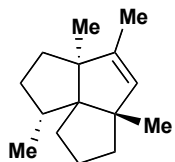
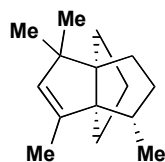


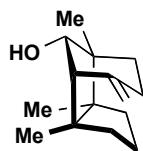
Syntheses partially of fully discussed



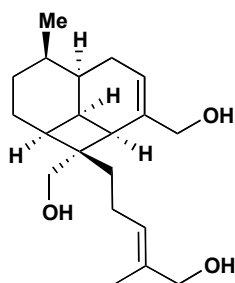
(±)Isocomene



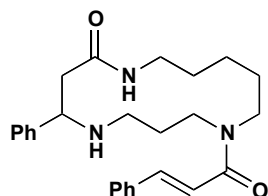
(±)Modhephene



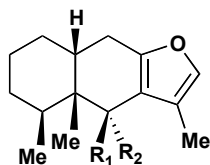
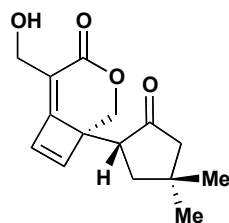
(±)Gymnomitrol



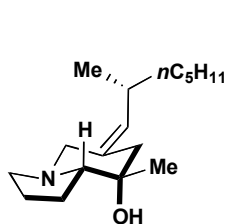
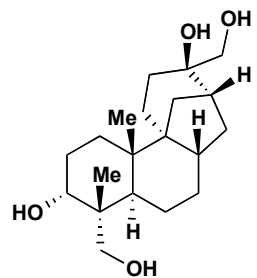
(±)Trihydroxydeciadiene



(±)Dihydroperiphylline

(±)Ligularone ($R_1, R_2 = O$)(±)Petasalbine ($R_1 = OH, R_2 = H$)

(±)Fomannosin

Dendrobatid
Toxin 251D

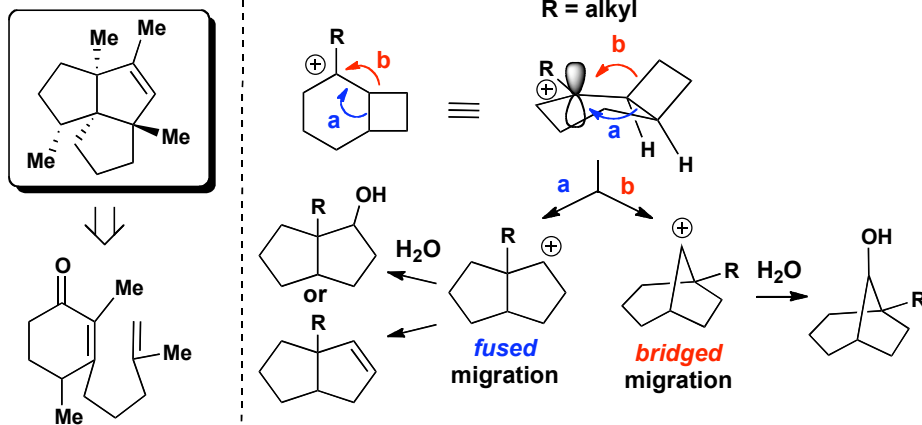
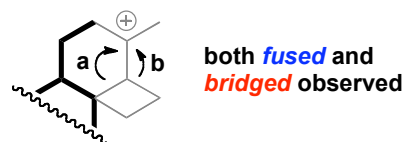
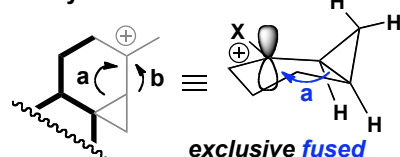
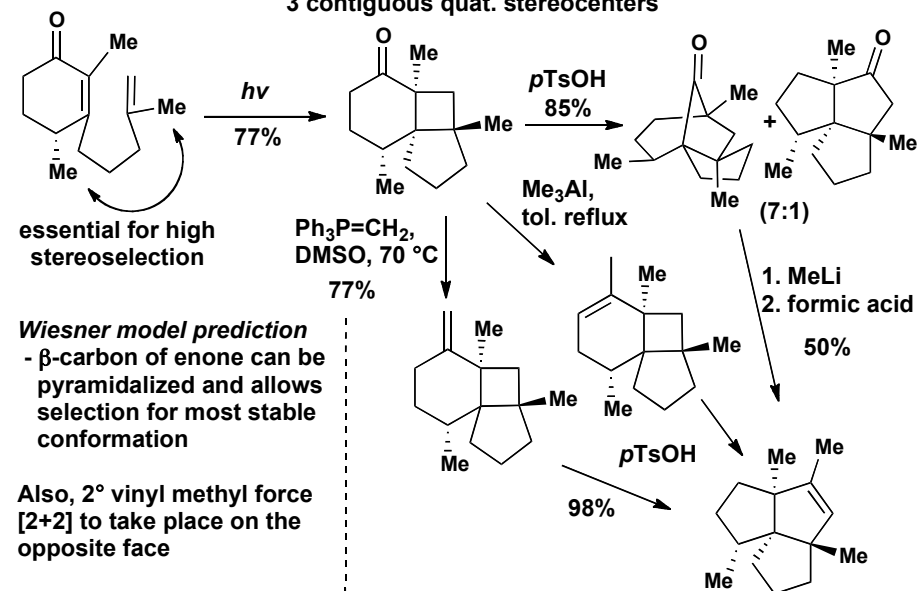
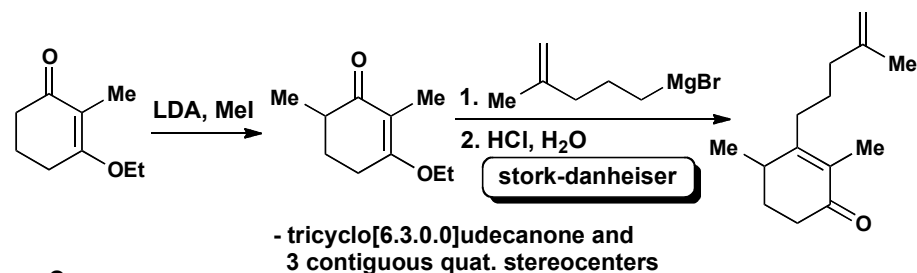
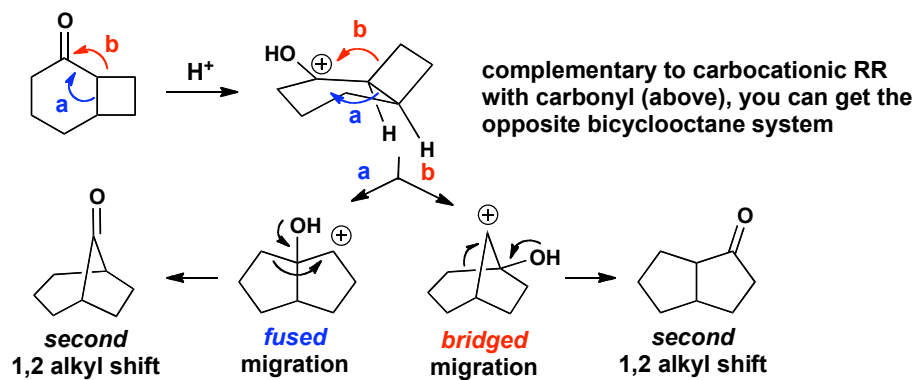
(±)Aphidicolin

