Supporting Information:
**Stereoselective Synthesis of (*E*)- β -Tributylstannyl- α,β -unsaturated
Ketones: Construction of a Key Intermediate for the Total Synthesis
of Zoanthamine**

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Name Thomas E. Nielsen
stannyl alcohol

(E)-4-((tert-Butyl-dimethyl-silanyloxy)-1-cyclohexyl)-3-tributylstannanyl-but-2-en-1-ol (7a).

Current Data Parameters
NAME Sept12-2001
EXPNO 120
PROCNO 1
F2 - Acquisition Parameters
Date_ 20010913
Time 2.50
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 32
DS 2
SWH 6172.835 Hz
FIDRES 0.188360 Hz
AQ 2.6542580 sec
RG 256
DM 81.000 usec
DE 6.00 usec
TE 292.5 K
D1 1.00000000 sec
----- CHANNEL f1 -----
NUC1 1H
P1 7.62 usec
PL1 3.00 dB
SFO1 300.2216540 MHz
F2 - Processing parameters
SI 32768
SF 300.2200277 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.60
10 MHz plot parameters
CX 28.00 cm
CY 12.50 cm
FIP 11.000 ppm
F1 3302.42 Hz
F2 -1.000 ppm
F3 -300.22 Hz
PPHCH 0.43857 ppm/cm
HZCM 128.66573 Hz/cm

di-tert-butylhydrosilane
STANDARD 1H OBSERVE

Pulse Sequence: szpul
Date: Apr 20 2001
Solvent: cdcl3
Temp: 30.0 C / 303.1 K
Sample #1
File: 101
Mercury-300BB "nmr300"
PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Width 6000.0 Hz
Repetitions 300.0576137 MHz
NMR
DATA PROCESSING
F1 size 65536
Total time 1 minute

(E)-5-(*tert*-Butyl-dimethyl-silanyloxy)-1-cyclohexyl-3-tributylstannanyl-pent-2-en-1-ol (7b).

dtten-hydrostannation 3 flash
STANDARD 1H OBSERVE

Pulse Sequence: szpul
Date: Jul 27 2001
Solvent: cdc13
Temp. 30.0 C / 303.1 K
Sample #10
File: 1001
Mercury-300BB "nmr300"
PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Width 6000.0 Hz
8 repetitions
OBSERVE F2 300.0576124 MHz
DATA PROCESSING
FT size 65536
Total time 1 minute

(E)-6-(*tert*-Butyl-dimethyl-silanyloxy)-1-cyclohexyl-3-tributylstannanyl-hex-2-en-1-ol (7c).

diten-hydrostannation 2 flash
STANDARD 1H OBSERVE

Pulse Sequence: s2pul

Date: Jul 27 2001

Solvent: cdcl3

Temp. 30.0 C / 303.1 K

Sample 22

File: 201

Mercury-30088 "nuc300"

PULSE SEQUENCE 1,000 sec

Relax. 45.000 sec

Phase 45.0 degrees

Acq. time 5.461 sec

Width 6000.0 Hz

8 repetitions

OBSERVE H1, 300.0575957 MHz

DATA PROCESSING

FT size 65536

Total time 1 minute

(*E*)-Cyclohexyl-3-tributylstannanyl-hept-2-en-1-ol (7d).

diten-hydrostannation 5 (ipr)
STANDARD 1H OBSERVE

Pulse Sequence: s2pul
Date: Aug 2 2001
Solvent: cdc13
Temp: 30.0 C / 303.1 K
Sample #2
File: 201
Mercury-3000B "nmr300"
PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Sweep rate 610.0 Hz
A. PROPT11.5
OBSERVE H1 300.0576188 MHz
DATA PROCESSING
FT size 65536
Total time 1 minute

(E)-7-(*tert*-Butyl-dimethyl-silanyloxy)-2-methyl-5-tributylstannanyl-hept-4-en-3-ol (7e).

dtten-hydrostannation 4 (ipent)
STANDARD 1H OBSERVE

Pulse Sequence: s2pul
Date: Aug 2 2001
Solvent: cdcl3
Temp. 30.0 C / 303.1 K
Sample #1
File: 101
Mercury-300BB "nmr300"
PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Fid length 65536
FID resolution 0.081 Hz
Observations 300.0576187 MHz
OBSERVE H1
DATA PROCESSING
FT size 65536
Total time 1 minute

(E)-8-(*tert*-Butyl-dimethyl-silanyloxy)-3-ethyl-6-tributylstannanyl-oct-5-en-4-ol (7f).

