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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
22 January 2015 (22.01.2015)

WIPO | PCT

(10) International Publication Number
WO 2015/010097 A3

(51) International Patent Classification:
C12M 1/34 (2006.01) *C12M 1/00* (2006.01)
C12M 3/00 (2006.01)

(21) International Application Number:
PCT/US2014/047312

(22) International Filing Date:
18 July 2014 (18.07.2014)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/856,535 19 July 2013 (19.07.2013) US

(71) Applicant: **CIRCLE TECHNOLOGIES, INC.** [US/US]; 2010 71st Street, NE, Tulalip, WA 98271 (US).

(72) Inventor: **SULYA, Andrew**; 2010 71st Street, NE, Tulalip, WA 98271 (US).

(74) Agents: **CULLMAN, Louis, C.** et al.; 1 Park Plaza, 12th Floor, Irvine, CA 92614 (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, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, 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, 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.

(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, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

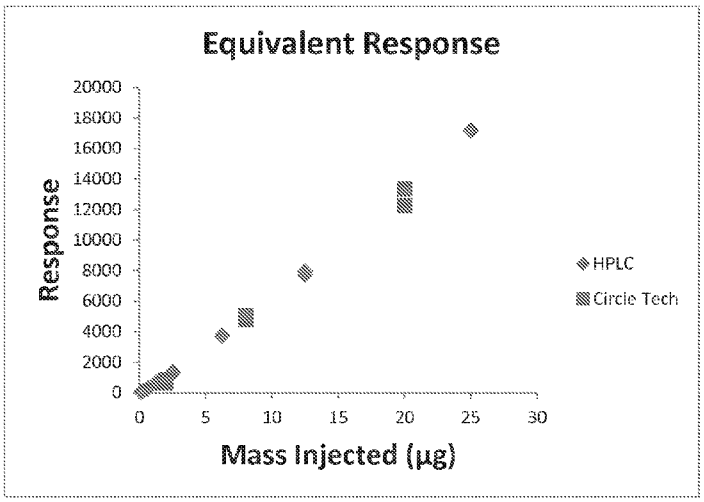
Published:

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

(88) Date of publication of the international search report:
23 April 2015

(54) Title: SYSTEMS AND METHODS FOR BIOPROCESS ANALYSIS

Fig. 9



(57) Abstract: Disclosed herein are systems, methods, and devices for monitoring and controlling bioprocess parameters. The systems and methods enable automated operation with real-time analysis of process conditions and analyte or biologic production.

WO 2015/010097 A3