

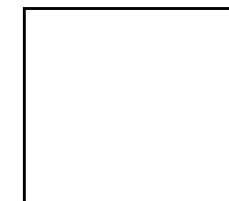
1. TMSCl, LHMDS  
2. 65% *m*CPBA  
3. TBAF  
93% (3 steps)



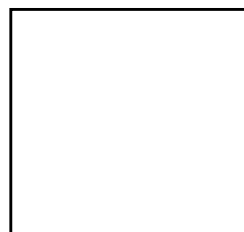
4. DMP  
5. TBSCl, LHMDS



6. vinylMgBr  
7. TBAF  
55% (4 steps)



8.  $\text{Chx}_2\text{BH}$  (2 eq.)  
then  $\text{H}_2\text{O}_2$ , NaOH  
65%



9. PhthNOH,  
DEAD,  $\text{PPh}_3$   
100%



10.  $\text{NH}_2\text{NH}_2 \cdot \text{H}_2\text{O}$   
11.  $\text{CH}_3\text{CO}_2\text{H}$ , EtOH,  $\Delta$   
12. TMSOTf, 2,6-lutidine,  
84% (3 steps)



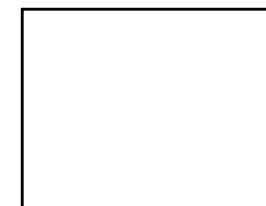
13. allylMgCl (4 eq.)  
58%

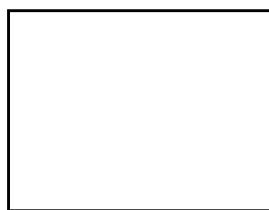


14.  $\alpha\text{-NsCl}$  (4 eq.)  
85%

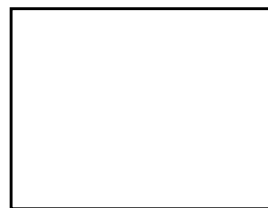


15.  $\text{Pd}_2(\text{dba})_3\text{CHCl}_3$  (0,04 eq.)  
 $\text{PPh}_3$  (0,1 eq.),  $\text{HCO}_2\text{H}$  (4 eq.)  
92%





16. OsO<sub>4</sub> (0,15 eq.), NMO (2 eq.)  
17. NaIO<sub>4</sub>  
80 % (2 steps)



18. Ph<sub>3</sub>PCHMe<sub>2</sub>I (4 eq.),  
*n*-BuLi (3.9 eq.)  
86 %



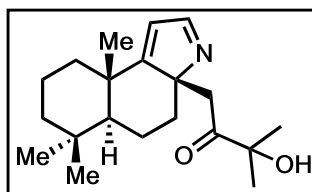
19. TBAF  
20. Burgess reagent (3 eq.)  
92 % (2 steps)



21. OsO<sub>4</sub> (0.15 eq.),  
NMO (2 eq.)  
22. TPAP, NMO, 4Å MS  
72 % (2 steps)



23. PhSH, Cs<sub>2</sub>CO<sub>3</sub>  
24. iodosobenzene (2.5 eq.)  
78% (2 steps)



**(-)-chambotusin A** (C<sub>20</sub>H<sub>31</sub>NO<sub>2</sub> 317.4730 g/mol)  
exhibits in vitro activity against different human tumor cell lines  
isolated in 2007 *Chamaecyparis obtusa* cv. *tetragon*  
first diterpene alkaloid from Pinales (=Nadelholz) and  
first alkaloid from *Cupressaceae* (=Zypressen)