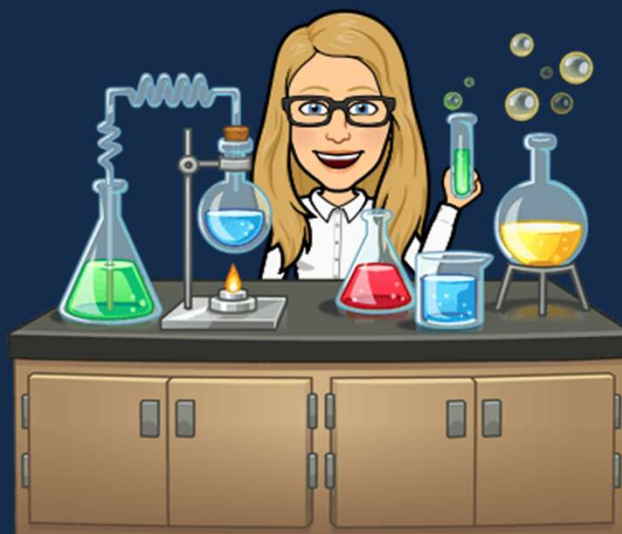


For voting, go to: <https://pollev.com/lauriestarke263>  
or text LAURIESTARKE263 to 37607 to join poll



Dr. Laurie S. Starkey  
Cal Poly Pomona

CHM 3140 Organic Chemistry I  
Announcements 4/24/25

# Exam III Results

A/B/C... ranges are to  
give you a rough idea  
of your course grade  
**based only on this  
exam score**

