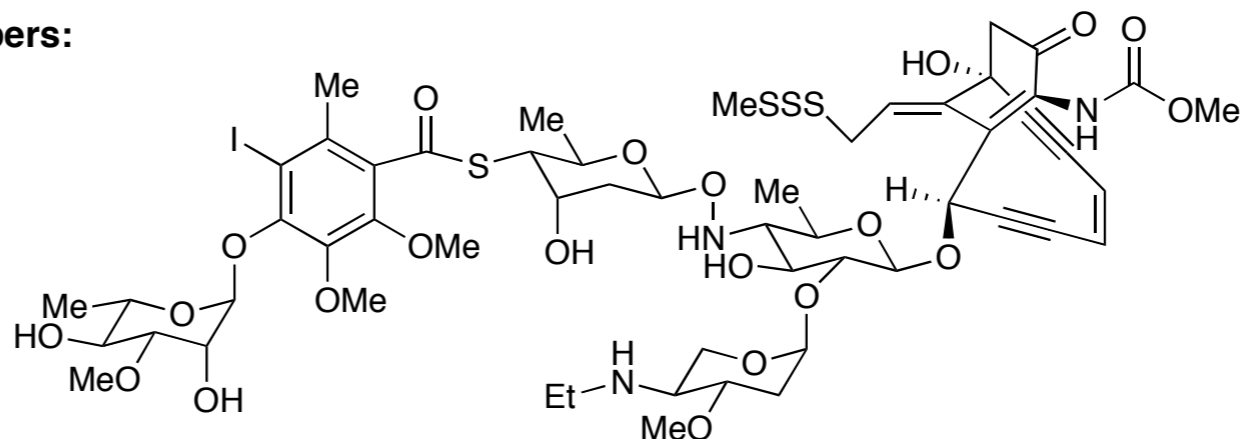


Overview: 1987, vol. 109

- 8123 pages
- ~60 total synthesis papers

Publication record:

Barry Trost	13
E.J. Corey	10
Leo Paquette	8
Samuel Danishefsky	7
Phil Magnus	6
Clayton Heathcock	5
K.C. Nicolaou	5
Larry Overman	4
Stuart Schreiber	4
K. Barry Sharpless	4
Gilbert Stork	4

Notable Isolation Papers:**Calichemicins, a Novel Family of Antitumor Antibiotics.****1. Chemistry and Partial Structure of Calichemicin γ_1^1 .****2. Chemistry and Structure of Calichemicin γ_1^1 .**

M.D. Lee, T.S. Dunne, M.M. Siegel, C.C. Chang, G.O. Morton, and D.B. Borders, 3464–3466 and 3466–3468.

structurally related to:

Esperamicins, a Novel Class of Potent Antitumor Antibiotics.**2. Structure of Esperamicin X.****3. Structures of Esperamicins A_1 , A_2 , and A_{1a} .**

J. Golik, J. Clardy, G. Dubay, G. Groenwold, H. Kawaguchi, M. Konishi, B. Krishnan, H. Ohkuma, K. Saitoh, and T.W. Doyle, 3461–3462 and 3462–3464.

Key methodologies developed and/or refined:**Stereospecific Cross-Coupling of Vinyl Halides with Vinyl Tin Reagents Catalyzed by Palladium.** J.K. Stille and B.L. Groh, 813–817.**Palladium-Catalyzed Coupling of Aryl Triflates with Organostannanes.**

A.M. Echavarren and J.K. Stille, 5478–5486.

Highly Enantioselective Borane Reduction of Ketones Catalyzed by Chiral Oxazaborolidines. Mechanism and Synthetic Applications. E.J.

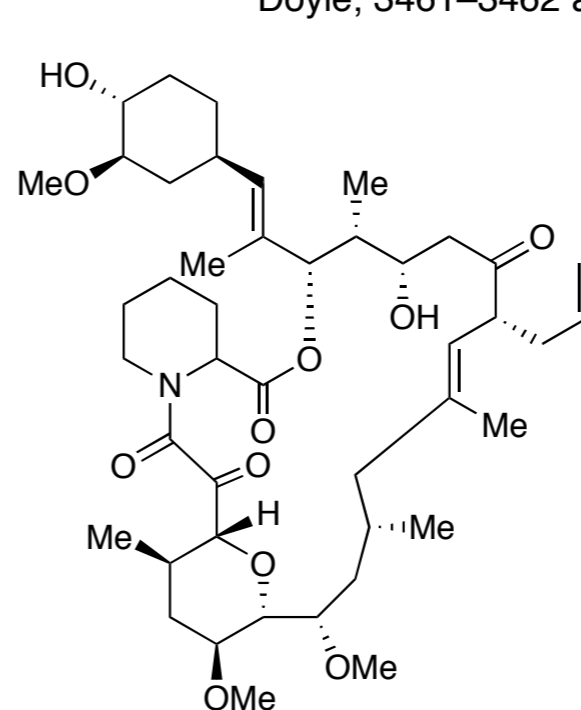
Corey, R.K. Bakshi, and S. Shibata, 5551–5553.

Asymmetric Hydrogenation of β -Keto Carboxylic Esters. A Practical, Purely Chemical Access to β -Hydroxy Esters in High Enantiomeric Purity. R. Noyori, T. Ohkuma, M. Kitamura, H. Takaya, N. Sayo, H.

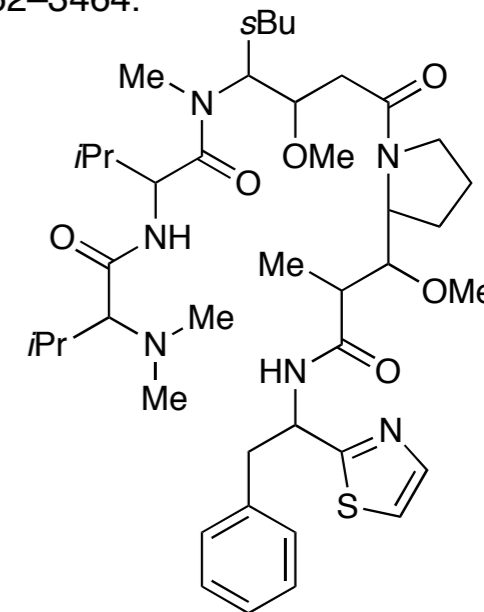
Kumobayashi, and S. Akutagawa, 5856–5858.

A Stable and Easily Prepared Catalyst for the Enantioselective Reduction of Ketones. Applications to Multistep Syntheses. E.J. Corey,

R.K. Bakshi, S. Shibata, C-P. Chen, and V.K. Singh, 7925–7926.

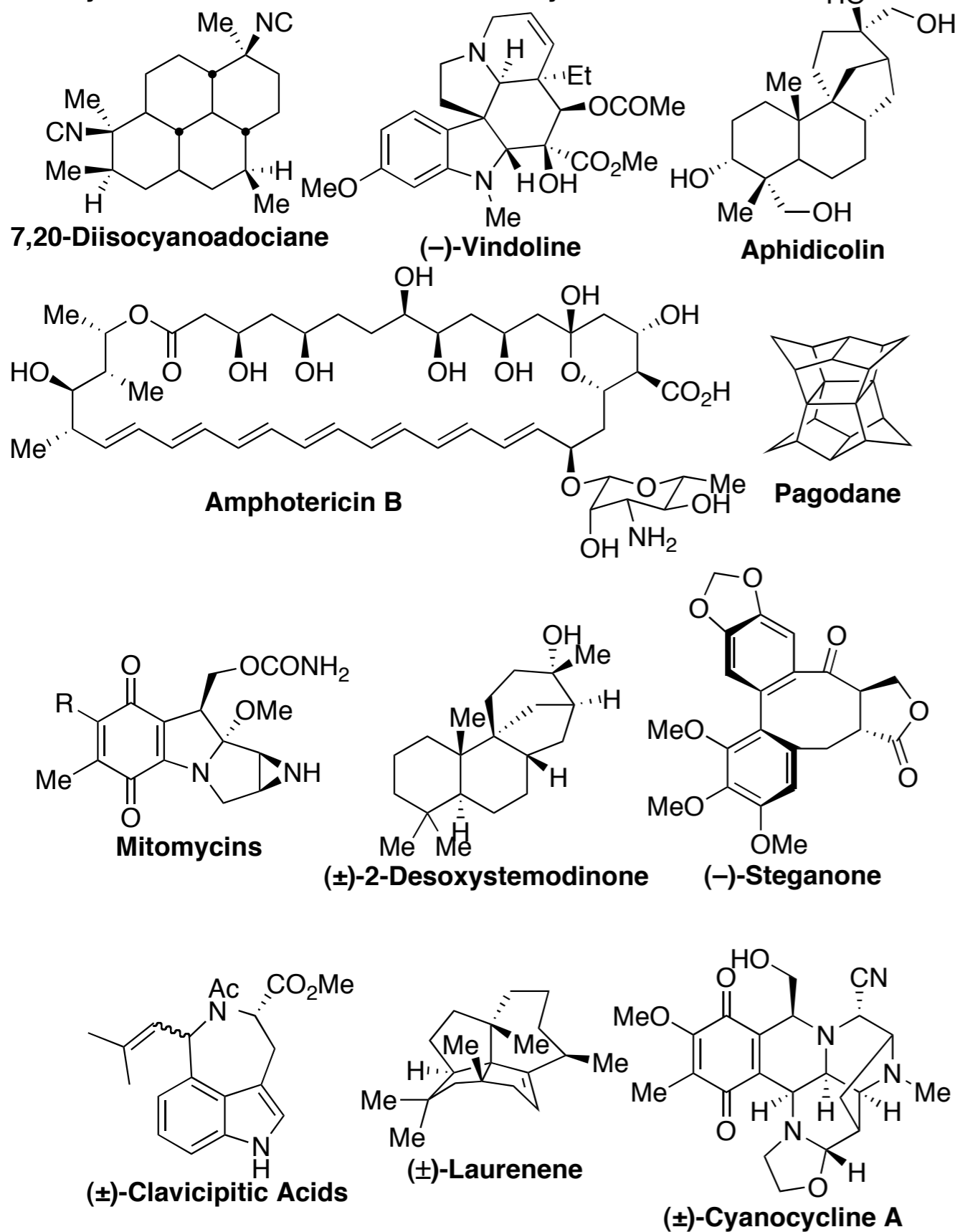
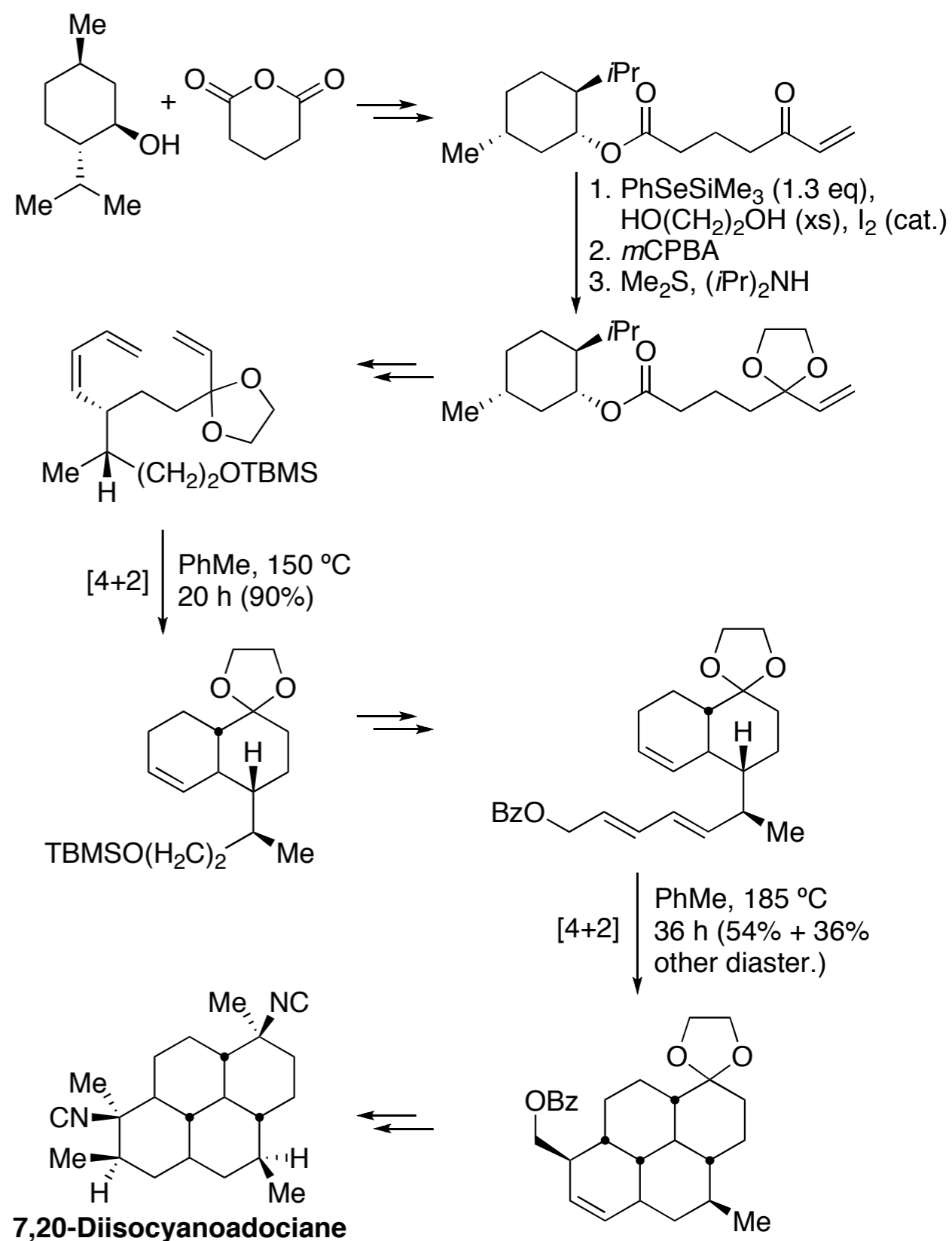


