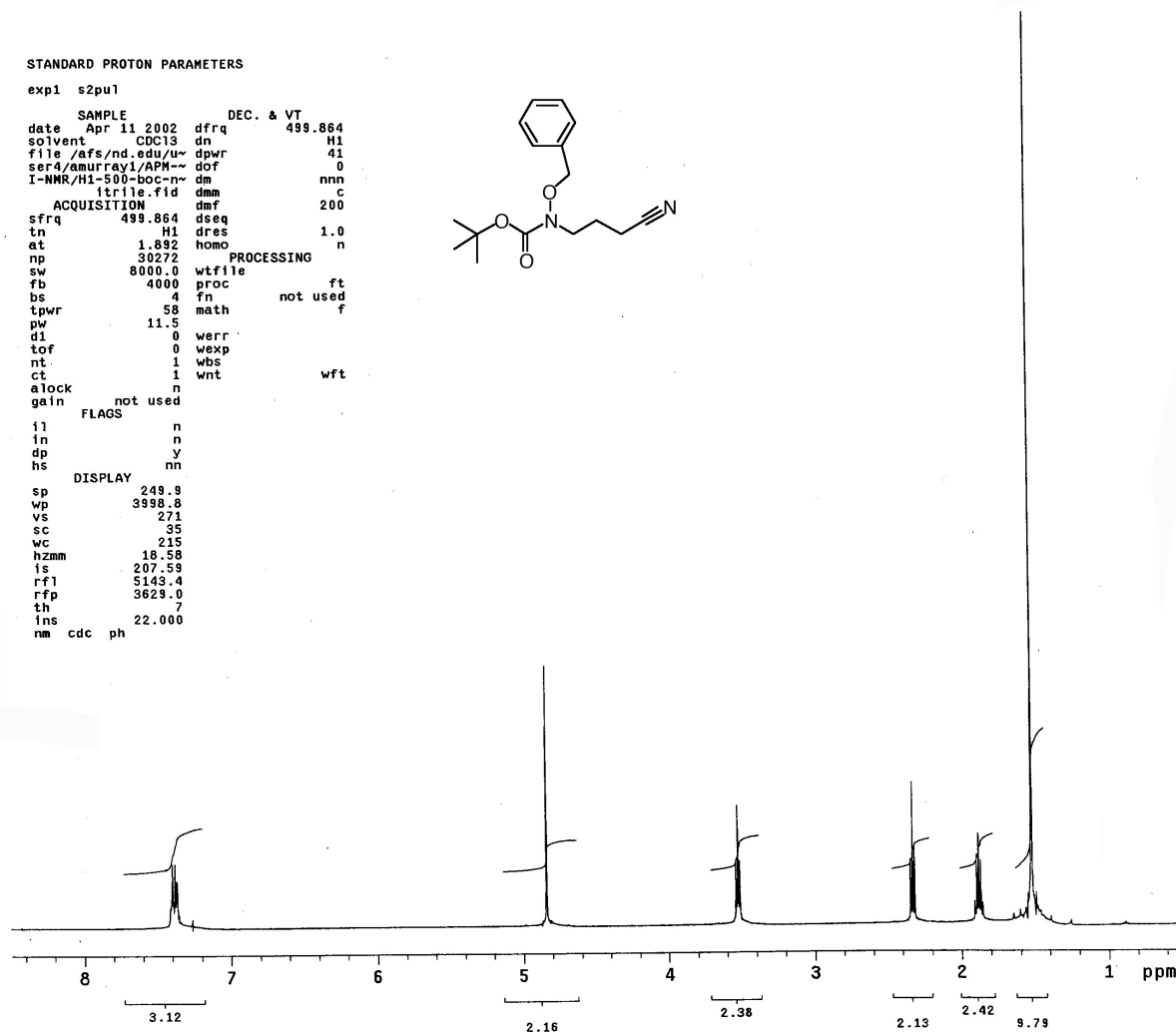
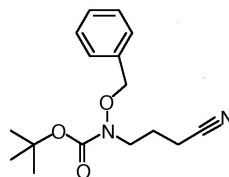


STANDARD PROTON PARAMETERS

exp1 s2pu1

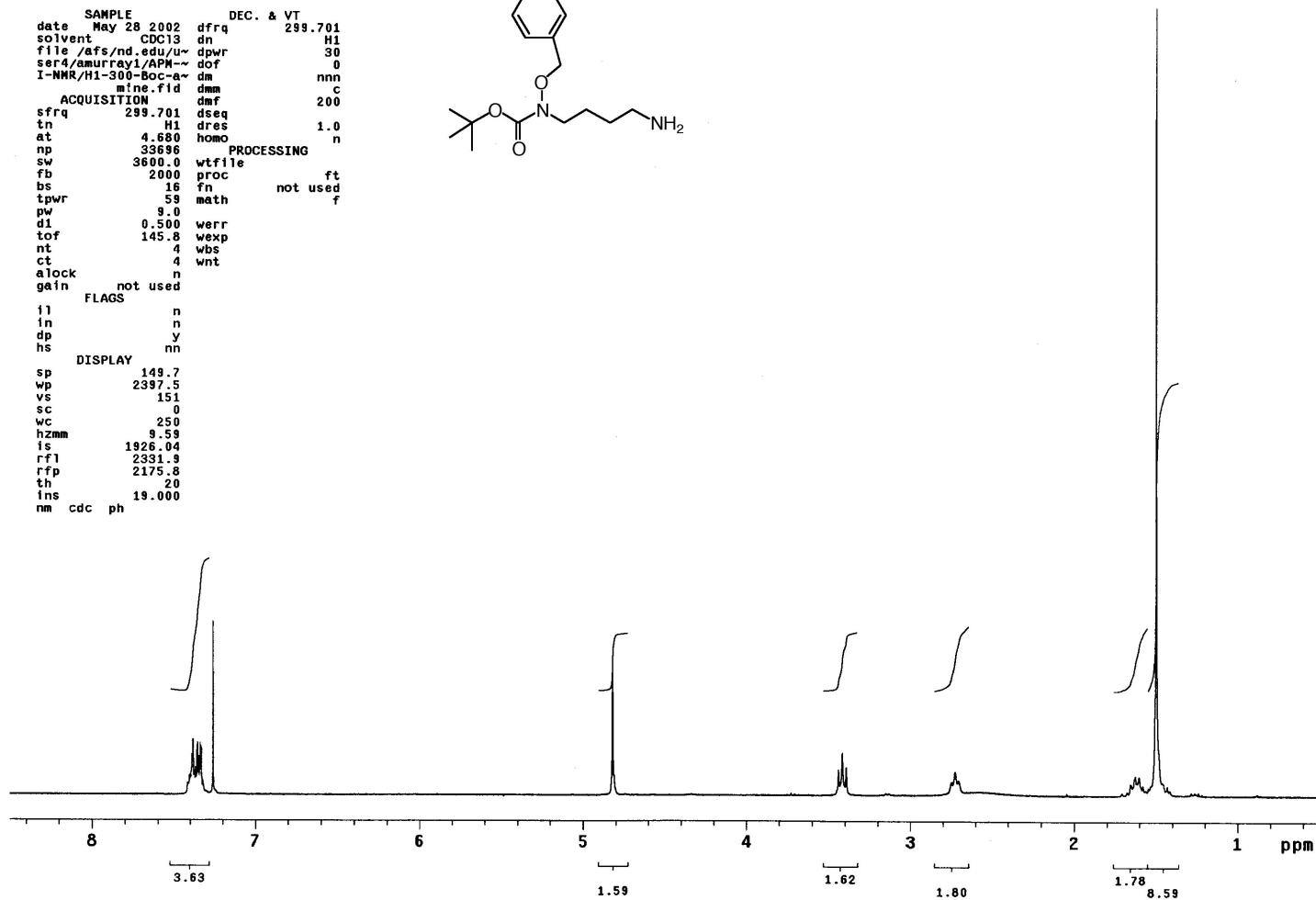
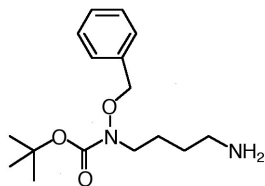
SAMPLE DEC. & VT
date Apr 11 2002 dfrq 499.864
solvent CDC13 dn H1
file /afs/nd.edu/u/~ dpwr 41
ser4/amurray1/APH--v dof 0
I-NMR/H1-500-boc-n- dm nnn
itrfile.fid dmm c
ACQUISITION dmf 200
sfrq 499.864 dseq
tn H1 dres 1.0
at 1.892 homo n
np 30272 PROCESSING
sw 8000.0 wtfile ft
fb 4000 proc
bs 4 fn not used
tpwr 58 math f
pw 11.5
d1 0 werr
tof 0 wexp
nt 1 wbs
ct 1 wnt wft
alock n
gain not used
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp 249.9
wp 3998.8
vs 271
sc 35
wc 215
hzmm 18.58
is 207.59
rf1 5143.4
rfp 3629.0
th 7
ins 22.000
nm cdc ph

