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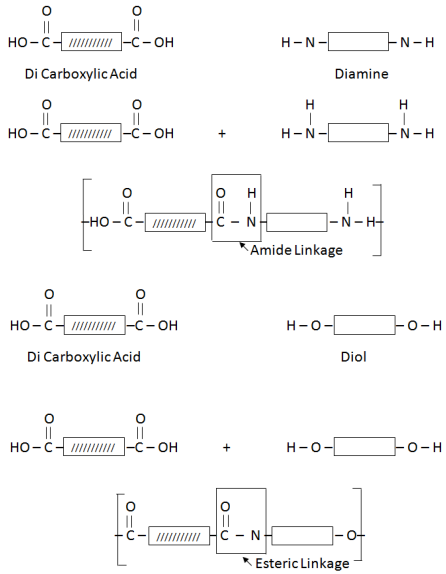
LONG CHAIN ALKANE

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)

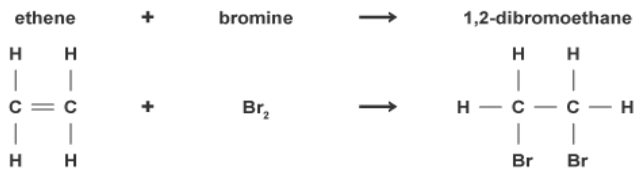
Esterification
(warm, sulfuric acid)

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-

ALL ORGANIC COMPOUNDS
Complete Combustion

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

Incomplete Combustion

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