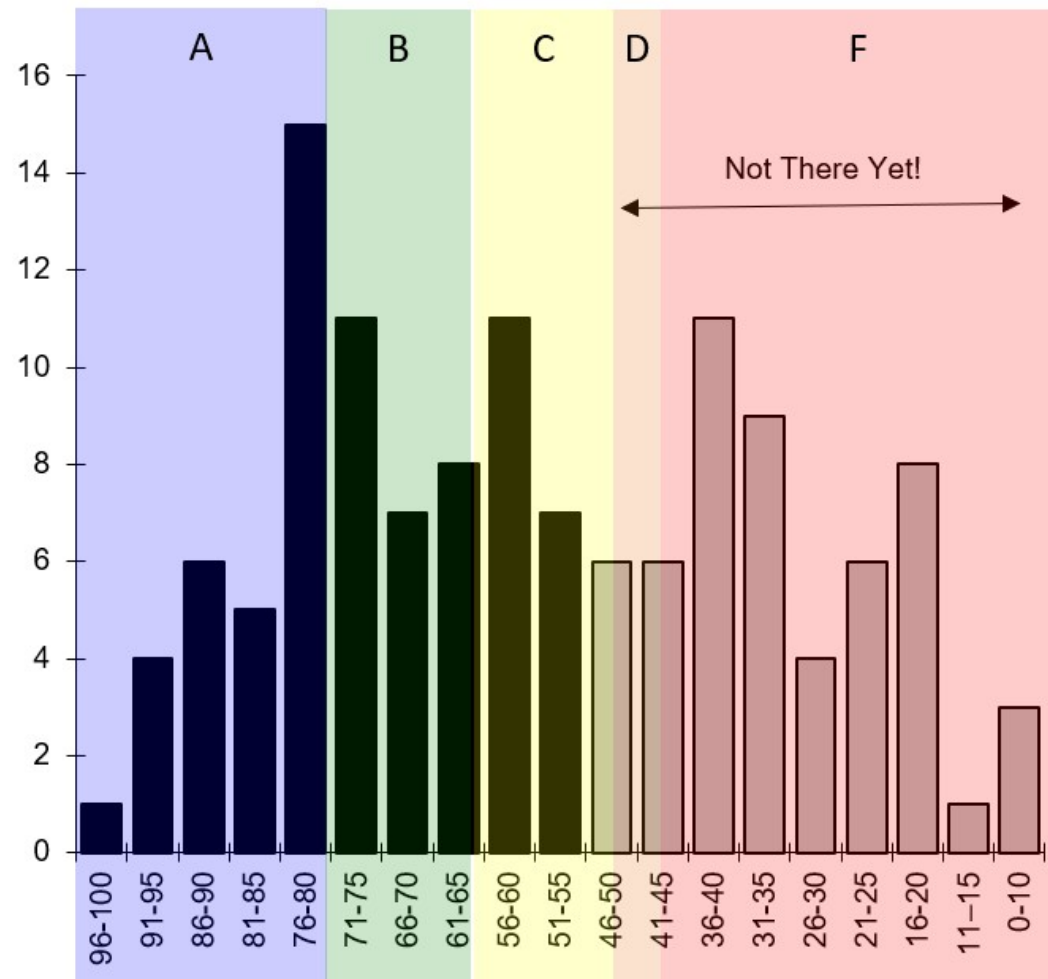
**+ max. homework**

*200 of 300 total Exam  
points are complete.*

***Grade going into 100-  
point final: average of  
your top two midterms!***

## CHM 3140, Spring 2025, Exam III

Ave: 57 Hi: 97 Lo: <10



# Exam Wrapper Survey

If you submitted wrappers for Exams 1 & 2, then you've earned max. 16 points reflection credit

<b>FridayFives</b> (4 pts each)    52 <i>(13+ reports earns maximum credit)</i>	<b>OLC reports</b> (1 pt each)    10 <i>(10+ reports earns maximum credit)</i>	<b>Exam Wrappers</b> 8 (4 pts each, drop one) <b>Exam Corrections</b> 8 (4 pts each, drop one)	<i>Friday5 and OLC reports are due every week (firm due dates)</i>	<b>Study/Reflection Course Points</b>  <b>75 (15%)</b>
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*(if missing a wrapper for Exam 1 or 2)*

due 5/13

CHM 3140 Exam Wrapper - Post-Test Survey (Due 5/2/21) 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 3 points credit if you complete this survey, and 3 points for corrections (\*include written reflection, if score <55). 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 55, you must submit a written reflection with your exam corrections (what will you do differently to prepare for the final exam?)*

What was your score\* on the exam?

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 approximate # of textbook problems in each chapter (#), about how many did you work on?

Ch. 6 (# problems) (Chemical Rxns)		Ch. 7-1 (# problems) (Substitution Rxns)		Ch. 7-2 (# problems) (Elimination Rxns)	
6 SkillBuilders (28)		3 SkillBuilders (31)		6 SkillBuilders (54)	
End-of-Chapter (EOC) (33)		EOC (20)		EOC (53)	

How did you work on textbook problems?

## CHM 3140 Distribution of Course Points (500 Total)

Exam I assignments*		Exam II assignments*		Exam III assignments*		Final assignments*		Homework Course Points  125 (25%)  *assignments due no later than date of each exam
SkillBuilder/EOC Ch.1	7	SkillBuilder/EOC Ch.4	8	SkillBuilder/EOC Ch.6	5	SkillBuilder/EOC Ch.8	12	
SkillBuilder/EOC Ch.2	7	SkillBuilder/EOC Ch.5	8	SkillBuilder/EOC Ch.7-1	8	SkillBuilder/EOC Ch.9	5	
SkillBuilder/EOC Ch.3	7	SkillBuilder/EOC Ch.15	5	SkillBuilder/EOC Ch.7-2	8	SkillBuilder/EOC Ch.10	5	
						SkillBuilder/EOC Ch.11	5	
"Free red ink" homework		"Free red ink" homework		"Free red ink" homework		"Free red ink" homework		
3D Sketch	3	Newman Proj.	3	NMR Spectra x3	3	Alkene Predict #1	4	
Resonance	3	Canvas quiz - R/S	3	Sn1 v Sn2	3	Alkene Predict #2	4	
Acid Strength	3	Canvas quiz - Compare	3	Alcohol Dehydrate	3			
	30		30		30		35	

