

Volume 115
12642 Pages
2323 Papers
~ 70 Total Synthesis Papers

Publication Record:

Arnold L. Rheingold 19 (0)	George A. Olah 7 (0)
Stuart L. Schreiber 11 (4)	Larry E. Overman 6 (6)
K. C. Nicolaou 9 (6)	E. J. Corey 6 (3)
Barry M. Trost 9 (1)	Leo A. Paquette 5 (3)
Ken N. Houk 9 (0)	Richard A. Lerner 5 (0)
Dale L. Boger 8 (7)	Paul A. Grieco 4 (3)
Sam Danishefsky 8 (5)	Amos B. Smith III 4 (1)
Robert H. Grubbs 7 (0)	K. Barry Sharpless 4 (0)

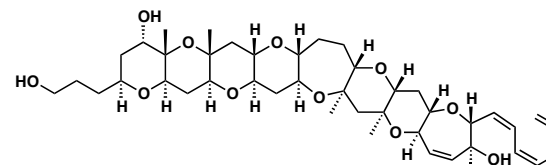
Nobel Prize in Chemistry awarded to Kary B. Mullis and Michael Smith for "contributions to the development of methods within DNA-based chemistry", with half to Dr. Kary B. Mullis, La Jolla, California, U.S.A., for "his invention of the polymerase chain reaction (PCR) method", and half to Professor Michael Smith, University of British Columbia, Vancouver, Canada, for "his fundamental contributions to the establishment of oligonucleotide-based, site-directed mutagenesis and its development for protein studies".

Most Cited Paper is "Synthesis and Characterization of Nearly Monodisperse CdE (E = S, Se, Te) Semiconductor Nanocrystallites" with **4341 citations**

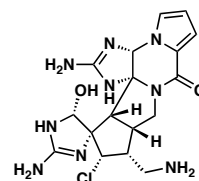
Papers with 0 Citations: 17

Events of Note:

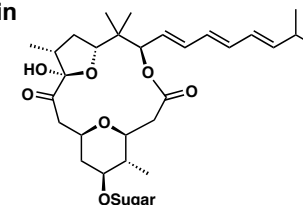
Bill Clinton becomes POTUS (January 20)
ATF begins siege of Branch Davidian in Waco, TX (February 28)
Janet Reno becomes first female Attorney General (March 11)
University of Michigan loses to UNC in NCAA Championship (April 5)
Andrew Wiles presents proof of Fermat's Last Theorem (June 24)
NASA loses contact with Mars Observer (August 21)
Oslo Accords signed in Washington, DC (September 13)
Benazir Bhutto is first elected woman in Pakistan (October 19)
Maastricht Treaty takes effect (November 1)
NAFTA signed into law (December 8)

Select Natural Products Isolated

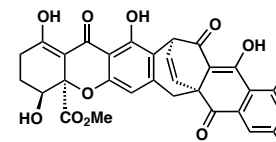
Gambierol
Yasumoto, 361
Also see **Maitotoxin**
Yasumoto, 2060



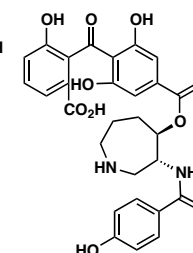
Palau'amine (original structure)
Scheuer, 3376
See: ACIE 2007, 2320



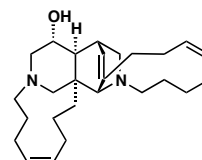
Polycavernoside A
Yasumoto, 1147



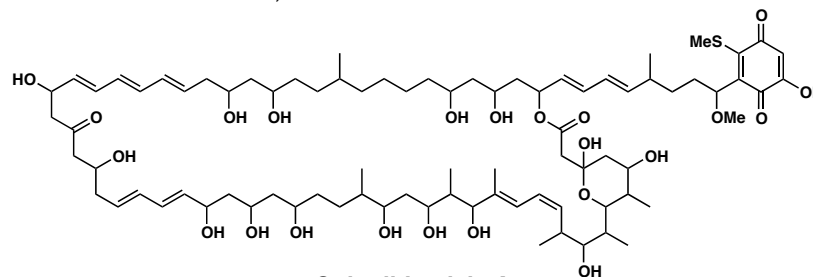
Xanthoquinodins
Omura, 8558



Balanol
Kulanthaivel and Clardy, 6452

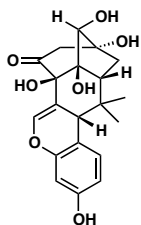


Xesticyclamine A (original structure)
Crews, 10436
See: Tet. Lett. 1994, 4719

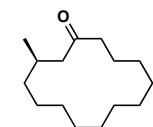


Quinolidomicin A₁
Seto, 3014

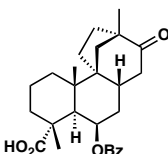
Total Syntheses Covered



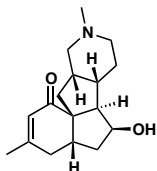
Miroestrol
Corey, 9327



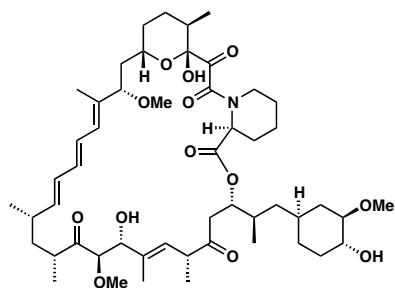
Muscone
Oppolzer, 1593



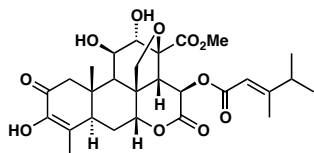
Scopadulcic Acid B
Overman, 2042



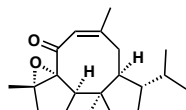
Magellanine
Overman, 2992
Paquette, 4377