¹H NMR (500 MHz) of 4

J2, 1H paramtrs for robot

exp1 s2pu1

SAMPLE		DEC. & VT	
date	May 28 2002	dfrq	299.701
solvent	CDC13	dn	H1
file	/afs/nd.edu/u~	dpwr	30
ser4	/amurray1/APM~	dof	0
1-NMR/H1-300-Boc-a~	dm	nnn	c
mine.fid		dmm	200
ACQUISITION		dmf	200
sfrq	299.701	dseq	1.0
tn	H1	dres	n
at	4.680	homo	n
np	33696	PROCESSING	
sw	3600.0	wtfile	ft
fb	2000	proc	not used
bs	16	fn	f
tpwr	59	math	f
pw	9.0		
d1	0.500	verr	
tof	145.8	wexp	
nt	4	wbs	
ct	4	wnt	
alock	n		
gain	not used		
FLAGS			
il	n		
in	n		
dp	y		
hs	nn		
DISPLAY			
sp	149.7		
wp	2397.5		
vs	151		
sc	0		
wc	250		
hzmm	9.59		
ls	1926.04		
rfl	2331.9		
rfp	2175.8		
th	20		
ins	19.000		
nm	cdc ph		

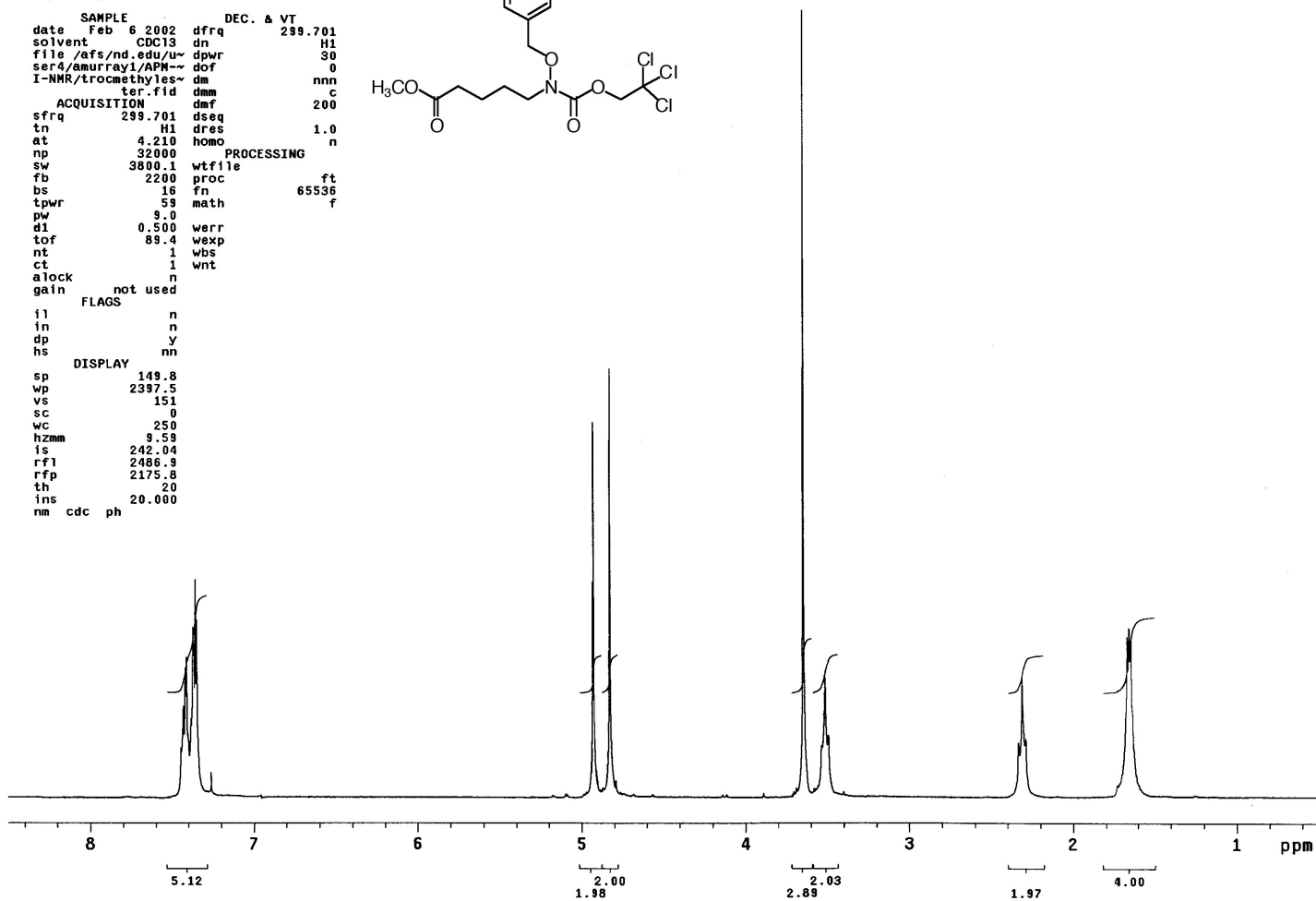
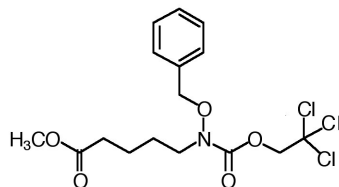


¹H NMR (300 MHz) of 5

J2, 1H paramtrs for robot

expl s2pu1

SAMPLE		DEC. & VT	
date	Feb 6 2002	dfrq	299.701
solvent	CDC13	dn	H1
file	/afs/nd.edu/u/~	dpwr	30
ser4/amurray1/APH~	dof		0
I-NMR/trocaethyles~	dm	nnn	c
ter.fid	dmm		200
ACQUISITION		PROCESSING	
sfrq	299.701	dseq	1.0
tn	H1	dres	n
at	4.210	homo	
np	32000	wtfile	ft
sw	3800.1	proc	65536
fb	2200	fn	f
bs	16	math	
tpwr	59		
pw	9.0	werr	
d1	0.500	wexp	
tof	89.4	wbs	
nt	1	wnt	
ct	1		
alock	n		
gain	not used		
FLAGS			
il	n		
in	n		
dp	y		
hs	nn		
DISPLAY			
sp	149.8		
wp	2397.5		
vs	151		
sc	0		
wc	250		
hzmm	9.59		
is	242.04		
rfl	2486.9		
rfp	2175.8		
th	20		
ins	20.000		
nm	cdc ph		

