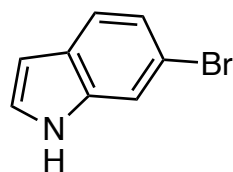


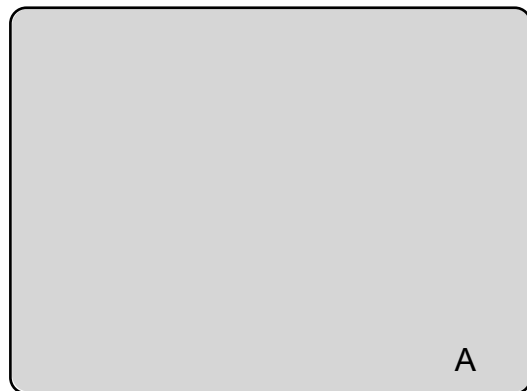
Total Synthesis of (±)-Perophoramide

Fuchs, J. R.; Funk, R. L.*

J. Am. Chem. Soc. 2004, *126*, 5068

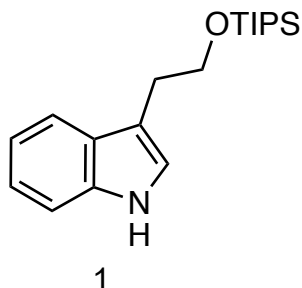


1-8



9-13

- 1) $(\text{COCl})_2$, MeOH, Et_2O , 0 °C
- 2) $\text{BH}_3 \cdot \text{SMe}_2$, THF, reflux
- 3) PPh_3 , I_2 , imidazole
- 4) NaN_3 , DMF, 50 °C
- 5) NBS (2 equiv.), THF, *t*BuOH, H_2O
- 6) **1**, Cs_2CO_3
- 7) NaH, Boc_2O
- 8) PPh_3 , THF, H_2O , 50 °C



- 9) NCS, AcOH
- 10) NaHMDS, NsCl
- 11) TBAF
- 12) DPPA, DIAD, PPh_3
- 13) PMe_3 , THF

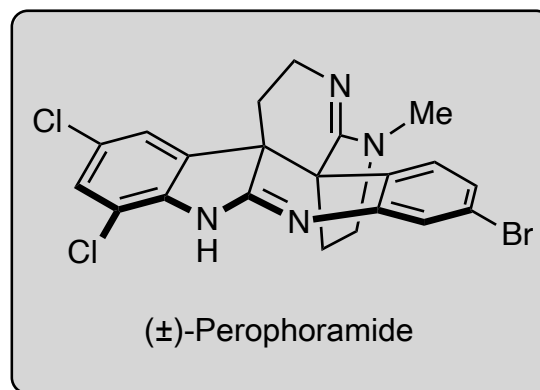
- 2) Hint: complete reduction of the side chain
- 3) Name of the reaction?

5) Provide a mechanism
hint: *an oxindole is finally formed*

6) How would you prepare **1**?
Hint: *a cycloaddition followed by ring opening*

8) Name of the reaction?
Staudinger reduction
Hint: *Two new rings form in this cascade*

- 10) Hint: mono-nosylation
- 13) A new ring forms



15) Hint: *Boc falls out in this step*

B

14-17

- 14) MeI, Cs₂CO₃, MeCN
- 15) Meerwein's salt, DIPEA
- 16) PhSH, Cs₂CO₃, DMF, 45 °C
- 17) MnO₂, CH₂Cl₂

