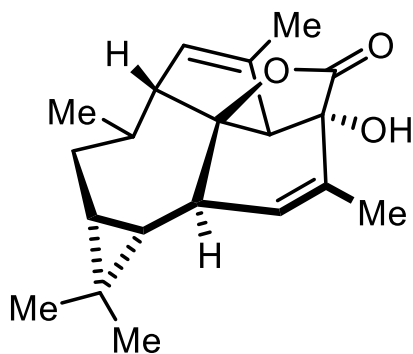


Enantioselective Total Synthesis of (+)-Euphorikanin A

Moritz J. Classen, Markus N. A. Böcker, Remo Roth, Willi M. Amberg, and Erick M. Carreira*

J. Am. Chem. Soc. **2021**, *143*, 8261–8265



Kuan Zhao 2021.07.08

Prof. Carreira



Prof. Dr. Erick M. Carreira

In 1984, University of Illinois at Urbana-Champaign, B.S.
Advisor: Scott E. Denmark;

In 1990, Harvard University, Ph.D.
Advisor: David A. Evans;

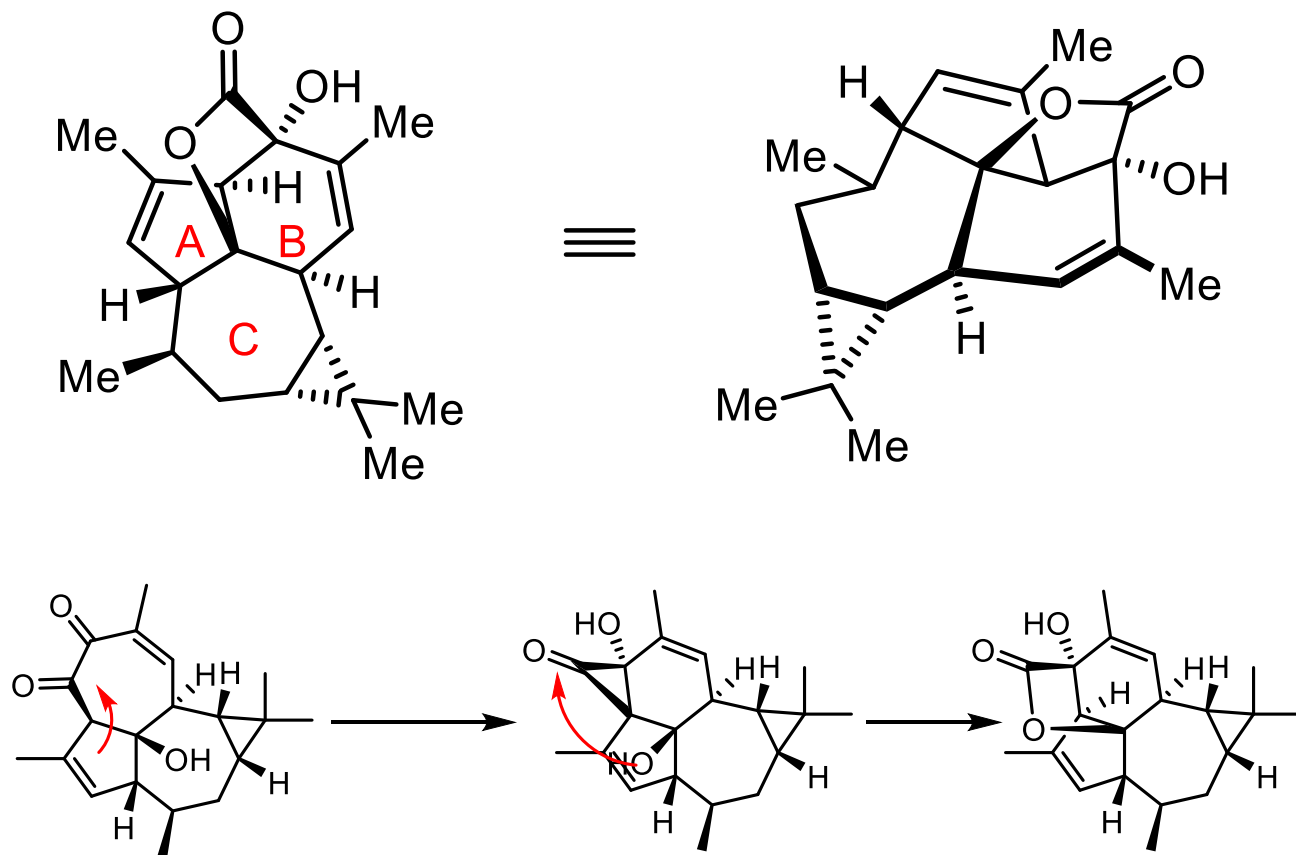
In 1992, California Institute of Technology, Postdoctoral,
Advisor: Peter Dervan;

