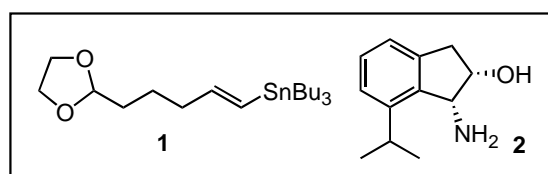
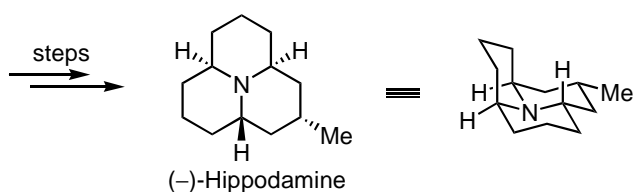
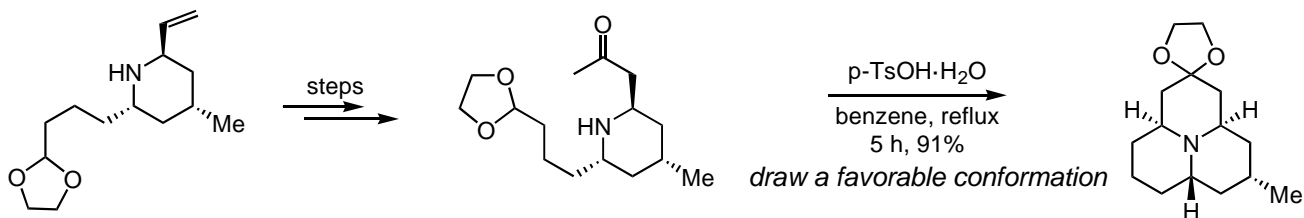
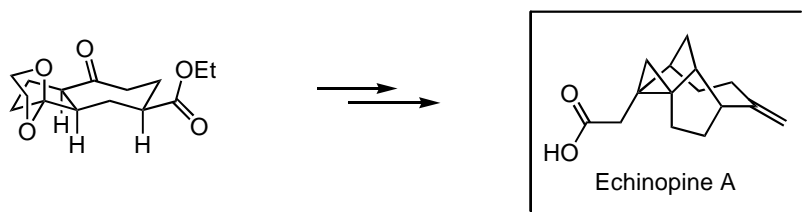
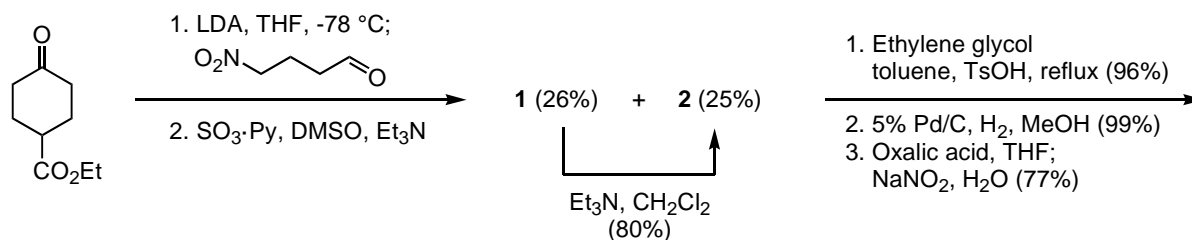


- 1) H₂, Raney-Ni, THF, rt, 2 h, 84%
- 2) Red-Al, toluene, 0 °C, 1.5 h, 88%
- 3) TsCl, Et₃N, DMAP, CH₂Cl₂, rt, 1 h
- 4) NaI then Bu₃SnH, AIBN, CH₂Cl₂, rt, 5 h, 87% (2 steps)
- 5) C=C MgBr, THF, rt, 1 h, 97%
- 6) Pb(OAc)₄, *n*-PrNH₂, CHCl₃, -50 °C, 1 h, 90%

draw intermediate

Katsumura, S. *et al. Org. Lett.* ASAP; doi.10.1021/ol4010917Hint: selected ¹H-NMR signal (400 MHz, CDCl₃):1: δ 4.83 (dd, *J* = 12.9, 3.7 Hz, 1H) 2: δ 4.90 (dd, *J* = 12.9, 3.5 Hz, 1H)