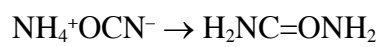
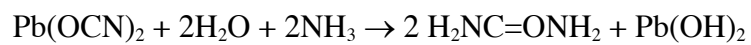


**What is organic chemistry?**

**Where did it come from?**

*Frederick Wohler*



Natural Products

**Who is this R guy anyway?**

Alkane

Alkene

Alkyne

Alcohol

Ether

Alkyl Halide

Amine

Carbonyl bonds are bonds that contain a carbon double bonded to an oxygen atom.

Aldehyde

Ketone

Carboxylic Acid

Ester

Amide

Thiols

Aromatics

Nitriles

**Nomenclature of Organic Compounds**

<b>Name</b>	<b>Formula</b>	<b>Less one Hydrogen</b>	<b>New Formula</b>
<i>Methane</i>			
<i>Ethane</i>			
<i>Propane</i>			
<i>Butane</i>			
<i>Pentane</i>			
<i>Hexane</i>			
<i>Heptane</i>			
<i>Octane</i>			
<i>Nonane</i>			
<i>Decane</i>			
<i>Undecane</i>			
<i>Dodecane</i>			

Naming system

**Draw the following compounds:**

Ethane

Propane

2 methyl propane

2 methyl pentane

3 methyl pentane

2 methyl pentane (again)

2,4 di methyl pentane

3 ethyl 2 methyl heptane

ethanol

propanal

butanone

ethanoic acid

butanol

2 butanol

methyl amine

di methyl ether

ethyl methyl ether

ethene

ethyne

propene

2 butyne (ignore cis/trans)

bromo methane

fluoro ethane

2,2 dichloro propane

methyl ethanoate

ethyl propanoate

cyclo propane

**Isomers****Structural Isomers**

Butane

2-methyl propane

ethyl methyl ether

propanol

Ethanol

di methyl ether

**Positional Isomer**

2 methyl pentane

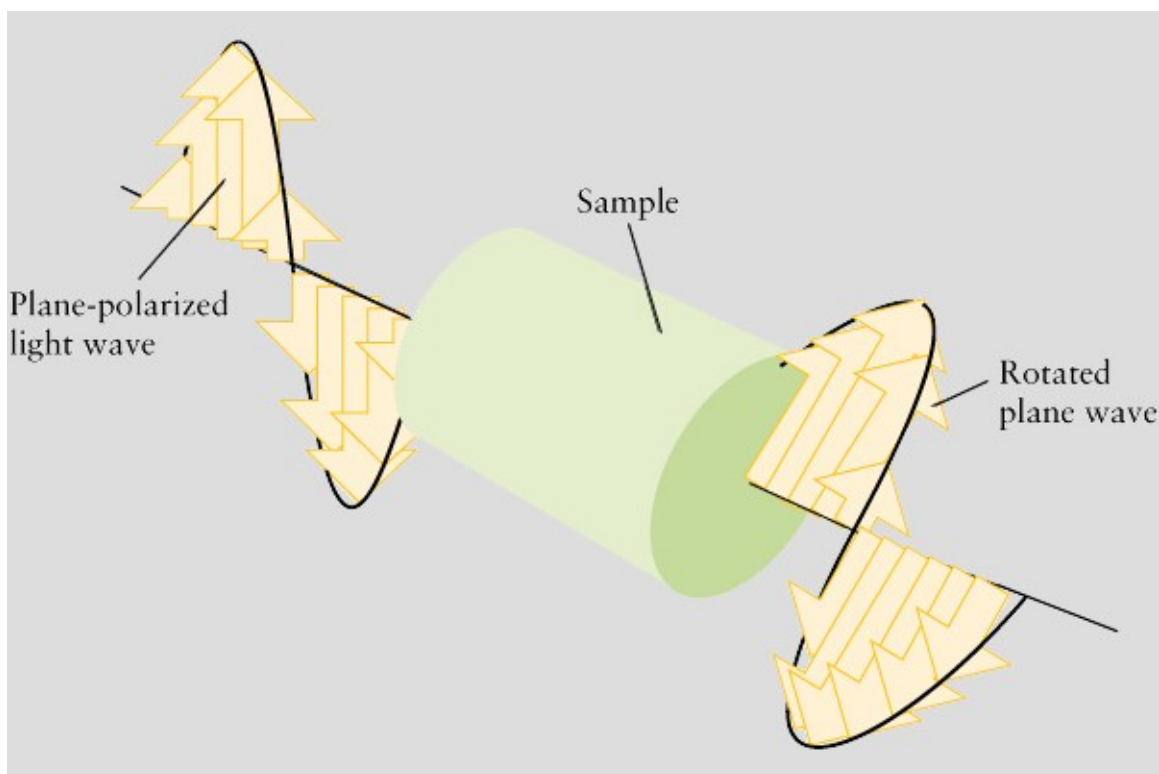
3 methyl pentane

**Stereo Isomers****Geometric Isomers** $C_2H_4Br_2$  vs.  $C_2H_2Br_2$

## Optical Isomers

Louis Pasteur

### Jean Biot Experiment



### Chiral Carbons

Methane ( $\text{CH}_4$ ) vs  $\text{CHClBrF}$

**Organic Reactions**

Combustion:

Substitution

Addition

Hydrolysis

Dehydration (esterification)

## **Polymers**

Addition Polymer (what does this word mean?)

Peptide Bond (of great biological importance)

Polyester (many esters, really bad 1970's clothing)