FridayFives (4 pts each) 52  <i>(13+ reports earns maximum credit)</i>	OLC reports (1 pt each) 10  <i>(10+ reports earns maximum credit)</i>	Exam Wrappers 8 (4 pts each, drop one) Exam Corrections 8 (4 pts each, drop one)	<i>Friday5 and OLC reports are due every week (firm due dates)</i>	Study/Reflection Course Points  75 (15%)
--	---	---	--	--

Midterm Exams x3		Final Exam		<i>150 point final points will be scaled down to 100 max (150 x 0.66) if that improves your grade</i>	<b>Midterms: 200 (40%) Final: 100 (20%) or Midterms: 150 (30%) Final: 150 (30%)</b>
200	(100 pts each, drop lowest)	100			
or 150	(75 pts each, drop lowest)	150			

New Course Grade Option!!

# Today's Topic:

## Reactions of Alkenes (Ch. 8)

### Daily To-Do

### Flipped Lectures

#### Step 2

- Read Klein sections 8.9, 8.10, 8.12-8.15  
*SKIP Section 8.11 and SkillBuilder 8.7 (Anti-Dihydroxylation)*
- Watch flipped lectures
- Work through **SkillBuilders 8.5 - 8.12**

- **Alkene Predict the Product I Homework** (in Gradescope - *can be submitted late with no penalty, up until date of Final Exam*)
- Work on suggested **Chapter 8 EOC problems** on WileyPLUS (auto-graded) and/or on paper (self grade, using Solutions Manual).

- **Part 2 - Reactions of Alkenes - Part 2**  
**65 minutes**, pages 8-9 to 8-14  
*SKIP last part (Radical Addition to Alkenes) - we will come back to this later, in Chapter 10*

## Chapter 8

✓ Watch

✓ Read

✓ Practice



# Flipped Lectures

Bromination of Alkenes	49:51
Anti-Addition of Br <sub>2</sub>	49:52
Bromination Mechanism	53:16
Mechanism of Bromination	53:17
Bromination Mechanism	55:42
Mechanism of Bromination	55:43
Bromination: Halohydrin Formation	58:16
Addition of other Nu: to Bromonium Ion	58:17
Mechanism	60:16
Halohydrin: Regiochemistry	63:16
Halohydrin: Regiochemistry	63:17
Bromonium Ion Intermediate	64:16
Example	69:16
Example: Predict Major Product	69:17
Example Cont.	70:16
Example: Predict Major Product Cont.	71:16
Catalytic Hydrogenation of Alkenes	73:16
Features of Catalytic Hydrogenation	73:17
Catalytic Hydrogenation of Alkenes	74:16
Metal Surface	74:17
Heterogeneous Catalysts	75:16
Homogeneous Catalysts	76:16
Catalytic Hydrogenation of Alkenes	77:16
Hydrogenation & Pi Bond Stability	77:17
Energy Diagram	79:16
Catalytic Hydrogenation of Dienes	80:16
Hydrogenation & Pi Bond Stability	80:17
Energy Diagram	83:16
Example	84:16
Example: Predict Product	84:15

Anti addition of  
Br-Br & Br<sub>2</sub>/water

Reduction of  
Alkenes & Alkynes

Oxidation of Alkenes	87:21
Redox Review	87:22
Epoxide	90:26
Diol (Glycol)	90:54
Ketone/ Aldehyde	91:13
Epoxidation	92:08
Epoxidation	92:09
General Mechanism	96:32
Alternate Epoxide Synthesis	97:38
Alternate Epoxide Synthesis	97:39
Dihydroxylation	101:10
Dihydroxylation	101:12
General Mechanism (Concerted Via Cycle Intermediate)	102:38
Ozonolysis	104:22
Ozonolysis: Introduction	104:23
Ozonolysis: Is It Good or Bad?	105:05
Ozonolysis Reaction	108:54
Examples	111:10
Example 1: Ozonolysis	111:11
Example	113:25

