Supporting Information

For

Concise, Enantioselective Total Synthesis of (-)-Alstonerine

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KAM-TMSalkyne

Pulse Sequence: s2pu1

Solvent: CDCl3

Ambient temperature

Mercury-400BB "nmr6"

Relax. delay 2.000 sec

Pulse 16.4 degrees

Acq. time 2.856 sec

Width 5602.2 Hz

8 repetitions

OBSERVE H1, 400.2669859 MHz

DATA PROCESSING

Line broadening 0.1 Hz

FT size 32768

Total time 0 min, 41 sec

KAM6-155A

Pulse Sequence: s2pu1
Solvent: CDCl3
Ambient temperature
Mercury-400BB "nmr6"

Relax. delay 2.000 sec
Pulse 22.5 degrees
Acq. time 1.280 sec
Width 25188.9 Hz
100 repetitions
OBSERVE C13, 100.6472216 MHz
DECUPLE H1, 400.268955 MHz
Power 38 dB
continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 65536
Total time 9 min, 29 sec

KAM6-251

Pulse Sequence: s2pul
Solvent: CDCl3
Ambient temperature
Mercury-400B8 "nmr6"

Relax. delay 2.000 sec
Pulse 16.4 degrees
Acq. time 2.856 sec
Width 5602.2 Hz
8 repetitions
OBSERVE H1 400.2669859 MHz
DATA PROCESSING
Line broadening 0.1 Hz
FT size 32768
Total time 0 min, 41 sec

KAM3-242A

Pulse Sequence: s2pul

Solvent: CDCl₃

Ambient temperature

UNITYplus-300 "nmr2"

Relax. delay 2.000 sec

Pulse 36.0 degrees

Acq. time 1.777 sec

Width 18009.9 Hz

688 Repetitions

OBSERVE C13, 75.4700266 MHz

DECOUPLE H1, 300.1409259 MHz

Power 40 dB

continuously on

WALTZ-16 modulated

Single precision data

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 16 hr, 50 min, 2 sec

KAM3-243
temp=100c

expt s2pul

SAMPLE

date Nov 23 2004

solvent DMSO

file ACQUISITION

sfrq 499.870

tn HI

at 3.996

np 7.3960

sw 9256.0

fb not used

bs 32

tpwr 57

pw 2.0

dl 2.000

tof 1124.6

nt 32

ct 32

alock n

gain 30

il n

in n

dp y

hs nm

sp -250.0

wp 5248.5

vs 173

sc 0

wc 250

h2mm 20.99

is 2190.05

rfi 1014.1

rtp 0

th 5

ins 1.000

at ph

DEC. & VT

dfrq 499.869

dn HI

dpr 30

dof 0

dmm nnn

dmc 200

dseq 1.0

dres 1.0

homo n

temp 100.0

PROCESSING

lb 0.10

wfite

proc ft

fn not used

math

werr

wexp

wbs

wnt

wft

9 8 7 6 5 4 3 2 1 0 ppm

KAM3-243
temp=100c
exp4 s2pu1

SAMPLE DEC. & VT
date Nov 23 2004 dfrq 499.869
solvent DMSO dn H1
file exp dpr 37
ACQUISITION
sfrq 125.706 dm 0
tn C13 dmm VVY
at 1.279 dmf W
np 85262 dseq 10582
sw 33333.3 dres 1.0
fb not used homo 1.0
bs 64 temp 100.0
tpwr 53 PROCESSING
pw 3.0 lb 1.00
dl 2.000 wfile
tof 2198.1 proc ft
nt 2000 fn not used
ct 757 math f
a1ock n
gain 60
11 FLAGS
in n wert
dp n wexp
hs V wbs
n V wnt
DISPLAY
sp -628.5
wp 28280.6
vs 737
sc 0
wc 250
hzmm 113.12
is 500.00
rfl 7646.2
rfp 4964.8
th 66
tms 100.000
ai cdc ph