Structure of FK506: A Novel Immunosuppressant Isolated from *Streptomyces*. H. Tanaka, A. Kuroda, H. Marusawa, H. Hatanaka, T. Kino, T. Goto, and M. Hashimoto, 5031–5033.

**The Isolation and Structure of a Remarkable Marine Animal Antineoplastic Constituent: Dolastatin 10.** G.R. Pettit, Y.

Kamano, C.L. Herald, A.A. Tuinman, F.E. Boettner, H. Kizu, J.M. Schmidt, L. Baczynskyj, K.B. Tomer, R.J. Bontems, 6883–6885.

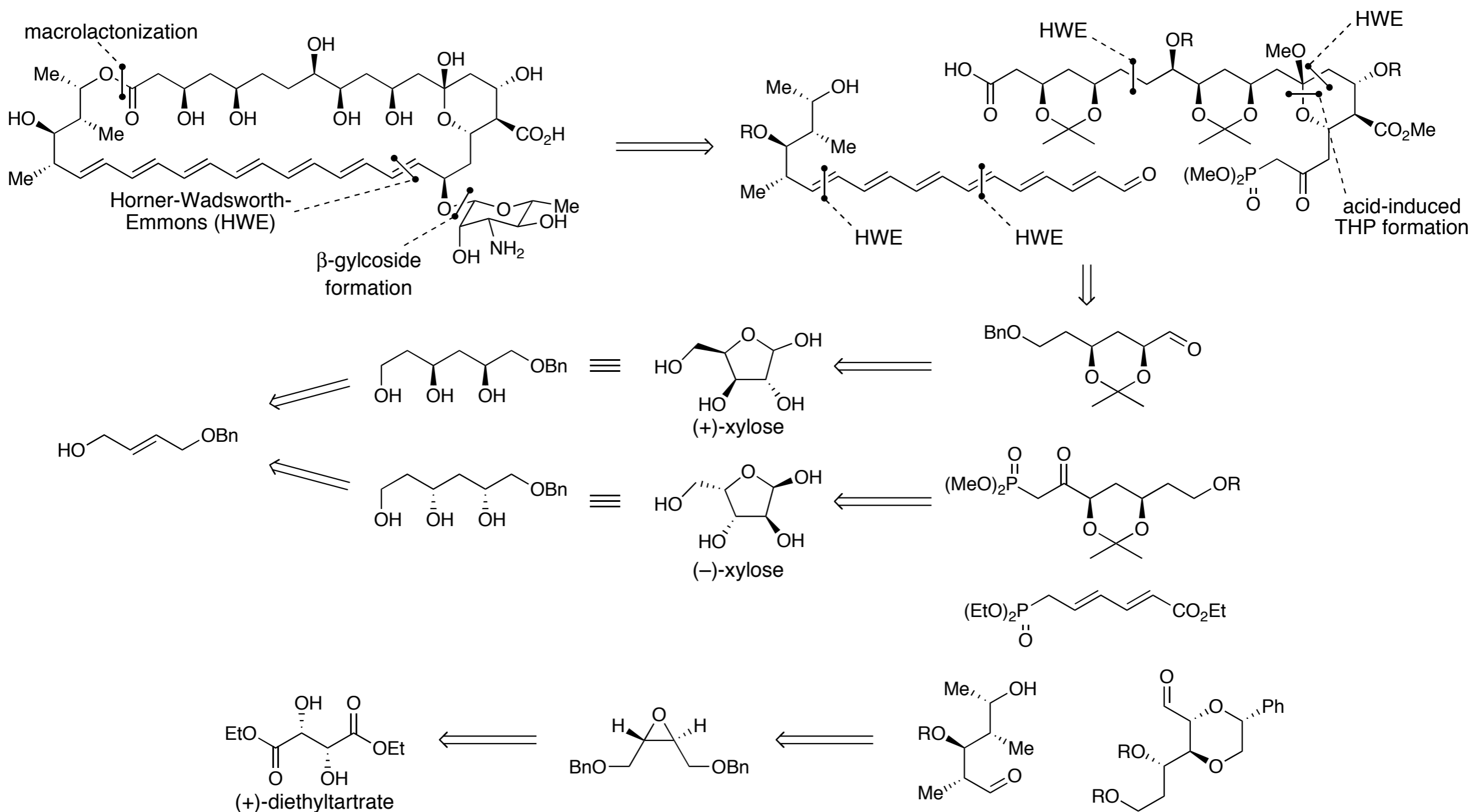
Syntheses that will be discussed today:

Total Synthesis and Absolute Configuration of 7,20-Diisocyanoadociene.
E.J. Corey and P.A. Magriotis, 287–289.

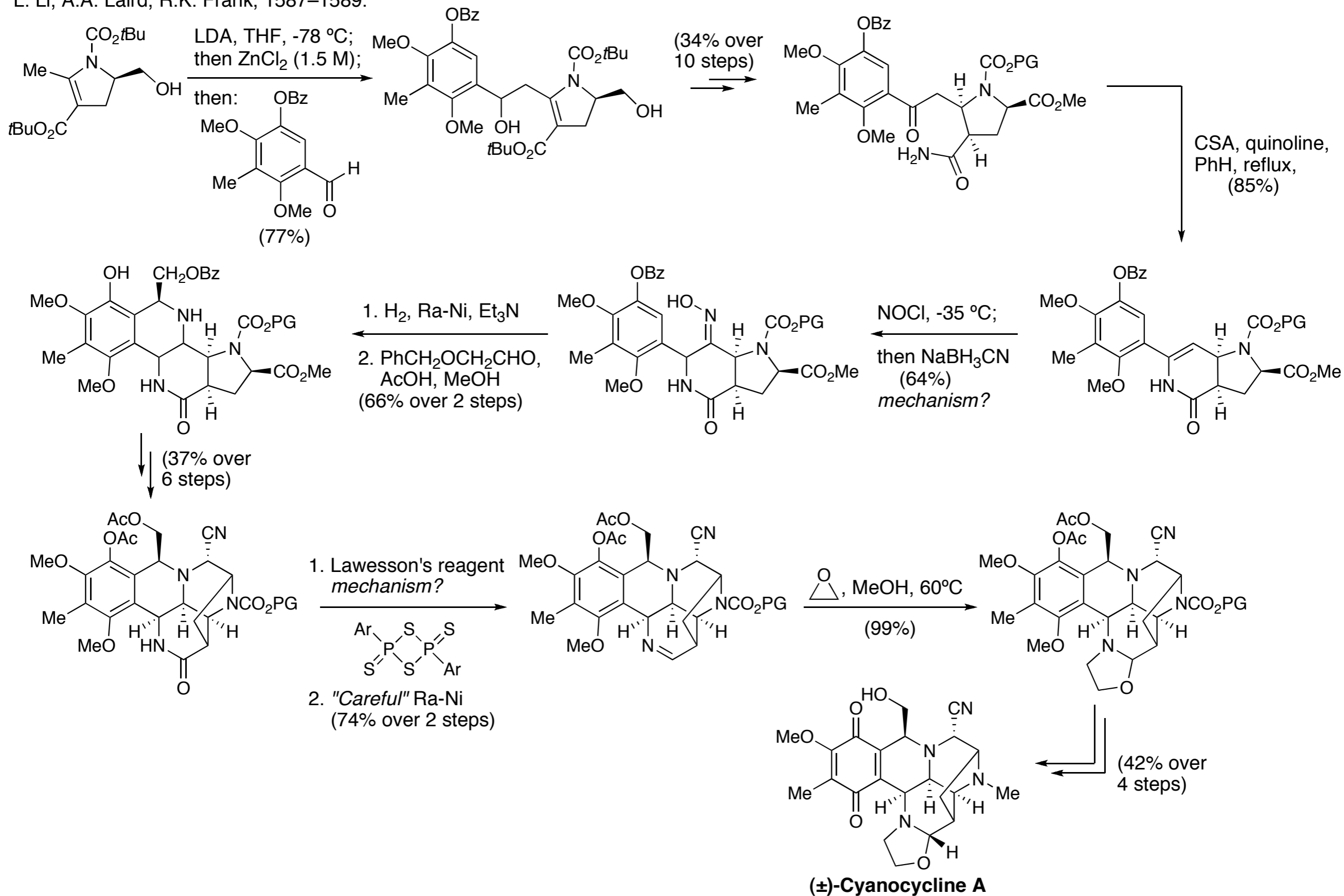
Stereocontrolled Construction of Key Building Blocks for the Total Synthesis of Amphoteronolide B and Amphotericin B. K.C. Nicolaou, R.A. Daines, J. Uenishi, W.S. Li, D.P. Papahatjis, and T.K. Chakraborty, 2205–2208.

