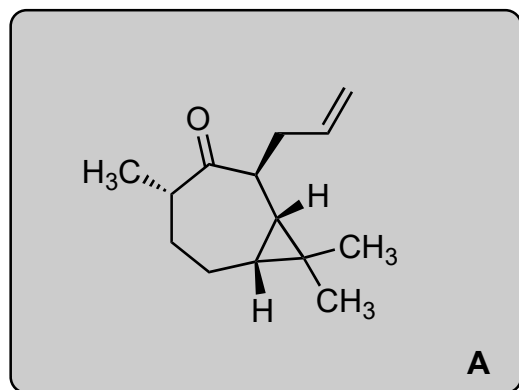
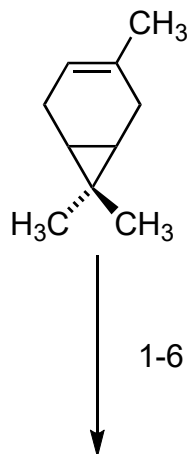


Enantioselective Total Synthesis of (–)-Psiguadial A

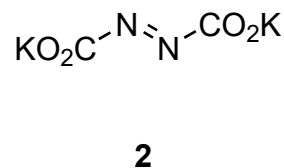
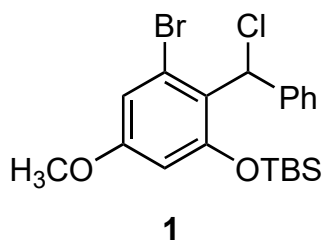
O'Grady, L. P.; Achtenhagen, M.; Wisthoff, M. F.; Lewis, R. S.; Pfeifer, K.; Zheng, W.; Martin, M. I.; Yap, G. P. A.; and Chain, W. J. *

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- 1) O_3 , DMS, $\text{CeCl}_3 \cdot 7 \text{H}_2\text{O}$, $\text{HC}(\text{OCH}_3)_3$
- 2) LDA, TMSCl
- 3) SnCl_4 , CH_3CN
- 4) CSA, THF
- 5) LDA, THF/HMPA, allyl bromide
- 6) L-selectride, CH_3I

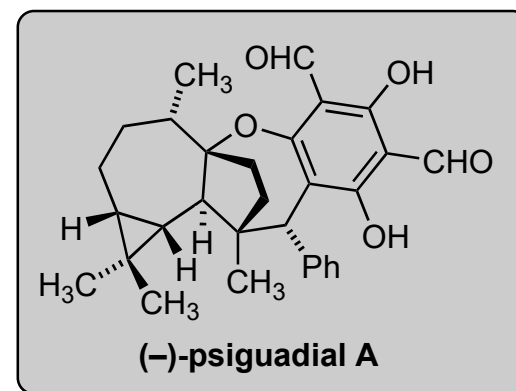


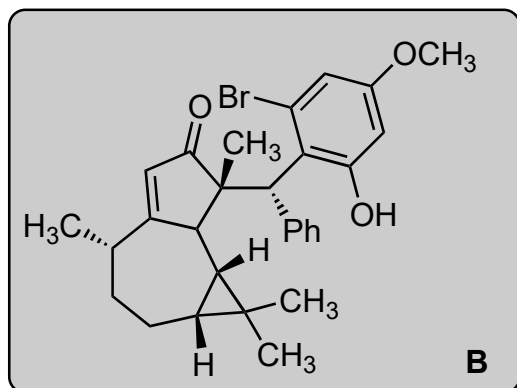
- 7) PdCl_2 , CuCl , O_2
- 8) NaOt-Am , PhH
- 9) LDA, CH_3I
- 10) LDA, TMSCl
- 11) TMAF, **1**

1) Name of starting material?
(+)-3-carene

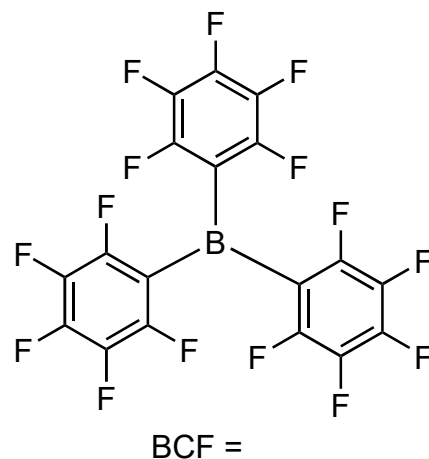
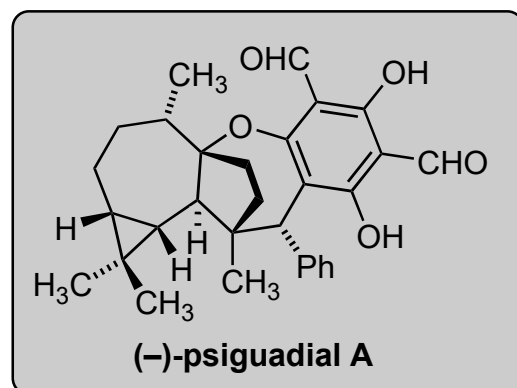
4) Name of reaction? **Mukaiyama aldol**

7) Name of reaction? **Wacker oxidation**

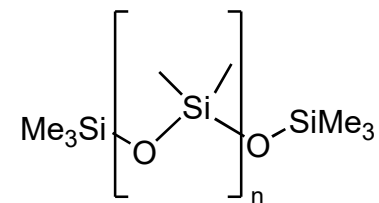




12-21



- 12) NaH, $(\text{CH}_3)_2\text{SO}_4$
- 13) DIBAL-H, THF
- 14) CSA, CHCl_3
- 15) AcOH, **2**
- 16) BCF, PMDS
- 17) TBAF, *then* H_2SO_4
- 18) TBSOTf, NEt_3
- 19) $n\text{-BuLi}$, $\text{B}(\text{OCH}_3)_3$, H_2O_2
- 20) TBAF
- 21) FAA, Ac_2O



PMDS =

14) Hint: Two vinyl proton peaks in HNMR

17) Hint: Heterocycle formation