

Title (en)

MICRO-DROPLET DISPENSING DEVICE

Title (de)

MIKROTROPFENABGABEVORRICHTUNG

Title (fr)

DISPOSITIF DE DISTRIBUTION DE MICROGOUTTELETTES

Publication

EP 2266691 A1 20101229 (EN)

Application

EP 09723884 A 20090324

Priority

- JP 2009055816 W 20090324
- JP 2008079375 A 20080325

Abstract (en)

There is provided a microreactor that has a simple structure and prepares stable monodisperse droplets over a long period of time, with simple modifications to a conventional microreactor. A microreactor 1 that includes flow channels 2 formed by the lamination of a plurality of substrates so as to allow fluids to flow therethrough, and prepares droplets by causing a continuous phase fluid to shear a dispersed phase fluid, has an integrated lamination of: a flow-channel substrate 5 including the flow channels 2 formed open, through which the continuous phase fluid and the dispersed phase fluid flow, and also including a merge section 3b formed open where the flow channels 2 merge; spacer substrates 4 and 6, either or both joined to one side or respective sides of the flow-channel substrate 5 and including space portions 3a and 3c each formed so as to have a predetermined space in a corresponding one of the vertical directions with respect to the merge section 3b of the flow-channel substrate 5; and cover substrates 7 and 8 joined to respective outer sides of the lamination of: the spacer substrates 4 and 6 and the flow-channel substrate 5, and the spacer substrates 4 and 6 joined to the respective sides of the flow-channel substrate 5; or the flow-channel substrate 5 and the one of the spacer substrates 4 and 6, the spacer substrate joined to the one side of the flow-channel substrate 5, so as to close both outer sides.

IPC 8 full level

B01F 3/08 (2006.01); **B01F 13/00** (2006.01)

CPC (source: EP)

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B01L 2300/0816 (2013.01); **B01L 2300/0867** (2013.01); **B01L 2300/087** (2013.01); **B01L 2300/0874** (2013.01); **B01L 2300/0887** (2013.01);
B01L 2400/0487 (2013.01)

Cited by

CN103240042A; CN104736996A; CN108698013A; EP3406334A4; CN111495450A; US10591455B2; WO2013188553A1; US9012234B2;
US9052302B2; US10309950B2

Designated contracting state (EPC)

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 SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

EP 2266691 A1 20101229; **EP 2266691 A4 20140416**; JP 5470642 B2 20140416; JP WO2009119578 A1 20110728;
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DOCDB simple family (application)

EP 09723884 A 20090324; JP 2009055816 W 20090324; JP 2010505672 A 20090324