

APPENDIX 4

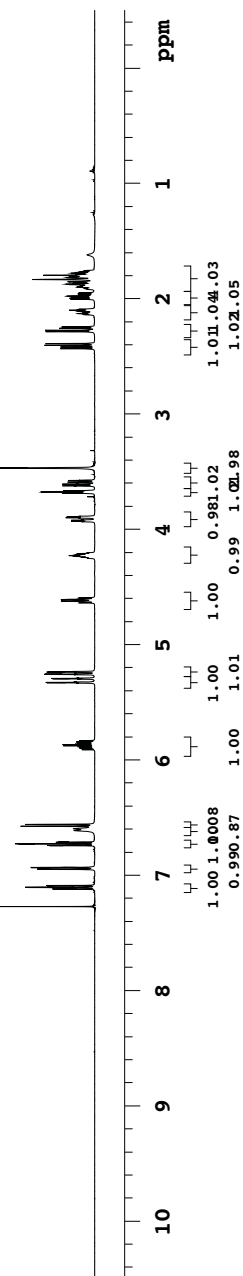
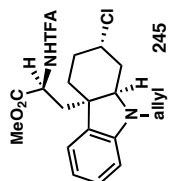
Spectra Relevant to Chapter 4:

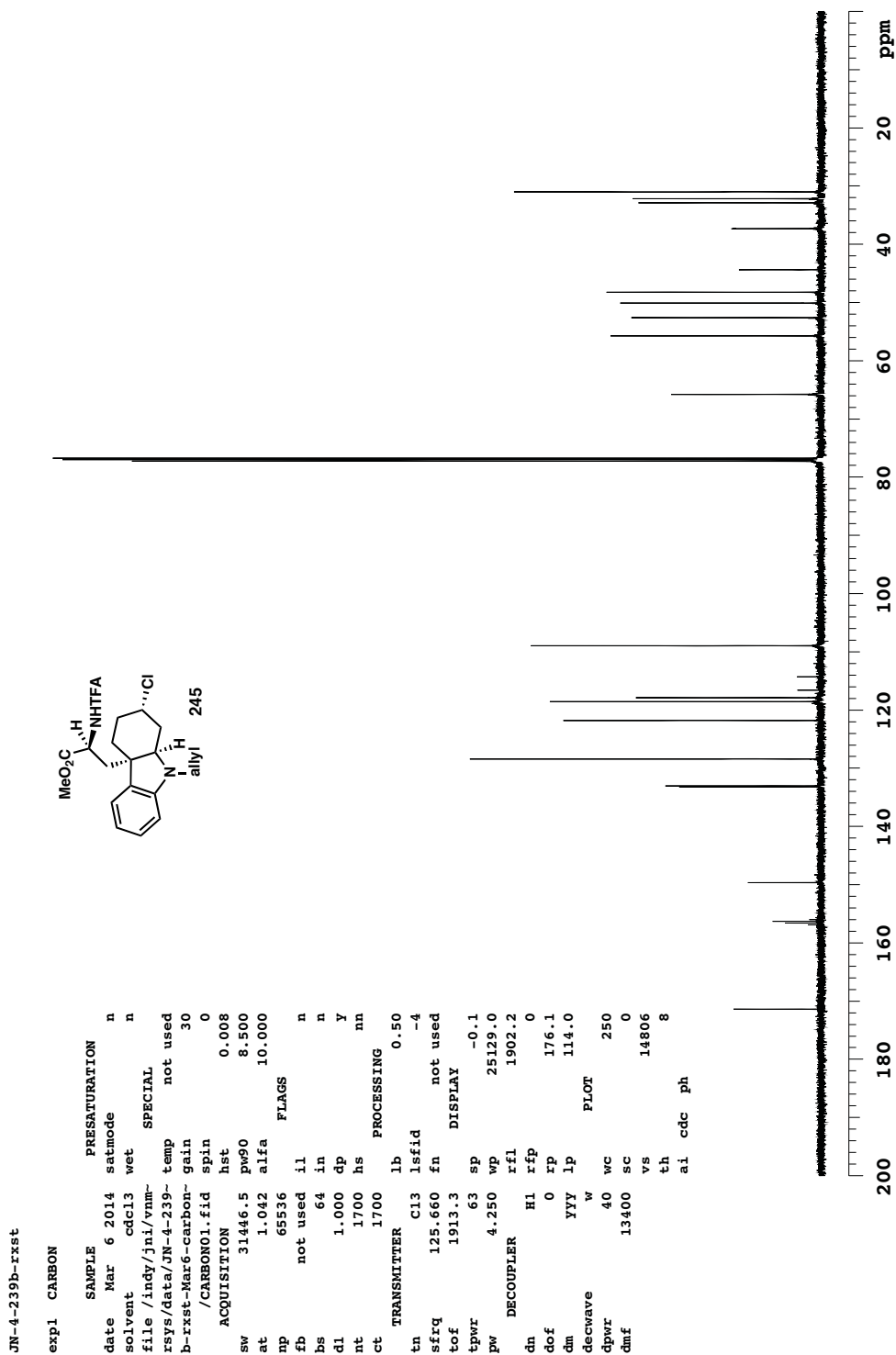
Development of a Tandem Conjugate Addition/Prins Cyclization

JN-4-239b-rxst
March 6

exp1 PROTON

SAMPLE		PRESATURATION	
date	Mar 6 2014	satmode	n
solvent	cdcl3	wet	n
file	/indy/jni/vnm-	SPECIAL	
rxst	JN-4-239b-rxst-Mar6/PROTON~	gain	28
ol.fid	spin	20	
ACQUISITION		hst	0.008
sw	8000.0	pw90	9.900
at	3.000	alfa	10.000
np	48000	FLAGS	
fb	not used	il	n
bs	32	in	n
dl	25.000	dp	y
nt	16	hs	nn
ct	16	PROCESSING	
TRANSMITTER		lb	0.20
tn	H1	fn	not used
sfrq	499.689	DISPLAY	
tof	499.7	sp	-249.9
tpwr	61	wp	5496.3
pw	4.950	rfl	1001.9
DECOUPLER		rfp	0
dn	C13	rp	-170.6
dof	0	lp	-79.4
dm	nnn	PLOT	
decwave	W40_autox7~	wc	250
dpwr	41	vs	33
dmf	32258	th	13
	al	ph	

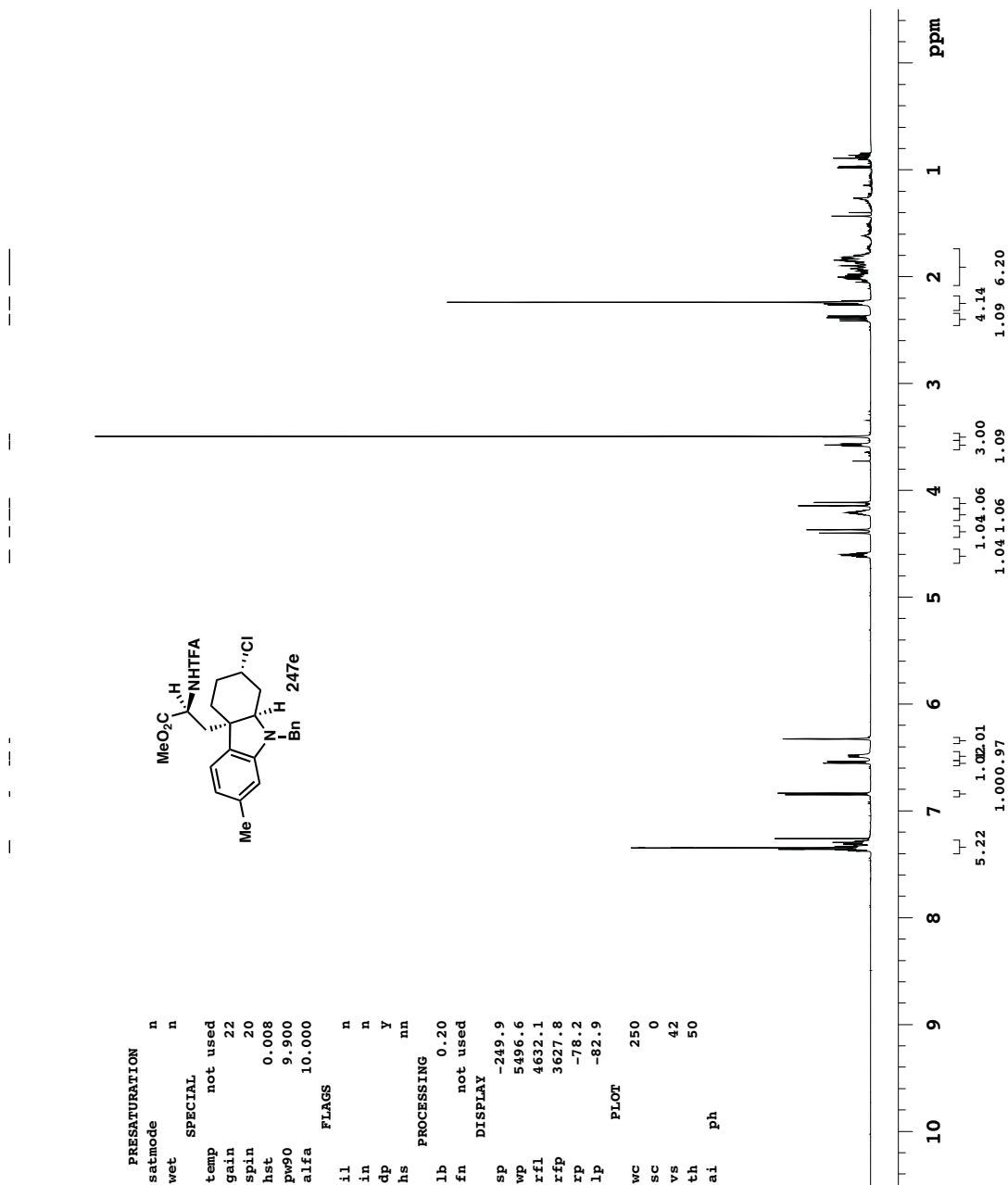
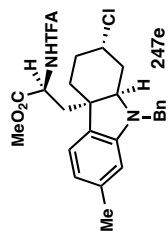




