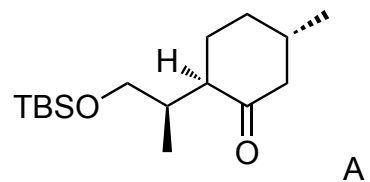


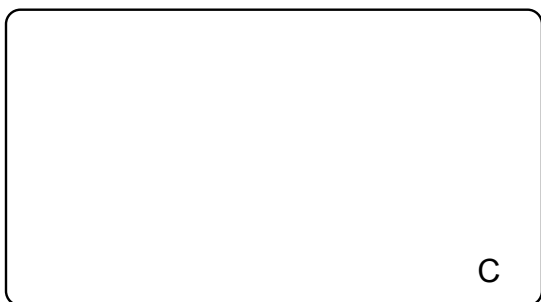
Synthesis Challenge #9 AG Wegner
JLU Giessen
12.12.2013



1-3



4

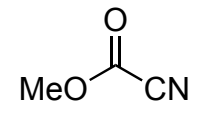


- 1) I, LDA, HMPA, -78°C
- 2) LDA, $\text{ Tf}_2\text{O}$, -78°C
- 3) DIBAL-H, -78°C

- 4) $\text{ Pd}(\text{ PPh}_3)_4$, NBu_3 , LiCl with $\text{ H}_2\text{ SO}_4$, $\text{ HCO}_2\text{ H}$

Please, provide as Synthesis of A starting from $(-)\text{-}\beta\text{-citronellol}$.

What is the name of reagent I?



Please, provide a detailed mechanism for step 4).

↓ 5-6

5) DIBAL-H, -78°C , then, SiO_2 , CHCl_3
6) TBAF



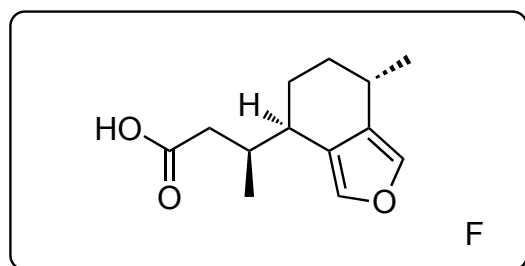
↓ 7-8

7) MsCl , DMAP, Pyr
8) KCN



↓ 9

9) KOH , 130°C



Please, provide mechanism for step 9)

↓ 10-12



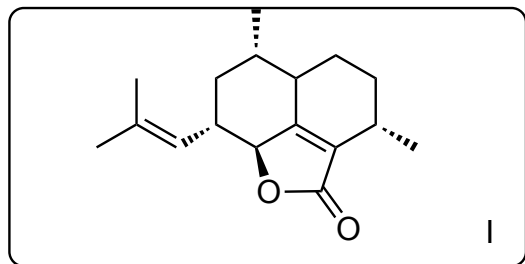
10) CDI, II
11) III, 0°C to rt
12) NaBH₄

↓ 13

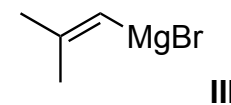
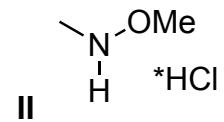


13) La(OTf)₃, MeNO₂

↓ 14-15



14) *hν*, O₂, rose bengal, -78°C
15) NaBH₄



Please, provide mechanism for step 13)