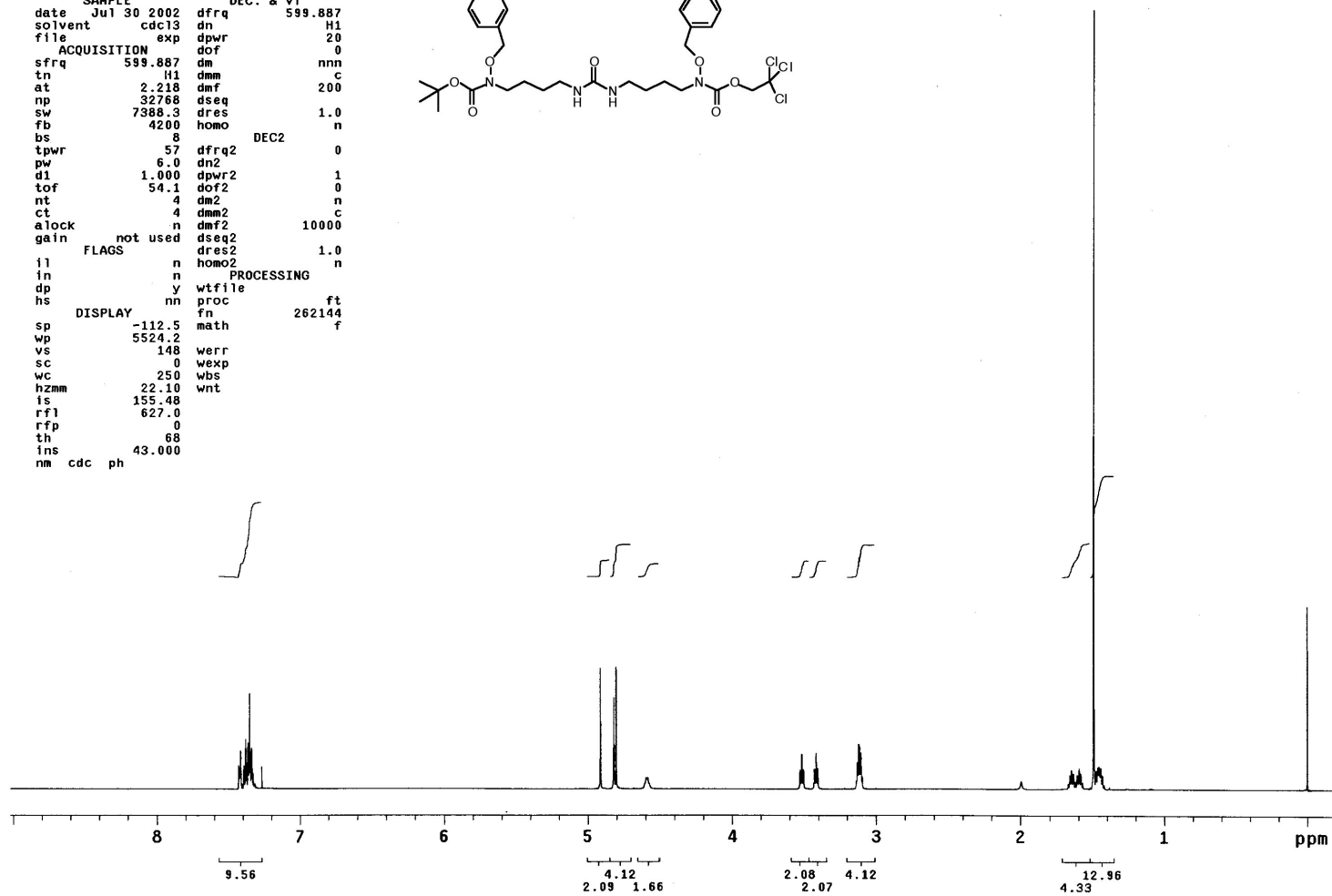
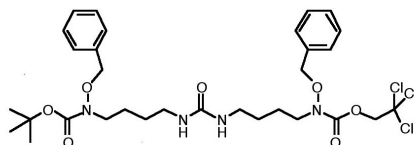


¹H NMR (600 MHz) of 7

STANDARD CARBON PARAMETERS

exp1 s2pu1

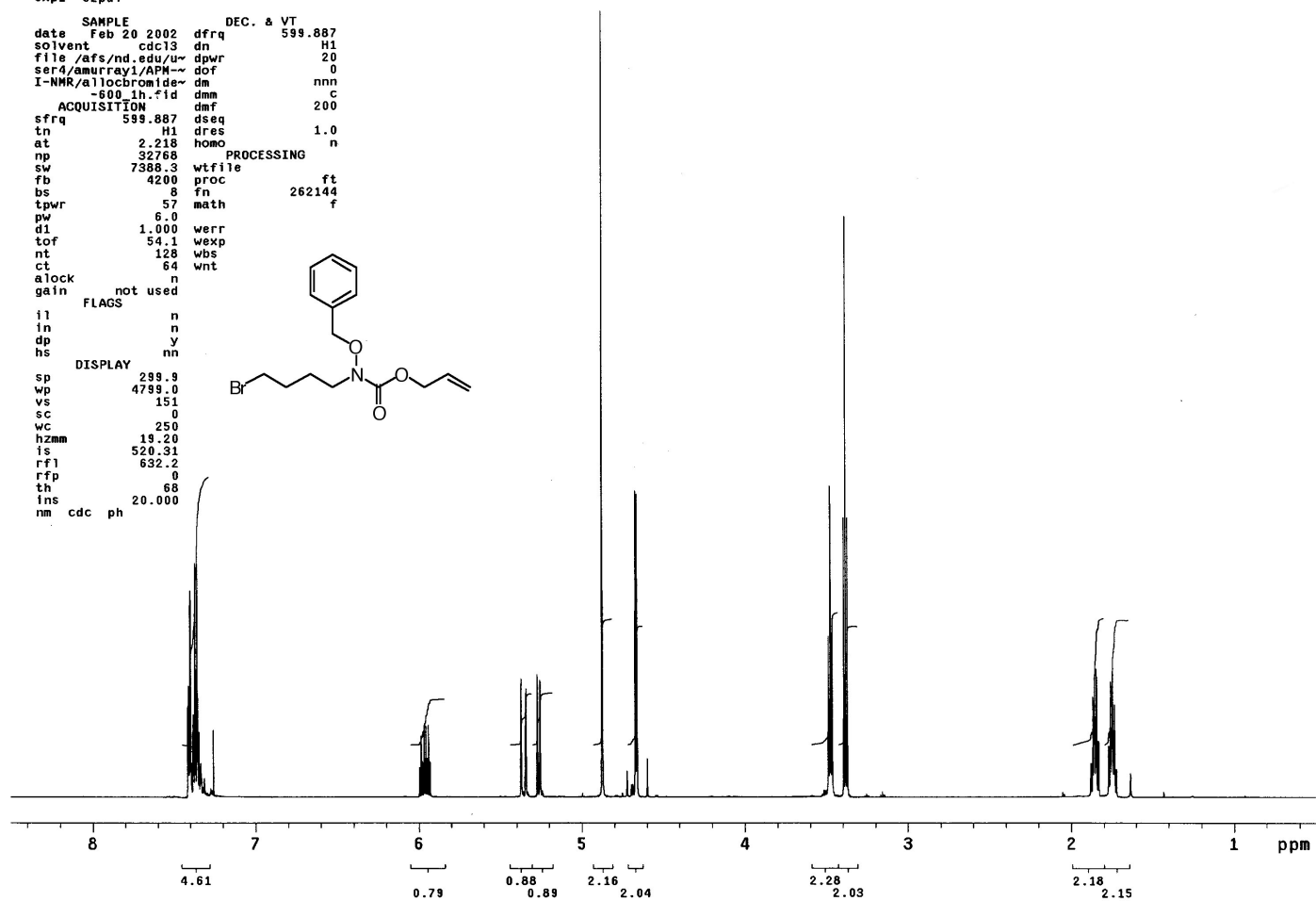
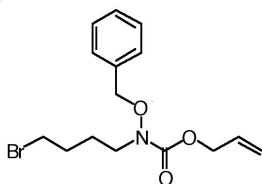
SAMPLE		DEC. & VT	
date	Jul 30 2002	dfrq	599.887
solvent	cdc13	dn	H1
file	exp	dpwr	20
ACQUISITION		dof	0
sfrq	599.887	dm	nnn
tn	H1	dmm	c
at	2.218	dmf	200
np	32768	dseq	
sw	7388.3	dres	1.0
fb	4200	homo	n
bs	8		
tpwr	57	dfrq2	DEC2
pw	6.0	dn2	0
d1	1.000	dpwr2	1
tof	54.1	dof2	0
nt	4	dm2	n
ct	4	dmm2	c
alock	n	dmf2	10000
gain	not used	dseq2	
FLAGS		dres2	1.0
il	n	homo2	n
in	n	PROCESSING	
dp	y	wtfile	ft
hs	nn	proc	fn
DISPLAY		math	262144
sp	-112.5		f
wp	5524.2		
vs	148	werr	
sc	0	wexp	
wc	250	wbs	
h2mm	22.10	wnt	
is	155.48		
rfl	627.0		
rfl	0		
th	68		
ins	43.000		
nm	cdc ph		

¹H NMR (600 MHz) of 9

STANDARD CARBON PARAMETERS

exp1 s2pu1

SAMPLE DEC. & VT
date Feb 20 2002 dfrq 599.887
solvent cdc13 dn H1
file /afs/nd.edu/u- dpwr 20
ser4/amurray1/APM~ dof 0
I-NMR/allobromide~ dm nnn
-600.1h.fid dmm c
ACQUISITION dmf 200
sfrq 599.887 dseq
tn H1 dres 1.0
at 2.218 homo n
np 32768 PROCESSING
sw 7388.3 wfile ft
fb 4200 proc 262144
bs 8 fn f
tpwr 57 math
pw 6.0
dl 1.000 werr
tof 54.1 wexp
nt 128 wbs
ct 64 wnt
alock n
gain not used
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp 299.9
wp 4799.0
vs 151
sc 0
wc 250
hzmm 19.20
ts 520.31
rf1 632.2
rfp 0
th 68
ins 20.000
nm cdc ph