In 1996, California Institute of Technology,
Assistant Professor

In 1997, California Institute of Technology,
Full Professor

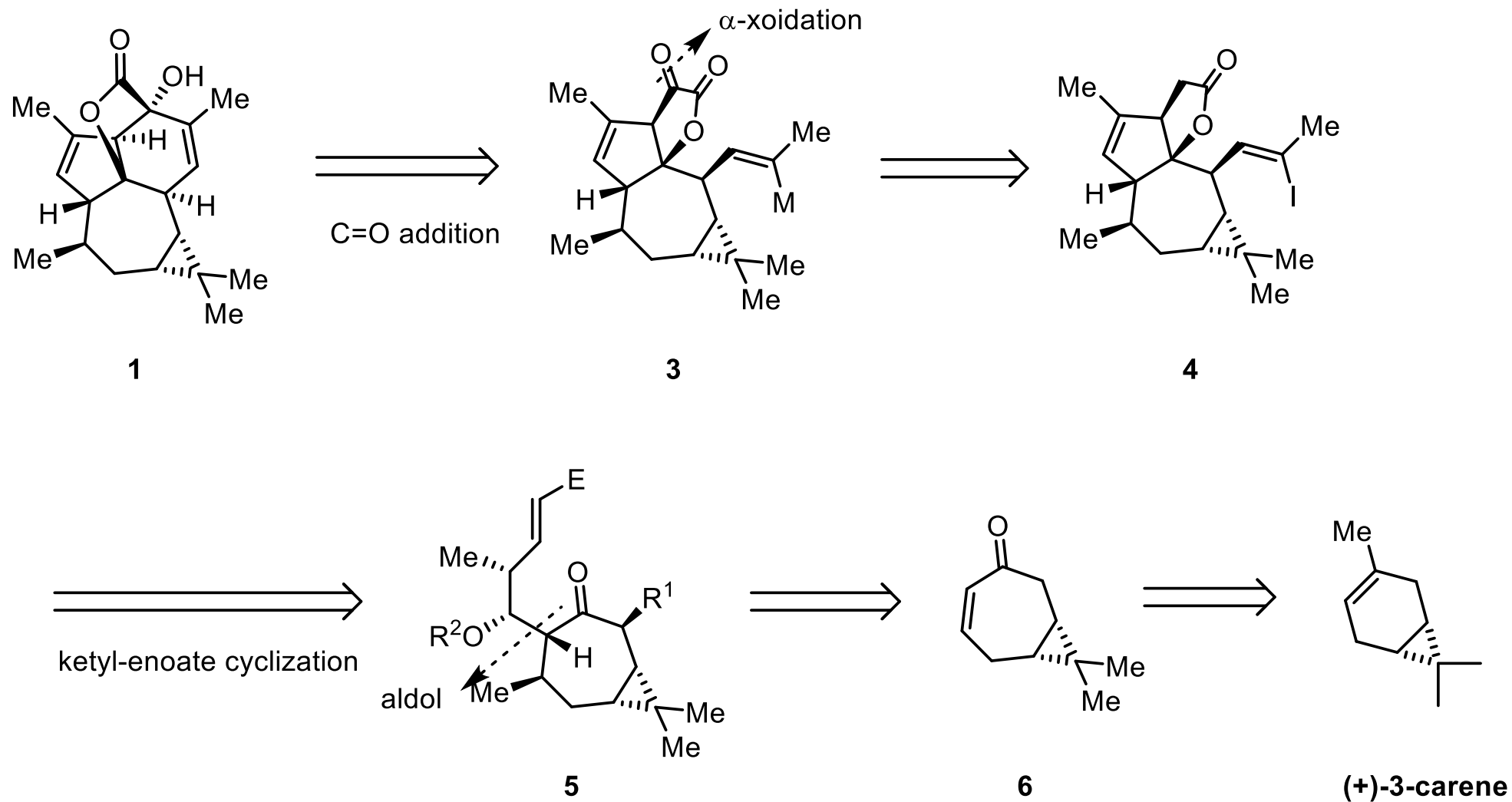
1998-now, Swiss Federal Institute of Technology Zurich,
Full Professor