KAM4-161
temp=100c

exp2 s2pul

SAMPLE		DEC. & VT	
date	May 11 2005	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	30
ACQUISITION			
sfrq	499.870	dm	nmn
in	H1	dmm	c
at	3.996	dmt	200
np	73980	dseq	
sw	9256.0	dres	1.0
fb	not used	homo	n
bs	32	temp	100.0
tpwr	57	PROCESSING	
pw	2.0	lb	0.10
d1	2.000	wf1le	
tof	1124.6	proc	ft
nt	64	fn	not used
ct	64	math	f
alock	n		
gain	30	werr	
fl	FLAGS	wexp	
il	n	wbs	
in	n	wnt	
dp	y		
hs	nm		
DISPLAY			
sp	-250.0		
wd	6248.3		
vs	355		
sc	0		
wc	250		
hzm	24.99		
ts	1557.37		
rfl	2256.4		
rfp	1244.7		
th	7		
ins	1.000		
ai	ph

KAM4-161
temp=100c

exp4 s2pu1

SAMPLE

date May 11 2005

solvent DMSO

file exp

ACQUISITION

sfrq 125.706

tn C13

at 1.279

np 85262

sw 33333.3

fb not used

bs 64

rtpr 53

pw 3.0

dl 2.000

tof 2198.1

nt 4000

ct 2385

alock n

gain 60

flags

il n

in n

dp y

hs nm

DISPLAY

sp -628.5

wp 28280.6

vs 2507

sc 0

wc 250

h2mm 113.12

ts 500.00

tfi 7647.2

rfp 4954.8

th 68

ins 100.000

ai cdc ph

DEC. & VT

dfrq 499.869

dn H1

dpwr 37

dof 0

dm yvy

dmm 10582

dmf 10582

dseq 1.0

dres 1.0

homo n

temp 100.0

PROCESSING

lb 1.00

wtfile

proc ft

tn not used

math f

weff

wexp

wbs

wnt

KAN4-193
temp=100c

expt s2pul

SAMPLE

DEC. & VT

date Jun 24 2005

dfrq 499.869

solvent DMSO

dn H1

file exp

dpwr 30

ACQUISITION

dof 0

sfrq 499.870

dm nm

tn H1

dmf 200

at 3.996

dseq 1.0

np 73960

dres n

sw 9256.0

temp 100.0

fb not used

temp 100.0

bs 32

temp 100.0

tpwr 57

temp 100.0

pw 2.0

temp 100.0

dl 2.000

temp 100.0

tof 1124.6

temp 100.0

nt 64

temp 100.0

ct 64

temp 100.0

atlock n

temp 100.0

gain 30

temp 100.0

FLAGS

temp 100.0

11

temp 100.0

in n

temp 100.0

dp y

temp 100.0

hs nm

temp 100.0

DISPLAY

temp 100.0

sp -250.0

temp 100.0

wp 5248.5

temp 100.0

vs 403

temp 100.0

sc 0

temp 100.0

MC 250

temp 100.0

h2mm 20.88

temp 100.0

15 1679.04

temp 100.0

15 1012.6

temp 100.0

15 0

temp 100.0

15 7

temp 100.0

15 1.000

temp 100.0

15 ph

temp 100.0

KAM4-232
temp=100c

exp4 s2pu1

SAMPLE DEC. & VT
date Jul 25 2005 dfrq 499.869
solvent DMSO dn H1
file exp dpr 37
ACQUISITION dof 0
sfrq 125.706 dm yyy
tn C13 dmm w
at 1.279 dmf 10582
np 85262 dseg
sw 33333.3 dres 1.0
fb not used homo n
bs 64 temp 100.0
tpwr 53 PROCESSING
pw 3.0 lb 1.00
dl 2.000 wfile
tof 2198.1 proc ft
nt 4000 fn not used
ct 4000 math f
alock n
gain 60
flags
il n weff
in n wexp
dp n wbs
hs y wnt
DISPLAY
sp -628.5
wp 28280.6
vs 2419
sc 0
wc 250
hzm 113.12
is 500.00
rf1 7648.2
rfp 4964.8
th 4
ins 100.000
ai cdc ph