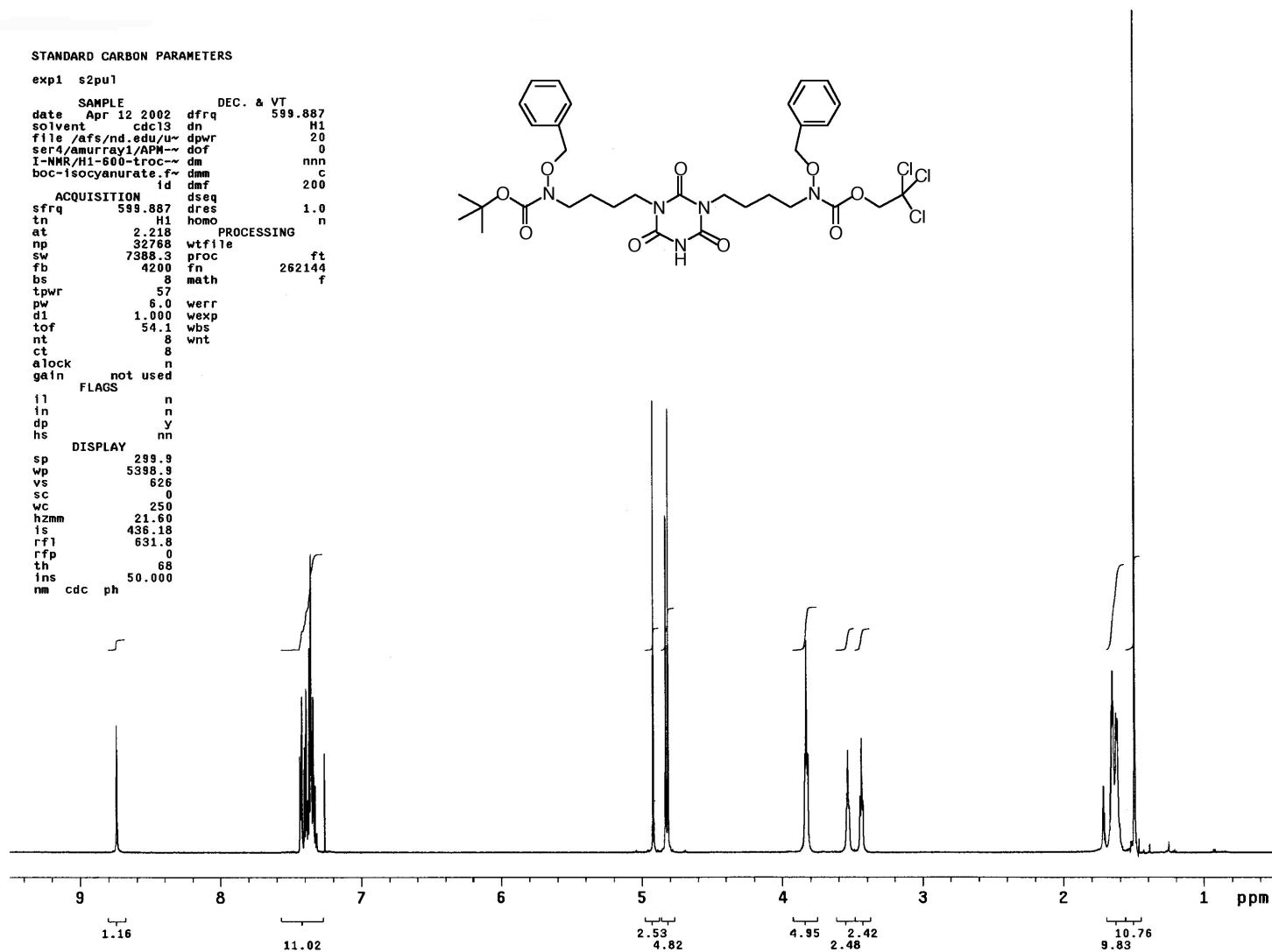
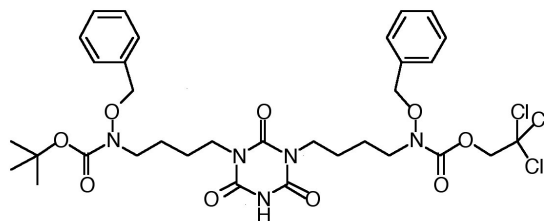
 ^1H NMR (600 MHz) of **11**

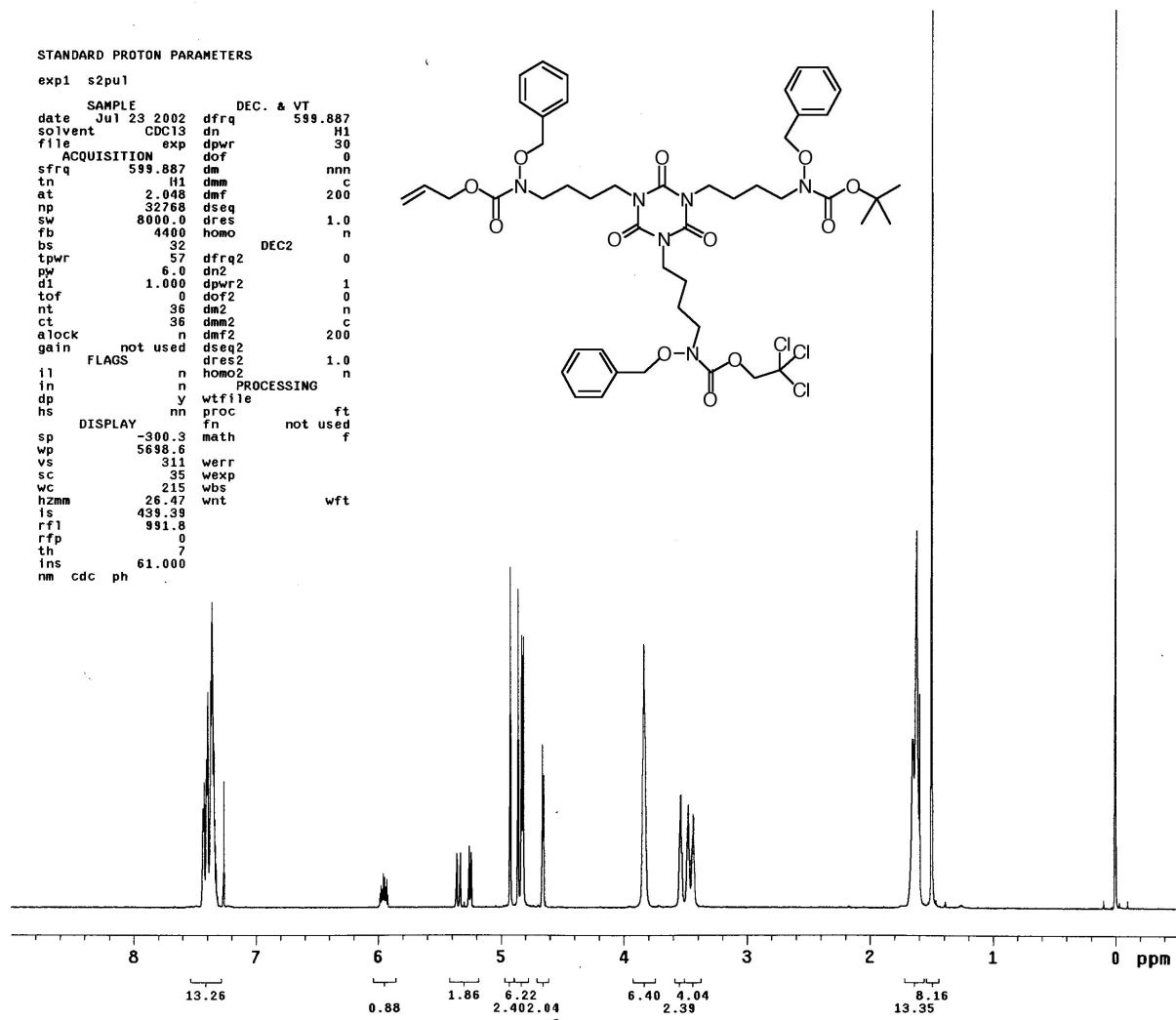
STANDARD CARBON PARAMETERS

```

expl s2pu1
SAMPLE
date Apr 12 2002 dfrq 599.887
solvent cdc13 dn H1
file /afs/nd.edu/u~ dpwr 20
ser4/amurray1/APM~ dof 0
I-NMR/H1-600-troc~ dm nnn
boc-isocyanurate.f~ dmm c
id dmf 200
ACQUISITION
sfrq 599.887 dseq 1.0
tn H1 dres n
at 2.218 homo
np 32768 wtfile
sw 7388.3 proc ft
fb 4200 fn 262144
bs 8 math f
tpwr 57
pw 6.0 werr
d1 1.000 wexp
tof 54.1 wbs
nt 8 wnt
ct 8
alock n
gain not used
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp 299.9
wp 5388.9
vs 626
sc 0
wc 250
hzmm 21.60
is 436.18
rf1 631.8
rfp 0
th 68
ins 50.000
nm cdc ph

