

1986 was an eventful year:

- The UN designated it the International Year of Peace.
- Atomic force microscopy was first described.
- The Chernobyl nuclear power plant exploded.
- Argentina beat West Germany in the FIFA World Cup in Mexico City.
- The Mets beat the Red Sox in 7 games in the World Series.
- March 28: The world changed forever with Lady Gaga's birth.
- Herschbach, Lee, and Polanyi won the Nobel Prize in chemistry for studying the dynamics of chemical elementary processes.
- At least three current Baran labbers were born.

Journal of Organic Chemistry 1986

- 5505 pages.
- 1344 articles, communications, and notes.

Authors with the most papers:

1. Brown HC (25)
2. Clardy J (11)
3. Faulkner DJ (8)
4. Marshall JA (8)
5. Paquette LA (7)

Important Papers:

1. Trost, 2370. Description of determining the absolute configuration of secondary alcohols using mandelate esters. 652 citations.
 2. Sharpless, 1922. Sharpless lets us know that we need molecular sieves if we want our asymmetric epoxidations to actually be catalytic in Ti and tartrate. 418 citations.
 3. Wilkes, 480. Friedel-Crafts reactions in ambient temperature molten salts. 354 citations.
 4. Dalcanele, 567. Selective oxidation of aldehydes with NaClO₂ and H₂O₂. 333 citations.
 5. Noyori, 629. How to make non-racemic BINAPS. 331 citations.
- Also: Molander introduced a lot of the reactivity of Sml₂. 1135, 1778, 2596, 5259.

Best Title Award:

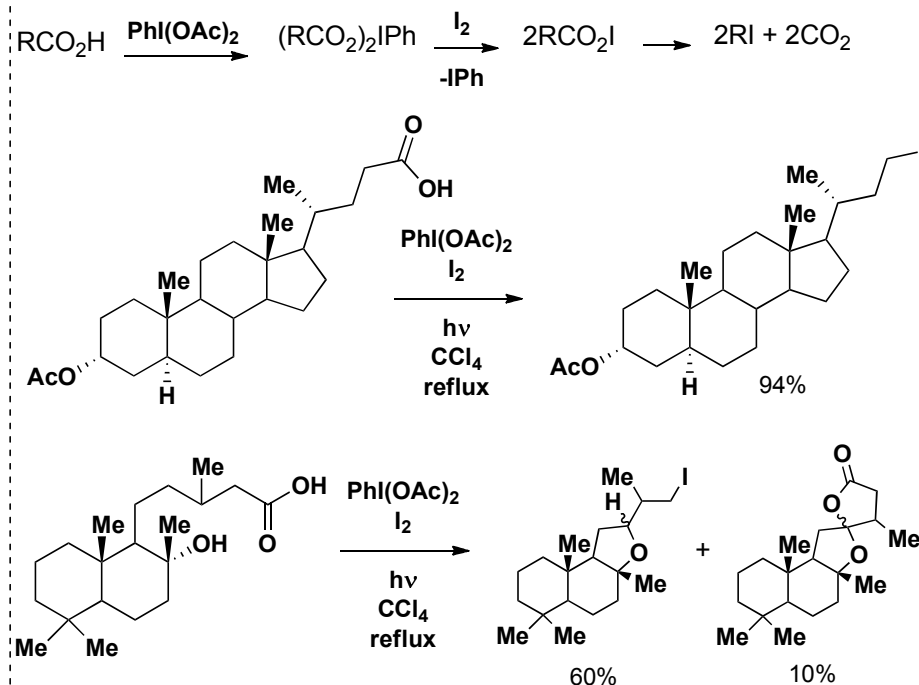
"Total synthesis of a slightly unnatural product. Confirmation of the stereostructure of the archebacterial C₄₀ diol by synthesis of a stereoisomer." Heathcock, 4322.

General Comparing and Contrasting 1986 and 2013

- K. Houk had multiple JOC and JACS papers on computational theoretical chemistry in 1986 (and one in Science!). This has not changed.
- There was quite a bit of aryl-aryl coupling with Pd, only instead of boronic acids they used organo-thallium or mercury compounds.
- There were many papers describing NMR studies on molecules. This seems more rare today.
- There was a whole field on the synthesis of various crown ethers and the study of host-guest interactions. Not so much in today's JOC.
- There was a ton of papers on nothing but photochemistry.
- There were many "studies towards" syntheses where they couldn't form macrocyclic rings. We have made a lot of progress in that regard.