STANDARD 1H OBSERVE

Pulse Sequence: szpu1
 Solvent: CDCl3
 Ambient temperature
 UNITYplus-300 "nmr2"

Relax. delay 1.000 sec
 Pulse 15.0 degrees
 Acq. time 3.813 sec
 Width 4196.4 Hz
 8 repetitions
 OBSERVE H1, 300.1390293 MHz
 DATA PROCESSING
 Line broadening 0.1 Hz
 FT size 32768
 Total time 0 min, 38 sec

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13C OBSERVE

Pulse Sequence: s2pu1
Solvent: CDCl3
Ambient temperature
UNITYplus-300 "nmr2"

Relax. delay 2.000 sec
Pulse 36.0 degrees
Acq. time 1.777 sec
Width 18009.9 Hz
270 repetitions
OBSERVE C13, 75.4700354 MHz
DECOUPLE H1, 300.1409259 MHz
Power 40 db
continuously on
WALTZ-16 modulated
Single precision data
DATA PROCESSING
Line broadening 1.0 Hz
FI size 65536
Total time 1 hr, 41 min, 0 sec

KAH5-274
temp=100c
kam5274_n1_100c

exp1 s2pul

DEC. & VT

Boc

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date	Apr 20 2006	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	30
ACQUISITION			
sfrq	499.870	dm	0
tn	H1	dmm	nm
at	3.996	daf	C
md	73980	dseq	200
sw	9236.0	dres	1.0
td	not used	homo	n
bs	32	temp	100.0
tpwr	57	PROCESSING	
pw	2.0	lb	0.10
dl	2.000	wtfile	
tof	1124.6	proc	ft
nt	64	fn	not used
ct	64	math	f
aLOCK			
gain	20	weft	
ll	n	wexp	
in	n	wbs	
dp	y	wnt	wft
hs	nm		
DISPLAY			
sp	-250.0		
wp	5248.5		
vs	2501		
sc	0		
WC	250		
hzmm	20.99		
is	4088.09		
tfi	1012.3		
th	0		
ins	7		
aj	1.000		
ph

KAM5-274
temp=100c
Kam5274_c13_100c

exp4 szpu1

SAMPLE		DEC. & VT	
date	Apr 20 2006	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	37
ACQUISITION		dof	0
sfrq	125.706	dm	yyy
tn	C13	dmm	w
at	1.279	dmf	10582
np	85262	dseq	
sw	33333.3	dres	1.0
tb	not used	homo	n
bs	64	temp	100.0
tpwr	53	PROCESSING	
pw	3.0	lb	1.00
di	2.000	wtfile	
tof	2198.1	proc	ft
nt	6000	fn	not used
ct	1889	math	f
atlock	n		
gain	60	werf	
flags	n	wexp	
ii	n	wbs	
in	y	wrt	
dp	nm		
hs			
DISPLAY			
sp	-628.5		
wp	29537.5		
vs	3716		
sc	0		
wc	250		
hzm	118.15		
is	500.00		
rf1	7548.2		
rfd	4964.8		
th	68		
ins	100.000		
at	cdc	ph

Kam6-071A

Pulse Sequence: s2pu1

Solvent: CD3OD

Ambient temperature

Mercury-400BB "nmr6"

Relax. delay 2.000 sec

Pulse 16.4 degrees

Acq. time 2.856 sec

Width 5602.2 Hz

8 repetitions

OBSERVE H1, 400.2685967 MHz

DATA PROCESSING

line broadening 0.1 Hz

FT size 32768

Total time 0 min, 0 sec

13C OBSERVE

Pulse Sequence: szpu1
Solvent: CD3OD
Ambient temperature
Mercury-400BB "nmr6"

Relax. delay 2.000 sec
Pulse 22.5 degrees
Acq. time 1.280 sec
Width 25188.9 Hz
133 repetitions
OBSERVE C13, 100.6474667 MHz
DECOUPLE H1, 400.2705726 MHz
Power 38 dB
continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FI size 65536
Total time 9 min, 29 sec