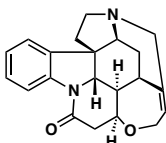
Rapamycin
Nicolaou, 4419
Schreiber, 7906
Danishefsky, 9345



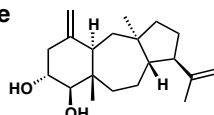
Bruceantin
Grieco, 5841



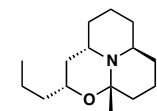
7,8-Epoxy-4-basmen-6-one
Myers, 7926



Strychnine
Overman, 9293



Clavularane
Williams, 11654



Porantheridine
Comins, 8851

Methodologies Covered

1-Hydroxy-7-azabenzotriazole. An Efficient Peptide Coupling Additive
Carpino, 4397
928 Citations

Syntheses and Activities of New Single-Component, Ruthenium-Based Olefin Metathesis Catalysts
Grubbs, 9858
531 Citations

Preparation and use of C₂-Symmetric Bis(phospholanes): Production of Amino Acid Derivatives via Highly Enantioselective Hydrogenation Reactions
Burk, 10125
528 Citations

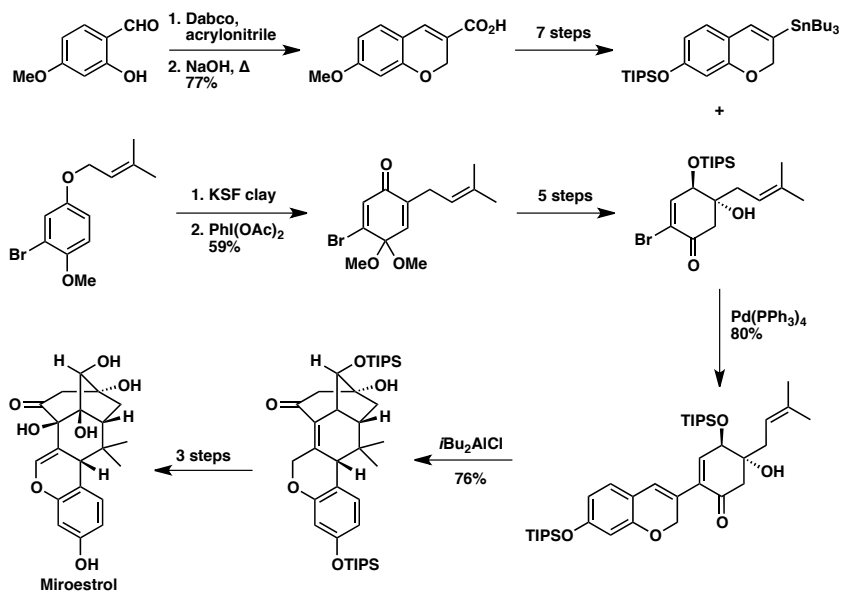
Catalytic Ring-Closing Metathesis of Functionalized Dienes by a Ruthenium Carbene Complex
Grubbs, 9856
430 Citations

Asymmetric Alkene Aziridinations with Readily Available Chiral Diimine-Based Catalysts
Jacobsen, 5326
395 Citations

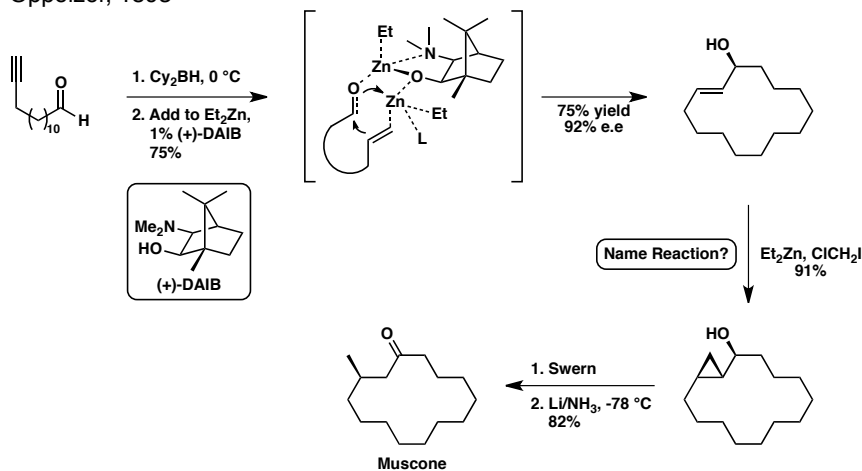
Bis(oxazoline)-Copper Complexes as Chiral Catalysts for the Enantioselective Aziridination of Olefins
Evans, 5328
385 Citations