Isolation

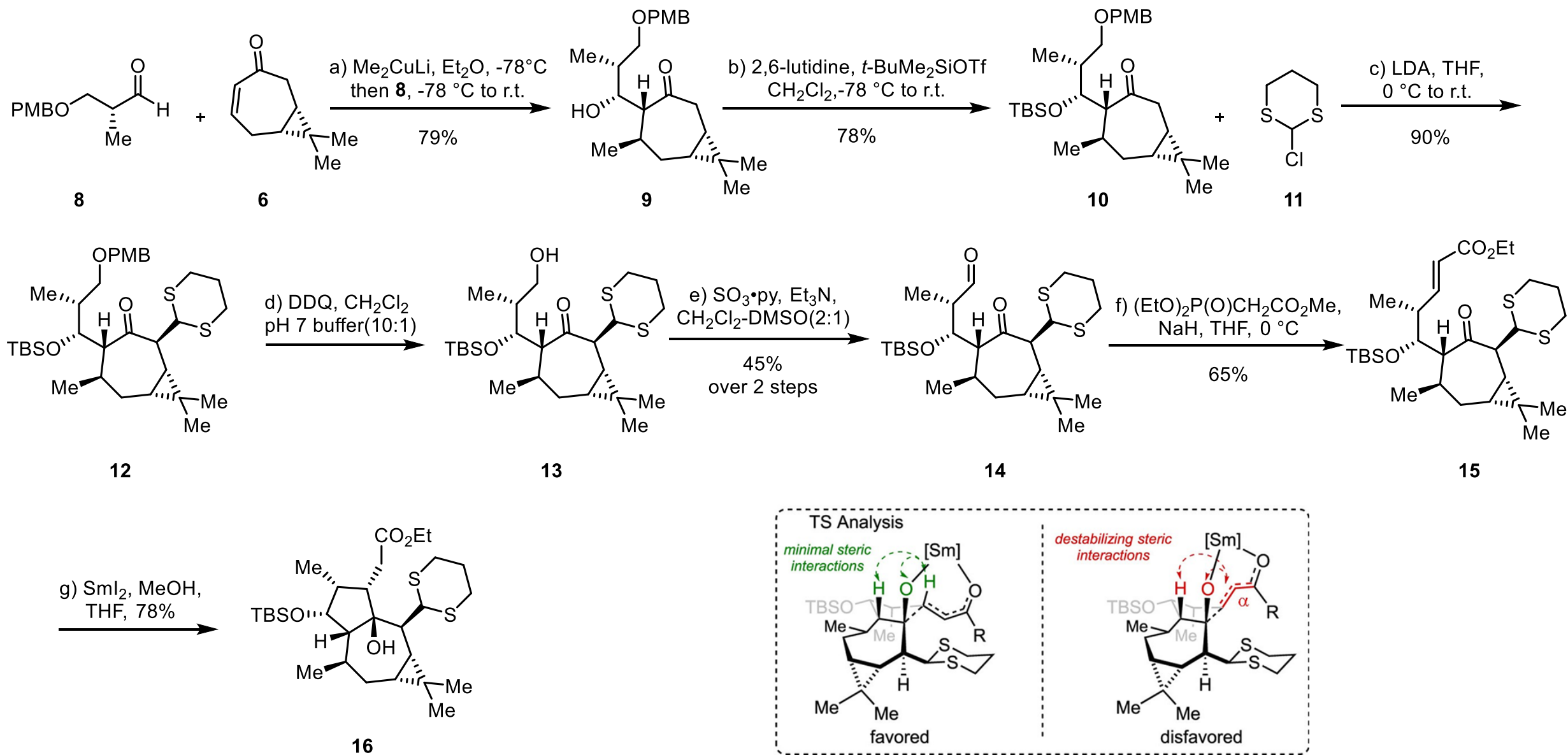


- 由张占欣团队于2016年从甘遂 (*Euphorbia kansui*) 的根部分离出来的一种新型二萜类化合物;
- 具有5/6/7/3-稠合的四环骨架并包含八个连续的立体中心;
- 具有桥环 [3.2.1]- γ -内酯;
- 对两种人类肿瘤细胞系 (NCI-446和 HeLa) 表现出细胞毒性;