Methodologies discussed

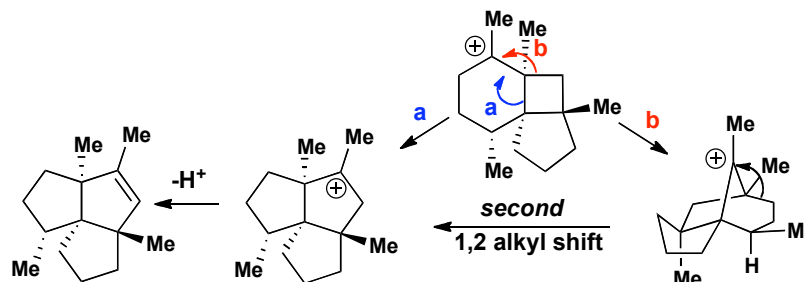
(Trimethylsilyl)cyclopentene Annulation: A Regiocontrolled Approach to the Synthesis of Five-Membered RingsDanheiser, R. L. et al. *JACS* 1981, 103, 1604**A stereoselective Synthesis of Cyclopentene Derivatives from 1,3-Dienes**Danheiser, R. L. et al. *JACS* 1981, 103, 2443**Nitrone Cycloaddition. A New Approach to β -Lactams**Padwa, A. et al. *JACS* 1981, 103, 4974**High Acylation Rates and Enantioselectivity with Cyclodextrin Complexes of Rigid Substrates**Breslow, R. et al. *JACS* 1981, 103, 154**Formation of Superoxide Ion from Singlet Oxygen. On the Use of a Water-Soluble Singlet Oxygen Source**Saito, I. et al. *JACS* 1981, 103, 188**A Highly Stereoselective Synthesis of Trans Epoxides via Arsonium Ylides**Still, C. W. et al. *JACS* 1981, 103, 1283

(±)Isocomene

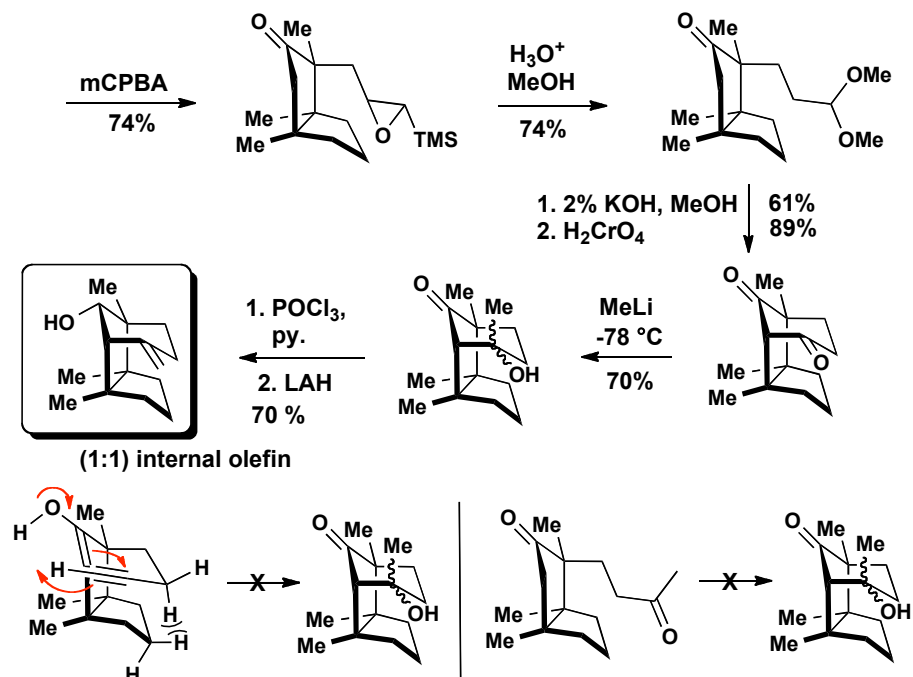
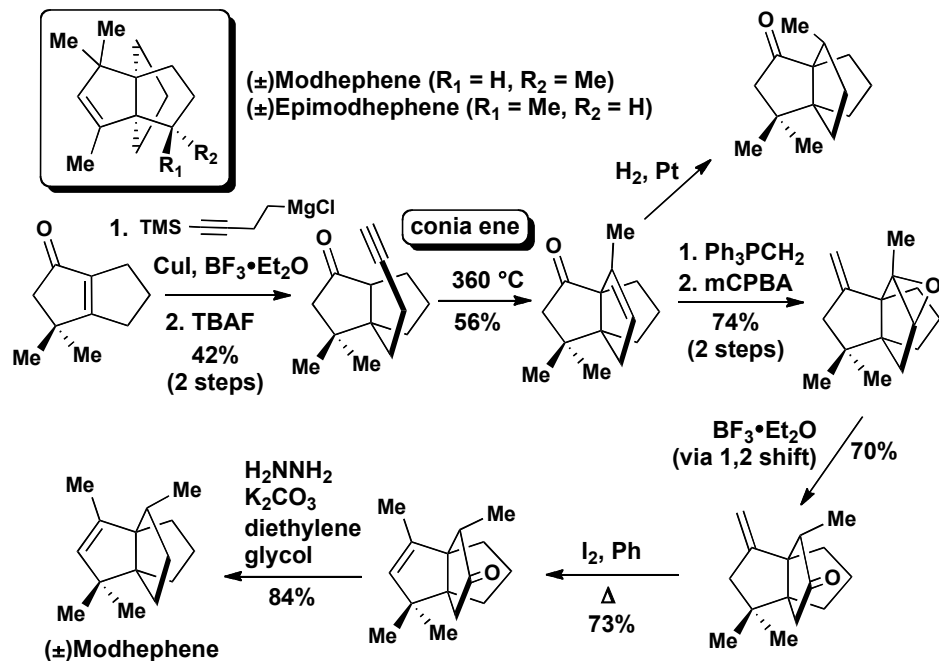
Pirrung, M. C; JACS 1981, 103, 82

**Known related studies at the time****Cyclobutyl carbinyl systems;**
X = alkyl**Cyclopropyl carbinyl systems;**
X = alkyl**Acid cat. RR of Cyclobutyl carbinyl ketones systems (Cargill et al.)****summary:**

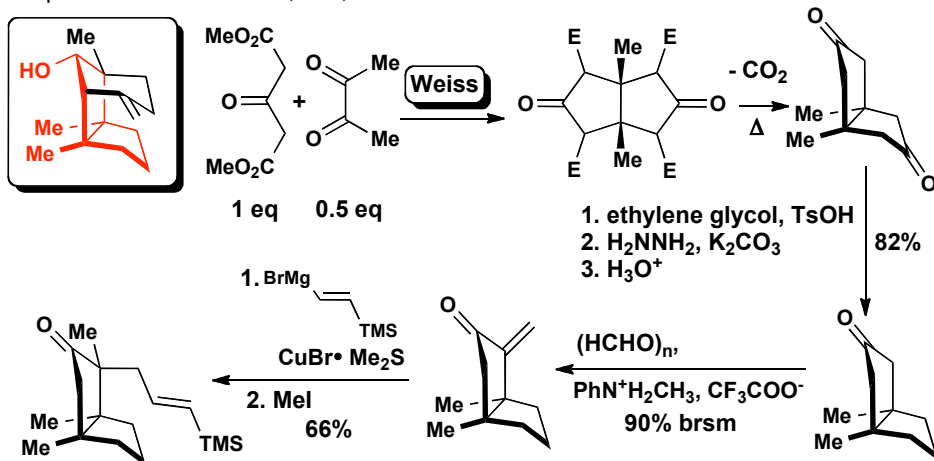
1. Enolization was problematic with cycloadduct and typical nucleophilic methyl sources was not able to add into ketone
2. Cargill product was able to be converted to isocomene
3. Alternative methyl sources were looked into and two options were found