JN-5-049a-col2

exp1 PROTON

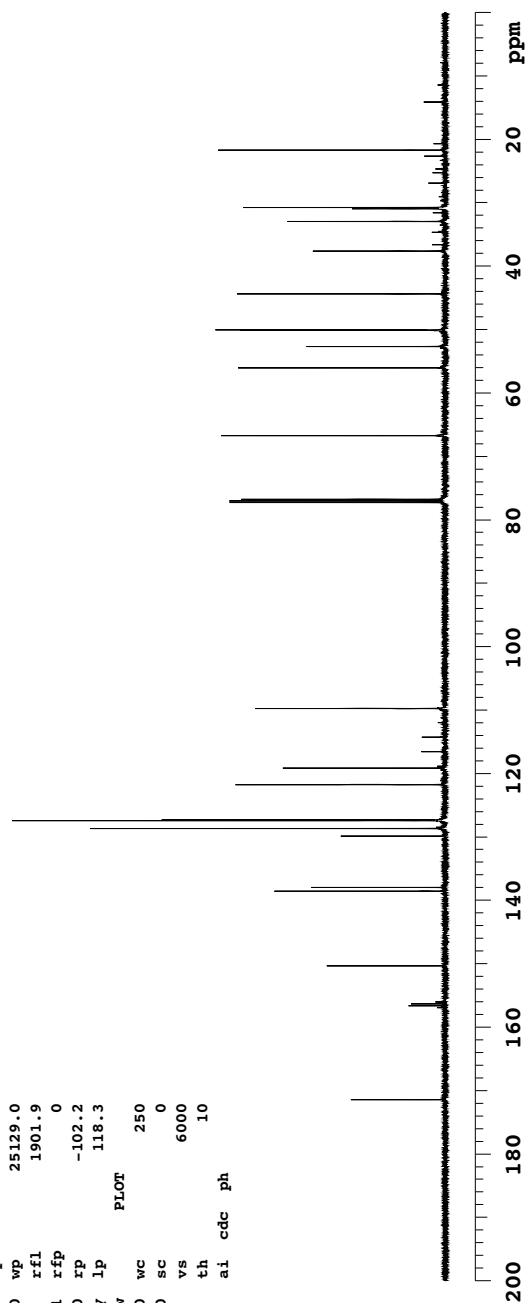
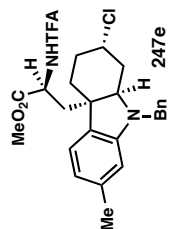
SAMPLE		PRESATURATION	
date	Jan 13 2014	satmode	n
solvent	cdcl3	wet	n
file	/indy/jni/vnm~	SPECIAL	
rsys/data/JN-5-049~	temp	not used	
a-col2/PROTON01.fi~	gain	22	
d	spin	20	
ACQUISITION	hst	0.008	
sw	8000.0	pw90	9.900
at	3.000	alfa	10.000
np	48000	FLAGS	
fb	not used	il	n
bs	32	in	n
dl	10.000	dp	y
nt	32	hs	nn
ct	32	PROCESSING	
TRANSMITTER	lb	fn	0.20
tn	H1	not used	
sfrq	499.698	DISPLAY	
tof	499.7	sp	-249.9
tpwr	61	wp	5496.6
pw	4.950	rfl	4632.1
DECOUPLER	rfp	3627.8	
dn	C13	xp	-78.2
dof	0	lp	-82.9
dm	nnn	PLOT	
decwave	W40_autox7~	wc	250
dpwr	991	sc	0
dmf	41	vs	42
	32258	th	50
		ai	ph



JN-5-049a-col2

exp1 CARBON

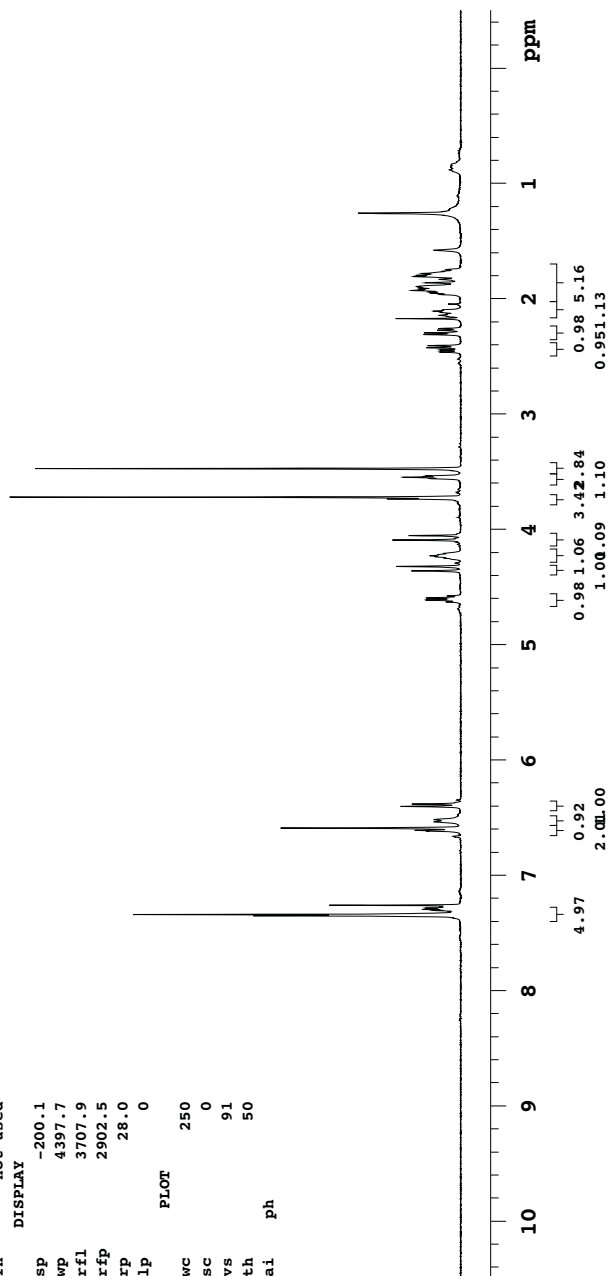
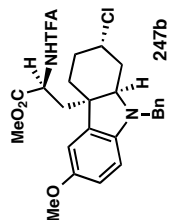
SAMPLE		PRESATURATION	
date	Jan 13 2014	satmode	n
solvent	cdcl3	wet	n
file	/indy/jni/vnm-	SPECIAL	
rsys/data/JN-5-049-	temp	not used	
a-col2/CARBON01.fi-	gain	30	
d	spin	20	
ACQUISITION		hst	0.008
sw	31446.5	pw90	8.500
at	1.042	alfa	10.000
np	65536	FLAGS	
fb	not used	il	n
bs	64	in	n
dl	1.000	dp	y
nt	6400	hs	nm
ct	6400	PROCESSING	
TRANSMITTER		lb	0.50
tn	C13	lsfid	-4
sfrq	125.662	fn	not used
tof	1913.3	DISPLAY	
tpwr	63	sp	-0.8
pw	4.250	wp	25129.0
DECOUPLER		rfl	1901.9
dn	H1	rfp	0
dof	0	rp	-102.2
dm	YYY	lp	118.3
decwave	w	PLOT	
dpwr	40	wc	250
dmf	13400	sc	0
		vs	6000
		th	10
		al	cdc
		ph	

