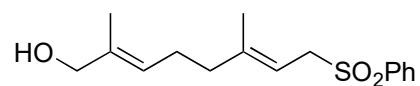
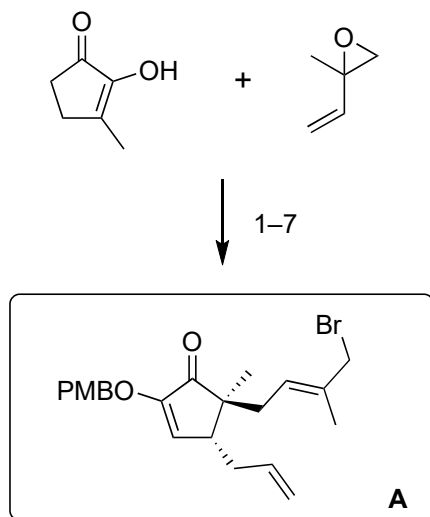


# A Diosphenol-Based Strategy for the Total Synthesis of (-)-Terpestacin

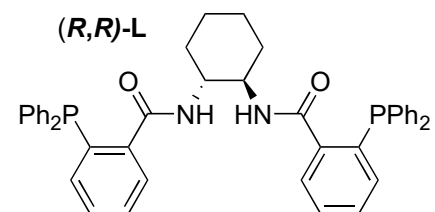
Barry M. Trost, Guangbin Dong and Jennifer A. Vance

JACS 2005, 129, 4541

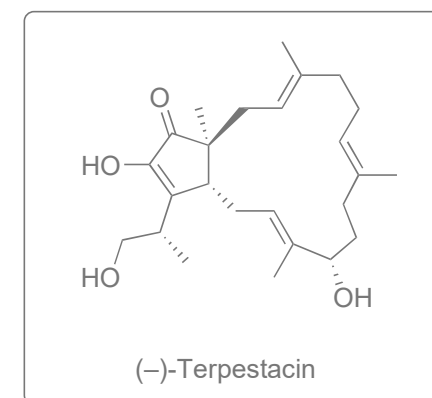
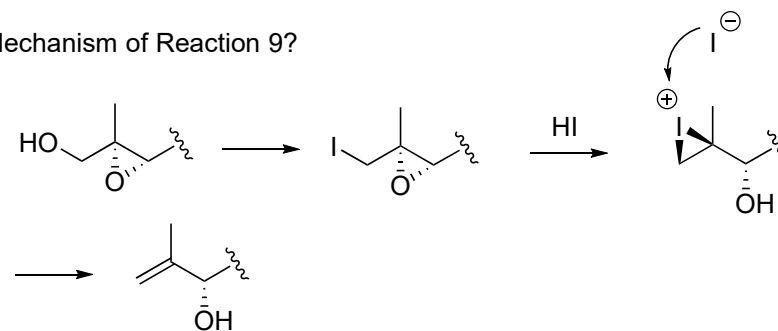


- 1) Pd<sub>2</sub>dba<sub>3</sub>•CHCl<sub>3</sub>, (*R,R*)-L, TBAC, DCM;  
then 2,6-Lutidine, TIPSOTf
- 2) CHCl<sub>3</sub>, microwave, 100 °C
- 3) Pd(OAc)<sub>2</sub> (1.1 eq.), Cs<sub>2</sub>CO<sub>3</sub>, MeCN
- 4) Allyl-TMS, MgBr<sub>2</sub>•Et<sub>2</sub>O, DCM
- 5) PMBCl, cat, TBAI, Cs<sub>2</sub>CO<sub>3</sub>, DMF
- 6) TBAF, THF
- 7) CBr<sub>4</sub>, PPh<sub>3</sub>, MeCN

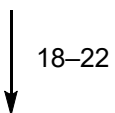
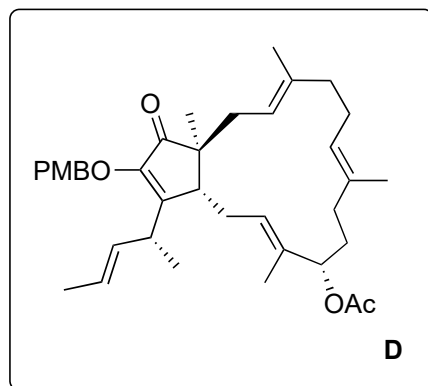
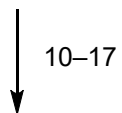
- 8) Ti(O*i*Pr)<sub>4</sub>, TBHP, L-DET, DCM
- 9) Py, I<sub>2</sub>, PPh<sub>3</sub>, MeCN/Et<sub>2</sub>O;  
then add water, reflux



Mechanism of Reaction 9?

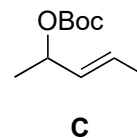


A + B



(-)-Terpestacin

- 10) LiHMDS, HMPA/THF
- 11) Pd(OAc)<sub>2</sub>, dppp, NaBH<sub>4</sub>, DMSO
- 12) Grubbs-II
- 13) MgBr<sub>2</sub>•Et<sub>2</sub>O, DMS, DCM
- 14) Pd<sub>2</sub>dba<sub>3</sub>•CHCl<sub>3</sub>, (**S,S**)-**L**, **C**, DCM
- 15) DMF, microwave, 150 °C
- 16) PMBCl, cat, TBAI, Cs<sub>2</sub>CO<sub>3</sub>, DMF
- 17) Ac<sub>2</sub>O, Py



(**S,S**)-**L** --> see page 1

- 18) K<sub>2</sub>OsO<sub>4</sub>(OH)<sub>4</sub>, (DHQ)<sub>2</sub>PHAL, K<sub>3</sub>Fe(CN)<sub>6</sub>, K<sub>2</sub>CO<sub>3</sub>, tBuOH/H<sub>2</sub>O
- 19) NaIO<sub>4</sub>, THF/H<sub>2</sub>O
- 20) NaBH<sub>4</sub>, DCM/MeOH
- 21) LiOH, THF/MeOH/H<sub>2</sub>O
- 22) MgBr<sub>2</sub>•Et<sub>2</sub>O, DMS, DCM

