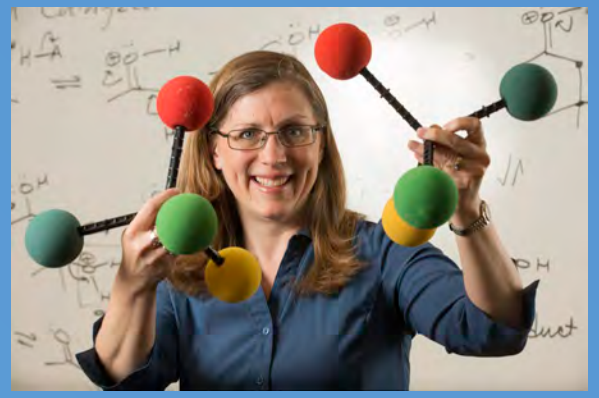
Remote Classrooms 2021 & Beyond

Teaching/Tech Strategies

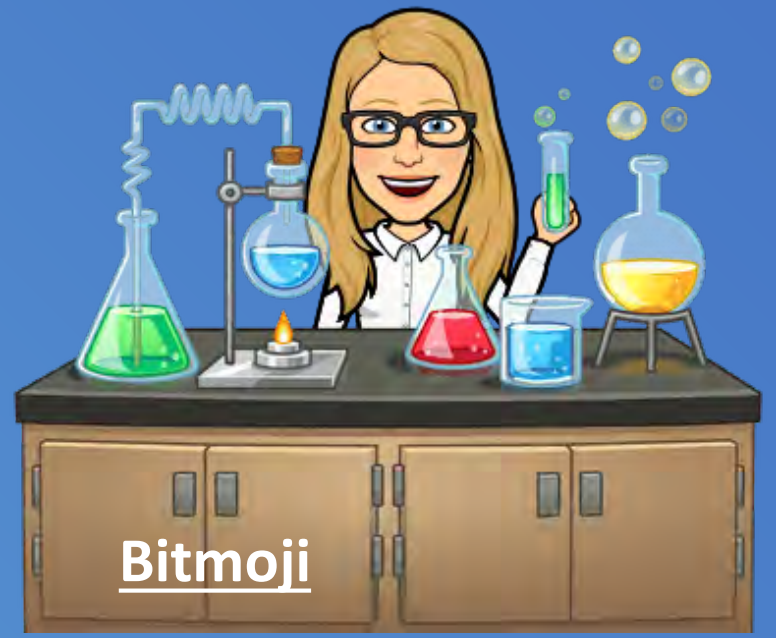
Motivate & Build Community



Dr. Laurie S. Starkey

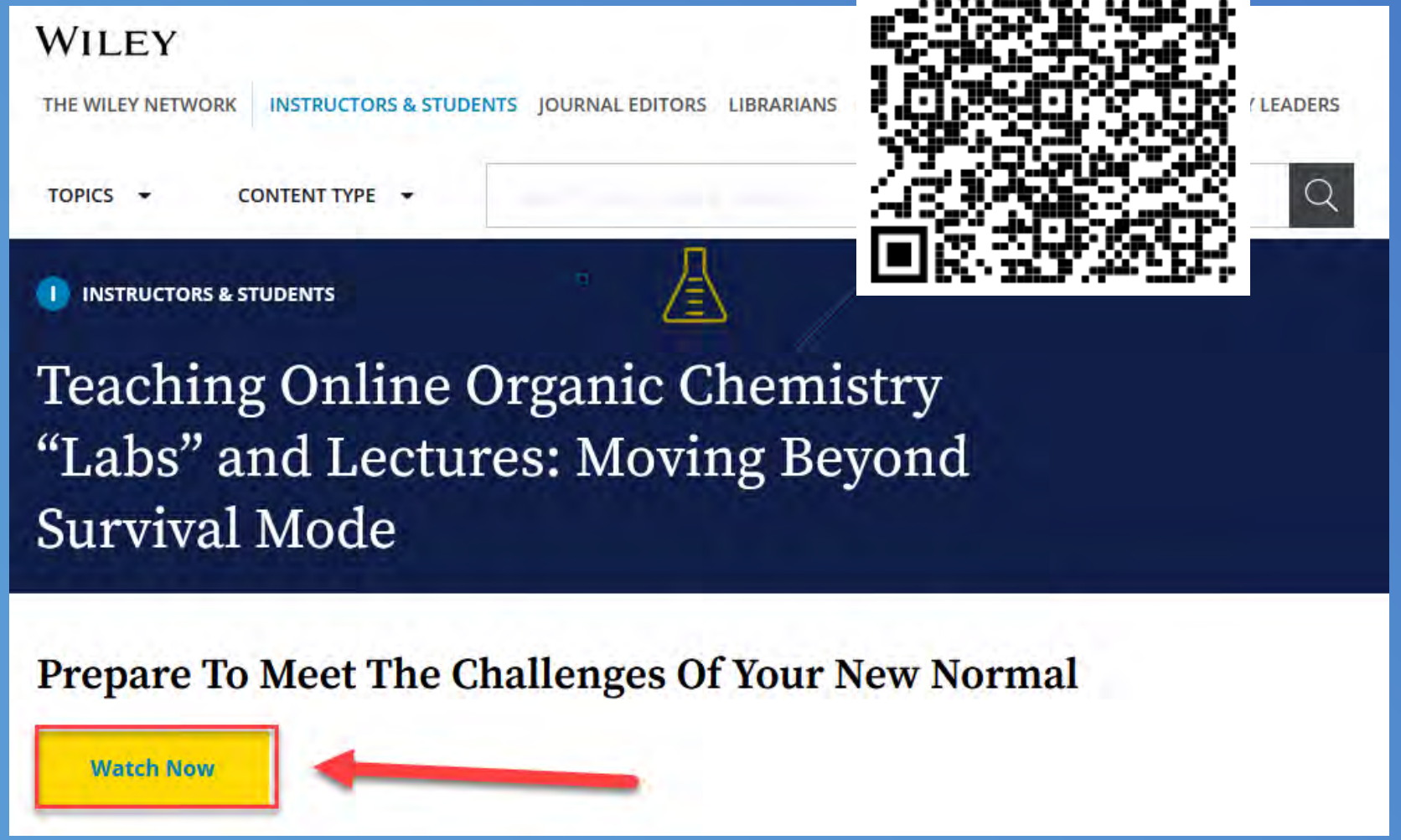
Cal Poly Pomona

lsstarkey@cpp.edu



WILEY

FYI: Related Webinar on Demand @ Wiley.com



Seminar explores resources for:

- Virtual labs
- Remote lecture
- Making videos
- Building community

WILEY

One Year in: Lessons Learned

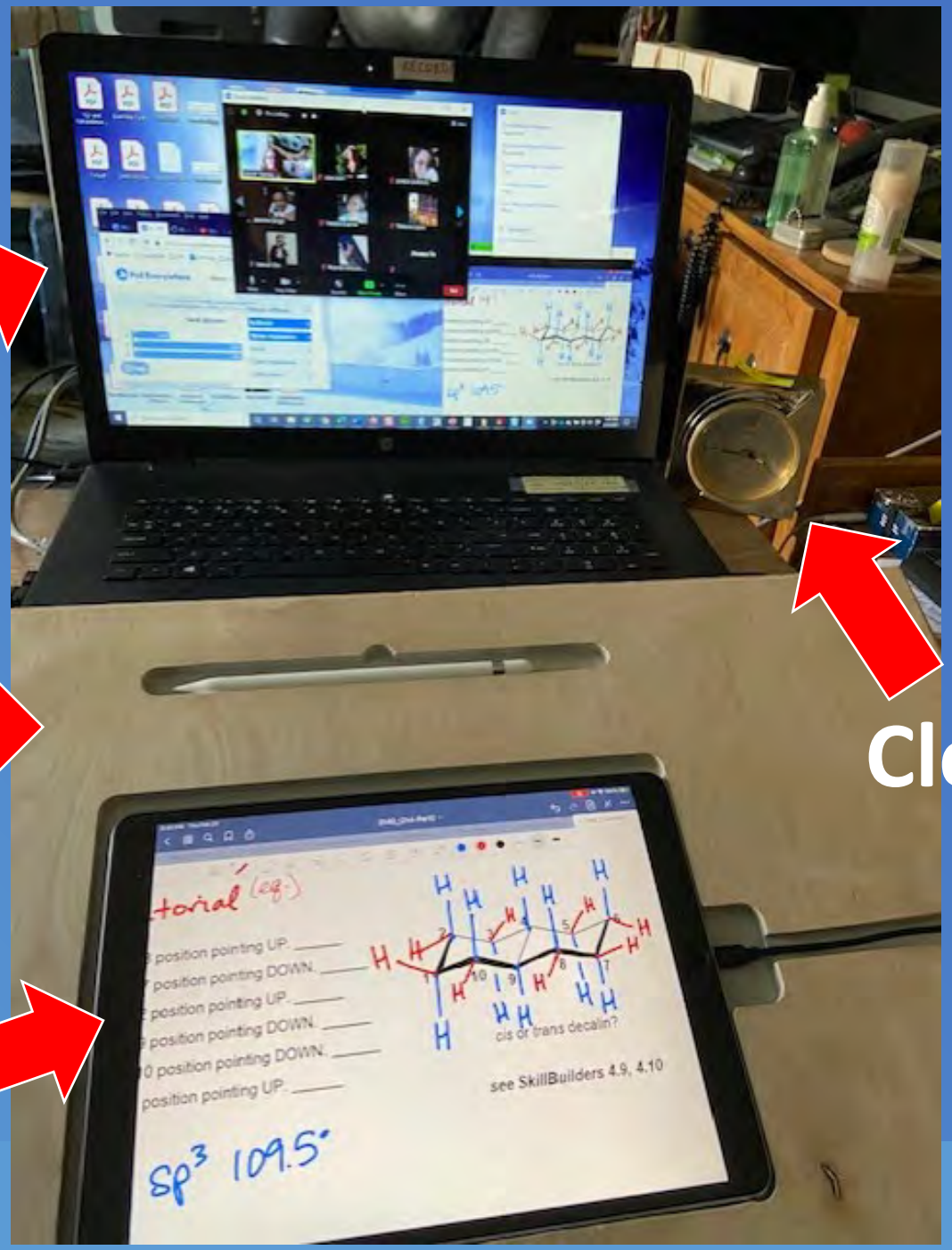
- Invest in an iPad (Apple Pencil, Paperlike screen protector)
- Gradescope to manage student work
- Genius Scan to make PDF w/phone
- Use a headset
- Get a good snipping tool (Snagit)
- Create a YouTube channel

My Remote Classroom

Laptop (Zoom & Webcam)

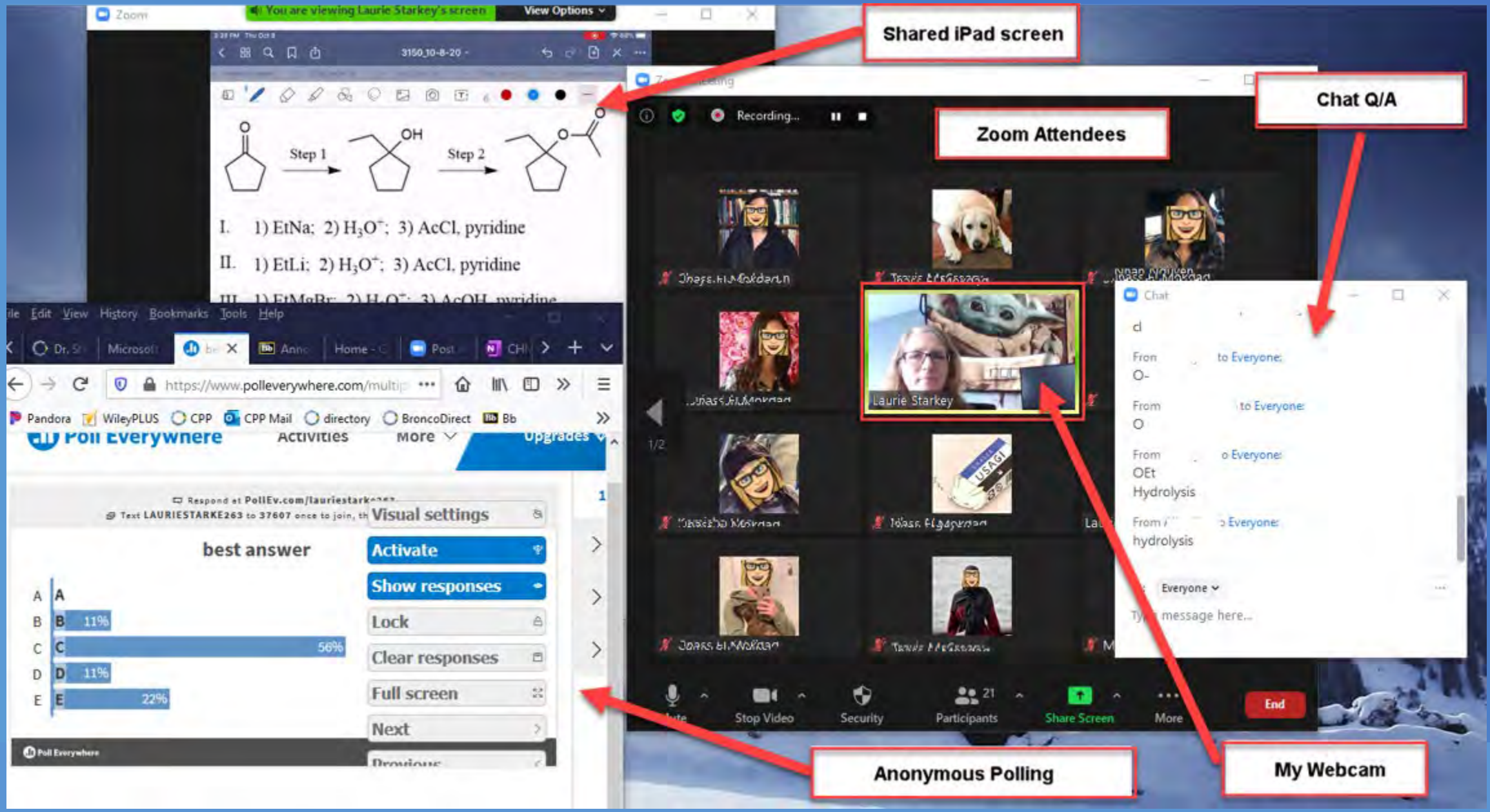
Support Board (Ergonomics)

iPad (Zoom & GoodNotes)