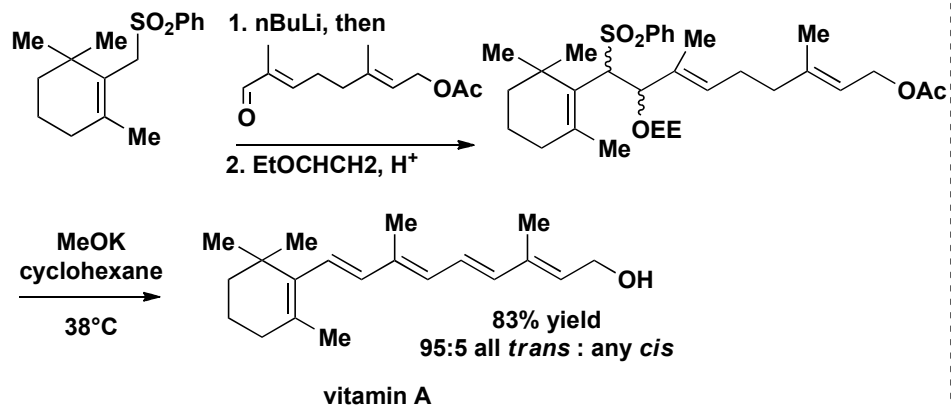
Suarez Decarboxylation

Suarez, 402



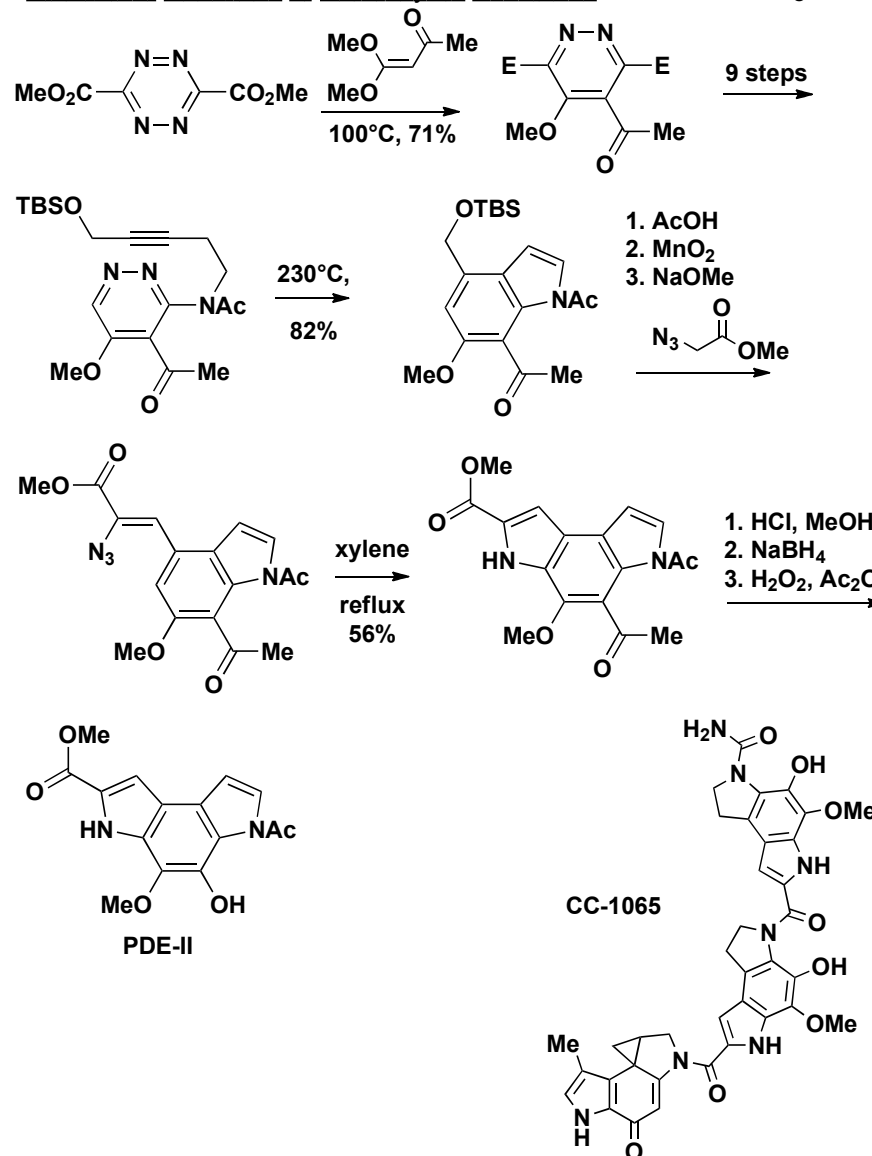
Convergent Vitamin A Synthesis

Otera, 3834



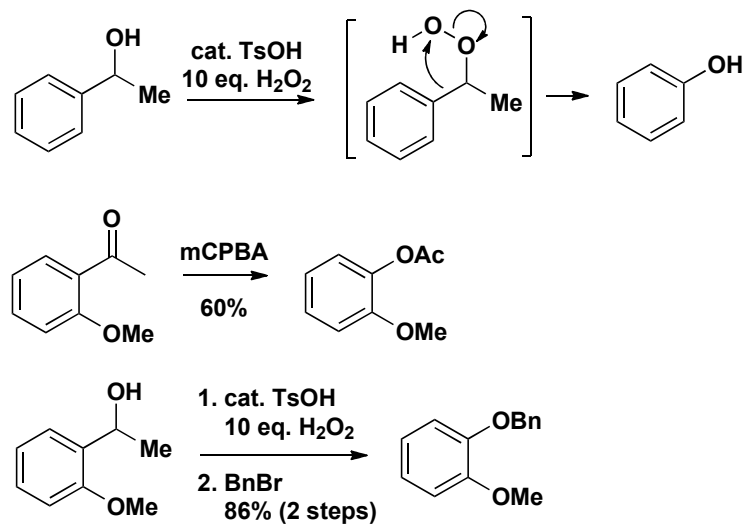
Diels-Alder Reactions of Heterocyclic Azadienes

