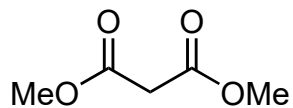


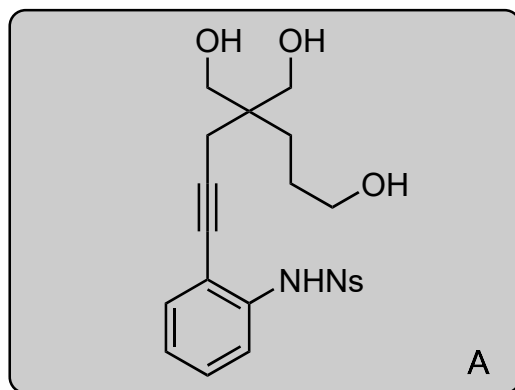
Total Synthesis of Putative Melognine

Irie, Y.; Yokoshima, S.*

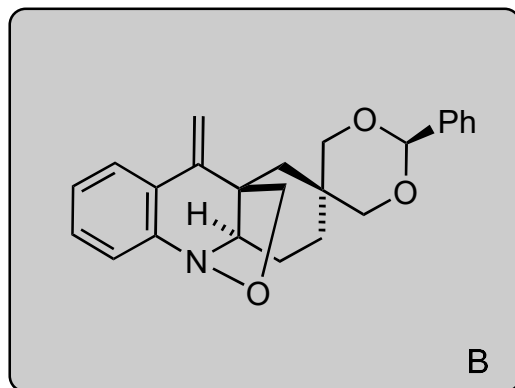
J. Am. Chem. Soc. 2024, 146, 9526–9531.



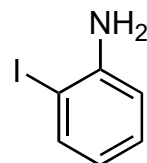
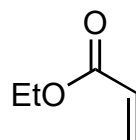
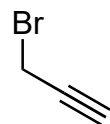
1-5



6-11



- 1) 1, K₂CO₃
- 2) 2, DBU
- 3) 3, CuI, Pd(PPh₃)₄, NEt₃
- 4) NsCl, DMAP, pyr.
- 5) DIBAL-H
- 6) PhCH(OMe)₂, TsOH
- 7) MsCl, NEt₃
- 8) K₂CO₃, DMF
- 9) ethylene, Hoveyda-Grubbs II
- 10) PhSH, K₂CO₃
- 11) Na₂WO₄·2H₂O, aq H₂O₂, Aliquat 336



3) Name of reaction?

Sonogashira Coupling

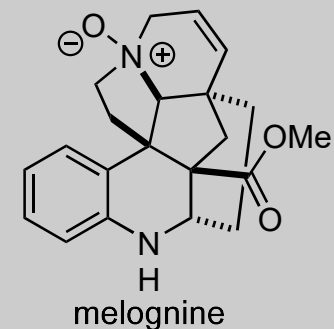
5) Hint: 10 equiv. of DIBAL-H

9) Name of reaction?

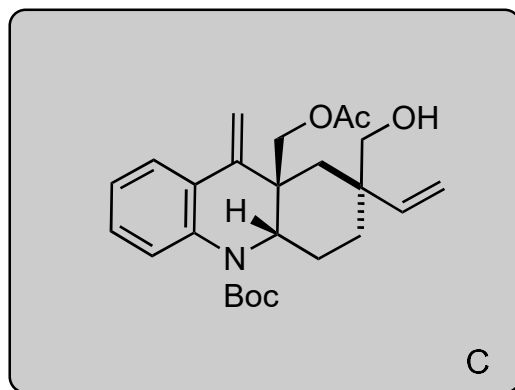
Enyne-metathesis

11) Hint: Two 6-membered rings and one 5-membered ring are formed. A "Z-Nitrone" is formed as an intermediate.

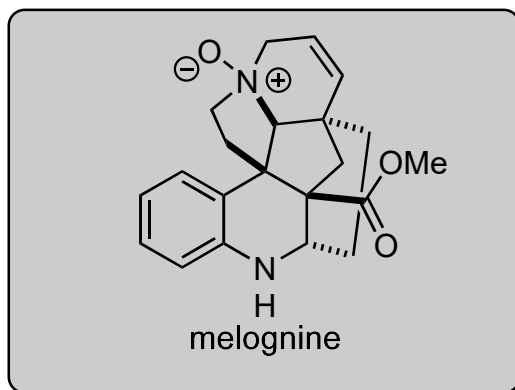
Note: Aliquat 336 is a phase transfer catalyst.



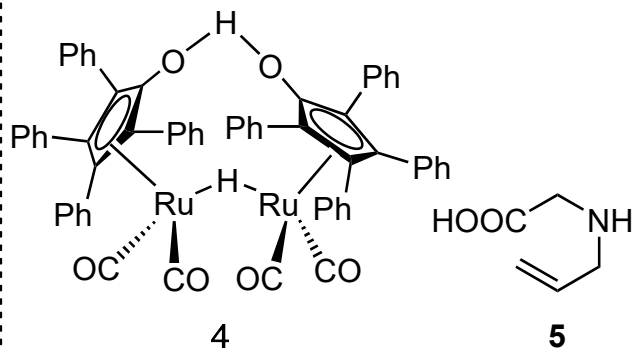
12-20



21-28



- 12) Zn, AcOH
- 13) Ac₂O, DMAP, NEt₃
- 14) 4
- 15) Boc₂O, DMAP
- 16) aq. AcOH
- 17) TIPSOTf, 2,6-lutidine
- 18) DMP
- 19) Ph₃P=CH₂
- 20) TBAF
- 21) DMP
- 22) 5, 130°C
- 23) Hoveyda-Grubbs II
- 24) K₂CO₃, MeOH
- 25) CrO₃, H₂SO₄, H₂O
- 26) TMSCHN₂, MeOH
- 27) TFA
- 28) aq. H₂O₂



14) Hint: Epimerization

22) Hint: Decarboxylation occurs and key step.