Total Synthesis of Amphoteronolide B. K.C. Nicolaou, R.A. Daines, and T.K. Chakraborty, 2208–2210.

Total Synthesis of Amphotericin B. K.C. Nicolaou, R.A. Daines, T.K. Chakraborty, and Y. Ogawa, 2821–2822.

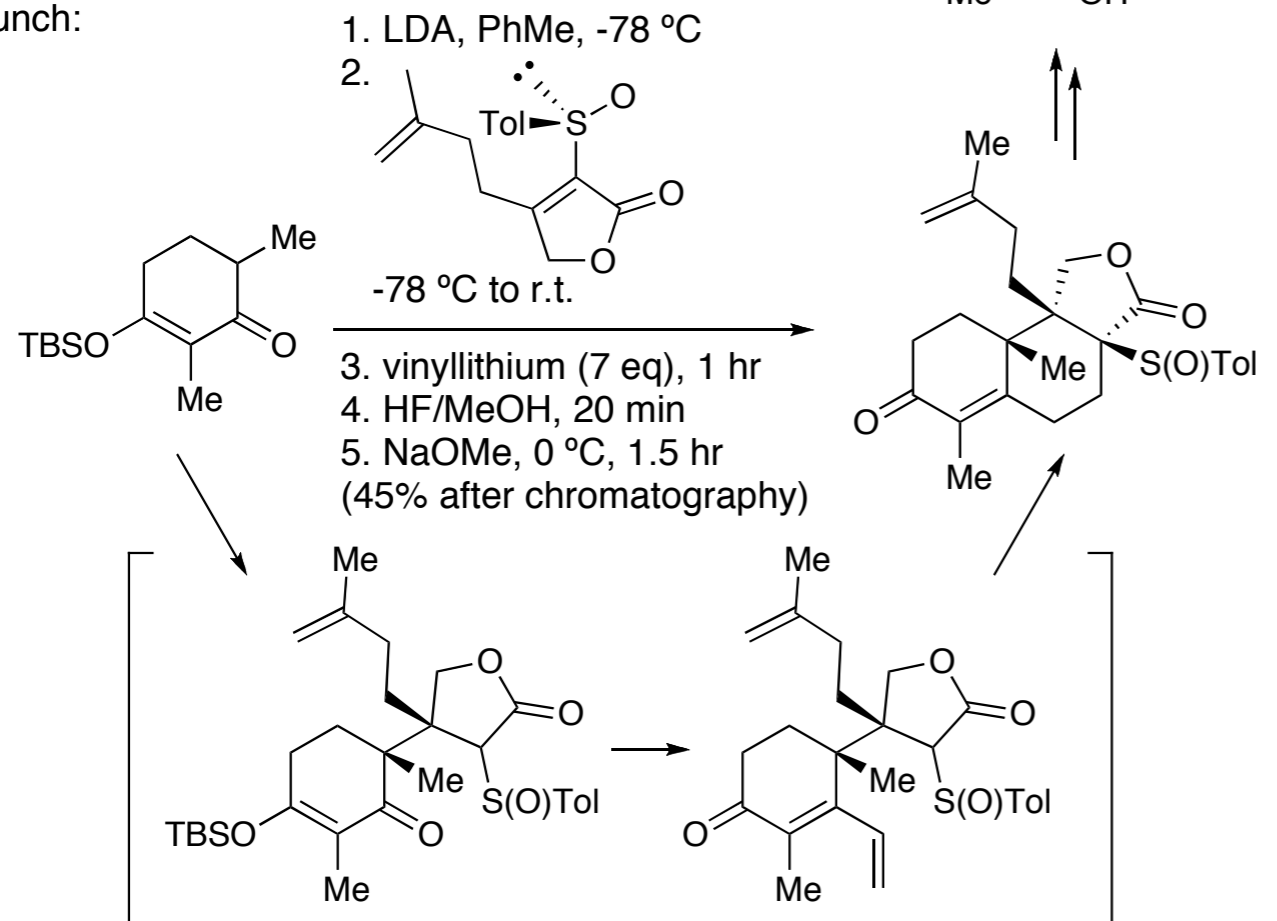


Stereocontrolled Total Synthesis of (±)-Cyanocycline A. T. Fukuyama,
L. Li, A.A. Laird, R.K. Frank, 1587–1589.

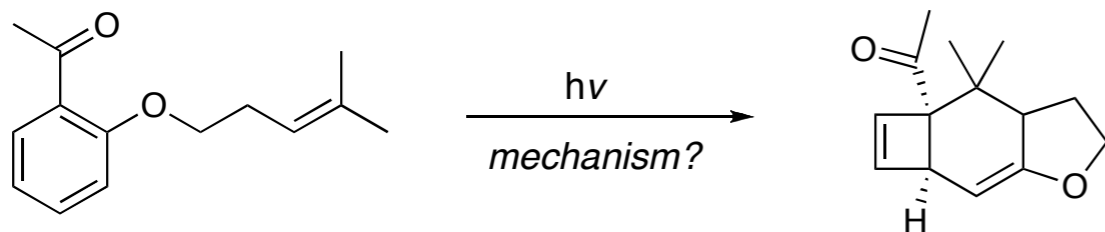


Enantioselective Total Synthesis of Aphidicolin. R.A. Holton, R.M. Kennedy, H-B. Kim, M.E. Kraft, 1597–1600.

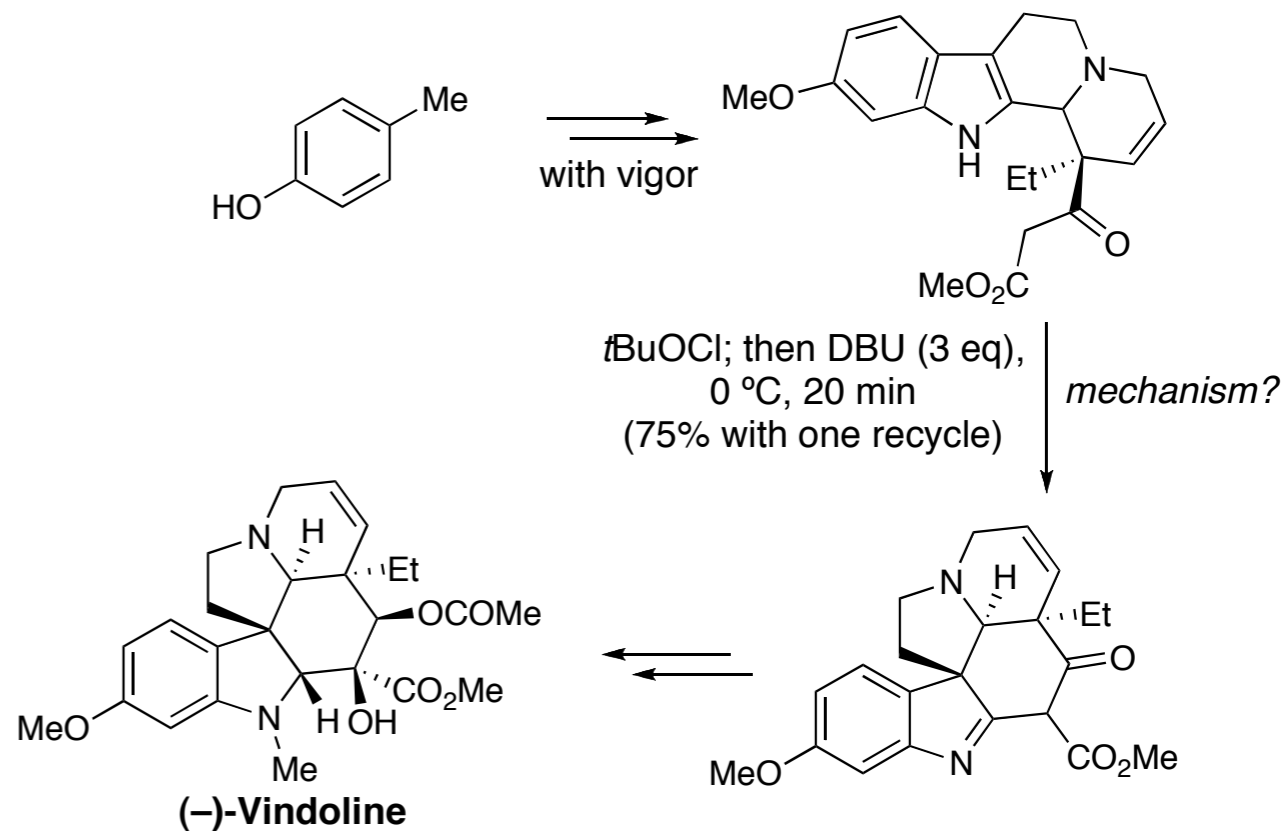
First 5 steps can be done in one-pot, before lunch:



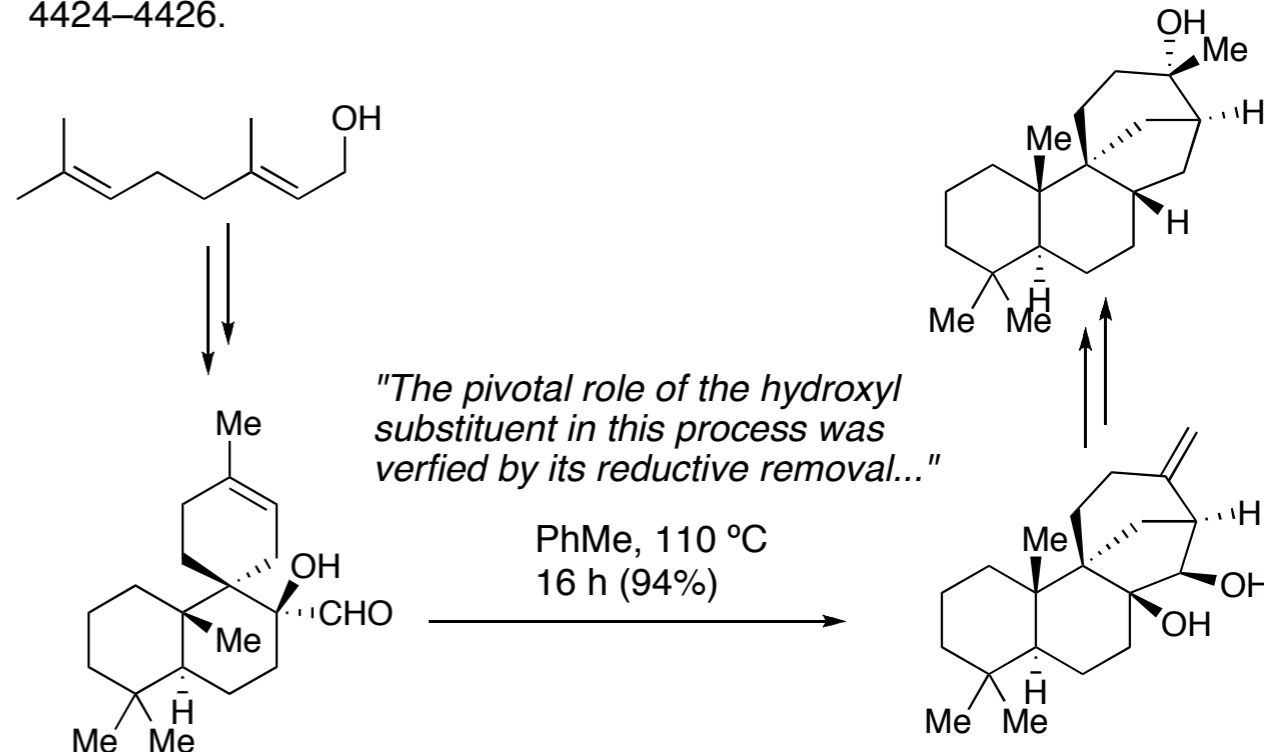
(Title withheld for your own good). P.J. Wagner and K. Nahm, 4404–4405.
 (Title withheld for your own good). P.J. Wagner and K. Nahm, 6528–6530.



