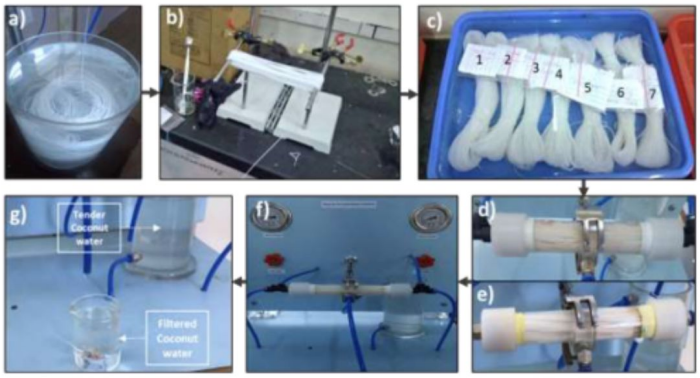
BITS Pilani
Pilani | Dubai | Goa | Hyderabad | Mumbai
An Institution of Eminence

विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

BITS Pilani
TECHNOLOGY
ENABLING
CENTRE
DST Supported

PENDING

(IN202311059018) Pvdf-pvp/peg based hollow fiber membranes (hfm)



NEED

Filtration technologies for applications such as coconut water face limitations in efficiency and material compatibility. Membranes need high permeability and selective filtration properties for better performance in the food and beverage sector.

MARKET ANALYSIS

The global membrane market for food and beverage filtration is projected to grow at a CAGR of 7.6%, reaching $9.2 billion by 2033 (source: Grand View Research, 2024). The increasing demand for clean and safe food products drives this growth.

TECHNOLOGY OVERVIEW

This invention develops PVDF-PVP/PEG-based blend hollow fibre membranes for high-performance filtration. These membranes, produced through phase inversion, exhibit high permeability and specific pore sizes, optimizing coconut water filtration and improving efficiency in food processing.

Target Industries

Food and beverage industry, water purification, and biopharmaceuticals. , Membrane manufacturers, filtration system integrators, food and beverage processing companies.

TECHNOLOGY KEY FEATURES

High permeability (50.28 to 399.66 L/m²h.bar), controlled pore sizes (11-22.33 nm), PVDF-PVP/PEG blend, phase inversion technique, cost-effective fabrication, specialized for food and beverage applications, improved filtration performance.

AT A GLANCE

- SDG 6 (Clean Water and Sanitation), SDG 12 (Responsible Consumption and Production)

Read more here

Technology is available for licensing/ co-development.

Reach out to Prof. Deepak Chitkara, Coordinator, BITS Technology Enabling Centre,
BITS Pilani Contact Details: tec.bits@pilani.bits-pilani.ac.in, 91 1596-255913

innovate achieve lead