JACS: 1980 Year in Review

Paul Krawczuk

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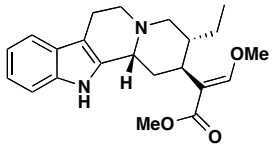
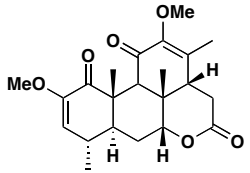
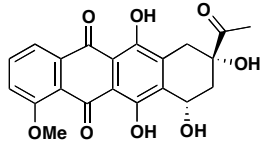
Syntheses Discussed:



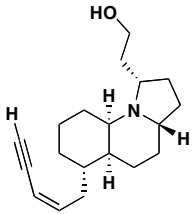
Hirsutine



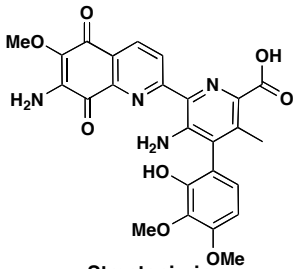
Quassin



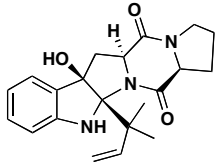
Daunomycinone



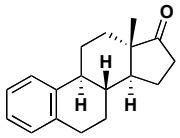
Gephyrotoxin



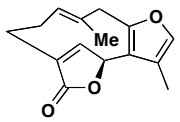
Streptonigrin



Brevianamide E



Estrone



Linderalactone

Methodologies Discussed:

Direct Formation of the Steroid Nucleus by a Biomimetic Cyclization
William S. Johnson, Brian E. McCarry, R.L. Markezich, Sharon G. Boots,
J. Am. Chem. Soc. **1980**, 102, 352-354.

Asymmetric Induction in the Reaction of Osmium Tetroxide with Olefins
Steven G. Hentges, K. Barry Sharpless;
J. Am. Chem. Soc. **1980**, 102, 4263-4265.

The First Practical Method for Asymmetric Epoxidaton
Tsutomu Katsuki, K. Barry Sharpless;
J. Am. Chem. Soc. **1980**, 102, 5976-5978.

Phenylselenoetherification. A Highly Efficient Cyclization Process for the Synthesis of O- and S-Heterocycles.
K.C. Nicolaou, R. L. Magolda, W.J. Sipio, W.E. Barnette, Z. Lysenko, M.M. Joullie;
J. Am. Chem. Soc. **1980**, 102, 3784-3793.

A Three-Carbon Condensative Expansion. Application to Muscone
Barry M. Trost, John E. Vincent
J. Am. Chem. Soc. **1980**, 102, 5683-5685.

Silicon in Synthesis: An Exceptionally Short Synthesis of *dl*-11α-Hydroxyesterone Methyl Ether
Stevan Djuric, Tarun Sarkar, Philip Magnus
J. Am. Chem. Soc. **1980**, 102, 6885-6886.

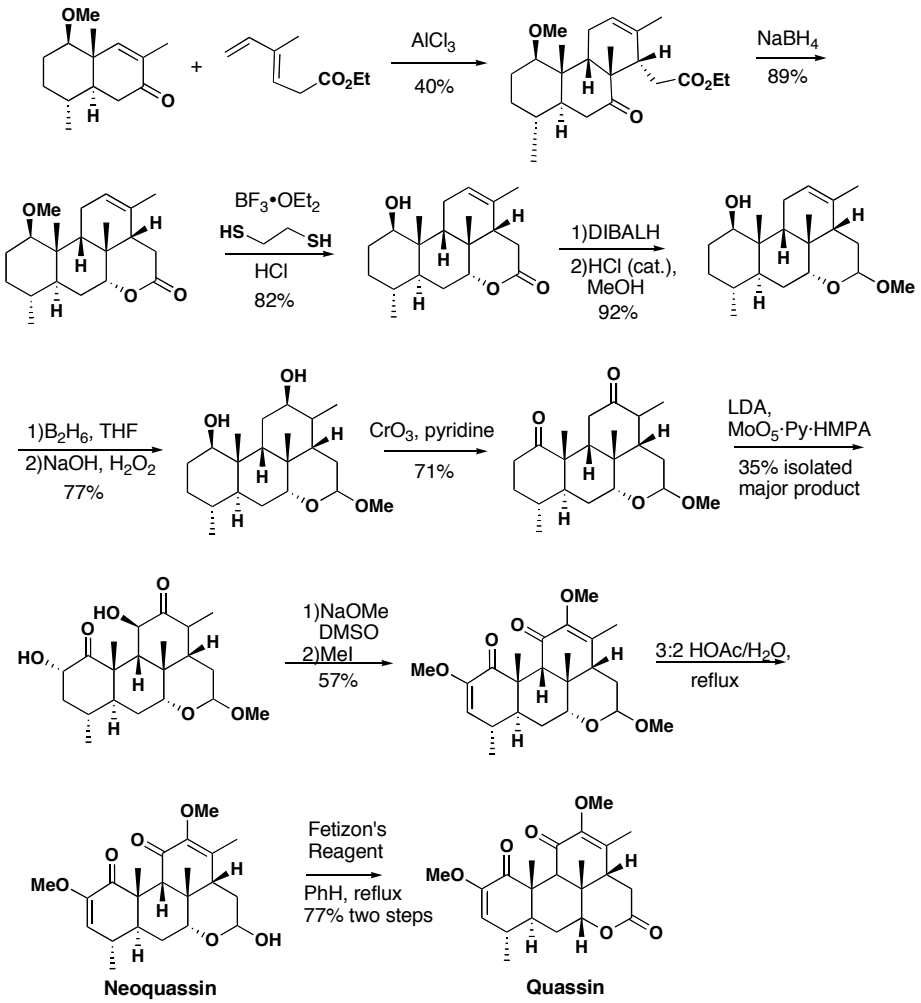
Timed Diels-Alder Reactions
George A. Kraus, Michael J. Taschner
J. Am. Chem. Soc. **1980**, 102, 5683-5685.