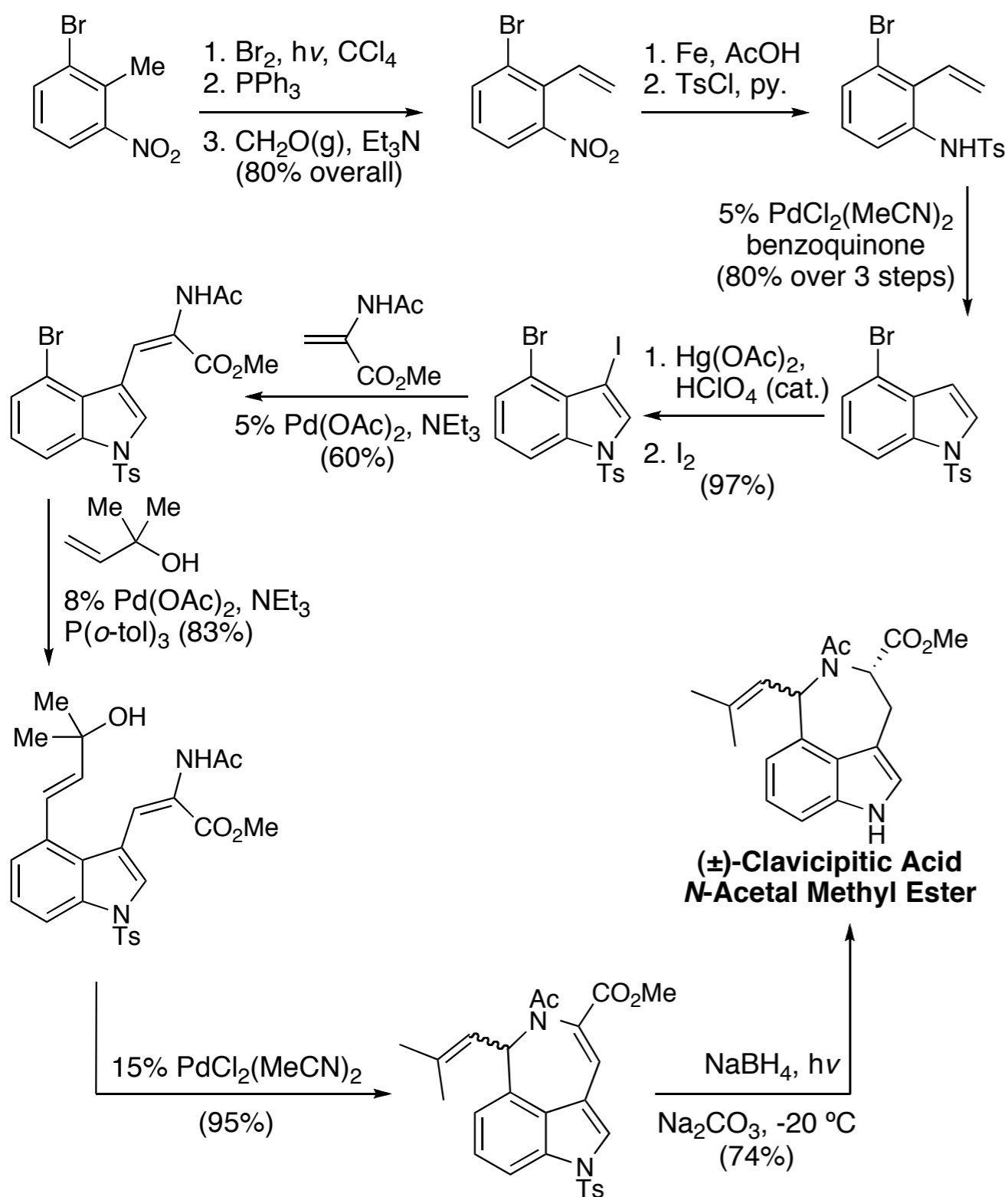
Synthesis of (-)-Vindoline. P.L. Feldman and H. Rapoport, 1603–1604.



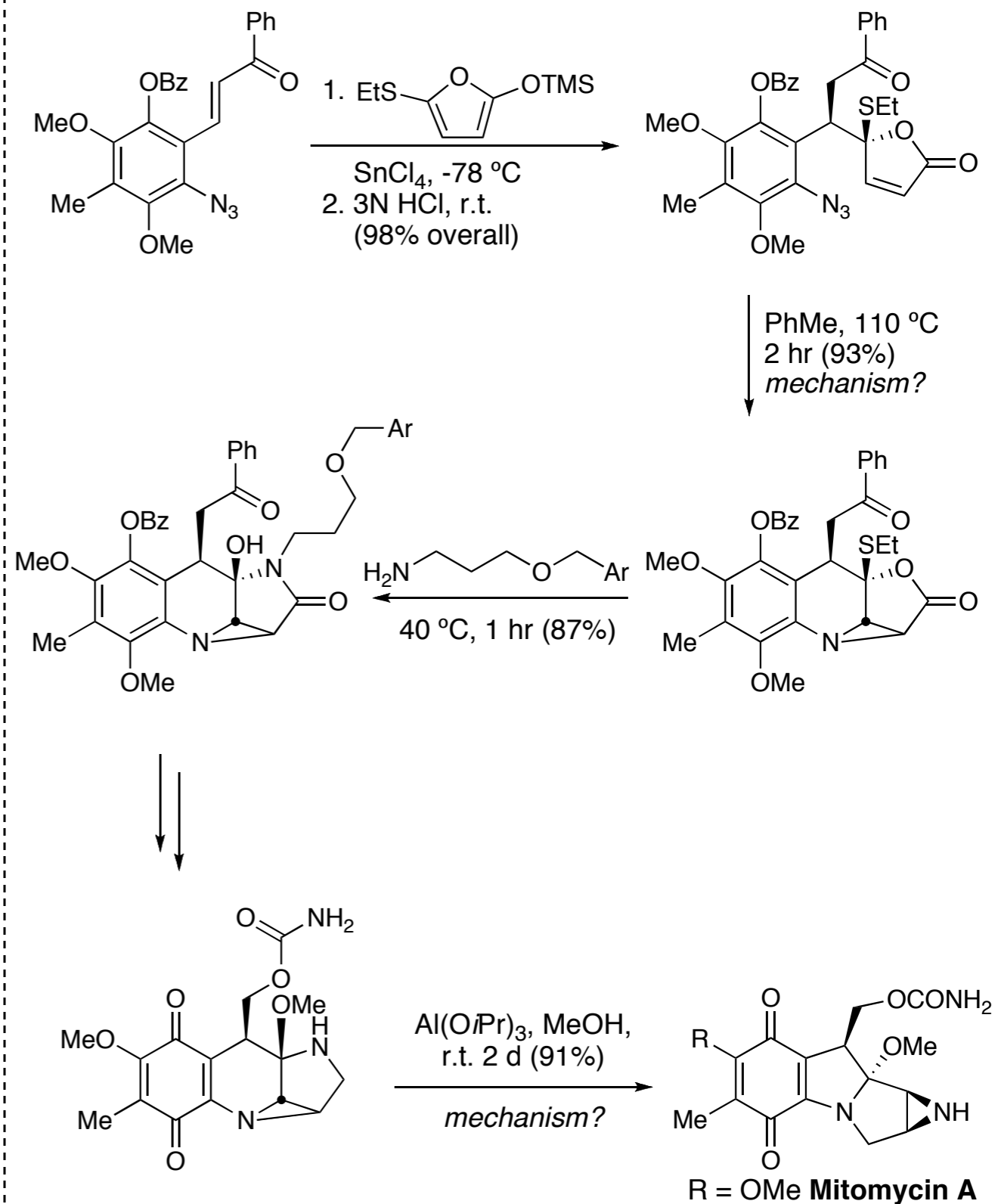
Total Synthesis of (±)-2-Desoxystemodinone. A Novel Hydroxyl-Assisted, Intramolecular Ene Reaction. J.D. White and T.C Somers, 4424–4426.



Palladium-Catalyzed Reactions in the Synthesis of 3- and 4-substituted Indoles. 2. Total Synthesis of *N*-Acetal Methyl Ester of (±)-Clavicipitic Acids. P.J. Harrington, L.S. Hegedus, and K.F. McDaniel, 4335–4336.

