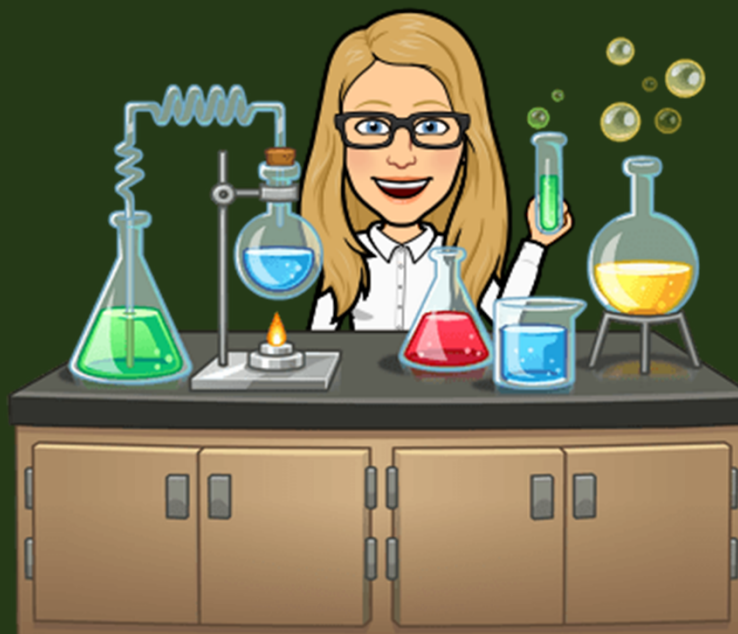


For clicker question voting, go to:  
<https://pollev.com/lauriestarke263>



Dr. Laurie S. Starkey  
Cal Poly Pomona

CHM 3150 Organic Chemistry II  
9/2/25

# Today's Topic:

## Preparation of Alcohols (Ch. 12)

### Daily To-Do

### Flipped Lectures

#### Step 2 **Read**

- Read Klein Sections 12.3 – 12.6  
**Preparation of Alcohols**
- Watch flipped lecture
- Work through SkillBuilders 12.3, 12.4, 12.5
- [Grignard/Hydride homework](#) (submit to [Gradescope](#))

#### [Alcohol Synthesis](#)

**38 minutes**, *skeleton notes pages 12-4 to 12-7*

#### Practice

Free Red Ink is “Due” Sun. 9/7 (to stay on track), but “late” is ok... full credit until Exam I, 9/18

**Free Red Ink Homework #2**

# Flipped Lecture

Synthesis of Alcohols, ROH	21:43
Synthesis of Alcohols from Alkyl Halides, RX (SN2 or SN1)	21:44
Synthesis of Alcohols, ROH	25:08
Unlikely on 2° RX (E2 Favored)	25:09
Impossible on 3° RX (E2) and Phenyl/Vinyl RX (N/R)	25:47
Synthesis of Alcohols, ROH	26:26
SN1 with H <sub>2</sub> O 'Solvolysis' or 'Hydrolysis'	26:27
Carbocation Can Rearrange	29:00
Synthesis of Alcohols, ROH	30:08
Synthesis of Alcohols From Alkenes: Hydration	
Synthesis of Alcohols From Alkenes: Oxidation/Diol	

## Synthesis of Alcohols (Review)

Synthesis of Alcohols, ROH	
Synthesis of Alcohols From Ketones and Aldehydes	
Organometallic Reagents: Preparation	
Grignard (RMgX)	
Organolithium (RLi)	
Organometallic Reagents: Reactions	
Reactions of Organometallic Reagents	
Organometallic Reagents: Reactions as Strong Nu:	
Example 1: Reactions as Strong Nu:	
Example 2: Reactions as Strong Nu:	
Hydride Nu:	
Hydride Nu:	

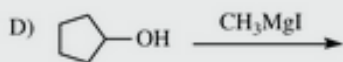
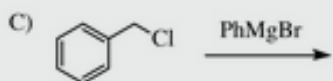
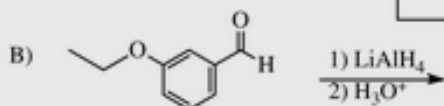
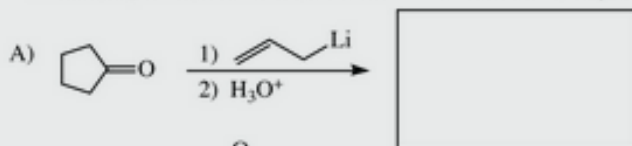
## Synthesis of Alcohols from Ketone/Aldehyde (Grignard & Hydride)

# Assignments to work on this Week (Gradescope)

## CHM 3150 Organic Chemistry I, Dr. Laurie S. Starkey Predict the Products Problem Set: Grignard/Hydride

Name: \_\_\_\_\_ Section (day/time): \_\_\_\_\_

Predict the major product(s) expected for each of the following reactions. Remember to indicate stereochemistry, when appropriate. You may assume that each reagent is in excess, unless otherwise noted. If no reaction is expected, write NR.



