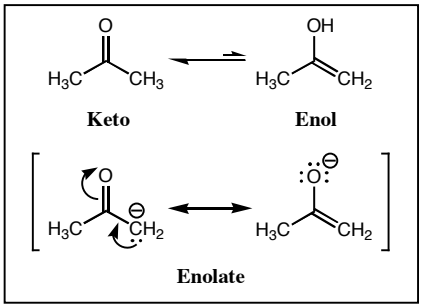
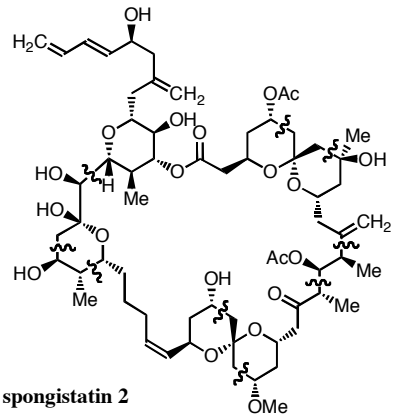
Unit VII. Enols and Enolates





spongistatin 2

Suggesting reading : 22.1-22.3, 22.5-22.8, 23.1-23.11, 23.13, 23.14

Suggested problems: 22.21, 22.22, 22.24-22.30, 22.32-22.35, 22.38, 22.44, 22.48, 22.49, 23.27-23.30, 23.33-23.39, 23.42-23.44, 23.47, 23.48, 23.52-60

Unit VII. Enols and Enolates

A. Background
   1. Carbonyl Group
   2. Tautomerization

B. α-Substitution Reactions
   1. α-Halogenation of Ketones
      a. Base-promoted
         1. Multiple halogenation
         2. Haloform reaction
      b. Acid-catalyzed
   2. α-Alkylation
      a. LDA
      b. Malonate esters
         1. Acetic acid derivatives
         2. Acetoacetic acid esters

C. Condensation Reactions

- Aldol Condensation
  a. Acid-catalyzed
  b. Base-catalyzed
  c. Mixed Aldol
  d. Useful Aldols
     1. One reactant with no α-H
     2. Self-condensation
     3. Intramolecular Aldol
     4. Pre-form enolate with LDA
  2. Claisen Condensation
     a. General
        1. Mechanism
        2. Thermodynamics
     b. Dieckmann Condensation
     c. Crossed Claisen
     d. Useful Claisens
        1. One reactant with no α-H
        2. Use ester and ketone
     e. Summary
  3. Michael Reaction
     a. General
        1. Mechanism
        2. Thermodynamics
     b. Examples
  4. Robinson Annulation

D. Biosynthesis
   1. Alternariol
   2. Acetyl Co-A