

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
12 July 2018 (12.07.2018)



(10) International Publication Number
WO 2018/129314 A1

(51) International Patent Classification:
G06F 19/20 (2011.01) *C12Q 1/6869* (2018.01)

(21) International Application Number:
PCT/US2018/012580

(22) International Filing Date:
05 January 2018 (05.01.2018)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/443,294 06 January 2017 (06.01.2017) 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, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, 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, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(54) Title: PHASING CORRECTION

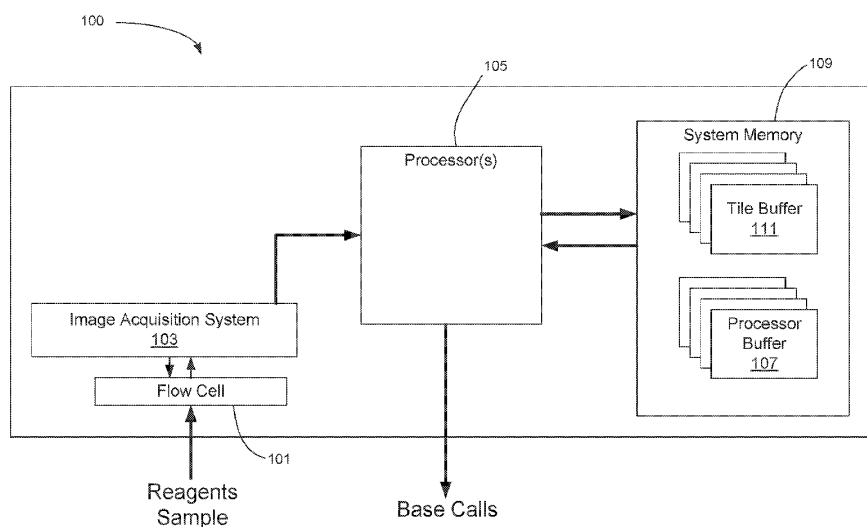


Figure 1

(57) Abstract: Memory efficient methods determine corrected color values from image data acquired by a nucleic acid sequencer during a base calling cycle. Such methods may: (a) obtain an image of a substrate (e.g., a portion of a flow cell) including a plurality of sites where nucleic acid bases are read; (b) measure color values of the plurality of sites from the image of the substrate; (c) store the color values in a processor buffer of the sequencer's one or more processors; (d) retrieve partially phase-corrected color values of the plurality of sites, where the partially phase-corrected color values were stored in the sequencer's memory during an immediately preceding base calling cycle; (e) determine a prephasing correction; and (f) determine the corrected color values. In various implementations, these operations are all performed during a single base calling cycle. In certain embodiments, the methods additionally include using the corrected color values to make base calls for the plurality of sites. Sequencers may be designed or configured to implement such methods.

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(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).

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))*