**\*No penalty if  
this is late**

Ch. 11/12/13  
SkillBuilders/EOC  
Due Sept. 18<sup>th</sup>

### Q1 Reflection 4 Points

### Friday Five

**Exploring Applications of Organic Chemistry** One of the most enjoyable parts of working with David Klein on the 5th edition of his textbook was having the opportunity to add new features that highlight the chemistry in our lives. Below are three of my contributions to Chapter 11.

#### The Study of Disease and the Discovery of Vitamins

Learn about the origin of germ theory, the 50+ years of resistance to the idea that doctors should wash their hands, and how factors that were "vital" for good health (vitamins) were discovered. <https://www.chemistryconnected.com/courses/CHM3150/StudyOfDiseaseAndDiscoveryOfVitamins.pdf>

#### Natural Product Synthesis

Plants produce organic compounds as a means for survival. Known as secondary metabolites, these compounds can help ward off predators, fight disease, or attract pollinators. Considering the abundance of interesting organic molecules that plants contain, it is certainly no accident that plants and plant products can have healing effects on humans! Learn why natural products are attractive synthetic targets, and the practical reasons to pursue the synthesis of that which nature has already produced. <https://www.chemistryconnected.com/courses/CHM3150/NaturalProductSynthesis.pdf>

#### The Story of Vitamin B-12:

##### Discovery, Structural Elucidation, and Total Synthesis

It started with physicians working with anemic patients, and over 100 hard-working men and women continued the journey of discovery and research for nearly 50 years! <https://www.chemistryconnected.com/courses/CHM3150/StudyOfDiseaseAndDiscoveryOfVitamins.pdf>

Please read through one or all of these features. Did you learn something new? Anything that surprised you? In the space below, reflect on what you read.

We are well into Chapter 12. How has your progress been? Do you have any *specific* times blocked out for *specific* activities to work on Chapter 12 material (e.g., read, watch, practice, OLC)?

### OLC Report

#### Q1 OLC report and photo

1 Point

Who did you get together with? When was the study session, and how did you meet up?

What did your OLC work on during the study session?

What did you contribute to the session? What did you learn?

Please upload evidence of your study session (screenshot/photo/notes). Thank you, and have a great week!

No files uploaded

### CHM 3150 Organic Chemistry II, Cal Poly Pomona, Dr. Laurie S. Starkey Homework #1 20-Question Review, Chapters 7-10

### Wrap up Ch. 11!

Name: \_\_\_\_\_ Section (day/time): \_\_\_\_\_

- On blank pieces of paper, draw out the following twenty textbook problems (Klein-Starkey, 5<sup>th</sup> edition) and solve them. *Do not just write down the answers.* 7.76acef, 8.42ac, 8.43a-f, 9.41bcd, 9.52bc, 10.19abc
- Check your answers in the Student Solutions Manual (SSM), and make corrections to your work. You are encouraged to work with a study group, but your review of the material is worthwhile only if you attempt the problems before checking the SSM!
- Use Genius Scan to create a PDF of your homework – the app automatically crops pages to 8.5x11, but be sure to apply the black & white filter
- Submit to Gradescope – you must select the page(s) of your submission that correspond to each problem in Gradescope (on which page(s) can I find problems 7.76acef, and on which page(s) can I find Ch. 8 problems?)

