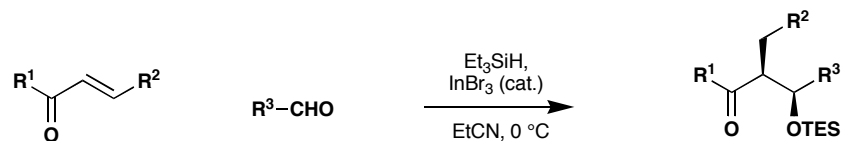
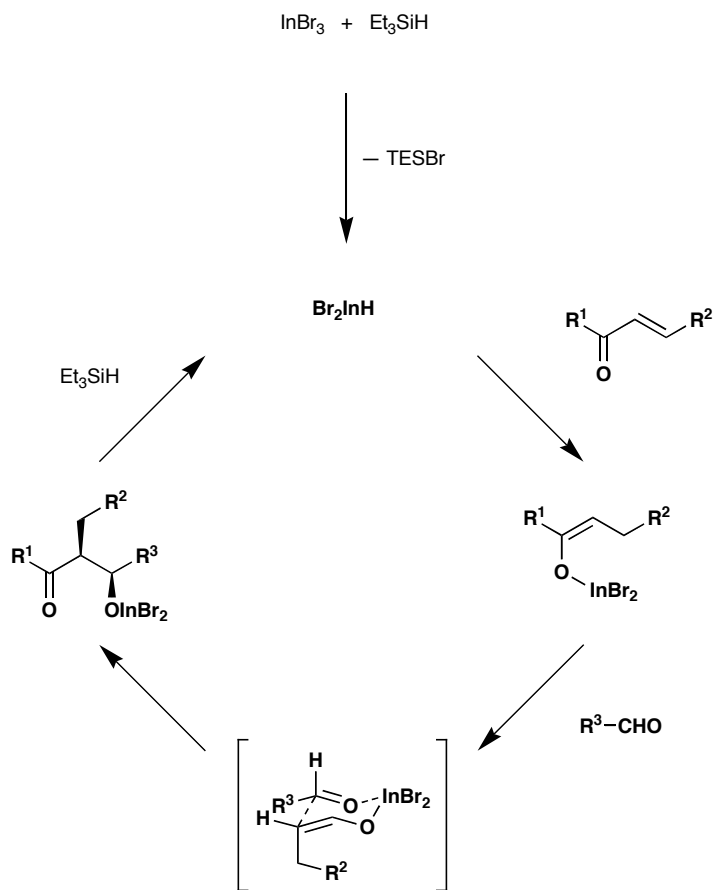


Catalytic Generation of Indium Hydride in a Highly Diastereoselective Reductive Aldol Reaction

Shibata, Baba, and coworkers; p. 711

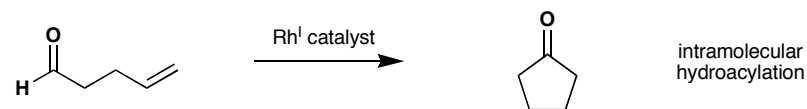


R^1 , R^2 , and R^3 can be alkyl or aryl.

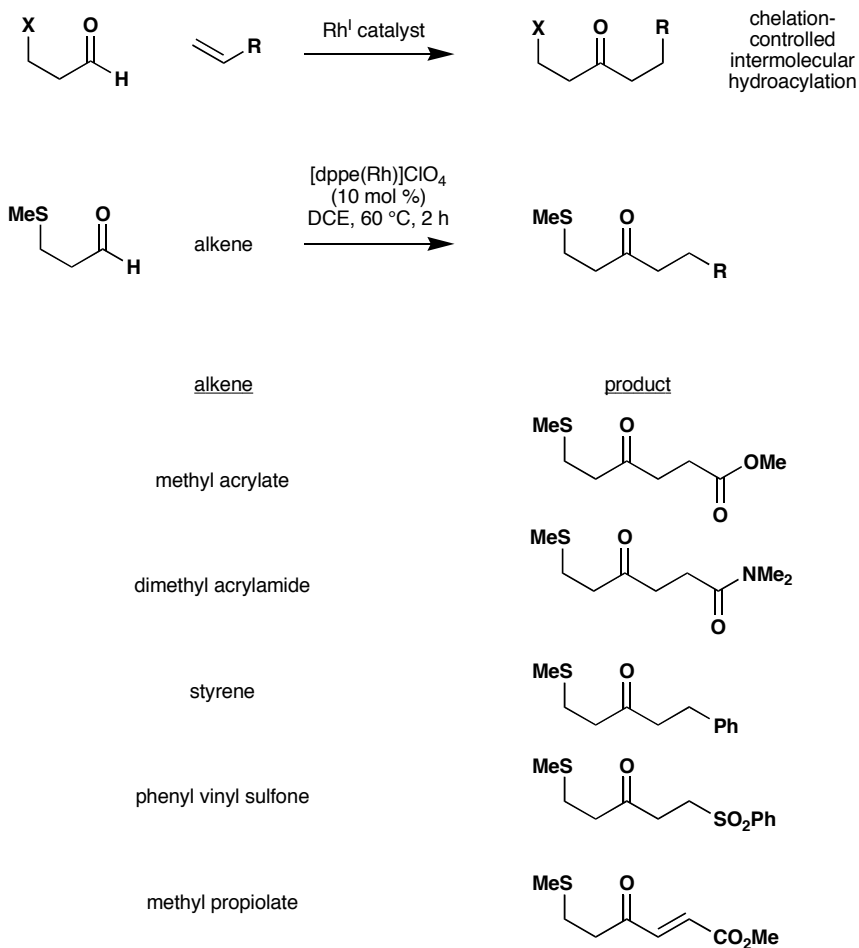


Chelation-Controlled Intermolecular Hydroacylation: Direct Addition of Alkyl Aldehydes to Functionalized Alkenes

