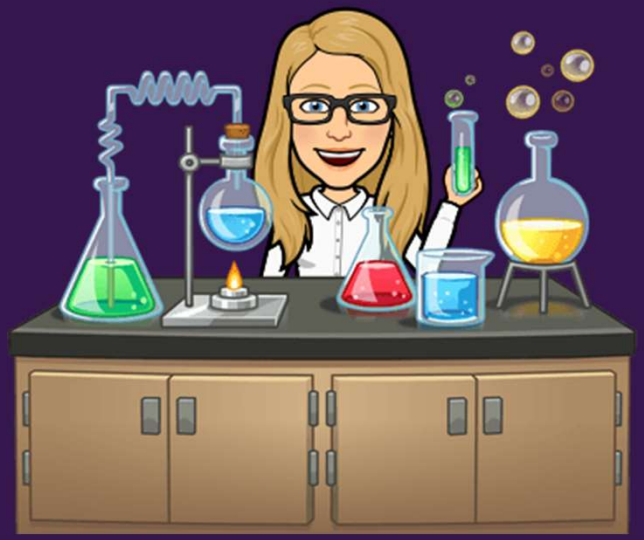
For voting, go to: https://pollev.com/lauriestarke263
or text LAURIESTARKE263 to 37607 to join poll



Dr. Laurie S. Starkey

Cal Poly Pomona

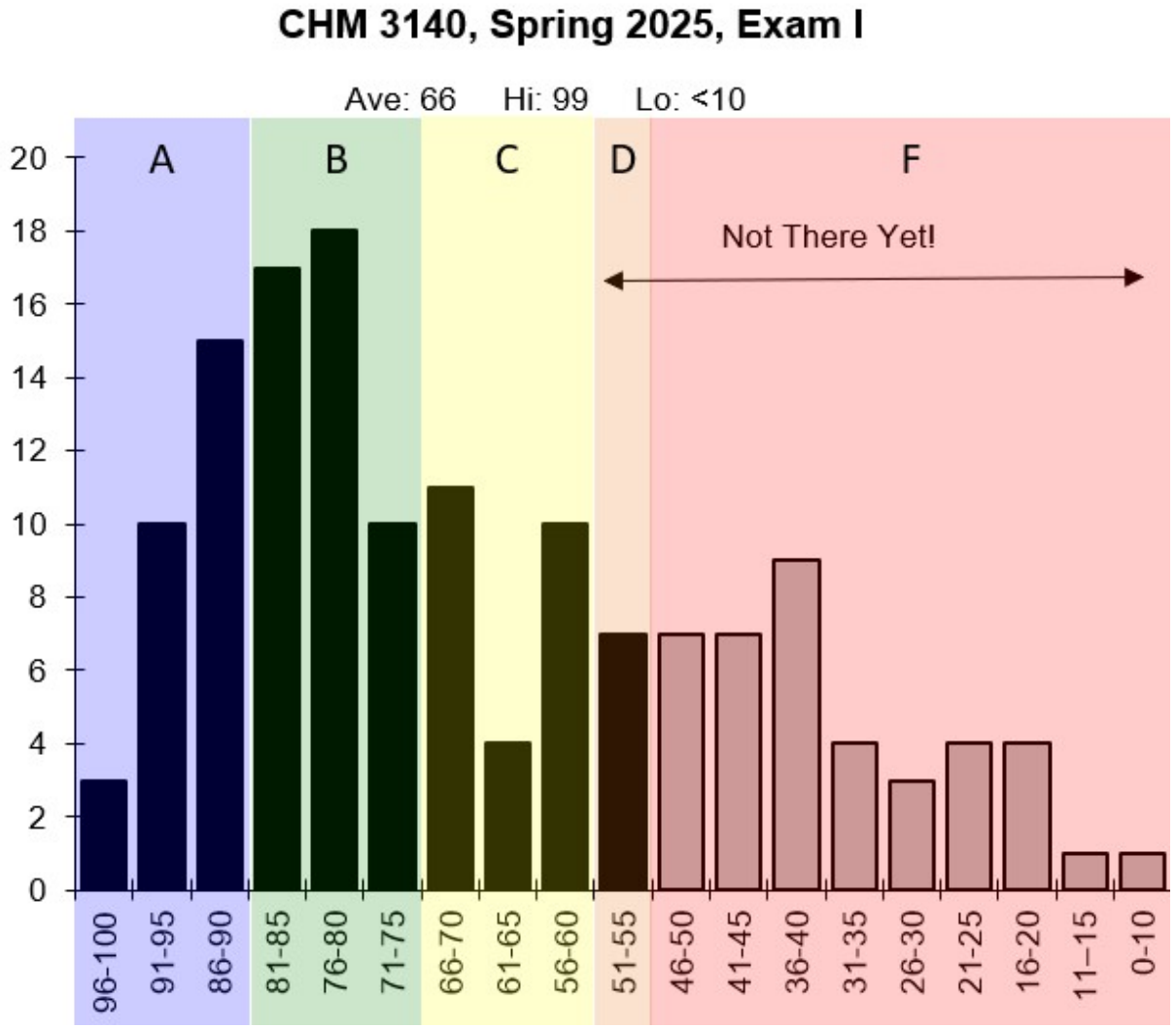
CHM 3140 Organic Chemistry I Announcements 2/20/25

