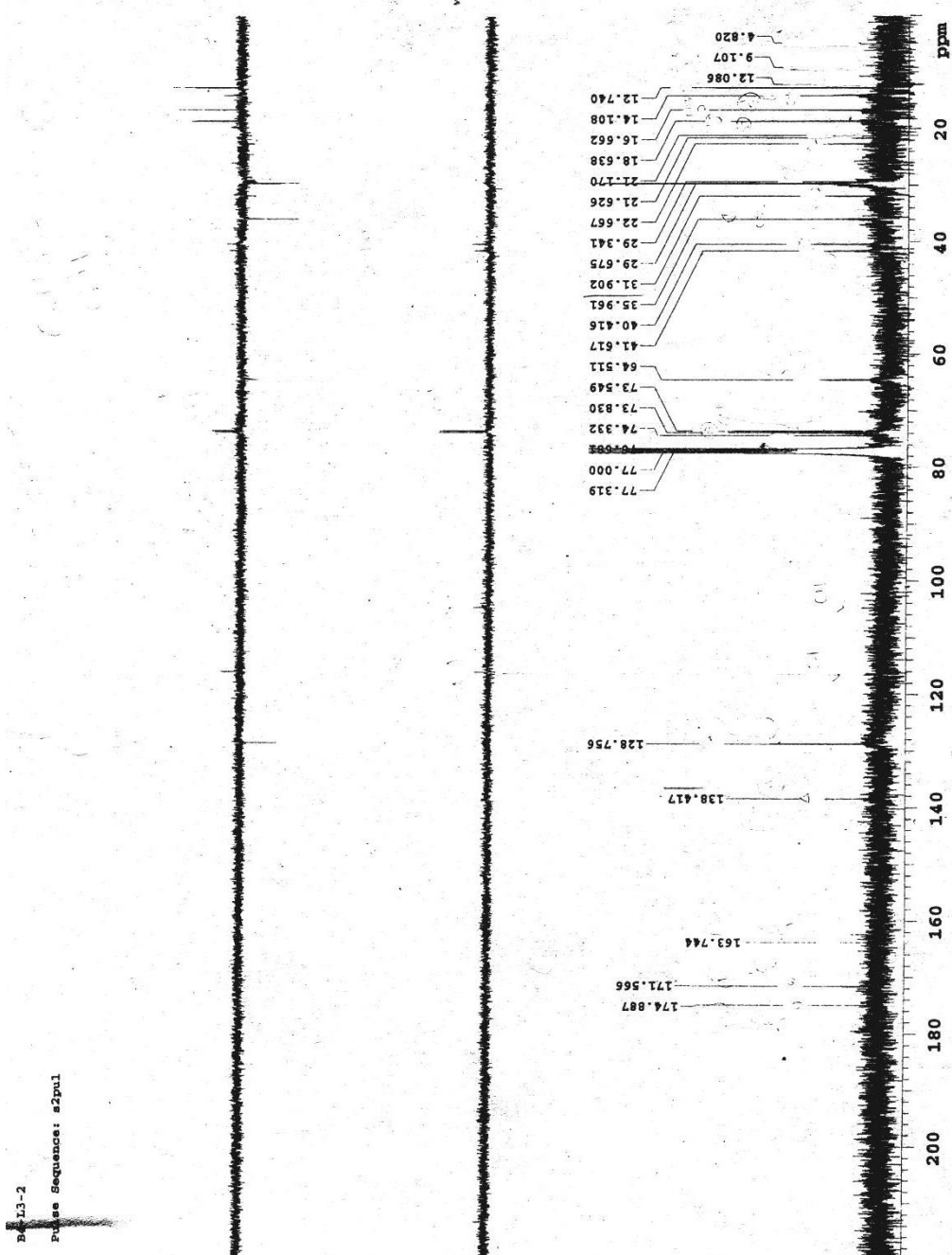
HRESIMS spectrum of Gonocarin A (1)



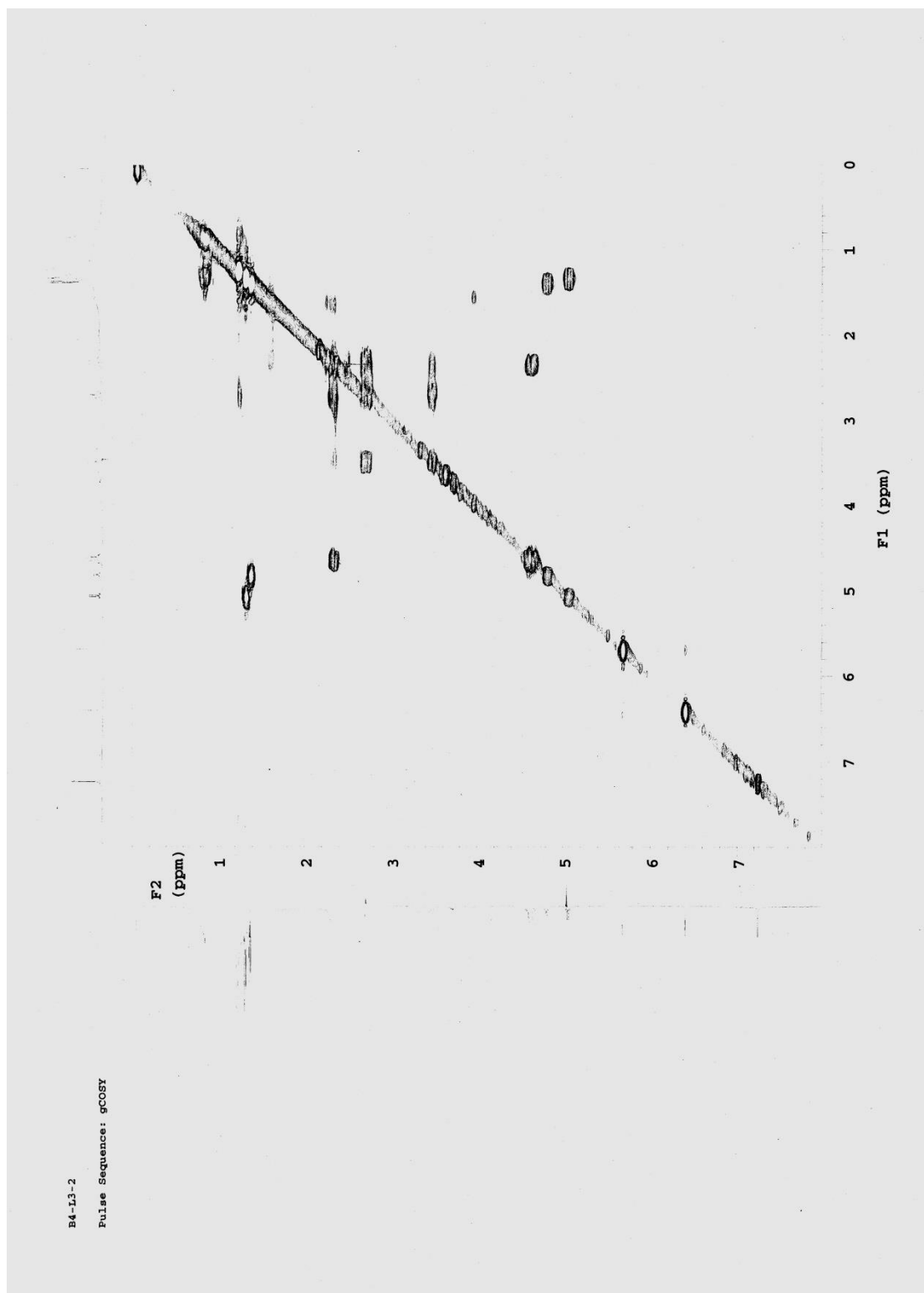
¹H NMR spectrum of Gonocarin B (2)



¹³C NMR and DEPT spectrum of Gonocarin B (2)



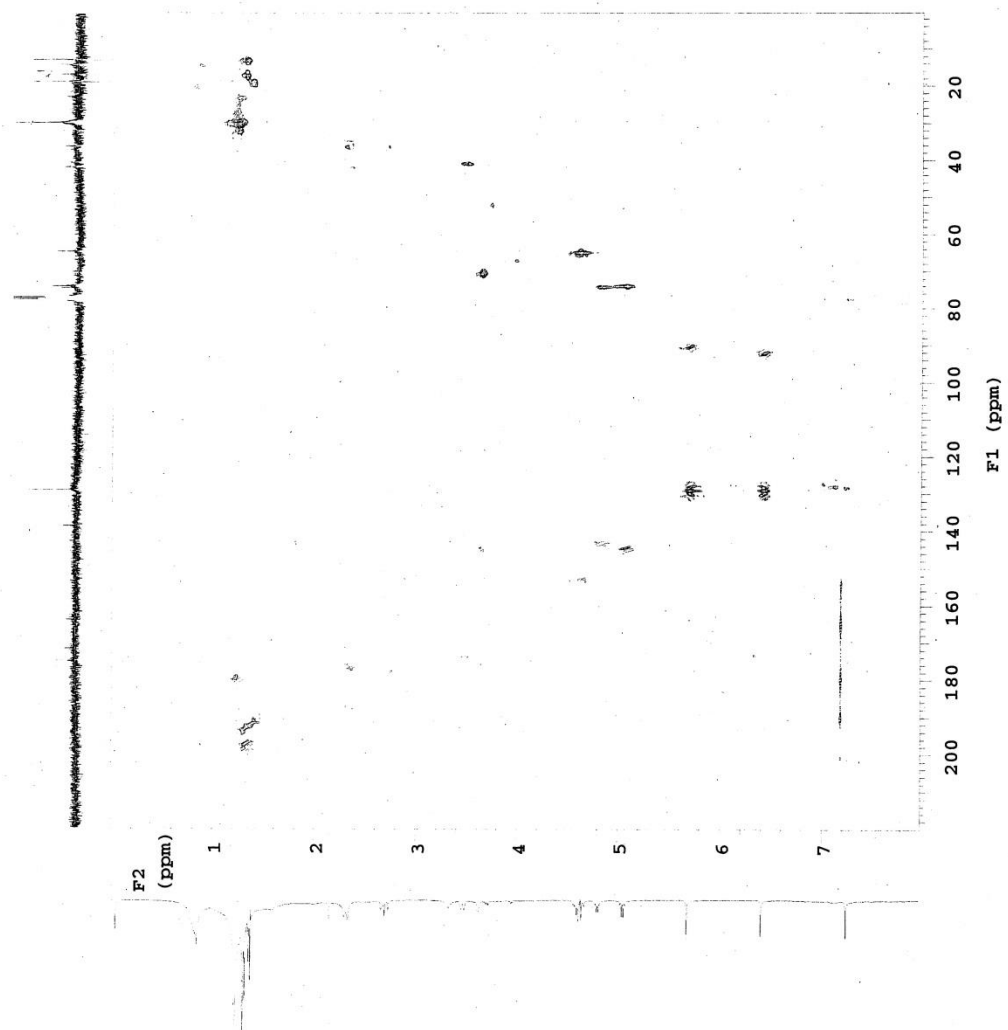
COSY spectrum of Gonocarin B (2)



HMQC spectrum of Gonocarin B (2)

