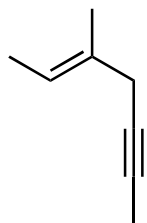


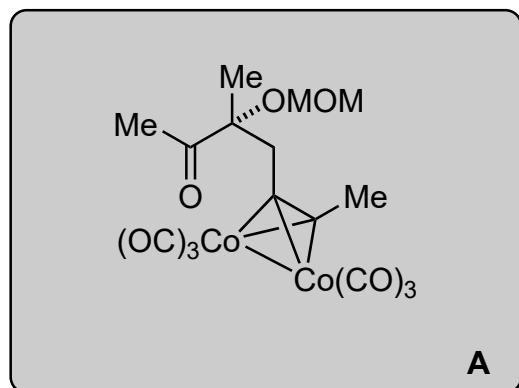
Total Synthesis of Nesteretal A

Kawamoto, Y.; Kitsukawa, H.; Kobayashi, T.; Ito, H.*

Org. Lett. **2021**, *23*, 7074–7078.

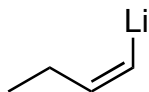


1-4



5-7

- 1) AD-mix- β , *t*-BuOH/H₂O
- 2) IBX
- 3) MOMCl, DIPEA
- 4) Co₂(CO)₈



1

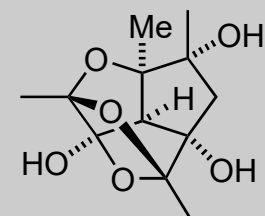
- 5) LaCl₃•2LiCl, then **1**
- 6) CAN
- 7) Pd(OAc)₂, PPh₃, AcOH

- 1) Named reaction?

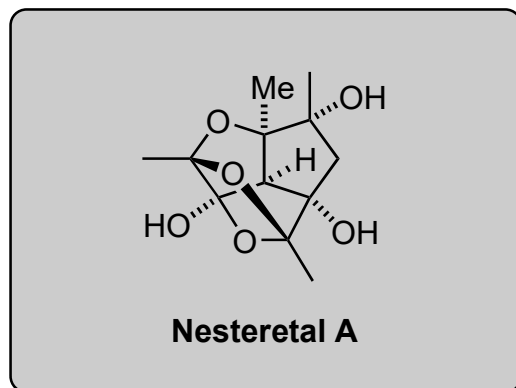
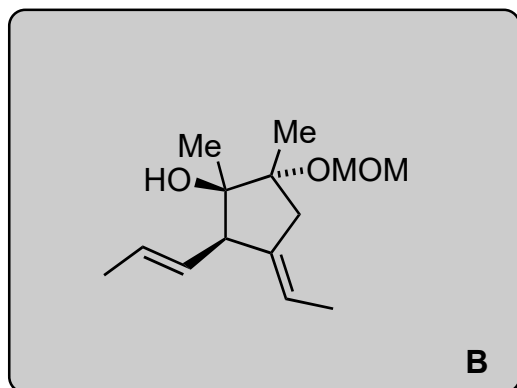
Sharpless Asymmetric Dihydroxylation

- 7) Please name the reaction and describe the mechanism.

solution see Page 3



Nesteretal A



- 8) CBr_4 (cat.), *i*-PrOH
- 9) $\text{Mo}(\text{CO})_6$ (cat.), TBHP
- 10) aq. H_2SO_4
- 11) IBX
- 12) PPTS (cat.), $\text{CH}(\text{OMe})_3$, MeOH
- 13) OsO_4 (cat.), NMO
- 14) IBX
- 15) aq. H_2SO_4

- 8) *Hint: deprotection*
- 9) *Hint: only one reaction occurred*

Key for Step 7:

Ref: *JACS* **1996**, *118*, 1054 & *JACS* **1994**, *116*, 4255