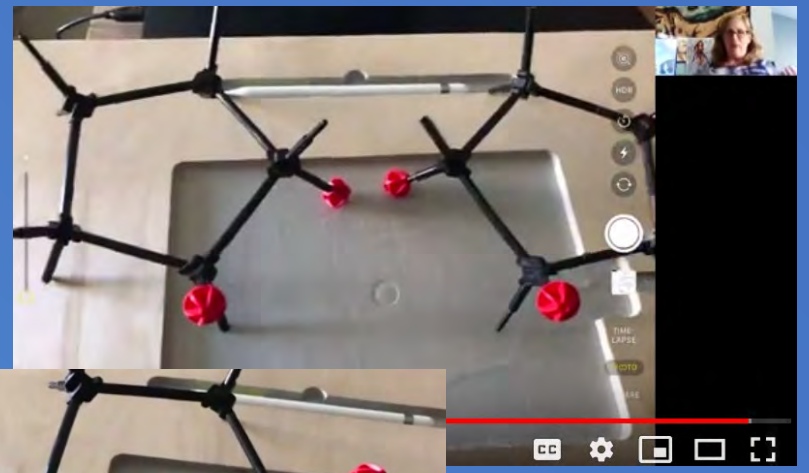


Clock!

How to: Teach, DRAW & Show Models Using Zoom



How to: Teach, DRAW & Show Models Using Zoom



Provide worksheet or skeleton notes as PDF

- ChemDraw, PowerPoint, Word
- Hand-written notes captured with **Genius Scan**

Start Zoom session on laptop for best functionality

- **Webcam** for video of me
- Full keyboard for **chat**
- presenter tools easy to find/use
- **PollEverywhere** results
- can share screen to show LMS/websites/VitalSource text/**MarvinSketch**

Join Zoom session with my iPad or phone and share screen

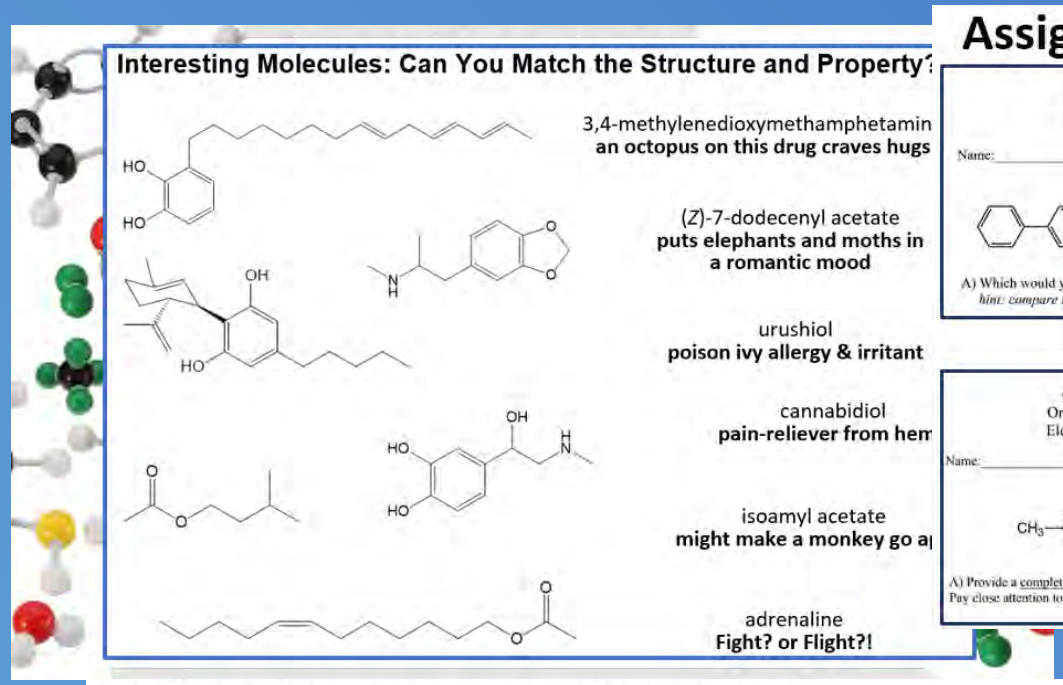
- Do NOT join audio (gives echo/feedback). Hit “cancel” when asked to join audio.
- Phone camera can capture you writing on paper, or **molecular models**
- iPad apps enable marking up PDF to work, annotate notes (I use Good Notes)

What to do with the 10 Min. Before Zoom Class?

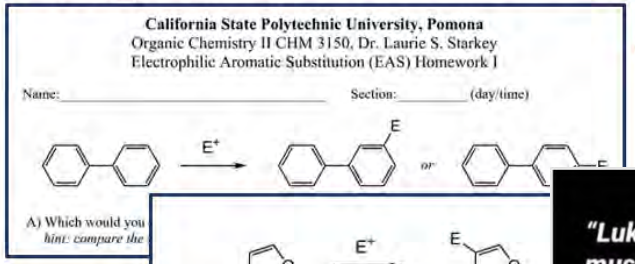
"Small talk" with a computer screen is SO awkward

- Show live animal cams from EXPLORE.org
- Turn on video so you can make a toast (coffee cup)
- Ask a fun poll question in the chat
- Display outline/learning objectives for the day
- Play announcements via PowerPoint
  - Today's topics, Due dates/deadlines
  - Memes/cartoons
  - Interesting molecules, people, news

What to do with the 10 Min. Before Zoom Class?

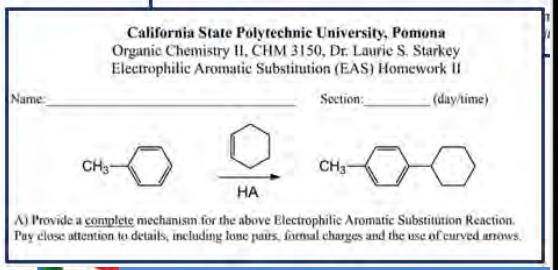


Assignments due ASAP…and Ch. 18 EAS#1, EAS#2


California State Polytechnic University, Pomona
Organic Chemistry II CHM 3150, Dr. Laurie S. Starkey
Electrophilic Aromatic Substitution (EAS) Homework I

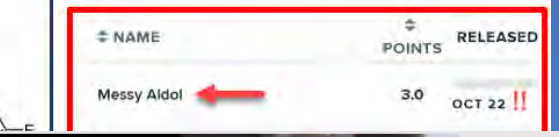
Name: Section: (day/time)

A) Which would you
hint: compare the


California State Polytechnic University, Pomona
Organic Chemistry II, CHM 3150, Dr. Laurie S. Starkey
Electrophilic Aromatic Substitution (EAS) Homework II

Name: Section: (day/time)

A) Provide a complete mechanism for the above Electrophilic Aromatic Substitution Reaction.
Pay close attention to details, including lone pairs, formal charges and the use of curved arrows.



