

Title (en)  
CARTRIDGE AND SYSTEM FOR MANIPULATING SAMPLES IN LIQUID DROPLETS

Title (de)  
KARTUSCHE UND SYSTEM ZUM VERÄNDERN VON PROBEN IN FLÜSSIGKEITSTROPFEN

Title (fr)  
CARTOUCHE ET SYSTÈME DE MANIPULATION D'ÉCHANTILLONS DANS DES GOUTTELETTES LIQUIDES

Publication  
**EP 2943278 A1 20151118 (EN)**

Application  
**EP 13700152 A 20130109**

Priority  
EP 2013050322 W 20130109

Abstract (en)  
[origin: WO2014108184A1] A cartridge (1) for manipulating samples in liquid droplets with an electrode array (20) when a working film (10) of the cartridge (1) is placed on said electrode array (20). The cartridge (1) comprises a body (2,2',2'') with a lower surface (4) and a number of wells (5) configured to hold therein reagents (6) or samples (6'). Each well (5) comprises a bottom opening (73) for releasing a liquid from the well (5). The cartridge (1) comprises a piercable bottom structure (8) configured to seal bottom openings (73) of the wells (5); a working film (10) located below the lower surface (4) of the body (2,2',2''), the working film (10) comprising a hydrophobic upper surface (11); a peripheral spacer (9) connecting the working film (10) to the body (2,2',2''); and a gap (12) between the lower surface (4) of the body (2,2',2'') and the hydrophobic upper surface (11) of the working film (10), the gap (12) being defined by the peripheral spacer (9). The cartridge further comprises at least one top piercing system (60), each located within at least one of the wells (5). Each top piercing system (60) comprises a piston (61) and a piercing element (13), the piston (61) being configured to be movable within said well (5) while providing a seal between the piston (61) and the inner wall of the well (5), and the piercing element (13) being configured to pierce the piercable bottom structure (8) for releasing a reagent or sample (6,6') from said at least one well (5) into the gap (12) upon moving the piston (61) within the well (5) toward its bottom opening (73).

IPC 8 full level  
**B01L 3/00** (2006.01)

CPC (source: EP)  
**B01L 3/502738** (2013.01); **B01L 3/502784** (2013.01); **B01L 3/502715** (2013.01); **B01L 3/5029** (2013.01); **B01L 3/523** (2013.01); **B01L 3/527** (2013.01); **B01L 2200/025** (2013.01); **B01L 2200/027** (2013.01); **B01L 2200/04** (2013.01); **B01L 2200/0647** (2013.01); **B01L 2200/141** (2013.01); **B01L 2300/044** (2013.01); **B01L 2300/0672** (2013.01); **B01L 2300/0681** (2013.01); **B01L 2300/0829** (2013.01); **B01L 2300/0864** (2013.01); **B01L 2300/0867** (2013.01); **B01L 2300/0887** (2013.01); **B01L 2300/089** (2013.01); **B01L 2300/161** (2013.01); **B01L 2400/0427** (2013.01); **B01L 2400/043** (2013.01); **B01L 2400/0478** (2013.01); **B01L 2400/0638** (2013.01); **B01L 2400/0683** (2013.01)

Citation (search report)  
See references of WO 2014108184A1

Cited by  
EP4094836A1; CN113101986A; US12018672B2

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**WO 2014108184 A1 20140717**; EP 2943278 A1 20151118; EP 2943278 B1 20190220

DOCDB simple family (application)  
**EP 2013050322 W 20130109**; EP 13700152 A 20130109