Pulse Sequence: s2pul
Date: Aug 23 2001
Solvent: cdcl3
Temp. 30.0 C / 303.1 K

FIG. 2101
Mercury-300BB
"nmr300"

PULSE SEQUENCE
Relax. delay 1.000 sec

Pulse 45.0 degrees
Acq. time 5.461 sec

8 repetitions

DATA PROCESSING

Total time 1 minute

(*E*)-7-(*tert*-Butyl-dimethyl-silanyloxy)-2,2-dimethyl-5-tributylstannanyl-hept-4-en-3-ol (7g).

dtten-hydrostannation 13
STANDARD 1H OBSERVE

Pulse Sequence: s2pul
Date: Aug 20 2001
Solvent: cdc13
Temp. 30.0 C / 303.1 K
Sample #6
File: 601
Mercury-300BB "nmr300"
PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Width 6000.0 Hz
Sensitivity 300.0576155 MHz
OBSERVE IN
DATA PROCESSING
FT size 65536
Total time 1 minute

(*E*)-5-(*tert*-Butyl-dimethyl-silanyloxy)-1-phenyl-3-tributylstannanyl-pent-2-en-1-ol (7h).

diten-hydrostannation 6 fcc (mesityl)
STANDARD IN OBSERVE

Pulse Sequence: szpul
Date: Aug 3 2001
Solvent: cdcl3
Temp: 30.0 C / 303.1 K
Sample #33
File: 3301
Mercury-300BB "nmr300"

PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Width 6000.0 Hz
8 repetitions

OBSERVE H1, 300.0576214 MHz
DATA PROCESSING
FT: 128536
Total time 1 minute

(E)-5-(*tert*-Butyl-dimethyl-silanyloxy)-3-tributylstannanyl-1-(2,4,6-trimethyl-phenyl)-pent-2-en-1-ol (7i).

dtten-hydrostannation 7 fcc (naphthyl)
STANDARD 1H OBSERVE

Pulse Sequence: s2pu1

Date: Aug 3 2001

Solvent: cdcl3

Temp: 30.0 C / 303.1 K

Sample: 37

File: 37

Mercury-3000B "nmr300"

PULSE SEQUENCE

Relax: delay 1.00 sec

Noise: 1.00 sec

Acq: 5.00 sec

Width: 6000.0 Hz

8 repetitions

OBSERVE M1, 300.0576364 MHz

DATA PROCESSING

FT size 65536

Total time 1 minute

(E)-5-(*tert*-Butyl-dimethyl-silanyloxy)-1-naphthalen-1-yl-3-tributylstannanyl-pent-2-en-1-ol (7j).

(E)-4,4-Dimethyl-1-tributylstannanyl-pent-1-en-3-ol (7k).

dtten-hydrostannation fcc tbu-h
STANDARD 1H OBSERVE
Pulse Sequence: s2pul
Date: Aug 14 2001
Solvent: cdcl3
Temp. 30.0 C / 303.1 K
Sample 255
P1 3.00
Mercury-3000B "nmr300"
PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 1a 0 degrees
Acq. time 5.000 sec
Width 6000.0 Hz
8 repetitions
OBSERVE H1, 300.0575957 MHz
DATA PROCESSING
FT size 65536
Total time 1 minute

(E)-Cyclohexyl-3-tributylstannanyl-prop-2-en-1-ol (71).