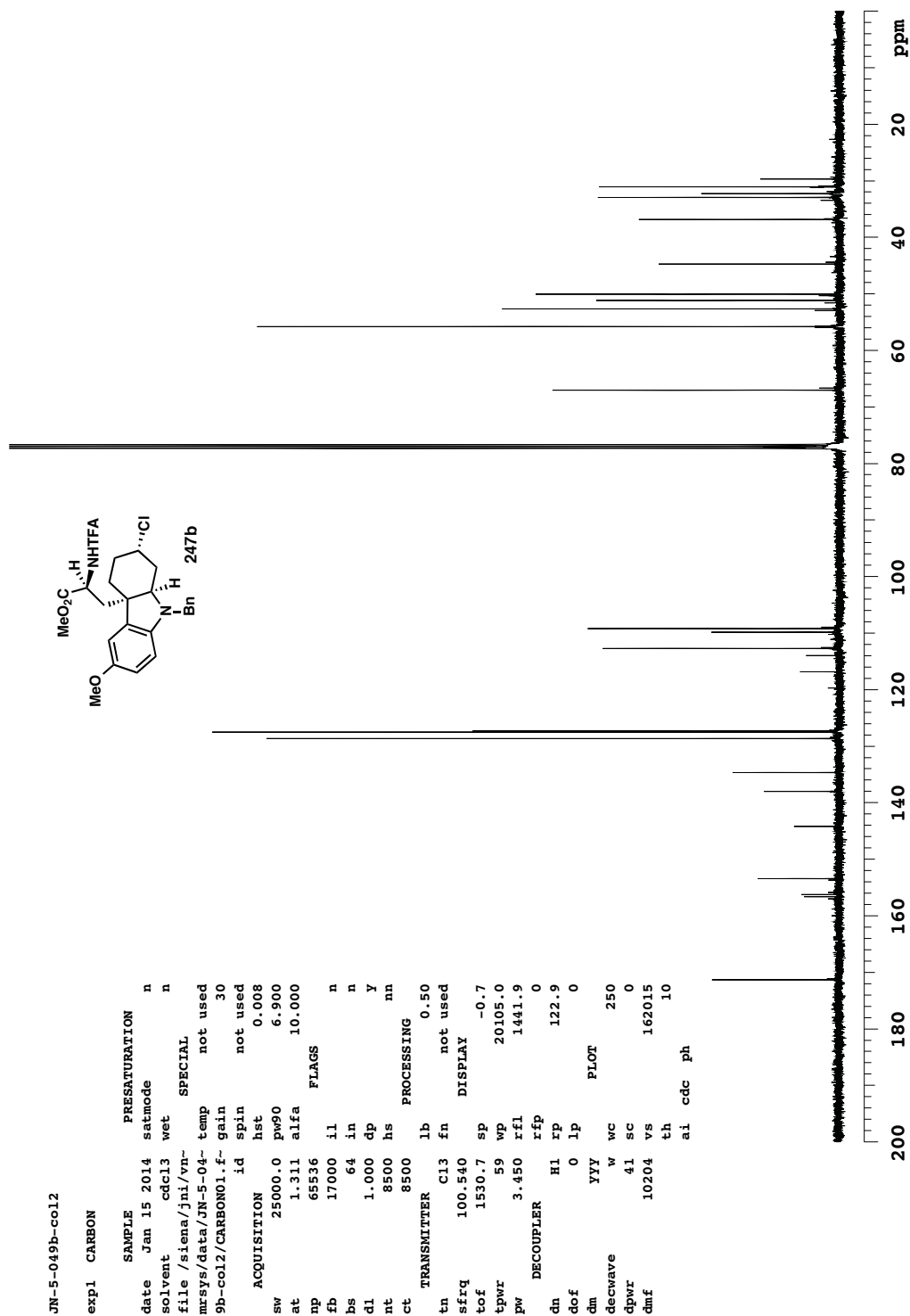


JN-5-049b-col2

exp1 PROTON

SAMPLE		PRESATURATION	
date	Jan 15 2014	satmode	n
solvent	cdcl3	wet	n
file	/siena/jni/vn~	SPECIAL	
mrssys/data/JN-5-04~	temp	not used	
9b-col2/PROTON01.f~	gain	38	
id	spin	not used	
ACQUISITION	hst	0.008	
sw	6410.3	pw90	7.900
at	2.556	alfa	10.000
np	32768	FLAGS	
fb	4000	il	n
bs	32	in	n
dl	1.000	dp	y
nt	8	hs	nm
ct	8	PROCESSING	
TRANSMITTER	fn	not used	
tn	H1	DISPLAY	
sfrq	399.797	sp	-200.1
tof	399.8	wp	4397.7
tpwr	63	rfl	3707.9
pw	3.950	rfp	2902.5
DECOUPLER	rp	28.0	
dn	Cl3	lp	0
dof	0	PLOT	
dm	nnn	wc	250
decwave	W40_OneNMR	sc	0
dpwr	34	vs	91
dmf	29412	th	50
	ai	ph	

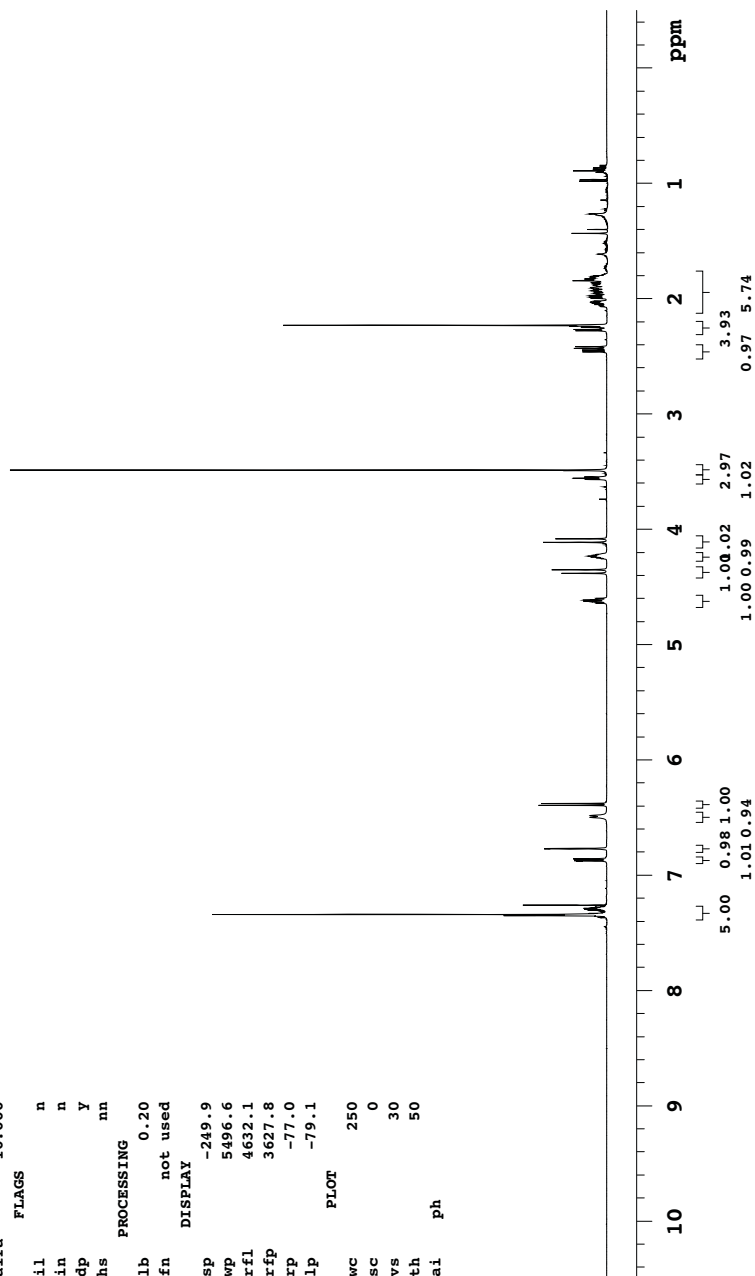
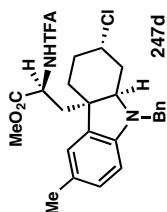