```

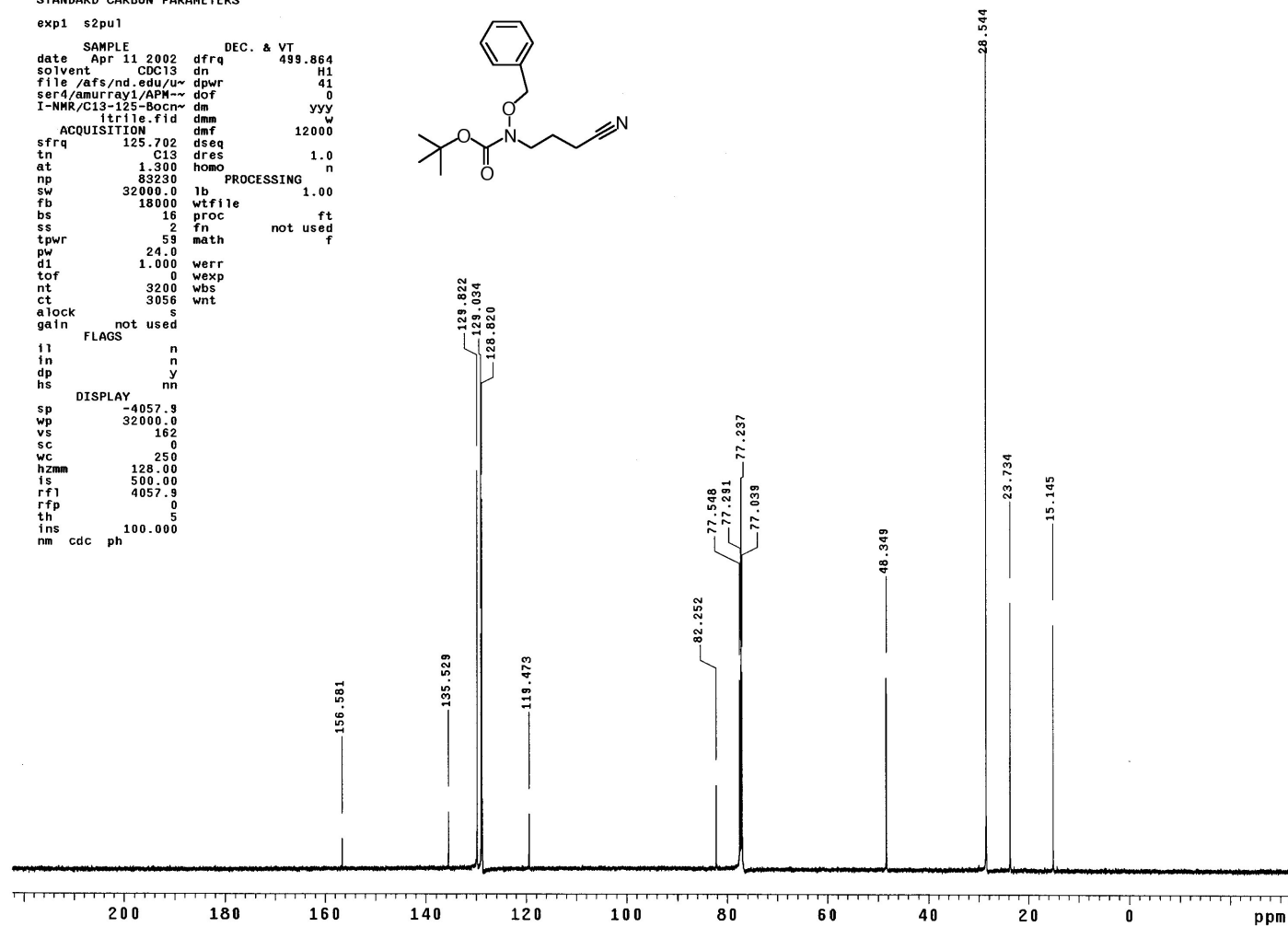
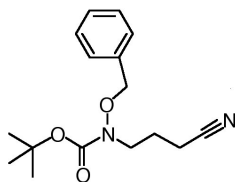
¹H NMR (600 MHz) of 12



¹H NMR (600 MHz) of 13

STANDARD CARBON PARAMETERS

exp1 s2pu1
SAMPLE
date Apr 11 2002 dfrq 499.864
solvent CDC13 dn H1
file /afs/nd.edu/u~ dpwr 41
ser4/amurray1/APM~ dof 0
I-NMR/C13-125-Bocn~ dm yyy
itrfile.fid dmm w
ACQUISITION
sfrq 125.702 dmf 12000
tn C13 dres 1.0
at 1.300 homo n
np 83230 PROCESSING
sw 32000.0 lb 1.00
fb 18000 wfile
bs 16 proc ft
ss 2 fn not used
tpwr 59 math f
pw 24.0
d1 1.000 werr
tof 0 wexp
nt 3200 wbs
ct 3056 wnt
alock s
gain not used
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp -4057.9
wp 32000.0
vs 162
sc 0
wc 250
hzm 128.00
ls 500.00
rfl 4057.9
rfp 0
th 5
ins 100.000
nm cdc ph

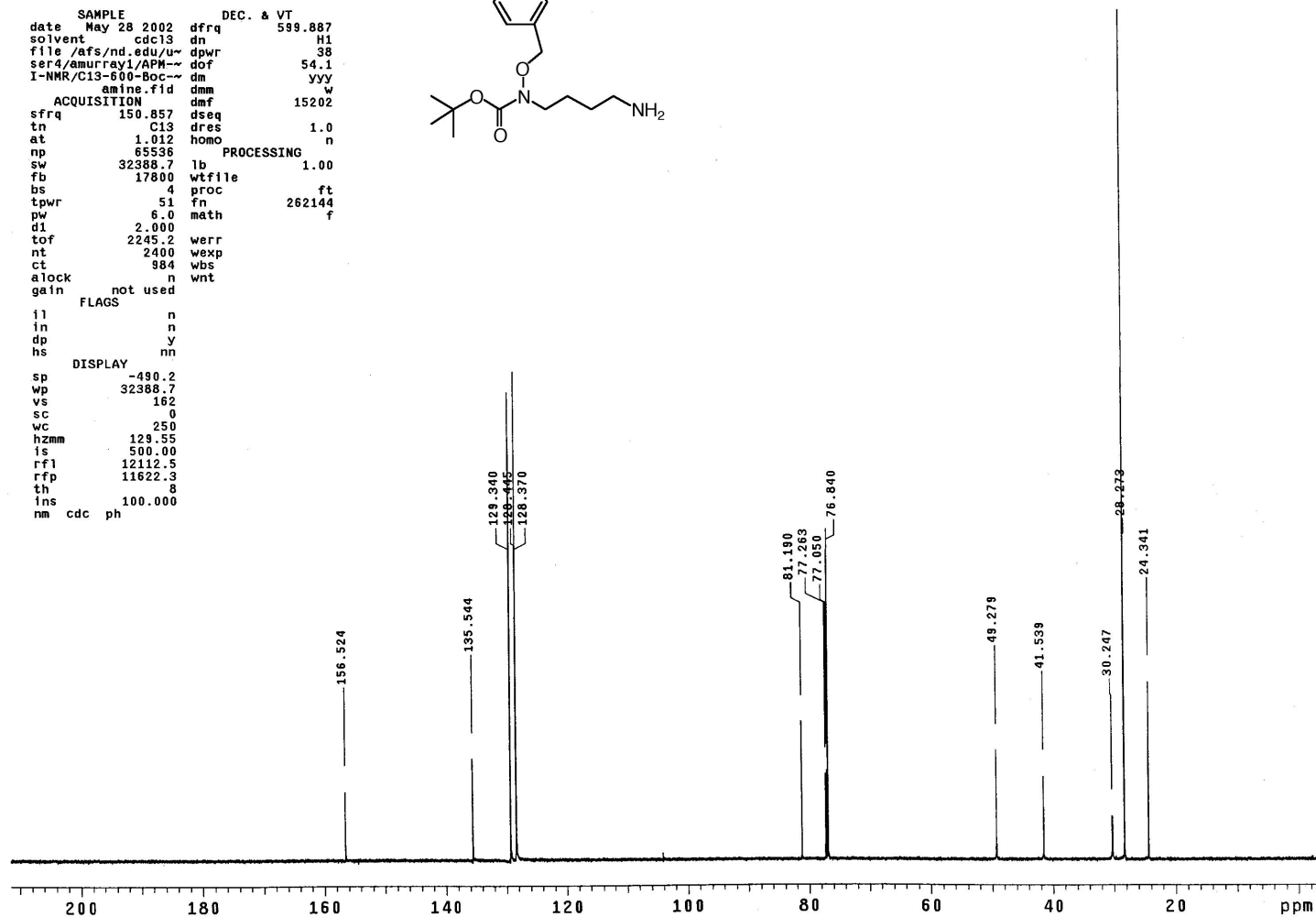
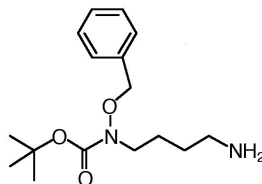


