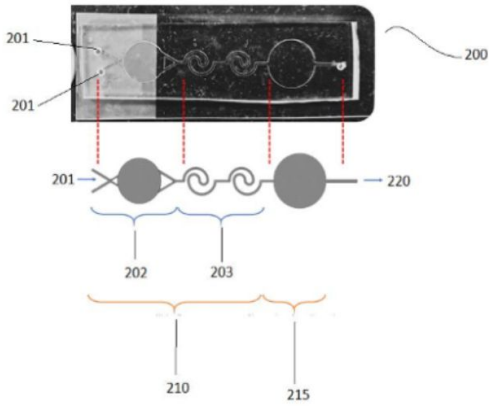
BITS Pilani
Pilani | Dubai | Goa | Hyderabad | Mumbai
An Institution of Eminence

विज्ञान एवं प्रौद्योगिकी विभाग
DEPARTMENT OF
SCIENCE & TECHNOLOGY
सत्यमेव जयते

BITS Pilani
TECHNOLOGY
ENABLING
CENTRE
DST Supported

PENDING

(IN202311075934) A microfluidic colorimetric device and a method of manufacturing the same



NEED

Accurate, fast detection of analyte concentration in samples is critical for applications in healthcare, environmental monitoring, and agriculture. Current systems are complex, slow, or expensive, creating a need for a simpler, cost-effective solution.

MARKET ANALYSIS

The microfluidics market is projected to grow at a CAGR of 22.3% through 2033, driven by rising demand in diagnostics, environmental monitoring, and point-of-care testing (source: Grand View Research, 2023).

TECHNOLOGY OVERVIEW

This microfluidic colorimetric device enables precise, rapid detection of analytes using a compact chip with integrated micromixers and optical detectors. The device combines simplicity, efficiency, and affordability, providing real-time analyte concentration readings for diverse applications, from environmental testing to medical diagnostics.

Target Industries

Diagnostics, environmental monitoring, agriculture. , Diagnostics companies, environmental testing agencies, agricultural R&D institutions, IoT-enabled devices manufacturers, sensor technology developers.

TECHNOLOGY KEY FEATURES

Microfluidic chip with split-and-recombine (SAR) and spiral micromixers; optical detector based on micro-spectroscopy; LED light source; IoT-enabled; cost-effective and efficient analyte detection; portable design for diverse applications.

AT A GLANCE

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

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