Jedi Training
in 2020-21

Today's Topic: Stereochemistry (Chapter 5, Step 2)

Weeks 6/7 - Chapter 5

Stereochemistry: Chirality and Stereoisomerism

Step 2

- Watch **Educator Section 1**
  - middle of **Stereochemistry** (41:47 - 77:11)
- Klein Chapter 5, sections 4-7, and work through **SkillBuilders 5.6, 5.7, 5.8**

III) Fischer Projections (5.7)
IV) Molecules with Multiple Chiral Centers (5.5, 5.6)
V) Optical Activity and other physical properties (5.4)

See Week 6/7 in Blackboard

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

Maki

CHM 3140, Dr. Laurie S. Starkey, Spring 2021 Tentative Schedule

Week	Mon	Tues	Wed	Thurs	Fri
1	1/25 **Holiday**	1/26 ~~Chapter 1~~	1/27	1/28 ~~Chapter 1~~	1/29
2	2/1	2/2 ~~Chapter 2~~	2/3	2/4 ~~Chapter 2/3~~	2/5
3	2/8	2/9 ~~Chapter 3~~	2/10	2/11 ~~Chapter 3~~	2/12
4	2/15	2/16 ~~Chapter 3~~	2/17	2/18 ~~Exam I~~	2/19
5	2/22	2/23 Chapter 4	2/24	2/25 Chapter 4	2/26
6	3/1	3/2 Chapter 5	3/3	3/4 Chapter 5	3/5
7	3/8	3/9 Chapter 5	3/10	3/11 IR (Ch.14)	3/12
8	3/15	3/16 NMR (Ch.15)	3/17	3/18 **Exam II**	3/19

you are here

How to: Give Synchronous Exams Remotely

Distribute exam PDF via email

- Academic integrity pledge (+ WileyPLUS quiz, + build relationship, + guilt-trip “Be the person your dog thinks you are!”)

Proctor via Zoom (webcams on)

- Lockdown browsers = equity concerns
- Private chat for questions
- Easy to make announcements

Student submits completed exam to LMS/Gradescope

- Student can print, write on exam, Genius Scan to make PDF
- Student can use tablet/iPad to work on PDF directly
- Student can write answers on blank paper, then Genius Scan

Remote Teaching → Course Redesign (Lecture)

To Reduce Cheating, Minimize High-Stakes Exams

- Pre-pandemic grading: 95% exams, 5% “free red ink” homework
- Major redesign needed!

Chap. 1, 2, 3	Exam I	100 pts (20%)	Thursday, February 14 (50 min. during class time)
Chap. 4, 5, 15	Exam II	100 pts (20%)	Thursday, March 14 (50 min. during class time)
Chapters 6, 7	Exam III	100 pts (20%)	Thursday, April 18 (50 min. during class time)
Chapters 1-11	Final Exam	200 pts (40%)	Tue, 5/14 or Thu, 5/16 (see schedule for times)

Remote Teaching → Course Redesign (Lecture)

New Grading Scheme

- 60% exams, lower-stakes final & lowest midterm is dropped
- 25% homework (WileyPLUS & "free red ink" assignments)
- 15% weekly reflection (study groups, motivate, mental health)

How will your learning be measured?

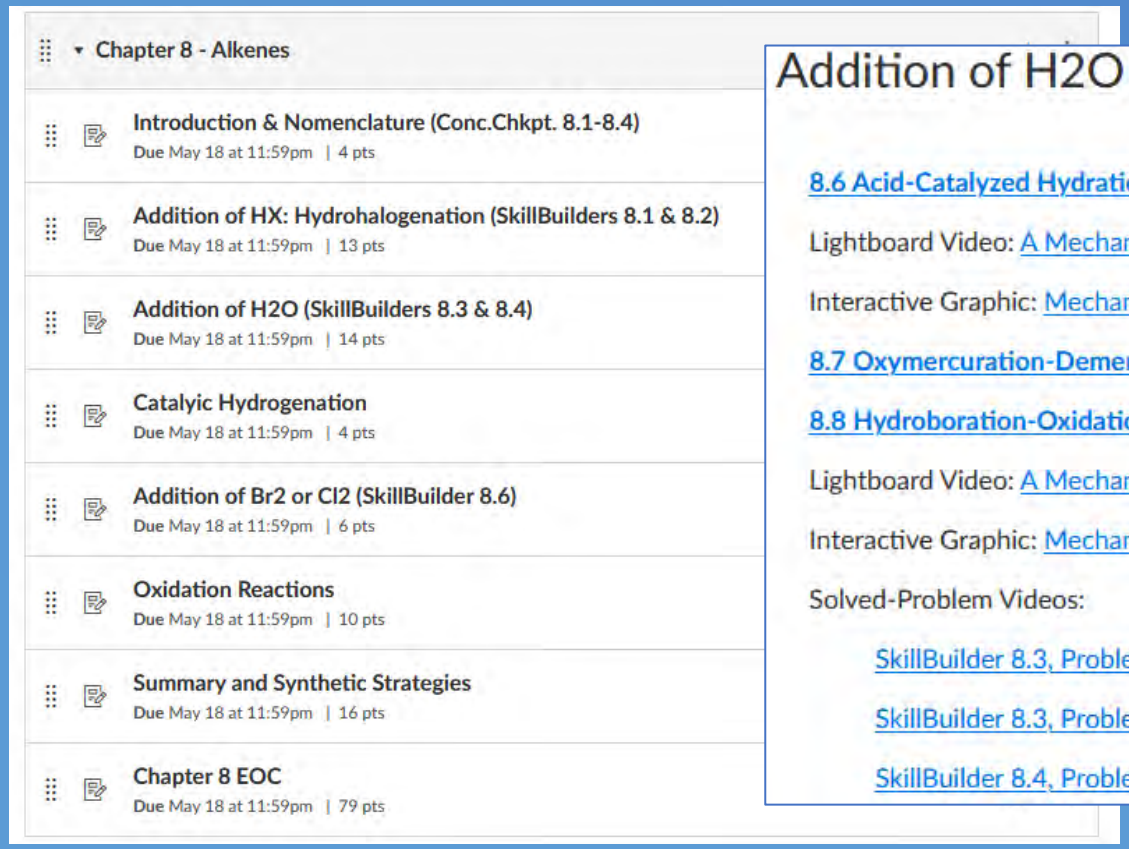
Course grades are based on textbook-based homework (EOC), occasional quizzes, brief weekly assignments, three written midterm exams, and a final exam. I am planning on proctoring the written exams synchronously via Zoom, but please let me know if you need to adjust your time slot. *Each exam is cumulative but will emphasize the immediately preceding chapters.* Exams must be taken as scheduled and NO make-up exams will be given, but **the lowest midterm grade will be dropped**. If more than one midterm is missed, a grade of zero will be assigned for the missing midterm exam(s).

