

POLIMER

Alam : protein → poliamida, polipeptida
as. Nukleat → DNA, RNA
Polisakarida → agar, alginat
Poli isoprene → karet

Sintesis : resin akrilik

Jenis Polimer

Polietilen – PE

Polipropilen – PP

Polivinil khlorida – PVC

Polimetil metakrilat – PMMA

(resin akrilik)

Nylon – based thermoplastic

RESIN AKRILIK

Akrilik → ACROLINE : bau yang tajam
1937 u/gt, bhn resto gigi, mahkota & jembatan,
sendok cetak, mahkota sementara

BERDASARKAN AKTIVASINYA :

KURING PANAS – *Heat Cured*

Heat curing acrylic resin

KURING DINGIN – *Cold Cured*

Autopolymerizing acrylic resin

GELOMBANG MIKRO – *Microwave Activated*

Microwafe acrylic resin

SINAR TAMPAK – *Visible Light Cured*

Light curing acrylic resin

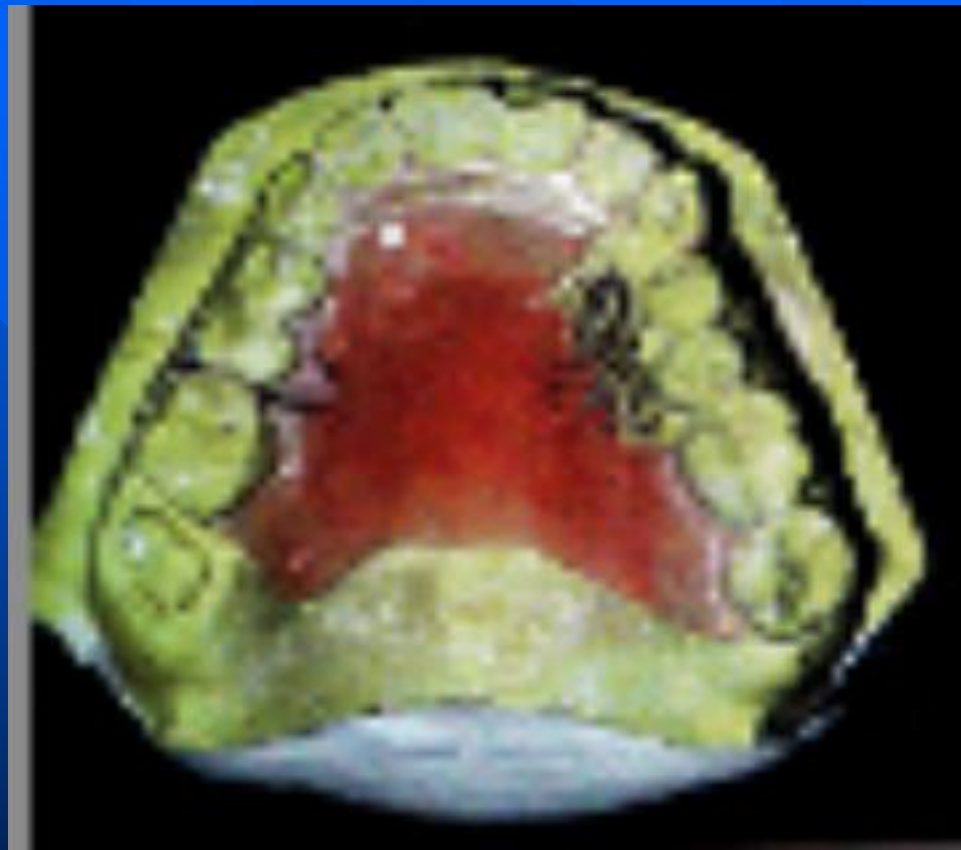




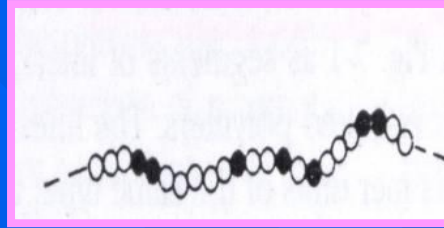
Figure 1: A close-up photograph of the tongue and floor of the mouth. A large, reddish, lobulated mass is visible, extending from the base of the tongue towards the floor of the mouth. The mass has a slightly irregular, cauliflower-like appearance. A small 'a' is visible in the bottom left corner.

Figure 2: A frontal view of the mouth showing a large, pinkish, lobulated mass on the upper lip and gingiva. The mass is well-circumscribed and has a slightly irregular, cauliflower-like appearance. The teeth are visible and appear healthy. A small 'b' is visible in the bottom left corner.