B4-L3-2

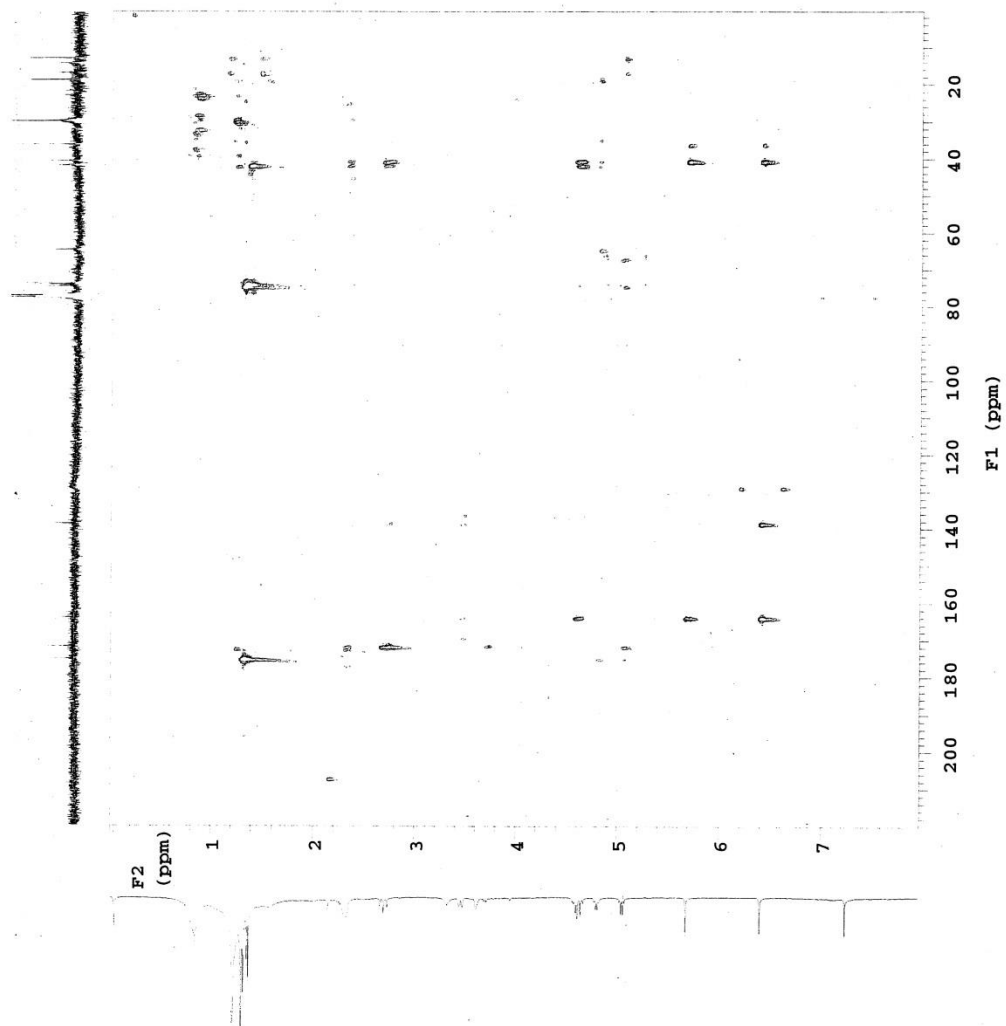
Pulse Sequence: gnmq



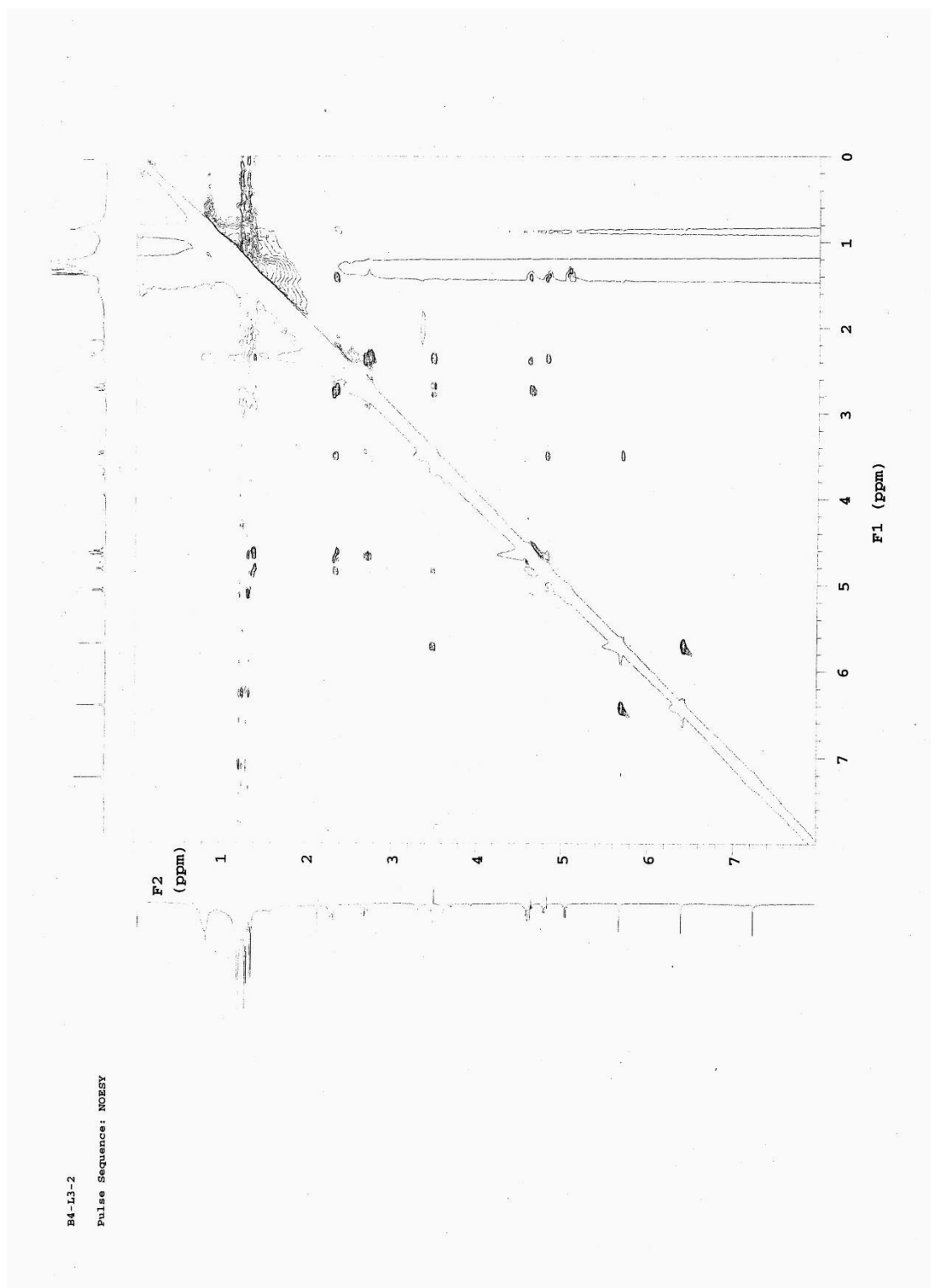
HMBC spectrum of Gonocarin B (2)

B4-L3-2

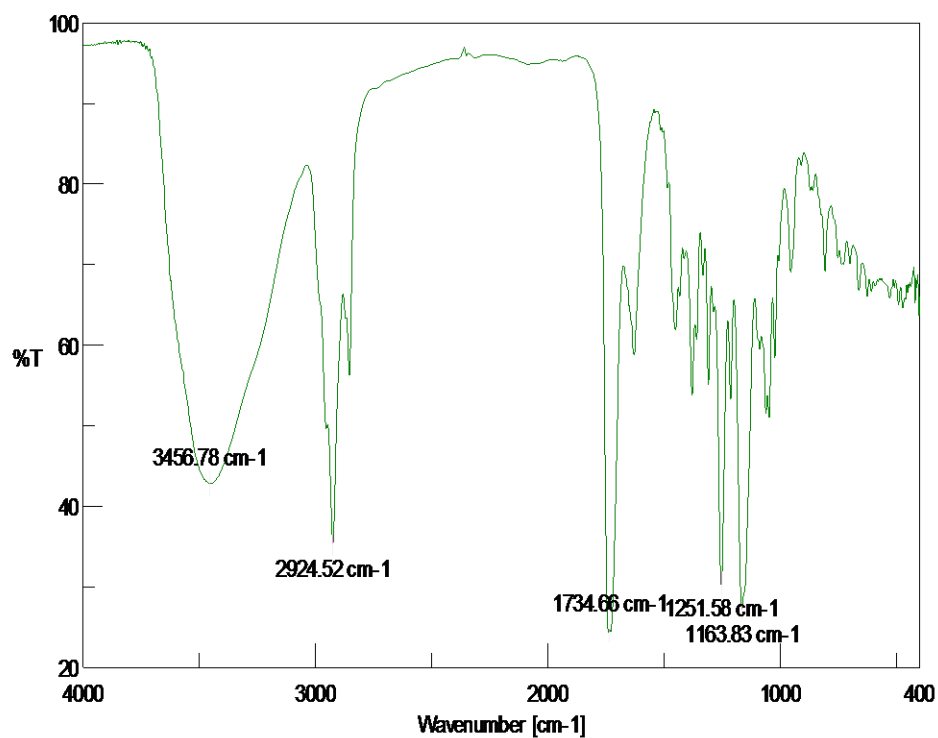
Pulse Sequence: ghmec



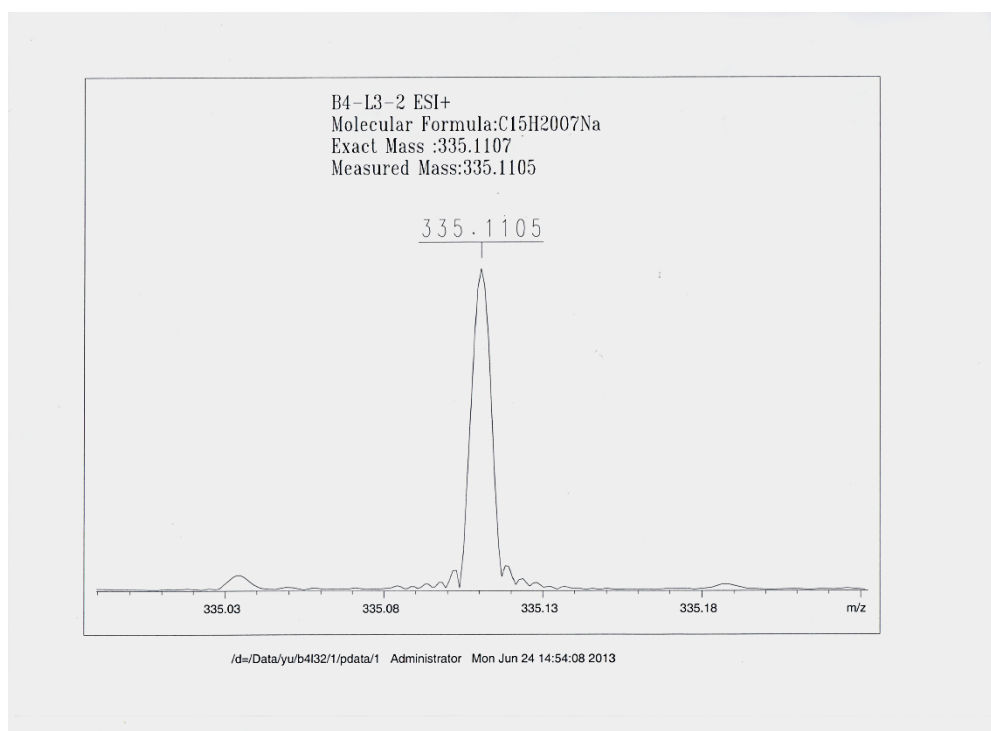
NOESY spectrum of Gonocarin B (2)



IR spectrum of Gonocarin B (2)



