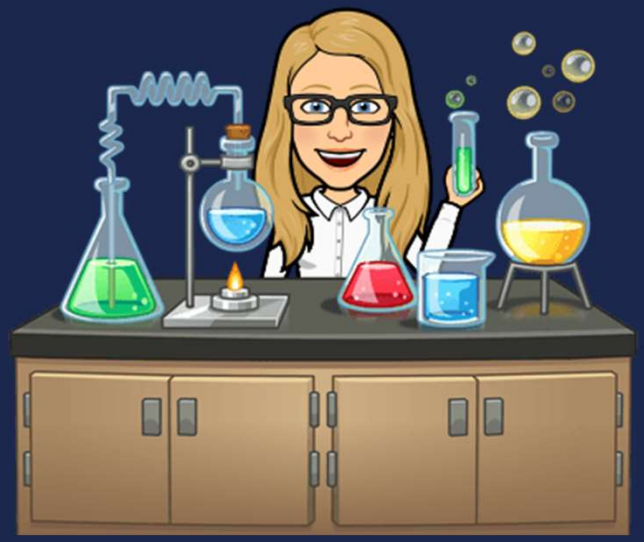
For voting, go to: https://pollev.com/lauriestarke263
or text LAURIESTARKE263 to 37607 to join poll



Dr. Laurie S. Starkey

Cal Poly Pomona

CHM 3140 Organic Chemistry I
Announcements 2/4/25

Today's Topic:
Acid-Base Chemistry
aka Proton-Transfer Reactions
(Chapter 3, Step 1)

Chapter 3

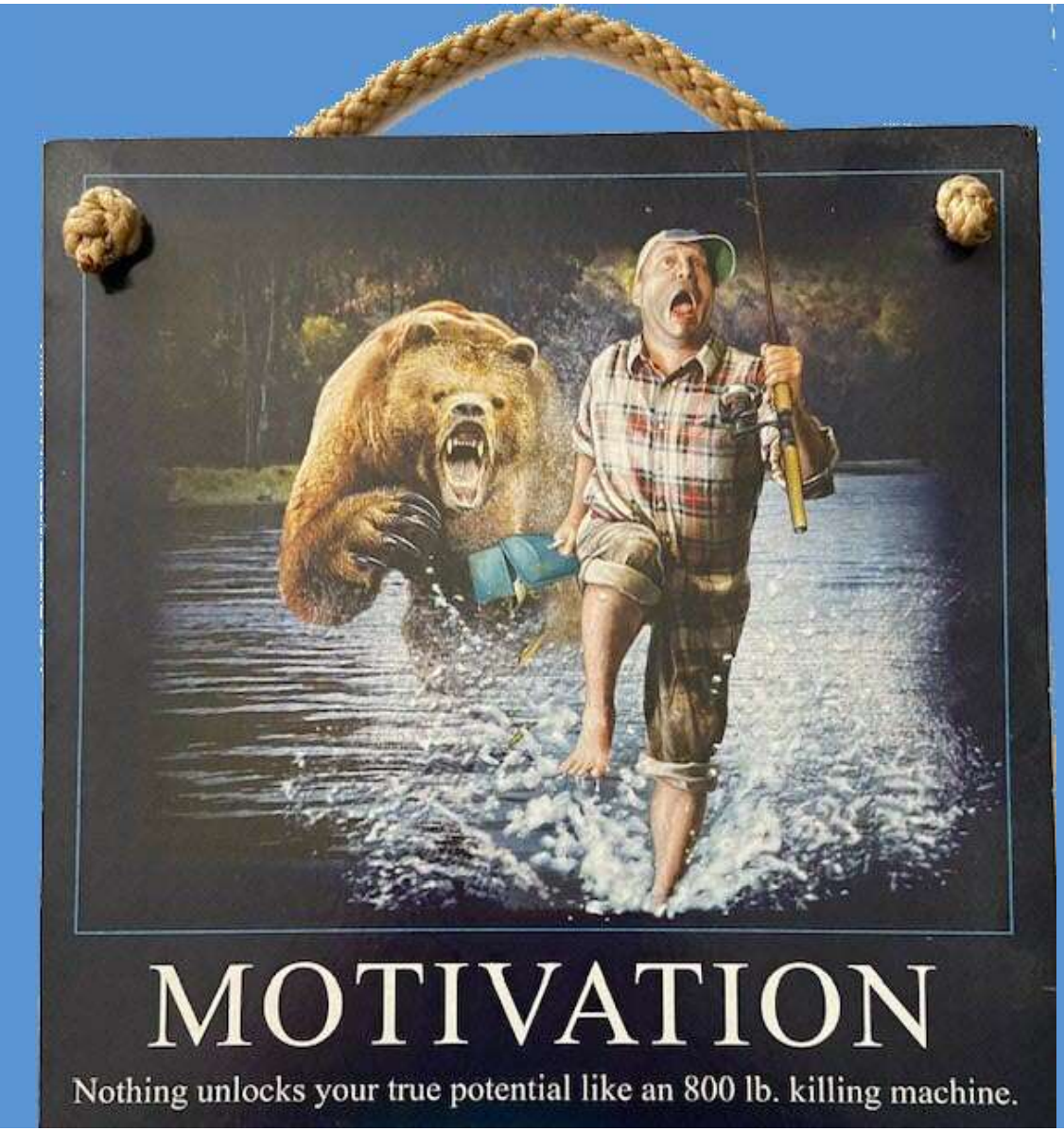
- ✓ **Watch**
- ✓ **Read**
- ✓ **Practice**

