

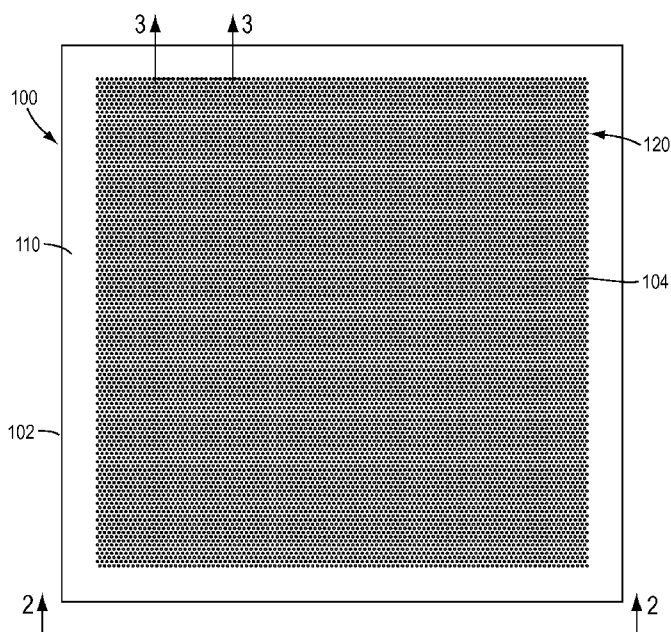


- (51) International Patent Classification:
B01L 7/00 (2006.01) *C12Q 1/68* (2006.01)
- (21) International Application Number:
PCT/US2013/031890
- (22) International Filing Date:
15 March 2013 (15.03.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/612,005 16 March 2012 (16.03.2012) US
61/612,087 16 March 2012 (16.03.2012) US
61/659,029 13 June 2012 (13.06.2012) US
61/723,759 7 November 2012 (07.11.2012) US
61/723,710 7 November 2012 (07.11.2012) US
61/774,499 7 March 2013 (07.03.2013) US
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- (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: SYSTEMS AND METHODS FOR ASSESSING OF BIOLOGICAL SAMPLES



(57) Abstract: A system for determining the number of target nucleotide molecules in a sample includes a sample holder, an excitation optical system, an optical sensor, and an emission optical system. The sample holder is configured to receive an article comprising at least 20,000 separate reaction sites. The excitation optical system comprises a light source configured to simultaneously illuminate the at least 20,000 separate reaction sites. The optical sensor comprises a predetermined number of pixels, the predetermined number of pixels being at least 20 times the number of separate reaction sites. The emission optical system comprises a system working distance from the sample holder, wherein the working distance is less than or equal to 60 millimeters.