

Title (en)

Microfluidic system for displacement of a fluid

Title (de)

Mikrofluidisches System zur Verdrängung eines Flüssigkeits

Title (fr)

Dispositif microfluidique de déplacement de liquide

Publication

EP 2143948 A2 20100113 (FR)

Application

EP 09164655 A 20090706

Priority

FR 0854596 A 20080707

Abstract (en)

The device has an opening (11B) located at a level of an end (12B) of a microchannel (10). Electrically conducting liquid (F1) partially fills the microchannel in a longitudinal direction, and electrically insulating fluid (F2) e.g. air, forms an interface (I1) with the fluid (F1). Fluid (F3) e.g. medicine or radioactive tracer, forms an interface (I3) with the insulating fluid. Displacement units displace the fluid (F1) to induce displacement of the insulating fluid through the opening, and have a dielectric layer (40) directly covered with a hydrophobic layer. The conducting fluid is constituted by aqueous solution charged with ions.

Abstract (fr)

L'invention concerne un dispositif microfluidique de déplacement de liquide. Le dispositif de déplacement selon l'invention comporte un microcanal (10) muni d'une ouverture (11B) sur l'environnement, le microcanal (10) étant rempli d'un premier liquide (F 1) et d'un second liquide (F 3), les deux liquides étant séparés par un fluide séparateur (F 2). L'injection du second liquide (F 3) au travers de l'ouverture (11B) est obtenue par déplacement du premier liquide (F 1) par électromouillage.

IPC 8 full level

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CPC (source: EP US)

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Citation (applicant)

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- MUGELE; BARET: "Electrowetting: from basics to applications", J. PHYS. CONDENS. MATTER, vol. 17, 2005, pages R705 - R774
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