Exam I Results

A/B/C… ranges are to give you a rough idea of projected CHM 3140 grade **based only on this exam + full homework credit.**

Note: lowest midterm score will be dropped!

You cannot expect to pass CHM 3140 without an exam average above 50%



Exam Wrapper Survey & Exam Corrections (4 pts each)

due Thurs. 3/6

CHM 3140 Exam Wrapper - Post-Test Survey Name:_____

Metacognition By taking a step back and thinking about the way you learn, you can improve your learning! The following survey will guide you through an exercise in self-reflection, with the goal of improving your performance on the next exam. You will earn 4 points credit if you complete this survey, and 4 points for corrections (*include written reflection, if score <50). It analyzes the following three areas

1. How did you prepare for this exam?
2. What kinds of mistakes did you make?
3. How will you prepare differently next time?

** If exam score is below 50, you must submit a written reflection with your exam corrections (what will you do differently for the rest of the semester?)*

What was your score* on the exam? ☐

What was your grade in CHM 1220? ☐ Are you repeating CHM 3140? Y / N

1. Leading up to the exam, approximately how many hours per week outside of class (on average) did you spend studying Organic Chemistry? ☐

2. Given the number of textbook problems in each chapter (#), about how many did you work on?

Ch. 1 (# problems) **(Lewis, hybridization, bp)**		**Ch. 2** (# problems) **(Resonance)**		**Ch. 3** (# problems) **(Acid/Base)**	
10 SkillBuilders (**34**)		10 SkillBuilders (**33**)		11 SkillBuilders (**33**)	
End-of-Chapter (EOC) (**47**)		EOC (**51**)		EOC (**40**)	

Advice for "How to Earn an A (or B…)"

1. **Attend Lecture -** Come to class, take g
   questions, try problems presented in
2. **Read the Book -** As soon as possible a
   closely look through any examples tha
   problems you will encounter on exam
   compare two compounds (e.g., Highe
   mechanism, explain something (e.g., r
3. **Work on In-Chapter Problems** - After
   examples (sometimes there are also S
   learned skills to the problem(s) in tha
   problem down onto the page and *wri*
   is the only way to practice and *provid*
   book and/or lecture notes for help as
   Manual (or at the back of the book), a
   a. If your answer was perfect, th
      a break before moving on to t
   b. If you made mistakes, do you
      problem. If there are no mor
      answer perfect, *without referring to your notes or the book*.
   c. If you don't understand the Solutions Manual answer, or you don't even know how to get started on the problem, then go back to your class lecture notes. Read through your notes and try to work on the example(s) we did in class (i.e., copy it down on a blank page and attempt the problem on your own). Next, re-read or skim through the textbook again and work on the

Strategies for Earning an A (or B…) in Organic Chemistry
Dr. Laurie Starkey, Cal Poly Pomona