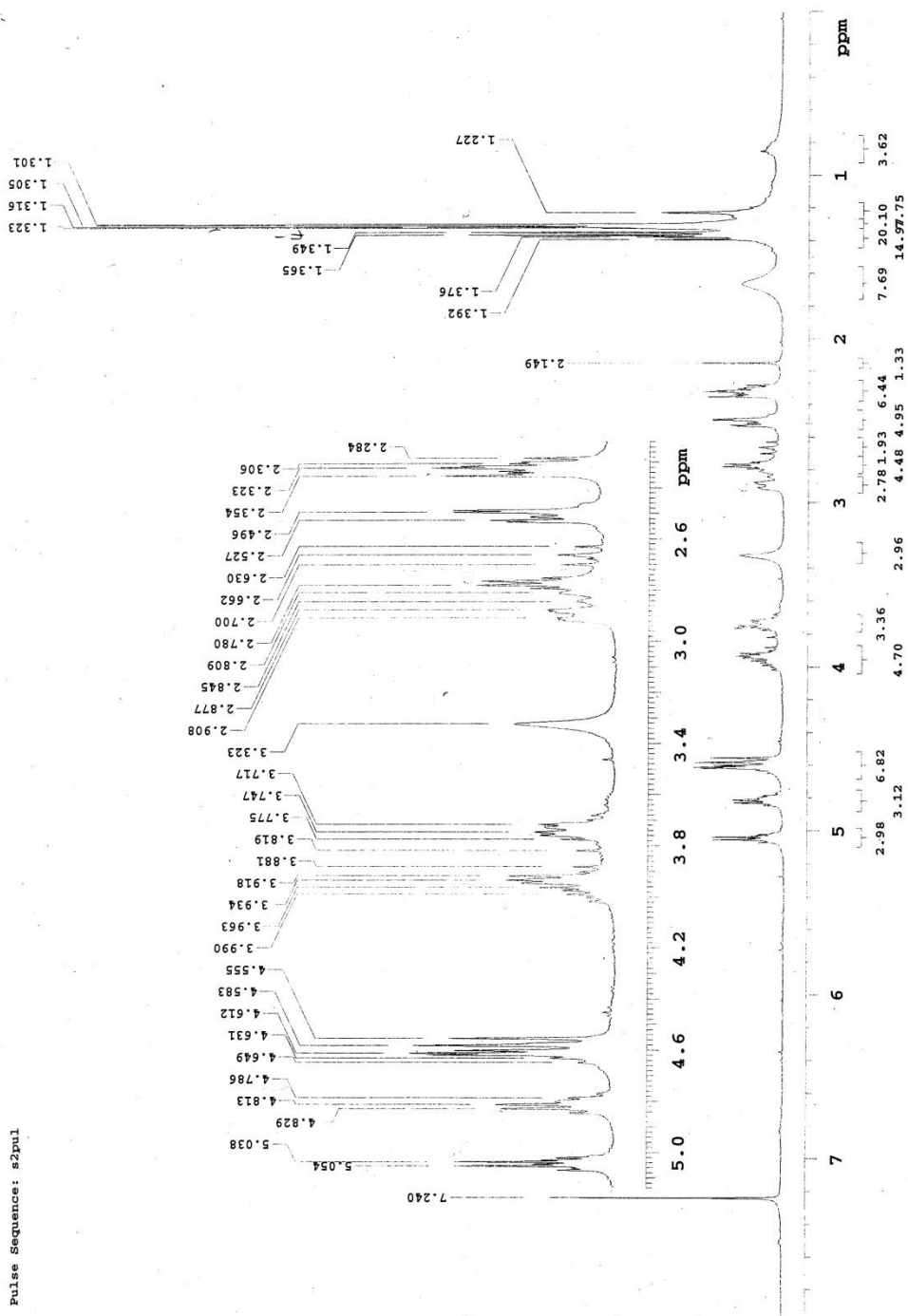
HR-ESI-MS spectrum of Gonocarin B (2)



¹H NMR spectrum of Gonocarin C (3)

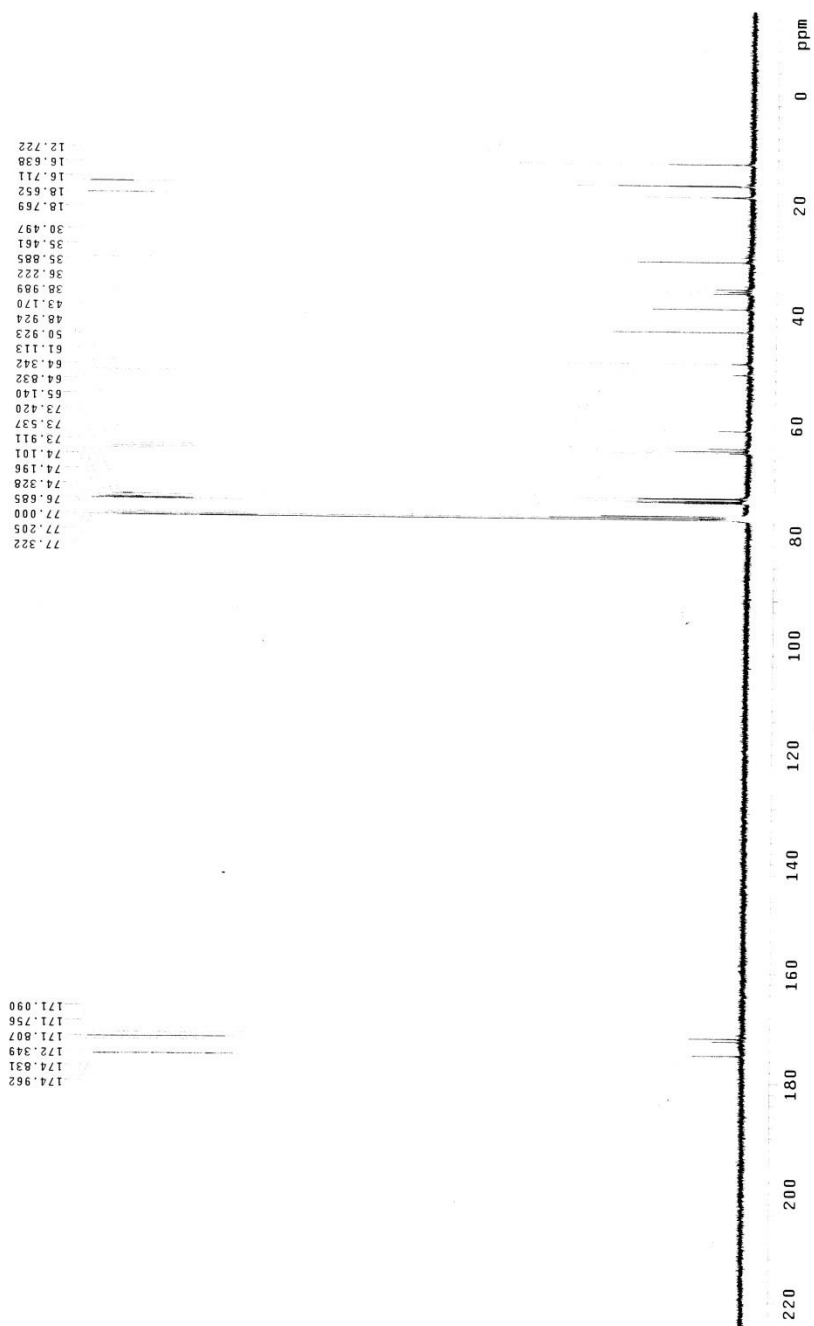
B7-L5-2

Pulse Sequence: s2pul



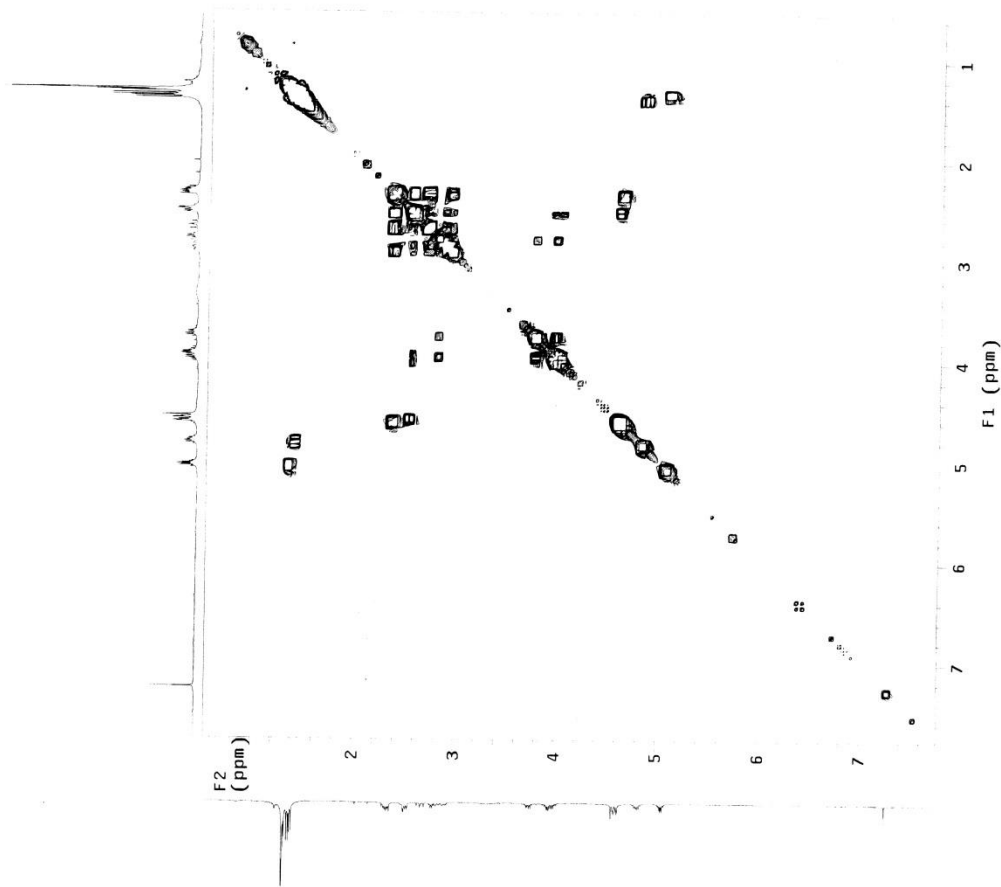
¹³C NMR spectrum of Gonocarin C (3)

Str⁴ Carbon experiment
Automation directory:
Sample: 11-2
Pulse Sequence: zgpg30



COSY spectrum of Gonocarin C (3)

Std Proton parameters
Automation directory:
Sample : ~~wt-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100~~ IV-2
Pulse Sequence: gCOSY
Solvent: CDCl3
Temp: 25.0 C / 298.1 K
Operator: sung
Mercury-400BB "NMMA"
Relax. delay 1.000 sec
Acq. time 0.160 sec
Width 6406.1 Hz
SFO 400.136363 MHz
128 Scans
OBSERVE H1, 400.1300877 MHz
DATA PROCESSING
Fq. sine bell 0.080 sec
F2, sine bell 0.080 sec
F1, sine bell 0.020 sec
Sf. size 2048 x 2048
Total time 1 hr, 28 min, 48 sec



HMQC spectrum of Gonocarin C (3)

Std Proton parameters

Automation directory:

Sample : **IL-2**

Pulse Sequence: gHSQC

Solvent: CDCl₃

Temp: 25.0 C / 298.1 K

Observed nuclei: ¹H

F1 file: IL-2-HSQC_01

Mercury-400088 "NMMA"