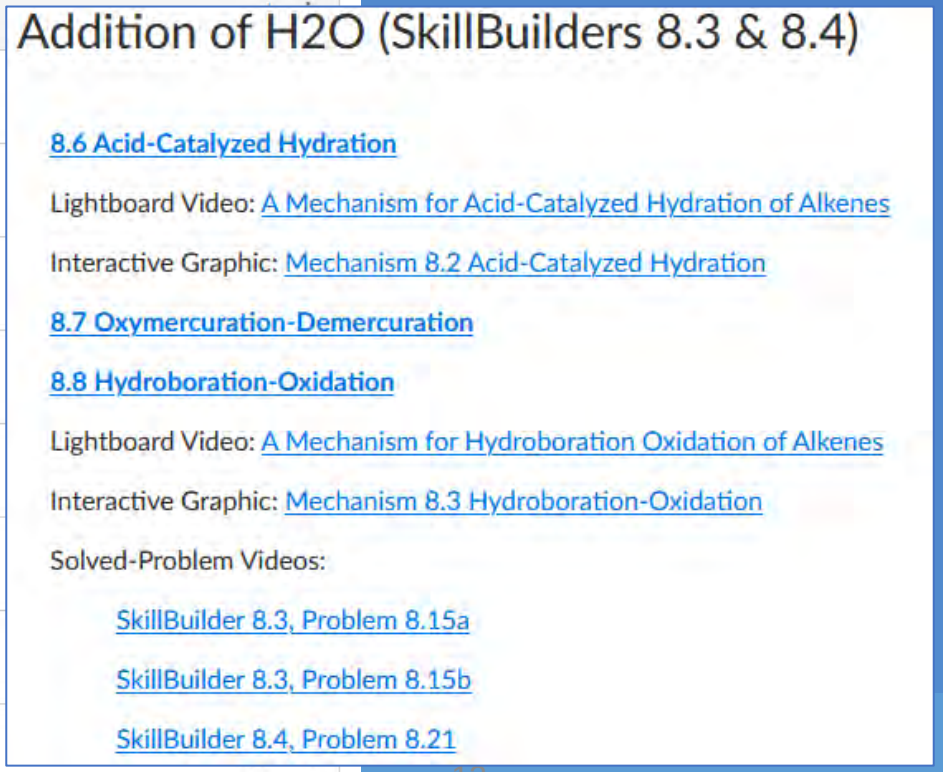
Homework problems		125 pts	(25%)	End-of-Chapter (EOC) problems/WileyPLUS/Quiz
Weekly study/reflection		75 pts	(15%)	Friday Fives, OLC Study Group, Exam Wrapper…
Ch. 1, 2, 3	Exam I	100 pts	(40%)	Thursday, 2/18 (60 min. during class time)
Ch. 4, 5, 15	Exam II	100 pts		Thursday, 3/18 (60 min. during class time)
Ch. 6, 7	Exam III	100 pts		Thursday, 4/22 (60 min. during class time)
Ch. 1-11	Final Exam	100 pts	(20%)	Tuesday 5/18 (see schedule for times)

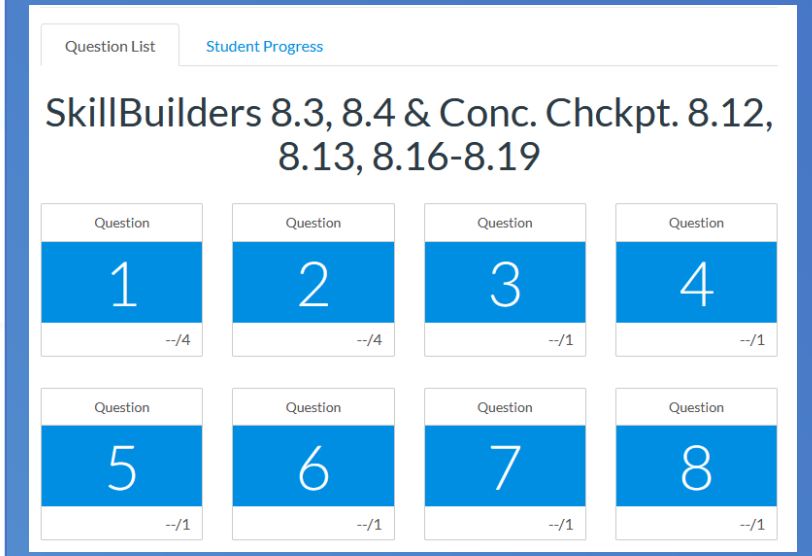
Remote Teaching → Course Redesign (Lecture)

25% Homework: Klein SkillBuilders and/or End-of-Chapter

- Encourage self-assessment and use of Solutions Manual
- WileyPLUS enables engagement with textbook & resources







