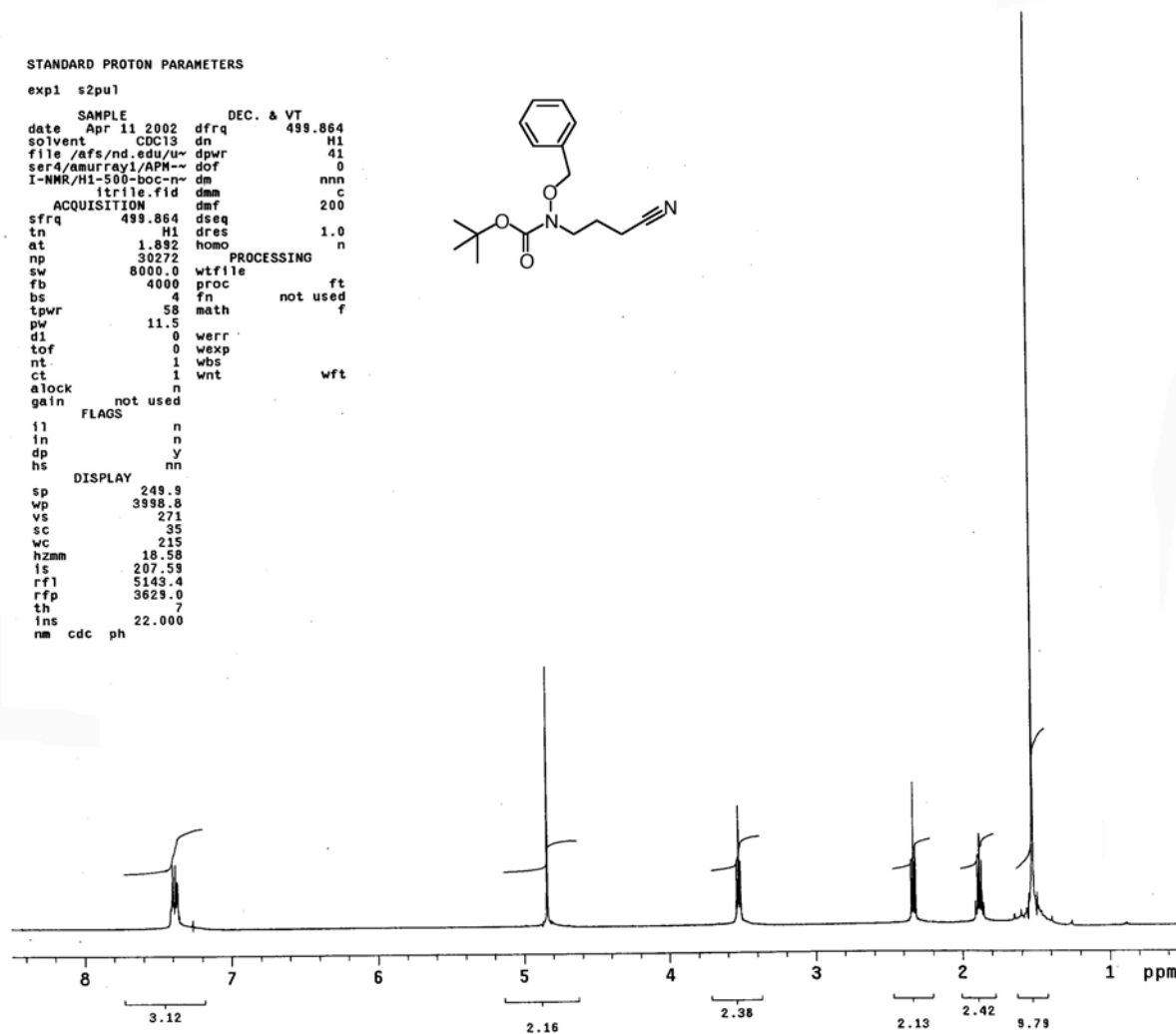
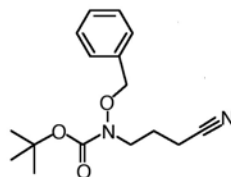


STANDARD PROTON PARAMETERS

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~ 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
gain not used
FLAGS
fl n
in n
dp y
hs nn
DISPLAY
sp 249.9
wp 3998.8
vs 271
sc 35
wc 215
hzmm 18.58
ls 207.59
rfl 5143.4
rfp 3629.0
th 7
lms 22.000
nm cdc ph

¹H NMR (500 MHz) of 4

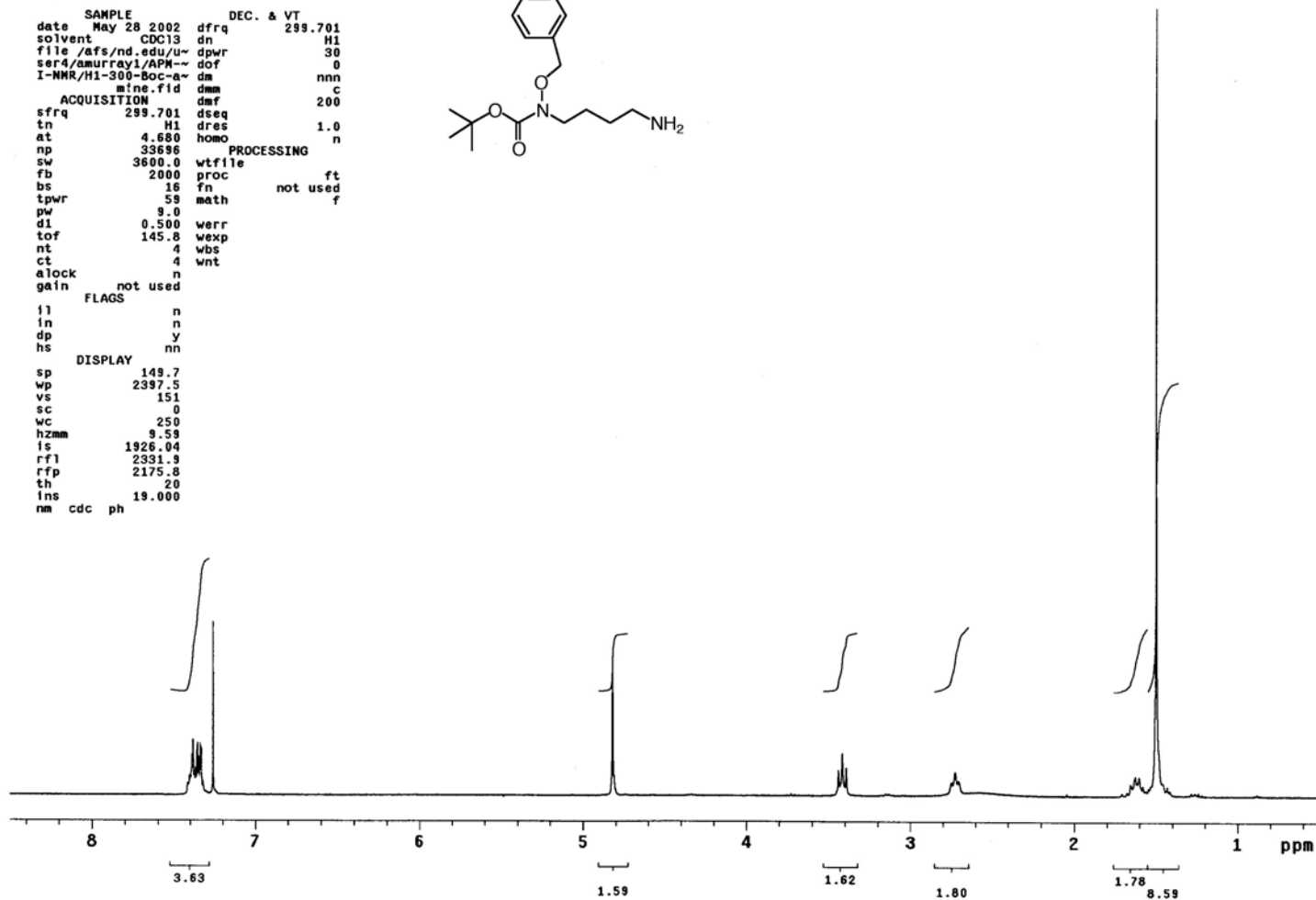
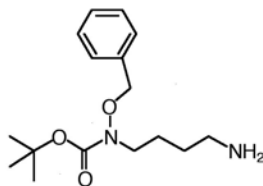
JZ, 1H paramtrs for robot

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
                      dmm       c
ACQUISITION      dmf       200
sfrq      299.701  dseq
tn         H1      dres     1.0