Current Data Parameters
NAME Sep11-2001
EXPNO 80
PROCNO 1

F2 - Acquisition Parameters
Date_ 20010912
Time 11:27
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 32
DS 2
SWH 6172.839 Hz
FIDRES 0.186380 Hz
AQ 2.654580 sec
RG 256
DM 81.000 usec
DE 6.00 usec
TE 293.5 K
D1 1.0000000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 7.52 usec
PL1 3.00 dB
SF01 300.2218540 MHz

F2 - Processing parameters
SI 32768
SF 300.2200226 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.60

1D NMR plot parameters
CX 28.00 cm
CY 12.50 cm
F1 11.000 ppm
F2 3302.42 Hz
F3 -1.000 ppm
F4 -300.22 Hz
PFGNCH 0.42657 ppm/cm
MTCN 128.66573 Hz/cm

Name: Thomas E. Nielsen
 Stannane, Cy. n=1, OTBDMS, oxidation

(E)-4-(*tert*-Butyl-dimethyl-silanyloxy)-1-cyclohexyl-3-tributylstannanyl-but-2-en-1-one (8a).

Current Data Parameters
 NAME: Sep15-2001
 EXPNO: 20
 PROCNO: 1
 F2 - Acquisition Parameters
 Date_: 20010915
 Time: 12:59
 INSTRUM: spect
 PROBHD: 5 mm BBO BB-1H
 PULPROG: zg30
 TO: 32768
 SOLVENT: CDCl3
 NS: 32
 DS: 2
 SHH: 6172.839 Hz
 FIDRES: 0.188380 Hz
 AQ: 2.6542500 sec
 RG: 256
 DM: 81.000 usec
 DE: 6.00 usec
 TE: 292.9 K
 D1: 1.00000000 sec
 ***** CHANNEL f1 *****
 NUC1: 1H
 P1: 7.62 usec
 PL1: 3.00 dB
 SF01: 300.2218540 MHz
 F2 - Processing parameters
 SI: 32768
 SF: 300.2200263 MHz
 NUCN: 1H
 SSB: 0
 LB: 0.30 Hz
 GB: 0
 PC: 1.60
 TD: 65536
 FIDRES: 0.188380 Hz
 CY: 12.50 Hz
 F1P: 11.000 Hz
 F1: 3302.42 Hz
 F2P: -1.000 Hz
 F2: -300.22 Hz
 PPM0: 0.42857 ppm/cg
 HZ0: 128.66573 Hz/cg

Name Thomas E. Nielsen
Stannane, n=3, oxidation

(E)-6-((*tert*-Butyl-dimethyl-silanyloxy)-1-cyclohexyl-3-tributylstannanyl-hex-2-en-1-one (8c).

Current Data Parameters
NAME S0024-001
EXPNO 20
PROCNO 1
F2 - Acquisition Parameters
Date_ 20010924
Time 12.24
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 32
DS 2
SWH 6172.839 Hz
FIDRES 0.169380 Hz
AQ 2.6542580 sec
RG 203.2
DM 81.000 usec
DE 6.00 usec
TE 294.2 K
D1 1.00000000 sec
----- CHANNEL f1 -----
NUC1 1H
P1 7.62 usec
PL1 3.00 dB
SF01 300.2218540 MHz
F2 - Processing parameters
SI 32768
SF 300.2200139 MHz
WDW EN
SSB 0
LB 0.30 Hz
GB 0
PC 1.60
ID NRG plot parameters
CX 20.00 cm
CY 12.50 cm
FIP 11.000 cm
F1 3302.42 Hz
F2 -11.000 cm
F3 -340.22 Hz
PPHCH 0.42657 ppm/cm
HZCH 128.66573 Hz/cm

Name: Thomas E. Nielsen
 Stannane, but oxidation

(E)-1-Cyclohexyl-3-tributylstannanyl-hept-2-en-1-one (8d).