Relax. delay 1.000 sec

Acq. time 0.160 sec

NUC1 1H

2D Width 65893.1 Hz

32 repetitions

2 x 128 increments

OBSERVE H1, 400.4300877 MHz

DECOUPLE C13, 100.62571 MHz

Power 52 dB, 100.62571 MHz

on during acquisition

off during delay

GARP-1 modulated

DATA PROCESSING

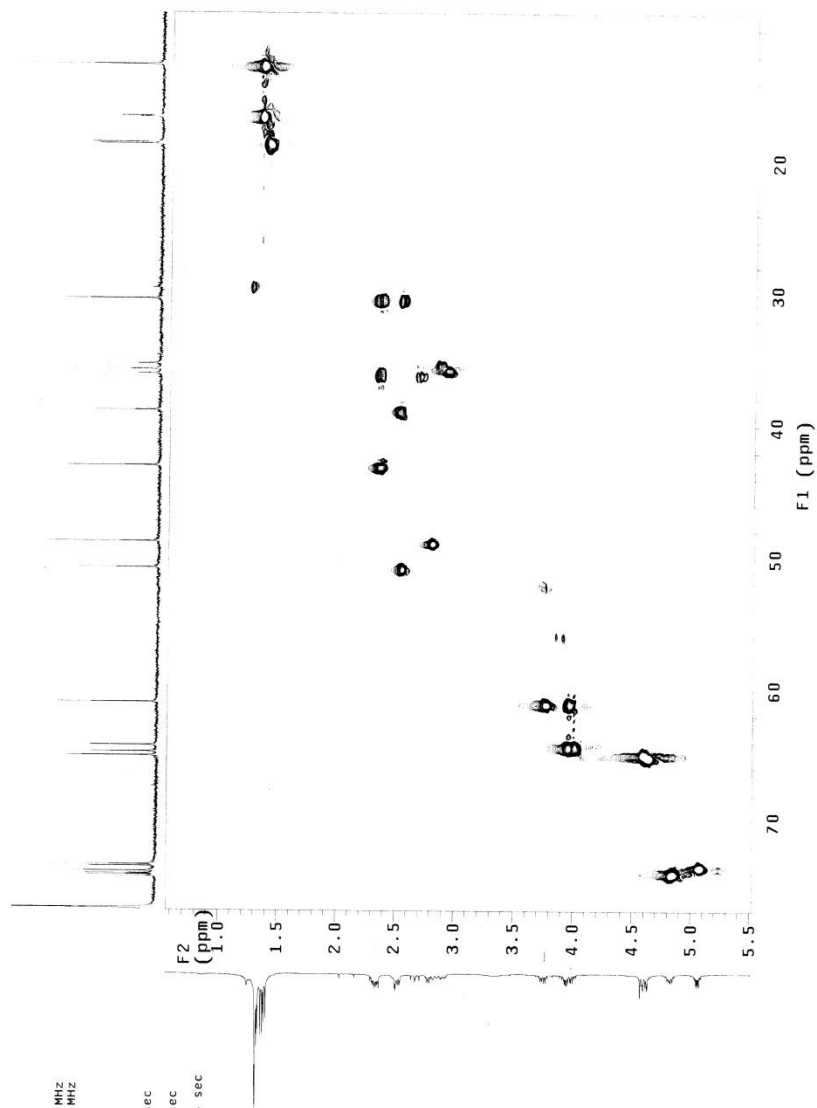
Gauss apodization 0.074 sec

F1 DATA PROCESSING 0.015 sec

Gauss apodization 0.015 sec

F1 size 2048 x 2048

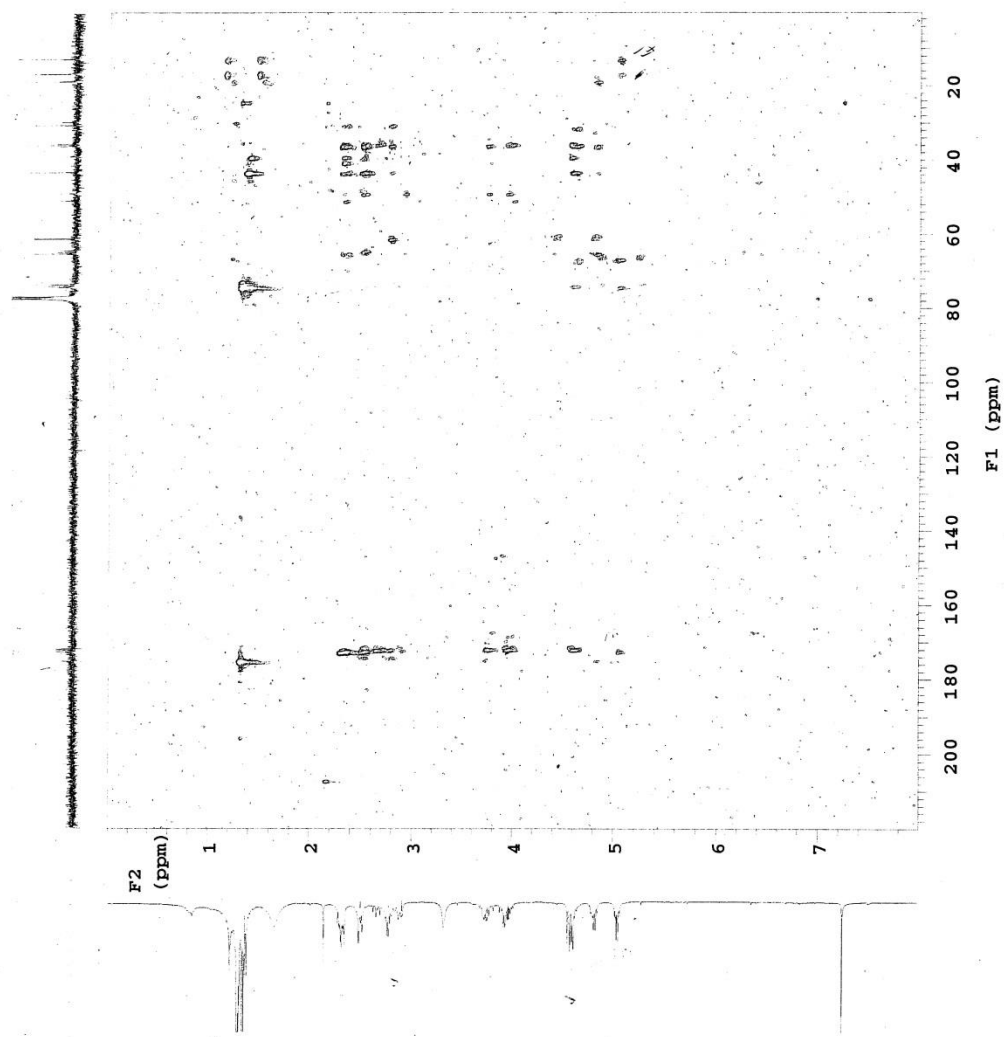
Total time 3 hr, 4 min, 15 sec



HMBC spectrum of Gonocarin C (3)

B7-15-2

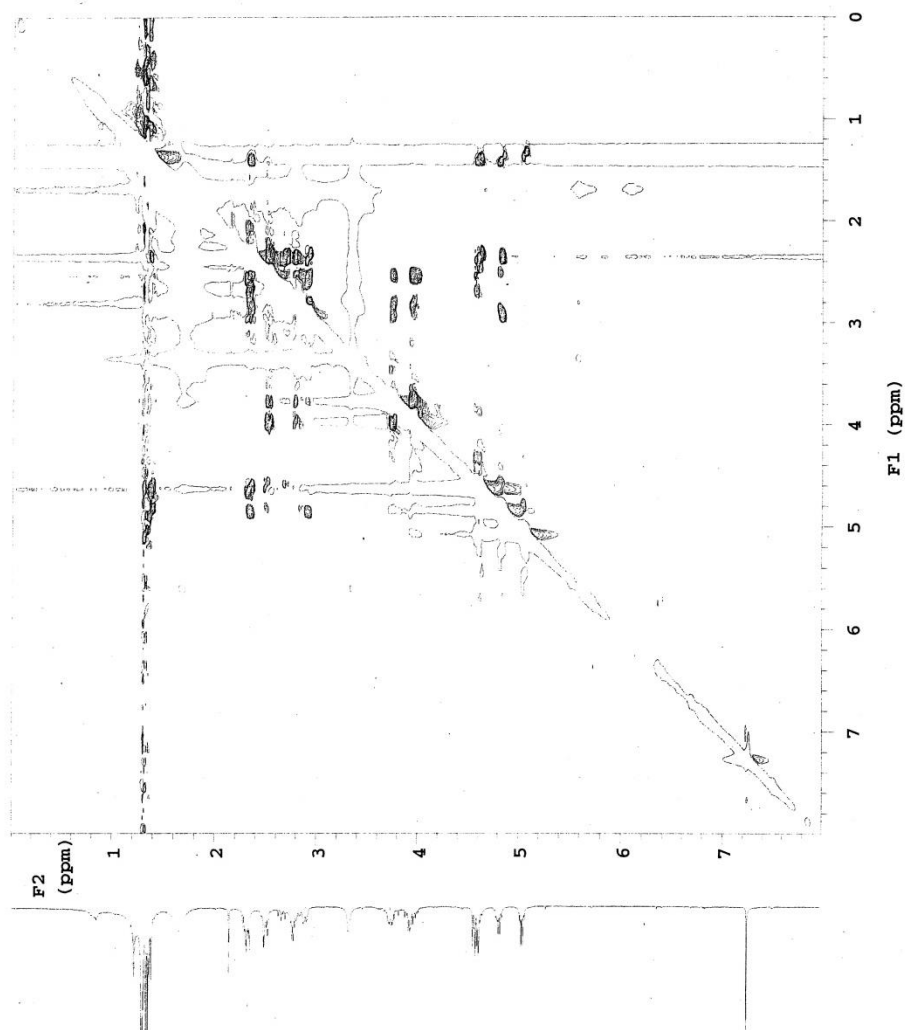
Pulse Sequence: gHMBC



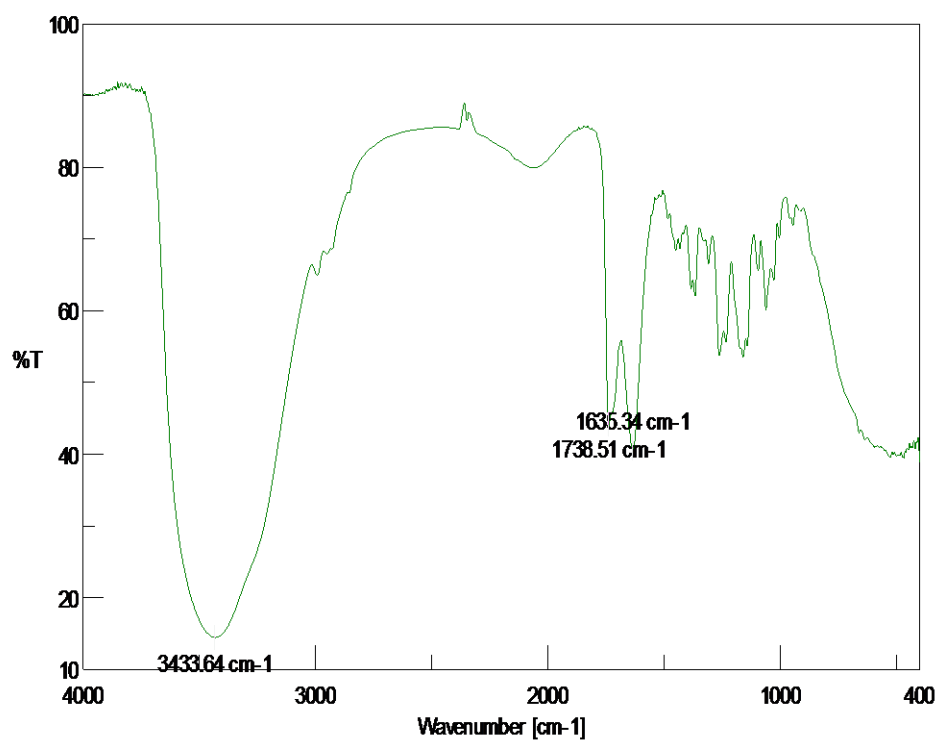
NOESY spectrum of Gonocarin C (3)