Daily To-Do	Flipped Lectures
Step 1	
• Read Klein Chapter 3, sections 3.1, 3.2, 3.4 and 3.5 • Watch flipped lecture • Work through **SkillBuilders 3.1, 3.5, 3.7**	Part 1 - introduction to proton transfer reactions, Lewis acids/bases, acid/base equilibria, factors that affect acidity (Atom and Inductive effects) **36 minutes**, *skeleton notes pages 3-1 to 3-4*

Flipped Lecture: Acid-Base Reactions

Acid-Base Reactions

Proton-Transfer Reactions: drawing products, mechanism (curved arrows), factors that affect acid strength (ARIO) & direction of equilibria



R U Motivated?

Nothing unlocks your true potential like an 800 lb. killing machine…

…or an upcoming O-Chem exam!

This week: Chapter 3 Next week: Exam 1

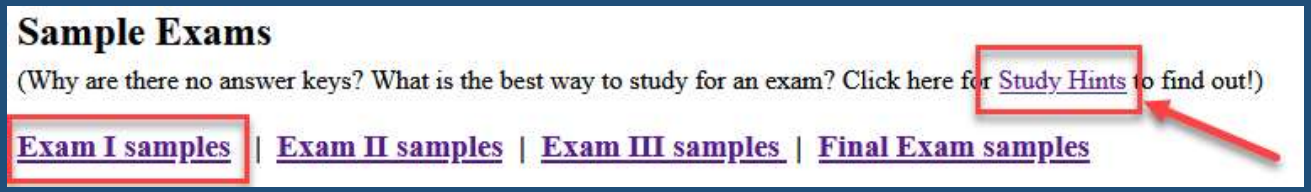
CHM 3140 Organic Chemistry I, Dr. Laurie S. Starkey, Spring 2025
Tentative Schedule (Chapter and *Worksheet/Step #* given for each day)

Week	Mon	Tues	Wed	Thurs	Fri
1	1/20	1/21 ~~Ch. 1 #1~~	1/22	1/23 ~~Ch. 1 #2~~	1/24
2	You are here	1/28 ~~Ch.1 #3~~ Ch.2 #1	1/29	1/30 ~~Ch. 2 #2~~	1/31
3	2/3	2/4 Ch. 3 #1	2/5	2/6 Ch. 3 #2	2/7
4	2/10	2/11 Exam Review	2/12	2/13 **Exam I**	2/14

