

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
01 August 2019 (01.08.2019)



(10) International Publication Number
WO 2019/148119 A1

(51) International Patent Classification:

C12Q 1/68 (2018.01) C12Q 1/6858 (2018.01)
C12Q 1/6806 (2018.01) C12Q 1/686 (2018.01)
C12Q 1/6827 (2018.01) C12Q 1/6869 (2018.01)
C12Q 1/6844 (2018.01) C12P 19/34 (2006.01)
C12Q 1/6855 (2018.01)

(21) International Application Number:

PCT/US2019/015452

(22) International Filing Date:

28 January 2019 (28.01.2019)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/623,471 29 January 2018 (29.01.2018) US

(71) Applicant: **ST. JUDE CHILDREN'S RESEARCH HOSPITAL, INC.** [US/US]; 262 Danny Thomas Place, Memphis, TN 38105-3678 (US).

(72) Inventors: **GAWAD, Charles**; 9615 Deer Walk Cv, Germantown, TN 38139 (US). **EASTON, John**; c/o St. Jude Children's Research Hospital, Inc., 262 Danny Thomas Place, Memphis, TN 38105-3678 (US). **GONZALEZ-PENA, Veronica**; c/o St. Jude Children's Research Hospital,

Inc., 262 Danny Thomas Place, Memphis, TN 38105-3678 (US).

(74) Agent: **ELAMRANI, Samir**; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, CA 94304 (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, 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.

(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).

(54) Title: METHOD FOR NUCLEIC ACID AMPLIFICATION

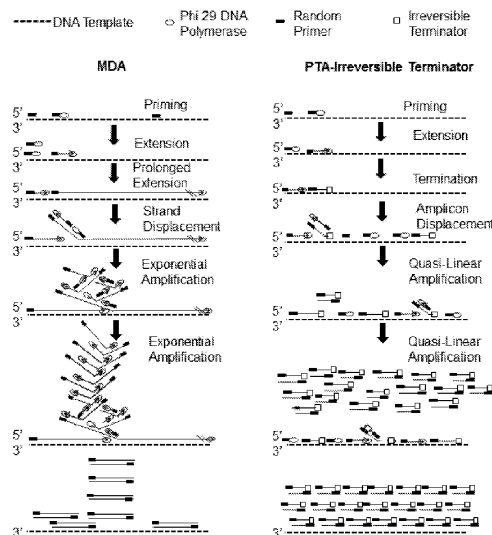


FIG. 1A

(57) Abstract: Provided herein are compositions and methods for accurate and scalable Primary Template-Directed Amplification (PTA) nucleic acid amplification and sequencing methods, and their applications for research, diagnostics, and treatment.

WO 2019/148119 A1

[Continued on next page]

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))*