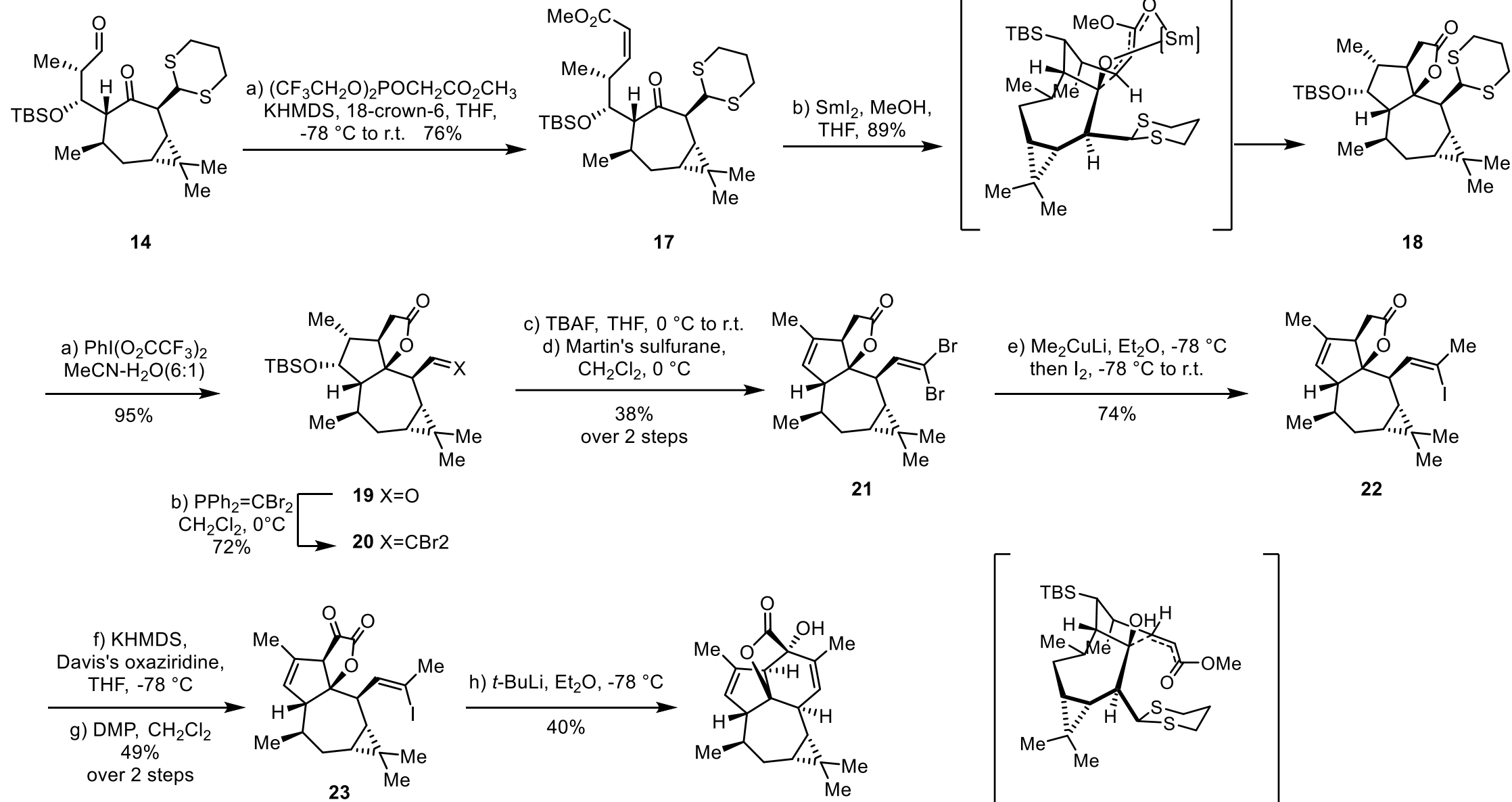
Retrosynthetic analysis



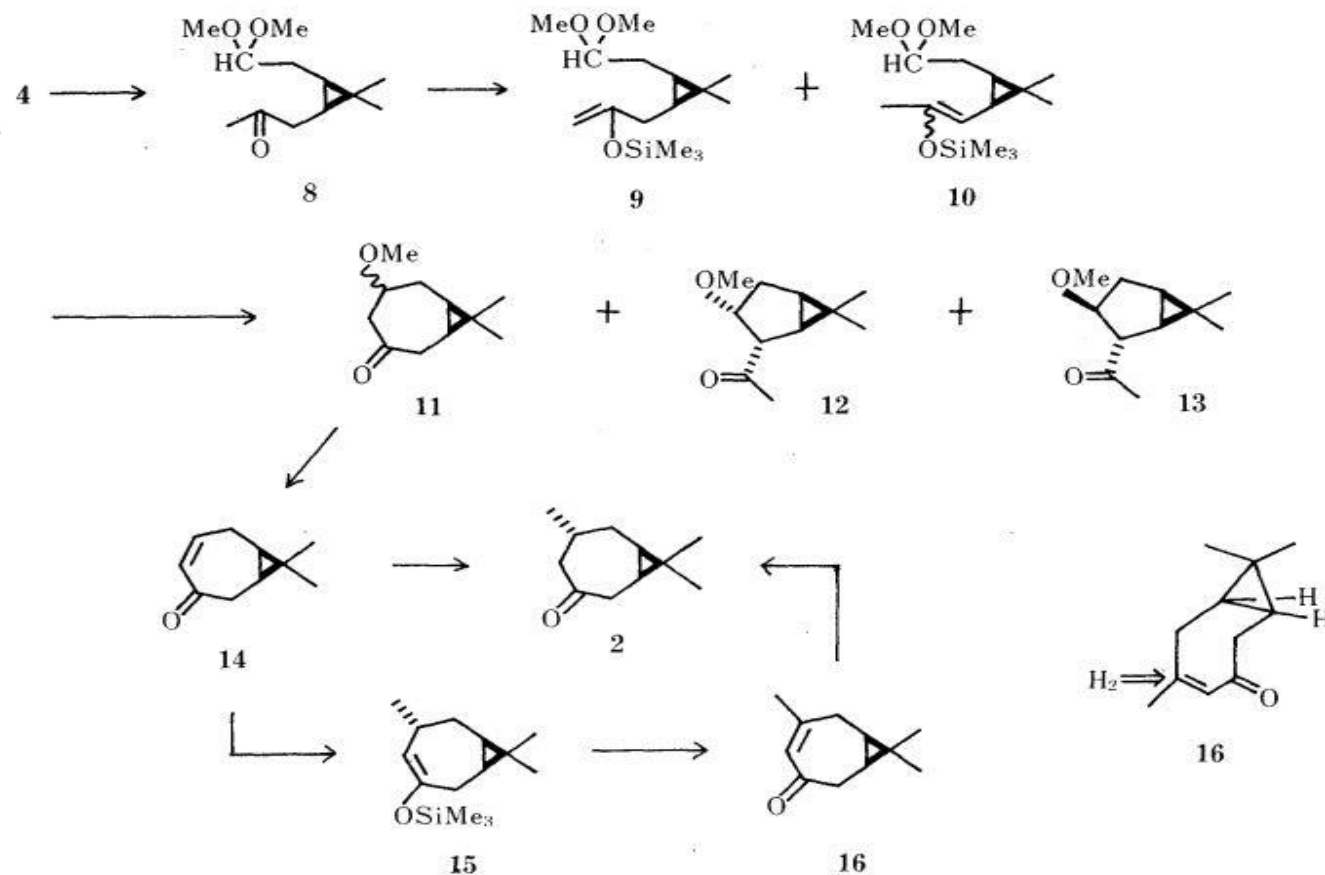
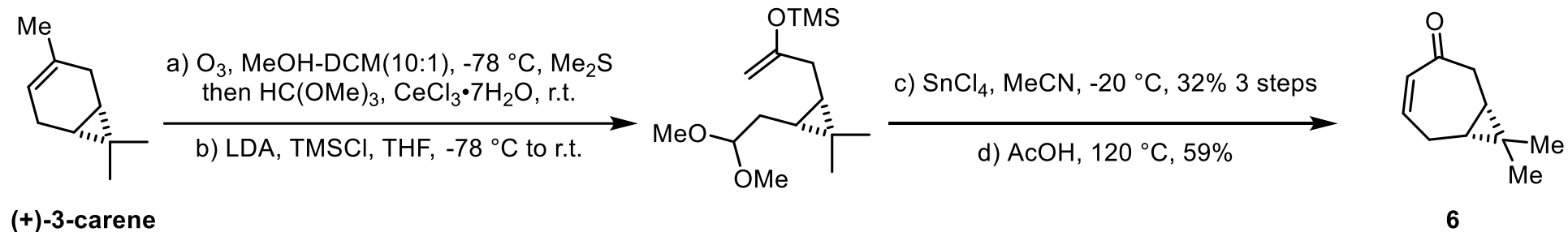
Synthetic route