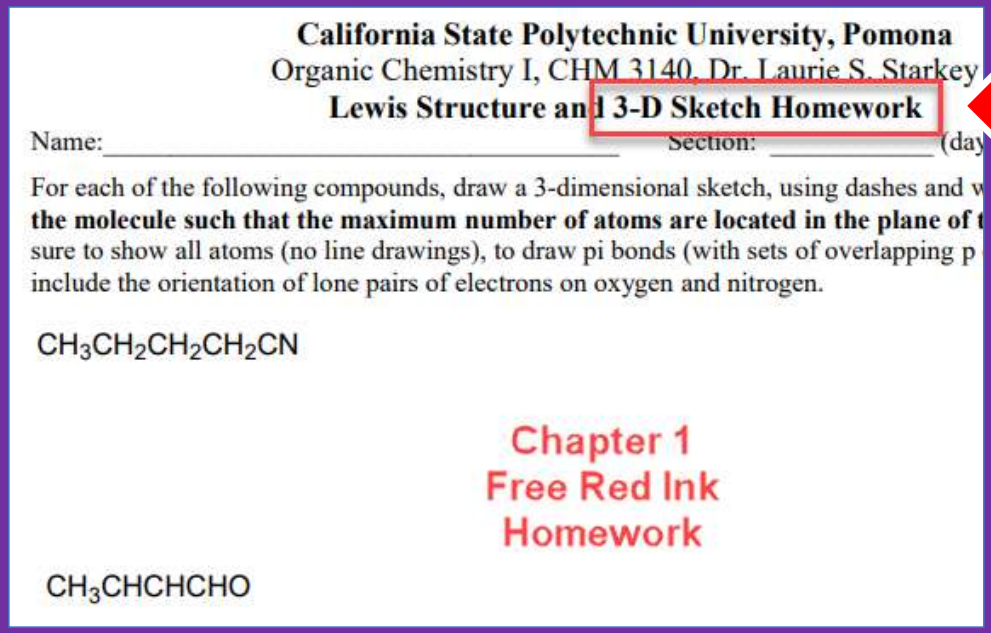
Exam 1
Thursday, 2/13
Chapters 1,2,3

- 75-minute written exam.
- No notes or model kits allowed, but Periodic Table is provided.

No surprises! See sample exams on Course Homepage (links at very bottom).



Free Red Ink Homework



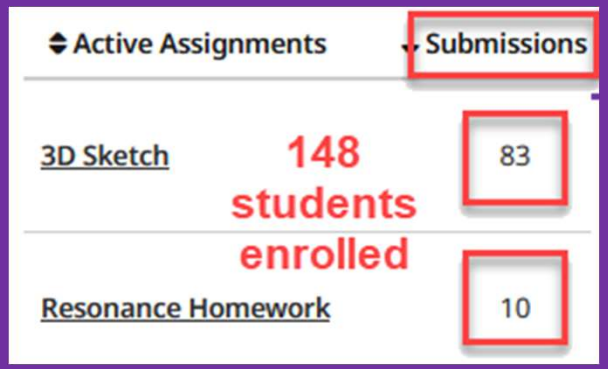
California State Polytechnic University, Pomona
Organic Chemistry I, CHM 3140, Dr. Laurie S. Starkey
Lewis Structure and 3-D Sketch Homework
Name:_____ Section: _____ (day

For each of the following compounds, draw a 3-dimensional sketch, using dashes and w
the molecule such that the maximum number of atoms are located in the plane of t
sure to show all atoms (no line drawings), to draw pi bonds (with sets of overlapping p
include the orientation of lone pairs of electrons on oxygen and nitrogen.