Catalytic Asymmetric Allylation of Aldehydes
Keck, 8467
357 Citations

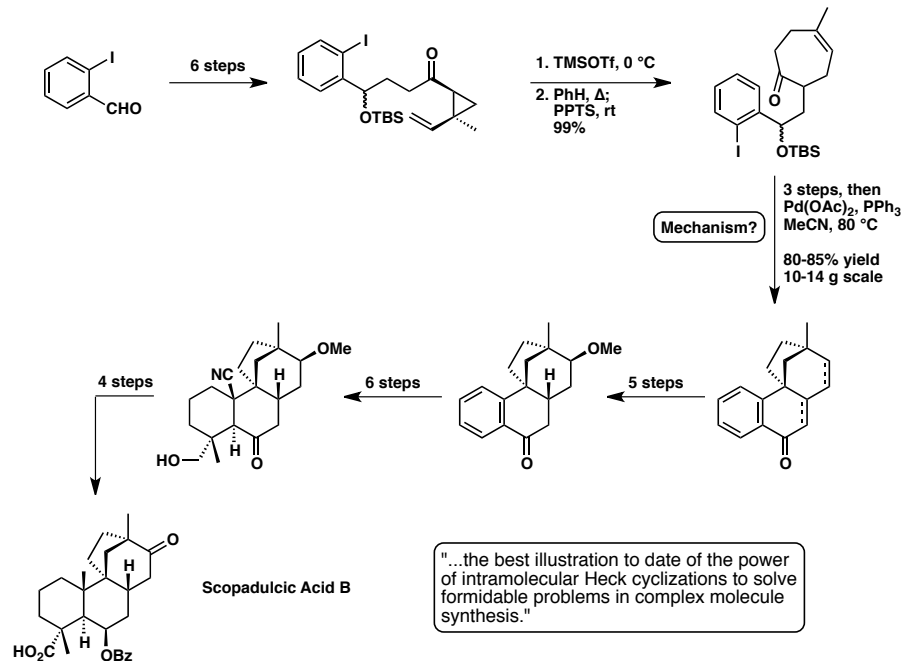
Miroestrol
Corey, 9327



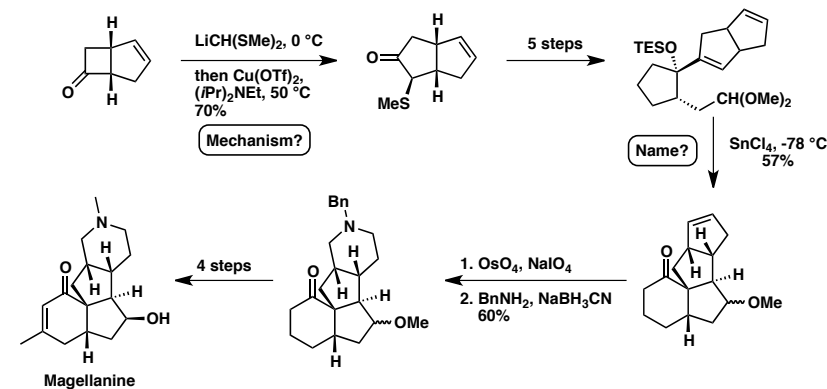
Muscone
Oppolzer, 1593



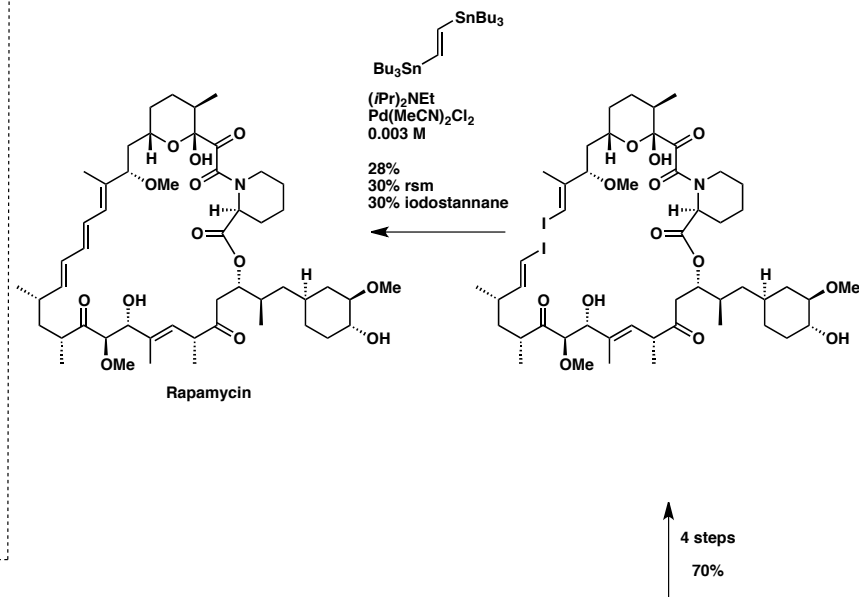
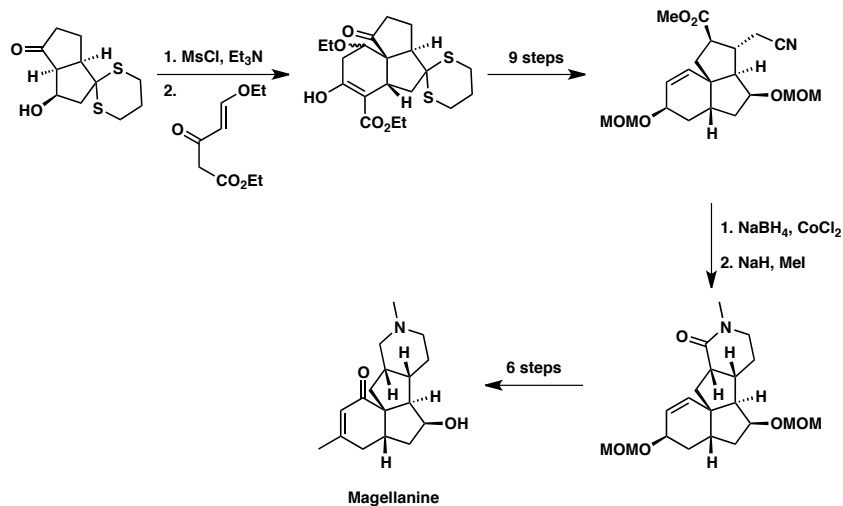
Scopadulcic Acid B
Overman, 2042



