

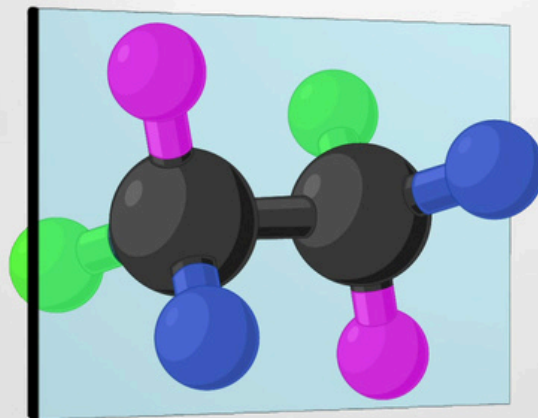
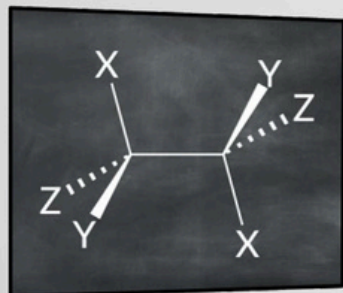
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# ORGANIC CHEMISTRY



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# ORGANIC CHEMISTRY



**5**

Topics



**800+**

Lessons



**129**

Scientist-In-Action  
Videos



## Core Learning Objectives

Understand organic structure and bonding principles.

Describe bonding, molecular structures, hybridization, and isomerism in hydrocarbons.

Name and interpret compounds.

Identify functional groups and understand their properties and reactivity.

Recognize and describe relationships among stereoisomers.

Predict reaction products, identify major organic reaction classes, formulate mechanisms, and interpret spectral data.

# 01

## JoVE Core: Chemistry

### List of Chapters

- 1.1 Introduction: Matter And Measurement
- 1.2 Atoms And Elements
- 1.3 Molecules, Compounds, And Chemical Equations
- 1.4 Chemical Quantities And Aqueous Reactions
- 1.5 Gases
- 1.6 Thermochemistry
- 1.7 Electronic Structure Of Atoms
- 1.8 Periodic Properties Of The Elements
- 1.9 Chemical Bonding: Basic Concepts
- 1.10 Chemical Bonding: Molecular Geometry And Bonding Theories
- 1.11 Liquids, Solids And Intermolecular Forces
- 1.12 Solutions And Colloids
- 1.13 Chemical Kinetics
- 1.14 Chemical Equilibrium
- 1.15 Acids And Bases
- 1.16 Acid-Base And Solubility Equilibria
- 1.17 Thermodynamics
- 1.18 Electrochemistry
- 1.19 Radioactivity And Nuclear Chemistry
- 1.20 Transition Metals And Coordination Complexes
- 1.21 Biochemistry

# 02

## JoVE Core: Organic Chemistry

### List of Chapters

- 2.1 Covalent Bonding And Structure
- 2.2 Thermodynamics And Chemical Kinetics
- 2.3 Alkanes And Cycloalkanes
- 2.4 Stereoisomerism
- 2.5 Acids And Bases
- 2.6 Nucleophilic Substitution And Elimination Reactions Of Alkyl Halides
- 2.7 Alkene Structure And Reactivity
- 2.8 Reactions Of Alkenes
- 2.9 Alkynes
- 2.10 Alcohols And Phenols
- 2.11 Ethers, Epoxides, Sulfides
- 2.12 Aldehydes And Ketones

- 2.13 Carboxylic Acids
- 2.14 Carboxylic Acid Derivatives
- 2.15  $\alpha$ -Carbon Chemistry: Enols, Enolates, And Enamines
- 2.16 Dienes, Conjugated Pi Systems, And Pericyclic Reactions
- 2.17 Aromatic Compounds
- 2.18 Reactions Of Aromatic Compounds
- 2.19 Amines
- 2.20 Radical Chemistry
- 2.21 Synthetic Polymers

# 03

## JoVE Lab Manual: Chemistry.

### List of Videos

- 3.1 Lab Techniques - Concept
- 3.2 Lab Techniques - Prep
- 3.3 Lab Techniques - Procedure
- 3.4 Scientific Measurement And Lab Skills - Concept
- 3.5 Scientific Measurement And Lab Skills - Prep
- 3.6 Scientific Measurement And Lab Skills - Procedure
- 3.7 Stoichiometry, Product Yield, And Limiting Reactants - Concept
- 3.8 Stoichiometry, Product Yield, And Limiting Reactants - Prep
- 3.9 Stoichiometry, Product Yield, And Limiting Reactants - Procedure
- 3.10 Redox Reactions - Concept
- 3.11 Redox Reactions - Prep
- 3.12 Redox Reactions - Procedure
- 3.13 Ideal Gas Law - Concept
- 3.14 Ideal Gas Law - Prep
- 3.15 Ideal Gas Law - Procedure
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- 3.17 Acid And Base Concentrations - Prep
- 3.18 Acid And Base Concentrations - Procedure
- 3.19 Buffers - Concept
- 3.20 Buffers - Prep
- 3.21 Buffers - Procedure
- 3.22 Enthalpy Of Reaction - Concept
- 3.23 Enthalpy Of Reaction - Prep
- 3.24 Enthalpy Of Reaction - Procedure
- 3.25 Solubility - Concept



3.26 Solubility - Prep
3.27 Solubility - Procedure
3.28 Metal Flame Emission - Concept
3.29 Metal Flame Emission - Prep
3.30 Metal Flame Emission - Procedure
3.31 Balmer Series - Concept
3.32 Balmer Series - Prep
3.33 Balmer Series - Procedure
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### Basic Biology.

#### List of Topics

- 4.1 General Laboratory Techniques
- 4.2 Lab Safety

# 05

## Chemistry

### List of Topics

5.1 Biochemistry

5.2 Organic Chemistry

5.3 Organic Chemistry II

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