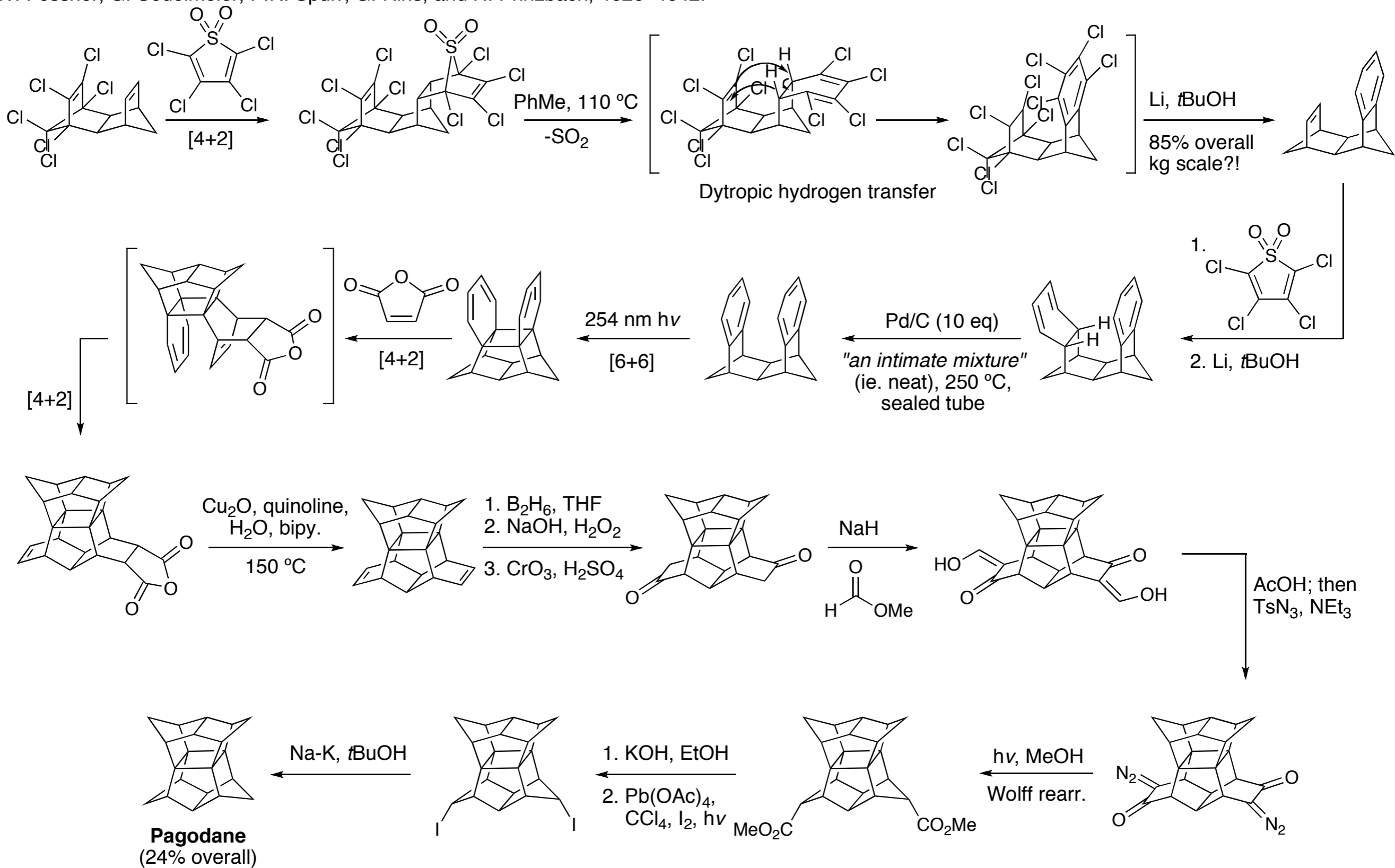


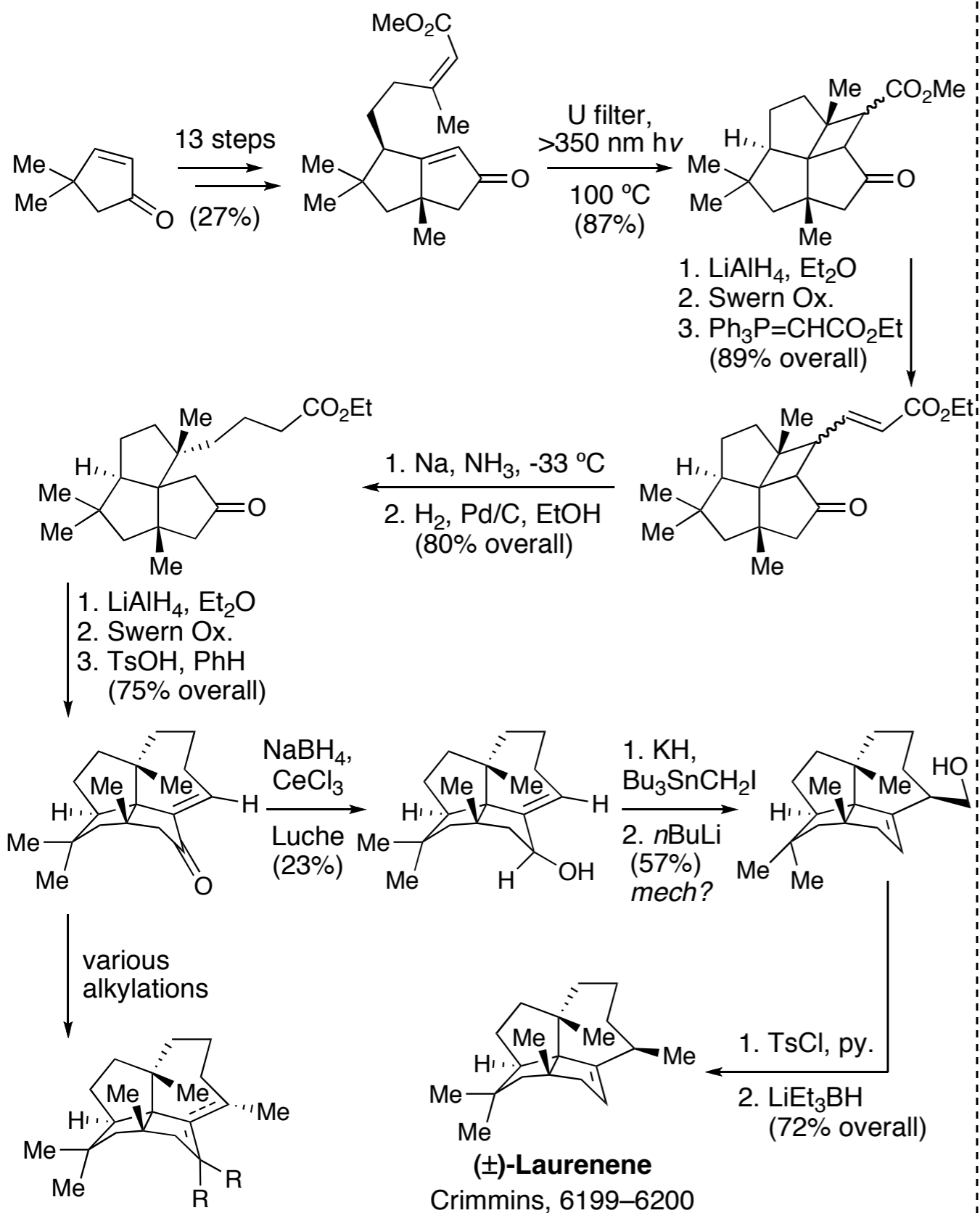
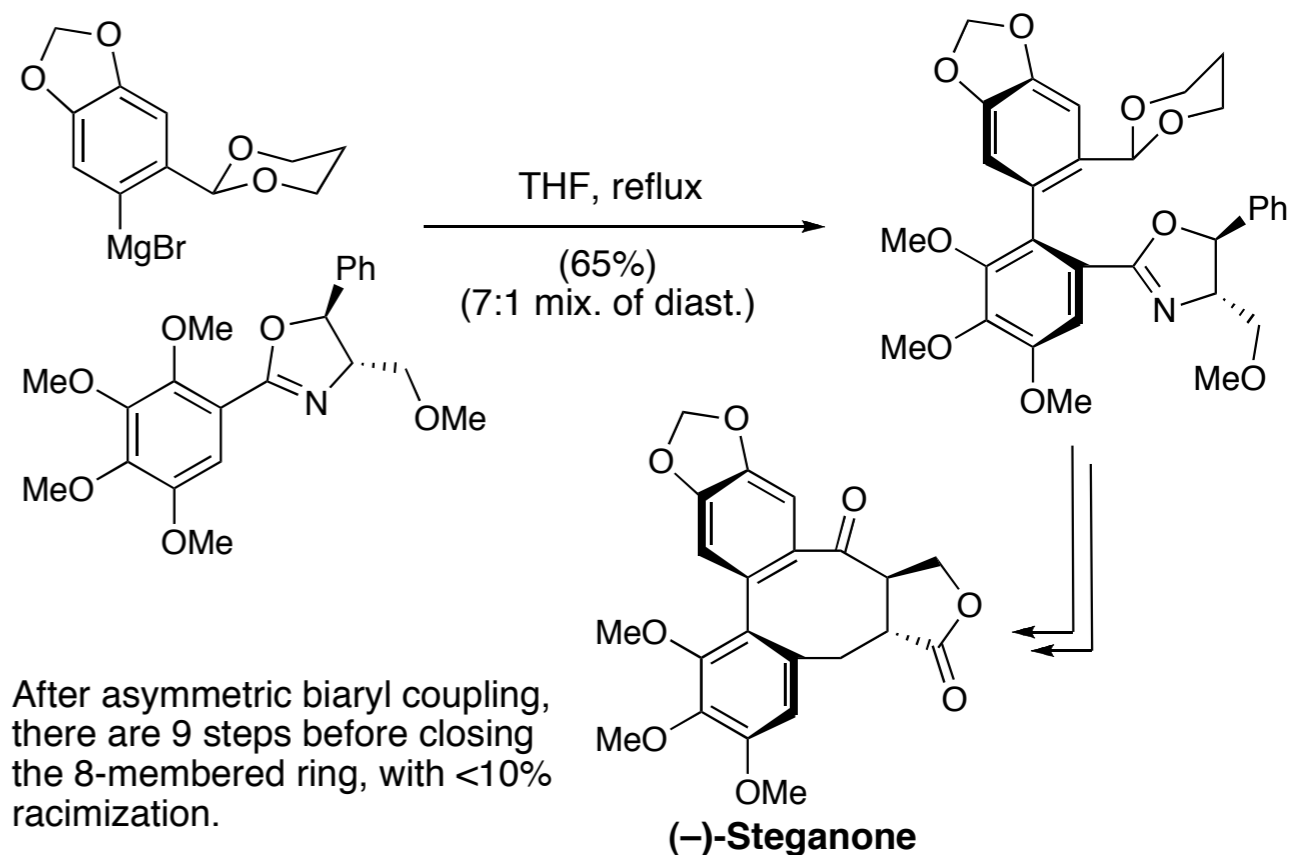
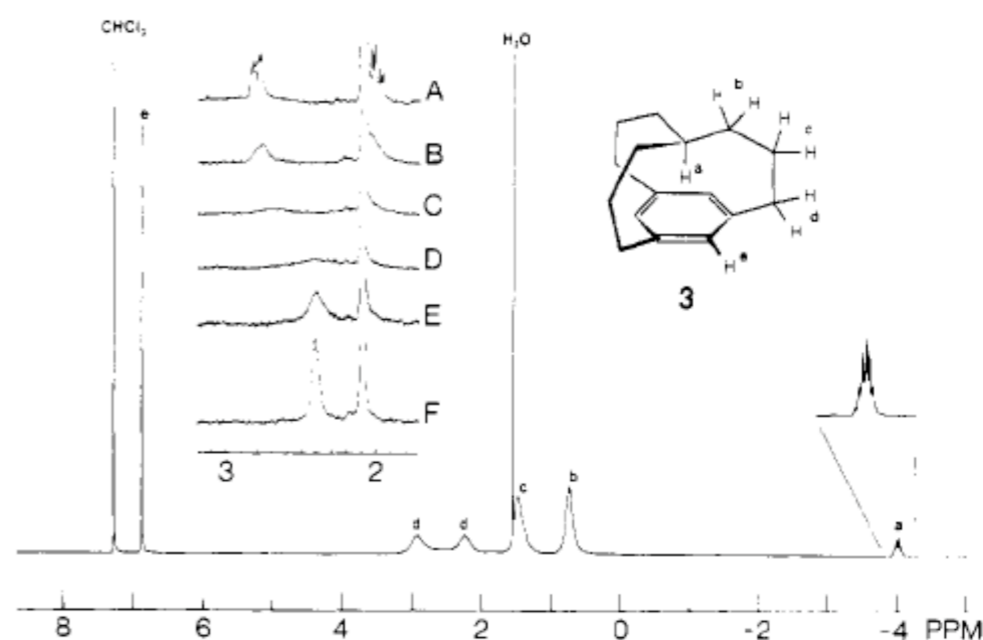
Total Synthesis of (±)-Mitomycins via Isomitomycin A. T. Fukuyama and L. Yang, 7881–7882.