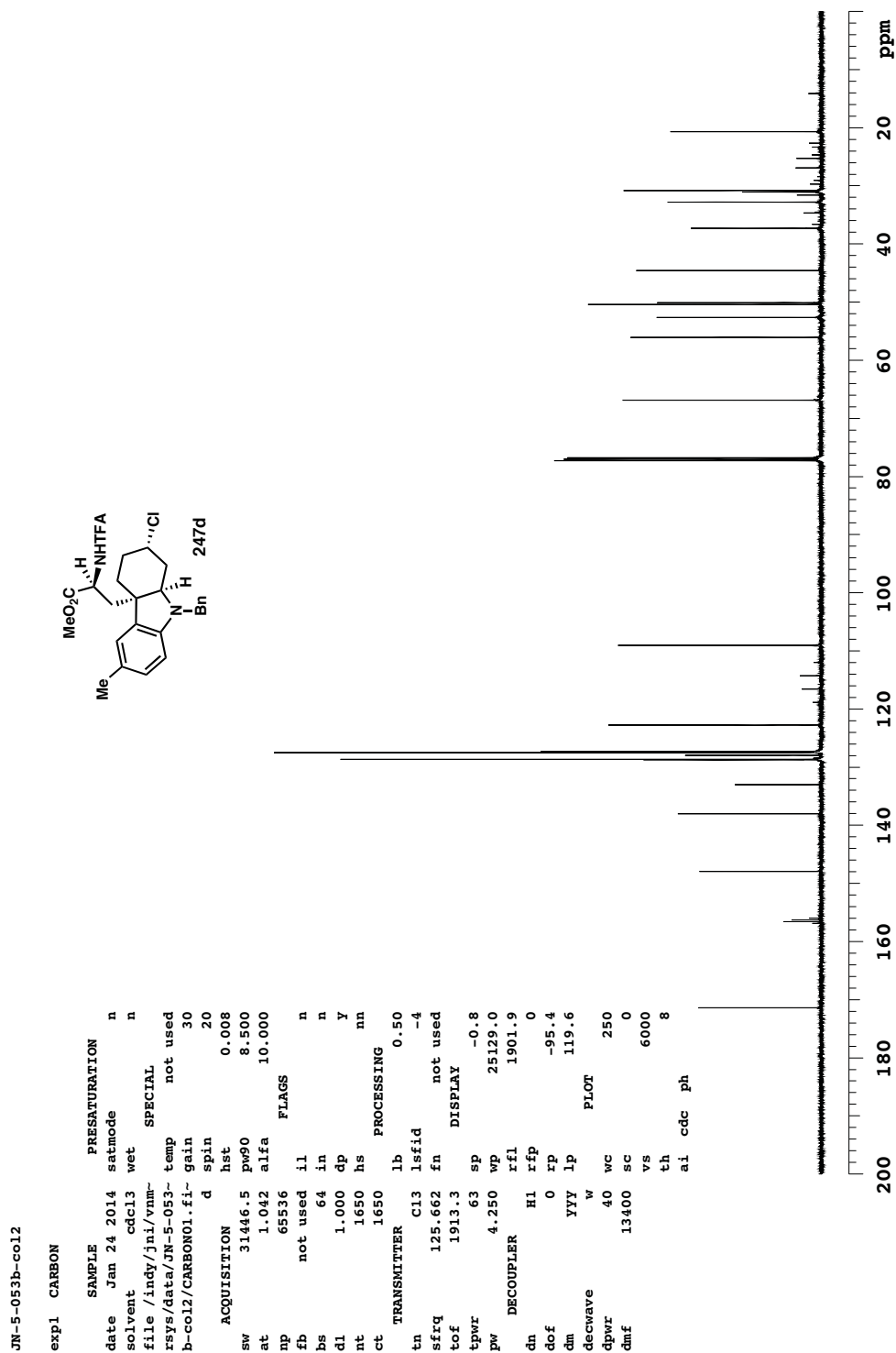


JN-5-053b-col2

exp1 PROTON

SAMPLE		PRESATURATION	
date	Jan 24 2014	satmode	n
solvent	cdcl3	wet	n
file	/indy/jni/vnm-	SPECIAL	
rsys/data/JN-5-053-	temp	not used	
b-col2/PROTON01.fi-	gain	22	
d	spin	20	
ACQUISITION		hst	0.008
sw	8000.0	pw90	9.900
at	3.000	alfa	10.000
np	48000	FLAGS	
fb	not used	il	n
bs	32	in	n
dl	25.000	dp	y
nt	4	hs	nn
ct	4	PROCESSING	
TRANSMITTER		lb	0.20
tn	H1	fn	not used
sfrq	499.698	DISPLAY	
tof	499.7	sp	-249.9
tpwr	61	wp	5496.6
pw	4.950	rfl	4632.1
DECOUPLER		rfp	3627.8
dn	Cl3	xp	-77.0
dof	0	lp	-79.1
dm	nnn	PLOT	
decwave	W40_autox7~	wc	250
dpwr	991	sc	0
dmf	41	vs	30
	32258	th	50
		ai	ph

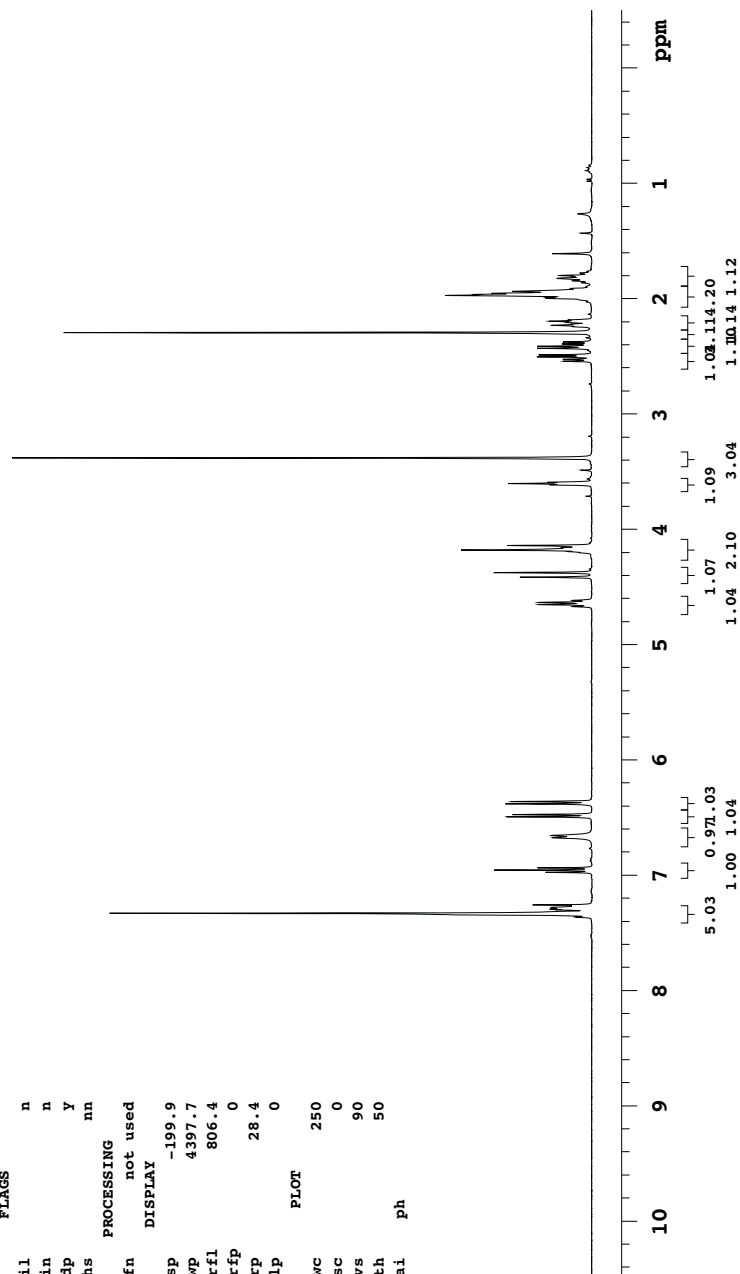
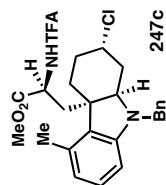