Willis and coworkers; p. 340

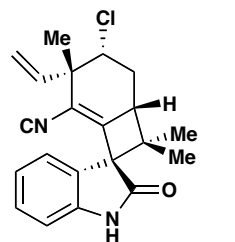


The application of this method to *intermolecular* cases often results in decarbonylation. Solution:

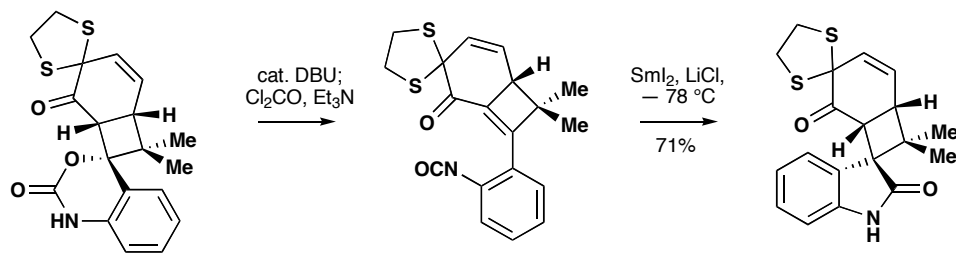


A Mild and Efficient Synthesis of Oxindoles: Progress Towards the Synthesis of Welwitindolinone A Isonitrile

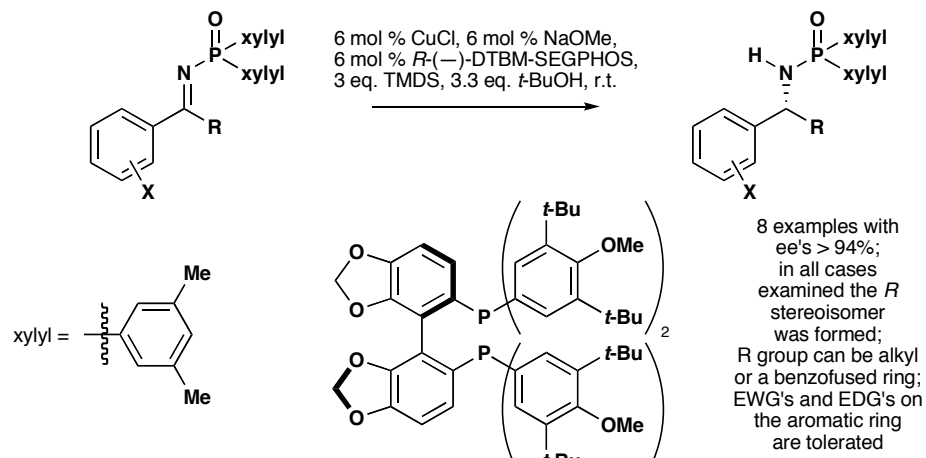
Wood and coworkers; p. 1270



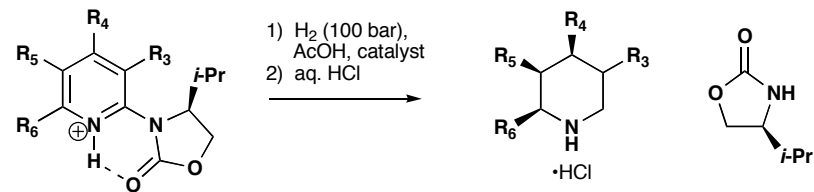
Welwitindolinone A Isonitrile

**Copper(I)-Catalyzed Asymmetric Hydrosilylations of Imines at Ambient Temperature**

Lipshutz and coworker; p. 2228.

**Efficient Asymmetric Hydrogenation of Pyridines**

Glorious and coworkers; p. 2850



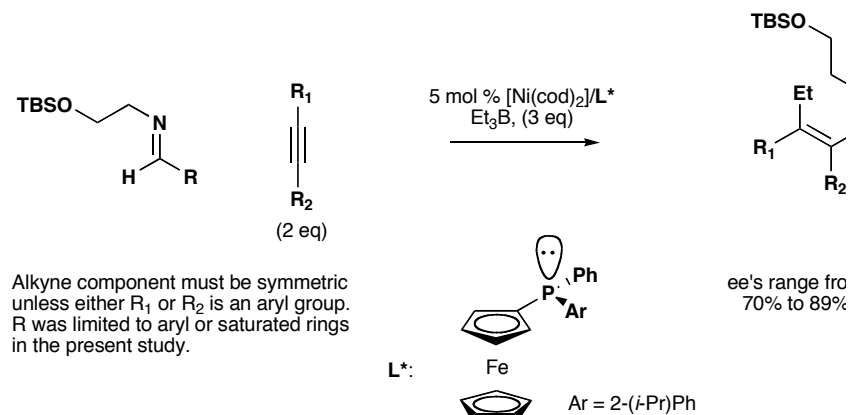
The starting materials for this transformation are made from the appropriate 2-halopyridine and the Evans oxazolidinone using K₂CO₃ and CuI.