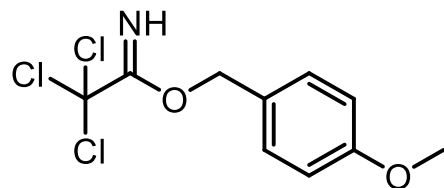
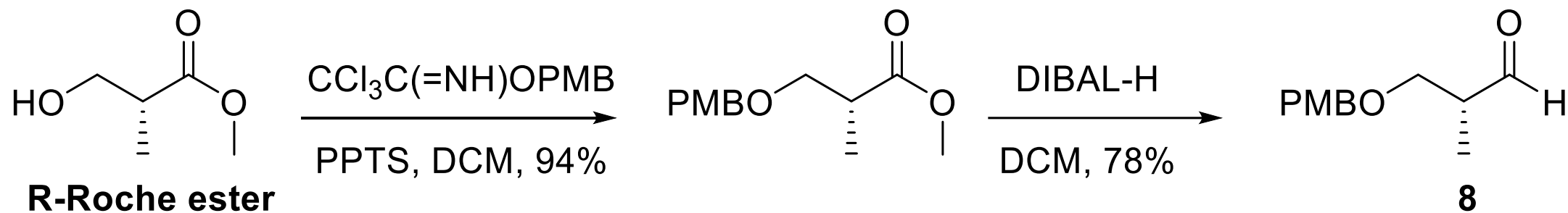
Synthetic route



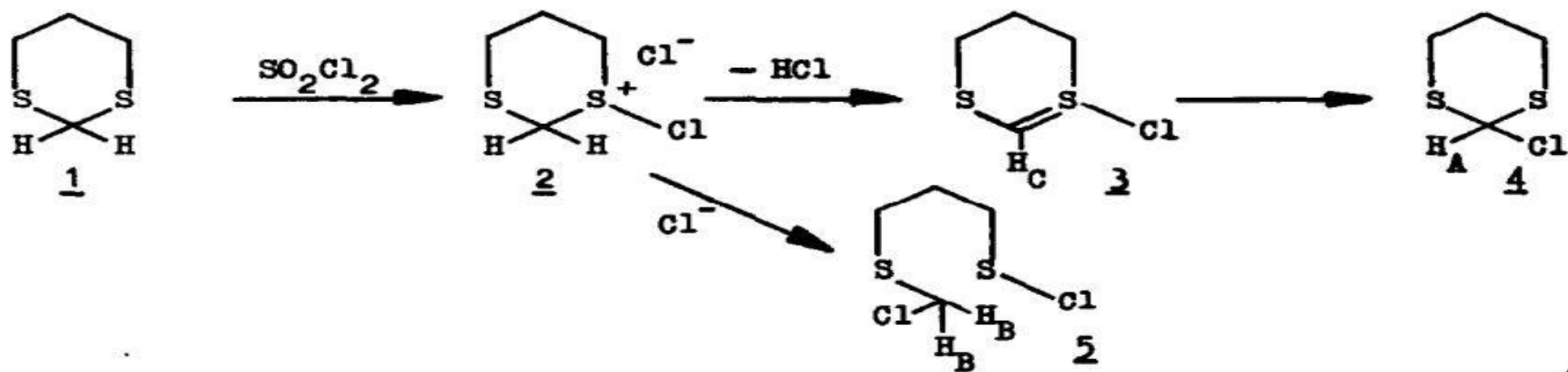
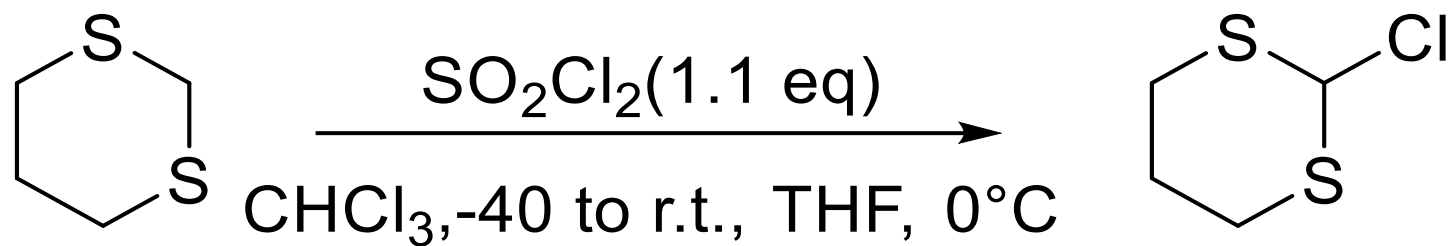
Synthesis of 6