===== Simply copying answers from solutions manual will not earn full credit! =====



# How do I use the new WileyPLUS drawing tool?

- Select the correct tool (drawing or curved arrows)
- Use sketchpad to draw your answer
- **CLICK "SAVE" TO UPDATE THE "FINAL ANSWER" CARD**
- Read instructions carefully (may need to modify final product too)

The screenshot shows the WileyPLUS drawing tool interface. At the top left, a box labeled "Incorrect." is highlighted with a red box. To its right, a red arrow points to a message: "Marked wrong because... ..no curved arrows on Answer card". Below this, a text prompt says "Add curved arrow(s) to show a mechanism for formation of the alcohol." The main drawing area shows a reaction scheme: a cyclopentyl anion (a five-membered ring with an oxygen atom having a negative charge and two lone pairs) reacting with a hydronium ion (H-O<sup>+</sup>H<sub>2</sub>). The product is a cyclopentanol (a five-membered ring with an -OH group). The reaction scheme is enclosed in a red box. To the right of the reaction scheme is a "Final Answer" card showing the product. Below the drawing area, there is a "Save" button highlighted with a green box. To the right of the "Save" button is a "Modify drawing" button, which is a square button with two icons: a sketch of a molecule and a curved arrow. A purple arrow points to this button with the text "Add curved arrows". Below the "Save" button, a green arrow points to a text box that says "You must click 'Save' to save your work to the 'Final Answer' card." At the bottom right, there is a "\*Unsaved Changes" button highlighted with a green box, and next to it is a zoom control showing "- 100% +".

# CHM 3150

You.  
Belong.

Hello!



Hey everyone! My name is Alan Flores and I am a 4th year majoring in General Chemistry. I enjoy boxing, going to nice views and trying new food. I look forward to learning more about o chem.

Hello everyone!



Hi everyone! My name is Rebekah. I am a Pre-vet major and look forward to taking the class with you all! Hope we all do well. I love to go to the gym, do crafts and hang out with friends. Fun fact, my first time out the country was for a mission trip in Nicaragua.

Hi!



My name is Sara, and I am a third-year animal science major with a pre-vet emphasis. I love drawing, spending time with the animals I live with, thrifting, baking, and going out to eat. I am excited to deepen my knowledge of organic chemistry and get to know everyone!

♡ 0

+ Add comment

Hello!



Hi everyone! My name is Camila and I am an animal science Pre vet major! I am excited to continue learning organic chemistry. Whenever I have free time I love to watch TV and make some crafts. Good luck to everyone taking this course!

♡ 0

+ Add comment

Hello!



Hey everyone, my name is Gwyneth and I'm a third year Biology major. I'm looking forward to the challenges this class will bring. Outside of school, I enjoy hiking, camping, spending time with friends, and going on spontaneous adventures.

♡ 0

+ Add comment



Hi everyone! My name is Leslie Batista and I am a fourth year animal science pre-vet major with a minor in equine studies. I am interested in becoming an equine veterinarian. I enjoy hiking, spending time in nature, painting, and horse riding. I am looking forward to getting better at how I study so I can be successful in passing Ochem 3150.



My name is Samantha, and I'm a senior majoring in Pre-Vet animal science. This is my second-to-last semester at CPP, and I'm very excited to continue my journey and love for Vet medicine. I'm also very excited for my last semester of chemistry!!

♡ 0

+ Add comment

Hi there!



My name is Alannah and I am Animal Science Pre Vet Major. My passion is all things animals. I'm preparing for the challenges that this course is going to bring this semester. I am hoping to one day become a veterinarian. Though in my free time I love to read, play video games, and go to amusement parks with my boyfriend.

♡ 0

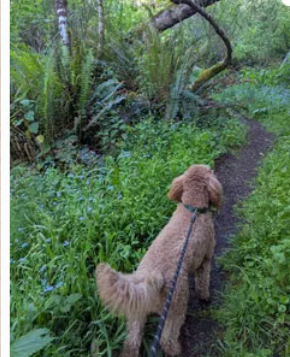
+ Add comment



# You. Belong.



Hello friends. I'm a senior biotech major who will admit organic chemistry is growing on me. I worked in a clinical research lab over the summer for phase 1 pharmaceutical testing. I started performing at the Innovation Brewworks open mic nights across from CPP recently, which has been fun. Looking forward to learning a lot this



My favorite girl on an amazing hike

Hello, my name is Dana and I am a pre-veterinary animal science major. I am a bit nervous about organic chemistry, but I am looking forward to learning more. I am a big fan of the outdoors and some of my hobbies are hiking, camping, photography, and reading.



The little black lab is Viana!

Hi everyone, my name is Jackie. I'm an animal science major (pre-vet emphasis) in my last year at CPP. I am a little nervous about organic chemistry, but I am ready to put in the work and am going to do my best! I'm a guide dog puppy raiser and have the cutest little sidekick this semester named Viana. Some of my hobbies include photography, hiking, and training dogs.

