Combined C-H Activation/Cope Rearrangement as a Strategic Reaction in Organic Synthesis: Total Synthesis of (-)-Colombiasin A and (-)-Elisapterosin B

Huw M. L. Davies,* Xing Dai, and Matthew S. Long

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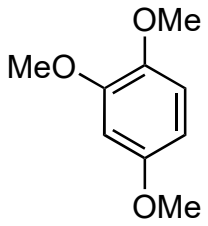


1-7

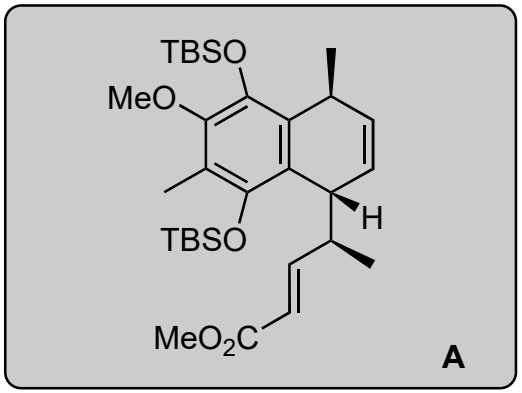
1) nBuLi, *then* MeI
2) $PhI(OAc)_2$, $MeOH/H_2O$
3) **1**, EtOH *then* Imidazole, TBSCl
4) TFA
5) NaHMDS, Comins' reagent
6) $Pd(PPh_3)_4$, LiBr, Et_3SiH
7) **2**, Rh_2(*R*-DOSP)$_4$

3) hint: 2 equivalents TBSCl

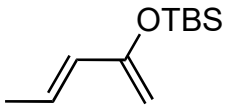
7) name of the reaction?

C-H activation/Cope Rearrangement

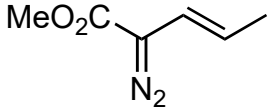
hint: 2 products are observed, note the name of the reaction!



A



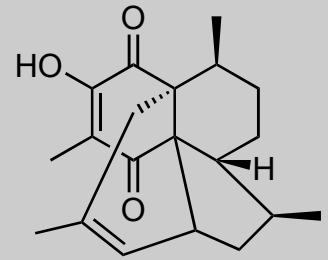
1



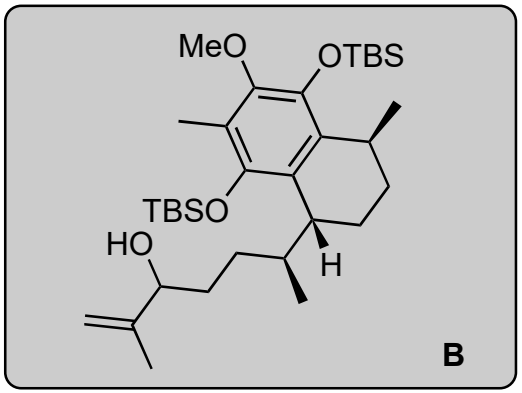
2

8-11

8) Pd/C, H_2
9) $LiAlH_4$
10) PCC
11) *i*PrMgBr

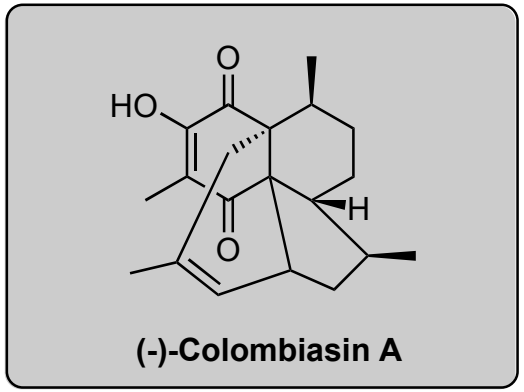


(-)-Colombiasin A



B

12-15



(-)-Colombiasin A

12) 2,6-Di-tertbutyl-4-methylpyridine
13) TBAF, air
14) toluene, 180 °C
15) $AlCl_3$