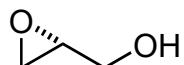


## A biomimetic total synthesis of (+)-intricarene

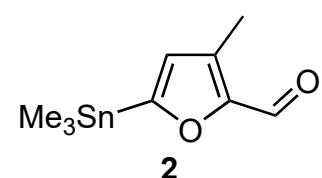
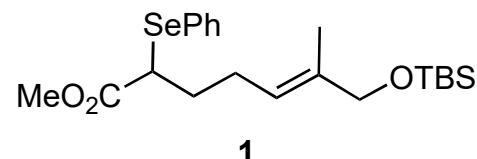
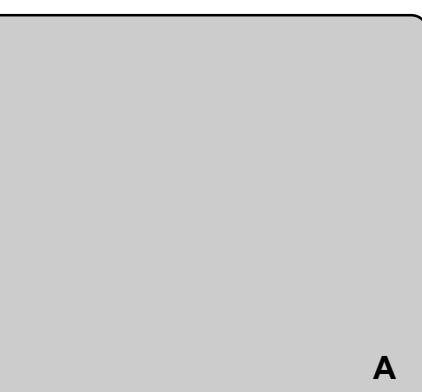
Tang, B.; Bray, C. D.; Pattenden G.  
*Tetrahedron Lett.* **2006**, 47, 6401–6404.



1-10



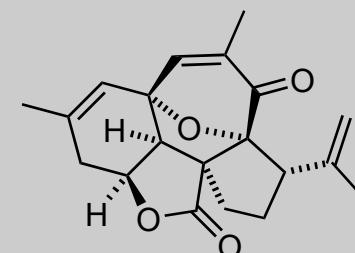
- 1) TMS-acetylene, *n*-BuLi,  $\text{BF}_3 \cdot \text{OEt}_2$ , -78°C to -30°C
- 2)  $\text{K}_2\text{CO}_3$
- 3)  $\text{Cp}_2\text{ZrCl}_2$ ,  $\text{AlMe}_3$ , r.t., *then* reflux  
*then*  $\text{I}_2$ , -30°C
- 4)  $\text{TsCl}$ , pyridine
- 5)  $\text{K}_2\text{CO}_3$
- 6) **1**, NaHMDS, -78°C  
*then* substrate,  $\text{BF}_3 \cdot \text{OEt}_2$ , 0°C
- 7) *p*-TSA
- 8)  $\text{H}_2\text{O}_2$ , 0°C
- 9) PPTS (cat.)
- 10) **2**,  $\text{Pd}(\text{PPh}_3)_4$ ,  $\text{CuI}$ , CsF



1) Please name the starting material.

3) Hint: Isomerization occurs upon reflux.

10) Please name the reaction.



(+)-intricarene

11-12

11)  $\text{Ph}_3\text{P}$ , NBS  
12)  $\text{CrCl}_2$

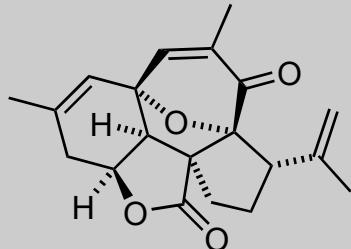
12) These conditions were a precursor to a named coupling reaction. Name this reaction and identify the missing co-catalyst.

(-) -Bipinnatin J

13-15

13)  $\text{VO}(\text{acac})_2$ ,  $t\text{-BuOOH}$ ,  $-20^\circ\text{C}$   
14)  $\text{Ac}_2\text{O}$ ,  $\text{Et}_3\text{N}$ , DMAP (cat.)  
15) DBU, reflux

15) Please classify the reaction and classify and draw its key intermediate. Hint: an ylide is formed.



(+)-Intricarene