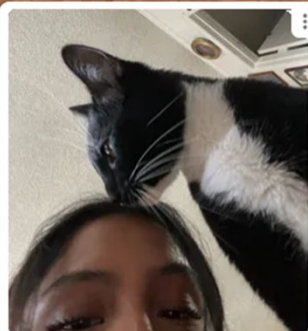


Hi, my name is Emma! I'm majoring in Biology with a focus in Microbiology. I love watching movies at the theatre and playing Stardew Valley. I'm ready and enthusiastic to learn more organic chemistry! I hope everyone has a great semester. :)

♡ 0

+ Add comment

💬 0



Hello! My name is Alondra and I'm a 4th year Animal Science/Pre-Vet student. I'm excited but nervous to continue learning about organic chemistry as I found it interesting. In my free time I like to spend time with friends, trying new food/drink places, being outdoors like going to the beach, and spending time with my cat, Milo who is my motivation to continue my studies and work in the veterinary field.

♡ 0

💬 0



Hello everyone! my name is Kristiann and i am in my senior year majoring in animal science: pre veterinary track. Overall im pretty excited about this class and hoping for the best! 🍌 so nice to meet everyone!

♡ 0

+ Add comment

💬 0

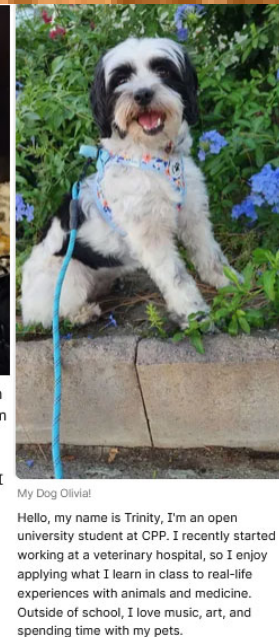
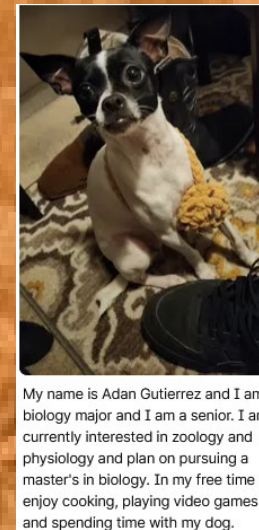
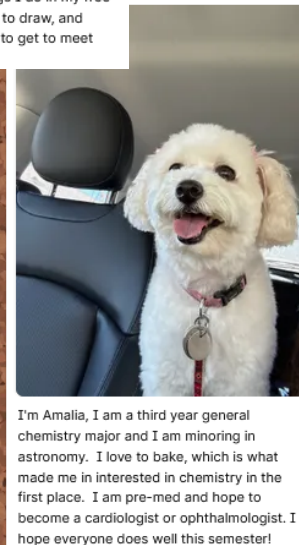
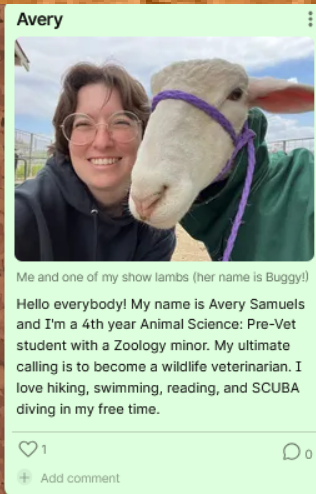
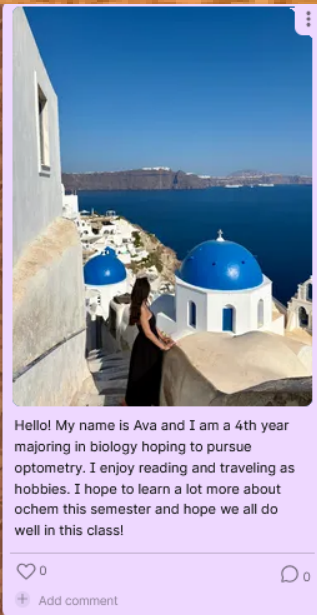


Hi all, I'm Gabe, a third year gen chem major. I took CHM 3140 last semester, and I hope to lock down those concepts and learn even more about organic chemistry this year. My hobbies include playing the guitar, photography, and collecting CDs.

# CHM 3150



# CHM 3150



You.  
Belong.