

Table of Contents

These activities were written to cover most of the important concepts for a two semester organic chemistry sequence. The activities are grouped into organic 1 and organic 2, although that might vary from class to class depending on the textbook used. The order of activities most closely follows the textbook by Wade. Books by Smith and Carey/Guliano are structured in a similar order. Some concepts do not have an activity, particularly if the concept is of narrow focus. The following are some ideas for introducing additional concepts that do not have an activity.

- Assign the topic as homework/reading outside of class.
- Mini-lecture on the concept.
- Prepare a "mini-activity" on the concept to be done in groups during class. Usually a mini-activity consists of one model and questions on a single slide.

Activity	Topic	Page
	Organic Chemistry 1	
1	Drawing Organic Structures	8
2	Resonance Structures	16
3A	Acids and Bases: Part A. Acid/Base and pKa values	23
3B	Acids and Bases: Part B. Predicting Acid/Base Strength Without pKa Values	31
4	Nomenclature of Alkanes	41
5A	Conformations of Alkanes: Part A. Acyclic Compounds	51
5B	Conformations of Alkanes: Part B. Cyclohexane Compounds	58
6A	Reactive Intermediates and Organic Reactions	64
6B	Radical Halogenation Reactions	72
7	Stereochemistry	79
8	Fischer Projections (includes diastereomer, meso etc)	86
9A	Substitution, Nucleophilic Bimolecular, SN2	93
9B	Substitution, Nucleophilic Unimolecular, SN1	101
10A	Elimination	109
10B	Stereochemistry of E2 Elimination	117
11A	Electrophilic Addition: Part A. Addition of HX	124
11B	Electrophilic Addition: Part B. Addition of Oxygen	132
11C	Electrophilic Addition: Part C. Additions Involving Cyclic Intermediates or Products	140
12	Electrophilic Addition to Alkynes	149
13	Organic Synthesis	157
14	Organometallic Reagents	166

Activity	Topic	Page
	Organic Chemistry 2	
15	Oxidation and Reduction	173
16A	Alcohols: Versatile Reagents: Part A. Alcohols as acids, bases, nucleophiles and electrophiles.	180
16B	Alcohols: Versatile Reagents: Part B. Reactions of alcohols as Nucleophiles and Electrophiles.	186
16C	Reactions of Diols	193
17	Reactions of Ethers and Epoxides	200
18	Diels Alder Reaction	209
19	Aromaticity	216
20A	Electrophilic Aromatic Substitution: Part A. Reactions	222
20B	Electrophilic Aromatic Substitution: Part B. Substituent Effects	230
21	Reactions of Carbonyls: Aldehydes and Ketones	240
22	Carboxylic Acids	250
23A	Acidity at the α -carbon of Carbonyls	261
23B	Aldol Condensations	270
23C	Additional Reactions of Enolates	279
24	Reactions of Carboxylic Acid Derivatives	289
25	Amines	297