KAM-HK
temp=100c
kamhk_h1_100c
exp7 s2pul

SAMPLE DEC. & VT
date Jun 7 2006 dfrq 499.869
solvent DMSO dn H1
file /export/home/~ dpwr 30
space/data/kamhk_h1 dof 0
1100c.ftd mnm
ACQUISITION c 200
sfrq 499.870 dnm
zn H1 dmf
at 3.996 dseq
mp 73980 dres 1.0
sw 9256.0 homo n
ftb not used temp PROCESSING 100.0
bs 32 lb
tpwr 57 wfile
pw 2.0 proc ft
di 2.000 tn not used
tof 1124.6 math f
nt 64 weff
ct 64 weff
atlock n wexp
gain 30 wbs
flags n wnt
11 n
1n n
dp y
hs nm
DISPLAY
sp -250.0
wp 5248.5
vs 893
sc 0
wc 250
h2mm 20.99
is 2042.01
rf1 2257.2
rfp 1244.7
tbp 1.000
ins
at ph

KAM-HK
temp=100c
kamhk_c13_100c

exp8 s2pu1

SAMPLE DEC. & VT
date Jun 7 2006 dfrq 499.869
solvent DMSO dn H1
file/export/home/~ dpwr 37
space/data/kamhk_c13_100c_a1.fid dof 0
13-100c_a1.fid dmm yyy
ACQUISITION w 10582
sfrq 125.706 dmf
tn C13 dseq
at 1.279 dres 1.0
np 85262 homo n
sw 33933.3 temp 100.0
fd not used PROCESSING
bs 64 lb 1.00
tpwr 53 wtfille
pw 3.0 proc
d1 2.000 fn
tof 2198.1 math not used
nt 4000 f
ct 2321 wert
atlock n wexp
gain n wbs
11 FLAGS 60 wnt
11 n
in n
dp y
hs nm
DISPLAY
sp -628.5
wp 26280.6
vs 3167
sc 0
wc 250
hzmm 113.12
is 500.00
rf1 7644.7
rfp 4964.8
th 68
ins 100.000
al cdc ph

KAM6-130
temp=100C
kam6130_n1_100C
exp2 szpul

SAMPLE		DEC. & VT	
date	Sep 5 2006	dfreq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	30
ACQUISITION		dof	0
sfrq	499.870	dm	nmn
tn	H1	dmm	C
at	3.996	dmf	200
np	73980	dseq	
sw	9256.0	dres	1.0
fb	not used	homo	n
bs	32	temp	100.0
tpwr	57	PROCESSING	
pw	2.0	lb	0.10
dl	2.000	wfille	
tof	1124.6	proc	ft
nt	64	fn	not used
cl	64	math	f
atlock	n		
gain	30	werr	
flags	n	wexp	
il	n	wbs	
in	Y	wnt	wft
dp	mn		
hs			
DISPLAY			
sp	-250.0		
wp	5248.5		
vs	415		
sc	0		
WC	250		
hzmm	20.99		
is	1155.73		
rfl	2257.0		
rtp	1244.7		
th			
ins	1.000		
al

KAM6-130
temp=100C
kam6130_c13_100c
exp4 s2pul

SAMPLE		DEC. & VT	
date	Sep 5 2006	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	37
ACQUISITION		dof	0
sfrq	125.706	dm	yyy
tn	C13	dmm	w
at	1.279	dmf	10582
np	85262	dseq	
sw	33333.3	dres	1.0
fb	not used	homo	1.0
bs	64	temp	100.0
tpwr	53	PROCESSING	
pw	3.0	lb	1.00
d1	2.000	wtfile	
tof	2198.1	proc	ft
nt	7000	fn	not used
ct	7000	math	f
gain	60	weff	
alock	n	wexp	
il	n	wbs	
in	n	wnt	
dp	y		
hs	nm		
DISPLAY			
sp	-628.5		
wp	25766.5		
vs	2585		
sc	0		
wc	250		
h2mm	103.07		
is	500.00		
rfi	7646.2		
rtp	4964.8		
th	68		
ins	100.000		
ai	cdc ph