Boger, 3250

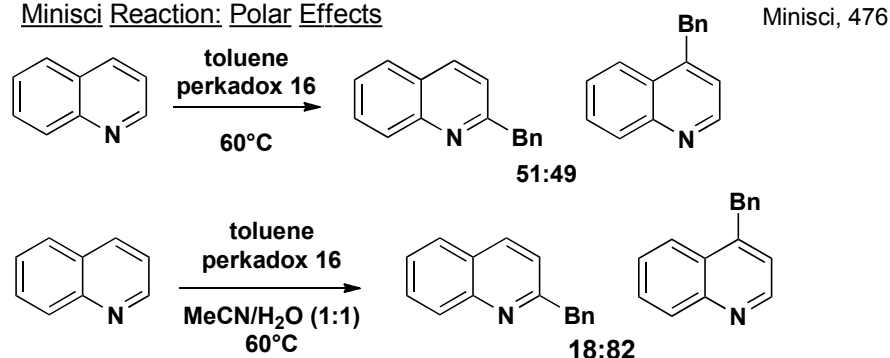


Baeyer-Villiger Alternative

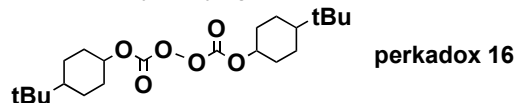
Boger, 5436



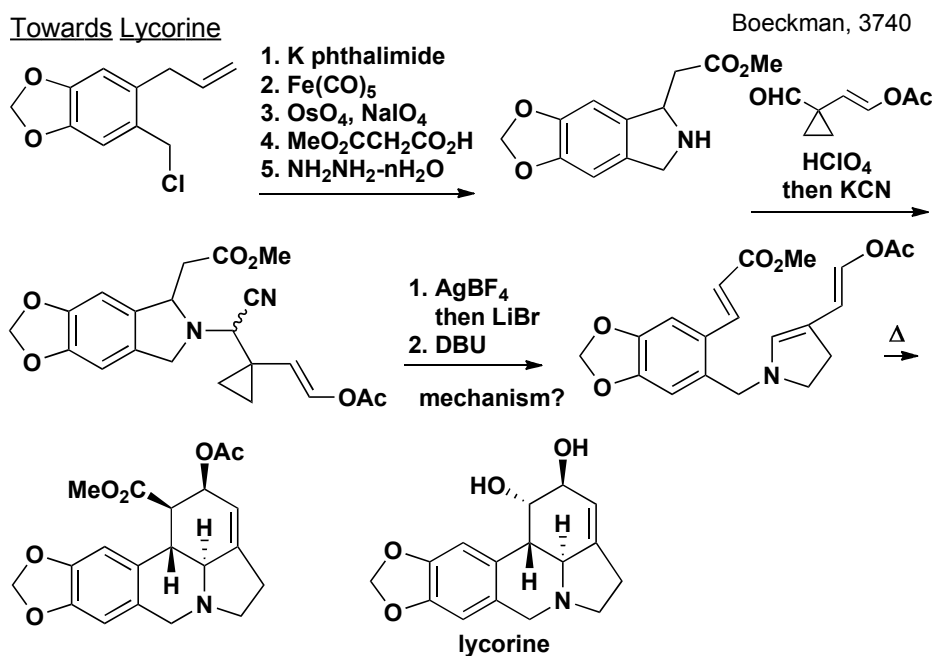
Minisci Reaction: Polar Effects



Explanation: Subsequent H abstraction is faster in H₂O. This might be because of HSAB theory applying to radicals.