(±)Modhephene and (±)Epimodhephene
Paquette et al. JACS 1981, 103, 722

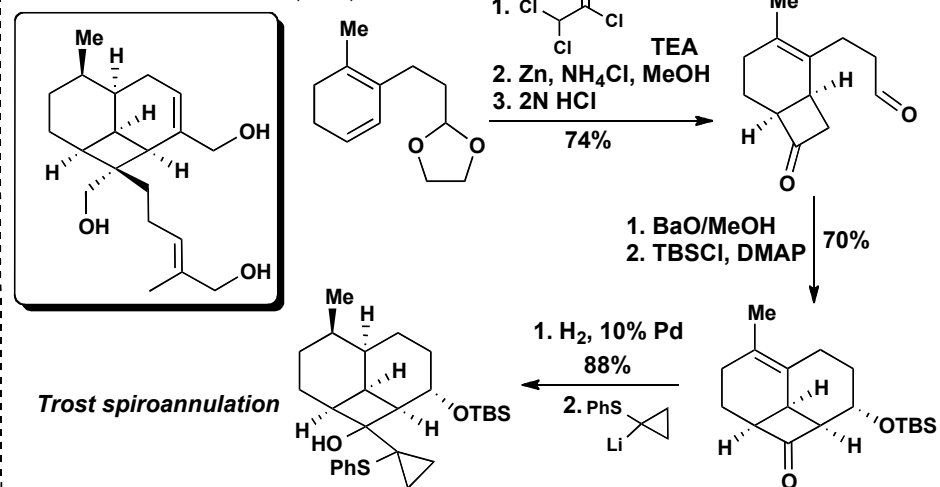


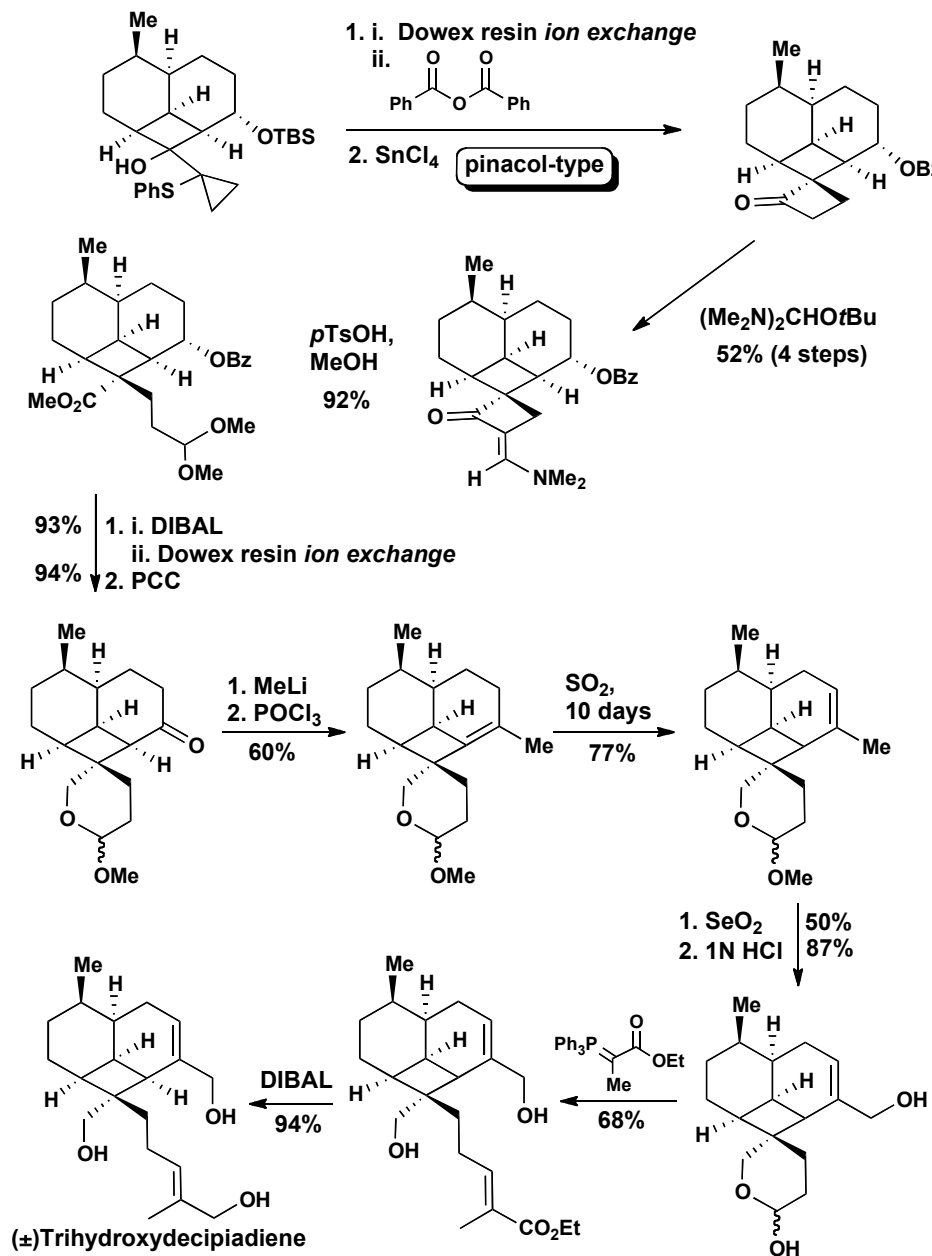
(±)Gymnomitrol
Paquette et al. JACS 1981, 103, 1831



