

Title (en)  
SELF-FILLING STRUCTURE FOR SEALING MICROFLUIDIC ARCHITECTURES, MICROFLUIDIC DEVICE, METHOD AND ASSOCIATED USES THEREOF

Title (de)  
SELBSTFÜLLENDE STRUKTUR ZUR ABDICHTUNG VON MIKROFLUIDISCHEN ARCHITEKTUREN, MIKROFLUIDISCHE VORRICHTUNG, VERFAHREN UND ZUGEHÖRIGE VERWENDUNGEN DAVON

Title (fr)  
STRUCTURE À REMPLISSAGE AUTOMATIQUE POUR RENDRE ÉTANCHES DES ARCHITECTURES MICROFLUIDIQUES, DISPOSITIF MICROFLUIDIQUE, PROCÉDÉ ET UTILISATIONS ASSOCIÉES

Publication  
**EP 4129479 A1 20230208 (EN)**

Application  
**EP 21382741 A 20210806**

Priority  
EP 21382741 A 20210806

Abstract (en)  
The present invention relates to a microfluidic structure for sealing microfluidic architectures patterned over a substrate. Said microfluidic structure comprises a substrate (1) and a cover plate (2). The substrate (1) further comprises, at least, a patterned microfluidic architecture (3), a main sealing region (4) and an inlet port (5), wherein said inlet port (5) is patterned over the substrate (1) and arranged at the main sealing region (4). The cover plate (2) comprises a material suitable for transporting the sealing agent by capillarity. Advantageously, said cover plate (2) is arranged over the main sealing region (4), covering a part of the inlet port (5), and leaving a part thereof open. In this way, the sealing agent can be deposited in the inlet port (5) through the open part thereof such that, when said sealing agent fills the inlet port (5), it contacts the cover plate (2) filling the main sealing region (4) by capillarity. Therefore, this microfluidic structure allows an effective and faster sealing of microfluidic architectures (3) without damaging their integrity, but also aligning the mating substrates (1, 2) before bonding, which increase the manufacturing yield as misalignment errors are potentially reduced.

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

CPC (source: EP)  
**B01L 3/502707** (2013.01); **B01L 2200/0689** (2013.01); **B01L 2300/161** (2013.01); **B01L 2400/0406** (2013.01)

Citation (applicant)  
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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

Designated validation state (EPC)  
KH MA MD TN

DOCDB simple family (publication)  
**EP 4129479 A1 20230208**; WO 2023012018 A1 20230209

DOCDB simple family (application)  
**EP 21382741 A 20210806**; EP 2022071155 W 20220728