Running the reaction in acidic medium is required for several reasons: 1) protonated pyridines are *r* susceptible to reduction than are free pyridines; 2) the products could poison the hydrogenation cat as the free amine; 3) protonation locks the conformation of the substrate as shown allowing for efficient enantiocontrol.

The aminal produced during hydrogenation decomposes to an iminium, which exists in equilibrium with the eneiminium species, scrambling the stereochemistry at C3.

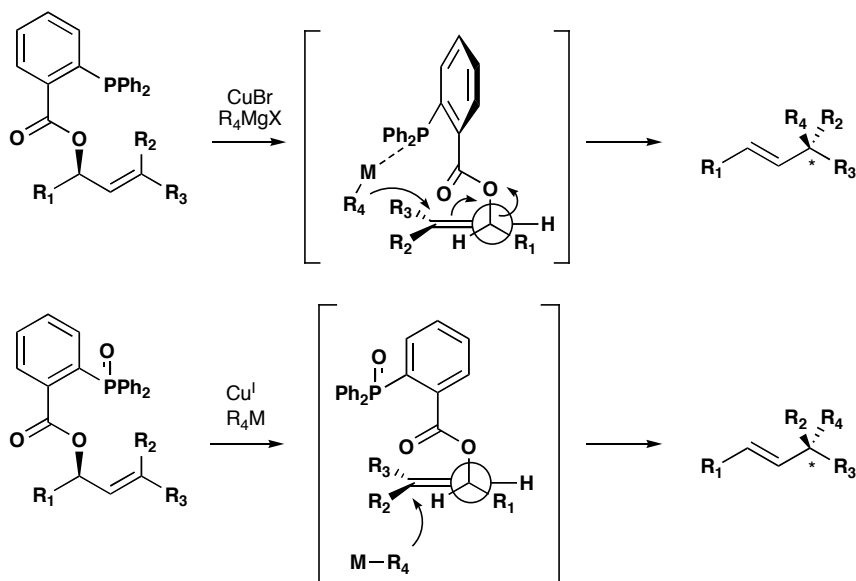
Asymmetric Catalytic Coupling of Organoboranes, Alkynes, and Imines with Removable (Trialkylsilyloxy)ethyl Group— Direct Access to Enantiomerically Pure Primary Allylic Amines

Jamison and coworker p. 3941

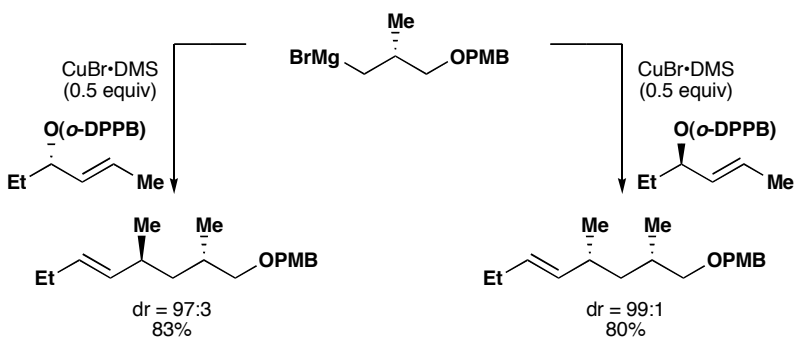


Stereospecific and Stereodivergent Construction of Quaternary Carbon Centers through Switchable Directed/Nondirected Allylic Substitution and Iterative Deoxypropionate Synthesis Based on a Copper-mediated Directed Allylic Substitution

Breit and coworkers; p. 3786 and 3790



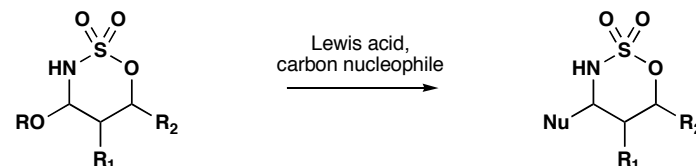
Essentially complete transfer of chirality (99%) is observed in most cases. Yields generally range from good to excellent.



Iterations can be carried out by ozonolysis (92% or greater), iodination (92% or greater), and metal halogen exchange followed by exposure to the conditions shown above.

Rh-Catalyzed Amination of Etheral C—H Bonds: A Versatile Strategy for the Synthesis of Complex Amines

DuBois and coworkers; p. 4349



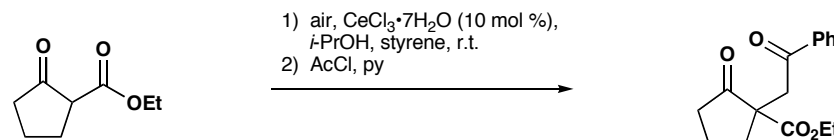
Lewis acids: $\text{BF}_3 \cdot \text{Et}_2\text{O}$, $\text{Sc}(\text{OTf})_3$

nucleophiles: allyltrimethylsilane, thioketene acetals, enol silyl ethers

The diastereoselectivity observed is highly dependent on pre-existent stereochemistry.