"Miriam, a freshman calculus student at Louisiana State University (LSU), made 37.5% on her first exam but 83% and 93% on the next two exams. Robert, a first-year general chemistry student at LSU, made 42% on his first exam and followed that up with three 100%s in a row. Matt, a first-year general chemistry student at the University of Utah, scored 65% and 55% on his first two exams and 95% on his third exam. I could go on. I could tell you scores of stories like this from the last 15 years of my teaching career. Something happened to all of the students between their last failing grade and their first good grade. They learned something new. **No Miracles, Just Strategies**" Saundra McGuire, author of *Teach Students How to Learn*

And one more story to share: Laurie, a first-year graduate student at UCLA, scored 12% on her first Organic Synthesis midterm…but then she succeeded in the course, earned her Ph.D. in Organic Chemistry, developed a rewarding teaching career, and even wrote a textbook on Organic Synthesis! So if you are not yet having success in Organic Chemistry, the good news – the GREAT news – is that you can still improve by learning how to learn. Let's explore various strategies that can help you learn Organic Chemistry and reach your desired goal. **Formative Assessment** is the feedback you get while learning and studying. It comes from *writing down* an answer and checking to see if it is right. **Summative Assessment** is what you do at the end of a unit – taking a quiz or exam for a grade. Formative assessment provides *evidence of your learning*…it helps you steer in the right direction and positions you to do well on summative assessments.

Making progress, CHM 3140

CHM 3140 Organic Chemistry I, Dr. Laurie S. Starkey, Spring 2025

Tentative Schedule (Chapter and *Worksheet/Step #* given for each day)

Week	Mon	Tues	Wed	Thurs	Fri
1	1/20	1/21 Ch. 1 #1	1/22	1/23 Ch. 1 #2	1/24
2	1/27	1/28 Ch.1 #3 Ch.2 #1		1/30 Ch. 2 #2	1/31
3	2/3	2/4 Ch. 3 #1		2/6 Ch. 3 #2	2/7
4	2/10	2/11 Exam Review	2/12	2/13 **Exam I**	2/14
5	2/17	2/18 Ch. 4 #1	2/19	2/20 Ch. 4 #2	2/21
6	2/24	2/25 Ch. 5 #1	2/26	2/27 Ch. 5 #2	2/28
7	3/3	3/4 Ch. 5 #3	3/5	3/6 Ch.15 #1	3/7
8	3/10	3/11 Exam Review	3/12	3/13 **Exam II**	3/14

You are here

Today's Topic: Alkanes (Chapter 4, Step 2)

Chapter 4

- ✓ Watch
- ✓ Read
- ✓ Practice

Daily To-Do	Flipped Lectures
Step 2	
• Read Klein Chapter 4, sections 9-15 (Cycloalkanes & Cyclohexane Conformations)	Part 2 - cycloalkanes, conformations of cyclohexanes and chair flips
• **Watch** Cyclohexane Tutorial YouTube videos (this playlist contains three videos: introduction, drawing cyclohexane, doing ring "flips")	**22 minutes**, *skeleton notes pages 4-6 to 4-8*
• Watch flipped lecture	
• Work through **SkillBuilders 4.9 - 4.13**	
• Work on Free Red Ink Conformer Homework	
• Work on **Chapter 4 EOC problems** on WileyPLUS (auto-graded) or on paper (self grade, using Solutions Manual).	

How to Draw Cyclohexane Chair Conformation - Part 1 (3D structure)

ChemistryConnected

How to Draw Cyclohexane Chair Conformation - Part 2 (Drawing a chair)