Synthesis of 8



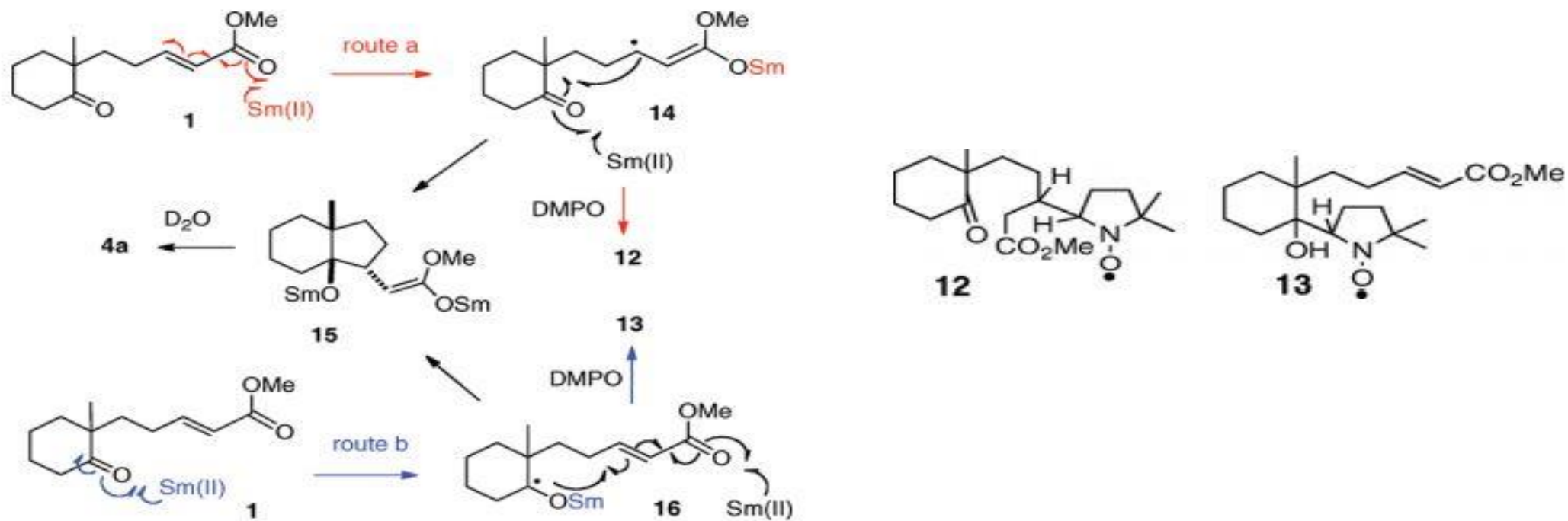
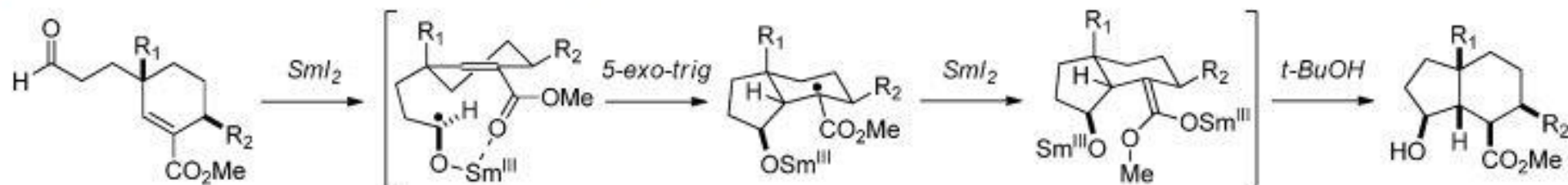
Synthesis of 11