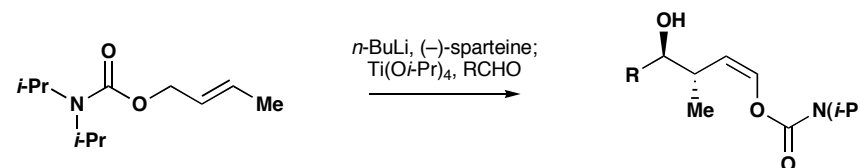
Formation of 1,4-Diketones by Aerobic Oxidative C—C Coupling of Styrene with 1,3-Dicarbonyl Compounds

Christoffers and coworkers; p. 6547



Enantioselective Synthesis of Cyclopropanes by Aldehyde Homologation

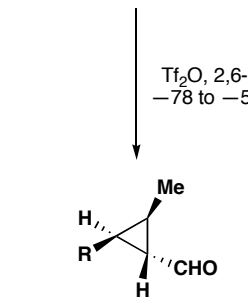
Taylor and coworker; p. 6671



Also applicable to *N*-alkyl, *N*-Boc crotylamines.

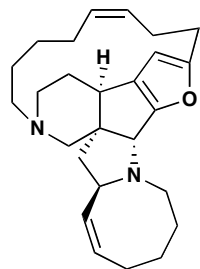
Diastereoselectivity for the oxygen manifold is not complete due to equilibration after product formation; this is not a problem with the nitrogen analogue.

Yields are generally high.

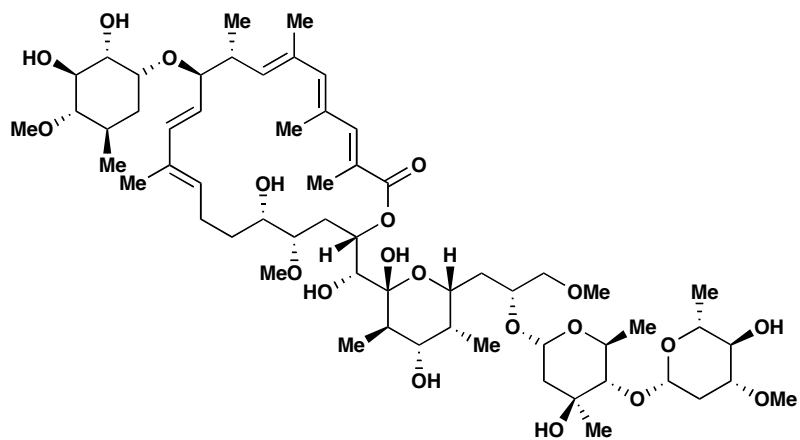


Asymmetric Total Synthesis of (–)-Nakodamarin A

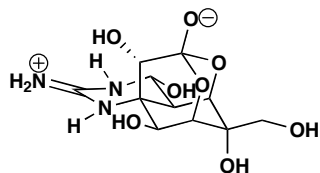
Nishida and coworkers; p. 2020

**Total Synthesis of Apoptolidin**

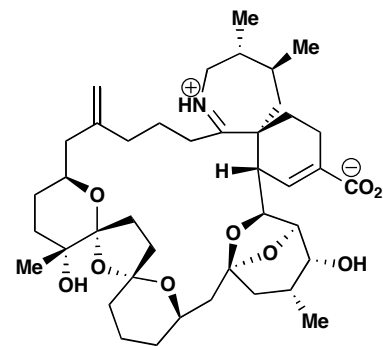
Koert and coworkers; p. 4597

**An Efficient Total Synthesis of Optically Active Tetrodotoxin**

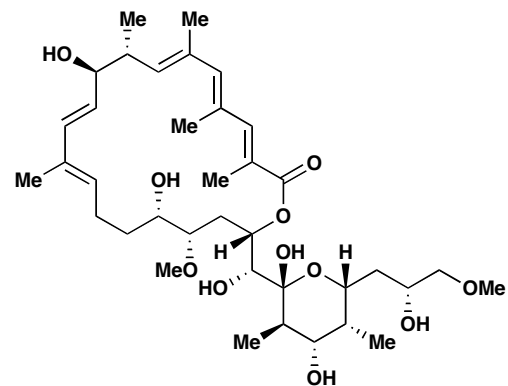
Isobe and coworkers; p. 4782

**A Formal Total Synthesis of (+)-Pinnatoxin A**

Inoue, Hirama, and coworkers; p. 6505

**Total Synthesis of Apoptolidinone**

Sulikowski and coworkers; p. 6673

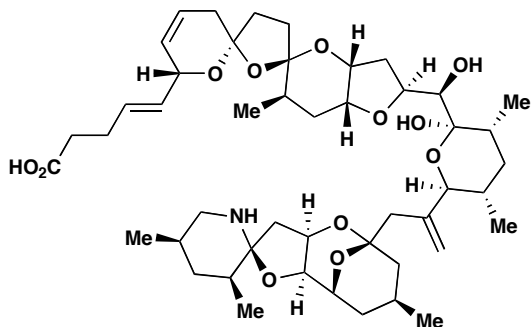


Structural Revision and Total Synthesis of Azaspiracid-1, Part 1: Intelligence Gathering and Tentative Proposal

Nicolaou, Satake, and coworkers; p. 4312

Structural Revision and Total Synthesis of Azaspiracid-1, Part 2: Definition of the ABCD Domain and Total Synthesis