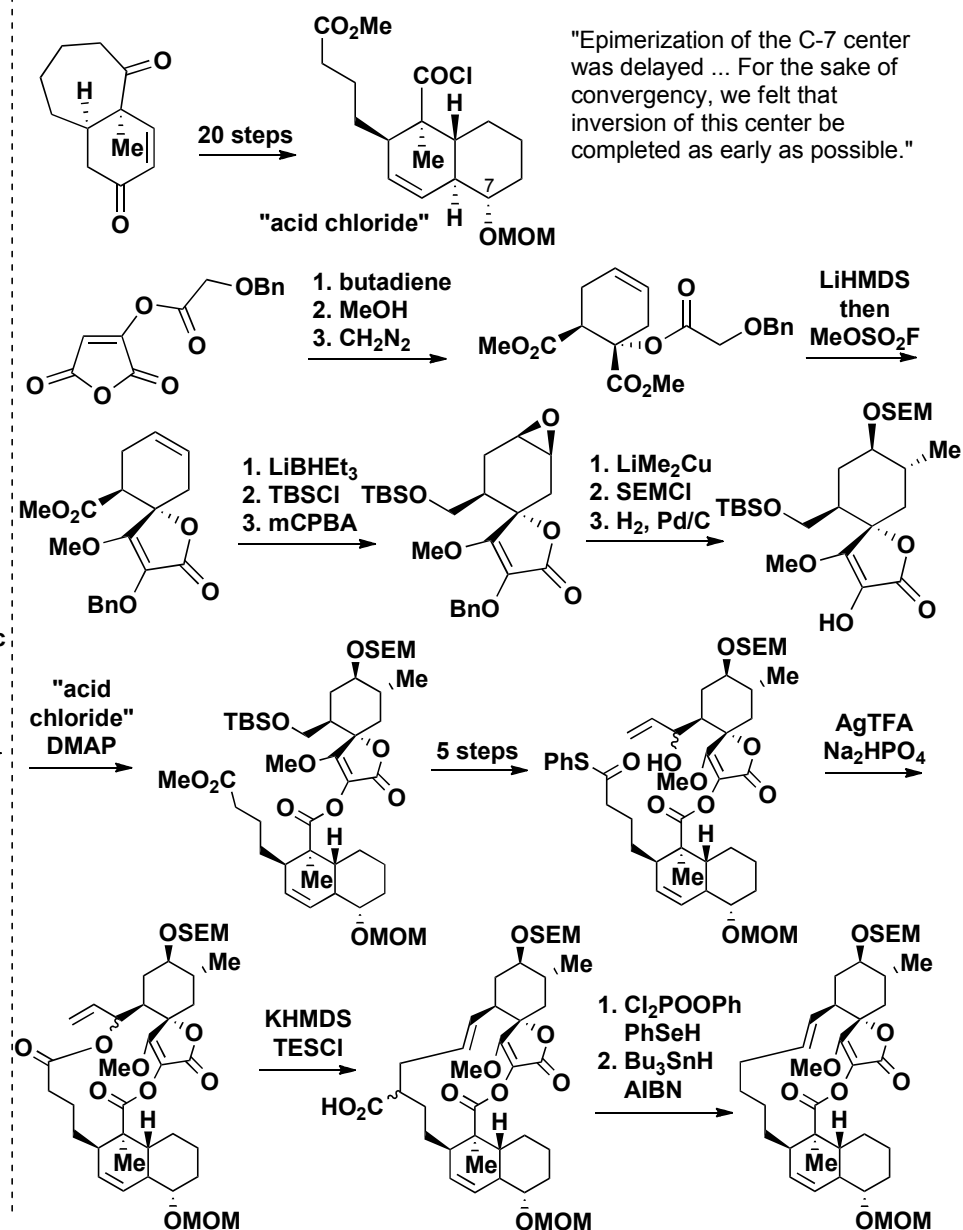


Towards Lycorine



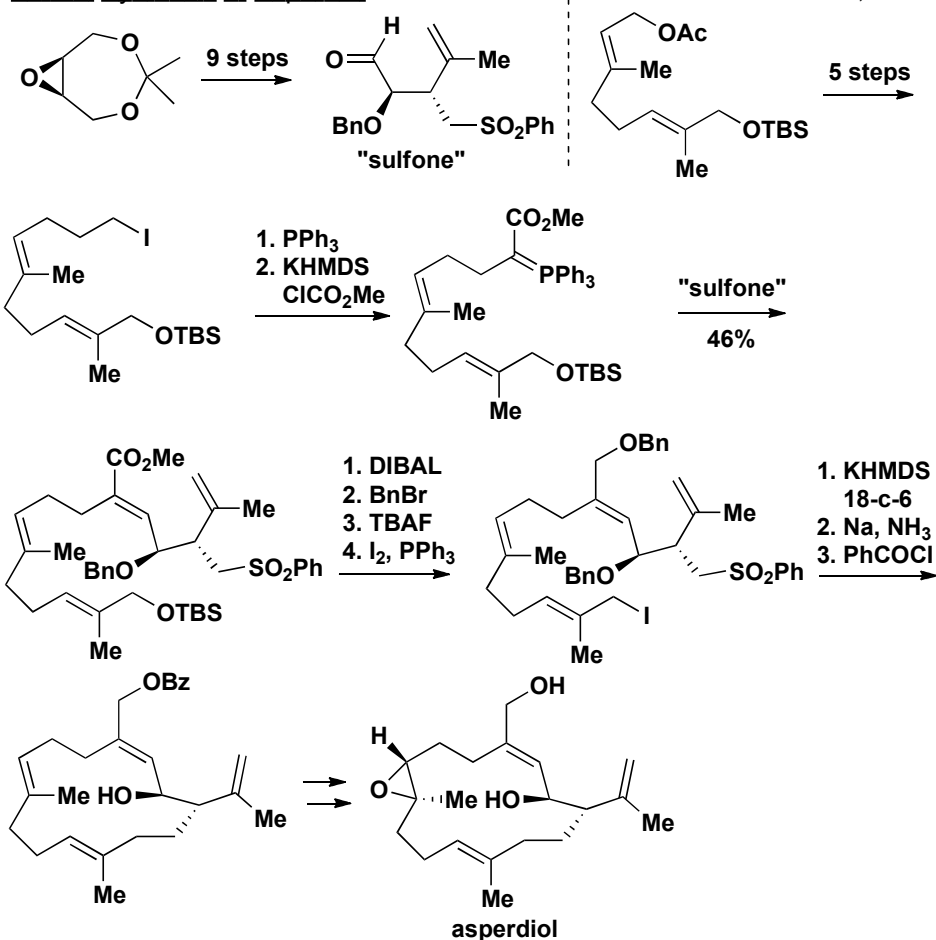
Towards Chlorotricholide

Ireland, 635

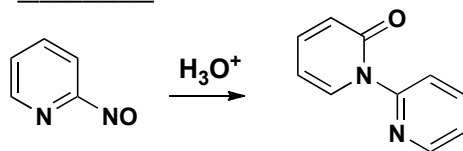


Formal Synthesis of Asperdiol

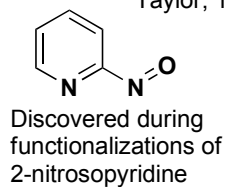
Marshall, 858



Mechanism

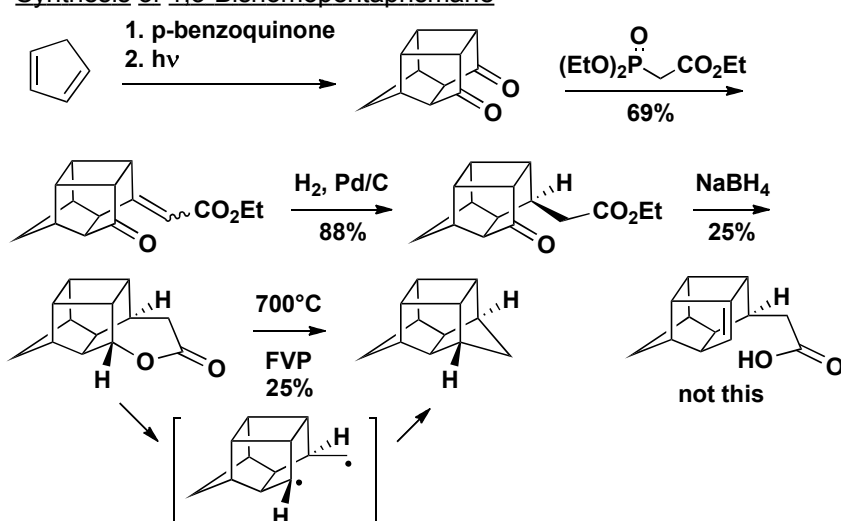


Taylor, 101



