

SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution) Coimbatore – 35



Organic Polymer

Polyacetylene (PA)

Polyacetylene (PA) was synthesized under mild conditions via polymerization of acetylene in n-octane with AlCl₃ as a catalyst, Polyacetylene materials were obtained.

HC
$$\equiv$$
CH $\stackrel{AlCl_3, \text{ n-octane}}{\triangle, \text{ stirring}}$ $\stackrel{H}{\leftarrow}_{C}$ $\stackrel{H}{\leftarrow}_{C}$ $\stackrel{H}{\leftarrow}_{n}$

Properties

- 1. Highly conductive material.
- 2. Depending upon the dopant material its properties also change and also give it tunable properties like electrochemical or optical mechanical properties, etc,
- 3. Doped polyacetylene have high electrical conductivity

Uses

- 1. It can be used in electric wiring or electrode material in lightweight rechargeable batteries.
- 2. It can be used as a sensor to measure glucose concentration.

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