B7-15-2

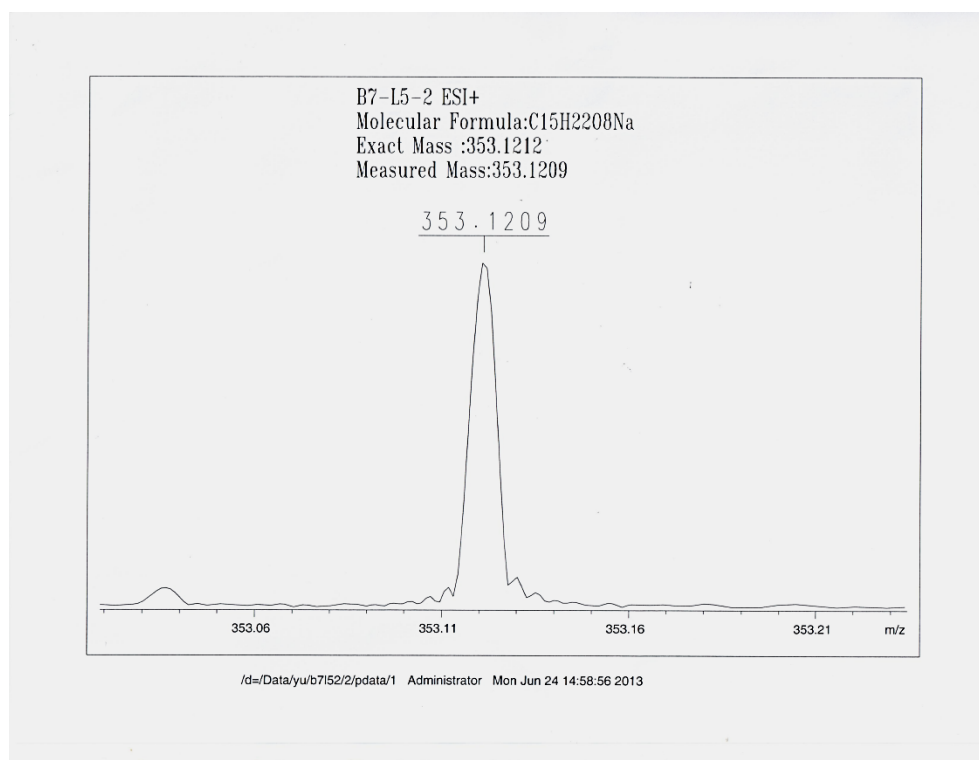
Pulse Sequence: NOESY



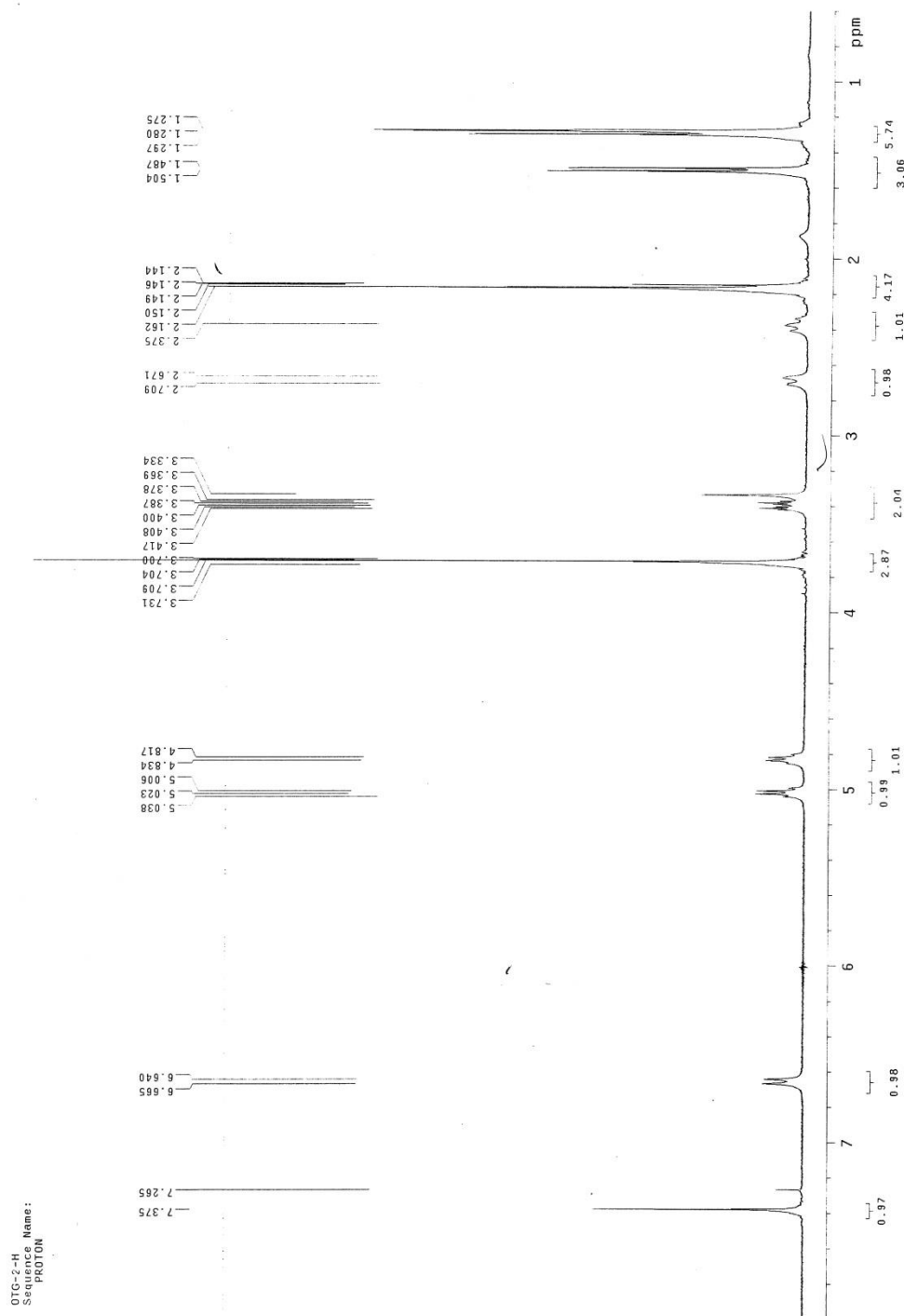
IR spectrum of Gonocarin C (3)



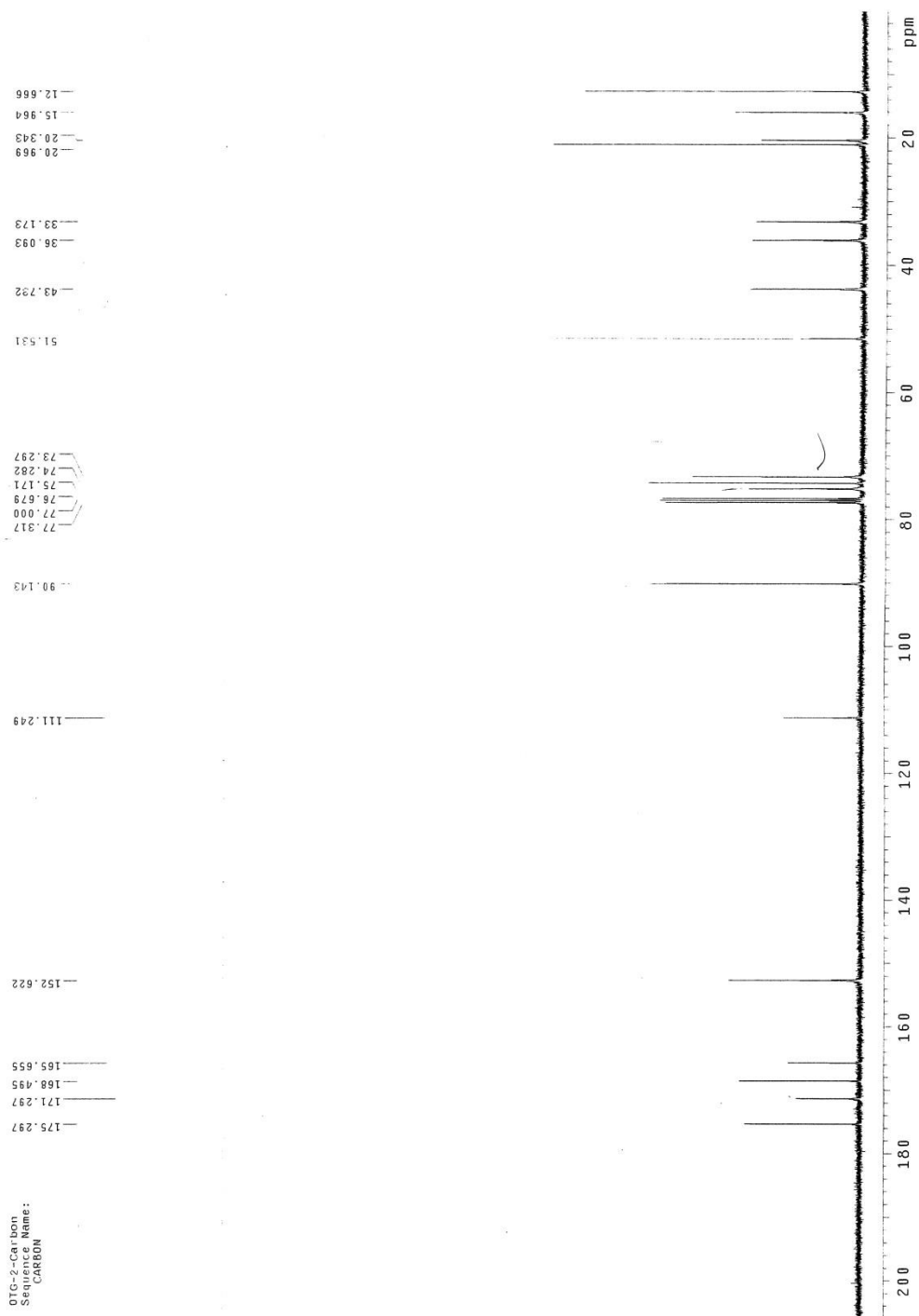
HR-ESI-MS spectrum of Gonocarin C (3)