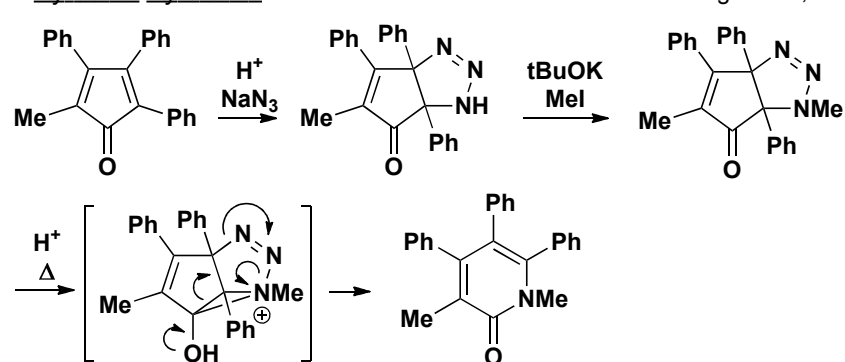
Synthesis of 1,3-Bishomopentaprismane

Marchand, 1897



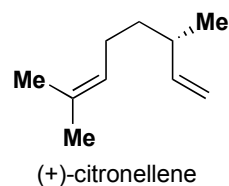
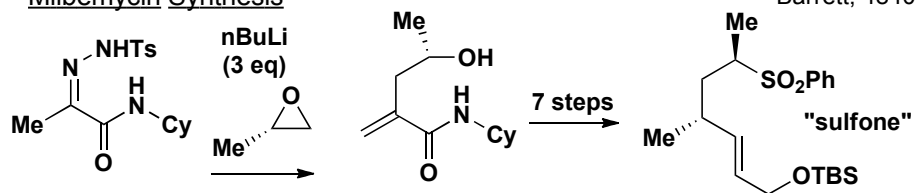
Pyridone Synthesis

Ogliaruso, 1544

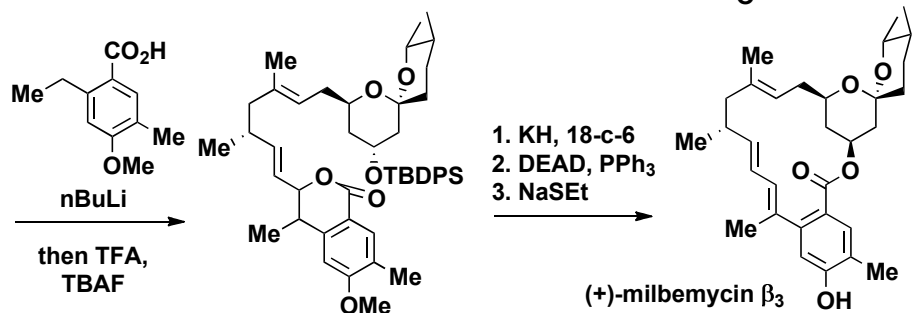
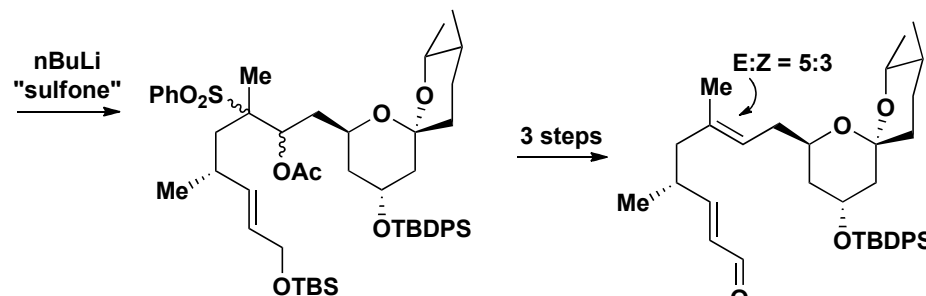
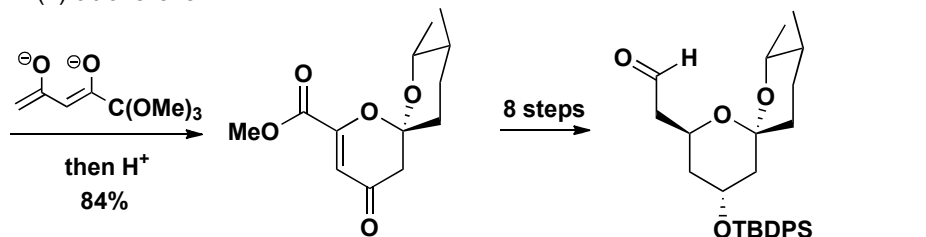