Palladium-Assisted Carboacylation of Olefins
Louis S. Hegedus, W.H. Darlington
J. Am. Chem. Soc. **1980**, 102, 4980-4983.

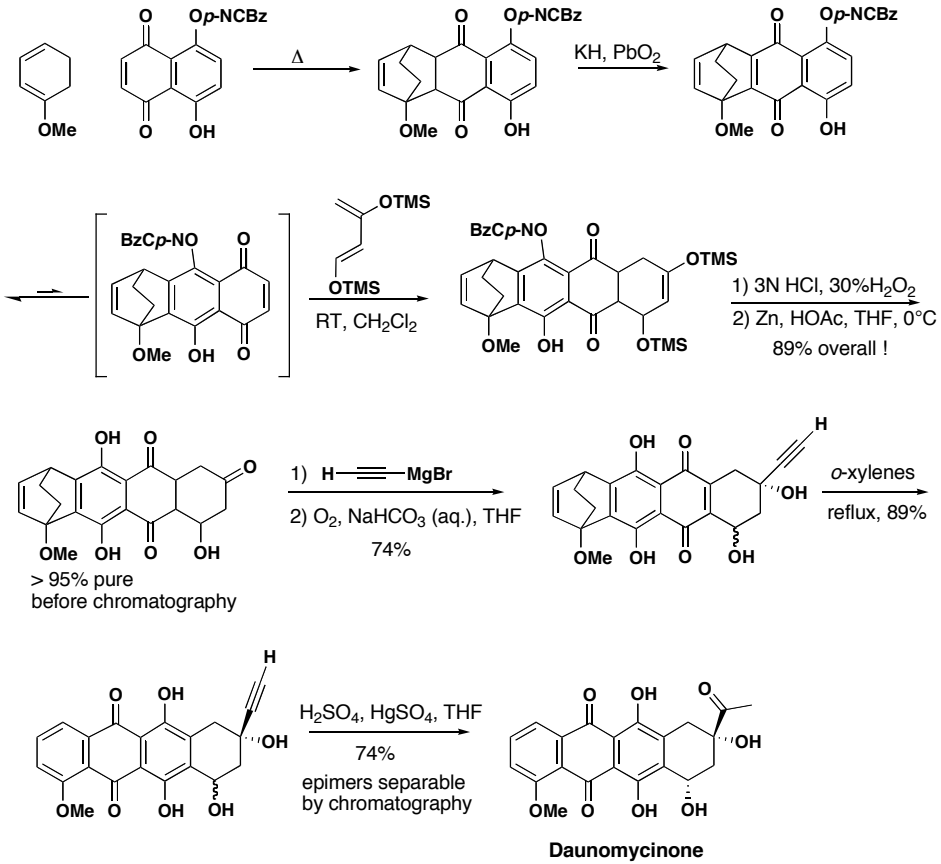
Alkylaluminum Chloride Induced Cyclization of Unsaturated Carbonyl Compounds
Michael Karras, Barry B. Snider
J. Am. Chem. Soc. **1980**, 102, 7953-7955.

Allylic Alkylation. Palladium-Catalyzed Substitutions of Allylic Carboxylates.
Barry M. Trost, Thomas R. Verhoeven
J. Am. Chem. Soc. **1980**, 102, 4730.

Total Synthesis of *dl*-Quassin
Paul A. Greico, Sergio Ferrino, Giovanni Vidari; *J. Am. Chem. Soc.* **1980**, 102, 7586-7587.



An Efficient, Regiospecific Synthesis of (±)-Daunomycinone
T. Ross Kelly, Jacob Vaya, L. Ananthasubramanian; *J. Am. Chem. Soc.* **1980**, 102, 5983-5984.



