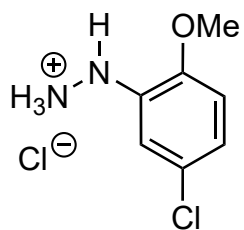


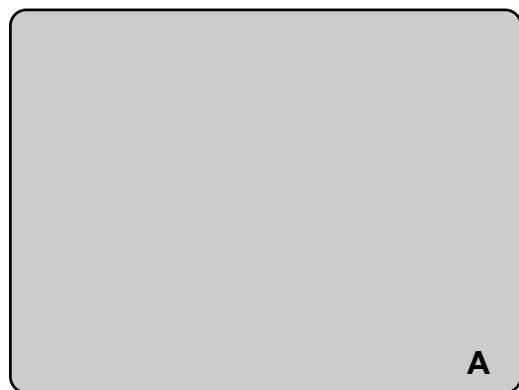
Total Synthesis of Aleutianamine

H. Yu, Z. P. Sercel, S. P. Rezgui, J. Farhi, S. C. Virgil, B. M. Stoltz

J. Am. Chem. Soc. **2023**, *145*, 25533-25537.

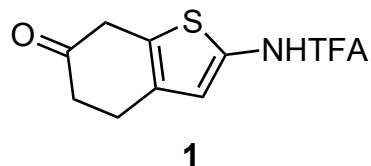


1-7



8 - 14

- 1) H_2SO_4 , 2,3-dihydrofuran, DMA/ H_2O , 60°C
- 2) DIAD, PPh_3 , DPPA
- 3) TsCl , Bu_4NHSO_4 , NaOH
- 4) PPh_3 , H_2O , THF
- 5) BrettPhos Pd G₄, BrettPhos, K_3PO_4
- 6) **1**, InCl_3 , Et_3SiH
- 7) NBS



- 8) $\text{Pd}(\text{dba})_2$, XPhos, K_2CO_3 , 100°C
- 9) TsCl , Py
- 10) NaOH , THF/ EtOH , H_2O , 75°C
- 11) TBSOTf, Et_3N
- 12) DDQ, 2,6-lutidine, 0°C
- 13) OsO_4 , pyridine
- 14) CDI, DMAP

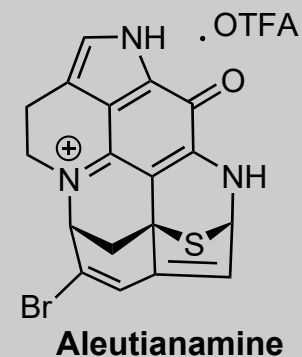
1) How could you make the starting material?

2) Name of the reaction?

2) Structure of DIAD?

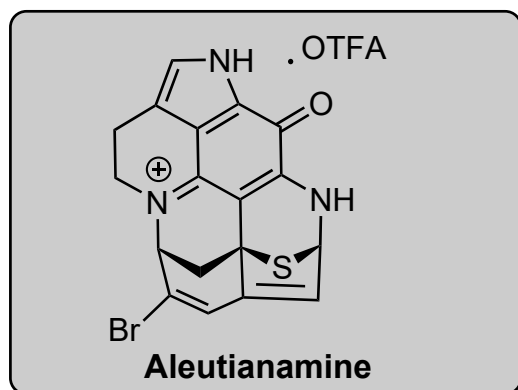
8) *Hint: a new cycle is formed through dearomatization*

13) Name of the reaction?

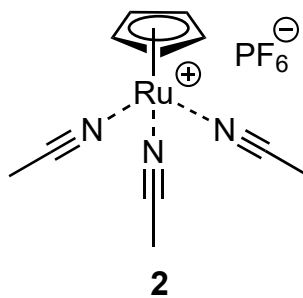




15-20



- 15) Pd(PPh₃)₄, dppe, 66°C
- 16) Tf₂O, Et₃N, -78°C
- 17) **2**, LiBr, NMP, 100°C
- 18) DIBAL-H, -78°C
- 19) CAN, MeCN, 0°C *then* NH₄OH, O₂, 0°C, *then* TFA
- 20) NaOMe, MeOH/THF, 0°C



15) Suggest a mechanism

17) Name of Ru catalyst (**2**)