



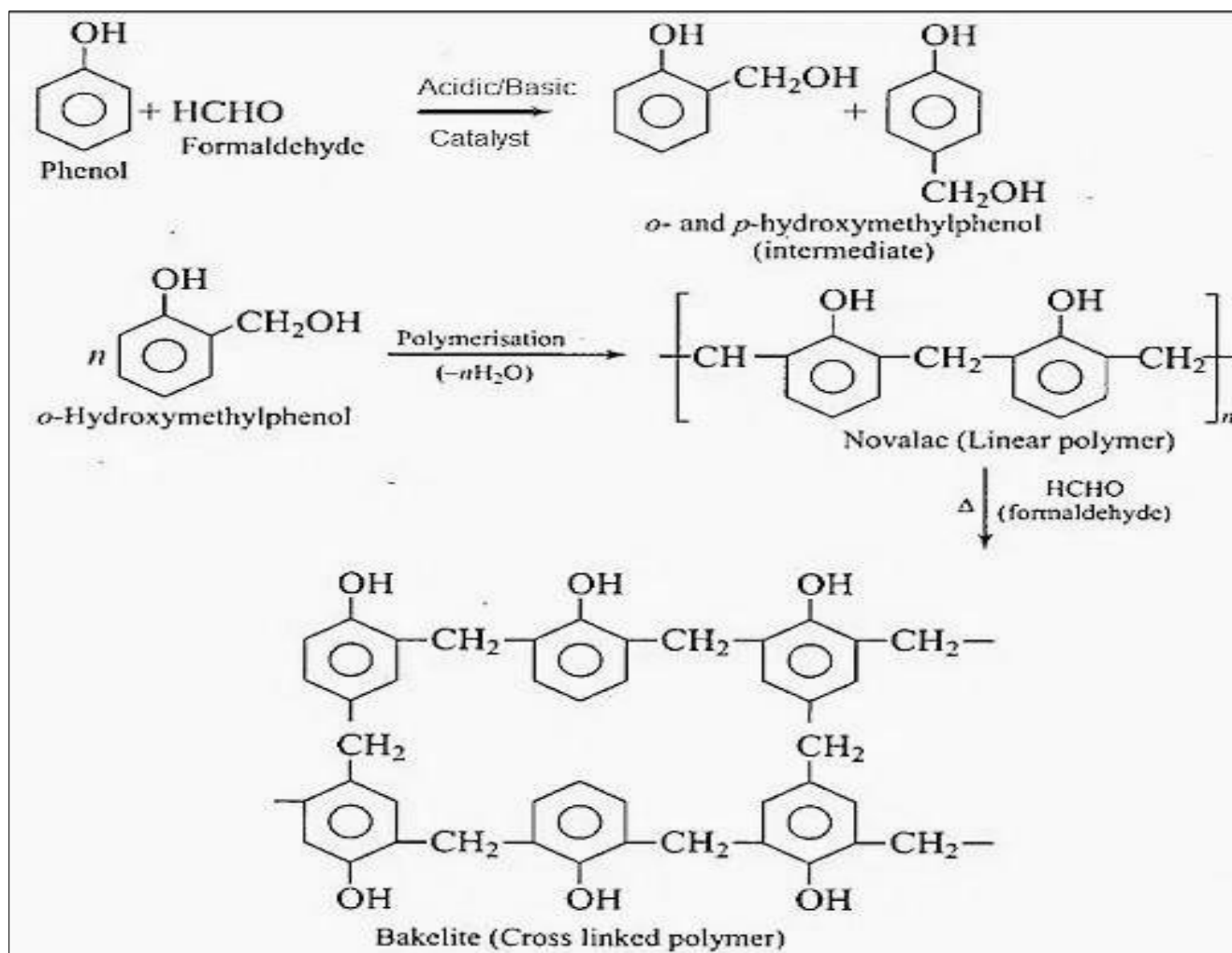
Bakelite

It is a thermosetting polymer.

The polymer is formed by condensation of formaldehyde with phenol. Its chemical formula is $(C_6H_6O \cdot CH_2O)_n$.

The process may be carried out as follows

A mixture of phenol and formaldehyde are allowed to react in the presence of alkaline and acid catalyst. The process involves formation of methylene bridges in ortho, para or both ortho and para positions. This results first in the formation of linear polymer (Called NOVALAC) and then into cross-linked polymer called phenol-formaldehyde resin or Bakelite





Properties

1. It has high strength
2. Bakelite has a high resistance to heat and chemicals
3. It retains its shape after moulding
4. It has a low electrical conductivity

Uses

1. It is most commonly used for making electrical switches
2. Bakelite is also used to make the handles of a variety of utensils.
3. It is one of the most important and extensively used polymers for making components and parts of various items