

The
Eschenmoser Methenylation
Name Reaction

Aman Desai

04.10.09

The Talk

The Man

The Reaction

The Modification

The Applications

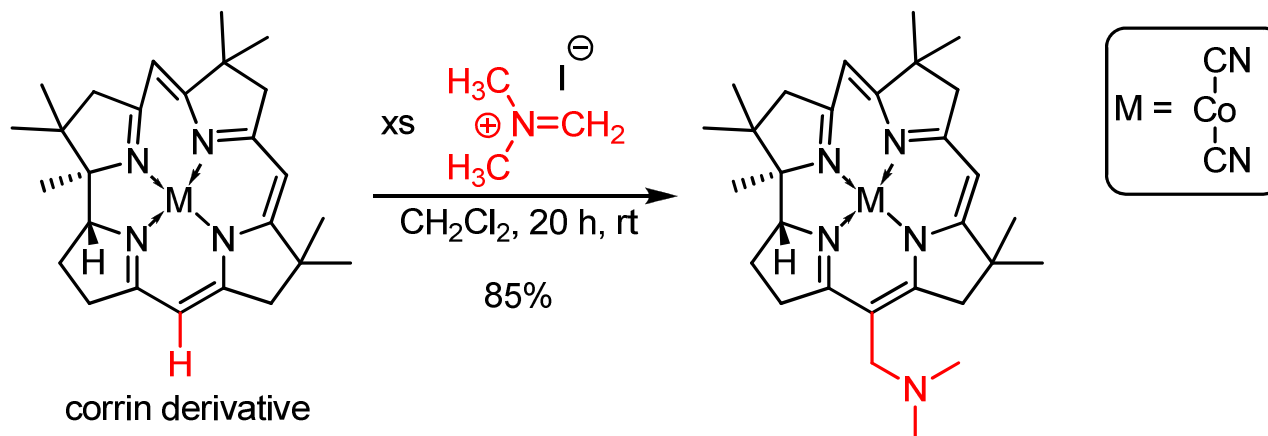
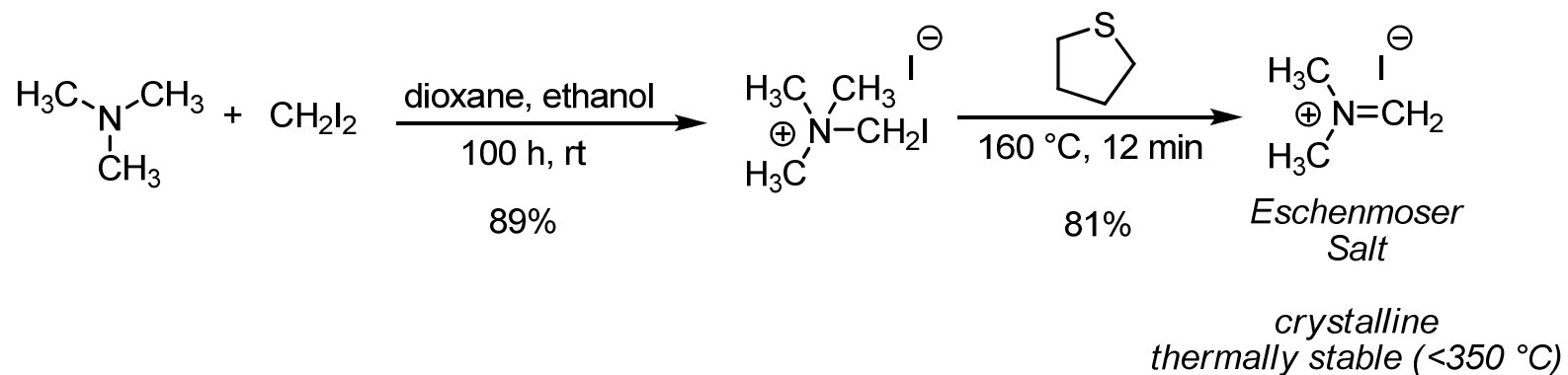
The End