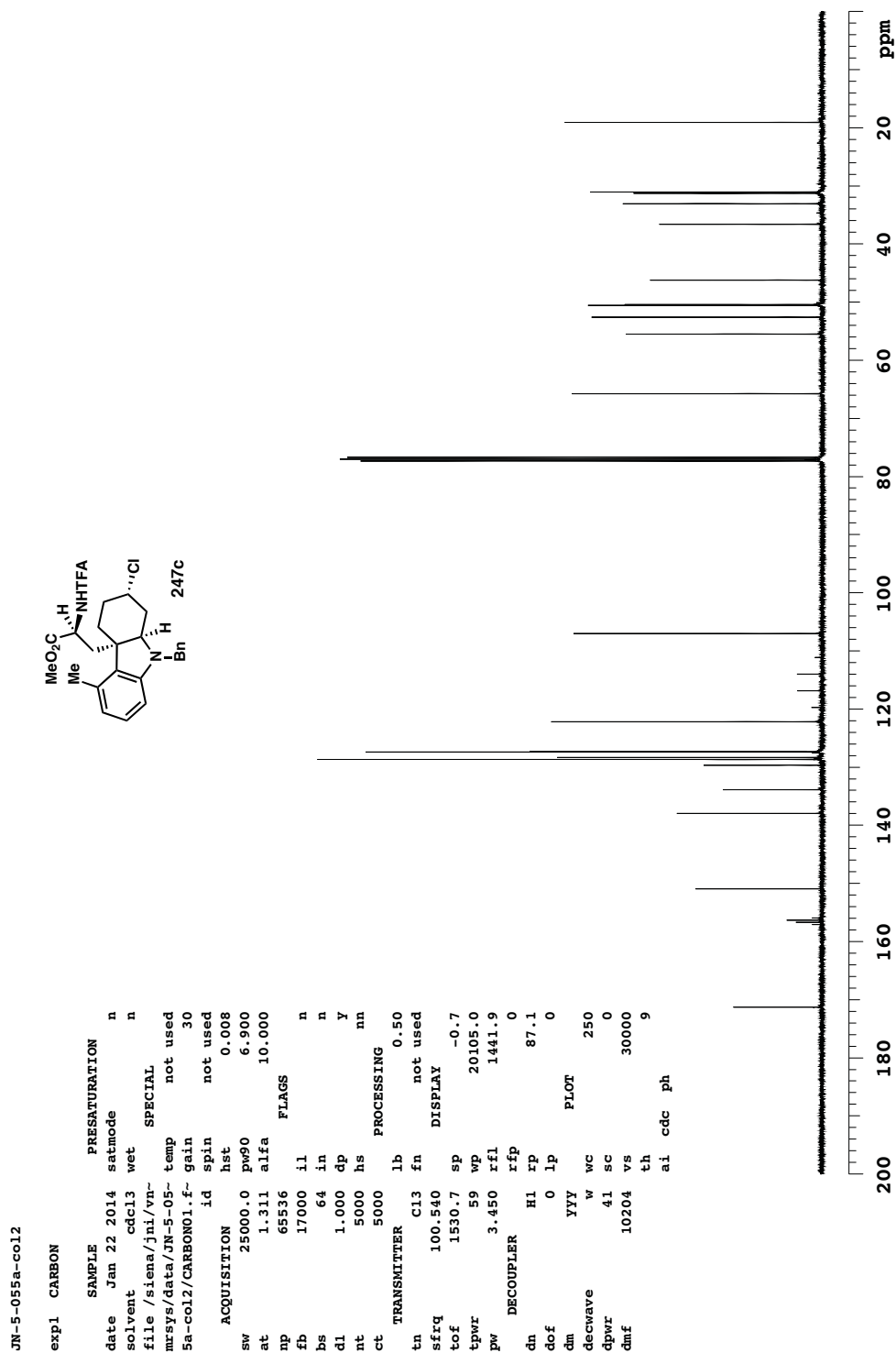


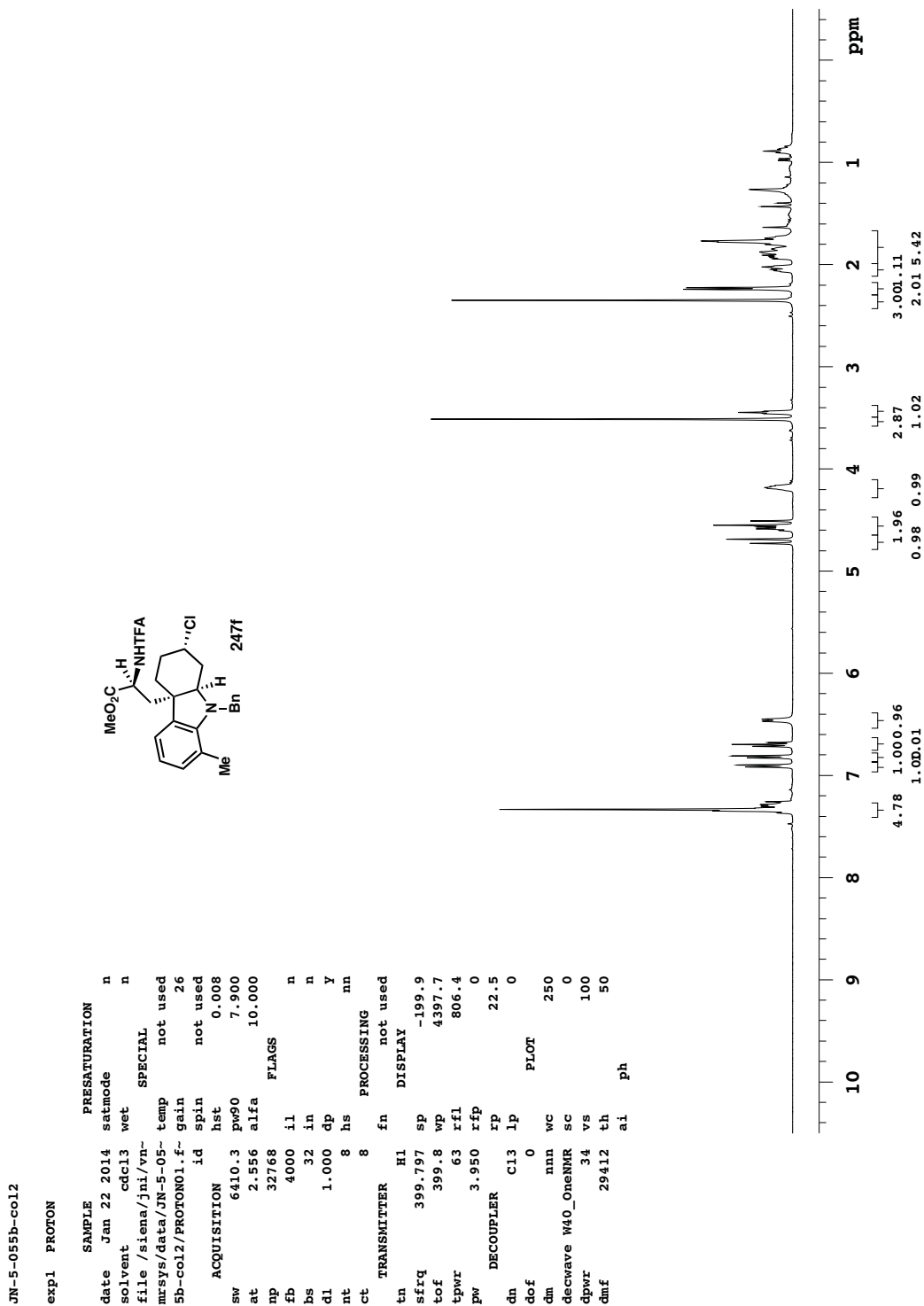
JN-5-055a-col2

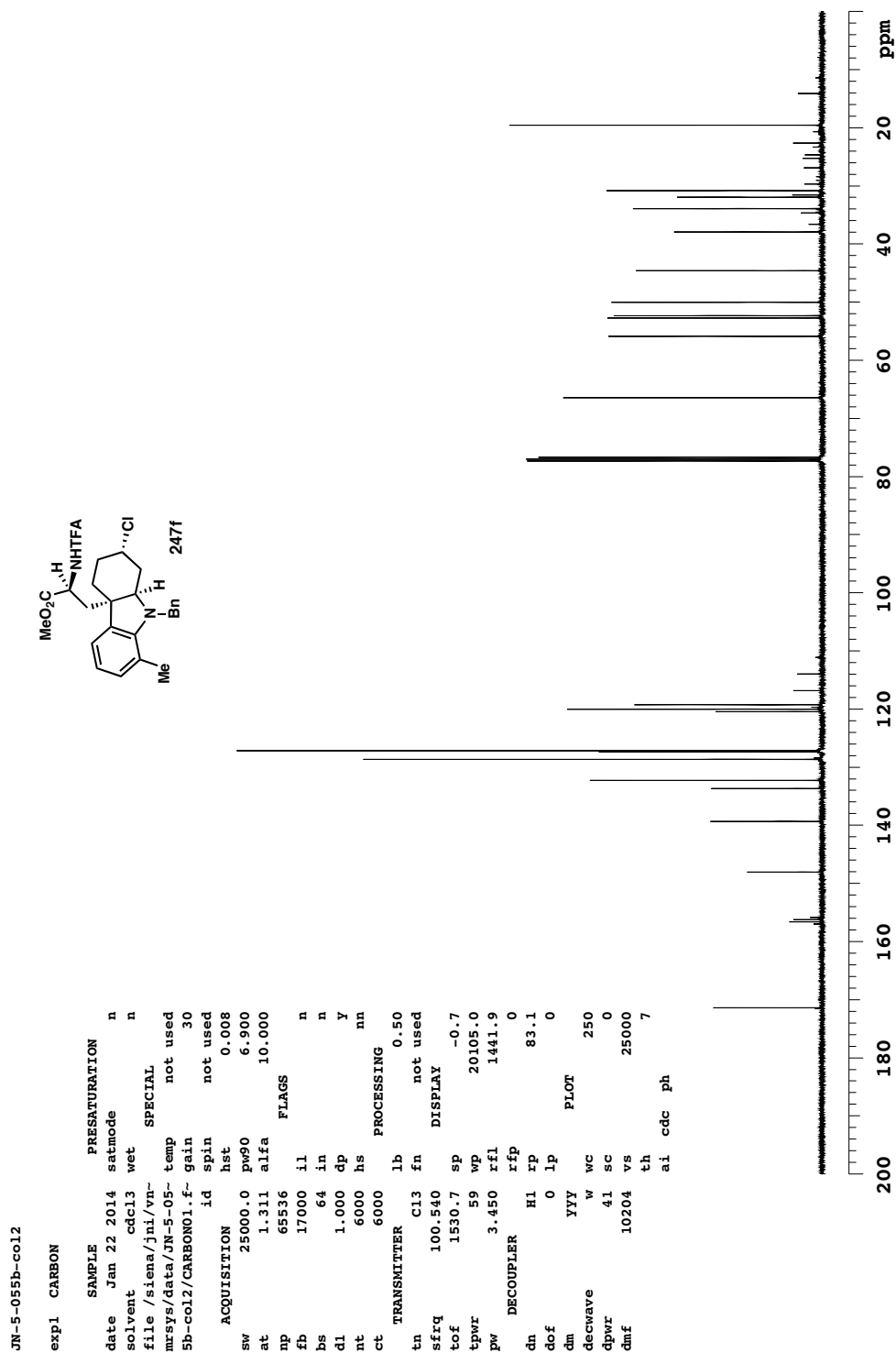
exp1 PROTON

SAMPLE		PRESATURATION	
date	Jan 22 2014	satmode	n
solvent	cdcl3	wet	n
file	/siena/jni/vn~	SPECIAL	
mrssys/data/JN-5-05~	temp	not used	
5a-col2/PROTON01.f~	gain	30	
id	spin	not used	
ACQUISITION	hst	0.008	
sw	6410.3	pw90	7.900
at	2.556	alfa	10.000
np	32768	FLAGS	
fb	4000	il	n
bs	32	in	n
dl	1.000	dp	y
nt	8	hs	nm
ct	8	PROCESSING	
TRANSMITTER	fn	not used	
tn	H1	DISPLAY	
sfrq	399.797	sp	-199.9
tof	399.8	wp	4397.7
tpwr	63	rfl	806.4
pw	3.950	rfp	0
DECOUPLER	rp	28.4	
dn	Cl3	lp	0
dof	0	PLOT	
dm	nnn	wc	250
decwave	W40_OneNMR	sc	0
dpwr	34	vs	90
dmf	29412	th	50
	ai	ph	