^{13}C NMR (125 MHz) of 4

new experiment

exp1 s2pu1

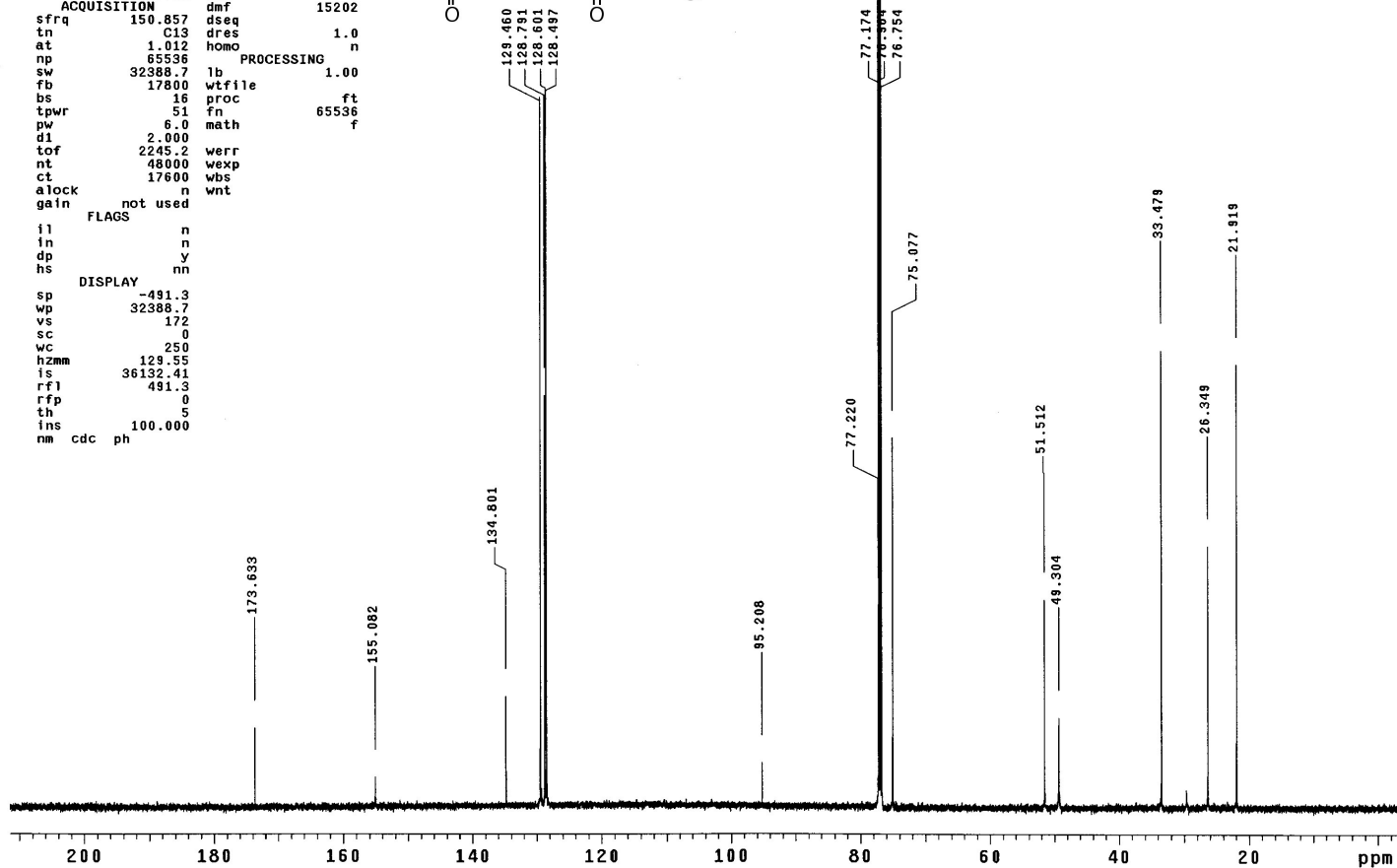
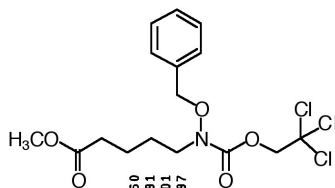
SAMPLE DEC. & VT
date May 28 2002 dfrq 599.887
solvent cdc13 dn H1
file /afs/nd.edu/u~ dpwr 38
ser4/amurray1/APM~ dof 54.1
1-NMR/C13-600-Boc~ dm yvy
amine.fid dmf w
ACQUISITION dmf 15202
sfrq 150.857 dseq
tn C13 dres 1.0
at 1.012 homo n
np 65536 PROCESSING
sw 32388.7 lb 1.00
fb 17800 wfile
bs 4 proc ft
tpwr 51 fn 262144
pw 6.0 math f
d1 2.000
tof 2245.2 werr
nt 2400 wexp
ct 984 wbs
alock n wnt
gain not used
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp -490.2
wp 32388.7
vs 162
sc 0
wc 250
hzmm 129.55
is 500.00
rf1 12112.5
rfp 11622.3
th 8
ins 100.000
nm cdc ph



^{13}C NMR (150 MHz) of 5

new experiment
exp1 s2pu1

SAMPLE DEC. & VT
date Feb 20 2002 dfrq 599.887
solvent cdc13 dn H1
file /afs/nd.edu/u~ dpwr 38
ser4/amurray1/APM~ dof 54.1
I-NMR/aaron_13C_02~ dm yyv
0221.fid dmm w
ACQUISITION dmf 15202
sfrq 150.857 dseq
tn C13 dres 1.0
at 1.012 homo n
np 65536 PROCESSING
sw 32388.7 lb 1.00
fb 17800 wtfile
bs 16 proc
tpwr 51 fn 65536
pw 6.0 math
d1 2.000
tof 2245.2 werr
nt 48000 wexp
ct 17600 wbs
alock n wnt
gain not used
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp -491.3
wp 32388.7
vs 172
sc 0
wc 250
hzmm 129.55
ls 36132.41
rf1 491.3
rfp 0
th 5
ins 100.000
nm cdc ph

