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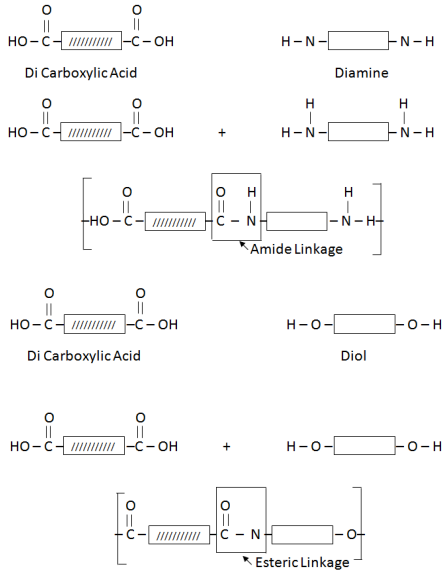
# LONG CHAIN ALKANE

# POLYMER

**Condensation Polymerisation**
(elimination of water)




**$H_2$ gas**
(For Haber process)

**Catalytic Cracking**
($Al_2O_3$ & $SiO_2$, 600 °C)

**Addition Polymerisation**
(High temp & pressure)

# SUGAR

$C_6H_{12}O_6 \rightarrow C_2H_5OH + CO_2$

**Fermentation**
(37°C, yeast & no $O_2$)

**Oxidation**
(acidified aqueous potassium manganate(VII) / exposed to air)

**Hydration**
(300 °C & 60-70 atm, Phosphoric(V) acid)

# ALKANE
C - C

**Hydrogenation**
(200 °C & nickel)

# ALKENE
C = C

# ALCOHOL
-OH

# CARBOXYLIC ACID
-COOH

**Substitution**
(UV light)

**Bromination**
(Test for C=C bonds)

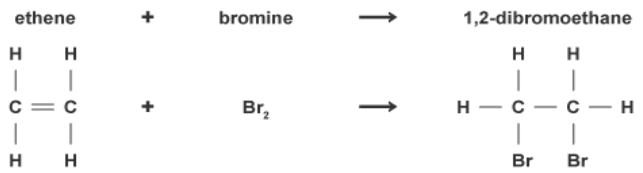
**Esterification**
(warm, sulfuric acid)

**Prefix**

Meth- 1
Eth- 2
Prop- 3
But- 4
Pent- 5
Hex- 6
Hep- 7
Oct- 8
Non- 9
Dec- 10

$CH_4 (g) + Br_2 (g) \rightarrow CH_3Br (g) + HBr (g)$

$C_2H_4 (g) + Br_2 (aq) \rightarrow C_2H_4Br_2 (aq)$




# ESTER + $H_2O$
-COO-

**<u>ALL ORGANIC COMPOUNDS</u>**

**Complete Combustion**

$X + O_2 (g) \rightarrow CO_2 (g) + 2H_2O (l)$

**Incomplete Combustion**

$X + O_2 (g) \rightarrow CO (g) + 2H_2O (l)$