Professor Albert Eschenmoser

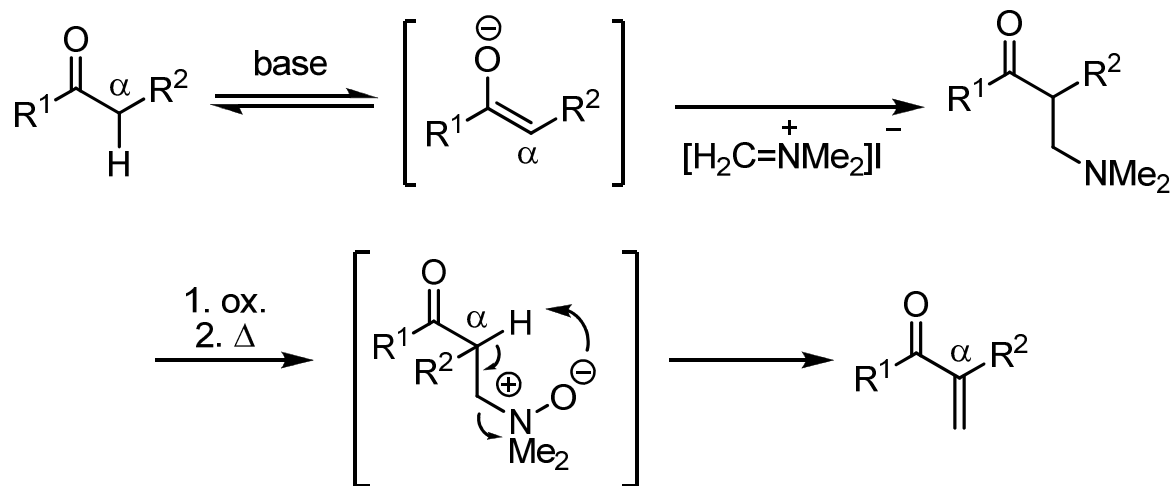
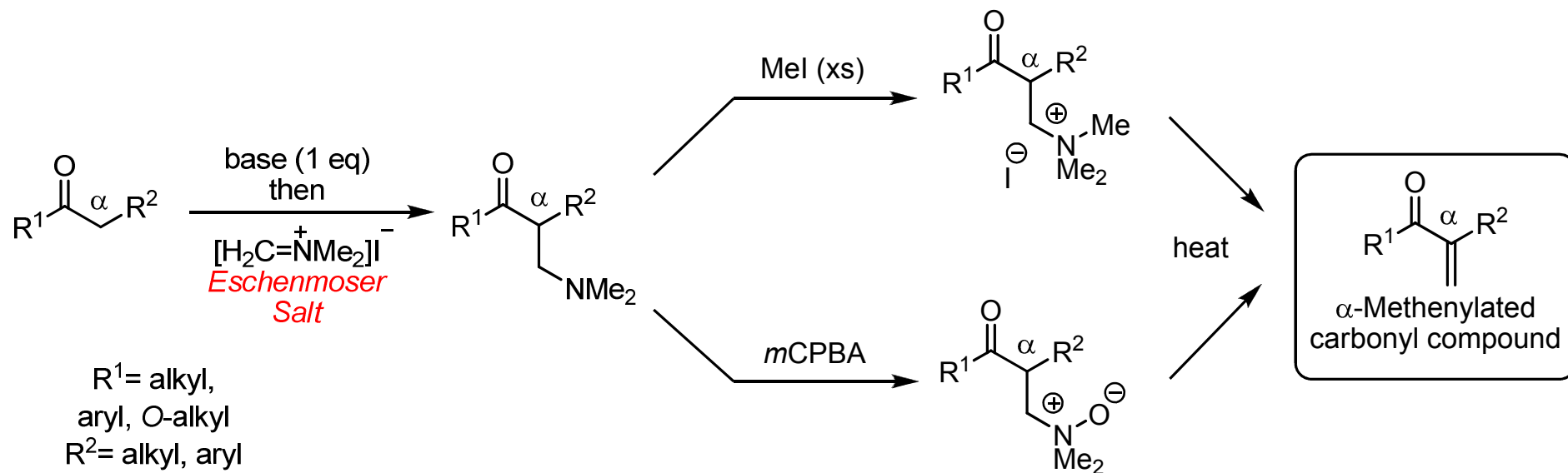
- Born in Switzerland on August 5, 1925.
- Ph.D. (1951) at the Swiss Federal Institute of Technology (ETH) with Prof. Leopold Ruzicka (Nobel Prize, 1939).
- Professor of Organic Chemistry at the ETH – 1960 to 1992.
- Professor Emeritus since 1992.
- Contributions to organic chemistry in its broadest aspects, from synthetic methodology to structure elucidation and synthesis of natural products to experiments on the chemical etiology of biomolecular structures.
- Eschenmoser fragmentation.
- Eschenmoser salt.
- Chemical synthesis of Vitamin B₁₂ (with Woodward) – *a 12 year long project*.
- Stereochemical interpretation of the biogenetic isoprene rule.
- The Davy Medal (Royal Society, London 1978), the Tetrahedron Prize for Creativity in Organic Chemistry (1981), the ACS Cope Award (1984), the Wolf Prize in Chemistry (1986) and Paul Karrer-Medal in Gold (2008).



