5.37 Introduction to Organic Synthesis Laboratory

Spring 2009

Massachusetts Institute of Technology

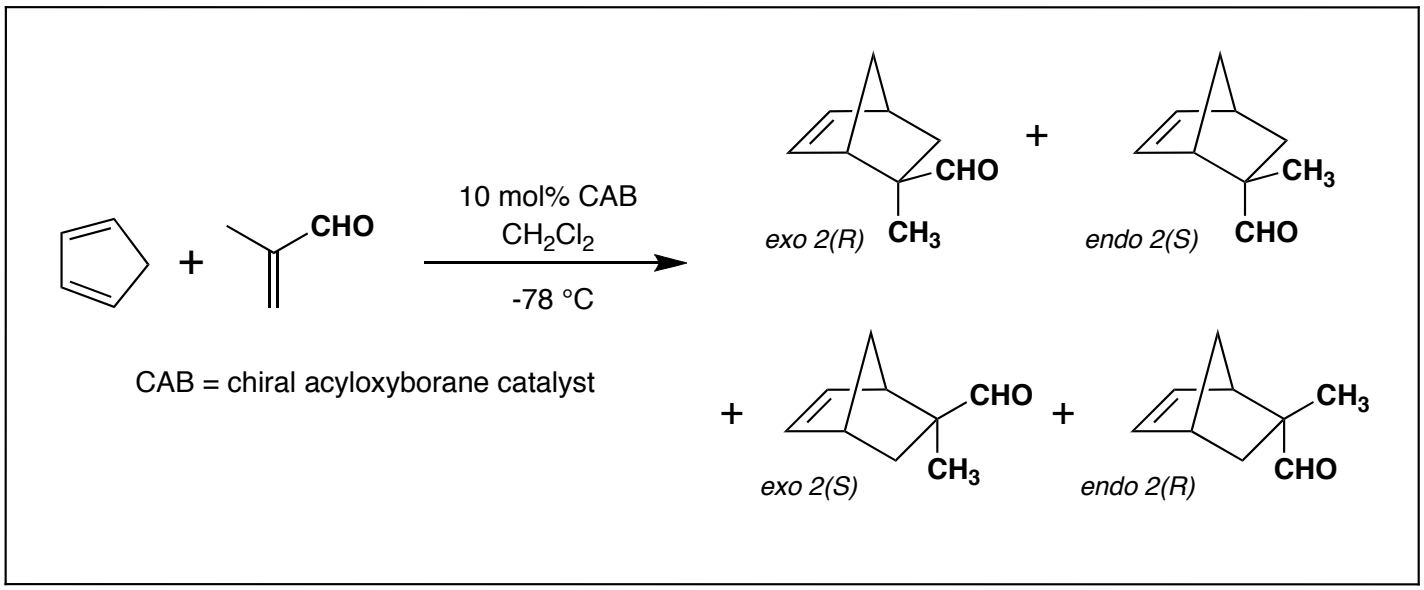
Organic Chemistry 5.37

May 12, 2008
Prof. Rick L. Danheiser

Lecture 5

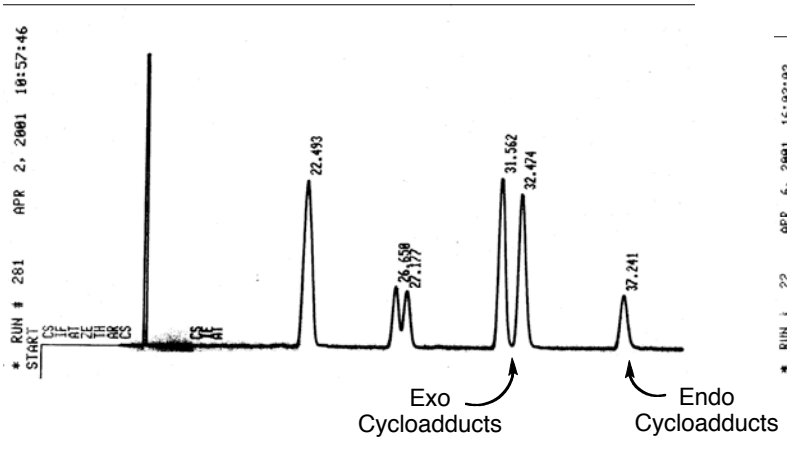
Introduction to Organic Synthesis

Part I. Stereochemical Analysis of the Diels-Alder Products

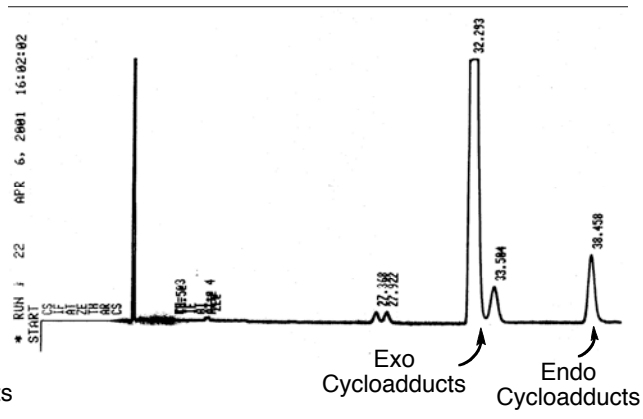


Chiral GC Analysis

*Cycloaddition in the **absence** of the Yamamoto CAB catalyst*



*Cycloaddition in the **presence** of the Yamamoto CAB catalyst*

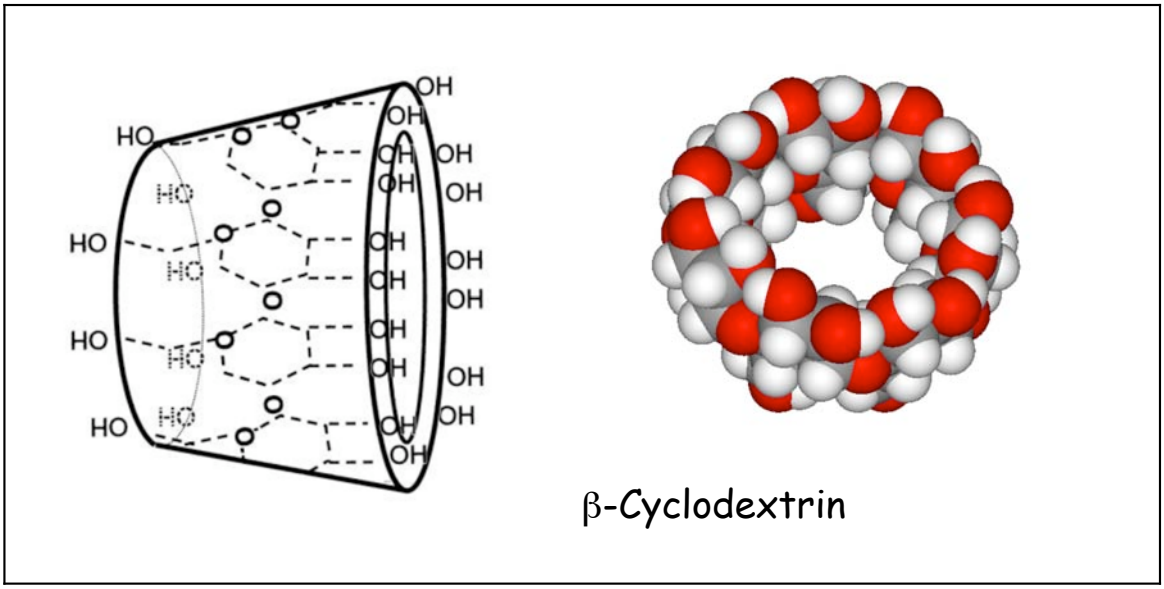


References on Gas-Liquid Chromatography (previously assigned)

(1) Chapter 16 ("Gas-Liquid Chromatography") in *Techniques in Organic Chemistry*, Second Edition, J. R. Mohrig, C. N. Hammond, and P. F. Schatz, W. H. Freeman, New York, 2006.

(2) "Evaluation of ee by Chiral GC and By ^{1}H NMR with the Chiral Shift Reagent $Eu(hfc)_3$" by Mircea Gheorghiu.

Chiral GC Analysis



In Module 7 we will use a Supelco β-DEX 225 column with a stationary phase formed from heptakis(2,3-di-O-acetyl-6-O-tert-butyldimethylsilyl)-β-cyclodextrin embedded in siloxane matrix SPB-20 poly(20% diphenyl / 80% dimethylsiloxane (30 m x 0.25 mm ID, 0.25 μm film)