at         4.680   homo
np      33696
sw      3600.0  wtfile
fb      2000    proc
bs      16      fn      not used
tpwr    59      math
pw      9.0
d1      0.500   verr
tof     145.8   wexp
nt       4      wbs
ct       4      wnt
alock    n
gain     n
          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
rf1     2331.9
rfp     2175.8
th       20
lms     19.000
nm  cdc  ph

```

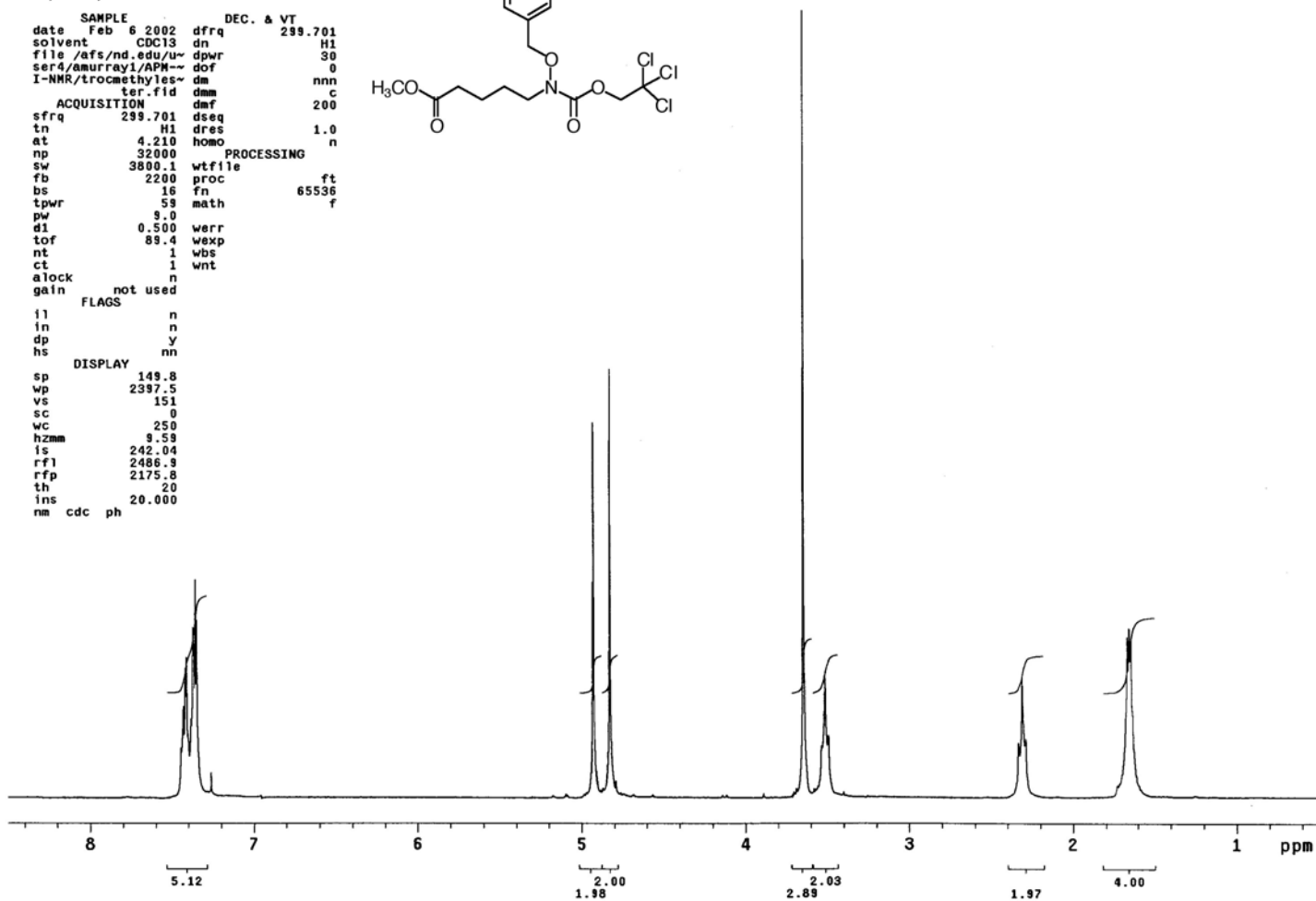
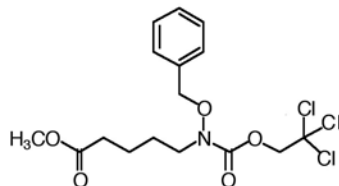


¹H NMR (300 MHz) of 5

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	dpwr	30
ser4/amurray1/APH~	dof	0	
I-NMR/trocethyles~	dm	nnn	c
ter.fid	dmm	c	
ACQUISITION		dmf	200
sfrq	299.701	dseq	
tn	H1	dres	1.0
at	4.210	homo	n