Current Data Parameters
 NAME: Sep24-2001
 EXPNO: 30
 PROCNO: 1

F2 - Acquisition Parameters
 Date_: 20010924
 Time: 12.38
 INSTRUM: spect
 PROBNM: 5 mm BBO BB-1H
 PULPROG: zg30
 TO: 32768
 SOLVENT: CDCl3
 NS: 32
 DS: 2
 SWH: 6172.839 Hz
 FIDRES: 0.188360 Hz
 AQ: 2.6542560 sec
 RG: 161.3
 DM: 81.000 usec
 DE: 6.00 usec
 TE: 294.2 K
 D1: 1.00000000 sec

***** CHANNEL f1 *****
 NUC1: 1H
 P1: 7.62 usec
 PL1: 3.00 dB
 SF01: 300.2218540 MHz

F2 - Processing parameters
 SI: 32768
 SF: 300.2200256 MHz
 MDW: EN
 SSB: 0
 LB: 0.30 Hz
 GB: 0
 PC: 1.60

1D NMR plot parameters
 CX: 28.00 cm
 CY: 12.50 cm
 F1P: 11.000 ppm
 F1: 3302.42 Hz
 F2P: -1.000 ppm
 F2: -300.22 Hz
 PPM0H: 0.42857 ppm/cm
 HZCM: 128.66573 Hz/cm

Thomas E. Nielsen
Stannane, ipr, n=2, oxidation

(E)-7-(tert-Butyl-dimethyl-silanyloxy)-2-methyl-5-tributylstannanyl-hept-4-en-3-one (8e).

Current Data Parameters
NAME Sep24-2001
EXPNO 40
PROCNO 1

F2 - Acquisition Parameters
Date_ 20010924
Time 12.45
INSTRUM spect
PROBHD 5 mm BBO BH-1H
PULPROG zgpg30
TD 32768
SOLVENT CCl₄
NS 32
DS 4
SWH 6172.839 Hz
FIDRES 0.169380 Hz
AQ 2.654485 sec
RG 256
RW 0.1000 usec
DE 5.000 usec
TE 294.2 K
D1 1.0000000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 7.62 usec
PL1 3.00 dB
SF01 300.2210540 MHz

F2 - Processing parameters
SI 32768
SF 300.2200181 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.60

1D NMR plot parameters
CX 28.00 cm
CY 12.50 cm
FIP 11,000 ppm
F1 3302.42 Hz
F2 -1,000 ppm
F2 -300.22 Hz
PPHCH 0.42657 ppm/cm
NUCH 128.66573 Hz/cm

Name Thomas E. Nielsen
 Stannane, ipent, n=2, oxidation B

(E)-8-(*tert*-Butyl-dimethyl-silanyloxy)-3-ethyl-6-tributylstannanyl-oct-5-en-4-one (8f).

Current Data Parameters
 NAME Sep24-2001
 EXPNO 60
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20010924
 Time 12:59
 INSTRUM spect
 PROBHD 5 mm BBO BB-1H
 PULPROG zg30
 TO 32760
 SOLVENT CDCl3
 NS 32
 DS 2
 SWH 6172.839 Hz
 FIDRES 0.186380 Hz
 AQ 2.6542580 sec
 RG 256
 DM 81.000 usec
 DE 6.00 usec
 TE 294.3 K
 D1 1.00000000 sec

***** CHANNEL f1 *****
 NUCL1 1H
 P1 7.62 usec
 PL1 3.00 dB
 SFO1 300.2218540 MHz

F2 - Processing parameters
 SI 32768
 SF 300.2200190 MHz
 WDW EM
 SSB 0
 LB 0.30 Hz
 GB 0
 PC 1.60

1D NMR plot parameters
 CX 28.00 cm
 CY 12.50 cm
 F1P 11.000 ppm
 F1 3302.42 Hz
 F2P -1.000 ppm
 F2 -300.22 Hz
 PPMH 0.42657 ppm/cm
 HZCM 128.66573 Hz/cm

Name Thomas E. Nielsen
stannane, tbu, n=2, oxidation

(E)-7-(tert-Butyl-dimethyl-silanyloxy)-2,2-dimethyl-5-tributylstannanyl-hept-4-en-3-one (8g).

