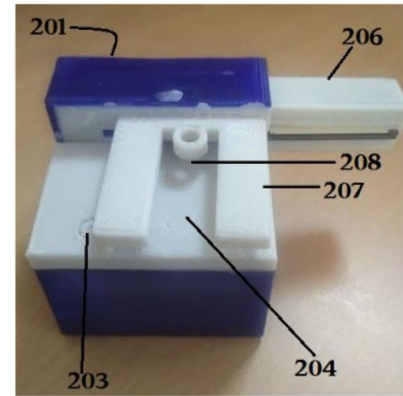


GRANTED**(IN511739)**

A microfluidic electro-viscometer to determine relative viscosity of a fluid



NEED

Viscosity testing in labs often involves bulky equipment, high costs, and long test times. This limits point-of-care use and restricts access in low-resource areas. But what if there was a way to shrink all of it?

TECHNOLOGY OVERVIEW

This patent presents a microfluidic electro-viscometer with a paper-based microchannel, hydrophobic coating, embedded electrodes, and microcontroller for determining fluid viscosity. Its smartphone-powered design, screen-printed electrodes, and 3D-printed parts offer portability, faster testing, and easier fabrication—ideal for on-field and remote diagnostics.

TECHNOLOGY KEY FEATURES

Paper-based microchannel with hydrophobic coating, screen-printed silver electrodes, smartphone-enabled power and data module, Bluetooth integration, 3D printed housing, and formula-based automated viscosity measurement via microcontroller.

[Read more here](#)

MARKET ANALYSIS

The global microfluidics market is projected to grow at 13.2% CAGR, reaching \$77.9B by 2033. Demand for compact diagnostics, growing telemedicine adoption, and lab-on-chip solutions for health, food, and environmental testing drive this trend. (Source: Precedence Research, 2023)

Target Industries

1) Point-of-care diagnostics developers, 2) Environmental monitoring solution providers, 3) Food quality testing tech innovators.

AT A GLANCE

- SDG 3 (Good Health and Well-being), SDG 6 (Clean Water and Sanitation), SDG 9 (Industry, Innovation, and Infrastructure)

Technology is available for licensing/ co-development.

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