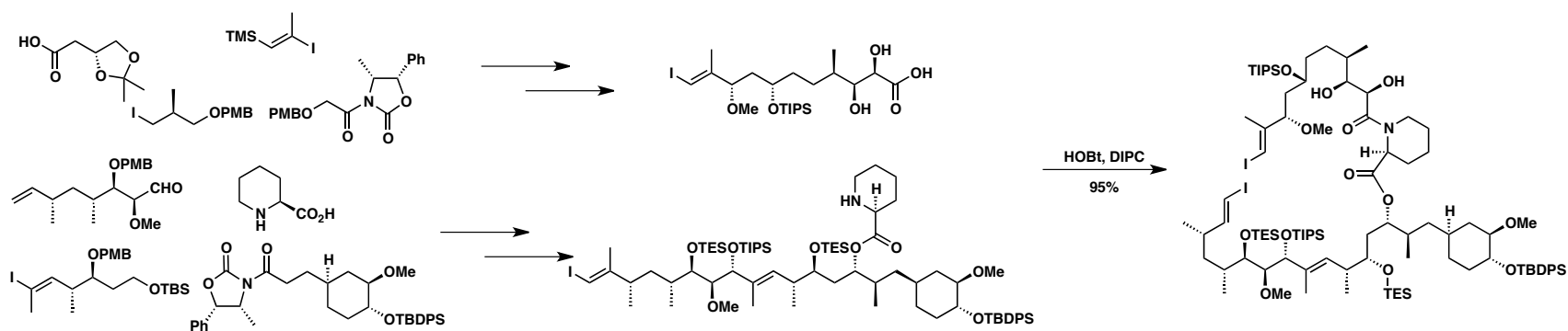
Magellanine
Overman, 2992



Magellanine
Paquette, 4377

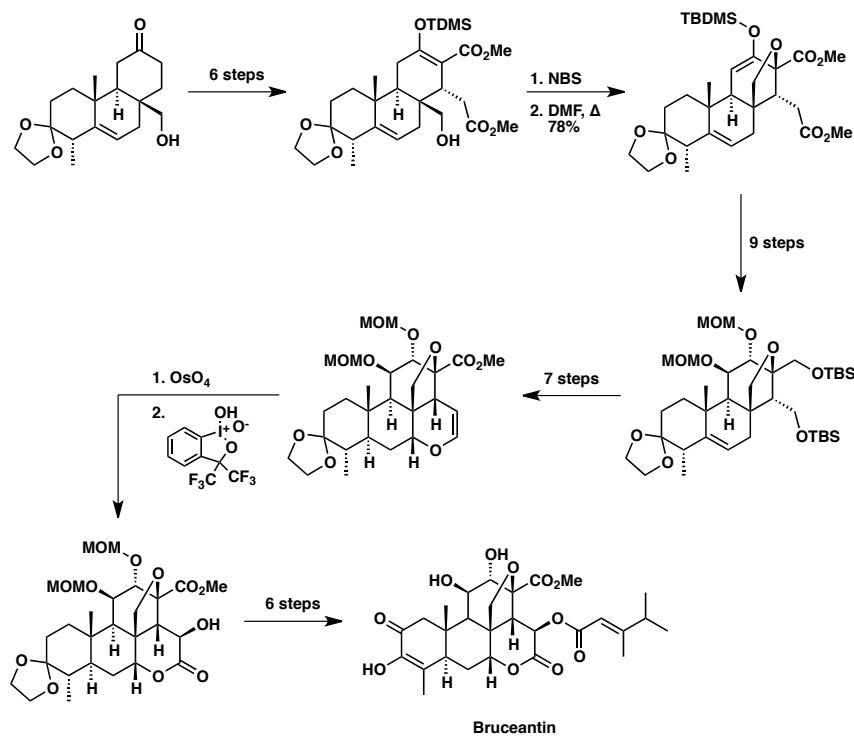


Rapamycin
Nicolaou, 4419

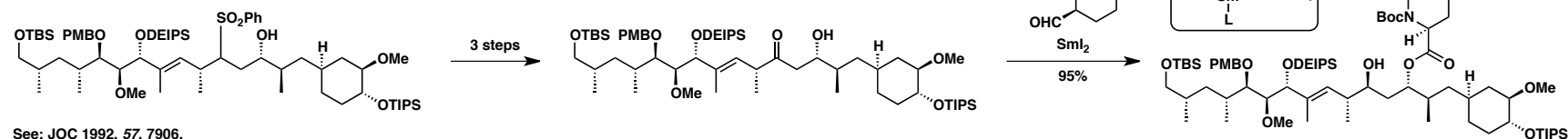


See: *J. Chem. Soc. Chem. Commun.* 1993, 617 and 619