180 160 140 120 100 80 60 40 20 ppm

KAM6-131
temp=100c
kam6131_h1_100c

exp1 s2pu1

SAMPLE		DEC. & VT	
date	Aug 31 2006	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	30
ACQUISITION		dot	0
sfrq	499.870	dm	nmn
tn	H1	dmm	C
at	3.996	dmf	200
np	73980	dseq	
sw	9256.0	dres	1.0
fb	not used	homo	n
bs	32	temp	100.0
tpwr	57	PROCESSING	
pw	2.0	lb	0.10
d1	2.000	wtfile	
tof	1124.6	proc	ft
nt	64	fn	not used
ct	64	math	f
atlock	n		
gain	30	werr	
FLAGS		wexp	
il	n	wbs	
in	n	wnt	
dp	y		wft
hs	nn		
DISPLAY			
sp	-250.0		
wp	5248.5		
vs	289		
sc	0		
wc	250		
hzmm	20.39		
is	2669.77		
rfl	2257.2		
rfp	1244.7		
th			
ins	1.000		
ai

KAM6-131
temp=100c
kam6131_c13_100c
exp4 s2pu1

SAMPLE DEC. 4 VT 499.869
date Aug 31 2006 dfrq dn H1
solvent DMSO dpr 37
file ACQUISITION exp 0
sfrq 125.706 dm yyy
in C13 dmm w
at 1.279 dmf 10582
np 85262 dseq 1.0
sw 3333.3 dres 1.0
fb not used homo n
bs 64 temp 100.0
tpwr 53 PROCESSING
pw 3.0 lb 1.00
d1 2.000 wfile
tof 2198.1 proc ft
nt 6000 fn not used
ct 6000 math f
atlock n
gain 60 weff
flags n weff
i1 n wbs
in n wnt
dp y
hs nm
DISPLAY
sp -628.5
wp 25766.5
vs 2367
sc 0
wc 250
h2mm 103.07
ls 500.00
rf1 7648.2
rfp 4964.8
th 68
ins 100.000
ai cdc ph

KAM6-187
temp=100c
kam6187_h1_100c

exp3 szpul

SAMPLE		DEC. & VT	
date	Oct 31 2006	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	30
ACQUISITION			
sfrq	499.870	dm	nmn
tn	H1	dmm	c
at	3.996	dseq	200
np	73980	dres	1.0
sw	9235.0	homo	n
fb	not used	temp	100.0
bs	57	PROCESSING	
tdwr	32	lb	0.10
pw	2.0	lbf	0.10
dl	2.000	wtfile	ft
tof	1124.6	proc	not used
nt	64	fn	f
ct	64	math	f
gain	20	weir	wft
alock	n	wexp	wbs
flags	n	wnt	wnt
il	n		
in	y		
dp	nm		
hs			
DISPLAY			
sp	-250.0		
wp	5248.5		
vs	760		
sc	0		
wc	250		
h2mm	20.99		
is	3065.12		
rfl	2237.1		
rtp	1244.7		
th	6		
ins	1.000		
al	ph

KAM6-187
temp=100C
kam6187_c13_100c
exp6 s2pul

SAMPLE		DEC. & VT	
date	Oct 31 2006	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	37
ACQUISITION		dof	0
sfrq	125.706	dm	YVY
tn	C13	dmm	W
at	1.279	dmf	10582
np	85282	dseq	1.0
sw	33333.3	dres	1.0
tb	not used	homo	n
bs	64	temp	100.0
tpwr	53	PROCESSING	
pw	3.0	lb	1.00
dl	2.000	wtfile	
tof	2198.1	proc	ft
nt	8000	fn	not used
ct	2230	math	f
alock	n		
gain	60	werr	
FLAGS		wexp	
il	n	wbs	
in	n	wnt	
dp	y		
hs	nm		
DISPLAY			
sp	-628.5		
wp	28280.6		
vs	1291		
sc	0		
WC	250		
h2mm	113.12		
is	500.00		
rfl	7648.7		
rff	4964.8		
th	5		
ins	100.000		
at	cdc ph

