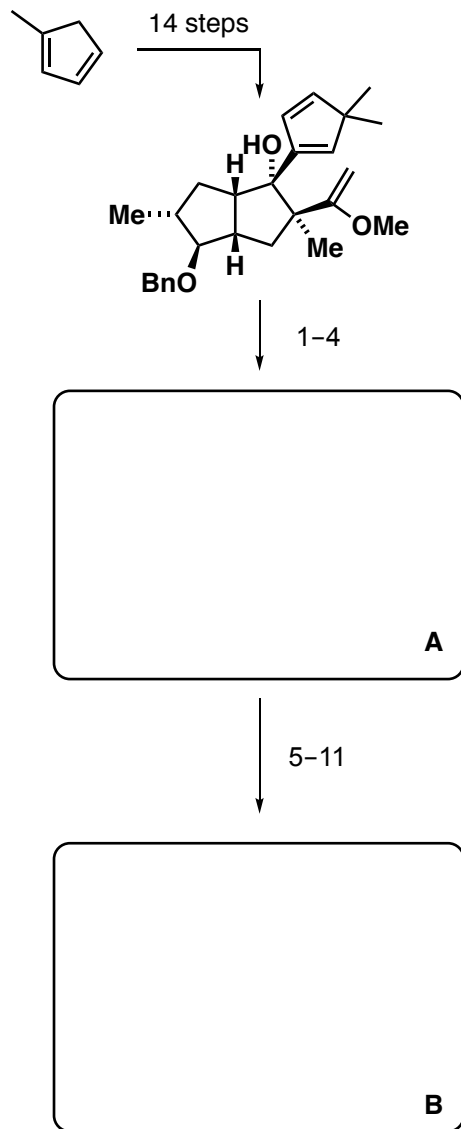


Total Synthesis of Jatrophatrione

L. A. Paquette, S. D. Edmondson, N. Monck, R. D. Rogers, *J. Org. Chem.* **1999**, *64*, 3255–3265.

L. A. Paquette, S. Nakatani, T. M. Zydowsky, S. D. Edmondson, L.-Q. Sun, R. Skerlj, *J. Org. Chem.* **1999**, *64*, 3244–3254.

L. A. Paquette, J. Yang, Y. O. Long, *J. Am. Chem. Soc.* **2002**, *124*, 6542–6543.



- 1) KO^tBu , 18-C-6, then MeI
- 2) NBS
- 3) LiBr, Li_2CO_3
- 4) Zn

- 5) LiAlH_4 , CuI
- 6) LiAlH_4
- 7) MsCl, $(i\text{-Pr})_2\text{NEt}$
- 8) KO^tBu
- 9) LiAlH_4
- 10) Me_2SiHCl , NEt_3
- 11) H_2PtCl_6 , HMDS

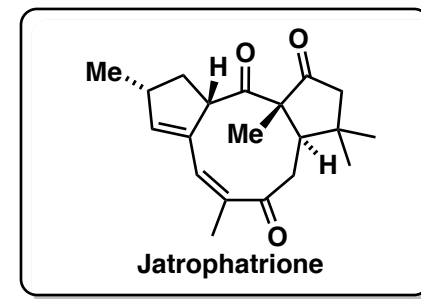
Step 1: Please name the reaction.

Hint: the product contains four rings

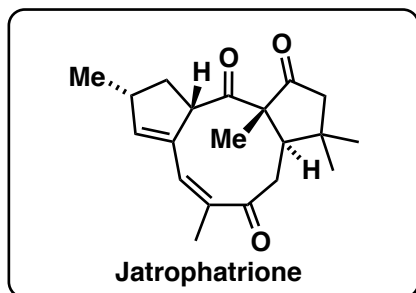
Hint: Steps 2–6 is a net single reduction

Hint: Step 7 is a selective monomesylation

Step 8: Please name the reaction.



12-19



- 12) H_2O_2 , KF, KHCO_3
- 13) im_2CO
- 14) $\text{Hg}(\text{O}_2\text{CCF}_3)_2$
- 15) TPAP, NMO
- 16) BCl_3
- 17) im_2CS , Δ
- 18) K_2CO_3
- 19) IBX

Step 12: Please name the reaction.

Hint step 14: an oxidative transposition takes place

Step 15: Please name the reaction.