Many reactions in organic chemistry rely on acid-base reactions. For example, the formation of acetals from carbonyl compounds is catalyzed by acids.

**Reaction Mechanism** - a detailed step-by-step description of a reaction pathway. Here is a reaction mechanism for the formation of acetals.

**Representing Structures** - Understanding how chemists communicate using structural language is critical. Organic chemists represent structures in a variety of ways.

- **Lewis Dot Structures** - all electrons are represented by dots.
- **Kekulé Structure** - lines represent bonds. All atoms are drawn. Lone pairs may or may not be written.
- **Condensed Structure** - the skeletal information of the molecule is indicated in a condensed structure - no bonds are shown.
♦ **Line Structures** - these are the quickest to draw and the most used method of representing organic molecules. Here are a few rules for line structures.

♦ Carbons and Hydrogens are not shown
♦ each end of a line and intersection between lines is a carbon atom
♦ All other atoms are shown
♦ The number of hydrogens to make up carbon's valency (4 bonds) are assumed.
♦ Hydrogens on other atoms besides carbon are shown (eg. OH)

![3-Chloro-2-Methyl-2-pentanol](C_6H_{13}OCl)

Kekulé Structure

Condensed Kekulé Structure

Condensed Structure

CH₃C(CH₃)OHCHClCH₂CH₃