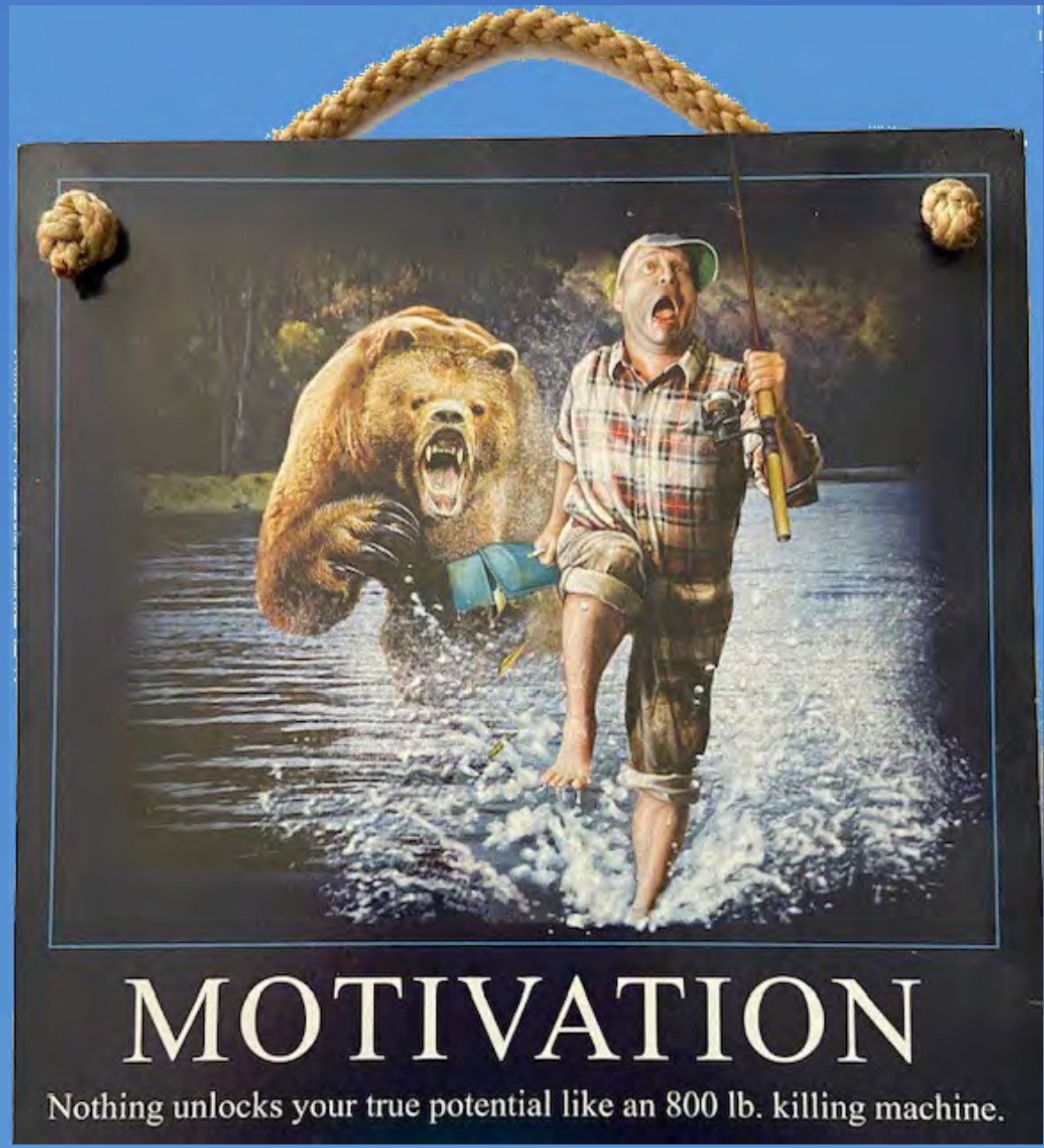
Keeping Students Motivated

15% of grade:
weekly “Friday5” reflection and study groups

Motivate Lab training (GPS)

- **G**rowth Mindset
- **P**urpose & Relevance
- **S**ense of Belonging

Travis Maddry
travis@motivatelab.org



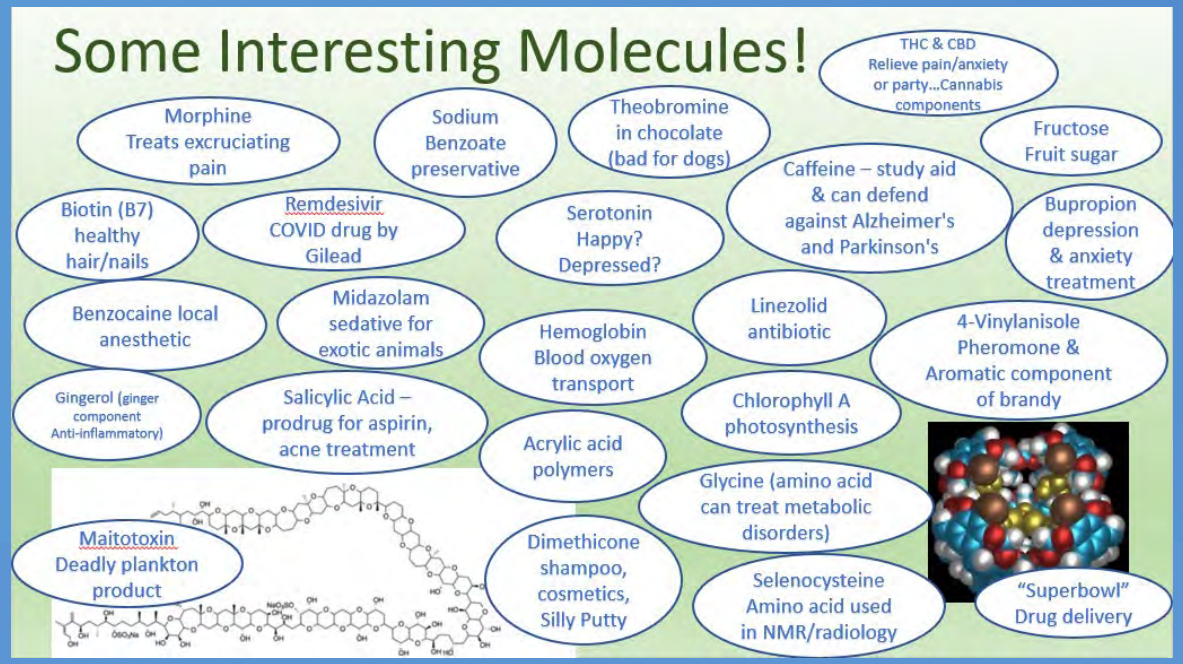
Encouraging a Growth Mindset

- Value formative assessment (points for textbook problems!)
- Discuss study strategies
- Drop lowest exam
- Metacognitive exercises
  - Exam Wrapper
  - Weekly study plan check-in

resources

Focusing on Purpose and Relevance

- Weekly reflection assignments
  - Find/share an interesting molecule
  - Tell me why this course matters to you
- Share stories of former students



CPP Grad & Veterinarian
Kim De La Peza

- B.S. Animal Science CPP 2008
- D.V.M. Michigan State 2012
- Emergency Room Vet
- VCA Animal Hospital

What will your story be?

Building Community, Sense of Belonging

Introduction video

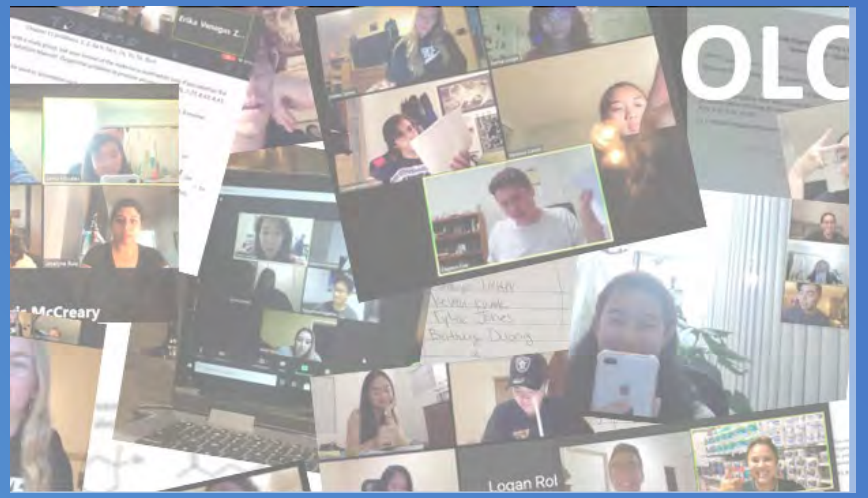
- Introduce yourself, share your passion

Course Padlet

- Students can introduce themselves

Encourage study groups

- Organic Learning Community (OLC)
- Offer credit for weekly report w/selfie pic



Foster communication

- Discussion boards, Discord, Google Voice

https://discord.gg/m6gQWE

Friday5 Prompts (Gradescope)

- Create a Concept Map
- Add a Zoom Profile picture!
- Mental Health check-in
- Start-Stop-Continue (mid-semester feedback)
- Showing gratitude
- Upload a picture of your flash cards
- Celebrate NCW (explore webpage)
- Favorite volunteer activities? YouTuber? Autumn activities?