np	32000	PROCESSING	
sw	3800.1	wtfile	ft
fb	2200	proc	65536
bs	16	fn	f
tpwr	59	math	
pw	9.0		
d1	0.500	werr	
tof	89.4	wexp	
nt	1	wbs	
ct	1	wnt	
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		
h2mm	9.59		
is	242.04		
rfl	2486.9		
rffp	2175.8		
th	20		
ins	20.000		
nm	cdc ph		

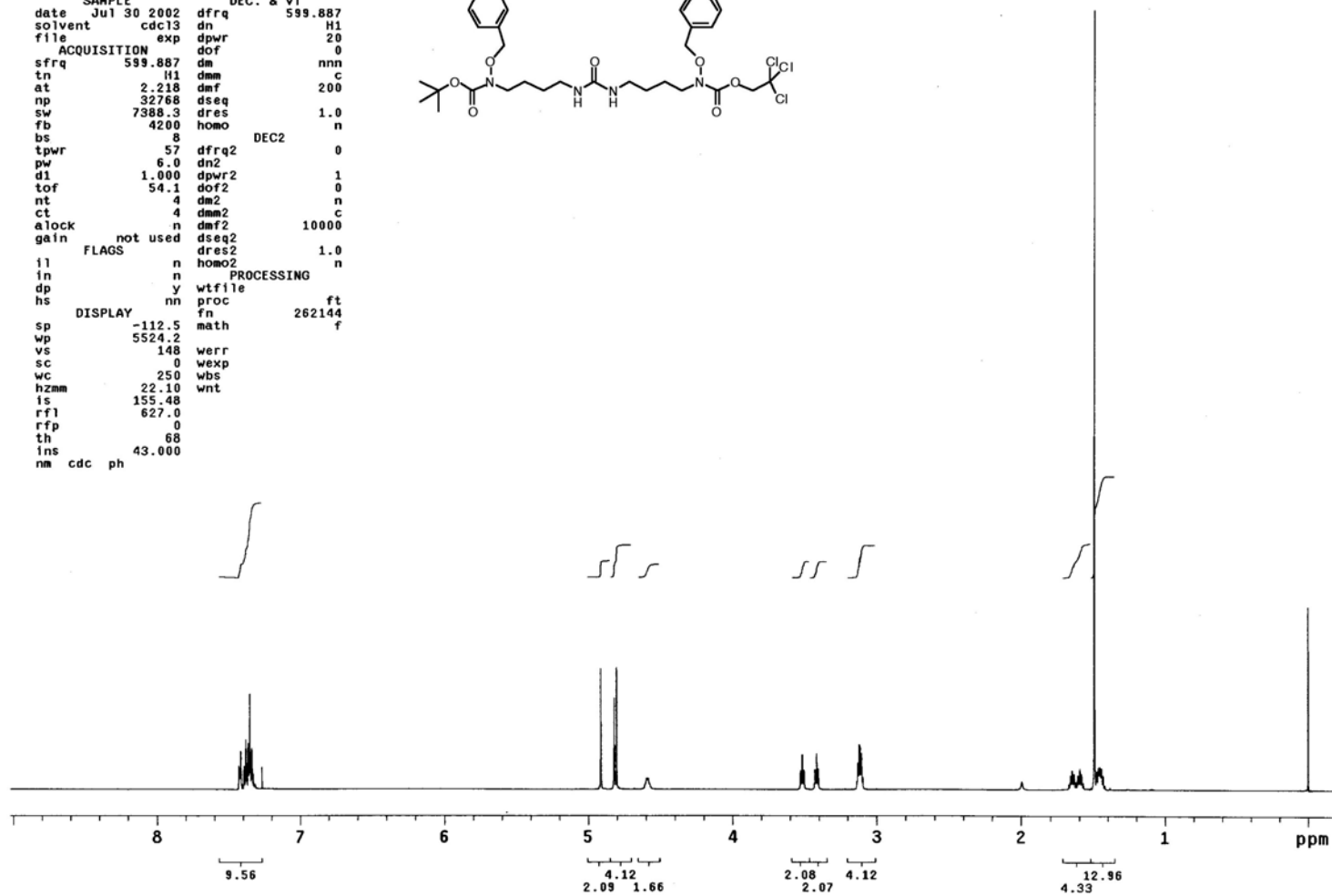
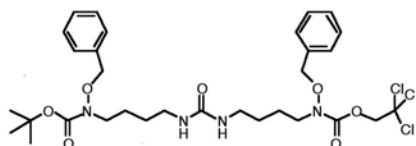


¹H NMR (600 MHz) of 7

STANDARD CARBON PARAMETERS

exp1 s2pu1

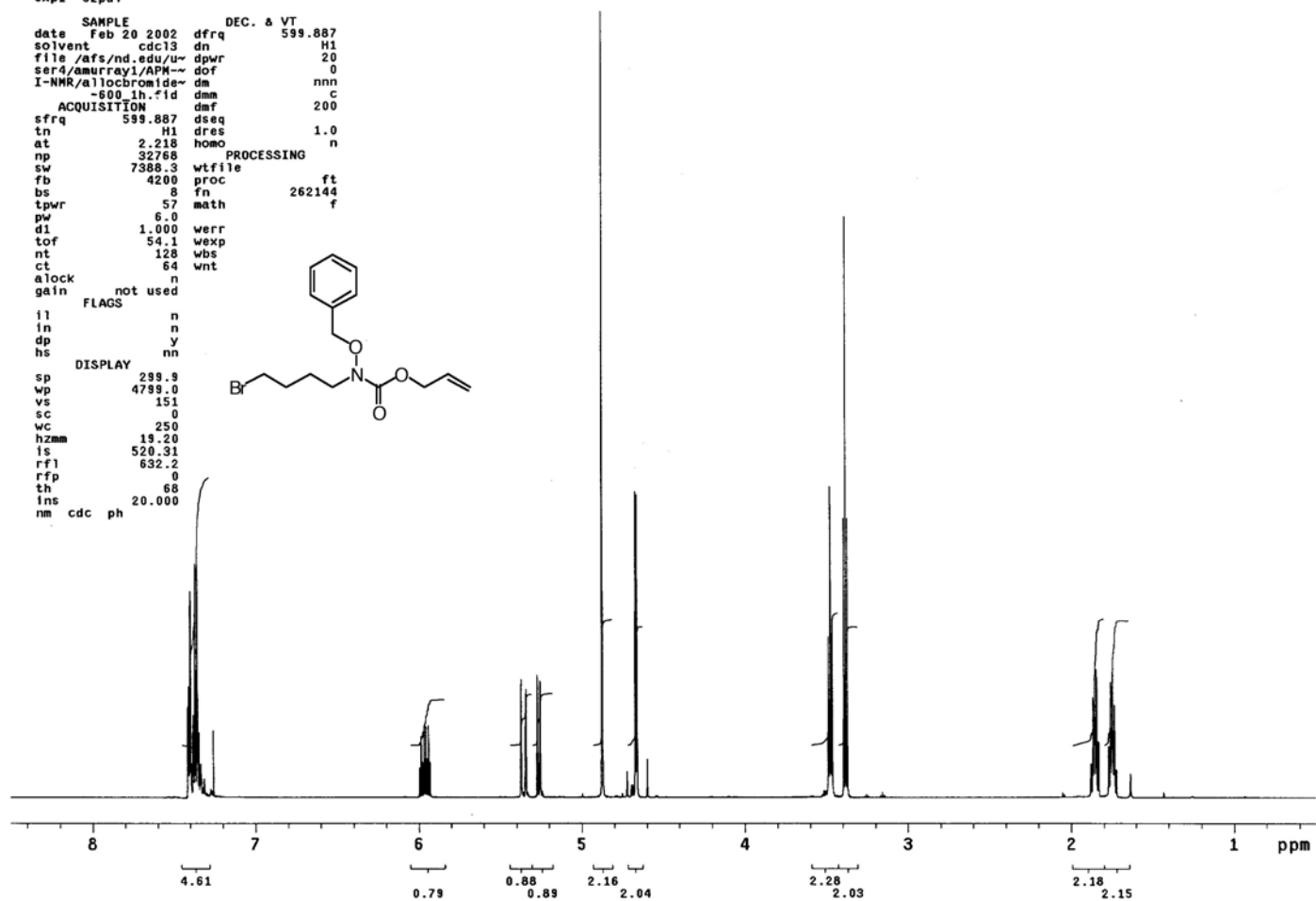
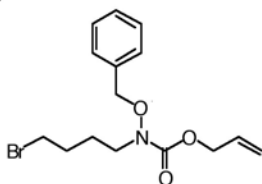
SAMPLE		DEC. & VT	
date	Jul 30 2002	dfrq	599.887
solvent	cdc13	dn	H1
file	exp	dpwr	20
ACQUISITION		dof	0
sfrq	599.887	dm	nnn
tn	H1	dmm	c
at	2.218	dmf	200
np	32768	dseq	