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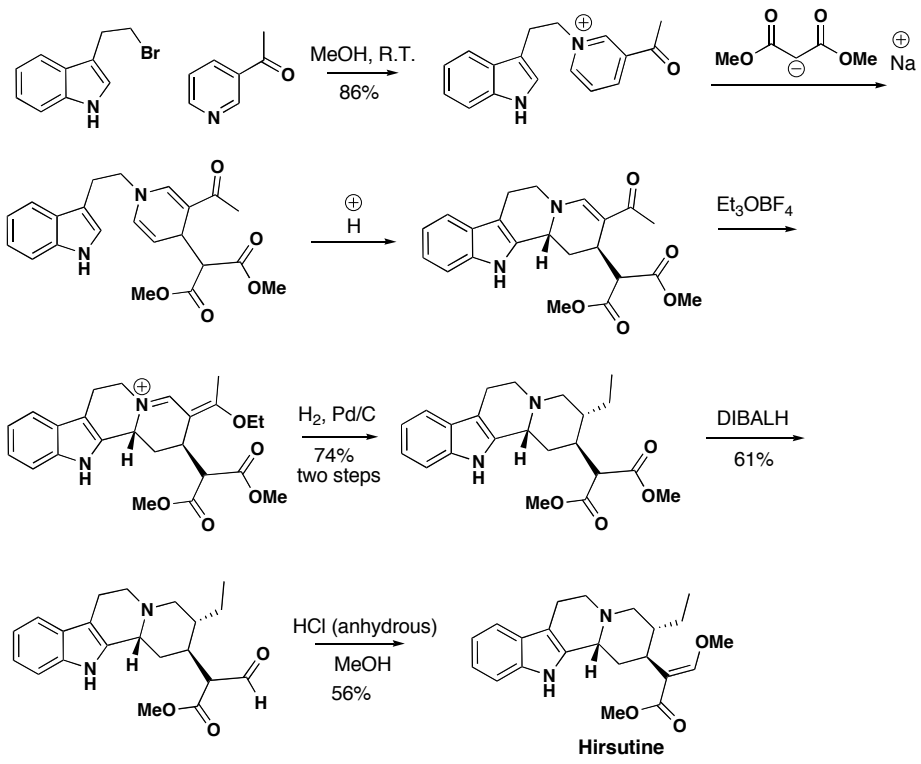
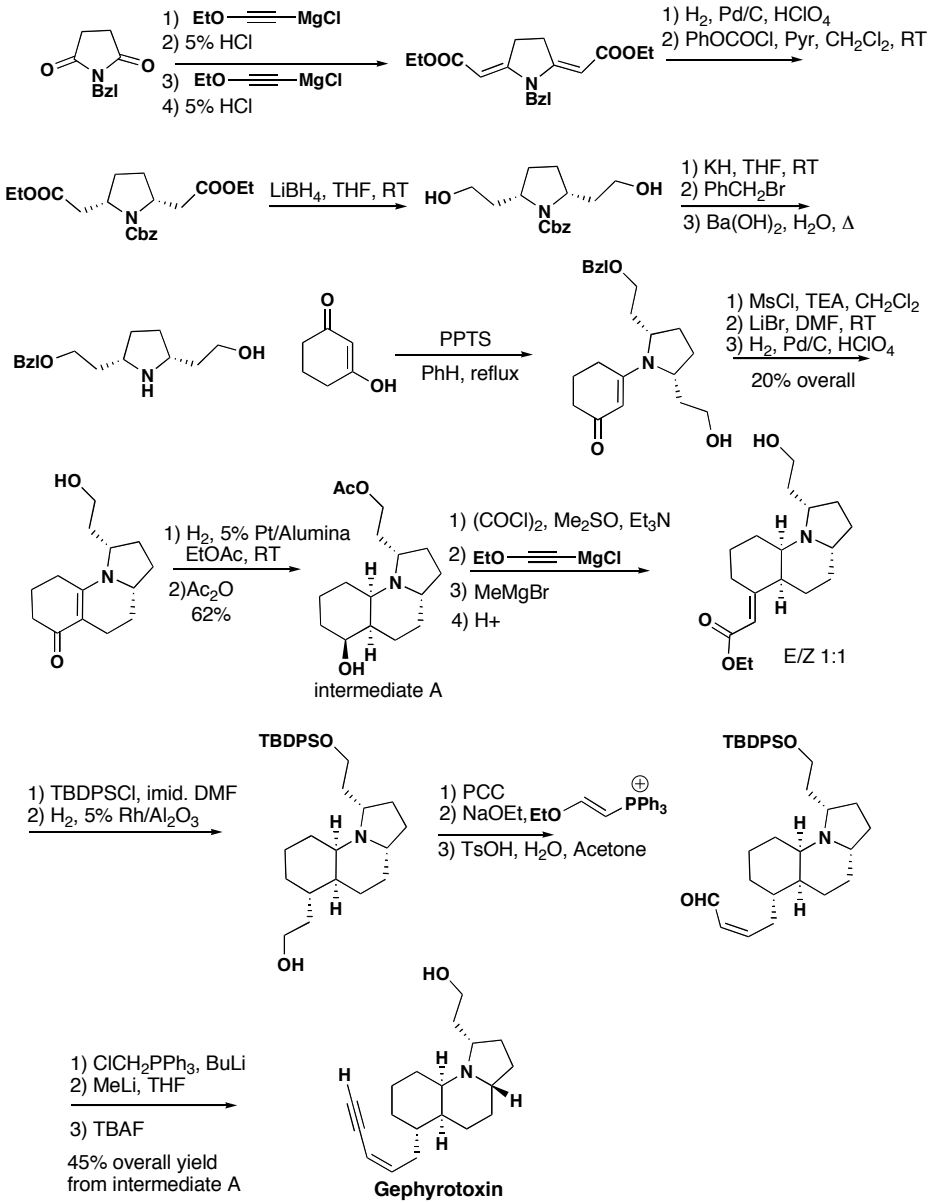
Short Syntheses of Hirsutine and Geissoschizine
Ernest Wenkert, Yahswant D. Vankar, Juillu S. Yadav; *J. Am. Chem. Soc.* **1980**, 102, 7971-7972.