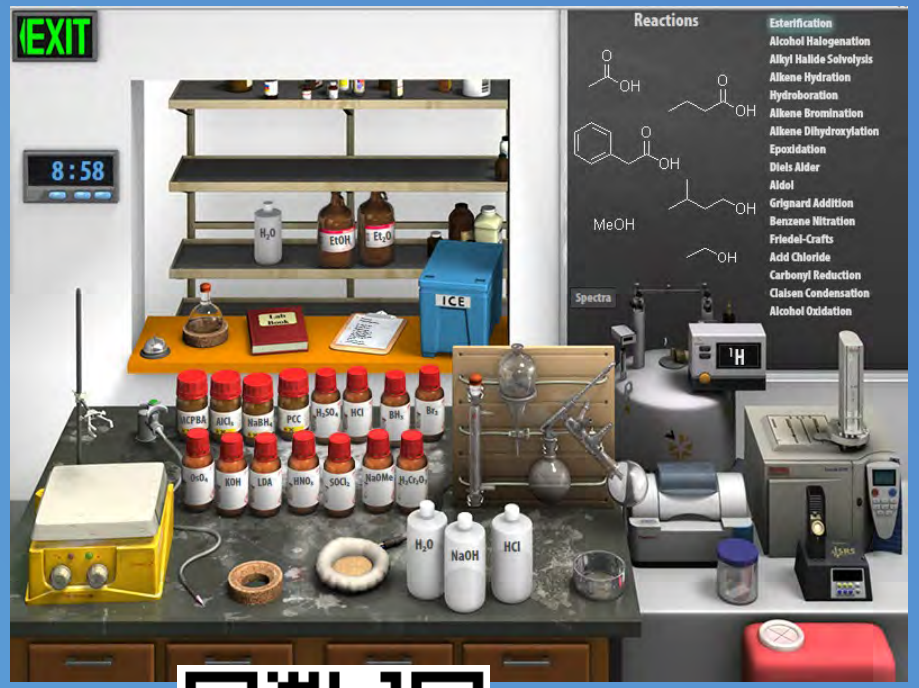
I am grateful for the relationships we have built!

Professor Starkey,

I know you are a cat mom so I thought I would share this photo of my kitten! I found her with my chemistry flashcards one morning in her favorite box. Not sure how she was able to pull that off. Hope you enjoyed ☺

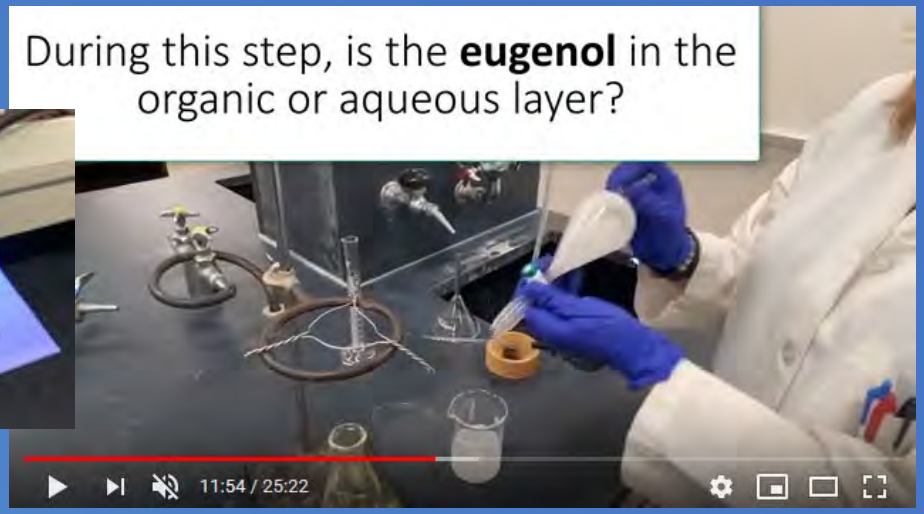
Resources/Ideas for Virtual "Labs"

BeyondLabz ($25/year)



COVID-19 remote teaching resources

acylation of ferrocene

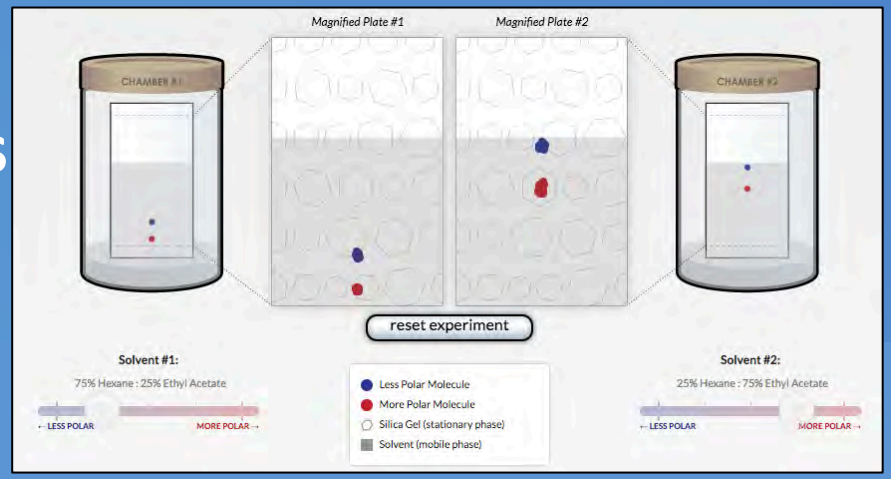


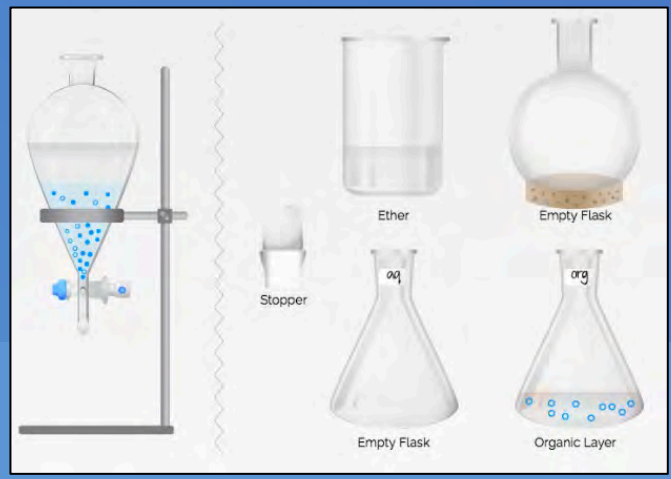
"Inquisitive" lab demos

eugenol video has over 1,800 views since March!