sw	7388.3	dres	1.0
fb	4200	homo	n
bs	8		
tpwr	57	dfrq2	DEC2
pw	6.0	dn2	0
d1	1.000	dpwr2	1
tof	54.1	dof2	0
nt	4	dm2	n
ct	4	dmm2	c
alock	n	dmf2	10000
gain	not used	dseq2	
FLAGS		dres2	1.0
il	n	homo2	n
in	n	PROCESSING	
dp	y	wtfile	ft
hs	nn	fn	262144
DISPLAY		math	f
sp	-112.5		
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~
ser4/amurray1/APM~ dof 0
I-NMR/allobromide~ dm nnn
-800.1h.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 wtfile ft
fb 4200 proc 262144
bs 8 fn f
tpwr 57 math
pw 6.0
d1 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
ls 520.31
rf1 632.2
rfp 0
th 68
ins 20.000
nm cdc ph

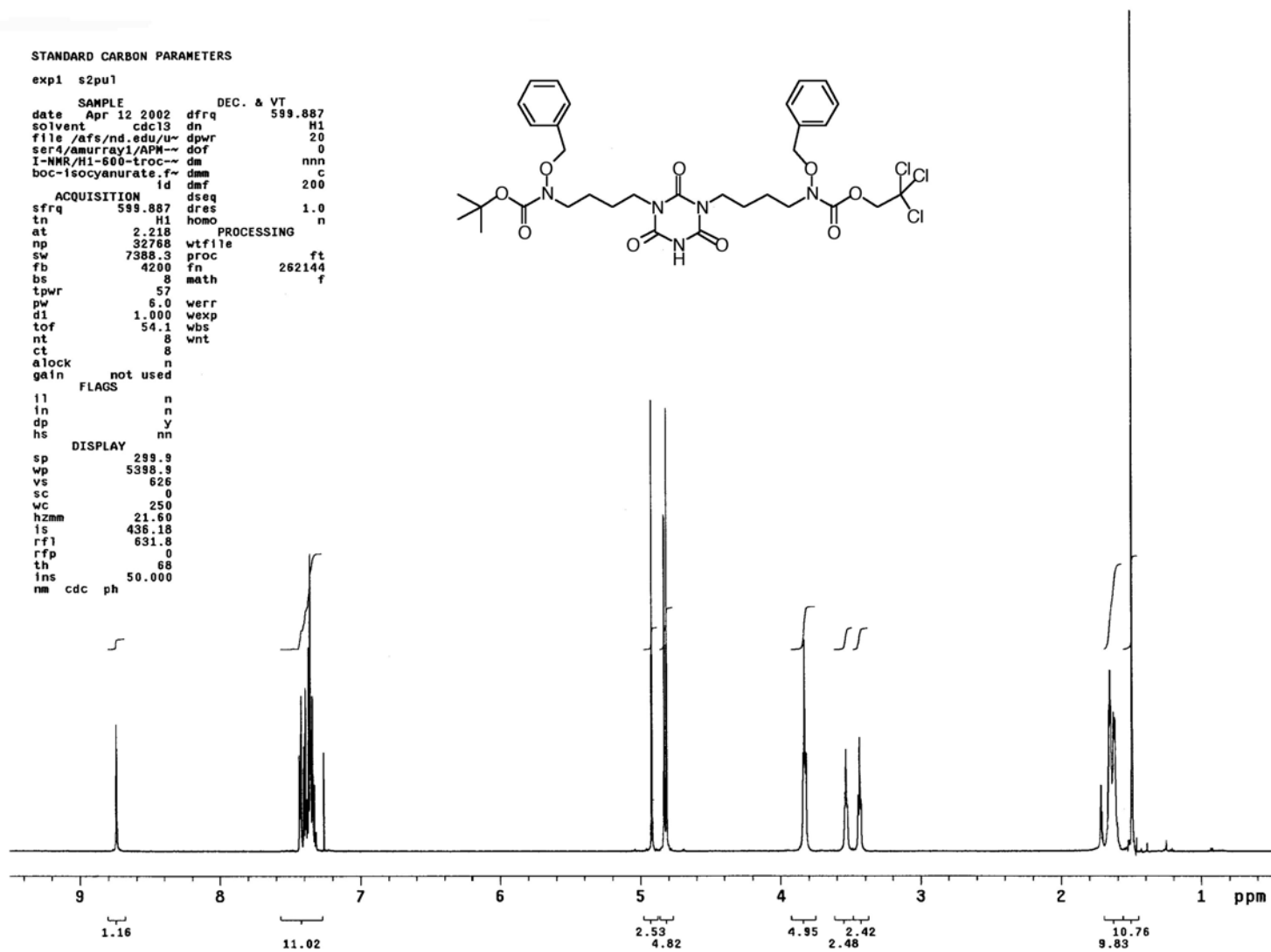
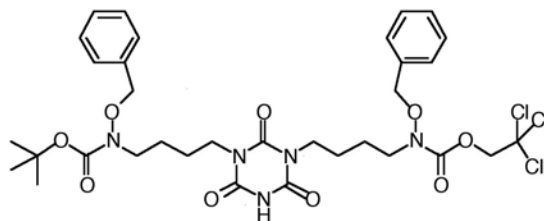