$CH_3CH_2CH_2CH_2CN$

Chapter 1
Free Red Ink
Homework

$CH_3CHCHCHO$



Active Assignments | Submissions

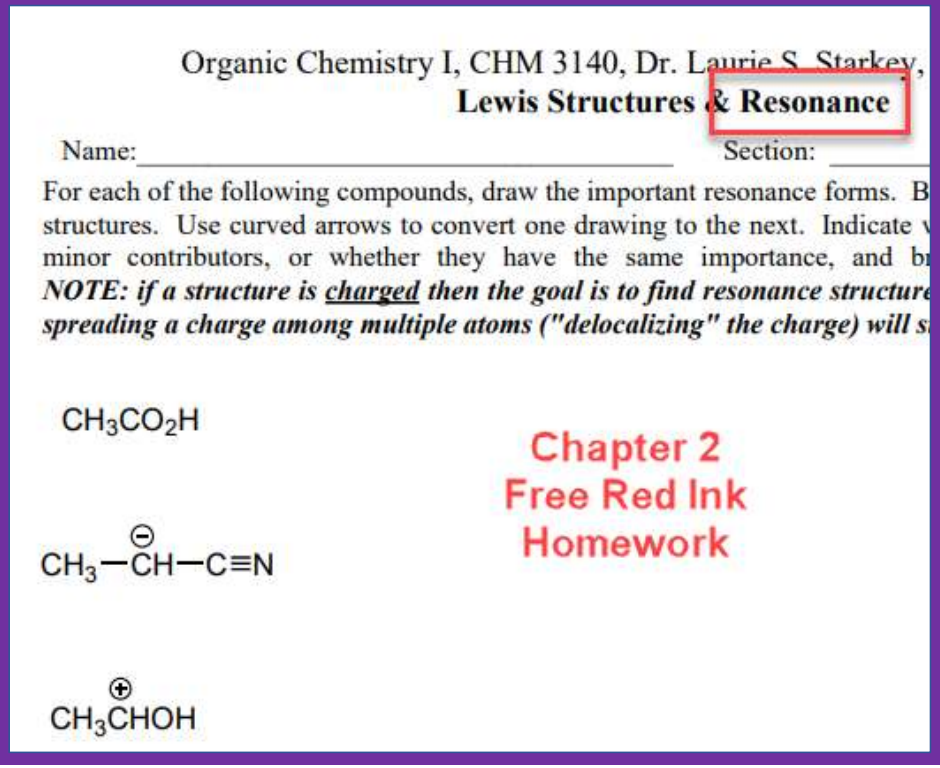
3D Sketch — 83

148 students enrolled

Resonance Homework — 10

Check Gradescope for

- Written feedback
- Link to answer key
- Link to VIDEO SOLUTIONS



Organic Chemistry I, CHM 3140, Dr. Laurie S. Starkey,
Lewis Structures & Resonance
Name:_____ Section: _____
For each of the following compounds, draw the important resonance forms. B
structures. Use curved arrows to convert one drawing to the next. Indicate v
minor contributors, or whether they have the same importance, and br
NOTE: if a structure is charged then the goal is to find resonance structure
spreading a charge among multiple atoms ("delocalizing" the charge) will s

CH_3CO_2H

$CH_3-\overset{\ominus}{C}H-C\equiv N$

$CH_3\overset{\oplus}{C}HOH$

Chapter 2
Free Red Ink
Homework

Celebrating Chemistry & Black History Month

Around the turn of the 20th century, leprosy was a major public health concern in Hawaii. Alice Ball was a chemistry instructor at the College of Hawaii, which would become the University of Hawaii**. She had earned a master's degree in chemistry from the institution, looking for active components in a medicinal plant, the kava root. Ball was the first woman and first Black woman to earn a chemistry degree at the university, as well as to become an instructor.**

In 1916, Harry Hollmann, a doctor at Kalihi Hospital who was **treating people with leprosy, asked Ball to help him determine the active ingredients in chaulmoogra, a plant that had been used with some success to treat the disease.** Hollmann was looking to isolate something concentrated and injectable, **and in one year, Ball had figured out how to fractionate the active oil, allowing her to solubilize it** (*Arch. Derm. Syphilol.* 1922, DOI: 10.1001/archderm.1922.02350260097010).

Ball died suddenly, at the age of 24, possibly of accidental chlorine poisoning in a laboratory. Her work was taken up by a male scientist who tried to take credit for her discoveries. **Chaulmoogra injections based on Ball's work became a standard treatment for leprosy until the 1940s.** In 2000, Hawaii Lieutenant Governor Mazie Hirono named Feb. 29 "Alice Ball Day."

https://cen.acs.org/people/profiles/Six-black-chemists-should-know/97/web/2019/02

Happy New Year!

2025

Year of the Snake

Photo attribution: Eastimages via Getty Images
(https://www.history.com/topics/holidays/chinese-new-year)