Tetrahedron Lett. **1977**, 18, 885–888

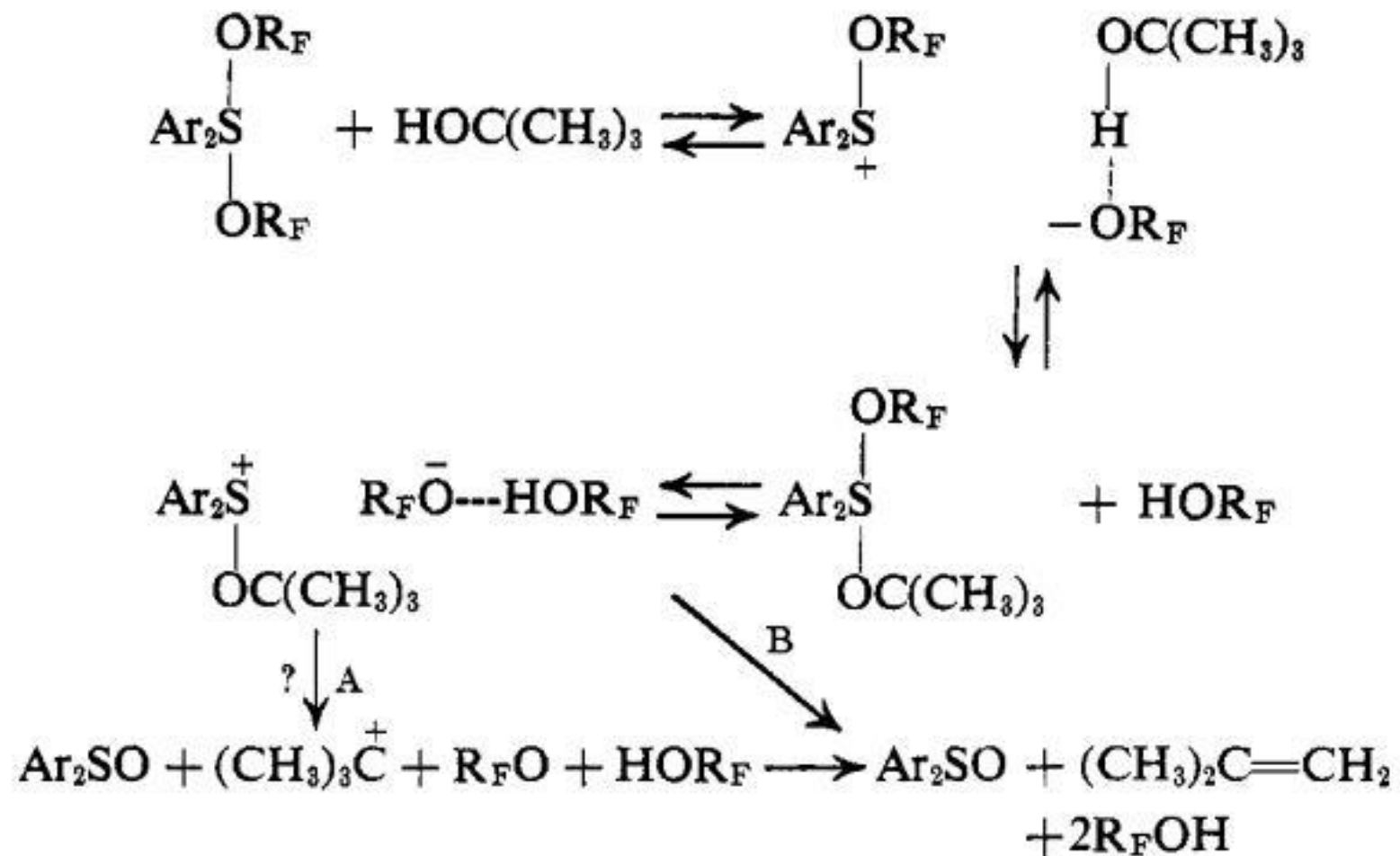
Radical cyclization

Proposed Mechanism for the 5-*exo*-Trig Cyclization by Procter



J. Org. Biomol. Chem. **2011**, 9, 2433
Org. Lett. **2011**, 13, 5720-5723

Martin's sulfurane

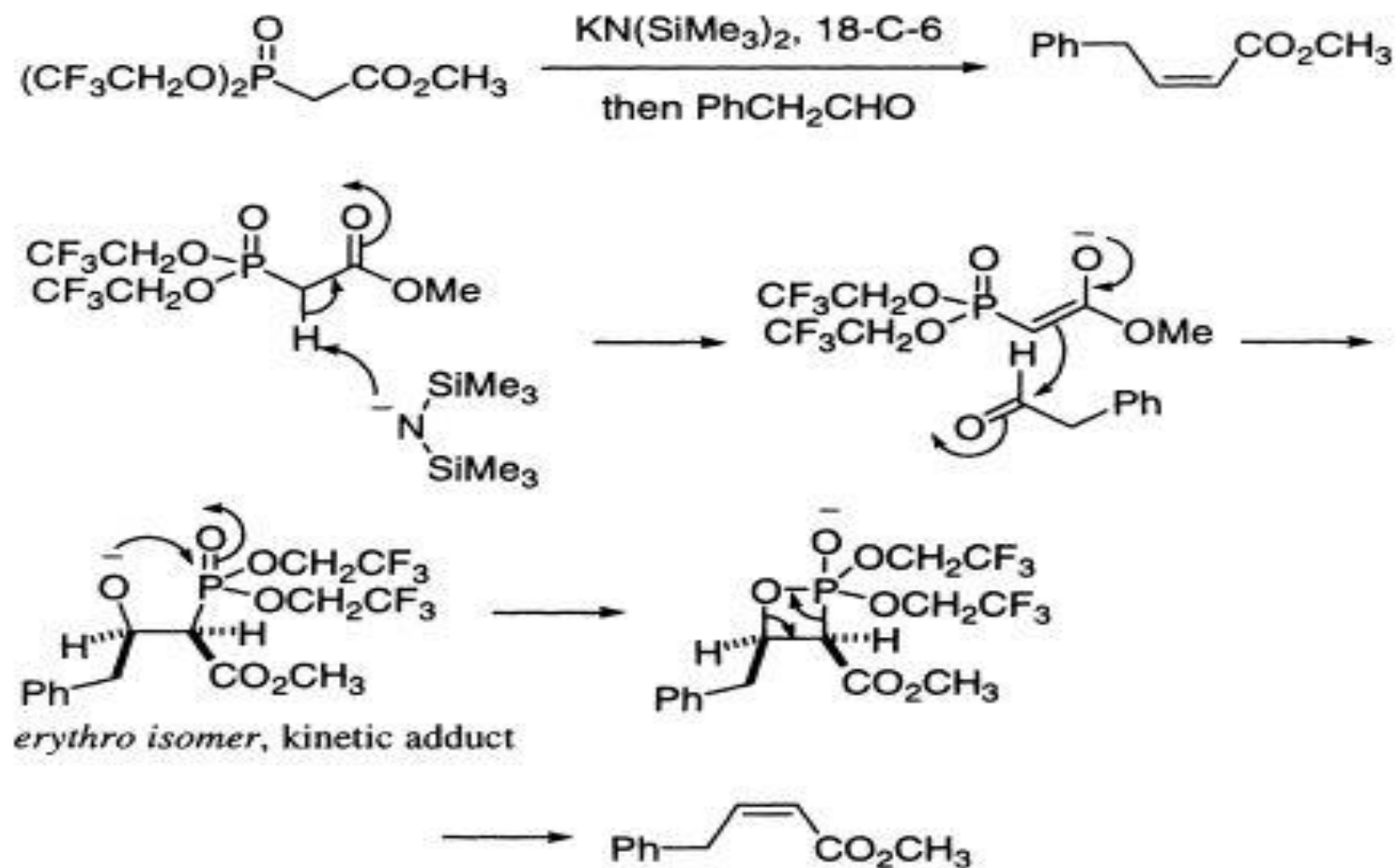


J. Am. Chem. Soc. **1973**, 95, 793-798