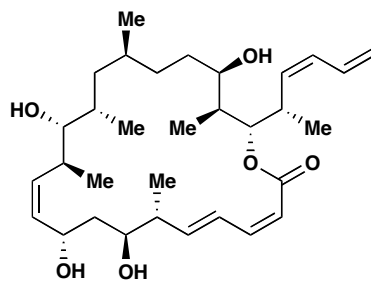
Nicolaou and coworkers; p. 4318

**Total Synthesis and Configurational Assignment of (–)-Dictyostatin, a Microtubule-Stabilizing Macrolide of Marine Sponge Origin**

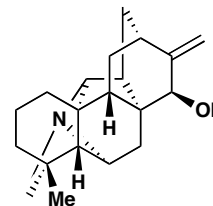
Paterson and coworkers; p. 4629

Total Synthesis of (–)-Dictyostatin: Confirmation of Relative and Absolute Configurations

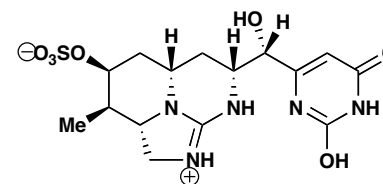
Curran and coworkers; p. 4634

**Total Synthesis of (±)-Nominine, a Heptacyclic Hetsine-Type Aconite Alkaloid**

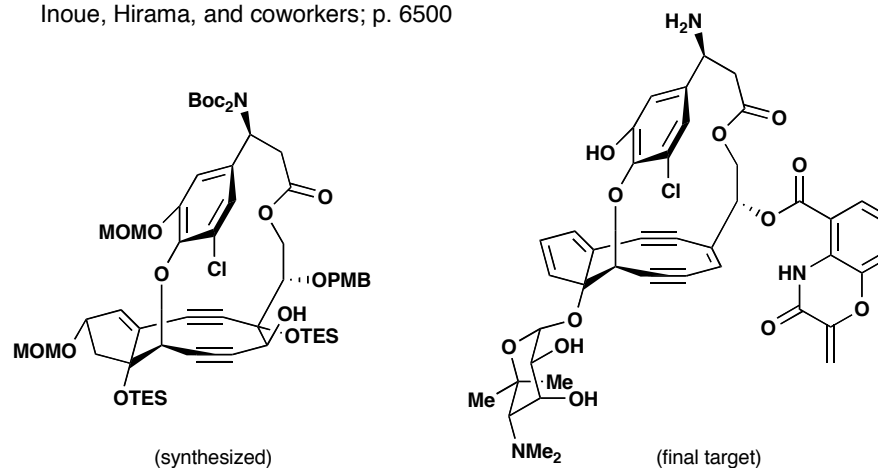
Muratake and Natsume; p. 4646

**A Concise Asymmetric Synthesis of the Marine Hepatotoxin 7-Epicylindros**

Williams and coworker; p. 2930

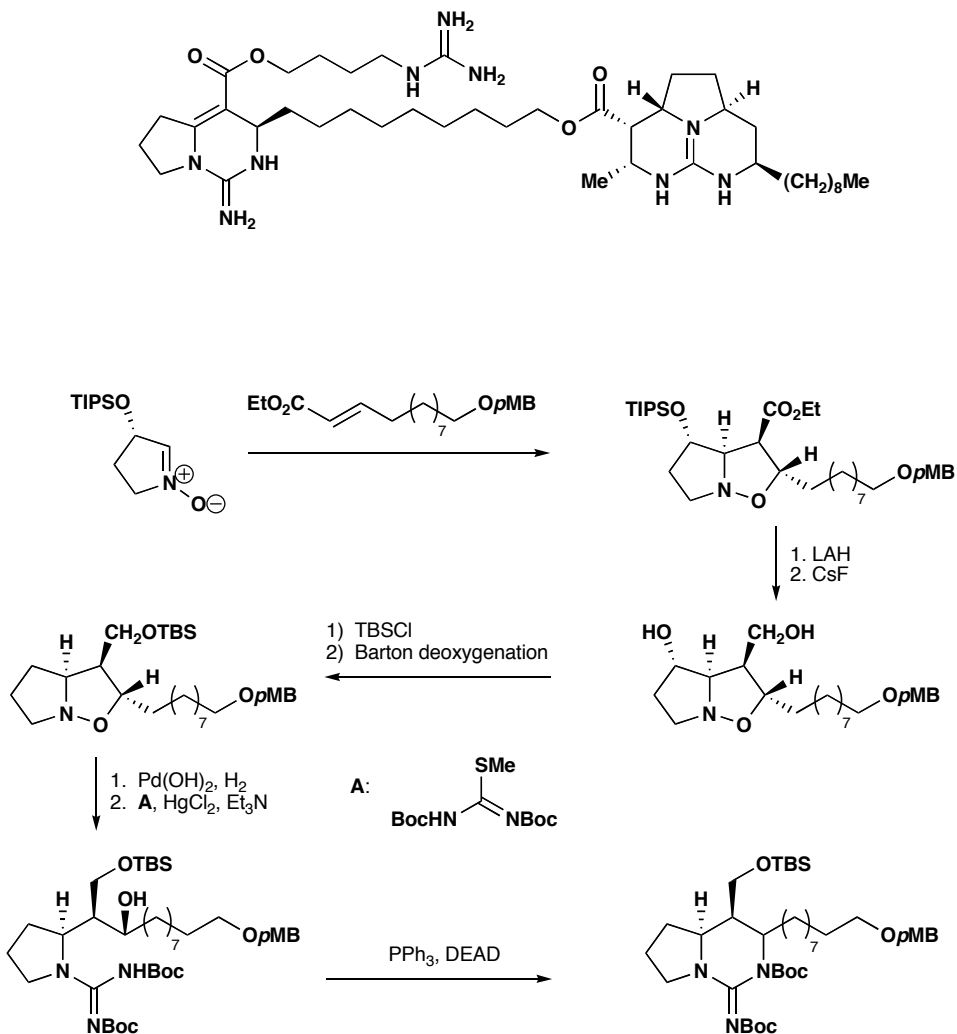
**Synthesis of the C-1027 Chromophore Framework through Atropselective Macrolactonization**