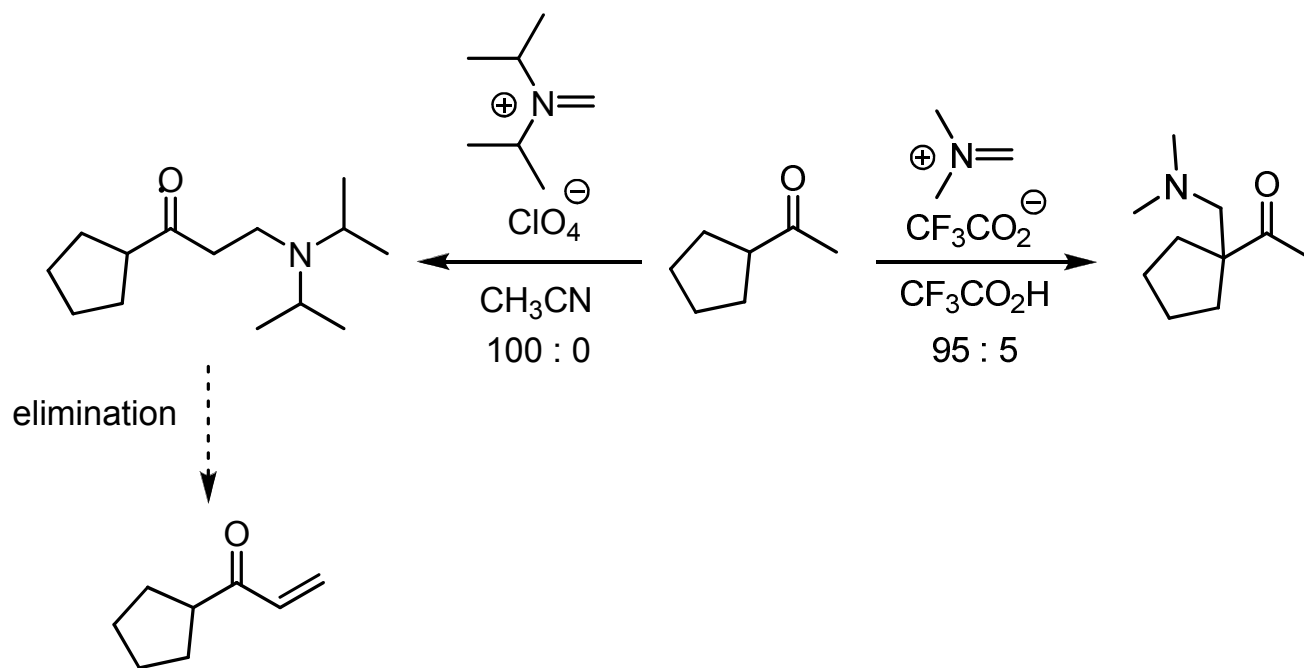
The Seminal Publication



The Eschenmoser Methenylation Reaction



Regioselective α -Methenylation of Unsymmetrical Ketones



Jasor, Y.; Luche, M. J.; Gaudry, M.; Marquet, A. *J. Chem. Soc., Chem. Commun.* **1974**, 253-254.

