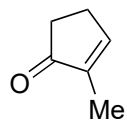
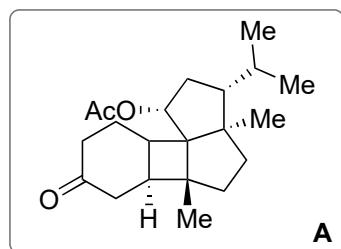


Total Synthesis of (-)-Psathyrin A Enabled by Radical Cyclization

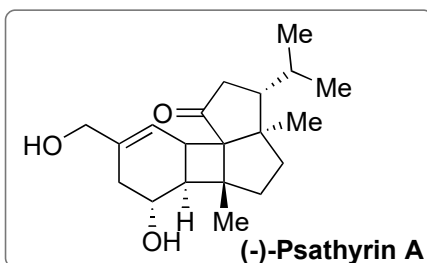
Weizhao Zhao, Reem Al-Ahmad, Mingji Dai, *J. Am. Chem. Soc.* **2025**, 147, 36, 32365–32369.



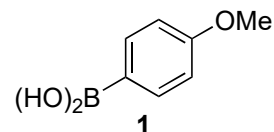
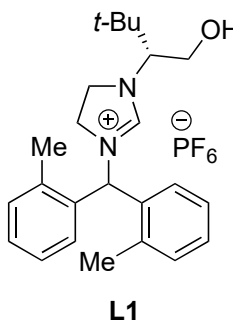
1-10



11-19



- 1) $\text{Cu}(\text{OTf})_2$, *i*-PrMgBr, **L1**,
then HMPA, 1-bromo-2-butyne
- 2) Comins' reagent, KHMDS
- 3) **1**, $\text{PdCl}_2(\text{dppf})$, K_3PO_4
- 4) *m*-CPBA, then *p*-TsOH
- 5) $\text{AuCl}(\text{PPh}_3)$, AgOTf
- 6) LiAlH_4
- 7) Li, NH_3 (*l*), then 1M HCl
- 8) Ac_2O , Et_3N , DMAP
- 9) HCl (1M in Et_2O)
- 10) $\text{Fe}(\text{acac})_3$, PhSiH_3



- 11) TBAF (2 mol%), HMDS, TMS-imidazole
then OsO_4
- 12) TBSOTf, 2,6-lutidine
- 13) LiHMDS, Manders' reagent
- 14) PhSeBr, pyridine, then H_2O_2
- 15) $\text{CeCl}_3 \cdot 7\text{H}_2\text{O}$, NaBH_4 , MeOH
- 16) NaH, CS_2 , then MeI
- 17) AIBN, *n*- Bu_3SnH
- 18) DIBAL-H, then potassium sodium tartrate,
then TBSCl, imidazole
- 19) IBX, then HF·pyridine

- 3) Name of the reaction:
Suzuki - Miyaura cross coupling
- 4) Name of the rearrangement:
Meinwald rearrangement
- 5) Name of the reaction:
Conia-ene cyclization
- 7) Name of the reaction:
Birch reduction
- 10) Name of the reaction:
Baran reductive olefin coupling
(MHAT-initiated radical cyclization)
- 11) Name of the reaction:
Rubottom oxidation
- 15) Name of the reaction:
Lucas reduction
- 16+17) Name of the reaction:
Barton-McCombie deoxygenation