



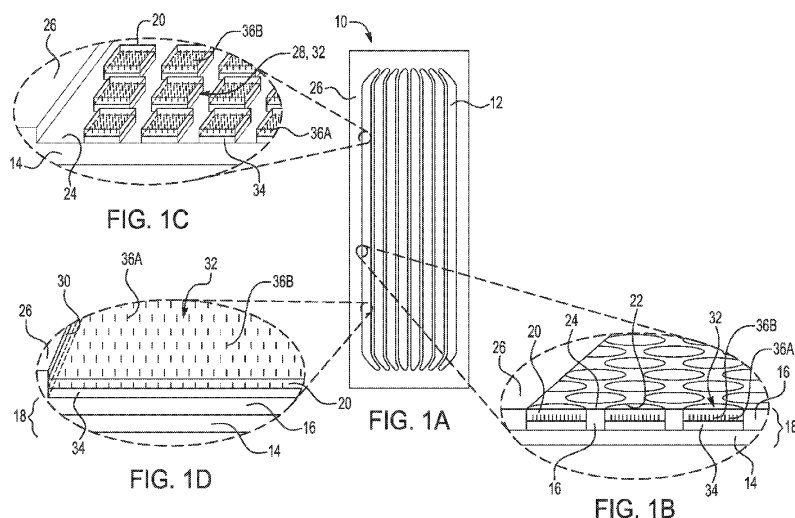
- (51) **International Patent Classification:**
G03F 7/00 (2006.01) *G03F 7/40* (2006.01)
- (21) **International Application Number:**
PCT/US2021/063309
- (22) **International Filing Date:**
14 December 2021 (14.12.2021)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/125,716 15 December 2020 (15.12.2020) US
- (71) **Applicant:** **ILLUMINA, INC.** [US/US]; 5200 Illumina Way, San Diego, California 92122 (US).
- (72) **Inventors:** **BRAHMA, Neil**; 5200 Illumina Way, San Diego, California 92122 (US). **DILL, Tyler J.**; 5200 Illumi-

na Way, San Diego, California 92122 (US). **FU, Michelle Kate**; 5200 Illumina Way, San Diego, California 92122 (US). **HANOS, Brian A.**; 5200 Illumina Way, San Diego, California 92122 (US). **HONG, Sahngki**; 5200 Illumina Way, San Diego, California 92122 (US). **KODIRA CARIAPPA, Brinda**; 5200 Illumina Way, San Diego, California 92122 (US). **KRAFT, Lewis J.**; 5200 Illumina Way, San Diego, California 92122 (US).

- (74) **Agent:** **DIERKER, Julia Church** et al.; Dierker & Kavanaugh, P.C., 3331 W. Big Beaver Road, Suite 109, Troy, Michigan 48084 (US).

- (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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,

- (54) **Title:** FLOW CELL COATING METHODS



- (57) **Abstract:** In an example method, a water-soluble protective coating (20) solution is applied over a bonding region (26) and either i) a patterned region of a patterned structure or ii) a lane region (30) of a non-patterned structure. The patterned region includes depressions (22) having at least a polymeric hydrogel (34) therein, and interstitial regions (24) separating the depressions. The lane region includes a lane having at least the polymeric hydrogel therein. The water-soluble protective coating solution is dried to form a solid coating (20) or a gel coating (20) over the bonding region and over either i) the patterned region or ii) the lane region. Portions of the solid coating or the gel coating are selectively removed from the bonding region while leaving other portions of the solid coating or the gel coating over either i) the patterned region or ii) the lane region.

KP, KR, KW, KZ, LA, LC, LK, LR, LS, 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, 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, GH, GM, KE, LR, LS, MW, MZ, NA, RW, 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, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to the identity of the inventor (Rule 4.17(i))*
- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:

01 September 2022 (01.09.2022)