¹H NMR (600 MHz) of 11

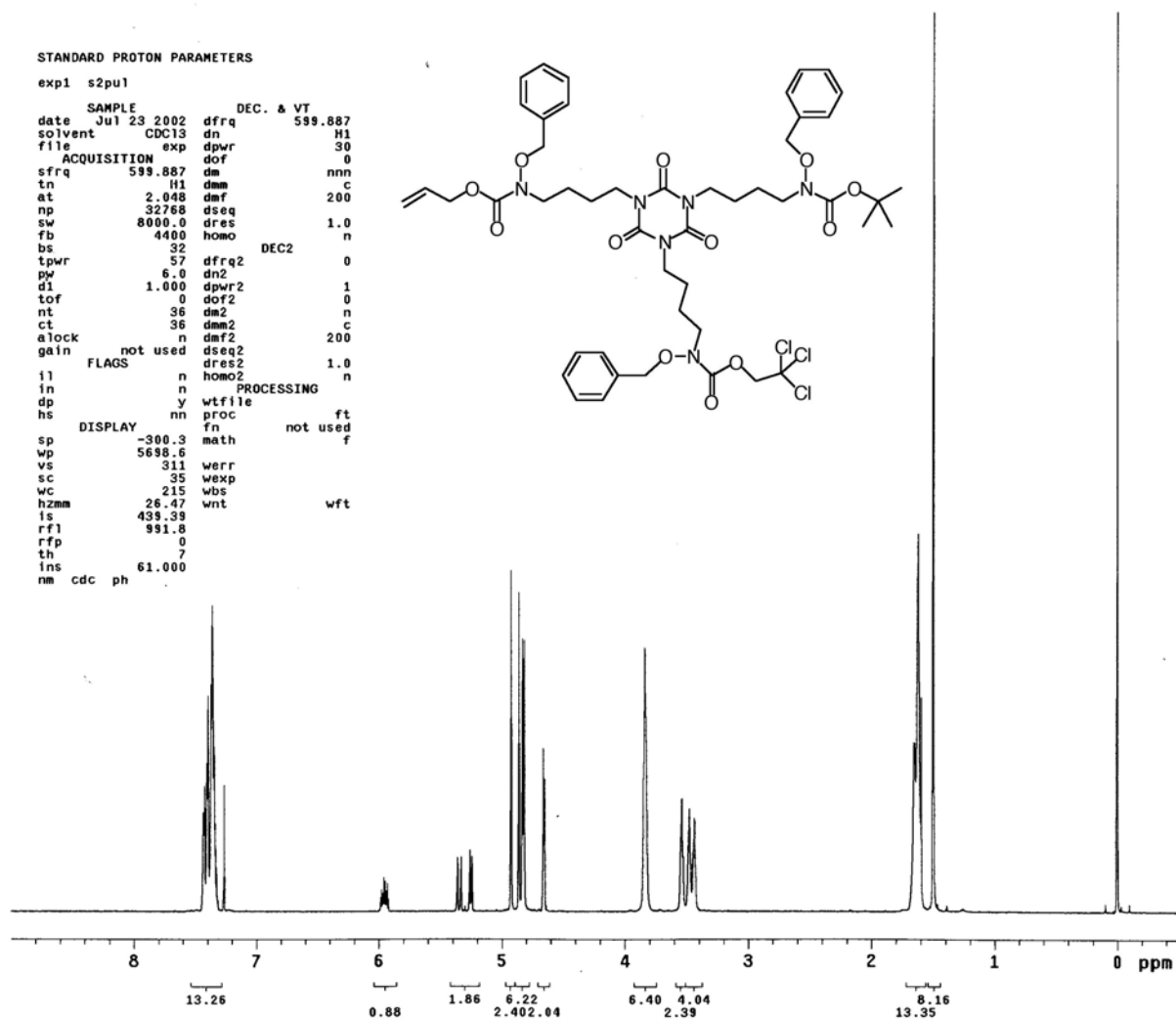
STANDARD CARBON PARAMETERS

```

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
ls 436.18
rf1 631.8
rfp 0
th 68
ins 50.000
nm cdc ph

```

¹H NMR (600 MHz) of 12



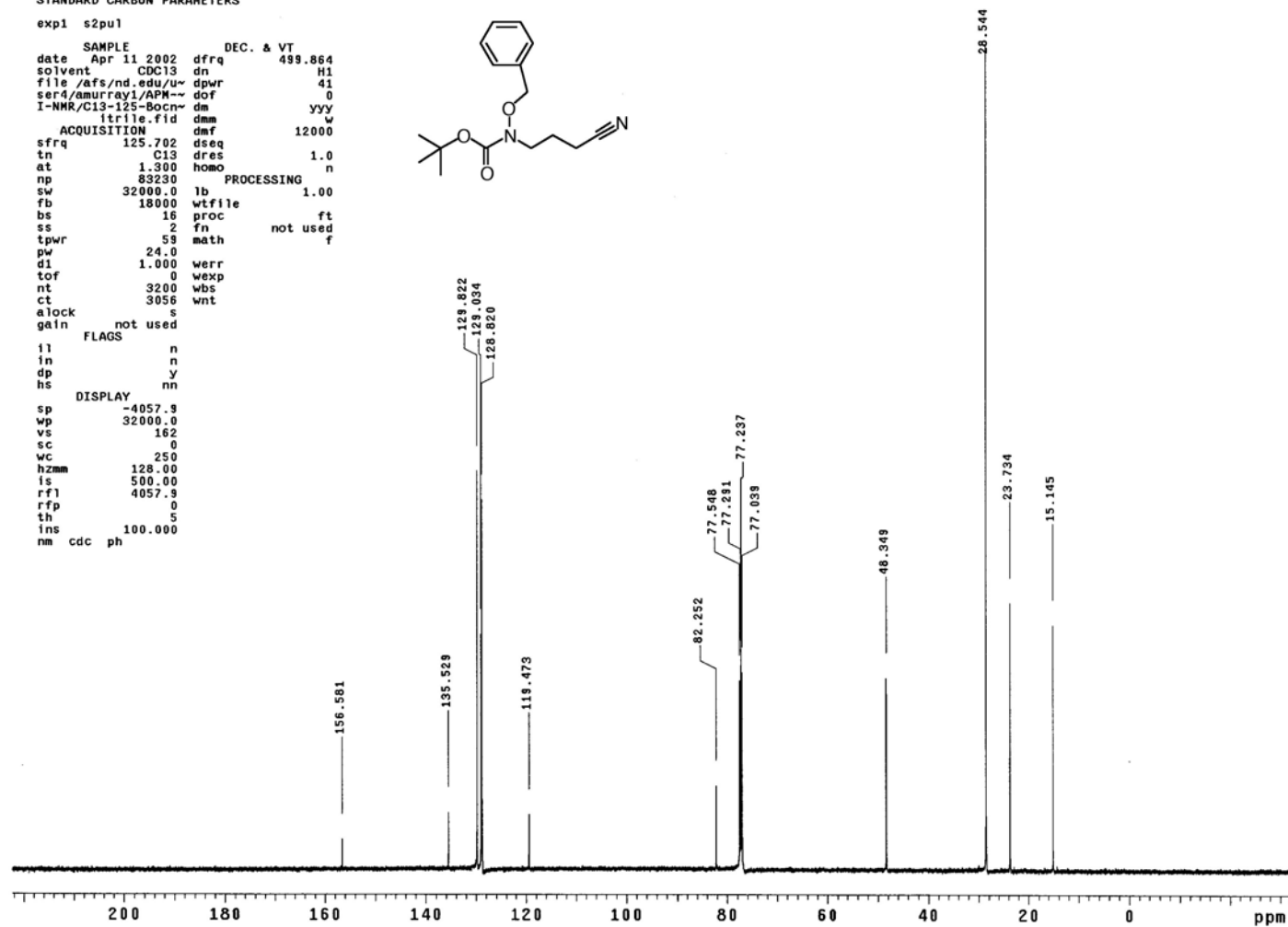
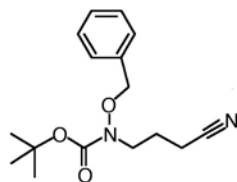
^1H NMR (600 MHz) of 13

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 dseq 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
hZmm 128.00
ls 500.00
rfl 4057.9
rfp 0
th 5
ins 100.000
nm cdc ph

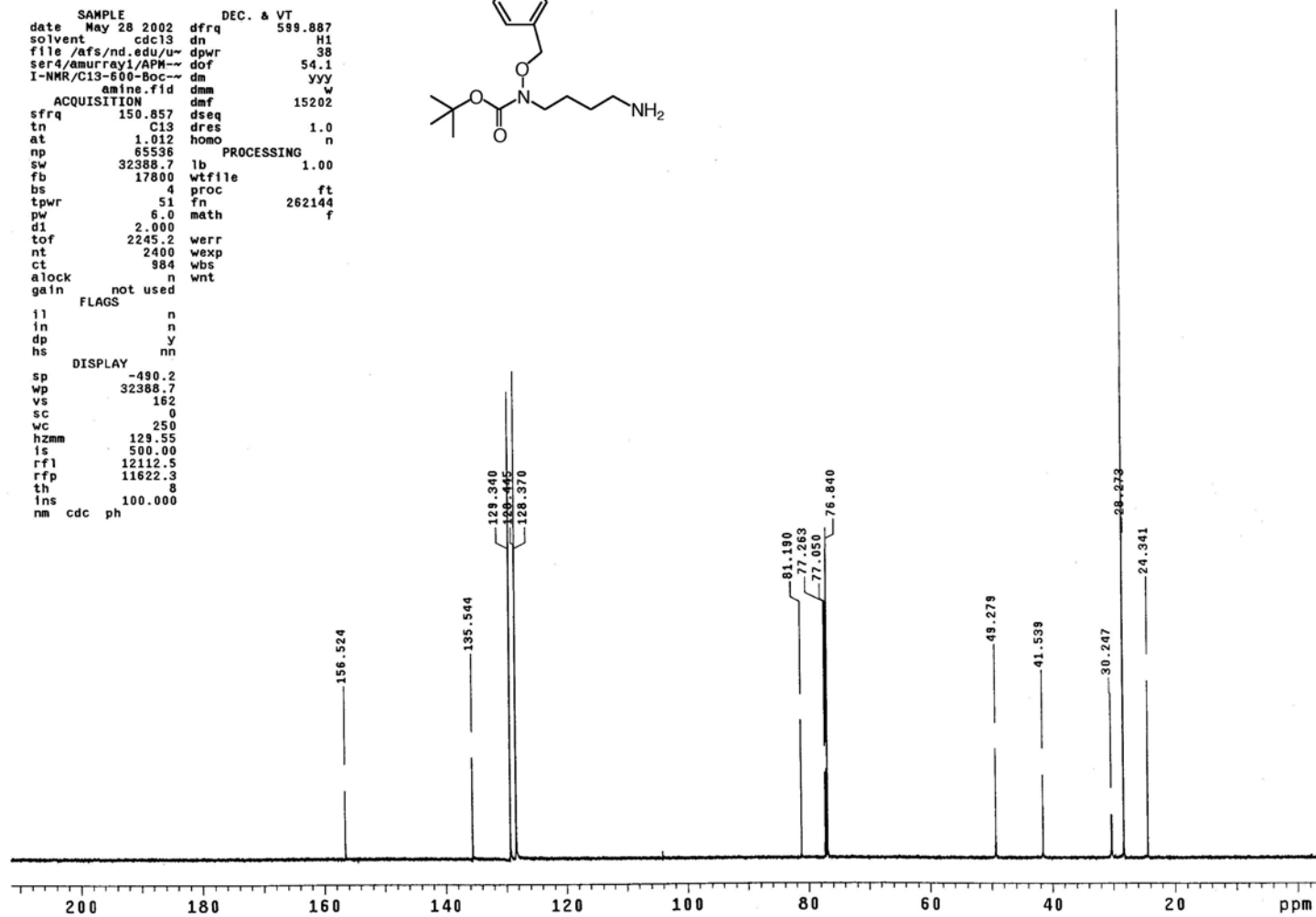
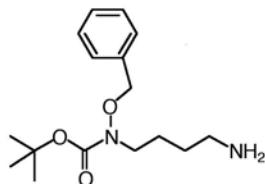
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 ^{13}C NMR (125 MHz) of 4

