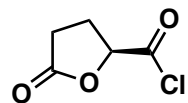
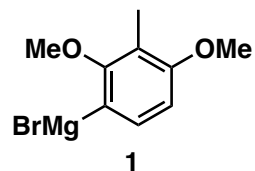
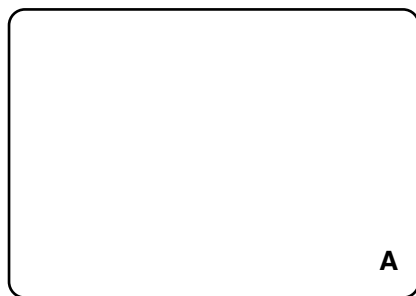


## Total Synthesis of Elisapterosin B

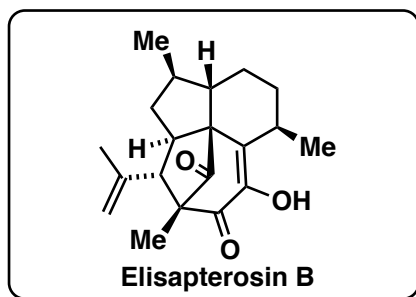
N. Waizumi, A. R. Stankovic, V. H. Rawal, *J. Am. Chem. Soc.* **2003**, *125*, 13022–13023.



1-7

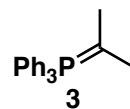
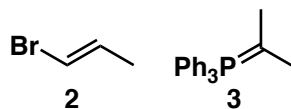


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- 1)  $\text{ZnCl}_2$ ,  $\text{Pd}(\text{Cl})_2(\text{PPh}_3)_2$ , **1**
- 2) cat.  $\text{TsOH}$ ,  $\text{HC}(\text{OMe})_3$ , then *t*-BuOK
- 3) NaHMDS, MeI
- 4) DIBAL-H
- 5) Seyferth–Gilbert homologation
- 6) MsCl, 2,6-lutidine
- 7)  $\text{CaCO}_3$ , wet MeOH, 50 °C

- 8)  $\text{AgNO}_3$ , NBS, then  $\text{TsNHNH}_2$ , AcONa
- 9) **2**, *t*-BuLi, then  $\text{ZnCl}_2$ ,  $\text{Pd}(\text{Cl})_2\text{dppf}$
- 10) DIBAL-H
- 11) **3**
- 12) NaSEt
- 13)  $\text{O}_2$ , cat. Salcomine
- 14) toluene, 80 °C
- 15)  $\text{RhCl}(\text{PPh}_3)_3$ ,  $\text{H}_2$
- 16) LiI, lutidine, 80 °C
- 17) CAM, then  $\text{NEt}_3$ , py



Step 1: Please name the reaction.

Step 5: Please name the reactants.

Step 13: What is the structure of Salcomine?

Step 15: Please name the catalyst.