

Title (en)
DIGITAL MICROFLUIDICS SYSTEM WITH SWAPPABLE PCB'S

Title (de)
DIGITALES MIKROFLUIDIKSYSTEM MIT AUSWECHSELBAREN LEITERPLATTEN

Title (fr)
SYSTEME MICROFLUIDIQUE DIGITAL AVEC CIRCUIT IMPRIMÉ CHANGEABLE

Publication
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Application
EP 13724823 A 20130523

Priority
EP 2013060585 W 20130523

Abstract (en)
[origin: WO2014187488A1] A digital microfluidics system (1) for manipulating samples in liquid droplets within disposable cartridges (2) that comprise a bottom layer (3), a top layer (4), and a gap (6) between the bottom and top layers (3,4) is disclosed. The digital microfluidics system (1) comprises a base unit (7) with cartridge accommodation sites (8); and a central control unit (14) for controlling the selection of individual electrodes (10) of electrode array(s) (9) and for providing these electrodes (10) with individual voltage pulses for manipulating liquid droplets within said cartridges (2) by electrowetting. The digital microfluidics system (1) further comprises board accommodation sites (40) that are located at the cartridge accommodation sites (8) of the base unit (7) and that each can take up a swappable electrode board (41) comprising an electrode array (9) and electrical board contact elements (42) that are individually connected to electrodes (10) of the electrode array (9). Each board accommodation site (40) comprises electrical base unit contact elements (43) that are connected to the central control unit (14) and that are configured to engage with the electrical board contact elements (42) of a swappable electrode board (41) that is placed at said board accommodation site (40). Also disclosed are a selection of disposable cartridges (2), swappable electrode boards (41), and methods for manipulating samples in liquid droplets (23) that adhere to a hydrophobic surface (17).

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