PLASMAGEAR

LIST OF POLYMERS (not limited to)

1. **Synthetic Polymers**

    - Polyacrylonitrile (PAN): PAN is a versatile polymer used in the production of carbon nanofibers and nanocomposites. It is widely employed in electrospinning for applications such as filtration, textiles, energy and aerospace materials.

    - Polyurethane (PU): PU is a versatile elastomeric polymer used in electrospinning for applications in tissue engineering, textiles, wound dressings, and drug delivery due to its flexibility and biocompatibility.

    - Polyvinylidene Fluoride (PVDF): PVDF is a semi-crystalline fluoropolymer with excellent chemical resistance. It is used in electrospinning for applications in filtration, sensors, and energy storage devices.

    - Polyamide (Nylon): Various polyamides, including Nylon-6 and Nylon-66, are used in electrospinning for applications such as textiles, filtration, and biomedical materials.

    - Poly (methyl methacrylate) (PMMA): PMMA is a transparent thermoplastic polymer that is used in electrospinning for applications in optics, sensors, and nanocomposite materials.

2. **Natural and Biodegradable Polymers**

    - Polycaprolactone (PCL): PCL is a biodegradable polyester commonly used in electrospinning for applications in tissue engineering, wound healing, and drug delivery due to its slow degradation rate.

    - Poly (lactic acid) (PLA): PLA is a biodegradable polymer derived from renewable resources such as corn starch or sugarcane. It is commonly used

in electrospinning for applications in tissue engineering, drug delivery, and packaging.

- Polyhydroxybutyrate (PHB): PHB is a biodegradable polyester produced by bacteria. PHB-based nanofibers are explored for applications in tissue engineering, drug delivery, and environmental remediation.

- Cellulose and Its Derivatives: Cellulose, obtained from plant cell walls, and its derivatives (e.g., cellulose acetate, carboxymethyl cellulose) are widely used in electrospinning. Nanofibers made from cellulose and its derivatives find applications in textiles, drug delivery, and as biodegradable packaging materials.

- Gelatin: Gelatin is a protein derived from collagen, often sourced from animal tissues. Gelatin-based nanofibers mimic the extracellular matrix and find applications in tissue engineering, wound dressings, and controlled drug release due to their biocompatibility.

3. **Water-Soluble Polymers**

- Polyvinyl Alcohol (PVA): PVA is a water-soluble synthetic polymer that is often used in electrospinning due to its biocompatibility. It is commonly employed in applications such as tissue engineering, cosmetics and drug delivery.

- Polyethylene Oxide (PEO): PEO is a water-soluble polymer that is suitable for electrospinning aqueous solutions. It is often used in applications such as drug delivery and the production of nanofibrous scaffolds for tissue engineering as well as cosmetic applications along with ingredients such as collagen, vitamin C.

- Polyethylene Glycol (PEG): PEG is a water-soluble and biocompatible polymer that is used in electrospinning for drug delivery applications. PEG-based nanofibers can encapsulate and release water-soluble drugs.

- Polyvinyl Pyrrolidone (PVP): PVP is a water-soluble synthetic polymer often used in pharmaceutical and medical applications. PVP-based nanofibers are utilized in drug delivery, wound healing, and tissue engineering.