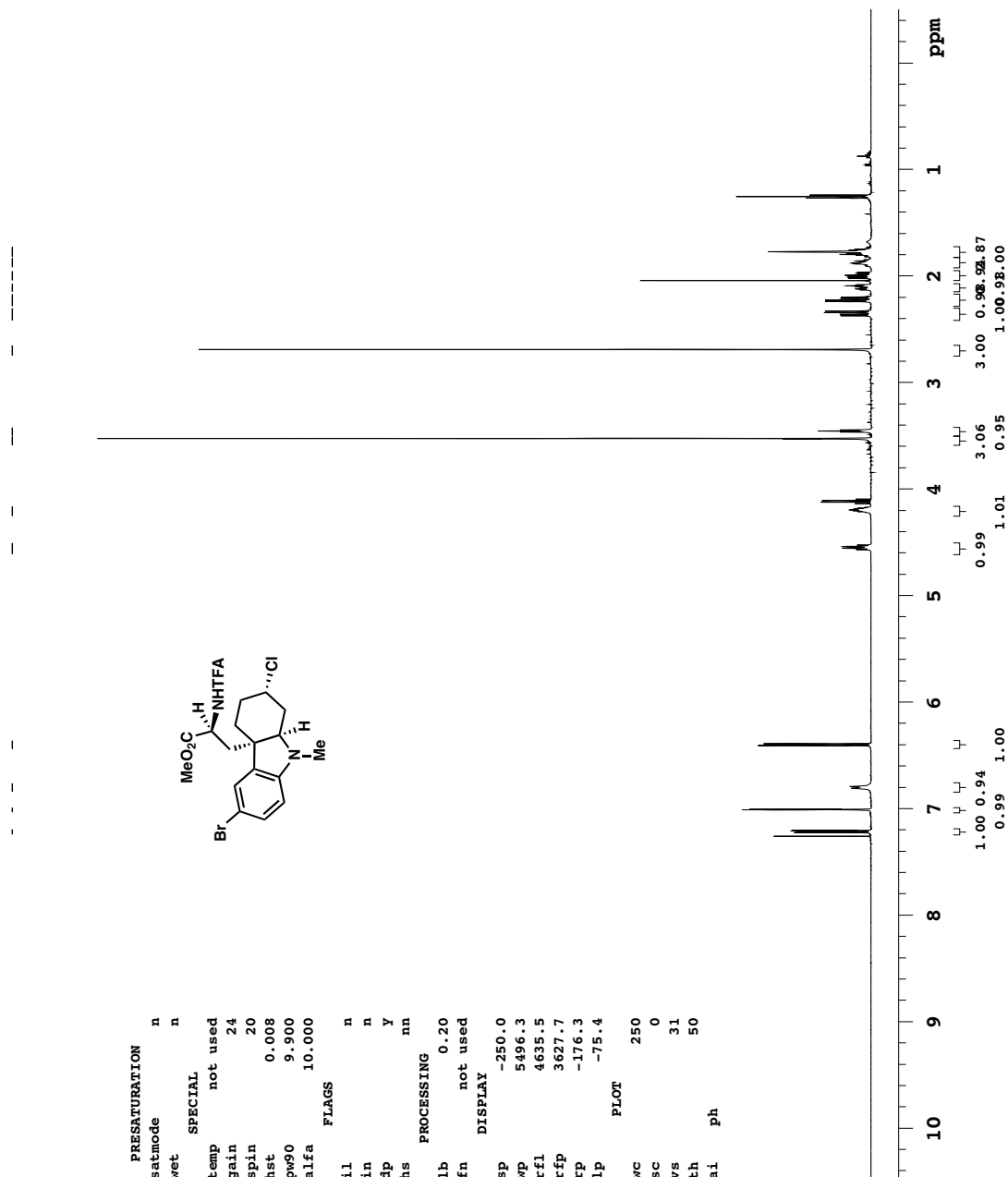
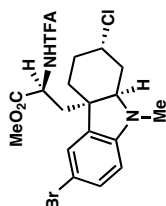


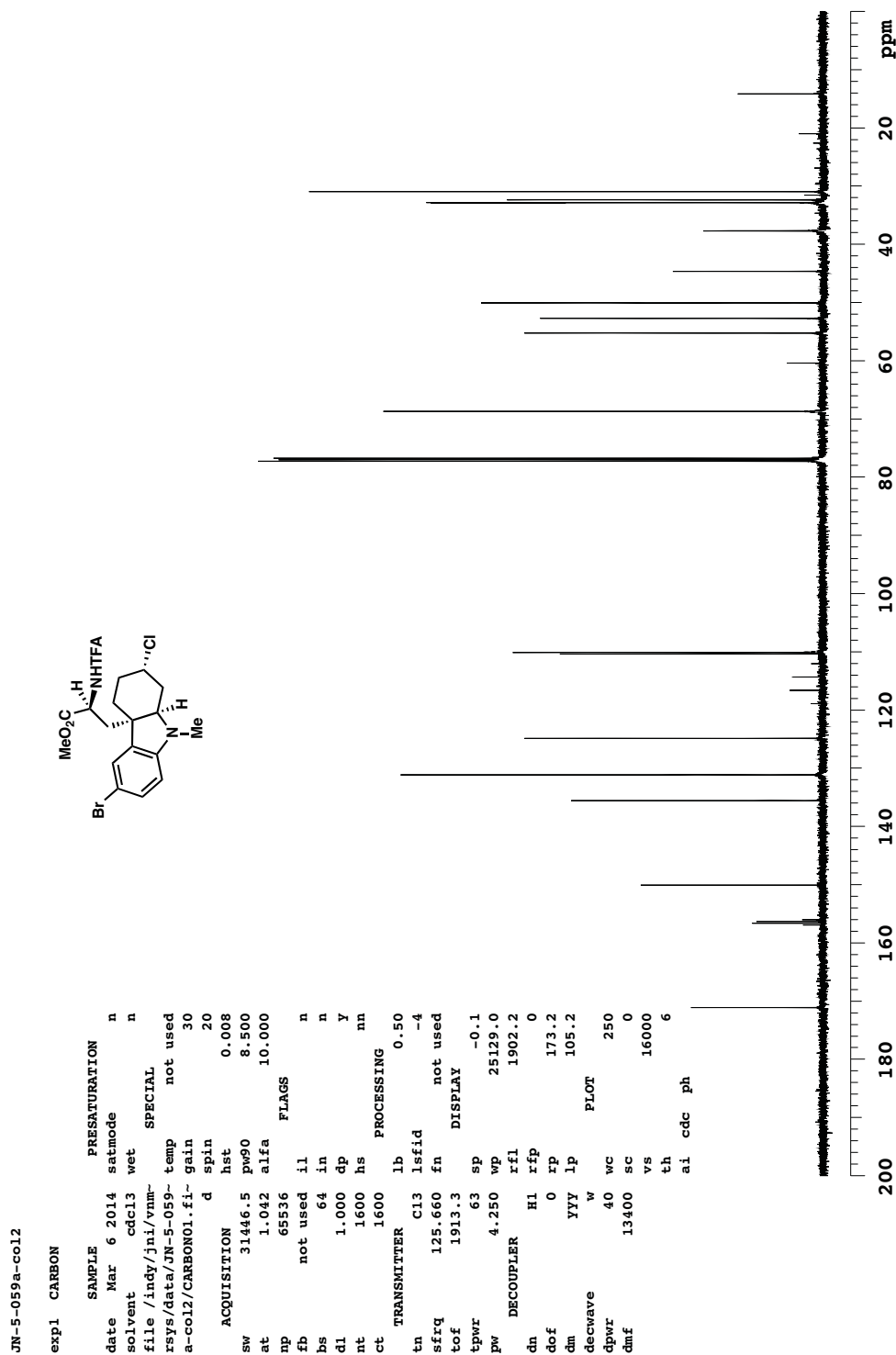


JN-5-059a-col2

exp1 PROTON

SAMPLE		PRESATURATION	
date	Mar 6 2014	satmode	n
solvent	cdcl3	wet	n
file	/indy/jni/vnm-	SPECIAL	
rsys/data/JN-5-059-	temp	not used	
a-col2/PROTON01.fi-	gain	24	
d	spin	20	
ACQUISITION	hst	0.008	
sw	8000.0	pw90	9.900
at	3.000	alfa	10.000
np	48000	FLAGS	
fb	not used	il	n
bs	32	in	n
dl	25.000	dp	y
nt	4	hs	nn
ct	4	PROCESSING	
TRANSMITTER	lb	0.20	
tn	H1	fn	not used
sfrq	499.689	DISPLAY	
tof	499.7	sp	-250.0
tpwr	61	wp	5496.3
pw	4.950	rfl	4635.5
DECOUPLER	rfp	3627.7	
dn	C13	xp	-176.3
dof	0	lp	-75.4
dm	nnn	PLOT	
decwave	W40_autox7~	wc	250
dpwr	991	sc	0
dmf	41	vs	31
	32258	th	50
	ai	ph	