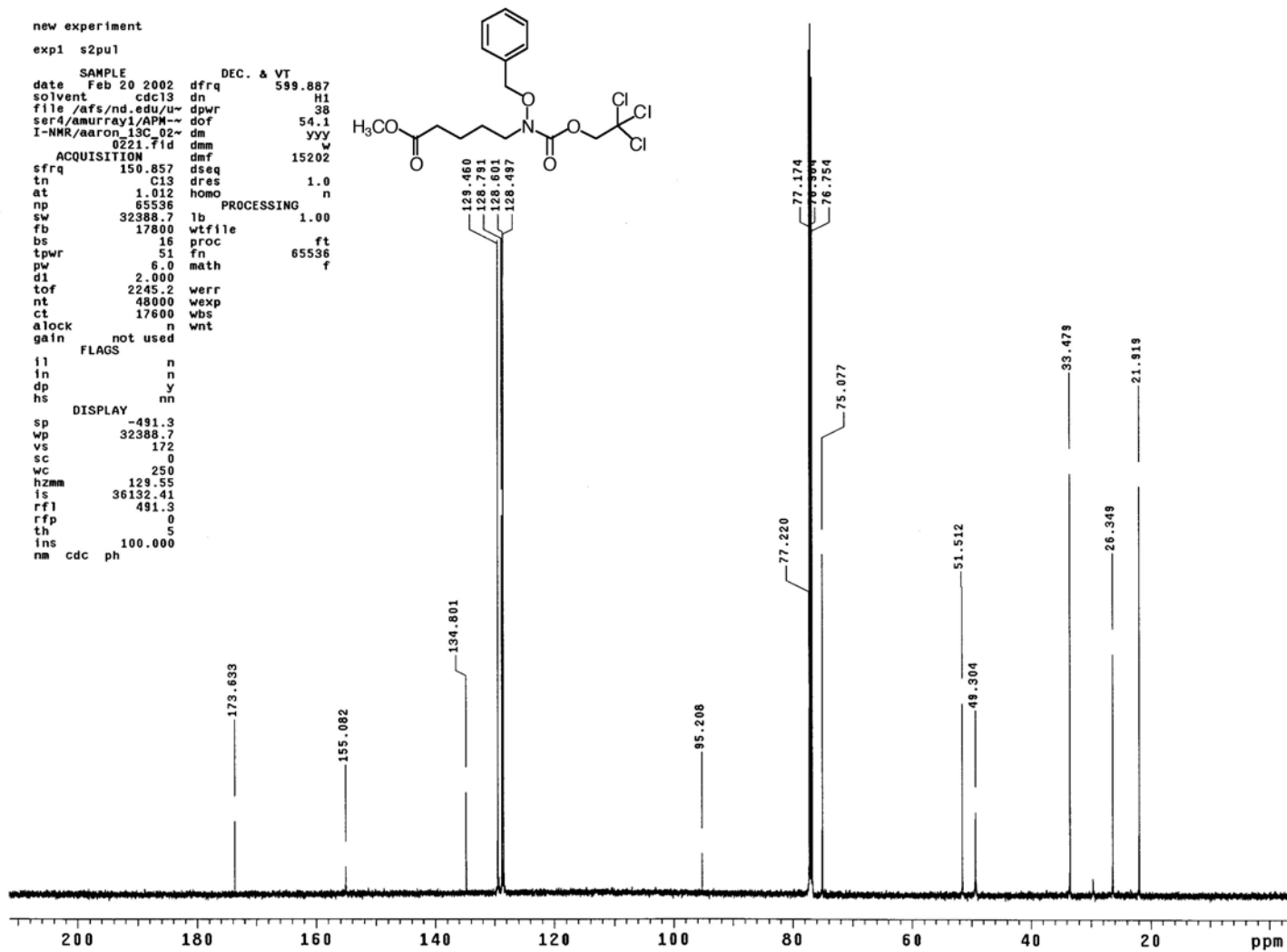
new experiment

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
I-NMR/C13-500-Boc~ dm yyy
amine.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 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

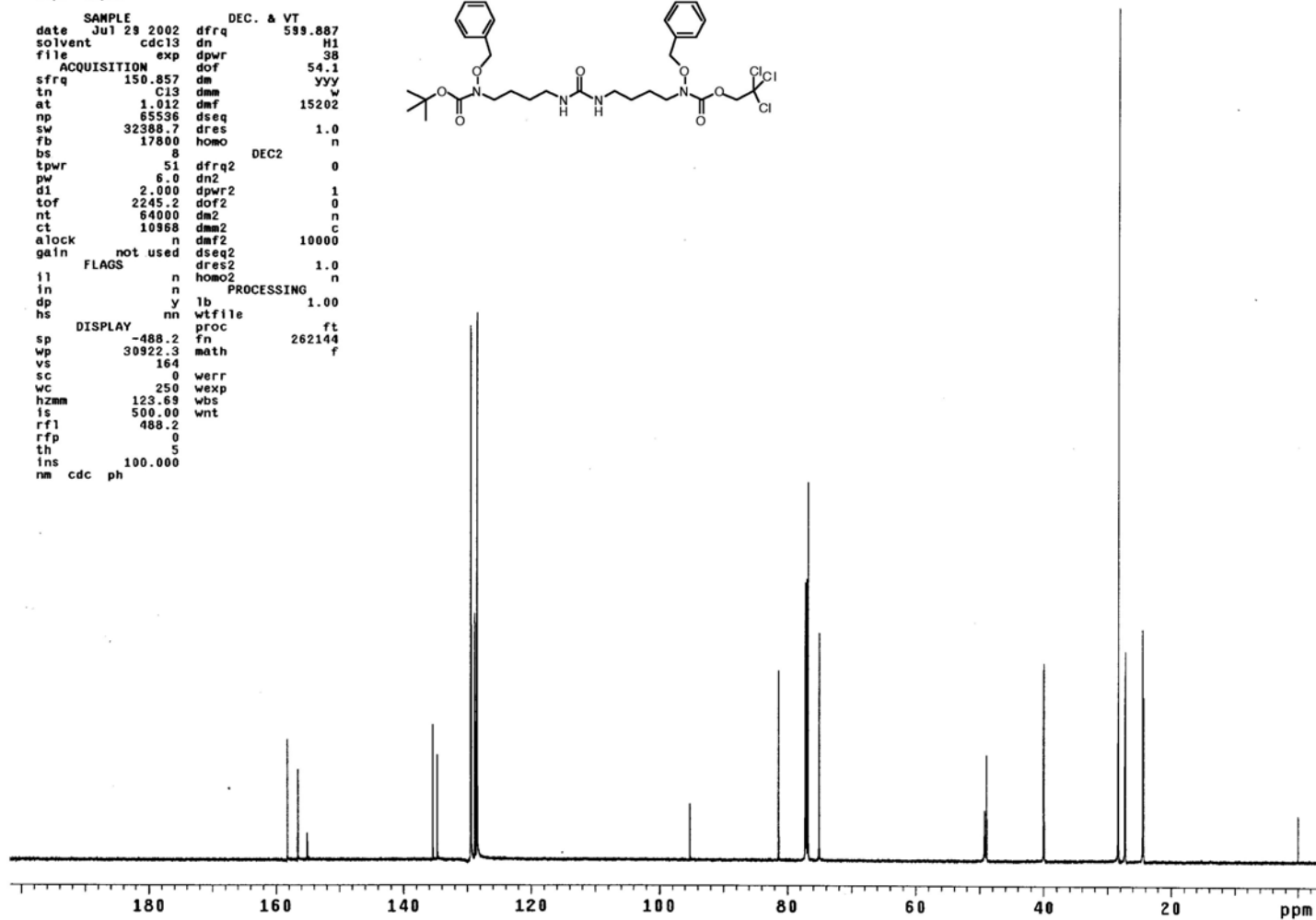
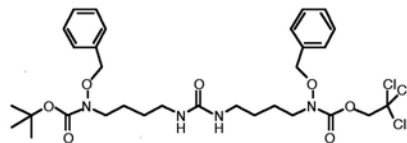


^{13}C NMR (150 MHz) of 7

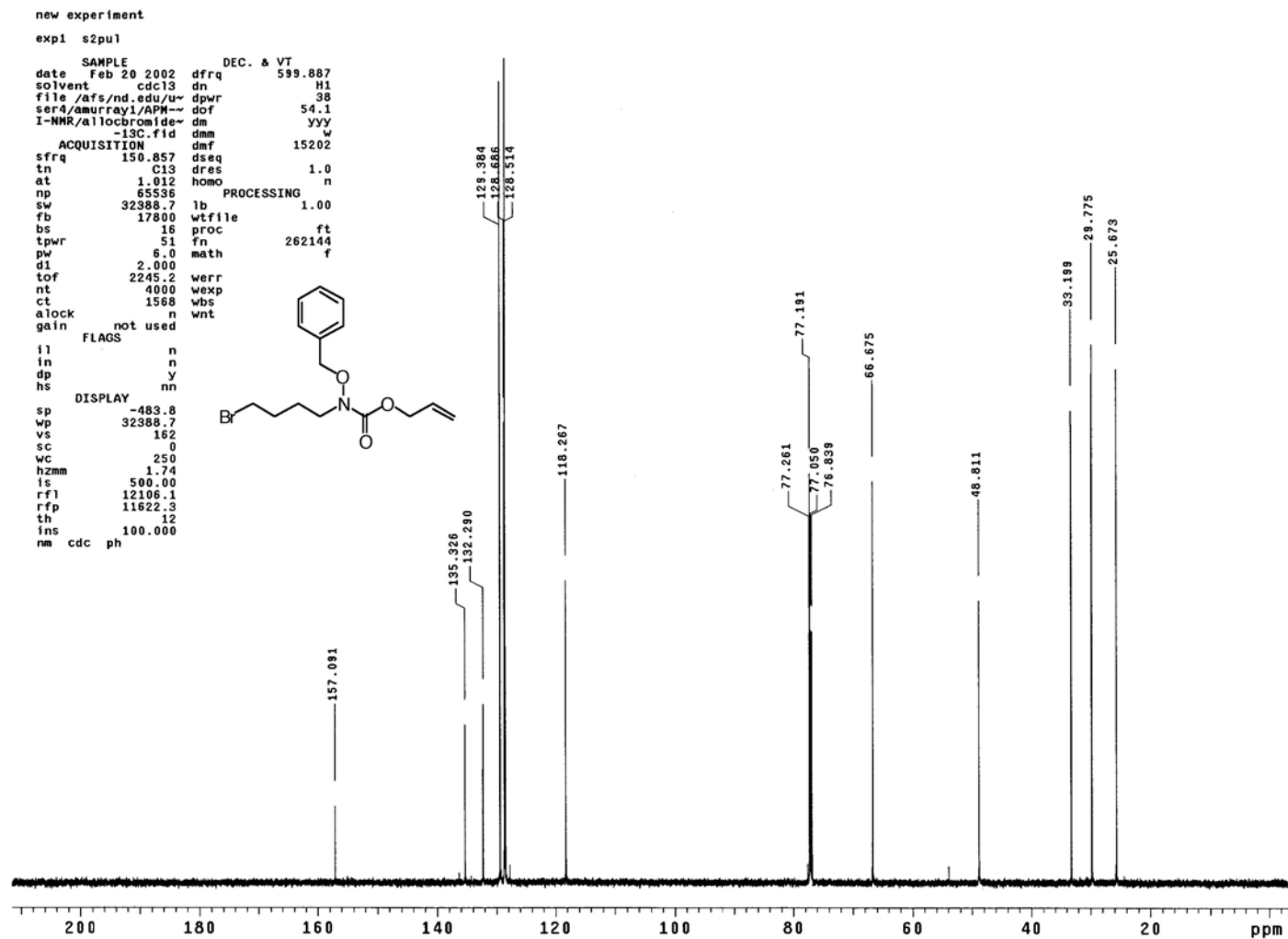
new experiment

exp1 s2pu1

SAMPLE
date Jul 29 2002 dfrq DEC. & VT 539.887
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 1.0
FLAGS n homo2 n
il n
in n PROCESSING
dp y lb 1.00
hs nn wtfile
DISPLAY -488.2 ft
sp 30922.3 fn 262144
wp 164 math f
vs 0
sc 0 werr
wc 250 wexp
hzmm 123.69 wbs