Current Data Parameters
NAME Sep21-2001
EXPNO 10
PROCNO 1

F2 - Acquisition Parameters
Date_ 20010921
Time 8.35
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zgpg30
TD 32768
SOLVENT CDCl3
NS 32
DS 2
SWH 6172.839 Hz
FIDRES 0.189380 Hz
AQ 2.6542500 sec
RG 256
DM 81.000 usec
DE 6.00 usec
TE 294.0 K
D1 1.00000000 sec

----- CHANNEL f1 -----
NUC1 1H
P1 7.62 usec
PL1 3.00 dB
SF01 300.2218540 MHz

F2 - Processing parameters
SI 32768
SF 300.2200180 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.60

1D NMR plot parameters
CX 28.00 cm
CY 12.50 cm
F1P 11.000 ppm
F1 3302.42 Hz
F2P -1.000 ppm
F2 -300.22 Hz
PPMCH 0.42857 ppm/cm
HZCM 128.66573 Hz/cm

Jane Thomas E. Nielsen
stannane, ph der, oxidation

(E)-5-(*tert*-Butyl-dimethyl-silanyloxy)-1-phenyl-3-tributylstannanyl-pent-2-en-1-one (8h).

Current Data Parameters
NAME Sep19-2001
EXPNO 40
PROCNO 1

F2 - Acquisition Parameters
Date_ 20010920
Time 0.28
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TO 32768
SOLVENT CDD13
NS 32
DS 2
SWH 6172.839 Hz
FIDRES 0.188380 Hz
AQ 2.6542580 sec
RG 114
DM 81.000 usec
DE 6.00 usec
TE 294.0 K
D1 1.00000000 sec

***** CHANNEL f1 *****
NUC1 1H
P1 7.62 usec
PL1 3.00 dB
SF01 300.2216540 MHz

F2 - Processing parameters
SI 32768
SF 300.2216540 MHz
WDW EN
SSB 0
LB 0.30 Hz
GB 0
PC 1.60

1D NMR plot parameters
CX 20.00 cm
CY 12.50 cm
F1 11.000 ppm
F2 3302.42 Hz
F3 -1.000 ppm
F4 -300.22 Hz
PPMCM 0.42857 ppm/cm
HZCM 128.66573 Hz/cm

Name Thomas E. Nielsen
 Stamane, mesityl der, oxidation

(E)-5-(*tert*-Butyl-dimethyl-silanyloxy)-3-tributylstannanyl-1-(2,4,6-trimethyl-phenyl)-pent-2-en-1-one (8i).

Current Data Parameters
 NAME Sep19-2001
 EXPNO 50
 PROCNO 1

F2 - Acquisition Parameters
 Date_ 20010920
 Time 0.35
 INSTRUM spect
 PROBHD 5 mm BB0 BB-1H
 PULPROG zg30
 TD 32768
 SOLVENT CDCl3
 NS 32
 DS 2
 SWH 6172.839 Hz
 FIDRES 0.188300 Hz
 AQ 2.6542500 sec
 RG 256
 DM 81.000 usec
 DE 6.00 usec
 TE 293.8 K
 O1 1.00000000 sec

===== CHANNEL f1 =====
 NUC1 1H
 P1 7.62 usec
 PL1 3.00 dB
 SF01 300.2218540 MHz

F2 - Processing parameters
 SI 32768
 SF 300.2200215 MHz
 MD 0
 SS 0
 LB 0.30 Hz
 GB 0
 PC 1.60

1D NMR plot parameters
 CX 28.00 cm
 CY 12.50 cm
 FIP 11.000 ppm
 F1 3302.42 Hz
 F2 -1.000 ppm
 F2 -300.22 Hz
 PHCH 0.42857 ppm/cm
 HZCM 128.66573 Hz/cm

Name Thomas E. Nielsen
Substrate, naphthyl der. oxidation

(E)-5-(*tert*-Butyl-dimethyl-silanyloxy)-1-naphthalen-1-yl-3-tributylstannanyl-pent-2-en-1-one (8j).