Milbemycin Synthesis

Barrett, 4840

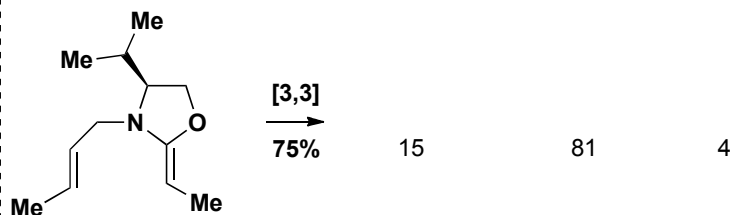
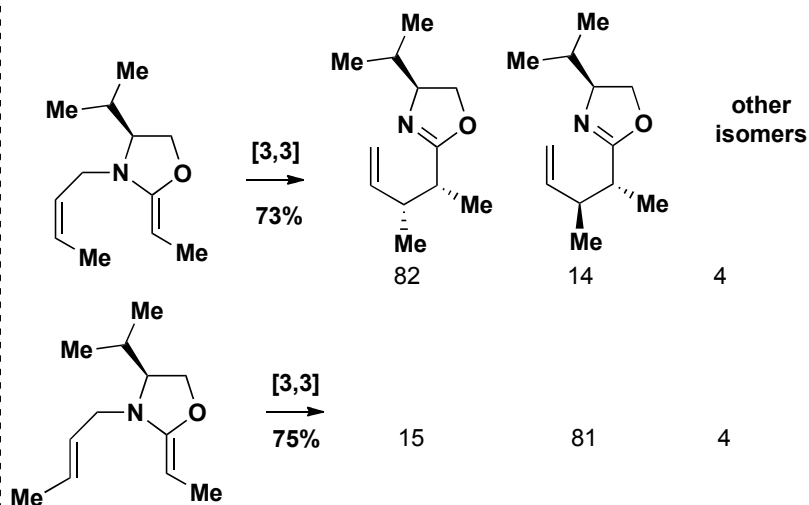


They had another route that involved a resolution and separation of diastereomers. They commented: "While on an analytic scale resolution was straightforward, preparative HPLC was at best synthetic lunacy."



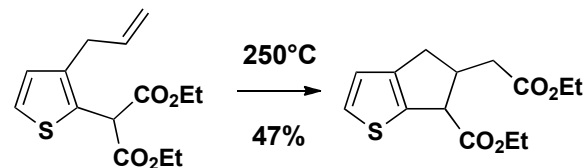
Aza-Claisen Utility

Kurth, 1377



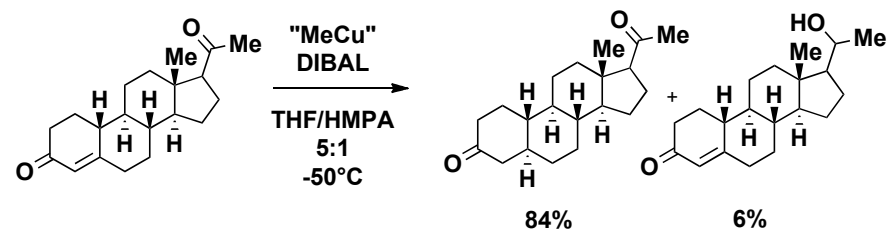
Mechanism

MacDowell, 183



Conjugate Reduction

Saegusa, 537

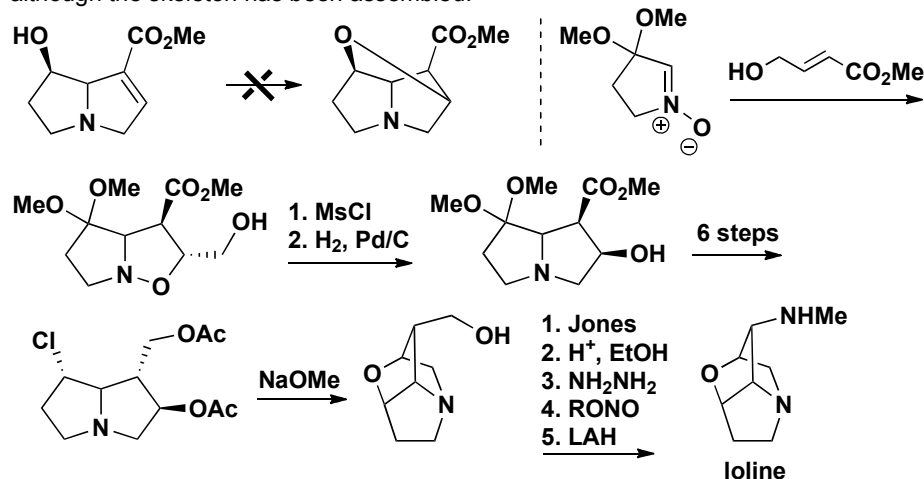


"MeCu" is premixed MeLi with CuI. No mechanistic explanation is offered.