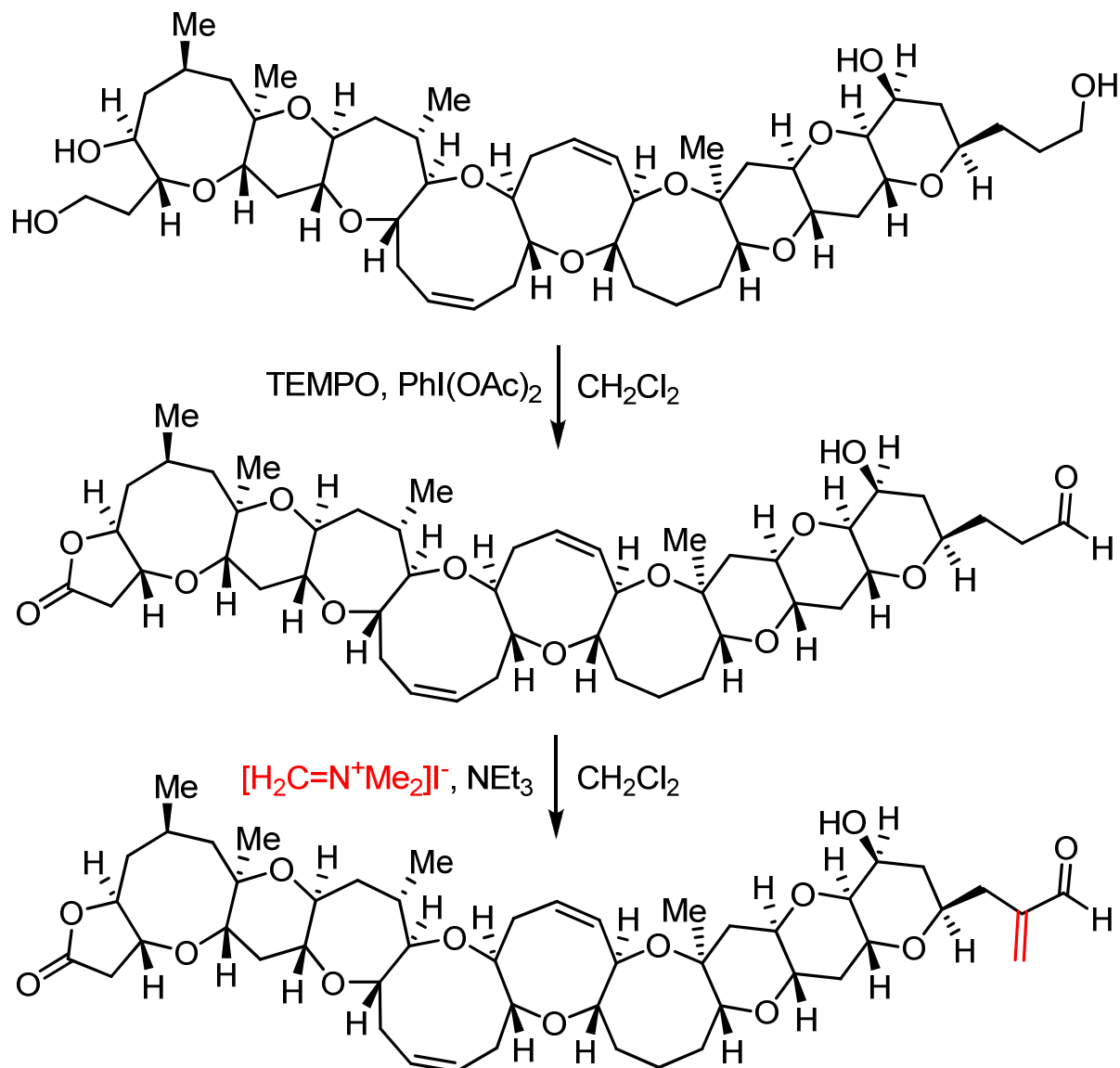
Jasor, Y.; Gaudry, M.; Luche, M. J.; Marquet, A. *Tetrahedron* **1977**, 33, 295-303.

Applications of Eschenmoser methenylation

24 papers (mostly total synthesis) in the last 5 years citing the seminal publication.

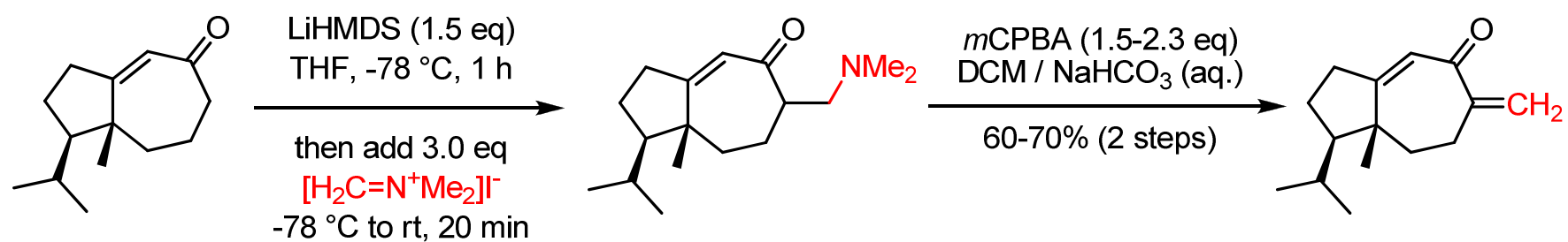
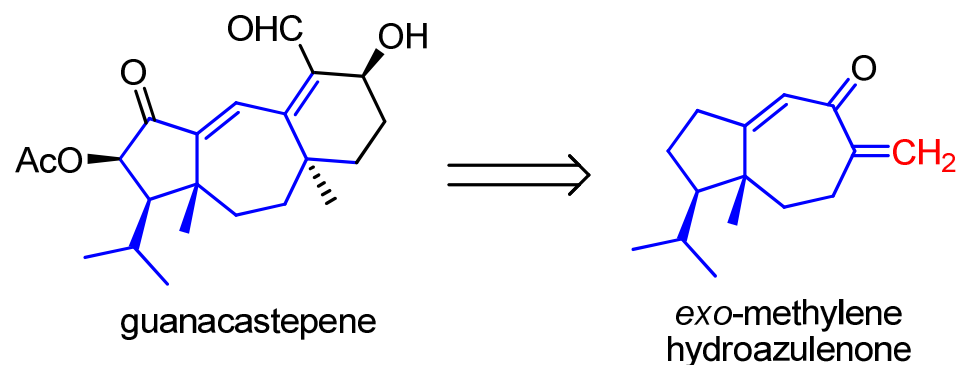
(Scifinder Scholar)