ChemistryConnected

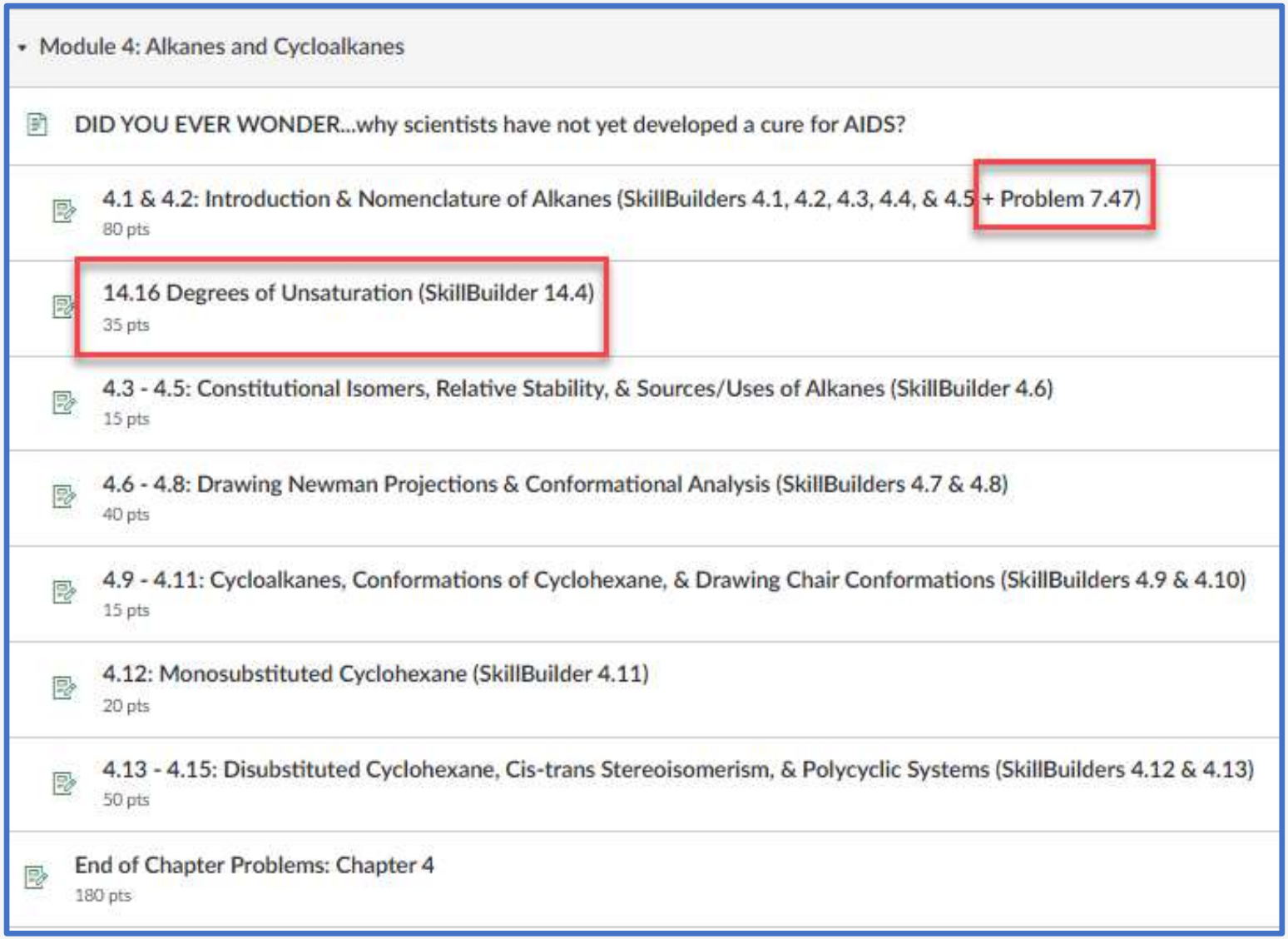
How to Draw Cyclohexane Chair Conformations - Part 3 (Chair flips)