ls 500.00 wnt
rf1 488.2
rfp 0
th 5
ins 100.000
nm cdc ph



^{13}C NMR (150 MHz) of **9**

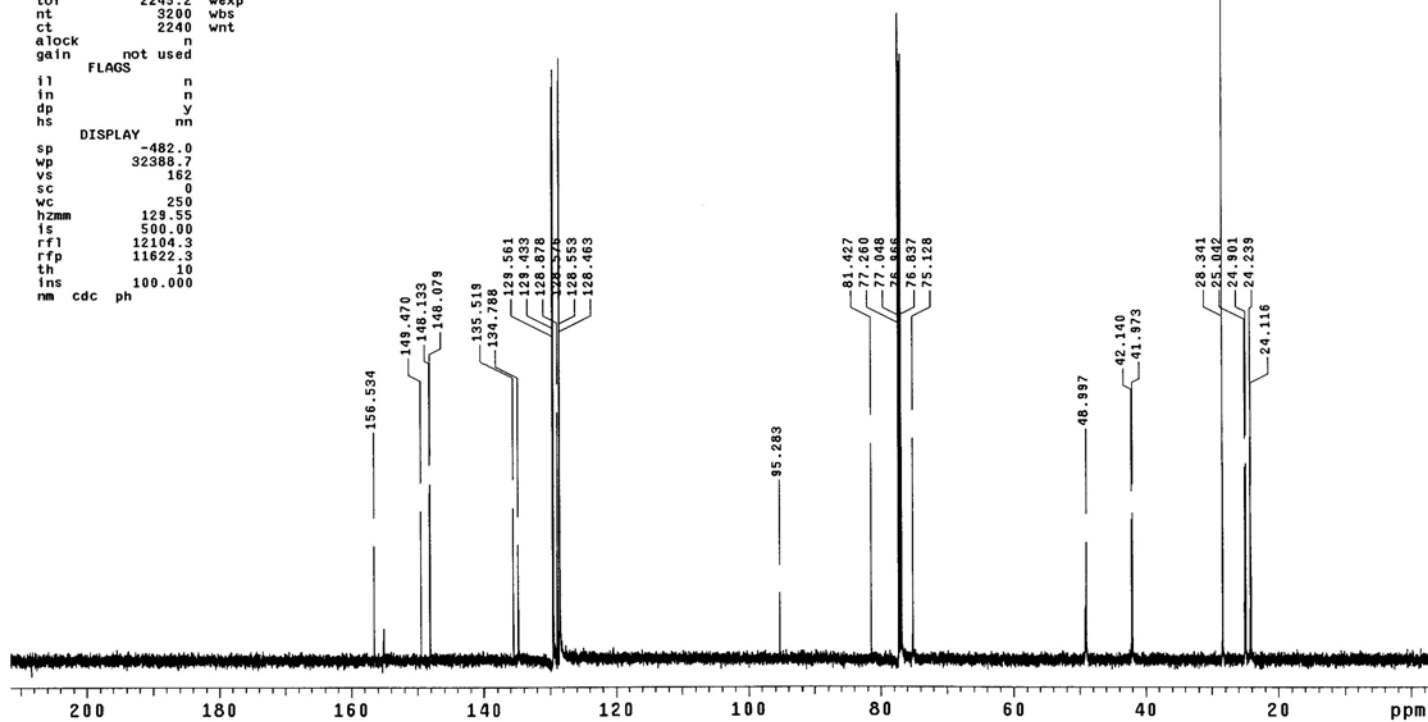
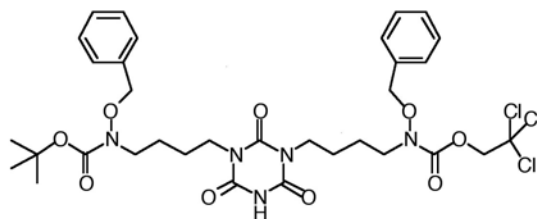


^{13}C NMR (150 MHz) of 11

new experiment

exp1 s2pu1

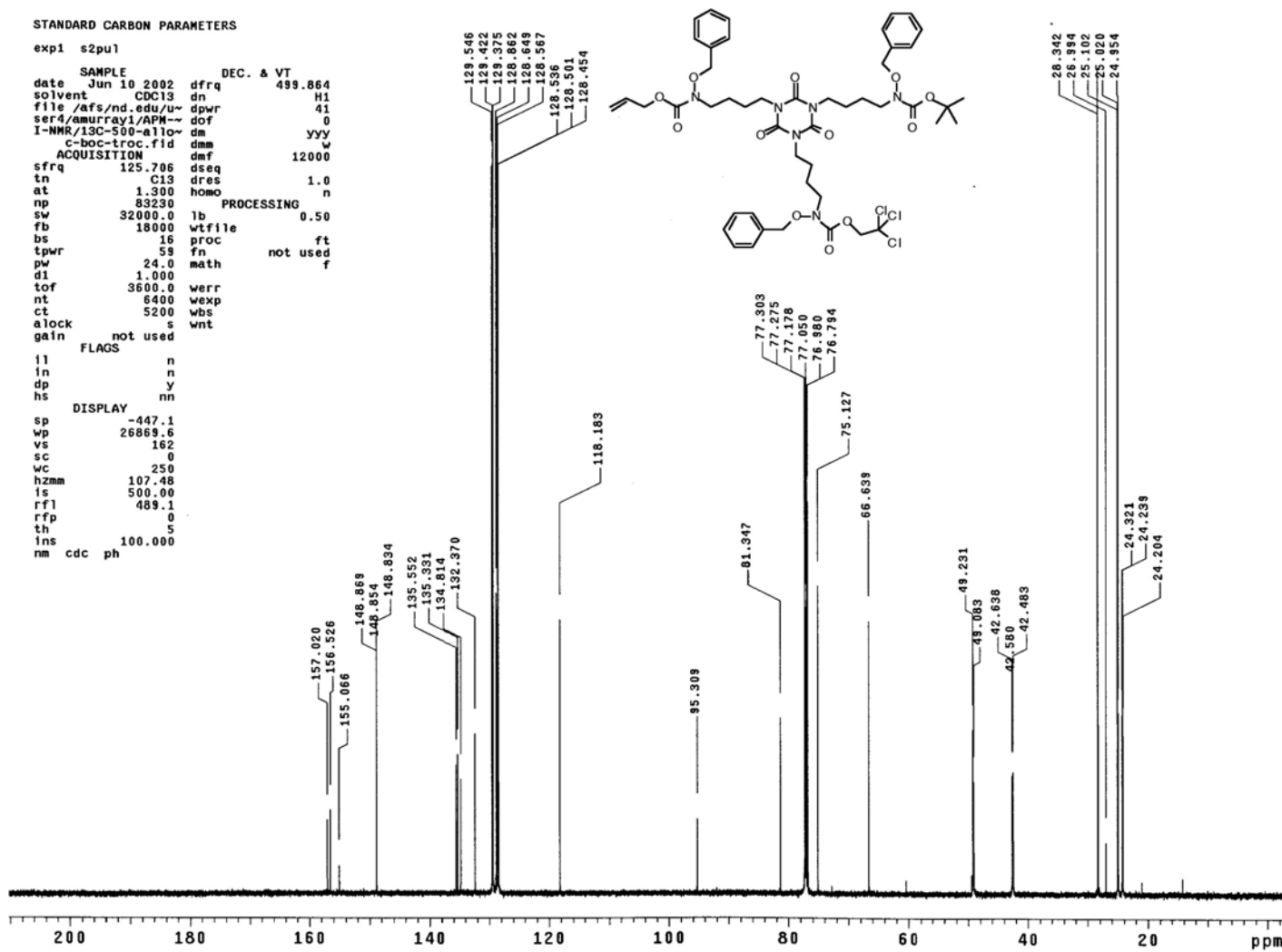
SAMPLE DEC. & VT
date Apr 12 2002 dfrq 599.887
solvent cdc13 dn H1
file /afs/nd.edu/~
ser4/murray1/APW--
1-NMR/C13-800-8oc--
Troicisocyanurate.f--
id dmf 15202
ACQUISITION
sfrq 150.857 dseq 1.0
tn C13 dres n
at 1.012 homo
np 65536 lb PROCESSING 1.00
sw 32388.7 wtfile
fb 17800 proc ft
bs 8 fn 262144
tpwr 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
wp 32388.7
vs 162
sc 0
wc 250
hzmm 129.55
ls 500.00
rf1 12104.3
rfp 11622.3
th 10
lms 100.000
nm cdc ph



¹³C NMR (150 MHz) of 12

exp1 s2pu1

SAMPLE		DEC. & VT	
date	Jun 10 2002	dfrq	499.864
solvent	CDC13	dn	H1
file	/afs/nd.edu/users/4/amurray1/APH--	dpwr	41
	ser4/amurray1/APH--	dof	0
I-NMR/13C-500-allow		dm	yyy
c-boc-troc.fr		dmm	w
ACQUISITION		dmf	12000
sfrq	125.706	dseq	
tn	C13	dres	1.0
at	1.300	homo	n
np	83230		
sw	32000.0	lb	0.50
fb	18000	wtfile	
bs	16	proc	ft
tpwr	59	fn	not used
pw	24.0	math	f
d1	1.000		
tof	3600.0	werr	
nt	6400	wexp	
ct	5200	wbs	
alock		wnt	
gain	not used		
FLAGS			
fl	n		
fn	n		
dp	y		
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		
nm	100.000		
cdc	ph		

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