Inoue, Hirama, and coworkers; p. 6500

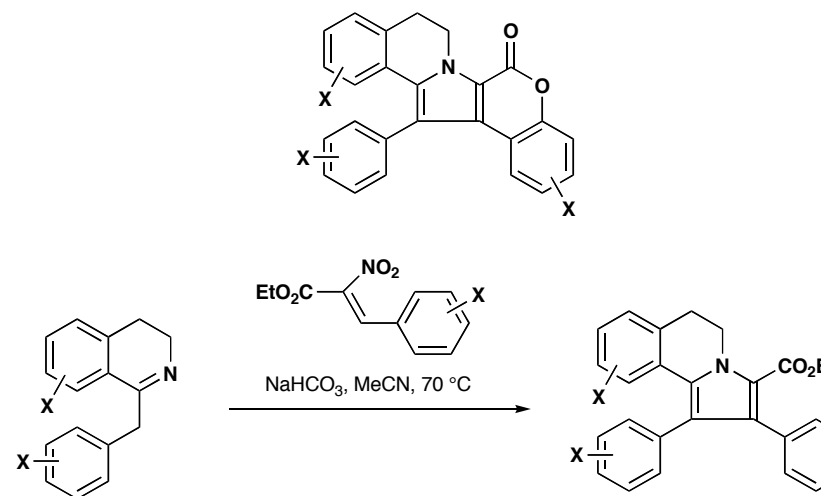


Enantioselective Total Synthesis of Batzelladine A

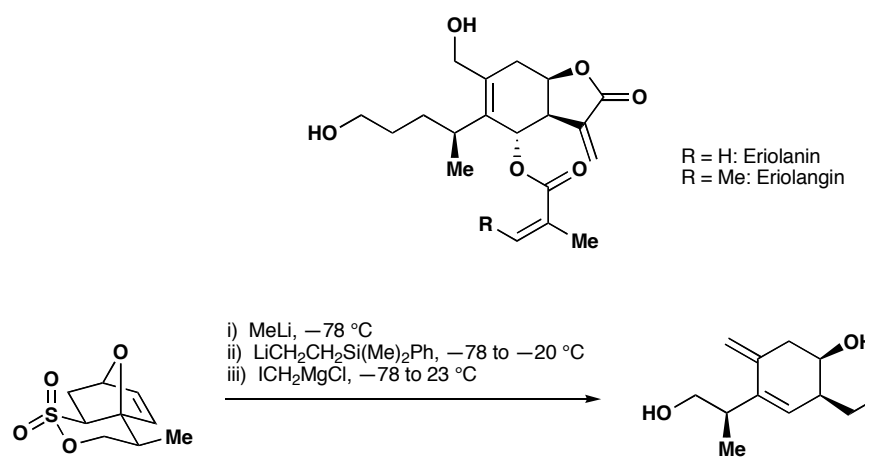
Nagasawa and coworkers; p. 1559

A Highly Efficient Synthesis of Lamellarins K and L by the Michael Addition/
Ring-Closure Reaction of Benzylidihydroisoquinoline Derivatives with
Ethoxycarbonyl- α -nitrostyrenes

