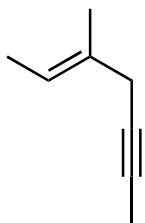


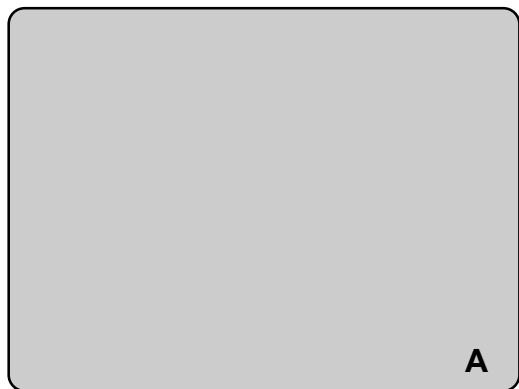
# Total Synthesis of Nesteretal A

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*Org. Lett.* **2021**, *23*, 7074–7078.

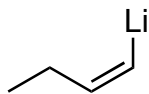


1-4



5-7

- 1) AD-mix- $\beta$ , *t*-BuOH/H<sub>2</sub>O
- 2) IBX
- 3) MOMCl, DIPEA
- 4) Co<sub>2</sub>(CO)<sub>8</sub>

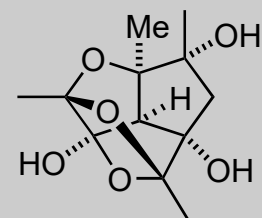


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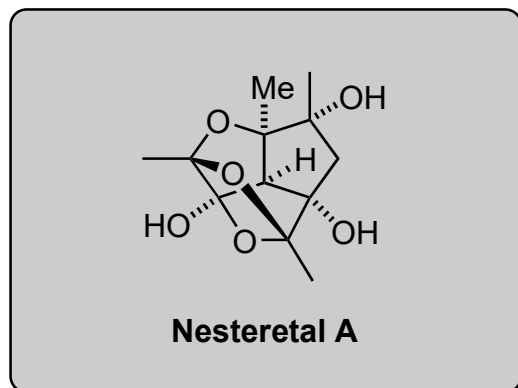
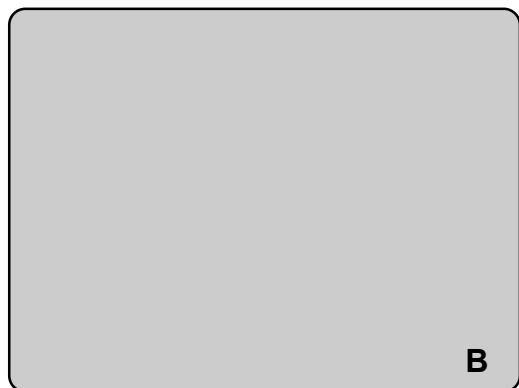
- 5) LaCl<sub>3</sub>•2LiCl, then **1**
- 6) CAN
- 7) Pd(OAc)<sub>2</sub>, PPh<sub>3</sub>, AcOH

1) Named reaction?

7) Please name the reaction and describe the mechanism.



**Nesteretal A**



- 8)  $\text{CBr}_4$  (cat.), *i*-PrOH
- 9)  $\text{Mo}(\text{CO})_6$  (cat.), TBHP
- 10) aq.  $\text{H}_2\text{SO}_4$
- 11) IBX
- 12) PPTS (cat.),  $\text{CH}(\text{OMe})_3$ , MeOH
- 13)  $\text{OsO}_4$  (cat.), NMO
- 14) IBX
- 15) aq.  $\text{H}_2\text{SO}_4$

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