

Title (en)
MICROFLUIDIC DEVICE WITH ULTRAPHOBIC SURFACES

Title (de)
MIKROFLUIDVORRICHTUNG MIT ULTRAPHOBEN OBERFLÄCHEN

Title (fr)
DISPOSITIF MICROFLUIDIQUE A SURFACES ULTRAPHOBIQUES

Publication
EP 1618035 A4 20060614 (EN)

Application
EP 04759543 A 20040415

Priority

- US 2004011580 W 20040415
- US 46296303 P 20030415
- US 45474203 A 20030603
- US 65258603 A 20030829

Abstract (en)
[origin: WO2004091792A2] A microfluidic device having durable ultraphobic fluid contact surfaces in the fluid flow channels of the device. The ultraphobic surface generally includes a substrate portion with a multiplicity of projecting regularly shaped microscale or nanoscale asperities disposed in a regular array so that the surface has a predetermined contact line density equal to or greater than a critical contact line density, and so that the ratio of the cross-sectional dimension of the asperities to the spacing dimension of the asperities is less than or equal to 0.1.

IPC 8 full level
B01L 3/00 (2006.01); **B01L 9/00** (2006.01); **B08B 17/06** (2006.01); **F15D 1/02** (2006.01); **F15D 1/06** (2006.01); **B01L 11/00** (2006.01); **B01L 99/00** (2010.01); **H01L 21/673** (2006.01)

CPC (source: EP KR)
B01L 3/502715 (2013.01 - EP); **B01L 3/502746** (2013.01 - EP); **B01L 9/527** (2013.01 - EP); **B08B 17/06** (2013.01 - EP); **B08B 17/065** (2013.01 - EP); **B63B 1/34** (2013.01 - KR); **B64B 1/14** (2013.01 - KR); **B64C 1/38** (2013.01 - KR); **B82B 1/00** (2013.01 - KR); **B82Y 30/00** (2013.01 - EP); **F15D 1/065** (2013.01 - EP); **B01L 3/5027** (2013.01 - EP); **B01L 9/52** (2013.01 - EP); **B01L 13/02** (2019.07 - EP); **B01L 2300/166** (2013.01 - EP); **B01L 2400/086** (2013.01 - EP); **B65G 2201/0258** (2013.01 - EP); **H01L 21/673** (2013.01 - EP)

Citation (search report)

- [YA] WO 0249762 A2 20020627 - UNIV CALIFORNIA [US], et al
- [A] EP 1040874 A2 20001004 - CREAVIS TECH & INNOVATION GMBH [DE]
- [A] US 5674592 A 19971007 - CLARK JOHN C [US], et al
- [YA] C. W. EXTRAND: "Model for Contact Angles and Hysteresis on Rough and Ultraphobic Surfaces", AMERICAN CHEMICAL SOCIETY LANGMUIR, vol. 18, no. 21, 15 October 2002 (2002-10-15), Columbus Ohio, pages 7991 - 7999, XP002375118
- See references of WO 2004091792A2

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
WO 2004091792 A2 20041028; WO 2004091792 A3 20050609; EP 1618035 A2 20060125; EP 1618035 A4 20060614; JP 2006523533 A 20061019; KR 20060003001 A 20060109; MY 135712 A 20080630

DOCDB simple family (application)
US 2004011580 W 20040415; EP 04759543 A 20040415; JP 2006510056 A 20040415; KR 20057019527 A 20051014; MY PI20041389 A 20040415