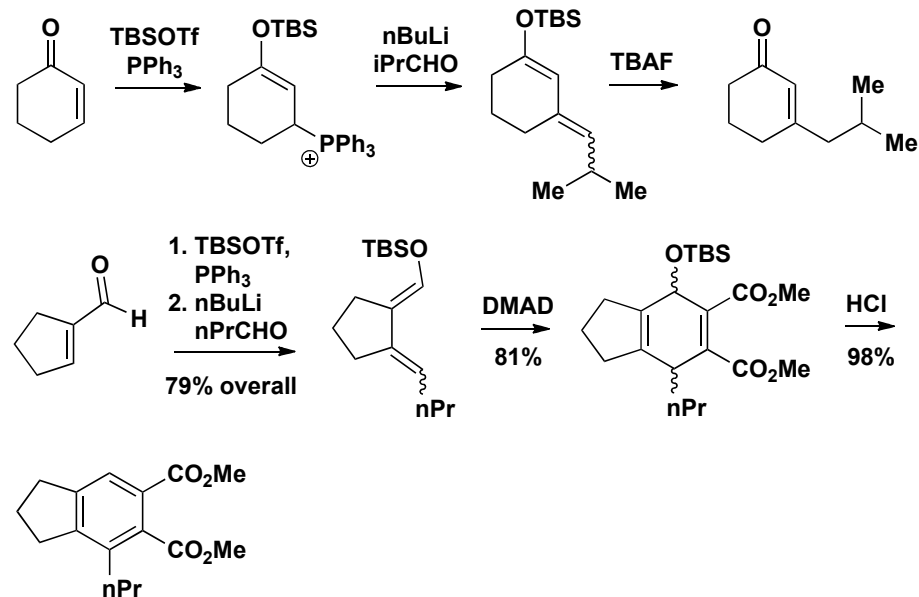
Lolium Alkaloid Synthesis

Tufariello, 3556

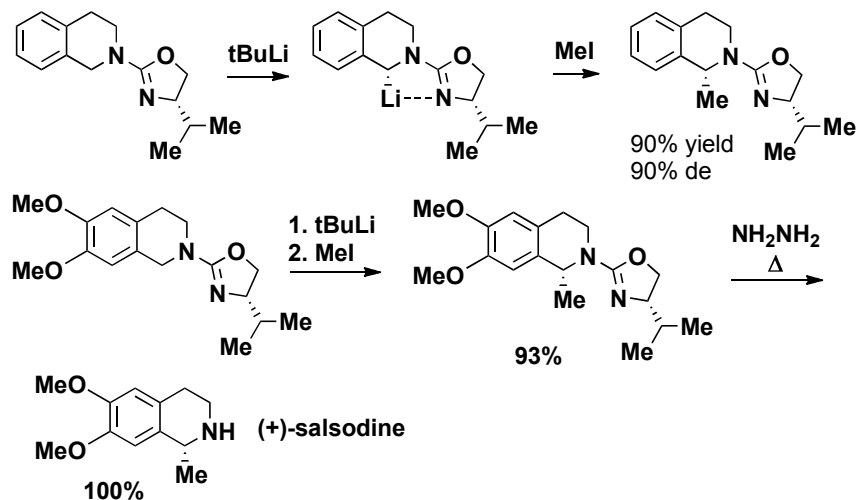
"These alkaloids have not yielded to the thrusts of several synthetic attempts, although the skeleton has been assembled."

