# Synthesis of (+)-CP-263,114

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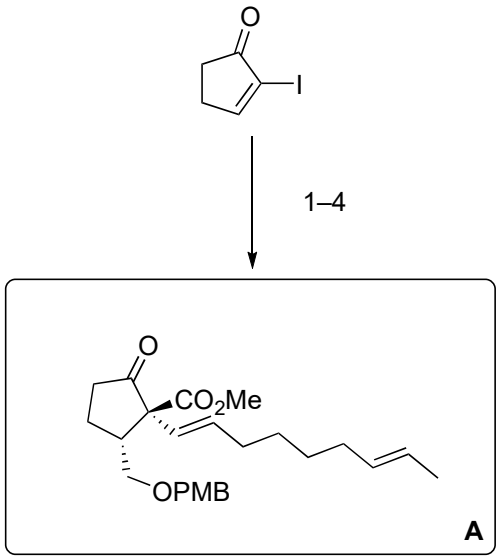
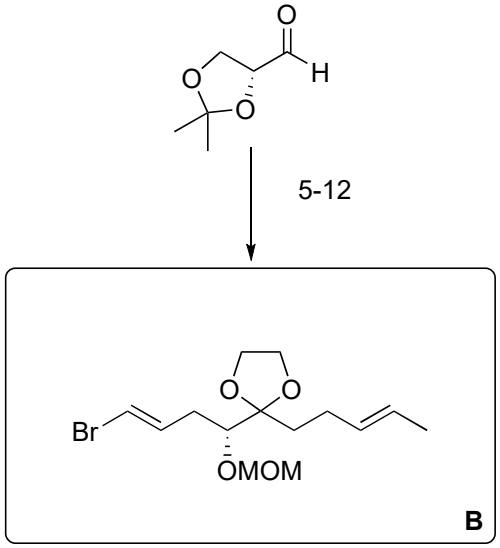
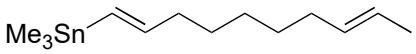
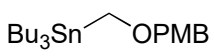


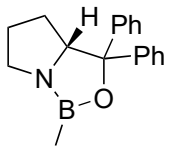

1) $Pd_2(dba)_3$, $PPh_3$, **1**
2) **2**, *n*-BuLi, *then* lithium thiophylcopper cyanide, *then* startingmaterial
3) *n*-BuLi, *then* methylcyanoformate
4) **3**, catecholborane




**1**

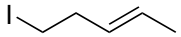



**2**

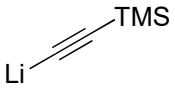



**3**

5) **4**, Mg, *then* startingmaterial
6) PDC
7) Ethanediol, CSA
8) Tosyl imidazole, NaH
9) **5**, $BF_3$•$OEt_2$
10) MOMCl, *i*$Pr_2$NEt
11) $K_2CO_3$
12) $Cp_2Zr(H)Cl$, NBS



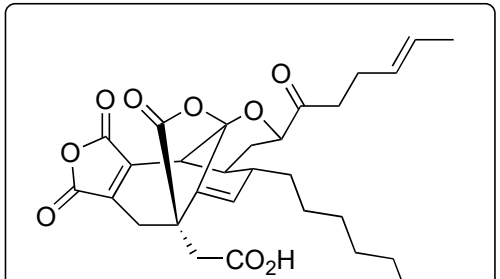

**4**




**5**

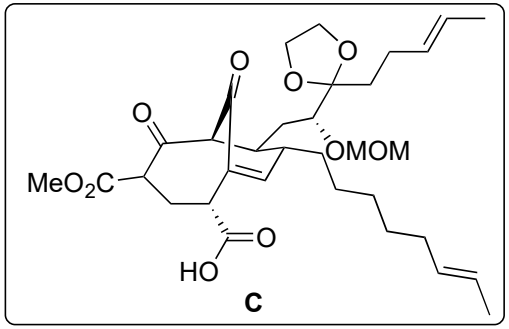
1) Name of the reaction?
**Stille cross-coupling**

4) kinetic resolution



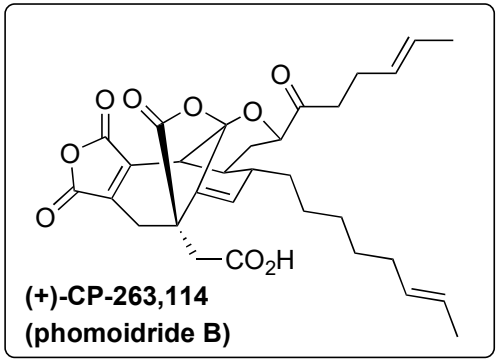

**(+)-CP-263,114**
**(phomoidride B)**

13-17




**C**

18-21




**(+)-CP-263,114**
**(phomoidride B)**

13) *n*-BuLi, *then* **A**, $MgBr_2$
14) KHMDS, *then* methylcyanoformate
15) $BCl_3$
16) DMP
17) $NaClO_2$, $NaH_2PO_4$, 2-methyl-2-butene

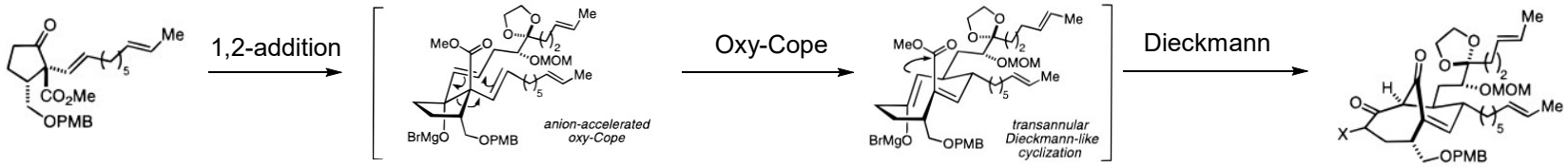
18) $MOMCl$, $NEt_3$
19) KHMDS, *then* methylcyanoformate
20) $TMSOTf$, $HC(OMe)_3$
21) $MsCl$, $Et_3N$, *then* $CH_2N_2$
22) *hv*, *t*BuOH
23) $KNiPr_2$, *then* $Tf_2O$
24) $Pd(OAc)_2$, $P(OMe)_3$, CO, $Et_3N$
25) $HCO_2H$

13) Mechanism?
Hint: 3 transformations
**1,2-addition + Cope rearrangement**
17) Name of the reaction?
**Pinnick oxidation**

20) Mechanism?

22) Name of the reaction?
**Wolff rearrangement**

**Mechanism Step 13:**




**Mechanism Step 20:**