Oxidation  
Reactions

# Chapter 8 Assignments

## Suggested Ch. 8 problems

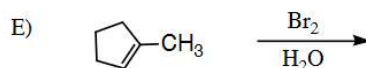
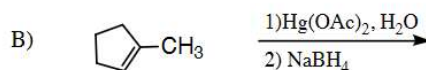
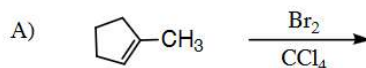
\*Mechanisms (good to work on by hand, self-correct w/Solutions Manual)

47abdefg	60	74	87
48	61	75a-d	88
49	63*	76ab	89
50	64a-d	77ab	
51a-d*	65a-c	78*	
52	66	79*	
53ab	67a-d	80	
54	68*	81	
55	69	82	
56	70	83	
57a-d	71	84	
58	72	85	
59	73	86	

### California State Polytechnic University, Pomona Organic Chemistry I, CHM 3140, Dr. Laurie S. Starkey Alkene/Alkyne Predict the Product

Name: \_\_\_\_\_

Predict the major product(s) expected for each of the following reactions, including stereochemistry, when appropriate. If no reaction is expected, write "no reaction".



## Final assignments\*

SkillBuilder/EOC Ch.8 12

SkillBuilder/EOC Ch.9 5

SkillBuilder/EOC Ch.10 5

SkillBuilder/EOC Ch.11 5

"Free red ink" homework

Alkene Predict #1 4

Alkene Predict #2 4

### Chapter 8 - Alkenes

Introduction & Nomenclature (Conc.Chkpt. 8.1-8.4, SkillBuilder 9.1)  
Due May 18 at 11:59pm | -/8 pts

Addition of HX: Hydrohalogenation (SkillBuilders 8.1 & 8.2)  
Due May 18 at 11:59pm | -/13 pts

Addition of H2O (SkillBuilders 8.3 & 8.4)  
Due May 18 at 11:59pm | -/14 pts

Addition of Br2 or Cl2 (SkillBuilder 8.6)  
Due May 18 at 11:59pm | -/6 pts

Catalytic Hydrogenation (SkillBuilder 8.5)  
Due May 18 at 11:59pm | -/4 pts

Oxidation Reactions  
Due May 18 at 11:59pm | -/10 pts

Summary and Synthetic Strategies  
Due May 18 at 11:59pm | -/16 pts

Chapter 8 EOC  
Due May 18 at 11:59pm | -/79 pts

# Last Three Lessons of CHM 3140!

## Section 1: Introduction to Organic Molecules

▶ Introduction and Drawing Structures ▶	≡+ ▾ 49:51
▶ Lewis Structures & Resonance ▶	≡+ ▾ 44:25
▶ Acid-Base Reactions ▶	≡+ ▾ 1:07:46
▶ Structures and Properties of Organic Molecules ▶	≡+ ▾ 1:23:35
▶ Alkane Structures ▶	≡+ ▾ 1:13:38
▶ Stereochemistry ▶	≡+ ▾ 1:40:54

## Section 2: Understanding Organic Reactions

▶ Nomenclature ▶	≡+ ▾ 1:53:47
▶ Chemical Reactions ▶	≡+ ▾ 51:01
▶ Free Radical Halogenation ▶	≡+ ▾ 26:23
▶ Substitution Reactions ▶	≡+ ▾ 1:48:05
▶ Elimination Reactions ▶	≡+ ▾ 1:11:43

Radical Addition to Alkenes

Recall: Free-Radical Halogenation

Radical Mechanism

Propagation Steps

Atom Abstraction

Addition to Alkene

Radical Addition to Alkenes

Markovnikov (Electrophilic Addition) & anti-Mark. (Radical Addition)

Mechanism

Alkene Polymerization

Example: Alkene Polymerization

## Section 3: Alkanes, Alkenes, & Alkynes

▶ Alkenes ▶	≡+ ▾ 36:39
▶ Reactions of Alkenes ▶	≡+ ▾ 2:08:44
▶ Alkynes ▶	≡+ ▾ 1:13:19

Ch. 8 Reactions of Alkenes  
Ch. 9 Reactions of Alkynes  
Ch. 10 Radical Reactions (fr  
Ch. 11 Synthesis Strategies (