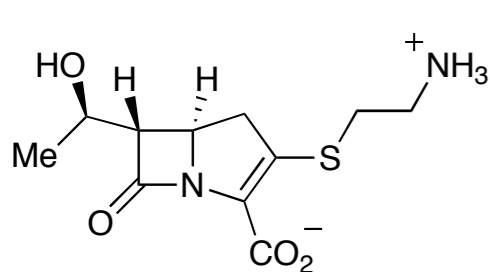
"Pagodane": The Efficient Synthesis of a Novel, Versatile Molecular Framework.

W. Fessner, G. Sedelmeier, P.R. Spurr, G. Rihs, and H. Prinzbach, 4626–4642.

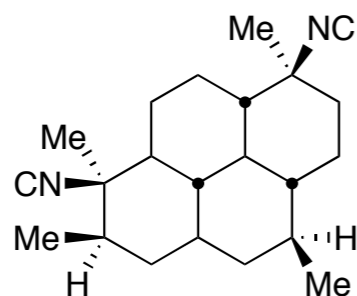
See also, **Platonic Hydrocarbons** group meeting (Shenvi, 2006)

Intramolecular Photocycloaddition. Cyclobutane Fragmentation: Total Synthesis of (±)-Laurenene. M.T. Crimmins, and L.D. Gould, 6199–6200.

An Asymmetric Synthesis of (–)-Steganone. Further Application of Chiral Biaryl Synthesis. A. I. Meyers, J.R. Flisak, and R.A. Aitken, 5445–5452.

Synthesis of *in*-[3^{4,10}][7]Metacyclophane: Projection of an Aliphatic Hydrogen toward the Center of an Aromatic Ring. R.A. Pascal, R.B. Grossman, and D. Van Engen, 6878–6880.


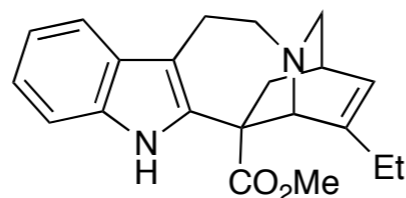
Comprehensive list of all total syntheses (*formal):



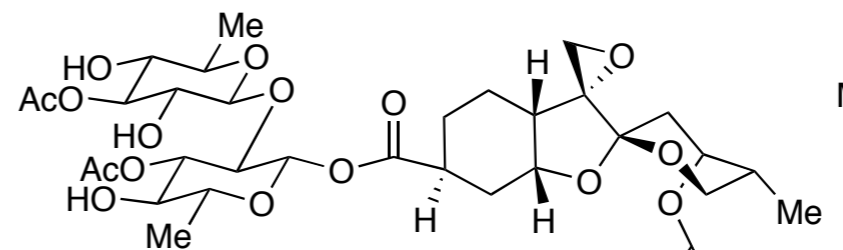
(+)-Thienamycin
Georg, 1129–1135



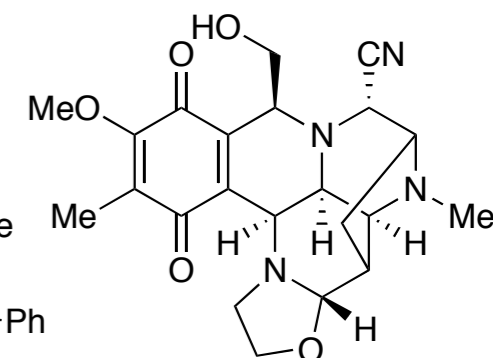
7,20-Diisocyanoadociane
Corey, 287–289



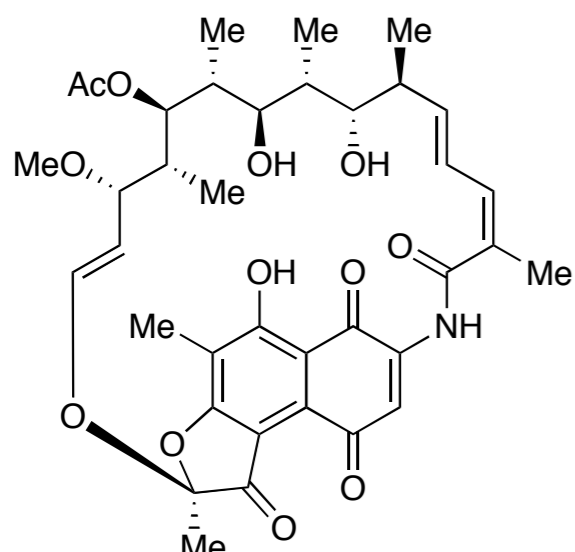
(±)-Catharanthine
Raucher, 442–446



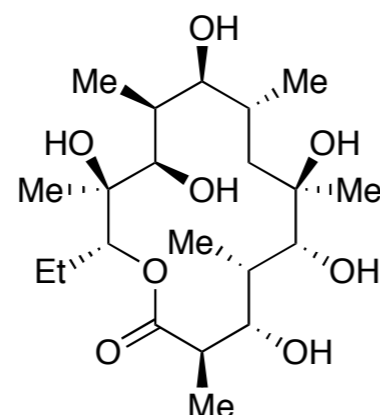
(+)-Phyllanthoside
Smith, 1269–1272
Smith, 1272–1274



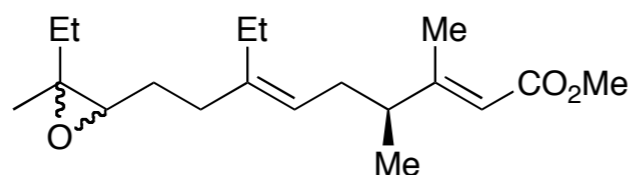
(±)-Cyanocycline A
Fukuyama, 1587–1589



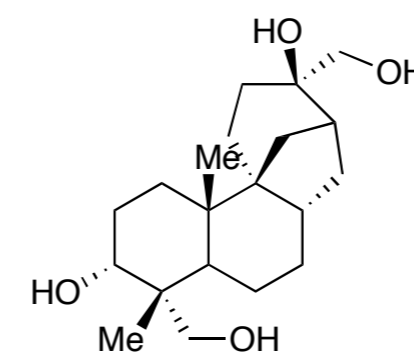
***Rifamycin S**
Danishefsky, 862–867
Roush, 953–955



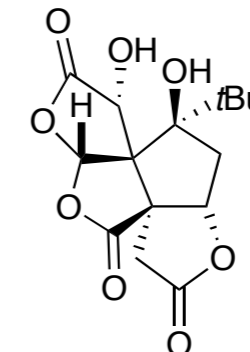
(+)-(9S)-Dihydroerythronolide
Stork, 1565–1567



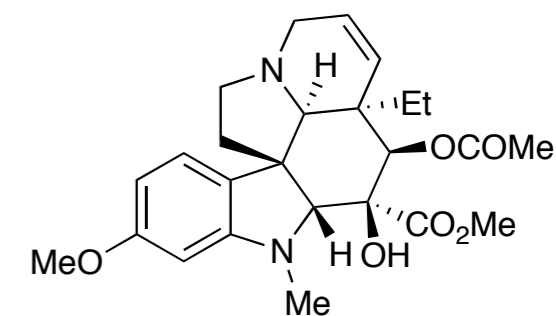
4-Methyl Juvenile Hormone
Ogura, 2853–2854



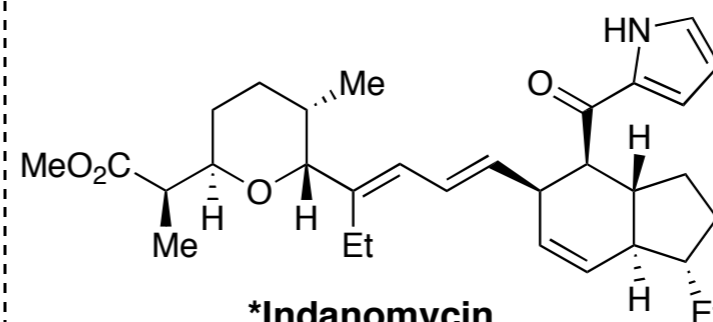
Aphidicolin
Holton, 1597–1600



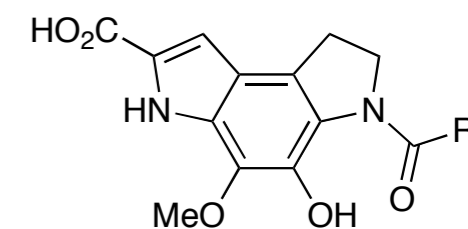
(±)-Bilobalide
Corey, 7534–7536



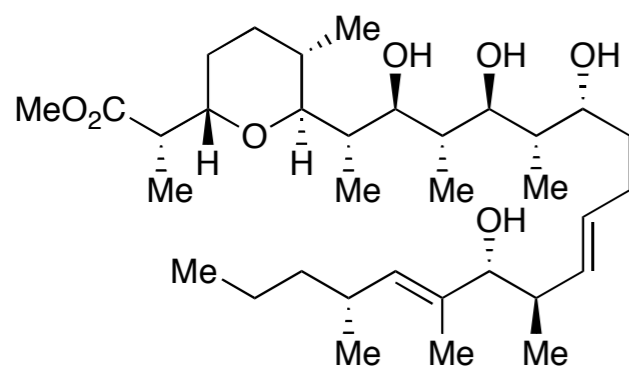
(-)-Vindoline
Rapoport, 1603–1604



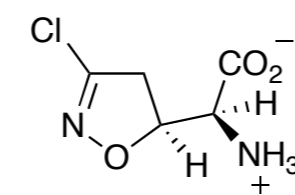
***Indanomycin**
Danishefsky, 2082–2089



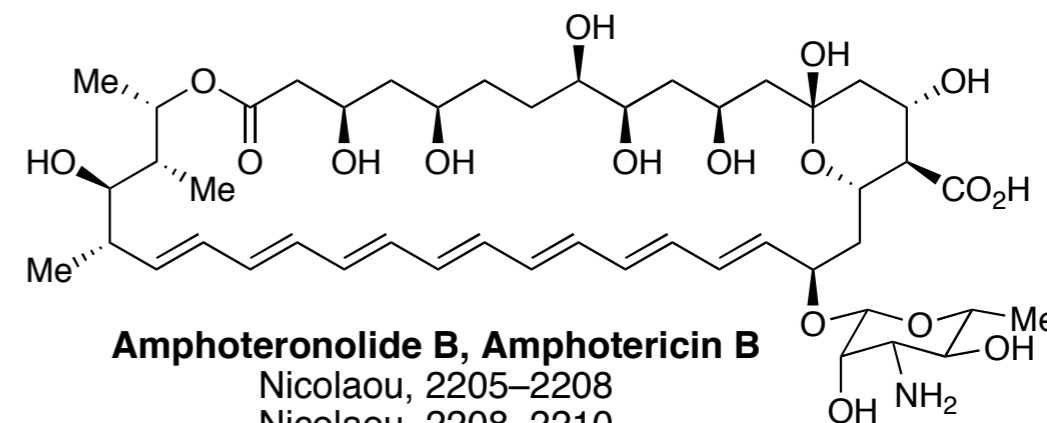
R = NH₂ **PDEI**
R = Me **PDEII**
Magnus, 2711–2717
Boger, 2717–2727