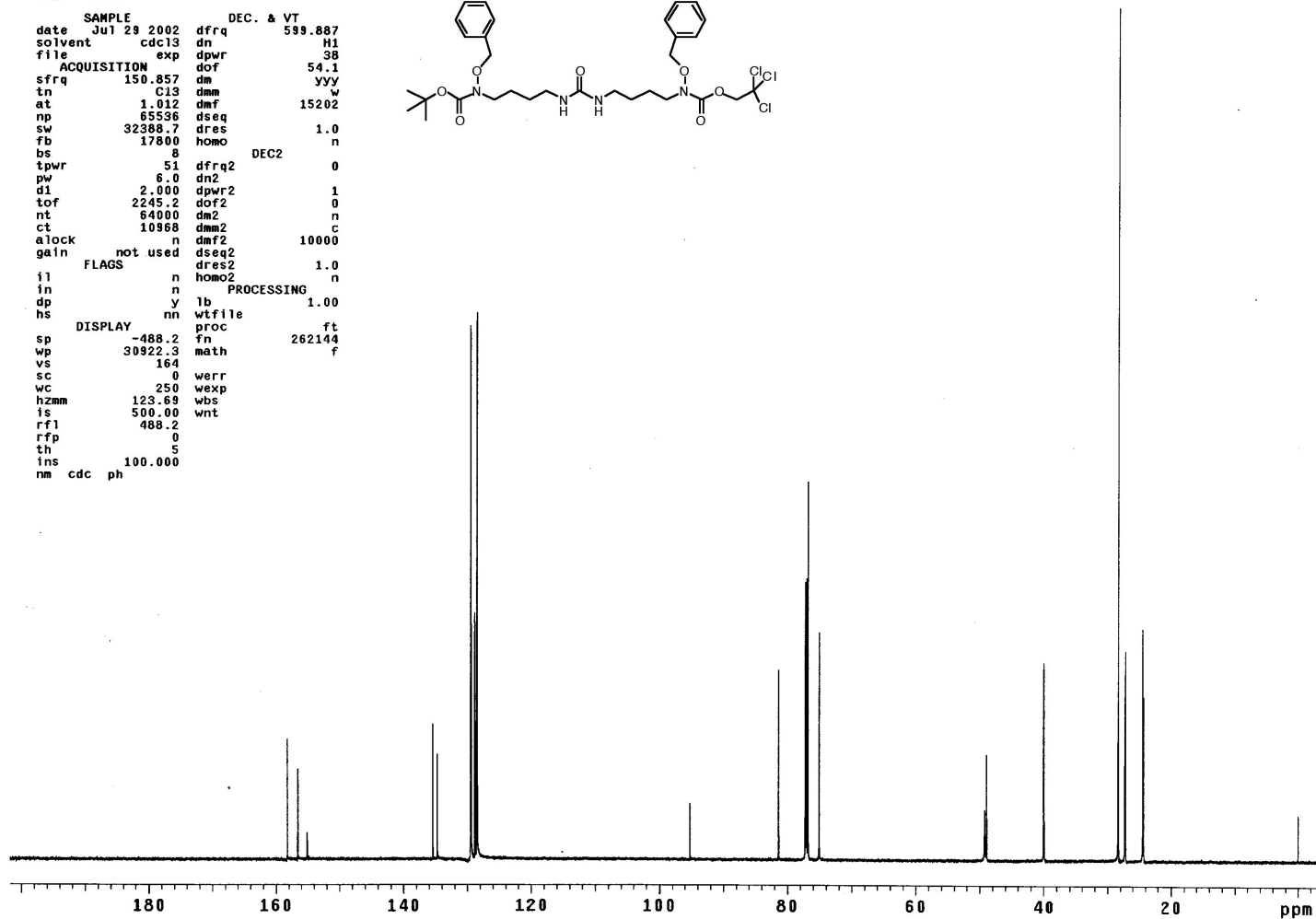
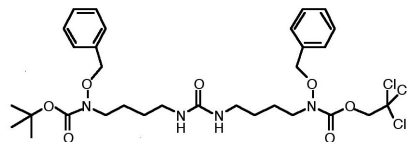


¹³C NMR (150 MHz) of 7

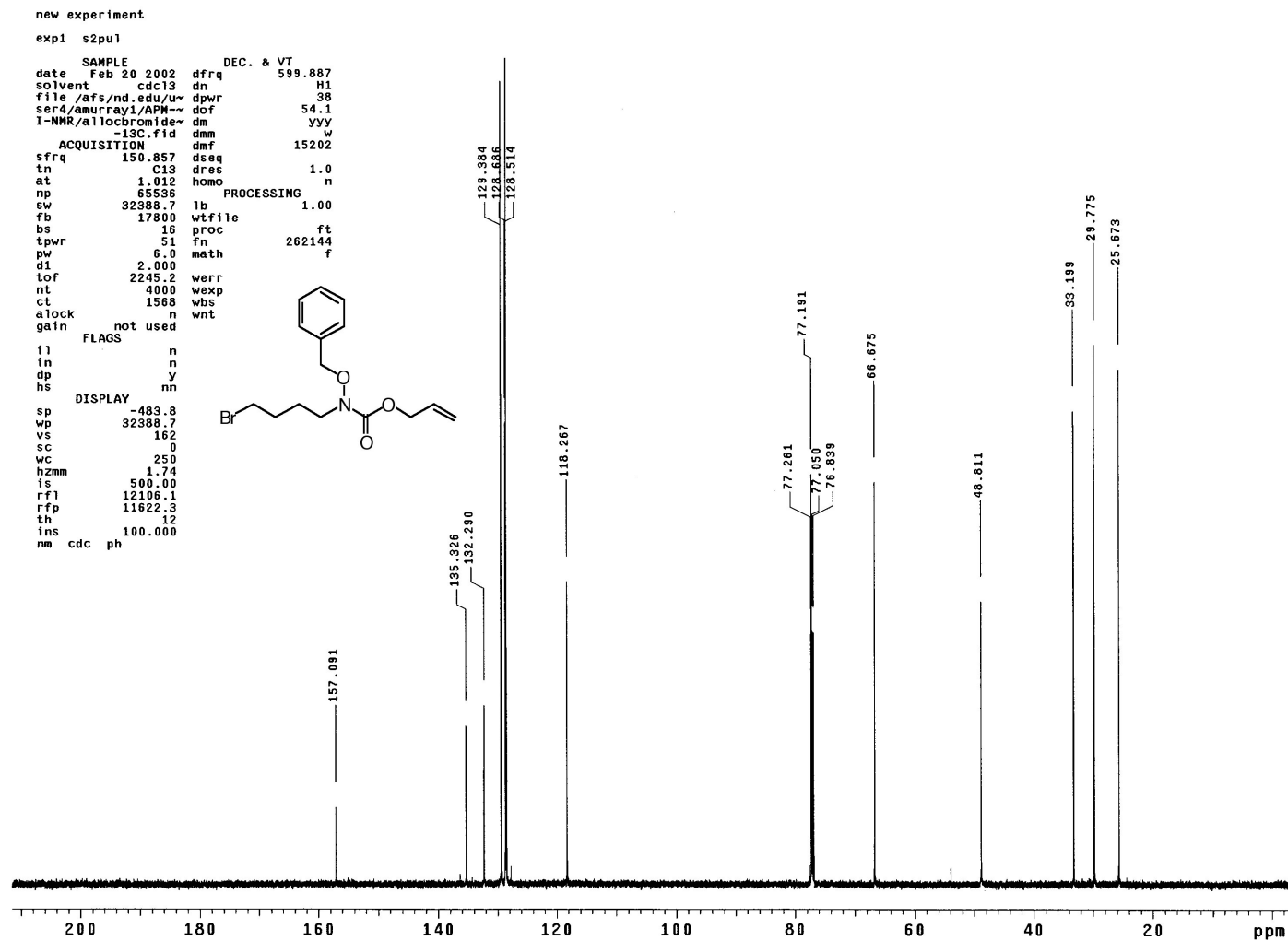
new experiment

expl s2pu1

SAMPLE		DEC. & VT	
date	Jul 29 2002	dfrq	599.887
solvent	cdc13	dn	H1
file	exp	dpwr	38
ACQUISITION		dof	54.1
sfrq	150.857	dm	yyy
tn	C13	dmm	w
at	1.012	dmf	15202
np	65536	dseq	
sw	32388.7	dres	1.0
fb	17800	homo	n
bs	8	DEC2	
tpwr	51	dfrq2	0
pw	6.0	dn2	
d1	2.000	dpwr2	1
tof	2245.2	dof2	0
nt	64000	dm2	n
ct	10968	dmm2	c
alock	n	dmf2	10000
gain	not used	dseq2	
FLAGS		dres2	1.0
il	n	homo2	n
in	n	PROCESSING	
dp	y	lb	1.00
hs	nn	wtfile	
DISPLAY		ft	
sp	-488.2	proc	262144
wp	30922.3	fn	f
vs	164	math	
sc	0	werr	
wc	250	wexp	
h2mm	123.69	wbs	
ls	500.00	wnt	
rf1	488.2		
rfp	0		
th	5		
ins	100.000		
nm	cdc ph		