Ruchirawat and coworkers; p. 866

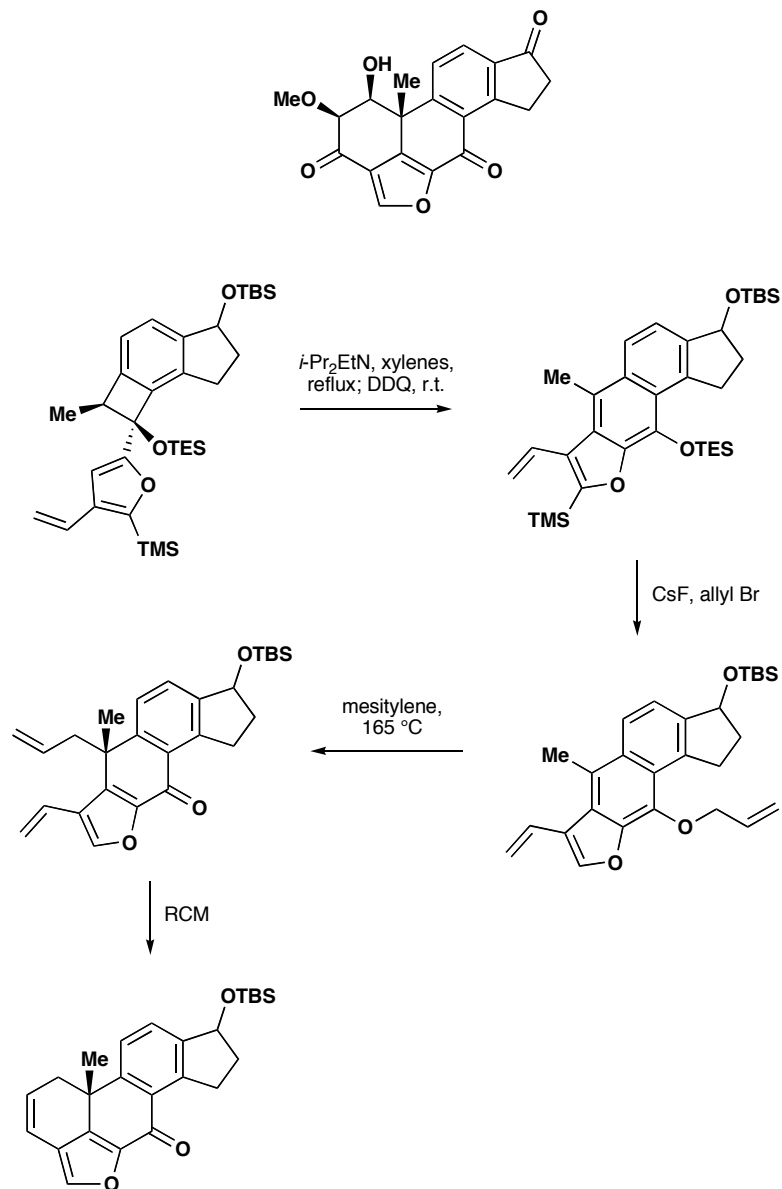
Enantioselective Total Synthesis of the Highly Oxygenated 1, 10-Eudesmanol
Eriolanin and Eriolangin

Metz and coworkers; p. 5991

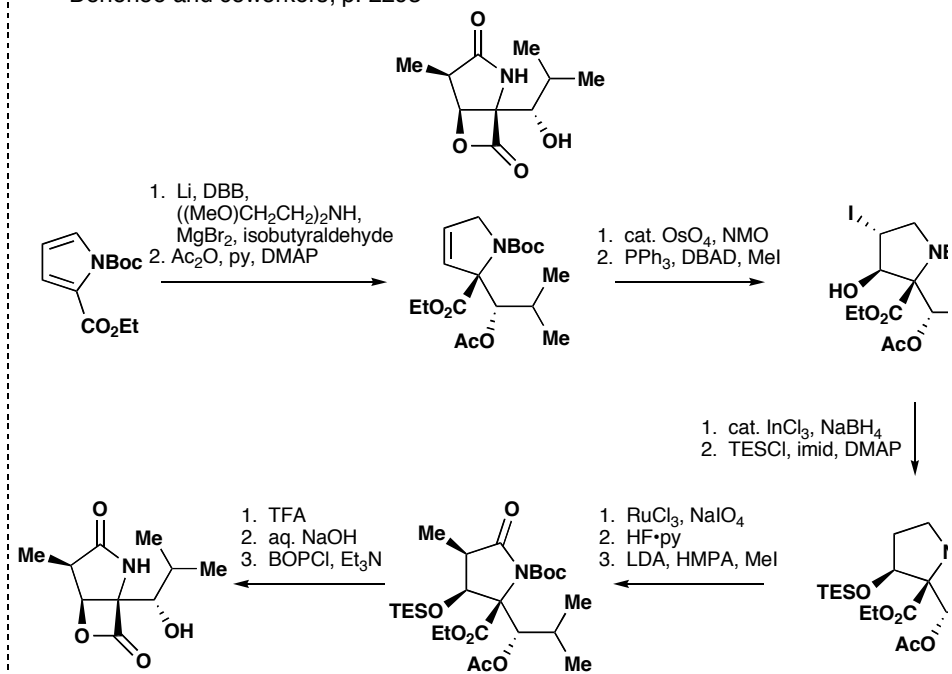


Synthesis of the Furanosteroidal Antibiotic Viridin

Sorensen and coworkers; p. 1998

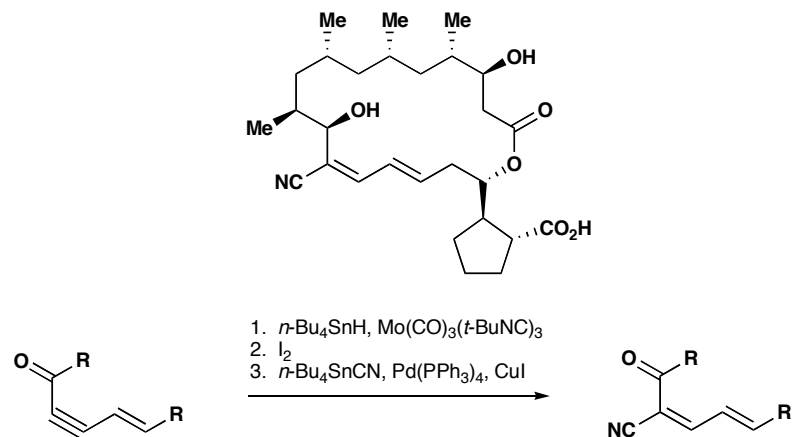
An Efficient Synthesis of Lactacystin β -Lactone