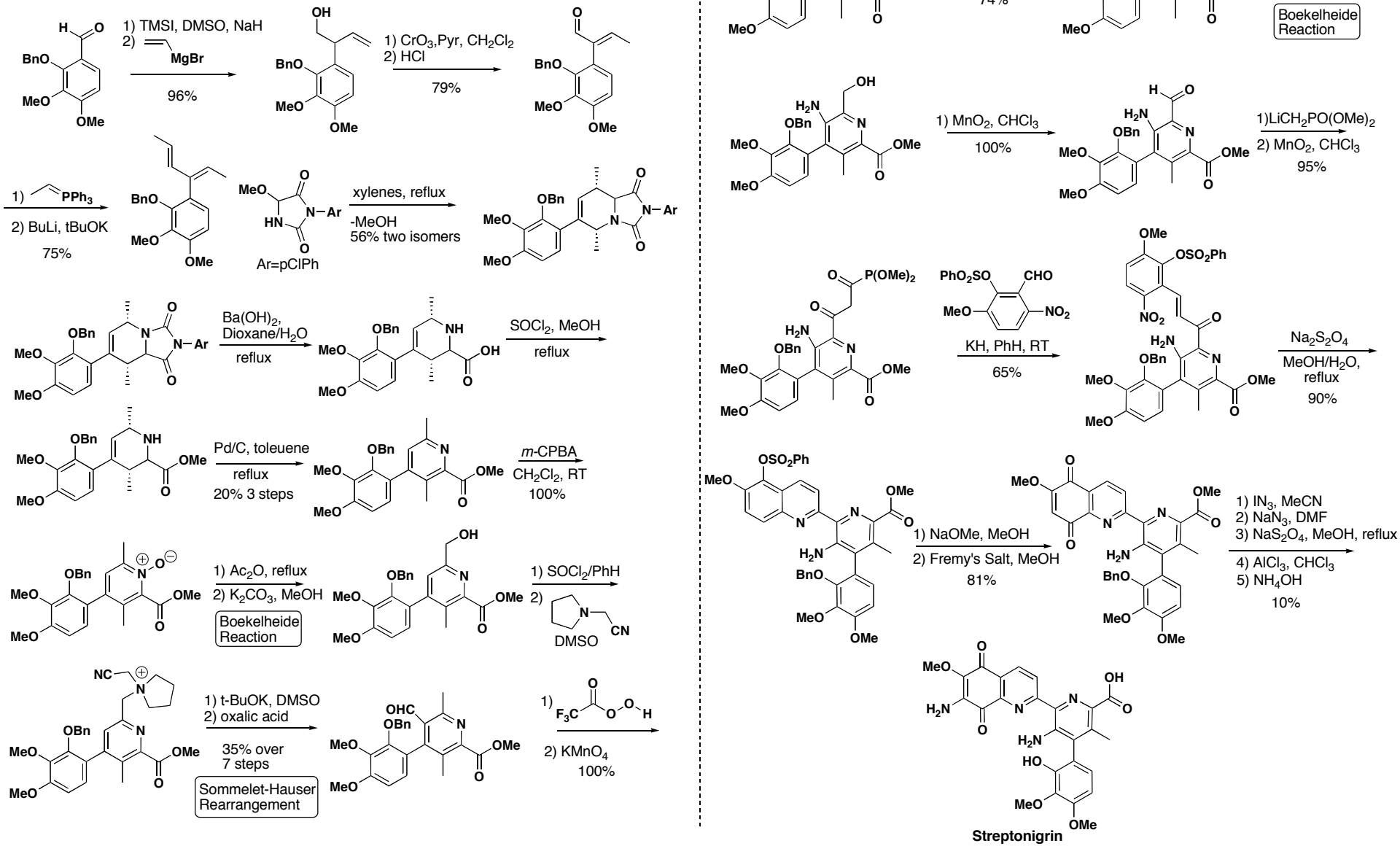
Total Synthesis of (±)-Gephyrotoxin
Roger Fujimoto, Yoshito Kishi, John F. Blunt; *J. Am. Chem. Soc.* **1980**, 102, 7154-7156.



Total Synthesis of Streptonigrin

Fatima Z. Basha, Satoshi Hibino, Deukjoon Kim, Walter E. Pye, Tai-Teh Wu, Steven M. Weinreb;