KAM6-199
temp=100c
kam6199_h1_100c

exp9 s2pul

SAMPLE		DEC. & VT	
date	Nov 9 2006	dfrq	499.869
solvent	DMSO	dn	H1
file	exp	dpwr	30
ACQUISITION		dof	0
sfrq	499.870	dm	nmn
tn	H1	dmm	C
at	3.998	dmsf	200
np	73980	dseq	
sw	9256.0	dres	1.0
fb	not used	homo	n
bs	32	temp	100.0
tpwr	57	PROCESSING	
pw	2.0	lb	0.10
dl	2.000	wtfile	
tof	1124.6	proc	ft
nt	64	fn	not used
ct	64	math	f
gain	n		
alock	60	werf	wft
fl	n	wexp	
in	n	wbs	
dp	y	wnt	
hs	nn		
DISPLAY			
sp	-250.0		
wp	5248.5		
vs	44		
sc	0		
vc	250		
hzmm	20.89		
is	354.77		
rfl	1012.3		
rfp	0		
th	7		
ins	1.000		
al	ph

KAM6-199
temp=100c
kam6199_c13_100c
exp8 s2pul

SAMPLE DEC. & VT
date Nov 9 2006 dfrq 499.869
solvent DMSO dn H1
file exp dpwr 37
ACQUISITION dof 0
sfrq 125.706 dm YVY
tn C13 dmf 10582
at 1.279 w 1
np 85262 dseq 1.0
sw 33333.3 dres n
fb not used homo 100.0
bs 64 temp PROCESSING
tpwr 53 1b 1.00
pw 3.00 wtfile
dl 2.000 proc ft
tof 2198.1 tn not used f
nt 4000 math
ct 3407 n
gain n
alock n
flags 60 weff
il n wepp
in n wbs
dp y wnt
hs nm
DISPLAY
sp -628.5
wp 28280.6
vs 600
wc 0
sc 250
bzmm 113.12
is 500.00
trf 7648.7
trp 4964.8
th 68
ins 100.000
ai cdc ph

KAM6-195A

Pulse Sequence: s2pu1
Solvent: CDCl3
Ambient temperature
Mercury-40088 "nmr6"

Relax. delay 2.000 sec
Pulse 16.4 degrees
Acq. time 2.856 sec
Width 5602.2 Hz
8 repetitions
OBSERVE H1, 400.266853 MHz
DATA PROCESSING
Line broadening 0.1 Hz
FT size 32768
Total time 0 min, 0 sec

KAM6-195A

Pulse Sequence: s2pu1

Solvent: CDCl₃

Ambient temperature

UNITYplus-300 "nmr2"

Relax. delay 2.000 sec

Pulse 36.0 degrees

Acq. time 1.777 sec

Width 16003.9 Hz

2000 repetitions

OBSERVE C13, 75.4700211 MHz

DECOUPLE H1, 300.1409259 MHz

Power 40 dB

continuously on

WALTZ-16 modulated

Single precision data

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 168 hr, 20 min, 23 sec

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KAM6-196

Pulse Sequence: szpul

Solvent: CDCl₃

Ambient temperature

Mercury-40085 "hmr6"

Relax. delay 2.000 sec

Pulse 16.4 degrees

Acq. time 2.856 sec

Width 5602.2 Hz

35 repetitions

OBSERVE H1, 400.2669863 MHz

DATA PROCESSING

line broadening 0.1 Hz

FT size 32768

Total time 13 min, 23 sec

KAM-alstonerine

Pulse Sequence: s2pul

Solvent: CDCl₃

Ambient temperature

UNITplus-300 "nmr2"

Relax. delay 2.000 sec

Pulse 36.0 degrees

Acq. time 1.777 sec

Width 16009.3 Hz

8845 repetitions

OBSERVE C13, 75.4700200 MHz

DECOUPLE H1, 300.1409259 MHz

Power 40 dB

continuously on

WALTZ-16 modulated

Single precision data

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 1683 hr, 23 min, 53 sec