(±)Trihydroxydecipiadiene

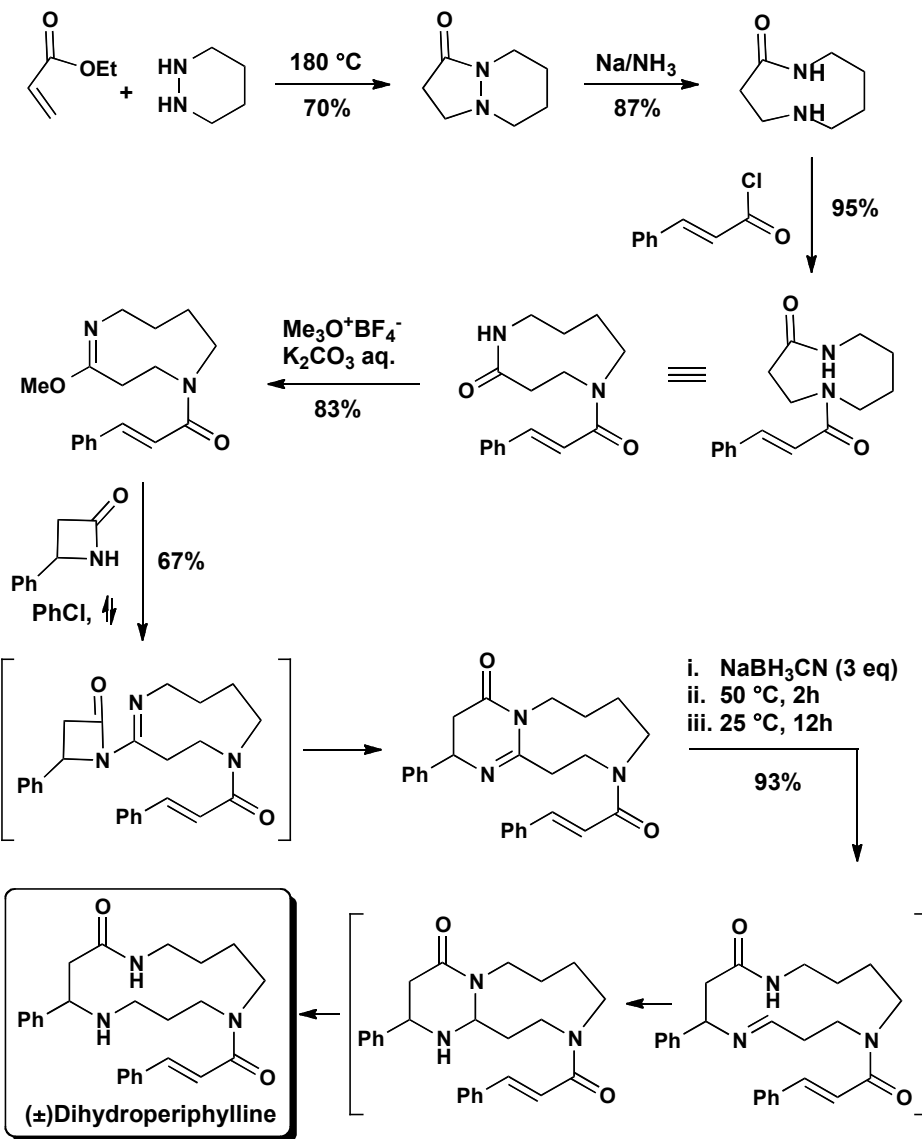
Greenlee et al. JACS 1981, 103, 2425

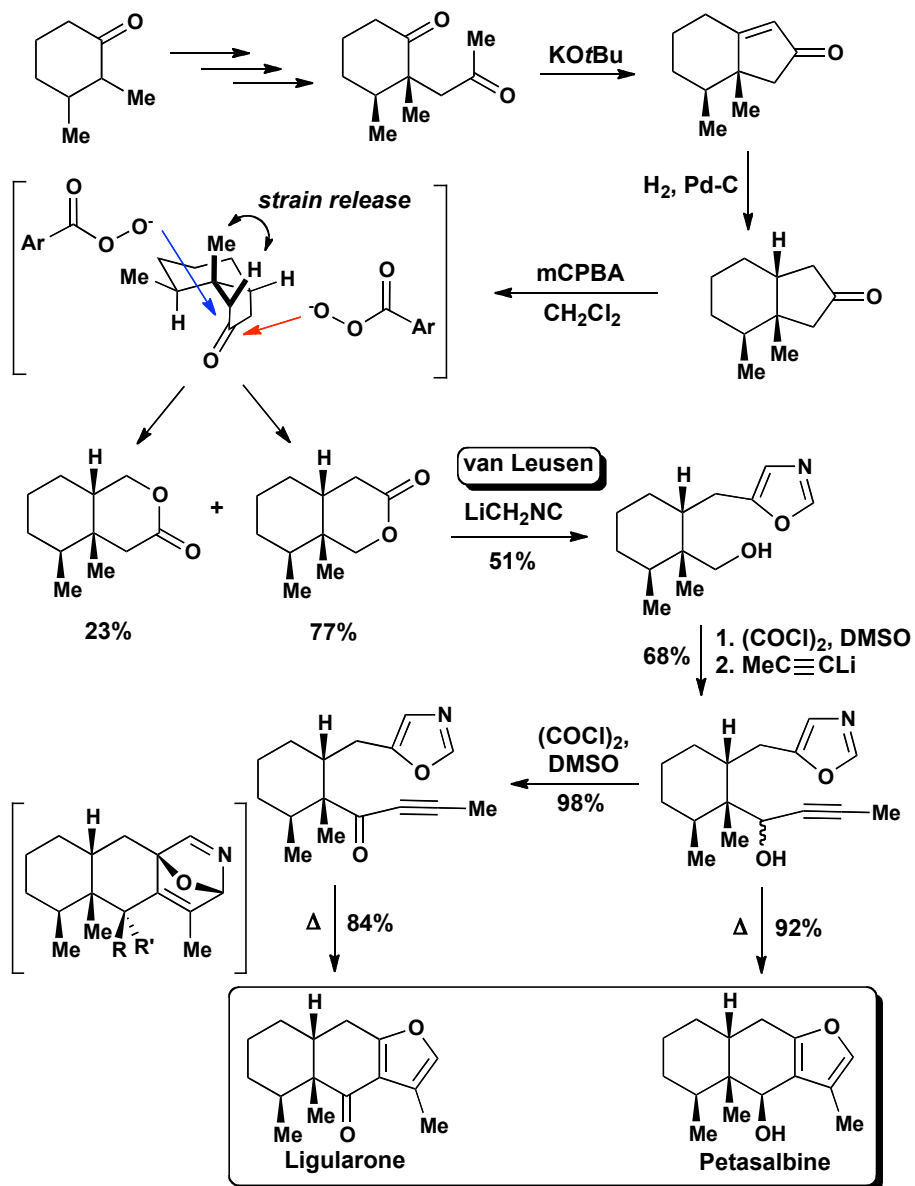
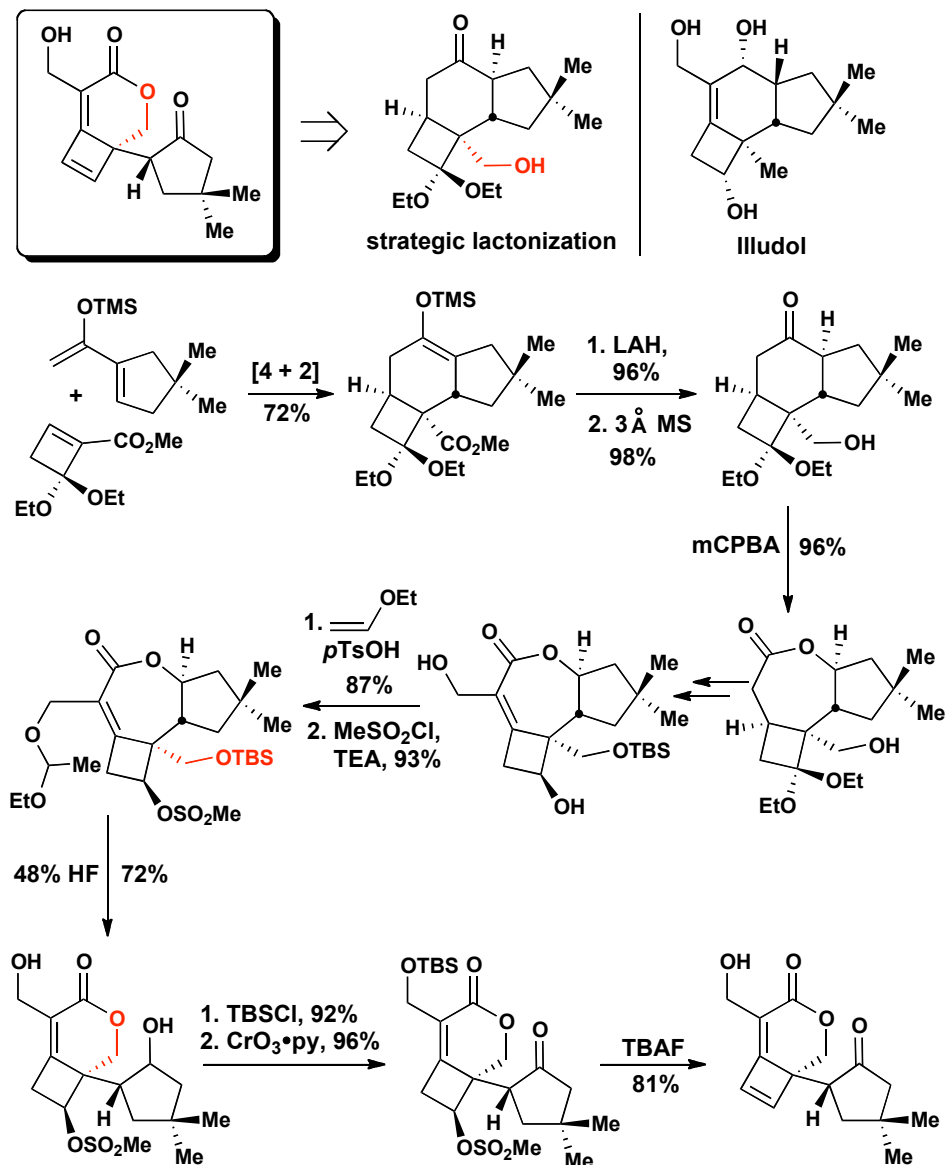