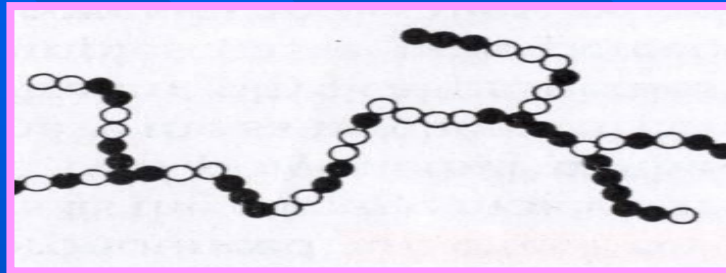
Figure 3: A frontal view of the mouth showing a large, pinkish, lobulated mass on the upper lip and gingiva, similar to Figure 2. The mass is well-circumscribed and has a slightly irregular, cauliflower-like appearance. The teeth are visible and appear healthy. A small 'c' is visible in the bottom left corner.

Struktur molekul

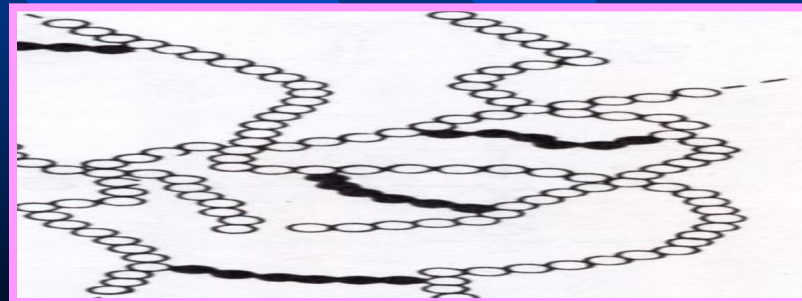
- lurus



- bercabang



- cross-linked



POLIMERISASI

MONOMER → unit paling kecil yg menyusun rantai polimer

Eq. MMA = metil metakrilat

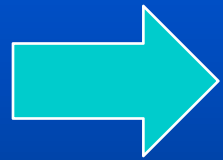
POLIMER → rantai mol panj. ter ssn banyak unit or monomer yg berulang

Eq. PMMA = polimetil metakrilat

POLIMERISASI → proses terbentuknya monomer menjadi rantai panjang polimer melalui rx kimia

REAKSI POLIMERISASI

Polimer (bubuk) + Monomer (cairan)
(Inisiator :Peroksida) (Accelerator : Amin)



Polimer + Panas
(reaksi)

Mekanisme polimerisasi

1. **Kondensasi** → rantai polimer + hasil samping.

- Mis. pembentukan asam amino →
protein + air.

2. **Adisi** → rx kimia mol kcl → besar # hsl samping
→ Radikal bebas
→ resin akrilik

- a. Aktivasi
- b. Inisiasi
- c. Propagasi
- d. Terminasi

2. **Adisi** → rx kimia mol kcl → besar # hsl samping → Radikal bebas

- Pembentukan rantai polimer tanpa ada hasil samping.
- Biasa u/ bahan kg → resin akrilik

- a. Aktivasi
- b. Inisiasi
- c. Propagasi
- d. Terminasi

Mekanisme Adisi Radikal Bebas

Induksi

AKTIVASI & INISIASI.

- Aktivator (panas, sinar, bhn kimia)
 - inisiator (bensoil peroksida)
 - Aktivator \rightarrow mengaktivasi inisiator ber rx
dgn monomer
 - Monomer terinisiasi, \rightarrow ik.rangkap karbon lepas
 - \rightarrow tinggal karbon dgn ik.tunggal
- \rightarrow **RADIKAL BEBAS ($M\cdot$)** yi : seny. dgn ik
rangkap \rightarrow elektron # memp pasangan –
secara kimiawi sangat reaktif.

Inisiasi

Proses polimerisasi dimulai
R bebas ber rx dgn monomer

Propagasi

- radikal bebas ($M\cdot$) **berx dg monomer di
sebelahnya.** --→ memperpanjang rantai polimer
- **Dua monomer yg berx** → **1 rantai polimer**
- Thp terjadi dr berbagai arah → polimer >>

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Terminasi

Jumlah monomer ber (-) & viskositas $\gg \rightarrow$
pertemuan dari 2 *end terminal* or dgn *dead polymer* \rightarrow rx berhenti/Polimerisasi berakhir

- Bertemunya 2 R bebas \rightarrow mol stabil
- Tanda : pertukaran seb hidrogen dari rantai satu dgn rantai yg lain