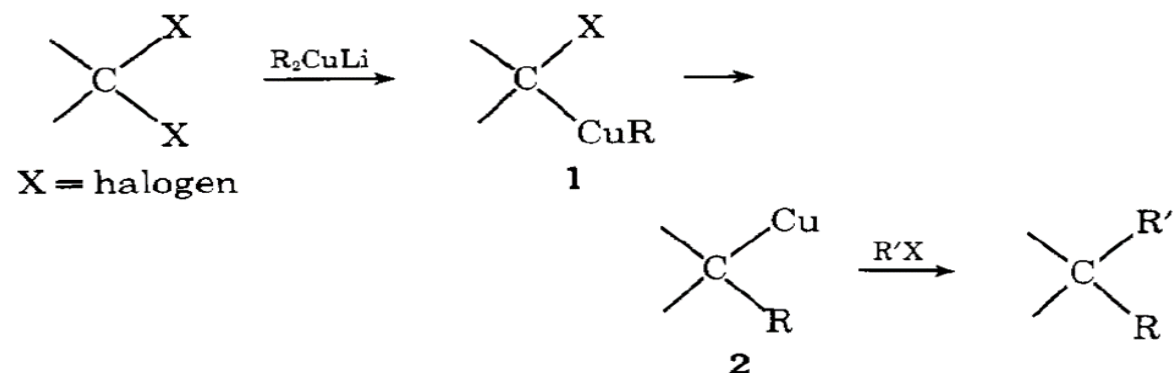
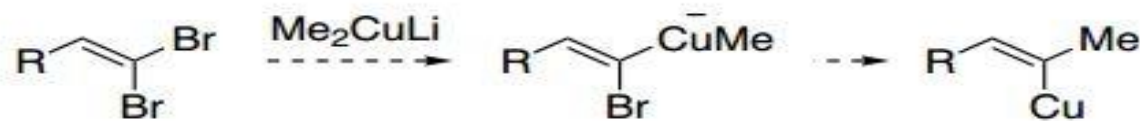
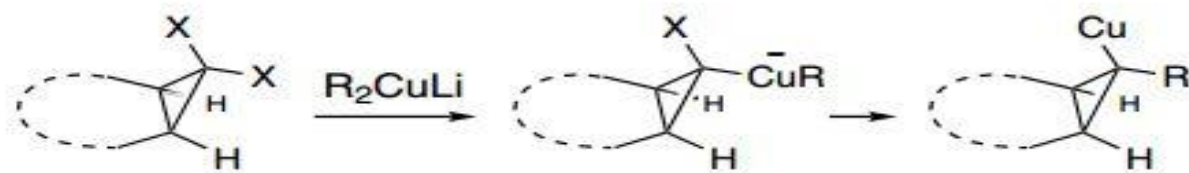
Still-gennari olefination

Still–Gennari phosphonate reaction

Horner–Emmons reaction using bis(trifluoroethyl)phosphonate to give Z-olefins.



21→22



Tetrahedron Lett. **2006**, 47, 861-864

J. Am. Chem. Soc. **1976**, 98, 2362-2364