Zincphorin
Danishefsky, 1572–1574

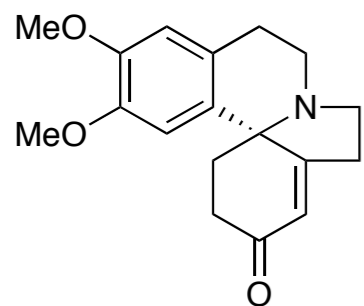


Acivicin
Whitney, 276–277

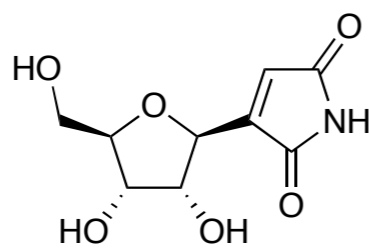


Amphoteronolide B, Amphotericin B
Nicolaou, 2205–2208
Nicolaou, 2208–2210
Nicolaou, 2821–2822

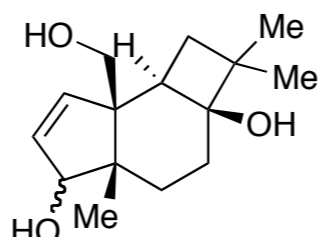
Comprehensive list of all total syntheses (Cont'd):



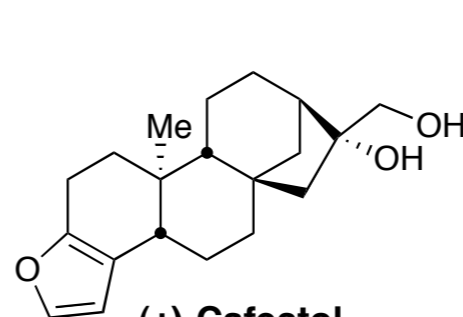
(±)-3-Demethoxyerythratidinone
Danishefsky, 917–918



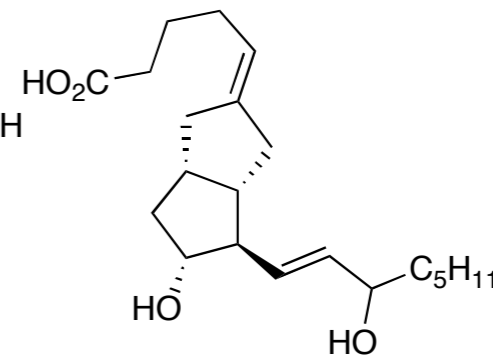
***(+)-Showdomycin**



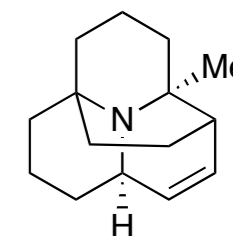
**(-)-Punctatin A,
(+)-Punctatin D**
Paquette, 3017–3024



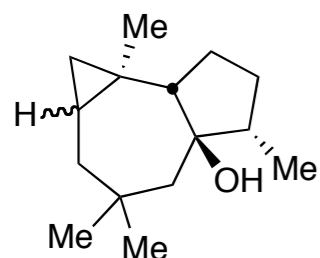
(±)-Cafestol
Corey, 4717–4718



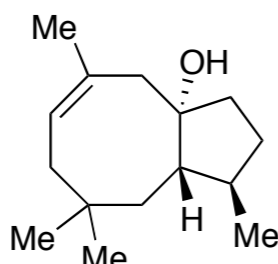
d-(+)-Carbacyclin
Fuchs, 4755–4756



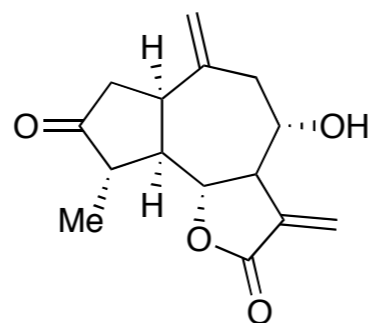
(±)-Porantherine
Stevens, 4940–4948



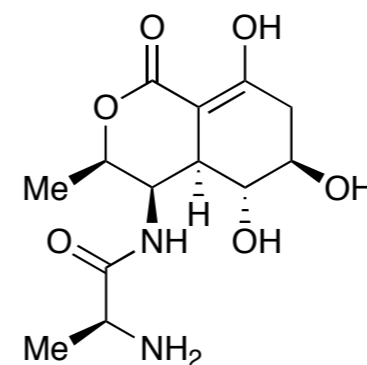
Africanol
Paquette, 3025–3036



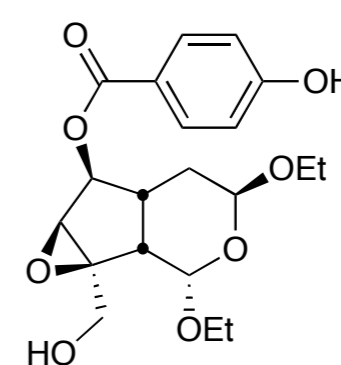
Dactylool
Paquette, 3025–3036



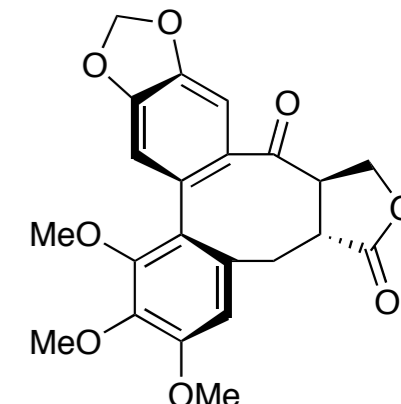
(±)-Grosshemin
Rigby, 3147–3149



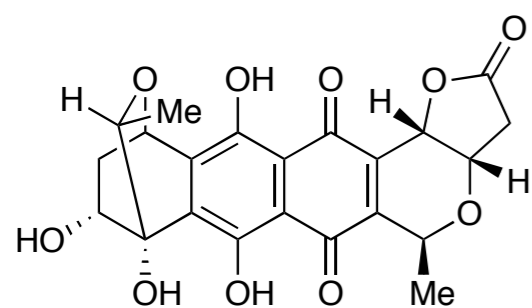
(+)-Actinobolin
Kozikowski, 5167–5175



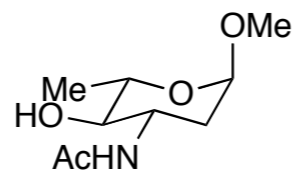
(-)-Specionin
Curran, 5280–5282



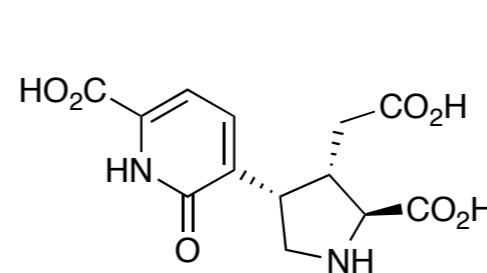
(-)-Steganone
Meyers, 5446–5452



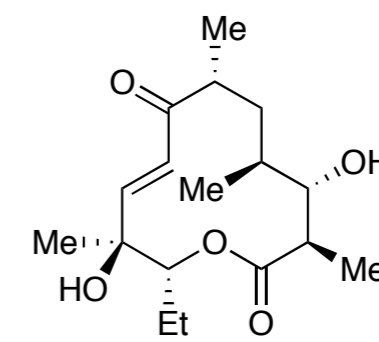
(±)-Granaticin
Yoshii, 3402–3408



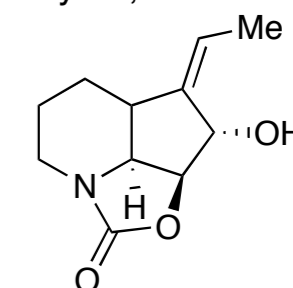
(-)-N-Acetal-O-methylacosamine
Trost, 3792–3794



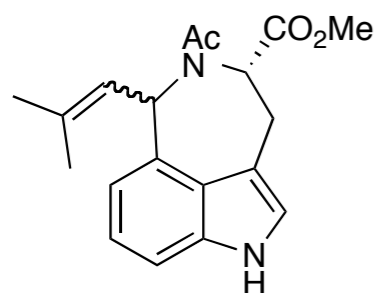
Acromelic Acid A
Takano, 5523–5524



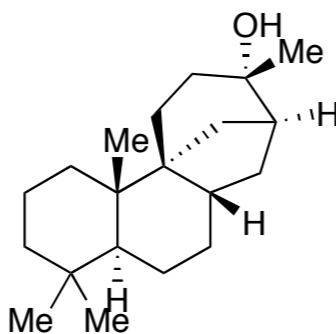
d,l-Methynolide
Vedejs, 5878–5880



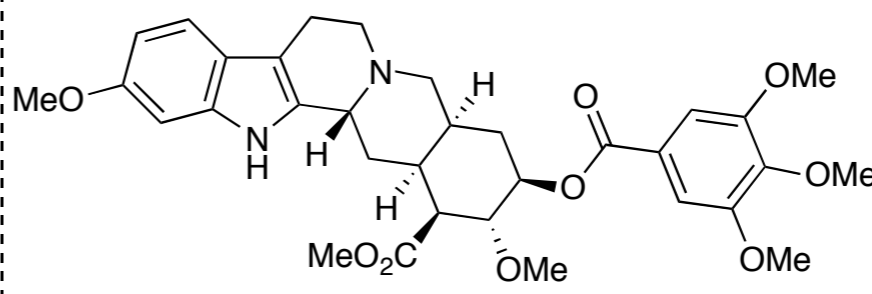
Streptazolin
Overman, 6097–6107
Overman, 6017–6114
Overman, 6115–6118



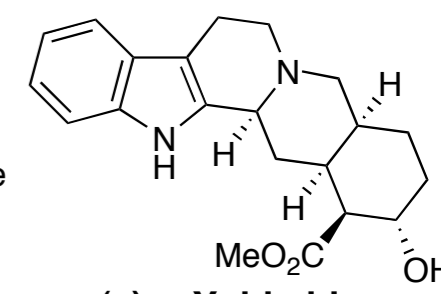
(±)-Clavicipitic Acid derivatives
Hegedus, 4335–4338



(±)-2-Desoxystemodinone
White, 4424–4426

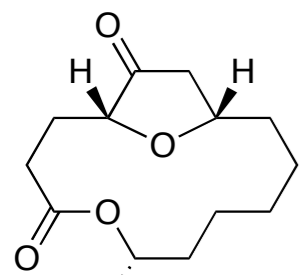


(±)-Reserpine
Martin, 6124–6134

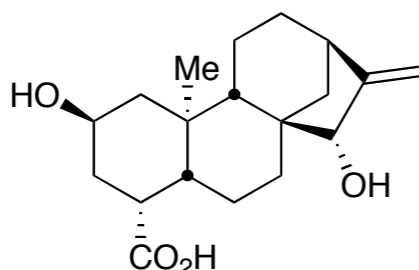


(±)-α-Yohimbine
Martin, 6124–6134

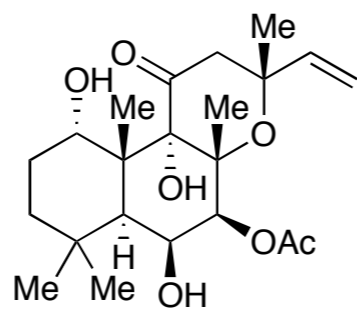
Comprehensive list of all total syntheses (Cont'd):