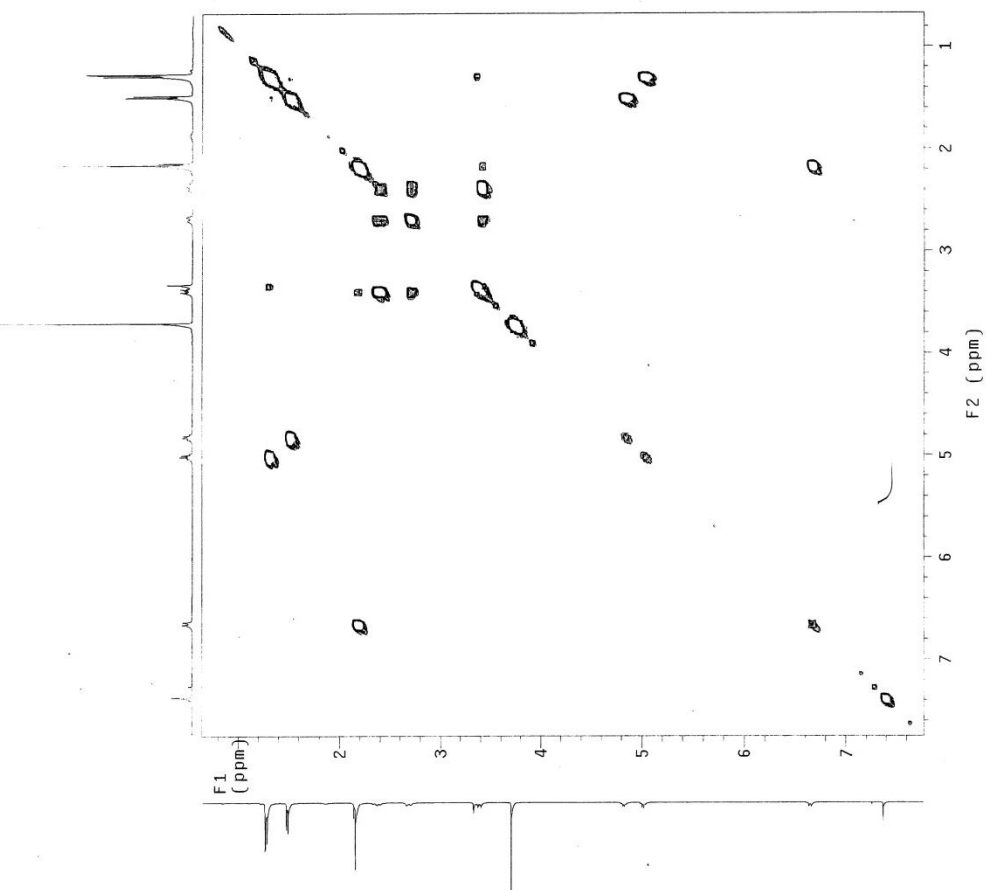
¹H NMR spectrum of Gonocarin A monoacetate (4)



¹³C NMR spectrum of Gonocarin A monoacetate (4)



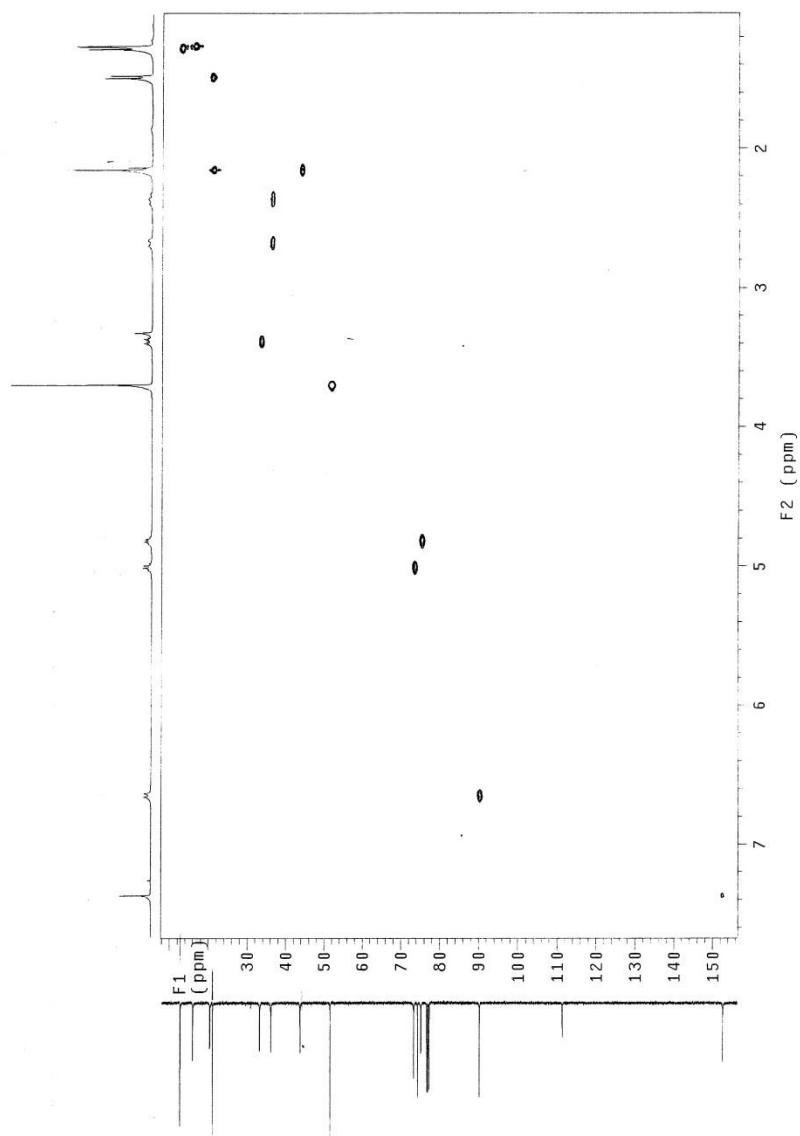
COSY spectrum of Gonocarin A monoacetate (4)



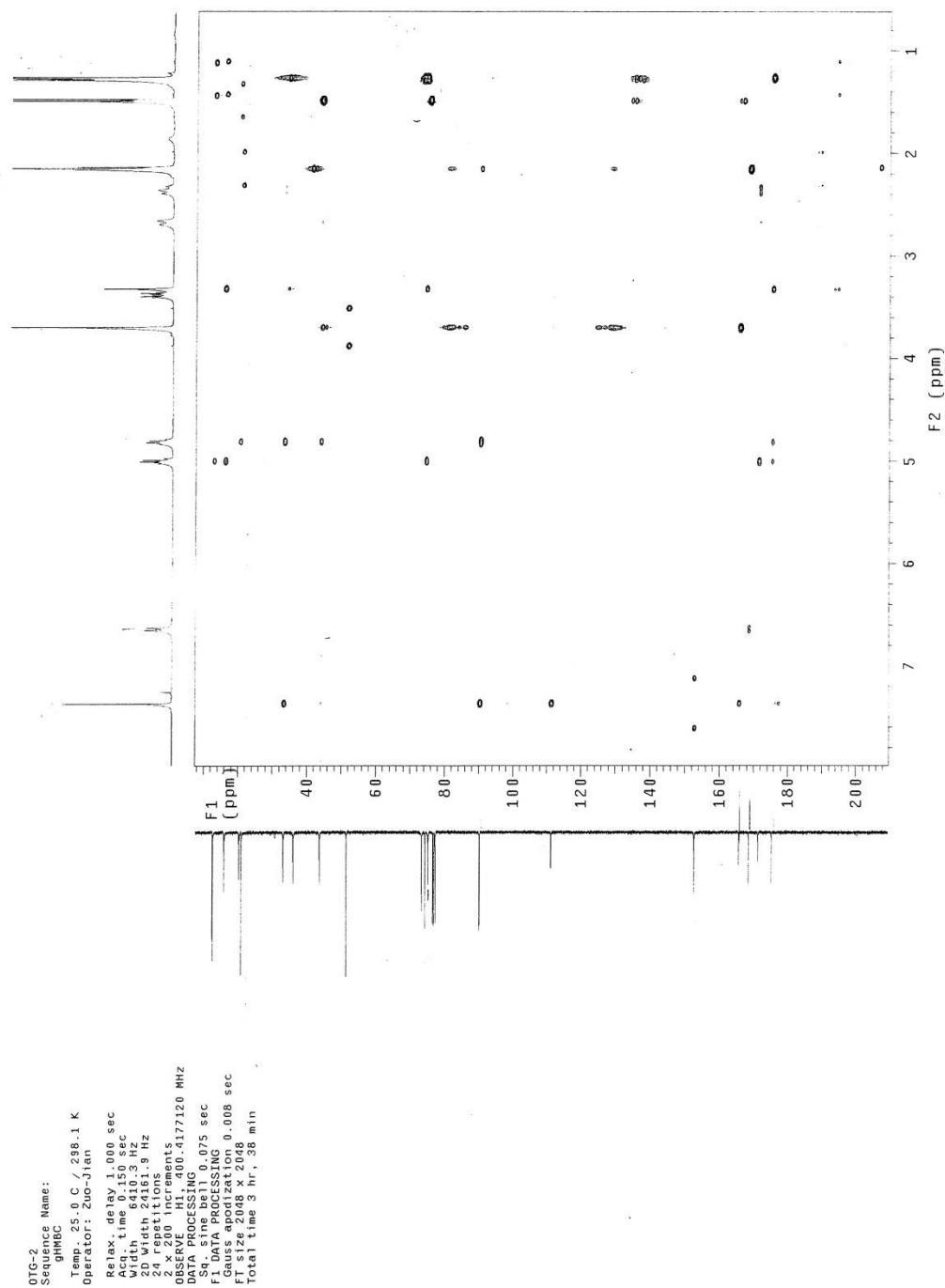
DTG-2
 Sequence Name:
 100COSY
 Temp. 25.0 C / 398.1 K
 Operator: Zuo-Jian
 Relax. delay 1.000 sec
 Acq. time 3846.2 Hz
 Width 3846.2 Hz
 20 Width 3846.2 Hz
 32 repetitions
 32 increments
 OBSERVEMENTS 0.00.4177120 MHz
 DATA PROCESSING
 Sg. sine bell 0.075 sec
 F1 DATA PROCESSING
 Fq. sine bell 2.003 sec
 F2 sine bell 2.003 sec
 Total time 1 hr, 30 min

HMQC spectrum of Gonocarin A monoacetate (4)