Animations

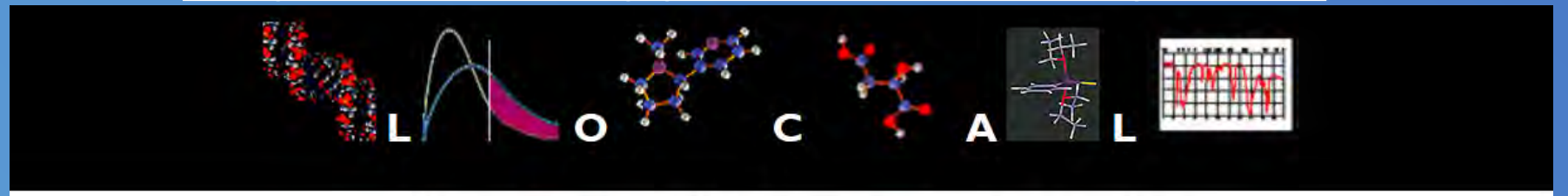
TLC & Extraction





Organic Chemistry Active Learning: Worksheets, Clicker Questions, BeyondLabz…

https://www.cpp.edu/~lsstarkey/local



Library for Organic Chemistry Active Learning

Created by Laurie Starkey, Professor of Organic Chemistry at Cal Poly Pomona
To contribute materials, please contact Laurie (and thank you!) lsstarkey@cpp.edu

****COVID-19 & Remote Teaching Resources****

Active-Learning Resources can also be found here: organicERs.org | MERLOT.org

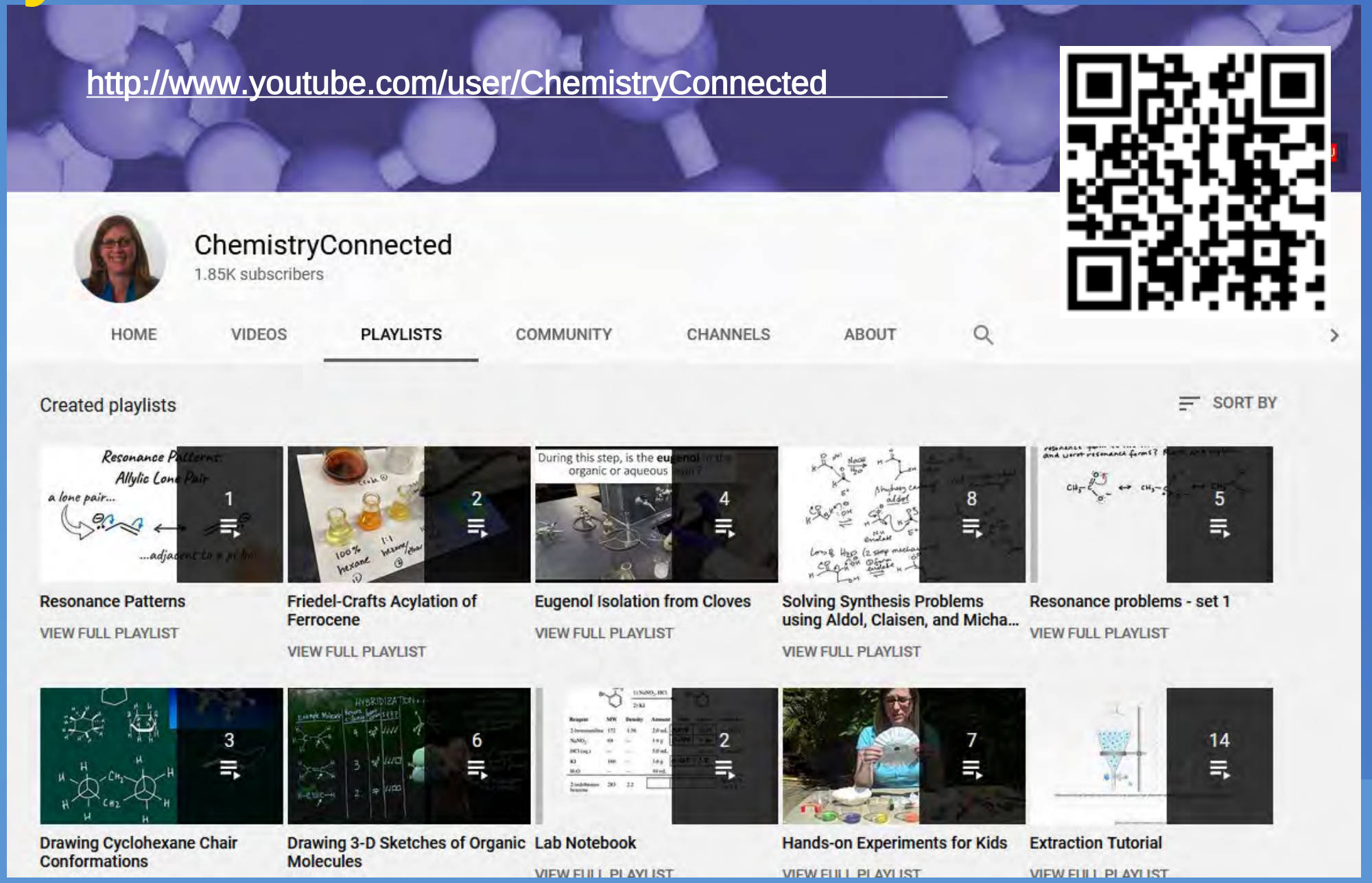
Clicker Questions:

Bonding/Structure, Acid-Base, Nomenclature	Stereochem, Radicals, Study of Reactions	Substitution & Elimination Alkene/Alkyne Reactions	Alcohols, Ethers & Epoxides
Lewis Structures & Line Drawings Resonance & Hybridization/3-D Acid-Base MO Theory Physical Properties Nomenclature Sites of Unsaturation (DU) Conformations of Alkanes & Cyclohexanes	Chirality & Optical Activity R/S, E/Z Nomenclature Stereochemical Relationships Radical Reactions Thermodynamics, Kinetics & Reaction Coordinate Diagrams	Substitution Reactions (Sn1/Sn2) Elimination Reactions (E1/E2) Substitution vs. Elimination Dehydration of Alcohols Alkene Additions and Oxidation Alkyne Reactions Synthesis Strategies (Klein Ch. 11) **NEW**	Alcohol Reactions Grignard & Hydride Reagents Epoxide & Ether Reactions Alkoxides & Thiols Syntheses Involving Alcohols
Carbonyl Chemistry	**Alpha-Carbon Chemistry**	**Conj. Systems, Aromaticity**	**Additional Topics**

ChemistryConnected YouTube Channel

Consider sharing your content on a YouTube channel! If not buried in LMS, videos can be accessed by your students after current semester… and by other students around the world! **FACULTY can provide quality content on YouTube.**

http://www.youtube.com/user/ChemistryConnected



Making it Work: Staying Happy, Healthy & Sane

Be Flexible

Be Open to Try New Things

Be Patient

Be Honest with Students

Don’t Reinvent the Wheel

Find the Silver Linings

Don’t Obsess Over Cheating

Connect with Colleagues

Don’t Try to be a Superhero

Use Facebook Groups

#AllinThisTogether