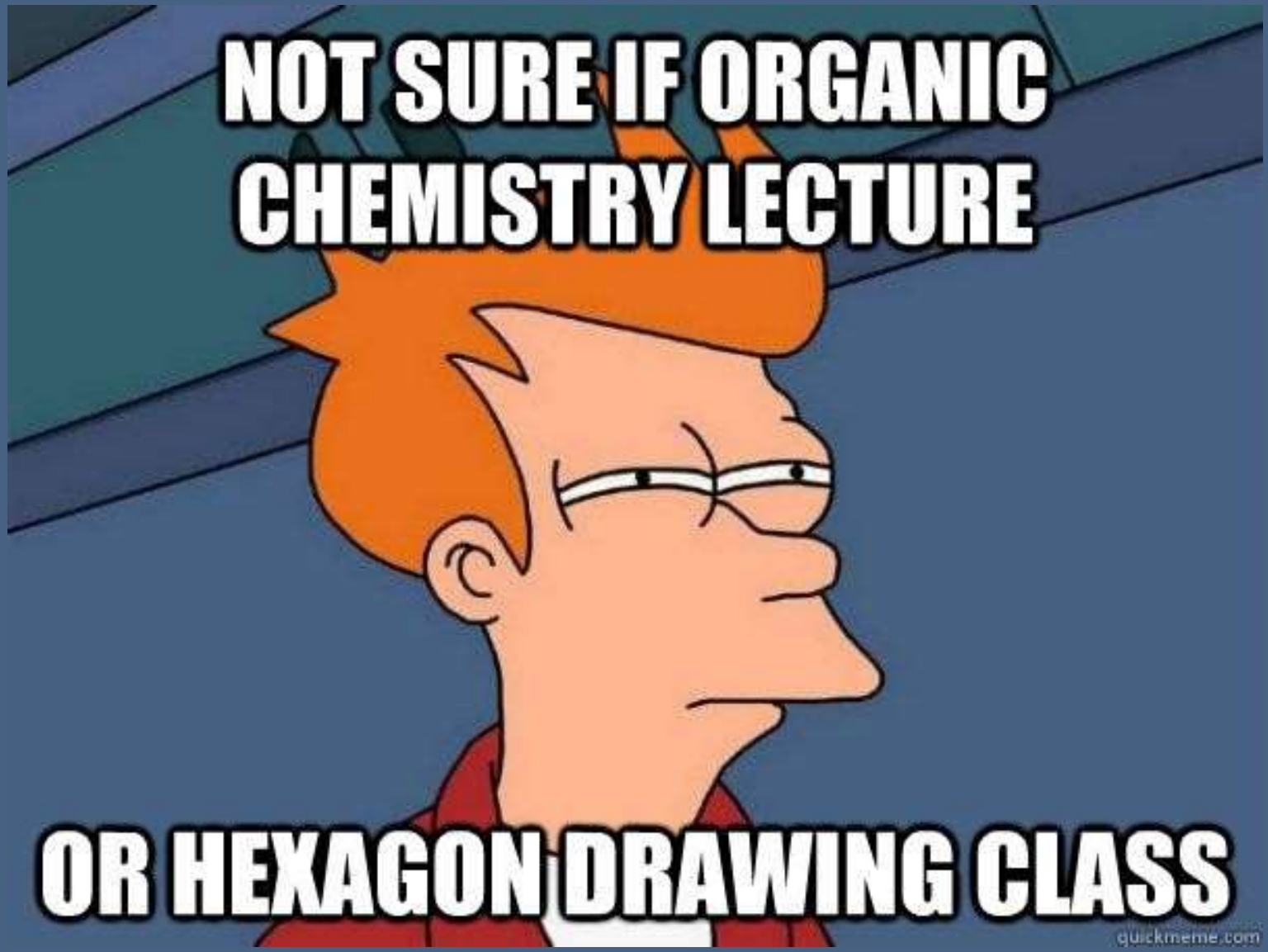
ChemistryConnected

Flipped Lecture & YouTube Videos

Cycloalkanes		54:56
Cyclohexane: Chair, Boat, and Twist Boat Conformations		54:57
Drawing a Cyclohexane Chair		57:58
Drawing a Cyclohexane Chair	**Drawing Cyclohexane, Chair Flips & Stabilities of Substituted Cyclohexanes**	57:59
Newman Projection of Cyclohexane		62:14
Cyclohexane Chair Flips		64:06
Axial and Equatorial Groups		64:10
Example: Chair Flip on Methylcyclohexane		66:44
Cyclohexane Conformations Example		69:01
Chair Conformations of cis-1-t-butyl-4-methylcyclohexane		69:02

WileyPLUS includes all recommended textbook problems




NOT SURE IF ORGANIC CHEMISTRY LECTURE
OR HEXAGON DRAWING CLASS
quickmeme.com

Model Kits Recommended for Chapter 5!