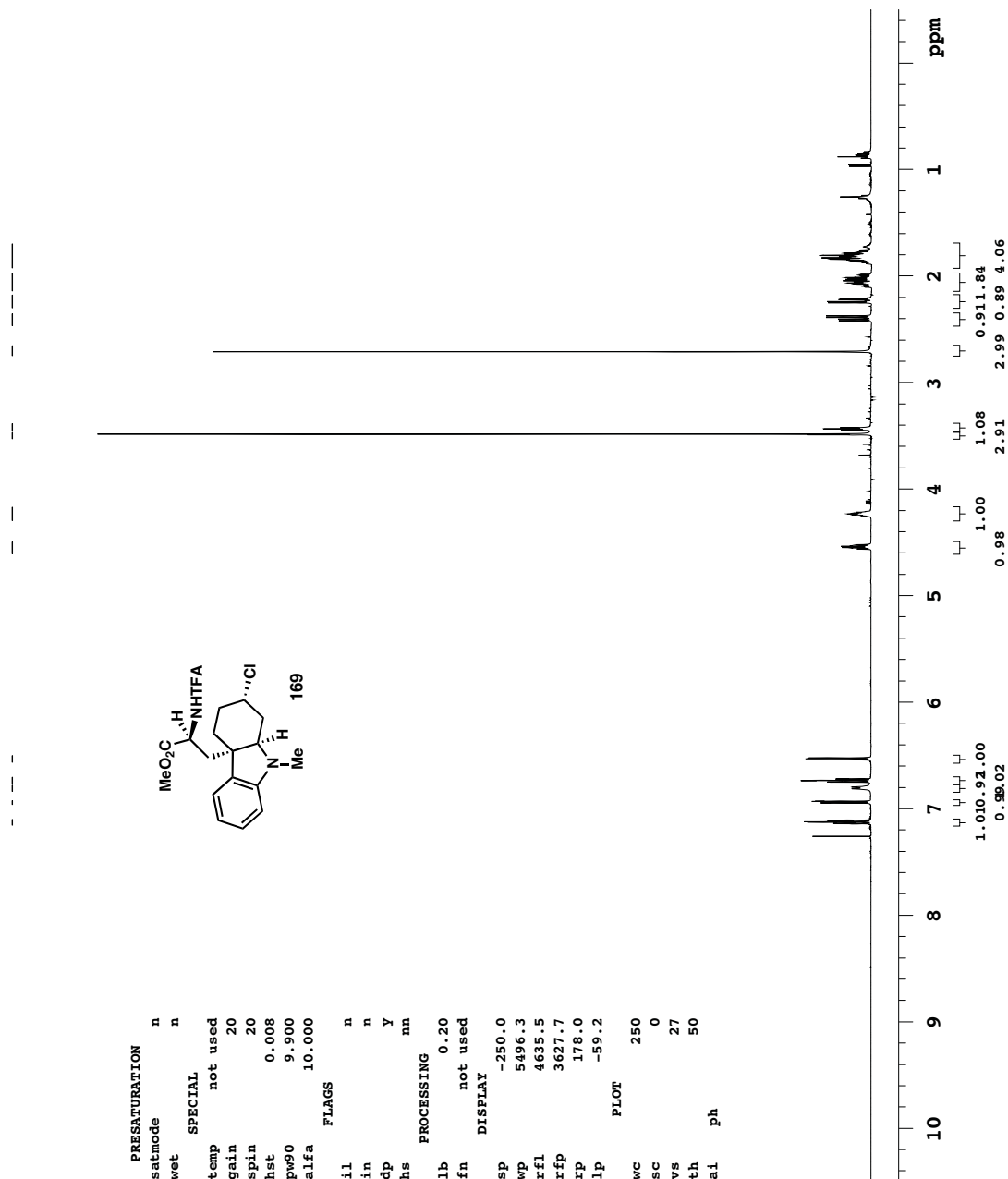
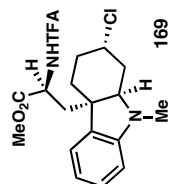


