



(51) International Patent Classification:

B01D 25/00 (2006.01) **G01N 27/30** (2006.01)
B01D 29/50 (2006.01) **A61M 1/34** (2006.01)
G01N 33/00 (2006.01)

(21) International Application Number:

PCT/SG2013/000157

(22) International Filing Date:

19 April 2013 (19.04.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

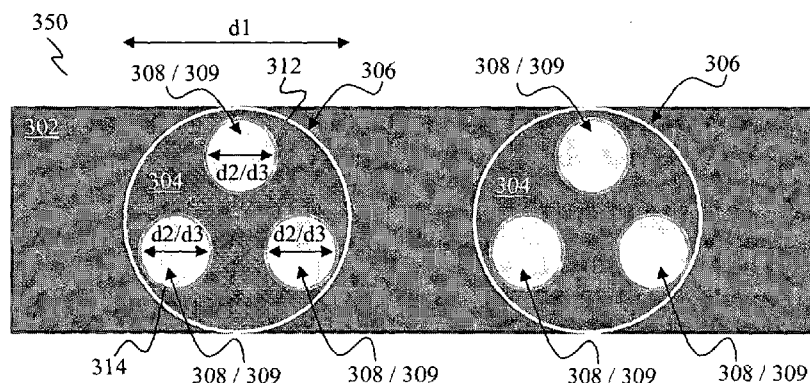
201202941-9 20 April 2012 (20.04.2012) SG

(71) Applicant: AGENCY FOR SCIENCE, TECHNOLOGY
AND RESEARCH [SG/SG]; 1 Fusionopolis Way #20-10,
Connexis, Singapore 138632 (SG).(72) Inventors: ARYA, Sunil Kumar; c/o Industry Develop-
ment, Institute of Microelectronics, 11 Science Park Road,
Singapore Science Park 2, Singapore 117685 (SG). RAH-
MAN, Abdur Rub Abdur; c/o Industry Development, In-
stitute of Microelectronics, 11 Science Park Road, Singa-
pore Science Park 2, Singapore 117685 (SG). JEGATHA,
Chandran; c/o Industry Development, Institute of Micro-
electronics, 11 Science Park Road, Singapore Science Park
2, Singapore 117685 (SG). WONG, Chee Chung; c/o In-
dustry Development, Institute of Microelectronics, 11 Sci-
ence Park Road, Singapore Science Park 2, Singapore
117685 (SG).(74) Agent: VIERING, JENTSCHURA & PARTNER LLP;
P.O. Box 1088, Rochor Road, Rochor Post Office, Singa-
pore 911833 (SG).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,
BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP,
KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,
RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA,
ZM, ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ,
UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ,
TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,
EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: MICROFILTER AND APPARATUS FOR SEPARATING A BIOLOGICAL ENTITY FROM A SAMPLE VOLUME



(57) **Abstract:** According to embodiments of the present invention, a microfilter is provided. The microfilter includes a first porous layer and a second porous layer arranged one over the other, wherein the first porous layer includes a plurality of first pores defined through the first porous layer, wherein the second porous layer includes a plurality of second pores defined through the second porous layer, and wherein one or more respective second pores are arranged to at least substantially overlap with each respective first pore such that a respective opening defined between a perimeter of the each respective first pore and a perimeter of each of the one or more respective second pores is smaller than a diameter of each first pore. According to further embodiments of the present invention, an apparatus for separating a biological entity from a sample volume is also provided.