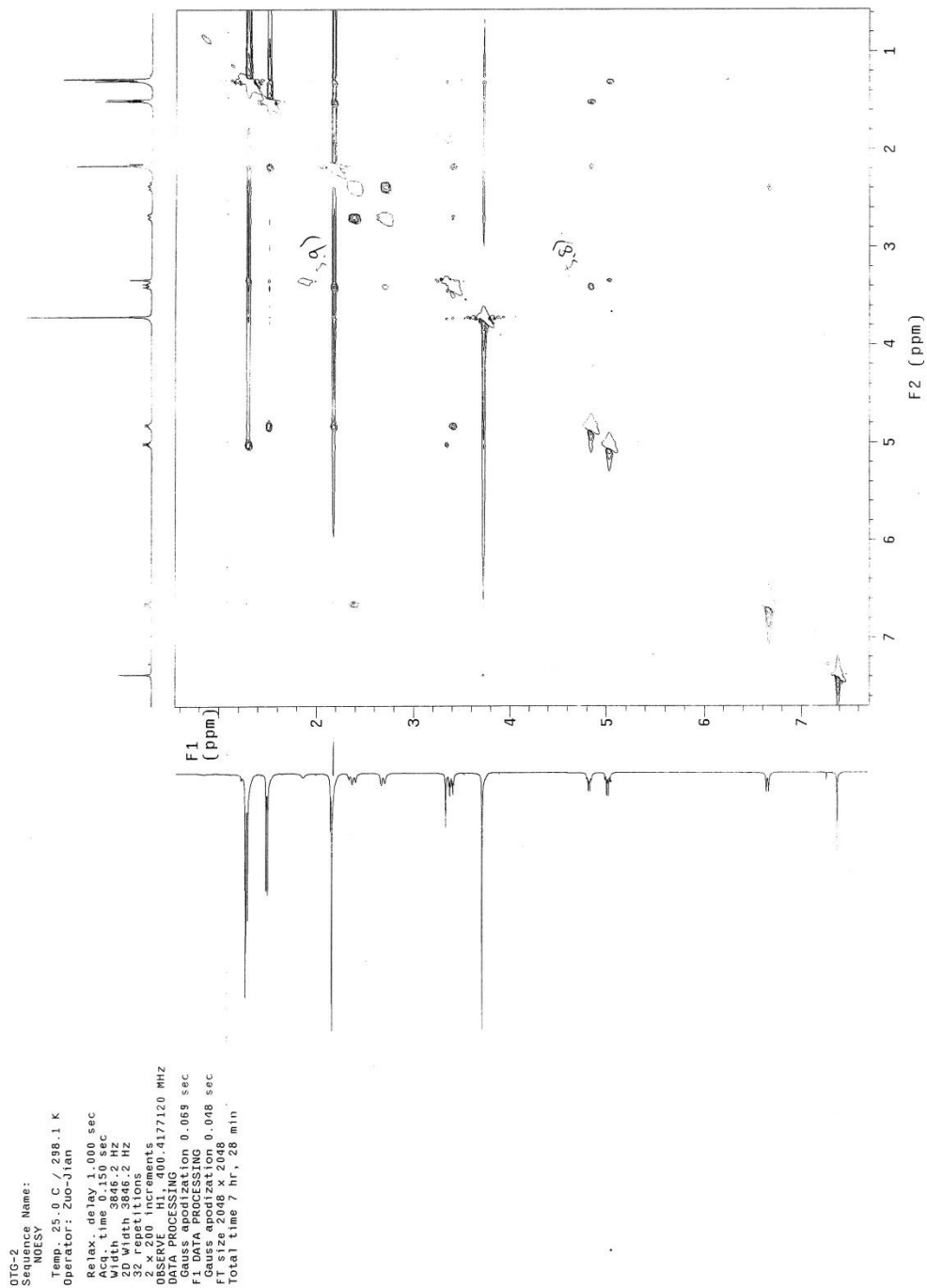
OTG-2
 Sequence Name:
 ghsqc
 Temp. 25.0 C / 298.1 K
 Operator: Zuo-Jian
 Relax. delay 1.000 sec
 Acq. time 0.150 sec
 Width 6410.3 Hz
 F2 width 116.0 Hz
 F2 resolution 0.000 Hz
 2 x 128 increments
 OBSERVE H1, 400.417120 MHz
 DECOUPLE C13, 100.626652 MHz
 Processing time 0.000 sec
 on during acquisition
 off during delay
 GARP-1 modulated
 DATA PROCESSING
 Guss apodization 0.069 sec
 F2 DATA PROCESSING
 Gauss apodization 0.007 sec
 FT size 2048 x 2048
 Total time 1 hr, 42 min



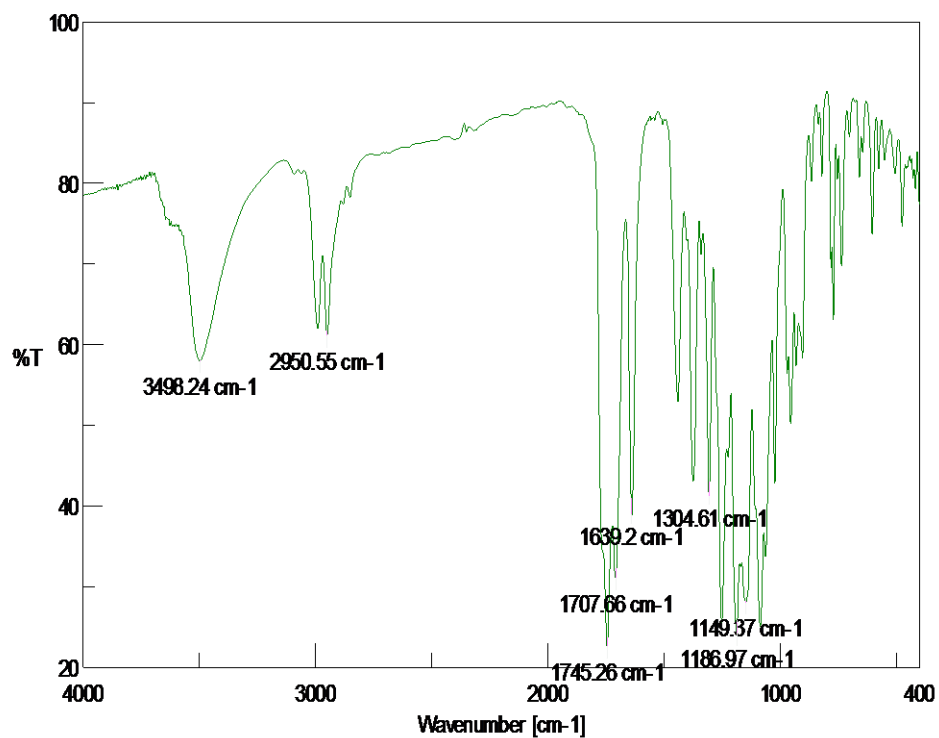
HMBC spectrum of Gonocarin A monoacetate (4)



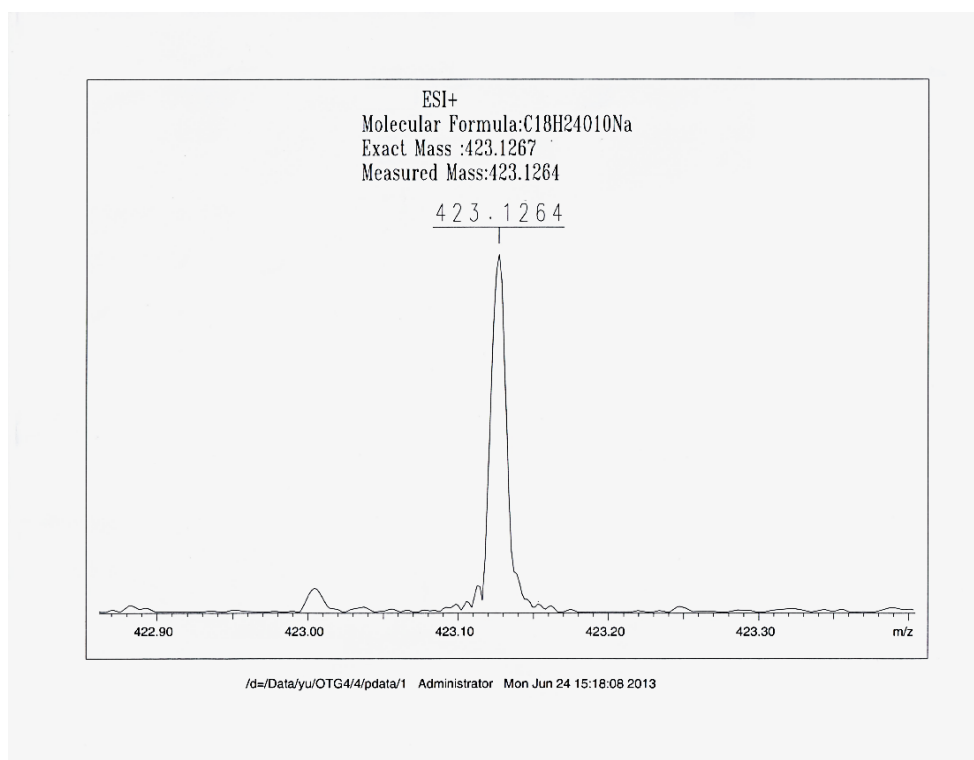
NOESY spectrum of Gonocarin A monoacetate (4)



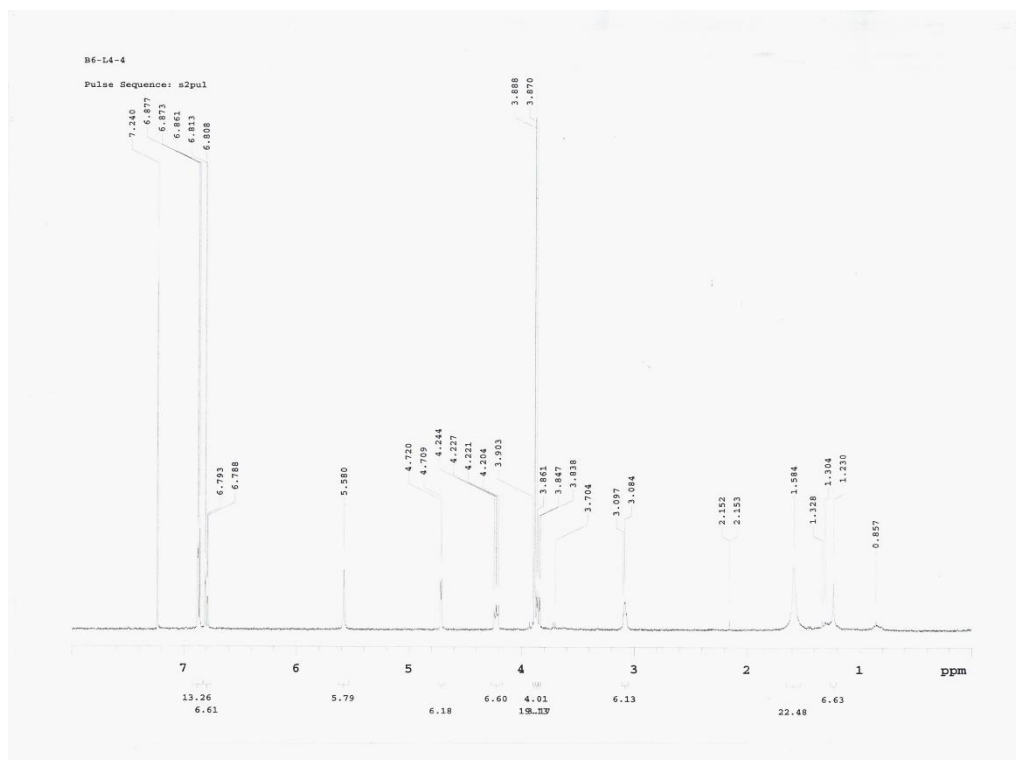
IR spectrum of Gonocarin A monoacetate (4)



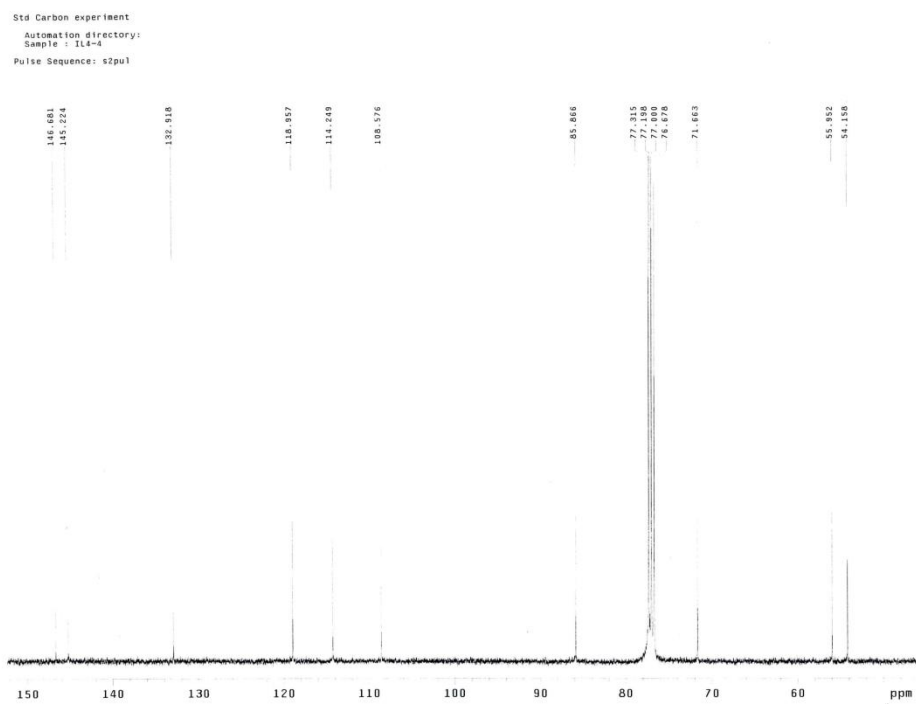
HRESIMS spectrum of Gonocarin A monoacetate (4)