Current Data Parameters
NAME Sep19-2001
EXPNO 60
PROCNO 1

F2 - Acquisition Parameters
Date_ 20010920
Time 0.41
INSTRUM spect
PROBHD 5 mm BBO BB-1H
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 32
DS 2
SWH 6172.839 Hz
FIDRES 0.188300 Hz
AQ 2.6542500 sec
RG 256
DM 81.000 usec
DE 6.00 usec
TE 293.8 K
D1 1.00000000 sec

----- CHANNEL f1 -----
NUC1 1H
P1 7.62 usec
PL1 3.00 dB
SFO1 300.2218540 MHz

F2 - Processing parameters
SI 32768
SF 300.2200157 MHz
WDW EM
SSB 0
LB 0.30 Hz
GB 0
PC 1.60

1D NMR plot parameters
CX 28.00 cm
CY 12.50 cm
F1 11.000 ppm
F2 3302.42 Hz
F3 -1.000 ppm
F4 -300.22 Hz
PPH4 0.42857 ppm/c
HZCM 128.66573 Hz/cm

diten-zoanthamine fragment c step 16
STANDARD 1H OBSERVE

Pulse Sequence: s2pul

Date: Jan 18 2002

Solvent: cdcl3

Temp: 30.0 C / 303.1 K

Sample: 4101

File: 4101

Mercury-3008B "nmr300"

PULSE SEQUENCE 1,000 sec

P1: 45.0 degrees

P2: 45.0 degrees

Acq. time 5.461 sec

Width 6000.0 Hz

8 repetitions

OBSERVE H1, 300.0576135 MHz

DATA PROCESSING

FT size 65536

Total time 1 minute

Diastereomeric mixture (2:1) of
(*E*)-(*R*)-7-(tert-butyl-dimethyl-silanyloxy)-2-
((1*S*,2*S*,6*R*)-(6-isopropenyl-2-
methoxymethoxy-4-methyl-cyclohex-3-
enyl)-hept-4-yn-3-ol (10).

**Major Diastereomer of
(E)-R-7-(*tert*-Butyl-dimethyl-silyloxy)-2-
((1S,2S,6R)-6-isopropenyl-2-methoxy-
methoxy-4-methyl-cyclohex-3-enyl)-5-
tributylstannanyl-hept-4-en-3-ol (11).**

```

Pulse Sequence: s2pul
Date: Jan 19 2002
Solvent: cdcl3
Temp: 30.0 C / 303.1 K
Sample #22
File: 2201
Mercury-3000B "nuc300"

PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Width 6000.0 Hz
8 repetitions
OBSERVE H1, 300.0576150
DATA PROCESSING
FT size 65536
Total time 1 minute

```

Atten-zoanthamine fragment C step 19
STANDARD 1H OBSERVE

Pulse Sequence: s2pul
Date: Jan 19 2002
Solvent: cdc13
Temp. 30.0 C / 303.1 K
Sample #21
File: 2101
Mercury-30000 "nmr300"
PULSE SEQUENCE
Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 5.461 sec
Width 60000 Hz
Spectrum
OBSERVE H1 300.0576148 MHz
DATA PROCESSING
FT size 65536
Total time 1 minute

Minor Diastereomer of
(E)-(R)-7-(tert-Butyl-dimethyl-silanyloxy)-2-
((1S,2S,6R)-6-isopropenyl-2-methoxy-
methoxy-4-methyl-cyclohex-3-enyl)-5-
tributylstannanyl-hept-4-en-3-ol (11).

o-naphthalene fragment c final step 20 (fcc)
 .UARD 1H OBSERVE

Pulse Sequence: s2pul
 Date: Jan 21 2002
 Solvent: cdc13
 Temp. 30.0 C / 303.1 K
 Sample #3
 File: 9-2-02
 Mercury-30000 "nar300"
 PULSE SEQUENCE
 Relax. delay 1.000 sec
 Pulse delay 0.000 sec
 Acq. time 5.461 sec
 Width 6000.0 Hz
 # repetitions
 OBSERVE H1, 300.0576130 MHz
 DATA PROCESSING
 FT size 65536
 Total time 1 minute

(E)-(R)-7-(tert-Butyl-dimethyl-silanyloxy)-2-
 ((1S,2S,6R)-6-isopropenyl-2-methoxy-
 methoxy-4-methyl-cyclohex-3-enyl)-5-
 tributylstannanyl-hept-4-en-3-one (12).