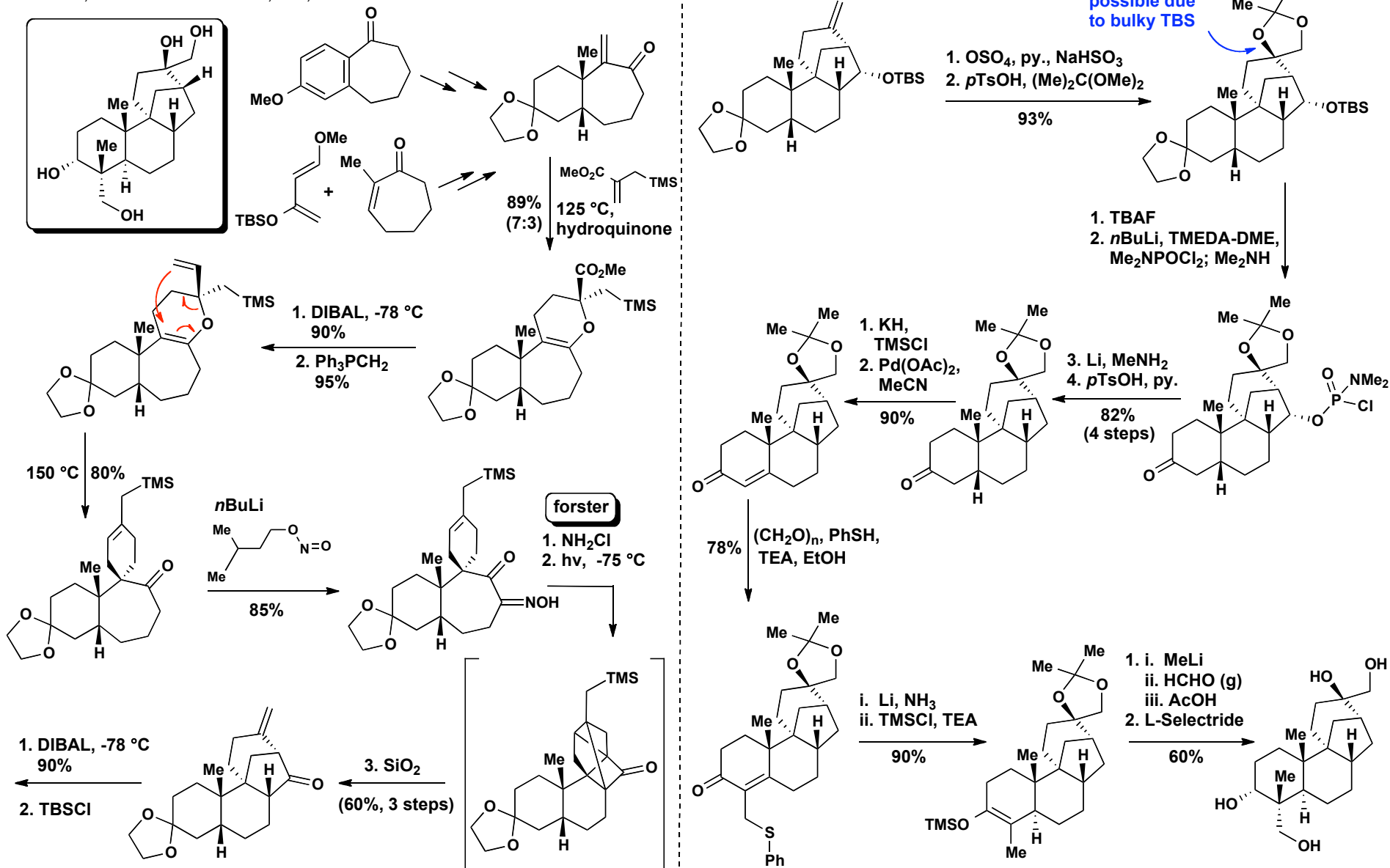


(±)Dihydroperiphylline

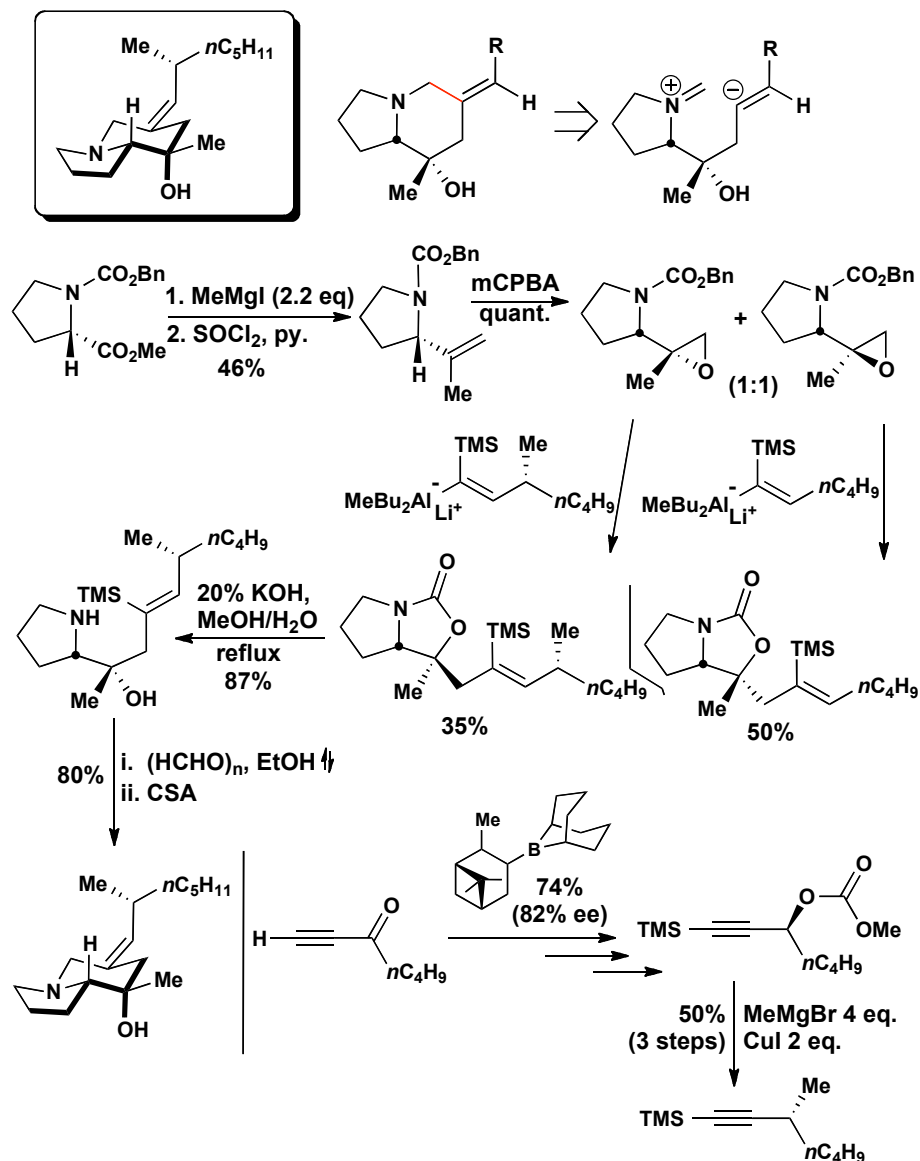
Wasserman et al. JACS 1981, 103, 461



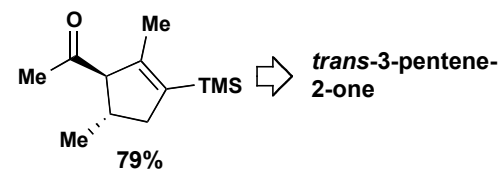
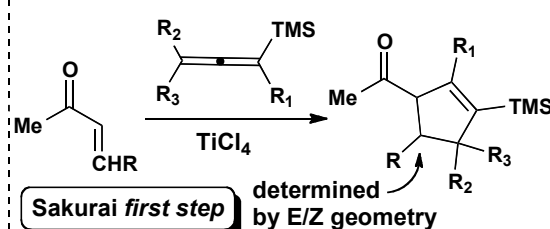
(±)Ligularone and (±)PetasalbineJacobi, P. A. et al. *JACS* **1981**, 103, 4611**(±)Fomannosin**Semmelhack, M. F. et al. *JACS* **1981**, 103, 2427

(±)AphidicolinIreland, R. E. et al. *JACS* 1981, 103, 2446

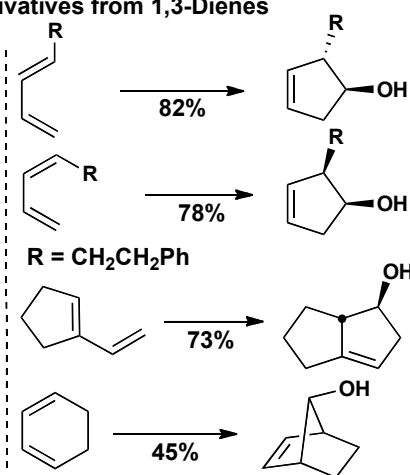
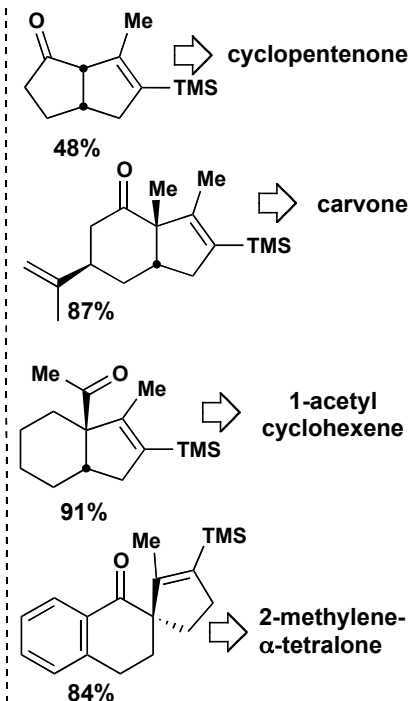