and *Classics in Total Synthesis I*, Chapter 31.

Bruceantin
Grieco, 5841

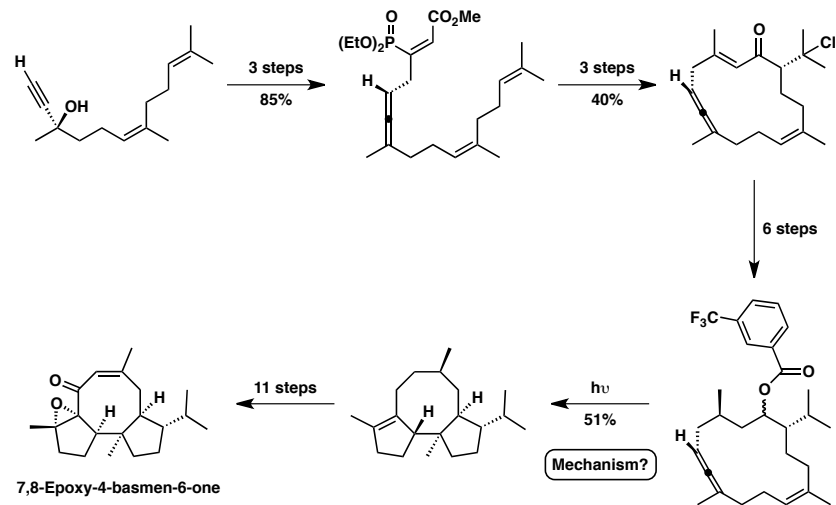


Rapamycin
Schreiber, 7906

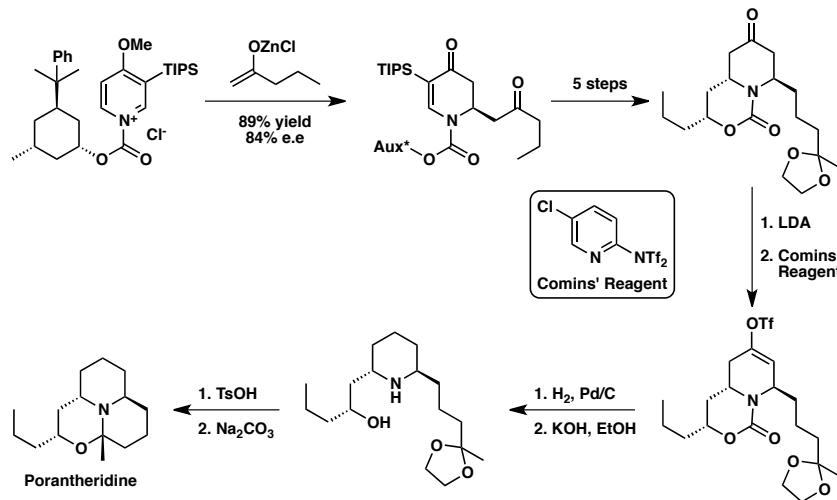


See: JOC 1992, 57, 7906.

