

### Naming

<b>Alkane</b>	-ane
<b>Alkene</b>	-ene
<b>Alkyne</b>	-yne
<b>Cyclic</b>	cyclo-
<b>Aromatics</b>	-benzene
<b>Alcohol</b>	-ol
<b>Ether</b>	-oxy- or -ether
<b>Aldehyde</b>	-al
<b>Keytone</b>	-one
<b>Carboxylic Acid</b>	-oic acid
<b>Ester</b>	-oate
<b>Amine</b>	-amine or -amino-
<b>Amide</b>	-amide
<b>Thiol</b>	-thiol

### Formation Reactions

#### Forming Alkanes

Hydrogenation of *Alkene* (Addition RX)

$H_2 + \text{Alkene} = \text{Alkane}$

#### Forming Alkenes

Dehydration of *Alcohol*

$\text{Alcohol (H}_2\text{SO}_4) = \text{Alkene} + \text{H}_2\text{O}$

Substitution RX + Elimination RX

$\text{Alkane} + \text{Halogen} = \text{Alkyl Halide} + (\text{HCL})$

$\text{Alkyl Halide} + \text{OH}^- = \text{Alkene} + (\text{Cl}) + \text{H}_2\text{O}$

### Formation Reactions

#### Forming Alcohols

$\text{Alkene} + \text{H}_2\text{O} = (\text{H}_2\text{SO}) \text{Alcohol}$

HYDROGENATION RX

Aldehyde (reducing agent) = 1 alcohol

Keytone (reducing agent) = 2 alcohol

#### Forming Ethers

CONDENSATION RX

$\text{Alcohol} + \text{Alcohol (H}_2\text{SO}_4) = \text{Ether} + \text{H}_2\text{O}$

#### Forming Aldehydes

OXIDATION RX

$1 \text{ Alcohol} + [\text{O}] = \text{Aldehyde} + \text{H}_2\text{O}$

#### Forming Keytones

$2 \text{ Alcohol} + [\text{O}] = \text{Keytone} + \text{H}_2\text{O}$

#### Forming Carboxylic Acids

$\text{Aldehyde} + [\text{O}] = \text{Carboxylic Acid}$

#### Forming Esters (esterfication)

$\text{Carboxylic Acid} + \text{Alcohol (H}_2\text{SO}_4) = \text{Ester} + \text{H}_2\text{O}$

#### Forming Amines

$\text{Alkyl Halide} + \text{Ammonia} = \text{Amine} + \text{HI}$

#### Forming Amides

$\text{Carboxylic Acid} + \text{Ammonia (H}_2\text{SO}_4) = \text{Amide} + \text{H}_2\text{O}$

### Other Reactions

#### Combustion RX

**Complete :**  $\text{___} + \text{O}_2 = \text{CO}_2 + \text{H}_2\text{O}$

**Incomp:**  $\text{___} + \text{O}_2 = \text{CO}_2 + \text{H}_2\text{O} + \text{CO} + \text{C}$

#### Alkanes

SUBSTITUTION RX

#### Alkenes & Alkynes

ADDITION RX

Halogenation... Hydrogenation... Hydrohalogenation... Hydration

#### Esters

HYDROLYSIS (soaponification)

$\text{Ester} + \text{NaOH} = \text{Sodium Carboxylate} + \text{Alcohol}$

### Polarity

#### Carboxylic Acid

#### Alcohol

#### Amines & Amides

#### Aldehydes, Keytones, Esters

#### Ethers & Alkyl Halides

#### Alkenes & Aromatics

#### Alkanes



By emilyaltmann

[cheatography.com/emilyaltmann/](https://cheatography.com/emilyaltmann/)

Published 19th September, 2019.

Last updated 19th September, 2019.

Page 1 of 1.

Sponsored by **Readable.com**

Measure your website readability!

<https://readable.com>