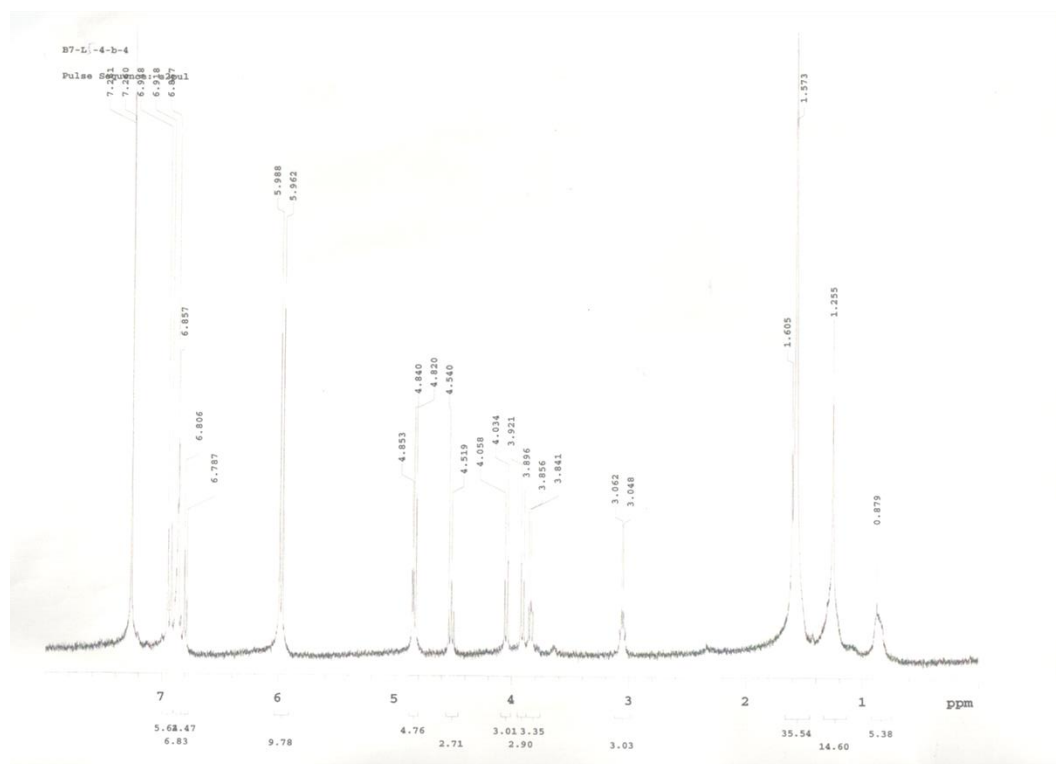
^1H NMR spectrum of Pinoresinol (5)



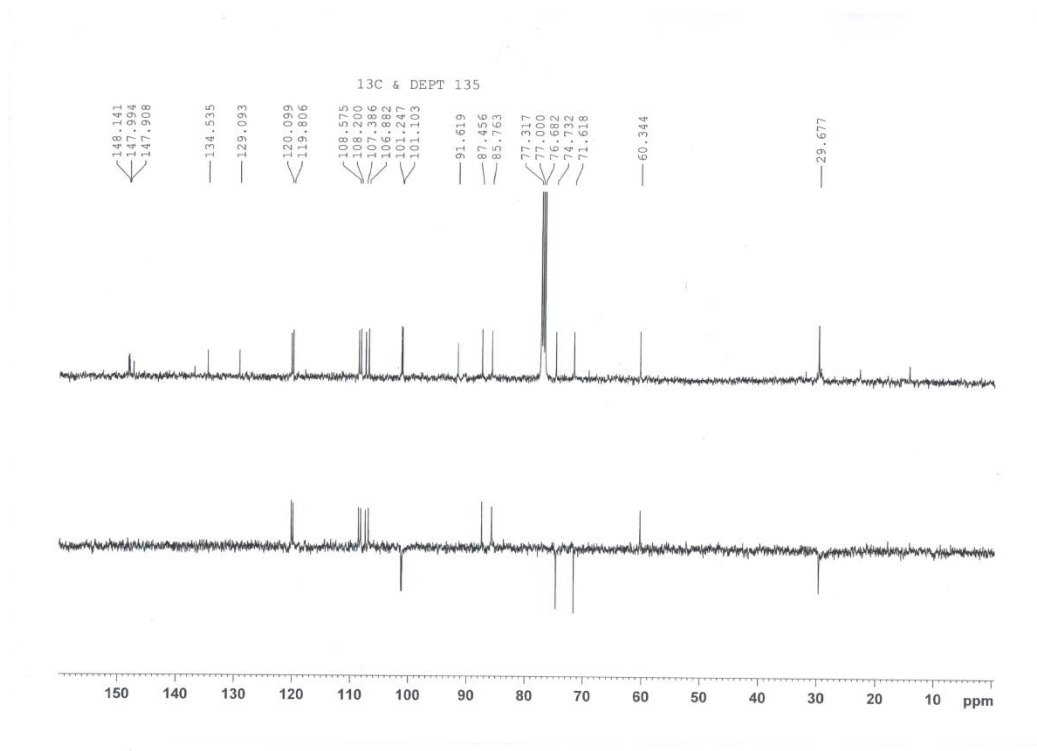
^{13}C NMR spectrum of Pinoresinol (5)



¹H NMR spectrum of Paulownin (6)



¹³C NMR spectrum of Paulownin (6)



A

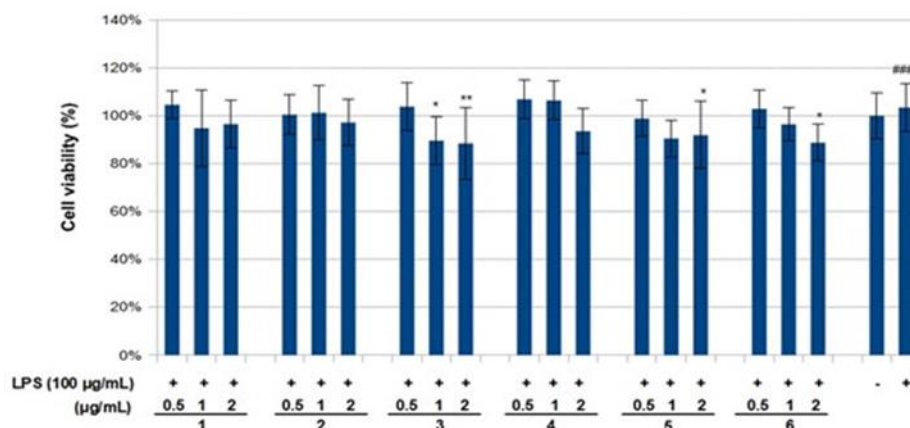


Figure 4. Effects of compounds **1-6** and LPS on the viability of RAW 264.7 macrophages. Cells were treated with LPS for 6 h prior to treatment with indicated concentrations of compounds or LPS alone. Following a 24h incubation period, cell viability was assessed using a MTS assay. Cell viability was calculated as the percentage of surviving cells over control cells (no compounds added). Values are presented as mean $\pm$ standard deviation of three independent experiments. ### p < 0.001 control group as compared to LPS-treated group. *p < 0.05, **p < 0.01, and ***p < 0.001 were compared with the LPS-alone group. - : cells without treatment, + : cells previously treated with LPS.

B

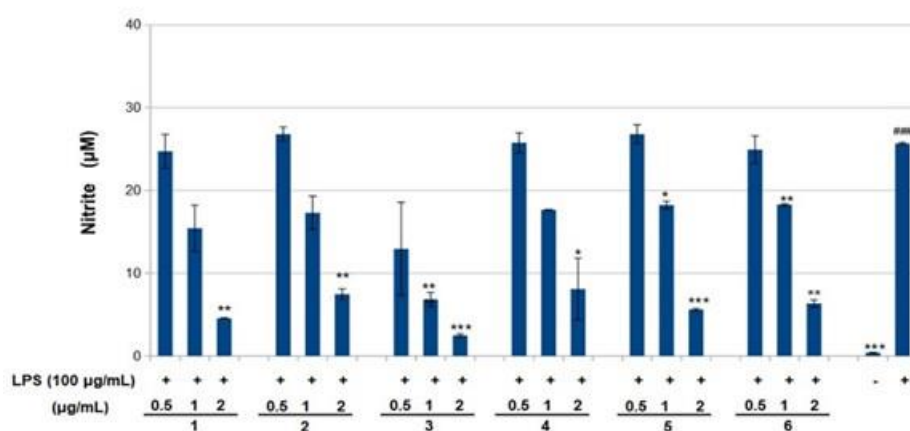


Figure 5. Inhibition of NO production by compounds **1-6** in LPS-stimulated RAW 264.7 macrophages. RAW 264.7 cells were stimulated by LPS (100 ng/ml) for 6h and then tetreated with the indicated concentrations of compounds 1-6 for 24 h. NO was measured using Griess reagent. Values are presented as mean $\pm$ standard deviation of three independent experiments. ### p < 0.001 control group as compared to LPS-treated group. *p < 0.05, **p < 0.01, and ***p < 0.001 were compared with the LPS-alone group. - : cells without treatment, + : cells previously treated with LPS.

C

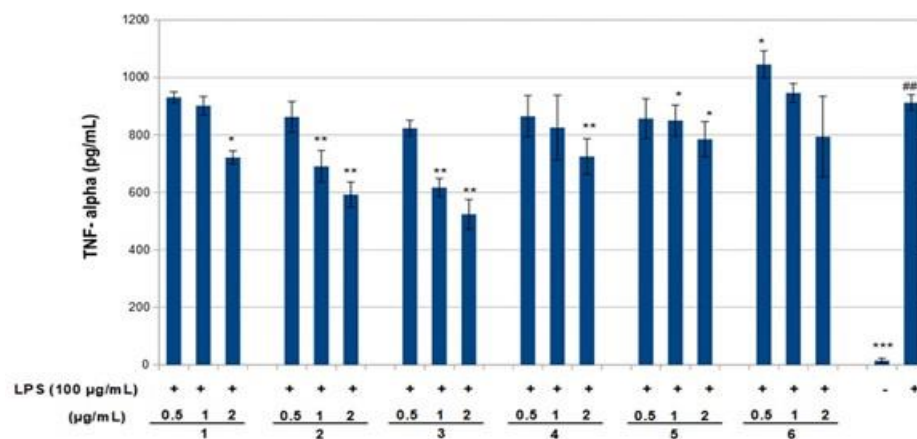


Figure 6. Inhibition of TNF- α production by compounds **1-6** in LPS-stimulated RAW 264.7 macrophages. RAW 264.7 cells were stimulated by LPS (100 ng/ml) for 6 h then treated with various concentrations of compounds 1-6 for 24 h. TNF- α production were measured using the corresponding ELISA kits. Values are presented as mean $\pm$ standard deviation of three independent experiments. ### $p < 0.001$ control group as compared to LPS-treated group. * $p < 0.05$, ** $p < 0.01$, and *** $p < 0.001$ were compared with the LPS-alone group. - : cells without treatment, + : cells previously treated with LPS.