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Klein-Starkey  
5<sup>th</sup> Edition  
debut at ACS  
meeting!

Dr. Laurie S. Starkey  
Cal Poly Pomona

CHM 3140 Organic Chemistry I  
Announcements 3/25/25



# Today's Topic: S<sub>N</sub>2 Mechanism (Chapter 7, Part 1 - Step 1)

*\*First of FOUR parts in Ch. 7\**

## Chapter 7

- ✓ Watch
- ✓ Read
- ✓ Practice

### Daily To-Do

### Flipped Lectures

#### Step 1

- Read Klein Chapter 7, sections 7.1-7.3
- Watch flipped lecture
- Work through **SkillBuilders 7.1 & 7.2**

Substitution Reactions Part 1 (Sn2)

**42 minutes,** *skeleton notes pages*

*3-1 to 3-4*

## Substitution Reactions ▾

1:48:00

Intro	0:00
Substitution Reactions	0:06
Substitution Reactions Example	0:07
Nucleophile	0:39
Electrophile	1:20
Leaving Group	2:56
General Reaction	4:13
Substitution Reactions	4:43
General Reaction	4:46
Substitution Reaction Mechanisms: Simultaneous	5:08
Substitution Reaction Mechanisms: Stepwise	5:34
SN2 Substitution	6:21
Example of SN2 Mechanism	6:22
SN2 Kinetics	7:58
Rate of SN2	9:10
Sterics Affect Rate of SN2	9:12
Rate of SN2 (By Type of RX)	14:13
SN2: E vs. POR Diagram	17:26
E vs. POR Diagram	17:27
Transition State (TS)	18:24
SN2 Transition State, Kinetics	20:58
SN2 Transition State, Kinetics	20:59
Hybridization of TS Carbon	21:57
Example: Allylic LG	23:34
Stereochemistry of SN2	25:46
Backside Attack and Inversion of Stereochemistry	25:48
SN2 Summary	29:56
Summary of SN2	29:58
Predict Products (SN2)	31:42
Example 1: Predict Products	31:50
Example 2: Predict Products	33:38
Example 3: Predict Products	35:11
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Example 5: Predict Products	37:32

## Sn2 Mechanism

# Flipped Lecture

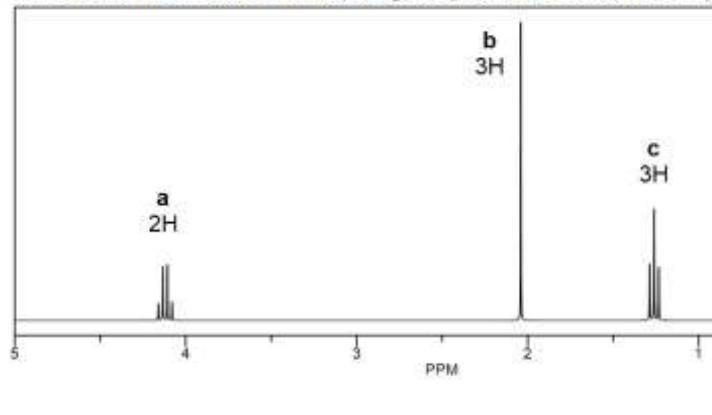
# Due ASAP: NMR, Exam Wrapper, Exam Corrections

## CHM 3140 Organic Chemistry I – Dr. Laurie S. Starkey – NMR Problem Set

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

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

Each of the following  $^1\text{H}$  NMR spectra comes from a compound with the molecular formula  $\text{C}_4\text{H}_8\text{O}_2$ . Propose a structure for each spectrum and label each proton on the structure (a/b/c...) to match the corresponding signal. Calculation of sites of unsaturation is helpful and careful examination of chemical shifts, integration and splitting patterns is required. Be sure to estimate the chemical shifts (using the provided tables) to verify your answer. **Show your work.**



## CHM 3140 Exam Wrapper - Post-Test Survey (Due 3/28/21) 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 for the rest of the semester?)*

What was your score\* on the exam?

What was your grade in CHM 123/1220?

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

Ch. 4 (# problems) (Alkanes, Conformers)		Ch. 5 (# problems) (Stereochemistry)		Ch. 15 (# problems) (NMR)	
12 SkillBuilders (33)	<input type="text"/>	6 SkillBuilders (28)	<input type="text"/>	8 SkillBuilders (28)	<input type="text"/>
End-of-Chapter (EOC) (81)	<input type="text"/>	EOC (106)	<input type="text"/>	EOC (47)	<input type="text"/>



# Focusing on Mental Health

Walk/jog/run  
EXERCISE

Poetry

FRIENDS

Pets &  
animals

Family

"I am a work in  
progress"

Journaling

Jump rope

Video games

Yoga

Knitting &  
Crochet

Dance

THERAPY

Study  
playlist

Going for a drive

Dogs

Watching  
comedies

Cosplay

Meditation

Caffeine

Keeping busy

Painting

Anime

Snacks

Pilates

Playing  
with slime

Cooking

Coloring



# Where are you on the Mental Health Spectrum? #studentlife



<https://delphis.org.uk/mental-health/continuum-mental-health/>