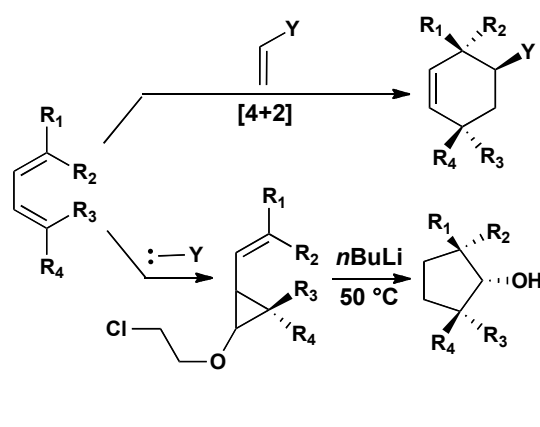
Dendrobatid Toxin 251D

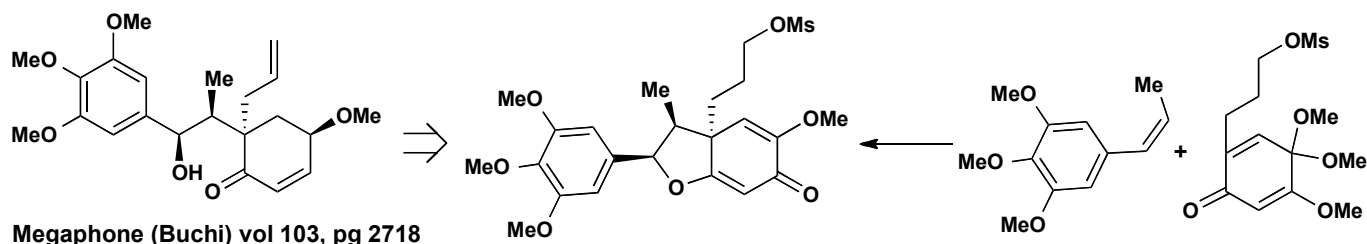
Overman, L. E. et al. *JACS* 1981, 103, 1851

(Trimethylsilyl)cyclopentene Annulation: A Regiocontrolled Approach to the Synthesis of Five-Membered Rings

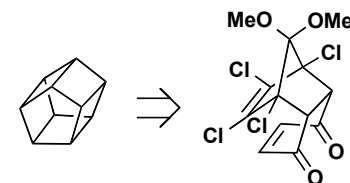
Danheiser, R. L. et al. *JACS* 1981, 103, 1604

A stereoselective Synthesis of Cyclopentene Derivatives from 1,3-Dienes

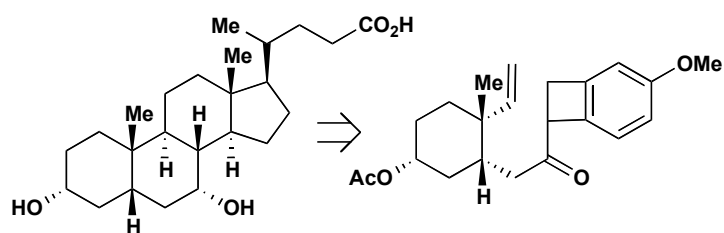
Danheiser, R. L. et al. *JACS* 1981, 103, 2443