Phosphonosilylation/Wittig

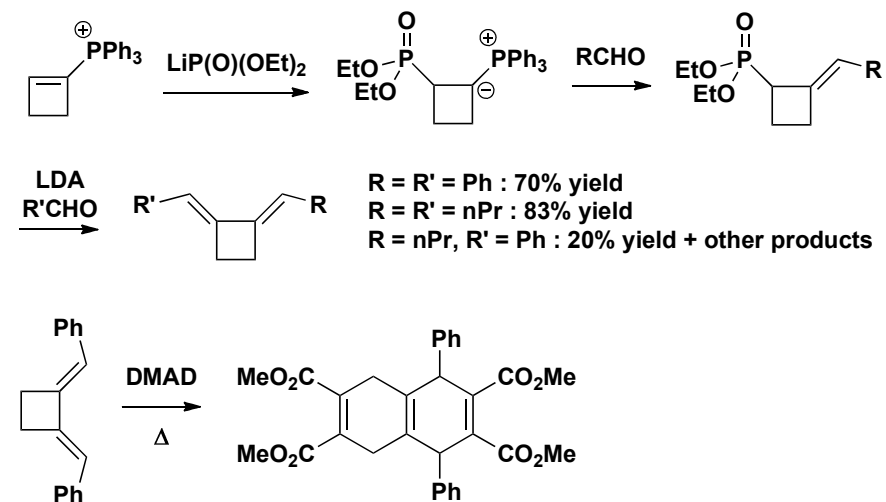
Kozikowski, 3400

Chiral Directed Lithiation

Gawley, 3076

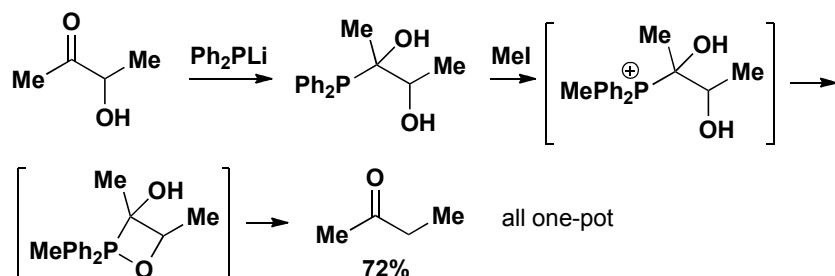
One-Pot Diolation

Minami, 3572



Deoxygenation

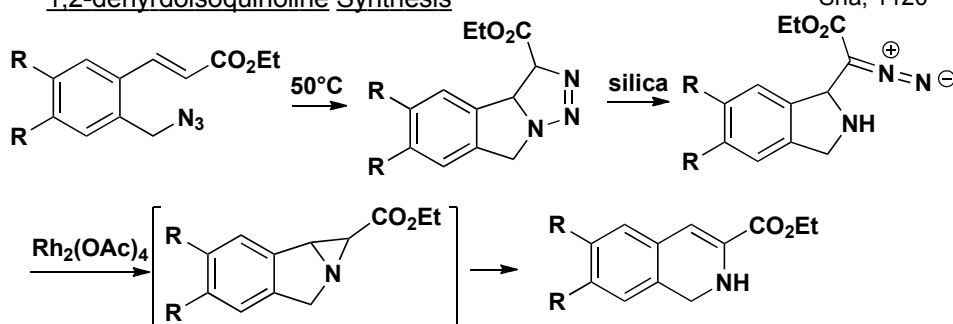
Leone-Bay, 2378



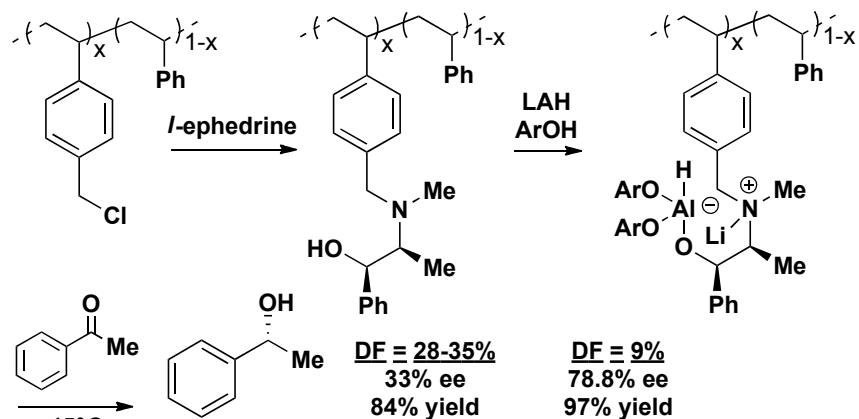
This reagent was originally used to isomerize olefins through their respective epoxides. *Cis*-cyclooctene to *trans*-cyclooctene. Fuchs, JOC 1973, 1178.

1,2-dehyrdoisoquinoline Synthesis

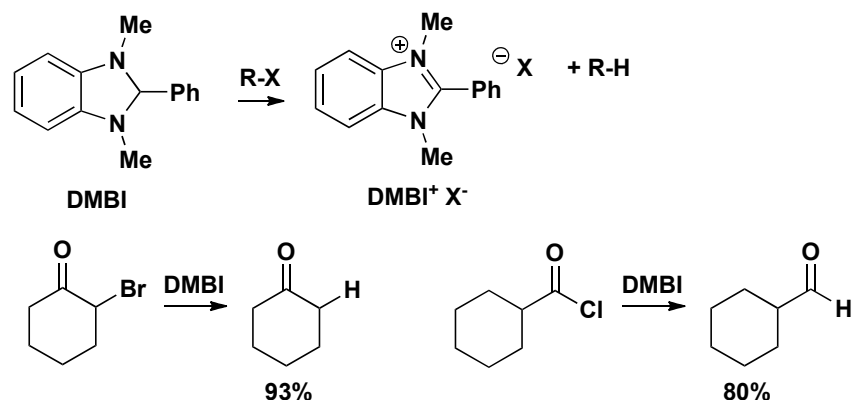
Sha, 1120

Polymer-Supported LAH Reduction

Frechet, 3462

Halide Reduction

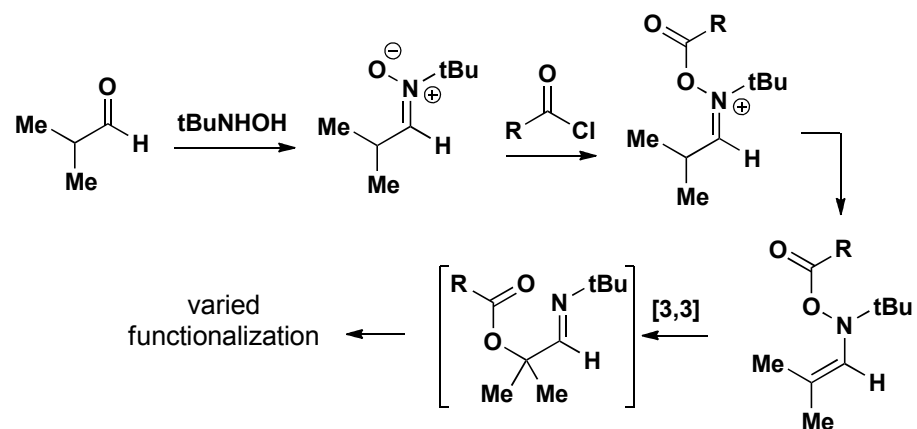
Chikashita, 5400



"Furthermore, the possibilities of dihydropyridines as practical reducing agents in organic synthesis seem to be somewhat low because of their poor reactivity and their instability is a disadvantage to their use."

α-Oxidation of Iminium Groups

Coates, 1383



23 citations. Sorensen used it in a synthesis of fumagillol; he called this an "under-utilized method." ACIE 1999, 971.

Towards Ikarugamycin

Boeckman, 5486