J. Am. Chem. Soc. **1980**, 102, 3962-3964.



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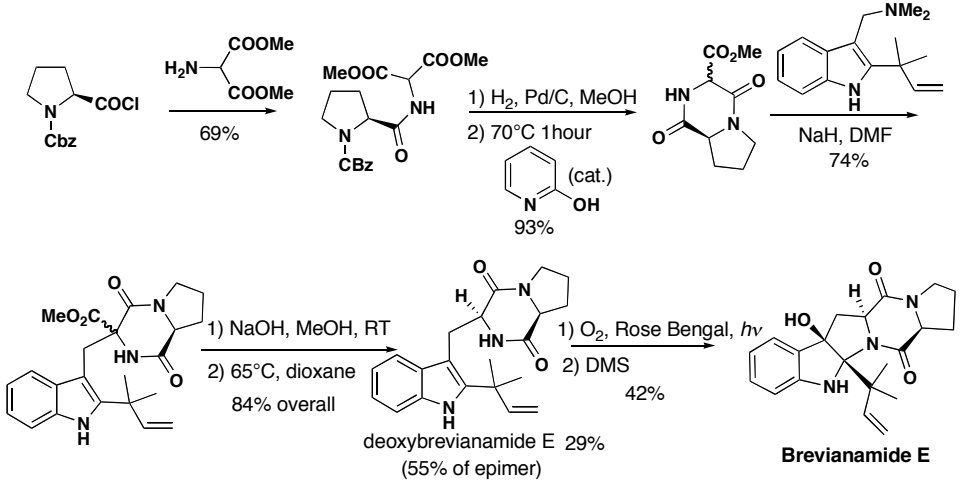
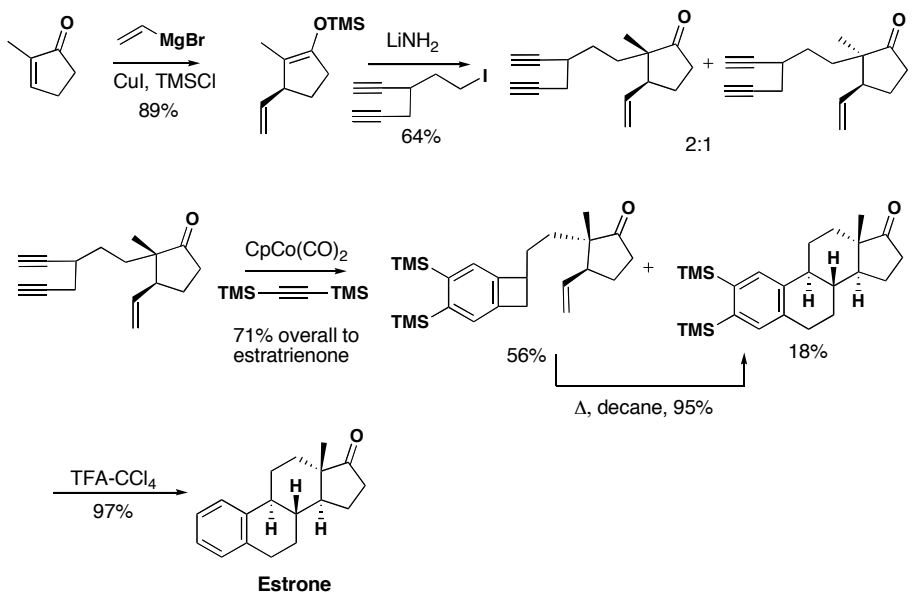
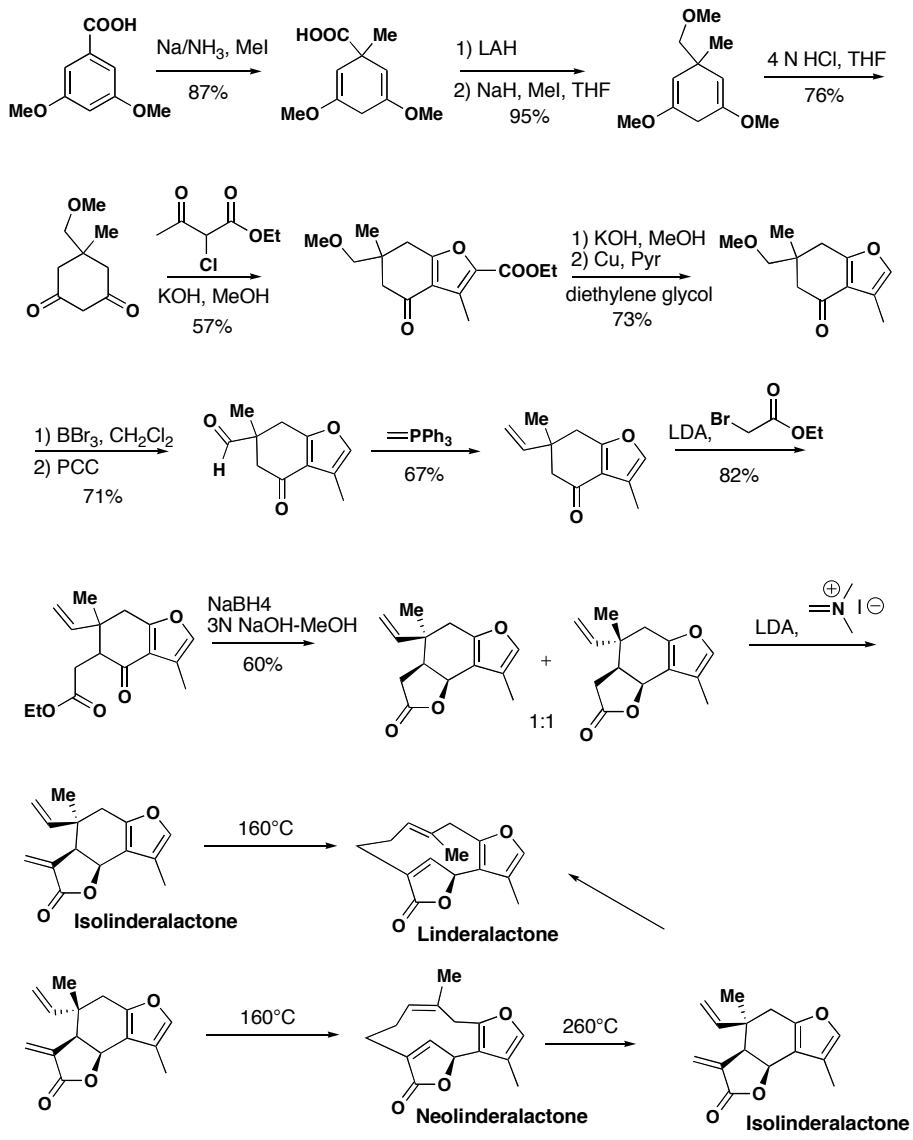
Asymmetric Total Synthesis of Brevianamide E
Tetsuji Kemetani, Naoaki Kanaya, Masataka Ihara; *J. Am. Chem. Soc.* **1980**, 102, 3974-3975.



Transition-Metal Catalyzed Alkyne Cyclizations. A Cobalt-Mediated Total Synthesis of *dl*-Estrone
Raymond L. Funk, K. Peter C. Vollhardt; *J. Am. Chem. Soc.* **1980**, 102, 5253-5261.



Synthesis of (±)-Linderalactone, (±)-Isolinderalactone, and (±)-Neolinderalactone.
Aravamudan Gopalan, Philip Magnus; *J. Am. Chem. Soc.* **1980**, 102, 1756-1757.