¹³C NMR (150 MHz) of 9



^{13}C NMR (150 MHz) of 11

new experiment

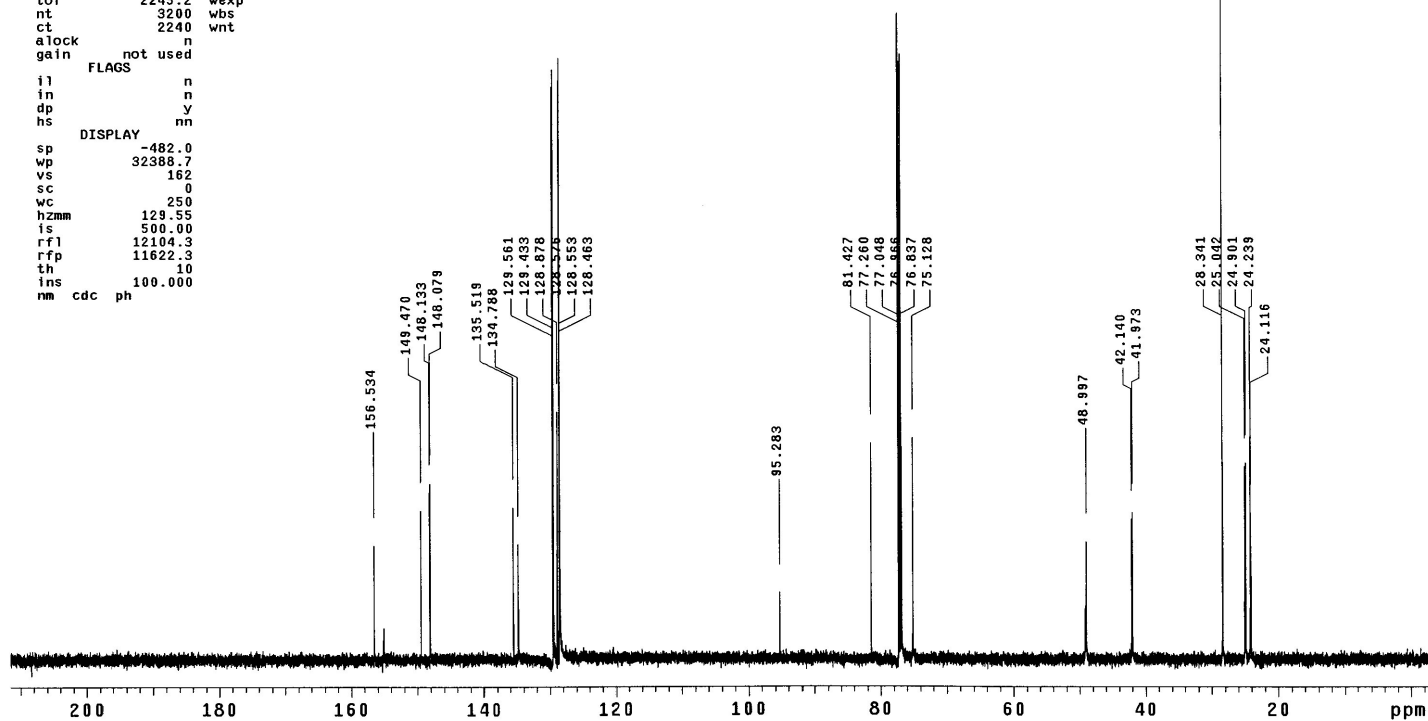
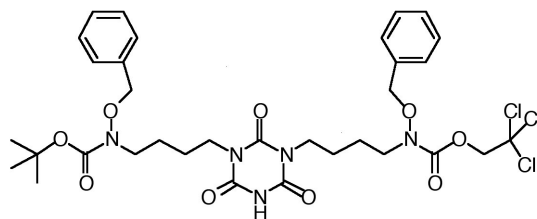
exp1 s2pu1

SAMPLE DEC. & VT
date Apr 12 2002 dfrq 599.887
solvent cdc13 dn H1
file /afs/nd.edu/u- dpwr 38
ser4/amurray1/APM-- dof 54.1
t-NMR/C13-800-Boc-- dm yyy
Troscisocyanurate.fv dmm w
id dmf 15202

ACQUISITION
sfrq 150.857 dseq 1.0
tn C13 dres n
at 1.012 homo
np 65536 lb PROCESSING 1.00
sw 32388.7 wtfile
fb 17800 proc ft
bs 8 fn 262144
tpwr 51 math f
pw 6.0
d1 2.000 werr
tof 2245.2 wexp
nt 3200 wbs
ct 2240 wnt
alock n
gain not used

FLAGS
il n
in n
dp y
hs nn

DISPLAY
sp -482.0
vp 32388.7
vs 162
sc 0
wc 250
hzmm 129.55
is 500.00
rfl 12104.3
rfp 11622.3
th 10
lms 100.000
nm cdc ph

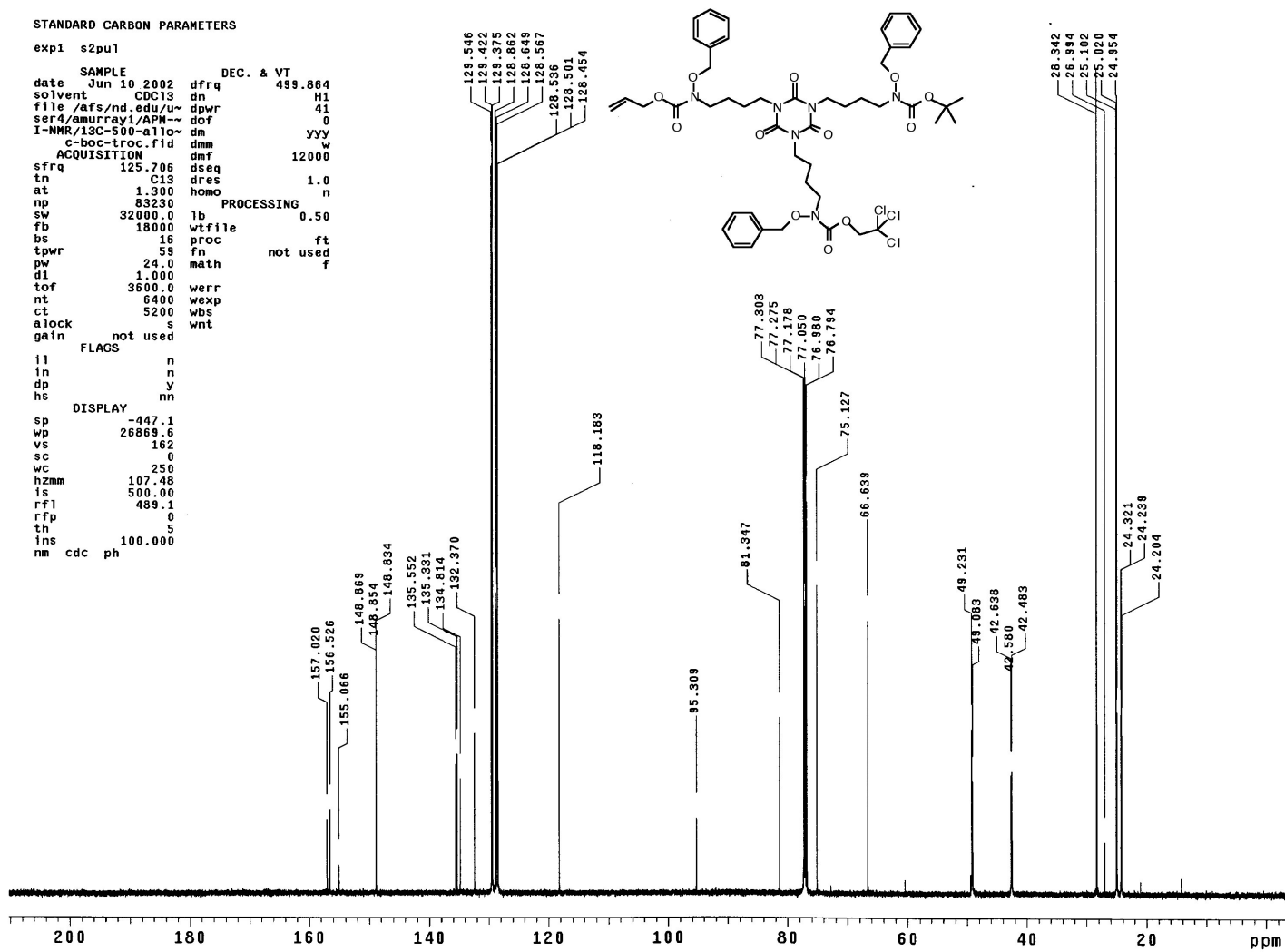


¹³C NMR (150 MHz) of 12

STANDARD CARBON PARAMETERS

expt s2pul

SAMPLE
 date Jun 10 2002 dfrq DEC. & VT 499.864
 solvent CDC13 dn H1
 file /afs/nd.edu/u~ dpwr 41
 ser4/amurray1/APN~ dof 0
 I-NMR/13C-500-alloc dm yyy
 c-boc-troc.fid dmm w
 ACQUISITION dmf 12000
 sfrq 125.706 dseq
 tn C13 dres 1.0
 at 1.300 homo n
 np 83230 PROCESSING
 sw 32000.0 lb 0.50
 fb 18000 wtfile
 bs 16 proc ft
 tpwr 59 fn not used
 pw 24.0 math f
 dl 1.000
 tof 3600.0 verr
 nt 6400 wexp
 ct 5200 wbs
 alock s wnt
 gain not used
 FLAGS
 il n
 in n
 dp y
 hs nn
 DISPLAY
 sp -447.1
 wp 26869.6
 vs 162
 sc 0
 wc 250
 hzmm 107.48
 ls 500.00
 rfl 489.1
 rfp 0
 th 5
 ins 100.000
 nm cdc ph

¹³C NMR (125 MHz) of 13