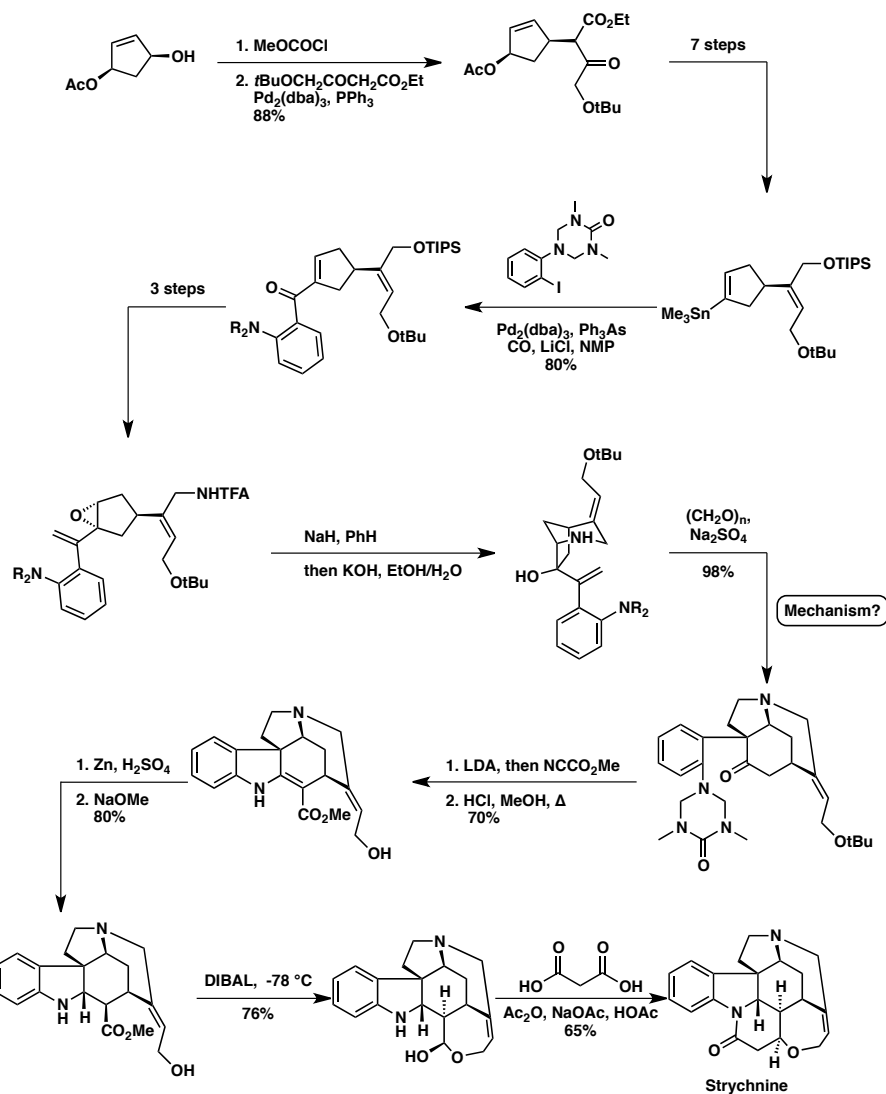
7,8-Epoxy-4-basmen-6-one
Myers, 7926



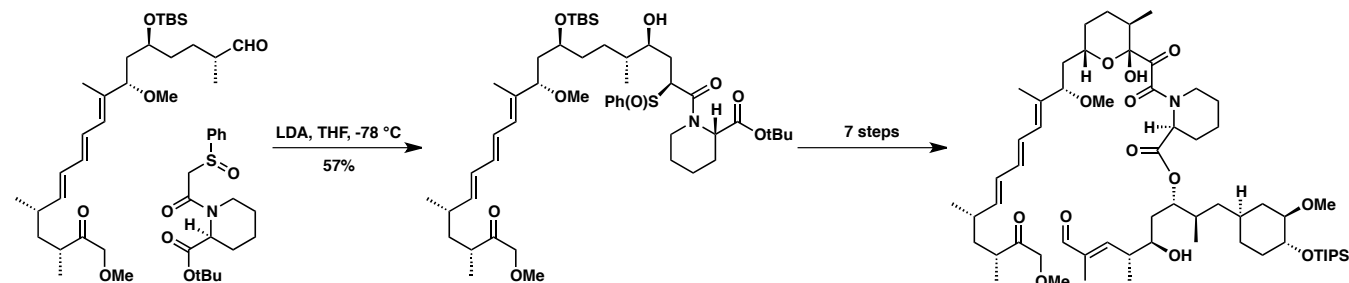
Porantheridine
Comins, 8851



Strychnine
Overman, 9293



Rapamycin
Danishefsky, 9345



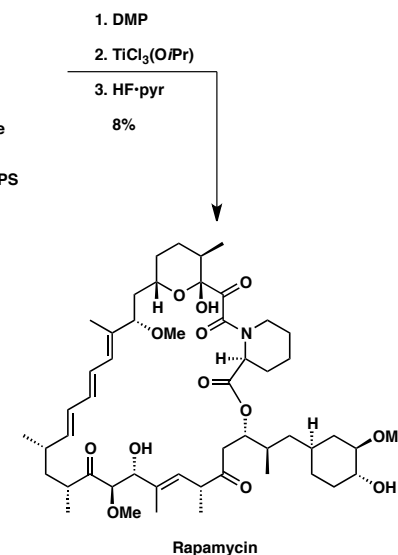
See: *J. Org. Chem.* 1991, 56, 5826 and 5834.