Stereochemistry

$20 through CPP SMACS

(pick up in class or at Dr. Starkey's TuTh office hours)

Synthetic Chemist Percy Julian (1899-1975)

Developed large-scale syntheses of steroids from plant-derived starting materials, making them cost-effective and widely available for medicinal use

Soybeans → Testosterone and progesterone

Master's Degree – Harvard
PhD – Univ. Vienna, Austria

He was also among the chemists who synthesized cortisone and hydrocortisone

https://www.sciencehistory.org/historical-profile/percy-lavon-julian

The Birth Control Pill: Chemistry makes History!

- Access to contraception impacts women's education, careers, earnings
- **1951** Carl Djerassi invented ***norethisterone*** (a pill taken orally!)
- **1960**: available to married women
- **~1970** available to most single women (medical & law degrees >90% male)
- **2024** OTC birth control pill available!

The tiny pill which gave birth to an economic revolution

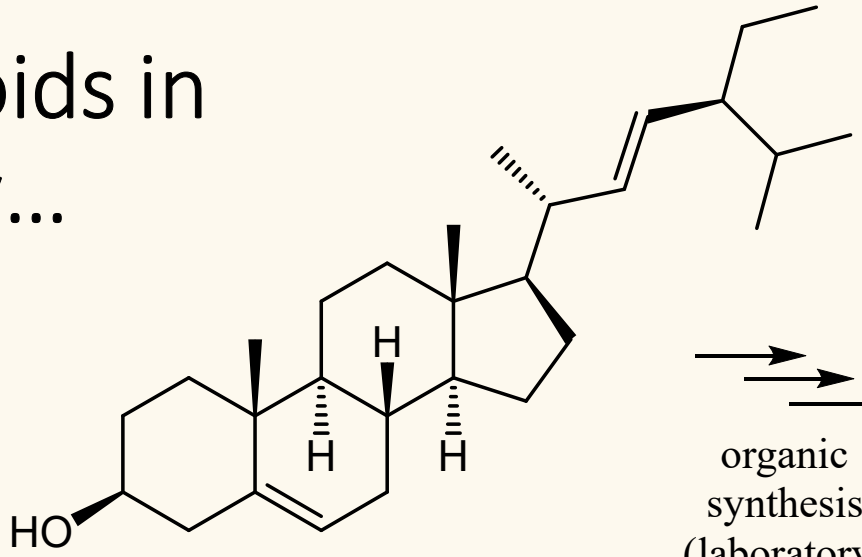
The Economic Effects of Contraceptive Access

https://www.sciencehistory.org/historical-profile/carl-djerassi

Carl Djerassi (1923-2015)
Father of "The Pill"

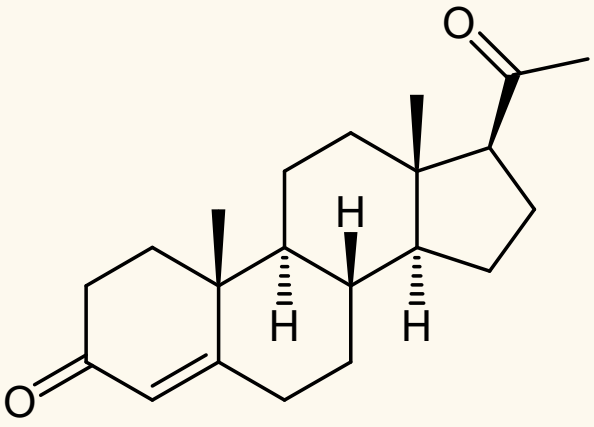
PhD – Univ. Wisconsin, Madison
Stanford Professor, Entrepreneur
Pictured with L. Starkey, 1998

The Steroids in this Story…



stigmasterol
a naturally occuring steroid
produced by soybeans

organic
synthesis
(laboratory)



progesterone
naturally occuring hormone that serves
as a contraceptive during pregnancy
(not effective if taken orally)

norethisterone
synthetic hormone that survives
digestive processes, so it can be
taken as a contraceptive pill