Other Total Syntheses Published In 1980 in JACS:

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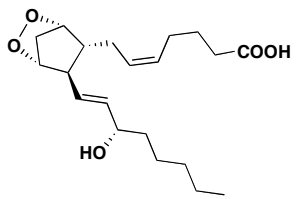
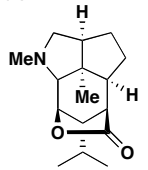


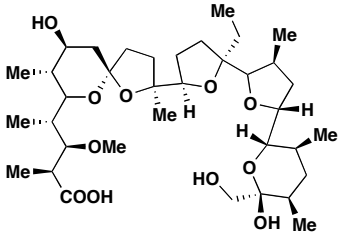
Ned A. Porter, Jim D. Byers, A.E. Ali, Thomas E. Eling;
J. Am. Chem. Soc. **1980**, 102, 1183-1184.

(±)-Dendrobine



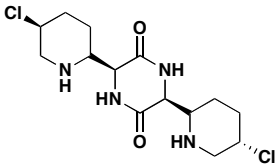
William R. Roush;
J. Am. Chem. Soc. **1980**, 102, 1390-1396.

Monesin



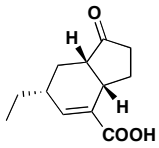
David B. Collumn, John H. McDonald, III, W. Clark Still
J. Am. Chem. Soc. **1980**, 102, 2117-2118
J. Am. Chem. Soc. **1980**, 102, 2118-2120
J. Am. Chem. Soc. **1980**, 102, 2120-2121

(±)-Antibiotic 593A



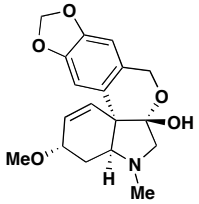
Tohru Fukuyama, R. Keith Frank, Charles F. Jewell, Jr.
J. Am. Chem. Soc. **1980**, 102, 2122-2123.

(±)-Coronafacic Acid



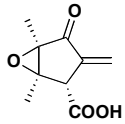
Michael E. Jung, James P. Hudspeth;
J. Am. Chem. Soc. **1980**, 102, 2463-2464.

(±)-Tazettine



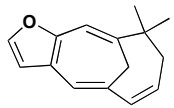
Samuel Danishefsky, Joel Morris,
George Mullen, Ronald Gammill
J. Am. Chem. Soc. **1980**, 102, 2838-2840.

(±)-Methylenomycin A



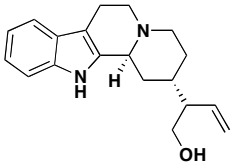
Robert M. Scarborough, Jr., Bruce H. Todder, Amos B. Smith III;
J. Am. Chem. Soc. **1980**, 102, 3904-3908.

(±)-Dihydrospiniferin-1



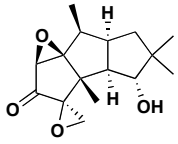
James. A. Marshall, Raymond E. Cronrow;
J. Am. Chem. Soc. **1980**, 102, 4274-4275.

(±)-Antirhine



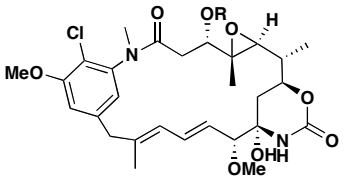
Seiichi Takano, Mikoto Takashashi, Kunio Ogasawara;
J. Am. Chem. Soc. **1980**, 102, 4282-4283

(±)-Coriolin



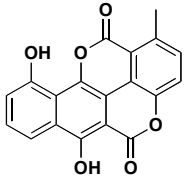
Samuel Danishefsky, Robert Zamboni,
Michael Kahn, Sarah Jane Etheredge;
J. Am. Chem. Soc. **1980**, 102, 2097-2098

(±)-Maytansinol



A.I. Meyers, Paul J. Reider, Arthur L. Campbell;
J. Am. Chem. Soc. **1980**, 102, 6597-6598.

Chartreusin Aglycone



T. Ross Kelly, Joseph A. Magee, Franz R. Weibel
J. Am. Chem. Soc. **1980**, 102, 798-799.

Baran Group Meeting

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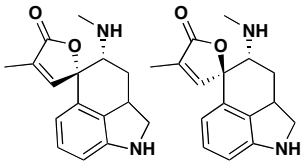
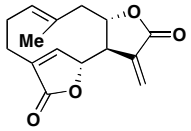
Other Total Syntheses Published In 1980 in JACS:

Rugulovasine A and B



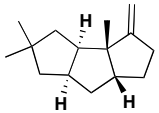
J. Rebek, Jr., Y.K. Shue;
J. Am. Chem. Soc. **1980**, 102, 5426-5427.

(±)-Isabelin



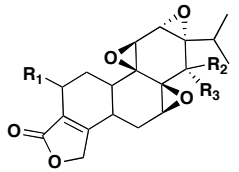
Paul A. Wender, John C. Lechleiter;
J. Am. Chem. Soc. **1980**, 102, 6340-6341.

(±)-Hirsutene



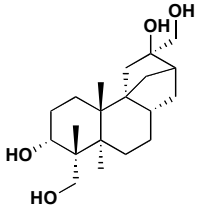
Tomas Hudlicky, Toni M. Kutchan,
Stephen R. Wilson, David T. Mao;
J. Am. Chem. Soc. **1980**, 102, 6351-6353.

Triptolide and Triptonide



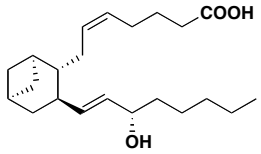
Richard S. Buckanin, Samuel J. Chen,
Donna M. Frieze, Frank T. Sher, Glenn A. Berchtold;
J. Am. Chem. Soc. **1980**, 102,1200-1201.

(±)-Aphidicolin



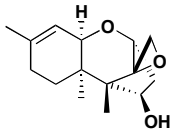
E.J. Corey, Marcus A. Tius, Jagabandhu Das;
J. Am. Chem. Soc. **1980**, 102, 1742-1744.