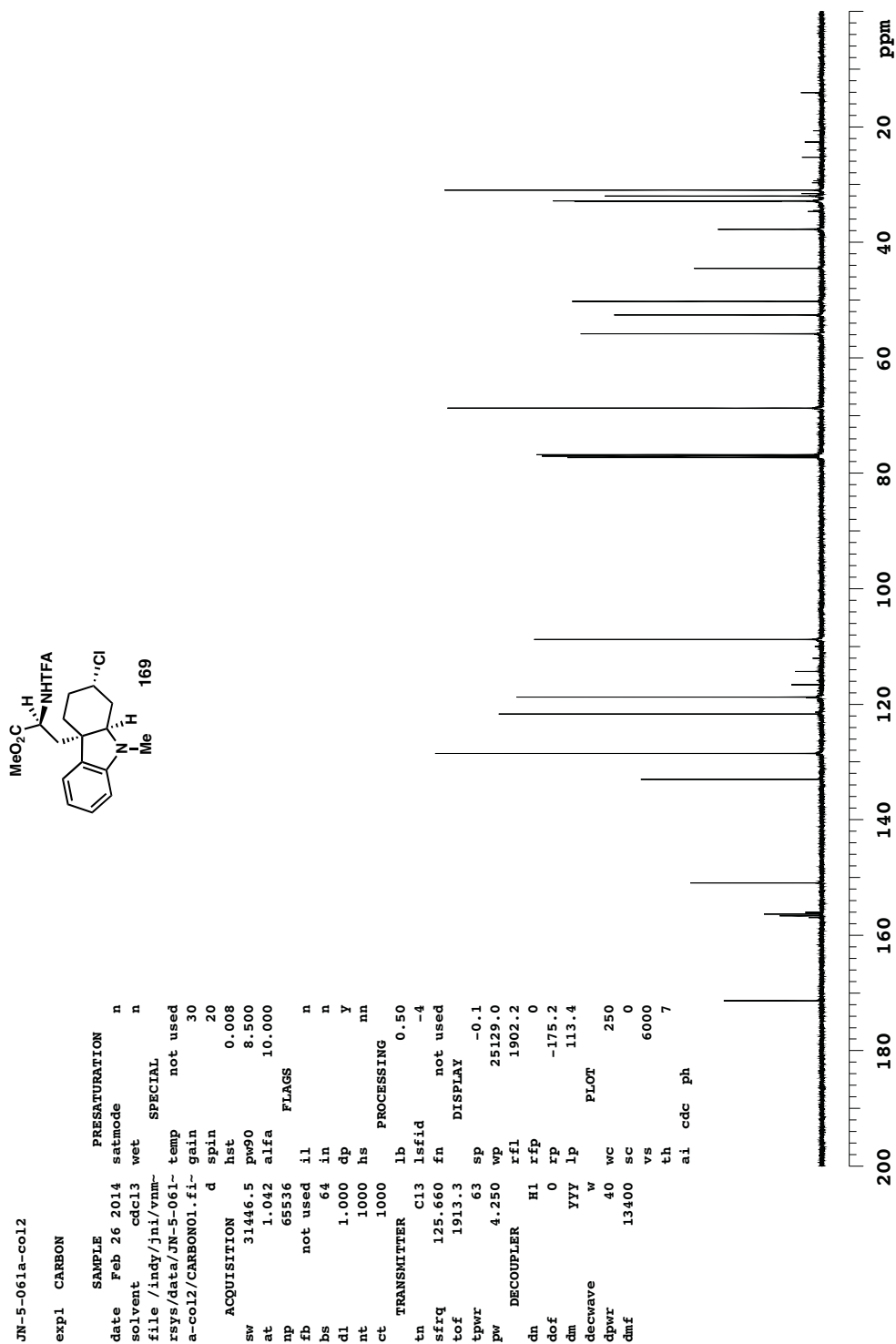


JN-5-061a-col2

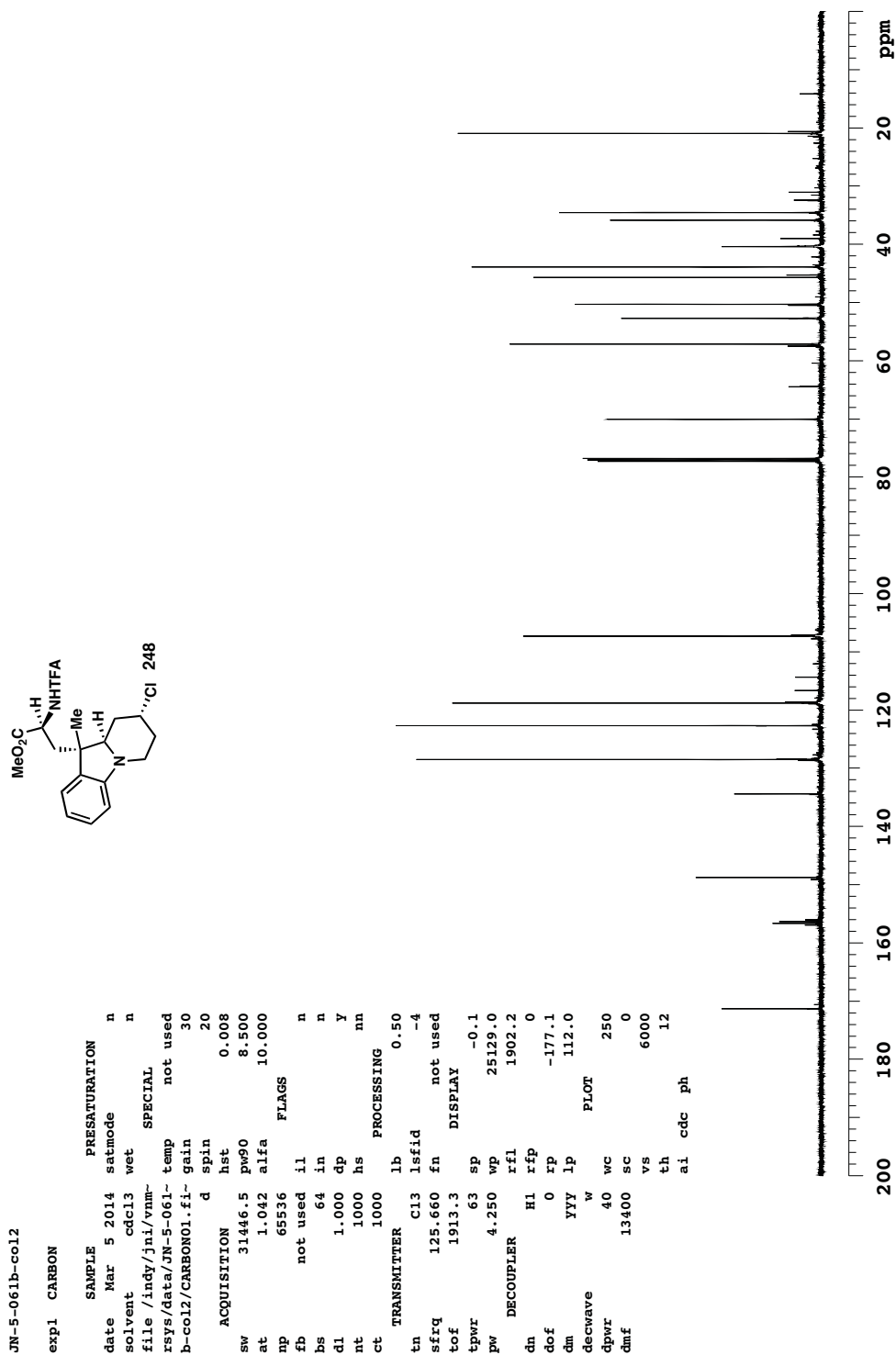
exp1 PROTON

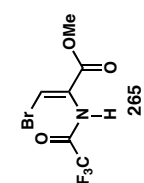
SAMPLE		PRESATURATION	
date	Feb 26 2014	satmode	n
solvent	cdcl3	wet	n
file	/indy/jni/vnm-	SPECIAL	
rsys/data/JN-5-061-	temp	not used	
a-col2/PROTON01.fi-	gain	20	
d	spin	20	
ACQUISITION	hst	0.008	
sw	8000.0	pw90	9.900
at	3.000	alfa	10.000
np	48000	FLAGS	
fb	not used	il	n
bs	32	in	n
dl	25.000	dp	y
nt	4	hs	nn
ct	4	PROCESSING	
TRANSMITTER	lb	fn	0.20
tn	H1	not used	
sfrq	499.689	DISPLAY	
tof	499.7	sp	-250.0
tpwr	61	wp	5496.3
pw	4.950	rfl	4635.5
DECOUPLER	rfp	3627.7	
dn	C13	xp	178.0
dof	0	lp	-59.2
dm	nnn	PLOT	
decwave	W40_autox7~	wc	250
dpwr	991	sc	0
dmf	41	vs	27
	32258	th	50
	ai	ph	







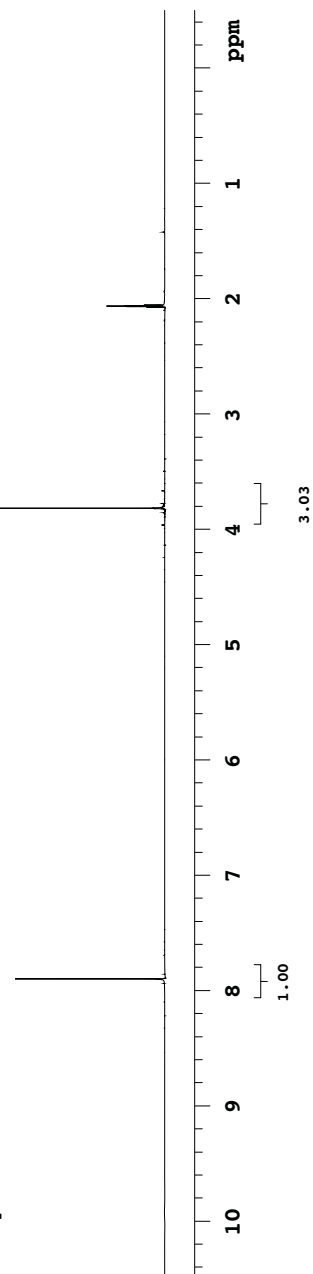


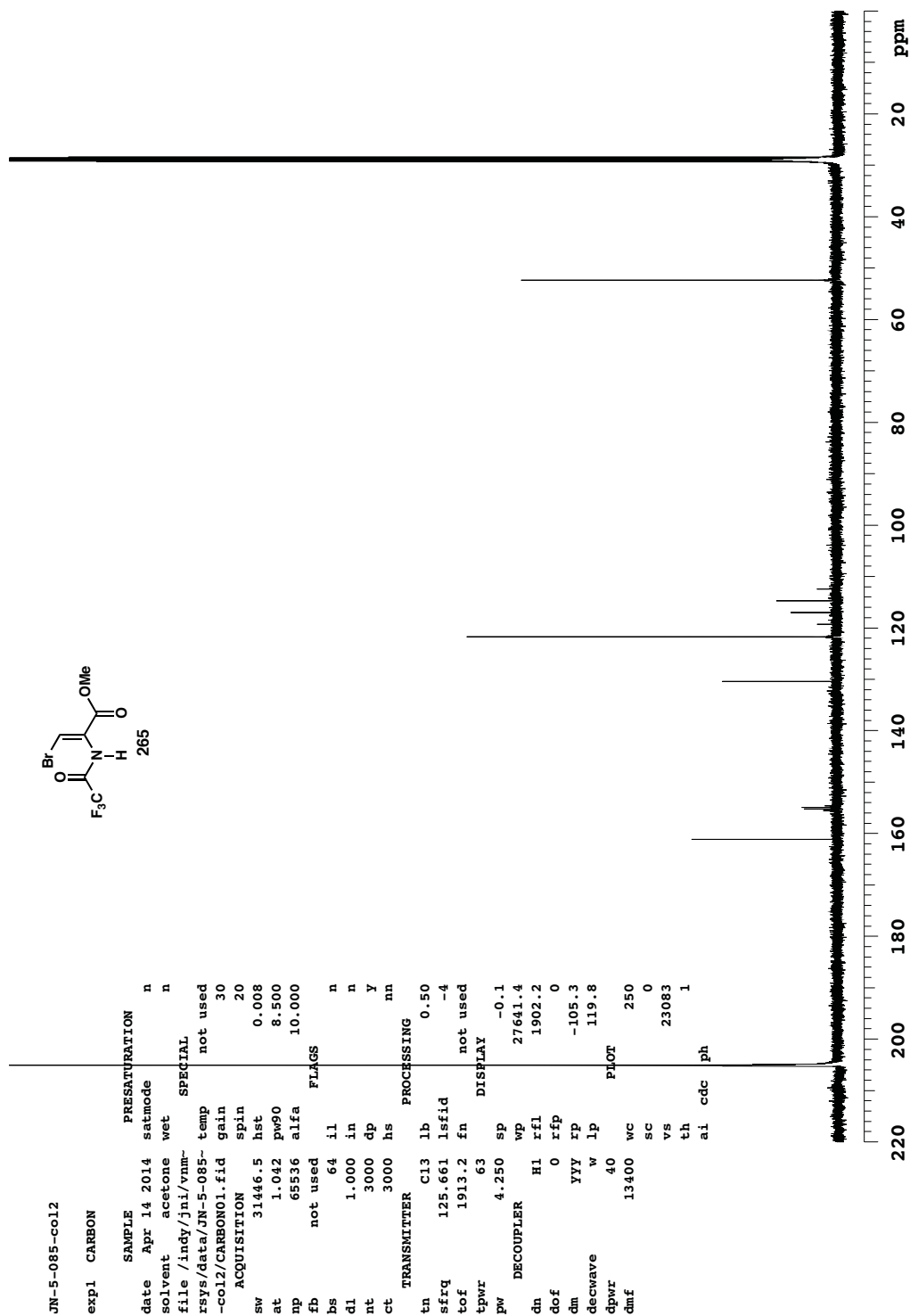


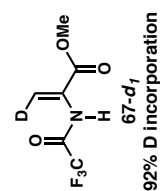
JN-5-085-col

exp1 PROTON

SAMPLE		PRESATURATION	
date	Apr 14 2014	satmode	n
solvent	acetone	wet	n
file	/indy/jni/vnm~	SPECIAL	
rsys/data/JN-5-085~	temp	not used	
-col/PROTON01.fid	gain	36	
ACQUISITION	spin	20	
sw	8000.0	hst	0.008
at	3.000	pw90	9.900
np	48000	alfa	10.000
fb	not used	FLAGS	
bs	32	il	n
d1	25.000	in	n
nt	8	dp	y
ct	8	hs	nm
TRANSMITTER		PROCESSING	
tn	H1	lb	0.20
sfrq	499.692	fn	not used
tof	499.7	DISPLAY	
tpwr	61	sp	-249.9
pw	4.950	wp	5496.3
DECOUPLER	rfl	1001.9	
dn	CI3	rfp	0
dof	0	xp	-152.3
dm	nnn	lp	-34.7
decwave	W40_autox7~	PLOT	
	991	wc	250
dpwr	41	sc	0
dmf	32258	vs	4
	th	ai	0
	ph		







JN-5-117
 Aug 5, 2014
 exp1 PROTON
 SAMPLE PRESATURATION
 date Aug 5 2014 satmode n
 solvent cdcl3 wet n
 file /indy/jni/vnm-
 rsys/data/JN-5-117~
 /PROTON01.fid gain 25.0
 38
 ACQUISITION spin 20
 sw 8000.0 hst 0.008
 at 3.000 pw90 9.900
 up 48000 alfa 10.000
 fb not used
 bs 32 il n
 dl 1.000 in n
 nt 32 dp y
 ct 32 hs nn
 TRANSMITTER
 tn H1 lb 0.20
 sfrq 499.689 fn not used
 tof 499.7 DISPLAY
 tpwr 61 sp -249.9
 pw 4.950 wp 5496.3
 DECOUPLER rfl 1001.9
 dn C13 rfp 0
 dof 0 rp -158.3
 dm nnn lp -93.9
 decwave W40_autox7~
 991 wc 234
 dpwr 41 sc 8
 dmf 32258 vs 7
 th 11
 al ph