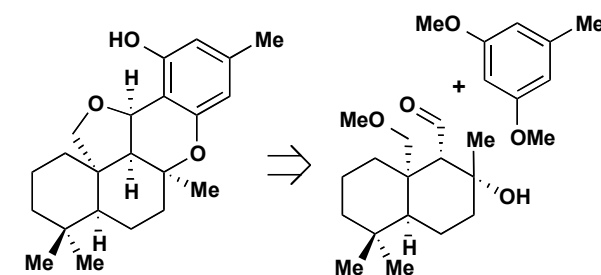
Megaphone (Buchi) vol 103, pg 2718



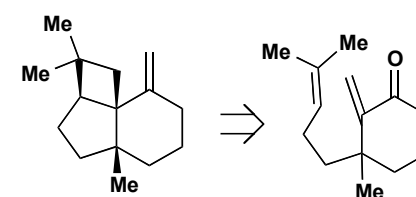
Pentaprismane (Eaton) vol 103, pg 2134



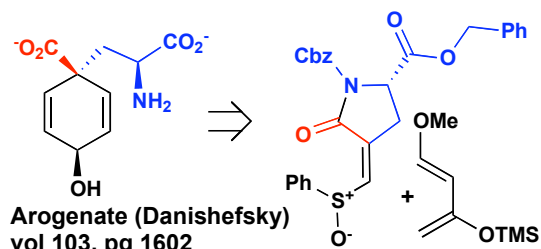
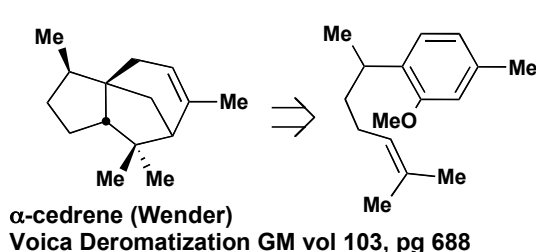
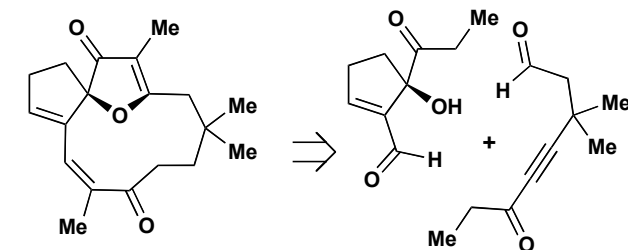
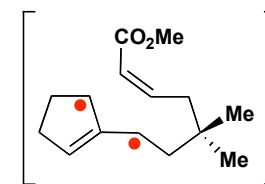
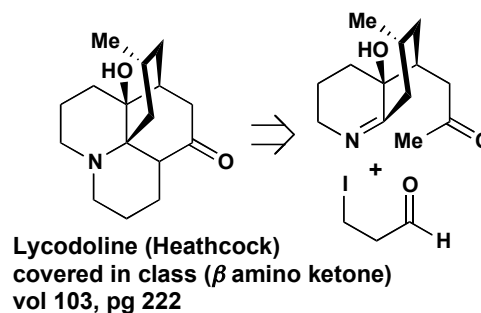
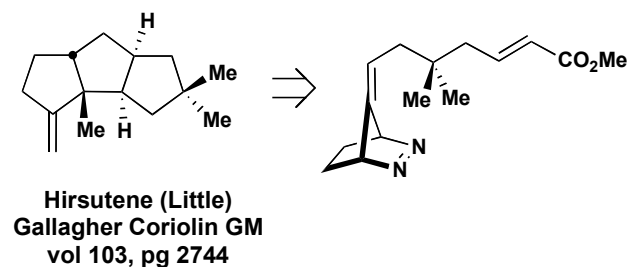
Chenodeoxycholic Acid (Kametani) vol 103, pg 2890

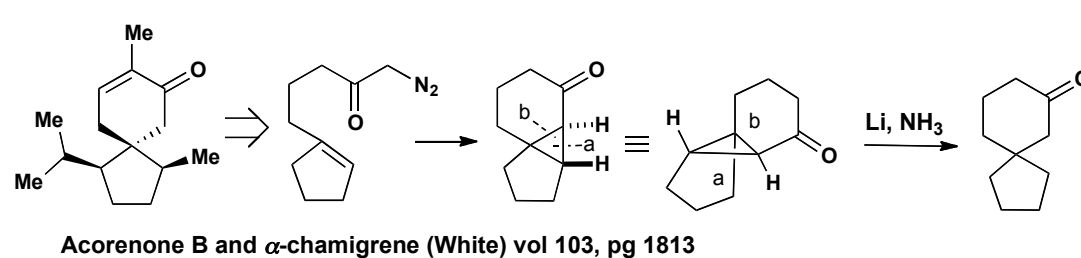
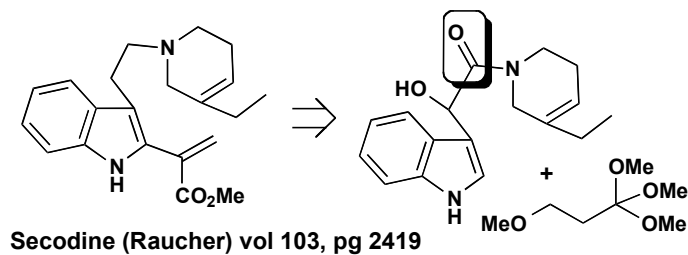
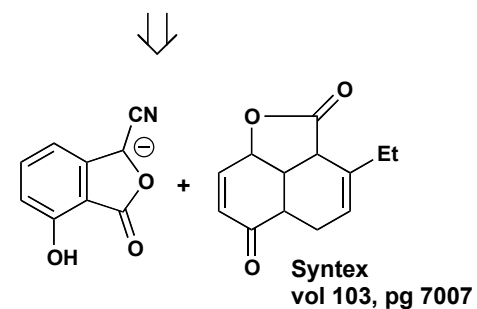
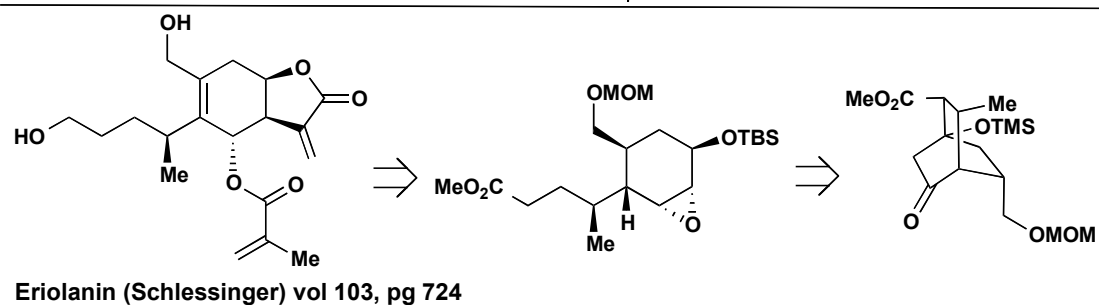
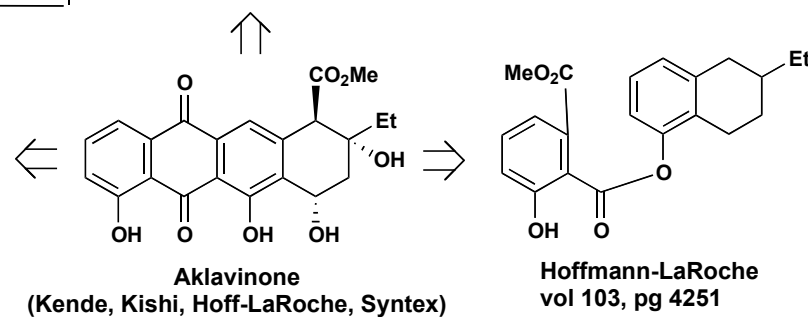
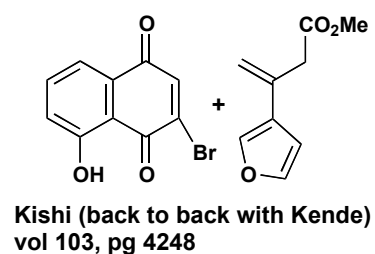
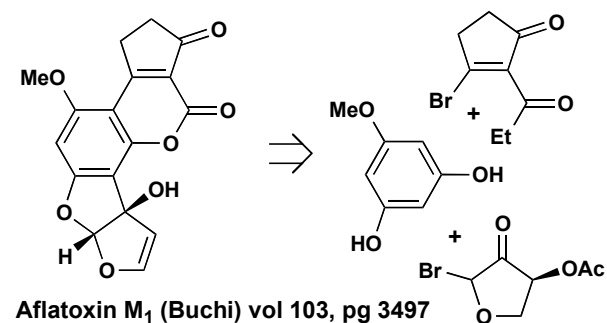
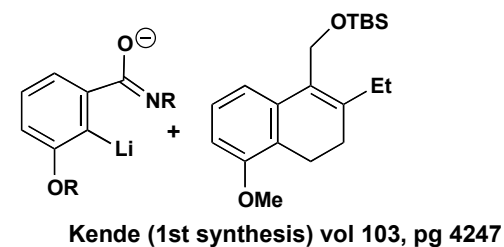
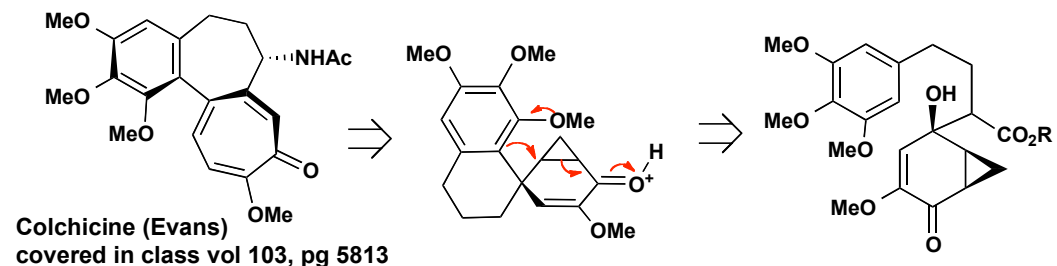


