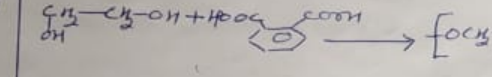
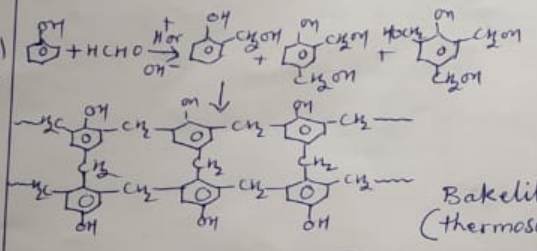
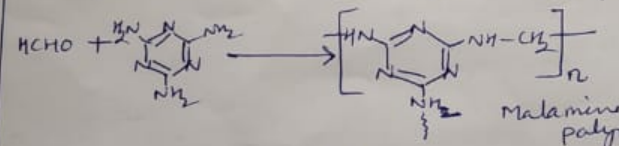
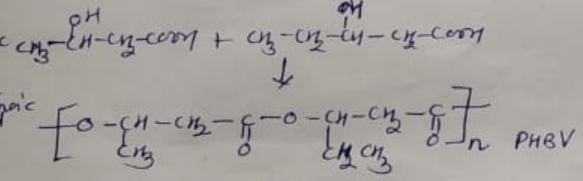
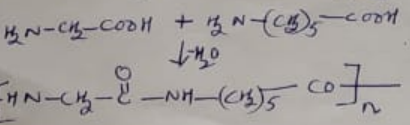
Polymer	Monomers	Chemical Reactions	Uses
(16) Urea formaldehyde resin	(a) Urea (NH_2CONH_2) (b) formaldehyde (HCHO)	$NH_2CONH_2 + HCHO \longrightarrow [NH-CO-NH-CH_2]_n$	unbreakable cups laminated sheets
(15) Glyptal (copolymer)	(a) Ethylene glycol $HO-CH_2-CH_2-OH$ (b) Phthalic acid		making paints and lacquers.
(14) Bakelite	(a) Phenol (b) formaldehyde HCHO	 Bakelite (thermosetting Plastic)	combs, electrical switches, handles of pan & cooker.
(17) Malamine formaldehyde	(a) Malamine (b) Formaldehyde HCHO	 Malamine polymer.	Unbreakable crockery.
(18) Biodegradable Polymer (a) (PHBV) Poly-β-hydroxy butyrate-co-β-hydroxy valerate	(i) 3-Hydroxybutanoic acid (ii) 3-Hydroxy pentanoic acid	 PHBV	packaging, ortho paedic devices.
(b) Nylon-2-nylon6 (polyamide copolymer)	(i) Glycine (H_2N-CH_2-COOH) (ii) caproic acid $H_2N-(CH_2)_5-COOH$		in medicines, surgical devices. plastic film.

(29) $t = \frac{2.303}{K} \log \frac{[A]_0}{[A]}$

(30) $t_{\frac{1}{2}} = \frac{0.693}{k}$

(31) $\log k = \log A - \frac{E_a}{2.303RT}$

(32) $\log \frac{k_2}{k_1} = \frac{E_a}{2.303R}\left[\frac{1}{T_1} - \frac{1}{T_2}\right]$

CHEMICAL KINETIC

k = rate constant

$[A]_0$ = Initial con

[A] = conc. after ti

$t_{\frac{1}{2}}$ = half life period

K = rate constant

A = Arrhenius factor

E_a = Activation energy

R = gas constant (8.314