Donohoe and coworkers; p. 2293



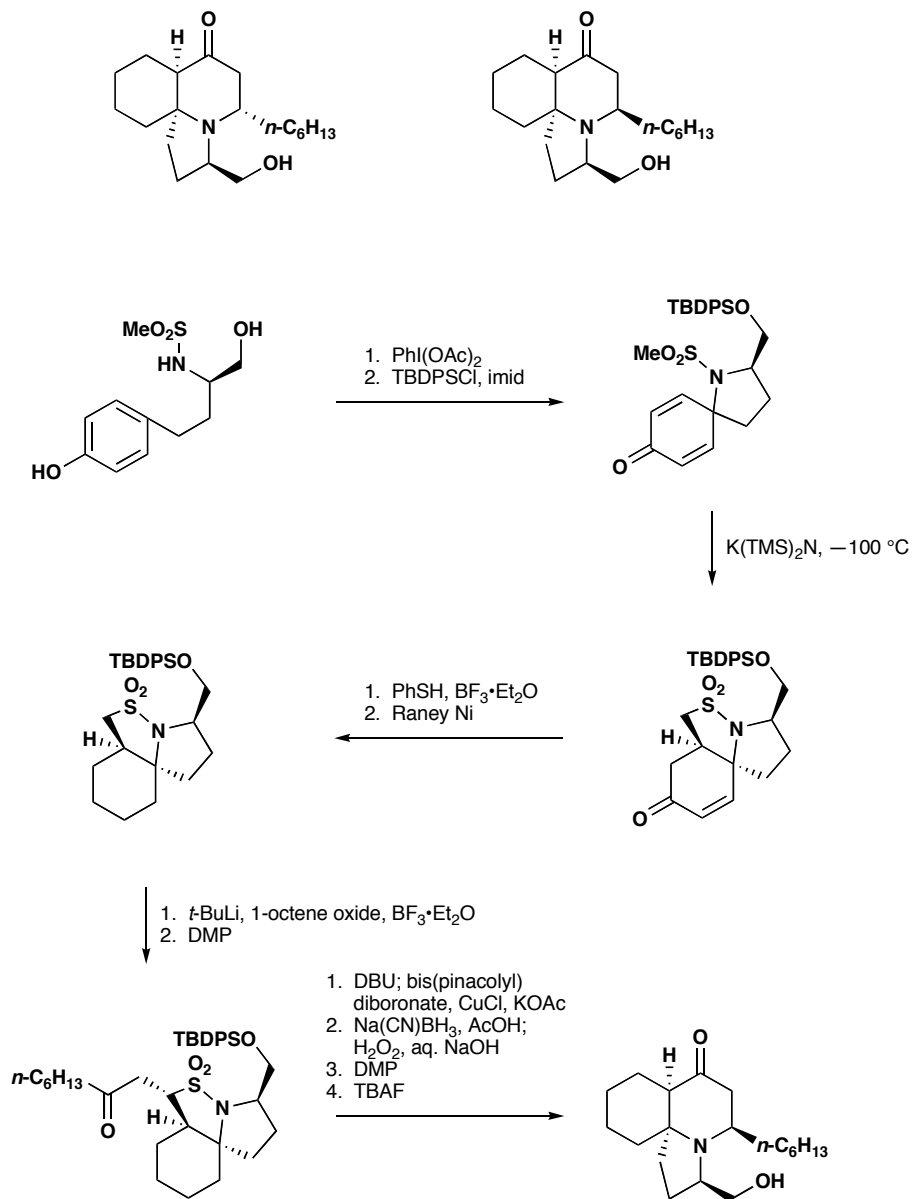
Stereoselective Total Synthesis of (–)-Borrelidin

Theodorakis and coworkers; p. 3947



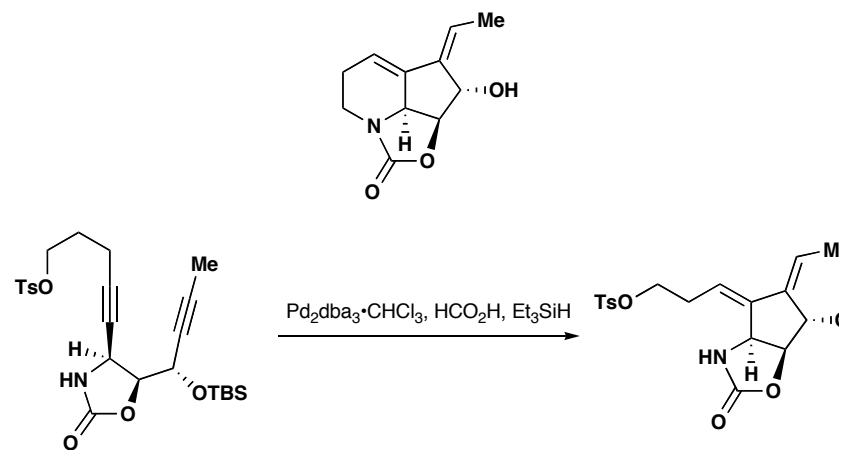
Fully Stereocontrolled Total Syntheses of (–)-Cylindricine C and (–)-2-Epicylindricine C: A Departure in Sulfonamide Chemistry

Ciufolini and coworkers; p. 4336



Stereocontrolled Total Synthesis of (+)-Streptazolin by a Palladium-Catalyzed Reductive Diyne Cyclization

Trost and coworkers; p. 4327



Enantioselective Total Synthesis of (+)-Milnamide A and Evidence of Its Autooxidation to (+)-Milnamide D

Molinski and coworkers; p. 5951