In the very end game of Brevetoxin A

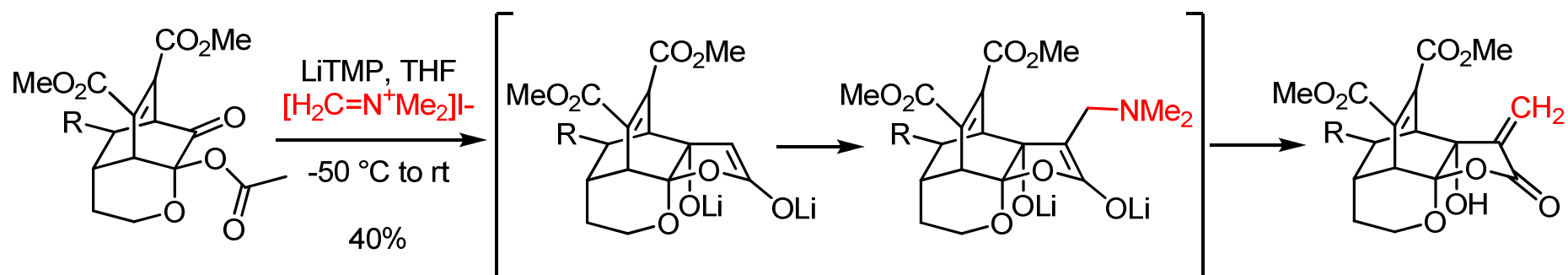
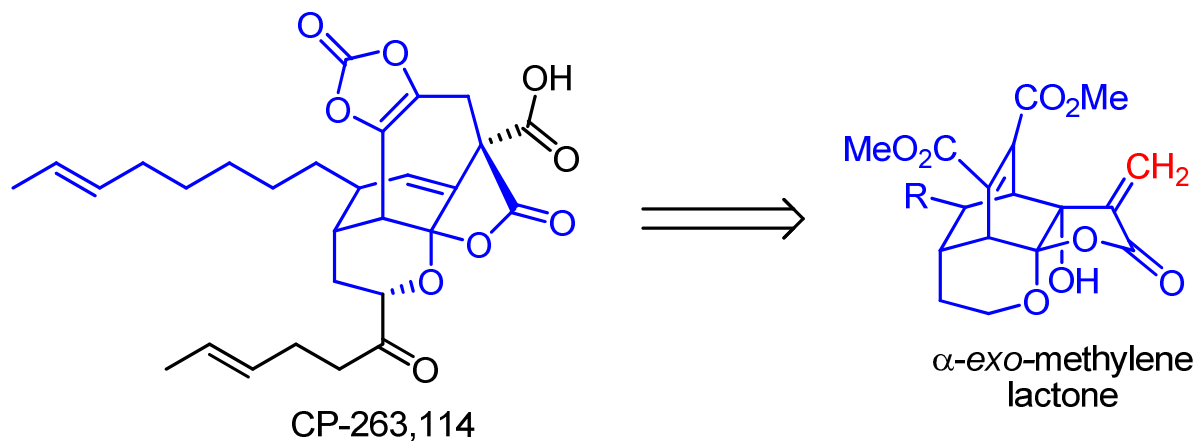


Brevetoxin A
48% over 2 steps

In the core structure of a Danishefsky



In a one-pot lactonization / methenylation



The End