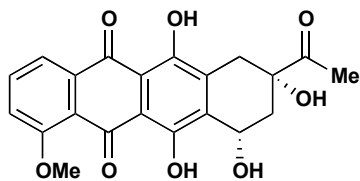
Siccanin (Yoshikoshi) vol 103, pg 2434



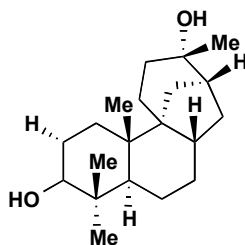
Panasinsene (Johnson) vol 103, pg 7667

Arogonate (Danishefsky)
vol 103, pg 1602 α -cedrene (Wender)
Voica Deromatization GM vol 103, pg 688Normethyljatrophone (Smith)
vol 103, pg 219Lycodoline (Heathcock)
covered in class (β amino ketone)
vol 103, pg 222Hirsutene (Little)
Gallagher Coriolin GM
vol 103, pg 2744

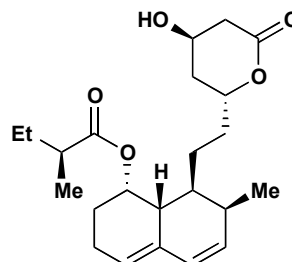




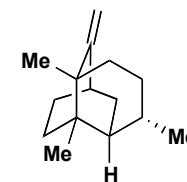
Daunomycinone (Swenton) & (Hauser)
vol 103 pg 5263 & pg 6378



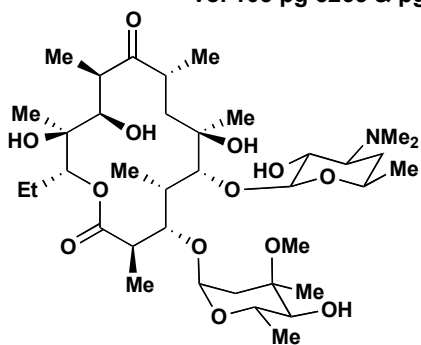
Maritamol (vanTamelon)
vol 103 pg 4615



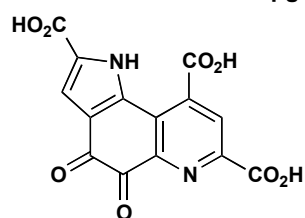
Compactin/ML-236B (Sih)
vol 103 pg 6538



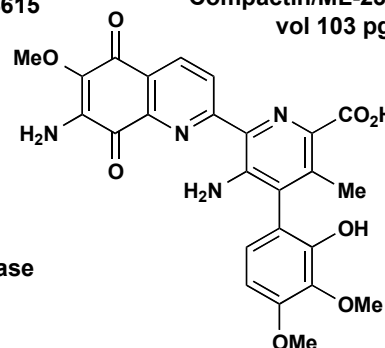
Seychellene (Jung)
vol 103 pg 6677



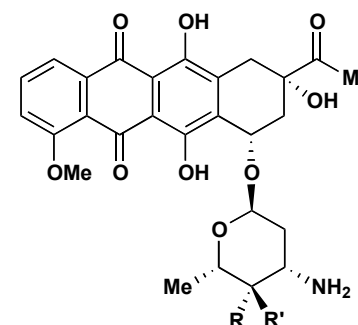
Erythromycin A (Woodward)
Ishihara Erythronolide & Erythromycin GM
vol 103 pg 3215



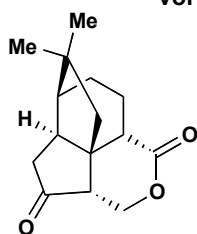
Quinonoid alcohol dehydrogenase
Coenzyme (Corey)
vol 103 pg 5599



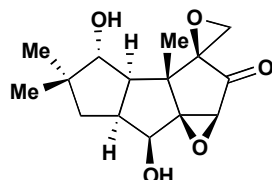
Streptonigrin (Kende)
vol 103 pg 1271



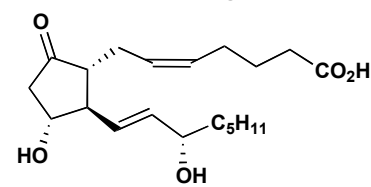
L-Acosamine (R = H; R' = OH)
L-Daosamine (R = OH; R' = H)
(Wovkulich)
vol 103 pg 3956



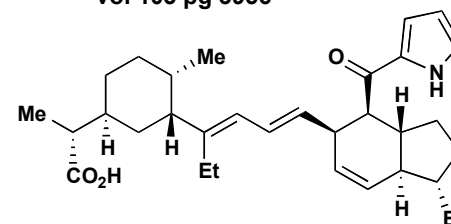
Quadrone (Danishefsky) & (Helquist)
Guerrero Quadrone GM



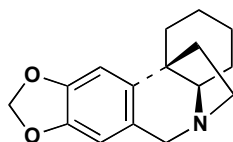
Coriolin (Danishefsky)
Gallagher Coriolin GM
vol 103 pg 3460



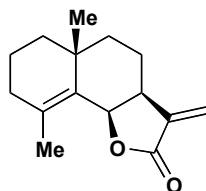
Prostaglandin E₂ (Fuchs)
vol 103 pg 2108



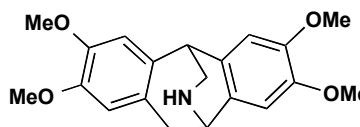
Antibiotic X-14547A (Nicolaou)
vol 103 pg 6967



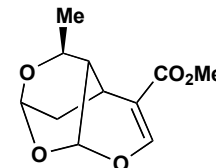
Crinane (Keck)
vol 103 pg 3173



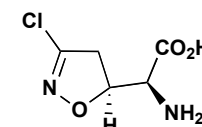
Frullanolide (Sammelhack)
vol 103 pg 3945



Isopavine (Jung)
vol 103 pg 1984



Sarracenin (Whitesell)
vol 103 pg 3468



Agent AT-125 (Baldwin)
vol 103 pg 942