Carbocyclic Thromboxane A_2



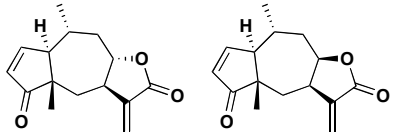
K.C. Nicolaou, R.L. Magolda, D.A. Claremon;
J. Am. Chem. Soc. **1980**, 102, 1404-1409.

(±)-Trichodermol



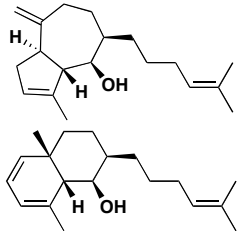
W. Clark Still, Mei-Yuan Tsai
J. Am. Chem. Soc. **1980**, 102, 3654-3655.

(±)-Aromaticin and (±)-Aromatin



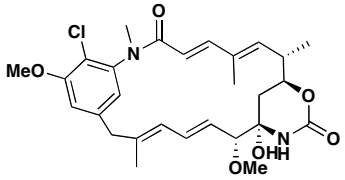
Peter T. Lansbury, David G. Hangauer, Jr., Joseph P. Vaca.
J. Am. Chem. Soc. **1980**, 102, 3964-3965.

(+)-Pachydictyol and (-)-Dictyolene



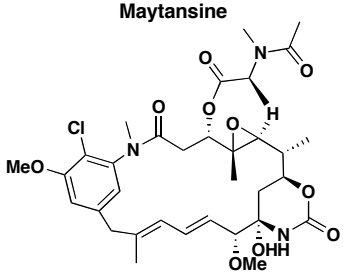
Andrew E. Greene;
J. Am. Chem. Soc. **1980**, 102, 5337-5343.

(-)-N-Methylmaysenine



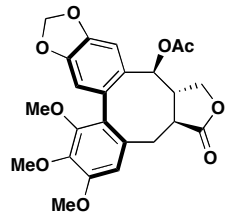
E.J. Corey, Leland O. Weigel,
A. Richard Chamberlin, Bruce Lipshutz
J. Am. Chem. Soc. **1980**, 102, 1439-1441.

Maytansine



E.J. Corey, Leland O. Weigel,
A. Richard Chamberlin, Hidetsura Cho, Duy H. Hua
J. Am. Chem. Soc. **1980**, 102, 6615-6616.

(±)-Steganacin



Frederick E. Ziegler, Irene Chliwner, Kerry W. Fowler, Sheldon J. Kanfer, Stephen J. Kuo, Nanda D. Sinha;
J. Am. Chem. Soc. **1980**, 102, 790-794.

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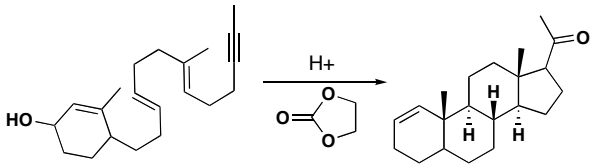
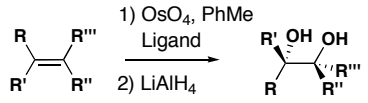
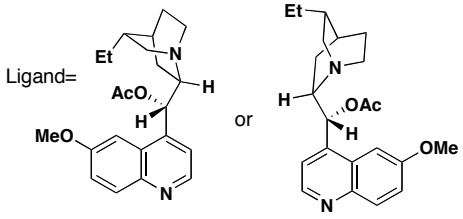
Direct Formation of the Steroid Nucleus by a Biomimetic Cyclization
William S. Johnson, Brian E. McCarry, R.L. Markezich, Sharon G. Boots,
J. Am. Chem. Soc. **1980**, 102, 352-354.



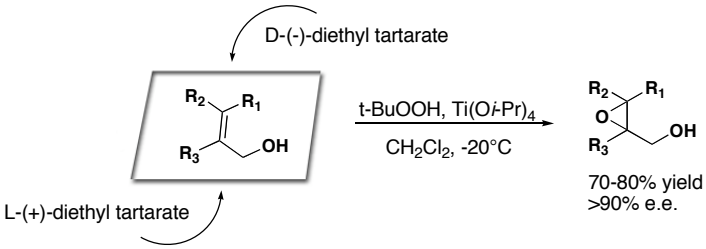
Asymmetric Induction in the Reaction of Osmium Tetroxide with Olefins
Steven G. Hentges, K. Barry Sharpless;
J. Am. Chem. Soc. **1980**, 102, 4263-4265.