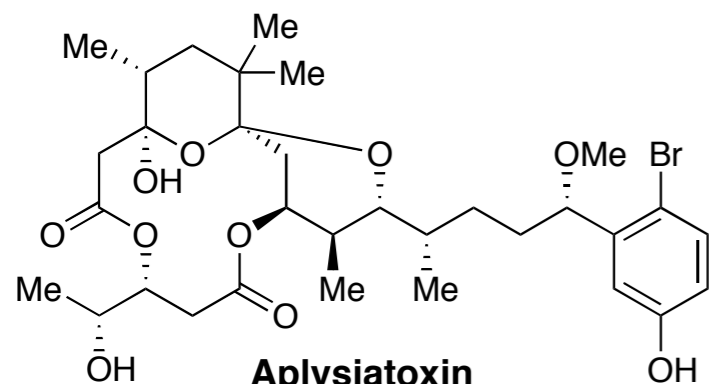
(+)-Gloesprone
Seebach, 6176–6177



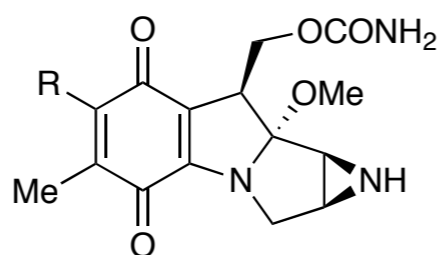
(±)-Atractyligenin
Corey, 6187–6189



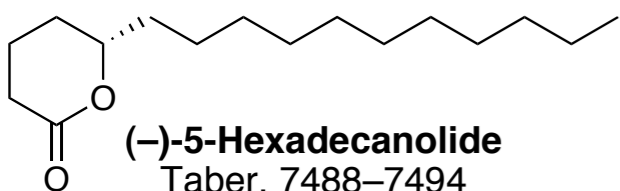
***Forskolin**
Ziegler, 8115–8116



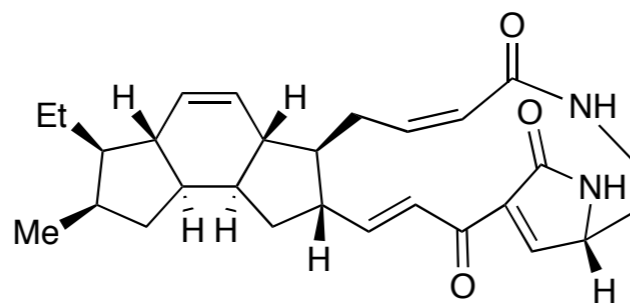
Aplysiatoxin
Kishi, 6205–6207



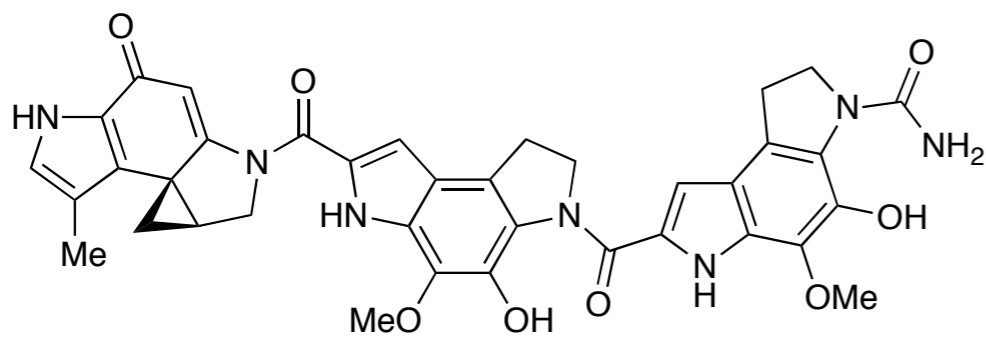
R = OMe **Mitomycin A**
R = NH₂ **Mitomycin C**
Fukuyama, 7881–7882



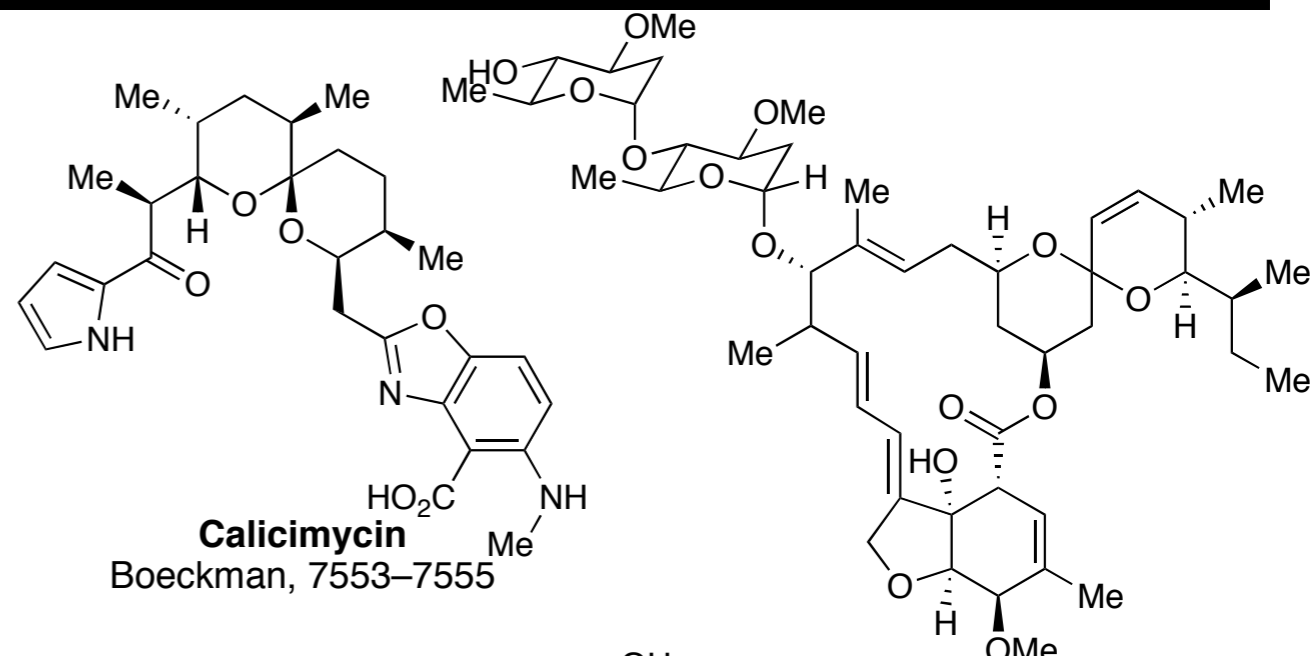
(-)-5-Hexadecanolide
Taber, 7488–7494



***Ikarugamycin**
Whitesell, 6403–6408

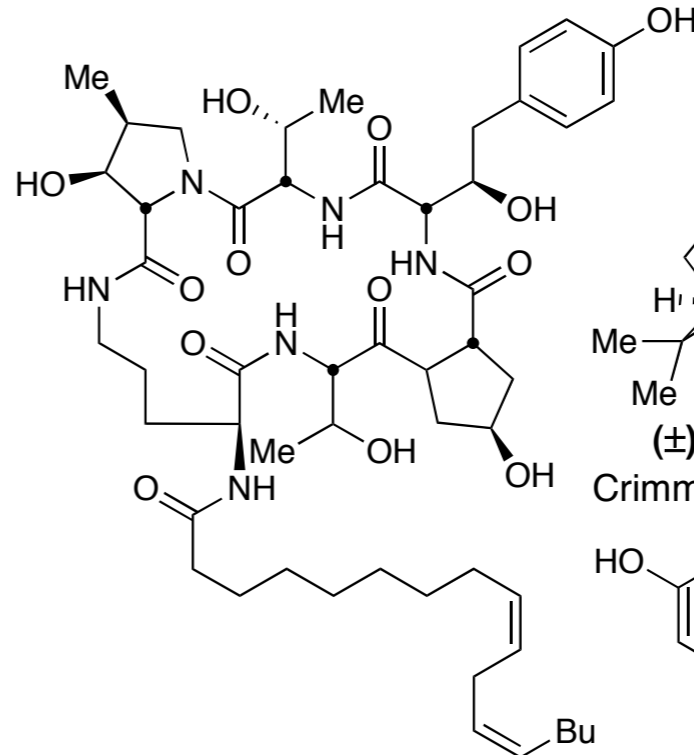


CC-1065
Kelly, 6837–6838

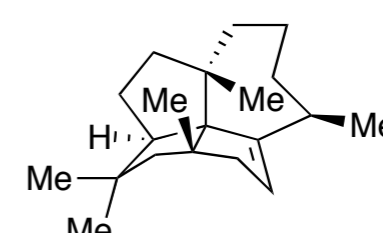


Calicimycin
Boeckman, 7553–7555

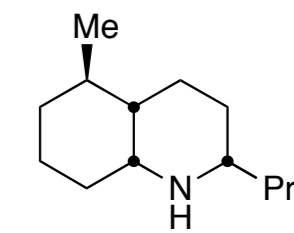
Avermectin A_{1a}
Danishefsky 8117–8119
Danishefsky 8119–8120



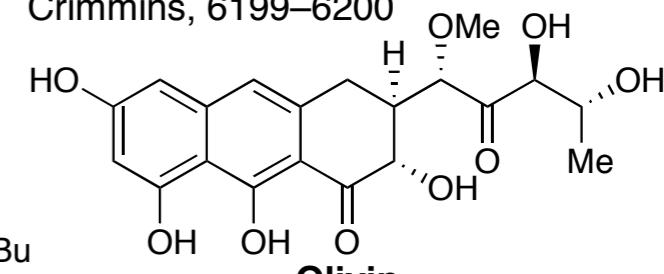
Echinocandin D
Evans, 7151–7157



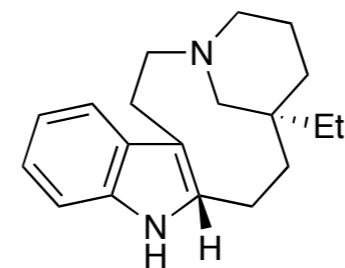
(±)-Laurenene
Crimmins, 6199–6200



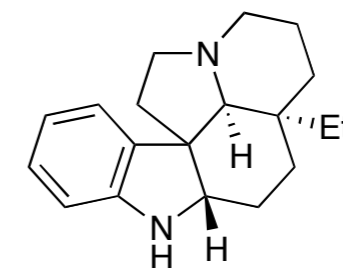
(+)-Pulmilitoxin
Schultz, 6493–6502



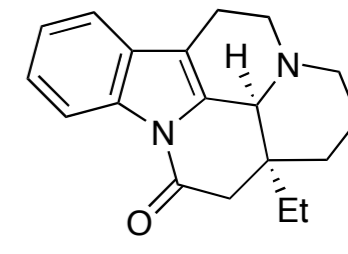
Olivin
Roush, 7575–7577



(+)-Quebrachamine
Fuji, 7901–7903



(-)-Aspidospermidine
Fuji, 7901–7903



(-)-Eburnamonine
Fuji, 7901–7903