

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 September 2023 (28.09.2023)



(10) International Publication Number
WO 2023/180161 A2

(51) International Patent Classification:
G03F 7/00 (2006.01) *B01L 3/00* (2006.01)

SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(21) International Application Number:
PCT/EP2023/056729

Published:

- without international search report and to be republished upon receipt of that report (Rule 48.2(g))
- with sequence listing part of description (Rule 5.2(a))

(22) International Filing Date:
16 March 2023 (16.03.2023)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/322,584 22 March 2022 (22.03.2022) US

(71) Applicant: **ILLUMINA CAMBRIDGE LIMITED**
[GB/GB]; 19 Granta Park, Great Abington, Cambridge
Cambridgeshire CB21 6DF (GB).

(72) Inventors: **SZEMJONOV, Alexandra**; 19 Granta Park,
Great Abington, Cambridge Cambridgeshire CB21 6DF
(GB). **EDGE, Philippa**; 19 Granta Park, Great Abington,
Cambridge Cambridgeshire CB21 6DF (GB). **RICHEZ,**
Alexandre; 19 Granta Park, Great Abington, Cambridge
Cambridgeshire CB21 6DF (GB).

(74) Agent: **FORRESTERS IP LLP**; Skygarden, Erika-Mann-
Str. 11, 80636 Munich (DE).

(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, CV, CZ, DE, DJ, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG,
KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY,
MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA,
NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO,
RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS,
ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, CV,
GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST,
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, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE,

(54) Title: METHODS FOR MAKING FLOW CELL SURFACES

(57) Abstract: In an example method, an initial depression is defined in a first resin layer of a multi-layer stack including the first resin layer over a second resin layer or a base support. The first resin layer is resistant to silanization in an organic solvent, the second resin layer or the base support is reactive toward silanization in the organic solvent, and the first resin layer and the second resin layer or the base support are orthogonally etchable. A remaining portion of the first resin layer at the initial depression is anisotropically etched, using air or O₂ plasma, through to expose a surface of the second resin layer or the base support and to form a depression. The multi-layer stack is exposed to a silane in the organic solvent to selectively silanizing the surface of the second resin layer or the base support at the depression.



WO 2023/180161 A2