LETTERS

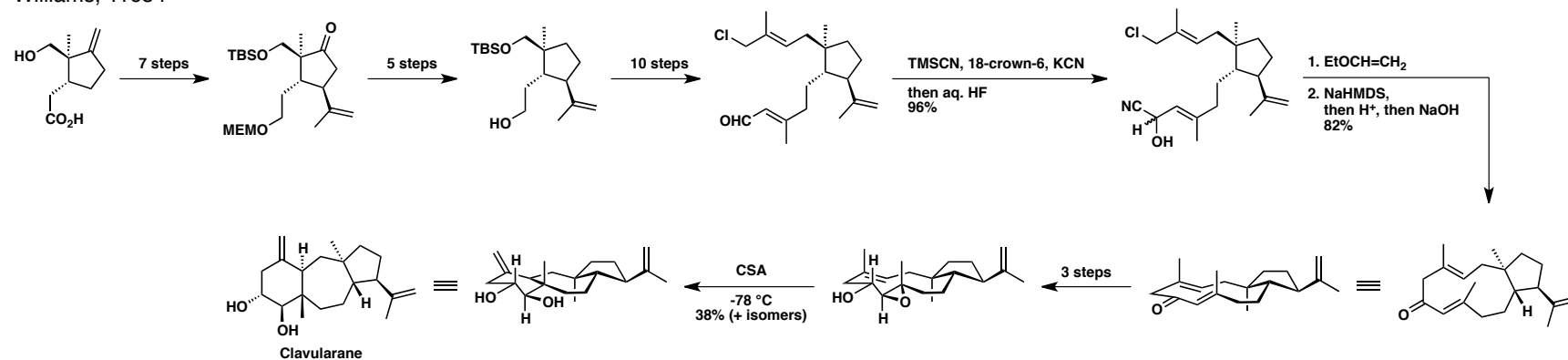
Rapamycin fed late in life extends lifespan in genetically heterogeneous mice

David E. Harrison^{1*}, Randy Strong^{2*}, Zelton Dave Sharp³, James F. Nelson⁴, Clinton M. Astle¹, Kevin Flurkey¹, Nancy L. Nadon⁵, J. Erby Wilkinson⁶, Krystyna Frenkel⁷, Christy S. Carter^{8†}, Marco Pahor^{8†}, Martin A. Javors⁹, Elizabeth Fernandez² & Richard A. Miller^{10*}

Harrison, D. E. *et. al.* *Nature*, 460, 392 - 396 (2009).

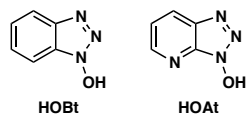


Clavularane
Williams, 11654



1-Hydroxy-7-azabenzotriazole. An Efficient Peptide Coupling Additive

Carpino, 4397



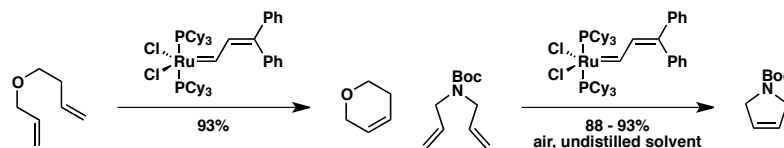
"Initial examination of [HOAt] was inspired by the consideration that it incorporates within a single molecule both key elements of a 1:1 mixture of HOBT and a tertiary amine which is of greater catalytic activity than HOBT itself in couplings involving esters."

"When BOC-Aib-OH is coupled to H-Aib-OMe in the presence of HOBT, reaction is incomplete after 24 h (ca. 35% of the HOBT ester remains unreacted), whereas with HOAt a theoretical yield of the dipeptide is obtained."

"Again in this case the use of HOAt or HATU lowers the extent of racemization to less than 1-2%."

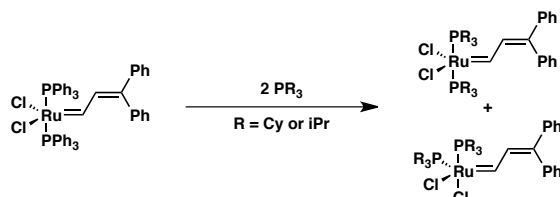
Catalytic Ring-Closing Metathesis of Functionalized Dienes by a Ruthenium Carbene Complex

Grubbs, 9856



Syntheses and Activities of New Single-Component, Ruthenium-Based Olefin Metathesis Catalysts

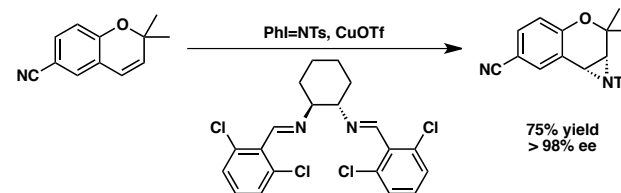
Grubbs, 9858



"Complexes 2a,b represent the first examples of a new generation of robust, well-defined, single-component catalysts for the metathesis of acyclic olefin. Even with the present level of activity, the remarkable functional tolerance of 2a,b makes these catalysts very attractive for the synthesis of a variety of useful substrates."

