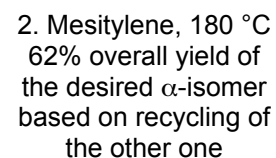
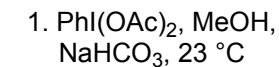
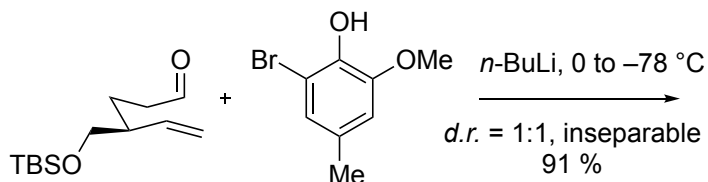


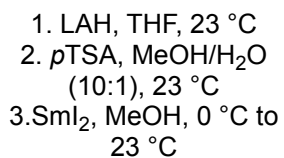
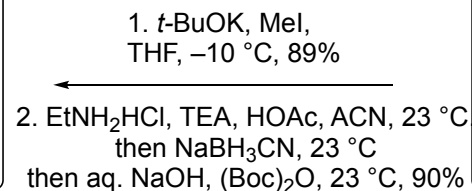
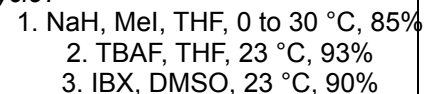


Total synthesis of Vilmoraconitine

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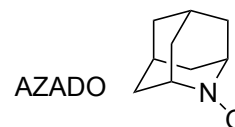
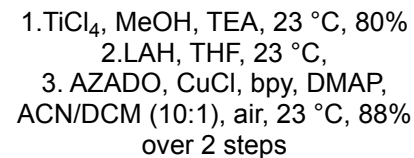
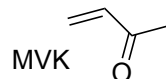
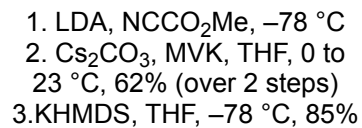
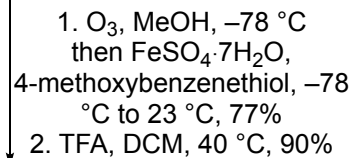


How would you recycle?



62%

Mechanism for Sml_2

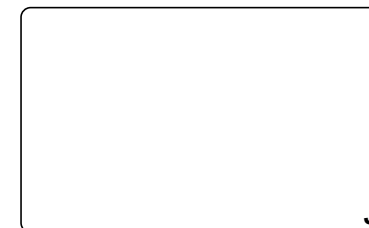




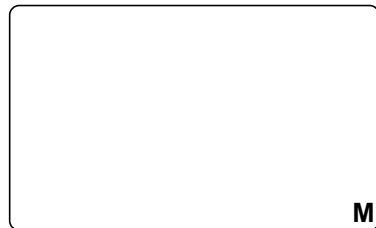
1. LDA, (EtO)₂P(O)CH₂CN
THF, 23 °C to 50 °C, 93%
2. TMSOTf, DCM, 23 °C, 92%



I₂, NaHCO₃, THF/H₂O
(2:1), 0 °C to 23 °C, 80%



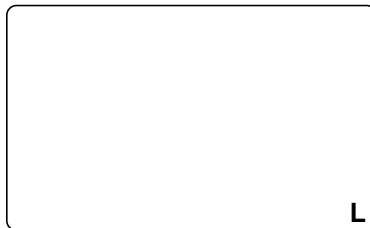
TMP, TBSOTf, THF, -78 °C,
then mesitylene, 150 °C,
then *p*TSA, DCM, 23 °C, 75%



Vilmoraconitine

1. LAH, THF, 70 °C
2. AZADO, CuCl, bpy, DMAP,
ACN/DCM (10:1), air, 23 °C
68% over 2 steps

Vaska's catalyst/TMDS
protocol
or Rh(H)(CO)(PPh₃)₃/
PhSiH₃ did not work



1. NaBH₄, MeOH/THF (1:1),
0 °C
2. *t*-BuOK, MeI, THF, -20 °C
67% over 2 steps
3. LDA, O₂, THF, -78 °C,
then SnCl₂, H₂O, aq.
Na₂CO₃, 23 °C, 80%