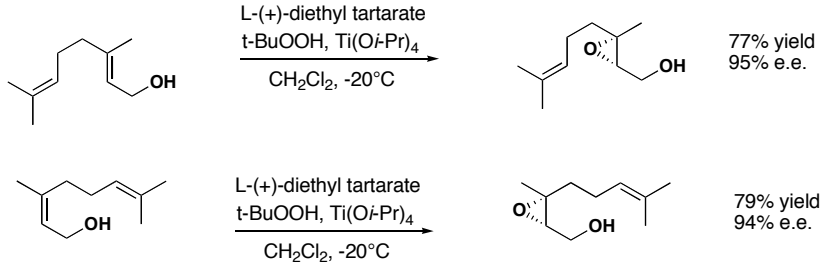




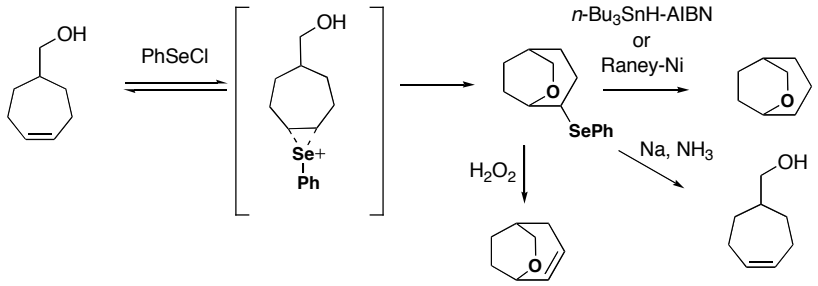
Entry	Olefin	Ligand	% yield	%ee
1	Styrene	1	90	64.5
2	Styrene	2	62	61.0
3	(Z)-1-phenylpropene	1	82	26.8
4	(Z)-1-phenylpropene	2	85	25.5
5	(E)-1-phenylpropene	1	90	45.5
6	(E)-1-phenylpropene	2	66	48.8
7	1-phenylcyclohexene	1	88	67.9
8	1-phenylcyclohexene	2	87	67.1
9	(E)-stilbene	1	90	83.2
10	(E)-stilbene	2	85	82.0

The First Practical Method for Asymmetric Epoxidaton
Tsutomu Katsuki, K. Barry Sharpless; *J. Am. Chem. Soc.* **1980**, 102, 5976-5978.





Phenylselenoetherification. A Highly Efficient Cyclization Process for the Synthesis of O- and S-Heterocycles. K.C. Nicolaou, R. L. Magolda, W.J. Sipio, W.E. Barnette, Z. Lysenko, M.M. Joullie;
J. Am. Chem. Soc. **1980**, 102, 3784-3793.



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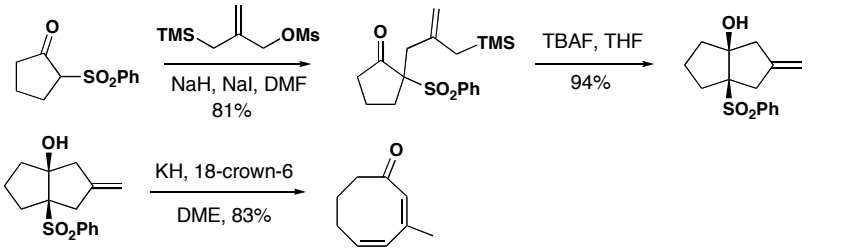
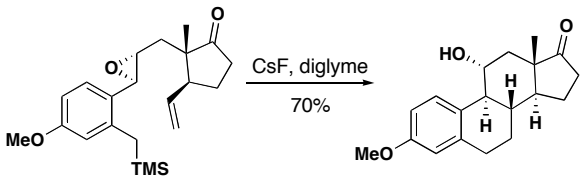
Paul Krawczuk

A Three-Carbon Condensative Expansion. Application to Muscone
Barry M. Trost, John E. Vincent
J. Am. Chem. Soc. **1980**, 102, 5683-5685.

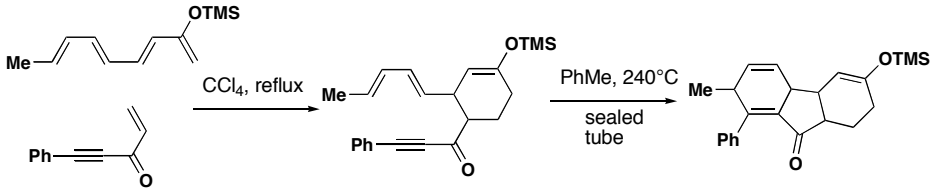


does not give ring expanded products for 6 or 7 membered rings, only elimiation

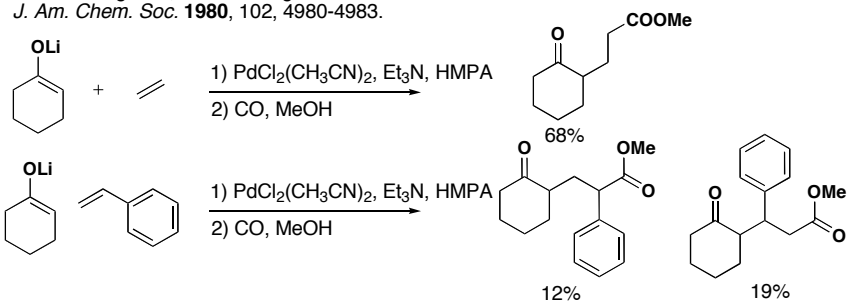
Silicon in Synthesis: An Exceptionally Short Synthesis of *dl*-11α-Hydroxyesterone Methyl Ether
Stevan Djuric, Tarun Sarkar, Philip Magnus
J. Am. Chem. Soc. **1980**, 102, 6885-6886.



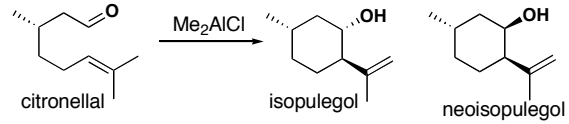
Timed Diels-Alder Reactions
George A. Kraus, Michael J. Taschner
J. Am. Chem. Soc. **1980**, 102, 5683-5685.



Palladium-Assisted Carboacylation of Olefins
Louis S. Hegedus, W.H. Darlington
J. Am. Chem. Soc. **1980**, 102, 4980-4983.



Alkylaluminum Chloride Induced Cyclization of Unsaturated Carbonyl Compounds
Michael Karras, Barry B. Snider
J. Am. Chem. Soc. **1980**, 102, 7953-7955.



Allylic Alkylation. Palladium-Catalyzed Substitutions of Allylic Carboxylates.
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J. Am. Chem. Soc. **1980**, 102, 4730.