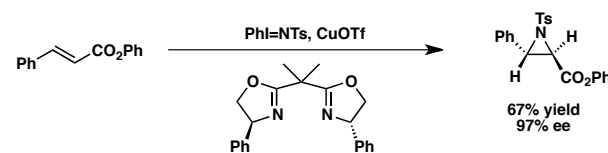
Asymmetric Alkene Aziridinations with Readily Available Chiral Diimine-Based Catalysts

Jacobsen, 5326



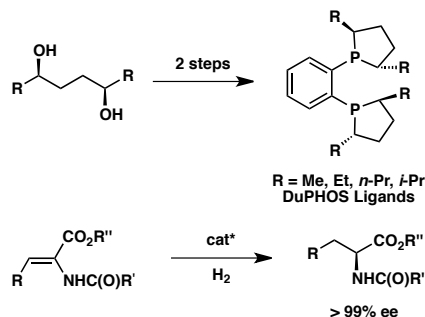
Bis(oxazoline)-Copper Complexes as Chiral Catalysts for the Enantioselective Aziridination of Olefins

Evans, 5328



Preparation and use of C₂-Symmetric Bis(phospholanes): Production of Amino Acid Derivatives via Highly Enantioselective Hydrogenation Reactions

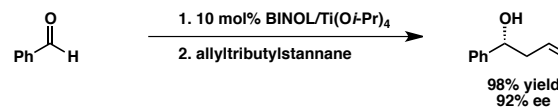
Burk, 10125



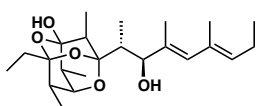
"...no single asymmetric hydrogenation catalyst has yet been developed and shown to provide directly a wide range of amino acid derivatives with very high enantioselectivities (> 99% ee)."

Catalytic Asymmetric Allylation of Aldehydes

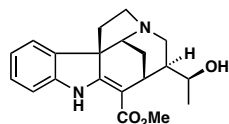
Keck, 8467



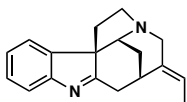
Additional Syntheses Not Covered Today



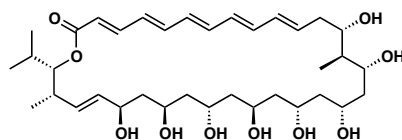
Muamvatin
Paterson, 1608



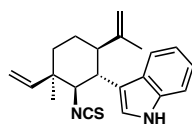
Echitamidine
Bonjoch/Bosch, 2064



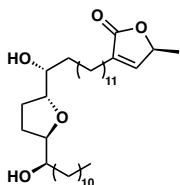
Dehydrotubifoline
Rawal, 3030



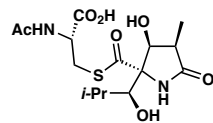
Mycoticin A
Schreiber, 3360



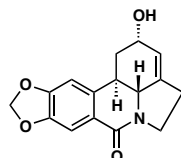
Hapalindole Q
Albizati, 3499



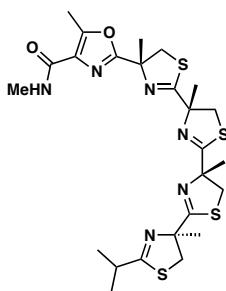
Solamin
Keinan, 4891



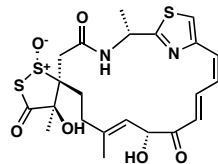
Lactacystin
Omura/Smith, 5302



1-Deoxyglycorine
Schultz, 7904

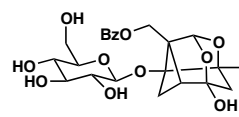


Tantazole B
Fukuyama, 8449

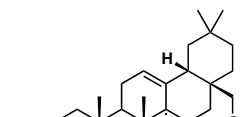


Leinamycin
Fukuyama, 8451

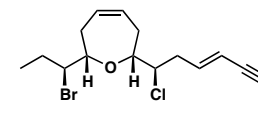
Additional Syntheses Not Covered Today



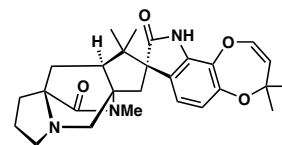
Paeoniflorigenin
Corey, 8871



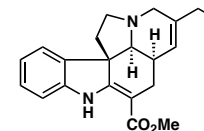
Erythrodiol
Corey, 8871



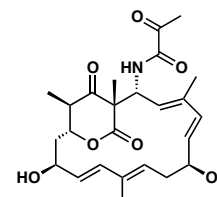
Isolaurepinnacin
Overman, 9305



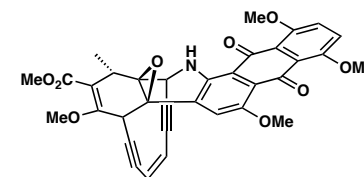
Paraherquamide B
Williams, 9323



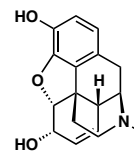
Pseudotabersonine
Grieco, 1164



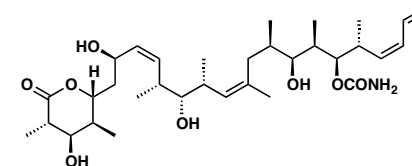
Lankacidin C
Kende, 9842



Dynemicin A Methyl Ester
Schreiber, 10378



Morphine
Overman, 11028



Discodermolide
Schreiber, 12621